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

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Addendum

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

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

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

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

The following example illustrates the changes :-

September 2002

*NEIC **01** 18:45:41.7±1.7,21.70S×179.55W,h600km,mb4.6/6,*
Error ellipse: s-maj=75.5km s-min=25.7km az=151.0
*IDC **01** 18:45:46.3±2.6,21.76S×179.70W,h627km±37km,mb3.5/4,*
mb1 3.7/4,mb1mx3.2/14,Error ellipse: s-maj=83.2km
s-min=20.6km az=159.0
ISC 01 18:45:43.1±2.7,22.3S±0.2×179.6W±0.3,h613km±42km,
n22,σt§15/21,mb4.4/9,1C,South of Fiji Islands

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

Epicentral Estimates

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

Observational Data

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

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

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

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

*NEIC **01** 00:03:40.0, 17.45N×92.29W, h13^{km}, MD3.9(MEX), After MEX.*

MEX 01 00:03:38.3±0.9**, 17.47N×92.31W, h5**^{km}±17^{km}**, MD4.0, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**0.79**	**203**	*e*P	Pg	00 03 52.0	-2.0
SCX				*i* S	Sg	00 04 02.5	-2.1
CCIG	**Comitan**	**1.19**	**172**	*i* P	Pb	00 03 57.6	-3.3
CCIG				*i* S	Sb	00 04 14.3	-2.2
CCIG	**Comitan**	**1.19**	**172**	*i* P	Pb	00 03 57.5	-3.5
CCIG				*i* S	Sb	00 04 13.8	-2.7
SCIG		**1.84**	**36**	*i* P	Pn	00 04 09.1	-1.8
SCIG				*i* S	Sn	00 04 28.4	-6.3
CMIG	**Matias Romero**	**2.48**	**262**	*e*P	Pn	00 04 18.2	-1.8
CMIG				*i* S	Sn	00 04 47.1	-4.1
TEIG	**Tepich**	**4.71**	**54**	*e*Pn	Pn	00 04 45.8	-5.8

MAN 01 00:08:58.9, 10.98N×125.78E, h33^{km}**, mb3.7, ML2.4, MS1.9, 1C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.70**	**332**	*e*P	P	00 09 12.7	+0.4
BESP				*e*S	S	00 09 23.4	+1.4
PLP	**Palo**	**0.81**	**283**	*i* P	P	00 09 14.5	+0.8
PLP				*e*S	S	00 09 25.1	+0.4
SCPH	**Surigao**	**1.23**	**193**⇑	*e*P	P	00 09 19.9	+0.2
SCPH				*e*S	S	00 09 35.2	-0.2
MSLP	**Maasin**	**1.24**	**227**	*e*P	P	00 09 21.4	+1.5

---

*NIED **01** 00:16:00, 43.60N×147.70E, h32^{km}, Mw3.8 Best double couple: $M_0$6.53×10^{14} NP1:ϕ_s257°, δ54°, λ-103°. NP2: ϕ_s98°, δ38°, λ-73°.*

*NEIC **01** 00:16:41.9±3.3, 43.39N×147.61E, h41^{km}±23^{km}, mb4.4/2, Error ellipse: s-maj=33.1km s-min=14.5km az=170.0*

*JMA **01** 00:16:42.6±0.2, 43.60N×147.67E, h7^{km}±4^{km}, M3.9*

*MOS **01** 00:16:47.5±1.2, 43.87N×147.47E, h90^{km}, mb4.5/2, Error ellipse: s-maj=25.9km s-min=18.2km az=101.7*

*IDC **01** 00:16:48.5±3.8, 43.52N×147.58E, h96^{km}±32^{km}, mb3.5/12, mb1 3.8/12, mb1mx3.6/22, mbtmp3.9/12, MS3.0/2, Ms1 3.0/2, ms1mx2.6/24, Error ellipse: s-maj=39.0km s-min=19.8km az=174.0*

ISC 01 00:16:44.3±1.3**, 43.8N**±0.1×**147.8E**±0.1**, h59**^{km}±13^{km}**, n30, σ0^{s}81**/35**, mb3.9**/13**, MS3.2**/1**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.53**	**256**	P	**P**	**00 17 08.7**	**-1.3**
NEM2				*e*S	**S**	**00 17 27.9**	**-1.1**
JRA	**Rausu**	**1.93**	**276**	P	**P**	**00 17 15.9**	**+0.5**
JRA				*e*S	**S**	**00 17 39.7**	**+1.2**
JNK	**Nakash**	**2.23**	**266**	P	**P**	**00 17 19.4**	**-0.3**
JNK				*e*S	**S**	**00 17 46.3**	**+0.3**
JAK	**Akkeshi**	**2.38**	**252**	P	**P**	**00 17 21.6**	**-0.2**
JTKR	**Abashiri--Toko**	**2.81**	**276**	P	**P**	**00 17 28.2**	**+0.3**
JTKR				*e*S	**S**	**00 18 01.5**	**+0.8**
JAR	**Ashorobuto**	**2.96**	**262**	P	**P**	**00 17 29.9**	**-0.1**
JOB	**Onbets**	**3.00**	**255**	P	**P**	**00 17 30.5**	**-0.2**
JOB				*e*S	**S**	**00 18 05.9**	**+0.3**
JCH	**Churui**	**3.43**	**252**	P	**P**	**00 17 36.6**	**0.0**
JCH				*e*S	**S**	**00 18 16.5**	**+0.2**
ASAJ	**Asahikawa**	**3.76**	**277**	P	**P**	**00 17 42.9**	**+1.6**
	0.8nm,0.3s,baz=72,slow=17,SNR=4.8						
ASAJ				S	**S**	**00 18 32.2**	**+7.6**
	1.0nm,0.3s,baz=20,slow=30,SNR=3.4						
ASAJ				LR	LR	00 19 13.8	
	comp=Z,128nm,18.9s,baz=17,slow=40						
JEM	**Erimo**	**3.82**	**244**	*e*S	**S**	**00 18 26.3**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.97**	**250**	P	**P**	**00 17 44.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**4.76**	**314**	PN	**P**	**00 17 53.3**	**-2.1**
SONM	**Songino Array**	**28.89**	**293**	P	**P**	**00 22 38.5**	**-0.8**
	0.3nm,0.6s,mb3.2,baz=68,slow=8.8,SNR=4.0						
IMA	**Indian Mountai**	**38.41**	**34**	*e*P	**P**	**00 24 02.4**	**+1.2**
IMA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
IMA	**Indian Mountai**	**38.41**	**34**	*e*P	**P**	**00 24 02.4**	**+1.2**
	comp=Z,9.9nm,0.7s,mb4.7						
ILAR	**Eielson Array**	**41.20**	**36**	P	**P**	**00 24 24.6**	**+0.3**
	comp=Z,7.5nm,1.4s,mb4.1,baz=266,slow=7.6,SNR=6.9						
ZAL	**Zalesovo**	**41.37**	**307**	LR	LR	00 41 54.1	
	comp=Z,34nm,20.5s,MS3.2,baz=226,slow=36						
INK	**Inuvik**	**46.16**	**30**	*e*P	**P**	**00 25 05.0**	**+0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**46.16**	**30**	P	**P**	**00 25 04.8**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.0,baz=297,slow=9.1,SNR=9.0						
INK	**Inuvik**	**46.16**	**30**	*e*P	**P**	**00 25 05.0**	**+0.8**
	comp=Z,1.5nm,0.6s,mb4.1						
YKA	**Yellowknife Ar**	**55.53**	**34**	P	**P**	**00 26 14.9**	**-0.4**
	comp=Z,0.2nm,0.5s,mb3.4,baz=302,slow=7.1,SNR=5.1						
FINES	**FINESS Array B**	**65.07**	**333**	P	**P**	**00 27 18.6**	**-1.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=68,slow=10,SNR=4.2						
NVAR	**Mina Array Bea**	**67.18**	**58**	P	**P**	**00 27 34.8**	**+0.8**
	comp=Z,2.5nm,1.0s,mb4.2,baz=300,slow=6.2,SNR=10						
PDAR	**Pinedale Array**	**69.55**	**50**	P	**P**	**00 27 48.2**	**-0.4**
	comp=Z,0.7nm,0.9s,mb3.6,slow=1.5,SNR=5.4						
NOA	**NORSAR Array B**	**69.75**	**339**	P	**P**	**00 27 49.2**	**-0.2**
	comp=Z,0.7nm,1.0s,mb3.5,baz=41,slow=3.6,SNR=2.9						
HFS	**Hagfors**	**69.85**	**337**	P	**P**	**00 27 49.3**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=79,slow=7.3,SNR=4.6						
AKASG	**Malin Array Be**	**71.84**	**324**	P	**P**	**00 28 01.3**	**-0.9**
	comp=Z,1.5nm,0.6s,mb4.1,baz=32,slow=5.4,SNR=7.3						
SCHQ	**Schefferville**	**77.45**	**20**	P	**P**	**00 28 34.9**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=333,slow=9.0,SNR=2.8						
TXAR	**Lajitas Array**	**82.26**	**57**	P	**P**	**00 29 01.6**	**+1.0**
	comp=Z,1.7nm,1.0s,mb3.9,baz=296,slow=4.5,SNR=9.0						
MAW	**Mawson**	**127.74**	**209**	PKP	PKPdf	00 35 39.4	-2.7
	comp=Z,9.6nm,0.8s,baz=157,slow=7.7,SNR=4.3						

IDC 01 00:27:45.1±1.4**, 6.48N×74.13W, mb3.1**/1**, mb1 3.7**/2**, mb1mx3.3**/19**, mbtmp3.4**/2**, ML3.8**/1**, Error ellipse: s-maj=35.1km s-min=21.3km az=104.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.62**	**187**	Pn	Pn	00 28 16.5	+1.3
	11nm,0.3s,baz=297,slow=3.2,SNR=18						
ROSC				Sn	Sn	00 28 38.5	+1.5
	13nm,0.3s,baz=93,slow=24,SNR=4.6						
SDV	**Santo Domingo**	**4.21**	**55**	Pn	Pn	00 28 52.0	-0.1
	5.3nm,0.3s,baz=209,slow=9.7,SNR=26						
SDV				Sn	Sn	00 29 40.9	-1.9
	7.1nm,0.3s,baz=74,slow=22,SNR=7.5						
TXAR	**Lajitas Array**	**35.95**	**313**	P	P	00 34 48.7	-0.9
	0.1nm,0.4s,baz=127,slow=9.6,SNR=4.2						
WRA	**Warramunga Arr**	**149.29**	**241**	PKPbc	PKPdf	00 47 35.1	+0.8
	0.2nm,0.4s,baz=107,slow=2.8,SNR=14						

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*NEIC **01** 00:32:21.0, 47.96N×129.10W, h10^{km}, mb5.0/37, MS4.8/2, MW5.1(PGC), After PGC.*

*HRVD **01** 00:32:21.0±0.2, 48.13N×129.13W, h12^{km}, MW5.0/66, Centroid moment Tensor Solution. LP body waves: s35,c64;Mantle waves: s66,c127; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.26±.11; $M_{\theta\theta}$-1.17±.10; $M_{\phi\phi}$1.43±.11; $M_{r\theta}$0.59±.26; $M_{\theta\phi}$4.05±.09; $M_{\phi r}$-0.76±.28; Best double couple: $M_0$4.367×10^{16} NP1: ϕ_s260°, δ79°, λ-7°. NP2:ϕ_s352°, δ83°, λ-168°. Principal axes: T 4.4, Plg3°, Azm126°; N -.064, Plg77°, Azm21°; P -4.333, Plg13°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 00:32:21.0, 48.00N×129.10W, h10^{km}, mB5.2, mb4.7, Ms5.0, Msz4.7*

*PGC **01** 00:32:21.0, 47.96N×129.10W, h10^{km}, MLSn4.0/1, Mw4.6, Mw5.2/8, Northern Juan de Fuca ridge.*

*IDC **01** 00:32:28.3±3.0, 48.15N×128.75W, h32^{km}±21^{km}, mb4.0/14, mb1 4.4/23, mb1mx4.2/29, mbtmp4.3/23, ML4.0/9, MS4.4/22, Ms1 4.4/22, ms1mx4.2/33, Error ellipse: s-maj=23.9km s-min=10.0km az=63.0*

ISC 01 00:32:23.0±0.8**, 48.26N**±0.02×**128.81W**±0.03**, h8**^{km}±5^{km}**, h13**^{km}±1.1^{km}**:pP-P, n203, σ1^{s}00**/214**, mb4.7**/43**, MS4.4**/23**, 2C, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ETB	**Estevan Point**	**1.87**	**52**	Pn	**Pn**	**00 32 56.6**	**+0.8**
EDB	**Eliza Dome**	**1.96**	**34**	Pn	**Pn**	**00 32 56.8**	**-0.2**
EDB				Trac		00 35 09.3	
	comp=Z,114nm,0.5s						
OZB	**Mount Ozzard**	**2.31**	**71**	Pn	**Pn**	**00 33 01.4**	**-0.7**
OZB				Sn	**Sn**	**00 33 30.8**	**-0.3**
OZB				Trac		00 33 33.7	
	comp=Z,181nm,0.6s						
GDR	**Gold River**	**2.38**	**49**	Pn	**Pn**	**00 33 03.0**	**0.0**
GDR				Trac		00 35 26.7	
	comp=Z,97nm,0.7s						
MAYB	**Maynard**	**2.40**	**26**	Pn	**Pn**	**00 33 03.5**	**+0.2**
MAYB				Sn	**Sn**	**00 33 34.9**	**+1.7**
	comp=Z,129nm,0.5s						
MAYB				Trac		00 33 35.3	
	comp=Z,129nm,0.5s						
WOSB	**Woss**	**2.41**	**37**	Pn	**Pn**	**00 33 03.7**	**+0.3**
WOSB				Trac		00 35 27.3	
	comp=Z,77nm,0.6s						
HOLB	**Holberg**	**2.43**	**10**	Pn	**Pn**	**00 33 04.2**	**+0.6**
HOLB				Sn	**Sn**	**00 33 36.9**	**+3.0**
	comp=Z,51nm,0.2s						
HOLB				Trac		00 33 38.6	
	comp=Z,51nm,0.2s						
BTB	**Buttle Lake**	**2.49**	**60**	Pn	**Pn**	**00 33 04.7**	**+0.1**
BTB				Trac		00 33 38.4	
	comp=Z,170nm,0.4s						
PHC	**Port Hardy**	**2.61**	**20**	Pn	**Pn**	**00 33 06.4**	**+0.1**
PHC				Sn	**Sn**	**00 33 38.8**	**+0.2**
PHC				Trac		00 33 42.7	
	comp=Z,50nm,0.7s						
NCRB	**Newcastle Ridg**	**2.80**	**39**	Pn	**Pn**	**00 33 09.8**	**+0.7**
ALB	**Alberni**	**2.82**	**67**	Pn	**Pn**	**00 33 08.4**	**-0.9**
ALB				Sn	**Sn**	**00 33 44.8**	**+0.9**
	comp=Z,91nm,0.8s						
ALB				Trac		00 33 48.1	
	comp=Z,91nm,0.8s						
MGB	**Mount Grey**	**2.83**	**73**	Pn	**Pn**	**00 33 08.3**	**-1.2**
MGB				Sn	**Sn**	**00 33 44.5**	**+0.3**
	comp=Z,179nm,0.7s						
MGB				Trac		00 33 47.7	
	comp=Z,179nm,0.7s						
CBB	**Campbell River**	**2.88**	**51**	Pn	**Pn**	**00 33 10.9**	**+0.8**
CBB				Sn	**Sn**	**00 33 47.6**	**+2.3**
CBB				Trac		00 33 48.4	
	comp=Z,135nm,0.8s						
PFB	**Port Renfrew**	**2.93**	**82**	Pn	**Pn**	**00 33 09.4**	**-1.5**
PFB				Sn	**Sn**	**00 33 45.8**	**-0.9**
PFB				Trac		00 33 48.0	
	comp=Z,124nm,0.8s						
OCWA	**Octopus Mounta**	**3.15**	**98**	*e*P	**Pn**	**00 33 12.3**	**-1.7**
TXB	**Texada**	**3.22**	**62**	Pn	**Pn**	**00 33 15.4**	**+0.4**
NLLB	**Nanaimo Lost L**	**3.34**	**71**	Pn	**Pn**	**00 33 16.4**	**-0.2**
NLLB				Sn	**Sn**	**00 33 57.6**	**+0.6**
NLLB				Trac		00 34 04.0	
	comp=Z,22nm,0.3s						
LZB	**Mount Lazard**	**3.34**	**82**	Pn	**Pn**	**00 33 15.4**	**-1.3**
LZB				Sn	**Sn**	**00 33 56.0**	**-1.0**
LZB				Trac		00 33 57.1	
	comp=Z,21nm,0.6s						
STW	**Striped Peak**	**3.44**	**90**	P	**Pn**	**00 33 17.6**	**-0.6**
SHB	**Sechelt**	**3.52**	**66**	Pn	**Pn**	**00 33 19.2**	**-0.1**
GOBB	**Galiano Island**	**3.59**	**77**	Pn	**Pn**	**00 33 19.8**	**-0.3**
GOBB				Sn	**Sn**	**00 34 04.5**	**+1.2**
	comp=Z,91nm,0.5s						
GOBB				Trac		00 34 08.0	
	comp=Z,91nm,0.5s						
PGC	**Sidney**	**3.59**	**82**	*e*P	**Pn**	**00 33 18.5**	**-1.7**
PGC	**Sidney**	**3.59**	**82**	Pn	**Pn**	**00 33 19.4**	**-0.9**
PGC				Sn	**Sn**	**00 34 02.0**	**-1.3**
PGC				Trac		00 34 03.5	
	comp=Z,95nm,0.8s						
VGZ	**Gonzales**	**3.67**	**86**	Pn	**Pn**	**00 33 19.9**	**-1.4**
VGZ				Sn	**Sn**	**00 34 03.6**	**-1.6**
VGZ				Trac		00 34 04.7	
	comp=Z,88nm,0.6s						
SNB	**Saturna Island**	**3.79**	**80**	Pn	**Pn**	**00 33 22.8**	**-0.3**
SNB				Sn	**Sn**	**00 34 07.3**	**-1.0**
SNB				Trac		00 34 09.8	
	comp=Z,124nm,1.2s						
BLN	**Blyn Mountain**	**3.92**	**91**	P	**Pn**	**00 33 24.6**	**-0.3**
WPB	**Watts Point**	**3.95**	**67**	Pn	**Pn**	**00 33 24.9**	**-0.4**
BBB	**Bella Bella**	**3.96**	**6**	Pn	**Pn**	**00 33 26.1**	**+0.6**
	130nm,0.3s,baz=197,slow=11,SNR=999						
BBB				Sn	**Sn**	**00 34 12.8**	**+0.1**
	baz=232,slow=17,SNR=1.5						
BBB				LR	LR	00 34 50.6	
	comp=Z,3μm,21.7s,baz=178,slow=35						
BBB	**Bella Bella**	**3.96**	**6**	Pn	**Pn**	**00 33 26.1**	**+0.6**
BBB				Sn	**Sn**	**00 34 12.8**	**+0.1**
BBB				Trac		00 34 13.4	
	comp=Z,90nm,0.6s						
CPW	**Capitol Peak**	**4.05**	**106**	P	**Pn**	**00 33 24.7**	**-2.1**
HNB	**Haney**	**4.25**	**74**	Pn	**Pn**	**00 33 28.9**	**-0.7**
HNB				Sn	**Sn**	**00 34 19.9**	**-0.1**
HNB				Trac		00 34 24.9	
	comp=Z,47nm,0.5s						
WSLR	**Whistler**	**4.29**	**62**	Pn	**Pn**	**00 33 30.7**	**+0.5**
VDB	**Vedder Mountai**	**4.51**	**78**	Pn	**Pn**	**00 33 32.7**	**-0.6**
VDB				Sn	**Sn**	**00 34 28.1**	**+1.3**
	comp=Z,26nm,0.6s						
VDB				Trac		00 34 33.8	
	comp=Z,26nm,0.6s						
BNB	**Barry Inlet**	**4.71**	**338**	Pn	**Pn**	**00 33 34.9**	**-1.3**
LON	**Longmire**	**4.98**	**105**	P	**Pn**	**00 33 38.8**	**-1.2**
HOPB	**Hope**	**5.01**	**74**	Pn	**Pn**	**00 33 39.8**	**-0.7**
HOPB				Sn	**Sn**	**00 34 36.1**	**-3.3**
HOPB				Trac		00 34 41.7	
	comp=Z,90nm,1.1s						
LLLB	**Lillooet**	**5.10**	**60**	Pn	**Pn**	**00 33 42.0**	**+0.4**
COR	**Corvallis**	**5.29**	**132**	*e*P	**Pn**	**00 33 43.1**	**-1.2**
ASR	**Mount Adams--S**	**5.35**	**111**	P	**Pn**	**00 33 46.2**	**+1.0**
BNAB	**Bonilla**	**5.37**	**348**	Pn	**Pn**	**00 33 44.6**	**-0.8**
TBM	**Table Mountain**	**5.65**	**98**	P	**Pn**	**00 33 49.8**	**+0.4**
RUBB	**Prince Rupert**	**6.14**	**352**	Pn	**Pn**	**00 34 00.0**	**+3.6**
FRIS	**Frissel Point**	**6.17**	**129**	P	**Pn**	**00 33 56.6**	**-0.1**
NDB	**Naden**	**6.27**	**337**	Pn	**Pn**	**00 34 00.5**	**+2.4**
HUMO	**Hull Mountain**	**6.99**	**142**	*e*P	**Pn**	**00 34 09.0**	**+0.7**
NEW	**Newport**	**7.80**	**86**	Pn	**Pn**	**00 34 17.9**	**-1.8**
	3.2nm,0.3s,baz=289,slow=11,SNR=24						
NEW				Sn	**Sn**	**00 35 49.1**	**-0.2**
	baz=89,slow=17,SNR=2.6						
NEW				LR	LR	00 37 24.6	
	comp=Z,2μm,19.3s,baz=271,slow=38						
NEW	**Newport**	**7.80**	**86**	*e*P	**Pn**	**00 34 17.3**	**-2.4**
YBH	**Yreka Blue Hor**	**7.83**	**144**	Pn	**Pn**	**00 34 21.0**	**+0.9**
	0.8nm,0.3s,baz=343,slow=13,SNR=52						
YBH	**Yreka Blue Hor**	**7.83**	**144**	*e*P	**Pn**	**00 34 20.8**	**+0.8**
KHMM	**Horse Mountain**	**8.22**	**152**	*e*P	**P**	**00 34 25.0**	**-0.6**
BMO	**Blue Mountains**	**8.63**	**109**	*e*P	**P**	**00 34 29.1**	**-2.1**
MOD	**Modoc**	**8.75**	**133**	*e*P	**P**	**00 34 32.5**	**-0.4**
BMBC	**Bull Mountain**	**8.81**	**25**	Pn	**P**	**00 34 35.2**	**+1.5**
WDC	**Whiskeytown Da**	**8.89**	**147**	*e*P	**P**	**00 34 35.7**	**+0.9**
WVOR	**Wild Horse Val**	**9.23**	**125**	*e*P	**P**	**00 34 39.9**	**+0.4**
WALA	**Waterton Lakes**	**9.90**	**80**	*e*P	**P**	**00 34 46.9**	**-1.7**
DLBC	**Dease Lake**	**10.22**	**356**	Pn	**P**	**00 34 55.9**	**+2.8**
	0.3nm,0.3s,baz=173,slow=15,SNR=7.3						
DLBC				LR	LR	00 38 28.5	
	comp=Z,2μm,18.2s,baz=177,slow=35						
DLBC	**Dease Lake**	**10.22**	**356**	P	**P**	**00 34 52.7**	**-0.4**
OHCM	**Honcut**	**10.37**	**147**	*e*P	**P**	**00 34 54.6**	**-0.6**
CHMT	**Chamberlain Mo**	**10.60**	**91**	*e*P	**P**	**00 34 55.7**	**-2.6**
PAHR	**Pah Rah Range**	**10.91**	**138**	*e*P	**P**	**00 35 03.1**	**+0.5**
EDM	**Edmonton**	**10.98**	**57**	*e*P	**P**	**00 35 00.9**	**-2.5**
HLID	**Hailey**	**11.07**	**110**	*e*P	**P**	**00 35 04.4**	**-0.4**
WCN	**Washoe City**	**11.08**	**141**	*e*P	**P**	**00 35 05.7**	**+0.8**
BMN	**Battle Mountai**	**11.40**	**129**	*e*P	**P**	**00 35 09.3**	**+0.1**
MCMT	**McKenzie Canyo**	**11.52**	**101**	*e*P	**P**	**00 35 09.6**	**-1.2**
CMB	**Columbia Colle**	**11.92**	**146**	*e*P	**P**	**00 35 15.0**	**-1.2**
ELK	**Elko**	**12.25**	**123**	Pn	**P**	**00 35 21.1**	**+0.4**
	0.1nm,0.3s,baz=313,slow=9.4,SNR=13						
ELK				LR	LR	00 40 06.5	
	comp=Z,4μm,18.9s,baz=312,slow=38						
ELK	**Elko**	**12.25**	**123**	*e*P	**P**	**00 35 21.3**	**+0.6**
NVAR	**Mina Array Bea**	**12.44**	**138**	Pn	**P**	**00 35 24.5**	**+1.2**
	0.3nm,0.3s,baz=320,slow=9.3,SNR=89						
NVAR				LR	LR	00 39 59.4	
	comp=Z,4μm,19.1s,baz=330,slow=37						
QLMT	**Earthquake Lak**	**12.45**	**100**	*e*P	**P**	**00 35 21.9**	**-1.5**
MNV	**Mina**	**12.50**	**138**	*e*P	**P**	**00 35 25.0**	**+0.9**
OMM	**Old Mammoth Mi**	**12.83**	**142**	*e*P	**P**	**00 35 28.0**	**-0.4**
YFT	**Old Faithful**	**12.98**	**100**	*e*P	**P**	**00 35 31.2**	**+0.7**
HVU	**Hansel Valley**	**13.05**	**114**	*e*P	**P**	**00 35 31.6**	**+0.2**
LRV	**Little Rabbit**	**13.15**	**151**	*e*P	**P**	**00 35 31.3**	**-1.4**
IMW	**Indian Meadow**	**13.15**	**103**	*e*P	**P**	**00 35 33.3**	**+0.6**
RRI2	**Red Ridge**	**13.15**	**105**	*e*P	**P**	**00 35 32.0**	**-0.7**
TPH	**Tonopah**	**13.22**	**136**	*e*P	**P**	**00 35 34.1**	**+0.5**
MTUM	**Tungsten Hills**	**13.23**	**142**	*e*P	**P**	**00 35 33.4**	**-0.4**
TPAW	**Teton Pass**	**13.32**	**104**	*e*P	**P**	**00 35 35.8**	**+0.8**
MOOW	**Moose Ponds**	**13.34**	**103**	*e*P	**P**	**00 35 35.9**	**+0.7**
BGU	**Big Grassy Mou**	**13.41**	**117**	*e*P	**P**	**00 35 36.7**	**+0.5**
WUWY	**Wally Ulrich**	**13.43**	**104**	*e*P	**P**	**00 35 36.6**	**+0.2**
SNOW	**Snow King Moun**	**13.46**	**104**	*e*P	**P**	**00 35 37.5**	**+0.7**
LOHW	**Long Hollow**	**13.49**	**103**	*e*P	**P**	**00 35 37.5**	**+0.3**
SPUT	**South Promonto**	**13.53**	**115**	*e*P	**P**	**00 35 38.8**	**+1.1**
AHID	**Auburn Hatcher**	**13.57**	**107**	*e*P	**P**	**00 35 38.9**	**+0.7**
TRCR	**Troy Canyon**	**13.79**	**131**	*e*P	**P**	**00 35 41.3**	**+0.1**
HWUT	**Hardware Ranch**	**13.89**	**112**	*e*P	**P**	**00 35 43.6**	**+1.1**
DUG	**Dugway**	**14.00**	**119**	*e*P	**P**	**00 35 44.9**	**+1.0**
	848nm,1.4s						
NOQ	**North Oquirrh**	**14.12**	**116**	*e*P	**P**	**00 35 45.8**	**+0.4**
TCUT	**Toone Canyon**	**14.27**	**114**	*e*P	**P**	**00 35 49.1**	**+1.7**
DAC	**Darwin (Calif)**	**14.55**	**141**	*e*P	**P**	**00 35 51.6**	**+0.5**
	25nm,1.1s						
JLU	**Jordanelle**	**14.56**	**115**	*e*P	**P**	**00 35 52.2**	**+1.1**
BW06	**Boulder Array**	**14.56**	**105**	*e*P	**P**	**00 35 53.0**	**+1.8**
	27nm,1.3s						
PDAR	**Pinedale Array**	**14.56**	**105**	Pn	**P**	**00 35 53.9**	**+2.6**
	0.1nm,0.3s,baz=300,slow=12,SNR=43						
PDAR				LR	LR	00 41 46.3	
	comp=Z,3μm,20.4s,baz=302,slow=38						
NLU	**North Lily Min**	**14.59**	**118**	*e*P	**P**	**00 35 51.4**	**-0.2**
DAU	**Daniels Canyon**	**14.79**	**116**	*e*P	**P**	**00 35 55.6**	**+1.4**
ARUT	**Antelope Range**	**15.33**	**127**	*e*P	**P**	**00 36 01.4**	**+0.1**
LAO	**LASA Array**	**15.35**	**87**	*e*P	**P**	**00 36 01.7**	**+0.2**
	95nm,1.3s						
MVU	**Marysvale**	**15.48**	**123**	*e*P	**P**	**00 36 04.6**	**+1.3**
	62nm,1.4s						
MSU	**Marysvale**	**15.50**	**123**	*e*P	**P**	**00 36 04.2**	**+0.7**
TMUT	**Trail Mountain**	**15.53**	**119**	*e*P	**P**	**00 36 04.8**	**+1.0**
SRU	**San Rafael**	**16.05**	**118**	*e*P	**P**	**00 36 11.6**	**+1.0**
MWC	**Mount Wilson**	**16.16**	**146**	*e*P	**P**	**00 36 12.2**	**+0.1**
YKA	**Yellowknife Ar**	**16.33**	**24**	Pn	**P**	**00 36 14.3**	**+0.4**
	0.3nm,0.3s,baz=214,slow=12,SNR=62						
YKA				LR	LR	00 42 41.3	
	comp=Z,2μm,20.2s,baz=220,slow=37						
YKA	**Yellowknife Ar**	**16.33**	**24**	Pn	**P**	**00 36 14.3**	**+0.4**
YKA				LR	LR	00 42 41.3	
DGMT	**Dagmar**	**16.35**	**80**	*e*P	**P**	**00 36 13.5**	**-0.8**
	121nm,1.4s						
YKW3	**Yellowknife Ar**	**16.38**	**24**	*e*P	**P**	**00 36 14.7**	**+0.1**
LDFC	**Landfair**	**16.64**	**137**	*e*P	**P**	**00 36 18.3**	**+0.1**
DAWY	**Dawson**	**16.86**	**344**	*e*P	**P**	**00 36 22.1**	**+1.3**
PFO	**Pinyon Flat Ob**	**17.32**	**143**	*e*P	**P**	**00 36 26.4**	**-0.4**
	38nm,1.0s						
PV10	**Paradox Valley**	**17.41**	**117**	*e*P	**P**	**00 36 28.7**	**+1.0**
PV01	**Paradox Valley**	**17.84**	**117**	*e*P	**P**	**00 36 33.4**	**+0.2**
FFC	**Flin Flon**	**17.85**	**59**	P	**P**	**00 36 36.0**	**+2.9**
	685nm,1.0s,SNR=68						
PHWY	**Pilot Hill**	**17.94**	**104**	*e*P	**P**	**00 36 34.3**	**0.0**
BAR	**Barrett**	**18.06**	**145**	*e*P	**P**	**00 36 35.5**	**-0.5**
WUAZ	**Wupatki**	**18.13**	**128**	*e*P	**P**	**00 36 38.0**	**+1.2**
	1μm,1.3s						
RW3	**Ridgway**	**18.30**	**115**	*e*P	**P**	**00 36 39.1**	**+0.2**
ISCO	**Idaho Springs**	**18.65**	**108**	*e*P	**P**	**00 36 43.7**	**+0.5**
	17nm,1.1s						
MCK	**McKinley**	**19.02**	**332**	*e*P	**P**	**00 36 45.5**	**-2.0**
	16nm,1.3s						
ILAR	**Eielson Array**	**19.19**	**336**	P	**P**	**00 36 50.1**	**+0.6**
	0.1nm,0.3s,baz=149,slow=10,SNR=43						
ILAR				LR	LR	00 43 20.3	
	comp=Z,1μm,21.0s,baz=160,slow=34						
COLA	**College**	**19.54**	**335**	*e*P	**P**	**00 36 51.8**	**-1.7**
	73nm,1.6s						
SVW2	**Sparrevohn**	**19.93**	**320**	*e*P	**P**	**00 36 56.1**	**-1.9**
SDCO	**Great Sand Dun**	**19.95**	**113**	*e*P	**P**	**00 36 58.0**	**-0.3**
	117nm,0.6s						
INK	**Inuvik**	**20.25**	**355**	P	**P**	**00 37 02.8**	**+1.5**
	13nm,1.0s,baz=170,slow=10,SNR=19						
INK				LR	LR	00 44 42.1	
	comp=Z,928nm,19.9s,MS4.1,baz=176,slow=36						
INK	**Inuvik**	**20.25**	**355**	*e*P	**P**	**00 37 00.3**	**-0.9**
	25nm,1.1s						
TUC	**Tucson**	**20.96**	**133**	*e*P	**P**	**00 37 08.2**	**-0.7**
	102nm,1.6s						
ANMO	**Albuquerque**	**21.26**	**121**	P	**P**	**00 37 12.4**	**+0.5**
	28nm,0.9s,mb4.6,baz=320,slow=11,SNR=24						
ANMO				LR	LR	00 45 38.6	
	comp=Z,898nm,20.1s,MS4.2,slow=37						
ANMO	**Albuquerque**	**21.26**	**121**	*e*P	**P**	**00 37 11.8**	**-0.1**
	51nm,1.1s,mb4.8						
ULM	**Lac du Bonnet**	**21.50**	**72**	P	**P**	**00 37 14.2**	**+0.1**
	19nm,1.0s,mb4.4,baz=277,slow=8.9,SNR=15						
ULM				LR	LR	00 45 46.8	
	comp=Z,268nm,18.4s,MS3.7,baz=284,slow=37						
ULM	**Lac du Bonnet**	**21.50**	**72**	*e*P	**P**	**00 37 13.8**	**-0.4**
	84nm,1.4s,mb4.9						
IMA	**Indian Mountai**	**22.10**	**333**	*e*P	**P**	**00 37 21.2**	**+1.1**
FCC	**Fort Churchill**	**22.91**	**50**	*e*P	**P**	**00 37 28.2**	**+0.2**
	38nm,1.1s,mb4.7						
CBKS	**Cedar Bluff**	**22.98**	**103**	*e*P	**P**	**00 37 29.9**	**+1.0**
	78nm,1.2s,mb5.0						
AMTX	**Amarillo**	**24.15**	**114**	*e*P	**P**	**00 37 41.6**	**+1.3**
	42nm,0.8s,mb4.9						
MNTX	**Cornudas Mount**	**24.27**	**124**	*e*P	**P**	**00 37 41.7**	**+0.2**
	48nm,1.6s,mb4.7						
EYMN	**Ely**	**24.77**	**77**	*e*P	**P**	**00 37 47.2**	**+1.0**
	49nm,1.2s,mb4.9						
KSU1	**Kansas State U**	**24.87**	**100**	*e*P	**P**	**00 37 48.9**	**+1.6**
WMOK	**Wichita Mounta**	**26.05**	**110**	*e*P	**P**	**00 37 58.1**	**-0.3**
	24nm,1.1s,mb4.6						
LTX	**Lajitas**	**27.03**	**125**	*e*P	**P**	**00 38 06.7**	**-0.8**
	38nm,1.6s,mb4.7						
TXAR	**Lajitas Array**	**27.03**	**125**	P	**P**	**00 38 07.7**	**+0.2**
	5.3nm,0.8s,mb4.1,baz=313,slow=6.9,SNR=23						
TXAR				LR	LR	00 49 26.5	
	comp=Z,2μm,19.4s,MS4.7,baz=325,slow=38						
JCT	**Junction City**	**28.36**	**118**	*e*P	**P**	**00 38 18.7**	**-0.8**
	23nm,1.0s,mb4.8						
RES	**Resolute Bay**	**30.17**	**17**	*e*P	**P**	**00 38 34.8**	**-0.5**
	7.2nm,1.1s,mb4.3						
FRB	**Frobisher Bay**	**35.54**	**42**	P	**P**	**00 39 22.2**	**0.0**
	2.9nm,0.9s,mb4.2,baz=297,slow=4.5,SNR=2.9						
FRB	**Frobisher Bay**	**35.54**	**42**	P	**P**	**00 39 22.2**	**0.0**
SCHQ	**Schefferville**	**37.96**	**56**	P	**P**	**00 39 43.4**	**+0.7**
	3.2nm,0.9s,mb4.1,baz=304,slow=10,SNR=4.8						
SCHQ				LR	LR	00 55 47.3	
	comp=Z,802nm,19.2s,MS4.5,baz=115,slow=37						
SUMG	**Summit**	**44.92**	**25**	*e*P	**P**	**00 40 40.2**	**+0.8**
ARCES	**ARCESS Array B**	**61.02**	**10**	LR	LR	01 08 25.6	
	comp=Z,166nm,19.3s,MS4.2,baz=11,slow=35						
ROSC	**El Rosal**	**63.29**	**115**	LR	LR	01 16 49.6	
	comp=Z,107nm,18.3s,MS4.1,baz=190,slow=42						
MDJ	**Mudanjiang**	**64.86**	**309**	P	**P**	**00 43 01.5**	**-3.0**
MDJ				AP	pP	00 43 04.7	-2.2
MDJ				PCP	PcP	00 43 35.4	-2.4
MDJ				PP	PP	00 45 23.0	-6.3
MDJ				S	**S**	**00 51 40.2**	**-4.2**
MDJ				SCS	ScS	00 52 55.5	-0.4
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,62nm,4.3s						
MDJ				LR	LR		
	comp=N,196nm,24.6s,MS4.4						
MDJ				LR	LR		
	comp=E,222nm,27.3s,MS4.4						
MDJ				LR	LR		
	comp=Z,339nm,22.5s,MS4.5						
NB2	**NORSAR Subarra**	**66.38**	**20**	P	**P**	**00 43 13.9**	**-0.1**
	comp=Z,4.8nm,1.0s,mb4.5,baz=333,slow=6.2						
NOA	**NORSAR Array B**	**66.38**	**20**	P	**P**	**00 43 14.5**	**+0.6**
	comp=Z,3.4nm,1.1s,mb4.3,baz=332,slow=6.3,SNR=2.9						
NOA				LR	LR	01 13 18.8	
	comp=Z,119nm,18.7s,MS4.1,baz=315,slow=37						
CN2	**Changchun**	**67.55**	**311**	*e*P	**P**	**00 43 20.3**	**-1.4**
CN2				*e*AP	pP	00 43 25.3	+1.2
CN2				*e*S	S	00 52 15.7	-1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,300nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS4.7						
CN2				LR	LR		
	comp=Z,400nm,22.0s,MS4.6						
HFS	**Hagfors**	**67.75**	**19**	P	**P**	**00 43 22.4**	**-0.2**
	comp=Z,6.1nm,0.8s,mb4.7,baz=37,slow=7.4,SNR=6.0						
PPT	**Papeete**	**68.10**	**201**	*e*S	S	00 52 11.8	-12
PPT				*e*LR	LR	01 03 30.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,646nm,27.5s						
FINES	FINESS Array B	68.80	13	P	P	00 43 29.9	+0.8
	comp=Z,4.0nm,1.1s,mb4.3,baz=349,slow=7.1,SNR=3.6						
FINES				LR	LR	01 15 51.1	
	comp=Z,148nm,18.5s,MS4.2,baz=224,slow=38						
RKT	Rikitea	71.26	186	eLQ		01 02 10.2	
RKT				eLR	LR	01 05 19.7	
	comp=Z,246nm,24.5s						
ULN	Ulaanbaatar	72.69	324	eP	P	00 43 53.0	+0.2
ROSF	Rostrenen	72.85	35	eP	P	00 43 53.3	-0.4
	comp=Z,89nm,1.5s,mb5.2						
SONM	Songino Array	72.97	325	P	P	00 43 54.0	-0.5
	comp=Z,6.0nm,1.4s,mb4.3,baz=56,slow=4.5,SNR=9.8						
SGMF	Saint Gilles	73.19	34	eP	P	00 43 54.5	-1.2
	comp=Z,178nm,1.9s,mb5.4						
QUIF	Quistinic	73.23	35	eP	P	00 43 54.4	-1.6
	comp=Z,151nm,1.7s,mb5.3						
FLN	La Foliniere	73.53	33	eP	P	00 43 56.7	-1.0
	comp=Z,48nm,1.4s,mb5.0						
FLN				eR			
	comp=Z,500nm,21.2s						
TBI	Tubuai	73.65	200	eS	S	00 53 16.6	-12
TBI				eLR	LR	01 06 14.1	
	comp=Z,453nm,30.2s						
GRR	Gorron	73.71	33	eP	P	00 43 58.1	-0.6
	comp=Z,125nm,1.7s,mb5.3						
LDF	La Druitiere	73.80	33	eP	P	00 43 59.1	-0.2
	comp=Z,129nm,1.8s,mb5.3						
BAIF	Baives	74.04	29	eP	P	00 43 59.9	-0.7
	comp=Z,32nm,1.3s,mb4.8						
ZAL	Zalesovo	74.28	340	LR	LR	01 20 56.1	
	comp=Z,324nm,18.1s,MS4.7,baz=88,slow=39						
BJI	Beijing	74.94	314	P	P	00 44 05.2	-0.9
BJI				LR	LR		
	comp=N,209nm,21.2s,MS4.6						
BJI				LR	LR		
	comp=E,272nm,21.2s,MS4.6						
BJI				LR	LR		
	comp=Z,299nm,26.1s,MS4.5						
MFF	Saint Martin d	75.47	34	eP	P	00 44 08.3	-0.6
	comp=Z,26nm,1.2s,mb4.7						
CLL	Collm	75.56	24	eP	P	00 44 10.0	+0.6
CLL				e		00 44 15.0	
CLL	Collm	75.56	24	P	P	00 44 10.0	+0.6
CLL				e		00 44 15.0	
BRG	Berggiesshubel	76.20	23	eP	P	00 44 13.8	+0.8
	comp=Z,10.0nm,1.4s,mb4.5						
BRG				LR	LR		
	comp=Z,260nm,30.5s,MS4.3						
SSF	Saint Saulge	76.39	31	eP	P	00 44 13.9	-0.2
	comp=Z,71nm,1.8s,mb5.0						
HHC	Hu-ho-hao-te	76.46	317	eP	P	00 44 13.7	-1.0
HHC				AP	pP	00 44 18.4	+1.3
HHC				XP	sP	00 44 20.2	+2.3
HHC				PCP	PcP	00 44 25.7	-1.1
HHC				PP	PP	00 47 06.9	-1.3
HHC				S	S	00 53 58.4	-0.7
HHC				SKS	SKS	00 54 19.8	-6.0
HHC				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,132nm,4.8s						
HHC				LR	LR		
	comp=N,468nm,23.2s,MS4.8						
HHC				LR	LR		
	comp=E,280nm,20.8s,MS4.8						
HHC				LR	LR		
	comp=Z,517nm,41.6s						
BGF	Bois d'Agland	76.59	32	eP	P	00 44 14.5	-0.8
TCF	Toulx Ste Croi	76.60	33	eP	P	00 44 13.6	-1.7
CHKZ	Chkalovo	77.11	348	eP	P	00 44 18.1	+0.1
RJF	Les Rejaudoux	77.18	33	eP	P	00 44 17.6	-1.0
RJF				eR			
	comp=Z,366nm,18.8s						
LFF	La Frestale	77.20	34	eP	P	00 44 18.7	0.0
	comp=Z,55nm,1.3s,mb5.0						
KHC	Kasperske Hory	77.69	24	eP	P	00 44 20.0	-1.3
BVAR	Borovoye Array	77.78	348	P	P	00 44 22.2	+0.5
	comp=Z,0.5nm,0.6s,mb3.6,baz=18,slow=4.6,SNR=3.9						
GERES	GERESS Array B	77.98	24	P	P	00 44 23.2	+0.3
	comp=Z,0.9nm,0.8s,mb3.8,baz=45,slow=1.9,SNR=5.3						
KURK	Kurchatov	78.63	343	eP	P	00 44 26.1	-0.4
EPF	Esparros	78.67	35	eP	P	00 44 25.4	-1.4
	comp=Z,50nm,1.4s,mb5.0						
AKASG	Malin Array Be	79.63	14	P	P	00 44 31.8	-0.1
	comp=Z,0.2nm,0.3s,mb3.5,baz=344,slow=4.7,SNR=4.2						
ESDC	Sonseca Array	79.73	40	P	P	00 44 33.3	+0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=330,slow=6.5,SNR=3.2						
NJ2	Nanjing	79.79	307	eP	P	00 44 32.4	-0.8
NJ2				AP	pP	00 44 37.1	+1.5
NJ2				XP	sP	00 44 39.4	+3.0
NJ2				PP	PP	00 47 34.5	-1.5
NJ2				S	S	00 54 32.0	-3.0
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,20nm,4.6s						
NJ2				LR	LR		
	comp=N,390nm,23.8s,MS4.8						
NJ2				LR	LR		
	comp=E,340nm,19.0s,MS4.8						
NJ2				LR	LR		
	comp=Z,240nm,26.2s						
BURAR	Bucovina Array	81.88	17	⇑P	P	00 44 46.4	+2.6
BURAR	Bucovina Array	81.88	17	⇑P	P	00 44 46.4	+2.6
GTA	Gaotai	82.64	324	P	P	00 44 49.5	+1.6
GTA				AP	pP	00 44 53.3	+3.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.7						
WMQ	Urumqi	82.85	334	eP	P	00 44 51.0	+2.1
WMQ				AP	pP	00 44 55.5	+4.1
WMQ				XP	sP	00 44 58.0	+5.8
WMQ				PP	PP	00 48 03.0	+1.8
WMQ				PPP	PPP	00 49 56.0	+1.9
WMQ				S	S	00 55 07.5	+1.2
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,134nm,4.6s						
WMQ				LR	LR		
	comp=Z,317nm,25.0s,MS4.6						
LZH	Lanzhou	83.81	320	eP	P	00 44 54.2	+0.2
LZH				AP	pP	00 44 57.5	+1.1
LZH				XP	sP	00 44 58.7	+1.5
LZH				AMB	AMB		
	comp=Z,22nm,1.5s,mb5.1						
LZH				LR	LR		
	comp=N,261nm,15.0s						
LZH				LR	LR		
	comp=Z,442nm,17.8s,MS4.9						
LZH	Lanzhou	83.81	320	eP	P	00 44 54.2	+0.2
	comp=Z,22nm,1.5s,mb5.1						
LZH				pP	pP	00 44 57.5	+1.1
LZH				sP	sP	00 44 58.7	+1.5
LZH				LR	LR		
	comp=Z,440nm,17.8s,MS4.9						
LPAZ	La Paz	83.86	123	eP	P	00 44 54.6	0.0
	comp=Z,3.6nm,0.8s,mb4.5						
VAE	Valguarnera	88.58	28	LR	LR	01 27 45.0	
	comp=Z,341nm,19.4s,MS4.8,baz=124,slow=37						
GNI	Garni	91.79	5	LR	LR	01 28 23.8	
	comp=Z,86nm,20.7s,MS4.2,baz=216,slow=36						
KMI	Kunming	93.59	315	P	P	00 45 41.4	+0.5
KMI				AP	pP	00 45 44.2	+0.9
KMI				S	S	00 56 41.3	-5.6
KMI				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb5.2						
KMI				LR	LR		
	comp=N,188nm,21.2s,MS4.7						
KMI				LR	LR		
	comp=E,187nm,19.2s,MS4.7						
KMI				LR	LR		
	comp=Z,224nm,23.3s,MS4.6						
KMI	Kunming	93.59	315	P	P	00 45 41.4	+0.5
	comp=Z,7.0nm,0.7s,mb5.2						
KMI				pP	pP	00 45 44.2	+0.9
KMI				S	S	00 56 41.3	-5.6
KMI				SS	SS	01 03 09.3	+1.0
KMI				LR	LR		
	comp=Z,220nm,23.3s,MS4.5						
BDFB	Brasilia	95.53	107	LR	LR	01 28 29.5	
	comp=Z,136nm,19.4s,MS4.4,baz=211,slow=35						
ASF	Jabal al Asfar	98.92	12	LR	LR	01 34 08.9	
	comp=Z,65nm,18.2s,MS4.2,baz=151,slow=37						

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*IDC **01** 01:06:15.6±1.0,37.56N×96.35E,mb3.6/5,mb1 3.7/6, mb1mx3.5/19,mbtmp3.6/6,ML4.2/1,Error ellipse: s-maj=57.8km s-min=20.6km az=54.0*

*NEIC **01** 01:06:19.4±7.3,37.60N×96.34E,h26km±51km,mb3.6/3, Error ellipse: s-maj=28.8km s-min=13.3km az=210.0*

*BJI **01** 01:06:19.9,37.55N×96.50E,h18km,ML3.5,Ms3.2, Msz3.1*

ISC 01 01:06:17.5±8.8**,37.6N**±0.2×**96.5E**±0.2**,h26km**±62km**,n12,** σ0s**83**/12**,mb3.6**/7**,Qinghai**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.19	55	PG	Pn	01 07 15.5	+8.3
GTA				LR	LR		
	comp=N,298nm,18.3s						
GTA				LR	LR		
	comp=E,337nm,20.2s						
GTA				LR	LR		
	comp=Z,584nm,19.4s						
SONM	Songino Array	12.55	32	Pn	P	01 09 16.6	-0.6
	comp=Z,0.3nm,0.3s,baz=216,slow=16,SNR=10						
ULN	Ulaanbaatar	12.86	34	P	P	01 09 22.2	+0.8
	comp=Z,1.2nm,0.6s						
KURK	Kurchatov	18.25	322	eP	P	01 10 29.6	-1.0
	comp=Z,1.1nm,0.5s						
BVAR	Borovoye Array	23.76	319	P	P	01 11 29.4	+1.0
	comp=Z,1.4nm,0.6s,mb3.5,baz=117,slow=9.7,SNR=10						
BVAR	Borovoye Array	23.76	319	P	P	01 11 29.4	+1.0
CHKZ	Chkalovo	23.98	320	eP	P	01 11 31.5	+0.9
	comp=Z,1.5nm,0.8s,mb3.5						
FINES	FINESS Array B	48.62	323	P	P	01 15 00.5	-0.1
	comp=Z,0.6nm,0.6s,mb3.8,baz=98,slow=9.8,SNR=3.9						
NOA	NORSAR Array B	55.74	324	P	P	01 15 53.3	-0.6
	comp=Z,1.1nm,0.8s,mb3.9,baz=90,slow=4.0,SNR=3.3						
WRA	Warramunga Arr	67.44	141	P	P	01 17 14.4	+1.2
	comp=Z,0.4nm,0.9s,mb3.4,baz=337,slow=5.8,SNR=2.4						
INK	Inuvik	68.02	18	P	P	01 17 15.7	-0.4
	comp=Z,0.7nm,0.6s,mb3.9						
ASAR	Alice Springs	70.39	144	P	P	01 17 30.2	-1.2
	comp=Z,0.3nm,0.6s,mb3.4,baz=332,slow=6.5,SNR=5.8						

WEL 01 01:18:03.8±0.3**,37.12S**×**176.95E,h5km,ML3.5**/14**,Error ellipse: s-maj=2.1km s-min=1.7km az=0.0,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WIZ	White Island	0.45	154	PG	Pg	01 18 13.0	+0.1
MYRZ	Mayor Island	0.58	254	PG	Pg	01 18 15.9	+0.4
MYRZ				SG	Sg	01 18 23.8	+0.4
TGRZ	Tauranga	0.81	222	P*	Pb	01 18 18.8	-1.3
TGRZ				S*	Sb	01 18 29.8	-1.4
MARZ	Manawahe	0.89	194	P*	Pb	01 18 19.7	-1.7
LIRZ	Lichensteins R	0.99	207	P*	Pb	01 18 22.4	-0.6
KUZ	Kuaotunu	1.05	291	P*	Pb	01 18 23.5	-0.6
KUZ				S*	Sb	01 18 37.6	-0.4
URZ	Urewera	1.14	173	P*	Pb	01 18 24.3	-1.4
TAZ	Tarawera	1.16	197	P*	Pb	01 18 25.1	-0.9
MWZ	Matawai	1.30	159	P*	Pb	01 18 26.2	-2.1
TOZ	Tahuroa Road	1.30	242	P*	Pb	01 18 26.2	-2.2
TOZ				S*	Sb	01 18 42.1	-3.1
PUZ	Puketiti	1.41	133	PN	Pn	01 18 29.4	-0.9
HIZ	Hauiti	2.16	229	PN	Pn	01 18 38.8	-2.2
WCZ	Waipu Caves	2.40	299	PN	Pn	01 18 43.5	-1.0

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*IDC **01** 01:18:54.7±2.4,3.15N×96.33E,mb3.9/5,mb1 4.1/6, mb1mx3.9/17,mbtmp3.9/6,MS3.5/2,Ms1 3.6/2, ms1mx3.0/23,Error ellipse: s-maj=96.1km s-min=20.4km az=60.0*

*NEIC **01** 01:18:59.9±1.1,3.31N×96.57E,h30km,mb4.5/2,Error ellipse: s-maj=38.5km s-min=9.9km az=63.0*

ISC 01 01:18:57.6±1.4**,3.3N**±0.2×**96.5E**±0.3**,h30km,n10,**σ0s**52**/9**, mb4.1**/7**,MS4.2**/1**,1D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.28	9	Pn	P	01 22 32.5	-0.6
	baz=213,slow=15,SNR=3.4						
CMAR				LR	LR	01 29 05.6	
	comp=Z,42nm,19.8s,baz=40,slow=40						
WRA	Warramunga Arr	43.77	123	P	P	01 27 02.4	-0.2
	5.9nm,0.6s,mb4.5,baz=301,slow=9.1,SNR=66						
WRAB	Tennant Creek	43.77	123	eP	P	01 27 02.6	-0.1
	8.3nm,0.5s,mb4.7						
WB2	Warramunga Arr	43.77	123	⇓iP	P	01 27 02.7	0.0
WB2				i		01 27 26.3	
SONM	Songino Array	45.20	9	P	P	01 27 14.8	+1.0
	0.4nm,0.5s,mb3.5,baz=185,slow=6.7,SNR=5.5						
ASAR	Alice Springs	45.23	128	P	P	01 27 14.4	+0.1
	1.1nm,0.4s,mb4.0,baz=300,slow=8.0,SNR=16						
ZAL	Zalesovo	51.40	351	P	P	01 28 02.5	+0.7
	0.7nm,0.5s,mb3.9,baz=300,slow=4.6,SNR=4.0						
BVAR	Borovoye Array	54.06	341	P	P	01 28 20.9	-0.7
	0.8nm,0.7s,mb3.8,baz=135,slow=8.4,SNR=6.0						
CHKZ	Chkalovo	54.54	341	eP	P	01 28 24.9	-0.2
	2.1nm,0.7s,mb4.3						
SUR	Sutherland	79.69	236	LR	LR	01 59 59.8	
	comp=Z,124nm,20.6s,MS4.2,slow=31						

IGQ 01 01:20:45.0,1.51S×81.57W,h5km±20km,mb4.4,1C-1D, Error ellipse: s-maj=25.9km s-min=6.1km az=152.3,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SALI	Salinas	0.88	139	⇓P	Pb	01 21 02.5	0.0
IGUA	Igualata	2.93	90	P	Pn	01 21 34.2	+1.1
IGUA				S	Sn	01 22 07.9	-1.1
JUIV	Juive	3.10	88	P	Pn	01 21 36.8	+1.2
ARRY	Arrayan	3.11	90	P	Pn	01 21 36.1	+0.4
RETU	Refugio	3.12	89	P	Pn	01 21 37.6	+1.8
RUN2	Runtun	3.15	88	P	Pn	01 21 35.8	-0.5
ULBA	Ulba	3.16	89	P	Pn	01 21 37.8	+1.5
NAS1	Nasa	3.21	74	P	Pn	01 21 39.7	+2.6
PISA	Pisayambo	3.21	82	⇑P	Pn	01 21 39.0	+1.9
PISA				S	Sn	01 22 16.7	+0.4
JUA2	San Juan 2	3.23	67	P	Pn	01 21 38.8	+1.4
TERV	Terraza Guagua	3.25	66	P	Pn	01 21 40.3	+2.7
PINO	Pino	3.25	66	P	Pn	01 21 38.7	+1.1
VC1	Cotopaxi 1	3.28	75	P	Pn	01 21 41.3	+3.2
VC1				S	Sn	01 22 22.0	+4.0
TAMB	Tambo	3.30	76	P	Pn	01 21 41.2	+2.9
YANA	Yana	3.30	65	P	Pn	01 21 39.5	+1.1
ANTI	Antisana	3.56	73	P	Pn	01 21 44.5	+2.3
ANTI				S	Sn	01 22 27.0	+1.8
COTA	Cotacachi	3.71	60	P	Pn	01 21 45.9	+1.7
CAYR	Refugio Cayamb	3.87	67	P	Pn	01 21 49.8	+3.3
CAYA	Cayambe	3.91	66	P	Pn	01 21 50.2	+3.2
ECEN	Cerro Negro	4.28	57	P	Pn	01 21 54.0	+1.7

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*IDC **01** 01:20:55.1±1.0,23.09S×169.13E,mb4.5/10,mb1 4.7/11, mb1mx4.6/17,mbtmp4.5/11,ML3.9/1,MS3.8/9,Ms1 3.8/9, ms1mx3.5/25,Error ellipse: s-maj=34.2km s-min=21.4km az=157.0*

*NEIC **01** 01:20:57.4±0.4,23.00S×169.06E,h10km,mb4.9/15,Error ellipse: s-maj=13.2km s-min=9.9km az=182.0*

*HRVD **01** 01:20:57.4±1.0,23.02S×169.14E,h27km±4km,MW4.8/39, Centroid moment Tensor Solution. LP body waves: s4,c5; Mantle waves: s39,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.13±.22; Mθθ1.14±.16; Mφφ-1.00±.16; Mrθ0.01±.33; Mθφ-1.05±.19; Mφr-1.16±.42; Best double couple: M0 1.875×10^{16} NP1:φs72°,δ56°,λ-170°. NP2: φs336°,δ81°,λ-34°. Principal axes: T 1.703, Plg17°, Azm28°; N .351, Plg55°, Azm143°; P -2.047, Plg30°, Azm288°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 01:20:57.1,23.11S×169.35E,h29km,mB5.2,mb4.8, Ms5.0,Msz4.1*

ISC 01 01:20:59.2±0.6**,23.12S**±0.10×**168.99E**±0.09**,h33km,n64,** σ0s**95**/35**,mb4.7**/20**,MS3.9**/10**,2C-7D,New Caledonia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.58	293	⇓eP	P	01 21 39.8	+0.4
DZM	Mont Dzumac	2.58	293	⇓eP	P	01 21 39.8	+0.4
NOUC	Port Laguerre	2.68	292	⇓eP	P	01 21 41.1	+0.2
URZ	Urewera	16.61	157	Pn	P	01 24 50.9	-0.2
	0.4nm,0.3s,baz=322,slow=19,SNR=2.5						
URZ				LR	LR	01 30 19.8	
	comp=Z,371nm,18.2s,baz=51,slow=34						
AFI	Afiamalu	20.39	67	P	P	01 25 29.1	-6.8
	74nm,0.8s						
RPZ	Rata Peaks	20.61	176	LR	LR	01 32 17.5	
	comp=Z,429nm,18.6s,MS3.9,baz=166,slow=33						
CNB	Canberra Magne	20.95	230	eP	P	01 25 43.4	+1.7
	193nm,1.2s						
CTA	Charters Tower	21.35	274	eP	P	01 25 47.5	+1.8
	14nm,0.9s,mb4.3						
CTA	Charters Tower	21.35	274	P	P	01 25 47.3	+1.6
	12nm,0.6s,mb4.4,baz=101,slow=10,SNR=15						
CTA				LR	LR	01 33 35.1	
	comp=Z,216nm,18.7s,MS3.6,baz=70,slow=35						
CTAO	Charters Tower	21.35	274	eP	P	01 25 47.0	+1.2
	25nm,1.1s,mb4.5						
PMG	Port Moresby	24.95	300	P	P	01 26 21.1	-0.1
	11nm,0.7s,mb4.5,baz=113,slow=4.9,SNR=6.1						
PMG				LR	LR	01 33 16.7	
	comp=Z,134nm,21.2s,MS3.4,baz=343,slow=30						
PMG	Port Moresby	24.95	300	P	P	01 26 19.8	-1.5
	30nm,1.0s,mb4.8						
STKA	Stephens Creek	25.76	244	eP	P	01 26 29.7	+1.0
	11nm,0.9s,mb4.4						
STKA	Stephens Creek	25.76	244	P	P	01 26 29.4	+0.7
	13nm,0.8s,mb4.5,baz=88,slow=11,SNR=20						
STKA				LR	LR	01 35 07.8	
	comp=Z,107nm,18.4s,MS3.4,baz=247,slow=33						
ASAR	Alice Springs	32.16	262	P	P	01 27 25.4	-0.8
	4.9nm,0.6s,mb4.5,baz=84,slow=8.7,SNR=35						
ASAR				PcP	PcP	01 30 13.2	-1.6
	1.5nm,0.8s,baz=108,slow=2.2,SNR=5.0						
ASAR				LR	LR	01 40 37.9	
	comp=Z,114nm,19.0s,MS3.6,baz=100,slow=37						
ASPA	Alice Springs	32.16	262	eP	P	01 27 25.3	-0.9
WRAB	Tennant Creek	32.34	269	P	P	01 27 24.9	-2.8
	4.5nm,0.5s,mb4.5						
WRA	Warramunga Arr	32.34	269	P	P	01 27 26.4	-1.5
	3.0nm,0.6s,mb4.3,baz=98,slow=8.0,SNR=20						
WRA				PcP	PcP	01 30 13.6	-1.6
	1.4nm,0.7s,baz=95,slow=2.7,SNR=7.1						
KAKA	Kakadu	36.19	280	⇓iP	P	01 28 00.0	-0.9
	12nm,0.6s,mb5.0						
TBI	Tubuai	38.09	99	eLR	LR	01 38 16.3	
	242nm,28.2s						
PPT	Papeete	39.15	90	eLQ		01 37 23.7	
PPT				eLR	LR	01 38 43.0	
	201nm,26.0s						
FITZ	Fitzroy Crossi	40.77	269	⇓iP	P	01 28 39.3	+0.2
	20nm,0.9s,mb4.7						
MBWA	Marble Bar	45.50	263	eP	P	01 29 17.2	-0.2
	41nm,0.8s,mb5.3						
NWAO	Narrogin (SRO)	46.33	246	P	P	01 29 23.4	-0.5
	9.6nm,0.7s,mb4.8,baz=84,slow=7.0,SNR=4.5						
NWAO	Narrogin (SRO)	46.33	246	P	P	01 29 23.1	-0.8
	22nm,1.1s,mb5.0						
RKT	Rikitea	51.25	102	eLR	LR	01 44 20.1	
	152nm,29.5s						
VNDA	Vanda	54.56	182	LR	LR	01 50 18.6	
	comp=Z,174nm,18.4s,MS4.2,baz=345,slow=32						
ENH	Enshi	77.97	310	eP	P	01 32 55.0	-1.1
	9.8nm,0.8s,mb4.8						
CMAR	Chiang Mai Arr	79.90	295	P	P	01 33 07.9	+1.2
	6.5nm,0.7s,mb4.7,baz=132,slow=4.1,SNR=26						
KMI	Kunming	80.14	303	P	P	01 33 08.7	+0.8
KMI				AP	pP	01 33 13.7	-4.6
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
KMI				LR	LR		
	comp=Z,45nm,23.4s,MS3.7						
KMI	Kunming	80.14	303	P	P	01 33 08.7	+0.8
	comp=Z,11nm,1.1s,mb4.7						
KMI				pP	pP	01 33 13.7	-4.6
HHC	Hu-ho-hao-te	83.02	320	eP	P	01 33 23.7	+1.1
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,71nm,3.8s						
LZH	Lanzhou	85.16	312	⇓P	P	01 33 34.5	+1.0
LZH				AP	pP	01 33 42.2	-1.8
LZH				XP	sP	01 33 46.3	-1.2
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb5.1						
LZH	Lanzhou	85.16	312	⇓P	P	01 33 34.5	+1.0
	comp=Z,21nm,1.3s,mb5.1						
LZH				pP	pP	01 33 42.2	-1.8
LZH				sP	sP	01 33 46.3	-1.2
ULN	Ulaanbaatar	89.83	324	eP	P	01 33 55.8	0.0
	comp=Z,7.0nm,1.1s,mb4.9						
SONM	Songino Array	90.17	323	P	P	01 33 57.8	+0.5
	comp=Z,2.1nm,1.0s,mb4.4,baz=137,slow=3.5,SNR=12						
NVAR	Mina Array Bea	91.53	49	P	P	01 34 03.7	-0.2
	comp=Z,1.1nm,0.6s,mb4.4,baz=231,slow=11,SNR=9.6						
NVAR	Mina Array Bea	91.53	49	P	P	01 34 03.7	-0.2
ILAR	Eielson Array	93.99	17	P	P	01 34 13.8	-0.7
	comp=Z,0.4nm,0.6s,mb4.0,baz=231,slow=5.8,SNR=8.2						
ELK	Elko	94.70	48	LR	LR	02 11 19.0	
	comp=Z,52nm,18.9s,MS4.0,baz=166,slow=32						
TXAR	Lajitas Array	98.80	62	LR	LR	02 11 17.2	
	comp=Z,62nm,20.1s,MS4.1,baz=205,slow=31						
WMQ	Urumqi	99.70	313	eP	P	01 34 41.0	+0.1
WMQ				PP	PP	01 38 47.0	-0.8
WMQ				SKS	SKS	01 45 18.0	+2.3
WMQ				S	S	01 46 10.0	+1.8
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,115nm,6.4s						
WMQ				LR	LR		
	comp=N,230nm,24.4s,MS4.8						
WMQ				LR	LR		
	comp=E,267nm,23.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,212nm,25.1s,MS4.5						
CRVS	Cervenica-Dubn	143.70	323	ePKP	PKPdf	01 40 40.8	+10
KSP	Ksiaz	145.15	329	eP	PKPdf	01 40 34.1	+1.1
KSP				e		01 40 41.1	
VYHS	Vyhne	145.36	324	ePKP	PKPdf	01 40 35.4	+1.9
DPC	Dobruska-Polom	145.46	329	eP	PKPdf	01 40 34.7	+1.1
UPC	Upice	145.50	329	eP	PKPdf	01 40 35.6	+1.9
VRAC	Vranov	146.01	327	PKPbc	PKPbc	01 40 36.0	+0.5
	comp=Z,4.0nm,0.9s,baz=120,slow=4.5,SNR=4.9						
PVCC	Panska Ves	146.16	330	eP	PKPdf	01 40 36.7	+1.9
BRG	Berggiesshubel	146.20	331	eP	PKPdf	01 40 37.4	+2.6
BRG				e		01 41 27.9	
CLL	Collm	146.29	333	i PKP1	PKPbc	01 40 37.5	+1.4
CLL				e		01 40 52.0	
PRU	Pruhonice	146.55	330	eP	PKPdf	01 40 38.5	+3.0
NKC	Novy Kostel	147.32	332	eP	PKPdf	01 40 40.7	+4.0
KHC	Kasperske Hory	147.60	329	eP	PKPdf	01 40 41.4	+4.2
KHC				e		01 40 53.3	
KHC	Kasperske Hory	147.60	329	eP	PKPdf	01 40 41.4	+4.2
KHC				x	x	01 40 53.3	
GERES	GERESS Array B	147.74	329	PKPbc	PKPdf	01 40 40.7	+3.3
	comp=Z,2.0nm,0.9s,baz=90,slow=1.3,SNR=10						
WTTA	Wattenberg	149.84	329	⇑iP	PKPdf	01 40 47.0	+6.1
	comp=Z,10nm,1.1s						
MOTA	Moosalm	150.03	329	⇑iP	PKPdf	01 40 47.1	+5.9
	comp=Z,2.6nm,1.0s						
GIVF	Givet	150.35	339	ePKIKP	PKPdf	01 40 48.1	+6.5
BAIF	Baives	150.59	340	ePKIKP	PKPdf	01 40 48.7	+6.8
HINF	Hinteralfeld	151.53	334	ePKIKP	PKPdf	01 40 50.0	+6.6
HAU	Haudompre	151.57	335	ePKIKP	PKPdf	01 40 50.8	+7.4
MEZF	Maizieres J'vi	151.64	337	ePKIKP	PKPdf	01 40 50.0	+6.5
SSF	Saint Saulge	153.41	337	ePKIKP	PKPdf	01 40 52.9	+6.8
	comp=Z,22nm,1.2s						

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*NEIC **01** 01:24:24.4,16.89N×100.63W,h2km,MD3.5(MEX),After MEX.*

MEX 01 01:24:24.9±0.5**,16.90N**×**100.61W,h3km**±4km**,MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.36	66	i P	Pg	01 24 31.3	-0.8
CAIG				i S	Sg	01 24 37.0	+0.1
ACX	Acapulco	0.67	93	i P	Pg	01 24 37.0	-1.2
ACX				i S	Sg	01 24 46.5	-0.5
ZIIG	Zihuatanejo	1.08	311	i P	Pb	01 24 40.2	-5.6
ZIIG				i S	Sb	01 24 58.4	-1.7
ZIIG	Zihuatanejo	1.08	311	i P	Pb	01 24 42.6	-3.3
ZIIG				i S	Sb	01 24 58.2	-1.9
PLIG	Platanillo	1.82	35	i P	Pn	01 24 54.2	-3.2
PLIG				i S	Sn	01 25 14.9	-6.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PPM	**Popocatepetl**	**2.87**	**41**	eP	Pn	01 25 12.4	+0.1
PPM				iS	Sn	01 25 46.4	-1.4
PPM	**Popocatepetl**	**2.87**	**41**	eP	Pn	01 25 09.8	-2.5
PPM				iS	Sn	01 25 43.1	-4.7

MEX 01 01:26:46.8±0.4, 17.44N×100.41W, h10km±9km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.41**	**161**	iP	Pg	01 26 54.4	-0.7
CAIG				iS	Sg	01 27 00.2	-0.5
ACX	**Acapulco**	**0.73**	**140**	eP	Pb	01 26 58.5	-2.8
ACX				iS	Sb	01 27 09.0	-2.1

*IDC **01** 01:33:05.1±2.8, 6.31S×146.03E, h136km±30km, mb3.4/6, mb1 3.5/8, mb1mx3.5/14, mbtmp3.8/8, Error ellipse: s-maj=34.0km s-min=23.7km az=103.0*
*NEIC **01** 01:33:06.0±1.8, 6.37S×146.01E, h147km±20km, mb3.9/2, Error ellipse: s-maj=27.7km s-min=15.3km az=110.0*
ISC 01 01:33:04.1±2.6, 6.3S±0.2×145.9E±0.2, h141km±30km, n12, σ0.58/12, mb3.7/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.29**	**158**	P	**P**	**01 33 56.2**	**+0.5**
	9.4nm,0.3s,baz=325,slow=5.4,SNR=19						
PMG				S	**S**	**01 34 34.9**	**-0.3**
	8.6nm,0.3s,baz=109,slow=24,SNR=16						
WRA	**Warramunga Arr**	**17.57**	**219**	P	**P**	**01 37 00.8**	**-1.0**
	baz=40,slow=11,SNR=2.5						
ASAR	**Alice Springs**	**20.72**	**213**	P	**P**	**01 37 35.6**	**+0.6**
	0.6nm,0.7s,baz=37,slow=9.0,SNR=3.3						
STKA	**Stephens Creek**	**25.72**	**188**	P	**P**	**01 38 24.1**	**+1.0**
	2.1nm,0.7s,mb3.9,baz=357,slow=8.7,SNR=6.9						
STKA	**Stephens Creek**	**25.72**	**188**	eP	**P**	**01 38 23.2**	**0.0**
CMAR	**Chiang Mai Arr**	**52.44**	**299**	P	**P**	**01 42 05.0**	**+0.3**
	1.7nm,0.7s,mb3.8,baz=116,slow=6.3,SNR=7.2						
ULN	**Ulaanbaatar**	**63.88**	**332**	P	**P**	**01 43 24.4**	**+0.4**
	1.2nm,0.6s,mb3.9						
SONM	**Songino Array**	**64.17**	**332**	P	**P**	**01 43 26.1**	**+0.2**
	0.7nm,1.0s,mb3.5,baz=162,slow=2.9,SNR=4.3						
ILAR	**Eielson Array**	**86.23**	**23**	P	**P**	**01 45 30.1**	**-0.5**
	0.7nm,0.6s,mb3.6,baz=252,slow=5.0,SNR=8.9						
BVAR	**Borovoye Array**	**86.39**	**324**	P	**P**	**01 45 32.0**	**+0.4**
	0.6nm,0.5s,mb3.6,baz=117,slow=6.6,SNR=7.3						
CHKZ	**Chkalovo**	**86.44**	**325**	P	**P**	**01 45 30.8**	**-1.0**
	1.0nm,0.6s,mb3.7						
DBIC	**Dimbokro**	**150.93**	**272**	PKPbc	PKPdf	01 52 43.2	+8.0
	2.2nm,0.9s,baz=127,slow=4.4,SNR=3.9						

IDC 01 01:44:56.7±11.0, 12.60N×139.78E, mb3.9/4, mb1 4.1/4, mb1mx3.9/18, mbtmp3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx3.0/22, Error ellipse: s-maj=317.0km s-min=47.1km az=3.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**20.42**	**0**	LR	LR	01 56 26.7	
	comp=Z,165nm,18.5s,baz=158,slow=34						
PMG	**Port Moresby**	**23.06**	**161**	LR	LR	01 58 28.3	
	comp=Z,53nm,21.9s,baz=293,slow=35						
ZAL	**Zalesovo**	**59.60**	**326**	P	P	01 55 02.4	-2.2
	1.0nm,1.0s,baz=355,slow=6.3,SNR=4.9						
ZAL				LR	LR	02 23 00.1	
	comp=Z,44nm,20.7s,baz=266,slow=38						
BVAR	**Borovoye Array**	**67.64**	**322**	P	P	01 55 55.4	-2.2
	1.9nm,0.6s,baz=104,slow=6.1,SNR=12						
ILAR	**Eielson Array**	**71.59**	**26**	P	P	01 56 19.7	-1.8
	0.5nm,0.7s,baz=245,slow=6.1,SNR=8.9						
YKA	**Yellowknife Ar**	**85.99**	**27**	P	P	01 57 38.8	-1.1
	1.5nm,0.9s,baz=291,slow=5.1,SNR=12						

*NEIC **01** 01:46:10.0±0.7, 8.44S×115.65E, h10km, mb4.4/5, Error ellipse: s-maj=22.2km s-min=10.9km az=48.0*
NEIC Felt at Karangasem and Klungkung.
*DJA **01** 01:46:12.8±0.3, 8.67S×115.81E, h33km, MD4.9/4, ML4.9/1, Error ellipse: s-maj=18.1km s-min=4.9km az=168.0*
*IDC **01** 01:46:21.0±4.8, 8.40S×116.06E, h107km±45km, mb3.8/8, mb1 3.9/8, mb1mx3.8/16, mbtmp4.1/8, Error ellipse: s-maj=30.5km s-min=11.7km az=46.0*
ISC 01 01:46:12.2±0.7, 8.47S±0.09×115.76E±0.05, h39km±7km, n28, σ1.16/34, mb4.2/10, 6C-4D, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.34**	**221**	⇓ePg	**P**	**01 46 19.4**	**-1.5**
	5μm,0.2s						
RATI	**Rata**	**0.34**	**221**	⇓ePn	**P**	**01 46 20.1**	**-0.8**
KEDI	**Kedomdong**	**0.35**	**93**	⇑ePg	**P**	**01 46 20.7**	**-0.3**
	2μm,0.2s						
KEDI	**Kedomdong**	**0.35**	**93**	⇑eP	**P**	**01 46 22.1**	**+1.1**
KELI	**Kelakatan**	**1.28**	**281**	⇓ePn	**P**	**01 46 34.0**	**+0.1**
	1μm,0.2s						
KELI	**Kelakatan**	**1.28**	**281**	⇑eP	**P**	**01 46 36.4**	**+2.5**
KELI				⇑eSn	**S**	**01 46 50.4**	**+0.3**
SRDI	**Scrawed**	**1.60**	**269**	⇑ePn	**P**	**01 46 38.5**	**0.0**
SRDI	**Scrawed**	**1.60**	**269**	⇑eP	**P**	**01 46 40.9**	**+2.4**
SRDI				⇓eSn	**S**	**01 46 58.0**	**-0.1**
TRT	**Tretes**	**3.18**	**284**	ePg	**P**	**01 47 00.0**	**-1.1**
TRT				eSg	**S**	**01 47 34.0**	**-4.2**
MBWA	**Marble Bar**	**13.19**	**164**	eP	**P**	**01 49 15.6**	**-3.9**
MBWA				eS	**S**	**01 51 36.8**	**-8.9**
FITZ	**Fitzroy Crossi**	**13.56**	**136**	eP	**P**	**01 49 23.6**	**-0.9**
	14nm,0.8s						
FITZ				eS	**S**	**01 51 49.0**	**-5.9**
KAKA	**Kakadu**	**16.93**	**106**	eP	**P**	**01 50 09.0**	**+1.1**
	7.9nm,0.6s						
WRA	**Warramunga Arr**	**21.29**	**124**	P	**P**	**01 50 56.3**	**-1.4**
	11nm,1.0s,mb4.2,baz=299,slow=12,SNR=16						
WRA				S	**S**	**01 54 46.3**	**-0.8**
	0.3nm,0.7s,baz=301,slow=25,SNR=2.1						
WRA	**Warramunga Arr**	**21.29**	**124**	P	**P**	**01 50 56.3**	**-1.4**
WRA				S	**S**	**01 54 46.3**	**-0.8**
WRAB	**Tennant Creek**	**21.30**	**124**	eP	**P**	**01 50 57.6**	**-0.1**
	14nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**21.30**	**124**	eP	**P**	**01 50 58.3**	**+0.5**
ASPA	**Alice Springs**	**23.03**	**133**	eP	**P**	**01 51 16.5**	**+1.5**
ASAR	**Alice Springs**	**23.03**	**133**	P	**P**	**01 51 15.8**	**+0.8**
	9.3nm,0.7s,mb4.3,baz=308,slow=9.2,SNR=59						
NWAO	**Narrogin (SRO)**	**24.38**	**177**	P	**P**	**01 51 29.2**	**+1.1**
	9.8nm,0.8s,mb4.3,baz=338,slow=12,SNR=3.5						
NWAO	**Narrogin (SRO)**	**24.38**	**177**	P	**P**	**01 51 30.9**	**+2.9**
	30nm,1.1s,mb4.6						
CMAR	**Chiang Mai Arr**	**31.48**	**328**	P	**P**	**01 52 34.4**	**+1.7**
	0.9nm,0.3s,mb4.0,baz=162,slow=8.6,SNR=4.3						
STKA	**Stephens Creek**	**33.45**	**138**	eP	**P**	**01 52 50.0**	**+0.2**
	3.4nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**33.45**	**138**	P	**P**	**01 52 49.5**	**-0.3**
	2.6nm,0.7s,mb4.3,baz=316,slow=12,SNR=6.2						
SONM	**Songino Array**	**56.66**	**352**	P	**P**	**01 55 53.0**	**-1.0**
	1.0nm,0.7s,mb4.0,baz=171,slow=8.1,SNR=7.7						
BVAR	**Borovoye Array**	**72.35**	**333**	P	**P**	**01 57 34.7**	**-1.1**
	0.8nm,0.7s,mb3.8,baz=108,slow=4.6,SNR=3.2						
CHKZ	**Chkalovo**	**72.69**	**334**	eP	**P**	**01 57 36.2**	**-1.6**
	2.9nm,1.0s,mb4.2						
MATP	**Matopo**	**84.54**	**250**	P	**P**	**01 58 43.8**	**+0.5**
	1.5nm,0.7s,mb4.2,baz=135,slow=4.3,SNR=3.0						
BDFB	**Brasilia**	**151.15**	**214**	PKPbc	PKPdf	02 06 04.5	+8.3
	0.9nm,0.5s,baz=162,slow=6.4,SNR=2.6						

*GUC **01** 01:51:24.2±0.5, 33.40S×70.67W, h87km±3km, MD2.4, ML2.3*
ISC 01 01:51:24.3±1.2, 33.40S±0.04×70.72W±0.10, h90km±8km, n14, σ0.34/25, 1C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCDM	**Rinconada Maip**	**0.11**	**219**	⇓iP	**P**	**01 51 36.8**	**-0.3**
RCDM				iS	**S**	**01 51 46.4**	**-0.3**
RCDM				AMP		01 51 47.4	
	comp=E,723nm,0.1s						
CLCH	**Cerro Calan**	**0.16**	**87**	iP	**P**	**01 51 37.0**	**-0.2**
CLCH				iS	**S**	**01 51 46.7**	**-0.1**
CLCH				AMP		01 51 48.2	
	comp=E,103nm,0.2s						
PEL	**Peldehue**	**0.26**	**7**	iS	**S**	**01 51 47.6**	**0.0**
PCH	**Pirque**	**0.28**	**141**	eP	**P**	**01 51 37.4**	**-0.3**
PCH				iS	**S**	**01 51 47.2**	**-0.6**
TACH	**Talagante**	**0.31**	**216**	eP	**P**	**01 51 37.6**	**-0.2**
TACH				iS	**S**	**01 51 47.7**	**-0.3**
FCH	**Farellones**	**0.37**	**78**	iP	**P**	**01 51 38.4**	**+0.2**
FCH				eP		01 51 38.6	
FCH				iS	**S**	**01 51 48.9**	**+0.2**
FCH				iS	**S**	**01 51 49.4**	**+0.7**
FCH				AMP		01 51 49.9	
	comp=N,209nm,0.1s						
ROCH	**El Roble**	**0.49**	**331**	iS	**S**	**01 51 50.9**	**+0.6**
CHCH	**Chadas Angostu**	**0.53**	**174**	⇑iP	**P**	**01 51 39.3**	**-0.2**
CHCH				iS	**S**	**01 51 50.9**	**+0.2**
LMEL	**Las Melosas**	**0.62**	**136**	⇓iP	**P**	**01 51 40.2**	**-0.1**
LMEL				iS	**S**	**01 51 52.2**	**0.0**
LMEL				AMP		01 51 54.2	
	comp=N,202nm,0.1s						
LCCH	**Las Cruces**	**0.71**	**264**	eP	**P**	**01 51 41.5**	**+0.3**
CACH	**El Canelo**	**0.72**	**172**	⇓iP	**P**	**01 51 41.5**	**+0.3**
CACH				iS	**S**	**01 51 54.6**	**+0.8**
JACH	**Jahuel**	**0.73**	**9**	iP	**P**	**01 51 41.2**	**-0.2**
JACH				iS	**S**	**01 51 54.2**	**+0.3**
PACH	**Papudo**	**1.05**	**325**	⇓iP	**P**	**01 51 44.6**	**-0.2**
SFDO	**San Fernando**	**1.23**	**191**	eP	**P**	**01 51 46.8**	**-0.3**
SFDO				iS	**S**	**01 52 04.4**	**+0.2**

*IDC **01** 01:53:42.6±13.0, 17.03S×175.00W, h163km±127km, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp4.3/5, Error ellipse: s-maj=55.1km s-min=35.5km az=168.0*
*NEIC **01** 01:53:46.0±1.2, 17.09S×175.04W, h195km±13km, mb4.1/3, Error ellipse: s-maj=28.3km s-min=11.3km az=136.0*
ISC 01 01:53:43.7±1.7, 17.0S±0.2×175.2W±0.2, h180km±23km, n14, σ0.89/12, mb4.1/7, 2C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.46**	**47**	ePn	**P**	**01 54 53.4**	**+2.0**
AFI				eSn	**S**	**01 55 41.8**	**-2.0**
URZ	**Urewera**	**22.27**	**196**	P	**P**	**01 58 26.1**	**-0.4**
	6.4nm,0.4s,mb4.4,baz=86,slow=3.6,SNR=7.4						
CTAO	**Charters Tower**	**36.66**	**259**	P	**P**	**02 00 34.5**	**-0.3**
	4.6nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**41.80**	**241**	⇑iP	**P**	**02 01 17.9**	**+0.7**
	5.2nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**41.80**	**241**	P	**P**	**02 01 17.1**	**-0.1**
	4.3nm,0.7s,mb4.2,baz=106,slow=9.5,SNR=8.1						
WRAB	**Tennant Creek**	**47.84**	**258**	P	**P**	**02 02 05.1**	**-0.3**
	4.2nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**47.85**	**258**	P	**P**	**02 02 04.9**	**-0.5**
	1.6nm,0.8s,mb3.7,baz=96,slow=7.2,SNR=13						
ASAR	**Alice Springs**	**48.03**	**253**	P	**P**	**02 02 06.8**	**0.0**
	8.2nm,0.7s,mb4.5,baz=88,slow=8.2,SNR=79						
ASAR				PcP	PcP	02 03 31.3	-0.8
	0.4nm,0.5s,baz=95,slow=4.6,SNR=3.9						
ASPA	**Alice Springs**	**48.03**	**253**	⇑iP	**P**	**02 02 06.9**	**+0.2**
ILAR	**Eielson Array**	**84.31**	**12**	P	**P**	**02 05 55.9**	**-0.2**
	0.6nm,0.7s,mb3.5,baz=230,slow=6.9,SNR=7.1						
DAWY	**Dawson**	**85.36**	**15**	eP	**P**	**02 06 02.2**	**+0.8**
CLL	**Collm**	**145.13**	**351**	ePKP1	PKPbc	02 13 02.0	+2.1
GERES	**GERESS Array B**	**147.40**	**349**	PKPbc	PKPdf	02 13 06.2	+3.0
	0.4nm,0.5s,baz=34,slow=4.8,SNR=4.3						
DAVOX	**Davos**	**149.98**	**353**	PKPbc	PKPdf	02 13 14.1	+6.7

*NEIC **01** 01:54:06.4, 16.88N×100.63W, h5km, MD3.7(MEX), After MEX.*
MEX 01 01:54:06.0±0.6, 16.87N×100.62W, h1km±4km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.38**	**63**	iP	Pg	01 54 13.0	-0.7
CAIG				iS	Sg	01 54 18.9	+0.2
ACX	**Acapulco**	**0.68**	**90**	iP	Pg	01 54 18.5	-1.0
ACX				iS	Sg	01 54 28.5	0.0
ZIIG	**Zihuatanejo**	**1.09**	**312**	eP	Pb	01 54 23.9	-3.4
ZIIG				iS	Sb	01 54 39.4	-2.4
PLIG	**Platanillo**	**1.85**	**35**	eP	Pn	01 54 35.3	-3.9
PLIG				iS	Sn	01 55 00.6	-3.0
PLIG	**Platanillo**	**1.85**	**35**	eP	Pn	01 54 35.3	-3.9
PLIG				iS	Sn	01 54 57.0	-6.6
PPM	**Popocatepetl**	**2.90**	**41**	iS	Sn	01 55 26.4	-3.6

MAN 01 02:13:54.3, 5.86N×124.69E, h65km, mb3.9, ML2.7, MS2.4, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.21**	**19**	⇓iP	P	02 14 16.3	+0.8
KCP				iS	S	02 14 32.5	+1.2
BUKP	**Musuan**	**2.04**	**10**	eP	P	02 14 27.0	0.0
BUKP				eS	S	02 14 51.7	+0.5
PAGZ	**Pagadian**	**2.36**	**327**	eP	P	02 14 32.4	+0.8
PAGZ				eS	S	02 15 03.5	+4.0
ZMPH	**Zamboanga City**	**2.83**	**293**	⇑eP	P	02 14 38.1	-0.2
ZMPH				iS	S	02 15 03.9	-7.3

IDC 01 02:32:22.6±15.0, 1.17S×121.99E, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=252.2km s-min=191.5km az=177.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**148**	P	P	02 37 20.9	-1.7
	0.4nm,0.4s,baz=325,slow=11,SNR=13						
ASAR	**Alice Springs**	**25.17**	**154**	P	P	02 37 49.7	-1.6
	0.9nm,0.5s,baz=328,slow=7.6,SNR=19						
STKA	**Stephens Creek**	**35.71**	**151**	P	P	02 39 23.3	-1.7
	1.6nm,0.6s,baz=319,slow=9.8,SNR=5.9						

*NEIC **01** 02:44:54.1±1.4, 19.62S×177.79W, h530km±14km, mb4.3/4, Error ellipse: s-maj=61.0km s-min=10.4km az=150.0*
*IDC **01** 02:44:58.5±3.5, 19.68S×177.82W, h588km±47km, mb3.3/5, mb1 3.6/5, mb1mx3.3/15, mbtmp4.3/5, Error ellipse: s-maj=90.2km s-min=18.1km az=154.0*
ISC 01 02:44:53.7±1.9, 19.5S±0.5×177.9W±0.3, h533km±21km, n17, σ0.67/17, mb4.0/9, 5C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.10**	**47**	eP	**P**	**02 46 52.2**	**-0.6**
CTA	**Charters Tower**	**33.68**	**263**	⇑iP	**P**	**02 50 53.4**	**+1.7**
	5.4nm,0.4s,mb4.4						
CTAO	**Charters Tower**	**33.68**	**263**	eP	**P**	**02 50 53.3**	**+1.6**
	9.0nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**38.30**	**243**	⇑iP	**P**	**02 51 29.8**	**+0.2**
	3.0nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**38.30**	**243**	P	**P**	**02 51 29.9**	**+0.3**
	3.5nm,0.5s,mb4.2,baz=96,slow=11,SNR=13						
WB2	**Warramunga Arr**	**44.81**	**261**	⇑iP	**P**	**02 52 21.7**	**0.0**
WRAB	**Tennant Creek**	**44.82**	**261**	eP	**P**	**02 52 21.5**	**-0.2**
	6.6nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**44.83**	**261**	P	**P**	**02 52 22.0**	**+0.2**
	3.7nm,0.3s,mb4.4,baz=98,slow=8.4,SNR=17						
ASAR	**Alice Springs**	**44.83**	**256**	P	**P**	**02 52 22.0**	**+0.2**
	5.3nm,0.5s,mb4.4,baz=91,slow=7.7,SNR=106						
ASAR				S	**S**	**02 58 18.9**	**-1.7**
	0.4nm,0.7s,baz=99,slow=15,SNR=5.2						
ASPA	**Alice Springs**	**44.83**	**256**	⇑iP	**P**	**02 52 21.8**	**0.0**
FITZ	**Fitzroy Crossi**	**53.24**	**262**	⇑iP	**P**	**02 53 24.3**	**-0.1**
	3.1nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**58.15**	**257**	eP	**P**	**02 53 57.3**	**-1.1**
	5.0nm,0.7s,mb3.9						
TXAR	**Lajitas Array**	**86.46**	**57**	P	**P**	**02 56 41.2**	**+0.3**
	0.3nm,0.8s,mb3.0,baz=207,slow=8.4,SNR=3.9						
TXAR	**Lajitas Array**	**86.46**	**57**	P	**P**	**02 56 41.2**	**+0.3**
ILAR	**Eielson Array**	**87.34**	**13**	P	**P**	**02 56 44.0**	**-0.2**
	0.4nm,0.6s,mb3.2,baz=217,slow=5.5,SNR=9.8						
DAWY	**Dawson**	**88.49**	**16**	eP	**P**	**02 56 50.2**	**+0.6**
AKASG	**Malin Array Be**	**142.19**	**332**	PKP	PKPdf	03 03 22.1	-2.6
	0.4nm,0.4s,baz=34,slow=4.3,SNR=4.4						

DJA 01 02:49:04.9±0.8, 9.03S×115.91E, h33km, MD5.2/4, ML4.1/2, 3C-6D, Error ellipse: s-maj=22.4km s-min=8.0km az=160.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.49**	**309**	⇓ePn	Pn	02 49 15.1	-0.3
	3μm,0.2s						
RATI	**Rata**	**0.49**	**309**	⇓iP	P	02 49 16.0	+0.8
RATI				⇑eSn	Sn	02 49 22.8	0.0
KEDI	**Kedomdong**	**0.58**	**20**	⇓ePn	Pn	02 49 15.9	-0.8
	2μm,0.2s						
KEDI				⇑iSn	Sn	02 49 23.2	-1.8
KELI	**Kelakatan**	**1.62**	**300**	⇑ePn	Pn	02 49 29.5	-2.2
	105nm,0.2s						
KELI				⇓eSn	Sn	02 49 48.6	-3.0
SRDI	**Scrawed**	**1.84**	**287**	⇓ePn	Pn	02 49 33.6	-1.1
	187nm,0.2s						
SRDI				⇓eSn	Sn	02 49 54.2	-2.8

*IDC **01** 02:54:08.2±1.5, 48.31N×128.35W, mb3.7/3, mb1 3.8/12, mb1mx3.7/26, mbtmp3.6/12, ML3.5/8, MS3.6/1, Ms1 3.6/1, ms1mx2.4/27, Error ellipse: s-maj=23.6km s-min=10.9km az=62.0*
*NEIC **01** 02:54:10.1±1.2, 48.43N×128.38W, h10km, mb3.9/1, Error ellipse: s-maj=21.5km s-min=9.8km az=59.0*
ISC 01 02:54:09.3±3.1, 48.43N±0.08×128.2W±0.2, h13km±26km, n19, σ1.44/23, mb3.7/2, MS3.4/1, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGC	**Sidney**	**3.14**	**84**	eP	**Pn**	**02 54 59.3**	**-0.2**
BBB	**Bella Bella**	**3.76**	**1**	Pn	**Pn**	**02 55 07.5**	**-0.9**
	32nm,0.3s,baz=198,slow=12,SNR=224						
BBB				Sn	**Sn**	**02 55 54.1**	**+1.2**
	baz=270,slow=20,SNR=1.8						
NEW	**Newport**	**7.36**	**87**	Pn	**Pn**	**02 55 59.0**	**-0.2**
	0.4nm,0.3s,baz=254,slow=12,SNR=5.3						
NEW				Sn	**Sn**	**02 57 21.6**	**-1.8**
	0.1nm,0.3s,baz=337,slow=18,SNR=2.0						
YBH	**Yreka Blue Hor**	**7.73**	**148**	Pn	**Pn**	**02 56 04.5**	**+0.2**
	0.1nm,0.3s,baz=350,slow=9.4,SNR=7.1						
YBH				Sn	**Sn**	**02 57 27.3**	**-5.3**
	0.1nm,0.3s,baz=225,slow=20,SNR=2.0						
DLBC	**Dease Lake**	**10.09**	**354**	Pn	**P**	**02 56 38.8**	**+2.0**
	baz=187,slow=18,SNR=2.7						
DLBC				Sn	**S**	**02 58 26.1**	**-4.8**
	0.1nm,0.3s,baz=168,slow=20,SNR=3.0						
ELK	**Elko**	**11.99**	**125**	Pn	**P**	**02 57 02.9**	**+0.1**
	0.0nm,0.3s,baz=301,slow=12,SNR=4.2						
ELK	**Elko**	**11.99**	**125**	Pn	**P**	**02 57 02.9**	**+0.1**
NVAR	**Mina Array Bea**	**12.29**	**141**	Pn	**P**	**02 57 06.4**	**-0.5**
	0.1nm,0.3s,baz=325,slow=11,SNR=4.5						
PDAR	**Pinedale Array**	**14.19**	**107**	Pn	**P**	**02 57 35.0**	**+3.0**
	0.0nm,0.3s,baz=297,slow=8.1,SNR=4.6						
YKA	**Yellowknife Ar**	**16.00**	**23**	Pn	**P**	**02 57 53.4**	**-1.9**
	0.1nm,0.3s,baz=214,slow=11,SNR=22						
YKA	**Yellowknife Ar**	**16.00**	**23**	Pn	**P**	**02 57 53.4**	**-1.9**
PV10	**Paradox Valley**	**17.11**	**119**	P	**P**	**02 58 09.4**	**-0.2**
FFC	**Flin Flon**	**17.39**	**59**	Pn	**P**	**02 58 17.8**	**+4.8**
	52nm,1.0s,SNR=9.8						
FFC	**Flin Flon**	**17.39**	**59**	eP	**P**	**02 58 15.8**	**+2.8**
	11nm,1.0s						
ILAR	**Eielson Array**	**19.21**	**335**	P	**P**	**02 58 32.9**	**-2.4**
	0.0nm,0.3s,baz=149,slow=11,SNR=14						
INK	**Inuvik**	**20.12**	**354**	P	**P**	**02 58 44.0**	**-1.3**
	2.4nm,0.9s,baz=162,slow=12,SNR=8.1						
INK				LR	LR	03 06 44.6	
	comp=Z,161nm,18.6s,MS3.4,baz=318,slow=37						
INK	**Inuvik**	**20.12**	**354**	P	**P**	**02 58 44.0**	**-1.3**
INK				LR	LR	03 06 44.6	
ULM	**Lac du Bonnet**	**21.04**	**73**	P	**P**	**02 58 56.6**	**+1.6**
	3.6nm,1.0s,mb3.7,baz=281,slow=9.2,SNR=4.1						
SCHQ	**Schefferville**	**37.51**	**56**	P	**P**	**03 01 26.7**	**+2.5**
	1.9nm,1.0s,mb3.8,baz=232,slow=5.6,SNR=4.1						

MAN 01 03:12:31.9, 6.54N×126.00E, h10km, mb4.0, ML2.8, MS2.4, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.48**	**32**	eP	Pg	03 12 41.7	+0.1
MATI				eS	Sg	03 12 53.7	+5.6
KCP	**Kidapawan**	**1.01**	**297**	⇑iP	Pb	03 12 52.1	+1.0
KCP				iS	Sb	03 13 12.4	+8.1
BUKP	**Musuan**	**1.62**	**325**	eP	Pn	03 13 00.1	-0.7
PAGZ	**Pagadian**	**2.90**	**297**	eP	Pn	03 13 18.2	-0.9

*PRU **01** 03:12:57.6, 50.25N×19.19E*
WAR 01 03:12:57.6, 50.16N×19.31E, h1km, MW2.3, Mw2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.32**	**80**	iPg	Pg	03 13 04.1	0.0
OJC				iSg	Sg	03 13 08.7	+0.3
OKC	**Ostrava-Krasne**	**0.82**	**247**	ePG	Pg	03 13 13.4	-0.5
OKC				eSG	Sg	03 13 24.0	-0.8
NIE	**Niedzica**	**0.99**	**138**	ePg	Pg	03 13 15.1	-2.3
NIE				eSg	Sg	03 13 29.8	-0.8
VYHS	**Vyhne**	**1.70**	**191**	ePN	Pn	03 13 27.7	-0.9
VYHS				eSN	Sn	03 13 51.2	-0.1
CRVS	**Cervenica-Dubn**	**1.89**	**131**	ePN	Pn	03 13 33.0	+1.7
CRVS				eSN	Sn	03 13 56.8	+0.7
DPC	**Dobruska-Polom**	**1.92**	**277**	ePG	Pg	03 13 30.5	-5.5
DPC				eSG	Sg	03 13 56.3	-5.4
	16nm,0.4s						
SMOL	**Smolenice**	**2.06**	**217**	ePN	Pn	03 13 37.2	+3.5
UPC	**Upice**	**2.14**	**281**	eSG	Sg	03 14 03.4	-5.4
KOLS	**Kolonicke sedl**	**2.29**	**121**	ePN	Pn	03 13 42.3	+5.2
KOLS				eSN	Sn	03 14 11.3	+4.9
PRU	**Pruhonice**	**3.07**	**269**	eSG	Sg	03 14 33.0	-7.0
KHC	**Kasperske Hory**	**3.86**	**257**	ePG	Pg	03 14 09.5	-5.2
KHC				ex	x	03 14 20.0	
KHC				eSG	Sg	03 14 58.0	-8.2

DJA 01 03:17:41.9±1.2, 8.84S×115.88E, h50km±9km, MD4.8/5, ML4.5/2, 1C-5D, Error ellipse: s-maj=37.5km s-min=12.6km az=169.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.36**	**288**	⇓ePg	P	03 17 51.1	-0.6
	6μm,0.2s						
KEDI	**Kedomdong**	**0.42**	**34**	⇓iPn	P	03 17 51.8	-0.5
	2μm,0.2s						
KELI	**Kelakatan**	**1.50**	**294**	⇓ePn	P	03 18 05.5	-1.5
	406nm,0.1s						
KELI				⇓eSn	S	03 18 23.8	-1.7
SRDI	**Scrawed**	**1.75**	**282**	⇑ePn	P	03 18 09.6	-0.8
	385nm,0.2s						
SRDI				⇓eSn	S	03 18 29.3	-2.3

IDC 01 03:19:46.0±4.2, 0.59N×124.28E, h53km±39km, mb4.4/4, mb1 4.6/4, mb1mx3.9/14, mbtmp4.6/4, 2D, Error ellipse: s-maj=138.7km s-min=29.8km az=61.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.50**	**149**	⇓iP	P	03 23 17.6	-5.1
	11nm,0.6s						
WRA	**Warramunga Arr**	**22.66**	**155**	P	P	03 24 42.0	-1.9
	20nm,0.4s,baz=327,slow=12,SNR=107						
WRA				S	S	03 28 48.4	+4.7
	2.6nm,0.8s,baz=336,slow=18,SNR=5.7						
WB2	**Warramunga Arr**	**22.66**	**155**	eP	P	03 24 41.9	-2.0
WB2				eS	S	03 28 46.9	+3.1
WB2				iSCP		03 29 24.2	
ASPA	**Alice Springs**	**25.86**	**159**	eP	P	03 25 13.6	-1.0
ASPA				eS	S	03 29 47.5	+9.3
ASAR	**Alice Springs**	**25.86**	**159**	P	P	03 25 13.7	-0.9
	4.8nm,0.6s,baz=343,slow=7.7,SNR=38						
ASAR				PcP	PcP	03 28 39.4	-3.9
	1.3nm,0.5s,baz=347,slow=2.3,SNR=8.3						
STKA	**Stephens Creek**	**36.21**	**155**	⇓iP	P	03 26 43.3	-2.4
	7.9nm,0.7s						
STKA	**Stephens Creek**	**36.21**	**155**	P	P	03 26 43.7	-2.1
	16nm,1.0s,baz=328,slow=8.3,SNR=20						
VNDA	**Vanda**	**80.65**	**172**	P	P	03 31 53.5	-0.7
	1.0nm,0.6s,baz=325,slow=5.0,SNR=5.6						

*BJI **01** 03:20:50.4, 24.84N×125.58E, h31km, mB4.5, mb4.3,*

Ms4.0, Msz3.8
*NEIC **01** 03:20:57.6±0.4, 25.76N×124.93E, h10km, mb4.3/7, Error ellipse: s-maj=10.2km s-min=9.6km az=140.0*
NEIC Recorded [3 JMA] on Miyako-shima and [1 JMA] on Tarama-shima, Ryukyu Islands.
*JMA **01** 03:20:57.1±0.1, 24.81N×125.40E, h50km±1km, M4.5*
JMA Felt III J1.
*NIED **01** 03:21:00, 24.90N×125.40E, h41km, Mw4.2 Best double couple: $M_0 2.14\times10^{15}$ NP1:ϕ_s48°, δ74°, λ99°. NP2:ϕ_s199°, δ18°, λ63°.*
*IDC **01** 03:21:03.7±3.9, 25.88N×125.21E, h50km±36km, mb3.9/15, mb1 4.0/16, mb1mx4.0/23, mbtmp4.1/16, ML3.3/1, MS3.1/3, Ms1 3.2/3, ms1mx2.7/23, Error ellipse: s-maj=29.6km s-min=14.3km az=71.0*
ISC 01 03:20:55.6±0.8**, 25.21N**±0.06×**125.22E**±0.06**, h29km**±8km**, n50, σ1ˢ17**/59**, mb4.2**/24**, MS3.6**/4**, 2C, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.40**	**171**	P	**Pb**	**03 21 04.7**	**+0.3**
JMJ				S	**Sb**	**03 21 10.1**	**-0.4**
JOGS	**Gusukube**	**0.48**	**160**	P	**Pb**	**03 21 04.7**	**-1.0**
JOGS				S	**Sb**	**03 21 10.3**	**-2.2**
JTJ	**Tarama**	**0.74**	**220**	P	**Pb**	**03 21 10.3**	**+0.4**
JTJ				S	**Sb**	**03 21 19.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.29**	**229**	P	**Pn**	**03 21 18.0**	**-0.1**
JIJ				S	**Sn**	**03 21 32.6**	**-1.9**
JKRS	**Kuro-shima**	**1.47**	**229**	*e*S	**Sn**	**03 21 38.6**	**-0.4**
IRIF	**Iriomote-Funau**	**1.61**	**237**	P	**Pn**	**03 21 22.8**	**+0.2**
IRIF				*e*S	**Sn**	**03 21 43.4**	**+0.8**
HATJ	**Hateruma jima**	**1.73**	**229**	P	**Pn**	**03 21 24.6**	**+0.3**
HATJ				S	**Sn**	**03 21 45.4**	**-0.1**
JKE	**Kume jima 2**	**1.79**	**52**	P	**Pn**	**03 21 28.6**	**+3.4**
YOJ	**Yonaguni jima**	**2.14**	**250**	P	**Pn**	**03 21 31.2**	**+1.0**
YOJ				*e*S	**Sn**	**03 21 57.9**	**+1.8**
JAGN	**Aguni-jima**	**2.28**	**53**	P	**Pn**	**03 21 35.3**	**+3.2**
JAGN				S	**Sn**	**03 22 05.0**	**+5.5**
JOW	**Kunigami**	**3.19**	**59**	P	**Pn**	**03 21 46.8**	**+1.7**
	8.5nm,0.3s,baz=178,slow=6.8,SNR=16						
JOW				LR	LR	03 23 18.3	
	comp=Z,202nm,21.7s,baz=342,slow=46						
TATO	**Taipei**	**3.39**	**267**	*e*Pn	**Pn**	**03 21 49.2**	**+1.2**
NACB	**Ninganchiao**	**3.46**	**253**	*e*Pn	**Pn**	**03 21 49.4**	**+0.5**
JTK	**Tokunoshima**	**4.21**	**52**	P	**Pn**	**03 22 00.4**	**+0.8**
JAM	**Amami Oshima**	**5.05**	**50**	P	**Pn**	**03 22 11.5**	**0.0**
JMZ	**Minamidaito 2**	**5.45**	**82**	P	**Pn**	**03 22 12.0**	**-5.2**
JMZ				*e*S	**Sn**	**03 23 08.9**	**-11**
CN2	**Changchun**	**18.54**	**1**	*e*P	**P**	**03 25 11.7**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.31**	**327**	*e*P	**P**	**03 25 17.9**	**-3.3**
HHC				AMB	AMB		
	comp=Z,5.0nm,0.7s						
HHC				AMB	AMB		
	comp=Z,126nm,5.0s						
HHC				LR	LR		
	comp=E,258nm,23.8s						
HHC				LR	LR		
	comp=Z,163nm,20.2s						
MDJ	**Mudanjiang**	**19.68**	**9**	P	**P**	**03 25 22.4**	**-3.0**
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,24nm,4.3s						
LZH	**Lanzhou**	**21.30**	**306**	*e*P	**P**	**03 25 38.7**	**-3.5**
LZH				AP		03 25 49.8	
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.3						
LZH				AMB	AMB		
	comp=Z,96nm,4.5s						
LZH				LR	LR		
	comp=N,413nm,10.3s						
LZH				LR	LR		
	comp=Z,529nm,11.9s,MS4.2						
LZH	**Lanzhou**	**21.30**	**306**	*e*P	**P**	**03 25 38.7**	**-3.5**
	comp=Z,23nm,1.3s,mb4.3						
LZH				pP		03 25 49.8	
LZH				sP		03 25 55.6	
LZH				PP	PP	03 26 01.2	-4.9
HIA	**Hailar**	**24.39**	**351**	*e*P	**P**	**03 26 12.1**	**-0.4**
	comp=Z,3.1nm,0.4s,mb4.1						
CMAR	**Chiang Mai Arr**	**25.27**	**260**	P	**P**	**03 26 20.5**	**-0.7**
	comp=Z,1.2nm,0.6s,mb3.6,baz=60,slow=8.2,SNR=8.0						
CMAR				LR	LR	03 36 34.9	
	comp=Z,32nm,21.6s,MS2.8,baz=263,slow=37						
GTA	**Gaotai**	**25.61**	**310**	P	**P**	**03 26 25.9**	**+1.7**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
ULN	**Ulaanbaatar**	**26.78**	**332**	*e*P	**P**	**03 26 31.4**	**-3.5**
	comp=Z,2.7nm,0.6s,mb4.0						
SONM	**Songino Array**	**27.04**	**331**	P	**P**	**03 26 38.0**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.7,baz=153,slow=10,SNR=8.2						
WMQ	**Urumqi**	**35.68**	**311**	*e*P	**P**	**03 27 51.4**	**-1.9**
WMQ				AP	pP	03 28 03.5	+1.6
WMQ				PP	PP	03 29 10.5	-3.8
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,102nm,3.9s						
WMQ				LR	LR		
	comp=N,142nm,17.0s,MS4.0						
WMQ				LR	LR		
	comp=E,168nm,18.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,104nm,15.0s,MS3.7						
ZAL	**Zalesovo**	**41.46**	**325**	P	**P**	**03 28 40.6**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.0,baz=358,slow=9.5,SNR=8.0						
ZAL				LR	LR	03 48 16.5	
	comp=Z,74nm,18.1s,MS3.6,baz=41,slow=40						
WRAB	**Tennant Creek**	**45.74**	**168**	P	**P**	**03 29 23.5**	**+7.0**
	comp=Z,16nm,0.9s,mb4.9						
WRA	**Warramunga Arr**	**45.75**	**168**	P	**P**	**03 29 24.6**	**+8.0**
	comp=Z,7.6nm,0.8s,mb4.7,baz=349,slow=8.3,SNR=15						
BVAR	**Borovoye Array**	**49.25**	**319**	P	**P**	**03 29 43.3**	**-0.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=268,slow=40,SNR=4.5						
CHKZ	**Chkalovo**	**49.26**	**320**	*e*P	**P**	**03 29 40.5**	**-3.0**
	comp=Z,1.9nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**49.31**	**169**	P	**P**	**03 29 53.5**	**+9.1**
	comp=Z,2.1nm,0.6s,mb4.4,baz=354,slow=16,SNR=19						
STKA	**Stephens Creek**	**58.88**	**164**	P	**P**	**03 31 02.8**	**+8.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=1.3,slow=4.8,SNR=4.1						
STKA	**Stephens Creek**	**58.88**	**164**	*e*P	**P**	**03 31 01.3**	**+6.8**
MCK	**McKinley**	**65.88**	**29**	P	**P**	**03 31 40.2**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**66.61**	**28**	P	**P**	**03 31 45.5**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.9,baz=261,slow=3.2,SNR=28						
ARCES	**ARCESS Array B**	**69.95**	**338**	P	**P**	**03 32 06.1**	**+0.2**
	comp=Z,1.5nm,0.7s,mb4.1,baz=74,slow=7.7,SNR=6.4						
ARCES	**ARCESS Array B**	**69.95**	**338**	P	**P**	**03 32 06.1**	**+0.2**
INK	**Inuvik**	**70.88**	**23**	*e*P	**P**	**03 32 11.2**	**-0.3**
	comp=Z,5.4nm,0.8s,mb4.5						
FINES	**FINESS Array B**	**72.40**	**330**	P	**P**	**03 32 21.1**	**+0.3**
	comp=Z,0.6nm,0.3s,mb4.0,baz=68,slow=6.5,SNR=14						
AKASG	**Malin Array Be**	**74.53**	**319**	P	**P**	**03 32 32.9**	**-0.4**
	comp=Z,1.4nm,0.3s,mb4.3,baz=64,slow=6.3,SNR=7.0						
CFR	**Carcaliu**	**77.26**	**314**	⇑P	**P**	**03 32 49.2**	**+0.3**
BURAR	**Bucovina Array**	**78.14**	**317**	⇑P	**P**	**03 32 54.3**	**+0.7**
HFS	**Hagfors**	**78.44**	**332**	P	**P**	**03 32 55.7**	**+0.7**
	comp=Z,2.5nm,0.7s,mb4.3,baz=104,slow=6.1,SNR=9.1						
NB2	**NORSAR Subarra**	**79.00**	**333**	P	**P**	**03 32 58.1**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=56,slow=5.3						
NOA	**NORSAR Array B**	**79.00**	**333**	P	**P**	**03 32 58.5**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=54,slow=5.5,SNR=5.3						
YKA	**Yellowknife Ar**	**80.57**	**24**	P	**P**	**03 33 06.8**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=303,slow=5.5,SNR=17						
YKA	**Yellowknife Ar**	**80.57**	**24**	P	**P**	**03 33 06.8**	**+0.4**
GERES	**GERESS Array B**	**84.34**	**322**	P	**P**	**03 33 26.8**	**+0.6**
	comp=Z,0.9nm,0.7s,mb4.0,baz=56,slow=4.8,SNR=5.5						

MOS 01 03:25:05.5±2.6**, 41.39N**×**48.34E, h12km, mb3.6**/1**, 1C-1D, Error ellipse: s-maj=68.1km s-min=30.0km az=114.9, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSMR	**Kasumkent**	**0.27**	**323**	*e*PG	Pg	03 25 13.0	+1.8
KSMR				*e*S	Sg	03 25 18.0	+3.0
AKT	**Akhty**	**0.47**	**281**	⇓*i*PG	Pg	03 25 15.3	+0.2
AKT				*e*S	Sg	03 25 20.0	-1.5
DRN	**Derbent**	**0.64**	**359**	⇑*i*PG	Pg	03 25 18.2	-0.2
DRN				*i* S	Sb	03 25 26.2	-0.5
DRN				pmax	pmax		
	comp=Z,101nm,0.2s						
DBC	**Dubki**	**1.98**	**326**	PN	Pn	03 25 45.0	+5.8
DBC				*e*S	Sn	03 26 07.0	+2.9

*NEIC **01** 03:25:36.0, 32.10S×69.61W, h139km, MD3.4(GUC), After GUC.*
GUC 01 03:25:36.0±0.9**, 32.10S**×**69.61W, h139km**±11km**, MD3.4, ML3.5, 7C-5D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.96**	**56**	⇓*i*P	P	03 25 57.4	-2.2
ZON				*e*S	S	03 26 14.7	-3.0
JACH	**Jahuel**	**1.01**	**235**	⇓*i*P	P	03 26 00.1	+0.1
JACH				*i* S	S	03 26 18.7	+0.2
FCH	**Farellones**	**1.35**	**205**	⇑*i*P	P	03 26 03.7	+0.1
FCH				*i* S	S	03 26 25.2	+0.5
FCH				AMP		03 26 26.2	
	comp=N,564nm,0.2s						
PEL	**Peldehue**	**1.38**	**221**	⇑*i*P	P	03 26 03.9	0.0
PEL				*i* S	S	03 26 24.8	-0.3
ILCH	**Illapel**	**1.40**	**289**	⇑*i*P	P	03 26 04.3	+0.2
ILCH				*i* S	S	03 26 25.6	0.0
ILCH				AMP		03 26 27.0	
	comp=N,495nm,0.2s						
ROCH	**El Roble**	**1.47**	**233**	⇓*i*P	P	03 26 04.8	+0.1
ROCH				*i* S	S	03 26 27.3	+0.5
CLCH	**Cerro Calan**	**1.51**	**211**	⇑*i*P	P	03 26 05.3	+0.1
CLCH				*i* S	S	03 26 27.9	+0.2
CLCH				AMP		03 26 29.5	
	comp=N,695nm,0.6s						
DSCH	**Colegio Aleman**	**1.53**	**212**	⇑*i*P	P	03 26 05.6	+0.2
DSCH				*i* S	S	03 26 28.6	+0.6
DSCH				AMP		03 26 29.6	
	comp=E,1μm,0.2s						
STL	**Santa Lucia**	**1.59**	**213**	*i* P	P	03 26 06.1	0.0
STL				*i* S	S	03 26 29.2	0.0
STL				AMP		03 26 30.4	
	comp=N,274nm,0.2s						
PACH	**Papudo**	**1.61**	**254**	⇑*i*P	P	03 26 06.1	-0.2
PACH				*i* S	S	03 26 28.8	-0.7
PCH	**Pirque**	**1.70**	**206**	⇑*i*P	P	03 26 07.5	+0.2
RCDM	**Rinconada Maip**	**1.71**	**216**	*e*P	P	03 26 07.6	+0.1
RCDM				*i* S	S	03 26 31.6	0.0
RCDM				AMP		03 26 32.6	
	comp=E,1μm,0.1s						
LMEL	**Las Melosas**	**1.81**	**196**	*e*P	P	03 26 08.7	+0.1
LMEL				AMP		03 26 41.6	
	comp=N,439nm,0.2s						
CHCH	**Chadas Angostu**	**2.03**	**205**	⇓*i*P	P	03 26 11.4	+0.2
CHCH				*i* S	S	03 26 38.7	+0.6
LCCH	**Las Cruces**	**2.15**	**230**	*e*P	P	03 26 12.7	0.0
CACH	**El Canelo**	**2.18**	**202**	⇓*i*P	P	03 26 13.8	+0.7
CACH				*i* S	S	03 26 42.7	+1.3
TLL	**Tololo Astrono**	**2.18**	**332**	*e*P	P	03 26 14.3	+1.2
TLL				*i* S	S	03 26 42.4	+0.9
TLL				AMP		03 26 44.2	
	comp=N,253nm,0.4s						

*IDC **01** 03:34:34.1±1.0, 24.96S×112.11W, mb4.2/11, mb1 4.4/12, mb1mx4.2/20, mbtmp4.2/12, ML3.7/1, MS4.3/19, Ms1 4.3/19, ms1mx4.0/27, Error ellipse: s-maj=31.8km s-min=21.7km az=40.0*
*NEIC **01** 03:34:35.0±0.8, 25.08S×112.17W, h10km, mb4.8/9, Error ellipse: s-maj=25.0km s-min=9.3km az=51.0*
ISC 01 03:34:33.7±1.3**, 24.9S**±0.2×**112.3W**±0.2**, h10km, n42, σ0ˢ74**/31**, mb4.4**/20**, MS4.4**/18**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.44**	**130**	Pn	**Pn**	**03 35 23.5**	**-5.1**
	8.8nm,0.3s,baz=305,slow=17,SNR=4.7						
RPN				LR	LR	03 36 06.0	
	comp=Z,3μm,20.5s,baz=243,slow=28						
RPN				Sn	**Sn**	**03 36 10.8**	**+1.0**
	3.4nm,0.3s,baz=85,slow=16,SNR=9.0						
RPN	**Rapa Nui**	**3.44**	**130**	Pn	**Pn**	**03 35 23.5**	**-5.1**
RPN				Sn	**Sn**	**03 36 10.8**	**+1.0**
RKT	**Rikitea**	**20.81**	**270**	*e*LQ		03 43 16.4	
RKT				*e*LR	LR	03 44 06.0	
	3μm,26.8s						
TBI	**Tubuai**	**33.91**	**265**	*e*S	**S**	**03 46 28.0**	**-15**
TBI				*e*LQ		03 48 59.8	
TBI				*e*LR	LR	03 50 02.5	
	734nm,31.0s						
PPT	**Papeete**	**35.44**	**275**	*e*S	**S**	**03 46 47.3**	**-19**
PPT				*e*LQ		03 49 34.9	
PPT				*e*LR	LR	03 50 46.1	
	2μm,27.8s						
PLCA	**Paso Flores**	**38.06**	**125**	P	**P**	**03 41 52.4**	**-1.8**
	5.8nm,1.1s,mb4.2,baz=290,slow=10.0,SNR=5.2						
PLCA				LR	LR	03 53 35.0	
	comp=Z,691nm,19.3s,MS4.5,baz=347,slow=30						
LVC	**Limon Verde**	**39.63**	**96**	P	**P**	**03 42 06.5**	**-1.0**
	5.3nm,0.8s,mb4.3,baz=256,slow=8.6,SNR=7.5						
LVC				LR	LR	03 53 34.5	
	comp=Z,1μm,20.9s,MS4.8,baz=117,slow=29						
LPAZ	**La Paz**	**42.05**	**87**	P	**P**	**03 42 28.1**	**+0.6**
	10nm,1.3s,mb4.3,baz=253,slow=6.5,SNR=9.8						
LPAZ				LR	LR	03 55 37.5	
	comp=Z,262nm,22.0s,MS4.1,baz=48,slow=30						
RAR	**Rarotonga**	**43.69**	**265**	LR	LR	03 55 20.3	
	comp=Z,451nm,20.5s,MS4.4,baz=97,slow=28						
JTS	**JuntasAbangare**	**43.98**	**41**	P	**P**	**03 42 43.3**	**0.0**
	6.7nm,1.0s,mb4.3,baz=153,slow=16,SNR=4.3						
TRQA	**Tornquist**	**44.35**	**120**	*e*P	**P**	**03 42 45.6**	**-0.3**
	20nm,1.1s,mb4.8						
ROSC	**El Rosal**	**47.29**	**56**	LR	LR	03 58 41.4	
	comp=Z,249nm,18.4s,MS4.2,baz=191,slow=31						
SAML	**Samuel**	**49.29**	**80**	*e*P	**P**	**03 43 24.1**	**-1.1**
	4.4nm,1.3s,mb4.3						
TXAR	**Lajitas Array**	**54.57**	**9**	P	**P**	**03 44 05.1**	**+0.5**
	1.3nm,1.1s,mb3.9,baz=190,slow=7.6,SNR=6.5						
TXAR				LR	LR	04 03 01.0	
	comp=Z,171nm,18.1s,MS4.2,baz=260,slow=31						
TXAR	**Lajitas Array**	**54.57**	**9**	P	**P**	**03 44 05.1**	**+0.5**
JCT	**Junction City**	**56.36**	**13**	*e*P	**P**	**03 44 16.2**	**-1.3**
	9.9nm,0.8s,mb4.9						
HKT	**Hockley**	**56.79**	**17**	P	**P**	**03 44 20.4**	**-0.3**
	24nm,1.8s,mb4.9						
BDFB	**Brasilia**	**60.52**	**94**	P	**P**	**03 44 47.6**	**+0.9**
	2.0nm,0.9s,mb4.2,baz=280,slow=5.7,SNR=2.7						
BDFB				LR	LR	04 07 50.1	
	comp=Z,370nm,19.9s,MS4.5,baz=189,slow=33						
MSU	**Marysvale**	**63.09**	**0**	*e*P	**P**	**03 45 04.5**	**+0.7**
MNV	**Mina**	**63.26**	**355**	*e*P	**P**	**03 45 05.8**	**+1.0**
	11nm,1.3s,mb4.8						
NVAR	**Mina Array Bea**	**63.27**	**355**	P	**P**	**03 45 04.8**	**-0.1**
	3.4nm,1.0s,mb4.4,baz=166,slow=8.6,SNR=9.0						
NVAR				LR	LR	04 07 04.8	
	comp=Z,53nm,19.9s,MS3.7,slow=31						
ISCO	**Idaho Springs**	**64.68**	**6**	*e*P	**P**	**03 45 14.3**	**+0.2**
	5.3nm,1.2s,mb4.5						
VNDA	**Vanda**	**64.97**	**194**	LR	LR	04 06 00.5	
	comp=Z,378nm,20.7s,MS4.6,baz=111,slow=29						
JLU	**Jordanelle**	**65.19**	**1**	*e*P	**P**	**03 45 16.9**	**-0.5**
PDAR	**Pinedale Array**	**67.39**	**2**	P	**P**	**03 45 31.0**	**-0.4**
	0.9nm,0.8s,mb3.9,baz=170,slow=7.0,SNR=8.1						
HLID	**Hailey**	**68.17**	**358**	*e*P	**P**	**03 45 36.1**	**-0.1**
	5.5nm,1.1s,mb4.5						
MCMT	**McKenzie Canyo**	**69.41**	**360**	*e*P	**P**	**03 45 44.4**	**+0.5**
LAO	**LASA Array**	**71.48**	**4**	*e*P	**P**	**03 45 56.1**	**-0.3**
	8.8nm,0.9s,mb4.7						
ULM	**Lac du Bonnet**	**76.23**	**11**	P	**P**	**03 46 25.1**	**+1.1**
	4.2nm,1.1s,mb4.3,baz=209,slow=7.0,SNR=3.9						
ULM				LR	LR	04 15 35.2	
	comp=Z,48nm,18.2s,MS3.9,baz=334,slow=32						
EDM	**Edmonton**	**77.81**	**359**	*e*P	**P**	**03 46 33.4**	**+0.7**
YKA	**Yellowknife Ar**	**87.12**	**359**	P	**P**	**03 47 20.5**	**-0.1**
	1.4nm,1.0s,mb4.1,baz=172,slow=4.5,SNR=15						
MAW	**Mawson**	**87.69**	**178**	LR	LR	04 23 23.3	
	comp=Z,432nm,18.3s,MS4.9,baz=50,slow=33						
SCHQ	**Schefferville**	**88.46**	**24**	P	**P**	**03 47 27.6**	**+0.3**
	0.9nm,0.7s,mb4.1,baz=299,slow=10,SNR=3.3						
SCHQ				LR	LR	04 22 29.7	
	comp=Z,132nm,19.2s,MS4.4,baz=216,slow=32						
STKA	**Stephens Creek**	**89.68**	**235**	LR	LR	04 22 49.5	
	comp=Z,163nm,18.7s,MS4.5,baz=26,slow=32						
ILAR	**Eielson Array**	**93.34**	**346**	LR	LR	04 22 46.5	
	comp=Z,85nm,21.1s,MS4.2,baz=161,slow=31						
INK	**Inuvik**	**94.26**	**352**	LR	LR	04 23 21.6	
	comp=Z,127nm,18.0s,MS4.4,baz=162,slow=31						
INK	**Inuvik**	**94.26**	**352**	*e*P	**P**	**03 47 53.6**	**-0.2**
	13nm,1.3s,mb5.2						
FRB	**Frobisher Bay**	**94.79**	**18**	LR	LR	04 27 31.3	
	comp=Z,175nm,21.3s,MS4.5,baz=131,slow=34						
PMG	**Port Moresby**	**95.52**	**257**	LR	LR	04 24 05.9	
	comp=Z,195nm,19.1s,MS4.6,baz=70,slow=31						
ASAR	**Alice Springs**	**99.73**	**238**	LR	LR	04 29 29.3	
	comp=Z,161nm,18.9s,MS4.5,baz=132,slow=33						
ZAL	**Zalesovo**	**148.33**	**341**	PKPbc	PKPdf	03 54 22.4	+2.9
	0.7nm,0.3s,baz=98,slow=4.0,SNR=3.8						
CMAR	**Chiang Mai Arr**	**150.33**	**264**	PKPbc	PKPdf	03 54 28.5	+4.8
	1.5nm,0.9s,baz=58,slow=0.1,SNR=8.1						
CMAR				PKPab	PKPab	03 54 35.0	+0.5
	0.8nm,0.4s,baz=142,slow=1.3,SNR=5.4						

DJA 01 03:45:04.8±0.2**, 8.51S**×**115.76E, h33km, ML4.0**/2**, 5C-3D, Error ellipse: s-maj=13.2km s-min=4.5km az=177.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.31**	**226**	⇓*e*Pn	Pn	03 45 11.9	-0.9
RATI				⇑*e*Sn	Sn	03 45 18.1	0.0
KEDI	**Kedomdong**	**0.35**	**86**	⇓*e*Pn	Pn	03 45 12.6	-0.8
KEDI	**Kedomdong**	**0.35**	**86**	*e*P	P	03 45 13.6	+0.4
KEDI				⇑*e*Sn	Sn	03 45 18.7	-0.5
KELI	**Kelakatan**	**1.29**	**283**	⇑*e*Pn	Pn	03 45 25.9	-0.9
	98nm,0.2s						
KELI	**Kelakatan**	**1.29**	**283**	*e*P	P	03 45 26.1	-0.4
KELI				⇑*e*Sn	Sn	03 45 40.2	-2.8
SRDI	**Scrawed**	**1.60**	**271**	⇑*e*Pn	Pn	03 45 30.4	-0.8
	190nm,0.2s						
SRDI				⇓*e*Sn	Sn	03 45 47.5	-3.4

*IDC **01** 03:45:28.7±2.1, 2.62N×95.62E, mb4.1/5, mb1 4.4/6, mb1mx4.0/16, mbtmp4.2/6, ML4.0/1, MS3.0/1, Ms1 3.2/1, ms1mx2.4/23, Error ellipse: s-maj=83.8km s-min=23.6km az=61.0*
*NEIC **01** 03:45:33.4±0.6, 2.64N×95.70E, h30km, mb4.4/6, Error ellipse: s-maj=13.5km s-min=8.7km az=46.0*
ISC 01 03:45:32.0±0.9**, 2.6N**±0.1×**95.7E**±0.1**, h33km, n19, σ0ˢ62**/19**, mb4.3**/14**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**62**	*e*P	**P**	**03 46 55.2**	**+0.4**
CM31	**Chiang Mai Arr**	**16.03**	**11**	*e*P	**P**	**03 49 17.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**16.03**	**11**	Pn	**P**	**03 49 17.2**	**+0.6**
	0.2nm,0.3s,baz=199,slow=11,SNR=22						
CMAR				LR	LR	03 55 05.5	
	comp=Z,53nm,20.1s,baz=359,slow=36						
JIRN	**Jiri**	**26.49**	**341**	*e*P	**P**	**03 51 09.3**	**+0.9**
	34nm,0.7s,mb5.0						
PKI	**Pulchoki**	**26.67**	**339**	*e*P	**P**	**03 51 10.4**	**+0.3**
	6.3nm,0.5s,mb4.4						
KKN	**Kakani**	**26.92**	**339**	*e*P	**P**	**03 51 12.6**	**+0.3**
GKN	**Gorkha**	**27.35**	**338**	*e*P	**P**	**03 51 16.2**	**0.0**
	21nm,0.8s,mb4.7						
KOLN	**Koldanda**	**27.54**	**336**	*e*P	**P**	**03 51 18.2**	**+0.2**
	17nm,0.8s,mb4.7						
ENH	**Enshi**	**30.42**	**24**	P	**P**	**03 51 41.8**	**-1.9**
	4.7nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.05**	**122**	P	**P**	**03 53 38.8**	**0.0**
	0.8nm,0.8s,mb3.5,baz=302,slow=9.0,SNR=4.9						
AAK	**Ala-Archa**	**44.10**	**337**	*e*P	**P**	**03 53 39.0**	**0.0**
	1.5nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**45.44**	**127**	P	**P**	**03 53 50.5**	**+0.5**
	0.4nm,0.8s,mb3.3,baz=293,slow=6.9,SNR=4.4						
SONM	**Songino Array**	**45.95**	**10**	P	**P**	**03 53 53.4**	**-0.3**
	2.1nm,0.7s,mb4.2,baz=189,slow=8.9,SNR=20						
SONM				PcP	PcP	03 55 30.7	+0.1
	0.8nm,0.6s,baz=187,slow=4.3,SNR=5.3						
ULN	**Ulaanbaatar**	**46.10**	**11**	*e*P	**P**	**03 53 54.1**	**-0.8**
	1.6nm,0.5s,mb4.2						
KURK	**Kurchatov**	**50.03**	**346**	*e*P	**P**	**03 54 25.2**	**-0.2**
	2.1nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**03 54 39.2**	**-0.3**
	1.6nm,0.5s,mb4.2,baz=23,slow=3.9,SNR=4.3						
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**03 54 39.2**	**-0.3**
CHKZ	**Chkalovo**	**54.90**	**342**	*e*P	**P**	**03 55 00.9**	**-0.8**
	5.9nm,0.6s,mb4.8						
ARCES	**ARCESS Array B**	**80.69**	**340**	P	**P**	**03 57 43.1**	**+0.2**
	13nm,1.2s,mb4.7,baz=80,slow=5.5,SNR=6.4						

JMA 01 03:53:14.3±0.3**, 33.35N**×**142.38E, h96km, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.75**	**319**	P	P	03 53 43.7	-0.2
BSO1				S	S	03 54 06.5	+0.8
BSO2	**Boso 2**	**1.94**	**316**	*e*S	S	03 54 10.7	+0.5
BSO3	**Boso 3**	**2.12**	**314**	P	P	03 53 49.3	+0.4
BSO3				*e*S	S	03 54 14.7	+0.2
JHJ2	**Mitsune**	**2.16**	**264**	P	P	03 53 49.3	-0.1
JHJ2				S	S	03 54 15.8	+0.3
JHU	**Hanno**	**3.57**	**315**	S	S	03 54 51.0	+0.9
JHO	**Hitachi**	**3.58**	**336**	P	P	03 54 08.1	-0.8
JFK	**Kawauchi**	**4.19**	**343**	P	P	03 54 16.0	-1.3

MAN 01 04:04:05.8, 10.32N×**121.91E, h1km, mb4.0, ML2.8, MS2.4, 1D, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.11**	**17**	⇓*i*P	Pg	04 04 08.0	0.0
AAP				*i* S	Sg	04 04 12.0	+2.6
GUIM	**Jordan**	**0.73**	**65**	*e*P	Pg	04 04 20.4	-0.1
GUIM				*e*S	Sg	04 04 29.7	-0.5
CUYO	**Cuyo Island**	**1.03**	**301**	*e*P	Pb	04 04 26.1	0.0
CUYO				*e*S	Sb	04 04 45.2	+5.4

IDC 01 04:19:08.5±14.0**, 4.34S**×**150.96E, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=225.0km s-min=96.6km az=21.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.43**	**225**	P	P	04 24 08.7	-1.8
	0.6nm,0.5s,baz=52,slow=10,SNR=5.7						
ASAR	**Alice Springs**	**25.30**	**219**	P	P	04 24 36.8	-1.7
	0.8nm,0.5s,baz=54,slow=9.1,SNR=11						
STKA	**Stephens Creek**	**28.77**	**197**	P	P	04 25 08.9	-1.3
	2.3nm,0.8s,baz=27,slow=11,SNR=3.4						

*IDC **01** 04:22:48.5±2.1, 27.58N×140.73E, h404km±120km, mb3.6/4, mb1 3.6/4, mb1mx3.0/20, mbtmp4.3/4, Error ellipse: s-maj=388.0km s-min=92.2km az=109.0*
*JMA **01** 04:22:49.5±0.2, 28.29N×140.53E, h376km, M4.0*
ISC 01 04:22:48.2±1.0**, 28.1N**±0.2×**140.2E**±0.3**, h376km, n9, σ0ˢ38**/12**, mb3.9**/4**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.02**	**120**	P	**P**	**04 23 42.4**	**-0.1**
	25nm,0.3s,baz=293,slow=18,SNR=16						
CBIJ				S	**S**	**04 24 24.4**	**-0.6**
	64nm,0.3s,baz=288,slow=19,SNR=13						
CBIJ	**Chichi jima**	**2.02**	**120**	P	**P**	**04 23 42.5**	**0.0**
CBIJ				*e*S	**S**	**04 24 24.2**	**-0.8**
JHHJ	**Haha-jima-NKT**	**2.29**	**130**	P	**P**	**04 23 44.9**	**+0.6**
JHHJ				*e*S	**S**	**04 24 28.7**	**+0.3**
JMM	**Marumori**	**9.74**	**3**	P	**P**	**04 25 04.3**	**+0.2**
ARCES	**ARCESS Array B**	**72.00**	**340**	P	**P**	**04 33 33.3**	**+0.3**
	7.5nm,1.1s,mb4.3,baz=63,slow=5.4,SNR=5.8						
JOF	**Joensuu**	**73.39**	**333**	*e*p	**P**	**04 33 40.5**	**-0.6**
FINES	**FINESS Array B**	**76.26**	**333**	P	**P**	**04 33 57.3**	**0.0**
	0.8nm,0.3s,mb3.9,baz=72,slow=4.7,SNR=12						
HFS	**Hagfors**	**81.79**	**336**	P	**P**	**04 34 26.7**	**-0.1**
	2.9nm,0.9s,mb4.1,baz=63,slow=3.2,SNR=6.7						
NOA	**NORSAR Array B**	**82.01**	**338**	P	**P**	**04 34 27.9**	**+0.1**
	0.3nm,0.7s,mb3.3,baz=52,slow=4.2,SNR=2.6						

DJA 01 04:26:03.5±0.2**, 8.44S**×**115.71E, h33km, ML3.5**/2**, 4C-4D, Error ellipse: s-maj=9.5km s-min=4.3km az=3.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.33	212	⇓ePn	Pn	04 26 11.8	-0.1
RATI	Rata	0.33	212	eP	P	04 26 11.9	+0.2
RATI				⇓eSn	Sn	04 26 17.6	+0.1
KEDI	Kedomdong	0.40	97	⇓ePn	Pn	04 26 12.4	-0.4
KEDI	Kedomdong	0.40	97	eP	P	04 26 12.5	-0.1
KEDI				⇓eSn	Sn	04 26 18.5	-0.7
KELI	Kelakatan	1.23	280	⇑ePn	Pn	04 26 23.2	-1.4
	21nm,0.2s						
KELI	Kelakatan	1.23	280	eP	P	04 26 23.6	-0.8
KELI				⇑eSn	Sn	04 26 37.5	-2.7
SRDI	Scrawed	1.55	268	⇑ePn	Pn	04 26 28.8	-0.5
	90nm,52.0s						
SRDI	Scrawed	1.55	268	eP	P	04 26 29.5	+0.4
SRDI				⇑eSn	Sn	04 26 46.0	-2.5

*IDC **01** 04:27:28.7±2.1, 48.24N×128.37W, mb3.3/2, mb1 3.8/8, mb1mx3.6/22, mbtmp3.5/8, ML3.6/6, MS3.3/1, Ms1 3.3/1, ms1mx3.0/7, Error ellipse: s-maj=37.0km s-min=12.7km az=70.0*
*NEIC **01** 04:27:30.8±1.4, 48.36N×128.33W, h10^{km}, mb4.1/1, Error ellipse: s-maj=22.4km s-min=9.6km az=69.0*
ISC 01 04:27:28.4±1.4**, 48.31N**±0.07×**128.4W**±0.2**, h10^{km}, n13, σ0^{s}95**/14**, mb3.1**/1**, MS3.2**/1**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGC	Sidney	3.31	82	eP	Pn	04 28 20.2	-1.1
BBB	Bella Bella	3.88	3	Pn	Pn	04 28 28.9	-0.6
	16nm,0.3s,baz=195,slow=12,SNR=136						
BBB				Sn	Sn	04 29 16.1	+0.4
	baz=207,slow=18,SNR=2.0						
NEW	Newport	7.53	86	Pn	Pn	04 29 19.9	-0.9
	0.8nm,0.3s,baz=295,slow=15,SNR=5.6						
YBH	Yreka Blue Hor	7.71	146	Pn	Pn	04 29 23.5	0.0
	0.2nm,0.3s,baz=48,slow=5.4,SNR=4.0						
NVAR	Mina Array Bea	12.30	140	Pn	P	04 30 25.4	-1.0
	0.1nm,0.3s,baz=315,slow=12,SNR=6.7						
NVAR	Mina Array Bea	12.30	140	Pn	P	04 30 25.4	-1.0
PDAR	Pinedale Array	14.31	106	Pn	P	04 30 54.0	+1.0
	0.0nm,0.3s,baz=276,slow=9.1,SNR=4.2						
YKA	Yellowknife Ar	16.17	23	Pn	P	04 31 16.0	-1.0
	0.0nm,0.3s,baz=213,slow=12,SNR=15						
YKA	Yellowknife Ar	16.17	23	Pn	P	04 31 16.0	-1.0
PV10	Paradox Valley	17.19	118	eP	P	04 31 30.4	+0.3
FFC	Flin Flon	17.59	59	eP	P	04 31 37.0	+2.1
	8.2nm,0.6s						
INK	Inuvik	20.22	354	P	P	04 32 06.0	+0.1
	1.7nm,0.9s,baz=183,slow=9.3,SNR=4.7						
TXAR	Lajitas Array	26.83	126	P	P	04 33 11.7	+1.0
	0.6nm,1.0s,mb3.1,baz=321,slow=5.8,SNR=3.2						
TXAR				LR	LR	04 44 55.9	
	comp=Z,75nm,21.1s,MS3.2,baz=330,slow=39						

*NIED **01** 04:54:00, 31.90N×129.40E, h5^{km}, Mw3.7 Best double couple: $M_0$3.81×10^{14} NP1:ϕ_s196°, δ84°, λ-117°. NP2: ϕ_s94°, δ27°, λ-13°.*
*JMA **01** 04:54:12.2, 31.85N×129.38E, h6^{km}±2^{km}, M3.6*
ISC 01 04:54:11.9±1.5**, 31.86N**±0.08×**129.38E**±0.09**, h5^{km}**±14^{km}**, n6, σ0^{s}25**/11**, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.34	122	P	Pg	04 54 18.8	+0.1
JSJ				S	Sg	04 54 23.2	0.0
NGSJ	Nagasakinomoza	0.85	24	P	Pb	04 54 28.3	-0.5
NGSJ				S	Sb	04 54 40.4	+0.1
JHD	Hondo	0.88	46	P	Pb	04 54 29.0	-0.3
JHD				eS	Sb	04 54 41.2	0.0
JFU	Fukue jima 2	0.96	326	P	Pb	04 54 30.9	+0.3
JSU	Suzuyama	0.98	111	P	Pb	04 54 30.7	-0.3
JSU				S	Sb	04 54 44.0	0.0
JZO	Okuchi	1.07	74	P	Pb	04 54 32.9	+0.3
JZO				S	Sb	04 54 46.9	+0.2

*NEIC **01** 04:56:57.0, 16.62N×94.51W, h101^{km}, MD3.9(MEX), After MEX.*
MEX 01 04:56:57.0±1.1**, 16.62N×94.51W, h101^{km}**±12^{km}**, MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.59	323	i P	P	04 57 12.2	-1.6
CMIG				i S	S	04 57 24.5	-1.9
HUIG	Huatulco	1.75	241	i P	P	04 57 24.1	-2.8
HUIG				i S	S	04 57 48.2	-0.9
SCX	San Cristobal	1.80	86	eP	P	04 57 26.5	-1.0
EVV	El Vigia	2.00	337	eP	P	04 57 24.0	-6.0
EVV				i S	S	04 57 53.0	-1.6
OXX	Oaxaca	2.17	283	i P	P	04 57 32.0	-0.4
OXX				i S	S	04 57 57.0	-1.8
VHO	Vista Hermosa	2.18	282	i P	P	04 57 31.4	-1.1
VHO				i S	S	04 57 57.4	-1.5
CCIG	Comitan	2.30	98	i P	P	04 57 33.0	-1.2
CCIG				i S	S	04 58 00.5	-1.5

DJA 01 05:19:05.8±1.0**, 8.92S×115.90E, h33^{km}, MD4.9**/3**, ML3.1**/1**, 2C-4D, Error ellipse: s-maj=34.1km s-min=8.6km az=158.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.41	298	⇓ePn	Pn	05 19 14.8	-0.4
	708nm,0.2s						
RATI				⇑eSn	Sn	05 19 20.6	-1.0
KEDI	Kedomdong	0.48	27	⇓ePn	Pn	05 19 15.4	-0.8
	272nm,0.2s						
KEDI				⇓eSn	Sn	05 19 21.5	-1.9
SRDI	Scrawed	1.79	284	⇑ePn	Pn	05 19 32.9	-2.0
	12nm,0.2s						
SRDI				⇓iSn	Sn	05 19 54.2	-2.5

DJA 01 05:30:33.0±1.0**, 8.89S×115.91E, h28^{km}**±14^{km}**, MD4.8**/3**, ML3.5**/1**, 5C-1D, Error ellipse: s-maj=46.0km s-min=9.0km az=161.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.41	295	⇓ePn	Pn	05 30 41.5	-1.3
	2µm,0.2s						
RATI				⇑eSn	Sn	05 30 47.3	-2.1
KEDI	Kedomdong	0.45	27	⇑ePn	Pn	05 30 42.1	-1.4
	812nm,0.2s						
KEDI				⇑eSn	Sn	05 30 48.1	-2.5
SRDI	Scrawed	1.79	283	⇑ePn	Pn	05 31 00.5	-2.1
	34nm,0.2s						
SRDI				⇑eSn	Sn	05 31 21.5	-3.1

*CSEM **01** 05:41:35.7±0.1, 41.78N×14.89E, h12^{km}, ML4.0/4, Error ellipse: s-maj=1.8km s-min=1.5km az=53.0*
*NEIC **01** 05:41:37.4, 41.67N×14.87E, h10^{km}, MD3.4(ROM), ML3.3(LDG), After ROM.*
*LDG **01** 05:41:41.5±0.2, 41.67N×14.27E, h10^{km}, Ml3.3/11, Error ellipse: s-maj=5.4km s-min=4.7km az=45.0*
ROM 01 05:41:37.3±0.2**, 41.67N×14.87E, h10^{km}**±1^{km}**, MD3.4**/6**, ML2.9**/12**, 9C-7D, Error ellipse: s-maj=1.9km s-min=1.2km az=0.0, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIGN	Sant'Elia a Pi	0.03	113	ePG	Pg	05 41 40.0	+0.8
CIGN				SG	Sg	05 41 42.0	+1.6
CIGN	Sant'Elia a Pi	0.03	113	ePg	Pg	05 41 40.0	+0.8
CIGN				eSg	Sg	05 41 42.0	+1.6
SACR	S. Croce Del S	0.29	204	⇑iPG	Pg	05 41 44.2	+0.8
CII	Carovilli	0.42	278	ePG	Pg	05 41 46.4	+0.4
CII				SG	Sg	05 41 53.6	+1.9
CII	Carovilli	0.42	278	ePg	Pg	05 41 46.4	+0.4
CII				eSg	Sg	05 41 53.6	+1.8
MIDA	Miranda	0.46	267	⇑iPG	Pg	05 41 46.4	-0.3
MIDA				SG	Sg	05 41 54.0	+1.1
MIDA	Miranda	0.46	267	⇑iPg	Pg	05 41 46.4	-0.2
MIDA				eSg	Sg	05 41 54.0	+1.1
FG5	Orsara di Pugl	0.49	142	⇓iPG	Pg	05 41 47.2	0.0
	1µm,0.4s						
FG5	Orsara di Pugl	0.49	142	⇓iPg	Pg	05 41 47.2	+0.1
FG5	Orsara di Pugl	0.49	142	⇓iPg	Pg	05 41 47.2	0.0
	1µm,0.4s						
RNI2	Rionero Sannit	0.54	274	⇑iPG	Pg	05 41 47.8	-0.4
RNI2				SG	Sg	05 41 56.7	+1.3
RNI2	Rionero Sannit	0.54	274	⇑iPg	Pg	05 41 47.8	-0.3
RNI2				eSg	Sg	05 41 56.7	+1.3
RGNG	Rignano Grg	0.54	89	ePG	Pg	05 41 46.8	-1.4
RGNG				SG	Sg	05 41 56.3	+0.8
RGNG	Rignano Grg	0.54	89	ePg	Pg	05 41 46.8	-1.4
RGNG				eSg	Sg	05 41 56.3	+0.8
MRB1	Monte Rocchett	0.55	172	ePG	Pg	05 41 49.5	+1.2
MRB1	Monte Rocchett	0.55	172	ePg	Pg	05 41 49.5	+1.1
FG4	Candela	0.72	137	ePG	Pg	05 41 50.1	-1.8
	228nm,0.4s						
FG4	Candela	0.72	137	ePg	Pg	05 41 50.1	-1.8
FG4	Candela	0.72	137	ePg	Pg	05 41 50.1	-1.8
	228nm,0.4s						
RFI	Roccamonfina	0.76	241	ePG	Pg	05 41 52.5	0.0
	340nm,0.3s						
RFI	Roccamonfina	0.76	241	ePg	Pg	05 41 52.5	0.0
RFI	Roccamonfina	0.76	241	ePg	Pg	05 41 52.5	0.0
	340nm,0.3s						
SDI	San Donato	0.79	273	ePG	Pg	05 41 51.6	-1.6
SDI	San Donato	0.79	273	ePg	Pg	05 41 51.6	-1.6
MS1	Monte Sant'Ang	0.81	87	eSg	Sg	05 42 06.5	+2.2
FGMS	Monte Sant'Ang	0.81	87	ePG	Pg	05 41 53.3	-0.4
FGMS				SG	Sg	05 42 06.1	+1.5
FGMS	Monte Sant'Ang	0.81	87	ePg	Pg	05 41 53.3	-0.4
FGMS				eSg	Sg	05 42 06.1	+1.5
MRLC	Muro Lucano	1.02	152	ePG	Pg	05 41 55.9	-1.9
MRLC				SG	Sg	05 42 13.1	+1.6
MRLC	Muro Lucano	1.02	152	ePg	Pg	05 41 55.9	-1.9
MRLC				eSg	Sg	05 42 13.1	+1.6
PTQR	Pietraquaria	1.15	288	ePN	Pn	05 41 57.8	-1.7
	300nm,0.5s						
PTQR	Pietraquaria	1.15	288	ePg	Pn	05 41 57.8	-1.7
PTQR	Pietraquaria	1.15	288	ePn	Pn	05 41 57.8	-1.7
	300nm,0.5s						
SGO	Sicignano	1.15	163	ePN	Pn	05 41 59.1	-0.4
	188nm,0.4s						
SGO	Sicignano	1.15	163	ePg	Pn	05 41 59.1	-0.4
SGO	Sicignano	1.15	163	ePn	Pn	05 41 59.1	-0.4
	188nm,0.4s						
AQU	L'Aquila	1.29	303	ePg	Pg	05 41 59.4	-3.7
AQU	L'Aquila	1.29	303	ePg	Pg	05 41 59.4	-3.7
SG1	Sgolgore (BA)	1.60	121	ePg	Pg	05 42 05.2	-4.0
SG1				eSg	Sg	05 42 26.9	-3.6
MGR	Morigerati	1.61	161	ePN	Pn	05 42 06.5	+0.4
	54nm,0.4s						
MGR	Morigerati	1.61	161	ePg	Pn	05 42 06.5	+0.4
MGR	Morigerati	1.61	161	ePn	Pn	05 42 06.5	+0.4
	54nm,0.4s						
BAI	Bari	1.61	110	ePg	Pg	05 42 07.1	-2.5
BAI				eSg	Sg	05 42 29.1	-2.0
MTCE	Montecelio	1.63	283	ePN	Pn	05 42 06.6	+0.3
MTCE	Montecelio	1.63	283	ePg	Pn	05 42 06.6	+0.3
NRCA	Norcia	1.75	312	ePN	Pn	05 42 07.2	-0.8
	79nm,0.3s						
NRCA	Norcia	1.75	312	ePg	Pn	05 42 07.2	-0.7
MNS	Montasola	1.78	295	ePN	Pn	05 42 08.8	+0.4
	74nm,0.3s						
MNS	Montasola	1.78	295	ePg	Pn	05 42 08.8	+0.3
LTRZ	Laterza	1.82	125	ePN	Pn	05 42 08.5	-0.5
	231nm,0.5s						
LTRZ	Laterza	1.82	125	ePg	Pn	05 42 08.5	-0.5
LTRZ	Laterza	1.82	125	ePn	Pn	05 42 08.5	-0.5
	231nm,0.5s						
ORI	Oriolo Calabro	2.00	143	ePN	Pn	05 42 12.3	+0.7
	94nm,0.4s						
ORI	Oriolo Calabro	2.00	143	ePg	Pn	05 42 12.3	+0.7
ORI	Oriolo Calabro	2.00	143	ePn	Pn	05 42 12.3	+0.7
	94nm,0.4s						
PE1	Pezze di Greco	2.11	113	ePg	Pg	05 42 13.0	-6.5
PE1				eSg	Sg	05 42 43.8	-3.8
SNTG	Esanatoglia	2.13	319	ePN	Pn	05 42 13.8	+0.3
	67nm,0.3s						
SNTG	Esanatoglia	2.13	319	ePg	Pn	05 42 13.8	+0.3
ARV	Arcevia	2.32	323	ePN	Pn	05 42 16.0	-0.1
	30nm,0.3s						
STON	Ston	2.42	59	i Pn	Pn	05 42 18.5	+0.8
STON				i Sn	Sn	05 42 44.4	-3.2
STON				i Sg	Sg	05 42 48.0	-10
STON	Ston	2.42	59	i Pn	Pn	05 42 18.4	+0.8
STON				i Sn	Sn	05 42 44.4	-3.2
STON				i Sg	Sg	05 42 48.0	-10
FSSB	Fossombrone	2.54	323	ePN	Pn	05 42 19.1	-0.3
	66nm,0.4s						
FSSB	Fossombrone	2.54	323	ePg	Pn	05 42 19.1	-0.3
TIP	Timpagrande	2.87	149	ePn	Pn	05 42 24.8	+0.7
TIP	Timpagrande	2.87	149	ePn	Pn	05 42 24.8	+0.7
BOJS	Bojanci	3.85	4	ePn	Pn	05 42 36.4	-1.5
BOJS				i Sn	Sn	05 43 21.4	-2.3
VLC	Villacollemand	4.13	309	ePn	Pn	05 42 41.2	-0.7
VISS	Visnje	4.14	360	i Pn	Pn	05 42 40.2	-1.8
JAVS	Javornik	4.27	352	i Pn	Pn	05 42 42.0	-1.9
VOY	Vojsko	4.42	351	ePn	Pn	05 42 43.2	-2.9
VOY				eSn	Sn	05 43 33.8	-4.4
PGF	Pioggiola	4.45	283	ePn	Pn	05 42 41.9	-4.6
PGF				eSn	Sn	05 43 25.5	-14
	2.2nm,0.3s						
ROBS	Robic	4.68	348	i Pn	Pn	05 42 46.7	-3.1
VSL	Villasalto	4.71	244	ePn	Pn	05 42 46.8	-3.4
VSL				eS	Sn	05 43 42.4	-3.1
VSL	Villasalto	4.71	244	ePn	Pn	05 42 46.8	-3.3
VSL				eS	Sn	05 43 42.4	-3.1
OBKA	Obir	4.85	357	⇓iPN	Pn	05 42 49.6	-2.5
OBKA				i SN	Sn	05 43 45.2	-3.8
CTI	Castel Tesino	4.96	333	ePN	Pn	05 42 51.0	-2.7
	27nm,0.3s						
PERS	Pernice	4.97	2	i Pn	Pn	05 42 51.4	-2.5
ARSA	Arzberg	5.60	5	⇓iPN	Pn	05 42 59.7	-3.1
ARSA				i SN	Sn	05 44 03.5	-4.5
WTTA	Wattenberg	6.05	339	⇑iPN	Pn	05 43 06.0	-3.1
WTTA				i SN	Sn	05 44 14.6	-4.7
WATA	Walderalm	6.14	339	⇑iPN	Pn	05 43 06.9	-3.4
WATA				i SN	Sn	05 44 16.5	-4.9
SQTA	Sankt Quirin	6.14	336	⇓iPN	Pn	05 43 07.2	-3.1
SQTA				i SN	Sn	05 44 16.4	-5.0
MOA	Molln	6.20	356	⇑iPN	Pn	05 43 08.1	-3.1
MOA				i SN	Sn	05 44 18.6	-4.3
MOTA	Moosalm	6.28	336	⇓iPN	Pn	05 43 09.6	-2.8
MOTA				i SN	Sn	05 44 20.1	-4.9
FRF	La Foret Royal	6.35	290	ePn	Pn	05 43 08.3	-5.1
FRF				eSn	Sn	05 44 11.1	-16
	1.2nm,0.3s						
LMR	La Mourre	6.40	288	ePn	Pn	05 43 08.9	-5.1
LMR				eSn	Sn	05 44 12.0	-16
	9.5nm,0.7s						
DAVA	Damuels	6.66	329	⇑iPN	Pn	05 43 14.3	-3.3
DAVA				i SN	Sn	05 44 29.1	-5.2
MBDF	Montbardon	6.66	300	ePn	Pn	05 43 12.1	-5.6
LPG	La Plagne	7.03	306	ePn	Pn	05 43 17.5	-5.3
LPG				eSn	Sn	05 44 28.5	-15
	1.2nm,0.3s						
LPL	La Plagne	7.05	306	ePn	Pn	05 43 17.9	-5.2
LPL				eSn	Sn	05 44 30.1	-14
	0.7nm,0.3s						
SMRF	Simiane la Rot	7.21	292	ePn	Pn	05 43 18.1	-7.3
GEC2	GERESS Array S	7.23	354	ePn	Pn	05 43 21.9	-3.7
GEC2				eSn	Sn	05 44 39.8	-8.8
ORIF	Oris-en-Rattie	7.32	299	ePn	Pn	05 43 20.5	-6.4
ORIF				eSn	Sn	05 44 34.2	-17
	12nm,0.8s						
KHC	Kasperske Hory	7.52	354	ePN	Pn	05 43 25.7	-4.0
KHC				ex		05 43 33.5	
KHC				eSN	Sn	05 44 47.0	-9.0
KHC				ex	x	05 45 02.5	
WET	Wettzell	7.61	350	ePn	Pn	05 43 26.9	-4.1
CABF	La Chapelle	8.02	311	ePn	P	05 43 31.0	-5.7
VIVF	Saint-Julien-l	8.09	297	ePn	P	05 43 31.1	-6.7
HINF	Hinteralfeld	8.38	320	ePn	P	05 43 36.7	-5.1
HINF				eSn	Sn	05 45 03.6	-14
	5.5nm,0.3s						
CDF	Champ du Feu	8.62	324	ePn	P	05 43 40.3	-4.8
CDF				eSn	Sn	05 45 09.8	-14
	4.6nm,0.3s						
HAU	Haudompre	8.76	319	ePn	P	05 43 41.8	-5.2
HAU				eSn	Sn	05 45 11.8	-15
	9.0nm,0.3s						
SMF	Signal de Mont	9.36	306	ePn	P	05 43 48.8	-6.5
SFTF	Sexfontaines	9.55	317	eSn	Sn	05 45 30.7	-16
	4.9nm,0.2s						
AVF	Avril sur Loir	9.72	306	ePn	P	05 43 53.7	-6.5
MEZF	Maizieres J'vi	9.74	318	eSn	Sn	05 45 34.7	-16
	10nm,0.6s						
SSF	Saint Saulge	9.76	307	ePn	P	05 43 54.2	-6.5
BGF	Bois d'Agland	9.93	304	ePn	P	05 43 56.2	-6.9

*IDC **01** 06:01:50.2±4.5, 30.86N×56.81E, mb3.7/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.7/7, Error ellipse: s-maj=96.1km s-min=31.7km az=178.0*
*THR **01** 06:01:50.1±0.5, 30.80N×56.84E, h14^{km}±6^{km}, ML3.3*
*CSEM **01** 06:01:51.1±0.2, 30.73N×56.78E, h18^{km}, ML4.0/1, Error ellipse: s-maj=5.1km s-min=3.2km az=69.0*
*TEH **01** 06:01:52.7, 30.52N×56.83E, h28^{km}, Mn3.8*
ISC 01 06:01:50.3±1.8**, 30.79N**±0.08×**56.85E**±0.08**, h11^{km}**±15^{km}**, n23, σ0^{s}78**/24**, mb3.6**/7**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.81	185	ePG	Pg	06 02 05.7	-0.8
KRBR				AML	AML	06 02 25.6	
	comp=E,790nm,0.1s						
IBAF	Bafgh	1.36	306	Pn	Pn	06 02 14.9	-0.4
IMEH	Mehriz	2.01	288	Pn	Pn	06 02 25.7	+1.1
ICHK	Chekchek	2.54	305	Pn	Pn	06 02 32.8	+0.6
BNDS	Bandar-Abbas	3.43	190	ePN	Pn	06 02 45.6	+0.8
BNDS				AML	AML	06 03 49.8	
	comp=N,51nm,0.6s						
ZHSF	Zahedan	3.59	108	ePN	Pn	06 02 47.6	+0.4
NASN	Na'in	3.98	301	ePN	Pn	06 02 53.0	+0.4
NASN				eSG	Sg	06 03 53.4	-10
NASN				AML	AML	06 04 09.4	
	comp=N,69nm,0.6s						
NASN	Na'in	3.98	301	ePn	Pn	06 02 53.0	+0.3
	SNR=52						
NASN				eSg	Sg	06 03 53.4	-10
	comp=N,69nm,0.6s,SNR=90						
IFIR	Firoozkooh	5.93	326	Lg		06 05 04.4	
IFIR	Firoozkooh	5.93	326	Pn	Pn	06 03 20.6	+0.3
IVRN	Varamin	6.01	316	Pn	Pn	06 03 21.4	0.0
IMYA	Miamay	6.17	25	Pn	Pn	06 03 24.5	+0.9
IDMV	Damavand	6.25	321	Pn	Pn	06 03 25.0	+0.2
DAMV	Damavand	6.33	321	ePN	Pn	06 03 25.3	-0.5
IAFJ	Afjeh	6.63	321	Pn	Pn	06 03 30.9	+0.7
IRAZ	Razeghan	7.41	310	Pn	Pn	06 03 40.1	-1.0
BVAR	Borovoye Array	24.32	20	P	P	06 07 09.6	+0.9
	comp=N,1.5nm,0.6s,mb3.6,baz=203,slow=7.2,SNR=12						
ZAL	Zalesovo	30.66	33	P	P	06 08 04.9	-1.9
	comp=N,0.9nm,0.9s,mb3.6,baz=217,slow=3.5,SNR=4.8						
FINES	FINESS Array B	36.68	336	P	P	06 08 58.2	-0.5
	comp=N,1.2nm,0.8s,mb3.8,baz=126,slow=12,SNR=4.2						
GERES	GERESS Array B	37.14	312	P	P	06 09 02.3	-0.4
	comp=N,0.2nm,0.3s,mb3.4,baz=111,slow=8.4,SNR=3.0						
SONM	Songino Array	41.19	51	P	P	06 09 36.9	+0.5
	comp=N,0.1nm,0.6s,mb2.6,baz=259,slow=7.3,SNR=4.0						
ARCES	ARCESS Array B	42.67	344	P	P	06 09 46.6	-1.6
	comp=N,6.1nm,1.0s,mb4.3,baz=153,slow=8.1,SNR=3.5						
YKA	Yellowknife Ar	86.79	356	P	P	06 14 35.4	+0.1
	comp=N,0.4nm,0.8s,mb3.7,baz=1.6,slow=5.0,SNR=10						

*IDC **01** 06:07:56.6±1.3, 15.50S×178.40E, mb4.3/9, mb1 4.6/9, mb1mx4.5/15, mbtmp4.2/9, MS4.1/11, Ms1 4.1/11, ms1mx3.8/21, Error ellipse: s-maj=76.0km s-min=18.8km az=149.0*
*NEIC **01** 06:07:58.2±0.5, 15.52S×178.37E, h10^{km}, mb4.4/2, Error ellipse: s-maj=35.1km s-min=7.1km az=151.0*
ISC 01 06:08:00.4±0.8**, 15.6S**±0.3×**178.3E**±0.2**, h33^{km}, n28, σ0^{s}56**/19**, mb4.2**/11**, MS4.1**/11**, 1D, Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	21.51	108	LR	LR	06 18 58.5	
	comp=Z,318nm,21.1s,MS3.7,baz=165,slow=31						
URZ	Urewera	22.62	183	LR	LR	06 20 12.1	
	comp=Z,221nm,19.5s,MS3.6,baz=108,slow=32						
RPZ	Rata Peaks	28.72	191	LR	LR	06 23 15.0	
	comp=Z,308nm,19.2s,MS3.9,baz=185,slow=32						
TBI	Tubuai	31.28	109	eLQ		06 20 50.0	
STKA	Stephens Creek	37.12	237	P	P	06 15 10.6	+0.7
	9.4nm,1.1s,mb4.5,baz=85,slow=7.6,SNR=5.3						
STKA				LR	LR	06 28 29.8	
	comp=Z,227nm,19.9s,MS4.0,baz=39,slow=33						
WB2	Warramunga Arr	42.02	257	eP	P	06 15 50.4	-0.3
WRAB	Tennant Creek	42.02	257	eP	P	06 15 50.0	-0.7
	6.8nm,0.9s,mb4.3						
WRA	Warramunga Arr	42.03	257	P	P	06 15 50.4	-0.4
	6.5nm,0.9s,mb4.3,baz=89,slow=8.5,SNR=24						
ASAR	Alice Springs	42.48	252	P	P	06 15 54.4	0.0
	5.6nm,0.8s,mb4.3,baz=85,slow=8.9,SNR=45						
ASAR				LR	LR	06 31 39.2	
	comp=Z,130nm,18.3s,MS3.9,baz=87,slow=33						
ASPA	Alice Springs	42.48	252	⇓iP	P	06 15 54.6	+0.2
RKT	Rikitea	44.54	107	eLQ		06 26 20.3	
RKT				eLR	LR	06 28 18.0	
	366nm,31.5s						
NVAR	Mina Array Bea	79.97	45	P	P	06 20 08.0	-0.1
	3.3nm,1.1s,mb4.2,baz=219,slow=6.9,SNR=13						
NVAR				LR	LR	06 48 06.4	
	comp=Z,180nm,18.4s,MS4.5,baz=135,slow=30						
LDFC	Landfair	80.69	50	eP	P	06 20 10.7	-1.3
MSU	Marysvale	84.30	48	eP	P	06 20 31.0	+0.5
ILAR	Eielson Array	84.37	14	P	P	06 20 29.6	-0.6
	2.8nm,0.9s,mb4.4,baz=233,slow=6.0,SNR=21						
HLID	Hailey	84.97	42	eP	P	06 20 33.5	-0.2
	3.0nm,0.9s,mb4.4						
CMAR	Chiang Mai Arr	85.16	291	LR	LR	06 58 11.1	
	comp=Z,42nm,19.6s,MS3.8,baz=250,slow=35						
TMUT	Trail Mountain	85.31	47	eP	P	06 20 36.1	+0.6
JLU	Jordanelle	85.68	46	eP	P	06 20 37.5	+0.3
DAWY	Dawson	85.76	17	eP	P	06 20 37.1	0.0
MCMT	McKenzie Canyo	86.54	42	eP	P	06 20 41.9	+0.5
TXAR	Lajitas Array	87.43	59	P	P	06 20 45.8	-0.2
	0.9nm,1.1s,mb3.9,baz=225,slow=5.3,SNR=5.0						
TXAR				LR	LR	06 50 42.0	
	comp=Z,152nm,21.6s,MS4.4,baz=95,slow=29						
PDAR	Pinedale Array	87.85	45	P	P	06 20 47.2	-0.6
	1.5nm,1.0s,mb4.2,baz=225,slow=2.1,SNR=9.0						
PDAR				LR	LR	06 56 54.6	
	comp=Z,63nm,19.2s,MS4.0,baz=315,slow=34						
SONM	Songino Array	89.76	320	P	P	06 20 57.5	+0.8
	1.0nm,1.0s,mb4.1,baz=117,slow=2.8,SNR=5.6						
USHA	Ushuaia	90.13	148	LR	LR	06 52 34.5	
	comp=Z,372nm,18.6s,MS4.8,baz=337,slow=30						
YKA	Yellowknife Ar	93.55	25	P	P	06 21 14.6	+0.7
	0.3nm,0.8s,mb3.8,baz=249,slow=4.6,SNR=5.8						
YKA				LR	LR	06 59 00.3	
	comp=Z,164nm,18.2s,MS4.5,baz=200,slow=33						
GRF	Grafenberg Arr	144.39	346	ePKP	PKPdf	06 27 34.8	+1.7
GERES	GERESS Array B	144.51	342	PKP	PKPdf	06 27 34.3	+0.9
	1.8nm,1.0s,baz=342,slow=4.2,SNR=6.8						

MAN 01 06:13:42.5, 12.53N×123.24E, h33^{km}, mb4.0, ML2.8, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.41	115	eP	P	06 13 54.0	+2.2
MMPH				eS	S	06 14 00.0	+1.6
AUQP	San Andres	0.96	325	eP	P	06 13 59.2	-0.5
AUQP				eS	S	06 14 13.7	+1.4
PVCP	Virac	1.38	40	eP	P	06 14 05.4	-0.4
PVCP				eS	S	06 14 23.4	+0.4

*NEIC **01** 06:31:40.0±0.5, 24.04S×66.54W, h189^{km}±4^{km}, mb5.0/70, Error ellipse: s-maj=6.0km s-min=4.1km az=66.0*
NEIC Felt [III] at Taltal, Chile.
*BJI **01** 06:31:39.9, 24.00S×66.50W, h189^{km}, mB5.3*
*GUC **01** 06:31:40.1±0.9, 24.26S×67.09W, h224^{km}±17^{km}, ML5.5*
*IDC **01** 06:31:40.5±0.9, 23.98S×66.60W, h191^{km}±7^{km}, mb4.6/15, mb1 4.8/18, mb1mx4.8/19, mbtmp5.2/18, MS4.2/2, Ms1 4.2/2, ms1mx3.4/14, Error ellipse: s-maj=10.5km s-min=9.1km az=73.0*
*HRVD **01** 06:31:40.0±0.2, 24.13S×66.88W, h224^{km}±1^{km}, MW5.3/61, Centroid moment Tensor Solution. LP body waves: s51,c76;Mantle waves: s61,c103; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.47±.03; $M_{\theta\theta}$-0.23±.03; $M_{\phi\phi}$0.70±.03; $M_{r\theta}$0.17±.02; $M_{\theta\phi}$0.29±.03; $M_{\phi r}$-1.11±.03; Best double couple: $M_0$1.307×10^{17} NP1:*

ϕ_s228°,δ21°,λ-37°. NP2:ϕ_s353°,δ77°,λ-108°. Principal axes: T 1.387, Plg30°, Azm97°; N -.16, Plg17°, Azm356°; P -1.227, Plg54°, Azm241°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

MOS **01** 06:31:44.6±1.4,23.63S×66.53W,h231km,mb4.7/1 Error ellipse: s-maj=16.6km s-min=8.3km az=110.1

LDG **01** 06:31:47.6±0.9,23.10S×66.91W,h252km±4km,Mb4.9/15, Ms4.1/6,Error ellipse: s-maj=36.9km s-min=24.7km az=122.0

ISC 01 06:31:39.2±0.5,**24.02S**±0.03×**66.57W**±0.04,**h193**km±4km, **h207**km±4.4km**:pP-P,n263,**σ**1.04**/204,**mb4.9**/87,**11C-10D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.86	306⇑	iP	P	06 32 19.6	+3.4
SPCH				iS	S	06 32 49.0	+4.4
SPCH				AMP		06 32 50.7	
	comp=E,16µm,0.5s						
LVC	Limon Verde	2.57	302⇑	iP	P	06 32 25.9	+2.0
LVC				iS	S	06 32 59.3	+0.9
LVC				AMP		06 33 01.2	
	comp=N,14µm,0.7s						
LVC	Limon Verde	2.57	302	P	P	06 32 25.8	+1.8
	comp=N,2µm,0.3s,baz=128,slow=7.2						
LVC				S	S	06 32 58.1	-0.4
	comp=N,2µm,0.3s,baz=42,slow=23,SNR=33						
LVC	Limon Verde	2.57	302	ePn	P	06 32 25.5	+1.6
LVC				eSn	S	06 33 00.0	+1.6
ANCH	Antofagasta	3.54	275	iP	P	06 32 36.6	+1.1
ANCH				iS	S	06 33 17.3	-1.8
CPCH	Copiapo	4.77	225⇓	iP	P	06 32 48.8	-2.4
CPCH				iS	S	06 33 41.7	-5.3
VACH	Vallenar	5.90	219	eP	P	06 33 04.0	-1.7
VACH				iS	S	06 34 07.5	-5.6
LCO	Las Campanas	6.20	216	iP	P	06 33 07.5	-2.2
LCO				iS	S	06 34 15.0	-5.2
LPAZ	La Paz	7.83	349⇓	ePn	P	06 33 33.0	+2.0
LPAZ				eSn	S	06 34 59.5	+1.2
ARE	Arequipa	8.82	328	eP	P	06 33 43.0	-1.0
LPA	La Plata	13.20	147α	eP	P	06 34 41.8	+1.6
LPA	La Plata	13.20	147	eP	P	06 34 44.0	+3.8
LPA				eS	S	06 37 04.0	+0.9
TRQA	Tornquist	14.54	165	eP	P	06 34 55.7	-1.3
	comp=N,67nm,0.7s						
TRQA				eS	S	06 37 38.7	+5.4
SAML	Samuel	15.33	13	eP	P	06 35 06.9	0.0
	comp=N,87nm,0.7s						
NNA	Nana	15.44	319⇑	iP	P	06 35 08.8	+0.5
	comp=N,284nm,1.1s						
PLCA	Paso Flores	17.00	190	eP	P	06 35 25.5	-1.5
PLCA	Paso Flores	17.00	190	P	P	06 35 25.7	-1.3
	comp=N,4.0nm,0.3s,baz=11,slow=13,SNR=140						
PLCA				S	S	06 38 31.6	+3.2
	comp=N,0.2nm,0.3s,baz=30,slow=16,SNR=1.6						
PLCA				PcP	PcP	06 40 01.1	-0.8
	comp=N,0.4nm,0.3s,baz=346,slow=7.9,SNR=3.5						
PLCA				ScP		06 43 16.5	
	comp=N,0.1nm,0.3s,baz=336,slow=2.2,SNR=7.2						
PLCA	Paso Flores	17.00	190⇓	iP	P	06 35 25.5	-1.5
	comp=N,94nm,0.6s						
BDFB	Brasilia	19.32	68	eP	P	06 35 52.7	+1.0
BDFB				S	S	06 39 19.6	+4.5
BDFB	Brasilia	19.32	68	P	P	06 35 52.7	+1.0
	comp=N,37nm,0.3s,baz=246,slow=10,SNR=637						
BDFB				S	S	06 39 19.6	+4.5
	comp=N,0.7nm,0.3s,baz=79,slow=19,SNR=1.5						
BDFB				ScP		06 43 22.6	
	comp=N,0.2nm,0.3s,baz=229,slow=3.5,SNR=3.4						
BAO	Brasilia Array	19.34	68⇑	iP	P	06 35 52.7	+0.8
BAO				eS	S	06 39 22.7	+7.2
COYC	Coyhaique	21.97	190⇓	iP	P	06 36 17.6	-0.2
CAM4	Nova Friburgo	22.12	91	eP	P	06 36 21.3	+1.9
CAM4				i		06 36 22.6	
CAM4				i		06 36 24.3	
CAM4				i		06 36 30.5	
ROSC	El Rosal	29.68	344	P	P	06 37 28.9	-0.4
	comp=N,7.9nm,0.5s,mb4.6,baz=112,slow=4.7,SNR=15						
ROSC				LR	LR	06 48 59.2	
	comp=N,436nm,18.2s,baz=141,slow=35						
USHA	Ushuaia	30.81	182	P	P	06 37 37.9	-0.9
	comp=N,19nm,0.6s,mb4.9,baz=357,slow=8.1,SNR=15						
CS6B	Jaguaretama	32.54	60c	eP	P	06 37 53.7	-0.5
CS6B				i		06 37 54.2	
CS6B				e		06 37 56.2	
SDV	Santo Domingo	32.94	353	eP	P	06 37 55.6	-2.1
	comp=N,42nm,1.1s,mb4.9						
RCBR	Riachuelo	34.57	63	eP	P	06 38 11.4	-0.2
	comp=N,80nm,0.6s,mb5.4						
JTS	JuntasAbangare	38.54	330	iP	P	06 38 46.8	+2.0
JTS				pmax	pmax		
	comp=Z,26nm,0.6s						
JTS	JuntasAbangare	38.54	330	eP	P	06 38 46.3	+1.4
	comp=Z,26nm,0.6s,mb4.9						
RPN	Rapa Nui	38.57	256	P	P	06 38 44.7	-0.2
	comp=Z,19nm,0.3s,mb5.0,baz=82,slow=6.2,SNR=3.6						
SJG	San Juan	41.87	1	eP	P	06 39 10.0	-2.2
	comp=Z,29nm,0.8s,mb4.8						
TEIG	Tepich	48.80	333	eP	P	06 40 05.2	-1.5
	comp=Z,23nm,0.5s,mb4.8						
VNA3	Neumayer Olymp	57.01	161⇑	iP	P	06 41 06.3	-0.2
VNA3				e	pP	06 41 48.2	-2.4
VNA3				e	pP	06 41 54.7	+4.1
VNA3				e		06 43 14.9	
VNA1	Neumayer--Stat	57.20	160⇑	iP	P	06 41 09.4	+1.6
VNA2	Neumayer--Watz	57.57	160⇑	iP	P	06 41 10.2	-0.2
VNA2				e	pP	06 41 53.0	-1.6
VNA2				e		06 41 59.7	
VNA2				e		06 43 16.8	
RGRS	Roger Stewart	58.08	346	eP	P	06 41 14.6	+0.1
COW	Cow Castle Cre	58.64	346	eP	P	06 41 17.8	-0.6
SNAA	Sanae	59.21	161	e	pP	06 42 00.6	-5.6
SNAA	Sanae	59.21	161	e	PcP	06 42 07.8	0.0
SNAA	Sanae	59.21	161d	iP	P	06 41 21.3	-0.5
SNAA	Sanae	59.21	161	P	P	06 41 21.4	-0.3
	comp=Z,4.8nm,0.6s,mb4.3,baz=296,slow=6.8,SNR=23						
SNAA	Sanae	59.21	161⇑	iP	P	06 41 20.9	-0.9
SNAA				e	pP	06 42 00.6	-5.6
SNAA				e	pP	06 42 07.8	+1.6
LRAL	Lakeview Retre	59.98	340	eP	P	06 41 25.3	-2.3
	comp=Z,30nm,0.5s,mb5.2						
NATX	Nacogdoches	61.63	333	eP	P	06 41 37.3	-1.3
	comp=Z,52nm,0.9s,mb5.2						
OXF	Oxford	62.12	339	eP	P	06 41 39.6	-2.3
	comp=Z,56nm,0.6s,mb5.4						
JCT	Junction City	62.87	328	eP	P	06 41 45.2	-1.7
	comp=Z,56nm,0.6s,mb5.4						
WVT	Waverly	63.10	341	eP	P	06 41 46.2	-2.2
	comp=Z,73nm,0.6s,mb5.5						
UALR	University of	63.38	336	eP	P	06 41 48.0	-2.2
	comp=Z,16nm,0.7s,mb4.8						
UTMT	University of	63.62	340	eP	P	06 41 49.9	-1.9
	comp=Z,153nm,0.8s,mb5.7						
MIAR	Mount Ida	63.63	335	eP	P	06 41 50.3	-1.6
	comp=Z,25nm,0.7s,mb5.0						
MIAR				e	pP	06 42 40.0	+3.0
LTX	Lajitas	63.92	324	eP	P	06 41 52.8	-1.0
LTX	Lajitas	63.92	324	eP	P	06 41 52.9	-1.0
	comp=Z,12nm,0.7s,mb4.7						
TXAR	Lajitas Array	63.92	324	P	P	06 41 52.6	-1.2
	comp=Z,7.1nm,0.7s,mb4.4,baz=152,slow=8.5,SNR=103						
WCI	Wyandotte Cave	64.62	343	eP	P	06 41 55.7	-2.6
	comp=Z,32nm,0.5s,mb5.2						
BLO	Bloomington	65.57	343	eP	P	06 42 02.0	-2.2
	comp=Z,29nm,0.5s,mb5.2						
FVM	French Village	65.62	339	eP	P	06 42 02.9	-1.7
	comp=Z,47nm,0.6s,mb5.3						
WMOK	Wichita Mounta	65.94	331	eP	P	06 42 04.5	-2.2
	comp=Z,3.7nm,0.5s,mb4.3						
CCM	Cathedral Cave	65.95	339	eP	P	06 42 05.0	-1.7
	comp=Z,86nm,0.6s,mb5.6						
CCM				ePcP	PcP	06 42 34.9	-0.9
MNTX	Cornudas Mount	66.69	324	eP	P	06 42 09.4	-2.1
	comp=Z,20nm,0.9s,mb4.8						
MNTX				e		06 43 01.4	
DBIC	Dimbokro	67.43	71	eP	P	06 42 15.2	-1.2
DBIC	Dimbokro	67.43	71	P	P	06 42 15.2	-1.2
	comp=Z,31nm,0.8s,mb5.0,baz=218,slow=6.7,SNR=87						
DBIC				LR	LR	07 13 33.1	
	comp=Z,168nm,18.2s,baz=258,slow=37						
KSU1	Kansas State U	68.79	335	eP	P	06 42 22.7	-1.7
ANMO	Albuquerque	69.78	326d	iP	P	06 42 31.0	+0.5
ANMO	Albuquerque	69.78	326	eP	P	06 42 30.5	0.0
	comp=Z,22nm,0.9s,mb4.8						
ANMO				e		06 43 21.5	
TUC	Tucson	70.14	321	eP	P	06 42 32.9	+0.2
	comp=Z,30nm,1.2s,mb4.8						
SDCO	Great Sand Dun	71.51	328	eP	P	06 42 41.0	+0.2
	comp=Z,19nm,0.6s,mb4.9						
SDCO				e	pP	06 43 31.4	+4.5
WUAZ	Wupatki	72.83	323	eP	P	06 42 49.1	+0.4
	comp=Z,373nm,1.0s,mb6.0						
ISCO	Idaho Springs	73.19	330	eP	P	06 42 51.2	+0.4
	comp=Z,16nm,1.2s,mb4.5						
ISCO				e		06 43 42.7	
PV01	Paradox Valley	73.32	327	eP	P	06 42 52.2	+0.7
SYO	Syowa Base	73.39	159	⇓P	P	06 42 50.8	-0.5
PV10	Paradox Valley	73.74	326	eP	P	06 42 54.0	0.0
PHWY	Pilot Hill	74.33	331	eP	P	06 42 57.4	+0.2
PHWY				e		06 43 49.0	
PFO	Pinyon Flat Ob	74.41	318	eP	P	06 42 57.9	0.0
	comp=Z,16nm,0.9s,mb4.7						
LDFC	Landfair	74.63	320	eP	P	06 43 00.1	+1.0
TBI	Tubuai	74.73	251	eP	P	06 43 01.0	+1.1
	comp=Z,92nm,0.9s,mb5.4						
VNDA	Vanda	74.75	190	eP	P	06 43 00.0	+1.0
VNDA	Vanda	74.75	190	P	P	06 43 00.0	+1.0
	comp=Z,10nm,0.8s,mb4.5,baz=140,slow=4.6,SNR=19						
SRU	San Rafael	75.06	326	eP	P	06 43 00.2	-1.2
SRU	San Rafael	75.06	326	eP	P	06 43 01.4	0.0
SUR	Sutherland	75.46	119	eP	P	06 43 04.1	+0.3
	comp=Z,8.2nm,0.6s,mb4.5						
MSU	Marysvale	75.47	325	eP	P	06 43 04.5	+0.7
MVU	Marysvale	75.48	325	eP	P	06 43 04.4	+0.6
	comp=Z,19nm,1.0s,mb4.7						
MVU				e	pP	06 43 55.1	+4.7
TMUT	Trail Mountain	75.55	326	eP	P	06 43 04.5	+0.3
ARUT	Antelope Range	75.62	323	eP	P	06 43 05.7	+1.1
MWC	Mount Wilson	75.81	318	eP	P	06 43 06.1	+0.3
PMOR	Pomariorio Ree	76.27	260	eP	P	06 43 10.1	+1.5
	comp=Z,56nm,0.8s,mb5.2						
MPU	Maple Canyon	76.30	326	eP	P	06 43 08.5	+0.1
MPU				e	pP	06 43 59.7	+4.7
DAU	Daniels Canyon	76.40	326	eP	P	06 43 10.0	+1.1
TVO	Taravao	76.48	256	eP	P	06 43 11.5	+1.7
	comp=Z,53nm,0.9s,mb5.1						
NLU	North Lily Min	76.48	326	eP	P	06 43 09.8	+0.4
JLU	Jordanelle	76.64	326	eP	P	06 43 10.6	+0.4
TIAR	Tiarei	76.65	257	eP	P	06 43 12.4	+1.7
	comp=Z,81nm,1.1s,mb5.2						
PAE	Paea	76.82	256	eP	P	06 43 12.9	+1.3
	comp=Z,29nm,0.8s,mb5.0						
DAC	Darwin (Calif)	76.92	320	eP	P	06 43 12.4	+0.6
	comp=Z,39nm,1.1s,mb5.0						
TCUT	Toone Canyon	77.01	327	eP	P	06 43 13.2	+0.9
DUG	Dugway	77.04	325	eP	P	06 43 12.7	+0.3
	comp=Z,446nm,1.2s,mb6.0						
TRCR	Troy Canyon	77.20	323	eP	P	06 43 14.1	+0.7
TSUM	Tsumeb	77.27	105	eP	P	06 43 13.8	-0.3
	comp=Z,39nm,0.6s,mb5.2						
PDAR	Pinedale Array	77.36	329	P	P	06 43 13.9	-0.2
	comp=Z,5.7nm,0.5s,mb4.5,baz=133,slow=7.7,SNR=62						
HWUT	Hardware Ranch	77.45	327	eP	P	06 43 15.0	+0.3
	comp=Z,18nm,0.6s,mb4.9						
SPUT	South Promonto	77.67	326	eP	P	06 43 16.3	+0.4
BGU	Big Grassy Mou	77.69	326	eP	P	06 43 16.3	+0.3
TPH	Tonopah	77.94	321	eP	P	06 43 18.3	+0.9
	comp=Z,25nm,1.0s,mb4.8						
AHID	Auburn Hatcher	78.10	328	eP	P	06 43 18.4	+0.2
	comp=Z,31nm,0.6s,mb5.1						
HVU	Hansel Valley	78.19	327	eP	P	06 43 19.1	+0.4
MTUM	Tungsten Hills	78.22	320	eP	P	06 43 19.7	+0.8
ULM	Lac du Bonnet	78.37	341	P	P	06 43 18.9	-0.6
	comp=Z,24nm,0.6s,mb5.0,baz=154,slow=6.3,SNR=61						
ULM	Lac du Bonnet	78.37	341	eP	P	06 43 18.4	-1.1
	comp=Z,40nm,0.6s,mb5.2						
SNOW	Snow King Moun	78.46	329	eP	P	06 43 20.8	+0.7
LOHW	Long Hollow	78.50	329	eP	P	06 43 20.4	0.0
WUWY	Wally Ulrich	78.51	329	eP	P	06 43 20.8	+0.3
SCHQ	Schefferville	78.52	360	P	P	06 43 19.9	-0.3
	comp=Z,10.0nm,0.6s,mb4.6,baz=197,slow=4.0,SNR=64						
SCHQ	Schefferville	78.52	360	eP	P	06 43 19.6	-0.6
	comp=Z,18nm,0.6s,mb4.9						
TPAW	Teton Pass	78.57	329	eP	P	06 43 21.2	+0.4
RRI2	Red Ridge	78.64	328	eP	P	06 43 21.7	+0.6
OMM	Old Mammoth Mi	78.65	320	eP	P	06 43 21.9	+0.6
MOOW	Moose Ponds	78.67	329	eP	P	06 43 21.7	+0.4
ELK	Elko	78.71	324	eP	P	06 43 21.6	0.0
	comp=Z,26nm,1.0s,mb4.8						
NVAR	Mina Array Bea	78.80	321	P	P	06 43 22.8	+0.7
	comp=Z,5.1nm,0.7s,mb4.3,baz=136,slow=6.3,SNR=42						
IMW	Indian Meadow	78.88	329	eP	P	06 43 23.1	+0.7
IMW				e		06 44 15.3	
LAO	LASA Array	78.98	333	eP	P	06 43 22.8	-0.1
	comp=Z,41nm,0.7s,mb5.2						
LRV	Little Rabbit	79.07	318	eP	P	06 43 24.1	+0.5
LKWY	Lake	79.13	330	eP	P	06 43 25.5	+1.7
	comp=Z,24nm,1.0s,mb4.8						
YFT	Old Faithful	79.25	329	eP	P	06 43 26.4	+2.1
YNR	Norris Junctio	79.38	330	eP	P	06 43 26.2	+1.2
YMR	Madison River	79.47	329	eP	P	06 43 26.2	+0.6
DGMT	Dagmar	79.63	336	eP	P	06 43 26.5	+0.2
	comp=Z,91nm,0.6s,mb5.6						
CMB	Columbia Colle	79.75	320	eP	P	06 43 27.0	-0.2
	comp=Z,7.2nm,0.8s,mb4.3						
QLMT	Earthquake Lak	79.81	329	eP	P	06 43 28.7	+1.3
PAHR	Pah Rah Range	80.28	321	eP	P	06 43 31.1	+1.2
	comp=Z,34nm,1.4s,mb4.8						
HLID	Hailey	80.32	327	eP	P	06 43 30.7	+0.6
	comp=Z,45nm,0.9s,mb5.1						
BOSA	Boshof	80.37	117	eP	P	06 43 30.3	-0.4
	comp=Z,18nm,0.6s,mb4.9						
MCMT	McKenzie Canyo	80.48	329	eP	P	06 43 32.2	+1.3
BOZ	Bozeman (W)	80.52	330	eP	P	06 43 31.1	0.0
	comp=Z,49nm,1.6s,mb4.9						
OHCM	Honcut	81.25	320	eP	P	06 43 35.1	+0.1
MAW	Mawson	81.30	163	eP	P	06 43 35.6	+0.8
MAW	Mawson	81.30	163	P	P	06 43 35.6	+0.8
	comp=Z,14nm,0.5s,mb4.8,baz=225,slow=8.1,SNR=14						
LBTB	Lobatse	82.02	114	eP	P	06 43 39.5	+0.2
	comp=Z,23nm,0.7s,mb4.9						
CHMT	Chamberlain Mo	82.22	330	eP	P	06 43 40.5	+0.7
MOD	Modoc	82.27	323	eP	P	06 43 40.6	+0.3
	comp=Z,23nm,0.9s,mb4.8						
MSO	Missoula	82.47	329	eP	P	06 43 41.6	+0.5
	comp=Z,15nm,1.1s,mb4.5						
WDC	Whiskeytown Da	82.67	320	eP	P	06 43 40.9	-1.5
	comp=Z,14nm,0.7s,mb4.8						
BMO	Blue Mountains	82.69	326	eP	P	06 43 42.4	0.0
	comp=Z,11nm,0.7s,mb4.7						
EVO	Evora	82.93	42	eP	P	06 43 43.5	-0.2
	comp=Z,25nm,1.1s,mb4.6						
EVO				eR			
	comp=Z,143nm,17.8s						
WALA	Waterton Lakes	84.10	331	eP	P	06 43 49.2	-0.2
	comp=Z,19nm,0.8s,mb4.9						
FFC	Flin Flon	84.11	340	P	P	06 43 49.8	+0.5
	comp=Z,67nm,1.4s,mb5.2,SNR=10						
FFC	Flin Flon	84.11	340	eP	P	06 43 48.7	-0.6
	comp=Z,11nm,1.0s,mb4.5						
HUMO	Hull Mountain	84.22	322	eP	P	06 43 49.5	-0.6
	comp=Z,4.2nm,0.6s,mb4.3						
REDWA	Red Mountain	84.78	326	P	P	06 43 54.0	+1.1
WRD	Warden	84.97	327	P	P	06 43 55.3	+1.6
NEW	Newport	85.00	329	eP	P	06 43 53.3	-0.6
	comp=Z,9.2nm,0.8s,mb4.6						
LOCW	Locke Island	85.06	327	P	P	06 43 55.2	+1.0
MXC	Moxie City	85.40	326	P	P	06 43 57.1	+1.2
FCC	Fort Churchill	85.57	346	eP	P	06 43 56.1	-0.3
	comp=Z,63nm,1.0s,mb5.3						
TBM	Table Mountain	85.95	326	P	P	06 43 59.7	+1.1
ESDC	Sonseca Array	86.13	43	P	P	06 44 01.4	+1.7
	comp=Z,2.8nm,0.5s,mb4.2,baz=239,slow=4.7,SNR=13						
MATP	Matopo	86.29	111	P	P	06 44 01.9	+1.0
	comp=Z,22nm,0.6s,mb5.1,baz=247,slow=4.5,SNR=78						
NLW	Nelson Butte	86.43	327	P	P	06 44 01.2	+0.3
EDM	Edmonton	86.95	334	eP	P	06 44 01.8	-1.4
RPW	Rockport	87.27	327	P	P	06 44 04.6	-0.3
CMW	Cultus Mountai	87.55	327	P	P	06 44 06.5	+0.2
VDB	Vedder Mountai	87.94	327	P	P	06 44 07.7	-0.3
LSZ	Lusaka	88.12	106	eP	P	06 44 11.4	+1.8
	comp=Z,77nm,1.5s,mb5.3						
SJPF	Ste Jean	89.78	42	eP	P	06 44 17.0	+0.2
	comp=Z,35nm,0.9s,mb4.9						
ETSF	Etsaut	90.07	42	eP	P	06 44 18.5	+0.3
EPF	Esparros	90.69	42	eP	P	06 44 21.0	-0.1
	comp=Z,11nm,0.8s,mb4.5						
QUIF	Quistinic	91.38	37	eP	P	06 44 23.5	-0.6
	comp=Z,15nm,0.7s,mb4.7						
ROSF	Rostrenen	91.56	37	eP	P	06 44 24.5	-0.5
	comp=Z,15nm,0.7s,mb4.8						
SGMF	Saint Gilles	91.90	37	eP	P	06 44 25.9	-0.7
	comp=Z,27nm,0.7s,mb5.0						
LFF	La Frestale	91.97	41	eP	P	06 44 26.8	-0.2
	comp=Z,20nm,0.6s,mb4.9						
MTLF	Montolieu	92.02	43	eP	P	06 44 27.3	0.0
MFF	Saint Martin d	92.34	39	eP	P	06 44 28.4	-0.3
	comp=Z,12nm,0.6s,mb4.7						
RJF	Les Rejaudoux	92.63	41	eP	P	06 44 29.5	-0.5
RJF				eR			
	comp=Z,162nm,22.2s						
CAF	Calviac	92.76	41	eP	P	06 44 29.7	-0.9
GRR	Gorron	92.92	37	eP	P	06 44 30.4	-0.8
	comp=Z,16nm,0.7s,mb4.8						
FLN	La Foliniere	93.33	37	eP	P	06 44 31.9	-1.2
FLN				eR			
	comp=Z,131nm,18.8s						
LDF	La Druitiere	93.44	38	eP	P	06 44 33.0	-0.6
TCF	Toulx Ste Croi	93.56	40	eP	P	06 44 33.6	-0.6
	comp=Z,6.9nm,0.7s,mb4.5						
BGF	Bois d'Agland	94.07	40	eP	P	06 44 36.2	-0.3
	comp=Z,7.4nm,0.6s,mb4.6						
YKA	Yellowknife Ar	94.27	340	eP	P	06 44 37.0	0.0
YKA	Yellowknife Ar	94.27	340	P	P	06 44 37.0	0.0
	comp=Z,12nm,0.6s,mb5.1,baz=134,slow=4.4,SNR=241						
YKA				pP	pP	06 45 26.8	+1.6
	comp=Z,0.4nm,0.6s,baz=130,slow=4.6,SNR=1.7						
YKA	Yellowknife Ar	94.27	340	P	P	06 44 37.0	0.0
YKA				pP	pP	06 45 26.8	+1.6
YKW3	Yellowknife Ar	94.33	340	eP	P	06 44 36.5	-0.8
AVF	Avril sur Loir	94.49	40	eP	P	06 44 37.8	-0.6
SMF	Signal de Mont	94.71	41	eP	P	06 44 38.7	-0.7
	comp=Z,9.0nm,0.7s,mb4.7						
ORIF	Oris-en-Rattie	95.10	43	eP	P	06 44 41.1	-0.1
ORIF				eR			
	comp=Z,230nm,22.2s						
LPL	La Plagne	95.91	43	eP	P	06 44 45.0	+0.1
	comp=Z,12nm,0.9s,mb4.8						
LPG	La Plagne	95.91	43	eP	P	06 44 45.1	+0.2
HAU	Haudompre	96.86	40	eP	P	06 44 48.5	-0.7
HAU				eR			
	comp=Z,120nm,19.5s						
HINF	Hinteralfeld	97.07	41	eP	P	06 44 49.5	-0.7
ILAR	Eielson Array	107.44	334	eP	Pdif	06 45 36.2	+0.3
ILAR	Eielson Array	107.44	334	Pdiff	Pdif	06 45 36.2	+0.3
	comp=Z,0.4nm,0.8s,baz=131,slow=3.3,SNR=5.8						
ILAR				PKiKP		06 49 42.9	
	comp=Z,0.3nm,0.8s,baz=168,slow=1.9,SNR=3.4						
AKASG	Malin Array Be	111.78	43	i PKIKP	PKPdf	06 49 51.6	+1.1
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	111.78	43	PKiKP		06 49 51.6	
	comp=Z,0.5nm,0.3s,baz=271,slow=2.8,SNR=8.4						
OBN	Obninsk	116.78	39	i PKIKP	PKPdf	06 50 01.5	+1.3
OBN				e		06 56 45.2	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
SOC	Sochi	117.67	52	i PKIKP	PKPdf	06 50 01.1	-1.1
SOC				e		06 56 30.3	
SOC				eSS	SS	07 07 04.4	-11
SOC				pmax	pmax		
	comp=N,25nm,0.9s						
SOC				pmax	pmax		
	comp=Z,23nm,0.9s						
SOC				pmax	pmax		
	comp=E,34nm,1.1s						
CTA	Charters Tower	125.74	219	eP	PKPdf	06 50 20.3	+1.8
	comp=E,6.0nm,0.7s						
CTA	Charters Tower	125.74	219	PKP	PKPdf	06 50 19.8	+1.3
	comp=E,9.4nm,0.9s,baz=219,slow=2.7,SNR=7.4						
ASAR	Alice Springs	128.61	204	PKP	PKPdf	06 50 24.6	+0.6
	comp=E,13nm,0.6s,baz=144,slow=2.1,SNR=11						
ASAR				SKPbc		06 53 25.6	
	comp=E,1.2nm,0.6s,baz=150,slow=3.4,SNR=6.3						
ASPA	Alice Springs	128.61	204⇓	iP	PKPdf	06 50 24.8	+0.9
TIXI	Tiksi	131.53	354	i PKIKP	PKPdf	06 50 27.9	-0.3
WB2	Warramunga Arr	131.79	207⇓	iP	PKPdf	06 50 31.0	+0.9
WRA	Warramunga Arr	131.79	207	ePKIKP	PKPdf	06 50 31.2	+1.1
WRA	Warramunga Arr	131.79	207	PKP	PKPdf	06 50 31.2	+1.1
	comp=E,8.8nm,0.6s,baz=167,slow=1.6,SNR=62						
WRA				SKPbc		06 53 36.7	
	comp=E,9.9nm,0.7s,baz=154,slow=3.6,SNR=28						
WRAB	Tennant Creek	131.80	207	ePKP	PKPdf	06 50 31.3	+1.2
WRAB				eSKP		06 53 36.5	
SEY	Seymchan	133.25	337	ePKIKP	PKPdf	06 50 35.3	+3.6
SEY				e		06 51 32.1	
SEY				e		06 53 04.3	
SEY				e		07 04 59.3	
SEY				pmax	pmax		
	comp=Z,30nm,0.8s						
CHKZ	Chkalovo	136.41	36	PKIKP	PKPdf	06 50 40.0	+2.3
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FITZ	Fitzroy Crossi	136.48	197	eP	PKPdf	06 50 40.5	+1.7
	comp=Z,12nm,0.6s						
BVA0	Borovoye Array	136.57	37	i PKIKP	PKPdf	06 50 39.8	+1.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YAK	Yakutsk	140.43	348	i PKIKP	PKPdf	06 50 44.0	-0.8
NVS	Novosibirsk	141.93	28	ePKHKP		06 50 44.1	
NVS				i		06 54 05.4	
NVS				pmax	pmax		
	comp=Z,21nm,1.1s						
KURK	Kurchatov	142.16	36	PKIKP	PKPdf	06 50 50.6	+2.6
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	142.16	36	ePKP	PKPdf	06 50 50.5	+2.5
AAK	Ala-Archa	142.94	50	i PKIKP	PKPdf	06 50 48.2	-1.4
AAK				MLR	MLR		
	comp=Z,100nm,18.0s						
AAK	Ala-Archa	142.94	50	ePKP	PKPdf	06 50 48.4	-1.2
FRU	Bishkek	142.96	50	ePKIKP	PKPdf	06 50 53.0	+3.4
ZAL	Zalesovo	143.22	28	ePKIKP	PKPdf	06 50 49.4	-0.3
ZAL	Zalesovo	143.22	28	PKP	PKPdf	06 50 49.4	-0.3
	comp=Z,12nm,0.6s,baz=170,slow=3.7,SNR=63						
ZAL				SKPbc		06 54 11.5	
	comp=Z,2.3nm,0.7s,baz=201,slow=2.1,SNR=4.3						
ZAL	Zalesovo	143.22	28	PKP	PKPdf	06 50 49.4	-0.3
ZAL				SKPbc		06 54 11.5	
KSH	Kashi	144.88	55	ePKP	PKPdf	06 50 55.1	+2.0
KSH				eAPKP		06 51 38.1	
KSH				ePKS	PKS	06 54 29.3	+2.0
KSH				ePPP	PPP	06 57 24.0	-8.5
KSH				eSKS	SKS	06 57 47.9	+6.6
KSH				eSKKS		07 00 44.3	
KSH				PP	PP		
	comp=Z,140nm,3.5s						
KSH				LR	LR		
	comp=N,130nm,4.0s						
KSH				LR	LR		
	comp=E,120nm,5.0s						
PONG	Pong	146.10	68	eP	PKPdf	06 50 59.0	+3.6
CLNS	Chul'man	146.17	349	ePKHKP		06 50 50.1	
CLNS				pmax	pmax		
	comp=Z,31nm,0.9s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
BOD	Bodaibo	146.22	359	ePKP2	PKPab	06 50 56.7	-2.9
BOD				pmax	pmax		
	comp=Z,27nm,0.7s						
MKAR	Makanchi Array	146.28	40	i PKP2	PKPab	06 50 57.4	-2.8
MKAR				pmax	pmax		
	comp=Z,13nm,0.6s						
HYB	Hyderabad	146.78	95	eP	PKPdf	06 50 59.0	+2.1
HYB				e		06 51 55.0	
HYB	Hyderabad	146.78	95	i PKP	PKPdf	06 50 59.0	+2.1
	comp=Z,40nm,1.0s						
HYB				e		06 51 55.0	
YSS	Yuzh-Sakhalins	147.25	322⇓	ePKIKP	PKPdf	06 50 58.8	+2.0
YSS				e		06 51 56.0	
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS	Yuzh-Sakhalins	147.25	322	ePKPbc	PKPdf	06 51 00.3	+3.5
DDI	Dehra Dun	147.99	71	eP	PKPdf	06 51 01.0	+2.4
MOY	Mondy	150.78	16	ePKIKP	PKPdf	06 51 06.2	+3.9
MOY				e		06 52 07.0	
MOY				pmax	pmax		
	comp=Z,70nm,1.5s						
KLR	Kul'dur	151.01	335	ePKIKP	PKPdf	06 51 06.2	+3.5
KLR				e		06 52 03.0	
KLR				pmax	pmax		
	comp=E,170nm,1.2s						

KLR				pmax	pmax		
	comp=Z,280nm,1.2s						
WMQ	**Urumqi**	**151.10**	**41**	ePKP	PKPdf	06 51 03.8	+0.8
VIS	**Vishakhapatnam**	**151.22**	**97**	eP	PKPdf	06 51 11.0	+7.1
TLY	**Talaya**	**151.37**	**13**	ePKIKP	PKPdf	06 51 05.5	+2.4
TLY				e		06 52 03.4	
TLY				pmax	pmax		
	comp=Z,14nm,1.9s						
ZAK	**Zakamensk**	**152.52**	**14**	ePKIKP	PKPdf	06 51 06.4	+1.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
KOLN	**Koldanda**	**152.93**	**76**	eP	PKPdf	06 51 07.3	+1.1
	comp=Z,8.7nm,0.7s						
GKN	**Gorkha**	**153.84**	**75**	eP	PKPdf	06 51 08.8	+1.4
DMN	**Daman**	**154.27**	**76**	eP	PKPdf	06 51 10.1	+2.2
KKN	**Kakani**	**154.42**	**76**	eP	PKPdf	06 51 09.4	+1.3
PKI	**Pulchoki**	**154.54**	**76**	eP	PKPdf	06 51 09.7	+1.4
GUN	**Gumba**	**154.95**	**75**	eP	PKPdf	06 51 10.0	+1.2
JIRN	**Jiri**	**155.23**	**76**	eP	PKPdf	06 51 10.7	+1.5
MAT	**Matsushiro**	**155.31**	**306**	ePKIKP	PKPdf	06 51 19.0	+10
MAT	**Matsushiro**	**155.31**	**306**	X	PKPdf	06 51 19.4	+10
SONM	**Songino Array**	**155.58**	**12**	PKP	PKPdf	06 51 11.9	+2.9
	comp=Z,2.9nm,0.8s,baz=311,slow=0.9,SNR=22						
SONM				PKPab	PKPab	06 51 38.1	-0.5
	comp=Z,5.7nm,0.8s,baz=320,slow=4.3,SNR=17						
ULN	**Ulaanbaatar**	**155.66**	**10**	i PKIKP	PKPdf	06 51 11.9	+2.8
ULN	**Ulaanbaatar**	**155.66**	**10**	ePKPdf	PKPdf	06 51 11.9	+2.8
CN2	**Changchun**	**157.93**	**336**	ePKP	PKPdf	06 51 13.9	+1.6
CN2				PKP2	PKPab	06 51 48.3	-0.5
CN2				PP	PP	06 55 30.0	-0.2
CN2				PP	PP		
	comp=Z,200nm,10.0s						
LSA	**Lhasa**	**159.34**	**69**	ePKPdf	PKPdf	06 51 17.9	+3.4
LSA				ePKPab	PKPab	06 51 56.1	+0.8
GTA	**Gaotai**	**160.81**	**34**	PKP	PKPdf	06 51 18.6	+2.9
HHC	**Hu-ho-hao-te**	**163.14**	**5**	ePKP	PKPdf	06 51 21.5	+3.6
HHC				APKP		06 52 09.6	
HHC				XPKP		06 52 24.5	
HHC				PKS	PKS	06 54 55.7	+5.6
HHC				PP	PP	06 55 57.9	+0.5
HHC				SKS	SKS	06 58 07.9	+6.3
HHC				SKKS		07 02 26.4	
HHC				SS	SS	07 16 04.6	+1.2
BJI	**Beijing**	**163.85**	**352**	PKP	PKPdf	06 51 21.0	+2.3
BJI	**Beijing**	**163.85**	**352**	ePKIKP	PKPdf	06 51 21.3	+2.6
BJI	**Beijing**	**163.85**	**352**	PKP	PKPdf	06 51 21.3	+2.6
BJI				pPKP		06 52 13.3	
BJI				PP	PP	06 56 00.5	-1.1
BJI				SS	SS	07 16 22.0	+11
CMAR	**Chiang Mai Arr**	**165.41**	**110**	ePKIKP	PKPdf	06 51 23.1	+2.3
CMAR	**Chiang Mai Arr**	**165.41**	**110**	PKP	PKPdf	06 51 23.1	+2.3
	comp=Z,0.9nm,0.5s,baz=261,slow=1.8,SNR=13						
CMAR				PKPab	PKPab	06 52 21.2	-0.7
	comp=Z,12nm,0.7s,baz=252,slow=5.2,SNR=40						
CMAR				PP	PP	06 56 09.2	-0.9
	comp=Z,0.5nm,0.4s,baz=214,slow=5.2,SNR=4.1						
XAN	**Xi'an**	**169.26**	**21**	PKP	PKPdf	06 51 25.4	+2.5
KMI	**Kunming**	**170.20**	**81**	PKP	PKPdf	06 51 25.4	+1.7
KMI	**Kunming**	**170.20**	**81**	ePKIKP	PKPdf	06 51 25.4	+1.7
NJ2	**Nanjing**	**170.67**	**330**	ePKP	PKPdf	06 51 24.4	+0.6
NJ2				PKS	PKS	06 54 56.0	+0.8
NJ2				PP	PP	06 56 35.0	-0.8
NJ2				SKS	SKS	06 58 10.0	+3.5
NJ2				SKKS		07 03 06.0	
NJ2				PP	PP		
	comp=Z,1μm,11.3s						
NJ2				LR	LR		
	comp=N,60nm,21.0s						
NJ2				LR	LR		
	comp=E,520nm,22.3s						
NJ2				LR	LR		
	comp=Z,510nm,22.4s						
ENH	**Enshi**	**172.84**	**29**	ePKPdf	PKPdf	06 51 26.5	+1.4
GYA	**Guiyang**	**173.41**	**67**	i PKP	PKPdf	06 51 26.9	+1.5
GYA				PKP2	PKPab	06 52 57.8	+0.8
GYA				PP	PP		
	comp=Z,110nm,8.2s						

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*MOS **01** 06:33:48.0±1.3, 51.63N×15.94E, h10km, mb4.2/1, Error ellipse: s-maj=5.9km s-min=3.2km az=71.8*
*NEIC **01** 06:33:48.8±0.8, 51.59N×16.06E, h1km±6km, ML3.9(SZGRF), ML3.9(VIE), ML3.4(BRG), ML3.3(CLL), Error ellipse: s-maj=3.8km s-min=3.5km az=146.0*
*BGR **01** 06:33:49.3±0.5, 51.51N×16.21E, h1km, ML3.9/7, Error ellipse: s-maj=6.7km s-min=5.6km az=173.0*
*PRU **01** 06:33:50.5, 51.49N×16.09E*
*IDC **01** 06:33:50.3±0.5, 51.50N×15.93E, mb4.1/3, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, ML3.9/9, Error ellipse: s-maj=9.3km s-min=5.4km az=102.0*
*IPEC **01** 06:33:50.5±0.2, 51.51N×16.15E, h9km±1km, ML3.4/4, Error ellipse: s-maj=1.3km s-min=0.5km az=35.0*
*LDG **01** 06:33:51.0±0.1, 51.39N×16.13E, h1km, Ml4.0/21, Suspected Mining induced.*
*WAR **01** 06:33:51.5, 51.49N×16.06E, h1km, ML3.5, Mining Induced*
*CSEM **01** 06:33:51.4±0.1, 51.44N×16.07E, h2km, ML4.1/20, Error ellipse: s-maj=1.4km s-min=0.8km az=10.0*
*STR **01** 06:33:55.1±4.5, 51.22N×15.96E, h10km±1km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 01 06:33:48.0±0.2**, 51.45N**±0.02×**16.04E**±0.02**, n184, σ1.61**/311**, mb3.9**/3**, 18C-11D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**165**	⇓iP	**Pg**	**06 34 03.7**	**+3.2**
KSP				e		06 34 18.0	
KSP	**Ksiaz**	**0.63**	**165**	⇓iPg	**Pg**	**06 34 03.7**	**+3.2**
KSP				e		06 34 04.6	
KSP				eSg	**Sg**	**06 34 11.3**	**+2.4**
KSP				i		06 34 12.7	
KSP				e		06 34 18.0	
KSP	**Ksiaz**	**0.63**	**165**	ePg	**Pg**	**06 34 03.7**	**+3.2**
KSP				eSg	**Sg**	**06 34 11.4**	**+2.5**
KSP	**Ksiaz**	**0.63**	**165**	⇓iPg	**Pg**	**06 34 03.7**	**+3.2**
KSP				eSg	**Sg**	**06 34 11.3**	**+2.4**
UPC	**Upice**	**0.94**	**181**	ePG	**Pg**	**06 34 09.5**	**+2.7**
DPC	**Dobruska-Polom**	**1.11**	**171**	ePG	**Pg**	**06 34 12.3**	**+2.1**
DPC				eSG	**Sg**	**06 34 26.7**	**+1.6**
	528nm,0.7s						
PVCC	**Panska Ves**	**1.31**	**226**	ePg	**Pg**	**06 34 16.1**	**+2.0**
PVCC				eSg	**Sg**	**06 34 34.4**	**+2.9**
BRG	**Berggiesshubel**	**1.44**	**247**	ePn	**Pn**	**06 34 17.2**	**+1.8**
BRG				eSg	**Sg**	**06 34 38.6**	**+2.7**
BRG	**Berggiesshubel**	**1.44**	**247**	i P	**Pn**	**06 34 16.9**	**+1.6**
BRG				i		06 34 38.6	
BRG	**Berggiesshubel**	**1.44**	**247**	i Pn	**Pn**	**06 34 16.9**	**+1.6**
BRG				i Pg	**Pg**	**06 34 18.9**	**+2.2**
BRG				i Sg	**Sg**	**06 34 38.6**	**+2.7**
BRG	**Berggiesshubel**	**1.44**	**247**	i Pg	**Pg**	**06 34 18.9**	**+2.2**
BRG				eSg	**Sg**	**06 34 37.7**	**+1.8**
BRG				i S	**Sg**	**06 34 38.6**	**+2.7**
RUE	**Ruedersdorf**	**1.74**	**307**	ePn	**Pn**	**06 34 20.5**	**+0.9**
RUE				eSg	**Sg**	**06 34 47.4**	**+1.7**
RUE	**Ruedersdorf**	**1.74**	**307**	ePn	**Pn**	**06 34 20.5**	**+0.9**
RUE				eSg	**Sg**	**06 34 47.4**	**+1.6**
PRU	**Pruhonice**	**1.74**	**214**	eP	**Pn**	**06 34 21.9**	**+2.2**
PRU				e		06 34 47.0	
PRU	**Pruhonice**	**1.74**	**214**	ePN	**Pn**	**06 34 21.9**	**+2.2**
PRU				ePG	**Pg**	**06 34 23.2**	**+0.4**
PRU				eSG	**Sg**	**06 34 47.0**	**+1.0**
	448nm,0.9s						
CLL	**Collm**	**1.91**	**267**	ePn	**Pn**	**06 34 23.3**	**+1.3**
CLL				eSg	**Sg**	**06 34 52.3**	**+0.9**
CLL	**Collm**	**1.91**	**267**	i P	**Pn**	**06 34 23.4**	**+1.4**
CLL				i		06 34 52.2	
CLL	**Collm**	**1.91**	**267**	i Pn	**Pn**	**06 34 23.4**	**+1.4**
CLL				i Pg	**Pg**	**06 34 26.8**	**+0.8**
CLL				i Sg	**Sg**	**06 34 52.2**	**+0.8**
CLL	**Collm**	**1.91**	**267**	i PN	**Pn**	**06 34 23.4**	**+1.4**
	logA/T=1.9						
CLL				i PG	**Pg**	**06 34 26.8**	**+0.8**
CLL				e		06 34 31.0	
CLL				i SG	**Sg**	**06 34 52.2**	**+0.8**
CLL				i		06 35 00.0	
CLL	**Collm**	**1.91**	**267**	i Pg	**Pg**	**06 34 26.8**	**+0.8**
CLL				Sg	**Sg**	**06 34 52.3**	**+0.9**
MORC	**Moravsky Berou**	**1.93**	**150**	⇓P	**Pn**	**06 34 24.3**	**+1.9**
MORC	**Moravsky Berou**	**1.93**	**150**	ePn	**Pn**	**06 34 24.1**	**+1.7**
MORC	**Moravsky Berou**	**1.93**	**150**	P	**Pn**	**06 34 24.3**	**+1.9**
MORC				eSg	**Sg**	**06 34 50.8**	**-1.4**
	176nm,0.4s						
RAC	**Raciborz**	**1.94**	**134**	eP	**Pn**	**06 34 27.2**	**+4.7**
RAC				eSg	**Sg**	**06 34 52.5**	**+0.1**
RAC				eS	**Sg**	**06 34 52.5**	**+0.1**
GKP	**Gorka Klasztor**	**1.97**	**22**	e(PN)	**Pn**	**06 34 25.0**	**+2.1**
GKP				eS	**Sn**	**06 34 54.0**	**+5.3**
OKC	**Ostrava-Krasne**	**2.10**	**139**	eP	**Pn**	**06 34 25.7**	**+0.9**
OKC				e		06 34 56.8	
OKC	**Ostrava-Krasne**	**2.10**	**139**	ePN	**Pn**	**06 34 25.7**	**+0.9**
OKC				ePG	**Pg**	**06 34 30.1**	**+0.2**
OKC				eSG	**Sg**	**06 34 56.8**	**-1.1**
OKC	**Ostrava-Krasne**	**2.10**	**139**	Pg	**Pg**	**06 34 30.1**	**+0.2**
OKC				eSg	**Sg**	**06 34 56.4**	**-1.5**
VRAC	**Vranov**	**2.17**	**170**	Pn	**Pn**	**06 34 27.8**	**+1.9**
	13nm,0.3s,baz=328,slow=14,SNR=35						
VRAC				Lg		06 34 59.3	
	29nm,0.3s,baz=77,slow=21,SNR=11						
VRAC	**Vranov**	**2.17**	**170**	⇓P	**Pn**	**06 34 28.8**	**+3.0**
VRAC				S	**Sn**	**06 34 59.8**	**+6.0**
VRAC	**Vranov**	**2.17**	**170**	ePn	**Pn**	**06 34 27.9**	**+2.0**
VRAC	**Vranov**	**2.17**	**170**	⇓P	**Pn**	**06 34 28.8**	**+2.9**
VRAC				eSg	**Sg**	**06 34 59.1**	**-1.2**
	165nm,0.4s						
KRUC	**Moravsky**	**2.40**	**174**	ePn	**Pn**	**06 34 31.6**	**+2.5**
KRUC	**Moravsky**	**2.40**	**174**	ePg	**Pg**	**06 34 35.5**	**-0.4**
KRUC				eSg	**Sg**	**06 35 08.2**	**+0.3**
	206nm,0.7s						
WERD	**Werda**	**2.56**	**248**	ePn	**Pn**	**06 34 33.4**	**+1.9**
WERD				eSg	**Sg**	**06 35 16.0**	**+2.7**
NKC	**Novy Kostel**	**2.58**	**243**	ePN	**Pn**	**06 34 33.7**	**+2.0**
NKC				ePG	**Pg**	**06 34 40.7**	**+1.2**
NKC				eSG	**Sg**	**06 35 15.5**	**+1.6**
	406nm,0.4s						
GUNZ	**Gunzen**	**2.58**	**247**	ePn	**Pn**	**06 34 33.8**	**+2.1**
OJC	**Ojcow**	**2.68**	**116**	eP	**Pn**	**06 34 32.6**	**-0.6**
OJC				e		06 35 05.0	
OJC	**Ojcow**	**2.68**	**116**	ePn	**Pn**	**06 34 32.6**	**-0.6**
OJC				i Pg	**Pg**	**06 34 41.3**	**-0.3**
OJC				eSn	**Sn**	**06 35 05.0**	**-1.9**
OJC				eSg	**Sg**	**06 35 16.6**	**-0.7**
OJC	**Ojcow**	**2.68**	**116**	ePn	**Pn**	**06 34 32.7**	**-0.5**
KHC	**Kasperske Hory**	**2.81**	**215**	eP	**Pn**	**06 34 36.6**	**+1.7**
KHC				e		06 35 20.5	
KHC	**Kasperske Hory**	**2.81**	**215**	ePN	**Pn**	**06 34 36.6**	**+1.7**
KHC				ePG	**Pg**	**06 34 42.8**	**-1.2**
KHC				eSG	**Sg**	**06 35 20.5**	**-0.9**
KHC	**Kasperske Hory**	**2.81**	**215**	Pg	**Pg**	**06 34 42.8**	**-1.2**
KHC				Sg	**Sg**	**06 35 20.5**	**-0.9**
MOX	**Moxa**	**2.90**	**256**	ePn	**Pn**	**06 34 37.8**	**+1.5**
MOX				eSg	**Sg**	**06 35 24.6**	**0.0**
MOX	**Moxa**	**2.90**	**256**	ePn	**Pn**	**06 34 37.7**	**+1.4**
MOX				ePg	**Pg**	**06 34 45.7**	**-0.2**
MOX				eSg	**Sg**	**06 35 25.6**	**+1.0**
MOX	**Moxa**	**2.90**	**256**	i P	**Pn**	**06 34 37.7**	**+1.4**
MOX				Pg	**Pg**	**06 34 46.0**	**+0.1**
MOX				Sg	**Sg**	**06 35 26.0**	**+1.4**
MOX	**Moxa**	**2.90**	**256**	ePg	**Pg**	**06 34 45.7**	**-0.2**
MOX				Sg	**Sg**	**06 35 24.6**	**0.0**
GEC2	**GERESS Array S**	**3.01**	**211**	ePn	**Pn**	**06 34 39.8**	**+2.0**
GEC2	**GERESS Array S**	**3.01**	**211**	ePn	**Pn**	**06 34 39.8**	**+2.0**
GERES	**GERESS Array B**	**3.01**	**211**	Pn	**Pn**	**06 34 39.2**	**+1.4**
	11nm,0.3s,baz=30,slow=12,SNR=215						
GERES				Pg	**Pg**	**06 34 45.7**	**-2.3**
	22nm,0.3s,baz=32,slow=15,SNR=50						
GERES				Sn	**Sn**	**06 35 16.4**	**+1.3**
	14nm,0.3s,baz=40,slow=23,SNR=7.4						
GERES				Lg		06 35 25.2	
	23nm,0.3s,baz=34,slow=28,SNR=10						
GERES	**GERESS Array B**	**3.01**	**211**	Pn	**Pn**	**06 34 39.2**	**+1.4**
GERES				S	**Sn**	**06 35 16.4**	**+1.3**
WET	**Wettzell**	**3.07**	**222**	ePn	**Pn**	**06 34 40.5**	**+1.9**
WET	**Wettzell**	**3.07**	**222**	ePn	**Pn**	**06 34 40.5**	**+1.8**
WET	**Wettzell**	**3.07**	**222**	ePn	**Pn**	**06 34 40.4**	**+1.7**
SMOL	**Smolenice**	**3.07**	**162**	eSG	**Sg**	**06 35 30.4**	**+0.1**
VKA	**Vienna**	**3.19**	**177**	⇑iPn	**Pn**	**06 34 42.6**	**+2.2**
VKA				i Pg	**Pg**	**06 34 51.3**	**-0.4**
VKA				i Sg	**Sg**	**06 35 34.6**	**+0.3**
VKA	**Vienna**	**3.19**	**177**	i Pg	**Pg**	**06 34 51.3**	**-0.4**
VKA				i Sg	**Sg**	**06 35 34.6**	**+0.3**
ZST	**Bratislava**	**3.33**	**168**	eP	**Pn**	**06 34 44.4**	**+2.1**
ZST				e		06 35 35.0	
ZST	**Bratislava**	**3.33**	**168**	ePn	**Pn**	**06 34 44.4**	**+2.1**
ZST				ePg	**Pg**	**06 34 53.1**	**-1.3**
ZST				eSg	**Sg**	**06 35 35.0**	**-3.8**
ZST	**Bratislava**	**3.33**	**168**	eSB	**Sg**	**06 35 35.0**	**-3.8**
ZST	**Bratislava**	**3.33**	**168**	ePg	**Pg**	**06 34 53.1**	**-1.3**
ZST				eSg	**Sg**	**06 35 35.0**	**-3.8**
NIE	**Niedzica**	**3.41**	**125**	ePN	**Pn**	**06 34 43.0**	**-0.5**
NIE				ePN	**Pg**	**06 34 53.0**	**-3.0**
NIE				eS	**Sg**	**06 35 38.0**	**-3.4**
VYHS	**Vyhne**	**3.47**	**147**	ePN	**Pn**	**06 34 45.6**	**+1.3**
VYHS				ePG	**Pg**	**06 34 56.3**	**-0.9**
GRA1	**Grafenberg Arr**	**3.54**	**242**	ePn	**Pn**	**06 34 47.3**	**+2.0**
GRA1				eSg	**Sg**	**06 35 45.9**	**+0.2**
GRA1	**Grafenberg Arr**	**3.54**	**242**	Pn	**Pn**	**06 34 47.3**	**+2.0**
GRA1				Sg	**Sg**	**06 35 45.9**	**+0.2**
GRF	**Grafenberg Arr**	**3.54**	**242**	ePn	**Pn**	**06 34 47.3**	**+2.0**
GRF				eSg	**Sg**	**06 35 45.9**	**+0.2**
CLZ	**Clausthal**	**3.55**	**279**	ePn	**Pn**	**06 34 47.2**	**+1.7**
CLZ	**Clausthal**	**3.55**	**279**	ePn	**Pn**	**06 34 47.2**	**+1.7**
CLZ	**Clausthal**	**3.55**	**279**	Pn	**Pn**	**06 34 47.2**	**+1.7**
CLZ				eSg	**Sg**	**06 35 44.9**	**-1.3**
BSD	**Bornholm Skovb**	**3.73**	**350**	i P	**Pn**	**06 34 47.4**	**-0.7**
BSD				i S	**Sn**	**06 35 27.7**	**-5.7**
BSD				i		06 35 29.7	
MOA	**Molln**	**3.78**	**198**	⇑iPN	**Pn**	**06 34 50.5**	**+1.7**
MOA				i SG	**Sg**	**06 35 54.6**	**+0.7**
	159nm,0.9s						
SOP	**Sopron**	**3.78**	**175**	ePn	**Pn**	**06 34 52.3**	**+3.5**
SOP				eSB	**Sb**	**06 35 47.7**	**+5.5**
HROE	**Hohe Rhon--Fla**	**3.82**	**258**	⇓iPn	**Pn**	**06 34 50.5**	**+1.1**
UBBA	**Unterbreizbach**	**3.85**	**263**	ePn	**Pn**	**06 34 50.4**	**+0.6**
UBBA				eSg	**Sg**	**06 35 54.6**	**-1.7**
KECS	**Kecovo**	**4.13**	**134**	ePn	**Pn**	**06 34 54.3**	**+0.6**
KECS				ePg	**Pg**	**06 35 07.3**	**-3.1**
KECS				eSg	**Sg**	**06 36 03.0**	**-2.5**
ARSA	**Arzberg**	**4.21**	**185**	⇑iPN	**Pn**	**06 34 57.1**	**+2.1**
ARSA				i SG	**Sg**	**06 36 06.2**	**-2.1**
	215nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.32**	**124**	ePN	**Pn**	**06 34 57.5**	**+1.1**
CRVS				ePG	**Pg**	**06 35 13.0**	**-1.2**
PSZ	**Piszkesteto**	**4.33**	**143**	⇑ePn	**Pn**	**06 34 58.1**	**+1.5**
PSZ	**Piszkesteto**	**4.33**	**143**	ePn	**Pn**	**06 34 57.7**	**+1.1**
PKSG		**4.34**	**158**	⇑eP	**Pn**	**06 34 58.0**	**+1.3**
FUR	**Furstenfeldbru**	**4.50**	**225**	ePn	**Pn**	**06 35 01.0**	**+1.9**
KWP	**Kalwaria**	**4.63**	**111**	ePn	**Pn**	**06 35 00.6**	**-0.2**
KWP				eP		06 35 15.7	
KWP				ePg	**Pg**	**06 35 21.1**	**+0.7**
KWP				eSn	**Sn**	**06 35 49.0**	**-7.1**
KWP				eSg	**Sg**	**06 36 21.3**	**-0.7**
KWP	**Kalwaria**	**4.63**	**111**	ePn	**Pn**	**06 35 00.6**	**-0.2**
KWP				eP*	**Pb**	**06 35 15.7**	**+5.8**
KWP				ePg	**Pg**	**06 35 21.1**	**+0.8**
KWP				eSn	**Sn**	**06 35 49.0**	**-7.1**
KWP				eSg	**Sg**	**06 36 21.3**	**-0.7**
KWP	**Kalwaria**	**4.63**	**111**	ePn	**Pn**	**06 35 00.6**	**-0.2**
KWP				eSn	**Sn**	**06 35 49.0**	**-7.1**
KBA	**Koelnbreinsper**	**4.71**	**203**	⇑iPN	**Pn**	**06 35 04.0**	**+1.9**
KBA				i SG	**Sg**	**06 36 24.2**	**-0.8**
	45nm,0.5s						
KOLS	**Kolonicke sedl**	**4.73**	**120**	ePN	**Pn**	**06 35 01.9**	**-0.4**
KOLS				e		06 35 22.4	
COP	**Copenhagen**	**4.76**	**335**	eP	**Pn**	**06 35 04.2**	**+1.6**
COP				e		06 35 09.8	
COP				eS	**Sn**	**06 35 39.6**	**-20**
COP	**Copenhagen**	**4.76**	**335**	i P	**Pn**	**06 35 04.2**	**+1.6**
COP				e		06 35 09.8	
COP				eS	**Sn**	**06 35 39.6**	**-20**
PERS	**Pernice**	**4.86**	**188**	i Pn	**Pn**	**06 35 06.8**	**+2.7**
PERS				eSn	**Sn**	**06 36 18.2**	**+16**
PKS8	**Sarbogard**	**4.89**	**158**	⇓eP	**Pn**	**06 35 06.1**	**+1.6**
UZH	**Uzhgorod**	**4.92**	**123**	eP	**Pn**	**06 35 17.0**	**+12**
TNS	**Taunus Mts**	**4.96**	**259**	ePn	**Pn**	**06 35 06.3**	**+0.7**
TNS	**Taunus Mts**	**4.96**	**259**	ePn	**Pn**	**06 35 06.3**	**+0.7**
TOD	**Tromm**	**4.97**	**251**	P	**Pn**	**06 35 06.0**	**+0.4**
KOGS	**Kog**	**5.01**	**178**	ePn	**Pn**	**06 35 07.8**	**+1.6**
OBKA	**Obir**	**5.04**	**192**	⇑iPN	**Pn**	**06 35 06.7**	**+0.1**
OBKA				i SG	**Sg**	**06 36 32.2**	**-3.6**
	19nm,0.6s						
OBKA	**Obir**	**5.04**	**192**	⇑iPn	**Pn**	**06 35 06.7**	**+0.1**
	19nm,0.6s						
OBKA				i Sg	**Sg**	**06 36 32.2**	**-3.6**
WATA	**Walderalm**	**5.04**	**217**	⇑iPN	**Pn**	**06 35 07.8**	**+1.1**
WATA				i SG	**Sg**	**06 36 32.8**	**-3.0**
	38nm,0.6s						
WATA	**Walderalm**	**5.04**	**217**	⇑iPn	**Pn**	**06 35 07.8**	**+1.1**
	38nm,0.6s						
WATA				i Sg	**Sg**	**06 36 32.8**	**-3.0**
WATA	**Walderalm**	**5.04**	**217**	i P	**Pn**	**06 35 07.8**	**+1.1**
	38nm,0.6s						
WATA				i Sg	**Sg**	**06 36 32.8**	**-3.0**
SUW	**Suwalki**	**5.04**	**57**	ePg	**Pg**	**06 35 30.8**	**+2.1**
SUW				eSn	**Sn**	**06 36 01.8**	**-4.8**
SUW				eSg	**Sg**	**06 36 25.6**	**-10**
SUW	**Suwalki**	**5.04**	**57**	ePg	**Pg**	**06 35 30.8**	**+2.1**
SUW				eSn	**Sn**	**06 36 01.8**	**-4.8**
SUW				eSg	**Sg**	**06 36 25.6**	**-10**
WTTA	**Wattenberg**	**5.08**	**216**	⇑iPN	**Pn**	**06 35 08.0**	**+0.8**
WTTA				i SG	**Sg**	**06 36 33.1**	**-4.0**
	44nm,0.7s						
WTTA	**Wattenberg**	**5.08**	**216**	⇑iPn	**Pn**	**06 35 08.0**	**+0.8**
	44nm,0.7s						
WTTA				i Sg	**Sg**	**06 36 33.1**	**-4.0**
WTTA	**Wattenberg**	**5.08**	**216**	i P	**Pn**	**06 35 08.0**	**+0.8**
	44nm,0.7s						
WTTA				i Sg	**Sg**	**06 36 33.1**	**-4.0**
MOTA	**Moosalm**	**5.22**	**220**	⇑iPN	**Pn**	**06 35 10.4**	**+1.2**
MOTA				i SG	**Sg**	**06 36 40.2**	**-1.5**
	20nm,0.7s						
MOTA	**Moosalm**	**5.22**	**220**	⇑iPn	**Pn**	**06 35 10.4**	**+1.2**
	20nm,0.7s						
MOTA				i Sg	**Sg**	**06 36 40.2**	**-1.5**
SQTA	**Sankt Quirin**	**5.28**	**219**	⇓iPN	**Pn**	**06 35 11.3**	**+1.3**
SQTA				i SG	**Sg**	**06 36 40.2**	**-3.5**
	21nm,0.5s						
SQTA	**Sankt Quirin**	**5.28**	**219**	⇓iPn	**Pn**	**06 35 11.3**	**+1.3**
	21nm,0.5s						
SQTA				i Sg	**Sg**	**06 36 40.2**	**-3.5**
SQTA	**Sankt Quirin**	**5.28**	**219**	i P	**Pn**	**06 35 11.3**	**+1.3**
	21nm,0.5s						
SQTA				i Sg	**Sg**	**06 36 40.2**	**-3.5**
FVI	**Forni Avoltri**	**5.31**	**205**	eP	**Pn**	**06 35 12.6**	**+2.2**
LVV	**L'vov**	**5.34**	**105**	eP	**Pn**	**06 35 18.0**	**+7.1**
LVV				eS	**Sn**	**06 36 14.0**	**-0.1**
PTCC	**Patocco-Chiusa**	**5.35**	**200**	ePn	**Pn**	**06 35 12.9**	**+1.9**
PTCC	**Patocco-Chiusa**	**5.35**	**200**	ePn	**Pn**	**06 35 12.9**	**+1.9**
KTD	**Kalmit**	**5.51**	**250**	P	**Pn**	**06 35 13.2**	**-0.1**
ABH	**Alteburg**	**5.62**	**257**	P	**Pn**	**06 35 15.3**	**+0.5**
VISS	**Visnje**	**5.71**	**188**	ePn	**Pn**	**06 35 17.4**	**+1.4**
DAVA	**Damuels**	**5.79**	**226**	⇑iPN	**Pn**	**06 35 17.5**	**+0.3**
DAVA				i SG	**Sg**	**06 36 59.3**	**-1.4**
	40nm,0.6s						
DAVA	**Damuels**	**5.79**	**226**	⇑iPn	**Pn**	**06 35 17.5**	**+0.3**
	40nm,0.6s						
DAVA				i Sg	**Sg**	**06 36 59.3**	**-1.4**
LANF	**Langenberg**	**5.83**	**248**	P	**Pn**	**06 35 17.2**	**-0.6**
BFO	**Black Forest**	**5.88**	**241**	ePn	**Pn**	**06 35 17.8**	**-0.6**
BFO	**Black Forest**	**5.88**	**241**	ePn	**Pn**	**06 35 17.8**	**-0.6**
BOJS	**Bojanci**	**5.97**	**185**	ePn	**Pn**	**06 35 21.6**	**+1.8**
RUP	**Ruppelstein**	**5.98**	**256**	P	**Pn**	**06 35 20.2**	**+0.3**
CTI	**Castel Tesino**	**6.13**	**210**	eP	**Pn**	**06 35 24.7**	**+2.6**
DAVOX	**Davos**	**6.18**	**223**	Pn	**Pn**	**06 35 23.3**	**+0.6**
	1.5nm,0.3s,baz=42,slow=11,SNR=13						
DAVOX				Sn	**Sn**	**06 36 32.9**	**-2.1**
	1.6nm,0.3s,baz=296,slow=10,SNR=3.4						
DAVOX				Lg		06 37 06.0	
	1.8nm,0.3s,baz=211,slow=20,SNR=3.8						
WLS	**Welschbruch**	**6.38**	**245**	P	**Pn**	**06 35 25.5**	**0.0**
MEM	**Membach**	**6.38**	**266**	P	**Pn**	**06 35 26.9**	**+1.3**
CDF	**Champ du Feu**	**6.42**	**245**	ePn	**Pn**	**06 35 25.0**	**-1.1**
CDF				eSg	**Sg**	**06 37 12.7**	**-9.0**
	160nm,1.0s						
ECH	**Echery**	**6.59**	**244**	P	**Pn**	**06 35 27.8**	**-0.7**
BZS	**Buzias**	**6.91**	**145**	⇓P	**Pn**	**06 35 41.2**	**+8.2**
HINF	**Hinteralfeld**	**6.98**	**242**	ePn	**Pn**	**06 35 32.9**	**-1.1**
HINF				eSg	**Sg**	**06 37 30.7**	**-10**
	61nm,0.8s						
BURAR	**Bucovina Array**	**7.10**	**119**	⇑P	**Pn**	**06 35 35.9**	**+0.2**
BURAR	**Bucovina Array**	**7.10**	**119**	⇑P	**Pn**	**06 35 35.9**	**+0.2**
HAU	**Haudompre**	**7.16**	**245**	ePn	**Pn**	**06 35 34.7**	**-1.9**
HAU				eSg	**Sg**	**06 37 36.2**	**-10**
	59nm,0.8s						
GIVF	**Givet**	**7.24**	**264**	ePn	**Pn**	**06 35 36.1**	**-1.5**
GIVF				eSg	**Sg**	**06 37 38.5**	**-10**
	42nm,0.8s						
THEF	**They Montfort**	**7.25**	**248**	P	**Pn**	**06 35 37.2**	**-0.6**
BAIF	**Baives**	**7.63**	**264**	ePn	**Pn**	**06 35 42.1**	**-1.0**
BAIF				eSg	**Sg**	**06 37 50.8**	**-11**
	60nm,1.2s						
MEZF	**Maizieres J'vi**	**7.67**	**252**	ePn	**Pn**	**06 35 42.0**	**-1.7**
MEZF				eSn	**Sn**	**06 37 05.1**	**-7.3**
MEZF				eSg	**Sg**	**06 37 52.3**	**-11**
	9.7nm,0.5s						
SFTF	**Sexfontaines**	**7.82**	**250**	ePn	**Pn**	**06 35 43.8**	**-1.9**
SFTF				eSg	**Sg**	**06 37 56.0**	**-12**
	62nm,0.9s						
CABF	**La Chapelle**	**8.13**	**237**	ePn	**P**	**06 35 48.7**	**-1.4**
CABF				eSg	**Sg**	**06 38 05.9**	**-13**
	105nm,1.2s						
VLC	**Villacollemand**	**8.22**	**210**	P	**P**	**06 35 49.2**	**-2.2**
AKASG	**Malin Array Be**	**8.34**	**90**	Pn	**P**	**06 35 50.1**	**-3.0**
	5.9nm,0.3s,baz=280,slow=12,SNR=25						
AKASG				Sn	**Sn**	**06 37 20.2**	**-8.9**
	2.5nm,0.3s,baz=275,slow=23,SNR=5.6						
LPL	**La Plagne**	**8.56**	**230**	ePn	**P**	**06 35 53.1**	**-3.0**
LPL				eSg	**Sg**	**06 38 19.5**	**-14**
	4.7nm,0.6s						
LPG	**La Plagne**	**8.57**	**230**	ePn	**P**	**06 35 53.6**	**-2.6**
LPG				eSg	**Sg**	**06 38 19.9**	**-13**
	3.4nm,0.6s						
HFS	**Hagfors**	**8.80**	**352**	Pn	**P**	**06 35 56.4**	**-3.0**
	0.2nm,0.3s,baz=168,slow=14,SNR=18						
HFS				Sn	**Sn**	**06 37 30.3**	**-10**
	0.1nm,0.3s,baz=170,slow=18,SNR=2.8						
BNI	**Bardonecchia**	**8.94**	**228**	P	**P**	**06 36 02.1**	**+0.8**
MBDF	**Montbardon**	**9.14**	**226**	ePn	**P**	**06 36 01.7**	**-2.4**
MBDF				eSg	**Sg**	**06 38 37.9**	**-14**
	18nm,0.9s						
SSF	**Saint Saulge**	**9.29**	**247**	ePn	**P**	**06 36 03.7**	**-2.5**
SSF				eSg	**Sg**	**06 38 42.1**	**-15**
	15nm,1.0s						
VSU	**Vasula**	**9.33**	**37**	i P	**P**	**06 36 04.3**	**-2.5**
SMF	**Signal de Mont**	**9.34**	**244**	ePn	**P**	**06 36 04.1**	**-2.7**
SMF				eSg	**Sg**	**06 38 43.4**	**-15**
	59nm,1.1s						
ORIF	**Oris-en-Rattie**	**9.41**	**230**	ePn	**P**	**06 36 05.6**	**-2.3**
ORIF				eSg	**Sg**	**06 38 46.4**	**-15**
	24nm,1.0s						
AVF	**Avril sur Loir**	**9.53**	**246**	ePn	**P**	**06 36 06.8**	**-2.6**
AVF				eSg	**Sg**	**06 38 49.6**	**-16**
	32nm,1.1s						
SBF	**Sospel**	**9.55**	**221**	ePn	**P**	**06 36 06.7**	**-3.0**
SBF				eSg	**Sg**	**06 38 48.1**	**-18**
	34nm,0.8s						
HYF	**Humbligny**	**9.69**	**250**	ePn	**P**	**06 36 09.0**	**-2.6**
HYF				ePg	P	06 36 50.4	+39
HYF				eSg	**Sg**	**06 38 55.1**	**-15**
BGF	**Bois d'Agland**	**9.95**	**246**	ePn	**P**	**06 36 12.2**	**-3.0**
BGF				eSg	**Sg**	**06 39 03.9**	**-15**
	25nm,0.8s						
NB2	**NORSAR Subarra**	**9.98**	**346**	P	**P**	**06 36 10.9**	**-4.6**
	0.9nm,0.5s,baz=168,slow=12						
NB2	**NORSAR Subarra**	**9.98**	**346**	P	**P**	**06 36 10.9**	**-4.6**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**06 36 10.8**	**-4.8**
	comp=Z,0.5nm,0.3s,baz=156,slow=12,SNR=5.3						
NOA				Sn	**Sn**	**06 37 56.7**	**-13**
	comp=Z,0.3nm,0.3s,baz=213,slow=16,SNR=2.7						
NOA				Lg		06 39 04.8	
	comp=Z,0.5nm,0.3s,baz=230,slow=15,SNR=3.6						
NOA	**NORSAR Array B**	**9.98**	**346**	Pn	**P**	**06 36 10.8**	**-4.8**
NOA				Sn	**Sn**	**06 37 56.7**	**-13**
NOA				Lg		06 39 04.8	
NOA	**NORSAR Array B**	**9.98**	**346**	Sn	**Sn**	**06 37 56.7**	**-13**
VIVF	**Saint-Julien-l**	**10.05**	**233**	ePn	**P**	**06 36 13.8**	**-2.8**
PGF	**Pioggiola**	**10.11**	**211**	eSg	Sx	06 39 06.4	
	comp=Z,85nm,1.1s						
FRF	**La Foret Royal**	**10.12**	**222**	ePn	**P**	**06 36 14.2**	**-3.4**
SMRF	**Simiane la Rot**	**10.27**	**227**	ePn	**P**	**06 36 17.5**	**-2.1**
LMR	**La Mourre**	**10.37**	**222**	ePn	**P**	**06 36 19.3**	**-1.6**

TCF	Toulx Ste Croi	10.46	246	ePn	P	06 36 20.4	-1.9
TCF				eSg	S	06 39 19.2	+58
	comp=Z,9.6nm,0.8s						
GRR	Gorron	11.31	261	ePn	P	06 36 32.0	-1.9
GRR				eSg	S	06 39 45.9	+64
	comp=Z,1.9nm,0.5s						
RJF	Les Rejaudoux	11.44	243	ePn	P	06 36 32.9	-2.7
FINES	FINESS Array B	11.44	25	Pn	P	06 36 30.6	-4.9
	comp=Z,1.2nm,0.3s,baz=207,slow=12,SNR=36						
FINES				Sn	S	06 38 30.3	-15
	comp=Z,0.8nm,0.3s,baz=218,slow=20,SNR=5.3						
FINES	FINESS Array B	11.44	25	Pn	P	06 36 30.6	-4.9
FINES				Sn	S	06 38 30.3	-15
KAF	Kangasniemi	12.06	24	ep	P	06 36 37.1	-6.9
	comp=Z,2.3nm,0.4s						
KAF	Kangasniemi	12.06	24	eP	P	06 36 37.1	-6.9
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
EKA	Eskdalemuir Ar	12.09	296	Pn	P	06 36 40.5	-3.8
	comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=7.6						
OBN	Obninsk	12.81	65	eP	P	06 36 49.1	-4.9
OBN				eS	S	06 39 18.9	+0.3
OBN				pmax	pmax		
	comp=Z,12nm,1.0s						
JOF	Joensuu	14.12	30	ep	P	06 37 05.6	-5.5
ARCES	ARCESS Array B	18.69	10	Pn	P	06 38 04.7	-4.8
	comp=Z,1.1nm,0.3s,baz=190,slow=13,SNR=24						
KEV	Kevo	19.08	12	ep	P	06 38 08.6	-5.5
KIV	Kislovodsk	19.36	102	i P	P	06 38 23.9	+6.3
KIV				pmax	pmax		
	comp=Z,18nm,1.5s						
SCHQ	Schefferville	47.07	308	P	P	06 42 22.7	0.0
	comp=Z,0.7nm,0.6s,mb4.0,baz=63,slow=15,SNR=4.1						
SONM	Songino Array	54.99	55	P	P	06 43 23.6	+0.7
	comp=Z,0.6nm,0.7s,mb3.7,baz=302,slow=12,SNR=5.8						
YKA	Yellowknife Ar	59.90	336	i P	P	06 43 57.3	0.0
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	59.90	336	P	P	06 43 57.0	-0.3
	comp=Z,1.1nm,0.6s,mb4.1,baz=30,slow=6.7,SNR=28						
YKA	Yellowknife Ar	59.90	336	P	P	06 43 57.0	-0.4

*ISK **01** 06:36:58.9, 38.80N×27.14E, h26km, MD3.4*
*NEIC **01** 06:36:58.6, 38.83N×27.10E, h23km, MD3.4(ISK), After ISK.*
*CSEM **01** 06:36:58.0±0.1, 38.85N×27.14E, h15km, MD3.4, Error ellipse: s-maj=2.8km s-min=1.2km az=113.0*
*ATH **01** 06:37:12.7, 38.04N×26.41E, h10km, MD3.2/3*
ISC 01 06:36:59.4±0.5**, 38.83N**±0.02×**27.10E**±0.05**, h24**km±5km**, n43, σ0^{s}81**/54**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	Balcova	0.44	186	i PG	Pb	06 37 08.5	0.0
BLCB				i SG	Sb	06 37 14.5	-0.3
BLCB	Balcova	0.44	186	Pg	Pb	06 37 08.0	-0.5
BLCB				Sg	Sb	06 37 15.0	+0.2
KDAG	Bornova	0.44	163	i P	Pb	06 37 08.3	-0.2
KDAG				i S	Sb	06 37 14.9	+0.1
IZM	Izmir	0.45	163	i PG	Pb	06 37 08.5	-0.1
IZM	Izmir	0.45	163	Pg	Pb	06 37 08.5	-0.1
AYVA	Ayvalik	0.58	327	i P	Pb	06 37 10.4	-0.4
AYVA				i S	Sb	06 37 20.4	+1.8
BALB	Balikesir	1.01	36	i PG	Pb	06 37 17.2	-0.9
BALB				i SG	Sb	06 37 31.2	+0.1
BALB	Balikesir	1.01	36	Pg	Pb	06 37 17.1	-1.0
SMG	Samos	1.13	191	ePB	Pb	06 37 21.9	+1.7
BTOK	Tokmak	1.18	37	i P	Pn	06 37 20.3	-0.3
BTOK				i S	Sb	06 37 35.7	-0.2
MANT	Manisa	1.19	106	i P	Pn	06 37 20.7	0.0
MANT				i S	Sb	06 37 36.6	+0.6
CANB	Canakkale	1.19	359	PN	Pn	06 37 21.2	+0.4
CANB	Canakkale	1.19	359	Pn	Pn	06 37 20.5	-0.3
CANB	Canakkale	1.19	359	Pn	Pn	06 37 20.5	-0.3
AYDN	Tasoluk	1.31	152	i P	Pn	06 37 22.7	+0.2
AYDN				i S	Sn	06 37 40.6	+1.2
DST	Dursunbey	1.42	56	Pn	Pn	06 37 23.7	-0.3
LPK	Lapseki	1.57	350	PN	Pn	06 37 27.2	+1.0
LPK	Lapseki	1.57	350	Pn	Pn	06 37 26.6	+0.4
LPK	Lapseki	1.57	350	Pn	Pn	06 37 26.6	+0.4
KCT	Karacabey	1.74	34	PN	Pn	06 37 27.7	-0.9
KCT	Karacabey	1.74	34	Pn	Pn	06 37 27.8	-0.8
KCT	Karacabey	1.74	34	Pn	Pn	06 37 27.8	-0.8
BODT	Bodrum	1.77	175	ePN	Pn	06 37 28.6	-0.4
BODT	Bodrum	1.77	175	Pn	Pn	06 37 29.0	-0.1
BODT	Bodrum	1.77	175	Pn	Pn	06 37 29.0	0.0
BDRM	Kayabasi	1.78	171	i P	Pn	06 37 33.5	+4.4
BDRM				i S	Sn	06 37 57.9	+6.6
ORLT	Orhaneli	1.85	48	ePN	Pn	06 37 30.7	+0.5
ORLT	Orhaneli	1.85	48	Pn	Pn	06 37 29.9	-0.3
ORLT	Orhaneli	1.85	48	Pn	Pn	06 37 29.9	-0.3
DENT	Denizli	1.86	125	ePN	Pn	06 37 30.0	-0.3
YER	Yerkesik	1.93	151	Pn	Pn	06 37 30.9	-0.4
KHL	Karahalli	1.96	104	Pn	Pn	06 37 32.0	+0.2
ULDT	Uludag	2.05	49	i P	Pn	06 37 34.1	+1.0
ULDT				i S	Sn	06 38 01.3	+3.1
APE	Apeiranthos	2.15	216	ePB	Pb	06 37 35.4	-2.1
ALT	Altintas	2.36	83	ePN	Pn	06 37 37.0	-0.5
YLV	Yalova	2.47	44	ePN	Pn	06 37 38.4	-0.7
YLV	Yalova	2.47	44	Pn	Pn	06 37 38.5	-0.6
YLV	Yalova	2.47	44	Pn	Pn	06 37 38.5	-0.6
HRT	Hereke	2.81	44	Pn	Pn	06 37 43.1	-0.8
HRT	Hereke	2.81	44	Pn	Pn	06 37 43.2	-0.7
ESKT	Eskisehir	3.00	75	ePN	Pn	06 37 46.2	-0.4
ESKT	Eskisehir	3.00	75	Pn	Pn	06 37 46.0	-0.6
ESKT	Eskisehir	3.00	75	i P	Pn	06 37 52.7	+6.2
ESKT				i S	Sn	06 38 32.0	+10

MAN 01 06:42:54.0, 13.59N×122.83E, h6km, mb3.7, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	San Andres	0.30	211	eP	Pg	06 43 01.0	+0.9
AUQP				eS	Sg	06 43 06.8	+2.5
BOAC	Boac	0.97	263	eP	Pb	06 43 12.3	-0.5
BOAC				eS	Sb	06 43 27.8	+2.0
PVCP	Virac	1.28	89	eP	Pb	06 43 17.3	-1.0
LQP	Lukban	1.36	293	eP	Pb	06 43 19.1	-0.5
POLP	Polilio Island	1.43	323	eP	Pn	06 43 20.4	-0.2
MMPH	Masbate	1.44	148	eP	Sn	06 43 38.0	-2.2
OTRP	Odiongan	1.45	213	eP	Pn	06 43 17.6	-3.3

IGQ 01 06:50:13.8, 1.85S×78.03W, h175km±3km, mb4.0, 2C-13D, Error ellipse: s-maj=4.4km s-min=1.6km az=46.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	Patacocha	0.53	310	P	P	06 50 38.9	+0.4
ARRY	Arrayan	0.54	309	⇓P	P	06 50 38.7	+0.1
ARRY				S	S	06 50 56.2	-1.4
ULBA	Ulba	0.55	316	⇓P	P	06 50 38.8	+0.2
RUN2	Runtun	0.57	318	⇓P	P	06 50 39.0	+0.3
RETU	Refugio	0.57	314	⇓P	P	06 50 39.1	+0.4
CUSU	Cusua	0.60	312	P	P	06 50 39.4	+0.6
JUIV	Juive	0.60	314	⇑P	P	06 50 39.1	+0.2
IGUA	Igualata	0.70	300	P	P	06 50 39.9	+0.6
PISA	Pisayambo	0.86	336	⇓P	P	06 50 41.1	+0.8
TAMB	Tambo	1.19	344	⇓P	P	06 50 43.8	+1.0
VC1	Cotopaxi 1	1.25	343	⇓P	P	06 50 44.4	+1.0
NAS1	Nasa	1.29	340	⇑P	P	06 50 45.0	+1.3
ANTI	Antisana	1.40	355	⇓P	P	06 50 45.4	+0.7
JUA2	San Juan 2	1.72	341	⇓P	P	06 50 48.7	+0.7
GGP	Refugio Guagua	1.75	341	P	P	06 50 50.3	+2.0
TERV	Terraza Guagua	1.76	341	⇓P	P	06 50 49.1	+0.8
PINO	Pino	1.77	341	⇓P	P	06 50 49.3	+0.8
YANA	Yana	1.80	343	⇓P	P	06 50 49.4	+0.6
CAYR	Refugio Cayamb	1.85	1	⇓P	P	06 50 50.4	+1.1
CAYA	Cayambe	1.91	1	P	P	06 50 51.0	+1.2
COTA	Cotacachi	2.19	352	P	P	06 50 54.3	+1.2
ECEN	Cerro Negro	2.65	1	P	P	06 50 59.8	+1.2
SALI	Salinas	2.98	263	P	P	06 51 02.1	-0.5
SALI				S	S	06 51 36.6	-3.4

*IDC **01** 07:24:01.2±0.5, 31.44S×71.75W, mb5.0/13, mb1 5.0/15, mb1mx4.9/19, mbtmp4.9/15, ML5.2/2, MS4.9/13, Ms1 4.9/13, ms1mx4.5/21, Error ellipse: s-maj=25.0km s-min=13.9km az=77.0*
*GUC **01** 07:24:05.3±0.8, 31.50S×71.77W, h20km±4km, ML5.3*
*MOS **01** 07:24:05.4±1.2, 31.42S×71.71W, h33km, mb5.7/6, MS5.0/5, Error ellipse: s-maj=22.3km s-min=8.8km az=96.7*
*BJI **01** 07:24:05.6, 31.40S×71.70W, h25km, mB5.4, Ms5.4, Msz5.1*
*HRVD **01** 07:24:05.6±0.2, 31.59S×72.10W, h33km, MW5.4/61, Centroid moment Tensor Solution. LP body waves: s61,c107;Mantle waves: s61,c121; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.13±.03; $M_{\theta\theta}$0.09±.03; $M_{\phi\phi}$-1.22±.03; $M_{r\theta}$0.42±.03; $M_{\theta\phi}$0.36±.02; $M_{\phi r}$-0.96±.04; Best double couple: $M_0$1.615×10^{17} NP1:ϕ_s354°,δ25°, λ103°. NP2:ϕ_s159°,δ66°,λ84°. Principal axes: T 1.531, Plg69°, Azm57°; N .169, Plg6°, Azm161°; P -1.699, Plg20°, Azm254°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **01** 07:24:05.6±0.1, 31.43S×71.69W, mb5.3/48, MS5.0/89, ML5.3(GUC) Error ellipse: s-maj=6.3km s-min=2.8km az=76.0*
NEIC Felt [III] at Cabildo, Canela, Illapel, La Ligua, Los Vilos, Papudo, Salamanca, San Felipe and Vina del Mar; [II] at Santiago.
ISC 01 07:24:04.2±0.2**, 31.44S**±0.02×**71.86W**±0.04**, h25**km±.3km**:pP-P, n288, σ1^{s}11**/145**, mb5.2**/54**, MS5.0**/101**, 19C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	Illapel	0.62	109	⇑iP	Pb	07 24 16.1	-0.2
ILCH				i S	Sb	07 24 23.4	-1.3
ILCH				AMP		07 24 24.6	
	comp=N,236µm,0.5s						
OVCH	Ovalle	1.00	34	⇑iP	Pb	07 24 23.4	+0.7
PTCH	Petorca	1.14	136	AMP		07 27 20.9	
	comp=N,193µm,0.3s						
PACH	Papudo	1.15	162	eP	Pn	07 24 24.6	-0.4
TLL	Tololo Astrono	1.56	36	⇓iP	Pn	07 24 32.5	+1.7
TLL				i S	Sn	07 24 52.9	+2.6
TLL				AMP		07 24 58.1	
	comp=N,60µm,0.5s						
IHA	Instituto Hidr	1.59	173	⇓iP	Pn	07 24 31.5	+0.3
JACH	Jahuel	1.64	139	eP	Pn	07 24 32.5	+0.6
LCCH	Las Cruces	2.04	173	⇑iP	Pn	07 24 38.0	+0.3
RCDM	Rinconada Maip	2.23	157	eP	Pn	07 24 41.1	+0.8
RCDM				i S	Sn	07 25 08.6	+1.3
RCDM				AMP		07 25 15.7	
	comp=N,35µm,0.5s						
CLCH	Cerro Calan	2.25	151	⇑iP	Pn	07 24 41.6	+1.0
CLCH				i S	Sn	07 25 09.1	+1.3
CLCH				AMP		07 25 13.4	
	comp=E,61µm,0.5s						
FCH	Farellones	2.30	145	⇑iP	Pn	07 24 42.7	+1.3
FCH				i S	Sn	07 25 11.3	+2.1
FCH				AMP		07 25 20.0	
	comp=N,22µm,0.4s						
TACH	Talagante	2.34	161	eP	Pn	07 24 42.8	+0.8
PCH	Pirque	2.45	153	eP	Pn	07 24 44.5	+0.9
LMEL	Las Melosas	2.78	150	eP	Pn	07 24 49.4	+1.2
CACH	El Canelo	2.87	159	⇓iP	Pn	07 24 51.3	+1.7
VACH	Vallenar	3.01	19	⇓iP	Pn	07 24 52.3	+0.8
VACH				i S	Sn	07 25 29.3	+2.1
SFDO	San Fernando	3.24	168	eP	Pn	07 24 55.1	+0.3
CPCH	Copiapo	4.27	18	eP	Pn	07 25 08.8	-0.7
CCHI	Chillan	5.15	182	eP	Pn	07 25 21.4	-0.5
CCHI				i S	Sn	07 26 19.3	-2.0
LVC	Limon Verde	9.18	17	Pn	P	07 26 13.7	-4.5
	comp=N,3.5nm,0.3s,baz=150,slow=9.8,SNR=33						
LVC	Limon Verde	9.18	17	ePn	P	07 26 13.0	-5.2
LVC				eS	Sn	07 28 17.0	+15
PLCA	Paso Flores	9.33	174	eP	P	07 26 18.5	-1.9
PLCA	Paso Flores	9.33	174	Pn	P	07 26 18.7	-1.7
	comp=N,4.0nm,0.3s,baz=335,slow=12,SNR=75						
PLCA				LR	LR	07 29 51.4	
	comp=N,9µm,18.7s,baz=348,slow=38						
TRQA	Tornquist	10.46	132	eP	P	07 26 33.0	-2.9
LPA	La Plata	12.17	110	ceP	P	07 26 55.0	-4.1
LPA				ePP	PP	07 27 03.0	-5.6
LPA				ePP	PP	07 27 35.0	+26
LPA				eS	S	07 29 07.0	-7.9
LPA				esS		07 29 18.0	
COYC	Coyhaique	14.11	181	i P	P	07 27 24.6	-0.1
ARE	Arequipa	14.91	1	eP	P	07 27 36.0	+0.6
ARE				i		07 27 43.8	
ARE				i		07 28 11.7	
ARE				i		07 31 19.0	
LPAZ	La Paz	15.46	14	⇑eP	P	07 27 43.0	+0.4
	comp=N,41nm,0.8s						
NNA	Nana	19.90	346	eP	P	07 28 39.0	+2.0
	comp=N,44nm,0.9s						
USHA	Ushuaia	23.51	175	P	P	07 29 14.2	+1.3
	comp=N,74nm,1.1s,mb5.0,baz=328,slow=6.0,SNR=14						
USHA				LR	LR	07 39 15.1	
	comp=N,6µm,18.3s,MS5.1,baz=340,slow=39						
SAML	Samuel	23.79	22	⇑eP	P	07 29 15.6	-0.5
	comp=N,19nm,0.6s,mb4.7						
SAML				LR	LR		
	comp=Z,5µm,21.0s,MS4.9						
BDFB	Brasilia	26.84	60	eP	P	07 29 42.6	-2.2
BDFB	Brasilia	26.84	60	P	P	07 29 42.6	-2.2
	comp=Z,65nm,1.0s,mb5.1,baz=239,slow=7.1,SNR=51						
BDFB				LR	LR	07 41 30.9	
	comp=Z,16µm,19.5s,MS5.6,baz=236,slow=39						
BAO	Brasilia Array	26.86	60	⇑iP	P	07 29 42.6	-2.4
BAO				i		07 29 54.7	
BAO				S	S	07 34 21.3	+3.1
BAO				S		07 34 43.3	
BAO				e		07 35 40.3	
CAM4	Nova Friburgo	27.58	78	⇑iP	P	07 29 49.4	-2.1
CAM4				i	pP	07 29 57.5	-1.2
CAM4				i		07 30 09.8	
CAM4				i		07 30 13.9	
CAM4				i		07 30 21.3	
RPN	Rapa Nui	32.87	268	LR	LR	07 40 17.3	
	comp=Z,2µm,20.9s,MS4.8,baz=88,slow=30						
PMSA	Palmer Station	33.71	174	PFAKE		07 31 00.0	+15
PMSA				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
PAYG	Puerto Ayora	35.22	327	P	P	07 31 00.7	+1.8
	comp=Z,98nm,1.4s,mb5.5						
PAYG				e	pP	07 31 08.3	+2.0
PAYG				LR	LR		
	comp=Z,2µm,19.0s,MS4.8						
SDV	Santo Domingo	40.11	2	PFAKE		07 31 50.0	+10
SDV				LR	LR		
	comp=Z,2µm,21.0s,MS4.8						
RCBR	Riachuelo	42.21	60	PFAKE		07 32 10.0	+13
RCBR				LR	LR		
	comp=Z,6µm,20.0s,MS5.5						
JTS	JuntasAbangare	43.35	341	i P	P	07 32 05.6	-0.8
JTS	JuntasAbangare	43.35	341	eP	P	07 32 07.4	+1.0
	comp=Z,17nm,0.9s,mb4.8						
JTS				LR	LR		
	comp=Z,320nm,20.0s,MS4.2						
SJG	San Juan	49.57	7	P	P	07 32 53.9	-1.5
	comp=Z,41nm,1.0s,mb5.4,baz=213,slow=3.1,SNR=8.3						
SJG	San Juan	49.57	7	eP	P	07 32 53.2	-2.3
	comp=Z,36nm,0.9s,mb5.4						
SJG				LR	LR		
	comp=Z,770nm,19.0s,MS4.7						
VNA3	Neumayer Olymp	51.67	159	e	P	07 33 15.8	+5.0
VNA3	Neumayer Olymp	51.67	159	⇑iP	P	07 33 07.4	-3.4
VNA3				e	pP	07 33 15.8	-2.6
VNA3				e		07 34 15.2	
VNA3				e		07 38 14.3	
VNA1	Neumayer--Stat	51.97	158	e	P	07 33 18.8	+5.7
VNA1	Neumayer--Stat	51.97	158	e	P	07 33 21.6	+8.5
VNA1	Neumayer--Stat	51.97	158	⇑iP	P	07 33 10.6	-2.5
VNA1				e	pP	07 33 18.8	-1.9
VNA1				e		07 33 21.6	
VNA1				e		07 34 17.9	
VNA2	Neumayer--Watz	52.31	158	e	P	07 33 22.3	+6.7
VNA2	Neumayer--Watz	52.31	158	e	P	07 33 24.8	+9.2
VNA2	Neumayer--Watz	52.31	158	⇑iP	P	07 33 14.8	-0.8
VNA2				e	pP	07 33 22.3	-1.0
VNA2				e		07 33 24.8	
VNA2				e		07 34 23.6	
VNA2				e		07 38 20.0	
TEIG	Tepich	53.73	341	eP	P	07 33 26.1	-0.7
	comp=Z,16nm,0.6s,mb5.1						
TEIG				LR	LR		
	comp=Z,330nm,19.0s,MS4.4						
SNAA	Sanae	53.90	159	e	P	07 33 33.4	+6.1
SNAA	Sanae	53.90	159	e	P	07 33 36.3	+9.0
SNAA	Sanae	53.90	159	c iP	P	07 33 26.2	-1.1
SNAA	Sanae	53.90	159	P	P	07 33 25.7	-1.6
	comp=Z,7.1nm,0.9s,mb4.6,baz=309,slow=5.9,SNR=15						
SNAA	Sanae	53.90	159	⇑iP	P	07 33 26.1	-1.2
SNAA				e	pP	07 33 33.4	-1.5
SNAA				e		07 33 36.3	
RKT	Rikitea	56.05	262	eS	S	07 41 28.3	-0.6
RKT				eSS	SS	07 45 02.2	-13
RKT				eLR	LR	07 50 01.4	
	comp=Z,1µm,26.8s,baz=124						
QSPA	South Pole Qui	58.79	180	eP	P	07 34 02.1	-0.1
	comp=Z,84nm,1.2s,mb5.7						
QSPA				e	pP	07 34 08.9	-1.1
QSPA				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
HKT	Hockley	65.17	337	eP	P	07 34 45.3	-0.3
	comp=Z,83nm,1.8s,mb5.5						
HKT				LR	LR		
	comp=Z,449nm,19.0s,MS4.7						
NATX	Nacogdoches	66.46	339	P	P	07 34 53.8	-0.1
	comp=Z,34nm,1.0s,mb5.3						
VNDA	Vanda	66.64	191	LR	LR	08 04 41.5	
	comp=Z,462nm,18.2s,MS4.7,baz=137,slow=37						
JCT	Junction City	67.05	334	eP	P	07 34 57.4	-0.2
	comp=Z,97nm,1.4s,mb5.6						
JCT				e	pP	07 35 05.3	-0.1
JCT				LR	LR		
	comp=Z,282nm,21.0s,MS4.5						
LTX	Lajitas	67.59	330	eP	P	07 35 01.2	+0.2
	comp=Z,57nm,1.6s,mb5.3						
LTX				e	pP	07 35 08.6	-0.2
TXAR	Lajitas Array	67.59	330	P	P	07 35 00.9	-0.2
	comp=Z,2.7nm,0.6s,mb4.5,baz=151,slow=8.4,SNR=44						
TXAR				LR	LR	08 00 16.6	
	comp=Z,893nm,18.5s,MS5.0,baz=180,slow=32						
TXAR				PKPPKP		08 03 22.9	
	comp=Z,0.3nm,0.8s,baz=304,slow=4.5,SNR=3.7						
OXF	Oxford	67.65	344	eP	P	07 35 00.1	-1.2
	comp=Z,53nm,0.6s,mb5.7						
OXF				LR	LR		
	comp=Z,404nm,20.0s,MS4.6						
TBI	Tubuai	68.09	255	eS	S	07 43 59.5	-1.4
TBI				eLR	LR	07 55 36.8	
	comp=Z,2µm,26.2s,baz=110						
SYO	Syowa Base	68.19	159	⇓P	P	07 35 02.4	-1.7
SYO	Syowa Base	68.19	159	⇑pP	pP	07 35 09.5	-2.4
MIAR	Mount Ida	68.75	341	PFAKE		07 35 20.0	+12
MIAR				LR	LR		
	comp=Z,744nm,21.0s,MS4.9						
ELN	Prospectdale	68.82	352	P	P	07 35 08.3	-0.3
WVT	Waverly	68.86	346	eP	P	07 35 07.4	-1.5
	comp=Z,27nm,0.8s,mb5.2						
UTMT	University of	69.29	345	eP	P	07 35 06.3	-5.2
	comp=Z,88nm,0.8s,mb5.7						
CBN	Corbin	69.48	355	PFAKE		07 35 20.0	+7.4
CBN				LR	LR		
	comp=Z,996nm,22.0s,MS5.0						
MNTX	Cornudas Mount	70.37	330	eP	P	07 35 16.7	-1.5
	comp=Z,9.3nm,0.8s,mb4.8						
MNTX				epP	pP	07 35 24.5	-1.4
MNTX				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
WMOK	Wichita Mounta	70.54	337	PFAKE		07 35 30.0	+11
WMOK				LR	LR		
	comp=Z,601nm,19.0s,MS4.9						
USIN	University of	70.61	347	eP	P	07 35 18.1	-1.4
	comp=Z,43nm,0.8s,mb5.4						
WCI	Wyandotte Cave	70.61	348	eP	P	07 35 17.6	-1.8
	comp=Z,16nm,0.8s,mb5.0						
WCI				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
SDMD	Soldier's Deli	70.64	356	eP	P	07 35 17.8	-1.9
PPT	Papeete	70.78	261	eS	S	07 44 30.8	-1.9
PPT				eSS	SS	07 48 51.0	-16
PPT				eLR	LR	07 56 51.8	
	comp=Z,859nm,24.2s,baz=112						
FVM	French Village	71.21	345	eP	P	07 35 21.7	-1.4
	comp=Z,21nm,0.6s,mb5.2						
CCM	Cathedral Cave	71.47	344	eP	P	07 35 23.7	-1.0
	comp=Z,24nm,0.7s,mb5.2						
CCM				e	pP	07 35 31.4	-1.0
CCM				LR	LR		
	comp=Z,535nm,22.0s,MS4.8						
BLO	Bloomington	71.56	348	eP	P	07 35 23.6	-1.7
BLO	Bloomington	71.56	348	P	P	07 35 23.6	-1.7
	comp=Z,17nm,0.6s,mb5.1						
AMTX	Amarillo	71.69	334	eP	P	07 35 25.6	-0.5
	comp=Z,29nm,1.3s,mb5.0						
AMTX				e	pP	07 35 33.2	-0.7
ACSO	Alum Creek Sta	72.05	351	eP	P	07 35 26.5	-1.6
	comp=Z,62nm,0.9s,mb5.5						
ACSO				LR	LR		
	comp=Z,1µm,22.0s,MS5.1						
TUC	Tucson	73.32	326	eP	P	07 35 35.5	-0.2
	comp=Z,28nm,1.7s,mb4.9						
TUC				e	pP	07 35 43.8	+0.2
TUC				LR	LR		
	comp=Z,526nm,19.0s,MS4.8						
WES	Weston	73.46	0	PFAKE		07 35 50.0	+14
WES				LR	LR		
	comp=Z,2µm,22.0s,MS5.3						
ERPA	Erie	73.58	354	eP	P	07 35 35.7	-1.4
	comp=Z,36nm,0.8s,mb5.4						
ERPA				LR	LR		
	comp=Z,601nm,19.0s,MS4.9						
ANMO	Albuquerque	73.62	331	i P	P	07 35 38.3	+0.8
ANMO	Albuquerque	73.62	331	PFAKE		07 35 50.0	+13
ANMO				LR	LR		
	comp=Z,991nm,20.0s,MS5.1						
GENY	Geneseo	74.05	355	eP	P	07 35 38.8	-0.9
AAM	Ann Arbor	74.18	351	PFAKE		07 35 50.0	+9.5
AAM				LR	LR		
	comp=Z,724nm,21.0s,MS4.9						
DBIC	Dimbokro	74.22	72	eP	P	07 35 40.2	-1.1
DBIC	Dimbokro	74.22	72	P	P	07 35 40.1	-1.2
	comp=Z,37nm,0.7s,mb5.4,baz=214,slow=6.3,SNR=86						
DBIC				LR	LR	08 05 07.2	
	comp=Z,1µm,21.2s,MS5.2,baz=207,slow=33						
FFD	Franklin Falls	74.55	0	P	P	07 35 42.7	+0.1
	comp=Z,48nm,0.7s,mb5.5						
CBKS	Cedar Bluff	74.56	338	eP	P	07 35 42.9	+0.1
	comp=Z,25nm,0.8s,mb5.2						
CBKS				LR	LR		
	comp=Z,393nm,20.0s,MS4.7						
NCB	Newcomb	75.08	358	eP	P	07 35 45.0	-0.6
	comp=Z,38nm,1.3s,mb5.2						
NCB				LR	LR		
	comp=Z,869nm,20.0s,MS5.0						
MAW	Mawson	75.59	164	P	P	07 35 45.4	-2.7
	comp=Z,71nm,1.2s,mb5.5,baz=251,slow=6.1,SNR=11						
MAW				LR	LR	08 12 12.2	
	comp=Z,1µm,19.1s,MS5.3,baz=224,slow=38						
MAW	Mawson	75.59	164	eP	P	07 35 44.1	-4.0
	comp=Z,20nm,0.7s,mb5.2						
SDCO	Great Sand Dun	75.66	333	eP	P	07 35 49.7	+0.5
	comp=Z,9.6nm,0.8s,mb4.8						
SDCO				epP	pP	07 35 57.1	+0.2
SDCO				LR	LR		
	comp=Z,823nm,20.0s,MS5.0						
WVL	Waterville	75.67	2	PFAKE		07 36 00.0	+11
WVL				LR	LR		
	comp=Z,7µm,20.0s,MS6.0						
EMMW	East Machias	75.89	3	PFAKE		07 36 00.0	+10
EMMW				LR	LR		
	comp=Z,4µm,20.0s,MS5.7						
JFWS	Jewell Farm	75.89	346	PFAKE		07 36 00.0	+10
JFWS				LR	LR		
	comp=Z,1µm,19.0s,MS5.2						
SUR	Sutherland	75.94	119	P	P	07 35 50.6	-0.3
	comp=Z,23nm,0.9s,mb5.1,baz=269,slow=4.4,SNR=10						
SUR	Sutherland	75.94	119	P	P	07 35 50.6	-0.3
SUR				LR	LR		
	comp=Z,298nm,20.0s,MS4.6						
MSNY	Massena	76.12	358	eP	P	07 35 51.6	0.0
WUAZ	Wupatki	76.25	328	eP	P	07 35 53.7	+1.2
	comp=Z,1µm,1.6s						
WUAZ				LR	LR		
	comp=Z,11µm,20.0s						
PV01	Paradox Valley	77.22	331	eP	P	07 35 59.1	+1.3
PV01				e	pP	07 36 06.6	+0.8
ISCO	Idaho Springs	77.49	334	eP	P	07 36 00.3	+0.9

comp=Z,11nm,1.4s,mb4.6
ISCO e pP 07 36 08.0 +0.8
ISCO LR LR
comp=Z,593nm,21.0s,MS4.9
RAR Rarotonga 77.54 253 LR LR 08 00 39.5
comp=Z,790nm,19.2s,MS5.0,baz=55,slow=28
PV10 Paradox Valley 77.62 331 eP **P 07 36 00.9 +0.8**
PV10 e pP 07 36 08.0 0.0
PQI Presque Isle 77.82 3 PFAKE 07 36 10.0 +9.0
PQI LR LR
comp=Z,4μm,19.0s,MS5.8
MWC Mount Wilson 78.48 322 eP **P 07 36 05.9 +1.0**
PHWY Pilot Hill 78.75 335 eP **P 07 36 06.6 +0.4**
SRU San Rafael 78.86 330 eP **P 07 36 07.7 +0.8**
ARUT Antelope Range 79.06 328 eP **P 07 36 09.7 +1.8**
ARUT epP pP 07 36 17.7 +1.9
MSU Marysvale 79.08 329 eP **P 07 36 09.3 +1.2**
MSU e pP 07 36 16.9 +0.9
MVU Marysvale 79.09 329 eP **P 07 36 08.5 +0.3**
comp=Z,31nm,1.4s,mb5.0
MVU e pP 07 36 17.2 +1.2
MVU LR LR
comp=Z,858nm,20.0s,MS5.1
TSUM Tsumeb 79.77 106 eP **P 07 36 11.8 -0.3**
comp=Z,16nm,0.9s,mb4.9
TSUM LR LR
comp=Z,1μm,20.0s,MS5.2
DAC Darwin (Calif) 79.85 324 eP **P 07 36 13.3 +1.1**
comp=Z,43nm,1.5s,mb5.2
DAC LR LR
comp=Z,632nm,21.0s,MS4.9
NLU North Lily Min 80.23 330 eP **P 07 36 15.2 +0.9**
NLU e pP 07 36 22.8 +0.6
DAU Daniels Canyon 80.26 331 eP **P 07 36 15.2 +0.9**
JLU Jordanelle 80.50 331 eP **P 07 36 16.1 +0.4**
DUG Dugway 80.75 329 eP **P 07 36 17.0 0.0**
comp=Z,1μm,1.7s
DUG epP pP 07 36 24.6 -0.3
DUG LR LR
comp=Z,12μm,19.0s
TPH Tonopah 81.07 325 eP **P 07 36 19.7 +1.0**
comp=Z,84nm,1.6s,mb5.4
TPH LR LR
comp=Z,474nm,19.0s,MS4.9
BOSA Boshof 81.13 118 eP **P 07 36 18.2 -1.0**
comp=Z,30nm,1.0s,mb5.2
BOSA LR LR
comp=Z,935nm,19.0s,MS5.2
MTUM Tungsten Hills 81.17 324 eP **P 07 36 20.0 +0.7**
HWUT Hardware Ranch 81.39 331 eP **P 07 36 20.7 +0.4**
comp=Z,160nm,1.9s,mb5.6
HWUT LR LR
comp=Z,1μm,19.0s,MS5.2
BGU Big Grassy Mou 81.44 330 eP **P 07 36 20.2 -0.4**
SPUT South Promonto 81.51 330 eP **P 07 36 21.2 +0.3**
SPUT epP pP 07 36 28.6 -0.3
BW06 Boulder Array 81.56 333 PFAKE 07 36 30.0 +8.9
BW06 LR LR
comp=Z,717nm,19.0s,MS5.0
PDAR Pinedale Array 81.56 333 P **P 07 36 20.4 -0.7**
comp=Z,1.3nm,0.7s,baz=135,slow=6.7,SNR=9.2
PDAR LR LR 08 09 26.4
comp=Z,451nm,18.3s,MS4.9,baz=139,slow=33
OMM Old Mammoth Mi 81.59 324 eP **P 07 36 22.7 +1.3**
MNV Mina 81.81 325 eP **P 07 36 23.2 +0.7**
comp=Z,76nm,1.9s,mb5.3
MNV LR LR
comp=Z,294nm,20.0s,MS4.6
NVAR Mina Array Bea 81.88 325 P **P 07 36 23.5 +0.6**
comp=Z,3.1nm,0.8s,mb4.3,baz=146,slow=5.3,SNR=20
AHID Auburn Hatcher 82.16 332 eP **P 07 36 24.1 -0.2**
comp=Z,5.5nm,0.4s,mb4.8
AHID LR LR
comp=Z,716nm,19.0s,MS5.0
ELK Elko 82.27 328 LR LR 08 08 04.3
comp=Z,454nm,19.0s,MS4.9,baz=143,slow=32
ELK Elko 82.27 328 eP **P 07 36 25.6 +0.8**
comp=Z,12nm,1.6s,mb4.6
ELK LR LR
comp=Z,940nm,21.0s,MS5.1
CASY Casey 82.58 181 PFAKE 07 36 40.0 +14
CASY LR LR
comp=Z,862nm,19.0s,MS5.1
CMB Columbia Colle 82.62 323 PFAKE 07 36 40.0 +13
CMB LR LR
comp=Z,339nm,22.0s,MS4.7
BMN Battle Mountai 82.93 327 PFAKE 07 36 40.0 +12
BMN LR LR
comp=Z,769nm,19.0s,MS5.1
LBTB Lobatse 83.24 115 eP **P 07 36 29.1 -1.1**
comp=Z,19nm,0.9s,mb5.1
LBTB epP pP 07 36 37.0 -1.2
LBTB LR LR
comp=Z,2μm,19.0s,MS5.5
LKWY Lake 83.40 333 PFAKE 07 36 40.0 +9.4
LKWY LR LR
comp=Z,833nm,19.0s,MS5.1
YMR Madison River 83.71 333 eP **P 07 36 32.6 +0.5**
QLMT Earthquake Lak 84.02 333 eP **P 07 36 35.4 +1.6**
ULM Lac du Bonnet 84.07 345 P **P 07 36 33.5 -0.3**
comp=Z,11nm,0.9s,mb5.0,baz=148,slow=2.5,SNR=16
ULM Lac du Bonnet 84.07 345 eP **P 07 36 32.6 -1.2**
comp=Z,9.5nm,0.9s,mb4.9
ULM LR LR
comp=Z,1μm,22.0s,MS5.2
HLID Hailey 84.19 330 eP **P 07 36 35.3 +0.7**
comp=Z,57nm,1.8s,mb5.4
HLID LR LR
comp=Z,527nm,19.0s,MS4.9
MCMT McKenzie Canyo 84.58 332 eP **P 07 36 37.3 +0.8**
MCMT epP pP 07 36 46.6 +2.1
DGMT Dagmar 84.65 339 eP **P 07 36 37.1 +0.3**
comp=Z,25nm,0.7s,mb5.5
DGMT epP pP 07 36 44.9 +0.1
DGMT LR LR
comp=Z,1μm,20.0s,MS5.2
BOZ Bozeman (W) 84.78 333 PFAKE 07 36 50.0 +12
BOZ LR LR
comp=Z,692nm,19.0s,MS5.1
WVOR Wild Horse Val 85.16 327 PFAKE 07 36 50.0 +11
WVOR LR LR
comp=Z,882nm,20.0s,MS5.2
URZ Urewera 85.49 227 LR LR 08 05 49.7
comp=Z,729nm,18.1s,MS5.1,baz=172,slow=29
MOD Modoc 85.53 326 PFAKE 07 36 50.0 +8.6
MOD LR LR
comp=Z,507nm,20.0s,MS4.9
SCHQ Schefferville 86.03 3 P **P 07 36 43.1 -0.4**
comp=Z,14nm,0.9s,mb5.2,baz=163,slow=3.9,SNR=17
SCHQ Schefferville 86.03 3 eP **P 07 36 42.7 -0.8**
comp=Z,29nm,1.1s,mb5.4
SCHQ epP pP 07 36 50.6 -0.9
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.3
BMO Blue Mountains 86.46 329 eP **P 07 36 46.5 +0.5**
comp=Z,26nm,1.4s,mb5.3
BMO LR LR
comp=Z,800nm,20.0s,MS5.1
CHMT Chamberlain Mo 86.46 333 eP **P 07 36 45.8 -0.1**
MSO Missoula 86.66 333 PFAKE 07 37 00.0 +13
MSO LR LR
comp=Z,685nm,19.0s,MS5.1
RAO Raoul Island 87.38 237 PFAKE 07 37 00.0 +9.2
RAO LR LR
comp=Z,900nm,22.0s,MS5.1
NEW Newport 89.09 332 LR LR 08 16 21.8
comp=Z,22nm,19.5s,baz=144,slow=35
NEW Newport 89.09 332 PFAKE 07 37 10.0 +12
NEW LR LR
comp=Z,722nm,19.0s,MS5.1
LSZ Lusaka 90.46 108 eP **P 07 37 05.8 +0.2**
comp=Z,16nm,1.0s,mb5.3
LSZ LR LR
comp=Z,856nm,20.0s,MS5.2
EDM Edmonton 91.70 337 eP **P 07 37 08.8 -1.6**
FCC Fort Churchill 91.76 349 eP **P 07 37 09.3 -1.3**
comp=Z,13nm,1.0s,mb5.2
FCC epP pP 07 37 17.7 -0.9
ESLA Sonseca Array 94.69 46 PFAKE 07 37 40.0 +15
ESLA LR LR
comp=Z,8μm,20.0s
TAU Tasmania Unive 97.74 208 PFAKE 07 37 50.0 +12
TAU LR LR
comp=Z,190nm,19.0s,MS4.6
YKA Yellowknife Ar 99.69 341 eP **P 07 37 45.7 -0.9**
YKA Yellowknife Ar 99.69 341 P **P 07 37 45.6 -1.0**

comp=Z,0.7nm,0.6s,mb4.3,baz=144,slow=4.6,SNR=30
MBAR Mbarara 100.42 97 PFAKE 07 38 00.0 +8.8
MBAR LR LR
comp=Z,192nm,20.0s,MS4.6
ESK Eskdalemuir 104.36 33 PFAKE 07 38 20.0 +12
ESK LR LR
comp=Z,255nm,19.0s,MS4.8
KMBO Kilima Mbogo 105.64 101 PFAKE 07 42 40.0
KMBO LR LR
comp=Z,766nm,21.0s,MS5.2
DIV Divide 109.81 330 PFAKE 07 42 50.0
DIV LR LR
comp=Z,2μm,20.0s,MS5.6
GERES GERESS Array B 110.24 45 ePKIKP PKPdf 07 42 34.2 -4.0
GERES GERESS Array B 110.24 45 PKiKP 07 42 34.2
comp=Z,0.4nm,0.6s,baz=207,slow=2.2,SNR=7.0
FIB Fire Island 111.72 329 PFAKE 07 42 50.0 +9.3
FIB LR LR
comp=Z,2μm,21.0s,MS5.6
ILAR Eielson Array 111.98 333 ePKIKP PKPdf 07 42 37.9 -3.2
ILAR Eielson Array 111.98 333 PKiKP 07 42 37.9
comp=Z,0.6nm,0.6s,baz=180,slow=1.5,SNR=5.7
ILAR PKKPbc 07 53 28.5
comp=Z,0.2nm,0.5s,baz=317,slow=4.1,SNR=6.6
MCK McKinley 112.32 332 PFAKE 07 42 50.0 +8.2
MCK LR LR
comp=Z,304nm,20.0s,MS4.9
COLA College 112.40 333 PFAKE 07 42 50.0 +8.0
COLA LR LR
comp=Z,335nm,19.0s,MS5.0
HNR Honiara 115.91 240 PFAKE 07 43 00.0 +10
HNR LR LR
comp=Z,387nm,21.0s,MS5.0
CTAO Charters Tower 117.06 221 PFAKE 07 43 00.0 +7.8
CTAO LR LR
comp=Z,404nm,19.0s,MS5.1
ASAR Alice Springs 119.91 207 PKP PKPdf 07 42 53.0 -4.6
comp=Z,0.7nm,0.7s,baz=116,slow=1.8,SNR=6.9
ASAR PKKPbc 07 53 02.3
comp=Z,0.6nm,0.6s,baz=335,slow=3.1,SNR=7.0
AKASG Malin Array Be 120.33 46 ePKIKP PKPdf 07 42 52.6 -5.2
AKASG Malin Array Be 120.33 46 PKP PKPdf 07 42 52.6 -5.2
comp=Z,4.8nm,0.7s,baz=266,slow=2.8,SNR=22
VSU Vasula 120.58 37 *i* PKIKP PKPdf 07 42 51.8 -6.3
TNA Tin City 120.64 331 PFAKE 07 43 10.0 +12
TNA LR LR
comp=Z,319nm,19.0s,MS5.0
FINES FINESS Array B 120.79 34 *i* PKIKP PKPdf 07 42 54.6 -3.9
FINES pmax pmax
comp=Z,4.0nm,1.0s
FINES FINESS Array B 120.79 34 PKP PKPdf 07 42 53.8 -4.7
comp=Z,3.6nm,1.0s,baz=135,slow=2.0,SNR=7.0
KAF Kangasniemi 121.01 33 *e*p PKPdf 07 42 53.6 -5.3
comp=Z,5.0nm,0.5s
KAF Kangasniemi 121.01 33 ePKIKP PKPdf 07 42 53.6 -5.3
KAF pmax pmax
comp=Z,5.0nm,0.5s
ARCES ARCESS Array B 121.63 24 PKP PKPdf 07 42 55.3 -4.6
comp=Z,1.2nm,0.6s,baz=288,slow=3.8,SNR=9.0
WRA Warramunga Arr 123.06 210 PKP PKPdf 07 42 59.2 -4.6
comp=Z,1.7nm,0.6s,baz=149,slow=1.7,SNR=11
WRAB Tennant Creek 123.07 210 PFAKE 07 43 10.0 +6.2
WRAB LR LR
comp=Z,206nm,20.0s,MS4.8
JOF Joensuu 123.41 32 *e*p PKPdf 07 42 53.2 -10
comp=Z,8.4nm,0.8s
JOF Joensuu 123.41 32 ePKIKP PKPdf 07 42 53.2 -10
JOF pmax pmax
comp=Z,8.0nm,0.8s
MALT Malatya 123.61 62 ePKP PKPdf 07 43 00.4 -4.1
MALT epPKP 07 43 08.4
PMG Port Moresby 124.82 229 PFAKE 07 43 20.0 +13
PMG LR LR
comp=Z,791nm,22.0s,MS5.3
OBN Obninsk 125.45 42 *i* PKIKP PKPdf 07 43 03.0 -4.5
OBN *i* 07 43 11.6
OBN *e* 07 45 01.0
OBN ePPP PPP 07 47 42.2 +3.1
OBN PS PS 07 54 46.0 -9.1
OBN SS SS 08 02 09.0 +17
OBN *e* 08 06 27.0
OBN pmax pmax
comp=Z,22nm,1.0s
OBN MLR MLR
comp=Z,900nm,19.0s,MS5.5
OBN Obninsk 125.45 42 PFAKE 07 43 20.0 +12
OBN LR LR
comp=Z,214nm,21.0s,MS4.8
SOC Sochi 125.80 56 *i* PKIKP PKPdf 07 43 03.7 -4.8
SOC *e* 07 44 53.4
SOC *e* 07 50 05.3
SOC ePS PS 07 54 55.9 -2.6
SOC eSSS SSS 08 06 28.8 -9.3
SOC pmax pmax
comp=Z,53nm,1.2s
SOC pmax pmax
comp=N,10.0nm,0.6s
SOC pmax pmax
comp=E,22nm,1.0s
SOC MLR MLR
comp=N,186nm,20.0s,MS5.0
SOC MLR MLR
comp=Z,406nm,20.0s,MS5.1
SOC MLR MLR
comp=E,232nm,21.0s,MS5.0
MBWA Marble Bar 126.53 193 PFAKE 07 43 20.0 +10
MBWA LR LR
comp=Z,459nm,19.0s,MS5.2
KIV Kislovodsk 127.98 56 *i* PKIKP PKPdf 07 43 05.5 -7.3
KIV Kislovodsk 127.98 56 PFAKE 07 43 20.0 +7.2
KIV LR LR
comp=Z,84nm,20.0s,MS4.4
DGAR Diego Garcia 128.46 132 PFAKE 07 43 20.0 +5.5
DGAR LR LR
comp=Z,83nm,20.0s,MS4.4
GNI Garni 128.81 62 PFAKE 07 43 20.0 +5.6
GNI LR LR
comp=Z,418nm,20.0s,MS5.1
BILL Bilibino 130.59 335 *i* PKIKP PKPdf 07 43 14.1 -3.0
BILL *e* 07 45 34.9
BILL pmax pmax
comp=Z,19nm,1.2s
BILL MLR MLR
comp=Z,300nm,20.0s,MS5.0
BILL Bilibino 130.59 335 ePKP PKPdf 07 43 13.9 -3.2
BILL epPKP 07 43 21.6
BILL LR LR
comp=Z,343nm,19.0s,MS5.1
COCO West Island 135.28 164 PFAKE 07 43 40.0 +13
COCO LR LR
comp=Z,225nm,21.0s,MS4.9
SEY Seymchan 137.88 332 ePKIKP PKPdf 07 43 29.8 -0.9
SEY *e* 07 50 27.3
SEY *e* 08 04 26.8
SEY pmax pmax
comp=Z,50nm,1.0s
TIXI Tiksi 138.21 350 *i* PKIKP PKPdf 07 43 27.4 -3.7
TIXI MLR MLR
comp=Z,300nm,25.0s,MS4.9
TIXI Tiksi 138.21 350 PFAKE 07 43 40.0 +8.9
TIXI LR LR
comp=Z,292nm,22.0s,MS5.0
MA2 Magadan 140.07 328 ePKIKP PKPdf 07 43 31.2 -3.6
MA2 *e* 07 46 29.7
MA2 Magadan 140.07 328 PFAKE 07 43 40.0 +5.2
MA2 LR LR
comp=Z,262nm,19.0s,MS5.0
GUMO Guam 141.94 251 PFAKE 07 43 50.0 +11
GUMO LR LR
comp=Z,1μm,22.0s,MS5.6
CHKZ Chkalovo 145.13 39 PKIKP PKPdf 07 43 40.4 -3.3
CHKZ pmax pmax
comp=Z,116nm,1.4s
BVA0 Borovoye Array 145.27 40 *i* PKIKP PKPdf 07 43 40.9 -3.0
BVA0 pmax pmax
comp=Z,12nm,1.2s
BVAR Borovoye Array 145.27 40 PKPbc PKPbc 07 43 40.9 +1.1
comp=Z,40nm,0.6s,baz=309,slow=3.2,SNR=163
KAD Karad 146.17 107 ⇑ *i* PKPbc 07 43 43.0 0.0
YAK Yakutsk 146.37 342 *i* PKP2 PKPab 07 43 42.1 -3.0
YAK MLR MLR
comp=Z,200nm,21.0s,MS4.9
YAK Yakutsk 146.37 342 ePKPbc PKPbc 07 43 43.1 +1.0
YAK LR LR
comp=Z,274nm,20.0s,MS5.0

POO Poona 146.51 104 eP PKPbc 07 43 43.9 +0.2
POO *e* 07 43 55.0
comp=Z,76nm,1.6s
JASL Jaisalmer 147.28 88 eP PKPdf 07 43 44.9 -3.2
JASL *e* 07 43 45.2
comp=Z,101nm,0.2s
YSS Yuzh-Sakhalins 149.32 310 ePKHKP 07 43 50.0
YSS pmax pmax
comp=Z,30nm,0.9s
YSS Yuzh-Sakhalins 149.32 310 ePKPbc PKPdf 07 43 51.7 +0.9
YSS LR LR
comp=Z,377nm,20.0s,MS5.2
HYB Hyderabad 149.77 111 eP PKPdf 07 43 53.5 +1.1
HYB *e* 07 44 01.0
HYB *e* 07 45 00.0
HYB Hyderabad 149.77 111 *i* PKP PKPdf 07 43 53.5 +1.1
comp=Z,54nm,0.8s
HYB *es*PKP 07 44 01.0
HYB *e* 07 45 00.0
AJM Ajmer 150.34 91 eP PKPdf 07 43 50.9 -2.2
AJM *e* 07 52 33.6
comp=E,427nm,17.5s
AJM *e* 07 52 34.4
comp=N,351nm,19.1s
EKS2 Erkin-Say 150.56 58 P PKPdf 07 43 55.8 +2.9
SNR=18
AML Almayashu 150.60 59 P PKPdf 07 43 55.8 +2.9
SNR=15
NVS Novosibirsk 150.67 30 ⇑ *i* PKIKP PKPdf 07 43 54.5 +1.9
NVS pmax pmax
comp=E,44nm,1.3s
NVS pmax pmax
comp=Z,150nm,1.3s
KURK Kurchatov 150.87 40 *i* PKIKP PKPdf 07 43 51.3 -1.8
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 150.87 40 ePKPdf PKPdf 07 43 49.6 -3.5
KURK ePKPbc PKPdf 07 43 55.5 +2.5
KURK LR LR
comp=Z,168nm,20.0s,MS4.8
USP Ospenovka 150.96 56 P PKPdf 07 43 56.4 +2.9
SNR=19
AAK Ala-Archa 151.09 58 P PKPdf 07 43 57.2 +3.5
SNR=20
AAK Ala-Archa 151.09 58 *i* PKIKP PKPdf 07 43 50.7 -3.0
AAK Ala-Archa 151.09 58 ePKPdf PKPdf 07 43 50.1 -3.5
AAK ePKPbc PKPdf 07 43 56.0 +2.3
AAK LR LR
comp=Z,158nm,21.0s,MS4.8
FRU Bishkek 151.13 57 ⇑ *i* PKIKP PKPdf 07 43 57.0 +3.3
FRU *i* 07 44 04.5
FRU pmax pmax
comp=Z,130nm,2.1s
UCH Uchtor 151.18 59 P PKPdf 07 43 52.4 -1.4
SNR=6.2
CHMS Chumysh 151.20 57 P PKPdf 07 43 57.0 +3.2
SNR=7.9
BHPL Bhopal 151.59 99 eP PKPdf 07 43 51.9 -3.1
BHPL *e* 07 43 59.1
comp=Z,25nm,0.8s
KHET Khetri 151.78 88 *e* PKPdf 07 43 43.9 -11
KHET *i* pP 07 43 57.6
KHET *e* 07 44 07.8
comp=Z,33nm,1.2s
ZAL Zalesovo 151.96 30 PKP PKPdf 07 43 51.3 -3.3
comp=Z,2.7nm,0.6s,baz=248,slow=1.6,SNR=12
ZAL PKPbc PKPdf 07 43 57.8 +3.2
comp=Z,89nm,0.5s,baz=171,slow=2.4,SNR=144
CLNS Chul'man 152.06 340 ePKIKP PKPdf 07 43 56.0 +1.4
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=E,4.0nm,0.7s
CLNS pmax pmax
comp=Z,37nm,0.7s
KUDL Kundal 152.38 89 eP PKPdf 07 43 52.4 -3.6
KUDL *i* pP 07 43 59.7
KUDL *e* 07 44 01.3
comp=Z,42nm,1.0s
ULHL Ulahol 152.43 58 P PKPdf 07 44 00.2 +4.5
SNR=9.6
RTK Rohtak 152.53 87 *e* PKPdf 07 43 40.4 -16
RTK *e* 07 44 00.7
comp=Z,27nm,1.3s
AYAN Aya Nagar 153.01 88 eP PKPdf 07 43 53.2 -3.6
AYAN *i* pP 07 44 00.8
AYAN *e* 07 44 02.4
comp=Z,5.5nm,1.0s
KULM Kulim 153.05 163 ePKPbc PKPdf 07 44 00.6 +3.2
NDI New Delhi 153.13 88 *e* PKPdf 07 44 00.5 +3.5
BOD Bodaibo 153.32 353 ePKIKP PKPdf 07 43 51.9 -4.5
BOD *e* 07 44 00.0
AGRA Agra 153.38 91 *i* P PKPdf 07 43 53.3 -4.2
AGRA *e* 07 43 59.0
AGRA *i* pP 07 44 01.1
AGRA *e* 07 44 02.2
comp=Z,13nm,0.8s
VIS Vishakhapatnam 153.70 115 *e* PKPdf 07 44 02.8 +4.7
KLP Kalpa 154.54 82 eP PKPdf 07 43 55.2 -3.7
KLP *e* 07 44 10.4
comp=Z,12nm,0.8s
MAJO Matsushiro 154.62 290 PFAKE 07 44 10.0 +11
MAJO LR LR
comp=Z,268nm,21.0s,MS5.0
MAT Matsushiro 154.62 290 PKP2 PKPab 07 44 19.9 0.0
KLR Kul'dur 154.88 322 ePKIKP PKPdf 07 43 52.0 -6.7
MKAR Makanchi Array 154.91 45 *i* PKIKP PKPdf 07 43 55.2 -3.7
MKAR pmax pmax
comp=Z,5.0nm,0.6s
JOSI Joshimath 155.51 85 *i* P PKPdf 07 43 57.9 -2.3
MDJ Mudanjiang 158.67 314 PKP PKPdf 07 44 01.7 -2.2
MDJ Mudanjiang 158.67 314 PFAKE 07 44 10.0 +6.1
MDJ LR LR
comp=Z,307nm,20.0s,MS5.1
MOY Mondy 159.11 13 ePKIKP PKPdf 07 44 09.5 +5.4
TLY Talaya 159.50 8 ePKIKP PKPdf 07 44 01.8 -2.8
TLY *e* 07 44 40.0
TLY pmax pmax
comp=Z,18nm,1.8s
WMQ Urumqi 159.69 47 PKP PKPdf 07 44 02.0 -3.0
WMQ APKP 07 44 12.0
WMQ XPKP 07 44 16.0
WMQ PKS PKS 07 47 34.0 +1.2
WMQ PP PP 07 48 24.5 +0.7
WMQ PPP PPP 07 52 07.0 -0.1
WMQ SS SS 08 08 28.0 +0.8
WMQ PP PP
comp=Z,116nm,11.8s
WMQ LR LR
comp=N,566nm,21.2s,MS5.5
WMQ LR LR
comp=E,586nm,24.0s,MS5.5
WMQ LR LR
comp=Z,458nm,22.6s,MS5.3
HIA Hailar 160.16 337 PFAKE 07 44 10.0 +4.6
HIA LR LR
comp=Z,304nm,20.0s
ZAK Zakamensk 160.73 9 ePKIKP PKPdf 07 44 02.7 -3.2
ZAK *e* 07 44 45.1
ZAK pmax pmax
comp=Z,4.0nm,1.5s
CN2 Changchun 161.60 317 ePKP PKPdf 07 44 00.1 -6.9
CN2 APKP 07 44 11.4
CN2 XPKP 07 44 14.5
CN2 PP PP
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,300nm,10.0s
CN2 LR LR
comp=E,200nm,10.0s
CN2 LR LR
comp=Z,300nm,21.0s
SONM Songino Array 163.57 4 PKP PKPdf 07 44 05.9 -2.9
comp=Z,1.8nm,0.8s,baz=253,slow=0.7,SNR=11
SONM PKPab PKPab 07 44 57.4 -0.8
comp=Z,4.0nm,0.9s,baz=332,slow=2.7,SNR=8.1
ULN Ulaanbaatar 163.57 3 *i* PKP2 PKPab 07 44 58.7 +0.5
ULN Ulaanbaatar 163.57 3 ePKPdf PKPdf 07 44 05.3 -3.5
ULN ePKPab PKPab 07 44 58.2 0.0
ULN LR LR
comp=Z,389nm,21.0s
INCN Inchon 163.61 297 PFAKE 07 44 20.0 +11
INCN LR LR
comp=Z,323nm,20.0s
CM31 Chiang Mai Arr 164.63 145 PFAKE 07 44 20.0 +9.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31				LR	LR		
	comp=Z,469nm,20.0s						
CMAR	**Chiang Mai Arr**	**164.63**	**145**	PKP	PKPdf	07 44 08.1	-2.6
	comp=Z,1.7nm,0.9s,baz=218,slow=2.7,SNR=7.8						
CMAR				PKPab	PKPab	07 45 01.9	-1.8
	comp=Z,5.7nm,1.2s,baz=224,slow=4.9,SNR=5.8						
LSA	**Lhasa**	**165.25**	**92**	PFAKE		07 44 20.0	+8.9
LSA				LR	LR		
	comp=Z,430nm,20.0s						
QIZ	**Qiongzhong**	**167.55**	**187**	PFAKE		07 44 20.0	+7.0
QIZ				LR	LR		
	comp=Z,364nm,21.0s						
BJI	**Beijing**	**169.22**	**325**	PKP	PKPdf	07 44 09.0	-4.4
BJI	**Beijing**	**169.22**	**325**	PKP	PKPdf	07 44 09.4	-4.0
BJI				pPKP		07 44 18.5	
BJI				PP	PP	07 49 12.2	-1.4
BJT	**Baijiatuau**	**169.25**	**325**	PFAKE		07 44 20.0	+6.6
BJT				LR	LR		
	comp=Z,540nm,20.0s						
GTA	**Gaotai**	**169.54**	**38**	PKP	PKPdf	07 44 11.5	-2.1
GTA				APKP		07 44 19.5	
GTA				XPKP		07 44 22.8	
GTA				LR	LR		
	comp=N,146nm,17.1s						
GTA				LR	LR		
	comp=E,108nm,22.4s						
GTA				LR	LR		
	comp=Z,127nm,24.3s						
HHC	**Hu-ho-hao-te**	**170.21**	**345**	*e*PKP	PKPdf	07 44 09.5	-4.5
HHC				APKP		07 44 18.2	
HHC				XPKP		07 44 23.4	
HHC				PKP2	PKPab	07 45 23.9	-3.5
HHC				PKS	PKS	07 47 42.5	+1.6
HHC				PP	PP	07 49 15.8	-2.7
HHC				SKS	SKS	07 51 11.8	-4.8
HHC				SKKS		07 55 58.0	
HHC				SS	SS	08 10 12.0	-2.3
HHC				LR	LR		
	comp=N,167nm,24.4s						
HHC				LR	LR		
	comp=E,500nm,27.3s						
HHC				LR	LR		
	comp=Z,252nm,47.6s						
NJ2	**Nanjing**	**170.86**	**277**	*e*PKP	PKPdf	07 44 09.2	-5.5
NJ2				APKP		07 44 20.0	
NJ2				XPKP		07 44 23.6	
NJ2				PKP2	PKPab	07 45 31.1	+0.5
NJ2				PKS	PKS	07 47 40.0	-1.6
NJ2				PP	PP	07 49 22.0	0.0
NJ2				SKS	SKS	07 51 08.0	-9.1
NJ2				SKKS		07 56 05.0	
NJ2				PP	PP		
	comp=Z,1μm,12.0s						
NJ2				LR	LR		
	comp=N,340nm,28.8s						
NJ2				LR	LR		
	comp=E,530nm,22.9s						
NJ2				LR	LR		
	comp=Z,720nm,18.8s						
KMI	**Kunming**	**172.11**	**142**	PKP	PKPdf	07 44 12.0	-3.6
KMI	**Kunming**	**172.11**	**142**	PKP	PKPdf	07 44 12.1	-3.5
KMI				PKPab	PKPab	07 45 36.5	+0.2
KMI				PP	PP	07 49 25.3	-3.1
KMI				SS	SS	08 10 32.9	-0.1
KMI				LR	LR		
	comp=Z,310nm,22.1s						
LZH	**Lanzhou**	**174.14**	**37**	⇓PKP	PKPdf	07 44 14.0	-2.1
LZH				APKP		07 44 22.5	
LZH				XPKP		07 44 25.0	
LZH				PP	PP	07 49 40.1	+1.8
LZH				SKKS		07 56 21.2	
LZH				SS	SS	08 10 53.0	+1.0
LZH				PP	PP		
	comp=Z,236nm,8.0s						
LZH				LR	LR		
	comp=N,362nm,18.2s						
LZH				LR	LR		
	comp=Z,498nm,20.0s						
GYA	**Guiyang**	**174.87**	**165**	*i* PKP	PKPdf	07 44 13.5	-3.1
GYA				SS	SS	08 10 59.1	-0.4
GYA				PP	PP		
	comp=Z,110nm,5.1s						
GYA				LR	LR		
	comp=N,260nm,18.3s						
GYA				LR	LR		
	comp=E,240nm,16.7s						
GYA				LR	LR		
	comp=Z,260nm,17.2s						
ENH	**Enshi**	**178.36**	**225**	*e*PKPdf	PKPdf	07 44 14.3	-2.9
ENH				*e*		07 44 21.7	
ENH				LR	LR		
	comp=Z,498nm,20.0s						

*NEIC **01** 07:30:35.7±0.6, 6.77N×73.04W, h167km±6km, mb4.2/5, Error ellipse: s-maj=11.4km s-min=8.3km az=88.0*
*IDC **01** 07:30:35.8±1.1, 6.77N×73.04W, h166km±11km, mb3.7/7, mb1 3.9/9, mb1mx3.6/20, mbtmp4.2/9, Error ellipse: s-maj=21.4km s-min=14.3km az=114.0*
ISC 01 07:30:34.8±0.6**, 6.82N**±0.08×**73.02W**±0.09**, h172**km±7km**, n18, σ0s47**/18**, mb3.9**/10**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**214**	P	**P**	**07 31 15.8**	**+0.1**
	1.0nm,0.3s,baz=117,slow=14,SNR=11						
ROSC				S	**S**	**07 31 47.0**	**-0.2**
	242nm,0.3s,baz=108,slow=17,SNR=11						
SDV	**Santo Domingo**	**3.13**	**49**	P	**P**	**07 31 26.1**	**+0.7**
	10nm,0.3s,baz=274,slow=11,SNR=130						
SDV				S	**S**	**07 32 03.8**	**-0.4**
	35nm,0.3s,baz=60,slow=19,SNR=21						
SDV	**Santo Domingo**	**3.13**	**49**	*e*Pn	**P**	**07 31 26.0**	**+0.6**
JTS	**JuntasAbangare**	**12.29**	**287**	*e*P	**P**	**07 33 31.7**	**+6.6**
	11nm,0.6s						
SJG	**San Juan**	**13.07**	**30**	P	**P**	**07 33 41.0**	**+6.0**
	20nm,0.8s						
LPAZ	**La Paz**	**23.46**	**168**	P	**P**	**07 35 30.6**	**+0.5**
	2.6nm,0.8s,mb3.7						
BDFB	**Brasilia**	**33.34**	**132**	P	**P**	**07 36 58.2**	**-0.6**
	7.6nm,0.8s,mb4.5,baz=310,slow=16,SNR=3.1						
TXAR	**Lajitas Array**	**36.54**	**312**	P	**P**	**07 37 26.0**	**+0.3**
	1.0nm,0.5s,mb3.7,baz=120,slow=8.3,SNR=7.5						
WMOK	**Wichita Mounta**	**36.54**	**323**	P	**P**	**07 37 25.1**	**-0.5**
	2.6nm,0.6s,mb4.0						
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**07 38 52.4**	**-0.5**
	3.2nm,0.4s,mb4.3,baz=142,slow=7.2,SNR=6.8						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**07 38 59.9**	**+0.7**
	1.8nm,0.4s,mb4.0,baz=199,slow=8.0,SNR=6.4						
PDAR	**Pinedale Array**	**48.14**	**324**	P	**P**	**07 38 59.8**	**+0.5**
	1.0nm,0.5s,mb3.7,baz=129,slow=11,SNR=5.7						
HLID	**Hailey**	**51.50**	**322**	P	**P**	**07 39 24.6**	**-0.2**
	1.4nm,0.5s,mb3.9						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**07 40 46.8**	**-0.6**
	2.7nm,0.6s,mb4.3,baz=132,slow=6.5,SNR=78						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**07 40 46.8**	**-0.6**
ILAR	**Eielson Array**	**77.01**	**335**	P	**P**	**07 42 10.2**	**+0.2**
	0.3nm,0.6s,mb3.1,baz=109,slow=5.7,SNR=4.3						
ASAR	**Alice Springs**	**149.19**	**234**	PKP	PKPdf	07 50 01.0	+1.8
	0.4nm,0.5s,baz=110,slow=3.3,SNR=3.4						
ASAR				PKPbc	PKPdf	07 50 05.2	+6.0
	0.4nm,0.5s,baz=113,slow=3.3,SNR=5.3						
WRA	**Warramunga Arr**	**150.42**	**241**	PKPbc	PKPdf	07 50 07.8	+6.6
	0.6nm,0.4s,baz=108,slow=2.7,SNR=8.6						

MEX 01 07:31:19.8±0.8**, 18.44N×103.37W, h30**km±32km**, MD3.7, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.80**	**337**	*i* P	Pn	07 31 32.5	-2.6
COLM				*i* S	Sb	07 31 42.6	-2.9
CGX	**Ciudad Guzman**	**1.25**	**354**	*i* P	Pn	07 31 39.5	-2.0
CGX				*i* S	Sn	07 31 55.0	-2.4
SFJM	**Santa Fe**	**2.06**	**9**	*i* P	Pn	07 31 50.5	-2.6
SFJM				*i* S	Sn	07 32 13.5	-4.4
PPM	**Popocatepetl**	**4.53**	**81**	*i* S	Sn	07 33 16.9	-3.8

*ATH **01** 07:38:43.3, 35.75N×29.09E, h18km±1km, MD3.7/8*
*NEIC **01** 07:38:43.3, 35.76N×29.09E, h18km, MD3.7(ATH), ML3.8(ISK), After ATH.*
*CSEM **01** 07:38:45.0±0.2, 36.03N×29.08E, h22km, MD3.7, Error ellipse: s-maj=3.5km s-min=2.0km az=136.0*
*ISK **01** 07:38:46.2, 36.06N×29.07E, h30km, MD3.7*
ISC 01 07:38:41.9±1.0**, 35.86N**±0.05×**29.18E**±0.05**, h7**km±5km**, n49, σ1s13**/60**, 1C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.44**	**48**	⇑*i*PN	**Pn**	**07 38 54.4**	**+0.3**
KSL				*e*SN	**Sn**	**07 39 02.5**	**+0.2**
FETY	**Fethiye**	**0.78**	**354**	*i* PG	**Pg**	**07 38 57.5**	**0.0**
FETY				*i* SG	**Sg**	**07 39 07.4**	**-0.6**
ARG	**Arkhangelos**	**0.93**	**293**	⇓*i*PN	**Pn**	**07 39 00.8**	**-0.3**
ARG				*e*SN	**Sn**	**07 39 13.6**	**-1.1**
DALT	**Dalyan (Mudla)**	**1.01**	**334**	PG	**Pg**	**07 39 01.3**	**-0.8**
ELL	**Elmali**	**1.07**	**33**	Pn	**Pn**	**07 39 01.3**	**-1.8**
ELL				Sg	**Sg**	**07 39 20.3**	**+2.8**
ELL	**Elmali**	**1.07**	**33**	Pn	**Pn**	**07 39 01.3**	**-1.8**
ELL	**Elmali**	**1.07**	**33**	*e*Pg	**Pg**	**07 39 04.1**	**+0.9**
ELL				Sg	**Sg**	**07 39 20.3**	**+2.8**
YER	**Yerkesik**	**1.47**	**331**	Pn	**Pn**	**07 39 08.4**	**-0.4**
YER	**Yerkesik**	**1.47**	**331**	Pn	**Pn**	**07 39 08.4**	**-0.4**
KARP	**Karpathos**	**1.67**	**260**	*e*PN	**Pn**	**07 39 12.5**	**+0.7**
KARP				*e*SN	**Sn**	**07 39 34.0**	**+0.4**
NISR	**Nisiros**	**1.82**	**295**	*e*PN	**Pn**	**07 39 15.5**	**+1.6**
MLSB	**Milas**	**1.83**	**322**	*e*PN	**Pn**	**07 39 13.0**	**-1.0**
DNZL	**Cakiroluk**	**1.83**	**357**	*i* P	**Pn**	**07 39 14.8**	**+0.8**
DNZL				*i* S	**Sn**	**07 39 39.0**	**+1.3**
BDRM	**Kayabasi**	**1.85**	**311**	*i* P	**Pn**	**07 39 15.2**	**+0.9**
BDRM				*i* S	**Sn**	**07 39 38.4**	**+0.4**
DENT	**Denizli**	**1.90**	**356**	*e*PN	**Pn**	**07 39 14.7**	**-0.3**
DENT	**Denizli**	**1.90**	**356**	Pn	**Pn**	**07 39 14.7**	**-0.3**
BODT	**Bodrum**	**1.93**	**309**	*e*PN	**Pn**	**07 39 14.3**	**-1.1**
BODT	**Bodrum**	**1.93**	**309**	Pn	**Pn**	**07 39 13.7**	**-1.7**
BCK	**Bucak**	**1.96**	**35**	Pn	**Pn**	**07 39 13.5**	**-2.4**
AYDN	**Tasoluk**	**2.08**	**330**	*i* P	**Pn**	**07 39 19.0**	**+1.4**
AYDN				*i* S	**Sn**	**07 39 44.1**	**+0.1**
ISP	**Isparta**	**2.25**	**28**	*e*Pn	**Pn**	**07 39 21.2**	**+1.2**
KHL	**Karahalli**	**2.48**	**6**	*e*PN	**Pn**	**07 39 22.8**	**-0.5**
KHL	**Karahalli**	**2.48**	**6**	Pn	**Pn**	**07 39 22.9**	**-0.4**
KHL	**Karahalli**	**2.48**	**6**	Pn	**Pn**	**07 39 22.9**	**-0.4**
SMG	**Samos**	**2.64**	**315**	*e*PN	**Pn**	**07 39 28.0**	**+2.4**
MANT	**Manisa**	**2.68**	**349**	*i* P	**Pn**	**07 39 27.6**	**+1.5**
MANT				*i* S	**Sn**	**07 39 58.9**	**-0.2**
IZM	**Izmir**	**2.96**	**329**	*e*PN	**Pn**	**07 39 30.1**	**-0.1**
IZM	**Izmir**	**2.96**	**329**	Pn	**Pn**	**07 39 29.6**	**-0.6**
IZM	**Izmir**	**2.96**	**329**	Pn	**Pn**	**07 39 29.6**	**-0.6**
NPS	**Neapolis**	**2.97**	**260**	*e*PN	**Pn**	**07 39 30.3**	**0.0**
XRY	**Khrisi**	**3.01**	**252**	*e*PN	**Pn**	**07 39 31.7**	**+0.8**
BLCB	**Balcova**	**3.05**	**327**	Pn	**Pn**	**07 39 30.9**	**-0.5**
BLCB	**Balcova**	**3.05**	**327**	Pn	**Pn**	**07 39 30.9**	**-0.5**
APE	**Apeiranthos**	**3.18**	**293**	Pn	**Pn**	**07 39 29.3**	**-4.0**
APE				*e*Pb	**Pb**	**07 39 36.6**	**-1.8**
APE	**Apeiranthos**	**3.18**	**293**	*e*PN	**Pn**	**07 39 35.5**	**+2.2**
APE	**Apeiranthos**	**3.18**	**293**	Pn	**Pn**	**07 39 29.3**	**-4.0**
APE	**Apeiranthos**	**3.18**	**293**	*e*Pb	**Pb**	**07 39 36.6**	**-1.8**
ALT	**Altintas**	**3.28**	**13**	*e*PN	**Pn**	**07 39 34.9**	**+0.2**
ALT	**Altintas**	**3.28**	**13**	Pn	**Pn**	**07 39 33.7**	**-1.0**
KONT	**Konya--Tatoy**	**3.29**	**50**	Pn	**Pn**	**07 39 30.1**	**-4.8**
KONT	**Konya--Tatoy**	**3.29**	**50**	Pn	**Pn**	**07 39 30.1**	**-4.8**
KIZT	**Kizilcal**	**3.71**	**35**	Pn	**Pn**	**07 39 38.1**	**-2.7**
KIZT	**Kizilcal**	**3.71**	**35**	Pn	**Pn**	**07 39 38.1**	**-2.7**
ESKT	**Eskisehir**	**3.89**	**19**	*e*PN	**Pn**	**07 39 44.3**	**+0.9**
ESKT	**Eskisehir**	**3.89**	**19**	Pn	**Pn**	**07 39 42.3**	**-1.1**
EZN	**Ezine**	**4.56**	**331**	Pn	**Pn**	**07 39 52.4**	**-0.6**
EZN	**Ezine**	**4.56**	**331**	Pn	**Pn**	**07 39 52.3**	**-0.6**
KAMT	**Kaman**	**5.02**	**44**	Pn	**Pn**	**07 39 55.4**	**-4.1**
KAMT	**Kaman**	**5.02**	**44**	Pn	**Pn**	**07 39 55.4**	**-4.1**

*DJA **01** 08:11:53.3±1.0, 9.82S×118.59E, h138km±23km, MD4.7/4, ML5.1/3, Error ellipse: s-maj=113.5km s-min=28.3km az=12.0*
ISC 01 08:11:57.1±1.2**, 10.1S**±0.4×**118.3E**±0.2**, h100**km**, n6, σ0s86**/9**, 2C-5D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.64**	**306**	⇓*e*Pn	**P**	**08 12 38.2**	**-0.7**
	880nm,0.2s						
KEDI				⇓*e*Sn	**S**	**08 13 11.1**	**+0.9**
RATI	**Rata**	**3.01**	**296**	⇑*e*Pn	**P**	**08 12 43.6**	**-0.4**
	1μm,0.2s						
RATI				⇓*e*Sn	**S**	**08 13 20.1**	**+0.8**
KELI	**Kelakatan**	**4.16**	**296**	⇓*e*Pn	**P**	**08 12 59.1**	**-0.6**
	191nm,0.3s						
KELI				⇓*e*Sn	**S**	**08 13 47.1**	**-0.3**
SRDI	**Scrawed**	**4.37**	**291**	⇑*e*P	**P**	**08 13 02.1**	**-0.4**
WB2	**Warramunga Arr**	**18.37**	**124**	*e*P	**P**	**08 16 06.1**	**-0.4**
ASPA	**Alice Springs**	**20.15**	**134**	*e*P	**P**	**08 16 28.7**	**+3.1**

*NEIC **01** 08:29:47.7, 32.68S×69.44W, h135km, MD3.3(GUC), After GUC.*
GUC 01 08:29:47.7±0.9**, 32.68S×69.44W, h135**km±9km**, MD3.3, ML3.5, 4C-9D, Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.96**	**228**	⇓*i*P	P	08 30 11.4	+0.5
FCH				*i* S	S	08 30 29.5	+0.7
FCH				AMP		08 30 39.5	
	comp=E,429nm,0.3s						
JACH	**Jahuel**	**0.97**	**270**	⇓*i*P	P	08 30 11.6	+0.5
JACH				*e*S	S	08 30 29.4	+0.5
PEL	**Peldehue**	**1.15**	**246**	*i* P	P	08 30 13.0	+0.2
PEL				*i* S	S	08 30 31.7	-0.3
CLCH	**Cerro Calan**	**1.17**	**232**	⇓*i*P	P	08 30 13.2	+0.2
CLCH				*i* S	S	08 30 32.0	-0.3
CLCH				AMP		08 30 33.9	
	comp=N,2μm,0.5s						
CLCH				AMP		08 30 34.5	
	comp=N,2μm,0.5s						
DSCH	**Colegio Aleman**	**1.19**	**233**	⇓*i*P	P	08 30 13.7	+0.5
DSCH				*i* S	S	08 30 32.9	+0.1
DSCH				AMP		08 30 34.1	
	comp=N,2μm,0.5s						
STL	**Santa Lucia**	**1.26**	**233**	⇓*i*P	P	08 30 14.0	+0.1
STL				*i* S	S	08 30 34.3	+0.2
STL				AMP		08 30 35.0	
	comp=E,383nm,0.4s						
PCH	**Pirque**	**1.30**	**224**	⇑*i*P	P	08 30 14.6	+0.2
PCH				*i* S	S	08 30 36.1	+1.2
LMEL	**Las Melosas**	**1.33**	**209**	⇓*i*P	P	08 30 14.8	+0.1
LMEL				AMP		08 30 43.5	
	comp=N,180nm,0.3s						
ROCH	**El Roble**	**1.36**	**257**	⇓*i*P	P	08 30 15.1	+0.1
ROCH				*i* S	S	08 30 36.5	+0.7
RCDM	**Rinconada Maip**	**1.41**	**235**	*i* P	P	08 30 15.8	+0.3
RCDM				*i* S	S	08 30 37.0	+0.3
RCDM				AMP		08 30 37.7	
	comp=E,942nm,0.3s						
TACH	**Talagante**	**1.59**	**232**	⇓*i*P	P	08 30 17.6	+0.1
TACH				*i* S	S	08 30 40.0	-0.4
CHCH	**Chadas Angostu**	**1.61**	**219**	⇑*i*P	P	08 30 18.0	+0.2
CHCH				*i* S	S	08 30 40.7	-0.1
PACH	**Papudo**	**1.69**	**274**	⇑*i*P	P	08 30 18.6	-0.2
PACH				*i* S	S	08 30 41.5	-1.0
CACH	**El Canelo**	**1.73**	**214**	⇓*i*P	P	08 30 19.8	+0.6
CACH				*i* S	S	08 30 44.2	+1.0
IHA	**Instituto Hidr**	**1.89**	**259**	*i* S	S	08 30 46.8	+0.5
SFDO	**San Fernando**	**2.33**	**214**	⇑*i*P	P	08 30 26.1	-0.5
SFDO				*i* S	S	08 30 55.7	-0.6
TLL	**Tololo Astrono**	**2.76**	**335**	*i* P	P	08 30 33.5	+1.3
TLL				*i* S	S	08 31 06.7	+0.6

*NEIC **01** 08:35:17.9, 8.55N×82.58W, h8km, MD4.2(CASC), After CASC.*
NEIC Felt at David, Panama.
CASC 01 08:35:17.8±2.4**, 8.54N×82.59W, h6**km±6km**, MD4.2, MW4.2, 7C-4D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.18**	**127**	*e*P	Pg	08 35 21.5	0.0
BRU2	**Volcan**	**0.27**	**339**	⇑*e*P	Pg	08 35 24.1	+0.8
BRU2				*e*S	Sg	08 35 29.3	+2.5
BRU2	**Volcan**	**0.27**	**339**	⇑*i*P	Pg	08 35 24.1	+0.8
BRU2				*e*S	Sg	08 35 29.0	+2.2
PTP1	**Petroterminal**	**0.37**	**154**	*e*P	Pg	08 35 25.6	+0.2
ACR	**Cerro Adams**	**0.58**	**281**	⇓*e*P	Pg	08 35 28.1	-1.3
ACR	**Cerro Adams**	**0.58**	**281**	⇓*e*P	Pg	08 35 28.1	-1.2
CNI	**Changuinola**	**0.87**	**5**	*e*P	Pb	08 35 33.7	-1.2
LIO	**Limon**	**1.52**	**343**	*e*P	Pn	08 35 45.6	-0.1
LIO	**Limon**	**1.52**	**343**	⇑*e*P	Pn	08 35 45.5	-0.1
BUS	**Buena Vista**	**1.53**	**311**	⇑*e*P	Pn	08 35 44.4	-1.4
BUS	**Buena Vista**	**1.53**	**311**	⇑*e*P	Pn	08 35 44.4	-1.4
BUS				*e*S	Sb	08 36 04.9	-0.8
LCR2	**La Lucha 2**	**1.83**	**311**	*e*P	Pn	08 35 48.7	-1.4
LCR2				*e*S	Sn	08 36 15.2	+1.3
LCR2	**La Lucha 2**	**1.83**	**311**	*e*P	Pn	08 35 48.8	-1.4
LCR2				*e*S	Sn	08 36 12.3	-1.6
ICR	**Volcan Irazu**	**1.88**	**320**	*e*P	Pn	08 35 50.9	+0.1
ICR				*e*S	Sn	08 36 16.1	+1.0
ICR	**Volcan Irazu**	**1.88**	**320**	*e*P	Pn	08 35 50.9	+0.1
ICR				*e*S	Sn	08 36 15.8	+0.7
LAJ	**Bijagual**	**2.00**	**311**	*e*P	Pn	08 35 56.3	+3.8
LAJ	**Bijagual**	**2.00**	**311**	*e*P	Pn	08 35 56.0	+3.5
SJS	**Escuela Geolog**	**2.00**	**314**	⇑*i*P	Pn	08 35 51.1	-1.4
SJS				*e*S	Sn	08 36 17.1	-1.0
SJS	**Escuela Geolog**	**2.00**	**314**	⇑*e*P	Pn	08 35 51.1	-1.5
SJS				*e*S	Sn	08 36 17.0	-1.1
PRS1	**Puriscal**	**2.22**	**310**	*e*P	Pn	08 35 54.0	-1.7
PRS1	**Puriscal**	**2.22**	**310**	*e*P	Pn	08 35 54.0	-1.7
TRTC	**Tortuguero**	**2.30**	**331**	*e*P	Pn	08 35 56.2	-0.7
TRTC	**Tortuguero**	**2.30**	**331**	⇓*e*P	Pn	08 35 56.4	-0.4
TRTC				*e*S	Sn	08 36 26.4	+0.5
VPS2	**Volcan Poas 2**	**2.30**	**315**	*e*P	Pn	08 35 58.3	+1.5
VPS2	**Volcan Poas 2**	**2.30**	**315**	*e*P	Pn	08 35 57.7	+0.8
CGA2	**Cerro Gallo 2**	**2.36**	**309**	*e*P	Pn	08 35 57.2	-0.4
CGA2	**Cerro Gallo 2**	**2.36**	**309**	*e*P	Pn	08 35 57.3	-0.3
CGA2				*e*S	Sn	08 36 28.9	+1.7
AZU	**Azuero**	**2.42**	**108**	*e*P	Pn	08 35 58.0	-0.5
AZU2	**Pedas**	**2.73**	**111**	⇓*i*P	Pn	08 36 03.0	-0.1
AZU2				*e*S	Sn	08 36 37.6	+0.8
FORC	**Fortuna**	**2.80**	**313**	*e*P	Pn	08 36 01.1	-2.9
FORC	**Fortuna**	**2.80**	**313**	*e*P	Pn	08 36 04.9	+0.8
JTS	**JuntasAbangare**	**2.90**	**307**	*e*Pn	Pn	08 36 03.7	-1.8
UPA	**Univ. de Panam**	**3.06**	**82**	*e*P	Pn	08 36 06.1	-1.5
UPA				*e*P		08 36 11.0	
UPA				*e*S	Sn	08 36 43.5	-1.5
VCR	**Vista de Mar**	**3.38**	**298**	*e*P	Pn	08 36 12.6	+0.3
VCR	**Vista de Mar**	**3.38**	**298**	*e*P	Pn	08 36 13.0	+0.7
SDV	**Santo Domingo**	**11.83**	**87**	*e*P	P	08 38 06.6	-3.6

*BJI **01** 09:19:03.9, 5.45S×100.97E, h44km, mB5.1, mb4.8, Ms4.7, Msz4.2*
*NEIC **01** 09:19:06.5±0.4, 5.13S×100.83E, mb4.7/13, Error ellipse: s-maj=13.6km s-min=7.0km az=60.0*
*IDC **01** 09:19:06.4±0.9, 5.12S×100.75E, h24km±3km, mb4.4/12, mb1 4.5/12, mb1mx4.3/16, mbtmp4.5/12, MS3.2/1, Ms1 3.4/1, ms1mx2.5/19, Error ellipse: s-maj=41.6km s-min=12.4km az=53.0*
ISC 01 09:19:05.4±0.5**, 5.06S**±0.07×**100.94E**±0.09**, h28**km**, h28**km±1.2km**:pP-P, n51, σ0s99**/48**, mb4.6**/33**, MS4.2**/5**, 2C-1D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**8.16**	**210**	P	**P**	**09 20 59.4**	**-5.8**
KULM	**Kulim**	**10.28**	**358**	*e*P	**P**	**09 21 31.2**	**-3.3**
CMAR	**Chiang Mai Arr**	**23.45**	**355**	P	**P**	**09 24 13.5**	**-0.2**
	6.5nm,0.9s,mb4.1,baz=188,slow=8.5,SNR=13						
CMAR				LR	LR	09 35 15.3	
	comp=Z,64nm,19.8s,MS3.1,baz=180,slow=41						
MBWA	**Marble Bar**	**24.26**	**133**	*e*P	**P**	**09 24 22.4**	**+0.7**
	13nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.40**	**120**	*e*P	**P**	**09 24 50.6**	**-0.3**
	12nm,0.9s,mb4.4						
KMI	**Kunming**	**30.05**	**3**	P	**P**	**09 25 17.2**	**+2.5**
KMI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
KMI	**Kunming**	**30.05**	**3**	P	**P**	**09 25 17.2**	**+2.5**
	comp=Z,13nm,1.2s,mb4.5						
NWAO	**Narrogin (SRO)**	**31.62**	**153**	P	**P**	**09 25 27.8**	**-0.7**
	comp=Z,8.4nm,0.8s,mb4.7,baz=315,slow=11,SNR=4.8						
GYA	**Guiyang**	**31.82**	**10**	⇑*i*P	**P**	**09 25 30.7**	**+0.5**
GYA				AP	pP	09 25 39.2	+0.8
GYA				XP	sP	09 25 43.8	+1.8
GYA				PP	PP	09 26 39.0	+3.0
GYA				S	**S**	**09 30 38.9**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,270nm,12.9s,MS4.2						
GYA				LR	LR		
	comp=E,180nm,12.9s,MS4.2						
GYA				LR	LR		
	comp=Z,280nm,12.6s,MS4.1						
JIRN	**Jiri**	**35.51**	**337**	*e*P	**P**	**09 26 02.7**	**+0.6**
	comp=Z,19nm,0.6s,mb5.2						
WRA	**Warramunga Arr**	**35.70**	**117**	P	**P**	**09 26 03.8**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.2,baz=293,slow=9.4,SNR=8.4						
WRAB	**Tennant Creek**	**35.71**	**117**	*e*P	**P**	**09 26 03.6**	**-0.3**
	comp=Z,6.4nm,1.0s,mb4.5						
WB2	**Warramunga Arr**	**35.71**	**117**	*e*P	**P**	**09 26 03.9**	**0.0**
PKI	**Pulchoki**	**35.74**	**336**	*e*P	**P**	**09 26 05.4**	**+1.3**
GUN	**Gumba**	**35.85**	**337**	*e*P	**P**	**09 26 05.6**	**+0.6**
	comp=Z,20nm,0.6s,mb5.2						
KKN	**Kakani**	**35.98**	**336**	*e*P	**P**	**09 26 06.5**	**+0.4**
GKN	**Gorkha**	**36.44**	**335**	*e*P	**P**	**09 26 10.0**	**+0.1**
KOLN	**Koldanda**	**36.68**	**334**	*e*P	**P**	**09 26 12.3**	**+0.3**
	comp=Z,11nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**36.75**	**124**	P	**P**	**09 26 12.7**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.1,baz=299,slow=7.6,SNR=24						
ASAR				pP	pP	09 26 20.6	-0.3
	comp=Z,1.6nm,0.5s,baz=300,slow=8.1,SNR=8.7						
ASAR				PcP	PcP	09 28 35.0	0.0
	comp=Z,0.8nm,0.7s,baz=295,slow=2.5,SNR=5.4						
ASAR				pPcP		09 28 43.0	
	comp=Z,0.6nm,0.7s,baz=0.3,slow=0.9,SNR=4.3						
XAN	**Xi'an**	**39.61**	**10**	P	**P**	**09 26 35.9**	**-0.6**
XAN				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
NJ2	**Nanjing**	**40.66**	**24**	*e*P	**P**	**09 26 47.3**	**+2.2**
NJ2				AP	pP	09 26 57.1	+3.7
NJ2				XP	sP	09 27 01.1	+4.3
NJ2				PP	PP	09 28 25.6	+3.6
NJ2				S	**S**	**09 32 56.0**	**+3.0**
NJ2				XS		09 33 11.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,1μm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,23.8s,MS4.7						
NJ2				LR	LR		
	comp=E,440nm,28.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,420nm,23.3s,MS4.2						
LZH	**Lanzhou**	**41.02**	**4**	*e*P	**P**	**09 26 47.5**	**-0.5**
LZH				AP	pP	09 26 56.7	+0.4
LZH				XP	sP	09 27 01.0	+1.2
LZH				PP	PP	09 28 26.7	+1.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=N,514nm,14.8s						
LZH				LR	LR		
	comp=Z,796nm,17.9s,MS4.6						
LZH	**Lanzhou**	**41.02**	**4**	*e*P	**P**	**09 26 47.5**	**-0.5**
	comp=Z,28nm,1.5s,mb4.7						
LZH				pP	pP	09 26 56.7	+0.4
LZH				sP	sP	09 27 01.0	+1.2
LZH				PP	PP	09 28 26.7	+1.1
PMG	**Port Moresby**	**46.03**	**98**	P	**P**	**09 27 29.5**	**+0.6**
	comp=Z,22nm,1.2s,mb5.0,baz=249,slow=12,SNR=3.0						
STKA	**Stephens Creek**	**46.45**	**130**	⇑*i*P	**P**	**09 27 32.8**	**+0.8**
	comp=Z,11nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**46.45**	**130**	P	**P**	**09 27 32.8**	**+0.8**
	comp=Z,13nm,0.7s,mb5.0,baz=296,slow=8.0,SNR=21						
CTA	**Charters Tower**	**46.50**	**113**	P	**P**	**09 27 32.4**	**-0.1**
	comp=Z,6.7nm,0.8s,mb4.6,baz=258,slow=9.1,SNR=4.6						
CTA	**Charters Tower**	**46.50**	**113**	P	**P**	**09 27 32.4**	**-0.2**
BJI	**Beijing**	**47.02**	**16**	P	**P**	**09 27 33.7**	**-2.7**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
BJI	**Beijing**	**47.02**	**16**	P	**P**	**09 27 33.7**	**-2.7**
	comp=Z,13nm,0.9s,mb4.9						
WMQ	**Urumqi**	**50.10**	**348**	P	**P**	**09 28 00.4**	**+0.2**
WMQ				AP	pP	09 28 10.0	+1.3
WMQ				XP	sP	09 28 12.8	+0.8
WMQ				PCP	PcP	09 29 20.3	+0.5
WMQ				PP	PP	09 29 56.0	-0.3

WMQ PCS 09 33 16.0
WMQ S S 09 35 08.2 -0.3
WMQ PS PS 09 35 20.6 +0.2
WMQ AMB AMB
comp=Z,14nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,126nm,5.2s
WMQ LR LR
comp=N,336nm,20.0s,MS4.5
WMQ LR LR
comp=E,268nm,16.8s,MS4.5
WMQ LR LR
comp=Z,252nm,17.8s,MS4.3
SONM Songino Array 52.88 5 P P 09 28 21.5 +0.2
comp=Z,5.4nm,0.8s,mb4.5,baz=186,slow=8.5,SNR=38
SONM PcP PcP 09 29 30.0 -0.1
comp=Z,1.9nm,0.7s,baz=193,slow=4.3,SNR=4.6
SONM pPcP 09 29 37.2
comp=Z,1.3nm,0.7s,baz=189,slow=3.4,SNR=4.1
ULN Ulaanbaatar 52.97 5 *e*P P 09 28 20.9 -0.9
comp=Z,8.7nm,1.0s,mb4.6
CN2 Changchun 53.42 22 *e*P P 09 28 24.1 -1.1
CN2 *e*AP pP 09 28 32.5 -1.2
CN2 *e*XP sP 09 28 37.3 +0.3
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
MDJ Mudanjiang 55.73 24 P P 09 28 40.7 -1.4
MDJ AMB AMB
comp=Z,6.0nm,1.4s,mb4.4
MDJ AMB AMB
comp=Z,46nm,4.7s
KURK Kurchatov 58.78 344 *e*P P 09 29 02.2 -1.4
comp=Z,7.2nm,0.9s,mb4.7
KURK *e* pP 09 29 10.1 -2.1
ZAL Zalesovo 60.32 349 P P 09 29 13.2 -0.9
comp=Z,7.3nm,1.0s,mb4.7,baz=297,slow=4.7,SNR=23
ZAL pP pP 09 29 20.6 -2.2
comp=Z,3.0nm,0.6s,baz=298,slow=6.0,SNR=5.0
KMBO Kilima Mbogo 63.69 271 P P 09 29 37.6 +0.2
comp=Z,2.4nm,0.9s,mb4.2
CHKZ Chkalovo 63.82 340 *e*P P 09 29 35.9 -1.6
comp=Z,4.6nm,0.9s,mb4.5
AKASG Malin Array Be 82.46 322 P P 09 31 25.4 -1.3
comp=Z,2.9nm,1.0s,mb4.2,baz=90,slow=4.1,SNR=4.5
BURAR Bucovina Array 84.16 319 ⇓P P 09 31 37.4 +1.9
FINES FINESS Array B 87.24 332 P P 09 31 50.6 +0.2
comp=Z,2.9nm,0.7s,mb4.6,baz=105,slow=6.6,SNR=15
FINES pP pP 09 31 58.2 -1.1
comp=Z,1.5nm,0.5s,baz=104,slow=7.9,SNR=4.0
KAF Kangasniemi 87.31 333 *e*p P 09 31 50.7 -0.1
comp=Z,4.2nm,0.6s,mb4.8
ARCES ARCESS Array B 89.65 340 P P 09 32 01.7 0.0
comp=Z,4.9nm,0.8s,mb4.9,baz=45,slow=6.9,SNR=7.3
GERES GERESS Array B 91.95 319 P P 09 32 13.2 +0.4
comp=Z,0.8nm,0.7s,mb4.1,baz=90,slow=4.0,SNR=5.0
YKA Yellowknife Ar 117.00 18 PKP PKPdf 09 37 47.1 -5.3
comp=Z,0.2nm,0.7s,baz=330,slow=2.0,SNR=5.2
YKA pPKP 09 37 56.1
comp=Z,0.2nm,0.7s,baz=303,slow=2.9,SNR=3.5
LTX Lajitas 146.46 41 *e*PKPbc PKPbc 09 38 45.7 +1.1
TXAR Lajitas Array 146.46 41 PKPbc PKPbc 09 38 47.5 +2.8
comp=Z,8.2nm,0.9s,baz=252,slow=1.2,SNR=79
TXAR pPKPbc 09 38 54.7
comp=Z,3.6nm,0.7s,baz=270,slow=0.9,SNR=12
TXAR Lajitas Array 146.46 41 PKPbc PKPbc 09 38 47.5 +2.8
TXAR pPKPbc 09 38 54.7
WVT Waverly 148.04 13 *e*PKPbc PKPdf 09 38 50.4 -0.2
JCT Junction City 148.04 35 *e*PKPbc PKPdf 09 38 51.4 +0.6

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*CSEM **01** 09:58:31.8±0.4, 77.02N×29.54E, h10km, ML3.6, Error ellipse: s-maj=13.6km s-min=4.4km az=62.0*
*BER **01** 09:58:32.5±4.8, 77.32N×29.80E, h1km±34km, MD2.9, ML3.6, ML3.6(NAO)*
*IDC **01** 09:58:32.9±1.6, 77.25N×30.04E, mb3.2/3, mb1 3.6/7, mb1mx3.4/21, mbtmp3.5/7, ML3.6/4, MS2.7/2, Ms1 2.7/2, ms1mx2.6/12, Error ellipse: s-maj=69.4km s-min=12.7km az=94.0*
*NEIC **01** 09:58:33.7±0.7, 77.26N×29.03E, h10km, mb3.5/2, ML3.6(BER), Error ellipse: s-maj=16.5km s-min=7.6km az=76.0*
*NAO **01** 09:58:34.5±5.0, 77.26N×29.08E, h23km±45km, ML3.6*
*HEL **01** 09:58:36.2±0.6, 77.16N×30.70E, h10km, ML3.8, MD2.9(BER), ML3.6(BER)*
ISC 01 09:58:32.0±0.7, **77.01N**±0.04×**29.8E**±0.4, **h10**km, **n43, σ1s60**/65, **mb3.1**/5, **Svalbard region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
HOPEN Hopen 1.21 248 *e*P Pb 09 58 57.2 +2.7
HOPEN *e*S Sb 09 59 15.7 +5.7
HOPEN AML AML 09 59 30.1
comp=Z,1μm,0.8s
SPA0 Spitsbergen Ar 3.12 299 Pn Pn 09 59 18.5 -3.7
baz=118,slow=16
SPA0 Sn Sn 09 59 53.1 -6.9
baz=103,slow=37
SPA0 Lg 10 00 04.6
baz=127,slow=37
SPA0 Spitsbergen Ar 3.12 299 *e* Pn 09 59 18.5 -3.7
SPA0 *e* 09 59 53.1
SPA0 *e*S Sn 10 00 04.6 +4.6
HSP Hornsund 3.21 277 *e*P Pn 09 59 21.9 -1.7
KBS Kingsbay 4.19 306 *e*Pn Pn 09 59 32.5 -4.9
KEV Kevo 7.34 188 *e*P Pn 10 00 23.3 +1.5
KEV MPN 10 00 25.6
comp=Z,3.9nm,0.2s
KEV *e*S Sn 10 01 47.1 +1.1
KEV Kevo 7.34 188 P Pn 10 00 23.2 +1.4
comp=Z,3.9nm,0.2s
KEV S Sn 10 01 47.1 +1.1
ARA0 ARCESS Array S 7.61 191 Pn Pn 10 00 27.0 +1.3
baz=8.7,slow=11
ARA0 Sn Sn 10 01 52.2 -0.7
baz=16,slow=22
ARA0 ARCESS Array S 7.61 191 *e*P Pn 10 00 27.0 +1.3
ARA0 *e*S Sn 10 01 52.2 -0.7
ARA0 ARCESS Array S 7.61 191 P Pn 10 00 26.9 +1.2
ARA0 S Sn 10 01 52.2 -0.7
ARCES ARCESS Array B 7.61 191 Pn Pn 10 00 27.3 +1.6
comp=Z,1.3nm,0.3s,baz=6.6,slow=11,SNR=47
ARCES Sn Sn 10 01 51.9 -1.1
comp=Z,3.7nm,0.3s,baz=16,slow=18,SNR=9.9
ARCES LR LR 10 03 42.1
comp=Z,85nm,21.1s,baz=20,slow=39
ARE0 ARCESS Array S 7.61 191 *e*P Pn 10 00 27.0 +1.3
KTK1 Kautokeino 8.26 197 *e*P P 10 00 37.2 +2.5
KIF Kilpisjarvi 8.45 203 *e*P P 10 00 38.8 +1.5
KIF *e*S Sn 10 02 13.1 -0.7
APA0 Apatity Array 9.50 173 Pn P 10 00 51.8 +0.1
baz=345,slow=12
APA0 Sn Sn 10 02 36.3 -3.3
baz=349,slow=22
APA0 Apatity Array 9.50 173 *e*P P 10 00 51.8 +0.1
APA0 *e*S Sn 10 02 36.3 -3.3
APA0 Apatity Array 9.50 173 P P 10 00 51.7 0.0
APA0 S Sn 10 02 36.2 -3.4
SGF Sodankyl 9.67 188 *e*P P 10 00 54.6 +0.7
SGF MPN 10 00 57.6
comp=Z,4.8nm,0.4s
SGF *e*S Sn 10 02 40.4 -3.3
SGF Sodankyl 9.67 188 P P 10 00 54.6 +0.6
comp=Z,4.8nm,0.4s
SGF S Sn 10 02 40.3 -3.4
KU4 Liikasenvaara 10.70 180 *e*P P 10 01 08.3 +0.2
KU4 *e*S S 10 03 05.9 -3.2
MSF Maaselka 11.16 182 *e*P P 10 01 14.8 +0.4
MSF MPN 10 01 18.9
comp=Z,4.7nm,0.4s
MSF Maaselka 11.16 182 P P 10 01 14.7 +0.3
comp=Z,4.7nm,0.4s
OUL Oulu 12.05 188 *e*P P 10 01 27.0 +0.6
KJN Kajaani 13.01 184 *e*P P 10 01 39.2 -0.1
KJN MPN 10 01 41.6
comp=Z,3.1nm,0.4s
KJN *e*S S 10 04 01.8 -3.4
KJN Kajaani 13.01 184 P P 10 01 39.1 -0.2
comp=Z,3.1nm,0.4s
KJN S S 10 04 01.7 -3.4
VAF Ylistaro 14.22 193 *e*P P 10 01 54.8 -0.3
VAF *e*S S 10 04 29.7 -4.2
SUF Sumiainen 14.41 187 *e*P P 10 01 58.4 +0.8
SUF MPN 10 02 01.1
comp=Z,0.9nm,0.3s
SUF Sumiainen 14.41 187 P P 10 01 58.4 +0.8
comp=Z,0.9nm,0.3s
KEF Keuruu 15.00 189 *e*P P 10 02 04.9 -0.5
KEF *e*S S 10 04 49.1 -3.3
KAF Kangasniemi 15.01 186 *e*P P 10 02 05.5 0.0
FIA0 FINESS Array S 15.69 187 P P 10 02 13.8 -0.4
baz=15,slow=11
FIA0 FINESS Array S 15.69 187 *e*P P 10 02 13.8 -0.4
FINES FINESS Array B 15.69 187 Pn P 10 02 13.6 -0.7
comp=Z,0.3nm,0.3s,baz=22,slow=10,SNR=6.4
FINES Sn S 10 05 05.6 -3.0
comp=Z,0.5nm,0.3s,baz=11,slow=19,SNR=6.0
FINES LR LR 10 09 44.3
comp=Z,19nm,19.5s,baz=10,slow=42
FINES FINESS Array B 15.69 187 Pn P 10 02 13.6 -0.7
FINES Sn S 10 05 05.6 -3.0
NOA NORSAR Array B 17.20 212 Pn P 10 02 36.0 +2.6
comp=Z,0.2nm,0.3s,baz=18,slow=12,SNR=3.3
HFS Hagfors 17.81 207 P P 10 02 43.9 +2.8
baz=8.8,slow=18
HFS Hagfors 17.81 207 *e*P P 10 02 43.9 +2.8
HFS Hagfors 17.81 207 Pn P 10 02 42.5 +1.4
comp=Z,0.0nm,0.3s,baz=8.1,slow=10,SNR=4.5
RES Resolute Bay 25.20 329 P P 10 03 56.2 -2.2
comp=Z,0.4nm,0.4s,mb3.3
AKASG Malin Array Be 26.41 181 P P 10 04 13.9 +4.0
comp=Z,0.2nm,0.4s,mb3.0,baz=346,slow=9.4,SNR=3.7
CHKZ Chkalovo 27.78 123 *e*P P 10 04 24.3 +1.9
comp=Z,0.8nm,0.7s,mb3.5
ILAR Eielson Array 38.44 358 P P 10 05 53.2 -1.7
comp=Z,0.3nm,0.8s,mb3.0,baz=358,slow=7.1,SNR=5.0
YKA Yellowknife Ar 38.99 335 P P 10 05 57.4 -2.0
comp=Z,0.2nm,0.9s,mb2.9,baz=14,slow=8.5,SNR=2.9

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*NEIC **01** 10:15:22.7, 35.16S×70.56W, h10km, ML2.6(GUC), After GUC.*
GUC 01 10:15:22.7±0.8, **35.16S**×**70.56W**, **h10**km, **MD3.5, ML2.6, 3C-1D, Chile-Argentina border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SFDO San Fernando 0.66 326⇑*i*P Pb 10 15 35.8 -0.1
SFDO *i* S Sb 10 15 44.9 +0.1
CACH El Canelo 1.04 358⇑*i*P Pb 10 15 41.4 -1.0
CHCH Chadas Angostu 1.23 356⇑*i*P Pb 10 15 45.0 -0.6
CHCH *i* S Sb 10 16 01.3 +0.1
LMEL Las Melosas 1.34 13⇓*i*P Pb 10 15 46.6 -1.0
LMEL *i* S Sb 10 16 04.3 -0.3
LMEL AMP 10 16 07.0
comp=N,82nm,0.1s
TACH Talagante 1.54 348 *e*P Pn 10 15 49.7 -0.6
TACH *i* S Sb 10 16 10.4 +0.1
RCDM Rinconada Maip 1.68 353 *i* S Sn 10 16 14.3 +0.1
RCDM AMP 10 16 15.8
comp=E,244nm,0.2s
FCH Farellones 1.84 7 *e*P Pn 10 15 55.6 +0.9
FCH *i* S Sn 10 16 19.8 +1.6
FCH AMP 10 16 20.3
comp=N,119nm,0.3s

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*IDC **01** 10:16:07.6±1.9, 34.53N×75.89E, mb3.7/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.7/3, Error ellipse: s-maj=816.8km s-min=28.6km az=39.0*
*NDI **01** 10:16:50.6±3.3, 29.77N×80.52E, h10km, MD3.0*
ISC 01 10:16:42.8±1.2, **29.99N**±0.07×**80.90E**±0.07, **h10**km, **n7, σ0s98**/11, **mb3.4**/2, **Nepal-India border region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
PTH Pithoragarh 0.74 234 *e*P Pb 10 16 55.6 -1.7
PTH *e*S Sb 10 17 02.5 -4.7
LGTI Lohaghat 0.78 227 *e*P Pb 10 16 59.0 +1.0
LGTI *e*S Sb 10 17 08.3 -0.2
DDI Dehra Dun 2.49 278 *e*P Pn 10 17 30.6 +6.6
DDI *e*SG Sg 10 18 05.4 -0.2
NDI New Delhi 3.47 249 *e*PB Pb 10 17 45.5 +1.5
SDNR Sundarnagar 3.70 295 *e*PG Pg 10 17 58.0 +1.3
SDNR *e*SG Sg 10 18 45.3 -0.8
WRA Warramunga Arr 71.48 127 P P 10 28 05.6 -0.3
0.4nm,0.6s,mb3.5,baz=320,slow=6.0,SNR=14
ASAR Alice Springs 73.73 130 P P 10 28 18.6 -0.5
0.3nm,0.7s,mb3.3,baz=314,slow=6.0,SNR=6.5

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*NEIC **01** 10:24:32.8±0.8, 6.75N×72.87W, h176km±9km, mb3.7/6, Error ellipse: s-maj=14.1km s-min=10.8km az=72.0*
*IDC **01** 10:24:32.1±1.2, 6.79N×72.95W, h164km±13km, mb3.5/7, mb1 3.7/9, mb1mx3.4/22, mbtmp4.0/9, Error ellipse: s-maj=28.7km s-min=13.6km az=128.0*
ISC 01 10:24:31.6±0.8, **6.79N**±0.08×**72.9W**±0.1, **h178**km±10km, **n23, σ0s91**/23, **mb3.8**/13, **Northern Colombia**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ROSC El Rosal 2.38 216 P P 10 25 12.9 -0.3
46nm,0.3s,baz=90,slow=17,SNR=87
ROSC S S 10 25 40.1 -5.2
39nm,0.3s,baz=99,slow=15,SNR=8.6
SDV Santo Domingo 3.08 47 P P 10 25 22.4 +0.8
24nm,0.3s,baz=247,slow=8.5,SNR=165
SDV S S 10 25 59.8 -0.4
54nm,0.3s,baz=54,slow=21,SNR=29
JTS JuntasAbangare 12.40 287 P P 10 27 27.0 +4.0
SAML Samuel 18.40 148 *e*P P 10 28 34.7 -1.0
2.7nm,0.5s
LPAZ La Paz 23.41 168 *e*P P 10 29 27.1 +1.3
1.3nm,0.7s,mb3.5
LRAL Lakeview Retre 29.21 335 P P 10 30 19.5 +0.7
5.6nm,0.7s,mb4.4
WMOK Wichita Mounta 36.63 323 *e*P P 10 31 21.4 -1.1
1.6nm,0.6s,mb3.8
TXAR Lajitas Array 36.63 312 P P 10 31 22.6 0.0
0.7nm,0.5s,mb3.6,baz=127,slow=9.3,SNR=16
TXAR PcP PcP 10 33 43.9 +1.7
0.4nm,0.7s,baz=129,slow=5.8,SNR=3.4
ISCO Idaho Springs 44.05 323 *e*P P 10 32 24.2 +0.8
1.1nm,0.7s,mb3.6
WUAZ Wupatki 45.39 315 *e*P P 10 32 35.0 +0.9
64nm,0.8s,mb5.3
ULM Lac du Bonnet 47.38 340 P P 10 32 46.2 -3.3
1.8nm,0.7s,mb3.8,baz=141,slow=7.4,SNR=3.3
ULM Lac du Bonnet 47.38 340 P P 10 32 46.2 -3.3
MSU Marysvale 47.46 318 *e*P P 10 32 51.1 +0.8
SCHQ Schefferville 48.16 5 P P 10 32 56.0 +0.6
1.7nm,0.8s,mb3.8,baz=170,slow=6.1,SNR=6.1
SCHQ Schefferville 48.16 5 P P 10 32 56.0 +0.6
PDAR Pinedale Array 48.22 324 P P 10 32 56.2 +0.1
0.7nm,0.6s,mb3.5,baz=125,slow=8.0,SNR=6.6
HLID Hailey 51.59 322 P P 10 33 19.8 -1.8
0.7nm,0.7s,mb3.4
NVAR Mina Array Bea 51.65 315 P P 10 33 21.9 -0.2
0.7nm,0.8s,mb3.4,baz=122,slow=8.2,SNR=5.0
YKA Yellowknife Ar 63.36 340 P P 10 34 43.2 -0.6
1.6nm,0.5s,mb4.1,baz=132,slow=6.7,SNR=61
YKA Yellowknife Ar 63.36 340 P P 10 34 43.2 -0.6
INK Inuvik 73.13 340 P P 10 35 44.0 +0.1
0.7nm,0.6s,mb3.6,baz=121,slow=6.6,SNR=11
ASAR Alice Springs 149.25 234 PKPbc PKPdf 10 44 01.4 +6.1
0.4nm,0.9s,baz=115,slow=3.4,SNR=6.7
WRA Warramunga Arr 150.50 241 PKPbc PKPdf 10 44 04.6 +7.3
0.2nm,0.3s,baz=106,slow=3.0,SNR=15

NDI 01 10:25:38.8±2.8, **29.30N**×**77.22E**, **h16**km±11km, **ML2.7, Northern India**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
NDI New Delhi 0.61 180 *e*P Pb 10 25 51.1 +0.5
NDI *e*S Sb 10 26 00.0 +1.3
AYAN Aya Nagar 0.81 185 *e*P Pb 10 25 54.9 +0.8
AYAN *e* 10 25 57.5
DDI Dehra Dun 1.26 35 *e* Pb 10 25 59.3 -2.4
KUDL Kundal 1.31 209 *e*P Pn 10 26 03.3 +0.8
KUDL *e*S Sb 10 26 22.8 +3.8
KALG Kalgarh 1.36 81 *e*P Pn 10 25 47.4 -16
KALG *e*S Sb 10 26 04.3 -16
KHET Khetri 1.73 226 *e*P Pn 10 26 08.6 0.0
KHET *e*S Sn 10 26 32.1 +1.6
KHET *e* 10 26 36.6
comp=N,47nm,0.2s
KHET *e* 10 26 36.6
comp=E,26nm,0.2s
SDNR Sundarnagar 2.21 355 *e*P Pn 10 26 16.9 +1.5
SDNR *e*S Sn 10 26 43.9 +1.4
JOSI Joshimath 2.39 58 *e*P Pn 10 26 09.7 -8.3
JOSI *e*S Sn 10 26 39.2 -8.0
JOSI AML AML 10 26 48.5
comp=N,164nm,0.6s
JOSI AML AML 10 26 49.0
comp=E,172nm,0.3s
KLP Kalpa 2.40 22 *e*P Pn 10 26 19.8 +1.6
KLP *e*S Sn 10 26 49.9 +2.4
KLP AML AML 10 27 01.2
comp=N,35nm,0.7s
KLP AML AML 10 27 01.5
comp=E,46nm,0.5s

IDC 01 10:27:35.1±2.3, **4.84S**×**123.74E, mb3.2**/2, **mb1 3.6**/3, **mb1mx3.5**/15, **mbtmp3.4**/3, **ML3.5**/1, **MS3.3**/1, **Ms1 3.3**/1, **ms1mx2.6**/9, **Error ellipse: s-maj=182.0km s-min=27.9km az=66.0, Banda Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
WRA Warramunga Arr 18.22 146 P P 10 31 49.4 -1.9
0.1nm,0.3s,baz=317,slow=12,SNR=13
ASAR Alice Springs 21.13 153 P P 10 32 22.0 -2.0
1.1nm,0.8s,baz=332,slow=12,SNR=11
JHJ Hachijo jima 2 40.70 21 LR LR 10 50 43.7
comp=Z,41nm,19.9s,baz=92,slow=34
SONM Songino Array 54.62 346 P P 10 37 05.5 -2.3
0.6nm,1.0s,baz=167,slow=6.8,SNR=3.9

MAN 01 10:28:16.4, 9.43N×**125.49E, h23**km, **mb4.3, ML3.1, MS2.9, 2C, Mindanao**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
SCPH Surigao 0.35 360⇑*e*P Pb 10 28 23.2 -0.9
BUTP Butuan 0.47 164 *e*P Pb 10 28 23.7 -2.2
BUTP *e*S Sb 10 28 31.1 -1.4
MSLP Maasin 0.94 319 *e*P Pb 10 28 33.5 -0.3
CGP Cagayan de Oro 1.24 219⇑*e*P Pn 10 28 38.0 -0.6
CGP *e*S Sb 10 28 54.8 +0.2
BUKP Musuan 1.59 195 *e*P Pn 10 28 43.0 -0.6
BUKP *e*S Sn 10 29 08.3 +4.7
TBP Tagbilaran 1.63 279 *e*P Pn 10 28 43.8 -0.3
TBP *e*S Sn 10 29 04.3 -0.2
LLP Lapu-Lapu 1.74 301 *e*P Pn 10 28 46.0 +0.2
LLP *e*S Sn 10 29 06.8 -0.6
PLP Palo 1.80 344 *e*P Pn 10 28 47.2 +0.7
PLP *e*S Sn 10 29 05.1 -3.8
BESP Borongan 2.16 359 *e*P Pn 10 28 51.7 0.0
PAGZ Pagadian 2.61 233 *e*P Pn 10 28 58.1 0.0
PVCP Virac 4.35 343 *e*P Pn 10 29 28.1 +5.3

IDC 01 10:43:08.4±8.3, **12.69N**×**92.14E, mb3.3**/2, **mb1 3.6**/3, **mb1mx3.4**/18, **mbtmp3.3**/3, **Error ellipse: s-maj=174.9km s-min=48.1km az=106.0, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CMAR Chiang Mai Arr 8.70 48 Pn P 10 45 14.0 -4.5
baz=237,slow=16,SNR=5.1
WRA Warramunga Arr 52.69 127 P P 10 52 24.8 -2.5
0.2nm,0.5s,baz=296,slow=9.5,SNR=7.2
WRA pP pP 10 52 32.1 +4.8
0.5nm,0.6s,baz=304,slow=10,SNR=12
ASAR Alice Springs 54.53 131 P P 10 52 39.1 -1.6
0.3nm,0.6s,baz=307,slow=7.0,SNR=9.7
ASAR pP pP 10 52 46.6 +5.9
0.3nm,0.6s,baz=306,slow=6.4,SNR=5.7

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*OMAN **01** 10:47:30.4, 28.14N×54.21E, h32km, Error ellipse: s-maj=1411.0km s-min=36.7km az=327.0*
*THR **01** 10:47:42.4±0.8, 26.49N×54.64E, h31km±7km, ML3.8*
*IDC **01** 10:47:45.5±1.3, 27.09N×54.68E, mb3.9/12, mb1 4.0/12, mb1mx3.9/20, mbtmp3.9/12, Error ellipse: s-maj=32.1km s-min=21.7km az=172.0*
*CSEM **01** 10:47:46.3±0.1, 26.81N×54.65E, h30km, mb4.5/1, Error ellipse: s-maj=4.6km s-min=2.4km az=45.0*
*NEIC **01** 10:47:49.1±7.4, 27.08N×54.70E, h25km±51km, mb3.9/4, Error ellipse: s-maj=26.7km s-min=13.6km az=161.0*
ISC 01 10:47:45.3±1.7, **26.84N**±0.05×**54.62E**±0.05, **h18**km±15km, **n39, σ1s04**/42, **mb4.0**/14, **5C-3D, Southern Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
BNDS Bandar-Abbas 1.49 68 *e*PG Pn 10 48 11.9 +0.4
BNDS *e*SG Sn 10 48 33.8 +3.3
BNDS AML AML 10 48 42.1
comp=N,1μm,0.4s
BNDS AML AML 10 48 42.4
comp=E,992nm,0.4s
BANOM Banah 1.76 121 ⇓P Pn 10 48 16.1 +0.9
SNR=22
GHIR Ghir-Karzin 2.05 315 *e*PG Pn 10 48 23.8 +4.4
GHIR *e*SG Sn 10 48 53.6 +8.9
GHIR AML AML 10 49 00.0
comp=N,618nm,0.5s
GHIR AML AML 10 49 08.8
comp=E,448nm,0.5s
ASHO Ashiyiah 2.50 149 P Pn 10 48 27.3 +1.3
SNR=12
KRBR Kerman 3.66 31 *e*PN Pn 10 48 43.9 +1.5
KRBR AML AML 10 49 30.3
comp=E,111nm,0.4s
ARQ Araqi 3.89 153 ⇑P Pn 10 48 46.3 +0.7
HOQ Hoqain 4.05 142 ⇑P Pn 10 48 46.9 -1.1
BIDO Bidbid 4.58 135 ⇓P Pn 10 48 54.2 -1.2
BSY Bisya 4.70 150 ⇑P Pn 10 48 57.4 +0.3
BSYO Bisya 4.73 149 P Pn 10 48 57.4 -0.2
SMDO Samad 4.88 140 ⇑P Pn 10 48 59.3 -0.4
SNR=13
JMDO Jabal Madar 5.46 144 ⇓P Pn 10 49 07.8 0.0
WBK Wadi Bani Khal 5.77 136 ⇑P Pn 10 49 10.9 -1.4
ZHSF Zahedan 6.09 62 *e*PN Pn 10 49 15.3 -1.5
NASN Na'in 6.15 346 *e*PN Pn 10 49 18.0 +0.4
RDF Al-Radifah 6.59 290 *e*P Pn 10 49 23.9 0.0
RDF *e*S Sn 10 50 37.7 -1.7
RST Umm Al-Ruwaisa 7.23 293 *e*P Pn 10 49 32.8 0.0
ASAO Ashtian 8.64 334 *e*PN P 10 49 52.3 -0.2
EIL Elat 17.56 284 P P 10 51 50.8 -0.1
comp=E,3.3nm,0.5s
EIL Elat 17.56 284 P P 10 51 50.8 0.0
comp=E,3.3nm,0.5s
MALT Malatya 17.78 314 P P 10 51 54.7 +1.2
comp=E,1.8nm,0.5s
MALT Malatya 17.78 314 P P 10 51 54.7 +1.2
comp=E,1.8nm,0.5s
BRTR Keskin Array B 21.68 312 P P 10 52 37.8 +0.7
comp=E,1.6nm,0.6s,mb3.6,baz=127,slow=14,SNR=5.6
IDI Anoyia 26.75 296 P P 10 53 27.0 +1.2
comp=E,3.6nm,0.7s,mb4.0,baz=97,slow=8.1,SNR=2.7
BVAR Borovoye Array 28.69 20 P P 10 53 42.5 -0.7
comp=E,0.4nm,0.3s,mb3.6,baz=205,slow=7.1,SNR=4.1
KURK Kurchatov 30.06 31 *e*P P 10 53 52.2 -3.3
comp=E,1.2nm,0.4s,mb4.0
ZAL Zalesovo 35.03 31 P P 10 54 37.3 -1.5
comp=E,5.0nm,0.3s,mb4.8,baz=222,slow=6.0,SNR=16
FINES FINESS Array B 39.56 339 P P 10 55 15.7 -1.1
comp=E,0.7nm,0.4s,mb3.7,baz=143,slow=9.5,SNR=8.0
SONM Songino Array 45.23 48 P P 10 56 02.8 -0.3
comp=E,1.4nm,0.6s,mb4.0,baz=275,slow=9.3,SNR=15
ULN Ulaanbaatar 45.67 48 *e*P P 10 56 06.1 -0.5
comp=E,2.9nm,0.5s,mb4.5
ULN Ulaanbaatar 45.67 48 *e*P P 10 56 06.1 -0.5
comp=E,2.9nm,0.5s,mb4.5
ARCES ARCESS Array B 45.98 346 P P 10 56 08.8 0.0
comp=E,4.5nm,1.0s,mb4.3,baz=151,slow=9.3,SNR=4.1
DBIC Dimbokro 59.83 262 P P 10 57 53.5 +1.1
comp=E,1.6nm,0.9s,mb4.0,baz=58,slow=13,SNR=3.8
DBIC Dimbokro 59.83 262 P P 10 57 53.5 +1.1
SCHQ Schefferville 84.47 330 P P 11 00 17.6 -0.2
comp=E,3.1nm,1.2s,mb4.3,baz=57,slow=6.3,SNR=4.1
ILAR Eielson Array 87.17 9 P P 11 00 32.5 +1.4
comp=E,0.2nm,0.8s,mb3.4,baz=284,slow=3.7,SNR=4.2
YKA Yellowknife Ar 90.57 355 P P 11 00 46.7 -0.5
comp=E,0.2nm,0.6s,mb3.6,baz=2.1,slow=5.0,SNR=5.3
YKA Yellowknife Ar 90.57 355 P P 11 00 46.7 -0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	91.54	116	P	P	11 00 55.5	+2.9
	comp=E,0.4nm,0.9s,mb3.8,baz=284,slow=4.7,SNR=3.2						

*NAO **01** 11:03:01.6±7.3,77.24N×29.05E,h12^{km}±40^{km},ML2.2*
BER 01 11:02:57.8±5.5,**77.46N×30.46E,h0**^{km}±40^{km},**MD2.5, ML2.4,ML2.2**(NAO),**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	Hopen	1.56	235	eP	Pn	11 03 25.5	-1.4
HOPEN				eS	Sb	11 03 43.5	-3.9
HOPEN				AML	AML	11 03 45.1	
	comp=Z,80nm,0.3s						
SPA0	Spitsbergen Ar	3.07	290	Pn	Pn	11 03 47.4	-1.1
	baz=69,slow=12						
SPA0				Sn	Sn	11 04 21.1	-5.4
	baz=86,slow=22						
SPA0				Lg		11 04 31.7	
	baz=103,slow=28						
ARA0	ARCESS Array S	8.08	192	Pn	P	11 04 54.0	-5.2
	baz=16,slow=10						
ARA0				Sn	Sn	11 06 21.1	-11
	baz=17,slow=22						

*ISK **01** 11:03:45.7,36.51N×27.75E,h90^{km},MD3.1*
*CSEM **01** 11:03:45.7,36.51N×27.75E,h90^{km},MD3.1,After ISK*
*ATH **01** 11:04:42.5,36.53N×27.56E,h10^{km},MD3.2/3*
*NEIC **01** 11:04:42.6,36.39N×27.60E,h113^{km},MD3.3(ATH), MD3.1(ISK),After ISK.*
ISC 01 11:04:45.9±0.8,**36.23N**±0.04×**27.67E**±0.07,**h10**^{km}**,n15,** σ**1^{s}24**/16,**1D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.37	91	⇓iPB	Pb	11 04 53.2	-0.8
KARP	Karpathos	0.79	212	ePB	Pb	11 05 02.0	+0.7
BDRM	Kayabasi	0.86	348	i P	Pb	11 05 01.7	-0.7
BDRM				i S	Sb	11 05 13.8	+0.1
BODT	Bodrum	0.89	341	i PG	Px	11 04 01.9	
BODT				i SG	Sx	11 04 15.1	
BODT	Bodrum	0.89	341	Pg	Pg	11 05 02.7	-0.9
BODT				Sg	Sg	11 05 15.7	+0.2
DALT	Dalyan (Mudla)	0.95	55	PG	Px	11 04 03.4	
DALT				SG	Sx	11 04 16.3	
DALT	Dalyan (Mudla)	0.95	55	Pg	Pg	11 05 03.7	-1.1
YER	Yerkesik	1.03	28	PG	Px	11 04 03.6	
YER	Yerkesik	1.03	28	Pg	Pg	11 05 03.9	-2.7
YER				Sg	Sg	11 05 20.9	+0.6
FETY	Fethiye	1.21	70	PN	Px	11 04 07.9	
DNZL	Cakiroluk	1.83	37	i P	Pn	11 05 20.4	+2.7
DNZL				i S	Sn	11 05 43.4	+2.3
DENT	Denizli	1.87	35	Pn	Pn	11 05 12.8	-5.5
APE	Apeiranthos	1.92	297	Pn	Pn	11 05 13.9	-5.0
XRY	Khrisi	2.10	231	ePN	Pn	11 05 22.0	+0.4
KDAG	Bornova	2.20	352	i P	Pn	11 05 28.7	+5.7
KDAG				i S	Sn	11 05 57.7	+7.2

NEIC 01 11:17:12.5,53.02N×167.44W,h16^{km}**,ML2.9**(AEIC), **After AEIC.,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKFG	Magazine Ridge	0.48	324	P	Pb	11 17 22.0	-0.1
OKFG				S	Sb	11 17 30.3	+1.6
OKER	East Rim	0.57	320	P	Pb	11 17 23.2	-0.3
OKER				S	Sb	11 17 32.1	+1.0
NIKO	Nikolski	0.86	267	P	Pb	11 17 27.3	-1.2
NIKO				S	Sb	11 17 39.2	-0.3
MNAT	Makushin Natee	0.97	27	P	Pb	11 17 29.2	-1.2
MNAT				S	Sb	11 17 42.3	-0.6
MSW	Makushin Switc	0.98	23	P	Pb	11 17 28.9	-1.6
UNV	Unalaska Valle	1.00	34	P	Pb	11 17 29.3	-1.6
MTBL	Makushin Table	1.05	25	P	Pb	11 17 30.5	-1.3
LVA	Lava Point	1.41	36	P	Pn	11 17 36.5	-1.2
AKLV	Akutan Long Va	1.44	37	P	Pn	11 17 36.6	-1.6
AKGG	Akutan Green G	1.46	36	P	Pn	11 17 37.0	-1.4
AKUT	Akutan	1.49	41	P	Pn	11 17 37.3	-1.6
AKA	Akutan	1.49	41	P	Pn	11 17 37.5	-1.4
WESS	West Dahl Sout	2.17	47	P	Pn	11 17 47.3	-1.3
WFAR	Faris Peak	2.19	45	P	Pn	11 17 47.4	-1.4
WPOG	Pogromni	2.24	44	P	Pn	11 17 48.0	-1.6
WESN	West Dahl Nort	2.29	46	P	Pn	11 17 49.0	-1.3
WTUG	Tugumak	2.57	43	P	Pn	11 17 51.8	-2.4
SVW2	Sparrevohn	10.34	34	P	P	11 19 37.6	-5.5

IDC 01 11:19:42.9±11.0,**7.08S×101.50W,mb3.3**/4,**mb1 3.7**/4, **mb1mx3.5**/15,**mbtmp3.3**/4,**Error ellipse: s-maj=488.4km s-min=135.0km az=106.0,Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	Lajitas Array	36.26	357	P	P	11 26 48.7	-1.3
	0.4nm,0.9s,baz=169,slow=9.2,SNR=3.1						
PDAR	Pinedale Array	50.15	352	P	P	11 28 40.0	-2.3
	0.3nm,0.6s,baz=158,slow=4.9,SNR=2.9						
YKA	Yellowknife Ar	70.10	354	P	P	11 30 57.3	-1.5
	0.3nm,0.9s,baz=160,slow=7.1,SNR=4.1						
ILAR	Eielson Array	79.16	342	P	P	11 31 48.8	-2.1
	0.7nm,1.0s,baz=162,slow=5.9,SNR=4.6						

IDC 01 11:26:52.2±1.6,**3.36S×143.96E,mb3.4**/2,**mb1 3.8**/3, **mb1mx3.6**/12,**mbtmp3.5**/3,**ML3.5**/1,**MS3.1**/1,**Ms1 3.1**/1, **ms1mx2.7**/5,**Error ellipse: s-maj=108.5km s-min=27.5km az=116.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.96	209	P	P	11 31 14.6	-2.9
	0.1nm,0.3s,baz=31,slow=11,SNR=8.7						
ASAR	Alice Springs	22.40	205	P	P	11 31 53.1	-0.7
	0.6nm,0.6s,baz=32,slow=9.9,SNR=3.9						
ASAR				LR	LR	11 40 17.9	
	comp=Z,47nm,18.2s,baz=292,slow=36						
ILAR	Eielson Array	84.28	24	P	P	11 39 25.6	-1.3
	0.4nm,0.6s,baz=265,slow=4.5,SNR=9.9						

*IDC **01** 11:47:35.1±1.7,48.30N×128.36W,mb3.2/4,mb1 3.5/13, mb1mx3.5/27,mbtmp3.3/13,ML3.3/9,Error ellipse: s-maj=31.9km s-min=13.0km az=61.0*
*NEIC **01** 11:47:37.2±1.1,48.35N×128.31W,h10^{km},mb3.8/1,Error ellipse: s-maj=18.4km s-min=8.4km az=63.0*
ISC 01 11:47:35.0±1.0,**48.34N**±0.07×**128.4W**±0.2,**h10**^{km}**,n20,** σ**1^{s}07**/20,**mb3.1**/3,**Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OCWA	Octopus Mounta	2.89	100	eP	Pn	11 48 21.7	-0.3
PGC	Sidney	3.30	83	eP	Pn	11 48 26.5	-1.4
BBB	Bella Bella	3.86	3	Pn	Pn	11 48 35.3	-0.4
	5.8nm,0.3s,baz=197,slow=12,SNR=82						
NEW	Newport	7.52	86	Pn	Pn	11 49 26.6	-0.8
	0.3nm,0.3s,baz=289,slow=18,SNR=3.3						
YBH	Yreka Blue Hor	7.73	147	Pn	Pn	11 49 30.8	+0.4
	0.1nm,0.3s,baz=343,slow=9.7,SNR=3.7						
DLBC	Dease Lake	10.16	355	Pn	P	11 50 07.6	+3.7
	0.1nm,0.3s,baz=214,slow=17,SNR=3.1						
ELK	Elko	12.06	124	Pn	P	11 50 31.9	+2.0
	0.0nm,0.3s,baz=317,slow=19,SNR=2.2						
NVAR	Mina Array Bea	12.32	140	Pn	P	11 50 34.0	+0.8
	0.1nm,0.3s,baz=316,slow=9.4,SNR=6.8						
PDAR	Pinedale Array	14.31	106	Pn	P	11 50 59.8	+0.2
	0.0nm,0.3s,baz=302,slow=12,SNR=3.0						
YKA	Yellowknife Ar	16.14	23	Pn	P	11 51 23.3	0.0
	0.0nm,0.3s,baz=213,slow=11,SNR=13						
PV10	Paradox Valley	17.20	118	eP	P	11 51 35.9	-0.9
FFC	Flin Flon	17.57	59	eP	P	11 51 43.4	+2.1
	7.5nm,0.9s						
PV01	Paradox Valley	17.63	118	eP	P	11 51 41.7	-0.5
ILAR	Eielson Array	19.23	336	P	P	11 52 01.4	-0.3
	0.0nm,0.3s,baz=138,slow=13,SNR=5.8						
INK	Inuvik	20.19	354	P	P	11 52 11.7	-0.6
	0.9nm,0.9s,baz=175,slow=12,SNR=2.6						
ANMO	Albuquerque	21.06	121	P	P	11 52 21.4	-0.1
	1.0nm,0.8s,mb3.2,baz=341,slow=16,SNR=3.5						
ANMO	Albuquerque	21.06	121	P	P	11 52 21.4	-0.1
ULM	Lac du Bonnet	21.21	73	P	P	11 52 22.6	-0.3
	1.6nm,0.7s,mb3.5,baz=272,slow=4.7,SNR=3.0						
FCC	Fort Churchill	22.64	50	eP	P	11 52 39.1	+2.1
TXAR	Lajitas Array	26.85	126	P	P	11 53 15.8	-1.6
	0.2nm,0.8s,mb2.7,baz=300,slow=7.3,SNR=2.4						

*IDC **01** 11:56:16.8±1.1,6.53N×60.20E,mb4.0/7,mb1 4.2/7, mb1mx3.9/17,mbtmp4.0/7,MS3.8/7,Ms1 3.8/7, ms1mx3.6/17,Error ellipse: s-maj=33.1km s-min=25.8km az=151.0*
*NEIC **01** 11:56:18.5±0.6,6.56N×60.19E,h10^{km},mb4.3/4,Error ellipse: s-maj=16.6km s-min=13.8km az=122.0*
ISC 01 11:56:17.1±0.8,**6.6N**±0.1×**60.2E**±0.1,**h10**^{km}**,n16,** σ**0^{s}69**/12,**mb4.1**/11,**MS3.8**/7,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	24.19	252	P	P	12 01 35.5	+0.4
	2.5nm,0.7s,mb3.8,baz=55,slow=13,SNR=12						
KMBO				LR	LR	12 10 08.3	
	comp=Z,239nm,20.6s,MS3.7,baz=278,slow=34						
KMBO	Kilima Mbogo	24.19	252	P	P	12 01 35.5	+0.4
LSA	Lhasa	37.07	48	eP	P	12 03 30.1	+0.6
	5.5nm,0.6s,mb4.6						
AAK	Ala-Archa	38.04	17	eP	P	12 03 37.4	0.0
	4.7nm,1.0s,mb4.2						
CMAR	Chiang Mai Arr	39.48	69	P	P	12 03 51.2	+1.4
	1.2nm,0.7s,mb3.7,baz=259,slow=9.2,SNR=10						
CMAR				LR	LR	12 18 41.4	
	comp=Z,89nm,18.2s,MS3.6,baz=250,slow=34						
MATP	Matopo	41.16	229	LR	LR	12 18 03.9	
	comp=Z,177nm,21.6s,MS3.9,baz=52,slow=32						
KURK	Kurchatov	46.57	16	P	P	12 04 47.3	+0.4
	2.9nm,0.9s,mb4.2						
ZAL	Zalesovo	51.22	18	P	P	12 05 22.0	-0.9
	0.7nm,0.6s,mb3.8,baz=243,slow=7.4,SNR=6.6						
ZAL				LR	LR	12 29 22.4	
	comp=Z,86nm,19.4s,MS3.8,baz=171,slow=39						
SONM	Songino Array	56.77	36	P	P	12 06 03.0	-0.8
	1.6nm,1.1s,mb4.0,baz=239,slow=5.6,SNR=7.9						
FINES	FINESS Array B	60.32	342	LR	LR	12 31 22.7	
	comp=Z,61nm,20.6s,MS3.7,baz=201,slow=35						
DBIC	Dimbokro	64.61	274	LR	LR	12 35 57.3	
	comp=Z,114nm,18.5s,MS4.1,baz=17,slow=37						
ARCES	ARCESS Array B	66.80	347	LR	LR	12 38 27.2	
	comp=Z,62nm,20.4s,MS3.8,baz=13,slow=38						
WRA	Warramunga Arr	77.45	112	P	P	12 08 14.2	-0.8
	1.9nm,1.1s,mb4.0,baz=291,slow=5.2,SNR=6.5						
WRAB	Tennant Creek	77.46	112	eP	P	12 08 14.8	-0.2
	1.9nm,0.6s,mb4.2						
ASAR	Alice Springs	77.84	116	P	P	12 08 16.4	-0.6
	2.6nm,1.0s,mb4.1,baz=280,slow=5.1,SNR=12						
STKA	Stephens Creek	86.16	123	P	P	12 09 00.8	+0.5
	2.4nm,0.8s,mb4.5,baz=302,slow=9.5,SNR=3.9						

*NEIC **01** 12:02:20.4±0.4,11.78N×92.20E,mb4.3/6,Error ellipse: s-maj=12.2km s-min=5.9km az=53.0*
*IDC **01** 12:02:20.4±0.8,11.72N×92.17E,h31^{km}±5^{km},mb3.8/11, mb1 3.9/12,mb1mx3.8/19,mbtmp3.9/12,ML3.8/1,Error ellipse: s-maj=32.9km s-min=14.6km az=47.0*
ISC 01 12:02:18.0±2.2,**11.7N**±0.1×**92.0E**±0.1,**h31**^{km}±13^{km}, **h32**^{km}±1.3^{km}**:pP-P,n27,**σ**0^{s}80**/30,**mb4.1**/16,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	0.74	90	eP	Pn	12 02 33.1	+0.8
PBA				eS	Sb	12 02 42.8	+0.6
CMAR	Chiang Mai Arr	9.53	44	Pn	P	12 04 32.8	-3.6
	0.3nm,0.3s,baz=238,slow=16,SNR=3.1						
VIS	Vishakhapatnam	10.32	307	eP	P	12 04 46.5	-0.7
VIS				eS	S	12 06 31.9	-11
VIS				e		12 06 34.0	
	comp=N,37nm,0.4s						
VIS				e		12 06 34.0	
	comp=E,40nm,0.4s						
BWNR	Bhubaneshwar	10.45	326	eP	P	12 04 47.5	-1.4
BWNR				eS	S	12 06 33.6	-12
BWNR				e		12 06 36.8	
	comp=E,117nm,0.5s						
BWNR				e		12 06 37.2	
	comp=N,103nm,0.1s						
BLSP	Bilaspur	14.04	319	e	P	12 05 45.7	+8.5
BLSP				e		12 11 30.4	
JIRN	Jiri	16.83	342	eP	P	12 06 13.0	-0.1
	comp=N,6.9nm,0.3s						
PKI	Pulchoki	17.00	340	eP	P	12 06 15.3	+0.1
	comp=N,12nm,0.5s						
DMN	Daman	17.14	339	eP	P	12 06 16.1	-0.8
GKN	Gorkha	17.66	338	eP	P	12 06 23.6	+0.1
KOLN	Koldanda	17.86	335	eP	P	12 06 26.9	+1.0
	comp=N,18nm,0.6s						
ENH	Enshi	24.64	39	eP	P	12 07 35.0	-2.3
	comp=N,6.4nm,0.4s,mb4.5						
AAK	Ala-Archa	34.42	337	P	P	12 09 05.6	+0.9
	comp=N,1.3nm,0.7s,mb4.0						
SONM	Songino Array	38.04	16	P	P	12 09 35.3	0.0
	comp=N,1.3nm,0.9s,mb3.7,baz=206,slow=6.4,SNR=12						
SONM				PcP	PcP	12 11 50.4	-0.3
	comp=N,0.2nm,0.4s,baz=227,slow=2.8,SNR=3.6						
KURK	Kurchatov	40.46	347	eP	P	12 09 55.2	-0.2
	comp=N,3.8nm,1.0s,mb4.1						
ZAL	Zalesovo	42.56	354	P	P	12 10 12.7	+0.1
	comp=N,1.4nm,0.4s,mb4.0,baz=316,slow=7.9,SNR=7.1						
CHKZ	Chkalovo	45.25	342	eP	P	12 10 34.5	+0.3
	comp=N,6.2nm,0.9s,mb4.4						
CHKZ				e	pP	12 10 45.0	+1.3
WRA	Warramunga Arr	52.19	127	P	P	12 11 28.2	-0.2
	comp=N,0.8nm,0.4s,mb4.0,baz=300,slow=10,SNR=37						
WRA				pP	pP	12 11 36.8	-1.2
	comp=N,1.1nm,0.7s,baz=300,slow=10,SNR=12						
WRAB	Tennant Creek	52.19	127	eP	P	12 11 27.5	-0.9
	comp=N,18nm,1.3s,mb4.8						
WB2	Warramunga Arr	52.20	127	eP	P	12 11 27.5	-1.0
ASAR	Alice Springs	53.96	131	P	P	12 11 41.2	-0.2
	comp=N,0.6nm,0.8s,mb3.5,baz=310,slow=7.3,SNR=9.3						
ASAR				pP	pP	12 11 50.1	-1.0
	comp=N,0.4nm,0.4s,baz=308,slow=7.2,SNR=5.8						
BRTR	Keskin Array B	58.38	310	P	P	12 12 13.5	+0.6
	comp=N,0.7nm,0.7s,mb3.8,baz=124,slow=6.6,SNR=2.9						
BRTR				pP	pP	12 12 23.6	+0.9
	comp=N,0.3nm,0.4s,baz=130,slow=9.6,SNR=3.9						
FINES	FINESS Array B	68.40	332	P	P	12 13 19.1	+0.4
	comp=N,2.3nm,0.9s,mb4.2,baz=117,slow=8.5,SNR=8.1						
ARCES	ARCESS Array B	71.01	340	P	P	12 13 35.1	+0.7
	comp=N,3.4nm,0.9s,mb4.3,baz=98,slow=6.4,SNR=8.0						
GERES	GERESS Array B	73.62	318	P	P	12 13 51.3	+1.1
	comp=N,0.6nm,0.6s,mb3.7,baz=79,slow=6.8,SNR=5.4						
GERES				pP	pP	12 14 02.1	+2.0
	comp=N,0.7nm,0.7s,baz=101,slow=6.8,SNR=3.8						
NOA	NORSAR Array B	75.42	330	P	P	12 14 00.7	+0.4
	comp=N,1.2nm,0.8s,mb3.9,baz=94,slow=6.2,SNR=3.7						
ILAR	Eielson Array	92.05	22	P	P	12 15 25.1	+0.3
	comp=N,0.6nm,0.7s,mb4.0,baz=303,slow=4.4,SNR=8.1						
INK	Inuvik	93.96	15	P	P	12 15 34.1	+0.5
	comp=N,1.6nm,1.2s,mb4.3,baz=279,slow=2.3,SNR=4.2						

KRSC 01 12:06:03.2±1.9,**55.68N×166.10E,h48**^{km}±10^{km}**,ML3.9, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	Bering	0.48	189	i P	P	12 06 13.0	-1.1
BKI				i S	S	12 06 20.2	-1.7
KBTR	Krutoberegovo	1.92	287	eP	P	12 06 32.2	-1.9
KBTR				eS	S	12 06 54.3	-2.8
KBG	Krutoberegovo	1.99	288	eP	P	12 06 33.6	-1.5
KBG				eS	S	12 06 55.7	-3.2
KMNR	Kamenistaya	3.32	274	eP	P	12 06 54.1	+0.1
TUMR	Tumrok	3.41	266	eP	P	12 06 56.6	+1.3
TUMR				eS	S	12 07 31.1	-3.8
SRDR	Sredinnyy	3.64	283	eP	P	12 06 57.7	-0.8
ESO	Esso	4.18	276	eP	P	12 07 03.0	-3.2
SPN	Mys Shipunski	4.39	236	eP	P	12 07 08.1	-1.1
SPN				eS	S	12 07 56.1	-3.6
NLC	Nalytchevo	4.68	240	eP	P	12 07 12.6	-0.5
NLC				eS	S	12 08 03.1	-3.7
SDLR	Sedlovina	4.85	243	eP	P	12 07 15.9	+0.4
SDLR				eS	S	12 08 10.1	-1.0
SMAR	Somma	4.90	243	eP	P	12 07 16.2	0.0
SMAR				eS	S	12 08 09.3	-3.0
AVH	Avacha	4.93	244	eP	P	12 07 16.9	+0.2
AVH				eS	S	12 08 11.3	-1.8
KOK	Koryaka	4.97	244	eP	P	12 07 17.7	+0.5
KOK				eS	S	12 08 11.8	-2.2
PET	Petropavlovsk	5.10	242	eP	P	12 07 18.7	-0.4
PET				eS	S	12 08 15.3	-2.2
GNL	Ganaly	5.13	251	eP	P	12 07 19.6	+0.1
GNL				eS	S	12 08 16.6	-1.7
KRMR	Karymshinskiy	5.47	242	eP	P	12 07 25.6	+1.3
KRMR				eS	S	12 08 24.8	-2.0
RUS	Russkaya	5.53	237	eP	P	12 07 24.7	-0.3
RUS				eS	S	12 08 23.9	-4.2
GRL	Gorelyy	5.67	240	eP	P	12 07 26.5	-0.4

*BER **01** 12:19:54.9±4.6,77.36N×30.24E,MD2.4,ML3.0, ML2.6(NAO)*
*NAO **01** 12:20:00.3±10.0,77.17N×28.70E,h26^{km}±61^{km},ML2.6*
ISC 01 12:19:55.5±2.0,**77.1N**±0.1×**29.1E**±0.6,**h10**^{km}**,n8,** σ**1^{s}00**/16,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	Hopen	1.11	241	eP	Pb	12 20 21.9	+5.5
HOPEN				eS	Sb	12 20 39.4	+8.8
HOPEN				AML	AML	12 20 43.8	
	comp=Z,332nm,0.1s						
SPA0	Spitsbergen Ar	2.96	298	Pn	Pn	12 20 43.7	+0.2
	baz=108,slow=14						
SPA0				Sn	Sn	12 21 17.7	-1.7
	baz=92,slow=22						
SPA0				Lg		12 21 28.0	
	baz=87,slow=28						
SPA0	Spitsbergen Ar	2.96	298	Pn	Pn	12 20 43.7	+0.3
	baz=108,slow=13,SNR=50						
SPA0				Sn	Sn	12 21 17.7	-1.7
	baz=92,slow=20,SNR=50						
SPA0				Lg		12 21 28.0	
	baz=87,slow=25,SNR=55						
HSP	Hornsund	3.06	275	eP	Pn	12 20 46.2	+1.3
HSP				eS	Sn	12 21 22.5	+0.5
ARA0	ARCESS Array S	7.66	190	Pn	Pn	12 21 51.0	+1.1
	baz=14,slow=12						
ARA0				Sn	Sn	12 23 16.9	-0.7
	baz=19,slow=22						
ARA0	ARCESS Array S	7.66	190	Pn	Pn	12 21 51.0	+1.1
	baz=14,slow=12,SNR=50						
ARA0				Sn	Sn	12 23 16.9	-0.7
	baz=19,slow=20,SNR=50						
APA0	Apatity Array	9.60	171	Pn	P	12 22 15.7	-0.8
	baz=338,slow=10						
APA0				Sn	Sn	12 23 58.5	-7.1
	baz=347,slow=22						
APA0	Apatity Array	9.60	171	Pn	P	12 22 15.7	-0.8
	baz=338,slow=10.0,SNR=50						
APA0				Sn	Sn	12 23 58.5	-7.0
	baz=347,slow=20,SNR=50						

*BJI **01** 12:31:43.6,30.04S×177.28W,h28^{km},mB5.7,mb5.0, Ms5.2,Msz4.7*
*NEIC **01** 12:31:45.3±0.5,30.00S×176.98W,mb5.1/15,Error ellipse: s-maj=19.7km s-min=10.9km az=172.0*
*IDC **01** 12:31:45.4±0.7,30.09S×176.97W,h31^{km}±5^{km},mb4.2/10, mb1 4.4/13,mb1mx4.3/17,mbtmp4.4/13,ML3.9/3,MS4.6/16, Ms1 4.6/16,ms1mx4.2/28,Error ellipse: s-maj=33.1km s-min=17.9km az=167.0*
*HRVD **01** 12:31:45.3±0.4,30.07S×176.46W,h12^{km},MW4.9/52, Centroid moment Tensor Solution. LP body waves: s22,c32;Mantle waves: s52,c83; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.98±.10; $M_{\theta\theta}$0.17±.11; $M_{\phi\phi}$-2.16±.08; $M_{r\theta}$1.65±.35; $M_{\theta\phi}$-0.31±.09; $M_{\phi r}$1.56±.29; Best double couple: $M_0$3.081×10^{16} NP1:ϕ_s167°,δ28°,λ47°. NP2:ϕ_s34°,δ70°,λ110°. Principal axes: T 3.232, Plg60°, Azm333°; N -.308, Plg19°, Azm206°; P -2.929, Plg22°, Azm108°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 12:31:44.3±0.5,**30.29S**±0.05×**177.12W**±0.09,**h37**^{km}, **h37**^{km}±3.3^{km}**:pP-P,n88,**σ**1^{s}12**/59,**mb4.8**/24,**MS4.6**/20, **6C-1D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.25	326	⇑iPn	P	12 32 04.7	-0.8
MWZ	Matawai	9.17	207	SN	S	12 35 41.2	+1.1
MWZ	Matawai	9.17	207	SN	S	12 35 41.2	+1.1
URZ	Urewera	9.27	209	Pn	P	12 33 54.3	-4.3
	0.9nm,0.3s,baz=320,slow=22,SNR=6.4						
URZ				Sn	S	12 35 41.8	-1.0
	3.7nm,0.3s,baz=209,slow=11,SNR=13						
URZ	Urewera	9.27	209	SN	S	12 35 42.5	-0.3
URZ	Urewera	9.27	209	SN	S	12 35 42.5	-0.3
KNZ	Kokohu	9.71	205	SN	S	12 35 51.9	-1.7
KNZ	Kokohu	9.71	205	SN	S	12 35 51.9	-1.7
BFZ	Birch Farm	11.69	206	SN	S	12 36 37.6	-4.3
BFZ	Birch Farm	11.69	206	SN	S	12 36 37.6	-4.3
MRZ	Mangatainoka R	11.94	208	SN	S	12 36 41.2	-6.5
MRZ	Mangatainoka R	11.94	208	SN	S	12 36 41.2	-6.5
RPZ	Rata Peaks	16.37	212	Pn	P	12 35 29.4	-3.4
	1.3nm,0.3s,baz=135,slow=2.2,SNR=6.3						
RAR	Rarotonga	18.03	64	P	P	12 35 48.6	-5.2
	0.1nm,0.3s,baz=180,slow=2.0,SNR=2.7						
RAR				LR	LR	12 41 25.7	
	comp=Z,2μm,19.4s,baz=236,slow=32						
TBI	Tubuai	25.59	81	eLQ		12 41 55.7	
TBI				eLR	LR	12 42 57.9	
	1μm,31.0s						
ARMA	Armidale	26.93	262	eP	P	12 37 29.0	+4.8
PPT	Papeete	28.09	69	eLQ		12 42 52.3	
PPT				eLR	LR	12 44 02.3	
	688nm,20.5s						
CTA	Charters Tower	34.53	278	eP	P	12 38 32.9	+1.5
	12nm,1.4s,mb4.6						
CTA	Charters Tower	34.53	278	P	P	12 38 32.6	+1.3
	13nm,0.9s,mb4.8,baz=92,slow=11,SNR=8.2						
CTA				LR	LR	12 51 05.6	
	comp=Z,1μm,18.5s,MS4.7,baz=129,slow=34						
CTAO	Charters Tower	34.53	278	P	P	12 38 29.3	-2.1
	14nm,0.8s,mb4.9						
STKA	Stephens Creek	35.25	257	eP	P	12 38 40.1	+2.7
	5.8nm,0.8s,mb4.6						
STKA	Stephens Creek	35.25	257	P	P	12 38 40.2	+2.8
	11nm,1.0s,mb4.8,baz=88,slow=7.6,SNR=9.3						
STKA				LR	LR	12 52 31.3	
	comp=Z,890nm,18.1s,MS4.6,baz=58,slow=35						
RKT	Rikitea	38.15	90	eLR	LR	12 48 45.4	
	965nm,34.0s						
PMG	Port Moresby	39.25	294	LR	LR	12 52 54.3	
	comp=Z,550nm,20.1s,MS4.4,baz=330,slow=32						
ASAR	Alice Springs	43.88	266	P	P	12 39 49.0	-0.1
	6.4nm,0.9s,mb4.4,baz=110,slow=7.6,SNR=30						
ASAR				LR	LR	12 57 32.2	
	comp=Z,623nm,18.1s,MS4.6,baz=108,slow=35						
ASPA	Alice Springs	43.88	266	eP	P	12 39 48.7	-0.4
WB2	Warramunga Arr	44.85	272	eP	P	12 39 56.9	0.0
WRAB	Tennant Creek	44.85	272	eP	P	12 39 56.2	-0.8
	49nm,1.4s,mb5.2						
WRA	Warramunga Arr	44.86	272	P	P	12 39 56.7	-0.3
	4.2nm,0.6s,mb4.4,baz=111,slow=7.9,SNR=58						
VNDA	Vanda	48.29	186	LR	LR	12 57 55.5	
	comp=Z,431nm,18.1s,MS4.5,baz=356,slow=32						
FITZ	Fitzroy Crossi	53.12	269	eP	P	12 41 01.8	+1.0
	8.4nm,1.0s,mb4.6						
QSPA	South Pole Qui	59.82	180	eP	P	12 41 49.9	+2.1
	27nm,1.0s,mb5.2						
QSPA				eP		12 41 57.5	
CBIJ	Chichi jima	69.07	322	LR	LR	13 12 48.9	
	comp=Z,170nm,18.2s,MS4.3,baz=346,slow=36						
MAW	Mawson	72.68	200	LR	LR	13 15 38.7	
	comp=Z,434nm,18.1s,MS4.8,baz=319,slow=36						
USHA	Ushuaia	75.58	146	LR	LR	13 11 18.3	
	comp=Z,251nm,18.1s,MS4.6,baz=14,slow=31						
JOW	Kunigami	77.15	312	LR	LR	13 12 31.2	
	comp=Z,179nm,19.4s,MS4.4,baz=71,slow=32						
SYO	Syowa Base	77.39	193	⇓PcP	PcP	12 43 49.0	+1.7
SNAA	Sanae	78.25	178	⇑i	P	12 43 53.5	+12
SNAA	Sanae	78.25	178	e	P	12 43 58.9	+18
VNA3	Neumayer Olymp	78.36	176	⇑i	P	12 43 53.2	+11
VNA3	Neumayer Olymp	78.36	176	e	P	12 43 57.6	+16
MAT	Matsushiro	78.59	325	eP	P	12 43 43.0	-0.8
	13nm,1.1s,mb4.8						
MAT				S	S	12 53 42.0	+5.5
MAT	Matsushiro	78.59	325	P	P	12 43 42.7	-1.1
MAT				eS	S	12 53 41.0	+4.5
VNA2	Neumayer--Watz	78.81	177	⇑i	P	12 43 55.9	+12

VNA2	Neumayer--Watz	78.81	177	e	P	12 44 00.5	+16
VNA1	Neumayer--Stat	79.03	176	⇑i	P	12 43 56.7	+11
VNA1	Neumayer--Stat	79.03	176	e	P	12 44 01.6	+16
PLCA	Paso Flores	82.02	133	P	P	12 44 02.7	+0.7
	3.6nm,1.0s,mb4.3,baz=210,slow=2.9,SNR=6.2						
PLCA				pP	pP	12 44 13.2	-0.3
	10nm,1.1s,baz=247,slow=7.4,SNR=12						
PLCA				LR	LR	13 12 40.1	
	comp=Z,223nm,20.0s,MS4.5,baz=221,slow=30						
PLCA	Paso Flores	82.02	133	eP	P	12 44 02.2	+0.1
	14nm,1.4s,mb4.7						
PLCA				e	pP	12 44 13.1	-0.4
YSS	Yuzh-Sakhalins	84.98	334	eP	P	12 44 16.5	-0.3
	23nm,1.0s,mb5.3						
NJ2	Nanjing	86.75	310	eP	P	12 44 25.8	-0.1
NJ2				PP	PP	12 47 50.8	0.0
NJ2				S	S	12 54 55.0	-4.0
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1µm,5.3s						
NJ2				LR	LR		
	comp=N,340nm,12.4s						
NJ2				LR	LR		
	comp=E,320nm,24.4s						
NJ2				LR	LR		
	comp=Z,390nm,26.5s						
NVAR	Mina Array Bea	87.64	42	P	P	12 44 29.7	-0.3
	comp=Z,2.0nm,0.9s,mb4.3,baz=210,slow=5.9,SNR=12						
NVAR				pP	pP	12 44 39.6	-2.0
	comp=Z,4.5nm,1.0s,baz=204,slow=6.2,SNR=11						
NVAR				LR	LR	13 18 38.1	
	comp=Z,397nm,18.1s,MS4.9,baz=185,slow=32						
TUC	Tucson	88.45	51	P	P	12 44 33.0	-1.1
	comp=Z,12nm,1.8s,mb4.8						
MDJ	Mudanjiang	88.97	325	P	P	12 44 36.3	+0.1
MDJ				AP	pP	12 44 50.8	+2.9
MDJ				PP	PP	12 48 05.2	-3.3
MDJ				S	S	12 55 20.4	+0.9
MDJ				SS	SS	13 01 15.1	-0.8
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,120nm,4.2s						
MDJ				LR	LR		
	comp=N,135nm,23.2s,MS4.5						
MDJ				LR	LR		
	comp=E,155nm,19.0s,MS4.5						
MDJ				LR	LR		
	comp=Z,280nm,20.9s,MS4.7						
MDJ	Mudanjiang	88.97	325	eP	P	12 44 34.3	-1.9
	comp=Z,21nm,1.1s,mb5.4						
SNY	Shenyang	90.19	320	⇑P	P	12 44 43.6	+1.5
SNY				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb5.1						
CN2	Changchun	90.52	322	eP	P	12 44 43.6	+0.1
CN2				eAP	pP	12 44 54.4	-0.8
CN2				eS	S	12 55 36.8	+3.2
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,21.0s,MS4.5						
TXAR	Lajitas Array	91.69	57	P	P	12 44 48.4	-0.9
	comp=Z,0.6nm,0.9s,mb3.9,baz=248,slow=6.7,SNR=4.8						
TXAR				pP	pP	12 44 58.8	-2.2
	comp=Z,1.3nm,1.0s,baz=207,slow=5.6,SNR=6.2						
TXAR				LR	LR	13 21 27.6	
	comp=Z,454nm,18.1s,MS5.0,baz=310,slow=33						
TXAR	Lajitas Array	91.69	57	P	P	12 44 48.4	-0.9
TXAR				pP	pP	12 44 58.8	-2.2
ENH	Enshi	92.17	304	P	P	12 44 48.5	-3.0
	comp=Z,16nm,1.2s,mb5.2						
HLID	Hailey	93.22	40	eP	P	12 44 56.1	+0.1
	comp=Z,6.6nm,1.1s,mb5.0						
LVC	Limon Verde	93.32	118	LR	LR	13 18 53.5	
	comp=Z,189nm,18.9s,MS4.6,baz=189,slow=30						
CMAR	Chiang Mai Arr	94.08	289	P	P	12 45 02.7	+2.2
	comp=Z,1.6nm,1.1s,mb4.4,baz=140,slow=2.7,SNR=8.0						
KMI	Kunming	94.45	296	P	P	12 45 01.9	-0.1
KMI				AP	pP	12 45 15.0	+1.3
KMI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb5.3						
KMI				LR	LR		
	comp=Z,75nm,15.6s,MS4.3						
KMI	Kunming	94.45	296	P	P	12 45 01.9	-0.1
	comp=Z,9.0nm,0.7s,mb5.3						
KMI				pP	pP	12 45 15.0	+1.3
PDAR	Pinedale Array	95.53	43	P	P	12 45 06.4	-0.1
	comp=Z,1.1nm,1.3s,mb4.1,baz=188,slow=6.4,SNR=2.6						
PDAR				pP	pP	12 45 15.9	-2.2
	comp=Z,1.1nm,1.1s,baz=252,slow=4.7,SNR=4.0						
PDAR				LR	LR	13 24 03.2	
	comp=Z,409nm,18.5s,MS4.9,baz=300,slow=33						
JTS	JuntasAbangare	96.96	82	LR	LR	13 21 25.5	
	comp=Z,277nm,18.5s,MS4.8,baz=268,slow=31						
ILAR	Eielson Array	97.65	13	P	P	12 45 16.1	+0.5
	comp=Z,0.9nm,1.0s,mb4.3,baz=230,slow=5.5,SNR=5.8						
LZH	Lanzhou	99.27	306	eP	P	12 45 24.5	+0.9
LZH				ePP	PP	12 49 29.6	+0.5
LZH				SKS	SKS	12 55 56.5	-1.3
LZH				eS	S	12 56 48.1	-0.7
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,116nm,6.2s						
LZH				LR	LR		
	comp=N,438nm,15.2s						
LZH				LR	LR		
	comp=Z,598nm,18.0s,MS5.1						
LZH	Lanzhou	99.27	306	eP	P	12 45 24.5	+0.9
	comp=Z,25nm,1.5s,mb5.5						
LZH				pP	pP	12 45 39.9	+4.6
LZH				sP	sP	12 45 45.8	+6.7
LZH				ePP	PP	12 49 29.6	+0.5
LZH				SKS	SKS	12 55 56.5	-1.3
LZH				eS	S	12 56 48.1	-0.7
LZH				sS		12 57 14.2	
YKA	Yellowknife Ar	105.01	25	Pdiff	Pdif	12 45 48.4	-0.2
	comp=Z,0.1nm,0.4s,baz=234,slow=5.3,SNR=3.6						
YKA	Yellowknife Ar	105.01	25	Pdif	Pdif	12 45 48.4	-0.2
WMQ	Urumqi	113.76	308	PKP	PKPdf	12 50 20.0	+1.1
WMQ				PP	PP	12 51 17.5	+0.5
WMQ				PPP	PPP	12 53 40.0	-0.9
WMQ				PKS	PKS	12 53 55.5	+0.8
WMQ				SKS	SKS	12 57 23.5	+22
WMQ				PP	PP		
	comp=Z,102nm,11.4s						
WMQ				LR	LR		
	comp=N,232nm,18.8s,MS4.9						
WMQ				LR	LR		
	comp=E,207nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,185nm,20.2s,MS4.7						
JOF	Joensuu	142.59	339	ep	PKPdf	12 51 36.2	+24
	comp=Z,0.3nm,0.3s						
KAF	Kangasniemi	144.69	341	ep	PKPbc	12 51 14.3	-1.9
	comp=Z,9.6nm,1.1s						
GNI	Garni	144.69	298	ePKP	PKPdf	12 51 18.2	+1.2
BHD	Baghdad	144.76	286	ePKP	PKPdf	12 51 17.5	+0.1
FINES	FINESS Array B	145.30	341	PKPbc	PKPbc	12 51 17.5	-0.3
	comp=Z,6.5nm,0.5s,baz=76,slow=3.9,SNR=90						
ONI	Oni	145.45	302	P	PKPdf	12 51 20.8	+2.6
OBN	Obninsk	145.51	326	ePKP	PKPdf	12 51 18.0	0.0
MSL	Mosul	146.04	291	ePKP	PKPdf	12 51 23.0	+3.5
NB2	NORSAR Subarra	148.75	352	PKPabc	PKPdf	12 51 27.0	+3.9
	comp=Z,12nm,1.2s,baz=17,slow=2.6						
NOA	NORSAR Array B	148.75	352	PKPbc	PKPdf	12 51 27.6	+4.5
	comp=Z,4.5nm,1.1s,baz=16,slow=4.4,SNR=4.5						
MALT	Malatya	149.71	295	ePKPbc	PKPdf	12 51 32.3	+6.9
AKASG	Malin Array Be	151.67	324	PKPbc	PKPdf	12 51 35.2	+7.3
	comp=Z,2.3nm,0.6s,baz=42,slow=2.5,SNR=16						
BRTR	Keskin Array B	153.22	299	PKPbc	PKPdf	12 51 41.2	+11
	comp=Z,1.6nm,0.9s,baz=146,slow=4.5,SNR=5.8						
BRTR				PKPab	PKPab	12 51 50.2	-2.0
	comp=Z,1.2nm,0.9s,baz=166,slow=5.1,SNR=5.0						
CLL	Collm	157.69	343	ePKP2	PKPab	12 52 10.0	-0.9
CLL				e*PPKP2		12 52 25.0	
GERES	GERESS Array B	159.72	339	PKPab	PKPab	12 52 20.1	+0.4
	comp=Z,0.6nm,0.7s,baz=346,slow=5.5,SNR=5.1						

*NEIC **01** 12:45:57.9,68.26N×160.69W,h22^{km},ML3.7(AEIC),After AEIC.*
*IDC **01** 12:45:58.9±1.2,68.31N×160.48W,mb3.7/6,mb1 4.0/10, mb1mx3.8/21,mbtmp3.7/10,ML3.7/4,Error ellipse: s-maj=37.8km s-min=15.2km az=33.0*
ISC 01 12:45:57.3±0.6,**68.09N**±0.06×**160.5W**±0.1,**h10^{km},n29,** σ**1^{s}09**/34,**mb3.6**/6,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMA	Indian Mountai	3.35	124	eP	Pn	12 46 51.6	+0.7
IM3	Indian Mountai	3.39	125	P	Pn	12 46 51.7	+0.4
GCSA	Galena City Sc	3.66	155	P	Pn	12 46 56.4	+1.2
GCSA				S	Sn	12 47 42.0	+3.1
TNA	Tin City	3.88	233	P	Pn	12 46 57.5	-0.8
TNA				S	Sn	12 47 43.7	-0.8
COLD	Coldfoot	4.03	98	P	Pn	12 47 00.1	-0.3
COLD				S	Sn	12 47 49.8	+1.5
MLY	Manley	4.96	124	P	Pn	12 47 13.9	+0.2
TT01	Tatalina	5.53	158	P	Pn	12 47 21.9	+0.2
MDM	Murphy Dome	5.82	117	P	Pn	12 47 24.9	-0.9
COLA	College	6.00	117	P	Pn	12 47 28.0	-0.3
KTH	Kantishna Hill	6.01	135	P	Pn	12 47 28.7	+0.2
BM3	Burnt Mountain	6.07	89	P	Pn	12 47 28.8	-0.5
CCB	Clear Creek Bu	6.16	118	P	Pn	12 47 29.5	-1.0
TRF	Thorofare Moun	6.27	133	P	Pn	12 47 32.1	0.0
IL1	Eielson Array	6.39	115	P	Pn	12 47 32.6	-1.2
ILAR	Eielson Array	6.39	115	Pn	Pn	12 47 32.5	-1.3
	0.7nm,0.3s,baz=310,slow=13,SNR=34						
ILAR				Sn	Sn	12 48 44.5	-3.1
	0.4nm,0.3s,baz=318,slow=13,SNR=2.3						
MCK	McKinley	6.44	127	eP	Pn	12 47 35.0	+0.5
SVW2	Sparrevohn	7.33	161	P	Pn	12 47 46.6	-0.4
SPU	Mount Spurr	7.82	148	P	Pn	12 47 53.1	-0.7
RSO	Redoubt South	8.36	153	eP	P	12 48 00.9	-0.5
INK	Inuvik	10.00	76	Pn	P	12 48 20.7	-3.2
	0.5nm,0.3s,baz=291,slow=15,SNR=28						
INK				Sn	Sn	12 50 08.7	-8.5
	1.1nm,0.3s,baz=44,slow=21,SNR=13						
INK	Inuvik	10.00	76	eP	P	12 48 21.5	-2.4
DLBC	Dease Lake	16.57	111	Pn	P	12 49 54.3	+3.4
	0.1nm,0.3s,baz=301,slow=5.9,SNR=5.4						
YKA	Yellowknife Ar	19.57	84	P	P	12 50 27.0	-0.7
	0.1nm,0.3s,baz=304,slow=10,SNR=22						
PDAR	Pinedale Array	36.75	107	P	P	12 53 08.2	+1.9
	0.7nm,0.6s,mb3.7,baz=346,slow=7.8,SNR=8.8						
NVAR	Mina Array Bea	37.62	120	P	P	12 53 15.3	+1.8
	0.5nm,0.6s,mb3.5,baz=300,slow=8.5,SNR=7.3						
ARCES	ARCESS Array B	42.58	357	P	P	12 53 54.0	0.0
	2.3nm,0.8s,mb3.9,baz=6.3,slow=8.2,SNR=3.2						
ARCES				PcP	PcP	12 55 45.7	-1.3
	4.1nm,1.0s,slow=2.7,SNR=6.0						
SONM	Songino Array	47.84	295	P	P	12 54 37.4	+1.0
	0.3nm,0.8s,mb3.4,baz=38,slow=6.5,SNR=3.1						
FINES	FINESS Array B	50.68	356	P	P	12 54 58.2	+0.2
	0.7nm,0.5s,mb3.9,baz=34,slow=6.9,SNR=5.4						
TXAR	Lajitas Array	50.87	110	P	P	12 55 01.1	+1.1
	0.4nm,0.7s,mb3.5,baz=334,slow=5.4,SNR=5.7						

KRSC 01 13:05:41.2±1.9,**55.60N**×**166.48E,h62**^{km}±5^{km},**ML3.8, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	Bering	0.49	216	i P	P	13 05 53.3	0.0
BKI				i S	S	13 06 00.7	-1.5
KBTR	Krutoberegovo	2.15	288	eP	P	13 06 13.1	-2.4
KBTR				eS	S	13 06 40.1	-0.8
KBG	Krutoberegovo	2.22	289	eP	P	13 06 16.5	0.0
KBG				eS	S	13 06 44.8	+2.0
KMNR	Kamenistaya	3.54	275	eP	P	13 06 34.7	-0.4
KMNR				eS	S	13 07 15.8	-0.2
TUMR	Tumrok	3.62	268	eP	P	13 06 36.6	+0.4
TUMR				eS	S	13 07 16.7	-1.4
SRDR	Sredinnyy	3.87	283	eP	P	13 06 40.8	+1.1
SRDR				eS	S	13 07 26.1	+1.8
SPN	Mys Shipunski	4.53	239	eP	P	13 06 48.7	-0.3
SPN				eS	S	13 07 37.9	-3.0
NLC	Nalytchevo	4.83	243	eP	P	13 06 52.7	-0.4
NLC				eS	S	13 07 44.1	-4.2
SDLR	Sedlovina	5.01	245	eP	P	13 06 56.3	+0.7
SDLR				eS	S	13 07 50.9	-1.9
SMAR	Somma	5.06	246	eP	P	13 06 57.0	+0.7
SMAR				eS	S	13 07 51.8	-2.2
UGLR	Uglovaya	5.07	245	eP	P	13 06 56.2	-0.3
UGLR				eS	S	13 07 51.0	-3.5
AVH	Avacha	5.09	246	eP	P	13 06 57.1	+0.4
AVH				eS	S	13 07 51.8	-3.0
KOK	Koryaka	5.13	246	eP	P	13 06 57.7	+0.4
KOK				eS	S	13 07 52.7	-3.1
PET	Petropavlovsk	5.26	244	eP	P	13 06 58.3	-0.8
PET				eS	S	13 07 56.8	-2.3
GNL	Ganaly	5.31	252	eP	P	13 07 00.3	+0.5
GNL				eS	S	13 07 56.1	-4.3
RUS	Russkaya	5.67	239	eP	P	13 07 04.9	+0.2
RUS				eS	S	13 08 04.6	-4.7

IDC 01 13:21:44.0±4.0,**7.52N**×**90.67E,mb3.3**/3,**mb1 3.6**/4, **mb1mx3.5**/18,**mbtmp3.4**/4,**ML3.8**/1,**Error ellipse: s-maj=112.1km s-min=29.6km az=76.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.53	36	Pn	P	13 24 57.7	-2.2
	0.2nm,0.3s,baz=230,slow=14,SNR=17						
SONM	Songino Array	42.34	16	P	P	13 29 39.9	-1.4
	0.2nm,0.4s,baz=198,slow=9.1,SNR=3.0						
WRA	Warramunga Arr	50.91	123	P	P	13 30 45.8	-3.5
	0.1nm,0.5s,baz=306,slow=8.4,SNR=4.0						
ASAR	Alice Springs	52.38	128	P	P	13 30 59.6	-0.8
	0.3nm,0.5s,baz=304,slow=7.8,SNR=5.5						

IDC 01 13:37:57.6±10.0,**1.85N**×**97.06E,mb3.5**/2,**mb1 3.7**/3, **mb1mx3.5**/17,**mbtmp3.5**/3,**ML4.0**/1,**Error ellipse: s-maj=311.9km s-min=33.2km az=68.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.61	6	Pn	P	13 41 51.9	-1.7
	0.2nm,0.3s,baz=217,slow=12,SNR=10						
WRA	Warramunga Arr	42.49	122	P	P	13 45 54.9	-1.7
	0.9nm,0.9s,baz=300,slow=9.0,SNR=6.5						
SONM	Songino Array	46.51	9	P	P	13 46 26.9	-1.7
	0.5nm,0.7s,baz=190,slow=7.4,SNR=4.5						

*IDC **01** 14:05:10.5±0.9,56.86S×141.70W,mb4.3/7,mb1 4.4/7, mb1mx4.1/15,mbtmp4.3/7,MS4.3/12,Ms1 4.3/12, ms1mx3.9/19,Error ellipse: s-maj=43.8km s-min=18.5km az=7.0*
*BJI **01** 14:05:10.3,56.60S×141.60W,h10^{km},mB5.4,Ms5.1, Msz4.4*
*NEIC **01** 14:05:11.3±0.6,56.64S×141.56W,h10^{km},mb4.9/6,Error ellipse: s-maj=22.2km s-min=12.6km az=190.0*
*HRVD **01** 14:05:11.3±0.3,56.91S×141.51W,h19^{km}±1^{km},MW5.1/54, Centroid moment Tensor Solution. LP body waves: s34,c45;Mantle waves: s54,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.77±.20; $M_{\theta\theta}$4.19±.24; $M_{\phi\phi}$-3.42±.16; $M_{r\theta}$0.99±.44; $M_{\theta\phi}$3.65±.16; $M_{\phi r}$-0.23±.35; Best double couple: $M_0$5.367×10^{16} NP1:ϕ_s23°,δ79°, λ-179°. NP2:ϕ_s293°,δ90°,λ-11°. Principal axes: T 5.765, Plg7°, Azm338°; N -.793, Plg79°, Azm110°; P -4.97, Plg8°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 01 14:05:09.1±0.7,**56.6S**±0.2×**141.6W**±0.2,**h10^{km},n37,** σ**0^{s}95**/19,**mb4.6**/11,**MS4.3**/14,**1C-2D,Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	28.45	202	LR	LR	14 20 22.8	
	comp=Z,184nm,19.0s,MS3.7,baz=78,slow=32						
RPZ	Rata Peaks	32.27	273	LR	LR	14 21 24.5	
	comp=Z,661nm,20.4s,MS4.3,baz=228,slow=30						
URZ	Urewera	32.75	286	LR	LR	14 21 40.4	
	comp=Z,529nm,18.9s,MS4.3,baz=56,slow=30						
QSPA	South Pole Qui	33.59	180	eP	P	14 11 51.6	+0.8
	12nm,1.2s,mb4.7						
RAR	Rarotonga	37.78	332	LR	LR	14 23 03.6	
	comp=Z,1µm,20.0s,MS4.6,baz=251,slow=28						
USHA	Ushuaia	39.47	119	P	P	14 12 41.3	+0.5
	9.8nm,1.0s,mb4.5,baz=247,slow=8.8,SNR=4.7						
USHA				LR	LR	14 24 39.4	
	comp=Z,397nm,19.5s,MS4.3,baz=214,slow=30						
PLCA	Paso Flores	47.32	102	P	P	14 13 45.7	+1.3
	4.8nm,1.1s,mb4.3,baz=192,slow=7.5,SNR=4.8						
PLCA	Paso Flores	47.32	102	eP	P	14 13 45.1	+0.7
	19nm,1.5s,mb4.8						
VNA3	Neumayer Olymp	48.06	161	⇓i	P	14 13 50.4	+0.6
VNA2	Neumayer--Watz	48.73	162	⇑i	P	14 13 55.3	+0.3
SNAA	Sanae	48.83	164		P	14 14 07.4	+12
SNAA	Sanae	48.83	164	P	P	14 13 54.8	-0.9
	1.4nm,0.4s,mb4.3,baz=221,slow=9.0,SNR=22						
TRQA	Tornquist	53.85	106	eP	P	14 14 32.3	-1.7
	40nm,1.5s,mb5.1						
SYO	Syowa Base	54.73	181	⇓P	P	14 14 38.7	-1.4
MAW	Mawson	54.82	191	LR	LR	14 35 27.8	
	comp=Z,381nm,18.9s,MS4.5,baz=331,slow=33						
STKA	Stephens Creek	56.96	261	P	P	14 14 55.1	-1.6
	4.8nm,0.9s,mb4.5,baz=149,slow=4.6,SNR=4.2						
STKA				LR	LR	14 34 51.6	
	comp=Z,399nm,19.3s,MS4.5,baz=296,slow=31						
STKA	Stephens Creek	56.96	261	P	P	14 14 55.6	-1.1
LVC	Limon Verde	61.93	89	P	P	14 15 31.0	-0.2
	6.5nm,1.1s,mb4.7,baz=230,slow=5.8,SNR=6.8						
LVC	Limon Verde	61.93	89	eP	P	14 15 29.3	-1.9
	6.5nm,0.8s,mb4.8						
CTA	Charters Tower	63.64	273	LR	LR	14 37 11.2	
	comp=Z,184nm,21.4s,MS4.2,baz=315,slow=30						
LPAZ	La Paz	67.46	85	eP	P	14 16 07.9	+0.8
	15nm,1.3s,mb4.9						
ASAR	Alice Springs	67.59	261	P	P	14 16 08.4	+0.6
	2.1nm,0.8s,mb4.2,baz=141,slow=6.6,SNR=37						
ASAR				LR	LR	14 41 11.5	
	comp=Z,132nm,19.3s,MS4.2,baz=152,slow=32						
WB2	Warramunga Arr	70.34	264	eP	P	14 16 25.1	+0.3
WRA	Warramunga Arr	70.35	264	P	P	14 16 25.8	+0.9
	1.3nm,0.6s,mb4.1,baz=146,slow=5.6,SNR=35						
WRAB	Tennant Creek	70.35	264	eP	P	14 16 24.6	-0.2
	3.7nm,0.6s,mb4.5						
PMG	Port Moresby	71.88	281	LR	LR	14 41 18.0	
	comp=Z,171nm,21.6s,MS4.3,baz=312,slow=30						
ROSC	El Rosal	81.78	68	LR	LR	14 47 03.6	
	comp=Z,56nm,20.0s,MS3.9,baz=133,slow=31						
NVAR	Mina Array Bea	96.67	18	LR	LR	14 53 20.7	
	comp=Z,192nm,18.3s,MS4.6,baz=270,slow=30						
ILAR	Eielson Array	121.08	357	PKP	PKPdf	14 24 04.7	+0.7
	0.5nm,0.7s,baz=221,slow=1.6,SNR=7.5						
NJ2	Nanjing	121.18	282	ePKP	PKPdf	14 24 00.7	-4.3
CM31	Chiang Mai Arr	121.36	255	ePKP	PKPdf	14 24 04.3	-1.3
MDJ	Mudanjiang	125.07	299	PKP	PKPdf	14 24 09.2	-2.8
CN2	Changchun	126.51	296	ePKP	PKPdf	14 24 15.6	+0.9
HHC	Hu-ho-hao-te	131.62	284	ePKP	PKPdf	14 24 26.1	+1.4
HHC				PP	PP	14 26 52.3	+6.8
HHC				PKS	PKS	14 28 01.8	+5.0
HHC				SKS	SKS	14 31 35.3	+0.9
HHC				SKKS		14 33 40.2	
HHC				SS	SS	14 44 23.5	+6.6
HHC				PP	PP		
	comp=Z,146nm,7.1s						
HHC				LR	LR		
	comp=N,136nm,20.8s,MS4.8						
HHC				LR	LR		
	comp=E,168nm,20.2s,MS4.8						
HHC				LR	LR		
	comp=Z,90nm,23.2s,MS4.4						
WMQ	Urumqi	146.71	269	ePKP	PKPdf	14 24 50.0	-1.5
WMQ				APKP		14 24 59.0	
WMQ				PP	PP	14 28 19.3	+1.5
WMQ				PPP	PPP	14 31 36.8	+1.6
WMQ				SKKS		14 35 06.0	
WMQ				PP	PP		
	comp=Z,245nm,5.0s						
WMQ				LR	LR		
	comp=N,152nm,25.4s,MS4.8						
WMQ				LR	LR		
	comp=E,117nm,24.9s,MS4.8						
WMQ				LR	LR		
	comp=Z,113nm,22.4s,MS4.6						
ESDC	Sonseca Array	147.70	103	PKPbc	PKPdf	14 24 57.2	+3.9
	comp=Z,0.4nm,0.3s,baz=252,slow=4.7,SNR=4.9						
AAK	Ala-Archa	153.13	254	PKPab	PKPab	14 25 19.8	-0.1

*IDC **01** 14:07:40.7±0.8,47.05S×33.14E,mb4.1/8,mb1 4.2/9, mb1mx4.0/19,mbtmp4.2/9,ML3.9/1,MS3.7/4,Ms1 3.7/4, ms1mx3.0/23,Error ellipse: s-maj=37.4km s-min=18.6km az=58.0*
*NEIC **01** 14:07:42.3±0.7,46.79S×33.37E,h10^{km},mb4.3/3,Error ellipse: s-maj=25.0km s-min=12.5km az=70.0*
ISC 01 14:07:40.3±0.6,**47.0S**±0.1×**33.0E**±0.2,**h10^{km},n24,** σ**1^{s}22**/21,**mb4.2**/10,**MS3.6**/4,**6C-2D,Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	17.32	323	P	P	14 11 43.3	-0.4
	0.5nm,0.3s,baz=145,slow=16,SNR=6.0						
BOSA	Boshof	19.33	339	eP	P	14 12 06.2	-2.1
	4.1nm,0.8s						
LBTB	Lobatse	22.72	342	P	P	14 12 44.9	+1.4
	3.9nm,1.0s,mb3.8,baz=186,slow=11,SNR=3.9						
LBTB				LR	LR	14 19 40.2	
	comp=Z,115nm,18.1s,MS3.4,baz=283,slow=32						
MATP	Matopo	26.76	351	P	P	14 13 24.3	+2.3
	1.8nm,0.6s,mb3.8,baz=157,slow=9.7,SNR=5.1						
MATP				LR	LR	14 21 52.8	
	comp=Z,89nm,18.4s,MS3.4,baz=181,slow=32						
MATP	Matopo	26.76	351	P	P	14 13 24.3	+2.3
SNAA	Sanae	29.87	202	⇑i	P	14 13 54.0	+4.3
SNAA	Sanae	29.87	202	⇑iP	P	14 13 54.0	+4.3
SNAA	Sanae	29.87	202	eP	P	14 13 54.2	+4.6
	4.7nm,0.4s,mb4.6						
TSUM	Tsumeb	30.47	330	LR	LR	14 25 23.3	
	comp=Z,68nm,18.6s,MS3.3,baz=140,slow=35						
VNA2	Neumayer--Watz	30.70	205	⇑i	P	14 13 59.6	+2.7
VNA2	Neumayer--Watz	30.70	205	⇑i	P	14 14 04.9	+8.0
VNA2	Neumayer--Watz	30.70	205	⇑i	P	14 14 09.7	+13
VNA2	Neumayer--Watz	30.70	205	⇑iP	P	14 13 59.6	+2.7
VNA3	Neumayer Olymp	31.50	205	⇓i	P	14 13 57.6	-6.4
VNA3	Neumayer Olymp	31.50	205	⇓iP	P	14 13 57.6	-6.4
QSPA	South Pole Qui	43.22	180	eP	P	14 15 41.5	-1.0
	8.4nm,1.3s,mb4.3						
VNDA	Vanda	51.82	168	P	P	14 16 49.6	-0.2
	2.5nm,0.7s,mb4.2,baz=241,slow=7.7,SNR=7.0						
DBIC	Dimbokro	63.09	317	P	P	14 18 09.0	-1.3
	5.4nm,1.2s,mb4.6,baz=181,slow=12,SNR=4.2						
PLCA	Paso Flores	69.39	232	P	P	14 18 50.8	+0.7
	1.1nm,0.8s,mb3.8,baz=123,slow=3.4,SNR=3.5						
BDFB	Brasilia	72.65	266	LR	LR	14 44 50.7	
	comp=Z,168nm,18.5s,MS4.3,baz=11,slow=31						
STKA	Stephens Creek	78.61	125	P	P	14 19 43.8	+0.2
	2.5nm,0.7s,mb4.2,baz=217,slow=7.5,SNR=5.9						
ASAR	Alice Springs	80.08	114	P	P	14 19 51.5	-0.2
	1.8nm,0.8s,mb4.0,baz=218,slow=4.9,SNR=11						
WRA	Warramunga Arr	83.07	112	P	P	14 20 07.1	-0.3
	1.6nm,0.9s,mb4.0,baz=223,slow=4.2,SNR=4.6						
YKA	Yellowknife Ar	156.07	322	PKPab	PKPab	14 28 04.8	+1.5
	0.2nm,0.6s,baz=55,slow=4.2,SNR=6.6						

*BER **01** 14:15:28.0±5.2,77.40N×30.17E,MD2.1,ML2.8, ML2.2(NAO)*
*NAO **01** 14:15:32.8±7.5,77.23N×28.71E,h22^{km}±53^{km},ML2.2*
ISC 01 14:15:28.6±2.0,**77.1N**±0.1×**29.0E**±0.6,**h10^{km},n5,** σ**1^{s}27**/10,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	Hopen	1.07	240	eP	Pb	14 15 54.4	+5.7
HOPEN				eS	Sb	14 16 12.7	+10
HOPEN				AML	AML	14 16 16.6	
	comp=Z,218nm,0.4s						
SPA0	Spitsbergen Ar	2.92	298	Pn	Pn	14 16 16.5	+0.4
	baz=114,slow=16						
SPA0				Sn	Sn	14 16 49.9	-1.7
	baz=91,slow=22						
SPA0				Lg		14 17 00.7	
	baz=79,slow=28						
HSP	Hornsund	3.02	275	eP	Pn	14 16 18.8	+1.4

HSP				e(S)	Sn	14 16 54.2	+0.2
ARA0	ARCESS Array S	7.65	189	Pn	Pn	14 17 24.8	+2.0
	baz=359,slow=10						
ARA0				Sn	Sn	14 18 49.8	-0.7
	baz=16,slow=22						
APA0	Apatity Array	9.60	171	Pn	P	14 17 48.1	-1.6
	baz=350,slow=9.3						
APA0				Sn	Sn	14 19 33.8	-4.9
	baz=338,slow=22						

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*JMA **01** 14:15:59.7±0.3, 31.85N×138.20E, h398km, M3.4*
*IDC **01** 14:16:02.3±0.9, 31.82N×138.19E, h370km±10km, mb2.8/6, mb1 3.0/7, mb1mx2.9/23, mbtmp3.7/7, Error ellipse: s-maj=27.7km s-min=12.1km az=80.0*
ISC 01 14:16:01.0±0.6**, 31.83N**±0.07×**138.2E**±0.1**, h379**km±6km**, n17,** σ0s96/22**, mb3.1**/6**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.85	45	P	P	14 16 54.3	-0.2
	17nm,0.3s,baz=63,slow=22,SNR=11						
JHJ				S	S	14 17 38.1	+1.9
	34nm,0.3s,baz=271,slow=23,SNR=4.6						
JHJ2	Mitsune	1.87	46	P	P	14 16 54.9	+0.3
JHJ2				S	S	14 17 38.2	+1.7
JWZ	Kozaga	2.70	310	P	P	14 17 00.3	-0.2
JIE	Ise	2.85	334	P	P	14 17 01.8	+0.1
JOD2	Odawara 2	3.51	12	P	P	14 17 07.2	-0.3
BSO1	Boso 1	3.65	39	P	P	14 17 07.8	-1.1
BSO1				S	S	14 17 58.1	-4.1
JYN	Shimob	3.67	4	P	P	14 17 09.8	+0.7
JAI	Aioi	3.72	303	P	P	14 17 09.3	-0.2
JHU	Hanno	4.11	12	P	P	14 17 12.5	-0.9
JRY	Ryogami san	4.22	8	P	P	14 17 14.6	+0.1
JRY				S	S	14 18 10.7	-1.4
CBIJ	Chichi jima	5.85	143	P	P	14 17 31.8	0.0
	12nm,0.3s,baz=283,slow=22,SNR=9.1						
CBIJ				S	S	14 18 40.7	-2.3
	19nm,0.3s,baz=278,slow=22,SNR=6.6						
SONM	Songino Array	28.94	313	P	P	14 21 28.0	-0.5
	0.6nm,0.5s,mb3.1,baz=125,slow=8.5,SNR=12						
WRA	Warramunga Arr	51.60	185	P	P	14 24 32.5	+0.2
	0.2nm,0.4s,mb2.8,baz=0.2,slow=7.6,SNR=7.6						
ASAR	Alice Springs	55.33	185	P	P	14 25 00.6	+1.5
	0.3nm,0.8s,mb2.7,baz=8.7,slow=12,SNR=2.5						
INK	Inuvik	60.22	25	P	P	14 25 32.3	+0.4
	1.1nm,1.1s,mb3.2,baz=290,slow=7.4,SNR=4.9						
YKA	Yellowknife Ar	69.64	28	P	P	14 26 32.2	+0.6
	0.1nm,0.4s,mb2.9,baz=300,slow=6.2,SNR=4.7						
FINES	FINESS Array B	72.17	332	P	P	14 26 46.3	-0.4
	1.0nm,0.6s,mb3.7,baz=72,slow=6.0,SNR=8.4						

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*IDC **01** 14:20:46.5±1.0, 13.58N×92.65E, mb3.7/6, mb1 3.9/7, mb1mx3.8/18, mbtmp3.7/7, MS2.6/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=44.4km s-min=19.9km az=46.0*
*NEIC **01** 14:20:50.9±0.7, 13.70N×92.69E, h30km, mb4.0/5, Error ellipse: s-maj=17.1km s-min=9.8km az=51.0*
ISC 01 14:20:48.5±0.7**, 13.65N**±0.09×**92.66E**±0.09**, h30**km**, n17,** σ1s04/19**, mb3.9**/9**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.70	51	Pn	Pn	14 22 41.0	-0.6
	baz=243,slow=15,SNR=7.1						
CMAR				Sn	Sn	14 24 04.3	-4.4
	0.1nm,0.3s,baz=239,slow=28,SNR=9.3						
CMAR				LR	LR	14 26 17.1	
	comp=Z,42nm,18.2s,baz=221,slow=43						
VIS	Vishakhapatnam	9.86	295	eP	P	14 23 10.0	-1.5
VIS				eS	Sn	14 24 50.0	-12
JIRN	Jiri	15.19	338	eP	P	14 24 23.1	+0.2
	6.8nm,0.5s						
PKI	Pulchoki	15.42	335	eP	P	14 24 25.3	-0.5
	5.3nm,0.3s						
LSA	Lhasa	16.04	355	P	P	14 24 34.9	+1.2
	3.7nm,0.6s						
GKN	Gorkha	16.12	334	eP	P	14 24 33.1	-1.7
	6.6nm,0.3s						
KOLN	Koldanda	16.40	330	eP	P	14 24 34.8	-3.5
	10nm,0.6s						
ENH	Enshi	22.69	40	eP	P	14 25 48.8	-0.2
	3.7nm,0.5s,mb4.1						
ZAL	Zalesovo	40.67	353	P	P	14 28 28.6	+0.8
	0.5nm,0.4s,mb3.5,baz=336,slow=8.1,SNR=3.1						
CHKZ	Chkalovo	43.57	341	eP	P	14 28 52.8	+1.4
	1.5nm,0.6s,mb3.9						
WRA	Warramunga Arr	52.87	128	P	P	14 30 04.0	-0.2
	0.8nm,0.5s,mb3.9,baz=304,slow=10,SNR=31						
WRAB	Tennant Creek	52.88	128	eP	P	14 30 03.9	-0.4
	4.5nm,0.6s,mb4.6						
WB2	Warramunga Arr	52.88	128	eP	P	14 30 03.9	-0.4
ASAR	Alice Springs	54.79	132	P	P	14 30 18.4	+0.1
	1.0nm,0.7s,mb4.0,baz=306,slow=6.8,SNR=12						
BRTR	Keskin Array B	57.65	308	P	P	14 30 38.8	+0.3
	0.5nm,0.5s,mb3.8,baz=104,slow=5.9,SNR=3.2						
FINES	FINESS Array B	66.97	331	P	P	14 31 41.1	+0.8
	0.6nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=4.2						
GERES	GERESS Array B	72.60	317	P	P	14 32 16.9	+1.9
	0.1nm,0.3s,mb3.2,baz=101,slow=6.8,SNR=3.9						

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*IDC **01** 14:28:30.1±10.0, 34.79N×71.47E, mb3.8/6, mb1 3.9/7, mb1mx3.6/21, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=193.3km s-min=43.3km az=153.0*
ISC 01 14:28:59.1±4.8**, 36.2N**±0.2×**71.2E**±0.3**, h190**km±61km**, n14,** σ0s54/14**, mb3.7**/5**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KOLN	Koldanda	13.47	125	eP	P	14 32 04.0	+0.3
	4.8nm,0.5s						
GKN	Gorkha	14.02	122	eP	P	14 32 09.9	-0.7
	12nm,0.5s						
DMN	Daman	14.59	122	eP	P	14 32 17.8	+0.1
KKN	Kakani	14.60	121	eP	P	14 32 18.2	+0.4
	7.4nm,0.5s						
PKI	Pulchoki	14.82	122	eP	P	14 32 21.0	+0.4
	5.9nm,0.4s						
JIRN	Jiri	15.31	120	eP	P	14 32 26.3	-0.4
	12nm,0.4s						
BVAR	Borovoye Array	16.81	358	P	P	14 32 44.9	+0.2
	0.1nm,0.3s,baz=236,slow=40,SNR=3.6						
ZAL	Zalesovo	20.09	24	P	P	14 33 18.7	-0.6
	3.1nm,0.5s,baz=253,slow=7.9,SNR=14						
AKASG	Malin Array Be	33.24	309	P	P	14 35 18.7	-1.2
	1.5nm,0.7s,mb3.8,baz=80,slow=6.2,SNR=6.3						
FINES	FINESS Array B	37.80	326	P	P	14 35 58.5	+0.3
	0.6nm,0.6s,mb3.4,baz=121,slow=11,SNR=5.3						
ARCES	ARCESS Array B	41.46	338	P	P	14 36 29.1	+0.7
	4.3nm,1.0s,mb4.0,baz=108,slow=7.7,SNR=5.5						
HFS	Hagfors	43.38	322	P	P	14 36 44.2	+0.4
	0.7nm,0.4s,mb3.7,baz=97,slow=12,SNR=5.6						
NB2	NORSAR Subarra	44.70	323	P	P	14 36 54.4	+0.1
	0.6nm,0.5s,mb3.5,baz=94,slow=7.4						
NOA	NORSAR Array B	44.70	323	P	P	14 36 54.5	+0.2
	0.7nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=3.7						

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*MOS **01** 14:41:41.8±1.0, 49.16N×156.02E, h32km, mb4.9/8, Error ellipse: s-maj=15.6km s-min=6.3km az=67.0*
*KRSC **01** 14:41:41.8±2.1, 48.91N×156.58E, h40km±19km, ML4.8*
*SKHL **01** 14:41:41.3±2.7, 49.17N×156.10E, h51km±20km, mb4.9/8, msh5.8/1*
*BJI **01** 14:41:43.5, 49.26N×155.97E, h62km, mB4.6, mb4.4, Ms4.2, Msz3.8*
*NEIC **01** 14:41:45.2±0.4, 49.29N×155.70E, mb4.4/15, Error ellipse: s-maj=12.8km s-min=6.6km az=141.0*
*IDC **01** 14:41:46.1±0.7, 49.32N×155.71E, h45km±5km, mb3.8/11, mb1 4.2/13, mb1mx3.9/26, mbtmp4.2/13, ML4.1/2, Error ellipse: s-maj=38.9km s-min=12.7km az=132.0*
ISC 01 14:41:43.2±0.7**, 49.27N**±0.04×**155.70E**±0.06**, h42**km±6km**, h44**km±1.1km**:pP-P, n103,** σ1s29/133**, mb4.3**/26**, MS3.8**/4**, 2C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	1.44	11	⇓iPN	P	14 42 04.0	-3.3
SKR				pmax	pmax		
	comp=Z,240nm,0.6s						
SKR				pmax	pmax		
	comp=E,80μm,0.6s						
SKR				pmax	pmax		
	comp=N,450μm,1.0s						
SKR	Severo-Kuril's	1.44	11	iP	P	14 42 04.0	-3.3
SKR				AMB	AMB	14 42 04.5	
	comp=N,450nm,0.8s						
SKR				AMB	AMB	14 42 04.5	
	comp=N,80nm,0.8s						
SKR				AMB	AMB	14 42 04.5	
	comp=N,240nm,0.8s						
SKR				⇑iS	S	14 42 21.0	-4.2
SKR				A		14 42 21.4	
	comp=N,4μm,2.0s						
SKR				A		14 42 21.4	
	comp=N,2μm,2.0s						
SKR				A		14 42 21.4	
	comp=N,2μm,0.4s						
SKR				A		14 42 21.4	
	comp=N,3μm,0.4s						
SKR				A		14 42 21.4	
	comp=N,950nm,0.4s						
PAU	Pauzhetka	2.31	17	eP	P	14 42 20.9	+1.2
PAU				eS	S	14 42 48.3	+1.2
PAU	Pauzhetka	2.31	17	iP	P	14 42 19.6	-0.1
PAU				eS	S	14 42 48.6	+1.5
GRL	Gorelyy	3.61	24	eP	P	14 42 39.5	+1.3
GRL				eS	S	14 43 22.8	+2.7
RUS	Russkaya	3.63	28	P	P	14 42 38.1	-0.4
RUS				S	S	14 43 18.0	-2.6
RUS	Russkaya	3.63	28	eP	P	14 42 38.1	-0.4
RUS				eS	S	14 43 19.8	-0.8
KRMR	Karymshinskiy	3.88	22	eP	P	14 42 43.2	+1.2
KRMR				eS	S	14 43 28.2	+1.4
PET	Petropavlovsk	4.19	25	P	P	14 42 46.8	+0.4
PET				S	S	14 43 32.2	-2.5
PET	Petropavlovsk	4.19	25	ePn	P	14 42 46.7	+0.3
PET				eSn	S	14 43 36.8	+2.0
PET	Petropavlovsk	4.19	25	eP	P	14 42 46.4	0.0
PET				AMB	AMB	14 42 48.7	
	comp=N,130nm,0.8s						
PET				eS	S	14 43 32.9	-1.8
PET				A		14 43 49.8	
	comp=N,290nm,0.8s						
PET				A		14 43 49.8	
	comp=N,430nm,0.8s						
PET				AMS	AMS	14 44 10.0	
	comp=N,710nm,20.0s						
PET	Petropavlovsk	4.19	25	eP	P	14 42 46.8	+0.4
PET				eS	S	14 43 35.4	+0.7
UGLR	Uglovaya	4.40	25	eP	P	14 42 50.8	+1.4
UGLR				eS	S	14 43 39.6	-0.5
KOK	Koryaka	4.43	23	eP	P	14 42 51.6	+1.9
KOK				eS	S	14 43 40.5	-0.2
AVH	Avacha	4.43	24	eP	P	14 42 51.6	+1.8
AVH				eS	S	14 43 40.5	-0.3
SMAR	Somma	4.45	25	eP	P	14 42 51.4	+1.4
SMAR				eS	S	14 43 40.4	-0.7
SDLR	Sedlovina	4.48	25	eP	P	14 42 50.8	+0.3
SDLR				eS	S	14 43 39.6	-2.5
NLC	Nalytchevo	4.53	29	eP	P	14 42 49.4	-1.7
NLC				eS	S	14 43 39.8	-3.4
GNL	Ganaly	4.65	17	eP	P	14 42 54.7	+1.9
GNL				eS	S	14 43 47.3	+1.1
SPN	Mys Shipunski	4.70	34	P	P	14 42 52.7	-0.8
SPN				S	S	14 43 43.3	-4.2
SPN	Mys Shipunski	4.70	34	eP	P	14 42 52.7	-0.8
SPN				eS	S	14 43 43.2	-4.3
TUMR	Tumrok	6.61	23	eP	P	14 43 21.6	+1.3
TUMR				eS	S	14 44 33.7	-1.6
KUR	Kuril'sk	6.69	236	⇑iPN	P	14 43 21.8	+0.3
KUR				pmax	pmax		
	comp=N,80nm,0.5s						
KUR				pmax	pmax		
	comp=E,80nm,0.5s						
KUR				pmax	pmax		
	comp=Z,340nm,0.5s						
KUR				pmax	pmax		
	comp=Z,2μm,1.6s						
KUR	Kuril'sk	6.69	236	iP	P	14 43 21.8	+0.3
KUR				AMB	AMB	14 43 23.4	
	comp=Z,80nm,0.6s						
KUR				AMB	AMB	14 43 23.4	
	comp=Z,340nm,0.6s						
KUR				A		14 44 45.0	
	comp=Z,2μm,2.0s						
KUR				A		14 45 13.1	
	comp=Z,300nm,0.8s						
KUR				A		14 45 13.1	
	comp=Z,210nm,0.8s						
KMNR	Kamenistaya	7.06	21	eP	P	14 43 27.9	+1.2
SRDR	Sredinnyy	7.46	17	eP	P	14 43 33.7	+1.4
KLY	Klyuchi	7.66	21	P	P	14 43 36.6	+1.6
KLY	Klyuchi	7.66	21	eP	P	14 43 36.1	+1.1
KBTR	Krutoberegovo	8.18	29	P	P	14 43 39.8	-2.3
KBTR	Krutoberegovo	8.18	29	eP	P	14 43 39.1	-3.0
KBTR				eS	S	14 45 09.3	-5.0
KBG	Krutoberegovo	8.18	29	eP	P	14 43 40.1	-2.1
KBG				eS	S	14 45 09.5	-4.8
TYV	Tymovskoe	8.55	286	eP	P	14 43 46.0	-1.3
TYV				AMB	AMB	14 43 49.5	
	comp=Z,7.0nm,0.8s						
TYV				A		14 45 35.2	
	comp=Z,16nm,0.9s						
YUK	Yuzh-Kuril'sk	8.56	236	eP	P	14 43 46.9	-0.5
YUK				AMB	AMB	14 43 48.5	
	comp=Z,270nm,0.5s						
YUK				AMB	AMB	14 43 48.5	
	comp=Z,380nm,0.5s						
YUK				AMB	AMB	14 43 48.5	
	comp=Z,740nm,0.5s						
YUK				AMB	AMB	14 43 53.0	
	comp=Z,2μm,0.9s						
YUK				eS	S	14 45 22.5	-1.2
YUK				A		14 45 30.0	
	comp=Z,300nm,0.8s						
YUK				A		14 45 30.0	
	comp=Z,450nm,0.8s						
YUK				A		14 45 47.0	
	comp=Z,2μm,0.9s						
YUK				A		14 45 47.0	
	comp=Z,1μm,0.9s						
BKI	Bering	8.66	43	eP	P	14 43 42.5	-6.3
BKI				eS	S	14 45 09.1	-17
UGL	Uglegorsk	8.94	274	eP	P	14 43 52.5	-0.2
UGL				AMB	AMB	14 43 54.0	
	comp=Z,82nm,0.9s						
YSS	Yuzh-Sakhalins	8.97	260	eP	P	14 43 55.4	+2.3
YSS	Yuzh-Sakhalins	8.97	260	eP	P	14 43 56.0	+2.9
YSS				AMB	AMB	14 43 58.5	
	comp=Z,30nm,0.7s						
YSS				A		14 45 43.0	
	comp=Z,20nm,0.8s						
NKL	Nikolayevsk	10.19	298	eP	P	14 44 09.0	-0.8
ASAJ	Asahikawa	10.37	245	PN	P	14 44 15.3	+3.0
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ	Asahikawa	10.37	245	P	P	14 44 15.3	+3.0
	comp=Z,5.1nm,0.3s,baz=80,slow=13,SNR=42						
MA2	Magadan	10.71	346	ePN	P	14 44 16.7	-0.2
MA2				pmax	pmax		
	comp=N,2.0nm,0.6s						
MA2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MA2	Magadan	10.71	346	eP	P	14 44 16.0	-0.9
FX1	Attu Island--F	11.56	65	P	P	14 44 25.2	-3.1
	comp=Z,1.5nm,0.3s,baz=213,slow=13,SNR=5.4						
FX1				S	S	14 46 23.9	-13
	comp=Z,2.1nm,0.3s,baz=84,slow=22,SNR=2.6						
GRNR	Gornyy	12.49	284	eP	P	14 44 39.8	-1.1
EKMR	Ekimchan	14.75	294	eP	P	14 45 11.0	+0.5
EKMR				AMB	AMB	14 45 17.8	
	comp=Z,5.0nm,0.6s						
BMKR	Bomnak	17.36	298	eP	P	14 45 42.9	-0.7
YASR	Yasnyy	17.75	294	eP	P	14 45 48.0	-0.6
YASR				AMB	AMB	14 45 50.5	
	comp=Z,2.0nm,0.5s						
MAJO	Matsushiro	18.00	232	eP	P	14 45 51.0	-0.8
MAJO				pmax	pmax		
	comp=Z,20nm,0.7s						
MAJO	Matsushiro	18.00	232	eP	P	14 45 51.0	-0.8
	comp=Z,20nm,0.7s						
MAT	Matsushiro	18.00	232	P	P	14 45 51.0	-0.8
MAT				pmax	pmax		
	comp=Z,15nm,1.1s						
MAT	Matsushiro	18.00	232	P	P	14 45 51.0	-0.8
	comp=Z,15nm,1.1s						
MAT	Matsushiro	18.00	232	P	P	14 45 51.1	-0.7
MDJ	Mudanjiang	18.39	265	P	P	14 45 55.5	-1.0
MDJ				AP		14 46 05.6	
MDJ				S	S	14 49 13.7	-3.1
MDJ				XS		14 49 42.3	
MDJ				PCP	PcP	14 50 24.0	-2.7
MDJ				PCS		14 53 57.8	
MDJ				SCS	ScS	14 57 33.8	-3.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.1s						
MDJ				AMB	AMB		
	comp=Z,68nm,5.6s						
MDJ				LR	LR		
	comp=Z,81nm,25.8s						
MDJ	Mudanjiang	18.39	265	eP	P	14 45 55.6	-1.0
	comp=Z,25nm,1.0s						
MDJ				e		14 46 10.7	
KROS	Kirovskiy	18.41	297	eP	P	14 45 56.5	-0.3
KROS				AMB	AMB	14 46 03.7	
	comp=Z,1.0nm,0.5s						
YAK	Yakutsk	19.29	321	iP	P	14 46 10.8	+3.9
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s						
YAK	Yakutsk	19.29	321	P	P	14 46 06.8	-0.1
	comp=Z,16nm,0.9s						
BILL	Bilibino	19.55	12	iP	P	14 46 08.4	-1.4
BILL				pmax	pmax		
	comp=Z,7.0nm,1.4s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
BILL	Bilibino	19.55	12	eP	P	14 46 06.7	-3.1
	comp=Z,12nm,0.9s						
BILL				e		14 46 19.0	
CN2	Changchun	21.43	267	eP	P	14 46 34.8	+5.3
CN2				eXP		14 46 48.9	
CN2				eS	S	14 50 25.0	+5.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.1						
CN2				LR	LR		
	comp=Z,200nm,18.0s,MS3.6						
HIA	Hailar	23.33	284	eP	P	14 46 50.3	+2.2
HIA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HIA	Hailar	23.33	284	eP	P	14 46 50.3	+2.2
	comp=Z,5.0nm,0.8s,mb4.0						
TNA	Tin City	24.97	36	eP	P	14 47 04.0	+0.2
	comp=Z,14nm,1.1s,mb4.4						
TNA				epP		14 47 15.6	
IMA	Indian Mountai	30.75	38	eP	P	14 47 55.6	-0.6
IMA				e*PP	pP	14 48 07.0	-0.6
IMA				pmax	pmax		
	comp=Z,27nm,1.1s,mb5.0						
IMA	Indian Mountai	30.75	38	eP	P	14 47 55.6	-0.6
	comp=Z,27nm,1.1s,mb5.0						
IMA				epP	pP	14 48 07.0	-0.6
HHC	Hu-ho-hao-te	31.91	272	eP	P	14 48 08.0	+1.3
HHC				AP	pP	14 48 19.6	+1.5
HHC				XP	sP	14 48 25.0	+1.5
HHC				PP	PP	14 49 14.9	+1.7
HHC				S	S	14 53 14.6	+1.0
HHC				XS		14 53 35.4	
HHC				SCS	ScS	14 58 32.0	-0.3
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,150nm,4.9s						
HHC				LR	LR		
	comp=N,124nm,25.0s						
HHC				LR	LR		
	comp=E,168nm,19.0s						
HHC				LR	LR		
	comp=Z,90nm,20.8s,MS3.4						
NJ2	Nanjing	32.42	252	eP	P	14 48 11.5	+0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
MCK	McKinley	32.61	43	eP	P	14 48 11.1	-1.5
MCK				e*PP	pP	14 48 23.4	-0.6
MCK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MCK	McKinley	32.61	43	eP	P	14 48 11.1	-1.5
	comp=Z,5.8nm,0.9s,mb4.5						
MCK				epP	pP	14 48 23.4	-0.6
SML	Sawmill	32.96	46	eP	P	14 48 14.4	-1.2
COLA	College	33.09	41	eP	P	14 48 16.1	-0.6
COLA				e*PP	pP	14 48 27.6	-0.6
COLA				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
COLA	College	33.09	41	eP	P	14 48 16.1	-0.6
	comp=Z,16nm,0.8s,mb5.0						
COLA				epP	pP	14 48 27.6	-0.5
ILAR	Eielson Array	33.50	41	P	P	14 48 19.4	-0.9
	comp=Z,2.6nm,0.8s,mb4.2,baz=256,slow=6.1,SNR=25						
ILAR				pP	pP	14 48 30.7	-1.0
	comp=Z,6.2nm,0.9s,baz=261,slow=8.2,SNR=22						
DAWY	Dawson	36.79	42	eP	P	14 48 47.9	-0.4
DAWY				epP	pP	14 48 59.5	-0.4
INK	Inuvik	38.59	34	eP	P	14 49 03.4	+0.1
INK				e*PP	pP	14 49 14.5	-0.4
INK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
INK	Inuvik	38.59	34	P	P	14 49 04.0	+0.7
	comp=Z,2.8nm,0.8s,mb4.0,baz=273,slow=7.3,SNR=9.5						
INK				pP	pP	14 49 15.2	+0.3
	comp=Z,5.2nm,0.8s,baz=272,slow=8.9,SNR=11						
INK	Inuvik	38.59	34	eP	P	14 49 03.4	+0.1
	comp=Z,7.3nm,0.8s,mb4.5						
INK				epP	pP	14 49 14.5	-0.4
LZH	Lanzhou	39.58	271	eP	P	14 49 09.5	-2.3
LZH				PP	PP	14 50 44.5	-2.4
LZH				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.7						
LZH				LR	LR		
	comp=N,192nm,13.3s						
LZH				LR	LR		
	comp=Z,296nm,16.9s,MS4.2						
LZH	Lanzhou	39.58	271	eP	P	14 49 09.5	-2.3
LZH				*PP	pP	14 49 21.4	-2.1
LZH						14 50 44.5	
LZH				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
LZH	Lanzhou	39.58	271	eP	P	14 49 09.5	-2.3
	comp=Z,21nm,1.4s,mb4.7						
LZH				pP	pP	14 49 21.4	-2.1
LZH				sP	sP	14 49 26.9	-1.7
LZH				PP	PP	14 50 44.5	-2.4
DLBC	Dease Lake	42.60	48	P	P	14 49 37.3	+0.9
	comp=Z,1.3nm,0.8s,mb3.7,baz=253,slow=16,SNR=4.1						
DLBC				pP	pP	14 49 50.8	+2.6
	comp=Z,3.4nm,0.7s,baz=296,slow=13,SNR=6.8						
WMQ	Urumqi	45.66	290	eP	P	14 50 03.2	+1.9
WMQ				AP	pP	14 50 15.5	+2.5
WMQ				XP	sP	14 50 21.0	+2.9
WMQ				PCP	PcP	14 51 40.5	+1.2
WMQ				PP	PP	14 51 51.0	+2.2
WMQ				SCP		14 55 28.5	
WMQ				S	S	14 56 43.0	+2.6
WMQ				XS		14 57 03.5	
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,71nm,5.8s						
WMQ				LR	LR		
	comp=N,153nm,22.0s,MS4.0						
WMQ				LR	LR		
	comp=E,108nm,19.6s,MS4.0						
WMQ				LR	LR		
	comp=Z,112nm,18.3s,MS3.8						
YKA	Yellowknife Ar	47.87	39	P	P	14 50 18.2	-0.1
YKA				*PP	pP	14 50 30.7	+0.6
YKA	Yellowknife Ar	47.87	39	P	P	14 50 18.2	-0.2
	comp=Z,0.7nm,0.7s,mb3.8,baz=298,slow=7.5,SNR=13						
YKA				pP	pP	14 50 30.6	+0.5
	comp=Z,5.2nm,0.8s,baz=295,slow=7.5,SNR=33						
RES	Resolute Bay	47.88	20	eP	P	14 50 18.5	+0.1
RES				e	pP	14 50 28.9	-1.2
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RES	Resolute Bay	47.88	20	eP	P	14 50 18.5	+0.2
	comp=Z,3.4nm,0.9s,mb4.4						
RES				e	pP	14 50 28.9	-1.2
CHKZ	Chkalovo	50.16	309	P	P	14 50 33.7	-2.4
CHKZ				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.0nm,0.5s,mb4.1						
CHKZ	Chkalovo	50.16	309	P	P	14 50 33.7	-2.4
	comp=Z,1.1nm,0.5s,mb4.1						
EDM	Edmonton	53.33	49	eP	P	14 50 59.0	-1.0
EDM				e	pP	14 51 11.3	-0.6
CMAR	Chiang Mai Arr	54.65	257	P	P	14 51 11.1	+0.9
	comp=Z,4.6nm,1.0s,mb4.5,baz=31,slow=7.5,SNR=16						
NVAR	Mina Array Bea	59.76	65	P	P	14 51 46.6	+0.5
	comp=Z,0.9nm,0.6s,mb4.0,baz=298,slow=7.6,SNR=6.8						
NVAR				pP	pP	14 51 59.8	+1.7
	comp=Z,0.9nm,0.8s,baz=298,slow=5.6,SNR=4.0						
ELK	Elko	60.04	61	P	P	14 51 48.6	+0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=307,slow=3.5,SNR=4.6						
PDAR	Pinedale Array	61.88	56	P	P	14 52 01.2	+0.9
	comp=Z,1.7nm,0.9s,mb4.2,baz=333,slow=3.3,SNR=11						
PDAR				pP	pP	14 52 14.1	+1.6
	comp=Z,2.0nm,1.0s,baz=315,slow=4.2,SNR=6.6						
KIV	Kislovodsk	70.27	315	iP	P	14 52 58.2	+4.6
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
WRAB	Tennant Creek	71.47	201	eP	P	14 53 00.2	-1.1
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
WRAB	Tennant Creek	71.47	201	eP	P	14 53 00.2	-1.0
	comp=Z,12nm,1.0s,mb4.8						
WB2	Warramunga Arr	71.47	201	eP	P	14 53 00.9	-0.4
WRA	Warramunga Arr	71.48	201	P	P	14 53 01.0	-0.3
	comp=Z,3.0nm,0.7s,mb4.4,baz=16,slow=6.3,SNR=38						
FITZ	Fitzroy Crossi	72.19	210	eP	P	14 53 06.3	+0.7
	comp=Z,7.7nm,0.8s,mb4.7						
TXAR	Lajitas Array	74.77	63	P	P	14 53 21.4	+0.9
	comp=Z,0.5nm,0.5s,mb3.7,baz=344,slow=9.1,SNR=4.9						
TXAR				pP	pP	14 53 33.8	+0.9
	comp=Z,1.0nm,0.7s,baz=297,slow=4.0,SNR=5.0						
ASAR	Alice Springs	75.17	201	P	P	14 53 23.6	+0.7
	comp=Z,2.8nm,0.6s,mb4.3,baz=13,slow=5.6,SNR=57						
ASAR				pP	pP	14 53 38.0	+2.8
	comp=Z,0.9nm,0.6s,baz=15,slow=5.6,SNR=3.4						
ASPA	Alice Springs	75.17	201	eP	P	14 53 23.7	+0.8
FORT	Forrest	83.42	204	eP	P	14 54 08.3	+1.0
	comp=Z,578nm,0.6s						

*NEIC **01** 14:56:02.2±1.2,23.35S×66.54W,h214km±11km,mb4.0/6, Error ellipse: s-maj=19.6km s-min=15.4km az=106.0*
*IDC **01** 14:56:02.1±1.1,23.28S×66.67W,h209km±11km,mb3.4/4, mb1 3.7/7,mb1mx3.5/16,mbtmp4.1/7,Error ellipse: s-maj=22.0km s-min=16.6km az=4.0*
ISC 01 14:56:00.5±1.1,**23.48S**±0.08×**66.6W**±0.1,**h212**km±10km, **n17**,σ1§**11**/17,**mb3.6**/7,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.31	291	P	P	14 56 44.2	+0.7
	9.8nm,0.3s,baz=108,slow=6.8,SNR=246						
LVC				S	S	14 57 15.8	-1.0
	19nm,0.3s,baz=243,slow=22,SNR=34						
LPAZ	La Paz	7.30	348	ePn	P	14 57 46.2	+0.7
LPAZ				eS	S	14 59 08.4	+0.9
SAML	Samuel	14.81	13	eP	P	14 59 19.9	-1.3
	14nm,0.7s						
TRQA	Tornquist	15.05	166	P	P	14 59 20.4	-3.6
	2.2nm,0.4s						
PLCA	Paso Flores	17.52	190	P	P	14 59 54.5	+1.6
	0.8nm,0.3s,baz=8.7,slow=10,SNR=19						
BDFB	Brasilia	19.14	69	P	P	15 00 10.1	+0.4
	1.2nm,0.3s,baz=248,slow=12,SNR=30						
DBIC	Dimbokro	67.27	72	P	P	15 06 34.1	-0.6
	1.4nm,0.7s,mb3.7,baz=221,slow=6.0,SNR=4.7						
DBIC	Dimbokro	67.27	72	P	P	15 06 31.0	-3.7
	1.7nm,0.6s,mb3.9						
DBIC				P		15 06 34.1	
ISCO	Idaho Springs	72.73	329	P	P	15 07 05.8	-1.6
	1.3nm,0.7s,mb3.7						
PDAR	Pinedale Array	76.90	329	P	P	15 07 31.1	+0.2
	0.4nm,0.5s,mb3.3,baz=136,slow=9.7,SNR=5.1						
HWUT	Hardware Ranch	77.00	327	eP	P	15 07 31.7	+0.3
	2.0nm,0.6s,mb3.9						
ELK	Elko	78.27	324	P	P	15 07 37.4	-1.1
	0.4nm,0.5s,mb3.3,baz=144,slow=4.2,SNR=4.4						
HLID	Hailey	79.86	327	eP	P	15 07 48.5	+1.5
	2.4nm,0.7s,mb3.9						
YKA	Yellowknife Ar	93.77	340	P	P	15 08 54.0	0.0
	0.2nm,0.5s,mb3.4,baz=136,slow=4.2,SNR=7.5						
YKA	Yellowknife Ar	93.77	340	P	P	15 08 54.0	0.0
ASAR	Alice Springs	129.09	204	PKP	PKPdf	15 14 44.8	+0.8
	0.5nm,0.6s,baz=131,slow=1.2,SNR=5.2						
WRA	Warramunga Arr	132.26	207	PKP	PKPdf	15 14 51.3	+1.2
	0.2nm,0.4s,baz=159,slow=1.7,SNR=9.3						

NDI 01 15:09:50.2±5.9,**21.18N**×**70.53E**,**h28**km±64km,**ML3.5**, **Southern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHV	Bhavnagar	1.61	69	e	Pn	15 10 09.5	-7.8
BHV				eS	Sn	15 10 35.5	-1.8
BHJ	Bhuj	2.22	339	eP	Pn	15 10 23.2	-2.8
BHJ				AMP		15 10 24.6	
BHJ				eS	Sn	15 10 51.8	-1.0
BHJ				AML	AML	15 11 03.0	
	comp=N,801nm,0.3s						
BHJ				AML	AML	15 11 03.1	
	comp=E,1µm,0.7s						
BOM	Bombay	3.13	136	eP	Pn	15 10 40.1	+1.2
BOM				eS	Sn	15 11 11.6	-4.2
POO	Poona	4.09	130	eP	Pn	15 10 50.1	-2.5
POO				eS	Sn	15 11 36.7	-3.5
POO				e		15 11 58.3	
	comp=E,105nm,0.5s						
POO				e		15 11 58.5	
	comp=N,119nm,0.6s						
KAD	Karad	5.17	137	e	Pn	15 11 15.2	+7.3
KAD				iS	Sn	15 12 00.5	-6.9
LATR	Latur	6.31	115	e	rx	15 12 02.2	
AJM	Ajmer	6.48	35	eP	Pn	15 11 24.4	-2.0
AJM				eS	Sn	15 12 33.8	-6.4
AJM				AML	AML	15 13 12.3	
	comp=E,41nm,0.4s						
AJM				AML	AML	15 13 12.7	
	comp=N,29nm,0.2s						
BHPL	Bhopal	6.71	71	i	Pn	15 11 30.7	+1.1
BHPL				iS	Sn	15 12 35.9	-10
BHPL				e		15 13 31.7	
	comp=N,57nm,0.5s						
BHPL				e		15 13 31.8	
	comp=E,58nm,0.5s						

*NEIC **01** 15:12:50.0,36.80N×9.47W,MG3.6(MDD),After MDD.*
*INMG **01** 15:12:50.6±1.2,36.71N×9.63W,h17km±28km,ML2.3, Error ellipse: s-maj=27.5km s-min=5.0km az=54.0*
*CSEM **01** 15:12:51.3±0.7,36.86N×9.44W,h87km±8km,mb3.6/5, Error ellipse: s-maj=12.1km s-min=7.8km az=58.0*
MDD 01 15:12:48.5±1.9,**36.73N**×**9.55W**,**mbLg2.8**/11,**Error ellipse: s-maj=15.5km s-min=11.0km az=67.0,PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.05	39	eP	Pb	15 13 09.7	+0.5
PTEO				eS	Sb	15 13 24.4	+1.1
	27nm,0.2s						
PTEO	Sao Teotonio	1.05	39	P	Pb	15 13 09.6	+0.4
PTEO				S	Sb	15 13 24.0	+0.7
PALC	Alcoutim	1.81	65	eP	Pn	15 13 18.1	-3.1
PALC				eS	Sn	15 13 42.3	-2.9
	31nm,0.1s						
PALC	Alcoutim	1.81	65	P	Pn	15 13 18.1	-3.1
PALC				S	Sn	15 13 42.0	-3.2
PBEJ	Beja	1.86	45	eSn	Sn	15 13 43.6	-2.9
	11nm,0.1s						
PBEJ	Beja	1.86	45	P	Pn	15 13 20.2	-1.8
PBEJ				S	Sn	15 13 43.5	-3.0
MOE	Montemor	2.03	28	eSn	Sn	15 13 47.3	-3.4
MOE	Montemor	2.03	28	P	Pn	15 13 22.7	-1.6
MOE				S	Sn	15 13 46.8	-3.9
PLOU	Loures	2.18	8	eSn	Sn	15 13 50.4	-4.1
	19nm,0.2s						
PLOU	Loures	2.18	8	S	Sn	15 13 50.4	-4.1
	9.6nm,0.2s						
EMIN	Mina Concepcio	2.52	65	P	Pn	15 13 29.6	-1.8
	1.4nm,0.1s,SNR=13						
EMIN				S	Sn	15 13 59.9	-3.3
	6.3nm,0.1s,SNR=20						
EMIN	Mina Concepcio	2.52	65	P	Pn	15 13 29.5	-1.8
EMIN				S	Sn	15 13 59.9	-3.2
	6.3nm,0.1s,SNR=20						
EBAD	Badajoz	2.85	44	P	Pn	15 13 33.9	-2.2
	1.9nm,0.1s,SNR=7.9						
EBAD				S	Sn	15 14 07.6	-4.0
	12nm,0.1s,SNR=7.9						
EBAD	Badajoz	2.85	44	P	Pn	15 13 33.9	-2.2
	1.9nm,0.1s,SNR=7.9						
EBAD				S	Sn	15 14 07.6	-4.0
	12nm,0.1s,SNR=7.9						
ESPR	Espera	2.96	86	P	Pn	15 13 36.1	-1.6
	3.2nm,0.1s,SNR=8.9						
ESPR				S	Sn	15 14 09.8	-4.7
	93nm,0.2s,SNR=12						
ESPR	Espera	2.96	86	P	Pn	15 13 36.2	-1.5
ESPR				S	Sn	15 14 09.8	-4.7
	93nm,0.2s,SNR=12						
PCBR	Castelo Branco	3.51	27	ePn	Pn	15 13 43.3	-2.1
PCBR				eSn	Sn	15 14 23.0	-5.3
	3.3nm,0.2s						
PCBR	Castelo Branco	3.51	27	P	Pn	15 13 43.3	-2.1
PCBR				S	Sn	15 14 21.7	-6.6
PCBR	Castelo Branco	3.51	27	S	Sn	15 14 21.7	-6.6
ECAB	El Cabril	3.55	67	P	Pn	15 13 44.3	-1.7
	0.6nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 14 23.4	-5.9
	6.2nm,0.2s,SNR=7.9						
ECAB	El Cabril	3.55	67	P	Pn	15 13 44.3	-1.7
	0.6nm,0.1s,SNR=7.9						
ECAB				S	Sn	15 14 23.4	-6.0
	6.2nm,0.2s,SNR=7.9						
MTE	Manteigas	3.99	23	eSn	Sn	15 14 34.4	-6.0
	8.3nm,0.4s						
MTE	Manteigas	3.99	23	S	Sn	15 14 34.4	-6.0
	4.2nm,0.4s						
PVIS	Viseu	4.19	17	S	Sn	15 14 38.8	-6.6
EADA	Adamuz	4.21	69	P	Pn	15 13 53.3	-2.1
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	15 14 39.4	-6.6
	2.6nm,0.2s,SNR=8.8						
EADA	Adamuz	4.21	69	P	Pn	15 13 53.3	-2.1
	0.5nm,0.1s,SNR=7.9						
EADA				S	Sn	15 14 39.4	-6.6
	2.6nm,0.2s,SNR=8.8						
PVRL	Vila Real	4.76	17	eSn	Sn	15 14 52.0	-7.9
	6.1nm,0.2s						
EBAN	Banos Encina	4.80	71	S	Sn	15 14 52.6	-8.4
	2.4nm,0.1s,SNR=7.9						
ECOG	Cogollos-Vega	4.82	82	S	Sn	15 14 54.8	-6.6
	2.3nm,0.1s,SNR=4.0						
ELOB	Lobios	5.26	12	S	Sn	15 15 01.9	-11
	0.9nm,0.1s,SNR=7.9						
EQES	Quesada	5.27	76	S	Sn	15 15 05.7	-7.2
	2.6nm,0.2s,SNR=4.9						
EQES	Quesada	5.27	76	S	Sn	15 15 05.7	-7.2
	2.6nm,0.2s,SNR=4.9						
ECAL	Calabor	5.64	22	S	Sn	15 15 12.9	-9.2
	3.4nm,0.2s,SNR=7.9						
ECAL	Calabor	5.64	22	S	Sn	15 15 12.9	-9.3
	3.4nm,0.2s,SNR=7.9						
ETOB	Tobarra	6.62	71	S	Sn	15 15 36.8	-10
	0.6nm,0.2s,SNR=7.9						

*IDC **01** 15:16:41.5±10.0,23.66N×94.76E,h101km±149km, mb3.5/5,mb1 3.6/6,mb1mx3.3/19,mbtmp3.7/6,ML3.4/1, MS3.5/1,Ms1 3.5/1,ms1mx2.5/23,Error ellipse: s-maj=121.6km s-min=42.3km az=124.0*
*NEIC **01** 15:16:42.8±1.5,23.55N×94.72E,h123km±17km,mb4.0/4, Error ellipse: s-maj=25.4km s-min=15.4km az=48.0*
*BJI **01** 15:16:42.5,23.60N×94.76E,h120km,mb3.9*
ISC 01 15:16:41.5±1.5,**23.6N**±0.1×**94.7E**±0.2,**h126**km±15km,**n13**, σ1§**06**/14,**mb3.7**/8,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.46	141	P	P	15 18 14.8	-0.7
	0.2nm,0.3s,baz=303,slow=14,SNR=5.8						
LSA	Lhasa	6.87	333	P	P	15 18 22.4	+1.4
LSA				S	S	15 19 37.6	-0.5
LSA				Smax			
	comp=N,30nm,0.7s						
LSA				Smax			
	comp=E,50nm,0.7s						
LSA	Lhasa	6.87	333	ePn	P	15 18 22.4	+1.4
LSA				eS	S	15 19 37.1	-1.0
ENH	Enshi	14.80	60	eP	P	15 20 06.5	+0.9
	comp=E,8.3nm,0.6s						
AAK	Ala-Archa	25.32	323	P	P	15 21 57.2	-0.9
	comp=E,0.8nm,0.6s,mb3.3						
SONM	Songino Array	25.96	18	P	P	15 22 02.8	-1.1
	comp=E,0.3nm,0.7s,mb2.8,baz=190,slow=8.8,SNR=3.1						
KURK	Kurchatov	29.83	339	P	P	15 22 36.2	-2.6
	comp=E,1.7nm,0.7s,mb3.8						
ZAL	Zalesovo	31.22	349	P	P	15 22 50.9	-0.2
	comp=E,1.1nm,0.4s,mb3.9,baz=296,slow=3.0,SNR=5.2						
CHKZ	Chkalovo	35.11	335	eP	P	15 23 25.6	+1.2
	comp=E,1.9nm,0.6s,mb4.1						
ASF	Jabal al Asfar	51.27	293	LR	LR	15 50 28.8	
	comp=E,54nm,20.4s,baz=174,slow=40						
FINES	FINESS Array B	59.36	329	P	P	15 26 32.8	+0.3
	comp=E,0.7nm,0.7s,mb3.8,baz=108,slow=6.0,SNR=5.3						
HFS	Hagfors	65.40	327	P	P	15 27 13.0	+0.4
	comp=E,3.2nm,0.9s,mb4.1,baz=100,slow=8.8,SNR=5.3						
GERES	GERESS Array B	66.82	315	P	P	15 27 22.8	+1.0
	comp=E,0.3nm,0.3s,mb3.6,baz=68,slow=7.2,SNR=4.4						

*DJA **01** 15:21:05.7±0.2,6.11S×123.63E,h660km±5km,mb5.5/4, ML5.8/3,Error ellipse: s-maj=23.7km s-min=7.3km az=165.0*
*BJI **01** 15:21:06.4,6.31S×123.94E,h668km,mB4.7,mb5.2*
*MOS **01** 15:21:07.3±1.0,6.22S×123.68E,h657km,mb4.5/14,Error ellipse: s-maj=13.2km s-min=7.7km az=118.0*
*NEIC **01** 15:21:07.9±0.3,6.23S×123.64E,h642km±4km,mb5.2/28, Error ellipse: s-maj=7.0km s-min=4.0km az=52.0*
*HRVD **01** 15:21:07.9±0.7,6.07S×123.74E,h664km±7km,MW5.2/30, Centroid moment Tensor Solution. LP body waves: s30,c49; Half duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-5.24±.47; Mθθ4.27±.82; Mφφ0.97±.97; Mrθ1.67±.77; Mθφ2.97±.82; Mφr2.68±.84; Best double couple: M0 6.479×10^{16} NP1:φs75°,δ34°,λ-65°. NP2:φs225°,δ60°, λ-106°. Principal axes: T 6.69, Plg13°, Azm327°; N -.423, Plg14°, Azm234°; P -6.267, Plg71°, Azm100°; nsta1 refers to body waves, cutoff=40s.*
*IDC **01** 15:21:08.8±0.9,6.20S×123.69E,h654km±10km,mb4.1/15, mb1 4.1/17,mb1mx4.1/20,mbtmp5.1/17 Error ellipse: s-maj=13.8km s-min=6.1km az=65.0*
ISC 01 15:21:07.3±0.2,**6.26S**±0.03×**123.66E**±0.04,**h663**km±4km, **h651**km±7.0km**:pP-P**,**n214**,σ1§**01**/215,**mb4.9**/63,**36C-20D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUNI	Buntu Taipa	4.21	308⇓	ePn	P	15 22 38.8	-0.2
	2µm,0.3s						
BUNI			⇓	eSn	S	15 23 52.2	+0.3
NINI	Niniconang	4.29	295⇓	ePn	P	15 22 40.5	+0.9
	5µm,0.5s						
NINI			⇑	eSn	S	15 23 53.8	+0.9
TANI	Tanete Lipujan	5.10	303⇓	ePn	P	15 22 44.8	-0.3
	437nm,0.7s						
KEDI	Kedomdong	7.80	253⇓	eP	P	15 23 06.2	-1.0
	1µm,0.2s						
RATI	Rata	8.42	253⇓	eP	P	15 23 10.8	-1.9
	3µm,0.3s						
KELI	Kelakatan	9.30	257⇓	eP	P	15 23 19.8	-0.9
	887nm,0.3s						
SRDI	Scrawed	9.69	256⇓	eP	P	15 23 22.1	-2.4
	1µm,0.2s						
KAKA	Kakadu	10.77	127⇑	iP	P	15 23 34.4	0.0
	254nm,0.8s						
KAKA				eS	S	15 25 35.4	+2.9
FITZ	Fitzroy Crossi	11.93	171⇑	iP	P	15 23 46.4	+1.0
	254nm,0.3s						
FITZ				eS	S	15 25 54.7	+2.6
ZMPH	Zamboanga City	13.22	353⇑	iP	P	15 23 59.6	+1.9
KCP	Kidapawan	13.26	6⇑	eP	P	15 23 58.9	+0.9
MATI	Mati	13.37	11	eP	P	15 23 58.4	-0.7
DAV	Davao City (W)	13.38	8	eP	P	15 24 00.0	+0.8
DAV	Davao City (W)	13.38	8	eS	S	15 26 21.0	+4.0
IPIL	Ipil	13.99	356	eP	P	15 24 06.9	+1.7
PAGZ	Pagadian	14.02	359	eP	P	15 24 07.0	+1.7
BUKP	Musuan	14.11	6	eP	P	15 24 07.0	+0.7
KKM	Kota Kinabalu	14.30	329	eP	P	15 24 08.1	0.0
KKM	Kota Kinabalu	14.30	329	P	P	15 24 08.5	+0.4
BUTP	Butuan	15.25	7	eP	P	15 24 16.5	-0.6
MBWA	Marble Bar	15.29	194	eP	P	15 24 17.8	+0.3
	28nm,0.3s						
MBWA				eS	S	15 26 50.6	+1.0
KSM	Kuching	15.38	300	eP	P	15 24 19.2	+0.8
TBP	Tagbilaran	15.85	1⇑	eP	P	15 24 22.6	0.0
SCPH	Surigao	16.04	7⇑	eP	P	15 24 24.6	+0.2
BATP	Bataraza	16.05	339	eP	P	15 24 25.5	+0.9
MSLP	Maasin	16.33	4	eP	P	15 24 27.2	+0.2
GUIM	Jordan	16.81	356	eP	P	15 24 29.8	-1.6
WRAB	Tennant Creek	17.11	144c	iP	P	15 24 34.2	+0.1
WRAB	Tennant Creek	17.11	144⇑	iP	P	15 24 34.4	+0.2
	174nm,0.6s						
WRAB				eS	S	15 27 18.9	-1.1
WRA	Warramunga Arr	17.11	144	eP	P	15 24 34.0	-0.1
WRA				eS	S	15 27 18.9	-1.0
WRA	Warramunga Arr	17.11	144	P	P	15 24 34.0	-0.1
	8.6nm,0.3s,baz=325,slow=10,SNR=849						
WRA				S	S	15 27 18.9	-1.0
	4.8nm,0.3s,baz=325,slow=16,SNR=13						
MENI	Mendum Tagoi	17.12	78⇓	eP	P	15 24 32.5	-1.8
WB2	Warramunga Arr	17.12	144⇑	iP	P	15 24 34.4	+0.2
WB2				eS	S	15 27 18.7	-1.3
YOMI	Yo Moklole	17.23	79⇓	eP	P	15 24 33.7	-1.6
PULI	Pulasari	17.58	269⇓	eP	P	15 24 36.8	-1.7
BESP	Borongan	17.83	6	eP	P	15 24 40.0	-0.8
ENPP	El Nido	17.85	346	eP	P	15 24 41.5	+0.5
PENI	Pendagan	18.40	271⇓	eP	P	15 24 44.0	-2.1
BUSP	Coron	18.46	349	eP	P	15 24 45.7	-0.9
SJMP	San Jose	18.77	352	eP	P	15 24 49.7	+0.3
PVCP	Virac	19.73	1	eP	P	15 24 56.1	-1.9
ASPA	Alice Springs	19.92	151⇑	iP	P	15 25 00.2	+0.5
ASPA				eS	S	15 28 04.7	-1.1
ASPA	Alice Springs	19.92	151	eP	P	15 25 00.2	+0.5
ASPA				eS	S	15 28 04.7	-1.1
ASAR	Alice Springs	19.92	151	eP	P	15 25 00.1	+0.4
ASAR				eS	S	15 28 06.3	+0.5
ASAR	Alice Springs	19.92	151	P	P	15 25 00.1	+0.4
	15nm,0.3s,baz=336,slow=11,SNR=710						
ASAR				S	S	15 28 06.3	+0.5
	1.6nm,0.3s,baz=343,slow=20,SNR=7.5						
ASAR				ScP		15 31 20.9	
	1.0nm,0.3s,baz=341,slow=2.2,SNR=8.1						
LUBP	Lubang	20.15	350	eP	P	15 25 01.8	0.0
BALP	Baler	21.95	355	eP	P	15 25 17.1	-1.0
PMG	Port Moresby	23.49	99d	iP	P	15 25 31.1	-0.7
PMG	Port Moresby	23.49	99	P	P	15 25 31.3	-0.5
	32nm,0.8s,mb4.8,baz=285,slow=3.3,SNR=20						
PMG	Port Moresby	23.49	99	eP	P	15 25 30.8	-1.0
	40nm,0.7s,mb5.0						
ABRA	Dolores	23.93	353	eP	P	15 25 32.5	-3.1
APYP	Conner	24.08	354	eP	P	15 25 33.6	-3.3
FORT	Forrest	24.74	171⇑	iP	P	15 25 42.6	0.0
	3µm,0.5s						
FORT				eS	S	15 29 20.5	-1.8
IPM	Ipoh	25.03	295	P	P	15 25 43.1	-2.2
KULM	Kulim	25.68	296	eP	P	15 25 50.0	-0.9
KLBR	Kellerberrin	25.80	192	eP	P	15 25 51.7	-0.1
	247nm,0.4s						
KLBR				eS	S	15 29 36.5	-2.4
CTA	Charters Tower	25.89	124⇑	iP	P	15 25 53.1	+0.4
	7.5nm,0.6s,mb4.4						
CTA	Charters Tower	25.89	124	eP	P	15 25 53.1	+0.4
CTA	Charters Tower	25.89	124	P	P	15 25 53.2	+0.6
	10nm,0.6s,mb4.5,baz=294,slow=11,SNR=13						
CTA				S	S	15 29 38.7	-1.7
	4.2nm,0.9s,baz=103,slow=17,SNR=3.0						
MUN	Mundaring	26.52	194⇑	iP	P	15 25 57.9	-0.1
	9.3nm,0.3s,mb4.8						
NWAO	Narrogin (SRO)	27.20	192	eP	P	15 26 04.2	+0.4
NWAO				eS	S	15 29 59.6	-0.9
NWAO	Narrogin (SRO)	27.20	192	P	P	15 26 04.2	+0.4
	13nm,0.3s,mb4.9,baz=21,slow=6.6,SNR=44						
NWAO				S	S	15 29 59.5	-1.0
	24nm,0.9s,baz=9.8,slow=13,SNR=4.0						
UBT	Ubonrachathani	28.24	319	P	P	15 26 13.5	+0.7
QIZ	Qiongzhong	28.58	332	P	P	15 26 15.6	-0.1
QIZ	Qiongzhong	28.58	332	eP	P	15 26 15.2	-0.5
	24nm,0.6s,mb4.9						
NNT	Nongplab	30.27	308	P	P	15 26 30.0	0.0
KKTK	Khon Kaen	30.48	318	⇑P	P	15 26 32.5	+0.7
	2µm,0.9s						
STKA	Stephens Creek	30.51	149⇑	iP	P	15 26 33.0	+1.1
	41nm,0.5s,mb5.2						
STKA				epP		15 28 09.2	
STKA				eS	S	15 30 50.6	-0.9
STKA	Stephens Creek	30.51	149	P	P	15 26 33.1	+1.2
	43nm,0.5s,mb5.3,baz=323,slow=8.2,SNR=184						
STKA				S	S	15 30 50.7	-0.8
	18nm,1.1s,baz=99,slow=16,SNR=4.9						
QZH	Quanzhou	31.40	351⇓	iP	P	15 26 39.2	-0.3
QZH				AMB	AMB		
	comp=Z,120nm,0.9s,mb5.4						
NST	Nakhon Sawan	31.90	313	⇓P	P	15 26 44.4	+0.7
	comp=Z,125nm,1.0s,mb5.4						
JOW	Kunigami	33.20	8	P	P	15 26 54.8	+0.3
	comp=Z,88nm,1.1s,mb5.2,baz=166,slow=10.0						
NANT	Nan	33.65	318	⇑P	P	15 26 58.0	-0.3
	comp=Z,228nm,0.7s,mb5.8						
BDT	Bhumibol Dam	33.75	314	P	P	15 26 59.5	+0.4
	comp=Z,18nm,37.0s						
CM31	Chiang Mai Arr	34.60	316	eP	P	15 27 06.7	+0.6
	comp=Z,87nm,0.8s,mb5.3						
CMAR	Chiang Mai Arr	34.60	316	eP	P	15 27 06.9	+0.8
CMAR	Chiang Mai Arr	34.60	316	P	P	15 27 07.0	+0.8
	comp=Z,55nm,0.6s,mb5.2,baz=144,slow=6.6,SNR=342						
CMAR				PcP	PcP	15 29 22.8	+1.7
	comp=Z,4.0nm,0.8s,baz=174,slow=2.8,SNR=5.5						
CMAR				ScP		15 32 08.2	
	comp=Z,2.8nm,0.8s,baz=171,slow=2.5,SNR=6.0						
CHRT	Chiangrai	35.02	318	⇑P	P	15 27 10.5	+1.0
	comp=Z,871nm,0.9s						
HNR	Honiara	36.08	97	P	P	15 27 17.4	-0.8
	comp=Z,180nm,1.1s,mb5.5						
GYA	Guiyang	36.46	334⇑	iP	P	15 27 21.9	+0.6
GYA				SCP		15 32 14.5	
GYA				S	S	15 32 18.0	-2.6
GYA				AMB	AMB		
	comp=Z,140nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,230nm,3.0s						
SSE	Sheshan	37.22	356	P	P	15 27 28.0	+0.6
SSE				S	S	15 32 30.8	-0.8
SSE				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,69nm,4.2s						
SSE	Sheshan	37.22	356	P	P	15 27 28.0	+0.6
	comp=Z,130nm,0.8s,mb5.5						
SSE				S	S	15 32 30.8	-0.8
SSE				sS		15 35 37.7	
KMI	Kunming	37.25	328	P	P	15 27 29.3	+1.6
KMI				XP	sP	15 30 26.5	-2.2
KMI				S	S	15 32 33.3	+1.2
KMI				XS		15 35 49.2	
KMI				AMB	AMB		
	comp=Z,94nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,225nm,4.5s						
KMI	Kunming	37.25	328	P	P	15 27 29.3	+1.6
	comp=Z,94nm,1.1s,mb5.2						
KMI				sP	sP	15 30 26.5	-2.2
KMI				S	S	15 32 33.3	+1.2
KMI				sS		15 35 49.2	
CNB	Canberra Magne	37.36	144	eP	P	15 27 30.6	+2.1
	comp=Z,421nm,1.4s,mb5.8						
WHN	Wuhan	37.66	347	P	P	15 27 30.1	-1.0
CBIJ	Chichi jima	37.70	28	P	P	15 27 31.3	-0.1
	comp=Z,98nm,0.6s,mb5.4,baz=295,slow=20,SNR=6.6						
NJ2	Nanjing	38.37	353	eP	P	15 27 37.1	+0.4
NJ2				PP	PP	15 29 27.2	+5.0
NJ2				PCP	PcP	15 29 32.0	-0.6
NJ2				XP	sP	15 30 39.7	+1.5
NJ2				S	S	15 32 52.0	+3.6
NJ2				XS		15 36 07.0	
NJ2				AMB	AMB		
	comp=Z,250nm,0.8s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,630nm,4.7s						

ENH	Enshi	38.78	340	⇑iP	P	15 27 39.6	-0.4
	comp=Z,108nm,0.8s,mb5.3						
XAN	Xi’an	42.44	342	P	P	15 28 08.2	-0.8
XAN				AMB	AMB		
	comp=Z,172nm,0.9s,mb5.5						
KS15	Wonju Array Si	43.65	5	eP	P	15 28 18.2	-0.2
SHL	Shillong	44.20	317	eP	P	15 28 22.5	-0.3
SHL				e		15 30 34.5	
MAT	Matsushiro	44.70	17	eP	P	15 28 26.0	-0.5
	comp=Z,9.7nm,0.8s,mb4.2						
MAT	Matsushiro	44.70	17	P	P	15 28 25.6	-0.9
LZH	Lanzhou	46.05	338	⇑iP	P	15 28 37.5	+0.8
LZH				PCP	PcP	15 29 59.0	+0.2
LZH				AP	pP	15 30 29.8	-0.9
LZH				PP	PP	15 30 37.5	+3.1
LZH				XP	sP	15 31 39.6	-3.0
LZH				SCP		15 32 52.5	
LZH				S	S	15 34 36.5	0.0
LZH				SCS	ScS	15 37 21.0	+2.6
LZH				XS		15 37 59.8	
LZH				SS	SS	15 38 15.0	+1.4
LZH				AMB	AMB		
	comp=Z,146nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,305nm,5.2s						
LZH	Lanzhou	46.05	338	eP	P	15 28 37.5	+0.8
LZH	Lanzhou	46.05	338	⇑iP	P	15 28 37.5	+0.8
	comp=Z,146nm,1.3s,mb5.2						
LZH				PcP	PcP	15 29 59.0	+0.2
LZH				pP	pP	15 30 29.8	-0.9
LZH				PP	PP	15 30 37.5	+3.1
LZH				sP	sP	15 31 39.6	-3.0
LZH				ScP		15 32 52.5	
LZH				S	S	15 34 36.5	0.0
LZH				ScS	ScS	15 37 21.0	+2.6
LZH				sS		15 37 59.8	
LZH				SS	SS	15 38 15.0	+1.4
VIS	Vishakhapatnam	46.40	302	eP	P	15 28 39.2	-0.3
VIS				e		15 28 40.5	
	comp=Z,52nm,1.1s						
BJT	Baijiatuau	46.56	352	eP	P	15 28 39.6	-0.9
BJT	Baijiatuau	46.56	352	⇑iP	P	15 28 39.6	-0.9
	comp=Z,101nm,1.1s,mb5.1						
LSA	Lhasa	47.47	321	P	P	15 28 48.8	+1.5
LSA				AMB	AMB		
	comp=Z,130nm,0.8s,mb5.3						
LSA	Lhasa	47.47	321	eP	P	15 28 48.4	+1.1
LSA	Lhasa	47.47	321	⇑iP	P	15 28 48.4	+1.1
	comp=Z,116nm,0.8s,mb5.3						
SNY	Shenyang	47.85	360	⇑P	P	15 28 48.8	-1.2
SNY				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.5						
HHC	Hu-ho-hao-te	48.17	348	eP	P	15 28 52.0	-0.5
HHC				AP	pP	15 30 49.0	+0.9
HHC				PP	PP	15 30 57.9	+5.0
HHC				XP	sP	15 32 02.7	+3.1
HHC				S	S	15 35 04.1	-1.4
HHC				SCS	ScS	15 37 30.5	-2.1
HHC				XS		15 38 35.8	
HHC				SS	SS	15 38 48.4	-0.2
HHC				AMB	AMB		
	comp=Z,36nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,97nm,7.7s						
BTO	Baotou	48.29	346	eP	P	15 28 51.9	-1.4
TRD	Trivandrum	48.82	287	eP	P	15 28 57.7	+0.1
TRD				⇓E		15 28 58.3	
	comp=Z,41nm,0.8s						
JIRN	Jiri	49.47	315	eP	P	15 29 02.7	+0.5
	comp=Z,312nm,0.7s,mb5.8						
CN2	Changchun	49.85	2	eP	P	15 29 03.2	-1.5
CN2				PCP	PcP	15 30 10.3	-2.4
CN2				eAP	pP	15 30 57.6	-4.1
CN2				eXP	sP	15 32 12.2	-0.7
CN2				eS	S	15 35 25.2	-2.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
PKI	Pulchoki	49.97	314	eP	P	15 29 05.9	+0.1
	comp=Z,164nm,0.5s,mb5.6						
KKN	Kakani	50.19	314	eP	P	15 29 07.6	+0.2
	comp=Z,550nm,1.1s,mb5.8						
DMN	Daman	50.21	314	eP	P	15 29 07.9	+0.3
	comp=Z,453nm,1.0s,mb5.8						
HYB	Hyderabad	50.38	299	⇑eP	P	15 29 08.0	-0.9
	comp=Z,90nm,1.0s,mb5.0						
HYB	Hyderabad	50.38	299	⇑iP	P	15 29 08.0	-0.9
	comp=Z,90nm,1.0s,mb5.0						
GTA	Gaotai	50.51	336	⇑iP	P	15 29 09.9	+0.3
GTA				PCP	PcP	15 30 15.6	+0.4
GTA				AP	pP	15 31 08.4	+1.3
GTA				PP	PP	15 31 13.2	-1.0
GTA				XP	sP	15 32 16.0	-2.0
GTA				S	S	15 35 35.9	-1.0
GTA				SCS	ScS	15 37 49.7	+1.1
GTA				XS		15 39 05.2	
GTA				AMB	AMB		
	comp=Z,52nm,1.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,69nm,5.3s						
GKN	Gorkha	50.78	314	eP	P	15 29 11.8	+0.2
	comp=Z,543nm,0.6s,mb5.9						
MDJ	Mudanjiang	50.92	5	P	P	15 29 12.4	0.0
MDJ				AP	pP	15 31 07.0	-3.3
MDJ				PP	PP	15 31 15.7	-2.1
MDJ				SCP		15 33 12.1	
MDJ				S	S	15 35 42.9	+0.6
MDJ				SCS	ScS	15 37 54.6	+3.2
MDJ				XS		15 39 08.6	
MDJ				SS	SS	15 39 31.9	-0.9
MDJ				AMB	AMB		
	comp=Z,45nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,66nm,5.0s						
MDJ	Mudanjiang	50.92	5	eP	P	15 29 11.5	-0.9
	comp=Z,72nm,1.2s,mb4.8						
KOLN	Koldanda	51.39	313	eP	P	15 29 16.4	+0.4
	comp=Z,781nm,0.9s,mb5.9						
BHPL	Bhopal	53.84	305	eP	P	15 29 31.9	-1.5
BHPL				e		15 29 33.8	
	comp=Z,58nm,1.6s						
KAD	Karad	54.19	296	iP	P	15 29 34.0	-1.9
POO	Poona	54.94	298	eP	P	15 29 40.0	-1.0
POO				e		15 29 41.3	
	comp=Z,49nm,0.9s						
HIA	Hailar	55.40	357	eP	P	15 29 43.3	-0.5
	comp=Z,52nm,1.2s,mb4.6						
YSS	Yuzh-Sakhalins	55.62	16	iP	P	15 29 45.0	-0.3
YSS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.1						
RPZ	Rata Peaks	55.77	140	P	P	15 29 47.2	+0.8
	comp=Z,11nm,0.4s,mb4.3,baz=29,slow=0.7,SNR=12						
ULN	Ulaanbaatar	55.84	347	c iP	P	15 29 46.9	+0.1
ULN	Ulaanbaatar	55.84	347	⇑iP	P	15 29 46.8	0.0
	comp=Z,26nm,0.8s,mb4.4						
ULN				e		15 32 02.3	
SONM	Songino Array	55.97	346	P	P	15 29 47.7	0.0
	comp=Z,12nm,0.5s,mb4.3,baz=166,slow=8.9,SNR=154						
SONM				PP	PP	15 32 03.2	+0.1
	comp=Z,3.2nm,1.1s,baz=153,slow=5.5,SNR=4.1						
SONM				ScP		15 33 34.7	
	comp=Z,2.5nm,1.0s,baz=169,slow=6.3,SNR=4.2						
SONM				S	S	15 36 48.6	+0.5
	comp=Z,2.1nm,1.1s,baz=170,slow=8.8,SNR=6.3						
NDI	New Delhi	56.62	310	eP	P	15 29 49.5	-2.9
NDI				e		15 36 49.5	
DDI	Dehra Dun	56.84	312	e	P	15 29 53.0	-0.8
DDI				e		15 36 56.4	
URZ	Urewera	57.80	132	P	P	15 30 00.4	+0.2
	comp=Z,8.5nm,0.3s,mb4.3,baz=254,slow=7.9,SNR=21						
SDNR	Sundarnagar	58.25	313	eP	P	15 30 03.9	+0.6
BHK	Bhakra	58.61	313	e	S	15 37 19.5	-2.3
ZAK	Zakamensk	59.11	345	⇓iP	P	15 30 08.1	-0.5
ZAK				e	pP	15 32 07.8	-5.3
ZAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
WMQ	Urumqi	59.49	330	⇑iP	P	15 30 11.6	+0.3
WMQ				PCP	PcP	15 30 51.0	+1.0
WMQ				PP	PP	15 32 36.0	+1.8
WMQ				S	S	15 37 33.0	+0.4
WMQ				SKS	ScS	15 38 56.0	+2.5
WMQ				XS		15 41 11.0	
WMQ				AMB	AMB		
	comp=Z,37nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,231nm,5.6s						
TLY	Talaya	60.21	346	P	P	15 30 16.1	+0.2
	comp=Z,119nm,0.6s,mb5.2,SNR=8.5						
TLY	Talaya	60.21	346	eP	P	15 30 15.9	0.0
TLY				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.3						
MOY	Mondy	60.88	344	eP	P	15 30 20.9	+0.6
KSH	Kashi	63.32	320	⇑iP	P	15 30 37.6	+1.6
KSH				PCP	PcP	15 31 08.8	+3.0
KSH				AP	pP	15 32 44.2	+0.6
KSH				PP	PP	15 33 11.5	+4.6
KSH				XP	sP	15 33 53.4	+2.4
KSH				SCP		15 34 08.1	
KSH				PCS		15 35 09.5	
KSH				S	S	15 38 13.7	-5.6
KSH				SCS	ScS	15 39 23.7	+1.1
KSH				XS		15 42 03.7	
KSH				SS	SS	15 42 45.1	-0.8
MKAR	Makanchi Array	64.28	330	eP	P	15 30 42.3	+0.3
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
BOD	Bodaibo	64.34	354	eP	P	15 30 42.0	-0.2
BOD				e	pP	15 32 46.0	-4.3
BOD				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.3						
KZA	Kyzart	65.23	322	P	P	15 30 49.4	+1.4
	SNR=30						
TKM2	Tokmak 2	65.51	323	P	P	15 30 50.5	+0.8
	SNR=6.4						
KBK	Karagaybulak	65.74	323	P	P	15 30 52.2	+1.0
	SNR=23						
UCH	Uchtor	65.76	322	P	P	15 30 52.5	+1.2
	SNR=18						
AAK	Ala-Archa	66.01	322	P	P	15 30 53.8	+1.0
	SNR=37						
AAK	Ala-Archa	66.01	322	c iP	P	15 30 52.5	-0.3
AAK				pmax	pmax		
	comp=Z,39nm,1.2s,mb4.6						
AAK	Ala-Archa	66.01	322	⇑iP	P	15 30 52.6	-0.2
	comp=Z,19nm,0.6s,mb4.6						
FRU	Bishkek	66.05	323	eP	P	15 30 54.0	+1.0
CHMS	Chumysh	66.06	323	P	P	15 30 53.2	+0.1
	SNR=6.7						
AML	Almayashu	66.22	322	P	P	15 30 55.2	+1.2
	SNR=41						
USP	Ospenovka	66.36	323	P	P	15 30 55.4	+0.5
	SNR=23						
EKS2	Erkin-Say	66.46	322	P	P	15 30 56.5	+1.0
	SNR=38						
YAK	Yakutsk	68.25	3	c iP	P	15 31 05.9	0.0
YAK				pmax	pmax		
	comp=Z,22nm,0.7s,mb4.6						
YAK	Yakutsk	68.25	3	eP	P	15 31 06.0	0.0
	comp=Z,24nm,0.5s,mb4.8						
ZAL	Zalesovo	68.26	336	iP	P	15 31 05.5	-0.7
ZAL				pmax	pmax		
	comp=Z,11nm,0.5s						
ZAL	Zalesovo	68.26	336	P	P	15 31 05.5	-0.7
	comp=Z,11nm,0.5s,mb4.5,baz=346,slow=5.0,SNR=74						
ZAL				S	S	15 39 12.8	-4.1
	comp=Z,2.8nm,0.7s,baz=95,slow=23,SNR=55						
ZAL	Zalesovo	68.26	336	P	P	15 31 05.5	-0.7
ZAL				S	S	15 39 12.8	-4.1
KURK	Kurchatov	68.72	331	P	P	15 31 09.6	+0.7
	comp=Z,294nm,0.9s,mb5.6,SNR=39						
KURK	Kurchatov	68.72	331	iP	P	15 31 09.1	+0.2
KURK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.5						
KURK	Kurchatov	68.72	331	⇑iP	P	15 31 08.9	0.0
	comp=Z,35nm,0.7s,mb4.8						
MA2	Magadan	69.07	14	d iP	P	15 31 11.8	+0.9
NVS	Novosibirsk	69.55	336	⇑iP	P	15 31 12.4	-1.3
NVS				e*PP	pP	15 33 26.1	+1.1
NVS				iS	S	15 39 26.3	-5.2
NVS				pmax	pmax		
	comp=N,27nm,1.4s						
NVS				pmax	pmax		
	comp=Z,40nm,1.4s,mb4.7						
NVS				pmax	pmax		
	comp=E,22nm,1.3s						
NVS				smax			
	comp=E,81nm,1.7s						
NVS				smax			
	comp=N,71nm,1.8s						
SEY	Seymchan	72.39	13	eP	P	15 31 32.3	+2.3
SEY						15 31 49.7	
SEY				e*SP	S	15 40 07.7	+4.6
SEY				e		15 40 35.3	
SEY				eSSS	SSS	15 48 28.2	+2.9
SEY				pmax	pmax		
	comp=N,10.0nm,0.7s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
VNDA	Vanda	74.00	172	P	P	15 31 40.1	+1.3
	comp=Z,2.6nm,0.4s,mb4.1,baz=307,slow=6.3,SNR=19						
BVA0	Borovoye Array	74.17	330	iP	P	15 31 40.5	+0.3
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0						
BVAR	Borovoye Array	74.17	330	P	P	15 31 40.6	+0.4
	comp=Z,8.4nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=66						
BVAR				S	S	15 40 22.7	+0.2
	comp=Z,2.6nm,0.9s,baz=124,slow=16,SNR=12						
CHKZ	Chkalovo	74.42	330	P	P	15 31 41.9	+0.3
CHKZ				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
BILL	Bilibino	79.93	15	iP	P	15 32 11.6	+0.9
BILL				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BILL	Bilibino	79.93	15	eP	P	15 32 11.4	+0.7
	comp=Z,2.1nm,0.6s						
SVE	Sverdlovsk	80.94	330	eP	P	15 32 10.0	-6.1
SVE				e		15 35 37.5	
SYO	Syowa Base	82.07	201	⇓P	P	15 32 22.5	+0.9
QSPA	South Pole Qui	83.72	180	⇓iP	P	15 32 31.5	+2.0
	comp=Z,11nm,0.6s,mb4.6						
SOC	Sochi	89.89	314	eP	P	15 32 58.7	-0.6
SOC				e		15 36 40.2	
SOC				eS		15 42 31.2	
SOC				eSS	SS	15 49 19.1	-0.4
SOC				eSSS	SSS	15 52 58.0	-6.2
SOC				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.0						
SOC				pmax	pmax		
	comp=N,40nm,1.1s						
SOC				pmax	pmax		
	comp=E,28nm,1.3s						
IMA	Indian Mountai	92.70	24	eP	P	15 33 12.6	+0.9
	comp=E,24nm,1.3s,mb5.1						
OBN	Obninsk	93.42	325	P	P	15 33 16.0	+0.8
OBN				e		15 42 49.4	
OBN				e		15 43 32.2	
OBN				e		15 54 00.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
BRTR	Keskin Array B	93.97	309	PP	PP	15 37 08.5	-9.4
	comp=Z,1.5nm,1.0s,baz=124,slow=5.2,SNR=3.0						
ILAR	Eielson Array	95.38	25	eP	P	15 33 22.8	-1.1
ILAR	Eielson Array	95.38	25	P	P	15 33 22.8	-1.2
	comp=Z,1.3nm,0.8s,mb4.1,baz=250,slow=5.7,SNR=9.6						
ILAR				PKKPbc		15 50 14.6	
	comp=Z,0.4nm,0.9s,baz=88,slow=1.8,SNR=4.9						
AKASG	Malin Array Be	97.61	320	eP	P	15 33 34.3	0.0
AKASG	Malin Array Be	97.61	320	P	P	15 33 34.3	0.0
	comp=Z,0.5nm,0.4s,mb4.1,baz=62,slow=4.1,SNR=5.9						
AKASG				PP	PP	15 37 41.8	-3.3
	comp=Z,1.1nm,0.8s,baz=83,slow=6.2,SNR=5.6						
ARCES	ARCESS Array B	98.68	339	PKiKP		15 38 06.1	
	comp=Z,2.8nm,0.9s,baz=153,slow=2.0,SNR=7.4						
ARCES				PKKPbc		15 50 04.4	
	comp=Z,4.4nm,1.0s,baz=284,slow=3.7,SNR=4.5						
FINES	FINESS Array B	99.09	331	PKiKP		15 38 08.4	
	comp=Z,1.2nm,0.9s,baz=90,slow=1.4,SNR=5.9						
MLR	Muntele Rosu	99.84	315	PP	PP	15 38 00.3	-1.2
	comp=Z,14nm,0.9s,baz=152,slow=0.5,SNR=16						
NOA	NORSAR Array B	106.22	332	PP	PP	15 38 45.1	-2.8
	comp=Z,1.7nm,0.9s,baz=68,slow=7.0,SNR=3.3						
GERES	GERESS Array B	107.78	319	PP	PP	15 38 55.1	-4.6
	comp=Z,1.3nm,0.9s,baz=90,slow=6.7,SNR=5.5						
YKA	Yellowknife Ar	109.80	25	PKiKP		15 38 26.7	
	comp=Z,0.8nm,0.5s,baz=303,slow=2.0,SNR=13						
YKA				PKKPbc		15 49 31.8	
	comp=Z,0.2nm,0.4s,baz=112,slow=2.9,SNR=4.6						
YKA	Yellowknife Ar	109.80	25	PKPdf		15 38 26.7	
YKA				PKKPbc		15 49 31.8	
NVAR	Mina Array Bea	115.72	50	PKP	PKPdf	15 38 40.4	+3.6
	comp=Z,2.3nm,1.1s,baz=241,slow=2.1,SNR=7.5						
NVAR				PP	PP	15 39 52.0	-4.0
	comp=Z,1.5nm,1.0s,baz=264,slow=5.7,SNR=6.5						
ELK	Elko	117.42	47	ePKIKP	PKPdf	15 38 42.2	+2.2
ELK	Elko	117.42	47	PKP	PKPdf	15 38 42.2	+2.2
	comp=Z,2.2nm,0.7s,baz=290,slow=4.0,SNR=9.1						
HWUT	Hardware Ranch	119.79	45	ePKP	PKPdf	15 38 47.3	+2.7
PDAR	Pinedale Array	120.77	43	PKP	PKPdf	15 38 49.1	+2.7
	comp=Z,1.3nm,0.8s,baz=46,slow=1.1,SNR=11						
WUAZ	Wupatki	121.83	52	ePKP	PKPdf	15 38 51.5	+2.8
PV10	Paradox Valley	122.72	48	ePKP	PKPdf	15 38 53.6	+3.2
ULM	Lac du Bonnet	125.12	30	PKP	PKPdf	15 38 56.3	+1.7
	comp=Z,4.2nm,1.2s,baz=221,slow=2.5,SNR=5.2						
ANMO	Albuquerque	125.83	51	ePKIKP	PKPdf	15 39 00.7	+4.3
ANMO	Albuquerque	125.83	51	PKP	PKPdf	15 39 00.7	+4.2
	comp=Z,3.3nm,0.8s,baz=224,slow=4.6,SNR=5.8						
DBIC	Dimbokro	128.86	274	ePKIKP	PKPdf	15 39 05.2	+2.4
DBIC	Dimbokro	128.86	274	PKP	PKPdf	15 39 05.2	+2.4
	comp=Z,2.6nm,0.6s,baz=354,slow=1.5,SNR=8.2						
DBIC				SKPbc		15 41 27.4	
	comp=Z,23nm,1.0s,baz=90,slow=5.2,SNR=25						
DBIC	Dimbokro	128.86	274	PKP	PKPdf	15 39 05.2	+2.4
DBIC				SKPbc		15 41 27.4	
TXAR	Lajitas Array	129.88	57	PKP	PKPdf	15 39 08.1	+3.8
	comp=Z,0.9nm,0.7s,baz=225,slow=1.8,SNR=7.4						
TXAR				SKPbc		15 41 31.1	
	comp=Z,3.2nm,0.8s,baz=270,slow=3.8,SNR=15						
SCHQ	Schefferville	130.83	8	PKP	PKPdf	15 39 08.6	+3.2
	comp=Z,2.7nm,0.8s,baz=13,slow=4.8,SNR=12						
SCHQ				SKPbc		15 41 32.3	
	comp=Z,11nm,1.2s,baz=354,slow=5.7,SNR=6.7						
PLCA	Paso Flores	131.45	166	ePKIKP	PKPdf	15 39 10.3	+3.3
PLCA	Paso Flores	131.45	166	PKP	PKPdf	15 39 10.2	+3.2
	comp=Z,2.0nm,0.8s,baz=173,slow=3.3,SNR=5.4						
PLCA				SKPbc		15 41 34.6	
	comp=Z,1.5nm,0.8s,baz=166,slow=3.6,SNR=4.5						
GOGA	Godfrey	143.07	39	ePKHKP		15 39 10.3	
GOGA	Godfrey	143.07	39	ePKP	PKPdf	15 39 29.2	+1.0
JSC	Jenkinsville	143.83	36	ePKIKP	PKPdf	15 39 31.7	+2.2
TEIG	Tepich	146.05	63	ePKPbc	PKPbc	15 39 38.6	+3.2
LVC	Limon Verde	148.78	157	PKP	PKPdf	15 39 40.5	+2.5
	comp=Z,8.7nm,0.6s,baz=204,slow=2.0,SNR=6.0						
LVC				PKPbc	PKPdf	15 39 46.9	+8.9
	comp=Z,12nm,0.7s,baz=226,slow=2.7,SNR=19						
LVC				SKPbc		15 42 17.7	
	comp=Z,3.8nm,0.9s,baz=103,slow=8.4,SNR=3.1						
LVC	Limon Verde	148.78	157	PKP	PKPdf	15 39 40.5	+2.5
LVC				ePKPbc	PKPdf	15 39 46.8	+8.7
LVC				PKPbc	PKPdf	15 39 46.9	+8.9
LVC				SKPbc		15 42 17.7	
JTS	JuntasAbangare	151.41	80	ePKIKP	PKPdf	15 39 52.0	+10
LPAZ	La Paz	154.74	153	ePKPdf	PKPdf	15 39 50.6	+3.9
LPAZ				ePKPab	PKPab	15 40 18.0	+0.6
SAML	Samuel	163.43	156	ePKPdf	PKPdf	15 39 59.8	+3.1
SAML				ePKPab	PKPab	15 40 55.1	+0.2

IDC ***01*** *15:30:02.4±1.8, 48.23N×128.63W, mb3.7/2, mb1 3.9/11, mb1mx3.7/26, mbtmp3.7/11, ML3.7/9, MS3.9/14, Ms1 3.9/14, ms1mx3.6/29, Error ellipse: s-maj=31.7km s-min=10.9km az=63.0*

NEIC ***01*** *15:30:03.8±1.4, 48.28N×128.49W, h10^{km}, mb4.4/1, Error ellipse: s-maj=24.5km s-min=9.0km az=56.0*

ISC 01 15:30:01.9±1.1**, 48.30N**±0.07×**128.6W**±0.2**, h10^{km}, n28, σ1s32**/21**, mb3.9**/1**, MS3.8**/10**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCWA	Octopus Mounta	2.99	99	P	Pn	15 30 51.7	+1.3
PGC	Sidney	3.42	82	eP	Pn	15 30 54.1	-2.3
BBB	Bella Bella	3.90	4	Pn	Pn	15 31 03.0	-0.2
	43nm,0.3s,baz=198,slow=13,SNR=99						
BBB				Sn	Sn	15 31 50.5	+0.9
	1.8nm,0.3s,baz=295,slow=2.8,SNR=5.4						
NEW	Newport	7.63	86	Pn	Pn	15 31 55.0	-0.9
	0.8nm,0.3s,baz=287,slow=18,SNR=4.1						
YBH	Yreka Blue Hor	7.76	146	Pn	Pn	15 31 59.1	+1.3
	0.3nm,0.3s,baz=359,slow=11,SNR=6.6						
BMO	Blue Mountains	8.49	110	eP	P	15 32 06.6	-1.2
DLBC	Dease Lake	10.19	356	Pn	P	15 32 31.2	-0.1
	0.1nm,0.3s,baz=182,slow=22,SNR=2.0						
DLBC	Dease Lake	10.19	356	Pn	P	15 32 31.2	-0.1
ELK	Elko	12.13	124	Pn	P	15 33 00.6	+2.9
	0.1nm,0.3s,baz=313,slow=14,SNR=5.7						
ELK				LR	LR	15 37 42.5	
	comp=Z,903nm,18.1s,baz=308,slow=38						
NVAR	Mina Array Bea	12.36	139	Pn	P	15 33 00.8	+0.1
	0.1nm,0.3s,baz=323,slow=11,SNR=8.1						
NVAR				LR	LR	15 37 36.1	
	comp=Z,1μm,19.8s,baz=330,slow=37						
PDAR	Pinedale Array	14.41	106	Pn	P	15 33 30.8	+2.9
	0.1nm,0.3s,baz=299,slow=11,SNR=5.1						
PDAR				LR	LR	15 39 22.9	
	comp=Z,406nm,21.5s,baz=300,slow=39						
MSU	Marysvale	15.38	123	P	P	15 33 38.6	-2.0
YKA	Yellowknife Ar	16.22	24	Pn	P	15 33 50.7	-0.5
	0.1nm,0.3s,baz=212,slow=12,SNR=8.3						
PV10	Paradox Valley	17.28	118	eP	P	15 34 02.7	-2.0
FFC	Flin Flon	17.68	59	Pn	P	15 34 13.8	+4.2
	186nm,0.9s,SNR=22						
FFC	Flin Flon	17.68	59	eP	P	15 34 10.7	+1.1
	39nm,1.1s						
PV01	Paradox Valley	17.71	118	eP	P	15 34 10.6	+0.4
ILAR	Eielson Array	19.22	336	P	P	15 34 27.2	-1.2
	0.0nm,0.3s,baz=155,slow=11,SNR=12						
ILAR				LR	LR	15 41 55.1	
	comp=Z,203nm,20.3s,baz=162,slow=37						
INK	Inuvik	20.22	355	P	P	15 34 40.1	+0.6
	1.9nm,0.9s,baz=175,slow=15,SNR=4.4						
INK				LR	LR	15 42 30.4	
	comp=Z,397nm,21.7s,MS3.7,baz=0.4,slow=37						
ANMO	Albuquerque	21.14	121	LR	LR	15 43 15.1	
	comp=Z,221nm,22.0s,MS3.5,slow=38						
ULM	Lac du Bonnet	21.32	72	P	P	15 34 51.8	+0.8
	5.7nm,1.0s,mb3.9,baz=282,slow=11,SNR=5.8						
ULM				LR	LR	15 42 03.5	
	comp=Z,76nm,18.3s,MS3.1,baz=287,slow=34						
TXAR	Lajitas Array	26.91	126	LR	LR	15 47 11.8	
	comp=Z,632nm,18.1s,MS4.2,baz=315,slow=38						
FX1	Attu Island--F	36.40	300	LR	LR	15 48 09.0	
	comp=Z,666nm,19.4s,MS4.4,baz=328,slow=30						
SCHQ	Schefferville	37.80	56	LR	LR	15 53 22.3	
	comp=Z,310nm,19.1s,MS4.1,baz=258,slow=37						
ASAJ	Asahikawa	58.26	302	LR	LR	16 03 30.3	
	comp=Z,48nm,21.0s,MS3.6,baz=346,slow=34						
NOA	NORSAR Array B	66.29	20	LR	LR	16 07 16.7	
	comp=Z,38nm,21.5s,MS3.6,baz=240,slow=34						
ZAL	Zalesovo	74.30	340	LR	LR	16 18 42.8	
	comp=Z,86nm,18.4s,MS4.1,baz=65,slow=39						
PMG	Port Moresby	93.16	260	LR	LR	16 18 51.3	
	comp=Z,48nm,18.9s,MS4.0,baz=168,slow=32						

IDC 01 15:31:18.5±6.6**, 2.59N**×**95.77E, mb3.8**/3**, mb1 3.9**/4**, mb1mx3.6**/17**, mbtmp3.7**/4**, Error ellipse: s-maj=216.8km s-min=29.5km az=72.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.08	11	Pn	P	15 35 05.8	-2.0
	baz=200,slow=11,SNR=3.5						
WRA	Warramunga Arr	43.98	122	P	P	15 39 28.4	-1.2
	0.5nm,1.0s,baz=302,slow=9.3,SNR=5.4						
SONM	Songino Array	46.00	10	P	P	15 39 43.8	-1.6
	0.6nm,0.7s,baz=193,slow=8.2,SNR=6.0						
STKA	Stephens Creek	55.34	132	P	P	15 40 53.7	-3.0
	1.8nm,0.7s,baz=299,slow=10,SNR=3.0						

NEIC ***01*** *15:39:31.7±4.6, 2.80S×141.67E, h12^{km}±28^{km}, mb4.6/15, Error ellipse: s-maj=9.5km s-min=8.2km az=207.0*

BJI ***01*** *15:39:31.7, 2.80S×141.70E, h12^{km}, mB5.1, mb4.8, Ms4.5, Msz4.1*

IDC ***01*** *15:39:35.6±5.7, 2.87S×141.63E, h36^{km}±47^{km}, mb4.2/10, mb1 4.3/13, mb1mx4.2/18, mbtmp4.4/13, ML3.8/3, MS4.0/2, Ms1 4.0/2, ms1mx3.0/18, Error ellipse: s-maj=22.1km s-min=18.1km az=100.0*

ISC 01 15:39:33.2±0.4**, 2.84S**±0.04×**141.72E**±0.07**, h33^{km}, (h37^{km}**±7.7^{km}**:pP-P), n47, σ1s13**/46**, mb4.5**/25**, MS4.4**/4**, 2C, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.47	141	Pn	P	15 41 37.4	+0.9
	0.9nm,0.3s,baz=248,slow=3.2,SNR=6.2						
PMG				LR	LR	15 45 03.2	
	comp=Z,125nm,18.9s,baz=0.7,slow=38						
PMG	Port Moresby	8.47	141	eP	P	15 41 36.1	-0.3
KAKA	Kakadu	13.44	223	⇑iP	P	15 42 41.1	-3.0
	28nm,0.4s						
KAKA				eS	S	15 45 04.9	-8.4
CTA	Charters Tower	17.71	166	P	P	15 43 40.4	+1.4
	0.2nm,0.3s,baz=332,slow=15,SNR=2.5						
CTA	Charters Tower	17.71	166	P	P	15 43 40.4	+1.4
CTAO	Charters Tower	17.71	166	eP	P	15 43 44.4	+5.4
	6.0nm,0.6s						
WRAB	Tennant Creek	18.45	202	eP	P	15 43 47.2	-1.2
	24nm,0.6s						
WB2	Warramunga Arr	18.46	202	eP	P	15 43 47.3	-1.2
WB2				eS	S	15 47 11.5	+1.6
WRA	Warramunga Arr	18.46	202	P	P	15 43 47.9	-0.6
	1.6nm,0.3s,baz=24,slow=12,SNR=49						
WRA				S	S	15 47 12.3	+2.3
	0.2nm,0.3s,baz=22,slow=22,SNR=3.4						
HNR	Honiara	19.26	111	eP	P	15 43 55.6	-2.2
	177nm,0.8s						
FITZ	Fitzroy Crossi	21.88	225	eP	P	15 44 23.7	-1.4
	24nm,0.6s,mb4.8						
FITZ				eS	S	15 48 24.3	+4.4
ASAR	Alice Springs	22.04	199	P	P	15 44 25.9	-0.8
	2.8nm,0.6s,mb3.9,baz=25,slow=12,SNR=39						
ASPA	Alice Springs	22.05	199	eP	P	15 44 26.7	-0.1
MBWA	Marble Bar	28.11	228	eP	P	15 45 24.0	-0.4
	9.2nm,0.9s,mb4.4						
STKA	Stephens Creek	28.89	180	eP	P	15 45 30.9	-0.3
	2.3nm,0.5s,mb4.2						
STKA	Stephens Creek	28.89	180	P	P	15 45 30.9	-0.3
	2.1nm,0.4s,mb4.2,baz=9.5,slow=13,SNR=12						
FORT	Forrest	30.65	204	eP	P	15 45 46.7	-0.2
	533nm,0.6s						
NJ2	Nanjing	40.93	330	eP	P	15 47 15.3	+0.9
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
CMAR	Chiang Mai Arr	47.13	298	P	P	15 48 05.0	+0.5
	comp=Z,1.1nm,0.8s,mb3.9,baz=124,slow=6.5,SNR=5.0						
URZ	Urewera	47.83	142	P	P	15 48 10.3	+0.5
	comp=Z,6.4nm,0.5s,mb4.9,baz=167,slow=8.0,SNR=5.7						
RPZ	Rata Peaks	48.30	152	P	P	15 48 13.9	+0.5
	comp=Z,9.9nm,0.6s,mb5.0,baz=3.5,slow=16,SNR=11						
CN2	Changchun	48.68	344	eP	P	15 48 19.5	+3.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HHC	Hu-ho-hao-te	51.46	331	eP	P	15 48 40.0	+2.5
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,117nm,5.7s						
HHC				LR	LR		
	comp=N,120nm,23.2s,MS3.9						
HHC				LR	LR		
	comp=E,86nm,23.2s,MS3.9						
HHC				LR	LR		
	comp=Z,159nm,19.0s,MS4.1						
LZH	Lanzhou	52.43	321	eP	P	15 48 45.0	+0.1
LZH				AP	pP	15 48 57.1	+2.2
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.9						
LZH				LR	LR		
	comp=N,219nm,15.0s						
LZH				LR	LR		
	comp=Z,342nm,17.8s,MS4.4						
LZH	Lanzhou	52.43	321	eP	P	15 48 45.0	+0.1
	comp=Z,24nm,1.5s,mb4.9						
LZH				pP	pP	15 48 57.1	+2.2
LZH				sP	sP	15 49 02.2	+3.3
GTA	Gaotai	56.99	322	P	P	15 49 16.6	-1.6
GTA				AP	pP	15 49 22.9	-5.4
GTA				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb4.3						
LSA	Lhasa	58.15	308	P	P	15 49 27.2	+0.8
	comp=Z,4.9nm,1.0s,mb4.5						
ULN	Ulaanbaatar	58.88	333	P	P	15 49 30.7	-0.6
	comp=Z,1.3nm,0.6s,mb4.1						
WMQ	Urumqi	67.00	320	eP	P	15 50 25.5	+0.5
WMQ				AP	pP	15 50 38.0	+2.7
WMQ				PCP	PcP	15 50 53.5	+0.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,144nm,5.5s						
WMQ				LR	LR		
	comp=N,171nm,21.7s,MS4.4						
WMQ				LR	LR		
	comp=E,154nm,20.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,136nm,24.0s,MS4.1						
AAK	Ala-Archa	75.40	315	eP	P	15 51 15.0	-0.5
	comp=Z,3.5nm,1.0s,mb4.2						
VNDA	Vanda	75.40	176	P	P	15 51 15.5	+0.6
	comp=Z,3.1nm,0.6s,mb4.5,baz=324,slow=6.0,SNR=19						
VNDA	Vanda	75.40	176	P	P	15 51 15.5	+0.6
KURK	Kurchatov	75.56	324	eP	P	15 51 15.4	-0.9
	comp=Z,7.5nm,1.1s,mb4.5						
BVAR	Borovoye Array	81.15	325	P	P	15 51 47.4	+0.5
	comp=Z,2.5nm,0.7s,mb4.3,baz=108,slow=7.6,SNR=22						
CHKZ	Chkalovo	81.21	325	eP	P	15 51 46.6	-0.6
	comp=Z,2.1nm,0.6s,mb4.2						
MCK	McKinley	83.53	25	P	P	15 51 55.4	-3.5
	comp=Z,9.0nm,1.5s,mb4.7						
ILAR	Eielson Array	84.71	24	P	P	15 52 03.9	-0.9
	comp=Z,3.1nm,1.0s,mb4.4,baz=261,slow=4.8,SNR=22						
QSPA	South Pole Qui	87.11	180	⇑iP	P	15 52 17.9	+1.6
	comp=Z,10.0nm,0.6s,mb5.2						
DAWY	Dawson	87.68	26	eP	P	15 52 20.3	+0.9
INK	Inuvik	90.67	22	P	P	15 52 33.4	-0.1
	comp=Z,2.9nm,1.3s,mb4.5,baz=253,slow=9.2,SNR=5.5						
INK	Inuvik	90.67	22	eP	P	15 52 33.1	-0.3
	comp=Z,2.9nm,1.0s,mb4.6						
DLBC	Dease Lake	91.48	32	LR	LR	16 25 00.2	
	comp=Z,596nm,21.7s,MS5.0,baz=343,slow=30						
YKA	Yellowknife Ar	98.81	27	P	P	15 53 11.1	+0.4
	comp=Z,0.7nm,0.9s,mb4.2,baz=283,slow=4.5,SNR=8.5						
LPAZ	La Paz	144.91	124	ePKP	PKPdf	15 59 10.6	+2.6
DBIC	Dimbokro	146.49	278	PKPbc	PKPbc	15 59 14.0	+1.9
	comp=Z,5.0nm,0.6s,baz=65,slow=2.2,SNR=14						
DBIC	Dimbokro	146.49	278	ePKPbc	PKPbc	15 59 13.7	+1.6
SDV	Santo Domingo	147.28	78	ePKPbc	PKPdf	15 59 15.7	+3.6

BJI ***01*** *15:44:37.0, 27.37N×140.42E, h504km, mB4.8, mb4.7*
JMA ***01*** *15:44:42.4±0.3, 27.74N×140.11E, h524km±5km, M4.6*
NEIC ***01*** *15:44:43.4±0.8, 27.73N×139.84E, h504km±10km, mb4.3/13, Error ellipse: s-maj=9.4km s-min=7.0km az=83.0*
IDC ***01*** *15:44:43.2±0.5, 27.72N×139.88E, h502km±6km, mb3.4/16, mb1 3.6/19, mb1mx3.4/27, mbtmp4.3/19, Error ellipse: s-maj=13.6km s-min=8.4km az=80.0*
ISC 01 15:44:42.5±0.3**, 27.69N**±0.04×**139.93E**±0.07**, h512**km±4km**, n70, σ0.92/83, mb4.1**/35**, 3D, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.10	106	P	P	15 45 49.5	-0.3
	86nm,0.3s,baz=198,slow=2.2,SNR=127						
CBIJ				S	S	15 46 42.9	0.0
	317nm,0.3s,baz=288,slow=23,SNR=26						
CBIJ	Chichi jima	2.10	106	P	P	15 45 49.7	0.0
CBIJ				eS	S	15 46 42.4	-0.5
JHHJ	Haha-jima-NKT	2.27	117	P	P	15 45 51.2	+0.5
JHHJ				S	S	15 46 44.3	-0.3
JHJ2	Mitsune	5.40	359	P	P	15 46 14.5	-0.1
JHJ2				eS	S	15 47 28.2	+0.6
JHJ	Hachijo jima 2	5.41	359	P	P	15 46 14.7	-0.1
	46nm,0.3s,baz=99,slow=14,SNR=10						
JHJ				S	S	15 47 27.2	-0.5
	37nm,0.3s,baz=280,slow=22,SNR=3.4						
TK01	Tokai 1	6.38	342	P	P	15 46 24.5	+0.6
JWZ	Kozaga	6.86	329	P	P	15 46 29.6	+0.9
BSO1	Boso 1	7.00	7	P	P	15 46 30.0	-0.1
BSO1				eS	S	15 47 54.7	-0.7
JIM2	Oshima 3	7.02	357	P	P	15 46 30.1	-0.1
JIM2				eS	S	15 47 56.0	+0.2
JIE	Ise	7.23	338	P	P	15 46 33.6	+1.2
JIE				eS	S	15 48 01.6	+2.0
JOD2	Odawara 2	7.58	355	P	P	15 46 35.7	-0.3
JOD2				eS	S	15 48 06.6	+0.5
JTO	Tosashimizu	8.03	312	P	P	15 46 41.7	+1.1
JRY	Ryogami san	8.35	354	P	P	15 46 43.0	-0.9
JRY				eS	S	15 48 17.9	-2.4
MAJO	Matsushiro	8.94	351	eP	P	15 46 48.5	-1.6
MAT	Matsushiro	8.94	351	eP	P	15 46 49.0	-1.1
	61nm,1.0s						
MAT				S	S	15 48 30.0	-1.6
MAT	Matsushiro	8.94	351	P	P	15 46 48.9	-1.2
MAT				eS	S	15 48 29.9	-1.7
JAM	Amami Oshima	9.15	277	P	P	15 46 53.3	+1.1
JHS	Saijyo	9.32	323	P	P	15 46 54.8	+0.8
JOW	Kunigami	10.40	268	P	P	15 47 05.9	+0.5
	10.0nm,0.3s,baz=110,slow=13,SNR=21						
JOW	Kunigami	10.40	268	P	P	15 47 05.7	+0.3
JMK	Ichinoseki	11.28	5	P	P	15 47 14.6	+0.2
JKE	Kume jima 2	11.80	266	P	P	15 47 20.2	+0.5
NJ2	Nanjing	18.78	288	eP	P	15 48 30.1	+0.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
MDJ	Mudanjiang	18.81	337	P	P	15 48 29.5	-0.3
MDJ				XP		15 50 36.2	
MDJ				S	S	15 51 35.8	+2.7
MDJ				PCP	PcP	15 52 31.6	-0.8
MDJ				SCP		15 55 19.3	
MDJ				PCS		15 56 07.6	
MDJ				SCS	ScS	15 59 01.5	+1.8
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,48nm,4.2s						
MDJ	Mudanjiang	18.81	337	P	P	15 48 26.0	-3.8
	comp=Z,11nm,0.7s						
SNY	Shenyang	19.43	321	⇓P	P	15 48 37.2	+1.5
SNY				AMB	AMB		
	comp=Z,20nm,0.4s						
CN2	Changchun	19.86	328	eP	P	15 48 41.0	+1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
WHN	Wuhan	22.51	283	⇓P	P	15 49 04.0	-0.4
HIA	Hailar	26.56	330	P	P	15 49 36.6	-3.7
	comp=Z,4.1nm,0.7s,mb4.2						
ENH	Enshi	26.71	283	eP	P	15 49 40.5	-1.4
	comp=Z,13nm,0.3s,mb5.0						
HHC	Hu-ho-hao-te	26.73	307	eP	P	15 49 41.1	-0.8
HHC				XP	sP	15 52 01.2	-4.8
HHC				S	S	15 53 41.7	0.0
HHC				PCS		15 56 28.6	
HHC				SCS	ScS	15 59 33.0	+2.4
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.7						
GYA	Guiyang	29.59	275	⇓iP	P	15 50 06.8	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
LZH	Lanzhou	31.62	294	P	P	15 50 22.7	-1.5
LZH				AP		15 51 49.5	
LZH				XP	sP	15 52 47.2	-4.0
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.5						
LZH	Lanzhou	31.62	294	P	P	15 50 22.7	-1.5
	comp=Z,19nm,1.3s,mb4.5						
LZH				pP		15 51 49.5	
LZH				sP	sP	15 52 47.2	-4.0
SONM	Songino Array	32.90	317	P	P	15 50 35.1	+0.2
	comp=Z,0.7nm,0.6s,mb3.4,baz=125,slow=7.6,SNR=5.2						
PMG	Port Moresby	37.54	168	P	P	15 51 14.7	+1.0
	comp=Z,6.5nm,0.4s,mb4.5,baz=201,slow=22,SNR=7.9						
CM31	Chiang Mai Arr	38.66	265	eP	P	15 51 22.2	-0.6
	comp=Z,4.9nm,0.5s,mb4.3						
CMAR	Chiang Mai Arr	38.66	265	P	P	15 51 23.2	+0.4
	comp=Z,4.5nm,0.7s,mb4.1,baz=82,slow=5.2,SNR=36						
BILL	Bilibino	43.35	14	eP	P	15 52 00.2	+0.5
	comp=Z,3.9nm,0.5s,mb4.2						
WMQ	Urumqi	44.60	305	eP	P	15 52 09.5	-0.4
WMQ				PCP	PcP	15 53 43.0	+0.7
WMQ				PP	PP	15 54 03.0	+1.0
WMQ				PCS		15 57 35.5	
WMQ				S	S	15 58 08.0	-0.4
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.2						
WMQ				AMB	AMB		
	comp=Z,124nm,5.5s						
JIRN	Jiri	47.26	283	eP	P	15 52 31.5	+0.9
	comp=Z,53nm,0.6s,mb5.2						
WRAB	Tennant Creek	47.65	187	eP	P	15 52 33.1	-0.5
	comp=Z,6.3nm,0.4s,mb4.5						
WB2	Warramunga Arr	47.66	187	eP	P	15 52 33.0	-0.7
WRA	Warramunga Arr	47.66	187	P	P	15 52 33.2	-0.6
	comp=Z,3.0nm,0.3s,mb4.3,baz=5.3,slow=7.6,SNR=129						
ZAL	Zalesovo	47.73	319	P	P	15 52 33.3	-0.6
	comp=Z,0.4nm,0.3s,mb3.4,baz=356,slow=14,SNR=3.4						
CTAO	Charters Tower	47.89	172	eP	P	15 52 35.4	-0.1
	comp=Z,4.3nm,0.6s,mb4.2						
PKI	Pulchoki	47.95	283	eP	P	15 52 35.4	-0.5
	comp=Z,16nm,0.8s,mb4.6						
KKN	Kakani	48.01	284	eP	P	15 52 36.3	0.0
	comp=Z,18nm,0.7s,mb4.7						
DMN	Daman	48.20	283	eP	P	15 52 37.7	-0.1
	comp=Z,18nm,0.6s,mb4.8						
GKN	Gorkha	48.52	284	eP	P	15 52 40.1	0.0
	comp=Z,17nm,0.8s,mb4.7						
KOLN	Koldanda	49.46	284	eP	P	15 52 47.2	0.0
	comp=Z,6.0nm,0.2s,mb4.7						
KURK	Kurchatov	51.13	314	eP	P	15 52 58.2	-0.9
	comp=Z,3.5nm,0.6s,mb3.9						
ASAR	Alice Springs	51.39	187	P	P	15 53 00.8	-0.6
	comp=Z,1.0nm,0.3s,mb3.6,baz=1.2,slow=4.2,SNR=32						
RSO	Redoubt South	55.18	34	eP	P	15 53 39.7	+12
CHKZ	Chkalovo	56.09	318	eP	P	15 53 33.3	-1.0
	comp=Z,1.4nm,0.5s,mb3.5						
BVAR	Borovoye Array	56.24	317	P	P	15 53 34.8	-0.6
	comp=Z,3.1nm,0.5s,mb3.8,baz=92,slow=7.1,SNR=22						
ILAR	Eielson Array	58.16	29	P	P	15 53 47.7	-0.6
	comp=Z,0.6nm,0.5s,mb3.1,baz=251,slow=5.6,SNR=13						
STKA	Stephens Creek	59.26	178	P	P	15 53 55.7	-0.4
	comp=Z,1.2nm,0.4s,mb3.5,baz=197,slow=18,SNR=8.6						
NWAO	Narrogin (SRO)	64.03	201	P	P	15 54 26.7	-0.5
	comp=Z,11nm,1.0s,mb4.2,baz=70,slow=12,SNR=4.0						
NWAO	Narrogin (SRO)	64.03	201	P	P	15 54 26.7	-0.5
ARCES	ARCESS Array B	72.31	340	P	P	15 55 16.9	+0.3
	comp=Z,1.0nm,0.6s,mb3.4,baz=79,slow=6.2,SNR=5.4						
YKA	Yellowknife Ar	72.57	28	P	P	15 55 18.7	+0.6
	comp=Z,1.0nm,0.4s,mb3.6,baz=295,slow=5.7,SNR=15						
YKA	Yellowknife Ar	72.57	28	P	P	15 55 18.7	+0.6
FINES	FINESS Array B	76.52	333	P	P	15 55 40.0	-0.1
	comp=Z,1.0nm,0.3s,mb3.7,baz=83,slow=4.8,SNR=20						
RPZ	Rata Peaks	76.58	157	P	P	15 55 43.1	+2.2
	comp=Z,12nm,0.9s,mb4.3,baz=85,slow=7.7,SNR=3.7						
NVAR	Mina Array Bea	81.72	51	P	P	15 56 10.4	+2.4
	comp=Z,0.7nm,0.5s,mb3.4,baz=291,slow=6.5,SNR=4.3						
HLID	Hailey	81.75	45	eP	P	15 56 10.3	+2.2
	comp=Z,0.9nm,0.5s,mb3.5						
NOA	NORSAR Array B	82.30	337	P	P	15 56 09.8	-0.6
	comp=Z,0.8nm,0.8s,mb3.2,baz=308,slow=1.3,SNR=3.4						
PLCA	Paso Flores	151.79	125	PKPbc	PKPdf	16 03 40.6	+9.1
	comp=Z,1.3nm,0.5s,baz=216,slow=3.4,SNR=9.3						
PLCA	Paso Flores	151.79	125	ePKPbc	PKPdf	16 03 41.2	+10

CASC 01 16:05:11.9±1.9**, 13.12N**×**90.05W, h22**km±5km**, MD3.8, 1C-7D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	San Blas	0.82	30	⇓eP	Pb	16 05 27.9	+0.5
SBLS				eS	Sb	16 05 40.5	+2.5
SNJE	San Jose	0.85	30	⇓eP	Pb	16 05 28.3	+0.4
SNJE				eS	Sb	16 05 40.5	+1.5
RTR	El Retiro	0.86	27	⇓eP	Pb	16 05 28.6	+0.6
RTR				eS	Sb	16 05 40.2	+1.1
BOQS	Boqueron	0.96	51	eP	Pb	16 05 29.9	+0.2
BOQS				eS	Sb	16 05 43.7	+1.6
RBDL	Robledal	1.04	20	⇓eP	Pb	16 05 31.6	+0.5
RBDL				eS	Sb	16 05 46.5	+2.1
LFRS	El Faro	1.08	63	⇓eP	Pb	16 05 31.2	-0.5
LFRS				eS	Sb	16 05 45.8	+0.3
LFU	La Fuente	1.10	56	⇑eP	Pb	16 05 32.0	-0.1
IXG	Ixpaco	1.12	339	⇓eP	Pb	16 05 31.2	-1.1
IXG				eS	Sb	16 05 45.9	-0.6
LBRS	Las Brisas	1.15	58	eP	Pn	16 05 32.6	-0.2
LBRS				eS	Sb	16 05 48.1	+0.6
LCBS	La Ceiba	1.17	63	⇓eP	Pn	16 05 32.6	-0.5
LCBS				eS	Sb	16 05 48.4	+0.5
SNVI	San Vicente	1.27	67	eP	Pn	16 05 33.9	-0.7
SNVI				eS	Sb	16 05 52.0	+1.0
MTO2	Montecristo 2	1.43	28	eP	Pn	16 05 37.2	+0.3
MTO2				eS	Sn	16 05 57.2	+2.1
NBG	Las Nubes	1.48	349	eP	Pn	16 05 38.0	+0.4
NBG				eS	Sn	16 05 58.4	+1.9
VSM	San Miguel	1.75	80	eP	Pn	16 05 41.5	+0.1
VSM				eS	Sn	16 06 05.0	+1.7
BLLM	Bellamira	1.79	80	eP	Pn	16 05 41.7	-0.3
BLLM				eS	Sn	16 06 03.9	-0.3
TP2	Tecpan 2	1.90	330	eP	Pn	16 05 45.1	+1.6
TP2				eS	Sn	16 06 07.1	0.0
CNCH	Conchagua	2.16	86	eP	Pn	16 05 46.8	-0.5
CNCH				eS	Sn	16 06 13.3	-0.4

PGC ***01*** *16:08:27.9, 47.95N×129.03W, h10km, MLSn3.7/1, Mw4.8/7, Mw4.3, Northern Juan de Fuca ridge.*
NEIC ***01*** *16:08:28.0, 47.95N×129.03W, h10km, mb4.3/14, MW4.8(PGC), After PGC.*
BJI ***01*** *16:08:28.0, 48.00N×129.00W, h10km, mB5.0, mb4.6, Ms4.5, Msz4.2*
IDC ***01*** *16:08:30.1±1.2, 48.12N×128.87W, mb4.0/9, mb1 4.2/18, mb1mx4.1/28, mbtmp4.1/18, ML3.7/9, MS3.9/17, Ms1 3.9/17, ms1mx3.8/21, Error ellipse: s-maj=25.6km s-min=10.5km az=57.0*
ISC 01 16:08:29.4±0.9**, 48.24N**±0.02×**128.72W**±0.04**, h3**km±7km**, n119, σ0.93/132, mb4.3**/16**, MS3.9**/11**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.95	32	Pn	Pn	16 09 03.5	-0.1
OZB	Mount Ozzard	2.26	70	Pn	Pn	16 09 07.6	-0.6
OZB				Sn	Sn	16 09 37.0	+0.1
OZB				Trac		16 09 39.2	
	comp=Z,45nm,0.3s						
GDR	Gold River	2.35	48	Pn	Pn	16 09 09.8	+0.4
WOSB	Woss	2.39	35	Pn	Pn	16 09 10.7	+0.7
MAYB	Maynard	2.39	24	Pn	Pn	16 09 10.0	0.0
MAYB				Sn	Sn	16 09 41.4	+1.2
	comp=Z,73nm,0.5s						
MAYB				Trac		16 09 41.6	
	comp=Z,73nm,0.5s						
HOLB	Holberg	2.44	9	Pn	Pn	16 09 10.7	0.0
BTB	Buttle Lake	2.44	59	Pn	Pn	16 09 10.9	+0.1
BTB				Sn	Sn	16 09 40.3	-1.3
BTB				Trac		16 09 46.8	
	comp=Z,58nm,0.4s						
PHC	Port Hardy	2.61	18	Pn	Pn	16 09 13.4	+0.2
ALB	Alberni	2.77	67	Pn	Pn	16 09 15.3	-0.2
ALB				Sn	Sn	16 09 50.1	+0.2
	comp=Z,58nm,0.8s						
ALB				Trac		16 10 01.3	
	comp=Z,58nm,0.8s						
MGB	Mount Grey	2.78	73	Pn	Pn	16 09 14.7	-0.9
MGB				Sn	Sn	16 09 50.1	+0.1
	comp=Z,40nm,0.5s						
MGB				Trac		16 09 54.3	
	comp=Z,40nm,0.5s						
NCRB	Newcastle Ridg	2.78	38	Pn	Pn	16 09 16.6	+0.9
CBB	Campbell River	2.84	50	Pn	Pn	16 09 17.3	+0.8
CBB				Sn	Sn	16 09 52.7	+1.0
CBB				Trac		16 09 54.0	
	comp=Z,63nm,0.8s						
PFB	Port Renfrew	2.87	82	Pn	Pn	16 09 15.7	-1.2
PFB				Sn	Sn	16 09 51.3	-1.1
PFB				Trac		16 09 52.6	
	comp=Z,70nm,0.8s						
OCWA	Octopus Mounta	3.09	97	eP	Pn	16 09 20.2	+0.2
TXB	Texada	3.18	61	Pn	Pn	16 09 21.4	+0.1
LZB	Mount Lazard	3.28	82	Pn	Pn	16 09 21.5	-1.2
LZB				Sn	Sn	16 10 02.4	-0.4
LZB				Trac		16 10 02.5	
	comp=Z,30nm,0.8s						
NLLB	Nanaimo Lost L	3.29	71	Pn	Pn	16 09 21.8	-1.0
NLLB				Sn	Sn	16 10 03.7	+0.8
NLLB				Trac		16 10 09.8	
	comp=Z,34nm,0.6s						
SHB	Sechelt	3.47	65	Pn	Pn	16 09 25.4	0.0
SHB				Sn	Sn	16 10 05.5	-2.2
SHB				Trac		16 10 09.5	
	comp=Z,73nm,0.8s						
PGC	Sidney	3.53	81	eP	Pn	16 09 25.6	-0.7
PGC	Sidney	3.53	81	Pn	Pn	16 09 25.7	-0.6
PGC				Sn	Sn	16 10 08.2	-0.9
PGC				Trac		16 10 09.0	
	comp=Z,57nm,0.8s						
VGZ	Gonzales	3.60	85	Pn	Pn	16 09 25.5	-1.8
VGZ				Sn	Sn	16 10 10.1	-0.9
VGZ				Trac		16 10 12.0	
	comp=Z,48nm,0.6s						
SNB	Saturna Island	3.73	80	Pn	Pn	16 09 28.7	-0.4
SNB				Sn	Sn	16 10 14.9	+0.8
SNB				Trac		16 10 16.6	
	comp=Z,49nm,0.8s						
BIB	Bowen Island	3.76	70	Pn	Pn	16 09 29.3	-0.2
BIB				Sn	Sn	16 10 17.3	+2.3
	comp=Z,112nm,1.2s						
BIB				Trac		16 10 37.0	
	comp=Z,112nm,1.2s						
BBB	Bella Bella	3.97	5	Pn	Pn	16 09 32.9	+0.4
	29nm,0.3s,baz=190,slow=13,SNR=316						
BBB				LR	LR	16 10 25.4	
	comp=Z,465nm,20.0s,baz=198,slow=28						
BBB	Bella Bella	3.97	5	Pn	Pn	16 09 32.8	+0.3
BBB				Sn	Sn	16 10 19.9	-0.4
BBB				Trac		16 10 24.1	
	comp=Z,35nm,0.6s						
HNB	Haney	4.19	73	Pn	Pn	16 09 35.6	-0.1
HNB				Sn	Sn	16 10 23.8	-2.1
HNB				Trac		16 10 28.4	
	comp=Z,64nm,1.2s						
WSLR	Whistler	4.25	61	Pn	Pn	16 09 37.0	+0.5
WSLR				Trac		16 10 39.9	
	comp=Z,22nm,0.8s						
VDB	Vedder Mountai	4.46	77	P	Pn	16 09 38.8	-0.7
VDB	Vedder Mountai	4.46	77	Pn	Pn	16 09 38.8	-0.7
VDB				Sn	Sn	16 10 34.1	+1.5
	comp=Z,12nm,0.4s						
VDB				Trac		16 10 35.4	
	comp=Z,12nm,0.4s						
LLLB	Lillooet	5.05	59	Pn	Pn	16 09 48.2	+0.4
COR	Corvallis	5.23	132	eP	Pn	16 09 48.9	-1.5
VLMM	Larch Mountain	5.32	118	P	Pn	16 09 51.9	+0.3
VLL	Laurance Lake	5.57	117	P	Pn	16 09 55.3	+0.1
TBM	Table Mountain	5.59	98	P	Pn	16 09 55.5	+0.1
VFP	Flag Point	5.78	118	P	Pn	16 09 57.7	-0.3
HUMO	Hull Mountain	6.94	142	eP	Pn	16 10 14.1	-0.3
NEW	Newport	7.74	85	Pn	Pn	16 10 24.2	-1.5
	0.8nm,0.3s,baz=278,slow=15,SNR=4.8						
NEW				LR	LR	16 13 50.7	
	comp=Z,558nm,19.1s,baz=276,slow=41						
NEW	Newport	7.74	85	eP	Pn	16 10 25.6	-0.1
YBH	Yreka Blue Hor	7.77	145	Pn	Pn	16 10 26.8	+0.6
	0.5nm,0.3s,baz=344,slow=13,SNR=21						
YBH	Yreka Blue Hor	7.77	145	eP	Pn	16 10 26.7	+0.5
BMO	Blue Mountains	8.56	109	eP	P	16 10 34.7	-2.5
MOD	Modoc	8.69	134	eP	P	16 10 37.3	-1.7
WDC	Whiskeytown Da	8.84	148	eP	P	16 10 40.4	-0.6
WVOR	Wild Horse Val	9.17	126	eP	P	16 10 45.9	+0.4
DLBC	Dease Lake	10.25	356	Pn	P	16 11 01.1	+0.8
	0.2nm,0.3s,baz=201,slow=22,SNR=2.5						
OHCM	Honcut	10.32	147	eP	P	16 11 00.5	-0.8
EDM	Edmonton	10.94	57	eP	P	16 11 08.3	-1.4
HLID	Hailey	11.01	110	eP	P	16 11 09.8	-1.0
WCN	Washoe City	11.03	141	eP	P	16 11 11.7	+0.7
BMN	Battle Mountai	11.34	129	eP	P	16 11 15.4	+0.2
ELK	Elko	12.19	123	Pn	P	16 11 27.7	+1.0
	0.1nm,0.3s,baz=308,slow=10,SNR=11						
ELK				LR	LR	16 16 11.6	
	comp=Z,1μm,19.3s,baz=309,slow=38						
ELK	Elko	12.19	123	eP	P	16 11 26.8	+0.1
NVAR	Mina Array Bea	12.38	139	Pn	P	16 11 30.0	+0.6
	0.2nm,0.3s,baz=321,slow=9.7,SNR=40						
NVAR				LR	LR	16 16 04.5	
	comp=Z,1μm,20.1s,baz=320,slow=37						
NVAR	Mina Array Bea	12.38	139	Pn	P	16 11 30.0	+0.6
NVAR				LR	LR	16 16 04.5	
MNV	Mina	12.45	138	eP	P	16 11 30.7	+0.4
OMM	Old Mammoth Mi	12.77	143	eP	P	16 11 34.6	0.0
RRI2	Red Ridge	13.08	105	eP	P	16 11 38.2	-0.5
TPH	Tonopah	13.16	136	eP	P	16 11 39.1	-0.7
MTUM	Tungsten Hills	13.18	142	eP	P	16 11 40.5	+0.6
TPAW	Teton Pass	13.26	104	eP	P	16 11 41.9	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOOW	**Moose Ponds**	**13.28**	**103**	*e*P	**P**	**16 11 41.1**	**-0.2**
WUWY	**Wally Ulrich**	**13.37**	**104**	P	**P**	**16 11 42.5**	**0.0**
LOHW	**Long Hollow**	**13.43**	**103**	*e*P	**P**	**16 11 44.4**	**+1.1**
SPUT	**South Promonto**	**13.46**	**115**	*e*P	**P**	**16 11 44.7**	**+1.0**
TRCR	**Troy Canyon**	**13.73**	**131**	*e*P	**P**	**16 11 47.0**	**-0.3**
DUG	**Dugway**	**13.94**	**119**	*e*P	**P**	**16 11 49.9**	**-0.1**
	336nm,1.4s						
JLU	**Jordanelle**	**14.49**	**115**	*e*P	**P**	**16 11 58.6**	**+1.3**
BW06	**Boulder Array**	**14.50**	**105**	*e*P	**P**	**16 11 56.5**	**-0.7**
	9.3nm,1.1s						
PDAR	**Pinedale Array**	**14.50**	**105**	Pn	**P**	**16 12 00.4**	**+3.1**
	0.1nm,0.3s,baz=300,slow=12,SNR=15						
PDAR				LR	LR	16 18 09.0	
	comp=Z,669nm,18.4s,baz=306,slow=40						
DAU	**Daniels Canyon**	**14.72**	**116**	*e*P	**P**	**16 12 02.0**	**+1.7**
ARUT	**Antelope Range**	**15.27**	**128**	*e*P	**P**	**16 12 06.9**	**-0.5**
MVU	**Marysvale**	**15.42**	**123**	*e*P	**P**	**16 12 10.1**	**+0.7**
	16nm,1.3s						
MSU	**Marysvale**	**15.44**	**123**	*e*P	**P**	**16 12 10.1**	**+0.5**
SRU	**San Rafael**	**15.98**	**118**	*e*P	**P**	**16 12 17.3**	**+0.6**
MWC	**Mount Wilson**	**16.11**	**146**	P	**P**	**16 12 18.6**	**+0.3**
DGMT	**Dagmar**	**16.29**	**80**	*e*P	**P**	**16 12 20.6**	**+0.1**
	29nm,1.1s						
YKA	**Yellowknife Ar**	**16.32**	**24**	Pn	**P**	**16 12 20.3**	**-0.5**
	0.1nm,0.3s,baz=209,slow=12,SNR=14						
YKA				LR	LR	16 18 56.9	
	comp=Z,729nm,18.9s,baz=225,slow=38						
YKW3	**Yellowknife Ar**	**16.38**	**24**	*e*P	**P**	**16 12 23.7**	**+2.2**
DAWY	**Dawson**	**16.90**	**344**	*e*P	**P**	**16 12 28.7**	**+0.5**
PFO	**Pinyon Flat Ob**	**17.27**	**143**	*e*P	**P**	**16 12 33.1**	**0.0**
	12nm,0.9s						
PV10	**Paradox Valley**	**17.34**	**117**	*e*P	**P**	**16 12 35.7**	**+1.8**
SLKM	**Skilak Lake**	**17.44**	**323**	*e*P	**P**	**16 12 35.8**	**+0.9**
PV01	**Paradox Valley**	**17.78**	**117**	*e*P	**P**	**16 12 38.8**	**-0.6**
FFC	**Flin Flon**	**17.81**	**59**	P	**P**	**16 12 42.3**	**+2.8**
	160nm,0.8s,SNR=22						
FFC	**Flin Flon**	**17.81**	**59**	*e*P	**P**	**16 12 40.9**	**+1.4**
	20nm,0.8s						
PHWY	**Pilot Hill**	**17.87**	**104**	*e*P	**P**	**16 12 41.3**	**+0.8**
WUAZ	**Wupatki**	**18.07**	**128**	*e*P	**P**	**16 12 43.4**	**+0.5**
	278nm,1.2s						
RSO	**Redoubt South**	**18.47**	**320**	*e*P	**P**	**16 12 47.1**	**-0.6**
ILAR	**Eielson Array**	**19.24**	**336**	P	**P**	**16 12 55.9**	**-1.1**
	0.0nm,0.3s,baz=147,slow=10,SNR=28						
ILAR				LR	LR	16 19 26.9	
	comp=Z,457nm,19.5s,baz=156,slow=34						
COLA	**College**	**19.58**	**335**	*e*P	**P**	**16 12 59.5**	**-1.4**
	32nm,1.5s						
SDCO	**Great Sand Dun**	**19.89**	**113**	*e*P	**P**	**16 13 04.7**	**+0.1**
	8.4nm,1.0s						
SVW2	**Sparrevohn**	**19.99**	**320**	*e*P	**P**	**16 13 04.9**	**-0.6**
INK	**Inuvik**	**20.27**	**355**	P	**P**	**16 13 07.6**	**-0.9**
	8.1nm,1.1s,baz=169,slow=11,SNR=12						
INK				LR	LR	16 19 57.9	
	comp=Z,250nm,21.2s,MS3.5,baz=360,slow=34						
INK	**Inuvik**	**20.27**	**355**	*e*P	**P**	**16 13 07.7**	**-0.8**
	9.5nm,1.1s						
ANMO	**Albuquerque**	**21.20**	**121**	P	**P**	**16 13 19.1**	**+0.9**
	7.0nm,0.8s,mb4.0,baz=324,slow=12,SNR=6.4						
ANMO				LR	LR	16 21 22.6	
	comp=Z,284nm,21.9s,MS3.6,slow=36						
ANMO	**Albuquerque**	**21.20**	**121**	*e*P	**P**	**16 13 17.9**	**-0.3**
	15nm,1.1s,mb4.2						
ULM	**Lac du Bonnet**	**21.45**	**72**	P	**P**	**16 13 22.9**	**+2.2**
	7.8nm,0.9s,mb4.0,baz=281,slow=9.5,SNR=9.4						
ULM				LR	LR	16 21 58.9	
	comp=Z,154nm,19.6s,MS3.4,baz=272,slow=38						
ULM	**Lac du Bonnet**	**21.45**	**72**	*e*P	**P**	**16 13 20.8**	**+0.1**
	52nm,1.6s,mb4.6						
IMA	**Indian Mountai**	**22.14**	**333**	*e*P	**P**	**16 13 27.6**	**0.0**
FCC	**Fort Churchill**	**22.87**	**50**	*e*P	**P**	**16 13 35.5**	**+0.8**
	7.3nm,0.9s,mb4.1						
AMTX	**Amarillo**	**24.09**	**114**	*e*P	**P**	**16 13 48.0**	**+1.2**
	24nm,0.9s,mb4.6						
MNTX	**Cornudas Mount**	**24.20**	**125**	*e*P	**P**	**16 13 48.4**	**+0.4**
	20nm,1.6s,mb4.3						
WMOK	**Wichita Mounta**	**25.98**	**110**	*e*P	**P**	**16 14 04.4**	**-0.4**
	19nm,1.4s,mb4.4						
TXAR	**Lajitas Array**	**26.96**	**125**	P	**P**	**16 14 13.8**	**-0.2**
	3.0nm,1.0s,mb3.8,baz=315,slow=7.1,SNR=13						
TXAR				LR	LR	16 25 31.7	
	comp=Z,661nm,19.0s,MS4.2,baz=325,slow=38						
SCHQ	**Schefferville**	**37.92**	**56**	P	**P**	**16 15 50.6**	**+1.3**
	1.4nm,0.9s,mb3.7,baz=286,slow=15,SNR=2.7						
ARCES	**ARCESS Array B**	**61.02**	**10**	LR	LR	16 44 12.6	
	comp=Z,73nm,19.1s,MS3.9,baz=173,slow=35						
ROSC	**El Rosal**	**63.23**	**115**	LR	LR	16 50 23.1	
	comp=Z,73nm,19.1s,MS3.9,baz=209,slow=40						
MDJ	**Mudanjiang**	**64.92**	**309**	P	**P**	**16 19 09.1**	**-2.9**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,76nm,5.2s						
NOA	**NORSAR Array B**	**66.38**	**20**	P	**P**	**16 19 19.5**	**-1.5**
	comp=Z,1.8nm,0.9s,mb4.1,baz=334,slow=6.4,SNR=3.7						
NOA				LR	LR	16 45 21.5	
	comp=Z,48nm,20.5s,MS3.7,baz=230,slow=33						
NOA	**NORSAR Array B**	**66.38**	**20**	P	**P**	**16 19 19.5**	**-1.5**
NOA				LR	LR	16 45 21.5	
CN2	**Changchun**	**67.61**	**311**	*e*P	**P**	**16 19 28.4**	**-0.7**
HFS	**Hagfors**	**67.75**	**19**	P	**P**	**16 19 30.3**	**+0.5**
	comp=Z,4.0nm,0.8s,mb4.5,baz=288,slow=4.7,SNR=4.5						
FINES	**FINESS Array B**	**68.81**	**13**	P	**P**	**16 19 36.8**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=344,slow=10,SNR=3.2						
FINES				LR	LR	16 51 27.5	
	comp=Z,56nm,19.1s,MS3.8,baz=4.1,slow=37						
SONM	**Songino Array**	**73.03**	**325**	P	**P**	**16 20 01.2**	**-0.7**
	comp=Z,0.8nm,1.1s,mb3.6,baz=45,slow=3.5,SNR=5.4						
ZAL	**Zalesovo**	**74.32**	**340**	LR	LR	16 57 11.1	
	comp=Z,112nm,18.1s,MS4.2,baz=73,slow=39						
HHC	**Hu-ho-hao-te**	**76.52**	**317**	*e*P	**P**	**16 20 22.1**	**0.0**
HHC				XP	sP	16 20 28.6	+5.1
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,127nm,5.1s						
HHC				LR	LR		
	comp=N,140nm,15.5s						
HHC				LR	LR		
	comp=E,172nm,21.4s						
HHC				LR	LR		
	comp=Z,126nm,19.6s,MS4.2						
NJ2	**Nanjing**	**79.85**	**307**	*e*P	**P**	**16 20 40.1**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
MLR	**Muntele Rosu**	**84.06**	**18**	LR	LR	16 58 50.5	
	comp=Z,64nm,19.2s,MS4.0,baz=160,slow=36						
KMI	**Kunming**	**93.64**	**315**	P	**P**	**16 21 51.4**	**+3.2**
KMI				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.7						

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*THR **01** 16:13:46.5±0.6, 30.80N×56.87E, h14km±9km, ML4.0*
*CSEM **01** 16:13:47.1±0.1, 30.83N×56.87E, h20km, mb4.3/6, Error ellipse: s-maj=2.8km s-min=1.7km az=24.0*
*MOS **01** 16:13:49.0±0.9, 30.91N×56.94E, h33km, mb4.7/11, Error ellipse: s-maj=10.5km s-min=9.1km az=95.5*
*TEH **01** 16:13:50.3, 30.91N×56.78E, h8km, Mn4.3*
*NEIC **01** 16:13:50.3, 30.91N×56.78E, h8km, mb4.4/13, MN4.3(TEH), After TEH.*
*BJI **01** 16:13:50.0, 30.88N×56.60E, h71km, mB5.0, mb4.6, Ms4.3, Msz4.0*
*IDC **01** 16:13:53.5±5.7, 30.82N×56.93E, h60km±52km, mb3.8/17, mb1 4.0/18, mb1mx3.9/24, mbtmp4.1/18, ML4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/20, Error ellipse: s-maj=23.5km s-min=15.6km az=14.0*
ISC 01 16:13:47.6±0.9**, 30.83N**±0.04×**56.91E**±0.04**, h24**km±8km**, h44**km±2.8km**: pP-P, n98,** σ0s**97**/105**, mb4.3**/38**, MS3.8**/3**, 2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.85**	**189**	*i* PG	**Pb**	**16 14 02.0**	**-1.6**
KRBR				*e*SG	**Sb**	**16 14 13.6**	**-0.9**
KRBR				AML	AML	16 14 16.0	
	comp=E,6μm,0.2s						
IBAF	**Bafgh**	**1.38**	**304**	Pn	**Pn**	**16 14 10.5**	**-1.1**
IMEH	**Mehriz**	**2.04**	**287**	Pn	**Pn**	**16 14 21.9**	**+0.7**
ICHK	**Chekchek**	**2.56**	**304**	Pn	**Pn**	**16 14 29.0**	**+0.5**
BNDS	**Bandar-Abbas**	**3.48**	**191**	*e*PN	**Pn**	**16 14 42.3**	**+0.8**
BNDS				*e*SG	**Sn**	**16 15 33.5**	**+11**
BNDS				AML	AML	16 15 49.0	
	comp=E,359nm,0.6s						
BNDS				AML	AML	16 15 55.0	
	comp=N,307nm,0.7s						
ZHSF	**Zahedan**	**3.56**	**109**	*e*PN	**Pn**	**16 14 43.7**	**+1.0**
ZHSF				AML	AML	16 15 46.5	
	comp=N,258nm,0.7s						
ISRV	**Sarvestan**	**3.59**	**247**	Pn	**Pn**	**16 14 42.7**	**-0.4**
SHI	**Shiraz**	**3.98**	**254**	Pn	**Pn**	**16 14 43.6**	**-5.1**
NASN	**Na'in**	**4.00**	**300**	*e*PN	**Pn**	**16 14 49.6**	**+0.6**
NASN				AML	AML	16 15 54.7	
	comp=N,271nm,0.7s						
NASN				AML	AML	16 15 59.2	
	comp=E,184nm,0.7s						
IMOK	**Mook**	**4.05**	**245**	Pn	**Pn**	**16 14 51.0**	**+1.3**
GHIR	**Ghir-Karzin**	**4.25**	**234**	*e*PN	**Pn**	**16 14 52.5**	**0.0**
IMOG	**Moghan**	**5.65**	**20**	Pn	**Pn**	**16 15 12.6**	**+0.3**
MHI	**Mashhad**	**5.87**	**21**	Pn	**Pn**	**16 15 16.4**	**+1.0**
IFIR	**Firoozkooh**	**5.93**	**325**	Pn	**Pn**	**16 15 15.5**	**-0.7**
IFIR				Lg		16 16 50.9	
IKRD	**Kardeh**	**6.08**	**12**	Pn	**Pn**	**16 15 22.1**	**+3.7**
IDMV	**Damavand**	**6.25**	**321**	Pn	**Pn**	**16 15 20.1**	**-0.7**
DAMV	**Damavand**	**6.33**	**321**	*e*PN	**Pn**	**16 15 21.6**	**-0.3**
IAFJ	**Afjeh**	**6.64**	**320**	Pn	**Pn**	**16 15 25.2**	**-1.0**
IRAZ	**Razeghan**	**7.42**	**310**	Pn	**Pn**	**16 15 35.9**	**-1.3**
SNGE	**Sanandaj**	**9.09**	**300**	*e*PN	**P**	**16 15 59.7**	**-0.7**
ZEI	**Tsey**	**15.81**	**323**	*e*P	**P**	**16 17 26.1**	**-4.2**
MALT	**Malatya**	**16.94**	**301**	*e*P	**P**	**16 17 46.4**	**+1.8**
MALT				pmax	pmax		
	comp=Z,11nm,1.0s						
MALT	**Malatya**	**16.94**	**301**	*e*P	**P**	**16 17 46.4**	**+1.8**
	comp=Z,11nm,1.0s						
MALT	**Malatya**	**16.94**	**301**	*e*P	**P**	**16 17 46.4**	**+1.8**
	comp=Z,11nm,1.0s						
ASF	**Jabal al Asfar**	**17.12**	**280**	P	**P**	**16 17 48.5**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=192,slow=6.4,SNR=2.8						
ASF				LR	LR	16 26 00.7	
	comp=Z,82nm,18.5s,baz=124,slow=42						
KIV	**Kislovodsk**	**17.27**	**323**	P	**P**	**16 17 51.5**	**+2.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KIV	**Kislovodsk**	**17.27**	**323**	P	**P**	**16 17 51.5**	**+2.8**
	comp=Z,8.0nm,0.7s						
AML	**Almayashu**	**17.56**	**45**	P	**P**	**16 17 52.1**	**-0.2**
	SNR=7.1						
NDI	**New Delhi**	**17.77**	**92**	*e*P	**P**	**16 17 54.5**	**-0.5**
NDI				*e*		16 20 23.5	
KSH	**Kashi**	**17.81**	**56**	*e*P	**P**	**16 17 55.6**	**+0.1**
KSH				*e*PP	PP	16 18 12.1	+1.9
KSH				*e*XP		16 18 15.7	
KSH				*e*S	**S**	**16 21 10.0**	**-0.8**
KSH				*e*SS	SS	16 21 33.9	+0.3
KSH				*e*PCP	PcP	16 22 30.5	-2.3
KSH				*e*SCP		16 26 00.4	
KSH				*e*PCS		16 26 06.3	
KSH				AMB	AMB		
	comp=Z,70nm,4.9s						
KSH				LR	LR		
	comp=N,230nm,5.2s						
KSH				LR	LR		
	comp=E,210nm,6.0s						
EKS2	**Erkin-Say**	**17.91**	**44**	P	**P**	**16 17 56.4**	**-0.3**
	SNR=9.3						
AAK	**Ala-Archa**	**18.33**	**45**	P	**P**	**16 18 02.3**	**+0.3**
	SNR=5.0						
AAK	**Ala-Archa**	**18.33**	**45**	*e*P	**P**	**16 18 00.7**	**-1.3**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
AAK	**Ala-Archa**	**18.33**	**45**	*e*P	**P**	**16 18 00.7**	**-1.3**
	comp=Z,5.0nm,0.8s						
KZA	**Kyzart**	**18.50**	**48**	P	**P**	**16 18 07.1**	**+3.1**
	SNR=8.5						
KBK	**Karagaybulak**	**18.62**	**46**	P	**P**	**16 18 04.9**	**-0.7**
	SNR=5.1						
BRTR	**Keskin Array B**	**20.92**	**301**	P	**P**	**16 18 30.2**	**-0.7**
	comp=Z,3.4nm,0.8s,baz=115,slow=11,SNR=9.3						
KOLN	**Koldanda**	**23.46**	**91**	*e*P	**P**	**16 18 57.0**	**+0.8**
	comp=Z,29nm,1.3s,mb4.6						
HYB	**Hyderabad**	**23.79**	**119**	⇓*i*P	**P**	**16 19 01.5**	**+2.1**
HYB	**Hyderabad**	**23.79**	**119**	⇓*e*P	**P**	**16 19 01.5**	**+2.1**
BVAR	**Borovoye Array**	**24.26**	**20**	P	**P**	**16 19 05.1**	**+1.4**
	comp=Z,8.0nm,0.7s,mb4.3,baz=204,slow=7.4,SNR=78						
GKN	**Gorkha**	**24.30**	**90**	*e*P	**P**	**16 19 04.9**	**+0.6**
	comp=Z,19nm,1.0s,mb4.5						
DMN	**Daman**	**24.79**	**90**	*e*P	**P**	**16 19 09.9**	**+0.8**
	comp=Z,16nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**24.90**	**20**	*e*P	**P**	**16 19 10.0**	**+0.2**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
KKN	**Kakani**	**24.90**	**90**	*e*P	**P**	**16 19 10.9**	**+0.8**
	comp=Z,27nm,0.9s,mb4.8						
PKI	**Pulchoki**	**25.06**	**90**	*e*P	**P**	**16 19 12.1**	**+0.4**
	comp=Z,42nm,1.0s,mb4.9						
KURK	**Kurchatov**	**25.62**	**33**	*e*P	**P**	**16 19 17.2**	**+0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.2						
JIRN	**Jiri**	**25.71**	**90**	*e*P	**P**	**16 19 18.3**	**+0.5**
	comp=Z,24nm,0.8s,mb4.8						
WMQ	**Urumqi**	**27.54**	**53**	*e*P	**P**	**16 19 34.4**	**+0.1**
WMQ				AP	pP	16 19 47.5	+6.0
WMQ				PP	PP	16 20 24.0	+1.4
WMQ				PPP	PPP	16 20 36.0	+1.4
WMQ				S	**S**	**16 24 10.0**	**-2.3**
WMQ				SS	SS	16 25 29.5	-1.5
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,111nm,3.8s						
WMQ				LR	LR		
	comp=N,364nm,18.4s,MS4.1						
WMQ				LR	LR		
	comp=E,336nm,19.8s,MS4.1						
WMQ				LR	LR		
	comp=Z,305nm,17.6s,MS3.9						
OBN	**Obninsk**	**28.27**	**335**	*e*P	**P**	**16 19 40.8**	**0.0**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
OBN	**Obninsk**	**28.27**	**335**	*e*P	**P**	**16 19 40.8**	**0.0**
	comp=Z,7.0nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**30.60**	**33**	P	**P**	**16 20 01.5**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.4,baz=233,slow=8.8,SNR=27						
GTA	**Gaotai**	**35.85**	**64**	P	**P**	**16 20 48.5**	**+1.1**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
FINES	**FINESS Array B**	**36.67**	**336**	P	**P**	**16 20 53.9**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.3,baz=126,slow=12,SNR=17						
GERES	**GERESS Array B**	**37.15**	**312**	P	**P**	**16 20 58.8**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.8,baz=117,slow=9.0,SNR=8.9						
LZH	**Lanzhou**	**39.22**	**69**	*e*P	**P**	**16 21 14.8**	**-0.8**
LZH				AP	pP	16 21 28.5	+5.6
LZH				AMB	AMB		
	comp=Z,23nm,1.5s,mb4.7						
LZH				LR	LR		
	comp=N,205nm,13.2s						
LZH				LR	LR		
	comp=Z,394nm,17.0s,MS4.3						
LZH	**Lanzhou**	**39.22**	**69**	*e*P	**P**	**16 21 14.8**	**-0.8**
	comp=Z,23nm,1.5s,mb4.7						
LZH				pP	pP	16 21 28.5	+5.6
LZH				LR	LR		
	comp=Z,390nm,17.0s,MS4.3						
ZAK	**Zakamensk**	**39.50**	**47**	*e*P	**P**	**16 21 18.2**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
ZAK	**Zakamensk**	**39.50**	**47**	*e*P	**P**	**16 21 18.2**	**+0.4**
	comp=Z,1.0nm,1.1s,mb3.5						
CMAR	**Chiang Mai Arr**	**39.92**	**98**	P	**P**	**16 21 21.5**	**-0.2**
	comp=Z,1.6nm,1.0s,mb3.7,baz=296,slow=7.5,SNR=8.3						
KMI	**Kunming**	**40.66**	**86**	P	**P**	**16 21 27.2**	**-0.4**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
KMI				LR	LR		
	comp=Z,26nm,23.4s,MS3.0						
KMI	**Kunming**	**40.66**	**86**	P	**P**	**16 21 27.2**	**-0.4**
KMI				*PP	pP	16 21 39.2	+4.2
KMI				S	**S**	**16 27 32.2**	**-3.7**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
KMI	**Kunming**	**40.66**	**86**	P	**P**	**16 21 27.2**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.4						
KMI				S	**S**	**16 27 32.2**	**-3.7**
KMI				LR	LR		
	comp=Z,30nm,23.4s,MS3.1						
HFS	**Hagfors**	**40.95**	**328**	P	**P**	**16 21 29.6**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.0,baz=112,slow=8.0,SNR=7.5						
SONM	**Songino Array**	**41.12**	**51**	P	**P**	**16 21 32.6**	**+1.4**
	comp=Z,1.8nm,0.8s,mb3.8,baz=260,slow=9.6,SNR=15						
ULN	**Ulaanbaatar**	**41.57**	**51**	*e*P	**P**	**16 21 35.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**41.57**	**51**	*e*P	**P**	**16 21 35.7**	**+0.9**
	comp=Z,3.9nm,0.8s,mb4.1						
NB2	**NORSAR Subarra**	**42.45**	**329**	P	**P**	**16 21 40.2**	**-1.7**
	comp=Z,4.9nm,1.2s,mb4.0,baz=114,slow=7.9						
NB2	**NORSAR Subarra**	**42.45**	**329**	P	**P**	**16 21 40.2**	**-1.7**
NB2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.0						
NOA	**NORSAR Array B**	**42.45**	**329**	P	**P**	**16 21 41.4**	**-0.5**
	comp=Z,1.2nm,0.8s,mb3.6,baz=115,slow=8.0,SNR=4.5						
ARCES	**ARCESS Array B**	**42.65**	**344**	P	**P**	**16 21 43.1**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.0,baz=143,slow=6.1,SNR=9.4						
HHC	**Hu-ho-hao-te**	**44.79**	**61**	*e*P	**P**	**16 22 00.9**	**-0.3**
HHC				AP	pP	16 22 14.9	+6.4
HHC				PP	PP	16 23 47.7	+0.9
HHC				PCS		16 27 37.6	
HHC				S	**S**	**16 28 33.1**	**-3.1**
HHC				SS	SS	16 31 44.4	-4.3
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,164nm,5.8s						
BOD	**Bodaibo**	**47.09**	**38**	*e*P	**P**	**16 22 18.6**	**-0.6**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
EKA	**Eskdalemuir Ar**	**48.41**	**319**	P	**P**	**16 22 28.6**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.9,baz=97,slow=6.7,SNR=3.7						
NJ2	**Nanjing**	**52.21**	**72**	*e*P	**P**	**16 22 58.7**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,80nm,1.1s						
JMIC	**Jan Mayen**	**53.20**	**338**	P	**P**	**16 23 06.8**	**+1.1**
	comp=Z,245nm,0.4s,baz=144,slow=9.2,SNR=5.8						
CN2	**Changchun**	**54.58**	**56**	*e*P	**P**	**16 23 15.7**	**-0.4**
YAK	**Yakutsk**	**55.27**	**33**	*e*P	**P**	**16 23 18.5**	**-2.4**
YAK				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
YAK	**Yakutsk**	**55.27**	**33**	*e*P	**P**	**16 23 18.5**	**-2.4**
	comp=Z,12nm,0.7s,mb5.0						
MDJ	**Mudanjiang**	**57.33**	**54**	P	**P**	**16 23 32.0**	**-4.0**
MDJ				AMB	AMB		
	comp=Z,4.0nm,2.3s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,84nm,6.5s						
DBIC	**Dimbokro**	**62.41**	**261**	P	**P**	**16 24 12.6**	**+1.4**
	comp=Z,1.3nm,0.8s,mb4.1,baz=59,slow=5.8,SNR=4.6						
IMA	**Indian Mountai**	**80.59**	**12**	*e*P	**P**	**16 25 59.7**	**+0.7**
INK	**Inuvik**	**80.86**	**4**	P	**P**	**16 26 00.3**	**-0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	**80.86**	**4**	P	**P**	**16 26 00.3**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.0,baz=360,slow=8.1,SNR=5.8						
INK	**Inuvik**	**80.86**	**4**	*e*P	**P**	**16 25 59.9**	**-0.5**
	comp=Z,2.9nm,1.0s,mb4.2						
COLA	**College**	**82.67**	**10**	*e*P	**P**	**16 26 09.1**	**-0.8**
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
COLA	**College**	**82.67**	**10**	*e*P	**P**	**16 26 09.1**	**-0.8**
	comp=Z,5.2nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**82.92**	**10**	P	**P**	**16 26 10.9**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=324,slow=4.5,SNR=21						
MCK	**McKinley**	**83.56**	**11**	*e*P	**P**	**16 26 13.2**	**-1.2**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
MCK	**McKinley**	**83.56**	**11**	*e*P	**P**	**16 26 13.2**	**-1.2**
	comp=Z,2.0nm,0.7s,mb4.4						
DAWY	**Dawson**	**84.56**	**7**	*e*P	**P**	**16 26 19.5**	**+0.1**
YKA	**Yellowknife Ar**	**86.76**	**356**	P	**P**	**16 26 30.6**	**+0.2**
YKA	**Yellowknife Ar**	**86.76**	**356**	P	**P**	**16 26 30.5**	**+0.2**
	comp=Z,1.3nm,0.7s,mb4.3,baz=360,slow=5.1,SNR=31						
WRA	**Warramunga Arr**	**89.82**	**113**	P	**P**	**16 26 45.1**	**-0.9**
	comp=Z,0.4nm,0.5s,mb4.0,baz=316,slow=4.1,SNR=10						
WRAB	**Tennant Creek**	**89.82**	**113**	*e*P	**P**	**16 26 44.3**	**-1.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**89.82**	**113**	*e*P	**P**	**16 26 44.3**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**91.49**	**117**	*e*P	**P**	**16 26 52.7**	**-0.9**
ASAR	**Alice Springs**	**91.49**	**117**	P	**P**	**16 26 52.6**	**-1.0**
	comp=Z,2.3nm,1.1s,mb4.4,baz=306,slow=5.1,SNR=12						

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*JMA **01** 16:16:26.2±0.3, 22.01N×121.63E, M3.6*
TAP 01 16:16:25.9, 22.09N×121.17E, h47km, ML3.6, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.91**	**35**	*e*S	S	16 17 47.3	+2.5
HATJ	**Hateruma jima**	**3.12**	**51**	P	P	16 17 14.5	+0.6
HATJ				S	S	16 17 49.8	-0.4
IRIF	**Iriomote-Funau**	**3.25**	**46**	P	P	16 17 16.3	+0.6
IRIF				S	S	16 17 53.9	+0.4
JKRS	**Kuro-shima**	**3.38**	**50**	P	P	16 17 18.2	+0.7
JKRS				S	S	16 17 55.8	-0.9
JIJ	**Ishigaki jima**	**3.55**	**50**	P	P	16 17 20.7	+0.7
JIJ				S	S	16 18 00.0	-1.1
JTJ	**Tarama**	**4.12**	**51**	P	P	16 17 28.6	+0.5
JTJ				S	S	16 18 15.2	-0.4

IDC 01 16:19:41.7±6.2**, 16.11S×173.64W, mb3.9**/3**, mb1 4.3**/3**, mb1mx3.8**/15**, mbtmp3.9**/3**, Error ellipse: s-maj=471.3km s-min=31.1km az=151.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.46**	**257**	P	P	16 28 33.5	-2.5
	1.3nm,0.9s,baz=90,slow=7.2,SNR=6.5						
ASAR	**Alice Springs**	**49.67**	**252**	P	P	16 28 36.1	-1.5
	5.3nm,1.1s,baz=88,slow=8.0,SNR=23						
NVAR	**Mina Array Bea**	**75.00**	**42**	P	P	16 31 25.5	-1.5
	0.7nm,0.8s,baz=247,slow=12,SNR=4.8						

IDC 01 16:21:55.5±4.0**, 2.27N×95.05E, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, Error ellipse: s-maj=130.7km s-min=30.6km az=64.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.54**	**13**	Pn	P	16 25 50.2	-0.4
	baz=205,slow=12,SNR=7.2						
WRA	**Warramunga Arr**	**44.42**	**122**	P	P	16 30 08.4	-1.8
	0.6nm,0.6s,baz=300,slow=9.2,SNR=7.0						
SONM	**Songino Array**	**46.44**	**11**	P	P	16 30 23.6	-2.3
	0.4nm,0.7s,baz=190,slow=7.5,SNR=4.4						
ZAL	**Zalesovo**	**52.19**	**352**	P	P	16 31 08.1	-2.1
	0.7nm,0.4s,baz=308,slow=11,SNR=3.2						

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*IDC **01** 16:33:47.6±1.2, 35.85N×28.44E, mb3.8/4, mb1 3.8/8, mb1mx3.6/21, mbtmp3.7/8, ML3.4/4, Error ellipse: s-maj=25.8km s-min=21.2km az=68.0*
*ISK **01** 16:33:52.5, 35.79N×28.19E, h77km, MD3.5*
*CSEM **01** 16:33:52.2±0.1, 35.80N×28.29E, h60km, Mw3.8, Error ellipse: s-maj=3.3km s-min=1.9km az=33.0*
*ATH **01** 16:33:53.7, 35.87N×28.16E, h57km±1km, MD3.7/10*
*NEIC **01** 16:33:53.7, 35.88N×28.15E, h58km, MD3.6(ATH), After ATH.*
*NIC **01** 16:33:58.5±0.1, 35.71N×28.54E, h25km, mb4.1, ML3.6, MW3.4*
ISC 01 16:33:52.0±0.3**, 35.64N**±0.03×**28.30E**±0.03**, h63**km±8km**, n65,** σ1s**45**/85**, mb3.6**/4**, 2C-3D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.60**	**346**	⇓*i*P	**P**	**16 34 04.5**	**-0.8**
KSL	**Kastellorizon**	**1.16**	**63**	⇑*i*P	**P**	**16 34 15.2**	**+2.7**
DALT	**Dalyan (Mudla)**	**1.16**	**13**	*i* PG	**P**	**16 34 12.4**	**-0.2**
DALT				*i* SG	**S**	**16 34 27.2**	**-0.7**
FETY	**Fethiye**	**1.18**	**32**	PN	**P**	**16 34 13.6**	**+0.8**
NISR	**Nisiros**	**1.36**	**316**	*e*P	**P**	**16 34 14.5**	**-0.9**
YER	**Yerkesik**	**1.50**	**359**	PN	**P**	**16 34 17.3**	**+0.1**
BDRM	**Kayabasi**	**1.59**	**334**	*i* P	**P**	**16 34 17.5**	**-1.0**
BDRM				*i* S	**S**	**16 34 34.3**	**-3.7**
BODT	**Bodrum**	**1.63**	**331**	PN	**P**	**16 34 18.3**	**-0.8**
MLSB	**Milas**	**1.71**	**346**	*e*PN	**P**	**16 34 19.9**	**-0.2**
ELL	**Elmali**	**1.71**	**49**	*e*PN	**P**	**16 34 21.9**	**+1.8**
AYDN	**Tasoluk**	**2.05**	**351**	*i* P	**P**	**16 34 24.5**	**-0.4**
AYDN				*i* S	**S**	**16 34 46.8**	**-2.3**
DNZL	**Cakiroluk**	**2.14**	**16**	*i* P	**P**	**16 34 26.7**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DNZL				iS	S	16 34 50.9	-0.5
DENT	Denizli	2.19	15	ePN	P	16 34 27.1	+0.2
NPS	Neapolis	2.23	261	eP	P	16 34 28.5	+1.1
XRY	Khrisi	2.26	251	eP	P	16 34 29.9	+2.0
SMG	Samos	2.38	331	⇓iP	P	16 34 28.1	-1.5
SANT	Santorini	2.42	288	ePn	P	16 34 29.4	-0.7
SANT	Santorini	2.42	288	iP	P	16 34 29.0	-1.1
SANT				iS	S	16 34 55.5	-3.0
BCK	Bucak	2.59	45	ePN	P	16 34 33.4	+0.9
APE	Apeiranthos	2.66	303	ePN	P	16 34 31.8	-1.6
APE	Apeiranthos	2.66	303	eP	P	16 34 32.5	-0.9
IDI	Anoyia	2.81	264	Pn	P	16 34 36.1	+0.5
	9.9nm,0.3s,baz=62,slow=15,SNR=46						
IDI				Sn	S	16 35 18.1	+10
	17nm,0.3s,baz=3.4,slow=20,SNR=4.4						
MANT	Manisa	2.86	4	iP	P	16 34 34.9	-1.4
MANT				iS	S	16 35 10.1	+0.5
IZM	Izmir	2.88	344	ePN	P	16 34 35.4	-1.2
KDAG	Bornova	2.88	344	iP	P	16 34 35.7	-1.0
KDAG				iS	S	16 35 14.8	+4.6
BLCB	Balcova	2.92	340	ePN	P	16 34 35.7	-1.5
AKMC	Akamas	3.35	99	⇑iP	P	16 34 45.8	+2.6
VAM	Vamos	3.35	267	eP	P	16 34 45.2	+1.9
PPCY	Paphos	3.39	102	P	P	16 34 46.6	+2.8
GVD	Gavdhos	3.54	258	eP	P	16 34 47.3	+1.4
ALFC	Alevga	3.54	97	P	P	16 34 48.4	+2.5
	12nm,0.2s						
ALFC				S	S	16 35 27.4	+0.5
ALT	Altintas	3.71	22	ePN	P	16 34 47.4	-0.8
LEF	Lefka	3.79	96	ePN	P	16 34 51.1	+1.8
SZAC	Souni-Zanaja	3.85	102	P	P	16 34 52.6	+2.3
	17nm,0.2s						
SZAC				S	S	16 35 35.4	+0.7
CSS	Prodhromos	4.17	98	⇓iP	P	16 34 56.9	+2.2
	3.4nm,0.3s						
CSS				S	S	16 35 42.8	+0.2
KIZT	Kizilcal	4.32	40	ePN	P	16 34 56.9	+0.1
KYTH	Kithira	4.32	280	eP	P	16 34 56.5	-0.3
VLI	Veliai	4.47	286	eP	P	16 34 58.8	-0.1
MEST	Erdemli	4.83	77	iP	P	16 35 06.7	+2.8
MEST				iS	S	16 36 01.8	+2.7
BRTR	Keskin Array B	5.88	44	Pn	P	16 35 19.8	+1.3
	0.2nm,0.3s,baz=221,slow=15,SNR=6.3						
BRTR				Pg	P	16 35 29.0	+11
	0.3nm,0.3s,baz=230,slow=15,SNR=3.8						
HNTI	Hanita	6.23	112	Sn	S	16 36 32.5	-1.4
HAF	Haifa	6.26	115	Sn	S	16 36 33.8	-0.8
OFRI	‘Ofer	6.30	117	Sn	S	16 36 33.9	-2.0
KSDI	Kefar Szold	6.55	110	Pn	P	16 35 29.2	+1.3
KSDI				Sn	S	16 36 41.6	-0.3
MMLI	Mount Malkishu	6.72	116	Pn	P	16 35 32.2	+2.0
MMLI				Sn	S	16 36 44.8	-1.2
GLH	Golan-Tel Qazi	6.75	113	Sn	S	16 36 46.5	-0.4
KSHT	Keshet	6.75	111	Sn	S	16 36 46.4	-0.6
HMDT	Nahal Hemdat	6.89	117	Sn	S	16 36 48.9	-1.3
KZIT	Kziot	6.95	131	Sn	S	16 36 48.7	-3.1
RTMM	Retamin	7.03	129	Sn	S	16 36 50.6	-3.2
MASH	Mash‘abbe Sade	7.13	129	Sn	S	16 36 53.8	-2.5
DRGI	Dragot	7.16	122	Sn	S	16 36 54.9	-2.0
MZDA	Masada	7.31	124	Sn	S	16 36 58.3	-2.4
KMTI	Karmit	7.72	134	Sn	S	16 37 07.2	-3.6
ASF	Jabal al Asfar	7.94	113	Pn	P	16 35 48.8	+1.8
	baz=138,slow=12,SNR=3.2						
ASF				Sn	S	16 37 16.5	+0.3
	1.2nm,0.3s,baz=169,slow=22,SNR=3.9						
HRFI	Mount Harif	7.95	133	Pn	P	16 35 49.0	+1.7
HRFI				Sn	S	16 37 12.9	-3.7
MBH	Mount Berech	8.06	134	Sn	S	16 37 16.1	-3.2
EIL	Elat	8.17	135	Pn	P	16 35 49.6	-0.7
	1.0nm,0.3s,baz=8.1,slow=26,SNR=12						
EIL				Sn	S	16 37 19.2	-2.9
	6.7nm,0.3s,baz=333,slow=26,SNR=11						
EIL	Elat	8.17	135	Pn	P	16 35 49.6	-0.7
EIL				Sn	S	16 37 19.2	-2.9
EIL	Elat	8.17	135	Pn	P	16 35 50.3	0.0
EIL				Sn	S	16 37 19.0	-3.1
GERES	GERESS Array B	17.02	325	Pn	P	16 37 47.9	+0.9
	0.1nm,0.3s,baz=166,slow=11,SNR=3.5						
ESDC	Sonseca Array	25.78	289	P	P	16 39 19.9	+1.3
	0.4nm,0.4s,mb3.3,baz=80,slow=9.7,SNR=4.5						
FINES	FINESS Array B	25.87	358	P	P	16 39 19.2	0.0
	0.7nm,0.8s,mb3.2,baz=156,slow=14,SNR=3.8						
ARCES	ARCESS Array B	33.99	358	P	P	16 40 30.8	-0.5
	3.2nm,1.1s,mb4.2,baz=173,slow=7.3,SNR=3.1						
KMBO	Kilima Mbogo	37.52	165	P	P	16 41 04.8	+3.1
	1.0nm,0.7s,mb3.7,baz=14,slow=12,SNR=4.2						

IDC 01 17:06:54.7±0.8, 9.21N×126.53E, mb3.9/9, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, MS3.2/1, Ms1 3.4/1, ms1mx2.6/25, Error ellipse: s-maj=52.2km s-min=16.6km az=68.0
MAN 01 17:06:56.9, 9.31N×126.89E, h15km, mb4.9, ML3.8, MS3.9
NEIC 01 17:06:56.1±0.5, 9.27N×126.64E, h10km, mb4.3/6, Error ellipse: s-maj=25.0km s-min=8.2km az=69.0
ISC 01 17:06:54.2±0.5**, 9.35N**±0.04×**127.04E**±0.04**, h10**km**, n35,** σ**1.̊24**/41**, mb4.0**/15**, 2C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	Butuan	1.45	255	eP	Pn	17 07 18.9	-1.7
BUTP				eS	Sb	17 07 38.4	-0.8
SCPH	Surigao	1.59	286	⇑eP	Pn	17 07 22.1	-0.5
SCPH				eS	Sb	17 07 41.8	-1.4
MSLP	Maasin	2.28	290	eP	Pn	17 07 33.4	+0.8
MSLP				eS	Sn	17 08 02.9	+1.9
BUKP	Musuan	2.44	233	eP	Pn	17 07 35.6	+0.8
BUKP				eS	Sn	17 08 05.5	+0.6
CGP	Cagayan de Oro	2.48	249	⇑eP	Pn	17 07 35.2	-0.2
CGP				iS	Sn	17 08 06.6	+0.6
MATI	Mati	2.51	198	eP	Pn	17 07 36.4	+0.6
DAV	Davao City (W)	2.69	213	eP	Pn	17 07 40.0	+1.7
BESP	Borongan	2.73	325	eP	Pn	17 07 39.9	+1.0
KCP	Kidapawan	3.02	220	⇓eP	Pn	17 07 44.1	+1.1
KCP				iS	Sn	17 08 17.9	-1.8
TBP	Tagbilaran	3.15	276	eP	Pn	17 07 44.6	-0.3
TBP				iS	Sn	17 08 20.1	-2.9
LLP	Lapu-Lapu	3.17	288	eP	Pn	17 07 45.5	+0.3
LLP				eS	Sn	17 08 23.6	0.0
SNPH	Sibulan	3.75	270	eP	Pn	17 07 55.2	+1.8
PAGZ	Pagadian	3.91	248	eP	Pn	17 07 57.1	+1.4
GUIM	Jordan	4.56	287	eP	Pn	17 08 04.2	-0.8
IPIL	Ipil	4.68	251	eP	Pn	17 08 08.5	+1.9
RCP	Roxas	4.76	298	⇓eP	Pn	17 08 08.1	+0.3
PVCP	Virac	5.08	326	eP	Pn	17 08 13.3	+1.1
CMAR	Chiang Mai Arr	28.70	291	P	P	17 12 50.7	-3.1
	0.5nm,0.9s,mb3.2,baz=93,slow=7.8,SNR=4.7						
CMAR				LR	LR	17 25 04.0	
	comp=Z,43nm,18.2s,baz=30,slow=38						
WRAB	Tennant Creek	29.98	166	P	P	17 13 04.7	-0.6
	14nm,1.3s,mb4.5						
WRA	Warramunga Arr	29.98	166	P	P	17 13 04.4	-1.0
	1.0nm,0.8s,mb3.6,baz=347,slow=9.4,SNR=6.8						
MBWA	Marble Bar	31.16	193	eP	P	17 13 14.5	-1.2
	7.8nm,0.9s,mb4.5						
ASAR	Alice Springs	33.49	169	P	P	17 13 35.8	-0.4
	0.4nm,0.4s,mb3.7,baz=353,slow=7.0,SNR=15						
ASAR				PcP	PcP	17 16 16.9	-0.3
	0.4nm,0.7s,baz=357,slow=3.1,SNR=4.7						
LSA	Lhasa	39.17	306	eP	P	17 14 23.9	-0.3
	1.9nm,0.5s,mb4.1						
ULN	Ulaanbaatar	41.94	340	eP	P	17 14 46.7	0.0
	1.4nm,0.5s,mb3.9						
SONM	Songino Array	42.14	339	P	P	17 14 48.5	+0.1
	0.3nm,0.4s,mb3.3,baz=155,slow=9.0,SNR=5.7						
STKA	Stephens Creek	43.30	162	P	P	17 14 58.2	+0.2
	2.4nm,1.0s,mb3.9,slow=6.1,SNR=2.2						
ZAL	Zalesovo	55.79	331	P	P	17 16 31.3	-2.4
	0.7nm,0.3s,mb4.1,baz=264,slow=1.3,SNR=4.0						
KURK	Kurchatov	57.25	326	P	P	17 16 42.0	-2.2
	39nm,1.1s,mb5.3,SNR=9.9						
KURK	Kurchatov	57.25	326	eP	P	17 16 41.9	-2.4
	5.5nm,1.0s,mb4.5						
CHKZ	Chkalovo	62.97	326	eP	P	17 17 20.7	-2.6
	0.9nm,0.6s,mb4.1						
ARCES	ARCESS Array B	85.31	340	P	P	17 19 33.1	+0.8
	6.6nm,1.0s,mb4.7,baz=76,slow=6.0,SNR=8.9						
FINES	FINESS Array B	87.05	332	P	P	17 19 41.6	+0.6
	0.5nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=7.1						
YKA	Yellowknife Ar	94.28	24	P	P	17 20 17.5	+2.8
	0.3nm,0.6s,mb3.9,baz=302,slow=4.3,SNR=8.3						
PLCA	Paso Flores	145.07	156	PKPbc	PKPbc	17 26 35.2	+2.7
	1.1nm,0.9s,baz=274,slow=5.2,SNR=3.5						
PLCA	Paso Flores	145.07	156	PKPbc	PKPbc	17 26 35.2	+2.7

IDC 01 17:12:14.6±7.2**, 25.09N**×**144.40E, h281**km±30km**, mb2.7**/3**, mb1 2.8**/4**, mb1mx2.7**/21**, mbtmp3.4**/4**, Error ellipse: s-maj=184.7km s-min=25.5km az=73.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.82	316	P	P	17 13 06.8	-0.8
	2.3nm,0.3s,baz=279,slow=21,SNR=3.2						
CBIJ				S	S	17 13 49.8	+0.8
	4.0nm,0.3s,baz=296,slow=23,SNR=2.7						
SONM	Songino Array	37.53	317	P	P	17 19 02.0	-1.4
	0.9nm,1.2s,baz=112,slow=7.8,SNR=3.6						
WRA	Warramunga Arr	45.82	193	P	P	17 20 08.7	-1.9
	0.1nm,0.2s,baz=13,slow=8.5,SNR=9.4						
ASAR	Alice Springs	49.52	193	P	P	17 20 37.5	-1.5
	0.8nm,1.2s,baz=14,slow=7.4,SNR=3.8						

IDC 01 17:12:03.5±3.3, 7.28N×125.94E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=173.2km s-min=31.2km az=89.0
MAN 01 17:12:26.5, 5.75N×125.87E, h107km, mb4.4, ML3.2, MS3.1
ISC 01 17:12:26.5±0.8**, 6.2N**±0.4×**126.1E**±0.2**, h146**km±25km**, n10,** σ**0.̊57**/12**, mb3.4**/4**, 1D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	Mati	0.76	15	eP	P	17 12 50.5	+1.1
MATI				eS	S	17 13 06.4	-0.6
KCP	Kidapawan	1.25	310	⇓iP	P	17 12 54.1	+0.6
KCP				iS	S	17 13 13.9	-0.4
BUKP	Musuan	1.93	329	eP	P	17 13 00.4	-0.5
BUTP	Butuan	2.78	351	eP	P	17 13 17.1	+5.4
PAGZ	Pagadian	3.11	302	eP	P	17 13 16.1	+0.1
IPIL	Ipil	3.80	295	eP	P	17 13 25.1	+0.2
WRA	Warramunga Arr	27.23	163	P	P	17 17 58.3	-0.8
	0.3nm,0.6s,mb3.1,baz=343,slow=11,SNR=7.4						
ASAR	Alice Springs	30.66	166	P	P	17 18 29.4	-0.2
	0.3nm,0.4s,mb3.4,baz=345,slow=7.6,SNR=7.8						
STKA	Stephens Creek	40.67	160	P	P	17 19 54.6	+0.6
	3.0nm,1.0s,mb3.9,slow=7.1,SNR=2.5						
ILAR	Eielson Array	83.17	26	P	P	17 24 26.6	-11
	0.5nm,0.8s,mb3.3,baz=247,slow=6.9,SNR=4.3						

IDC 01 17:30:41.9±1.0, 67.07N×21.18E, mb1 2.8/4, mb1mx2.8/20, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=19.5km s-min=9.0km az=111.0
HEL 01 17:30:41.8±0.1, 67.08N×20.91E, ML1.6, ML2.0(UPP), Explosion
ISC 01 17:30:40.3±0.4**, 67.04N**±0.03×**20.91E**±0.09**, n22,** σ**1.̊14**/28**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.15	301	iP	Pg	17 30 44.3	+0.9
MASU	Masugnsbyn	0.59	45	iP	Pg	17 30 51.9	-0.3
ERTU	Ertsjaerv	0.71	133	iP	Pg	17 30 54.7	+0.3
PAJU	Pajala	0.86	90	iP	Pg	17 30 57.0	-0.6
KUA	Kurravaara	0.94	347	eP	Pg	17 30 57.9	-1.2
LANU	Lannavaara	1.09	22	eP	Pb	17 31 00.5	-1.3
NIKU	Nikkaluokta	1.10	320	eP	Pb	17 31 01.0	-0.9
SJUU	Sjulsmark	1.57	169	eP	Pn	17 31 10.3	+0.8
LILU	Lilltraesk	1.82	194	eP	Pn	17 31 14.3	+1.2
KIF	Kilpisjarvi	1.97	359	eP	Pn	17 31 16.6	+1.2
KIF				eS	Sn	17 31 42.9	+1.8
KTK1	Kautokeino	2.16	23	eP	Pn	17 31 19.7	+1.6
SGF	Sodankyl	2.22	77	eP	Pn	17 31 19.9	+1.0
SGF				eSG	Sg	17 31 50.5	-3.8
MOR8	Moi Rana	2.73	254	ePB	Pn	17 31 26.8	+0.7
MOR8	Moi Rana	2.73	254	e	Pn	17 31 26.8	+0.7
OUL	Oulu	2.83	132	eP	Pn	17 31 29.3	+1.8
OUL				MSG		17 32 12.9	
	comp=Z,1.5nm,0.2s						
ARCES	ARCESS Array B	3.03	32	Pn	Pn	17 31 30.0	-0.4
	comp=Z,0.6nm,0.3s,baz=209,slow=14,SNR=70						
ARCES				Sn	Sn	17 32 07.3	-0.7
	comp=Z,0.4nm,0.3s,baz=215,slow=25,SNR=6.4						
MSF	Maaselka	3.45	105	eP	Pn	17 31 36.3	-0.1
MSF				eSB	Sb	17 32 25.7	+0.8
KU4	Liikasenvaara	3.51	97	eP	Pn	17 31 38.0	+0.7
KEV	Kevo	3.54	37	eP	Pn	17 31 36.5	-1.1
KEV				eS	Sn	17 32 20.1	-0.6
KEV				MSG		17 32 27.1	
	comp=Z,1.1nm,0.2s						
FINES	FINESS Array B	6.05	156	Pn	Pn	17 32 12.8	-0.5
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=6.0						
FINES				Sn	Sn	17 33 21.5	-2.7
	comp=Z,0.2nm,0.3s,baz=346,slow=21,SNR=6.0						
NOA	NORSAR Array B	7.37	220	Pn	Pn	17 32 30.2	-1.6
	comp=Z,0.1nm,0.3s,baz=21,slow=23,SNR=2.6						
HFS	Hagfors	7.64	208	Pn	Pn	17 32 33.8	-1.7
	comp=Z,0.0nm,0.3s,baz=21,slow=12,SNR=4.7						

NEIC 01 17:39:09.9, 15.59N×61.48W, h10km, MD3.6(TRN), After TRN.
TRN 01 17:39:11.2, 15.65N×61.48W, h5km**, MD3.6, M2.9**(FDF)**, Md2.8**(FDF)**, 1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBL	Barber’s Block	0.12	175	⇑iP	Pg	17 39 13.3	-0.5
BBL				eS	Sg	17 39 15.3	-0.2
MDN	Morne-Daniel	0.34	165	eP	Pg	17 39 17.5	-0.5
MDN				eS	Sg	17 39 23.1	+0.5
DBCT	Belle View Cho	0.40	161	eP	Pg	17 39 18.6	-0.5
DSHT	Scott’s Head	0.45	166	eP	Pg	17 39 19.6	-0.6

IDC 01 18:51:47.9±7.4, 4.87S×152.79E, h94km±54km, mb3.5/6, mb1 3.6/7, mb1mx3.6/14, mbtmp3.8/7, Error ellipse: s-maj=66.7km s-min=26.0km az=94.0
NEIC 01 18:51:48.1±4.4, 4.79S×152.61E, h94km±31km, mb4.2/4, Error ellipse: s-maj=47.5km s-min=18.2km az=86.0
ISC 01 18:51:42.7±5.0**, 4.7S**±0.1×**152.9E**±0.2**, h69**km±39km**, n13,** σ**0.̊71**/13**, mb3.8**/10**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.35	230	P	P	18 53 29.1	-0.5
	0.7nm,0.3s,baz=4.7,slow=13,SNR=5.7						
PMG				S	S	18 54 52.8	+0.6
	0.8nm,0.3s,baz=112,slow=21,SNR=2.9						
WRAB	Tennant Creek	23.55	229	eP	P	18 56 47.6	-0.1
	5.1nm,0.7s,mb4.0						
WRA	Warramunga Arr	23.57	229	P	P	18 56 47.9	0.0
	1.3nm,0.5s,mb3.5,baz=52,slow=9.6,SNR=27						
ASAR	Alice Springs	26.27	222	P	P	18 57 12.2	-1.3
	0.5nm,0.5s,mb3.2,baz=58,slow=8.8,SNR=8.1						
STKA	Stephens Creek	29.01	200	P	P	18 57 38.9	+0.6
	1.9nm,0.8s,mb3.8,baz=18,slow=9.6,SNR=3.2						
STKA	Stephens Creek	29.01	200	P	P	18 57 38.9	+0.6
CMAR	Chiang Mai Arr	57.94	295	P	P	19 01 30.6	0.0
	0.4nm,0.6s,mb3.6,baz=122,slow=4.9,SNR=4.1						
SONM	Songino Array	66.32	328	P	P	19 02 27.7	+1.6
	0.3nm,0.4s,mb3.4,baz=143,slow=6.1,SNR=9.8						
SBA	Scott Base	73.44	177	P	P	19 03 09.4	+0.5
	13nm,1.1s,mb4.7						
ZAL	Zalesovo	81.16	326	P	P	19 03 52.1	-0.1
	0.6nm,0.3s,mb3.9,baz=328,slow=7.0,SNR=3.9						
AAK	Ala-Archa	84.69	313	P	P	19 04 09.8	-0.6
	1.5nm,0.6s,mb4.1						
CHKZ	Chkalovo	89.21	324	eP	P	19 04 31.5	-0.5
	1.9nm,0.8s,mb4.2						
DBIC	Dimbokro	157.78	276	PKPab	PKPab	19 12 07.1	-0.4
	0.8nm,0.7s,baz=25,slow=23,SNR=3.7						

IDC 01 19:06:58.9±1.4**, 2.56N**×**125.54E, mb3.7**/4**, mb1 4.0**/4**, mb1mx3.7**/16**, mbtmp3.8**/4**, Error ellipse: s-maj=169.5km s-min=23.2km az=71.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.97	159	P	P	19 12 14.8	-1.3
	3.4nm,0.6s,baz=337,slow=11,SNR=36						
ASAR	Alice Springs	27.31	163	P	P	19 12 47.1	-0.3
	0.3nm,0.6s,baz=350,slow=16,SNR=4.8						
STKA	Stephens Creek	37.49	157	P	P	19 14 13.9	-2.4
	2.2nm,0.4s,baz=325,slow=9.9,SNR=8.2						
SONM	Songino Array	48.04	343	P	P	19 15 39.7	-2.2
	0.1nm,0.4s,baz=161,slow=9.6,SNR=3.8						

IDC 01 19:09:14.6±7.2, 24.45S×179.57W, h462km±73km, mb3.4/5, mb1 3.5/6, mb1mx3.3/16, mbtmp4.3/6, Error ellipse: s-maj=53.2km s-min=25.6km az=48.0
NEIC 01 19:09:18.2±2.2, 24.63S×179.74W, h500km±19km, mb4.1/2, Error ellipse: s-maj=29.1km s-min=14.3km az=55.0
ISC 01 19:09:09.8±4.3**, 24.1S**±0.2×**178.8W**±0.5**, h492**km±33km**, n17,** σ**0.̊57**/14**, mb4.1**/8**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	13.70	275	eP	P	19 12 06.7	-0.5
DZM	Mont Dzumac	13.70	275	eP	P	19 12 06.7	-0.5
NOUC	Port Laguerre	13.82	275	eP	P	19 12 08.6	+0.1
NOUC	Port Laguerre	13.82	275	eP	P	19 12 08.6	+0.1
URZ	Urewera	14.56	193	P	P	19 12 16.1	+0.1
	2.8nm,0.3s,baz=267,slow=2.5,SNR=9.2						
URZ				S	S	19 14 46.7	+0.4
	0.7nm,0.3s,baz=251,slow=23,SNR=5.8						
RPZ	Rata Peaks	21.28	201	P	P	19 13 20.7	-0.6
	3.5nm,0.5s,mb4.2,baz=148,slow=18,SNR=5.5						
CTAO	Charters Tower	32.54	270	eP	P	19 15 01.1	+0.4
	25nm,0.4s,mb5.0						
PMG	Port Moresby	35.56	288	P	P	19 15 27.4	+1.5
	5.4nm,0.7s,mb4.1,baz=63,slow=4.5,SNR=4.3						
STKA	Stephens Creek	35.65	248	P	P	19 15 26.6	0.0
	1.7nm,0.5s,mb3.7,baz=97,slow=10,SNR=11						
ASAR	Alice Springs	43.06	261	P	P	19 16 26.9	+0.2
	4.5nm,1.0s,mb3.8,baz=97,slow=8.3,SNR=14						
WRAB	Tennant Creek	43.45	266	eP	P	19 16 29.1	-0.8
	2.7nm,0.5s,mb3.9						
WRA	Warramunga Arr	43.46	266	P	P	19 16 29.6	-0.4
	2.5nm,0.5s,mb3.9,baz=104,slow=8.0,SNR=48						
MBWA	Marble Bar	56.39	260	P	P	19 18 05.3	-0.3
	8.8nm,0.9s,mb4.1						
BVAR	Borovoye Array	121.27	319	PKP	PKPdf	19 27 13.2	+7.3
	0.3nm,0.3s,baz=45,slow=2.0,SNR=5.2						
FINES	FINESS Array B	138.94	342	PKP	PKPdf	19 27 48.6	+10
	0.8nm,0.8s,baz=198,slow=4.4,SNR=3.6						
AKASG	Malin Array Be	145.69	328	PKPbc	PKPbc	19 27 60.0	+7.7
	0.9nm,0.4s,baz=44,slow=4.0,SNR=9.2						
AKASG	Malin Array Be	145.69	328	PKPbc	PKPbc	19 27 60.0	+7.7

IDC 01 19:22:36.7±0.5, 5.40N×94.32E, mb4.7/17, mb1 4.8/18, mb1mx4.7/21, mbtmp4.7/18, ML4.6/1, MS4.0/11, Ms1 4.0/11, ms1mx3.8/25, Error ellipse: s-maj=20.9km s-min=14.0km az=49.0
MOS 01 19:22:40.2±0.8, 5.50N×94.42E, h33km, mb4.9/13, Error ellipse: s-maj=15.8km s-min=8.5km az=119.0
BJI 01 19:22:41.8, 5.14N×94.42E, h70km, mB5.1, mb4.6, Ms4.3, Msz4.1
NEIC 01 19:22:43.9±0.3, 5.41N×94.34E, mb4.7/25, Error ellipse: s-maj=8.6km s-min=6.0km az=220.0
ISC 01 19:22:40.9±0.8**, 5.34N**±0.04×**94.32E**±0.04**, h43**km±7km**, h48**km±2.3km**:pP-P, n152,** σ**1.̊04**/152**, mb4.8**/59**, MS4.0**/23**, 8C-11D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.31	90	eP	P	19 24 13.4	-0.3
IPM	Ipoh	6.73	96	P	P	19 24 19.4	-0.3
NNT	Nongplab	8.97	36	P	P	19 24 51.5	+0.7
BDT	Bhumibol Dam	12.69	21	P	P	19 25 43.0	+1.6
KKTK	Khon Kaen	13.75	37	P	P	19 26 02.0	+6.5
	432nm,0.9s						
CM31	Chiang Mai Arr	13.79	19	P	P	19 25 53.5	-2.6
	9.4nm,0.3s						
CMAR	Chiang Mai Arr	13.79	19	Pn	P	19 25 59.4	+3.3
	0.9nm,0.3s,baz=208,slow=14,SNR=25						
CMAR				ScP		19 34 49.1	
	baz=227,slow=3.1,SNR=9.4						
NANT	Nan	14.75	24	P	P	19 26 13.0	+4.4
CHRT	Chiangrai	15.39	20	⇓P	P	19 26 28.5	+12
VIS	Vishakhapatnam	16.33	320	eP	P	19 26 28.2	-0.7
VIS				e		19 26 30.8	
	comp=Z,12nm,0.3s						
VIS				e		19 29 16.4	
KSM	Kuching	16.42	103	eP	P	19 26 31.7	+1.7
BWNR	Bhubaneshwar	17.01	332	eP	P	19 26 34.9	-2.5
BWNR				e		19 26 38.0	
	comp=Z,36nm,0.6s						
BWNR				e		19 29 29.1	
TRD	Trivandrum	17.52	281	e	P	19 26 58.2	+14
TRD				i		19 29 48.2	
HYB	Hyderabad	19.54	309	⇓eP	P	19 27 08.0	+0.1
HYB				eS	S	19 30 45.0	+4.3
HYB	Hyderabad	19.54	309	⇓iP	P	19 27 08.0	+0.1
HYB				eS	S	19 30 45.0	+4.3
SHL	Shillong	20.24	354	eP	P	19 27 11.0	-4.3
QIZ	Qiongzhong	20.35	47	P	P	19 27 17.2	+0.7
QIZ				S	S	19 30 58.8	+1.6
QIZ				XS		19 31 12.8	
QIZ				LR	LR		
	comp=N,585nm,15.4s,MS4.2						
QIZ				LR	LR		
	comp=E,541nm,15.9s,MS4.2						
BLSP	Bilaspur	20.43	326	eP	P	19 27 15.2	-2.2
BLSP				e		19 27 22.3	
	comp=Z,83nm,1.4s						
BLSP				e		19 30 55.3	
MNGI	Mangalore	20.66	293	i	P	19 27 33.6	+14
MNGI				eS	S	19 31 11.3	+8.1
KMI	Kunming	21.26	21	P	P	19 27 26.5	+0.7
KMI				PP	PP	19 27 51.0	+0.9
KMI				S	S	19 31 17.2	+2.6
KMI				SS	SS	19 31 50.3	+0.1
KMI				AMB	AMB		
	comp=Z,112nm,4.6s						
KMI				LR	LR		
	comp=N,230nm,16.0s,MS3.8						
KMI				LR	LR		
	comp=E,300nm,18.7s,MS3.8						
KMI				LR	LR		
	comp=Z,244nm,23.1s,MS3.5						
KMI	Kunming	21.26	21	P	P	19 27 26.5	+0.7
	comp=Z,0.1nm,4.6s						
KMI				pP		19 27 34.1	
KMI				sP		19 27 37.6	
KMI				PP	PP	19 27 51.0	+0.9
KMI				S	S	19 31 17.2	+2.6
KMI				sS		19 31 32.0	
KMI				SS	SS	19 31 50.3	+0.1
KKM	Kota Kinabalu	21.80	87	P	P	19 27 23.4	-7.8
KAD	Karad	23.01	303	eP	P	19 27 44.0	+0.7
JIRN	Jiri	23.50	342	eP	P	19 27 49.1	+1.2
	comp=Z,48nm,0.8s,mb5.0						
PKI	Pulchoki	23.68	340	eP	P	19 27 49.8	+0.2
	comp=Z,18nm,0.6s,mb4.7						
DMN	Daman	23.82	339	eP	P	19 27 51.1	+0.1
	comp=Z,28nm,0.7s,mb4.8						
POO	Poona	23.89	305	eP	P	19 27 55.0	+3.2
KKN	Kakani	23.92	340	eP	P	19 27 52.0	0.0
	comp=Z,38nm,0.8s,mb4.9						
GYA	Guiyang	24.08	28	⇑iP	P	19 27 54.3	+0.7
GYA				AP		19 28 04.6	
GYA				PP	PP	19 28 26.9	-2.0
GYA				S	S	19 32 07.1	+1.9
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.0						
GYA				LR	LR		
	comp=N,270nm,17.6s,MS4.0						
GYA				LR	LR		
	comp=E,360nm,17.6s,MS4.0						
GYA				LR	LR		
	comp=Z,450nm,15.6s,MS4.0						
BHPL	Bhopal	24.13	319	eP	P	19 27 56.3	+2.3
BHPL				e		19 28 00.4	
	comp=Z,23nm,1.1s						
GKN	Gorkha	24.34	339	eP	P	19 27 56.9	+0.8
	comp=Z,36nm,0.4s,mb5.1						
LSA	Lhasa	24.41	353	P	P	19 27 58.4	+1.6
LSA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
LSA	Lhasa	24.41	353	eP	P	19 27 55.8	-1.0
	comp=Z,12nm,0.5s,mb4.6						
KOLN	Koldanda	24.52	337	eP	P	19 27 58.9	+1.0
	comp=Z,24nm,0.4s,mb5.1						

DGAR Diego Garcia 25.23 240 *i* P **P** **19 28 06.2 +1.4**
ENH Enshi 28.62 28 *e*P **P** **19 28 33.8 -1.9**
comp=Z,15nm,0.8s,mb4.8
WHN Wuhan 31.37 35 P **P** **19 29 00.0 0.0**
XAN Xi'an 31.61 24 P **P** **19 29 00.4 -1.7**
XAN AMB AMB
comp=Z,18nm,1.0s,mb4.9
LZH Lanzhou 31.82 15 *e*P **P** **19 29 03.8 -0.2**
LZH PP PP 19 30 10.2 -0.1
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,111nm,5.5s
LZH LR LR
comp=N,446nm,13.1s
LZH LR LR
comp=Z,589nm,16.9s,MS4.3
LZH Lanzhou 31.82 15 *e*P **P** **19 29 03.8 -0.2**
comp=Z,27nm,1.3s,mb4.9
LZH pP pP 19 29 12.8 -2.8
LZH sP sP 19 29 16.7 -4.4
LZH PP PP 19 30 10.2 -0.1
GTA Gaotai 34.28 8 P **P** **19 29 24.9 -0.3**
GTA PP PP 19 30 39.5 -1.6
GTA PCP PcP 19 32 01.7 +0.7
GTA S **S** **19 34 47.6 -0.7**
GTA SS SS 19 36 56.9 -2.6
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,84nm,12.0s
GTA LR LR
comp=N,98nm,28.1s,MS3.5
GTA LR LR
comp=E,85nm,24.0s,MS3.5
GTA LR LR
comp=Z,168nm,28.9s,MS3.6
NJ2 Nanjing 35.11 38 *e*P **P** **19 29 33.1 +0.7**
NJ2 PP PP 19 30 52.2 +0.3
NJ2 S **S** **19 35 03.0 +1.7**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,3.8s
NJ2 LR LR
comp=N,340nm,21.0s,MS4.5
NJ2 LR LR
comp=E,810nm,21.1s,MS4.5
NJ2 LR LR
comp=Z,1μm,25.3s,MS4.5
SSE Sheshan 35.95 41 P **P** **19 29 38.0 -1.6**
SSE S **S** **19 35 14.0 -0.3**
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,94nm,6.5s
SSE LR LR
comp=N,163nm,20.1s,MS3.8
SSE LR LR
comp=E,56nm,20.0s,MS3.8
SSE LR LR
comp=Z,118nm,22.6s,MS3.6
SSE Sheshan 35.95 41 P **P** **19 29 38.0 -1.6**
comp=Z,40nm,0.7s,mb5.5
SSE S **S** **19 35 14.0 -0.3**
SSE sS 19 35 25.6
FITZ Fitzroy Crossi 38.70 128⇑ *i*P **P** **19 30 02.1 -0.5**
comp=Z,34nm,0.7s,mb5.2
WMQ Urumqi 38.76 352 *e*P **P** **19 30 03.8 +0.9**
WMQ AP pP 19 30 15.3 +0.5
WMQ PP PP 19 31 37.0 +1.1
WMQ PPP PPP 19 31 59.5 +0.1
WMQ S **S** **19 35 58.0 +1.0**
WMQ SS SS 19 38 40.5 -0.2
WMQ AMB AMB
comp=Z,7.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,163nm,4.6s
WMQ LR LR
comp=N,321nm,18.6s,MS4.4
WMQ LR LR
comp=E,406nm,17.8s,MS4.4
WMQ LR LR
comp=Z,288nm,20.0s,MS4.1
JOW Kunigami 38.78 53 P **P** **19 30 04.2 +0.9**
comp=Z,15nm,0.5s,mb5.0,baz=135,slow=25,SNR=7.3
BJT Baijiatuan 39.74 27 *e*P **P** **19 30 11.9 +0.8**
comp=Z,7.9nm,0.6s,mb4.6
BJI Beijing 39.76 27 P **P** **19 30 11.6 +0.4**
comp=Z,15nm,1.0s,mb4.7
BJI S **S** **19 36 10.4 -1.6**
AAK Ala-Archa 41.09 338 *i* P **P** **19 30 22.6 +0.4**
AAK pmax pmax
comp=Z,11nm,1.5s,mb4.3
AAK Ala-Archa 41.09 338 *e*P **P** **19 30 21.4 -0.9**
comp=Z,7.4nm,0.8s,mb4.4
MKAR Makanchi Array 42.58 348 *i* P **P** **19 30 34.5 0.0**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
SONM Songino Array 43.58 12 P **P** **19 30 42.4 -0.3**
comp=Z,4.0nm,0.9s,mb4.2,baz=197,slow=7.3,SNR=33
SONM PcP PcP 19 32 30.5 +0.3
comp=Z,0.9nm,0.4s,baz=197,slow=3.6,SNR=6.4
SONM ScP 19 36 18.7
comp=Z,1.3nm,0.8s,baz=203,slow=4.3,SNR=6.9
ULN Ulaanbaatar 43.75 12 *i* P **P** **19 30 43.3 -0.7**
ULN Ulaanbaatar 43.75 12 *e*P **P** **19 30 42.6 -1.3**
comp=Z,5.4nm,0.7s,mb4.4
ZAK Zakamensk 45.51 8 *e*P **P** **19 30 57.8 -0.3**
ZAK *e* 19 32 30.8
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.8
WRA Warramunga Arr 46.69 124 *i* P **P** **19 31 07.6 -0.1**
WRA pmax pmax
comp=Z,42nm,0.8s
WRA Warramunga Arr 46.69 124 P **P** **19 31 07.6 -0.1**
comp=Z,42nm,0.8s,mb5.4,baz=301,slow=9.5,SNR=267
WRAB Tennant Creek 46.69 124*c* *i*P **P** **19 31 07.8 +0.1**
WRAB Tennant Creek 46.69 124 *e*P **P** **19 31 07.7 -0.1**
comp=Z,72nm,0.8s,mb5.7
CN2 Changchun 47.08 31 *e*P **P** **19 31 10.2 -0.3**
CN2 PCP PcP 19 32 41.8 -0.6
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,200nm,15.0s,MS4.3
CN2 LR LR
comp=E,200nm,15.0s,MS4.3
CN2 LR LR
comp=Z,300nm,15.0s,MS4.4
KURK Kurchatov 47.09 346 P **P** **19 31 10.9 +0.4**
comp=Z,143nm,1.2s,mb5.8,SNR=35
KURK Kurchatov 47.09 346 P **P** **19 31 10.7 +0.2**
KURK pmax pmax
comp=Z,18nm,1.2s,mb4.9
KURK Kurchatov 47.09 346 *e*P **P** **19 31 10.4 0.0**
comp=Z,11nm,0.6s,mb5.0
ASPA Alice Springs 48.19 128⇑ *i*P **P** **19 31 19.3 -0.1**
ASAR Alice Springs 48.19 128 P **P** **19 31 19.4 -0.1**
comp=Z,13nm,0.6s,mb5.2,baz=299,slow=7.4,SNR=192
ASAR LR LR 19 50 48.9
comp=Z,107nm,20.6s,MS3.8,baz=306,slow=35
ZAL Zalesovo 49.06 353 P **P** **19 31 25.8 0.0**
comp=Z,7.4nm,0.3s,mb5.1,baz=304,slow=5.7,SNR=33
MDJ Mudanjiang 49.81 33 P **P** **19 31 31.7 0.0**
MDJ PCP PcP 19 32 51.2 -1.0
MDJ PP PP 19 33 25.7 -1.6
MDJ PCS 19 36 48.1
MDJ S **S** **19 38 39.0 +2.2**
MDJ AMB AMB
comp=Z,9.0nm,1.5s,mb4.6
MDJ AMB AMB
comp=Z,27nm,4.0s
MDJ LR LR
comp=N,48nm,26.6s,MS3.7
MDJ LR LR
comp=E,71nm,22.7s,MS3.7
MDJ LR LR
comp=Z,61nm,25.6s,MS3.5
NVS Novosibirsk 50.16 352 *e*P **P** **19 31 32.9 -1.3**
NVS *e*S **S** **19 38 39.8 -1.7**
NVS pmax pmax
comp=Z,16nm,1.3s,mb4.9
NVS pmax pmax
comp=N,11nm,1.4s
NVS smax
comp=N,19nm,2.0s
NVS smax
comp=E,26nm,2.5s
RAYN Ar Rayn 50.32 296 P **P** **19 31 36.8 +1.0**
comp=E,60nm,1.2s,SNR=9.6
CBIJ Chichi jima 50.40 59 P **P** **19 31 35.0 -1.4**
comp=E,65nm,0.7s,mb5.8,baz=291,slow=20,SNR=3.1
BVA0 Borovoye Array 51.43 342 *i* P **P** **19 31 43.0 -0.8**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 51.43 342 P **P** **19 31 43.1 -0.8**
comp=Z,7.1nm,0.7s,mb4.7,baz=140,slow=9.2,SNR=53
CHKZ Chkalovo 51.92 342 P **P** **19 31 47.2 -0.3**
CHKZ pmax pmax
comp=Z,26nm,1.0s,mb5.1
CHKZ Chkalovo 51.92 342 *e*P **P** **19 31 47.1 -0.4**
BOD Bodaibo 54.56 13 *e*P **P** **19 32 05.3 -1.7**
BOD pmax pmax
comp=Z,11nm,1.2s,mb4.8
PMG Port Moresby 54.66 105 *i* P **P** **19 32 08.5 +0.2**
GNI Garni 56.34 315 *i* P **P** **19 32 19.4 -0.7**
GNI pmax pmax
comp=Z,10.0nm,1.2s
CTA Charters Tower 56.95 118 LR LR 19 59 06.4
comp=Z,172nm,19.5s,MS4.2,baz=279,slow=38
ASAJ Asahikawa 57.22 40 LR LR 19 57 38.1
comp=Z,70nm,19.2s,MS3.8,baz=169,slow=37
KMBO Kilima Mbogo 57.35 265 *i* P **P** **19 32 29.5 +1.8**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 57.35 265 P **P** **19 32 29.4 +1.6**
comp=Z,3.3nm,0.8s,mb4.4,baz=55,slow=9.1,SNR=11
KMBO LR LR 19 52 49.6
comp=Z,170nm,21.4s,MS4.1,baz=95,slow=32
KMBO Kilima Mbogo 57.35 265 *e*P **P** **19 32 25.9 -1.8**
comp=Z,2.5nm,0.8s,mb4.3
SVE Sverdlovsk 57.81 339 *e*P **P** **19 32 33.8 +3.5**
SVE *e* 19 32 52.8
SVE MLR MLR
comp=Z,100nm,22.0s,MS3.9
STKA Stephens Creek 58.26 133⇑ *i*P **P** **19 32 33.3 -0.5**
comp=Z,12nm,0.9s,mb4.9
STKA Stephens Creek 58.26 133 P **P** **19 32 33.4 -0.4**
comp=Z,13nm,0.8s,mb5.0,baz=303,slow=6.9,SNR=17
STKA LR LR 19 58 05.5
comp=Z,181nm,18.2s,MS4.2,baz=117,slow=36
YSS Yuzh-Sakhalins 58.67 37 *e*P **P** **19 32 35.8 -0.6**
KIV Kislovodsk 59.31 319 *e*P **P** **19 32 39.0 -1.9**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KIV MLR MLR
comp=Z,31nm,16.0s,MS3.5
KIV MLR MLR
comp=N,12nm,16.0s
ASF Jabal al Asfar 59.75 304 LR LR 19 59 20.5
comp=N,143nm,20.2s,MS4.1,baz=147,slow=37
EIL Elat 60.85 301 LR LR 19 59 07.0
comp=N,172nm,18.9s,MS4.2,baz=298,slow=36
SOC Sochi 61.14 317 *e*P **P** **19 32 50.5 -2.9**
SOC *e* 19 33 39.2
SOC *e*S **S** **19 41 07.1 -0.8**
SOC *e* 19 42 44.5
SOC *e*SS SS 19 45 08.1 -1.5
SOC pmax pmax
comp=Z,21nm,1.1s,mb5.2
SOC pmax pmax
comp=N,3.0nm,0.7s
SOC pmax pmax
comp=E,13nm,1.0s
YAK Yakutsk 62.33 18*d* *i*P **P** **19 32 59.3 -1.8**
YAK pmax pmax
comp=Z,13nm,1.3s,mb4.9
YAK Yakutsk 62.33 18 *e*P **P** **19 32 58.9 -2.3**
comp=Z,7.4nm,0.8s,mb4.9
BRTR Keskin Array B 64.22 312 P **P** **19 33 13.2 -0.8**
comp=Z,4.2nm,0.8s,mb4.5,baz=127,slow=7.5,SNR=16
OBN Obninsk 67.61 328⇓ *e*P **P** **19 33 34.0 -1.2**
OBN *e* 19 34 08.8
OBN *e* 19 43 27.9
OBN pmax pmax
comp=Z,17nm,1.2s,mb5.0
AKASG Malin Array Be 70.24 322 P **P** **19 33 50.0 -1.6**
comp=Z,5.8nm,0.9s,mb4.5,baz=88,slow=5.0,SNR=25
VRI Vrincioaia 70.64 317⇑ P **P** **19 33 54.6 +0.5**
MLR Muntele Rosu 71.10 316⇓ P **P** **19 33 57.2 +0.3**
BURAR Bucovina Array 72.03 318⇓ P **P** **19 34 00.7 -1.7**
BURAR Bucovina Array 72.03 318⇓ P **P** **19 34 00.7 -1.6**
VSU Vasula 73.84 330 *i* P **P** **19 34 13.8 +1.0**
KOLS Kolonicke sedl 74.22 319 *e*P **P** **19 34 16.8 +1.6**
KOLS *e*pP pP 19 34 31.9 +4.0
SUW Suwalki 74.65 325 *e*P **P** **19 34 17.2 -0.4**
CRVS Cervenica-Dubn 74.74 319 *e*pP pP 19 34 32.8 +1.9
FINES FINESS Array B 75.02 332 *i* P **P** **19 34 18.1 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 75.02 332 P **P** **19 34 19.0 -0.6**
comp=Z,2.0nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=12
FINES LR LR 20 11 07.4
comp=Z,81nm,19.1s,MS4.0,baz=77,slow=39
OJC Ojcow 76.02 320 *e*P **P** **19 34 25.6 +0.1**
MAW Mawson 76.11 192 P **P** **19 34 25.4 -0.3**
comp=Z,23nm,0.9s,mb5.1,baz=37,slow=10,SNR=2.4
OKC Ostrava-Krasne 77.02 320 *e*P **P** **19 34 31.8 +0.6**
MORC Moravsky Berou 77.40 320 *e*P **P** **19 34 33.4 +0.1**
comp=Z,10nm,1.3s,mb4.6
ZST Bratislava 77.52 318 *e*P **P** **19 34 33.7 -0.2**
ZST *e*pP pP 19 34 47.8 +1.1
ARCES ARCESS Array B 77.69 340 P **P** **19 34 33.9 -0.6**
comp=Z,3.1nm,0.9s,mb4.2,baz=98,slow=6.1,SNR=12
ARCES LR LR 20 11 39.4
comp=Z,107nm,19.8s,MS4.2,baz=35,slow=38
ARCES ARCESS Array B 77.69 340 P **P** **19 34 33.9 -0.6**
KOGS Kog 77.92 316 *e*P **P** **19 34 36.7 +0.5**
KOGS *e* pP 19 34 50.2 +1.2
DPC Dobruska-Polom 78.25 320 *e*P **P** **19 34 38.7 +0.8**
KSP Ksiaz 78.31 321 *e*P **P** **19 34 39.0 +0.7**
KSP Ksiaz 78.31 321 *e*P **P** **19 34 39.2 +1.0**
BILL Bilibino 78.36 21 *i* P **P** **19 34 37.8 -0.4**
BILL pmax pmax
comp=Z,12nm,2.5s,mb4.4
BOJS Bojanci 78.55 315 *e*P **P** **19 34 39.8 +0.2**
BOJS *e* 19 34 56.0
PERS Pernice 78.72 316 *e*P **P** **19 34 41.3 +0.7**
PERS *e* 19 34 57.4
PRU Pruhonice 79.35 320 *e*P **P** **19 34 44.6 +0.6**
BRG Berggiesshubel 79.80 321 *e*P **P** **19 34 47.3 +0.9**
BRG *e* pP 19 35 00.5 +1.3
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 79.80 321 *e*P **P** **19 34 47.3 +0.9**
comp=Z,6.2nm,0.9s,mb4.5
BRG *e* pP 19 35 00.5 +1.3
ROBS Robic 79.81 316 *e*P **P** **19 34 44.5 -2.0**
ROBS *e* 19 35 02.6
GEC2 GERESS Array S 79.82 319 *e*P **P** **19 34 47.5 +1.0**
GERES GERESS Array B 79.82 319 P **P** **19 34 47.6 +1.0**
comp=Z,6.3nm,0.7s,mb4.7,baz=90,slow=5.3,SNR=66
KHC Kasperske Hory 79.92 319 *e*P **P** **19 34 46.8 -0.3**
KHC *e* 19 34 56.0
KHC Kasperske Hory 79.92 319 *e*P **P** **19 34 46.8 -0.3**
KHC x x 19 34 56.0
WTTA Wattenberg 81.13 317⇓ *i*P **P** **19 34 53.4 -0.1**
comp=Z,9.1nm,1.0s,mb4.7
SQTA Sankt Quirin 81.42 317⇓ *i*P **P** **19 34 55.1 +0.1**
comp=Z,4.8nm,0.9s,mb4.4
GRA1 Grafenberg Arr 81.48 319 *e*P **P** **19 34 55.9 +0.6**
comp=Z,6.0nm,0.8s,mb4.6
GRA1 *e*pP pP 19 35 11.2 +3.1
GRF Grafenberg Arr 81.48 319 *e*P **P** **19 34 55.9 +0.6**
GRF *e**PP pP 19 35 11.2 +3.1
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 81.48 319 *e*P **P** **19 34 55.9 +0.6**
comp=Z,6.0nm,0.8s,mb4.6
GRF *e*pP pP 19 35 11.2 +3.1
MOTA Moosalm 81.50 317⇓ *i*P **P** **19 34 55.2 -0.2**
comp=Z,6.8nm,1.4s,mb4.4
NB2 NORSAR Subarra 82.01 331 P **P** **19 34 57.7 -0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=95,slow=5.8
NOA NORSAR Array B 82.01 331 P **P** **19 34 57.9 +0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=93,slow=5.9,SNR=3.5
NOA LR LR 20 14 22.7
comp=Z,66nm,20.6s,MS4.0,baz=300,slow=38
DAVA Damuels 82.33 317⇑ *i*P **P** **19 34 59.8 +0.1**
comp=Z,5.5nm,0.8s,mb4.5
SYO Syowa Base 83.06 197⇑ pP pP 19 35 14.8 -1.1
LPG La Plagne 84.52 315 *e*P **P** **19 35 11.9 +1.0**
comp=Z,12nm,0.8s,mb4.8
JMIC Jan Mayen 89.15 341 LR LR 20 21 04.4
comp=Z,144nm,18.8s,MS4.4,baz=72,slow=39
IMA Indian Mountai 93.88 22 *e*P **P** **19 35 55.1 +0.4**
COLA College 96.59 22 *i* P **P** **19 36 07.8 +0.7**
ILAR Eielson Array 97.01 22 P **P** **19 36 08.9 -0.1**
comp=Z,0.4nm,0.7s,mb4.0,baz=311,slow=3.9,SNR=6.9
ULM Lac du Bonnet 123.93 8 PKP PKPdf 19 41 36.7 +2.0
comp=Z,1.3nm,0.6s,baz=359,slow=5.6,SNR=2.6
NVAR Mina Array Bea 126.97 32 PKP PKPdf 19 41 44.5 +3.5
comp=Z,0.9nm,0.6s,baz=302,slow=0.8,SNR=6.3
NVAR Mina Array Bea 126.97 32 PKP PKPdf 19 41 44.5 +3.5
PDAR Pinedale Array 127.44 22 PKP PKPdf 19 41 44.1 +2.4
comp=Z,1.3nm,0.9s,baz=135,slow=2.1,SNR=7.0
ANMO Albuquerque 135.40 25 PKP PKPdf 19 42 01.2 +4.3
comp=Z,0.9nm,0.4s,baz=69,slow=5.7,SNR=3.7
TXAR Lajitas Array 141.43 26 PKhKP 19 42 05.8
comp=Z,0.7nm,0.8s,baz=90,slow=1.3,SNR=3.1
TXAR PKP PKPdf 19 42 10.2 +2.0
comp=Z,0.6nm,0.5s,baz=149,slow=1.0,SNR=5.7
TXAR Lajitas Array 141.43 26 PKP PKPdf 19 42 05.8 -2.3
TXAR PKP PKPdf 19 42 10.2 +2.0
PLCA Paso Flores 142.24 199 PKhKP 19 42 08.2
comp=Z,1.5nm,0.9s,baz=149,slow=4.5,SNR=2.9
PLCA PKP PKPdf 19 42 12.5 +3.4
comp=Z,1.2nm,0.9s,baz=207,slow=3.5,SNR=3.6
PLCA Paso Flores 142.24 199 PKP PKPdf 19 42 08.2 -0.9
PLCA PKP PKPdf 19 42 12.5 +3.4

JSN 01 19:45:43.5±0.3, 17.87N×79.53W, h15km, MD3.7, 2C, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**1.75**	**88**	*e*S		Sn 19 46 33.6	-2.2
STH	**Stony Hill**	**2.59**	**85**⇑	*e*P		Pn 19 46 23.9	-1.9
STH				*e*S		Sn 19 46 54.3	-2.9
GWJ	**Greenwich**	**2.67**	**85**⇑	*e*P		Pn 19 46 25.3	-1.5

*IDC **01** 19:49:43.4±3.0, 48.81N×156.50E, mb3.8/13, mb1 4.0/13, mb1mx3.8/24, mbtmp3.8/13, Error ellipse: s-maj=80.5km s-min=23.4km az=2.0*
*MOS **01** 19:49:54.0±1.1, 49.47N×156.12E, h63km, mb4.5/3, Error ellipse: s-maj=21.0km s-min=7.8km az=85.2*
*NEIC **01** 19:49:55.7±2.0, 49.35N×156.39E, h73km±15km, mb4.3/5, Error ellipse: s-maj=20.7km s-min=13.1km az=155.0*
*KRSC **01** 19:49:56.6±1.1, 49.42N×156.75E, h38km±19km, ML4.5*
ISC 01 19:49:57.1±1.1, 49.54N±0.08×156.3E±0.1, h91km±8km, n50, σ1s95/66, mb3.8/16, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.15**	**354**	*e*PN	**P**	**19 50 14.0**	**-5.0**
SKR				*e*S	**S**	**19 50 29.0**	**-6.3**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,50nm,0.4s						
SKR				pmax	pmax		
	comp=Z,90nm,0.4s						
SKR				smax			
	comp=E,3μm,0.3s						
SKR				smax			
	comp=N,2μm,0.2s						
SKR				smax			
	comp=N,2μm,1.0s						
SKR				smax			
	comp=E,4μm,1.0s						
ALID	**Alaid**	**1.42**	**340**	*e*P	**P**	**19 50 23.1**	**+0.8**
PAU	**Pauzhetka**	**1.96**	**9**	*e*P	**P**	**19 50 29.6**	**+0.3**
PAU				*e*S	**S**	**19 50 53.1**	**+0.1**
RUS	**Russkaya**	**3.22**	**25**	P	**P**	**19 50 45.9**	**-0.8**
RUS				S	**S**	**19 51 21.5**	**-2.6**
RUS	**Russkaya**	**3.22**	**25**	*e*P	**P**	**19 50 45.9**	**-0.8**
RUS				*e*S	**S**	**19 51 21.6**	**-2.5**
GRL	**Gorelyy**	**3.22**	**20**	*e*P	**P**	**19 50 47.4**	**+0.7**
GRL				*e*S	**S**	**19 51 23.7**	**-0.4**
APC	**Apacha**	**3.44**	**9**	*e*P	**P**	**19 50 51.0**	**+1.3**
APC				*e*S	**S**	**19 51 29.6**	**+0.1**
APC				Smax			
	comp=E,50nm,0.6s						
KRMR	**Karymshinskiy**	**3.49**	**19**	*e*P	**P**	**19 50 51.5**	**+1.0**
KRMR				*e*S	**S**	**19 51 30.8**	**-0.1**
PET	**Petropavlovsk**	**3.79**	**22**	P	**P**	**19 50 54.5**	**-0.1**
PET				S	**S**	**19 51 36.8**	**-1.5**
PET	**Petropavlovsk**	**3.79**	**22**	*e*Pn	**P**	**19 50 54.4**	**-0.2**
PET	**Petropavlovsk**	**3.79**	**22**	*e*P	**P**	**19 50 54.5**	**-0.1**
PET				*e*S	**S**	**19 51 37.8**	**-0.5**
UGLR	**Uglovaya**	**4.00**	**22**	*e*P	**P**	**19 50 58.4**	**+0.9**
UGLR				*e*S	**S**	**19 51 44.1**	**+0.6**
AVH	**Avacha**	**4.03**	**21**	*e*P	**P**	**19 50 59.0**	**+1.1**
AVH				*e*S	**S**	**19 51 44.7**	**+0.5**
KOK	**Koryaka**	**4.04**	**20**	*e*P	**P**	**19 50 58.8**	**+0.9**
KOK				*e*S	**S**	**19 51 44.9**	**+0.6**
SDLR	**Sedlovina**	**4.08**	**22**	*e*P	**P**	**19 50 58.6**	**0.0**
SDLR				*e*S	**S**	**19 51 44.3**	**-1.1**
NLC	**Nalytchevo**	**4.11**	**27**	*e*P	**P**	**19 50 57.2**	**-1.7**
NLC				*e*S	**S**	**19 51 42.7**	**-3.4**
SPN	**Mys Shipunski**	**4.26**	**32**	P	**P**	**19 51 00.5**	**-0.6**
SPN				S	**S**	**19 51 45.8**	**-4.1**
SPN	**Mys Shipunski**	**4.26**	**32**	*e*P	**P**	**19 51 00.3**	**-0.8**
SPN				*e*S	**S**	**19 51 45.8**	**-4.1**
GNL	**Ganaly**	**4.29**	**13**	*e*P	**P**	**19 51 03.0**	**+1.6**
GNL				*e*S	**S**	**19 51 51.2**	**+0.6**
TUMR	**Tumrok**	**6.22**	**21**	*e*P	**P**	**19 51 27.2**	**-0.7**
KMNR	**Kamenistaya**	**6.67**	**20**	*e*P	**P**	**19 51 35.4**	**+1.2**
KBTR	**Krutoberegovo**	**7.76**	**28**	P	**P**	**19 51 47.2**	**-1.9**
KBTR	**Krutoberegovo**	**7.76**	**28**	*e*P	**P**	**19 51 47.3**	**-1.8**
MA2	**Magadan**	**10.55**	**344**	PN	**P**	**19 52 25.6**	**-1.1**
MA2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MA2	**Magadan**	**10.55**	**344**	P	**P**	**19 52 25.6**	**-1.2**
	comp=Z,5.6nm,0.7s						
MAT	**Matsushiro**	**18.47**	**232**	P	**P**	**19 54 06.4**	**-1.6**
BILL	**Bilibino**	**19.21**	**11**	P	**P**	**19 54 15.8**	**-0.2**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BILL	**Bilibino**	**19.21**	**11**	P	**P**	**19 54 15.8**	**-0.2**
	comp=Z,4.1nm,0.4s						
YAK	**Yakutsk**	**19.33**	**320**	P	**P**	**19 54 15.5**	**-1.7**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**19.33**	**320**	P	**P**	**19 54 15.5**	**-1.7**
	comp=Z,15nm,0.6s						
ILAR	**Eielson Array**	**33.04**	**41**	P	**P**	**19 56 24.6**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=244,slow=8.0,SNR=6.3						
ZAL	**Zalesovo**	**42.77**	**304**	P	**P**	**19 57 46.3**	**-0.2**
	comp=Z,0.7nm,0.4s,mb3.8,baz=72,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**47.41**	**39**	P	**P**	**19 58 23.7**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.1,baz=302,slow=8.1,SNR=4.0						
RES	**Resolute Bay**	**47.50**	**20**	*e*P	**P**	**19 58 26.0**	**+2.0**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
RES	**Resolute Bay**	**47.50**	**20**	*e*P	**P**	**19 58 26.0**	**+2.0**
	comp=Z,1.2nm,0.6s,mb3.9						
KURK	**Kurchatov**	**47.62**	**303**	*e*P	**P**	**19 58 24.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**47.62**	**303**	*e*P	**P**	**19 58 24.8**	**-0.5**
	comp=Z,3.5nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**50.29**	**310**	*e*P	**P**	**19 58 44.4**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**50.29**	**310**	*e*P	**P**	**19 58 44.4**	**-1.3**
	comp=Z,3.1nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**50.75**	**309**	P	**P**	**19 58 48.9**	**-0.4**
	comp=Z,1.2nm,0.3s,mb4.3,baz=56,slow=8.4,SNR=24						
ARCES	**ARCESS Array B**	**55.91**	**341**	P	**P**	**19 59 26.4**	**-0.8**
	comp=Z,11nm,1.2s,mb4.8,baz=59,slow=7.1,SNR=6.2						
NVAR	**Mina Array Bea**	**59.29**	**66**	P	**P**	**19 59 47.2**	**-4.0**
	comp=Z,0.3nm,0.6s,mb3.5,baz=315,slow=1.3,SNR=3.0						
FINES	**FINESS Array B**	**62.41**	**336**	P	**P**	**20 00 11.6**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.7,baz=45,slow=8.1,SNR=5.7						
NOA	**NORSAR Array B**	**66.25**	**342**	P	**P**	**20 00 37.3**	**+0.5**
	comp=Z,0.4nm,0.7s,mb3.4,baz=142,slow=4.6,SNR=2.6						
HFS	**Hagfors**	**66.56**	**341**	P	**P**	**20 00 39.5**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.4nm,0.3s,mb3.7,baz=45,slow=4.1,SNR=4.6						
AKASG	**Malin Array Be**	**70.38**	**327**	P	**P**	**20 01 02.3**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=33,slow=6.7,SNR=4.8						
MLR	**Muntele Rosu**	**75.97**	**326**	P	**P**	**20 01 36.8**	**+1.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=359,slow=22,SNR=5.1						
GERES	**GERESS Array B**	**76.84**	**336**	P	**P**	**20 01 41.7**	**+1.7**
	comp=Z,0.2nm,0.4s,mb3.2,baz=27,slow=6.6,SNR=4.3						
BRTR	**Keskin Array B**	**77.77**	**318**	P	**P**	**20 01 46.6**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.7,baz=72,slow=3.9,SNR=3.8						
BDFB	**Brasilia**	**140.83**	**39**	PKP	PKPdf	20 09 16.2	-0.1
	comp=Z,1.5nm,0.4s,baz=195,slow=2.1,SNR=3.0						

*IDC **01** 20:16:11.0±0.9,60.95S×25.96W,mb4.4/3,mb1 4.4/4, mb1mx4.0/14,mbtmp4.4/4,ML4.2/1,MS4.1/10,Ms1 4.0/10, ms1mx3.8/12,Error ellipse: s-maj=42.1km s-min=27.3km az=3.0*

*NEIC **01** 20:16:12.0±0.5,60.84S×26.00W,h10^{km},mb4.8/8,Error ellipse: s-maj=18.6km s-min=10.7km az=49.0*

ISC 01 20:16:09.3±0.6**,60.9S**±0.1×**26.0W**±0.2**,h10**^{km}**,n39, σ1^{s}25**/24**,mb4.6**/10**,MS4.1**/10**,12C-5D,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.13**	**151**	⇑*i*	**P**	**20 19 08.7**	**+3.8**
VNA1	**Neumayer--Stat**	**12.13**	**151**	⇑*i*P	**P**	**20 19 05.1**	**+0.2**
VNA1				⇑*i*P		20 19 08.7	
VNA3	**Neumayer Olymp**	**12.25**	**155**	⇑*i*	**P**	**20 19 09.0**	**+2.5**
VNA3	**Neumayer Olymp**	**12.25**	**155**	⇓*i*	**P**	**20 19 17.6**	**+11**
VNA3	**Neumayer Olymp**	**12.25**	**155**	⇓*i*P	**P**	**20 19 06.3**	**-0.2**
VNA3				⇑*i*P		20 19 09.0	
VNA3				⇓*i*P		20 19 17.6	
VNA2	**Neumayer--Watz**	**12.53**	**151**	⇑*i*	**P**	**20 19 10.7**	**+0.5**
VNA2	**Neumayer--Watz**	**12.53**	**151**	⇑*i*	**P**	**20 19 15.8**	**+5.6**
VNA2	**Neumayer--Watz**	**12.53**	**151**	⇑*i*	**P**	**20 19 19.0**	**+8.8**
VNA2	**Neumayer--Watz**	**12.53**	**151**	P	**P**	**20 19 08.7**	**-1.5**
VNA2				⇑*i*P		20 19 10.7	
VNA2				⇑*i*P		20 19 15.8	
VNA2				⇑*i*P		20 19 19.0	
SNAA	**Sanae**	**14.13**	**149**	⇓*i*P	**P**	**20 19 29.8**	**-1.4**
SNAA	**Sanae**	**14.13**	**149**	Pn	**P**	**20 19 29.9**	**-1.3**
	1.1nm,0.3s,baz=321,slow=13,SNR=65						
SNAA				Sn	**S**	**20 21 56.7**	**-12**
	0.3nm,0.3s,baz=304,slow=16,SNR=4.1						
SNAA	**Sanae**	**14.13**	**149**	*e*P	**P**	**20 19 29.4**	**-1.8**
SNAA				⇓*i*P		20 19 29.8	
USHA	**Ushuaia**	**23.02**	**266**	P	**P**	**20 21 18.3**	**+3.3**
	28nm,1.1s,mb4.6,baz=110,slow=12,SNR=6.1						
USHA				LR	LR	20 28 03.2	
	comp=Z,328nm,18.5s,MS3.8,baz=46,slow=31						
QSPA	**South Pole Qui**	**29.33**	**180**	⇑*i*P	**P**	**20 22 17.4**	**+3.8**
	34nm,1.1s,mb5.0						
TRQA	**Tornquist**	**32.02**	**299**	*e*P	**P**	**20 22 37.7**	**0.0**
	22nm,0.9s,mb5.0						
PLCA	**Paso Flores**	**33.71**	**286**	P	**P**	**20 22 52.4**	**0.0**
	1.9nm,1.1s,mb4.0,baz=184,slow=9.7,SNR=5.4						
PLCA				LR	LR	20 36 08.3	
	comp=Z,108nm,21.3s,MS3.5,baz=318,slow=36						
PLCA	**Paso Flores**	**33.71**	**286**	*e*P	**P**	**20 22 51.4**	**-1.0**
	2.2nm,0.8s,mb4.1						
MAW	**Mawson**	**35.96**	**139**	LR	LR	20 35 28.6	
	comp=Z,196nm,19.3s,MS3.9,baz=154,slow=32						
VNDA	**Vanda**	**41.74**	**183**	LR	LR	20 39 29.7	
	comp=Z,198nm,19.6s,MS4.0,baz=151,slow=34						
BOSA	**Boshof**	**46.81**	**70**	P	**P**	**20 24 40.7**	**+0.1**
	18nm,1.4s,mb4.8						
BDFB	**Brasilia**	**47.90**	**331**	LR	LR	20 42 41.0	
	comp=Z,182nm,18.5s,MS4.1,baz=50,slow=33						
LVC	**Limon Verde**	**48.36**	**303**	*e*P	**P**	**20 24 52.6**	**-0.3**
	4.4nm,0.8s,mb4.5						
LPAZ	**La Paz**	**53.74**	**307**	*e*P	**P**	**20 25 33.8**	**+0.1**
	3.7nm,0.6s,mb4.5						
SAML	**Samuel**	**58.69**	**316**	*e*P	**P**	**20 26 06.7**	**-2.5**
	10.0nm,0.9s,mb4.8						
LSZ	**Lusaka**	**59.71**	**65**	P	**P**	**20 26 16.5**	**+0.2**
	2.2nm,0.8s,mb4.2						
DBIC	**Dimbokro**	**69.38**	**23**	P	**P**	**20 27 20.2**	**+1.0**
	4.4nm,0.9s,mb4.4,baz=145,slow=9.3,SNR=6.9						
DBIC				LR	LR	20 51 42.4	
	comp=Z,98nm,18.5s,MS4.1,baz=222,slow=31						
ROSC	**El Rosal**	**75.49**	**310**	LR	LR	21 00 49.5	
	comp=Z,90nm,18.5s,MS4.1,baz=172,slow=36						
KMBO	**Kilima Mbogo**	**76.30**	**67**	LR	LR	20 59 00.8	
	comp=Z,114nm,18.4s,MS4.2,baz=91,slow=34						
STKA	**Stephens Creek**	**87.00**	**169**	LR	LR	21 07 05.0	
	comp=Z,179nm,18.8s,MS4.5,baz=206,slow=35						
ASAR	**Alice Springs**	**94.17**	**162**	LR	LR	21 08 48.4	
	comp=Z,182nm,19.4s,MS4.5,baz=170,slow=34						
CMAR	**Chiang Mai Arr**	**122.71**	**112**	PKP	PKPdf	20 35 07.8	-0.3
	1.0nm,0.8s,baz=222,slow=3.6,SNR=7.0						
NOA	**NORSAR Array B**	**124.94**	**21**	PKP	PKPdf	20 35 12.7	+1.3
	1.0nm,0.8s,baz=263,slow=2.1,SNR=3.3						
FINES	**FINESS Array B**	**128.37**	**29**	PKP	PKPdf	20 35 16.8	-1.3
	1.7nm,0.8s,baz=135,slow=5.9,SNR=4.5						
YKA	**Yellowknife Ar**	**140.09**	**314**	PKhKP		20 35 35.9	
	0.2nm,0.6s,baz=131,slow=2.3,SNR=4.7						
YKA				PKP	PKPdf	20 35 41.6	+1.9
	1.0nm,0.8s,baz=129,slow=2.3,SNR=7.5						
YKA	**Yellowknife Ar**	**140.09**	**314**	PKP	PKPdf	20 35 35.9	-3.8
YKA				PKP	PKPdf	20 35 41.6	+1.9
INK	**Inuvik**	**149.83**	**315**	*e*PKPbc	PKPdf	20 36 01.3	+5.5
SONM	**Songino Array**	**150.09**	**94**	PKPbc	PKPdf	20 36 01.9	+5.0
	3.5nm,0.8s,baz=224,slow=2.8,SNR=28						
DAWY	**Dawson**	**150.32**	**305**	*e*PKPbc	PKPdf	20 36 02.7	+6.0
ILAR	**Eielson Array**	**153.60**	**304**	PKPbc	PKPdf	20 36 10.8	+9.4
	5.0nm,1.0s,baz=146,slow=1.5,SNR=23						

*NEIC **01** 20:16:46.8±1.6,27.08S×178.45W,h273^{km}±15^{km},mb4.4/7, Error ellipse: s-maj=12.5km s-min=10.3km az=132.0*

*IDC **01** 20:16:47.4±2.3,27.13S×178.43W,h276^{km}±21^{km},mb3.7/7, mb1 3.9/10,mb1mx3.7/17,mbtmp4.4/10,Error ellipse: s-maj=19.0km s-min=15.1km az=172.0*

ISC 01 20:16:43.4±1.4**,27.12S**±0.07×**178.5W**±0.1**,h248**^{km}±15^{km}**, n46,σ0^{s}98**/41**,mb4.1**/12**,3C-4D,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**10.76**	**194**	PN	**P**	**20 19 14.3**	**+1.9**
MXZ	**Matakaoa Point**	**10.76**	**194**	PN	**P**	**20 19 14.3**	**+1.9**
PUZ	**Puketiti**	**11.26**	**193**	PN	**P**	**20 19 17.9**	**-0.8**
PUZ				SN	**S**	**20 21 14.4**	**-6.6**
PUZ				SN	**S**	**20 21 14.8**	**-6.2**
PUZ	**Puketiti**	**11.26**	**193**	PN	**P**	**20 19 17.9**	**-0.8**
PUZ				SN	**S**	**20 21 14.4**	**-6.6**
PUZ				SN	**S**	**20 21 14.8**	**-6.2**
URZ	**Urewera**	**11.71**	**197**	P	**P**	**20 19 26.2**	**+1.8**
	5.1nm,0.3s,baz=289,slow=2.0,SNR=18						
URZ				S	**S**	**20 21 30.2**	**-1.0**
	3.8nm,0.3s,baz=126,slow=22,SNR=12						
URZ	**Urewera**	**11.71**	**197**	PN	**P**	**20 19 17.3**	**-7.1**
URZ	**Urewera**	**11.71**	**197**	PN	**P**	**20 19 17.3**	**-7.1**
AFI	**Afiamalu**	**14.57**	**27**	*e*P	**P**	**20 19 58.9**	**-0.9**
RAR	**Rarotonga**	**18.05**	**75**	P	**P**	**20 20 39.4**	**+0.5**
	4.6nm,0.3s,baz=131,slow=20,SNR=2.8						
RAR	**Rarotonga**	**18.05**	**75**	P	**P**	**20 20 39.4**	**+0.5**
RPZ	**Rata Peaks**	**18.59**	**204**	P	**P**	**20 20 44.3**	**0.0**
	0.4nm,0.3s,baz=158,slow=19,SNR=4.1						
CTA	**Charters Tower**	**32.98**	**275**	P	**P**	**20 22 58.6**	**+1.4**
	7.6nm,0.6s,mb4.4,baz=98,slow=9.4,SNR=11						
CTAO	**Charters Tower**	**32.98**	**275**	*e*P	**P**	**20 22 57.9**	**+0.8**
	7.4nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**34.93**	**252**	P	**P**	**20 23 14.6**	**+1.0**
	2.2nm,0.7s,mb3.8,baz=118,slow=5.8,SNR=3.6						
STKA	**Stephens Creek**	**34.93**	**252**	P	**P**	**20 23 14.6**	**+1.0**
ASAR	**Alice Springs**	**42.95**	**264**	P	**P**	**20 24 19.9**	**+0.1**
	3.3nm,0.5s,mb4.0,baz=96,slow=6.9,SNR=100						
ASAR				ScP		20 29 30.8	
	0.8nm,0.6s,baz=182,slow=3.6,SNR=9.8						
WRAB	**Tennant Creek**	**43.63**	**269**	*e*P	**P**	**20 24 24.6**	**-0.8**
	13nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**43.64**	**269**	P	**P**	**20 24 25.1**	**-0.3**
	7.7nm,0.7s,mb4.2,baz=111,slow=6.7,SNR=104						
SBA	**Scott Base**	**51.26**	**184**	*e*P	**P**	**20 25 23.7**	**+0.4**
	10nm,0.7s,mb4.4						
VNDA	**Vanda**	**51.30**	**185**	P	**P**	**20 25 23.9**	**+0.3**
	2.4nm,0.6s,mb3.8,baz=11,slow=9.4,SNR=12						
VNDA	**Vanda**	**51.30**	**185**	*e*P	**P**	**20 25 23.8**	**+0.1**
	3.3nm,0.6s,mb3.9						
MBWA	**Marble Bar**	**56.22**	**262**	*e*P	**P**	**20 25 57.9**	**-2.1**
	5.1nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**62.97**	**180**	⇓*i*P	**P**	**20 26 45.0**	**-0.2**
	10.0nm,0.7s,mb4.5						
SNAA	**Sanae**	**81.43**	**179**	⇑*i*	**P**	**20 28 31.1**	**-2.3**
SNAA	**Sanae**	**81.43**	**179**	P	**P**	**20 28 32.3**	**-1.0**
	0.5nm,0.6s,mb3.4,baz=191,slow=12,SNR=3.8						
VNA3	**Neumayer Olymp**	**81.59**	**176**	⇓*i*	**P**	**20 28 34.4**	**+0.2**
VNA3	**Neumayer Olymp**	**81.59**	**176**	⇓*i*	**P**	**20 28 41.9**	**+7.7**
VNA3	**Neumayer Olymp**	**81.59**	**176**		**P**	**20 28 46.7**	**+12**
VNA2	**Neumayer--Watz**	**82.02**	**177**	⇓*i*	**P**	**20 28 37.0**	**+0.6**
VNA2	**Neumayer--Watz**	**82.02**	**177**		**P**	**20 28 41.9**	**+5.5**
VNA2	**Neumayer--Watz**	**82.02**	**177**	⇑*i*	**P**	**20 28 46.7**	**+10**
VNA1	**Neumayer--Stat**	**82.25**	**177**		**P**	**20 28 26.1**	**-12**
VNA1	**Neumayer--Stat**	**82.25**	**177**	⇑*i*	**P**	**20 28 38.7**	**+1.1**
NVAR	**Mina Array Bea**	**86.14**	**43**	P	**P**	**20 28 57.7**	**-0.1**
	0.2nm,0.3s,mb3.3,baz=225,slow=4.2,SNR=3.5						
NVAR	**Mina Array Bea**	**86.14**	**43**	P	**P**	**20 28 57.7**	**-0.1**
ENH	**Enshi**	**89.40**	**305**	P	**P**	**20 29 14.4**	**+1.1**
	8.8nm,1.4s,mb4.4						
MATP	**Matopo**	**125.98**	**212**	PKP	PKPdf	20 35 16.5	0.0
	1.4nm,0.8s,baz=133,slow=6.4,SNR=4.5						
MATP	**Matopo**	**125.98**	**212**	PKP	PKPdf	20 35 16.5	0.0
ARCES	**ARCESS Array B**	**135.31**	**348**	PKP	PKPdf	20 35 33.8	+1.0
	4.1nm,1.0s,baz=127,slow=1.3,SNR=5.8						
FINES	**FINESS Array B**	**141.93**	**341**	PKhKP		20 35 39.7	
	0.7nm,0.5s,baz=90,slow=3.8,SNR=5.2						
FINES				PKP	PKPdf	20 35 45.9	+1.1
	1.4nm,0.9s,baz=326,slow=5.0,SNR=2.8						
FINES	**FINESS Array B**	**141.93**	**341**	PKP	PKPdf	20 35 45.9	+1.1
NB2	**NORSAR Subarra**	**145.46**	**352**	P	PKPdf	20 35 51.6	+0.6
	1.0nm,0.6s,baz=3.0,slow=6.5						
NOA	**NORSAR Array B**	**145.46**	**352**	PKPbc	PKPbc	20 35 52.0	+0.2
	1.2nm,0.7s,baz=17,slow=2.9,SNR=5.1						
MALT	**Malatya**	**147.20**	**299**	*e*PKPdf	PKPdf	20 35 54.6	-0.1
AKASG	**Malin Array Be**	**148.40**	**326**	PKPbc	PKPdf	20 35 59.9	+3.7
	5.3nm,0.7s,baz=40,slow=3.8,SNR=23						
BRTR	**Keskin Array B**	**150.55**	**303**	PKPbc	PKPdf	20 36 05.9	+6.0
	1.1nm,0.6s,baz=153,slow=2.8,SNR=4.1						

IDC 01 20:20:09.0±3.7**,15.85S**×**176.82W,mb3.8**/4**,mb1 4.2**/4**, mb1mx3.8**/15**,mbtmp3.8**/4**,MS3.9**/1**,Ms1 3.8**/1**, ms1mx3.3**/15**,Error ellipse: s-maj=252.1km s-min=33.4km az=150.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**26.14**	**98**	*e*LR	LR	20 32 30.1	
	52nm,22.8s						
TBI	**Tubuai**	**26.80**	**110**	*e*LR	LR	20 32 24.7	
	140nm,28.0s						
RKT	**Rikitea**	**40.00**	**107**	*e*LR	LR	20 38 51.7	
	77nm,23.2s						
STKA	**Stephens Creek**	**40.97**	**239**	LR	LR	20 44 04.5	
	comp=Z,144nm,18.6s,baz=251,slow=35						
ASAR	**Alice Springs**	**46.84**	**252**	P	P	20 28 41.0	-1.8
	0.7nm,0.7s,baz=83,slow=8.6,SNR=4.7						
NVAR	**Mina Array Bea**	**76.89**	**43**	P	P	20 32 03.2	-1.8
	3.3nm,1.1s,baz=219,slow=7.4,SNR=5.3						
PDAR	**Pinedale Array**	**84.82**	**43**	P	P	20 32 46.2	-0.6
	1.3nm,1.0s,baz=225,slow=5.1,SNR=5.7						
YKA	**Yellowknife Ar**	**91.84**	**24**	P	P	20 33 18.7	-1.1
	0.1nm,0.3s,baz=239,slow=4.6,SNR=4.4						
GERES	**GERESS Array B**	**145.99**	**348**	PKPbc	PKPbc	20 39 50.0	-0.8
	2.0nm,1.2s,baz=225,slow=1.4,SNR=5.4						

*ISK **01** 20:36:41.4,37.75N×44.11E,h25^{km},MD3.8*

*CSEM **01** 20:36:42.5±0.1,38.03N×43.94E,h80^{km},MD3.8,Error ellipse: s-maj=3.1km s-min=2.2km az=75.0*

ISC 01 20:36:41.1±1.0**,37.80N**±0.04×**44.14E**±0.08**,h4**^{km}±7^{km}**, n16,σ1^{s}10**/23**,Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.39**	**235**	*i* PG	**Pg**	**20 36 49.0**	**+0.1**
VANT	**Van**	**0.87**	**318**	*i* PG	**Pg**	**20 37 00.4**	**+1.8**
TVAN	**Van**	**0.93**	**322**	*i* P	**Pb**	**20 37 00.6**	**+1.2**
TVAN				*i* S	**Sb**	**20 37 11.9**	**0.0**
VANB	**Van**	**0.99**	**324**	*i* PG	**Pg**	**20 37 00.5**	**-0.4**
VANB				*i* SG	**Sg**	**20 37 13.7**	**-0.4**
MSL	**Mosul**	**1.73**	**209**	*i* Pn	**Pn**	**20 37 14.0**	**+1.8**
MSL				*i* Pg	**Pg**	**20 37 15.5**	**-0.1**
MSL				*i* Sb	**Sb**	**20 37 34.0**	**-1.0**
MSL				*i* Sg	**Sg**	**20 37 35.2**	**-3.4**
BTMT	**Batman**	**2.13**	**281**	*i* PN	**Pn**	**20 37 18.6**	**+0.7**
BEST	**Besiri**	**2.27**	**273**	*i* P	**Pn**	**20 37 21.0**	**+1.0**
BEST				*i* S	**Sn**	**20 37 50.1**	**+1.3**
GNI	**Garni**	**2.39**	**11**	PN	**Pn**	**20 37 20.5**	**-1.2**
VRT	**Varto**	**2.44**	**304**	PN	**Pn**	**20 37 20.9**	**-1.5**
ERZM	**Erzurum**	**3.02**	**315**	*i* P	**Pn**	**20 37 39.0**	**+8.4**
ERZM				*i* S	**Sn**	**20 38 12.2**	**+4.5**
BINT	**Bingol**	**3.06**	**292**	PN	**Pn**	**20 37 30.5**	**-0.8**
DIY	**Diyarbakir**	**3.10**	**273**	PN	**Pn**	**20 37 30.1**	**-1.7**
BHD	**Baghdad**	**4.53**	**177**	*e*Pn	**Pn**	**20 38 12.5**	**+20**
BHD				*e*Sn	Sn	20 39 11.0	+25
BHD				*e*Sb	Sb	20 39 26.0	+30
BHD				*e*Sg	Sg	20 39 38.0	+26
MALT	**Malatya**	**4.54**	**278**	*e*PN	**Pn**	**20 37 50.8**	**-1.4**
NAY	**Al-Naaiem**	**8.91**	**162**	*e*P	**P**	**20 38 54.2**	**+0.5**
RDF	**Al-Radifah**	**9.30**	**161**	*e*P	**P**	**20 38 59.4**	**+0.4**

MEX 01 20:42:42.2±0.7**,16.09N**×**98.33W,h20**^{km}±8^{km}**,MD3.7, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.36**	**34**	*i* P	Pb	20 42 48.9	-1.0
PNIG				*i* S	Sb	20 42 53.4	-1.6
ACX	**Acapulco**	**1.70**	**297**	*e*P	Pn	20 43 06.0	-5.2
VHO	**Vista Hermosa**	**1.82**	**57**	*i* P	Pn	20 43 08.9	-3.9
VHO				*i* S	Sn	20 43 32.1	-3.4
OXX	**Oaxaca**	**1.83**	**57**	*e*P	Pn	20 43 16.0	+3.0
PLIG	**Platanillo**	**2.54**	**334**	*i* P	Pn	20 43 21.1	-2.1
PLIG				*i* S	Sn	20 43 51.0	-2.9
YAIG	**Yautepec**	**2.84**	**346**	*i* P	Pn	20 43 23.8	-3.7
YAIG				*i* S	Sn	20 43 57.2	-4.3
PPM	**Popocatepetl**	**2.97**	**355**	*e*P	Pn	20 43 26.0	-3.3
PPM				*i* P		20 43 26.6	
PPM				*i* S	Sn	20 44 00.7	-4.0

JMA 01 20:44:12.7±0.8**,30.93N**×**141.86E,M3.9,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.79**	**349**	P	Pn	20 45 14.4	+0.8
BSO1				*e*S	Sn	20 45 59.1	-0.4
BSO4	**Boso 4**	**4.25**	**343**	P	Pn	20 45 21.3	+1.2
JOD2	**Odawara 2**	**4.91**	**332**	P	Pn	20 45 30.7	+1.2
JHU	**Hanno**	**5.36**	**337**	P	Pn	20 45 36.1	+0.2
JYT	**Yasato**	**5.46**	**346**	P	Pn	20 45 37.1	-0.2
JRY	**Ryogami san**	**5.64**	**335**	P	Pn	20 45 40.0	+0.1
JRY				*e*S	Sn	20 46 46.1	-0.2
JHO	**Hitachi**	**5.77**	**350**	P	Pn	20 45 39.4	-2.2
JHO				*e*S	Sn	20 46 45.1	-4.4
JAG	**Ashikaga**	**5.84**	**341**	P	Pn	20 45 41.8	-0.8
JAG				*e*S	Sn	20 46 49.2	-2.0
JFK	**Kawauchi**	**6.47**	**353**	P	Pn	20 45 48.5	-3.1

IDC 01 20:57:40.1±6.0**,4.86N**×**93.09E,mb3.2**/2**,mb1 3.6**/3**, mb1mx3.3**/18**,mbtmp3.3**/3**,ML3.9**/1**,Error ellipse: s-maj=172.8km s-min=33.7km az=72.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.68**	**22**	Pn	P	21 01 10.3	-0.7
	0.2nm,0.3s,baz=213,slow=11,SNR=4.3						
SONM	**Songino Array**	**44.31**	**13**	P	P	21 05 51.6	-1.9
	0.3nm,0.7s,baz=197,slow=9.7,SNR=3.0						
WRA	**Warramunga Arr**	**47.44**	**123**	P	P	21 06 16.8	-1.9
	0.3nm,0.6s,baz=303,slow=9.1,SNR=9.0						

*NIED **01** 21:04:00,33.20N×136.70E,h20^{km},Mw4.0 Best double couple: $M_0 1.26\times10^{15}$ NP1:ϕ_s242°,δ49°,λ73°. NP2:ϕ_s86°, δ44°,λ108°.*

*IDC **01** 21:04:27.2±0.7,33.05N×136.69E,mb4.0/11,mb1 4.2/14, mb1mx4.1/25,mbtmp4.1/14,ML3.9/3,MS3.0/1,Ms1 3.0/1, ms1mx2.2/30,Error ellipse: s-maj=20.9km s-min=16.5km az=91.0*

*MOS **01** 21:04:30.2±1.0,33.02N×136.84E,h33^{km},mb4.6/6,Error ellipse: s-maj=17.9km s-min=10.9km az=85.6*

*BJI **01** 21:04:30.9,32.96N×137.03E,h48^{km},mB4.7,mb4.2, Ms4.1,Msz3.8*

*JMA **01** 21:04:30.4±0.1,33.09N×136.71E,h39^{km},M4.0*

JMA Felt II J1.

*NEIC **01** 21:04:32.0±3.1,33.03N×136.78E,h32^{km}±22^{km},mb4.3/8, Error ellipse: s-maj=10.2km s-min=8.4km az=137.0*

NEIC Recorded [2 JMA] in Mie and Wakayama; [1 JMA] in Nara Prefectures.

ISC 01 21:04:29.5±0.8**,33.10N**±0.03×**136.75E**±0.03**,h25**^{km}±5^{km}**, n52,σ1^{s}10**/70**,mb4.0**/19**,MS4.0**/2**,11D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**0.97**	**46**	P	**Pb**	**21 04 47.9**	**+0.4**
TK01				S	**Sb**	**21 05 00.3**	**+0.4**
JWZ	**Kozaga**	**0.97**	**297**	⇓P	**Pb**	**21 04 47.4**	**-0.2**
JWZ				S	**Sb**	**21 04 59.2**	**-0.9**
TK02	**Tokai 2**	**1.19**	**44**	⇓P	**Pn**	**21 04 51.2**	**+0.4**
TK02				S	**Sn**	**21 05 06.3**	**0.0**
JIE	**Ise**	**1.29**	**358**	⇓P	**Pn**	**21 04 53.1**	**+0.8**
JIE				S	**Sn**	**21 05 08.3**	**-0.6**
JWM	**Minabe**	**1.39**	**303**	⇓P	**Pn**	**21 04 53.6**	**-0.1**
JWM				S	**Sn**	**21 05 09.6**	**-1.8**
JWY	**Kouya**	**1.48**	**319**	⇓P	**Pn**	**21 04 55.7**	**+0.7**
JWY				S	**Sn**	**21 05 13.0**	**-0.7**
TK04	**Tokai 4**	**1.59**	**36**	⇓P	**Pn**	**21 04 57.1**	**+0.6**
TK04				S	**Sn**	**21 05 16.4**	**0.0**
TSUJ	**Tsu 2**	**1.63**	**350**	⇓P	**Pn**	**21 04 57.8**	**+0.6**
TSUJ				S	**Sn**	**21 05 16.9**	**-0.7**
JHE	**Heguri**	**1.79**	**331**	⇓P	**Pn**	**21 05 00.0**	**+0.6**
JHE				S	**Sn**	**21 05 20.8**	**-0.7**
JAJ2	**Tsuna**	**2.04**	**311**	⇓P	**Pn**	**21 05 03.4**	**+0.4**
JAJ2				S	**Sn**	**21 05 27.0**	**-0.9**
JAI	**Aioi**	**2.05**	**290**	⇓P	**Pn**	**21 05 03.0**	**-0.1**
JAI				S	**Sn**	**21 05 25.6**	**-2.5**
SHZ3	**Shizuoka 3**	**2.31**	**31**	⇓P	**Pn**	**21 05 06.7**	**-0.1**
SHZ3				S	**Sn**	**21 05 32.5**	**-2.2**
JHJ	**Hachijo jima 2**	**2.54**	**89**	Pn	**Pn**	**21 05 10.2**	**0.0**
	23nm,0.3s,baz=81,slow=22,SNR=9.3						
JHJ				Sn	**Sn**	**21 05 39.7**	**-0.9**
	110nm,0.3s,baz=64,slow=23,SNR=11						
MAJO	**Matsushiro**	**3.64**	**19**	*e*P	**Pn**	**21 05 26.5**	**+0.7**
MAJO				*e*S	**Sn**	**21 06 07.5**	**-0.9**
MAT	**Matsushiro**	**3.64**	**19**	*e*P	**Pn**	**21 05 27.0**	**+1.2**
MAT				*e*S	**Sn**	**21 06 08.0**	**-0.4**
MAT	**Matsushiro**	**3.64**	**19**	P	**Pn**	**21 05 26.7**	**+0.9**
MAT				S	**Sn**	**21 06 07.6**	**-0.8**
CBIJ	**Chichi jima**	**7.61**	**140**	Pn	**Pn**	**21 06 19.6**	**-2.1**
	9.2nm,0.3s,baz=99,slow=23,SNR=6.1						
ASAJ	**Asahikawa**	**11.91**	**21**	P	**P**	**21 07 18.7**	**-2.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,75nm,20.1s						
ASAJ	**Asahikawa**	**11.91**	**21**	Pn	**P**	**21 07 18.7**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=228,slow=18,SNR=4.1						
ASAJ				LR	LR	21 12 41.7	
	comp=Z,75nm,20.1s,baz=167,slow=41						
MDJ	**Mudanjiang**	**12.78**	**336**	P	**P**	**21 07 33.0**	**+0.5**
MDJ				S	**S**	**21 09 57.7**	**+2.8**
MDJ				PCP	PcP	21 13 07.9	+0.5
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,80nm,5.5s						
NJ2	**Nanjing**	**15.13**	**271**	*e*P	**P**	**21 08 04.8**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
BJI	**Beijing**	**17.91**	**299**	P	**P**	**21 08 39.9**	**+1.4**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.6s						
BJI	**Beijing**	**17.91**	**299**	P	**P**	**21 08 39.9**	**+1.4**
	comp=Z,8.0nm,1.6s						
ENH	**Enshi**	**23.35**	**270**	P	**P**	**21 09 38.4**	**+1.5**
	comp=Z,5.5nm,0.8s,mb4.0						
SONM	**Songino Array**	**27.18**	**312**	P	**P**	**21 10 13.2**	**+0.3**
	comp=Z,0.4nm,0.6s,mb3.1,baz=119,slow=9.7,SNR=5.7						
LZH	**Lanzhou**	**27.19**	**286**	*e*P	**P**	**21 10 14.9**	**+1.8**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.5						
LZH				LR	LR		
	comp=E,224nm,12.3s						
LZH				LR	LR		
	comp=Z,392nm,14.8s,MS4.1						
LZH	**Lanzhou**	**27.19**	**286**	*e*P	**P**	**21 10 14.9**	**+1.8**
	comp=Z,21nm,1.3s,mb4.5						
LZH				pP	pP	21 10 19.6	-0.8
LZH				sP	sP	21 10 22.5	-1.2
CMAR	**Chiang Mai Arr**	**36.82**	**256**	P	**P**	**21 11 36.6**	**-0.9**
	comp=Z,0.2nm,0.5s,mb3.2,baz=48,slow=8.2,SNR=4.2						
LSA	**Lhasa**	**38.84**	**278**	*e*P	**P**	**21 11 56.6**	**+2.2**
LSA	**Lhasa**	**38.84**	**278**	P	**P**	**21 11 54.6**	**+0.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**38.84**	**278**	P	**P**	**21 11 54.6**	**+0.1**
	comp=Z,3.9nm,0.7s,mb4.2						
WMQ	**Urumqi**	**39.37**	**300**	*e*P	**P**	**21 12 00.0**	**+1.4**
WMQ				PP	PP	21 13 35.0	+2.1
WMQ				S	**S**	**21 18 01.0**	**+2.9**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,123nm,4.4s						
WMQ				LR	LR		
	comp=N,192nm,20.0s,MS4.1						
WMQ				LR	LR		
	comp=E,167nm,18.9s,MS4.1						
WMQ				LR	LR		
	comp=Z,154nm,22.0s,MS3.8						
KURK	**Kurchatov**	**45.47**	**311**	*e*P	**P**	**21 12 48.7**	**+0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**45.47**	**311**	*e*P	**P**	**21 12 48.7**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.0						
HNR	**Honiara**	**47.71**	**148**	P	**P**	**21 12 55.3**	**-11**
CHKZ	**Chkalovo**	**50.30**	**315**	*e*P	**P**	**21 13 25.0**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**50.30**	**315**	*e*P	**P**	**21 13 25.0**	**-0.8**
	comp=Z,1.9nm,0.5s,mb4.4						
WRAB	**Tennant Creek**	**52.78**	**183**	*e*P	**P**	**21 13 43.5**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**52.78**	**183**	*e*P	**P**	**21 13 43.5**	**-1.6**
	comp=Z,5.8nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**52.79**	**183**	P	**P**	**21 13 43.6**	**-1.5**
	comp=Z,3.4nm,0.7s,mb4.4,baz=360,slow=7.8,SNR=40						
ASAR	**Alice Springs**	**56.51**	**183**	*e*P	**P**	**21 14 11.1**	**-1.1**
ASAR	**Alice Springs**	**56.51**	**183**	P	**P**	**21 14 11.1**	**-1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=10,slow=7.3,SNR=14						
STKA	**Stephens Creek**	**64.78**	**175**	P	**P**	**21 15 06.9**	**-1.5**
	comp=Z,2.6nm,0.7s,mb4.4,baz=349,slow=6.7,SNR=6.7						
RES	**Resolute Bay**	**67.33**	**13**	*e*P	**P**	**21 15 23.9**	**0.0**
RES				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
RES	**Resolute Bay**	**67.33**	**13**	*e*P	**P**	**21 15 23.9**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.5						
YKA	**Yellowknife Ar**	**69.10**	**28**	P	**P**	**21 15 35.1**	**0.0**
	comp=Z,1.2nm,1.0s,mb3.8,baz=296,slow=6.2,SNR=8.9						
FINES	**FINESS Array B**	**70.48**	**332**	P	**P**	**21 15 43.1**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=72,slow=6.0,SNR=9.6						
NVAR	**Mina Array Bea**	**80.42**	**50**	P	**P**	**21 16 42.2**	**+1.6**
	comp=Z,0.9nm,0.5s,mb4.0,baz=281,slow=7.6,SNR=7.0						
PDAR	**Pinedale Array**	**83.15**	**43**	P	**P**	**21 16 56.1**	**+1.5**
	comp=Z,0.6nm,0.8s,mb3.7,baz=297,slow=3.3,SNR=5.8						
GERES	**GERESS Array B**	**83.94**	**326**	P	**P**	**21 16 58.3**	**-0.2**
	comp=Z,0.3nm,0.7s,mb3.5,baz=45,slow=5.7,SNR=5.9						
SRU	**San Rafael**	**84.89**	**46**	*e*P	**P**	**21 17 05.2**	**+1.7**
TXAR	**Lajitas Array**	**95.56**	**50**	P	**P**	**21 17 55.4**	**+1.4**
	comp=Z,0.8nm,0.7s,mb4.3,baz=297,slow=2.8,SNR=7.0						

*TEH **01** 21:11:33.2,30.50N×56.87E,h15^{km},Mn3.7*

*THR **01** 21:11:33.7±1.0,30.80N×56.74E,h14^{km}±7^{km},ML3.5*

*CSEM **01** 21:11:34.0±0.1,30.78N×56.75E,h16^{km},ML4.1/1,Error ellipse: s-maj=3.2km s-min=1.9km az=37.0*

ISC 01 21:11:34.3±0.8**,30.81N**±0.05×**56.72E**±0.09**,h14**^{km}**,n17, σ1^{s}02**/22**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.82**	**178**	*i* PG	**Pg**	**21 11 49.0**	**-2.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KRBR				AML	AML	21 12 02.5	
	comp=N,3µm,0.2s						
IBAF	**Bafgh**	**1.26**	**309**	Pg	**Pg**	**21 11 56.8**	**-2.7**
IMEH	**Mehriz**	**1.90**	**288**	Pn	**Pn**	**21 12 08.1**	**+1.5**
ICHK	**Chekchek**	**2.44**	**307**	Pn	**Pn**	**21 12 15.2**	**+0.9**
BNDS	**Bandar-Abbas**	**3.43**	**188**	*e*PN	**Pn**	**21 12 29.4**	**+0.9**
BNDS				AML	AML	21 13 28.6	
	comp=N,74nm,0.4s						
ZHSF	**Zahedan**	**3.71**	**108**	*e*PN	**Pn**	**21 12 32.3**	**-0.1**
ZHSF				*e*PG	**Pg**	**21 12 40.2**	**-8.1**
NASN	**Na'in**	**3.88**	**302**	*e*PN	**Pn**	**21 12 35.8**	**+1.0**
NASN				*e*PG	**Pg**	**21 12 43.2**	**-8.5**
NASN				*e*SG	**Sg**	**21 13 35.1**	**-8.3**
NASN				AML	AML	21 13 38.6	
	comp=N,68nm,0.5s						
GHIR	**Ghir-Karzin**	**4.11**	**233**	*e*PN	**Pn**	**21 12 38.6**	**+0.4**
GHIR				AML	AML	21 13 57.5	
	comp=N,48nm,0.6s						
ISFB	**Sefidab**	**5.18**	**314**	Pn	**Pn**	**21 12 53.2**	**0.0**
IFIR	**Firoozkooh**	**5.85**	**326**	Pn	**Pn**	**21 13 02.8**	**+0.1**
IFIR				Sn	**Sn**	**21 14 09.9**	**-0.5**
IVRN	**Varamin**	**5.92**	**316**	Pn	**Pn**	**21 13 03.7**	**0.0**
IVRN				Sn	**Sn**	**21 14 10.8**	**-1.2**
IDMV	**Damavand**	**6.17**	**322**	Pn	**Pn**	**21 13 09.3**	**+2.1**
DAMV	**Damavand**	**6.24**	**322**	*e*PN	**Pn**	**21 13 08.1**	**-0.1**
IRAZ	**Razeghan**	**7.31**	**311**	Pn	**Pn**	**21 13 22.7**	**-0.6**
RDF	**Al-Radifah**	**8.18**	**259**	*e*P	**P**	**21 13 34.7**	**-0.7**
NAY	**Al-Naaiem**	**8.36**	**262**	*e*P	**P**	**21 13 38.2**	**+0.3**
RST	**Umm Al-Ruwaisa**	**8.52**	**264**	*e*P	**P**	**21 13 40.0**	**-0.1**

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*NEIC **01** 21:34:26.0, 47.98N×129.03W, h10km, mb4.8/49, MS4.6/4, MW5.0(PGC), After PGC.*
*BJI **01** 21:34:26.0, 48.00N×129.00W, h10km, mB5.2, mb4.9, Ms5.0, Msz4.7*
*PGC **01** 21:34:26.3, 47.98N×129.03W, h10km, Mw5.1/9, Mw5.0, Northern Juan de Fuca ridge.*
*IDC **01** 21:34:27.7±0.8, 48.15N×128.96W, mb4.4/16, mb1 4.6/24, mb1mx4.5/28, mbtmp4.4/24, ML4.0/9, MS4.4/22, Ms1 4.4/22, ms1mx4.3/25, Error ellipse: s-maj=18.2km s-min=9.5km az=52.0*
*HRVD **01** 21:34:30.0±0.2, 48.07N×129.25W, h12km, MW5.1/65, Centroid moment Tensor Solution. LP body waves: s40,c64;Mantle waves: s65,c123; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.52±.11; $M_{\theta\theta}$0.42±.11; $M_{\phi\phi}$0.10±.10; $M_{r\theta}$1.07±.28; $M_{\theta\phi}$4.45±.09; $M_{\phi r}$-1.00±.27; Best double couple: $M_0$4.709×10^{16} NP1: ϕ_s3°,δ76°,λ-167°. NP2:ϕ_s269°,δ77°,λ-15°. Principal axes: T 4.715, Plg1°, Azm316°; N -.011, Plg71°, Azm49°; P -4.703, Plg19°, Azm226°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **01** 21:34:31.9±1.4, 48.24N×128.67W, h34km, mb5.0/12, MS4.4/8 Error ellipse: s-maj=12.1km s-min=6.0km az=109.2*
ISC 01 21:34:27.9±0.8**, 48.25N**±0.02×**128.79W**±0.03**, h8**km±5km**, h14**km±1.5km**: pP-P, n308,** σ1**s**02/307**, mb4.7**/71**, MS4.5**/33**, 5C-10D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.96**	**33**	Pn	**Pn**	**21 35 01.3**	**-0.5**
OZB	**Mount Ozzard**	**2.30**	**71**	Pn	**Pn**	**21 35 05.9**	**-0.8**
OZB				Sn	**Sn**	**21 35 35.1**	**-0.3**
OZB				Trac		21 35 37.5	
	comp=Z,170nm,0.3s						
GDR	**Gold River**	**2.38**	**49**	Pn	**Pn**	**21 35 07.8**	**+0.1**
MAYB	**Maynard**	**2.40**	**26**	Pn	**Pn**	**21 35 08.3**	**+0.2**
WOSB	**Woss**	**2.41**	**36**	Pn	**Pn**	**21 35 08.7**	**+0.5**
HOLB	**Holberg**	**2.44**	**10**	Pn	**Pn**	**21 35 08.9**	**+0.4**
BTB	**Buttle Lake**	**2.48**	**59**	Pn	**Pn**	**21 35 09.8**	**+0.5**
PHC	**Port Hardy**	**2.62**	**19**	Pn	**Pn**	**21 35 11.1**	**0.0**
NCRB	**Newcastle Ridg**	**2.80**	**39**	Pn	**Pn**	**21 35 14.5**	**+0.7**
ALB	**Alberni**	**2.81**	**67**	Pn	**Pn**	**21 35 13.3**	**-0.7**
MGB	**Mount Grey**	**2.82**	**73**	Pn	**Pn**	**21 35 12.9**	**-1.1**
CBB	**Campbell River**	**2.87**	**50**	Pn	**Pn**	**21 35 15.5**	**+0.7**
PFB	**Port Renfrew**	**2.92**	**82**	Pn	**Pn**	**21 35 14.2**	**-1.2**
PFB				Sn	**Sn**	**21 35 49.2**	**-1.8**
PFB				Trac		21 35 52.2	
	comp=Z,120nm,0.7s						
OTR	**Olympics--Tyee**	**2.98**	**91**	P	**Pn**	**21 35 16.0**	**-0.4**
OOW	**Octopus West**	**3.13**	**98**	P	**Pn**	**21 35 17.8**	**-0.7**
OCWA	**Octopus Mounta**	**3.14**	**97**	*e*P	**Pn**	**21 35 17.1**	**-1.5**
OBC	**Olympics--Boni**	**3.16**	**92**	P	**Pn**	**21 35 18.7**	**-0.3**
TXB	**Texada**	**3.21**	**62**	Pn	**Pn**	**21 35 20.0**	**+0.3**
NLLB	**Nanaimo Lost L**	**3.33**	**71**	Pn	**Pn**	**21 35 21.4**	**+0.1**
LZB	**Mount Lazard**	**3.33**	**82**	Pn	**Pn**	**21 35 19.9**	**-1.4**
LZB				Sn	**Sn**	**21 36 00.0**	**-1.4**
LZB				Trac		21 36 01.8	
	comp=Z,47nm,0.6s						
STW	**Striped Peak**	**3.43**	**90**	P	**Pn**	**21 35 22.6**	**-0.1**
OSD	**Olympics--Snow**	**3.44**	**95**	P	**Pn**	**21 35 22.1**	**-0.8**
SHB	**Sechelt**	**3.51**	**66**	Pn	**Pn**	**21 35 23.9**	**+0.1**
GOBB	**Galiano Island**	**3.57**	**77**	Pn	**Pn**	**21 35 24.7**	**0.0**
GOBB				Sn	**Sn**	**21 36 08.1**	**+0.4**
	comp=Z,277nm,0.7s						
GOBB				Trac		21 36 16.4	
	comp=Z,277nm,0.7s						
PGC	**Sidney**	**3.58**	**82**	*e*P	**Pn**	**21 35 23.6**	**-1.2**
PGC	**Sidney**	**3.58**	**82**	Pn	**Pn**	**21 35 24.2**	**-0.6**
PGC				Sn	**Sn**	**21 36 07.8**	**+0.1**
PGC				Trac		21 36 08.9	
	comp=Z,134nm,0.7s						
VGZ	**Gonzales**	**3.65**	**85**	Pn	**Pn**	**21 35 24.4**	**-1.5**
VGZ				Sn	**Sn**	**21 36 08.1**	**-1.5**
VGZ				Trac		21 36 10.4	
	comp=Z,256nm,0.5s						
SNB	**Saturna Island**	**3.77**	**80**	P	**Pn**	**21 35 27.7**	**+0.1**
SNB	**Saturna Island**	**3.77**	**80**	Pn	**Pn**	**21 35 27.1**	**-0.5**
SNB				Sn	**Sn**	**21 36 12.5**	**-0.2**
SNB				Trac		21 36 14.6	
	comp=Z,109nm,0.6s						
BIB	**Bowen Island**	**3.80**	**70**	Pn	**Pn**	**21 35 28.0**	**-0.1**
BLN	**Blyn Mountain**	**3.90**	**91**	P	**Pn**	**21 35 29.6**	**+0.1**
WPB	**Watts Point**	**3.94**	**67**	Pn	**Pn**	**21 35 30.3**	**+0.4**
BBB	**Bella Bella**	**3.97**	**6**	Pn	**Pn**	**21 35 31.1**	**+0.7**
	74nm,0.3s,baz=194,slow=12,SNR=419						
BBB				Sn	**Sn**	**21 36 17.6**	**0.0**
	18nm,0.3s,baz=183,slow=20,SNR=3.8						
BBB	**Bella Bella**	**3.97**	**6**	Pn	**Pn**	**21 35 30.9**	**+0.5**
BBB				Sn	**Sn**	**21 36 17.0**	**-0.6**
BBB				Trac		21 36 19.2	
	comp=Z,88nm,0.3s						
CPW	**Capitol Peak**	**4.03**	**106**	P	**Pn**	**21 35 29.9**	**-1.3**
BMW	**Boistfort Moun**	**4.17**	**113**	P	**Pn**	**21 35 32.7**	**-0.6**
BMW	**Boistfort Moun**	**4.17**	**113**	P	**Pn**	**21 35 32.8**	**-0.5**
HNB	**Haney**	**4.24**	**74**	Pn	**Pn**	**21 35 33.5**	**-0.7**
HNB				Sn	**Sn**	**21 36 25.8**	**+1.4**
HNB				Trac		21 36 29.2	
	comp=Z,96nm,0.6s						
WSLR	**Whistler**	**4.28**	**62**	Pn	**Pn**	**21 35 35.3**	**+0.4**
KMOR	**Kings Mountain**	**4.47**	**124**	P	**Pn**	**21 35 37.6**	**+0.1**
VDB	**Vedder Mountai**	**4.50**	**78**	P	**Pn**	**21 35 37.5**	**-0.5**
VDB	**Vedder Mountai**	**4.50**	**78**	Pn	**Pn**	**21 35 37.3**	**-0.6**
JCW	**Jim Creek**	**4.59**	**88**	P	**Pn**	**21 35 38.6**	**-0.6**
RPW	**Rockport**	**4.86**	**85**	P	**Pn**	**21 35 42.9**	**-0.1**
HOPB	**Hope**	**5.00**	**74**	Pn	**Pn**	**21 35 44.4**	**-0.6**
LLLB	**Lillooet**	**5.09**	**60**	Pn	**Pn**	**21 35 46.4**	**+0.1**
COR	**Corvallis**	**5.27**	**132**	*e*P	**Pn**	**21 35 47.8**	**-1.1**
VLMM	**Larch Mountain**	**5.36**	**118**	P	**Pn**	**21 35 50.5**	**+0.4**
VLL	**Laurance Lake**	**5.62**	**117**	P	**Pn**	**21 35 54.0**	**+0.3**
TBM	**Table Mountain**	**5.63**	**98**	P	**Pn**	**21 35 54.4**	**+0.5**
ETW	**Entiat**	**5.72**	**93**	P	**Pn**	**21 35 55.0**	**-0.2**
VFP	**Flag Point**	**5.82**	**118**	P	**Pn**	**21 35 56.5**	**0.0**
CBSW	**Chelan Butte S**	**5.89**	**91**	P	**Pn**	**21 35 57.5**	**0.0**
BROR	**Big Rock Looko**	**5.93**	**130**	P	**Pn**	**21 35 57.7**	**-0.4**
PNT	**Penticton**	**6.16**	**77**	Pn	**Pn**	**21 36 01.0**	**-0.3**
KEBM	**Edson Butte**	**6.22**	**148**	*e*P	**Pn**	**21 36 01.9**	**-0.3**
KBO	**Bosley Butte**	**6.84**	**150**	*e*P	**Pn**	**21 36 11.3**	**+0.3**
HUMO	**Hull Mountain**	**6.97**	**142**	*e*P	**Pn**	**21 36 11.9**	**-0.9**
DOWB	**Downie Slide**	**7.40**	**60**	Pn	**Pn**	**21 36 18.4**	**-0.4**
SLEB	**Sale Mountain**	**7.50**	**63**	Pn	**Pn**	**21 36 20.1**	**-0.1**
NEW	**Newport**	**7.79**	**86**	Pn	**Pn**	**21 36 22.8**	**-1.4**
	3.0nm,0.3s,baz=286,slow=11,SNR=22						
NEW				Sn	**Sn**	**21 37 53.4**	**-0.2**
	baz=79,slow=18,SNR=1.7						
NEW				LR	LR	21 39 49.7	
	comp=Z,1µm,18.6s,baz=276,slow=41						
NEW	**Newport**	**7.79**	**86**	*e*P	**Pn**	**21 36 21.6**	**-2.7**
YBH	**Yreka Blue Hor**	**7.81**	**144**	Pn	**Pn**	**21 36 25.2**	**+0.7**
	0.7nm,0.3s,baz=345,slow=13,SNR=54						
YBH				Sn	**Sn**	**21 37 49.0**	**-5.0**
	0.2nm,0.3s,baz=198,slow=15,SNR=1.3						
YBH	**Yreka Blue Hor**	**7.81**	**144**	*e*P	**Pn**	**21 36 25.0**	**+0.5**
KHMM	**Horse Mountain**	**8.21**	**152**	*e*P	**P**	**21 36 29.7**	**-0.4**
BMO	**Blue Mountains**	**8.61**	**109**	*e*P	**P**	**21 36 34.1**	**-1.6**
MOD	**Modoc**	**8.73**	**133**	*e*P	**P**	**21 36 38.0**	**+0.7**
BMBC	**Bull Mountain**	**8.81**	**25**	Pn	**P**	**21 36 39.5**	**+1.0**
WDC	**Whiskeytown Da**	**8.87**	**147**	*e*P	**P**	**21 36 39.7**	**+0.4**
WVOR	**Wild Horse Val**	**9.21**	**125**	*e*P	**P**	**21 36 43.6**	**-0.4**
WALA	**Waterton Lakes**	**9.88**	**80**	*e*P	**P**	**21 36 52.6**	**-0.5**
WALA	**Waterton Lakes**	**9.88**	**80**	Pn	**P**	**21 36 52.6**	**-0.6**
HOPS	**Hopland**	**10.13**	**154**	*e*P	**P**	**21 36 55.5**	**-1.1**
MSO	**Missoula**	**10.14**	**93**	*e*P	**P**	**21 36 54.8**	**-2.0**
DLBC	**Dease Lake**	**10.24**	**356**	Pn	**P**	**21 37 00.7**	**+2.7**
	0.6nm,0.3s,baz=175,slow=19,SNR=7.7						
DLBC				LR	LR	21 40 43.1	
	comp=Z,3µm,20.0s,baz=178,slow=36						
DLBC	**Dease Lake**	**10.24**	**356**	P	**P**	**21 36 57.0**	**-1.0**
DLBC	**Dease Lake**	**10.24**	**356**	Pn	**P**	**21 37 02.4**	**+4.4**
OHCM	**Honcut**	**10.35**	**147**	*e*P	**P**	**21 36 58.9**	**-0.8**
CHMT	**Chamberlain Mo**	**10.59**	**91**	*e*P	**P**	**21 37 00.3**	**-2.5**
NSHM	**Saint Helena R**	**10.71**	**153**	*e*P	**P**	**21 37 03.2**	**-1.4**
PAHR	**Pah Rah Range**	**10.89**	**138**	*e*P	**P**	**21 37 06.8**	**-0.2**
EDM	**Edmonton**	**10.97**	**57**	*e*P	**P**	**21 37 06.3**	**-1.8**
EDM	**Edmonton**	**10.97**	**57**	Pn	**P**	**21 37 06.3**	**-1.7**
HLID	**Hailey**	**11.05**	**110**	*e*P	**P**	**21 37 08.0**	**-1.2**
WCN	**Washoe City**	**11.06**	**141**	*e*P	**P**	**21 37 10.5**	**+1.1**
FNBB	**Fort Nelson**	**11.20**	**16**	Pn	**P**	**21 37 11.5**	**+0.3**
BMN	**Battle Mountai**	**11.38**	**129**	*e*P	**P**	**21 37 13.1**	**-0.6**
MCMT	**McKenzie Canyo**	**11.50**	**101**	*e*P	**P**	**21 37 13.8**	**-1.5**
CMB	**Columbia Colle**	**11.90**	**146**	*e*P	**P**	**21 37 19.4**	**-1.4**
ELK	**Elko**	**12.23**	**123**	Pn	**P**	**21 37 26.3**	**+1.1**
	0.1nm,0.3s,baz=305,slow=12,SNR=20						
ELK				LR	LR	21 42 11.1	
	comp=Z,4µm,18.9s,baz=300,slow=38						
ELK	**Elko**	**12.23**	**123**	*e*P	**P**	**21 37 25.5**	**+0.3**
NVAR	**Mina Array Bea**	**12.42**	**138**	Pn	**P**	**21 37 29.1**	**+1.4**
	0.2nm,0.3s,baz=320,slow=8.4,SNR=91						
NVAR				LR	LR	21 42 04.0	
	comp=Z,6µm,19.5s,baz=325,slow=37						
QLMT	**Earthquake Lak**	**12.43**	**99**	*e*P	**P**	**21 37 27.2**	**-0.7**
MNV	**Mina**	**12.48**	**138**	*e*P	**P**	**21 37 28.9**	**+0.3**
YMR	**Madison River**	**12.80**	**100**	*e*P	**P**	**21 37 31.8**	**-1.0**
OMM	**Old Mammoth Mi**	**12.81**	**142**	*e*P	**P**	**21 37 33.3**	**+0.4**
WHY	**Whitehorse**	**12.93**	**346**	Pn	**P**	**21 37 37.0**	**+2.5**
YFT	**Old Faithful**	**12.97**	**100**	*e*P	**P**	**21 37 35.0**	**-0.1**
YNR	**Norris Junctio**	**12.97**	**99**	*e*P	**P**	**21 37 34.9**	**-0.2**
HVU	**Hansel Valley**	**13.03**	**114**	*e*P	**P**	**21 37 36.8**	**+0.9**
LRV	**Little Rabbit**	**13.13**	**151**	*e*P	**P**	**21 37 36.7**	**-0.5**
IMW	**Indian Meadow**	**13.13**	**103**	*e*P	**P**	**21 37 37.8**	**+0.6**
RRI2	**Red Ridge**	**13.13**	**105**	*e*P	**P**	**21 37 36.3**	**-0.9**
TPH	**Tonopah**	**13.20**	**136**	*e*P	**P**	**21 37 38.8**	**+0.7**
MTUM	**Tungsten Hills**	**13.21**	**142**	*e*P	**P**	**21 37 38.4**	**+0.1**
LKWY	**Lake**	**13.21**	**99**	*e*P	**P**	**21 37 37.8**	**-0.5**
TPAW	**Teton Pass**	**13.30**	**104**	*e*P	**P**	**21 37 40.3**	**+0.9**
MOOW	**Moose Ponds**	**13.32**	**103**	*e*P	**P**	**21 37 40.7**	**+1.0**
BGU	**Big Grassy Mou**	**13.39**	**117**	*e*P	**P**	**21 37 41.8**	**+1.1**
WUWY	**Wally Ulrich**	**13.42**	**104**	*e*P	**P**	**21 37 39.7**	**-1.2**
SNOW	**Snow King Moun**	**13.44**	**104**	*e*P	**P**	**21 37 40.4**	**-0.9**
LOHW	**Long Hollow**	**13.47**	**103**	*e*P	**P**	**21 37 42.2**	**+0.5**
SPUT	**South Promonto**	**13.51**	**115**	*e*P	**P**	**21 37 43.4**	**+1.3**
AHID	**Auburn Hatcher**	**13.55**	**107**	*e*P	**P**	**21 37 43.5**	**+0.8**
HYT	**Haines Junctio**	**13.56**	**342**	Pn	**P**	**21 37 44.6**	**+1.9**
TRCR	**Troy Canyon**	**13.78**	**131**	*e*P	**P**	**21 37 46.1**	**+0.4**
HWUT	**Hardware Ranch**	**13.88**	**112**	*e*P	**P**	**21 37 48.0**	**+1.0**
	50nm,1.2s						
DUG	**Dugway**	**13.98**	**119**	*e*P	**P**	**21 37 49.3**	**+1.0**
	821nm,1.3s						
NOQ	**North Oquirrh**	**14.10**	**116**	*e*P	**P**	**21 37 50.2**	**+0.3**
TCUT	**Toone Canyon**	**14.26**	**114**	*e*P	**P**	**21 37 53.2**	**+1.3**
DAC	**Darwin (Calif)**	**14.53**	**141**	*e*P	**P**	**21 37 56.8**	**+1.2**
	60nm,1.2s						
JLU	**Jordanelle**	**14.54**	**115**	*e*P	**P**	**21 37 57.2**	**+1.6**
BW06	**Boulder Array**	**14.54**	**105**	*e*P	**P**	**21 37 57.6**	**+1.9**
	24nm,1.0s						
PDAR	**Pinedale Array**	**14.54**	**105**	Pn	**P**	**21 37 59.1**	**+3.4**
	0.1nm,0.3s,baz=300,slow=12,SNR=50						
PDAR				LR	LR	21 43 51.2	
	comp=Z,2µm,20.0s,baz=301,slow=38						
NLU	**North Lily Min**	**14.57**	**118**	*e*P	**P**	**21 37 56.7**	**+0.7**
DAU	**Daniels Canyon**	**14.77**	**116**	*e*P	**P**	**21 38 00.2**	**+1.5**
MPU	**Maple Canyon**	**14.79**	**117**	*e*P	**P**	**21 37 60.0**	**+1.0**
ARUT	**Antelope Range**	**15.31**	**127**	*e*P	**P**	**21 38 06.0**	**+0.3**
LAO	**LASA Array**	**15.33**	**87**	*e*P	**P**	**21 38 07.8**	**+1.8**
	92nm,1.1s						
MVU	**Marysvale**	**15.47**	**123**	*e*P	**P**	**21 38 08.6**	**+0.8**
	78nm,1.4s						
MSU	**Marysvale**	**15.48**	**123**	*e*P	**P**	**21 38 08.6**	**+0.6**
TMUT	**Trail Mountain**	**15.51**	**119**	*e*P	**P**	**21 38 09.6**	**+1.3**
EYAK	**Cordova Ski Ar**	**15.72**	**328**	*e*P	**P**	**21 38 09.6**	**-1.4**
SRU	**San Rafael**	**16.03**	**118**	*e*P	**P**	**21 38 16.5**	**+1.5**
DIV	**Divide**	**16.14**	**329**	*e*P	**P**	**21 38 16.6**	**+0.2**
	92nm,1.1s						
MWC	**Mount Wilson**	**16.14**	**146**	*e*P	**P**	**21 38 17.2**	**+0.7**
DGMT	**Dagmar**	**16.33**	**80**	*e*P	**P**	**21 38 18.6**	**-0.3**
	76nm,1.0s						
YKA	**Yellowknife Ar**	**16.33**	**24**	Pn	**P**	**21 38 18.3**	**-0.4**
	0.2nm,0.3s,baz=210,slow=12,SNR=50						
YKA				LR	LR	21 44 45.1	
	comp=Z,2µm,19.4s,baz=215,slow=38						
YKW3	**Yellowknife Ar**	**16.39**	**24**	*e*P	**P**	**21 38 18.6**	**-0.8**
YKW3	**Yellowknife Ar**	**16.39**	**24**	Pn	**P**	**21 38 18.8**	**-0.7**
YKW3				Pn	**P**	**21 38 19.5**	**+0.1**
LDFC	**Landfair**	**16.63**	**137**	*e*P	**P**	**21 38 22.6**	**0.0**
DAWY	**Dawson**	**16.88**	**344**	*e*P	**P**	**21 38 27.0**	**+1.3**
DAWY	**Dawson**	**16.88**	**344**	Pn	**P**	**21 38 27.8**	**+2.1**
MENT	**Mentasta**	**16.90**	**336**	*e*P	**P**	**21 38 27.5**	**+1.6**
KDAK	**Kodiak Island**	**17.12**	**313**	*e*P	**P**	**21 38 26.4**	**-2.4**
	65nm,1.3s						
PFO	**Pinyon Flat Ob**	**17.31**	**143**	*e*P	**P**	**21 38 31.3**	**+0.1**
	50nm,1.0s						
PV10	**Paradox Valley**	**17.39**	**117**	*e*P	**P**	**21 38 33.8**	**+1.5**
SLKM	**Skilak Lake**	**17.40**	**323**	*e*P	**P**	**21 38 32.4**	**+0.2**
SML	**Sawmill**	**17.50**	**328**	*e*P	**P**	**21 38 33.7**	**+0.2**
FIB	**Fire Island**	**17.77**	**325**	*e*P	**P**	**21 38 34.8**	**-2.1**
PV01	**Paradox Valley**	**17.82**	**117**	*e*P	**P**	**21 38 38.5**	**+0.8**
FFC	**Flin Flon**	**17.84**	**59**	P	**P**	**21 38 40.6**	**+2.8**
	1µm,0.8s,SNR=30						
THY	**Trims Highway**	**17.84**	**335**	*e*P	**P**	**21 38 37.1**	**-0.7**
PHWY	**Pilot Hill**	**17.92**	**104**	*e*P	**P**	**21 38 38.8**	**0.0**
PWA	**Palmer West**	**17.96**	**326**	*e*P	**P**	**21 38 40.7**	**+1.5**
BAR	**Barrett**	**18.04**	**145**	*e*P	**P**	**21 38 38.8**	**-1.6**
WUAZ	**Wupatki**	**18.11**	**128**	*e*P	**P**	**21 38 42.0**	**+0.7**
	2µm,1.3s						
RSO	**Redoubt South**	**18.43**	**320**	*e*P	**P**	**21 38 45.1**	**0.0**
ISCO	**Idaho Springs**	**18.63**	**108**	*e*P	**P**	**21 38 46.0**	**-1.6**
	27nm,1.0s						
MCK	**McKinley**	**19.04**	**332**	*e*P	**P**	**21 38 52.1**	**-0.3**
	25nm,1.3s						
ILAR	**Eielson Array**	**19.21**	**336**	P	**P**	**21 38 54.2**	**-0.3**
	0.2nm,0.3s,baz=150,slow=10.0,SNR=73						
ILAR				LR	LR	21 45 24.4	
	comp=Z,2µm,20.9s,baz=157,slow=34						
COLA	**College**	**19.55**	**335**	*i* P	**P**	**21 38 58.0**	**-0.4**
COLA	**College**	**19.55**	**335**	*e*P	**P**	**21 38 59.7**	**+1.3**
SDCO	**Great Sand Dun**	**19.93**	**113**	*e*P	**P**	**21 39 02.7**	**-0.1**
	36nm,1.1s						
SVW2	**Sparrevohn**	**19.95**	**320**	*e*P	**P**	**21 39 01.2**	**-1.7**
INK	**Inuvik**	**20.26**	**355**	P	**P**	**21 39 06.7**	**+0.6**
	26nm,1.2s,baz=176,slow=10,SNR=15						
INK				LR	LR	21 46 35.4	
	comp=Z,1µm,21.4s,MS4.2,baz=175,slow=36						
INK	**Inuvik**	**20.26**	**355**	*e*P	**P**	**21 39 05.2**	**-0.9**
	82nm,1.5s						
INK	**Inuvik**	**20.26**	**355**	Pn	**P**	**21 39 05.7**	**-0.4**
TUC	**Tucson**	**20.94**	**133**	*e*P	**P**	**21 39 13.2**	**-0.2**
	103nm,1.6s						
ANMO	**Albuquerque**	**21.24**	**121**	*c i*P	**P**	**21 39 17.1**	**+0.7**
ANMO	**Albuquerque**	**21.24**	**121**	P	**P**	**21 39 17.1**	**+0.7**
	59nm,1.0s,mb4.9,baz=319,slow=9.8,SNR=32						
ANMO				LR	LR	21 47 33.2	
	comp=Z,1µm,21.6s,MS4.2,slow=37						
ANMO	**Albuquerque**	**21.24**	**121**	*e*P	**P**	**21 39 16.3**	**-0.2**
	103nm,1.1s,mb5.1						
ULM	**Lac du Bonnet**	**21.49**	**72**	P	**P**	**21 39 19.2**	**+0.5**
	26nm,1.0s,mb4.5,baz=276,slow=9.7,SNR=21						
ULM				LR	LR	21 48 00.2	
	comp=Z,536nm,19.1s,MS4.0,baz=84,slow=38						
ULM	**Lac du Bonnet**	**21.49**	**72**	*e*P	**P**	**21 39 18.4**	**-0.4**
	67nm,1.0s,mb4.9						
ULM	**Lac du Bonnet**	**21.49**	**72**	Pn	**P**	**21 39 18.6**	**-0.2**
IMA	**Indian Mountai**	**22.11**	**333**	*e*P	**P**	**21 39 24.9**	**-0.1**
FCC	**Fort Churchill**	**22.90**	**50**	*e*P	**P**	**21 39 33.3**	**+0.6**
	39nm,0.9s,mb4.8						
FCC	**Fort Churchill**	**22.90**	**50**	Pn	**P**	**21 39 34.5**	**+1.8**
CBKS	**Cedar Bluff**	**22.96**	**103**	*e*P	**P**	**21 39 33.9**	**+0.4**
	120nm,1.3s,mb5.2						
AMTX	**Amarillo**	**24.13**	**114**	*e*P	**P**	**21 39 46.6**	**+1.7**
	71nm,0.9s,mb5.1						
MNTX	**Cornudas Mount**	**24.25**	**124**	*e*P	**P**	**21 39 46.2**	**+0.1**
	41nm,1.4s,mb4.7						
EYMN	**Ely**	**24.76**	**77**	*e*P	**P**	**21 39 51.0**	**+0.2**
	51nm,1.0s,mb5.0						
KSU1	**Kansas State U**	**24.85**	**100**	*e*P	**P**	**21 39 52.5**	**+0.6**
WMOK	**Wichita Mounta**	**26.03**	**110**	*e*P	**P**	**21 40 02.5**	**-0.4**
	36nm,1.1s,mb4.8						
TNA	**Tin City**	**26.87**	**324**	*e*P	**P**	**21 40 09.2**	**-1.2**
	14nm,1.3s,mb4.3						
LTX	**Lajitas**	**27.01**	**125**	*e*P	**P**	**21 40 12.0**	**0.0**
	20nm,1.1s,mb4.6						
TXAR	**Lajitas Array**	**27.01**	**125**	P	**P**	**21 40 12.1**	**+0.1**
	18nm,1.2s,mb4.5,baz=315,slow=7.1,SNR=17						
TXAR				LR	LR	21 51 31.2	
	comp=Z,2µm,19.5s,MS4.8,slow=38						
JCT	**Junction City**	**28.34**	**118**	*e*P	**P**	**21 40 23.3**	**-0.8**
	34nm,0.9s,mb5.0						
MIAR	**Mount Ida**	**29.47**	**105**	*e*P	**P**	**21 40 34.7**	**+0.5**
	16nm,1.2s,mb4.6						
RES	**Resolute Bay**	**30.18**	**17**	*e*P	**P**	**21 40 39.5**	**-0.6**
	6.9nm,0.8s,mb4.4						
RES	**Resolute Bay**	**30.18**	**17**	Pn	**P**	**21 40 40.0**	**-0.1**
OXF	**Oxford**	**32.21**	**101**	*e*P	**P**	**21 40 58.3**	**0.0**
	64nm,1.0s,mb5.4						
SADO	**Sadowa**	**33.87**	**77**	LR	LR	21 53 49.1	
	comp=Z,313nm,19.5s,MS4.0,baz=310,slow=34						
FRB	**Frobisher Bay**	**35.54**	**42**	P	**P**	**21 41 27.9**	**+1.0**
	2.6nm,0.8s,mb4.2,baz=291,slow=9.9,SNR=3.5						
FRB				LR	LR	21 56 30.8	
	comp=Z,2µm,19.2s,MS4.8,baz=276,slow=37						
BILL	**Bilibino**	**37.28**	**326**	*i* P	**P**	**21 41 40.5**	**-1.0**
BILL				*e*		21 41 49.7	
BILL				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.0						
BILL				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.3						
BILL	**Bilibino**	**37.28**	**326**	*e*P	**P**	**21 41 40.2**	**-1.3**
	comp=Z,32nm,1.3s,mb5.0						
SCHQ	**Schefferville**	**37.96**	**56**	P	**P**	**21 41 46.4**	**-0.9**
	comp=Z,4.4nm,0.8s,mb4.2,baz=278,slow=5.9,SNR=5.9						
SCHQ				LR	LR	21 57 51.8	
	comp=Z,886nm,20.8s,MS4.5,baz=122,slow=37						
SCHQ	**Schefferville**	**37.96**	**56**	*e*P	**P**	**21 41 46.1**	**-1.1**
	comp=Z,31nm,1.3s,mb4.9						
COW	**Cow Castle Cre**	**38.66**	**95**	*e*P	**P**	**21 41 51.6**	**-1.8**
SEY	**Seymchan**	**43.89**	**320**	*e*P	**P**	**21 42 36.8**	**+0.9**
SEY				*e*PPP	PPP	21 44 57.1	+0.2
SEY				*e*S	**S**	**21 49 05.9**	**-1.0**
SEY				*e*		21 52 32.0	
SEY				*e*SSS	SSS	21 53 05.4	-2.9
SEY				pmax	pmax		
	comp=E,20nm,0.9s						
SEY				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.2						
SEY				pmax	pmax		
	comp=N,20nm,1.2s						
SEY				smax			
	comp=N,220nm,17.7s						
SEY				smax			
	comp=E,640nm,16.7s						
SEY				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.6						
SEY				MLR	MLR		
	comp=N,380nm,18.0s,MS4.5						
SEY				MLR	MLR		
	comp=E,380nm,14.0s,MS4.5						
SUMG	**Summit**	**44.92**	**25**	*e*P	**P**	**21 42 43.3**	**-0.9**
	comp=E,8.5nm,1.1s,mb4.5						
MA2	**Magadan**	**45.84**	**316**	*e*P	**P**	**21 42 50.7**	**-0.8**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
YAK	**Yakutsk**	**53.63**	**325**	*e*P	**P**	**21 43 47.7**	**-3.6**
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				MLR	MLR		
	comp=Z,507nm,24.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,345nm,21.0s,MS4.5						
YAK				MLR	MLR		
	comp=E,256nm,21.0s,MS4.5						
ASAJ	**Asahikawa**	**58.16**	**302**	LR	LR	22 05 12.2	
	comp=E,229nm,21.1s,MS4.3,baz=239,slow=32						
CLNS	**Chul'man**	**58.79**	**322**	*e*P	**P**	**21 44 24.3**	**-4.1**
CLNS				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.5						
CLNS				MLR	MLR		
	comp=N,300nm,17.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,100nm,17.0s,MS4.5						
KLR	**Kul'dur**	**60.68**	**312**	*e*P	**P**	**21 44 34.2**	**-7.3**
ARCES	**ARCESS Array B**	**61.02**	**10**	LR	LR	22 12 12.4	
	comp=E,198nm,18.4s,MS4.3,baz=348,slow=37						
BOD	**Bodaibo**	**62.31**	**327**	*e*P	**P**	**21 44 48.2**	**-4.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
ROSC	**El Rosal**	**63.27**	**115**	P	**P**	**21 45 00.1**	**+0.8**
	comp=Z,4.5nm,0.3s,mb5.0,baz=84,slow=21,SNR=4.5						
ROSC				LR	LR	22 11 56.7	
	comp=Z,145nm,21.0s,MS4.1,baz=161,slow=36						
MDJ	**Mudanjiang**	**64.88**	**309**	P	**P**	**21 45 06.0**	**-3.4**
MDJ				PCP	PcP	21 45 39.7	-2.8
MDJ				S	**S**	**21 53 46.2**	**-3.0**
MDJ				SCS	ScS	21 55 00.2	-0.5
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,125nm,5.2s						
MDJ				LR	LR		
	comp=N,176nm,23.3s,MS4.4						
MDJ				LR	LR		
	comp=E,232nm,25.4s,MS4.4						
MDJ				LR	LR		
	comp=Z,396nm,25.4s,MS4.5						
NB2	**NORSAR Subarra**	**66.39**	**20**	P	**P**	**21 45 18.5**	**-0.2**
	comp=Z,11nm,1.1s,mb4.8,baz=334,slow=6.2						
NOA	**NORSAR Array B**	**66.39**	**20**	P	**P**	**21 45 19.3**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.5,baz=334,slow=6.4,SNR=10						
NOA				LR	LR	22 15 23.2	
	comp=Z,116nm,19.1s,MS4.1,baz=330,slow=37						
NOA	**NORSAR Array B**	**66.39**	**20**	P	**P**	**21 45 19.3**	**+0.6**
NOA				LR	LR	22 15 23.2	
CN2	**Changchun**	**67.57**	**311**	*e*P	**P**	**21 45 24.3**	**-2.2**
CN2				*e*AP	pP	21 45 29.1	-0.1
CN2				*e*S	S	21 54 18.8	-3.1
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,20.0s,MS4.6						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS4.6						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.5						
FINES	**FINESS Array B**	**68.81**	**13**	P	**P**	**21 45 33.9**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.1,baz=16,slow=10,SNR=5.8						
FINES				LR	LR	22 14 52.4	
	comp=Z,184nm,20.1s,MS4.3,baz=351,slow=35						
SNY	**Shenyang**	**69.95**	**311**	⇓P	**P**	**21 45 39.4**	**-1.8**
SNY				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
TLY	**Talaya**	**70.83**	**329**	⇓*i*P	**P**	**21 45 44.7**	**-1.8**
TLY				*e*S	S	21 55 01.0	+0.7
TLY				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
TLY				MLR	MLR		
	comp=Z,262nm,16.0s,MS4.6						
ULN	**Ulaanbaatar**	**72.71**	**324**	*i* P	**P**	**21 45 55.4**	**-2.2**
SONM	**Songino Array**	**72.99**	**325**	P	**P**	**21 45 58.1**	**-1.2**
	comp=Z,4.0nm,1.2s,mb4.2,baz=357,slow=26,SNR=3.7						
SONM				PP	PP	21 48 40.6	-3.4
	comp=Z,1.5nm,1.2s,baz=39,slow=7.9,SNR=4.2						

NVS	Novosibirsk	73.81	341	eP	P	21 46 01.5	-2.4
NVS				pmax	pmax		
	comp=N,10.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,20nm,1.7s,mb4.8						
BAIF	Baives	74.05	29	eP	P	21 46 05.9	+0.5
	comp=Z,59nm,1.4s,mb5.0						
GIVF	Givet	74.21	29	eP	P	21 46 06.3	0.0
ZAL	Zalesovo	74.30	340	P	P	21 46 06.1	-0.6
	comp=Z,0.6nm,0.7s,mb3.7,baz=62,slow=9.7,SNR=4.2						
ZAL				LR	LR	22 23 00.1	
	comp=Z,388nm,18.1s,MS4.7,baz=90,slow=39						
BJI	Beijing	74.96	314	P	P	21 46 09.9	-1.0
	comp=Z,3.0nm,0.8s,mb4.3						
BJI				S	S	21 55 47.5	+0.2
BJI				LR	LR		
	comp=Z,300nm,25.6s,MS4.5						
SUW	Suwalki	75.39	17	eP	P	21 46 13.7	+0.7
MFF	Saint Martin d	75.47	34	eP	P	21 46 13.5	-0.1
	comp=Z,20nm,1.2s,mb4.7						
CLL	Collm	75.56	24	eP	P	21 46 15.0	+0.9
CLL				e		21 46 22.0	
CLL	Collm	75.56	24	P	P	21 46 15.0	+0.9
CLL				e*PP	pP	21 46 22.0	+5.2
CLL				e*SP	sP	21 46 26.0	+8.3
MOX	Moxa	75.78	25	eP	P	21 46 16.2	+0.9
MOX				pmax	pmax		
	comp=Z,14nm,1.6s,mb4.6						
MOX				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.4						
MOX	Moxa	75.78	25	eP	P	21 46 16.2	+0.9
	comp=Z,14nm,1.6s,mb4.6						
MOX				LR	LR		
	comp=Z,200nm,20.0s,MS4.4						
MOX	Moxa	75.78	25	i P	P	21 46 16.2	+0.9
	comp=Z,logA/T=0.9,mb4.6						
MOX				L		22 19 11.0	
BRG	Berggiesshubel	76.21	23	eP	P	21 46 19.3	+1.6
BRG				e		21 46 26.7	
BRG				i		21 46 29.6	
BRG				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
BRG				MLR	MLR		
	comp=N,250nm,20.0s,MS4.6						
BRG				MLR	MLR		
	comp=E,190nm,20.0s,MS4.6						
BRG				MLR	MLR		
	comp=Z,270nm,20.0s,MS4.5						
BRG	Berggiesshubel	76.21	23	eP	P	21 46 19.3	+1.6
	comp=Z,11nm,1.1s,mb4.7						
BRG				e		21 46 26.7	
BRG				i		21 46 29.6	
BRG				LR	LR		
	comp=Z,270nm,20.0s,MS4.5						
OBN	Obninsk	76.28	9	i P	P	21 46 19.0	+1.0
OBN				e		21 46 29.3	
OBN				e		21 56 16.6	
OBN				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
NKC	Novy Kostel	76.39	24	eP	PcP	21 46 30.8	-0.2
SSF	Saint Saulge	76.39	31	eP	P	21 46 18.7	-0.2
	comp=Z,29nm,1.3s,mb4.8						
CDF	Champ du Feu	76.47	28	eP	P	21 46 19.3	0.0
	comp=Z,18nm,1.0s,mb4.6						
HHC	Hu-ho-hao-te	76.48	317	eP	P	21 46 18.8	-0.7
HHC				AP	pP	21 46 22.5	+0.3
HHC				XP	sP	21 46 25.1	+2.0
HHC				S	S	21 55 59.9	-4.0
HHC				SKS	SKS	21 56 20.9	-10
HHC				SCS	ScS	21 56 31.6	-0.5
HHC				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,79nm,5.2s						
HHC				LR	LR		
	comp=N,271nm,17.2s,MS4.7						
HHC				LR	LR		
	comp=E,252nm,20.2s,MS4.7						
HHC				LR	LR		
	comp=Z,405nm,18.4s,MS4.8						
GRF	Grafenberg Arr	76.53	25	eP	PcP	21 46 28.2	-3.4
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AVF	Avril sur Loir	76.57	32	eP	P	21 46 19.4	-0.5
	comp=Z,28nm,1.2s,mb4.8						
BGF	Bois d'Agland	76.59	32	eP	P	21 46 19.6	-0.4
	comp=Z,21nm,0.9s,mb4.8						
TCF	Toulx Ste Croi	76.60	33	eP	P	21 46 19.7	-0.3
	comp=Z,20nm,1.0s,mb4.7						
PVCC	Panska Ves	76.69	23	eP	PcP	21 46 29.1	-3.1
KSP	Ksiaz	76.84	22	eP	P	21 46 22.6	+1.3
KSP				e		21 46 33.2	
KSP	Ksiaz	76.84	22	eP	P	21 46 22.9	+1.6
SMF	Signal de Mont	76.87	31	eP	P	21 46 21.8	+0.3
UPC	Upice	77.08	22	eP	PcP	21 46 30.5	-3.4
UPC				ex	x	21 46 34.6	
PRU	Pruhonice	77.17	23	eP	P	21 46 24.1	+1.0
PRU				ex	x	21 46 35.1	
RJF	Les Rejaudoux	77.19	34	eP	P	21 46 23.0	-0.3
	comp=Z,32nm,1.0s,mb4.9						
RJF				eR			
	comp=Z,442nm,18.8s						
LFF	La Frestale	77.21	34	eP	P	21 46 23.4	0.0
	comp=Z,16nm,0.9s,mb4.7						
DPC	Dobruska-Polom	77.30	22	eP	P	21 46 25.5	+1.7
DPC				ex	x	21 46 32.9	
CABF	La Chapelle	77.66	30	eP	P	21 46 26.3	+0.4
KHC	Kasperske Hory	77.69	24	eP	P	21 46 28.0	+2.0
KHC				e		21 46 35.0	
CAF	Calviac	77.71	33	eP	P	21 46 25.9	-0.3
BVAR	Borovoye Array	77.80	348	P	P	21 46 26.1	-0.4
	comp=Z,3.0nm,1.1s,mb4.1,baz=18,slow=4.7,SNR=9.7						
GERES	GERESS Array B	77.99	24	P	P	21 46 28.1	+0.4
	comp=Z,2.0nm,0.8s,mb4.1,baz=333,slow=3.0,SNR=13						
MORC	Moravsky Berou	78.13	22	eP	P	21 46 28.2	-0.2
	comp=Z,3.5nm,1.0s,mb4.2						
OKC	Ostrava-Krasne	78.22	21	eP	P	21 46 30.8	+1.9
OKC				ex	x	21 46 40.7	
OJC	Ojcow	78.25	20	eP	P	21 46 30.9	+1.8
VRAC	Vranov	78.33	22	⇓P	P	21 46 31.5	+2.0
KURK	Kurchatov	78.64	343	i P	P	21 46 30.6	-0.6
KURK	Kurchatov	78.64	343	eP	P	21 46 29.7	-1.5
	comp=Z,3.4nm,0.8s,mb4.3						
LPL	La Plagne	78.84	30	eP	P	21 46 33.3	+0.9
EVO	Evora	78.86	43	eP	P	21 46 32.2	-0.5
	comp=Z,53nm,1.3s,mb5.0						
EVO				eR			
	comp=Z,600nm,19.0s						
LPG	La Plagne	78.86	30	eP	P	21 46 33.4	+0.9
NIE	Niedzica	79.12	20	eP	P	21 46 35.0	+1.1
LVV	L'vov	79.54	18	eP	P	21 46 47.8	+12
AKASG	Malin Array Be	79.64	14	P	P	21 46 36.8	+0.2
	comp=Z,0.4nm,0.4s,mb3.7,baz=336,slow=5.0,SNR=7.7						
ESDC	Sonseca Array	79.73	40	P	P	21 46 39.1	+1.7
	comp=Z,1.9nm,0.8s,mb4.0,baz=302,slow=3.4,SNR=4.6						
NJ2	Nanjing	79.81	307	eP	P	21 46 37.8	-0.2
NJ2				AP	pP	21 46 42.5	+1.8
NJ2				XP	sP	21 46 44.8	+3.2
NJ2				PP	PP	21 49 39.9	-1.0
NJ2				S	S	21 56 37.0	-2.8
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,5.1s						
NJ2				LR	LR		
	comp=N,270nm,24.0s						
NJ2				LR	LR		
	comp=E,320nm,18.1s						
NJ2				LR	LR		
	comp=Z,310nm,25.1s,MS4.5						
CRVS	Cervenica-Dubn	79.87	19	eP	P	21 46 37.8	-0.1
KOLS	Kolonicke sedl	80.02	19	eP	P	21 46 40.4	+1.7
PSZ	Piszkesteto	80.43	21	eP	P	21 46 40.6	-0.3
	comp=Z,16nm,1.0s,mb4.9						
PSZ	Piszkesteto	80.43	21	⇑e	P	21 46 43.3	+2.4
SAML	Samuel	80.92	114	eP	P	21 46 42.1	-2.1
	comp=Z,4.7nm,1.0s,mb4.4						
GTA	Gaotai	82.65	324	P	P	21 46 50.7	-2.0
GTA				XP	sP	21 46 58.9	+2.6
GTA				S	S	21 57 07.3	-1.7
GTA				XS		21 57 15.6	
GTA				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.9						
GTA				AMB	AMB		
	comp=Z,98nm,10.1s						
GTA				LR	LR		
	comp=N,293nm,19.8s,MS4.9						
GTA				LR	LR		
	comp=E,352nm,18.3s,MS4.9						
GTA				LR	LR		
	comp=Z,572nm,20.2s,MS4.9						
WMQ	Urumqi	82.87	334	eP	P	21 46 54.7	+1.0
WMQ				AP	pP	21 46 59.0	+2.6
WMQ				XP	sP	21 47 01.5	+4.2
WMQ				PP	PP	21 50 07.0	+0.9
WMQ				S	S	21 57 11.5	+0.5
WMQ				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,140nm,5.0s						
WMQ				LR	LR		
	comp=N,414nm,22.4s,MS5.0						
WMQ				LR	LR		
	comp=E,534nm,23.7s,MS5.0						
WMQ				LR	LR		
	comp=Z,442nm,26.4s,MS4.7						
BZS	Buzias	83.00	20	⇓P	P	21 46 56.1	+1.7
KIS	Kishinev	83.15	15	eP	P	21 47 06.0	+11
XAN	Xi'an	83.23	315	P	P	21 46 54.2	-1.6
XAN				AMB	AMB		
	comp=Z,9.0nm,1.5s,mb4.6						
LZH	Lanzhou	83.83	320	eP	P	21 46 57.5	-1.2
LZH				AP	pP	21 47 00.8	-0.7
LZH				XP	sP	21 47 02.3	0.0
LZH				PP	PP	21 50 11.7	-2.1
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,123nm,6.5s						
LZH				LR	LR		
	comp=N,439nm,15.1s						
LZH				LR	LR		
	comp=Z,497nm,17.7s,MS4.9						
LZH	Lanzhou	83.83	320	eP	P	21 46 57.5	-1.2
	comp=Z,25nm,1.4s,mb5.2						
LZH				pP	pP	21 47 00.8	-0.7
LZH				sP	sP	21 47 02.3	0.0
LZH				PP	PP	21 50 11.7	-2.1
LZH				LR	LR		
	comp=Z,500nm,17.7s,MS4.9						
LPAZ	La Paz	83.84	123	eP	P	21 46 58.4	-0.8
	comp=Z,5.5nm,0.9s,mb4.7						
VRI	Vrincioaia	83.86	17	⇓P	P	21 47 00.1	+1.4
MLR	Muntele Rosu	84.06	18	⇓P	P	21 47 01.8	+2.1
CFR	Carcaliu	84.79	16	⇓P	P	21 47 04.9	+1.6
VTS	Vitosha	86.23	20	⇑P	P	21 47 09.2	-1.4
GOF	Gofitskoye	86.81	6	⇓iP	P	21 47 14.0	+0.7
GOF				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1						
AAK	Ala-Archa	87.20	343	i P	P	21 47 14.8	-0.5
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.4						
AAK	Ala-Archa	87.20	343	eP	P	21 47 14.0	-1.3
	comp=Z,1.3nm,0.8s,mb4.2						
KIV	Kislovodsk	87.88	6	eP	P	21 47 19.9	+1.4
KIV				pmax	pmax		
	comp=N,9.0nm,1.1s						
KIV				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.1						
KIV				MLR	MLR		
	comp=Z,119nm,16.0s,MS4.4						
KIV	Kislovodsk	87.88	6	eP	P	21 47 19.4	+0.9
	comp=Z,12nm,1.0s,mb5.1						
SOC	Sochi	88.00	8	eP	P	21 47 19.2	+0.1
SOC				e		21 50 42.5	
SOC				ePPP	PPP	21 52 44.5	-1.5
SOC				eS		21 57 43.0	
SOC				eSS	SS	22 03 56.8	+4.6
SOC				pmax	pmax		
	comp=N,21nm,1.0s						
SOC				pmax	pmax		
	comp=E,15nm,1.0s						
SOC				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.2						
GYA	Guiyang	90.58	312	P	P	21 47 31.0	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
BRTR	Keskin Array B	91.03	13	eP	P	21 47 34.5	+1.0
BRTR	Keskin Array B	91.03	13	P	P	21 47 34.5	+1.0
	comp=Z,1.4nm,0.9s,mb4.3,baz=326,slow=4.5,SNR=3.8						
PMG	Port Moresby	93.00	259	LR	LR	22 23 42.0	
	comp=Z,105nm,18.3s,MS4.3,baz=216,slow=32						
KMI	Kunming	93.61	315	P	P	21 47 46.3	+0.6
KMI				AP	pP	21 47 50.8	+2.4
KMI				S	S	21 58 52.8	+1.2
KMI				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,57nm,4.4s						
KMI				LR	LR		
	comp=N,238nm,22.8s,MS4.7						
KMI				LR	LR		
	comp=E,206nm,19.7s,MS4.7						
KMI				LR	LR		
	comp=Z,236nm,19.7s,MS4.7						
KMI	Kunming	93.61	315	eP	P	21 47 46.3	+0.6
KMI	Kunming	93.61	315	P	P	21 47 46.3	+0.6
	comp=Z,3.0nm,1.3s,mb4.6						
KMI				pP	pP	21 47 50.8	+2.4
KMI				S	S	21 58 52.8	+1.2
KMI				SS	SS	22 05 06.9	-6.3
KMI				LR	LR		
	comp=Z,240nm,19.7s,MS4.7						
BDFB	Brasilia	95.51	107	LR	LR	22 34 10.0	
	comp=Z,127nm,19.7s,MS4.4,baz=323,slow=38						
VNA3	Neumayer Olymp	144.00	151	⇓iP	PKPbc	21 54 06.1	+4.6
VNA2	Neumayer--Watz	144.78	151	⇓i	PKPbc	21 54 04.1	+0.4
SNAA	Sanae	146.07	153	⇑iP	PKPbc	21 54 05.9	-1.1
SNAA	Sanae	146.07	153	⇑i	PKPbc	21 54 10.7	+3.7
SNAA	Sanae	146.07	153		PKPbc	21 54 13.7	+6.7
SNAA	Sanae	146.07	153	ePKIKP	PKPdf	21 54 05.9	-2.9
MATP	Matopo	146.76	41	PKPbc	PKPbc	21 54 12.1	+2.1
	comp=Z,4.8nm,1.2s,baz=261,slow=1.6,SNR=2.7						

*BJI **01** 22:22:04.9, 8.46N×93.42E, h33km, mB5.0, mb4.5, Ms4.4, Msz3.9*
*MOS **01** 22:22:05.9±0.8, 8.63N×93.64E, h33km, mb5.0/20, Error ellipse: s-maj=16.8km s-min=7.7km az=116.2*
*NEIC **01** 22:22:06.7±0.2, 8.59N×93.56E, mb4.8/32, Error ellipse: s-maj=8.3km s-min=5.2km az=50.0*
*IDC **01** 22:22:09.1±4.8, 8.54N×93.49E, h46km±43km, mb4.3/16, mb1 4.5/17, mb1mx4.4/21, mbtmp4.5/17, ML4.3/1, MS3.1/1, Ms1 3.3/1, ms1mx3.0/17, Error ellipse: s-maj=34.0km s-min=13.8km az=53.0*
ISC 01 22:22:04.8±0.3, **8.57N**±0.04×**93.53E**±0.04, **h24**km, **h24**km±1.7km**:pP-P, n149,** σ**1.05**/158, **mb4.7**/61, **MS4.0**/5, **6C-11D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	7.78	114	eP	Pn	22 23 59.5	0.0
CM31	Chiang Mai Arr	11.15	28	eP	P	22 24 48.0	+2.0
CMAR	Chiang Mai Arr	11.15	28	P	P	22 24 48.3	+2.3
	0.7nm,0.3s,baz=217,slow=14,SNR=20						
CMAR				LR	LR	22 29 00.2	
	comp=Z,99nm,19.8s,baz=45,slow=37						
VIS	Vishakhapatnam	13.46	314	eP	P	22 25 15.7	-1.3
VIS				AMb	AMB	22 25 21.8	
	comp=Z,29nm,1.3s						
VIS				eS	S	22 27 31.4	-15
BWNR	Bhubaneshwar	13.85	328	eP	P	22 25 18.8	-3.3
BWNR				e		22 25 21.3	
	comp=Z,15nm,0.4s						
BWNR				i S	S	22 27 39.5	-17
BWNR				e		22 27 45.1	
HYB	Hyderabad	17.03	303	eP	P	22 26 08.0	+4.8
HYB				eS	S	22 29 09.5	-0.9
HYB	Hyderabad	17.03	303	i P	P	22 26 08.0	+4.8
HYB				eS	S	22 29 09.5	-0.9
KSM	Kuching	18.13	112	eP	P	22 26 18.2	+1.2
KMI	Kunming	18.66	27	P	P	22 26 25.4	+2.0
KMI				AP		22 26 30.2	
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s						
KMI	Kunming	18.66	27	P	P	22 26 25.4	+2.0
	comp=Z,5.0nm,1.2s						
KMI				pP		22 26 30.2	
JIRN	Jiri	20.22	341	eP	P	22 26 41.2	+0.2
	comp=Z,151nm,1.0s						
PKI	Pulchoki	20.40	339	eP	P	22 26 43.1	+0.1
	comp=Z,143nm,1.0s						
DMN	Daman	20.55	338	eP	P	22 26 45.1	+0.7
	comp=Z,87nm,0.8s						
KKN	Kakani	20.65	339	eP	P	22 26 45.7	+0.2
	comp=Z,110nm,1.0s						
KAD	Karad	20.74	297	eP	P	22 26 48.1	+1.6
KAD				e		22 26 49.7	
	comp=Z,12nm,0.8s						
GKN	Gorkha	21.08	338	eP	P	22 26 50.1	+0.2
	comp=Z,188nm,0.8s,mb5.5						
LSA	Lhasa	21.14	354	P	P	22 26 50.2	-0.3
LSA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
LSA	Lhasa	21.14	354	⇓eP	P	22 26 49.8	-0.7
	comp=Z,29nm,0.5s,mb4.9						
BHPL	Bhopal	21.24	315	eP	P	22 26 51.8	+0.2
BHPL				e		22 26 58.2	
	comp=Z,44nm,0.8s						
KOLN	Koldanda	21.28	335	eP	P	22 26 52.8	+0.9
	comp=Z,92nm,0.7s,mb5.2						
POO	Poona	21.52	299	eP	P	22 26 56.3	+1.9
POO				e		22 27 01.8	
	comp=Z,8.4nm,0.5s						
GYA	Guiyang	21.73	33	⇑iP	P	22 26 57.2	+0.8
GYA				AP		22 27 04.4	
GYA				XP		22 27 08.6	
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
GYA				AMB	AMB		
	comp=Z,120nm,2.8s,mb4.8						
GYA				LR	LR		
	comp=N,350nm,14.7s,MS4.0						
GYA				LR	LR		
	comp=E,170nm,14.1s,MS4.0						
GYA				LR	LR		
	comp=Z,340nm,16.2s,MS3.8						
NDI	New Delhi	25.22	325	e	P	22 27 29.5	-1.1
DDI	Dehra Dun	26.04	328	eP	P	22 27 38.7	+0.5
ENH	Enshi	26.25	33	eP	P	22 27 38.7	-1.5
	comp=Z,5.8nm,0.8s,mb4.2						
LZH	Lanzhou	28.96	17	⇑P	P	22 28 04.5	-0.2
LZH				AP	pP	22 28 11.4	-0.4
LZH				XP	sP	22 28 14.7	-0.2
LZH				PP	PP	22 29 02.5	+3.9
LZH				eS	S	22 32 51.5	-1.3
LZH				SS	SS	22 34 21.6	-0.2
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,102nm,5.6s						
LZH				LR	LR		
	comp=N,659nm,12.2s						
LZH				LR	LR		
	comp=Z,1μm,15.0s,MS4.7						
LZH	Lanzhou	28.96	17	⇑P	P	22 28 04.5	-0.2
	comp=Z,27nm,1.3s,mb4.8						
LZH				pP	pP	22 28 11.4	-0.4
LZH				sP	sP	22 28 14.7	-0.2
LZH				PP	PP	22 29 02.5	+3.9
LZH				eS	S	22 32 51.5	-1.3
LZH				sS		22 33 04.5	
LZH				SS	SS	22 34 21.6	-0.2
GTA	Gaotai	31.22	9	P	P	22 28 24.4	-0.4
GTA				AP	pP	22 28 32.8	+1.0
GTA				XP	sP	22 28 36.2	+1.3
GTA				PP	PP	22 29 26.4	-1.6
GTA				S	S	22 33 25.6	-2.9
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,90nm,6.9s						
GTA				LR	LR		
	comp=N,84nm,14.5s,MS3.7						
GTA				LR	LR		
	comp=E,99nm,16.0s,MS3.7						
GTA				LR	LR		
	comp=Z,134nm,14.9s,MS3.7						
NJ2	Nanjing	33.15	42	eP	P	22 28 42.0	+0.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
WMQ	Urumqi	35.48	353	eP	P	22 29 02.5	+0.9
WMQ				AP	pP	22 29 09.5	+0.7
WMQ				XP	sP	22 29 13.0	+1.2
WMQ				PP	PP	22 30 22.0	+0.2
WMQ				PCP	PcP	22 31 33.0	+1.9
WMQ				S	S	22 34 34.0	-0.7
WMQ				PCS		22 35 18.5	
WMQ				SS	SS	22 36 53.0	-0.7
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,118nm,5.1s						
WMQ				LR	LR		
	comp=N,260nm,14.2s,MS4.3						
WMQ				LR	LR		
	comp=E,324nm,15.7s,MS4.3						
WMQ				LR	LR		
	comp=Z,167nm,13.0s,MS4.0						
HHC	Hu-ho-hao-te	35.92	24	eP	P	22 29 06.9	+1.5
HHC				AP	pP	22 29 10.5	-2.0
HHC				PP	PP	22 30 30.0	+2.9
HHC				S	S	22 34 45.8	+4.4
HHC				SS	SS	22 37 10.6	+6.8
HHC				SCS	ScS	22 39 17.2	-2.5
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,146nm,5.8s						
KZA	Kyzart	37.07	337	P	P	22 29 15.8	+0.8
	SNR=14						
BJI	Beijing	37.29	29	P	P	22 29 17.9	+1.0
	comp=Z,4.0nm,0.7s,mb4.4						
UCH	Uchtor	37.48	337	P	P	22 29 19.4	+1.0
	SNR=17						
TKM2	Tokmak 2	37.66	338	P	P	22 29 20.6	+0.6
	SNR=6.5						
KBK	Karagaybulak	37.68	337	P	P	22 29 21.4	+1.3
	SNR=25						
AML	Almayashu	37.73	336	P	P	22 29 21.8	+1.2
	SNR=53						
AAK	Ala-Archa	37.83	337	P	P	22 29 22.9	+1.5
	SNR=22						
AAK	Ala-Archa	37.83	337	d iP	P	22 29 21.2	-0.2
AAK				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
AAK	Ala-Archa	37.83	337	eP	P	22 29 20.5	-0.9
	comp=Z,14nm,0.9s,mb4.7						
CHMS	Chumysh	38.05	337	P	P	22 29 23.6	+0.4
	SNR=9.3						
EKS2	Erkin-Say	38.14	336	P	P	22 29 25.0	+1.1
	SNR=30						
USP	Ospenovka	38.37	337	P	P	22 29 26.3	+0.4
	SNR=30						
SONM	Songino Array	40.63	13	P	P	22 29 44.6	0.0
	comp=Z,3.2nm,0.9s,mb3.9,baz=200,slow=6.2,SNR=26						
SONM				PcP	PcP	22 31 47.1	+0.2
	comp=Z,1.2nm,0.7s,baz=199,slow=3.9,SNR=8.7						
ULN	Ulaanbaatar	40.81	14	i P	P	22 29 44.4	-1.7
ULN	Ulaanbaatar	40.81	14	eP	P	22 29 45.5	-0.5
	comp=Z,3.5nm,0.7s,mb4.1						
ULN				e	pP	22 29 52.7	-0.6
ZAK	Zakamensk	42.46	9	eP	P	22 29 58.6	-1.0
ZAK				e		22 31 49.4	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
KURK	Kurchatov	43.80	346	P	P	22 30 10.3	-0.1
	comp=Z,71nm,1.0s,mb5.3,SNR=16						
KURK	Kurchatov	43.80	346	d iP	P	22 30 10.0	-0.4
KURK	Kurchatov	43.80	346	eP	P	22 30 09.9	-0.6
	comp=Z,29nm,1.3s,mb4.8						
CN2	Changchun	44.77	33	eP	P	22 30 18.8	+0.3
CN2				eAP	pP	22 30 26.5	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
MUN	Mundaring	45.77	153	eP	P	22 30 28.0	+1.4
	comp=Z,7.6nm,0.5s,mb4.9						
ZAL	Zalesovo	45.79	353	P	P	22 30 26.4	0.0
	comp=Z,6.5nm,0.6s,mb4.8,baz=296,slow=8.6,SNR=46						
HIA	Hailar	46.13	24	i P	P	22 30 29.2	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HIA	**Hailar**	**46.13**	**24**	*e*P	**P**	**22 30 29.3**	**+0.2**
	comp=Z,9.2nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**46.17**	**151**	*e*P	**P**	**22 30 29.5**	**-0.2**
	comp=Z,168nm,1.0s						
NVS	**Novosibirsk**	**46.88**	**352**	*i* P	**P**	**22 30 33.4**	**-1.5**
NVS				pmax	pmax		
	comp=N,13nm,1.0s						
NVS				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
NWAO	**Narrogin (SRO)**	**47.04**	**152**	P	**P**	**22 30 36.8**	**+0.3**
	comp=Z,11nm,0.7s,mb4.9,baz=334,slow=5.0,SNR=3.8						
MDJ	**Mudanjiang**	**47.58**	**35**	P	**P**	**22 30 41.1**	**+0.4**
MDJ				XP	sP	22 30 49.8	-1.0
MDJ				PCP	PcP	22 32 10.6	-0.1
MDJ				PP	PP	22 32 32.2	+0.7
MDJ				SCP		22 36 04.0	
MDJ				PCS		22 36 06.0	
MDJ				S	**S**	**22 37 36.2**	**+2.7**
MDJ				SCS	ScS	22 40 33.7	+3.6
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,41nm,4.0s						
MDJ				LR	LR		
	comp=Z,31nm,20.0s,MS3.3						
RAYN	**Ar Rayn**	**48.25**	**294**	P	**P**	**22 30 48.7**	**+2.5**
	comp=Z,64nm,1.1s,SNR=15						
CHKZ	**Chkalovo**	**48.63**	**342**	*e*P	**P**	**22 30 48.0**	**-0.6**
	comp=Z,24nm,0.7s,mb5.3						
CHKZ				*e*	pP	22 30 55.2	-0.8
WRA	**Warramunga Arr**	**49.15**	**126**	*i* P	**P**	**22 30 52.2**	**-1.0**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WRA	**Warramunga Arr**	**49.15**	**126**	P	**P**	**22 30 52.2**	**-0.9**
	comp=Z,2.5nm,0.6s,mb4.4,baz=305,slow=8.5,SNR=46						
WRAB	**Tennant Creek**	**49.16**	**126**	*i* P	**P**	**22 30 48.9**	**-4.3**
WRAB	**Tennant Creek**	**49.16**	**126**	*e*P	**P**	**22 30 51.8**	**-1.4**
	comp=Z,5.9nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**49.16**	**126**	⇑*i*P	**P**	**22 30 52.2**	**-1.0**
ASAR	**Alice Springs**	**50.82**	**130**	P	**P**	**22 31 04.3**	**-1.5**
	comp=Z,3.7nm,1.0s,mb4.3,baz=307,slow=7.5,SNR=18						
ASAR				PcP	PcP	22 32 23.1	+0.3
	comp=Z,0.5nm,0.6s,baz=299,slow=3.9,SNR=3.6						
BOD	**Bodaibo**	**51.62**	**14**	*e*P	**P**	**22 31 10.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GNI	**Garni**	**53.52**	**314**	*i* P	**P**	**22 31 25.0**	**-0.9**
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KIV	**Kislovodsk**	**56.40**	**318**	*d i*P	**P**	**22 31 46.1**	**-0.7**
KIV				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**56.40**	**318**	*e*P	**P**	**22 31 46.0**	**-0.8**
	comp=Z,20nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**56.61**	**38**	*i* P	**P**	**22 31 46.7**	**-1.6**
YSS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**56.90**	**263**	P	**P**	**22 31 53.5**	**+2.7**
	comp=Z,2.1nm,0.8s,mb4.2,baz=62,slow=13,SNR=6.0						
KMBO	**Kilima Mbogo**	**56.90**	**263**	*e*P	**P**	**22 31 53.4**	**+2.6**
	comp=Z,5.1nm,1.0s,mb4.5						
SOC	**Sochi**	**58.26**	**316**	*e*P	**P**	**22 31 54.5**	**-5.4**
SOC				*e*		22 34 04.4	
SOC				*e*S	**S**	**22 39 52.3**	**-6.5**
SOC				*e*		22 41 44.1	
SOC				*e*SS	SS	22 43 51.0	-1.4
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
SOC				pmax	pmax		
	comp=N,18nm,0.9s						
YAK	**Yakutsk**	**59.53**	**19**	⇑*i*P	**P**	**22 32 07.3**	**-1.2**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
BRTR	**Keskin Array B**	**61.52**	**311**	P	**P**	**22 32 21.1**	**-1.3**
	comp=Z,6.1nm,0.8s,mb4.8,baz=124,slow=7.5,SNR=29						
OBN	**Obninsk**	**64.47**	**328**	⇓*e*P	**P**	**22 32 40.3**	**-1.4**
OBN						22 34 59.0	
OBN				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
TIRR	**Tirgusor**	**66.34**	**315**	⇓P	**P**	**22 32 52.2**	**-1.6**
MA2	**Magadan**	**66.44**	**28**	*e*P	**P**	**22 32 53.6**	**-0.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2	**Magadan**	**66.44**	**28**	*e*P	**P**	**22 32 53.0**	**-1.2**
	comp=Z,24nm,0.9s,mb5.2						
TIXI	**Tiksi**	**66.68**	**12**	⇓*i*P	**P**	**22 32 53.0**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
CFR	**Carcaliu**	**66.68**	**316**	⇓P	**P**	**22 32 55.0**	**-1.0**
AKASG	**Malin Array Be**	**67.24**	**322**	P	**P**	**22 32 57.6**	**-1.9**
	comp=Z,4.0nm,0.6s,mb4.6,baz=88,slow=4.9,SNR=21						
AKASG				PP	PP	22 35 24.6	-4.8
	comp=Z,0.1nm,0.3s,baz=98,slow=7.9,SNR=4.4						
VRI	**Vrincioaia**	**67.78**	**316**	⇓P	**P**	**22 33 02.8**	**-0.2**
MLR	**Muntele Rosu**	**68.26**	**316**	⇑P	**P**	**22 33 06.0**	**+0.1**
MLR	**Muntele Rosu**	**68.26**	**316**	P	**P**	**22 33 06.1**	**+0.2**
	comp=Z,13nm,0.9s,mb5.0,baz=178,slow=2.1,SNR=19						
LSZ	**Lusaka**	**68.93**	**250**	P	**P**	**22 33 12.9**	**+2.3**
	comp=Z,3.0nm,0.9s,mb4.2						
JOF	**Joensuu**	**69.97**	**334**	*e*p	**P**	**22 33 15.3**	**-0.8**
	comp=Z,0.9nm,0.4s,mb4.0						
JOF	**Joensuu**	**69.97**	**334**	*e*P	**P**	**22 33 15.3**	**-0.8**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KWP	**Kalwaria**	**71.11**	**320**	*e*P	**P**	**22 33 23.0**	**-0.3**
BZS	**Buzias**	**71.28**	**315**	⇓P	**P**	**22 33 24.2**	**-0.2**
KOLS	**Kolonicke sedl**	**71.29**	**319**	*e*P	**P**	**22 33 28.3**	**+3.9**
KOLS	**Kolonicke sedl**	**71.29**	**319**	*e*	**P**	**22 33 28.3**	**+3.9**
SUW	**Suwalki**	**71.59**	**324**	*e*P	**P**	**22 33 24.9**	**-1.2**
CRVS	**Cervenica-Dubn**	**71.81**	**319**	*e*P	**P**	**22 33 28.0**	**+0.5**
FINES	**FINESS Array B**	**71.82**	**332**	*i* P	**P**	**22 33 26.8**	**-0.5**
FINES				pmax	pmax		
	comp=Z,21nm,1.2s						
FINES	**FINESS Array B**	**71.82**	**332**	P	**P**	**22 33 26.4**	**-1.0**
	comp=Z,21nm,1.2s,mb5.0,baz=112,slow=10,SNR=22						
KAF	**Kangasniemi**	**71.90**	**333**	*e*p	**P**	**22 33 27.0**	**-0.8**
	comp=Z,8.2nm,0.9s,mb4.7,baz=103,slow=5.5						
KAF	**Kangasniemi**	**71.90**	**333**	*e*P	**P**	**22 33 27.0**	**-0.8**
KAF				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
NIE	**Niedzica**	**72.63**	**319**	*e*P	**P**	**22 33 32.0**	**-0.4**
OJC	**Ojcow**	**73.06**	**320**	*e*P	**P**	**22 33 34.3**	**-0.6**
KEV	**Kevo**	**73.98**	**341**	*e*p	**P**	**22 33 39.5**	**-0.4**
	comp=Z,42nm,1.5s,mb5.2						
KEV	**Kevo**	**73.98**	**341**	*e*P	**P**	**22 33 39.5**	**-0.4**
KEV				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
OKC	**Ostrava-Krasne**	**74.07**	**319**	*e*P	**P**	**22 33 40.8**	**0.0**
ARCES	**ARCESS Array B**	**74.41**	**340**	P	**P**	**22 33 42.4**	**0.0**
	comp=Z,5.1nm,0.6s,mb4.6,baz=101,slow=6.9,SNR=23						
MORC	**Moravsky Berou**	**74.46**	**319**	⇓P	**P**	**22 33 43.8**	**+0.8**
MORC	**Moravsky Berou**	**74.46**	**319**	*e*P	**P**	**22 33 43.3**	**+0.3**
	comp=Z,6.3nm,0.9s,mb4.5						
ZST	**Bratislava**	**74.62**	**318**	*e*P	**P**	**22 33 44.4**	**+0.5**
KOGS	**Kog**	**75.08**	**316**	*e*P	**P**	**22 33 46.5**	**-0.1**
KOGS				*e*PcP	PcP	22 33 52.7	-7.8
DPC	**Dobruska-Polom**	**75.29**	**320**	*e*P	**P**	**22 33 47.0**	**-0.8**
KSP	**Ksiaz**	**75.35**	**320**	*e*P	**P**	**22 33 48.5**	**+0.4**
KSP	**Ksiaz**	**75.35**	**320**	*e*P	**P**	**22 33 48.4**	**+0.3**
BOSA	**Boshof**	**75.44**	**238**	*e*P	**P**	**22 33 48.8**	**-0.3**
	comp=Z,4.4nm,0.7s,mb4.5						
UPC	**Upice**	**75.50**	**320**	*e*P	**P**	**22 33 47.7**	**-1.3**
BILL	**Bilibino**	**75.67**	**22**	*i* P	**P**	**22 33 48.2**	**-1.4**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
BOJS	**Bojanci**	**75.73**	**315**	*e*P	**P**	**22 33 47.0**	**-3.3**
BOJS				*e*	pP	22 33 56.0	-2.0
PERS	**Pernice**	**75.87**	**316**	*e*P	**P**	**22 33 51.2**	**+0.1**
PRU	**Pruhonice**	**76.41**	**319**	*e*P	**P**	**22 33 54.5**	**+0.4**
BRG	**Berggiesshubel**	**76.83**	**320**	*e*P	**P**	**22 33 57.0**	**+0.5**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
BRG	**Berggiesshubel**	**76.83**	**320**	*e*P	**P**	**22 33 57.0**	**+0.5**
	comp=Z,5.9nm,1.1s,mb4.4						
GEC2	**GERESS Array S**	**76.91**	**318**	*e*P	**P**	**22 33 57.0**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**76.91**	**318**	*e*P	**P**	**22 33 57.0**	**+0.1**
	comp=Z,7.0nm,0.9s,mb4.6						
GERES	**GERESS Array B**	**76.91**	**318**	P	**P**	**22 33 57.4**	**+0.5**
	comp=Z,7.7nm,1.0s,mb4.6,baz=90,slow=5.3,SNR=31						
KHC	**Kasperske Hory**	**77.00**	**318**	*e*P	**P**	**22 33 57.3**	**-0.1**
CLL	**Collm**	**77.44**	**321**	*e*P	**P**	**22 34 01.0**	**+1.2**
CLL	**Collm**	**77.44**	**321**	P	**P**	**22 34 01.0**	**+1.2**
WET	**Wettzell**	**77.46**	**318**	*e*P	**P**	**22 34 00.1**	**+0.1**
WET				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
WET	**Wettzell**	**77.46**	**318**	*e*P	**P**	**22 34 00.1**	**+0.1**
	comp=Z,7.0nm,1.0s,mb4.5						
NKC	**Novy Kostel**	**77.77**	**320**	*e*P	**P**	**22 34 02.4**	**+0.8**
MOX	**Moxa**	**78.31**	**320**	*e*P	**P**	**22 34 04.0**	**-0.6**
GRA1	**Grafenberg Arr**	**78.55**	**319**	*e*P	**P**	**22 34 06.7**	**+0.8**
	comp=Z,15nm,1.4s,mb4.7						
GRF	**Grafenberg Arr**	**78.55**	**319**	*e*P	**P**	**22 34 06.7**	**+0.8**
GRF				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
GRF	**Grafenberg Arr**	**78.55**	**319**	*e*P	**P**	**22 34 06.7**	**+0.8**
	comp=Z,15nm,1.4s,mb4.7						
NB2	**NORSAR Subarra**	**78.83**	**331**	P	**P**	**22 34 06.5**	**-0.8**
	comp=Z,11nm,0.9s,mb4.8,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**78.83**	**331**	P	**P**	**22 34 07.0**	**-0.2**
	comp=Z,5.9nm,0.8s,mb4.6,baz=92,slow=5.7,SNR=18						
CLZ	**Clausthal**	**79.09**	**321**	*e*P	**P**	**22 34 09.4**	**+0.5**
	comp=Z,11nm,1.0s,mb4.7						
BSEG	**Bad Segeberg**	**79.14**	**323**	*e*P	**P**	**22 34 10.0**	**+0.9**
BSEG				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
LPG	**La Plagne**	**81.70**	**315**	*e*P	**P**	**22 34 23.5**	**+0.7**
	comp=Z,25nm,1.0s,mb4.8						
BNI	**Bardonecchia**	**81.78**	**314**	*e*P	**P**	**22 34 25.2**	**+2.0**
	comp=Z,14nm,1.0s,mb4.8						
ESDC	**Sonseca Array**	**90.31**	**310**	P	**P**	**22 35 05.7**	**+0.2**
	comp=Z,2.5nm,0.9s,mb4.5,baz=79,slow=4.2,SNR=5.5						
IMA	**Indian Mountai**	**91.21**	**22**	*e*P	**P**	**22 35 11.1**	**+2.1**
	comp=Z,20nm,0.7s,mb5.5						
MCK	**McKinley**	**94.07**	**23**	*e*P	**P**	**22 35 20.9**	**-1.3**
	comp=Z,2.0nm,0.8s,mb4.6						
ILAR	**Eielson Array**	**94.33**	**22**	P	**P**	**22 35 23.3**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.5,baz=290,slow=4.3,SNR=19						
INK	**Inuvik**	**96.50**	**16**	P	**P**	**22 35 33.1**	**-0.1**
	comp=Z,5.6nm,1.2s,mb4.9,baz=356,slow=5.5,SNR=9.5						
INK	**Inuvik**	**96.50**	**16**	*e*P	**P**	**22 35 33.3**	**+0.2**
	comp=Z,4.6nm,0.9s,mb4.9						
DAWY	**Dawson**	**97.43**	**21**	*e*P	**P**	**22 35 37.5**	**0.0**
PLCA	**Paso Flores**	**144.98**	**201**	PKP	PKPdf	22 41 42.7	-2.2
	comp=Z,4.6nm,0.9s,baz=143,slow=4.5,SNR=9.0						
PLCA	**Paso Flores**	**144.98**	**201**	*e*PKP	PKPdf	22 41 42.6	-2.3

IDC 01 22:47:14.8±5.2**, 4.90N**×**93.19E, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, ML3.7**/1**, Error ellipse: s-maj=153.3km s-min=28.4km az=73.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.60**	**22**	Pn	P	22 50 43.7	-1.2
	0.1nm,0.3s,baz=213,slow=14,SNR=3.6						
SONM	**Songino Array**	**44.25**	**13**	P	P	22 55 25.8	-2.0
	0.4nm,0.9s,baz=180,slow=5.8,SNR=3.3						
WRA	**Warramunga Arr**	**47.39**	**123**	P	P	22 55 50.9	-2.2
	1.0nm,0.5s,baz=299,slow=10.0,SNR=22						
ASAR	**Alice Springs**	**48.81**	**127**	P	P	22 56 02.5	-1.5
	0.5nm,0.5s,baz=300,slow=7.5,SNR=7.1						

IDC ***01*** *22:58:01.5±2.5, 48.30N×128.84W, mb3.1/1, mb1 3.7/7, mb1mx3.5/23, mbtmp3.4/7, ML3.4/5, MS3.1/2, Ms1 3.1/2, ms1mx2.8/12, Error ellipse: s-maj=42.6km s-min=16.1km az=56.0*

NEIC ***01*** *22:58:04.4±1.2, 48.47N×128.56W, h10km, mb4.0/1, Error ellipse: s-maj=20.9km s-min=8.5km az=56.0*

ISC 01 22:58:05.0±2.8**, 48.48N**±0.10×**128.6W**±0.3**, h34**km±30km**, n14,** σ**0**ˢ**75**/16**, MS3.2**/1**, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OCWA	**Octopus Mounta**	**3.03**	**102**	P	**P**	**22 58 51.2**	**-0.5**
PGC	**Sidney**	**3.40**	**85**	*e*P	**P**	**22 58 57.2**	**+0.3**
BBB	**Bella Bella**	**3.72**	**4**	Pn	**P**	**22 59 01.8**	**+0.3**
	11nm,0.3s,baz=195,slow=11,SNR=106						
BBB				Sn	**S**	**22 59 44.7**	**0.0**
	5.3nm,0.3s,baz=274,slow=19,SNR=2.6						
BBB	**Bella Bella**	**3.72**	**4**	Pn	**P**	**22 59 01.8**	**+0.3**
BBB				Sn	**S**	**22 59 44.7**	**0.0**
NEW	**Newport**	**7.62**	**87**	Pn	**P**	**22 59 55.5**	**-0.9**
	0.4nm,0.3s,baz=256,slow=11,SNR=3.6						
NVAR	**Mina Array Bea**	**12.50**	**140**	Pn	**P**	**23 01 03.1**	**-0.2**
	0.1nm,0.3s,baz=326,slow=13,SNR=2.7						
NVAR				LR	LR	23 06 15.9	
	comp=Z,50nm,20.1s,baz=270,slow=40						
PDAR	**Pinedale Array**	**14.46**	**106**	Pn	**P**	**23 01 33.9**	**+4.9**
	baz=315,slow=14,SNR=2.0						
MSU	**Marysvale**	**15.48**	**124**	P	**P**	**23 01 43.2**	**+1.0**
YKA	**Yellowknife Ar**	**16.05**	**24**	Pn	**P**	**23 01 49.6**	**+0.2**
	0.0nm,0.3s,baz=215,slow=11,SNR=13						
FFC	**Flin Flon**	**17.59**	**59**	Pn	**P**	**23 02 13.7**	**+4.9**
	82nm,0.9s,SNR=11						
FFC	**Flin Flon**	**17.59**	**59**	*e*P	**P**	**23 02 11.5**	**+2.7**
	10nm,0.9s						
PV01	**Paradox Valley**	**17.80**	**118**	*e*P	**P**	**23 02 11.3**	**-0.2**
ILAR	**Eielson Array**	**19.06**	**336**	P	**P**	**23 02 27.3**	**+0.5**
	0.0nm,0.3s,baz=152,slow=11,SNR=7.1						
INK	**Inuvik**	**20.04**	**355**	P	**P**	**23 02 36.1**	**-1.3**
	0.8nm,0.8s,baz=243,slow=4.5,SNR=2.6						
INK				LR	LR	23 10 13.9	
	comp=Z,113nm,21.7s,MS3.2,baz=260,slow=36						

IDC ***01*** *23:02:15.1±1.2, 24.79S×112.15W, mb4.0/7, mb1 4.3/8, mb1mx4.0/19, mbtmp4.0/8, ML3.9/1, MS4.5/15, Ms1 4.5/15, ms1mx4.3/20, Error ellipse: s-maj=48.4km s-min=26.3km az=53.0*

NEIC ***01*** *23:02:17.0±0.9, 24.76S×112.05W, h10km, mb4.7/6, Error ellipse: s-maj=31.5km s-min=14.8km az=46.0*

ISC 01 23:02:16.0±1.5**, 24.7S**±0.2×**111.9W**±0.3**, h10**km**, n33,** σ**1**ˢ**10**/15**, mb4.3**/13**, MS4.6**/15**, Easter Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.34**	**138**	Pn	**Pn**	**23 03 02.6**	**-6.8**
	11nm,0.3s,baz=302,slow=17,SNR=6.3						
RPN				Sn	**Sn**	**23 03 48.5**	**-0.9**
	7.1nm,0.3s,baz=104,slow=22,SNR=8.8						
RKT	**Rikitea**	**21.18**	**269**	*e*LQ		23 10 56.8	
RKT				*e*LR	LR	23 11 48.4	
	5μm,26.5s,baz=106						
TBI	**Tubuai**	**34.30**	**264**	*e*LQ		23 16 28.8	
TBI				*e*LR	LR	23 17 44.3	
	1μm,30.5s,baz=93						
PPT	**Papeete**	**35.80**	**274**	*e*LQ		23 17 03.2	
PPT				*e*LR	LR	23 18 28.0	
	3μm,28.2s,baz=111						
PLCA	**Paso Flores**	**37.90**	**125**	P	**P**	**23 09 35.6**	**+0.6**
	8.2nm,1.3s,mb4.3,baz=256,slow=11,SNR=3.5						
PLCA				LR	LR	23 21 04.7	
	comp=Z,1μm,21.6s,MS4.7,baz=279,slow=30						
LVC	**Limon Verde**	**39.28**	**96**	P	**P**	**23 09 48.2**	**+1.3**
	3.9nm,0.9s,mb4.1,baz=236,slow=7.3,SNR=3.0						
LPAZ	**La Paz**	**41.67**	**87**	*e*P	**P**	**23 10 08.6**	**+2.0**
	18nm,1.4s,mb4.5						
JTS	**JuntasAbangare**	**43.56**	**40**	LR	LR	23 23 52.2	
	comp=Z,935nm,21.4s,MS4.7,baz=218,slow=30						
USHA	**Ushuaia**	**43.87**	**145**	LR	LR	23 24 42.4	
	comp=Z,2μm,18.6s,MS5.0,baz=260,slow=31						
TRQA	**Tornquist**	**44.14**	**120**	P	**P**	**23 10 26.3**	**-0.2**
	14nm,1.3s,mb4.5						
ROSC	**El Rosal**	**46.85**	**56**	LR	LR	23 26 20.0	
	comp=Z,354nm,19.5s,MS4.3,baz=344,slow=31						
SAML	**Samuel**	**48.88**	**80**	*e*P	**P**	**23 11 03.5**	**-0.7**
	7.9nm,1.3s,mb4.6						
SDV	**Santo Domingo**	**52.24**	**55**	LR	LR	23 30 56.6	
	comp=Z,192nm,18.7s,MS4.2,baz=219,slow=33						
TXAR	**Lajitas Array**	**54.27**	**9**	P	**P**	**23 11 43.0**	**-1.6**
	0.2nm,0.4s,mb3.4,baz=210,slow=7.3,SNR=4.0						
JCT	**Junction City**	**56.05**	**13**	*e*P	**P**	**23 11 55.9**	**-1.7**
	10nm,0.9s,mb4.8						
ANMO	**Albuquerque**	**59.52**	**5**	LR	LR	23 33 29.9	
	comp=Z,713nm,18.1s,MS4.8,slow=31						
BDFB	**Brasilia**	**60.16**	**94**	LR	LR	23 35 17.9	
	comp=Z,557nm,21.1s,MS4.7,baz=262,slow=33						
NVAR	**Mina Array Bea**	**63.06**	**354**	P	**P**	**23 12 46.5**	**+0.8**
	1.5nm,0.7s,mb4.3,baz=184,slow=6.3,SNR=8.5						
VNDA	**Vanda**	**65.29**	**194**	LR	LR	23 34 07.3	
	comp=Z,454nm,19.5s,MS4.7,baz=152,slow=29						
PDAR	**Pinedale Array**	**67.14**	**2**	P	**P**	**23 13 10.5**	**-1.6**
	0.5nm,0.7s,mb3.6,baz=169,slow=7.6,SNR=3.7						
PDAR				LR	LR	23 38 51.6	
	comp=Z,157nm,19.9s,MS4.2,baz=231,slow=33						
HLID	**Hailey**	**67.94**	**358**	*e*P	**P**	**23 13 17.6**	**+0.5**
	6.2nm,1.3s,mb4.5						
BMO	**Blue Mountains**	**69.37**	**356**	*e*P	**P**	**23 13 27.1**	**+1.2**
	8.6nm,1.5s,mb4.5						
ULM	**Lac du Bonnet**	**75.93**	**11**	LR	LR	23 44 36.8	
	comp=Z,197nm,18.1s,MS4.5,baz=217,slow=33						
DLBC	**Dease Lake**	**84.17**	**351**	P	**P**	**23 14 48.5**	**+0.2**
	5.7nm,1.2s,mb4.6,baz=180,slow=12,SNR=4.2						
YKA	**Yellowknife Ar**	**86.89**	**359**	P	**P**	**23 15 01.9**	**+0.2**
	0.4nm,0.7s,mb3.8,baz=174,slow=4.4,SNR=9.4						
YKA				LR	LR	23 50 54.9	
	comp=Z,271nm,18.8s,MS4.7,baz=195,slow=34						
MAW	**Mawson**	**87.92**	**178**	LR	LR	23 50 45.7	
	comp=Z,765nm,19.2s,MS5.1,baz=348,slow=33						
SCHQ	**Schefferville**	**88.09**	**24**	LR	LR	23 50 17.5	
	comp=Z,228nm,19.9s,MS4.6,baz=203,slow=33						
ILAR	**Eielson Array**	**93.20**	**346**	LR	LR	23 49 10.8	
	comp=Z,78nm,18.6s,MS4.2,baz=342,slow=30						
ASAR	**Alice Springs**	**100.17**	**238**	LR	LR	23 55 43.4	
	comp=Z,219nm,18.5s,MS4.7,baz=129,slow=32						
ZAL	**Zalesovo**	**148.23**	**341**	PKPbc	PKPdf	23 22 01.9	+0.3
	0.5nm,0.3s,baz=90,slow=3.0,SNR=2.8						
CMAR	**Chiang Mai Arr**	**150.73**	**264**	PKPbc	PKPdf	23 22 08.5	+1.9
	0.6nm,0.4s,baz=225,slow=1.3,SNR=3.1						
CHKZ	**Chkalovo**	**150.98**	**357**	PKPbc	PKPdf	23 22 09.0	+3.2
BVAR	**Borovoye Array**	**151.64**	**357**	PKPbc	PKPdf	23 22 11.4	+4.5
	0.4nm,0.4s,baz=36,slow=4.3,SNR=5.1						
BVAR				PKPab	PKPab	23 22 20.0	-1.2
	1.0nm,0.6s,slow=1.5,SNR=6.8						

NEIC ***01*** *23:10:00.6±1.0, 19.37S×69.14W, h124km±11km, mb4.4/1, Error ellipse: s-maj=21.0km s-min=11.2km az=89.0*

IDC ***01*** *23:10:00.5±0.8, 19.34S×69.07W, h118km±7km, mb4.1/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.5/6, Error ellipse: s-maj=27.2km s-min=18.0km az=89.0*

ISC 01 23:09:58.5±0.8**, 19.40S**±0.06×**69.1W**±0.1**, h120**km±12km**, n14,** σ**1**ˢ**25**/13**, mb4.1**/4**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**3.20**	**177**	P	**P**	**23 10 51.0**	**+2.6**
	13nm,0.3s,baz=355,slow=9.7,SNR=101						
LVC				S	**S**	**23 11 24.9**	**-1.4**
	134nm,0.3s,baz=135,slow=20,SNR=28						
LPAZ	**La Paz**	**3.22**	**16**	*e*Pn	**P**	**23 10 52.7**	**+4.0**
ARE	**Arequipa**	**3.73**	**321**	*e*P	**P**	**23 10 55.0**	**-0.4**
ARE				*i* S	**S**	**23 11 39.1**	**+0.2**
SAML	**Samuel**	**11.85**	**30**	*e*P	**P**	**23 12 44.1**	**-0.6**
TRQA	**Tornquist**	**19.59**	**163**	*e*P	**P**	**23 14 18.8**	**-0.7**
	13nm,0.6s						
BDFB	**Brasilia**	**20.42**	**83**	P	**P**	**23 14 28.8**	**+0.7**
	14nm,0.4s,baz=258,slow=11,SNR=27						
PLCA	**Paso Flores**	**21.30**	**183**	P	**P**	**23 14 37.1**	**+0.3**
	10.0nm,0.7s,mb4.2,baz=356,slow=12,SNR=27						
SDV	**Santo Domingo**	**28.15**	**357**	P	**P**	**23 15 39.6**	**-2.2**
	1.3nm,0.4s,mb3.9,baz=292,slow=11,SNR=3.5						
DBIC	**Dimbokro**	**68.29**	**74**	P	**P**	**23 20 49.0**	**-0.2**
	12nm,0.8s,mb4.8,baz=215,slow=6.6,SNR=23						
YKA	**Yellowknife Ar**	**89.17**	**341**	P	**P**	**23 22 42.8**	**+1.6**
	0.4nm,0.6s,mb3.6,baz=136,slow=4.8,SNR=10						
YKA				pP	pP	23 23 12.2	-0.4
	0.7nm,0.7s,baz=135,slow=4.6,SNR=3.8						
YKA				sP	sP	23 23 24.9	-0.8
	0.5nm,0.6s,baz=132,slow=4.8,SNR=2.7						
YKA	**Yellowknife Ar**	**89.17**	**341**	P	**P**	**23 22 42.9**	**+1.6**
YKA				pP	pP	23 23 12.2	-0.4
YKA				sP	sP	23 23 24.9	-0.7
ASAR	**Alice Springs**	**131.69**	**209**	PKP	PKPdf	23 28 59.5	+1.5
	0.2nm,0.5s,baz=158,slow=1.3,SNR=4.3						
WRA	**Warramunga Arr**	**134.67**	**212**	PKP	PKPdf	23 29 06.0	+2.3
	0.4nm,0.4s,baz=144,slow=1.7,SNR=12						
SONM	**Songino Array**	**151.40**	**6**	PKPbc	PKPdf	23 29 41.5	+10
	0.5nm,0.5s,baz=322,slow=1.5,SNR=6.9						
SONM				pPKPbc		23 30 12.8	
	0.8nm,0.9s,baz=321,slow=1.0,SNR=3.0						

NEIC ***01*** *23:20:36.5±2.2, 51.44N×16.19E, h5km, ML2.7(VIE), ML2.0(BRG), Error ellipse: s-maj=23.2km s-min=10.0km az=209.0*

PRU ***01*** *23:20:36.4, 51.47N×16.13E*

WAR ***01*** *23:20:36.2, 51.52N×16.12E, h1km, ML2.7, Mining Induced*

CSEM ***01*** *23:20:36.3±0.3, 51.48N×16.14E, ML2.8/3, Error ellipse: s-maj=4.6km s-min=2.5km az=15.0*

ISC 01 23:20:34.5±0.8**, 51.45N**±0.04×**16.08E**±0.04**, n20,** σ**1**ˢ**37**/43**, 2C, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**167**	*e*PG	**Pg**	**23 20 49.0**	**+2.1**
KSP				*e*SG	**Sg**	**23 20 58.0**	**+2.8**
UPC	**Upice**	**0.94**	**183**	*e*PG	**Pg**	**23 20 54.8**	**+1.5**
DPC	**Dobruska-Polom**	**1.11**	**172**	*e*PG	**Pg**	**23 20 57.5**	**+0.8**
DPC				*e*SG	**Sg**	**23 21 12.8**	**+1.3**
	8.3nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**227**	*e*PG	**Pg**	**23 21 02.2**	**+1.2**
BRG	**Berggiesshubel**	**1.46**	**248**	*e*Pn	**Pn**	**23 21 03.6**	**+1.4**
BRG				*i* Pg	**Pg**	**23 21 04.4**	**+0.7**
BRG				*i* Sg	**Sg**	**23 21 24.5**	**+1.3**
BRG	**Berggiesshubel**	**1.46**	**248**	*i* Pg	**Pg**	**23 21 04.4**	**+0.7**
PRU	**Pruhonice**	**1.76**	**214**	*e*PN	**Pn**	**23 21 07.5**	**+1.0**
PRU				*e*PG	**Pg**	**23 21 09.1**	**-0.5**
PRU				*e*SG	**Sg**	**23 21 33.2**	**+0.2**
PRU	**Pruhonice**	**1.76**	**214**	Pg	**Pg**	**23 21 09.1**	**-0.5**
PRU				Sg	**Sg**	**23 21 33.2**	**+0.2**
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**23 21 08.9**	**+0.2**
MORC				*e*Sn	**Sn**	**23 21 35.3**	**+1.4**
MORC	**Moravsky Berou**	**1.92**	**150**	*e*Pn	**Pn**	**23 21 08.9**	**+0.2**
MORC				*e*Sn	**Sn**	**23 21 35.3**	**+1.4**
MORC				*e*Sg	**Sg**	**23 21 37.4**	**-0.9**
CLL	**Collm**	**1.93**	**267**	*e*PN	**Pn**	**23 21 08.0**	**-1.0**
CLL				*e*PG	**Pg**	**23 21 12.0**	**-1.1**
CLL				*e*SG	**Sg**	**23 21 38.0**	**-0.9**
OKC	**Ostrava-Krasne**	**2.08**	**140**	*e*SG	**Sg**	**23 21 42.0**	**-1.8**
VRAC	**Vranov**	**2.17**	**171**	*e*Pn	**Pn**	**23 21 14.2**	**+1.9**
VRAC				*e*Sg	**Sg**	**23 21 45.2**	**-1.5**
NKC	**Novy Kostel**	**2.60**	**244**	*e*PN	**Pn**	**23 21 21.4**	**+2.8**
NKC				*e*PG	**Pg**	**23 21 26.1**	**-0.4**
NKC				*e*SG	**Sg**	**23 21 59.8**	**-1.4**
NKC	**Novy Kostel**	**2.60**	**244**	Pg	**Pg**	**23 21 26.1**	**-0.4**
NKC				Sg	**Sg**	**23 21 59.8**	**-1.4**
OJC	**Ojcow**	**2.66**	**116**	*e*PG	**Pg**	**23 21 25.0**	**-2.6**
OJC				*e*SG	**Sg**	**23 22 01.0**	**-2.1**
KHC	**Kasperske Hory**	**2.82**	**216**	*e*PN	**Pn**	**23 21 22.8**	**+1.1**
KHC				*e*PG	**Pg**	**23 21 28.1**	**-2.7**
KHC				*e*SN	**Sn**	**23 21 57.0**	**+0.1**
KHC				*e*SG	**Sg**	**23 22 06.9**	**-1.5**
MOX	**Moxa**	**2.93**	**256**	*e*Pg	**Pg**	**23 21 31.4**	**-1.6**
MOX				*e*Sg	**Sg**	**23 22 11.5**	**-0.5**
MOA	**Molln**	**3.79**	**199**	⇑*i*PN	**Pn**	**23 21 36.3**	**+0.9**
MOA				*i* SG	**Sg**	**23 22 39.8**	**-0.9**
	4.5nm,0.5s						
ARSA	**Arzberg**	**4.22**	**185**	⇑*i*PN	**Pn**	**23 21 41.3**	**-0.2**
ARSA				*i* SG	**Sg**	**23 22 51.5**	**-3.4**
	3.9nm,0.6s						

NEIC ***01*** *23:57:01.6±0.5, 24.96S×112.12W, h10km, mb5.0/16, MS5.2/30, MW5.6, Error ellipse: s-maj=18.5km s-min=9.1km az=62.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13; $M_{\theta\theta}$-2.94; $M_{\phi\phi}$3.07; $M_{r\theta}$-0.59; $M_{\theta\phi}$1.12; $M_{\phi r}$-0.58; Best double couple: $M_0$3.3×10^{17} NP1:ϕ_s145°, δ76°, λ179°. NP2:ϕ_s235°, δ89°, λ14°. Principal axes: T 3.4, Plg11°, Azm101°; N -.19, Plg76°, Azm241°; P -3.22, Plg9°, Azm9°;*

IDC ***01*** *23:57:01.3±0.9, 24.78S×112.04W, mb4.4/14, mb1 4.6/15, mb1mx4.4/22, mbtmp4.4/15, ML4.0/1, MS5.0/15, Ms1 5.0/15, ms1mx4.7/22 Error ellipse: s-maj=33.1km s-min=17.1km az=54.0*

HRVD ***01*** *23:57:01.5±0.1, 25.04S×112.03W, h15km, MW5.5/71, Centroid moment Tensor Solution. LP body waves: s66,c123;Mantle waves: s71,c157; Half duration: 1ˢ3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.26±.03; $M_{\theta\theta}$-1.56±.03; $M_{\phi\phi}$1.82±.03; $M_{r\theta}$-0.24±.09; $M_{\theta\phi}$1.21±.03; $M_{\phi r}$0.10±.09; Best double couple: $M_0$2.098×10^{17} NP1: ϕ_s62°, δ84°, λ-6°. NP2:ϕ_s153°, δ84°, λ-174°. Principal axes: T 2.209, Plg0°, Azm288°; N -.219, Plg81°, Azm195°; P -1.988, Plg9°, Azm18°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **01** 23:57:01.5, 25.00S×112.10W, h10km, mB5.6, Ms5.5, Msz5.2*

ISC 01 23:57:00.1±0.3, **24.87S**±0.06×**112.11W**±0.07, **h10km, n97, σ0^{s}98**/54, **mb4.8**/30, **MS5.1**/50, **5C, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.35	133	Pn	Pn	23 57 49.6	-4.1
	14nm,0.3s,baz=310,slow=16,SNR=7.1						
RPN				Sn	Sn	23 58 33.9	-0.1
	14nm,0.3s,baz=101,slow=17,SNR=9.5						
RPN				LR	LR	23 58 51.9	
	comp=Z,24μm,21.0s,baz=336,slow=33						
RKT	Rikitea	20.96	270	eLQ		00 05 47.3	
RKT				eLR	LR	00 06 49.5	
	20μm,25.9s,baz=106						
TAOE	Nuku Hiva Isla	31.11	296	eLR	LR	00 11 30.2	
	baz=132						
TBI	Tubuai	34.06	265	eLQ		00 11 28.0	
TBI				eLR	LR	00 12 45.7	
	6μm,29.6s,baz=92						
PMOR	Pomariorio Ree	34.95	279	eP	P	00 03 55.9	+1.3
	45nm,1.2s,mb5.3						
TVO	Taravao	35.23	274	eP	P	00 03 57.4	+0.5
	49nm,0.9s,mb5.4						
TIAR	Tiarei	35.39	274	eP	P	00 03 58.5	+0.2
	34nm,0.8s,mb5.3						
PAE	Paea	35.57	274	eP	P	00 04 00.0	+0.2
	83nm,1.1s,mb5.6						
PPT	Papeete	35.59	274	eP	P	00 04 00.3	+0.3
	59nm,1.5s,mb5.3						
PPT	Papeete	35.59	274	eLQ		00 11 50.8	
PPT				eLR	LR	00 13 28.8	
	11μm,28.4s,baz=110						
FCH	Farellones	37.30	113	eP	P	00 04 15.7	+1.5
PLCA	Paso Flores	37.96	125	P	P	00 04 20.8	+1.0
	9.9nm,1.2s,mb4.4,baz=279,slow=9.8,SNR=9.1						
PLCA				LR	LR	00 16 01.2	
	comp=Z,3μm,19.0s,MS5.1,baz=281,slow=30						
PLCA	Paso Flores	37.96	125	eP	P	00 04 21.0	+1.3
	106nm,1.8s,mb5.3						
PLCA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
LVC	Limon Verde	39.48	96	P	P	00 04 34.5	+1.9
	comp=Z,16nm,1.2s,mb4.6,baz=246,slow=8.3,SNR=12						
LVC	Limon Verde	39.48	96	eP	P	00 04 34.5	+1.9
	comp=Z,24nm,1.5s,mb4.7						
LVC				LR	LR		
	comp=Z,4μm,20.0s,MS5.2						
LPAZ	La Paz	41.90	87	eP	P	00 04 54.4	+1.8
	comp=Z,29nm,1.6s,mb4.7						
LPAZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.8						
USHA	Ushuaia	43.84	145	P	P	00 05 08.3	+0.3
	comp=Z,4.0nm,0.8s,mb4.2,baz=319,slow=11,SNR=2.9						
TRQA	Tornquist	44.24	120	eP	P	00 05 11.7	+0.3
	comp=Z,36nm,1.4s,mb4.9						
TRQA				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
ROSC	El Rosal	47.14	56	LR	LR	00 21 53.3	
	comp=Z,663nm,18.4s,MS4.6,baz=25,slow=32						
SAML	Samuel	49.13	80	eP	P	00 05 49.4	-0.9
	comp=Z,48nm,1.6s,mb5.3						
SAML				ePP	PP	00 07 42.7	-1.6
SAML				LR	LR		
	comp=Z,1μm,19.0s,MS5.0						
SDV	Santo Domingo	52.53	56	P	P	00 06 14.9	-1.3
	comp=Z,5.3nm,1.1s,mb4.4,baz=294,slow=10,SNR=4.1						
SDV	Santo Domingo	52.53	56	P	P	00 06 16.3	+0.2
	comp=Z,12nm,1.1s,mb4.7						
SDV				LR	LR		
	comp=Z,554nm,22.0s,MS4.6						
TXAR	Lajitas Array	54.50	9	P	P	00 06 30.6	+0.2
	comp=Z,0.4nm,0.4s,mb3.8,baz=158,slow=4.9,SNR=7.1						
TXAR				LR	LR	00 25 35.5	
	comp=Z,1μm,18.2s,MS5.1,baz=205,slow=32						
JCT	Junction City	56.29	13	eP	P	00 06 44.0	+0.6
	comp=Z,15nm,0.6s,mb5.2						
JCT				LR	LR		
	comp=Z,3μm,22.0s,MS5.4						
BDFB	Brasilia	60.37	94	P	P	00 07 11.8	-0.3
	comp=Z,2.9nm,0.9s,mb4.3,baz=232,slow=10.0,SNR=3.3						
BDFB				LR	LR	00 29 53.7	
	comp=Z,2μm,21.8s,MS5.3,baz=261,slow=33						
SDCO	Great Sand Dun	62.59	6	eP	P	00 07 26.1	-0.8
	comp=Z,8.6nm,1.1s,mb4.8						
SDCO				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
NVAR	Mina Array Bea	63.23	355	P	P	00 07 32.4	+1.3
	comp=Z,4.4nm,0.7s,mb4.7,baz=170,slow=8.4,SNR=14						
NVAR				LR	LR	00 29 20.9	
	comp=Z,2μm,18.8s,MS5.2,baz=180,slow=31						
SRU	San Rafael	63.66	1	eP	P	00 07 33.4	-0.5
SBA	Scott Base	64.00	193	PFAKE		00 07 50.0	+15
SBA				LR	LR		
	comp=Z,2μm,22.0s,MS5.3						
DAU	Daniels Canyon	64.95	1	eP	P	00 07 42.2	0.0
VNDA	Vanda	65.05	194	LR	LR	00 30 47.8	
	comp=Z,1μm,18.1s,MS5.2,baz=101,slow=31						
VNDA	Vanda	65.05	194	PFAKE		00 07 50.0	+7.7
VNDA				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
ELK	Elko	65.34	357	eP	P	00 07 44.8	0.0
	comp=Z,9.5nm,1.2s,mb4.7						
ELK				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
CCM	Cathedral Cave	65.59	18	eP	P	00 07 43.7	-2.7
	comp=Z,16nm,0.8s,mb5.1						
CCM				LR	LR		
	comp=Z,755nm,19.0s,MS4.9						
WVOR	Wild Horse Val	67.24	355	eP	P	00 07 57.1	+0.2
	comp=Z,8.6nm,1.0s,mb4.7						
WVOR				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
PDAR	Pinedale Array	67.34	2	P	P	00 07 56.5	-1.0
	comp=Z,2.2nm,0.6s,mb4.3,baz=166,slow=6.1,SNR=18						
PDAR				LR	LR	00 32 15.6	
	comp=Z,878nm,20.1s,MS5.0,baz=188,slow=31						
RRI2	Red Ridge	67.88	1	eP	P	00 08 00.1	-0.8
TPAW	Teton Pass	68.03	1	eP	P	00 07 58.9	-2.9
HLID	Hailey	68.13	358	eP	P	00 08 02.5	+0.1
	comp=Z,9.9nm,0.9s,mb4.8						
HLID				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
IMW	Indian Meadow	68.44	1	eP	P	00 08 04.0	-0.3
MCMT	McKenzie Canyo	69.36	359	eP	P	00 08 10.2	+0.1
QLMT	Earthquake Lak	69.37	1	eP	P	00 08 10.7	+0.6
VNA3	Neumayer Olymp	70.58	160	⇑i	P	00 08 15.0	-2.0
VNA1	Neumayer--Stat	71.22	160	⇑i	P	00 08 16.1	-4.8
VNA2	Neumayer--Watz	71.39	160	⇑i	P	00 08 20.5	-1.4
LAO	LASA Array	71.42	4	eP	P	00 08 22.1	-0.4
	comp=Z,19nm,0.9s,mb5.0						
LAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
CHMT	Chamberlain Mo	71.45	359	eP	P	00 08 22.5	-0.2
SNAA	Sanae	72.42	162	⇑i	P	00 08 26.3	-1.8
DGMT	Dagmar	73.35	5	eP	P	00 08 33.9	+0.1
	comp=Z,17nm,0.7s,mb5.1						
DGMT				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
SADO	Sadowa	75.56	24	P	P	00 08 48.3	+1.6
	comp=Z,8.9nm,1.0s,mb4.7,baz=221,slow=5.7,SNR=4.6						
ULM	Lac du Bonnet	76.16	11	P	P	00 08 49.4	-0.6
	comp=Z,6.8nm,0.7s,mb4.7,baz=200,slow=6.1,SNR=14						
ULM				LR	LR	00 38 57.4	
	comp=Z,792nm,18.1s,MS5.1,baz=202,slow=33						
ULM	Lac du Bonnet	76.16	11	eP	P	00 08 49.4	-0.5
	comp=Z,8.5nm,0.7s,mb4.8						
EDM	Edmonton	77.77	359	eP	P	00 08 58.5	-0.3
YKA	Yellowknife Ar	87.08	359	P	P	00 09 46.9	+0.1
	comp=Z,2.5nm,0.7s,mb4.6,baz=170,slow=5.2,SNR=33						
YKA				LR	LR	00 44 33.4	
	comp=Z,1μm,19.6s,MS5.2,baz=170,slow=33						
YKW3	Yellowknife Ar	87.15	359	eP	P	00 09 46.7	-0.5
MAW	Mawson	87.73	178	LR	LR	00 45 51.8	
	comp=Z,2μm,18.9s,MS5.6,baz=185,slow=33						
SCHQ	Schefferville	88.36	24	P	P	00 09 53.2	+0.1
	comp=Z,2.2nm,0.7s,mb4.5,baz=50,slow=6.7,SNR=9.9						
SCHQ				LR	LR	00 48 13.8	
	comp=Z,425nm,19.1s,MS4.9,baz=4.9,slow=35						
SCHQ	Schefferville	88.36	24	P	P	00 09 53.2	+0.1
SCHQ				LR	LR	00 48 13.8	
STKA	Stephens Creek	89.83	235	LR	LR	00 45 02.6	
	comp=Z,642nm,18.6s,MS5.1,baz=286,slow=32						
CTAO	Charters Tower	91.69	247	PFAKE		00 10 20.0	+11
CTAO				LR	LR		
	comp=Z,614nm,20.0s,MS5.0						
ILAR	Eielson Array	93.33	346	P	P	00 10 17.5	+1.5
	comp=Z,0.6nm,0.8s,mb4.1,baz=206,slow=3.4,SNR=4.3						
ILAR				LR	LR	00 44 34.3	
	comp=Z,190nm,20.5s,MS4.5,baz=350,slow=31						
ILAR	Eielson Array	93.33	346	P	P	00 10 17.5	+1.5
ILAR				LR	LR	00 44 34.3	
INK	Inuvik	94.24	352	P	P	00 10 19.7	-0.4
	comp=Z,0.6nm,0.6s,mb4.2,baz=184,slow=10,SNR=6.1						
INK				LR	LR	00 48 52.9	
	comp=Z,294nm,19.5s,MS4.8,baz=146,slow=33						
INK	Inuvik	94.24	352	eP	P	00 10 19.6	-0.5
	comp=Z,3.1nm,0.8s,mb4.8						
WRAB	Tennant Creek	101.52	242	PFAKE		00 11 10.0	+16
WRAB				LR	LR		
	comp=Z,287nm,19.0s,MS4.8						
DBIC	Dimbokro	108.41	91	PFAKE		00 15 40.0	
DBIC				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
MBWA	Marble Bar	111.95	232	PFAKE		00 15 50.0	+11
MBWA				LR	LR		
	comp=Z,619nm,19.0s,MS5.2						
LSZ	Lusaka	124.39	132	PFAKE		00 16 10.0	+6.7
LSZ				LR	LR		
	comp=Z,605nm,19.0s,MS5.3						
MDJ	Mudanjiang	126.89	308	PKP	PKPdf	00 16 05.2	-2.1
MDJ				PP	PP	00 18 02.3	-3.7
MDJ				PP	PP		
	comp=Z,69nm,6.0s						
MDJ				LR	LR		
	comp=N,361nm,20.4s						
MDJ				LR	LR		
	comp=E,388nm,28.3s						
MDJ				LR	LR		
	comp=Z,561nm,28.3s						
CN2	Changchun	129.89	307	ePKP	PKPdf	00 16 07.0	-6.3
CN2				ePP	PP	00 18 23.0	-3.0
CN2				LR	LR		
	comp=N,300nm,20.0s,MS5.1						
CN2				LR	LR		
	comp=E,300nm,20.0s,MS5.1						
CN2				LR	LR		
	comp=Z,500nm,21.0s,MS5.2						
SSE	Sheshan	132.90	290	PKP	PKPdf	00 16 18.0	-1.3
SSE				PP	PP	00 18 47.3	+1.9
SSE				SS	SS	00 36 27.8	+3.0
SSE				PP	PP		
	comp=Z,32nm,4.2s						
SSE				LR	LR		
	comp=N,180nm,26.3s,MS4.9						
SSE				LR	LR		
	comp=E,289nm,26.3s,MS4.9						
SSE				LR	LR		
	comp=Z,385nm,28.5s,MS5.0						
SSE	Sheshan	132.90	290	PKP	PKPdf	00 16 18.6	-0.7
SSE				PP	PP	00 18 47.3	+1.9
SSE				SS	SS	00 36 27.8	+3.0
SSE				LR	LR		
	comp=Z,390nm,28.5s,MS5.0						
HIA	Hailar	133.13	315	PFAKE		00 16 30.0	+11
HIA				LR	LR		
	comp=Z,876nm,22.0s,MS5.4						
NJ2	Nanjing	134.97	291	ePKP	PKPdf	00 16 17.0	-6.1
NJ2				PP	PP	00 18 57.0	-1.8
NJ2				PKS	PKS	00 19 53.0	-2.2
NJ2				PPP	PPP	00 21 54.0	-1.7
NJ2				SKS	SKS	00 23 24.0	-9.3
NJ2				PP	PP		
	comp=Z,370nm,9.6s						
NJ2				LR	LR		
	comp=N,2μm,32.7s,MS5.8						
NJ2				LR	LR		
	comp=E,2μm,32.0s,MS5.8						
NJ2				LR	LR		
	comp=Z,390nm,28.6s,MS5.0						
MBAR	Mbarara	136.01	120	PFAKE		00 16 40.0	+14
MBAR				LR	LR		
	comp=Z,211nm,20.0s,MS4.9						
BJT	Baijiatuau	137.07	303	PFAKE		00 16 40.0	+13
BJT				LR	LR		
	comp=Z,558nm,22.0s,MS5.2						
HHC	Hu-ho-hao-te	140.44	305	ePKP	PKPdf	00 16 27.1	-5.8
HHC				XPKP		00 16 36.7	
KMBO	Kilima Mbogo	140.64	127	PFAKE		00 16 40.0	+6.0
KMBO				LR	LR		
	comp=Z,596nm,22.0s,MS5.3						
AKASG	Malin Array Be	140.69	39	PKP	PKPdf	00 16 31.6	-1.3
	comp=Z,1.3nm,0.7s,baz=272,slow=3.1,SNR=6.9						
ULN	Ulaanbaatar	141.58	317	PFAKE		00 16 50.0	+15
ULN				LR	LR		
	comp=Z,688nm,20.0s,MS5.4						
SONM	Songino Array	142.00	317	PKhKP		00 16 29.3	
	comp=Z,0.7nm,0.8s,baz=130,slow=2.0,SNR=6.2						
SONM				PKP	PKPdf	00 16 34.9	-0.4
	comp=Z,0.6nm,0.7s,baz=127,slow=0.7,SNR=4.2						
ENH	Enshi	142.89	288	PFAKE		00 16 50.0	+13
ENH				LR	LR		
	comp=Z,369nm,20.0s,MS5.1						
GYA	Guiyang	145.11	281	⇑iPKP	PKPdf	00 16 40.7	-0.7
GYA				PP	PP	00 20 03.2	+2.4
GYA				PKS	PKS	00 20 14.8	+2.2
GYA				PP	PP		
	comp=Z,150nm,7.8s						
GYA				LR	LR		
	comp=N,350nm,19.6s,MS5.3						
GYA				LR	LR		
	comp=E,410nm,20.6s,MS5.3						
GYA				LR	LR		
	comp=Z,650nm,18.3s,MS5.4						
LZH	Lanzhou	147.24	299	ePKP	PKPdf	00 16 44.0	-0.7
LZH				APKP		00 16 47.3	
LZH				XPKP		00 16 48.5	
LZH				ePP	PP	00 20 15.0	+1.7
LZH				SKKS		00 27 03.2	
LZH				SS	SS	00 39 15.3	+3.0
LZH				PP	PP		
	comp=Z,312nm,7.6s						
LZH				LR	LR		
	comp=E,769nm,18.0s						
LZH				LR	LR		
	comp=Z,997nm,20.0s,MS5.6						
BRTR	Keskin Array B	147.70	54	PKPbc	PKPdf	00 16 49.3	+4.0
	comp=Z,7.0nm,1.1s,baz=225,slow=1.7,SNR=14						
ZAL	Zalesovo	148.34	341	PKPbc	PKPdf	00 16 47.3	+1.4
	comp=Z,1.9nm,0.7s,baz=66,slow=3.4,SNR=8.3						
KMI	Kunming	148.47	278	PKP	PKPdf	00 16 43.0	-4.0
KMI				LR	LR		
	comp=N,206nm,20.5s,MS5.2						
KMI				LR	LR		
	comp=E,350nm,20.5s,MS5.2						
KMI				LR	LR		
	comp=Z,535nm,30.3s						
KMI	Kunming	148.47	278	PKP	PKPdf	00 16 43.3	-3.7
KMI				sPKP		00 16 50.3	
KMI				LR	LR		
	comp=Z,540nm,30.3s,MS5.2						
GTA	Gaotai	149.51	306	PKP	PKPdf	00 16 51.8	+3.6
GTA				PP	PP	00 20 32.1	+6.2
GTA				SKS	SKS	00 23 52.2	-3.4
GTA				PPP	PPP	00 23 56.4	+7.5
GTA				SKKS		00 27 16.4	
GTA				SS	SS	00 39 44.1	+6.9
GTA				PP	PP		
	comp=Z,115nm,11.8s						
GTA				LR	LR		
	comp=N,185nm,18.7s						
GTA				LR	LR		
	comp=E,292nm,24.8s						
GTA				LR	LR		
	comp=Z,521nm,23.7s,MS5.2						
EIL	Elat	150.39	73	ePKPbc	PKPdf	00 16 54.1	+4.2
CMAR	Chiang Mai Arr	150.49	264	PKPbc	PKPdf	00 16 54.9	+4.6
	comp=Z,2.4nm,1.0s,baz=145,slow=0.8,SNR=9.6						
CHKZ	Chkalovo	151.16	357	ePKPbc	PKPdf	00 16 56.8	+6.6
CHKZ				ePKPab	PKPab	00 17 04.5	+1.2
BVAR	Borovoye Array	151.82	357	PKP	PKPdf	00 16 52.2	+1.0
	comp=Z,0.5nm,0.5s,slow=5.8,SNR=4.1						
BVAR				PKPbc	PKPdf	00 16 58.7	+7.4
	comp=Z,2.4nm,0.6s,baz=1.7,slow=2.3,SNR=17						
BVAR				PKPab	PKPab	00 17 07.4	+1.3
	comp=Z,5.1nm,0.6s,baz=350,slow=2.5,SNR=18						
KIV	Kislovodsk	151.99	41	PFAKE		00 17 00.0	+8.2
KIV				LR	LR		
	comp=Z,73nm,21.0s,MS4.5						
KURK	Kurchatov	152.90	345	ePKPbc	PKPdf	00 16 58.9	+6.0
KURK				LR	LR		
	comp=Z,121nm,21.0s,MS4.7						
WMQ	Urumqi	155.12	324	PKP	PKPdf	00 16 53.5	-2.6
WMQ				APKP		00 17 03.0	
WMQ				PKS	PKS	00 20 26.0	-0.2
WMQ				PP	PP	00 20 57.5	+0.1
WMQ				PPP	PPP	00 24 32.0	+0.4
WMQ				SS	SS	00 40 36.0	-2.8
WMQ				PP	PP		
	comp=Z,286nm,4.4s						
WMQ				LR	LR		
	comp=N,670nm,28.8s,MS5.4						
WMQ				LR	LR		
	comp=E,550nm,26.2s,MS5.4						
WMQ				LR	LR		
	comp=Z,419nm,21.2s,MS5.2						
GNI	Garni	155.34	46	PFAKE		00 17 10.0	+13
GNI				LR	LR		
	comp=Z,361nm,22.0s,MS5.2						

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*NEIC **02** 00:08:01.6±0.9, 6.67N×72.89W, h171km±11km, Error ellipse: s-maj=52.8km s-min=13.5km az=127.0*

IDC 02 00:08:00.8±0.7, **6.73N×72.99W, h159km**±11km, **mb3.5**/2, **mb1 3.6**/4, **mb1mx3.1**/21, **mbtmp4.0**/4, **Error ellipse: s-maj=48.0km s-min=7.7km az=131.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	2.29	216	P	P	00 08 41.9	+1.7
	39nm,0.3s,baz=318,slow=3.9,SNR=154						
ROSC				S	S	00 09 10.8	+0.2
	22nm,0.3s,baz=104,slow=19,SNR=8.8						
SDV	Santo Domingo	3.17	47	P	P	00 08 51.8	+0.5
	13nm,0.3s,baz=257,slow=9.8,SNR=94						
SDV				S	S	00 09 29.5	-0.5
	14nm,0.3s,baz=12,slow=5.9,SNR=30						
SDV	Santo Domingo	3.17	47	eP	P	00 08 51.6	+0.3
SDV				S	S	00 09 29.5	-0.5
SCHQ	Schefferville	48.22	5	P	P	00 16 25.9	-1.2
	2.2nm,0.8s,baz=179,slow=10,SNR=6.2						
YKA	Yellowknife Ar	63.40	340	P	P	00 18 12.6	-2.7
	1.1nm,0.9s,baz=132,slow=6.6,SNR=14						
ASAR	Alice Springs	149.16	234	PKPbc	PKPdf	00 27 30.9	+4.3
	0.3nm,0.5s,baz=127,slow=3.4,SNR=2.7						
WRA	Warramunga Arr	150.41	241	PKPbc	PKPdf	00 27 33.8	+5.2
	0.3nm,0.3s,baz=107,slow=2.8,SNR=15						

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*IDC **02** 00:15:23.0±0.9, 24.93S×111.85W, mb3.9/7, mb1 4.2/8, mb1mx4.0/17, mbtmp3.9/8, ML3.8/1, MS4.3/4, Ms1 4.3/4, ms1mx3.6/26, Error ellipse: s-maj=36.3km s-min=19.9km az=50.0*

*NEIC **02** 00:15:24.4±1.0, 25.00S×111.93W, h10km, mb4.5/3, Error ellipse: s-maj=38.0km s-min=14.1km az=51.0*

ISC 02 00:15:21.6±2.0, **25.1S**±0.3×**112.2W**±0.4, **h10km, n20, σ1^{s}07**/13, **mb4.1**/9, **MS4.4**/3, **Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.27	129	Pn	Pn	00 16 11.8	-2.2
	11nm,0.3s,baz=327,slow=13,SNR=4.3						
RPN				Sn	Sn	00 16 53.4	+0.1
	4.5nm,0.3s,baz=350,slow=22,SNR=3.0						
RPN				LR	LR	00 17 06.7	
	comp=Z,1μm,19.3s,baz=78,slow=33						
PLCA	Paso Flores	37.89	125	P	P	00 22 41.5	+0.8
	2.1nm,0.9s,mb3.9,baz=283,slow=10,SNR=4.1						
PLCA	Paso Flores	37.89	125	eP	P	00 22 42.0	+1.4
	9.1nm,1.3s,mb4.3						
LVC	Limon Verde	39.53	96	LR	LR	00 34 24.1	
	comp=Z,558nm,18.1s,MS4.4,baz=258,slow=29						
LVC	Limon Verde	39.53	96	eP	P	00 22 56.3	+1.7
	17nm,1.3s,mb4.6						
LPAZ	La Paz	41.98	87	P	P	00 23 13.6	-1.1
	3.8nm,1.0s,mb4.0,baz=249,slow=8.3,SNR=8.3						
USHA	Ushuaia	43.70	145	LR	LR	00 37 15.4	
	comp=Z,718nm,20.6s,MS4.6,baz=162,slow=30						
JTS	JuntasAbangare	44.06	40	LR	LR	00 36 57.1	
	comp=Z,304nm,18.3s,MS4.2,baz=224,slow=30						
TRQA	Tornquist	44.19	120	eP	P	00 23 33.1	+0.6
	12nm,1.3s,mb4.5						
TXAR	Lajitas Array	54.73	9	P	P	00 24 53.6	0.0
	0.1nm,0.4s,mb3.2,baz=153,slow=6.0,SNR=3.1						
NVAR	Mina Array Bea	63.45	355	P	P	00 25 53.3	-0.7
	2.1nm,0.9s,mb4.3,baz=187,slow=7.3,SNR=5.3						
PDAR	Pinedale Array	67.56	2	P	P	00 26 19.4	-1.1
	1.0nm,0.8s,mb3.9,baz=162,slow=6.7,SNR=6.2						
ULM	Lac du Bonnet	76.39	11	P	P	00 27 13.9	+1.1
	1.6nm,0.6s,mb4.2,baz=181,slow=4.1,SNR=3.8						
YKA	Yellowknife Ar	87.30	359	P	P	00 28 09.5	+0.1
	0.5nm,0.7s,mb3.9,baz=168,slow=5.8,SNR=5.6						
YKA	Yellowknife Ar	87.30	359	P	P	00 28 09.5	+0.1
BRTR	Keskin Array B	147.88	55	PKPbc	PKPdf	00 35 10.4	+3.3
	1.3nm,1.0s,baz=202,slow=6.7,SNR=4.4						
ZAL	Zalesovo	148.53	341	PKPbc	PKPdf	00 35 11.5	+3.8
	0.4nm,0.3s,baz=141,slow=6.5,SNR=2.4						
ZAL	Zalesovo	148.53	341	PKPbc	PKPdf	00 35 11.5	+3.8
CMAR	Chiang Mai Arr	150.40	263	PKPbc	PKPdf	00 35 18.2	+6.5
	0.9nm,0.3s,baz=116,slow=2.9,SNR=4.9						
CMAR				PKPab	PKPab	00 35 23.7	+1.1
	0.9nm,0.4s,baz=117,slow=2.0,SNR=5.0						
BVAR	Borovoye Array	152.04	357	PKPbc	PKPdf	00 35 18.8	+5.6
	0.6nm,0.6s,slow=3.0,SNR=3.9						

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*IDC **02** 00:27:41.1±0.8, 24.99S×112.46W, mb4.3/14, mb1 4.5/15, mb1mx4.3/21, mbtmp4.3/15, ML4.3/1, MS4.4/10, Ms1 4.4/10, ms1mx4.0/22, Error ellipse: s-maj=26.7km s-min=17.4km az=45.0*

*NEIC **02** 00:27:42.5±0.6, 25.01S×112.39W, h10km, mb4.9/4, Error ellipse: s-maj=21.4km s-min=13.4km az=52.0*

*HRVD **02** 00:27:42.5±0.3, 25.05S×112.09W, h18km±1km, MW5.1/63, Centroid moment Tensor Solution. LP body waves: s37,c49;Mantle waves: s63,c107; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.33±.26; $M_{\theta\theta}$-2.61±.21; $M_{\phi\phi}$3.94±.22; $M_{r\theta}$-1.11±.54; $M_{\theta\phi}$5.36±.19; $M_{\phi r}$-0.63±.54; Best double couple: $M_0$6.403×10^{16} NP1: ϕ_s164°,δ79°,λ-179°. NP2:ϕ_s74°,δ89°,λ-11°. Principal axes: T 7.088, Plg7°, Azm120°; N -1.37, Plg78°, Azm249°; P -5.718, Plg9°, Azm29°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **02** 00:27:45.5, 25.00S×112.40W, h10km, Ms5.5, Msz5.4*

ISC 02 00:27:41.2±0.4, **24.91S**±0.08×**112.34W**±0.07, **h10km, n46, σ1^{s}12**/28, **mb4.7**/21, **MS4.6**/11, **1C, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.49	130	Pn	Pn	00 28 30.6	-6.0
	30nm,0.3s,baz=317,slow=11,SNR=10.0						
RPN				Sn	Sn	00 29 18.6	+0.2
	6.6nm,0.3s,baz=67,slow=12,SNR=3.9						
RKT	Rikitea	20.75	270	eP	P	00 32 24.0	-0.7
	226nm,1.5s						
RKT	Rikitea	20.75	270	eLQ		00 36 24.4	
RKT				eLR	LR	00 37 12.8	
	4μm,26.8s,baz=103						
TAOE	Nuku Hiva Isla	30.93	296	eLR	LR	00 41 56.6	
TBI	Tubuai	33.85	265	eLQ		00 41 51.8	
TBI				eLR	LR	00 43 10.9	
	843nm,30.2s,baz=95						
TVO	Taravao	35.03	274	eP	P	00 34 36.6	+0.4
	90nm,1.1s,mb5.6						
TIAR	Tiarei	35.18	275	eP	P	00 34 37.7	+0.2
	76nm,1.1s,mb5.6						
PAE	Paea	35.36	274	eP	P	00 34 39.3	+0.2
	134nm,1.1s,mb5.8						
PPT	Papeete	35.39	275	eP	P	00 34 39.8	+0.5
	43nm,1.3s,mb5.2						
PPT	Papeete	35.39	275	eLQ		00 42 32.4	
PPT				eLR	LR	00 43 51.5	
	2μm,27.8s,baz=114						
PLCA	Paso Flores	38.11	125	P	P	00 35 02.5	+0.5
	15nm,1.1s,mb4.6,baz=279,slow=9.5,SNR=15						
PLCA				LR	LR	00 46 33.8	
	comp=Z,1μm,21.7s,MS4.6,baz=328,slow=30						
LVC	Limon Verde	39.69	96	P	P	00 35 15.9	+0.5
	18nm,0.9s,mb4.8,baz=258,slow=8.4,SNR=17						
LVC				LR	LR	00 46 16.8	
	comp=Z,309nm,19.9s,MS4.1,baz=257,slow=28						
LPAZ	La Paz	42.11	87	P	P	00 35 35.9	+0.5
	24nm,1.1s,mb4.7,baz=266,slow=7.6,SNR=24						
LPAZ				LR	LR	00 49 49.9	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,186nm,18.3s,MS4.0,baz=278,slow=32						
USHA	**Ushuaia**	**43.93**	**145**	P	**P**	**00 35 50.2**	**+0.5**
	3.1nm,0.7s,mb4.1,baz=323,slow=5.1,SNR=2.5						
JTS	**JuntasAbangare**	**44.02**	**41**	P	**P**	**00 35 52.4**	**+1.5**
	9.1nm,1.1s,mb4.4,baz=201,slow=16,SNR=4.3						
TRQA	**Tornquist**	**44.40**	**120**	*e*P	**P**	**00 35 52.8**	**-0.9**
	11nm,1.0s,mb4.5						
ROSC	**El Rosal**	**47.33**	**57**	P	**P**	**00 36 20.3**	**+3.0**
	3.0nm,0.5s,mb4.5,baz=260,slow=22,SNR=7.7						
ROSC				LR	LR	00 51 47.6	
	comp=Z,222nm,19.6s,MS4.1,baz=358,slow=30						
SAML	**Samuel**	**49.34**	**80**	*e*P	**P**	**00 36 30.5**	**-2.4**
	16nm,1.2s,mb4.9						
TXAR	**Lajitas Array**	**54.57**	**9**	P	**P**	**00 37 12.0**	**0.0**
	0.3nm,0.7s,baz=203,slow=6.9,SNR=3.8						
JCT	**Junction City**	**56.37**	**13**	*e*P	**P**	**00 37 23.2**	**-1.9**
	19nm,0.9s,mb5.1						
BDFB	**Brasilia**	**60.57**	**95**	P	**P**	**00 37 53.2**	**-1.3**
	6.6nm,1.0s,mb4.7,baz=251,slow=3.7,SNR=4.5						
BDFB				LR	LR	01 00 57.4	
	comp=Z,379nm,20.5s,MS4.5,baz=110,slow=33						
LRAL	**Lakeview Retre**	**62.48**	**24**	*e*P	**P**	**00 38 05.5**	**-1.7**
MSU	**Marysvale**	**63.09**	**0**	*e*P	**P**	**00 38 13.9**	**+2.8**
NVAR	**Mina Array Bea**	**63.25**	**355**	P	**P**	**00 38 13.2**	**+1.0**
	3.2nm,0.8s,mb4.5,baz=172,slow=8.4,SNR=12						
RPZ	**Rata Peaks**	**63.84**	**232**	LR	LR	01 01 41.7	
	comp=Z,198nm,18.2s,MS4.3,baz=325,slow=32						
VNDA	**Vanda**	**64.96**	**194**	LR	LR	00 59 57.2	
	comp=Z,395nm,18.1s,MS4.7,baz=141,slow=30						
CCM	**Cathedral Cave**	**65.69**	**18**	*e*P	**P**	**00 38 28.8**	**+0.7**
	8.6nm,0.9s,mb4.8						
PDAR	**Pinedale Array**	**67.39**	**2**	P	**P**	**00 38 38.4**	**-0.4**
	1.9nm,0.8s,mb4.2,baz=178,slow=5.7,SNR=9.6						
ULM	**Lac du Bonnet**	**76.24**	**11**	P	**P**	**00 39 31.0**	**-0.4**
	3.0nm,0.7s,mb4.4,baz=209,slow=1.9,SNR=6.5						
ULM	**Lac du Bonnet**	**76.24**	**11**	P	**P**	**00 39 31.0**	**-0.4**
YKA	**Yellowknife Ar**	**87.12**	**359**	P	**P**	**00 40 27.3**	**-0.7**
	1.9nm,0.8s,mb4.4,baz=169,slow=5.5,SNR=17						
MAW	**Mawson**	**87.70**	**178**	LR	LR	01 16 13.2	
	comp=Z,397nm,19.3s,MS4.8,baz=29,slow=33						
SCHQ	**Schefferville**	**88.48**	**24**	P	**P**	**00 40 36.2**	**+1.5**
	2.0nm,0.8s,mb4.4,baz=250,slow=2.2,SNR=3.6						
STKA	**Stephens Creek**	**89.64**	**235**	LR	LR	01 11 40.4	
	comp=Z,309nm,19.0s,MS4.8,baz=27,slow=30						
ILAR	**Eielson Array**	**93.32**	**346**	P	**P**	**00 40 55.6**	**-1.3**
	0.4nm,0.9s,mb3.8,baz=225,slow=7.7,SNR=2.6						
ASAR	**Alice Springs**	**99.69**	**238**	LR	LR	01 21 12.8	
	comp=Z,232nm,19.2s,MS4.7,baz=113,slow=32						
SONM	**Songino Array**	**141.89**	**317**	PKP	PKPdf	00 47 13.9	-2.3
	0.7nm,1.0s,baz=135,slow=1.7,SNR=4.2						
GYA	**Guiyang**	**144.91**	**281**	⇑*i*PKP	PKPdf	00 47 20.3	-1.8
LZH	**Lanzhou**	**147.07**	**298**	*e*PKP	PKPdf	00 47 24.0	-1.5
LZH				APKP		00 47 32.1	
LZH				LR	LR		
	comp=E,455nm,12.7s						
LZH				LR	LR		
	comp=Z,737nm,16.8s,MS5.5						
BRTR	**Keskin Array B**	**147.89**	**54**	PKPbc	PKPdf	00 47 28.1	+1.5
	comp=Z,3.2nm,1.0s,baz=270,slow=2.5,SNR=8.3						
ZAL	**Zalesovo**	**148.31**	**341**	PKPbc	PKPdf	00 47 28.6	+1.8
	comp=Z,1.1nm,0.6s,baz=58,slow=5.3,SNR=11						
GTA	**Gaotai**	**149.37**	**306**	PKP	PKPdf	00 47 33.7	+4.6
CMAR	**Chiang Mai Arr**	**150.28**	**264**	PKPbc	PKPdf	00 47 34.4	+3.3
	comp=Z,3.6nm,0.9s,baz=168,slow=0.9,SNR=8.5						
CMAR				PKPab	PKPab	00 47 40.5	-1.2
	comp=Z,4.2nm,0.9s,baz=128,slow=0.7,SNR=14						
EIL	**Elat**	**150.60**	**73**	PKPbc	PKPdf	00 47 36.4	+5.1
	comp=Z,0.8nm,0.5s,baz=270,slow=3.3,SNR=2.3						
EIL				PKPab	PKPab	00 47 43.0	+0.2
	comp=Z,4.5nm,1.1s,baz=338,slow=3.0,SNR=4.4						
CHKZ	**Chkalovo**	**151.19**	**356**	PKPdf	PKPdf	00 47 30.9	-0.4
KURK	**Kurchatov**	**152.88**	**345**	*e*PKPdf	PKPdf	00 47 33.0	-0.9

BER 02 00:30:56.0±0.3**, 71.21N**×**6.55W, h15**^{km}**, MD2.6, ML3.6, 6C, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.61**	**249**	⇑*i*P	Pb	00 31 06.5	-1.4
JNE				*e*S	Sb	00 31 14.2	-1.7
JNE				AML	AML	00 31 16.0	
	comp=Z,2μm,0.4s						
JNE	**Jan Mayen East**	**0.61**	**249**	⇑*i*P	Pb	00 31 06.4	-1.4
	SNR=53						
JNE				*e*S	Sb	00 31 14.2	-1.7
	comp=Z,2μm,0.4s,SNR=53						
JNW	**Jan Mayen West**	**0.64**	**254**	⇑*i*P	Pb	00 31 07.0	-1.3
JNW				*e*S	Sb	00 31 14.8	-1.8
JNW				AML	AML	00 31 15.7	
	comp=Z,4μm,0.2s						
JNW	**Jan Mayen West**	**0.64**	**254**	⇑*i*P	Pb	00 31 07.0	-1.3
	SNR=53						
JNW				*e*S	Sb	00 31 14.8	-1.9
	comp=Z,4μm,0.2s,SNR=53						
JMI	**Jan Mayen**	**0.77**	**249**	⇑*i*P	Pb	00 31 08.7	-1.8
JMI				*e*S	Sb	00 31 18.1	-2.3
JMI				AML	AML	00 31 22.2	
	comp=Z,1μm,0.5s						
JMI	**Jan Mayen**	**0.77**	**249**	⇑*i*P	Pb	00 31 08.7	-1.8
	SNR=53						
JMI				*e*S	Sb	00 31 18.1	-2.3
	comp=Z,1μm,0.5s,SNR=53						

*UCR **02** 00:45:56.5, 9.55N×84.18W, h25^{km}, MD3.9*
CASC 02 00:45:57.3±2.1**, 9.52N**×**84.20W, h13**^{km}±10^{km}**, MD4.0, MW4.5, 2C-9D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.29**	**40**	⇓*e*P	Pg	00 46 04.1	+0.5
LAJ	**Bijagual**	**0.35**	**12**	⇓*e*P	Pg	00 46 06.1	+1.3
BUS	**Buena Vista**	**0.43**	**85**	⇓*e*P	Pg	00 46 06.5	+0.2
SJS	**Escuela Geolog**	**0.44**	**18**	⇓*e*P	Pg	00 46 05.7	-0.7
SJS				*e*S	Sg	00 46 12.5	-0.1
PRS1	**Puriscal**	**0.48**	**346**	⇓*e*P	Pb	00 46 05.8	-1.2
CGA2	**Cerro Gallo 2**	**0.56**	**332**	⇓*e*P	Pb	00 46 08.6	+0.1
CGA2				*e*S	Sb	00 46 16.4	+0.2
ICR	**Volcan Irazu**	**0.59**	**38**	⇑*i*P	Pb	00 46 09.3	+0.4
ICR				*e*S	Sb	00 46 18.9	+2.1
VPS2	**Volcan Poas 2**	**0.67**	**357**	⇓*e*P	Pb	00 46 10.6	+0.3
TRTC	**Tortuguero**	**1.16**	**24**	⇓*i*P	Pb	00 46 18.6	-0.1
TRTC				*e*S	Sb	00 46 33.1	-0.2
LIO	**Limon**	**1.24**	**67**	*e*P	Pb	00 46 19.3	-0.8
ACR	**Cerro Adams**	**1.33**	**130**	⇑*e*P	Pb	00 46 19.1	-2.5
ACR				*e*S	Sb	00 46 37.5	-0.8
VCR	**Vista de Mar**	**1.54**	**293**	*e*P	Pn	00 46 24.5	-0.1
BRU2	**Volcan**	**1.65**	**116**	⇓*e*P	Pn	00 46 25.7	-0.5
BRU2				*e*S	Sn	00 46 49.9	+2.5

NEIC 02 01:10:38.5, 38.98S×**176.11E, h78**^{km}**, ML3.9**(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.32**	**271**	P	P	01 10 50.5	-0.3
KATZ				S	S	01 11 00.6	+0.6
BKZ	**Black Stump Fm**	**0.35**	**122**	P	P	01 10 50.5	-0.5
BKZ				S	S	01 10 59.6	-0.7
WTVZ	**West Tongariro**	**0.43**	**251**	P	P	01 10 51.3	-0.2
NGZ	**Ngauruhoe**	**0.44**	**243**	P	P	01 10 51.7	+0.1
MGZ	**Maungaku**	**0.45**	**267**	P	P	01 10 51.4	-0.3
TUVZ	**Tukino**	**0.46**	**231**	P	P	01 10 51.9	+0.1
WPVZ	**Whakapapa**	**0.49**	**243**	P	P	01 10 52.2	+0.1
MOVZ	**Moawhango**	**0.51**	**213**	P	P	01 10 51.8	-0.4
WNVZ	**Wahianoa**	**0.53**	**229**	P	P	01 10 52.3	-0.1
TWVZ	**Taurewa**	**0.53**	**260**	P	P	01 10 52.2	-0.3
URZ	**Urewera**	**1.06**	**48**	P	P	01 10 57.8	-0.6
VRZ	**Vera Road**	**1.06**	**262**	P	P	01 10 58.4	0.0
TSZ	**Takapari Road**	**1.08**	**186**	P	P	01 10 58.4	-0.3
WAZ	**Wanganui**	**1.17**	**228**	P	P	01 11 00.2	+0.4
KNZ	**Kokohu**	**1.22**	**92**	*e*P	P	01 11 00.4	0.0
MWZ	**Matawai**	**1.28**	**60**	P	P	01 11 00.9	-0.4
BFZ	**Birch Farm**	**1.70**	**177**	*e*P	P	01 11 05.4	-1.5
MRZ	**Mangatainoka R**	**1.73**	**194**	*e*P	P	01 11 05.8	-1.5
KIW	**Kapiti Island**	**2.10**	**206**	P	P	01 11 10.2	-2.0
MTW	**Mount Morrison**	**2.23**	**192**	P	P	01 11 11.3	-2.8
CAW	**Cannon Point**	**2.27**	**200**	P	P	01 11 12.1	-2.6
QRZ	**Quartz Range**	**3.31**	**235**	*e*P	P	01 11 28.2	-1.1
JCZ	**Jackson Bay**	**7.50**	**225**	*e*P	P	01 12 43.3	+16

*MOS **02** 01:11:59.0±1.3, 13.51N×90.00W, h33^{km}, mb5.2/8, MS4.8/5, Error ellipse: s-maj=11.1km s-min=5.3km az=110.2*
*CASC **02** 01:12:00.1±2.4, 13.31N×90.42W, h21^{km}±9^{km}, MD4.8, ML4.8, mb4.8(NEIC)*
*NEIC **02** 01:12:01.9±0.2, 13.42N×89.97W, mb4.8/97, MD5.2(SNET), Error ellipse: s-maj=5.5km s-min=3.0km az=36.0*
NEIC Felt [III] at San Salvador. Felt [II] at Guatemala City, Guatemala.
*BJI **02** 01:12:01.9, 13.40N×90.00W, h53^{km}, mB5.2, Ms5.3, Msz5.1*
*IDC **02** 01:12:04.4±2.1, 13.66N×89.84W, h66^{km}±18^{km}, mb4.3/20, mb1 4.5/23, mb1mx4.4/26, mbtmp4.6/23, MS4.7/18, Ms1 4.7/18, ms1mx4.5/23, Error ellipse: s-maj=20.1km s-min=9.5km az=55.0*
ISC 02 01:12:02.9±0.3**, 13.45N**±0.03×**90.16W**±0.03**, h76**^{km}±2^{km}**, h54**^{km}±1.9^{km}**: pP-P, n374,** σ**1.07**/332**, mb4.7**/111**, 9C-32D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.65**	**53**	⇓*i*P	**P**	**01 12 17.4**	**-0.6**
RTR	**El Retiro**	**0.67**	**48**	⇓*i*P	**P**	**01 12 17.7**	**-0.5**
SNJE	**San Jose**	**0.68**	**52**	⇓*i*P	**P**	**01 12 17.8**	**-0.5**
IXG	**Ixpaco**	**0.78**	**338**	⇓*e*P	**P**	**01 12 16.1**	**-3.3**
IXG				*e*S	**S**	**01 12 27.1**	**-4.5**
RBDL	**Robledal**	**0.81**	**35**	⇑*i*P	**P**	**01 12 19.8**	**+0.1**
BOQS	**Boqueron**	**0.90**	**71**	⇓*i*P	**P**	**01 12 20.6**	**-0.2**
SNET	**Serv Nac Est T**	**0.93**	**75**	⇑*e*P	**P**	**01 12 20.7**	**-0.5**
SNET				*e*S	**S**	**01 12 39.5**	**+4.7**
SNET				*i*		01 12 43.9	
	comp=Z,44μm,0.6s						
PCG	**Pacaya**	**1.04**	**335**	⇓*e*P	**P**	**01 12 19.8**	**-2.7**
LFU	**La Fuente**	**1.06**	**73**	*e*P	**P**	**01 12 23.3**	**+0.6**
LFRS	**El Faro**	**1.08**	**81**	⇓*e*P	**P**	**01 12 22.4**	**-0.6**
LBRS	**Las Brisas**	**1.12**	**75**	⇓*e*P	**P**	**01 12 23.8**	**+0.2**
NBG	**Las Nubes**	**1.15**	**351**	⇓*e*P	**P**	**01 12 23.4**	**-0.5**
NBG				*e*S	**S**	**01 12 43.5**	**+3.9**
NBG				*e*S	**S**	**01 12 44.0**	**+4.4**
NBG				AML	AML	01 12 45.9	
	comp=E,235μm,0.4s						
LCBS	**La Ceiba**	**1.17**	**80**	⇓*e*P	**P**	**01 12 23.6**	**-0.5**
FUG	**Fuego 3**	**1.20**	**326**	⇓*i*P	**P**	**01 12 20.9**	**-3.6**
MTO2	**Montecristo 2**	**1.22**	**39**	⇓*i*P	**P**	**01 12 26.0**	**+1.1**
SNVI	**San Vicente**	**1.29**	**83**	⇓*e*P	**P**	**01 12 25.9**	**0.0**
SNVI				*e*S	**S**	**01 12 49.5**	**+6.5**
JAT	**Jato**	**1.68**	**301**	⇓*e*P	**P**	**01 12 26.1**	**-4.9**
JAT				*e*S	**S**	**01 12 47.7**	**-3.9**
VSM	**San Miguel**	**1.83**	**90**	⇓*e*P	**P**	**01 12 33.5**	**+0.4**
VSM				*e*S	**S**	**01 13 01.6**	**+6.3**
BLLM	**Bellamira**	**1.87**	**90**	⇑*e*P	**P**	**01 12 34.0**	**+0.4**
CAHU	**Cacacuatique**	**1.92**	**80**	⇑*e*P	**P**	**01 12 35.0**	**+0.8**
CNCH	**Conchagua**	**2.27**	**94**	⇑*e*P	**P**	**01 12 39.0**	**-0.1**
CNCH				*e*S	**S**	**01 13 11.0**	**+5.0**
CRIN	**San Cristobal**	**3.12**	**103**	⇑*e*P	**P**	**01 12 51.4**	**+0.4**
LEON	**Leon**	**3.35**	**107**	⇓*e*P	**P**	**01 12 53.1**	**-1.1**
TELN	**Telica**	**3.35**	**104**	⇑*e*P	**P**	**01 12 53.8**	**-0.5**
TELN				*e*S	**S**	**01 13 35.0**	**+2.0**
TELN				*i*		01 13 52.4	
	comp=Z,2μm,0.5s						
CCIG	**Comitan**	**3.41**	**326**	*i* P	**P**	**01 12 53.9**	**-1.1**
CCIG				*i* S	**S**	**01 13 34.0**	**-0.4**
CNGN	**Cerro Negro**	**3.50**	**105**	*e*P	**P**	**01 12 57.2**	**+0.9**
MIRN	**Miramar**	**3.51**	**106**	⇓*e*P	**P**	**01 12 57.0**	**+0.6**
MOMJ	**Momotombo**	**3.68**	**106**	*e*P	**P**	**01 12 58.8**	**0.0**
MOMJ				*e*S	**S**	**01 13 44.9**	**+3.7**
MOMJ				*i*		01 13 57.5	
	comp=Z,620nm,0.5s						
COPN	**Copaltepe**	**3.70**	**109**	⇓*e*P	**P**	**01 12 58.5**	**-0.6**
XAVN	**Gruta Xavier**	**3.96**	**109**	*e*P	**P**	**01 13 02.3**	**-0.4**
XAVN				*e*S	**S**	**01 13 50.0**	**+1.9**
XAVN				*i*		01 14 08.9	
	comp=Z,4μm,0.4s						
MGAN	**Managua**	**4.03**	**108**	*e*P	**P**	**01 13 03.9**	**+0.2**
SCX	**San Cristobal**	**4.05**	**324**	*e*P	**P**	**01 13 03.0**	**-1.0**
TICN	**Ticuantepe**	**4.08**	**110**	*e*P	**P**	**01 13 05.6**	**+1.2**
PYTN	**Playitas**	**4.10**	**102**	⇓*e*P	**P**	**01 13 04.2**	**-0.5**
MASN	**Masaya**	**4.17**	**110**	*e*P	**P**	**01 13 05.4**	**-0.2**
APON	**Apoyo**	**4.27**	**110**	⇑*e*P	**P**	**01 13 07.6**	**+0.5**
APON				*i*		01 14 29.2	
	comp=Z,2μm,0.8s						
CONN	**Concepcion**	**4.81**	**112**	⇓*e*P	**P**	**01 13 14.1**	**-0.4**
CONN				*i*		01 14 30.3	
	comp=Z,1μm,0.6s						
VCR	**Vista de Mar**	**5.53**	**126**	*e*P	**P**	**01 13 23.7**	**-0.6**
VCR	**Vista de Mar**	**5.53**	**126**	*e*P	**P**	**01 13 23.7**	**-0.6**
CMIG	**Matias Romero**	**5.82**	**309**	*i* P	**P**	**01 13 24.0**	**-4.4**
CMIG				*i* S	**S**	**01 14 27.2**	**-7.4**
JTS	**JuntasAbangare**	**5.99**	**121**	*i* P	**P**	**01 13 30.0**	**-0.7**
JTS	**JuntasAbangare**	**5.99**	**121**	P	**P**	**01 13 29.7**	**-0.9**
	comp=Z,12nm,0.3s,baz=326,slow=15,SNR=52						
JTS				S	**S**	**01 14 36.7**	**-1.9**
	comp=Z,9.5nm,0.3s,baz=330,slow=23,SNR=1.9						
JTS				LR	LR	01 15 53.4	
	comp=Z,5μm,20.4s,baz=300,slow=39						
JTS	**JuntasAbangare**	**5.99**	**121**	*e*Pn	**P**	**01 13 29.4**	**-1.2**
	comp=Z,539nm,0.6s						
JTS				*e*S	**S**	**01 14 54.9**	**+16**
FORC	**Fortuna**	**6.13**	**118**	*e*P	**P**	**01 13 33.7**	**+1.0**
HUIG	**Huatulco**	**6.20**	**293**	*i* P	**P**	**01 13 28.7**	**-5.0**
HUIG				*i* S	**S**	**01 14 48.3**	**+4.3**
CGA2	**Cerro Gallo 2**	**6.54**	**121**	*e*P	**P**	**01 13 38.9**	**+0.5**
CGA2	**Cerro Gallo 2**	**6.54**	**121**	*e*P	**P**	**01 13 39.0**	**+0.6**
VPS2	**Volcan Poas 2**	**6.64**	**119**	*e*P	**P**	**01 13 41.7**	**+1.8**
VPS2	**Volcan Poas 2**	**6.64**	**119**	*e*P	**P**	**01 13 41.4**	**+1.5**
PRS1	**Puriscal**	**6.68**	**120**	*e*P	**P**	**01 13 41.2**	**+0.7**
LAJ	**Bijagual**	**6.90**	**120**	*e*P	**P**	**01 13 39.9**	**-3.6**
LAJ	**Bijagual**	**6.90**	**120**	*e*P	**P**	**01 13 39.9**	**-3.6**
SJS	**Escuela Geolog**	**6.92**	**120**	*e*P	**P**	**01 13 44.5**	**+0.7**
SJS	**Escuela Geolog**	**6.92**	**120**	*e*P	**P**	**01 13 45.1**	**+1.4**
SJS				*e*S	**S**	**01 15 04.3**	**+2.6**
TRTC	**Tortuguero**	**6.92**	**114**	*e*P	**P**	**01 13 42.5**	**-1.3**
TRTC	**Tortuguero**	**6.92**	**114**	*e*P	**P**	**01 13 42.6**	**-1.2**
TEIG	**Tepich**	**6.98**	**15**	*e*P	**P**	**01 13 44.8**	**+0.3**
	comp=Z,327nm,0.7s						
EVV	**El Vigia**	**7.05**	**316**	*i* P	**P**	**01 13 45.5**	**-0.1**
LCR2	**La Lucha 2**	**7.07**	**121**	*e*P	**P**	**01 13 46.1**	**+0.4**
LCR2	**La Lucha 2**	**7.07**	**121**	⇓*e*P	**P**	**01 13 46.2**	**+0.5**
ICR	**Volcan Irazu**	**7.09**	**118**	*e*P	**P**	**01 13 47.2**	**+1.1**
ICR	**Volcan Irazu**	**7.09**	**118**	*e*P	**P**	**01 13 47.3**	**+1.2**
OXX	**Oaxaca**	**7.29**	**301**	*e*P	**P**	**01 13 49.0**	**+0.1**
VHO	**Vista Hermosa**	**7.29**	**300**	*e*P	**P**	**01 13 46.9**	**-2.0**
BUS	**Buena Vista**	**7.37**	**121**	*e*P	**P**	**01 13 51.2**	**+1.3**
BUS	**Buena Vista**	**7.37**	**121**	*e*P	**P**	**01 13 51.2**	**+1.3**
ACR	**Cerro Adams**	**8.35**	**124**	*e*P	**P**	**01 14 03.6**	**+0.2**
ACR	**Cerro Adams**	**8.35**	**124**	⇑*e*P	**P**	**01 14 03.8**	**+0.5**
IISM	**Ciudad Serdan**	**8.85**	**309**	*e*P	**P**	**01 14 07.0**	**-3.2**
DVD	**David**	**9.06**	**123**	*e*P	**P**	**01 14 14.1**	**+1.1**
DVD				*e*S	**S**	**01 15 57.3**	**+3.0**
PTP1	**Petroterminal**	**9.21**	**124**	*e*P	**P**	**01 14 11.5**	**-3.5**
PTP1				*e*S	**S**	**01 15 48.8**	**-9.1**
IIB	**San Bernardino**	**9.58**	**306**	*e*P	**P**	**01 14 20.0**	**-0.2**
PPM	**Popocatepetl**	**9.86**	**306**	*e*P	**P**	**01 14 22.7**	**-1.3**
PPM				*i* S	**S**	**01 16 14.2**	**+0.3**
ACX	**Acapulco**	**10.01**	**291**	*e*P	**P**	**01 14 21.0**	**-5.1**
YAIG	**Yautepec**	**10.11**	**303**	*e*P	**P**	**01 14 24.7**	**-2.6**
PLIG	**Platanillo**	**10.24**	**300**	*i* P	**P**	**01 14 28.0**	**-1.1**
PLIG				*i* S	**S**	**01 16 26.0**	**+3.0**
UNM	**Universidad Na**	**10.44**	**305**	*e*P	**P**	**01 14 31.0**	**-0.9**
UPA	**Univ. de Panam**	**11.33**	**112**	*e*P	**P**	**01 14 43.8**	**0.0**
MOIG	**Morelia**	**12.25**	**302**	*e*P	**P**	**01 14 54.8**	**-1.3**
PAYG	**Puerto Ayora**	**14.03**	**181**	*e*P	**P**	**01 15 18.1**	**-1.5**
	comp=Z,58nm,1.3s						
SFJM	**Santa Fe**	**14.16**	**301**	*e*P	**P**	**01 15 20.0**	**-1.2**
HKT	**Hockley**	**17.24**	**343**	*e*P	**P**	**01 16 01.2**	**+1.0**
	comp=Z,34nm,1.1s						
ROSC	**El Rosal**	**17.80**	**117**	P	**P**	**01 16 08.9**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=268,slow=8.5,SNR=21						
ROSC				PcP	PcP	01 20 43.6	+2.1
	comp=Z,0.5nm,0.3s,baz=85,slow=23,SNR=4.1						
NATX	**Nacogdoches**	**18.69**	**348**	*e*P	**P**	**01 16 17.6**	**0.0**
	comp=Z,96nm,0.8s						
JCT	**Junction City**	**19.14**	**334**	*e*P	**P**	**01 16 21.9**	**-0.9**
	comp=Z,106nm,1.4s						
SDV	**Santo Domingo**	**19.68**	**101**	P	**P**	**01 16 27.0**	**-1.7**
	comp=Z,2.6nm,0.3s,baz=301,slow=6.5,SNR=92						
SDV				PcP	PcP	01 20 46.0	+1.2
	comp=Z,0.4nm,0.3s,baz=271,slow=3.2,SNR=5.6						
SDV	**Santo Domingo**	**19.68**	**101**	*e*P	**P**	**01 16 26.8**	**-1.8**
	comp=Z,48nm,0.7s						
LRAL	**Lakeview Retre**	**19.71**	**8**	*e*P	**P**	**01 16 30.1**	**+1.3**
	comp=Z,71nm,0.8s						
LTX	**Lajitas**	**20.17**	**324**	*e*P	**P**	**01 16 34.2**	**+0.5**
	comp=Z,81nm,1.5s						
TXAR	**Lajitas Array**	**20.17**	**324**	P	**P**	**01 16 34.4**	**+0.7**
	comp=Z,8.1nm,0.5s,baz=147,slow=11,SNR=94						
TXAR				PcP	PcP	01 20 46.6	+1.1
	comp=Z,2.9nm,0.7s,baz=165,slow=4.2,SNR=10						
GOGA	**Godfrey**	**20.79**	**16**	*e*P	**P**	**01 16 40.2**	**+0.2**
	comp=Z,81nm,1.2s						
OXF	**Oxford**	**20.98**	**2**	*e*P	**P**	**01 16 41.8**	**-0.1**
	comp=Z,249nm,1.1s						
MIAR	**Mount Ida**	**21.23**	**352**	*e*P	**P**	**01 16 43.2**	**-1.2**
	comp=Z,237nm,1.6s,mb5.3						
UALR	**University of**	**21.33**	**355**	*e*P	**P**	**01 16 44.9**	**-0.5**
	comp=Z,319nm,1.6s,mb5.4						
RGRS	**Roger Stewart**	**21.40**	**24**	P	**P**	**01 16 47.3**	**+1.1**
NHSC	**New Hope**	**21.59**	**23**	P	**P**	**01 16 47.9**	**-0.1**
	comp=Z,931nm,1.5s						
COW	**Cow Castle Cre**	**21.64**	**22**	*e*P	**P**	**01 16 51.2**	**+2.8**
HBAR	**Harrisburg**	**22.02**	**359**	*e*P	**P**	**01 16 54.2**	**+2.0**
JSC	**Jenkinsville**	**22.26**	**20**	*e*P	**P**	**01 16 56.0**	**+1.4**
GNAR	**Gosnell**	**22.42**	**0**	*e*P	**P**	**01 16 59.3**	**+3.1**
CPCT	**Cooper Cave**	**22.49**	**12**	*e*P	**P**	**01 16 58.2**	**+1.3**
WMOK	**Wichita Mounta**	**22.59**	**341**	*e*P	**P**	**01 16 57.5**	**-0.4**
	comp=Z,37nm,1.1s,mb4.6						
WVT	**Waverly**	**22.68**	**5**	*e*P	**P**	**01 16 59.7**	**+0.9**
	comp=Z,79nm,0.9s,mb5.0						
UTMT	**University of**	**22.83**	**3**	*e*P	**P**	**01 16 59.4**	**-0.7**
	comp=Z,109nm,0.7s,mb5.3						
MNTX	**Cornudas Mount**	**22.92**	**325**	*e*P	**P**	**01 17 00.8**	**-0.3**
	comp=Z,61nm,1.0s,mb4.9						
SJG	**San Juan**	**23.56**	**76**	P	**P**	**01 17 06.5**	**-0.9**
	comp=Z,9.1nm,0.4s,mb4.4,baz=293,slow=4.2,SNR=8.4						
SJG				PcP	PcP	01 20 52.6	+0.2
	comp=Z,5.5nm,0.3s,slow=2.0,SNR=4.1						
SJG	**San Juan**	**23.56**	**76**	*e*P	**P**	**01 17 05.5**	**-1.8**
	comp=Z,16nm,0.8s,mb4.4						
AMTX	**Amarillo**	**23.75**	**336**	*e*P	**P**	**01 17 09.8**	**+0.7**
	comp=Z,17nm,0.5s,mb4.6						
TZTN	**Tazewell**	**23.75**	**13**	*e*P	**P**	**01 17 10.2**	**+1.2**
FVM	**French Village**	**24.44**	**359**	*e*P	**P**	**01 17 16.6**	**+0.8**
	comp=Z,6.5nm,0.6s,mb4.1						
USIN	**University of**	**24.52**	**5**	*e*P	**P**	**01 17 17.6**	**+1.1**
	comp=Z,82nm,0.7s,mb5.3						
USIN				*e*pP		01 17 30.3	
CCM	**Cathedral Cave**	**24.53**	**358**	*e*P	**P**	**01 17 16.1**	**-0.6**
	comp=Z,124nm,1.5s,mb5.1						
CCM				*e*pP		01 17 27.4	
WCI	**Wyandotte Cave**	**24.92**	**7**	*e*P	**P**	**01 17 20.6**	**+0.2**
	comp=Z,168nm,0.7s,mb5.6						
SLM	**Saint Louis**	**25.09**	**360**	*e*P	**P**	**01 17 22.6**	**+0.6**
SLM	**Saint Louis**	**25.09**	**360**	P	**P**	**01 17 22.6**	**+0.6**
ELN	**Prospectdale**	**25.13**	**18**	*e*P	**P**	**01 17 22.8**	**+0.4**
BLO	**Bloomington**	**25.82**	**7**	*e*P	**P**	**01 17 28.6**	**-0.3**
	comp=Z,322nm,1.6s,mb5.5						
BLO				*e*pP	pP	01 17 41.8	-4.6
ANMO	**Albuquerque**	**25.99**	**328**	*e*P	**P**	**01 17 31.2**	**+0.8**
ANMO	**Albuquerque**	**25.99**	**328**	P	**P**	**01 17 31.2**	**+0.7**
	comp=Z,4.0nm,0.7s,mb4.0,baz=158,slow=12,SNR=14						
ANMO				PcP	PcP	01 20 59.6	+2.1
	comp=Z,7.7nm,1.1s,baz=157,slow=5.0,SNR=5.7						
ANMO				LR	LR	01 30 08.6	
	comp=Z,1μm,19.8s,slow=42						
ANMO	**Albuquerque**	**25.99**	**328**	P	**P**	**01 17 31.2**	**+0.7**
ANMO				PcP	PcP	01 20 59.6	+2.1
ANMO				LR	LR	01 30 08.6	
KSU1	**Kansas State U**	**26.18**	**349**	*e*P	**P**	**01 17 32.8**	**+0.7**
KSU1				*e*pP	pP	01 17 45.9	-3.9
TUC	**Tucson**	**26.62**	**318**	*e*P	**P**	**01 17 37.1**	**+0.8**
	comp=Z,10nm,0.9s,mb4.3						
CBKS	**Cedar Bluff**	**26.65**	**343**	*e*P	**P**	**01 17 38.0**	**+1.5**
	comp=Z,217nm,1.6s,mb5.4						
CBKS				⇓*e*pP	pP	01 17 50.9	-3.2
CBKS				*e*sP	sP	01 17 58.8	-4.5
CBN	**Corbin**	**27.15**	**22**	*e*P	**P**	**01 17 41.9**	**+0.8**
	comp=Z,31nm,0.6s,mb5.0						
ACSO	**Alum Creek Sta**	**27.42**	**12**	*e*P	**P**	**01 17 42.5**	**-1.0**
	comp=Z,33nm,0.8s,mb4.9						
SDMD	**Soldier's Deli**	**28.41**	**22**	*e*P	**P**	**01 17 52.5**	**0.0**
WUAZ	**Wupatki**	**29.12**	**323**	*e*P	**P**	**01 17 59.8**	**+1.0**
	comp=Z,281nm,0.8s						
PV10	**Paradox Valley**	**29.95**	**329**	*e*P	**P**	**01 18 06.2**	**0.0**
GENY	**Geneseo**	**31.10**	**18**	*e*P	**P**	**01 18 16.0**	**-0.3**
LDFC	**Landfair**	**31.16**	**318**	*e*P	**P**	**01 18 18.6**	**+1.7**
LDFC				*e*PcP	PcP	01 21 11.4	+1.1
MSU	**Marysvale**	**31.69**	**326**	*e*P	**P**	**01 18 22.5**	**+1.1**
MSU				*e*PcP	PcP	01 21 13.0	+1.3
MVU	**Marysvale**	**31.70**	**326**	*e*P	**P**	**01 18 22.7**	**+1.2**
	comp=Z,7.4nm,0.9s,mb4.4						
MVU				*e*PcP	PcP	01 21 13.5	+1.7
ARUT	**Antelope Range**	**31.89**	**324**	*e*P	**P**	**01 18 24.6**	**+1.4**
MPU	**Maple Canyon**	**32.51**	**328**	*e*P	**P**	**01 18 29.5**	**+1.0**
MPU				*e*PcP	PcP	01 21 15.9	+2.0
SADO	**Sadowa**	**32.60**	**15**	P	**P**	**01 18 28.2**	**-1.1**
	comp=Z,23nm,0.8s,mb5.1,baz=208,slow=8.3,SNR=19						
SADO	**Sadowa**	**32.60**	**15**	P	**P**	**01 18 28.2**	**-1.1**
DAU	**Daniels Canyon**	**32.62**	**329**	*e*P	**P**	**01 18 30.5**	**+1.0**
DAU				*e*PcP	PcP	01 21 16.1	+1.9
TCUT	**Toone Canyon**	**33.23**	**330**	*e*P	**P**	**01 18 36.9**	**+2.1**
TCUT				*e*PcP	PcP	01 21 17.8	+1.9
NOQ	**North Oquirrh**	**33.23**	**329**	*e*P	**P**	**01 18 35.8**	**+1.0**
DUG	**Dugway**	**33.25**	**327**	*e*P	**P**	**01 18 35.2**	**+0.3**
	comp=Z,149nm,1.4s,mb5.6						
DUG				*e*PcP	PcP	01 21 16.4	+0.5
HWUT	**Hardware Ranch**	**33.68**	**330**	*e*P	**P**	**01 18 38.9**	**+0.2**
	comp=Z,5.1nm,0.8s,mb4.4						
HWUT				*e*PcP	PcP	01 21 17.6	+0.5
PDAR	**Pinedale Array**	**33.68**	**334**	P	**P**	**01 18 38.6**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.1,baz=126,slow=10,SNR=18						
PDAR				PcP	PcP	01 21 17.6	+0.4
	comp=Z,3.3nm,0.5s,baz=109,slow=5.3,SNR=16						
PDAR				PKiKP		01 28 42.4	
	comp=Z,0.8nm,0.7s,baz=117,slow=2.0,SNR=7.4						
TPH	**Tonopah**	**34.34**	**320**	*e*P	**P**	**01 18 45.8**	**+1.4**
	comp=Z,19nm,1.1s,mb4.8						
TPH				*e*PcP	PcP	01 21 21.3	+2.3
HVU	**Hansel Valley**	**34.40**	**329**	*e*P	**P**	**01 18 45.9**	**+1.1**
HVU				*e*PcP	PcP	01 21 19.8	+0.6
EYMN	**Ely**	**34.41**	**358**	*e*P	**P**	**01 18 42.7**	**-2.2**
	comp=Z,14nm,0.7s,mb4.9						
EYMN				*e*pP	pP	01 18 57.7	-5.6
MTUM	**Tungsten Hills**	**34.76**	**318**	*e*P	**P**	**01 18 49.4**	**+1.5**
MTUM				*e*PcP	PcP	01 21 21.7	+1.4
SNOW	**Snow King Moun**	**34.76**	**333**	*e*P	**P**	**01 18 48.7**	**+0.8**
LOHW	**Long Hollow**	**34.81**	**334**	*e*P	**P**	**01 18 48.6**	**+0.3**
LOHW				*e*PcP	PcP	01 21 20.2	-0.2
SAML	**Samuel**	**34.82**	**128**	*e*P	**P**	**01 18 46.8**	**-1.9**
	comp=Z,22nm,0.8s,mb5.0						
TPAW	**Teton Pass**	**34.87**	**333**	*e*P	**P**	**01 18 50.0**	**+1.2**
TPAW				*e*PcP	PcP	01 21 22.8	+2.3
RRI2	**Red Ridge**	**34.92**	**333**	*e*P	**P**	**01 18 50.2**	**+1.0**
ELK	**Elko**	**34.94**	**326**	*e*P	**P**	**01 18 50.3**	**+0.8**
	comp=Z,11nm,0.8s,mb4.8						
ELK				*e*PcP	PcP	01 21 21.4	+0.6
MNV	**Mina**	**35.14**	**320**	*e*P	**P**	**01 18 52.8**	**+1.6**
	comp=Z,41nm,0.9s,mb5.3						
MNV				*e*PcP	PcP	01 21 21.3	-0.1
IMW	**Indian Meadow**	**35.19**	**334**	*e*P	**P**	**01 18 52.3**	**+0.8**
IMW				*e*PcP	PcP	01 21 22.0	+0.6
OMM	**Old Mammoth Mi**	**35.19**	**318**	*e*P	**P**	**01 18 53.1**	**+1.5**
OMM				*e*PcP	PcP	01 21 22.6	+1.1
NVAR	**Mina Array Bea**	**35.23**	**320**	P	**P**	**01 18 54.1**	**+2.1**
	comp=Z,43nm,0.8s,mb5.4,baz=124,slow=8.8,SNR=176						
NVAR				PcP	PcP	01 21 23.1	+1.4
	comp=Z,14nm,0.8s,baz=128,slow=1.9,SNR=13						
NVAR				ScP		01 25 04.5	
	comp=Z,0.9nm,0.6s,baz=107,slow=4.8,SNR=3.7						
NVAR				LR	LR	01 35 09.3	
	comp=Z,1μm,18.7s,baz=280,slow=39						
YMR	**Madison River**	**35.82**	**334**	*e*P	**P**	**01 18 58.4**	**+1.5**
BMN	**Battle Mountai**	**35.84**	**324**	*e*P	**P**	**01 18 58.0**	**+0.8**
	comp=Z,20nm,0.7s,mb5.2						
CMB	**Columbia Colle**	**36.33**	**318**	*e*P	**P**	**01 19 02.3**	**+1.0**
	comp=Z,24nm,1.2s,mb5.0						
CMB				*e*PcP	PcP	01 21 25.5	+0.6
WCN	**Washoe City**	**36.66**	**320**	*e*P	**P**	**01 19 07.2**	**+3.2**
	comp=Z,18nm,1.1s,mb4.9						
LPAZ	**La Paz**	**36.70**	**143**	P	**P**	**01 19 05.1**	**+0.5**
	comp=Z,2.9nm,0.7s,mb4.3,baz=316,slow=9.7,SNR=11						
LPAZ				LR	LR	01 34 09.0	
	comp=Z,1μm,21.9s,baz=158,slow=36						
LPAZ	**La Paz**	**36.70**	**143**	*e*P	**P**	**01 19 04.6**	**0.0**
	comp=Z,3.4nm,0.7s,mb4.4						
MCMT	**McKenzie Canyo**	**36.76**	**333**	*e*P	**P**	**01 19 06.0**	**+1.1**

DGMT Dagmar 36.81 344 *e*P **P** **01 19 03.1 -2.1**
comp=Z,22nm,0.8s,mb5.2
ULM Lac du Bonnet 37.00 354 P **P** **01 19 05.1 -1.6**
comp=Z,22nm,0.9s,mb5.1,baz=171,slow=8.8,SNR=36
ULM LR LR 01 37 30.5
comp=Z,919nm,18.3s,baz=21,slow=41
ULM Lac du Bonnet 37.00 354 *e*P **P** **01 19 04.8 -1.9**
comp=Z,24nm,0.8s,mb5.2
OHCM Honcut 37.77 319 *e*P **P** **01 19 13.9 +0.6**
OHCM *e*PcP PcP 01 21 30.7 +1.4
WVOR Wild Horse Val 37.96 325 *e*P **P** **01 19 15.6 +0.8**
comp=Z,15nm,0.8s,mb4.9
WVOR *e*PcP PcP 01 21 30.7 +0.9
MOD Modoc 38.57 323 *e*P **P** **01 19 20.9 +1.0**
comp=Z,24nm,1.1s,mb4.9
CHMT Chamberlain Mo 38.58 334 *e*P **P** **01 19 20.4 +0.5**
BMO Blue Mountains 38.90 329 *e*P **P** **01 19 23.4 +0.7**
comp=Z,3.3nm,0.9s,mb4.2
BMO *e*PcP PcP 01 21 34.0 +1.3
BUOR Burton Butte 39.95 322 P **P** **01 19 32.5 +1.2**
KHMM Horse Mountain 40.06 319 *e*P **P** **01 19 33.3 +1.1**
VIPM Ingram Point 40.40 326 P **P** **01 19 36.8 +1.7**
HUMO Hull Mountain 40.57 322 P **P** **01 19 37.7 +1.3**
HBO Huckleberry Mo 40.93 324 P **P** **01 19 40.6 +1.1**
KBO Bosley Butte 41.11 321 *e*P **P** **01 19 43.0 +2.1**
BROR Big Rock Looko 41.27 324 P **P** **01 19 42.8 +0.6**
VFP Flag Point 41.39 326 P **P** **01 19 44.8 +1.7**
LVC Limon Verde 41.45 150 P **P** **01 19 44.5 +0.6**
comp=Z,2.2nm,0.9s,mb4.0,baz=284,slow=7.1,SNR=3.1
LVC LR LR 01 34 30.0
comp=Z,735nm,20.8s,baz=312,slow=32
EBG Ellensburg 41.97 329 P **P** **01 19 50.1 +2.2**
FFC Flin Flon 42.21 350 P **P** **01 19 49.3 -0.5**
comp=Z,128nm,0.7s,SNR=12
FFC Flin Flon 42.21 350 *e*P **P** **01 19 49.5 -0.3**
comp=Z,12nm,0.7s,mb4.8
LON Longmire 42.50 328 P **P** **01 19 53.9 +1.7**
EDM Edmonton 43.75 340 *e*P **P** **01 20 01.3 -1.0**
RPN Rapa Nui 44.42 205 LR LR 01 33 46.2
comp=Z,2µm,20.5s,baz=209,slow=29
SCHQ Schefferville 45.14 19 P **P** **01 20 12.2 -1.3**
comp=Z,32nm,0.5s,mb5.3,baz=217,slow=6.3,SNR=188
SCHQ PcP PcP 01 21 52.5 -0.7
comp=Z,6.7nm,0.7s,baz=252,slow=5.4,SNR=4.4
SCHQ LR LR 01 40 35.2
comp=Z,964nm,18.9s,baz=221,slow=38
SCHQ Schefferville 45.14 19 *e*P **P** **01 20 12.1 -1.4**
comp=Z,42nm,0.6s,mb5.3
FCC Fort Churchill 45.33 357 *e*P **P** **01 20 13.2 -1.7**
comp=Z,8.9nm,0.8s,mb4.5
BDFB Brasilia 50.72 123 P **P** **01 20 55.8 -1.6**
comp=Z,5.9nm,0.7s,mb4.7,baz=279,slow=9.4,SNR=7.7
BDFB PcP PcP 01 22 14.1 +0.4
comp=Z,10.0nm,0.8s,baz=308,slow=4.8,SNR=6.8
BDFB LR LR 01 44 35.7
comp=Z,625nm,18.3s,baz=156,slow=39
YKA Yellowknife Ar 51.98 346 P **P** **01 21 04.5 -1.7**
comp=Z,12nm,1.1s,mb4.8,baz=147,slow=7.6,SNR=78
YKA PcP PcP 01 22 17.5 -0.3
comp=Z,2.2nm,0.6s,baz=149,slow=4.0,SNR=11
YKA PKIKP 01 28 57.8
comp=Z,0.2nm,0.6s,baz=142,slow=1.2,SNR=5.3
YKA LR LR 01 47 29.6
comp=Z,677nm,18.6s,baz=140,slow=41
YKW3 Yellowknife Ar 52.04 346 *e*P **P** **01 21 05.3 -1.5**
YKW3 *e*pP pP 01 21 21.1 -4.8
YKW3 *e*sP sP 01 21 30.9 -3.7
FRB Frobisher Bay 52.47 12 P **P** **01 21 07.7 -2.2**
comp=Z,9.4nm,0.5s,mb5.1,baz=204,slow=8.1,SNR=18
TAOE Nuku Hiva Isla 54.35 249 *e*LR LR 01 36 46.0
PLCA Paso Flores 56.89 162 P **P** **01 21 41.5 -0.9**
comp=Z,1.4nm,0.6s,mb4.2,baz=342,slow=9.7,SNR=4.3
PLCA LR LR 01 40 47.8
comp=Z,718nm,18.7s,baz=9.8,slow=30
RKT Rikitea 56.96 231 *e*LQ 01 35 45.1
RKT *e*LR LR 01 38 05.3
comp=Z,1µm,25.0s
RCBR Riachuelo 57.17 106 *e*P **P** **01 21 43.1 -1.6**
comp=Z,43nm,0.8s,mb5.5
RCBR *e*pP pP 01 21 56.2 -8.1
CAM4 Nova Friburgo 58.67 127 ⇓*i* P **P** **01 21 54.8 -0.2**
CAM4 *i* 01 22 01.1
RES Resolute Bay 61.28 359 *e*P **P** **01 22 09.8 -2.5**
comp=Z,12nm,0.8s,mb5.0
INK Inuvik 61.48 343 *e*P **P** **01 22 11.8 -1.8**
INK Inuvik 61.48 343 *e*P **P** **01 22 11.8 -1.8**
comp=Z,6.2nm,0.9s,mb4.6
INK *e*pP pP 01 22 27.3 -6.2
INK *e*sP sP 01 22 37.3 -4.8
ILAR Eielson Array 64.05 337 *e*P **P** **01 22 29.6 -1.1**
ILAR Eielson Array 64.05 337 P **P** **01 22 29.6 -1.1**
comp=Z,7.4nm,1.1s,mb4.4,baz=172,slow=3.7,SNR=31
ILAR LR LR 01 52 42.1
comp=Z,514nm,18.5s,baz=334,slow=38
MCK McKinley 64.45 335 *e*P **P** **01 22 32.6 -0.6**
comp=Z,6.1nm,1.3s,mb4.3
COLA College 64.47 336 *i* P **P** **01 22 32.8 -0.6**
PPT Papeete 66.24 244 *e*SS SS 01 35 28.7 -17
PPT *e*LR LR 01 42 14.6
comp=Z,1µm,24.0s
SUMG Summit 66.30 15 *e*P **P** **01 22 44.1 -1.0**
comp=Z,12nm,0.6s,mb4.9
SVW2 Sparrevohn 66.51 331 *e*P **P** **01 22 45.5 -1.0**
TBI Tubuai 68.56 238 *e*SS SS 01 36 16.2 -5.7
TBI *e*LR LR 01 43 32.2
comp=Z,960nm,27.5s
SCO Scoresbysund 70.18 19 *e*P **P** **01 23 07.9 -1.2**
SCO Scoresbysund 70.18 19 *i* P **P** **01 23 07.9 -1.2**
USHA Ushuaia 70.46 167 LR LR 01 47 40.4
comp=Z,834nm,21.0s,baz=2.1,slow=30
DAG Danmarks Havn 72.79 13 ⇓*e*P **P** **01 23 22.8 -1.7**
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
DAG MLR MLR
comp=E,990nm,20.0s
DAG MLR MLR
comp=Z,1µm,20.0s
DAG Danmarks Havn 72.79 13 ⇓*e*P **P** **01 23 22.8 -1.7**
comp=Z,2.7nm,0.7s,mb4.2
DAG LR LR
comp=Z,1µm,20.0s
DAG Danmarks Havn 72.79 13 ⇓*i* P **P** **01 23 22.8 -1.7**
comp=Z,2.7nm,0.7s,mb4.2
comp=Z,1µm,20.0s
EMAZ Mazaricos 74.55 49 P **P** **01 23 34.4 -1.0**
comp=Z,4.7nm,0.4s,mb4.6
STS Santiago 74.87 49 P **P** **01 23 37.4 +0.3**
comp=Z,4.6nm,0.7s,mb4.3
ELOB Lobios 75.31 50 P **P** **01 23 39.5 -0.3**
comp=Z,1.4nm,0.5s,mb4.0
PVIS Viseu 75.54 51 *e*P **P** **01 23 41.1 0.0**
comp=Z,16nm,0.7s,mb4.9
EVO Evora 75.66 53 *e*P **P** **01 23 39.6 -2.2**
comp=Z,15nm,0.8s,mb4.5
EVO *e*R
comp=Z,442nm,20.5s
MTE Manteigas 75.84 51 *e*P **P** **01 23 42.7 -0.1**
comp=Z,16nm,1.6s,mb4.5
EPON Pontenova 75.85 48 P **P** **01 23 42.6 -0.2**
comp=Z,2.2nm,0.4s,mb4.2
PCBR Castelo Branco 75.94 52 *e*P **P** **01 23 43.7 +0.3**
comp=Z,23nm,1.3s,mb4.8
ERUA La Rua 75.95 49 P **P** **01 23 43.1 -0.2**
comp=Z,0.8nm,0.4s,mb3.8
ECAL Calabor 76.29 50 P **P** **01 23 45.3 0.0**
comp=Z,1.1nm,0.4s,mb3.9
PBRG Braganca 76.30 50 *e*P **P** **01 23 45.6 +0.2**
comp=Z,15nm,1.2s,mb4.6
EARI Arriondas 77.27 48 P **P** **01 23 50.6 -0.1**
comp=Z,1.5nm,0.6s,mb3.9
ROSF Rostrenen 78.03 43 *e*P **P** **01 23 53.8 -1.0**
SGMF Saint Gilles 78.52 43 *e*P **P** **01 23 56.2 -1.3**
ELAN Lanestosa 78.56 48 P **P** **01 23 57.1 -0.8**
comp=Z,1.6nm,0.5s,mb4.1
ESDC Sonseca Array 78.65 52 P **P** **01 23 56.6 -1.8**
comp=Z,8.5nm,0.7s,mb4.7,baz=288,slow=4.7,SNR=29
ESDC Sonseca Array 78.65 52 P **P** **01 23 57.3 -1.2**
comp=Z,2.3nm,0.3s,mb4.5
ESLA Sonseca Array 78.65 52 *e*P **P** **01 23 57.0 -1.5**
comp=Z,2.7nm,0.9s,mb4.1
ECOG Cogollos-Vega 79.31 54 P **P** **01 24 01.4 -0.7**
comp=Z,1.8nm,0.4s,mb4.2
GRR Gorron 79.62 43 *e*P **P** **01 24 02.8 -0.7**
comp=Z,29nm,0.8s,mb4.9
FLN La Foliniere 79.81 42 *e*P **P** **01 24 03.9 -0.6**
comp=Z,33nm,0.9s,mb4.9
FLN *e*R
comp=Z,942nm,22.2s
EBER Berja 79.91 54 P **P** **01 24 05.3 0.0**
comp=Z,2.6nm,0.3s,mb4.5
EHUE Huescar 79.99 53 P **P** **01 24 06.8 +1.1**
comp=Z,0.6nm,0.3s,mb3.9
LDF La Druitiere 80.07 42 *e*P **P** **01 24 04.5 -1.4**
comp=Z,220nm,0.7s,mb4.7
SJPF Ste Jean 80.18 48 *e*P **P** **01 24 06.5 -0.1**
comp=Z,18nm,1.1s,mb4.5
MFF Saint Martin d 80.38 44 *e*P **P** **01 24 06.2 -1.4**
comp=Z,16nm,0.9s,mb4.5
ETSF Etsaut 80.69 48 *e*P **P** **01 24 09.2 -0.2**
comp=Z,20nm,1.0s,mb4.6
EMOS Mosqueruela 81.19 51 P **P** **01 24 11.7 -0.4**
comp=Z,2.0nm,0.5s,mb4.2
EBIE Bielsa 81.24 48 P **P** **01 24 12.7 +0.5**
comp=Z,0.4nm,0.3s,mb3.7
LFF La Frestale 81.27 46 *e*P **P** **01 24 11.1 -1.2**
comp=Z,15nm,0.7s,mb4.6
EPF Esparros 81.32 48 *e*P **P** **01 24 12.5 -0.2**
comp=Z,29nm,1.1s,mb4.7
RJF Les Rejaudoux 81.74 45 *e*P **P** **01 24 13.4 -1.4**
RJF *e*R
comp=Z,392nm,20.8s
TCF Toulx Ste Croi 82.03 44 *e*P **P** **01 24 15.3 -1.0**
comp=Z,6.0nm,0.6s,mb4.3
HYF Humbligny 82.14 43 *e*P **P** **01 24 16.3 -0.5**
CAF Calviac 82.19 46 *e*P **P** **01 24 16.4 -0.7**
comp=Z,5.1nm,0.7s,mb4.2
BGF Bois d'Agland 82.41 44 *e*P **P** **01 24 17.4 -0.8**
comp=Z,25nm,0.7s,mb4.8
MTLF Montolieu 82.61 47 *e*P **P** **01 24 18.8 -0.5**
comp=Z,33nm,1.2s,mb4.8
BILL Bilibino 82.63 338 *e*P **P** **01 24 19.5 +0.6**
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.6
BILL MLR MLR
comp=Z,500nm,23.0s
BILL Bilibino 82.63 338 *e*P **P** **01 24 19.0 +0.1**
comp=Z,10nm,0.8s,mb4.7
AVF Avril sur Loir 82.71 44 *e*P **P** **01 24 18.6 -1.1**
comp=Z,6.2nm,0.7s,mb4.2
SSF Saint Saulge 82.75 43 *e*P **P** **01 24 19.0 -0.9**
comp=Z,11nm,0.7s,mb4.5
SMF Signal de Mont 83.07 44 *e*P **P** **01 24 20.4 -1.1**
comp=Z,19nm,0.9s,mb4.6
FX1 Attu Island--F 83.38 323 P **P** **01 24 25.0 +2.1**
comp=Z,65nm,0.9s,mb5.5,baz=200,slow=15,SNR=4.3
MEZF Maizieres J'vi 83.47 42 *e*P **P** **01 24 23.2 -0.3**
comp=Z,30nm,0.8s,mb4.9
LASF Ste Croix 83.62 46 *e*P **P** **01 24 23.9 -0.5**
NB2 NORSAR Subarra 83.77 29 P **P** **01 24 24.4 -0.3**
comp=Z,4.2nm,0.8s,mb4.3,baz=288,slow=5.0
NOA NORSAR Array B 83.77 29 *e*P **P** **01 24 24.7 0.0**
NOA NORSAR Array B 83.77 29 P **P** **01 24 24.6 -0.1**
comp=Z,2.3nm,0.7s,mb4.1,baz=290,slow=5.1,SNR=12
NOA LR LR 01 59 25.0
comp=Z,237nm,20.6s,baz=275,slow=34
DBIC Dimbokro 83.93 85 P **P** **01 24 26.0 -0.6**
comp=Z,5.6nm,0.5s,mb4.6,baz=287,slow=4.7,SNR=20
DBIC LR LR 01 57 59.1
comp=Z,469nm,21.9s,baz=307,slow=33
DBIC Dimbokro 83.93 85 *e*P **P** **01 24 25.5 -1.1**
comp=Z,6.1nm,0.6s,mb4.6
VIVF Saint-Julien-l 84.02 45 *e*P **P** **01 24 25.3 -1.1**
HAU Haudompre 84.42 42 *e*P **P** **01 24 28.0 -0.3**
comp=Z,14nm,0.6s,mb4.7
HAU *e*R
comp=Z,605nm,20.8s
CABF La Chapelle 84.58 44 *e*P **P** **01 24 29.0 -0.1**
HINF Hinteralfeld 84.80 42 *e*P **P** **01 24 29.5 -0.7**
ORIF Oris-en-Rattie 84.84 45 *e*P **P** **01 24 30.8 +0.3**
comp=Z,14nm,1.0s,mb4.5
ORIF *e*R
comp=Z,341nm,20.2s
SMRF Simiane la Rot 84.85 46 *e*P **P** **01 24 30.5 -0.1**
CDF Champ du Feu 84.93 42 *e*P **P** **01 24 30.6 -0.2**
comp=Z,11nm,0.8s,mb4.5
LPL La Plagne 85.28 44 *e*P **P** **01 24 32.6 -0.1**
comp=Z,14nm,0.8s,mb4.6
LPG La Plagne 85.30 44 *e*P **P** **01 24 32.9 +0.2**
MBDF Montbardon 85.51 45 *e*P **P** **01 24 34.2 +0.4**
comp=Z,15nm,0.8s,mb4.7
LSD Ceresole Reale 85.59 44 P **P** **01 24 34.9 +0.8**
BFO Black Forest 85.63 41 *e*P **P** **01 24 34.1 -0.2**
BFO pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BFO Black Forest 85.63 41 *e*P **P** **01 24 34.1 -0.2**
comp=Z,2.0nm,0.8s,mb4.1
FENE Fenestrelle 85.63 45 P **P** **01 24 34.7 +0.3**
LMR La Mourre 85.67 47 *e*P **P** **01 24 34.5 -0.1**
FRF La Foret Royal 85.71 46 *e*P **P** **01 24 34.2 -0.6**
comp=Z,30nm,0.9s,mb4.9
RSP Reno Superiore 85.73 45 P **P** **01 24 36.3 +1.4**
PZZ Pozzo 85.79 45 P **P** **01 24 35.9 +0.7**
BHB Bricherasio 85.82 45 P **P** **01 24 35.5 +0.2**
ARCES ARCESS Array B 86.09 19 *e*P **P** **01 24 36.0 -0.1**
ARCES ARCESS Array B 86.09 19 P **P** **01 24 36.0 -0.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=297,slow=5.4,SNR=14
ARCES LR LR 02 00 09.9
comp=Z,423nm,21.7s,baz=299,slow=34
ARCES ARCESS Array B 86.09 19 P **P** **01 24 36.0 -0.1**
ARCES LR LR 02 00 09.9
ORX Oropa 86.10 44 P **P** **01 24 36.7 0.0**
SBF Sospel 86.19 46 *e*P **P** **01 24 36.5 -0.6**
NEGI Negi 86.38 46 P **P** **01 24 38.2 +0.2**
ROB Roburent 86.38 45 P **P** **01 24 38.1 0.0**
IMI Imperia 86.49 46 P **P** **01 24 38.5 -0.1**
FIN Finale Ligure 86.63 45 P **P** **01 24 39.1 -0.2**
PCP Pian Castagno 86.78 45 P **P** **01 24 39.7 -0.3**
MOX Moxa 87.03 39 *e*P **P** **01 24 36.7 -4.4**
MOX Moxa 87.03 39 *i* P **P** **01 24 36.7 -4.4**
MOX L 02 03 20.0
GRA1 Grafenberg Arr 87.08 40 *e*P **P** **01 24 41.2 -0.1**
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 87.08 40 *e*P **P** **01 24 41.2 -0.1**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
GRF Grafenberg Arr 87.08 40 *e*P **P** **01 24 41.2 -0.1**
comp=Z,7.0nm,0.8s,mb4.6
PGF Pioggiola 87.64 47 *e*P **P** **01 24 44.1 -0.1**
comp=Z,28nm,0.8s,mb5.0
CLL Collm 87.66 38 *i* P **P** **01 24 44.1 0.0**
CLL *e**PP pP 01 24 54.0 -11
CLL pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLL Collm 87.66 38 P **P** **01 24 44.1 0.0**
comp=Z,logA/T=1.1,mb4.9
CLL *e**PP pP 01 25 00.0 -5.1
CODM 87.72 45 P **P** **01 24 43.2 -1.3**
WET Wettzell 88.27 40 *e*P **P** **01 24 47.1 0.0**
WET pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WET Wettzell 88.27 40 *e*P **P** **01 24 47.1 0.0**
comp=Z,5.0nm,0.9s,mb4.5
BRG Berggiesshubel 88.36 38 *e*P **P** **01 24 49.3 +1.8**
BRG pmax pmax
comp=Z,16nm,1.4s,mb4.9
BRG MLR MLR
comp=N,290nm,18.5s
BRG MLR MLR
comp=E,260nm,18.5s
BRG MLR MLR
comp=Z,430nm,18.5s
BRG Berggiesshubel 88.36 38 *e*P **P** **01 24 49.3 +1.8**
comp=Z,16nm,1.4s,mb4.9
BRG LR LR
comp=Z,430nm,18.5s
KHC Kasperske Hory 88.71 40 *e*P **P** **01 24 50.0 +0.9**
GERES GERESS Array B 88.88 40 *e*P **P** **01 24 49.4 -0.6**
GERES GERESS Array B 88.88 40 P **P** **01 24 49.4 -0.6**
comp=Z,1.5nm,0.6s,mb4.2,baz=293,slow=3.7,SNR=16
FINES FINESS Array B 90.23 26 *e*P **P** **01 24 54.2 -1.8**
FINES FINESS Array B 90.23 26 P **P** **01 24 54.2 -1.8**
comp=Z,0.6nm,0.6s,mb3.9,baz=315,slow=8.1,SNR=5.4
FINES LR LR 02 08 42.0
comp=Z,215nm,18.0s,baz=117,slow=38
FINES FINESS Array B 90.23 26 P **P** **01 24 54.2 -1.8**
FINES LR LR 02 08 42.0
TIXI Tiksi 91.16 348 *i* P **P** **01 25 00.1 0.0**
TIXI pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
MA2 Magadan 92.39 334 *i* P **P** **01 25 06.1 +0.1**
MA2 pmax pmax
comp=Z,12nm,1.3s,mb5.0
MA2 MLR MLR
comp=Z,300nm,23.0s
PSZ Piszkesteto 93.06 39 ⇓*i* **P** **01 25 07.0 -2.4**
PSZ *e*P 01 25 10.3
VAE Valguarnera 93.14 50 LR LR 02 05 47.7
comp=Z,518nm,18.6s,baz=300,slow=35
OBN Obninsk 98.35 28 *e*P **P** **01 25 33.4 +0.2**
OBN pmax pmax
comp=Z,8.0nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,300nm,18.0s
ZAL Zalesovo 112.75 3 *e*PKIKP PKPdf 01 30 33.0 +2.4
ZAL Zalesovo 112.75 3 PKiKP 01 30 33.0
comp=Z,2.2nm,0.9s,baz=152,slow=1.9,SNR=10
ZAL PP PP 01 31 19.4 -4.7
comp=Z,0.9nm,0.4s,baz=151,slow=6.5,SNR=5.9
CN2 Changchun 114.42 332 *e*PDIF Pdif 01 26 47.8 +3.2
CN2 *e*S 01 39 11.8
CN2 LR LR
comp=N,300nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,500nm,21.0s
KURK Kurchatov 115.36 8 *i* PKIKP PKPdf 01 30 37.7 +1.8
SONM Songino Array 117.23 348 PKP PKPdf 01 30 41.7 +2.2
comp=Z,3.1nm,0.8s,baz=330,slow=1.6,SNR=22
BOSA Boshof 118.50 115 *e*PKPdf PKPdf 01 30 42.7 +0.2
LBTB Lobatse 118.73 111 PKP PKPdf 01 30 45.8 +2.8
comp=Z,4.9nm,0.6s,baz=267,slow=2.1,SNR=7.9
MATP Matopo 121.19 106 PKP PKPdf 01 30 50.2 +2.4
comp=Z,10nm,0.8s,baz=329,slow=1.5
MATP Matopo 121.19 106 PKP PKPdf 01 30 50.2 +2.4
USP Ospenovka 121.84 13 P PKPdf 01 30 51.0 +2.5
SNR=23
EKS2 Erkin-Say 122.25 14 P PKPdf 01 30 52.1 +2.7
SNR=10
HHC Hu-ho-hao-te 122.35 341 *e*PKP PKPdf 01 30 53.1 +3.5
HHC XPKP 01 31 16.7
HHC PP PP 01 32 32.9 +2.0
HHC PKS PKS 01 34 31.1 +5.6
HHC SKS SKS 01 37 59.9 +18
HHC SKKS 01 39 19.9
HHC SS SS 01 49 07.2 +5.3
HHC LR LR
comp=N,150nm,22.0s
HHC LR LR
comp=E,207nm,20.2s
HHC LR LR
comp=Z,306nm,19.0s
AAK Ala-Archa 122.44 13 P PKPdf 01 30 52.9 +3.1
SNR=8.4
AAK Ala-Archa 122.44 13 *i* PKIKP PKPdf 01 30 52.0 +2.3
AAK Ala-Archa 122.44 13 *e*PKPdf PKPdf 01 30 51.1 +1.4
KBK Karagaybulak 122.52 13 P PKPdf 01 30 53.0 +3.1
SNR=8.8
AML Almayashu 122.73 14 P PKPdf 01 30 53.7 +3.4
SNR=21
UCH Uchtor 122.83 14 P PKPdf 01 30 54.4 +3.9
SNR=18
WMQ Urumqi 122.98 2 PKP PKPdf 01 30 52.5 +1.8
WMQ XPKP 01 31 18.0
WMQ PP PP 01 32 37.0 +1.8
WMQ PKS PKS 01 34 28.0 +1.4
WMQ PPP PPP 01 35 14.0 +1.2
WMQ SKKS 01 39 21.0
WMQ PP PP
comp=Z,167nm,8.6s
WMQ LR LR
comp=N,345nm,22.6s
WMQ LR LR
comp=E,249nm,25.8s
WMQ LR LR
comp=Z,424nm,21.2s
KSH Kashi 125.75 13 *e*PKP PKPdf 01 31 01.0 +4.8
KSH *e*XPKP 01 31 15.8
SSE Sheshan 126.44 326 PKP PKPdf 01 31 01.0 +3.2
SSE PP PP 01 33 01.5 +3.1
SSE SS SS 01 50 00.1 +6.7
SSE PP PP
comp=Z,60nm,6.2s
SSE LR LR
comp=N,78nm,19.8s
SSE LR LR
comp=E,86nm,19.8s
SSE LR LR
comp=Z,141nm,20.0s
SSE Sheshan 126.44 326 PKP PKPdf 01 31 01.7 +3.9
SSE PP PP 01 33 01.5 +3.1
SSE SS SS 01 50 00.1 +6.7
SSE LR LR
comp=Z,140nm,20.0s
KMBO Kilima Mbogo 126.55 81 *e*PKIKP PKPdf 01 31 01.7 +3.2
KMBO Kilima Mbogo 126.55 81 PKP PKPdf 01 31 01.7 +3.2
comp=Z,1.4nm,0.7s,baz=278,slow=3.3,SNR=7.5
GTA Gaotai 126.60 350 PKP PKPdf 01 31 00.1 +2.2
GTA PP PP 01 32 58.5 -0.6
GTA SS SS 01 50 00.5 +5.3
GTA LR LR
comp=N,600nm,21.0s
GTA LR LR
comp=E,297nm,16.8s
GTA LR LR
comp=Z,384nm,20.6s
NJ2 Nanjing 126.90 329 *e*PKP PKPdf 01 31 00.8 +2.1
NJ2 PP PP 01 33 02.0 +0.8
NJ2 PKS PKS 01 34 36.0 +1.6
NJ2 PPP PPP 01 35 46.0 +0.6
NJ2 SKS SKS 01 38 08.0 +12
NJ2 PP PP
comp=Z,170nm,10.6s
NJ2 LR LR
comp=N,1µm,29.7s
NJ2 LR LR
comp=E,1µm,30.0s
NJ2 LR LR
comp=Z,190nm,27.6s
LZH Lanzhou 128.99 345 ⇓PKP PKPdf 01 31 05.5 +2.9
LZH XPKP 01 31 27.5
LZH *e*PP PP 01 33 17.1 +1.6
LZH SS SS 01 50 27.6 +2.2
LZH PP PP
comp=Z,114nm,7.0s
LZH LR LR
comp=N,262nm,18.2s
LZH LR LR
comp=Z,598nm,20.0s
LZH Lanzhou 128.99 345 *e*PKIKP PKPdf 01 31 05.5 +2.9
LZH Lanzhou 128.99 345 ⇓PKP PKPdf 01 31 05.5 +2.9
LZH pPKP 01 31 15.6
LZH sPKP 01 31 27.5
LZH *e*PP PP 01 33 17.1 +1.6
LZH SKKS 01 40 20.2
LZH SS SS 01 50 27.6 +2.2
LZH LR LR
comp=Z,600nm,20.0s
STKA Stephens Creek 129.33 240 PKP PKPdf 01 31 05.8 +2.4
comp=Z,5.6nm,1.0s,baz=76,slow=4.2,SNR=5.9
XAN Xi'an 129.40 339 PKP PKPdf 01 31 05.8 +2.4
ENH Enshi 132.59 337 *e*PKPdf PKPdf 01 31 10.3 +0.7
NDI New Delhi 136.38 16 *e* PKPdf 01 31 18.0 +1.4
WRAB Tennant Creek 136.98 255 *i* PKIKP PKPdf 01 31 21.0 +3.1
WRAB Tennant Creek 136.98 255 *e*PKPdf PKPdf 01 31 20.6 +2.7
WRA Warramunga Arr 136.99 255 *e*PKHKP 01 31 11.4
WRA Warramunga Arr 136.99 255 PKhKP 01 31 11.4
comp=Z,0.7nm,0.8s,baz=91,slow=3.6,SNR=5.9
WRA PKP PKPdf 01 31 21.5 +3.6
comp=Z,6.5nm,0.8s,baz=88,slow=2.5,SNR=21
LSA Lhasa 137.09 358 *e*PKIKP PKPdf 01 31 21.5 +3.6
GYA Guiyang 137.09 338 ⇓*i* PKP PKPdf 01 31 20.2 +2.2
GYA PP PP 01 34 04.6 -1.4
GYA SKKS 01 40 52.6
GYA LR LR
comp=N,730nm,20.9s
GYA LR LR
comp=E,510nm,18.9s
GYA LR LR
comp=Z,400nm,20.4s
ASAR Alice Springs 137.16 250 *e*PKHKP 01 31 09.9
ASAR Alice Springs 137.16 250 PKhKP 01 31 09.8
comp=Z,0.7nm,0.9s,baz=110,slow=4.5,SNR=5.6
ASAR PKP PKPdf 01 31 21.5 +3.3
comp=Z,3.5nm,0.9s,baz=101,slow=2.1,SNR=14
GKN Gorkha 138.49 7 *e*PKIKP PKPdf 01 31 23.3 +2.8
comp=Z,23nm,0.5s

KOLN	Koldanda	138.58	8	ePKIKP	PKPdf	01 31 22.8	+2.1
	comp=Z,17nm,0.9s						
KKN	Kakani	138.77	6	ePKIKP	PKPdf	01 31 23.1	+2.1
	comp=Z,25nm,0.6s						
DMN	Daman	138.93	6	ePKIKP	PKPdf	01 31 22.9	+1.6
	comp=Z,14nm,0.6s						
JIRN	Jiri	138.99	5	ePKIKP	PKPdf	01 31 22.1	+0.7
	comp=Z,13nm,0.6s						
PKI	Pulchoki	139.00	6	ePKIKP	PKPdf	01 31 22.7	+1.3
	comp=Z,20nm,0.6s						
KAD	Karad	145.75	27	⇓iP	PKPdf	01 31 34.8	+1.2
NANT	Nan	146.22	341	⇓P	PKPdf	01 31 34.0	-0.3
	comp=Z,65nm,0.5s						
CM31	Chiang Mai Arr	147.05	344	ePKPbc	PKPdf	01 31 39.8	+4.1
CMAR	Chiang Mai Arr	147.05	344	ePKP2	PKPab	01 31 39.9	-1.8
CMAR	Chiang Mai Arr	147.05	344	PKPbc	PKPdf	01 31 40.0	+4.2
	comp=Z,21nm,0.6s,baz=339,slow=3.5,SNR=73						
HYB	Hyderabad	147.37	20	ePKP2	PKPab	01 31 40.5	-2.5
HYB	Hyderabad	147.37	20	i PKP	PKPdf	01 31 40.5	+4.2
KKTK	Khon Kaen	147.74	336	P	PKPdf	01 31 42.0	+5.1
	comp=Z,1μm,0.4s						
BDT	Bhumibol Dam	148.19	343	P	PKPdf	01 31 44.0	+6.4

MAN 02 01:27:37.1, 18.62N×122.19E, h15km, mb4.6, ML3.5, MS3.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.40	199	eP	Pb	01 27 46.1	+0.7
SGCP				eS	Sb	01 27 54.8	+3.9
CVP	Callao Caves	0.98	201	⇓iP	Pb	01 27 55.5	+0.3
CVP				i S	Sb	01 28 12.0	+4.3
APYP	Conner	1.17	230	eP	Pb	01 27 57.9	-0.7
ABRA	Dolores	1.70	236	eP	Pn	01 28 05.9	-0.7
BALP	Baler	2.92	192	eP	Pn	01 28 23.9	-0.2

NEIC 02 01:41:13.4, 18.13N×103.50W, h15km, MD4.0(MEX), After MEX.

MEX 02 01:41:14.0±0.4, 18.22N×103.41W, h10km±7km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLM	Colima	1.00	344	i P	Pb	01 41 30.2	-2.8
COLM				i S	Sb	01 41 43.1	-2.9
CGX	Ciudad Guzman	1.47	356	eP	Pn	01 41 38.0	-2.8
ZIIG	Zihuatanejo	1.95	108	eP	Pn	01 41 43.9	-3.6
ZIIG				i S	Sn	01 42 07.0	-5.3
CJM	Chamela	2.01	310	i P	Pn	01 41 48.1	-0.3
CJM				i S	Sn	01 42 13.9	0.0
CJM	Chamela	2.01	310	eP	Pn	01 41 45.1	-3.4
CJM				i S	Sn	01 42 08.8	-5.1
SFJM	Santa Fe	2.29	9	i P	Pn	01 41 49.0	-3.4
SFJM				i S	Sn	01 42 15.0	-5.9
MOIG	Morelia	2.55	55	i P	Pn	01 41 53.3	-3.0
MOIG				i S	Sn	01 42 25.4	-2.3
MOIG	Morelia	2.55	55	i P	Pn	01 41 53.3	-3.0
MOIG				i S	Sn	01 42 23.3	-4.5
CAIG	El Cayaco	3.21	111	i P	Pn	01 42 01.1	-4.5
CAIG				i S	Sn	01 42 43.8	-0.6
CAIG	El Cayaco	3.21	111	i P	Pn	01 42 01.1	-4.5
CAIG				i S	Sn	01 42 39.9	-4.5
ACX	Acapulco	3.59	111	eP	Pn	01 42 02.5	-8.5
PLIG	Platanillo	3.71	87	eP	Pn	01 42 09.9	-2.9
PLIG				i S	Sn	01 42 45.6	-11
PLIG	Platanillo	3.71	87	eP	Pn	01 42 09.9	-2.9
PLIG				i S	Sn	01 42 52.3	-4.8
UNM	Universidad Na	4.16	74	eP	Pn	01 42 18.0	-1.1
PPM	Popocatepetl	4.61	79	i S	Sn	01 43 13.7	-6.1

NEIC 02 01:49:10.5±0.4, 9.62S×115.26E, h30km, mb4.2/2, Error ellipse: s-maj=8.9km s-min=5.6km az=64.0
NEIC Felt at Denpasar.
DJA 02 01:49:12.7±0.7, 9.36S×115.35E, h79km±4km, mb5.1/2, MD4.7/4, ML5.4/2, Error ellipse: s-maj=25.4km s-min=5.9km az=174.0
IDC 02 01:49:14.9±3.9, 9.33S×115.51E, h82km±36km, mb3.8/7, mb1 4.0/7, mb1mx3.8/15, mbtmp4.1/7, Error ellipse: s-maj=35.4km s-min=13.2km az=41.0

ISC 02 01:49:12.2±0.8, 9.36S±0.09×115.32E±0.06, h75km±10km, n22, σ0.88/26, mb4.0/9, 4C-7D, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.67	19	⇓ePn	P	01 49 27.2	-0.1
KEDI	Kedomdong	1.17	42	⇓ePn	P	01 49 33.7	+0.3
KELI	Kelakatan	1.40	324	⇓ePn	P	01 49 37.2	+0.7
	4μm,0.2s						
KELI				⇓eSn	S	01 49 54.8	+0.3
SRDI	Scrawed	1.45	307	⇑ePn	P	01 49 36.9	-0.4
	3μm,0.2s						
SRDI				⇑eSn	S	01 49 54.6	-1.2
NINI	Niniconang	6.59	42	⇓eP	P	01 50 48.8	+0.3
	243nm,0.3s						
TANI	Tanete Lipujan	7.14	35	⇑eP	P	01 50 56.1	+0.1
BUNI	Buntu Taipa	7.54	42	⇓eP	P	01 51 01.6	+0.1
	76nm,0.3s						
PENI	Pendagan	10.74	290	⇓eP	P	01 51 46.2	+1.0
MBWA	Marble Bar	12.48	161	eP	P	01 52 01.7	-6.8
	11nm,0.4s						
WRA	Warramunga Arr	21.17	122	P	P	01 53 52.1	-1.2
	4.3nm,0.5s,mb4.0,baz=293,slow=12,SNR=49						
WRA				S	S	01 57 40.8	+1.5
	0.4nm,0.3s,baz=51,slow=23,SNR=5.7						
WRAB	Tennant Creek	21.18	122	eP	P	01 53 51.9	-1.5
	10nm,0.5s,mb4.4						
WB2	Warramunga Arr	21.18	122	⇑iP	P	01 53 52.7	-0.7
ASPA	Alice Springs	22.76	131	eP	P	01 54 09.5	+0.5
ASAR	Alice Springs	22.76	131	P	P	01 54 09.6	+0.6
	8.9nm,0.6s,mb4.3,baz=305,slow=8.7,SNR=94						
ASAR				S	S	01 58 14.3	+6.3
	0.7nm,1.0s,baz=168,slow=20,SNR=2.6						
FORT	Forrest	24.40	153	eP	P	01 54 25.3	+0.5
	448nm,0.7s						
CMAR	Chiang Mai Arr	32.02	330	P	P	01 55 36.0	+2.2
	0.5nm,0.4s,mb3.6,baz=154,slow=8.4,SNR=4.6						
STKA	Stephens Creek	33.10	136	P	P	01 55 43.2	+0.1
	3.9nm,0.4s,mb4.6,baz=307,slow=8.9,SNR=13						
SONM	Songino Array	57.49	353	P	P	01 58 54.7	-1.2
	0.6nm,0.7s,mb3.8,baz=171,slow=7.1,SNR=5.1						
VNDA	Vanda	72.22	170	P	P	02 00 30.7	+0.1
	1.2nm,0.9s,mb3.7,baz=317,slow=8.4,SNR=6.7						
VNDA	Vanda	72.22	170	P	P	02 00 30.7	+0.1
CHKZ	Chkalovo	73.30	334	P	P	02 00 35.5	-1.7
	0.8nm,0.6s,mb3.7						
MATP	Matopo	83.83	250	P	P	02 01 35.9	+0.5
	1.7nm,0.6s,mb4.1,baz=159,slow=7.8,SNR=6.5						

CASC 02 01:57:02.4±1.3, 13.36N×90.37W, h30km±4km, MD3.8, ML3.5, 1C-11D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.81	354	⇓eP	Pb	01 57 17.7	-0.2
IXG				eS	Sb	01 57 29.6	+1.0
SBLS	San Blas	0.87	57	⇓eP	Pn	01 57 18.8	+0.1
SBLS				eS	Sb	01 57 31.6	+1.4
RTR	El Retiro	0.89	53	⇓eP	Pn	01 57 19.2	+0.3
SNJE	San Jose	0.90	56	⇓eP	Pn	01 57 19.2	+0.1
RBDL	Robledal	1.00	42	⇑eP	Pn	01 57 21.2	+0.6
BOQS	Boqueron	1.13	70	eP	Pn	01 57 22.2	-0.2
SNET	Serv Nac Est T	1.16	73	eP	Pn	01 57 22.1	-0.7
SNET				eS	Sn	01 57 38.2	+0.5
SNET				i		01 57 41.1	
	comp=Z,874nm,0.3s						
FUG	Fuego 3	1.18	337	⇓eP	Pn	01 57 22.6	-0.5
NBG	Las Nubes	1.22	1	⇓eP	Pn	01 57 24.9	+1.2
LFU	La Fuente	1.28	72	eP	Pn	01 57 24.7	+0.1
LFRS	El Faro	1.30	78	eP	Pn	01 57 24.3	-0.6
LFRS				eS	Sn	01 57 41.1	-0.3
LBRS	Las Brisas	1.35	74	⇓eP	Pn	01 57 26.0	+0.5
LCBS	La Ceiba	1.39	78	⇓eP	Pn	01 57 25.7	-0.4
MTO2	Montecristo 2	1.43	43	⇓eP	Pn	01 57 27.5	+0.8
SNVI	San Vicente	1.51	80	eP	Pn	01 57 28.1	+0.2
TP2	Tecpan 2	1.55	336	⇓eP	Pn	01 57 28.9	+0.5
TP2				eS	Sn	01 57 49.3	+1.6
JAT	Jato	1.56	308	⇓eP	Pn	01 57 27.5	-1.0
JAT				eS	Sn	01 57 47.8	0.0
BLLM	Bellamira	2.08	87	eS	Sn	01 58 01.6	+0.4

NEIC 02 01:57:56.6±0.9, 0.25S×124.06E, mb4.4/1, Error ellipse: s-maj=28.4km s-min=13.5km az=46.0
IDC 02 01:57:56.7±0.9, 0.23S×123.83E, h129km±10km, mb4.1/6, mb1 4.2/6, mb1mx3.8/16, mbtmp4.5/6, Error ellipse: s-maj=38.6km s-min=13.6km az=54.0

ISC 02 01:57:54.8±0.8, 0.3S±0.1×123.8E±0.2, h127km, h127km±1.2km: pP-P, n12, σ0.53/12, mb4.2/8, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	13.64	277	eP	P	02 01 10.4	+6.3
MBWA	Marble Bar	21.16	191	P	P	02 02 31.5	+0.2
WRAB	Tennant Creek	22.11	153	eP	P	02 02 39.7	-0.8
	18nm,1.0s,mb4.3						
WRA	Warramunga Arr	22.11	153	P	P	02 02 40.1	-0.5
	17nm,1.1s,mb4.3,baz=332,slow=9.7,SNR=22						
WB2	Warramunga Arr	22.11	153	eP	P	02 02 40.2	-0.4
PMG	Port Moresby	24.93	112	P	P	02 03 08.7	+0.8
	8.8nm,0.7s,mb4.3,baz=315,slow=7.1,SNR=5.2						
ASAR	Alice Springs	25.24	158	P	P	02 03 10.9	+0.1
	9.7nm,1.0s,mb4.2,baz=331,slow=7.8,SNR=26						
CMAR	Chiang Mai Arr	30.73	309	P	P	02 04 00.4	+0.1
	1.0nm,0.4s,mb3.9,baz=136,slow=8.0,SNR=10.0						
CMAR				pP	pP	02 04 27.5	-0.4
	1.0nm,0.5s,baz=138,slow=7.4,SNR=1.9						
STKA	Stephens Creek	35.66	154	P	P	02 04 43.0	+0.5
	3.7nm,0.7s,mb4.5,baz=326,slow=9.7,SNR=9.8						
STKA				pP	pP	02 05 11.6	+0.7
	3.6nm,1.0s,baz=350,slow=11,SNR=2.3						
SONM	Songino Array	50.24	345	P	P	02 06 39.3	-0.6
	0.2nm,0.4s,mb3.4,baz=153,slow=6.4,SNR=3.1						
SONM				pP	pP	02 07 09.3	-0.3
	0.3nm,0.5s,baz=161,slow=10,SNR=3.4						
MATP	Matopo	94.92	250	P	P	02 11 05.0	+0.5
	1.7nm,0.7s,mb4.6,baz=96,slow=5.5,SNR=4.9						
MATP	Matopo	94.92	250	P	P	02 11 05.0	+0.5

MOS 02 02:21:18.5±1.1, 36.39N×71.62E, h57km, mb5.3/78, Error ellipse: s-maj=7.0km s-min=3.1km az=133.3
BJI 02 02:21:24.3, 36.74N×71.33E, h106km, mB5.1, mb4.9
BGS 02 02:21:25.7±1.9, 36.35N×71.53E, h110km, mb5.2
NEIC 02 02:21:25.6±0.2, 36.35N×71.53E, mb5.0/132, Error ellipse: s-maj=5.5km s-min=3.3km az=17.0
IDC 02 02:21:25.7±0.5, 36.38N×71.52E, h111km±4km, mb4.5/23, mb1 4.7/25, mb1mx4.7/25, mbtmp4.9/25, MS3.8/6, Ms1 3.9/6, ms1mx3.4/22, Error ellipse: s-maj=12.9km s-min=10.0km az=23.0
HRVD 02 02:21:25.6±0.4, 36.51N×71.05E, h107km±4km, MW4.9/56, Centroid moment Tensor Solution. LP body waves: s19,c20; Mantle waves: s56,c86; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.28±.13; $M_{\theta\theta}$-2.18±.19; $M_{\phi\phi}$-0.11±.16; $M_{r\theta}$-0.84±.12; $M_{\theta\phi}$-1.71±.13; $M_{\phi r}$0.81±.09; Best double couple: $M_0$3.035×10^{16} NP1: ϕ_s35°, δ48°, λ50°. NP2: ϕ_s266°, δ55°, λ125°. Principal axes: T 2.904, Plg61°, Azm235°; N .251, Plg28°, Azm64°; P -3.166, Plg4°, Azm332°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 02 02:21:23.6±0.3, 36.32N±0.02×71.57E±0.02, h108km±3km, h110km±1.3km: pP-P, n545, σ1.08/576, mb4.9/168, 32C-37D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.50	174	⇓P	P	02 22 06.0	+2.2
CHCP	Chirah Chowk	3.00	152	⇓P	P	02 22 14.3	+3.8
CHCP				S	S	02 22 58.0	+12
THW	Thamme Wali	3.52	178	⇑P	P	02 22 18.6	+1.0
SBDP	Sheikh Budin	4.06	189	⇓P	P	02 22 26.2	+1.3
SARP	Sargodha	4.48	168	⇓P	P	02 22 30.8	+0.2
JMU	Jammu	4.52	142	eP	P	02 22 33.5	+2.3
JMU				e		02 23 24.5	
DRP	Derazinda	4.70	194	⇓P	P	02 22 34.2	+0.6
KSH	Kashi	4.72	46	eP	P	02 22 36.2	+2.2
KSH				S	S	02 23 29.4	+1.4
THN	Thein Dam	5.17	137	e	P	02 22 44.8	+4.8
THN				e		02 23 40.3	
DLH	Dalhousie	5.23	135	eP	P	02 22 44.0	+3.2
DLH				e		02 23 45.0	
TAS	Tashkent	5.31	341	⇑ePN	P	02 22 37.0	-4.8
TAS				pmax	pmax		
	comp=Z,1500μm,1.0s						
PONG	Pong	5.67	139	eP	P	02 22 48.0	+1.3
PONG				e		02 23 52.0	
AML	Almayashu	6.04	15	P	P	02 22 50.9	-0.8
	SNR=2481						
UCH	Uchtor	6.33	20	P	P	02 22 55.5	-0.3
	SNR=521						
BHK	Bhakra	6.33	139	i P	P	02 22 57.2	+1.3
BHK				eS	S	02 24 04.1	-3.3
KZA	Kyzart	6.42	25	P	P	02 22 56.8	-0.3
	SNR=109						
EKS2	Erkin-Say	6.56	14	P	P	02 22 58.3	-0.7
	SNR=882						
SDNR	Sundarnagar	6.58	135	eP	P	02 22 59.5	+0.3
SDNR				e		02 24 11.5	
AAK	Ala-Archa	6.70	19	P	P	02 23 00.6	-0.4
	SNR=665						
AAK	Ala-Archa	6.70	19	⇓iPN	P	02 22 59.6	-1.3
AAK				pmax	pmax		
	comp=Z,393nm,0.6s						
AAK	Ala-Archa	6.70	19	⇓iP	P	02 22 59.6	-1.4
	comp=Z,393nm,0.6s						
KBK	Karagaybulak	6.85	21	P	P	02 23 02.8	-0.2
	SNR=182						
FRU	Bishkek	6.92	19	⇓iPN	P	02 23 04.0	+0.1
FRU				i S	S	02 24 18.5	-3.2
FRU				pmax	pmax		
	comp=Z,610nm,1.7s						
FRU				smax			
	comp=N,2μm,1.7s						
ULHL	Ulahol	6.94	30	P	P	02 23 04.0	-0.2
	SNR=41						
SMLA	Simla	6.96	136	⇑iP	P	02 22 55.5	-9.1
SMLA				i S	S	02 24 10.4	-12
CHMS	Chumysh	7.11	19	P	P	02 23 05.8	-0.8
	SNR=315						
TKM2	Tokmak 2	7.29	24	P	P	02 23 08.9	0.0
	SNR=202						
USP	Ospenovka	7.30	17	P	P	02 23 07.5	-1.6
	SNR=369						
KLP	Kalpa	7.32	129	eP	P	02 23 10.1	+0.7
KLP				i S	S	02 24 25.5	-5.9
KLP				e		02 24 30.9	
KKR	Kurukshetra	7.72	144	eP	P	02 23 14.0	-0.8
KKR				eS	S	02 24 39.2	-2.0
DDI	Dehra Dun	8.07	136	i P	P	02 23 19.4	-0.2
DDI				e		02 24 49.4	
AAA	Alma-Ata	8.08	29	eP	P	02 23 20.0	+0.3
AAA				eS	S	02 24 51.0	+0.9
AAA				pmax	pmax		
	comp=Z,400nm,3.0s						
AAA				MLR	MLR		
	comp=Z,800nm,6.0s						
JOSI	Joshimath	8.80	128	i	P	02 23 22.9	-6.5
JOSI				e		02 24 56.1	
KHET	Khetri	8.97	155	eP	P	02 23 30.5	-1.1
KHET				eS	S	02 25 04.9	-6.7
KHET				e		02 25 10.9	
	comp=N,500nm,0.5s						
KHET				e		02 25 11.3	
	comp=E,1μm,0.7s						
NDI	New Delhi	8.98	146	eP	P	02 23 29.5	-2.3
NDI				eS	S	02 25 08.5	-3.3
AYAN	Aya Nagar	9.11	147	eP	P	02 23 32.4	-1.1
AYAN				eS	S	02 25 10.6	-4.4
AYAN				e		02 25 16.6	
	comp=Z,218nm,0.9s						
JASL	Jaisalmer	9.38	184	eP	P	02 23 35.8	-1.4
JASL				eS	S	02 25 12.9	-8.6
PTH	Pithoragarh	9.91	130	eP	P	02 23 44.1	-0.2
PTH				eS	S	02 25 29.2	-5.1
AJM	Ajmer	10.15	164	eP	P	02 23 46.9	-0.6
AJM				i S	S	02 25 33.7	-6.3
AJM				e		02 25 38.0	
	comp=E,616nm,0.3s						
AJM				e		02 25 38.2	
	comp=N,598nm,0.2s						
AGRA	Agra	10.55	147	eP	P	02 23 51.2	-1.7
AGRA				eS	S	02 25 41.5	-8.2
JHNI	Jhansi	12.36	149	eP	P	02 24 15.0	-1.8
JHNI				eS	S	02 26 26.0	-6.5
BHJ	Bhuj	13.12	188	i P	P	02 24 25.6	-1.3
BHJ				e		02 26 43.8	
KOLN	Koldanda	13.29	127	eP	P	02 24 27.0	-1.9
	comp=N,636nm,0.4s						
KOLN				eS	S	02 26 48.2	-6.2
	comp=N,545nm,0.6s						
GKN	Gorkha	13.82	123	eP	P	02 24 33.9	-1.9
	comp=N,802nm,0.4s						
GKN				eS	S	02 27 01.0	-5.9
	comp=N,812nm,0.5s						
BHPL	Bhopal	13.98	157	i P	P	02 24 36.9	-1.0
BHPL				i		02 27 06.2	
BHPL				e		02 27 07.7	
BHPL				AML	AML	02 27 08.2	
	comp=E,216nm,0.4s						
BHPL				AML	AML	02 27 08.2	
	comp=N,162nm,0.4s						
DMN	Daman	14.39	123	eP	P	02 24 40.0	-3.2
	comp=N,664nm,0.4s						
DMN				eS	S	02 27 14.3	-6.0
KKN	Kakani	14.39	122	eP	P	02 24 40.9	-2.3
	comp=N,531nm,0.5s						
KKN				eS	S	02 27 13.0	-7.4
WMQ	Urumqi	14.43	54	⇑iP	P	02 24 44.5	+0.9
WMQ				AP		02 24 59.0	
WMQ				XP		02 25 14.0	
WMQ				S	S	02 27 23.0	+1.9
WMQ				SS	SS	02 27 42.0	-0.5
WMQ				PCP	PcP	02 29 57.0	+4.1
WMQ				AMB	AMB		
	comp=Z,36nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,299nm,5.1s						
WMQ				LR	LR		
	comp=N,688nm,16.4s						
WMQ				LR	LR		
	comp=E,492nm,18.6s						
WMQ				LR	LR		
	comp=Z,904nm,18.0s						
BHV	Bhavnagar	14.53	178	eP	P	02 24 44.5	-0.5
PKI	Pulchoki	14.62	123	eP	P	02 24 43.8	-2.3
	comp=Z,599nm,0.6s						
PKI				eS	S	02 27 20.2	-5.5
JIRN	Jiri	15.10	121	eP	P	02 24 50.2	-2.1
	comp=Z,726nm,0.4s						
JIRN				eS	S	02 27 31.2	-5.6
KURK	Kurchatov	15.26	17	Pn	P	02 24 49.4	-4.7
	comp=Z,324nm,0.7s,SNR=20						
KURK	Kurchatov	15.26	17	i P	P	02 24 49.7	-4.4
KURK	Kurchatov	15.26	17	eP	P	02 24 49.5	-4.7
	comp=Z,42nm,0.8s						
BANOM	Banah	16.66	236	⇓P	P	02 25 12.9	+1.1
	SNR=10						
BVAR	Borovoye Array	16.73	358	P	P	02 25 08.9	-3.6
	comp=Z,4.2nm,0.3s,baz=174,slow=13,SNR=91						
BVAR				S	S	02 28 16.1	+2.5
	baz=169,slow=23,SNR=3.8						
BLSP	Bilaspur	16.86	144	eP	P	02 25 15.0	+0.7
BLSP				e		02 28 09.0	
GTK	Gangtok	17.01	117	e	P	02 25 11.0	-5.1
GTK				e		02 28 04.0	
BIDO	Bidbid	17.25	226	⇓P	P	02 25 18.5	-0.6
	SNR=8.1						
CHKZ	Chkalovo	17.37	358	eP	P	02 25 16.2	-4.2
	comp=Z,8.9nm,0.3s						
BOM	Bombay	17.39	176	eP	P	02 25 24.8	+3.9
BOM				e		02 28 24.0	
WBK	Wadi Bani Khal	17.50	222	⇓P	P	02 25 24.2	+2.0
	SNR=9.0						
BAK	Baki	17.53	290	eP	P	02 25 22.0	-0.5
BAK				i S	S	02 28 39.0	+7.3
BAK				MLR	MLR		
	comp=Z,1μm,4.0s						
BAK				MLR	MLR		
	comp=N,1μm,5.0s						
BAK				MLR	MLR		
	comp=E,1μm,8.0s						
SMDO	Samad	17.65	225	P	P	02 25 24.9	+0.8
	SNR=16						
ASHO	Ashiyiah	17.67	233	⇑P	P	02 25 24.7	+0.5
	SNR=11						
LSA	Lhasa	17.68	106	P	P	02 25 26.1	+1.7
LSA				AMB	AMB		
	comp=Z,60nm,0.8s						
LSA	Lhasa	17.68	106	eP	P	02 25 25.7	+1.3
LSA				pmax	pmax		
	comp=Z,122nm,1.0s						
LSA	Lhasa	17.68	106	eP	P	02 25 25.7	+1.2
	comp=Z,122nm,1.0s						
POO	Poona	17.83	173	⇑iP	P	02 25 26.0	-0.3
POO				i		02 28 52.0	
JMDO	Jabal Madar	18.16	224	P	P	02 25 31.3	+1.2
	SNR=10						
ARQ	Araqi	18.35	229	⇓P	P	02 25 32.7	+0.6
	SNR=5.6						
LATR	Latur	18.37	165	eP	P	02 25 34.0	+1.6
LATR				e		02 28 46.8	
BSY	Bisya	18.39	227	P	P	02 25 33.5	+0.9
	SNR=22						
SHE	Samaxi	18.45	290	⇓iP	P	02 25 30.0	-3.2
KAD	Karad	19.08	172	eP	P	02 25 42.0	+1.8
KAD				i		02 29 07.4	
SHKI	Saki	19.60	292	⇑iP	P	02 25 45.0	-0.6
SHKI				S	S	02 29 20.0	+4.3
SHKI				pmax	pmax		
	comp=Z,520nm,0.5s						
MAK	Makhachkala	19.65	297	eP	P	02 25 50.3	+4.2
MAK				e		02 29 26.3	
HYB	Hyderabad	19.82	160	⇓eP	P	02 25 49.0	+1.0
HYB				eS	S	02 29 18.0	-2.1
HYB				pmax	pmax		
	comp=Z,90nm,1.0s						
HYB	Hyderabad	19.82	160	⇓eP	P	02 25 49.0	+1.0
	comp=Z,90nm,1.0s						
HYB				e		02 26 34.5	
HYB				eS	S	02 29 18.0	-2.1
HYB	Hyderabad	19.82	160	⇓iP	P	02 25 49.0	+1.0
	comp=Z,90nm,1.0s						
HYB				esP		02 26 20.0	
HYB				eS	S	02 29 21.0	+0.9
ZAL	Zalesovo	19.88	23	i P	P	02 25 47.3	-1.1
ZAL				pmax	pmax		
	comp=Z,63nm,0.7s						
ZAL	Zalesovo	19.88	23	P	P	02 25 47.0	-1.3
	comp=Z,24nm,0.3s,baz=261,slow=6.2,SNR=135						
NVS	Novosibirsk	20.19	20	⇓iP	P	02 25 49.7	-1.9
NVS				pmax	pmax		
	comp=Z,114nm,0.9s						
NVS				pmax	pmax		
	comp=N,96nm,0.8s						
GOA	Goa	20.84	174	i P	P	02 26 12.0	+14
GOA				i S	S	02 30 01.0	+21
AGT	Agartala	21.01	121	⇑iP	P	02 26 03.0	+2.9
AGT				i		02 26 39.0	
VIS	Vishakhapatnam	21.25	148	i P	P	02 26 04.0	+1.5
VIS				i		02 29 52.0	
GNI	Garni	21.39	288c	iP	P	02 26 05.4	+1.7
GNI	Garni	21.39	288	P	P	02 26 05.3	+1.6
	comp=N,212nm,0.7s,mb5.6,baz=15,slow=1.2,SNR=121						
GNI	Garni	21.39	288	eP	P	02 26 05.3	+1.5
	comp=N,368nm,0.9s,mb5.7						
MTA	Mtatsminda	21.45	293	P	P	02 26 04.6	+0.2
TI2	Plekhanov	21.48	293	eP	P	02 26 05.4	+0.7
TI2				eS	S	02 29 58.0	+6.7
TI2				pmax	pmax		
	comp=Z,80nm,0.8s,mb5.1						
DUS	Dusheti	21.56	294	P	P	02 26 06.6	+1.2
SVE	Sverdlovsk	21.80	344	⇓iP	P	02 26 07.0	-0.7
SVE				e		02 26 32.7	
SVE				eS	S	02 30 04.0	+7.2
SVE				eSS	SS	02 30 38.0	-4.7
SVE				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.2						
SVE				MLR	MLR		
	comp=N,100nm,14.0s						
SVE				MLR	MLR		
	comp=E,200nm,14.0s						
SVE				MLR	MLR		
	comp=Z,300nm,14.0s						
ZEI	Tsey	22.23	295	eP	P	02 26 12.8	+0.8
ZEI				pmax	pmax		
	comp=Z,31nm,0.9s,mb4.6						

IMP Imphal 22.37 115 eP P 02 26 16.0 +2.5
TVAN Van 22.44 284 i P P 02 26 17.6 +3.5
GTA Gaotai 22.47 74 P P 02 26 18.2 +3.8
GTA AP 02 26 41.1
GTA PP PP 02 26 49.1 +3.4
GTA XP 02 26 53.7
GTA S S 02 30 07.9 -1.0
GTA XS 02 30 46.4
GTA AMB AMB
comp=Z,41nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,228nm,4.6s
GTA LR LR
comp=N,289nm,21.0s
GTA LR LR
comp=E,308nm,24.5s
GTA LR LR
comp=Z,302nm,19.1s
BHD Baghdad 22.51 270 eP P 02 26 12.0 -2.8
BHD eS S 02 30 12.0 +2.4
ONI Oni 22.54 295 P P 02 26 17.1 +2.1
MSL Mosul 22.92 278 eP P 02 26 22.5 +3.8
SHAO Shalim 23.03 222 ⇓P P 02 26 21.3 +1.3
SNR=25
BCHG Becho 23.23 296 P P 02 26 24.1 +2.5
GOF Gofitskoye 23.24 301⇓iP P 02 26 23.0 +1.3
GOF pmax pmax
comp=Z,222nm,1.3s,mb5.3
KIV Kislovodsk 23.28 298 eP P 02 26 23.0 +0.9
comp=Z,113nm,0.6s,mb5.4
MNGI Mangalore 23.46 172 eP P 02 26 28.4 +4.3
MNGI eS S 02 30 34.2 +8.0
WHFO Wadi Hawf 24.15 225 P P 02 26 31.4 +0.7
SNR=81
RBK Rabkut 24.24 224 P P 02 26 32.4 +0.8
SNR=60
MDRS Chennai 24.43 159 e P 02 26 21.0 -12
MDRS e S 02 30 51.0 +8.3
ABTO Aybut 24.87 225 ⇑P P 02 26 39.2 +1.5
SNR=119
SOKR Solikamsk 25.17 342⇓iP P 02 26 39.2 -0.9
SOKR pmax pmax
comp=Z,80nm,1.0s,mb5.1
SOC Sochi 25.36 296 eP P 02 26 43.3 +1.2
SOC e 02 27 23.2
SOC eS S 02 30 57.4 -0.6
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=E,21nm,0.8s
SOC pmax pmax
comp=Z,74nm,0.8s,mb5.2
RAYN Ar Rayn 25.85 248 P P 02 26 45.6 -1.2
comp=Z,368nm,0.4s,SNR=24
ELZG Elazig 25.91 285 i P P 02 26 50.3 +3.1
MOY Mondy 25.91 44 eP P 02 26 49.0 +1.9
MOY e pP 02 27 14.1 +3.7
MOY pmax pmax
comp=Z,25nm,1.7s,mb4.4
LZH Lanzhou 25.98 81 ⇓P P 02 26 51.5 +3.6
LZH AP pP 02 27 14.5 +3.3
LZH XP sP 02 27 28.0 +4.0
LZH PP PP 02 27 37.6 +4.7
LZH eS S 02 31 12.5 +4.1
LZH XS 02 31 53.2
LZH SS SS 02 32 26.5 +3.0
LZH AMB AMB
comp=Z,45nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,224nm,4.9s
LZH LR LR
comp=N,2μm,12.3s
LZH LR LR
comp=Z,2μm,14.8s
LZH Lanzhou 25.98 81 ⇓P P 02 26 51.5 +3.6
LZH *PP pP 02 27 14.5 +3.3
LZH *SP sP 02 27 28.0 +4.0
LZH 02 27 37.6
LZH eS S 02 31 12.5 +4.1
LZH SS SS 02 32 26.5 +3.0
LZH pmax pmax
comp=Z,45nm,1.5s,mb4.7
LZH MLR MLR
comp=Z,2μm,14.8s
LZH Lanzhou 25.98 81 ⇓P P 02 26 51.5 +3.6
comp=Z,45nm,1.5s,mb4.7
LZH pP pP 02 27 14.5 +3.3
LZH sP sP 02 27 28.0 +4.0
LZH PP PP 02 27 37.6 +4.7
LZH eS S 02 31 12.5 +4.1
LZH sS 02 31 53.2
LZH SS SS 02 32 26.5 +3.0
LZH LR LR
comp=Z,2μm,14.8s
MALT Malatya 26.36 284 eP P 02 26 52.5 +1.2
MALT pmax pmax
comp=Z,21nm,1.0s,mb4.5
MALT Malatya 26.36 284 eP P 02 26 52.5 +1.2
comp=Z,21nm,1.0s,mb4.5
ZAK Zakamensk 26.77 48⇑eP P 02 26 56.1 +1.2
ZAK e pP 02 27 21.4 +3.1
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,11nm,1.0s,mb4.3
GZT Gaziantep 27.16 282 i P P 02 26 58.7 0.0
CD2 Chengdu 27.27 92 P P 02 27 03.4 +3.7
SONM Songino Array 28.06 55 P P 02 27 07.7 +1.0
comp=Z,3.2nm,0.7s,mb3.9,baz=266,slow=9.7,SNR=24
SONM pP pP 02 27 32.3 +2.0
comp=Z,4.4nm,0.8s,baz=264,slow=8.3,SNR=9.4
ULN Ulaanbaatar 28.50 55 i P P 02 27 12.2 +1.5
ULN Ulaanbaatar 28.50 55 eP P 02 27 10.9 +0.2
comp=Z,7.2nm,0.8s,mb4.3
BOYT Boyabat 28.85 291 i P P 02 27 15.4 +1.5
ASF Jabal al Asfar 28.86 272 P P 02 27 14.7 +0.6
comp=Z,4.7nm,1.0s,mb4.1,baz=330,slow=6.1,SNR=5.4
ASF LR LR 02 41 40.6
comp=Z,121nm,18.2s,baz=305,slow=42
SIM Simferopol’ 29.49 299 P P 02 27 23.8 +4.3
SIM e 02 28 21.4
CHRT Chiangrai 29.65 116 P P 02 27 25.0 +3.8
BRTR Keskin Array B 29.93 288 P P 02 27 22.8 -0.7
comp=Z,5.6nm,0.7s,mb4.3,baz=104,slow=9.4,SNR=21
BRTR PcP PcP 02 30 22.2 -1.4
comp=Z,1.4nm,0.6s,baz=154,slow=4.3,SNR=4.8
CMAR Chiang Mai Arr 29.96 119 P P 02 27 26.1 +2.1
comp=Z,4.2nm,0.9s,mb4.1,baz=303,slow=8.9,SNR=13
CMAR LR LR 02 41 49.9
comp=Z,124nm,21.4s,baz=346,slow=41
ELDT Eldivan 30.02 290 i P P 02 27 24.6 +0.4
MOS Moscow 30.09 321 eP P 02 27 23.4 -1.3
MOS e pP 02 27 49.1 +0.5
MOS e 02 28 26.0
MOS pmax pmax
comp=Z,165nm,1.8s,mb5.4
BTO Baotou 30.25 70 eP P 02 27 27.4 +1.1
OBN Obninsk 30.38 319 P P 02 27 27.5 +0.2
comp=Z,966nm,0.5s,SNR=15
OBN Obninsk 30.38 319d iP P 02 27 27.4 +0.1
OBN i S S 02 32 15.1 -3.4
OBN pmax pmax
comp=Z,69nm,0.6s,mb5.5
OBN MLR MLR
comp=Z,100nm,22.0s
OBN Obninsk 30.38 319 eP P 02 27 27.1 -0.2
comp=Z,73nm,0.5s,mb5.6
EIL Elat 31.29 268 eP P 02 27 35.0 -0.5
comp=Z,35nm,1.2s,mb5.0
GYA Guiyang 31.38 98 P P 02 27 42.4 +6.0
GYA AP pP 02 28 06.9 +6.4
GYA XP sP 02 28 19.8 +6.7
GYA PP PP 02 28 51.7 +8.2
GYA S S 02 32 42.5 +7.9
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.0
GYA AMB AMB
comp=Z,90nm,5.0s
GYA LR LR
comp=N,640nm,15.6s
GYA LR LR
comp=E,460nm,15.0s
GYA LR LR
comp=Z,520nm,14.8s
ESKT Eskisehir 32.09 288 i P P 02 27 41.4 -1.1

ENH Enshi 32.12 90 eP P 02 27 45.2 +2.5
comp=Z,18nm,0.9s,mb4.8
NST Nakhon Sawan 32.69 121 P P 02 27 51.0 +3.2
KIS Kishinev 33.30 302⇑iP P 02 27 51.5 -1.3
KIS e 02 29 04.0
KIS pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
ULDT Uludag 33.32 290 i P P 02 27 52.8 -0.3
AKASG Malin Array Be 33.42 309 P P 02 27 52.4 -1.4
AKASG Malin Array Be 33.42 309 P P 02 27 52.3 -1.4
comp=Z,10nm,0.4s,mb5.0,baz=80,slow=6.8,SNR=122
CFR Carcaliu 33.73 299 ⇓P P 02 27 56.7 +0.2
KKTK Khon Kaen 34.13 117 P P 02 28 03.0 +2.8
VRI Vrincioaia 34.72 300 ⇓P P 02 28 07.1 +2.2
ISR Istrita 34.86 299 ⇓P P 02 28 06.8 +0.7
MNK Minsk 34.98 315⇓eP P 02 28 04.0 -3.0
BJI Beijing 34.98 70 eP P 02 28 08.4 +1.2
BJI AMB AMB
comp=Z,20nm,0.6s,mb5.1
BJI Beijing 34.98 70 eP P 02 28 08.4 +1.2
comp=Z,20nm,0.6s,mb5.1
BOD Bodaibo 35.20 39 eP P 02 28 08.4 -0.5
BOD e pP 02 28 31.9 -1.6
BOD pmax pmax
comp=Z,5.0nm,1.2s,mb4.2
BOD pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
MLR Muntele Rosu 35.27 299 ⇓P P 02 28 11.0 +1.4
PUL Pulkovo 35.33 325 eP P 02 28 07.3 -2.6
PUL pmax pmax
comp=Z,107nm,1.3s,mb5.5
PUL pmax pmax
comp=N,44nm,0.9s
PUL pmax pmax
comp=E,40nm,1.0s
BURAR Bucovina Array 35.77 303 ⇓P P 02 28 13.9 +0.1
JOF Joensuu 36.26 330 ep P 02 28 15.4 -2.4
VSU Vasula 36.61 322d iP P 02 28 20.9 +0.1
LVV L’vov 36.64 307 eP P 02 28 21.8 +0.7
VTS Vitosha 37.45 295 ⇑P P 02 28 28.7 +0.7
KWP Kalwaria 37.49 306 eP P 02 28 29.2 +1.0
KWP ePP PP 02 29 55.5 -2.5
SUW Suwalki 37.58 314 eP P 02 28 28.5 -0.4
SUW ePP PP 02 29 56.2 -2.7
KOLS Kolonicke sedl 37.76 305 eP P 02 28 31.0 +0.6
KOLS epP pP 02 28 55.4 +0.2
KOLS ePP PP 02 29 58.7 -2.2
LVZ Lovozero 37.80 338⇑eP P 02 28 25.1 -5.5
LVZ eS S 02 34 17.4 +4.4
LVZ pmax pmax
comp=Z,58nm,1.1s,mb5.3
LVZ pmax pmax
comp=N,10.0nm,0.8s
LVZ pmax pmax
comp=E,12nm,1.1s
FINES FINESS Array B 37.89 326 P P 02 28 31.5 0.0
comp=E,15nm,0.4s,mb5.2,baz=120,slow=10,SNR=243
FINES LR LR 02 44 57.9
comp=E,133nm,19.5s,baz=274,slow=37
FINES FINESS Array B 37.89 326 P P 02 28 31.5 0.0
FINES LR LR 02 44 57.9
APA Apatity 37.98 337⇑iP P 02 28 33.3 +1.2
APA pmax pmax
comp=Z,31nm,1.0s,mb5.1
KAF Kangasniemi 38.03 327 ep P 02 28 30.6 -2.0
comp=Z,7.0nm,0.5s,mb4.8,baz=111,slow=8.6
KAF Kangasniemi 38.03 327 eP P 02 28 30.6 -2.0
KAF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
VAY Valandovo 38.10 293 eP P 02 28 32.5 -0.9
VAY i 02 29 05.0
CRVS Cervenica-Dubn 38.29 305 eP P 02 28 36.2 +1.3
CRVS ePP PP 02 30 02.0 -5.1
BZS Buzias 38.30 300 ⇑P P 02 28 35.7 +0.7
WAR Warsaw 38.69 311 eP P 02 28 38.9 +0.7
WAR ePP PP 02 30 08.5 -3.2
NIE Niedzica 39.05 306 eP P 02 28 40.7 -0.4
NJ2 Nanjing 39.05 82 eP P 02 28 41.2 -0.1
NJ2 AP pP 02 29 03.8 -2.4
NJ2 PP PP 02 30 16.4 +0.2
NJ2 S S 02 34 34.0 +1.9
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,360nm,6.1s
NJ2 LR LR
comp=N,1μm,21.3s
NJ2 LR LR
comp=E,590nm,24.4s
NJ2 LR LR
comp=Z,260nm,24.1s
PSZ Piszkesteto 39.36 304 eP P 02 28 43.0 -0.7
PSZ pmax pmax
comp=Z,38nm,1.3s,mb5.1
PSZ Piszkesteto 39.36 304 eP P 02 28 43.0 -0.8
comp=Z,38nm,1.3s,mb5.1
PSZ Piszkesteto 39.36 304 e P 02 28 38.5 -5.2
PSZ i P 02 28 45.1
OJC Ojcow 39.38 307 eP P 02 28 44.4 +0.5
DIVS Divcibare 39.60 298⇑iP P 02 28 46.6 +0.8
VYHS Vyhne 40.04 305 i P P 02 28 51.1 +1.7
VYHS e 02 29 07.8
VYHS e 02 30 18.8
SRO Srobarova 40.42 304 eP P 02 28 54.7 +2.2
OKC Ostrava-Krasne 40.45 307 i P P 02 28 54.1 +1.4
OKC ePP PP 02 30 24.5 -6.4
SRO1 Iza 40.48 304 i P P 02 28 54.9 +1.9
SRO1 e pP 02 29 22.3 +4.3
MORC Moravsky Berou 40.84 307 eP P 02 28 56.4 +0.5
MORC pmax pmax
comp=Z,75nm,1.2s,mb5.4
MORC Moravsky Berou 40.84 307 eP P 02 28 56.4 +0.5
comp=Z,75nm,1.2s,mb5.4
SMOL Smolenice 40.97 305 eP P 02 28 57.8 +0.8
GKP Gorka Klasztor 41.04 312 eP P 02 28 58.1 +0.6
comp=Z,0.2nm,0.5s
GKP ePP PP 02 30 35.0 -1.7
GKP Gorka Klasztor 41.04 312 eP P 02 28 58.1 +0.6
comp=Z,200nm,0.5s
GKP ePP PP 02 30 35.0 -1.8
KEV Kevo 41.14 338 ep P 02 28 56.9 -1.3
ZST Bratislava 41.21 304 eP P 02 28 59.9 +0.9
ZST ePP PP 02 30 35.8 -2.9
SSE Sheshan 41.24 82 P P 02 29 03.0 +3.6
SSE AMB AMB
comp=Z,45nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,74nm,9.0s
SSE Sheshan 41.24 82 P P 02 29 03.0 +3.6
comp=Z,45nm,0.7s,mb5.4
CN2 Changchun 41.28 62 eP P 02 29 00.2 +0.6
ARCES ARCESS Array B 41.49 338 P P 02 29 01.4 +0.4
comp=Z,25nm,0.7s,mb5.2,baz=120,slow=8.8,SNR=119
ARCES LR LR 02 47 15.1
comp=Z,430nm,18.4s,baz=185,slow=37
ARCES ARCESS Array B 41.49 338 P P 02 29 01.4 +0.4
ARCES LR LR 02 47 15.1
DPC Dobruska-Polom 41.61 308 i P P 02 29 02.8 +0.6
DPC ePP PP 02 30 38.8 -4.2
KSP Ksiaz 41.61 308 eP P 02 29 02.6 +0.4
KSP e 02 30 40.4
KSP Ksiaz 41.61 308 eP P 02 29 02.7 +0.5
UPC Upice 41.80 308 i P P 02 29 05.0 +1.3
UPC epP pP 02 29 36.2 +7.5
KOGS Kog 41.95 302 eP P 02 29 05.2 +0.2
KOGS i pP 02 29 32.4 +2.4
KTK1 Kautokeino 41.97 336 eP P 02 29 05.9 +1.0
comp=Z,104nm,1.9s,mb5.2
KTK1 Kautokeino 41.97 336 eP P 02 29 05.9 +1.0
KTK1 AMb AMB 02 29 11.6
comp=Z,104nm,1.9s,mb5.2
ARSA Arzberg 42.36 303⇑iP P 02 29 09.3 +0.9
comp=Z,14nm,1.1s,mb4.6
BSD Bornholm Skovb 42.47 315⇑iP P 02 29 07.9 -1.2
BSD pmax pmax
comp=Z,100nm,1.1s,mb5.5
BSD Bornholm Skovb 42.47 315⇑iP P 02 29 07.9 -1.2
comp=Z,102nm,1.1s,mb5.5
PERS Pernice 42.70 302 eP P 02 29 11.5 +0.3
PVCC Panska Ves 42.72 308 i P P 02 29 12.1 +0.8
PVCC ePP PP 02 30 53.0 -1.5
BOJS Bojanci 42.76 300 i P P 02 29 07.0 -4.7
BOJS i 02 29 14.0

BOJS ePP PP 02 30 54.0 -1.0
PRU Pruhonice 42.77 307 i P P 02 29 12.6 +0.9
PRU ePP PP 02 30 48.5 -6.5
BRG Berggiesshubel 43.10 308 i P P 02 29 14.7 +0.4
BRG i 02 30 54.9
BRG pmax pmax
comp=Z,53nm,0.9s,mb5.3
BRG Berggiesshubel 43.10 308 i P P 02 29 14.7 +0.4
comp=Z,53nm,0.9s,mb5.3
BRG i 02 29 50.1
BRG i PP PP 02 30 54.9 -3.4
BRG eP’P’ 03 01 06.1
RUE Ruedersdorf 43.13 311 eP P 02 29 14.7 +0.1
comp=Z,41nm,0.9s,mb5.2
MOA Molln 43.14 304⇑iP P 02 29 14.4 -0.3
comp=Z,31nm,1.0s,mb5.0
LJU Ljubljana 43.19 301 eP P 02 29 16.0 +0.8
GEC2 GERESS Array S 43.41 306 eP P 02 29 17.4 +0.5
GEC2 pmax pmax
comp=Z,15nm,1.3s,mb4.6
GEC2 GERESS Array S 43.41 306 eP P 02 29 17.4 +0.5
comp=Z,15nm,1.3s,mb4.6
GERES GERESS Array B 43.41 306 P P 02 29 16.6 -0.3
comp=Z,2.3nm,0.5s,mb4.1,baz=85,slow=7.2,SNR=28
GERES PP PP 02 30 58.8 -2.6
comp=Z,6.9nm,0.9s,baz=80,slow=8.1,SNR=8.5
KHC Kasperske Hory 43.46 306 i P P 02 29 18.2 +0.9
KHC e 02 29 30.0
KHC e 02 31 00.5
KHC Kasperske Hory 43.46 306 i P P 02 29 18.2 +0.9
KHC ex x 02 29 30.0
KHC ePP PP 02 30 52.5 -9.5
KHC ex x 02 31 00.5
JAVS Javornik 43.53 301 eP P 02 29 19.2 +1.3
JAVS e 02 29 34.6
CLL Collm 43.66 309 i P P 02 29 19.2 +0.3
CLL e 02 31 00.0
CLL pmax pmax
comp=Z,29nm,0.8s,mb5.1
CLL Collm 43.66 309 i P P 02 29 19.2 +0.3
comp=Z,29nm,0.8s,mb5.1
CLL ePP PP 02 31 00.0 -3.9
CLL Collm 43.66 309 P P 02 29 19.2 +0.3
comp=Z,logA/T=1.6,mb5.1
CLL i 02 29 22.2
CLL ePP PP 02 31 00.0 -3.9
CLL i PCP PcP 02 31 03.9 -0.9
CLL e 02 31 08.0
CLL e*PPP 02 31 24.0
CLL e*SPP 02 31 37.0
CLL ePPP PPP 02 31 43.0 +0.5
CADS Cadrg 43.70 302 i P P 02 29 19.0 -0.3
YAK Yakutsk 43.85 35 eP P 02 29 19.5 -0.8
YAK e pP 02 29 44.6 -0.8
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.7
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.9s,mb4.6
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 43.85 35 eP P 02 29 20.1 -0.1
KBA Koelnbreinsper 43.85 303⇑iP P 02 29 20.0 -0.5
KBA pmax pmax
comp=Z,11nm,1.1s,mb4.5
KBA Koelnbreinsper 43.85 303⇑iP P 02 29 20.0 -0.5
comp=Z,11nm,1.1s,mb4.5
COP Copenhagen 43.89 315 i P P 02 29 21.7 +1.0
COP pmax pmax
comp=Z,41nm,0.7s,mb5.3
COP Copenhagen 43.89 315 i P P 02 29 21.7 +1.0
comp=Z,41nm,0.7s,mb5.3
WET Wettzell 43.92 306 eP P 02 29 21.7 +0.7
WET pmax pmax
comp=Z,14nm,1.4s,mb4.5
WET Wettzell 43.92 306 eP P 02 29 21.7 +0.7
comp=Z,14nm,1.4s,mb4.5
PTCC Patocco-Chiusa 43.94 302 eP P 02 29 21.5 +0.3
NKC Novy Kostel 44.09 308 i P P 02 29 23.5 +1.1
MOR8 Moi Rana 44.20 331 eP P 02 29 22.4 -0.7
comp=Z,84nm,0.6s,mb5.7
MOR8 Moi Rana 44.20 331 eP P 02 29 22.4 -0.7
MOR8 AMb AMB 02 29 24.1
comp=Z,84nm,0.6s,mb5.7
MOR8 epP pP 02 29 48.1 -0.1
FVI Forni Avoltri 44.30 302 eP P 02 29 24.1 0.0
KS15 Wonju Array Si 44.48 71 eP P 02 29 26.1 +0.5
MOX Moxa 44.59 308 eP P 02 29 27.7 +1.4
MOX pmax pmax
comp=Z,67nm,1.6s,mb5.1
MOX Moxa 44.59 308 eP P 02 29 27.7 +1.4
comp=Z,67nm,1.6s,mb5.1
MOX Moxa 44.59 308 i P P 02 29 27.7 +1.4
comp=Z,logA/T=1.6,mb5.1
SNTG Esanatoglia 44.78 298 eP P 02 29 28.3 +0.3
STOK Stokkvaagen 44.80 331 eP P 02 29 28.0 +0.2
comp=Z,59nm,1.6s,mb5.1
STOK Stokkvaagen 44.80 331 eP P 02 29 28.0 +0.2
STOK AMb AMB 02 29 39.3
comp=Z,59nm,1.6s,mb5.1
NB2 NORSAR Subarra 44.80 323 P P 02 29 27.5 -0.4
comp=Z,62nm,0.5s,mb5.6,baz=94,slow=7.9
NB2 NORSAR Subarra 44.80 323 P P 02 29 27.5 -0.4
NB2 pmax pmax
comp=Z,62nm,0.5s,mb5.6
NB2 NORSAR Subarra 44.80 323 P P 02 29 27.5 -0.4
baz=94,slow=7.9
NOA NORSAR Array B 44.80 323 P P 02 29 27.6 -0.4
comp=Z,52nm,0.5s,mb5.5,baz=96,slow=7.7,SNR=360
NOA pP pP 02 29 53.8 +0.7
comp=Z,6.6nm,0.6s,baz=96,slow=7.8,SNR=3.3
NOA LR LR 02 49 14.2
comp=Z,80nm,19.7s,baz=115,slow=37
KLR Kul’dur 44.88 54 eP P 02 29 26.0 -2.7
NSS Namsos 44.90 328 eP P 02 29 27.6 -1.0
GRA1 Grafenberg Arr 44.94 307 eP P 02 29 30.4 +1.3
comp=Z,86nm,1.5s,mb5.3
GRF Grafenberg Arr 44.94 307 eP P 02 29 30.4 +1.3
GRF pmax pmax
comp=Z,86nm,1.5s,mb5.3
GRF Grafenberg Arr 44.94 307 eP P 02 29 30.4 +1.3
GRF pmax pmax
comp=Z,86nm,1.5s,mb5.3
GRF Grafenberg Arr 44.94 307 eP P 02 29 30.4 +1.3
comp=Z,86nm,1.5s,mb5.3
NAO01 NORSAR Array S 44.95 323 eP P 02 29 28.2 -0.8
comp=Z,11nm,0.4s,mb5.0
WTTA Wattenberg 44.98 304⇓iP P 02 29 29.0 -0.5
comp=Z,31nm,1.3s,mb4.9
LOF Lofoten 45.01 333 eP P 02 29 31.1 +1.6
FUR Furstenfeldbru 45.09 305 eP P 02 29 31.3 +0.9
FUR pmax pmax
comp=Z,80nm,1.4s,mb5.3
FUR Furstenfeldbru 45.09 305 eP P 02 29 31.3 +0.9
comp=Z,80nm,1.4s,mb5.3
BSEG Bad Segeberg 45.15 313 eP P 02 29 31.6 +0.8
CTI Castel Tesino 45.16 302 eP P 02 29 31.2 +0.2
CLZ Clausthal 45.26 310 eP P 02 29 32.1 +0.4
comp=Z,44nm,1.1s,mb5.1
SQTA Sankt Quirin 45.27 304⇑iP P 02 29 30.6 -1.3
SQTA pmax pmax
comp=Z,20nm,1.3s,mb4.7
SQTA Sankt Quirin 45.27 304⇑iP P 02 29 30.6 -1.3
comp=Z,20nm,1.3s,mb4.7
MOTA Moosalm 45.33 304⇑iP P 02 29 30.7 -1.6
MOTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
MOTA Moosalm 45.33 304⇑iP P 02 29 30.7 -1.6
comp=Z,6.8nm,1.1s,mb4.3
TRON Trondheim 45.41 326 eP P 02 29 33.8 +1.1
PGD Poggio Sodo 45.52 299 eP P 02 29 35.1 +1.2
VMG Vicchio 45.63 299 eP P 02 29 36.2 +1.5
MUD Monsted U’grnd 45.72 317 i P P 02 29 36.3 +1.1
MUD i 02 31 21.5
MUD pmax pmax
comp=Z,27nm,0.9s,mb5.0
MUD Monsted U’grnd 45.72 317 i P P 02 29 36.3 +1.1
comp=Z,27nm,0.9s,mb5.0
MUD i 02 31 21.5
SEI Scarperia 45.74 299 eP P 02 29 34.9 -0.7

TIXI Tiksi 45.77 22 *eP* **P 02 29 34.8 -0.7**
TIXI pmax pmax
comp=Z,23nm,1.0s,mb4.9
DOMB Dombas 45.91 324 *eP* **P 02 29 36.4 -0.3**
DAVA Damuels 46.16 304 ⇑*iP* **P 02 29 38.0 -0.8**
comp=Z,17nm,0.4s,mb5.1
VALM 46.46 300 P **P 02 29 42.2 +1.0**
TOD Tromm 46.51 307 *eP* **P 02 29 42.8 +1.2**
TNS Taunus Mts 46.65 308 *eP* **P 02 29 43.6 +0.9**
TNS pmax pmax
comp=Z,24nm,1.2s,mb4.8
TNS Taunus Mts 46.65 308 *eP* **P 02 29 43.6 +0.9**
comp=Z,24nm,1.2s,mb4.8
MOL Molde 46.65 325 *eP* **P 02 29 42.9 +0.4**
comp=Z,72nm,2.1s,mb5.0
MOL Molde 46.65 325 *eP* **P 02 29 42.9 +0.4**
MOL AMb AMB 02 29 55.1
comp=Z,72nm,2.1s,mb5.0
CODM 46.73 300 P **P 02 29 44.3 +0.9**
SNART Snartemo 46.74 319 *eP* **P 02 29 43.7 +0.4**
BFO Black Forest 47.01 305 *eP* **P 02 29 46.0 +0.4**
BFO pmax pmax
comp=Z,13nm,1.1s,mb4.6
BFO Black Forest 47.01 305 *eP* **P 02 29 46.0 +0.4**
comp=Z,13nm,1.1s,mb4.6
KTD Kalmit 47.01 307 *eP* **P 02 29 46.1 +0.6**
ODD1 Odda 47.02 321 *eP* **P 02 29 44.8 -0.7**
comp=Z,79nm,1.7s,mb5.2
ODD1 Odda 47.02 321 *eP* **P 02 29 44.8 -0.7**
ODD1 AMb AMB 02 29 48.4
comp=Z,79nm,1.7s,mb5.2
BLS5 Blasjo 47.11 321 *eP* **P 02 29 47.3 +1.2**
comp=Z,52nm,1.3s,mb5.1
BLS5 Blasjo 47.11 321 *eP* **P 02 29 47.3 +1.2**
BLS5 AMb AMB 02 29 49.6
comp=Z,52nm,1.3s,mb5.1
VAI Varese 47.17 302 *eP* **P 02 29 46.6 -0.2**
HYA Hoyanger 47.25 323 *eP* **P 02 29 49.1 +1.9**
comp=Z,74nm,1.9s,mb5.1
HYA Hoyanger 47.25 323 *eP* **P 02 29 49.1 +1.9**
HYA AMb AMB 02 30 06.2
comp=Z,74nm,1.9s,mb5.1
LANF Langenberg 47.25 306 *eP* **P 02 29 47.1 -0.3**
ABH Alteburg 47.27 308 *eP* **P 02 29 47.7 +0.1**
FELD Feldberg 47.31 305 *eP* **P 02 29 48.3 +0.4**
STR Strasbourg 47.34 306 *eP* **P 02 29 49.1 +1.0**
PCP Pian Castagno 47.61 300 P **P 02 29 50.2 -0.1**
RUP Ruppelstein 47.61 307 *eP* **P 02 29 51.5 +1.3**
RUND Rundenannen 47.65 322 *eP* **P 02 29 50.6 +0.3**
BER Bergen 47.67 322 *eP* **P 02 29 50.5 0.0**
MCGN Macugnaga 47.69 302 *eP* **P 02 29 51.1 +0.2**
CDF Champ du Feu 47.69 306 *eP* **P 02 29 50.7 -0.1**
comp=Z,14nm,0.8s,mb4.5
CDF Champ du Feu 47.69 306 *eP* **P 02 29 50.7 -0.1**
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
EGD Espegrend 47.72 322 *eP* **P 02 29 51.0 +0.1**
comp=Z,133nm,2.3s,mb5.4
EGD Espegrend 47.72 322 *eP* **P 02 29 51.0 +0.1**
EGD AMb AMB 02 29 57.6
comp=Z,133nm,2.3s,mb5.4
ASK Askoy 47.73 322 *eP* **P 02 29 50.9 -0.2**
KMY Karmoy 47.74 320 *eP* **P 02 29 51.5 +0.5**
comp=Z,72nm,1.7s,mb5.2
KMY Karmoy 47.74 320 *eP* **P 02 29 51.5 +0.5**
KMY AMb AMB 02 29 57.9
comp=Z,72nm,1.7s,mb5.2
ORX Oropa 47.76 302 P **P 02 29 49.3 -2.1**
PGF Pioggiola 47.76 298 *eP* **P 02 29 49.7 -1.8**
comp=Z,19nm,0.8s,mb4.7
PGF Pioggiola 47.76 298 *eP* **P 02 29 49.7 -1.8**
PGF pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
ORO Oropa 47.76 302 *eP* **P 02 29 50.0 -1.4**
FOO Floro 47.80 324 *eP* **P 02 29 51.5 0.0**
ECH Echery 47.80 305 *eP* **P 02 29 52.5 +0.8**
MOF Molkenrain 47.89 305 *eP* **P 02 29 52.7 +0.3**
FIN Finale Ligure 47.92 300 P **P 02 29 51.6 -1.1**
HINF Hinteralfeld 48.08 305 *eP* **P 02 29 53.2 -0.7**
comp=Z,41nm,1.0s,mb4.9
HINF Hinteralfeld 48.08 305 *eP* **P 02 29 53.2 -0.7**
HINF pmax pmax
comp=Z,21nm,1.0s,mb4.9
ROB Roburent 48.14 300 P **P 02 29 54.2 -0.2**
LOMF Lomont 48.19 304 *eP* **P 02 29 55.3 +0.6**
WLF Walferdange 48.20 308 *eP* **P 02 29 56.1 +1.3**
WLF pmax pmax
comp=Z,60nm,1.1s,mb5.3
WLF Walferdange 48.20 308 *eP* **P 02 29 56.1 +1.3**
comp=Z,60nm,1.1s,mb5.3
IMI Imperia 48.22 300 P **P 02 29 54.7 -0.3**
RSP Reno Superiore 48.37 301 P **P 02 29 54.7 -1.4**
LSD Ceresole Reale 48.37 302 P **P 02 29 56.2 +0.1**
HAU Haudompre 48.38 305 *eP* **P 02 29 55.1 -1.1**
comp=Z,31nm,0.8s,mb4.9
HAU *eR*
comp=Z,94nm,21.8s
HAU Haudompre 48.38 305 *eP* **P 02 29 55.1 -1.1**
HAU pmax pmax
comp=Z,16nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,90nm,21.8s
SAOF Saorge 48.43 300 *eP* **P 02 29 57.7 +1.1**
BHB Bricherasio 48.43 301 P **P 02 29 55.2 -1.4**
ENR Entracque 48.47 300 P **P 02 29 55.8 -1.1**
AUTN L'Aution 48.52 300 *eP* **P 02 29 59.8 +2.5**
FENE Fenestrelle 48.53 301 P **P 02 29 56.7 -0.7**
STV2 Anna di Valdie 48.53 300 P **P 02 29 56.6 -0.8**
STV Sta Anna Valdi 48.53 300 P **P 02 29 56.2 -1.2**
SBF Sospel 48.55 300 *eP* **P 02 29 56.9 -0.6**
comp=Z,30nm,0.7s,mb5.0
SBF Sospel 48.55 300 *eP* **P 02 29 56.9 -0.6**
SBF pmax pmax
comp=Z,15nm,0.7s,mb5.0
THEF They Montfort 48.57 306 *eP* **P 02 29 57.7 0.0**
PZZ Prazzo 48.62 301 P **P 02 29 57.3 -0.8**
LPG La Plagne 48.63 302 *eP* **P 02 29 58.3 +0.1**
comp=Z,15nm,0.5s,mb4.9
LPG La Plagne 48.63 302 *eP* **P 02 29 58.3 +0.1**
LPG pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
TOUF Mont Tournerai 48.64 300 *eP* **P 02 29 59.5 +1.3**
LPL La Plagne 48.64 302 *eP* **P 02 29 58.3 +0.1**
comp=Z,12nm,0.4s,mb4.9
LPL La Plagne 48.64 302 *eP* **P 02 29 58.3 +0.1**
LPL pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
MVIF Mont Vial 48.73 300 *eP* **P 02 30 00.3 +1.3**
RRL Cesana Torines 48.74 301 P **P 02 29 59.0 0.0**
BNI Bardonecchia 48.79 301 *eP* **P 02 29 58.7 -0.7**
BNI pmax pmax
comp=Z,15nm,1.1s,mb4.8
BNI Bardonecchia 48.79 301 *eP* **P 02 29 58.7 -0.7**
comp=Z,15nm,1.1s,mb4.8
MBDF Montbardon 48.80 301 *eP* **P 02 29 59.1 -0.4**
comp=Z,26nm,0.6s,mb5.1
MBDF Montbardon 48.80 301 *eP* **P 02 29 59.1 -0.4**
MBDF pmax pmax
comp=Z,13nm,0.6s,mb5.0
SURF Saint Ours 48.83 301 *eP* **P 02 29 59.7 0.0**
CABF La Chapelle 48.84 304 *eP* **P 02 29 59.3 -0.4**
comp=Z,52nm,0.9s,mb5.2
CABF La Chapelle 48.84 304 *eP* **P 02 29 59.3 -0.4**
CABF pmax pmax
comp=Z,26nm,0.9s,mb5.2
KBS Kingsbay 48.89 347 *eP* **P 02 30 00.3 +0.5**
KBS pmax pmax
comp=Z,20nm,0.8s,mb5.1
KBS Kingsbay 48.89 347 *eP* **P 02 30 00.3 +0.5**
comp=Z,20nm,0.8s,mb5.1
KBS Kingsbay 48.89 347 *eP* **P 02 29 43.0 -17**
KBS AMb AMB 02 30 04.6
comp=Z,50nm,2.4s,mb5.0
GIVF Givet 48.97 308 *eP* **P 02 30 00.4 -0.3**
KMBO Kilima Mbogo 49.05 228 P **P 02 30 03.5 +1.7**
KMBO pmax pmax
comp=Z,9.0nm,0.7s
KMBO Kilima Mbogo 49.05 228 P **P 02 30 03.5 +1.7**
comp=Z,9.2nm,0.7s,mb4.8,baz=32,slow=13,SNR=30
KMBO Kilima Mbogo 49.05 228 *eP* **P 02 30 02.8 +0.9**
comp=Z,9.2nm,0.7s,mb4.8
MEZF Maizieres J'vi 49.13 306 *eP* **P 02 30 02.0 +0.1**
comp=Z,47nm,0.9s,mb5.1
FRF La Foret Royal 49.17 300 *eP* **P 02 30 01.4 -1.0**
comp=Z,96nm,1.4s,mb5.2
FRF La Foret Royal 49.17 300 *eP* **P 02 30 01.4 -1.0**
FRF pmax pmax
comp=Z,48nm,1.4s,mb5.2
LMR La Mourre 49.33 299 *eP* **P 02 30 02.8 -0.8**
BAIF Baives 49.37 308 *eP* **P 02 30 04.0 +0.2**
comp=Z,159nm,1.2s,mb5.5
BAIF Baives 49.37 308 *eP* **P 02 30 04.0 +0.2**
BAIF pmax pmax
comp=Z,80nm,1.2s,mb5.5
ORIF Oris-en-Rattie 49.37 301 *eP* **P 02 30 03.6 -0.2**
comp=Z,6.3nm,0.6s,mb4.5
ORIF *eR*
comp=Z,121nm,19.8s
GRN Grenoble 49.38 302 *eP* **P 02 30 03.7 -0.3**
SMRF Simiane la Rot 49.82 300 *eP* **P 02 30 06.9 -0.4**
VIVF Saint-Julien-l 50.22 302 *eP* **P 02 30 09.6 -0.7**
comp=Z,40nm,0.8s,mb5.1
VIVF Saint-Julien-l 50.22 302 *eP* **P 02 30 09.6 -0.7**
VIVF pmax pmax
comp=Z,20nm,0.8s,mb5.1
SMF Signal de Mont 50.34 304 *eP* **P 02 30 10.7 -0.5**
comp=Z,56nm,0.7s,mb5.3
SMF Signal de Mont 50.34 304 *eP* **P 02 30 10.7 -0.5**
SMF pmax pmax
comp=Z,28nm,0.7s,mb5.3
SSF Saint Saulge 50.46 305 *eP* **P 02 30 11.3 -0.9**
SSF pmax pmax
comp=Z,17nm,0.9s,mb5.0
SSF Saint Saulge 50.46 305 *eP* **P 02 30 11.3 -0.9**
comp=Z,17nm,0.9s,mb5.0
AVF Avril sur Loir 50.63 304 *eP* **P 02 30 12.5 -0.9**
comp=Z,60nm,0.7s,mb5.4
AVF Avril sur Loir 50.63 304 *eP* **P 02 30 12.5 -0.9**
AVF pmax pmax
comp=Z,30nm,0.7s,mb5.4
PLDF La Plantade 50.65 303 *eP* **P 02 30 13.4 -0.2**
KKM Kota Kinabalu 50.72 115 *eP* **P 02 30 17.3 +2.8**
KKM *e* pP 02 30 44.0 +3.7
AGO Saint Agoulin 50.96 303 *eP* **P 02 30 16.7 +0.7**
HYF Humbligny 50.98 305 *eP* **P 02 30 15.9 -0.2**
LASF Ste Croix 50.99 301 *eP* **P 02 30 15.8 -0.4**
comp=Z,61nm,0.9s,mb5.3
LBL Lubilhac 51.09 302 *eP* **P 02 30 17.6 +0.6**
TCF Toulx Ste Croi 51.52 304 *eP* **P 02 30 19.8 -0.4**
comp=Z,72nm,1.0s,mb5.4
TCF Toulx Ste Croi 51.52 304 *eP* **P 02 30 19.8 -0.4**
TCF pmax pmax
comp=Z,36nm,1.0s,mb5.4
CAF Calviac 51.98 302 *eP* **P 02 30 23.5 -0.2**
comp=Z,41nm,0.9s,mb5.1
CAF Calviac 51.98 302 *eP* **P 02 30 23.5 -0.2**
CAF pmax pmax
comp=Z,21nm,0.9s,mb5.2
EJON La Jonquera 52.13 299 P **P 02 30 24.8 0.0**
comp=Z,0.8nm,0.3s,mb4.2
RJF Les Rejaudoux 52.25 303 *eP* **P 02 30 25.7 0.0**
comp=Z,22nm,0.9s,mb4.9
RJF *eR*
comp=Z,81nm,19.3s
RJF Les Rejaudoux 52.25 303 *eP* **P 02 30 25.7 0.0**
RJF pmax pmax
comp=Z,11nm,0.9s,mb4.9
RJF MLR MLR
comp=Z,80nm,19.3s
MTLF Montolieu 52.34 300 *eP* **P 02 30 25.8 -0.5**
LDF La Druitiere 52.45 307 *eP* **P 02 30 26.0 -1.1**
comp=Z,43nm,0.7s,mb5.3
LDF La Druitiere 52.45 307 *eP* **P 02 30 26.0 -1.1**
LDF pmax pmax
comp=Z,21nm,0.7s,mb5.3
YSS Yuzh-Sakhalins 52.55 55 *eP* **P 02 30 28.6 +0.7**
YSS *e* pP 02 30 53.5 -0.3
BTA Talkin 52.56 316 *eP* **P 02 30 27.3 -0.5**
BTA AMb AMB 02 30 28.6
comp=Z,76nm,1.4s,mb5.5
MAT Matsushiro 52.59 69 *eP* **P 02 30 29.0 +0.7**
MAT Matsushiro 52.59 69 P **P 02 30 28.8 +0.5**
FLN La Foliniere 52.64 308 *eP* **P 02 30 28.0 -0.5**
comp=Z,36nm,0.6s,mb5.2
FLN *eR*
comp=Z,103nm,22.8s
FLN La Foliniere 52.64 308 *eP* **P 02 30 28.0 -0.5**
FLN pmax pmax
comp=Z,18nm,0.6s,mb5.3
FLN MLR MLR
comp=Z,100nm,22.8s
BDL Dobcross Hall 52.72 315 *eP* **P 02 30 28.5 -0.6**
ESK Eskdalemuir 52.77 316 *eP* **P 02 30 28.7 -0.7**
ESK pmax pmax
comp=Z,53nm,1.4s,mb5.4
ESK Eskdalemuir 52.77 316 *eP* **P 02 30 28.7 -0.6**
comp=Z,53nm,1.4s,mb5.4
MBAR Mbarara 52.78 235 *eP* **P 02 30 28.8 -1.2**
MBAR pmax pmax
comp=Z,16nm,0.6s,mb5.2
MBAR Mbarara 52.78 235 *eP* **P 02 30 28.8 -1.2**
comp=Z,16nm,0.6s,mb5.2
BHH Howats Hill 52.82 316 *eP* **P 02 30 29.2 -0.6**
LFF La Frestale 52.88 303 *eP* **P 02 30 29.8 -0.6**
comp=Z,45nm,0.7s,mb5.3
LFF La Frestale 52.88 303 *eP* **P 02 30 29.8 -0.6**
LFF pmax pmax
comp=Z,23nm,0.7s,mb5.3
BBO1 Bothel 52.91 315 *eP* **P 02 30 30.0 -0.5**
GRR Gorron 52.98 307 *eP* **P 02 30 30.5 -0.6**
comp=Z,43nm,0.7s,mb5.3
GRR Gorron 52.98 307 *eP* **P 02 30 30.5 -0.6**
GRR pmax pmax
comp=Z,22nm,0.7s,mb5.3
MFF Saint Martin d 53.00 305 *eP* **P 02 30 30.3 -1.0**
comp=Z,58nm,1.0s,mb5.3
MFF Saint Martin d 53.00 305 *eP* **P 02 30 30.3 -1.0**
MFF pmax pmax
comp=Z,29nm,1.0s,mb5.3
BWH Wardlaw 53.05 316 *eP* **P 02 30 31.1 -0.4**
BWH AMb AMB 02 30 32.9
comp=Z,41nm,1.2s,mb5.3
PCOU Corrie 53.12 317 *eP* **P 02 30 31.0 -1.0**
MLS Moulis 53.23 300 *eP* **P 02 30 31.5 -1.5**
EMIR Miracle 53.26 299 P **P 02 30 32.5 -0.7**
comp=Z,3.9nm,0.4s,mb4.8
PCA1 Carrot 53.27 317 *eP* **P 02 30 31.8 -1.3**
EPF Esparros 53.74 301 *eP* **P 02 30 35.8 -0.9**
comp=Z,14nm,0.7s,mb4.8
EPF Esparros 53.74 301 *eP* **P 02 30 35.8 -0.9**
EPF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
EPOB Poblet 53.76 298 P **P 02 30 36.3 -0.6**
comp=Z,1.3nm,0.3s,mb4.4
RESF Ens 53.81 300 *eP* **P 02 30 37.0 -0.2**
EBIE Bielsa 53.98 300 P **P 02 30 37.4 -1.1**
comp=Z,3.3nm,0.4s,mb4.7
SGMF Saint Gilles 54.11 307 *eP* **P 02 30 38.7 -0.6**
comp=Z,53nm,0.8s,mb5.3
SGMF Saint Gilles 54.11 307 *eP* **P 02 30 38.7 -0.6**
SGMF pmax pmax
comp=Z,27nm,0.8s,mb5.3
ETSF Etsaut 54.40 301 *eP* **P 02 30 40.2 -1.4**
comp=Z,35nm,0.5s,mb5.3
ETSF Etsaut 54.40 301 *eP* **P 02 30 40.2 -1.4**
ETSF pmax pmax
comp=Z,17nm,0.5s,mb5.3
ERTA Horta de San J 54.42 298 P **P 02 30 41.0 -0.7**
comp=Z,1.2nm,0.5s,mb4.2
ROSF Rostrenen 54.54 308 *eP* **P 02 30 41.5 -1.0**
comp=Z,74nm,0.9s,mb5.4
ROSF Rostrenen 54.54 308 *eP* **P 02 30 41.5 -1.0**
ROSF pmax pmax
comp=Z,37nm,0.9s,mb5.4
QUIF Quistinic 54.60 307 *eP* **P 02 30 42.2 -0.7**
SJPF Ste Jean 54.80 301 *eP* **P 02 30 44.2 -0.2**
comp=Z,21nm,0.9s,mb4.8
SJPF Ste Jean 54.80 301 *eP* **P 02 30 44.2 -0.2**
SJPF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
EALK Alkurruntz 54.95 301 P **P 02 30 46.5 +1.0**
comp=Z,0.9nm,0.4s,mb4.2
CSA1 St Austell 54.98 310 *eP* **P 02 30 45.4 -0.2**
DAG Danmarks Havn 55.03 344 ⇑*iP* **P 02 30 45.6 -0.1**
DAG pmax pmax
comp=Z,22nm,0.7s,mb5.3
DAG Danmarks Havn 55.03 344 ⇑*iP* **P 02 30 45.6 -0.1**
comp=Z,22nm,0.7s,mb5.3
CMA1 Manaccan 55.20 310 *eP* **P 02 30 46.6 -0.7**
CRQ2 Rosemanowes 2 55.20 310 *eP* **P 02 30 46.4 -0.9**
CRQ2 AMb AMB 02 30 47.3
comp=Z,70nm,0.8s,mb5.7
CCA1 Carnmenellis 55.23 310 *eP* **P 02 30 46.7 -0.8**
CGH1 Goonhilly 55.23 310 *eP* **P 02 30 46.7 -0.8**
CGH1 AMb AMB 02 30 47.7
comp=Z,45nm,0.7s,mb5.6
CGW Gweek 55.25 310 *eP* **P 02 30 46.7 -0.9**
CGW AMb AMB 02 30 47.8
comp=Z,99nm,0.8s,mb5.9
ELAN Lanestosa 56.28 302 P **P 02 30 55.2 +0.1**
comp=Z,3.6nm,0.5s,mb4.7
EVIA Vianos 57.30 297 P **P 02 31 01.1 -1.2**
EVIA pmax pmax
comp=Z,1.0nm,0.2s,mb4.5
EVIA Vianos 57.30 297 P **P 02 31 01.1 -1.2**
comp=Z,1.1nm,0.2s,mb4.5
SCO Scoresbysund 57.41 337 *i*P **P 02 31 03.1 +0.4**
SCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
SCO Scoresbysund 57.41 337 *i*P **P 02 31 03.1 +0.4**
comp=Z,3.9nm,1.0s,mb4.4
EARI Arriondas 57.47 303 P **P 02 31 04.5 +1.1**
comp=Z,1.5nm,0.5s,mb4.3
EHUE Huescar 57.69 296 P **P 02 31 03.7 -1.4**
EHUE pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
EHUE Huescar 57.69 296 P **P 02 31 03.7 -1.3**
comp=Z,1.3nm,0.3s,mb4.4
ENIJ Nijar 57.74 295 P **P 02 31 04.5 -0.9**
ENIJ pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
ENIJ Nijar 57.74 295 P **P 02 31 04.5 -0.9**
comp=Z,3.8nm,0.4s,mb4.8
ESDC Sonseca Array 57.95 298 P **P 02 31 05.4 -1.5**
comp=Z,1.8nm,0.5s,mb4.4,baz=58,slow=7.0,SNR=17
ESDC pP pP 02 31 32.6 -0.6
comp=Z,9.6nm,1.0s,baz=60,slow=7.4,SNR=7.6
ESDC Sonseca Array 57.95 298 P **P 02 31 05.6 -1.3**
comp=Z,1.5nm,0.3s,mb4.5
EQES Quesada 58.04 296 P **P 02 31 05.8 -1.7**
comp=Z,3.8nm,0.4s,mb4.8
EBER Berja 58.27 295 P **P 02 31 08.2 -1.0**
comp=Z,2.8nm,0.4s,mb4.7
EBAN Banos Encina 58.41 296 P **P 02 31 08.8 -1.3**
EBAN pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EBAN Banos Encina 58.41 296 P **P 02 31 08.8 -1.3**
comp=Z,2.4nm,0.4s,mb4.6
BILL Bilibino 58.57 26 *eP* **P 02 31 10.8 0.0**
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,100nm,19.0s
BILL Bilibino 58.57 26 *eP* **P 02 31 10.5 -0.3**
comp=Z,10nm,0.9s,mb4.8
ECOG Cogollos-Vega 58.61 295 P **P 02 31 10.5 -1.0**
ECOG pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ECOG Cogollos-Vega 58.61 295 P **P 02 31 10.5 -1.0**
comp=Z,1.4nm,0.4s,mb4.3
EPON Pontenova 58.77 303 P **P 02 31 11.5 -1.1**
comp=Z,1.8nm,0.4s,mb4.5
EADA Adamuz 58.98 297 P **P 02 31 12.4 -1.7**
comp=Z,1.2nm,0.3s,mb4.4
ECAL Calabor 59.02 302 P **P 02 31 14.4 +0.2**
comp=Z,0.9nm,0.4s,mb4.2
ERUA La Rua 59.12 302 P **P 02 31 15.5 +0.5**
ERUA pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ERUA La Rua 59.12 302 P **P 02 31 15.5 +0.5**
comp=Z,2.8nm,0.5s,mb4.5
EINC Incio 59.16 303 P **P 02 31 14.7 -0.6**
comp=Z,5.0nm,0.4s,mb4.9
EMIJ Mijas 59.78 295 P **P 02 31 16.4 -3.2**
comp=Z,4.2nm,0.5s,mb4.7
STS Santiago 59.89 303 P **P 02 31 19.8 -0.4**
STS pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
STS Santiago 59.89 303 P **P 02 31 19.8 -0.4**
comp=Z,2.5nm,0.4s,mb4.6
ELOB Lobios 59.96 302 P **P 02 31 20.0 -0.7**
comp=Z,5.3nm,0.4s,mb4.9
EMAZ Mazaricos 60.15 303 P **P 02 31 20.6 -1.5**
comp=Z,4.7nm,0.4s,mb4.9
MTE Manteigas 60.19 300 *eP* **P 02 31 22.1 -0.2**
comp=Z,24nm,1.0s,mb5.2
EJIF Jimena Fronter 60.34 295 P **P 02 31 22.1 -1.3**
EJIF pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
EJIF Jimena Fronter 60.34 295 P **P 02 31 22.1 -1.3**
comp=Z,1.6nm,0.4s,mb4.4
ESPR Espera 60.45 296 P **P 02 31 21.7 -2.4**
comp=Z,2.3nm,0.4s,mb4.6
EBAD Badajoz 60.49 298 P **P 02 31 23.1 -1.3**
comp=Z,3.4nm,0.4s,mb4.7
EMIN Mina Concepcio 60.66 297 P **P 02 31 23.1 -2.4**
comp=Z,1.0nm,0.4s,mb4.2
EVO Evora 61.29 298 *eP* **P 02 31 29.1 -0.7**
comp=Z,53nm,1.4s,mb5.1
SUMG Summit 61.38 341 *eP* **P 02 31 30.1 +0.1**
comp=Z,81nm,1.1s,mb5.7
LSZ Lusaka 65.66 227 *eP* **P 02 31 58.5 -0.3**
LSZ pmax pmax
comp=Z,23nm,0.6s,mb5.2
LSZ Lusaka 65.66 227 *eP* **P 02 31 58.5 -0.3**
comp=Z,23nm,0.6s,mb5.2
IMA Indian Mountai 72.16 18 *eP* **P 02 32 37.5 -0.3**
MBWA Marble Bar 73.07 133 *eP* **P 02 32 44.4 +0.5**
INK Inuvik 74.01 9 *eP* **P 02 32 48.7 +0.2**
INK pmax pmax
comp=Z,52nm,1.4s
INK Inuvik 74.01 9 P **P 02 32 48.6 +0.1**
comp=Z,9.2nm,0.5s,mb4.8,baz=0.6,slow=7.0,SNR=104
INK Inuvik 74.01 9 *eP* **P 02 32 48.7 +0.2**
comp=Z,52nm,1.4s,mb5.1
COLA College 74.52 16 *i*P **P 02 32 51.7 +0.2**
COLA College 74.52 16 *eP* **P 02 32 51.4 -0.1**
ILAR Eielson Array 74.83 16 P **P 02 32 52.5 -0.7**
comp=Z,6.4nm,0.8s,mb4.4,baz=315,slow=5.0,SNR=74
ILAR pP pP 02 33 21.7 +0.8
comp=Z,5.4nm,1.2s,baz=306,slow=4.8,SNR=5.5
LBTB Lobatse 74.85 223 *eP* **P 02 32 54.0 -0.2**
LBTB pmax pmax
comp=Z,49nm,0.7s,mb5.3
LBTB Lobatse 74.85 223 *eP* **P 02 32 54.0 -0.2**
comp=Z,49nm,0.7s,mb5.3
DBIC Dimbokro 75.15 267 P **P 02 32 54.1 -2.0**
DBIC pmax pmax
comp=Z,5.0nm,0.5s
DBIC Dimbokro 75.15 267 P **P 02 32 54.1 -2.0**
comp=Z,4.6nm,0.5s,mb4.5,baz=27,slow=7.0,SNR=34
DBIC Dimbokro 75.15 267 *eP* **P 02 32 53.5 -2.5**
comp=Z,5.1nm,0.5s,mb4.5
TSUM Tsumeb 75.17 232 *eP* **P 02 32 56.2 +0.1**
comp=Z,40nm,1.1s,mb5.1
MCK McKinley 75.24 17 *eP* **P 02 32 55.1 -0.5**
MCK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
MCK McKinley 75.24 17 *eP* **P 02 32 55.1 -0.5**
comp=Z,2.5nm,0.7s,mb4.0
SVW2 Sparrevohn 75.61 22 *eP* **P 02 32 58.3 +0.6**
THY Trims Highway 76.25 16 *eP* **P 02 33 00.9 -0.4**
PWA Palmer West 76.75 19 *eP* **P 02 33 03.0 -1.1**
DAWY Dawson 76.99 13 *eP* **P 02 33 04.8 -0.7**
PMR Palmer 76.99 19 *eP* **P 02 33 05.1 -0.4**
SML Sawmill 77.02 18 *eP* **P 02 33 05.3 -0.3**
MENT Mentasta 77.12 16 *eP* **P 02 33 06.4 +0.2**
BOSA Boshof 77.90 221 *eP* **P 02 33 11.0 -0.2**
BOSA pmax pmax
comp=Z,41nm,0.8s,mb5.2
BOSA Boshof 77.90 221 *eP* **P 02 33 11.0 -0.2**
comp=Z,41nm,0.8s,mb5.2
KDAK Kodiak Island 79.19 22 *eP* **P 02 33 17.7 +0.1**
YKW3 Yellowknife Ar 81.34 3 *eP* **P 02 33 29.0 0.0**
YKW3 *e*pP pP 02 33 54.9 -2.0
YKA Yellowknife Ar 81.41 3 P **P 02 33 29.1 -0.2**
comp=Z,14nm,0.8s,mb4.8,baz=348,slow=5.3,SNR=256
YKA pP pP 02 33 56.8 -0.5
comp=Z,3.6nm,0.5s,baz=349,slow=5.4,SNR=9.2
YKA Yellowknife Ar 81.41 3 P **P 02 33 29.1 -0.2**
YKA pP pP 02 33 56.8 -0.5
WRA Warramunga Arr 81.50 122 P **P 02 33 31.0 +0.3**
comp=Z,6.0nm,0.6s,mb4.6,baz=323,slow=5.0,SNR=55
WRA pP pP 02 33 59.3 +0.6
comp=Z,3.2nm,0.5s,baz=323,slow=4.7,SNR=9.5
WRAB Tennant Creek 81.50 122 *eP* **P 02 33 30.6 -0.1**
WRAB pmax pmax

	comp=Z,14nm,0.8s,mb4.8						
WRAB	**Tennant Creek**	**81.50**	**122**	*e*P	**P**	**02 33 30.6**	**-0.1**
	comp=Z,14nm,0.8s,mb4.8						
WRAB				*e*pP	pP	02 33 59.7	+1.1
WB2	**Warramunga Arr**	**81.51**	**122**	*e*P	**P**	**02 33 30.9**	**+0.1**
SCHQ	**Schefferville**	**82.44**	**337**	P	**P**	**02 33 35.1**	**+0.3**
	comp=Z,7.1nm,0.8s,mb4.6,baz=20,slow=5.1,SNR=17						
SCHQ				LR	LR	03 11 09.2	
	comp=Z,50nm,20.7s,baz=337,slow=36						
SCHQ	**Schefferville**	**82.44**	**337**	*e*P	**P**	**02 33 34.8**	**-0.1**
	comp=Z,17nm,1.0s,mb4.8						
ASPA	**Alice Springs**	**83.77**	**125**	⇓*i*P	**P**	**02 33 43.0**	**+0.8**
ASAR	**Alice Springs**	**83.77**	**125**	P	**P**	**02 33 42.4**	**+0.1**
	comp=Z,5.9nm,0.6s,mb4.6,baz=309,slow=5.2,SNR=93						
ASAR				pP	pP	02 34 10.7	+0.4
	comp=Z,4.0nm,0.8s,baz=318,slow=5.2,SNR=6.7						
DLBC	**Dease Lake**	**83.89**	**11**	P	**P**	**02 33 42.4**	**+0.4**
	comp=Z,4.3nm,0.8s,mb4.3,baz=40,slow=3.9,SNR=13						
FCC	**Fort Churchill**	**84.52**	**353**	*e*P	**P**	**02 33 45.5**	**+0.4**
FCC				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.1						
FCC	**Fort Churchill**	**84.52**	**353**	*e*P	**P**	**02 33 45.5**	**+0.3**
	comp=Z,41nm,1.5s,mb5.1						
FCC				*e*pP	pP	02 34 12.9	-0.3
FORT	**Forrest**	**85.21**	**134**	*e*P	**P**	**02 33 50.1**	**+0.9**
	comp=Z,317nm,0.6s						
FFC	**Flin Flon**	**89.15**	**356**	*e*P	**P**	**02 34 08.2**	**+0.6**
FFC				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
FFC	**Flin Flon**	**89.15**	**356**	*e*P	**P**	**02 34 08.2**	**+0.6**
	comp=Z,14nm,1.0s,mb4.9						
FFC				*e*pP	pP	02 34 36.5	+0.5
CTA	**Charters Tower**	**90.05**	**115**	⇓*i*P	**P**	**02 34 13.3**	**+0.7**
	comp=Z,7.4nm,0.6s,mb5.0						
CTA	**Charters Tower**	**90.05**	**115**	⇓*i*P	**P**	**02 34 13.3**	**+0.7**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
EDM	**Edmonton**	**90.73**	**3**	*e*P	**P**	**02 34 15.6**	**+0.6**
ULM	**Lac du Bonnet**	**93.09**	**352**	P	**P**	**02 34 25.8**	**-0.2**
	comp=Z,5.0nm,0.8s,mb4.9,baz=8.0,slow=5.6,SNR=8.7						
STKA	**Stephens Creek**	**94.31**	**127**	P	**P**	**02 34 32.1**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.4,baz=356,slow=7.4,SNR=4.3						
NEW	**Newport**	**95.44**	**6**	P	**P**	**02 34 37.4**	**+0.7**
	comp=Z,2.4nm,0.7s,mb4.7,baz=22,slow=4.6,SNR=6.0						
HWUT	**Hardware Ranch**	**102.40**	**2**	Pdif	Pdif	02 35 09.0	+0.7
	comp=Z,2.7nm,0.9s						
TXAR	**Lajitas Array**	**114.54**	**355**	PKiKP		02 39 52.5	
	comp=Z,0.3nm,0.5s,baz=51,slow=2.8,SNR=7.2						
TXAR				PP	PP	02 40 53.8	-0.5
	comp=Z,0.3nm,0.8s,baz=243,slow=2.8,SNR=3.9						
TXAR	**Lajitas Array**	**114.54**	**355**	PKPdf	PKPdf	02 39 52.5	+1.3
TXAR				PP	PP	02 40 53.8	-0.5
VNA2	**Neumayer--Watz**	**120.40**	**202**	⇑*i*P	PKPdf	02 40 01.9	+0.4
VNA3	**Neumayer Olymp**	**121.21**	**202**	⇑*i*P	PKPdf	02 40 02.9	-0.1
QSPA	**South Pole Qui**	**126.11**	**180**	⇓*i*P	PKPdf	02 40 12.9	+0.7
LVC	**Limon Verde**	**143.24**	**281**	PKhKP		02 40 42.9	
	comp=Z,5.7nm,0.7s,baz=57,slow=2.6,SNR=12						
LVC	**Limon Verde**	**143.24**	**281**	*e*PKPpre		02 40 41.3	
TRQA	**Tornquist**	**143.25**	**253**	*e*PKPpre		02 40 41.9	
USHA	**Ushuaia**	**147.03**	**223**	PKPbc	PKPdf	02 40 54.7	+3.9
	comp=Z,8.9nm,0.5s,baz=73,slow=1.9,SNR=38						
PLCA	**Paso Flores**	**150.19**	**250**	*e*PKIKP	PKPdf	02 41 02.4	+6.1
PLCA	**Paso Flores**	**150.19**	**250**	PKPbc	PKPdf	02 41 02.9	+6.6
	comp=Z,8.6nm,0.8s,baz=89,slow=1.2,SNR=19						

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*IDC **02** 02:32:16.6±0.9, 11.14N×139.73E, mb3.9/9, mb1 4.2/9, mb1mx4.0/18, mbtmp3.9/9, Error ellipse: s-maj=36.2km s-min=18.7km az=89.0*

ISC 02 02:32:19.9±0.8**, 11.1N**±0.1×**139.7E**±0.2**, h33**km**, n9, σ0s.74**/9**, mb3.9**/9**, Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.27**	**190**	P	**P**	**02 38 38.2**	**-1.1**
	0.7nm,0.8s,mb3.6,baz=10,slow=9.7,SNR=3.4						
ASAR	**Alice Springs**	**34.99**	**189**	P	**P**	**02 39 11.8**	**+0.3**
	0.8nm,0.7s,mb3.8,baz=12,slow=13,SNR=6.7						
CMAR	**Chiang Mai Arr**	**39.98**	**285**	P	**P**	**02 39 54.0**	**+0.7**
	1.3nm,0.6s,mb3.9,baz=84,slow=11,SNR=5.0						
STKA	**Stephens Creek**	**42.75**	**178**	P	**P**	**02 40 16.6**	**+0.5**
	2.2nm,0.8s,mb4.0,baz=339,slow=11,SNR=3.2						
SONM	**Songino Array**	**46.04**	**329**	P	**P**	**02 40 42.4**	**+0.1**
	0.8nm,0.7s,mb3.7,baz=137,slow=9.0,SNR=5.1						
ZAL	**Zalesovo**	**60.79**	**326**	P	**P**	**02 42 29.8**	**-1.2**
	1.0nm,0.8s,mb4.0,baz=347,slow=6.8,SNR=5.0						
ILAR	**Eielson Array**	**73.00**	**25**	P	**P**	**02 43 47.2**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=252,slow=5.9,SNR=6.9						
YKA	**Yellowknife Ar**	**87.39**	**27**	P	**P**	**02 45 05.7**	**+1.1**
	1.1nm,0.6s,mb4.3,baz=292,slow=5.1,SNR=21						
ARCES	**ARCESS Array B**	**87.85**	**341**	P	**P**	**02 45 07.0**	**+0.2**
	2.3nm,0.7s,mb4.5,baz=22,slow=4.9,SNR=5.8						

IDC 02 02:55:43.4±4.1**, 22.13S**×**148.06E, mb1 3.5**/4**, mb1mx3.5**/11**, mbtmp3.4**/4**, ML3.3**/4**, Error ellipse: s-maj=41.3km s-min=19.8km az=81.0, Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.64**	**320**	Pn	Pn	02 56 28.2	+0.2
	2.5nm,0.3s,baz=123,slow=16,SNR=23						
CTA				Pg	Pg	02 56 31.7	-4.4
	7.9nm,0.3s,baz=136,slow=18,SNR=30						
CTA				Sn	Sn	02 57 00.3	-0.9
	4.2nm,0.3s,baz=128,slow=19,SNR=3.6						
CTA				Lg		02 57 08.3	
	14nm,0.3s,baz=52,slow=23,SNR=13						
STKA	**Stephens Creek**	**11.29**	**209**	Pn	P	02 58 25.1	-3.9
	0.3nm,0.3s,baz=35,slow=13,SNR=5.0						
STKA				Sn	S	03 00 35.0	-2.1
	0.3nm,0.3s,baz=296,slow=22,SNR=3.2						
STKA				Lg		03 01 48.0	
	0.3nm,0.3s,baz=289,slow=19,SNR=2.8						
WRA	**Warramunga Arr**	**13.00**	**277**	Pn	P	02 58 48.2	-3.9
	0.1nm,0.3s,baz=101,slow=14,SNR=4.2						
WRA				Sn	S	03 01 10.6	-8.2
	0.2nm,0.3s,baz=264,slow=9.4,SNR=5.7						
WRA				Lg		03 02 38.2	
	0.2nm,0.3s,baz=101,slow=24,SNR=7.2						
ASAR	**Alice Springs**	**13.14**	**261**	Pn	P	02 58 51.1	-2.9
	0.1nm,0.3s,baz=83,slow=13,SNR=4.4						
ASAR				Sn	S	03 01 16.9	-5.2
	0.1nm,0.3s,baz=82,slow=24,SNR=4.7						
ASAR				Lg		03 02 40.8	
	0.1nm,0.3s,baz=79,slow=33,SNR=4.7						

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*IDC **02** 03:03:04.7±1.3, 69.88N×15.51W, mb3.4/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/18, Error ellipse: s-maj=77.9km s-min=23.4km az=28.0*

*CSEM **02** 03:03:09.6, 69.34N×14.46W, h10km, ML3.5*

*REY **02** 03:03:09.6, 69.34N×14.46W, h10km, ML3.5, ML3.2*

ISC 02 03:03:06.8±1.3**, 69.55N**±0.10×**15.1W**±0.4**, h10**km**, n20, σ0s.93**/22**, mb3.4**/3**, MS3.3**/2**, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILEI	**Leirhofn**	**3.21**	**190**	P	**Pn**	**03 03 58.0**	**-0.3**
IGRI	**Grimsey**	**3.22**	**201**	P	**Pn**	**03 03 59.0**	**+0.5**
IGRI				S	**Sn**	**03 04 36.7**	**-0.6**
IGIL	**Gilhagi**	**3.53**	**189**	P	**Pn**	**03 04 02.3**	**-0.5**
IFLA	**Flatey**	**3.57**	**198**	P	**Pn**	**03 04 04.2**	**+0.8**
IHED	**Heoinshofoi**	**3.59**	**195**	P	**Pn**	**03 04 03.8**	**+0.1**
IHED				S	**Sn**	**03 04 46.0**	**-0.7**
IBRE	**Brettingsstaoi**	**3.61**	**199**	P	**Pn**	**03 04 04.6**	**+0.6**
IBRE				S	**Sn**	**03 04 46.5**	**-0.7**
ISIG	**Siglufjorour**	**3.73**	**205**	P	**Pn**	**03 04 07.0**	**+1.2**
IGRA	**Granastaoir**	**3.78**	**196**	P	**Pn**	**03 04 06.6**	**+0.2**
IGRA				S	**Sn**	**03 04 51.2**	**-0.2**
IHLA	**Hella**	**3.84**	**201**	P	**Pn**	**03 04 07.9**	**+0.6**
IHRN	**Hraun**	**3.95**	**211**	P	**Pn**	**03 04 10.0**	**+1.1**
IGRS	**Grimsstaoir**	**3.96**	**186**	P	**Pn**	**03 04 08.5**	**-0.4**
ISVA	**Svartarkot**	**4.32**	**192**	P	**Pn**	**03 04 14.4**	**+0.3**
IADA	**Aoalbol**	**4.56**	**183**	P	**Pn**	**03 04 16.9**	**-0.6**
IHVA	**Hvannstoosfjol**	**4.63**	**184**	P	**Pn**	**03 04 18.1**	**-0.4**
FINES	**FINESS Array B**	**18.52**	**96**	P	**P**	**03 07 23.8**	**-0.9**
	0.1nm,0.3s,baz=315,slow=7.9,SNR=6.8						
FINES				LR	LR	03 13 55.9	
	comp=Z,59nm,19.2s,baz=31,slow=35						
GERES	**GERESS Array B**	**25.00**	**131**	P	**P**	**03 08 33.0**	**+1.5**
	0.3nm,0.4s,mb3.2,baz=323,slow=9.8,SNR=5.1						
MLR	**Muntele Rosu**	**31.57**	**118**	LR	LR	03 22 11.4	
	comp=Z,42nm,18.2s,MS3.1,baz=72,slow=36						
YKA	**Yellowknife Ar**	**36.66**	**310**	P	**P**	**03 10 09.4**	**-5.4**
	0.5nm,0.8s,mb3.4,baz=37,slow=8.3,SNR=11						
GNI	**Garni**	**42.55**	**102**	LR	LR	03 29 07.6	
	comp=Z,44nm,19.2s,MS3.4,baz=112,slow=36						
TXAR	**Lajitas Array**	**62.37**	**280**	P	**P**	**03 13 27.5**	**-4.1**
	0.3nm,0.9s,mb3.4,baz=45,slow=6.4,SNR=3.5						

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*PDG **02** 04:02:32.2±0.4, 38.58N×15.57E, h250km±3km*

*CSEM **02** 04:02:33.9±0.1, 38.59N×15.45E, h234km, mb4.0/9, Error ellipse: s-maj=1.5km s-min=1.1km az=140.0*

*LDG **02** 04:02:34.5±0.2, 38.76N×15.49E, h220km, Mb4.4/40, Error ellipse: s-maj=9.1km s-min=4.8km az=30.0*

*MOS **02** 04:02:34.9±1.0, 38.65N×15.43E, h233km, mb4.0/8, Error ellipse: s-maj=5.8km s-min=2.7km az=107.6*

*ROM **02** 04:02:35.6±0.4, 38.64N×15.49E, h221km±3km, ML4.2, Error ellipse: s-maj=2.7km s-min=1.4km az=90.0*

*ZUR_RM **02** 04:02:35, 38.64N×15.49E, h216km, Mw4.2/8, Moment Tensor Solution. s8 Moment tensor: Scale 10^{15}Nm; Mrr-0.67; Mθθ0.24; Mφφ0.43; Mrθ-1.47; Mθφ-1.70; Mφr-0.61; Best double couple: $M_0$2.38×10^{15} NP1:φs96°, δ74°, λ-140°. NP2:φs354°, δ52°, λ-20°. Principal axes: T 2.179, Plg14°, Azm221°; N .394, Plg48°, Azm114°; P -2.573, Plg39°, Azm322°;*

*NEIC **02** 04:02:35.6, 38.64N×15.49E, h221km, mb4.4/57, MD4.1(PDG), After ROM.*

*IDC **02** 04:02:36.3±0.5, 38.86N×15.27E, h222km±6km, mb3.7/20, mb1 3.8/27, mb1mx3.7/32, mbtmp4.2/27, Error ellipse: s-maj=10.8km s-min=10.2km az=107.0*

ISC 02 04:02:34.9±0.2**, 38.64N**±0.02×**15.43E**±0.02**, h230**km±2km**, n368, σ1s.10**/399**, mb4.0**/26**, 63C-33D, Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSRU	**Castanea**	**0.38**	**170**	⇓*i*P	**P**	**04 03 04.5**	**-0.9**
MSI	**Messina ING**	**0.45**	**167**	⇓*i*P	**P**	**04 03 04.6**	**-1.0**
MSI				S	**S**	**04 03 26.6**	**-2.7**
	2μm,0.4s						
MSI	**Messina ING**	**0.45**	**167**	⇓*i*Pg	**P**	**04 03 04.6**	**-0.9**
MSI				*e*Sg	**S**	**04 03 26.6**	**-2.8**
MSI	**Messina ING**	**0.45**	**167**	⇓*i*P	**P**	**04 03 04.6**	**-1.0**
	2μm,0.4s						
MSI				*e*Sg	**S**	**04 03 26.6**	**-2.7**
SCLL	**Scilla**	**0.45**	**149**	⇓*i*P	**P**	**04 03 04.7**	**-0.9**
SCLL	**Scilla**	**0.45**	**149**	⇓*i*Pg	**P**	**04 03 04.7**	**-0.8**
SLNA	**Salina**	**0.47**	**261**	⇓*i*P	**P**	**04 03 05.5**	**-0.1**
SLNA	**Salina**	**0.47**	**261**	⇓*i*Pg	**P**	**04 03 05.5**	**-0.1**
CEL	**Celeste**	**0.53**	**136**	⇓*i*Pg	**P**	**04 03 05.3**	**-0.5**
CEL				*e*Sg	**S**	**04 03 26.8**	**-3.0**
CEL	**Celeste**	**0.53**	**136**	⇓*i*P	**P**	**04 03 05.3**	**-0.5**
CEL				*e*Sg	**S**	**04 03 26.8**	**-3.0**
GMB	**Gambarie**	**0.57**	**146**	*e*P	**P**	**04 03 05.7**	**-0.2**
GMB	**Gambarie**	**0.57**	**146**	*e*Pg	**P**	**04 03 05.7**	**-0.2**
MTTG	**Motta San Giov**	**0.67**	**162**	⇓*i*Pg	**P**	**04 03 06.5**	**+0.1**
MTTG				*e*Sg	**S**	**04 03 28.2**	**-2.6**
MTTG	**Motta San Giov**	**0.67**	**162**	⇓*i*P	**P**	**04 03 06.5**	**+0.2**
MTTG				*e*Sg	**S**	**04 03 28.2**	**-2.5**
SOI	**Samo**	**0.75**	**139**	⇓*i*P	**P**	**04 03 06.6**	**-0.1**
SOI				S	**S**	**04 03 29.0**	**-2.4**
SOI	**Samo**	**0.75**	**139**	⇓*i*Pg	**P**	**04 03 06.6**	**-0.1**
SOI				*e*Sg	**S**	**04 03 29.0**	**-2.4**
GRI	**Girifalco**	**0.80**	**77**	⇓*i*P	**P**	**04 03 07.2**	**+0.3**
MNO	**Monte Soro**	**0.91**	**219**	⇓*i*P	**P**	**04 03 08.3**	**+0.9**
	1μm,0.4s						
MNO	**Monte Soro**	**0.91**	**219**	⇓*i*Pg	**P**	**04 03 08.3**	**+0.9**
MNO	**Monte Soro**	**0.91**	**219**	⇓*i*P	**P**	**04 03 08.3**	**+0.9**
	1μm,0.4s						
TIP	**Timpagrande**	**1.17**	**62**	⇑*i*P	**P**	**04 03 09.6**	**+0.5**
TIP				S	**S**	**04 03 33.8**	**-1.8**
TIP	**Timpagrande**	**1.17**	**62**	⇑*i*Pg	**P**	**04 03 09.6**	**+0.4**
TIP				*e*Sg	**S**	**04 03 33.8**	**-1.8**
PLLN	**Pollina**	**1.20**	**238**	⇓*i*P	**P**	**04 03 09.1**	**-0.2**
GIB	**Gibilmanna**	**1.28**	**240**	⇓*i*P	**P**	**04 03 09.8**	**-0.1**
GIB				S	**S**	**04 03 36.1**	**-0.9**
	641nm,0.4s						
GIB	**Gibilmanna**	**1.28**	**240**	⇓*i*Pg	**P**	**04 03 09.8**	**-0.1**
GIB				*e*Sg	**S**	**04 03 36.1**	**-1.0**
GIB	**Gibilmanna**	**1.28**	**240**	⇓*i*P	**P**	**04 03 09.8**	**-0.1**
	641nm,0.4s						
GIB				S	**S**	**04 03 36.1**	**-0.9**
AGST	**Augusta-Monte**	**1.39**	**187**	⇓*i*P	**P**	**04 03 10.3**	**-0.5**
AGST				S	**S**	**04 03 37.5**	**-1.0**
	534nm,0.4s						
AGST	**Augusta-Monte**	**1.39**	**187**	⇓*i*Pg	**P**	**04 03 10.3**	**-0.5**
AGST				*e*Sg	**S**	**04 03 37.5**	**-1.0**
AGST	**Augusta-Monte**	**1.39**	**187**	⇓*i*P	**P**	**04 03 10.3**	**-0.5**
	534nm,0.4s						
AGST				S	**S**	**04 03 37.5**	**-1.0**
VAE	**Valguarnera**	**1.41**	**215**	P	**P**	**04 03 11.9**	**+1.0**
	85nm,0.3s,baz=96,slow=3.9,SNR=292						
VAE				S	**S**	**04 03 41.7**	**+2.9**
	38nm,0.3s,baz=72,slow=19,SNR=3.5						
MGR	**Morigerati**	**1.50**	**4**	⇑*i*P	**P**	**04 03 11.8**	**+0.2**
	542nm,0.6s						
MGR	**Morigerati**	**1.50**	**4**	⇑*i*Pg	**P**	**04 03 11.8**	**+0.2**
MGR	**Morigerati**	**1.50**	**4**	⇑*i*P	**P**	**04 03 11.8**	**+0.2**
	542nm,0.6s						
SSY	**Sortino**	**1.51**	**191**	⇓*i*P	**P**	**04 03 11.8**	**+0.1**
SSY	**Sortino**	**1.51**	**191**	⇓*i*Pg	**P**	**04 03 11.8**	**+0.1**
PZI	**Palazzolo**	**1.63**	**194**	⇓*i*P	**P**	**04 03 13.1**	**+0.4**
	58nm,0.6s						
PZI	**Palazzolo**	**1.63**	**194**	⇓*i*Pg	**P**	**04 03 13.2**	**+0.5**
ORI	**Oriolo Calabro**	**1.63**	**29**	⇑*i*P	**P**	**04 03 13.1**	**+0.4**
	964nm,0.5s						
ORI	**Oriolo Calabro**	**1.63**	**29**	⇑*i*Pg	**P**	**04 03 13.2**	**+0.5**
ORI	**Oriolo Calabro**	**1.63**	**29**	⇑*i*P	**P**	**04 03 13.1**	**+0.4**
	964nm,0.5s						
SGO	**Sicignano**	**1.92**	**357**	⇑*i*P	**P**	**04 03 16.0**	**+0.7**
FAVR	**Favara**	**1.95**	**226**	*e*P	**P**	**04 03 17.1**	**+1.5**
	500nm,0.6s						
FAVR	**Favara**	**1.95**	**226**	*e*Pg	**P**	**04 03 17.1**	**+1.6**
FAVR	**Favara**	**1.95**	**226**	*e*P	**P**	**04 03 17.1**	**+1.5**
	500nm,0.6s						
CLTB	**Caltabellotta**	**2.04**	**239**	⇓*i*P	**P**	**04 03 16.7**	**+0.3**
ISOR	**Termini**	**2.11**	**337**	⇑*i*P	**P**	**04 03 17.4**	**+0.3**
MRLC	**Muro Lucano**	**2.11**	**1**	⇑*i*P	**P**	**04 03 18.0**	**+0.9**
	163nm,0.5s						
MRLC	**Muro Lucano**	**2.11**	**1**	⇑*i*Pg	**P**	**04 03 18.0**	**+0.9**
MRLC	**Muro Lucano**	**2.11**	**1**	⇑*i*P	**P**	**04 03 18.0**	**+0.9**
	163nm,0.5s						
MFNL	**Monte Finestre**	**2.15**	**247**	*e*P	**P**	**04 03 18.4**	**+0.9**
LTRZ	**Laterza**	**2.24**	**28**	⇑*i*P	**P**	**04 03 17.2**	**-1.2**
	499nm,0.5s						
LTRZ	**Laterza**	**2.24**	**28**	⇑*i*Pg	**P**	**04 03 17.2**	**-1.2**
LTRZ	**Laterza**	**2.24**	**28**	⇑*i*P	**P**	**04 03 17.2**	**-1.2**
	499nm,0.5s						
SNAL	**S. Angelo Dei**	**2.29**	**356**	⇑*i*P	**P**	**04 03 19.9**	**+1.0**
SG1	**Sgolgore (BA)**	**2.40**	**23**	⇑*i*P	**P**	**04 03 19.0**	**-1.1**
MRB1	**Monte Rocchett**	**2.51**	**352**	⇑*i*P	**P**	**04 03 22.1**	**+0.9**
MRB1	**Monte Rocchett**	**2.51**	**352**	⇑*i*Pg	**P**	**04 03 22.1**	**+0.9**
CDT	**Castel del Mon**	**2.52**	**15**	⇑*i*P	**P**	**04 03 20.8**	**-0.6**
PSB1	**Pescosannita**	**2.62**	**350**	⇑*i*P	**P**	**04 03 23.3**	**+0.9**
PSB1	**Pescosannita**	**2.62**	**350**	⇑*i*Pg	**P**	**04 03 23.3**	**+0.9**
FG5	**Orsara di Pugl**	**2.64**	**357**	⇑*i*P	**P**	**04 03 23.8**	**+1.2**
	187nm,0.8s						
FG5	**Orsara di Pugl**	**2.64**	**357**	⇑*i*Pg	**P**	**04 03 23.8**	**+1.2**
FG5	**Orsara di Pugl**	**2.64**	**357**	⇑*i*P	**P**	**04 03 23.8**	**+1.2**
	187nm,0.8s						
PE1	**Pezze di Greco**	**2.65**	**35**	⇑*i*P	**P**	**04 03 21.4**	**-1.4**
LCI	**Lecce**	**2.68**	**50**	*e*P	**P**	**04 03 22.5**	**-0.6**
	383nm,0.7s						
LCI	**Lecce**	**2.68**	**50**	*e*Pg	**P**	**04 03 22.5**	**-0.6**
LCI	**Lecce**	**2.68**	**50**	*e*P	**P**	**04 03 22.5**	**-0.6**
	383nm,0.7s						
BAI	**Bari**	**2.71**	**24**	⇑*i*P	**P**	**04 03 22.2**	**-1.1**
WDD	**Wield Dalam**	**2.86**	**195**	⇓*i*P	**P**	**04 03 26.4**	**+1.4**
WDD	**Wield Dalam**	**2.86**	**195**	⇓*i*Pg	**P**	**04 03 26.4**	**+1.4**
RFI	**Roccamonfina**	**2.88**	**338**	*e*P	**P**	**04 03 26.3**	**+1.1**
RFI	**Roccamonfina**	**2.88**	**338**	*e*Pg	**P**	**04 03 26.2**	**+1.0**
RGNG	**Rignano Grg**	**3.03**	**2**	*e*Pg	**P**	**04 03 27.0**	**+0.1**
RGNG	**Rignano Grg**	**3.03**	**2**	*e*Pg	**P**	**04 03 27.0**	**+0.1**
MS1	**Monte Sant'Ang**	**3.09**	**7**	⇑*i*P	**P**	**04 03 27.5**	**-0.1**
FGMS	**Monte Sant'Ang**	**3.09**	**7**	*e*Pn	**P**	**04 03 27.6**	**0.0**
FGMS	**Monte Sant'Ang**	**3.09**	**7**	*e*Pn	**P**	**04 03 27.6**	**0.0**
CII	**Carovilli**	**3.19**	**345**	*e*Pn	**P**	**04 03 30.7**	**+1.9**
CII	**Carovilli**	**3.19**	**345**	*e*Pn	**P**	**04 03 30.7**	**+1.9**
SDI	**San Donato**	**3.30**	**339**	*e*P	**P**	**04 03 31.0**	**+0.9**
KEK	**Kerkira**	**3.56**	**71**	*e*P	**P**	**04 03 33.0**	**-0.2**
SRN	**Sarande**	**3.76**	**69**	*i* Pn	**P**	**04 03 33.6**	**-1.9**
SRN				*i* Sn	**S**	**04 04 21.7**	**-0.8**
MTCE	**Montecelio**	**3.95**	**330**	*e*Pn	**P**	**04 03 38.9**	**+1.1**
MTCE	**Montecelio**	**3.95**	**330**	*e*Pn	**P**	**04 03 38.9**	**+1.1**
AQU	**L'Aquila**	**4.02**	**338**	*e*P	**P**	**04 03 40.7**	**+2.1**
VLS	**Valsamata**	**4.08**	**95**	*e*P	**P**	**04 03 40.0**	**+0.6**
MNS	**Montasola**	**4.28**	**332**	*e*P	**P**	**04 03 43.2**	**+1.4**
JAN	**Janina**	**4.34**	**75**	*e*P	**P**	**04 03 43.7**	**+1.2**
ULC	**Ulcinj**	**4.42**	**40**	⇑*i*Pn	**P**	**04 03 42.9**	**-0.6**
ULC				*e*Sn	**S**	**04 04 35.8**	**-1.1**
HCY	**Herceg Novi**	**4.46**	**31**	⇑*i*Pn	**P**	**04 03 43.4**	**-0.7**
HCY				*e*Sn	**S**	**04 04 37.6**	**-0.2**
QSH	**Qafa e Shtames**	**4.48**	**49**	*i* Pn	**P**	**04 03 44.2**	**0.0**
BUM	**Brajici-Budva**	**4.51**	**35**	⇑*i*Pn	**P**	**04 03 44.4**	**-0.3**
BUM				*e*Sn	**S**	**04 04 38.3**	**-0.6**
STON	**Ston**	**4.56**	**22**	*i* P	**P**	**04 03 45.1**	**-0.2**
STON	**Ston**	**4.56**	**22**	*i* P	**P**	**04 03 45.0**	**-0.3**
TTG	**Podgorica**	**4.78**	**36**	⇑*i*Pn	**P**	**04 03 47.7**	**-0.2**
TTG				*e*Sn	**S**	**04 04 43.9**	**-0.9**
NKY	**Niksic**	**4.97**	**32**	⇑*i*Pn	**P**	**04 03 50.3**	**0.0**
NKY				*e*Sn	**S**	**04 04 48.5**	**-0.6**
BIA	**Bitola**	**5.12**	**61**	⇑*i*Pn	**P**	**04 03 52.8**	**+0.6**
BIA				*i*		04 03 56.8	
PVY	**Plav**	**5.25**	**40**	⇑*i*Pn	**P**	**04 03 54.1**	**+0.3**
PVY				*e*Sn	**S**	**04 04 54.1**	**-1.2**
UPM	**Unac-Piva**	**5.27**	**29**	⇑*i*Pn	**P**	**04 03 54.4**	**+0.4**
UPM				*e*Sn	**S**	**04 04 55.3**	**-0.3**
ITM	**Ithomi**	**5.34**	**104**	*e*P	**P**	**04 03 56.5**	**+1.5**
IVA	**Berane**	**5.42**	**37**	⇑*i*Pn	**P**	**04 03 56.9**	**+0.9**
IVA				*e*Sn	**S**	**04 04 58.4**	**-0.7**
PLE	**Pljevlja**	**5.56**	**31**	⇑*i*Pn	**P**	**04 03 58.7**	**+0.9**
PLE				*e*Sn	**S**	**04 05 01.8**	**-0.5**
SKO	**Skopje**	**5.67**	**52**	⇑*i*Pn	**P**	**04 03 59.5**	**+0.3**
PGF	**Pioggiola**	**6.25**	**311**	*e*P	**P**	**04 04 05.9**	**-0.6**
	59nm,1.1s						
DIVS	**Divcibare**	**6.44**	**31**	⇓*i*Pn	**P**	**04 04 08.5**	**-0.5**
KKB	**Krupnik**	**6.69**	**59**	*i* P	**P**	**04 04 13.3**	**+1.3**
SARO	**Sassorosso**	**6.70**	**327**	P	**P**	**04 04 22.3**	**+10**
VINC	**Vinca**	**6.77**	**326**	P	**P**	**04 04 23.1**	**+10**
BOJS	**Bojanci**	**6.86**	**359**	*e*P	**P**	**04 04 15.5**	**+1.2**
VALM		**6.90**	**327**	P	**P**	**04 04 24.4**	**+10**
BACM		**6.92**	**326**	P	**P**	**04 04 25.1**	**+10**
GRAM		**7.09**	**327**	P	**P**	**04 04 26.3**	**+9.1**
CODM		**7.10**	**326**	P	**P**	**04 04 25.5**	**+8.1**
VTS	**Vitosha**	**7.11**	**54**	⇑P	**P**	**04 04 18.5**	**+1.0**
VTS	**Vitosha**	**7.11**	**54**	*i* P	**P**	**04 04 18.3**	**+0.8**
VTS	**Vitosha**	**7.11**	**54**	P	**P**	**04 04 18.5**	**+1.0**
CEY	**Cerknica**	**7.13**	**354**	*e*P	**P**	**04 04 19.3**	**+1.6**
VISS	**Visnje**	**7.17**	**357**	*i* P	**P**	**04 04 19.2**	**+1.0**
VISS	**Visnje**	**7.17**	**357**	*i* P	**P**	**04 04 19.2**	**+1.0**
JAVS	**Javornik**	**7.32**	**353**	*e*P	**P**	**04 04 20.2**	**+0.1**
JAVS	**Javornik**	**7.32**	**353**	*e*P	**P**	**04 04 20.2**	**+0.1**
GOLS	**Golise**	**7.37**	**1**	*i* P	**P**	**04 04 20.9**	**+0.2**
PGB	**Panagyurishte**	**7.71**	**57**	*i* P	**P**	**04 04 26.3**	**+1.1**
IMI	**Imperia**	**7.74**	**315**	P	**P**	**04 04 36.0**	**+10**
FIN	**Finale Ligure**	**7.76**	**318**	P	**P**	**04 04 35.1**	**+9.2**
KOGS	**Kog**	**7.83**	**4**	*i* P	**P**	**04 04 26.4**	**-0.3**
PCP	**Pian Castagno**	**7.83**	**321**	P	**P**	**04 04 34.2**	**+7.5**
OBKA	**Obir**	**7.89**	**356**	⇑*i*P	**P**	**04 04 28.4**	**+0.9**
	8.2nm,0.7s						
MONE	**Monesi**	**7.92**	**316**	P	**P**	**04 04 37.2**	**+9.3**
SBF	**Sospel**	**7.96**	**313**	*e*P	**P**	**04 04 28.6**	**+0.2**
	38nm,0.7s						
PERS	**Pernice**	**7.99**	**358**	*e*P	**P**	**04 04 29.3**	**+0.5**
ROB	**Roburent**	**8.00**	**317**	P	**P**	**04 04 37.3**	**+8.4**
ENR	**Entracque**	**8.20**	**315**	P	**P**	**04 04 40.1**	**+8.6**
LMR	**La Mourre**	**8.21**	**308**	*e*P	**P**	**04 04 30.7**	**-0.9**
	20nm,0.7s						
FRF	**La Foret Royal**	**8.25**	**309**	*e*P	**P**	**04 04 31.9**	**-0.2**
	38nm,0.9s						
STV	**Sta Anna Valdi**	**8.26**	**315**	P	**P**	**04 04 41.0**	**+8.7**
STV2	**Anna di Valdie**	**8.26**	**315**	P	**P**	**04 04 40.6**	**+8.3**
IDI	**Anoyia**	**8.28**	**111**	P	**P**	**04 04 34.6**	**+2.1**
	0.9nm,0.3s,baz=146,slow=16,SNR=7.2						
IDI				S	**S**	**04 06 07.4**	**+2.8**
	0.7nm,0.3s,baz=306,slow=19,SNR=4.0						
IDI	**Anoyia**	**8.28**	**111**	P	**P**	**04 04 34.6**	**+2.1**
IDI				S	**S**	**04 06 07.4**	**+2.8**
BZS	**Buzias**	**8.35**	**31**	⇑P	**P**	**04 04 33.6**	**+0.2**
BZS	**Buzias**	**8.35**	**31**	P	**P**	**04 04 33.6**	**+0.2**
PZZ	**Prazzo**	**8.55**	**316**	P	**P**	**04 04 42.1**	**+6.1**
KBA	**Koelnbreinsper**	**8.57**	**350**	⇑*i*P	**P**	**04 04 37.7**	**+1.5**
KBA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KBA	**Koelnbreinsper**	**8.57**	**350**	⇑*i*P	**P**	**04 04 37.7**	**+1.5**
	comp=Z,3.6nm,0.6s						
BHB	**Bricherasio**	**8.69**	**318**	P	**P**	**04 04 42.5**	**+4.7**
MBDF	**Montbardon**	**8.88**	**316**	*e*P	**P**	**04 04 40.3**	**+0.1**
	comp=Z,120nm,0.7s						
ORX	**Oropa**	**8.90**	**324**	P	**P**	**04 04 43.0**	**+2.5**
RSP	**Reno Superiore**	**8.91**	**320**	P	**P**	**04 04 44.8**	**+4.2**
FENE	**Fenestrelle**	**8.92**	**318**	P	**P**	**04 04 45.3**	**+4.5**
RRL	**Cesana Torines**	**9.00**	**317**	P	**P**	**04 04 47.1**	**+5.4**
WTTA	**Wattenberg**	**9.05**	**343**	⇑*i*P	**P**	**04 04 45.4**	**+3.0**
WTTA				pmax	pmax		
	comp=Z,13nm,0.8s						
WTTA	**Wattenberg**	**9.05**	**343**	⇑*i*P	**P**	**04 04 45.4**	**+3.0**
	comp=Z,13nm,0.8s						
DAVOX	**Davos**	**9.10**	**335**	P	**P**	**04 04 44.1**	**+1.1**
	comp=Z,3.4nm,0.3s,baz=159,slow=5.4,SNR=33						
SQTA	**Sankt Quirin**	**9.11**	**342**	⇑*i*P	**P**	**04 04 46.3**	**+3.1**
SQTA				pmax	pmax		
	comp=Z,44nm,0.4s						
SQTA	**Sankt Quirin**	**9.11**	**342**	⇑*i*P	**P**	**04 04 46.3**	**+3.1**
	comp=Z,44nm,0.4s						
SMRF	**Simiane la Rot**	**9.13**	**309**	*e*P	**P**	**04 04 43.1**	**-0.3**
	comp=Z,61nm,1.0s						
WATA	**Walderalm**	**9.13**	**343**	⇑*i*P	**P**	**04 04 45.1**	**+1.6**
WATA				pmax	pmax		
	comp=Z,22nm,0.5s						
WATA	**Walderalm**	**9.13**	**343**	⇑*i*P	**P**	**04 04 45.1**	**+1.6**
	comp=Z,22nm,0.5s						
BNI	**Bardonecchia**	**9.14**	**317**	*e*P	**P**	**04 04 47.0**	**+3.4**
BNI				pmax	pmax		
	comp=Z,28nm,0.8s						
BNI	**Bardonecchia**	**9.14**	**317**	*e*P	**P**	**04 04 47.0**	**+3.4**
	comp=Z,28nm,0.8s						
LSD	**Ceresole Reale**	**9.17**	**321**	P	**P**	**04 04 47.2**	**+3.2**
SZH	**Strazhica**	**9.19**	**57**	P	**P**	**04 04 33.5**	**-11**
MOA	**Molln**	**9.24**	**355**	⇑*i*P	**P**	**04 04 45.9**	**+1.0**
	comp=Z,15nm,0.7s						
MOTA	**Moosalm**	**9.26**	**341**	⇑*i*P	**P**	**04 04 46.0**	**+1.0**
MOTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MOTA	**Moosalm**	**9.26**	**341**	⇑*i*P	**P**	**04 04 46.0**	**+1.0**
	comp=Z,4.2nm,0.8s						
LPG	**La Plagne**	**9.40**	**320**	*e*P	**P**	**04 04 46.9**	**0.0**
	comp=Z,43nm,0.8s						
LPL	**La Plagne**	**9.43**	**320**	*e*P	**P**	**04 04 47.0**	**-0.2**
	comp=Z,55nm,0.8s						
ORIF	**Oris-en-Rattie**	**9.49**	**314**	*e*P	**P**	**04 04 47.7**	**-0.3**
	comp=Z,71nm,0.8s						
DAVA	**Damuels**	**9.54**	**337**	⇑*i*P	**P**	**04 04 49.9**	**+1.2**
	comp=Z,20nm,0.6s						
FUR	**Furstenfeldbru**	**9.98**	**344**	*e*P	**P**	**04 04 54.9**	**+0.6**
VIVF	**Saint-Julien-l**	**10.15**	**311**	*e*P	**P**	**04 04 56.0**	**-0.4**
	comp=Z,74nm,0.9s						
VIVF	**Saint-Julien-l**	**10.15**	**311**	*e*P	**P**	**04 04 56.0**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,37nm,0.9s						
LASF	**Ste Croix**	**10.25**	**306**	*e*P	**P**	**04 04 57.0**	**-0.6**
	comp=Z,28nm,0.9s						
GEC2	**GERESS Array S**	**10.28**	**354**	*e*P	**P**	**04 04 57.7**	**-0.3**
GERES	**GERESS Array B**	**10.28**	**354**	P	**P**	**04 04 57.3**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=168,slow=13,SNR=88						
MLR	**Muntele Rosu**	**10.39**	**45**	P	**P**	**04 05 02.1**	**+2.7**
	comp=Z,0.2nm,0.3s,baz=199,slow=9.3,SNR=7.1						
MLR	**Muntele Rosu**	**10.39**	**45**	⇑P	**P**	**04 05 03.1**	**+3.7**
MLR	**Muntele Rosu**	**10.39**	**45**	⇑P	**P**	**04 05 03.1**	**+3.7**
CABF	**La Chapelle**	**10.52**	**322**	*e*P	**P**	**04 05 01.5**	**+0.4**
	comp=Z,86nm,0.7s						
CABF	**La Chapelle**	**10.52**	**322**	*e*P	**P**	**04 05 01.5**	**+0.4**
CABF				pmax	pmax		
	comp=Z,43nm,0.7s						
BBS	**Basel-Blauen**	**10.54**	**329**	*e*P	**P**	**04 05 01.7**	**+0.3**
KHC	**Kasperske Hory**	**10.57**	**353**	*e*P	**P**	**04 05 01.2**	**-0.6**
KHC				*e*x	x	04 05 28.6	
SPAK	**Spaichingen**	**10.61**	**335**	*e*P	**P**	**04 05 02.4**	**+0.1**
WET	**Wettzell**	**10.66**	**351**	*e*P	**P**	**04 05 02.5**	**-0.4**
FELD	**Feldberg**	**10.69**	**332**	*e*P	**P**	**04 05 03.4**	**+0.1**
VRAC	**Vranov**	**10.70**	**4**	P	**P**	**04 05 00.8**	**-2.5**
	comp=Z,0.4nm,0.3s,baz=202,slow=11,SNR=5.1						
LOMF	**Lomont**	**10.74**	**327**	*e*P	**P**	**04 05 01.9**	**-2.0**
BFO	**Black Forest**	**10.96**	**334**	*e*P	**P**	**04 05 05.9**	**-0.9**
MOF	**Molkenrain**	**11.01**	**329**	*e*P	**P**	**04 05 06.4**	**-0.9**

MTLF Montolieu 11.03 299 *e*P **P 04 05 07.4 -0.2**
comp=Z,13nm,0.7s
MTLF Montolieu 11.03 299 *e*P **P 04 05 07.4 -0.2**
MTLF pmax pmax
comp=Z,6.0nm,0.7s
HINF Hinteralfeld 11.09 329 *e*P **P 04 05 06.9 -1.5**
comp=Z,14nm,0.7s
HINF Hinteralfeld 11.09 329 *e*P **P 04 05 06.9 -1.5**
HINF pmax pmax
comp=Z,7.0nm,0.7s
EMIR Miracle 11.11 291 P **P 04 05 12.0 +3.4**
comp=Z,12nm,0.6s
LBL Lubilhac 11.20 310 *e*P **P 04 05 11.4 +1.6**
MORC Moravsky Berou 11.23 7 *e*P **P 04 05 10.7 +0.5**
MORC pmax pmax
comp=Z,9.0nm,1.1s
MORC Moravsky Berou 11.23 7 *e*P **P 04 05 10.7 +0.5**
comp=Z,8.6nm,1.1s
MORC Moravsky Berou 11.23 7 *e*P **P 04 05 10.7 +0.5**
comp=Z,8.6nm,1.1s
ECH Echery 11.29 331 *e*P **P 04 05 10.2 -0.7**
EPOB Poblet 11.33 288 P **P 04 05 15.4 +4.0**
comp=Z,6.5nm,0.6s
OKC Ostrava-Krasne 11.36 9 *e*P **P 04 05 12.8 +1.0**
PRU Pruhonice 11.36 357 *e*P **P 04 05 12.0 +0.2**
PRU *ex* x 04 05 16.7
STR Strasbourg 11.38 333 *e*P **P 04 05 13.5 +1.5**
WLS Welschbruch 11.38 332 *e*P **P 04 05 11.6 -0.4**
CDF Champ du Feu 11.41 331 *e*P **P 04 05 11.9 -0.5**
comp=Z,36nm,0.7s
CDF Champ du Feu 11.41 331 *e*P **P 04 05 11.9 -0.5**
CDF pmax pmax
comp=Z,18nm,0.7s
KOLS Kolonicke sedl 11.41 23 *e*P **P 04 05 19.4 +7.0**
KOLS Kolonicke sedl 11.41 23 *e* **P 04 05 19.4 +7.0**
HAU Haudompre 11.45 328 *e*P **P 04 05 12.0 -0.9**
comp=Z,25nm,0.7s
HAU Haudompre 11.45 328 *e*P **P 04 05 12.0 -0.9**
HAU pmax pmax
comp=Z,13nm,0.7s
GRA1 Grafenberg Arr 11.45 346 *e*P **P 04 05 12.9 0.0**
GRF Grafenberg Arr 11.45 346 *e*P **P 04 05 12.9 0.0**
BURAR Bucovina Array 11.46 35 ⇑P **P 04 05 19.4 +6.4**
BURAR Bucovina Array 11.46 35 ⇑P **P 04 05 19.4 +6.3**
CFR Carcaliu 11.50 51 ⇑P **P 04 05 20.1 +6.6**
PYM Petit Puy Mans 11.62 312 *e*P **P 04 05 16.0 +0.9**
SMF Signal de Mont 11.68 317 *e*P **P 04 05 14.8 -1.0**
comp=Z,28nm,0.7s
SMF Signal de Mont 11.68 317 *e*P **P 04 05 14.8 -1.0**
SMF pmax pmax
comp=Z,14nm,0.7s
LANF Langenberg 11.70 334 *e*P **P 04 05 17.7 +1.6**
DPC Dobruska-Polom 11.72 3 *e*P **P 04 05 20.8 +4.5**
THEF They Montfort 11.77 327 *e*P **P 04 05 17.4 +0.4**
CAF Calviac 11.78 306 *e*P **P 04 05 17.1 +0.1**
comp=Z,30nm,0.9s
CAF Calviac 11.78 306 *e*P **P 04 05 17.1 +0.1**
CAF pmax pmax
comp=Z,15nm,0.9s
NKC Novy Kostel 11.78 351 *e*P **P 04 05 21.5 +4.4**
ERTA Horta de San J 11.84 286 P **P 04 05 23.9 +6.1**
comp=Z,10nm,0.9s
UPC Upice 11.87 2 *e*P **P 04 05 22.4 +4.2**
PVCC Panska Ves 11.90 357 *e*P **P 04 05 19.7 +1.1**
KTD Kalmit 11.90 336 *e*P **P 04 05 20.0 +1.4**
GUNZ Gunzen 11.93 350 *e*Pn **P 04 05 20.4 +1.5**
TOD Tromm 11.94 339 *e*P **P 04 05 20.0 +0.9**
OJC Ojcow 11.99 14 *e*P **P 04 05 24.6 +5.0**
AVF Avril sur Loir 12.04 316 *e*P **P 04 05 19.0 -1.3**
comp=Z,23nm,0.8s
AVF Avril sur Loir 12.04 316 *e*P **P 04 05 19.0 -1.3**
AVF pmax pmax
comp=Z,12nm,0.8s
SSF Saint Saulge 12.12 318 *e*P **P 04 05 20.0 -1.4**
SSF pmax pmax
comp=Z,13nm,0.7s
SSF Saint Saulge 12.12 318 *e*P **P 04 05 20.0 -1.4**
comp=Z,13nm,0.7s
BGF Bois d'Agland 12.17 315 *e*P **P 04 05 21.6 -0.4**
comp=Z,50nm,0.7s
BGF Bois d'Agland 12.17 315 *e*P **P 04 05 21.6 -0.4**
BGF pmax pmax
comp=Z,25nm,0.7s
KSP Ksiaz 12.22 3 *e*P **P 04 05 23.9 +1.4**
KSP *e* 04 05 26.7
KSP Ksiaz 12.22 3 *e*P **P 04 05 23.6 +1.1**
EPF Esparros 12.23 296 *e*P **P 04 05 23.1 +0.3**
comp=Z,19nm,1.0s
EPF Esparros 12.23 296 *e*P **P 04 05 23.1 +0.3**
EPF pmax pmax
comp=Z,10.0nm,1.0s
BRG Berggiesshubel 12.28 356 *e*P **P 04 05 23.2 0.0**
BRG pmax pmax
comp=Z,24nm,0.8s
BRG Berggiesshubel 12.28 356 *e*P **P 04 05 23.2 0.0**
comp=Z,24nm,0.8s
BRG *i* 04 05 27.9
EBIE Bielsa 12.29 294 P **P 04 05 27.5 +4.1**
comp=Z,24nm,0.7s
RJF Les Rejaudoux 12.30 307 *e*P **P 04 05 23.3 -0.2**
comp=Z,74nm,1.1s
RJF Les Rejaudoux 12.30 307 *e*P **P 04 05 23.3 -0.2**
RJF pmax pmax
comp=Z,37nm,1.1s
MOX Moxa 12.30 349 *e*P **P 04 05 23.4 -0.2**
MOX pmax pmax
comp=Z,40nm,1.2s
MOX Moxa 12.30 349 *i*P **P 04 05 23.4 -0.2**
MOX Moxa 12.30 349 *e*P **P 04 05 23.4 -0.2**
comp=Z,40nm,1.2s
TCF Toulx Ste Croi 12.38 312 *e*P **P 04 05 24.2 -0.4**
comp=Z,25nm,0.9s
TCF Toulx Ste Croi 12.38 312 *e*P **P 04 05 24.2 -0.4**
TCF pmax pmax
comp=Z,13nm,0.9s
MEZF Maizieres J'vi 12.39 326 *e*P **P 04 05 24.4 -0.2**
comp=Z,52nm,0.8s
ESAC San Caprasio 12.54 289 P **P 04 05 30.8 +4.3**
TNS Taunus Mts 12.60 339 *e*P **P 04 05 28.0 +0.7**
LFF La Frestale 12.63 305 *e*P **P 04 05 27.2 -0.5**
comp=Z,50nm,0.7s
LFF La Frestale 12.63 305 *e*P **P 04 05 27.2 -0.5**
LFF pmax pmax
comp=Z,25nm,0.7s
HYF Humbligny 12.72 317 *e*P **P 04 05 24.3 -4.4**
CLL Collm 12.78 353 ⇑*i*P **P 04 05 30.2 +0.7**
CLL pmax pmax
comp=Z,17nm,1.2s
CLL Collm 12.78 353 ⇑P **P 04 05 30.2 +0.7**
comp=Z,logA/T=1.2
CLL Collm 12.78 353 ⇑*i*P **P 04 05 30.2 +0.7**
comp=Z,17nm,1.2s
ETSF Etsaut 12.84 294 *e*P **P 04 05 30.5 +0.2**
comp=Z,15nm,0.5s
ETSF Etsaut 12.84 294 *e*P **P 04 05 30.5 +0.2**
ETSF pmax pmax
comp=Z,7.0nm,0.5s
WLF Walferdange 12.86 332 P **P 04 05 31.7 +1.1**
SJPF Ste Jean 13.37 295 *e*P **P 04 05 36.6 -0.2**
comp=Z,41nm,0.8s
SJPF Ste Jean 13.37 295 *e*P **P 04 05 36.6 -0.2**
SJPF pmax pmax
comp=Z,21nm,0.8s
EALK Alkurruntz 13.59 295 P **P 04 05 42.7 +3.1**
comp=Z,12nm,0.6s
CLZ Clausthal 13.67 347 *e*Pn **P 04 05 40.8 +0.4**
GIVF Givet 13.72 330 *e*P **P 04 05 40.2 -0.9**
DOU Dourbes 13.81 330 P **P 04 05 43.4 +1.2**
BAIF Baives 13.93 329 *e*P **P 04 05 42.7 -1.1**
comp=Z,38nm,1.0s
BAIF Baives 13.93 329 *e*P **P 04 05 42.7 -1.1**
BAIF pmax pmax
comp=Z,19nm,1.0s
MFF Saint Martin d 13.94 310 *e*P **P 04 05 42.7 -1.1**
comp=Z,18nm,0.8s
MFF Saint Martin d 13.94 310 *e*P **P 04 05 42.7 -1.1**
MFF pmax pmax
comp=Z,9.0nm,0.8s
EVIA Vianos 14.02 276 P **P 04 05 46.7 +1.8**
SNR=7.9
BRTR Keskin Array B 14.17 80 P **P 04 05 48.9 +2.1**
comp=Z,0.1nm,0.3s,baz=281,slow=15,SNR=3.5
SNF Seneffe 14.26 330 P **P 04 05 49.0 +1.2**
GKP Gorka Klasztor 14.68 4 *e*P **P 04 05 54.0 +1.0**
ELAN Lanestosa 14.97 294 P **P 04 05 56.8 +0.3**
comp=Z,18nm,0.9s
ELAN Lanestosa 14.97 294 P **P 04 05 56.8 +0.2**
comp=Z,18nm,0.9s,SNR=7.5
LDF La Druitiere 15.00 317 *e*P **P 04 05 55.6 -1.3**
comp=Z,72nm,0.9s
LDF La Druitiere 15.00 317 *e*P **P 04 05 55.6 -1.3**
LDF pmax pmax
comp=Z,36nm,0.9s
ECOG Cogollos-Vega 15.05 271 P **P 04 05 59.6 +2.0**
ESDC Sonseca Array 15.08 280 P **P 04 05 57.8 -0.1**
comp=Z,0.4nm,0.3s,baz=78,slow=12,SNR=15
ESDC Sonseca Array 15.08 280 P **P 04 05 58.5 +0.5**
comp=Z,1.5nm,0.5s,SNR=12
GRR Gorron 15.28 315 *e*P **P 04 05 59.1 -1.3**
comp=Z,56nm,0.9s
GRR Gorron 15.28 315 *e*P **P 04 05 59.1 -1.3**
GRR pmax pmax
comp=Z,28nm,0.9s
FLN La Foliniere 15.29 317 *e*P **P 04 05 58.5 -1.9**
AKASG Malin Array Be 15.52 35 P **P 04 06 01.9 -1.2**
comp=Z,0.9nm,0.3s,baz=224,slow=8.6,SNR=11
EADA Adamuz 15.69 275 P **P 04 06 07.1 +1.7**
comp=Z,4.2nm,0.8s
EMIJ Mijas 16.14 269 P **P 04 06 10.6 -0.1**
EMIJ Mijas 16.14 269 P **P 04 06 10.6 -0.1**
SNR=7.9
SGMF Saint Gilles 16.18 312 *e*P **P 04 06 09.5 -1.5**
comp=Z,24nm,0.7s
SGMF Saint Gilles 16.18 312 *e*P **P 04 06 09.5 -1.5**
SGMF pmax pmax
comp=Z,12nm,0.7s
EARI Arriondas 16.25 293 P **P 04 06 10.6 -1.3**
comp=Z,12nm,0.7s
EARI Arriondas 16.25 293 P **P 04 06 10.6 -1.4**
comp=Z,12nm,0.7s,SNR=12
SUW Suwalki 16.26 17 *e*P **P 04 06 10.1 -1.9**
SUW *e* 04 06 12.1
SUW Suwalki 16.26 17 *e*P **P 04 06 10.1 -1.9**
SUW *e* 04 06 12.1
QUIF Quistinic 16.37 310 *e*P **P 04 06 12.0 -1.3**
comp=Z,18nm,0.6s
QUIF Quistinic 16.37 310 *e*P **P 04 06 12.0 -1.3**
QUIF pmax pmax
comp=Z,9.0nm,0.6s
ROSF Rostrenen 16.64 312 *e*P **P 04 06 14.9 -1.4**
comp=Z,23nm,0.7s
ROSF Rostrenen 16.64 312 *e*P **P 04 06 14.9 -1.4**
ROSF pmax pmax
comp=Z,12nm,0.7s
ESPR Espera 16.92 271 P **P 04 06 18.4 -1.1**
comp=Z,7.3nm,0.5s
ESPR Espera 16.92 271 P **P 04 06 18.5 -1.1**
comp=Z,7.3nm,0.5s
PBRG Braganca 17.21 288 *e*P **P 04 06 21.9 -0.8**
comp=Z,27nm,1.8s
ECAL Calabor 17.22 288 P **P 04 06 21.8 -0.9**
comp=Z,7.9nm,0.5s
ECAL Calabor 17.22 288 P **P 04 06 21.8 -0.9**
comp=Z,7.9nm,0.5s,SNR=8.8
EMIN Mina Concepcio 17.39 274 P **P 04 06 24.0 -0.6**
comp=Z,14nm,0.6s
EMIN Mina Concepcio 17.39 274 P **P 04 06 24.0 -0.6**
comp=Z,14nm,0.6s,SNR=18
EBAD Badajoz 17.51 277 P **P 04 06 23.8 -2.0**
EBAD Badajoz 17.51 277 P **P 04 06 23.8 -2.1**
SNR=7.9
ERUA La Rua 17.55 289 P **P 04 06 25.7 -0.5**
ERUA pmax pmax
comp=Z,8.0nm,0.6s
ERUA La Rua 17.55 289 P **P 04 06 25.7 -0.6**
comp=Z,7.5nm,0.6s
ERUA La Rua 17.55 289 P **P 04 06 25.7 -0.5**
comp=Z,7.5nm,0.6s,SNR=7.9
EPON Pontenova 17.66 293 P **P 04 06 26.0 -1.4**
comp=Z,6.7nm,0.7s
EPON Pontenova 17.66 293 P **P 04 06 26.0 -1.3**
comp=Z,6.7nm,0.7s,SNR=6.4
EINC Incio 17.73 290 P **P 04 06 27.4 -0.7**
comp=Z,12nm,0.5s
EINC Incio 17.73 290 P **P 04 06 27.4 -0.7**
comp=Z,12nm,0.5s
PCBR Castelo Branco 17.78 281 *e*P **P 04 06 27.5 -1.1**
comp=Z,14nm,1.2s
MTE Manteigas 17.80 283 *e*P **P 04 06 27.9 -1.0**
comp=Z,15nm,0.8s
PVRL Vila Real 17.93 286 *e*P **P 04 06 29.1 -1.0**
PVIS Viseu 18.06 284 *e*P **P 04 06 30.8 -0.7**
comp=Z,27nm,1.9s
ELOB Lobios 18.20 288 P **P 04 06 34.2 +1.2**
comp=Z,25nm,1.3s
PBEJ Beja 18.28 275 *e*P **P 04 06 32.6 -1.2**
comp=Z,47nm,1.9s
EZAM Zamans 18.69 288 P **P 04 06 37.9 0.0**
EZAM pmax pmax
comp=Z,19nm,0.6s
EZAM Zamans 18.69 288 P **P 04 06 37.9 0.0**
comp=Z,19nm,0.6s
EZAM Zamans 18.69 288 P **P 04 06 37.9 0.0**
comp=Z,19nm,0.6s
SOC Sochi 18.93 67 *e*P **P 04 06 45.0 +4.6**
SOC pmax pmax
comp=Z,17nm,1.0s
SOC pmax pmax
comp=N,4.0nm,0.7s
SOC pmax pmax
comp=E,16nm,1.0s
SOC MLR MLR
comp=Z,170nm,22.0s
SOC MLR MLR
comp=N,114nm,19.0s
SOC MLR MLR
comp=E,68nm,17.0s
EKA Eskdalemuir Ar 20.85 329 P **P 04 06 57.4 -2.2**
comp=E,3.4nm,0.5s,baz=141,slow=10,SNR=14
KIV Kislovodsk 21.11 67 *e*P **P 04 07 02.2 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
KIV Kislovodsk 21.11 67 *e*P **P 04 07 02.2 0.0**
comp=Z,10.0nm,1.2s,mb4.2
HFS Hagfors 21.54 358 P **P 04 07 04.3 -1.9**
comp=Z,8.9nm,0.7s,mb4.4,baz=173,slow=12,SNR=14
HFS Hagfors 21.54 358 P **P 04 07 04.4 -1.9**
OBN Obninsk 21.78 34 *e*P **P 04 07 06.3 -2.3**
OBN *i*S **S 04 10 54.3 +4.5**
OBN pmax pmax
comp=Z,39nm,1.9s,mb4.6
OBN Obninsk 21.78 34 *e*P **P 04 07 06.3 -2.3**
comp=Z,39nm,1.9s,mb4.6
NB2 NORSAR Subarra 22.58 355 P **P 04 07 14.5 -1.7**
comp=Z,1.6nm,0.6s,mb3.7,baz=178,slow=10
NB2 NORSAR Subarra 22.58 355 P **P 04 07 14.5 -1.7**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
NOA NORSAR Array B 22.58 355 P **P 04 07 14.8 -1.4**
comp=Z,1.3nm,0.6s,mb3.7,baz=168,slow=10,SNR=6.6
GNI Garni 22.67 77 *i*P **P 04 07 16.4 -0.9**
GNI pmax pmax
comp=Z,6.0nm,1.3s
GNI Garni 22.67 77 *i*P **P 04 07 16.4 -0.9**
comp=Z,6.0nm,1.3s,mb4.0
FINES FINESS Array B 23.77 13 P **P 04 07 26.8 -0.7**
comp=Z,21nm,0.6s,mb4.9,baz=183,slow=9.2,SNR=122
KAF Kangasniemi 24.43 12 *e*P **P 04 07 31.8 -1.9**
comp=Z,4.8nm,0.6s,mb4.3,baz=199,slow=9.1
KAF Kangasniemi 24.43 12 *e*P **P 04 07 31.8 -1.9**
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
ARCES ARCESS Array B 31.43 7 P **P 04 08 33.9 -2.4**
comp=Z,3.1nm,0.6s,mb4.1,baz=186,slow=6.5,SNR=32
DBIC Dimbokro 36.73 215 P **P 04 09 22.4 +0.5**
comp=Z,2.5nm,0.4s,mb4.1,baz=10,slow=9.4,SNR=26
BVAR Borovoye Array 39.90 50 P **P 04 09 48.9 +1.1**
comp=Z,4.2nm,0.6s,mb4.1,baz=256,slow=6.1,SNR=27
MBAR Mbarara 41.52 157 *i*P **P 04 10 02.6 +1.2**
KMBO Kilima Mbogo 44.38 148 P **P 04 10 27.3 +2.8**
comp=Z,0.8nm,0.5s,mb3.3,baz=66,slow=19,SNR=3.4
KURK Kurchatov 45.21 53 P **P 04 10 31.5 +1.0**
comp=Z,77nm,0.9s,mb5.0,SNR=16
ZAL Zalesovo 48.34 48 P **P 04 10 54.9 +0.1**
comp=Z,4.7nm,0.5s,mb4.0,baz=175,slow=7.3,SNR=17
SCHQ Schefferville 55.37 316 P **P 04 11 44.5 -2.2**
comp=Z,1.2nm,0.5s,mb3.7,baz=88,slow=10,SNR=7.8
ZAK Zakamensk 60.23 47 *e*P **P 04 12 20.2 -0.4**
ZAK pmax pmax
comp=Z,1.0nm,1.3s,mb3.3
ZAK Zakamensk 60.23 47 *e*P **P 04 12 20.2 -0.4**
comp=Z,1.0nm,1.3s,mb3.3
TIXI Tiksi 60.58 19 *e*P **P 04 12 22.1 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
TIXI Tiksi 60.58 19 *e*P **P 04 12 22.1 -0.6**
comp=Z,2.0nm,0.5s,mb4.0
BOD Bodaibo 62.43 37 *e*P **P 04 12 33.6 -1.6**
SONM Songino Array 63.22 49 P **P 04 12 40.8 +0.3**
comp=Z,2.9nm,0.7s,mb4.0,baz=291,slow=7.7,SNR=32
SONM PcP PcP 04 13 16.9 +1.2
comp=Z,0.8nm,0.8s,baz=296,slow=4.2,SNR=4.3
INK Inuvik 70.86 348 P **P 04 13 26.9 -0.9**
comp=Z,0.9nm,0.7s,mb3.5,baz=354,slow=2.7,SNR=6.8
YKA Yellowknife Ar 71.52 338 P **P 04 13 31.3 -0.6**
comp=Z,2.3nm,0.7s,mb3.9,baz=40,slow=5.5,SNR=48
ULM Lac du Bonnet 72.89 321 P **P 04 13 38.9 -1.3**
comp=Z,3.5nm,0.8s,mb4.0,baz=71,slow=3.7,SNR=6.0
CMAR Chiang Mai Arr 73.76 79 P **P 04 13 46.4 +0.5**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 73.76 79 P **P 04 13 46.4 +0.5**
comp=Z,1.2nm,0.6s,mb3.7,baz=311,slow=7.9,SNR=5.1
ILAR Eielson Array 75.99 352 P **P 04 13 57.9 +0.3**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 75.99 352 P **P 04 13 57.9 +0.3**
comp=Z,0.8nm,0.8s,mb3.4,baz=349,slow=6.3,SNR=14
NEW Newport 83.75 330 P **P 04 14 39.4 +0.4**
NEW pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 83.75 330 P **P 04 14 39.4 +0.5**
comp=Z,1.9nm,0.6s,mb4.0,baz=15,slow=6.3,SNR=4.8
PDAR Pinedale Array 84.83 323 P **P 04 14 44.8 +0.3**
comp=Z,0.6nm,0.6s,mb3.5,baz=58,slow=7.3,SNR=6.7
ELK Elko 89.05 325 P **P 04 15 05.6 +0.9**
comp=Z,0.4nm,0.5s,mb3.5,baz=66,slow=12,SNR=3.3
TXAR Lajitas Array 91.68 310 P **P 04 15 19.1 +1.8**
comp=Z,0.7nm,0.8s,mb3.6,baz=37,slow=5.3,SNR=6.9

*NEIC **02** 04:13:10.0, 15.65N×61.39W, h22km, MD3.9(TRN), After TRN.*

TRN 02 04:13:12.7, 15.66N×61.48W, h5km, MD3.9, M3.5(FDF), **Md3.0**(FDF), **1C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBL	**Barber's Block**	**0.13**	**178**	⇑*i*P		Pg 04 13 14.9	-0.6
BBL				*e*S		Sg 04 13 20.8	+3.4
MDN	**Morne-Daniel**	**0.35**	**167**	*e*P		Pg 04 13 19.1	-0.6
MDN				*e*S		Sg 04 13 24.6	+0.2
MDN	**Morne-Daniel**	**0.35**	**167**	*e*P		Pg 04 13 19.1	-0.6
MDN				*e*S		Sg 04 13 23.9	-0.5
MDN				*e*S		Sg 04 13 24.6	+0.2
DBCT	**Belle View Cho**	**0.41**	**162**	*e*P		Pg 04 13 20.3	-0.6
DBCT				*e*S		Sg 04 13 26.0	-0.3
DSHT	**Scott's Head**	**0.45**	**168**	*e*P		Pg 04 13 21.1	-0.7
DSHT				*e*S		Sg 04 13 29.0	+1.1
MBRY		**1.23**	**328**	*e*P		Pb 04 13 34.3	-1.7
MBRY				*i*S		Sb 04 13 51.8	-0.1
MRYT		**1.23**	**328**	*e*P		Pb 04 13 34.3	-1.7
MRYT				*i*S		Sb 04 13 51.8	-0.1
MLYT		**1.26**	**327**	*e*P		Pb 04 13 34.8	-1.8
MGH	**Saint George's**	**1.27**	**326**	*e*P		Pb 04 13 35.0	-1.8
MBWH		**1.28**	**328**	*e*P		Pb 04 13 35.0	-1.9
MBGB		**1.29**	**326**	*e*P		Pb 04 13 35.0	-2.0

IDC 02 04:15:14.6±1.9, 18.81N×145.53E, mb3.5/4, mb1 3.9/4, mb1mx3.6/19, mbtmp3.5/4, Error ellipse: s-maj=182.8km s-min=25.0km az=114.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.04**	**196**	P		P 04 22 52.0	-1.3
	0.6nm,0.4s,baz=18,slow=8.8,SNR=6.4						
ASAR	**Alice Springs**	**43.71**	**196**	P		P 04 23 21.1	-2.3
	0.2nm,0.4s,baz=8.1,slow=6.4,SNR=3.9						
YKA	**Yellowknife Ar**	**77.97**	**28**	P		P 04 27 14.4	-1.5
	0.2nm,0.5s,baz=283,slow=5.5,SNR=4.0						
NVAR	**Mina Array Bea**	**83.20**	**52**	P		P 04 27 43.5	-0.8
	0.6nm,0.7s,baz=259,slow=4.6,SNR=4.4						

*IDC **02** 04:17:22.5±3.0, 7.47S×106.53E, mb3.6/4, mb1 3.8/4, mb1mx3.7/15, mbtmp3.6/4, Error ellipse: s-maj=127.4km s-min=25.1km az=58.0*
*NEIC **02** 04:17:26.3±1.2, 7.87S×106.28E, h30km, Error ellipse: s-maj=27.5km s-min=10.1km az=222.0*
*DJA **02** 04:17:26.4±1.2, 7.89S×106.57E, h21km±12km, MD4.6/1, ML5.2/2, Error ellipse: s-maj=25.9km s-min=10.4km az=35.0*

ISC 02 04:17:29.4±1.9, 7.5S±0.2×106.7E±0.2, h69km±18km, n14, g0 s77/14, mb3.5/4, 5C-4D, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACI	**Pancar Gunung**	**0.95**	**16**	⇑*e*Pn		**P 04 17 47.6**	**+0.2**
PULI	**Pulasari**	**1.34**	**330**	⇓*e*Pn		**P 04 17 52.0**	**-0.7**
	3μm,0.2s						
PULI				⇑*e*Sn		**S 04 18 10.9**	**+0.9**
PENI	**Pendagan**	**2.43**	**323**	⇑*e*Pn		**P 04 18 07.0**	**-0.7**
	633nm,0.2s						
PENI				⇑*e*Sn		**S 04 18 36.4**	**+0.2**
SRDI	**Scrawed**	**7.48**	**98**	⇓*e*P		**P 04 19 18.2**	**+0.1**
KELI	**Kelakatan**	**7.80**	**96**	⇓*e*P		**P 04 19 23.3**	**+0.9**
RATI	**Rata**	**8.88**	**98**	⇓*e*P		**P 04 19 36.9**	**-0.3**
KEDI	**Kedomdong**	**9.42**	**97**	⇑*e*P		**P 04 19 43.5**	**-1.1**
WRA	**Warramunga Arr**	**29.54**	**118**	P		**P 04 23 29.3**	**-0.6**
	0.3nm,0.4s,mb3.2,baz=288,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**30.68**	**125**	P		**P 04 23 41.7**	**+1.7**
	0.3nm,0.5s,mb3.3,baz=301,slow=8.4,SNR=4.3						
STKA	**Stephens Creek**	**40.56**	**131**	P		**P 04 25 04.4**	**+0.7**
	2.9nm,0.7s,mb4.2,baz=305,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**40.56**	**131**	*e*P		**P 04 25 03.0**	**-0.8**
SONM	**Songino Array**	**55.11**	**360**	P		**P 04 26 56.4**	**-0.4**
	0.3nm,1.0s,mb3.3,baz=180,slow=2.9,SNR=2.2						
SONM				PcP	PcP	04 27 57.2	0.0
	0.3nm,0.4s,baz=181,slow=4.2,SNR=5.5						
TXAR	**Lajitas Array**	**144.16**	**49**	PKP	PKPdf	04 37 00.2	+2.2
	0.2nm,0.6s,baz=287,slow=3.6,SNR=3.9						
TXAR	**Lajitas Array**	**144.16**	**49**	PKP	PKPdf	04 37 00.2	+2.2

WEL 02 04:24:15.4±0.3, 38.02S×179.64W, h12km, ML3.5/5, Error ellipse: s-maj=2.6km s-min=1.8km az=90.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**1.67**	**267**	PN	Pn	04 24 43.5	-1.2
PUZ				SN	Sn	04 25 04.3	-1.7
MXZ	**Matakaoa Point**	**1.69**	**285**	PN	Pn	04 24 44.1	-1.0
MXZ				SN	Sn	04 25 05.4	-1.4
MWZ	**Matawai**	**2.26**	**261**	PN	Pn	04 24 51.8	-1.3
MWZ				SN	Sn	04 25 19.1	-2.0
KNZ	**Kokohu**	**2.34**	**244**	PN	Pn	04 24 52.6	-1.6
KNZ				SN	Sn	04 25 21.3	-1.8
URZ	**Urewera**	**2.58**	**264**	PN	Pn	04 24 56.8	-0.9
URZ				SN	Sn	04 25 27.2	-2.0
BKZ	**Black Stump Fm**	**3.24**	**248**	PN	Pn	04 25 05.3	-1.9

WEL 02 04:24:36.6±0.1, 41.09S×175.07E, h26km, ML3.6/17, 2C-3D, Error ellipse: s-maj=0.9km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAW	**Cannon Point**	**0.02**	**186**	⇓P*	Pb	04 24 41.1	+0.2
CAW				S*	Sb	04 24 44.8	+0.8
CAW				S*	Sb	04 24 45.0	+1.1
KIW	**Kapiti Island**	**0.26**	**331**	⇑P*	Pb	04 24 43.0	-0.1
KIW				S*	Sb	04 24 47.9	+0.5
WEL	**Wellington**	**0.30**	**229**	P*	Pb	04 24 43.6	-0.1
WEL				S*	Sb	04 24 49.5	+0.9
MRW	**Makara Radio**	**0.31**	**243**	⇓P*	Pb	04 24 43.8	-0.1
MRW				S*	Sb	04 24 49.2	+0.4
MTW	**Mount Morrison**	**0.33**	**102**	⇑P*	Pb	04 24 44.2	0.0
MTW				S*	Sb	04 24 50.6	+1.3
BHW	**Baring Head**	**0.35**	**205**	P*	Pb	04 24 44.3	-0.2
BHW				S*	Sb	04 24 50.1	+0.2
MSWZ	**Moikau Station**	**0.35**	**158**	P*	Pb	04 24 44.6	+0.1

MSWZ				S*	Sb	04 24 51.0	+1.2
SNZO	**South Karori**	**0.35**	**231**	⇓P*	Pb	04 24 44.3	-0.1
SNZO				P*	Pb	04 24 44.3	-0.1
SNZO				S*	Sb	04 24 50.1	+0.2
SNZO				S*	Sb	04 24 50.3	+0.4
PAWZ	**Paruwai Farm**	**0.40**	**138**	P*	Pb	04 24 45.1	0.0
PAWZ				S*	Sb	04 24 52.2	+1.1
MRZ	**Mangatainoka R**	**0.57**	**42**	P*	Pb	04 24 47.5	-0.5
MRZ				S*	Sb	04 24 57.2	+1.4
TUWZ	**Tuamarina**	**0.92**	**248**	P*	Pb	04 24 53.0	-0.7
TUWZ				S*	Sb	04 25 05.3	-0.2
BFZ	**Birch Farm**	**0.98**	**66**	P*	Pb	04 24 53.3	-1.5
BFZ				S*	Sb	04 25 06.2	-1.1
BSWZ	**Blackbirch Sta**	**1.10**	**235**	P*	Pb	04 24 55.5	-1.3
BSWZ				S*	Sb	04 25 10.8	+0.1
TSZ	**Takapari Road**	**1.23**	**34**	P*	Pb	04 24 57.3	-1.7
TSZ				S*	Sb	04 25 14.3	-0.2
NNZ	**Nelson**	**1.28**	**264**	PN	Pn	04 24 59.1	0.0
NNZ				SN	Sn	04 25 16.1	+0.5
WAZ	**Wanganui**	**1.33**	**357**	PN	Pn	04 25 00.9	+1.1
WAZ				SN	Sn	04 25 18.7	+1.8
KHZ	**Kahutara**	**1.75**	**220**	PN	Pn	04 25 03.7	-2.2
KHZ				S*	Sb	04 25 24.2	-5.5
MOVZ	**Moawhango**	**1.76**	**17**	PN	Pn	04 25 05.1	-0.8
MOVZ				SN	Sn	04 25 32.5	+4.9
THZ	**Tophouse**	**1.76**	**247**	PN	Pn	04 25 05.2	-0.8
THZ				S*	Sb	04 25 32.1	+2.2
WNVZ	**Wahianoa**	**1.80**	**13**	PN	Pn	04 25 06.3	-0.3
TUVZ	**Tukino**	**1.87**	**14**	PN	Pn	04 25 07.4	-0.2
CNZ	**Chateau**	**1.92**	**11**	PN	Pn	04 25 08.1	-0.1
QRZ	**Quartz Range**	**1.94**	**277**	PN	Pn	04 25 08.7	+0.1
NGZ	**Ngauruhoe**	**1.95**	**12**	PN	Pn	04 25 08.5	-0.2
OTVZ	**Oturere**	**1.97**	**14**	PN	Pn	04 25 08.8	-0.2
WTVZ	**West Tongariro**	**2.01**	**12**	PN	Pn	04 25 09.2	-0.4
TWVZ	**Taurewa**	**2.03**	**8**	PN	Pn	04 25 09.5	-0.4
KRVZ	**Karewarewa**	**2.04**	**13**	PN	Pn	04 25 09.7	-0.2
MGZ	**Maungaku**	**2.11**	**10**	PN	Pn	04 25 10.7	-0.3
BKZ	**Black Stump Fm**	**2.21**	**30**	PN	Pn	04 25 05.5	-6.9
DSZ	**Denniston Nort**	**2.54**	**254**	PN	Pn	04 25 15.5	-1.7
HIZ	**Hauiti**	**2.58**	**356**	PN	Pn	04 25 16.7	-0.9

IDC 02 04:29:29.2±8.7**, 6.97N**×**72.45W, h158**km±62km**, mb3.1**/2**, mb1 3.3**/3**, mb1mx2.9**/21**, mbtmp3.5**/3**, MS3.0**/1**, Ms1 3.2**/1**, ms1mx2.1**/19**, Error ellipse: s-maj=164.7km s-min=32.4km az=80.0, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.81**	**222**	P	P	04 30 15.0	-0.2
	4.7nm,0.3s,baz=309,slow=6.5,SNR=15						
LPAZ	**La Paz**	**23.50**	**170**	LR	LR	04 45 24.5	
	comp=Z,42nm,21.3s,baz=254,slow=41						
PLCA	**Paso Flores**	**47.50**	**178**	P	P	04 37 48.2	-1.9
	1.2nm,0.8s,baz=352,slow=7.1,SNR=3.4						
YKA	**Yellowknife Ar**	**63.35**	**340**	P	P	04 39 41.2	-2.3
	0.2nm,0.8s,baz=125,slow=7.5,SNR=3.3						
WRA	**Warramunga Arr**	**150.99**	**241**	PKPbc	PKPdf	04 49 04.0	+6.0
	0.5nm,0.8s,baz=104,slow=3.1,SNR=3.5						

NEIC ***02*** *04:34:32.1±0.6, 9.20N×93.89E, mb4.3/5, Error ellipse: s-maj=22.8km s-min=9.8km az=61.0*
IDC ***02*** *04:34:32.3±0.8, 9.30N×93.83E, h22km±4km, mb3.8/11, mb1 4.1/12, mb1mx4.0/20, mbtmp4.0/12, ML4.1/1, MS3.2/3, Ms1 3.3/3, ms1mx2.9/27, Error ellipse: s-maj=28.6km s-min=16.8km az=58.0*
ISC 02 04:34:31.4±0.7**, 9.2N**±0.1×**93.8E**±0.2**, h33**km**, n32, σ0.97**/30**, mb4.1**/14**, MS3.4**/2**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.51**	**28**	Pn	**P**	**04 37 07.7**	**+4.6**
	0.4nm,0.3s,baz=220,slow=14,SNR=5.2						
CMAR				LR	LR	04 40 46.4	
	comp=Z,73nm,18.3s,baz=195,slow=36						
VIS	**Vishakhapatnam**	**13.25**	**311**	*e*P	**P**	**04 37 36.0**	**-3.9**
VIS				*e*S	**S**	**04 39 51.0**	**-16**
HYB	**Hyderabad**	**16.93**	**301**	*e*P	**P**	**04 38 33.0**	**+5.5**
HYB	**Hyderabad**	**16.93**	**301**	*i* P	**P**	**04 38 33.0**	**+5.5**
JIRN	**Jiri**	**19.75**	**340**	*e*P	**P**	**04 39 02.1**	**+0.7**
	40nm,1.0s						
PKI	**Pulchoki**	**19.95**	**338**	*e*P	**P**	**04 39 04.2**	**+0.6**
GUN	**Gumba**	**20.09**	**339**	*e*P	**P**	**04 39 05.5**	**+0.5**
	55nm,0.9s						
DMN	**Daman**	**20.10**	**337**	*e*P	**P**	**04 39 05.6**	**+0.4**
KKN	**Kakani**	**20.19**	**338**	*e*P	**P**	**04 39 06.4**	**+0.2**
	21nm,0.7s						
LSA	**Lhasa**	**20.58**	**353**	*e*P	**P**	**04 39 09.1**	**-1.1**
	8.4nm,0.9s						
GKN	**Gorkha**	**20.63**	**336**	*e*P	**P**	**04 39 11.2**	**+0.5**
	29nm,0.6s						
KOLN	**Koldanda**	**20.86**	**334**	*e*P	**P**	**04 39 13.7**	**+0.6**
	14nm,0.6s						
AAK	**Ala-Archa**	**37.39**	**336**	*e*P	**P**	**04 41 43.2**	**+0.1**
	8.7nm,1.1s,mb4.5						
SONM	**Songino Array**	**40.00**	**13**	P	**P**	**04 42 04.7**	**0.0**
	1.0nm,1.2s,mb3.4,baz=191,slow=7.3,SNR=2.9						
SONM				PcP	PcP	04 44 10.9	+0.8
	0.4nm,0.7s,baz=180,slow=3.9,SNR=3.2						
KURK	**Kurchatov**	**43.29**	**346**	*e*P	**P**	**04 42 31.9**	**+0.2**
	4.2nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**45.24**	**353**	P	**P**	**04 42 46.4**	**-0.9**
	1.5nm,0.3s,mb4.3,baz=324,slow=10,SNR=2.8						
ZAL	**Zalesovo**	**45.24**	**353**	P	**P**	**04 42 46.4**	**-0.9**
BVAR	**Borovoye Array**	**47.67**	**341**	P	**P**	**04 43 06.9**	**+0.4**
	0.6nm,0.7s,mb3.7,baz=135,slow=10,SNR=3.4						
BVAR				pP	pP	04 43 13.7	-2.7
	0.7nm,0.6s,baz=135,slow=6.3,SNR=4.6						
CHKZ	**Chkalovo**	**48.15**	**342**	*e*P	**P**	**04 43 07.3**	**-3.0**
	3.8nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**49.30**	**126**	P	**P**	**04 43 19.9**	**+0.3**
	0.8nm,0.8s,mb3.8,baz=305,slow=8.7,SNR=7.4						
WRAB	**Tennant Creek**	**49.30**	**126**	P	**P**	**04 43 20.1**	**+0.5**
ASAR	**Alice Springs**	**51.01**	**131**	P	**P**	**04 43 31.9**	**-0.7**
	2.9nm,1.3s,mb4.1,baz=310,slow=7.7,SNR=5.3						
KMBO	**Kilima Mbogo**	**57.22**	**263**	P	**P**	**04 44 20.7**	**+2.3**
	2.1nm,0.9s,mb4.2,baz=46,slow=10.0,SNR=4.7						
KMBO				LR	LR	05 05 09.6	
	comp=Z,35nm,18.9s,MS3.5,baz=103,slow=32						
KMBO	**Kilima Mbogo**	**57.22**	**263**	P	**P**	**04 44 20.7**	**+2.3**
KMBO				LR	LR	05 05 09.6	
ASF	**Jabal al Asfar**	**57.23**	**302**	LR	LR	05 09 45.3	
	comp=Z,18nm,18.6s,MS3.2,baz=46,slow=37						
BRTR	**Keskin Array B**	**61.33**	**310**	P	**P**	**04 44 45.1**	**-1.2**
	2.6nm,1.0s,mb4.3,baz=126,slow=8.2,SNR=7.5						
BRTR				pP	pP	04 44 52.1	-4.3
	1.5nm,0.7s,baz=121,slow=7.5,SNR=5.2						
AKASG	**Malin Array Be**	**66.93**	**321**	P	**P**	**04 45 21.0**	**-1.7**
	0.2nm,0.3s,mb3.7,baz=90,slow=4.4,SNR=5.2						
MLR	**Muntele Rosu**	**68.01**	**315**	P	**P**	**04 45 28.9**	**-0.6**
	1.8nm,0.8s,mb4.1,baz=353,slow=2.8,SNR=3.2						
ARCES	**ARCESS Array B**	**73.94**	**340**	P	**P**	**04 46 05.7**	**+0.8**
	11nm,1.2s,mb4.7,baz=90,slow=4.5,SNR=2.8						
GERES	**GERESS Array B**	**76.64**	**318**	P	**P**	**04 46 21.2**	**+0.5**
	0.9nm,0.6s,mb3.9,baz=90,slow=6.7,SNR=10						
PDAR	**Pinedale Array**	**124.10**	**21**	PKP	PKPdf	04 53 29.2	+2.2
	1.0nm,1.2s,SNR=3.6						
PLCA	**Paso Flores**	**145.62**	**201**	PKPbc	PKPbc	04 54 10.2	+2.8
	6.9nm,0.9s,baz=153,slow=3.8,SNR=18						
PLCA				pPKPbc		04 54 17.0	
	2.8nm,0.8s,baz=222,slow=6.4,SNR=4.8						

NNC ***02*** *04:50:57.8±2.7, 43.65N×82.29E, h31km±12km, mpv3.0, Error ellipse: s-maj=31.4km s-min=15.6km az=64.0*
BJI 02 04:50:55.6, 43.49N×**82.17E, h15**km**, ML3.6, 1C-2D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**3.31**	**1**	Pn	Pn	04 51 48.0	+0.1
	0.5nm,0.4s,baz=185,slow=13,SNR=272						
MK31				Pg	Pg	04 51 55.1	-6.5
	7.9nm,0.5s,baz=182,slow=15,SNR=76						
MK31				Lg		04 52 39.0	
	30nm,0.5s,baz=178,slow=27,SNR=4.0						
WMQ	**Urumqi**	**4.02**	**83**	*e*PG	Pg	04 52 07.6	-8.4
WMQ				S	Sn	04 52 49.9	+4.4
WMQ				Smax			
	comp=N,27nm,0.6s						
WMQ				Smax			
	comp=E,32nm,0.5s						
KURK	**Kurchatov**	**7.62**	**343**	⇑Pn	Pn	04 52 45.7	-3.2
	comp=E,1.3nm,0.9s						
KURK				⇓Sn	Sn	04 54 09.3	-6.5
	comp=E,1.7nm,0.6s						
KURK				⇓Lg		04 54 56.8	
	comp=E,3.7nm,0.7s						

NEIC ***02*** *04:58:15.7±0.5, 27.52N×141.71E, h10km, mb4.8/1, Error ellipse: s-maj=13.0km s-min=11.5km az=105.0*
IDC ***02*** *04:58:19.9±2.3, 27.49N×141.70E, h40km±21km, mb3.7/12, mb1 3.9/12, mb1mx3.8/22, mbtmp3.9/12, Error ellipse: s-maj=24.2km s-min=17.2km az=77.0*
ISC 02 04:58:18.4±2.1**, 27.5N**±0.1×**141.7E**±0.2**, h43**km±20km**, n14, σ0.81**/15**, mb4.0**/13**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.59**	**130**	Pn	**P**	**04 58 31.7**	**+1.2**
	403nm,0.3s,baz=23,slow=3.8,SNR=149						
CBIJ				Sn	**S**	**04 58 38.3**	**-0.9**
	1µm,0.3s,baz=287,slow=19,SNR=66						
SONM	**Songino Array**	**34.12**	**316**	P	**P**	**05 05 01.6**	**+0.5**
	0.2nm,0.5s,mb3.3,baz=135,slow=7.9,SNR=2.5						
SONM				ScP		05 11 18.0	
	0.6nm,0.7s,baz=130,slow=3.9,SNR=4.0						
WRAB	**Tennant Creek**	**47.66**	**189**	*e*P	**P**	**05 06 52.5**	**-0.1**
	7.4nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**47.67**	**189**	P	**P**	**05 06 52.4**	**-0.3**
	3.0nm,0.4s,mb4.7,baz=11,slow=8.5,SNR=8.4						
ASAR	**Alice Springs**	**51.40**	**189**	P	**P**	**05 07 21.7**	**+0.4**
	0.8nm,0.6s,mb3.8,baz=360,slow=6.2,SNR=2.6						
BVAR	**Borovoye Array**	**57.45**	**317**	P	**P**	**05 08 03.4**	**-1.7**
	0.9nm,0.5s,mb4.1,baz=102,slow=6.8,SNR=6.7						
ILAR	**Eielson Array**	**57.60**	**29**	P	**P**	**05 08 05.2**	**-0.8**
	0.6nm,0.8s,mb3.7,baz=256,slow=5.2,SNR=5.4						
INK	**Inuvik**	**62.87**	**25**	P	**P**	**05 08 41.6**	**-0.4**
	0.7nm,0.6s,mb4.0,baz=262,slow=5.7,SNR=9.9						
YKA	**Yellowknife Ar**	**72.02**	**28**	P	**P**	**05 09 39.1**	**-0.1**
	0.5nm,0.5s,mb3.7,baz=293,slow=6.2,SNR=14						
ARCES	**ARCESS Array B**	**73.03**	**341**	P	**P**	**05 09 45.9**	**+0.8**
	2.4nm,0.7s,mb4.2,baz=68,slow=6.5,SNR=5.0						
FINES	**FINESS Array B**	**77.41**	**334**	P	**P**	**05 10 10.4**	**+0.1**
	1.1nm,0.5s,mb4.0,baz=65,slow=5.1,SNR=12						
NOA	**NORSAR Array B**	**83.09**	**338**	P	**P**	**05 10 40.6**	**+0.2**
	0.8nm,0.7s,mb3.9,baz=46,slow=5.4,SNR=3.4						
GERES	**GERESS Array B**	**90.95**	**329**	P	**P**	**05 11 18.5**	**-0.4**
	0.3nm,0.5s,mb3.9,baz=27,slow=3.0,SNR=3.5						
TXAR	**Lajitas Array**	**95.74**	**53**	P	**P**	**05 11 42.9**	**+1.7**
	0.3nm,0.8s,mb3.8,slow=2.7,SNR=3.3						

MAN ***02*** *04:59:41.6, 9.10N×121.63E, h32km, mb5.3, ML4.2, MS4.4*
MOS ***02*** *04:59:42.3±1.1, 9.16N×121.82E, h33km, mb4.7/13, Error ellipse: s-maj=19.0km s-min=10.1km az=113.8*
BJI ***02*** *04:59:43.2, 8.92N×121.63E, h50km, mB5.0, mb4.7, Ms4.5, Msz4.2*
NEIC ***02*** *04:59:44.8±0.2, 9.07N×121.65E, mb4.8/16, Error ellipse: s-maj=7.6km s-min=4.9km az=77.0*
IDC ***02*** *04:59:44.8±0.4, 9.09N×121.60E, h36km±3km, mb4.2/23, mb1 4.3/24, mb1mx4.3/26, mbtmp4.4/24, ML4.1/1, MS3.9/18, Ms1 4.0/18, ms1mx3.8/24, Error ellipse: s-maj=20.2km s-min=9.6km az=68.0*
ISC 02 04:59:42.9±0.2**, 9.13N**±0.02×**121.71E**±0.02**, h37**km**, h37**km±1.3km**:pP-P, n148, σ1.11**/159**, mb4.7**/57**, MS4.0**/26**, 10C-8D, Sulu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAP	**Anini-y**	**1.30**	**10**	*e*P	**P**	**04 59 58.5**	**-6.4**
AAP				*e*S	**S**	**05 00 13.0**	**-8.4**
SNPH	**Sibulan**	**1.53**	**82**	⇑*e*P	**P**	**05 00 07.7**	**-0.4**
SNPH				*i* S	**S**	**05 00 27.0**	**0.0**
IPIL	**Ipil**	**1.59**	**147**	*e*P	**P**	**05 00 08.1**	**-1.0**
IPIL				*e*S	**S**	**05 00 26.6**	**-1.9**
GUIM	**Jordan**	**1.72**	**30**	*e*P	**P**	**05 00 10.1**	**-0.8**
GUIM				*e*S	**S**	**05 00 31.3**	**-0.6**
CUYO	**Cuyo Island**	**1.83**	**338**	*e*P	**P**	**05 00 11.9**	**-0.6**
CUYO				*e*S	**S**	**05 00 33.4**	**-1.4**
PAGZ	**Pagadian**	**2.09**	**127**	*e*P	**P**	**05 00 16.1**	**-0.1**
ZMPH	**Zamboanga City**	**2.19**	**171**	⇓*i*P	**P**	**05 00 16.2**	**-1.4**
ZMPH				*i* S	**S**	**05 00 35.4**	**-8.5**
TBP	**Tagbilaran**	**2.20**	**75**	*e*P	**P**	**05 00 17.6**	**-0.1**
TBP				*e*S	**S**	**05 00 44.4**	**+0.4**
LLP	**Lapu-Lapu**	**2.52**	**62**	⇑*i*P	**P**	**05 00 22.2**	**-0.1**
LLP				*e*S	**S**	**05 00 51.5**	**-0.6**
KALP	**Kalibo**	**2.60**	**14**	*e*P	**P**	**05 00 10.0**	**-14**
RCP	**Roxas**	**2.62**	**23**	⇑*e*P	**P**	**05 00 23.8**	**0.0**
RCP				*e*S	**S**	**05 00 55.7**	**+1.1**
PPR	**Puerto Princes**	**3.00**	**283**	⇑*i*P	**P**	**05 00 27.0**	**-2.3**
PPR				*i* S	**S**	**05 00 58.7**	**-5.7**
CGP	**Cagayan de Oro**	**3.03**	**103**	⇑*e*P	**P**	**05 00 29.6**	**-0.1**
CGP				*e*S	**S**	**05 01 05.4**	**+0.3**
ENPP	**El Nido**	**3.05**	**313**	*e*P	**P**	**05 00 28.2**	**-1.6**
ENPP				*e*S	**S**	**05 01 01.4**	**-4.1**
BUSP	**Coron**	**3.21**	**333**	*e*P	**P**	**05 00 30.7**	**-1.5**
BUSP				*e*S	**S**	**05 01 07.0**	**-2.8**
OTRP	**Odiongan**	**3.22**	**6**	*e*P	**P**	**05 00 31.1**	**-1.2**
OTRP				*e*S	**S**	**05 01 05.5**	**-4.5**
MSLP	**Maasin**	**3.27**	**72**	*e*P	**P**	**05 00 33.4**	**+0.5**
SJMP	**San Jose**	**3.36**	**350**	*e*P	**P**	**05 00 33.0**	**-1.2**
SJMP				*e*S	**S**	**05 01 10.7**	**-2.7**
BUKP	**Musuan**	**3.55**	**110**	*e*P	**P**	**05 00 39.2**	**+2.3**
MMPH	**Masbate**	**3.72**	**30**	⇓*e*P	**P**	**05 00 40.5**	**+1.1**
PLP	**Palo**	**3.80**	**58**	*i* P	**P**	**05 00 39.4**	**-1.2**
PLP				*e*S	**S**	**05 01 23.5**	**-1.2**
BATP	**Bataraza**	**3.87**	**265**	*e*P	**P**	**05 00 38.2**	**-3.3**
BUTP	**Butuan**	**3.87**	**92**	*e*P	**P**	**05 00 42.0**	**+0.5**
AUQP	**San Andres**	**4.27**	**13**	*e*P	**P**	**05 00 47.2**	**-0.1**
BOAC	**Boac**	**4.30**	**2**	*e*P	**P**	**05 00 47.0**	**-0.7**
BOAC				*e*S	**S**	**05 01 34.4**	**-2.9**
DAV	**Davao City (W)**	**4.35**	**118**	⇓*e*P	**P**	**05 01 06.5**	**+18**
BESP	**Borongan**	**4.42**	**56**	*e*P	**P**	**05 00 48.4**	**-0.9**
LUBP	**Lubang**	**4.79**	**343**	*e*P	**P**	**05 00 53.4**	**-1.2**
TGY	**Tagaytay City**	**5.00**	**351**	*e*P	**P**	**05 01 06.0**	**+8.5**
PVCP	**Virac**	**5.04**	**28**	*e*P	**P**	**05 00 57.7**	**-0.4**
TSM	**Tawau**	**6.13**	**219**	P	**P**	**05 01 12.4**	**-0.9**
KKM	**Kota Kinabalu**	**6.25**	**241**	*e*P	**P**	**05 01 13.0**	**-2.0**
KKM	**Kota Kinabalu**	**6.25**	**241**	P	**P**	**05 01 13.8**	**-1.2**
KSM	**Kuching**	**13.66**	**237**	*e*P	**P**	**05 02 54.0**	**-2.6**
JOW	**Kunigami**	**18.67**	**19**	P	**P**	**05 04 01.4**	**+1.0**
	0.9nm,0.3s,baz=110,slow=9.0,SNR=4.6						
JOW				LR	LR	05 10 21.1	
	comp=Z,589nm,21.0s,baz=176,slow=34						
KULM	**Kulim**	**21.23**	**261**	*e*P	**P**	**05 04 31.6**	**+3.6**
SSE	**Sheshan**	**21.86**	**359**	P	**P**	**05 04 33.6**	**-0.6**
	35nm,0.9s,mb4.8						
SSE				SP		05 04 45.8	
SSE				S	**S**	**05 08 29.5**	**+1.0**
SSE				sS		05 08 43.0	
SSE				LR	LR		
	comp=Z,250nm,23.7s,MS3.5						
GYA	**Guiyang**	**22.36**	**322**	⇓*i*P	**P**	**05 04 40.3**	**+1.1**
GYA				PP	PP	05 05 12.8	+5.8
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.4						
GYA				AMB	AMB		
	comp=Z,250nm,5.0s						
GYA				LR	LR		
	comp=N,720nm,14.4s,MS4.4						
GYA				LR	LR		
	comp=E,590nm,14.1s,MS4.4						
GYA				LR	LR		
	comp=Z,500nm,15.9s,MS4.0						
NJ2	**Nanjing**	**22.96**	**354**	*e*P	**P**	**05 04 48.6**	**+3.5**
NJ2				AP		05 04 57.8	
NJ2				XP		05 05 01.9	
NJ2				PP	PP	05 05 19.5	+4.2
NJ2				S	**S**	**05 08 54.0**	**+5.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,630nm,4.4s						
NJ2				LR	LR		
	comp=N,880nm,18.5s,MS4.4						
NJ2				LR	LR		
	comp=E,990nm,17.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,860nm,15.0s,MS4.3						
ENH	**Enshi**	**23.93**	**333**	*e*P	**P**	**05 04 55.5**	**+1.0**
	comp=Z,62nm,1.3s,mb4.9						
CMAR	**Chiang Mai Arr**	**23.94**	**295**	*i* P	**P**	**05 04 56.4**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**23.94**	**295**	P	**P**	**05 04 55.5**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.0,baz=109,slow=7.8,SNR=36						
CMAR				LR	LR	05 14 02.0	
	comp=Z,181nm,18.7s,MS3.6,baz=296,slow=36						
KAKA	**Kakadu**	**24.18**	**154**	⇑*i*P	**P**	**05 04 57.3**	**+0.2**
	comp=Z,55nm,0.8s,mb5.0						
KAKA				*i*		05 05 08.2	
CBIJ	**Chichi jima**	**26.35**	**45**	LR	LR	05 14 16.9	
	comp=Z,295nm,20.4s,MS3.8,baz=294,slow=33						
FITZ	**Fitzroy Crossi**	**27.34**	**172**	*e*P	**P**	**05 05 26.0**	**-0.7**
	comp=Z,14nm,0.8s,mb4.5						
CD2	**Chengdu**	**27.37**	**325**	P	**P**	**05 05 26.9**	**0.0**
JHJ	**Hachijo jima 2**	**29.12**	**32**	LR	LR	05 16 48.5	
	comp=Z,292nm,18.3s,MS3.9,baz=144,slow=35						
PMG	**Port Moresby**	**31.33**	**125**	LR	LR	05 17 36.8	
	comp=Z,215nm,19.9s,MS3.8,baz=261,slow=34						
LZH	**Lanzhou**	**31.37**	**331**	⇑P	**P**	**05 06 03.5**	**+0.9**
LZH				AP	pP	05 06 16.0	+3.0
LZH				XP	sP	05 06 21.5	+3.6
LZH				AMB	AMB		
	comp=Z,41nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,145nm,5.2s						
LZH				LR	LR		
	comp=N,802nm,12.0s						
LZH				LR	LR		
	comp=Z,2µm,14.8s,MS4.8						
LZH	**Lanzhou**	**31.37**	**331**	⇑P	**P**	**05 06 03.5**	**+0.9**
	comp=Z,41nm,1.5s,mb5.0						
LZH				pP	pP	05 06 16.0	+3.0
LZH				sP	sP	05 06 21.5	+3.6
LZH				PP	PP	05 06 57.5	-9.2
LZH				*e*S	**S**	**05 10 48.0**	**-18**
LZH				sS		05 11 08.5	
LZH				SS	tx	05 12 18.5	
LZH				LR	LR		
	comp=Z,2µm,14.8s,MS4.8						
WRAB	**Tennant Creek**	**31.45**	**157**	*i* P	**P**	**05 06 02.0**	**-1.4**
WRAB	**Tennant Creek**	**31.45**	**157**	*e*P	**P**	**05 06 01.6**	**-1.8**
	comp=Z,30nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**31.46**	**157**	P	**P**	**05 06 02.0**	**-1.5**
	comp=Z,4.6nm,0.7s,mb4.4,baz=336,slow=9.6,SNR=15						
WRA				pP	pP	05 06 12.7	-1.2
	comp=Z,9.5nm,0.8s,baz=337,slow=9.6,SNR=13						
WB2	**Warramunga Arr**	**31.46**	**157**	*e*P	**P**	**05 06 01.9**	**-1.6**
WB2				*i*	pP	05 06 12.5	-1.4
HHC	**Hu-ho-hao-te**	**32.84**	**346**	*e*P	**P**	**05 06 15.8**	**+0.4**
HHC				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,98nm,5.5s						
ASAR	**Alice Springs**	**34.71**	**160**	P	**P**	**05 06 31.1**	**-0.5**
	comp=Z,3.3nm,0.7s,mb4.4,baz=344,slow=9.2,SNR=15						
ASAR				pP	pP	05 06 42.5	+0.3
	comp=Z,5.4nm,0.6s,baz=340,slow=7.4,SNR=16						
ASAR				LR	LR	05 20 14.1	
	comp=Z,87nm,19.5s,MS3.5,baz=335,slow=35						
ASPA	**Alice Springs**	**34.71**	**160**	*e*P	**P**	**05 06 31.1**	**-0.5**
LSA	**Lhasa**	**35.15**	**310**	*e*P	**P**	**05 06 36.8**	**+1.5**
GTA	**Gaotai**	**35.95**	**331**	P	**P**	**05 06 42.8**	**+0.8**
GTA				AP	pP	05 06 55.9	+3.3
GTA				XP	sP	05 07 03.0	+5.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,147nm,5.3s						
GTA				LR	LR		
	comp=N,337nm,19.0s,MS4.3						
GTA				LR	LR		
	comp=E,282nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,354nm,16.3s,MS4.2						
CTA	**Charters Tower**	**37.78**	**140**	P	**P**	**05 06 58.3**	**+0.8**
	comp=Z,3.4nm,0.8s,mb4.2,baz=298,slow=18,SNR=1.9						
CTA				pP	pP	05 07 08.0	-0.1
	comp=Z,7.0nm,0.8s,baz=342,slow=12,SNR=3.9						
CTA				LR	LR	05 23 28.1	
	comp=Z,154nm,18.1s,MS3.9,baz=41,slow=38						
CTA	**Charters Tower**	**37.78**	**140**	P	**P**	**05 06 58.3**	**+0.8**
CTA				pP	pP	05 07 08.0	-0.1
CTA				LR	LR	05 23 28.1	
JIRN	**Jiri**	**38.21**	**304**	*e*P	**P**	**05 07 01.0**	**-0.1**
	comp=Z,95nm,1.1s,mb5.5						
GUN	**Gumba**	**38.56**	**304**	*e*P	**P**	**05 07 04.6**	**+0.7**
	comp=Z,126nm,1.0s,mb5.6						
PKI	**Pulchoki**	**38.82**	**303**	*e*P	**P**	**05 07 06.5**	**+0.4**
	comp=Z,49nm,0.8s,mb5.3						
KKN	**Kakani**	**39.01**	**303**	*e*P	**P**	**05 07 07.0**	**-0.7**
	comp=Z,76nm,0.9s,mb5.4						
DMN	**Daman**	**39.09**	**303**	*e*P	**P**	**05 07 09.0**	**+0.7**
	comp=Z,26nm,0.5s,mb5.2						
ASAJ	**Asahikawa**	**39.30**	**24**	P	**P**	**05 07 11.7**	**+1.8**
	comp=Z,18nm,0.9s,mb4.8,baz=236,slow=13,SNR=5.5						
ASAJ				LR	LR	05 25 35.4	
	comp=Z,186nm,19.5s,MS3.9,baz=154,slow=39						
GKN	**Gorkha**	**39.61**	**303**	*e*P	**P**	**05 07 13.1**	**+0.4**
	comp=Z,65nm,1.1s,mb5.3						
FORT	**Forrest**	**40.15**	**172**	*e*P	**P**	**05 07 17.5**	**+0.4**
	comp=Z,552nm,0.7s						
KOLN	**Koldanda**	**40.39**	**302**	*e*P	**P**	**05 07 19.7**	**+0.5**
	comp=Z,73nm,1.0s,mb5.4						
ULN	**Ulaanbaatar**	**40.55**	**345**	*i* P	**P**	**05 07 20.8**	**+0.6**
SONM	**Songino Array**	**40.69**	**344**	P	**P**	**05 07 22.0**	**+0.6**
	comp=Z,3.8nm,1.0s,mb4.0,baz=163,slow=8.6,SNR=24						
SONM				pP	pP	05 07 31.9	-0.3
	comp=Z,2.0nm,0.8s,baz=169,slow=6.3,SNR=4.9						
YSS	**Yuzh-Sakhalins**	**41.74**	**22**	*e*P	**P**	**05 07 30.5**	**+0.4**
YSS				*e*	pP	05 07 40.3	-0.5
YSS	**Yuzh-Sakhalins**	**41.74**	**22**	P	**P**	**05 07 30.0**	**-0.1**
NWAO	**Narrogin (SRO)**	**42.04**	**186**	P	**P**	**05 07 32.4**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.3,baz=39,slow=16,SNR=3.4						
NWAO	**Narrogin (SRO)**	**42.04**	**186**	P	**P**	**05 07 32.4**	**-0.4**
ZAK	**Zakamensk**	**43.87**	**343**	*e*P	**P**	**05 07 45.8**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s						
TLY	**Talaya**	**44.93**	**344**	*e*P	**P**	**05 07 56.9**	**+1.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
TLY				MLR	MLR		
	comp=Z,163nm,17.0s,MS4.0						
STKA	**Stephens Creek**	**45.00**	**156**	*e*P	**P**	**05 07 56.7**	**0.0**
	comp=Z,5.0nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**45.00**	**156**	P	**P**	**05 07 57.1**	**+0.4**
	comp=Z,13nm,1.2s,mb4.6,baz=331,slow=11,SNR=3.8						
STKA				pP	pP	05 08 07.6	+0.1
	comp=Z,8.9nm,0.9s,baz=330,slow=11,SNR=6.0						
STKA				LR	LR	05 27 27.5	
	comp=Z,129nm,19.0s,MS3.9,baz=200,slow=37						
SDNR	**Sundarnagar**	**47.06**	**305**	*e*P	**P**	**05 08 13.5**	**+0.4**
BOD	**Bodaibo**	**48.94**	**355**	*e*P	**P**	**05 08 19.9**	**-7.4**
MKAR	**Makanchi Array**	**50.30**	**325**	*i* P	**P**	**05 08 38.6**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
DGAR	**Diego Garcia**	**51.75**	**253**	*i* P	**P**	**05 08 48.9**	**-0.5**
DGAR	**Diego Garcia**	**51.75**	**253**	*e*P	**P**	**05 08 48.9**	**-0.4**
	comp=Z,95nm,1.4s,mb5.5						
DGAR				*e*pP	pP	05 08 59.6	-0.6
KZA	**Kyzart**	**52.28**	**317**	P	**P**	**05 08 55.0**	**+2.0**
	SNR=11						
UCH	**Uchtor**	**52.84**	**317**	P	**P**	**05 08 59.0**	**+1.8**
	SNR=17						
AAK	**Ala-Archa**	**53.03**	**317**	P	**P**	**05 09 01.0**	**+2.5**
	SNR=5.7						
AAK	**Ala-Archa**	**53.03**	**317**	*d i*P	**P**	**05 08 58.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**53.03**	**317**	*e*P	**P**	**05 08 59.0**	**+0.5**
	comp=Z,3.7nm,0.7s,mb4.4						
YAK	**Yakutsk**	**53.12**	**5**	*i* P	**P**	**05 08 58.8**	**-0.1**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
USP	**Ospenovka**	**53.29**	**318**	P	**P**	**05 09 01.2**	**+0.7**
	SNR=9.3						
AML	**Almayashu**	**53.36**	**316**	P	**P**	**05 09 02.6**	**+1.7**
	SNR=12						
EKS2	**Erkin-Say**	**53.52**	**317**	P	**P**	**05 09 03.7**	**+1.5**
	SNR=7.4						
ZAL	**Zalesovo**	**53.55**	**334**	P	**P**	**05 09 01.8**	**-0.5**
	comp=Z,3.7nm,0.5s,mb4.5,baz=349,slow=5.7,SNR=8.8						
ZAL	**Zalesovo**	**53.55**	**334**	P	**P**	**05 09 01.8**	**-0.5**
KURK	**Kurchatov**	**54.53**	**328**	P	**P**	**05 09 09.6**	**+0.1**
	comp=Z,190nm,1.4s,SNR=31						
KURK	**Kurchatov**	**54.53**	**328**	*d i*P	**P**	**05 09 09.5**	**0.0**
KURK				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK	Kurchatov	54.53	328	eP	P	05 09 09.8	+0.3
	comp=Z,17nm,0.7s,mb5.2						
NVS	Novosibirsk	54.84	334	eP	P	05 09 10.5	-1.2
NVS				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.0						
NVS				pmax	pmax		
	comp=N,19nm,1.6s						
NVS				pmax	pmax		
	comp=E,17nm,1.4s						
MA2	Magadan	54.90	18	P	P	05 09 09.9	-2.1
MA2				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6						
BVA0	Borovoye Array	60.10	327	P	P	05 09 48.7	-0.1
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.4						
BVAR	Borovoye Array	60.10	327	P	P	05 09 48.9	+0.1
	comp=Z,3.3nm,0.6s,mb4.5,baz=121,slow=8.6,SNR=18						
FX1	Attu Island--F	60.11	33	LR	LR	05 39 20.2	
	comp=Z,30nm,18.1s,MS3.5,baz=78,slow=40						
CHKZ	Chkalovo	60.28	328	P	P	05 09 49.6	-0.4
CHKZ				pmax	pmax		
	comp=Z,29nm,1.7s,mb5.0						
CHKZ	Chkalovo	60.28	328	eP	P	05 09 49.3	-0.7
	comp=Z,5.3nm,0.8s,mb4.6						
TIXI	Tiksi	62.62	3	i P	P	05 10 03.8	-1.7
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.6						
BILL	Bilibino	65.75	17	eP	P	05 10 25.9	0.0
BILL				i	pP	05 10 36.4	-0.8
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
BILL	Bilibino	65.75	17	eP	P	05 10 25.6	-0.3
	comp=Z,12nm,0.9s,mb4.9						
SVE	Sverdlovsk	66.78	328	eP	P	05 10 32.5	-0.1
SVE				pmax	pmax		
	comp=Z,60nm,1.5s,mb5.4						
GNI	Garni	74.22	309	i P	P	05 11 18.0	0.0
GNI				pmax	pmax		
	comp=Z,73nm,0.9s						
KIV	Kislovodsk	75.82	313	eP	P	05 11 27.4	+0.3
KIV				pmax	pmax		
	comp=N,39nm,1.0s						
KIV				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.1						
KIV				pmax	pmax		
	comp=E,55nm,0.9s						
KIV				MLR	MLR		
	comp=Z,35nm,15.0s,MS3.8						
IMA	Indian Mountai	79.53	24	eP	P	05 11 48.9	+1.7
	comp=Z,37nm,1.0s,mb5.3						
OBN	Obninsk	79.80	324	eP	P	05 11 48.8	-0.1
OBN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
ASF	Jabal al Asfar	80.83	301	P	P	05 11 53.3	-1.6
	comp=Z,1.7nm,0.6s,mb4.2,baz=355,slow=18,SNR=2.1						
MCK	McKinley	81.60	27	eP	P	05 11 57.6	-0.6
	comp=Z,4.7nm,0.9s,mb4.4						
COLA	College	81.99	26	i P	P	05 12 00.9	+0.7
SML	Sawmill	82.00	29	eP	P	05 12 02.9	+2.6
ILAR	Eielson Array	82.41	26	P	P	05 12 03.0	+0.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=253,slow=6.1,SNR=7.8						
ILAR				LR	LR	05 47 47.7	
	comp=Z,88nm,19.3s,MS4.1,baz=170,slow=35						
BRTR	Keskin Array B	82.76	309	P	P	05 12 05.8	+1.1
	comp=Z,1.5nm,0.5s,mb4.2,baz=110,slow=5.0,SNR=7.0						
ARCES	ARCESS Array B	83.68	339	P	P	05 12 09.4	+0.7
	comp=Z,3.2nm,0.5s,mb4.7,baz=79,slow=6.4,SNR=26						
ARCES				pP	pP	05 12 20.8	+0.6
	comp=Z,7.3nm,0.8s,baz=100,slow=7.4,SNR=4.9						
ARCES				LR	LR	05 53 37.8	
	comp=Z,85nm,21.8s,MS4.1,baz=22,slow=39						
KAF	Kangasniemi	84.52	332	ep	P	05 12 12.3	-0.8
	comp=Z,2.5nm,0.5s,mb4.6						
KAF	Kangasniemi	84.52	332	eP	P	05 12 12.3	-0.8
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
AKASG	Malin Array Be	84.58	320	P	P	05 12 13.4	-0.3
	comp=Z,3.1nm,0.8s,mb4.5,baz=66,slow=4.9,SNR=12						
AKASG				pP	pP	05 12 25.1	0.0
	comp=Z,1.6nm,0.6s,baz=70,slow=4.5,SNR=4.8						
KMBO	Kilima Mbogo	84.70	268	i P	P	05 12 17.7	+2.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	Kilima Mbogo	84.70	268	P	P	05 12 16.3	+1.1
	comp=Z,2.6nm,1.1s,mb4.3,baz=55,slow=9.2,SNR=4.9						
KMBO				pP	pP	05 12 28.4	+1.7
	comp=Z,3.2nm,1.0s,baz=53,slow=8.6,SNR=4.9						
KMBO				LR	LR	05 51 57.8	
	comp=Z,80nm,18.4s,MS4.1,baz=79,slow=37						
KMBO	Kilima Mbogo	84.70	268	eP	P	05 12 17.6	+2.4
	comp=Z,5.5nm,1.1s,mb4.6						
FINES	FINESS Array B	84.73	331	i P	P	05 12 15.0	+0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	84.73	331	P	P	05 12 14.7	+0.5
	comp=Z,1.3nm,0.5s,mb4.3,baz=68,slow=6.5,SNR=13						
FINES				LR	LR	05 52 01.9	
	comp=Z,84nm,20.8s,MS4.1,baz=84,slow=37						
DAWY	Dawson	85.73	26	P	P	05 12 19.6	+0.5
VRI	Vrincioaia	86.97	316	⇓P	P	05 12 27.4	+1.9
INK	Inuvik	86.98	21	P	P	05 12 26.0	+1.0
	comp=Z,5.1nm,1.0s,mb4.7,baz=280,slow=6.0,SNR=10						
INK				pP	pP	05 12 37.4	+0.8
	comp=Z,15nm,1.2s,baz=285,slow=7.6,SNR=11						
INK				LR	LR	05 55 41.1	
	comp=Z,118nm,18.5s,MS4.3,baz=221,slow=39						
INK	Inuvik	86.98	21	P	P	05 12 26.0	+1.0
INK				pP	pP	05 12 37.4	+0.8
INK				LR	LR	05 55 41.1	
MLR	Muntele Rosu	87.57	316	LR	LR	05 55 03.1	
	comp=Z,88nm,19.9s,MS4.2,baz=67,slow=38						
MLR	Muntele Rosu	87.57	316	⇓P	P	05 12 29.5	+1.0
BURAR	Bucovina Array	87.67	318	⇑P	P	05 12 30.5	+1.6
BURAR	Bucovina Array	87.67	318	⇑P	P	05 12 30.5	+1.6
VNDA	Vanda	89.41	172	P	P	05 12 37.6	+1.1
	comp=Z,0.9nm,0.9s,mb4.1,slow=1.0,SNR=2.2						
VNDA				pP	pP	05 12 48.3	+0.1
	comp=Z,3.5nm,1.1s,baz=305,slow=6.1,SNR=4.4						
DLBC	Dease Lake	91.64	30	P	P	05 12 48.5	+1.2
	comp=Z,2.7nm,1.0s,mb4.5,baz=304,slow=18,SNR=3.0						
NOA	NORSAR Array B	91.75	333	P	P	05 12 47.5	-0.2
	comp=Z,1.0nm,0.9s,mb4.1,baz=90,slow=5.4,SNR=3.4						
NOA				LR	LR	05 59 07.7	
	comp=Z,54nm,19.6s,MS4.0,baz=175,slow=39						
NOA	NORSAR Array B	91.75	333	P	P	05 12 47.5	-0.2
NOA				LR	LR	05 59 07.7	
GERES	GERESS Array B	94.78	321	P	P	05 13 02.7	+0.9
	comp=Z,0.1nm,0.3s,mb3.7,baz=27,slow=6.0,SNR=3.6						
YKA	Yellowknife Ar	96.58	23	i P	P	05 13 10.6	+0.8
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	96.58	23	P	P	05 13 11.0	+1.3
	comp=Z,0.8nm,0.9s,mb4.2,baz=303,slow=4.7,SNR=12						
YKA				pP	pP	05 13 22.0	+0.6
	comp=Z,1.9nm,0.9s,baz=304,slow=4.3,SNR=10.0						
YKA				LR	LR	06 00 29.5	
	comp=Z,105nm,21.6s,MS4.3,slow=38						
ANMO	Albuquerque	116.82	43	PKP	PKPdf	05 18 27.4	+3.4
	comp=Z,0.4nm,0.6s,baz=270,slow=11,SNR=2.4						
ANMO				pPKP		05 18 38.4	
	comp=Z,1.3nm,0.9s,baz=334,slow=13,SNR=3.2						
ANMO	Albuquerque	116.82	43	PKP	PKPdf	05 18 27.4	+3.4
ANMO				pPKP		05 18 38.4	
TXAR	Lajitas Array	121.93	47	PKP	PKPdf	05 18 36.8	+2.7
	comp=Z,0.4nm,0.5s,baz=23,slow=0.8,SNR=9.4						
TXAR				pPKP		05 18 47.9	
	comp=Z,1.3nm,0.8s,baz=295,slow=0.3,SNR=8.6						
PLCA	Paso Flores	146.70	163	PKPbc	PKPbc	05 19 23.6	+2.7
	comp=Z,1.7nm,0.9s,baz=199,slow=9.1,SNR=4.0						
SONM	Songino Array	79.19	324	P	P	05 19 13.0	-1.2
	0.3nm,0.7s,baz=108,slow=4.6,SNR=3.3						
ILAR	Eielson Array	83.54	18	P	P	05 19 35.1	-1.4
	0.4nm,0.6s,baz=234,slow=7.8,SNR=7.7						

IDC 02 05:07:05.7±2.4**, 11.27S**×**166.34E, mb3.8**/5**, mb1 4.1**/5**, mb1mx3.9**/14**, mbtmp3.8**/5**, Error ellipse: s-maj=89.2km s-min=27.1km az=128.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	30.68	224	P	P	05 13 23.1	-1.3
	1.7nm,0.7s,baz=63,slow=4.5,SNR=3.0						
WRA	Warramunga Arr	31.95	250	P	P	05 13 33.5	-2.2
	0.8nm,0.7s,baz=82,slow=9.3,SNR=6.2						
ASAR	Alice Springs	33.21	244	P	P	05 13 44.0	-2.6
	1.8nm,0.7s,baz=74,slow=9.4,SNR=12						

TIF 02 05:09:45.4, 42.42N×45.04E, h10^{km}±2^{km}
MOS 02 05:09:47.0±0.7, 42.35N×44.91E, h16^{km}, mb4.1/1, Error ellipse: s-maj=27.6km s-min=9.2km az=117.1
ISC 02 05:09:46.7±0.9**, 42.43N**±0.04×**45.08E**±0.08**, h10^{km}, n11, σ1^{s}15**/17**, 4C-2D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUS	Dusheti	0.44	220	P	Pg	05 09 54.6	-1.1
DUS				S	Sg	05 10 02.4	+0.6
TI2	Plekhanov	0.74	200	⇓iPG	Pg	05 10 00.0	-1.6
TI2				iS	Sb	05 10 11.6	+0.4
TI2				pmax	pmax		
	comp=Z,70nm,0.2s						
TI2				smax			
	comp=E,100nm,0.4s						
MTA	Mtatsminda	0.77	196	P	Pb	05 10 00.8	-0.9
MTA				S	Sb	05 10 12.2	+0.3
ZEI	Tsey	0.94	292	⇑iPG	Pg	05 10 03.3	-2.2
ONI	Oni	1.22	278	P	Pb	05 10 08.2	-1.2
ONI				S	Sb	05 10 27.4	+2.5
KUBR	Kubataba	1.83	319	⇑ePN	Pn	05 10 19.4	+0.8
SHKI	Saki	2.00	127	⇓iPN	Pn	05 10 22.0	+1.0
SHAR	Shatzhatmas	2.20	307	⇑ePN	Pn	05 10 24.1	+0.2
GNI	Garni	2.30	186	i PN	Pn	05 10 26.3	+1.1
GNI				iS	Sn	05 10 58.8	+5.0
KIV	Kislovodsk	2.32	312	i PN	Pn	05 10 25.7	+0.1
GOF	Gofitskoye	3.02	331	⇑iPN	Pn	05 10 48.2	+13
GOF				iS	Sn	05 11 25.8	+14
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
GOF				smax			
	comp=N,140nm,0.9s						

NEIC 02 05:41:18.5, 59.60N×153.39W, h120^{km}, MG3.2(AEIC), After AEIC.
IDC 02 05:41:18.6±8.5, 59.84N×153.47W, h115^{km}±75^{km}, mb3.5/1, mb1 3.3/4, mb1mx3.1/21, mbtmp3.6/4, ML3.7/3, Error ellipse: s-maj=68.2km s-min=34.2km az=17.0
ISC 02 05:41:16.3±0.3**, 59.60N**±0.02×**153.29W**±0.05**, h132^{km}**±2^{km}**, n97, σ0^{s}88**/126**, mb3.7**/1**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OPT	Oil Point	0.06	30	P	P	05 41 34.5	+0.3
OPT				S	S	05 41 46.5	-1.3
AUL	Augustine Lava	0.23	199	P	P	05 41 34.7	+0.2
AUE	Augustine Isla	0.24	190	P	P	05 41 34.9	+0.3
AUW	Augustine West	0.24	202	P	P	05 41 34.9	+0.4
AGU	Augustine-Summ	0.25	197	P	P	05 41 35.0	+0.5
AUI	Augustine Isla	0.27	195	P	P	05 41 34.9	+0.3
AUI				S	S	05 41 48.1	-0.5
ILS	Iliamna Low So	0.38	17	P	P	05 41 35.4	+0.3
ILS				S	S	05 41 48.5	-0.9
IVS	Iliamna South	0.43	14	P	P	05 41 35.9	+0.6
IVS				S	S	05 41 49.3	-0.5
IVE	Iliamna Volcan	0.44	18	P	P	05 41 35.7	+0.2
ILW	Iliamna West	0.47	10	P	P	05 41 35.7	+0.2
INE	Iliamna NE	0.48	14	P	P	05 41 36.0	+0.4
INE				S	S	05 41 49.9	-0.4
ILIM	Iliamna	0.51	19	P	P	05 41 36.0	+0.2
ILIM				S	S	05 41 50.0	-0.6
MCNL	McNeil River	0.68	233	P	P	05 41 36.7	-0.2
XLV	Seldovia	0.81	99	P	P	05 41 38.1	+0.3
HOM	Homer	0.84	85	P	P	05 41 38.6	+0.5
RSO	Redoubt South	0.91	17	P	P	05 41 39.7	+1.0
REF	Redoubt East F	0.94	18	P	P	05 41 39.7	+0.7
REF				S	S	05 41 55.9	-0.4
RDN	Redoubt North	0.96	16	P	P	05 41 39.8	+0.6
NCT	North Crescent	0.98	10	P	P	05 41 39.8	+0.4
DFR	Drift River	1.04	17	P	P	05 41 40.4	+0.4
CNPM	China Poot	1.05	93	P	P	05 41 41.1	+1.0
RDT	Redoubt	1.08	24	P	P	05 41 40.8	+0.4
RDT				S	S	05 41 57.7	-0.9
SYI	Shuyak Island	1.09	154	P	P	05 41 41.0	+0.5
NNL	Ninilchik	1.10	65	P	P	05 41 42.3	+1.7
KAPH	Katmai Pasha	1.14	209	P	P	05 41 41.1	+0.1
KAPH				S	S	05 41 58.7	-1.0
BRLK	Bradley Lake	1.23	81	P	P	05 41 42.6	+0.7
BRLK				S	S	05 42 02.4	+0.9
KAHG	Katmai Hook Gl	1.28	211	P	P	05 41 42.5	0.0
KAHC	Katmai Hardscr	1.30	224	P	P	05 41 42.5	-0.2
KAHC				S	S	05 42 01.0	-1.7
KARR	Katmai Rainbow	1.32	214	P	P	05 41 43.1	+0.2
KAWH	Katmai	1.45	213	P	P	05 41 44.1	-0.3
NKA	Nikishka	1.54	41	P	P	05 41 47.7	+2.3
NKA				S	S	05 42 08.2	+0.5
CKL	Chakachamna La	1.67	16	P	P	05 41 47.6	+0.7
CKT	Bend	1.70	18	P	P	05 41 47.7	+0.6
CKN	Chakachatna No	1.72	18	P	P	05 41 48.3	+0.8
BGL	Barrier Glacie	1.73	15	P	P	05 41 48.4	+0.8
ACHA	Angle Creek He	1.75	218	P	P	05 41 47.6	-0.1
MGLS	Mageik LS	1.75	218	P	P	05 41 47.9	+0.1
CP2	Crater Peak Tw	1.75	17	P	P	05 41 48.9	+1.1
CRP	Crater Peak	1.77	18	P	P	05 41 49.2	+1.2
CRP				S	S	05 42 12.8	+0.7
SLKM	Skilak Lake	1.79	58	P	P	05 41 49.2	+0.9
SLKM				S	S	05 42 11.4	-1.3
KDAK	Kodiak Island	1.86	168	P	P	05 41 48.5	-0.6
KDAK				S	S	05 42 12.0	-2.0
CAHL	Cahill	1.87	215	P	P	05 41 49.2	0.0
SVW2	Sparrevohn	1.89	324	P	P	05 41 48.8	-0.6
KJL	Kejulik	1.95	218	P	P	05 41 50.4	+0.2
VOGL	Vogel Lake	2.00	44	P	P	05 41 53.2	+2.4
VOGL				S	S	05 42 19.0	+2.0
SEW	Seward	2.01	74	P	P	05 41 51.5	+0.7
SEW				S	S	05 42 15.9	-1.2
STLK	Strandline Lak	2.04	20	P	P	05 41 52.3	+1.0
FIB	Fire Island	2.21	43	P	P	05 41 54.9	+1.4
FIB				S	S	05 42 23.0	+1.3
RC01	Rabbit Creek A	2.32	48	P	P	05 41 55.4	+0.5
RC01				S	S	05 42 23.0	-1.2
PWA	Palmer West	2.66	38	P	P	05 41 59.6	+0.2
LTI	Latouche	2.78	78	P	P	05 42 01.6	+0.6
PMR	Palmer	2.87	44	P	P	05 42 01.4	-0.7
GHO	Glory Hole Cre	3.06	43	P	P	05 42 04.1	-0.5
CUT	Chulitna	3.18	26	P	P	05 42 06.2	0.0
SML	Sawmill	3.30	46	P	P	05 42 07.1	-0.7
GLI	Glacier Island	3.35	65	P	P	05 42 08.4	0.0
HIN	Hinchinbrook I	3.50	74	P	P	05 42 10.8	+0.3
MID	Middleton Isla	3.55	90	P	P	05 42 11.3	+0.2
TT01	Tatalina	3.57	340	P	P	05 42 10.4	-1.0
FID	Port Fidalgo	3.60	68	P	P	05 42 11.4	-0.3
JPK	Jack Peak	3.64	63	P	P	05 42 12.9	+0.6
SCM	Sheep Creek Mo	3.69	50	P	P	05 42 12.7	-0.3
ANPK	Aniakchak Peak	3.76	225	P	P	05 42 13.3	-0.6
VLZ	Valdez	3.78	63	P	P	05 42 13.9	-0.3
EYAK	Cordova Ski Ar	3.90	73	P	P	05 42 15.5	-0.3
EYAK				S	S	05 43 00.7	-0.6
DIV	Divide	4.04	64	P	P	05 42 17.9	+0.3
TRF	Thorofare Moun	4.13	19	P	P	05 42 18.4	-0.5
TRF				S	S	05 43 05.7	-1.0
KTH	Kantishna Hill	4.13	15	P	P	05 42 18.1	-0.8
RAGM	Ragged Mountai	4.40	76	P	P	05 42 22.1	-0.4
KAIM	Kayak Island	4.50	82	P	P	05 42 23.8	0.0
KAIM				S	S	05 43 14.5	-1.2
TZL	Tazlina	4.57	54	P	P	05 42 25.6	+1.0
MCK	McKinley	4.64	25	P	P	05 42 25.2	-0.5
MCK				S	S	05 43 18.1	-0.9
BWN	Browne	4.94	20	P	P	05 42 29.4	-0.2
GLB	Gilahina Butte	5.04	64	P	P	05 42 31.8	+0.8
GLB				S	S	05 43 26.0	-2.6
PAX	Paxson	5.07	45	P	P	05 42 31.3	-0.1
PAX				S	S	05 43 28.0	-1.3
THY	Trims Highway	5.26	40	P	P	05 42 34.7	+0.7
THY				S	S	05 43 32.8	-1.2
TGL	Tana Glacier	5.35	73	P	P	05 42 35.4	+0.3
BALM	Baldy	5.63	70	P	P	05 42 39.6	+0.8
BALM				S	S	05 43 40.2	-2.7
HDA	Harding Lake	5.67	29	P	P	05 42 38.5	-1.0
CCB	Clear Creek Bu	5.68	25	P	P	05 42 38.2	-1.4
MENT	Mentasta	5.70	50	P	P	05 42 40.6	+0.7
COLA	College	5.87	23	P	P	05 42 41.1	-1.1
MDM	Murphy Dome	5.88	22	P	P	05 42 41.2	-1.0
DOT	Dot Lake	5.99	43	P	P	05 42 44.7	+0.9
IL1	Eielson Array	5.99	27	P	P	05 42 42.8	-1.1
ILAR	Eielson Array	5.99	27	P	P	05 42 42.5	-1.3
	2.6nm,0.3s,baz=215,slow=14,SNR=236						
ILAR				S	S	05 43 48.0	-3.7
	1.1nm,0.3s,baz=215,slow=28,SNR=6.4						
CTGM	Chitina Glacie	6.11	72	P	P	05 42 47.0	+1.7
IM3	Indian Mountai	6.42	358	P	P	05 42 49.5	-0.1
IMA	Indian Mountai	6.50	359	eP	P	05 42 50.5	-0.2
BC01	Beaver Creek A	6.52	53	P	P	05 42 51.8	+0.8
PNL	Peninsula	7.05	83	P	P	05 42 58.6	+0.4
PNL				S	S	05 44 15.8	-1.4
COLD	Coldfoot	7.78	9	P	P	05 43 06.4	-1.7
DAWY	Dawson	7.95	50	P	P	05 43 11.2	+0.9
BM3	Burnt Mountain	8.75	23	P	P	05 43 19.0	-1.9
INK	Inuvik	12.25	36	P	P	05 44 07.7	+0.7
	0.2nm,0.3s,baz=249,slow=13,SNR=12						
YKA	Yellowknife Ar	18.76	64	P	P	05 45 27.8	+0.7
	0.1nm,0.3s,baz=277,slow=11,SNR=7.4						
SONM	Songino Array	54.91	306	P	P	05 50 35.4	+0.4
	0.8nm,0.5s,mb3.7,baz=34,slow=7.2,SNR=8.3						

NEIC 02 05:41:44.9, 36.32S×70.09W, h228^{km}, mb4.0/2, MD3.6(GUC), After GUC.
GUC 02 05:41:44.9±0.7**, 36.32S**×**70.09W, h228^{km}**±11^{km}**, MD3.6, ML4.0, 5C-8D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	Chillan	1.63	259	⇑iP	P	05 42 22.4	-0.1
CCHI				iS	S	05 42 51.3	-0.3
CCHI				AMP		05 42 52.7	
	comp=N,405nm,0.6s						
CCHI				AMP		05 42 53.1	
	comp=E,559nm,0.3s						
SFDO	San Fernando	1.86	336	⇑iP	P	05 42 25.4	+0.7
SFDO				iS	S	05 42 55.8	+0.5
CACH	El Canelo	2.24	349	i P	P	05 42 28.9	+0.6
CACH				iS	S	05 43 03.1	+1.2
CHCH	Chadas Angostu	2.43	349	⇓iP	P	05 42 30.8	+0.5
LMEL	Las Melosas	2.47	358	⇓iP	P	05 42 31.4	+0.7
LMEL				AMP		05 43 16.0	
	comp=N,573nm,0.2s						
PCH	Pirque	2.71	352	eP	P	05 42 34.4	+1.1
PCH				iS	S	05 43 11.3	+0.4
TACH	Talagante	2.75	345	⇑iP	P	05 42 34.4	+0.7
TACH				iS	S	05 43 11.4	-0.2
RCDM	Rinconada Maip	2.88	348	⇑iP	P	05 42 35.8	+0.6
RCDM				iS	S	05 43 14.4	+0.1
RCDM				AMP		05 43 15.7	
CLCH	Cerro Calan	2.94	353	⇓iP	P	05 42 36.6	+0.8
CLCH				iS	S	05 43 15.7	+0.3
DSCH	Colegio Aleman	2.94	352	⇓iP	P	05 42 36.8	+1.0
DSCH				iS	S	05 43 16.2	+0.9
FCH	Farellones	2.99	357	⇓iP	P	05 42 37.3	+0.9
LCCH	Las Cruces	3.09	336	i P	P	05 42 38.2	+0.7
ROCH	El Roble	3.42	347	⇓iP	P	05 42 42.2	+0.7
IHA	Instituto Hidr	3.53	338	⇑iP	P	05 42 43.7	+1.0
JACH	Jahuel	3.65	353	⇓iP	P	05 42 44.9	+0.8
JACH				iS	S	05 43 30.8	+0.7
PACH	Papudo	3.94	343	eP	P	05 42 47.9	+0.4
PACH				iS	S	05 43 36.2	+0.2
PLCA	Paso Flores	4.42	185	eP	P	05 42 49.1	-4.3
ZON	Zonda	4.90	14	⇓iP	P	05 42 59.7	+0.3
ZON				eS	S	05 44 02.2	+4.8
TRQA	Tornquist	6.70	107	eP	P	05 43 15.1	-7.1
	comp=N,13nm,0.8s						
LVC	Limon Verde	13.70	5	eP	P	05 44 51.4	+0.3
	comp=N,5.2nm,0.7s						

CASC 02 06:01:07.9±1.8**, 12.58N**×**88.29W, h39^{km}**±345^{km}**, MD3.6, ML3.2, 1C-4D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	0.83	32	⇓eP	P	06 01 23.6	+0.5
CNCH				eS	S	06 01 35.6	+1.3
VSM	San Miguel	0.85	1	eP	P	06 01 24.6	+1.2
VSM				eS	S	06 01 36.5	+1.7
BLLM	Bellamira	0.86	3	⇓eP	P	06 01 24.4	+0.7
BLLM				eS	S	06 01 35.7	+0.5
CAHU	Cacacuatique	1.19	4	eP	P	06 01 29.1	+0.8
LCBS	La Ceiba	1.27	328	⇓eP	P	06 01 29.5	+0.1
LCBS				eS	S	06 01 44.8	-0.7
LFRS	El Faro	1.28	324	⇑eP	P	06 01 29.7	0.0
LFRS				eS	S	06 01 45.2	-0.8
LEON	Leon	1.37	96	eP	P	06 01 30.0	-1.0
LFU	La Fuente	1.42	326	eP	P	06 01 31.7	+0.1
TELN	Telica	1.42	89	eP	P	06 01 31.3	-0.4
TELN				eS	S	06 01 49.5	+0.1
BOQS	Boqueron	1.50	320	eP	P	06 01 33.1	+0.3
BOQS				eS	S	06 01 51.5	+0.1
MIRN	Miramar	1.55	95	⇓eP	P	06 01 32.9	-0.5
CNGN	Cerro Negro	1.56	93	eP	P	06 01 33.5	-0.1
MOMJ	Momotombo	1.72	95	eP	P	06 01 35.2	-0.7
XAVN	Gruta Xavier	1.96	102	eP	P	06 01 39.1	-0.2
MGAN	Managua	2.04	102	eP	P	06 01 40.1	-0.4
MGAN				eS	S	06 02 03.6	-1.3
MGAN				i		06 02 06.9	
	comp=N,208nm,0.3s						
TICN	Ticuantepe	2.08	105	eP	P	06 01 41.4	+0.3
WILN	Americas 2	2.09	101	eS	S	06 02 05.1	-1.1

IDC 02 06:04:31.7±1.0, 2.93S×127.28E, mb4.1/6, mb1 4.4/7, mb1mx4.2/16, mbtmp4.2/7, ML4.3/1, MS3.4/2, Ms1 3.4/2, ms1mx3.1/16, Error ellipse: s-maj=84.2km s-min=12.1km az=68.0
NEIC 02 06:04:36.7±0.6, 2.95S×127.19E, h30^{km}, mb4.6/7, Error ellipse: s-maj=30.1km s-min=7.4km az=63.0
BJI 02 06:04:36.7, 3.00S×127.20E, h30^{km}, mB5.0, mb4.4
ISC 02 06:04:35.1±0.6**, 3.0S**±0.1×**127.2E**±0.2**, h33^{km}, n27, σ0^{s}99**/30**, mb4.5**/15**, MS3.3**/2**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.97	152	eP	P	06 07 14.0	+1.1
	9.0nm,0.5s						
WRAB	Tennant Creek	18.24	158	eP	P	06 08 46.9	-0.6
	39nm,0.9s						
WRA	Warramunga Arr	18.24	158	P	P	06 08 47.7	+0.1
	1.1nm,0.3s,baz=339,slow=12,SNR=24						
MBWA	Marble Bar	19.48	201	eP	P	06 09 01.8	-0.3
	32nm,1.4s						
ASAR	Alice Springs	21.56	163	P	P	06 09 23.4	-0.4
	32nm,0.8s,mb4.8,baz=343,slow=10,SNR=39						
ASAR				S	S	06 13 24.8	+8.9
	3.7nm,1.0s,baz=348,slow=21,SNR=5.0						
ASAR				LR	LR	06 17 57.4	
	comp=Z,62nm,18.5s,MS3.0,baz=344,slow=37						
ASAR	Alice Springs	21.56	163	P	P	06 09 23.4	-0.4
ASAR				S	S	06 13 24.8	+8.9
ASAR				LR	LR	06 17 57.4	
ASPA	Alice Springs	21.56	163	eP	P	06 09 25.8	+2.0
ASPA				eS	S	06 13 24.4	+8.6
STKA	Stephens Creek	31.77	156	P	P	06 10 57.0	-1.7
	2.5nm,0.6s,mb4.3,baz=323,slow=11,SNR=2.4						
STKA				LR	LR	06 25 47.7	
	comp=Z,110nm,18.5s,MS3.6,baz=133,slow=40						
STKA	Stephens Creek	31.77	156	eP	P	06 10 56.9	-1.9
STKA				LR	LR	06 25 47.7	
CMAR	Chiang Mai Arr	35.05	308	P	P	06 11 27.4	+0.2
	1.2nm,0.4s,mb4.2,baz=133,slow=6.5,SNR=8.3						
LZH	Lanzhou	44.58	333	eP	P	06 12 50.7	+4.7
LZH				AP	pP	06 12 59.6	+3.7
LZH				XP	sP	06 13 03.1	+3.1
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.9						
LZH	Lanzhou	44.58	333	eP	P	06 12 50.7	+4.7
	comp=Z,23nm,1.2s,mb4.9						
LZH				pP	pP	06 12 59.6	+3.7
LZH				sP	sP	06 13 03.1	+3.1
LSA	Lhasa	47.39	316	eP	P	06 13 10.6	+2.2
	comp=Z,6.3nm,0.8s,mb4.6						
GTA	Gaotai	49.14	332	P	P	06 13 26.7	+4.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
JIRN	Jiri	49.87	310	eP	P	06 13 28.1	+0.5
	comp=Z,19nm,1.1s,mb5.0						
GUN	Gumba	50.23	311	eP	P	06 13 30.5	+0.1

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	comp=Z,15nm,0.7s,mb5.1						
PKI	Pulchoki	50.42	310	eP	P	06 13 32.4	+0.6
KKN	Kakani	50.63	310	eP	P	06 13 33.1	-0.3
	comp=Z,10.0nm,0.7s,mb4.8						
DMN	Daman	50.67	310	eP	P	06 13 33.5	-0.2
KOLN	Koldanda	51.91	309	eP	P	06 13 42.3	-0.7
	comp=Z,8.5nm,0.8s,mb4.8						
ULN	Ulaanbaatar	53.62	343	eP	P	06 13 56.3	+0.8
	comp=Z,8.3nm,1.3s,mb4.5						
SONM	Songino Array	53.79	343	P	P	06 13 57.7	+1.0
	comp=Z,2.0nm,0.8s,mb4.1,baz=163,slow=7.0,SNR=13						
ZAL	Zalesovo	66.78	334	P	P	06 15 23.8	-1.5
	comp=Z,0.5nm,0.5s,mb3.8,baz=353,slow=8.1,SNR=1.7						
ZAL	Zalesovo	66.78	334	P	P	06 15 23.8	-1.5
KURK	Kurchatov	67.66	329	eP	P	06 15 30.4	-0.5
	comp=Z,3.9nm,0.8s,mb4.5						
BVAR	Borovoye Array	73.20	328	P	P	06 16 03.2	-1.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=153,slow=6.6,SNR=6.1						
CHKZ	Chkalovo	73.40	329	eP	P	06 16 04.8	-0.8

*TIF **02** 06:18:09.8, 41.92N×46.16E, h10km±2km*
*MOS **02** 06:18:13.6±2.3, 41.88N×46.31E, h33km, mb4.4/1, Error ellipse: s-maj=13.0km s-min=9.0km az=81.8*
ISC 02 06:18:11.2±0.6, 41.92N±0.04×46.21E±0.04, h10km, n17, $\sigma 1^{s}09$/28, 1C-7D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GNBR	Gunib	0.73	50	ePG	Pg	06 18 25.7	-0.2
GNBR				eS	Sb	06 18 35.0	-0.3
UNCR	Uncukul	0.90	28	⇓iPG	Pg	06 18 28.8	-0.5
UNCR				eS	Sb	06 18 40.3	0.0
SHKI	Saki	1.03	134	⇓iPG	Pg	06 18 32.0	+0.2
SHKI				S	Sb	06 18 49.0	+5.0
KRNR	Karanay	1.04	29	i PG	Pg	06 18 30.7	-1.4
KRNR				pmax	pmax		
	comp=Z,318nm,0.2s						
MTA	Mtatsminda	1.09	258	P	Pb	06 18 38.3	+6.6
MTA				S	Sb	06 18 46.5	+0.7
TI2	Plekhanov	1.11	261	⇓iPG	Pg	06 18 31.5	-2.0
TI2				i		06 18 48.0	
BUJR	Buynaksk	1.12	36	ePG	Pg	06 18 33.0	-0.6
BUJR				i S	Sb	06 18 47.8	+1.1
BUJR				pmax	pmax		
	comp=Z,482nm,0.2s						
DUS	Dusheti	1.14	279	P	Pb	06 18 31.8	-0.8
DUS				S	Sb	06 18 46.5	-0.7
DBC	Dubki	1.19	22	⇓iPG	Pg	06 18 33.0	-2.0
DBC				pmax	pmax		
	comp=Z,290nm,0.2s						
MAK	Makhachkala	1.41	42	⇓iPG	Pg	06 18 39.0	-0.5
MAK				e		06 18 59.0	
MAK				pmax	pmax		
	comp=Z,510nm,0.7s						
MAK				pmax	pmax		
	comp=N,495nm,1.0s						
MAK				pmax	pmax		
	comp=E,198nm,1.0s						
MAK				smax			
	comp=E,4μm,0.6s						
MAK				smax			
	comp=Z,495nm,1.0s						
MAK				smax			
	comp=N,2μm,0.6s						
DRN	Derbent	1.58	85	⇑iPG	Pg	06 18 39.2	-3.7
DRN				i S	Sb	06 19 02.2	+2.1
DRN				pmax	pmax		
	comp=Z,288nm,0.2s						
GNI	Garni	2.09	213	d iPN	Pn	06 18 47.7	+0.9
ONI	Oni	2.15	289	P	Pn	06 18 48.0	+0.3
ONI				S	Sn	06 19 14.3	-0.4
KUBR	Kubataba	2.79	313	ePN	Pn	06 19 04.3	+7.5
KUBR				i S	Sn	06 19 33.7	+2.9
SHAR	Shatzhatmas	3.18	306	i PN	Pn	06 19 02.2	-0.1
SHAR				i S	Sn	06 19 53.7	+13
KIV	Kislovodsk	3.29	309	i PN	Pn	06 19 04.6	+0.7
GOF	Gofitskoye	3.90	325	⇓iPN	Pn	06 19 13.0	+0.5
GOF				i S	Sn	06 20 00.5	+1.7
GOF				pmax	pmax		
	comp=Z,20nm,0.9s						
GOF				smax			
	comp=N,80nm,1.2s						

*IDC **02** 07:18:27.3±0.8, 4.29S×138.07E, mb4.2/6, mb1 4.4/10, mb1mx4.3/13, mbtmp4.3/10, ML3.7/4, MS3.5/3, Ms1 3.6/3, ms1mx3.2/16, Error ellipse: s-maj=30.6km s-min=14.7km az=68.0*
*NEIC **02** 07:18:28.9±0.6, 4.26S×137.86E, h10km, Error ellipse: s-maj=17.6km s-min=9.6km az=87.0*
ISC 02 07:18:30.7±0.7, 4.44S±0.06×137.8E±0.1, h33km, n20, $\sigma 1^{s}37$/27, mb4.2/7, MS3.4/2, 2D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KAKA	Kakadu	9.75	212	⇓iP	P	07 20 50.9	-0.9
	60nm,0.6s						
KAKA				eS	S	07 22 40.2	-1.1
PMG	Port Moresby	10.56	118	Pn	P	07 20 57.5	-5.5
	0.9nm,0.3s,baz=316,slow=12,SNR=3.3						
PMG				Sn	S	07 22 48.8	-12
	0.7nm,0.3s,baz=329,slow=12,SNR=2.2						
WRAB	Tennant Creek	15.75	192	eP	P	07 22 09.0	-2.8
	110nm,1.0s						
WRAB				eS	S	07 24 47.2	-18
WRA	Warramunga Arr	15.76	192	Pn	P	07 22 08.7	-3.3
	0.1nm,0.3s,baz=18,slow=13,SNR=4.7						
WRA				Sn	S	07 24 57.8	-7.8
	1.0nm,0.3s,baz=10,slow=21,SNR=6.5						
WRA				Lg		07 26 48.8	
	0.7nm,0.3s,baz=21,slow=30,SNR=5.1						
CTA	Charters Tower	17.62	153	P	P	07 22 36.3	+0.9
	0.3nm,0.3s,baz=329,slow=14,SNR=4.9						
CTA				S	S	07 25 51.1	+2.8
	0.2nm,0.3s,baz=252,slow=20,SNR=2.0						
CTA				Lg		07 27 35.5	
	0.3nm,0.3s,baz=70,slow=23,SNR=3.1						
CTA				LR	LR	07 29 46.3	
	comp=Z,208nm,18.1s,baz=208,slow=39						
FITZ	Fitzroy Crossi	18.02	220	eP	P	07 22 41.5	+1.1
	8.8nm,0.5s						
FITZ				eS	S	07 25 52.6	-4.8
ASAR	Alice Springs	19.47	191	P	P	07 22 58.8	+1.1
	2.7nm,0.3s,baz=17,slow=11,SNR=105						
ASAR				S	S	07 26 30.1	-0.1
	0.4nm,0.3s,baz=357,slow=26,SNR=4.7						
ASAR				Lg		07 28 37.2	
	baz=14,slow=29,SNR=2.5						
ASPA	Alice Springs	19.47	191	⇓iP	P	07 22 58.5	+0.8
ASPA				eS	S	07 26 30.2	0.0
STKA	Stephens Creek	27.53	173	eP	P	07 24 18.6	+2.0
	4.6nm,1.5s,mb3.9						
STKA	Stephens Creek	27.53	173	P	P	07 24 17.6	+1.0
	1.3nm,0.6s,mb3.8,baz=342,slow=9.6,SNR=4.4						
STKA				LR	LR	07 35 00.8	
	comp=Z,168nm,20.1s,MS3.6,baz=9.6,slow=36						
FORT	Forrest	27.75	198	eP	P	07 24 19.0	+0.4
	346nm,0.5s						
KLBR	Kellerberrin	32.90	212	eP	P	07 25 04.9	+0.7
	129nm,0.8s						
NWAO	Narrogin (SRO)	34.21	212	P	P	07 25 16.8	+1.4
	7.1nm,0.7s,mb4.7,baz=38,slow=11,SNR=3.3						
CMAR	Chiang Mai Arr	44.50	302	P	P	07 26 42.4	+1.2
	1.2nm,0.3s,mb4.1,baz=131,slow=6.8,SNR=9.5						
CMAR				LR	LR	07 43 14.5	
	comp=Z,28nm,21.4s,MS3.2,baz=193,slow=33						
TLY	Talaya	63.01	337	P	P	07 28 55.6	-1.1
	106nm,0.4s,SNR=8.4						
TLY	Talaya	63.01	337	eP	P	07 28 54.3	-2.4
	9.3nm,0.6s,mb5.1						
ZAL	Zalesovo	72.95	330	P	P	07 29 58.5	-0.1
	0.7nm,0.8s,mb3.7,baz=300,slow=16,SNR=2.6						
VNDA	Vanda	74.16	175	P	P	07 30 05.6	+0.4
	1.7nm,0.6s,mb4.2,baz=356,slow=5.7,SNR=11						
ILAR	Eielson Array	87.79	25	P	P	07 31 16.0	-1.4
	0.7nm,0.7s,mb4.0,baz=269,slow=4.8,SNR=9.1						
SDV	Santo Domingo	151.47	80	PKP	PKPdf	07 38 18.7	+2.6
	1.8nm,0.8s,baz=278,slow=7.1,SNR=3.1						
SDV				PKPbc	PKPdf	07 38 24.2	+8.1
	2.3nm,0.8s,baz=257,slow=6.4,SNR=3.6						

*NEIC **02** 07:29:01.8, 16.19N×98.43W, h4km, MD4.1(MEX), After MEX.*
MEX 02 07:29:03.6±1.1, 16.44N×98.42W, h8km±11km, MD4.1, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.28	99	⇑iP	Pg	07 29 08.2	-1.2
PNIG				i S	Sg	07 29 13.3	0.0
ACX	Acapulco	1.50	287	i P	Pn	07 29 25.1	-5.8
ACX				i S	Sb	07 29 44.4	-6.0
VHO	Vista Hermosa	1.73	68	i P	Pn	07 29 31.4	-2.8
VHO				i S	Sn	07 29 55.0	-1.7
VHO	Vista Hermosa	1.73	68	i P	Pn	07 29 31.4	-2.8
VHO				i S	Sn	07 29 52.4	-4.3
OXX	Oaxaca	1.75	68	i P	Pn	07 29 31.2	-3.2
OXX				i S	Sn	07 29 52.5	-4.5
CAIG	El Cayaco	1.88	289	i P	Pn	07 29 32.7	-3.6
CAIG				i S	Sn	07 29 56.4	-3.9
PLIG	Platanillo	2.21	332	eP	Pn	07 29 38.4	-2.6
PLIG				i S	Sn	07 30 08.3	-0.4
PLIG	Platanillo	2.21	332	eP	Pn	07 29 38.4	-2.6
PLIG				i S	Sn	07 30 03.8	-4.9
HUIG	Huatulco	2.31	106	eP	Pn	07 29 38.7	-3.9
HUIG				i S	Sn	07 30 04.5	-7.0
HUIG	Huatulco	2.31	106	eP	Pn	07 29 38.7	-3.9
HUIG				i S	Sn	07 30 05.7	-5.7
YAIG	Yautepec	2.49	346	i P	Pn	07 29 43.7	-1.4
YAIG				eS	Sn	07 30 17.3	+1.3
YAIG	Yautepec	2.49	346	eP	Pn	07 29 41.4	-3.7
YAIG				eS	Sn	07 30 11.4	-4.6
IIB	San Bernardino	2.52	2	i P	Pn	07 29 44.8	-0.6
PPM	Popocatepetl	2.62	356	i P	Pn	07 29 44.8	-2.1
PPM				i P		07 29 46.1	
PPM				i S	Sn	07 30 20.8	+1.4
PPM	Popocatepetl	2.62	356	eP	Pn	07 29 44.8	-2.2
PPM				i P		07 29 44.8	
PPM				i S	Sn	07 30 15.0	-4.4
IISM	Ciudad Serdan	2.73	21	i P	Pn	07 29 46.5	-1.9
UNM	Universidad Na	2.97	346	eP	Pn	07 29 47.5	-4.4
CMIG	Matias Romero	3.45	79	i P	Pn	07 29 54.1	-4.5
CMIG				i S	Sn	07 30 36.6	-3.5
EVV	El Vigia	3.55	55	i P	Pn	07 30 02.8	+2.6

IDC 02 07:32:47.0±3.4, 5.94S×121.36E, mb3.5/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.8/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/10, Error ellipse: s-maj=231.5km s-min=26.5km az=63.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.79	139	P	P	07 37 06.6	-3.6
	0.3nm,0.3s,baz=317,slow=12,SNR=13						
ASAR	Alice Springs	21.36	147	P	P	07 37 36.9	-1.4
	1.3nm,0.8s,baz=331,slow=12,SNR=9.6						
ASAR				LR	LR	07 46 53.6	
	comp=Z,57nm,20.7s,baz=117,slow=40						
SONM	Songino Array	55.14	348	P	P	07 42 21.4	-2.1
	0.8nm,0.7s,baz=161,slow=7.1,SNR=6.1						

MAN 02 07:32:57.9, 15.09N×122.98E, h11km, mb4.2, ML3.0, MS2.7, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
POLP	Polilio Island	1.07	250	eP	Pb	07 33 17.6	-0.4
POLP				eS	Sb	07 33 33.5	+1.7
GQP	Guinayangan	1.29	204	⇑eP	Pb	07 33 21.6	-0.1
GQP				i S	Sb	07 33 39.7	+1.6
BALP	Baler	1.50	296	eP	Pn	07 33 23.8	-1.1
BALP				eS	Sb	07 33 44.2	0.0
LQP	Lukban	1.70	235	⇓eP	Pn	07 33 30.1	+2.3
PVCP	Virac	1.87	142	eP	Pn	07 33 28.9	-1.3
PVCP				eS	Sn	07 33 54.4	+0.5
CAUP	Cauayan	2.15	329	eP	Pn	07 33 33.4	-0.9
CAUP				eS	Sn	07 34 01.0	-0.2
TGY	Tagaytay City	2.21	244	eP	Pn	07 33 54.0	+19

*NEIC **02** 08:13:19.8, 16.02N×97.11W, h10km, MD3.8(MEX), After MEX.*
MEX 02 08:13:20.0±0.7, 16.01N×97.11W, h11km±9km, MD3.8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HUIG	Huatulco	0.99	104	eP	Pb	08 13 36.0	-2.7
HUIG				i S	Sb	08 13 48.6	-3.0
PNIG	Pinotepa	1.05	291	i P	Pb	08 13 37.2	-2.5
PNIG				i S	Sb	08 13 49.6	-3.5
VHO	Vista Hermosa	1.11	19	i P	Pb	08 13 37.5	-3.3
VHO				i S	Sb	08 13 52.0	-3.1
OXX	Oaxaca	1.13	19	i P	Pb	08 13 38.5	-2.5
OXX				i S	Sb	08 13 51.5	-3.9
CMIG	Matias Romero	2.39	63	eP	Pn	08 13 57.1	-2.6
CMIG				i S	Sn	08 14 26.4	-2.8
CMIG	Matias Romero	2.39	63	eP	Pn	08 13 57.1	-2.6
CMIG				i S	Sn	08 14 23.4	-5.8

*IDC **02** 08:13:27.7±1.0, 1.69N×92.25E, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, ML6.3/1, MS3.9/8, Ms1 4.0/8, ms1mx3.7/22, Error ellipse: s-maj=33.2km s-min=22.9km az=54.0*
*NEIC **02** 08:13:32.2±0.8, 1.74N×92.27E, h30km, Error ellipse: s-maj=18.4km s-min=17.0km az=191.0*
ISC 02 08:13:29.5±7.3, 1.7N±0.2×92.3E±0.1, h26km±51km, n22, $\sigma 0^{s}82$/15, mb4.1/7, MS4.0/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KULM	Kulim	9.05	67	eP	P	08 15 42.1	+0.5
CMAR	Chiang Mai Arr	17.85	21	P	P	08 17 37.4	-0.6
	41nm,0.3s,baz=214,slow=12,SNR=3.1						
CMAR				LR	LR	08 25 31.5	
	comp=Z,189nm,18.6s,baz=215,slow=40						
VIS	Vishakhapatnam	18.16	332	eP	P	08 17 42.0	0.0
VIS				eS	S	08 20 53.5	-7.3
HYB	Hyderabad	20.62	320	eP	P	08 18 16.0	+6.2
HYB	Hyderabad	20.62	320	i P	P	08 18 16.0	+6.2
WRA	Warramunga Arr	46.52	120	P	P	08 21 56.0	-1.1
	1.8nm,0.8s,mb4.0,baz=298,slow=8.5,SNR=6.0						
SONM	Songino Array	47.51	13	P	P	08 22 06.0	+1.4
	2.8nm,0.9s,mb4.3,baz=194,slow=8.4,SNR=19						
ASAR	Alice Springs	47.68	125	P	P	08 22 06.7	+0.4
	0.5nm,0.8s,mb3.6,baz=298,slow=7.7,SNR=4.9						
ZAL	Zalesovo	52.39	354	LR	LR	08 47 13.3	
	comp=Z,169nm,19.1s,MS4.1,baz=291,slow=39						
BVAR	Borovoye Array	54.25	344	P	P	08 22 54.6	-1.0
	1.0nm,0.7s,mb3.9,baz=129,slow=9.5,SNR=4.2						
KMBO	Kilima Mbogo	55.12	267	LR	LR	08 43 36.9	
	comp=Z,126nm,18.0s,MS4.0,baz=91,slow=33						
ASAJ	Asahikawa	61.26	39	LR	LR	08 50 32.3	
	comp=Z,70nm,21.5s,MS3.8,baz=132,slow=36						
MATP	Matopo	66.21	247	P	P	08 24 18.2	+0.3
	1.2nm,0.7s,mb4.0,baz=86,slow=6.0,SNR=2.9						
MATP	Matopo	66.21	247	P	P	08 24 18.2	+0.3
MAW	Mawson	72.20	191	LR	LR	08 48 09.2	
	comp=Z,87nm,19.0s,MS4.0,baz=67,slow=29						
FINES	FINESS Array B	77.29	333	P	P	08 25 22.4	-0.8
	43nm,1.6s,mb5.1,baz=90,slow=3.8,SNR=6.1						
FINES	FINESS Array B	77.29	333	P	P	08 25 22.4	-0.8
GERES	GERESS Array B	81.19	319	P	P	08 25 45.7	+1.0
	1.5nm,0.9s,mb3.9,baz=108,slow=4.2,SNR=7.0						
NOA	NORSAR Array B	84.16	331	LR	LR	09 04 57.5	
	comp=Z,41nm,19.4s,MS3.8,baz=315,slow=37						
VNDA	Vanda	87.33	168	LR	LR	08 57 10.8	
	comp=Z,131nm,19.1s,MS4.4,baz=320,slow=30						
DBIC	Dimbokro	96.91	277	LR	LR	09 09 58.4	
	comp=Z,71nm,18.5s,MS4.2,baz=25,slow=35						
TXAR	Lajitas Array	145.53	25	PKPbc	PKPbc	08 33 10.2	+3.4
	1.2nm,0.8s,baz=308,slow=2.2,SNR=13						

IDC 02 08:18:52.1±4.6, 20.17S×178.19W, h665km±64km, mb3.2/5, mb1 3.4/6, mb1mx3.1/16, mbtmp4.3/6, Error ellipse: s-maj=29.9km s-min=19.2km az=74.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
URZ	Urewera	18.48	192	P	P	08 22 29.8	-1.5
	1.4nm,0.3s,baz=302,slow=7.4,SNR=9.4						
URZ				S	S	08 25 26.1	-1.0
	0.2nm,0.3s,baz=143,slow=20,SNR=2.8						
CTA	Charters Tower	33.34	264	P	P	08 24 39.0	-1.3
	3.6nm,0.3s,baz=78,slow=10,SNR=19						
STKA	Stephens Creek	37.77	244	P	P	08 25 14.7	-1.8
	2.8nm,0.6s,baz=84,slow=11,SNR=8.7						
ASAR	Alice Springs	44.42	256	P	P	08 26 07.7	-1.3
	6.3nm,0.5s,baz=98,slow=7.5,SNR=88						
ASPA	Alice Springs	44.42	256	eP	P	08 26 07.7	-1.3
WRA	Warramunga Arr	44.47	262	P	P	08 26 07.6	-1.8
	1.7nm,0.3s,baz=97,slow=7.5,SNR=30						
TXAR	Lajitas Array	87.03	57	P	P	08 30 29.7	-1.2
	0.4nm,0.8s,baz=203,slow=6.9,SNR=4.6						

MEX 02 08:22:43.6±0.7, 15.74N×97.22W, h17km±16km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HUIG	Huatulco	1.07	88	i P	Pb	08 23 00.1	-3.2
HUIG				i S	Sb	08 23 12.8	-4.0
PNIG	Pinotepa	1.08	307	i P	Pb	08 23 00.5	-3.0
PNIG				i S	Sb	08 23 12.5	-4.8
CMIG	Matias Romero	2.61	59	eP	Pn	08 23 22.9	-3.1
CMIG				i S	Sn	08 23 52.8	-4.7

*NEIC **02** 08:46:39.6, 16.65N×100.53W, h5km, MD4.0(MEX), After MEX.*
MEX 02 08:46:39.5±0.5, 16.65N×100.53W, h4km±6km, MD4.0, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.47	32	⇑iP	Pg	08 46 48.4	-0.6
CAIG				i S	Sg	08 46 55.1	-0.2
ACX	Acapulco	0.63	69	i P	Pg	08 46 51.0	-1.1
ACX				i S	Sg	08 47 00.5	0.0
ZIIG	Zihuatanejo	1.31	317	i S	Sb	08 47 17.0	-4.3
PLIG	Platanillo	2.00	29	i P	Pn	08 47 12.2	-2.2
PLIG				i S	Sn	08 47 38.2	-2.0
PLIG	Platanillo	2.00	29	i P	Pn	08 47 12.2	-2.2
PLIG				i S	Sn	08 47 35.9	-4.3
UNM	Universidad Na	2.96	26	eP	Pn	08 47 32.5	+4.2
PPM	Popocatepetl	3.02	37	eP	Pn	08 47 27.5	-1.5
PPM				i P		08 47 29.9	
PPM				i S	Sn	08 48 05.9	-0.2
PPM	Popocatepetl	3.02	37	i P	Pn	08 47 27.2	-1.9
PPM				eP		08 47 27.5	
PPM				i S	Sn	08 47 59.8	-6.3
MOIG	Morelia	3.08	348	eP	Pn	08 47 27.1	-2.8
MOIG				i S	Sn	08 48 02.1	-5.6
VHO	Vista Hermosa	3.66	83	i P	Pn	08 47 39.2	+1.0
VHO				i S	Sn	08 48 31.2	+8.7
VHO	Vista Hermosa	3.66	83	i P	Pn	08 47 36.5	-1.7
VHO				i S	Sn	08 48 17.1	-5.4

IDC 02 09:09:04.6±2.5, 52.31N×34.78E, mb3.1/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=32.3km s-min=12.3km az=123.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AKASG	Malin Array Be	3.83	247	Pn	Pn	09 10 03.4	-2.6
	0.6nm,0.3s,baz=53,slow=12,SNR=2.9						
AKASG				Pg	Pg	09 10 12.7	-8.3
	1.4nm,0.3s,baz=55,slow=15,SNR=3.6						
AKASG				Sn	Sn	09 10 46.7	-5.7
	1.5nm,0.3s,baz=63,slow=28,SNR=2.3						
AKASG				Lg		09 11 07.8	
	2.0nm,0.3s,baz=69,slow=29,SNR=3.0						
FINES	FINESS Array B	10.31	336	Pn	P	09 11 29.8	-6.9
	0.3nm,0.3s,baz=151,slow=13,SNR=1.7						
FINES				Sn	S	09 13 18.5	-16
	0.3nm,0.3s,baz=155,slow=23,SNR=1.7						
ARCES	ARCESS Array B	17.82	349	Pn	P	09 13 09.0	-6.2
	0.2nm,0.3s,baz=159,slow=13,SNR=1.9						
YKA	Yellowknife Ar	63.02	345	P	P	09 19 31.6	-3.3
	0.1nm,0.4s,baz=12,slow=6.7,SNR=4.9						

*CSEM **02** 09:10:30.3±0.3, 37.87N×44.07E, h20km, ML3.8, Error ellipse: s-maj=7.4km s-min=3.9km az=113.0*
*ISK **02** 09:10:32.0, 37.82N×43.94E, h26km, ML3.6*
*NEIC **02** 09:10:32.1, 37.81N×44.00E, h11km, ML3.8(ISK), After ISK.*
ISC 02 09:10:32.1±1.2, 37.81N±0.03×44.0E±0.1, h10km, n22, $\sigma 1^{s}35$/29, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HKR	Hakkari	0.32	223	i PG	Pg	09 10 39.1	+0.4
HKR	Hakkari	0.32	223	Pg	Pg	09 10 39.2	+0.5
VANT	Van	0.80	322	i PG	Pg	09 10 48.5	+0.4
TVAN	Van	0.86	326	i P	Pb	09 10 49.6	+1.0
TVAN				i S	Sb	09 10 60.0	0.0
VANB	Van	0.92	328	i PG	Pg	09 10 49.1	-1.5
VANB				i SG	Sg	09 11 01.4	-1.5
VANB	Van	0.92	328	Pg	Pg	09 10 49.2	-1.4
VANB				Sg	Sg	09 11 03.2	+0.2
MSL	Mosul	1.69	206	i Pn	Pn	09 11 04.5	+2.6
MSL				i Sb	Sb	09 11 24.5	+0.4
MSL				i Sg	Sg	09 11 25.7	-2.7
BTMT	Batman	2.03	282	PN	Pn	09 11 07.4	+0.6
BEST	Besiri	2.17	273	i P	Pn	09 11 09.6	+0.8
BEST				i S	Sn	09 11 37.7	+1.7
GNI	Garni	2.40	13	ePN	Pn	09 11 11.1	-1.0
GNI	Garni	2.40	13	Pn	Pn	09 11 12.4	+0.3
ERZM	Erzurum	2.94	316	i P	Pn	09 11 23.0	+3.3
ERZM				i S	Sn	09 11 49.1	-6.4
EZM	Erzurum	2.94	316	Pn	Pn	09 11 20.4	+0.6
BINT	Bingol	2.97	292	Pn	Pn	09 11 20.9	+0.7
DIY	Diyarbakir	3.00	273	ePN	Pn	09 11 18.7	-1.9
DIY	Diyarbakir	3.00	273	Pn	Pn	09 11 20.4	-0.2
PTK	Pertek	3.79	288	ePN	Pn	09 11 29.4	-2.4
URFA	Urfa	4.14	266	ePN	Pn	09 11 33.9	-2.9
MALT	Malatya	4.44	278	eP	Pn	09 11 40.5	-0.5
MALT	Malatya	4.44	278	eP	Pn	09 11 40.5	-0.6
MYA	Malataya	4.44	278	ePN	Pn	09 11 38.9	-2.2
MYA	Malataya	4.44	278	Pn	Pn	09 11 42.0	+0.9

*IDC **02** 09:11:23.1±0.7, 19.91N×120.68E, mb4.0/12, mb1 4.2/12, mb1mx4.2/19, mbtmp4.0/12, MS3.6/3, Ms1 3.7/3, ms1mx3.0/26, Error ellipse: s-maj=32.3km s-min=16.1km az=67.0*
*MAN **02** 09:11:26.8, 19.90N×120.52E, h53km, mb4.6, ML3.5, MS3.4*
*NEIC **02** 09:11:29.4±2.6, 19.85N×120.60E, h44km±24km, mb4.4/6, Error ellipse: s-maj=16.1km s-min=6.2km az=69.0*
ISC 02 09:11:27.5±0.9, 19.86N±0.04×120.52E±0.08, h42km±10km, n35, $\sigma 0^{s}77$/37, mb4.1/15, MS3.6/3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BBP	Basco	1.47	67	eP	P	09 11 51.5	-0.5
BBP				eS	S	09 12 10.3	0.0
APYP	Conner	2.10	161	eP	P	09 12 00.7	-0.3
APYP				eS	S	09 12 27.4	+1.4
APYP	Conner	2.10	161	eP	P	09 12 00.7	-0.3
APYP				eS	S	09 12 27.5	+1.5
SGCP	Mt. Cagua	2.16	138	eP	P	09 12 01.6	-0.2
ABRA	Dolores	2.21	175	eP	P	09 12 02.1	-0.4
ABRA	Dolores	2.21	175	eP	P	09 12 02.1	-0.3
ABRA				eS	S	09 12 28.0	-0.7
CVP	Callao Caves	2.48	150	⇓eP	P	09 12 05.5	-0.8
CVP				i S	S	09 12 36.5	+1.0
CAUP	Cauayan	3.15	157	eP	P	09 12 18.3	+2.4
CAUP	Cauayan	3.15	157	eP	P	09 12 18.9	+3.0
BOLP	Bolinao	3.51	190	eP	P	09 12 20.1	-0.9
BALP	Baler	4.22	166	eP	P	09 12 31.6	+0.5
BALP	Baler	4.22	166	eP	P	09 12 31.5	+0.4
QIZ	Qiongzhong	10.11	267	eP	P	09 13 48.3	-4.8
	21nm,1.0s						
CMAR	Chiang Mai Arr	20.43	270	P	P	09 16 04.0	0.0
	0.7nm,0.3s,baz=68,slow=9.7,SNR=2.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR				LR	LR	09 23 24.0	
	comp=Z,54nm,18.4s,MS2.9,baz=90,slow=35						
BJI	Beijing	20.45	350	eP	P	09 16 03.7	-0.4
	8.0nm,0.9s						
LZH	Lanzhou	21.81	321	⇓P	P	09 16 18.5	+0.7
	26nm,1.3s,mb4.5						
LZH				pP		09 16 30.1	
LZH				sP		09 16 34.2	
SONM	Songino Array	30.17	341	P	P	09 17 35.3	-0.5
	0.6nm,0.7s,mb3.4,baz=157,slow=9.4,SNR=6.1						
FITZ	Fitzroy Crossi	38.06	172	eP	P	09 18 42.9	-1.1
	5.8nm,0.9s,mb4.3						
WRAB	Tennant Creek	41.80	160	eP	P	09 19 14.5	-0.5
	7.8nm,0.4s,mb4.7						
WRA	Warramunga Arr	41.81	160	P	P	09 19 14.3	-0.8
	4.8nm,0.4s,mb4.5,baz=342,slow=9.2,SNR=39						
KURK	Kurchatov	45.08	323	eP	P	09 19 41.5	+0.3
	3.4nm,0.9s,mb4.2						
ASAR	Alice Springs	45.19	163	P	P	09 19 42.2	-0.2
	5.7nm,0.8s,mb4.4,baz=345,slow=7.0,SNR=58						
ASPA	Alice Springs	45.19	163	eP	P	09 19 42.5	+0.1
BVAR	Borovoye Array	50.68	323	P	P	09 20 25.3	+0.5
	0.6nm,0.7s,mb3.7,baz=121,slow=8.4,SNR=3.6						
STKA	Stephens Creek	55.27	158	eP	P	09 20 58.7	-0.4
	2.2nm,0.8s,mb4.2						
STKA	Stephens Creek	55.27	158	P	P	09 20 58.4	-0.7
	2.5nm,0.9s,mb4.3,baz=296,slow=19,SNR=4.9						
ILAR	Eielson Array	73.33	27	P	P	09 22 55.2	-1.0
	0.5nm,0.6s,mb3.6,baz=273,slow=4.8,SNR=11						
FINES	FINESS Array B	74.86	330	P	P	09 23 06.0	+0.8
	1.3nm,0.8s,mb3.9,baz=90,slow=8.3,SNR=3.0						
AKASG	Malin Array Be	75.69	319	P	P	09 23 09.6	-0.5
	0.6nm,0.4s,mb3.9,baz=64,slow=7.4,SNR=5.9						
URZ	Urewera	78.48	138	LR	LR	09 53 23.7	
	comp=Z,100nm,19.7s,MS4.2,baz=268,slow=32						
MLR	Muntele Rosu	79.21	314	P	P	09 23 30.4	+0.5
	3.7nm,1.0s,mb4.3,baz=94,slow=20,SNR=3.6						
NOA	NORSAR Array B	81.75	332	LR	LR	10 02 18.1	
	comp=Z,38nm,19.6s,MS3.8,baz=340,slow=37						
GERES	GERESS Array B	85.78	321	P	P	09 24 04.5	+1.0
	0.5nm,0.7s,mb3.9,baz=27,slow=6.0,SNR=3.8						
YKA	Yellowknife Ar	87.18	22	P	P	09 24 11.0	+1.0
	1.3nm,0.8s,mb4.2,baz=312,slow=4.6,SNR=30						
SDV	Santo Domingo	149.40	22	ePKPdf	PKPdf	09 31 10.3	+1.9
SDV				ePKPbc	PKPdf	09 31 15.2	+6.8

*CSEM **02** 09:17:52.6±0.6, 67.16N×20.64E, h2^{km}, ML1.6, Error ellipse: s-maj=16.8km s-min=12.7km az=92.0, Suspected Mining explosion.*
*UPP **02** 09:17:53.2, 67.19N×20.62E, h0^{km}, ML2.6, Suspected Mining explosion.*
HEL 02 09:17:53.9±0.2**, 67.18N×20.60E, ML1.6, ML2.6**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.06	193	i P	Pg	09 17 55.0	-0.2
DUNU				i S	Sg	09 17 56.1	+0.1
MASU	Masugnsbyn	0.61	62	i P	Pg	09 18 04.8	-1.3
MASU	Masugnsbyn	0.61	62	P	Pg	09 18 04.7	-1.3
KUA	Kurravaara	0.78	353	i P	Pg	09 18 07.4	-2.2
ERTU	Ertsjaerv	0.89	134	i P	Pg	09 18 09.3	-2.3
NIKU	Nikkaluokta	0.92	320	eP	Pg	09 18 10.7	-1.5
PAJU	Pajala	0.99	98	eP	Pb	09 18 11.3	-2.3
LANU	Lannavaara	1.02	31	eP	Pb	09 18 12.4	-1.7
LANU	Lannavaara	1.02	31	P	Pb	09 18 12.3	-1.8
SJUU	Sjulsmark	1.73	166	eP	Pn	09 18 24.5	-0.9
SJUU				eS	Sb	09 18 47.8	-0.6
KIF	Kilpisjarvi	1.83	2	eP	Pn	09 18 27.2	+0.3
KIF				eS	Sn	09 18 52.8	+1.6
KIF	Kilpisjarvi	1.83	2	P	Pn	09 18 27.2	+0.3
KIF				S	Sn	09 18 52.7	+1.5
KTK1	Kautokeino	2.09	27	eP	Pn	09 18 31.9	+1.4
SGF	Sodankyl	2.31	81	eP	Pn	09 18 34.0	+0.3
SGF				eS	Sn	09 19 03.4	+0.1
KEV	Kevo	3.50	39	eS	Sn	09 19 32.6	-0.9
KEV				eSG	Sg	09 19 41.5	-8.9
KEV				MSG		09 19 43.6	
	comp=Z,1.1nm,0.3s						

IDC 02 09:23:42.0±31.0**, 15.35N×143.45E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.7**/17**, mbtmp4.0**/3**, Error ellipse: s-maj=568.9km s-min=160.8km az=2.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	36.19	195	P	P	09 30 46.5	-2.0
	3.3nm,0.8s,baz=17,slow=9.3,SNR=36						
ASAR	Alice Springs	39.88	194	P	P	09 31 17.9	-1.5
	1.4nm,0.5s,baz=18,slow=13,SNR=16						
STKA	Stephens Creek	46.98	182	P	P	09 32 14.4	-2.4
	1.1nm,0.5s,baz=355,slow=8.9,SNR=5.7						

IDC 02 09:44:58.0±1.0**, 4.26N×145.60E, mb4.0**/5**, mb1 4.3**/5**, mb1mx4.1**/15**, mbtmp4.0**/5**, Error ellipse: s-maj=59.9km s-min=21.5km az=107.0, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.48	204	P	P	09 50 37.1	-1.9
	5.9nm,0.5s,baz=29,slow=9.9,SNR=112						
ASAR	Alice Springs	30.01	202	P	P	09 51 08.7	-2.3
	0.6nm,0.5s,baz=29,slow=8.2,SNR=14						
SONM	Songino Array	54.88	329	P	P	09 54 30.8	-1.8
	0.8nm,1.0s,baz=144,slow=6.2,SNR=5.0						
ILAR	Eielson Array	76.69	24	P	P	09 56 50.2	-2.2
	0.8nm,0.6s,baz=255,slow=5.3,SNR=15						
YKA	Yellowknife Ar	90.77	27	P	P	09 58 03.4	-0.7
	0.1nm,0.5s,baz=270,slow=4.6,SNR=4.4						
LPAZ	La Paz	144.80	112	PKP	PKPdf	10 04 39.9	+0.1
	0.9nm,0.7s,baz=275,slow=3.1,SNR=3.9						
DBIC	Dimbokro	148.57	290	PKPbc	PKPdf	10 04 47.3	+1.1
	2.3nm,0.5s,baz=18,slow=3.5,SNR=7.3						

*IGQ **02** 09:45:30.6, 1.64S×77.86W, h202^{km}±2^{km}, mb4.0, Error ellipse: s-maj=2.8km s-min=2.0km az=39.4*
*NEIC **02** 09:45:36.9±1.5, 1.53S×77.59W, h216^{km}±16^{km}, mb4.1/3, Error ellipse: s-maj=21.5km s-min=9.7km az=83.0*
*IDC **02** 09:45:38.6±2.8, 1.49S×77.56W, h233^{km}±28^{km}, mb3.2/7, mb1 3.4/10, mb1mx3.2/22, mbtmp3.9/10, Error ellipse: s-maj=28.8km s-min=12.2km az=74.0*
ISC 02 09:45:33.0±0.4**, 1.56S**±0.05×**78.00W**±0.08**, h193**^{km}±4^{km}**, n44, σ0^{s}98**/48**, mb3.5**/7**, 2C-15D, Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.42	285	⇓P	P	09 45 59.0	-0.3
ULBA				S	S	09 46 18.6	-1.0
RUN2	Runtun	0.43	288	P	P	09 45 59.0	-0.3
PATA	Patacocha	0.43	277	P	P	09 45 59.3	0.0
ARRY	Arrayan	0.46	276	⇓P	P	09 45 59.0	-0.3
ARRY				S	S	09 46 19.1	-0.7
RETU	Refugio	0.46	283	P	P	09 45 59.3	-0.1
RETU				S	S	09 46 19.4	-0.4
JUIV	Juive	0.48	286	P	P	09 45 59.2	-0.3
JUIV				S	S	09 46 19.6	-0.3
CUSU	Cusua	0.49	283	P	P	09 45 59.7	+0.1
PISA	Pisayambo	0.63	322	⇓P	P	09 46 00.3	+0.2
IGUA	Igualata	0.64	276	P	P	09 46 00.5	+0.4
TAMB	Tambo	0.93	337	⇓P	P	09 46 02.2	+0.5
VC1	Cotopaxi 1	0.99	336	⇓P	P	09 46 02.7	+0.7
NAS1	Nasa	1.03	333	⇑P	P	09 46 03.5	+1.1
ANTI	Antisana	1.11	352	⇓P	P	09 46 03.3	+0.3
JUA2	San Juan 2	1.47	336	⇓P	P	09 46 06.5	+0.5
TERV	Terraza Guagua	1.50	336	⇓P	P	09 46 07.0	+0.7
PINO	Pino	1.52	336	⇓P	P	09 46 07.2	+0.7
CONE	Cono NE Rev Vo	1.52	14	⇑P	P	09 46 05.9	-0.7
ELAGU	Cayambe Volc	1.52	0	⇓P	P	09 46 06.8	+0.2
YANA	Yana	1.54	338	⇓P	P	09 46 07.2	+0.4
CAYR	Refugio Cayamb	1.56	360	⇓P	P	09 46 07.4	+0.4
CAYA	Cayambe	1.62	0	⇓P	P	09 46 08.0	+0.5
COTA	Cotacachi	1.91	350	⇓P	P	09 46 11.2	+0.8
ECEN	Cerro Negro	2.37	1	P	P	09 46 15.6	+0.3
HOJA	Cerro de Hojas	2.59	281	⇓P	P	09 46 17.2	-0.7
HOJA				S	S	09 46 52.1	-0.5
LORE	San Lorenzo	2.96	343	P	P	09 46 22.4	+0.1
LORE				S	S	09 46 58.4	-1.9
ROSC	El Rosal	7.35	30	P	P	09 47 21.2	+2.7
	0.9nm,0.3s,baz=276,slow=19,SNR=2.3						
NNA	Nana	10.43	174	eP	P	09 48 00.1	+1.4
	9.1nm,0.4s						
SDV	Santo Domingo	12.71	35	P	P	09 48 26.2	-1.8
	1.2nm,0.3s,baz=251,slow=6.7,SNR=13						
SDV	Santo Domingo	12.71	35	eP	P	09 48 25.6	-2.4
SAML	Samuel	16.47	117	eP	P	09 49 10.9	-3.9
	2.3nm,0.5s						
LPAZ	La Paz	17.57	147	P	P	09 49 26.3	-1.0
	0.5nm,0.3s,baz=334,slow=12,SNR=11						
LPAZ	La Paz	17.57	147	P	P	09 49 26.3	-1.0
LVC	Limon Verde	22.72	158	P	P	09 50 21.1	+1.8
	2.5nm,0.4s,mb4.1,baz=10,slow=6.7,SNR=11						
TXAR	Lajitas Array	39.32	323	P	P	09 52 48.0	+3.0
	0.1nm,0.5s,mb2.6,baz=149,slow=7.3,SNR=4.3						
PLCA	Paso Flores	39.58	171	P	P	09 52 45.9	-1.1
	3.3nm,1.0s,mb3.7,baz=349,slow=7.8,SNR=5.8						
PLCA	Paso Flores	39.58	171	eP	P	09 52 47.1	+0.2
	6.7nm,1.2s,mb4.0						
PDAR	Pinedale Array	52.48	331	P	P	09 54 28.8	+0.7
	0.2nm,0.4s,mb2.9,baz=139,slow=9.6,SNR=2.5						
SCHQ	Schefferville	56.95	8	P	P	09 54 58.9	-1.3
	0.9nm,0.6s,mb3.5,baz=233,slow=13,SNR=6.4						
SCHQ	Schefferville	56.95	8	P	P	09 54 58.9	-1.3
YKA	Yellowknife Ar	69.59	343	P	P	09 56 22.2	-0.6
	0.4nm,0.5s,mb3.3,baz=140,slow=5.8,SNR=14						
YKA	Yellowknife Ar	69.59	343	P	P	09 56 22.2	-0.6
DBIC	Dimbokro	73.45	83	P	P	09 56 43.8	-3.0
	2.7nm,0.6s,mb4.0,baz=247,slow=5.3,SNR=9.8						
ASAR	Alice Springs	140.11	229	PKP	PKPdf	10 04 41.3	+1.9
	0.4nm,0.6s,baz=114,slow=2.3,SNR=5.1						
WRA	Warramunga Arr	141.76	234	PKhKP		10 04 38.1	
	0.3nm,0.4s,baz=118,slow=2.8,SNR=10						
WRA				PKP	PKPdf	10 04 44.2	+1.8
	0.4nm,0.6s,baz=114,slow=2.3,SNR=8.4						

*CSEM **02** 09:47:21.4±0.4, 67.19N×20.61E, h5^{km}, ML2.5, Error ellipse: s-maj=11.7km s-min=9.5km az=155.0, Suspected Mining explosion.*
*UPP **02** 09:47:23.0, 67.18N×20.66E, h0^{km}, ML2.5, Suspected Mining explosion.*
HEL 02 09:47:23.7±0.1**, 67.18N×20.66E, ML2.5**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.07	215	i P	Pg	09 47 24.5	-0.5
DUNU				i S	Sg	09 47 26.0	+0.1
MASU	Masugnsbyn	0.59	61	i P	Pg	09 47 34.2	-1.3
ERTU	Ertsjaerv	0.87	135	i P	Pg	09 47 39.0	-2.0
NIKU	Nikkaluokta	0.94	319	eP	Pg	09 47 40.4	-2.0
PAJU	Pajala	0.97	98	eP	Pg	09 47 41.2	-1.8
LANU	Lannavaara	1.01	29	eP	Pb	09 47 41.4	-2.4
SJUU	Sjulsmark	1.72	167	eP	Pn	09 47 54.5	-0.6
KIF	Kilpisjarvi	1.84	2	eP	Pn	09 47 54.8	-2.0
KIF				eS	Sn	09 48 21.5	+0.4
KIF	Kilpisjarvi	1.84	2	P	Pn	09 47 54.7	-2.1
KIF				S	Sn	09 48 21.5	+0.4
KTK1	Kautokeino	2.08	26	eP	Pn	09 48 01.7	+1.4
SGF	Sodankyl	2.29	81	eP	Pn	09 48 03.2	-0.1
SGF				eS	Sn	09 48 31.2	-1.4
SGF	Sodankyl	2.29	81	P	Pn	09 48 03.1	-0.1
SGF				S	Sn	09 48 31.1	-1.5
MOR8	Moi Rana	2.67	251	eSG	Sg	09 48 42.4	-10

*NEIC **02** 09:49:21.2±3.6, 23.46S×179.95E, h524^{km}±42^{km}, mb4.2/7, Error ellipse: s-maj=37.7km s-min=16.8km az=201.0*
*IDC **02** 09:49:22.4±2.0, 23.40S×179.93E, h537^{km}±20^{km}, mb3.6/7, mb1 3.8/8, mb1mx3.5/17, mbtmp4.5/8, Error ellipse: s-maj=31.3km s-min=17.5km az=176.0*
ISC 02 09:49:21.2±2.7**, 23.3S**±0.1×**179.8E**±0.1**, h536**^{km}±33^{km}**, n19, σ1^{s}03**/19**, mb4.1**/11**, 2D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.13	188	P	P	09 52 29.8	-2.1
	0.3nm,0.3s,baz=31,slow=8.2,SNR=2.3						
URZ				S	S	09 55 06.8	+1.1
	0.2nm,0.3s,baz=270,slow=13,SNR=2.8						
CTA	Charters Tower	31.33	269	⇓iP	P	09 55 01.0	+1.8
	12nm,0.4s,mb4.8						
CTA	Charters Tower	31.33	269	P	P	09 55 00.7	+1.5
	16nm,0.4s,mb4.9,baz=98,slow=10,SNR=28						
CTAO	Charters Tower	31.33	269	eP	P	09 55 00.8	+1.6
	17nm,0.5s,mb4.8						
PMG	Port Moresby	34.15	288	P	P	09 55 23.7	+0.7
	9.8nm,0.8s,mb4.4,baz=127,slow=10,SNR=3.6						
STKA	Stephens Creek	34.82	247	⇓iP	P	09 55 29.4	+0.9
	2.1nm,0.5s,mb3.9						
STKA	Stephens Creek	34.82	247	P	P	09 55 29.1	+0.7
	3.9nm,0.7s,mb4.0,baz=90,slow=9.9,SNR=11						
ASAR	Alice Springs	41.99	260	P	P	09 56 27.4	+0.6
	4.2nm,0.5s,mb4.2,baz=99,slow=6.9,SNR=55						
ASAR				ScP		10 01 09.8	
	2.5nm,1.3s,baz=107,slow=3.6,SNR=4.2						
ASAR				S	S	10 02 07.0	-0.7
	0.3nm,0.7s,baz=92,slow=15,SNR=4.8						
ASPA	Alice Springs	41.99	260	eP	P	09 56 27.3	+0.4
WRAB	Tennant Creek	42.29	266	eP	P	09 56 28.9	-0.3
WRA	Warramunga Arr	42.30	266	P	P	09 56 29.5	+0.1
	5.5nm,0.4s,mb4.5,baz=94,slow=8.5,SNR=329						
WRA				ScP		10 01 10.8	
	0.5nm,0.8s,baz=101,slow=3.7,SNR=4.6						
KAKA	Kakadu	46.10	275	eP	P	09 56 58.5	-0.5
	4.8nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	50.73	265	eP	P	09 57 33.8	+0.2
	4.2nm,0.4s,mb4.1						
MBWA	Marble Bar	55.34	260	eP	P	09 58 04.7	-1.7
	6.0nm,0.7s,mb3.9						
NWAO	Narrogin (SRO)	55.36	245	eP	P	09 58 04.6	-1.8
	4.9nm,0.8s,mb3.8						
PLCA	Paso Flores	88.81	134	P	P	10 01 19.9	+0.9
	0.9nm,0.7s,mb3.7,baz=238,slow=5.8,SNR=3.1						
TXAR	Lajitas Array	90.22	58	P	P	10 01 25.6	-0.2
	0.5nm,0.7s,mb3.5,baz=212,slow=7.4,SNR=6.6						
HFS	Hagfors	141.90	349	PKhKP		10 07 47.5	
	0.9nm,0.3s,baz=63,slow=3.3,SNR=11						
AKASG	Malin Array Be	144.36	328	PKP	PKPdf	10 07 55.1	-0.5
	0.6nm,0.4s,baz=45,slow=4.4,SNR=7.5						

*IDC **02** 10:19:29.5±1.2, 18.87N×81.16W, mb3.5/6, mb1 3.9/8, mb1mx3.6/20, mbtmp3.7/8, ML4.0/2, MS3.2/4, Ms1 3.2/4, ms1mx2.7/23, Error ellipse: s-maj=32.3km s-min=25.3km az=88.0*
*NEIC **02** 10:19:33.5±3.7, 18.84N×81.28W, h27^{km}±29^{km}, Error ellipse: s-maj=17.5km s-min=11.5km az=220.0*
*JSN **02** 10:19:34.8±0.9, 19.19N×81.22W, h15^{km}±999^{km}, MD4.7*
ISC 02 10:19:33.3±1.2**, 18.8N**±0.1×**81.36W**±0.06**, h43**^{km}±17^{km}**, n19, σ0^{s}97**/17**, mb3.5**/6**, MS3.1**/2**, 5D, North of Honduras**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCJ	Malvern	3.58	103	⇓iP	P	10 20 28.4	+0.6
MCJ				eS	S	10 21 10.0	+0.6
CVJ	Coleyville	3.66	98	⇓eP	P	10 20 29.2	+0.3
STH	Stony Hill	4.37	98	⇓eP	P	10 20 39.5	+0.6
STH				eS	S	10 21 26.7	-2.5
HOJ	Hope	4.44	99	⇓eP	P	10 20 40.5	+0.6
GWJ	Greenwich	4.45	98	⇓eP	P	10 20 40.1	+0.1
TEIG	Tepich	6.69	284	eP	P	10 21 09.9	-1.7
	33nm,0.2s						
JTS	JuntasAbangare	9.10	203	Pn	P	10 21 45.0	+0.1
	0.5nm,0.3s,baz=70,slow=17,SNR=4.3						
JTS				LR	LR	10 25 10.4	
	comp=Z,105nm,19.1s,baz=275,slow=37						
SDV	Santo Domingo	14.29	132	Pn	P	10 22 54.3	-0.7
	2.3nm,0.3s,baz=353,slow=6.0,SNR=21						
SDV				LR	LR	10 28 21.9	
	comp=Z,91nm,20.1s,baz=3.3,slow=37						
SDV	Santo Domingo	14.29	132	eP	P	10 22 54.5	-0.4
	12nm,0.6s						
SDV				LR	LR	10 28 21.9	
TXAR	Lajitas Array	22.90	302	P	P	10 24 36.2	+1.8
	0.3nm,0.8s,mb2.8,baz=121,slow=5.3,SNR=3.3						
SADO	Sadowa	26.01	4	LR	LR	10 34 49.7	
	comp=Z,52nm,21.8s,MS3.0,baz=151,slow=36						
ULM	Lac du Bonnet	33.50	343	LR	LR	10 39 15.0	
	comp=Z,59nm,21.4s,MS3.3,baz=307,slow=36						
PDAR	Pinedale Array	33.79	321	P	P	10 26 14.0	+0.8
	0.4nm,0.8s,mb3.4,baz=117,slow=6.0,SNR=2.9						
SCHQ	Schefferville	37.69	14	P	P	10 26 45.3	-0.9
	1.8nm,0.8s,mb3.9,baz=220,slow=12,SNR=2.0						
YKA	Yellowknife Ar	49.39	340	P	P	10 28 21.0	+0.6
	0.1nm,0.8s,mb2.9,baz=132,slow=8.3,SNR=4.5						
ILAR	Eielson Array	62.81	334	P	P	10 29 55.7	-0.9
	0.6nm,1.2s,mb3.6,baz=112,slow=4.9,SNR=2.6						
ARCES	ARCESS Array B	78.32	20	P	P	10 31 29.9	-0.3
	3.9nm,0.9s,mb4.3,baz=281,slow=14,SNR=2.9						
WRA	Warramunga Arr	146.34	262	PKPbc	PKPbc	10 39 13.9	+3.7
	0.4nm,0.8s,baz=79,slow=2.8,SNR=2.7						
ASAR	Alice Springs	146.82	255	PKPbc	PKPbc	10 39 12.9	+1.7
	0.7nm,1.2s,baz=98,slow=4.2,SNR=2.8						

*DJA **02** 10:42:05.2±0.3, 6.74S×130.02E, h200^{km}, mb6.6/2, ML7.5/7, Error ellipse: s-maj=15.7km s-min=4.9km az=168.0*
*MOS **02** 10:42:07.9±2.5, 6.55S×129.98E, h185^{km}, mb7.1/49, MS6.6/51, Error ellipse: s-maj=6.7km s-min=4.4km az=119.0 Broadband fault plane solution: P waves. NP1: ϕ$_s$274°, δ41°, λ173°. NP2: ϕ$_s$10°, δ85°, λ49°. Principal axes: T Plg36°, Azm245°; N Plg41°, Azm14°; P Plg28°, Azm132°;*
*BJI **02** 10:42:09.7, 6.70S×130.16E, h228^{km}, mB7.0, mb6.7*
*CSEM **02** 10:42:10.5, 6.61S×130.01E, h200^{km}, MS7.1*
*IDC **02** 10:42:11.1±0.5, 6.50S×129.88E, h197^{km}±4^{km}, mb6.4/26, mb1 6.4/29, mb1mx6.4/29, mbtmp6.9/29, MS6.7/11, Ms1 6.7/11, ms1mx6.1/25, Error ellipse: s-maj=9.2km s-min=5.2km az=73.0*
*NEIC **02** 10:42:12.2±0.1, 6.53S×129.93E, mb7.0/81, ME7.0, MW7.1, Error ellipse: s-maj=4.8km s-min=3.7km az=218.0 Broadband fault plane solution: P waves. NP1: ϕ$_s$50°, δ80°, λ90°. NP2: ϕ$_s$230°, δ10°, λ90°. Principal axes: T Plg55°, Azm320°; N Plg0°, Azm0°; P Plg35°, Azm140°; Moment Tensor Solution. s32 Moment tensor: Scale 10^{19} Nm; M$_{rr}$1.82; M$_{\theta\theta}$-3.24; M$_{\phi\phi}$1.42; M$_{r\theta}$2.54; M$_{\theta\phi}$-1.55; M$_{\phi r}$2.98; Best double couple: M$_0$5×10^{19} NP1: ϕ$_s$290°, δ31°, λ154°. NP2: ϕ$_s$42°, δ77°, λ61°. Principal axes: T 4.7, Plg50°, Azm281°; N .66, Plg28°, Azm50°; P -5.36, Plg26°, Azm155°; Complex earthquake, with at least one larger event occurring about 3 seconds after the onset observed on broadband displacement seismograms. Depth and focal mechanism based on first event. Energy computed from BB mechanism.*
NEIC Felt [V] on Ambon and at Waingapu, Sumba; [III] at Jayapura and Merauke, Papua. Felt at Manokwari and Sorong, Papua. Felt at Karangasem and Klungkung, Bali. Felt [IV] at Dili, East Timor. Felt [IV] at Darwin, Humpty Doo-MacMinns Lagoon, Jabiru and Palmerston; [III] at Katherine, Australia. Also felt at Howard Springs and Kununurra, Australia.
*HRVD **02** 10:42:12.2±0.1, 6.54S×129.99E, h196^{km}, MW7.1/78, Centroid moment Tensor Solution. LP body waves: s78,c220;Mantle waves: s78,c387; Half duration: 8^{s}7 Moment tensor: Scale 10^{19}Nm; M$_{rr}$0.34±.03; M$_{\theta\theta}$-3.43±.02; M$_{\phi\phi}$3.10±.02; M$_{r\theta}$2.97±.02; M$_{\theta\phi}$-0.59±.02; M$_{\phi r}$3.60±.02; Best double couple: M$_0$5.734×10^{19} NP1: ϕ$_s$308°, δ35°, λ176°. NP2: ϕ$_s$41°, δ88°, λ55°. Principal axes: T 5.748, Plg37°, Azm280°; N -.021, Plg35°, Azm43°; P -5.72, Plg33°, Azm161°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BGS **02** 10:42:13.0, 6.53S×129.93E, h202^{km}*
ISC 02 10:42:09.4±0.1**, 6.57S**±0.02×**129.88E**±0.02**, h198**^{km}**, h198**^{km}±1.6^{km}**:pP-P, n1519, σ1^{s}32**/666**, mb6.8**/127**, 238C-64D, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWI	Sorong	5.83	14	eP	P	10 43 33.0	-2.1
KAKA	Kakadu	6.61	158	⇓iP	P	10 43 44.1	-1.1
TNE	Ternate	7.82	340	eP	P	10 43 57.2	-3.9
BUNI	Buntu Taipa	9.95	286	⇓iP	P	10 44 31.1	+2.3
	3μm,1.0s						
BUNI	Buntu Taipa	9.95	286	⇓iPn	P	10 44 31.2	+2.4
	5μm,1.0s						
NINI	Niniconang	10.30	281	⇑eP	P	10 44 35.3	+1.9
NINI				pmax	pmax		
	comp=Z,3μm,0.9s						
NINI	Niniconang	10.30	281	⇑ePn	P	10 44 35.3	+1.9
	comp=Z,6μm,0.9s						
TANI	Tanete Lipujan	10.91	286	⇑iP	P	10 44 43.3	+2.0
TANI				pmax	pmax		
	comp=Z,3μm,0.8s						
TANI	Tanete Lipujan	10.91	286	⇑iP	P	10 44 43.3	+2.0
	comp=Z,3μm,0.8s						
TANI				i pP		10 44 46.0	
TANI	Tanete Lipujan	10.91	286	ePn	P	10 44 46.7	+5.4
	comp=Z,6μm,0.8s						
MENI	Mendum Tagoi	11.25	69	⇑eP	P	10 44 47.0	+1.4
MENI				pmax	pmax		
	comp=Z,2μm,0.9s						
MENI	Mendum Tagoi	11.25	69	⇑eP	P	10 44 47.0	+1.4
	comp=Z,2μm,0.9s						
MENI	Mendum Tagoi	11.25	69	⇑ePn	P	10 44 44.5	-1.1
	comp=Z,4μm,0.9s						
YOMI	Yo Moklole	11.34	70	⇑eP	P	10 44 46.1	-0.6
	comp=Z,3μm,0.8s						
YOMI	Yo Moklole	11.34	70	⇑ePn	P	10 44 46.6	-0.1
	comp=Z,6μm,0.8s						
FITZ	Fitzroy Crossi	12.19	199	⇑iP	P	10 44 54.9	-2.7
	comp=Z,18μm,0.8s						
FITZ				eS	S	10 47 04.7	-5.3
KEDI	Kedomdong	13.78	261	⇓iP	P	10 45 15.8	-2.0
KEDI				pmax	pmax		
	comp=Z,3μm,0.5s						
KEDI	Kedomdong	13.78	261	⇓iP	P	10 45 15.8	-2.0
	comp=Z,3μm,0.5s						
KEDI	Kedomdong	13.78	261	⇓iP	P	10 45 15.6	-2.2
	comp=Z,7μm,0.5s						
MATI	Mati	13.90	345	eP	P	10 45 21.2	+2.0
MATI	Mati	13.90	345	eP	P	10 45 21.2	+2.0
WRAB	Tennant Creek	13.98	162	⇓eP	P	10 45 16.8	-3.4
	comp=Z,22μm,0.7s						
WRAB				eS	S	10 47 46.0	-4.8
WRA	Warramunga Arr	13.98	162	P	P	10 45 13.6	-6.6
	comp=Z,38nm,0.3s,baz=204,slow=13,SNR=1396						
WRA				S	S	10 47 44.9	-6.1
	comp=Z,756nm,0.3s,baz=343,slow=22,SNR=11						
WRA				P3KPbc		11 20 44.8	
	comp=Z,0.1nm,0.3s,baz=143,slow=1.6,SNR=3.3						
DAV	Davao City (W)	14.21	342	eP	P	10 45 24.5	+1.4
RATI	Rata	14.38	261	⇑iP	P	10 45 22.3	-3.0
	comp=Z,6μm,0.3s						
RATI	Rata	14.38	261	⇑iPn	P	10 45 21.4	-3.9
	comp=Z,6μm,0.2s						
CTBH	Cotabato--PC H	14.80	338	eP	P	10 45 36.5	+6.0
BUKP	Musuan	15.13	341	eP	P	10 45 35.7	+1.2
BUKP	Musuan	15.13	341	eP	P	10 45 35.7	+1.2
KELI	Kelakatan	15.35	263	eP	P	10 45 35.7	-1.6
	comp=Z,6μm,1.0s						
ZMPH	Zamboanga City	15.53	330	⇓eP	P	10 45 36.2	-3.2
ZMPH				eS	rx	10 46 14.1	
PAGZ	Pagadian	15.72	336	eP	P	10 45 43.4	+1.6
PAGZ	Pagadian	15.72	336	eP	P	10 45 43.4	+1.6
SRDI	Scrawed	15.72	262	ePn	P	10 45 38.4	-3.4
	comp=Z,6μm,0.2s						
CGP	Cagayan de Oro	15.79	341	⇓eP	P	10 45 45.1	+2.5
BUTP	Butuan	16.00	345	eP	P	10 45 46.8	+1.5
BUTP	Butuan	16.00	345	eP	P	10 45 46.8	+1.5
IPIL	Ipil	16.01	333	eP	P	10 45 47.3	+1.9
IPIL	Ipil	16.01	333	eP	P	10 45 47.3	+1.9
TSM	Tawau	16.13	312	P	P	10 45 48.7	+1.9
SNPH	Sibulan	17.13	337	⇑iP	P	10 46 00.5	+1.9
SNPH				i S	rx	10 46 33.5	
TBP	Tagbilaran	17.23	340	eP	P	10 45 59.7	+0.1
MSLP	Maasin	17.33	343	eP	P	10 46 02.0	+1.3
MSLP	Maasin	17.33	343	eP	P	10 46 02.0	+1.3
PMG	Port Moresby	17.34	100	P	P	10 46 01.1	+0.3
	comp=Z,118nm,0.3s,baz=278,slow=5.6,SNR=134						
PMG				S	S	10 49 18.7	+13
	comp=Z,127nm,0.3s,baz=15,slow=23,SNR=5.5						
PMG				P3KPbc		11 20 49.2	
	comp=Z,0.2nm,0.3s,baz=40,slow=3.7,SNR=4.2						
PMG	Port Moresby	17.34	100	P	P	10 46 01.1	+0.3
PMG				S	S	10 49 18.7	+13
ASAR	Alice Springs	17.44	168	P	P	10 46 01.1	-0.8
	comp=Z,834nm,0.3s,baz=348,slow=9.6,SNR=3501						

ASAR S **S** **10 49 12.4 +4.9**
comp=Z,216nm,0.3s,baz=345,slow=21,SNR=4.3
ASAR LR LR 10 53 40.7
comp=Z,460µm,19.8s,baz=296,slow=39
ASAR P3KPbc 11 20 32.9
comp=Z,0.3nm,0.3s,baz=153,slow=3.2,SNR=7.8
ASPA Alice Springs 17.44 168⇓ *i*P **P** **10 46 00.9 -1.0**
ASPA *e*SCS ScS 10 57 26.1 -0.1
ASPA *e*PKPPKP 11 20 37.1
MBWA Marble Bar 17.52 213 *e*P **P** **10 46 01.4 -1.4**
comp=Z,10µm,1.0s
MBWA *e*S **S** **10 49 12.2 +2.9**
LLP Lapu-Lapu 17.77 341⇓ *e*P **P** **10 46 06.6 +1.1**
PLP Palo 18.28 344 *e*P **P** **10 46 10.7 -0.1**
KKM Kota Kinabalu 18.52 312⇑ *i*P **P** **10 46 12.4 -0.8**
KKM Kota Kinabalu 18.52 312 P **P** **10 46 14.6 +1.4**
GUIM Jordan 18.56 337 *e*P **P** **10 46 12.9 -0.8**
GUIM Jordan 18.56 337 *e*P **P** **10 46 12.9 -0.8**
BESP Borongan 18.58 346 *e*P **P** **10 46 14.6 +0.7**
BESP Borongan 18.58 346 *e*P **P** **10 46 14.6 +0.7**
AAP Anini-y 18.63 335 *e*P **P** **10 46 11.0 -3.5**
RCP Roxas 19.36 338⇑ *e*P **P** **10 46 24.6 +2.7**
CUYO Cuyo Island 19.42 333 *e*P **P** **10 46 22.7 +0.1**
CUYO Cuyo Island 19.42 333 *e*P **P** **10 46 22.7 +0.1**
BATP Bataraza 19.44 322 *e*P **P** **10 46 22.6 -0.2**
BATP Bataraza 19.44 322 *e*P **P** **10 46 22.6 -0.2**
KALP Kalibo 19.61 337 *e*P **P** **10 46 12.0 -13**
CNP Catarman 19.65 345 *e*P **P** **10 46 24.6 -0.3**
CNP Catarman 19.65 345 *e*P **P** **10 46 24.6 -0.3**
PPR Puerto Princes 19.67 326 *e*P **P** **10 46 26.2 +1.1**
MMPH Masbate 19.80 342 *e*P **P** **10 46 29.0 +2.5**
OTRP Odiongan 20.36 337 *e*P **P** **10 46 33.1 +1.0**
OTRP Odiongan 20.36 337 *e*P **P** **10 46 33.1 +1.0**
ENPP El Nido 20.49 329 *e*P **P** **10 46 36.4 +3.0**
ENPP El Nido 20.49 329 *e*P **P** **10 46 36.4 +3.0**
BUSP Coron 20.81 332 *e*P **P** **10 46 37.5 +0.9**
BUSP Coron 20.81 332 *e*P **P** **10 46 37.5 +0.9**
SJMP San Jose 20.81 335 *e*P **P** **10 46 39.7 +3.1**
SJMP San Jose 20.81 335 *e*P **P** **10 46 39.7 +3.1**
CTA Charters Tower 20.82 132⇓ *i*P **P** **10 46 37.4 +0.8**
comp=Z,5µm,1.0s
CTA *e*S **S** **10 50 23.8 +12**
CTA Charters Tower 20.82 132 P **P** **10 46 37.5 +0.9**
comp=Z,5µm,1.0s,baz=314,slow=12,SNR=159
CTA S **S** **10 50 21.4 +9.2**
comp=Z,1µm,1.1s,baz=283,slow=19,SNR=3.3
CTA P3KPbc 11 20 38.9
comp=Z,16nm,1.0s,baz=213,slow=3.4,SNR=4.4
CTA P3KP 11 21 18.4
comp=Z,26nm,1.2s,baz=201,slow=1.7,SNR=2.4
CTAO Charters Tower 20.82 132 P **P** **10 46 37.4 +0.9**
CTAO S **S** **10 50 21.8 +10**
CTAO Charters Tower 20.82 132⇓ *i*P **P** **10 46 37.5 +0.9**
comp=Z,826nm,2.8s
CTAO LR LR
comp=Z,227µm,22.0s
PVCP Virac 20.82 344 *e*P **P** **10 46 38.5 +1.8**
PVCP Virac 20.82 344 *e*P **P** **10 46 38.5 +1.8**
AUQP San Andres 21.02 340 *e*P **P** **10 46 43.2 +4.7**
AUQP San Andres 21.02 340 *e*P **P** **10 46 43.2 +4.7**
KSM Kuching 21.11 292⇑ *i*P **P** **10 46 38.4 -1.1**
BOAC Boac 21.43 338 *e*P **P** **10 46 44.0 +1.4**
BOAC Boac 21.43 338 *e*P **P** **10 46 44.0 +1.4**
GQP Guinayangan 21.63 340 *e*P **P** **10 46 45.0 +0.4**
LQP Lukban 22.15 338⇑ *e*P **P** **10 46 53.0 +3.3**
LUBP Lubang 22.32 335 *e*P **P** **10 46 52.4 +1.1**
LUBP Lubang 22.32 335 *e*P **P** **10 46 52.4 +1.1**
TGY Tagaytay City 22.37 337⇓ *e*P **P** **10 46 53.2 +1.5**
POLP Polillo Island 22.57 340 *e*P **P** **10 46 54.0 +0.1**
POLP Polillo Island 22.57 340 *e*P **P** **10 46 54.0 +0.1**
QVP Quezon City--P 22.82 337⇓ *e*P **P** **10 46 55.2 -1.0**
PACI Pancar Gunung 22.82 269⇓ *e*P **P** **10 46 56.0 -0.3**
BALP Baler 23.64 340 *e*P **P** **10 47 02.4 -1.7**
BALP Baler 23.64 340 *e*P **P** **10 47 02.4 -1.7**
PCPH Palayan 23.64 338⇓ *e*P **P** **10 47 04.4 +0.3**
PULI Pulasari 23.75 269⇓ *i*P **P** **10 47 01.6 -3.6**
comp=Z,5µm,0.6s,mb7.3
PULI Pulasari 23.75 269⇓ *i*Pn **P** **10 47 01.7 -3.5**
FORT Forrest 24.15 184⇑ *i*P **P** **10 47 08.5 -0.2**
comp=Z,249µm,0.7s
FORT *e*pP 10 47 51.8
FORT *i* S **S** **10 51 12.5 +3.0**
SCZP Santa Cruz 24.29 336 *e*P **P** **10 47 09.0 -1.3**
SCZP Santa Cruz 24.29 336 *e*P **P** **10 47 09.0 -1.3**
BCPH Baguio City Da 24.59 338⇓ *e*P **P** **10 47 13.9 +0.9**
PALP Palanan 24.61 343 *e*P **P** **10 47 13.0 -0.1**
PALP Palanan 24.61 343 *e*P **P** **10 47 13.0 -0.1**
CAUP Cauayan 24.68 341 *e*P **P** **10 47 14.8 +1.0**
CAUP Cauayan 24.68 341 *e*P **P** **10 47 14.8 +1.0**
BOLP Bolinao 24.84 337 *e*P **P** **10 47 13.4 -2.0**
BOLP Bolinao 24.84 337 *e*P **P** **10 47 13.4 -2.0**
CVP Callao Caves 25.39 342⇑ *e*P **P** **10 47 19.2 -1.3**
ABRA Dolores 25.71 339 *e*P **P** **10 47 21.5 -1.9**
ABRA Dolores 25.71 339 *e*P **P** **10 47 21.5 -1.9**
APYP Conner 25.73 341 *e*P **P** **10 47 20.8 -2.7**
APYP Conner 25.73 341 *e*P **P** **10 47 20.8 -2.7**
SGCP Mt. Cagua 25.83 343 *e*P **P** **10 47 23.9 -0.6**
SGCP Mt. Cagua 25.83 343 *e*P **P** **10 47 23.9 -0.6**
KLBR Kellerberrin 27.36 203⇑ *i*P **P** **10 47 37.3 -1.0**
comp=Z,121µm,1.3s
KLBR *e*pP pP 10 48 22.4 +4.4
KLBR *e*S **S** **10 52 03.7 +1.8**
STKA Stephens Creek 27.46 158⇓ *i*P **P** **10 47 38.2 -1.0**
comp=Z,3µm,1.0s,mb6.9
STKA *e*pP pP 10 48 19.3 +0.4
STKA *e*S **S** **10 52 03.3 -0.2**
STKA *e*PKPPKP 11 20 05.5
STKA Stephens Creek 27.46 158 P **P** **10 47 38.2 -0.9**
comp=Z,1µm,0.6s,mb6.7,baz=332,slow=8.4,SNR=457
STKA S **S** **10 52 04.3 +0.8**
comp=Z,693nm,1.0s,baz=283,slow=4.7,SNR=1.6
STKA LR LR 10 59 41.3
comp=Z,343µm,18.4s,baz=325,slow=38
STKA SKKS 11 20 07.5
comp=Z,25nm,0.9s,baz=147,slow=4.3,SNR=15
BBP Basco 27.94 344 *e*P **P** **10 47 41.1 -2.6**
BBP Basco 27.94 344 *e*P **P** **10 47 41.1 -2.6**
SARN Sarigan 27.95 34⇓ *e*P **P** **10 47 43.8 +0.1**
MUN Mundaring 28.32 205⇑ *i*P **P** **10 47 45.9 -1.0**
comp=Z,3µm,0.5s,mb7.2
MUN *i* S **S** **10 52 18.7 +1.3**
MUN Mundaring 28.32 205⇑ *i*P **P** **10 47 45.9 -1.0**
MUN *i* S **S** **10 52 18.7 +1.3**
MUN pmax pmax
comp=Z,3µm,0.5s,mb7.2
NWAO Narrogin (SRO) 28.75 203 *e*P **P** **10 47 49.6 -1.1**
NWAO MLR MLR
comp=Z,148µm,22.0s
NWAO Narrogin (SRO) 28.75 203 P **P** **10 47 49.9 -0.8**
comp=Z,2µm,1.0s,mb6.8,baz=29,slow=10,SNR=286
NWAO Narrogin (SRO) 28.75 203 *e*P **P** **10 47 49.6 -1.1**
comp=Z,498nm,1.8s,mb5.8
NWAO *e* 10 47 51.9
NWAO LR LR
comp=Z,148µm,22.0s
HNR Honiara 29.90 97 *e*P **P** **10 47 59.0 -2.2**
comp=Z,14µm,1.1s,mb7.5
HNR LR LR
comp=Z,201µm,22.0s
IPM Ipoh 30.86 290 P **P** **10 48 09.3 -0.2**
ARMA Ärmidale 31.31 142⇓ *i*P **P** **10 48 13.2 -0.1**
ARMA *e*S **S** **10 52 57.3 -7.0**
KULM Kulim 31.46 291 *e*P **P** **10 48 12.3 -2.4**
NACB Ninganchiao 31.60 345 *e*P **P** **10 48 13.5 -2.4**
NACB *e*ScP 10 54 25.0
YHNB Yeheng 32.13 345 *e*P **P** **10 48 16.8 -3.7**
YHNB *e*ScP 10 54 28.8
QIZ Qiongzhong 32.20 323 P **P** **10 48 19.8 -1.3**
QIZ PP PP 10 49 33.1 -2.4
QIZ S **S** **10 53 15.6 -2.6**
QIZ AMB AMB
comp=Z,3µm,1.2s,mb6.6
QIZ AMB AMB
comp=Z,32µm,17.5s
QIZ LR LR
comp=N,184µm,22.7s
QIZ LR LR
comp=E,137µm,23.8s
QIZ Qiongzhong 32.20 323 *e*P **P** **10 48 19.4 -1.7**
comp=E,2µm,0.9s,mb6.7
QIZ LR LR
comp=Z,142µm,19.0s
SNG Songkhla 32.23 295 P **P** **10 48 19.0 -2.4**
comp=Z,1µm,1.0s,mb6.4
TATO Taipei 32.40 346 *e*P **P** **10 48 20.9 -1.8**
comp=Z,2µm,1.2s,mb6.5
TATO *e*ScP 10 54 29.8
TATO LR LR
comp=Z,62µm,20.0s
HKC Hong Kong 32.56 332 *i* P **P** **10 48 25.0 +0.9**
HKC *i* S **S** **10 53 24.0 +0.2**
UBT Ubonrachathani 32.81 312⇑ P **P** **10 48 25.0 -1.4**
comp=Z,6µm,0.3s,mb7.6
QZH Quanzhou 33.19 341⇑ *i*P **P** **10 48 27.7 -1.8**
QZH AP pP 10 49 15.5 +4.8
QZH S **S** **10 53 25.7 -7.9**
QZH AMB AMB
comp=Z,37µm,6.7s
QZH LR LR
comp=Z,281µm,37.5s
JOW Kunigami 33.23 357 P **P** **10 48 29.6 -0.3**
comp=Z,5µm,0.8s,mb7.1,baz=186,slow=7.9,SNR=108
JOW *e*ScP 10 54 33.9
comp=Z,1µm,0.8s,baz=170,slow=4.6,SNR=18
RIV Riverview 33.53 147 *e*P **P** **10 48 32.8 +0.5**
RIV *e*PP PP 10 49 55.6 +3.5
GZH Guangzhou 33.62 332 P **P** **10 48 36.2 +3.1**
GZH S **S** **10 53 37.1 -3.1**
GZH LR LR
comp=N,81µm,13.5s
GZH LR LR
comp=E,84µm,15.9s
GZH LR LR
comp=Z,91µm,21.8s
CNB Canberra Magne 33.76 151⇓ *i*P **P** **10 48 34.4 +0.1**
comp=Z,23µm,0.9s,mb7.7
CNB *e*PP PP 10 49 59.2 +4.3
CNB *e*S **S** **10 53 45.6 +3.3**
TOO Toolangi 33.98 158⇓ *i*P **P** **10 48 37.0 +0.9**
comp=Z,111nm,1.1s
TOO *e*S **S** **10 53 41.6 -4.0**
KKTK Khon Kaen 35.14 311⇑ P **P** **10 48 45.5 -0.6**
NNT Nongplab 35.50 302 P **P** **10 48 48.0 -1.2**
CBIJ Chichi jima 35.52 19 P **P** **10 48 47.0 -2.3**
comp=Z,2µm,0.4s,mb7.0,baz=112,slow=4.6,SNR=56
CBIJ S **S** **10 54 04.0 -5.3**
comp=Z,2µm,1.0s,baz=85,slow=22,SNR=9.9
NST Nakhon Sawan 36.83 307 P **P** **10 49 00.0 -0.3**
comp=Z,967nm,0.5s,mb6.6
SSE Sheshan 38.36 348 P **P** **10 49 14.1 +1.1**
SSE PP PP 10 50 45.0 -1.8
SSE S **S** **10 54 55.6 +3.2**
SSE AMB AMB
comp=Z,2µm,1.2s,mb6.5
SSE AMB AMB
comp=Z,24µm,11.0s
SSE LR LR
comp=N,24µm,25.1s
SSE LR LR
comp=E,82µm,25.1s
SSE LR LR
comp=Z,48µm,23.1s
SSE Sheshan 38.36 348 P **P** **10 49 14.1 +1.1**
comp=Z,2µm,1.2s,mb6.5
SSE pP pP 10 49 54.3 -0.8
SSE sP sP 10 50 14.4 -3.8
SSE PP PP 10 50 45.0 -1.8
SSE S **S** **10 54 55.6 +3.2**
SSE sS 10 56 07.8
SSE SS SS 10 57 53.6 +10
SSE LR LR
comp=Z,48µm,23.1s
NOUC Port Laguerre 38.38 118 *e*P **P** **10 49 12.9 -0.3**
NOUC Port Laguerre 38.38 118 *e*P **P** **10 49 12.9 -0.3**
DZM Mont Dzumac 38.50 117⇓ *e*P **P** **10 49 14.1 -0.2**
TAU Tasmania Unive 39.34 160⇓ *e*P **P** **10 49 21.8 +0.9**
TAU pmax pmax
comp=Z,4µm,1.3s,mb6.8
TAU MLR MLR
comp=Z,56µm,22.0s
TAU Tasmania Unive 39.34 160⇓ *e*P **P** **10 49 21.8 +0.9**
comp=Z,4µm,1.3s,mb6.8
TAU *e*ScP 10 54 55.5
TAU LR LR
comp=Z,56µm,22.0s
CM31 Chiang Mai Arr 39.36 310 *e*P **P** **10 49 21.0 -0.3**
comp=Z,3µm,0.8s,mb6.9
CM31 *e*PcP PcP 10 51 29.2 +3.0
CM31 *e*ScP 10 54 57.8
CM31 LR LR
comp=Z,130µm,21.0s
CMAR Chiang Mai Arr 39.36 310 P **P** **10 49 21.2 -0.1**
comp=Z,2µm,0.8s,mb6.7,baz=135,slow=6.8,SNR=319
CMAR PcP PcP 10 51 27.8 +1.6
comp=Z,623nm,0.9s,baz=160,slow=2.9,SNR=6.5
CMAR ScP 10 54 57.8
comp=Z,235nm,0.8s,baz=154,slow=3.5,SNR=8.0
CMAR PKiKP 10 58 39.5
comp=Z,31nm,0.8s,baz=220,slow=1.7,SNR=5.3
CMAR LR LR 11 04 30.7
comp=Z,116µm,21.7s,baz=133,slow=34
CMAR PKPPKP 11 21 39.7
comp=Z,3.1nm,0.6s,baz=260,slow=5.2,SNR=4.2
CMAR P4KPbc 11 27 34.6
comp=Z,1.6nm,0.5s,baz=180,slow=1.0,SNR=4.8
CHTO Chiang Mai 39.57 310 P **P** **10 49 22.9 -0.2**
CHTO P 10 49 25.6
CHTO ScP 10 54 59.1
CHTO S **S** **10 55 09.8 -0.8**
WHN Wuhan 39.79 339⇑ P **P** **10 49 24.8 0.0**
WHN AP pP 10 50 08.4 +1.3
WHN S **S** **10 55 13.7 0.0**
WHN AMB AMB
comp=Z,57µm,13.4s
WHN LR LR
comp=Z,122µm,22.4s
GYA Guiyang 39.81 326⇑ *i*P **P** **10 49 24.5 -0.5**
GYA PP PP 10 51 04.4 +1.8
GYA S **S** **10 55 10.2 -3.9**
GYA SS SS 10 58 13.8 +1.7
GYA AMB AMB
comp=Z,3µm,0.8s,mb6.8
GYA AMB AMB
comp=Z,34µm,10.5s
GYA LR LR
comp=N,147µm,17.2s
GYA LR LR
comp=E,120µm,19.2s
GYA LR LR
comp=Z,57µm,19.8s
NJ2 Nanjing 39.81 345 *e*P **P** **10 49 23.7 -1.3**
NJ2 AP pP 10 50 08.5 +1.2
NJ2 PP PP 10 51 06.7 +4.0
NJ2 S **S** **10 55 12.0 -2.1**
NJ2 AMB AMB
comp=Z,6µm,0.9s,mb7.0
NJ2 AMB AMB
comp=Z,56µm,11.5s
NJ2 LR LR
comp=N,133µm,23.2s
NJ2 LR LR
comp=E,173µm,13.5s
NJ2 LR LR
comp=Z,170µm,21.8s
JHJ Hachijo jima 2 40.57 13 P **P** **10 49 29.9 -1.2**
comp=Z,837nm,0.5s,mb6.4,baz=179,slow=6.0,SNR=19
JHJ PP PP 10 51 08.3 -1.9
comp=Z,322nm,0.6s,baz=71,slow=23,SNR=1.7
JHJ ScP 10 55 01.6
comp=Z,1µm,0.8s,baz=187,slow=6.6,SNR=10
JHJ LR LR 11 04 44.9
comp=Z,211µm,19.3s,baz=315,slow=33
KWAJ Kwajalein Atol 40.59 68 P **P** **10 49 31.9 +0.4**
comp=Z,28µm,1.8s,mb7.4
KWAJ LR LR
comp=Z,15µm,20.0s
KMI Kunming 41.10 321 P **P** **10 49 38.3 +2.7**
KMI AP pP 10 50 20.3 +2.2
KMI S **S** **10 55 33.9 +0.7**
KMI SS SS 10 58 35.9 -2.7
KMI AMB AMB
comp=Z,5µm,1.4s,mb6.8
KMI LR LR
comp=Z,71µm,20.0s
BJI Beijing 48.07 346 *e*P **P** **10 50 29.7 -1.1**
BJI AP pP 10 51 15.6 +1.2
BJI PCP PcP 10 51 57.5 +1.8
BJI S **S** **10 57 13.0 +0.2**
BJI AMB AMB
comp=Z,4µm,0.9s,mb6.8
BJI Beijing 48.07 346 *e*P **P** **10 50 29.7 -1.1**
BJI *e* 10 50 37.0
BJT Baijiatuau 48.05 346 *e*P **P** **10 50 29.5 -1.1**
BJT pmax pmax
comp=Z,4µm,0.8s
BJT MLR MLR
comp=Z,71µm,20.0s
BJT Baijiatuau 48.05 346 *e*P **P** **10 50 29.5 -1.1**
comp=Z,4µm,0.8s,mb6.8
BJT LR LR
comp=Z,71µm,20.0s
BJI Beijing 48.07 346 *e*P **P** **10 50 29.7 -1.1**
BJI AP pP 10 51 15.6 +1.2
BJI PCP PcP 10 51 57.5 +1.8
BJI S **S** **10 57 13.0 +0.2**
BJI AMB AMB
comp=Z,4µm,0.9s,mb6.8
BJI Beijing 48.07 346 *e*P **P** **10 50 29.7 -1.1**
BJI *PP pP 10 51 15.6 +1.2
BJI *SP sP 10 51 36.2 -0.5
BJI 10 51 57.5
BJI S **S** **10 57 13.0 +0.2**
BJI *SS 10 58 27.6
BJI pmax pmax
comp=Z,4µm,0.9s,mb6.8
BJI Beijing 48.07 346 *e*P **P** **10 50 29.7 -1.1**
comp=Z,4µm,0.9s,mb6.8
BJI pP pP 10 51 15.6 +1.2
BJI sP sP 10 51 36.2 -0.5
BJI PcP PcP 10 51 57.5 +1.8
BJI ScP 10 55 32.4
BJI S **S** **10 57 13.0 +0.2**
BJI sS 10 58 27.6
AGT Agartala 48.34 310⇑ *i*P **P** **10 50 34.0 +0.9**
AGT *i* 10 54 06.0
SNY Shenyang 48.50 354 ⇑P **P** **10 50 32.8 -1.3**
SNY AMB AMB
comp=Z,2µm,1.1s,mb6.2
SNY LR LR
comp=E,91µm,21.8s
SNY LR LR
comp=Z,64µm,40.8s
SHL Shillong 48.82 312 *e*P **P** **10 50 36.0 -0.7**
SHL *e* 10 57 36.0
LZH Lanzhou 48.97 332⇑ *i*P **P** **10 50 37.5 -0.2**
LZH AP pP 10 51 22.7 +1.2
LZH PCP PcP 10 51 58.5 -0.6
LZH PP PP 10 52 33.5 +0.6
LZH S **S** **10 57 25.0 -0.4**
LZH SCS ScS 11 00 06.5 +0.4
LZH SS SS 11 00 56.7 +0.9
LZH AMB AMB
comp=Z,8µm,1.5s,mb6.8
LZH AMB AMB
comp=Z,35µm,5.2s
LZH LR LR
comp=N,57µm,16.7s
LZH LR LR
comp=Z,85µm,17.4s
LZH Lanzhou 48.97 332⇑ *i*P **P** **10 50 37.5 -0.2**
LZH *PP pP 10 51 22.7 +1.2
LZH *SP sP 10 51 41.0 -2.7
LZH 10 51 58.5
LZH 10 52 33.5
LZH S **S** **10 57 25.0 -0.4**
LZH 11 00 06.5
LZH SS SS 11 00 56.7 +0.9
LZH pmax pmax
comp=Z,8µm,1.5s,mb6.8
LZH MLR MLR
comp=Z,85µm,17.4s
LZH Lanzhou 48.97 332⇑ *i*P **P** **10 50 37.5 -0.2**
comp=Z,8µm,1.5s,mb6.8
LZH pP pP 10 51 22.7 +1.2
LZH sP sP 10 51 41.0 -2.7

LZH				PcP	PcP	10 51 58.5	-0.6
LZH				PP	PP	10 52 33.5	+0.6
LZH				ScP		10 55 35.0	
LZH				S	S	10 57 25.0	-0.4
LZH				sS		10 58 30.0	
LZH				ScS	ScS	11 00 06.5	+0.4
LZH				SS	SS	11 00 56.7	+0.9
LZH				LR	LR		
	comp=Z,85µm,17.4s						
OUZ	Omahuta	49.22	132	⇓PN	P	10 50 40.4	+0.8
OUZ				ScP		10 55 37.8	
CAL	Calcutta	49.90	307	i P	P	10 50 47.1	+2.1
CAL				i		10 51 37.4	
CAL				e		10 51 47.0	
CAL				e		10 53 52.4	
CAL				e		10 57 35.6	
WCZ	Waipu Caves	50.08	132	PN	P	10 50 46.6	+0.5
WCZ				ScP		10 55 43.9	
HHC	Hu-ho-hao-te	50.09	342	eP	P	10 50 45.5	-0.7
HHC				AP	pP	10 51 32.3	+2.1
HHC				PP	PP	10 52 41.3	-2.5
HHC				S	S	10 57 43.9	+3.0
HHC				SS	SS	11 01 14.9	+0.7
HHC				AMB	AMB		
	comp=Z,2µm,1.4s,mb6.3						
HHC				AMB	AMB		
	comp=Z,34µm,14.9s						
HHC				LR	LR		
	comp=N,28µm,22.0s						
HHC				LR	LR		
	comp=E,45µm,23.2s						
HHC				LR	LR		
	comp=Z,50µm,25.6s						
CN2	Changchun	50.29	356	⇑iP	P	10 50 46.0	-1.6
CN2				eAP	pP	10 51 31.4	-0.3
CN2				PCP	PcP	10 52 05.1	+1.3
CN2				eS	S	10 57 41.2	-2.3
CN2				AMB	AMB		
	comp=Z,26µm,10.0s						
CN2				LR	LR		
	comp=N,39µm,20.0s						
CN2				LR	LR		
	comp=E,84µm,20.0s						
CN2				LR	LR		
	comp=Z,72µm,21.0s						
BTO	Baotou	50.37	340	eP	P	10 50 47.0	-1.3
BTO				AMB	AMB		
	comp=Z,775nm,1.0s,mb6.0						
MSZ	Milford Sound	50.37	145	PN	P	10 50 48.8	+0.5
JCZ	Jackson Bay	50.49	144	PN	P	10 50 50.1	+0.9
FOZ	Fox Glacier	50.74	143	PN	P	10 50 51.3	+0.2
FOZ				ScP		10 55 44.0	
FOZ				eSN	S	10 57 54.2	+4.4
MTAZ	Motutapu	50.84	133	ePN	P	10 50 52.4	+0.5
MTAZ				pP	pP	10 51 42.4	+6.3
MTAZ				PP	PP	10 52 42.0	-8.6
BWNR	Bhubaneshwar	50.89	303	e	P	10 50 44.0	-8.4
BWNR				e		10 55 32.0	
MLZ	Mavora Lakes	50.92	146	PN	P	10 50 51.9	-0.5
MLZ				eSN	S	10 57 55.0	+2.9
OTAZ	Otara	50.92	133	PN	P	10 50 53.5	+1.0
MDJ	Mudanjiang	50.95	360	P	P	10 50 51.6	-1.0
MDJ				PCS		10 56 02.9	
MDJ				S	S	10 57 54.4	+1.9
MDJ				AMB	AMB		
	comp=Z,2µm,1.2s,mb6.5						
MDJ				AMB	AMB		
	comp=Z,22µm,9.2s						
MDJ	Mudanjiang	50.95	360	eP	P	10 50 51.5	-1.1
	comp=Z,3µm,1.1s,mb6.6						
MDJ				eScP		10 55 41.5	
MDJ				LR	LR		
	comp=Z,58µm,20.0s						
DSZ	Denniston Nort	51.06	140	PN	P	10 50 53.4	0.0
DSZ				pP	pP	10 51 40.4	+2.8
DSZ				ScP		10 55 46.1	
DSZ				PcS		10 56 03.9	
DSZ				SN	S	10 58 00.1	+6.0
QRZ	Quartz Range	51.06	139	PN	P	10 50 53.9	+0.4
QRZ				pP	pP	10 51 41.7	+4.1
WKZ	Wanaka	51.09	145	ePN	P	10 50 52.8	-0.8
KUZ	Kuaotunu	51.42	133	PN	P	10 50 56.3	+0.1
KUZ				pP	pP	10 51 43.8	+3.4
KUZ				ScP		10 55 47.8	
EAZ	Earnscleugh	51.49	145	PN	P	10 50 55.5	-1.1
LBZ	Lake Benmore	51.51	144	PN	P	10 50 56.3	-0.4
LBZ				pP	pP	10 51 41.8	+0.8
HIZ	Hauiti	51.55	135	PN	P	10 50 57.6	+0.4
HIZ				ScP		10 55 48.6	
HIZ				eSN	S	10 58 09.8	+8.9
RPZ	Rata Peaks	51.65	143	P	P	10 50 58.0	+0.2
	comp=Z,3µm,0.7s,mb6.8,baz=298,slow=1.7,SNR=135						
RPZ				S	S	10 58 01.7	-0.5
	comp=Z,36nm,1.0s,baz=11,slow=5.2,SNR=1.4						
RPZ				PKPPKP		11 21 29.8	
	comp=Z,29nm,1.1s,baz=336,slow=17,SNR=3.1						
RPZ	Rata Peaks	51.65	143	PN	P	10 50 57.8	0.0
RPZ				pP	pP	10 51 45.5	+3.5
RPZ				SN	S	10 58 06.2	+4.1
RPZ				ScS	ScS	11 00 27.2	+3.0
TOZ	Tahuroa Road	51.67	134	PN	P	10 50 58.8	+0.7
TOZ				pP	pP	10 51 47.5	+5.2
ASAJ	Asahikawa	51.74	12	P	P	10 50 57.6	-0.9
	comp=Z,1µm,0.8s,mb6.5,baz=238,slow=12,SNR=145						
ASAJ				S	S	10 58 04.7	+1.4
	comp=Z,52nm,1.0s,baz=123,slow=23,SNR=4.0						
ASAJ				LR	LR	11 12 42.0	
	comp=Z,57µm,19.8s,baz=206,slow=35						
ASAJ				tx	tx	11 21 08.7	
	comp=Z,10nm,1.0s,baz=254,slow=18,SNR=4.0						
VRZ	Vera Road	51.76	136	ePN	P	10 50 59.7	+1.0
THZ	Tophouse	51.77	139	PN	P	10 50 58.2	-0.6
THZ				eSN	S	10 58 06.0	+2.1
THZ				ScS	ScS	11 00 26.3	+1.2
LSA	Lhasa	51.80	316	P	P	10 51 00.0	+0.8
LSA				PP	PP	10 52 56.8	-2.6
LSA				S	S	10 58 04.8	+0.4
LSA				SS	SS	11 01 45.3	+2.9
LSA				LR	LR		
	comp=N,18µm,21.5s						
LSA				LR	LR		
	comp=E,31µm,23.3s						
LSA				LR	LR		
	comp=Z,53µm,23.3s						
LSA	Lhasa	51.80	316	eP	P	10 50 59.3	+0.1
LSA				eS	S	10 58 04.1	-0.3
LSA				pmax	pmax		
	comp=Z,4µm,0.8s,mb6.9						
LSA				MLR	MLR		
	comp=Z,53µm,22.0s						
LSA	Lhasa	51.80	316	eP	P	10 50 59.3	+0.1
	comp=Z,4µm,0.8s,mb6.9						
LSA				eS	S	10 58 04.1	-0.3
LSA				LR	LR		
	comp=Z,53µm,22.0s						
NNZ	Nelson	51.81	139	PN	P	10 50 57.9	-1.1
NNZ				SN	S	10 58 07.6	+3.2
NNZ				ScS	ScS	11 00 25.4	-0.1
LTZ	Lake Taylor	51.90	141	PN	P	10 50 59.0	-0.6
VIS	Vishakhapatnam	51.91	298	i P	P	10 50 59.2	-0.9
VIS				i S	S	10 58 05.6	-0.4
SLGI	Shiliguri	52.03	311	e	P	10 51 13.0	+12
TUZ	Tuapeka	52.10	146	PN	P	10 51 00.4	-0.8
ODZ	Otahua Downs	52.15	144	PN	P	10 51 00.7	-0.9
WAZ	Wanganui	52.20	136	ePN	P	10 51 01.0	-0.9
TGRZ	Tauranga	52.22	133	ePN	P	10 51 01.8	-0.3
GTK	Gangtok	52.23	312	e	P	10 50 54.0	-8.3
MGZ	Maungaku	52.25	135	PN	P	10 51 02.7	+0.4
MGZ				ScP		10 55 50.3	
WATZ	Wairara	52.26	135	PN	P	10 51 03.2	+0.8
TUWZ	Tuamarina	52.29	139	PN	P	10 51 01.5	-1.0
TUWZ				pP	pP	10 51 47.3	+0.5
RATZ	Rangitukua	52.35	135	PN	P	10 51 04.0	+0.9
NGZ	Ngauruhoe	52.37	135	PN	P	10 51 03.7	+0.5
NGZ				ScP		10 55 51.5	
BSWZ	Blackbirch Sta	52.38	139	ePN	P	10 51 02.0	-1.2
YUK	Yuzh-Kuril'sk	52.40	15	P	P	10 51 00.5	-2.8
YUK				i *PP	pP	10 51 45.0	-2.7
YUK				i S	S	10 58 11.0	-1.2
YUK				eS		10 59 21.0	
YUK				eSS	SS	11 01 52.0	0.0
YUK				pmax	pmax		
	comp=E,8µm,1.5s						
YUK				pmax	pmax		
	comp=Z,28µm,1.5s,mb7.5						
YUK				pmax	pmax		
	comp=N,17µm,3.0s						
YUK				pmax	pmax		
	comp=E,2µm,1.0s						
YUK				pmax	pmax		
	comp=Z,5µm,1.0s,mb6.9						
YUK				pmax	pmax		
	comp=N,1µm,0.8s						
YUK				smax			
	comp=E,56µm,5.0s						
YUK				smax			
	comp=N,35µm,11.0s						
LIRZ	Lichensteins R	52.42	134	PN	P	10 51 04.1	+0.5
TUVZ	Tukino	52.44	135	PN	P	10 51 04.3	+0.5
KHZ	Kahutara	52.51	140	PN	P	10 51 03.2	-1.0
KHZ				pP	pP	10 51 46.3	-2.3
KHZ				eSN	S	10 58 17.0	+3.2
CRLZ	Canterbury Las	52.53	142	ePN	P	10 51 03.5	-0.9
MOVZ	Moawhango	52.57	136	PN	P	10 51 04.1	-0.7
TAZ	Tarawera	52.60	134	ePN	P	10 51 05.7	+0.8
CMWZ	Cape Campbell	52.62	139	PN	P	10 51 04.4	-0.7
MQZ	McQueen's Vall	52.62	142	PN	P	10 51 04.6	-0.4
KIW	Kapiti Island	52.66	138	ePN	P	10 51 04.5	-0.8
MRW	Makara Radio	52.69	138	ePN	P	10 51 04.0	-1.6
SNZO	South Karori	52.73	138	⇓eP	P	10 51 04.0	-1.9
	comp=N,2µm,0.9s,mb6.5						
SNZO				LR	LR		
	comp=Z,167µm,19.0s						
SNZO	South Karori	52.73	138	PN	P	10 51 04.6	-1.3
SNZO				pP	pP	10 51 54.5	+4.2
WIZ	White Island	52.81	133	ePN	P	10 51 06.7	+0.2
CAW	Cannon Point	52.88	138	PN	P	10 51 05.4	-1.6
BHW	Baring Head	52.89	138	PN	P	10 51 05.1	-1.9
BKZ	Black Stump Fm	52.99	135	⇓PN	P	10 51 06.8	-1.0
BKZ				ScP		10 55 49.4	
BKZ				PcS		10 55 54.8	
BKZ				SN	S	10 58 21.8	+1.5
BKZ				ScS	ScS	11 00 30.9	-2.7
TSZ	Takapari Road	53.01	136	⇓PN	P	10 51 06.8	-1.1
TSZ				pP	pP	10 51 54.1	+1.8
TSZ				pP	pP	10 51 57.5	+5.1
TSZ				SN	S	10 58 20.0	-0.5
MRZ	Mangatainoka R	53.02	137	PN	P	10 51 08.2	+0.2
MDRS	Chennai	53.02	292	e	S	10 58 19.0	-2.1
MDRS				i		10 59 43.0	
URZ	Urewera	53.05	134	P	P	10 51 06.9	-1.4
	comp=Z,407nm,0.6s,mb6.0,baz=302,slow=3.7,SNR=76						
URZ				S	S	10 58 25.2	+4.1
	comp=Z,121nm,1.2s,baz=352,slow=22,SNR=9.2						
URZ				SSS	SSS	11 04 07.9	+3.1
	comp=Z,20nm,1.0s,baz=295,slow=8.1,SNR=1.9						
URZ	Urewera	53.05	134	PN	P	10 51 06.8	-1.4
URZ				SN	S	10 58 20.8	-0.3
URZ				ScS	ScS	11 00 33.3	-0.8
MSWZ	Moikau Station	53.14	138	PN	P	10 51 06.9	-2.0
MTW	Mount Morrison	53.19	138	PN	P	10 51 07.4	-1.9
MTW				ScP		10 55 53.5	
MCQ	Macquarie Isla	53.22	159	eP	P	10 51 09.4	+0.1
MCQ				epP	pP	10 51 57.1	+3.4
MCQ				i S	S	10 58 28.5	+5.3
MCQ	Macquarie Isla	53.22	159	eP	P	10 51 09.4	+0.1
MCQ				i S	S	10 58 28.5	+5.3
PAWZ	Paruwai Farm	53.24	138	PN	P	10 51 07.8	-1.9
MWZ	Matawai	53.38	134	PN	P	10 51 09.6	-1.1
MWZ				ScP		10 55 54.3	
MWZ				eSN	S	10 58 27.0	+1.4
GTA	Gaotai	53.54	331	⇑P	P	10 51 11.5	-0.3
GTA				PP	PP	10 53 16.9	+1.1
GTA				PPP	PPP	10 54 28.1	-1.9
GTA				PCS		10 56 16.0	
GTA				S	S	10 58 28.7	+1.0
GTA				SS	SS	11 02 10.0	-0.8
GTA				AMB	AMB		
	comp=Z,4µm,1.3s,mb6.8						
GTA				AMB	AMB		
	comp=Z,42µm,11.7s						
GTA				LR	LR		
	comp=N,45µm,22.5s						
GTA				LR	LR		
	comp=E,60µm,17.6s						
GTA				LR	LR		
	comp=Z,105µm,17.5s						
PWZ	Pawanui	53.61	136	PN	P	10 51 11.1	-1.3
PWZ				SN	S	10 58 29.3	+0.6
MXZ	Matakaoa Point	53.64	132	PN	P	10 51 11.7	-1.0
MXZ				eSN	S	10 58 31.3	+2.2
KNZ	Kokohu	53.76	134	ePN	P	10 51 12.4	-1.1
KNZ				SN	S	10 58 33.6	+2.9
PUZ	Puketiti	53.80	133	PN	P	10 51 12.4	-1.4
PUZ				eSN	S	10 58 35.0	+3.8
RAO	Raoul Island	54.03	121	eP	P	10 51 15.1	-0.5
RAO				pmax	pmax		
	comp=Z,1µm,0.8s,mb6.5						
RAO				MLR	MLR		
	comp=Z,63µm,21.0s						
RAO	Raoul Island	54.03	121	eP	P	10 51 15.1	-0.5
	comp=Z,1µm,0.8s,mb6.5						
RAO				LR	LR		
	comp=Z,63µm,21.0s						
JIRN	Jiri	54.21	311	eP	P	10 51 16.3	-0.6
	comp=Z,12µm,0.9s,mb7.4						
YSS	Yuzh-Sakhalins	54.50	11	eP	P	10 51 17.3	-1.4
	comp=Z,2µm,0.9s,mb6.6						
YSS				LR	LR		
	comp=Z,76µm,21.0s						
GUN	Gumba	54.58	311	eP	P	10 51 18.9	-0.7
PKI	Pulchoki	54.75	310	eP	P	10 51 19.8	-1.0
	comp=Z,2µm,0.5s,mb7.0						
PKI	Pulchoki	54.75	310	eP	P	10 51 19.8	-1.0
PKI				pmax	pmax		
	comp=Z,1µm,0.5s,mb6.7						
BLSP	Bilaspur	54.77	303	eP	P	10 51 19.9	-1.1
BLSP				e		10 51 30.0	
	comp=Z,10µm,1.1s						
BLSP				e		10 58 41.3	
TRD	Trivandrum	54.84	285	e	P	10 51 17.2	-4.4
KKN	Kakani	54.97	311	eP	P	10 51 21.4	-0.9
	comp=Z,3µm,0.5s,mb7.0						
DMN	Daman	55.00	310	eP	P	10 51 21.9	-0.7
	comp=Z,6µm,0.8s,mb7.2						
GKN	Gorkha	55.56	310	eP	P	10 51 25.7	-0.9
	comp=Z,11µm,0.6s,mb7.6						
KLR	Kul'dur	55.59	1	eP	P	10 51 22.0	-4.5
KLR				e		10 52 21.0	
KLR				eS	S	10 58 53.0	-1.8
KLR				smax			
	comp=E,55µm,14.0s						
KLR				MLR	MLR		
	comp=E,22µm,15.0s						
KLR				MLR	MLR		
	comp=Z,36µm,15.0s						
VLK	Valmikinagar	55.80	309	eP	P	10 51 26.0	-2.3
VLK				i		10 52 17.0	
HYB	Hyderabad	56.02	296	⇑iP	P	10 51 28.0	-2.0
HYB				e	pP	10 52 08.0	-6.8
HYB				e		10 52 25.0	
HYB				eS	S	10 58 56.0	-5.0
HYB				e		11 00 54.0	
HYB				pmax	pmax		
	comp=Z,2µm,1.0s,mb6.6						
HYB	Hyderabad	56.02	296	⇑iP	P	10 51 28.0	-2.0
	comp=Z,2µm,1.0s,mb6.6						
HYB				e	pP	10 52 08.0	-6.8
HYB				epP	pP	10 52 20.0	+5.2
HYB				e		10 52 25.0	
HYB				eScP		10 56 04.0	
HYB				eS	S	10 58 56.0	-5.0
HYB				eSS		11 00 12.0	
HYB				eScS	ScS	11 00 54.0	-1.3
HYB				eP'P'		11 21 15.0	
HYB	Hyderabad	56.02	296	⇑iP	P	10 51 28.0	-2.0
	comp=Z,2µm,1.0s,mb6.6						
HYB				epP	pP	10 52 14.0	-0.8
HYB				e		10 52 20.0	
HYB				ePcP	PcP	10 52 25.0	-0.8
HYB				e		10 53 46.0	
HYB				eScP		10 56 04.0	
HYB				ePcS		10 56 26.0	
HYB				e		10 58 56.0	
HYB				eS	S	10 59 00.0	-0.9
HYB				eScS	ScS	11 00 56.0	+0.7
HYB				ePKPPKP		11 21 15.0	
HYB				LR	LR		
	comp=Z,118nm,28.0s						
KOLN	Koldanda	56.23	310	eP	P	10 51 30.7	-0.7
	comp=Z,11µm,0.9s,mb7.4						
HIA	Hailar	56.30	352	eP	P	10 51 30.1	-1.4
HIA				pmax	pmax		
	comp=Z,1µm,1.3s						
HIA				MLR	MLR		
	comp=Z,71µm,21.0s						
HIA	Hailar	56.30	352	eP	P	10 51 30.1	-1.4
	comp=Z,1µm,1.3s,mb6.3						
HIA				eScP		10 56 07.1	
HIA				LR	LR		
	comp=Z,71µm,21.0s						
DGAR	Diego Garcia	56.97	265	eP	P	10 51 35.1	-1.7
DGAR				pmax	pmax		
	comp=Z,8µm,1.1s,mb7.3						
DGAR				MLR	MLR		
	comp=Z,11µm,19.0s						
DGAR	Diego Garcia	56.97	265	eP	P	10 51 35.1	-1.7
	comp=Z,8µm,1.1s,mb7.3						
DGAR				LR	LR		
	comp=Z,11µm,19.0s						
AFI	Afiamalu	57.76	102	eP	P	10 51 41.8	-0.5
AFI				pmax	pmax		
	comp=Z,8µm,1.3s,mb7.2						
AFI				MLR	MLR		
	comp=Z,41µm,19.0s						
AFI	Afiamalu	57.76	102	eP	P	10 51 41.8	-0.5
	comp=Z,8µm,1.3s,mb7.2						
AFI				e		10 51 44.9	
AFI				LR	LR		
	comp=Z,41µm,19.0s						
ULN	Ulaanbaatar	57.82	342	⇑iP	P	10 51 42.0	-0.2
ULN				eS	S	10 59 24.5	+0.3
ULN				MLR	MLR		
	comp=Z,67µm,22.0s						
ULN	Ulaanbaatar	57.82	342	⇑iP	P	10 51 42.0	-0.2
	comp=Z,10nm,2.2s						
ULN				i		10 51 44.7	
ULN				⇑epP	pP	10 52 29.4	+2.0
ULN				eScP		10 56 14.2	
ULN				eS	S	10 59 24.5	+0.4
ULN				LR	LR		
	comp=Z,67µm,22.0s						
SONM	Songino Array	57.99	342	P	P	10 51 43.0	-0.5
	comp=Z,1µm,1.1s,mb6.5,baz=159,slow=6.9,SNR=253						
SONM				pP	pP	10 52 29.4	+0.7
	comp=Z,216nm,0.7s,baz=141,slow=9.2,SNR=1.7						
SONM				ScP		10 56 13.6	
	comp=Z,59nm,0.8s,baz=146,slow=5.2,SNR=2.6						
SONM				S	S	10 59 29.3	+2.9
	comp=Z,193nm,1.2s,baz=169,slow=6.3,SNR=8.6						
SONM				tx	tx	11 11 50.7	
	comp=Z,2.8nm,0.7s,baz=270,slow=2.0,SNR=6.3						
SONM				tx	tx	11 20 59.2	
	comp=Z,5.4nm,1.0s,baz=297,slow=2.8,SNR=3.7						
SONM				PKPPKP		11 21 23.3	
	comp=Z,24nm,1.0s,baz=287,slow=3.0,SNR=6.6						
SONM				P4KPbc		11 28 52.8	
	comp=Z,6.7nm,0.8s,baz=160,slow=5.7,SNR=9.6						
SONM	Songino Array	57.99	342	P	P	10 51 43.0	-0.5
SONM				pP	pP	10 52 29.4	+0.7
SONM				ScP		10 56 13.6	
SONM				S	S	10 59 29.3	+2.9
SONM				P'P'		11 21 23.3	
MNGI	Mangalore	58.03	290	eP	P	10 51 45.1	+0.9
MNGI				i		10 59 23.8	
LATR	Latur	58.14	296	eP	P	10 51 42.5	-2.4
JHNI	Jhansi	59.17	305	⇑iP	P	10 51 50.0	-1.9
JHNI				e		10 54 08.0	
BHPL	Bhopal	59.18	302	eP	P	10 51 49.5	-2.5
BHPL				e		10 52 01.2	
	comp=Z,4µm,1.8s						
BHPL				e		10 59 32.2	
LGTI	Lohaghat	59.62	310	eP	P	10 51 54.0	-1.0
LGTI				e		10 54 05.0	
GOA	Goa	59.69	292	i	P	10 52 03.0	+7.5
GOA				i S	S	10 59 53.6	+4.8
PTH	Pithoragarh	59.69	310	eP	P	10 51 54.0	-1.4
PTH				eP		10 51 54.2	
PTH				e		10 56 30.5	
PTH				e		10 56 31.0	
KAD	Karad	59.91	294	eP	P	10 51 55.0	-2.0
KAD				e		10 52 04.2	
	comp=Z,6µm,0.8s						
KAD				e		10 59 39.8	
DRV	Dumont d'Urvil	60.41	175	P	P	10 52 05.0	+5.2
DRV				S	S	11 00 00.0	+2.7
DRV				L		11 06 00.0	
AGRA	Agra	60.41	306	eP	P	10 52 00.4	+0.1
AGRA				e		10 52 04.3	
	comp=Z,4µm,0.9s						
POO	Poona	60.60	295	⇑eP	P	10 51 59.8	-1.9
POO				e		10 52 05.2	
	comp=Z,4µm,0.9s						
POO				e		10 59 46.4	
CASY	Casey	61.11	189	eP	P	10 52 02.8	-1.7
CASY				i S	S	11 00 08.3	+2.1
CASY				i		11 06 52.1	
CASY				ePKPPKP		11 21 10.3	
ZAK	Zakamensk	61.22	341	eP	P	10 52 04.8	-0.6
ZAK				e	pP	10 52 48.4	-2.8
ZAK				e		11 00 12.2	
ZAK				pmax	pmax		
	comp=Z,838nm,1.3s,mb6.2						
SKR	Severo-Kuril's	61.36	19	⇑iP	P	10 52 05.0	-1.4
SKR				e*PP	pP	10 52 48.0	-4.1
SKR				e		10 54 18.0	
SKR				i S	S	11 00 09.0	-0.6
SKR				e		11 01 37.0	
SKR				pmax	pmax		
	comp=N,1µm,1.5s						
SKR				pmax	pmax		
	comp=Z,4µm,1.5s,mb6.8						
SKR				pmax	pmax		
	comp=E,450nm,1.0s						
SKR				pmax	pmax		
	comp=N,8µm,14.0s						
SKR				pmax	pmax		
	comp=E,5µm,14.0s						
SKR				pmax	pmax		
	comp=Z,8µm,14.0s						
SKR				smax			
	comp=N,2µm,2.0s						
SKR				smax			
	comp=E,2µm,2.5s						
SKR				smax			
	comp=N,44µm,8.0s						
SKR				smax			
	comp=E,56µm,8.0s						
SKR				MLR	MLR		
	comp=E,16µm,20.0s						
SKR				MLR	MLR		
	comp=Z,22µm,20.0s						
SKR				MLR	MLR		
	comp=N,9µm,18.0s						
SKR	Severo-Kuril's	61.36	19	eP	P	10 52 06.0	-0.4
AYAN	Aya Nagar	61.61	307	eP	P	10 52 05.9	-2.4
NDI	New Delhi	61.63	307	i	P	10 52 05.0	-3.5
	comp=N,1µm,0.6s,mb6.7						
NDI				e	pP	10 52 48.0	-6.3
NDI				e		11 00 04.0	
BOM	Bombay	61.65	295	eP	P	10 52 07.8	-0.9
BOM				e		11 00 10.4	
DDI	Dehra Dun	61.71	309	i P	P	10 52 07.2	-1.8
DDI				eS	S	11 00 17.6	+3.4
KLP	Kalpa	62.13	311	eP	P	10 52 11.4	-0.3
KLP				e		10 52 22.6	
	comp=Z,5µm,1.3s						
TLY	Talaya	62.23	342	P	P	10 52 12.9	+0.8
	comp=Z,5µm,1.0s,mb7.1						
TLY	Talaya	62.23	342	eP	P	10 52 11.8	-0.3
TLY				eS	S	11 00 20.6	+0.2
TLY				eSSS	SSS	11 07 11.7	-5.1
TLY				pmax	pmax		
	comp=Z,788nm,1.0s,mb6.3						
TLY				MLR	MLR		
	comp=Z,33µm,20.0s						
IRK	Irkutsk	62.53	343	eP	P	10 52 14.2	+0.1
IRK				e	pP	10 53 02.6	+2.5
IRK				eS	S	11 00 29.2	+5.1

IRK pmax pmax
comp=Z,4μm,2.3s,mb6.7
SMLA Simla 62.76 310 *i* P **P** **10 52 13.4 -2.5**
SMLA *i* 11 00 24.9
AJM Ajmer 62.78 304 *i* P **P** **10 52 14.0 -2.2**
WMQ Urumqi 62.97 327⇑ *i* P **P** **10 52 16.8 -0.3**
WMQ PCP PcP 10 52 53.0 -0.2
WMQ PP PP 10 54 39.0 -0.4
WMQ PPP PPP 10 56 12.0 +0.1
WMQ PCS 10 56 55.0
WMQ S **S** **11 00 30.0 +0.3**
WMQ SS SS 11 04 40.0 -1.0
WMQ AMB AMB
comp=Z,6μm,1.4s,mb7.0
WMQ AMB AMB
comp=Z,21μm,8.4s
WMQ LR LR
comp=N,101μm,28.2s
WMQ LR LR
comp=E,48μm,24.1s
WMQ LR LR
comp=Z,66μm,26.6s
MOY Mondy 63.07 340 *e* P **P** **10 52 18.1 +0.4**
MOY *e* 11 00 33.7
MOY pmax pmax
comp=Z,6μm,2.0s,mb6.9
SDNR Sundarnagar 63.08 310 *e* P **P** **10 52 17.5 -0.6**
SDNR *e* S **S** **11 00 29.5 -1.8**
BHV Bhavnagar 63.18 298 *e* P **P** **10 52 17.0 -1.8**
CLNS Chul'man 63.31 357 *e* P **P** **10 52 20.4 +1.2**
CLNS *e* 10 52 54.7
CLNS *e* S **S** **11 00 36.4 +2.5**
CLNS pmax pmax
comp=Z,2μm,0.9s,mb6.8
CLNS pmax pmax
comp=N,1μm,1.0s
CLNS pmax pmax
comp=E,435nm,0.8s
CLNS smax
comp=N,808nm,1.6s
CLNS smax
comp=Z,58nm,1.2s
CLNS smax
comp=E,802nm,1.7s
BHK Bhakra 63.46 310 *e* P **P** **10 52 19.4 -1.2**
BHK *e* 11 00 27.9
PONG Pong 64.06 310 *e* P **P** **10 52 24.0 -0.5**
PONG *e* 11 00 40.0
PET Petropavlovsk 64.18 19*ce* P **P** **10 52 24.1 -0.8**
PET *e** PP pP 10 53 03.9 -7.2
PET *e** SP sP 10 53 30.1 -2.1
PET *i* S **S** **11 00 44.1 -0.5**
PET *e* 11 01 59.2
PET pmax pmax
comp=Z,23μm,9.4s
PET pmax pmax
comp=N,10μm,9.3s
PET pmax pmax
comp=Z,3μm,1.2s,mb6.8
PET pmax pmax
comp=Z,17μm,13.8s
PET pmax pmax
comp=N,8μm,14.8s
PET pmax pmax
comp=E,3μm,13.1s
PET smax
comp=N,30μm,6.8s
PET smax
comp=E,39μm,6.0s
PET smax
comp=N,41μm,17.4s
PET smax
comp=E,47μm,22.6s
PET MLR MLR
comp=Z,30μm,21.0s
PET MLR MLR
comp=Z,22μm,24.0s
PET Petropavlovsk 64.18 19 *e* P **P** **10 52 24.0 -0.9**
comp=Z,3μm,1.1s,mb6.9
PET *i* 10 52 26.7
PET *e* pP pP 10 53 08.5 -2.6
PET LR LR
comp=Z,32μm,21.0s
DLH Dalhousie 64.31 311 *e* P **P** **10 52 25.0 -1.1**
DLH *e* S **S** **11 00 50.0 +3.5**
THN Thein Dam 64.45 311 *e* P **P** **10 52 24.9 -2.1**
comp=Z,712nm,0.6s,mb6.5
THN *e* 11 00 45.7
MIR Mirnyy 65.03 195*be* P **P** **10 52 30.0 -0.1**
MIR *e* 10 55 00.0
MIR *e* S S 11 00 58.0 +3.3
MIR pmax pmax
comp=Z,2μm,1.2s,mb6.7
MIR pmax pmax
comp=Z,14μm,15.0s
MIR smax
comp=E,31μm,21.0s
MIR smax
comp=N,14μm,15.0s
MIR MLR MLR
comp=N,82μm,16.0s
MIR MLR MLR
comp=E,36μm,16.0s
MIR MLR MLR
comp=Z,210μm,16.0s
BOD Bodaibo 65.45 351 *e* P **P** **10 52 31.7 -1.3**
BOD *e* 11 00 58.9
BOD *e* 11 02 05.8
BOD pmax pmax
comp=Z,2μm,1.5s,mb6.5
BHJ Bhuj 65.85 299⇑ *e* P **P** **10 52 36.3 +0.2**
BHJ *e* 11 01 03.8
JASL Jaisalmer 66.05 303 *e* P **P** **10 52 35.9 -1.5**
KSH Kashi 67.62 317 P **P** **10 52 48.1 +1.1**
KSH *e* PCP PcP 10 53 14.1 +1.5
KSH PP PP 10 55 20.0 +0.1
KSH *e* PPP PPP 10 56 59.9 +1.4
KSH PCS 10 57 17.8
KSH *e* S S 11 01 25.1 -1.3
KSH *e* SCS ScS 11 02 23.2 +0.8
KSH SS SS 11 05 50.1 -2.8
KSH AMB AMB
comp=Z,32μm,4.1s
KSH LR LR
comp=N,14μm,9.3s
KSH LR LR
comp=E,35μm,16.5s
MKAR Makanchi Array 67.80 327 P **P** **10 52 47.6 -0.3**
MKAR pmax pmax
comp=Z,12μm,1.0s
MKAR Makanchi Array 67.80 327 *i* P **P** **10 52 47.7 -0.2**
MA2 Magadan 68.00 11*c i* P **P** **10 52 48.8 -0.1**
MA2 pmax pmax
comp=Z,4μm,1.4s,mb6.9
MA2 Magadan 68.00 11 *e* P **P** **10 52 48.3 -0.6**
comp=Z,3μm,1.0s,mb6.9
MA2 LR LR
comp=Z,39μm,21.0s
YAK Yakutsk 68.39 360*c i* P **P** **10 52 52.1 +0.8**
YAK *e* pP pP 10 53 37.0 -1.1
YAK *i* S S 11 01 36.7 +1.5
YAK *e* 11 02 33.8
YAK pmax pmax
comp=Z,4μm,0.9s,mb7.0
YAK pmax pmax
comp=N,2μm,1.1s
YAK pmax pmax
comp=E,366nm,0.8s
YAK smax
comp=N,575nm,1.1s
YAK smax
comp=Z,185nm,1.0s
YAK smax
comp=E,489nm,1.2s
YAK Yakutsk 68.39 360 *e* P **P** **10 52 50.3 -1.0**
comp=E,9μm,0.9s,mb7.4
YAK LR LR
comp=Z,36μm,21.0s
ULHL Ulahol 68.82 320 P **P** **10 52 54.7 +0.4**
SNR=14
AAA Alma-Ata 68.91 321*c i* P **P** **10 52 56.0 +1.2**
AAA *i** PP pP 10 53 43.0 +1.4
AAA *i* S S 11 01 40.0 -1.6
AAA pmax pmax
comp=Z,25μm,12.0s

AAA smax
comp=E,38μm,9.0s
AAA MLR MLR
comp=Z,19μm,15.0s
RAR Rarotonga 69.35 110 *e* P **P** **10 52 57.9 0.0**
RAR *e** PP pP 10 53 43.7 -1.0
RAR pmax pmax
comp=Z,3μm,1.4s
RAR MLR MLR
comp=Z,23μm,20.0s
RAR Rarotonga 69.35 110 P **P** **10 52 58.8 +1.0**
comp=Z,970nm,1.0s,mb6.4,baz=239,slow=6.8,SNR=27
RAR pP pP 10 53 44.6 -0.1
comp=Z,424nm,1.1s,baz=219,slow=3.2,SNR=3.1
RAR Rarotonga 69.35 110 *e* P **P** **10 52 57.9 +0.1**
comp=Z,3μm,1.4s,mb6.8
RAR *e* pP pP 10 53 43.7 -1.0
RAR LR LR
comp=Z,23μm,20.0s
KZA Kyzart 69.37 320 P **P** **10 52 58.8 +1.1**
SNR=6031
TKM2 Tokmak 2 69.58 320 P **P** **10 52 59.2 +0.3**
SNR=2858
FX1 Attu Island--F 69.64 26 P **P** **10 52 57.6 -1.5**
comp=Z,3μm,0.7s,mb7.0,baz=226,slow=1.2,SNR=131
FX1 S S 11 01 51.7 +1.9
comp=Z,302nm,1.4s,baz=83,slow=21,SNR=12
FX1 LR LR 11 19 33.2
comp=Z,2μm,21.9s,baz=241,slow=32
FX1 PKPPKP 11 21 01.0
comp=Z,58nm,0.9s,baz=113,slow=4.9,SNR=9.0
FX1 Attu Island--F 69.64 26 *e* P **P** **10 52 57.6 -1.4**
FX1 *e* 10 53 00.8
FX1 *e* S S 11 01 51.5 +1.6
KBK Karagaybulak 69.85 320 P **P** **10 52 60.0 -0.6**
SNR=397
UCH Uchtor 69.92 319 P **P** **10 53 02.0 +1.0**
SNR=5658
SMY Shemya 69.95 27 P **P** **10 53 00.3 -0.7**
SMY pmax pmax
comp=Z,6μm,1.0s,mb7.2
SMY Shemya 69.95 27 *e* P **P** **10 53 02.7 +1.7**
AAK Ala-Archa 70.13 320 P **P** **10 53 02.8 +0.5**
SNR=21
AAK Ala-Archa 70.13 320⇑ *i* P **P** **10 53 01.5 -0.8**
AAK *e* S S 11 01 57.3 +1.4
AAK pmax pmax
comp=Z,6μm,1.0s,mb7.2
AAK Ala-Archa 70.13 320⇑ *i* P **P** **10 53 01.5 -0.8**
comp=Z,6μm,1.0s,mb7.2
AAK *i* 10 53 04.4
AAK *e* S S 11 01 57.3 +1.4
CHMS Chumysh 70.15 320 P **P** **10 53 02.2 -0.2**
SNR=1451
FRU Bishkek 70.15 320 *i* P **P** **10 53 02.3 -0.1**
FRU *i* S S 11 01 56.0 -0.1
FRU *i* 11 02 58.0
FRU pmax pmax
comp=Z,34μm,5.0s
FRU smax
comp=E,57μm,10.0s
FRU MLR MLR
comp=Z,36μm,21.0s
AML Almayashu 70.41 319 P **P** **10 53 04.8 +0.9**
SNR=25
USP Ospenovka 70.44 320 P **P** **10 53 04.1 0.0**
SNR=8378
EKS2 Erkin-Say 70.61 320 P **P** **10 53 05.3 +0.2**
SNR=7670
ZAL Zalesovo 71.14 334 P **P** **10 53 06.6 -1.5**
comp=Z,1μm,1.0s,mb6.5,baz=349,slow=5.3,SNR=167
ZAL S S 11 02 06.2 -1.0
comp=Z,169nm,1.1s,baz=78,slow=24,SNR=30
ZAL PKPPKP 11 21 00.0
comp=Z,19nm,1.0s,baz=172,slow=4.5,SNR=7.8
ZAL LR LR 11 25 41.9
comp=Z,33μm,18.6s,baz=331,slow=37
ZAL P4KPbc 11 29 50.3
comp=Z,2.7nm,0.7s,baz=337,slow=3.3,SNR=6.7
SEY Seymchan 71.40 11 *e* P **P** **10 53 12.1 +2.6**
SEY 10 53 26.3
SEY *°PP pP 10 53 59.9 +3.3
SEY 10 55 51.5
SEY *e* S S 11 02 17.2 +7.1
SEY 11 02 37.0
SEY *e* SPP SPP 11 03 01.8 +7.5
SEY *e* SS SS 11 06 51.5 +0.4
SEY pmax pmax
comp=Z,8μm,1.0s,mb7.3
SEY pmax pmax
comp=N,6μm,1.1s
SEY pmax pmax
comp=E,3μm,1.1s
SEY smax
comp=N,118μm,9.9s
SEY smax
comp=E,94μm,7.4s
SEY MLR MLR
comp=Z,43μm,16.0s
SEY MLR MLR
comp=N,60μm,20.0s
SEY MLR MLR
comp=E,12μm,12.0s
KURK Kurchatov 72.09 329 P **P** **10 53 13.4 -0.4**
comp=E,18μm,0.7s,mb7.8
KURK Kurchatov 72.09 329⇑ *i* P **P** **10 53 13.1 -0.7**
comp=E,63μm,2.9s,mb7.7
KURK *e* pP pP 10 54 02.3 +1.3
KURK *e* S S 11 02 15.3 -2.7
KURK LR LR
comp=Z,7μm,20.0s
NVS Novosibirsk 72.43 334 *i* P **P** **10 53 15.9 +0.2**
NVS *e** PP pP 10 54 05.2 +2.2
NVS *i* S S 11 02 19.3 -2.5
NVS pmax pmax
comp=N,3μm,1.7s
NVS pmax pmax
comp=Z,6μm,1.7s,mb6.9
NVS pmax pmax
comp=E,3μm,1.5s
VNDA Vanda 72.89 173 P **P** **10 53 17.6 -0.5**
VNDA S S 11 02 27.2 +0.5
VNDA Vanda 72.89 173 *e* P **P** **10 53 17.4 -0.7**
VNDA *e* S S 11 02 27.9 +1.3
VNDA MLR MLR
comp=Z,62μm,20.0s
VNDA Vanda 72.89 173 P **P** **10 53 17.6 -0.5**
comp=Z,1μm,0.8s,mb6.6,baz=320,slow=6.2,SNR=205
VNDA S S 11 02 28.1 +1.5
comp=Z,64nm,1.3s,baz=77,slow=20,SNR=12
VNDA PKPPKP 11 20 52.3
comp=Z,9.9nm,1.0s,baz=234,slow=1.4,SNR=4.2
VNDA LR LR 11 26 54.2
comp=Z,61μm,18.2s,baz=2.1,slow=37
VNDA Vanda 72.89 173 *e* P **P** **10 53 17.4 -0.7**
comp=Z,33nm,0.6s
VNDA *e* 10 53 19.4
VNDA *e* S S 11 02 27.9 +1.3
VNDA LR LR
comp=Z,62μm,20.0s
TAS Tashkent 72.97 317*ce* P **P** **10 53 17.0 -2.3**
TAS *e** PP pP 10 54 02.0 -4.5
TAS *e* S S 11 02 26.0 -2.3
TAS pmax pmax
comp=Z,55μm,3.0s
TAS Tashkent 72.97 317⇑ *e* P **P** **10 53 17.0 -2.3**
KIWB Kanaga Island 73.62 31 *e* P **P** **10 53 21.6 -1.1**
SBA Scott Base 73.78 172 *e* P **P** **10 53 23.8 +0.5**
SBA *e* S S 11 02 39.6 +3.1
SBA MLR MLR
comp=Z,56μm,19.0s
SBA Scott Base 73.78 172 *e* P **P** **10 53 23.8 +0.5**
comp=Z,88nm,1.5s
SBA *e* 10 53 25.9
SBA *e* S S 11 02 39.6 +3.1
SBA LR LR
comp=Z,56μm,19.0s
GSTR Great Sitkin T 74.31 31 P **P** **10 53 27.3 +0.5**
WBK Wadi Bani Khal 75.12 295 P **P** **10 53 32.0 +0.1**
SNR=618
MAW Mawson 75.31 201 *e* P **P** **10 53 32.3 +0.2**
comp=Z,4μm,0.9s,mb7.0
MAW *e* S S 11 02 54.9 +1.4
MAW *e* PKPPKP 11 20 44.5
MAW Mawson 75.31 201 *e* P **P** **10 53 32.3 +0.2**
MAW *e* S S 11 02 54.9 +1.4

MAW pmax pmax
comp=Z,4μm,0.9s
MAW Mawson 75.31 201 P **P** **10 53 32.3 +0.2**
comp=Z,6μm,1.1s,mb7.1,baz=70,slow=6.6,SNR=111
MAW S S 11 02 55.5 +2.0
comp=Z,73nm,1.1s,baz=253,slow=18,SNR=4.0
MAW PKPPKP 11 20 53.2
comp=Z,22nm,0.9s,baz=291,slow=8.6,SNR=3.3
JMDO Jabal Madar 75.84 295 P **P** **10 53 35.7 -0.3**
SNR=554
HON Honolulu 75.92 66 *e* P **P** **10 53 36.1 -0.3**
HON *e* 10 53 39.3
KIP Kipapa 75.92 66 *e* P **P** **10 53 37.4 +0.9**
KIP *e** PP pP 10 54 22.5 -1.6
KIP pmax pmax
comp=Z,10μm,1.6s,mb7.2
KIP MLR MLR
comp=Z,28μm,20.0s
KIP Kipapa 75.92 66 *e* P **P** **10 53 37.4 +0.9**
comp=Z,10μm,1.6s,mb7.2
KIP *e* pP pP 10 54 22.5 -1.6
KIP LR LR
comp=Z,28μm,20.0s
SMDO Samad 76.05 296 P **P** **10 53 37.0 -0.2**
SNR=1432
BIDO Bidbid 76.09 296 P **P** **10 53 37.5 +0.2**
SNR=2292
BSY Bisya 76.74 295 P **P** **10 53 40.8 -0.2**
SNR=328
HOQ Hoqain 76.83 296 P **P** **10 53 41.3 -0.1**
SNR=386
SHAO Shalim 77.20 290 P **P** **10 53 43.7 +0.1**
SNR=456
HKL Haleakala 77.37 67 P **P** **10 53 45.9 +1.4**
KKH Kailua Kona 77.38 68 P **P** **10 53 47.7 +3.2**
ARQ Araqi 77.48 296 P **P** **10 53 44.8 -0.3**
SNR=557
BVA0 Borovoye Array 77.63 328 *i* P **P** **10 53 44.5 -0.8**
BVA0 pmax pmax
comp=Z,691nm,1.2s,mb6.2
BVAR Borovoye Array 77.63 328 P **P** **10 53 44.6 -0.6**
comp=Z,1μm,0.7s,mb6.6,baz=135,slow=9.1,SNR=241
BVAR pP pP 10 54 33.7 +0.6
comp=Z,289nm,0.9s,baz=129,slow=9.5,SNR=1.0
BVAR S S 11 03 20.4 +1.5
comp=Z,72nm,0.9s,baz=150,slow=12,SNR=7.8
BVAR PKKPbc 11 12 50.8
comp=Z,11nm,0.9s,baz=311,slow=1.7,SNR=5.7
BVAR PKPPKP 11 20 40.5
comp=Z,8.3nm,1.1s,slow=1.4,SNR=5.1
BVAR P4KPbc 11 30 16.7
comp=Z,4.7nm,1.0s,baz=135,slow=4.2,SNR=7.6
DAH Dandelion 77.64 69⇓ *e* P **P** **10 53 48.8 +2.8**
HPO Honuapo 77.69 69 P **P** **10 53 45.3 -1.0**
CHKZ Chkalovo 77.83 328 *e* P **P** **10 53 45.4 -0.9**
CHKZ *e* 10 53 48.2
POHA Pohakuloa 77.85 68 *e* P **P** **10 53 47.8 +0.7**
comp=Z,6.4nm,2.0s
POHA *i* 10 53 50.7
POHA LR LR
comp=Z,478μm,21.0s
DES Desert 77.90 69⇓ *e* P **P** **10 53 50.3 +2.9**
CPK Cone Peak 77.96 69⇓ *e* P **P** **10 53 50.6 +2.8**
KKU Keanakolu 78.05 68⇓ *e* P **P** **10 53 51.4 +3.2**
TIXI Tiksi 78.06 360⇑ *i* P **P** **10 53 45.5 -1.7**
TIXI *e** PP pP 10 54 33.7 -1.4
TIXI *e** SP sP 10 54 54.4 -1.6
TIXI *e* S S 11 03 22.5 -0.6
TIXI pmax pmax
comp=Z,3μm,0.9s,mb6.9
TIXI pmax pmax
comp=E,511nm,1.7s
TIXI pmax pmax
comp=Z,5μm,1.0s,mb7.1
TIXI MLR MLR
comp=Z,42μm,18.0s
TIXI MLR MLR
comp=E,20μm,17.0s
TIXI Tiksi 78.06 360⇑ *i* P **P** **10 53 46.3 -0.9**
TIXI LR LR
comp=Z,46μm,20.0s
ASHO Ashiyiah 78.19 297 P **P** **10 53 48.8 -0.1**
SNR=665
BANOM Banah 78.26 298 P **P** **10 53 49.5 +0.3**
SNR=116
RBK Rabkut 78.43 289 P **P** **10 53 50.5 +0.2**
SNR=47
NIKO Nikolski 78.56 33 *e* P **P** **10 53 49.8 -0.5**
BILL Bilibino 78.72 13⇓ *i* P **P** **10 53 52.1 +1.2**
BILL *i* 10 53 58.4
BILL *i** PP pP 10 54 35.9 -2.9
BILL *i* S S 11 03 31.0 +0.9
BILL *i* SS SS 11 08 44.6 +2.5
BILL pmax pmax
comp=Z,799nm,1.4s,mb6.2
BILL pmax pmax
comp=Z,8μm,3.2s
BILL MLR MLR
comp=Z,38μm,21.0s
BILL Bilibino 78.72 13 *e* P **P** **10 53 50.0 -0.9**
comp=Z,700nm,1.3s,mb6.1
BILL LR LR
comp=Z,22μm,21.0s
TBI Tubuai 78.87 112 *e* P **P** **10 53 53.6 +1.0**
comp=Z,3μm,0.9s,mb6.9
TBI *e* LR LR 11 19 42.4
WHFO Wadi Hawf 78.91 290⇓ P **P** **10 53 53.1 +0.2**
SNR=4051
PAE Paea 79.05 107⇓ *i* P **P** **10 53 55.2 +1.5**
comp=Z,7μm,1.5s,mb7.1
PAE *e* pP pP 10 54 42.1 +0.4
comp=Z,2μm,1.2s
PPT Papeete 79.06 107⇓ *i* P **P** **10 53 55.4 +1.7**
comp=Z,2μm,1.3s,mb6.5
PPT *e* pP pP 10 54 42.3 +0.6
comp=Z,834nm,1.3s
PPT Papeete 79.06 107 *e* LQ 11 15 12.3
PPT *e* LR LR 11 19 31.6
comp=Z,314μm,83.2s
PPT Papeete 79.06 107 P **P** **10 53 55.1 +1.4**
comp=Z,951nm,1.0s,mb6.4,baz=263,slow=2.5,SNR=50
PPT pP pP 10 54 41.9 +0.2
comp=Z,480nm,1.1s,baz=47,slow=22,SNR=1.9
ABTO Aybut 79.25 289⇑ P **P** **10 53 54.8 +0.1**
TIAR Tiarei 79.28 107⇓ *i* P **P** **10 53 56.6 +1.7**
comp=Z,6μm,1.3s,mb7.1
TIAR *e* pP pP 10 54 44.2 +1.3
comp=Z,5μm,1.4s
TVO Taravao 79.36 107⇓ *i* P **P** **10 53 57.1 +1.8**
comp=Z,5μm,1.3s,mb6.9
TVO *e* pP pP 10 54 43.7 +0.4
comp=Z,4μm,1.4s
ASH Ashkhabad 79.67 310 *e* P **P** **10 53 59.0 +2.4**
UNV Unalaska Valle 80.21 33 *e* P **P** **10 53 58.2 -0.9**
comp=Z,5μm,0.8s,mb7.2
MEH Mehetia 80.48 107 *e* P **P** **10 54 02.5 +1.3**
comp=Z,2μm,1.3s,mb6.6
MEH *e* pP pP 10 54 49.5 +0.1
comp=Z,945nm,1.3s
AKUT Akutan 80.72 33 *e* P **P** **10 54 03.4 +1.6**
PMOR Pomariorio Ree 80.85 104⇓ *i* P **P** **10 54 04.9 +1.7**
comp=Z,3μm,1.1s,mb6.8
PMOR *e* pP pP 10 54 51.8 +0.3
comp=Z,1μm,1.3s
MUKL Al Mukalla 82.82 285⇑ *e* P **P** **10 54 14.8 +1.4**
MUKL AMb AMB 10 54 16.3
comp=Z,6μm,1.2s,mb7.2
QSPA South Pole Qui 83.41 180 *e* P **P** **10 54 15.0 -0.2**
comp=Z,2μm,0.8s,mb6.8
SDPT Sand Point 84.02 33 *e* P **P** **10 54 19.7 +1.0**
SVE Sverdlovsk 84.34 329*oe* P **P** **10 54 20.5 +0.3**
SVE *e* 10 55 04.0
SVE *i* 10 57 36.0
SVE pmax pmax
comp=Z,440nm,2.0s,mb5.8
SVE pmax pmax
comp=N,4μm,4.0s
SVE pmax pmax
comp=E,7μm,4.0s
SVE pmax pmax
comp=Z,10μm,4.0s
TNA Tin City 84.86 22 *e* P **P** **10 54 22.6 0.0**
comp=Z,2μm,1.0s,mb6.8
TNA *e* 10 54 25.0
TNA *e* pP pP 10 55 08.9 -2.3
TNA *e* PKKPbc 11 12 31.9

BDHA Al Bayda' 86.08 284⇑ *e*P P **10 54 31.4 +1.6**
BDHA AMb AMB 10 54 31.8
comp=Z,4μm,1.4s,mb7.0
LBOS 86.38 284⇑ *e*P P **10 54 32.9 +1.7**
LBOS AMb AMB 10 54 34.7
comp=Z,3μm,1.1s,mb7.0
LBOS ⇑*i*S S 11 04 39.0 -9.1
ADEN Aden 86.49 283⇑ *e*P P **10 54 33.1 +1.3**
ADEN AMb AMB 10 54 34.5
comp=Z,4μm,1.4s,mb7.0
BAK Baki 86.70 311⇑ *i*P P **10 54 32.0 -0.2**
BAK *i*S S 11 04 38.0 -13
BAK pmax pmax
comp=Z,32μm,4.0s
BAK MLR MLR
comp=Z,14μm,16.0s
BAK MLR MLR
comp=N,5μm,12.0s
BAK MLR MLR
comp=E,10μm,14.0s
SOKR Solikamsk 87.17 331*d* *i*P P **10 54 30.3 -3.7**
SOKR *i*S S 11 04 36.1 -18
SOKR pmax pmax
comp=Z,2μm,1.0s,mb6.8
SOKR pmax pmax
comp=Z,3μm,1.1s,mb6.9
SOKR MLR MLR
comp=Z,24μm,21.0s
DHBB Dhamar BB 87.29 285⇑ *e*P P **10 54 37.4 +1.8**
DHBB AMb AMB 10 54 39.6
comp=Z,3μm,1.0s,mb7.0
DHBB *i*S S 11 04 44.7 -12
TRBA At Turbah 87.39 284⇑ *e*P P **10 54 37.7 +1.7**
RAYN Ar Rayn 87.46 294 P P **10 54 37.2 +1.0**
comp=Z,19μm,1.0s
SANA San'a 87.57 286⇑ *e*P P **10 54 38.6 +1.7**
UDYN Al 'Udayn 87.62 284⇑ *e*P P **10 54 38.6 +1.5**
UDYN AMb AMB 10 54 39.4
comp=Z,2μm,1.2s,mb6.8
SHE Samaxi 87.63 311⇑ *i*P P **10 54 35.5 -1.1**
SHE *i*S S 11 04 40.5 -19
SVW2 Sparrevohn 88.32 28 *e*P P **10 54 39.8 +0.5**
SHKI Saki 88.80 312⇓ *i*P P **10 54 42.0 -0.1**
SHKI *i*S S 11 05 13.0 +2.9
SHKI pmax pmax
comp=Z,3μm,2.0s,mb6.7
MAK Makhachkala 88.87 313*d* *i*P P **10 54 44.3 +1.9**
MAK *i**PP pP 10 55 30.0 -1.4
MAK *i**SP sP 10 55 49.0 -3.3
MAK *i* 11 04 52.0
MAK *i* 11 05 13.0
MAK pmax pmax
comp=Z,30μm,4.0s
MAK pmax pmax
comp=N,5μm,3.0s
MAK pmax pmax
comp=E,9μm,3.0s
MAK pmax pmax
comp=N,2μm,2.0s
MAK pmax pmax
comp=E,3μm,2.0s
MAK pmax pmax
comp=Z,5μm,2.0s,mb7.0
MAK smax
comp=N,48μm,8.0s
MAK smax
comp=E,50μm,8.0s
MAK smax
comp=Z,14μm,8.0s
MAK MLR MLR
comp=Z,16μm,15.0s
MAK MLR MLR
comp=N,15μm,19.0s
MAK MLR MLR
comp=E,22μm,19.0s
MAK Makhachkala 88.87 313 *e*P P **10 54 44.5 +2.1**
KDAK Kodiak Island 88.91 32 *e*P P **10 54 43.4 +1.2**
TAOE Nuku Hiva Isla 88.98 99 *e*P P **10 54 46.5 +2.9**
TAOE *e*SS SS 11 11 16.8 +3.3
TAOE *e*LR LR 11 23 40.8
RSO Redoubt South 89.48 29 *e*P P **10 54 43.5 -1.4**
BHD Baghdad 89.81 303 *i*P P **10 54 45.0 -2.1**
BHD *i*pP pP 10 55 31.0 -5.1
BHD *i*sP sP 10 55 46.0 -11
BHD *i*sP 11 04 58.0
GNI Garni 90.48 310 P P **10 54 51.8 +1.8**
GNI 10 58 28.4
GNI pmax pmax
comp=Z,197nm,0.8s
GNI pmax pmax
comp=Z,181nm,0.9s
GNI Garni 90.48 310 P P **10 54 51.8 +1.8**
comp=Z,197nm,0.8s,mb6.0,baz=344,slow=0.7,SNR=98
GNI PP PP 10 58 28.4 -1.0
comp=Z,181nm,0.9s,baz=112,slow=5.4,SNR=2.7
GNI PKPPKP 11 20 23.8
comp=Z,1.9nm,0.3s,baz=346,slow=23,SNR=2.8
GNI Garni 90.48 310 P P **10 54 52.9 +2.8**
IMA Indian Mountai 90.50 23 *e*P P **10 54 49.3 -0.2**
MTA Mtatsminda 90.66 312 P P **10 54 52.6 +1.8**
MTA S 11 05 09.6
TI2 Plekhanov 90.70 312α *i*P P **10 54 51.6 +0.6**
TI2 *i* pP 10 55 42.0 +1.9
TI2 *i*S 11 05 04.0
TI2 *i* 11 05 30.0
TI2 pmax pmax
comp=N,320nm,1.0s
TI2 pmax pmax
comp=E,320nm,1.0s
TI2 pmax pmax
comp=Z,250nm,1.0s,mb6.1
SLKM Skilak Lake 90.72 29 P P **10 54 51.1 +0.5**
SLKM Skilak Lake 90.72 29 *e*P P **10 54 50.8 +0.2**
DUS Dusheti 90.78 312 P P **10 54 53.7 +2.3**
FIB Fire Island 90.87 29 *e*P P **10 54 50.1 -1.2**
FIB MLR MLR
comp=Z,12μm,21.0s
FIB Fire Island 90.87 29 *e*P P **10 54 50.0 -1.3**
FIB *e*PKKP PKKP 11 12 19.1 +33
FIB LR LR
comp=Z,12μm,21.0s
HKR Hakkari 90.91 308 P P **10 54 54.7 +2.7**
MSL Mosul 91.26 306 *i*P P **10 54 54.5 +0.8**
MSL *e*pP pP 10 55 26.0 -17
MSL *e*sP sP 10 55 52.0 -12
MSL *e*SKS SKS 11 05 07.5 +2.3
MSL *e*S S 11 05 29.5 -2.8
MSL *e*SP SP 11 05 43.0 -64
MSL *e*PS 11 05 50.0
MSL *e*SPP 11 06 02.5
MSL *e*PPS 11 06 15.5
TVAN Van 91.29 308 *i*P P **10 54 56.3 +2.5**
VANT Van 91.29 308 P P **10 54 57.4 +3.6**
VANB Van 91.31 309 P P **10 54 56.2 +2.3**
PMR Palmer 91.45 28 *e*P P **10 54 52.9 -1.1**
ONI Oni 91.77 312 P P **10 54 57.3 +1.3**
KARS Kars 91.79 310 P P **10 54 59.5 +3.4**
SML Sawmill 91.87 28 *e*P P **10 54 55.3 -0.6**
SML *i* 10 54 57.7
SML *e*PKKPbc 11 12 14.7
MCK McKinley 91.95 26 *e*P P **10 54 55.0 -1.3**
MCK pmax pmax
comp=Z,455nm,1.0s,mb6.4
MCK MLR MLR
comp=Z,14μm,22.0s
MCK McKinley 91.95 26 *e*P P **10 54 55.0 -1.3**
comp=Z,455nm,1.0s,mb6.4
MCK *e* 10 54 57.4
MCK *e*PKKPbc 11 12 16.1
MCK LR LR
comp=Z,14μm,22.0s
RKT Rikitea 92.16 113 *e*P P **10 54 59.8 +1.6**
comp=Z,2μm,1.2s,mb6.9
RKT *e*SKKSac 11 05 24.8
RKT *e*LQ 11 20 36.1
RKT *e*LR LR 11 25 29.3
GOF Gofitskoye 92.37 315⇑ *i*P P **10 55 00.0 +1.3**
GOF *i**PP pP 10 55 43.0 -4.8
GOF *e* 10 58 51.9
GOF *i*S 11 05 15.0
GOF *i* 11 05 47.3
GOF pmax pmax
comp=Z,770nm,1.3s,mb6.5
GOF pmax pmax
comp=Z,1μm,1.4s,mb6.5
GOF pmax pmax
comp=Z,460nm,1.0s,mb6.4
MID Middleton Isla 92.44 31 *e*P P **10 55 00.5 +1.9**
KMBO Kilima Mbogo 92.48 269 P P **10 55 00.6 +0.7**
KMBO P 10 55 03.1
KMBO SKSac 11 05 18.1
KMBO Kilima Mbogo 92.48 269 *e*P P **10 55 00.3 +0.4**
KMBO pmax pmax
comp=Z,1μm,1.3s
KMBO MLR MLR
comp=Z,17μm,20.0s
KMBO Kilima Mbogo 92.48 269 P P **10 55 00.7 +0.7**
comp=Z,607nm,1.1s,mb6.4,baz=75,slow=5.3,SNR=144
KMBO PP PP 10 58 46.0 0.0
comp=Z,95nm,1.0s,baz=62,slow=12,SNR=4.1
KMBO Kilima Mbogo 92.48 269 *e*P P **10 55 00.3 +0.4**
comp=Z,1μm,1.3s,mb6.7
KMBO *i* 10 55 03.1
KMBO LR LR
comp=Z,17μm,20.0s
KIV Kislovodsk 92.49 314 *e*P P **10 54 58.5 -0.8**
KIV pmax pmax
comp=Z,213nm,1.1s,mb6.0
KIV MLR MLR
comp=E,13μm,16.0s
KIV MLR MLR
comp=Z,15μm,16.0s
KIV Kislovodsk 92.49 314 *e*P P **10 54 58.4 -0.8**
comp=Z,376nm,1.0s,mb6.3
KIV *e* 10 55 00.7
KIV LR LR
comp=Z,5μm,19.0s
COLA College 92.62 25 P P **10 54 58.1 -1.2**
COLA pmax pmax
comp=Z,330nm,0.9s,mb6.4
COLA College 92.62 25 *e*P P **10 54 58.3 -1.0**
MAIT Maitri 92.75 197⇑ *i*P P **10 55 03.1 +3.2**
MAIT *e*PcP PcP 10 55 12.5 +12
MAIT *e*PP PP 10 58 52.0 +5.3
MAIT *e*SKSac 11 05 49.5
VRT Varto 92.82 309 P P **10 55 04.4 +3.5**
BEST Besiri 92.89 308 *i*P P **10 55 03.6 +2.4**
EYAK Cordova Ski Ar 92.90 30 *e*P P **10 55 00.0 -0.7**
EYAK *e*PKKP PKKP 11 12 11.2 +28
DIV Divide 92.97 29 *e*P P **10 55 00.9 -0.1**
comp=Z,4μm,1.1s,mb7.3
DIV *i* 10 55 03.2
DIV *e*PKKP PKKP 11 12 10.2 +27
BCA Borcka 92.99 311 P P **10 55 04.0 +2.4**
ILAR Eielson Array 93.01 25 P P **10 54 58.5 -2.7**
comp=Z,255nm,0.8s,mb6.3,baz=276,slow=4.8,SNR=425
ILAR PP PP 10 58 40.7 -8.1
comp=Z,60nm,1.0s,baz=256,slow=4.8,SNR=2.9
ILAR PKiKP 10 59 48.9
comp=Z,26nm,0.7s,baz=290,slow=3.9,SNR=4.5
ILAR PKKPbc 11 12 11.8
comp=Z,47nm,0.8s,baz=336,slow=2.0,SNR=24
ILAR tx tx 11 12 49.6
comp=Z,33nm,0.9s,baz=100,slow=3.0,SNR=8.0
ILAR PKPPKP 11 20 20.2
comp=Z,9.2nm,1.1s,baz=346,slow=2.1,SNR=4.8
ILAR LR LR 11 37 22.7
comp=Z,14μm,18.4s,baz=271,slow=36
ERZM Erzurum 93.02 310 *i*P P **10 55 04.3 +2.5**
EZM Erzurum 93.03 310 P P **10 55 04.9 +3.1**
PECR Pechory 93.08 326⇑ *i*P P **10 55 01.4 -0.2**
PECR *i**PP pP 10 55 50.0 -0.8
PECR *e* 10 58 53.0
PECR *e* 11 05 21.0
PECR *e*S S 11 05 43.4 -4.3
PECR *e**SS 11 07 13.4
PECR *e*PS PS 11 07 26.0 -6.2
PECR pmax pmax
comp=Z,8μm,12.0s
THY Trims Highway 93.30 27 *e*P P **10 55 01.9 -0.5**
BINT Bingol 93.60 309 P P **10 55 07.1 +2.7**
DIY Diyarbakir 93.71 308 P P **10 55 07.9 +2.9**
MENT Mentasta 94.16 27 *e*P P **10 55 06.1 -0.2**
EZC Erzincan 94.20 309 P P **10 55 11.3 +4.2**
GUMT Gumushane 94.52 310 P P **10 55 09.3 +0.8**
SOC Sochi 94.59 313 *i*P P **10 55 08.8 0.0**
SOC *e* 10 58 59.5
SOC *e*PPP PPP 11 01 07.5 +0.4
SOC *i*S 11 05 24.4
SOC *e*PS PS 11 07 53.7 +5.3
SOC *e*SS SS 11 12 37.3 +4.4
SOC *e*SSS SSS 11 16 22.8 +6.2
SOC pmax pmax
comp=Z,238nm,0.9s,mb6.3
SOC pmax pmax
comp=N,61nm,1.3s
SOC pmax pmax
comp=E,75nm,1.0s
SOC MLR MLR
comp=Z,20μm,21.0s
SOC MLR MLR
comp=N,25μm,20.0s
SOC MLR MLR
comp=E,11μm,17.0s
ELZG Elazig 94.74 308 *i*P P **10 55 12.6 +3.0**
MALT Malatya 95.16 308 P P **10 55 11.7 +0.1**
MALT pmax pmax
comp=Z,310nm,1.2s,mb6.3
MALT Malatya 95.16 308 P P **10 55 13.6 +2.0**
MYA Malataya 95.16 308 P P **10 55 14.1 +2.5**
VOR Voronezh 95.53 321 *e*P P **10 55 13.0 +0.1**
VOR *e**PP pP 10 55 59.0 -3.0
VOR *e* 10 59 09.5
VOR pmax pmax
comp=Z,2μm,1.6s,mb7.0
VOR pmax pmax
comp=N,170nm,1.3s
VOR pmax pmax
comp=E,800nm,1.3s
ASF Jabal al Asfar 95.97 302 P P **10 55 15.1 -0.3**
comp=E,413nm,0.8s,mb6.7,baz=336,slow=2.1,SNR=132
ASF PP PP 10 59 09.8 -2.5
comp=E,112nm,1.0s,baz=43,slow=6.2,SNR=2.2
ASF SP SP 11 07 46.8 +8.0
comp=E,66nm,1.3s,baz=118,slow=3.4,SNR=2.6
ASF PKPPKP 11 20 14.7
comp=E,9.3nm,1.2s,baz=86,slow=3.3,SNR=5.3
ASF LR LR 11 44 06.7
comp=E,17μm,20.3s,baz=128,slow=39
GAZ Gaziantep 96.04 307 P P **10 55 17.8 +2.2**
SNAA Sanae 96.06 194 *e* pP 10 56 02.7 -1.3
SNAA Sanae 96.06 194 P P **10 55 15.1 +0.3**
comp=E,123nm,0.7s,mb6.2,baz=161,slow=4.7,SNR=86
SNAA PP PP 10 59 10.8 -1.2
comp=E,28nm,1.0s,baz=145,slow=12,SNR=2.8
SNAA S 11 05 30.1
comp=E,11nm,0.8s,baz=186,slow=22,SNR=12
SNAA PKKPbc 11 12 02.5
comp=E,21nm,0.9s,baz=29,slow=0.2,SNR=16
SNAA PKPPKP 11 20 05.9
comp=E,4.8nm,0.8s,baz=191,slow=2.1,SNR=5.4
SNAA Sanae 96.06 194⇑ *i*P P **10 55 17.5 +2.7**
SNAA *e* pP 10 56 02.7 -1.3
SNAA *e* 11 12 00.5
SNAA *e* 11 12 02.9
SNAA *e* 11 20 02.8
SNAA *e* 11 20 13.1
DAWY Dawson 96.17 26 *e*P P **10 55 15.4 -0.1**
DAWY *e*PKKPbc 11 12 03.7
DAWY *e* 11 12 36.6
PTCN Pitcairn Islan 96.26 116 PFAKE 10 55 30.0 +13
PTCN LR LR
comp=Z,21μm,22.0s
MOS Moscow 96.65 325α *i*P P **10 55 18.7 +0.8**
MOS *e**PP pP 10 56 06.8 -0.2
MOS *e* 10 59 19.9
MOS *e*S 11 05 36.1
MOS *i* 11 06 14.9
MOS *e* 11 07 49.3
MOS *e*SS SS 11 13 02.9 +1.7
MOS *e*SSS SSS 11 16 56.4 +8.3
MOS pmax pmax
comp=Z,1μm,1.2s,mb7.0
MOS pmax pmax
comp=Z,5μm,2.7s,mb7.2
MOS MLR MLR
comp=Z,23μm,18.4s
MOS Moscow 96.65 325⇑ *i*P P **10 55 18.6 +0.7**
TOKT Tokat 96.74 310 P P **10 55 21.1 +2.4**
HTY Hatay 96.84 306 P P **10 55 21.1 +1.8**
HWQ Hawqa 96.90 304 *e*P P **10 55 21.8 +2.2**
HRI Mount Hermon 97.02 303 P P **10 55 20.3 +0.2**
BHL Bhannes 97.12 303 *e*P P **10 55 22.7 +2.1**
KVT Kavak 97.16 311 P P **10 55 23.1 +2.5**
CEYT Ceyhan 97.20 306 P P **10 55 23.0 +2.1**
BNN Bunyan 97.21 308 P P **10 55 22.7 +1.8**
MZDA Masada 97.22 301 P P **10 55 20.9 -0.2**
OBN Obninsk 97.23 325 P P **10 55 20.0 -0.6**
comp=Z,5μm,1.0s,mb7.7,SNR=37
OBN Obninsk 97.23 325*c* *i*P P **10 55 20.4 -0.2**
OBN *i**PP pP 10 56 09.5 -0.2
OBN *i* 10 59 21.7
OBN *i* 11 05 39.7
OBN *i*S S 11 06 20.2 -2.9
OBN *i*PS PS 11 07 52.4 -24
OBN *i* 11 09 05.0
OBN *i*SS SS 11 13 22.1 +13
OBN pmax pmax
comp=Z,938nm,1.0s,mb7.0
OBN pmax pmax
comp=Z,4μm,2.3s,mb7.2
OBN MLR MLR
comp=Z,26μm,19.0s
OBN Obninsk 97.23 325 *e*P P **10 55 19.1 -1.4**
comp=Z,806nm,0.9s,mb7.0
OBN *i* 10 55 21.2
OBN *e*PP PP 10 59 07.6 -14
OBN LR LR
comp=Z,8μm,22.0s
ZFRI Zfri 97.34 300 P P **10 55 21.6 -0.1**
YTIR Yattir 97.44 301 P P **10 55 21.9 -0.2**
PRNI Paran 97.47 300 P P **10 55 22.3 0.0**
HNTI Hanita 97.48 302 P P **10 55 22.1 -0.1**
EIL Elat 97.48 299 P P **10 55 22.0 -0.3**
comp=Z,165nm,0.9s,mb6.2,baz=92,slow=3.3
EIL PP PP 10 59 19.6 -4.7
comp=Z,116nm,0.9s,baz=14,slow=5.9,SNR=2.4
EIL SKKPbc 11 15 22.1
comp=Z,10nm,0.7s,baz=352,slow=15,SNR=4.9
EIL PKPPKP 11 20 09.6
comp=Z,1.8nm,0.5s,baz=18,slow=19,SNR=1.8
EIL LR LR 11 42 15.6
comp=Z,22μm,19.2s,baz=2.0,slow=37
EIL Elat 97.48 299 *e*P P **10 55 22.1 -0.2**
comp=Z,290nm,1.0s,mb6.5
EIL *i* 10 55 24.4
SLTI Sal'it 97.55 302 P P **10 55 22.4 -0.2**
VNA2 Neumayer--Watz 97.62 193⇑ *i*P P **10 55 24.8 +2.8**
VNA2 *e* pP 10 56 09.5 -1.7
VNA2 *e* 10 59 23.5
VNA2 *e* 10 59 58.8
VNA2 *e* 11 06 12.3
VNA2 *e*S S 11 06 32.2 +6.2
VNA2 *e* 11 11 57.3
VNA2 *e* 11 11 59.2
VNA2 *e* 11 19 59.2
VNA2 *e* 11 20 11.0
RMNI Mount Ramon 97.70 300 P P **10 55 23.3 0.0**
KMTI Karmit 97.70 299 P P **10 55 22.9 -0.4**
VNA3 Neumayer Olymp 97.88 192⇑ *i*P P **10 55 25.9 +2.8**
VNA3 *e* 10 56 09.2
VNA3 *e* 10 59 23.2
VNA3 *e* 10 59 59.1
VNA3 *e* 11 06 10.5
VNA3 *e*S S 11 06 30.3 +2.1
VNA3 *e* 11 11 56.1
VNA3 *e* 11 11 58.1
VNA3 *e* 11 19 58.5
VNA3 *e* 11 20 09.5
LVZ Lovozero 98.01 338*c* *i*P P **10 55 24.1 +0.3**
LVZ pmax pmax
comp=Z,388nm,1.1s,mb6.7
LVZ Lovozero 98.01 338⇑ *i*P P **10 55 24.2 +0.4**
VNA1 Neumayer--Stat 98.02 193⇑ *i*P P **10 55 27.0 +3.2**
VNA1 *e* 11 11 58.3
BOYT Boyabat 98.03 311 *i*P P **10 55 26.4 +1.9**
SIT Sitka 98.08 33 *e*P P **10 55 26.8 +2.5**
SIT MLR MLR
comp=Z,24μm,19.0s
BYBT Boyabat 98.13 311 P P **10 55 26.5 +1.5**
MATP Matopo 98.31 248 P P **10 55 25.6 -0.7**
comp=Z,137nm,0.8s,mb6.3,baz=112,slow=4.4,SNR=108
MATP PP PP 10 59 29.1 -1.7
comp=Z,269nm,1.0s,baz=109,slow=7.3,SNR=12
MATP SP SP 11 08 05.3 +1.6
comp=Z,9.6nm,1.0s,baz=103,slow=17,SNR=2.0
MATP PKKP PKKP 11 12 00.2 +25
comp=Z,36nm,0.9s,baz=275,slow=2.6,SNR=7.3
MATP PKPPKP 11 20 08.2
comp=Z,3.7nm,0.8s,baz=248,slow=2.7,SNR=3.5
MATP Matopo 98.31 248 P P **10 55 25.6 -0.7**
MATP PP PP 10 59 29.1 -1.7
MATP SP SP 11 08 05.3 +1.6
MATP PKKP PKKP 11 12 00.2 +25
MATP P'P' 11 20 08.2
MEST Erdemli 98.47 306 *i*P P **10 55 28.1 +1.5**
APA Apatity 98.50 337⇓ *i*P P **10 55 26.5 +0.5**
APA *i**PP pP 10 56 13.0 -2.2
APA *i* 10 59 32.0
APA *i* 11 05 45.0
APA *i*S S 11 06 31.0 -2.4
APA *i*PS PS 11 08 13.5 -15
APA pmax pmax
comp=Z,480nm,1.5s,mb6.6
APA pmax pmax
comp=Z,6μm,12.0s
APA MLR MLR
comp=Z,26μm,16.0s
INK Inuvik 98.50 22 *e*P P **10 55 24.6 -1.4**
INK pmax pmax
comp=Z,693nm,1.2s
INK Inuvik 98.50 22 P P **10 55 24.6 -1.5**
comp=Z,414nm,1.1s,mb6.7,baz=276,slow=5.6,SNR=269
INK pP pP 10 56 15.7 +0.4
comp=Z,68nm,0.9s,baz=247,slow=5.2,SNR=1.6
INK PP PP 10 59 26.3 -4.8
comp=Z,118nm,1.0s,baz=266,slow=9.3,SNR=4.3
INK PKiKP 10 59 58.4
comp=Z,240nm,1.2s,baz=278,slow=4.3,SNR=12
INK S 11 05 43.9
comp=Z,39nm,1.1s,baz=140,slow=29,SNR=12
INK PKPPKP 11 20 05.1
comp=Z,18nm,1.3s,baz=68,slow=5.4,SNR=5.4
INK LR LR 11 36 33.0
comp=Z,14μm,21.8s,baz=15,slow=33
INK Inuvik 98.50 22 *e*P P **10 55 24.6 -1.4**
comp=Z,693nm,1.2s,mb6.9
INK *e* 10 55 27.2
INK *e*PKKP PKKP 11 11 54.7 +21
SIM Simferopol' 98.67 314⇑ *e*P P **10 55 29.2 +1.8**
SIM *e**PP pP 10 56 17.6 +1.1
SIM *e* 10 59 32.3
SIM *e* 11 05 48.2
SIM PS PS 11 08 13.7 -18
SIM SS SS 11 13 29.5 -0.1
SIM pmax pmax
comp=Z,11μm,16.6s
SIM MLR MLR
comp=Z,18μm,21.0s
TOS Tosya 98.68 310 P P **10 55 28.9 +1.3**
KAMT Kaman 98.89 309 P P **10 55 29.5 +1.0**
BR131 Keskin Array S 98.95 309 PFAKE 10 55 40.0 +11
BR131 LR LR
comp=Z,9μm,21.0s
MRKH Merkhyat 98.95 285 *i*P P **10 55 30.5 +1.2**
baz=89,slow=5.3
MRKH *i*S 11 05 51.5
MRKH AMS AMS 11 05 55.0
comp=N,118μm,3.4s
CANT Cankiri 98.98 310 P P **10 55 30.1 +1.2**
MBAR Mbarara 99.01 268 *e*P P **10 55 28.0 -1.7**
MBAR pmax pmax
comp=Z,247nm,1.2s,mb6.4
MBAR MLR MLR
comp=Z,3μm,20.0s
MBAR Mbarara 99.01 268 *e*P P **10 55 28.0 -1.7**
comp=Z,246nm,1.2s,mb6.4
MBAR *e* 10 55 30.7
MBAR LR LR
comp=Z,3μm,20.0s
CSS Prodhromos 99.08 304 *e*P P **10 55 28.2 -1.3**
comp=Z,281nm,0.9s,mb6.6

CSS e 10 55 30.8
BALT Daday 99.17 311 *i* P **P** **10 55 31.6 +1.9**
CRAG Craig 99.34 35 *e*P **P** **10 55 33.2 +3.1**
LSZ Lusaka 99.47 253 PFAKE 10 55 40.0 +8.4
LSZ LR LR
comp=Z,21µm,19.0s
BOSA Boshof 99.58 240 *e*P **P** **10 55 31.3 -0.6**
BOSA e 10 59 34.5
BOSA MLR MLR
comp=Z,13µm,19.0s
BOSA Boshof 99.58 240 *e*Pdif **P** **10 55 31.3 -0.6**
comp=Z,2µm,0.5s,mb7.7
BOSA *i* 10 55 33.7
BOSA *e*PP PP 10 59 34.5 -5.6
BOSA LR LR
comp=Z,13µm,19.0s
ANTO Ankara 99.61 309 ⇑P **P** **10 55 33.0 +1.3**
ANTO Ankara 99.61 309 P **P** **10 55 32.8 +1.1**
SAFT Safranbolu 99.69 311 P **P** **10 55 33.1 +1.0**
JOF Joensuu 99.71 333 *e*p **P** **10 55 29.0 -2.6**
HDMB Hadim 99.81 306 P **P** **10 55 34.2 +1.5**
KONT Konya--Tatoy 99.92 307 P **P** **10 55 34.1 +0.9**
LBTB Lobatse 100.06 243 Pdiff P 10 55 33.8 -0.3
LBTB Pdiff P 10 55 36.2 +2.1
LBTB PP PP 10 59 42.8 -1.1
LBTB SKSac 11 05 55.7
LBTB Sdiff 11 06 52.4
LBTB SS SS 11 13 53.7 +4.4
LBTB Lobatse 100.06 243 P P 10 55 33.8 -0.3
LBTB 10 59 41.7
LBTB S 11 05 55.6
LBTB pmax pmax
comp=Z,354nm,0.8s
LBTB pmax pmax
comp=Z,65nm,0.9s
LBTB Lobatse 100.06 243 P P 10 55 33.8 -0.3
comp=Z,354nm,0.8s,baz=129,slow=4.8,SNR=90
LBTB PP PP 10 59 41.6 -2.3
comp=Z,64nm,0.9s,baz=132,slow=6.8,SNR=6.3
LBTB PKiKP 11 00 01.8
comp=Z,47nm,1.0s,baz=167,slow=8.7,SNR=4.6
LBTB S 11 05 55.6
comp=Z,24nm,1.1s,baz=274,slow=21,SNR=9.0
LBTB PKKP PKKP 11 11 54.3 +23
comp=Z,42nm,1.1s,baz=288,slow=5.3,SNR=7.0
LBTB SKKPbc 11 15 15.1
comp=Z,17nm,0.9s,baz=320,slow=4.9,SNR=4.6
LBTB PKPPKP 11 20 09.1
comp=Z,26nm,1.4s,baz=337,slow=8.0,SNR=2.6
LBTB Lobatse 100.06 243 *e*Pdif P 10 55 33.4 -0.7
comp=Z,138nm,1.6s
LBTB *e* 10 55 36.3
LBTB *e*PP PP 10 59 42.4 -1.6
LBTB LR LR
comp=Z,16µm,20.0s
KIZT Kizilcal 100.31 308 P P 10 55 35.8 +0.9
PUL Pulkovo 100.46 330⇓ *e*P P 10 55 35.7 +0.6
PUL *e* 10 59 50.5
PUL *e* 11 05 50.9
PUL *e* 11 06 44.3
PUL MLR MLR
comp=Z,28µm,18.0s
PUL Pulkovo 100.46 330⇓ *e*P P 10 55 36.0 +0.9
KEV Kevo 100.58 340 *e*p P 10 55 33.2 -2.2
MDU Mudurnu 100.81 310 P P 10 55 37.9 +0.7
DLBC Dease Lake 100.85 32 P P 10 55 36.7 -0.2
comp=Z,44nm,0.9s,baz=273,slow=4.0,SNR=55
DLBC PP PP 10 59 48.7 -0.7
comp=Z,111nm,1.2s,baz=196,slow=1.6,SNR=4.8
DLBC PKiKP 11 00 03.2
comp=Z,124nm,1.4s,baz=262,slow=4.9,SNR=3.2
DLBC S 11 05 59.9
comp=Z,9.3nm,0.9s,baz=64,slow=22,SNR=8.2
DLBC PKKPbc 11 11 50.6
comp=Z,8.0nm,0.8s,baz=55,slow=2.2,SNR=8.2
DLBC PKPPKP 11 20 06.1
comp=Z,8.8nm,1.0s,baz=109,slow=3.4,SNR=4.9
DLBC Dease Lake 100.85 32 Pdif P 10 55 34.5 -2.3
DLBC *i* 10 55 39.0
ESKT Eskisehir 101.11 309 P P 10 55 38.4 +0.3
ESKT Eskisehir 101.11 309 *i* P P 10 55 39.4 +0.9
ARCES ARCESS Array B 101.13 340 P P 10 55 36.1 -1.8
comp=Z,358nm,1.0s,baz=72,slow=3.8,SNR=126
ARCES PP PP 10 59 47.3 -4.0
comp=Z,68nm,0.8s,baz=90,slow=8.5,SNR=4.1
ARCES PKiKP 11 00 03.2
comp=Z,28nm,0.7s,baz=123,slow=1.2,SNR=13
ARCES PKKPbc 11 11 48.3
comp=Z,16nm,0.6s,baz=261,slow=3.2,SNR=16
ARE0 ARCESS Array S 101.13 340 *e*Pdif P 10 55 36.1 -1.8
ARE0 *e*PP PP 10 59 46.4 -4.9
BCK Bucak 101.33 307 P P 10 55 40.4 +0.9
ISP Isparta 101.39 307 P P 10 55 40.4 +0.6
ISP pmax pmax
comp=Z,190nm,1.3s
ISP Isparta 101.39 307 P P 10 55 38.0 -1.7
KBS Kingsbay 101.62 350 Pdiff P 10 55 40.9 +1.0
KBS Kingsbay 101.62 350 P P 10 55 40.2 +0.3
KBS pmax pmax
comp=Z,110nm,0.9s
KBS Kingsbay 101.62 350 *e*P P 10 55 38.0 -1.9
KBS *e*P 10 55 39.1
KBS Kingsbay 101.62 350 *e*P P 10 55 39.1 -0.8
KBS *e*PP PP 10 59 52.9 -1.6
KBS AMS AMS 11 41 52.7
comp=Z,16µm,17.6s
ALT Altintas 101.69 308 P P 10 55 42.2 +1.1
HSP Hornsund 101.73 348 *e*P P 10 55 41.0 +0.6
AKASG Malin Array Be 101.80 320 P P 10 55 39.0 -2.2
AKASG 10 59 53.4
AKASG Malin Array Be 101.80 320 P P 10 55 39.0 -2.2
comp=Z,108nm,1.0s,baz=68,slow=4.3,SNR=154
AKASG pP 10 56 29.2
comp=Z,7.2nm,0.5s,baz=79,slow=4.3,SNR=0.8
AKASG PP PP 10 59 53.4 -3.0
comp=Z,73nm,0.8s,baz=81,slow=6.8,SNR=5.4
AKASG PKiKP 11 00 04.7
comp=Z,34nm,0.6s,baz=72,slow=2.3,SNR=12
AKASG SP SP 11 08 39.1 -0.4
comp=Z,11nm,1.0s,baz=81,slow=9.2,SNR=4.2
AKASG PKKPbc 11 11 33.2
comp=Z,2.2nm,0.6s,baz=253,slow=1.3,SNR=4.3
AKASG PKPPKP 11 20 04.3
comp=Z,0.7nm,0.5s,baz=263,slow=2.8,SNR=9.8
HRT Hereke 101.98 310 P P 10 55 43.2 +0.9
KTK1 Kautokeino 102.03 339 *e*P Pdif 10 55 43.1 +1.2
comp=Z,376nm,1.1s
KTK1 Kautokeino 102.03 339 *e*P Pdif 10 55 41.4 -0.5
KTK1 AMb AMB 10 55 44.7
comp=Z,376nm,1.1s
KTK1 *e* 11 00 06.4
KAF Kangasniemi 102.12 332 *e*p Pdif 10 55 39.4 -3.0
baz=78,slow=4.2
KAF Kangasniemi 102.12 332 *e*p 11 00 05.2
KHL Karahalli 102.16 308 P Pdif 10 55 44.8 +1.6
MNK Minsk 102.31 324⇑ *e*P Pdif 10 55 41.0 -2.4
KIS Kishinev 102.31 317⇑ *e*P Pdif 10 55 42.5 -1.1
KIS *i* 11 06 03.0
KIS *i* S S 11 07 07.0 +1.3
KIS *i* PS PS 11 09 05.0 -3.6
KIS pmax pmax
comp=E,800nm,3.0s
KIS pmax pmax
comp=Z,1µm,3.0s
KIS pmax pmax
comp=Z,4µm,16.0s
KIS pmax pmax
comp=Z,6µm,16.0s
KIS pmax pmax
comp=E,6µm,18.0s
KIS MLR MLR
comp=N,10µm,18.0s
KIS MLR MLR
comp=Z,22µm,21.0s
KIS Kishinev 102.31 317 *e*P Pdif 10 55 43.0 -0.6
FINES FINESS Array B 102.33 331 P Pdif 10 55 41.4 -2.0
comp=Z,66nm,0.8s,baz=90,slow=7.6,SNR=160
FINES PP PP 10 59 57.8 -2.3
comp=Z,75nm,0.9s,baz=79,slow=9.7,SNR=4.2
FINES PKiKP 11 00 04.4
comp=Z,86nm,0.8s,baz=94,slow=2.8,SNR=16
FINES PKKPbc 11 11 47.2
comp=Z,14nm,0.8s,baz=182,slow=2.6,SNR=12
SUR Sutherland 102.36 235 P Pdif 10 55 45.6 +1.4
comp=Z,133nm,0.9s,baz=105,slow=4.1,SNR=42
SUR PP PP 11 00 01.2 +0.1
comp=Z,253nm,1.1s,baz=112,slow=7.5,SNR=10.0
SUR PKKPbc 11 11 47.9
comp=Z,43nm,1.0s,baz=286,slow=3.3,SNR=15
SUR SKKPbc 11 15 09.6
comp=Z,12nm,1.1s,baz=309,slow=1.7,SNR=3.5
SUR PKPPKP 11 19 56.6
comp=Z,6.6nm,0.9s,baz=13,slow=22,SNR=3.1
SUR Sutherland 102.36 235 P Pdif 10 55 45.6 +1.4
SUR PP PP 11 00 01.2 +0.1
SUR PKKPbc 11 11 47.9
SUR SKKPbc 11 15 09.6
SUR P'P' 11 19 56.6
SUR LR LR
comp=Z,5µm,21.0s
TLCR 102.42 315 ⇑P Pdif 10 55 45.2 +1.0
TLCR 102.42 315 ⇑P Pdif 10 55 46.0 +1.8
TLCR 102.42 315 ⇑P Pdif 10 55 46.0 +1.8
VSU Vasula 102.44 328 *i* P Pdif 10 55 43.5 -0.4
VSU Vasula 102.44 328 *i* Pr 10 55 43.5
BBB Bella Bella 102.52 38 P P 10 55 44.7 +0.3
comp=Z,51nm,0.9s,baz=272,slow=2.2,SNR=5.9
BBB PKiKP 11 00 05.7
comp=Z,61nm,0.9s,baz=218,slow=5.5,SNR=8.6
BBB Bella Bella 102.52 38 P Pdif 10 55 44.7 +0.3
DENT Denizli 102.56 307 P Pdif 10 55 46.7 +1.8
TIRR Tirgusor 102.75 314 ⇑P Pdif 10 55 46.8 +1.2
TIRR Tirgusor 102.75 314 ⇑P Pdif 10 55 46.6 +1.0
TIRR Tirgusor 102.75 314 ⇑P Pdif 10 55 46.6 +1.0
IDID Didziasalis 102.84 325 *i* P Pdif 10 55 46.9 +1.1
IDID AMb AMB 10 55 49.1
comp=Z,133nm,1.1s
IDID *e*PP PP 11 00 00.5 -3.8
CFR Carcaliu 102.90 315 ⇑P Pdif 10 55 48.1 +1.8
MANT Manisa 102.91 308 *i* P Pdif 10 55 47.9 +1.4
PSN Preselentsi 102.96 313 *i* P Pdif 10 55 47.5 +0.9
IZAR Zarasai 103.07 326 *i* P Pdif 10 55 47.7 +1.0
IZAR AMb AMB 10 55 50.0
comp=Z,95nm,1.2s
HARR Harsova 103.08 314 ⇑P Pdif 10 55 48.5 +1.4
HARR Harsova 103.08 314 ⇑P Pdif 10 55 48.3 +1.2
IIGN Ignalina 103.13 325 *i* P Pdif 10 55 48.1 +1.1
IIGN AMb AMB 10 55 50.4
comp=Z,124nm,1.2s
IIGN *e*PP PP 11 00 05.2 -1.3
IAS Iasi 103.16 317 P Pdif 10 55 48.5 +1.2
ISAL Salakas 103.16 325 *i* P Pdif 10 55 48.1 +1.0
ISAL AMb AMB 10 55 50.4
comp=Z,75nm,1.3s
ISAL *e*PP PP 11 00 03.2 -3.5
YER Yerkesik 103.17 306 P Pdif 10 55 49.9 +2.2
TRO Tromso 103.34 340 *e*P Pdif 10 55 47.5 -0.1
BALB Balikesir 103.40 309 P Pdif 10 55 49.2 +0.6
PRD Provadia 103.56 313 *i* P Pdif 10 55 51.0 +1.8
MLSB Milas 103.57 307 P Pdif 10 55 51.5 +2.1
BRD Bordesti 103.66 315 ⇑P Pdif 10 55 52.6 +3.0
BRD Bordesti 103.66 315 ⇑P Pdif 10 55 53.3 +3.7
BRD Bordesti 103.66 315 ⇑P Pdif 10 55 53.3 +3.7
VRI Vrincioaia 103.84 316 ⇑P Pdif 10 55 52.4 +2.0
VRI Vrincioaia 103.84 316 ⇑P Pdif 10 55 52.1 +1.7
KDAG Bornova 103.93 308 *i* P Pdif 10 55 52.4 +1.4
IZM Izmir 103.93 308 P Pdif 10 55 52.2 +1.2
BODT Bodrum 103.95 306 P Pdif 10 55 52.2 +1.1
ISR Istrita 104.03 315 ⇑P Pdif 10 55 56.4 +5.2
ISR Istrita 104.03 315 ⇑P Pdif 10 55 56.3 +5.1
ISR Istrita 104.03 315 ⇑P Pdif 10 55 56.3 +5.1
BLCB Balcova 104.11 308 P Pdif 10 55 53.6 +1.8
EDRB Edirne 104.13 311 P Pdif 10 55 51.0 -0.8
MLR Muntele Rosu 104.42 315 P Pdif 10 55 52.2 -0.7
MLR 11 00 09.4
MLR S 11 06 14.1
MLR SP SP 11 09 07.5 +0.8
MLR pmax pmax
comp=Z,125nm,0.9s
MLR pmax pmax
comp=Z,82nm,0.7s
MLR Muntele Rosu 104.42 315 Pdiff Pdif 10 55 52.2 -0.7
comp=Z,126nm,0.9s,baz=36,slow=1.7,SNR=78
MLR PKiKP 11 00 09.4
comp=Z,82nm,0.7s,baz=8.8,slow=5.6,SNR=7.3
MLR S 11 06 14.1
comp=Z,62nm,0.9s,baz=197,slow=22,SNR=5.8
MLR SP SP 11 09 07.5 +0.8
comp=Z,66nm,1.1s,baz=24,slow=5.0,SNR=4.0
MLR PKKPbc 11 11 41.6
comp=Z,18nm,0.7s,baz=166,slow=11,SNR=4.8
MLR Muntele Rosu 104.42 315 ⇓P Pdif 10 55 54.5 +1.5
MLR Muntele Rosu 104.42 315 ⇓P Pdif 10 55 54.5 +1.6
BUC1 Bucharest 104.47 314 P Pdif 10 55 55.6 +2.4
SZH Strazhica 104.62 313 *i* P Pdif 10 55 55.0 +1.1
BURAR Bucovina Array 104.70 317 ⇑P Pdif 10 55 55.2 +1.1
BURAR Bucovina Array 104.70 317 ⇑P Pdif 10 55 55.2 +1.1
SNX Sinaia 104.73 315 P Pdif 10 55 57.1 +2.8
ZIMR 105.00 313 ⇓P Pdif 10 55 57.6 +2.0
DIM Dimitrovgrad 105.02 312 *e*P Pdif 10 55 57.0 +1.3
PVL Pavlikeni 105.07 313 *e*P Pdif 10 55 58.0 +2.2
SUW Suwalki 105.08 324 *e*P Pdif 10 55 56.5 +0.9
SUW *e* 11 00 17.3
SUW *e* 11 06 17.1
SUW *e*SP SP 11 09 09.0 -4.0
SUW *e*SS SS 11 14 58.8 +1.2
SUW Suwalki 105.08 324 *e*P Pdif 10 55 56.5 +0.9
comp=Z,1µm,1.2s
SUW *e*PP PP 11 00 17.3 -3.7
SUW *e*SKS SKS 11 06 17.1 +2.1
SUW *e*SP SP 11 09 09.0 -4.0
SUW *e*SS SS 11 14 58.8 +1.2
SUW MLR MLR 11 42 28.4
comp=Z,27µm,26.1s
LVV L'vov 105.21 320⇑ *i*P Pdif 10 55 57.8 +1.5
LVV *e* 11 06 16.6
LVV *e*S 11 07 29.8
SANT Santorini 105.47 306 *e*Pdif Pdif 10 55 58.2 +0.5
comp=Z,140nm,1.1s
OOW Octopus West 105.54 42 P Pdif 10 56 01.4 +3.6
OCWA Octopus Mounta 105.54 42 Pdif Pdif 10 55 57.8 0.0
comp=Z,379nm,1.5s
OCWA *e* 10 56 01.3
OCWA *e*PP PP 11 00 25.8 +1.3
OCWA LR LR
comp=Z,27µm,21.0s
PLD Plovdiv 105.63 312 *e*P Pdif 10 55 59.0 +0.7
RZN Rozhen 105.66 311 *i* P Pdif 10 55 59.0 +0.5
LOF Lofoten 105.69 340 *e*P Pdif 10 56 01.4 +3.4
PGC Sidney 105.90 41 *e*Pdif Pdif 10 55 59.8 +0.4
comp=Z,557nm,1.6s
PGC *e*PKKP PKKP 11 11 53.0 +32
PGB Panagyurishte 105.98 312 *i* P Pdif 10 56 00.5 +0.6
IDI Anoyia 106.00 305 Pdiff Pdif 10 56 00.8 +0.7
comp=Z,64nm,0.8s,baz=114,slow=5.3,SNR=20
IDI PKiKP 11 00 13.2
comp=Z,99nm,0.6s,baz=326,slow=17,SNR=13
IDI S SKS 11 06 22.6 +3.0
comp=Z,26nm,0.8s,baz=343,slow=18,SNR=5.7
IDI SP SP 11 09 28.6 +6.1
comp=Z,12nm,0.8s,baz=98,slow=11,SNR=3.2
IDI PKKPbc 11 11 36.5
comp=Z,172nm,1.3s,baz=295,slow=6.6,SNR=7.7
IDI SKKPbc 11 15 01.2
comp=Z,25nm,0.7s,baz=293,slow=7.7,SNR=4.8
IDI PKPPKP 11 19 57.4
comp=Z,0.3nm,0.3s,baz=313,slow=2.6,SNR=7.8
KEBM Edson Butte 106.00 47 *e*PKiKP 11 00 12.7
KEBM *e*PP PP 11 00 27.0 -0.7
KWP Kalwaria 106.08 320 *e*Pdiff Pdif 10 56 01.9 +1.8
comp=Z,1µm,2.3s
KWP *e*PP PP 11 00 26.6 -1.6
KWP *e*SKS SKS 11 06 22.9 +3.4
KWP *e*SP SP 11 09 24.0 +1.0
KWP MLR MLR 11 41 09.5
comp=Z,23µm,30.6s
MOR8 Moi Rana 106.09 338⇑ *i*P Pdif 10 55 59.3 -0.5
comp=Z,190nm,1.9s
MOR8 *e*P 11 00 13.0
MOR8 Moi Rana 106.09 338⇑ *i*P Pdif 10 55 59.3 -0.5
MOR8 AMb AMB 10 56 02.3
comp=Z,190nm,1.9s
MOR8 *e* 11 00 12.2
KBO Bosley Butte 106.15 48 *e*Pdif Pdif 10 56 04.6 +4.0
MMB Musomiste 106.41 311 *i* P Pdif 10 56 02.5 +0.7
KOLS Kolonicke sedl 106.47 319 *i* P Pdif 10 56 04.3 +2.4
KOLS *e* 10 56 28.8
KOLS Kolonicke sedl 106.47 319 *i* PKP Pdif 10 56 04.3 +2.4
KOLS *e* 10 59 21.9
KOLS *e* 11 00 15.0
KOLS *e*SKSac 11 06 28.8
KOLS *e* 11 09 14.6
KOLS Kolonicke sedl 106.47 319 PDIF Pdif 10 56 04.3 +2.4
KOLS *e* 10 59 21.9
KOLS Kolonicke sedl 106.47 319 *e*PKP 11 00 15.0
COR Corvallis 106.55 46 *e*P Pdif 10 56 02.3 0.0
COR *e* 11 00 32.1
COR pmax pmax
comp=Z,350nm,1.6s
COR MLR MLR
comp=Z,48µm,21.0s
COR Corvallis 106.55 46 *e*Pdif Pdif 10 56 02.3 0.0
comp=Z,350nm,1.6s
COR *e*PP PP 11 00 32.1 +0.1
COR LR LR
comp=Z,48µm,21.0s
STOK Stokkvaagen 106.57 338 *e*P Pdif 10 56 03.5 +1.7
STOK Stokkvaagen 106.57 338 *e*P Pdif 10 56 02.9 +1.0
GVD Gavdhos 106.68 304 *e*P Pdif 10 56 04.6 +1.5
comp=Z,77nm,0.8s
WAR Warsaw 106.68 323 *e*Pdiff Pdif 10 56 04.7 +2.0
WAR *e*PP PP 11 00 37.1 +4.2
WAR *e*SKS SKS 11 06 25.2 +3.2
WAR *e*SP SP 11 09 29.9 +1.0
WAR MLR MLR 11 43 28.4
comp=Z,26µm,24.5s
VTS Vitosha 106.68 312 ⇑P Pdif 10 56 04.6 +1.6
VTS Vitosha 106.68 312 P Pdif 10 56 05.2 +2.2
VTS Vitosha 106.68 312 *i* P Pdif 10 56 03.0 0.0
VDB Vedder Mountai 106.72 41 P Pdif 10 56 05.3 +2.3
KKB Krupnik 106.86 312 *i* P Pdif 10 56 05.0 +1.3
MBW Mount Baker 106.90 41 P Pdif 10 56 08.4 +4.6
DJES Djerdap 106.92 315⇑ *i*P Pdif 10 56 04.1 +0.1
JCW Jim Creek 106.97 42 P Pdif 10 56 07.2 +3.1
CRVS Cervenica-Dubn 107.01 319 *e*P Pdif 10 56 07.7 +3.5
CRVS *e* 11 00 35.2
CRVS *e* 11 06 28.8
CRVS Cervenica-Dubn 107.01 319 *e*PKP Pdif 10 56 07.7 +3.5
CRVS *e* 10 56 54.1
CRVS *e* 10 59 22.8
CRVS *e* 11 00 18.7
CRVS *e*PP PP 11 00 35.2 -0.3
CRVS *e*SKSac 11 06 28.8
CRVS Cervenica-Dubn 107.01 319 PDIF Pdif 10 56 07.7 +3.5
CRVS *e*pPDIF 10 56 54.1
CRVS *e* 10 59 22.8
CRVS *e* 11 00 18.7
CRVS *e*PP PP 11 00 35.2 -0.3
HUMO Hull Mountain 107.04 48 *e*Pdif Pdif 10 56 07.4 +2.9
comp=Z,66nm,1.1s
HUMO *e*PKiKP 11 00 16.1
HUMO *e*PKKP PKKP 11 11 31.6 +13
HUMO LR LR
comp=Z,41µm,22.0s
TTW Tolt Reservoir 107.22 42 P Pdif 10 56 08.0 +2.8
GSM Grass Mountain 107.22 43 P Pdif 10 56 08.4 +3.2
RES Resolute Bay 107.27 11 *e*P Pdif 10 56 04.5 -0.3
RES pmax pmax
comp=Z,190nm,2.0s
RES Resolute Bay 107.27 11 *e*Pdif Pdif 10 56 04.5 -0.3
comp=Z,190nm,2.0s
RES *e* 10 56 07.0
RES *e*PKiKP 11 00 13.6
RES *e*PKKP PKKP 11 11 23.9 +6.5
VAY Valandovo 107.30 311⇑ *i*P Pdif 10 56 06.5 +0.8
VAY *i* 11 00 38.3
VAY *i* 11 06 24.5
VAY Valandovo 107.30 311⇑ *i*P Pdif 10 56 06.5 +0.8
VAY *i*PsP 11 00 15.2
VAY *i*PP PP 11 00 38.3 +0.5
VAY *i* 11 01 35.4
VAY ⇓*i*SKS SKS 11 06 24.5 -0.5
VAY *i* 11 07 15.7
YBH Yreka Blue Hor 107.33 48 Pdiff Pdif 10 56 08.3 +2.5
comp=Z,7.5nm,1.1s,baz=197,slow=1.7,SNR=3.8
YBH PKiKP 11 00 15.6
comp=Z,33nm,1.0s,baz=323,slow=2.8,SNR=26
YBH PS PS 11 10 09.8 +11
comp=Z,2.5nm,0.9s,baz=144,slow=2.0,SNR=4.5
YBH PKKPbc 11 11 31.1
comp=Z,24nm,0.7s,baz=62,slow=4.6,SNR=16
YBH PKKP PKKP 11 11 45.3 +27
comp=Z,39nm,1.1s,baz=130,slow=3.1,SNR=7.0
YBH Yreka Blue Hor 107.33 48 *e*Pdif Pdif 10 56 09.0 +3.2
comp=Z,179nm,2.1s
YBH PKPdf 11 00 15.6
YBH *e*PKiKP 11 00 18.3
YBH PS PS 11 10 09.8 +11
YBH PKKPbc 11 11 31.1
YBH PKKP PKKP 11 11 45.3 +27
YBH LR LR
comp=Z,43µm,22.0s
HOPS Hopland 107.35 51 *e*Pdif Pdif 10 56 10.9 +4.9
comp=Z,746nm,1.6s
HOPS *e*PKiKP 11 00 13.5
HOPS *e*PP PP 11 00 35.5 -2.7
HOPS LR LR
comp=Z,36µm,19.0s
YKW3 Yellowknife Ar 107.39 26 *e*Pdif Pdif 10 56 06.7 +1.1
YKW3 *e*PKKP PKKP 11 11 27.1 +10
YKA Yellowknife Ar 107.42 26 Pdiff Pdif 10 56 05.1 -0.6
comp=Z,15nm,0.8s,baz=294,slow=4.6,SNR=151
YKA pPdiff 10 56 54.4
comp=Z,8.2nm,0.8s,baz=275,slow=5.0,SNR=4.1
YKA PKiKP 11 00 14.4
comp=Z,91nm,0.6s,baz=295,slow=1.7,SNR=104
YKA SKiKP 11 03 30.9
comp=Z,21nm,0.7s,baz=282,slow=1.8,SNR=4.5
YKA SP SP 11 09 41.5 +5.6
comp=Z,10nm,1.0s,baz=292,slow=2.2,SNR=4.1
YKA PKKPbc 11 11 30.7
comp=Z,68nm,0.7s,baz=110,slow=3.1,SNR=36
YKA PKKP PKKP 11 11 44.1 +27
comp=Z,25nm,0.7s,baz=112,slow=3.2,SNR=4.2
YKA PKPPKP 11 19 52.9
comp=Z,5.8nm,1.1s,baz=114,slow=2.5,SNR=3.8
YKA P4KPbc 11 31 32.8
comp=Z,0.3nm,0.9s,baz=315,slow=2.0,SNR=3.6
YKA Yellowknife Ar 107.42 26 Pdif Pdif 10 56 05.1 -0.6
YKA PKPdif 11 00 14.4
YKA SP SP 11 09 41.5 +5.6
YKA PKKPbc 11 11 30.7
YKA PKKP PKKP 11 11 44.1 +27
YKA P'P' 11 19 52.9
YKA *e* 11 31 32.9
BZS Buzias 107.42 316 ⇑P Pdif 10 56 07.7 +1.6
BZS Buzias 107.42 316 P Pdif 10 56 08.2 +2.0
BOLS Boljevac 107.44 314⇑ *i*P Pdif 10 56 07.6 +1.4
WDC Whiskeytown Da 107.59 50 P Pdif 10 56 11.1 +4.1
WDC pmax pmax
comp=Z,290nm,2.1s
WDC Whiskeytown Da 107.59 50 *e*Pdif Pdif 10 56 09.1 +2.1
comp=Z,288nm,2.1s
WDC *e*PKiKP 11 00 16.5
WDC *e*PP PP 11 00 37.4 -2.4
WDC *e*PKKPbc 11 11 29.1
WDC *e*PKKPdf 11 11 45.0
WDC LR LR
comp=Z,25µm,19.0s
NIE Niedzica 107.66 320 *e*Pdiff Pdif 10 56 08.1 +1.0
BARS Barje 107.67 313⇑ *i*P Pdif 10 56 07.3 0.0
NSS Namsos 107.67 336 *e*P Pdif 10 56 08.0 +1.3
NSS Namsos 107.67 336 *e*P Pdif 10 56 07.9 +1.1
NSS *e*PP PP 11 00 37.7 -2.1
NSS *e*SKSa 11 06 26.7
NSS *e*SS SS 11 15 32.9 +0.4
NSS AMS AMS 11 47 34.6
comp=Z,20µm,16.8s
KECS Kecovo 107.72 319 *e*P Pdif 10 56 09.4 +2.0
KECS *e* 11 00 38.3
KECS Kecovo 107.72 319 PDIF Pdif 10 56 09.4 +2.0
KECS *e*PP PP 11 00 38.3 -2.2
NSHM Saint Helena R 107.76 52 *e*Pdif Pdif 10 56 13.8 +6.0
NSHM *e*PKiKP 11 00 17.0
DAG Danmarks Havn 107.80 353 *e*P Pdif 10 56 06.0 -1.1
DAG MLR MLR
comp=Z,21µm,19.0s
DAG MLR MLR
comp=N,33µm,21.0s
DAG Danmarks Havn 107.80 353 *i* P Pdif 10 56 06.0 -1.1
comp=Z,21µm,19.0s

OJC Ojcow 107.83 321 eP Pdif 10 56 09.6 +1.8
OJC e 11 00 39.6
OJC eSP SP 11 09 43.7 +3.5
OJC eSS SS 11 15 44.4 +9.4
OJC MLR MLR
comp=Z,15µm,18.3s
OJC Ojcow 107.83 321 ePdiff Pdif 10 56 09.6 +1.8
OJC ePP PP 11 00 39.6 -1.6
OJC ⇑eSKSa 11 06 38.1
OJC eS tx 11 08 05.4
OJC eSP SP 11 09 43.7 +3.5
OJC eSS SS 11 15 44.4 +9.4
OJC MLR MLR 11 46 44.4
comp=Z,15µm,18.3s
SVIS Svilajnac 107.90 314⇑iP Pdif 10 56 10.1 +1.8
SAC San Andreas 108.00 53 PKP 11 00 16.6
TBM Table Mountain 108.03 43 P Pdif 10 56 11.9 +3.1
SKO Skopje 108.06 312⇑iP Pdif 10 56 10.1 +1.1
SKO i 11 00 41.3
SKO i 11 06 31.2
SKO i PS PS 11 09 47.9 -18
SKO i 11 11 07.4
SKO pmax pmax
comp=Z,157nm,0.9s
SKO Skopje 108.06 312⇑iP Pdif 10 56 10.1 +1.1
comp=Z,157nm,0.9s
SKO ⇑iPP Px 10 56 58.7
SKO ⇑iPSP 11 00 17.0
SKO i PP PP 11 00 41.3 -1.8
SKO i SKS SKS 11 06 31.2 +2.9
SKO i S 11 08 01.6
SKO i PS PS 11 09 47.9 -18
SKO i 11 11 07.4
SKO Skopje 108.06 312⇑iP Pdif 10 56 10.1 +1.1
SKO ⇑ipP 10 56 58.7
SKO ⇑iPsP 11 00 17.0
SKO i PP PP 11 00 41.3 -1.8
comp=Z,0.2nm,0.9s
SKO i 11 00 48.0
comp=Z,0.3nm,1.0s
SKO ⇓iSKS SKS 11 06 31.2 +2.9
SKO i S 11 08 01.6
SKO i PS PS 11 09 47.9 -18
SKO i 11 11 07.4
PMSA Palmer Station 108.10 174 PFAKE 11 00 30.0
PMSA LR LR
comp=Z,33µm,20.0s
EBG Ellensburg 108.10 43 P Pdif 10 56 12.3 +3.2
PSZ Piszkesteto 108.21 318 eP Pdif 10 56 09.3 -0.2
PSZ pmax pmax
comp=Z,425nm,2.0s
PSZ Piszkesteto 108.21 318 ePdif Pdif 10 56 09.3 -0.2
comp=Z,425nm,2.0s
PSZ i 10 56 11.5
PSZ ePKKPbc 11 11 28.4
PSZ Piszkesteto 108.21 318⇑i Pdif 10 56 11.6 +2.1
BIA Bitola 108.27 311⇑iPP PP 11 00 46.9 +2.1
GRUS Gruza 108.32 314⇑iP Pdif 10 56 06.4 -3.7
LIKS Likavka 108.50 320 eP Pdif 10 56 13.1 +2.3
LIKS Likavka 108.50 320 PDIF Pdif 10 56 13.1 +2.3
HFS Hagfors 108.53 332 Pdiff Pdif 10 56 09.6 -1.1
comp=Z,55nm,0.7s,baz=108,slow=4.7,SNR=76
HFS PKiKP 11 00 16.3
comp=Z,40nm,0.7s,baz=168,slow=3.6,SNR=6.4
HFS PP PP 11 00 45.3 -1.1
comp=Z,65nm,0.7s,baz=74,slow=11,SNR=4.1
HFS PKKPbc 11 11 27.3
comp=Z,27nm,0.6s,baz=207,slow=3.3,SNR=15
HFS Hagfors 108.53 332 Pdif Pdif 10 56 09.6 -1.1
HFS PKPdf 11 00 16.3
HFS PP PP 11 00 45.3 -1.1
HFS PKKPbc 11 11 27.3
OHCM Honcut 108.54 51 ePdif Pdif 10 56 14.6 +3.4
OHCM ePKiKP 11 00 18.6
TSUM Tsumeb 108.61 247 Pdiff Pdif 10 56 14.6 +2.7
TSUM PKiKP 10 59 35.3
TSUM PP PP 11 00 47.0 -1.0
TSUM SKSac 11 06 37.6
TSUM SKKSac 11 07 30.4
TSUM sSKSac 11 08 08.8
TSUM sSdiff 11 09 30.4
TSUM SS SS 11 15 46.3 +0.3
TSUM Tsumeb 108.61 247 PKKPbc 11 11 30.8
comp=Z,17nm,0.9s,baz=270,slow=3.8,SNR=5.4
TSUM PKKP PKKP 11 11 44.3 +28
comp=Z,90nm,1.2s,baz=289,slow=3.0,SNR=7.8
TSUM SKKPbc 11 14 53.1
comp=Z,20nm,0.8s,baz=291,slow=2.9,SNR=7.3
TSUM Tsumeb 108.61 247 ePdif Pdif 10 56 13.2 +1.3
comp=Z,32nm,1.0s
TSUM ePKiKP 11 00 18.1
TSUM LR LR
comp=Z,17µm,20.0s
OHR Ohrid 108.65 311⇑iP Pdif 10 56 12.4 +0.7
OHR i 11 00 41.5
OHR i 11 06 32.9
OHR i PS PS 11 09 42.3 -29
OHR Ohrid 108.65 311⇑iP Pdif 10 56 12.4 +0.7
OHR i PsP 11 00 18.7
OHR ⇓iPP PP 11 00 41.5 -6.3
OHR ⇓iSKS SKS 11 06 32.9 +2.0
OHR ⇓iS 11 08 04.2
OHR i PS PS 11 09 42.3 -29
OHR i 11 11 04.4
EPH Ephrata 108.67 42 P Pdif 10 56 14.4 +2.8
GKP Gorka Klasztor 108.70 324 eP Pdif 10 56 13.6 +2.1
GKP e 11 00 42.8
GKP eSP SP 11 09 51.1 +3.1
GKP pmax pmax
comp=Z,1.0nm,2.9s
GKP MLR MLR
comp=Z,27µm,26.5s
GKP Gorka Klasztor 108.70 324 eP Pdif 10 56 13.6 +2.1
comp=Z,1.2nm,2.9s
GKP ePP PP 11 00 42.8 -5.0
GKP eSP SP 11 09 51.1 +3.1
GKP LR LR
comp=Z,27µm,26.5s
GKP Gorka Klasztor 108.70 324 ePdiff Pdif 10 56 13.6 +2.1
comp=Z,1µm,2.9s
GKP ePP PP 11 00 42.8 -5.1
GKP eSP SP 11 09 51.1 +3.1
GKP MLR MLR 11 40 11.7
comp=Z,27µm,26.5s
VYHS Vyhne 108.79 319 eP Pdif 10 56 13.7 +1.6
VYHS e 11 00 42.3
VYHS Vyhne 108.79 319 ePKP Pdif 10 56 13.7 +1.6
VYHS e 10 57 02.2
VYHS e 10 59 30.0
VYHS e 11 00 18.0
VYHS ePP PP 11 00 42.3 -6.4
VYHS Vyhne 108.79 319 PDIF Pdif 10 56 13.7 +1.6
VYHS epPDIF 10 57 02.2
VYHS e 10 59 30.0
VYHS Vyhne 108.79 319 ePKP 11 00 18.0
VYHS ePP PP 11 00 42.3 -6.4
DIVS Divcibare 108.80 314⇓iP Pdif 10 56 14.2 +1.9
SAO San Andreas Ge 108.85 54 P Pdif 10 56 11.0 -1.7
SAO pmax pmax
comp=Z,93nm,1.4s
SAO San Andreas Ge 108.85 54 Pdif Pdif 10 56 11.0 -1.6
comp=Z,93nm,1.4s
SAO ePKiKP 11 00 19.2
SAO ePP PP 11 00 49.9 +0.4
SAO LR LR
comp=Z,34µm,19.0s
BUD Budapest 108.87 318⇑e Pdif 10 56 13.8 +1.4
RAC Raciborz 108.87 321 ePdiff Pdif 10 56 15.3 +2.9
RAC ePP PP 11 00 45.5 -3.8
RAC MLR MLR 11 46 18.9
comp=Z,22µm,23.0s
OKC Ostrava-Krasne 108.95 321 ePDIF Pdif 10 56 15.0 +2.3
OKC epP 10 57 01.1
OKC ePKP 11 00 17.8
OKC ePP PP 11 00 47.8 -2.2
OKC eSKS SKS 11 06 35.7 +3.8
OKC AMS AMS 11 46 10.0
comp=Z,16µm,22.6s
PVY Plav 109.05 313⇑iP Pdif 10 56 14.6 +1.2
IVA Berane 109.06 313⇑iP Pdif 10 56 15.7 +2.3
MOD Modoc 109.09 48 ePdif Pdif 10 56 16.7 +3.1
MOD ePKiKP 11 00 19.9
MOD ePKKPbc 11 11 25.2
MOD ePKKPdf 11 11 41.0
MOD LR LR
comp=Z,30µm,20.0s
SRO2 Moca 109.23 318 ePKP 11 00 19.9
LRV Little Rabbit 109.23 54 ePKiKP 11 00 21.7
LRV ePKKPbc 11 11 25.4
LRV ePKKPdf 11 11 40.0
OD2 Odessa Site #2 109.25 42 P Pdif 10 56 16.9 +2.7
QSH Qafa e Shtames 109.26 312 i p Pdif 10 56 15.4 +1.1
QSH Qafa e Shtames 109.26 312 i p 11 00 19.2
SRO Srobarova 109.27 318 eP Pdif 10 56 16.8 +2.6
SRO e 11 00 48.7
SRO Srobarova 109.27 318 ePKP Pdif 10 56 16.8 +2.6
SRO e 10 59 46.4
SRO e 11 00 19.5
SRO ePP PP 11 00 48.7 -3.6
SRO Srobarova 109.27 318 PDIF Pdif 10 56 16.8 +2.6
SRO e 10 59 46.4
SRO Srobarova 109.27 318 ePKP 11 00 19.5
SRO ePP PP 11 00 48.7 -3.6
TIR Tirane 109.32 311 P Pdif 10 56 16.7 +2.1
SRO1 Iza 109.34 318 ePKP 11 00 19.7
SRO1 ePP PP 11 00 48.7 -4.0
NB2 NORSAR Subarra 109.34 333 P Pdif 10 56 14.3 +0.1
comp=Z,182nm,1.0s,baz=69,slow=4.5
NB2 NORSAR Subarra 109.34 333 P Pdif 10 56 14.3 +0.1
baz=69,slow=4.4
NOA NORSAR Array B 109.34 333 Pdiff Pdif 10 56 12.5 -1.7
comp=Z,89nm,0.8s,baz=70,slow=4.5,SNR=160
NOA pPdiff 10 57 02.4
comp=Z,8.0nm,0.9s,baz=103,slow=4.1,SNR=2.3
NOA PKiKP 11 00 18.5
comp=Z,123nm,1.0s,baz=261,slow=3.2,SNR=17
NOA PP PP 11 00 48.4 -4.0
comp=Z,42nm,0.9s,baz=78,slow=7.6,SNR=4.6
NOA PKKPbc 11 11 25.4
comp=Z,32nm,0.8s,baz=66,slow=3.2,SNR=33
NOA PKKP PKKP 11 11 39.9 +26
comp=Z,14nm,0.8s,baz=250,slow=4.4,SNR=5.6
NOA SKKPbc 11 14 48.9
comp=Z,6.2nm,0.8s,baz=67,slow=3.0,SNR=4.4
NOA NORSAR Array B 109.34 333 Pdif Pdif 10 56 12.5 -1.7
NOA PKPdf 11 00 18.5
NOA PP PP 11 00 48.4 -4.0
NOA PKKPbc 11 11 25.4
NOA PKKP PKKP 11 11 39.9 +26
NOA SKKPbc 11 14 48.9
MORC Moravsky Berou 109.35 321 P Pdif 10 56 16.5 +2.0
MORC Moravsky Berou 109.35 321 ePdif Pdif 10 56 15.0 +0.5
MORC e 10 56 17.0
MORC ePKiKP 11 00 17.6
MORC ePKKP PKKP 11 11 25.2 +11
PLE Pljevlja 109.35 314⇑iP Pdif 10 56 17.1 +2.4
PKSM Moragy 109.37 317 ⇑P Pdif 10 56 16.6 +1.9
JAVC Velka Javorina 109.47 320 P Pdif 10 56 18.2 +3.1
BSD Bornholm Skovb 109.50 326⇑iP Pdif 10 56 16.7 +1.6
BSD pmax pmax
comp=Z,140nm,0.9s
BSD Bornholm Skovb 109.50 326⇑iP Pdif 10 56 16.7 +1.6
BSD eP 11 00 22.5
BSD i 11 00 51.1
BSD i S tx 11 01 07.0
BSD i 11 08 06.3
BSD i 11 11 23.0
BSD Bornholm Skovb 109.50 326⇑iP Pdif 10 56 16.7 +1.6
comp=Z,140nm,0.9s
BSD i 10 57 06.9
CMB Columbia Colle 109.55 52 ePdif Pdif 10 56 18.8 +3.1
CMB ePKiKP 11 00 17.3
CMB ePP PP 11 00 51.1 -3.3
CMB ePKKPbc 11 11 24.2
CMB ePKKP PKKP 11 11 37.5 +23
CMB LR LR
comp=Z,47µm,20.0s
NAO01 NORSAR Array S 109.56 333 ePdif Pdif 10 56 12.7 -2.5
NAO01 ePKiKP 11 00 16.4
NAO01 LR LR
comp=Z,32µm,21.0s
TTG Podgorica 109.60 313⇑iP Pdif 10 56 16.6 +0.8
ULC Ulcinj 109.68 312⇑iP Pdif 10 56 16.6 +0.5
SMOL Smolenice 109.70 319 ePP PP 11 00 56.9 +1.6
UPM Unac-Piva 109.72 314⇑iP Pdif 10 56 17.9 +1.6
NKY Niksic 109.72 313⇑iP Pdif 10 56 16.4 +0.1
KSP Ksiaz 109.87 322⇑ePdif Pdif 10 56 19.1 +2.3
KSP e 10 57 07.3
KSP e 10 59 49.5
KSP ePKPdf 11 00 20.5
KSP ePP PP 11 00 51.0 -5.4
KSP e 11 01 41.0
KSP eSKS SKS 11 06 39.0 +3.3
KSP eSdif 11 08 09.0
KSP eSP SP 11 09 58.0 -1.4
KSP ePKKP PKKP 11 11 23.0 +10
KSP Ksiaz 109.87 322 ePdiff Pdif 10 56 19.4 +2.6
comp=Z,2µm,4.3s
KSP ePP PP 11 00 58.5 +2.2
KSP eSKS SKS 11 06 40.6 +4.9
KSP eSP SP 11 09 58.0 -1.4
KSP MLR MLR 11 44 29.0
comp=Z,38µm,23.3s
WCN Washoe City 109.87 51 ePdif Pdif 10 56 20.8 +3.8
WCN ePKiKP 11 00 19.1
WCN ePP PP 11 01 05.6 +9.0
DOMB Dombas 109.88 335⇑iP Pdif 10 56 18.0 +1.4
DOMB eP 11 00 20.5
DOMB Dombas 109.88 335⇑iP Pdif 10 56 18.0 +1.4
DOMB AMb AMB 10 56 20.8
comp=Z,184nm,1.6s
DOMB e 11 00 20.5
BUM Brajici-Budva 109.88 313⇑iP Pdif 10 56 18.1 +1.1
DPC Dobruska-Polom 109.97 321 ePDIF Pdif 10 56 18.9 +1.7
DPC epP 10 57 05.4
DPC ePKP 11 00 20.4
DPC ePP PP 11 00 56.2 -0.9
DPC eSKS SKS 11 06 38.8 +2.7
DPC ex x 11 07 36.8
DPC AMS AMS 11 46 10.0
comp=Z,26µm,20.5s
ZST Bratislava 109.98 319 eP Pdif 10 56 19.7 +2.4
ZST e 11 00 20.7
ZST e 11 00 53.8
ZST e 11 06 44.6
ZST Bratislava 109.98 319 ePKP Pdif 10 56 19.7 +2.4
ZST e 10 59 47.3
ZST e 11 00 20.7
ZST ePP PP 11 00 53.8 -3.4
ZST eSKSac 11 06 44.6
ZST e 11 09 50.8
ZST e 11 11 24.2
ZST Bratislava 109.98 319 PDIF Pdif 10 56 19.7 +2.4
ZST e 10 59 47.3
ZST Bratislava 109.98 319 ePKP 11 00 20.7
ZST ePP PP 11 00 53.8 -3.4
OSL Oslo 109.99 332 eP 11 00 14.9
BRY Bratogost 110.04 313⇑iP Pdif 10 56 19.2 +1.5
VRAC Vranov 110.06 320 P Pdif 10 56 18.9 +1.3
VRAC 11 00 19.7
VRAC 11 11 39.9
VRAC pmax pmax
comp=Z,20nm,0.9s
VRAC pmax pmax
comp=N,13nm,1.1s
VRAC pmax pmax
comp=Z,92nm,1.1s
VRAC Vranov 110.06 320 Pdiff Pdif 10 56 18.9 +1.3
comp=Z,20nm,0.8s,baz=79,slow=5.0,SNR=33
VRAC PKiKP 11 00 19.7
comp=Z,92nm,1.1s,baz=63,slow=5.3,SNR=9.5
VRAC PP PP 11 00 47.6 -10
comp=Z,41nm,1.0s,baz=107,slow=10,SNR=3.3
VRAC SP SP 11 09 53.3 -8.0
comp=Z,13nm,1.1s,baz=88,slow=14,SNR=3.7
VRAC PKKPbc 11 11 24.8
comp=Z,4.8nm,0.5s,baz=324,slow=7.9,SNR=2.1
VRAC PKKP PKKP 11 11 39.9 +27
comp=Z,14nm,0.7s,baz=285,slow=1.0,SNR=4.5
VRAC PKPPKP 11 19 51.1
comp=Z,1.5nm,0.4s,baz=135,slow=7.2,SNR=3.2
VRAC Vranov 110.06 320 P Pdif 10 56 20.5 +2.9
VRAC PKPdf PKPdf 11 00 19.7 +2.7
VRAC PP PP 11 00 47.6 -10
VRAC SP SP 11 09 53.3 -8.0
VRAC PKKPbc 11 11 24.8
VRAC PKKP PKKP 11 11 39.9 +27
VRAC P'P' 11 19 51.1
PAHR Pah Rah Range 110.10 50 Pdif Pdif 10 56 22.0 +4.0
PAHR ePKiKP 11 00 21.9
PAHR ePKKPab 11 11 35.3
NEW Newport 110.11 41 P Pdif 10 56 20.5 +2.6
NEW 11 00 19.8
NEW 11 11 33.5
NEW pmax pmax
comp=Z,17nm,0.8s
NEW pmax pmax
comp=Z,55nm,0.7s
NEW Newport 110.11 41 Pdiff Pdif 10 56 20.4 +2.5
comp=Z,17nm,0.8s,baz=244,slow=5.5,SNR=11
NEW PKiKP 11 00 19.8
comp=Z,55nm,0.7s,baz=302,slow=0.9,SNR=26
NEW PP PP 11 00 48.5 -10
comp=Z,48nm,0.9s,baz=287,slow=3.1,SNR=3.8
NEW PKKPbc 11 11 22.4
comp=Z,7.0nm,0.6s,baz=119,slow=8.3,SNR=6.8
NEW PKKPab 11 11 33.5
comp=Z,16nm,0.7s,baz=97,slow=3.3,SNR=9.0
NEW Newport 110.11 41 ePdif Pdif 10 56 19.1 +1.2
NEW PKPdf PKPdf 11 00 19.8 +2.7
NEW ePKiKP 11 00 20.3
NEW PP PP 11 00 48.5 -10
NEW PKKPbc 11 11 22.4
NEW PKKPab 11 11 33.5
NEW LR LR
comp=Z,29µm,22.0s
UPC Upice 110.13 322 ePDIF Pdif 10 56 20.2 +2.3
UPC epP 10 57 02.4
UPC ePKP PKPdf 11 00 21.0 +3.9
UPC ePP PP 11 00 52.1 -6.1
HCY Herceg Novi 110.15 313⇑iP Pdif 10 56 19.4 +1.2
WVOR Wild Horse Val 110.23 47 ePdif Pdif 10 56 20.6 +2.0
WVOR ePKiKP 11 00 20.1
WVOR LR LR
comp=Z,41µm,22.0s
KRUC Moravsky 110.24 320 P Pdif 10 56 20.8 +2.4
MOL Molde 110.29 335 eP Pdif 10 56 21.1 +2.8
MOL eP 11 00 21.7
MOL Molde 110.29 335 eP Pdif 10 56 21.1 +2.8
MOL AMb AMB 10 56 23.1
comp=Z,231nm,1.5s
MOL e 11 00 23.9
VKA Vienna 110.48 319⇑iP Pdif 10 56 21.9 +2.4
VKA i 11 00 21.0
VKA Vienna 110.48 319⇑iP Pdif 10 56 21.9 +2.4
VKA i 10 59 51.4
VKA i 11 00 21.0
VKA i 11 00 53.4
VKA i 11 11 06.5
JMIC Jan Mayen 110.54 347 Pdiff Pdif 10 56 21.6 +2.3
comp=Z,64nm,0.7s,baz=102,slow=9.9,SNR=3.6
JMIC PKiKP 11 00 20.9
comp=Z,126nm,1.0s,baz=168,slow=6.3,SNR=4.8
JMIC PP PP 11 00 52.8 -7.8
comp=Z,132nm,1.1s,baz=134,slow=9.9,SNR=3.1
JMIC PKKPbc 11 11 19.8
comp=Z,81nm,0.8s,baz=216,slow=21,SNR=3.6
JMIC Jan Mayen 110.54 347 eP Pdif 10 56 23.4 +4.2
JMIC PKPdf PKPdf 11 00 20.9 +3.4
JMIC PP PP 11 00 52.8 -7.8
JMIC PKKPbc 11 11 19.8
JMIC Jan Mayen 110.54 347 eP Pdif 10 56 22.1 +2.8
JMIC ePP PP 11 00 57.0 -3.6
RGN Rugen 110.56 326 PKP PKPdf 11 00 20.7 +2.8
KONO Kongsberg 110.63 332 PFAKE 11 00 30.0 +12
KONO LR LR
comp=Z,34µm,20.0s
STON Ston 110.66 313 i P PKPdf 11 00 20.5 +2.1
COP Copenhagen 110.67 328 i P Pdif 10 56 21.9 +1.7
COP i 11 00 56.4
COP i S SKS 11 06 43.8 +5.0
COP i 11 16 12.9
COP Copenhagen 110.67 328 i P Pdif 10 56 21.9 +1.7
COP e 10 57 10.7
COP i 11 00 56.4
COP i 11 02 09.7
COP i S SKS 11 06 43.8 +5.0
COP i 11 08 08.5
COP i 11 16 12.9
OMM Old Mammoth Mi 110.70 52 ePdif Pdif 10 56 25.3 +4.6
OMM ePKiKP 11 00 23.4
OMM ePKKPbc 11 11 22.5
BMO Blue Mountains 110.72 45 ePdif Pdif 10 56 22.0 +1.4
BMO ePKiKP 11 00 20.2
BMO ePP PP 11 00 57.4 -5.1
BMO ePKKPbc 11 11 20.9
BMO ePKKPab 11 11 31.9
BMO LR LR
comp=Z,31µm,22.0s
RUE Ruedersdorf 110.93 324 ePdif Pdif 10 56 23.8 +2.4
RUE ePKiKP 11 00 22.3
RUE ePP PP 11 00 55.8 -8.0
RUE ePKKPbc 11 11 16.3
PVCC Panska Ves 111.01 322 ePDIF Pdif 10 56 24.3 +2.5
PVCC epP 10 57 11.2
MTUM Tungsten Hills 111.07 53 ePKiKP 11 00 24.1
SISC Sisak 111.07 316 i P Pdif 10 56 24.4 +2.2
EDM Edmonton 111.09 35 P Pdif 10 56 24.4 +2.3
EDM e 11 00 22.3
EDM Edmonton 111.09 35 ePdif Pdif 10 56 24.0 +1.9
EDM ePKiKP 11 00 21.7
EDM ePKKPbc 11 11 18.3
EDM ePKKPab 11 11 28.8
NVAR Mina Array Bea 111.12 51 Pdiff Pdif 10 56 26.8 +4.2
comp=Z,5.8nm,0.7s,baz=266,slow=5.0,SNR=20
NVAR PKiKP 11 00 22.7
comp=Z,51nm,0.7s,baz=252,slow=4.4,SNR=44
NVAR PP PP 11 01 00.0 -5.4
comp=Z,22nm,0.8s,baz=270,slow=6.3,SNR=2.5
NVAR PKKPbc 11 11 18.9
comp=Z,40nm,0.6s,baz=96,slow=4.3,SNR=4.8
NVAR PKKPab 11 11 30.4
comp=Z,88nm,0.7s,baz=124,slow=3.3,SNR=19
NVAR Mina Array Bea 111.12 51 Pdif Pdif 10 56 26.8 +4.2
NVAR PKPdf PKPdf 11 00 22.7 +3.3
NVAR PP PP 11 01 00.0 -5.4
NVAR PKKPbc 11 11 18.9
NVAR PKKPab 11 11 30.4
PRU Pruhonice 111.17 321 ePDIF Pdif 10 56 24.0 +1.5
PRU epP 10 57 08.4
PRU ePKP PKPdf 11 00 21.0 +1.8
PRU ePP PP 11 00 54.5 -11
PRU eSKS SKS 11 06 42.4 +1.4
PRU ex x 11 07 47.3
PRU AMS AMS 11 47 30.0
comp=Z,24µm,20.8s
PRA Prague 111.22 321 PDIF Pdif 10 56 22.0 -0.7
PRA pP 10 57 15.0
PRA PKP PKPdf 11 00 20.0 +0.7
PRA PP PP 11 01 00.0 -5.8
PRA ex x 11 02 05.0
PRA ex x 11 10 30.0
PRA ex x 11 11 20.0
PRA AMS AMS 11 47 00.0
ARSA Arzberg 111.24 318⇑iP Pdif 10 56 23.6 +0.7
ARSA i 11 00 22.8
ARSA i 11 01 01.1
BRG Berggiesshubel 111.30 322 i P Pdif 10 56 25.5 +2.5
BRG i 11 01 09.2
BRG i 11 06 44.0
BRG MLR MLR
comp=Z,34µm,18.7s
BRG Berggiesshubel 111.30 322 i P Pdif 10 56 25.5 +2.5
BRG i pP 10 57 14.9
BRG i sP 10 57 38.0
BRG i PP 11 00 25.2
BRG i 11 01 09.2
BRG i SKS SKS 11 06 44.0 +2.5
BRG i 11 08 29.0
BRG i 11 11 02.0
BRG LR LR
comp=Z,34µm,18.7s
BMN Battle Mountai 111.62 49 ePdif Pdif 10 56 27.2 +2.4
BMN ePKiKP 11 00 24.2
BMN ePP PP 11 01 06.7 -2.2
BMN ePKKPbc 11 11 17.8

BMN ePKKPab 11 11 28.6
BMN LR LR
comp=Z,26µm,22.0s
LTRZ Laterza 111.71 311 eP PKPdf 11 00 23.9 +3.5
BSMT Bassoo Peak 111.73 41 P Pdif 10 56 28.4 +3.3
CLL Collm 111.74 323 i P Pdif 10 56 27.0 +2.0
CLL pmax pmax
comp=Z,98nm,1.5s
CLL Collm 111.74 323 i Pdif Pdif 10 56 27.0 +2.0
CLL e 10 57 18.0
CLL i PKP PKPdf 11 00 23.7 +3.4
CLL epPKP 11 01 02.0
CLL eSKS SKS 11 06 44.0 +0.7
CLL eSKKP 11 14 43.0
CLL Collm 111.74 323 i PDIF Pdif 10 56 27.0 +2.0
CLL e 10 57 18.0
CLL i 11 00 23.7
CLL e 11 00 48.0
CLL e 11 01 02.0
CLL i PP PP 11 01 16.2 +6.8
CLL e 11 01 26.0
CLL e*PPP 11 01 56.0
CLL e*SPP 11 02 18.0
CLL ePPP PPP 11 03 30.0 -2.9
CLL e 11 06 44.0
CLL e 11 07 54.0
CLL e 11 08 15.0
CLL e 11 08 30.0
CLL e 11 09 08.0
CLL eSP SP 11 10 19.0 +1.7
CLL ePS PS 11 10 45.0 +4.1
CLL i PKKP PKKP 11 11 20.5 +11
CLL e 11 11 27.0
CLL i PKKP PKKP 11 11 32.5 +23
CLL ePPS PPS 11 11 43.0 -12
CLL e 11 12 37.0
CLL e 11 13 02.0
CLL eSKKP 11 14 43.0
CLL eSS SS 11 16 40.0 +13
CLL e*SSS 11 17 48.0
FOO Floro 111.78 335 eP PKPdf 11 00 24.1 +4.0
BOJS Bojanci 111.83 316 ePdiff Pdif 10 56 28.1 +2.6
BOJS epP 10 57 16.2
BOJS e 10 57 23.0
BOJS e 11 00 24.3
BOJS e 11 00 27.4
BOJS e 11 02 13.7
ODD1 Odda 111.88 333 eP PKPdf 11 00 23.5 +3.1
MWC Mount Wilson 111.89 56 ePdif Pdif 10 56 27.8 +1.7
MWC ePKiKP 11 00 25.3
MWC ePKKPbc 11 11 18.7
MWC ePKKPab 11 11 27.4
MOA Molln 111.92 319⇑ i P Pdif 10 56 28.0 +2.2
MOA i 11 00 24.1
MOA i 11 01 05.8
WALA Waterton Lakes 111.97 40 ePdif Pdif 10 56 28.9 +2.8
WALA ePKiKP 11 00 24.1
WALA ePKKPbc 11 11 16.6
DAC Darwin (Calif) 111.99 54 ePdif Pdif 10 56 30.2 +3.7
DAC ePKiKP 11 00 21.0
DAC ePP PP 11 01 10.1 -1.4
DAC ePKKPbc 11 11 18.6
DAC ePKKPab 11 11 25.6
DAC LR LR
comp=Z,50µm,19.0s
TIP Timpagrande 112.01 310 ePdif Pdif 10 56 28.8 +2.3
TIP ePKiKP 11 00 24.6
TIP ePKKP PKKP 11 11 08.7 -0.6
KHC Kasperske Hory 112.01 321 ePDIF Pdif 10 56 27.8 +1.6
KHC epP 10 57 16.8
KHC ePKP PKPdf 11 00 23.7 +2.9
KHC x x 11 00 53.0
KHC ePP PP 11 01 06.8 -4.6
KHC eSKS SKS 11 06 46.5 +2.1
KHC ex x 11 11 31.5
KHC AMS AMS 11 48 50.0
comp=Z,25µm,18.8s
GEC2 GERESS Array S 112.01 320 ePdif Pdif 10 56 26.7 +0.5
GEC2 ePKPdf PKPdf 11 00 24.3 +3.4
GEC2 ePP PP 11 01 07.5 -3.9
GEC2 esPP 11 02 17.8
GEC2 eSKSac 11 06 46.2
GEC2 eSdif 11 08 30.5
GEC2 eSS SS 11 16 36.4 +6.0
GEC2 eSSS SSS 11 20 38.1 -7.0
GERES GERESS Array B 112.01 320 Pdiff Pdif 10 56 27.9 +1.7
comp=Z,11nm,1.0s,baz=72,slow=4.2,SNR=48
GERES PKiKP 11 00 23.4
comp=Z,98nm,0.6s,baz=80,slow=1.7,SNR=81
GERES PP PP 11 01 08.7 -2.8
comp=Z,96nm,1.0s,baz=76,slow=5.5,SNR=5.3
GERES PKKPbc 11 11 16.8
comp=Z,7.7nm,0.7s,baz=225,slow=2.3,SNR=6.0
GERES PKKPab 11 11 28.4
comp=Z,23nm,0.8s,baz=220,slow=2.7,SNR=8.5
GERES SKKPbc 11 14 40.4
comp=Z,10nm,1.0s,baz=270,slow=2.0,SNR=3.1
TPH Tonopah 112.01 52 P Pdif 10 56 31.2 +4.7
TPH Tonopah 112.01 52 ePdif Pdif 10 56 30.2 +3.7
TPH ePKiKP 11 00 25.7
TPH ePP PP 11 01 10.6 -1.1
TPH ePKKPbc 11 11 18.1
TPH ePKKPab 11 11 27.3
TPH LR LR
comp=Z,39µm,20.0s
OBKA Obir 112.07 318⇑ i P Pdif 10 56 28.7 +2.1
OBKA i 11 00 24.7
OBKA i 11 01 10.6
ORI Oriolo Calabro 112.09 311 eP PKPdf 11 00 23.7 +2.4
MUD Monsted U'grnd 112.09 329⇑ i P Pdif 10 56 28.2 +1.8
MUD e 11 00 48.8
MUD i 11 02 20.5
MUD i 11 04 38.0
FGMS Monte Sant'Ang 112.15 312 eP PKPdf 11 00 24.7 +3.4
BLS5 Blasjo 112.17 333 eP Pdif 10 56 29.2 +2.5
BLS5 eP 11 00 26.4
BLS5 Blasjo 112.17 333 eP Pdif 10 56 29.2 +2.5
BLS5 AMb AMB 10 56 31.0
comp=Z,77nm,1.0s
BLS5 e 11 00 26.4
LJU Ljubljana 112.20 317 ePdiff Pdif 10 56 29.5 +2.4
LJU epP 10 57 19.1
LJU ePKiKP 10 57 24.6
LJU i 10 57 34.6
LJU e 11 00 25.1
LJU ePP PP 11 01 11.5 -1.5
LJU e 11 02 00.1
LJU eSKSac 11 06 51.7
LJU eSKKSac 11 07 55.7
LJU eSdiff 11 08 35.4
LJU e 11 10 02.2
LJU eSKP 11 11 39.6
RUND Rundenannen 112.21 334 eP PKPdf 11 00 24.7 +3.7
BER Bergen 112.24 334 eP Pdif 10 56 28.6 +1.7
GRI Girifalco 112.33 309 eP Pdif 10 56 30.6 +2.7
GRI eP 11 00 25.8
NKC Novy Kostel 112.40 322 eP Pdif 10 56 30.0 +2.1
NKC e 11 06 48.4
NKC Novy Kostel 112.40 322 ePDIF Pdif 10 56 30.0 +2.1
NKC epP 10 57 18.4
NKC ePP PP 11 01 01.0 -13
NKC eSKS SKS 11 06 48.4 +2.5
NKC ex x 11 08 15.6
NKC AMS AMS 11 49 50.0
comp=Z,30µm,20.4s
BSEG Bad Segeberg 112.42 326 ePdif Pdif 10 56 29.0 +1.1
BSEG ePKPdf PKPdf 11 00 25.3 +3.8
BSEG ePP PP 11 01 07.6 -7.0
BSEG esPP 11 02 17.5
BSEG e 11 04 39.8
BSEG eSKSac 11 06 49.4
BSEG eSdif 11 08 31.5
BSEG eSS SS 11 16 36.7 +0.7
BSEG eSSS SSS 11 20 42.1 -9.4
RGNG Rignano Grg 112.42 312 eP PKPdf 11 00 25.1 +3.2
WET Wettzell 112.45 321 ePdif Pdif 10 56 29.7 +1.5
WET ePKPdf PKPdf 11 00 25.3 +3.6
WET ePP PP 11 01 11.0 -3.9
WET esPP 11 02 21.3
WET eSKSac 11 06 49.4
WET eSdif 11 08 35.4
WET eSS SS 11 16 45.3 +8.8
WET eSSS SSS 11 20 45.2 -6.9
JAVS Javornik 112.55 317 ePdiff Pdif 10 56 30.2 +1.5
MSO Missoula 112.55 42 ePKPdf PKPdf 11 00 25.2 +3.2
MSO LR LR
comp=Z,20µm,21.0s
VOY Vojsko 112.63 317 ePdiff Pdif 10 56 30.5 +1.5
VOY e 11 00 24.3
VOY e 11 00 59.7
MRLC Muro Lucano 112.68 311 eP PKPdf 11 00 25.5 +3.1
KBA Koelnbreinsper 112.72 318⇑ i P Pdif 10 56 31.2 +1.8
KBA i 11 00 25.4
KBA i 11 01 02.4
SOI Samo 112.74 308 eP PKPdf 11 00 24.6 +2.0
MGR Morigerati 112.75 311 eP PKPdf 11 00 22.3 -0.3
MOX Moxa 112.78 323 eP Pdif 10 56 31.9 +2.3
MOX e 11 00 24.8
MOX e 11 01 08.2
MOX MLR MLR
comp=Z,33µm,21.0s
MOX Moxa 112.78 323 i P Pdif 10 56 31.9 +2.3
comp=Z,logA/T=1.9
MOX PKP PKPdf 11 00 25.0 +2.7
MOX pPKP 11 00 51.0
MOX PP PP 11 01 08.0 -9.5
MOX PS PS 11 10 54.0 +3.1
MOX L 11 50 02.0
TRI Trieste 112.80 317 eP PKPdf 11 00 25.6 +3.1
ROBS Robic 112.83 318 i PKPdf 11 00 25.6 +3.0
SGO Sicignano 112.85 311 eP Pdif 10 56 32.3 +2.1
SGO eP 11 00 25.3
PTCC Patocco-Chiusa 112.89 318 eP Pdif 10 56 31.9 +1.7
PTCC eP 11 00 25.7
SCLL Scilla 112.97 309 eP PKPdf 11 00 25.4 +2.4
CHMT Chamberlain Mo 112.99 42 ePdif Pdif 10 56 32.4 +1.8
CHMT ePKiKP 11 00 24.2
CHMT ePKKPbc 11 11 14.1
CHMT ePKKPab 11 11 22.3
GMNA Gemona 113.01 318 eP PKPdf 11 00 25.2 +2.3
MTTG Motta San Giov 113.03 308 eP Pdif 10 56 33.9 +2.9
MTTG eP 11 00 27.2
HLID Hailey 113.03 45 ePdif Pdif 10 56 32.7 +1.8
HLID ePKiKP 11 00 25.5
HLID eSKPdf 11 03 44.9
HLID ePKKPbc 11 11 15.0
HLID ePKKPab 11 11 22.8
HLID LR LR
comp=Z,46µm,22.0s
ELK Elko 113.05 49 PKKPbc 11 11 14.3
comp=Z,25nm,0.8s,baz=321,slow=1.9,SNR=13
ELK Elko 113.05 49 ePdif Pdif 10 56 34.3 +3.3
ELK ePKiKP 11 00 27.2
ELK ePKKPbc 11 11 13.6
ELK ePKKPab 11 11 22.1
CLZ Clausthal 113.12 324 ePdif Pdif 10 56 32.6 +1.6
CLZ ePKPdf PKPdf 11 00 26.2 +3.2
CLZ ePP PP 11 01 15.3 -4.8
CLZ esPP 11 02 25.4
CLZ eSKSac 11 06 52.3
CLZ eSdif 11 08 38.8
CLZ eSS SS 11 16 56.1 +10
CLZ eSSS SSS 11 20 49.3 -13
FVI Forni Avoltri 113.23 318 eP Pdif 10 56 30.4 -1.2
FVI P 10 56 34.1
FVI eP 11 00 25.0
BAR Barrett 113.23 57 ePdif Pdif 10 56 34.6 +2.5
BAR ePKiKP 11 00 26.7
BAR ePP PP 11 01 19.3 -2.0
BAR ePKKPbc 11 11 13.7
BAR ePKKPab 11 11 21.5
TRCR Troy Canyon 113.24 51 ePdif Pdif 10 56 35.9 +4.0
TRCR ePKiKP 11 00 27.6
TRCR ePP PP 11 01 18.6 -2.7
TRCR i PKKPbc 11 11 14.8
TRCR i PKKPab 11 11 22.6
PFO Pinyon Flat Ob 113.29 56 P Pdif 10 56 39.4 +7.1
PFO e 11 00 21.2
PFO Pinyon Flat Ob 113.29 56 ePdif Pdif 10 56 38.7 +6.5
PFO ePKiKP 11 00 27.7
PFO ePKKPbc 11 11 13.8
PFO ePKKPab 11 11 21.6
PFO LR LR
comp=Z,8µm,20.0s
GRA1 Grafenberg Arr 113.32 322 ePdif Pdif 10 56 33.5 +1.5
GRA1 ePP PP 11 01 17.2 -4.3
GRA1 esPP 11 02 27.5
GRA1 eSKSac 11 06 54.9
GRA1 eSdif 11 08 42.6
GRA1 eSS SS 11 16 59.2 +11
GRA1 eSSS SSS 11 20 50.6 -15
GRF Grafenberg Arr 113.32 322 eP Pdif 10 56 33.5 +1.5
GRF e 11 01 17.2
GRF e 11 06 54.9
GRF eSS SS 11 16 59.2 +11
GRF Grafenberg Arr 113.32 322 eP Pdif 10 56 33.5 +1.5
GRF e 11 01 17.2
GRF e 11 06 54.9
GRF eSS SS 11 16 59.2 +11
GRF Grafenberg Arr 113.32 322 ePdif Pdif 10 56 33.5 +1.5
GRF ePP PP 11 01 17.2 -4.3
GRF esPP 11 02 27.5
GRF eSKS SKS 11 06 54.9 +5.4
GRF Sdif 11 08 42.6
GRF eSS SS 11 16 59.2 +11
GRF eSSS SSS 11 20 50.6 -15
CII Carovilli 113.35 313 ePKiKP 11 00 25.8
SEST Monte Rota 113.56 318 P Pdif 10 56 35.0 +1.9
SCO Scoresbysund 113.66 350 eP Pdif 10 56 35.8 +2.8
SCO pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund 113.66 350 i P Pdif 10 56 35.8 +2.8
comp=Z,9.4nm,0.8s
SCO Scoresbysund 113.66 350 i P PKPdf 11 00 27.4 +3.7
comp=Z,61nm,0.7s
SUMG Summit 113.67 356 ePdif Pdif 10 56 35.8 +2.8
SUMG ePKiKP 11 00 26.8
SUMG ePKKPbc 11 11 11.0
SUMG ePKKPab 11 11 20.1
RFI Roccamonfina 113.68 312 eP PKPdf 11 00 27.7 +3.3
RPN Rapa Nui 113.69 123 PKiKP 11 00 28.0
comp=Z,78nm,0.7s,baz=13,slow=3.6,SNR=3.3
RPN PKKPbc 11 11 13.2
comp=Z,132nm,1.0s,baz=347,slow=2.2,SNR=4.7
SDI San Donato 113.72 313 eP PKPdf 11 00 26.7 +2.3
FUR Furstenfeldbru 113.75 320 ePdif Pdif 10 56 35.2 +1.3
FUR ePKPdf PKPdf 11 00 27.0 +2.6
FUR ePP PP 11 01 19.7 -4.9
FUR esPP 11 02 29.9
FUR eSKSac 11 06 53.9
FUR eSdif 11 08 44.4
FUR eSS SS 11 17 02.6 +8.6
FUR eSSS SSS 11 21 00.8 -11
CING Cingoli 113.77 315 P Pdif 10 56 37.3 +3.2
PZI Palazzolo 113.78 308 eP PKPdf 11 00 31.0 +6.3
WTTA Wattenberg 113.79 319⇑ i P Pdif 10 56 36.3 +2.2
WTTA i 11 00 28.1
WTTA i 11 01 22.8
WTTA i 11 11 14.5
WATA Walderalm 113.81 319⇑ i P Pdif 10 56 36.2 +2.0
WATA i 11 00 27.8
WATA i 11 01 22.7
WATA i 11 11 14.6
MCMT McKenzie Canyo 113.81 44 ePdif Pdif 10 56 37.1 +2.8
MCMT ePKiKP 11 00 28.3
MCMT ePKKPbc 11 11 11.9
MCMT i PKKPab 11 11 19.5
AQU L'Aquila 113.87 313⇑ P Pdif 10 56 37.1 +2.5
AQU L'Aquila 113.87 313 eP Pdif 10 56 37.2 +2.7
AQU ePKPdf PKPdf 11 00 27.8 +3.1
ARV Arcevia 113.92 315 eP Pdif 10 56 37.7 +2.9
ARV eP 11 00 28.6
PTQR Pietraquaria 113.94 313 eP Pdif 10 56 37.2 +2.3
PTQR eP 11 00 26.4
NRCA Norcia 113.96 314 eP Pdif 10 56 37.3 +2.4
NRCA eP 11 00 23.3
SNTG Esanatoglia 113.98 315 eP Pdif 10 56 37.9 +2.8
SNTG eP 11 00 27.9
SQTA Sankt Quirin 114.08 319⇑ i P Pdif 10 56 37.6 +2.2
SQTA i 11 00 27.9
SQTA i 11 01 18.6
SQTA i 11 11 13.4
MOTA Moosalm 114.11 319⇑ i P Pdif 10 56 37.6 +2.1
MOTA i 11 00 27.8
MOTA i 11 01 21.0
MOTA i 11 11 12.2
VAE Valguarnera 114.12 308 Pdiff Pdif 10 56 40.1 +4.3
comp=Z,6.6nm,0.5s,baz=18,slow=8.6,SNR=3.9
VAE PKP PKPdf 11 00 29.3 +3.9
comp=Z,145nm,0.9s,baz=23,slow=3.6,SNR=10.0
VAE PP PP 11 01 16.7 -11
comp=Z,89nm,0.8s,baz=91,slow=19,SNR=1.3
VAE SP SP 11 10 47.2 +7.0
comp=Z,20nm,0.8s,baz=275,slow=4.6,SNR=3.5
CTI Castel Tesino 114.13 318 eP Pdif 10 56 38.1 +2.4
CTI eP 11 00 27.8
RSM Repubblica di 114.16 315 eP PKPdf 11 00 29.3 +4.0
LDFC Landfair 114.17 55 ePdif Pdif 10 56 39.8 +3.7
LDFC ePKPdf PKPdf 11 00 30.4 +4.8
LDFC ePP PP 11 01 26.6 -1.2
LDFC ePKKPbc 11 11 11.4
LDFC ePKKPab 11 11 18.3
MURB Monte Urbino 114.27 315 P Pdif 10 56 39.3 +3.0
HDH Heidenheim 114.30 321⇑ eP PKPdf 11 00 28.3 +2.9
MNS Montasola 114.38 314 eP PKPdf 11 00 28.0 +2.3
BOZ Bozeman (W) 114.42 43 ePdif Pdif 10 56 36.5 -0.4
BOZ ePKiKP 11 00 29.8
BOZ eSKP 11 03 47.2
BOZ ePKKPbc 11 11 10.8
BOZ i PKKPab 11 11 16.5
BOZ LR LR
comp=Z,23µm,21.0s
SIND Sindeldorf 114.42 322⇑ eP PKPdf 11 00 28.6 +3.0
SFI Santa Sofia 114.58 315 eP Pdif 10 56 41.2 +3.5
SFI eP 11 00 30.1
CRE Caprese Michel 114.58 315 eP Pdif 10 56 40.4 +2.7
CRE eP 11 00 28.6
HVU Hansel Valley 114.63 47 ePdif Pdif 10 56 36.0 -2.0
HVU ePKiKP 11 00 30.4
HVU ePP PP 11 01 27.4 -3.5
HVU ePKKPbc 11 11 09.4
HVU ePKKPab 11 11 14.7
BGU Big Grassy Mou 114.64 48 ePdif Pdif 10 56 40.9 +2.9
BGU ePKiKP 11 00 30.4
BGU ePKKPbc 11 11 09.9
BGU ePKKPab 11 11 14.3
UBR Uberruh 114.65 320⇑ eP PKPdf 11 00 29.2 +3.1
PGD Poggio Sodo 114.68 315 eP Pdif 10 56 41.6 +3.5
PGD eP 11 00 30.1
MCT Mte Cammarata 114.70 308 eP PKPdf 11 00 31.9 +5.4
VMG Vicchio 114.78 316 eP Pdif 10 56 42.7 +4.2
VMG eP 11 00 30.2
QLMT Earthquake Lak 114.78 43 ePdif Pdif 10 56 42.8 +4.2
QLMT ePKiKP 11 00 24.7
QLMT ePKKPbc 11 11 09.8
QLMT ePKKPab 11 11 15.9
TNS Taunus Mts 114.83 323 eP Pdif 10 56 40.5 +1.9
TNS e 11 01 27.6
TNS e 11 07 00.0
TNS eSS SS 11 17 19.6 +12
TNS Taunus Mts 114.83 323 ePdif Pdif 10 56 40.5 +1.9
TNS ePP PP 11 01 27.6 -4.5
TNS esPP 11 02 38.0
TNS eSKSac 11 07 00.8
TNS eSdif 11 08 55.2
TNS eSS SS 11 17 19.6 +12
TOD Tromm 114.83 322 eP PKPdf 11 00 28.6 +2.2
TOD Tromm 114.83 322⇑ eP PKPdf 11 00 29.5 +3.1
BRMO Bormio 114.85 318 eP Pdif 10 56 41.6 +2.8
BRMO eP 11 00 27.7
WIT Witteveen 114.87 326⇑ i PKP PKPdf 11 00 30.4 +4.0
comp=Z,1µm,0.9s
STU Stuttgart 114.87 321 ePKiKP 11 00 28.9
BUCH Bad Urach 114.88 321⇑ eP PKPdf 11 00 29.7 +3.2
SEI Scarperia 114.88 316 eP Pdif 10 56 43.4 +4.4
SEI eP 11 00 30.2
DAVA Damuels 114.92 319⇑ i P Pdif 10 56 41.6 +2.5
DAVA i 11 00 29.7
DAVA i 11 01 27.1
SWS Schriesheim 114.93 322⇑ eP PKPdf 11 00 29.4 +2.8
SPUT South Promonto 114.98 47 ePdif Pdif 10 56 38.4 -1.1
SPUT ePKiKP 11 00 30.8
SPUT ePKKPbc 11 11 07.7
SPUT ePKKPab 11 11 13.6
ARUT Antelope Range 115.01 51 ePdif Pdif 10 56 44.0 +4.3
ARUT ePKiKP 11 00 30.9
ARUT ePP PP 11 01 24.9 -8.7
ARUT ePKKPbc 11 11 08.3
ARUT ePKKPab 11 11 14.1
SAL Salo 115.01 318 eP PKPdf 11 00 30.0 +3.1
ZCCA Zocca 115.06 316 eP PKPdf 11 00 30.9 +3.9
DAVOX Davos 115.08 319 Pdiff Pdif 10 56 42.3 +2.5
comp=Z,15nm,0.8s,baz=105,slow=2.1,SNR=15
DAVOX PKP PKPdf 11 00 28.0 +1.0
comp=Z,220nm,0.5s,baz=142,slow=1.9,SNR=57
DAVOX PP PP 11 01 21.4 -13
comp=Z,68nm,0.6s,baz=335,slow=18,SNR=3.0
DAVOX PKKPbc 11 11 07.8
comp=Z,41nm,0.8s,baz=187,slow=7.9,SNR=9.7
WTSB Winterswijk 115.14 325⇑ i PKP PKPdf 11 00 30.3 +3.3
comp=Z,370nm,1.8s
LRW Lerwick 115.15 335 eP PKPdf 11 00 29.6 +2.9
YMR Madison River 115.15 44 ePdif Pdif 10 56 40.3 +0.2
YMR ePKPdf PKPdf 11 00 30.8 +3.6
YMR ePKKPbc 11 11 09.0
YMR i PKKPab 11 11 14.0
YMR ePKKPdf 11 11 32.2
CRJA Costa Raja 115.16 309 P PKPdf 11 00 29.1 +1.7
GUT Gutenstein 115.16 320⇑ eP PKPdf 11 00 29.8 +2.7
LBG Lerchenberg 115.16 321 P PKPdf 11 00 30.4 +3.3
LBG Lerchenberg 115.16 321⇑ eP PKPdf 11 00 30.1 +3.0
MMGO Monte Magaggia 115.21 309 P PKPdf 11 00 30.5 +3.0
MFNL Monte Finestre 115.22 309 P PKPdf 11 00 31.3 +3.8
SAN1 Sandwick 115.24 335 eP PKPdf 11 00 29.8 +2.9
RRI2 Red Ridge 115.27 45 ePdif Pdif 10 56 44.7 +4.0
RRI2 ePKiKP 11 00 31.0
RRI2 ePKKPbc 11 11 05.0
FT Old Faithful 115.30 44 ePdif Pdif 10 56 39.7 -1.1
YFT ePKPdf PKPdf 11 00 32.9 +5.5
YFT ePP PP 11 01 30.9 -4.6
YFT ePKKPbc 11 11 08.1
YFT ePKKPab 11 11 14.3
MTGR Montagna Grand 115.33 309 P PKPdf 11 00 27.4 -0.3
YNR Norris Junctio 115.33 43 ePdif Pdif 10 56 44.7 +3.7
YNR ePKPdf PKPdf 11 00 31.5 +4.0
YNR ePKKPbc 11 11 08.1
YNR i PKKPab 11 11 13.1
GSCL Gusciola 115.33 316 eP Pdif 10 56 44.7 +3.7
SPAK Spaichingen 115.36 321 eP PKPdf 11 00 29.7 +2.2
SPAK Spaichingen 115.36 321⇑ eP PKPdf 11 00 30.4 +2.9
KTD Kalmit 115.37 322 eP PKPdf 11 00 31.0 +3.5
KTD Kalmit 115.37 322⇑ eP PKPdf 11 00 30.8 +3.3
NOQ North Oquirrh 115.38 48 ePdif Pdif 10 56 43.6 +2.4
NOQ ePKPdf PKPdf 11 00 31.2 +3.4
NOQ ePKKPbc 11 11 07.1
NOQ ePKKPab 11 11 11.9
SISB Singen-Sch Ber 115.38 320 P PKPdf 11 00 30.7 +3.2
IMW Indian Meadow 115.38 44 ePdif Pdif 10 56 44.9 +3.7
IMW ePKiKP 11 00 30.9
IMW ePKKPbc 11 11 07.5
IMW i PKKPab 11 11 12.4
GRFL Gerfalco 115.39 315 eP PKPdf 11 00 27.2 -0.5
BDI Bagni Di Lucca 115.41 316 eP PKPdf 11 00 27.2 -0.4
ERC Erice 115.43 309 eP PKPdf 11 00 31.2 +3.3
ERBM Eremo 115.43 316 eP Pdif 10 56 45.0 +3.5
MAON Monte Argentar 115.48 314 P PKPdf 11 00 30.7 +2.8
TPAW Teton Pass 115.49 45 ePdif Pdif 10 56 45.6 +4.0
TPAW ePKPdf PKPdf 11 00 30.9 +3.1
TPAW ePKKPbc 11 11 05.4
ABH Alteburg 115.49 323 eP PKPdf 11 00 30.4 +2.7
ABH Alteburg 115.49 323⇑ eP PKPdf 11 00 31.3 +3.6
SARO Sassorosso 115.51 316 P PKPdf 11 00 29.7 +1.8
VLC Villacollemand 115.53 316 ePKPdf PKPdf 11 00 29.3 +1.3
HWUT Hardware Ranch 115.55 47 PFAKE 11 00 40.0 +12
HWUT LR LR
comp=Z,49µm,21.0s
PII Pisa 115.55 316 eP PKPdf 11 00 29.3 +1.4
MOOW Moose Ponds 115.56 44 ePdif Pdif 10 56 38.2 -3.8
MOOW ePKiKP 11 00 31.7
MOOW ePP PP 11 01 32.3 -5.1
MOOW e 11 10 58.0

MOOW ePKKPbc 11 11 05.6
MOOW ePKKPab 11 11 10.7
BFO Black Forest 115.56 321 eP Pdif 10 56 43.3 +1.4
BFO e 11 01 32.1
BFO e 11 06 59.6
BFO eSS SS 11 17 20.6 +3.2
BFO Black Forest 115.56 321 ePdif Pdif 10 56 43.3 +1.4
BFO ePP PP 11 01 32.1 -5.2
BFO esPP 11 02 42.4
BFO e 11 05 11.2
BFO eSKSac 11 06 59.6
BFO eSdif 11 09 01.6
BFO eSS SS 11 17 20.6 +3.2
LKWY Lake 115.56 43 P Pdif 10 56 47.8 +5.8
LKWY Lake 115.56 43 ePdif Pdif 10 56 44.4 +2.4
LKWY ePKPdf PKPdf 11 00 32.5 +4.5
LKWY ePKKPbc 11 11 03.2
LKWY LR LR
comp=Z,32µm,21.0s
VALM 115.57 316 P PKPdf 11 00 30.9 +2.9
NLU North Lily Min 115.58 49 ePdif Pdif 10 56 45.7 +3.6
NLU ePKiKP 11 00 31.8
NLU ePP PP 11 01 35.4 -2.2
NLU ePKKPbc 11 11 03.7
AHID Auburn Hatcher 115.58 46 PFAKE 11 00 40.0 +12
AHID LR LR
comp=Z,29µm,20.0s
WUWY Wally Ulrich 115.62 45 ePdif Pdif 10 56 46.3 +4.1
WUWY ePKPdf PKPdf 11 00 30.6 +2.5
WUWY ePKKPbc 11 11 05.0
WUWY ePKKPab 11 11 10.5
LVI Isola Levanzo 115.63 309 P PKPdf 11 00 30.0 +1.7
SNOW Snow King Moun 115.63 45 ePdif Pdif 10 56 46.5 +4.1
SNOW ePKPdf PKPdf 11 00 30.5 +2.3
SNOW ePKKPbc 11 11 05.4
SNOW ePKKPab 11 11 10.8
CTU Camp Tracy 115.64 48 ePKPdf PKPdf 11 00 30.4 +2.1
CTU ePKKPbc 11 11 04.5
GRAM 115.65 316 P PKPdf 11 00 30.9 +2.7
LANF Langenberg 115.66 322 eP PKPdf 11 00 31.2 +3.1
GCMT Greycliff 115.69 42 ePKPdf PKPdf 11 00 30.8 +2.6
VINC Vinca 115.69 316 P PKPdf 11 00 29.7 +1.5
LOHW Long Hollow 115.70 45 ePdif Pdif 10 56 46.3 +3.7
LOHW ePKPdf PKPdf 11 00 30.3 +2.1
BACM 115.71 316 P PKPdf 11 00 29.8 +1.6
TCUT Toone Canyon 115.79 47 ePdif Pdif 10 56 46.9 +3.9
TCUT ePKPdf PKPdf 11 00 32.1 +3.5
TCUT ePKKPbc 11 11 04.4
MVU Marysvale 115.80 50 ePdif Pdif 10 56 44.2 +1.0
MVU ePKPdf PKPdf 11 00 32.0 +3.3
MVU ePKKPbc 11 11 05.8
MVU ePKKPab 11 11 11.5
MVU LR LR
comp=Z,35µm,22.0s
CODM 115.83 316 P PKPdf 11 00 30.8 +2.2
MSU Marysvale 115.83 50 ePdif Pdif 10 56 47.1 +3.8
MSU ePKPdf PKPdf 11 00 31.6 +2.9
MSU ePKKPbc 11 11 05.4
RUP Ruppelstein 115.85 323 eP PKPdf 11 00 31.7 +3.3
RUP Ruppelstein 115.85 323⇑ eP PKPdf 11 00 32.0 +3.6
JLU Jordanelle 115.89 48 ePdif Pdif 10 56 46.7 +3.2
JLU ePKPdf PKPdf 11 00 30.9 +2.2
JLU ePKKPbc 11 11 05.1
MPU Maple Canyon 115.89 49 ePdif Pdif 10 56 46.7 +3.2
MPU ePKPdf PKPdf 11 00 31.8 +3.0
FELD Feldberg 115.93 321⇑ eP PKPdf 11 00 31.5 +2.9
KIZ Kirchzarten 115.95 321 P PKPdf 11 00 31.1 +2.4
KIZ Kirchzarten 115.95 321⇑ eP PKPdf 11 00 31.4 +2.7
BOB Bobbio (Coli) 115.99 317 eP PKPdf 11 00 30.7 +1.8
DAU Daniels Canyon 116.08 48 P Pdif 10 56 48.9 +4.6
DAU Daniels Canyon 116.08 48 ePdif Pdif 10 56 48.2 +3.9
DAU ePKPdf PKPdf 11 00 32.6 +3.5
DAU ePKKPbc 11 11 03.4
LIBD Limburg 116.08 321 eP PKPdf 11 00 31.0 +2.1
LIBD Limburg 116.08 321⇑ eP PKPdf 11 00 32.1 +3.2
VAI Varese 116.10 318 eP PKPdf 11 00 29.4 +0.4
HGN Heimansgroeve 116.11 324 ePdif Pdif 10 56 49.3 +5.1
HGN ⇑*i*PKP PKPdf 11 00 32.2 +3.3
comp=Z,337nm,1.4s
HGN ePP PP 11 01 25.9 -15
HGN ePS PS 11 10 59.4 -22
HGN ePPS PPS 11 12 17.6 -24
WLS Welschbruch 116.14 321 P PKPdf 11 00 31.6 +2.6
CDF Champ du Feu 116.19 321 ePP Pdif 10 56 46.4 +1.8
comp=Z,26nm,0.9s
ECH Echery 116.34 321 P PKPdf 11 00 32.7 +3.3
BBS Basel-Blauen 116.38 320 eP PKPdf 11 00 31.7 +2.2
BBS Basel-Blauen 116.38 320⇑ eP PKPdf 11 00 32.2 +2.7
TMUT Trail Mountain 116.38 49 ePdif Pdif 10 56 47.6 +1.8
TMUT ePKPdf PKPdf 11 00 32.0 +2.3
TMUT ePKKPbc 11 11 03.9
WLF Walferdange 116.41 323 ePKPdf PKPdf 11 00 33.1 +3.6
GENL Genova Univers 116.42 317 P PKPdf 11 00 31.9 +2.3
MOF Molkenrain 116.48 321 eP PKPdf 11 00 31.9 +2.2
MCGN Macugnaga 116.59 319 eP Pdif 10 56 49.4 +3.0
BW06 Boulder Array 116.67 45 ePKPdf PKPdf 11 00 30.5 +0.4
BW06 ePKKPbc 11 11 01.5
BW06 LR LR
comp=Z,31µm,21.0s
PDAR Pinedale Array 116.67 45 Pdiff Pdif 10 56 51.0 +4.1
comp=Z,3.9nm,0.9s,baz=121,slow=1.8,SNR=9.3
PDAR PKP PKPdf 11 00 30.2 0.0
comp=Z,113nm,0.8s,baz=198,slow=1.5,SNR=63
PDAR PP PP 11 01 43.9 -1.2
comp=Z,37nm,0.8s,baz=270,slow=3.0,SNR=4.0
PDAR SKP 11 03 49.4
comp=Z,33nm,1.0s,baz=180,slow=1.5,SNR=3.9
PDAR PKKPbc 11 10 59.8
comp=Z,79nm,0.9s,baz=109,slow=6.0,SNR=18
PDAR SKKPbc 11 14 27.6
comp=Z,16nm,0.6s,baz=113,slow=4.6,SNR=12
HINF Hinteralfeld 116.67 321 ePP Pdif 10 56 53.8 +7.0
comp=Z,19nm,0.9s
ORO Oropa 116.70 318 P PKPdf 11 00 31.0 +0.9
LOMF Lomont 116.86 320 eP PKPdf 11 00 33.0 +2.6
HAU Haudompre 116.92 321 ePP Pdif 10 56 55.9 +8.0
USHA Ushuaia 116.94 168 PKP PKPdf 11 00 32.4 +2.1
comp=Z,109nm,0.7s,baz=152,slow=2.5,SNR=39
USHA PP PP 11 01 44.9 -1.8
comp=Z,96nm,1.1s,baz=160,slow=8.5,SNR=3.9
USHA SKP 11 03 49.6
comp=Z,54nm,0.8s,baz=189,slow=0.7,SNR=3.9
USHA PKKPbc 11 10 58.3
comp=Z,41nm,0.6s,baz=347,slow=2.7,SNR=13
SRU San Rafael 116.94 49 P Pdif 10 56 52.1 +3.9
SRU San Rafael 116.94 49 ePdif Pdif 10 56 52.0 +3.8
SRU ePKPdf PKPdf 11 00 34.1 +3.3
SRU ePKKPbc 11 11 00.3
PGF Pioggiola 116.96 315 ePP Pdif 10 56 50.5 +2.3
comp=Z,74nm,1.4s
FIN Finale Ligure 117.00 317 eP PKPdf 11 00 33.1 +2.4
GIVF Givet 117.03 324 ePP Pdif 10 56 51.5 +3.2
comp=Z,92nm,1.3s
THEF They Montfort 117.06 321 eP PKPdf 11 00 33.4 +2.6
WUAZ Wupatki 117.10 53 ePdif Pdif 10 56 54.7 +5.8
WUAZ ePKPdf PKPdf 11 00 35.5 +4.4
WUAZ ePKKPbc 11 10 58.3
WUAZ LR LR
comp=Z,694µm,21.0s
MLA1 Latheron 117.12 334 eP PKPdf 11 00 33.4 +2.8
DGI Dorgali Grotta 117.14 312 P PKPdf 11 00 33.0 +1.9
ROB Roburent 117.21 317 P PKPdf 11 00 33.2 +2.1
IMI Imperia 117.32 316 P PKPdf 11 00 34.1 +2.8
MONE Monesi 117.36 317 P PKPdf 11 00 34.0 +2.6
BAIF Baives 117.41 324 ePP Pdif 10 56 51.4 +1.5
comp=Z,58nm,1.3s
NEGI Negi 117.47 316 P PKPdf 11 00 34.3 +2.6
MCD Coleburn Disti 117.49 334⇓ eP PKPdf 11 00 33.9 +2.6
FENE Fenestrelle 117.51 318 P PKPdf 11 00 33.8 +2.1
MME1 Meikle Cairn 117.52 333⇓ eP PKPdf 11 00 33.7 +2.3
SAOF Saorge 117.52 317 eP PKPdf 11 00 34.5 +2.8
ENR Entracque 117.54 317 P PKPdf 11 00 33.4 +1.6
LPG La Plagne 117.56 318 ePP Pdif 10 56 53.2 +2.5
comp=Z,34nm,0.9s
DOI San Damiano 117.56 317 eP PKPdf 11 00 31.1 -0.7
LPL La Plagne 117.56 318 ePP Pdif 10 56 53.3 +2.5
STV2 Anna di Valdie 117.59 317 P PKPdf 11 00 33.0 +1.1
CABF La Chapelle 117.60 320 ePP Pdif 10 57 00.4 +10
comp=Z,71nm,1.4s
STV Sta Anna Valdi 117.60 317 P PKPdf 11 00 33.5 +1.6
AUTN L'Aution 117.61 317 eP PKPdf 11 00 36.1 +4.2
CGL Cagliari Serpe 117.62 311 eP PKPdf 11 00 35.4 +3.4

LAO LASA Array 117.63 40 ePdif Pdif 10 56 53.4 +2.4
LAO ePKPdf PKPdf 11 00 34.7 +2.8
LAO ePKKPbc 11 10 57.5
LAO LR LR
comp=Z,29µm,22.0s
PZZ Prazzo 117.66 317 P PKPdf 11 00 33.8 +1.8
MVH1 Achvaich 117.69 334 eP PKPdf 11 00 32.7 +1.0
TOUF Mont Tournerai 117.72 317 eP PKPdf 11 00 35.1 +3.0
REVF Revere 117.73 316 eP PKPdf 11 00 34.8 +2.7
BNI Bardonecchia 117.76 318 eP Pdif 10 56 53.3 +1.7
MBDF Montbardon 117.81 318 ePP Pdif 10 57 02.9 +11
comp=Z,34nm,1.1s
MVIF Mont Vial 117.83 317 eP PKPdf 11 00 35.1 +2.8
ABA1 Baconsthorpe 117.84 328 eP PKPdf 11 00 36.0 +3.9
SURF Saint Ours 117.86 317 eP PKPdf 11 00 35.7 +3.3
AEU East Anglia Un 117.92 327 eP PKPdf 11 00 36.1 +3.8
EDU Dundee 117.98 333 eP PKPdf 11 00 35.1 +2.8
FCC Fort Churchill 118.01 24 ePKPdf PKPdf 11 00 32.3 0.0
LWH Whinny Nab 118.06 330 eP PKPdf 11 00 36.1 +3.6
MDO Dochfour 118.06 334⇑ eP PKPdf 11 00 34.8 +2.3
AWH Whinburgh 118.07 327 eP PKPdf 11 00 36.0 +3.5
GDM Grand'Maison 118.08 318 eP PKPdf 11 00 36.7 +3.9
TUC Tucson 118.20 57 P Pdif 10 56 59.1 +5.2
TUC Tucson 118.20 57 ePdif Pdif 10 56 58.3 +4.4
TUC ePKPdf PKPdf 11 00 34.3 +0.9
TUC LR LR
comp=Z,31µm,20.0s
OG05 Jujurieux 118.21 319 eP PKPdf 11 00 36.0 +3.0
DGMT Dagmar 118.21 38 Pdif Pdif 10 56 55.4 +1.9
DGMT ePKPdf PKPdf 11 00 33.3 +0.4
DGMT ePKKPbc 11 10 53.0
DGMT LR LR
comp=Z,20µm,20.0s
LCP Cassop 118.24 330⇑ eP PKPdf 11 00 36.2 +3.3
PV10 Paradox Valley 118.25 50 ePdif Pdif 10 56 58.4 +4.4
PV10 ePKPdf PKPdf 11 00 35.7 +2.4
PV10 ePKKPbc 11 10 56.8
GRN Grenoble 118.31 318 eP PKPdf 11 00 34.2 +0.9
ORIF Oris-en-Rattie 118.34 318 ePP Pdif 10 56 56.5 +2.3
comp=Z,46nm,1.0s
EBH Black Hill 118.37 333 eP PKPdf 11 00 36.0 +2.9
OG25 Le Caire 118.40 317 eP PKPdf 11 00 36.8 +3.3
BORG Borgarnes 118.43 346 Pdiff Pdif 10 56 50.9 -3.2
comp=Z,15nm,0.9s,baz=254,slow=7.4,SNR=2.6
BORG PKP PKPdf 11 00 36.0 +3.0
comp=Z,121nm,1.0s,baz=347,slow=1.3,SNR=15
BORG PP PP 11 01 53.7 -3.3
comp=Z,52nm,1.0s,baz=80,slow=3.6,SNR=3.7
BORG SKP 11 03 52.9
comp=Z,76nm,0.9s,baz=119,slow=4.0,SNR=3.7
BORG PKKPbc 11 10 55.9
comp=Z,50nm,0.8s,baz=191,slow=4.5,SNR=8.4
BORG Borgarnes 118.43 346 Pdif Pdif 10 56 50.9 -3.2
BORG ePKPdf PKPdf 11 00 36.7 +3.6
BORG ePKKPbc 11 10 54.6
BORG LR LR
comp=Z,3µm,20.0s
EAU Auchinoon 118.58 332⇑ eP PKPdf 11 00 36.5 +3.0
EAU AMb AMB 11 00 38.2
comp=Z,530nm,1.6s
STOF St-Etienne Org 118.64 317 eP PKPdf 11 00 37.3 +3.4
TAVF Tavernes 118.67 317 eP PKPdf 11 00 37.3 +3.3
PV01 Paradox Valley 118.67 50 ePdif Pdif 10 56 59.7 +3.8
PV01 ePKPdf PKPdf 11 00 36.3 +2.1
PV01 ePKKPbc 11 10 55.3
EKA Eskdalemuir Ar 118.73 332 Pdiff Pdif 10 56 54.7 -0.9
comp=Z,13nm,1.2s,baz=14,slow=3.4,SNR=5.8
EKA PKP PKPdf 11 00 35.1 +1.2
comp=Z,110nm,0.8s,baz=88,slow=0.7,SNR=74
EKA PP PP 11 01 50.0 -9.2
comp=Z,110nm,1.1s,baz=62,slow=7.8,SNR=4.5
EKA PKKPbc 11 10 54.1
comp=Z,27nm,0.8s,baz=246,slow=2.7,SNR=15
EKA SKKPbc 11 14 20.8
comp=Z,4.6nm,0.6s,baz=239,slow=3.1,SNR=3.9
EKA Eskdalemuir Ar 118.73 332 Pdif Pdif 10 56 54.7 -0.9
EKA PKP PKPdf 11 00 35.1 +1.2
EKA PP PP 11 01 50.0 -9.2
EKA PKKPbc 11 10 54.1
EKA SKKPbc 11 14 20.8
HPK Haverah Park 118.73 330 eP PKPdf 11 00 36.4 +2.5
ESK Eskdalemuir 118.76 332 ePKIKP PKPdf 11 00 36.2 +2.3
ESK MLR MLR
comp=Z,7µm,22.0s
ESK Eskdalemuir 118.76 332⇑ eP PKPdf 11 00 36.5 +2.6
EAB Aberfoyle 118.79 333⇑ eP PKPdf 11 00 36.5 +2.6
EAB AMb AMB 11 00 38.5
comp=Z,427nm,1.4s
VILF Villemus 118.82 317 eP PKPdf 11 00 37.5 +3.2
OCF Saint Nazaire 118.84 318 eP PKPdf 11 00 37.9 +3.6
OG26 St.-Nazaire-De 118.84 318 eP PKPdf 11 00 37.9 +3.6
PUYF Puyloubier 118.94 317 eP PKPdf 11 00 37.1 +2.6
KTG1 Tilbrook Grang 118.94 328⇑ eP PKPdf 11 00 36.7 +2.4
SMF Signal de Mont 119.02 320 ePP Pdif 10 57 04.3 +7.2
comp=Z,47nm,1.2s
BERF Bertagne 119.02 316 eP PKPdf 11 00 37.7 +3.0
KBI1 Birley Grange 119.05 329⇑ eP PKPdf 11 00 37.2 +2.7
SSF Saint Saulge 119.06 321 ePP Pdif 10 57 04.1 +6.8
comp=Z,31nm,1.1s
LHO Holmfirth 119.07 329⇑ eP PKPdf 11 00 37.5 +2.9
TREF Trevaresse 119.12 317 eP PKPdf 11 00 37.9 +3.0
VIVF Saint-Julien-l 119.16 318 ePP Pdif 10 57 02.9 +5.1
comp=Z,19nm,0.9s
GELF Grande-Etoile 119.18 316 eP PKPdf 11 00 37.9 +2.9
PRAF Pradon 119.21 317 eP PKPdf 11 00 38.4 +3.4
AVF Avril sur Loir 119.27 321 ePP Pdif 10 57 03.4 +5.2
comp=Z,30nm,1.1s
KWE Weaver Farm 119.34 329⇑ eP PKPdf 11 00 38.0 +2.9
PLDF La Plantade 119.42 320 eP PKPdf 11 00 39.5 +4.1
HYF Humbligny 119.51 321 ePP Pdif 10 57 05.5 +6.2
SFJ Sondre 119.66 0 ePKPdf PKPdf 11 00 37.4 +2.0
SFJ ePKKPab 11 10 48.9
SFJ LR LR
comp=Z,26µm,22.0s
SFJD Kangerlussuaq 119.66 0 *i* P Pdif 10 57 09.3 +10
SFJD Kangerlussuaq 119.66 0⇑ *i*P PKPdf 11 00 38.3 +2.9
comp=Z,293nm,0.7s
SFJD *i* 11 01 59.3
SFJD *e* 11 11 47.3
comp=Z,22µm,20.0s
BGF Bois d'Agland 119.68 321 ePP Pdif 10 57 07.3 +7.3
AGO Saint Agoulin 119.70 320 eP PKPdf 11 00 39.9 +4.0
CMAH Djebel Manchou 119.77 309 P PKPdf 11 00 40.0 +3.7
ABSA Djebel Ababsia 119.81 308 P PKPdf 11 00 40.0 +3.6
PYM Petit Puy Mans 119.90 320 eP PKPdf 11 00 40.2 +3.9
LBL Lubilhac 119.95 319 eP PKPdf 11 00 40.7 +4.3
LASF Ste Croix 119.99 318 ePP Pdif 10 57 06.2 +4.7
PHWY Pilot Hill 120.03 46 ePdif Pdif 10 57 05.9 +4.2
PHWY ePKPdf PKPdf 11 00 38.8 +2.1
SBD1 Bryn Du 120.12 329⇑ eP PKPdf 11 00 39.7 +3.1
WIM Isle of Man 120.13 331⇑ eP PKPdf 11 00 39.6 +3.0
WIM AMb AMB 11 00 41.2
comp=Z,739nm,1.6s
HLM1 Long Mynd 120.14 329⇑ eP PKPdf 11 00 39.7 +3.1
HLM1 AMb AMB 11 00 41.5
comp=Z,692nm,1.3s
CAEH 'Ain El Ouahch 120.17 309 P PKPdf 11 00 40.5 +3.4
TCF Toulx Ste Croi 120.19 321 ePP Pdif 10 57 09.6 +7.3
comp=Z,28nm,1.1s
HAE Alders End 120.22 328⇑ eP PKPdf 11 00 39.4 +2.6
HAE AMb AMB 11 00 42.3
comp=Z,378nm,1.6s
VERF Verneugheol 120.24 320 eP PKPdf 11 00 39.8 +2.8
SSP1 Stoney Pound 120.31 329⇑ eP PKPdf 11 00 40.0 +3.1
FRNF Fournols 120.33 320 eP PKPdf 11 00 40.8 +3.6
CKFL Kef-Lekhel 120.37 308 P PKPdf 11 00 41.0 +3.5
WME Myndd Eilian 120.37 330⇑ eP PKPdf 11 00 40.1 +3.0
WME AMb AMB 11 00 41.8
comp=Z,903nm,1.6s
ISCO Idaho Springs 120.40 47 ePKIKP PKPdf 11 00 41.8 +4.3
ISCO MLR MLR
comp=Z,36µm,20.0s
ISCO Idaho Springs 120.40 47 ePKPdf PKPdf 11 00 41.8 +4.3
ISCO ePKKPbc 11 10 48.2
ISCO LR LR
comp=Z,36µm,20.0s
MCH1 Michaelchurch 120.48 328⇑ eP PKPdf 11 00 40.0 +2.7
MCH1 AMb AMB 11 00 41.7
comp=Z,630nm,1.5s
WLF1 Llynfaes 120.48 330 eP PKPdf 11 00 40.5 +3.2
WCB1 Church Bay 120.50 330⇑ eP PKPdf 11 00 40.0 +2.7
WCB1 AMb AMB 11 00 41.8
comp=Z,696nm,1.7s

HGH Gray Hill 120.57 328⇑ eP PKPdf 11 00 40.3 +2.8
HGH AMb AMB 11 00 42.0
comp=Z,1µm,1.3s
HTR Trewern Hill 120.58 328 eP PKPdf 11 00 40.7 +3.2
CASM Ain Smara 120.58 308 P PKPdf 11 00 42.0 +4.1
YRC Rhoscolyn 120.59 330⇑ eP PKPdf 11 00 40.2 +2.7
YRC AMb AMB 11 00 42.0
comp=Z,538nm,1.6s
YRE Yr Eifl 120.67 330⇑ eP PKPdf 11 00 40.1 +2.4
YRE AMb AMB 11 00 42.1
comp=Z,484nm,1.4s
CTEI Djebel Teioual 120.70 308 P PKPdf 11 00 42.0 +3.8
FLN La Foliniere 120.72 324 ePP Pdif 10 57 14.7 +10
CAF Calviac 120.84 319 ePP Pdif 10 57 17.1 +12
comp=Z,38nm,1.1s
DFRA Djebel Bou Aff 120.98 309 P PKPdf 11 00 42.0 +3.3
RJF Les Rejaudoux 121.04 320 ePP Pdif 10 57 14.4 +8.3
comp=Z,66nm,1.4s
SDCO Great Sand Dun 121.11 50 Pdif Pdif 10 57 11.8 +5.3
SDCO ePKPdf PKPdf 11 00 42.5 +3.6
SDCO LR LR
comp=Z,54µm,20.0s
GRR Gorron 121.12 324 ePP Pdif 10 57 16.7 +10
comp=Z,177nm,1.7s
ANMO Albuquerque 121.14 53 PKKPbc 11 10 45.5
comp=Z,57nm,1.1s,baz=112,slow=8.0,SNR=15
CMER Merouana 121.22 308 P PKPdf 11 00 42.0 +2.8
SJAF Saint Jean de 121.25 316 eP PKPdf 11 00 41.1 +2.0
EJON La Jonquera 121.25 316 PKP PKPdf 11 00 41.9 +2.8
LRDF Laroque-de-Fa 121.31 317 eP PKPdf 11 00 42.0 +2.8
DMUB Kingscourt 121.34 332 eP PKPdf 11 00 42.3 +3.4
FRB Frobisher Bay 121.40 9 PKhKP 11 00 22.3
comp=Z,7.8nm,0.5s,baz=83,slow=4.4,SNR=9.4
FRB PKP PKPdf 11 00 39.3 +0.5
comp=Z,557nm,0.9s,baz=349,slow=3.0,SNR=83
FRB PP PP 11 02 14.3 -2.4
comp=Z,152nm,1.0s,baz=315,slow=8.2,SNR=4.2
FRB SKP 11 03 58.0
comp=Z,113nm,0.8s,baz=337,slow=2.8,SNR=4.6
FRB PKKPbc 11 10 43.1
comp=Z,146nm,1.2s,baz=155,slow=5.1,SNR=14
FRB PKKP PKKP 11 11 17.6 +26
comp=Z,45nm,0.8s,baz=70,slow=3.4,SNR=4.3
FRB SKKPbc 11 14 10.4
comp=Z,37nm,0.9s,baz=135,slow=2.5,SNR=4.1
FRB SKKS 11 18 14.2
comp=Z,12nm,1.0s,baz=171,slow=8.5,SNR=4.6
FRB Frobisher Bay 121.40 9 PKP 11 00 22.3
FRB PKP PKPdf 11 00 39.3 +0.5
FRB PP PP 11 02 14.3 -2.4
FRB SKP 11 03 58.0
FRB PKKPbc 11 10 43.1
FRB PKKP PKKP 11 11 17.6 +26
FRB SKKPbc 11 14 10.4
FRB SKKS 11 18 14.2
JQE Queens East 121.41 325⇑ eP PKPdf 11 00 41.9 +2.7
CKHR Kef el Ahmar 121.41 308 P PKPdf 11 00 44.0 +4.5
JLP Les Platons 121.42 325⇑ eP PKPdf 11 00 42.0 +2.8
FILF Fillols 121.44 316 eP PKPdf 11 00 41.8 +2.4
JRS Jersey 121.44 325⇑ eP PKPdf 11 00 42.0 +2.7
SET Setif 121.45 309 P PKPdf 11 00 44.0 +4.4
DSB Dublin 121.48 331 ePKPdf PKPdf 11 00 40.1 +0.8
JVM Valle D.L. Mar 121.49 325⇑ eP PKPdf 11 00 42.1 +2.8
DLF Lyons Farm 121.52 331 eP PKPdf 11 00 42.4 +3.1
DLF *e* 11 10 43.5
MFF Saint Martin d 121.52 322 ePP Pdif 10 57 17.3 +9.2
CARF Carcanieres 121.69 317 eP PKPdf 11 00 43.2 +3.3
LPEF Le Peyrat 121.73 317 eP PKPdf 11 00 42.6 +2.6
DCN Croghan 121.85 331 eP PKPdf 11 00 43.0 +3.1
DCN *e* 11 10 43.9
LCHF La Chataignera 121.86 322 eP PKPdf 11 00 44.2 +4.1
MATF Mathat 121.96 321 eP PKPdf 11 00 43.8 +3.5
ULM Lac du Bonnet 122.15 33 Pdiff Pdif 10 57 21.6 +11
comp=Z,1.0nm,0.4s,baz=271,slow=5.2,SNR=3.0
ULM PKP PKPdf 11 00 40.8 +0.3
comp=Z,186nm,0.5s,baz=310,slow=2.5,SNR=92
ULM SKP 11 04 00.2
comp=Z,86nm,0.8s,baz=307,slow=2.4,SNR=4.3
ULM PKKPbc 11 10 41.0
comp=Z,277nm,0.9s,baz=117,slow=3.4,SNR=38
ULM SKKPbc 11 14 09.1
comp=Z,28nm,0.9s,baz=174,slow=5.9,SNR=3.0
ULM SKKP 11 14 23.2
comp=Z,24nm,0.8s,baz=163,slow=1.9,SNR=3.9
ULM SKKS 11 17 54.1
comp=Z,3.2nm,0.9s,baz=211,slow=7.5,SNR=3.2
ULM Lac du Bonnet 122.15 33 Pdif Pdif 10 57 21.6 +11
ULM ePKPdf PKPdf 11 00 40.6 0.0
ULM LR LR
comp=Z,30µm,21.0s
SGMF Saint Gilles 122.18 324 ePP Pdif 10 57 20.2 +9.2
comp=Z,75nm,1.2s
SALF Salau 122.29 317 eP PKPdf 11 00 43.0 +2.0
LRYF La Roche-sur-Y 122.39 322 eP PKPdf 11 00 44.2 +3.1
EMIR Miracle 122.39 316 PKP PKPdf 11 00 44.9 +3.6
MELF Melles 122.54 317 eP PKPdf 11 00 44.6 +3.1
OLEF Ile d'Oleron 122.57 321 eP PKPdf 11 00 44.6 +3.1
CRQ2 Rosemanowes 2 122.63 327⇑ eP PKPdf 11 00 44.5 +3.1
CRQ2 AMb AMB 11 00 46.2
comp=Z,819nm,1.4s
CCA1 Carnmenellis 122.65 327⇑ eP PKPdf 11 00 44.5 +3.0
CMA1 Manaccan 122.65 327⇑ eP PKPdf 11 00 44.7 +3.1
CGH1 Goonhilly 122.69 327⇑ eP PKPdf 11 00 44.8 +3.2
CGW Gweek 122.69 327⇑ eP PKPdf 11 00 44.7 +3.1
QUIF Quistinic 122.70 324 ePP Pdif 10 57 25.0 +12
MNTX Cornudas Mount 122.82 56 ePdif Pdif 10 57 18.2 +3.9
MNTX ePKPdf PKPdf 11 00 43.8 +1.5
MNTX LR LR
comp=Z,37µm,22.0s
RESF Ens 122.85 318 eP PKPdf 11 00 46.1 +4.0
CPZ Penzance 122.86 328⇑ eP PKPdf 11 00 44.8 +2.9
CPZ AMb AMB 11 00 47.6
comp=Z,458nm,1.6s
EPOB Poblet 122.92 316 PKP PKPdf 11 00 45.5 +3.2
LABF Labassere 122.92 318 eP PKPdf 11 00 45.2 +3.0
ADJB Djebel Djouab 122.98 309 P PKPdf 11 00 46.0 +3.5
VIEF Viey 123.03 318 eP PKPdf 11 00 46.0 +3.6
EBIE Bielsa 123.03 317 PKP PKPdf 11 00 46.5 +4.1
ABA Alger-Bouzarea 123.09 310 P PKPdf 11 00 44.2 +1.5
REYF Montagne du Re 123.22 318 eP PKPdf 11 00 46.8 +4.0
EMHD Djebel Mahouad 123.34 309 P PKPdf 11 00 44.5 +1.3
ETSF Etsaut 123.41 318 ePP Pdif 10 57 27.4 +11
comp=Z,30nm,1.2s
ORDF Ordiarp 123.52 318 eP PKPdf 11 00 46.8 +3.4
EBR Ebro Roquetas 123.53 315 ePKPDF PKPdf 11 00 43.0 -0.5
EBR *e*Ts 11 14 24.0
ERTA Horta de San J 123.59 315 PKP PKPdf 11 00 47.0 +3.4
EIBI Ibiza 123.60 313 PKP PKPdf 11 00 47.5 +3.8
LARF Larrau 123.63 318 eP PKPdf 11 00 47.3 +3.6
OSSF Osses 123.72 319 eP PKPdf 11 00 46.1 +2.3
ESAC San Caprasio 123.84 317 PKP PKPdf 11 00 47.5 +3.4
EALK Alkurruntz 123.90 319 PKP PKPdf 11 00 47.9 +3.7
TRIS Tristan da Cun 124.04 216 ePKPdf PKPdf 11 00 48.9 +4.2
TRIS LR LR
comp=Z,16µm,20.0s
VAL Valentia 124.14 331 eP PKPdf 11 00 46.5 +2.1
EMOS Mosqueruela 124.39 315 PKP PKPdf 11 00 49.5 +4.3
EBNR Beni Rached 124.40 310 P PKPdf 11 00 48.6 +3.3
COYC Coyhaique 124.50 161⇓ eP PKPdf 11 00 48.7 +3.4
ECHA Ech Chlef 124.57 310 P PKPdf 11 00 48.5 +2.8
LTX Lajitas 124.81 59 ePKPdf PKPdf 11 00 49.0 +2.7
LTX LR LR
comp=Z,41µm,20.0s
TXAR Lajitas Array 124.81 59 Pdiff Pdif 10 57 24.4 +1.3
comp=Z,0.3nm,1.1s,baz=207,slow=8.4,SNR=3.0
TXAR PKhKP 11 00 37.4
comp=Z,3.0nm,0.6s,baz=239,slow=1.5,SNR=5.9
TXAR PKP PKPdf 11 00 48.1 +1.7
comp=Z,88nm,0.9s,baz=202,slow=1.0,SNR=12
TXAR SKP 11 03 49.3
comp=Z,71nm,1.0s,baz=270,slow=2.5,SNR=3.9
TXAR PKKPbc 11 10 30.5
comp=Z,31nm,0.8s,baz=109,slow=5.4,SNR=26
TXAR SKKPbc 11 14 01.9
comp=Z,20nm,1.1s,baz=123,slow=4.9,SNR=4.5
TXAR Lajitas Array 124.81 59 Pdif Pdif 10 57 24.4 +1.3
TXAR PKP PKPdf 11 00 37.4 -8.9
TXAR PKP PKPdf 11 00 48.1 +1.7
TXAR SKP 11 03 49.3
TXAR PKKPbc 11 10 30.5
TXAR SKKPbc 11 14 01.9
EANR 'Ain N'Sour 124.84 310 P PKPdf 11 00 46.5 +0.3
EBEN Beniarda 124.86 313 PKP PKPdf 11 00 49.9 +3.7

ETRT	Tiaret	124.87	309	P	PKPdf	11 00 47.0	+0.7
AMTX	Amarillo	124.92	52	ePKPdf	PKPdf	11 00 48.6	+2.2
AMTX				LR	LR		
	comp=Z,40µm,20.0s						
CBKS	Cedar Bluff	125.02	47	ePKPdf	PKPdf	11 00 49.3	+2.8
CBKS				LR	LR		
	comp=Z,32µm,22.0s						
ELAN	Lanestosa	125.15	319	PKP	PKPdf	11 00 50.2	+3.7
CJM	Chamela	125.19	71	i P	PKPdf	11 00 50.6	+3.3
OJGS	Djebel Guires	125.26	309	P	PKPdf	11 00 50.0	+3.0
OJBR	Djebel Berber	125.54	309	P	PKPdf	11 00 52.0	+4.4
EYMN	Ely	125.83	33	ePKPdf	PKPdf	11 00 47.6	-0.1
EYMN				LR	LR		
	comp=Z,27µm,21.0s						
ETOB	Tobarra	125.83	314	PKP	PKPdf	11 00 51.8	+3.8
CART	Cartagena	125.84	312	ePKPdf	PKPdf	11 00 50.7	+2.6
EMUR	La Murta	125.92	313	PKP	PKPdf	11 00 51.3	+3.1
ODJA	Bouhanifia	126.01	309	P	PKPdf	11 00 51.0	+2.5
USTO	Oran	126.18	310	P	PKPdf	11 00 54.0	+5.2
EARI	Arriondas	126.25	320	PKP	PKPdf	11 00 52.2	+3.5
COLM	Colima	126.49	71	i P	PKPdf	11 00 54.3	+4.5
OTSS	Djebel Tessala	126.52	309	P	PKPdf	11 00 53.0	+3.6
EVIA	Vianos	126.52	314	PKP	PKPdf	11 00 53.1	+3.8
CGX	Ciudad Guzman	126.61	70	eP	PKPdf	11 00 53.0	+3.0
ODZI	Dziouia	126.85	310	P	PKPdf	11 00 54.0	+3.9
EHUE	Huescar	126.92	313	PKP	PKPdf	11 00 53.4	+3.3
ENIJ	Nijar	126.97	312	PKP	PKPdf	11 00 53.5	+3.3
OLHC	Oulhaca	127.01	310	P	PKPdf	11 00 55.0	+4.6
ESDC	Sonseca Array	127.11	316	PKP	PKPdf	11 00 49.5	-0.9
	comp=Z,81nm,1.0s,baz=88,slow=1.7,SNR=4.3						
ESDC				PP	PP	11 02 53.0	-2.4
	comp=Z,128nm,0.8s,baz=58,slow=7.3,SNR=16						
ESDC				SKPbc		11 03 54.3	
	comp=Z,32nm,0.7s,baz=35,slow=3.3,SNR=6.8						
ESDC				PKKPbc		11 10 26.3	
	comp=Z,3.1nm,0.5s,baz=265,slow=3.4,SNR=5.4						
ESDC				PKKP	PKKP	11 11 08.1	+27
	comp=Z,2.8nm,0.4s,baz=264,slow=1.9,SNR=6.4						
ESDC	Sonseca Array	127.11	316	PKP	PKPdf	11 00 49.5	-0.9
ESDC				PKP	PKPdf	11 00 53.8	+3.4
ESDC				PP	PP	11 02 53.0	-2.4
ESDC				SKPbc		11 03 54.3	
ESDC				PKKPbc		11 10 26.3	
ESDC				PKKP	PKKP	11 11 08.1	+27
ESLA	Sonseca Array	127.11	316	ePKPdf	PKPdf	11 00 53.9	+3.4
ESLA				ePP	PP	11 02 55.0	-0.4
ESLA				LR	LR		
	comp=Z,83µm,21.0s						
KSU1	Kansas State U	127.13	45	ePKPdf	PKPdf	11 00 52.9	+2.4
WMOK	Wichita Mounta	127.22	51	ePKPdf	PKPdf	11 00 52.0	+1.1
WMOK				LR	LR		
	comp=Z,25µm,20.0s						
EQES	Quesada	127.27	313	PKP	PKPdf	11 00 53.9	+3.1
EPON	Pontenova	127.46	321	PKP	PKPdf	11 00 54.8	+3.8
EBAN	Banos Encina	127.64	314	PKP	PKPdf	11 00 54.9	+3.4
JCT	Junction City	127.75	56	ePKPdf	PKPdf	11 00 54.0	+2.0
JCT				LR	LR		
	comp=Z,34µm,19.0s						
ECOG	Cogollos-Vega	127.84	313	PKP	PKPdf	11 00 54.8	+2.8
ECAL	Calabor	127.91	319	PKP	PKPdf	11 00 55.6	+3.6
EINC	Incio	127.93	321	PKP	PKPdf	11 00 55.9	+3.9
ERUA	La Rua	127.94	320	PKP	PKPdf	11 00 55.8	+3.8
PBRG	Braganca	127.98	319	ePKPdf	PKPdf	11 00 55.4	+3.3
PBRG				ePP	PP	11 03 00.3	-1.1
PBRG				i -		11 03 55.4	
EALB	Alboran	127.98	311	PKP	PKPdf	11 00 55.3	+3.0
ERON	Agron	128.12	313	PKP	PKPdf	11 00 55.4	+2.9
EADA	Adamuz	128.20	314	PKP	PKPdf	11 00 56.3	+3.6
ELUQ	Luque	128.23	313	PKP	PKPdf	11 00 55.9	+3.1
ELOJ	Sierra Loja	128.32	313	PKP	PKPdf	11 00 55.8	+2.9
STS	Santiago	128.56	321	PKP	PKPdf	11 00 57.0	+3.8
MOIG	Morelia	128.78	70	i P	PKPdf	11 00 55.2	+1.0
EMAZ	Mazaricos	128.79	322	PKP	PKPdf	11 00 57.4	+3.8
ELOB	Lobios	128.79	320	PKP	PKPdf	11 00 57.3	+3.7
ECAB	El Cabril	128.84	315	PKP	PKPdf	11 00 57.6	+3.7
PVRL	Vila Real	128.87	319	ePKPdf	PKPdf	11 00 57.5	+3.7
PVRL				ePP	PP	11 03 08.6	+0.9
PVRL				e-		11 04 00.1	
EMIJ	Mijas	129.02	313	PKP	PKPdf	11 00 56.3	+2.0
EZAM	Zamans	129.04	321	PKP	PKPdf	11 00 58.0	+3.8
MTE	Manteigas	129.20	318	ePKPdf	PKPdf	11 00 53.9	-0.6
MTE				ePP	PP	11 03 03.7	-6.1
MTE				e-		11 03 59.6	
MTE				eSS	SS	11 20 15.8	+4.7
MTE	Manteigas	129.20	318	ePKPdf	PKPdf	11 00 58.9	+4.5
PVIS	Viseu	129.28	319	ePKPdf	PKPdf	11 00 58.5	+3.9
PVIS				ePP	PP	11 03 09.3	-0.9
PVIS				e-		11 03 59.6	
PLCA	Paso Flores	129.32	160	PKPdf	PKPdf	11 00 44.9	-10
PLCA				PKPdf	PKPdf	11 00 58.7	+4.0
PLCA				PP	PP	11 03 09.4	-1.1
PLCA				SKPdf		11 03 59.6	
PLCA				SKSac		11 07 47.9	
PLCA				SKKSac		11 09 42.4	
PLCA	Paso Flores	129.32	160	ePKHKP		11 00 44.7	
PLCA				e		11 00 58.5	
PLCA						11 03 08.2	
PLCA				SP	SP	11 12 49.8	-4.8
PLCA	Paso Flores	129.32	160	Pdiff	Pdif	10 57 44.5	+1.8
	comp=Z,2.2nm,1.2s,baz=125,slow=1.5,SNR=3.0						
PLCA				PKhKP		11 00 44.5	
	comp=Z,16nm,0.9s,baz=210,slow=3.6,SNR=8.9						
PLCA				PKP	PKPdf	11 00 58.8	+4.0
	comp=Z,204nm,0.7s,baz=222,slow=2.9,SNR=50						
PLCA				PP	PP	11 03 08.2	-2.3
	comp=Z,37nm,0.9s,baz=194,slow=9.5,SNR=1.5						
PLCA				SKPbc		11 03 57.6	
	comp=Z,531nm,1.2s,baz=188,slow=5.8,SNR=12						
PLCA				SP	SP	11 12 49.8	-4.9
	comp=Z,23nm,1.1s,baz=9.4,slow=3.3,SNR=3.2						
PLCA				SKKPbc		11 13 45.2	
	comp=Z,24nm,0.9s,baz=23,slow=8.1,SNR=4.4						
PLCA	Paso Flores	129.32	160	Pdif	Pdif	10 57 44.5	+1.8
PLCA				ePKPpre		11 00 44.7	
PLCA				ePKPdf	PKPdf	11 00 58.5	+3.8
PLCA				PKP	PKPdf	11 00 58.8	+4.0
PLCA				PP	PP	11 03 08.2	-2.3
PLCA				SKPbc		11 03 57.6	
PLCA				eSKPdf		11 03 58.2	
PLCA				SP	SP	11 12 49.8	-4.9
PLCA				SKKPbc		11 13 45.2	
PLCA				LR	LR		
	comp=Z,25µm,20.0s						
JFWS	Jewell Farm	129.43	38	ePKPdf	PKPdf	11 00 57.0	+2.2
JFWS				LR	LR		
	comp=Z,28µm,22.0s						
PCBR	Castelo Branco	129.43	318	ePKPdf	PKPdf	11 00 58.8	+3.9
PCBR				ePP	PP	11 03 10.0	-1.2
PCBR				e-		11 04 00.5	
EJIF	Jimena Fronter	129.57	313	PKP	PKPdf	11 00 58.5	+3.2
ESPR	Espera	129.68	313	PKP	PKPdf	11 00 59.2	+3.7
EMIN	Mina Concepcio	129.86	315	PKP	PKPdf	11 00 59.5	+3.7
CAIG	El Cayaco	129.95	73	i P	PKPdf	11 01 00.6	+4.1
SCHQ	Schefferville	130.03	13	PKhKP		11 00 39.3	
	comp=Z,10nm,0.8s,baz=324,slow=2.4,SNR=7.6						
SCHQ				PKP	PKPdf	11 00 57.2	+1.5
	comp=Z,213nm,0.9s,baz=4.9,slow=2.9,SNR=37						
SCHQ				PP	PP	11 03 11.7	-2.7
	comp=Z,79nm,1.0s,baz=359,slow=13,SNR=3.6						
SCHQ				SKPbc		11 03 59.9	
	comp=Z,2µm,0.9s,baz=352,slow=3.7,SNR=65						
SCHQ				PKKP	PKKP	11 11 00.3	+25
	comp=Z,31nm,0.7s,baz=63,slow=2.1,SNR=7.4						
SCHQ				SKKPbc		11 13 40.1	
	comp=Z,42nm,0.9s,baz=151,slow=3.5,SNR=4.3						
SCHQ	Schefferville	130.03	13	ePKPpre		11 00 39.3	
SCHQ				ePKPdf	PKPdf	11 00 56.2	+0.6
SCHQ				PKP	PKPdf	11 00 57.2	+1.5
SCHQ				PP	PP	11 03 11.7	-2.7
SCHQ				SKPbc		11 03 59.9	
SCHQ				eSKPab		11 04 02.0	
SCHQ				PKKP	PKKP	11 11 00.3	+25
SCHQ				SKKPbc		11 13 40.1	
SCHQ				LR	LR		
	comp=Z,30µm,22.0s						
SFS	San Fernando	130.10	313	ePKPdf	PKPdf	11 00 59.0	+2.7
SFS				ePP	PP	11 03 13.6	-1.8
SFS				eSKPbc		11 04 02.5	
ALMR	Almeirim	130.51	317	eP	PKPdf	11 01 00.4	+3.4
PLIG	Platanillo	130.53	71	i P	PKPdf	11 01 01.9	+4.3
PALC	Alcoutim	130.56	315	ePKPdf	PKPdf	11 01 01.1	+3.9
PALC				ePP	PP	11 03 17.6	-1.0
PALC				e-		11 04 05.6	
PBEJ	Beja	130.57	316	ePKPdf	PKPdf	11 01 00.9	+3.7
PBEJ				ePP	PP	11 03 19.8	+1.2
PBEJ				e-		11 04 05.0	
MOE	Montemor	130.67	316	ePKPdf	PKPdf	11 01 01.7	+4.4
YAIG	Yautepec	130.87	71	i P	PKPdf	11 01 01.9	+3.7
PLOU	Loures	131.03	317	e-		11 04 07.3	
LIS	Lisbon	131.12	317	eP	PKPdf	11 01 00.2	+2.0
HKT	Hockley	131.19	56	PKPdf	PKPdf	11 01 02.6	+4.1
HKT				SKPbc		11 04 09.0	
HKT	Hockley	131.19	56	ePKPpre		11 00 53.5	
HKT				ePKPdf	PKPdf	11 01 00.4	+1.9
HKT				eSKP		11 04 09.1	
HKT				LR	LR		
	comp=Z,38µm,20.0s						
MIAR	Mount Ida	131.26	49	ePKHKP		11 00 44.7	
MIAR				e		11 01 02.0	
CCM	Cathedral Cave	131.34	44	ePKHKP		11 00 39.4	
CCM				e		11 01 00.7	
CCM				MLR	MLR		
	comp=Z,21µm,20.0s						
CCM	Cathedral Cave	131.34	44	ePKPpre		11 00 39.4	
CCM				ePKPdf	PKPdf	11 01 00.7	+2.1
CCM				eSKPbc		11 04 08.1	
CCM				LR	LR		
	comp=Z,21µm,20.0s						
PTEO	Sao Teotonio	131.40	316	ePKPdf	PKPdf	11 01 02.6	+3.9
PTEO				e-		11 04 08.0	
NATX	Nacogdoches	131.51	53	ePKPpre		11 00 52.7	
NATX				ePKPdf	PKPdf	11 01 02.6	+3.5
NATX				ePP	PP	11 03 21.2	-3.5
NATX				eSKP		11 04 10.4	
NATX				LR	LR		
	comp=Z,32µm,21.0s						
IIB	San Bernardino	131.54	71	eP	PKPdf	11 01 04.0	+4.5
SLM	Saint Louis	131.73	43	ePKPpre		11 00 43.6	
SLM				eSKPbc		11 04 09.0	
FVM	French Village	131.94	43	ePKPpre		11 00 45.9	
FVM				ePKPdf	PKPdf	11 01 02.5	+2.7
PNIG	Pinotepa	132.06	74	i P	PKPdf	11 01 04.7	+4.2
UALR	University of	132.08	48	ePKPpre		11 00 46.7	
UALR				eSKPbc		11 04 11.8	
CCHI	Chillan	132.38	156⇑	eP	PKPdf	11 00 50.7	-10
IISM	Ciudad Serdan	132.44	70	eP	PKPdf	11 01 07.0	+5.8
HBAR	Harrisburg	132.96	46	ePKPpre		11 00 48.9	
HBAR				eSKP		11 04 14.4	
GNAR	Gosnell	133.22	46	ePKPdf	PKPdf	11 01 01.5	-0.7
GNAR				eSKP		11 04 15.3	
LVIG	Laguna Verde	133.22	69	i P	PKPdf	11 01 06.0	+3.3
PVMO	Portageville	133.22	45	ePKPdf	PKPdf	11 01 05.4	+3.2
PVMO				eSKP		11 04 14.2	
VHO	Vista Hermosa	133.31	73	i P	PKPdf	11 01 07.3	+4.4
GLAT	Glass	133.58	45	ePKPpre		11 00 55.3	
GLAT				ePKPdf	PKPdf	11 01 05.9	+3.0
GLAT				eSKP		11 04 16.6	
AAM	Ann Arbor	133.67	35	ePKPpre		11 00 49.0	
AAM				ePKPdf	PKPdf	11 01 05.7	+2.9
AAM				eSKPbc		11 04 15.6	
AAM				LR	LR		
	comp=Z,46µm,22.0s						
MET	Memphis--Engin	133.68	47	ePKPdf	PKPdf	11 01 03.5	+0.5
MET				eSKP		11 04 16.3	
HALT	Halls	133.72	45	ePKPdf	PKPdf	11 01 06.1	+3.0
HALT				eSKP		11 04 16.5	
USIN	University of	133.81	42	ePKPpre		11 00 47.9	
USIN				ePKPdf	PKPdf	11 01 06.2	+3.0
USIN				eSKP		11 04 16.7	
UTMT	University of	133.84	44	ePKPpre		11 00 56.5	
UTMT				ePKPdf	PKPdf	11 01 06.3	+2.9
UTMT				eSKP		11 04 16.6	
BLO	Bloomington	133.87	40	ePKPpre		11 00 49.0	
BLO				ePKPdf	PKPdf	11 01 06.9	+3.6
BLO				eSKPbc		11 04 14.6	
HUIG	Huatulco	134.05	74	i P	PKPdf	11 01 08.5	+4.3
TRQA	Tornquist	134.25	167	ePKPpre		11 00 51.0	
TRQA				eSKPbc		11 04 16.0	
TRQA				LR	LR		
	comp=Z,22µm,20.0s						
SADO	Sadowa	134.31	29	PKP	PKPdf	11 01 06.4	+2.5
	baz=327,slow=4.0						
SADO				SKPbc		11 04 17.0	
	comp=Z,717nm,1.0s,baz=323,slow=4.3,SNR=19						
SADO				SKKPbc		11 13 26.0	
	comp=Z,42nm,1.0s,baz=182,slow=3.5,SNR=5.9						
SADO	Sadowa	134.31	29	PKP	PKPdf	11 01 06.4	+2.5
SADO				SKPbc		11 04 17.0	
SADO				SKKPbc		11 13 26.0	
OXF	Oxford	134.35	47	ePKPpre		11 00 53.3	
OXF				eSKPbc		11 04 18.8	
OXF				LR	LR		
	comp=Z,33µm,22.0s						
WCI	Wyandotte Cave	134.56	41	ePKPpre		11 00 49.8	
WCI				ePKPdf	PKPdf	11 01 08.0	+3.4
WCI				LR	LR		
	comp=Z,16µm,20.0s						
WVT	Waverly	134.67	44	ePKPdf	PKPdf	11 00 52.6	-12
WVT				eSKPbc		11 04 19.5	
WVT				LR	LR		
	comp=Z,18µm,21.0s						
DBIC	Dimbokro	135.05	273	PKPdf		11 00 52.1	
DBIC				PKPdf	PKPdf	11 01 09.7	+3.5
DBIC				PP	PP	11 03 45.3	-1.8
DBIC				SKPbc		11 04 20.2	
DBIC				PKSbc		11 04 40.8	
DBIC				SKKSac		11 10 19.1	
DBIC				PKKSbc		11 13 35.9	
DBIC	Dimbokro	135.05	273	Pdiff	Pdif	10 58 16.7	+8.1
	comp=Z,7.3nm,1.2s,baz=69,slow=4.7,SNR=2.8						
DBIC				PKhKP		11 00 52.2	
	comp=Z,14nm,0.4s,baz=78,slow=4.5,SNR=20						
DBIC				PKP	PKPdf	11 01 08.3	+2.2
	comp=Z,331nm,0.6s,baz=59,slow=3.6,SNR=22						
DBIC				PP	PP	11 03 45.4	-1.7
	comp=Z,116nm,0.9s,baz=66,slow=7.6,SNR=6.2						
DBIC				SKPbc		11 04 18.1	
	comp=Z,415nm,0.6s,baz=87,slow=4.1,SNR=17						
DBIC	Dimbokro	135.05	273	Pdif	Pdif	10 58 16.7	+8.1
DBIC				ePKPpre		11 00 52.1	
DBIC				PKP	PKPdf	11 01 08.3	+2.2
DBIC				PP	PP	11 03 45.4	-1.7
DBIC				SKPbc		11 04 18.1	
DBIC				eSKPbc		11 04 20.0	
DBIC				LR	LR		
	comp=Z,10µm,21.0s						
TUIG	Tuzandepetl	135.36	71	i P	PKPdf	11 01 11.3	+4.8
ACSO	Alum Creek Sta	135.40	36	PFAKE		11 01 20.0	+14
ACSO				LR	LR		
	comp=Z,37µm,22.0s						
LMEL	Las Melosas	135.53	156	eP	PKPdf	11 01 00.6	-5.9
ERPA	Erie	135.80	32	ePKPpre		11 00 58.7	
ERPA				ePKPdf	PKPdf	11 01 08.9	+2.1
ERPA				eSKP		11 04 22.1	
ERPA				LR	LR		
	comp=Z,29µm,22.0s						
FCH	Farellones	135.95	155⇑	eP	PKPdf	11 00 56.9	-10
ALLY	Alegheny Colle	136.04	33	ePKPpre		11 01 02.6	
ALLY				eSKP		11 04 23.4	
MSNY	Massena	136.07	25	ePKPdf	PKPdf	11 01 10.9	+3.7
GENY	Geneseo	136.44	30	ePKPpre		11 00 57.6	
GENY				ePKPdf	PKPdf	11 01 11.1	+3.2
GENY				eSKP		11 04 23.1	
LRAL	Lakeview Retre	136.82	47	ePKPpre		11 00 59.2	
LRAL				eSKP		11 04 25.3	
LRAL				LR	LR		
	comp=Z,41µm,19.0s						
NCB	Newcomb	137.17	26	ePKPpre		11 00 59.8	
NCB				ePKPdf	PKPdf	11 01 11.5	+2.3
NCB				eSKP		11 04 25.0	
NCB				LR	LR		
	comp=Z,15µm,20.0s						
PQI	Presque Isle	137.18	18	ePKPpre		11 01 00.0	
PQI				eSKP		11 04 25.3	
CPCT	Cooper Cave	137.30	43	ePKPpre		11 01 00.3	
CPCT				eSKP		11 04 26.7	
TZTN	Tazewell	137.31	41	ePKPpre		11 00 59.9	
TZTN				ePKPdf	PKPdf	11 01 11.5	+1.8
TZTN				eSKP		11 04 27.8	
MIV	Mineville/With	137.38	25	ePKPpre		11 01 01.3	
MCWV	Mont Chateau	137.58	35	ePKPpre		11 01 00.8	
MCWV				eSKP		11 04 28.0	
MCWV				LR	LR		
	comp=Z,35µm,21.0s						
ACCN	Adirondack Com	137.88	26	ePKPpre		11 01 04.7	
SSPA	Standing Stone	137.96	32	ePKPpre		11 01 00.9	
SSPA				ePKPdf	PKPdf	11 01 14.1	+3.3
SSPA				eSKP		11 04 28.7	
SSPA				LR	LR		
	comp=Z,33µm,22.0s						
LPA	La Plata	138.10	170c	ePKP	PKPdf	11 01 11.0	-0.2
LPA				ePP	PP	11 04 03.0	-2.5
LPA				eSKP		11 04 29.0	
LPA				ePKS	PKS	11 04 50.0	+4.1
LPA				eSKKS		11 10 36.0	
LPA				eS		11 12 07.0	
HNH	Hanover	138.20	24	ePKPpre		11 01 04.0	
HNH				eSKP		11 04 27.6	
TLL	Tololo Astrono	138.43	153⇓	eP	PKPdf	11 01 05.1	-6.9
WVL	Waterville	138.48	21	ePKPpre		11 01 05.2	
WVL				eSKP		11 04 29.9	
FFD	Franklin Falls	138.65	24	ePKPpre		11 01 06.0	
FFD				eSKP		11 04 31.0	
EFAM	Famara	138.85	308	PKP	PKPdf	11 01 15.6	+2.9
EMMW	East Machias	139.10	19	ePKPpre		11 01 07.9	
EMMW				ePKPdf	PKPdf	11 01 15.6	+2.8
EMMW				eSKP		11 04 31.7	
GOGA	Godfrey	139.15	45	ePKPpre		11 01 06.9	
GOGA				eSKP		11 04 32.9	
GOGA				LR	LR		
	comp=Z,30µm,20.0s						
MVL	Millersville	139.23	31	ePKPpre		11 01 06.6	
MVL				ePKPdf	PKPdf	11 01 13.8	+0.7
PAYG	Puerto Ayora	139.28	99	ePKPpre		11 01 13.1	
PAYG				eSKP		11 04 36.3	
PAYG				LR	LR		
	comp=Z,13µm,19.0s						
QUA2	Belchertown	139.34	26	ePKPpre		11 01 08.5	
QUA2				eSKP		11 04 32.0	
SDMD	Soldier's Deli	139.41	32	ePKPpre		11 01 07.0	
SDMD				eSKP		11 04 31.3	
HRV	Harvard--Oak R	139.49	25	ePKPpre		11 01 08.7	
HRV				eSKP		11 04 33.4	
HRV				LR	LR		
	comp=Z,16µm,21.0s						
CFTV	Fuerteventura	139.59	307	PKP	PKPdf	11 01 17.6	+3.5
BRNJ	Basking Ridge	139.60	29	ePKPpre		11 01 08.0	
PAL	Palisades	139.67	28	ePKPpre		11 01 08.3	
WES	Weston	139.69	24	ePKPpre		11 01 09.7	
WES				eSKP		11 04 30.9	
CPNY	Central Park	139.81	28	ePKPpre		11 01 08.3	
CPNY				eSKP		11 04 31.3	
CBN	Corbin	139.98	34	ePKPpre		11 01 09.6	
CBN				eSKP		11 04 34.6	
CBN				LR	LR		
	comp=Z,47µm,22.0s						
BRYW	Bryant College	139.99	25	ePKP	PKPdf	11 01 21.8	+7.3
BRYW				eSKP		11 04 48.0	
JSC	Jenkinsville	140.16	42	ePKPpre		11 01 10.4	
JSC				eSKP		11 04 35.9	
TEIG	Tepich	140.60	66	ePKPpre		11 01 12.9	
TEIG				eSKP		11 04 36.8	
TEIG				LR	LR		
	comp=Z,7µm,21.0s						
EOSO	Osorio	140.91	307	PKP	PKPdf	11 01 20.5	+4.0
COW	Cow Castle Cre	141.07	43	ePKPpre		11 01 14.4	
COW				eSKP		11 04 38.5	
EBAJ	Bajamar	141.31	309	PKP	PKPdf	11 01 20.7	+3.5
BART	Pico Bartolome	141.54	327	ePKP	PKPdf	11 01 19.6	+2.3
HBF	Harts Bluff	141.55	43	ePKPpre		11 01 15.2	
HBF				eSKP		11 04 40.3	
PFAD	Fenais da Ajud	141.58	328	ePKP	PKPdf	11 01 16.7	-0.6
PFAD	Fenais da Ajud	141.58	328	ePP	PP	11 04 28.4	+2.2
NHSC	New Hope	141.58	43	ePKPpre		11 01 15.1	
NHSC				eSKP		11 04 39.8	
NHSC				LR	LR		
	comp=Z,23µm,20.0s						
MIRA	Miradouro	141.60	328	ePKP	PKPdf	11 01 17.4	0.0
MIRA	Miradouro	141.60	328	ePP	PP	11 04 28.9	+2.6
CCAN	Las Canadas	141.67	308	PKP	PKPdf	11 01 22.0	+4.2
PCNG	Congro	141.67	328	ePKK		11 01 18.9	
PCNG	Congro	141.67	328	ePP	PP	11 04 30.7	+4.0
PMAT	Coroa da Mata	141.68	328	ePP	PP	11 04 28.6	+1.8
MESC	Monte Escuro	141.68	328	ePKP	PKPdf	11 01 17.3	-0.2
MESC	Monte Escuro	141.68	328	ePP	PP	11 04 27.6	+0.8
RGRS	Roger Stewart	141.69	43	ePKPpre		11 01 16.3	
RGRS				eSKP		11 04 40.2	
VIF	Vila Franca	141.71	328	ePKP	PKPdf	11 01 17.4	-0.2
VIF	Vila Franca	141.71	328	ePP	PP	11 04 28.6	+1.6
PVER	Pico Vermelho	141.71	328	ePKP	PKPdf	11 01 19.1	+1.5
LFA	Lagoa do Fogo	141.71	328	ePKP	PKPdf	11 01 18.7	+1.1
LFA	Lagoa do Fogo	141.71	328	ePP	PP	11 04 26.3	-0.7
CSU	Charleston Sou	141.73	43	ePKPpre		11 01 15.6	
PRCH	Ribeira Ch	141.75	328	ePKP	PKPdf	11 01 17.5	-0.1
CML	Cha da Macela	141.75	328	ePKP	PKPdf	11 01 17.4	-0.2
CML	Cha da Macela	141.75	328	ePP	PP	11 04 28.2	+1.0
PSET	Sete Cidades	141.80	328	ePP	PP	11 04 29.7	+2.2
FAC	Faja de Cima	141.80	328	ePKP	PKPdf	11 01 18.7	+1.0
SET4	Mosteiros	141.80	328	ePKP	PKPdf	11 01 18.4	+0.7
PVNV	Vila Nova	141.81	330	ePP	PP	11 04 30.4	+2.8
PFAV	Pico das Favas	141.82	330	ePKP	PKPdf	11 01 18.7	+1.0
PFAV	Pico das Favas	141.82	330	ePP	PP	11 04 31.5	+3.9
SET2	Ginetes	141.83	328	ePKP	PKPdf	11 01 18.0	+0.2
PSCM	Serra do Cume	141.84	330	ePKP	PKPdf	11 01 19.0	+1.2
PBIS	Biscoitos	141.86	331	ePKP	PKPdf	11 01 17.5	-0.3
PBIS	Biscoitos	141.86	331	ePP	PP	11 04 29.9	+2.0
RIB2	Ribeirinha	141.89	330	e		11 04 41.7	
PPAD	Pico dos Padre	141.93	331	ePKP	PKPdf	11 01 17.3	-0.6
PPAD	Pico dos Padre	141.93	331	ePP	PP	11 04 30.0	+1.8
ASBA	Santa Barbara	141.93	331	ePKP	PKPdf	11 01 17.5	-0.4
ASBA	Santa Barbara	141.93	331	ePP	PP	11 04 35.2	+6.9
ADH	Angra Heroismo	141.94	330	i PKP	PKPdf	11 01 20.0	+2.1
ADH				i pPKP		11 02 12.5	
ADH	Angra Heroismo	141.94	330	i		11 14 30.0	
ADH				i SS	SS	11 22 42.5	-0.3
ADH	Angra Heroismo	141.94	330	i LR	LR	11 49 15.0	
STGR	Santa Cruz	141.97	332	ePKP	PKPdf	11 01 18.1	+0.1
STGR	Santa Cruz	141.97	332	ePP	PP	11 04 33.6	+5.1
PSMN	Pico do Norte,	142.05	327	ePKP	PKPdf	11 01 18.5	+0.3
PSMA	Santa Maria	142.09	327	ePKP	PKPdf	11 01 19.8	+1.6
PSMA	Santa Maria	142.09	327	ePP	PP	11 04 32.5	+3.2
EGOM	La Gomera	142.17	309	PKP	PKPdf	11 01 18.9	+0.3
PMAN	Manadas	142.37	331	ePKP	PKPdf	11 01 18.4	-0.2
ROSA	Rosais	142.37	331	ePKP	PKPdf	11 01 19.6	+0.9
EHIG	Higuera	142.44	310	PKP	PKPdf	11 01 23.7	+4.7
PICO	Pico	142.63	331	ePKP	PKPdf	11 01 19.7	+0.6
PCED	Cedros	142.66	332	ePKP	PKPdf	11 01 20.2	+1.1
CALA	Caldeira	142.70	332	ePKP	PKPdf	11 01 20.3	+1.1
HOR	Horta	142.71	332	ePKP	PKPdf	11 01 19.7	+0.5
CHIE	El Hierro	142.96	308	PKP	PKPdf	11 01 21.9	+1.9
DWPF	Disney	143.42	50	PKPdf	PKPdf	11 01 20.5	-0.3
DWPF				SKPdf		11 04 43.8	
DWPF				SS	SS	11 22 57.8	-2.1
DWPF	Disney	143.42	50	ePKPdf	PKPdf	11 01 21.9	+1.0
DWPF				eSKP		11 04 43.3	
DWPF				LR	LR		
	comp=Z,25µm,20.0s						
VCR	Vista de Mar	144.70	82	eP	PKPdf	11 01 27.1	+3.6
JTS	JuntasAbangare	145.36	81	PKPbc	PKPbc	11 01 27.0	+1.7
	comp=Z,1µm,0.7s,baz=330,slow=2.4,SNR=114						
JTS				PP	PP	11 04 49.1	-0.5
	comp=Z,196nm,0.9s,slow=6.1,SNR=2.5						
JTS				SKKPbc		11 12 48.6	
	comp=Z,16nm,0.8s,baz=342,slow=13,SNR=3.5						
JTS	JuntasAbangare	145.36	81	ePKPdf	PKPdf	11 01 26.6	+2.0
JTS				LR	LR		
	comp=Z,6µm,21.0s						
FORC	Fortuna	145.63	81	eP	PKPdf	11 01 28.4	+3.4
FORC	Fortuna	145.63	81	eP	PKPdf	11 01 28.4	+3.4
LVC	Limon Verde	145.66	148⇑	eP	PKPdf	11 01 28.6	+3.8
LVC	Limon Verde	145.66	148	PKPdf	PKPdf	11 01 28.6	+3.8
LVC				SKPbc		11 04 51.0	
LVC				SKKSac		11 11 22.9	
LVC	Limon Verde	145.66	148	PKPbc	PKPbc	11 01 27.9	+2.1
	baz=233,slow=2.7						
LVC				PP	PP	11 04 49.0	-2.1
	comp=Z,236nm,0.8s,baz=250,slow=5.5,SNR=4.2						
LVC				SKKPbc		11 12 39.4	
	comp=Z,49nm,1.0s,baz=179,slow=2.7,SNR=3.7						
LVC	Limon Verde	145.66	148	ePKPdf	PKPdf	11 01 27.4	+2.6
LVC				e		11 04 50.8	
LVC				LR	LR		
	comp=Z,17µm,20.0s						
CGA2	Cerro Gallo 2	145.85	82	eP	PKPdf	11 01 29.9	+4.6
CGA2	Cerro Gallo 2	145.85	82	eP	PKPdf	11 01 29.9	+4.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PRS1	Puriscal	146.01	82	eP	PKPdf	11 01 30.2	+4.6
PRS1	Puriscal	146.01	82	eP	PKPdf	11 01 30.3	+4.6
VPS2	Volcan Poas 2	146.07	82	eP	PKPdf	11 01 31.8	+6.1
VPS2	Volcan Poas 2	146.07	82	eP	PKPdf	11 01 29.9	+4.1
LAJ	Bijagual	146.20	82	eP	PKPdf	11 01 29.4	+3.4
LAJ	Bijagual	146.20	82	eP	PKPdf	11 01 29.8	+3.8
SJS	Escuela Geolog	146.26	82	eP	PKPdf	11 01 30.7	+4.6
SJS	Escuela Geolog	146.26	82	eP	PKPdf	11 01 30.2	+4.2
SJS				eP		11 01 32.0	
SJS				AMb	AMB	11 01 35.8	
	comp=Z,10µm,1.5s						
SJS				AMS	AMS	11 03 37.9	
	comp=N,2µm,17.5s						
LCR2	La Lucha 2	146.32	82	eP	PKPdf	11 01 30.1	+3.9
LCR2	La Lucha 2	146.32	82⇓	eP	PKPdf	11 01 30.1	+4.0
ICR	Volcan Irazu	146.48	82	eP	PKPdf	11 01 31.8	+5.4
TRTC	Tortuguero	146.56	81	eP	PKPdf	11 01 29.7	+3.2
TRTC	Tortuguero	146.56	81⇓	eP	PKPdf	11 01 30.0	+3.4
CPUP	Villa Florida	146.56	168	PKPdf	PKPdf	11 01 29.4	+3.2
CPUP				SKPbc		11 04 51.2	
BUS	Buena Vista	146.57	83⇑	eP	PKPdf	11 01 31.7	+5.1
BUS	Buena Vista	146.57	83⇑	eP	PKPdf	11 01 31.6	+5.0
ACR	Cerro Adams	147.18	84	eP	PKPdf	11 01 32.5	+4.9
ACR	Cerro Adams	147.18	84⇑	eP	PKPdf	11 01 32.7	+5.1
LIO	Limon	147.26	82	eP	PKPdf	11 01 32.2	+4.5
NNA	Nana	147.66	125	ePKPbc	PKPdf	11 01 32.3	+3.9
NNA				LR	LR		
	comp=Z,7µm,20.0s						
ARE	Arequipa	148.84	137⇑	eP	PKPdf	11 01 35.0	+4.8
ARE				i		11 01 35.6	
ARE				i		11 02 27.1	
ARE				e		11 11 44.0	
ARE				e		11 15 12.0	
CAM4	Nova Friburgo	150.32	194	eP	PKPdf	11 01 37.2	+4.8
CAM4				i		11 01 42.4	
CAM4				i		11 01 46.7	
CAM4				i		11 05 19.9	
MCJ	Malvern	150.84	65⇑	eP	PKPdf	11 01 36.9	+3.6
CVJ	Coleyville	150.88	64⇑	eP	PKPdf	11 01 37.1	+3.8
BBSR	BB Station	150.95	26	ePKPbc	PKPdf	11 01 36.9	+3.9
BBSR				LR	LR		
	comp=Z,16µm,20.0s						
LPAZ	La Paz	151.13	142	PKPdf	PKPdf	11 01 36.6	+2.9
LPAZ				PKPdf	PKPdf	11 01 39.4	+5.7
LPAZ				SKKSac		11 11 53.3	
LPAZ	La Paz	151.13	142	ePKPdf	PKPdf	11 01 37.1	+3.4
LPAZ				LR	LR		
	comp=Z,12µm,19.0s						
BNJ	Bonny Gate	151.36	63	eP	PKPdf	11 01 37.3	+3.2
STH	Stony Hill	151.57	64⇑	eP	PKPdf	11 01 37.9	+3.5
GWJ	Greenwich	151.65	64⇑	eP	PKPdf	11 01 38.4	+3.9
HOJ	Hope	151.65	64⇑	eP	PKPdf	11 01 38.5	+4.0
ROSC	El Rosal	155.85	93	PKP	PKPdf	11 01 42.9	+2.6
	comp=Z,142nm,0.8s,baz=33,slow=0.4,SNR=141						
ROSC				PKPab	PKPab	11 02 12.5	+1.8
	comp=Z,349nm,0.9s,baz=92,slow=19,SNR=7.5						
BARC	Barichara	157.10	88⇓	eP	PKPdf	11 01 31.8	-10
BDFB	Brasilia	157.84	185	PKP	PKPdf	11 01 45.2	+2.4
	comp=Z,535nm,1.3s,baz=90,slow=0.3,SNR=116						
BDFB				PKPab	PKPab	11 02 20.3	+1.1
	comp=Z,384nm,1.0s,baz=198,slow=2.3,SNR=12						
BDFB				PP	PP	11 06 03.3	+2.9
	comp=Z,100nm,0.9s,baz=343,slow=7.6,SNR=3.1						
BAO	Brasilia Array	157.84	185	i PKPdf	PKPdf	11 01 47.0	+4.1
BAO				PKPab	PKPab	11 02 21.3	+2.2
BAO				pPKPab		11 03 04.5	
BAO				ePP	PP	11 05 58.2	-2.1
BAO				SKSdf		11 10 02.8	
SDV	Santo Domingo	159.54	82	PKPdf	PKPdf	11 01 47.0	+2.1
SDV				PKPdf	PKPdf	11 01 49.0	+4.0
SDV				PKPab	PKPab	11 02 30.3	+3.8
SDV				PP	PP	11 06 14.4	+5.2
SDV				SKKSac		11 12 38.1	
SDV	Santo Domingo	159.54	82	PKP	PKPdf	11 01 46.5	+1.5
	comp=Z,540nm,1.0s,baz=294,slow=1.4,SNR=321						
SDV				PKPab	PKPab	11 02 26.0	-0.6
	comp=Z,193nm,0.9s,baz=243,slow=3.0,SNR=3.7						
SDV				PP	PP	11 06 12.1	+3.0
	comp=Z,61nm,0.7s,baz=323,slow=12,SNR=1.9						
SDV	Santo Domingo	159.54	82	ePKPdf	PKPdf	11 01 46.7	+1.7
SDV				LR	LR		
	comp=Z,15µm,21.0s						
SAML	Samuel	159.82	140	PKPdf	PKPdf	11 01 48.6	+3.3
SAML				PKPdf	PKPdf	11 01 49.7	+4.5
SAML				SKKSac		11 12 37.4	
SAML	Samuel	159.82	140	ePKPdf	PKPdf	11 01 46.4	+1.2
SAML				LR	LR		
	comp=Z,20µm,19.0s						
SJG	San Juan	160.61	52	PKPdf	PKPdf	11 01 48.2	+2.3
SJG				PKPab	PKPab	11 02 33.0	+2.0
SJG				SKKSac		11 12 41.4	
SJG	San Juan	160.61	52	PKP	PKPdf	11 01 47.7	+1.8
	comp=Z,477nm,1.1s,baz=31,slow=2.6,SNR=150						
SJG				PKPab	PKPab	11 02 31.6	+0.6
	comp=Z,1µm,1.1s,baz=356,slow=3.7,SNR=7.3						
SJG				PP	PP	11 06 17.0	+2.1
	comp=Z,121nm,0.9s,baz=264,slow=5.8,SNR=4.9						
SJG	San Juan	160.61	52	ePKPdf	PKPdf	11 01 47.5	+1.6
SJG				LR	LR		
	comp=Z,17µm,22.0s						
RCBR	Riachuelo	161.21	229	ePKPdf	PKPdf	11 01 50.3	+3.6
RCBR				ePKPab	PKPab	11 02 31.7	-2.1
RCBR				LR	LR		
	comp=Z,17µm,20.0s						
CS6B	Jaguaretama	163.44	224c	iP	PKPdf	11 01 53.1	+4.2
CS6B				e		11 02 39.5	
BBSP	Saint Philip	168.74	54	eP	PKPdf	11 01 59.3	+6.3
BBSP	Saint Philip	168.74	54	e	PKPab	11 03 11.7	+5.2

*MOS **02** 11:12:10.1±1.2, 30.21N×68.09E, h33km, mb4.8/6, Error ellipse: s-maj=15.5km s-min=8.4km az=94.8*
*NEIC **02** 11:12:14.9±2.5, 30.38N×68.04E, h52km±21km, mb4.9/9, Error ellipse: s-maj=16.6km s-min=9.2km az=198.0*
NEIC One person injured and some buildings damaged at Quetta.
*IDC **02** 11:12:15.3±5.8, 30.25N×68.06E, h59km±51km, mb4.1/17, mb1 4.3/17, mb1mx4.2/25, mbtmp4.4/17, Error ellipse: s-maj=23.8km s-min=17.5km az=22.0*
ISC 02 11:12:14.0±0.8**, 30.10N**±0.04×**68.34E**±0.04**, h83**km±8km**, n78, σ1§39**/89**, mb4.5**/27**, 1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	Sheikh Budin	3.05	43	P	P	11 13 01.3	+0.1
JASL	Jaisalmer	3.88	144	eP	P	11 13 13.7	+1.1
THW	Thamme Wali	3.96	46	P	P	11 13 13.4	-0.4
SARP	Sargodha	4.14	63	P	P	11 13 17.0	+0.7
SARP				S	S	11 14 07.0	+3.3
CEP	Cherat	4.80	38	P	P	11 13 25.0	-0.3
CEP				S	S	11 14 20.0	-0.1
CHCP	Chirah Chowk	5.49	48	P	P	11 13 35.8	+1.0
AJM	Ajmer	6.62	121	eP	P	11 13 50.0	-0.5
AJM				eS	S	11 15 06.0	+0.9
THN	Thein Dam	6.73	68	eS	S	11 15 10.4	+2.6
KHET	Khetri	6.83	105	eP	P	11 13 53.1	-0.4
KHET				eS	S	11 15 10.1	-0.3
DLH	Dalhousie	6.96	68	e	P	11 14 05.0	+10
DLH				e		11 15 18.0	
BHK	Bhakra	7.07	77	eS	S	11 15 16.5	+0.2
SDNR	Sundarnagar	7.55	77	eP	P	11 14 06.5	+3.1
SDNR				eS	S	11 15 29.7	+1.6
AYAN	Aya Nagar	7.84	100	eP	P	11 14 08.8	+1.5
NDI	New Delhi	7.87	98	eP	P	11 14 07.4	-0.3
NDI				eS	S	11 15 34.5	-1.4
DDI	Dehra Dun	8.41	86	eP	P	11 14 15.9	+0.9
DDI				e		11 20 42.1	
KLP	Kalpa	8.64	78	eP	P	11 14 19.2	+1.1
KLP				AML	AML	11 16 08.9	
	comp=E,326nm,0.5s						
KLP				AML	AML	11 16 38.8	
	comp=N,174nm,0.8s						
JOSI	Joshimath	9.71	84	AML	AML	11 16 40.8	
	comp=N,269nm,0.8s						
JOSI				AML	AML	11 16 42.4	
	comp=E,204nm,0.8s						
LGTI	Lohaghat	10.37	91	eP	P	11 14 41.0	-0.6
LGTI				e		11 16 35.0	
BHPL	Bhopal	10.61	128	eP	P	11 14 43.2	-1.6
BHPL				eS	S	11 16 38.6	-3.8
AML	Almayashu	12.76	18	P	P	11 15 11.4	-2.1
	SNR=86						
UCH	Uchtor	13.09	21	P	P	11 15 15.3	-2.5
	SNR=8.0						
EKS2	Erkin-Say	13.28	18	P	P	11 15 19.0	-1.3
	SNR=11						
AAK	Ala-Archa	13.45	20	P	P	11 15 21.0	-1.5
	SNR=12						
AAK	Ala-Archa	13.45	20	eP	P	11 15 19.6	-2.9
KOLN	Koldanda	13.56	96	eP	P	11 15 24.5	+0.5
	comp=E,52nm,0.5s						
KOLN				eS	S	11 17 52.4	-0.7
CHMS	Chumysh	13.86	20	P	P	11 15 25.5	-2.3
	SNR=5.8						
USP	Ospenovka	14.04	19	P	P	11 15 28.0	-2.0
	SNR=13						
GKN	Gorkha	14.41	94	eP	P	11 15 34.8	-0.2
	comp=E,61nm,0.5s						
GKN				eS	S	11 18 09.8	-3.2
BLSP	Bilaspur	14.70	119	e	S	11 18 17.3	-2.6
DMN	Daman	14.90	95	eP	P	11 15 41.8	+0.5
	comp=E,105nm,1.2s						
DMN				eS	S	11 18 21.8	-2.8
KKN	Kakani	15.01	95	eP	P	11 15 42.4	-0.3
	comp=E,72nm,0.8s						
KKN				eS	S	11 18 24.4	-2.7
PKI	Pulchoki	15.17	95	eP	P	11 15 45.7	+0.9
	comp=E,86nm,1.0s						
PKI				eS	S	11 18 27.2	-3.6
JIRN	Jiri	15.82	94	eP	P	11 15 54.1	+1.0
	comp=E,54nm,0.4s						
JIRN				eS	S	11 18 44.1	-1.7
LSA	Lhasa	19.78	85	eP	P	11 16 46.2	+6.3
LSA				pmax	pmax		
	comp=Z,25nm,1.0s						
LSA	Lhasa	19.78	85	eP	P	11 16 46.2	+6.2
	comp=Z,25nm,1.0s						
MKAR	Makanchi Array	19.88	29	eP	P	11 16 40.6	-0.3
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GNI	Garni	21.70	304	P	P	11 16 59.1	-0.3
GNI				pmax	pmax		
	comp=Z,13nm,0.8s						
GNI	Garni	21.70	304	P	P	11 16 59.1	-0.2
	comp=Z,12nm,0.8s,mb4.3,baz=316,slow=18,SNR=4.1						
GNI	Garni	21.70	304	eP	P	11 16 59.4	0.0
	comp=Z,40nm,1.1s,mb4.7						
KURK	Kurchatov	21.99	18⇓	eP	P	11 17 02.9	+0.7
KURK	Kurchatov	21.99	18	eP	P	11 17 01.6	-0.7
	comp=Z,102nm,1.2s,mb5.0						
BVA0	Borovoye Array	22.96	3	P	P	11 17 11.9	+0.3
BVA0				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.1						
BVAR	Borovoye Array	22.96	3	P	P	11 17 12.5	+0.9
	comp=Z,19nm,0.9s,mb4.4,baz=173,slow=12,SNR=21						
CHKZ	Chkalovo	23.62	3	P	P	11 17 19.2	+1.3
CHKZ				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.4						
KIV	Kislovodsk	24.59	311	eP	P	11 17 27.7	+0.2
KIV				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.6						
KIV	Kislovodsk	24.59	311	eP	P	11 17 27.7	+0.2
	comp=Z,20nm,0.8s,mb4.6						
GOF	Gofitskoye	24.87	314	eP	P	11 17 38.2	+8.0
ZAL	Zalesovo	26.65	22	P	P	11 17 48.0	+1.5
	comp=Z,6.1nm,0.4s,mb4.4,baz=248,slow=7.3,SNR=9.0						
NVS	Novosibirsk	26.95	19	eP	P	11 17 51.8	+2.5
CMAR	Chiang Mai Arr	30.11	106	P	P	11 18 22.2	+4.2
	comp=Z,1.5nm,0.7s,mb3.8,baz=296,slow=7.7,SNR=4.7						
CMAR				PcP	PcP	11 21 19.3	+1.6
	comp=Z,6.6nm,1.0s,baz=272,slow=2.7,SNR=4.3						
ZAK	Zakamensk	33.06	42	eP	P	11 18 45.6	+2.1
ZAK				pmax	pmax		
	comp=Z,8.0nm,2.0s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.3						
TLY	Talaya	33.82	40	P	P	11 18 49.7	-0.3
TLY				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.8						
TLY	Talaya	33.82	40	P	P	11 18 49.7	-0.3
	comp=Z,25nm,1.5s,mb4.8						
SONM	Songino Array	34.06	48	P	P	11 18 55.1	+3.0
	comp=Z,3.0nm,1.0s,mb4.1,baz=252,slow=12,SNR=3.5						
ENH	Enshi	35.43	79	eP	P	11 19 08.3	+4.3
	comp=Z,31nm,1.1s,mb5.1						
AKASG	Malin Array Be	35.65	316	P	P	11 19 04.4	-1.2
	comp=Z,2.0nm,0.7s,mb4.2,baz=104,slow=6.8,SNR=6.5						
MLR	Muntele Rosu	36.41	307	P	P	11 19 12.9	+0.8
	comp=Z,23nm,1.0s,mb5.0,baz=59,slow=8.2,SNR=6.1						
JOF	Joensuu	40.51	335	ep	P	11 19 44.2	-1.8
	comp=Z,8.5nm,0.7s,mb4.7						
PSZ	Piszkesteto	40.90	310	eP	P	11 19 47.3	-2.0
PSZ				pmax	pmax		
	comp=Z,287nm,2.2s,mb5.7						
PSZ	Piszkesteto	40.90	310	eP	P	11 19 47.3	-2.0
	comp=Z,287nm,2.2s,mb5.7						
FINES	FINESS Array B	41.78	331	P	P	11 19 56.0	-0.3
	comp=Z,4.5nm,0.9s,mb4.2,baz=135,slow=2.7,SNR=4.7						
KAF	Kangasniemi	42.02	332	ep	P	11 19 56.7	-1.6
	comp=Z,11nm,0.8s,mb4.6,baz=119,slow=8.2						
KAF	Kangasniemi	42.02	332	eP	P	11 19 56.7	-1.6
KAF				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
GERES	GERESS Array B	45.10	310	P	P	11 20 23.0	-0.4
	comp=Z,0.7nm,0.6s,mb3.6,baz=90,slow=5.9,SNR=2.8						
ARCES	ARCESS Array B	46.33	341	P	P	11 20 32.9	0.0
	comp=Z,5.6nm,0.6s,mb4.5,baz=131,slow=8.3,SNR=23						
HFS	Hagfors	46.93	326	P	P	11 20 37.2	-0.5
	comp=Z,5.6nm,0.6s,mb4.5,baz=121,slow=8.6,SNR=7.8						
NB2	NORSAR Subarra	48.34	327	P	P	11 20 47.2	-1.5
	comp=Z,16nm,1.2s,mb4.7,baz=107,slow=7.4						
NB2	NORSAR Subarra	48.34	327	P	P	11 20 47.2	-1.5
NB2				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7						
NOA	NORSAR Array B	48.34	327	P	P	11 20 47.7	-0.9
	comp=Z,3.3nm,0.7s,mb4.3,baz=105,slow=7.6,SNR=8.3						
YAK	Yakutsk	50.51	32	eP	P	11 21 06.7	+1.3
YAK				pmax	pmax		
	comp=Z,245nm,1.1s						
YAK				pmax	pmax		
	comp=N,51nm,1.2s						
YAK				pmax	pmax		
	comp=E,54nm,1.3s						
YAK				pmax	pmax		
	comp=Z,162nm,1.0s						
YAK				pmax	pmax		
	comp=N,58nm,1.3s						
YAK				pmax	pmax		
	comp=E,60nm,1.4s						
YAK	Yakutsk	50.51	32	P	P	11 21 06.9	+1.5
	comp=E,566nm,1.2s						
KLR	Kul'dur	50.87	49	eP	P	11 21 03.4	-4.9
MATP	Matopo	63.19	222	P	P	11 22 37.2	+1.4
	comp=E,5.9nm,1.1s,mb4.5,baz=46,slow=7.8,SNR=3.2						
INK	Inuvik	80.56	8	P	P	11 24 20.8	+2.7
	comp=E,5.4nm,0.7s,mb4.5,baz=351,slow=3.1,SNR=11						
ILAR	Eielson Array	81.53	14	P	P	11 24 25.4	+2.1
	comp=E,8.0nm,1.2s,mb4.4,baz=311,slow=4.2,SNR=11						
ASAR	Alice Springs	82.55	123	P	P	11 24 33.2	+3.8
	comp=E,1.5nm,0.7s,mb4.0,baz=300,slow=3.6,SNR=4.1						
YKA	Yellowknife Ar	87.71	1	P	P	11 24 57.3	+3.3
	comp=E,2.4nm,0.7s,mb4.3,baz=352,slow=4.9,SNR=31						
TXAR	Lajitas Array	120.41	352	PKP	PKPdf	11 31 00.1	+4.0
	comp=E,0.3nm,0.8s,baz=117,slow=2.0,SNR=3.3						

*BJI **02** 11:12:55.2, 34.44N×111.34W, h5km, mB4.8, mb5.0, Ms4.9, Msz4.3*
*IDC **02** 11:12:56.9±0.9, 35.00N×110.82W, mb4.0/1, mb1 4.4/6, mb1mx4.0/23, mbtmp4.1/6, ML4.1/3, Error ellipse: s-maj=16.5km s-min=7.4km az=37.0*
*NEIC **02** 11:12:57.4±0.4, 34.72N×110.97W, h5km, mb5.1/2, ML4.6, Error ellipse: s-maj=5.2km s-min=4.5km az=117.0*
NEIC Felt [III] at Happy Jack, Holbrook, Heber, Pine, Sedona and Snowflake; [II] at Flagstaff, Lakeside, Payson, Phoenix, Tempe, Scottsdale and Winslow. Also felt at Camp Verde, Cottonwood, Glendale, Tohatchi and Tucson.
ISC 02 11:12:56.2±0.3**, 34.76N**±0.03×**111.03W**±0.03**, h5**km**, n44, σ1§04**/58**, mb4.1**/3**, MS4.6**/1**, Eastern Arizona**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WUAZ	Wupatki	0.81	340	ePg	Pg	11 13 11.7	-0.6
WUAZ				eSg	Sg	11 13 22.5	-0.6
GVA	Apache Junctio	1.41	199	P	Pn	11 13 23.0	+0.3
TUC	Tucson	2.45	175	ePn	Pn	11 13 37.1	-0.5
TUC				i Pg	Pg	11 13 42.0	-3.3
TUC				Sn	Sn	11 14 09.8	+1.5
LDFC	Landfair	3.37	277	ePn	Pn	11 13 51.9	+1.3
LDFC				ePg	Pg	11 14 01.9	-1.6
LDFC				eSg	Sg	11 14 47.3	-1.0
ARUT	Antelope Range	3.59	328	ePn	Pn	11 13 55.9	+2.1
ANMO	Albuquerque	3.76	86	Pn	Pn	11 13 55.4	-0.8
	baz=276,slow=12,SNR=56						
ANMO				Pg	Pg	11 14 03.5	-7.8
	baz=275,slow=15,SNR=82						
ANMO				Sn	Sn	11 14 37.0	-4.4
	baz=272,slow=11,SNR=5.1						
ANMO				Lg		11 14 50.6	
	baz=154,slow=17,SNR=15						
MVU	Marysvale	3.85	346	ePn	Pn	11 13 59.5	+2.0
MSU	Marysvale	3.86	346	ePn	Pn	11 13 59.6	+2.0
PV01	Paradox Valley	3.91	30	ePn	Pn	11 13 58.1	-0.1
PV10	Paradox Valley	3.95	23	ePn	Pn	11 13 57.8	-1.0
SRU	San Rafael	4.36	5	ePn	Pn	11 14 05.9	+1.1
TMUT	Trail Mountain	4.53	358	ePn	Pn	11 14 06.9	-0.2
PFO	Pinyon Flat Ob	4.64	257	ePn	Pn	11 14 08.1	-0.6
TRCR	Troy Canyon	5.13	316	Pn	Pn	11 14 15.9	+0.3
BAR	Barrett	5.14	248	ePn	Pn	11 14 15.7	-0.1
NLU	North Lily Min	5.25	351	ePn	Pn	11 14 18.1	+0.8
SDCO	Great Sand Dun	5.37	55	ePn	Pn	11 14 18.3	-0.7
DAC	Darwin (Calif)	5.56	288	ePn	Pn	11 14 22.4	+0.6
MNTX	Cornudas Mount	5.63	121	ePn	Pn	11 14 22.0	-0.7
DAU	Daniels Canyon	5.64	358	ePn	Pn	11 14 23.7	+0.8
MWC	Mount Wilson	5.83	267	ePn	Pn	11 14 24.9	-0.5
JLU	Jordanelle	5.84	357	ePn	Pn	11 14 26.0	+0.4
TPH	Tonopah	5.99	305	ePn	Pn	11 14 28.5	+0.8
BGU	Big Grassy Mou	6.35	346	ePn	Pn	11 14 32.6	-0.3
TCUT	Toone Canyon	6.35	357	Pn	Pn	11 14 37.7	+4.8
ISCO	Idaho Springs	6.63	39	ePn	Pn	11 14 36.2	-0.5
SPUT	South Promonto	6.63	351	Pn	Pn	11 14 37.1	+0.3
ELK	Elko	6.84	332	Pn	Pn	11 14 39.2	-0.5
	0.2nm,0.3s,baz=128,slow=17,SNR=2.4						
ELK				Pg	Pg	11 14 50.9	-22
	0.7nm,0.3s,baz=158,slow=9.5,SNR=5.7						
ELK				Sn	Sn	11 15 54.1	-4.8
	1.3nm,0.3s,baz=149,slow=3.3,SNR=3.8						
ELK				Lg		11 16 28.6	
	4.4nm,0.3s,baz=219,slow=24,SNR=12						
NVAR	Mina Array Bea	6.90	304	Pn	Pn	11 14 42.2	+1.6
	3.1nm,0.3s,baz=124,slow=13,SNR=20						
NVAR				Pg	Pg	11 14 58.4	-16
	1.6nm,0.3s,baz=120,slow=16,SNR=7.1						
NVAR				Sn	Sn	11 15 58.4	-2.0
	2.3nm,0.3s,baz=146,slow=26,SNR=2.7						
NVAR				Lg		11 16 31.2	
	baz=84,slow=16,SNR=2.0						
NVAR	Mina Array Bea	6.90	304	Pn	Pn	11 14 42.2	+1.6
NVAR				Pg	Pg	11 14 58.4	-16
NVAR				Sn	Sn	11 15 58.4	-2.0
NVAR				Lg		11 16 31.2	
HVU	Hansel Valley	7.14	349	ePn	Pn	11 14 44.6	+0.6
AMTX	Amarillo	7.69	86	ePn	Pn	11 14 51.2	-0.5
AMTX				eS	Sn	11 16 53.9	+34
PHWY	Pilot Hill	7.87	32	ePn	Pn	11 14 53.9	-0.3
BW06	Boulder Array	8.08	8	ePn	P	11 14 55.2	-1.8
PDAR	Pinedale Array	8.08	8	Pn	P	11 14 55.8	-1.3
	0.4nm,0.3s,baz=178,slow=11,SNR=6.6						
PDAR				Pg	P	11 15 16.3	+19
	3.7nm,0.3s,baz=176,slow=12,SNR=11						
PDAR				Lg		11 17 00.4	
	2.6nm,0.3s,baz=175,slow=23,SNR=4.1						
LTX	Lajitas	8.26	129	Pn	P	11 14 59.3	-0.4
TXAR	Lajitas Array	8.26	129	Pn	P	11 14 59.7	+0.1
	0.6nm,0.3s,baz=319,slow=17,SNR=12						
TXAR				Pg	P	11 15 18.2	+19
	1.6nm,0.3s,baz=320,slow=14,SNR=8.6						
TXAR				Lg		11 17 14.5	
	5.7nm,0.3s,baz=314,slow=26,SNR=8.9						
TXAR	Lajitas Array	8.26	129	Pn	P	11 14 59.7	+0.1
TXAR				Pg	P	11 15 18.2	+19
TXAR				Lg		11 17 14.5	
WMOK	Wichita Mounta	10.08	87	ePn	P	11 15 26.2	+1.4
WMOK				ePg	P	11 16 03.6	+39
FCC	Fort Churchill	26.51	20	P	P	11 18 34.4	-1.7
	1.8nm,0.7s,mb3.7						
ILAR	Eielson Array	36.99	335	P	P	11 20 08.0	0.0
	1.7nm,0.8s,mb3.9,baz=139,slow=8.3,SNR=7.3						
SSE	Sheshan	98.11	317	P	P	11 26 35.3	0.0
	47nm,0.7s						
WMQ	Urumqi	99.95	346	eP	P	11 26 44.5	+1.1
WMQ				AP	pP	11 26 49.0	+4.0
WMQ				XP	sP	11 26 51.0	+5.5
WMQ				PP	PP	11 30 51.0	+0.1
WMQ				SKS	SKS	11 37 22.0	-3.3
WMQ				eS	S	11 38 16.0	+1.4
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,62nm,4.7s						
WMQ				LR	LR		
	comp=N,170nm,25.8s,MS4.7						
WMQ				LR	LR		
	comp=E,206nm,24.4s,MS4.7						
WMQ				LR	LR		
	comp=Z,185nm,23.3s,MS4.5						
LZH	Lanzhou	102.38	332	eP	Pdif	11 26 57.9	+3.4
LZH				AP		11 26 59.5	
LZH				XP		11 27 00.6	
LZH				AMB	AMB		
	comp=Z,22nm,1.4s						

*NEIC **02** 11:20:05.5, 30.87S×71.52W, h39km, MD4.1(GUC), After GUC.*
GUC 02 11:20:05.5±1.0**, 30.87S**×**71.52W, h39**km±4km**, MD4.1, ML4.1, 2C-8D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.38	46⇓	iP	P	11 20 14.4	-0.2
OVCH				i S	S	11 20 21.6	+0.7
OVCH				AMP		11 20 22.1	
	comp=E,13µm,0.3s						
ILCH	Illapel	0.82	159⇑	iP	P	11 20 19.4	-1.2
ILCH				i S	S	11 20 30.7	-0.9
ILCH				AMP		11 20 32.9	
	comp=N,4µm,0.3s						
TLL	Tololo Astrono	0.93	41⇓	iP	P	11 20 22.9	+0.7
TLL				i S	S	11 20 36.7	+2.0
LSCH	La Serena	0.99	14⇓	iP	P	11 20 23.4	+0.3
LSCH				i S	S	11 20 36.9	+0.8
LSCH				AMP		11 20 39.1	
	comp=N,7µm,0.7s						
PACH	Papudo	1.66	178⇓	iP	P	11 20 31.4	-1.2
PACH				i S	S	11 20 52.1	-0.8
JACH	Jahuel	1.97	157⇓	iP	P	11 20 37.9	+0.8
JACH				i S	S	11 21 03.5	+2.8
LCO	Las Campanas	1.99	21⇓	iP	P	11 20 37.7	+0.4
LCO				i S	S	11 21 03.4	+2.3
LCO				AMP		11 21 05.5	
	comp=E,2µm,0.5s						
PEL	Peldehue	2.37	163	i S	S	11 21 12.4	+1.5
VACH	Vallenar	2.38	16⇓	iP	P	11 20 43.7	+0.7
VACH				i S	S	11 21 11.9	+0.7
CLCH	Cerro Calan	2.65	162	AMP		11 21 35.4	
	comp=E,2µm,0.4s						
FCH	Farellones	2.66	157	eP	P	11 20 48.4	+1.5
FCH				AMP		11 21 33.9	
	comp=E,670nm,0.3s						
RCDM	Rinconada Maip	2.68	167⇑	iP	P	11 20 47.3	+0.2
RCDM				AMP		11 21 28.9	
	comp=N,1µm,0.5s						
TACH	Talagante	2.81	170	i P	P	11 20 49.2	+0.1
PCH	Pirque	2.87	163	eP	P	11 20 50.4	+0.5
CHCH	Chadas Angostu	3.14	167⇓	iP	P	11 20 53.2	-0.5
LMEL	Las Melosas	3.17	160	eP	P	11 20 54.5	+0.4
LMEL				i S	S	11 21 30.9	-0.2
LMEL				AMP		11 21 46.7	
	comp=N,974nm,0.6s						

*IDC **02** 11:22:55.0±7.5, 30.31N×56.97E, mb3.7/4, mb1 4.0/4, mb1mx3.7/19, mbtmp3.7/4, Error ellipse: s-maj=255.5km s-min=73.9km az=143.0*
*CSEM **02** 11:22:59.0, 30.79N×56.78E, h14km, ML3.4, After THR*
*THR **02** 11:22:59.0±0.5, 30.79N×56.78E, h14km±6km, ML3.4*

ISC 02 11:22:58.6±0.7**,30.80N**±0.05×**56.8E**±0.1**,h10**^{km}**,n10,** σ**0**^{s}**73**/14**,mb3.7**/4**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.82**	**183**	*i* PG	**Pg**	**11 23 14.5**	**-0.5**
KRBR				*e*SG	**Sg**	**11 23 25.7**	**-0.3**
KRBR				AML	AML	11 23 31.4	
	comp=E,1µm,0.2s						
KRBR	**Kerman**	**0.82**	**183**	*i* Pg	**Pg**	**11 23 14.5**	**-0.5**
	SNR=90						
KRBR				*e*Sg	**Sg**	**11 23 25.7**	**-0.3**
	comp=E,1µm,0.2s,SNR=90						
BNDS	**Bandar-Abbas**	**3.43**	**190**	*e*PN	**Pn**	**11 23 54.2**	**+0.8**
BNDS				AML	AML	11 24 52.9	
	comp=E,76nm,0.5s						
ZHSF	**Zahedan**	**3.63**	**108**	*e*PN	**Pn**	**11 23 57.1**	**+1.0**
NASN	**Na'in**	**3.95**	**301**	*e*PN	**Pn**	**11 24 01.4**	**+0.7**
NASN				*e*SG	**Sg**	**11 25 01.1**	**-9.1**
NASN				AML	AML	11 25 08.3	
	comp=E,62nm,0.4s						
NASN				AML	AML	11 25 11.2	
	comp=N,77nm,0.4s						
NASN	**Na'in**	**3.95**	**301**	*e*Pn	**Pn**	**11 24 01.4**	**+0.7**
	SNR=52						
NASN				*e*Sg	**Sg**	**11 25 01.1**	**-9.0**
	comp=N,77nm,0.4s,SNR=90						
BVAR	**Borovoye Array**	**24.32**	**20**	P	**P**	**11 28 17.8**	**+0.6**
	comp=N,1.1nm,0.6s,mb3.5,baz=194,slow=5.9,SNR=5.2						
ZAL	**Zalesovo**	**30.66**	**33**	P	**P**	**11 29 14.3**	**-1.0**
	comp=N,1.2nm,0.5s,mb4.0,baz=355,slow=11,SNR=2.4						
ILAR	**Eielson Array**	**82.96**	**10**	P	**P**	**11 35 23.8**	**-0.9**
	comp=N,0.4nm,0.8s,mb3.5,baz=326,slow=4.1,SNR=4.2						
YKA	**Yellowknife Ar**	**86.78**	**356**	P	**P**	**11 35 43.3**	**-0.4**
	comp=N,0.3nm,0.6s,mb3.7,baz=2.4,slow=5.2,SNR=6.8						

*NEIC **02** 11:26:11.3,30.92S×71.56W,h39^{km},MD3.8(GUC),After GUC.*

GUC 02 11:26:11.3±0.8**,30.92S×71.56W,h39**^{km}±8^{km}**,MD3.8, ML3.0,2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILCH	**Illapel**	**0.79**	**155**	⇓*i*P	P	11 26 25.6	-0.3
ILCH				*i* S	S	11 26 37.9	+1.2
ILCH				AMP		11 26 40.1	
	comp=N,494nm,0.1s						
TLL	**Tololo Astrono**	**0.99**	**41**	⇓*i*P	P	11 26 29.9	+1.0
TLL				*i* S	S	11 26 43.9	+2.0
TLL				AMP		11 26 46.7	
	comp=E,1µm,0.4s						
LSCH	**La Serena**	**1.05**	**15**	*i* P	P	11 26 30.6	+0.9
LSCH				*i* S	S	11 26 43.9	+0.6
LSCH				AMP		11 26 46.5	
	comp=N,753nm,0.4s						
PACH	**Papudo**	**1.61**	**176**	*e*P	P	11 26 38.6	+0.8
PACH				*i* S	S	11 26 59.2	+1.6

MAN 02 11:31:07.3,9.14N×121.65E,h34^{km}**,mb4.0,ML2.8,MS2.5, Sulu Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.58**	**82**	*e*P	P	11 31 33.0	-0.3
SNPH				*e*S	S	11 31 53.0	+0.2
IPIL	**Ipil**	**1.62**	**146**	*e*P	P	11 31 33.2	-0.7
IPIL				*e*S	S	11 31 51.3	-2.5
GUIM	**Jordan**	**1.75**	**32**	*e*P	P	11 31 35.5	-0.1
GUIM				*e*S	S	11 31 55.7	-1.2
CUYO	**Cuyo Island**	**1.81**	**340**	*e*P	P	11 31 37.2	+0.7
CUYO				*e*S	S	11 31 58.6	+0.1
PAGZ	**Pagadian**	**2.14**	**127**	*e*P	P	11 31 41.4	0.0
PAGZ				*e*S	S	11 32 05.5	-1.5
ENPP	**El Nido**	**3.00**	**313**	*e*P	P	11 31 53.7	+0.1
MSLP	**Maasin**	**3.32**	**72**	*e*P	P	11 31 59.0	+0.9
SJMP	**San Jose**	**3.34**	**351**	*e*P	P	11 31 58.8	+0.4
SJMP				*e*S	S	11 32 36.5	-1.0

*IDC **02** 11:34:50.8±3.7,21.84S×174.32W,h21^{km}±24^{km},mb4.2/10, mb1 4.4/12,mb1mx4.3/20,mbtmp4.4/12,ML4.5/2,Error ellipse: s-maj=49.6km s-min=15.7km az=147.0*

*NEIC **02** 11:34:54.6±0.6,21.82S×174.45W,h50^{km},mb4.9/6,Error ellipse: s-maj=25.4km s-min=11.3km az=142.0*

ISC 02 11:34:48.0±4.0**,21.7S**±0.2×**174.5W**±0.2**,h12**^{km}±25^{km}**,n30,** σ**0**^{s}**76**/25**,mb4.5**/14**,1C,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**13.69**	**90**	Pn	**P**	**11 37 52.3**	**-12**
	11nm,0.3s,baz=240,slow=8.0,SNR=5.3						
URZ	**Urewera**	**17.99**	**202**	P	**P**	**11 38 59.8**	**+0.3**
	0.3nm,0.3s,baz=344,slow=11,SNR=2.6						
URZ				S	**S**	**11 42 05.7**	**-12**
	0.6nm,0.3s,baz=145,slow=22,SNR=5.8						
URZ	**Urewera**	**17.99**	**202**	P	**P**	**11 38 59.8**	**+0.3**
URZ				S	**S**	**11 42 05.7**	**-12**
CTA	**Charters Tower**	**36.66**	**265**	P	**P**	**11 41 57.1**	**+0.6**
	6.3nm,0.7s,mb4.5,baz=89,slow=9.6,SNR=8.2						
CTAO	**Charters Tower**	**36.66**	**265**	*e*P	**P**	**11 41 54.3**	**-2.2**
	7.2nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**40.26**	**246**	*e*P	**P**	**11 42 27.2**	**+0.7**
	2.0nm,0.7s,mb4.0						
STKA	**Stephens Creek**	**40.26**	**246**	P	**P**	**11 42 26.8**	**+0.3**
	3.5nm,0.9s,mb4.1,baz=104,slow=7.9,SNR=5.4						
ASAR	**Alice Springs**	**47.46**	**257**	P	**P**	**11 43 24.9**	**+0.2**
	9.3nm,0.8s,mb4.8,baz=93,slow=8.3,SNR=55						
ASAR				PcP	PcP	11 44 56.0	+0.5
	1.1nm,0.7s,baz=106,slow=3.3,SNR=4.9						
ASAR				S	**S**	**11 50 17.7**	**-0.2**
	0.6nm,0.9s,baz=94,slow=14,SNR=2.7						
ASPA	**Alice Springs**	**47.46**	**257**	*e*P	**P**	**11 43 24.8**	**0.0**
WRAB	**Tennant Creek**	**47.69**	**262**	*e*P	**P**	**11 43 26.0**	**-0.6**
	20nm,0.9s,mb5.1						
WRA	**Warramunga Arr**	**47.70**	**262**	P	**P**	**11 43 26.2**	**-0.5**
	11nm,0.9s,mb4.9,baz=100,slow=8.3,SNR=47						
WRA				S	**S**	**11 50 26.1**	**+4.6**
	0.8nm,0.9s,baz=98,slow=14,SNR=3.3						
FORT	**Forrest**	**51.85**	**247**	*e*P	**P**	**11 43 58.1**	**-0.2**
	500nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.13**	**262**	*e*P	**P**	**11 44 29.9**	**-0.1**
	8.9nm,1.0s,mb4.8						
MBWA	**Marble Bar**	**60.80**	**257**	*e*P	**P**	**11 45 01.8**	**-0.7**
	8.5nm,0.7s,mb5.0						
ASAJ	**Asahikawa**	**76.42**	**330**	P	**P**	**11 46 39.5**	**+0.3**
	1.8nm,0.5s,mb4.3,baz=290,slow=26,SNR=3.1						
NVAR	**Mina Array Bea**	**79.71**	**42**	P	**P**	**11 46 57.4**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=224,slow=8.3,SNR=7.1						
PDAR	**Pinedale Array**	**87.64**	**42**	P	**P**	**11 47 37.0**	**-0.6**
	0.8nm,0.8s,mb4.0,baz=191,slow=2.4,SNR=5.5						
ILAR	**Eielson Array**	**88.83**	**11**	P	**P**	**11 47 42.2**	**-0.5**
	0.8nm,0.9s,mb4.1,baz=211,slow=4.6,SNR=8.2						
ENH	**Enshi**	**89.47**	**303**	*e*P	**P**	**11 47 47.6**	**+1.0**
	27nm,1.4s,mb5.4						
CMAR	**Chiang Mai Arr**	**93.64**	**288**	P	**P**	**11 48 08.5**	**+2.5**
	2.1nm,0.6s,mb4.7,baz=118,slow=2.5,SNR=16						
YKA	**Yellowknife Ar**	**96.28**	**24**	P	**P**	**11 48 16.9**	**-0.3**
	0.2nm,0.6s,mb3.8,baz=237,slow=4.5,SNR=7.8						
AKASG	**Malin Array Be**	**145.65**	**333**	PKPbc	PKPbc	11 54 26.9	+0.1
	2.3nm,0.5s,baz=37,slow=4.1,SNR=14						
EKA	**Eskdalemuir Ar**	**145.83**	**9**	PKPbc	PKPbc	11 54 28.4	+1.3
	1.0nm,0.5s,baz=330,slow=3.1,SNR=4.2						
CLL	**Collm**	**149.92**	**351**	*e*PKP1	PKPdf	11 54 40.0	+3.7
BRTR	**Keskin Array B**	**150.10**	**313**	PKPbc	PKPdf	11 54 40.1	+3.1
	2.0nm,1.0s,baz=90,slow=1.4,SNR=3.9						
BRTR				PKPab	PKPab	11 54 47.8	+0.9
	1.8nm,0.6s,baz=146,slow=3.0,SNR=4.1						
BRG	**Berggiesshubel**	**150.19**	**349**	*e*P	PKPdf	11 54 41.7	+5.0
MLR	**Muntele Rosu**	**151.01**	**330**	PKPbc	PKPdf	11 54 42.5	+4.3
	8.0nm,0.8s,baz=131,slow=15,SNR=7.8						
KHC	**Kasperske Hory**	**151.93**	**349**	*e*P	PKPdf	11 54 40.0	+0.6
KHC				*e*		11 54 55.0	
KHC	**Kasperske Hory**	**151.93**	**349**	⇑*e*PKPB	PKPdf	11 54 40.0	+0.6
KHC				*e*pPKP		11 54 55.0	
GERES	**GERESS Array B**	**152.18**	**348**	PKPbc	PKPdf	11 54 44.9	+5.2
	0.9nm,0.8s,SNR=5.7						
GERES				PKPab	PKPab	11 54 54.4	-0.9
	0.9nm,0.8s,baz=45,slow=1.9,SNR=4.5						

*ATH **02** 11:46:18.8,36.76N×28.49E,h90^{km}±6^{km}*

*CSEM **02** 11:46:20.1±0.1,36.82N×28.30E,h80^{km},MD3.1,Error ellipse: s-maj=2.3km s-min=1.5km az=57.0*

*ISK **02** 11:46:21.9,36.80N×28.25E,h75^{km},MD3.1*

*NEIC **02** 11:46:21.1,36.76N×28.23E,h81^{km},MD3.2(ATH),After ISK.*

ISC 02 11:46:21.9±0.9**,36.76N**±0.05×**28.21E**±0.07**,h79**^{km}±9^{km}**, n27,** σ**0**^{s}**50**/35**,1C-2D,Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	**Dalyan (Mudla)**	**0.34**	**88**	*i* PG	**P**	**11 46 34.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**0.34**	**88**	Pg	**P**	**11 46 33.8**	**-0.7**
DALT	**Dalyan (Mudla)**	**0.34**	**88**	Pg	**P**	**11 46 33.8**	**-0.6**
YER	**Yerkesik**	**0.38**	**9**	PG	**P**	**11 46 35.0**	**+0.3**
ARG	**Arkhangelos**	**0.55**	**187**	⇓*i*P	**P**	**11 46 36.2**	**+0.1**
ARG				*e*S	**S**	**11 46 47.0**	**+0.3**
ARG	**Arkhangelos**	**0.55**	**187**	⇑*i*Pb	**P**	**11 46 36.2**	**+0.1**
MLSB	**Milas**	**0.64**	**327**	PG	**P**	**11 46 37.3**	**+0.3**
MLSB				SG	**S**	**11 46 47.7**	**-0.5**
MLSB	**Milas**	**0.64**	**327**	Pg	**P**	**11 46 37.6**	**+0.5**
MLSB				Sg	**S**	**11 46 48.6**	**+0.3**
MLSB	**Milas**	**0.64**	**327**	Pg	**P**	**11 46 37.6**	**+0.6**
MLSB				Sg	**S**	**11 46 48.6**	**+0.4**
BDRM	**Kayabasi**	**0.69**	**297**	*i* P	**P**	**11 46 37.6**	**0.0**
BDRM				*i* S	**S**	**11 46 48.3**	**-0.8**
FETY	**Fethiye**	**0.71**	**100**	PG	**P**	**11 46 37.7**	**-0.1**
BODT	**Bodrum**	**0.78**	**293**	*e*Pg	**P**	**11 46 38.8**	**+0.2**
BODT				Sg	**S**	**11 46 50.8**	**-0.2**
AYDN	**Tasoluk**	**0.94**	**344**	*i* P	**P**	**11 46 41.6**	**+1.2**
AYDN				*i* S	**S**	**11 46 54.2**	**0.0**
DNZL	**Cakiroluk**	**1.14**	**35**	*i* P	**P**	**11 46 43.2**	**+0.3**
DNZL				*i* S	**S**	**11 46 54.1**	**-4.6**
DENT	**Denizli**	**1.19**	**33**	*e*PN	**P**	**11 46 43.1**	**-0.4**
DENT	**Denizli**	**1.19**	**33**	Pn	**P**	**11 46 42.7**	**-0.8**
KSL	**Kastellorizon**	**1.26**	**118**	*e*P	**P**	**11 46 40.0**	**-4.5**
SMG	**Samos**	**1.45**	**311**	⇓*i*P	**P**	**11 46 47.1**	**+0.1**
IZM	**Izmir**	**1.80**	**336**	*e*PN	**P**	**11 46 51.9**	**+0.3**
IZM	**Izmir**	**1.80**	**336**	Pn	**P**	**11 46 51.9**	**+0.3**
BLCB	**Balcova**	**1.87**	**331**	*e*PN	**P**	**11 46 52.5**	**-0.1**
BLCB	**Balcova**	**1.87**	**331**	Pn	**P**	**11 46 52.8**	**+0.3**
BLCB	**Balcova**	**1.87**	**331**	Pn	**P**	**11 46 52.8**	**+0.2**
NPS	**Neapolis**	**2.58**	**235**	*e*P	**P**	**11 47 02.0**	**-0.5**
XRY	**Khrisi**	**2.78**	**228**	*e*P	**P**	**11 47 05.5**	**+0.3**
KCT	**Karacabey**	**3.50**	**2**	Pn	**P**	**11 47 14.5**	**-0.8**
KCT	**Karacabey**	**3.50**	**2**	Pn	**P**	**11 47 14.5**	**-0.8**

*IDC **02** 11:49:33.5±3.2,29.78N×67.76E,mb4.0/10,mb1 4.2/10, mb1mx3.9/23,mbtmp4.0/10,Error ellipse: s-maj=70.4km s-min=34.3km az=3.0*

*NEIC **02** 11:49:35.9±1.3,29.69N×67.90E,h20^{km},mb4.1/3,Error ellipse: s-maj=31.0km s-min=7.3km az=206.0*

ISC 02 11:49:40.9±2.2**,29.9N**±0.1×**68.3E**±0.1**,h60**^{km}±17^{km}**,n29,** σ**1**^{s}**39**/32**,mb4.0**/12**,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRP	**Derazinda**	**2.44**	**42**	P	**P**	**11 50 22.8**	**+3.6**
SBDP	**Sheikh Budin**	**3.19**	**42**	P	**P**	**11 50 31.0**	**+1.1**
THW	**Thamme Wali**	**4.10**	**45**	P	**P**	**11 50 42.4**	**-0.2**
CEP	**Cherat**	**4.94**	**38**	P	**P**	**11 50 53.6**	**-0.9**
CEP				S	**S**	**11 51 50.0**	**-1.0**
CHCP	**Chirah Chowk**	**5.62**	**48**	P	**P**	**11 51 05.2**	**+1.3**
KOLN	**Koldanda**	**13.59**	**95**	*e*P	**P**	**11 52 53.0**	**+0.6**
	22nm,0.9s						
KOLN				*e*S	**S**	**11 55 19.3**	**-3.1**
GKN	**Gorkha**	**14.44**	**94**	*e*P	**P**	**11 53 03.4**	**-0.1**
DMN	**Daman**	**14.93**	**95**	*e*P	**P**	**11 53 09.6**	**-0.2**
KKN	**Kakani**	**15.04**	**94**	*e*P	**P**	**11 53 10.6**	**-0.7**
PKI	**Pulchoki**	**15.20**	**95**	*e*P	**P**	**11 53 13.2**	**-0.1**
JIRN	**Jiri**	**15.86**	**94**	*e*P	**P**	**11 53 21.8**	**+0.1**
JIRN				*e*S	**S**	**11 56 12.1**	**-3.3**
KURK	**Kurchatov**	**22.15**	**18**	*e*P	**P**	**11 54 29.6**	**-3.2**
	14nm,1.0s,mb4.3						
BVAR	**Borovoye Array**	**23.12**	**3**	P	**P**	**11 54 42.6**	**+0.4**
	2.8nm,0.5s,mb3.9,baz=174,slow=11,SNR=16						
CHKZ	**Chkalovo**	**23.78**	**3**	*e*P	**P**	**11 54 48.2**	**-0.3**
	4.1nm,0.8s,mb3.9						
ZAL	**Zalesovo**	**26.80**	**22**	P	**P**	**11 55 18.8**	**+1.6**
	3.0nm,1.0s,mb3.8,baz=230,slow=9.2,SNR=9.1						
SONM	**Songino Array**	**34.19**	**48**	P	**P**	**11 56 24.3**	**+1.8**
	0.5nm,0.8s,mb3.5,baz=243,slow=8.3,SNR=4.4						
FINES	**FINESS Array B**	**41.89**	**331**	P	**P**	**11 57 24.5**	**-2.1**
	2.5nm,1.0s,mb3.8,baz=117,slow=13,SNR=5.2						
FINES	**FINESS Array B**	**41.89**	**331**	P	**P**	**11 57 24.5**	**-2.1**
ARCES	**ARCESS Array B**	**46.46**	**341**	P	**P**	**11 58 01.7**	**-1.6**
	1.6nm,0.5s,mb4.2,baz=129,slow=8.2,SNR=16						
ARCES	**ARCESS Array B**	**46.46**	**341**	P	**P**	**11 58 01.7**	**-1.6**
HFS	**Hagfors**	**47.03**	**326**	P	**P**	**11 58 05.7**	**-2.2**
	2.7nm,0.7s,mb4.3,baz=100,slow=8.8,SNR=5.2						
NB2	**NORSAR Subarra**	**48.44**	**327**	P	**P**	**11 58 15.8**	**-3.0**
	0.9nm,0.6s,mb4.0,baz=106,slow=7.4						
NOA	**NORSAR Array B**	**48.44**	**327**	P	**P**	**11 58 16.1**	**-2.7**
	1.4nm,0.7s,mb4.1,baz=106,slow=7.7,SNR=4.1						
INK	**Inuvik**	**80.71**	**8**	P	**P**	**12 01 49.8**	**+1.2**
	1.5nm,0.6s,mb4.1,baz=3.6,slow=5.6,SNR=14						
COLA	**College**	**81.39**	**15**	P	**P**	**12 01 54.0**	**+1.9**
ILAR	**Eielson Array**	**81.69**	**14**	P	**P**	**12 01 54.1**	**+0.4**
	0.4nm,0.7s,mb3.5,baz=306,slow=4.8,SNR=7.0						
DAWY	**Dawson**	**83.80**	**12**	*e*P	**P**	**12 02 06.0**	**+1.5**
YKA	**Yellowknife Ar**	**87.86**	**1**	P	**P**	**12 02 25.6**	**+1.2**
	0.6nm,0.5s,mb4.1,baz=348,slow=5.0,SNR=21						
YKA	**Yellowknife Ar**	**87.86**	**1**	P	**P**	**12 02 25.6**	**+1.2**

*IDC **02** 11:54:32.8±0.9,19.71N×120.73E,mb3.6/7,mb1 3.9/7, mb1mx3.7/20,mbtmp3.6/7,Error ellipse: s-maj=37.2km s-min=20.7km az=71.0*

*MAN **02** 11:54:35.3,19.79N×120.36E,h33^{km},mb4.2,ML3.1, MS2.8*

ISC 02 11:54:37.1±1.3**,19.69N**±0.05×**120.50E**±0.10**,h42**^{km}±14^{km}**, n16,** σ**0**^{s}**94**/23**,mb3.6**/6**,1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**1.56**	**61**	*e*P	**P**	**11 55 02.3**	**-0.6**
BBP				*e*S	**S**	**11 55 22.1**	**-0.1**
BBP	**Basco**	**1.56**	**61**	*e*P	**P**	**11 55 02.3**	**-0.6**
BBP				*e*S	**S**	**11 55 22.1**	**-0.1**
APYP	**Conner**	**1.95**	**159**	*e*P	**P**	**11 55 08.0**	**-0.4**
APYP				*e*S	**S**	**11 55 33.2**	**+1.5**
APYP	**Conner**	**1.95**	**159**	*e*P	**P**	**11 55 08.0**	**-0.4**
APYP				*e*S	**S**	**11 55 33.2**	**+1.5**
ABRA	**Dolores**	**2.04**	**174**	*e*P	**P**	**11 55 08.5**	**-1.2**
ABRA				*e*S	**S**	**11 55 32.1**	**-1.9**
ABRA	**Dolores**	**2.04**	**174**	*e*P	**P**	**11 55 08.5**	**-1.1**
ABRA				*e*S	**S**	**11 55 32.1**	**-1.9**
CVP	**Callao Caves**	**2.34**	**147**	⇓*i*P	**P**	**11 55 15.5**	**+1.6**
CVP				*i* S	**S**	**11 55 42.0**	**+0.4**
BALP	**Baler**	**4.06**	**165**	*e*P	**P**	**11 55 39.0**	**+0.7**
BALP	**Baler**	**4.06**	**165**	*e*P	**P**	**11 55 39.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**20.41**	**270**	P	**P**	**11 59 14.6**	**+1.2**
	0.3nm,0.3s,baz=114,slow=11,SNR=1.6						
SONM	**Songino Array**	**30.32**	**341**	P	**P**	**12 00 46.2**	**-0.6**
	0.6nm,1.0s,mb3.3,baz=158,slow=9.4,SNR=3.0						
WRA	**Warramunga Arr**	**41.65**	**160**	P	**P**	**12 02 22.2**	**-1.1**
	1.0nm,0.7s,mb3.6,baz=342,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**45.03**	**163**	P	**P**	**12 02 50.3**	**-0.4**
	1.1nm,0.6s,mb3.9,baz=344,slow=7.3,SNR=3.3						
BVAR	**Borovoye Array**	**50.81**	**323**	P	**P**	**12 03 35.4**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=79,slow=7.3,SNR=2.7						
ILAR	**Eielson Array**	**73.49**	**27**	P	**P**	**12 06 06.7**	**-0.1**
	0.7nm,1.1s,mb3.5,baz=298,slow=6.2,SNR=5.9						
YKA	**Yellowknife Ar**	**87.34**	**22**	P	**P**	**12 07 21.2**	**+0.8**
	0.7nm,0.8s,mb3.9,baz=310,slow=4.7,SNR=18						

*BJI **02** 12:12:33.4,18.10S×178.20W,h567^{km},mB5.0,mb4.3*

*NEIC **02** 12:12:34.5±2.2,18.07S×178.21W,h568^{km}±25^{km}, mb4.4/11,Error ellipse: s-maj=12.8km s-min=12.4km az=176.0*

*IDC **02** 12:12:36.0±2.2,18.14S×178.23W,h586^{km}±26^{km}, mb3.7/20,mb1 3.9/20,mb1mx3.9/23,mbtmp4.5/20,Error ellipse: s-maj=15.9km s-min=11.0km az=154.0*

ISC 02 12:12:34.5±2.6**,18.1S**±0.1×**178.28W**±0.09**,h580**^{km}±32^{km}**, n94,** σ**0**^{s}**92**/43**,mb4.2**/29**,14C-5D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.46**	**190**	P	**P**	**12 16 32.4**	**-2.0**
	9.4nm,0.5s,baz=162,slow=1.6,SNR=18						
CNB	**Canberra Magne**	**33.39**	**233**	*e*P	**P**	**12 18 29.0**	**+1.7**
	99nm,0.5s						
CTA	**Charters Tower**	**33.53**	**261**	⇓*i*P	**P**	**12 18 28.9**	**+0.3**
	7.2nm,0.7s,mb4.4						
CTA	**Charters Tower**	**33.53**	**261**	P	**P**	**12 18 28.9**	**+0.4**
	12nm,0.9s,mb4.5,baz=99,slow=8.3,SNR=12						
CTAO	**Charters Tower**	**33.53**	**261**	*e*P	**P**	**12 18 28.9**	**+0.3**
	14nm,0.9s,mb4.6						
PMG	**Port Moresby**	**34.62**	**280**	P	**P**	**12 18 38.8**	**+1.2**
	34nm,1.1s,mb4.9,baz=120,slow=6.3,SNR=5.5						
STKA	**Stephens Creek**	**38.63**	**241**	⇓*i*P	**P**	**12 19 11.8**	**+1.4**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**38.63**	**241**	P	**P**	**12 19 11.8**	**+1.4**
	8.8nm,0.8s,mb4.4,baz=88,slow=8.6,SNR=13						
WRAB	**Tennant Creek**	**44.70**	**260**	*e*P	**P**	**12 19 58.0**	**-0.7**
	8.0nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.71**	**260**	P	**P**	**12 19 57.9**	**-0.9**
	5.1nm,0.5s,mb4.3,baz=96,slow=7.3,SNR=209						
WRA				PcP	PcP	12 21 28.2	-0.5
	0.9nm,0.4s,baz=85,slow=3.8,SNR=5.2						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**12 19 59.8**	**0.0**
	30nm,0.6s,mb5.0,baz=88,slow=8.5,SNR=417						
ASAR				PcP	PcP	12 21 28.8	-0.4
	2.3nm,0.6s,baz=96,slow=4.2,SNR=6.8						
ASAR				S	**S**	**12 25 55.0**	**-1.2**
	2.4nm,1.2s,baz=86,slow=14,SNR=6.0						
ASPA	**Alice Springs**	**44.85**	**254**	⇓*i*P	**P**	**12 19 59.7**	**-0.1**
KAKA	**Kakadu**	**47.70**	**269**	⇑*i*P	**P**	**12 20 21.0**	**-0.5**
	4.1nm,0.4s,mb4.3						
FORT	**Forrest**	**50.03**	**245**	*e*P	**P**	**12 20 37.6**	**-1.0**
	205nm,0.5s						
MBWA	**Marble Bar**	**58.14**	**256**	*e*P	**P**	**12 21 34.6**	**-1.0**
	3.7nm,0.4s,mb3.9						
KLBR	**Kellerberrin**	**58.84**	**244**	*e*P	**P**	**12 21 39.5**	**-0.7**
	52nm,0.6s,mb4.8						
VNDA	**Vanda**	**60.24**	**185**	P	**P**	**12 21 49.7**	**+0.8**
	0.8nm,0.5s,mb3.2,baz=354,slow=13,SNR=7.7						
MAT	**Matsushiro**	**68.15**	**323**	*e*P	**P**	**12 22 38.0**	**-1.2**
	19nm,1.1s,mb4.4						
MAT	**Matsushiro**	**68.15**	**323**	P	**P**	**12 22 37.8**	**-1.4**
ASAJ	**Asahikawa**	**71.52**	**331**	P	**P**	**12 22 59.2**	**+0.3**
	7.1nm,1.0s,mb4.1,baz=93,slow=7.7,SNR=4.7						
QSPA	**South Pole Qui**	**71.93**	**180**	⇑*i*P	**P**	**12 23 02.1**	**+1.4**
	5.7nm,0.8s,mb4.2						
MDJ	**Mudanjiang**	**78.43**	**325**	P	**P**	**12 23 37.1**	**0.0**
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,552nm,10.1s						
MDJ	**Mudanjiang**	**78.43**	**325**	*e*P	**P**	**12 23 37.8**	**+0.6**
	comp=Z,5.1nm,0.6s,mb4.1						
YBH	**Yreka Blue Hor**	**78.61**	**39**	P	**P**	**12 23 38.6**	**+0.4**
	comp=Z,2.8nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**12 23 43.2**	**+0.3**
	comp=Z,2.7nm,0.7s,mb3.7,baz=214,slow=6.6,SNR=22						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**12 23 43.2**	**+0.3**
CN2	**Changchun**	**80.27**	**322**	*e*P	**P**	**12 23 47.4**	**+0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
ENH	**Enshi**	**84.49**	**304**	*e*P	**P**	**12 24 09.1**	**+0.9**
	comp=Z,11nm,0.7s,mb4.5						
THY	**Trims Highway**	**85.14**	**14**	*e*P	**P**	**12 24 10.0**	**-0.6**
NEW	**Newport**	**85.61**	**36**	P	**P**	**12 24 13.2**	**-0.1**
	comp=Z,2.5nm,0.8s,mb3.9,baz=72,slow=16,SNR=3.0						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**12 24 16.9**	**+1.3**
	comp=Z,2.7nm,0.8s,mb3.9,baz=218,slow=6.1,SNR=34						
TXAR	**Lajitas Array**	**86.01**	**58**	P	**P**	**12 24 16.9**	**+1.3**
ILAR	**Eielson Array**	**86.07**	**13**	P	**P**	**12 24 13.3**	**-1.7**
	comp=Z,2.4nm,0.5s,mb4.1,baz=228,slow=5.0,SNR=56						
MCMT	**McKenzie Canyo**	**86.32**	**40**	*e*P	**P**	**12 24 17.4**	**+0.6**
XAN	**Xi'an**	**86.49**	**307**	P	**P**	**12 24 18.7**	**+0.9**
XAN				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**12 24 21.6**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.0,baz=218,slow=2.7,SNR=22						
CMAR	**Chiang Mai Arr**	**89.07**	**290**	P	**P**	**12 24 31.4**	**+1.1**
	comp=Z,3.3nm,0.9s,mb4.2,baz=107,slow=2.8,SNR=16						
SNAA	**Sanae**	**90.38**	**179**	P	**P**	**12 24 35.1**	**+0.1**
	comp=Z,0.6nm,0.9s,mb3.4,baz=354,slow=19,SNR=3.8						
PLCA	**Paso Flores**	**91.09**	**134**	P	**P**	**12 24 38.2**	**-0.8**
	comp=Z,1.6nm,0.9s,mb3.9,baz=55,slow=2.9,SNR=2.9						
INK	**Inuvik**	**92.06**	**15**	P	**P**	**12 24 41.8**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.5,baz=216,slow=4.7,SNR=23						
SONM	**Songino Array**	**93.79**	**319**	P	**P**	**12 24 51.1**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.8,baz=116,slow=3.9,SNR=4.7						
YKA	**Yellowknife Ar**	**94.47**	**25**	P	**P**	**12 24 52.9**	**-0.9**
	comp=Z,0.7nm,0.5s,mb4.0,baz=243,slow=4.4,SNR=20						
CHKZ	**Chkalovo**	**116.89**	**322**	*e*P	PKPdf	12 30 12.9	-0.5
BVAR	**Borovoye Array**	**117.09**	**321**	PKP	PKPdf	12 30 14.2	+0.3
	comp=Z,1.4nm,0.4s,baz=125,slow=2.2,SNR=12						
ARCES	**ARCESS Array B**	**126.55**	**350**	PKP	PKPdf	12 30 31.8	0.0
	comp=Z,5.4nm,1.0s,slow=3.6,SNR=7.2						
FINES	**FINESS Array B**	**133.43**	**344**	PKP	PKPdf	12 30 44.5	-0.4
	comp=Z,0.8nm,0.7s,baz=90,slow=3.8,SNR=4.5						
ERZM	**Erzurum**	**139.54**	**311**	*i* P	Pdif	12 28 15.9	+2.5
AKASG	**Malin Array Be**	**140.81**	**332**	PKP	PKPdf	12 31 01.0	+2.4
	comp=Z,0.7nm,0.3s,baz=43,slow=3.0,SNR=4.6						
ELZG	**Elazig**	**141.77**	**310**	*i* P	Pdif	12 28 20.6	-2.7
BSEG	**Bad Segeberg**	**143.64**	**351**	*e*PKPbc	PKPbc	12 31 03.2	+0.5
BURAR	**Bucovina Array**	**144.86**	**332**	⇑P	PKPdf	12 31 08.6	+3.0
BURAR	**Bucovina Array**	**144.86**	**332**	⇑P	PKPdf	12 31 08.6	+2.9
BRTR	**Keskin Array B**	**145.02**	**315**	PKPbc	PKPbc	12 31 08.5	+1.4
	comp=Z,4.1nm,0.6s,baz=132,slow=3.4,SNR=13						
KOLS	**Kolonicke sedl**	**145.05**	**336**	*i* PKP	PKPdf	12 31 08.6	+2.7
CFR	**Carcaliu**	**145.18**	**327**	⇑P	PKPdf	12 31 09.3	+3.0
CFR	**Carcaliu**	**145.18**	**327**	⇑P	PKPdf	12 31 09.3	+3.0
KSP	**Ksiaz**	**145.35**	**344**	⇓*e*P	PKPdf	12 31 09.2	+2.8
CRVS	**Cervenica-Dubn**	**145.38**	**337**	*i* PKP	PKPdf	12 31 09.3	+2.8
CLZ	**Clausthal**	**145.67**	**350**	*e*PKPbc	PKPbc	12 31 10.0	+1.7
CLL	**Collm**	**145.70**	**347**	⇓*i*PKP1	PKPbc	12 31 09.8	+1.4
OKC	**Ostrava-Krasne**	**145.72**	**341**	⇑*e*PKPB	PKPbc	12 31 09.9	+1.4
UPC	**Upice**	**145.73**	**344**	⇑*e*PKPB	PKPbc	12 31 10.1	+1.6
DPC	**Dobruska-Polom**	**145.79**	**343**	⇑*e*PKPB	PKPbc	12 31 10.7	+2.0
BRG	**Berggiesshubel**	**145.90**	**346**	*i* P	PKPdf	12 31 10.8	+3.5
PVCC	**Panska Ves**	**146.08**	**345**	⇑*e*PKPB	PKPbc	12 31 11.6	+2.2
MLR	**Muntele Rosu**	**146.08**	**329**	⇑P	PKPdf	12 31 12.3	+4.5
MLR	**Muntele Rosu**	**146.08**	**329**	⇑P	PKPdf	12 31 12.3	+4.5
PRU	**Pruhonice**	**146.58**	**345**	⇑*e*PKPB	PKPbc	12 31 12.5	+1.9
VYHS	**Vyhne**	**146.66**	**339**	*i* PKP	PKPdf	12 31 13.1	+4.4
TNS	**Taunus Mts**	**147.53**	**352**	*e*PKPbc	PKPdf	12 31 15.2	+5.1
GRA1	**Grafenberg Arr**	**147.59**	**348**	*e*PKPbc	PKPdf	12 31 15.0	+4.8
GRF	**Grafenberg Arr**	**147.59**	**348**	*e*PKP	PKPdf	12 31 15.0	+4.8
KHC	**Kasperske Hory**	**147.61**	**345**	⇑*e*PKPB	PKPdf	12 31 15.3	+5.1
WET	**Wettzell**	**147.76**	**346**	*e*PKPbc	PKPdf	12 31 15.5	+5.0
GEC2	**GERESS Array S**	**147.85**	**345**	*e*PKPbc	PKPdf	12 31 16.1	+5.5
GERES	**GERESS Array B**	**147.85**	**345**	PKPbc	PKPdf	12 31 15.8	+5.2
	comp=Z,4.0nm,0.5s,baz=23,slow=2.9,SNR=32						
GIVF	**Givet**	**148.00**	**356**	*e*PKP1	PKPdf	12 31 15.9	+5.1
	comp=Z,10nm,0.4s						
BAIF	**Baives**	**148.08**	**357**	*e*PKP1	PKPdf	12 31 16.1	+5.2
	comp=Z,9.9nm,0.5s						
FUR	**Furstenfeldbru**	**149.04**	**348**	*e*PKPbc	PKPdf	12 31 19.0	+6.6
FLN	**La Foliniere**	**149.39**	**3**	*e*PKP1	PKPdf	12 31 18.9	+5.9
CDF	**Champ du Feu**	**149.45**	**353**	*e*PKP1	PKPdf	12 31 19.5	+6.4
	comp=Z,7.6nm,0.5s						
MEZF	**Maizieres J'vi**	**149.58**	**356**	*e*PKP1	PKPdf	12 31 19.9	+6.6
GRR	**Gorron**	**149.74**	**3**	*e*PKP1	PKPdf	12 31 19.9	+6.3
	comp=Z,13nm,0.6s						
SGMF	**Saint Gilles**	**149.75**	**6**	*e*PKP1	PKPdf	12 31 19.6	+6.0
	comp=Z,12nm,0.7s						
HAU	**Haudompre**	**149.96**	**354**	*e*PKP1	PKPdf	12 31 20.5	+6.6
	comp=Z,9.4nm,0.5s						
HINF	**Hinteralfeld**	**150.09**	**353**	*e*PKP1	PKPdf	12 31 20.7	+6.6
	comp=Z,7.0nm,0.7s						
HYF	**Humbligny**	**150.92**	**359**	*e*PKP1	PKPdf	12 31 23.9	+8.5
SSF	**Saint Saulge**	**151.10**	**357**	*e*PKP1	PKPdf	12 31 23.4	+7.7
	comp=Z,8.9nm,0.6s						
CABF	**La Chapelle**	**151.36**	**354**	*e*PKP1	PKPdf	12 31 24.5	+8.4
	comp=Z,11nm,0.8s						
SMF	**Signal de Mont**	**151.50**	**357**	*e*PKP1	PKPdf	12 31 24.7	+8.4
BGF	**Bois d'Agland**	**151.63**	**358**	*e*PKP1	PKPdf	12 31 24.4	+8.0
	comp=Z,5.6nm,0.5s						
TCF	**Toulx Ste Croi**	**151.91**	**359**	*e*PKP1	PKPdf	12 31 24.9	+8.1
	comp=Z,6.2nm,0.7s						
LPG	**La Plagne**	**152.38**	**352**	*e*PKP1	PKPdf	12 31 27.1	+10
MBDF	**Montbardon**	**153.14**	**352**	*e*PKP1	PKPdf	12 31 28.1	+9.5
	comp=Z,6.2nm,0.7s						

*IDC **02** 13:18:17.1±2.3,36.11N×68.34E,mb3.6/4,mb1 3.8/5, mb1mx3.6/20,mbtmp3.7/5,ML3.4/1,Error ellipse: s-maj=61.7km s-min=34.9km az=78.0*

*NEIC **02** 13:18:18.8±1.9,36.45N×68.25E,h10^{km},mb3.5/4,Error ellipse: s-maj=36.4km s-min=14.9km az=66.0*

*MOS **02** 13:18:21.2±1.6,36.63N×68.30E,h33^{km},mb4.0/2,Error ellipse: s-maj=20.6km s-min=13.5km az=74.0*

ISC 02 13:18:21.8±4.8**,36.6N**±0.1×**68.3E**±0.4**,h38**^{km}±33^{km}**,n25,**

σ1$40/25, **mb3.6**/3, **Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.93**	**36**	P	**P**	**13 20 03.6**	**+0.1**
	SNR=8.8						
UCH	**Uchtor**	**7.40**	**39**	P	**P**	**13 20 10.2**	**+0.1**
	SNR=23						
KZA	**Kyzart**	**7.68**	**43**	P	**P**	**13 20 13.4**	**-0.6**
	SNR=20						
AAK	**Ala-Archa**	**7.70**	**37**	*e*P	**P**	**13 20 16.1**	**+2.0**
	SNR=5.8						
AAK	**Ala-Archa**	**7.70**	**37**	*e*P	**P**	**13 20 12.4**	**-1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.4s						
AAK	**Ala-Archa**	**7.70**	**37**	*e*P	**P**	**13 20 12.4**	**-1.8**
	comp=Z,5.2nm,0.4s						
FRU	**Bishkek**	**7.91**	**36**	*e*P	**P**	**13 20 18.5**	**+1.4**
FRU				*e*		13 21 49.0	
FRU				pmax	pmax		
	comp=E,130nm,2.0s						
KBK	**Karagaybulak**	**7.93**	**38**	P	**P**	**13 20 17.9**	**+0.4**
	SNR=16						
KOLN	**Koldanda**	**15.67**	**120**	*e*P	**P**	**13 22 09.9**	**+8.4**
KURK	**Kurchatov**	**15.94**	**25**	*e*P	**P**	**13 22 02.8**	**-2.0**
KURK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KURK	**Kurchatov**	**15.94**	**25**	*e*P	**P**	**13 22 02.8**	**-1.9**
	comp=Z,2.9nm,1.0s						
GKN	**Gorkha**	**16.27**	**117**	*e*P	**P**	**13 22 10.9**	**+1.8**
	comp=Z,30nm,0.9s						
BVAR	**Borovoye Array**	**16.48**	**5**	Pn	**P**	**13 22 12.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=172,slow=10,SNR=14						
KKN	**Kakani**	**16.85**	**117**	*e*P	**P**	**13 22 16.6**	**+0.2**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**17.07**	**117**	*e*P	**P**	**13 22 20.3**	**+1.1**
	comp=Z,10nm,0.6s						
CHKZ	**Chkalovo**	**17.14**	**5**	*e*P	**P**	**13 22 18.2**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHKZ	**Chkalovo**	**17.14**	**5**	*e*P	**P**	**13 22 18.2**	**-1.7**
	comp=Z,1.5nm,0.8s						
JIRN	**Jiri**	**17.59**	**115**	*e*P	**P**	**13 22 23.6**	**-2.0**
	comp=Z,12nm,0.5s						
LSA	**Lhasa**	**20.33**	**103**	*e*P	**P**	**13 22 54.9**	**-2.6**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
LSA	**Lhasa**	**20.33**	**103**	*e*P	**P**	**13 22 54.9**	**-2.6**
	comp=Z,1.8nm,0.4s						
ZAL	**Zalesovo**	**20.78**	**28**	P	**P**	**13 23 02.1**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=220,slow=5.9,SNR=4.8						
SONM	**Songino Array**	**30.09**	**56**	P	**P**	**13 24 31.2**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.5,baz=260,slow=7.5,SNR=5.8						
YKA	**Yellowknife Ar**	**81.21**	**1**	P	**P**	**13 30 36.8**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=350,slow=5.3,SNR=17						
ASAR	**Alice Springs**	**86.14**	**123**	*e*P	**P**	**13 30 58.7**	**-1.7**
ASAR	**Alice Springs**	**86.14**	**123**	P	**P**	**13 30 58.7**	**-1.7**
	comp=Z,0.3nm,0.8s,mb3.5,baz=302,slow=4.9,SNR=3.8						

JMA ***02*** *13:26:18.8±0.1, 36.31N×141.36E, h52km±3km, M3.6*
IDC ***02*** *13:26:22.1±3.5, 36.24N×141.19E, h45km±34km, mb3.4/6, mb1 3.6/8, mb1mx3.4/24, mbtmp3.7/8, ML3.5/2, Error ellipse: s-maj=35.8km s-min=19.6km az=84.0*
ISC 02 13:26:17.9±0.7, 36.31N±0.03×141.51E±0.08, h33km, n21, σ1$**05**/30, **mb3.6**/6, **7D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.81**	**221**	⇓P	**P**	**13 26 33.1**	**+0.3**
CHOJ				S	**S**	**13 26 42.9**	**-0.9**
JHO	**Hitachi**	**0.82**	**292**	⇓P	**P**	**13 26 32.6**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.98**	**324**	P	**P**	**13 26 35.2**	**-0.1**
ONAJ				S	**S**	**13 26 47.0**	**-1.1**
JYT	**Yasato**	**1.07**	**266**	⇓P	**P**	**13 26 36.0**	**-0.6**
JFK	**Kawauchi**	**1.17**	**334**	⇓P	**P**	**13 26 38.3**	**+0.3**
JFK				S	**S**	**13 26 51.8**	**-1.3**
JFT	**Otama**	**1.53**	**322**	⇓P	**P**	**13 26 44.2**	**+1.0**
JFT				S	**S**	**13 27 02.5**	**+0.4**
JMM	**Marumori**	**1.66**	**340**	⇓P	**P**	**13 26 45.5**	**+0.5**
JMM				S	**S**	**13 27 05.1**	**-0.2**
JAG	**Ashikaga**	**1.67**	**275**	⇓P	**P**	**13 26 44.6**	**-0.6**
BSO1	**Boso 1**	**1.71**	**195**	P	**P**	**13 26 47.1**	**+1.3**
BSO1				*e*S	**S**	**13 27 10.4**	**+3.7**
JFY	**Yanaizu**	**1.82**	**308**	P	**P**	**13 26 48.0**	**+0.7**
JFY				S	**S**	**13 27 10.4**	**+1.0**
JKT	**Katashina**	**1.88**	**285**	P	**P**	**13 26 48.4**	**+0.2**
MAT	**Matsushiro**	**2.68**	**276**	P	**P**	**13 26 59.8**	**+0.2**
MAT				S	**S**	**13 27 34.0**	**+2.8**
JHJ	**Hachijo jima 2**	**3.49**	**205**	P	**P**	**13 27 11.6**	**+0.4**
	45nm,0.3s,baz=82,slow=14,SNR=13						
JHJ				S	**S**	**13 27 50.0**	**-1.9**
	41nm,0.3s,baz=261,slow=23,SNR=6.8						
ASAJ	**Asahikawa**	**7.84**	**6**	P	**P**	**13 28 10.1**	**-2.3**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.84**	**6**	P	**P**	**13 28 10.1**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=233,slow=33,SNR=3.8						
SONM	**Songino Array**	**28.26**	**305**	P	**P**	**13 32 09.1**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.5,baz=104,slow=8.8,SNR=7.2						
ILAR	**Eielson Array**	**50.06**	**32**	P	**P**	**13 35 13.3**	**+2.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=264,slow=5.5,SNR=5.4						
BVAR	**Borovoye Array**	**51.12**	**313**	P	**P**	**13 35 19.7**	**+0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=101,slow=7.3,SNR=2.7						
WRA	**Warramunga Arr**	**56.36**	**188**	P	**P**	**13 35 56.8**	**-1.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=6.2,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**60.08**	**188**	P	**P**	**13 36 25.2**	**+0.8**
	comp=Z,0.3nm,0.8s,mb3.4,baz=17,slow=13,SNR=5.9						
AKASG	**Malin Array Be**	**74.92**	**322**	P	**P**	**13 37 56.8**	**-0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=45,slow=5.5,SNR=7.1						

SKHL ***02*** *13:35:09.0±0.6, 50.30N×142.44E, h13km±5km, mb5.1/7, Ms4.7/4, msh5.2/1*
SKHL Felt (III-IV) at Tymovskoye, Onory, Zonalnoe; (III) at Aleksandrovsk-Sakhalinskiy, Kirovskoe, Pilvo.
IDC ***02*** *13:35:12.9±0.5, 50.30N×142.51E, mb4.7/32, mb1 4.8/33, mb1mx4.8/34, mbtmp4.7/33, ML4.0/1, Error ellipse: s-maj=13.4km s-min=12.3km az=145.0*
MOS ***02*** *13:35:13.3±0.9, 50.27N×142.46E, h15km, mb5.2/62, MS4.8/11, Error ellipse: s-maj=7.7km s-min=4.1km az=98.4*
MOS Felt (III-IV) at Tymovskoye, Zonal'noye, Onor; (III) at Alexandrovsk-Sakhalinskii, Kirovskoye, Pil'vo.
BJI ***02*** *13:35:13.2, 50.35N×142.60E, h21km, mB5.2, mb4.8, ML5.2, Ms5.0, Msz4.9*
NEIC ***02*** *13:35:14.5±0.1, 50.33N×142.44E, h10km, mb5.0/75, MS4.9/63, Error ellipse: s-maj=4.5km s-min=3.1km az=148.0*
NEIC Felt [IV] at Onor, Tymovskoye and Zonal'noye; [III] at Aleksandrovsk-Sakhalinskiy, Kirovskoye and Pil'vo.
ISC 02 13:35:12.6±0.1, 50.25N±0.02×142.47E±0.03, h10km, (h14km±1.2km:pP-P), n386, σ1$**08**/393, **mb4.9**/126, **MS4.8**/67, **26C-15D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**0.62**	**11**	⇓*i*Pg	**Pg**	**13 35 20.4**	**-4.7**
TYV				*e*Sg	**Sg**	**13 35 28.4**	**-5.1**
TYV				A		13 35 30.0	
	17μm,1.0s						
TYV				A		13 35 30.0	
	21μm,1.0s						
TYV				AMS	AMS	13 35 39.0	
	86μm,7.0s						
UGL	**Uglegorsk**	**1.21**	**193**	⇑*i*PN	**Pn**	**13 35 33.9**	**-1.6**
UGL				*i* S	**Sb**	**13 35 52.0**	**+1.5**
UGL				pmax	pmax		
	comp=N,3μm,0.5s						
UGL				pmax	pmax		
	comp=E,4μm,0.5s						
UGL				pmax	pmax		
	comp=Z,4μm,0.5s						
UGL				pmax	pmax		
	comp=N,8μm,0.8s						
UGL				pmax	pmax		
	comp=E,7μm,0.8s						
UGL				pmax	pmax		
	comp=Z,9μm,0.8s						
UGL				smax			
	comp=N,25μm,2.0s						
UGL				smax			
	comp=E,9μm,1.0s						
UGL				smax			
	comp=E,10μm,0.5s						
UGL	**Uglegorsk**	**1.21**	**193**	⇑*i*Pg	**Pg**	**13 35 34.0**	**-2.7**
UGL				⇑*i*Pg	**Pg**	**13 35 34.0**	**-2.7**
UGL				AMB	AMB	13 35 37.0	
	comp=E,3μm,0.5s						
UGL				AMB	AMB	13 35 37.0	
	comp=E,4μm,0.5s						
UGL				AMB	AMB	13 35 37.0	
	comp=E,4μm,0.5s						
UGL				AMB	AMB	13 35 38.0	
	comp=E,8μm,0.8s						
UGL				AMB	AMB	13 35 38.0	
	comp=E,7μm,0.8s						
UGL				AMB	AMB	13 35 38.0	
	comp=E,9μm,0.8s						
UGL				sP		13 35 42.0	
UGL				*e*Sb	**Sb**	**13 35 46.8**	**-3.7**
UGL				*i* Sg	**Sg**	**13 35 51.8**	**-1.1**
UGL				*e*Sg	**Sg**	**13 35 51.8**	**-1.1**
UGL				A		13 35 54.0	
	comp=E,25μm,2.0s						
UGL				A		13 35 54.0	
	comp=E,9μm,1.0s						
UGL				A		13 35 57.0	
	comp=E,7μm,0.5s						
UGL				A		13 35 57.0	
	comp=E,10μm,0.5s						
UGL				*e*rx	rx	13 36 06.0	
NKL	**Nikolayevsk**	**3.11**	**340**	⇑*i*Pn	**Pn**	**13 35 58.5**	**-4.2**
NKL				AMB	AMB	13 36 02.0	
	comp=E,510nm,0.5s						
NKL				AMB	AMB	13 36 04.0	
	comp=E,300nm,1.0s						
NKL				AMB	AMB	13 36 04.0	
	comp=E,900nm,1.0s						
NKL				*e*Pg	**Pg**	**13 36 10.0**	**-4.7**
NKL				*e*Sb	**Sb**	**13 36 40.0**	**-5.7**
NKL				*e*Sg	**Sg**	**13 36 51.4**	**-4.7**
NKL				A		13 36 53.0	
	comp=E,6μm,1.5s						
NKL				AMS	AMS	13 37 58.0	
	comp=E,2μm,6.0s						
NKL				AMS	AMS	13 37 58.0	
	comp=E,4μm,6.0s						
NKL				AMS	AMS	13 37 58.0	
	comp=E,2μm,5.0s						
YSS	**Yuzh-Sakhalins**	**3.31**	**177**	⇑*i*PN	**Pn**	**13 36 06.8**	**+1.3**
YSS				*e*		13 36 46.0	
YSS				pmax	pmax		
	comp=N,110nm,0.6s						
YSS				pmax	pmax		
	comp=Z,160nm,0.6s						
YSS				smax			
	comp=N,1μm,0.7s						
YSS				MLR	MLR		
	comp=N,7μm,12.0s						
YSS				MLR	MLR		
	comp=E,6μm,12.0s						
YSS				MLR	MLR		
	comp=Z,7μm,12.0s						
YSS	**Yuzh-Sakhalins**	**3.31**	**177**	*e*P	**Pn**	**13 36 06.6**	**+1.1**
YSS	**Yuzh-Sakhalins**	**3.31**	**177**	⇑*i*Pn	**Pn**	**13 36 06.8**	**+1.3**
YSS				⇑*i*Pb	**Pb**	**13 36 08.4**	**-2.6**
YSS				AMB	AMB	13 36 09.5	
	comp=Z,110nm,0.6s						
YSS				AMB	AMB	13 36 09.5	
	comp=Z,160nm,0.6s						
YSS				pP		13 36 10.8	
YSS				*e*Pg	**Pg**	**13 36 15.8**	**-2.9**
YSS				AMB	AMB	13 36 17.2	
	comp=Z,510nm,0.6s						
YSS				AMB	AMB	13 36 17.2	
	comp=Z,230nm,0.6s						
YSS				AMB	AMB	13 36 17.2	
	comp=Z,410nm,0.6s						
YSS				pP		13 36 18.2	
YSS				⇑sP		13 36 21.0	
YSS				*i* Sn	**Sn**	**13 36 41.2**	**-4.1**
YSS				*e*Sb	**Sb**	**13 36 47.0**	**-4.6**
YSS				A		13 36 51.0	
	comp=Z,1μm,0.7s						
YSS				*i* Sg	**Sg**	**13 37 01.6**	**-1.2**
YSS				A		13 37 09.5	
	comp=Z,880nm,0.8s						
YSS				A		13 37 09.5	
	comp=Z,1μm,0.8s						
YSS				A		13 37 11.0	
	comp=Z,4μm,5.0s						
YSS				A		13 37 11.0	
	comp=Z,6μm,5.0s						
YSS				AMS	AMS	13 37 38.0	
	comp=Z,7μm,12.0s						
YSS				AMS	AMS	13 37 38.0	
	comp=Z,6μm,12.0s						
YSS				AMS	AMS	13 37 38.0	
	comp=Z,7μm,12.0s						
OKH	**Okha**	**3.31**	**5**	*e*PN	**Pn**	**13 36 04.2**	**-1.4**
OKH				*i* S	**Sn**	**13 36 46.9**	**+1.4**
OKH				smax			
	comp=N,3.0nm,0.7s						
OKH				smax			
	comp=E,1.0nm,0.7s						
OKH	**Okha**	**3.31**	**5**	*e*Pn	**Pn**	**13 36 04.0**	**-1.6**
OKH				AMB	AMB	13 36 07.0	
	comp=E,1μm,0.8s						
OKH				*e*Pb	**Pb**	**13 36 10.5**	**-0.6**
OKH				*e*Pg	**Pg**	**13 36 15.2**	**-3.6**
OKH				AMB	AMB	13 36 19.0	
	comp=E,680nm,0.5s						
OKH				AMB	AMB	13 36 19.0	
	comp=E,340nm,0.5s						
OKH				AMB	AMB	13 36 19.0	
	comp=E,2μm,0.5s						
OKH				AMB	AMB	13 36 19.0	
	comp=E,1μm,1.0s						
OKH				AMB	AMB	13 36 19.0	
	comp=E,2μm,1.0s						
OKH				*e*Sn	**Sn**	**13 36 41.0**	**-4.5**
OKH				*i* Sn	**Sn**	**13 36 41.0**	**-4.5**
OKH				A		13 36 44.0	
	comp=E,4μm,2.2s						
OKH				*i* Sb	**Sb**	**13 36 45.0**	**-6.7**
OKH				A		13 36 49.5	
	comp=E,3μm,0.7s						
OKH				A		13 36 49.5	
	comp=E,2μm,0.7s						
OKH				*e*Sg	**Sg**	**13 37 00.5**	**-2.5**
OKH				A		13 37 07.0	
	comp=E,3μm,1.2s						
OKH				A		13 37 07.0	
	comp=E,10μm,1.2s						
OKH				A		13 37 07.0	
	comp=E,4μm,1.2s						
OKH				A		13 37 07.8	
	comp=E,800nm,0.6s						
OKH				A		13 37 07.8	
	comp=E,4μm,0.6s						
GRNR	**Gornyy**	**3.90**	**280**	*e*rx	rx	13 36 13.5	
GRNR				*e*Pb	**Pb**	**13 36 15.3**	**-5.8**
GRNR				AMB	AMB	13 36 16.1	
	comp=E,72nm,0.6s						
GRNR				*e*Pg	**Pg**	**13 36 25.0**	**-5.4**
GRNR				AMB	AMB	13 36 30.0	
	comp=E,57nm,0.5s						
GRNR				AMB	AMB	13 36 30.0	
	comp=E,84nm,0.5s						
GRNR				sP		13 36 33.0	
GRNR				*e*Sn	**Sn**	**13 36 55.0**	**-5.2**
GRNR				*e*Sg	**Sg**	**13 37 17.8**	**-4.5**
GRNR				A		13 37 19.0	
	comp=E,893nm,0.5s						
GRNR				A		13 37 19.0	
	comp=E,1μm,0.5s						
ASAJ	**Asahikawa**	**6.14**	**179**	PN	**Pn**	**13 36 46.6**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**6.14**	**179**	Pn	**Pn**	**13 36 46.5**	**+0.9**
	comp=Z,3.6nm,0.3s,baz=189,slow=6.4,SNR=19						
KUR	**Kuril'sk**	**6.20**	**142**	*e*Pn	**Pn**	**13 36 46.2**	**-0.3**
KUR				*e*Pg	**Pg**	**13 37 13.0**	**-3.4**
KUR				AMB	AMB	13 37 15.5	
	comp=Z,250nm,1.0s						
KUR				*e*Sn	**Sn**	**13 37 54.8**	**-3.4**
KUR				A		13 38 01.8	
	comp=Z,110nm,0.8s						
KUR				A		13 38 01.8	
	comp=Z,129nm,0.8s						
TEY	**Ternei**	**6.55**	**219**	*e*Pn	**Pn**	**13 36 50.0**	**-1.5**
TEY				*e*Pg	**Pg**	**13 37 19.8**	**-3.6**
TEY				AMB	AMB	13 37 22.0	
	comp=Z,37nm,0.6s						
TEY				AMB	AMB	13 37 22.0	
	comp=Z,37nm,0.6s						
TEY				*e*Sb	**Sb**	**13 38 17.4**	**-8.4**
TEY				*e*Sg	**Sg**	**13 38 49.2**	**-1.6**
TEY				A		13 38 57.0	
	comp=Z,364nm,0.8s						
TEY				A		13 38 57.0	
	comp=Z,156nm,0.8s						
TEY				A		13 38 57.0	
	comp=Z,286nm,0.8s						
EKMR	**Ekimchan**	**6.56**	**299**	*e*Pn	**Pn**	**13 36 47.5**	**-4.1**
EKMR				⇓*i*Pb	**Pb**	**13 37 02.2**	**-4.5**
EKMR				sP		13 37 10.2	
EKMR				⇑*i*Pg	**Pg**	**13 37 17.5**	**-6.1**
EKMR				AMB	AMB	13 37 21.0	
	comp=Z,40nm,0.6s						
EKMR				AMB	AMB	13 37 21.0	
	comp=Z,28nm,0.6s						
EKMR				AMB	AMB	13 37 21.0	
	comp=Z,44nm,0.6s						
EKMR				*e*Sn	**Sn**	**13 38 01.4**	**-5.8**
EKMR				*i* Sb	**Sb**	**13 38 17.4**	**-8.6**
EKMR				*i* Sg	**Sg**	**13 38 47.5**	**-3.5**
EKMR				A		13 38 52.7	
	comp=Z,360nm,0.6s						
EKMR				A		13 38 52.7	
	comp=Z,420nm,0.6s						
EKMR				A		13 38 52.7	
	comp=Z,136nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.64**	**158**	*e*Pn	**Pn**	**13 36 50.8**	**-1.8**
YUK				AMB	AMB	13 36 53.0	
	comp=Z,190nm,0.5s						
YUK				*i* Sn	**Sn**	**13 38 04.8**	**-4.3**
YUK				A		13 38 11.9	
	comp=Z,540nm,0.7s						
YUK				A		13 38 12.0	
	comp=Z,2μm,1.0s						
YUK				A		13 38 12.0	
	comp=Z,1μm,1.0s						
KLR	**Kul'dur**	**7.02**	**266**	*e*PN	**Pn**	**13 36 56.2**	**-1.9**
KLR				MLR	MLR		
	comp=N,5μm,11.0s						
KLR				MLR	MLR		
	comp=E,6μm,11.0s						
KLR				MLR	MLR		
	comp=Z,12μm,11.0s						
KLR	**Kul'dur**	**7.02**	**266**	*e*Pn	**Pn**	**13 36 56.2**	**-1.9**
KLR				*e*rx	rx	13 38 51.8	
KLR				AMS	AMS	13 39 51.5	
	comp=Z,5μm,12.0s						
KLR				AMS	AMS	13 39 51.5	
	comp=Z,6μm,12.0s						
KLR				AMS	AMS	13 39 51.5	
	comp=Z,12μm,12.0s						
SKR	**Severo-Kuril's**	**8.72**	**82**	*e*P	**P**	**13 37 21.0**	**-0.7**
SKR				AMS	AMS	13 39 44.0	
	comp=Z,3μm,20.0s						
SKR				AMS	AMS	13 39 44.0	
	comp=Z,4μm,20.0s						
SKR				AMS	AMS	13 39 44.0	
	comp=Z,4μm,20.0s						
BMKR	**Bomnak**	**9.43**	**303**	*e*P	**P**	**13 37 27.0**	**-4.6**
BMKR				AMB	AMB	13 37 31.4	
	comp=Z,26nm,0.8s						
BMKR				*e*S	**Sn**	**13 39 17.9**	**-0.9**
YASR	**Yasnyy**	**9.48**	**294**	*e*P	**P**	**13 37 27.1**	**-5.2**
YASR				AMB	AMB	13 37 30.8	
	comp=Z,1.0nm,0.5s						
YASR				AMB	AMB	13 37 30.8	
	comp=Z,8.0nm,0.5s						
YASR				AMB	AMB	13 37 30.8	
	comp=Z,10.0nm,0.5s						
YASR				*i* S	**Sn**	**13 39 20.1**	**0.0**
ZEA	**Zeya**	**10.01**	**296**	*e*P	**P**	**13 37 36.8**	**-2.7**
ZEA				AMB	AMB	13 37 38.3	
	comp=Z,7.0nm,0.5s						
ZEA				*e*S	**Sn**	**13 39 33.7**	**+0.7**
ZEA				AMS	AMS	13 41 40.0	
	comp=Z,3μm,10.0s						
ZEA				AMS	AMS	13 41 40.0	
	comp=Z,2μm,9.0s						
VLA	**Vladivostok**	**10.18**	**230**	*e*S	Sx	13 40 37.0	
VLA				*e*rx	rx	13 40 43.0	
KROS	**Kirovskiy**	**10.36**	**300**	*e*P	**P**	**13 37 41.2**	**-3.1**
KROS				AMB	AMB	13 37 43.1	
	comp=Z,7.0nm,0.6s						
KROS				sP		13 37 48.2	
KROS				*i* S	**S**	**13 39 43.4**	**+1.9**
MDJ	**Mudanjiang**	**10.38**	**242**	P	**P**	**13 37 48.2**	**+3.6**
MDJ				AMB	AMB		
	comp=Z,29nm,1.1s						
MDJ	**Mudanjiang**	**10.38**	**242**	*e*P	**P**	**13 37 45.5**	**+0.9**
	comp=Z,56nm,1.4s						
PET	**Petropavlovsk**	**10.43**	**68**	*e*PN	**P**	**13 37 46.2**	**+1.0**
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**10.43**	**68**	*e*P	**P**	**13 37 46.6**	**+1.3**
	comp=Z,1.9nm,0.4s						
PET	**Petropavlovsk**	**10.43**	**68**	*e*P	**P**	**13 37 46.2**	**+1.0**
PET				*e*S	**S**	**13 39 43.9**	**+0.6**
PET				AMS	AMS	13 42 27.9	
	comp=Z,2μm,17.0s						
MA2	**Magadan**	**10.48**	**24**	*i* PN	**P**	**13 37 43.8**	**-2.1**
MA2	**Magadan**	**10.48**	**24**	*e*P	**P**	**13 37 42.2**	**-3.6**
	comp=Z,30nm,1.0s						
CLNS	**Chul'man**	**12.34**	**309**	*e*PN	**P**	**13 38 18.6**	**+7.5**
CLNS				pmax	pmax		
	comp=N,33nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,61nm,0.9s						
CLNS				pmax	pmax		
	comp=E,25nm,0.8s						
CN2	**Changchun**	**13.27**	**247**	*e*P	**P**	**13 38 25.8**	**+2.2**
CN2				*e*AP		13 38 29.3	
CN2				*e*S	**S**	**13 40 53.0**	**+0.8**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				LR	LR		
	comp=N,3μm,13.0s						
CN2				LR	LR		
	comp=E,3μm,13.0s						
CN2				LR	LR		
	comp=Z,4μm,13.0s						
YAK	**Yakutsk**	**13.75**	**334**	*d i*P	**P**	**13 38 29.5**	**-0.2**
YAK				pmax	pmax		
	comp=Z,22nm,1.0s						
YAK	**Yakutsk**	**13.75**	**334**	*e*P	**P**	**13 38 28.9**	**-0.8**
	comp=Z,61nm,1.3s						
SEY	**Seymchan**	**13.81**	**19**	*e*P	**P**	**13 38 32.6**	**+2.2**
SEY				pmax	pmax		
	comp=Z,40nm,1.1s						
SEY				pmax	pmax		
	comp=N,30nm,1.3s						
SEY				pmax	pmax		
	comp=E,20nm,1.3s						
MAJO	**Matsushiro**	**14.05**	**194**	*e*P	**P**	**13 38 34.6**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,26nm,0.8s						
MAJO	**Matsushiro**	**14.05**	**194**	*e*P	**P**	**13 38 34.6**	**+0.9**
	comp=Z,26nm,0.8s						
MAT	**Matsushiro**	**14.05**	**194**	*e*P	**P**	**13 38 34.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,25nm,0.9s						
MAT	**Matsushiro**	**14.05**	**194**	*e*P	**P**	**13 38 34.0**	**+0.2**
	comp=Z,25nm,0.9s						
MAT				*e*S	S	13 40 49.0	-22
MAT	**Matsushiro**	**14.05**	**194**	P	**P**	**13 38 34.4**	**+0.6**
MAT				S	S	13 40 48.5	-22
HIA	**Hailar**	**14.72**	**275**	*e*P	**P**	**13 38 43.3**	**+0.9**
HIA				pmax	pmax		
	comp=Z,77nm,1.3s						
HIA	**Hailar**	**14.72**	**275**	*e*P	**P**	**13 38 43.3**	**+0.9**
	comp=Z,77nm,1.3s						
KS15	**Wonju Array Si**	**16.53**	**225**	*e*P	**P**	**13 39 09.2**	**+3.2**
BOD	**Bodaibo**	**18.25**	**305**	*e*P	**P**	**13 39 26.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s						
DL2	**Dalian**	**18.62**	**240**	*e*P	**P**	**13 39 35.1**	**+3.1**
DL2				*e*S	**S**	**13 43 03.2**	**+6.7**

DL2 AMB AMB
comp=Z,30nm,1.6s
DL2 LR LR
comp=N,1µm,11.0s
DL2 LR LR
comp=E,1µm,10.9s
DL2 LR LR
comp=Z,1µm,11.8s
BJI Beijing 21.07 251 *e*P **P 13 39 59.9 +0.8**
BJI AMB AMB
comp=Z,7.0nm,1.0s,mb4.0
BJI Beijing 21.07 251 *e*P **P 13 39 59.9 +0.8**
comp=Z,7.0nm,1.0s,mb4.0
BJI Lg 13 46 32.5
BJT Baijiatuau 21.09 251 *e*P **P 13 39 59.6 +0.3**
BJT pmax pmax
comp=Z,26nm,0.8s
BJT MLR MLR
comp=Z,4µm,20.0s
BJT Baijiatuau 21.09 251 *e*P **P 13 39 59.6 +0.3**
comp=Z,26nm,0.8s,mb4.6
BJT LR LR
comp=Z,4µm,20.0s,MS4.8
BILL Bilibino 21.35 25⇑ *i*P **P 13 40 02.2 +0.4**
BILL *i* 13 40 12.7
BILL *i* 13 40 21.6
BILL pmax pmax
comp=Z,130nm,1.5s,mb5.0
BILL Bilibino 21.35 25 *e*P **P 13 40 01.0 -0.8**
comp=Z,83nm,0.9s,mb5.1
TIXI Tiksi 22.35 349⇑ *i*P **P 13 40 11.3 -0.4**
TIXI pmax pmax
comp=Z,29nm,1.1s,mb4.6
TIXI MLR MLR
comp=Z,466nm,16.0s,MS4.0
ULN Ulaanbaatar 23.20 278*c i*P **P 13 40 22.4 +2.2**
ULN Ulaanbaatar 23.20 278 *e*P **P 13 40 21.1 +0.9**
comp=Z,22nm,0.9s,mb4.6
HHC Hu-ho-hao-te 23.45 258 *e*P **P 13 40 20.2 -2.5**
HHC PP PP 13 40 50.6 -3.9
HHC S **S 13 44 28.8 -3.4**
HHC SS SS 13 45 17.0 -2.4
HHC SCP 13 47 46.0
HHC SCS ScS 13 51 27.6 -4.7
HHC AMB AMB
comp=Z,16nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,2µm,16.1s
SONM Songino Array 23.63 278 P **P 13 40 25.7 +1.4**
comp=Z,8.1nm,0.9s,mb4.2,baz=63,slow=8.3,SNR=52
SONM PcP PcP 13 44 10.6 -0.2
comp=Z,6.2nm,1.1s,baz=132,slow=1.1,SNR=7.9
IRK Irkutsk 23.81 290 *e*P **P 13 40 27.4 +1.3**
TLY Talaya 24.30 288 P **P 13 40 32.9 +2.0**
comp=Z,147nm,1.6s,mb5.2,SNR=15
TLY Talaya 24.30 288 *e*P **P 13 40 32.2 +1.3**
TLY pmax pmax
comp=Z,22nm,1.0s,mb4.5
BTO Baotou 24.56 259 *e*P **P 13 40 34.5 +1.0**
ZAK Zakamensk 24.83 286⇑ *i*P **P 13 40 37.6 +1.6**
ZAK *e* 13 44 12.3
ZAK pmax pmax
comp=Z,16nm,1.5s,mb4.3
SSE Sheshan 24.88 228 P **P 13 40 35.4 -1.3**
SSE AMB AMB
comp=Z,33nm,0.8s,mb4.9
SSE AMB AMB
comp=Z,925nm,11.1s
SSE Sheshan 24.88 228 P **P 13 40 35.4 -1.3**
comp=Z,33nm,0.8s,mb4.9
NJ2 Nanjing 25.26 233 *e*P **P 13 40 39.5 -0.7**
NJ2 S **S 13 45 03.0 -0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,1µm,10.8s
NJ2 LR LR
comp=N,5µm,19.4s,MS5.1
NJ2 LR LR
comp=E,4µm,20.4s,MS5.1
NJ2 LR LR
comp=Z,5µm,18.4s,MS5.1
MOY Mondy 25.92 289 *e*P **P 13 40 48.2 +2.0**
MOY pmax pmax
comp=Z,15nm,1.6s,mb4.3
TNA Tin City 29.50 40 *e*P **P 13 41 17.3 -1.3**
comp=Z,32nm,1.3s,mb4.9
LZH Lanzhou 31.15 258⇑ P **P 13 41 35.0 +1.5**
LZH AP pP 13 41 38.2 +1.8
LZH XP sP 13 41 49.6 +12
LZH PP PP 13 42 37.1 +1.0
LZH *e*S **S 13 46 39.3 +1.3**
LZH SS SS 13 48 21.8 -1.3
LZH AMB AMB
comp=Z,42nm,1.3s,mb5.1
LZH AMB AMB
comp=Z,173nm,5.2s
LZH LR LR
comp=N,957nm,12.3s
LZH LR LR
comp=Z,2µm,16.5s,MS4.8
LZH Lanzhou 31.15 258⇑ P **P 13 41 35.0 +1.5**
LZH *PP pP 13 41 38.2 +1.8
LZH 13 42 37.1
LZH *e*S **S 13 46 39.3 +1.3**
LZH *SS 13 46 44.5
LZH SS SS 13 48 21.8 -1.3
LZH pmax pmax
comp=Z,42nm,1.3s,mb5.1
LZH MLR MLR
comp=Z,2µm,16.5s,MS4.8
LZH Lanzhou 31.15 258⇑ P **P 13 41 35.0 +1.5**
comp=Z,42nm,1.3s,mb5.1
LZH pP pP 13 41 38.2 +1.8
LZH sP sP 13 41 49.6 +12
LZH PP PP 13 42 37.1 +1.0
LZH *e*S **S 13 46 39.3 +1.3**
LZH sS 13 46 44.5
LZH SS SS 13 48 21.8 -1.3
LZH LR LR
comp=Z,2µm,16.5s,MS4.8
GTA Gaotai 31.73 267 P **P 13 41 39.3 +0.7**
GTA AP pP 13 41 42.7 +1.2
GTA PP PP 13 42 38.8 -4.8
GTA PCP PcP 13 44 30.0 -0.2
GTA S **S 13 46 47.0 -0.1**
GTA AMB AMB
comp=Z,18nm,0.9s,mb4.9
GTA AMB AMB
comp=Z,486nm,8.8s
GTA LR LR
comp=N,1µm,16.8s,MS4.9
GTA LR LR
comp=E,1µm,11.9s,MS4.9
GTA LR LR
comp=Z,2µm,20.2s
ENH Enshi 31.74 244 *e*P **P 13 41 38.0 -0.8**
comp=Z,7.2nm,0.7s,mb4.6
ENH LR LR
comp=Z,1µm,20.0s,MS4.6
ZAL Zalesovo 34.78 299 P **P 13 42 05.4 +0.5**
comp=Z,2.1nm,0.4s,mb4.4,baz=34,slow=7.2,SNR=9.7
ZAL PcP PcP 13 44 37.5 -1.0
comp=Z,8.0nm,0.6s,baz=79,slow=2.7,SNR=20
SVW2 Sparrevohn 35.23 48 *e*P **P 13 42 09.2 +0.5**
IMA Indian Mountai 35.37 39 *e*P **P 13 42 09.8 0.0**
NVS Novosibirsk 35.37 301⇑ *i*P **P 13 42 09.9 -0.1**
NVS pmax pmax
comp=E,5.0nm,1.3s
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.7
GYA Guiyang 36.25 243⇑ *i*P **P 13 42 17.5 -0.2**
GYA AP pP 13 42 22.1 +1.5
GYA XP sP 13 42 24.8 +2.9
GYA PP PP 13 43 39.6 -0.9
GYA S **S 13 47 56.5 -0.8**
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,180nm,17.2s,MS4.0
GYA LR LR
comp=E,160nm,16.7s,MS4.0
GYA LR LR
comp=Z,140nm,15.4s,MS3.9
GUMO Guam 36.62 176 PFAKE 13 42 30.0 +9.2
GUMO LR LR
comp=Z,967nm,20.0s,MS4.6
SPU Mount Spurr 36.88 47 *e*P **P 13 42 22.7 +0.1**
WMQ Urumqi 37.15 282⇑ **P 13 42 26.2 +1.1**
WMQ AP pP 13 42 30.0 +1.9
WMQ XP sP 13 42 33.0 +3.7
WMQ PCP PcP 13 44 47.0 +1.3
WMQ S **S 13 48 12.4 +1.4**
WMQ PCS 13 48 35.0
WMQ AMB AMB
comp=Z,25nm,0.7s,mb5.2
WMQ AMB AMB
comp=Z,288nm,6.5s
WMQ LR LR
comp=N,1µm,17.4s,MS4.8
WMQ LR LR
comp=E,824nm,15.8s,MS4.8
WMQ LR LR
comp=Z,1µm,17.6s,MS4.7
KDAK Kodiak Island 37.52 53 *e*P **P 13 42 27.1 -1.0**
comp=Z,15nm,0.8s,mb4.8
KDAK LR LR
comp=Z,253nm,22.0s,MS4.0
MCK McKinley 37.73 43 *e*P **P 13 42 30.6 +0.9**
MCK pmax pmax
comp=Z,19nm,1.0s,mb4.8
MCK McKinley 37.73 43 *e*P **P 13 42 30.6 +0.9**
comp=Z,19nm,1.0s,mb4.8
FIB Fire Island 37.77 47 PFAKE 13 42 40.0 +10
FIB LR LR
comp=Z,991nm,21.0s,MS4.6
COLA College 37.95 41*c i*P **P 13 42 32.3 +0.7**
COLA College 37.95 41 *e*P **P 13 42 32.4 +0.8**
COLA LR LR
comp=Z,813nm,22.0s,MS4.5
PMR Palmer 38.15 46 *e*P **P 13 42 36.9 +3.6**
ILAR Eielson Array 38.38 41 P **P 13 42 34.6 -0.5**
comp=Z,9.0nm,0.5s,mb4.7,baz=289,slow=9.1,SNR=109
SML Sawmill 38.46 46 *e*P **P 13 42 36.0 +0.1**
MKAR Makanchi Array 39.06 289 *i*P **P 13 42 41.2 +0.1**
MKAR pmax pmax
comp=Z,15nm,0.7s
THY Trims Highway 39.19 43 *e*P **P 13 42 42.0 0.0**
KURK Kurchatov 39.49 296 P **P 13 42 44.7 +0.1**
comp=Z,244nm,0.7s,SNR=46
KURK Kurchatov 39.49 296 *e*P **P 13 42 44.0 -0.6**
KURK *e* 13 44 50.9
KURK pmax pmax
comp=Z,31nm,0.8s,mb5.1
KURK MLR MLR
comp=Z,298nm,20.0s,MS4.1
KURK Kurchatov 39.49 296 *e*P **P 13 42 44.0 -0.6**
comp=Z,31nm,0.8s,mb5.1
KURK *e*PcP PcP 13 44 50.9 -2.1
KURK LR LR
comp=Z,298nm,20.0s,MS4.1
KMI Kunming 39.53 246 P **P 13 42 46.0 +0.8**
KMI AMB AMB
comp=Z,24nm,1.4s,mb4.7
KMI Kunming 39.53 246 P **P 13 42 46.0 +0.8**
comp=Z,24nm,1.4s,mb4.7
DIV Divide 39.83 46 *e*P **P 13 42 47.9 +0.6**
comp=Z,67nm,1.2s,mb5.2
DIV LR LR
comp=Z,2µm,19.0s,MS5.0
EYAK Cordova Ski Ar 40.02 47 *e*P **P 13 42 49.6 +0.7**
MENT Mentasta 40.21 43 *e*P **P 13 42 54.1 +3.7**
DAWY Dawson 41.70 40 *e*P **P 13 43 01.4 -1.1**
INK Inuvik 42.55 33 *e*P **P 13 43 09.0 -0.4**
INK pmax pmax
comp=Z,31nm,0.9s
INK Inuvik 42.55 33 *e*P **P 13 43 09.0 -0.4**
comp=Z,31nm,0.9s,mb5.0
CHKZ Chkalovo 42.67 303 *e*P **P 13 43 09.6 -1.0**
CHKZ pmax pmax
comp=Z,14nm,1.0s,mb4.7
CHKZ Chkalovo 42.67 303 *e*P **P 13 43 09.6 -1.0**
comp=Z,14nm,1.0s,mb4.6
BVA0 Borovoye Array 43.08 303 P **P 13 43 13.6 -0.3**
BVAR Borovoye Array 43.08 303 P **P 13 43 14.0 0.0**
comp=Z,1.9nm,0.5s,mb4.1,baz=64,slow=8.0,SNR=14
BVAR PP PP 13 44 54.6 -1.9
comp=Z,3.9nm,0.8s,baz=56,slow=11,SNR=6.2
BVAR PcP PcP 13 45 02.6 -1.9
comp=Z,5.5nm,0.5s,baz=83,slow=2.7,SNR=15
LSA Lhasa 43.36 262 P **P 13 43 18.8 +2.3**
LSA AMB AMB
comp=Z,10.0nm,1.4s,mb4.3
LSA Lhasa 43.36 262 *e*P **P 13 43 17.3 +0.8**
LSA pmax pmax
comp=Z,25nm,1.0s,mb4.9
LSA MLR MLR
comp=Z,1µm,22.0s,MS4.8
LSA Lhasa 43.36 262 *e*P **P 13 43 17.3 +0.8**
comp=Z,25nm,1.0s,mb4.9
LSA LR LR
comp=Z,1µm,22.0s,MS4.8
ULHL Ulahol 45.11 286 P **P 13 43 33.0 +2.5**
SNR=16
USP Ospenovka 45.61 289 P **P 13 43 35.1 +0.7**
SNR=28
KBK Karagaybulak 45.68 288 P **P 13 43 36.1 +1.1**
SNR=13
KZA Kyzart 45.82 287 P **P 13 43 37.8 +1.7**
SNR=19
AAK Ala-Archa 45.97 288 P **P 13 43 38.0 +0.8**
SNR=10
AAK Ala-Archa 45.97 288 *e*P **P 13 43 36.9 -0.4**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
AAK MLR MLR
comp=Z,188nm,21.0s,MS4.0
AAK Ala-Archa 45.97 288 *e*P **P 13 43 36.9 -0.4**
comp=Z,15nm,1.1s,mb4.8
AAK LR LR
comp=Z,188nm,21.0s,MS4.0
KWAJ Kwajalein Atol 46.30 144 PFAKE 13 43 50.0 +10
KWAJ LR LR
comp=Z,391nm,20.0s,MS4.4
EKS2 Erkin-Say 46.39 288 P **P 13 43 41.3 +0.8**
SNR=9.8
AML Almayashu 46.74 288 P **P 13 43 45.2 +1.8**
SNR=6.5
KSH Kashi 46.85 284 *e*P **P 13 43 47.4 +3.1**
KSH *e*AP pP 13 43 51.9 +4.6
KSH *e*XP sP 13 43 54.3 +5.8
KSH PCP PcP 13 45 18.6 +0.9
KSH *e*PP PP 13 45 36.1 +1.8
KSH PPP PPP 13 46 22.7 +2.6
KSH *e*SCP 13 49 11.2
KSH *e*PCS 13 49 15.4
KSH *e*S **S 13 50 36.8 +2.9**
KSH *e*XS 13 50 43.4
KSH *e*SCS ScS 13 53 37.1 +0.5
KSH *e*SS SS 13 53 55.3 +2.0
KSH AMB AMB
comp=Z,120nm,4.7s
KSH LR LR
comp=N,350nm,6.6s
KSH LR LR
comp=E,400nm,6.4s
ALE Alert 46.88 4 P **P 13 43 44.0 0.0**
comp=E,106nm,1.3s,mb5.6,SNR=13
CM31 Chiang Mai Arr 46.92 244 PFAKE 13 44 00.0 +15
CM31 LR LR
comp=Z,1µm,19.0s,MS4.8
CMAR Chiang Mai Arr 46.92 244 P **P 13 43 46.0 +0.9**
comp=Z,7.0nm,1.0s,mb4.5,baz=25,slow=7.2,SNR=29
KBS Kingsbay 47.81 349 PFAKE 13 44 00.0 +8.6
KBS LR LR
comp=Z,520nm,20.0s,MS4.5
JIRN Jiri 47.92 264 *e*P **P 13 43 53.1 +0.2**
comp=Z,48nm,0.9s,mb5.5
GUN Gumba 47.95 264 *e*P **P 13 43 53.8 +0.7**
DLBC Dease Lake 48.18 45 P **P 13 43 56.1 +1.7**
comp=Z,13nm,1.1s,mb4.9,baz=317,slow=10,SNR=16
KKN Kakani 48.41 265 *e*P **P 13 43 56.3 -0.4**
comp=Z,39nm,1.0s,mb5.4
PKI Pulchoki 48.48 264 *e*P **P 13 43 57.3 +0.1**
DMN Daman 48.65 265 *e*P **P 13 43 58.6 +0.1**
comp=Z,67nm,1.3s,mb5.5
GKN Gorkha 48.68 265 *e*P **P 13 43 58.6 -0.1**
comp=Z,71nm,1.1s,mb5.6
KOLN Koldanda 49.50 266 *e*P **P 13 44 05.1 0.0**
comp=Z,43nm,1.1s,mb5.4
DDI Dehra Dun 51.33 273 *e*P **P 13 44 17.6 -1.4**
ARCES ARCESS Array B 52.02 337 P **P 13 44 24.8 +1.1**
comp=Z,6.8nm,1.0s,mb4.5,baz=44,slow=7.1,SNR=6.7
ARCES PcP PcP 13 45 35.7 -0.4
comp=Z,5.6nm,0.8s,baz=53,slow=6.1,SNR=5.5
YKW3 Yellowknife Ar 52.19 35 *e*P **P 13 44 23.9 -1.1**
YKA Yellowknife Ar 52.23 35 P **P 13 44 24.0 -1.4**
comp=Z,3.8nm,0.6s,mb4.5,baz=307,slow=7.3,SNR=75
NDI New Delhi 52.97 272 *e*P **P 13 44 29.0 -2.4**
JOF Joensuu 54.85 329 *e*p **P 13 44 42.9 -1.8**
comp=Z,7.0nm,0.9s,mb4.7
KAF Kangasniemi 57.07 330 *e*p **P 13 44 59.8 -0.9**
comp=Z,11nm,0.8s,mb4.9,baz=42,slow=6.9
KAF Kangasniemi 57.07 330 *e*P **P 13 44 59.8 -0.9**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.9
SUMG Summit 57.47 0 *e*P **P 13 45 02.8 -0.6**
comp=Z,28nm,0.8s,mb5.3
FINES FINESS Array B 57.63 329 P **P 13 45 03.2 -1.5**
comp=Z,11nm,0.7s,mb5.0,baz=56,slow=6.9,SNR=31
FINES PcP PcP 13 45 57.5 -0.1
comp=Z,5.6nm,0.6s,baz=91,slow=5.6,SNR=11
OBN Obninsk 58.23 319 *e*P **P 13 45 08.1 -0.8**
OBN pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
EDM Edmonton 58.80 43 *e*P **P 13 45 11.5 -1.4**
VSU Vasula 59.62 327⇓ *e*P **P 13 45 18.2 -0.3**
HNR Honiara 61.36 160 PFAKE 13 45 40.0 +9.0
HNR LR LR
comp=Z,1µm,20.0s,MS5.1
YBH Yreka Blue Hor 62.09 58 *e*P **P 13 45 36.4 +0.8**
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 62.09 58 *e*P **P 13 45 36.4 +0.8**
comp=Z,8.4nm,1.0s,mb4.8
GOF Gofitskoye 62.21 308⇓ *i*P **P 13 45 36.5 +0.2**
GOF pmax pmax
comp=Z,100nm,1.3s,mb5.8
SHE Samaxi 62.30 301 *e*P **P 13 45 43.1 +6.1**
SHE *i* *PP pP 13 45 48.3 +8.2
SHE pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
FFC Flin Flon 62.36 36 *e*P **P 13 45 35.8 -1.4**
FFC pmax pmax
comp=Z,22nm,0.9s,mb5.3
FFC MLR MLR
comp=Z,234nm,21.0s,MS4.3
FFC Flin Flon 62.36 36 *e*P **P 13 45 35.8 -1.4**
comp=Z,22nm,0.9s,mb5.3
FFC LR LR
comp=Z,234nm,21.0s,MS4.3
NB2 NORSAR Subarra 62.37 336 P **P 13 45 35.6 -1.6**
comp=Z,14nm,0.8s,mb5.2,baz=33,slow=6.2
NB2 NORSAR Subarra 62.37 336 P **P 13 45 35.6 -1.6**
NB2 pmax pmax
comp=Z,14nm,0.8s,mb5.1
NOA NORSAR Array B 62.37 336 P **P 13 45 35.9 -1.3**
comp=Z,10nm,0.8s,mb5.0,baz=34,slow=6.5,SNR=24
NOA PcP PcP 13 46 16.8 +0.3
comp=Z,3.8nm,0.7s,baz=33,slow=2.9,SNR=6.7
HFS Hagfors 62.45 334 P **P 13 45 36.3 -1.4**
comp=Z,29nm,1.0s,mb5.4,baz=63,slow=6.6,SNR=20
SFJD Kangerlussuaq 62.66 6 *i* P **P 13 45 39.3 +0.3**
comp=Z,18nm,0.8s,mb5.3
BMO Blue Mountains 62.75 52 *e*P **P 13 45 40.0 +0.1**
comp=Z,9.7nm,1.2s,mb4.8
BMO LR LR
comp=Z,841nm,20.0s,MS4.9
MSO Missoula 63.01 49 *e*P **P 13 45 41.6 +0.1**
comp=Z,11nm,1.1s,mb4.9
KAD Karad 63.03 265 *e*P **P 13 45 41.0 -1.1**
KIV Kislovodsk 63.16 307 *e*P **P 13 45 43.1 +0.5**
KIV pmax pmax
comp=Z,99nm,1.2s,mb5.8
KIV Kislovodsk 63.16 307 *e*P **P 13 45 43.1 +0.5**
comp=Z,99nm,1.2s,mb5.8
KIV LR LR
comp=Z,139nm,21.0s,MS4.1
CHMT Chamberlain Mo 63.28 48 *e*P **P 13 45 41.0 -2.3**
KAKA Kakadu 63.31 191⇓ *i*P **P 13 45 43.3 -0.7**
comp=Z,26nm,0.6s,mb5.5
TI2 Plekhanov 63.65 304 *i* P **P 13 45 49.0 +3.2**
WVOR Wild Horse Val 63.77 55 *e*P **P 13 45 47.7 +1.1**
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
WVOR Wild Horse Val 63.77 55 *e*P **P 13 45 47.7 +1.2**
comp=Z,8.7nm,1.0s,mb4.7
KONO Kongsberg 63.98 336 PFAKE 13 46 00.0 +12
KONO LR LR
comp=Z,1µm,20.0s,MS5.0
OHCM Honcut 64.43 59 *e*P **P 13 45 51.7 +0.7**
AKASG Malin Array Be 64.49 320 P **P 13 45 49.7 -1.5**
comp=Z,6.7nm,0.4s,mb5.0,baz=36,slow=7.5,SNR=29
AKASG Malin Array Be 64.49 320 P **P 13 45 49.7 -1.5**
GNI Garni 64.77 303 P **P 13 45 54.1 +0.9**
comp=Z,6.2nm,0.6s,mb4.8,baz=340,slow=12,SNR=3.7
GNI Garni 64.77 303 P **P 13 45 54.1 +0.9**
GNI LR LR
comp=Z,580nm,19.0s,MS4.8
SOC Sochi 64.93 309 *i* P **P 13 45 52.2 -1.9**
SOC *e* 13 46 24.7
SOC *e* 13 48 15.2
SOC *e*PPP PPP 13 49 48.0 -4.9
SOC *e*S **S 13 54 31.0 -3.0**
SOC *e* 13 55 41.7
SOC *e*SS SS 13 58 45.1 -2.5
SOC pmax pmax
comp=Z,47nm,1.1s,mb5.4
SOC pmax pmax
comp=N,14nm,0.8s
SOC pmax pmax
comp=E,5.0nm,0.5s
BOZ Bozeman (W) 64.97 48 *e*P **P 13 45 54.3 0.0**
BOZ pmax pmax
comp=Z,18nm,1.0s,mb5.1
BOZ MLR MLR
comp=Z,672nm,19.0s,MS4.9
BOZ Bozeman (W) 64.97 48 *e*P **P 13 45 54.3 0.0**
comp=Z,18nm,1.0s,mb5.0
BOZ LR LR
comp=Z,672nm,19.0s,MS4.9
MCMT McKenzie Canyo 64.98 49 *e*P **P 13 45 52.9 -1.5**
HLID Hailey 65.12 51 PFAKE 13 46 10.0 +15
HLID LR LR
comp=Z,666nm,19.0s,MS4.9
QLMT Earthquake Lak 65.67 49 *e*P **P 13 45 59.3 +0.5**
BMN Battle Mountai 65.94 55 PFAKE 13 46 10.0 +9.3
BMN LR LR
comp=Z,888nm,20.0s,MS5.0
CMB Columbia Colle 65.96 59 PFAKE 13 46 10.0 +9.2
CMB LR LR
comp=Z,732nm,19.0s,MS4.9
YMR Madison River 66.01 48 *e*P **P 13 46 00.9 -0.1**
DGMT Dagmar 66.23 42 *e*P **P 13 46 01.4 -0.9**
comp=Z,21nm,0.9s,mb5.2
DGMT LR LR
comp=Z,510nm,19.0s,MS4.8
LKWY Lake 66.36 48 PFAKE 13 46 20.0 +17
LKWY LR LR
comp=Z,1µm,19.0s,MS5.1
LAO LASA Array 66.70 44 PFAKE 13 46 20.0 +15
LAO LR LR
comp=Z,721nm,19.0s,MS4.9
ELK Elko 66.75 54 PFAKE 13 46 20.0 +14
ELK LR LR
comp=Z,798nm,20.0s,MS4.9
NVAR Mina Array Bea 66.81 58 P **P 13 46 06.4 +0.2**
comp=Z,3.5nm,0.6s,mb4.6,baz=319,slow=4.7,SNR=29
RRI2 Red Ridge 66.81 50 *e*P **P 13 46 06.5 +0.3**
TPAW Teton Pass 66.89 49 *e*P **P 13 46 08.3 +1.7**
MNV Mina 66.89 57 PFAKE 13 46 20.0 +13
MNV LR LR
comp=Z,1µm,21.0s,MS5.0
LOHW Long Hollow 66.97 49 *e*P **P 13 46 08.7 +1.5**
LVV L'vov 67.29 322 *e*P **P 13 46 08.4 -0.7**
AHID Auburn Hatcher 67.35 50 PFAKE 13 46 20.0 +10
AHID LR LR
comp=Z,655nm,20.0s,MS4.8
KIS Kishinev 67.50 317 *e*P **P 13 46 09.0 -1.4**
KWP Kalwaria 67.96 322 *e*P **P 13 46 13.2 -0.1**
HWUT Hardware Ranch 67.99 51 *e*P **P 13 46 13.7 0.0**
comp=Z,20nm,1.0s,mb5.1
HWUT LR LR
comp=Z,812nm,21.0s,MS4.9
BW06 Boulder Array 68.11 49 PFAKE 13 46 30.0 +16

BW06 LR LR
comp=Z,664nm,20.0s,MS4.9
PDAR Pinedale Array 68.11 49 P **P 13 46 13.8 -0.6**
comp=Z,4.2nm,0.6s,mb4.7,baz=13,slow=1.8,SNR=54
ULM Lac du Bonnet 68.19 36 P **P 13 46 13.1 -1.6**
comp=Z,11nm,0.7s,mb5.0,baz=319,slow=6.8,SNR=15
ULM Lac du Bonnet 68.19 36 *eP* **P 13 46 13.0 -1.7**
comp=Z,27nm,0.9s,mb5.3
DUG Dugway 68.41 53 PFAKE 13 46 30.0 +14
DUG LR LR
comp=Z,8μm,20.0s
BURAR Bucovina Array 68.55 320 ⇓P **P 13 46 16.6 -0.4**
OJC Ojcow 68.59 324 *eP* **P 13 46 17.8 +0.6**
KOLS Kolonicke sedl 68.69 322 *i* P **P 13 46 18.5 +0.7**
DAC Darwin (Calif) 68.77 59 PFAKE 13 46 30.0 +11
DAC LR LR
comp=Z,622nm,20.0s,MS4.8
CRVS Cervenica-Dubn 69.03 323 *i* P **P 13 46 20.6 +0.7**
DAU Daniels Canyon 69.04 52 *eP* **P 13 46 20.0 -0.1**
NIE Niedzica 69.05 324 *eP* **P 13 46 18.6 -1.5**
MPU Maple Canyon 69.14 52 *eP* **P 13 46 20.9 +0.2**
CFR Carcaliu 69.21 316 ⇓P **P 13 46 21.4 +0.3**
VRI Vrincioaia 69.29 318 ⇑P **P 13 46 24.7 +3.1**
KSP Ksiaz 69.35 327 *eP* **P 13 46 21.7 -0.1**
OKC Ostrava-Krasne 69.52 325 *eP* **P 13 46 23.1 +0.2**
FITZ Fitzroy Crossi 69.66 197 *eP* **P 13 46 23.5 -0.8**
comp=Z,30nm,0.9s,mb5.2
HARR Harsova 69.68 316 ⇓P **P 13 46 24.4 +0.4**
UPC Upice 69.73 327 *eP* **P 13 46 24.1 -0.1**
DPC Dobruska-Polom 69.75 327 *eP* **P 13 46 23.8 -0.5**
MORC Moravsky Berou 69.79 326 *eP* **P 13 46 24.1 -0.4**
MORC pmax pmax
comp=Z,16nm,0.8s,mb5.0
MORC Moravsky Berou 69.79 326 *eP* **P 13 46 24.1 -0.4**
comp=Z,16nm,0.8s,mb5.0
ARUT Antelope Range 69.88 55 *eP* **P 13 46 26.2 +0.9**
TMUT Trail Mountain 69.90 52 *eP* **P 13 46 25.7 +0.3**
MLR Muntele Rosu 69.92 318 P **P 13 46 25.7 +0.3**
MLR pmax pmax
comp=Z,14nm,0.6s
MLR Muntele Rosu 69.92 318 P **P 13 46 25.7 +0.3**
comp=Z,14nm,0.6s,mb5.1,baz=347,slow=3.8,SNR=25
MLR Muntele Rosu 69.92 318 ⇓P **P 13 46 26.2 +0.8**
ISR Istrita 69.96 317 ⇓P **P 13 46 26.8 +1.1**
MSU Marysvale 69.99 54 *eP* **P 13 46 26.4 +0.4**
CLL Collm 70.08 329 ⇑*i*P **P 13 46 26.6 +0.3**
CLL pmax pmax
comp=Z,30nm,1.0s,mb5.2
CLL Collm 70.08 329 ⇑*i*P **P 13 46 26.6 +0.3**
comp=Z,30nm,1.0s,mb5.2
CLL Collm 70.08 329 ⇑P **P 13 46 26.6 +0.3**
comp=Z,logA/T=1.5,mb5.2
CTAO Charters Tower 70.11 176 PFAKE 13 46 40.0 +13
CTAO LR LR
comp=Z,2μm,20.0s,MS5.3
BRG Berggiesshubel 70.13 328 *eP* **P 13 46 25.7 -0.9**
BRG pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BRG Berggiesshubel 70.13 328 *eP* **P 13 46 25.7 -0.9**
comp=Z,5.3nm,0.7s,mb4.6
PVCC Panska Ves 70.21 328 *eP* **P 13 46 27.6 +0.5**
SNX Sinaia 70.21 318 P **P 13 46 28.5 +1.3**
WRAB Tennant Creek 70.24 188 *eP* **P 13 46 27.5 -0.3**
WRAB pmax pmax
comp=Z,18nm,0.9s,mb5.0
WRAB Tennant Creek 70.24 188 *eP* **P 13 46 27.5 -0.3**
comp=Z,18nm,0.9s,mb5.0
WRA Warrumunga Arr 70.25 188 P **P 13 46 26.8 -1.0**
comp=Z,9.6nm,0.9s,mb4.7,baz=5.6,slow=6.6,SNR=43
VYHS Vyhne 70.37 324 *i* P **P 13 46 28.0 -0.1**
SRU San Rafael 70.39 52 *eP* **P 13 46 29.0 +0.6**
CLZ Clausthal 70.47 331 *eP* **P 13 46 29.3 +0.7**
comp=Z,24nm,1.1s,mb5.0
VRAC Vranov 70.52 326 ⇑P **P 13 46 27.9 -1.1**
VRAC Vranov 70.52 326 P **P 13 46 29.2 +0.2**
comp=Z,5.8nm,0.6s,mb4.7,baz=35,slow=5.1,SNR=5.7
PRU Pruhonice 70.67 327 *eP* **P 13 46 30.8 +0.8**
BRTR Keskin Array B 70.84 309 P **P 13 46 31.2 +0.1**
comp=Z,6.2nm,0.8s,mb4.6,baz=72,slow=3.9,SNR=15
EKA Eskdalemuir Ar 70.94 340 P **P 13 46 32.5 +1.0**
comp=Z,20nm,1.0s,mb5.0,baz=19,slow=5.0,SNR=18
ESK Eskdalemuir 70.97 340 PFAKE 13 46 40.0 +8.4
ESK LR LR
comp=Z,213nm,22.0s,MS4.4
MOX Moxa 71.10 329 *eP* **P 13 46 33.3 +0.8**
MOX pmax pmax
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 71.10 329 *eP* **P 13 46 33.3 +0.8**
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 71.10 329 *i* P **P 13 46 33.3 +0.8**
comp=Z,logA/T=1.1,mb4.8
ANTO Ankara 71.14 310 ⇓P **P 13 46 34.8 +1.8**
NKC Novy Kostel 71.18 329 *eP* **P 13 46 32.7 -0.3**
BZS Buzias 71.63 321 ⇓P **P 13 46 35.2 -0.6**
PV10 Paradox Valley 71.70 52 *eP* **P 13 46 37.8 +1.5**
EYMN Ely 71.72 35 *eP* **P 13 46 34.1 -2.2**
EYMN LR LR
comp=Z,26nm,0.8s,mb5.2
KHC Kasperske Hory 71.74 327 *eP* **P 13 46 36.2 -0.2**
KHC *e* 13 46 45.0
KHC Kasperske Hory 71.74 327 *eP* **P 13 46 36.2 -0.2**
KHC x x 13 46 45.0
GEC2 GERESS Array S 71.94 327 *eP* **P 13 46 37.1 -0.5**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
GEC2 GERESS Array S 71.94 327 *eP* **P 13 46 37.1 -0.5**
comp=Z,7.0nm,1.1s,mb4.5
GERES GERESS Array B 71.94 327 P **P 13 46 37.5 -0.1**
comp=Z,1.8nm,0.6s,mb4.2,baz=34,slow=4.8,SNR=17
WET Wettzell 71.97 328 *eP* **P 13 46 37.9 +0.2**
WET pmax pmax
comp=Z,15nm,1.1s,mb4.8
WET Wettzell 71.97 328 *eP* **P 13 46 37.9 +0.2**
comp=Z,15nm,1.1s,mb4.8
GRA1 Grafenberg Arr 72.05 329 *eP* **P 13 46 39.4 +1.2**
comp=Z,40nm,1.0s,mb5.3
GRF Grafenberg Arr 72.05 329 *eP* **P 13 46 39.4 +1.2**
GRF pmax pmax
comp=Z,40nm,1.0s,mb5.3
GRF Grafenberg Arr 72.05 329 *eP* **P 13 46 39.4 +1.2**
GRF pmax pmax
comp=Z,40nm,1.0s,mb5.3
GRF Grafenberg Arr 72.05 329 *eP* **P 13 46 39.4 +1.2**
comp=Z,40nm,1.0s,mb5.3
PV01 Paradox Valley 72.12 52 *eP* **P 13 46 39.8 +1.0**
ISCO Idaho Springs 72.29 49 PFAKE 13 46 50.0 +10
ISCO LR LR
comp=Z,799nm,22.0s,MS5.0
PKSM Moragy 72.33 323 ⇑P **P 13 46 39.4 -0.5**
ESKT Eskisehir 72.36 311 *i* P **P 13 46 40.1 -0.2**
SCHQ Schefferville 72.45 17 P **P 13 46 40.6 +0.1**
comp=Z,9.4nm,1.1s,mb4.6,baz=335,slow=7.6,SNR=6.4
WUAZ Wupatki 72.68 55 *eP* **P 13 46 43.9 +1.7**
comp=Z,508nm,1.5s
ULDT Uludag 72.70 313 *i* P **P 13 46 42.0 -0.2**
VTS Vitosha 73.42 318 ⇓P **P 13 46 47.2 +0.9**
GIVF Givet 73.67 333 *eP* **P 13 46 46.6 -1.0**
BAIF Baives 73.89 333 *eP* **P 13 46 47.9 -1.0**
comp=Z,27nm,1.0s,mb4.8
BAIF Baives 73.89 333 *eP* **P 13 46 47.9 -1.0**
BAIF pmax pmax
comp=Z,13nm,1.0s,mb4.8
MBWA Marble Bar 73.89 202 *eP* **P 13 46 49.5 0.0**
comp=Z,14nm,1.0s,mb4.8
ASAR Alice Springs 73.98 188 P **P 13 46 50.0 +0.1**
comp=Z,9.0nm,0.9s,mb4.7,baz=2.4,slow=5.2,SNR=67
ASPA Alice Springs 73.98 188 ⇓*i*P **P 13 46 50.2 +0.3**
VISS Visnje 74.11 325 *eP* **P 13 46 50.6 +0.3**
BFO Black Forest 74.17 330 *eP* **P 13 46 51.4 +0.8**
BFO pmax pmax
comp=Z,20nm,1.2s,mb4.9
BFO Black Forest 74.17 330 *eP* **P 13 46 51.4 +0.8**
comp=Z,20nm,1.2s,mb4.9
BOJS Bojanci 74.21 324 *i* P **P 13 46 51.8 +1.0**
CEY Cerknica 74.32 325 *eP* **P 13 46 51.7 +0.2**
JAVS Javornik 74.32 325 *eP* **P 13 46 51.7 +0.2**
CDF Champ du Feu 74.44 331 *eP* **P 13 46 51.4 -0.7**
comp=Z,19nm,0.9s,mb4.7
CDF Champ du Feu 74.44 331 *eP* **P 13 46 51.4 -0.7**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ASF Jabal al Asfar 74.92 302 P **P 13 46 56.3 +1.1**
comp=Z,1.3nm,0.4s,mb4.2,baz=307,slow=4.5,SNR=4.3
DAVOX Davos 75.02 328 P **P 13 46 56.8 +1.3**
comp=Z,7.2nm,0.6s,mb4.8,baz=16,slow=8.6,SNR=9.6
HAU Haudompre 75.08 331 *eP* **P 13 46 54.7 -1.1**
HINF Hinteralfeld 75.09 331 *eP* **P 13 46 54.7 -1.2**
ANMO Albuquerque 75.66 52 P **P 13 47 00.8 +1.4**
ANMO MLR MLR
comp=Z,618nm,20.0s
ANMO Albuquerque 75.66 52 P **P 13 47 00.8 +1.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=332,slow=8.3,SNR=4.2
CBKS Cedar Bluff 75.83 45 PFAKE 13 47 10.0 +10
CBKS LR LR
comp=Z,628nm,20.0s,MS4.9
FLN La Foliniere 76.36 336 *eP* **P 13 47 02.0 -1.0**
comp=Z,78nm,1.1s,mb5.2
FLN La Foliniere 76.36 336 *eP* **P 13 47 02.0 -1.0**
FLN pmax pmax
comp=Z,39nm,1.1s,mb5.2
LDF La Druitiere 76.42 335 *eP* **P 13 47 03.3 -0.1**
JFWS Jewell Farm 76.44 37 PFAKE 13 47 20.0 +16
JFWS LR LR
comp=Z,804nm,20.0s,MS5.0
SSF Saint Saulge 76.79 333 *eP* **P 13 47 04.5 -1.0**
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SSF Saint Saulge 76.79 333 *eP* **P 13 47 04.5 -1.0**
comp=Z,5.4nm,0.6s,mb4.7
GRR Gorron 76.80 336 *eP* **P 13 47 04.7 -0.8**
SMF Signal de Mont 77.06 332 *eP* **P 13 47 06.2 -0.8**
comp=Z,34nm,0.8s,mb5.0
SMF Signal de Mont 77.06 332 *eP* **P 13 47 06.2 -0.8**
SMF pmax pmax
comp=Z,17nm,0.8s,mb5.0
AVF Avril sur Loir 77.08 333 *eP* **P 13 47 06.2 -0.9**
comp=Z,31nm,1.0s,mb4.9
AVF Avril sur Loir 77.08 333 *eP* **P 13 47 06.2 -0.9**
AVF pmax pmax
comp=Z,16nm,1.0s,mb4.9
LPL La Plagne 77.17 330 *eP* **P 13 47 06.9 -0.8**
comp=Z,13nm,0.7s,mb4.7
LPL La Plagne 77.17 330 *eP* **P 13 47 06.9 -0.8**
LPL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
LPG La Plagne 77.19 330 *eP* **P 13 47 07.3 -0.4**
comp=Z,19nm,0.8s,mb4.8
LPG La Plagne 77.19 330 *eP* **P 13 47 07.3 -0.4**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SGMF Saint Gilles 77.36 337 *eP* **P 13 47 08.2 -0.4**
comp=Z,23nm,0.7s,mb4.9
SGMF Saint Gilles 77.36 337 *eP* **P 13 47 08.2 -0.4**
SGMF pmax pmax
comp=Z,12nm,0.7s,mb4.9
BGF Bois d'Agland 77.44 333 *eP* **P 13 47 08.3 -0.8**
comp=Z,7.9nm,0.6s,mb4.5
BGF Bois d'Agland 77.44 333 *eP* **P 13 47 08.3 -0.8**
BGF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ROSF Rostrenen 77.46 337 *eP* **P 13 47 08.9 -0.3**
comp=Z,63nm,1.0s,mb5.2
ROSF Rostrenen 77.46 337 *eP* **P 13 47 08.9 -0.3**
ROSF pmax pmax
comp=Z,31nm,1.0s,mb5.2
QUIF Quistinic 77.83 337 *eP* **P 13 47 10.1 -1.1**
MBDF Montbardon 77.86 329 *eP* **P 13 47 11.4 -0.1**
comp=Z,17nm,0.7s,mb4.8
MBDF Montbardon 77.86 329 *eP* **P 13 47 11.4 -0.1**
MBDF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TCF Toulx Ste Croi 77.87 333 *eP* **P 13 47 10.9 -0.6**
comp=Z,22nm,0.8s,mb4.8
TCF Toulx Ste Croi 77.87 333 *eP* **P 13 47 10.9 -0.6**
TCF pmax pmax
comp=Z,11nm,0.8s,mb4.8
EIL Elat 77.91 302 P **P 13 47 12.6 +0.5**
comp=Z,7.8nm,0.8s,mb4.7,baz=28,slow=6.3,SNR=6.6
EIL Elat 77.91 302 P **P 13 47 12.6 +0.5**
ORIF Oris-en-Rattie 77.98 330 *eP* **P 13 47 11.3 -0.8**
comp=Z,24nm,0.8s,mb4.8
ORIF Oris-en-Rattie 77.98 330 *eP* **P 13 47 11.3 -0.8**
ORIF pmax pmax
comp=Z,12nm,0.8s,mb4.9
AMTX Amarillo 78.09 49 PFAKE 13 47 20.0 +7.1
AMTX LR LR
comp=Z,753nm,19.0s,MS5.0
MFF Saint Martin d 78.25 335 *eP* **P 13 47 13.3 -0.3**
comp=Z,30nm,0.7s,mb5.0
MFF Saint Martin d 78.25 335 *eP* **P 13 47 13.3 -0.3**
MFF pmax pmax
comp=Z,15nm,0.7s,mb5.0
SBF Sospel 78.41 329 *eP* **P 13 47 14.7 +0.2**
comp=Z,43nm,0.9s,mb5.1
SBF Sospel 78.41 329 *eP* **P 13 47 14.7 +0.2**
SBF pmax pmax
comp=Z,21nm,0.9s,mb5.1
VIVF Saint-Julien-l 78.42 331 *eP* **P 13 47 14.3 -0.2**
comp=Z,18nm,0.8s,mb4.7
VIVF Saint-Julien-l 78.42 331 *eP* **P 13 47 14.3 -0.2**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MNTX Cornudas Mount 78.78 54 *eP* **P 13 47 17.7 +0.9**
comp=Z,8.8nm,0.9s,mb4.7
MNTX LR LR
comp=Z,641nm,20.0s,MS5.0
RJF Les Rejaudoux 78.97 333 *eP* **P 13 47 16.4 -1.1**
PGF Pioggiola 79.03 327 *eP* **P 13 47 17.8 -0.2**
CAF Calviac 79.15 333 *eP* **P 13 47 18.6 +0.1**
LASF Ste Croix 79.38 331 *eP* **P 13 47 19.9 +0.1**
comp=Z,15nm,0.8s,mb4.7
AAM Ann Arbor 79.39 33 PFAKE 13 47 30.0 +10
AAM LR LR
comp=Z,552nm,20.0s,MS4.9
LFF La Frestale 79.52 333 *eP* **P 13 47 20.6 0.0**
WMOK Wichita Mounta 79.59 47 *eP* **P 13 47 20.9 -0.2**
WMOK pmax pmax
comp=Z,23nm,1.4s,mb4.9
WMOK Wichita Mounta 79.59 47 *eP* **P 13 47 20.9 -0.3**
comp=Z,23nm,1.4s,mb4.9
CCM Cathedral Cave 80.17 40 PFAKE 13 47 40.0 +16
CCM LR LR
comp=Z,704nm,20.0s,MS5.0
MTLF Montolieu 80.55 332 *eP* **P 13 47 25.4 -0.7**
comp=Z,11nm,0.7s,mb4.6
MTLF Montolieu 80.55 332 *eP* **P 13 47 25.4 -0.7**
MTLF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
FVM French Village 80.57 40 *eP* **P 13 47 26.8 +0.5**
FVM pmax pmax
comp=Z,13nm,1.0s,mb4.8
FVM French Village 80.57 40 *eP* **P 13 47 26.8 +0.5**
comp=Z,12nm,1.0s,mb4.8
ERPA Erie 80.80 31 PFAKE 13 47 40.0 +13
ERPA LR LR
comp=Z,676nm,20.0s,MS5.0
EPF Esparros 81.39 333 *eP* **P 13 47 30.1 -0.4**
comp=Z,6.8nm,0.6s,mb4.5
EPF Esparros 81.39 333 *eP* **P 13 47 30.1 -0.4**
EPF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ACSO Alum Creek Sta 81.46 33 PFAKE 13 47 40.0 +9.1
ACSO LR LR
comp=Z,1μm,19.0s,MS5.2
LTX Lajitas 81.55 54 *eP* **P 13 47 33.3 +1.7**
LTX pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LTX MLR MLR
comp=Z,570nm,20.0s,MS4.9
LTX Lajitas 81.55 54 *eP* **P 13 47 33.2 +1.6**
comp=Z,6.9nm,0.8s,mb4.6
LTX LR LR
comp=Z,570nm,20.0s,MS4.9
TXAR Lajitas Array 81.55 54 P **P 13 47 32.7 +1.1**
comp=Z,3.4nm,0.6s,mb4.5,baz=293,slow=4.1,SNR=19
TXAR Lajitas Array 81.55 54 P **P 13 47 32.7 +1.1**
FORT Forrest 81.68 193 *eP* **P 13 47 32.8 +0.5**
comp=Z,853nm,0.8s
ETSF Etsaut 81.77 333 *eP* **P 13 47 33.0 +0.5**
comp=Z,9.7nm,0.6s,mb4.6
ETSF Etsaut 81.77 333 *eP* **P 13 47 33.0 +0.5**
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
STKA Stephens Creek 81.77 181 P **P 13 47 34.0 +1.3**
comp=Z,2.1nm,0.9s,mb4.1,baz=351,slow=13,SNR=4.4
EMMW East Machias 81.90 21 PFAKE 13 47 40.0 +6.9
EMMW LR LR
comp=Z,5μm,19.0s
MIAR Mount Ida 82.14 44 *eP* **P 13 47 35.1 +0.6**
MIAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MIAR Mount Ida 82.14 44 *eP* **P 13 47 35.0 +0.5**
comp=Z,4.6nm,0.7s,mb4.5
JCT Junction City 82.58 50 *eP* **P 13 47 37.5 +0.6**
JCT pmax pmax
comp=Z,27nm,1.0s,mb5.2
JCT MLR MLR
comp=Z,646nm,22.0s,MS5.0
JCT Junction City 82.58 50 *eP* **P 13 47 37.5 +0.6**
comp=Z,27nm,1.0s,mb5.2
JCT LR LR
comp=Z,646nm,22.0s,MS5.0
MCWV Mont Chateau 83.05 32 PFAKE 13 47 50.0 +11
MCWV LR LR
comp=Z,881nm,19.0s,MS5.2
DGAR Diego Garcia 83.15 250 PFAKE 13 47 50.0 +10
DGAR LR LR
comp=Z,163nm,21.0s,MS4.4
WVT Waverly 83.22 39 *eP* **P 13 47 41.6 +1.5**
WVT pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
WVT Waverly 83.22 39 *eP* **P 13 47 41.6 +1.5**
comp=Z,10.0nm,1.0s,mb4.8
NATX Nacogdoches 83.98 46 *eP* **P 13 47 44.6 +0.6**
comp=Z,57nm,1.2s,mb5.6
HKT Hockley 84.94 48 PFAKE 13 48 00.0 +11
HKT LR LR
comp=Z,736nm,19.0s,MS5.1
CBN Corbin 85.19 30 PFAKE 13 48 00.0 +10
CBN LR LR
comp=Z,912nm,20.0s,MS5.2
ESDC Sonseca Array 85.71 335 P **P 13 47 53.1 +0.6**
comp=Z,7.8nm,0.7s,mb5.0,baz=14,slow=4.2,SNR=28
ESLA Sonseca Array 85.72 335 *eP* **P 13 47 53.5 +1.0**
comp=Z,1.4nm,0.7s,mb4.3
ESLA LR LR
comp=Z,3μm,20.0s,MS5.6
NWAO Narrogin (SRO) 85.78 201 *eP* **P 13 47 52.4 -0.6**
NWAO pmax pmax
comp=Z,25nm,1.2s
NWAO Narrogin (SRO) 85.78 201 P **P 13 47 54.8 +1.7**
comp=Z,14nm,0.9s,mb5.2,baz=35,slow=3.2,SNR=3.9
NWAO Narrogin (SRO) 85.78 201 *eP* **P 13 47 52.4 -0.6**
comp=Z,25nm,1.2s,mb5.3
LRAL Lakeview Retre 86.24 40 PFAKE 13 48 10.0 +15
LRAL LR LR
comp=Z,555nm,19.0s,MS5.0
GOGA Godfrey 87.32 37 PFAKE 13 48 10.0 +9.5
GOGA LR LR
comp=Z,597nm,20.0s,MS5.0
EVO Evora 87.85 337 *eP* **P 13 48 02.1 -0.9**
comp=Z,3.4nm,0.5s,mb4.6
DWPF Disney 92.82 38 PFAKE 13 48 40.0 +14
DWPF LR LR
comp=Z,462nm,21.0s,MS4.9
KMBO Kilima Mbogo 100.57 281 PFAKE 13 49 10.0 +8.0
KMBO LR LR
comp=Z,354nm,22.0s,MS4.8
MBAR Mbarara 104.22 287 PFAKE 13 49 30.0 +12
MBAR LR LR
comp=Z,87nm,20.0s,MS4.3
JTS JuntasAbangare 106.94 49 PFAKE 13 53 50.0
JTS LR LR
comp=Z,154nm,21.0s,MS4.5
DBIC Dimbokro 116.63 323 PFAKE 13 54 10.0 +10
DBIC LR LR
comp=Z,403nm,19.0s,MS5.1
LSZ Lusaka 117.10 279 PFAKE 13 54 10.0 +9.0
LSZ LR LR
comp=Z,383nm,20.0s,MS5.0
LBTB Lobatse 125.85 273 *e*PKIKP PKPdf 13 54 14.9 -2.9
LBTB MLR MLR
comp=Z,326nm,19.0s,MS5.0
BOSA Boshof 128.57 270 PFAKE 13 54 30.0 +7.1
BOSA LR LR
comp=Z,325nm,19.0s,MS5.0
QSPA South Pole Qui 139.99 180 *e*PKPpre 13 54 32.5

SKHL ***02*** *13:37:15.6±0.1, 50.36N×142.20E, h10km, mb4.8/2*
IDC ***02*** *13:37:18.8±0.8, 50.29N×142.35E, mb4.2/10, mb1 4.5/10, mb1mx4.2/21, mbtmp4.2/10, Error ellipse: s-maj=30.4km s-min=21.1km az=110.0*
MOS ***02*** *13:37:21.5±1.1, 50.38N×142.42E, h29km, mb4.5/7, Error ellipse: s-maj=42.2km s-min=17.2km az=91.5*
ISC 02 13:37:17.8±0.4,**50.34N**±0.02×**142.17E**±0.05,**h10**km,**n29, σ1§47/33, mb4.3**/12,**1C-3D, Sakhalin Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TYV	**Tymovskoe**	**0.61**	**30**	⇑*i*Pg	**Pg**	**13 37 27.0**	**-3.1**
TYV				AMB	AMB	13 37 30.5	
	405nm,0.5s						
TYV				*e*Sg	**Sg**	**13 37 35.0**	**-3.3**
TYV				AMS	AMS	13 37 44.0	
	22μm,5.0s						
TYV				AMS	AMS	13 37 44.0	
	16μm,6.0s						
UGL	**Uglegorsk**	**1.27**	**183**	⇓*i*PN	**Pn**	**13 37 44.5**	**+2.9**
UGL				S	**Sb**	**13 37 58.5**	**+1.0**
UGL				pmax	pmax		
	comp=N,1μm,0.7s						
UGL				pmax	pmax		
	comp=Z,1μm,0.7s						
UGL				pmax	pmax		
	comp=E,1μm,0.5s						
UGL				smax			
	comp=N,2μm,0.5s						
UGL				smax			
	comp=E,2μm,0.5s						
UGL				smax			
	comp=Z,2μm,0.5s						
UGL	**Uglegorsk**	**1.27**	**183**	⇓*i*Pg	**Pg**	**13 37 41.2**	**-1.9**
UGL				⇓*i*pP		13 37 44.4	
UGL				AMB	AMB	13 37 45.5	
	comp=Z,1μm,0.7s						
UGL				AMB	AMB	13 37 45.5	
	comp=Z,1μm,0.7s						
UGL				AMB	AMB	13 37 45.5	
	comp=Z,1μm,0.5s						
UGL				*e*Sg	**Sg**	**13 37 59.1**	**-0.9**
UGL				A		13 38 01.5	
	comp=Z,2μm,0.5s						
UGL				A		13 38 01.5	
	comp=Z,2μm,0.5s						
NKL	**Nikolayevsk**	**2.96**	**342**	*e*Sg	**Sg**	**13 38 55.0**	**-1.5**
YSS	**Yuzh-Sakhalins**	**3.41**	**173**	*e*Sg	**Sg**	**13 39 10.0**	**-1.4**
YSS				A		13 39 20.8	
	comp=Z,230nm,0.8s						
YSS				A		13 39 20.8	
	comp=Z,430nm,0.8s						
GRNR	**Gornyy**	**3.69**	**279**	*i* Sg	**Sg**	**13 39 20.0**	**-0.8**
GRNR				A		13 39 26.0	
	comp=Z,323nm,0.5s						
GRNR				A		13 39 26.0	
	comp=Z,408nm,0.5s						
EKMR	**Ekimchan**	**6.35**	**299**	*e*Sb	**Sb**	**13 40 22.7**	**-2.4**
EKMR				*i* Sg	**Sg**	**13 40 49.0**	**-0.3**
EKMR				A		13 40 51.5	
	comp=Z,48nm,0.5s						
EKMR				A		13 40 51.5	
	comp=Z,120nm,0.5s						
KUR	**Kuril'sk**	**6.39**	**141**	*e*Sn	**Sn**	**13 40 05.0**	**-3.1**
TEY	**Ternei**	**6.50**	**217**	*e*Sg	**Sg**	**13 40 55.0**	**+0.7**
TEY				A		13 40 58.0	
	comp=Z,38nm,0.5s						
TEY				A		13 40 58.0	
	comp=Z,105nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**6.79**	**157**	*e*Sn	**Sn**	**13 40 15.4**	**-2.8**
ILAR	**Eielson Array**	**38.44**	**41**	P	**P**	**13 44 41.3**	**+0.4**
ILAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ILAR	**Eielson Array**	**38.44**	**41**	P	**P**	**13 44 41.3**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.3,baz=286,slow=7.8,SNR=9.6						
YKA	**Yellowknife Ar**	**52.27**	**35**	P	**P**	**13 46 30.6**	**-0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.27**	**35**	P	**P**	**13 46 30.6**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=307,slow=7.3,SNR=6.0						
FINES	**FINESS Array B**	**57.46**	**329**	P	**P**	**13 47 09.1**	**+0.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	**FINESS Array B**	**57.46**	**329**	P	**P**	**13 47 09.1**	**+0.4**
	comp=Z,2.1nm,0.8s,mb4.2,baz=45,slow=9.8,SNR=3.5						
NOA	**NORSAR Array B**	**62.21**	**335**	P	**P**	**13 47 42.5**	**+1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA	NORSAR Array B	62.21	335	P	P	13 47 42.5	+1.2
	comp=Z,1.6nm,0.8s,mb4.2,baz=35,slow=6.1,SNR=3.5						
KIV	Kislovodsk	62.95	307	eP	P	13 47 49.7	+3.3
KIV				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
NVAR	Mina Array Bea	66.93	57	P	P	13 48 12.3	+0.1
	comp=Z,1.4nm,0.7s,mb4.1,baz=304,slow=6.5,SNR=4.0						
PDAR	Pinedale Array	68.19	49	P	P	13 48 20.6	+0.6
	comp=Z,1.8nm,0.6s,mb4.3,baz=324,slow=2.8,SNR=5.7						
ULM	Lac du Bonnet	68.23	36	P	P	13 48 21.4	+1.2
	comp=Z,2.3nm,0.6s,mb4.4,baz=306,slow=6.2,SNR=5.0						
CLL	Collm	69.90	329	eP	P	13 48 32.0	+1.6
CLL	Collm	69.90	329	P	P	13 48 32.0	+1.6
BRG	Berggiesshubel	69.96	328	i P	P	13 48 32.2	+1.4
BRG				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
WRA	Warramunga Arr	70.31	188	P	P	13 48 33.8	+0.3
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	70.31	188	P	P	13 48 33.8	+0.4
	comp=Z,1.8nm,0.8s,mb4.1,baz=7.1,slow=6.6,SNR=4.8						
ASAR	Alice Springs	74.04	188	P	P	13 48 56.0	+0.5
	comp=Z,1.6nm,0.7s,mb4.0,baz=2.1,slow=5.1,SNR=5.4						
ESDC	Sonseca Array	85.55	334	P	P	13 49 59.2	+2.3
	comp=Z,2.7nm,0.8s,mb4.5,baz=14,slow=4.9,SNR=5.0						

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*IDC **02** 13:45:16.9±3.4, 14.15N×92.32W, mb4.0/5, mb1 4.3/6, mb1mx3.9/18, mbtmp3.9/6, ML4.2/1, Error ellipse: s-maj=90.6km s-min=62.3km az=50.0*
*NEIC **02** 13:45:19.8±1.5, 14.29N×92.25W, h15km, mb4.6/4, Error ellipse: s-maj=27.8km s-min=19.9km az=197.0*
ISC 02 13:45:21.1±3.2**, 14.4N**±0.4×**92.3W**±0.2**, h33km, n21, σ0.78**/20**, mb4.2**/8**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	18.24	326	P	P	13 49 34.2	+0.6
	0.2nm,0.3s,baz=149,slow=10,SNR=4.1						
TXAR	Lajitas Array	18.24	326	P	P	13 49 34.2	+0.6
MIAR	Mount Ida	20.11	357	eP	P	13 49 52.6	-2.3
	38nm,1.6s						
MNTX	Cornudas Mount	21.01	327	eP	P	13 50 03.0	-1.3
	3.0nm,0.7s,mb3.7						
WMOK	Wichita Mounta	21.11	345	eP	P	13 50 05.7	+0.4
AMTX	Amarillo	22.11	339	eP	P	13 50 15.1	-0.2
	38nm,1.3s,mb4.7						
KSU1	Kansas State U	24.92	352	eP	P	13 50 43.4	+0.7
PV10	Paradox Valley	28.14	331	P	P	13 51 12.3	-0.1
PDAR	Pinedale Array	31.97	336	P	P	13 51 46.3	-0.1
	1.2nm,1.0s,mb3.7,baz=143,slow=7.4,SNR=6.9						
SNOW	Snow King Moun	33.04	335	eP	P	13 51 56.1	+0.5
RRI2	Red Ridge	33.18	334	eP	P	13 51 56.4	-0.4
NVAR	Mina Array Bea	33.22	321	P	P	13 51 57.0	-0.2
	1.9nm,0.8s,mb4.0,baz=124,slow=9.3,SNR=12						
FFD	Franklin Falls	33.94	27	P	P	13 52 03.6	+0.2
	102nm,0.7s						
MCMT	McKenzie Canyo	35.02	334	eP	P	13 52 14.3	+1.6
ULM	Lac du Bonnet	35.89	356	P	P	13 52 20.4	+0.4
	0.9nm,0.3s,mb4.1,baz=183,slow=8.6,SNR=4.6						
EDM	Edmonton	42.19	341	eP	P	13 53 13.0	+0.6
YKA	Yellowknife Ar	50.60	347	P	P	13 54 18.8	+0.2
	2.8nm,0.8s,mb4.3,baz=152,slow=7.4,SNR=50						
YKA	Yellowknife Ar	50.60	347	P	P	13 54 18.8	+0.2
INK	Inuvik	60.00	344	eP	P	13 55 26.2	-0.5
	6.2nm,0.8s,mb4.7						
ILAR	Eielson Array	62.39	337	P	P	13 55 42.0	-0.7
	1.4nm,0.8s,mb4.1,baz=121,slow=5.5,SNR=13						
CMAR	Chiang Mai Arr	145.55	341	PKPbc	PKPbc	14 04 58.1	+0.6
	2.0nm,0.7s,baz=348,slow=3.7,SNR=17						

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*GUC **02** 13:48:32.9±0.0, 11.63S×75.72W, h122km, mb4.9(NEIC), MD4.9(NEIC)*
*NEIC **02** 13:48:33.5±0.2, 11.63S×75.90W, mb4.9/54, Error ellipse: s-maj=7.6km s-min=4.1km az=58.0*
NEIC Felt [III] at Canta, Lima and Matucana.
*IDC **02** 13:48:33.6±0.4, 11.68S×75.92W, h122km±2km, mb4.3/22, mb1 4.5/25, mb1mx4.3/29, mbtmp4.7/25, Error ellipse: s-maj=14.0km s-min=8.0km az=66.0*
*BJI **02** 13:48:33.5, 11.60S×75.90W, h121km, mB5.0*
ISC 02 13:48:31.7±0.2**, 11.59S**±0.04×**75.91W**±0.05**, h120km, h120km**±8km**: pP-P, n201, σ0.99**/158**, mb4.8**/73**, 6C-3D, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNA	Nana	0.99	246	eP	P	13 48 50.6	-3.4
NNA				eS	S	13 49 05.0	-5.6
ARE	Arequipa	6.47	139	eP	P	13 50 04.0	-1.8
ARE				i		13 50 05.1	
ARE				S	S	13 51 17.0	-1.7
LPAZ	La Paz	8.88	123	P	P	13 50 37.8	-0.5
	26nm,0.3s,baz=305,slow=12,SNR=184						
LPAZ	La Paz	8.88	123	eP	P	13 50 37.8	-0.5
	1μm,1.1s						
SAML	Samuel	12.80	79	eP	P	13 51 27.2	-3.1
	1.7nm,1.0s						
LVC	Limon Verde	12.84	150	P	P	13 51 29.1	-1.7
	2.8nm,0.3s,baz=302,slow=9.0,SNR=56						
LVC				S	S	13 53 52.6	+1.3
	4.1nm,0.3s,baz=265,slow=19,SNR=15						
LVC	Limon Verde	12.84	150	eP	P	13 51 28.0	-2.9
	117nm,1.0s						
ROSC	El Rosal	16.41	6	P	P	13 52 20.0	+3.6
	4.0nm,0.3s,baz=109,slow=8.0,SNR=15						
ROSC				S	S	13 55 29.1	+15
	2.4nm,0.3s,baz=87,slow=19,SNR=1.9						
PAYG	Puerto Ayora	17.92	306	eP	P	13 52 34.8	-0.1
	85nm,1.1s						
TLL	Tololo Astrono	19.09	166	⇓iP	P	13 52 46.5	-1.0
SDV	Santo Domingo	21.01	15	P	P	13 53 08.8	+1.5
	42nm,0.4s,mb5.1,baz=206,slow=4.2,SNR=65						
SDV				S	S	13 56 57.9	+8.7
	21nm,0.7s,baz=13,slow=18,SNR=2.7						
SDV	Santo Domingo	21.01	15	eP	P	13 53 08.1	+0.8
	154nm,0.9s,mb5.3						
FCH	Farellones	22.24	167	⇓iP	P	13 53 20.4	+1.0
JTS	JuntasAbangare	23.52	337	P	P	13 53 34.7	+2.7
	20nm,0.9s,mb4.4,baz=248,slow=2.0,SNR=12						
JTS				pP		13 53 58.0	
	44nm,1.0s,baz=60,slow=3.6,SNR=6.4						
JTS	JuntasAbangare	23.52	337	eP	P	13 53 34.3	+2.3
	136nm,1.4s,mb5.1						
BDFB	Brasilia	27.40	102	P	P	13 54 07.9	-0.3
	29nm,0.9s,mb4.8,baz=271,slow=11,SNR=32						
BDFB				pP	pP	13 54 35.1	+1.2
	29nm,0.8s,baz=282,slow=8.5,SNR=7.1						
BAO	Brasilia Array	27.42	102	eP	P	13 54 08.4	0.0
TRQA	Tornquist	29.16	157	eP	P	13 54 20.6	-3.2
	23nm,1.2s,mb4.7						
PLCA	Paso Flores	29.41	172	P	P	13 54 24.3	-1.7
	4.3nm,0.7s,mb4.2,baz=333,slow=11,SNR=13						
PLCA				sP	sP	13 55 04.5	-1.5
	23nm,1.0s,baz=345,slow=10,SNR=8.5						
PLCA	Paso Flores	29.41	172	eP	P	13 54 23.7	-2.3
	31nm,1.0s,mb4.9						
SJG	San Juan	31.04	18	P	P	13 54 40.8	+0.1
	19nm,0.5s,mb5.1,baz=196,slow=7.4,SNR=9.5						
SJG				pP	pP	13 55 06.9	-0.1
	107nm,0.7s,baz=200,slow=3.8,SNR=6.5						
SJG	San Juan	31.04	18	eP	P	13 54 40.6	-0.1
	43nm,0.8s,mb5.2						
TEIG	Tepich	33.88	339	eP	P	13 55 05.6	+0.4
	42nm,0.9s,mb5.3						
CS6B	Jaguaretama	37.29	84	⇓iP	P	13 55 34.6	+0.5
CS6B				i		13 55 42.2	
CS6B				i		13 55 53.1	
CS6B				i	pP	13 56 02.0	+0.8
CS6B				i		13 56 30.1	
USHA	Ushuaia	43.54	174	P	P	13 56 24.4	-0.6
	20nm,0.9s,mb4.9,baz=331,slow=3.6,SNR=10.0						
LRAL	Lakeview Retre	45.62	347	eP	P	13 56 41.1	-0.8
	32nm,1.3s,mb4.9						
NATX	Nacogdoches	46.70	338	eP	P	13 56 44.4	-6.1
	12nm,0.6s,mb4.8						
NATX				epP	pP	13 57 19.9	+1.7
CPCT	Cooper Cave	47.49	350	eP	P	13 56 55.4	-1.2
CPCT				epP	pP	13 57 19.4	-5.1
JCT	Junction City	47.72	332	eP	P	13 56 58.9	+0.4
	9.9nm,0.3s,mb5.1						
TZTN	Tazewell	48.41	352	eP	P	13 57 02.3	-1.4
TZTN				epP	pP	13 57 27.6	-4.1
UALR	University of	48.67	342	eP	P	13 57 05.6	-0.2
	17nm,0.8s,mb5.0						
UALR				epP	pP	13 57 34.8	+1.1
LTX	Lajitas	48.71	327	eP	P	13 57 06.7	+0.6
	18nm,0.9s,mb5.0						
TXAR	Lajitas Array	48.71	327	P	P	13 57 06.5	+0.3
	18nm,0.9s,mb5.0,baz=148,slow=9.1,SNR=84						
TXAR				pP	pP	13 57 35.8	+1.6
	6.5nm,0.7s,baz=146,slow=9.0,SNR=5.1						
TXAR	Lajitas Array	48.71	327	P	P	13 57 06.5	+0.3
TXAR				pP	pP	13 57 35.8	+1.6
ELN	Prospectdale	48.77	355	eP	P	13 57 05.9	-0.6
WVT	Waverly	48.78	347	eP	P	13 57 03.5	-3.1
	3.9nm,0.6s,mb4.5						
WVT				epP	pP	13 57 30.2	-4.3
MIAR	Mount Ida	48.85	341	eP	P	13 57 07.0	-0.1
	34nm,0.9s,mb5.3						
FWV	Forest Hill	49.12	355	eP	P	13 57 08.1	-1.1
WCI	Wyandotte Cave	50.50	349	eP	P	13 57 18.3	-1.4
	19nm,0.8s,mb5.1						
WCI				epP	pP	13 57 44.5	-3.3
USIN	University of	50.51	348	eP	P	13 57 18.4	-1.4
	34nm,0.7s,mb5.5						
USIN				epP	pP	13 57 45.2	-2.7
MCWV	Mont Chateau	51.11	356	P	P	13 57 23.9	-0.4
	28nm,0.8s,mb5.3						
MCWV				epP	pP	13 57 46.8	-5.7
FVM	French Village	51.15	345	eP	P	13 57 23.3	-1.3
	17nm,0.6s,mb5.3						
FVM				epP	pP	13 57 54.2	+1.3
MVL	Millersville	51.32	360	eP	P	13 57 25.7	-0.2
MVL				epP	pP	13 57 47.7	-6.5
CCM	Cathedral Cave	51.43	345	eP	P	13 57 25.5	-1.2
	10nm,0.7s,mb5.0						
CCM				epP	pP	13 57 53.5	-1.5
BLO	Bloomington	51.46	349	eP	P	13 57 25.1	-1.8
	63nm,0.7s,mb5.8						
BLO				epP	pP	13 57 51.7	-3.5
MNTX	Cornudas Mount	51.48	328	eP	P	13 57 26.5	-0.7
	5.1nm,0.8s,mb4.6						
ACSO	Alum Creek Sta	51.97	353	eP	P	13 57 29.7	-1.1
	49nm,0.9s,mb5.5						
ACSO				epP	pP	13 57 58.4	-0.7
ALLY	Alegheny Colle	53.12	356	P	P	13 57 38.3	-0.9
ALLY				epP	pP	13 58 01.4	-6.2
ERPA	Erie	53.57	356	eP	P	13 57 40.9	-1.7
	34nm,1.1s,mb5.3						
ERPA				epP	pP	13 58 05.0	-6.0
KSU1	Kansas State U	53.99	340	eP	P	13 57 44.6	-1.1
KSU1				epP	pP	13 58 11.9	-2.3
GENY	Geneseo	54.12	358	P	P	13 57 44.4	-2.2
ANMO	Albuquerque	54.59	329	P	P	13 57 50.2	0.0
	5.4nm,0.9s,mb4.6,baz=141,slow=8.4,SNR=12						
ANMO				pP	pP	13 58 20.1	+1.4
	7.2nm,0.7s,baz=147,slow=9.2,SNR=7.0						
ANMO	Albuquerque	54.59	329	P	P	13 57 50.2	0.0
ANMO				pP	pP	13 58 20.1	+1.4
ACCN	Adirondack Com	54.74	2	eP	P	13 57 50.2	-0.9
ACCN				epP	pP	13 58 20.2	+0.6
MIV	Mineville/With	55.44	2	eP	P	13 57 55.8	-0.4
MIV				epP	pP	13 58 23.6	-1.2
SADO	Sadowa	56.17	357	P	P	13 57 59.9	-1.5
	19nm,0.8s,mb5.2,baz=199,slow=6.9,SNR=11						
SDCO	Great Sand Dun	56.37	332	eP	P	13 58 02.4	-0.6
	13nm,0.8s,mb5.0						
SDCO				epP	pP	13 58 33.4	+1.7
PV01	Paradox Valley	58.14	330	eP	P	13 58 15.7	+0.4
PV10	Paradox Valley	58.56	330	eP	P	13 58 17.4	-0.9
PV10				epP	pP	13 58 44.2	-3.0
SRU	San Rafael	59.87	329	eP	P	13 58 27.1	-0.1
SRU				epP	pP	13 58 55.5	-0.8
MSU	Marysvale	60.26	328	eP	P	13 58 30.4	+0.5
MSU				epP	pP	13 58 59.8	+0.8
MVU	Marysvale	60.27	328	eP	P	13 58 29.4	-0.6
	11nm,1.0s,mb4.8						
MVU				epP	pP	13 58 59.7	+0.5
ARUT	Antelope Range	60.40	326	eP	P	13 58 31.9	+1.0
ARUT				epP	pP	13 59 02.0	+2.0
MWC	Mount Wilson	60.64	320	eP	P	13 58 33.4	+0.8
MWC				epP	pP	13 59 03.5	+1.8
EYMN	Ely	60.87	348	eP	P	13 58 32.0	-1.9
	14nm,1.0s,mb5.0						
EYMN				epP	pP	13 58 59.7	-3.3
DAU	Daniels Canyon	61.22	330	eP	P	13 58 37.0	+0.5
DAU				epP	pP	13 59 05.2	-0.5
JLU	Jordanelle	61.46	330	eP	P	13 58 37.0	-1.0
JLU				epP	pP	13 59 08.7	+1.4
TCUT	Toone Canyon	61.84	330	eP	P	13 58 39.0	-1.5
TRCR	Troy Canyon	61.99	325	eP	P	13 58 42.4	+0.8
TRCR				epP	pP	13 59 12.8	+2.0
PDAR	Pinedale Array	62.25	333	P	P	13 58 42.5	-0.7
	2.7nm,0.7s,mb4.4,baz=124,slow=8.1,SNR=26						
PDAR				pP	pP	13 59 12.4	-0.1
	6.7nm,1.0s,baz=153,slow=6.6,SNR=8.2						
HWUT	Hardware Ranch	62.29	330	eP	P	13 58 43.3	-0.2
	18nm,0.8s,mb5.1						
HWUT				epP	pP	13 59 14.2	+1.4
TPH	Tonopah	62.72	324	eP	P	13 58 46.8	+0.3
	22nm,1.0s,mb5.0						
TPH				epP	pP	13 59 14.6	-1.1
HVU	Hansel Valley	63.01	330	eP	P	13 58 47.9	-0.4
MTUM	Tungsten Hills	63.02	323	eP	P	13 58 48.6	+0.1
MTUM				epP	pP	13 59 19.4	+1.6
LOHW	Long Hollow	63.38	332	eP	P	13 58 50.5	-0.3
LOHW				epP	pP	13 59 21.3	+1.2
TPAW	Teton Pass	63.45	332	eP	P	13 58 50.9	-0.2
ELK	Elko	63.51	327	P	P	13 58 51.7	+0.1
	4.0nm,0.9s,mb4.3,baz=114,slow=4.3,SNR=16						
ELK				pP	pP	13 59 22.5	+1.5
	9.0nm,0.9s,baz=117,slow=3.2,SNR=8.3						
ELK	Elko	63.51	327	eP	P	13 58 51.6	0.0
	11nm,0.9s,mb4.7						
ELK				epP	pP	13 59 22.4	+1.4
RRI2	Red Ridge	63.51	332	eP	P	13 58 51.8	+0.2
RRI2				epP	pP	13 59 22.2	+1.3
MOOW	Moose Ponds	63.55	332	eP	P	13 58 51.5	-0.3
MOOW				epP	pP	13 59 21.5	+0.2
NVAR	Mina Array Bea	63.59	324	P	P	13 58 52.9	+0.7
	2.8nm,0.7s,mb4.2,baz=133,slow=7.6,SNR=23						
NVAR				pP	pP	13 59 22.1	+0.6
	7.0nm,0.7s,baz=131,slow=7.2,SNR=8.6						
NVAR	Mina Array Bea	63.59	324	P	P	13 58 52.9	+0.7
NVAR				pP	pP	13 59 22.1	+0.6
IMW	Indian Meadow	63.76	332	eP	P	13 58 53.1	-0.1
ULM	Lac du Bonnet	64.01	346	P	P	13 58 53.4	-1.3
	22nm,0.8s,mb5.0,baz=160,slow=5.7,SNR=43						
ULM				pP	pP	13 59 23.2	-0.9
	65nm,0.8s,baz=153,slow=6.3,SNR=23						
ULM	Lac du Bonnet	64.01	346	eP	P	13 58 53.2	-1.5
	30nm,0.8s,mb5.2						
ULM				epP	pP	13 59 22.2	-1.9
LKWY	Lake	64.04	333	eP	P	13 58 56.2	+1.2
	8.8nm,0.8s,mb4.6						
LKWY				epP	pP	13 59 26.6	+2.2
BMN	Battle Mountai	64.35	326	eP	P	13 58 57.8	+0.7
	8.8nm,0.9s,mb4.6						
BMN				epP	pP	13 59 28.3	+1.8
YMR	Madison River	64.37	333	eP	P	13 58 57.9	+0.7
YMR				epP	pP	13 59 28.5	+2.0
QLMT	Earthquake Lak	64.71	333	eP	P	13 59 00.3	+1.0
QLMT				epP	pP	13 59 30.7	+2.0
DGMT	Dagmar	64.83	340	P	P	13 58 59.9	-0.2
	48nm,1.1s,mb5.2						
MCMT	McKenzie Canyo	65.35	332	eP	P	13 59 04.2	+0.7
BOZ	Bozeman (W)	65.43	333	eP	P	13 58 57.3	-6.7
BOZ				epP	pP	13 59 34.3	+0.8
OHCM	Honcut	66.05	323	eP	P	13 59 08.7	+0.6
OHCM				epP	pP	13 59 38.2	+0.6
WVOR	Wild Horse Val	66.50	327	eP	P	13 59 10.7	-0.1
	6.4nm,1.2s,mb4.3						
WVOR				epP	pP	13 59 41.1	+0.7
SCHQ	Schefferville	66.61	6	P	P	13 59 11.0	-0.3
	7.2nm,0.8s,mb4.5,baz=190,slow=3.7,SNR=12						
SCHQ				pP	pP	13 59 40.5	-0.3
	10nm,0.8s,baz=188,slow=4.2,SNR=6.7						
SCHQ	Schefferville	66.61	6	eP	P	13 59 10.8	-0.5
	11nm,1.0s,mb4.7						
SCHQ				epP	pP	13 59 34.7	-6.2
MOD	Modoc	67.05	325	eP	P	13 59 14.7	+0.4
	12nm,1.0s,mb4.7						
MOD				epP	pP	13 59 43.2	-0.7
MSO	Missoula	67.37	333	eP	P	13 59 16.6	+0.4
	9.0nm,1.0s,mb4.5						
MSO				epP	pP	13 59 46.4	+0.5
BMO	Blue Mountains	67.51	329	eP	P	13 59 16.5	-0.6
	4.4nm,0.9s,mb4.3						
BMO				epP	pP	13 59 46.1	-0.7
YBH	Yreka Blue Hor	68.30	324	P	P	13 59 20.7	-1.4
	2.8nm,0.9s,mb4.1,baz=188,slow=7.1,SNR=4.3						
YBH				pP	pP	13 59 52.7	+0.9
	7.4nm,1.1s,baz=126,slow=5.9,SNR=4.0						
WALA	Waterton Lakes	69.05	334	eP	P	13 59 26.8	+0.3
	10nm,0.8s,mb4.7						
WALA				epP	pP	13 59 57.8	+1.5
FFC	Flin Flon	69.63	344	eP	P	13 59 29.4	-0.6
	7.5nm,1.2s,mb4.4						
FFC				epP	pP	13 59 53.1	-6.7
PMOR	Pomariorio Ree	69.87	258	eP	P	13 59 32.3	+0.3
	52nm,1.2s,mb5.2						
NEW	Newport	69.88	332	eP	P	13 59 31.5	-0.1
	6.8nm,1.0s,mb4.4						
NEW				epP	pP	14 00 01.6	+0.2
TBI	Tubuai	70.51	249	eP	P	13 59 36.5	+0.7
	97nm,1.2s,mb5.5						
TVO	Taravao	70.84	255	eP	P	13 59 38.4	+0.5
	102nm,1.3s,mb5.5						
TIAR	Tiarei	70.95	255	eP	P	13 59 38.9	+0.3
	27nm,0.9s,mb5.1						
PAE	Paea	71.16	255	eP	P	13 59 40.2	+0.4
	55nm,1.1s,mb5.3						
FCC	Fort Churchill	71.65	350	eP	P	13 59 41.4	-0.6
	11nm,1.1s,mb4.6						
FCC				epP	pP	14 00 11.6	-0.4
EDM	Edmonton	72.04	337	eP	P	13 59 44.0	-0.4
EDM				epP	pP	14 00 13.2	-1.2
VNA2	Neumayer--Watz	72.15	161		P	13 59 46.3	+1.5
DBIC	Dimbokro	72.96	79	P	P	13 59 50.7	+0.1
	12nm,0.7s,mb4.8,baz=236,slow=4.5,SNR=18						
DBIC				pP	pP	14 00 20.1	-0.7
	21nm,1.0s,baz=231,slow=7.6,SNR=5.2						
DBIC	Dimbokro	72.96	79	eP	P	13 59 50.6	0.0
	16nm,0.8s,mb4.9						
DBIC				epP	pP	14 00 20.1	-0.7
SNAA	Sanae	73.76	162	⇑i	P	13 59 54.0	-0.2
SNAA	Sanae	73.76	162	⇑i	pP	14 00 25.9	+1.5
SNAA	Sanae	73.76	162	⇑i	sP	14 00 37.5	+0.1
SNAA	Sanae	73.76	162	P	P	13 59 54.2	0.0
	2.9nm,0.7s,mb4.1,baz=283,slow=5.7,SNR=8.9						
FRB	Frobisher Bay	75.32	3	P	P	14 00 03.2	0.0
	3.1nm,0.7s,mb4.2,baz=213,slow=9.7,SNR=6.5						
FRB				pP	pP	14 00 33.5	0.0
	63nm,1.3s,baz=188,slow=5.0,SNR=10						
QSPA	South Pole Qui	78.54	180	⇑iP	P	14 00 22.0	+1.2
	5.7nm,0.5s,mb4.7						
YKA	Yellowknife Ar	79.73	343	P	P	14 00 27.7	+0.1
	1.7nm,0.5s,mb4.1,baz=142,slow=6.2,SNR=58						
YKA				pP	pP	14 00 58.8	+0.7
	17nm,0.7s,baz=138,slow=6.1,SNR=23						
YKA	Yellowknife Ar	79.73	343	P	P	14 00 27.7	+0.1
YKA				pP	pP	14 00 58.9	+0.7
YKW3	Yellowknife Ar	79.78	343	eP	P	14 00 27.9	0.0
YKW3				epP	pP	14 00 58.7	+0.3
EVO	Evora	80.48	47	eP	P	14 00 33.8	+1.7
	27nm,0.8s,mb4.8						
EVO				epP	pP	14 01 03.7	+1.0
DLBC	Dease Lake	82.39	335	eP	P	14 00 42.8	+1.1
DLBC				epP	pP	14 01 13.4	+1.0
ESDC	Sonseca Array	83.83	48	P	P	14 00 50.9	+1.6
	8.4nm,1.1s,mb4.5,baz=267,slow=5.3,SNR=11						
ESDC				pP	pP	14 01 22.0	+1.8
	11nm,0.8s,baz=257,slow=5.2,SNR=11						
ESLA	Sonseca Array	83.83	48	eP	P	14 00 52.2	+2.9
	0.4nm,0.7s						
ESLA				epP	pP	14 01 20.6	+0.4
BORG	Borgarnes	86.37	21	pP	pP	14 01 34.4	+2.1
	29nm,0.8s,baz=247,slow=1.9,SNR=4.8						
RES	Resolute Bay	86.92	355	eP	P	14 01 04.0	+0.3
	16nm,1.0s,mb4.9						
RES				epP	pP	14 01 35.6	+0.8
SUMG	Summit	87.48	11	eP	P	14 01 07.7	+1.2
	44nm,0.8s,mb5.4						
SUMG				epP	pP	14 01 39.3	+1.7
MFF	Saint Martin d	88.76	42	eP	P	14 01 13.8	+0.7
FLN	La Foliniere	89.23	40	eP	P	14 01 16.0	+0.7
DAWY	Dawson	89.25	337	eP	P	14 01 15.8	+0.8
DAWY				epP	pP	14 01 47.2	+1.0
MTLF	Montolieu	89.39	46	eP	P	14 01 17.4	+1.2
	6.4nm,0.6s,mb4.5						
LDF	La Druitiere	89.40	40	eP	P	14 01 16.7	+0.6
LDF				epP	pP	14 01 47.0	-0.3
INK	Inuvik	89.44	342	eP	P	14 01 16.3	+0.5
	66nm,1.4s,mb5.5						
INK				epP	pP	14 01 48.2	+1.2
RJF	Les Rejaudoux	89.48	44	eP	P	14 01 17.1	+0.6
TSUM	Tsumeb	89.50	109	eP	P	14 01 17.5	+0.3
	10nm,1.0s,mb4.8						
TSUM				epP	pP	14 01 49.4	+0.9
SCO	Scoresbysund	89.67	16	i P	pP	14 01 49.1	+1.0
	10nm,0.8s						
CAF	Calviac	89.74	44	eP	P	14 01 18.8	+1.0
EKA	Eskdalemuir Ar	89.87	33	P	P	14 01 19.1	+1.0
	2.4nm,0.8s,mb4.4,baz=214,slow=3.0,SNR=4.2						
TCF	Toulx Ste Croi	90.22	43	eP	P	14 01 20.4	+0.4
TCF				epP	pP	14 01 50.4	-0.9
DIV	Divide	90.62	333	eP	P	14 01 27.7	+6.3
	42nm,0.8s,mb5.6						
DIV				epP	pP	14 01 54.7	+1.9
BGF	Bois d'Agland	90.72	43	eP	P	14 01 22.9	+0.6
BGF				epP	pP	14 01 53.1	-0.6
LASF	Ste Croix	90.74	45	eP	P	14 01 24.2	+1.7
	9.2nm,0.8s,mb4.7						
SML	Sawmill	92.01	333	eP	P	14 01 28.7	+0.8
SML				epP	pP	14 01 57.8	-1.5
ORIF	Oris-en-Rattie	92.35	45	eP	P	14 01 31.3	+1.4
	8.2nm,0.8s,mb4.7						
ILAR	Eielson Array	92.49	336	P	P	14 01 31.1	+1.0
	0.8nm,0.8s,mb4.0,baz=144,slow=2.6,SNR=13						
ILAR				pP	pP	14 02 02.7	+1.3
	5.5nm,0.8s,baz=152,slow=3.0,SNR=17						
FRF	La Foret Royal	92.57	46	eP	P	14 01 31.3	+0.4
FIB	Fire Island	92.62	332	eP	P	14 01 30.5	-0.2
FIB				epP	pP	14 02 04.1	+1.9
COLA	College	92.91	336	eP	P	14 01 33.3	+1.3
	6.3nm,1.0s,mb4.9						
COLA				epP	pP	14 02 04.6	+1.2
MCK	McKinley	92.95	335	eP	P	14 01 33.0	+0.8
	2.3nm,1.1s,mb4.4						
MCK				epP	pP	14 02 04.7	+1.1
LPG	La Plagne	93.09	44	eP	P	14 01 35.3	+2.0
LPG				epP	pP	14 02 04.3	-0.4
SPU	Mount Spurr	93.49	332	eP	P	14 01 35.7	+1.0
SPU				epP	pP	14 02 07.2	+1.1
RSO	Redoubt South	93.60	331	eP	P	14 01 35.8	+0.6
RSO				epP	pP	14 02 08.0	+1.3
DAG	Danmarks Havn	94.14	11	eP	P	14 01 37.0	-0.3
DAG	Danmarks Havn	94.14	11	i P	P	14 01 37.0	-0.3
IMA	Indian Mountai	95.60	336	P	P	14 01 51.7	+7.6
IMA				epP	pP	14 02 17.1	+1.5
GERES	GERESS Array B	98.36	42	pP	pP	14 02 30.7	+2.2
	2.3nm,0.8s,baz=243,slow=3.0,SNR=8.7						
NB2	NORSAR Subarra	98.65	29	P	pP	14 02 30.9	+1.3
	21nm,1.7s,baz=262,slow=4.6						
NB2	NORSAR Subarra	98.65	29	P	pP	14 02 30.9	+1.3
	baz=262,slow=4.6						
NOA	NORSAR Array B	98.65	29	pP	pP	14 02 31.3	+1.7
	2.8nm,0.9s,baz=259,slow=4.7,SNR=5.5						
STKA	Stephens Creek	123.81	219	PKP	PKPdf	14 07 18.1	+2.1
	1.1nm,0.3s,baz=115,slow=14,SNR=3.5						
CHKZ	Chkalovo	130.29	25	ePKPdf	PKPdf	14 07 30.0	+2.1
CHKZ				epPKPdf		14 08 01.9	
BVAR	Borovoye Array	130.66	26	PKP	PKPdf	14 07 31.4	+2.7
	1.4nm,0.9s,baz=270,slow=1.5,SNR=5.3						
BVAR				pPKP		14 08 04.1	
	5.0nm,0.8s,baz=270,slow=1.5,SNR=11						
ASAR	Alice Springs	134.41	220	PKhKP		14 07 31.3	
	0.2nm,0.5s,baz=135,slow=2.2,SNR=4.9						
ASAR				PKP	PKPdf	14 07 37.9	+1.3
	2.1nm,0.8s,baz=126,slow=1.6,SNR=28						
ASAR				pPKP		14 08 09.2	
	2.2nm,0.7s,baz=122,slow=1.9,SNR=3.7						
ASAR	Alice Springs	134.41	220	PKP	PKPdf	14 07 37.9	+1.3
ASAR				pPKP		14 08 09.2	
ZAL	Zalesovo	135.06	16	PKP	PKPdf	14 07 39.1	+2.2
	2.3nm,0.4s,baz=186,slow=2.0,SNR=10						
ZAL				pPKP		14 08 11.8	
	3.7nm,0.7s,baz=166,slow=3.1,SNR=4.1						
WRAB	Tennant Creek	136.77	224	ePKPdf	PKPdf	14 07 42.3	+1.4
WRAB				epPKPdf		14 08 14.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**136.77**	**224**	PKhKP		14 07 29.7	
	0.3nm,0.6s,baz=112,slow=2.7,SNR=8.1						
WRA				PKP	PKPdf	14 07 42.5	+1.6
	2.8nm,0.5s,baz=128,slow=1.9,SNR=48						
WRA				pPKP		14 08 14.0	
	2.9nm,0.6s,baz=140,slow=1.5,SNR=3.9						
WRA	**Warramunga Arr**	**136.77**	**224**	PKP	PKPdf	14 07 42.5	+1.6
WRA				pPKP		14 08 14.0	
CN2	**Changchun**	**142.98**	**334**	*e*P	PKPdf	14 07 54.0	+2.6
ULN	**Ulaanbaatar**	**143.75**	**357**	*e*PKPdf	PKPdf	14 07 53.4	+0.8
SONM	**Songino Array**	**143.82**	**357**	PKP	PKPdf	14 07 53.6	+0.9
	1.0nm,0.5s,baz=332,slow=2.0,SNR=9.8						
SONM				pPKP		14 08 26.0	
	3.9nm,0.7s,baz=333,slow=3.1,SNR=8.1						
WMQ	**Urumqi**	**144.90**	**21**	PKP	PKPdf	14 07 53.5	-1.3
WMQ				APKP		14 08 26.1	
WMQ				XPKP		14 08 42.0	
WMQ				PP	PP	14 11 19.0	+2.2
WMQ				PKS	PKS	14 11 28.0	-1.2
WMQ				PP	PP		
	comp=Z,152nm,6.4s						
WMQ				LR	LR		
	comp=N,155nm,24.2s						
WMQ				LR	LR		
	comp=E,210nm,22.0s						
WMQ				LR	LR		
	comp=Z,148nm,20.0s						
JASL	**Jaisalmer**	**145.29**	**59**	*e*PKPd		14 07 58.5	
SNY	**Shenyang**	**145.39**	**334**	*e*P	PKPdf	14 07 53.5	-2.2
KS15	**Wonju Array Si**	**146.56**	**324**	*e*PKPdf	PKPdf	14 08 11.0	+13
KS15				*e*pPKPdf		14 08 35.4	
THN	**Thein Dam**	**146.68**	**47**	*e*		14 08 33.1	
	comp=Z,20nm,0.8s						
SDNR	**Sundarnagar**	**148.08**	**47**	*e*PKPb	PKPdf	14 08 06.5	+6.0
KHET	**Khetri**	**148.86**	**54**	*e*PKPb	PKPdf	14 08 05.8	+3.9
KLP	**Kalpa**	**148.97**	**46**	*e*PKPb	PKPdf	14 08 06.2	+4.3
KLP				*e*		14 08 43.3	
	comp=Z,41nm,1.1s						
BHGR	**Bahadurgarh**	**149.47**	**52**	*e*PKPb	PKPdf	14 08 11.1	+8.3
DDI	**Dehra Dun**	**149.49**	**48**	*e*PKPb	PKPdf	14 08 10.4	+7.7
BJI	**Beijing**	**149.71**	**341**	*e*P	PKPdf	14 08 09.7	+6.9
AYAN	**Aya Nagar**	**149.71**	**52**	*e*PKPb	PKPdf	14 08 10.6	+7.5
POO	**Poona**	**150.03**	**73**	*e*PKPb	PKPdf	14 08 09.0	+5.2
ASOR	**Ausora**	**150.08**	**51**	*e*PKPb	PKPdf	14 08 10.8	+7.1
HHC	**Hu-ho-hao-te**	**150.12**	**349**	*e*PKP	PKPdf	14 08 09.5	+6.1
HHC				APKP		14 08 41.3	
HHC				PKS	PKS	14 11 42.7	+5.6
JOSI	**Joshimath**	**150.45**	**47**	*e*PKPd	PKPdf	14 08 03.7	-0.5
KAD	**Karad**	**150.51**	**75**⇑	*e*	PKPdf	14 08 12.0	+7.4
AGRA	**Agra**	**150.94**	**54**	*e*PKPb	PKPdf	14 08 13.1	+8.1
KOLN	**Koldanda**	**154.94**	**47**	*e*P	PKPab	14 08 37.8	0.0
	comp=Z,30nm,1.4s						
NJ2	**Nanjing**	**155.51**	**329**	*e*PKP	PKPdf	14 08 12.5	+1.3
NJ2				SKS	SKS	14 15 08.0	+4.1
NJ2				PP	PP		
	comp=Z,626nm,10.2s						
NJ2				LR	LR		
	comp=N,842nm,20.2s						
NJ2				LR	LR		
	comp=E,206nm,20.0s						
NJ2				LR	LR		
	comp=Z,1μm,24.3s						
GKN	**Gorkha**	**155.53**	**45**	*e*P	PKPab	14 08 40.7	+0.3
	comp=Z,25nm,0.9s						
LZH	**Lanzhou**	**155.61**	**0**	*e*PKP	PKPdf	14 08 10.0	-1.2
LZH				APKP		14 08 43.5	
LZH				XPKP		14 08 56.4	
LZH				LR	LR		
	comp=N,219nm,18.0s						
LZH				LR	LR		
	comp=Z,298nm,20.2s						
DMN	**Daman**	**156.10**	**45**	*e*P	PKPab	14 08 43.8	+1.0
	comp=Z,43nm,0.9s						
KKN	**Kakani**	**156.11**	**45**	*e*P	PKPab	14 08 43.3	+0.5
	comp=Z,45nm,0.9s						
PKI	**Pulchoki**	**156.34**	**45**	*e*P	PKPab	14 08 44.3	+0.5
	comp=Z,21nm,0.8s						
JIRN	**Jiri**	**156.82**	**44**	*e*P	PKPab	14 08 47.7	+1.8
GYA	**Guiyang**	**165.01**	**351**⇑	*i*PKP	PKPdf	14 08 27.9	+5.9
GYA				PP	PP		
	comp=Z,110nm,7.2s						
CMAR	**Chiang Mai Arr**	**171.56**	**35**	PKP	PKPdf	14 08 29.3	+2.8
	comp=Z,1.1nm,1.0s,baz=315,slow=1.3,SNR=4.3						
CMAR				pPKP		14 09 02.1	
	comp=Z,1.2nm,0.8s,baz=298,slow=2.2,SNR=4.4						
CMAR				PKPab	PKPab	14 09 51.5	+1.2
	comp=Z,0.8nm,0.7s,baz=324,slow=6.4,SNR=4.3						
CMAR				pPKPab		14 10 22.6	
	comp=Z,2.7nm,0.9s,baz=318,slow=5.4,SNR=6.2						

*STR **02** 13:53:20.3±0.2, 49.37N×6.90E, h1km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **02** 13:53:20.6±0.1, 49.38N×6.87E, h1km, Md2.9/1, Ml3.0/9, Error ellipse: s-maj=1.5km s-min=1.2km az=97.0, Suspected Mining induced.*
*NEIC **02** 13:53:20.6, 49.38N×6.87E, h1km, ML3.0(LDG), ML2.5(STR), After LDG.*
*CSEM **02** 13:53:20.4±0.1, 49.39N×6.88E, h2km, ML3.0/8, Error ellipse: s-maj=1.1km s-min=1.0km az=100.0*
*BGR **02** 13:53:20.1±0.4, 49.35N×6.87E, h1km, ML2.2/2, Error ellipse: s-maj=6.7km s-min=3.3km az=43.0*
*BNS **02** 13:53:22.4±0.5, 49.45N×6.91E, h1km, ML2.0*
ISC 02 13:53:18.7±0.3**, 49.37N**±0.01×**6.85E**±0.03**, n37, σ0.80**/68**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.36**	**23**	Pg	**Pg**	**13 53 27.1**	**+1.2**
WLF	**Walferdange**	**0.54**	**304**	*e*Pg	**Pg**	**13 53 31.7**	**+2.2**
	SNR=4.3						
WLF				*e*Sg	**Sg**	**13 53 37.2**	**+0.5**
	SNR=4.1						
WLF	**Walferdange**	**0.54**	**304**	*e*P	**Pg**	**13 53 30.8**	**+1.3**
WLF	**Walferdange**	**0.54**	**304**	*e*P	**Pg**	**13 53 30.8**	**+1.3**
WLF	**Walferdange**	**0.54**	**304**	Pg	**Pg**	**13 53 31.7**	**+2.2**
	SNR=4.3						
WLF				Sg	**Sg**	**13 53 37.2**	**+0.5**
	SNR=4.1						
ABH	**Alteburg**	**0.69**	**41**	Pg	**Pg**	**13 53 32.5**	**+0.1**
ABH				Sg	**Sg**	**13 53 41.6**	**0.0**
LANF	**Langenberg**	**0.74**	**121**	Pg	**Pg**	**13 53 33.7**	**+0.3**
KTD	**Kalmit**	**0.81**	**93**	Pg	**Pg**	**13 53 35.5**	**+0.6**
BGG	**Burgeitz**	**0.90**	**21**	*e*Pg	**Pg**	**13 53 37.3**	**+0.7**
BGG				*e*Sg	**Sg**	**13 53 49.3**	**+0.7**
	48nm,0.7s						
CDF	**Champ du Feu**	**1.00**	**163**	*e*Pg	**Pg**	**13 53 38.9**	**+0.3**
CDF				*e*Pn	**Pn**	**13 53 40.2**	**+0.4**
CDF				*e*Sg	**Sg**	**13 53 52.1**	**+0.2**
	37nm,0.2s						
WLS	**Welschbruch**	**1.01**	**160**	Pg	**Pg**	**13 53 39.8**	**+0.9**
WLS				Sg	**Sg**	**13 53 53.7**	**+1.3**
RFYF	**Reffroy**	**1.17**	**231**	*e*Pg	**Pg**	**13 53 43.0**	**+1.0**
	baz=38						
RFYF				*e*Sg	**Sg**	**13 53 59.9**	**+2.4**
	54nm,0.3s,baz=44						
ECH	**Echery**	**1.17**	**170**	Pg	**Pg**	**13 53 42.9**	**+0.8**
ECH				Sg	**Sg**	**13 53 57.9**	**+0.2**
STB	**Steinbach**	**1.23**	**360**	*e*Pg	**Pg**	**13 53 44.0**	**+0.7**
STB				*e*Sg	**Sg**	**13 53 59.4**	**-0.2**
	32nm,0.7s						
THEF	**They Montfort**	**1.27**	**207**	Pg	**Pg**	**13 53 44.5**	**+0.4**
THEF				Sg	**Sg**	**13 54 02.2**	**+1.1**
TOD	**Tromm**	**1.30**	**79**	Pg	**Pg**	**13 53 43.5**	**-1.1**
TOD				Sg	**Sg**	**13 54 01.3**	**-0.6**
LIBD	**Limburg**	**1.32**	**157**	Pg	**Pg**	**13 53 45.7**	**+0.7**
KLL	**Kalltalsperre**	**1.33**	**345**	*e*Pg	**Pg**	**13 53 45.7**	**+0.5**
KLL				*e*Sg	**Sg**	**13 54 02.4**	**-0.5**
	16nm,0.7s						
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**13 53 45.3**	**-0.2**
	SNR=7.2						
TNS				*e*Sg	**Sg**	**13 54 02.8**	**-0.7**
	SNR=3.3						
TNS	**Taunus Mts**	**1.35**	**50**	*e*Pg	**Pg**	**13 53 45.3**	**-0.2**
TNS				*e*Sg	**Sg**	**13 54 02.8**	**-0.7**
HAU	**Haudompre**	**1.40**	**194**	*e*Pg	**Pg**	**13 53 47.2**	**+0.5**
HAU				*e*Sg	**Sg**	**13 54 04.5**	**-0.9**
	24nm,0.2s						
BFO	**Black Forest**	**1.43**	**136**	*e*Pn	**Pn**	**13 53 45.9**	**0.0**
	SNR=1.5						
BFO				*e*Pg	**Pg**	**13 53 47.0**	**-0.2**
	SNR=5.0						
BFO				*e*Sg	**Sg**	**13 54 04.4**	**-1.8**
	SNR=4.0						
BFO	**Black Forest**	**1.43**	**136**	*e*Pn	**Pn**	**13 53 45.9**	**0.0**
BFO				*e*Pg	**Pg**	**13 53 47.0**	**-0.2**
BFO				*e*Sg	**Sg**	**13 54 04.4**	**-1.8**
MEZF	**Maizieres J'vi**	**1.47**	**234**	*e*Pg	**Pg**	**13 53 48.5**	**+0.5**
	baz=53						
MEZF				*e*Sg	**Sg**	**13 54 07.1**	**-0.4**
	31nm,0.5s						
GIVF	**Givet**	**1.50**	**300**	*e*Pg	**Pg**	**13 53 48.4**	**-0.3**
GIVF				*e*Sg	**Sg**	**13 54 08.4**	**-0.4**
	17nm,0.3s						
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pn	**Pn**	**13 53 48.0**	**+0.8**
	SNR=0.9						
HGN				*e*Sg	**Sg**	**13 54 08.8**	**-0.4**
	SNR=3.2						
HGN	**Heimansgroeve**	**1.52**	**338**	*e*Pg	**Pg**	**13 53 48.8**	**-0.2**
	2.3nm,0.3s						
HGN				*e*Sg	**Sg**	**13 54 08.2**	**-1.0**
MOF	**Molkenrain**	**1.53**	**173**	Pg	**Pg**	**13 53 49.2**	**0.0**
MOF				Sg	**Sg**	**13 54 09.5**	**-0.1**
HINF	**Hinteralfeld**	**1.55**	**180**	*e*Pg	**Pg**	**13 53 49.5**	**-0.2**
HINF				*e*Sg	**Sg**	**13 54 09.2**	**-1.2**
	54nm,0.2s						
SFTF	**Sexfontaines**	**1.67**	**226**	*e*Pn	**Pn**	**13 53 49.5**	**+0.2**
SFTF				*e*Pg	**Pg**	**13 53 51.9**	**-0.1**
SFTF				*e*Sg	**Sg**	**13 54 13.2**	**-1.0**
	22nm,0.3s						
FELD	**Feldberg**	**1.68**	**152**	Pg	**Pg**	**13 53 51.6**	**-0.6**
FELD				Sg	**Sg**	**13 54 14.5**	**-0.1**
BAIF	**Baives**	**1.85**	**293**	*e*Pn	**Pn**	**13 53 51.9**	**0.0**
BAIF				*e*Pg	**Pg**	**13 53 55.0**	**-0.6**
BAIF				*e*Sg	**Sg**	**13 54 18.5**	**-1.7**
	6.1nm,0.3s						
CABF	**La Chapelle**	**2.81**	**191**	*e*Pn	**Pn**	**13 54 05.3**	**-0.3**
SSF	**Saint Saulge**	**3.21**	**225**	*e*Pn	**Pn**	**13 54 10.2**	**-1.2**
SMF	**Signal de Mont**	**3.39**	**218**	*e*Pn	**Pn**	**13 54 13.2**	**-0.7**
AVF	**Avril sur Loir**	**3.48**	**224**	*e*Pn	**Pn**	**13 54 13.8**	**-1.4**
BGF	**Bois d'Agland**	**3.89**	**225**	*e*Pn	**Pn**	**13 54 19.9**	**-1.1**

IDC 02 14:04:55.3±1.9**, 0.07N**×**153.80E, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.8**/13**, mbtmp3.9**/3**, Error ellipse: s-maj=175.8km s-min=26.1km az=123.0, Eastern Caroline Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.55**	**223**	P	P	14 10 44.3	-1.8
	1.5nm,0.3s,baz=46,slow=9.5,SNR=40						
ASAR	**Alice Springs**	**30.50**	**218**	P	P	14 11 10.2	-2.3
	0.9nm,0.4s,baz=53,slow=8.5,SNR=35						
ILAR	**Eielson Array**	**77.30**	**22**	P	P	14 16 51.5	-1.6
	0.2nm,0.5s,baz=239,slow=4.9,SNR=8.6						

*NNC **02** 14:32:04.1±11.0, 44.42N×84.76E, mpv2.6, Error ellipse: s-maj=288.2km s-min=108.4km az=54.0*
BJI 02 14:32:08.5, 44.59N×**84.42E, h10km, ML3.3, 2C, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.48**	**107**	P	Pn	14 32 49.0	-0.6
WMQ				SG	Sg	14 33 20.0	-11
WMQ				Smax			
	comp=N,72nm,0.5s						
WMQ				Smax			
	comp=E,79nm,0.5s						
MK31	**Makanchi Array**	**2.66**	**327**	⇑Pn	Pn	14 32 54.6	+2.4
	comp=E,0.1nm,0.2s,baz=135,slow=13,SNR=438						
MK31				⇑Pg	Pg	14 32 58.8	-2.9
	comp=E,4.3nm,0.2s						
MK31				Lg		14 33 35.6	
	comp=E,45nm,0.5s,baz=153,slow=28,SNR=8.1						

*NEIC **02** 14:45:13.2±1.1, 22.30S×66.16W, h260km±11km, mb4.6/1, Error ellipse: s-maj=20.7km s-min=17.9km az=145.0*
*IDC **02** 14:45:13.2±1.7, 22.29S×66.13W, h256km±12km, mb3.5/1, mb1 3.6/4, mb1mx3.3/15, mbtmp4.0/4, Error ellipse: s-maj=28.5km s-min=17.1km az=124.0*
ISC 02 14:45:13.4±1.2**, 22.30S**±0.09×**66.3W**±0.2**, h273**km±14km**, n11, σ1.09**/14**, mb4.0**/2**, Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.47**	**262**	P	**P**	**14 46 02.9**	**+0.4**
	30nm,0.3s,baz=73,slow=4.8,SNR=338						
LVC				S	**S**	**14 46 40.8**	**+0.2**
	15nm,0.3s,baz=243,slow=21,SNR=30						
LVC	**Limon Verde**	**2.47**	**262**	*e*P	**P**	**14 46 02.5**	**0.0**
LVC				S	**S**	**14 46 40.8**	**+0.2**
LPAZ	**La Paz**	**6.24**	**343**	P	**P**	**14 46 46.4**	**+0.9**
	1.6nm,0.3s,baz=142,slow=8.0,SNR=17						
LPAZ				S	**S**	**14 47 58.8**	**+1.1**
	0.0nm,0.3s,baz=299,slow=18,SNR=9.0						
LPAZ	**La Paz**	**6.24**	**343**	*e*P	**P**	**14 46 46.0**	**+0.5**
LPAZ				S	**S**	**14 47 58.8**	**+1.1**
ARE	**Arequipa**	**7.62**	**319**	*e*P	**P**	**14 47 02.0**	**-0.8**
ARE				*e*S	**S**	**14 48 27.0**	**-1.6**
BDFB	**Brasilia**	**18.47**	**72**	P	**P**	**14 49 09.2**	**-2.2**
	0.3nm,0.3s,baz=235,slow=14,SNR=3.7						
YKA	**Yellowknife Ar**	**92.77**	**340**	P	**P**	**14 57 56.0**	**+0.5**
	0.4nm,0.5s,mb3.6,baz=126,slow=4.3,SNR=12						
YKA	**Yellowknife Ar**	**92.77**	**340**	P	**P**	**14 57 56.0**	**+0.5**
LPG	**La Plagne**	**94.47**	**42**	*e*P	**P**	**14 58 04.7**	**+1.1**
	4.2nm,0.4s,mb4.5						
ASAR	**Alice Springs**	**130.28**	**204**	PKP	PKPdf	15 03 52.9	+1.0
	0.3nm,0.8s,baz=165,slow=1.7,SNR=4.8						
WRA	**Warramunga Arr**	**133.44**	**207**	PKP	PKPdf	15 03 59.4	+1.6
	0.2nm,0.3s,baz=152,slow=1.9,SNR=6.1						
WRA				SKPbc		15 07 03.0	
	0.3nm,0.8s,baz=154,slow=3.1,SNR=5.0						

*BJI **02** 14:45:30.0, 4.76N×94.52E, h50km, mB5.2, mb4.8, Ms4.6, Msz4.4*
*MOS **02** 14:45:31.6±1.0, 5.18N×94.28E, h33km, mb5.1/11, Error ellipse: s-maj=15.0km s-min=7.2km az=105.8*
*NEIC **02** 14:45:33.3±0.4, 5.22N×94.32E, h30km, mb4.9/11, MS4.9/73, Error ellipse: s-maj=11.4km s-min=7.5km az=54.0*
*IDC **02** 14:45:34.2±4.3, 5.38N×94.47E, h33km±31km, mb4.3/12, mb1 4.5/13, mb1mx4.3/20, mbtmp4.5/13, ML5.3/1, Error ellipse: s-maj=29.4km s-min=15.1km az=55.0*
ISC 02 14:45:32.8±0.4**, 5.28N**±0.06×**94.39E**±0.06**, h41km**±3.3km**:pP-P, n170, σ1.06**/85**, mb4.8**/41**, MS4.8**/77**, 8C-2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.23**	**90**	*e*P	**P**	**14 47 05.3**	**+0.7**
CM31	**Chiang Mai Arr**	**13.83**	**18**	*e*P	**P**	**14 48 51.7**	**+3.2**
	31nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.83**	**18**	Pn	**P**	**14 48 51.2**	**+2.7**
	5.0nm,0.3s,baz=210,slow=15,SNR=168						
CMAR				ScP		14 57 40.2	
	baz=234,slow=2.6,SNR=6.9						
VIS	**Vishakhapatnam**	**16.43**	**320**	*e*P	**P**	**14 49 20.7**	**-1.4**
VIS				*e*S	**S**	**14 52 13.5**	**-8.9**
HYB	**Hyderabad**	**19.64**	**309**	*e*P	**P**	**14 50 01.5**	**+0.5**
HYB	**Hyderabad**	**19.64**	**309**	*i* P	**P**	**14 50 01.5**	**+0.5**
QIZ	**Qiongzhong**	**20.34**	**46**	PFAKE		14 50 20.0	+12
QIZ				LR	LR		
	comp=Z,683nm,21.0s,MS4.0						
KMI	**Kunming**	**21.30**	**21**	P	**P**	**14 50 19.8**	**+1.6**
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.1						
KMI	**Kunming**	**21.30**	**21**	P	**P**	**14 50 19.8**	**+1.6**
	comp=Z,14nm,1.4s,mb4.1						
JIRN	**Jiri**	**23.58**	**342**	*e*P	**P**	**14 50 40.6**	**-0.2**
	comp=Z,53nm,0.7s,mb5.1						
PKI	**Pulchoki**	**23.76**	**340**	*e*P	**P**	**14 50 42.6**	**+0.1**
	comp=Z,24nm,0.5s,mb4.9						
DMN	**Daman**	**23.90**	**339**	*e*P	**P**	**14 50 44.3**	**+0.5**
	comp=Z,21nm,0.5s,mb4.8						
KKN	**Kakani**	**24.00**	**340**	*e*P	**P**	**14 50 45.0**	**+0.1**
	comp=Z,51nm,0.8s,mb5.0						
GYA	**Guiyang**	**24.11**	**28**⇑	*i*P	**P**	**14 50 47.6**	**+1.7**
GYA				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.0						
GKN	**Gorkha**	**24.43**	**339**	*e*P	**P**	**14 50 49.6**	**+0.6**
	comp=Z,28nm,0.3s,mb5.2						
LSA	**Lhasa**	**24.48**	**353**	P	**P**	**14 50 51.5**	**+2.0**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
LSA	**Lhasa**	**24.48**	**353**	*e*P	**P**	**14 50 49.9**	**+0.4**
	comp=Z,29nm,0.6s,mb4.9						
LSA				LR	LR		
	comp=Z,338nm,21.0s,MS3.8						
KOLN	**Koldanda**	**24.61**	**337**	*e*P	**P**	**14 50 51.7**	**+0.9**
	comp=Z,34nm,0.5s,mb5.1						
DGAR	**Diego Garcia**	**25.26**	**240**	PFAKE		14 51 10.0	+13
DGAR				LR	LR		
	comp=Z,101nm,19.0s						
ENH	**Enshi**	**28.64**	**28**	*e*P	**P**	**14 51 26.6**	**-1.3**
	comp=Z,12nm,0.4s,mb5.0						
ENH				LR	LR		
	comp=Z,241nm,19.0s,MS3.8						
XAN	**Xi'an**	**31.64**	**23**	P	**P**	**14 51 53.1**	**-1.3**
XAN				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.3						
GTA	**Gaotai**	**34.33**	**7**	P	**P**	**14 52 17.4**	**-0.3**
GTA				AP	pP	14 52 26.6	-2.4
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.9						
NJ2	**Nanjing**	**35.12**	**38**	*e*P	**P**	**14 52 23.2**	**-1.3**
NJ2				AP	pP	14 52 32.8	-3.0
NJ2				PP	PP	14 53 41.9	-2.1
NJ2				S	**S**	**14 57 52.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,630nm,6.0s						
NJ2				LR	LR		
	comp=N,1μm,26.4s,MS4.5						
NJ2				LR	LR		
	comp=E,440nm,24.5s,MS4.5						
NJ2				LR	LR		
	comp=Z,860nm,23.9s,MS4.4						
SSE	**Sheshan**	**35.95**	**41**	P	**P**	**14 52 28.0**	**-3.7**
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,43nm,2.9s,mb4.9						
SSE	**Sheshan**	**35.95**	**41**	P	**P**	**14 52 28.0**	**-3.7**
	comp=Z,25nm,0.7s,mb5.2						
MBWA	**Marble Bar**	**36.17**	**137**	PFAKE		14 52 50.0	+16
MBWA				LR	LR		
	comp=Z,544nm,22.0s,MS4.3						
BJT	**Baijiatuau**	**39.76**	**26**	PFAKE		14 53 20.0	+17
BJT				LR	LR		
	comp=Z,259nm,21.0s,MS4.0						
BJI	**Beijing**	**39.78**	**26**	*e*P	**P**	**14 53 04.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
BJI	**Beijing**	**39.78**	**26**	*e*P	**P**	**14 53 04.8**	**+1.3**
	comp=Z,13nm,0.9s,mb4.7						
AAK	**Ala-Archa**	**41.17**	**338**	*i* P	**P**	**14 53 15.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**41.17**	**338**	*e*P	**P**	**14 53 15.8**	**+0.8**
	comp=Z,8.4nm,0.9s,mb4.4						
AAK				LR	LR		
	comp=Z,59nm,19.0s						
FRU	**Bishkek**	**41.30**	**338**	*e*P	**P**	**14 53 28.0**	**+12**
MKAR	**Makanchi Array**	**42.66**	**348**	*i* P	**P**	**14 53 27.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.5s						
INCN	**Inchon**	**43.50**	**38**	PFAKE		14 53 50.0	+16
INCN				LR	LR		
	comp=Z,381nm,20.0s,MS4.3						
SONM	**Songino Array**	**43.63**	**12**	P	**P**	**14 53 34.8**	**-0.3**
	comp=Z,4.9nm,0.7s,mb4.3,baz=192,slow=8.3,SNR=44						
SONM				PcP	PcP	14 55 22.6	+0.1
	comp=Z,2.1nm,0.4s,baz=192,slow=4.0,SNR=11						
SONM				ScP		14 59 11.0	
	comp=Z,0.7nm,0.8s,baz=198,slow=3.9,SNR=4.2						
NWAO	**Narrogin (SRO)**	**43.75**	**152**	PFAKE		14 53 50.0	+14
NWAO				LR	LR		
	comp=Z,315nm,19.0s,MS4.2						
ULN	**Ulaanbaatar**	**43.80**	**12**c	*i*P	**P**	**14 53 35.9**	**-0.5**
ULN	**Ulaanbaatar**	**43.80**	**12**	*e*P	**P**	**14 53 35.6**	**-0.9**
	comp=Z,5.0nm,0.7s,mb4.3						
ULN				LR	LR		
	comp=Z,178nm,21.0s,MS4.0						
ZAK	**Zakamensk**	**45.56**	**8**	*e*P	**P**	**14 53 50.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.1s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.0s						
WRA	**Warramunga Arr**	**46.59**	**124**	*i* P	**P**	**14 53 59.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WRA	**Warramunga Arr**	**46.59**	**124**	P	**P**	**14 53 59.2**	**+0.2**
	comp=Z,8.8nm,0.6s,mb4.9,baz=303,slow=9.3,SNR=136						
WRAB	**Tennant Creek**	**46.60**	**124**c	*i*P	**P**	**14 53 59.4**	**+0.3**
WRAB	**Tennant Creek**	**46.60**	**124**	*e*P	**P**	**14 53 59.1**	**+0.1**
	comp=Z,33nm,0.8s,mb5.3						
WRAB				LR	LR		
	comp=Z,212nm,22.0s,MS4.0						
TLY	**Talaya**	**46.88**	**8**	PFAKE		14 54 10.0	+9.1
TLY				LR	LR		
	comp=Z,54nm,20.0s						
KURK	**Kurchatov**	**47.17**	**346**	P	**P**	**14 54 03.7**	**+0.5**
	comp=Z,181nm,0.4s,SNR=46						
KURK	**Kurchatov**	**47.17**	**346**	*e*P	**P**	**14 54 03.6**	**+0.4**
	comp=Z,15nm,0.4s,mb5.3						
KURK				LR	LR		
	comp=Z,57nm,20.0s						
ASPA	**Alice Springs**	**48.09**	**128**	*e*P	**P**	**14 54 10.6**	**-0.2**
ASAR	**Alice Springs**	**48.10**	**128**	*e*P	**P**	**14 54 10.9**	**+0.1**
ASAR	**Alice Springs**	**48.10**	**128**	P	**P**	**14 54 10.8**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.6,baz=299,slow=7.6,SNR=64						
ASAR				PcP	PcP	14 55 38.6	+0.2
	comp=Z,1.2nm,0.4s,baz=312,slow=2.9,SNR=4.8						
HIA	**Hailar**	**48.81**	**22**	PFAKE		14 54 30.0	+14
HIA				LR	LR		
	comp=Z,397nm,19.0s,MS4.4						
ZAL	**Zalesovo**	**49.13**	**353**	P	**P**	**14 54 18.6**	**+0.2**
	comp=Z,12nm,0.4s,mb5.3,baz=305,slow=5.7,SNR=48						
MDJ	**Mudanjiang**	**49.83**	**33**	PFAKE		14 54 40.0	+16
MDJ				LR	LR		
	comp=Z,222nm,19.0s,MS4.2						
NVS	**Novosibirsk**	**50.23**	**352**⇑	*i*P	**P**	**14 54 25.5**	**-1.3**
NVS				*i* *PP	pP	14 54 38.2	-0.2
NVS				*e*S	**S**	**15 01 40.8**	**+6.0**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
NVS				pmax	pmax		
	comp=N,7.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.5s						
NVS				smax			
	comp=E,18nm,2.0s						
GUMO	**Guam**	**50.39**	**77**	PFAKE		14 54 40.0	+11
GUMO				LR	LR		
	comp=Z,760nm,22.0s,MS4.7						
MAJO	**Matsushiro**	**50.74**	**46**	PFAKE		14 54 40.0	+9.0
MAJO				LR	LR		
	comp=Z,256nm,19.0s,MS4.3						
BVA0	**Borovoye Array**	**51.51**	**342**	P	**P**	**14 54 35.6**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	**Borovoye Array**	**51.51**	**342**	P	**P**	**14 54 36.2**	**-0.3**
	comp=Z,7.9nm,0.7s,mb4.8,baz=142,slow=9.0,SNR=58						
CHKZ	**Chkalovo**	**52.00**	**342**	P	**P**	**14 54 40.0**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
CHKZ	**Chkalovo**	**52.00**	**342**	*e*P	**P**	**14 54 40.2**	**0.0**
	comp=Z,21nm,0.7s,mb5.2						
PMG	**Port Moresby**	**54.58**	**105**	PFAKE		14 55 10.0	+10
PMG				LR	LR		
	comp=Z,377nm,21.0s,MS4.4						
BOD	**Bodaibo**	**54.60**	**13**	*e*P	**P**	**14 54 57.4**	**-2.0**
BOD				*e*	pP	14 55 09.6	-1.6
BOD				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
GNI	**Garni**	**56.43**	**315**⇓	*e*P	**P**	**14 55 05.2**	**-7.7**
GNI	**Garni**	**56.43**	**315**	PFAKE		14 55 20.0	+7.1
GNI				LR	LR		
	comp=Z,226nm,21.0s,MS4.2						
CTAO	**Charters Tower**	**56.85**	**118**	PFAKE		14 55 30.0	+14
CTAO				LR	LR		
	comp=Z,422nm,20.0s,MS4.5						
KMBO	**Kilima Mbogo**	**57.42**	**265**	PFAKE		14 55 30.0	+10
KMBO				LR	LR		
	comp=Z,237nm,22.0s,MS4.2						

STKA	**Stephens Creek**	**58.16**	**133**	P	**P**	**14 55 24.9**	**-0.3**
	comp=Z,1.1nm,0.5s,mb4.1,baz=327,slow=13,SNR=3.7						
STKA	**Stephens Creek**	**58.16**	**133**	*e*P	**P**	**14 55 25.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**58.68**	**37**	P	**P**	**14 55 29.0**	**+0.4**
YSS	**Yuzh-Sakhalins**	**58.68**	**37**	PFAKE		14 55 40.0	+11
YSS				LR	LR		
	comp=Z,336nm,22.0s,MS4.4						
KIV	**Kislovodsk**	**59.41**	**319**	PFAKE		14 55 50.0	+16
KIV				LR	LR		
	comp=Z,66nm,22.0s,MS3.7						
GOF	**Gofitskoye**	**59.65**	**320**	*e*P	**P**	**14 55 35.1**	**-0.3**
SOC	**Sochi**	**61.23**	**317**	*e*P	**P**	**14 55 44.5**	**-1.7**
SOC				*e*		14 56 25.7	
SOC				*e*		14 58 06.5	
SOC				*e*PPP	PPP	14 59 27.6	-4.1
SOC				*e*S	**S**	**15 04 00.5**	**-0.9**
SOC				*e*SS	SS	15 08 01.5	-1.8
SOC				*e*SSS	SSS	15 10 48.6	+6.1
SOC				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
SOC				pmax	pmax		
	comp=N,30nm,1.4s						
SOC				pmax	pmax		
	comp=E,15nm,1.0s						
SOKR	**Solikamsk**	**61.29**	**339**	⇓*i*P	pP	14 55 57.4	-0.8
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
YAK	**Yakutsk**	**62.37**	**18**	*i* P	**P**	**14 55 49.9**	**-3.6**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.3						
YAK	**Yakutsk**	**62.37**	**18**	PFAKE		14 56 10.0	+17
YAK				LR	LR		
	comp=Z,255nm,19.0s,MS4.4						
MBAR	**Mbarara**	**63.83**	**267**	PFAKE		14 56 20.0	+16
MBAR				LR	LR		
	comp=Z,45nm,20.0s						
HNR	**Honiara**	**66.94**	**103**	PFAKE		14 56 40.0	+16
HNR				LR	LR		
	comp=Z,379nm,22.0s,MS4.6						
OBN	**Obninsk**	**67.69**	**328**	*e*P	**P**	**14 56 25.7**	**-2.2**
OBN				*i*		14 56 42.6	
OBN				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
OBN	**Obninsk**	**67.69**	**328**	PFAKE		14 56 40.0	+12
OBN				LR	LR		
	comp=Z,97nm,19.0s,MS4.0						
LSZ	**Lusaka**	**68.66**	**251**	PFAKE		14 56 50.0	+15
LSZ				LR	LR		
	comp=Z,301nm,21.0s,MS4.5						
MA2	**Magadan**	**68.94**	**27**	PFAKE		14 56 50.0	+14
MA2				LR	LR		
	comp=Z,279nm,21.0s,MS4.5						
MATP	**Matopo**	**69.52**	**246**	P	**P**	**14 56 41.5**	**+1.7**
	comp=Z,3.6nm,0.8s,mb4.4,baz=81,slow=7.8,SNR=7.3						
TIXI	**Tiksi**	**69.71**	**11**	⇑*i*P	**P**	**14 56 38.7**	**-1.4**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TIXI	**Tiksi**	**69.71**	**11**	PFAKE		14 56 50.0	+10
TIXI				LR	LR		
	comp=Z,195nm,19.0s,MS4.4						
AKASG	**Malin Array Be**	**70.33**	**322**	*i* P	**P**	**14 56 43.1**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**70.33**	**322**	P	**P**	**14 56 43.1**	**-1.1**
	comp=Z,2.8nm,0.5s,mb4.5,baz=85,slow=5.0,SNR=7.2						
LBTB	**Lobatse**	**73.24**	**242**	PFAKE		14 57 10.0	+7.9
LBTB				LR	LR		
	comp=Z,224nm,19.0s,MS4.5						
BOSA	**Boshof**	**74.44**	**239**	PFAKE		14 57 20.0	+11
BOSA				LR	LR		
	comp=Z,231nm,19.0s,MS4.5						
CRVS	**Cervenica-Dubn**	**74.83**	**319**	*e*P	**P**	**14 57 12.7**	**+1.8**
FINES	**FINESS Array B**	**75.11**	**332**	*i* P	**P**	**14 57 12.0**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**14 57 12.0**	**-0.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=109,slow=6.2,SNR=16						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**14 57 12.0**	**-0.1**
OJC	**Ojcow**	**76.11**	**320**	*e*P	**P**	**14 57 18.7**	**+0.6**
OKC	**Ostrava-Krasne**	**77.11**	**320**	*e*P	**P**	**14 57 22.7**	**-1.1**
KEV	**Kevo**	**77.35**	**341**	*e*p	**P**	**14 57 25.1**	**+0.4**
ARCES	**ARCESS Array B**	**77.77**	**340**	P	**P**	**14 57 27.7**	**+0.6**
	comp=Z,2.4nm,0.7s,mb4.2,baz=100,slow=6.6,SNR=21						
DPC	**Dobruska-Polom**	**78.34**	**320**	*e*P	**P**	**14 57 31.8**	**+1.3**
KSP	**Ksiaz**	**78.41**	**321**	*e*P	**P**	**14 57 31.6**	**+0.7**
KSP				*e**PP	pP	14 57 45.5	+2.4
TSUM	**Tsumeb**	**79.34**	**249**	PFAKE		14 57 50.0	+13
TSUM				LR	LR		
	comp=Z,226nm,20.0s,MS4.5						
GERES	**GERESS Array B**	**79.92**	**319**	P	**P**	**14 57 40.5**	**+1.3**
	comp=Z,4.1nm,0.6s,mb4.6,baz=100,slow=5.3,SNR=34						
KHC	**Kasperske Hory**	**80.02**	**319**	*e*P	**P**	**14 57 40.2**	**+0.5**
KBS	**Kingsbay**	**83.40**	**349**	PFAKE		14 58 10.0	+13
KBS				LR	LR		
	comp=Z,257nm,20.0s,MS4.6						
SNZO	**South Karori**	**86.21**	**132**	PFAKE		14 58 20.0	+8.6
SNZO				LR	LR		
	comp=Z,549nm,19.0s,MS5.0						
TNA	**Tin City**	**88.41**	**24**	PFAKE		14 58 30.0	+8.5
TNA				LR	LR		
	comp=Z,319nm,19.0s,MS4.8						
ESK	**Eskdalemuir**	**90.01**	**325**	PFAKE		14 58 40.0	+11
ESK				LR	LR		
	comp=Z,142nm,22.0s,MS4.3						
ESLA	**Sonseca Array**	**93.07**	**310**	PFAKE		14 59 00.0	+16
ESLA				LR	LR		
	comp=Z,2μm,19.0s,MS5.6						
QSPA	**South Pole Qui**	**95.20**	**180**	PFAKE		14 59 00.0	+7.4
QSPA				LR	LR		
	comp=Z,739nm,19.0s,MS5.2						
COLA	**College**	**96.62**	**22**	PFAKE		14 59 10.0	+11
COLA				LR	LR		
	comp=Z,346nm,19.0s,MS4.9						
MCK	**McKinley**	**96.72**	**24**	PFAKE		14 59 10.0	+10
MCK				LR	LR		
	comp=Z,137nm,21.0s,MS4.4						
ILAR	**Eielson Array**	**97.04**	**22**	P	**P**	**14 59 01.1**	**-0.1**
	comp=Z,0.4nm,0.6s,mb4.0,baz=304,slow=4.2,SNR=5.8						
SNAA	**Sanae**	**97.26**	**198**	⇑*i*P	**P**	**14 59 01.2**	**-1.0**
SNAA	**Sanae**	**97.26**	**198**	⇑*i*	**P**	**14 59 11.4**	**+9.2**
SNAA	**Sanae**	**97.26**	**198**	⇑*i*	**P**	**14 59 16.6**	**+14**
FIB	**Fire Island**	**97.32**	**26**	PFAKE		14 59 10.0	+7.4
FIB				LR	LR		
	comp=Z,1μm,21.0s,MS5.4						
DBIC	**Dimbokro**	**98.53**	**278**	PFAKE		14 59 20.0	+11
DBIC				LR	LR		
	comp=Z,278nm,20.0s,MS4.8						
VNA2	**Neumayer--Watz**	**98.81**	**199**	P	**P**	**14 59 08.3**	**-0.9**
VNA2	**Neumayer--Watz**	**98.81**	**199**		**P**	**14 59 16.6**	**+7.4**
VNA2	**Neumayer--Watz**	**98.81**	**199**		**P**	**14 59 22.2**	**+13**
VNA2	**Neumayer--Watz**	**98.81**	**199**	*i* Pdif	**P**	**14 59 08.3**	**-0.9**
DIV	**Divide**	**99.24**	**25**	PFAKE		14 59 20.0	+8.7
DIV				LR	LR		
	comp=Z,934nm,21.0s,MS5.3						
SCHQ	**Schefferville**	**118.09**	**348**	PFAKE		15 04 30.0	+15
SCHQ				LR	LR		
	comp=Z,1μm,22.0s,MS5.5						
BMO	**Blue Mountains**	**122.58**	**26**	PFAKE		15 04 40.0	+16
BMO				LR	LR		
	comp=Z,175nm,19.0s,MS4.7						
WVOR	**Wild Horse Val**	**123.82**	**29**	PFAKE		15 04 40.0	+13
WVOR				LR	LR		
	comp=Z,607nm,19.0s,MS5.3						
ULM	**Lac du Bonnet**	**123.98**	**8**	PKP	PKPdf	15 04 28.3	+1.3
	comp=Z,2.0nm,0.8s,baz=240,slow=2.4,SNR=3.4						
ULM	**Lac du Bonnet**	**123.98**	**8**	PKP	PKPdf	15 04 28.3	+1.3
ULM				LR	LR		
	comp=Z,639nm,20.0s,MS5.3						
DGMT	**Dagmar**	**124.05**	**15**	PFAKE		15 04 40.0	+13
DGMT				LR	LR		
	comp=Z,581nm,21.0s,MS5.2						
BOZ	**Bozeman (W)**	**124.24**	**22**	PFAKE		15 04 40.0	+12
BOZ				LR	LR		
	comp=Z,662nm,21.0s,MS5.3						
LKWY	**Lake**	**125.61**	**22**	PFAKE		15 04 40.0	+10
LKWY				LR	LR		
	comp=Z,701nm,19.0s,MS5.3						
PQI	**Presque Isle**	**125.97**	**345**	PFAKE		15 04 40.0	+9.1
PQI				LR	LR		
	comp=Z,6μm,22.0s						
BMN	**Battle Mountai**	**126.04**	**30**	PFAKE		15 04 50.0	+19
BMN				LR	LR		
	comp=Z,563nm,20.0s,MS5.2						
ELK	**Elko**	**126.75**	**28**	PFAKE		15 04 50.0	+17
ELK				LR	LR		
	comp=Z,695nm,19.0s,MS5.3						
EYMN	**Ely**	**126.75**	**5**	PFAKE		15 04 50.0	+18
EYMN				LR	LR		
	comp=Z,246nm,20.0s,MS4.9						
NVAR	**Mina Array Bea**	**126.99**	**32**	PKP	PKPdf	15 04 36.1	+3.0
	comp=Z,0.6nm,0.8s,baz=268,slow=5.4,SNR=4.2						
MNV	**Mina**	**127.06**	**32**	PFAKE		15 04 50.0	+17
MNV				LR	LR		
	comp=Z,667nm,20.0s,MS5.3						
PDAR	**Pinedale Array**	**127.47**	**22**	PKP	PKPdf	15 04 35.9	+1.9
	comp=Z,0.4nm,0.5s,baz=90,slow=4.4,SNR=6.5						
EMMW	**East Machias**	**127.64**	**344**	PFAKE		15 04 50.0	+16
EMMW				LR	LR		
	comp=Z,4μm,21.0s						
HWUT	**Hardware Ranch**	**127.66**	**24**	PFAKE		15 04 50.0	+16
HWUT				LR	LR		
	comp=Z,423nm,20.0s,MS5.1						
TPH	**Tonopah**	**127.82**	**32**	PFAKE		15 04 50.0	+15
TPH				LR	LR		
	comp=Z,563nm,21.0s,MS5.2						
DUG	**Dugway**	**128.29**	**26**	PFAKE		15 04 50.0	+14
DUG				LR	LR		
	comp=Z,4μm,21.0s						
WVL	**Waterville**	**128.35**	**345**	PFAKE		15 04 50.0	+14
WVL				LR	LR		
	comp=Z,12μm,22.0s						
NCB	**Newcomb**	**129.91**	**349**	PFAKE		15 04 50.0	+11
NCB				LR	LR		
	comp=Z,691nm,22.0s,MS5.3						
RCBR	**Riachuelo**	**130.53**	**267**	PFAKE		15 04 50.0	+9.5
RCBR				LR	LR		
	comp=Z,290nm,20.0s,MS5.0						
WES	**Weston**	**130.81**	**346**	PFAKE		15 04 50.0	+10
WES				LR	LR		
	comp=Z,3μm,21.0s						
ISCO	**Idaho Springs**	**131.50**	**21**	PFAKE		15 05 00.0	+18
ISCO				LR	LR		
	comp=Z,220nm,20.0s,MS4.9						
JFWS	**Jewell Farm**	**131.85**	**5**	PFAKE		15 05 00.0	+18
JFWS				LR	LR		
	comp=Z,647nm,19.0s,MS5.3						
AAM	**Ann Arbor**	**132.61**	**358**	PFAKE		15 05 00.0	+16
AAM				LR	LR		
	comp=Z,351nm,19.0s,MS5.1						
WUAZ	**Wupatki**	**132.75**	**29**	PFAKE		15 05 00.0	+16
WUAZ				LR	LR		
	comp=Z,8μm,19.0s						
ACSO	**Alum Creek Sta**	**134.65**	**357**	PFAKE		15 05 00.0	+12
ACSO				LR	LR		
	comp=Z,728nm,19.0s,MS5.4						
ANMO	**Albuquerque**	**135.42**	**25**	PFAKE		15 05 00.0	+11
ANMO				LR	LR		
	comp=Z,179nm,21.0s,MS4.8						
CBN	**Corbin**	**136.06**	**351**	PFAKE		15 05 00.0	+10
CBN				LR	LR		
	comp=Z,666nm,20.0s,MS5.4						
MNTX	**Cornudas Mount**	**138.68**	**26**	PFAKE		15 05 10.0	+15
MNTX				LR	LR		
	comp=Z,464nm,21.0s,MS5.2						
WVT	**Waverly**	**138.76**	**3**	PFAKE		15 05 10.0	+15
WVT				LR	LR		
	comp=Z,104nm,19.0s,MS4.6						
MIAR	**Mount Ida**	**139.68**	**10**	PFAKE		15 05 10.0	+13
MIAR				LR	LR		
	comp=Z,409nm,21.0s,MS5.2						
OXF	**Oxford**	**140.26**	**5**	PFAKE		15 05 10.0	+12
OXF				LR	LR		
	comp=Z,252nm,20.0s,MS5.0						
TRQA	**Tornquist**	**140.92**	**210**	PFAKE		15 05 10.0	+11
TRQA				LR	LR		
	comp=Z,395nm,22.0s,MS5.1						
LTX	**Lajitas**	**141.46**	**26**	PFAKE		15 05 10.0	+10
LTX				LR	LR		
	comp=Z,340nm,21.0s,MS5.1						
TXAR	**Lajitas Array**	**141.46**	**26**	PKP	PKPdf	15 05 03.6	+3.3
	comp=Z,0.7nm,0.7s,baz=207,slow=2.0,SNR=3.7						
GOGA	**Godfrey**	**141.47**	**357**	PFAKE		15 05 10.0	+10
GOGA				LR	LR		
	comp=Z,506nm,20.0s,MS5.3						
JCT	**Junction City**	**141.94**	**20**	PFAKE		15 05 10.0	+8.9
JCT				LR	LR		
	comp=Z,202nm,19.0s,MS4.9						
NATX	**Nacogdoches**	**142.17**	**13**	PFAKE		15 05 20.0	+19
NATX				LR	LR		
	comp=Z,532nm,21.0s,MS5.3						
PLCA	**Paso Flores**	**142.20**	**199**	PFAKE		15 05 10.0	+8.8
PLCA				LR	LR		
	comp=Z,379nm,20.0s,MS5.2						
SJG	**San Juan**	**149.85**	**321**	PFAKE		15 05 30.0	+15
SJG				LR	LR		
	comp=Z,241nm,20.0s,MS5.0						
TEIG	**Tepich**	**154.52**	**6**	PFAKE		15 05 30.0	+8.7
TEIG				LR	LR		
	comp=Z,222nm,22.0s,MS4.9						
LVC	**Limon Verde**	**156.39**	**222**	PFAKE		15 05 40.0	+16
LVC				LR	LR		
	comp=Z,385nm,20.0s,MS5.2						
SAML	**Samuel**	**157.45**	**259**	PFAKE		15 05 40.0	+15
SAML				LR	LR		
	comp=Z,227nm,21.0s,MS5.0						
SDV	**Santo Domingo**	**159.48**	**313**	PFAKE		15 05 40.0	+12
SDV				LR	LR		
	comp=Z,223nm,22.0s,MS5.0						
LPAZ	**La Paz**	**159.66**	**236**	PFAKE		15 05 40.0	+12
LPAZ				LR	LR		
	comp=Z,235nm,22.0s,MS5.0						
JTS	**JuntasAbangare**	**164.52**	**358**	PFAKE		15 05 50.0	+17
JTS				LR	LR		
	comp=Z,80nm,20.0s						
NNA	**Nana**	**169.07**	**232**	PFAKE		15 05 50.0	+14
NNA				LR	LR		
	comp=Z,66nm,21.0s						
PAYG	**Puerto Ayora**	**173.46**	**46**	PFAKE		15 05 50.0	+11
PAYG				LR	LR		
	comp=Z,589nm,22.0s						

*IDC **02** 14:54:00.9±0.9, 6.78N×72.92W, h163^{km}±15^{km}, mb3.0/2, mb1 3.4/4, mb1mx3.0/21, mbtmp3.6/4, Error ellipse: s-maj=50.4km s-min=8.1km az=132.0*
*FUNV **02** 14:54:00.6, 6.79N×73.13W, h169^{km}, MW2.9*
ISC 02 14:54:00.3±0.7**, 6.91N**±0.06×**72.97W**±0.07**, h171**^{km}±7^{km}**,**
n16, σ1^{s}05/24**, mb3.2**/2**, 3C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.15**	**34**	⇑*i*P	**P**	**14 54 29.5**	**+0.9**
CAPV				*e*S	**S**	**14 54 50.9**	**+0.4**
ROSC	**El Rosal**	**2.45**	**214**	P	**P**	**14 54 42.2**	**-0.2**
	18nm,0.3s,baz=265,slow=23,SNR=34						
ROSC				S	**S**	**14 55 13.3**	**-1.5**
	45nm,0.3s,baz=74,slow=20,SNR=18						
VIGV	**El Vigia**	**2.49**	**39**	*e*P	**P**	**14 54 44.0**	**+1.1**
VIGV				*e*S	**S**	**14 55 16.1**	**+0.3**
SOCV	**Socops**	**2.50**	**57**	⇑*i*P	**P**	**14 54 44.5**	**+1.5**
SOCV				*e*S	**S**	**14 55 16.6**	**+0.7**
SDV	**Santo Domingo**	**3.04**	**49**	P	**P**	**14 54 51.1**	**+1.5**
	17nm,0.3s,baz=240,slow=2.8,SNR=92						
SDV				S	**S**	**14 55 28.1**	**+0.6**
	12nm,0.3s,baz=112,slow=23,SNR=11						
VIRV	**Villa del Rosa**	**3.62**	**9**	⇑*i*P	**P**	**14 54 56.4**	**-0.6**
VIRV				*e*S	**S**	**14 55 38.9**	**-1.7**
CURV	**Curarigua**	**4.29**	**44**	*e*P	**P**	**14 55 06.3**	**+0.8**
CURV				*e*S	**S**	**14 55 53.6**	**-2.3**
DABV	**Dabajuro**	**4.61**	**30**	*e*P	**P**	**14 55 10.4**	**+0.7**
DABV				*e*S	**S**	**14 56 01.8**	**-1.5**
TEPV	**Terepaima**	**4.81**	**51**	*e*P	**P**	**14 55 13.2**	**+0.7**
BAUV	**El Baul**	**5.28**	**67**	⇓*i*P	**P**	**14 55 18.0**	**-0.5**
BAUV				*e*S	**S**	**14 56 16.9**	**-2.3**
PAYV	**Puerto Ayacuch**	**5.48**	**105**	⇓*i*P	**P**	**14 55 20.6**	**-0.6**
IMOV	**Isla Los Monje**	**5.79**	**20**	*e*P	**P**	**14 55 25.2**	**0.0**
MONV	**Montecano**	**5.82**	**30**	⇓*i*P	**P**	**14 55 25.6**	**-0.1**
TXAR	**Lajitas Array**	**36.52**	**311**	P	**P**	**15 00 51.8**	**+0.7**
	0.2nm,0.5s,mb3.0,baz=125,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**15 04 12.5**	**+0.1**
	0.3nm,0.4s,mb3.4,baz=132,slow=6.8,SNR=10						
WRA	**Warramunga Arr**	**150.51**	**241**	PKPbc	PKPdf	15 13 33.7	+6.9
	0.1nm,0.5s,baz=107,slow=3.0,SNR=4.7						

CASC 02 14:58:56.8±1.9**, 9.08N**×**83.74W, h15**^{km}±10^{km}**, MD3.8, 4C-6D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.47**	**358**	⇓*i*P	Pb	14 59 07.2	+0.9
BUS				*e*S	Sb	14 59 15.7	+3.0
ACR	**Cerro Adams**	**0.70**	**127**	⇑*i*P	Pb	14 59 09.1	-1.1
ACR				*e*S	Sb	14 59 19.6	+0.2
LCR2	**La Lucha 2**	**0.71**	**338**	⇓*i*P	Pb	14 59 10.4	+0.2
LCR2				*e*S	Sb	14 59 20.3	+0.8
LAJ	**Bijagual**	**0.87**	**334**	⇓*i*P	Pb	14 59 15.0	+2.0
LAJ				*e*S	Sb	14 59 30.3	+6.2
ICR	**Volcan Irazu**	**0.90**	**354**	⇓*i*P	Pb	14 59 13.7	+0.1
ICR				*e*S	Sb	14 59 25.9	+0.8
SJS	**Escuela Geolog**	**0.91**	**340**	*e*P	Pb	14 59 13.3	-0.4
SJS				*e*P		14 59 14.2	
SJS				*e*S	Sb	14 59 25.5	+0.1
SJS				*e*S	Sb	14 59 26.5	+1.1
PRS1	**Puriscal**	**1.06**	**328**	⇑*e*P	Pb	14 59 14.9	-1.4
PRS1				*e*S	Sb	14 59 30.6	+0.9
BRU2	**Volcan**	**1.07**	**105**	*e*P	Pb	14 59 16.6	+0.1
BRU2				*e*S	Sb	14 59 30.9	+0.8
LIO	**Limon**	**1.15**	**37**	⇓*i*P	Pb	14 59 17.0	-0.8
LIO				*e*S	Sb	14 59 31.7	-0.6
CGA2	**Cerro Gallo 2**	**1.18**	**322**	⇓*e*P	Pb	14 59 17.5	-0.7
CGA2				*e*S	Sb	14 59 33.5	+0.4
VPS2	**Volcan Poas 2**	**1.21**	**336**	⇑*e*P	Pb	14 59 18.5	-0.3
VPS2				*e*S	Sb	14 59 35.1	+1.1
TRTC	**Tortuguero**	**1.49**	**1**	⇑*e*P	Pn	14 59 22.2	-0.9
TRTC				*e*S	Sb	14 59 42.5	+0.4
VCR	**Vista de Mar**	**2.14**	**299**	*e*P	Pn	14 59 32.6	+0.1

IGQ 02 15:05:33.1, 1.62S×77.92W, h207^{km}±3^{km}, mb4.0, 2C-15D, Error ellipse: s-maj=3.8km s-min=1.8km az=51.4, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**0.52**	**289**	⇓P	P	15 06 01.7	+0.3
ULBA				S	S	15 06 22.0	-1.4
PATA	**Patacocha**	**0.53**	**283**	P	P	15 06 02.1	+0.6
RUN2	**Runtun**	**0.53**	**292**	⇓P	P	15 06 01.9	+0.4
ARRY	**Arrayan**	**0.55**	**282**	⇑P	P	15 06 01.8	+0.2
ARRY				S	S	15 06 22.2	-1.3
RETU	**Refugio**	**0.55**	**287**	P	P	15 06 02.1	+0.5
JUIV	**Juive**	**0.58**	**289**	P	P	15 06 02.3	+0.6
JUIV				S	S	15 06 22.9	-0.9
CUSU	**Cusua**	**0.59**	**287**	P	P	15 06 02.1	+0.4
PISA	**Pisayambo**	**0.73**	**320**	⇓P	P	15 06 03.1	+0.8
IGUA	**Igualata**	**0.73**	**280**	P	P	15 06 03.3	+1.0
TAMB	**Tambo**	**1.02**	**334**	⇓P	P	15 06 04.9	+0.9
VC1	**Cotopaxi 1**	**1.08**	**333**	⇓P	P	15 06 05.4	+1.0
NAS1	**Nasa**	**1.13**	**330**	⇓P	P	15 06 06.2	+1.4
ANTI	**Antisana**	**1.19**	**348**	⇓P	P	15 06 06.0	+0.7
JUA2	**San Juan 2**	**1.56**	**334**	⇓P	P	15 06 09.2	+0.9
CONE	**Cono NE Rev Vo**	**1.56**	**10**	⇓P	P	15 06 08.2	-0.2
ELAGU	**Cayambe Volc**	**1.59**	**357**	⇑P	P	15 06 09.4	+0.8
TERV	**Terraza Guagua**	**1.59**	**334**	P	P	15 06 09.6	+0.9
PINO	**Pino**	**1.61**	**335**	⇓P	P	15 06 09.8	+1.1
CAYR	**Refugio Cayamb**	**1.62**	**357**	⇓P	P	15 06 10.0	+1.0
YANA	**Yana**	**1.63**	**336**	⇓P	P	15 06 09.9	+0.9
CAYA	**Cayambe**	**1.68**	**358**	⇓P	P	15 06 10.5	+1.1
COTA	**Cotacachi**	**1.98**	**348**	⇓P	P	15 06 13.6	+1.2
ECEN	**Cerro Negro**	**2.43**	**359**	P	P	15 06 18.4	+1.3
HOJA	**Cerro de Hojas**	**2.69**	**282**	⇓P	P	15 06 19.9	-0.1
HOJA				S	S	15 06 52.8	-3.4
LORE	**San Lorenzo**	**3.04**	**342**	P	P	15 06 25.4	+1.3
SALI	**Salinas**	**3.12**	**260**	P	P	15 06 25.1	+0.1
SALI				S	S	15 07 01.5	-3.8

IDC 02 15:07:36.0±1.6**, 55.61S**×**124.22W, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.7**/13**, mbtmp3.9**/2**, Error ellipse: s-maj=174.2km s-min=50.0km az=154.0, Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**77.20**	**247**	P	P	15 19 31.1	-2.0
	0.6nm,0.8s,baz=149,slow=6.4,SNR=5.5						
WRA	**Warramunga Arr**	**80.02**	**249**	P	P	15 19 47.7	-1.0
	1.8nm,0.8s,baz=142,slow=4.8,SNR=13						
ILAR	**Eielson Array**	**121.30**	**349**	PKP	PKPdf	15 26 28.6	-3.3
	0.6nm,1.0s,baz=172,slow=2.3,SNR=4.1						
JIRN	**Jiri**	**144.52**	**231**	*e*PKIKP	PKPdf	15 27 12.4	-3.3
	15nm,1.0s						
PKI	**Pulchoki**	**144.78**	**230**	*e*PKIKP	PKPdf	15 27 13.1	-3.1
DMN	**Daman**	**144.94**	**229**	*e*PKIKP	PKPdf	15 27 13.8	-2.7
	22nm,0.8s						
KKN	**Kakani**	**145.03**	**230**	*e*PKIKP	PKPdf	15 27 13.8	-2.8
	22nm,1.0s						
GKN	**Gorkha**	**145.49**	**229**	*e*PKIKP	PKPdf	15 27 15.4	-2.0
KOLN	**Koldanda**	**145.72**	**227**	*e*PKIKP	PKPdf	15 27 15.6	-2.2
	18nm,1.1s						
SONM	**Songino Array**	**148.32**	**277**	PKPbc	PKPdf	15 27 23.4	+1.9
	0.5nm,0.7s,baz=72,slow=4.6,SNR=4.6						
GERES	**GERESS Array B**	**153.69**	**87**	PKPbc	PKPdf	15 27 36.0	+6.6
	0.3nm,0.6s,baz=297,slow=4.4,SNR=3.6						

*NEIC **02** 15:26:40.2±1.0, 18.68S×177.76W, h542^{km}±12^{km}, mb4.7/7, Error ellipse: s-maj=22.1km s-min=9.6km az=149.0*
*IDC **02** 15:26:43.6±2.6, 18.76S×177.83W, h578^{km}±31^{km}, mb3.6/9, mb1 3.8/10, mb1mx3.6/18, mbtmp4.5/10, Error ellipse: s-maj=29.0km s-min=14.1km az=158.0*
ISC 02 15:26:39.2±1.3**, 18.7S**±0.2×**177.8W**±0.1**, h538**^{km}±19^{km}**,**
n25, σ0^{s}94/20**, mb4.5**/11**, 3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.53**	**52**	*e*P	**P**	**15 28 32.1**	**-0.7**
	50nm,0.6s						
URZ	**Urewera**	**19.97**	**192**	P	**P**	**15 30 36.4**	**-0.1**
	0.6nm,0.3s,baz=14,slow=22,SNR=5.0						
CTA	**Charters Tower**	**33.85**	**262**	⇓*i*P	**P**	**15 32 39.3**	**+0.9**
	8.2nm,0.6s,mb4.4						
CTA	**Charters Tower**	**33.85**	**262**	P	**P**	**15 32 39.4**	**+0.9**
	6.8nm,0.3s,mb4.6,baz=93,slow=11,SNR=22						
PMG	**Port Moresby**	**35.12**	**280**	P	**P**	**15 32 50.3**	**+1.2**
	8.9nm,0.7s,mb4.4,baz=92,slow=7.3,SNR=3.1						
STKA	**Stephens Creek**	**38.73**	**242**	⇓*i*P	**P**	**15 33 20.1**	**+1.8**
	6.2nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	**15 33 20.2**	**+1.9**
	8.5nm,0.5s,mb4.5,baz=86,slow=9.1,SNR=13						
WRAB	**Tennant Creek**	**45.01**	**260**	*e*P	**P**	**15 34 08.1**	**-0.4**
	14nm,0.5s,mb4.8						
WRA	**Warramunga Arr**	**45.02**	**260**	P	**P**	**15 34 08.0**	**-0.5**
	7.8nm,0.4s,mb4.6,baz=98,slow=7.1,SNR=417						
WRA				PcP	PcP	15 35 37.3	-1.1
	0.8nm,0.4s,baz=92,slow=3.3,SNR=4.7						
ASAR	**Alice Springs**	**45.10**	**255**	P	**P**	**15 34 09.3**	**+0.3**
	11nm,0.5s,mb4.7,baz=92,slow=7.7,SNR=472						
ASAR				PcP	PcP	15 35 37.5	-1.0
	1.8nm,0.5s,baz=101,slow=4.1,SNR=7.3						
ASAR				S	**S**	**15 40 07.2**	**-2.2**
	0.5nm,0.8s,baz=86,slow=15,SNR=4.9						
ASPA	**Alice Springs**	**45.10**	**255**	⇓*i*P	**P**	**15 34 09.2**	**+0.1**
KAKA	**Kakadu**	**48.11**	**270**	*e*P	**P**	**15 34 31.7**	**-0.5**
	13nm,0.4s,mb4.8						
FORT	**Forrest**	**50.16**	**245**	*e*P	**P**	**15 34 46.3**	**-0.9**
	390nm,0.7s						
FITZ	**Fitzroy Crossi**	**53.43**	**261**	*e*P	**P**	**15 35 10.6**	**-0.4**
	7.3nm,0.4s,mb4.4						
KLBR	**Kellerberrin**	**58.96**	**244**	*e*P	**P**	**15 35 47.9**	**-1.0**
	85nm,0.7s,mb5.1						
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	**15 37 52.1**	**+0.3**
	0.7nm,0.7s,baz=226,slow=9.9,SNR=6.4						
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	**15 38 25.1**	**+1.3**
	1.1nm,0.6s,mb3.7,baz=220,slow=5.7,SNR=11						
ILAR	**Eielson Array**	**86.54**	**13**	P	**P**	**15 38 24.1**	**-1.6**
	0.3nm,0.5s,baz=223,slow=4.6,SNR=11						
CMAR	**Chiang Mai Arr**	**89.66**	**290**	P	**P**	**15 38 42.2**	**+1.0**
	1.9nm,1.0s,mb3.9,baz=105,slow=2.6,SNR=12						
ARCES	**ARCESS Array B**	**127.19**	**350**	PKP	PKPdf	15 44 41.6	-0.1
	11nm,1.1s,slow=2.4,SNR=7.2						
FINES	**FINESS Array B**	**134.10**	**344**	PKP	PKPdf	15 44 55.2	+0.2
	2.9nm,1.1s,baz=117,slow=4.3,SNR=5.2						
FINES	**FINESS Array B**	**134.10**	**344**	PKP	PKPdf	15 44 55.2	+0.2
AKASG	**Malin Array Be**	**141.51**	**332**	PKhKP		15 45 04.0	
	0.9nm,0.6s,baz=42,slow=4.0,SNR=5.8						
CLL	**Collm**	**146.35**	**348**	*e*PKP1	PKPbc	15 45 20.0	+1.2
GERES	**GERESS Array B**	**148.52**	**345**	PKPbc	PKPdf	15 45 25.7	+5.2
	0.5nm,0.6s,baz=18,slow=4.2,SNR=4.8						

*CSEM **02** 15:53:00.9±0.1, 45.71N×5.90E, h8km, ML2.5/18, Error ellipse: s-maj=1.0km s-min=0.9km az=68.0*
*NEIC **02** 15:53:01.1, 45.72N×5.89E, h3km, ML2.5(LDG), ML2.4(STR), After LDG.*
*STR **02** 15:53:03.0±0.2, 45.71N×5.71E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG 02 15:53:01.1±0.0**, 45.72N×5.89E, h3**km**, Md2.5**/4**, Ml2.5**/18**, Error ellipse: s-maj=0.7km s-min=0.6km az=74.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OG05	Jujurieux	0.44	317	Pg	Pg	15 53 10.1	+0.2
OG05				Sg	Sg	15 53 16.1	+0.3
GRN	Grenoble	0.49	192	Pg	Pg	15 53 11.5	+0.6
GRN				Sg	Sg	15 53 18.9	+1.5
LPL	La Plagne	0.62	109	ePg	Pg	15 53 13.3	-0.3
LPL				ePn	Pn	15 53 15.0	-1.5
LPL				eSg	Sg	15 53 21.7	-0.2
	6.6nm,0.2s						
LPG	La Plagne	0.64	110	ePg	Pg	15 53 13.3	-0.7
LPG				eSg	Sg	15 53 22.1	-0.5
	12nm,0.3s						
ORIF	Oris-en-Rattie	0.80	180	ePg	Pg	15 53 17.0	-0.1
ORIF				eSg	Sg	15 53 26.6	-1.2
	14nm,0.2s						
CABF	La Chapelle	0.90	9	ePg	Pg	15 53 18.2	-0.9
CABF				ePn	Pn	15 53 19.2	-1.3
CABF				eSg	Sg	15 53 29.7	-1.4
CABF				eSn	Sn	15 53 32.1	-2.0
	13nm,0.2s						
MBDF	Montbardon	1.17	148	ePn	Pn	15 53 23.0	-1.3
MBDF				eSg	Sg	15 53 38.7	-1.4
	5.5nm,0.3s						
VIVF	Saint-Julien-l	1.22	225	ePn	Pn	15 53 23.5	-1.5
VIVF				ePg	Pg	15 53 24.0	-1.4
VIVF				eSg	Sg	15 53 40.4	-1.3
	44nm,0.3s						
COLF	Collangettes	1.55	263	Pg	Pg	15 53 30.7	-1.4
COLF				Sg	Sg	15 53 50.2	-2.6
PLDF	La Plantade	1.60	280	Pg	Pg	15 53 31.1	-2.1
PLDF				Sg	Sg	15 53 51.8	-2.8
SMF	Signal de Mont	1.70	304	ePn	Pn	15 53 29.9	-1.9
SMF				ePg	Pg	15 53 32.6	-2.4
SMF				eSn	Sn	15 53 50.9	-3.4
SMF				eSg	Sg	15 53 54.5	-3.1
	22nm,0.2s						
SMRF	Simiane la Rot	1.76	187	ePg	Pg	15 53 33.5	-2.7
SMRF				eSg	Sg	15 53 56.4	-3.2
	3.0nm,0.3s						
LBL	Lubilhac	1.92	256	Pg	Pg	15 53 37.0	-2.5
LBL				Sg	Sg	15 54 01.2	-3.9
AGO	Saint Agoulin	1.96	281	Pg	Pg	15 53 37.7	-2.4
AGO				Sg	Sg	15 54 03.3	-2.9
PYM	Petit Puy Mans	2.02	272	Pg	Pg	15 53 38.6	-2.8
PYM				Sg	Sg	15 54 04.5	-3.8
AVF	Avril sur Loir	2.06	302	ePg	Pg	15 53 39.3	-2.9
AVF				eSg	Sg	15 54 04.0	-5.7
	4.1nm,0.2s						
SSF	Saint Saulge	2.13	310	ePg	Pg	15 53 40.6	-3.0
SSF				eSg	Sg	15 54 07.8	-4.1
	3.6nm,0.3s						
SBF	Sospel	2.16	149	ePn	Pn	15 53 36.4	-2.0
SBF				eSg	Sg	15 54 08.5	-4.5
	2.8nm,0.3s						
LASF	Ste Croix	2.19	222	eP	Pn	15 53 39.1	+0.2
LASF				ePg	Pg	15 53 42.0	-2.8
LASF				eSg	Sg	15 54 09.4	-4.6
	5.9nm,0.2s						
HINF	Hinteralfeld	2.20	17	ePn	Pn	15 53 36.9	-2.1
HINF				ePg	Pg	15 53 42.1	-2.9
HINF				eSg	Sg	15 54 10.0	-4.3
	3.9nm,0.2s						
FRF	La Foret Royal	2.23	166	eP	Pn	15 53 39.4	0.0
FRF				ePg	Pg	15 53 42.5	-3.0
FRF				eSg	Sg	15 54 10.7	-4.5
	6.0nm,0.3s						
BGF	Bois d'Agland	2.28	293	ePn	Pn	15 53 37.8	-2.3
BGF				ePg	Pg	15 53 43.3	-3.2
BGF				eSg	Sg	15 54 11.5	-5.4
	14nm,0.3s						
HAU	Haudompre	2.31	8	ePn	Pn	15 53 38.3	-2.3
HAU				ePg	Pg	15 53 43.8	-3.4
HAU				eSn	Sn	15 54 05.5	-4.4
HAU				eSg	Sg	15 54 14.6	-3.3
	5.0nm,0.2s						
LMR	La Mourre	2.43	169	eSg	Sg	15 54 17.4	-4.5
	3.4nm,0.3s						
TCF	Toulx Ste Croi	2.63	284	eSg	Sg	15 54 22.6	-6.0
	4.3nm,0.5s						
HYF	Humbligny	2.73	306	ePg	Pg	15 53 51.7	-3.9
MEZF	Maizieres J'vi	2.84	349	ePg	Pg	15 53 53.7	-4.1
MEZF				eSg	Sg	15 54 30.3	-5.4
	5.9nm,0.3s						
CDF	Champ du Feu	2.85	19	ePg	Pg	15 53 54.2	-3.9
MTLF	Montolieu	3.54	229	ePn	Pn	15 53 55.1	-3.1
MTLF				eSg	Sg	15 54 52.0	-7.1
	1.9nm,0.3s						

*MOS **02** 16:18:42.5±1.4, 1.51N×124.39E, h33km, mb4.8/4, Error ellipse: s-maj=31.4km s-min=10.9km az=113.9*
*BJI **02** 16:19:04.4, 0.98N×124.82E, h261km, mB4.5, mb4.4*
*NEIC **02** 16:19:05.2±2.7, 1.21N×124.44E, h239km±28km, mb4.7/9, Error ellipse: s-maj=18.9km s-min=7.3km az=59.0*
*IDC **02** 16:19:05.7±2.4, 1.25N×124.51E, h243km±22km, mb3.7/10, mb1 3.9/10, mb1mx3.8/16, mbtmp4.3/10, Error ellipse: s-maj=39.4km s-min=10.4km az=66.0*
ISC 02 16:19:03.4±2.0**, 1.18N**±0.07×**124.5E**±0.1**, h236**km±19km**, n44,** σ**0§99**/46**, mb4.2**/26**, 5C-3D, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.92	150⇑	iP	P	16 22 35.6	-1.0
	19nm,0.4s						
FITZ	Fitzroy Crossi	19.20	177	eP	P	16 23 10.6	-0.9
	12nm,0.8s						
WRAB	Tennant Creek	23.12	156d	iP	P	16 23 50.8	+0.7
WRAB	Tennant Creek	23.12	156	eP	P	16 23 50.6	+0.5
	51nm,0.6s,mb5.2						
WRA	Warramunga Arr	23.12	156	iP	P	16 23 50.7	+0.6
WRA				pmax	pmax		
	comp=Z,16nm,0.4s						
WRA	Warramunga Arr	23.12	156	P	P	16 23 50.7	+0.5
	comp=Z,16nm,0.4s,mb4.9,baz=337,slow=10,SNR=279						
WRA				S	S	16 27 40.8	0.0
	comp=Z,8.9nm,1.1s,baz=334,slow=16,SNR=8.3						
ASAR	Alice Springs	26.35	160	P	P	16 24 20.2	+0.3
	comp=Z,1.8nm,0.3s,mb4.1,baz=338,slow=7.7,SNR=77						
ASAR				PcP	PcP	16 27 40.0	+0.4
	comp=Z,1.8nm,0.3s,baz=347,slow=1.9,SNR=18						
ASAR				S	S	16 28 33.8	-0.1
	comp=Z,1.3nm,0.7s,baz=349,slow=22,SNR=4.1						
ASAR				ScP		16 30 57.5	
	comp=Z,0.4nm,0.7s,baz=343,slow=2.9,SNR=4.7						
ASPA	Alice Springs	26.35	160⇓	iP	P	16 24 20.1	+0.1
SSE	Sheshan	29.91	354	P	P	16 24 51.4	-0.3
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,103nm,9.2s						
SSE	Sheshan	29.91	354	P	P	16 24 51.4	-0.3
	comp=Z,29nm,0.7s,mb5.0						
CMAR	Chiang Mai Arr	30.35	306	iP	P	16 24 56.3	+0.7
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CMAR	Chiang Mai Arr	30.35	306	P	P	16 24 55.4	-0.2
	comp=Z,0.7nm,0.4s,mb3.6,baz=136,slow=6.2,SNR=5.0						
NJ2	Nanjing	31.16	351	eP	P	16 25 05.4	+2.9
NJ2				PP	PP	16 26 23.3	+8.4
NJ2				S	S	16 29 51.0	+1.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,340nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,27.6s						
NJ2				LR	LR		
	comp=E,2μm,22.4s						
NJ2				LR	LR		
	comp=Z,610nm,22.4s						
FORT	Forrest	31.97	174	eP	P	16 25 09.6	0.0
	comp=Z,270nm,0.6s						
STKA	Stephens Creek	36.67	155	eP	P	16 25 50.4	+0.9
	comp=Z,2.0nm,0.6s,mb3.8						
STKA	Stephens Creek	36.67	155	P	P	16 25 50.6	+1.1
	comp=Z,2.8nm,0.6s,mb4.0,baz=337,slow=10,SNR=8.0						
LSA	Lhasa	42.51	315	eP	P	16 26 39.4	+1.8
	comp=Z,5.3nm,0.5s,mb4.2						
GTA	Gaotai	44.19	332	P	P	16 26 53.0	+2.1
GTA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
JIRN	Jiri	45.10	309	eP	P	16 26 59.0	+0.7
	comp=Z,8.1nm,0.4s,mb4.4						
PKI	Pulchoki	45.67	309	eP	P	16 27 01.8	-0.9
	comp=Z,4.2nm,0.4s,mb4.1						
KKN	Kakani	45.87	309	eP	P	16 27 04.0	-0.3
	comp=Z,7.2nm,0.7s,mb4.1						
DMN	Daman	45.92	308	eP	P	16 27 04.6	-0.1
GKN	Gorkha	46.48	309	eP	P	16 27 09.5	+0.5
	comp=Z,5.9nm,0.7s,mb4.0						
KOLN	Koldanda	47.18	308	eP	P	16 27 13.9	-0.6
	comp=Z,6.9nm,0.5s,mb4.2						
ULN	Ulaanbaatar	48.89	345⇑	eP	P	16 27 27.4	+0.1
SONM	Songino Array	49.04	344	P	P	16 27 28.0	-0.4
	comp=Z,1.5nm,0.5s,mb3.6,baz=158,slow=7.1,SNR=11						
BOD	Bodaibo	57.08	353	eP	P	16 28 25.1	-1.9
MKAR	Makanchi Array	58.39	327	eP	P	16 28 35.4	-0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	Ala-Archa	60.76	320⇓	eP	P	16 28 53.2	+0.7
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
YAK	Yakutsk	60.83	3c	iP	P	16 28 53.0	+0.3
YAK				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.0						
YAK	Yakutsk	60.83	3	eP	P	16 28 52.8	+0.1
	comp=Z,30nm,0.8s,mb5.0						
MA2	Magadan	61.73	15c	iP	P	16 29 00.2	+1.5
MA2				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
ZAL	Zalesovo	61.86	335	P	P	16 28 57.7	-2.0
	comp=Z,1.6nm,0.3s,mb4.1,baz=337,slow=4.6,SNR=7.1						
KURK	Kurchatov	62.70	329	P	P	16 29 04.2	-1.0
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KURK	Kurchatov	62.70	329	eP	P	16 29 04.0	-1.3
	comp=Z,9.9nm,0.4s,mb4.8						
CHKZ	Chkalovo	68.44	329	P	P	16 29 40.5	-1.2
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8						
CHKZ	Chkalovo	68.44	329	eP	P	16 29 40.3	-1.3
	comp=Z,2.4nm,0.7s,mb3.9						
TIXI	Tiksi	70.42	1⇑	eP	P	16 29 53.4	0.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
KMBO	Kilima Mbogo	87.22	269	P	P	16 31 26.5	+1.4
	comp=Z,2.8nm,0.9s,mb4.0,baz=44,slow=8.5,SNR=6.6						
ILAR	Eielson Array	88.37	25	P	P	16 31 29.1	-0.2
ILAR	Eielson Array	88.37	25	P	P	16 31 29.1	-0.2
	comp=Z,0.5nm,0.6s,mb3.5,baz=265,slow=4.6,SNR=7.6						
ARCES	ARCESS Array B	92.03	340	P	P	16 31 45.5	-0.9
	comp=Z,2.5nm,0.8s,mb4.2,baz=90,slow=9.7,SNR=5.7						
FINES	FINESS Array B	92.98	332	P	P	16 31 50.0	-0.8
	comp=Z,1.0nm,0.8s,mb3.9,baz=45,slow=2.7,SNR=3.9						
SCHQ	Schefferville	123.41	8	PKP	PKPdf	16 37 34.6	+2.2
	comp=Z,1.4nm,0.5s,baz=14,slow=4.2,SNR=6.1						

*IDC **02** 16:39:20.4±1.2, 14.02N×93.21W, h34km±4km, mb4.1/12, mb1 4.2/14, mb1mx4.0/20, mbtmp4.2/14, ML3.7/1, MS4.0/2, Ms1 4.0/2, ms1mx3.0/17, Error ellipse: s-maj=35.3km s-min=18.6km az=36.0*
*BJI **02** 16:39:20.9, 14.39N×93.20W, h48km, mB5.6, Ms5.0, Msz4.7*
*MEX **02** 16:39:23.9±0.8, 14.29N×93.55W, h35km±39km, MD4.3*
*NEIC **02** 16:39:24.8, 14.33N×93.54W, h49km, mb4.5/14, MD4.3(MEX), After MEX.*
ISC 02 16:39:18.7±0.5**, 14.06N**±0.05×**93.32W**±0.03**, h34**km±.4km**:pP-P, n70,** σ**1§35**/72**, mb4.4**/20**, MS4.5**/5**, 4C-1D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	1.66	81⇑	eP	P	16 39 45.9	+0.1
JAT				eS	S	16 40 08.0	+1.9
TP2	Tecpan 2	2.35	72⇑	eP	P	16 39 55.6	0.0
TP2				eS	S	16 40 25.2	+1.7
CCIG	Comitan	2.49	27	eP	P	16 40 00.5	+2.7
CCIG				iS	S	16 40 26.5	-0.7
SCX	San Cristobal	2.75	14	eP	P	16 40 02.5	+1.1
SCX				iS	S	16 40 32.0	-1.7
IXG	Ixpaco	2.79	87⇑	eP	P	16 40 01.0	-1.0
IXG				eS	S	16 40 34.6	-0.1
NBG	Las Nubes	2.93	79⇑	eP	P	16 40 03.9	-0.1
NBG				eS	S	16 40 40.3	+1.8
HUIG	Huatulco	3.18	303	eP	P	16 40 05.2	-2.4
HUIG				iS	S	16 40 37.8	-7.1
CMIG	Matias Romero	3.37	334	iP	P	16 40 09.4	-0.8
CMIG				iS	S	16 40 44.4	-5.2
RBDL	Robledal	3.53	89	eP	P	16 40 11.5	-1.0
SBLS	San Blas	3.60	93	eP	P	16 40 12.5	-1.0
SNJE	San Jose	3.62	93	eP	P	16 40 12.5	-1.2
BOQS	Boqueron	3.94	94	eP	P	16 40 17.1	-1.3
LFRS	El Faro	4.16	95	eP	P	16 40 20.1	-1.4
LFRS				eS	S	16 41 11.5	+1.8
LCBS	La Ceiba	4.24	95⇓	eP	P	16 40 20.9	-1.7
OXX	Oaxaca	4.45	313	eP	P	16 40 26.5	+1.0
EVV	El Vigia	4.79	336	eP	P	16 40 27.0	-3.4
CNCH	Conchagua	5.39	98	eP	P	16 40 36.9	-1.9
CNCH				eS	S	16 41 40.9	+0.2
ACX	Acapulco	6.94	295	eP	P	16 40 53.5	-7.2
PPM	Popocatepetl	7.12	315	eP	P	16 41 05.5	+2.4
TEIG	Tepich	7.80	37	eP	P	16 41 09.8	-2.9
	19nm,0.5s						
JTS	JuntasAbangare	9.00	114	Pn	P	16 41 31.6	+2.4
	0.8nm,0.3s,baz=329,slow=19,SNR=4.3						
JTS	JuntasAbangare	9.00	114	eP	P	16 41 26.5	-2.8
JCT	Junction City	17.40	341	eP	P	16 43 24.1	+3.6
	34nm,1.3s						
TXAR	Lajitas Array	17.97	329	P	P	16 43 30.2	+2.6
	baz=153,slow=14,SNR=12						
TXAR	Lajitas Array	17.97	329	P	P	16 43 30.2	+2.6
MIAR	Mount Ida	20.40	359	eP	P	16 43 52.3	-3.2
	14nm,0.7s						
MNTX	Cornudas Mount	20.75	330	eP	P	16 43 57.3	-1.7
	4.0nm,0.8s						
ROSC	El Rosal	20.83	114	P	P	16 44 01.3	+1.3
	4.5nm,0.4s,baz=102,slow=21,SNR=4.7						
WMOK	Wichita Mounta	21.17	347	eP	P	16 44 00.9	-2.4
	7.1nm,0.8s,mb4.0						
AMTX	Amarillo	22.07	341	eP	P	16 44 12.8	+0.6
	44nm,1.0s,mb4.8						
SDV	Santo Domingo	22.82	101	P	P	16 44 20.2	+0.3
	16nm,0.9s,mb4.5,baz=316,slow=3.1,SNR=14						
SDV	Santo Domingo	22.82	101	eP	P	16 44 19.5	-0.4
	25nm,1.1s,mb4.5						
CCM	Cathedral Cave	23.97	4	eP	P	16 44 30.1	-0.9
	12nm,0.7s,mb4.5						
KSU1	Kansas State U	25.11	354	eP	P	16 44 41.6	-0.4
KSU1				e	pP	16 44 51.3	-0.2
CBKS	Cedar Bluff	25.30	348	P	P	16 44 41.6	-2.2
	49nm,1.1s,mb5.0						
SDCO	Great Sand Dun	25.96	338	eP	P	16 44 51.9	+1.9
	22nm,1.7s,mb4.4						
ARUT	Antelope Range	29.63	327	P	P	16 45 24.4	+1.2
ALLY	Alegheny Colle	29.78	20	eP	P	16 45 25.9	+1.4
PDAR	Pinedale Array	31.85	337	P	P	16 45 43.3	+0.5
	0.5nm,0.7s,mb3.5,baz=152,slow=8.6,SNR=5.0						
NVAR	Mina Array Bea	32.83	322	P	P	16 45 52.9	+1.6
	2.6nm,0.8s,mb4.2,baz=144,slow=7.8,SNR=10.0						
NVAR				pP	pP	16 46 02.9	+1.6
	1.5nm,0.7s,baz=135,slow=8.2,SNR=7.4						
NVAR				PcP	PcP	16 48 35.7	-0.1
	0.1nm,0.4s,baz=122,slow=4.0,SNR=3.6						
NVAR				pPcP		16 48 46.8	
	1.2nm,0.8s,baz=124,slow=4.4,SNR=5.5						
NVAR	Mina Array Bea	32.83	322	P	P	16 45 52.9	+1.6
NVAR				pP	pP	16 46 02.9	+1.6
NVAR				PcP	PcP	16 48 35.7	-0.1
NVAR				pPcP		16 48 46.8	
HLID	Hailey	34.52	333	eP	P	16 46 07.7	+1.8
	4.1nm,0.9s,mb4.4						
ULM	Lac du Bonnet	36.15	357	P	P	16 46 18.6	-1.1
	7.3nm,0.7s,mb4.7,baz=171,slow=10,SNR=12						
ULM				pP	pP	16 46 28.4	-1.3
	8.5nm,0.6s,baz=172,slow=9.2,SNR=11						
ULM	Lac du Bonnet	36.15	357	eP	P	16 46 17.9	-1.8
	17nm,1.0s,mb4.9						
ULM				epP	pP	16 46 27.9	-1.7
SAML	Samuel	37.64	126	eP	P	16 46 28.9	-3.6
SAML				epP	pP	16 46 39.0	-3.6
FFC	Flin Flon	41.14	352	eP	P	16 47 02.4	+1.2
	3.3nm,0.8s,mb4.0						
EDM	Edmonton	42.18	342	eP	P	16 47 09.9	+0.2
EDM				epP	pP	16 47 20.4	+0.6
FCC	Fort Churchill	44.63	359	eP	P	16 47 29.4	-0.1
	11nm,0.9s,mb4.7						
FCC				epP	pP	16 47 39.2	-0.5
SCHQ	Schefferville	45.62	21	P	P	16 47 36.6	-1.0
	1.4nm,0.6s,mb4.1,baz=194,slow=8.6,SNR=3.8						
SCHQ				LR	LR	17 06 39.8	
	comp=Z,138nm,20.2s,MS3.9,baz=207,slow=36						
YKA	Yellowknife Ar	50.68	347	P	P	16 48 16.9	+0.2
	2.2nm,0.8s,mb4.1,baz=156,slow=7.3,SNR=33						
YKA				pP	pP	16 48 27.3	+0.4
	2.8nm,0.6s,baz=150,slow=7.4,SNR=16						
YKA				PcP	PcP	16 49 32.0	-1.9
	0.3nm,0.6s,baz=144,slow=4.0,SNR=4.1						
YKA				pPcP		16 49 42.8	
	0.7nm,0.9s,baz=150,slow=3.9,SNR=4.0						
YKW3	Yellowknife Ar	50.75	347	eP	P	16 48 17.7	+0.5
DAWY	Dawson	59.15	338	P	P	16 49 18.0	-0.2
THY	Trims Highway	61.20	336	eP	P	16 49 33.0	+0.8
ILAR	Eielson Array	62.28	337	P	P	16 49 39.2	-0.3
	170nm,0.3s,baz=127,slow=4.5,SNR=3.5						
ILAR				pP	pP	16 49 49.6	-0.4
	103nm,0.3s,baz=146,slow=3.3,SNR=1.0						
MCK	McKinley	62.61	336	eP	P	16 49 41.7	0.0
	2.7nm,0.8s,mb4.4						
RSO	Redoubt South	62.99	331	eP	P	16 49 44.5	+0.2
ESDC	Sonseca Array	80.69	51	P	P	16 51 30.7	+0.6
	0.4nm,0.4s,mb3.7,baz=292,slow=6.9,SNR=4.4						
NB2	NORSAR Subarra	84.71	28	P	P	16 51 52.1	+1.9
	2.2nm,0.8s,mb4.3,baz=290,slow=5.0						
NOA	NORSAR Array B	84.71	28	P	P	16 51 51.9	+1.8
	4.2nm,0.9s,mb4.6,baz=290,slow=5.2,SNR=9.5						
NOA				pP	pP	16 52 02.4	+1.5
	3.5nm,0.7s,baz=291,slow=5.0,SNR=6.6						
NOA				LR	LR	17 26 56.5	
	comp=Z,89nm,19.2s,MS4.2,baz=350,slow=34						
ARCES	ARCESS Array B	86.48	18	P	P	16 51 58.7	0.0
	4.1nm,0.9s,mb4.7,baz=315,slow=1.7,SNR=4.8						
DBIC	Dimbokro	86.93	84	P	P	16 52 01.7	-0.5
	2.4nm,0.7s,mb4.5,baz=215,slow=2.4,SNR=4.0						
FINES	FINESS Array B	90.99	25	P	P	16 52 20.5	+0.1
	3.4nm,1.1s,mb4.6,slow=1.9,SNR=3.3						
HHC	Hu-ho-hao-te	120.70	338	ePKP	PKPdf	16 58 08.4	+0.9
HHC				XPKP		16 58 24.3	
HHC				PP	PP	16 59 37.4	-2.3
HHC				PKS	PKS	17 01 41.1	-2.2
HHC				SKS	SKS	17 05 16.4	+15
WMQ	Urumqi	122.40	359	PKP	PKPdf	16 58 12.0	+1.3
WMQ				PP	PP	16 59 53.0	+1.5
WMQ				PKS	PKS	17 01 47.0	+0.5
WMQ				PPP	PPP	17 02 29.0	+1.0
WMQ				SKS	SKS	17 05 19.0	+12
WMQ				SKKS		17 06 41.0	
WMQ				PP	PP		
	comp=Z,149nm,4.8s						
WMQ				LR	LR		
	comp=N,140nm,18.2s,MS4.7						
WMQ				LR	LR		
	comp=E,98nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,102nm,17.7s,MS4.5						
NJ2	Nanjing	124.75	327	ePKP	PKPdf	16 58 16.4	+0.8
NJ2				XPKP		16 58 30.8	
NJ2				PP	PP	17 00 08.0	+0.4
NJ2				PKS	PKS	17 01 52.0	+0.6
NJ2				SKS	SKS	17 05 23.0	+8.0
NJ2				SKKS		17 06 55.0	
NJ2				PP	PP		
	comp=Z,402nm,10.0s						
NJ2				LR	LR		
	comp=N,400nm,20.6s,MS5.1						
NJ2				LR	LR		
	comp=E,202nm,21.2s,MS5.1						
NJ2				LR	LR		
	comp=Z,388nm,24.8s,MS5.0						
LZH	Lanzhou	127.56	342	ePKP	PKPdf	16 58 21.5	+0.6
LZH				XPKP		16 58 36.0	
LZH				LR	LR		
	comp=N,187nm,18.0s						
LZH				LR	LR		
	comp=Z,256nm,20.1s,MS4.9						
WRA	Warramunga Arr	134.16	256	PKP	PKPdf	16 58 34.2	+0.4
	comp=Z,0.5nm,0.8s,baz=78,slow=1.7,SNR=6.4						
ASAR	Alice Springs	134.47	251	PKP	PKPdf	16 58 34.4	0.0
	comp=Z,0.3nm,0.8s,baz=93,slow=1.8,SNR=4.5						
CM31	Chiang Mai Arr	145.50	339	ePKPdf	PKPdf	16 58 56.1	+1.9
CM31				epPKPdf		16 59 05.8	
CMAR	Chiang Mai Arr	145.50	339	PKPbc	PKPbc	16 58 55.7	+0.9
	comp=Z,5.9nm,0.8s,baz=339,slow=3.7,SNR=40						
CMAR				pPKPbc		16 59 06.2	
	comp=Z,4.3nm,0.8s,baz=338,slow=3.7,SNR=11						

*WAR **02** 16:47:59.4, 50.22N×18.83E, h0km, ML2.5, Mining Induced*
*PRU **02** 16:48:00.9, 50.22N×18.71E*
ISC 02 16:47:57.9±0.6**, 50.24N**±0.04×**18.74E**±0.04**, n12,** σ**1§34**/20**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.55	224	ePG	Pg	16 48 11.1	+2.2
OKC				eSG	Sg	16 48 18.2	+2.0
	22nm,0.2s						
OJC	Ojcow	0.68	91	ePG	Pg	16 48 12.0	+0.5
OJC				eSG	Sg	16 48 21.0	+0.4
NIE	Niedzica	1.31	128	ePG	Pg	16 48 22.0	-2.0
NIE				eSG	Sg	16 48 40.0	-1.4
DPC	Dobruska-Polom	1.55	275	ePG	Pg	16 48 28.6	-0.3
DPC				eSG	Sg	16 48 50.2	+0.6
	19nm,0.4s						
KSP	Ksiaz	1.67	292	ePG	Pg	16 48 32.0	+0.7
KSP				eSG	Sg	16 48 54.0	+0.4
VYHS	Vyhne	1.75	178	iPG	Pg	16 48 33.2	+0.5
VYHS				eSG	Sg	16 48 54.8	-1.1
UPC	Upice	1.77	280	eSG	Sg	16 48 56.6	0.0
CRVS	Cervenica-Dubn	2.22	126	ePN	Pn	16 48 40.0	+3.6
CRVS				eSG	Sg	16 49 13.0	+1.2
KOLS	Kolonicke sedl	2.65	118	ePN	Pn	16 48 48.6	+6.1
PRU	Pruhonice	2.71	266	eSG	Sg	16 49 24.4	-3.7
KHC	Kasperske Hory	3.53	254	ePG	Pg	16 49 06.0	-2.3
KHC				ex	x	16 49 36.5	
KHC				eSG	Sg	16 49 51.3	-4.0
CLL	Collm	3.79	289	eSG	Sg	16 50 03.0	-1.2

IDC 02 16:52:21.1±2.9**, 30.69S×177.68W, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.9**/4**, ML3.1**/1**, Error ellipse: s-maj=65.8km s-min=35.1km az=116.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.69	208	Pn	P	16 54 28.2	-2.9
	0.2nm,0.3s,baz=56,slow=18,SNR=6.2						
URZ				Sn	Sn	16 56 05.4	-5.5
	0.8nm,0.3s,baz=72,slow=19,SNR=4.8						
STKA	Stephens Creek	34.68	257	P	P	16 59 13.8	-0.7
	2.0nm,0.5s,baz=92,slow=9.7,SNR=7.2						
ASAR	Alice Springs	43.37	267	P	P	17 00 25.1	-1.9
	0.3nm,0.4s,baz=105,slow=7.4,SNR=14						
WRA	Warramunga Arr	44.38	272	P	P	17 00 32.9	-2.5
	1.1nm,0.5s,baz=111,slow=8.1,SNR=48						
FINES	FINESS Array B	145.51	340	PKPbc	PKPbc	17 11 59.7	-1.3
	0.7nm,0.4s,baz=65,slow=4.5,SNR=11						

*NEIC **02** 17:05:28.6±0.5, 2.17N×94.97E, mb4.8/9, Error ellipse: s-maj=13.3km s-min=7.8km az=54.0*
*IDC **02** 17:05:28.6±0.8, 2.19N×94.89E, h28km±3km, mb3.8/9, mb1 4.0/10, mb1mx3.9/18, mbtmp4.0/10, ML4.1/1, MS4.0/2, Ms1 4.1/2, ms1mx3.3/19, Error ellipse: s-maj=38.6km s-min=12.2km az=55.0*

*MOS **02** 17:05:29.4±0.8, 2.19N×94.97E, h52km, mb4.8/11, MS4.3/5, Error ellipse: s-maj=25.0km s-min=9.9km az=100.4*
*BJI **02** 17:05:30.5, 2.20N×95.00E, h28km, mB5.1, mb4.8, Ms4.6, Msz4.3*
ISC 02 17:05:25.9±0.6**, 2.03N**±0.08×**94.7E**±0.1**, h27km, h27km**±1.6km**:pP-P, n62, σ1s07**/53**, mb4.6**/37**, MS4.3**/9**, 2C-3D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.74	61	eP	Pn	17 07 00.9	-4.9
SNG	Songkhla	7.79	49	P	Pn	17 07 15.0	-5.4
KKTK	Khon Kaen	16.30	29	P	P	17 09 17.0	+2.2
CM31	Chiang Mai Arr	16.84	14	eP	P	17 09 21.0	-0.6
	57nm,1.1s						
CMAR	Chiang Mai Arr	16.84	14	Pn	P	17 09 20.6	-1.0
	0.2nm,0.3s,baz=206,slow=12,SNR=34						
CMAR				LR	LR	17 16 48.8	
	comp=Z,507nm,19.5s,baz=190,slow=41						
NANT	Nan	17.66	19	P	P	17 09 34.0	+2.1
KMI	Kunming	24.23	18	P	P	17 10 48.8	+7.0
KMI				AMB	AMB		
	comp=Z,40nm,1.4s,mb4.7						
JIRN	Jiri	26.76	343	eP	P	17 11 06.1	+0.5
	comp=Z,64nm,0.9s,mb5.2						
GYA	Guiyang	26.86	24	P	P	17 11 12.0	+5.5
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
PKI	Pulchoki	26.91	341	eP	P	17 11 08.3	+1.3
	comp=Z,138nm,1.7s,mb5.2						
KKN	Kakani	27.16	341	eP	P	17 11 09.7	+0.5
	comp=Z,107nm,1.4s,mb5.2						
KKN	Kakani	27.16	341	eP	P	17 11 08.3	-0.9
GKN	Gorkha	27.57	340	eP	P	17 11 13.3	+0.4
	comp=Z,68nm,1.2s,mb5.2						
KOLN	Koldanda	27.72	338	eP	P	17 11 13.4	-0.9
	comp=Z,31nm,0.8s,mb5.0						
LSA	Lhasa	27.72	353	eP	P	17 11 15.4	+1.1
LSA	Lhasa	27.72	353	eP	P	17 11 15.1	+0.7
	comp=Z,45nm,1.1s,mb5.0						
CD2	Chengdu	29.97	16	P	P	17 11 39.3	+4.8
XAN	Xi'an	34.50	21	P	P	17 12 18.6	+4.6
XAN				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.8						
XAN				LR	LR		
	comp=N,378nm,15.7s						
XAN				LR	LR		
	comp=E,288nm,9.5s						
XAN				LR	LR		
	comp=Z,531nm,15.1s,MS4.4						
LZH	Lanzhou	34.92	13	⇑P	P	17 12 22.6	+5.0
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
GTA	Gaotai	37.49	6	P	P	17 12 45.5	+6.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.2						
HHC	Hu-ho-hao-te	41.53	19	eP	P	17 13 20.3	+7.5
HHC				AP	pP	17 13 24.6	+3.7
HHC				XP	sP	17 13 27.6	+3.3
BJT	Baijiatuau	42.53	25	eP	P	17 13 18.7	-2.3
	comp=Z,20nm,1.2s,mb4.7						
BJI	Beijing	42.55	25	eP	pP	17 13 28.0	-1.3
BJI				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
BJI				LR	LR		
	comp=N,266nm,14.6s,MS4.5						
BJI				LR	LR		
	comp=E,412nm,15.3s,MS4.5						
BJI				LR	LR		
	comp=Z,69nm,15.3s,MS3.7						
AAK	Ala-Archa	44.29	339	⇓eP	P	17 13 36.5	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
AAK				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.2						
AAK	Ala-Archa	44.29	339	eP	P	17 13 36.6	+1.4
	comp=Z,22nm,1.6s,mb4.6						
FRU	Bishkek	44.42	339	eP	pP	17 13 46.0	+1.6
WRA	Warramunga Arr	44.58	121	P	P	17 13 37.8	-0.1
	comp=Z,2.3nm,0.8s,mb4.1,baz=298,slow=9.1,SNR=10.0						
WRA				pP	pP	17 13 46.6	+0.6
	comp=Z,15nm,1.1s,baz=300,slow=9.1,SNR=25						
WRAB	Tennant Creek	44.58	121	d iP	pP	17 13 46.9	+0.8
WRAB	Tennant Creek	44.58	121	eP	P	17 13 38.6	+0.7
	comp=Z,30nm,1.1s,mb5.0						
ASAR	Alice Springs	45.88	126	P	P	17 13 47.5	-0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=296,slow=7.6,SNR=9.2						
ASAR				pP	pP	17 13 56.8	+0.5
	comp=Z,1.8nm,0.6s,baz=298,slow=7.9,SNR=12						
ASAR				pPcP		17 15 35.4	
	comp=Z,0.8nm,0.7s,baz=296,slow=2.6,SNR=5.0						
MKAR	Makanchi Array	45.88	348	i P	P	17 13 47.8	-0.1
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	46.73	11	P	P	17 13 53.8	-0.7
	comp=Z,1.1nm,0.5s,mb4.1,baz=188,slow=9.4,SNR=8.8						
SONM				pP	pP	17 14 01.9	-0.9
	comp=Z,4.5nm,0.8s,baz=194,slow=8.4,SNR=16						
SONM				pPcP		17 15 37.1	
	comp=Z,0.9nm,0.6s,baz=194,slow=2.8,SNR=3.6						
ULN	Ulaanbaatar	46.89	11	i P	pP	17 14 01.9	-2.1
ULN	Ulaanbaatar	46.89	11	eP	P	17 13 54.2	-1.6
	comp=Z,11nm,1.4s,mb4.6						
ZAK	Zakamensk	48.72	7	eP	P	17 14 08.9	-1.2
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.3						
CN2	Changchun	49.73	29	eP	P	17 14 22.4	+4.4
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=E,400nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=Z,300nm,18.0s,MS4.3						
TLY	Talaya	50.04	7	eP	P	17 14 20.2	0.0
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.1						
KURK	Kurchatov	50.39	347	⇑eP	P	17 14 22.9	0.0
KURK				pmax	pmax		
	comp=Z,13nm,1.8s,mb4.7						
KURK	Kurchatov	50.39	347	eP	P	17 14 22.1	-0.7
	comp=Z,11nm,1.0s,mb4.8						
ZAL	Zalesovo	52.38	353	i P	P	17 14 37.7	-0.2
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	Zalesovo	52.38	353	P	P	17 14 37.6	-0.3
	comp=Z,2.1nm,0.5s,mb4.4,baz=304,slow=8.2,SNR=12						
ZAL				pP	pP	17 14 46.0	-0.1
	comp=Z,6.7nm,0.5s,baz=296,slow=7.0,SNR=16						
NVS	Novosibirsk	53.47	352	eP	P	17 14 45.2	-0.8
NVS				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
NVS				pmax	pmax		
	comp=N,13nm,1.3s						
BVA0	Borovoye Array	54.68	342	i P	P	17 14 54.0	-0.9
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.1						
BVAR	Borovoye Array	54.68	342	P	P	17 14 54.3	-0.6
	comp=Z,1.1nm,0.7s,mb4.0,baz=138,slow=7.9,SNR=8.4						
BVAR				pP	pP	17 15 01.9	-1.3
	comp=Z,2.7nm,0.7s,baz=145,slow=8.1,SNR=13						
CHKZ	Chkalovo	55.18	343	P	P	17 14 57.5	-1.0
CHKZ				pmax	pmax		
	comp=Z,32nm,1.6s,mb5.1						
CHKZ	Chkalovo	55.18	343	eP	P	17 14 57.9	-0.6
	comp=Z,8.0nm,0.8s,mb4.8						
STKA	Stephens Creek	55.76	131	P	P	17 15 03.4	+0.3
	comp=Z,1.8nm,0.6s,mb4.3,baz=307,slow=2.9,SNR=7.1						
STKA				pP	pP	17 15 12.4	+1.1
	comp=Z,4.5nm,0.6s,baz=320,slow=6.0,SNR=7.0						
KLR	Kul'dur	56.66	28	eP	P	17 15 12.7	+3.4
KLR				MLR	MLR		
	comp=E,700nm,15.0s						
BOD	Bodaibo	57.68	12	eP	P	17 15 16.9	+0.5
BOD				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
YSS	Yuzh-Sakhalins	61.09	36	P	P	17 15 45.0	+5.0
SOC	Sochi	63.85	318	eP	P	17 15 52.6	-5.9
SOC				e		17 16 28.2	
SOC				eS	S	17 24 20.6	-10
SOC				e		17 25 44.0	
SOC				pmax	pmax		
	comp=N,7.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,16nm,0.9s						
SOC				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
SOC				MLR	MLR		
	comp=Z,386nm,21.0s,MS4.6						
SOC				MLR	MLR		
	comp=N,368nm,22.0s,MS4.6						
SOC				MLR	MLR		
	comp=E,217nm,20.0s,MS4.6						
YAK	Yakutsk	65.34	17	eP	P	17 16 11.9	+4.1
YAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
BRTR	Keskin Array B	66.73	313	P	P	17 16 17.6	+0.5
	comp=E,0.9nm,0.9s,mb3.8,baz=104,slow=5.9,SNR=2.8						
MATP	Matopo	68.55	247	pP	pP	17 16 38.5	+1.2
	comp=E,1.8nm,0.7s,baz=95,slow=7.6,SNR=3.4						
MA2	Magadan	71.68	26	⇓eP	pP	17 16 54.4	-1.3
MA2				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
MA2				MLR	MLR		
	comp=Z,200nm,23.0s,MS4.3						
TIXI	Tiksi	72.82	11	eP	P	17 16 52.5	-1.2
TIXI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,278nm,14.0s,MS4.7						
FINES	FINESS Array B	78.13	333	P	P	17 17 24.6	+0.6
	comp=Z,2.6nm,1.1s,mb4.1,baz=153,slow=4.3,SNR=3.5						
ARCES	ARCESS Array B	80.93	341	pP	pP	17 17 48.4	+0.8
	comp=Z,0.9nm,0.5s,baz=90,slow=3.6,SNR=1.2						
GERES	GERESS Array B	82.56	319	P	P	17 17 49.3	+1.4
	comp=Z,0.5nm,0.8s,mb3.6,baz=72,slow=4.2,SNR=4.8						
GERES				pP	pP	17 17 58.7	+2.2
	comp=Z,0.7nm,0.6s,baz=127,slow=6.7,SNR=3.6						
NOA	NORSAR Array B	85.08	331	LR	LR	18 01 24.4	
	comp=Z,60nm,18.3s,MS4.0,baz=60,slow=40						
TXAR	Lajitas Array	144.19	28	PKP	PKPdf	17 25 00.5	-4.4
	comp=Z,0.2nm,0.3s,baz=14,slow=3.7,SNR=3.3						
TXAR				pPKP		17 25 10.1	
	comp=Z,0.7nm,0.9s,baz=333,slow=8.4,SNR=2.7						
TXAR	Lajitas Array	144.19	28	PKP	PKPdf	17 25 00.5	-4.4
TXAR				pPKP		17 25 10.1	

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*NEIC **02** 17:17:27.0±1.0, 2.21N×95.07E, mb4.3/2, Error ellipse: s-maj=21.6km s-min=13.5km az=56.0*
*IDC **02** 17:17:26.2±1.5, 2.15N×94.91E, h23km±5km, mb3.3/5, mb1 3.5/6, mb1mx3.4/18, mbtmp3.5/6, Error ellipse: s-maj=59.1km s-min=16.7km az=58.0*
*BJI **02** 17:17:28.9, 2.20N×95.10E, h24km, mb4.1*
ISC 02 17:17:25.1±1.1**, 2.2N**±0.1×**95.1E**±0.2**, h24km, h24km**±1.1km**:pP-P, n12, σ0s80**/12**, mb3.8**/8**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	6.33	61	eP	Pn	17 18 59.2	-0.2
CMAR	Chiang Mai Arr	16.57	13	Pn	P	17 21 17.7	0.0
	baz=205,slow=11,SNR=11						
LSA	Lhasa	27.58	353	eP	P	17 23 15.5	+2.9
LSA	Lhasa	27.58	353	eP	P	17 23 14.9	+2.3
	4.1nm,0.6s,mb4.2						
GTA	Gaotai	37.26	6	P	P	17 24 43.2	+6.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
WRA	Warramunga Arr	44.37	122	P	P	17 25 36.1	+0.3
	comp=Z,0.2nm,0.6s,mb3.0,baz=298,slow=9.4,SNR=3.4						
WRA				pP	pP	17 25 42.8	-0.2
	comp=Z,2.4nm,0.8s,baz=301,slow=8.9,SNR=15						
ASAR	Alice Springs	45.70	127	P	P	17 25 46.4	0.0
	comp=Z,0.8nm,1.2s,mb3.5,baz=294,slow=7.5,SNR=2.9						
ASAR				pP	pP	17 25 54.0	+0.4
	comp=Z,0.9nm,0.8s,baz=296,slow=7.9,SNR=7.0						
SONM	Songino Array	46.47	10	P	P	17 25 52.2	0.0
	comp=Z,0.6nm,0.8s,mb3.5,baz=180,slow=12,SNR=3.9						
SONM				pP	pP	17 25 59.7	+0.3
	comp=Z,2.1nm,0.8s,baz=190,slow=9.4,SNR=13						
KURK	Kurchatov	50.28	346	P	P	17 26 21.4	-0.3
	comp=Z,4.7nm,1.3s,mb4.4						
ZAL	Zalesovo	52.23	352	P	P	17 26 35.5	-1.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=295,slow=5.4,SNR=5.3						
ZAL				pP	pP	17 26 43.5	-0.3
	comp=Z,2.4nm,0.9s,baz=314,slow=7.9,SNR=6.7						
ZAL	Zalesovo	52.23	352	P	P	17 26 35.5	-1.0
ZAL				pP	pP	17 26 43.5	-0.3
FINES	FINESS Array B	78.12	333	P	P	17 29 23.3	-0.4
	comp=Z,0.6nm,0.8s,mb3.5,baz=109,slow=9.5,SNR=2.8						
FINES				pP	pP	17 29 30.0	-1.2
	comp=Z,0.6nm,0.6s,slow=1.9,SNR=1.6						

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*CSEM **02** 18:10:12.8±0.0, 43.74N×21.16E, h10km, mb3.8, Error ellipse: s-maj=1.2km s-min=1.0km az=37.0*
*BEO **02** 18:10:13.1±0.6, 43.71N×21.19E, h13km±1km*
*SOF **02** 18:10:13.0, 43.62N×21.26E, h10km, MD3.3*
*MOS **02** 18:10:14.8±1.2, 43.78N×21.07E, h23km, mb3.8/1, Error ellipse: s-maj=9.5km s-min=6.3km az=78.0*
*NEIC **02** 18:10:14.6±0.5, 43.71N×21.07E, h10km, ML3.2(PDG), Error ellipse: s-maj=6.6km s-min=5.2km az=112.0*
*PDG **02** 18:10:15.4±0.2, 43.65N×21.03E, h18km*
*THE **02** 18:10:18.5, 43.36N×21.39E, h6km, ML3.4*
ISC 02 18:10:12.4±0.2**, 43.73N**±0.01×**21.18E**±0.02**, h10km, n85, σ1s11**/141**, 13C-21D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRUS	Gruza	0.37	296	⇓iPg	Pg	18 10 21.0	+1.0
GRUS				Sg	Sg	18 10 26.6	+1.4
SVIS	Svilajnac	0.57	3	⇑iPg	Pg	18 10 23.8	-0.2
SVIS				Sg	Sg	18 10 31.6	-0.1
BOLS	Boljevac	0.58	79	⇓iPg	Pg	18 10 24.4	+0.3
BOLS				Sg	Sg	18 10 32.1	+0.3
DIVS	Divcibare	0.93	294	⇓iPg	Pg	18 10 30.9	-0.2
DIVS				Sg	Sg	18 10 44.1	+0.4
BARS	Barje	1.02	152	⇑iPg	Pg	18 10 31.6	-1.3
BARS				Sg	Sg	18 10 45.0	-1.6
BEO	Belgrade	1.21	335	⇓iPn	Pn	18 10 35.4	0.0
BEO				Sg	Sg	18 10 51.7	-1.1
IVA	Berane	1.27	228	⇓iPg	Pg	18 10 36.7	-1.1
IVA				eSg	Sg	18 10 54.7	0.0
DJES	Djerdap	1.33	46	⇑iPg	Pg	18 10 38.4	-0.5
DJES				Sg	Sg	18 10 56.2	-0.5
PLE	Pljevlja	1.36	254	⇓iPg	Pg	18 10 38.5	-1.0
PLE				eSg	Sg	18 10 57.5	-0.1
PVY	Plav	1.43	218	⇓iPg	Pg	18 10 39.6	-1.5
PVY				eSg	Sg	18 10 59.0	-1.2
BCI	Bajram Curri	1.58	211	ePg	Pg	18 10 53.8	+10
BCI				i Sg	Sg	18 11 02.8	-2.4
BCI	Bajram Curri	1.58	211	i Sg	Sg	18 11 02.8	-2.4
UPM	Unac-Piva	1.73	253	⇓iPn	Pn	18 10 43.9	+1.0
UPM				eSn	Sn	18 11 06.3	+1.1
SKO	Skopje	1.76	174	⇓iPn	Pn	18 10 46.0	+2.7
	comp=Z,0.2nm,0.7s						
SKO				i Sn	Sn	18 11 09.5	+3.5
NKY	Niksic	1.83	241	⇓iPn	Pn	18 10 45.1	+0.8
NKY				eSn	Sn	18 11 08.7	+0.9
VTS	Vitosha	1.87	127	⇑P	Pn	18 10 45.0	+0.2
VTS				S	Sn	18 11 10.3	+1.6
VTS	Vitosha	1.87	127	P	Pn	18 10 45.3	+0.4
VTS	Vitosha	1.87	127	i P	Pn	18 10 45.0	+0.2
VTS	Vitosha	1.87	127	P	Pn	18 10 45.3	+0.5
VTS				i S	Sn	18 11 10.0	+1.3
TTG	Podgorica	1.91	228	⇓iPn	Pn	18 10 46.0	+0.5
TTG				eSn	Sn	18 11 10.8	+1.0
BZS	Buzias	1.92	9	P	Pn	18 10 47.6	+2.1
BRY	Bratogost	2.09	248	⇓iPn	Pn	18 10 48.9	+0.9
BRY				eSn	Sn	18 11 15.2	+0.9
BUM	Brajici-Budva	2.20	230	⇓iPn	Pn	18 10 50.6	+1.1
BUM				eSn	Sn	18 11 17.4	+0.4
ULC	Ulcinj	2.26	219	⇓iPn	Pn	18 10 51.7	+1.2
ULC				eSn	Sn	18 11 19.1	+0.5
HCY	Herceg Novi	2.34	238	⇓iPn	Pn	18 10 52.7	+1.1
HCY				eSn	Sn	18 11 21.4	+0.7
QSH	Qafa e Shtames	2.40	204	i Pn	Pg	18 11 04.0	+3.7
PGB	Panagyurishte	2.48	117	eP	Pn	18 10 54.5	+0.9
PGB				eS	Sn	18 11 24.5	+0.2
VAY	Valandovo	2.62	156	i Pn	Pn	18 11 00.7	+5.2
VAY				⇓i		18 11 34.6	
VAY				i Sg	Sg	18 11 37.3	-2.2
STON	Ston	2.68	253	i Pn	Pn	18 10 57.7	+1.3
STON				i Sn	Sn	18 11 30.4	+1.2
MMB	Musomiste	2.85	138	eP	Pn	18 10 59.5	+0.7
MMB				ePg	Pg	18 11 05.5	-3.8
MMB	Musomiste	2.85	138	ePg	Pg	18 11 05.5	-3.8
MMB				eS	Sn	18 11 34.0	+0.5
MMB				eSg	Sg	18 11 43.5	-3.7
KNT	Kendrikon	2.86	153	ePn	Pn	18 10 58.8	-0.2
KNT				eSn	Sn	18 11 29.6	-4.3
GRG	Griva	2.91	161	ePn	Pn	18 10 59.8	0.0
FNA	Florina	2.94	177	ePn	Pn	18 11 00.6	+0.4
RHK3	Tenkes	3.00	317	⇑eP	Pn	18 11 00.9	-0.1
RHK3				eS	Sn	18 11 34.5	-2.9
	comp=Z,1.7nm,0.3s						
PLD	Plovdiv	3.06	121	eP	Pn	18 11 02.0	+0.2
PLD	Plovdiv	3.06	121	ePg	Pg	18 11 07.0	-6.4
PLD				eSg	Sg	18 11 50.0	-4.2
PKSM	Moragy	3.07	325	⇑P	Pn	18 11 01.8	-0.2
PKSM	Moragy	3.07	325	P	Pn	18 11 01.8	-0.2
PKS6	Bocsa	3.09	339	⇓iP	Pn	18 11 02.8	+0.5
MTUR	Matau	3.16	60	P	Pn	18 11 04.1	+0.8
SRS	Serrai	3.16	145	ePn	Pn	18 11 03.0	-0.3
SRS				eSn	Sn	18 11 37.5	-4.0
RHK1	Bakonya	3.24	318	⇑iP	Pn	18 11 04.2	-0.1
RHK1				eS	Sn	18 11 40.4	-3.0
RZN	Rozhen	3.31	127	i P	Pn	18 11 05.0	-0.4
SOH	Sokhos	3.32	150	ePn	Pn	18 11 05.1	-0.5
THE	Thessaloniki	3.37	156	ePn	Pn	18 11 05.6	-0.5
THE				eSn	Sn	18 11 42.5	-4.1
SZH	Strazhica	3.49	96	i P	Pn	18 11 08.5	+0.5
SNX	Sinaia	3.50	61	P	Pn	18 11 09.2	+1.1
PKS7	Kunszentmiklos	3.61	338	⇓iP	Pn	18 11 09.5	-0.2
PKS8	Sarbogard	3.61	332	⇓eP	Pn	18 11 09.3	-0.4
PKS8				eS	Sn	18 11 52.4	-0.5
	comp=Z,0.6nm,0.2s						
LIT	Litokhoron	3.75	164	ePn	Pn	18 11 11.1	-0.6
MLR	Muntele Rosu	3.83	61	⇑P	Pn	18 11 14.1	+1.3
MLR				S	Sn	18 12 00.9	+2.4
MLR	Muntele Rosu	3.83	61	P	Pn	18 11 14.1	+1.3
MLR				S	Sn	18 12 00.9	+2.4
OUR	Ouranopolis	3.98	147	ePn	Pn	18 11 14.2	-0.7
JMB	Yambol	4.15	106	eP	Pn	18 11 16.5	-0.9
PKSG		4.16	333	eP	Pn	18 11 17.4	0.0
PKSG				eS	Sn	18 12 04.4	-2.2
	comp=Z,0.5nm,0.4s						
PAIG	Paliouri	4.23	153	ePn	Pn	18 11 17.5	-1.0
PAIG				eSn	Sn	18 12 04.5	-4.1
IGT	Igoumenitsa	4.24	189	ePn	Pn	18 11 18.5	0.0
PSZ	Piszkesteto	4.29	348	P	Pn	18 11 18.7	-0.6
PSZ	Piszkesteto	4.29	348	⇓ePn	Pn	18 11 18.4	-0.9
PSZ				eSn	Sn	18 12 04.9	-5.1
KOGS	Kog	4.42	310	ePn	Pn	18 11 20.6	-0.6
KOGS				i Sn	Sn	18 12 09.6	-3.8
VRI	Vrincioaia	4.49	60	⇑P	Pn	18 11 25.0	+2.8
ALN	Alexandroupoli	4.58	126	ePn	Pn	18 11 23.9	+0.4
ALN				eSn	Sn	18 12 14.8	-2.7
AGG	Agios Georgios	4.78	169	ePn	Pn	18 11 25.4	-0.9
VYHS	Vyhne	5.04	342	i Pn	Pn	18 11 29.0	-0.9
VYHS				ePg	Pg	18 11 57.2	+4.2
VYHS				eSn	Sn	18 12 28.1	-0.8
VYHS	Vyhne	5.04	342	eSN	Sn	18 12 28.1	-0.8
VYHS	Vyhne	5.04	342	i Pn	Pn	18 11 29.0	-0.9
VYHS				eS	Sn	18 12 28.1	-0.8
PSN	Preselentsi	5.08	88	eP	Pg	18 11 50.0	-3.9
PERS	Pernice	5.18	306	ePn	Pn	18 11 31.1	-0.8
CRVS	Cervenica-Dubn	5.18	2	i PN	Pn	18 11 34.1	+2.2
CRVS				eSN	Sn	18 12 26.7	-5.8
CRVS				e		18 13 06.9	
CEY	Cerknica	5.21	295	ePn	Pn	18 11 32.8	+0.4
KOLS	Kolonicke sedl	5.26	8	ePN	Pn	18 11 35.5	+2.4
KOLS				eSN	Sn	18 12 30.1	-4.5
KOLS				e		18 13 09.3	
ARSA	Arzberg	5.31	314	⇑iPn	Pn	18 11 33.0	-0.8
ARSA				i Sn	Sn	18 12 28.0	-7.8
OBKA	Obir	5.45	303	⇑iPn	Pn	18 11 35.1	-0.7
OBKA				i Sn	Sn	18 12 32.2	-7.1
JAVS	Javornik	5.50	296	ePn	Pn	18 11 36.4	-0.1
JAVS				eSn	Sn	18 12 36.2	-4.5
VOY	Vojsko	5.67	297	ePn	Pn	18 11 38.3	-0.5
VOY				e		18 11 39.8	
VOY				eSn	Sn	18 12 39.8	-4.9
VOY	Vojsko	5.67	297	e	Pn	18 11 39.8	+1.0
VOY				eSn	Sn	18 12 39.8	-4.9
VOJS	Vojsko	5.67	297	ePn	Pn	18 11 38.7	-0.1
MOA	Molln	6.35	313	⇑iPn	Pn	18 11 47.6	-0.8
MOA				i Sn	Sn	18 12 52.7	-9.1
KBA	Koelnbreinsper	6.45	304	⇓iPn	Pn	18 11 49.7	-0.2
KBA				i Sn	Sn	18 12 56.3	-8.0
KHC	Kasperske Hory	7.53	319	eP	Pn	18 12 03.4	-1.6
KHC				e		18 13 33.5	
KHC	Kasperske Hory	7.53	319	ePn	Pn	18 12 03.4	-1.6
KHC				e		18 12 47.5	
KHC				eSn	Sn	18 13 24.9	-6.5
KHC				e		18 13 33.5	
KHC	Kasperske Hory	7.53	319	ePN	Pn	18 12 03.4	-1.6
KHC				x	x	18 12 47.5	
KHC				eSN	Sn	18 13 24.9	-6.5
KHC				x	x	18 13 33.5	
KHC	Kasperske Hory	7.53	319	eS	Sn	18 13 33.5	+2.1
WTTA	Wattenberg	7.58	301	⇑iPn	Pn	18 12 04.6	-1.1
WTTA				i Sn	Sn	18 13 23.9	-8.6

DJA 02 18:19:26.0±1.0**, 9.31S**×**116.93E, h80km, MD5.1**/3**, ML3.8**/4**, 3C-6D, Error ellipse: s-maj=24.2km s-min=18.7km az=167.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.15	315	ePn	P	18 19 47.2	+0.1
	108nm,0.2s						
KEDI	Kedomdong	1.15	315	⇓iP	P	18 19 47.8	+0.7
KEDI				⇑iSn	S	18 20 02.4	-0.6
RATI	Rata	1.50	293	⇓iPn	P	18 19 51.8	0.0
	293nm,0.2s						
RATI	Rata	1.50	293	⇑iP	P	18 19 52.6	+0.8
RATI				⇓iSn	S	18 20 10.7	-0.2
KELI	Kelakatan	2.65	294	⇑iPn	P	18 20 06.3	-1.2
	13nm,0.2s						
KELI				⇓iSn	S	18 20 32.0	-6.5
SRDI	Scrawed	2.88	286	⇓iPn	P	18 20 09.7	-1.1
	50nm,0.2s						
SRDI				⇓iSn	S	18 20 41.2	-3.1

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*IDC **02** 18:38:02.5±4.0, 9.92N×91.51E, mb3.8/3, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, ML3.3/1, MS2.7/1, Ms1 3.0/1, ms1mx2.5/24, Error ellipse: s-maj=109.0km s-min=29.0km az=81.0*
*NEIC **02** 18:38:08.0±1.1, 9.95N×91.73E, h30km, mb3.8/1, Error ellipse: s-maj=27.8km s-min=13.1km az=57.0*
ISC 02 18:38:07.3±6.8**, 10.0N**±0.2×**91.8E**±0.2**, h41km**±62km**, n11, σ1s12**/10**, mb3.8**/3**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.88	39	Pn	P	18 40 43.2	-0.4
	0.1nm,0.3s,baz=228,slow=12,SNR=4.7						
CMAR				LR	LR	18 45 48.8	
	comp=Z,42nm,19.2s,baz=205,slow=42						
JIRN	Jiri	18.33	344	eP	P	18 42 22.8	+2.5
DMN	Daman	18.60	341	eP	P	18 42 24.5	+0.9
KKN	Kakani	18.72	342	eP	P	18 42 25.6	+0.6
GKN	Gorkha	19.12	340	eP	P	18 42 28.4	-1.3
KOLN	Koldanda	19.27	338	eP	P	18 42 29.2	-2.2
LSA	Lhasa	19.59	358	eP	P	18 42 34.2	-0.7
	3.7nm,0.6s						
SONM	Songino Array	39.66	15	P	P	18 45 37.5	+0.7
	0.7nm,1.0s,mb3.4,baz=203,slow=9.4,SNR=5.6						
WRA	Warramunga Arr	51.38	125	P	P	18 47 10.3	-0.1
	2.3nm,0.8s,mb4.2,baz=306,slow=8.4,SNR=15						
ASAR	Alice Springs	53.06	130	P	P	18 47 23.2	+0.3
	1.2nm,0.8s,mb3.9,baz=303,slow=6.8,SNR=8.8						
CLL	Collm	75.25	320	e*PP	pP	18 50 00.0	+0.1

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*IDC **02** 18:41:46.0±2.6, 19.88S×178.40W, h620km±35km,*

mb3.4/10, mb1 3.7/10, mb1mx3.6/15, mbtmp4.3/10, Error ellipse: s-maj=63.5km s-min=10.5km az=156.0

ISC 02 18:41:44.8±2.8**, 19.8S**±0.5×**178.5W**±0.3**, h617**km±40km**, n28,** σ0.73/15**, mb3.9**/11**, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	33.14	263	⇑iP	P	18 47 34.5	+0.9
	3.1nm,0.3s,mb4.4						
STKA	Stephens Creek	37.71	243	⇑iP	P	18 48 11.4	+0.3
	2.1nm,0.6s,mb3.8						
STKA	Stephens Creek	37.71	243	P	P	18 48 10.8	-0.4
	4.2nm,0.8s,mb4.0,baz=59,slow=6.0,SNR=7.9						
ASAR	Alice Springs	44.27	256	P	P	18 49 03.0	-0.2
	3.2nm,0.4s,mb4.2,baz=86,slow=8.2,SNR=107						
ASAR				PcP	PcP	18 50 33.0	-1.0
	0.7nm,0.5s,baz=93,slow=3.6,SNR=5.6						
ASAR				S	S	18 54 53.9	-0.2
	1.6nm,0.8s,baz=92,slow=15,SNR=18						
ASPA	Alice Springs	44.27	256	eP	P	18 49 03.0	-0.3
WRA	Warramunga Arr	44.28	261	P	P	18 49 02.7	-0.7
	2.1nm,0.3s,mb4.2,baz=97,slow=7.0,SNR=115						
WRA				S	S	18 54 53.9	-0.4
	1.5nm,0.9s,baz=95,slow=13,SNR=8.4						
YBH	Yreka Blue Hor	80.02	39	P	P	18 52 53.0	+0.2
	2.1nm,0.5s,mb3.7,baz=327,slow=1.1,SNR=4.3						
NVAR	Mina Array Bea	80.82	44	P	P	18 52 57.4	+0.6
	1.2nm,0.7s,mb3.5,baz=213,slow=7.7,SNR=10.0						
TXAR	Lajitas Array	87.05	58	P	P	18 53 27.7	+0.1
	0.9nm,0.7s,mb3.6,baz=233,slow=6.3,SNR=7.5						
ILAR	Eielson Array	87.75	13	P	P	18 53 29.1	-0.9
	1.7nm,0.5s,mb4.1,baz=215,slow=5.1,SNR=34						
PDAR	Pinedale Array	88.76	43	P	P	18 53 35.1	-0.1
	1.1nm,0.6s,mb3.9,baz=209,slow=3.6,SNR=9.9						
CMAR	Chiang Mai Arr	89.49	290	P	P	18 53 41.1	+1.9
	1.9nm,0.9s,mb3.9,baz=113,slow=2.9,SNR=13						
YKA	Yellowknife Ar	96.07	25	P	P	18 54 07.2	-0.9
	0.4nm,0.8s,mb3.7,baz=240,slow=4.4,SNR=5.2						
ARCES	ARCESS Array B	128.18	350	PKP	PKPdf	18 59 41.5	-0.1
	2.1nm,0.7s,baz=34,slow=4.4,SNR=6.6						
AKASG	Malin Array Be	142.22	331	PKhKP		19 00 05.0	
	2.2nm,0.4s,baz=41,slow=4.4,SNR=27						
BRTR	Keskin Array B	146.07	313	PKPbc	PKPbc	19 00 18.1	+1.7
	1.9nm,0.5s,baz=132,slow=4.4,SNR=6.1						
KOLS	Kolonicke sedl	146.52	335	e	PKPdf	19 00 23.1	+8.0
CRVS	Cervenica-Dubn	146.86	336	e	PKPdf	19 00 24.5	+8.8
UPC	Upice	147.30	343	eP	PKPdf	19 00 21.6	+5.2
CLL	Collm	147.31	347	⇓iPKP1	PKPdf	19 00 21.2	+4.9
CLL				i PKP2	PKPab	19 00 25.1	-1.4
DPC	Dobruska-Polom	147.35	342	eP	PKPdf	19 00 21.7	+5.3
PVCC	Panska Ves	147.66	344	eP	PKPdf	19 00 22.4	+5.5
PRU	Pruhonice	148.17	344	eP	PKPdf	19 00 23.2	+5.5
VYHS	Vyhne	148.17	338	e	PKPdf	19 00 24.2	+6.4
MOX	Moxa	148.22	348	PP2		19 00 39.0	
NKC	Novy Kostel	148.44	347	eP	PKPdf	19 00 24.2	+6.1
KHC	Kasperske Hory	149.20	344	eP	PKPdf	19 00 25.7	+6.3
KHC				ex	x	19 00 34.0	
GERES	GERESS Array B	149.43	344	PKPbc	PKPdf	19 00 26.3	+6.6
	1.8nm,0.7s,baz=45,slow=1.9,SNR=19						
GERES				PKPab	PKPab	19 00 33.8	-1.3
	0.4nm,0.5s,baz=37,slow=6.7,SNR=4.9						

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*ORF **02** 18:51:03.9, 19.56S×177.46E, h30km, mb5.9*
*MOS **02** 18:51:44.1±1.6, 20.21S×179.47W, h410km, mb4.9/4, Error ellipse: s-maj=16.3km s-min=12.6km az=167.8*
*BJI **02** 18:51:54.9, 20.95S×178.13W, h611km, mB4.9, mb5.0*
*NEIC **02** 18:51:59.2±0.7, 20.87S×179.07W, h612km±8km, mb4.8/41, Error ellipse: s-maj=9.6km s-min=5.3km az=151.0*
*IDC **02** 18:52:02.0±1.1, 20.99S×179.12W, h646km±12km, mb4.1/21, mb1 4.2/22, mb1mx4.2/23, mbtmp5.0/22, Error ellipse: s-maj=12.3km s-min=8.5km az=157.0*

ISC 02 18:51:57.3±0.9**, 20.97S**±0.07×**179.06W**±0.05**, h602**km±13km**, n276,** σ0.94/125**, mb4.8**/72**, 34C-41D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	9.88	46	eP	P	18 54 14.6	-0.4
	77nm,0.8s						
DZM	Mont Dzumac	13.54	263	eP	P	18 54 54.2	+3.0
URZ	Urewera	17.54	190	P	P	18 55 27.3	-2.1
	5.5nm,0.3s,baz=8.2,slow=2.9,SNR=32						
URZ				S	S	18 58 14.1	-5.9
	1.9nm,0.3s,baz=163,slow=20,SNR=7.5						
URZ				ScP		19 02 11.2	
	1.7nm,0.3s,baz=155,slow=19,SNR=6.3						
SNZO	South Karori	20.95	193	P	P	18 55 58.1	-2.7
RPZ	Rata Peaks	24.13	198	P	P	18 56 30.0	+0.8
	37nm,1.3s,mb4.8,baz=48,slow=18,SNR=5.8						
TBI	Tubuai	27.49	100	eP	P	18 56 58.5	-0.4
	42nm,0.8s,mb5.1						
ARMA	Armidale	27.97	244	⇓iP	P	18 57 04.6	+1.7
PAE	Paea	28.00	88	eP	P	18 57 02.8	-0.5
	49nm,1.1s,mb5.1						
PPT	Papeete	28.02	88	eP	P	18 57 03.3	-0.2
	23nm,0.9s,mb4.8						
PPT	Papeete	28.02	88	P	P	18 57 03.5	0.0
	14nm,0.4s,mb5.0,baz=209,slow=11,SNR=3.8						
TIAR	Tiarei	28.23	88	eP	P	18 57 05.1	-0.2
	101nm,0.8s,mb5.5						
TVO	Taravao	28.28	89	eP	P	18 57 05.5	-0.2
	38nm,0.7s,mb5.1						
MEH	Mehetia	29.37	89	eP	P	18 57 14.7	-0.3
	34nm,0.8s,mb5.0						
PMOR	Pomariorio Ree	30.20	84	eP	P	18 57 21.9	-0.2
	34nm,0.8s,mb5.0						
CNB	Canberra Magne	31.14	236	⇓iP	P	18 57 31.3	+1.4
	359nm,0.9s						
CTA	Charters Tower	32.46	265	⇓iP	P	18 57 42.4	+1.2
	61nm,0.4s,mb5.6						
CTAO	Charters Tower	32.46	265	eP	P	18 57 41.6	+0.4
CTAO	Charters Tower	32.46	265	eP	P	18 57 41.6	+0.5
	80nm,0.6s,mb5.5						
PMG	Port Moresby	34.49	284	d iP	P	18 57 59.1	+1.0
PMG	Port Moresby	34.49	284	P	P	18 57 59.3	+1.1
	77nm,0.7s,mb5.5,baz=90,slow=4.9,SNR=26						
PMG	Port Moresby	34.49	284	eP	P	18 57 57.5	-0.6
	84nm,0.9s,mb5.4						
TOO	Toolangi	34.82	234	⇓iP	P	18 58 01.8	+1.2
	1.2nm,0.6s						
TAU	Tasmania Unive	35.59	224	P	P	18 58 07.6	+0.7
STKA	Stephens Creek	36.69	245	⇓iP	P	18 58 17.4	+1.3
	22nm,0.5s,mb4.9						
STKA	Stephens Creek	36.69	245	P	P	18 58 17.4	+1.4
	26nm,0.5s,mb5.0,baz=91,slow=9.5,SNR=96						
ASAR	Alice Springs	43.45	257	P	P	18 59 10.6	+0.4
	95nm,0.6s,mb5.5,baz=98,slow=7.5,SNR=1554						
ASAR				PcP	PcP	19 00 44.0	-0.9
	22nm,0.9s,baz=106,slow=3.6,SNR=9.3						
ASAR				ScP		19 03 38.3	
	5.9nm,0.7s,baz=104,slow=3.8,SNR=10						
ASAR				S	S	19 04 53.6	-3.1
	6.7nm,0.8s,baz=92,slow=18,SNR=14						
ASAR				PKiKP		19 07 42.0	
	0.3nm,0.4s,baz=97,slow=1.5,SNR=4.0						
ASPA	Alice Springs	43.45	257	⇓iP	P	18 59 10.5	+0.2
ASPA				i PCP	PcP	19 00 44.2	-0.7
ASPA				eSCP		19 03 39.7	
ASPA				eS	S	19 04 53.5	-3.3
ASPA				eSCS	ScS	19 08 02.3	+0.9
WRAB	Tennant Creek	43.55	263	d iP	P	18 59 10.8	-0.3
WRAB	Tennant Creek	43.55	263	eP	P	18 59 10.4	-0.6
	155nm,0.9s,mb5.5						
WRA	Warramunga Arr	43.55	263	P	P	18 59 10.8	-0.4
	47nm,0.4s,mb5.4,baz=98,slow=7.9,SNR=703						
WRA				PcP	PcP	19 00 44.7	-0.6
	5.0nm,0.7s,baz=98,slow=4.2,SNR=5.4						
WRA				S	S	19 04 53.5	-4.8
	4.6nm,0.8s,baz=97,slow=13,SNR=9.7						
KAKA	Kakadu	47.00	272	⇓iP	P	18 59 37.2	-0.3
	56nm,0.4s,mb5.4						
KAKA				eS	S	19 05 44.0	-2.2
FORT	Forrest	48.20	247	eP	P	18 59 45.7	-0.7
	9μm,0.4s						
FITZ	Fitzroy Crossi	51.98	263	⇓iP	P	19 00 13.9	-0.2
	42nm,0.5s,mb5.0						
MBWA	Marble Bar	56.78	258	eP	P	19 00 46.5	-1.0
	81nm,0.6s,mb5.1						
KLBR	Kellerberrin	56.96	245	⇓iP	P	19 00 47.9	-0.7
	1μm,0.9s						
NWAO	Narrogin (SRO)	57.27	244	P	P	19 00 50.3	-0.4
	38nm,0.8s,mb4.7,baz=116,slow=5.6,SNR=36						
VNDA	Vanda	57.35	185	P	P	19 00 51.2	+0.5
	1.7nm,0.5s,baz=359,slow=7.2,SNR=15						
VNDA	Vanda	57.35	185	eP	P	19 00 51.1	+0.4
	1.8nm,0.6s						
MUN	Mundaring	58.23	245	eP	P	19 00 56.8	-0.4
	35nm,0.5s,mb4.7						
CBIJ	Chichi jima	60.76	320	P	P	19 01 13.6	-0.4
	45nm,0.5s,mb5.0,baz=270,slow=15,SNR=6.3						
NINI	Niniconang	61.55	276	⇓eP	P	19 01 19.1	-0.2
TANI	Tanete Lipujan	62.26	277	⇓eP	P	19 01 22.8	-1.1
	7.8nm,0.5s,mb4.2						
KEDI	Kedomdong	63.55	271	⇓eP	P	19 01 30.9	-1.3
	103nm,0.7s,mb5.3						
RATI	Rata	64.02	270	⇑eP	P	19 01 33.6	-1.5
	278nm,0.6s,mb5.8						
KELI	Kelakatan	65.16	271	⇓eP	P	19 01 41.0	-1.3
	69nm,0.5s,mb5.3						
SRDI	Scrawed	65.40	270	⇓eP	P	19 01 42.0	-1.8
	37nm,0.9s,mb4.8						
JHJ	Hachijo jima 2	66.61	323	P	P	19 01 50.8	-0.2
	138nm,0.6s,mb5.6,baz=242,slow=22,SNR=7.2						
QSPA	South Pole Qui	69.10	180	⇓iP	P	19 02 06.0	+0.9
	14nm,0.8s,mb4.4						
JOW	Kunigami	69.72	311	P	P	19 02 09.8	+0.2
	29nm,0.7s,mb4.8,baz=112,slow=9.8,SNR=5.7						
MAJO	Matsushiro	70.01	324	eP	P	19 02 10.7	-0.5
	20nm,0.6s,mb4.7						
MAT	Matsushiro	70.01	324	eP	P	19 02 11.0	-0.2
	19nm,0.8s,mb4.6						
MAT	Matsushiro	70.01	324	P	P	19 02 10.8	-0.4
KSM	Kuching	72.50	279	eP	P	19 02 26.0	0.0
YHNB	Yeheng	73.56	305	eP	P	19 02 31.5	-0.4
ASAJ	Asahikawa	73.67	332	P	P	19 02 33.4	+1.2
	25nm,0.8s,mb4.8,baz=212,slow=4.9,SNR=15						
PENI	Pendagan	74.75	270	⇑eP	P	19 02 35.8	-3.0
	47nm,0.6s,mb5.2						
YSS	Yuzh-Sakhalins	75.88	334	d iP	P	19 02 44.9	+0.6
YSS				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.5						
YSS	Yuzh-Sakhalins	75.88	334	eP	P	19 02 44.3	0.0
	comp=Z,15nm,0.7s,mb4.5						
SSE	Sheshan	77.23	311	P	P	19 02 52.1	+0.1
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,157nm,6.3s						
SSE	Sheshan	77.23	311	P	P	19 02 52.1	+0.1
	comp=Z,29nm,0.8s,mb4.8						
NJ2	Nanjing	79.42	310	eP	P	19 03 04.4	+0.9
NJ2				PP	PP	19 06 18.0	+2.9
NJ2				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,850nm,4.9s						
MDJ	Mudanjiang	80.34	326	P	P	19 03 08.9	+0.9
MDJ				AMB	AMB		
	comp=Z,27nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,86nm,4.9s						
MDJ	Mudanjiang	80.34	326	eP	P	19 03 08.6	+0.6
	comp=Z,18nm,0.7s,mb4.5						
CMB	Columbia Colle	80.48	43	eP	P	19 03 09.6	+0.8
	comp=Z,3.9nm,0.8s,mb3.8						
WDC	Whiskeytown Da	80.67	40	eP	P	19 03 10.4	+0.7
	comp=Z,24nm,1.4s,mb4.4						
MTUM	Tungsten Hills	81.27	45	eP	P	19 03 13.8	+1.0
YBH	Yreka Blue Hor	81.28	39	P	P	19 03 13.6	+0.8
	comp=Z,8.8nm,0.6s,mb4.4,baz=189,slow=2.3,SNR=21						
HUMO	Hull Mountain	81.67	38	eP	P	19 03 16.2	+1.4
	comp=Z,5.3nm,0.6s,mb4.2						
SNY	Shenyang	81.94	321	⇓P	P	19 03 16.3	+0.1
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NVAR	Mina Array Bea	82.05	44	P	P	19 03 17.5	+0.7
	comp=Z,4.2nm,0.5s,mb4.2,baz=231,slow=9.4,SNR=34						
NVAR	Mina Array Bea	82.05	44	P	P	19 03 17.5	+0.7
CN2	Changchun	82.07	323	eP	P	19 03 17.2	+0.4
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
SNG	Songkhla	83.59	280	P	P	19 03 26.5	+1.5
	comp=Z,172nm,0.9s,mb5.6						
RSO	Redoubt South	83.91	13	eP	P	19 03 23.9	-1.6
MA2	Magadan	83.98	345	deP	P	19 03 25.1	-0.8
MA2				eS	S	19 13 08.0	+7.8
MA2				e		19 14 34.1	
MA2				eSS	SS	19 18 42.3	-8.3
MA2				pmax	pmax		
	comp=N,2.0nm,0.9s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
MA2	Magadan	83.98	345	eP	P	19 03 24.8	-1.0
	comp=Z,13nm,0.8s,mb4.5						
SLKM	Skilak Lake	84.50	14	eP	P	19 03 26.6	-1.8
ELK	Elko	85.30	43	P	P	19 03 33.4	+0.6
	comp=Z,1.4nm,0.7s,baz=253,slow=5.1,SNR=7.7						
ENH	Enshi	85.49	305	eP	P	19 03 34.4	+0.5
	comp=Z,59nm,0.9s,mb5.2						
BJT	Baijiatuau	85.53	316	P	P	19 03 33.9	0.0
	comp=Z,7.1nm,0.6s,mb4.5						
BJI	Beijing	85.53	316	eP	P	19 03 33.9	0.0
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
BJI	Beijing	85.53	316	eP	P	19 03 33.9	0.0
	comp=Z,19nm,0.8s,mb4.8						
GYA	Guiyang	86.02	300	⇓iP	P	19 03 37.6	+1.0
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
BMO	Blue Mountains	86.30	39	eP	P	19 03 37.9	+0.4
	comp=Z,9.8nm,1.4s,mb4.2						
TNA	Tin City	86.68	5	eP	P	19 03 38.7	0.0
	comp=Z,3.5nm,0.7s,mb4.2						
HLID	Hailey	87.33	41	eP	P	19 03 43.0	+0.7
	comp=Z,4.1nm,0.8s,mb4.2						
XAN	Xi'an	87.63	308	P	P	19 03 44.9	+0.9
XAN				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.0						
MCK	McKinley	87.65	13	eP	P	19 03 42.2	-1.1
	comp=Z,11nm,0.8s,mb4.7						
NANT	Nan	87.93	291	P	P	19 03 45.5	-0.2
THY	Trims Highway	88.07	14	eP	P	19 03 45.3	0.0
TXAR	Lajitas Array	88.14	58	P	P	19 03 47.6	+1.1
	comp=Z,2.4nm,0.8s,mb4.0,baz=217,slow=6.3,SNR=14						
TXAR				PKKPbc		19 21 27.2	
	comp=Z,0.5nm,0.5s,baz=117,slow=2.0,SNR=4.1						
KMI	Kunming	88.68	297	P	P	19 03 50.4	+1.3
KMI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.9						
KMI	Kunming	88.68	297	P	P	19 03 50.4	+1.3
	comp=Z,19nm,0.9s,mb4.9						
KMI				pP	Px	19 04 21.4	
IMA	Indian Mountai	88.88	10	eP	P	19 03 48.7	-0.4
	comp=Z,51nm,1.0s,mb5.3						
COLA	College	88.88	13	d iP	P	19 03 47.8	-1.3
COLA	College	88.88	13	eP	P	19 03 47.7	-1.4
	comp=Z,20nm,0.8s,mb5.0						
HHC	Hu-ho-hao-te	88.98	315	eP	P	19 03 50.9	+0.8
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,54nm,3.7s						
ILAR	Eielson Array	89.00	13	P	P	19 03 48.4	-1.3
	comp=Z,5.3nm,0.5s,mb4.7,baz=218,slow=5.0,SNR=78						
ILAR				PKiKP		19 08 42.4	
	comp=Z,0.2nm,0.4s,baz=273,slow=3.5,SNR=4.2						
CHRT	Chiangrai	89.14	292	⇓P	P	19 03 52.5	+1.1
	comp=Z,190nm,0.8s						
RRI2	Red Ridge	89.15	42	eP	P	19 03 51.6	+0.7
CM31	Chiang Mai Arr	89.34	290	eP	P	19 03 53.9	+1.6
	comp=Z,29nm,1.0s,mb5.1						
CMAR	Chiang Mai Arr	89.34	290	P	P	19 03 53.7	+1.4
	comp=Z,16nm,0.8s,mb4.9,baz=124,slow=3.0,SNR=114						
BILL	Bilibino	89.41	355	eP	P	19 03 51.1	-0.4
BILL				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.7						
BILL	Bilibino	89.41	355	eP	P	19 03 51.2	-0.3
	comp=Z,9.6nm,0.8s,mb4.7						
PLCA	Paso Flores	89.67	134	P	P	19 03 53.9	+0.6
	comp=Z,3.5nm,0.7s,mb4.3,baz=224,slow=5.6,SNR=9.7						
PLCA	Paso Flores	89.67	134	eP	P	19 03 53.5	+0.2
	comp=Z,3.1nm,0.6s,mb4.3						
BW06	Boulder Array	89.98	44	eP	P	19 03 54.0	-0.7
	comp=Z,1.8nm,0.6s,mb4.1						
PDAR	Pinedale Array	89.98	44	P	P	19 03 54.8	0.0
	comp=Z,3.1nm,0.7s,mb4.2,baz=209,slow=2.9,SNR=9.1						
DAWY	Dawson	90.19	16	eP	P	19 03 54.8	-0.3
SDCO	Great Sand Dun	90.41	49	eP	P	19 03 57.2	+0.4
YAK	Yakutsk	92.18	338	d iP	P	19 04 03.2	-1.0
YAK				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.3						
LZH	Lanzhou	92.27	308	⇓P	P	19 04 05.9	+0.6
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.1						
LZH	Lanzhou	92.27	308	⇓P	P	19 04 05.9	+0.6
	comp=Z,23nm,1.2s,mb5.1						
LZH				pP	Px	19 04 10.2	
LZH				sP	Px	19 04 12.6	
INK	Inuvik	94.99	15	P	P	19 04 15.8	-1.0
	baz=6.9,slow=17						
INK	Inuvik	94.99	15	P	P	19 04 15.8	-1.0
ULN	Ulaanbaatar	95.07	319	⇑eP	P	19 04 17.7	0.0
ULN	Ulaanbaatar	95.07	319	eP	P	19 04 17.4	-0.3
	comp=Z,2.2nm,0.7s,mb4.4						
SONM	Songino Array	95.46	319	P	P	19 04 18.8	-0.6
	comp=Z,0.5nm,0.4s,mb4.0,baz=120,slow=3.9,SNR=9.5						
GTA	Gaotai	96.51	310	P	P	19 04 24.5	+0.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.6						
YKA	Yellowknife Ar	97.36	25	P	P	19 04 26.9	-0.7
	comp=Z,1.4nm,0.9s,mb4.2,baz=244,slow=4.5,SNR=19						
JIRN	Jiri	103.47	295	ePKIKP		19 09 09.4	
	comp=Z,6.4nm,0.5s						
PKI	Pulchoki	104.11	294	ePKIKP		19 09 10.1	
	comp=Z,7.5nm,0.5s						
KKN	Kakani	104.28	295	ePKIKP		19 09 10.7	
	comp=Z,2.5nm,0.2s						
DMN	Daman	104.38	294	ePKIKP		19 09 10.8	
	comp=Z,3.5nm,0.5s						
GKN	Gorkha	104.89	295	ePKIKP		19 09 10.8	
	comp=Z,14nm,1.2s						
KOLN	Koldanda	105.71	294	ePKIKP		19 09 12.8	
	comp=Z,3.3nm,0.6s						
ZAL	Zalesovo	110.25	321	PKiKP		19 09 20.4	
	comp=Z,4.6nm,1.1s,baz=339,slow=2.6,SNR=11						
KURK	Kurchatov	113.67	317	c iPKIKP	PKPdf	19 09 27.5	-0.3
AAK	Ala-Archa	115.81	308	⇑iPKIKP	PKPdf	19 09 31.8	-0.4
BVAR	Borovoye Array	118.80	320	PKP	PKPdf	19 09 37.6	-0.2
	comp=Z,7.8nm,0.3s,baz=118,slow=2.2,SNR=72						
SOKR	Solikamsk	124.98	329	⇓iPKIKP	PKPdf	19 09 47.4	-2.1
SOKR				pmax	pmax		
	comp=Z,20nm,0.9s						
ARCES	ARCESS Array B	129.20	349	PKhKP		19 09 42.8	
	comp=Z,2.5nm,0.8s,baz=270,slow=2.4,SNR=6.4						
ARCES				PKP	PKPdf	19 09 56.9	-0.5
	comp=Z,9.2nm,0.5s,baz=16,slow=1.1,SNR=47						
KAF	Kangasniemi	135.32	343	ep		19 09 59.3	
	baz=30,slow=2.0						
FINES	FINESS Array B	135.94	343	i PKHKP		19 09 57.5	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	135.94	343	PKhKP		19 09 57.5	
	comp=Z,0.7nm,0.5s,baz=50,slow=4.4,SNR=8.3						
FINES				PKP	PKPdf	19 10 08.6	-1.5
	comp=Z,5.0nm,0.5s,baz=90,slow=4.2,SNR=16						
FINES				SKP		19 12 45.5	
	comp=Z,3.6nm,0.6s,baz=63,slow=4.3,SNR=11						
FINES	FINESS Array B	135.94	343	PKP		19 09 57.5	
FINES				PKP	PKPdf	19 10 08.6	-1.5
FINES				SKP		19 12 45.5	
OBN	Obninsk	136.69	331	i PKIKP	PKPdf	19 10 11.8	+0.1
OBN				pmax	pmax		
	comp=Z,13nm,0.7s						
KMBO	Kilima Mbogo	138.24	243	PKP	PKPdf	19 10 16.0	+0.3
	comp=Z,1.6nm,0.6s,baz=68,slow=8.9,SNR=4.9						
NB2	NORSAR Subarra	139.32	352	PKPabc		19 10 08.7	
	comp=Z,1.4nm,0.5s,baz=16,slow=3.1						
NOA	NORSAR Array B	139.32	352	PKhKP		19 10 08.6	
	comp=Z,2.2nm,0.5s,baz=16,slow=4.7,SNR=13						
NOA				PKP	PKPdf	19 10 17.2	+0.9
	comp=Z,2.3nm,0.6s,baz=14,slow=3.7,SNR=7.7						
NOA				SKPbc		19 12 52.7	
	comp=Z,1.6nm,0.7s,baz=16,slow=4.4,SNR=4.1						
SUW	Suwalki	142.92	338	ePKP	PKPdf	19 10 21.3	-1.4
AKASG	Malin Array Be	142.94	330	PKP	PKPdf	19 10 20.8	-2.1
	comp=Z,37nm,0.4s,baz=41,slow=4.2,SNR=335						
AKASG				SKPbc		19 13 03.0	
	comp=Z,3.5nm,1.0s,baz=48,slow=2.0,SNR=6.3						
ELZG	Elazig	142.95	307	i P	PKPdf	19 10 23.6	+0.3
MALT	Malatya	143.42	307	⇑PKHKP		19 10 24.6	
MALT	Malatya	143.42	307	P	PKPbc	19 10 25.1	+1.9
SIM	Simferopol'	143.71	319	⇓ePKHKP		19 10 25.5	
SIM				pmax	pmax		
	comp=Z,104nm,0.9s						
MBAR	Mbarara	143.83	237	d iPKHKP		19 10 25.5	
MBAR	Mbarara	143.83	237	ePKPpre		19 10 25.9	
SVST	Sivas	144.03	310	i P	PKPbc	19 10 26.9	+2.0
MUD	Monsted U'grnd	144.04	352	i PKHKP		19 10 25.0	
MUD				pmax	pmax		
	comp=Z,60nm,0.9s						
MUD	Monsted U'grnd	144.04	352	i P	PKPbc	19 10 25.0	+0.6
	comp=Z,60nm,0.9s						
BSD	Bornholm Skovb	144.32	346	⇑iPKHKP		19 10 25.7	
BSD				pmax	pmax		
	comp=Z,39nm,0.6s						
BSD	Bornholm Skovb	144.32	346	⇑iP	PKPdf	19 10 25.7	+0.6
	comp=Z,39nm,0.6s						
GZT	Gaziantep	144.36	305	i P	PKPdf	19 10 26.8	+1.1
KAHT	Ahir Dag	144.80	306	i P	PKPdf	19 10 28.4	+2.0
BOYT	Boyabat	144.83	313	i P	PKPdf	19 10 28.6	+2.2
GKP	Gorka Klasztor	145.41	343	ePKP	PKPdf	19 10 29.7	+2.7
GKP				e		19 10 31.4	
COBT	Iskenderun	145.60	304	i P	PKPdf	19 10 30.9	+3.0
LVV	L'vov	145.89	333	ePKHKP		19 10 28.6	
AVNT	Avonos	145.91	309	i P	PKPdf	19 10 30.8	+2.5
IAS	Iasi	146.10	327	PKHKP		19 10 31.9	
ELDT	Eldivan	146.24	313	i P	PKPdf	19 10 32.3	+3.4
BSEG	Bad Segeberg	146.32	350	ePKHKP		19 10 31.9	
BRTR	Keskin Array B	146.41	311	PKHKP		19 10 29.9	
BRTR	Keskin Array B	146.41	311	PKP	PKPdf	19 10 29.9	+0.8
	comp=Z,12nm,0.6s,baz=45,slow=2.0,SNR=57						
BRTR				PKPbc	PKPbc	19 10 32.1	+1.0
	comp=Z,13nm,0.6s,baz=153,slow=2.8,SNR=56						
KWP	Kalwaria	146.58	334	ePKP	PKPdf	19 10 33.0	+3.9
TLCR		146.70	323	⇓PKHKP		19 10 33.1	
TLCR		146.70	323	⇓P	PKPdf	19 10 33.2	+3.8
ANTO	Ankara	146.94	312	⇓PKHKP		19 10 34.2	
BURAR	Bucovina Array	146.97	329	P	PKPdf	19 10 34.4	+4.6
CFR	Carcaliu	147.09	323	PKIKP	PKPdf	19 10 34.5	+4.4
CFR	Carcaliu	147.09	323	⇑P	PKPdf	19 10 34.4	+4.3
MEST	Erdemli	147.20	306	i P	PKPdf	19 10 34.5	+4.0
OJC	Ojcow	147.23	337	ePKP	PKPdf	19 10 34.5	+4.3
KOLS	Kolonicke sedl	147.31	334	i PKP	PKPdf	19 10 35.2	+4.9
KOLS				i		19 10 43.7	
TIRR	Tirgusor	147.37	322	⇑PKIKP	PKPdf	19 10 35.2	+4.6
TIRR	Tirgusor	147.37	322	⇓P	PKPdf	19 10 34.9	+4.3
VRI	Vrincioaia	147.41	326	⇑PKHKP		19 10 35.0	
VRI	Vrincioaia	147.41	326	⇑P	PKPdf	19 10 34.8	+4.2
HARR	Harsova	147.50	323	⇑PKIKP	PKPdf	19 10 35.6	+4.8
HARR	Harsova	147.50	323	⇓P	PKPdf	19 10 35.7	+4.9
CRVS	Cervenica-Dubn	147.66	334	i PKP	PKPdf	19 10 35.9	+5.0
CRVS				i		19 10 41.0	
NIE	Niedzica	147.70	336	ePKP	PKPdf	19 10 34.9	+4.0
KSP	Ksiaz	147.84	342	ePKIKP	PKPdf	19 10 36.3	+5.2
KSP				e		19 10 40.8	
KSP	Ksiaz	147.84	342	ePKP	PKPdf	19 10 36.6	+5.5
KSP				e		19 10 41.9	
PSN	Preselentsi	147.96	321	eP	PKPdf	19 10 28.0	-3.5
MLR	Muntele Rosu	148.07	326	⇑PKIKP	PKPdf	19 10 36.9	+5.3
MLR	Muntele Rosu	148.07	326	⇑P	PKPdf	19 10 36.5	+4.9
OKC	Ostrava-Krasne	148.13	339	i PKIKP	PKPdf	19 10 36.8	+5.2
OKC				e		19 10 42.6	
OKC	Ostrava-Krasne	148.13	339	⇑iPKPB		19 10 36.8	
OKC				ePKPAB	PKPab	19 10 42.6	-0.9
EIL	Elat	148.15	293	ePKPdf	PKPdf	19 10 37.1	+4.9
UPC	Upice	148.22	342	i PKIKP	PKPdf	19 10 37.4	+5.7
UPC				e		19 10 43.0	
UPC	Upice	148.22	342	⇑iPKPB		19 10 37.4	
UPC				ePKPAB	PKPab	19 10 43.0	-0.9
DPC	Dobruska-Polom	148.26	341	i PKIKP	PKPdf	19 10 37.4	+5.6
DPC				e		19 10 43.5	
DPC	Dobruska-Polom	148.26	341	⇑iPKPB		19 10 37.4	
DPC				ePKPAB	PKPab	19 10 43.5	-0.6
CLL	Collm	148.28	346	i PKIKP	PKPdf	19 10 37.0	+5.2
CLL				i		19 10 42.6	
CLL				pmax	pmax		
	comp=Z,45nm,0.9s						
CLL	Collm	148.28	346	⇓iPKP1	PKPdf	19 10 37.0	+5.2
CLL				i PKP2	PKPab	19 10 42.6	-1.5
CLZ	Clausthal	148.32	349	ePKPbc	PKPdf	19 10 37.4	+5.6
CLZ				ePKPab	PKPab	19 10 43.1	-1.1
CSS	Prodhromos	148.34	303	ePKPdf	PKPdf	19 10 37.4	+5.1
MORC	Moravsky Berou	148.38	339	⇓PKIKP	PKPdf	19 10 37.7	+5.8
MORC	Moravsky Berou	148.38	339	ePKPbc	PKPdf	19 10 37.1	+5.2

SNX	**Sinaia**	**148.38**	**326**	⇑PKIKP	PKPdf	19 10 38.3	+6.2
KECS	**Kecovo**	**148.39**	**335**	*i* PKP	PKPdf	19 10 38.2	+6.2
KECS				*i*		19 10 43.9	
ESKT	**Eskisehir**	**148.44**	**313**	*i* P	PKPdf	19 10 36.9	+4.5
BRG	**Berggiesshubel**	**148.46**	**344**	*i* PKIKP	PKPdf	19 10 37.7	+5.7
BRG				*i*		19 10 43.6	
BRG				pmax	pmax		
	comp=Z,25nm,0.7s						
PVCC	**Panska Ves**	**148.61**	**343**	*i* PKIKP	PKPdf	19 10 38.2	+5.9
PVCC	**Panska Ves**	**148.61**	**343**	⇑*i*PKPB		19 10 38.2	
MTUR	**Matau**	**148.71**	**326**	P		19 10 21.5	
VYHS	**Vyhne**	**149.01**	**337**	*i* PKP	PKPdf	19 10 39.3	+6.3
VYHS				*i*		19 10 46.7	
PSZ	**Piszkesteto**	**149.08**	**335**	⇑PKHKP		19 10 39.4	
PSZ	**Piszkesteto**	**149.08**	**335**	P	PKPdf	19 10 39.2	+6.1
VRAC	**Vranov**	**149.09**	**340**	PKHKP		19 10 39.4	
PRU	**Pruhonice**	**149.10**	**343**	*i* PKHKP		19 10 39.2	
PRU				*e*		19 10 47.0	
PRU	**Pruhonice**	**149.10**	**343**	⇑*i*PKPB		19 10 39.2	
PRU				*e*PKPAB	PKPab	19 10 47.0	-0.5
MOX	**Moxa**	**149.22**	**347**	*e*PKHKP		19 10 39.3	
MOX				pmax	pmax		
	comp=Z,47nm,1.4s						
ULDT	**Uludag**	**149.31**	**315**	*i* P	PKPdf	19 10 39.5	+5.8
NKC	**Novy Kostel**	**149.41**	**345**	*i* PKHKP		19 10 40.0	
NKC	**Novy Kostel**	**149.41**	**345**	⇑*i*PKPB		19 10 40.0	
SMOL	**Smolenice**	**149.50**	**338**	*i* PKP	PKPdf	19 10 41.1	+7.4
SMOL				*i*		19 10 49.3	
ZST	**Bratislava**	**149.89**	**338**	*i* PKP	PKPdf	19 10 41.5	+7.1
ZST				*i*		19 10 50.8	
BZS	**Buzias**	**150.13**	**330**	⇓PKHKP		19 10 41.4	
BZS	**Buzias**	**150.13**	**330**	⇑P	PKPdf	19 10 41.4	+6.6
BZS	**Buzias**	**150.13**	**330**	⇑P	PKPdf	19 10 41.4	+6.6
KHC	**Kasperske Hory**	**150.15**	**343**	*e*PKPDF	PKPdf	19 10 34.0	-0.7
KHC				⇑*i*PKPB		19 10 41.7	
KHC				*e*PKPAB	PKPab	19 10 51.1	-0.7
KHC				*e*x	x	19 13 09.5	
GRA1	**Grafenberg Arr**	**150.20**	**347**	*e*PKPbc	PKPdf	19 10 41.7	+6.9
GRA1				*e*PKPab	PKPab	19 10 51.2	-0.8
GRF	**Grafenberg Arr**	**150.20**	**347**	*e*PKP	PKPdf	19 10 41.7	+6.9
GRF				*e*PKP	PKPab	19 10 51.2	-0.8
TNS	**Taunus Mts**	**150.21**	**350**	*e*PKPbc	PKPdf	19 10 41.8	+7.0
TNS				*e*PKPab	PKPab	19 10 50.7	-1.4
WET	**Wettzell**	**150.32**	**344**	*e*PKHKP		19 10 41.9	
WET				*e*		19 10 51.7	
GEC2	**GERESS Array S**	**150.37**	**343**	*e*PKHKP		19 10 41.9	
GERES	**GERESS Array B**	**150.37**	**343**	PKP	PKPdf	19 10 35.7	+0.6
	comp=Z,0.8nm,0.7s,slow=1.3,SNR=7.7						
GERES				PKPbc	PKPdf	19 10 42.1	+7.0
	comp=Z,15nm,0.7s,baz=30,slow=2.3,SNR=93						
GERES				PKPab	PKPab	19 10 51.5	-1.3
	comp=Z,1.0nm,0.5s,slow=2.7,SNR=6.2						
MANT	**Manisa**	**150.50**	**312**	*i* P	PKPdf	19 10 42.5	+6.9
GIVF	**Givet**	**150.77**	**355**	*e*PKP1	PKPdf	19 10 43.0	+7.4
	comp=Z,89nm,0.8s						
BAIF	**Baives**	**150.86**	**356**	*e*PKP1	PKPdf	19 10 43.3	+7.5
	comp=Z,32nm,0.7s						
PKSM	**Moragy**	**150.96**	**334**	⇓PKIKP	PKPdf	19 10 43.1	+7.0
PGB	**Panagyurishte**	**150.97**	**323**	P	PKPdf	19 10 43.0	+6.8
MOA	**Molln**	**151.11**	**341**	⇓*i*P	PKPdf	19 10 43.6	+7.4
RZN	**Rozhen**	**151.20**	**321**	*e*P	PKPdf	19 10 43.5	+6.9
ARSA	**Arzberg**	**151.24**	**339**	⇑*i*P	PKPdf	19 10 44.0	+7.6
SVIS	**Svilajnac**	**151.30**	**329**	⇑*i*PKP	PKPdf	19 10 43.8	+7.2
KDAG	**Bornova**	**151.43**	**313**	*i* P	PKPdf	19 10 44.1	+7.1
VTS	**Vitosha**	**151.47**	**324**	⇑PKIKP	PKPdf	19 10 44.6	+7.7
VTS	**Vitosha**	**151.47**	**324**	*i* P	PKPdf	19 10 44.8	+7.9
FUR	**Furstenfeldbru**	**151.62**	**345**	*e*PKIKP	PKPdf	19 10 45.0	+8.1
FUR				*e*		19 10 57.3	
MMB	**Musomiste**	**151.84**	**322**	*i* P	PKPdf	19 10 45.0	+7.5
GRUS	**Gruza**	**151.84**	**329**	⇑*i*PKP	PKPdf	19 10 45.5	+8.1
DIVS	**Divcibare**	**152.03**	**330**	⇑*i*PKP	PKPdf	19 10 45.6	+8.0
BFO	**Black Forest**	**152.07**	**349**	*e*PKPbc	PKPdf	19 10 45.5	+8.0
BFO				*e*PKPab	PKPab	19 10 58.3	-1.6
KBA	**Koelnbreinsper**	**152.08**	**342**	⇓*i*P	PKPdf	19 10 45.3	+7.7
CDF	**Champ du Feu**	**152.16**	**351**	*e*PKP1	PKPdf	19 10 46.0	+8.3
	comp=Z,21nm,0.6s						
FLN	**La Foliniere**	**152.25**	**2**	*e*PKP1	PKPdf	19 10 45.8	+8.0
	comp=Z,14nm,0.5s						
WATA	**Walderalm**	**152.32**	**344**	⇑*i*P	PKPdf	19 10 46.1	+8.2
MEZF	**Maizieres J'vi**	**152.34**	**354**	*e*PKP1	PKPdf	19 10 46.6	+8.7
	comp=Z,46nm,0.9s						
LDF	**La Druitiere**	**152.43**	**2**	*e*PKP1	PKPdf	19 10 46.1	+8.1
	comp=Z,19nm,0.7s						
MOTA	**Moosalm**	**152.43**	**345**	⇑*i*P	PKPdf	19 10 46.5	+8.4
ROSF	**Rostrenen**	**152.49**	**6**	*e*PKP1	PKPdf	19 10 46.0	+7.9
SQTA	**Sankt Quirin**	**152.52**	**345**	⇓*i*P	PKPdf	19 10 46.6	+8.4
GRR	**Gorron**	**152.61**	**3**	*e*PKP1	PKPdf	19 10 46.7	+8.4
	comp=Z,16nm,0.6s						
LJU	**Ljubljana**	**152.63**	**339**	*i* PKPbc	PKPdf	19 10 46.8	+8.4
SGMF	**Saint Gilles**	**152.64**	**5**	*e*PKP1	PKPdf	19 10 46.4	+8.1
	comp=Z,35nm,0.8s						
HAU	**Haudompre**	**152.68**	**352**	*e*PKP1	PKPdf	19 10 46.8	+8.4
	comp=Z,20nm,0.7s						
DAVA	**Damuels**	**152.77**	**347**	⇑*i*P	PKPdf	19 10 47.6	+9.1
HINF	**Hinteralfeld**	**152.80**	**351**	*e*PKP1	PKPdf	19 10 47.0	+8.4
	comp=Z,14nm,0.9s						
BOJS	**Bojanci**	**152.85**	**338**	*i* PKPbc	PKPdf	19 10 47.7	+9.0
VOJS	**Vojsko**	**152.85**	**340**	*e*PKPbc	PKPdf	19 10 46.9	+8.2
JAVS	**Javornik**	**152.91**	**340**	*i* PKPbc	PKPdf	19 10 47.1	+8.3
SSF	**Saint Saulge**	**153.89**	**356**	*e*PKP1	PKPdf	19 10 49.7	+10
	comp=Z,19nm,0.9s						
CABF	**La Chapelle**	**154.08**	**352**	*e*PKP1	PKPdf	19 10 50.7	+10
	comp=Z,20nm,0.8s						
MFF	**Saint Martin d**	**154.42**	**2**	*e*PKP1	PKPdf	19 10 50.6	+10
TCF	**Toulx Ste Croi**	**154.73**	**358**	*e*PKP1	PKPdf	19 10 50.6	+9.4
LPL	**La Plagne**	**155.06**	**350**	*e*PKP1	PKPdf	19 10 53.0	+11
	comp=Z,5.2nm,0.6s						
LPG	**La Plagne**	**155.08**	**350**	*e*PKP1	PKPdf	19 10 53.0	+11
BNI	**Bardonecchia**	**155.52**	**350**	*e*PKPbc	PKPdf	19 10 53.9	+12
BNI				*e*PKPab	PKPab	19 11 13.9	-0.6
ORIF	**Oris-en-Rattie**	**155.77**	**351**	*e*PKP1	PKPdf	19 10 54.0	+11
	comp=Z,13nm,0.9s						
MBDF	**Montbardon**	**155.82**	**350**	*e*PKP1	PKPdf	19 10 54.1	+11
	comp=Z,8.1nm,0.7s						
ESDC	**Sonseca Array**	**160.89**	**12**	PKPab	PKPab	19 11 36.3	-1.5
	comp=Z,3.7nm,0.9s,baz=345,slow=4.6,SNR=7.8						
DBIC	**Dimbokro**	**164.71**	**158**	PKP	PKPdf	19 10 53.3	0.0
	comp=Z,3.5nm,0.7s,baz=201,slow=3.0,SNR=6.4						
DBIC				PKPab	PKPab	19 11 53.9	-1.4
	comp=Z,2.2nm,0.6s,baz=210,slow=5.1,SNR=4.6						

IDC 02 19:29:00.5±5.9**, 2.73S**×**104.21E, mb3.4**/4**, mb1 3.7**/4**, mb1mx3.5**/15**, mbtmp3.4**/4**, Error ellipse: s-maj=231.1km s-min=23.0km az=60.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.69**	**346**	P	P	19 33 53.4	-1.7
	0.5nm,0.5s,baz=181,slow=10.0,SNR=4.5						
WRA	**Warramunga Arr**	**34.02**	**122**	P	P	19 35 45.5	-3.0
	0.3nm,0.8s,baz=299,slow=9.1,SNR=3.1						
ASAR	**Alice Springs**	**35.46**	**128**	P	P	19 35 59.7	-1.2
	0.8nm,0.5s,baz=299,slow=7.9,SNR=15						
SONM	**Songino Array**	**50.39**	**2**	P	P	19 37 59.5	-2.1
	0.9nm,0.9s,baz=184,slow=9.2,SNR=7.5						

IDC 02 19:39:26.6±1.2**, 21.74S**×**68.26W, h124**^{km}±15^{km}**, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.6**/14**, mbtmp4.0**/5**, Error ellipse: s-maj=36.9km s-min=28.0km az=102.0, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.06**	**215**	P	P	19 39 50.8	+0.9
	268nm,0.3s,baz=6.1,slow=7.3,SNR=1932						
LVC				S	S	19 40 07.7	+0.3
	111nm,0.3s,baz=100,slow=23,SNR=63						
LPAZ	**La Paz**	**5.42**	**1**	P	P	19 40 45.7	-0.7
	2.5nm,0.3s,baz=198,slow=6.8,SNR=20						
LPAZ				S	S	19 41 42.3	-5.8
	0.2nm,0.3s,baz=171,slow=10,SNR=3.7						
TXAR	**Lajitas Array**	**61.17**	**325**	P	P	19 49 27.7	-2.9
	0.2nm,0.3s,baz=135,slow=7.7,SNR=3.3						
DBIC	**Dimbokro**	**68.22**	**73**	P	P	19 50 14.0	-2.4
	3.5nm,0.9s,baz=221,slow=7.6,SNR=4.0						
PDAR	**Pinedale Array**	**74.61**	**330**	P	P	19 50 52.6	-1.4
	0.2nm,0.4s,baz=131,slow=8.3,SNR=3.0						
YKA	**Yellowknife Ar**	**91.61**	**340**	P	P	19 52 19.7	-0.7
	1.7nm,0.5s,baz=134,slow=4.5,SNR=54						

IDC 02 19:48:38.7±1.3**, 5.36N**×**93.24E, mb3.9**/6**, mb1 4.0**/7**, mb1mx3.8**/18**, mbtmp3.8**/7**, ML3.1**/1**, MS3.8**/1**, Ms1 3.8**/1**, ms1mx2.5**/20**, Error ellipse: s-maj=55.4km s-min=20.6km az=62.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.16**	**23**	Pn	P	19 52 02.3	-0.6
	0.0nm,0.3s,baz=222,slow=14,SNR=7.5						
SONM	**Songino Array**	**43.79**	**13**	P	P	19 56 45.9	-1.9
	1.3nm,1.0s,baz=194,slow=7.3,SNR=9.4						
SONM				PcP	PcP	19 58 33.8	-1.4
	0.4nm,0.5s,baz=190,slow=4.5,SNR=5.6						
WRA	**Warramunga Arr**	**47.60**	**123**	P	P	19 57 16.6	-2.0
	3.6nm,0.7s,baz=300,slow=9.3,SNR=17						
ZAL	**Zalesovo**	**48.91**	**353**	P	P	19 57 25.0	-3.3
	0.6nm,0.5s,baz=340,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**49.05**	**128**	P	P	19 57 28.1	-1.6
	0.6nm,0.5s,baz=300,slow=7.9,SNR=6.1						
ASAR				PcP	PcP	19 58 52.6	-1.4
	0.4nm,0.6s,baz=296,slow=3.7,SNR=5.0						
JHJ	**Hachijo jima 2**	**51.30**	**51**	LR	LR	20 20 23.8	
	comp=Z,91nm,21.2s,baz=81,slow=37						
STKA	**Stephens Creek**	**59.06**	**132**	P	P	19 58 39.5	-3.8
	1.2nm,0.6s,baz=307,slow=5.1,SNR=3.0						
GERES	**GERESS Array B**	**79.09**	**319**	P	P	20 00 45.4	-1.2
	0.7nm,0.8s,baz=90,slow=4.0,SNR=4.9						

WEL 02 19:56:42.7±0.1**, 37.16S**×**176.66E, h231**^{km}±1^{km}**, ML3.5**/10**, Error ellipse: s-maj=2.7km s-min=1.8km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.16**	**162**	PN	P	19 57 16.7	-0.2
URZ				SN	S	19 57 43.3	-0.1
URZ				SN	S	19 57 43.6	+0.1
MWZ	**Matawai**	**1.36**	**150**	PN	P	19 57 18.3	-0.1
MWZ				SN	S	19 57 45.7	-0.5
MXZ	**Matakaoa Point**	**1.37**	**108**	PN	P	19 57 18.2	-0.3
MXZ				SN	S	19 57 45.7	-0.5
PUZ	**Puketiti**	**1.56**	**126**	PN	P	19 57 19.7	-0.4
PUZ				SN	S	19 57 47.8	-1.1
BKZ	**Black Stump Fm**	**2.01**	**184**	PN	P	19 57 23.7	-0.3
BKZ				SN	S	19 57 55.6	-0.3
KNZ	**Kokohu**	**2.02**	**157**	PN	P	19 57 24.0	-0.2
KNZ				SN	S	19 57 55.0	-1.2
TSZ	**Takapari Road**	**2.95**	**191**	PN	P	19 57 33.0	-0.9
MRZ	**Mangatainoka R**	**3.60**	**193**	PN	P	19 57 39.6	-1.9
MRZ				SN	S	19 58 24.0	-3.0
KIW	**Kapiti Island**	**3.94**	**200**	PN	P	19 57 43.6	-1.9
KIW				*e*SN	S	19 58 30.7	-3.5
MTW	**Mount Morrison**	**4.10**	**192**	PN	P	19 57 44.6	-2.8
CAW	**Cannon Point**	**4.13**	**197**	PN	P	19 57 45.7	-2.2
NNZ	**Nelson**	**4.79**	**211**	PN	P	19 57 53.6	-2.3
NNZ				SN	S	19 58 49.3	-3.6
QRZ	**Quartz Range**	**4.88**	**220**	PN	P	19 57 54.4	-2.6
THZ	**Tophouse**	**5.44**	**211**	PN	P	19 58 02.1	-1.9
THZ				SN	S	19 59 03.9	-3.6
KHZ	**Kahutara**	**5.78**	**204**	PN	P	19 58 05.5	-2.8
LTZ	**Lake Taylor**	**6.55**	**210**	PN	P	19 58 15.1	-3.1
MQZ	**McQueen's Vall**	**7.22**	**204**	SN	S	19 59 40.0	-8.1

*CSEM **02** 20:19:11.7±0.1, 34.89N×3.87W, h2^{km}, ML2.5/1, Error ellipse: s-maj=4.3km s-min=3.3km az=110.0*
*CNRM **02** 20:19:12.3, 34.94N×3.91W, h6^{km}, MD3.0*
*MDD **02** 20:19:13.3±0.5, 34.97N×3.89W, mb3.2/8, Error ellipse: s-maj=4.9km s-min=3.4km az=43.0, PRXIMO*
*NEIC **02** 20:19:16.1, 35.16N×3.87W, MG3.1(MDD), After MDD.*
ISC 02 20:19:12.7±0.7**, 35.01N**±0.03×**3.95W**±0.04**, h12**^{km}±4^{km}**, n30,** σ**1^{s}26**/50**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.17**	**106**	P	**Pg**	**20 19 15.0**	**-1.6**
TOU				S	**Sg**	**20 19 17.0**	**-2.2**
TOU	**Touzarine**	**0.17**	**106**	*i* P	**Pg**	**20 19 15.0**	**-1.6**
MPAL	**Palemas**	**0.22**	**1**	P	**Pg**	**20 19 17.5**	**0.0**
MPAL				S	**Sg**	**20 19 21.5**	**+0.8**
MPAL	**Palemas**	**0.22**	**1**	*i* P	**Pg**	**20 19 17.5**	**0.0**
EMEL	**Melilla**	**0.86**	**70**	P	**Pb**	**20 19 29.3**	**+0.2**
	64nm,0.1s,SNR=5.5						
EMEL				S	**Sb**	**20 19 40.8**	**+0.4**
	227nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.87**	**70**	P	**Pb**	**20 19 29.3**	**+0.1**
	134nm,0.2s,SNR=5.5						
EMLI				S	**Sb**	**20 19 40.8**	**+0.3**
	227nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**0.94**	**192**	*i* P	**Pb**	**20 19 30.0**	**-0.4**
TZK				*i* S	**Sb**	**20 19 43.0**	**+0.4**
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**20 19 44.5**	**+2.1**
EMIJ				S	**Sn**	**20 20 03.7**	**-0.4**
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**20 19 43.6**	**+1.2**
	1.5nm,0.3s,SNR=5.6						
EMIJ				S	**Sn**	**20 20 03.7**	**-0.4**
	2.6nm,0.2s						
EMIJ	**Mijas**	**1.69**	**337**	P	**Pn**	**20 19 44.5**	**+2.1**
	0.9nm,0.1s,SNR=5.6						
EMIJ				S	**Sn**	**20 20 03.7**	**-0.4**
	2.6nm,0.2s						
EBER	**Berja**	**2.07**	**24**	P	**Pn**	**20 19 48.1**	**+0.3**
	1.1nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**20 20 11.7**	**-2.1**
	6.6nm,0.4s,SNR=7.9						
EBER	**Berja**	**2.07**	**24**	P	**Pn**	**20 19 48.1**	**+0.3**
	1.8nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.42**	**321**	P	**Pn**	**20 19 54.8**	**+2.0**
ESPR				S	**Sn**	**20 20 20.4**	**-2.1**
ESPR	**Espera**	**2.42**	**321**	P	**Pn**	**20 19 54.3**	**+1.6**
	0.7nm,0.2s,SNR=4.0						
ESPR				S	**Sn**	**20 20 23.2**	**+0.7**
	1.8nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.42**	**321**	P	**Pn**	**20 19 54.8**	**+2.0**
EQES	**Quesada**	**2.88**	**14**	P	**Pn**	**20 20 00.9**	**+1.6**
EQES				S	**Sn**	**20 20 35.8**	**+1.6**
EQES	**Quesada**	**2.88**	**14**	P	**Pn**	**20 20 00.1**	**+0.8**
	0.5nm,0.1s,SNR=6.1						
EQES				S	**Sn**	**20 20 35.3**	**+1.2**
	2.0nm,0.3s						
EQES	**Quesada**	**2.88**	**14**	P	**Pn**	**20 20 00.9**	**+1.6**
	0.3nm,0.1s,SNR=6.1						
EQES				S	**Sn**	**20 20 35.8**	**+1.6**
	2.0nm,0.3s						
EADA	**Adamuz**	**3.19**	**351**	P	**Pn**	**20 20 05.1**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
EADA				S	**Sn**	**20 20 40.9**	**-1.2**
	0.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.19**	**351**	P	**Pn**	**20 20 05.1**	**+1.3**
	0.2nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**20 20 09.0**	**+0.6**
EMIN				S	**Sn**	**20 20 47.8**	**-2.7**
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**20 20 09.0**	**+0.6**
	0.6nm,0.2s,SNR=6.9						
EMIN				S	**Sn**	**20 20 48.9**	**-1.6**
	0.2nm,0.1s						
EMIN	**Mina Concepcio**	**3.52**	**322**	P	**Pn**	**20 20 09.0**	**+0.5**
	0.3nm,0.1s,SNR=6.9						
PALC	**Alcoutim**	**3.76**	**312**	*e*Pn	**Pn**	**20 20 13.0**	**+1.1**
PALC				*e*Sn	**Sn**	**20 20 56.0**	**-0.6**
	1.6nm,0.4s						
PALC	**Alcoutim**	**3.76**	**312**	*e*Pn	**Pn**	**20 20 13.0**	**+1.1**
PALC				*e*Sn	**Sn**	**20 20 56.0**	**-0.6**
	1.6nm,0.4s						
ETOB	**Tobarra**	**4.11**	**27**	P	**Pn**	**20 20 17.6**	**+0.8**
	1.0nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.11**	**27**	P	**Pn**	**20 20 17.9**	**+1.1**
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**20 20 22.3**	**+0.3**
	0.7nm,0.4s,SNR=7.9						
EBAD				S	**Sn**	**20 21 12.0**	**-2.6**
	1.6nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**328**	P	**Pn**	**20 20 22.3**	**+0.3**
MTE	**Manteigas**	**6.09**	**333**	*e*Sn	**Sn**	**20 21 52.3**	**-2.9**

*NEIC **02** 21:00:15.8±0.5, 45.10N×106.80W, ML3.4, Error ellipse: s-maj=6.9km s-min=5.3km az=129.0, Suspected Mining explosion.*
NEIC 35 km [25 miles] NNE of Sheridan.
*IDC **02** 21:00:15.6±1.1, 44.81N×106.73W, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=40.5km s-min=8.4km az=136.0*
ISC 02 21:00:14.1±0.6**, 45.08N**±0.05×**106.74W**±0.08**, n37,** σ**1^{s}26**/36**, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LAO	**LASA Array**	**1.65**	**13**	*e*P	**Pn**	**21 00 45.8**	**+1.3**
LKWY	**Lake**	**2.65**	**260**	*e*P	**Pn**	**21 00 59.8**	**+0.9**
YNR	**Norris Junctio**	**2.82**	**264**	*e*P	**Pn**	**21 01 02.9**	**+1.7**
YFT	**Old Faithful**	**2.98**	**259**	*e*P	**Pn**	**21 01 07.9**	**+4.3**
YMR	**Madison River**	**3.03**	**264**	*e*P	**Pn**	**21 01 04.7**	**+0.4**
BW06	**Boulder Array**	**3.08**	**222**	*e*P	**Pn**	**21 01 05.2**	**+0.3**
PDAR	**Pinedale Array**	**3.08**	**222**	Pn	**Pn**	**21 01 05.7**	**+0.8**
	9.0nm,0.3s,baz=53,slow=17,SNR=169						
PDAR				Lg		21 01 46.0	
	33nm,0.3s,baz=45,slow=32,SNR=29						
LOHW	**Long Hollow**	**3.13**	**243**	*e*P	**Pn**	**21 01 08.0**	**+2.2**
MOOW	**Moose Ponds**	**3.16**	**247**	*e*P	**Pn**	**21 01 05.5**	**-0.6**
IMW	**Indian Meadow**	**3.23**	**250**	*e*P	**Pn**	**21 01 06.8**	**-0.3**
WUWY	**Wally Ulrich**	**3.26**	**243**	P	**Pn**	**21 01 08.1**	**+0.6**
SNOW	**Snow King Moun**	**3.30**	**242**	*e*P	**Pn**	**21 01 09.3**	**+1.2**
QLMT	**Earthquake Lak**	**3.34**	**267**	*e*P	**Pn**	**21 01 08.7**	**+0.1**
TPAW	**Teton Pass**	**3.41**	**244**	*e*P	**Pn**	**21 01 11.4**	**+1.7**
BOZ	**Bozeman (W)**	**3.49**	**281**	*e*P	**Pn**	**21 01 09.3**	**-1.5**
RRI2	**Red Ridge**	**3.72**	**244**	*e*P	**Pn**	**21 01 13.6**	**-0.4**
DGMT	**Dagmar**	**3.82**	**26**	*e*P	**Pn**	**21 01 16.4**	**+1.0**
PHWY	**Pilot Hill**	**3.89**	**166**	*e*P	**Pn**	**21 01 16.8**	**+0.4**
AHID	**Auburn Hatcher**	**3.91**	**235**	*e*P	**Pn**	**21 01 20.9**	**+4.2**
MCMT	**McKenzie Canyo**	**4.34**	**269**	*e*P	**Pn**	**21 01 18.3**	**-4.6**
CHMT	**Chamberlain Mo**	**4.89**	**294**	*e*P	**Pn**	**21 01 29.4**	**-1.4**
HWUT	**Hardware Ranch**	**4.94**	**227**	*e*P	**Pn**	**21 01 29.7**	**-1.7**
TCUT	**Toone Canyon**	**5.23**	**222**	*e*P	**Pn**	**21 01 31.9**	**-3.6**
MSO	**Missoula**	**5.32**	**292**	*e*P	**Pn**	**21 01 35.2**	**-1.5**
	8.9nm,0.8s						
ISCO	**Idaho Springs**	**5.34**	**171**	*e*P	**Pn**	**21 01 37.3**	**+0.3**
	12nm,0.8s						
HVU	**Hansel Valley**	**5.49**	**235**	*e*P	**Pn**	**21 01 38.1**	**-1.0**
SPUT	**South Promonto**	**5.62**	**230**	P	**Pn**	**21 01 37.4**	**-3.5**
JLU	**Jordanelle**	**5.66**	**219**	P	**Pn**	**21 01 40.4**	**-1.0**
HLID	**Hailey**	**5.71**	**257**	P	**Pn**	**21 01 37.8**	**-4.4**
	6.4nm,0.8s						
DAU	**Daniels Canyon**	**5.73**	**217**	*e*P	**Pn**	**21 01 44.2**	**+1.8**
WALA	**Waterton Lakes**	**6.31**	**312**	*e*P	**Pn**	**21 01 46.9**	**-3.8**
	5.3nm,0.5s						
SRU	**San Rafael**	**6.59**	**207**	*e*P	**Pn**	**21 01 52.3**	**-2.4**
PV01	**Paradox Valley**	**7.07**	**192**	*e*P	**Pn**	**21 02 00.9**	**-0.5**
ELK	**Elko**	**7.59**	**238**	Pn	**Pn**	**21 02 14.5**	**+5.8**
	0.1nm,0.3s,baz=47,slow=7.6,SNR=6.1						
ELK				Lg		21 04 14.0	
	0.1nm,0.3s,baz=145,slow=18,SNR=2.8						
NEW	**Newport**	**7.82**	**298**	Lg		21 04 19.8	
	0.6nm,0.3s,baz=36,slow=6.6,SNR=5.6						
ULM	**Lac du Bonnet**	**8.97**	**51**	Pn	**P**	**21 02 26.6**	**-1.4**
	1.2nm,0.3s,baz=235,slow=11,SNR=7.6						
ULM				Lg		21 04 57.0	
	0.7nm,0.3s,baz=147,slow=16,SNR=3.9						
YKA	**Yellowknife Ar**	**18.03**	**348**	P	**P**	**21 04 32.4**	**+5.0**
	0.1nm,0.3s,baz=161,slow=13,SNR=4.0						

IDC 02 21:33:08.3±2.7**, 5.38N**×**77.31W, h100**^{km}±25^{km}**, mb3.1**/1**, mb1 3.5**/4**, mb1mx3.1**/20**, mbtmp3.8**/4**, Error ellipse: s-maj=44.4km s-min=27.5km az=28.0, Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.01**	**100**	P	P	21 33 55.3	0.0
	2.3nm,0.3s,baz=89,slow=23,SNR=3.7						
SDV	**Santo Domingo**	**7.48**	**62**	P	P	21 34 54.3	-2.1
	0.6nm,0.3s,baz=282,slow=8.9,SNR=3.1						
JTS	**JuntasAbangare**	**9.01**	**303**	P	P	21 35 15.1	-1.9
	3.4nm,0.3s,baz=320,slow=19,SNR=7.9						
YKA	**Yellowknife Ar**	**63.24**	**342**	P	P	21 43 26.2	-2.1
	0.3nm,0.7s,baz=129,slow=7.0,SNR=12						
ASAR	**Alice Springs**	**144.88**	**236**	PKP	PKPdf	21 52 32.8	-1.7
	0.7nm,0.5s,baz=121,slow=3.9,SNR=10						
WRA	**Warramunga Arr**	**146.00**	**242**	PKPbc	PKPbc	21 52 36.9	-0.6
	0.4nm,0.6s,baz=97,slow=2.7,SNR=9.6						

*PGC **02** 21:37:34.8, 47.94N×128.88W, h10^{km}, MLSn2.6/2, MLSn2.6/1, Northern Juan de Fuca ridge.*
*IDC **02** 21:37:37.1±2.8, 48.08N×128.82W, mb1 3.7/5, mb1mx3.4/21, mbtmp3.4/5, ML3.1/4, Error ellipse: s-maj=69.2km s-min=17.4km az=72.0*
*NEIC **02** 21:37:39.9±1.3, 48.27N×128.50W, h10^{km}, mb3.6/1, Error ellipse: s-maj=23.6km s-min=10.9km az=68.0*
ISC 02 21:37:36.9±0.9**, 48.20N**±0.06×**128.60W**±0.09**, h10**^{km}**, n26,** σ**0^{s}65**/29**, 1C, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OZB	**Mount Ozzard**	**2.20**	**69**	Pn	**Pn**	**21 38 12.8**	**-1.3**
OZB				Sn	**Sn**	**21 38 41.5**	**-0.1**
OZB				Trac		21 38 44.2	
	comp=Z,11nm,0.2s						
GDR	**Gold River**	**2.32**	**46**	Pn	**Pn**	**21 38 15.9**	**+0.1**
WOSB	**Woss**	**2.38**	**33**	Pn	**Pn**	**21 38 16.8**	**+0.2**
MAYB	**Maynard**	**2.40**	**22**	⇑Pn	**Pn**	**21 38 16.5**	**-0.4**
BTB	**Buttle Lake**	**2.40**	**57**	Pn	**Pn**	**21 38 17.1**	**+0.1**
BTB				Sn	**Sn**	**21 38 47.1**	**+0.4**
	comp=Z,15nm,0.5s						
BTB				Trac		21 38 55.1	
	comp=Z,15nm,0.5s						
HOLB	**Holberg**	**2.47**	**7**	Pn	**Pn**	**21 38 17.7**	**-0.2**
MGB	**Mount Grey**	**2.72**	**71**	Pn	**Pn**	**21 38 20.8**	**-0.6**
MGB				Sn	**Sn**	**21 38 55.3**	**+0.6**
	comp=Z,6.0nm,0.4s						
MGB				Trac		21 38 57.4	
	comp=Z,6.0nm,0.4s						
NCRB	**Newcastle Ridg**	**2.77**	**36**	Pn	**Pn**	**21 38 22.5**	**+0.3**
PFB	**Port Renfrew**	**2.80**	**81**	Pn	**Pn**	**21 38 21.2**	**-1.4**
CBB	**Campbell River**	**2.81**	**48**	Pn	**Pn**	**21 38 23.3**	**+0.5**
TXB	**Texada**	**3.13**	**60**	Pn	**Pn**	**21 38 27.6**	**+0.3**
LZB	**Mount Lazard**	**3.21**	**81**	Pn	**Pn**	**21 38 27.7**	**-0.8**
LZB				Trac		21 39 10.4	
	comp=Z,1.0nm,0.3s						
SHB	**Sechelt**	**3.42**	**64**	Pn	**Pn**	**21 38 31.0**	**-0.4**
PGC	**Sidney**	**3.46**	**81**	*e*P	**Pn**	**21 38 31.5**	**-0.5**
SNB	**Saturna Island**	**3.66**	**79**	Pn	**Pn**	**21 38 34.7**	**-0.1**
BIB	**Bowen Island**	**3.70**	**69**	Pn	**Pn**	**21 38 35.5**	**0.0**
WPB	**Watts Point**	**3.84**	**66**	Pn	**Pn**	**21 38 37.9**	**+0.4**
BBB	**Bella Bella**	**4.01**	**4**	Pn	**Pn**	**21 38 39.0**	**-0.8**
	16nm,0.3s,baz=199,slow=12,SNR=98						
BBB	**Bella Bella**	**4.01**	**4**	Pn	**Pn**	**21 38 39.0**	**-0.8**
WSLR	**Whistler**	**4.20**	**60**	Pn	**Pn**	**21 38 42.9**	**+0.4**
LLLB	**Lillooet**	**5.01**	**59**	Pn	**Pn**	**21 38 54.2**	**+0.2**
YBH	**Yreka Blue Hor**	**7.69**	**145**	Pn	**Pn**	**21 39 31.6**	**-0.2**
	0.1nm,0.3s,baz=6.9,slow=16,SNR=4.3						
NVAR	**Mina Array Bea**	**12.30**	**139**	Pn	**P**	**21 40 36.1**	**+1.2**
	0.1nm,0.3s,baz=328,slow=13,SNR=4.6						
YKA	**Yellowknife Ar**	**16.33**	**24**	Pn	**P**	**21 41 27.7**	**+0.2**
	0.0nm,0.3s,baz=212,slow=11,SNR=11						
FFC	**Flin Flon**	**17.76**	**58**	*e*P	**P**	**21 41 47.4**	**+1.8**
	4.0nm,0.7s						
ILAR	**Eielson Array**	**19.31**	**336**	P	**P**	**21 42 04.8**	**+0.4**
	0.0nm,0.3s,baz=150,slow=9.8,SNR=5.8						

*BJI **02** 21:54:07.5, 6.43S×101.61E, h28^{km}, mB5.1, mb5.0, Ms5.2, Msz4.9*
*IDC **02** 21:54:11.6±0.6, 5.67S×101.46E, mb4.5/17, mb1 4.6/17, mb1mx4.6/20, mbtmp4.5/17, MS4.3/10, Ms1 4.3/10, ms1mx4.0/20, Error ellipse: s-maj=24.7km s-min=13.4km az=45.0*
*DJA **02** 21:54:15.6±0.9, 5.18S×101.87E, h7^{km}±10^{km}, ML5.8/9, Error ellipse: s-maj=28.0km s-min=6.0km az=45.0*
*NEIC **02** 21:54:16.1±0.3, 5.62S×101.54E, mb5.1/20, Error ellipse: s-maj=11.6km s-min=6.0km az=52.0*
*HRVD **02** 21:54:16.1±1.5, 5.89S×101.36E, h29^{km}±2^{km}, MW5.0/26, Centroid moment Tensor Solution. LP body waves: s12,c15;Mantle waves: s26,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.72±.64; $M_{\theta\theta}$-2.16±.37; $M_{\phi\phi}$-2.56±.57; $M_{r\theta}$1.57±.52; $M_{\theta\phi}$0.66±.21; $M_{\phi r}$-1.95±.78; Best double couple: $M_0$4.621×10^{16} NP1:ϕ_s323°,δ29°,λ91°. NP2:ϕ_s142°,δ61°,λ89°. Principal axes: T 5.457, Plg74°, Azm51°; N -1.671, Plg1°, Azm142°; P -3.786, Plg16°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2*

refers to surface waves, cutoff=50s.

*MOS **02** 21:54:20.6±1.9, 5.27S×101.91E, h65km, mb5.0/14, MS4.5/6 Error ellipse: s-maj=25.0km s-min=10.3km az=92.8*

ISC 02 21:54:14.7±0.4**, 5.59S**±0.05×**101.56E**±0.04**, h31km, h31km**±2.7km**: pP-P, n139, σ1s14**/138**, mb4.9**/61**, MS4.6**/29**, 15C-13D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	2.18	28	eP	Pn	21 54 46.5	-3.1
PENI	Pendagan	3.59	90	ePn	Pn	21 55 09.5	-0.2
	5μm,0.6s						
PENI				eS	Sn	21 55 46.4	-5.2
PULI	Pulasari	4.46	100	⇑ePn	Pn	21 55 20.9	-1.1
	628nm,0.8s						
PULI				eS	Sn	21 56 14.9	+1.5
PPI	Padang Panjang	5.22	347	eP	Pn	21 55 31.0	-1.8
COCO	West Island	8.05	215	Pn	P	21 56 07.1	-5.4
	1μm,0.8s,SNR=16						
IPM	Ipoh	10.11	357	P	P	21 56 39.3	-1.7
KULM	Kulim	10.84	355	eP	P	21 56 47.9	-3.1
SNG	Songkhla	12.71	356	P	P	21 57 12.0	-4.2
SRDI	Scrawed	12.81	104	⇓iPn	P	21 57 18.0	+0.4
	105nm,0.8s						
KELI	Kelakatan	13.10	102	⇑ePn	P	21 57 21.4	0.0
	64nm,0.6s						
RATI	Rata	14.21	103	⇑iPn	P	21 57 33.2	-2.9
	169nm,0.2s						
RATI				⇓iS	S	22 00 01.4	-12
KEDI	Kedomdong	14.73	102	⇑ePn	P	21 57 41.2	-1.7
	103nm,0.6s						
KEDI	Kedomdong	14.73	102	⇑iP	P	21 57 47.8	+4.9
KEDI				⇓iS	S	22 00 12.1	-14
TANI	Tanete Lipujan	17.90	84	⇑iPn	P	21 58 21.9	-1.3
	36nm,1.0s						
NINI	Niniconang	18.16	87	⇓iPn	P	21 58 26.3	-0.3
	224nm,0.9s						
KKM	Kota Kinabalu	18.64	52	eP	P	21 58 33.2	+0.9
KKM	Kota Kinabalu	18.64	52	P	P	21 58 32.5	+0.1
BUNI	Buntu Taipa	18.80	85	⇓iPn	P	21 58 35.4	+1.1
	22nm,0.5s						
TSM	Tawau	19.02	59	P	P	21 58 39.1	+2.2
NST	Nakhon Sawan	21.17	356	P	P	21 58 59.0	-0.8
KKTK	Khon Kaen	21.82	3	P	P	21 59 06.0	-0.3
CM31	Chiang Mai Arr	24.03	354	eP	P	21 59 28.4	+0.3
	72nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	24.03	354	i P	P	21 59 28.5	+0.4
CMAR				pmax	pmax		
	comp=Z,32nm,1.1s						
CMAR	Chiang Mai Arr	24.03	354	P	P	21 59 28.5	+0.4
	comp=Z,32nm,1.1s,mb4.7,baz=186,slow=8.4,SNR=84						
CMAR				LR	LR	22 10 50.1	
	comp=Z,658nm,20.2s,MS4.1,baz=180,slow=41						
NANT	Nan	24.25	358	P	P	21 59 29.0	-1.2
CHRT	Chiangrai	25.36	356	⇑P	P	21 59 41.0	+0.2
	comp=Z,263nm,0.8s,mb5.8						
QIZ	Qiongzhong	25.78	18	P	P	21 59 47.6	+2.8
QIZ				S	S	22 04 19.3	+10
QIZ				LR	LR		
	comp=N,1μm,12.9s,MS4.8						
QIZ				LR	LR		
	comp=E,2μm,15.5s,MS4.8						
QIZ				LR	LR		
	comp=Z,1μm,13.7s,MS4.6						
FITZ	Fitzroy Crossi	26.60	120	eP	P	21 59 52.3	-0.1
	comp=Z,34nm,0.8s,mb4.9						
FITZ				e	pP	22 00 00.9	-0.7
MDRS	Chennai	28.14	311	eS	S	22 04 50.0	+2.1
MDRS				e		22 07 40.0	
VIS	Vishakhapatnam	29.33	323	eP	P	22 00 15.5	-1.6
KMI	Kunming	30.54	2	P	P	22 00 29.0	+1.2
KMI				AP	pP	22 00 36.7	-0.4
KMI				XP	sP	22 00 40.0	-1.2
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,243nm,3.9s						
KMI				LR	LR		
	comp=N,1μm,12.4s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,13.2s,MS5.1						
KMI				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
KMI	Kunming	30.54	2	P	P	22 00 29.0	+1.2
	comp=Z,20nm,1.3s,mb4.8						
KMI				pP	pP	22 00 36.7	-0.4
KMI				sP	sP	22 00 40.0	-1.2
KMI				PP	PP	22 01 37.3	+9.1
KMI				S	S	22 05 40.9	+15
KMI				sS		22 05 54.1	
KMI				SS	SS	22 07 36.7	+29
KMI				SSS	SSS	22 08 00.6	+31
KMI				LR	LR		
	comp=Z,1μm,14.0s,MS4.8						
GYA	Guiyang	32.23	9	⇑iP	P	22 00 43.3	+0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,4.6s						
GYA				LR	LR		
	comp=N,2μm,14.4s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,12.3s,MS5.1						
GYA				LR	LR		
	comp=Z,2μm,14.1s,MS4.9						
WRA	Warramunga Arr	34.91	117	P	P	22 01 05.5	-0.4
	comp=Z,8.8nm,0.9s,mb4.7,baz=290,slow=10,SNR=31						
WRAB	Tennant Creek	34.92	117	⇓eP	P	22 01 06.3	+0.4
WRAB	Tennant Creek	34.92	117	eP	P	22 01 05.7	-0.2
	comp=Z,14nm,0.6s,mb5.0						
WB2	Warramunga Arr	34.92	117	eP	P	22 01 05.6	-0.4
ASPA	Alice Springs	35.94	123	eP	P	22 01 15.0	+0.4
ASAR	Alice Springs	35.95	123	P	P	22 01 14.7	+0.1
	comp=Z,5.1nm,1.0s,mb4.4,baz=296,slow=7.7,SNR=28						
JIRN	Jiri	36.23	337	eP	P	22 01 17.7	+0.7
	comp=Z,52nm,0.5s,mb5.7						
CD2	Chengdu	36.35	3	P	P	22 01 17.4	-0.5
CD2				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
ENH	Enshi	36.45	12	eP	P	22 01 18.4	-0.4
	comp=Z,26nm,0.8s,mb5.2						
PKI	Pulchoki	36.47	335	eP	P	22 01 20.1	+1.1
	comp=Z,14nm,0.6s,mb5.1						
LSA	Lhasa	36.48	345	P	P	22 01 20.2	+1.2
LSA				AP	pP	22 01 32.2	+3.8
LSA				PP	PP	22 02 44.3	+1.0
LSA				PCP	PcP	22 03 41.2	-1.6
LSA				S	S	22 06 58.1	-0.2
LSA				PCS		22 07 29.0	
LSA				SCS	ScS	22 11 30.5	-0.2
LSA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
LSA				AMB	AMB		
	comp=Z,120nm,5.2s						
LSA				LR	LR		
	comp=N,230nm,22.8s						
LSA				LR	LR		
	comp=E,260nm,16.0s						
LSA				LR	LR		
	comp=Z,410nm,24.0s,MS4.1						
LSA	Lhasa	36.48	345	eP	P	22 01 19.9	+0.9
	comp=Z,23nm,0.9s,mb5.1						
DMN	Daman	36.63	335	eP	P	22 01 20.7	+0.4
	comp=Z,24nm,0.8s,mb5.1						
KKN	Kakani	36.72	335	eP	P	22 01 21.3	+0.3
	comp=Z,26nm,0.6s,mb5.2						
GKN	Gorkha	37.17	335	eP	P	22 01 25.3	+0.4
	comp=Z,77nm,1.2s,mb5.4						
KOLN	Koldanda	37.42	333	eP	P	22 01 27.3	+0.3
	comp=Z,132nm,1.3s,mb5.6						
WHN	Wuhan	37.95	18	eP	P	22 01 32.5	+1.1
XAN	Xi'an	40.02	10	P	P	22 01 48.6	0.0
XAN				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.3						
XAN				LR	LR		
	comp=N,628nm,17.6s						
XAN				LR	LR		
	comp=E,2μm,12.4s						
XAN				LR	LR		
	comp=Z,2μm,12.7s,MS5.2						
LGTI	Lohaghat	40.41	331	e	P	22 02 00.0	+8.2
PTH	Pithoragarh	40.50	331	e	P	22 02 00.3	+7.7
NJ2	Nanjing	40.89	23	eP	P	22 01 54.5	-1.3
NJ2				AP	pP	22 02 07.4	+2.2
NJ2				XP	sP	22 02 11.6	+2.5
NJ2				PP	PP	22 03 36.4	+3.3
NJ2				S	S	22 08 09.0	+4.0
NJ2				XS		22 08 26.0	
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,950nm,4.6s						
NJ2				LR	LR		
	comp=N,2μm,18.4s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,19.1s,MS5.3						
NJ2				LR	LR		
	comp=Z,3μm,19.4s,MS5.2						
SSE	Sheshan	41.02	26	P	P	22 01 57.1	+0.3
SSE				XP	sP	22 02 09.8	-0.3
SSE				S	S	22 08 09.2	+2.4
SSE				XS		22 08 24.5	
SSE				SS	SS	22 11 14.5	+9.4
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,196nm,4.1s						
SSE				LR	LR		
	comp=N,316nm,14.3s,MS4.4						
SSE				LR	LR		
	comp=E,197nm,14.3s,MS4.4						
SSE				LR	LR		
	comp=Z,330nm,16.2s,MS4.3						
SSE	Sheshan	41.02	26	P	P	22 01 57.1	+0.3
	comp=Z,48nm,0.7s,mb5.2						
SSE				sP	sP	22 02 09.8	-0.3
SSE				S	S	22 08 09.2	+2.4
SSE				sS		22 08 24.5	
SSE				SS	SS	22 11 14.5	+9.4
SSE				LR	LR		
	comp=Z,330nm,16.2s,MS4.3						
JOW	Kunigami	41.32	37	LR	LR	22 18 36.1	
	comp=Z,230nm,18.5s,MS4.1,baz=190,slow=35						
LZH	Lanzhou	41.51	3	⇑P	P	22 02 01.6	+0.8
LZH				AP	pP	22 02 15.6	+5.3
LZH				PP	PP	22 03 38.5	-1.2
LZH				AMB	AMB		
	comp=Z,53nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,187nm,6.2s						
LZH				LR	LR		
	comp=N,2μm,14.2s						
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS5.2						
LZH	Lanzhou	41.51	3	⇑P	P	22 02 01.6	+0.8
	comp=Z,53nm,1.5s,mb5.0						
LZH				pP	pP	22 02 15.6	+5.3
LZH				sP	sP	22 02 20.5	+6.3
LZH				PP	PP	22 03 38.5	-1.2
LZH				eS	S	22 08 06.1	-8.0
LZH				sS		22 08 28.5	
LZH				SS	SS	22 11 03.6	-11
LZH				LR	LR		
	comp=Z,3μm,16.8s,MS5.2						
DDI	Dehra Dun	42.21	329	eP	P	22 02 07.0	+0.3
GTA	Gaotai	44.80	358	P	P	22 02 28.2	+0.6
GTA				AP	pP	22 02 35.5	-1.5
GTA				XP	sP	22 02 38.3	-2.6
GTA				PCP	PcP	22 04 07.8	-1.8
GTA				PP	PP	22 04 14.8	+1.7
GTA				PPP	PPP	22 04 56.8	+3.4
GTA				S	S	22 09 05.6	+3.5
GTA				XS		22 09 20.9	
GTA				SS	SS	22 12 21.8	+7.3
GTA				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.4						
GTA				AMB	AMB		
	comp=Z,184nm,8.4s						
GTA				LR	LR		
	comp=N,1μm,14.5s,MS5.1						
GTA				LR	LR		
	comp=E,2μm,14.5s,MS5.1						
GTA				LR	LR		
	comp=Z,1μm,14.1s,MS5.0						
PMG	Port Moresby	45.34	98	P	P	22 02 31.7	-0.5
	comp=Z,17nm,0.8s,mb5.0,baz=242,slow=6.4,SNR=6.7						
STKA	Stephens Creek	45.64	130	eP	P	22 02 34.1	-0.3
	comp=Z,4.1nm,0.6s,mb4.5						
STKA				e	pP	22 02 42.9	-0.9
STKA	Stephens Creek	45.64	130	P	P	22 02 34.5	+0.1
	comp=Z,3.4nm,0.7s,mb4.4,baz=283,slow=14,SNR=8.7						
STKA				LR	LR	22 21 28.2	
	comp=Z,393nm,19.3s,MS4.4,baz=128,slow=36						
CTA	Charters Tower	45.73	113	P	P	22 02 35.3	+0.1
	comp=Z,7.4nm,0.8s,mb4.7,baz=296,slow=5.9,SNR=3.5						
CTA				LR	LR	22 23 01.0	
	comp=Z,191nm,18.7s,MS4.1,baz=67,slow=38						
BTO	Baotou	46.62	9	eP	P	22 02 42.1	+0.2
HHC	Hu-ho-hao-te	47.11	10	eP	P	22 02 47.1	+1.2
HHC				AP	pP	22 02 54.9	-0.5
HHC				XP	sP	22 02 59.7	+0.5
HHC				SCS	ScS	22 12 39.1	+4.2
HHC				AMB	AMB		
	comp=Z,263nm,4.6s						
HHC				LR	LR		
	comp=N,2μm,13.7s,MS5.3						
HHC				LR	LR		
	comp=E,2μm,16.0s,MS5.3						
HHC				LR	LR		
	comp=Z,2μm,15.5s,MS5.1						
BJT	Baijiatuau	47.33	15	eP	P	22 02 48.2	+0.5
	comp=Z,23nm,0.8s,mb5.2						
BJI	Beijing	47.35	15	eP	P	22 02 48.0	+0.2
BJI				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.2						
BJI				LR	LR		
	comp=N,2μm,14.5s,MS5.2						
BJI				LR	LR		
	comp=E,784nm,14.5s,MS5.2						
BJI				LR	LR		
	comp=Z,842nm,16.4s,MS4.8						
BJI	Beijing	47.35	15	eP	P	22 02 48.0	+0.2
	comp=Z,18nm,0.6s,mb5.2						
BJI				S	S	22 09 52.3	+14
BJI				SS	SS	22 13 24.6	+25
BJI				LR	LR		
	comp=Z,840nm,16.4s,MS4.8						
WMQ	Urumqi	50.75	347	⇑iP	P	22 03 14.3	+0.4
WMQ				AP	pP	22 03 24.0	+0.5
WMQ				XP	sP	22 03 28.0	+0.8
WMQ				AMB	AMB		
	comp=Z,28nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,179nm,4.0s						
WMQ				LR	LR		
	comp=N,149nm,20.4s,MS4.2						
WMQ				LR	LR		
	comp=E,152nm,19.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,124nm,18.9s,MS4.0						
SONM	Songino Array	53.36	4	P	P	22 03 34.0	+0.6
	comp=Z,12nm,0.7s,mb4.9,baz=184,slow=9.6,SNR=64						
ULN	Ulaanbaatar	53.44	5	⇑eP	P	22 03 34.6	+0.6
ULN	Ulaanbaatar	53.44	5	eP	P	22 03 34.1	+0.1
	comp=Z,32nm,1.2s,mb5.1						
CN2	Changchun	53.68	21	eP	P	22 03 34.9	-0.9
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,700nm,13.0s,MS5.0						
CN2				LR	LR		
	comp=E,700nm,13.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,15.0s,MS4.9						
AAK	Ala-Archa	53.92	335	⇓eP	P	22 03 36.8	-0.8
AAK				pmax	pmax		
	comp=Z,12nm,2.5s,mb4.4						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.3						
AAK	Ala-Archa	53.92	335	eP	P	22 03 36.1	-1.5
	comp=Z,2.3nm,0.6s,mb4.3						
FRU	Bishkek	54.04	336	eP	P	22 03 43.0	+4.5
MKAR	Makanchi Array	54.88	344	i P	P	22 03 43.2	-1.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ZAK	Zakamensk	55.76	1	eP	P	22 03 50.8	-0.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MDJ	Mudanjiang	55.96	24	P	P	22 03 53.4	+1.0
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,53nm,5.0s						
HIA	Hailar	56.88	14	eP	P	22 03 55.6	-3.3
	comp=Z,14nm,1.3s,mb4.8						
MOY	Mondy	57.03	360	eP	P	22 03 59.9	-0.1
MOY				pmax	pmax		
	comp=Z,28nm,3.2s						
TLY	Talaya	57.07	2	P	P	22 04 00.1	-0.2
	comp=Z,64nm,1.0s,mb5.6,SNR=9.7						
TLY	Talaya	57.07	2	eP	P	22 04 00.4	+0.1
TLY				e		22 07 25.4	
TLY				eS	S	22 11 41.4	-10
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
TLY				MLR	MLR		
	comp=Z,852nm,15.0s,MS5.0						
TLY	Talaya	57.07	2	eP	P	22 04 00.6	+0.3
	comp=Z,9.0nm,0.9s,mb4.8						
IRK	Irkutsk	57.65	2	eP	P	22 04 04.6	+0.3
IRK				pmax	pmax		
	comp=Z,32nm,1.9s,mb5.0						
KURK	Kurchatov	59.46	343	P	P	22 04 15.2	-1.8
KURK				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
KURK	Kurchatov	59.46	343	eP	P	22 04 15.3	-1.6
	comp=Z,5.7nm,0.6s,mb4.8						
KLR	Kul'dur	60.60	22	eP	P	22 04 20.4	-4.4
ZAL	Zalesovo	60.95	349	P	P	22 04 26.2	-0.9
	comp=Z,4.0nm,0.7s,mb4.7,baz=289,slow=5.2,SNR=26						
ZAL				LR	LR	22 35 20.9	
	comp=Z,218nm,18.3s,MS4.3,baz=325,slow=40						
NVS	Novosibirsk	62.12	348	⇑iP	P	22 04 32.5	-2.5
NVS				eS	S	22 12 52.9	-3.3
NVS				pmax	pmax		
	comp=N,22nm,1.6s						
NVS				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.1						
NVS				pmax	pmax		
	comp=E,10.0nm,1.5s						
NVS				smax			
	comp=N,10.0nm,1.9s						
NVS				smax			
	comp=E,9.0nm,1.5s						
YSS	Yuzh-Sakhalins	63.73	30	eP	P	22 04 44.2	-1.5
YSS				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
YSS				MLR	MLR		
	comp=N,400nm,15.0s,MS4.8						
YSS				MLR	MLR		
	comp=E,200nm,15.0s,MS4.8						
BOD	Bodaibo	63.99	7	eP	P	22 04 46.1	-1.2
BOD				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.6						
KMBO	Kilima Mbogo	64.32	271	LR	LR	22 27 23.0	
	comp=Z,118nm,20.5s,MS4.1,baz=92,slow=31						
CHKZ	Chkalovo	64.52	340	P	P	22 04 49.2	-1.6
CHKZ				pmax	pmax		
	comp=Z,38nm,1.6s,mb5.2						
CHKZ	Chkalovo	64.52	340	eP	P	22 04 49.0	-1.8
	comp=Z,23nm,0.6s,mb5.4						
SHE	Samaxi	66.80	319	i P	pP	22 05 19.0	+3.5
MAW	Mawson	67.23	195	LR	LR	22 27 57.9	
	comp=Z,383nm,19.3s,MS4.6,baz=194,slow=30						
YAK	Yakutsk	70.82	14	eP	P	22 05 27.8	-2.3
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK	Yakutsk	70.82	14	eP	P	22 05 27.7	-2.4
	comp=N,15nm,0.8s,mb5.0						
YAK				epP	pP	22 05 36.8	-3.2
ASF	Jabal al Asfar	71.94	306	P	P	22 05 38.2	+0.9
	comp=N,0.9nm,0.5s,mb3.9,baz=3.2,slow=19,SNR=2.0						
ASF				LR	LR	22 36 50.9	
	comp=N,212nm,19.2s,MS4.4,baz=189,slow=36						
MATP	Matopo	72.21	250	P	P	22 05 38.4	-0.8
	comp=N,3.6nm,0.6s,mb4.5,baz=77,slow=7.1,SNR=14						
SOC	Sochi	74.04	318	eP	P	22 05 45.8	-3.7
SOC				ePPP	PPP	22 10 17.2	-4.3
SOC				eS	S	22 15 16.7	-1.9
SOC				e		22 15 49.5	
SOC				eSS	SS	22 20 01.7	-4.2
SOC				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
SOC				pmax	pmax		
	comp=N,9.0nm,0.9s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.9s						
URZ	Urewera	75.22	128	LR	LR	22 36 20.4	
	comp=E,225nm,21.3s,MS4.4,baz=14,slow=34						
MA2	Magadan	75.66	23	deP	P	22 05 59.5	+1.0
MA2				e		22 08 48.8	
MA2				eS	S	22 15 38.2	+2.1
MA2				e		22 15 59.4	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.4						
MA2				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.6						
BRTR	Keskin Array B	76.88	313	P	P	22 06 05.2	-0.6
	comp=Z,4.4nm,1.2s,mb4.3,baz=122,slow=9.5,SNR=4.0						
SEY	Seymchan	78.36	21	eP	P	22 06 15.6	+2.2
SEY						22 06 23.0	
SEY				e		22 09 19.4	
SEY				ePPP	PPP	22 11 06.0	+4.0
SEY				eS	S	22 16 09.5	+4.1
SEY						22 16 42.1	
SEY				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
SEY				smax			
	comp=N,200nm,14.6s						
SEY				smax			
	comp=E,100nm,14.6s						
SEY				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.8						
SEY				MLR	MLR		
	comp=N,140nm,15.0s						
SEY				MLR	MLR		
	comp=E,200nm,21.0s						
VNDA	Vanda	78.37	169	P	P	22 06 12.3	-0.9
	comp=E,1.6nm,0.7s,mb4.0,baz=322,slow=4.0,SNR=5.3						
VNDA	Vanda	78.37	169	P	P	22 06 12.3	-0.9
TIXI	Tiksi	79.14	9	⇑iP	P	22 06 16.6	-0.9
TIXI				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
MOS	Moscow	80.35	329	eP	P	22 06 31.1	+6.8
MOS				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.3						
OBN	Obninsk	80.64	328	eP	P	22 06 33.9	+8.0
OBN				pmax	pmax		
	comp=Z,31nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.3						
AKASG	Malin Array Be	83.25	322	P	P	22 06 39.0	-0.5
	comp=Z,1.6nm,0.6s,mb4.3,baz=85,slow=5.0,SNR=5.9						
VRI	Vrincioaia	83.52	317	⇓P	P	22 06 45.8	+4.8
MLR	Muntele Rosu	83.96	317	P	P	22 06 44.0	+0.7
	comp=Z,5.4nm,0.9s,mb4.7,baz=309,slow=24,SNR=5.2						
MLR	Muntele Rosu	83.96	317	⇓P	P	22 06 40.4	-2.9
BURAR	Bucovina Array	84.96	319	⇓P	P	22 06 50.1	+1.9
BURAR	Bucovina Array	84.96	319	⇓P	P	22 06 50.1	+1.9
BILL	Bilibino	85.97	20	eP	P	22 06 53.6	+0.8
BILL				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
BZS	Buzias	86.95	316	⇓P	P	22 07 01.7	+3.6
FINES	FINESS Array B	87.99	332	P	P	22 07 03.0	+0.3
	comp=Z,1.7nm,0.7s,mb4.4,baz=117,slow=4.3,SNR=6.6						
KAF	Kangasniemi	88.06	333	ep	P	22 06 55.0	-8.0
	comp=Z,4.2nm,0.6s,mb4.8						
KAF	Kangasniemi	88.06	333	eP	P	22 06 55.0	-8.0
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
PKSM	Moragy	89.10	316	⇑P	P	22 07 09.9	+1.5
ARCES	ARCESS Array B	90.35	340	P	P	22 07 16.1	+2.4
	comp=Z,3.1nm,0.8s,mb4.7,baz=118,slow=13,SNR=3.5						
ARCES				LR	LR	22 52 07.6	
	comp=Z,182nm,19.9s,MS4.5,baz=208,slow=38						
GERES	GERESS Array B	92.75	319	P	P	22 07 26.1	+0.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,0.5nm,0.8s,mb4.0,baz=79,slow=6.8,SNR=3.8						
KBS	**Kingsbay**	**95.37**	**349**	P	**P**	**22 07 38.3**	**+1.7**
NVAR	**Mina Array Bea**	**131.29**	**42**	PKP	PKPdf	22 13 26.3	-3.4
	comp=Z,0.8nm,0.8s,slow=0.9,SNR=2.3						
FFD	**Franklin Falls**	**141.80**	**352**	*e*PKPdf	PKPdf	22 13 47.2	-1.6
ACSO	**Alum Creek Sta**	**145.26**	**6**	*e*PKPdf	PKPdf	22 13 50.2	-4.7
WMOK	**Wichita Mounta**	**145.43**	**30**	*e*PKPdf	PKPdf	22 13 51.1	-4.2
TXAR	**Lajitas Array**	**146.44**	**42**	PKPbc	PKPbc	22 13 56.5	+3.2
	comp=Z,5.4nm,0.8s,baz=280,slow=0.9,SNR=15						
TXAR	**Lajitas Array**	**146.44**	**42**	PKPbc	PKPbc	22 13 56.5	+3.2
WVT	**Waverly**	**148.40**	**15**	*e*PKPdf	PKPdf	22 13 58.8	-1.4
TZTN	**Tazewell**	**148.83**	**8**	*e*PKPbc	PKPdf	22 14 01.0	+0.1
CPCT	**Cooper Cave**	**149.76**	**10**	*e*PKPbc	PKPdf	22 14 03.2	+0.8
LVC	**Limon Verde**	**150.47**	**198**	PKPbc	PKPdf	22 14 07.2	+3.3
	comp=Z,3.2nm,0.6s,baz=357,slow=1.2,SNR=4.1						
LRAL	**Lakeview Retre**	**151.55**	**15**	*e*PKPab	PKPab	22 14 16.2	-0.9

*IDC **02** 22:03:53.6±0.9, 3.21N×84.33W, mb4.1/10, mb1 4.4/12, mb1mx4.1/22, mbtmp4.1/12, ML3.8/1, MS3.8/14, Ms1 3.8/14, ms1mx3.6/24, Error ellipse: s-maj=36.1km s-min=16.9km az=59.0*
*NEIC **02** 22:03:58.6±4.4, 3.23N×84.25W, h33^{km}±31^{km}, mb4.6/7, Error ellipse: s-maj=18.6km s-min=6.8km az=52.0*
*CASC **02** 22:04:22.6±1.4, 5.10N×84.22W, h20^{km}±999^{km}, MD4.6, mb4.6(NEIC)*
*IGQ **02** 22:04:43.9, 1.47N×80.97W, h12^{km}±34^{km}, mb4.3, Error ellipse: s-maj=31.4km s-min=7.7km az=30.2*
ISC 02 22:03:56.8±0.4**, 3.26N**±0.05×**84.17W**±0.06**, h33**^{km}**, n72,** σ**0^{s}97**/61**, mb4.3**/17**, MS3.9**/12**, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LORE	**San Lorenzo**	**5.67**	**110**	P	**P**	**22 05 20.7**	**-0.1**
BUS	**Buena Vista**	**6.27**	**4**	*e*P	**P**	**22 05 30.4**	**+1.0**
JOR1	**San Jorge 1**	**6.41**	**120**	P	**P**	**22 05 31.0**	**-0.3**
LCR2	**La Lucha 2**	**6.45**	**1**	*e*P	**P**	**22 05 31.8**	**-0.1**
COTA	**Cotacachi**	**6.51**	**116**	P	**P**	**22 05 31.5**	**-1.4**
PINO	**Pino**	**6.51**	**121**	P	**P**	**22 05 31.6**	**-1.3**
TERV	**Terraza Guagua**	**6.53**	**121**	P	**P**	**22 05 31.8**	**-1.2**
YANA	**Yana**	**6.53**	**121**	P	**P**	**22 05 31.6**	**-1.3**
JUA2	**San Juan 2**	**6.55**	**122**	P	**P**	**22 05 32.1**	**-1.2**
LAJ	**Bijagual**	**6.56**	**0**	*e*P	**P**	**22 05 30.8**	**-2.7**
ECEN	**Cerro Negro**	**6.65**	**111**	P	**P**	**22 05 33.7**	**-1.1**
PRS1	**Puriscal**	**6.69**	**359**	*e*P	**P**	**22 05 32.9**	**-2.3**
ICR	**Volcan Irazu**	**6.69**	**3**	*e*P	**P**	**22 05 36.0**	**+0.7**
CGA2	**Cerro Gallo 2**	**6.72**	**358**	*e*P	**P**	**22 05 36.3**	**+0.5**
NAS1	**Nasa**	**6.88**	**124**	P	**P**	**22 05 38.0**	**+0.1**
VPS2	**Volcan Poas 2**	**6.89**	**359**	*e*P	**P**	**22 05 38.7**	**+0.6**
CAYA	**Cayambe**	**6.94**	**117**	P	**P**	**22 05 39.4**	**+0.6**
VC1	**Cotopaxi 1**	**6.95**	**124**	P	**P**	**22 05 38.9**	**0.0**
VC1				S	rx	22 06 16.8	
CAYR	**Refugio Cayamb**	**6.95**	**117**	P	**P**	**22 05 39.2**	**+0.3**
VCR	**Vista de Mar**	**6.98**	**348**	*e*P	**P**	**22 05 38.7**	**-0.6**
ELAGU	**Cayambe Volc**	**6.99**	**118**	P	**P**	**22 05 40.3**	**+0.8**
TAMB	**Tambo**	**7.00**	**124**	P	**P**	**22 05 40.5**	**+0.7**
JTS	**JuntasAbangare**	**7.03**	**354**	Pn	**Pn**	**22 05 38.9**	**-1.4**
	69nm,0.3s,baz=143,slow=6.3,SNR=94						
JTS				Sn	**Sn**	**22 06 57.3**	**-2.5**
	baz=308,slow=22,SNR=6.4						
ANTI	**Antisana**	**7.05**	**121**	P	**P**	**22 05 40.7**	**+0.4**
PISA	**Pisayambo**	**7.20**	**126**	P	**P**	**22 05 43.5**	**+1.1**
IGUA	**Igualata**	**7.27**	**130**	P	**P**	**22 05 43.5**	**+0.1**
TRTC	**Tortuguero**	**7.29**	**4**	*e*P	**P**	**22 05 44.5**	**+0.9**
JUIV	**Juive**	**7.36**	**129**	P	**P**	**22 05 44.5**	**-0.2**
RETU	**Refugio**	**7.39**	**129**	P	**P**	**22 05 45.7**	**+0.6**
ARRY	**Arrayan**	**7.42**	**130**	P	**P**	**22 05 45.3**	**-0.1**
ULBA	**Ulba**	**7.42**	**129**	P	**P**	**22 05 45.8**	**+0.3**
ROSC	**El Rosal**	**9.95**	**80**	Pn	**P**	**22 06 22.7**	**+2.1**
	1.5nm,0.3s,baz=285,slow=22,SNR=9.6						
ROSC				LR	LR	22 09 30.3	
	comp=Z,135nm,19.4s,baz=180,slow=33						
ROSC	**El Rosal**	**9.95**	**80**	Pn	**P**	**22 06 22.7**	**+2.1**
ROSC				LR	LR	22 09 30.3	
CNCH	**Conchagua**	**10.59**	**340**	*e*P	**P**	**22 06 31.7**	**+2.2**
BLLM	**Bellamira**	**10.89**	**339**	*e*P	**P**	**22 06 35.7**	**+2.1**
SDV	**Santo Domingo**	**14.57**	**67**	Pn	**P**	**22 07 23.4**	**+0.6**
	0.4nm,0.3s,baz=254,slow=14,SNR=5.3						
SDV				LR	LR	22 12 45.2	
	comp=Z,302nm,19.9s,baz=327,slow=36						
SJG	**San Juan**	**23.02**	**49**	LR	LR	22 17 29.4	
	comp=Z,141nm,20.7s,MS3.4,baz=264,slow=35						
SJG	**San Juan**	**23.02**	**49**	*e*P	**P**	**22 09 02.1**	**+1.9**
	44nm,1.4s,mb4.7						
SAML	**Samuel**	**24.18**	**120**	*e*P	**P**	**22 09 11.3**	**-0.3**
	8.0nm,0.9s,mb4.2						
LPAZ	**La Paz**	**25.07**	**141**	P	**P**	**22 09 20.9**	**+0.8**
	5.0nm,1.0s,mb4.0,baz=324,slow=9.7,SNR=8.6						
LVC	**Limon Verde**	**29.72**	**151**	LR	LR	22 19 50.2	
	comp=Z,162nm,20.6s,MS3.6,baz=222,slow=32						
TXAR	**Lajitas Array**	**31.86**	**326**	P	**P**	**22 10 20.6**	**-0.7**
	0.3nm,0.5s,mb3.4,baz=145,slow=11,SNR=2.7						
TXAR				LR	LR	22 22 29.0	
	comp=Z,118nm,21.9s,MS3.5,baz=110,slow=35						
BDFB	**Brasilia**	**40.40**	**119**	LR	LR	22 30 18.8	
	comp=Z,184nm,19.2s,MS4.0,baz=300,slow=39						
WUAZ	**Wupatki**	**40.80**	**325**	*e*P	**P**	**22 11 38.0**	**+1.1**
	105nm,1.0s,mb5.4						
MSU	**Marysvale**	**43.40**	**328**	*e*P	**P**	**22 11 58.8**	**+0.5**
DAU	**Daniels Canyon**	**44.34**	**330**	*e*P	**P**	**22 12 06.5**	**+0.7**
PDAR	**Pinedale Array**	**45.38**	**334**	P	**P**	**22 12 13.7**	**-0.4**
	1.5nm,0.8s,mb3.9,baz=135,slow=10,SNR=10						
PDAR				LR	LR	22 32 02.6	
	comp=Z,173nm,20.6s,MS4.0,baz=347,slow=37						
HWUT	**Hardware Ranch**	**45.40**	**331**	*e*P	**P**	**22 12 14.0**	**-0.3**
	11nm,1.0s,mb4.7						
PLCA	**Paso Flores**	**45.52**	**165**	P	**P**	**22 12 14.9**	**-0.3**
	2.0nm,0.8s,mb4.1,baz=349,slow=7.5,SNR=4.1						
PLCA				LR	LR	22 28 51.7	
	comp=Z,63nm,19.1s,MS3.6,baz=84,slow=33						
RRI2	**Red Ridge**	**46.63**	**333**	*e*P	**P**	**22 12 23.9**	**0.0**
ELK	**Elko**	**46.65**	**327**	LR	LR	22 32 02.8	
	comp=Z,174nm,20.6s,MS4.0,baz=164,slow=36						
ELK	**Elko**	**46.65**	**327**	*e*P	**P**	**22 12 23.7**	**-0.4**
NVAR	**Mina Array Bea**	**46.84**	**323**	P	**P**	**22 12 26.7**	**+1.0**
	3.1nm,0.9s,mb4.2,baz=126,slow=7.4,SNR=11						
NVAR				LR	LR	22 31 34.7	
	comp=Z,113nm,19.7s,MS3.8,baz=300,slow=36						
NVAR	**Mina Array Bea**	**46.84**	**323**	P	**P**	**22 12 26.7**	**+1.0**
NVAR				LR	LR	22 31 34.7	
QLMT	**Earthquake Lak**	**47.84**	**334**	*e*P	**P**	**22 12 34.0**	**+0.6**
ULM	**Lac du Bonnet**	**47.86**	**350**	P	**P**	**22 12 32.9**	**-0.6**
	10.0nm,0.8s,mb4.9,baz=160,slow=7.2,SNR=15						
ULM	**Lac du Bonnet**	**47.86**	**350**	P	**P**	**22 12 32.9**	**-0.6**
HLID	**Hailey**	**48.26**	**331**	*e*P	**P**	**22 12 36.5**	**-0.2**
	5.0nm,1.3s,mb4.4						
BOZ	**Bozeman (W)**	**48.57**	**334**	*e*P	**P**	**22 12 38.2**	**-0.8**
	3.5nm,0.9s,mb4.4						
NEW	**Newport**	**53.00**	**333**	LR	LR	22 35 05.6	
	comp=Z,185nm,20.1s,MS4.1,baz=138,slow=35						
FCC	**Fort Churchill**	**55.90**	**354**	*e*P	**P**	**22 13 33.0**	**-0.6**
	10nm,1.0s,mb4.8						
RKT	**Rikitea**	**56.02**	**239**	*e*LR	LR	22 30 03.4	
	100nm,26.8s						
YKA	**Yellowknife Ar**	**63.28**	**345**	P	**P**	**22 14 23.2**	**-1.2**
	1.3nm,0.8s,mb4.1,baz=138,slow=6.7,SNR=16						
YKA				LR	LR	22 43 58.7	
	comp=Z,87nm,18.6s,MS4.0,baz=90,slow=38						
DLBC	**Dease Lake**	**65.56**	**336**	P	**P**	**22 14 39.3**	**+0.1**
	5.1nm,1.1s,mb4.5,baz=337,slow=26,SNR=4.8						
PPT	**Papeete**	**67.70**	**250**	*e*LR	LR	22 35 29.5	
	151nm,26.0s						
TBI	**Tubuai**	**68.81**	**244**	*e*LR	LR	22 35 59.7	
	156nm,26.0s						
INK	**Inuvik**	**72.89**	**343**	P	**P**	**22 15 24.0**	**-0.1**
	1.1nm,0.7s,mb3.9,baz=109,slow=10.0,SNR=5.0						
ILAR	**Eielson Array**	**75.69**	**337**	P	**P**	**22 15 40.0**	**-0.4**
	1.8nm,1.0s,mb4.0,baz=140,slow=2.2,SNR=8.5						
ILAR				LR	LR	22 51 33.2	
	comp=Z,64nm,18.9s,MS4.0,baz=278,slow=38						
FINES	**FINESS Array B**	**96.69**	**27**	LR	LR	22 58 32.6	
	comp=Z,117nm,18.9s,MS4.4,baz=39,slow=34						
ASAR	**Alice Springs**	**138.00**	**238**	PKP	PKPdf	22 23 21.6	+2.3
	0.7nm,0.8s,baz=119,slow=2.3,SNR=4.3						
WRA	**Warramunga Arr**	**138.94**	**243**	PKP	PKPdf	22 23 23.3	+2.3
	0.5nm,0.6s,baz=100,slow=2.4,SNR=6.5						
CMAR	**Chiang Mai Arr**	**158.21**	**352**	PKPab	PKPab	22 24 26.9	-0.7
	0.4nm,0.6s,baz=22,slow=4.4,SNR=4.7						

*CSEM **02** 22:05:14.5, 37.43N×57.29E, h20^{km}, ML3.6, After TEH*
TEH 02 22:05:14.5, 37.43N×57.29E, h20^{km}**, Mn3.6, Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ISHV	**Shirvan**	**0.34**	**72**	Pg	Pb	22 05 21.5	-0.4
ISFR	**Esferayen**	**0.69**	**124**	Pg	Pb	22 05 27.3	-0.4
IQHU	**Quchan**	**1.07**	**109**	Pn	Pn	22 05 34.5	+0.1
IKRD	**Kardeh**	**1.18**	**123**	Pn	Pn	22 05 49.1	+13
IPAY	**Payeh**	**1.68**	**125**	Pn	Pn	22 05 45.9	+2.7
MHI	**Mashhad**	**2.08**	**122**	Pn	Pn	22 05 53.6	+4.7
IMOG	**Moghan**	**2.11**	**128**	Pn	Pn	22 05 52.5	+3.1
IMYA	**Miamay**	**2.50**	**115**	Pn	Pn	22 05 57.9	+2.9
IANJ	**Anjiloo**	**3.35**	**235**	Pn	Pn	22 06 05.5	-1.5
ILAS	**Lasjerd**	**4.04**	**241**	Pn	Pn	22 06 15.4	-1.5
IFIR	**Firoozkooh**	**4.06**	**245**	Pn	Pn	22 06 15.1	-2.0
IAFJ	**Afjeh**	**4.75**	**252**	Pn	Pn	22 06 24.9	-2.0
IVRN	**Varamin**	**5.11**	**243**	Pn	Pn	22 06 29.3	-2.6
ISFB	**Sefidab**	**5.12**	**235**	Pn	Pn	22 06 29.3	-2.8
IRAZ	**Razeghan**	**6.26**	**253**	Pn	Pn	22 07 03.4	+15

*WAR **02** 22:09:37.8, 50.17N×19.30E, h0^{km}, ML2.4, Mining Induced*
*PRU **02** 22:09:38.5, 50.18N×19.22E*
ISC 02 22:09:36.3±0.6**, 50.18N**±0.04×**19.19E**±0.04**, n13,** σ**1^{s}37**/23**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.39**	**84**	*e*PG	**Pg**	**22 09 45.0**	**+0.8**
OJC				*e*SG	**Sg**	**22 09 49.0**	**-0.4**
OKC	**Ostrava-Krasne**	**0.75**	**244**	*e*PG	**Pg**	**22 09 53.9**	**+2.5**
OKC				*e*SG	**Sg**	**22 10 04.3**	**+2.9**
	15nm,0.3s						
NIE	**Niedzica**	**1.05**	**136**	*e*PG	**Pg**	**22 09 56.0**	**-1.3**
NIE				*e*SG	**Sg**	**22 10 11.0**	**-0.3**
LIKS	**Likavka**	**1.13**	**183**	*i* PG	**Pg**	**22 09 58.9**	**0.0**
LIKS				*e*SG	**Sg**	**22 10 16.1**	**+2.2**
VYHS	**Vyhne**	**1.70**	**188**	*i* PG	**Pg**	**22 10 08.1**	**-2.2**
VYHS				*i* SG	**Sg**	**22 10 31.9**	**-1.0**
DPC	**Dobruska-Polom**	**1.85**	**276**	*e*PG	**Pg**	**22 10 10.9**	**-2.3**
DPC				*e*SG	**Sg**	**22 10 37.6**	**-0.3**
KECS	**Kecovo**	**1.90**	**153**	*e*SG	**Sg**	**22 10 39.5**	**+0.1**
CRVS	**Cervenica-Dubn**	**1.95**	**130**	*e*PN	**Pn**	**22 10 14.2**	**+3.1**
CRVS				*e*SG	**Sg**	**22 10 41.7**	**+0.3**
KSP	**Ksiaz**	**1.97**	**291**	*e*PG	**Pg**	**22 10 16.0**	**+0.4**
KSP				*e*SG	**Sg**	**22 10 43.0**	**+1.2**
PSZ	**Piszkesteto**	**2.31**	**168**	⇑*e*P	**Pn**	**22 10 21.7**	**+5.6**
PRU	**Pruhonice**	**3.00**	**268**	*e*SG	**Sg**	**22 11 12.1**	**-4.1**
KHC	**Kasperske Hory**	**3.79**	**256**	*e*PN	**Pn**	**22 10 38.0**	**+0.7**
KHC				*e*PG	**Pg**	**22 10 47.0**	**-5.1**
KHC				*e*x	x	22 11 24.5	
KHC				*e*SG	**Sg**	**22 11 40.7**	**-1.9**
CLL	**Collm**	**4.09**	**288**	*e*SG	**Sg**	**22 11 52.0**	**-0.5**

TAP 02 22:36:15.7, 21.14N×122.21E, h157^{km}**, ML4.1, Taiwan region**

*BJI **02** 23:09:56.3, 33.07N×72.21E, h21^{km}, mb3.7*
*IDC **02** 23:09:58.7±1.4, 32.98N×72.88E, mb3.8/7, mb1 4.0/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=36.5km s-min=26.3km az=44.0*
*NEIC **02** 23:09:60.0±6.0, 32.89N×72.88E, h12^{km}±39^{km}, mb3.4/3, Error ellipse: s-maj=21.7km s-min=7.7km az=57.0*
*MOS **02** 23:10:01.3±1.3, 32.90N×72.98E, h33^{km}, mb3.9/1, Error ellipse: s-maj=22.3km s-min=16.1km az=126.4*
*NDI **02** 23:10:05.5±3.7, 32.71N×73.00E, h10^{km}, ML3.2, mb3.4(NEIC)*
ISC 02 23:09:58.8±0.4**, 32.92N**±0.04×**72.87E**±0.04**, h10**^{km}**, n46,** σ**1^{s}35**/54**, mb3.8**/7**, 4C-2D, Pakistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**0.81**	**24**	⇑P	**Pb**	**23 10 15.9**	**+1.4**
THW	**Thamme Wali**	**0.95**	**263**	⇑P	**Pb**	**23 10 16.5**	**-0.5**
SARP	**Sargodha**	**1.01**	**189**	⇓P	**Pb**	**23 10 18.8**	**+0.9**
SARP				S	**Sb**	**23 10 38.0**	**+7.0**
CEP	**Cherat**	**1.21**	**319**	⇑P	**Pb**	**23 10 21.2**	**-0.1**
JMU	**Jammu**	**1.72**	**96**	*e*S	**Sn**	**23 10 56.5**	**+5.2**
SBDP	**Sheikh Budin**	**1.85**	**251**	⇑P	**Pn**	**23 10 32.1**	**+1.2**
THN	**Thein Dam**	**2.45**	**101**	*e*P	**Pn**	**23 10 43.3**	**+3.8**
THN				*e*SG	**Sg**	**23 11 20.9**	**+0.4**
	172nm,0.4s						
DRP	**Derazinda**	**2.54**	**243**	⇓P	**Pn**	**23 10 42.2**	**+1.4**
DLH	**Dalhousie**	**2.64**	**97**	*e*PN	**Pn**	**23 10 48.0**	**+5.8**
DLH				*e*		23 11 20.0	
PONG	**Pong**	**2.78**	**109**	*e*P	**Pn**	**23 10 48.0**	**+3.8**
PONG				*e*		23 11 29.0	
BHK	**Bhakra**	**3.36**	**116**	*e*PG	**Pg**	**23 11 06.6**	**+0.7**
BHK				*e*SG	**Sg**	**23 11 51.7**	**+0.9**
SDNR	**Sundarnagar**	**3.75**	**111**	*e*P	**Pn**	**23 11 00.1**	**+2.0**
SDNR				*e*SG	**Sg**	**23 12 06.5**	**+2.7**
SMLA	**Simla**	**4.07**	**115**	*e*PB	**Pb**	**23 11 13.9**	**+3.7**
SMLA				*e*SG	**Sg**	**23 12 12.5**	**-1.7**
DDI	**Dehra Dun**	**5.13**	**119**	*e*P	**Pn**	**23 11 19.4**	**+1.9**
DDI				*e*		23 12 53.4	
NDI	**New Delhi**	**5.64**	**137**	*e*PN	**Pn**	**23 11 25.0**	**+0.2**
NDI				*e*SN	**Sn**	**23 12 26.0**	**-4.4**
NDI				*e*		23 12 57.0	
AJM	**Ajmer**	**6.60**	**166**	*e*	**Pn**	**23 11 44.0**	**+5.7**
AJM				*i*		23 12 50.0	
PTH	**Pithoragarh**	**7.13**	**116**	*e*S	**Sn**	**23 13 02.3**	**-5.4**
LGTI	**Lohaghat**	**7.21**	**117**	*e*PG	Px	23 12 17.5	
AML	**Almayashu**	**9.22**	**4**	P	**P**	**23 12 15.0**	**+0.1**
	SNR=36						
KZA	**Kyzart**	**9.34**	**11**	P	**P**	**23 12 17.6**	**+1.2**
	SNR=14						
UCH	**Uchtor**	**9.38**	**8**	P	**P**	**23 12 18.0**	**+0.9**
	SNR=17						
EKS2	**Erkin-Say**	**9.75**	**4**	P	**P**	**23 12 22.2**	**0.0**
	SNR=43						
AAK	**Ala-Archa**	**9.78**	**7**	P	**P**	**23 12 24.4**	**+1.8**
	SNR=11						
AAK	**Ala-Archa**	**9.78**	**7**	*e*P	**P**	**23 12 22.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,6.0nm,0.5s						
AAK	**Ala-Archa**	**9.78**	**7**	*e*P	**P**	**23 12 22.8**	**+0.2**
	comp=Z,5.9nm,0.5s						
KBK	**Karagaybulak**	**9.86**	**9**	P	**P**	**23 12 24.7**	**+1.0**
	SNR=5.3						
USP	**Ospenovka**	**10.41**	**7**	P	**P**	**23 12 31.1**	**-0.1**
	SNR=5.7						
KOLN	**Koldanda**	**10.60**	**116**	*e*P	**P**	**23 12 32.1**	**-1.7**
	comp=Z,11nm,0.6s						
KOLN				*e*S	**S**	**23 14 25.3**	**-8.3**
GKN	**Gorkha**	**11.27**	**113**	*e*P	**P**	**23 12 41.2**	**-1.9**
	comp=Z,12nm,0.4s						
GKN				*e*S	**S**	**23 14 41.7**	**-8.5**
KKN	**Kakani**	**11.87**	**112**	*e*P	**P**	**23 12 48.5**	**-2.7**
	comp=Z,15nm,0.5s						
PKI	**Pulchoki**	**12.08**	**113**	*e*P	**P**	**23 12 51.4**	**-2.6**
	comp=Z,20nm,0.6s						
PKI				*e*S	**S**	**23 14 59.9**	**-10**
JIRN	**Jiri**	**12.65**	**111**	*e*P	**P**	**23 12 58.6**	**-3.0**
	comp=Z,18nm,0.4s						
LSA	**Lhasa**	**15.95**	**97**	P	**P**	**23 13 45.4**	**+0.4**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LSA	**Lhasa**	**15.95**	**97**	P	**P**	**23 13 45.4**	**+0.5**
	comp=Z,1.3nm,0.5s						
KURK	**Kurchatov**	**18.28**	**12**	P	**P**	**23 14 13.3**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KURK	**Kurchatov**	**18.28**	**12**	P	**P**	**23 14 13.3**	**-0.9**
	comp=Z,2.1nm,1.0s						
BVAR	**Borovoye Array**	**20.17**	**356**	P	**P**	**23 14 34.4**	**-1.7**
	comp=Z,1.9nm,0.4s,baz=165,slow=9.3,SNR=17						
CHKZ	**Chkalovo**	**20.81**	**356**	*e*P	**P**	**23 14 40.2**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	**Chkalovo**	**20.81**	**356**	*e*P	**P**	**23 14 40.2**	**-2.5**
	comp=Z,3.2nm,0.6s						
GTA	**Gaotai**	**22.65**	**66**	*e*P	**P**	**23 15 04.0**	**+2.7**
GTA				AP		23 15 09.6	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb3.7						
ZAL	**Zalesovo**	**22.66**	**18**	P	**P**	**23 15 00.8**	**-0.4**
	comp=Z,4.0nm,0.3s,mb4.3,baz=264,slow=5.8,SNR=15						
BRTR	**Keskin Array B**	**32.14**	**294**	P	**P**	**23 16 28.0**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=113,slow=11,SNR=3.1						
AKASG	**Malin Array Be**	**36.44**	**312**	P	**P**	**23 17 04.4**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=82,slow=6.8,SNR=4.3						
ARCES	**ARCESS Array B**	**45.03**	**339**	P	**P**	**23 18 15.4**	**-0.6**
	comp=Z,3.3nm,0.9s,mb4.2,baz=117,slow=8.1,SNR=9.8						
WRA	**Warramunga Arr**	**78.78**	**123**	P	**P**	**23 22 03.9**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=322,slow=5.1,SNR=7.1						
YKA	**Yellowknife Ar**	**84.73**	**3**	P	**P**	**23 22 33.4**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.9,baz=348,slow=5.1,SNR=11						

*IDC **02** 23:23:49.3±2.6, 52.66N×160.28E, mb3.8/4, mb1 4.0/5, mb1mx3.6/23, mbtmp4.0/5, ML4.0/1, Error ellipse: s-maj=80.3km s-min=15.8km az=10.0*
*MOS **02** 23:23:52.7±1.4, 52.98N×160.72E, h33^{km}, mb4.4/4, Error ellipse: s-maj=31.4km s-min=27.6km az=68.4*
*KRSC **02** 23:23:52.7±2.0, 52.65N×160.47E, h9^{km}±2^{km}, ML4.1*
ISC 02 23:23:52.0±0.7**, 52.60N**±0.04×**160.62E**±0.05**, h10**^{km}**, n31,** σ**0^{s}95**/51**, mb4.0**/6**, 1D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.62**	**324**	*e*P	**Pb**	**23 24 04.8**	**+0.4**
SPN				*e*S	**Sg**	**23 24 12.3**	**-0.4**
NLC	**Nalytchevo**	**0.96**	**307**	*e*P	**Pb**	**23 24 10.1**	**-0.2**
NLC				*e*S	**Sb**	**23 24 21.3**	**-1.5**
UGLR	**Uglovaya**	**1.25**	**300**	*e*P	**Pb**	**23 24 15.4**	**+0.2**
UGLR				*e*S	**Sb**	**23 24 32.5**	**+1.4**
SDLR	**Sedlovina**	**1.25**	**304**	*e*P	**Pb**	**23 24 15.2**	**0.0**
SDLR				*e*S	**Sb**	**23 24 32.1**	**+0.9**
PET	**Petropavlovsk**	**1.27**	**290**	⇓*i*PN	**Pn**	**23 24 15.2**	**-0.6**
PET				*i* S	**Sb**	**23 24 31.8**	**+0.1**
PET				pmax	pmax		
	comp=Z,230nm,0.3s						
PET				smax			
	comp=E,1μm,0.6s						
PET				smax			
	comp=N,1μm,0.5s						
PET	**Petropavlovsk**	**1.27**	**290**	*e*P	**Pb**	**23 24 15.3**	**-0.2**
PET				*e*S	**Sb**	**23 24 31.0**	**-0.7**
RUS	**Russkaya**	**1.30**	**263**	*e*P	**Pb**	**23 24 16.2**	**+0.1**
RUS				*e*S	**Sb**	**23 24 32.6**	**0.0**
AVH	**Avacha**	**1.32**	**301**	*e*P	**Pb**	**23 24 16.1**	**-0.3**
AVH				*e*S	**Sb**	**23 24 33.1**	**-0.1**
KOK	**Koryaka**	**1.39**	**301**	*e*P	**Pn**	**23 24 17.4**	**-0.1**
KOK				*e*S	**Sb**	**23 24 34.3**	**-0.9**
KRMR	**Karymshinskiy**	**1.53**	**280**	*e*P	**Pn**	**23 24 19.2**	**-0.4**
KRMR				*e*S	**Sb**	**23 24 39.6**	**+0.2**
GRL	**Gorelyy**	**1.56**	**269**	*e*P	**Pn**	**23 24 20.5**	**+0.6**
GRL				*e*S	**Sb**	**23 24 40.8**	**+0.7**
GNL	**Ganaly**	**1.95**	**305**	*e*P	**Pn**	**23 24 26.2**	**+0.6**
GNL				*e*S	**Sn**	**23 24 49.6**	**-0.7**
APC	**Apacha**	**2.13**	**280**	*e*P	**Pn**	**23 24 28.9**	**+0.8**
APC				*e*S	**Sn**	**23 24 55.4**	**+0.6**
PAU	**Pauzhetka**	**2.61**	**246**	*e*P	**Pn**	**23 24 35.3**	**+0.3**
PAU				*e*S	**Sn**	**23 25 05.3**	**-1.8**
PAU				Smax			
	comp=N,240nm,0.5s						
TUMR	**Tumrok**	**2.70**	**354**	*e*P	**Pn**	**23 24 37.0**	**+0.7**
TUMR				*e*S	**Sn**	**23 25 09.4**	**0.0**
KMNR	**Kamenistaya**	**3.17**	**356**	*e*P	**Pn**	**23 24 43.4**	**+0.4**
KMNR				*e*S	**Sn**	**23 25 19.6**	**-1.7**
SKR	**Severo-Kuril's**	**3.40**	**237**	*e*P	**Pn**	**23 24 48.3**	**+2.1**
ESO	**Esso**	**3.52**	**342**	*e*P	**Pn**	**23 24 48.6**	**+0.7**
ESO				*e*S	**Sn**	**23 25 29.1**	**-0.9**
KBTR	**Krutoberegovo**	**3.84**	**19**	*e*P	**Pn**	**23 24 52.3**	**-0.1**
KBTR				*e*S	**Sn**	**23 25 39.7**	**+1.6**
KBG	**Krutoberegovo**	**3.86**	**18**	*e*P	**Pn**	**23 24 52.8**	**0.0**
KBG				*e*S	**Sn**	**23 25 40.3**	**+1.6**
FX1	**Attu Island--F**	**7.62**	**83**	Pn	**Pn**	**23 25 43.2**	**-2.7**
	comp=N,7.0nm,0.3s,baz=4.8,slow=1.7,SNR=30						
FX1				Sn	**Sn**	**23 27 02.4**	**-11**
	comp=N,6.7nm,0.3s,baz=167,slow=18,SNR=10						
SONM	**Songino Array**	**34.33**	**284**	P	**P**	**23 30 36.0**	**-4.5**
	comp=N,0.4nm,0.8s,mb3.4,baz=50,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**50.95**	**309**	P	**P**	**23 32 49.6**	**-5.5**
	comp=N,0.4nm,0.5s,mb3.6,baz=51,slow=6.3,SNR=5.6						
ARCES	**ARCESS Array B**	**53.86**	**342**	P	**P**	**23 33 11.9**	**-4.8**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**53.86**	**342**	P	**P**	**23 33 11.9**	**-4.7**
	comp=Z,2.7nm,0.8s,mb4.2,baz=45,slow=7.7,SNR=5.3						
JOF	**Joensuu**	**58.15**	**335**	*e*p	**P**	**23 33 41.9**	**-5.7**
	comp=Z,1.9nm,0.6s,mb4.3						
JOF	**Joensuu**	**58.15**	**335**	*e*P	**P**	**23 33 41.9**	**-5.7**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**60.07**	**337**	*e*p	**P**	**23 33 53.7**	**-7.2**
	comp=Z,2.3nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**60.07**	**337**	*e*P	**P**	**23 33 53.7**	**-7.2**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**60.70**	**337**	P	**P**	**23 34 01.6**	**-3.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**60.70**	**337**	P	**P**	**23 34 01.6**	**-3.7**
	comp=Z,1.0nm,0.5s,mb4.2,baz=46,slow=8.3,SNR=15						

*THR **02** 23:38:29.5±0.7, 31.93N×48.72E, h14^{km}±4^{km}, ML3.3*
*CSEM **02** 23:38:30.6±0.2, 32.05N×48.78E, h14^{km}, ML3.9/1, Error ellipse: s-maj=3.8km s-min=3.2km az=144.0*
*TEH **02** 23:38:31.8, 31.92N×48.67E, h23^{km}, Mn3.4*
ISC 02 23:38:32.1±0.7**, 32.15N**±0.06×**48.81E**±0.06**, h12**^{km}±5^{km}**, n25,** σ**1^{s}17**/35**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGO	**Shushtar**	**0.04**	**194**	*i* PG	**Pg**	**23 38 33.8**	**-0.5**
SHGR	**Shooshtar-Gavs**	**0.04**	**194**	*e*PG	**Pg**	**23 38 33.8**	**-0.5**
SHGR				AML	AML	23 38 42.6	
	comp=N,8μm,0.4s						
IBRJ	**Borojen**	**2.12**	**100**	Pn	**Pn**	**23 39 06.9**	**-1.0**
IKOM	**Komasi**	**2.29**	**332**	Pn	**Pn**	**23 39 11.0**	**+0.6**
ASAO	**Ashtian**	**2.59**	**23**	*e*PN	**Pn**	**23 39 17.1**	**+2.3**
ASAO				*e*SG	**Sg**	**23 39 58.3**	**-0.3**
ASAO				AML	AML	23 40 05.8	
	comp=N,116nm,0.7s						
ASAO	**Ashtian**	**2.59**	**23**	*e*Pn	**Pn**	**23 39 17.0**	**+2.3**
	SNR=52						
ASAO				*e*Sg	**Sg**	**23 39 58.3**	**-0.3**
	comp=N,116nm,0.7s,SNR=90						
IGHG	**Ghaleghazi**	**2.87**	**320**	Pn	**Pn**	**23 39 17.4**	**-1.3**
IGHG	**Ghaleghazi**	**2.87**	**320**	Pn	**Pn**	**23 39 17.4**	**-1.3**
IVIS	**Veys**	**2.88**	**326**	Pn	**Pn**	**23 39 18.1**	**-0.7**
SNGE	**Sanandaj**	**3.18**	**338**	*e*PN	**Pn**	**23 39 23.8**	**+0.8**
SNGE				AML	AML	23 40 32.1	
	comp=N,52nm,0.6s						
IDHR	**Dehrash**	**3.25**	**322**	Pn	**Pn**	**23 39 22.7**	**-1.4**
IRAZ	**Razeghan**	**3.37**	**16**	Pn	**Pn**	**23 39 28.5**	**+2.7**
IRAZ				Sn	**Sn**	**23 40 06.7**	**+0.5**
NASN	**Na'in**	**3.44**	**78**	*e*PN	**Pn**	**23 39 26.7**	**+0.1**
NASN				AML	AML	23 40 37.0	
	comp=N,57nm,0.6s						
ISFB	**Sefidab**	**3.61**	**52**	Pn	**Pn**	**23 39 31.5**	**+2.3**
ISFB				Sn	**Sn**	**23 40 12.1**	**-0.1**
IVRN	**Varamin**	**3.74**	**40**	Sn	**Sn**	**23 40 15.1**	**-0.3**
IVRN	**Varamin**	**3.74**	**40**	Pn	**Pn**	**23 39 34.2**	**+3.3**
IVRN	**Varamin**	**3.74**	**40**	Pn	**Pn**	**23 39 34.2**	**+3.3**
IMHD	**Mahdasht**	**3.85**	**23**	Sn	**Sn**	**23 40 17.8**	**-0.3**
BHD	**Baghdad**	**3.90**	**288**	*e*Pn	**Pn**	**23 39 45.0**	**+12**
BHD				*e*Sn	**Sn**	**23 40 38.0**	**+18**
BHD				*e*Sb	**Sb**	**23 40 50.0**	**+22**
BHD				*e*Sg	**Sg**	**23 41 01.0**	**+19**
IDMV	**Damavand**	**4.34**	**37**	Pn	**Pn**	**23 39 40.0**	**+0.5**
IDMV				Sn	**Sn**	**23 40 29.6**	**-1.1**
DAMV	**Damavand**	**4.35**	**36**	*e*PN	**Pn**	**23 39 40.6**	**+0.9**
DAMV				AML	AML	23 40 58.4	
	comp=N,22nm,0.6s						
IAFJ	**Afjeh**	**4.41**	**32**	Pn	**Pn**	**23 39 41.7**	**+1.2**
IAFJ				Sn	**Sn**	**23 40 31.2**	**-1.2**
IMOK	**Mook**	**4.57**	**132**	Pn	**Pn**	**23 39 36.7**	**-6.1**
ISRV	**Sarvestan**	**4.62**	**126**	Pn	**Pn**	**23 39 34.9**	**-8.6**
IFIR	**Firoozkooh**	**4.78**	**42**	Pn	**Pn**	**23 39 45.3**	**-0.5**
IFIR				Sn	**Sn**	**23 40 39.7**	**-2.1**

KRSC 02 23:45:41.5±1.0**, 55.58N**×**160.33E, h187**^{km}±2^{km}**, ML3.8, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.18**	**343**	*e*P	P	23 46 07.5	+1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMNR				eS	S	23 46 26.3	+0.6
TUMR	**Tumrok**	**0.32**	**199**	eP	P	23 46 08.2	+1.4
TUMR				eS	S	23 46 26.7	+0.4
KPT	**Kopyto**	**0.39**	**351**	eP	P	23 46 07.4	+0.3
KPT				eS	S	23 46 26.3	-0.5
ZLN	**Zelenaya**	**0.51**	**31**	eP	P	23 46 08.7	+1.2
ZLN				eS	S	23 46 28.2	+0.6
KOZ	**Kozyrevsk**	**0.54**	**332**	eP	P	23 46 08.5	+0.9
KOZ				eS	S	23 46 27.5	-0.3
KLY	**Klyuchi**	**0.76**	**14**	iP	P	23 46 09.6	+1.0
KLY				eS	S	23 46 30.8	+1.2
SRDR	**Sredinnyy**	**0.81**	**335**	eP	P	23 46 09.3	+0.4
SRDR				eS	S	23 46 30.2	0.0
ESO	**Esso**	**0.98**	**291**	iP	P	23 46 10.5	+0.5
ESO				eS	S	23 46 32.2	+0.2
ESO				Smax			
	330nm,0.8s						
SVLR	**Shiveluch**	**1.12**	**26**	eP	P	23 46 11.0	0.0
SVLR				eS	S	23 46 32.4	-1.5
KBG	**Krutoberegovo**	**1.50**	**62**	iP	P	23 46 14.7	+0.3
KBG				eS	S	23 46 38.2	-1.6
KBG				Smax			
	500nm,0.9s						
KBG	**Krutoberegovo**	**1.50**	**62**	eP	P	23 46 14.9	+0.5
KBG				eS	S	23 46 38.8	-1.0
KBTR	**Krutoberegovo**	**1.54**	**65**	eP	P	23 46 14.9	+0.1
KBTR				eS	S	23 46 38.8	-1.7
GNL	**Ganaly**	**2.34**	**217**	eP	P	23 46 24.2	+0.9
GNL				eS	S	23 46 57.2	+1.7
NLC	**Nalytchevo**	**2.48**	**194**	eP	P	23 46 24.8	-0.1
NLC				eS	S	23 46 56.8	-1.5
SPN	**Mys Shipunski**	**2.49**	**184**	eP	P	23 46 23.8	-1.2
SPN				eS	S	23 46 55.8	-2.8
KOK	**Koryaka**	**2.50**	**204**	eP	P	23 46 26.5	+1.4
KOK				eS	S	23 46 58.2	-0.5
AVH	**Avacha**	**2.50**	**202**	iP	P	23 46 26.2	+1.1
AVH				iS	S	23 46 59.3	+0.6
UGLR	**Uglovaya**	**2.53**	**201**	eP	P	23 46 26.2	+0.7
UGLR				eS	S	23 46 59.5	+0.1
PET	**Petropavlovsk**	**2.74**	**202**	eS	S	23 47 02.8	-1.0
BKI	**Bering**	**3.24**	**94**	iP	P	23 46 34.9	+0.9
BKI				iS	S	23 47 13.7	-0.8
GRL	**Gorelyy**	**3.31**	**205**	eP	P	23 46 37.6	+2.7

*CASC **02** 23:46:07.3±2.3, 14.41N×92.43W, h76^{km}±20^{km}, MD4.1, ML5.0, mb4.3(NEIC)*
*NEIC **02** 23:46:09.4, 14.77N×92.76W, h130^{km}, mb4.3/4, MD4.4(MEX), After MEX.*
*MEX **02** 23:46:09.5±1.2, 14.77N×92.76W, h130^{km}±27^{km}, MD4.4*
*IDC **02** 23:46:13.2±3.6, 15.08N×91.79W, h106^{km}±35^{km}, mb3.7/6, mb1 3.9/8, mb1mx3.5/20, mbtmp4.0/8, MS3.0/2, Ms1 3.1/2, ms1mx2.5/29, Error ellipse: s-maj=51.5km s-min=17.6km az=42.0*
ISC 02 23:46:05.1±0.5**, 14.38N**±0.05×**92.57W**±0.03**, h79**^{km}±6^{km}**, n51,** σ1^{s}**12**/74**, mb4.1**/9**, 6C-5D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.91**	**94**⇓	eP	**P**	**23 46 23.4**	**+0.3**
JAT				eS	**S**	**23 46 37.0**	**+0.3**
JAT				AML	AML	23 46 38.8	
	comp=N,193µm,0.2s						
TP2	**Tecpan 2**	**1.55**	**75**⇓	eP	**P**	**23 46 31.7**	**+0.1**
TP2				eS	**S**	**23 46 51.6**	**+0.6**
TP2				AML	AML	23 46 53.9	
	comp=N,6µm,0.4s						
FUG	**Fuego 3**	**1.67**	**88**⇓	eP	**P**	**23 46 32.5**	**-0.6**
PCG	**Pacaya**	**1.90**	**89**⇑	eP	**P**	**23 46 36.2**	**0.0**
PCG				eS	**S**	**23 46 58.3**	**-0.7**
CCIG	**Comitan**	**1.93**	**12**	eP	**P**	**23 46 37.3**	**+0.7**
CCIG				iS	**S**	**23 47 00.4**	**+0.6**
IXG	**Ixpaco**	**2.06**	**96**⇑	eP	**P**	**23 46 38.5**	**+0.1**
IXG				eS	**S**	**23 47 02.8**	**-0.1**
IXG				AML	AML	23 47 09.5	
	comp=N,68µm,0.4s						
NBG	**Las Nubes**	**2.16**	**84**⇑	eP	**P**	**23 46 40.4**	**+0.6**
NBG				eS	**S**	**23 47 08.2**	**+2.7**
NBG				AML	AML	23 47 09.4	
	comp=N,27µm,0.7s						
SCX	**San Cristobal**	**2.34**	**358**	eP	**P**	**23 46 43.5**	**+1.2**
SCX				iS	**S**	**23 47 12.5**	**+2.5**
SCX	**San Cristobal**	**2.34**	**358**	eP	**P**	**23 46 43.5**	**+1.2**
SCX				iS	**S**	**23 47 07.0**	**-3.0**
RBDL	**Robledal**	**2.81**	**95**⇑	eP	**P**	**23 46 49.0**	**+0.2**
RBDL				eS	**S**	**23 47 22.1**	**+0.5**
RTR	**El Retiro**	**2.88**	**99**⇓	eP	**P**	**23 46 50.4**	**+0.6**
RTR				eS	**S**	**23 47 22.9**	**-0.5**
SBLS	**San Blas**	**2.91**	**100**⇑	eP	**P**	**23 46 50.5**	**+0.3**
SBLS				eS	**S**	**23 47 24.5**	**+0.3**
SNJE	**San Jose**	**2.92**	**100**⇓	eP	**P**	**23 46 50.8**	**+0.4**
SNJE				eS	**S**	**23 47 24.4**	**-0.1**
BOQS	**Boqueron**	**3.25**	**101**	eP	**P**	**23 46 55.3**	**+0.2**
BOQS				eS	**S**	**23 47 32.7**	**-0.1**
SNET	**Serv Nac Est T**	**3.31**	**102**	i	**S**	**23 47 40.5**	**+6.3**
	comp=Z,2µm,0.4s						
LBRS	**Las Brisas**	**3.48**	**100**	eP	**P**	**23 46 58.4**	**+0.2**
LFRS	**El Faro**	**3.49**	**102**	eP	**P**	**23 46 58.6**	**+0.3**
CMIG	**Matias Romero**	**3.50**	**321**	iP	**P**	**23 46 57.9**	**-0.5**
CMIG				iS	**S**	**23 47 31.2**	**-7.6**
CMIG				iS	**S**	**23 47 32.6**	**-6.2**
CMIG	**Matias Romero**	**3.50**	**321**	iP	**P**	**23 46 57.9**	**-0.5**
CMIG				iS	**S**	**23 47 32.6**	**-6.2**
LCBS	**La Ceiba**	**3.56**	**101**	eP	**P**	**23 46 59.5**	**+0.2**
LCBS				eS	**S**	**23 47 38.9**	**-1.4**
HUIG	**Huatulco**	**3.69**	**292**	eP	**P**	**23 47 00.4**	**-0.7**
HUIG				iS	**S**	**23 47 37.6**	**-6.0**
SNVI	**San Vicente**	**3.70**	**102**	eP	**P**	**23 47 01.7**	**+0.4**
SNVI				eS	**S**	**23 47 42.2**	**-1.6**
CNCH	**Conchagua**	**4.73**	**103**⇑	eP	**P**	**23 47 15.8**	**+0.3**
CNCH				eS	**S**	**23 48 07.1**	**-2.4**
SCIG		**4.75**	**16**	eP	**P**	**23 47 13.4**	**-2.3**
SCIG				iS	**S**	**23 48 03.7**	**-6.2**
OXX	**Oaxaca**	**4.82**	**304**	eP	**P**	**23 47 15.0**	**-1.8**
OXX				iS	**S**	**23 48 03.5**	**-8.3**
VHO	**Vista Hermosa**	**4.82**	**304**	eP	**P**	**23 47 17.3**	**+0.5**
VHO				iS	**S**	**23 48 04.4**	**-7.4**
VHO	**Vista Hermosa**	**4.82**	**304**	iP	**P**	**23 47 13.3**	**-3.5**
VHO				iS	**S**	**23 48 04.4**	**-7.4**
EVV	**El Vigia**	**4.85**	**327**	eP	**P**	**23 47 16.0**	**-1.2**
TEIG	**Tepich**	**7.11**	**35**	eP	**P**	**23 47 45.5**	**-3.0**
	comp=Z,65nm,0.3s						
PPM	**Popocatepetl**	**7.44**	**310**	eP	**P**	**23 47 56.5**	**+3.5**
ACX	**Acapulco**	**7.50**	**290**	iP	**P**	**23 47 53.0**	**-0.8**
YAIG	**Yautepec**	**7.66**	**306**	eP	**P**	**23 47 58.3**	**+2.3**
PLIG	**Platanillo**	**7.76**	**302**	iP	**P**	**23 47 58.4**	**+1.1**
CAIG	**El Cayaco**	**7.87**	**291**	iP	**P**	**23 47 57.3**	**-1.6**
JTS	**JuntasAbangare**	**8.48**	**118**	P	**P**	**23 48 07.9**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=300,slow=20,SNR=3.6						
JTS				S	**S**	**23 49 43.1**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=311,slow=20,SNR=2.5						
JTS				LR	LR	23 51 27.8	
	comp=Z,88nm,21.0s,baz=290,slow=38						
ZIIG	**Zihuatanejo**	**9.14**	**292**	iP	**P**	**23 48 16.1**	**0.0**
LTX	**Lajitas**	**18.08**	**327**	eP	**P**	**23 50 15.1**	**+2.6**
TXAR	**Lajitas Array**	**18.08**	**327**	P	**P**	**23 50 14.9**	**+2.5**
	baz=150,slow=10,SNR=15						
MNTX	**Cornudas Mount**	**20.85**	**328**	eP	**P**	**23 50 43.8**	**+1.3**
	comp=Z,3.6nm,0.8s						
SDV	**Santo Domingo**	**22.16**	**102**	P	**P**	**23 50 55.8**	**+0.1**
	comp=Z,3.2nm,0.4s,mb4.0,baz=323,slow=10.0,SNR=5.5						
WCI	**Wyandotte Cave**	**24.39**	**12**	eP	**P**	**23 51 16.2**	**-1.0**
	comp=Z,12nm,0.8s,mb4.3						
MNV	**Mina**	**32.94**	**321**	eP	**P**	**23 52 37.5**	**+3.3**
	comp=Z,4.6nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**33.03**	**321**	P	**P**	**23 52 38.4**	**+3.4**
	comp=Z,3.8nm,0.8s,mb4.3,baz=126,slow=9.4,SNR=16						
NVAR	**Mina Array Bea**	**33.03**	**321**	P	**P**	**23 52 38.4**	**+3.4**
SAML	**Samuel**	**37.24**	**127**	eP	**P**	**23 53 10.4**	**-0.7**
	comp=Z,5.8nm,0.8s,mb4.6						
LPAZ	**La Paz**	**38.88**	**141**	LR	LR	00 08 49.9	
	comp=Z,31nm,19.7s,baz=84,slow=35						
SCHQ	**Schefferville**	**45.06**	**21**	P	**P**	**23 54 10.6**	**-4.1**
	comp=Z,1.8nm,0.8s,mb3.8,baz=222,slow=8.2,SNR=6.7						
YKA	**Yellowknife Ar**	**50.53**	**347**	P	**P**	**23 54 56.3**	**-0.9**
	comp=Z,0.6nm,0.4s,mb3.9,baz=149,slow=7.4,SNR=15						
YKA				PcP	PcP	23 56 14.7	+0.4
	comp=Z,0.1nm,0.4s,baz=154,slow=5.1,SNR=4.7						
BDFB	**Brasilia**	**53.19**	**122**	P	**P**	**23 55 17.9**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=297,slow=3.2,SNR=3.6						
ILAR	**Eielson Array**	**62.27**	**337**	P	**P**	**23 56 21.2**	**+0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.5nm,0.6s,mb3.7,baz=96,slow=6.0,SNR=7.3						
CMAR	**Chiang Mai Arr**	**145.45**	**340**	PKPbc	PKPbc	00 05 38.5	+3.1
	comp=Z,1.6nm,0.7s,baz=344,slow=4.4,SNR=6.9						

IDC 02 23:49:35.6±6.4**, 18.42S**×**177.85W, h564**^{km}±77^{km}**, mb3.2**/6**, mb1 3.5**/6**, mb1mx3.3**/16**, mbtmp4.1**/6**, Error ellipse: s-maj=46.3km s-min=22.2km az=176.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.25**	**192**	P	P	23 53 33.0	-1.4
	7.8nm,0.4s,baz=204,slow=2.9,SNR=8.7						
WB2	**Warramunga Arr**	**45.06**	**260**	eP	P	23 57 01.6	-1.9
WRA	**Warramunga Arr**	**45.07**	**260**	P	P	23 57 01.9	-1.7
	1.4nm,0.5s,baz=96,slow=6.9,SNR=32						
ASAR	**Alice Springs**	**45.17**	**255**	P	P	23 57 03.1	-1.3
	2.1nm,0.4s,baz=91,slow=7.8,SNR=36						
ASAR				PcP	PcP	23 58 30.9	-1.9
	0.5nm,0.5s,baz=99,slow=3.7,SNR=6.4						
ASPA	**Alice Springs**	**45.17**	**255**	eP	P	23 57 03.1	-1.3
NVAR	**Mina Array Bea**	**79.42**	**44**	P	P	00 00 44.2	-0.7
	0.3nm,0.3s,baz=227,slow=9.9,SNR=3.9						
TXAR	**Lajitas Array**	**85.81**	**57**	P	P	00 01 16.8	-0.4
	0.8nm,0.7s,baz=215,slow=6.5,SNR=6.7						
PDAR	**Pinedale Array**	**87.35**	**43**	P	P	00 01 22.9	-1.2
	0.2nm,0.4s,baz=270,slow=1.5,SNR=4.0						
BRTR	**Keskin Array B**	**145.52**	**315**	PKPbc	PKPbc	00 08 11.1	0.0
	1.0nm,0.7s,baz=63,slow=2.8,SNR=4.8						
GERES	**GERESS Array B**	**148.24**	**345**	PKPbc	PKPdf	00 08 18.0	+4.1
	1.0nm,0.6s,baz=14,slow=2.9,SNR=12						

*CSEM **02** 23:55:58.7±0.2, 34.31N×37.99E, h8^{km}, ML3.6, Error ellipse: s-maj=4.6km s-min=2.8km az=115.0*
GRAL 02 23:56:01.3±2.0**, 34.35N**×**38.06E, h34**^{km}±96^{km}**, MD3.6, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFRA	**Kufra**	**1.35**	**310**	iPG	P	23 56 24.1	+0.1
KFRA				iSG	S	23 56 41.7	+0.7
JHLN	**Al Jahlan**	**1.36**	**13**	iPG	P	23 56 25.2	+1.0
JHLN				iSG	S	23 56 42.9	+1.7
QASN	**Qassioun**	**1.69**	**242**	iPG	P	23 56 30.6	+1.7
HWQ	**Hawqa**	**1.75**	**268**	iPG	P	23 56 30.3	+0.5
	baz=80,slow=5.3						
HWQ				iSG	S	23 56 53.8	+2.7
WRDH	**Warideh**	**1.78**	**311**	iPG	P	23 56 31.3	+1.1
WRDH				iSG	S	23 56 53.5	+1.6
SALA	**Sala**	**1.97**	**215**	iPG	P	23 56 34.2	+1.3
SALA				iSG	S	23 56 59.7	+3.0
BHL	**Bhannes**	**2.05**	**258**	iPG	P	23 56 35.0	+1.0
BHL				iSG	S	23 57 03.0	+4.5
BHL	**Bhannes**	**2.05**	**258**	iPg	P	23 56 35.0	+1.0
BHL				iSg	S	23 57 03.0	+4.4

*NEIC **03** 00:10:32.6, 36.55N×4.80E, MG3.8(MDD), After MDD.*
*CSEM **03** 00:10:32.2±0.1, 36.48N×4.85E, h12^{km}, ML2.9/5, Error ellipse: s-maj=2.7km s-min=1.3km az=33.0*
*MDD **03** 00:10:32.7±0.4, 36.53N×4.75E, mb4.1/14, Error ellipse: s-maj=10.0km s-min=4.2km az=23.0, PRXIMO*
CRAAG 03 00:10:31.0, 36.32N×4.67E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET	**Setif**	**0.60**	**101**	P	Pg	00 10 43.7	+0.7
CKHR	**Kef el Ahmar**	**0.74**	**113**	P	Pg	00 10 47.0	+1.2
DFRA	**Djebel Bou Aff**	**1.00**	**76**	P	Pb	00 10 50.1	-0.8
ABMS	**Boumerdes**	**1.05**	**295**	P	Pb	00 10 51.6	-0.2
EMHD	**Djebel Mahouad**	**1.39**	**266**	P	Pb	00 11 00.0	+2.4
ABA	**Alger-Bouzarea**	**1.40**	**291**	P	Pb	00 10 56.5	-1.3
CASM	**Ain Smara**	**1.47**	**92**	P	Pn	00 10 59.0	+0.2
CAEH	**'Ain El Ouahch**	**1.81**	**75**	P	Pn	00 11 02.0	-1.7
EBNR	**Beni Rached**	**2.54**	**270**	P	Pn	00 11 30.0	+16
ECHA	**Ech Chlef**	**2.68**	**267**	P	Pn	00 11 29.0	+13
ECHF	**Ech Chlef**	**2.70**	**268**	P	Pn	00 11 29.0	+13
ETRT	**Tiaret**	**2.89**	**252**	P	Pn	00 11 22.0	+2.9
EANR	**'Ain N'Sour**	**2.91**	**264**	P	Pn	00 11 23.0	+3.5
EIBI	**Ibiza**	**3.78**	**317**	P	Pn	00 11 29.9	-1.9
	3.6nm,0.2s,SNR=7.9						
EIBI				S	Sn	00 12 11.8	-5.8
	7.8nm,0.6s,SNR=4.0						
EIBI	**Ibiza**	**3.78**	**317**	Pn	Pn	00 11 29.9	-1.9
	3.9nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.56**	**303**	P	Pn	00 11 41.1	-1.9
	5.8nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.56**	**303**	Pn	Pn	00 11 41.1	-1.8
	0.2nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.97**	**290**	P	Pn	00 11 46.7	-1.9
	3.0nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**5.46**	**297**	Pn	Pn	00 11 54.5	-1.1
ETOB				Sn	Sn	00 12 54.6	-5.6
ETOB	**Tobarra**	**5.46**	**297**	P	Pn	00 11 54.5	-1.1
	3.4nm,0.4s,SNR=12						
ETOB				S	Sn	00 12 54.3	-5.9
	0.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**5.46**	**297**	Pn	Pn	00 11 54.5	-1.2
	0.7nm,0.2s,SNR=12						
ETOB				Sn	Sn	00 12 54.6	-5.6
	0.8nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**317**	P	Pn	00 11 56.3	-2.9
	2.6nm,0.4s,SNR=7.8						
EMOS				S	Sn	00 12 56.7	-10
	0.4nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.72**	**317**	Pn	Pn	00 11 56.3	-2.9
	0.8nm,0.2s,SNR=7.8						
EMOS				Sn	Sn	00 12 56.7	-10
	0.4nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**5.74**	**325**	P	Pn	00 11 55.8	-3.8
	3.9nm,0.6s,SNR=7.9						
ERTA	**Horta de San J**	**5.74**	**325**	Pn	Pn	00 11 55.8	-3.8
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.76**	**332**	Pn	Pn	00 11 54.6	-5.2
EPOB				Sn	Sn	00 12 55.9	-12
EPOB	**Poblet**	**5.76**	**332**	P	Pn	00 11 55.5	-4.3
	1.5nm,0.3s,SNR=7.9						
EPOB				S	Sn	00 12 55.9	-12
	0.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.76**	**332**	Pn	Pn	00 11 54.6	-5.2
	1.0nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**6.00**	**287**	P	Pn	00 12 02.5	-0.7
	0.2nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**6.10**	**337**	Pn	Pn	00 12 01.7	-2.9
EMIR				Sn	Sn	00 13 05.1	-11
EMIR	**Miracle**	**6.10**	**337**	P	Pn	00 12 01.4	-3.2
	22nm,0.2s,SNR=39						
EMIR				S	Sn	00 13 05.1	-11
	6.3nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**6.10**	**337**	Pn	Pn	00 12 01.7	-2.9
	6.7nm,0.2s,SNR=39						
EMIR				Sn	Sn	00 13 05.1	-11
	6.3nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.11**	**278**	Pn	Pn	00 12 02.3	-2.5
EBER	**Berja**	**6.11**	**278**	P	Pn	00 12 02.9	-1.9
	6.9nm,0.8s,SNR=7.9						
EBER				S	Sn	00 13 06.7	-10
	7.2nm,0.7s,SNR=7.9						
EBER	**Berja**	**6.11**	**278**	Pn	Pn	00 12 02.3	-2.5
	0.3nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**6.16**	**294**	P	Pn	00 12 02.5	-2.9
	1.9nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**6.28**	**348**	P	Pn	00 12 02.4	-4.7
	3.5nm,0.6s,SNR=7.9						
EJON				S	Sn	00 13 08.6	-12
	1.0nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**6.28**	**348**	Pn	Pn	00 12 02.4	-4.7
	1.1nm,0.2s,SNR=7.9						
EJON				Sn	Sn	00 13 08.6	-12
	1.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.37**	**286**	Pn	Pn	00 12 08.0	-0.4
EQES				Sn	Sn	00 13 17.6	-5.2
EQES	**Quesada**	**6.37**	**286**	P	Pn	00 12 08.0	-0.4
	1.1nm,0.2s,SNR=7.9						
EQES				S	Sn	00 13 16.6	-6.2
	0.2nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.37**	**286**	Pn	Pn	00 12 08.0	-0.4
	0.3nm,0.2s,SNR=7.9						
EQES				Sn	Sn	00 13 17.6	-5.2
	0.2nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**6.72**	**325**	P	Pn	00 12 09.5	-3.8
	5.2nm,0.3s,SNR=4.0						
ESAC	**San Caprasio**	**6.72**	**325**	Pn	Pn	00 12 09.6	-3.7
EBIE	**Bielsa**	**7.26**	**333**	Pn	Pn	00 12 19.6	-1.3
EBIE	**Bielsa**	**7.26**	**333**	P	Pn	00 12 16.7	-4.2
	1.5nm,0.5s,SNR=4.0						
EBIE	**Bielsa**	**7.26**	**333**	Pn	Pn	00 12 19.6	-1.4
	0.2nm,0.2s,SNR=4.0						
ESDC	**Sonseca Array**	**7.60**	**299**	P	Pn	00 12 23.0	-2.7
	0.6nm,0.3s,baz=112,slow=14,SNR=4.8						
ESDC	**Sonseca Array**	**7.60**	**299**	Pn	Pn	00 12 23.0	-2.7

*CASC **03** 00:43:14.1±2.0, 15.67N×94.16W, h20^{km}±999^{km}, MD4.7, ML4.8, mb4.3(NEIC)*
*NEIC **03** 00:43:17.4±0.5, 15.84N×93.79W, mb4.3/23, MD4.6(MEX), Error ellipse: s-maj=9.8km s-min=6.0km az=21.0*
*MEX **03** 00:43:17.6±1.5, 15.77N×93.91W, h79^{km}±31^{km}, MD4.6*
*IDC **03** 00:43:19.2±0.8, 16.14N×93.46W, h96^{km}±5^{km}, mb3.9/16, mb1 4.1/18, mb1mx3.9/23, mbtmp4.2/18, MS3.4/4, Ms1 3.5/4, ms1mx2.9/24, Error ellipse: s-maj=28.8km s-min=9.9km az=52.0*
ISC 03 00:43:17.0±0.3**, 15.94N**±0.03×**93.89W**±0.03**, h98**^{km}±3^{km}**, h94**^{km}±2.0^{km}**:pP-P, n112,** σ1^{s}**42**/135**, mb4.2**/29**, 3C-3D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.44**	**57**	iP	**P**	**00 43 43.2**	**+0.3**
SCX				iS	**S**	**00 44 01.4**	**-0.7**
CMIG	**Matias Romero**	**1.49**	**320**⇑	iP	**P**	**00 43 43.9**	**+0.5**
CMIG				iS	**S**	**00 44 03.7**	**+0.7**
CCIG	**Comitan**	**1.72**	**78**	iP	**P**	**00 43 46.2**	**-0.1**
CCIG				iS	**S**	**00 44 06.7**	**-1.4**
HUIG	**Huatulco**	**2.14**	**266**⇑	iP	**P**	**00 43 50.1**	**-1.8**
HUIG				iS	**S**	**00 44 13.4**	**-4.3**
TUIG	**Tuzandepetl**	**2.14**	**346**	eP	**P**	**00 43 52.3**	**+0.4**
TUIG				iS	**S**	**00 44 19.4**	**+1.6**
JAT	**Jato**	**2.71**	**126**	eP	**P**	**00 43 59.2**	**-0.5**
JAT				eS	**S**	**00 44 30.6**	**-1.1**
JAT				AML	AML	00 44 33.2	
	comp=N,10µm,0.4s						
EVV	**El Vigia**	**2.86**	**331**	eP	**P**	**00 44 01.0**	**-0.8**
OXX	**Oaxaca**	**2.94**	**293**	eP	**P**	**00 44 04.0**	**+1.1**
OXX				iS	**S**	**00 44 27.0**	**-10**
OXX	**Oaxaca**	**2.94**	**293**⇓	iP	**P**	**00 44 04.5**	**+1.6**
OXX				iS	**S**	**00 44 35.5**	**-1.9**
VHO	**Vista Hermosa**	**2.95**	**293**	iP	**P**	**00 44 04.3**	**+1.4**
VHO				iS	**S**	**00 44 36.8**	**-0.8**
VHO	**Vista Hermosa**	**2.95**	**293**	iP	**P**	**00 44 04.3**	**+1.3**
VHO				iS	**S**	**00 44 37.0**	**-0.6**
TP2	**Tecpan 2**	**3.00**	**112**⇑	eP	**P**	**00 44 03.5**	**-0.2**
TP2				eS	**S**	**00 44 41.2**	**+2.3**
TP2				AML	AML	00 44 57.4	
	comp=N,3µm,0.5s						
NBG	**Las Nubes**	**3.68**	**111**⇓	eP	**P**	**00 44 12.4**	**-0.5**
NBG				eS	**S**	**00 44 57.7**	**+2.2**
IXG	**Ixpaco**	**3.76**	**117**⇓	eP	**P**	**00 44 14.3**	**+0.3**
IXG				eS	**S**	**00 44 59.9**	**+2.5**
IXG				AML	AML	00 45 10.0	
	comp=N,10µm,0.4s						
SCIG		**3.97**	**40**	iP	**P**	**00 44 16.0**	**-0.9**
SCIG				iS	**S**	**00 45 00.3**	**-2.3**
PNIG	**Pinotepa**	**4.09**	**277**	iP	**P**	**00 44 17.4**	**-1.2**
PNIG				iS	**S**	**00 44 59.1**	**-6.6**
PNIG	**Pinotepa**	**4.09**	**277**	iP	**P**	**00 44 17.4**	**-1.2**
PNIG				iS	**S**	**00 45 02.7**	**-3.0**
RBDL	**Robledal**	**4.45**	**114**	eP	**P**	**00 44 22.9**	**-0.7**
LVIG	**Laguna Verde**	**4.46**	**328**	iP	**P**	**00 44 22.0**	**-1.7**
LVIG				iS	**S**	**00 45 08.8**	**-6.1**
LVIG	**Laguna Verde**	**4.46**	**328**	iP	**P**	**00 44 22.0**	**-1.7**
LVIG				iS	**S**	**00 45 14.6**	**-0.3**
IISM	**Ciudad Serdan**	**4.50**	**313**	eP	**P**	**00 44 27.0**	**+2.8**
RTR	**El Retiro**	**4.58**	**116**	eP	**P**	**00 44 25.1**	**-0.2**
SBLS	**San Blas**	**4.63**	**116**	eP	**P**	**00 44 26.2**	**+0.2**
SBLS				eS	**S**	**00 45 23.1**	**+4.2**
SNJE	**San Jose**	**4.63**	**116**	eP	**P**	**00 44 25.9**	**0.0**
MTO2	**Montecristo 2**	**4.64**	**109**	eP	**P**	**00 44 24.1**	**-2.0**
BOQS	**Boqueron**	**4.97**	**116**	eP	**P**	**00 44 31.1**	**+0.5**
IIB	**San Bernardino**	**5.21**	**306**	eP	**P**	**00 44 37.0**	**+3.2**
LFRS	**El Faro**	**5.21**	**116**	eP	**P**	**00 44 33.2**	**-0.7**
LFRS				eS	**S**	**00 45 35.5**	**+2.2**
LCBS	**La Ceiba**	**5.27**	**115**	eP	**P**	**00 44 33.9**	**-0.8**
LCBS				eS	**S**	**00 45 36.5**	**+1.8**
SNVI	**San Vicente**	**5.41**	**115**	eP	**P**	**00 44 35.7**	**-0.9**
SNVI				eS	**S**	**00 45 40.1**	**+2.0**
PPM	**Popocatepetl**	**5.48**	**305**	eP	**P**	**00 44 41.0**	**+3.4**
PPM				iP		00 44 41.6	
YAIG	**Yautepec**	**5.73**	**301**	iP	**P**	**00 44 40.7**	**-0.2**
YAIG				iS	**S**	**00 45 42.3**	**-3.7**
ACX	**Acapulco**	**5.85**	**280**	iP	**P**	**00 44 40.9**	**-1.7**
PLIG	**Platanillo**	**5.89**	**295**	iP	**P**	**00 44 45.0**	**+1.9**
UNM	**Universidad Na**	**6.06**	**305**	eP	**P**	**00 44 43.5**	**-2.0**
CAIG	**El Cayaco**	**6.21**	**281**	iP	**P**	**00 44 47.0**	**-0.6**
CAIG				iS	**S**	**00 45 48.3**	**-10**
CAIG	**El Cayaco**	**6.21**	**281**	iP	**P**	**00 44 47.0**	**-0.6**
CAIG				iS	**S**	**00 45 51.8**	**-6.1**
TEIG	**Tepich**	**6.83**	**51**	ePn	**P**	**00 44 53.1**	**-3.1**
	comp=N,113nm,0.4s						
ZIIG	**Zihuatanejo**	**7.44**	**284**	iP	**P**	**00 45 04.7**	**+0.1**
MOIG	**Morelia**	**7.88**	**299**	iP	**P**	**00 45 12.9**	**+2.4**
SFJM	**Santa Fe**	**9.80**	**299**	eP	**P**	**00 45 37.0**	**+0.5**
JTS	**JuntasAbangare**	**10.36**	**122**	P	**P**	**00 45 42.5**	**-1.5**
	comp=N,14nm,0.3s,baz=311,slow=16,SNR=49						
JTS				S	**S**	**00 47 32.8**	**-6.1**
	comp=N,0.4nm,0.3s,baz=272,slow=16,SNR=1.6						
JTS	**JuntasAbangare**	**10.36**	**122**	ePn	**P**	**00 45 42.4**	**-1.7**
	comp=N,34nm,0.4s						
CGA2	**Cerro Gallo 2**	**10.91**	**122**	eP	**P**	**00 45 51.5**	**+0.1**
VPS2	**Volcan Poas 2**	**11.01**	**120**	eP	**P**	**00 45 54.1**	**+1.5**
PRS1	**Puriscal**	**11.05**	**121**	eP	**P**	**00 45 53.8**	**+0.5**
TRTC	**Tortuguero**	**11.25**	**117**	eP	**P**	**00 45 54.8**	**-1.2**
LAJ	**Bijagual**	**11.28**	**121**	eP	**P**	**00 45 53.0**	**-3.3**
LCR2	**La Lucha 2**	**11.44**	**121**	eP	**P**	**00 45 58.0**	**-0.5**
ICR	**Volcan Irazu**	**11.45**	**120**	eP	**P**	**00 45 58.6**	**0.0**
BUS	**Buena Vista**	**11.74**	**121**	eP	**P**	**00 46 02.9**	**+0.4**
ACR	**Cerro Adams**	**12.73**	**123**	eP	**P**	**00 46 16.8**	**+1.2**
JCT	**Junction City**	**15.45**	**341**	eP	**P**	**00 46 53.7**	**+3.0**
	comp=N,21nm,0.7s						
LTX	**Lajitas**	**16.08**	**328**	P	**P**	**00 47 00.3**	**+1.8**
TXAR	**Lajitas Array**	**16.08**	**328**	P	**P**	**00 47 01.0**	**+2.5**
	comp=N,0.2nm,0.3s,baz=148,slow=14,SNR=19						
TXAR	**Lajitas Array**	**16.08**	**328**	P	**P**	**00 47 01.0**	**+2.5**
DWPF	**Disney**	**16.72**	**41**	eP	**P**	**00 47 05.1**	**-1.4**
	comp=N,29nm,0.6s						
LRAL	**Lakeview Retre**	**18.13**	**19**	eP	**P**	**00 47 23.6**	**-0.1**
	comp=N,11nm,0.9s						
OXF	**Oxford**	**18.93**	**11**	eP	**P**	**00 47 35.7**	**+3.0**
	comp=N,22nm,0.9s						
WMOK	**Wichita Mounta**	**19.23**	**348**	P	**P**	**00 47 32.7**	**-3.2**
	comp=N,6.1nm,0.5s						
WMOK				eS	**S**	**00 50 51.4**	**-12**
GOGA	**Godfrey**	**19.78**	**27**	eP	**P**	**00 47 42.7**	**+0.9**
	comp=N,9.4nm,0.5s						
WVT	**Waverly**	**20.82**	**14**	eP	**P**	**00 47 49.1**	**-3.4**
	comp=N,5.8nm,0.7s						
CPCT	**Cooper Cave**	**21.16**	**22**	eP	**P**	**00 48 05.2**	**+9.4**
CPCT				eS	**S**	**00 51 36.7**	**-3.6**
ANMO	**Albuquerque**	**22.03**	**332**	P	**P**	**00 48 07.0**	**+2.5**
	comp=N,3.1nm,0.8s,mb3.7,baz=140,slow=11,SNR=8.9						
ANMO				pP		00 48 25.4	
	comp=N,3.6nm,0.7s,baz=150,slow=12,SNR=8.8						
ANMO	**Albuquerque**	**22.03**	**332**	eP	**P**	**00 48 06.7**	**+2.3**
	comp=N,6.2nm,0.9s,mb3.9						
ANMO				e		00 48 24.1	
ROSC	**El Rosal**	**22.14**	**118**	P	**P**	**00 48 06.4**	**+0.7**
	comp=N,5.9nm,0.5s,mb4.2,baz=106,slow=18,SNR=6.6						
CCM	**Cathedral Cave**	**22.15**	**6**	P	**P**	**00 48 07.4**	**+1.9**
	comp=N,16nm,0.7s,mb4.5						
CCM				epP		00 48 27.3	
CCM				esP		00 48 38.1	
TZTN	**Tazewell**	**22.49**	**22**	P	**P**	**00 48 09.0**	**+0.2**
USIN	**University of**	**22.62**	**13**	P	**P**	**00 48 06.1**	**-4.1**
	comp=N,36nm,0.8s,mb4.8						
USIN				epP		00 48 28.1	
USIN				esP		00 48 41.7	
WCI	**Wyandotte Cave**	**23.19**	**15**	eP	**P**	**00 48 22.3**	**+6.6**
	comp=N,39nm,0.8s,mb4.8						
WCI				epP		00 48 36.7	
WCI				esP		00 48 47.3	
SDV	**Santo Domingo**	**23.76**	**104**	P	**P**	**00 48 21.1**	**-0.3**
	comp=N,8.7nm,0.6s,mb4.3,baz=320,slow=4.8,SNR=8.3						
SDV				LR	LR	00 57 33.3	
	comp=N,69nm,18.5s,baz=196,slow=36						
SDV	**Santo Domingo**	**23.76**	**104**	eP	**P**	**00 48 18.6**	**-2.8**

comp=N,10nm,0.9s,mb4.2
SDCO Great Sand Dun 24.02 337 *e*P **P** **00 48 26.6 +3.0**
comp=N,1.2nm,0.7s,mb3.3
SDCO *e*pP 00 48 45.6
SDCO *e*sP 00 48 58.8
BLO Bloomington 24.03 14 P **P** **00 48 23.2 -0.5**
comp=N,31nm,0.9s,mb4.6
BLO *e*pP 00 48 45.7
BLO *e*sP 00 48 56.0
WUAZ Wupatki 24.98 325 *e*P **P** **00 48 35.5 +2.5**
comp=N,164nm,0.9s
WUAZ *e*pP 00 48 55.9
WUAZ *e*sP 00 49 06.8
PV01 Paradox Valley 25.61 332 *e*P **P** **00 48 40.4 +1.5**
PV01 *e*pP pP 00 49 02.6 +2.3
PV01 *e*sP sP 00 49 13.3 +1.0
PV10 Paradox Valley 26.02 332 *e*P **P** **00 48 43.4 +0.7**
PV10 *e*sP sP 00 49 16.8 +0.7
SJG San Juan 26.61 81 LR LR 00 57 27.2
comp=N,50nm,20.6s,baz=273,slow=32
HWUT Hardware Ranch 29.78 333 P **P** **00 49 17.6 +1.0**
comp=N,3.4nm,1.1s,mb3.9
PDAR Pinedale Array 29.91 337 P **P** **00 49 18.9 +1.2**
comp=N,0.3nm,0.5s,mb3.2,baz=129,slow=12,SNR=3.0
PDAR Pinedale Array 29.91 337 P **P** **00 49 18.9 +1.1**
SNOW Snow King Moun 30.97 336 *e*P **P** **00 49 28.4 +1.4**
NVAR Mina Array Bea 31.02 321 P **P** **00 49 30.3 +2.8**
comp=N,3.4nm,0.7s,mb4.2,baz=137,slow=9.2,SNR=18
NVAR pP pP 00 49 51.0 +1.2
comp=N,2.2nm,0.8s,baz=132,slow=8.9,SNR=5.2
SADO Sadowa 31.32 20 LR LR 01 04 18.0
comp=N,61nm,21.5s,baz=99,slow=41
HLID Hailey 32.61 332 *e*P **P** **00 49 41.4 +0.1**
comp=N,1.5nm,0.8s,mb3.9
ULM Lac du Bonnet 34.26 358 P **P** **00 49 53.0 -2.4**
comp=N,4.7nm,0.7s,mb4.5,baz=175,slow=8.9,SNR=8.1
WALA Waterton Lakes 36.85 338 P **P** **00 50 16.6 -0.7**
comp=N,2.3nm,0.8s,mb4.2
SAML Samuel 39.19 127 *e*P **P** **00 50 33.4 -3.8**
comp=N,8.9nm,1.0s,mb4.5
SAML *e*pP pP 00 50 56.4 -3.8
SAML *e*sP sP 00 51 03.9 -7.8
FFC Flin Flon 39.21 353 *e*P **P** **00 50 36.6 -0.3**
comp=N,5.2nm,0.6s,mb4.5
FFC *e*pP pP 00 50 58.1 -1.8
LPAZ La Paz 40.89 140 P **P** **00 50 53.0 +1.9**
comp=N,2.0nm,0.7s,mb4.1,baz=313,slow=9.6,SNR=8.7
LPAZ La Paz 40.89 140 *e*P **P** **00 50 51.0 -0.1**
comp=N,2.6nm,0.7s,mb4.2
LPAZ *e*pP pP 00 51 14.1 0.0
FCC Fort Churchill 42.75 360 *e*P **P** **00 51 04.2 -1.8**
comp=N,2.5nm,0.8s,mb4.0
YKA Yellowknife Ar 48.74 347 P **P** **00 51 52.7 -0.5**
comp=N,3.1nm,0.5s,mb4.5,baz=152,slow=7.3,SNR=86
YKA pP pP 00 52 14.8 -2.0
comp=N,2.5nm,0.7s,baz=150,slow=7.5,SNR=10.0
YKA Yellowknife Ar 48.74 347 P **P** **00 51 52.7 -0.5**
YKA pP pP 00 52 14.8 -2.0
YKW3 Yellowknife Ar 48.80 347 *e*P **P** **00 51 52.8 -0.9**
YKW3 *e*pP pP 00 52 14.3 -3.0
YKW3 *e*sP sP 00 52 23.7 -4.5
DLBC Dease Lake 50.15 336 *e*P **P** **00 52 05.3 +1.1**
FRB Frobisher Bay 50.87 14 P **P** **00 52 07.3 -2.3**
comp=N,1.2nm,0.6s,mb4.1,baz=220,slow=6.7,SNR=5.5
BDFB Brasilia 55.10 123 P **P** **00 52 39.3 -2.2**
comp=N,11nm,0.7s,mb5.0,baz=296,slow=7.4,SNR=19
BAO Brasilia Array 55.12 122 P **P** **00 52 38.4 -3.3**
INK Inuvik 58.07 344 *e*P **P** **00 53 01.4 -0.5**
comp=N,2.5nm,0.6s,mb4.4
INK *e*pP pP 00 53 22.8 -3.5
INK *e*sP sP 00 53 32.1 -5.2
RES Resolute Bay 58.75 360 *e*P **P** **00 53 04.1 -2.4**
comp=N,3.4nm,0.7s,mb4.5
RES *e*pP pP 00 53 29.6 -1.3
ILAR Eielson Array 60.35 337 P **P** **00 53 17.1 -0.5**
comp=N,0.6nm,0.8s,mb3.7,baz=126,slow=5.3,SNR=16
ILAR pP pP 00 53 41.7 -0.4
comp=N,2.0nm,0.8s,baz=152,slow=5.0,SNR=16
PLCA Paso Flores 60.41 160 P **P** **00 53 17.2 -1.2**
comp=N,2.0nm,0.9s,mb4.1,baz=346,slow=9.6,SNR=4.4
PLCA Paso Flores 60.41 160 P **P** **00 53 17.0 -1.4**
NB2 NORSAR Subarra 83.32 28 P **P** **00 55 34.4 +0.5**
comp=N,0.7nm,0.6s,mb3.7,baz=291,slow=5.0
NOA NORSAR Array B 83.32 28 P **P** **00 55 34.7 +0.8**
comp=N,2.5nm,0.9s,mb4.0,baz=291,slow=5.3,SNR=4.3
NOA LR LR 01 36 12.2
comp=N,50nm,18.4s,baz=240,slow=38
ARCES ARCESS Array B 84.87 18 P **P** **00 55 41.5 0.0**
comp=N,5.8nm,0.8s,mb4.5,baz=289,slow=5.0,SNR=12
ARCES pP pP 00 56 05.1 -2.4
comp=N,4.5nm,1.0s,baz=297,slow=5.4,SNR=4.3
GERES GERESS Array B 89.27 39 P **P** **00 56 03.1 0.0**
comp=N,0.7nm,0.9s,mb3.7,baz=207,slow=3.0,SNR=4.6
FINES FINESS Array B 89.52 25 P **P** **00 56 03.3 -0.7**
comp=N,0.9nm,0.8s,mb4.0,baz=27,slow=4.3,SNR=4.1
LSZ Lusaka 124.37 98 P Pdif 00 58 46.6 +6.2
WRA Warramunga Arr 134.06 258 PKP PKPdf 01 02 25.1 +1.3
comp=N,0.9nm,1.0s,baz=9.4,slow=0.9,SNR=10
WRA pPKP 01 02 54.7
comp=N,0.3nm,0.6s,baz=6.2,slow=0.8,SNR=6.6
ASAR Alice Springs 134.55 252 PKP PKPdf 01 02 26.9 +2.3
comp=N,0.2nm,0.6s,baz=74,slow=2.6,SNR=3.2

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*TEH **03** 00:49:42.2, 29.64N×58.64E, h10km, Mn4.7*
*BJI **03** 00:49:54.7, 30.38N×56.05E, h10km, mB4.9, mb4.6, Ms4.7, Msz4.4*
*IDC **03** 00:50:03.4±0.6, 30.75N×56.98E, mb4.1/18, mb1 4.3/21, mb1mx4.2/25, mbtmp4.1/21, ML3.6/1, MS3.3/5, Ms1 3.4/5, ms1mx3.2/21, Error ellipse: s-maj=16.8km s-min=15.0km az=13.0*
*CSEM **03** 00:50:03.8±0.1, 30.78N×56.89E, h16km, mb4.6/13, ML4.6/1, Error ellipse: s-maj=2.1km s-min=2.0km az=27.0*
*NEIC **03** 00:50:04.9±0.3, 30.78N×56.98E, h10km, mb4.6/23, ML4.1(THR), Error ellipse: s-maj=6.2km s-min=5.0km az=224.0*
*THR **03** 00:50:04.6±1.1, 30.80N×56.89E, h14km±8km, ML4.1*
*MOS **03** 00:50:06.7±1.2, 30.77N×56.93E, h33km, mb4.7/11, Error ellipse: s-maj=10.9km s-min=8.0km az=110.6*
ISC 03 00:50:04.4±0.2**, 30.81N**±0.03×**56.89E**±0.03**, h14km, (h19km**±3.3km**:pP-P), n132, σ1§13**/133**, mb4.4**/43**, MS3.6**/6**, 1C, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KRBR Kerman 0.83 188 *i* PG **Pg** **00 50 19.8 -1.4**
KRBR AML AML 00 50 39.1
comp=N,6μm,0.6s
BNDS Bandar-Abbas 3.46 191 *e*PN **Pn** **00 51 00.7 +1.8**
BNDS AML AML 00 52 01.0
comp=N,404nm,0.6s
BNDS Bandar-Abbas 3.46 191 *e*Pn **Pn** **00 51 00.0 +1.0**
ZHSF Zahedan 3.57 109 *e*PN **Pn** **00 51 01.3 +0.7**
ZHSF *e*PG **Pg** **00 51 09.3 -6.4**
ZHSF AML AML 00 52 07.0
comp=N,412nm,0.6s
NASN Na'in 4.00 301 *e*PN **Pn** **00 51 07.5 +0.9**
NASN *e*PG **Pg** **00 51 16.6 -7.7**
NASN *e*SG **Sg** **00 52 09.1 -8.5**
NASN AML AML 00 52 30.5
comp=N,270nm,0.6s
GHIR Ghir-Karzin 4.23 234 *e*PN **Pn** **00 51 11.1 +1.2**
GHIR AML AML 00 52 34.2
comp=N,174nm,0.6s
GHIR Ghir-Karzin 4.23 234 *e*Pn **Pn** **00 51 11.0 +1.1**
BANOM Banah 4.90 186 P **Pn** **00 51 20.7 +1.3**
SNR=34
ISFB Sefidab 5.28 313 Pn **Pn** **00 51 26.1 +1.3**
IFIR Firoozkooh 5.93 325 Pn **Pn** **00 51 34.0 0.0**
IVRN Varamin 6.02 315 Pn **Pn** **00 51 35.8 +0.5**
ASHO Ashiyiah 6.15 187 ⇑P **Pn** **00 51 39.3 +2.3**
SNR=13
IDMV Damavand 6.26 321 Pn **Pn** **00 51 39.0 +0.4**
DAMV Damavand 6.33 321 *e*PN **Pn** **00 51 39.7 +0.1**
DAMV Damavand 6.33 321 *e*Pn **Pn** **00 51 39.0 -0.6**
IAFJ Afjeh 6.64 321 Pn **Pn** **00 51 44.6 +0.6**
IAFJ Sn **Sn** **00 53 14.9 +15**
ASAO Ashtian 6.88 305 *e*PN **Pn** **00 51 48.0 +0.6**
HOQ Hoqain 7.21 177 P **Pn** **00 51 50.5 -1.5**
SNR=8.3
HOQ P 00 51 50.5
SNR=8.3
IRAZ Razeghan 7.42 310 Pn **Pn** **00 51 55.5 +0.6**
BSY Bisya 8.04 178 P **P** **00 52 05.0 +1.4**
SNR=9.6
BSYO Bisya 8.05 178 P **P** **00 52 05.0 +1.2**
SNR=9.6
RDF Al-Radifah 8.32 259 *e*P **P** **00 52 06.2 -1.3**
NAY Al-Naaiem 8.51 262 *e*P **P** **00 52 09.4 -0.7**
RST Umm Al-Ruwaisa 8.66 264 *e*P **P** **00 52 10.4 -1.9**
SNGE Sanandaj 9.08 301 *e*PN **P** **00 52 18.4 +0.3**
SNGE Sanandaj 9.08 301 *e*Pn **P** **00 52 18.0 -0.1**
BHD Baghdad 10.89 286 *e*P Px 00 53 18.0
BHD *e*S Sx 00 54 49.0
BHD *e*LR LR 00 56 29.0
WHFO Wadi Hawf 13.14 193 P **P** **00 53 09.1 -4.2**
SNR=13
RBK Rabkut 13.47 191 P **P** **00 53 13.1 -4.5**
SNR=9.9
GNI Garni 13.58 317 Pn **P** **00 53 16.0 -3.0**
comp=N,0.2nm,0.3s,baz=159,slow=14,SNR=1.8
GNI LR LR 00 58 33.2
comp=N,125nm,19.8s,baz=340,slow=37
GNI Garni 13.58 317 P **P** **00 53 16.0 -3.0**
ABTO Aybut 13.79 195 P **P** **00 53 17.7 -4.2**
SNR=18
ZEI Tsey 15.81 323 *e*P **P** **00 53 51.0 +2.8**
MALT Malatya 16.93 301 *e*P **P** **00 54 02.2 -0.2**
MALT pmax pmax
comp=Z,8.0nm,0.9s
MALT Malatya 16.93 301 *e*P **P** **00 54 02.2 -0.2**
comp=Z,8.1nm,0.9s
MALT Malatya 16.93 301 *e*P **P** **00 54 02.2 -0.2**
comp=Z,8.1nm,0.9s
ASF Jabal al Asfar 17.11 280 P **P** **00 54 03.7 -1.0**
comp=Z,0.8nm,0.3s,baz=301,slow=4.4,SNR=7.9
KIV Kislovodsk 17.27 323 *e*P **P** **00 54 10.1 +3.4**
KIV pmax pmax
comp=Z,33nm,1.2s
KIV Kislovodsk 17.27 323 *e*P **P** **00 54 10.1 +3.4**
comp=Z,33nm,1.2s
KSH Kashi 17.83 56 *e*P **P** **00 54 12.8 -0.9**
KSH *e*AP 00 54 22.8
KSH *e*XP 00 54 28.2
DDI Dehra Dun 18.24 86 *e* **P** **00 54 20.4 +1.6**
AAK Ala-Archa 18.36 45 *e*P **P** **00 54 19.0 -1.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 18.36 45 *e*P **P** **00 54 19.0 -1.2**
comp=Z,9.0nm,1.0s
FRU Bishkek 18.54 45 *e*P **P** **00 54 22.0 -0.5**
EIL Elat 18.99 272 P **P** **00 54 29.1 +1.2**
comp=Z,0.2nm,0.3s,baz=62,slow=15,SNR=3.0
EIL Elat 18.99 272 *e*P **P** **00 54 29.4 +1.5**
comp=Z,26nm,1.2s
CSS Prodhromos 20.20 288 *e*P **P** **00 54 41.2 -0.3**
comp=Z,48nm,1.3s
CSS Prodhromos 20.20 288 *e*P **P** **00 54 41.2 -0.3**
comp=Z,48nm,1.3s
BRTR Keskin Array B 20.92 301 P **P** **00 54 49.2 +0.3**
comp=Z,2.4nm,0.7s,baz=120,slow=12,SNR=13
KOLN Koldanda 23.47 91 *e*P **P** **00 55 14.0 -0.4**
comp=Z,59nm,1.5s,mb4.8
HYB Hyderabad 23.79 119 *i* P **P** **00 55 19.0 +1.4**
HYB Hyderabad 23.79 119 *e*P **P** **00 55 19.0 +1.4**
BVAR Borovoye Array 24.28 20 P **P** **00 55 23.4 +1.3**
comp=Z,4.1nm,0.7s,mb4.0,baz=194,slow=6.1,SNR=33
BVAR PcP PcP 00 59 02.1 -1.4
comp=Z,0.7nm,0.8s,baz=243,slow=3.2,SNR=3.0
BVAR Borovoye Array 24.28 20 PcP PcP 00 59 02.1 -1.3
GKN Gorkha 24.31 90 *e*P **P** **00 55 22.8 +0.2**
comp=Z,19nm,0.8s,mb4.6
KKN Kakani 24.91 90 *e*P **P** **00 55 29.4 +1.0**
comp=Z,53nm,1.2s,mb5.0
PKI Pulchoki 25.08 90 *e*P **P** **00 55 30.5 +0.5**
comp=Z,74nm,1.3s,mb5.1
KURK Kurchatov 25.64 33 *e*P **P** **00 55 34.9 -0.1**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.1
JIRN Jiri 25.73 90 *e*P **P** **00 55 37.8 +1.7**
comp=Z,22nm,0.6s,mb4.8
WMQ Urumqi 27.56 53 *e*P **P** **00 55 52.5 -0.2**
WMQ AP pP 00 55 57.0 +0.2
WMQ XP sP 00 55 59.0 +0.3
WMQ PP PP 00 56 39.0 -1.9
WMQ PPP PPP 00 56 54.0 +1.1
WMQ S **S** **01 00 31.0 -0.7**
WMQ XS 01 00 46.0
WMQ AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,140nm,4.0s
WMQ LR LR
comp=N,183nm,16.0s,MS3.9
WMQ LR LR
comp=E,168nm,18.2s,MS3.9
WMQ LR LR
comp=Z,152nm,15.4s,MS3.7
MLR Muntele Rosu 28.20 310 P **P** **00 55 58.1 -0.4**
comp=Z,3.2nm,0.8s,mb4.0,baz=142,slow=18,SNR=4.2
AKASG Malin Array Be 28.61 322 P **P** **00 56 01.9 -0.2**
comp=Z,0.6nm,0.4s,mb3.6,baz=125,slow=8.0,SNR=10.0
ZAL Zalesovo 30.62 33 P **P** **00 56 19.6 -0.4**
comp=Z,2.8nm,0.7s,mb4.2,baz=239,slow=9.6,SNR=21
ZAL LR LR 01 09 53.7
comp=Z,51nm,18.4s,MS3.2,baz=232,slow=39
KWP Kalwaria 31.79 316 P **P** **00 56 31.5 +1.1**
KWP pmax pmax
comp=Z,15nm,1.2s,mb4.7
KWP Kalwaria 31.79 316 P **P** **00 56 31.5 +1.1**
comp=Z,15nm,1.2s,mb4.7
PSZ Piszkesteto 32.93 312 *e*P **P** **00 56 39.9 -0.4**
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PSZ Piszkesteto 32.93 312 *e*P **P** **00 56 39.9 -0.4**
comp=Z,3.4nm,0.8s,mb4.3
PSZ Piszkesteto 32.93 312 *e*P **P** **00 56 39.9 -0.4**
comp=Z,3.4nm,0.8s,mb4.3
SUW Suwalki 33.50 324 *e*P **P** **00 56 45.6 +0.3**
SUW pmax pmax
comp=Z,21nm,1.0s,mb5.0
SUW Suwalki 33.50 324 *e*P **P** **00 56 45.5 +0.3**
comp=Z,21nm,1.0s,mb5.0
SUW Suwalki 33.50 324 *e*P **P** **00 56 45.5 +0.2**
comp=Z,21nm,1.0s,mb5.0
GTA Gaotai 35.87 64 P **P** **00 57 06.2 +0.5**
GTA AP pP 00 57 14.1 +4.2
GTA XP sP 00 57 17.2 +5.5
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
FINES FINESS Array B 36.67 336 P **P** **00 57 12.2 -0.1**
comp=Z,1.9nm,0.9s,mb3.9,baz=108,slow=12,SNR=4.3
FINES LR LR 01 14 44.9
comp=Z,45nm,19.3s,MS3.3,baz=101,slow=40
KMBO Kilima Mbogo 36.85 214 *e*P **P** **00 57 15.2 +1.0**
KMBO pmax pmax
comp=Z,6.0nm,1.2s
KMBO Kilima Mbogo 36.85 214 P **P** **00 57 15.1 +0.9**
comp=Z,2.5nm,0.9s,mb4.0,baz=52,slow=12,SNR=6.3
KMBO Kilima Mbogo 36.85 214 *e*P **P** **00 57 15.2 +1.0**
comp=Z,5.7nm,1.2s,mb4.3
KMBO Kilima Mbogo 36.85 214 *e*P **P** **00 57 15.2 +1.0**
comp=Z,5.7nm,1.2s,mb4.3
GERES GERESS Array B 37.15 312 P **P** **00 57 17.3 +0.9**
comp=Z,1.9nm,0.7s,mb4.0,baz=108,slow=8.4,SNR=21
KHC Kasperske Hory 37.30 312 *e*P **P** **00 57 17.0 -0.6**
CLL Collm 38.19 315 *i* **P** **00 57 26.6 +1.5**
CLL Collm 38.19 315 P **P** **00 57 27.0 +1.9**
comp=Z,logA/T=0.9,mb4.4
VSL Villasalto 39.42 296 *e*P **P** **00 57 34.0 -1.5**
comp=Z,12nm,1.0s,mb4.6
VSL Villasalto 39.42 296 *e*P **P** **00 57 34.0 -1.5**
comp=Z,12nm,1.0s,mb4.6
CMAR Chiang Mai Arr 39.94 98 P **P** **00 57 38.6 -1.4**
comp=Z,1.1nm,0.4s,mb3.9,baz=300,slow=6.9,SNR=6.1
CMAR LR LR 01 14 27.9
comp=Z,28nm,20.1s,MS3.1,baz=270,slow=37
SONM Songino Array 41.15 51 P **P** **00 57 50.4 +0.8**
comp=Z,1.0nm,0.8s,mb3.5,baz=270,slow=8.6,SNR=7.1
ULN Ulaanbaatar 41.59 51 *e*P **P** **00 57 54.0 +0.8**
ULN pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
ULN Ulaanbaatar 41.59 51 *e*P **P** **00 57 54.0 +0.8**
comp=Z,1.5nm,0.7s,mb3.7
ULN Ulaanbaatar 41.59 51 *e*P **P** **00 57 54.0 +0.8**
comp=Z,1.5nm,0.7s,mb3.7
NB2 NORSAR Subarra 42.45 329 P **P** **00 57 59.8 -0.3**
comp=Z,5.5nm,1.2s,mb4.1,baz=116,slow=7.9
NOA NORSAR Array B 42.45 329 P **P** **00 58 00.2 0.0**
comp=Z,1.2nm,0.8s,mb3.6,baz=114,slow=8.0,SNR=4.1
ARCES ARCESS Array B 42.66 344 LR LR 01 18 33.9
comp=Z,62nm,20.1s,MS3.5,baz=188,slow=40
BOD Bodaibo 47.12 38 *e*P **P** **00 58 35.9 -1.6**
BJT Baijiatuau 48.40 62 P **P** **00 58 50.1 +2.3**
BJT pmax pmax
comp=Z,8.0nm,0.8s
BJT Baijiatuau 48.40 62 P **P** **00 58 50.1 +2.3**
comp=Z,7.6nm,0.8s,mb4.8
BJT Baijiatuau 48.40 62 P **P** **00 58 50.1 +2.3**
comp=Z,7.6nm,0.8s,mb4.8
ESDC Sonseca Array 49.65 298 P **P** **00 58 56.6 -0.8**
comp=Z,0.4nm,0.5s,mb3.8,baz=66,slow=8.1,SNR=4.9
NJ2 Nanjing 52.23 71 *e*P **P** **00 59 14.2 -3.0**
NJ2 AP pP 00 59 18.7 -2.8
NJ2 XP sP 00 59 21.2 -2.0
NJ2 PP PP 01 01 12.0 -4.6
NJ2 S **S** **01 06 36.0 -3.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,210nm,6.2s
NJ2 LR LR
comp=N,1μm,16.2s,MS5.0
NJ2 LR LR
comp=E,402nm,15.4s,MS5.0
NJ2 LR LR
comp=Z,1μm,18.2s,MS4.9
LSZ Lusaka 53.49 215 *e*P **P** **00 59 26.0 -0.8**
LSZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
LSZ Lusaka 53.49 215 *e*P **P** **00 59 26.0 -0.8**
comp=Z,4.4nm,1.1s,mb4.3
LSZ Lusaka 53.49 215 *e*P **P** **00 59 26.0 -0.8**
comp=Z,4.4nm,1.1s,mb4.3
CN2 Changchun 54.60 56 *e*P **P** **00 59 32.7 -1.8**
MDJ Mudanjiang 57.36 54 P **P** **00 59 50.6 -3.8**
MDJ AMB AMB
comp=Z,7.0nm,0.6s,mb4.9
MDJ AMB AMB
comp=Z,87nm,4.0s
MDJ Mudanjiang 57.36 54 P **P** **00 59 50.6 -3.8**
comp=Z,7.0nm,0.6s,mb4.9
MATP Matopo 57.79 212 P **P** **00 59 56.6 -1.1**
comp=Z,5.1nm,0.7s,mb4.7,baz=26,slow=7.4,SNR=18
TSUM Tsumeb 62.45 222 *e*P **P** **01 00 30.0 +0.3**
comp=Z,13nm,1.1s,mb5.0
TSUM Tsumeb 62.45 222 *e*P **P** **01 00 30.0 +0.3**
comp=Z,13nm,1.1s,mb5.0
SUMG Summit 62.49 340 P **P** **01 00 28.9 -0.3**
comp=Z,7.1nm,1.1s,mb4.7
SUMG Summit 62.49 340 P **P** **01 00 28.9 -0.4**
comp=Z,7.1nm,1.1s,mb4.7
LBTB Lobatse 63.08 212 *e*P **P** **01 00 32.6 -1.1**
LBTB pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
LBTB Lobatse 63.08 212 *e*P **P** **01 00 32.6 -1.1**
comp=Z,3.9nm,1.0s,mb4.5
LBTB Lobatse 63.08 212 *e*P **P** **01 00 32.6 -1.1**
comp=Z,3.9nm,1.0s,mb4.5
BOSA Boshof 66.34 210 *e*P **P** **01 00 53.0 -1.9**
BOSA pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
BOSA Boshof 66.34 210 *e*P **P** **01 00 53.0 -1.9**
comp=Z,3.7nm,0.8s,mb4.5
BOSA Boshof 66.34 210 *e*P **P** **01 00 53.0 -1.9**
comp=Z,3.7nm,0.8s,mb4.5
BILL Bilibino 68.60 22 *e*P **P** **01 01 05.3 -3.2**
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
BILL Bilibino 68.60 22 *e*P **P** **01 01 05.3 -3.2**
comp=Z,12nm,1.3s,mb4.7
FRB Frobisher Bay 76.43 338 P **P** **01 01 54.0 -0.6**
comp=Z,3.5nm,1.0s,mb4.3,baz=43,slow=6.2,SNR=6.6
FRB Frobisher Bay 76.43 338 P **P** **01 01 54.0 -0.7**
IMA Indian Mountai 80.61 12 *e*P **P** **01 02 17.9 +0.4**
IMA pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
IMA Indian Mountai 80.61 12 *e*P **P** **01 02 17.9 +0.4**
comp=Z,9.9nm,0.7s,mb4.8
IMA Indian Mountai 80.61 12 *e*P **P** **01 02 17.9 +0.4**
comp=Z,9.9nm,0.7s,mb4.8
ILAR Eielson Array 82.93 10 P **P** **01 02 29.4 -0.2**
comp=Z,1.0nm,0.7s,mb4.0,baz=311,slow=6.3,SNR=10
MCK McKinley 83.58 11 *e*P **P** **01 02 32.7 -0.1**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
MCK McKinley 83.58 11 *e*P **P** **01 02 32.7 -0.2**
comp=Z,2.9nm,1.0s,mb4.4
MCK McKinley 83.58 11 *e*P **P** **01 02 32.7 -0.1**
comp=Z,2.9nm,1.0s,mb4.4
YKA Yellowknife Ar 86.77 356 P **P** **01 02 49.5 +0.7**
comp=Z,1.6nm,0.7s,mb4.4,baz=0.6,slow=5.2,SNR=46
WRA Warramunga Arr 89.82 113 P **P** **01 03 02.9 -1.5**
comp=Z,0.7nm,0.6s,mb4.2,baz=319,slow=3.9,SNR=7.8
WRAB Tennant Creek 89.83 113 *e*P **P** **01 03 03.2 -1.2**
WRAB pmax pmax
comp=Z,25nm,1.5s,mb5.3
WRAB Tennant Creek 89.83 113 *e*P **P** **01 03 03.2 -1.2**
comp=Z,25nm,1.5s,mb5.3
ASAR Alice Springs 91.50 117 P **P** **01 03 11.0 -1.0**
comp=Z,1.1nm,0.7s,mb4.3,baz=310,slow=5.3,SNR=8.4
TAU Tasmania Unive 110.52 128 PKIKP PKPdf 01 08 34.9 -4.8
TXAR Lajitas Array 117.39 341 PKP PKPdf 01 08 50.6 -2.8
comp=Z,0.2nm,0.6s,baz=27,slow=2.0,SNR=3.2

IDC 03 01:00:22.7±1.7**, 10.59N**×**92.70E, mb3.9**/3**, mb1 4.0**/4**, mb1mx3.6**/17**, mbtmp3.9**/4**, ML4.4**/1**, Error ellipse: s-maj=60.2km s-min=32.4km az=56.0, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
CMAR Chiang Mai Arr 9.89 37 Pn P 01 02 46.4 -2.8
0.9nm,0.3s,baz=220,slow=15,SNR=5.9
ASAR Alice Springs 52.74 131 P P 01 09 39.7 -2.2
0.2nm,0.5s,baz=312,slow=5.9,SNR=4.8
FINES FINESS Array B 69.66 332 P P 01 11 33.8 -2.1
0.5nm,0.6s,baz=117,slow=6.2,SNR=2.9
ARCES ARCESS Array B 72.25 340 P P 01 11 49.6 -1.8
3.5nm,1.0s,baz=91,slow=7.6,SNR=5.6

IDC 03 01:28:55.4±2.4**, 10.59N**×**91.19E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/17**, mbtmp3.7**/5**, ML4.4**/1**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.9**/13**, Error ellipse: s-maj=73.6km s-min=23.8km az=71.0, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
VIS Vishakhapatnam 10.40 314 *e*P P 01 31 30.0 +0.9
VIS *e*S S 01 33 19.0 -8.6
CMAR Chiang Mai Arr 10.84 43 Pn P 01 31 31.5 -3.5
0.9nm,0.3s,baz=231,slow=15,SNR=5.4
SONM Songino Array 39.27 16 P P 01 36 26.5 -1.0
1.3nm,1.0s,baz=203,slow=9.4,SNR=7.1
ZAL Zalesovo 43.53 355 P P 01 36 60.0 -2.4
0.4nm,0.6s,baz=35,slow=6.5,SNR=2.5
WRA Warramunga Arr 52.20 125 P P 01 38 08.3 -2.4
0.4nm,0.5s,baz=306,slow=8.3,SNR=8.2
ASAR Alice Springs 53.88 130 P P 01 38 21.1 -2.0
1.1nm,0.8s,baz=303,slow=7.5,SNR=9.4
KMBO Kilima Mbogo 54.89 261 LR LR 01 57 42.7
comp=Z,27nm,19.4s,baz=99,slow=32

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*JMA **03** 02:10:18.2±0.3, 43.56N×147.61E, M3.9*
*SKHL **03** 02:10:18.4±1.5, 43.88N×148.02E, h33km, mb4.8/2*
ISC 03 02:10:17.0±2.1**, 43.93N**±0.10×**147.7E**±0.2**, h5km**±23km**, n9, σ0§86**/14**, Kuril Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KUR Kuril'sk 1.31 4 *e*P **Pb** **02 10 40.7 -0.9**
KUR AMB AMB 02 10 42.0
90nm,0.5s
KUR AMB AMB 02 10 42.0
100nm,0.5s
KUR AMB AMB 02 10 42.0
200nm,0.5s
KUR *i* S **Sb** **02 10 58.6 +0.1**
YUK Yuzh-Kuril'sk 1.36 275 *i* P **Pb** **02 10 42.3 -0.2**
YUK AMB AMB 02 10 43.3
250nm,0.2s
YUK AMB AMB 02 10 43.3
230nm,0.2s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YUK				AMB	AMB	02 10 43.3	
	620nm,0.2s						
YUK				eS	Sb	02 10 59.1	-1.0
YUK				A		02 11 03.0	
	2µm,0.4s						
YUK				A		02 11 03.0	
	2µm,0.4s						
YUK				A		02 11 06.0	
	2µm,0.4s						
YUK				A		02 11 06.0	
	3µm,0.4s						
JRA	Rausu	1.89	271	P	Pn	02 10 51.3	+1.1
JRA				eS	Sn	02 11 15.6	+0.9
JNK	Nakash	2.22	262	P	Pn	02 10 54.9	0.0
JNK				eS	Sn	02 11 22.1	-0.8
JAK	Akkeshi	2.41	248	P	Pn	02 10 56.8	-0.8
JTKR	Abashiri--Toko	2.77	272	P	Pn	02 11 04.1	+1.3
JTKR				eS	Sn	02 11 37.0	0.0
JOB	Onbets	3.03	252	P	Pn	02 11 06.1	-0.3
JMP	Maruseppu	3.16	273	P	Pn	02 11 10.1	+1.7
JCH	Churui	3.46	249	P	Pn	02 11 11.7	-0.9

*NEIC **03** 02:22:01.0, 45.06N×74.20W, h18^{km}, MN3.5(OTT), After OTT.*
NEIC Felt at Huntingdon, Montreal and Valleyfield, Quebec. Also felt in Clinton, Franklin and St. Lawrence Counties, New York.
OTT 03 02:22:01.4±0.2**, 45.06N×74.20W, h18^{km}, MN3.5**/12**, 2D, Southern Ontario**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSNY	Massena	0.47	263	⇓iP	Pb	02 22 10.7	-0.2
MSNY				eS	Sb	02 22 17.2	-0.2
MSNY	Massena	0.47	263	PG	Pb	02 22 10.7	-0.2
MSNY				SG	Sb	02 22 17.2	-0.2
MNT	Montreal	0.61	42	Pg	Pb	02 22 12.7	-0.5
MNT				Sg	Sb	02 22 21.1	-0.2
MNT	Montreal	0.61	42	PG	Pb	02 22 12.7	-0.5
MNT				Trac		02 22 20.7	
	comp=Z,222nm,0.1s						
MNT				SG	Sb	02 22 21.1	-0.2
ALFO	Alfred	0.75	320	Pg	Pb	02 22 15.7	0.0
ALFO				Sg	Sb	02 22 25.9	+0.6
ALFO	Alfred	0.75	320	PG	Pb	02 22 15.7	0.0
ALFO				Trac		02 22 25.4	
	comp=Z,211nm,0.1s						
ALFO				SG	Sb	02 22 25.9	+0.6
MRHQ	Morin Heights	0.83	360	Pg	Pb	02 22 16.7	-0.4
MRHQ				Sg	Sb	02 22 28.1	+0.3
MRHQ	Morin Heights	0.83	360	PG	Pb	02 22 16.7	-0.4
MRHQ				Trac		02 22 27.0	
	comp=Z,105nm,0.0s						
MRHQ				SG	Sb	02 22 28.1	+0.3
NCB	Newcomb	1.08	181	⇓iP	Pb	02 22 20.4	-1.0
NCB				eS	Sb	02 22 34.9	-0.2
MIV	Mineville/With	1.09	154	eP	Pb	02 22 20.6	-0.9
MIV				eS	Sb	02 22 34.7	-0.5
MIV	Mineville/With	1.09	154	PG	Pb	02 22 20.6	-0.9
MIV				SG	Sb	02 22 34.7	-0.5
GAC	Glen Almond	1.11	306	Pn	Pn	02 22 21.7	-0.4
GAC				Sn	Sn	02 22 36.2	-0.8
GAC	Glen Almond	1.11	306	PN	Pn	02 22 21.7	-0.4
GAC				Trac		02 22 35.0	
	comp=Z,105nm,0.2s						
GAC				SN	Sn	02 22 36.2	-0.8
TRQ	Mont Tremblant	1.19	348	Pn	Pn	02 22 22.9	-0.5
TRQ				Sn	Sn	02 22 39.2	+0.1
TRQ	Mont Tremblant	1.19	348	PN	Pn	02 22 22.9	-0.5
TRQ				Trac		02 22 38.6	
	comp=Z,150nm,0.1s						
TRQ				SN	Sn	02 22 39.2	+0.1
MOQ	Mont Orford	1.40	79	Pn	Pn	02 22 26.4	0.0
MOQ				Sn	Sn	02 22 45.5	+1.0
MOQ	Mont Orford	1.40	79	PN	Pn	02 22 26.4	0.0
MOQ				Trac		02 22 45.2	
	comp=Z,170nm,0.1s						
MOQ				SN	Sn	02 22 45.5	+1.0
MPPO	Murphy's Point	1.49	260	PN	Pn	02 22 27.8	+0.2
MPPO				SN	Sn	02 22 47.2	+0.5
MPPO				Trac		02 22 47.4	
	comp=Z,126nm,0.1s						
ACCN	Adirondack Com	1.71	167	ePn	Pn	02 22 30.8	-0.1
ACCN				eSn	Sn	02 22 52.7	+0.3
KGNO	Kingston	1.83	244	SN	Sn	02 22 56.8	+1.4
KGNO				Trac		02 22 57.2	
	comp=Z,121nm,0.1s						
HNH	Hanover	1.93	134	Pn	Pn	02 22 35.4	+1.5
HNH				eSn	Sn	02 22 59.2	+1.4
GRQ	Grand Remous	1.94	324	PN	Pn	02 22 35.2	+1.3
GRQ				PG	Pn	02 22 36.2	+2.2
GRQ				Trac		02 22 59.2	
	comp=Z,150nm,0.2s						
GRQ				SG	Sn	02 23 01.2	+3.2
FFD	Franklin Falls	2.42	130	ePn	Pn	02 22 42.6	+1.6
FFD				eSn	Sn	02 23 15.2	+4.8
QCQ	Quebec	2.67	49	Trac		02 23 21.9	
	comp=Z,24nm,0.1s						
QUA2	Belchertown	3.08	154	ePn	Pn	02 22 50.4	0.0
QUA2				eSn	Sn	02 23 32.4	+5.3
HRV	Harvard--Oak R	3.19	142	Pn	Pn	02 22 55.7	+3.8
WES	Weston	3.39	141	P	Pn	02 23 00.5	+5.8
GENY	Geneseo	3.47	230	Pn	Pn	02 22 53.9	-1.9
GENY				Sn	Sn	02 23 36.2	-0.7
SADO	Sadowa	3.52	267	Trac		02 23 51.6	
	comp=Z,39nm,0.2s						
EEO	Eldee	3.75	297	Trac		02 24 01.2	
	comp=Z,32nm,0.2s						
PAL	Palisades	4.05	177	Pn	Pn	02 23 06.2	+2.0
PAL				ePg	Pn	02 23 16.5	+12
PAL				eSg	Sn	02 24 04.3	+13
SSPA	Standing Stone	5.18	213	Pn	Pn	02 23 20.4	+0.3
SSPA				eSn	Sn	02 24 18.2	-1.9
SCHQ	Schefferville	10.87	23	P	P	02 24 33.6	-5.6

*ATH **03** 02:42:54.7, 41.47N×21.05E, h10^{km}, MD3.2/3*
*NEIC **03** 02:43:01.6, 40.75N×20.86E, h18^{km}, MD3.2(ATH), ML2.5(SKO), After SKO.*
*SKO **03** 02:43:01.6, 40.75N×20.86E, h18^{km}, ML2.5*
*CSEM **03** 02:43:01.8±0.3, 40.88N×20.73E, h10^{km}, ML2.9, Error ellipse: s-maj=6.6km s-min=5.9km az=153.0*
*THE **03** 02:43:03.0, 40.91N×20.87E, h1^{km}, ML2.9*
ISC 03 02:43:02.5±0.7**, 40.86N**±0.04×**20.84E**±0.04**, h4^{km}**±6^{km}**, n20,** σ**1^{s}14**/30**, 2C-3D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	Korca	0.24	190	i Pg	Pg	02 43 06.7	-0.7
KBN				i Sg	Sg	02 43 10.1	-0.6
OHR	Ohrid	0.25	353	⇑iPg	Pg	02 43 09.4	+1.8
OHR				i Sg	Sg	02 43 14.8	+3.9
BIA	Bitola	0.40	67	i Pg	Pg	02 43 10.7	+0.2
BIA				⇓iSg	Sg	02 43 16.9	+1.1
FNA	Florina	0.41	101	ePg	Pg	02 43 10.9	+0.1
FNA				eSg	Sg	02 43 17.0	+0.6
KZN	Kozani	0.90	128	⇓iPB	Pb	02 43 19.0	-1.3
QSH	Qafa e Shtames	0.96	313	i Pg	Pg	02 43 18.6	-3.2
QSH				i Sg	Sg	02 43 29.4	-5.3
SRN	Sarande	1.17	213	i Pn	Pn	02 43 25.2	-0.4
SRN				i Sn	Sn	02 43 46.6	+4.4
GRG	Griva	1.19	85	ePg	Pg	02 43 24.6	-1.7
GRG				eSg	Sg	02 43 41.7	-0.3
SKO	Skopje	1.20	22	i Pn	Pn	02 43 26.3	+0.3
JAN	Janina	1.21	180	⇑iPG	Pg	02 43 29.0	+2.4
IGT	Igoumenitsa	1.39	196	ePb	Pb	02 43 29.1	+0.4
IGT	Igoumenitsa	1.39	196	ePb	Pb	02 43 29.0	+0.4
KEK	Kerkira	1.40	215	⇓iPN	Pn	02 43 30.2	+1.4
LIT	Litokhoron	1.47	121	ePb	Pb	02 43 29.6	-0.4
LIT				eSb	Sb	02 43 50.6	+1.6
LIT	Litokhoron	1.47	121	ePb	Pb	02 43 29.6	-0.5
LIT				eSb	Sb	02 43 50.6	+1.6
KNT	Kendrikon	1.59	78	ePb	Pb	02 43 31.1	-0.9
KNT				eSb	Sb	02 43 52.7	+0.4
SOH	Sokhos	1.91	90	ePb	Pb	02 43 35.7	-1.8
SRS	Serrai	2.10	82	ePn	Pn	02 43 38.0	-0.8
SRS	Serrai	2.10	82	ePn	Pn	02 43 38.0	-0.9
AGG	Agios Georgios	2.17	148	ePn	Pn	02 43 40.4	+0.5

*CASC **03** 02:48:38.2±1.7, 12.10N×88.29W, h20^{km}±7^{km}, MD4.3, mb4.2(NEIC)*
*IDC **03** 02:48:41.1±3.3, 12.40N×87.74W, h43^{km}±35^{km}, mb3.7/6, mb1 3.9/7, mb1mx3.6/19, mbtmp3.9/7, ML3.2/1, Error ellipse: s-maj=56.8km s-min=20.3km az=47.0*
*NEIC **03** 02:48:43.0±0.9, 12.66N×87.40W, h55^{km}, mb4.2/8, Error ellipse: s-maj=41.4km s-min=11.6km az=50.0*
ISC 03 02:48:38.4±0.7**, 12.01N**±0.05×**88.32W**±0.04**, h45^{km}**±7^{km}**, n54,** σ**1^{s}09**/71**, mb4.0**/13**, 11C-6D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.35	21	eP	P	02 48 59.8	-1.5
CNCH				eS	S	02 49 17.9	-0.4
VSM	San Miguel	1.41	2	⇑eP	P	02 49 01.9	-0.3
CRIN	San Cristobal	1.42	61	⇓eP	P	02 49 02.3	0.0
CRIN				eS	S	02 49 20.0	0.0
BLLM	Bellamira	1.43	3	eP	P	02 49 01.9	-0.5
BLLM				eS	S	02 49 19.7	-0.5
LEON	Leon	1.46	74	⇑eP	P	02 49 01.7	-1.1
TELN	Telica	1.57	68	eP	P	02 49 03.8	-0.6
TELN				eS	S	02 49 27.1	+3.4
MIRN	Miramar	1.63	75	⇓eP	P	02 49 05.0	-0.3
CNGN	Cerro Negro	1.66	73	eP	P	02 49 04.9	-0.7
SNVI	San Vicente	1.67	343	eP	P	02 49 06.0	+0.2
COPN	Copaltepe	1.70	84	⇓eP	P	02 49 05.5	-0.7
COPN				eS	S	02 49 28.9	+2.0
CAHU	Cacacuatique	1.76	4	eP	P	02 49 06.4	-0.6
LCBS	La Ceiba	1.76	339	⇑eP	P	02 49 06.6	-0.4
LCBS				eS	S	02 49 29.0	+0.7
LFRS	El Faro	1.76	336	⇑eP	P	02 49 06.4	-0.6
LFRS				eS	S	02 49 28.5	+0.1
MOMJ	Momotombo	1.79	77	⇑eP	P	02 49 06.3	-1.1
LBRS	Las Brisas	1.86	338	eP	P	02 49 08.7	+0.3
LBRS				eS	S	02 49 30.9	+0.1
SNET	Serv Nac Est T	1.89	332	eS	S	02 49 32.5	+1.0
LFU	La Fuente	1.90	336	eP	P	02 49 08.6	-0.4
BOQS	Boqueron	1.96	332	eP	P	02 49 10.1	+0.4
XAVN	Gruta Xavier	1.96	86	eP	P	02 49 09.0	-0.8
MGAN	Managua	2.04	86	⇓eP	P	02 49 10.3	-0.7
MGAN				eS	S	02 49 35.7	+0.5
TICN	Ticuantepe	2.05	89	⇑eP	P	02 49 10.5	-0.6
TICN				eS	S	02 49 36.3	+0.8
APON	Apoyo	2.21	92	⇓eP	P	02 49 12.5	-0.9
SBLS	San Blas	2.22	325	⇑eP	P	02 49 13.6	+0.1
SBLS				eS	S	02 49 40.6	+0.7
SNJE	San Jose	2.23	326	⇑eP	P	02 49 13.5	-0.2
SNJE				eS	S	02 49 41.1	+0.9
PYTN	Playitas	2.28	76	eP	P	02 49 14.2	-0.2
PYTN				eS	S	02 49 43.7	+2.4
RTR	El Retiro	2.28	326	⇑eP	P	02 49 14.6	+0.2
RTR				eS	S	02 49 41.9	+0.5
RBDL	Robledal	2.48	328	⇓eP	P	02 49 17.7	+0.4
JTS	JuntasAbangare	3.72	117	P	P	02 49 34.1	-0.8
	2.4nm,0.3s,baz=303,slow=22,SNR=13						
JTS				S	S	02 50 11.8	-6.2
	6.8nm,0.3s,baz=248,slow=19,SNR=4.8						
JTS	JuntasAbangare	3.72	117	ePn	P	02 49 33.2	-1.6
JTS				S	S	02 50 11.8	-6.2
PRS1	Puriscal	4.42	117	eP	P	02 49 46.6	+1.8
LAJ	Bijagual	4.64	117	eP	P	02 49 44.5	-3.4
LAJ				eS	S	02 50 32.7	-8.5
LCR2	La Lucha 2	4.80	118	⇑eP	P	02 49 51.4	+1.2
LCR2				eS	S	02 50 46.1	+0.9
ICR	Volcan Irazu	4.85	114	eP	P	02 49 52.1	+1.3
BUS	Buena Vista	5.10	118	⇑eP	P	02 49 55.6	+1.2
JCT	Junction City	21.24	332	P	P	02 53 21.7	-1.1
	5.8nm,0.5s,mb4.2						
LTX	Lajitas	22.39	323	eP	P	02 53 38.7	+4.4
	3.5nm,0.6s,mb4.0						
TXAR	Lajitas Array	22.39	323	P	P	02 53 36.2	+1.9
	2.5nm,0.8s,mb3.7,baz=143,slow=11,SNR=21						
TXAR	Lajitas Array	22.39	323	P	P	02 53 36.2	+1.9
OXF	Oxford	22.43	358	eP	P	02 53 28.9	-5.7
	12nm,0.7s,mb4.4						
AMTX	Amarillo	25.81	334	eP	P	02 54 07.4	+0.2
	13nm,1.0s,mb4.4						
ANMO	Albuquerque	28.16	327	eP	P	02 54 32.4	+3.6
	1.0nm,0.7s,mb3.5						
SDCO	Great Sand Dun	29.89	332	eP	P	02 54 44.9	+0.8
	5.4nm,1.4s,mb4.1						
SAML	Samuel	32.53	129	eP	P	02 55 06.3	-1.3
	2.0nm,0.8s,mb4.1						
SAML				e	pP	02 55 15.2	-4.4
PDAR	Pinedale Array	35.77	333	P	P	02 55 36.1	+1.0
	0.6nm,0.8s,mb3.6,baz=140,slow=12,SNR=4.7						
PDAR				PcP	PcP	02 58 04.0	+1.4
	0.5nm,0.8s,baz=135,slow=4.2,SNR=3.7						
HWUT	Hardware Ranch	35.81	330	P	P	02 55 37.9	+2.4
YMR	Madison River	37.90	333	eP	P	02 55 56.5	+3.5
ULM	Lac du Bonnet	38.63	352	P	P	02 55 56.7	-2.3
	4.9nm,0.6s,mb4.5,baz=168,slow=9.8,SNR=13						
EDM	Edmonton	45.72	339	eP	P	02 56 54.9	-2.0
SCHQ	Schefferville	45.95	17	P	P	02 56 56.1	-2.5
	2.4nm,0.6s,mb4.3,baz=209,slow=8.3,SNR=9.3						
SCHQ	Schefferville	45.95	17	eP	P	02 56 55.5	-3.1
	11nm,1.2s,mb4.7						
YKA	Yellowknife Ar	53.82	345	P	P	02 57 57.0	-1.7
	0.9nm,0.7s,mb3.8,baz=138,slow=8.0,SNR=30						
YKA				PcP	PcP	02 59 04.0	0.0
	0.3nm,0.5s,baz=145,slow=4.2,SNR=8.3						
YKA	Yellowknife Ar	53.82	345	P	P	02 57 57.0	-1.7
YKA				PcP	PcP	02 59 04.0	0.0
ILAR	Eielson Array	66.08	336	P	P	02 59 22.1	-0.5
	0.4nm,0.9s,mb3.5,baz=91,slow=4.0,SNR=4.7						
CMAR	Chiang Mai Arr	148.89	347	PKPbc	PKPdf	03 08 22.9	+4.8
	0.9nm,0.4s,baz=338,slow=4.1,SNR=4.3						

*NEIC **03** 02:53:02.6, 15.70N×61.52W, h26^{km}, MD3.5(TRN), After TRN.*
TRN 03 02:53:05.0, 15.77N×61.52W, h2^{km}, MD3.5, Md2.9(FDF)**, 2C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BBL	Barber's Block	0.24	169	⇑iP	Pg	02 53 10.0	+0.1
BBL				eS	Sg	02 53 13.7	+0.5
MDN	Morne-Daniel	0.46	165	⇑iP	Pg	02 53 13.9	-0.3
MDN				eS	Sg	02 53 20.4	-0.1
DBCT	Belle View Cho	0.52	161	eP	Pg	02 53 12.8	-2.7
MBRY		1.11	327	eP	Pb	02 53 24.9	-1.8
MBRY				eS	Sb	02 53 40.6	-0.9
MRYT		1.11	327	eP	Pb	02 53 24.9	-1.8
MRYT				eS	Sb	02 53 40.6	-0.9
MGH	Saint George's	1.16	325	eP	Pb	02 53 26.0	-1.5
MBWH		1.17	326	eP	Pb	02 53 25.6	-2.0
MBWH		1.17	326	eP	Pb	02 53 25.8	-1.8

IDC 03 02:55:57.0±2.0**, 3.33N×93.14E, mb3.4**/3**, mb1 3.9**/4**, mb1mx3.5**/16**, mbtmp3.5**/4**, ML4.4**/1**, MS4.0**/1**, Ms1 3.9**/1**, ms1mx3.1**/8**, Error ellipse: s-maj=61.1km s-min=33.4km az=59.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.07	20	Pn	P	02 59 42.8	-3.3
	0.5nm,0.3s,baz=213,slow=15,SNR=4.1						
JIRN	Jiri	25.09	345	eP	P	03 01 47.6	+23
	12nm,0.5s						
PKI	Pulchoki	25.21	344	eP	P	03 01 48.1	+22
	15nm,0.6s						
DMN	Daman	25.33	343	eP	P	03 01 49.9	+23
	32nm,0.6s						
GKN	Gorkha	25.84	343	eP	P	03 01 56.0	+24
	13nm,0.3s						
KOLN	Koldanda	25.95	340	eP	P	03 01 57.5	+24
	6.0nm,0.5s						
SONM	Songino Array	45.78	12	P	P	03 04 21.1	-1.1
	0.3nm,0.8s,baz=198,slow=4.6,SNR=2.5						
WRA	Warramunga Arr	46.60	121	P	P	03 04 27.0	-2.0
	0.6nm,0.9s,baz=299,slow=8.8,SNR=5.3						
STKA	Stephens Creek	57.79	131	LR	LR	03 33 34.7	
	comp=Z,111nm,18.6s,baz=206,slow=39						
GERES	GERESS Array B	80.55	319	P	P	03 08 11.2	-1.5
	0.2nm,0.4s,baz=153,slow=4.4,SNR=3.9						

*NEIC **03** 03:38:25.3±3.1, 10.79S×118.77E, h35^{km}, Error ellipse: s-maj=69.1km s-min=10.1km az=63.0*
*DJA **03** 03:38:31.0±1.0, 11.65S×117.44E, h33^{km}, MD5.7/3, ML5.2/4, Error ellipse: s-maj=29.9km s-min=20.0km az=59.0*
ISC 03 03:38:31.4±1.0**, 11.53S**±0.06×**117.3E**±0.2**, h33^{km}, n15,** σ**1^{s}25**/27**, mb5.0**/1**, 7C-3D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	3.25	338	ePn	Pn	03 39 21.8	+0.4
KEDI				⇑iP		03 39 22.3	
KEDI				i Sn	Sn	03 39 59.3	-0.1
KEDI	Kedomdong	3.25	338	ePn	Pn	03 39 21.8	+0.4
	741nm,0.2s						
KEDI				⇑iSn	Sn	03 39 59.3	-0.1
RATI	Rata	3.31	327	⇑ePn	Pn	03 39 22.6	+0.5
RATI				⇑iP		03 39 22.9	
RATI				i Sn	Sn	03 39 59.2	-1.6
RATI	Rata	3.31	327	⇑ePn	Pn	03 39 22.6	+0.5
	765nm,0.2s						
RATI	Rata	3.31	327	⇑iPg	P	03 39 22.9	+0.9
RATI				⇓iSn	Sn	03 39 59.9	-0.9
KELI	Kelakatan	4.32	319	⇑ePn	Pn	03 39 37.6	+1.0
	341nm,0.3s						
SRDI	Scrawed	4.37	314	⇓iPn	Pn	03 39 37.0	-0.2
	264nm,0.2s						
SRDI				⇓iSn	Sn	03 40 26.7	-1.0
MBWA	Marble Bar	9.85	167	eP	P	03 40 51.4	-2.4
MBWA				eS	S	03 42 31.1	-13
MBWA	Marble Bar	9.85	167	ePn	P	03 40 50.9	-2.8
MBWA				eSn	Sn	03 42 29.7	-15
GIRL	Giralia	11.12	189	eP	P	03 41 17.2	+6.1
GIRL				eS	S	03 43 15.8	+0.5
	343nm,1.4s						
GIRL	Giralia	11.12	189	eP	P	03 41 17.2	+6.1
	343nm,1.4s						
GIRL				eS	S	03 43 15.8	+0.5
MEEK	Meekatharra	15.08	176	eP	P	03 42 03.5	-0.3
MEEK				eS	S	03 44 35.3	-15
	41nm,0.2s						
MEEK	Meekatharra	15.08	176	eP	P	03 42 03.5	-0.3
	41nm,0.2s						
MEEK				eS	S	03 44 35.3	-15
MORW	Morawa	17.49	184	eP	P	03 42 36.5	+2.1
MORW				eS	S	03 45 33.1	-13
TSUM	Tsumeb	95.28	249	eP	P	03 51 54.9	+1.1
	8.9nm,1.3s,mb5.0						

*NEIC **03** 03:47:55.7, 15.99N×96.39W, h53^{km}, MD3.7(MEX), After MEX.*
MEX 03 03:47:55.7±0.8**, 15.99N×96.39W, h53^{km}**±13^{km}**, MD3.7, 1C, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.35	129	⇑iP	P	03 48 04.2	-1.4
HUIG				i S	S	03 48 11.0	-1.8
VHO	Vista Hermosa	1.13	343	i P	P	03 48 13.4	-2.0
VHO				i S	S	03 48 27.3	-2.9
OXX	Oaxaca	1.13	343	i P	P	03 48 14.0	-1.5
OXX				i S	S	03 48 28.5	-1.8
CMIG	Matias Romero	1.81	53	i P	P	03 48 22.1	-3.0
CMIG				i S	S	03 48 44.7	-2.1

PGC 03 03:54:37.1, 48.33N×128.80W, h10^{km}, MLSn3.0/1**, Mw3.6, Northern Juan de Fuca ridge., Vancouver Island region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.90	35	Pn	Pn	03 55 06.9	-3.1
OZB	Mount Ozzard	2.28	73	Pn	Pn	03 55 12.9	-2.5
OZB				Trac		03 55 42.8	
	comp=Z,5.0nm,0.1s						
GDR	Gold River	2.33	50	Pn	Pn	03 55 13.9	-2.2
MAYB	Maynard	2.33	27	Pn	Pn	03 55 13.7	-2.5
MAYB				Sn	Sn	03 55 40.9	-4.3
	comp=Z,8.0nm,0.3s						
MAYB				Trac		03 55 44.1	
	comp=Z,8.0nm,0.3s						
WOSB	Woss	2.34	38	Pn	Pn	03 55 13.8	-2.5
HOLB	Holberg	2.35	10	Pn	Pn	03 55 15.1	-1.4
HOLB				Trac		03 55 44.0	
	comp=Z,8.0nm,0.2s						
BTB	Buttle Lake	2.44	61	Pn	Pn	03 55 16.1	-1.7
PHC	Port Hardy	2.54	20	Pn	Pn	03 55 16.1	-3.0
PHC				Trac		03 55 47.2	
	comp=Z,6.0nm,0.5s						
NCRB	Newcastle Ridg	2.74	40	Pn	Pn	03 55 20.0	-2.0
NCRB				Sn	Sn	03 55 53.2	-2.4
	comp=Z,6.0nm,0.4s						
NCRB				Trac		03 55 54.7	
	comp=Z,6.0nm,0.4s						
ALB	Alberni	2.79	69	Pn	Pn	03 55 20.6	-2.1
MGB	Mount Grey	2.80	75	Pn	Pn	03 55 20.0	-2.9
MGB				Sn	Sn	03 55 53.3	-3.8
	comp=Z,3.0nm,0.2s						
MGB				Trac		03 55 55.9	
	comp=Z,3.0nm,0.2s						
CBB	Campbell River	2.83	52	Pn	Pn	03 55 21.5	-1.7
PFB	Port Renfrew	2.91	84	Pn	Pn	03 55 21.8	-2.7
PFB				Sn	Sn	03 55 56.2	-3.7
PFB				Trac		03 55 58.9	
	comp=Z,2.0nm,0.2s						
TXB	Texada	3.18	63	Pn	Pn	03 55 26.5	-1.8
LZB	Mount Lazard	3.32	83	Pn	Pn	03 55 27.6	-2.6
LZB				Sn	Sn	03 56 07.0	-3.2
LZB				Trac		03 56 09.3	
SHB	Sechelt	3.48	67	Pn	Pn	03 55 30.7	-1.9
PGC	Sidney	3.57	83	Pn	Pn	03 55 31.3	-2.5
PGC				Trac		03 56 15.2	
	comp=Z,3.0nm,0.5s						
VGZ	Gonzales	3.65	87	Pn	Pn	03 55 32.0	-2.9
VGZ				Trac		03 56 17.6	
	comp=Z,3.0nm,0.2s						
SNB	Saturna Island	3.77	81	Pn	Pn	03 55 34.4	-2.2
BIB	Bowen Island	3.78	71	Pn	Pn	03 55 34.7	-2.1
BBB	Bella Bella	3.88	6	Pn	Pn	03 55 35.5	-2.8
BBB				Sn	Sn	03 56 19.3	-5.2
BBB				Trac		03 56 21.4	
	comp=Z,9.0nm,0.3s						
WPB	Watts Point	3.91	68	Pn	Pn	03 55 36.7	-2.0
WSLR	Whistler	4.25	63	Pn	Pn	03 55 42.0	-1.4
VDB	Vedder Mountai	4.49	79	Pn	Pn	03 55 44.1	-2.7
LLLB	Lillooet	5.05	61	Pn	Pn	03 55 53.0	-1.9

*IDC **03** 04:09:30.6±2.9, 31.30S×69.92W, h84^{km}±31^{km}, mb3.5/3, mb1 3.6/6, mb1mx3.4/15, mbtmp3.7/6, Error ellipse: s-maj=40.2km s-min=20.0km az=94.0*
*GUC **03** 04:09:32.0±0.8, 31.30S×70.27W, h132^{km}±6^{km}, MD4.0, ML4.2*
*NEIC **03** 04:09:32.0, 31.30S×70.27W, h132^{km}, mb4.4/3, MD4.0(GUC), After GUC.*
ISC 03 04:09:32.3±0.4**, 31.31S**±0.02×**70.25W**±0.07**, h131^{km}**±4^{km}**, n33,** σ**0^{s}82**/54**, mb4.3**/5**, 6C-4D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	1.08	311	i P	P	04 09 56.7	+0.5
OVCH				i S	S	04 10 14.5	+0.1
OVCH				AMP		04 10 15.0	
	comp=E,5µm,0.2s						
TLL	Tololo Astrono	1.24	337	⇑iP	P	04 09 58.6	+0.7
TLL				i S	S	04 10 17.6	+0.3
TLL				AMP		04 10 20.4	
	comp=N,2µm,0.8s						
ZON	Zonda	1.37	100	⇑iP	P	04 09 59.6	+0.2
ZON				eS	S	04 10 20.4	+0.4
JACH	Jahuel	1.39	192	⇑iP	P	04 10 00.0	+0.4
JACH				i S	S	04 10 20.7	+0.1
PACH	Papudo	1.58	219	⇓iP	P	04 10 01.8	+0.1
PACH				i S	S	04 10 24.2	0.0
ROCH	El Roble	1.77	201	eP	P	04 10 04.3	+0.4
ROCH				i S	S	04 10 28.5	+0.4
FCH	Farellones	2.01	181	⇓iP	P	04 10 07.5	+0.7
FCH				i S	S	04 10 34.6	+1.6
FCH				AMP		04 10 36.3	
	comp=N,1µm,0.6s						
CLCH	Cerro Calan	2.09	187	⇓iP	P	04 10 08.2	+0.3
CLCH				i S	S	04 10 34.8	-0.1
CLCH				AMP		04 10 41.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=E,2μm,0.5s						
DSCH	Colegio Aleman	2.10	187	eP	P	04 10 07.8	-0.1
DSCH				iS	S	04 10 35.0	0.0
DSCH				AMP		04 10 37.6	
	comp=N,2μm,0.7s						
STL	Santa Lucia	2.14	189	eP	P	04 10 08.6	+0.1
STL				iS	S	04 10 35.9	-0.2
PUEX	Pudahuel	2.16	191	eP	P	04 10 08.7	-0.1
PUEX				iS	S	04 10 36.5	-0.1
RCDM	Rinconada Maip	2.22	192	eP	P	04 10 09.3	-0.2
RCDM				iS	S	04 10 37.6	-0.2
PCH	Pirque	2.31	185	eP	P	04 10 10.8	+0.1
PCH				iS	S	04 10 40.0	0.0
LCO	Las Campanas	2.33	350	⇑iP	P	04 10 10.8	-0.2
LCO				iS	S	04 10 39.4	-0.9
LCO				AMP		04 10 41.8	
	comp=N,1μm,0.2s						
TACH	Talagante	2.40	194	eP	P	04 10 11.4	-0.6
LMEL	Las Melosas	2.53	179	⇓iP	P	04 10 13.8	+0.3
LMEL				iS	S	04 10 45.0	+0.1
LMEL				AMP		04 10 49.9	
	comp=N,1μm,0.3s						
CHCH	Chadas Angostu	2.63	187	⇑iP	P	04 10 14.4	-0.5
CHCH				iS	S	04 10 46.6	-0.8
VACH	Vallenar	2.76	351	eP	P	04 10 16.1	-0.6
VACH				iS	S	04 10 48.9	-1.5
CACH	El Canelo	2.81	186	⇑iP	P	04 10 17.4	+0.1
CACH				iS	S	04 10 51.9	+0.5
SFDO	San Fernando	3.35	191	eP	P	04 10 23.7	-0.7
SFDO				iS	S	04 11 02.5	-1.7
LVC	Limon Verde	8.75	8	P	P	04 11 32.8	-4.1
	comp=N,0.4nm,0.3s,baz=190,slow=9.7,SNR=6.0						
LVC				S	S	04 13 05.6	-8.6
	comp=N,1.3nm,0.3s,baz=302,slow=22,SNR=4.8						
LVC	Limon Verde	8.75	8	P	P	04 11 32.8	-4.1
LVC				S	S	04 13 05.6	-8.6
PLCA	Paso Flores	9.40	181	P	P	04 11 44.2	-1.4
	comp=N,0.1nm,0.3s,baz=359,slow=14,SNR=5.0						
PLCA	Paso Flores	9.40	181	ePn	P	04 11 42.8	-2.8
TRQA	Tornquist	9.57	137	ePn	P	04 11 44.2	-3.6
LPAZ	La Paz	15.08	8	P	P	04 13 01.1	+1.4
	comp=N,0.1nm,0.3s,baz=169,slow=8.5,SNR=6.9						
SAML	Samuel	23.21	18	eP	P	04 14 29.1	+0.7
	comp=N,2.8nm,0.7s,mb3.8						
SAML				e		04 14 37.6	
USHA	Ushuaia	23.54	177	P	P	04 14 33.0	+1.8
	comp=N,9.3nm,0.9s,mb4.3,baz=291,slow=7.9,SNR=3.7						
BDFB	Brasilia	25.60	58	P	P	04 14 50.1	-1.0
	comp=N,2.7nm,0.7s,mb4.0,baz=217,slow=5.5,SNR=5.2						
SNAA	Sanae	53.52	159	eP	P	04 18 39.4	-1.6
	comp=N,4.3nm,0.9s,mb4.2						
TXAR	Lajitas Array	68.18	329	P	P	04 20 22.9	+2.3
	comp=N,0.1nm,0.6s,baz=153,slow=8.1,SNR=2.5						
TXAR	Lajitas Array	68.18	329	P	P	04 20 22.9	+2.3
MAW	Mawson	75.32	163	P	P	04 21 08.3	+6.2
	comp=N,47nm,1.1s,mb5.0						

*NEIC **03** 04:12:31.7±2.4, 7.42S×148.57E, h90^{km}±19^{km}, mb4.0/1, Error ellipse: s-maj=34.4km s-min=21.6km az=128.0*
*IDC **03** 04:12:32.1±4.2, 7.25S×148.31E, h91^{km}±37^{km}, mb3.4/3, mb1 3.6/5, mb1mx3.5/12, mbtmp3.8/5, MS3.1/2, Ms1 3.1/2, ms1mx2.7/12, Error ellipse: s-maj=71.8km s-min=34.3km az=119.0*
ISC 03 04:12:30.4±1.4**, 7.4S**±0.2×**148.4E**±0.2**, h90**^{km}**, n11, σ0^{s}91**/12**, mb3.5**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	2.38	212	P	P	04 13 10.1	+1.6
	20nm,0.3s,baz=36,slow=6.0,SNR=21						
PMG				S	S	04 13 48.6	+12
	48nm,0.3s,baz=141,slow=21,SNR=12						
CTA	Charters Tower	12.82	189	LR	LR	04 19 13.3	
	comp=Z,48nm,18.8s,baz=226,slow=31						
CTAO	Charters Tower	12.82	189	P	P	04 15 29.2	-1.4
	6.2nm,0.9s						
WRAB	Tennant Creek	18.50	226	eP	P	04 16 40.8	-1.3
	9.3nm,0.9s						
WB2	Warramunga Arr	18.51	226	eP	P	04 16 42.0	-0.1
WRA	Warramunga Arr	18.52	226	P	P	04 16 41.8	-0.4
	0.2nm,0.3s,baz=52,slow=11,SNR=15						
WRA				S	S	04 20 27.7	+25
	baz=48,slow=16,SNR=4.0						
ASAR	Alice Springs	21.38	219	P	P	04 17 12.4	+0.2
	2.7nm,0.6s,mb3.8,baz=51,slow=9.1,SNR=29						
ASAR				S	S	04 21 14.3	+15
	0.9nm,1.1s,baz=34,slow=20,SNR=4.4						
ASAR				LR	LR	04 26 20.9	
	comp=Z,70nm,20.6s,baz=9.5,slow=39						
ASPA	Alice Springs	21.38	219	eP	P	04 17 12.9	+0.6
STKA	Stephens Creek	25.21	194	P	P	04 17 50.2	+0.9
	1.6nm,1.0s,mb3.4,baz=6.6,slow=13,SNR=3.2						
STKA	Stephens Creek	25.21	194	eP	P	04 17 50.2	+0.8
ILAR	Eielson Array	86.17	23	P	P	04 25 02.5	0.0
	0.4nm,0.8s,mb3.4,baz=238,slow=4.2,SNR=4.1						

IDC 03 04:15:03.3±8.7**, 6.44S**×**148.75E, h53**^{km}±61^{km}**, mb3.5**/2**, mb1 3.7**/4**, mb1mx3.5**/12**, mbtmp3.7**/4**, ML3.5**/2**, Error ellipse: s-maj=75.7km s-min=55.7km az=106.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.34	208	P	P	04 15 53.6	-0.7
	19nm,0.3s,baz=19,slow=3.2,SNR=13						
PMG				S	S	04 16 32.0	-1.0
	31nm,0.3s,baz=142,slow=21,SNR=7.3						
WB2	Warramunga Arr	19.38	225	eP	P	04 19 24.7	-2.9
WRA	Warramunga Arr	19.39	225	P	P	04 19 24.9	-2.8
	0.2nm,0.3s,baz=51,slow=11,SNR=8.7						
ASAR	Alice Springs	22.29	218	P	P	04 19 55.7	-1.8
	1.7nm,0.5s,baz=51,slow=9.3,SNR=8.9						
ASPA	Alice Springs	22.30	218	eP	P	04 19 57.2	-0.3
STKA	Stephens Creek	26.17	194	P	P	04 20 33.3	-1.5
	1.3nm,0.7s,baz=45,slow=11,SNR=2.7						

*IDC **03** 04:43:04.3±14.0, 7.60S×129.62E, h127^{km}±109^{km}, mb3.9/1, mb1 4.0/3, mb1mx3.6/12, mbtmp4.3/3, ML4.3/2, Error ellipse: s-maj=94.6km s-min=86.0km az=139.0*
ISC 03 04:43:03.8±2.4**, 8.2S**±0.1×**127.9E**±0.1**, h155**^{km}±24^{km}**, n7, σ1^{s}03**/13**, mb4.0**/1**, 2D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.38	135	⇓iP	P	04 44 37.0	+0.6
	239nm,0.7s						
KAKA				eS	S	04 45 48.2	-0.2
FITZ	Fitzroy Crossi	10.09	192	eP	P	04 45 25.4	-0.4
	6.5nm,0.4s						
FITZ				eS	S	04 47 17.0	-0.1
WRA	Warramunga Arr	13.28	152	P	P	04 46 05.8	-1.4
	1.9nm,0.3s,baz=341,slow=12,SNR=62						
WRA				S	S	04 48 31.3	-0.2
	2.0nm,0.3s,baz=330,slow=22,SNR=11						
WB2	Warramunga Arr	13.28	152	eP	P	04 46 06.1	-1.1
WB2				eS	S	04 48 31.9	+0.3
ASPA	Alice Springs	16.45	160	⇓iP	P	04 46 49.5	+2.3
ASPA				eS	S	04 49 49.9	+5.9
ASAR	Alice Springs	16.46	160	P	P	04 46 48.9	+1.7
	1.5nm,0.3s,baz=341,slow=12,SNR=60						
ASAR				S	S	04 49 51.2	+7.2
	0.4nm,0.3s,baz=346,slow=25,SNR=6.7						
STKA	Stephens Creek	26.82	153	P	P	04 48 30.9	-0.8
	1.7nm,0.4s,mb4.0,baz=325,slow=11,SNR=6.7						

*IDC **03** 04:52:53.2±10.0, 35.44N×71.06E, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=269.4km s-min=81.1km az=18.0*
ISC 03 04:52:52.6±3.7**, 34.5N**±0.4×**70.1E**±0.3**, h33**^{km}**, n13, σ0^{s}69**/13**, mb3.7**/4**, Southeastern Afghanistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	8.14	19	P	P	04 54 51.6	+0.4
	SNR=185						
UCH	Uchtor	8.47	23	P	P	04 54 56.5	+0.7
	SNR=64						
KZA	Kyzart	8.59	26	P	P	04 54 58.3	+0.8
	SNR=26						
EKS2	Erkin-Say	8.65	18	P	P	04 54 58.4	0.0
	SNR=25						
AAK	Ala-Archa	8.83	22	P	P	04 55 01.0	+0.1
	SNR=29						
ULHL	Ulahol	9.12	30	P	P	04 55 05.4	+0.6
	SNR=8.0						
CHMS	Chumysh	9.24	22	P	P	04 55 06.0	-0.6
	SNR=15						
USP	Ospenovka	9.41	20	P	P	04 55 07.6	-1.3
	SNR=11						
TKM2	Tokmak 2	9.45	25	P	P	04 55 08.8	-0.6
	SNR=28						
FINES	FINESS Array B	38.78	328	P	P	05 00 16.0	+0.6
	0.8nm,0.6s,mb3.7,baz=127,slow=9.5,SNR=6.8						
ARCES	ARCESS Array B	42.75	339	P	P	05 00 46.9	-1.1
	1.5nm,0.5s,mb4.0,baz=104,slow=7.4,SNR=8.3						
NOA	NORSAR Array B	45.58	324	P	P	05 01 11.6	+0.7
	0.9nm,1.0s,mb3.7,baz=79,slow=5.6,SNR=3.0						
YKA	Yellowknife Ar	83.29	2	P	P	05 05 16.3	-0.4
	0.2nm,0.4s,mb3.5,baz=350,slow=5.5,SNR=4.8						

*NIED **03** 04:53:00, 42.80N×145.00E, h50^{km}, Mw4.3 Best double couple: M$_0$3.6×10^{15} NP1:ϕ_s256°, δ57°, λ-74°. NP2:ϕ_s49°, δ36°, λ-113°.*
*MOS **03** 04:53:16.5±1.0, 42.87N×144.90E, h28^{km}, mb4.6/16, Error ellipse: s-maj=12.9km s-min=8.7km az=70.6*
*NEIC **03** 04:53:18.4±0.3, 43.02N×144.82E, h25^{km}, mb4.4/21, Error ellipse: s-maj=9.9km s-min=5.7km az=152.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
*IDC **03** 04:53:19.8±0.8, 42.66N×145.10E, h48^{km}±4^{km}, mb3.8/18, mb1 4.0/19, mb1mx4.0/25, mbtmp4.1/19, MS3.5/9, Ms1 3.6/9, ms1mx3.4/26, Error ellipse: s-maj=21.4km s-min=8.1km az=22.0*
*SKHL **03** 04:53:19.5±2.6, 42.71N×145.18E, h64^{km}±5^{km}, mb4.7/5, Ms3.8/1*
*JMA **03** 04:53:20.5±0.1, 42.82N×144.99E, h50^{km}±1^{km}, M4.3*
JMA Felt II J1.
*BJI **03** 04:53:21.3, 43.16N×144.10E, h25^{km}, mB4.9, mb4.4, Ms4.1, Msz4.0*
ISC 03 04:53:19.3±0.5**, 42.81N**±0.04×**145.01E**±0.04**, h54**^{km}±3^{km}**, h45**^{km}±2.3^{km}**:pP-P, n106, σ1^{s}06**/117**, mb4.3**/41**, MS3.5**/8**, 5C-3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAK	Akkeshi	0.30	310	⇓P	P	04 53 29.3	+0.5
JAK				eS	S	04 53 36.0	+0.3
NEM2	Nemuro 2	0.78	44	P	P	04 53 34.8	+0.6
NEM2				eS	S	04 53 45.3	0.0
JNK	Nakash	0.81	345	⇑P	P	04 53 35.3	+0.7
JNK				eS	S	04 53 45.6	-0.4
JOB	Onbets	0.87	277	⇓P	P	04 53 36.1	+0.6
JOB				eS	S	04 53 47.3	-0.3
JAR	Ashorobuto	1.03	299	⇑P	P	04 53 38.2	+0.4
JAR				eS	S	04 53 51.2	-0.3
JRA	Rausu	1.13	4	⇑P	P	04 53 39.9	+0.8
JRA				eS	S	04 53 54.3	+0.4
JCH	Churui	1.23	262	P	P	04 53 40.8	+0.3
JCH				eS	S	04 53 56.1	-0.2
YUK	Yuzh-Kuril'sk	1.38	27	⇑iPN	P	04 53 41.5	-1.2
YUK				iS	S	04 53 58.0	-2.0
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				pmax	pmax		
	comp=N,390nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=E,540nm,0.3s						
YUK				smax			
	comp=N,9μm,0.4s						
YUK				smax			
	comp=E,6μm,0.5s						
YUK				smax			
	comp=N,21μm,0.8s						
YUK				smax			
	comp=E,12μm,0.4s						
YUK	Yuzh-Kuril'sk	1.38	27	iP	P	04 53 41.5	-1.2
YUK				AMB	AMB	04 53 42.3	
	comp=E,3μm,0.2s						
YUK				AMB	AMB	04 53 42.5	
	comp=E,390nm,0.3s						
YUK				AMB	AMB	04 53 42.5	
	comp=E,540nm,0.3s						
YUK				AMB	AMB	04 53 42.5	
	comp=E,1μm,0.3s						
YUK				iS	S	04 53 58.0	-2.0
YUK				A		04 54 01.5	
	comp=E,9μm,0.5s						
YUK				A		04 54 01.5	
	comp=E,6μm,0.5s						
YUK				A		04 54 03.0	
	comp=E,21μm,0.6s						
YUK				A		04 54 03.0	
	comp=E,12μm,0.6s						
JTKR	Abashiri--Toko	1.41	326	⇑P	P	04 53 44.3	+1.1
JTKR				eS	S	04 54 02.6	+1.7
JEM	Erimo	1.58	241	P	P	04 53 47.0	+1.5
ASAJ	Asahikawa	2.19	308	P	P	04 53 55.9	+1.8
	comp=E,37nm,0.3s,baz=140,slow=9.6,SNR=76						
ASAJ				S	S	04 54 24.8	+4.8
	comp=E,60nm,0.3s,baz=40,slow=30,SNR=28						
ASAJ				LR	LR	04 54 49.4	
	comp=E,668nm,20.0s,baz=176,slow=38						
KUR	Kuril'sk	3.18	39	iP	P	04 54 07.0	-1.1
KUR				AMB	AMB	04 54 14.8	
	comp=E,150nm,0.5s						
KUR				AMB	AMB	04 54 14.8	
	comp=E,110nm,0.5s						
KUR				AMB	AMB	04 54 14.8	
	comp=E,300nm,0.5s						
KUR				eS	S	04 54 42.5	-2.6
KUR				A		04 54 51.0	
	comp=E,4μm,1.2s						
KUR				A		04 54 51.0	
	comp=E,3μm,1.2s						
KUR				A		04 54 51.0	
	comp=E,990nm,0.6s						
KUR				A		04 54 51.0	
	comp=E,840nm,0.6s						
YSS	Yuzh-Sakhalins	4.45	340	iPN	P	04 54 28.0	+2.1
YSS	Yuzh-Sakhalins	4.45	340	Pn	P	04 54 18.8	-7.1
YSS	Yuzh-Sakhalins	4.45	340	⇓eP	P	04 54 27.0	+1.1
YSS				eS	S	04 55 16.6	-0.3
YSS				A		04 55 20.2	
	comp=E,60nm,1.0s						
YSS				AMS	AMS	04 57 28.0	
	comp=E,500nm,14.0s						
UGL	Uglegorsk	6.60	343	AMS	AMS	04 57 51.0	
	comp=E,400nm,16.0s						
UGL				AMS	AMS	04 57 51.0	
	comp=E,300nm,16.0s						
UGL				AMS	AMS	04 57 51.0	
	comp=E,500nm,16.0s						
MAJO	Matsushiro	8.16	222	ePN	P	04 55 15.2	-2.4
MAT	Matsushiro	8.16	222	ePN	P	04 55 16.0	-1.6
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAT	Matsushiro	8.16	222	eP	P	04 55 16.0	-1.6
	comp=Z,10nm,0.7s						
MAT				eS	S	04 56 42.0	-7.4
MAT	Matsushiro	8.16	222	P	P	04 55 16.0	-1.6
MAT				S	S	04 56 42.2	-7.2
TYV	Tymovskoe	8.22	350	eP	P	04 55 16.0	-2.4
TYV				AMB	AMB	04 55 18.0	
	comp=Z,12nm,0.8s						
JHJ	Hachijo jima 2	10.51	205	LR	LR	05 00 10.1	
	comp=Z,181nm,21.4s,baz=138,slow=40						
NKL	Nikolayevsk	10.75	346	eP	P	04 55 47.5	-5.4
NKL				AMB	AMB	04 55 52.7	
	comp=Z,13nm,1.0s						
SKR	Severo-Kuril's	10.95	40	ePN	P	04 56 01.2	+5.5
MDJ	Mudanjiang	11.31	284	P	P	04 55 53.2	-7.4
MDJ				AP		04 55 58.2	
MDJ				XP		04 56 02.3	
MDJ				S	S	04 57 56.7	-10
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,22nm,3.4s						
EKMR	Ekimchan	13.05	326	eP	P	04 56 23.3	-0.5
EKMR				AMB	AMB	04 56 26.0	
	comp=Z,4.0nm,0.6s						
KS15	Wonju Array Si	14.15	253	P	P	04 56 35.3	-2.9
CN2	Changchun	14.28	281	eP	P	04 56 31.8	-8.1
HIA	Hailar	18.64	299	eP	P	04 57 30.1	-4.7
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	Hailar	18.64	299	eP	P	04 57 30.1	-4.7
	comp=Z,4.8nm,0.9s						
FX1	Attu Island--F	21.29	52	P	P	04 58 01.3	-1.7
FX1				pmax	pmax		
	comp=Z,13nm,0.7s						
FX1	Attu Island--F	21.29	52	P	P	04 58 01.3	-1.6
	comp=Z,13nm,0.7s,mb4.4,baz=324,slow=8.7,SNR=2.1						
BJI	Beijing	21.75	273	eP	P	04 58 07.0	-0.7
BJI				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.4						
BJI				MLR	MLR		
	comp=Z,70nm,28.0s,MS2.9						
BJI	Beijing	21.75	273	eP	P	04 58 07.0	-0.7
	comp=Z,15nm,0.9s,mb4.4						
BJI				LR	LR		
	comp=Z,70nm,28.0s,MS2.9						
BJT	Baijiatuau	21.77	272	P	P	04 58 05.3	-2.5
BJT				pmax	pmax		
	comp=Z,18nm,1.0s						
BJT	Baijiatuau	21.77	272	P	P	04 58 05.3	-2.6
	comp=Z,18nm,1.0s,mb4.5						
NJ2	Nanjing	23.29	251	eP	P	04 58 22.6	-0.2
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
HHC	Hu-ho-hao-te	24.91	277	eP	P	04 58 38.1	-0.4
HHC				AP		04 58 44.4	
HHC				XP		04 58 49.1	
HHC				PP	PP	04 59 13.5	-3.5
HHC				S	S	05 02 55.5	+0.3
HHC				PCS		05 05 58.1	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
HHC				AMB	AMB		
	comp=Z,157nm,3.6s						
ULN	Ulaanbaatar	26.96	294	eP	P	04 58 57.2	-0.3
ULN				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
ULN	Ulaanbaatar	26.96	294	eP	P	04 58 57.2	-0.3
	comp=Z,6.4nm,1.2s,mb4.0						
SONM	Songino Array	27.41	294	P	P	04 59 01.5	-0.1
	comp=Z,3.1nm,0.7s,mb4.0,baz=77,slow=8.0,SNR=24						
KMI	Kunming	38.78	257	P	P	05 00 41.1	+0.9
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.5						
KMI	Kunming	38.78	257	P	P	05 00 41.1	+0.9
	comp=Z,11nm,1.0s,mb4.5						
KMI				pP	pP	05 00 59.0	+4.7
IMA	Indian Mountai	40.34	34	eP	P	05 00 52.9	+0.2
IMA				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.0						
IMA	Indian Mountai	40.34	34	eP	P	05 00 52.9	+0.3
	comp=Z,24nm,0.8s,mb5.0						
ZAL	Zalesovo	40.34	308	P	P	05 00 51.9	-1.0
	comp=Z,0.9nm,0.3s,mb4.0,baz=11,slow=5.2,SNR=3.9						
ZAL				PcP	PcP	05 02 55.6	-0.4
	comp=Z,1.6nm,0.6s,baz=15,slow=2.4,SNR=8.2						
ZAL				pPcP		05 03 09.6	
	comp=Z,1.4nm,0.3s,baz=58,slow=19,SNR=4.0						
ZAL				LR	LR	05 19 33.9	
	comp=Z,74nm,19.4s,MS3.5,baz=299,slow=39						
WMQ	Urumqi	40.99	292	eP	P	05 00 58.0	-0.3
WMQ				AP	pP	05 01 05.0	-7.4
WMQ				XP	sP	05 01 09.0	-10
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,92nm,3.7s						
MCK	McKinley	42.33	37	eP	P	05 01 08.8	-0.2
MCK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.8						
MCK	McKinley	42.33	37	eP	P	05 01 08.8	-0.2
	comp=Z,2.3nm,0.9s,mb3.8						
COLA	College	42.75	35	eP	P	05 01 13.5	+1.1
COLA				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
COLA	College	42.75	35	eP	P	05 01 13.5	+1.1
	comp=Z,6.3nm,0.7s,mb4.5						
ILAR	Eielson Array	43.17	36	P	P	05 01 15.3	-0.5
	comp=Z,1.5nm,0.9s,mb3.7,baz=274,slow=4.3,SNR=20						
LSA	Lhasa	44.65	271	P	P	05 01 28.8	+0.5
LSA				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
LSA	Lhasa	44.65	271	P	P	05 01 28.8	+0.6
	comp=Z,8.3nm,1.1s,mb4.5						
KURK	Kurchatov	44.76	304	eP	P	05 01 28.1	-0.7
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
KURK	Kurchatov	44.76	304	eP	P	05 01 28.1	-0.8
	comp=Z,4.3nm,0.8s,mb4.3						
CMAR	Chiang Mai Arr	45.76	253	P	P	05 01 38.0	+0.8
	comp=Z,0.9nm,0.4s,mb4.0,baz=41,slow=6.8,SNR=5.6						
CMAR				LR	LR	05 22 59.8	
	comp=Z,28nm,18.3s,MS3.2,baz=215,slow=39						
DAWY	Dawson	46.48	36	P	P	05 01 44.0	+1.7
INK	Inuvik	48.00	30	eP	P	05 01 54.0	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
INK	Inuvik	48.00	30	LR	LR	05 22 15.3	
	comp=Z,68nm,20.2s,MS3.6,baz=35,slow=36						
INK	Inuvik	48.00	30	eP	P	05 01 54.0	-0.2
	comp=Z,1.9nm,0.4s,mb4.5						
CHKZ	Chkalovo	48.55	310	eP	P	05 01 57.7	-0.9
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	Chkalovo	48.55	310	eP	P	05 01 57.7	-0.9
	comp=Z,2.7nm,0.8s,mb4.3						
BVAR	Borovoye Array	48.89	309	P	P	05 02 01.0	-0.2
	comp=Z,0.5nm,0.3s,mb4.0,baz=85,slow=9.8,SNR=5.7						
BVAR				PcP	PcP	05 03 25.2	-0.1
	comp=Z,3.1nm,1.0s,baz=90,slow=3.0,SNR=5.5						
BVAR				pPcP		05 03 38.7	
	comp=Z,0.6nm,0.6s,baz=72,slow=4.6,SNR=3.4						
AAK	Ala-Archa	50.35	295	eP	P	05 02 10.1	-2.5
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
AAK	Ala-Archa	50.35	295	eP	P	05 02 10.1	-2.5
	comp=Z,2.3nm,1.0s,mb4.2						
DLBC	Dease Lake	52.42	41	LR	LR	05 25 31.1	
	comp=Z,60nm,20.1s,MS3.6,baz=72,slow=37						
DLBC	Dease Lake	52.42	41	eP	P	05 02 28.9	+0.9
RES	Resolute Bay	56.31	16	eP	P	05 02 55.0	-1.2
RES				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
RES	Resolute Bay	56.31	16	eP	P	05 02 55.0	-1.2
	comp=Z,5.9nm,0.7s,mb4.7						
YKA	Yellowknife Ar	57.45	33	P	P	05 03 04.0	-0.5
	comp=Z,0.5nm,0.7s,mb3.7,baz=302,slow=6.7,SNR=13						
ARCES	ARCESS Array B	59.58	339	P	P	05 03 20.2	+1.0
	comp=Z,15nm,1.3s,mb4.9,baz=73,slow=9.4,SNR=2.5						
ARCES				LR	LR	05 32 51.9	
	comp=Z,45nm,20.1s,MS3.6,baz=204,slow=40						
SUMG	Summit	64.89	1	eP	P	05 03 54.5	+0.1
	comp=Z,15nm,1.2s,mb4.9						
FINES	FINESS Array B	65.00	332	P	P	05 03 54.3	-0.9
	comp=Z,1.9nm,0.7s,mb4.2,baz=45,slow=7.9,SNR=8.8						
FINES				pP	pP	05 04 07.8	-2.4
	comp=Z,1.7nm,0.6s,baz=58,slow=8.0,SNR=3.8						
FINES				LR	LR	05 36 34.9	
	comp=Z,59nm,18.5s,MS3.8,baz=18,slow=40						
FCC	Fort Churchill	67.61	29	eP	P	05 04 11.2	-0.6
FCC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
FCC	Fort Churchill	67.61	29	eP	P	05 04 11.2	-0.7
	comp=Z,2.3nm,0.8s,mb4.3						
KIV	Kislovodsk	69.22	311	eP	P	05 04 23.1	+1.1
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
KIV	Kislovodsk	69.22	311	eP	P	05 04 23.1	+1.1
	comp=Z,11nm,1.0s,mb4.8						
NVAR	Mina Array Bea	69.40	56	P	P	05 04 23.6	+0.3
	comp=Z,0.8nm,0.7s,mb3.8,baz=286,slow=6.6,SNR=6.1						
NVAR				pP	pP	05 04 37.5	-0.9
	comp=Z,1.7nm,0.8s,baz=288,slow=5.7,SNR=7.6						
NB2	NORSAR Subarra	69.91	338	P	P	05 04 25.2	-0.7
	comp=Z,26nm,1.7s,mb4.9,baz=32,slow=6.5						
NOA	NORSAR Array B	69.91	338	P	P	05 04 25.5	-0.4
	comp=Z,1.8nm,0.8s,mb4.0,baz=34,slow=6.3,SNR=4.0						
NOA				pP	pP	05 04 38.4	-2.7
	comp=Z,2.2nm,0.9s,baz=35,slow=6.1,SNR=3.6						
NOA				LR	LR	05 38 22.7	
	comp=Z,56nm,18.2s,MS3.9,slow=39						
NOA	NORSAR Array B	69.91	338	P	P	05 04 25.5	-0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOA				pP	pP	05 04 38.4	-2.7
NOA				LR	LR	05 38 22.7	
HFS	**Hagfors**	**69.94**	**336**	P	**P**	**05 04 25.6**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=68,slow=8.0,SNR=4.0						
HWUT	**Hardware Ranch**	**71.35**	**50**	P	**P**	**05 04 36.1**	**+1.1**
	comp=Z,2.2nm,1.0s,mb4.0						
AKASG	**Malin Array Be**	**71.40**	**323**	P	**P**	**05 04 34.7**	**-0.5**
	comp=Z,2.2nm,0.7s,mb4.2,baz=40,slow=6.0,SNR=9.0						
AKASG				pP	pP	05 04 47.7	-2.7
	comp=Z,2.1nm,0.8s,baz=40,slow=6.3,SNR=3.7						
AKASG	**Malin Array Be**	**71.40**	**323**	P	**P**	**05 04 34.7**	**-0.5**
AKASG				pP	pP	05 04 47.7	-2.7
DUG	**Dugway**	**71.56**	**52**	*e*P	**P**	**05 04 37.4**	**+1.1**
DUG				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.3						
DUG	**Dugway**	**71.56**	**52**	*e*P	**P**	**05 04 37.4**	**+1.1**
	comp=Z,38nm,1.0s,mb5.3						
PDAR	**Pinedale Array**	**71.71**	**48**	P	**P**	**05 04 38.1**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.8,baz=261,slow=1.4,SNR=7.6						
PDAR				pP	pP	05 04 51.5	-0.8
	comp=Z,1.4nm,0.8s,baz=304,slow=3.0,SNR=8.8						
ULM	**Lac du Bonnet**	**73.19**	**36**	P	**P**	**05 04 45.1**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.8,baz=299,slow=5.9,SNR=3.3						
PV10	**Paradox Valley**	**74.95**	**51**	*e*P	**P**	**05 04 58.2**	**+2.1**
PV10				*e*	pP	05 05 11.1	-0.3
OJC	**Ojcow**	**75.74**	**327**	*e*P	**P**	**05 05 01.2**	**+0.8**
BRTR	**Keskin Array B**	**77.05**	**313**	P	**P**	**05 05 08.5**	**+0.5**
	comp=Z,1.4nm,1.0s,mb3.9,baz=27,slow=3.2,SNR=3.1						
CLL	**Collm**	**77.41**	**331**	P	**P**	**05 05 10.0**	**+0.2**
ANMO	**Albuquerque**	**78.81**	**53**	*e*P	**P**	**05 05 19.4**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,4.0nm,1.4s						
ANMO	**Albuquerque**	**78.81**	**53**	*e*P	**P**	**05 05 19.4**	**+1.6**
	comp=Z,4.2nm,1.4s,mb4.2						
KHC	**Kasperske Hory**	**79.01**	**330**	*e*P	**P**	**05 05 19.0**	**+0.4**
SCHQ	**Schefferville**	**79.02**	**18**	P	**P**	**05 05 17.7**	**-0.8**
	comp=Z,13nm,1.4s,mb4.7						
GERES	**GERESS Array B**	**79.20**	**330**	P	**P**	**05 05 19.3**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=53,slow=6.7,SNR=4.7						
TXAR	**Lajitas Array**	**84.47**	**55**	P	**P**	**05 05 49.0**	**+1.6**
	comp=Z,1.2nm,0.7s,mb4.1,baz=298,slow=4.2,SNR=18						
TXAR				pP	pP	05 06 02.5	-0.4
	comp=Z,1.4nm,0.7s,baz=286,slow=3.7,SNR=12						
TAU	**Tasmania Unive**	**85.36**	**178**	P	**P**	**05 05 55.9**	**+4.5**
TAU				pmax	pmax		
	comp=Z,88nm,1.4s						
TAU	**Tasmania Unive**	**85.36**	**178**	P	**P**	**05 05 55.9**	**+4.4**
	comp=Z,88nm,1.4s						
ELN	**Prospectdale**	**90.11**	**35**	P	**P**	**05 06 15.8**	**+1.3**
BDFB	**Brasilia**	**150.71**	**26**	PKPbc	PKPdf	05 13 06.2	+6.2
	comp=Z,3.0nm,1.1s,baz=317,slow=7.3,SNR=4.0						
BDFB				pPKPbc		05 13 21.6	
	comp=Z,2.5nm,0.9s,baz=348,slow=6.8,SNR=2.4						
PLCA	**Paso Flores**	**153.51**	**98**	PKPbc	PKPdf	05 13 12.9	+10
	comp=Z,2.0nm,0.8s,baz=204,slow=1.7,SNR=6.3						
PLCA				pPKPbc		05 13 27.1	
	comp=Z,1.3nm,0.8s,baz=219,slow=1.9,SNR=2.7						

*BJI **03** 04:54:44.0, 4.84S×129.85E, h101km, mB5.3, mb4.9*
*NEIC **03** 04:54:52.0±1.6, 4.05S×129.54E, h101km±16km, mb4.8/17, Error ellipse: s-maj=13.1km s-min=6.9km az=60.0*
*IDC **03** 04:54:54.8±3.1, 4.02S×129.56E, h125km±28km, mb4.1/9, mb1 4.2/10, mb1mx4.2/17, mbtmp4.5/10, MS3.2/1, Ms1 3.2/1, ms1mx2.4/15, Error ellipse: s-maj=34.4km s-min=12.4km az=66.0*
ISC 03 04:54:50.1±1.5**, 4.06S**±0.05×**129.5E**±0.1**, h98**km±14km**, n44, σ0ˢ77**/49**, mb4.7**/29**, 6C, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.08**	**161**	*e*P	**P**	**04 57 00.4**	**+0.6**
	43nm,0.6s						
KAKA				*i* S	**S**	**04 58 36.1**	**-4.9**
WRAB	**Tennant Creek**	**16.48**	**164**	*e*P	**P**	**04 58 35.7**	**-0.9**
	120nm,1.0s						
WRA	**Warramunga Arr**	**16.48**	**164**	P	**P**	**04 58 35.7**	**-1.0**
	3.9nm,0.3s,baz=343,slow=11,SNR=50						
WRA				S	**S**	**05 01 29.6**	**-6.2**
	2.3nm,0.3s,baz=343,slow=22,SNR=6.6						
WB2	**Warramunga Arr**	**16.48**	**164**⇑	*i*P	**P**	**04 58 35.8**	**-0.9**
WB2				*e*S	**S**	**05 01 27.4**	**-8.4**
MBWA	**Marble Bar**	**19.46**	**208**	*e*P	**P**	**04 59 10.8**	**-0.9**
	66nm,1.0s						
KSM	**Kuching**	**19.94**	**286**	*e*P	**P**	**04 59 17.9**	**+1.2**
ASAR	**Alice Springs**	**19.95**	**168**	P	**P**	**04 59 17.8**	**+1.0**
	24nm,0.3s,baz=346,slow=10,SNR=821						
ASAR				S	**S**	**05 02 50.3**	**-0.4**
	0.2nm,0.3s,baz=349,slow=21,SNR=4.3						
ASAR				LR	LR	05 05 43.0	
	comp=Z,68nm,21.3s,baz=12,slow=32						
ASAR				ScP		05 06 53.8	
	0.2nm,0.3s,baz=350,slow=2.0,SNR=7.3						
ASPA	**Alice Springs**	**19.95**	**168**⇑	*i*P	**P**	**04 59 17.8**	**+1.0**
ASPA				*e*S	**S**	**05 02 51.5**	**+0.8**
CTA	**Charters Tower**	**22.82**	**136**	P	**P**	**04 59 47.3**	**+1.9**
	18nm,0.9s,mb4.4,baz=321,slow=11,SNR=12						
CTAO	**Charters Tower**	**22.82**	**136**	*e*P	**P**	**04 59 47.4**	**+2.0**
	21nm,0.9s,mb4.5						
CTAO				*e*		04 59 56.9	
STKA	**Stephens Creek**	**29.92**	**159**⇑	*i*P	**P**	**05 00 51.2**	**+0.2**
	5.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**29.92**	**159**	P	**P**	**05 00 51.6**	**+0.5**
	4.6nm,0.5s,mb4.4,baz=329,slow=8.6,SNR=18						
STKA	**Stephens Creek**	**29.92**	**159**	*e*P	**P**	**05 00 50.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**30.92**	**200**	P	**P**	**05 00 59.4**	**-0.5**
	9.1nm,0.9s,mb4.5,baz=21,slow=7.1,SNR=5.2						
CMAR	**Chiang Mai Arr**	**37.50**	**308**	P	**P**	**05 01 57.1**	**+0.9**
	3.6nm,0.6s,mb4.4,baz=139,slow=7.9,SNR=22						
GYA	**Guiyang**	**37.53**	**325**⇑	*i*P	**P**	**05 01 58.2**	**+1.8**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
ENH	**Enshi**	**39.13**	**332**	*e*P	**P**	**05 02 09.7**	**0.0**
	comp=Z,16nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**41.20**	**11**	*e*P	**P**	**05 02 25.9**	**-0.8**
	comp=Z,12nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**45.54**	**346**	*e*P	**P**	**05 03 02.0**	**+0.2**
	comp=Z,14nm,0.8s,mb4.8						
BJI	**Beijing**	**45.56**	**346**	*e*P	**P**	**05 03 02.0**	**+0.1**
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
BJI	**Beijing**	**45.56**	**346**	*e*P	**P**	**05 03 02.0**	**+0.1**
	comp=Z,14nm,0.8s,mb4.7						
LZH	**Lanzhou**	**46.59**	**331**	⇑P	**P**	**05 03 10.1**	**-0.1**
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb4.8						
LZH	**Lanzhou**	**46.59**	**331**	⇑P	**P**	**05 03 10.1**	**-0.1**
	comp=Z,29nm,1.3s,mb4.8						
LZH				pP	pP	05 03 22.0	-12
LZH				sP	sP	05 03 27.5	-17
MDJ	**Mudanjiang**	**48.45**	**0**	P	**P**	**05 03 25.3**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,40nm,3.4s						
MDJ	**Mudanjiang**	**48.45**	**0**	*e*P	**P**	**05 03 25.4**	**+0.8**
	comp=Z,4.6nm,0.6s,mb4.5						
LSA	**Lhasa**	**49.75**	**315**	*e*P	**P**	**05 03 35.4**	**+0.7**
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**51.17**	**331**	P	**P**	**05 03 45.9**	**+0.5**
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9						
JIRN	**Jiri**	**52.30**	**310**	*e*P	**P**	**05 03 54.2**	**+0.1**
	comp=Z,9.4nm,0.5s,mb5.0						
GUN	**Gumba**	**52.66**	**310**	*e*P	**P**	**05 03 56.4**	**-0.4**
	comp=Z,30nm,0.7s,mb5.4						
PKI	**Pulchoki**	**52.86**	**309**	*e*P	**P**	**05 03 57.6**	**-0.6**
	comp=Z,5.2nm,0.5s,mb4.8						
KKN	**Kakani**	**53.07**	**309**	*e*P	**P**	**05 03 59.4**	**-0.4**
	comp=Z,18nm,0.8s,mb5.1						
DMN	**Daman**	**53.11**	**309**	*e*P	**P**	**05 03 59.9**	**-0.2**
	comp=Z,30nm,1.0s,mb5.3						
GKN	**Gorkha**	**53.67**	**309**	*e*P	**P**	**05 04 03.8**	**-0.4**
	comp=Z,29nm,0.9s,mb5.3						
KOLN	**Koldanda**	**54.36**	**308**	*e*P	**P**	**05 04 08.9**	**-0.3**
	comp=Z,40nm,0.9s,mb5.4						
ULN	**Ulaanbaatar**	**55.33**	**342**	*e*P	**P**	**05 04 16.2**	**+0.2**
	comp=Z,9.5nm,0.7s,mb4.9						
SONM	**Songino Array**	**55.51**	**341**	P	**P**	**05 04 17.2**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.6,baz=158,slow=5.5,SNR=31						
SONM				PcP	PcP	05 05 16.4	+0.5
	comp=Z,1.5nm,0.9s,baz=148,slow=4.8,SNR=2.7						
AAK	**Ala-Archa**	**67.98**	**319**	*e*P	**P**	**05 05 39.6**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**68.74**	**334**	P	**P**	**05 05 44.7**	**-0.6**
	comp=Z,3.2nm,0.8s,mb4.2,baz=344,slow=5.0,SNR=21						
KURK	**Kurchatov**	**69.76**	**328**	P	**P**	**05 05 51.2**	**-0.4**
	comp=Z,141nm,0.6s,mb6.0,SNR=26						
KURK	**Kurchatov**	**69.76**	**328**	*e*P	**P**	**05 05 51.5**	**-0.1**
	comp=Z,35nm,1.0s,mb5.1						
BVAR	**Borovoye Array**	**75.32**	**328**	P	**P**	**05 06 24.6**	**+0.3**
	comp=Z,4.4nm,0.6s,mb4.4,baz=135,slow=6.3,SNR=28						
VNDA	**Vanda**	**75.41**	**173**	P	**P**	**05 06 24.4**	**0.0**
	comp=Z,1.4nm,0.6s,mb3.9,baz=343,slow=2.7,SNR=7.5						
CHKZ	**Chkalovo**	**75.51**	**328**	*e*P	**P**	**05 06 24.9**	**-0.4**
	comp=Z,14nm,1.0s,mb4.6						
ILAR	**Eielson Array**	**90.92**	**25**	P	**P**	**05 07 42.2**	**-1.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=262,slow=5.3,SNR=6.1						

CASC 03 05:07:12.8±2.3**, 12.10N**×**88.05W, h44**km±268km**, MD4.0, ML3.3, 7C-5D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.15**	**58**	*e*P	P	05 07 32.8	+0.2
LEON	**Leon**	**1.17**	**74**⇑	*e*P	P	05 07 32.2	-0.8
CNCH	**Conchagua**	**1.19**	**10**⇑	*e*P	P	05 07 34.1	+0.9
CNCH				*e*S	S	05 07 48.7	+0.2
TELN	**Telica**	**1.29**	**67**⇓	*e*P	P	05 07 34.0	-0.7
TELN				*e*S	S	05 07 52.4	+1.3
VSM	**San Miguel**	**1.34**	**351**	*e*P	P	05 07 36.1	+0.6
VSM				*e*S	S	05 07 53.2	+0.7
MIRN	**Miramar**	**1.35**	**75**⇓	*e*P	P	05 07 34.5	-1.2
BLLM	**Bellamira**	**1.35**	**352**⇑	*e*P	P	05 07 36.6	+0.9
BLLM				*e*S	S	05 07 53.0	+0.4
CNGN	**Cerro Negro**	**1.38**	**73**	*e*P	P	05 07 35.0	-1.1
MOMJ	**Momotombo**	**1.51**	**78**⇓	*e*P	P	05 07 36.7	-1.2
CAHU	**Cacacuatique**	**1.67**	**355**	*e*P	P	05 07 41.6	+1.4
XAVN	**Gruta Xavier**	**1.69**	**88**⇑	*e*P	P	05 07 38.9	-1.5
MGAN	**Managua**	**1.76**	**88**⇓	*e*P	P	05 07 40.0	-1.5
MGAN				*i*		05 08 10.6	
	comp=N,346nm,0.4s						
TICN	**Ticuantepe**	**1.78**	**92**⇓	*e*P	P	05 07 40.4	-1.3
TICN				*e*S	S	05 08 04.4	+1.2
LCBS	**La Ceiba**	**1.80**	**330**⇑	*e*P	P	05 07 41.7	-0.2
LCBS				*e*S	S	05 08 02.4	-1.2
LFRS	**El Faro**	**1.81**	**327**	*e*P	P	05 07 41.6	-0.6
WILN	**Americas 2**	**1.82**	**88**⇑	*e*P	P	05 07 40.8	-1.4
WILN				*e*S	S	05 08 04.0	-0.2
LBRS	**Las Brisas**	**1.90**	**329**	*e*P	P	05 07 43.4	+0.1
LFU	**La Fuente**	**1.94**	**328**	*e*P	P	05 07 44.2	+0.2
APON	**Apoyo**	**1.95**	**95**	*e*P	P	05 07 43.4	-0.7
PYTN	**Playitas**	**1.99**	**77**	*e*P	P	05 07 43.4	-1.3
BOQS	**Boqueron**	**2.02**	**324**	*e*P	P	05 07 45.0	-0.1
SBLS	**San Blas**	**2.31**	**319**	*e*P	P	05 07 49.1	-0.2
SBLS				*e*S	S	05 08 17.0	+0.3
SNJE	**San Jose**	**2.33**	**319**	*e*P	P	05 07 49.3	-0.2
SNJE				*e*S	S	05 08 16.6	-0.4
RTR	**El Retiro**	**2.37**	**319**	*e*P	P	05 07 50.1	-0.1
RTR				*e*S	S	05 08 16.9	-1.3
CONN	**Concepcion**	**2.43**	**102**	*e*P	P	05 07 51.9	+0.9
RBDL	**Robledal**	**2.56**	**322**	*e*P	P	05 07 53.1	+0.3
RBDL				*e*S	S	05 08 22.1	-0.9
PRS1	**Puriscal**	**4.23**	**119**	*e*P	P	05 08 17.3	+0.9
LAJ	**Bijagual**	**4.45**	**120**	*e*P	P	05 08 14.8	-4.7
LAJ				*e*S	S	05 09 00.9	-10
LCR2	**La Lucha 2**	**4.61**	**120**	*e*P	P	05 08 21.6	-0.2
BUS	**Buena Vista**	**4.91**	**121**⇑	*e*P	P	05 08 25.8	-0.3
BUS				*e*S	S	05 09 21.2	-1.2

*IDC **03** 05:09:15.6±0.9, 2.46N×94.34E, mb4.1/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, ML4.1/1, Error ellipse: s-maj=42.6km s-min=16.8km az=51.0*
*BJI **03** 05:09:19.5, 2.60N×94.60E, h30km, mB5.2, mb4.8*
*NEIC **03** 05:09:20.5±0.5, 2.57N×94.55E, h30km, mb4.5/6, Error ellipse: s-maj=13.1km s-min=7.8km az=52.0*
ISC 03 05:09:19.3±0.6**, 2.57N**±0.09×**94.59E**±0.10**, h33**km**, n46, σ0ˢ81**/29**, mb4.4**/23**, MS4.6**/1**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.62**	**66**	*e*Pn	**Pn**	**05 10 56.6**	**-0.3**
CM31	**Chiang Mai Arr**	**16.36**	**15**	P	**P**	**05 13 06.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**16.36**	**15**	Pn	**P**	**05 13 07.7**	**-0.5**
	0.3nm,0.3s,baz=208,slow=12,SNR=13						
CMAR	**Chiang Mai Arr**	**16.36**	**15**	Pn		05 13 19.4	
	0.4nm,0.3s,baz=212,slow=11,SNR=12						
CMAR				LR	LR	05 20 00.7	
	comp=Z,46nm,18.6s,baz=190,slow=39						
JIRN	**Jiri**	**26.21**	**343**	*e*P	**P**	**05 14 53.7**	**+0.6**
	16nm,0.6s,mb4.7						
PKI	**Pulchoki**	**26.37**	**341**	*e*P	**P**	**05 14 54.7**	**+0.1**
	7.5nm,0.6s,mb4.4						
DMN	**Daman**	**26.50**	**341**	*e*P	**P**	**05 14 57.0**	**+1.2**
	8.0nm,0.3s,mb4.7						
GUN	**Gumba**	**26.54**	**343**	*e*P	**P**	**05 14 56.5**	**+0.3**
	16nm,0.6s,mb4.7						
GKN	**Gorkha**	**27.02**	**340**	*e*P	**P**	**05 15 00.7**	**+0.1**
	16nm,0.8s,mb4.6						
KOLN	**Koldanda**	**27.17**	**338**	*e*P	**P**	**05 15 01.9**	**-0.1**
	11nm,0.7s,mb4.5						
LSA	**Lhasa**	**27.18**	**353**	*e*P	**P**	**05 15 04.7**	**+2.7**
	15nm,0.7s,mb4.6						
GTA	**Gaotai**	**36.98**	**7**	P	**P**	**05 16 28.0**	**+0.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
GTA	**Gaotai**	**36.98**	**7**	AP	pP	05 16 36.7	-0.5
GTA				XP	sP	05 16 40.6	-0.9
WRA	**Warramunga Arr**	**44.97**	**122**	P	**P**	**05 17 33.6**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=300,slow=8.7,SNR=13						
WRA	**Warramunga Arr**	**44.97**	**122**	P	pP	05 17 42.7	-0.7
	comp=Z,2.5nm,0.7s,baz=300,slow=8.9,SNR=12						
WRAB	**Tennant Creek**	**44.98**	**122**	*e*P	**P**	**05 17 33.5**	**-0.1**
	comp=Z,5.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**46.23**	**11**	P	**P**	**05 17 43.7**	**+0.5**
	comp=Z,2.4nm,0.5s,mb4.4,baz=190,slow=8.6,SNR=25						
SONM				PcP	PcP	05 19 19.5	+0.5
	comp=Z,0.6nm,0.5s,baz=215,slow=5.7,SNR=4.5						
SONM	**Songino Array**	**46.23**	**11**	P	pP	05 17 52.0	-1.1
	comp=Z,1.6nm,0.6s,baz=191,slow=8.6,SNR=11						
SONM				PcP	PP	05 19 28.0	-3.7
	comp=Z,0.6nm,0.6s,baz=180,slow=2.9,SNR=3.9						
ASAR	**Alice Springs**	**46.30**	**127**	P	**P**	**05 17 44.6**	**+0.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=294,slow=7.5,SNR=8.1						
ASAR				PcP	PcP	05 19 19.9	+0.5
	comp=Z,0.4nm,0.5s,baz=274,slow=3.8,SNR=3.9						
ASAR	**Alice Springs**	**46.30**	**127**	P	pP	05 17 53.3	-0.6
	comp=Z,1.2nm,0.8s,baz=299,slow=8.2,SNR=9.1						
ASAR				PcP	PP	05 19 28.7	-4.0
	comp=Z,0.9nm,0.9s,baz=326,slow=3.7,SNR=5.2						
ULN	**Ulaanbaatar**	**46.39**	**12**	*e*P	**P**	**05 17 44.6**	**+0.2**
	comp=Z,1.6nm,0.6s,mb4.1						
CN2	**Changchun**	**49.33**	**29**	*e*P	**P**	**05 18 07.9**	**+0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
KURK	**Kurchatov**	**49.84**	**347**	*e*P	**P**	**05 18 10.9**	**-0.3**
	comp=Z,3.6nm,0.7s,mb4.5						
KURK				*e*	pP	05 18 19.6	-1.6
ZAL	**Zalesovo**	**51.83**	**353**	P	**P**	**05 18 26.5**	**+0.2**
	comp=Z,4.7nm,0.5s,mb4.7,baz=303,slow=5.7,SNR=19						
ZAL	**Zalesovo**	**51.83**	**353**	P	pP	05 18 35.1	-1.1
	comp=Z,2.6nm,0.4s,baz=311,slow=5.1,SNR=6.3						
CHKZ	**Chkalovo**	**54.63**	**343**	*e*P	**P**	**05 18 46.2**	**-0.9**
	comp=Z,9.8nm,1.0s,mb4.8						
CHKZ				*e*	pP	05 18 55.0	-2.1
STKA	**Stephens Creek**	**56.21**	**132**	P	**P**	**05 18 58.9**	**+0.1**
	comp=Z,2.5nm,1.1s,mb4.2,baz=293,slow=5.6,SNR=3.5						
STKA	**Stephens Creek**	**56.21**	**132**	P	pP	05 19 07.8	-1.0
	comp=Z,1.4nm,0.6s,baz=301,slow=6.3,SNR=3.8						
STKA	**Stephens Creek**	**56.21**	**132**	*e*P	**P**	**05 18 58.6**	**-0.2**
BRTR	**Keskin Array B**	**66.27**	**313**	P	**P**	**05 20 05.7**	**-0.9**
	comp=Z,0.9nm,0.9s,mb3.8,baz=76,slow=5.9,SNR=2.8						
BRTR	**Keskin Array B**	**66.27**	**313**	P	pP	05 20 14.6	-2.3
	comp=Z,0.9nm,0.6s,baz=112,slow=6.7,SNR=4.1						
MLR	**Muntele Rosu**	**73.29**	**317**	P	**P**	**05 20 47.1**	**-2.3**
	comp=Z,4.3nm,1.1s,mb4.3,baz=167,slow=11,SNR=3.3						
MLR	**Muntele Rosu**	**73.29**	**317**	P	pP	05 20 58.2	-1.5
	comp=Z,2.3nm,0.8s,baz=182,slow=19,SNR=3.1						
FINES	**FINESS Array B**	**77.59**	**333**	P	**P**	**05 21 13.0**	**-0.6**
	comp=Z,1.7nm,0.9s,mb4.0,baz=104,slow=5.7,SNR=3.1						
FINES	**FINESS Array B**	**77.59**	**333**	P	pP	05 21 21.6	-2.4
	comp=Z,1.2nm,0.8s,baz=104,slow=7.9,SNR=4.5						
FINES	**FINESS Array B**	**77.59**	**333**	P	**P**	**05 21 13.0**	**-0.6**
ARCES	**ARCESS Array B**	**80.38**	**341**	P	**P**	**05 21 29.0**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.3,baz=143,slow=4.5,SNR=3.1						
ARCES	**ARCESS Array B**	**80.38**	**341**	P	**P**	**05 21 29.0**	**+0.4**
GERES	**GERESS Array B**	**82.07**	**319**	P	**P**	**05 21 38.2**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.7,baz=90,slow=4.0,SNR=5.6						
GERES	**GERESS Array B**	**82.07**	**319**	P	pP	05 21 47.9	-0.4
	comp=Z,0.5nm,0.7s,baz=101,slow=6.8,SNR=4.0						
VNDA	**Vanda**	**87.68**	**168**	LR	LR	05 53 46.4	
	comp=Z,260nm,19.8s,MS4.6,baz=85,slow=30						
EDM	**Edmonton**	**119.68**	**19**	P	Pdif	05 24 30.1	+0.9
TXAR	**Lajitas Array**	**143.78**	**28**	PKP	PKPdf	05 28 52.8	+1.0
	comp=Z,0.7nm,1.0s,baz=226,slow=0.7,SNR=6.7						
TXAR	**Lajitas Array**	**143.78**	**28**	PKP		05 29 01.6	
	comp=Z,0.4nm,0.7s,baz=192,slow=1.7,SNR=7.0						
TXAR	**Lajitas Array**	**143.78**	**28**	PKP		05 29 01.6	
TXAR	**Lajitas Array**	**143.78**	**28**	PKP	PKPdf	05 28 52.8	+1.0

IDC 03 05:27:57.3±6.1**, 6.94S**×**147.69E, h96**km±65km**, mb3.0**/2**, mb1 3.2**/4**, mb1mx3.1**/13**, mbtmp3.3**/4**, ML2.7**/2**, Error ellipse: s-maj=107.8km s-min=37.6km az=130.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.50**	**192**	P	P	05 28 36.4	-0.8
	5.2nm,0.3s,baz=30,slow=5.1,SNR=11						
PMG				S	S	05 29 07.2	+0.2
	8.8nm,0.3s,baz=96,slow=23,SNR=3.8						
WRA	**Warramunga Arr**	**18.30**	**224**	P	P	05 32 02.5	-3.8
	0.1nm,0.3s,baz=51,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**21.26**	**217**	P	P	05 32 36.9	-0.6
	0.5nm,0.8s,baz=45,slow=8.9,SNR=5.0						
ILAR	**Eielson Array**	**86.07**	**23**	P	P	05 40 27.1	-1.1
	0.3nm,0.5s,baz=242,slow=5.5,SNR=4.9						

*BGR **03** 05:28:21.7±0.4, 49.32N×6.85E, h1km, ML1.8/2, Error ellipse: s-maj=7.8km s-min=4.4km az=42.0*
*CSEM **03** 05:28:21.4±0.1, 49.34N×6.81E, h2km, ML2.5/9, Error ellipse: s-maj=1.5km s-min=0.9km az=56.0*
*LDG **03** 05:28:22.0±0.1, 49.34N×6.77E, h1km, Md2.5/1, Ml2.6/10, Error ellipse: s-maj=1.6km s-min=1.2km az=105.0, Suspected Mining induced.*
*BNS **03** 05:28:22.2±0.8, 49.33N×6.91E, h1km, ML1.8*
*NEIC **03** 05:28:22.0, 49.34N×6.77E, h1km, ML2.6(LDG), After LDG.*
ISC 03 05:28:20.0±0.3**, 49.32N**±0.02×**6.78E**±0.03**, n23, σ0ˢ92**/46**, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WLF	**Walferdange**	**0.54**	**311**	*e*Pg	**Pg**	**05 28 33.0**	**+2.3**
	SNR=4.3						
WLF				*e*Sg	**Sg**	**05 28 40.1**	**+2.2**
	SNR=3.8						
WLF	**Walferdange**	**0.54**	**311**	P	**Pg**	**05 28 32.9**	**+2.2**
WLF	**Walferdange**	**0.54**	**311**	Pg	**Pg**	**05 28 33.0**	**+2.3**
	SNR=4.3						
WLF				Sg	**Sg**	**05 28 40.1**	**+2.2**
	SNR=3.8						
BGG	**Burgeitz**	**0.96**	**22**	*e*Pg	**Pg**	**05 28 39.6**	**+0.4**
BGG				*e*Sg	**Sg**	**05 28 52.4**	**+0.4**
	33nm,0.5s						
CDF	**Champ du Feu**	**0.96**	**160**	*e*Pg	**Pg**	**05 28 39.7**	**+0.5**
CDF				*e*Pn	**Pn**	**05 28 40.5**	**0.0**
CDF				*e*Sg	**Sg**	**05 28 52.4**	**+0.4**
	34nm,0.2s						
RFYF	**Reffroy**	**1.10**	**232**	*e*Pg	**Pg**	**05 28 43.2**	**+1.2**
	baz=46						
RFYF				*e*Sg	**Sg**	**05 28 57.3**	**+0.6**
	14nm,0.3s						
STB	**Steinbach**	**1.28**	**2**	*e*Pg	**Pg**	**05 28 46.0**	**+0.5**
STB				*e*Sg	**Sg**	**05 29 02.7**	**+0.1**
HAU	**Haudompre**	**1.34**	**193**	*e*Pg	**Pg**	**05 28 47.0**	**+0.2**
HAU				*e*Sg	**Sg**	**05 29 04.7**	**0.0**
	16nm,0.3s						
KLL	**Kalltalsperre**	**1.37**	**347**	*e*Pg	**Pg**	**05 28 46.0**	**-1.2**
KLL				*e*Sg	**Sg**	**05 29 04.6**	**-0.9**
MEM	**Membach**	**1.39**	**339**	P	**Pb**	**05 28 47.9**	**+1.4**
MEM				S	**Sb**	**05 29 05.9**	**+1.2**
MEZF	**Maizieres J'vi**	**1.40**	**235**	*e*Pg	**Pg**	**05 28 48.1**	**+0.1**
	baz=48						
MEZF				*e*Sg	**Sg**	**05 29 06.6**	**-0.1**
	6.3nm,0.3s						
TNS	**Taunus Mts**	**1.41**	**49**	*e*Pg	**Pg**	**05 28 46.7**	**-1.4**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**05 29 06.3**	**-0.7**
	SNR=3.3						
TNS	**Taunus Mts**	**1.41**	**49**	*e*Pg	**Pg**	**05 28 46.5**	**-1.6**
TNS				*e*Sg	**Sg**	**05 29 07.1**	**+0.1**
TNS	**Taunus Mts**	**1.41**	**49**	Pg	**Pg**	**05 28 46.7**	**-1.4**
	SNR=1.8						
TNS				*e*Sg	**Sg**	**05 29 07.1**	**+0.1**
BFO	**Black Forest**	**1.42**	**133**	*e*Pg	**Pg**	**05 28 48.6**	**+0.3**
	SNR=2.1						
BFO				*e*Sg	**Sg**	**05 29 05.2**	**-2.1**
	SNR=6.7						
BFO	**Black Forest**	**1.42**	**133**	*e*Pg	**Pg**	**05 28 48.6**	**+0.2**
BFO				*e*Sg	**Sg**	**05 29 07.2**	**-0.1**
GIVF	**Givet**	**1.50**	**303**	*e*Pg	**Pg**	**05 28 49.0**	**-0.8**
GIVF				*e*Sg	**Sg**	**05 29 08.6**	**-1.2**
	10nm,0.4s						
HINF	**Hinteralfeld**	**1.50**	**178**	*e*Pg	**Pg**	**05 28 50.0**	**+0.1**
HINF				*e*Sg	**Sg**	**05 29 09.9**	**-0.1**
	14nm,0.2s						
HGN	**Heimansgroeve**	**1.55**	**340**	*e*Pg	**Pg**	**05 28 50.9**	**0.0**
	SNR=1.7						
HGN				*e*Sg	**Sg**	**05 29 11.0**	**-0.6**
	SNR=2.7						
SFTF	**Sexfontaines**	**1.60**	**227**	*e*Pn	**Pn**	**05 28 49.8**	**+0.1**
SFTF				*e*Pg	**Pg**	**05 28 51.9**	**-0.1**
SFTF				*e*Sg	**Sg**	**05 29 12.9**	**-0.4**
	4.7nm,0.2s						
DOU	**Dourbes**	**1.62**	**300**	P	**Pn**	**05 28 50.7**	**+0.8**
BAIF	**Baives**	**1.83**	**295**	*e*Pg	**Pg**	**05 28 55.5**	**-1.0**
BAIF				*e*Sg	**Sg**	**05 29 19.1**	**-1.8**
	3.6nm,0.3s						
SSF	**Saint Saulge**	**3.15**	**225**	*e*Pn	**Pn**	**05 29 10.8**	**-0.9**
SSF				*e*Sg	**Sg**	**05 30 01.1**	**-3.6**
	1.2nm,0.3s						

*IDC **03** 05:37:15.0±0.7, 54.40S×137.21W, mb4.3/10, mb1 4.5/10, mb1mx4.3/15, mbtmp4.3/10, MS4.4/15, Ms1 4.4/15, ms1mx4.1/22, Error ellipse: s-maj=39.7km s-min=17.4km az=176.0*
*NEIC **03** 05:37:16.2±0.4, 54.42S×137.17W, h10km, mb5.0/6, MS4.7/16, Error ellipse: s-maj=26.5km s-min=10.8km az=177.0*
*HRVD **03** 05:37:16.2±0.3, 54.20S×137.00W, h15km±1km, MW5.1/58, Centroid moment Tensor Solution. LP body waves: s31,c41;Mantle waves: s58,c92; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.53±.22; $M_{\theta\theta}$3.49±.23; $M_{\phi\phi}$-4.01±.17; $M_{r\theta}$2.21±.66; $M_{\theta\phi}$3.52±.15; $M_{\phi r}$1.06±.50; Best double couple: $M_0$5.694×10^{16} NP1:ϕ_s116°,δ72°,λ16°. NP2:ϕ_s21°,δ75°,λ161°. Principal axes: T 5.98, Plg24°, Azm338°; N -.565, Plg66°, Azm163°; P -5.409, Plg2°, Azm69°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 05:37:14.3±0.5**, 54.5S**±0.2×**137.2W**±0.1**, h10**km**, n50, σ1ˢ00**/19**, mb4.5**/16**, MS4.6**/29**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**31.37**	**4**	*e*LQ		05 50 17.3	
RKT				*e*LR	LR	05 51 17.3	
	1μm,28.0s,baz=178						
TBI	**Tubuai**	**32.43**	**339**	*e*LR	LR	05 51 40.8	
	2μm,28.0s,baz=174						
RPN	**Rapa Nui**	**34.10**	**48**	LR	LR	05 54 04.0	
	comp=Z,1μm,21.3s,MS4.6,baz=184,slow=30						
PPT	**Papeete**	**38.06**	**341**	*e*S	Sx	05 50 03.9	
PPT				*e*LR	LR	05 54 16.8	
	2μm,26.0s,baz=175						
USHA	**Ushuaia**	**38.31**	**120**	P	**P**	**05 44 37.9**	**+1.5**
	13nm,1.0s,mb4.6,baz=315,slow=5.7,SNR=3.5						
PLCA	**Paso Flores**	**45.28**	**101**	P	**P**	**05 45 34.1**	**+0.6**
	5.3nm,1.2s,mb4.2,baz=243,slow=7.3,SNR=4.8						
PLCA				LR	LR	06 00 11.7	
	comp=Z,696nm,18.1s,MS4.6,baz=227,slow=30						
TAOE	**Nuku Hiva Isla**	**45.57**	**356**	*e*LR	LR	05 57 52.7	
TRQA	**Tornquist**	**51.97**	**104**	*e*P	**P**	**05 46 23.7**	**-1.7**
	43nm,1.5s,mb5.2						
MAW	**Mawson**	**57.31**	**189**	LR	LR	06 09 47.5	
	comp=Z,168nm,18.3s,MS4.2,baz=158,slow=34						

LVC Limon Verde 59.34 86 eP P 05 47 18.3 -0.4
57nm,1.8s,mb5.3
STKA Stephens Creek 59.82 257 P P 05 47 22.2 +0.2
1.9nm,0.7s,mb4.2,baz=151,slow=9.1,SNR=4.0
STKA LR LR 06 08 39.9
comp=Z,323nm,19.2s,MS4.5,baz=305,slow=32
STKA Stephens Creek 59.82 257 P P 05 47 22.2 +0.2
STKA LR LR 06 08 39.9
ARE Arequipa 62.67 80 eP P 05 47 41.0 -0.4
LPAZ La Paz 64.75 83 P P 05 47 55.0 0.0
4.8nm,0.9s,mb4.5,baz=192,slow=4.2,SNR=15
LPAZ LR LR 06 09 06.3
comp=Z,405nm,21.9s,MS4.6,baz=156,slow=30
LPAZ La Paz 64.75 83 P P 05 47 55.0 0.0
LPAZ LR LR 06 09 06.3
CTA Charters Tower 66.12 269 LR LR 06 12 32.8
comp=Z,201nm,20.2s,MS4.3,baz=179,slow=32
CTAO Charters Tower 66.12 269 P P 05 48 01.6 -2.1
12nm,1.2s,mb4.8
ASAR Alice Springs 70.46 257 P P 05 48 31.1 +0.3
2.7nm,0.7s,mb4.3,baz=138,slow=6.4,SNR=15
ASAR LR LR 06 18 14.3
comp=Z,327nm,18.2s,MS4.6,baz=138,slow=35
NWAO Narrogin (SRO) 72.08 238 PFAKE 05 48 50.0 +10
NWAO LR LR
comp=Z,518nm,20.0s,MS4.8
WRA Warramunga Arr 73.14 259 P P 05 48 47.0 +0.3
comp=Z,2.0nm,0.8s,mb4.1,baz=144,slow=5.4,SNR=9.9
WRAB Tennant Creek 73.14 259 eP P 05 48 47.1 +0.3
comp=Z,4.8nm,0.8s,mb4.5
SAML Samuel 73.49 82 eP P 05 48 47.1 -1.8
comp=Z,23nm,1.4s,mb4.9
PMG Port Moresby 74.06 276 LR LR 06 18 46.3
comp=Z,334nm,18.0s,MS4.7,baz=202,slow=34
PMG Port Moresby 74.06 276 PFAKE 05 49 00.0 +7.8
PMG LR LR
comp=Z,432nm,19.0s,MS4.8
BDFB Brasilia 76.96 99 P P 05 49 09.0 +0.3
comp=Z,5.1nm,0.8s,mb4.5,baz=273,slow=3.5,SNR=7.7
BDFB LR LR 06 19 02.0
comp=Z,411nm,21.9s,MS4.7,baz=48,slow=33
JTS JuntasAbangare 78.03 53 LR LR 06 15 21.3
comp=Z,380nm,19.6s,MS4.7,baz=150,slow=29
JTS JuntasAbangare 78.03 53 eP P 05 49 13.8 -0.8
comp=Z,2.0nm,0.6s,mb4.2
ROSC El Rosal 78.65 65 P P 05 49 19.4 +1.4
comp=Z,3.7nm,0.8s,mb4.4,baz=118,slow=17,SNR=7.3
ROSC LR LR 06 17 03.9
comp=Z,209nm,21.6s,MS4.4,baz=200,slow=30
MBWA Marble Bar 80.31 247 PFAKE 05 49 40.0 +13
MBWA LR LR
comp=Z,501nm,19.0s,MS4.9
TXAR Lajitas Array 88.34 29 P P 05 50 07.4 +0.3
comp=Z,0.7nm,0.8s,mb3.9,baz=190,slow=8.1,SNR=7.6
NVAR Mina Array Bea 93.96 15 P P 05 50 34.3 +1.3
comp=Z,0.5nm,0.8s,mb4.0,baz=180,slow=4.5,SNR=2.9
NVAR LR LR 06 24 55.4
comp=Z,69nm,20.3s,MS4.1,baz=125,slow=30
SJG San Juan 94.05 64 LR LR 06 29 21.4
comp=Z,148nm,18.6s,MS4.5,baz=26,slow=33
GUMO Guam 94.07 288 PFAKE 05 50 50.0 +16
GUMO LR LR
comp=Z,680nm,20.0s,MS5.1
PDAR Pinedale Array 99.72 20 LR LR 06 27 27.5
comp=Z,100nm,20.9s,MS4.3,baz=27,slow=30
MAJO Matsushiro 115.92 297 PFAKE 05 56 10.0 +10
MAJO LR LR
comp=Z,192nm,20.0s,MS4.7
QIZ Qiongzhong 118.59 263 PFAKE 05 56 20.0 +15
QIZ LR LR
comp=Z,363nm,20.0s,MS5.0
ILAR Eielson Array 119.16 355 PKP PKPdf 05 56 05.2 -0.3
comp=Z,0.3nm,0.7s,baz=202,slow=3.2,SNR=5.0
YSS Yuzh-Sakhalins 121.50 308 PFAKE 05 56 20.0 +10
YSS LR LR
comp=Z,116nm,19.0s,MS4.5
MDJ Mudanjiang 126.28 298 PFAKE 05 56 30.0 +10
MDJ LR LR
comp=Z,143nm,19.0s,MS4.7
ENH Enshi 127.38 271 PFAKE 05 56 30.0 +7.9
ENH LR LR
comp=Z,263nm,22.0s,MS4.9
MA2 Magadan 127.41 322 PFAKE 05 56 30.0 +8.7
MA2 LR LR
comp=Z,159nm,19.0s,MS4.7
BILL Bilibino 129.16 336 PFAKE 05 56 30.0 +5.5
BILL LR LR
comp=Z,259nm,22.0s,MS4.9
BJT Baijiatuau 130.42 285 PFAKE 05 56 40.0 +12
BJT LR LR
comp=Z,111nm,19.0s,MS4.6
HIA Hailar 134.43 297 PFAKE 05 56 50.0 +15
HIA LR LR
comp=Z,129nm,19.0s,MS4.7
YAK Yakutsk 136.98 316 PFAKE 05 56 50.0 +11
YAK LR LR
comp=Z,113nm,19.0s,MS4.6
LSA Lhasa 137.54 254 PFAKE 05 56 50.0 +8.8
LSA LR LR
comp=Z,97nm,21.0s,MS4.5
ESDC Sonseca Array 145.58 96 PKPbc PKPbc 05 56 54.9 +2.3
comp=Z,4.0nm,0.8s,baz=246,slow=2.7,SNR=14
ESLA Sonseca Array 145.58 96 ePKPdf PKPdf 05 56 54.8 -0.2
KURK Kurchatov 158.07 275 PFAKE 05 57 20.0 +7.0
KURK LR LR
comp=Z,37nm,20.0s,MS4.2
GNI Garni 165.60 186 PFAKE 05 57 30.0 +8.9
GNI LR LR
comp=Z,185nm,21.0s

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*JMA **03** 05:57:18.6±0.3, 23.84N×122.47E, h38km, M2.7*
TAP 03 05:57:17.2, 23.81N×122.27E, h13km±1km, ML3.4, Taiwan region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.94**	**46**	P	Pb	05 57 33.5	-1.3
YOJ				eS	Sb	05 57 44.0	-2.9
HATJ	**Hateruma jima**	**1.43**	**80**	P	Pn	05 57 39.9	-3.0
HATJ				eS	Sb	05 57 55.8	-5.3
IRIF	**Iriomote-Funau**	**1.43**	**68**	P	Pn	05 57 40.6	-2.4
IRIF				eS	Sb	05 57 57.2	-4.1
JKRS	**Kuro-shima**	**1.65**	**75**	P	Pn	05 57 43.5	-2.6
JKRS				eS	Sn	05 58 01.5	-5.7
JIJ	**Ishigaki jima**	**1.80**	**72**	P	Pn	05 57 44.9	-3.3
JIJ				eS	Sn	05 58 05.2	-5.9
JTJ	**Tarama**	**2.37**	**69**	P	Pn	05 57 53.7	-2.7
JTJ				eS	Sn	05 58 20.0	-5.6

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*IDC **03** 06:25:40.2±0.8, 14.51N×92.21E, mb4.1/14, mb1 4.3/15, mb1mx4.2/21, mbtmp4.1/15, ML4.1/1, Error ellipse: s-maj=33.3km s-min=15.9km az=52.0*
*BJI **03** 06:25:43.2, 14.38N×92.51E, h36km, mB4.8, mb4.6, Ms4.1, Msz3.8*
*NEIC **03** 06:25:44.6±0.4, 14.51N×92.36E, h30km, mb4.7/12, Error ellipse: s-maj=9.1km s-min=7.8km az=198.0*
ISC 03 06:25:42.2±0.5, 14.43N±0.07×92.27E±0.05, h31km, h31km±1.1km:pP-P, n58, σ1.01/68, mb4.4/31, MS4.2/4, 1C-2D, Andaman Islands region

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

BDT Bhumibol Dam 7.06 66 P Pn 06 27 23.0 -3.2
2.2nm,0.6s
CM31 Chiang Mai Arr 7.56 57 eP Pn 06 27 29.8 -3.4
33nm,1.0s
CMAR Chiang Mai Arr 7.56 57 Pn Pn 06 27 30.1 -3.0
0.8nm,0.3s,baz=245,slow=15,SNR=9.9
NST Nakhon Sawan 7.70 80 P Pn 06 27 33.7 -1.5
BWNR Bhubaneshwar 8.49 314 eP P 06 27 42.9 -3.2
BWNR i S Sn 06 29 10.9 -11
BWNR e 06 29 14.4
comp=E,492nm,0.4s
BWNR e 06 29 14.6
comp=N,200nm,0.4s
NANT Nan 9.18 61 P P 06 27 56.0 +0.3
VIS Vishakhapatnam 9.19 292 eP P 06 27 53.3 -2.5
VIS i S Sn 06 29 28.9 -10
SHL Shillong 11.09 358 eP P 06 28 14.5 -7.4
SHL eS S 06 30 11.0 -15
BLSP Bilaspur 12.29 310 i P P 06 28 37.3 -1.0
BLSP i S S 06 30 41.9 -13
BLSP e 06 31 15.1
comp=E,64nm,0.9s
BLSP e 06 31 17.0
comp=N,76nm,0.7s
KMI Kunming 14.49 41 P P 06 29 08.0 +0.7
KMI AP 06 29 13.5
KMI S S 06 31 53.0 +5.3
KMI LR LR
comp=N,253nm,10.0s
KMI LR LR
comp=E,191nm,5.2s
KMI LR LR
comp=Z,190nm,5.4s
LSA Lhasa 15.23 356 P P 06 29 23.1 +6.1
LSA AMB AMB
comp=Z,20nm,0.8s
LSA LR LR
comp=N,70nm,15.0s
LSA LR LR
comp=E,280nm,16.3s
LSA LR LR
comp=Z,90nm,6.8s
LSA Lhasa 15.23 356 eP P 06 29 22.6 +5.7
comp=Z,22nm,0.7s
LSA e 06 29 30.3
GYA Guiyang 18.02 46⇑iP P 06 29 52.0 -0.2
GYA AMB AMB
comp=Z,110nm,5.7s
GYA LR LR
comp=N,430nm,6.3s
GYA LR LR
comp=E,180nm,6.0s
GYA LR LR
comp=Z,260nm,5.1s
POO Poona 18.12 286 e S 06 33 26.0 +14
NDI New Delhi 19.90 318 eP P 06 30 14.0 -0.2
NDI e 06 33 40.0
DDI Dehra Dun 20.53 323 e P 06 30 30.2 +9.4
ENH Enshi 22.36 42 eP P 06 30 38.5 -0.8
comp=Z,18nm,0.8s,mb4.6
ENH e 06 30 45.1
LZH Lanzhou 23.93 24 ⇓P P 06 30 55.0 +0.4
LZH AP 06 31 03.8
LZH XP 06 31 07.9
LZH PP PP 06 31 29.5 +0.8
LZH eS S 06 35 07.0 +1.1
LZH XS 06 35 21.5
LZH SS SS 06 35 58.2 +1.1
LZH AMB AMB
comp=Z,37nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,135nm,4.6s
LZH LR LR
comp=N,809nm,10.0s
LZH LR LR
comp=Z,2μm,12.3s,MS4.7
LZH Lanzhou 23.93 24 ⇓P P 06 30 55.0 +0.4
comp=Z,37nm,1.3s,mb4.7
LZH pP 06 31 03.8
LZH sP 06 31 07.9
LZH PP PP 06 31 29.5 +0.8
LZH eS S 06 35 07.0 +1.1
LZH sS 06 35 21.5
LZH SS SS 06 35 58.2 +1.1
LZH LR LR
comp=Z,2μm,12.3s,MS4.7
XAN Xi'an 24.67 35 P P 06 31 01.1 -0.6
XAN AMB AMB
comp=Z,34nm,0.9s,mb4.9
GTA Gaotai 25.76 14 P P 06 31 12.9 +0.9
GTA AP pP 06 31 22.1 +1.0
GTA XP sP 06 31 25.6 +0.4
GTA PP PP 06 31 54.4 +2.0
GTA AMB AMB
comp=Z,24nm,0.8s,mb4.8
WMQ Urumqi 29.55 353 eP P 06 31 47.5 +1.1
WMQ AP pP 06 31 57.0 +1.4
WMQ XP sP 06 32 01.0 +1.3
WMQ PP PP 06 32 44.0 +1.3
WMQ PPP PPP 06 32 58.0 +1.7
WMQ S S 06 36 39.5 +1.6
WMQ XS 06 36 55.0
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
WMQ AMB AMB
comp=Z,121nm,4.2s
WMQ LR LR
comp=N,210nm,15.0s,MS4.0
WMQ LR LR
comp=E,184nm,16.0s,MS4.0
WMQ LR LR
comp=Z,157nm,14.4s,MS3.8
NJ2 Nanjing 29.95 50 eP P 06 31 49.4 -0.7
NJ2 AP pP 06 31 59.0 -0.2
NJ2 XP sP 06 32 03.0 -0.3
NJ2 PP PP 06 32 47.7 -0.3
NJ2 S S 06 36 45.0 +0.7
NJ2 XS 06 37 01.0
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
NJ2 AMB AMB
comp=Z,40nm,4.2s
NJ2 LR LR
comp=N,610nm,14.4s,MS4.3
NJ2 LR LR
comp=E,162nm,18.2s,MS4.3
NJ2 LR LR
comp=Z,444nm,18.8s,MS4.1
HHC Hu-ho-hao-te 31.24 29 eP P 06 32 02.0 +0.7
HHC AP pP 06 32 11.7 +1.2
HHC XP sP 06 32 15.1 +0.5
HHC PP PP 06 33 05.5 +0.8
HHC S S 06 37 06.9 +2.4
HHC XS 06 37 20.6
HHC SS SS 06 38 54.3 +2.9
HHC AMB AMB
comp=Z,12nm,0.8s,mb4.8
HHC AMB AMB
comp=Z,88nm,5.3s
HHC LR LR
comp=N,259nm,20.2s,MS4.0
HHC LR LR
comp=E,244nm,19.0s,MS4.0
HHC LR LR
comp=Z,222nm,19.6s,MS3.8
AAK Ala-Archa 32.01 335 P P 06 32 08.6 +0.5
BJT Baijiatuau 32.98 35 P P 06 32 17.0 +0.4
comp=Z,6.4nm,0.7s,mb4.7
BJI Beijing 33.00 35 eP P 06 32 15.5 -1.2
BJI AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
BJI Beijing 33.00 35 eP P 06 32 15.5 -1.2
comp=Z,6.0nm,0.7s,mb4.6
SONM Songino Array 35.31 17 P P 06 32 37.2 +0.6
comp=Z,8.0nm,1.0s,mb4.6,baz=207,slow=8.3,SNR=37
ULN Ulaanbaatar 35.53 17 eP P 06 32 38.1 -0.3
comp=Z,11nm,1.2s,mb4.7
KURK Kurchatov 37.84 346 P P 06 32 58.4 +0.6
comp=Z,86nm,1.1s,mb5.4,SNR=20
KURK Kurchatov 37.84 346 eP P 06 32 58.5 +0.7
comp=Z,19nm,1.0s,mb4.8
KURK e pP 06 33 06.5 -0.7
TLY Talaya 38.27 11 eP P 06 33 02.4 +1.0
ZAL Zalesovo 39.85 353 P P 06 33 15.2 +0.6
comp=Z,4.4nm,0.8s,mb4.2,baz=305,slow=7.1,SNR=22
CN2 Changchun 40.72 37 eP P 06 33 22.0 +0.2
HIA Hailar 41.40 27 P P 06 33 27.1 -0.1
comp=Z,5.2nm,0.9s,mb4.2
BVAR Borovoye Array 42.23 340 P P 06 33 34.3 +0.2
comp=Z,2.6nm,0.9s,mb3.9,baz=143,slow=7.4,SNR=10.0
MDJ Mudanjiang 43.65 39 P P 06 33 44.4 -1.4
MDJ AMB AMB
comp=Z,3.0nm,0.6s,mb4.2
MDJ AMB AMB
comp=Z,87nm,3.8s
GNI Garni 48.66 311 P P 06 34 26.8 +1.3
comp=Z,11nm,1.0s,mb4.8
NWAO Narrogin (SRO) 52.79 154 P P 06 34 52.8 -4.3
comp=Z,15nm,1.0s,mb4.9
YSS Yuzh-Sakhalins 52.94 41 P P 06 34 57.6 -0.3
WRA Warramunga Arr 53.66 128 P P 06 35 04.5 +0.9
comp=Z,2.6nm,0.8s,mb4.2,baz=309,slow=7.6,SNR=12
WRAB Tennant Creek 53.66 128 eP P 06 35 03.6 0.0
comp=Z,4.2nm,0.6s,mb4.5
YAK Yakutsk 54.47 21 P P 06 35 07.5 -1.4
comp=Z,20nm,0.8s,mb5.1
ASAR Alice Springs 55.59 132 P P 06 35 18.9 +1.2
comp=Z,1.3nm,0.4s,mb4.3,baz=309,slow=6.6,SNR=18
BRTR Keskin Array B 56.86 308 P P 06 35 26.6 0.0
comp=Z,1.0nm,0.8s,mb3.9,baz=124,slow=12,SNR=4.1
MA2 Magadan 61.92 29 eP P 06 35 59.8 -1.3
STKA Stephens Creek 65.98 135 P P 06 36 29.8 +1.7
comp=Z,1.2nm,0.5s,mb4.2,baz=286,slow=7.4,SNR=2.6
STKA Stephens Creek 65.98 135 P P 06 36 27.5 -0.6
FINES FINESS Array B 66.10 331 P P 06 36 28.5 +0.2
comp=Z,1.1nm,0.5s,mb4.1,baz=121,slow=11,SNR=10.0
FINES FINESS Array B 66.10 331 P P 06 36 28.5 +0.2
ARCES ARCESS Array B 68.52 340 P P 06 36 43.8 +0.3
comp=Z,5.1nm,0.9s,mb4.5,baz=67,slow=9.2,SNR=4.8
GERES GERESS Array B 71.77 317 P P 06 37 03.0 -0.7
comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=6.7,SNR=5.4
HFS Hagfors 71.91 329 P P 06 37 04.4 +0.1
comp=Z,2.3nm,0.8s,mb4.1,baz=117,slow=3.2,SNR=2.8
CLL Collm 72.18 320 P P 06 37 06.0 0.0
NOA NORSAR Array B 73.16 330 P P 06 37 11.9 +0.3
comp=Z,0.4nm,0.7s,mb3.5,baz=95,slow=5.7,SNR=3.0
ILAR Eielson Array 89.38 22 P P 06 38 37.0 +0.2
comp=Z,0.5nm,0.8s,mb3.9,baz=302,slow=4.2,SNR=7.0
INK Inuvik 91.22 15 P P 06 38 46.5 +1.2
comp=Z,2.0nm,1.1s,mb4.3,baz=284,slow=5.1,SNR=8.7

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*NEIC **03** 06:31:18.7±0.9, 6.68N×72.89W, h171km±10km, Error ellipse: s-maj=33.5km s-min=13.3km az=127.0*
*IDC **03** 06:31:18.3±0.7, 6.71N×72.91W, h165km±9km, mb3.2/4, mb1 3.4/6, mb1mx3.1/23, mbtmp3.7/6, Error ellipse: s-maj=37.8km s-min=7.5km az=131.0*
ISC 03 06:31:18.0±1.0, 6.8N±0.4×73.0W±0.5, h168km±31km, n9, σ0.58/9, mb3.4/4, Northern Colombia

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

ROSC El Rosal 2.36 213 P P 06 31 59.4 +0.6
13nm,0.3s,baz=30,slow=2.2,SNR=37
ROSC S S 06 32 29.9 -0.4
39nm,0.3s,baz=93,slow=18,SNR=14
SDV Santo Domingo 3.12 49 P P 06 32 08.4 +0.2
19nm,0.3s,baz=238,slow=5.6,SNR=689
SDV S S 06 32 46.7 -0.2
26nm,0.3s,baz=270,slow=21,SNR=24
TXAR Lajitas Array 36.52 312 P P 06 38 09.3 +0.3
0.3nm,0.8s,mb3.0,baz=144,slow=7.8,SNR=3.4
SCHQ Schefferville 48.12 5 P P 06 39 43.5 +1.0
2.2nm,0.8s,mb3.8,baz=170,slow=12,SNR=2.8
YKA Yellowknife Ar 63.28 340 P P 06 41 29.7 -1.1
0.4nm,0.8s,mb3.3,baz=132,slow=6.7,SNR=8.8
YKA Yellowknife Ar 63.28 340 P P 06 41 29.7 -1.1
INK Inuvik 73.05 340 P P 06 42 30.7 -0.2
1.1nm,1.1s,mb3.5,baz=224,slow=2.2,SNR=3.6
ASAR Alice Springs 149.20 234 PKPbc PKPdf 06 50 47.4 +4.6
0.6nm,0.7s,baz=126,slow=3.4,SNR=9.2
WRA Warramunga Arr 150.43 241 PKPbc PKPdf 06 50 51.2 +6.4
0.3nm,0.4s,baz=108,slow=2.9,SNR=8.2

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*IDC **03** 06:58:19.3±18.0, 10.64N×90.75W, mb3.3/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, Error ellipse: s-maj=355.8km s-min=68.5km az=12.0*
*CASC **03** 06:59:01.6±2.0, 15.69N×90.70W, h119km±90km, MD3.9, ML4.2*
ISC 03 06:59:03.3±1.6, 14.4N±0.3×91.3W±0.2, h173km±9km, n13, σ1.18/20, mb3.2/2, 6C-4D, Guatemala

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.85**	**108**	⇓eP	**P**	**06 59 29.3**	**-0.2**
IXG				eS	**S**	**06 59 52.0**	**+2.4**
IXG				AML	AML	06 59 53.4	
	comp=N,7μm,0.7s						
NBG	**Las Nubes**	**0.92**	**80**	⇑eP	**P**	**06 59 30.0**	**+0.1**
NBG				eS	**S**	**06 59 48.1**	**-2.4**
NBG				AML	AML	06 59 52.2	
	comp=N,4μm,0.5s						
RBDL	**Robledal**	**1.58**	**101**	⇓eP	**P**	**06 59 35.2**	**-0.6**
RTR	**El Retiro**	**1.68**	**108**	⇑eP	**P**	**06 59 36.4**	**-0.4**
RTR				eS	**S**	**07 00 04.5**	**+1.7**
SBLS	**San Blas**	**1.72**	**110**	⇑eP	**P**	**06 59 36.5**	**-0.7**
SBLS				eS	**S**	**07 00 05.3**	**+1.9**
SNJE	**San Jose**	**1.73**	**109**	⇑eP	**P**	**06 59 36.9**	**-0.3**
SNJE				eS	**S**	**07 00 05.8**	**+2.3**
BOQS	**Boqueron**	**2.07**	**109**	⇑eP	**P**	**06 59 40.4**	**-0.6**
LFU	**La Fuente**	**2.22**	**108**	⇓eP	**P**	**06 59 41.9**	**-0.8**
LFRS	**El Faro**	**2.31**	**110**	⇓eP	**P**	**06 59 43.0**	**-0.8**
LFRS				eS	**S**	**07 00 14.7**	**-0.3**
LCBS	**La Ceiba**	**2.37**	**109**	⇑eP	**P**	**06 59 43.6**	**-0.9**
LCBS				eS	**S**	**07 00 15.5**	**-0.8**
TXAR	**Lajitas Array**	**18.73**	**324**	P	**P**	**07 03 17.2**	**+6.1**
	comp=N,0.2nm,0.5s,baz=145,slow=11,SNR=6.4						
SCHQ	**Schefferville**	**44.58**	**20**	P	**P**	**07 06 59.7**	**+0.2**
	comp=N,1.8nm,1.0s,mb3.7,baz=218,slow=12,SNR=5.6						
YKA	**Yellowknife Ar**	**50.77**	**346**	P	**P**	**07 07 48.8**	**+1.5**
	comp=N,0.1nm,0.4s,mb2.8,baz=147,slow=8.0,SNR=6.1						

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*NEIC **03** 07:17:31.1, 16.23N×98.29W, h6km, MD3.8(MEX), After MEX.*
MEX 03 07:17:31.5±0.7, 16.27N×98.30W, h4km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**55**	i P	Pg	07 17 35.2	-0.5
PNIG				i S	Sg	07 17 38.0	-0.5
ACX	**Acapulco**	**1.66**	**291**	i P	Pn	07 17 57.5	-4.0
ACX				i S	Sb	07 18 18.0	-5.4
VHO	**Vista Hermosa**	**1.70**	**62**	i P	Pn	07 17 58.5	-3.7
VHO				i S	Sn	07 18 17.9	-6.7
VHO	**Vista Hermosa**	**1.70**	**62**	i P	Pn	07 17 58.5	-3.7
VHO				i S	Sn	07 18 19.1	-5.4
OXX	**Oaxaca**	**1.71**	**62**	i P	Pn	07 17 59.5	-2.8
OXX				i S	Sn	07 18 21.0	-3.9
CAIG	**El Cayaco**	**2.04**	**293**	i P	Pn	07 18 04.5	-2.4
CAIG				i S	Sn	07 18 27.9	-5.2
HUIG	**Huatulco**	**2.17**	**103**	i P	Pn	07 18 08.7	-0.1
HUIG				i S	Sn	07 18 28.7	-7.8
HUIG				i S	Sn	07 18 31.2	-5.2
HUIG	**Huatulco**	**2.17**	**103**	eP	Pn	07 18 05.1	-3.7
HUIG				i S	Sn	07 18 31.2	-5.2
PLIG	**Platanillo**	**2.40**	**332**	eP	Pn	07 18 10.5	-1.7
PLIG	**Platanillo**	**2.40**	**332**	eP	Pn	07 18 10.2	-1.9
YAIG	**Yautepec**	**2.68**	**344**	eP	Pn	07 18 12.6	-3.5
YAIG				i P		07 18 16.2	
IIB	**San Bernardino**	**2.68**	**359**	eP	Pn	07 18 12.0	-4.1
PPM	**Popocatepetl**	**2.80**	**354**	eP	Pn	07 18 18.0	+0.2
PPM				i P		07 18 18.2	
PPM				i S	Sn	07 18 48.2	-4.1
PPM	**Popocatepetl**	**2.80**	**354**	i P	Pn	07 18 15.3	-2.5
PPM				eP		07 18 18.0	
PPM				i S	Sn	07 18 48.2	-4.1
CMIG	**Matias Romero**	**3.38**	**76**	eP	Pn	07 18 21.0	-5.0
CMIG				i S	Sn	07 19 00.1	-7.0

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*NEIC **03** 07:19:33.4±1.2, 45.55N×26.71E, h114km±12km, mb4.5/1, Error ellipse: s-maj=19.1km s-min=10.1km az=46.0*
*CSEM **03** 07:19:33.4, 45.55N×26.71E, h114km±12km, mb4.5/1, After NEIC*
*BUC **03** 07:19:34.0±0.7, 45.62N×26.83E, h98km±7km, MD2.8/3, Error ellipse: s-maj=8.5km s-min=3.7km az=40.0*
ISC 03 07:19:33.3±1.1, 45.58N±0.08×26.81E±0.09, h109km±8km, n20, σ0.87/36, 11C-6D, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRD	**Bordesti**	**0.16**	**100**	⇓iP	**P**	**07 19 49.5**	**+1.0**
BRD				i S	**S**	**07 20 03.1**	**+3.1**
BRD	**Bordesti**	**0.16**	**100**	⇓iP	**P**	**07 19 49.5**	**+0.9**
BRD				i S	**S**	**07 20 03.1**	**+3.1**
VRI	**Vrincioaia**	**0.29**	**349**	⇑iP	**P**	**07 19 48.3**	**-0.7**
VRI				i S	**S**	**07 19 59.3**	**-1.5**
VRI	**Vrincioaia**	**0.29**	**349**	⇑iP	**P**	**07 19 48.3**	**-0.7**
VRI				i S	**S**	**07 19 59.3**	**-1.4**
ISR	**Istrita**	**0.50**	**202**	⇑iP	**P**	**07 19 51.1**	**+0.9**
ISR				i S	**S**	**07 20 03.0**	**+0.2**
ISR	**Istrita**	**0.50**	**202**	⇑iP	**P**	**07 19 51.1**	**+0.9**
ISR				i S	**S**	**07 20 03.0**	**+0.2**
MLR	**Muntele Rosu**	**0.61**	**262**	⇓iP	**P**	**07 19 51.1**	**+0.2**
MLR				i S	**S**	**07 20 03.8**	**-0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.61	262	⇓iP	P	07 19 51.1	+0.1
MLR				iS	S	07 20 03.8	-0.5
CFR	Carcaliu	1.02	113	⇓iP	P	07 19 55.1	+0.2
CFR				iS	S	07 20 11.1	-0.1
CFR	Carcaliu	1.02	113	⇓iP	P	07 19 55.1	+0.2
CFR				iS	S	07 20 11.1	0.0
HARR	Harsova	1.20	138	⇑iP	P	07 19 57.4	+0.4
HARR				iS	S	07 20 14.3	-0.4
HARR	Harsova	1.20	138	⇑iP	P	07 19 57.4	+0.5
HARR				iS	S	07 20 14.3	-0.4
TLCR		1.47	105	⇑iP	P	07 20 01.4	+1.3
TLCR				iS	S	07 20 19.7	-0.5
TLCR		1.47	105	⇑iP	P	07 20 01.4	+1.3
TLCR				iS	S	07 20 19.7	-0.6
TIRR	Tirgusor	1.60	134	⇑iP	P	07 20 02.1	+0.4
TIRR				iS	S	07 20 22.6	-0.4
TIRR	Tirgusor	1.60	134	⇑iP	P	07 20 02.1	+0.4
TIRR				iS	S	07 20 22.6	-0.4
IAS	Iasi	1.69	18	S	S	07 20 20.3	-4.7
BURAR	Bucovina Array	2.31	332	⇑iP	P	07 20 11.1	+0.2
CSS	Prodhromos	11.71	153	eP	P	07 22 16.3	-1.6
	4.6nm,0.5s						
CSS	Prodhromos	11.71	153	eP	P	07 22 16.3	-1.6
	4.6nm,0.5s						

IDC 03 07:53:33.2±1.8**, 4.73N×123.84E, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/18**, mbtmp3.7**/4**, Error ellipse: s-maj=332.8km s-min=25.7km az=71.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.60	157	P	P	07 59 13.9	-1.4
	0.8nm,0.4s,baz=336,slow=9.7,SNR=16						
ASAR	Alice Springs	29.88	161	P	P	07 59 43.1	-1.7
	0.3nm,0.3s,baz=335,slow=8.4,SNR=7.4						
STKA	Stephens Creek	40.13	156	P	P	08 01 09.7	-3.0
	0.6nm,0.3s,baz=343,slow=14,SNR=3.4						
SONM	Songino Array	45.49	344	P	P	08 01 54.3	-1.7
	0.5nm,0.6s,baz=162,slow=8.1,SNR=4.3						

*IDC **03** 08:06:16.1±5.4, 6.10S×154.88E, h211^{km}±46^{km}, mb3.3/6, mb1 3.5/7, mb1mx3.4/14, mbtmp3.9/7, Error ellipse: s-maj=41.5km s-min=23.1km az=101.0*

*NEIC **03** 08:06:17.0±2.0, 6.01S×154.81E, h223^{km}±19^{km}, mb4.2/6, Error ellipse: s-maj=14.6km s-min=12.5km az=87.0*

ISC 03 08:06:16.5±2.8**, 6.0S**±0.1×**154.8E**±0.1**, h233**^{km}±25^{km}**, n19, σ0^{s}79**/20**, mb3.9**/12**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.30	246	P	P	08 08 14.3	-0.1
	3.1nm,0.3s,baz=42,slow=12,SNR=7.5						
PMG				S	S	08 09 46.9	+0.2
	1.6nm,0.3s,baz=108,slow=21,SNR=4.0						
DZM	Mont Dzumac	19.50	146	eP	P	08 10 28.4	+0.6
DZM	Mont Dzumac	19.50	146	eP	P	08 10 28.4	+0.6
KAKA	Kakadu	23.05	252	eP	P	08 11 02.4	-0.4
	4.1nm,0.6s,mb4.1						
WRAB	Tennant Creek	24.22	233	eP	P	08 11 14.0	+0.3
	4.3nm,0.6s,mb4.3						
WB2	Warramunga Arr	24.23	233	eP	P	08 11 13.7	0.0
WRA	Warramunga Arr	24.24	233	P	P	08 11 14.1	+0.3
	1.5nm,0.5s,mb3.9,baz=57,slow=9.8,SNR=29						
ASAR	Alice Springs	26.69	227	P	P	08 11 36.2	-0.1
	0.2nm,0.3s,mb3.2,baz=57,slow=9.2,SNR=4.3						
STKA	Stephens Creek	28.53	204	P	P	08 11 51.2	-1.6
	0.7nm,0.4s,mb3.6,baz=22,slow=5.4,SNR=4.3						
STKA	Stephens Creek	28.53	204	P	P	08 11 51.2	-1.6
MDJ	Mudanjiang	55.29	338	P	P	08 15 27.1	-0.8
	3.7nm,0.5s,mb4.2						
CMAR	Chiang Mai Arr	60.23	295	P	P	08 16 03.3	+0.7
	1.9nm,0.4s,mb4.1,baz=109,slow=4.9,SNR=7.3						
MA2	Magadan	65.48	358	P	P	08 16 34.1	-2.3
	6.0nm,0.8s,mb4.3						
ULN	Ulaanbaatar	68.11	327	P	P	08 16 52.9	-0.2
SONM	Songino Array	68.45	327	P	P	08 16 55.3	+0.1
	0.5nm,0.5s,mb3.4,baz=147,slow=4.9,SNR=6.4						
LSA	Lhasa	70.60	304	eP	P	08 17 09.2	+0.6
	7.8nm,0.5s,mb4.6						
ILAR	Eielson Array	82.55	22	P	P	08 18 15.4	+1.2
	0.4nm,0.8s,mb3.2,baz=244,slow=5.1,SNR=6.6						
KURK	Kurchatov	85.98	322	eP	P	08 18 31.8	0.0
	1.2nm,0.7s,mb3.7						
AAK	Ala-Archa	86.98	313	P	P	08 18 37.6	+0.9

*IDC **03** 08:09:19.5±0.8, 54.39S×137.05W, mb4.2/7, mb1 4.4/7, mb1mx4.0/15, mbtmp4.2/7, MS3.9/13, Ms1 3.9/13, ms1mx3.7/19, Error ellipse: s-maj=85.0km s-min=19.6km az=171.0*

*NEIC **03** 08:09:20.4±0.5, 54.52S×137.25W, h10^{km}, Error ellipse: s-maj=29.0km s-min=12.9km az=173.0*

ISC 03 08:09:18.9±0.6**, 54.6S**±0.2×**137.2W**±0.2**, h10**^{km}**, n21, σ0^{s}87**/12**, mb4.5**/10**, MS4.0**/13**, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	34.19	48	LR	LR	08 26 07.7	
	comp=Z,236nm,20.2s,MS3.9,baz=232,slow=30						
USHA	Ushuaia	38.24	119	LR	LR	08 29 33.7	
	comp=Z,166nm,18.1s,MS3.9,baz=232,slow=32						
PLCA	Paso Flores	45.26	101	LR	LR	08 32 26.3	
	comp=Z,92nm,18.1s,MS3.8,baz=207,slow=31						
TRQA	Tornquist	51.94	104	eP	P	08 18 30.4	+0.6
	13nm,1.2s,mb4.7						
MAW	Mawson	57.18	189	LR	LR	08 42 00.5	
	comp=Z,93nm,20.1s,MS3.9,baz=90,slow=34						
MAW	Mawson	57.18	189	P	P	08 19 06.9	-0.8
	65nm,1.1s,mb5.6						
LVC	Limon Verde	59.35	86	P	P	08 19 23.1	-0.3
	3.6nm,0.7s,mb4.5,baz=248,slow=8.7						
LVC				LR	LR	08 38 23.5	
	comp=Z,59nm,18.3s,MS3.8,baz=217,slow=29						
LVC	Limon Verde	59.35	86	P	P	08 19 23.1	-0.3
LVC				LR	LR	08 38 23.5	
STKA	Stephens Creek	59.79	257	P	P	08 19 28.2	+1.9
	5.0nm,1.1s,mb4.5,baz=116,slow=12,SNR=4.4						
STKA				LR	LR	08 39 17.9	
	comp=Z,148nm,19.9s,MS4.1,baz=205,slow=30						
STKA	Stephens Creek	59.79	257	eP	P	08 19 24.6	-1.7
STKA				LR	LR	08 39 17.9	
LPAZ	La Paz	64.77	83	P	P	08 19 59.8	+0.1
	1.9nm,0.9s,mb4.1,baz=216,slow=3.8,SNR=6.3						
LPAZ				LR	LR	08 41 11.3	
	comp=Z,80nm,21.1s,MS3.9,baz=273,slow=30						
ASAR	Alice Springs	70.43	257	P	P	08 20 36.1	+1.0
	4.1nm,1.1s,mb4.3,baz=142,slow=6.4,SNR=10						
ASAR				LR	LR	08 46 57.4	
	comp=Z,89nm,19.4s,MS4.0,baz=165,slow=32						
WRA	Warramunga Arr	73.11	259	P	P	08 20 52.0	+0.8
	2.2nm,1.0s,mb4.0,baz=141,slow=5.8,SNR=9.8						
PMG	Port Moresby	74.08	276	LR	LR	08 50 05.2	
	comp=Z,96nm,18.8s,MS4.1,baz=330,slow=33						
PMG	Port Moresby	74.08	276	P	P	08 20 55.5	-1.4
	38nm,1.2s,mb5.2						
BDFB	Brasilia	76.94	99	P	P	08 21 13.1	-0.1
	4.1nm,0.9s,mb4.4,baz=219,slow=6.5,SNR=3.6						
BDFB				LR	LR	08 49 56.7	
	comp=Z,132nm,19.3s,MS4.3,baz=62,slow=32						
JTS	JuntasAbangare	78.11	53	LR	LR	08 47 57.0	
	comp=Z,47nm,21.0s,MS3.8,baz=312,slow=30						
SDV	Santo Domingo	84.05	66	LR	LR	08 53 00.0	
	comp=Z,61nm,20.8s,MS4.0,baz=233,slow=31						
TXAR	Lajitas Array	88.46	29	P	P	08 22 12.1	-0.2
	0.4nm,0.9s,mb3.6,baz=188,slow=8.8,SNR=4.1						
PDAR	Pinedale Array	99.84	20	LR	LR	08 57 22.5	
	comp=Z,73nm,21.5s,MS4.2,baz=73,slow=29						
ESDC	Sonseca Array	145.56	96	PKPbc	PKPbc	08 28 58.4	+1.2
	0.3nm,0.3s,baz=250,slow=3.6,SNR=5.5						

WEL 03 08:24:38.1±0.3**, 40.72S×173.24E, h171**^{km}±2^{km}**, ML3.6**/16**, 5C-5D, Error ellipse: s-maj=2.1km s-min=1.7km az=0.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.51	168	⇑PN	P	08 25 02.0	-0.2
NNZ				SN	S	08 25 19.9	-0.9
QRZ	Quartz Range	0.55	259	⇑PN	P	08 25 01.8	-0.7
QRZ				SN	S	08 25 19.3	-1.9
TUWZ	Tuamarina	0.89	144	⇑PN	P	08 25 04.5	+0.3
TUWZ				SN	S	08 25 23.8	-0.6
THZ	Tophouse	1.07	194	⇑PN	P	08 25 05.5	-0.1
THZ				SN	S	08 25 26.2	-0.7
BSWZ	Blackbirch Sta	1.10	155	PN	P	08 25 06.1	+0.2
BSWZ				SN	S	08 25 26.4	-0.9
MRW	Makara Radio	1.22	115	⇓PN	P	08 25 06.7	-0.2
MRW				SN	S	08 25 27.6	-1.6
SNZO	South Karori	1.25	119	⇓PN	P	08 25 06.9	-0.3
SNZO				eSN	S	08 25 28.0	-1.8
KIW	Kapiti Island	1.27	97	⇓PN	P	08 25 07.1	-0.3
KIW				SN	S	08 25 28.3	-1.8
BHW	Baring Head	1.41	120	PN	P	08 25 08.2	-0.6
BHW				SN	S	08 25 30.3	-2.2
CAW	Cannon Point	1.44	106	PN	P	08 25 08.6	-0.4
CAW				SN	S	08 25 31.0	-1.8
DSZ	Denniston Nort	1.50	226	⇑PN	P	08 25 08.5	-1.0
DSZ				SN	S	08 25 30.8	-3.1
WAZ	Wanganui	1.64	55	PN	P	08 25 10.7	-0.4
WAZ				SN	S	08 25 36.3	-0.2
MSWZ	Moikau Station	1.67	115	PN	P	08 25 10.7	-0.6
KHZ	Kahutara	1.71	173	PN	P	08 25 11.1	-0.7
KHZ				SN	S	08 25 36.0	-1.7
MTW	Mount Morrison	1.77	105	⇓PN	P	08 25 11.7	-0.6
MTW				SN	S	08 25 36.5	-2.3
MRZ	Mangatainoka R	1.78	89	PN	P	08 25 11.6	-0.9
MRZ				SN	S	08 25 36.5	-2.5
PAWZ	Paruwai Farm	1.78	113	PN	P	08 25 11.8	-0.7
PAWZ				SN	S	08 25 36.6	-2.4
VRZ	Vera Road	1.97	37	PN	P	08 25 13.0	-1.5
VRZ				SN	S	08 25 40.4	-2.3
TSZ	Takapari Road	2.18	73	PN	P	08 25 15.9	-1.1
LTZ	Lake Taylor	2.19	199	PN	P	08 25 16.0	-1.1
LTZ				SN	S	08 25 44.0	-3.0
WNVZ	Wahianoa	2.28	53	PN	P	08 25 16.6	-1.5
BFZ	Birch Farm	2.28	90	⇓PN	P	08 25 17.4	-0.8
BFZ				SN	S	08 25 46.4	-2.7
CNZ	Chateau	2.33	50	PN	P	08 25 16.8	-1.9
TUVZ	Tukino	2.35	53	PN	P	08 25 17.4	-1.6
TWVZ	Taurewa	2.36	46	PN	P	08 25 17.0	-2.1
NGZ	Ngauruhoe	2.38	50	PN	P	08 25 17.3	-2.0
OTVZ	Oturere	2.42	51	PN	P	08 25 18.1	-1.7
HIZ	Hauiti	2.53	30	PN	P	08 25 18.7	-2.4
BKZ	Black Stump Fm	2.94	59	PN	P	08 25 23.6	-2.6
BKZ				SN	S	08 25 59.2	-3.9
MQZ	McQueen's Vall	3.02	188	PN	P	08 25 24.3	-2.9
MQZ				SN	S	08 25 59.9	-5.0
RPZ	Rata Peaks	3.41	208	PN	P	08 25 29.3	-2.7
FOZ	Fox Glacier	3.88	222	PN	P	08 25 33.5	-4.6

*IGQ **03** 08:39:36.7, 1.61S×77.88W, h199^{km}±3^{km}, mb4.3, Error ellipse: s-maj=3.3km s-min=1.8km az=53.9*

*NEIC **03** 08:39:40.8±1.0, 1.51S×77.54W, h204^{km}±10^{km}, mb4.0/12, MD4.2(IGQ), Error ellipse: s-maj=10.5km s-min=6.7km az=57.0*

*IDC **03** 08:39:42.9±2.8, 1.48S×77.46W, h222^{km}±27^{km}, mb3.3/8, mb1 3.5/11, mb1mx3.4/21, mbtmp4.0/11, MS3.5/1, Ms1 3.5/1, ms1mx2.2/16, Error ellipse: s-maj=29.2km s-min=11.7km az=67.0*

ISC 03 08:39:37.5±0.4**, 1.64S**±0.06×**77.71W**±0.07**, h189**^{km}±3^{km}**, n58, σ0^{s}93**/58**, mb3.9**/15**, 5C-16D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULBA	Ulba	0.73	285	⇑P	P	08 40 04.5	-0.2
ULBA				S	S	08 40 23.8	-1.9
RUN2	Runtun	0.74	287	P	P	08 40 04.7	-0.1
ARRY	Arrayan	0.76	280	⇑P	P	08 40 04.5	-0.3
ARRY				S	S	08 40 25.1	-1.0
RETU	Refugio	0.76	284	⇑P	P	08 40 04.8	0.0
RETU				S	S	08 40 27.3	+1.3
JUIV	Juive	0.79	286	⇑P	P	08 40 04.7	-0.3
JUIV				S	S	08 40 25.8	-0.5
CUSU	Cusua	0.80	284	⇓P	P	08 40 05.1	+0.1
PISA	Pisayambo	0.89	311	⇓P	P	08 40 06.0	+0.4
IGUA	Igualata	0.94	279	⇑P	P	08 40 05.9	0.0
TAMB	Tambo	1.15	325	⇓P	P	08 40 07.7	+0.2
VC1	Cotopaxi 1	1.21	325	⇓P	P	08 40 08.4	+0.3
NAS1	Nasa	1.26	322	⇓P	P	08 40 09.2	+0.7
ANTI	Antisana	1.27	339	⇓P	P	08 40 08.9	+0.3
CONE	Cono NE Rev Vo	1.56	2	⇓P	P	08 40 11.2	-0.1
ELAGU	Cayambe Volc	1.63	350	P	P	08 40 12.3	+0.4
CAYR	Refugio Cayamb	1.67	350	⇓P	P	08 40 12.8	+0.6
JUA2	San Juan 2	1.68	328	⇓P	P	08 40 12.2	-0.1
TERV	Terraza Guagua	1.71	328	⇓P	P	08 40 12.7	+0.1
CAYA	Cayambe	1.73	351	⇓P	P	08 40 13.4	+0.6
PINO	Pino	1.73	329	⇓P	P	08 40 12.9	+0.1
YANA	Yana	1.74	330	⇓P	P	08 40 12.9	-0.1
COTA	Cotacachi	2.06	342	⇓P	P	08 40 16.7	+0.5
ECEN	Cerro Negro	2.46	354	⇓P	P	08 40 21.3	+0.5
HOJA	Cerro de Hojas	2.90	282	⇓P	P	08 40 23.1	-2.7
HOJA				S	S	08 40 56.5	-6.7
ROSC	El Rosal	7.29	28	P	P	08 41 23.7	+1.5
	0.9nm,0.3s,baz=115,slow=13,SNR=4.1						
PAYG	Puerto Ayora	12.61	274	P	P	08 42 34.4	+3.1
SDV	Santo Domingo	12.61	34	P	P	08 42 30.9	-0.4
	1.3nm,0.3s,baz=245,slow=10,SNR=19						
SDV	Santo Domingo	12.61	34	eP	P	08 42 30.5	-0.9
	14nm,0.8s						
JTS	JuntasAbangare	13.88	329	eP	P	08 42 52.4	+5.0
	5.3nm,0.9s						
SAML	Samuel	16.17	117	eP	P	08 43 14.0	-1.9
	6.8nm,0.6s						
LPAZ	La Paz	17.34	148	P	P	08 43 30.9	+1.4
	0.4nm,0.3s,baz=334,slow=12,SNR=12						
LPAZ	La Paz	17.34	148	P	P	08 43 30.9	+1.4
LVC	Limon Verde	22.53	158	P	P	08 44 25.4	+3.2
	2.0nm,0.4s,mb3.9,baz=358,slow=6.9,SNR=6.9						
LVC	Limon Verde	22.53	158	P	P	08 44 25.4	+3.2
LVC				e		08 44 43.0	
BDFB	Brasilia	32.41	117	P	P	08 45 51.6	-0.2
	1.3nm,0.7s,mb3.8,baz=298,slow=6.6,SNR=3.5						
PLCA	Paso Flores	39.45	171	P	P	08 46 52.5	+1.7
	2.8nm,0.9s,mb3.9,baz=345,slow=12,SNR=6.7						
PLCA	Paso Flores	39.45	171	eP	P	08 46 52.2	+1.5
	5.5nm,1.0s,mb4.1						
TXAR	Lajitas Array	39.57	323	P	P	08 46 53.1	+1.3
	0.6nm,0.7s,mb3.3,baz=148,slow=8.5,SNR=8.6						
TXAR				PcP	PcP	08 48 56.1	+0.2
	0.3nm,0.6s,baz=158,slow=6.7,SNR=4.1						
WMOK	Wichita Mounta	41.23	333	eP	P	08 47 05.5	+0.1
	5.8nm,1.3s,mb4.0						
ACSO	Alum Creek Sta	41.95	354	P	P	08 47 10.4	-0.9
	10nm,1.0s,mb4.4						
ANMO	Albuquerque	45.28	326	eP	P	08 47 38.8	+0.7
	4.5nm,0.7s,mb4.2						
SADO	Sadowa	46.23	359	LR	LR	09 07 37.3	
	comp=Z,48nm,18.6s,baz=201,slow=36						
PV10	Paradox Valley	49.20	327	eP	P	08 48 07.7	-0.6
PDAR	Pinedale Array	52.70	331	PcP	PcP	08 49 40.7	-1.1
	0.2nm,0.6s,baz=135,slow=5.1,SNR=2.6						
HWUT	Hardware Ranch	52.87	328	P	P	08 48 35.4	-0.5
	2.0nm,0.7s,mb4.0						
NVAR	Mina Array Bea	54.66	321	P	P	08 48 50.0	+1.1
	0.6nm,0.6s,mb3.5,baz=123,slow=8.1,SNR=6.4						
WALA	Waterton Lakes	59.39	333	eP	P	08 49 21.6	-0.6
	2.3nm,0.8s,mb4.1						
FCC	Fort Churchill	61.61	350	P	P	08 49 35.4	-1.6
YKA	Yellowknife Ar	69.76	343	P	P	08 50 27.7	-1.0
	0.3nm,0.5s,mb3.3,baz=140,slow=6.4,SNR=11						
YKA	Yellowknife Ar	69.76	343	P	P	08 50 27.7	-1.0
DLBC	Dease Lake	72.71	334	eP	P	08 50 45.5	-0.8
DBIC	Dimbokro	73.17	83	P	P	08 50 49.0	-1.0
	1.6nm,0.5s,mb4.0,baz=258,slow=8.6,SNR=4.3						
DBIC	Dimbokro	73.17	83	P	P	08 50 48.0	-2.0
	3.7nm,1.0s,mb4.1						
SUMG	Summit	78.11	11	eP	P	08 51 16.6	0.0
	14nm,1.2s,mb4.5						
INK	Inuvik	79.49	342	eP	P	08 51 23.8	-0.3
	2.3nm,0.9s,mb3.8						
ILAR	Eielson Array	82.73	336	P	P	08 51 41.9	+0.8
	0.8nm,0.7s,mb3.6,baz=139,slow=4.5,SNR=12						
ASAR	Alice Springs	140.28	229	PKhKP		08 58 39.1	
	0.2nm,0.4s,baz=115,slow=3.5,SNR=5.5						
ASAR				PKP	PKPdf	08 58 45.9	+1.3
	0.5nm,0.6s,baz=114,slow=2.2,SNR=6.9						
WRAB	Tennant Creek	141.94	234	ePKPpre		08 58 44.3	
WRA	Warramunga Arr	141.95	234	PKhKP		08 58 41.5	
	0.6nm,0.5s,baz=121,slow=2.9,SNR=15						
WRA				PKP	PKPdf	08 58 47.5	-0.2
	0.7nm,0.7s,baz=116,slow=2.9,SNR=14						

*IDC **03** 08:40:24.3±1.0, 14.11N×146.87E, mb3.8/7, mb1 4.0/7, mb1mx3.9/19, mbtmp3.7/7, Error ellipse: s-maj=47.8km s-min=21.3km az=100.0*

*NEIC **03** 08:40:25.8±0.6, 14.14N×146.81E, h10^{km}, mb4.5/4, Error ellipse: s-maj=17.6km s-min=10.2km az=105.0*

ISC 03 08:40:29.0±4.2**, 14.1N**±0.1×**146.7E**±0.3**, h47**^{km}±34^{km}**, n14, σ0^{s}72**/13**, mb4.0**/11**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.88	254	ePn	P	08 40 59.4	+0.2
MDJ	Mudanjiang	33.70	338	P	P	08 47 06.6	-1.2
	7.1nm,1.0s,mb4.5						
WRAB	Tennant Creek	35.97	200	eP	P	08 47 27.1	-0.3
	5.9nm,0.9s,mb4.5						
WRA	Warramunga Arr	35.98	200	P	P	08 47 26.5	-1.0
	1.2nm,0.7s,mb3.9,baz=21,slow=9.4,SNR=20						
ASAR	Alice Springs	39.60	199	P	P	08 47 58.6	+0.9
	0.4nm,0.7s,mb3.2,baz=18,slow=14,SNR=3.8						
SONM	Songino Array	47.35	324	P	P	08 49 01.1	+1.1
	0.7nm,0.7s,mb3.7,baz=128,slow=5.4,SNR=6.0						
ZAL	Zalesovo	62.25	324	P	P	08 50 48.2	0.0
	0.6nm,0.3s,mb4.2,baz=14,slow=9.1,SNR=3.3						
KURK	Kurchatov	65.34	320	eP	P	08 51 08.5	0.0
	3.1nm,0.7s,mb4.5						
ILAR	Eielson Array	67.31	25	P	P	08 51 20.1	-0.6
	0.4nm,0.8s,mb3.5,baz=251,slow=5.5,SNR=6.4						
CHKZ	Chkalovo	70.51	322	eP	P	08 51 40.3	-0.4
	0.9nm,0.6s,mb3.9						
YKA	Yellowknife Ar	81.55	28	P	P	08 52 44.0	+1.1
	0.5nm,1.0s,mb3.4,baz=286,slow=5.6,SNR=4.9						
YKA	Yellowknife Ar	81.55	28	P	P	08 52 44.0	+1.1
FINES	FINESS Array B	91.42	336	P	P	08 53 31.2	+0.2
	1.2nm,0.5s,mb4.5,baz=90,slow=5.7,SNR=8.8						
DBIC	Dimbokro	145.03	304	PKPbc	PKPbc	09 00 05.0	+2.5
	3.4nm,0.6s,baz=46,slow=2.8,SNR=14						

*THE **03** 08:44:57.2, 38.97N×20.37E, h10^{km}, ML3.1*

*ATH **03** 08:44:59.3, 39.14N×20.58E, h5^{km}, MD3.1/4*

*CSEM **03** 08:44:59.7±0.2, 39.12N×20.51E, h2^{km}, ML3.1, Error ellipse: s-maj=4.8km s-min=3.6km az=66.0*

*NEIC **03** 08:44:59.3, 39.14N×20.58E, h5^{km}, MD3.1(ATH), After ATH.*

ISC 03 08:44:58.1±1.0**, 39.07N**±0.05×**20.43E**±0.08**, h2**^{km}**, n10, σ1^{s}21**/13**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.47	351	ePg	Pg	08 45 07.7	+0.3
JAN	Janina	0.67	29	ePB	Pb	08 45 09.6	-2.5
KEK	Kerkira	0.81	323	ePB	Pb	08 45 15.3	+0.8
VLS	Valsamata	0.90	172	ePB	Pb	08 45 17.5	+1.4
EVR	Evrytania	1.08	98	ePB	Pb	08 45 18.0	-1.3
AGG	Agios Georgios	1.48	91	ePb	Pb	08 45 25.0	-1.0
AGG				eSb	Sb	08 45 46.6	+1.4
FNA	Florina	1.86	23	ePb	Pb	08 45 31.2	-1.3
FNA				eSb	Sb	08 45 57.7	+1.6
LIT	Litokhoron	1.90	56	ePn	Pn	08 45 31.5	-0.3
LIT				eSn	Sn	08 45 57.9	+1.4
XOR	Xorichti	2.17	81	ePn	Pn	08 45 34.8	-0.9
GRG	Griva	2.42	38	ePn	Pn	08 45 39.0	-0.2

DHMR 03 09:22:41.9±0.8**, 12.01N×43.59E, h11**^{km}±7^{km}**, MD3.5, 2D, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	1.32	23	iP	Pb	09 23 06.6	+0.3
TRBA				iS	Sb	09 23 25.2	+2.2
UDYN	Al 'Udayn	1.98	11	iP	Pn	09 23 16.5	+0.6
UDYN				iS	Sn	09 23 44.1	+3.3
LBOS		2.46	41	⇓iP	Pn	09 23 24.4	+1.7
LBOS				iS	Sn	09 23 57.4	+4.3
BDHA	Al Bayda'	2.75	44	⇓iP	Pn	09 23 29.0	+2.2
BDHA				iS	Sn	09 24 06.0	+5.7

*NIED **03** 09:23:00, 44.60N×148.90E, h59^{km}, Mw3.8 Best double couple: $M_0$6.29×10^{14} NP1:ϕ_s327°, δ81°, λ-32°. NP2:ϕ_s63°, δ59°, λ-169°.*

*IDC **03** 09:23:24.2±2.5, 44.30N×149.26E, mb3.5/5, mb1 3.8/6, mb1mx3.6/23, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=84.1km s-min=34.3km az=164.0*

*MOS **03** 09:23:27.2±1.1, 44.50N×149.08E, h33^{km}, mb3.7/4, Error ellipse: s-maj=28.8km s-min=21.2km az=138.4*

ISC 03 09:23:27.6±1.2**, 44.6N**±0.2×**149.0E**±0.1**, h33**^{km}**, n11, σ0^{s}98**/12**, mb3.5**/5**, 1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	2.33	258	⇓iPN	Pn	09 24 03.1	-1.5
YUK				pmax	pmax		
	comp=Z,150nm,0.3s						
ASAJ	Asahikawa	4.63	267	PN	Pn	09 24 37.6	+0.3
ASAJ						09 25 42.5	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	4.63	267	Pn	Pn	09 24 37.6	+0.3
	comp=Z,0.9nm,0.3s,baz=90,slow=10,SNR=7.3						
ASAJ				Sn	Sn	09 25 42.5	+12
	comp=Z,0.5nm,0.3s,baz=233,slow=20,SNR=2.8						
YSS	Yuzh-Sakhalins	5.00	301	PN	Pn	09 24 43.2	+0.8
YSS				e		09 25 41.7	
SKR	Severo-Kuril's	7.77	35	ePN	Pn	09 25 19.0	-2.4
ILAR	Eielson Array	40.03	37	P	P	09 31 01.1	+0.4
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ILAR	Eielson Array	40.03	37	P	P	09 31 01.1	+0.4
	comp=Z,0.5nm,0.7s,mb3.3,baz=269,slow=5.9,SNR=6.2						
INK	Inuvik	45.02	31	P	P	09 31 42.0	+0.8
	comp=Z,0.3nm,0.4s,mb3.5,baz=296,slow=6.5,SNR=8.0						
YKA	Yellowknife Ar	54.38	35	P	P	09 32 53.1	+0.1
	comp=Z,0.3nm,0.6s,mb3.4,baz=298,slow=6.8,SNR=6.8						
NVAR	Mina Array Bea	66.00	59	P	P	09 34 13.0	+0.2
	comp=Z,0.4nm,0.6s,mb3.7,baz=295,slow=7.5,SNR=3.8						
TXAR	Lajitas Array	81.08	58	P	P	09 35 41.4	+0.5
	comp=Z,0.3nm,0.5s,mb3.4,baz=302,slow=4.1,SNR=9.1						

IDC 03 09:26:00.6±46.0**, 16.03S×175.95W, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.8**/15**, mbtmp4.2**/3**, 1C, Error ellipse: s-maj=870.8km s-min=165.9km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.60	240	P	P	09 33 50.6	-1.5
	4.8nm,1.2s,baz=83,slow=8.1,SNR=4.5						
WB2	Warramunga Arr	47.30	257	eP	P	09 34 36.3	-1.8
WRA	Warramunga Arr	47.31	257	P	P	09 34 36.3	-1.9
	0.4nm,0.3s,baz=93,slow=7.3,SNR=30						
ASAR	Alice Springs	47.58	252	P	P	09 34 38.3	-2.0
	4.3nm,0.5s,baz=88,slow=8.4,SNR=98						
ASPA	Alice Springs	47.58	252	⇑iP	P	09 34 38.4	-2.0

*IDC **03** 09:41:24.7±3.8, 21.07N×94.27E, h62^{km}±34^{km}, mb3.5/12, mb1 3.7/13, mb1mx3.6/21, mbtmp3.8/13, ML4.2/1, Error ellipse: s-maj=41.7km s-min=14.7km az=54.0*

*NEIC **03** 09:41:25.1±0.7, 20.94N×94.28E, h69^{km}±7^{km}, mb4.3/2, Error ellipse: s-maj=22.2km s-min=6.6km az=220.0*

ISC 03 09:41:23.3±0.8**, 20.9N**±0.1×**94.2E**±0.1**, h71**^{km}±9^{km}**, n30, σ0^{s}95**/33**, mb3.8**/14**, Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	5.07	118	eP	P	09 42 37.6	-0.9
	36nm,1.0s						
CMAR	Chiang Mai Arr	5.07	118	P	P	09 42 38.2	-0.3
	2.1nm,0.3s,baz=295,slow=14,SNR=23						
CMAR				S	S	09 43 37.9	+1.5
	1.5nm,0.3s,baz=287,slow=28,SNR=4.8						
BDT	Bhumibol Dam	5.80	128	P	P	09 42 48.0	-0.6
	20nm,0.6s						
NANT	Nan	6.45	108	P	P	09 42 57.0	-0.6
LSA	Lhasa	9.19	343	eP	P	09 43 37.1	+1.8
JIRN	Jiri	9.94	314	ePn	P	09 43 46.2	+0.6
JIRN				eSn	S	09 45 31.6	-4.8
	23nm,0.3s						
JIRN	Jiri	9.94	314	ePn	P	09 43 46.2	+0.6
	11nm,0.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIRN				eSn	S	09 45 31.6	-4.8
GUN	Gumba	10.31	314	ePn	P	09 43 51.1	+0.4
PKI	Pulchoki	10.42	311	ePn	P	09 43 52.5	+0.4
PKI				eSn	S	09 45 41.4	-6.7
	19nm,0.5s						
KKN	Kakani	10.65	312	ePn	P	09 43 54.9	-0.3
GKN	Gorkha	11.23	311	ePn	P	09 44 02.2	-0.8
GKN				eSn	S	09 46 01.6	-5.9
	31nm,0.3s						
KOLN	Koldanda	11.85	307	ePn	P	09 44 10.8	-0.5
KKM	Kota Kinabalu	25.94	122	P	P	09 46 59.4	+8.4
AAK	Ala-Archa	27.27	327	eP	P	09 47 04.8	+1.9
	2.6nm,0.8s,mb3.8						
SONM	Songino Array	28.61	17	P	P	09 47 14.4	-0.6
	0.3nm,0.6s,mb3.1,baz=202,slow=7.8,SNR=3.0						
KURK	Kurchatov	32.19	341	P	P	09 47 47.0	+0.5
	74nm,0.5s,mb5.7,SNR=15						
KURK	Kurchatov	32.19	341	eP	P	09 47 47.0	+0.5
	8.3nm,0.7s,mb4.6						
ZAL	Zalesovo	33.76	350	P	P	09 47 57.6	-2.5
	2.0nm,0.3s,mb4.4,baz=319,slow=7.9,SNR=8.0						
BVAR	Borovoye Array	36.94	336	P	P	09 48 26.4	-0.7
	0.3nm,0.5s,mb3.5,baz=90,slow=2.9,SNR=2.9						
WRA	Warramunga Arr	56.47	133	P	P	09 50 59.8	-0.8
	0.3nm,0.5s,mb3.6,baz=319,slow=7.6,SNR=11						
ASAR	Alice Springs	58.79	137	P	P	09 51 18.4	+1.6
	0.3nm,0.6s,mb3.5,baz=314,slow=6.7,SNR=6.7						
FINES	FINESS Array B	61.43	329	P	P	09 51 33.9	-0.3
	0.3nm,0.4s,mb3.7,baz=90,slow=9.5,SNR=4.1						
ARCES	ARCESS Array B	63.17	338	P	P	09 51 45.7	-0.1
	1.2nm,0.5s,mb4.1,baz=72,slow=7.7,SNR=8.2						
HFS	Hagfors	67.41	328	P	P	09 52 12.3	-0.7
	2.8nm,0.8s,mb4.1,baz=76,slow=12,SNR=3.7						
GERES	GERESS Array B	68.41	316	P	P	09 52 20.3	+0.8
	0.4nm,0.3s,mb3.7,baz=72,slow=4.2,SNR=5.0						
NOA	NORSAR Array B	68.58	329	P	P	09 52 20.0	-0.3
	0.3nm,0.6s,mb3.3,baz=101,slow=5.8,SNR=2.7						
ILAR	Eielson Array	82.72	22	P	P	09 53 40.3	0.0
	0.2nm,0.6s,mb3.1,baz=279,slow=5.0,SNR=4.9						
INK	Inuvik	84.52	16	P	P	09 53 49.9	+0.6
	0.9nm,0.4s,mb4.1,baz=344,slow=5.1,SNR=26						
TXAR	Lajitas Array	127.17	20	PKP	PKPdf	10 00 22.8	+2.6
	0.1nm,0.6s,baz=180,slow=1.3,SNR=3.8						
TXAR	Lajitas Array	127.17	20	PKP	PKPdf	10 00 22.8	+2.6

*BJI **03** 10:16:41.8, 9.07S×74.32W, h97^{km}, mB4.3*
*NEIC **03** 10:16:45.1±1.4, 9.05S×75.16W, h95^{km}±13^{km}, mb4.4/16, Error ellipse: s-maj=14.4km s-min=7.7km az=65.0*
*IDC **03** 10:16:48.7±0.8, 9.10S×75.24W, h129^{km}±6^{km}, mb3.7/9, mb1 3.9/12, mb1mx3.6/22, mbtmp4.1/12, Error ellipse: s-maj=35.0km s-min=14.9km az=45.0*
ISC 03 10:16:45.3±2.5**, 8.86S**±0.09×**75.00W**±0.09**, h109**^{km}±24^{km}**, h125**^{km}±2.5^{km}**:pP-P, n51, σ0^{s}96**/44**, mb4.3**/24**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	9.97	138	P	P	10 19 11.0	+4.1
	0.3nm,0.3s,baz=295,slow=5.0,SNR=4.2						
LPAZ	La Paz	9.97	138	P	P	10 19 03.8	-3.1
	4.1nm,0.6s						
SAML	Samuel	11.68	91	eP	P	10 19 30.6	+1.0
	20nm,0.6s						
SAML				eS	S	10 21 36.3	-1.9
LVC	Limon Verde	14.87	158	P	P	10 20 12.2	+1.1
	0.5nm,0.3s,baz=337,slow=7.2,SNR=8.4						
LVC	Limon Verde	14.87	158	eP	P	10 20 11.0	-0.2
	4.4nm,0.7s						
SDV	Santo Domingo	18.16	14	P	P	10 20 56.0	+4.3
	0.6nm,0.3s,baz=182,slow=14,SNR=6.6						
SDV	Santo Domingo	18.16	14	eP	P	10 20 54.5	+2.7
	5.6nm,0.8s						
BDFB	Brasilia	27.20	107	P	P	10 22 21.4	+0.3
	2.9nm,0.7s,mb3.9,baz=242,slow=8.6,SNR=4.0						
MIAR	Mount Ida	46.61	339	eP	P	10 25 01.9	-2.6
	8.8nm,1.3s,mb4.3						
TXAR	Lajitas Array	46.95	325	P	P	10 25 07.9	+0.7
	1.0nm,0.5s,mb3.9,baz=152,slow=8.6,SNR=33						
TXAR				pP	pP	10 25 36.7	+3.9
	0.4nm,0.9s,baz=135,slow=7.7,SNR=1.9						
TXAR				sP	sP	10 25 52.2	+7.0
	0.5nm,0.6s,baz=142,slow=7.8,SNR=3.4						
TXAR				PcP	PcP	10 26 38.1	-0.2
	0.3nm,0.5s,baz=146,slow=6.6,SNR=4.3						
ANMO	Albuquerque	52.75	327	eP	P	10 25 51.2	-0.1
	4.3nm,1.1s,mb4.4						
SDCO	Great Sand Dun	54.43	330	eP	P	10 26 04.0	+0.4
	4.4nm,0.6s,mb4.7						
WUAZ	Wupatki	55.90	324	eP	P	10 26 15.0	+0.7
	108nm,0.9s,mb5.9						
PV01	Paradox Valley	56.27	328	eP	P	10 26 17.5	+0.6
PV10	Paradox Valley	56.70	328	eP	P	10 26 18.9	-1.0
EYMN	Ely	58.41	347	eP	P	10 26 30.8	-1.0
	2.8nm,0.8s,mb4.3						
TMUT	Trail Mountain	58.52	327	eP	P	10 26 31.2	-1.4
DAU	Daniels Canyon	59.36	328	eP	P	10 26 37.4	-1.0
TCUT	Toone Canyon	59.95	329	eP	P	10 26 43.0	+0.5
PDAR	Pinedale Array	60.27	331	P	P	10 26 44.5	-0.2
	1.7nm,1.0s,mb4.0,baz=143,slow=7.1,SNR=8.8						
PDAR				PcP	PcP	10 27 27.4	-1.1
	0.8nm,0.9s,baz=120,slow=5.6,SNR=4.1						
HWUT	Hardware Ranch	60.39	329	eP	P	10 26 45.3	-0.2
	8.5nm,0.7s,mb4.9						
RRI2	Red Ridge	61.56	331	eP	P	10 26 53.8	+0.4
ULM	Lac du Bonnet	61.61	345	P	P	10 26 53.0	-0.6
	6.2nm,0.9s,mb4.7,baz=154,slow=7.0,SNR=12						
ELK	Elko	61.72	326	P	P	10 26 54.5	0.0
	1.0nm,0.6s,mb4.1,baz=135,slow=7.3,SNR=6.1						
NVAR	Mina Array Bea	61.95	322	P	P	10 26 56.0	-0.1
	1.1nm,0.8s,mb3.9,baz=134,slow=8.6,SNR=8.2						
NVAR	Mina Array Bea	61.95	322	P	P	10 26 56.0	-0.1
HLID	Hailey	63.26	329	eP	P	10 27 04.7	+0.1
	2.0nm,0.8s,mb4.1						
MCMT	McKenzie Canyo	63.40	331	eP	P	10 27 05.8	+0.3
YBH	Yreka Blue Hor	66.65	323	P	P	10 27 25.2	-1.3
	1.7nm,0.7s,mb4.0,baz=82,slow=4.5,SNR=6.3						
WALA	Waterton Lakes	67.01	333	eP	P	10 27 27.3	-1.3
	2.1nm,0.7s,mb4.1						
FCC	Fort Churchill	69.14	349	eP	P	10 27 41.4	-0.2
	5.8nm,1.1s,mb4.3						
DBIC	Dimbokro	71.60	80	P	P	10 27 58.4	+1.2
	6.3nm,1.2s,mb4.3,baz=235,slow=4.5,SNR=6.1						
DBIC	Dimbokro	71.60	80	eP	P	10 27 58.0	+0.8
	6.3nm,0.5s,mb4.7						
DBIC				e		10 28 04.8	
SNAA	Sanae	76.06	162	eP	P	10 28 21.4	-0.6
	3.4nm,0.7s,mb4.2						
YKA	Yellowknife Ar	77.41	342	P	P	10 28 29.8	+0.1
	0.7nm,0.4s,mb3.7,baz=139,slow=5.8,SNR=38						
YKA				pP	pP	10 29 02.4	+4.6
	0.5nm,0.6s,baz=141,slow=5.7,SNR=4.4						
YKA	Yellowknife Ar	77.41	342	P	P	10 28 29.8	+0.1
YKA				pP	pP	10 29 02.4	+4.6
QSPA	South Pole Qui	81.25	180	eP	P	10 28 50.0	-0.2
	3.2nm,0.7s,mb4.3						
RES	Resolute Bay	84.29	355	P	P	10 29 06.5	+0.9
SUMG	Summit	84.65	10	eP	P	10 29 09.1	+1.7
SUMG				e	pP	10 29 39.7	+3.7
INK	Inuvik	87.14	341	eP	P	10 29 20.2	+0.5
	3.3nm,0.8s,mb4.3						
INK				e		10 29 42.7	
INK				e	pP	10 29 53.0	+4.6
TSUM	Tsumeb	89.55	109	eP	P	10 29 27.9	-4.4
	4.5nm,1.1s,mb4.5						
COLA	College	90.80	336	eP	P	10 29 37.8	+0.7
	4.5nm,0.9s,mb4.6						
MCK	McKinley	90.88	335	P	P	10 29 38.9	+1.4
	1.2nm,0.9s,mb4.0						
ASAR	Alice Springs	137.07	221	PKP	PKPdf	10 35 56.6	+0.3
	0.6nm,0.6s,baz=120,slow=1.9,SNR=6.6						
ASAR				pPKP		10 36 29.6	
	0.6nm,0.5s,baz=126,slow=2.0,SNR=3.9						
WRA	Warramunga Arr	139.34	225	PKhKP		10 35 51.7	
	0.3nm,0.7s,baz=127,slow=2.4,SNR=4.8						
WRA				PKP	PKPdf	10 36 01.3	+0.7
	0.8nm,0.5s,baz=125,slow=1.9,SNR=15						
WRA				pPKP		10 36 34.5	
	0.7nm,0.5s,baz=133,slow=1.9,SNR=4.7						
CN2	Changchun	140.89	336	ePKP	PKPdf	10 36 02.7	-0.1
WMQ	Urumqi	142.05	20	ePKP	PKPdf	10 36 05.0	+0.3
WMQ				APKP		10 36 31.0	
WMQ				XPKP		10 36 42.0	
FITZ	Fitzroy Crossi	146.34	217	eP	PKPdf	10 36 14.2	+1.4
	7.6nm,0.6s						
LZH	Lanzhou	152.88	2	ePKP	PKPdf	10 36 17.8	-4.7
LZH				LR	LR		
	comp=N,143nm,18.0s						
LZH				LR	LR		
	comp=Z,219nm,20.2s						
LZH	Lanzhou	152.88	2	ePKP	PKPdf	10 36 17.8	-4.7
LZH				PKP	PKPdf	10 36 38.5	+16
LZH				pPKP		10 36 44.2	
LZH				sPKP		10 36 54.7	
NJ2	Nanjing	153.58	333	ePKP	PKPdf	10 36 23.5	-0.1

WEL 03 10:54:38.0±0.2**, 40.08S**×**174.62E, h108**^{km}±2^{km}**, ML3.6**/11**, 12C-8D, Error ellipse: s-maj=1.1km s-min=0.5km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WAZ	Wanganui	0.42	41	⇑PN	P	10 54 54.7	+0.4
WAZ				eSN	S	10 55 06.1	-0.3
WAZ				SN	S	10 55 06.2	-0.3
RAEZ	Rainy Point	0.81	347	⇑PN	P	10 54 57.4	0.0
KIW	Kapiti Island	0.81	165	PN	P	10 54 57.2	-0.2
KIW				SN	S	10 55 11.2	-0.8
DFE	Dawson Falls	0.85	332	PN	P	10 54 57.5	-0.2
NEZ	North Egmont	0.90	333	PN	P	10 54 57.9	-0.4
NRZ	Ngariki Road	0.91	324	⇑PN	P	10 54 58.0	-0.3
MRZ	Mangatainoka R	0.94	129	⇓PN	P	10 54 58.6	0.0
MRZ				SN	S	10 55 13.1	-1.0
VRZ	Vera Road	0.95	6	⇑PN	P	10 54 58.4	-0.4
VRZ				SN	S	10 55 14.0	-0.5
NWEZ	Newall Road	0.99	324	PN	P	10 54 58.8	-0.4
PKE	Pukeiti	1.01	331	PN	P	10 54 59.1	-0.2
PKE				SN	S	10 55 14.4	-1.1
TSZ	Takapari Road	1.03	90	PN	P	10 54 59.3	-0.2
TSZ				SN	S	10 55 14.9	-0.9
WNVZ	Wahianoa	1.06	45	PN	P	10 54 59.6	-0.3
WNVZ				SN	S	10 55 15.6	-0.8
DRZ	Dome Shelter	1.08	43	PN	P	10 54 58.8	-1.4
CAW	Cannon Point	1.09	162	⇓PN	P	10 55 00.2	0.0
CAW				SN	S	10 55 15.8	-1.1
FWVZ	Far West T-bar	1.09	41	PN	P	10 54 60.0	-0.2
FWVZ				SN	S	10 55 15.4	-1.6
MOVZ	Moawhango	1.10	53	PN	P	10 54 59.6	-0.7
MOVZ				SN	S	10 55 15.5	-1.6
WPVZ	Whakapapa	1.12	40	⇑PN	P	10 54 60.0	-0.7
WPVZ				SN	S	10 55 17.1	-0.6
CNZ	Chateau	1.13	39	⇑PN	P	10 55 00.2	-0.6
TUVZ	Tukino	1.13	45	PN	P	10 55 00.4	-0.4
TUVZ				SN	S	10 55 17.5	-0.4
MRW	Makara Radio	1.15	177	⇑PN	P	10 55 00.8	-0.2
MRW				SN	S	10 55 17.1	-1.3
NGZ	Ngauruhoe	1.17	40	PN	P	10 55 00.6	-0.7
TWVZ	Taurewa	1.18	32	PN	P	10 55 00.6	-0.8
TWVZ				SN	S	10 55 17.0	-2.0
OTVZ	Oturere	1.21	42	PN	P	10 55 01.3	-0.5
WEL	Wellington	1.21	175	PN	P	10 55 01.3	-0.4
WTVZ	West Tongariro	1.21	38	PN	P	10 55 00.9	-0.8
SNZO	South Karori	1.23	177	⇑PN	P	10 55 01.5	-0.4
SNZO				SN	S	10 55 18.6	-1.4
MTW	Mount Morrison	1.27	149	⇓PN	P	10 55 02.0	-0.4
MTW				SN	S	10 55 19.2	-1.6
MGZ	Maungaku	1.28	34	⇓PN	P	10 55 01.7	-0.8
BHW	Baring Head	1.34	172	PN	P	10 55 02.7	-0.6
BHW				SN	S	10 55 20.9	-1.4
KATZ	Kakaramea	1.38	37	ePN	P	10 55 02.7	-0.9
BFZ	Birch Farm	1.38	117	PN	P	10 55 02.9	-0.8
BFZ				SN	S	10 55 21.6	-1.3
MSWZ	Moikau Station	1.42	161	⇓PN	P	10 55 03.7	-0.4
MSWZ				SN	S	10 55 21.6	-2.2
PAWZ	Paruwai Farm	1.44	155	⇓PN	P	10 55 04.0	-0.4
PAWZ				SN	S	10 55 22.3	-2.0
TUWZ	Tuamarina	1.45	201	⇑PN	P	10 55 03.5	-1.0
NNZ	Nelson	1.48	219	⇑PN	P	10 55 03.8	-1.1
NNZ				SN	S	10 55 23.2	-1.9
HIZ	Hauiti	1.57	7	PN	P	10 55 05.0	-0.9
HIZ				SN	S	10 55 25.7	-1.2
BKZ	Black Stump Fm	1.70	58	⇓PN	P	10 55 06.5	-1.1
BKZ				SN	S	10 55 28.3	-1.5
PWZ	Pawanui	1.72	89	ePN	P	10 55 07.2	-0.5
BSWZ	Blackbirch Sta	1.73	199	ePN	P	10 55 06.7	-1.3
QRZ	Quartz Range	1.77	244	⇓PN	P	10 55 06.5	-1.9
QRZ				SN	S	10 55 28.3	-2.8
THZ	Tophouse	2.13	217	PN	P	10 55 11.8	-1.3
THZ				SN	S	10 55 36.7	-2.7
KHZ	Kahutara	2.48	199	⇑PN	P	10 55 16.4	-1.5
KHZ				SN	S	10 55 43.6	-4.1
KNZ	Kokohu	2.58	67	PN	P	10 55 16.9	-2.3
URZ	Urewera	2.65	48	PN	P	10 55 17.5	-2.6
URZ				SN	S	10 55 48.6	-3.3
DSZ	Denniston Nort	2.71	231	⇑PN	P	10 55 18.7	-2.3
MWZ	Matawai	2.85	53	PN	P	10 55 20.1	-2.7

*IDC **03** 10:57:00.0±3.1, 30.85S×139.00E, mb1 3.7/4, mb1mx3.7/11, mbtmp3.6/4, ML3.4/4, Error ellipse: s-maj=55.7km s-min=16.4km az=41.0*
*AUST **03** 10:57:01.4, 30.90S×139.14E, h21^{km}, ML4.0*
*NEIC **03** 10:57:01.0, 30.90S×139.14E, h21^{km}, mb4.5/1, ML4.0(AUST), After AUST.*
ISC 03 10:56:58.0±0.5**, 30.78S**±0.04×**139.09E**±0.05**, h10**^{km}**, n20, σ1^{s}46**/37**, 1C-2D, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.41	118	⇑iP	Pn	10 57 39.5	+1.4
STKA				eS	Sn	10 58 06.6	-1.3
	84nm,0.2s						
STKA	Stephens Creek	2.41	118	Pn	Pn	10 57 39.5	+1.4
	3.4nm,0.3s,baz=299,slow=13,SNR=28						
STKA				Pg	Pg	10 57 46.5	+0.4
	14nm,0.3s,baz=297,slow=15,SNR=30						
STKA				Sn	Sn	10 58 06.8	-1.2
	54nm,0.3s,baz=335,slow=19,SNR=12						
STKA				Lg		10 58 17.8	
	95nm,0.3s,baz=298,slow=15,SNR=12						
BBOO	Buckleboo	3.28	231	eP	Pn	10 57 52.3	+1.7
BBOO				i		10 57 58.5	
BBOO				eS	Sn	10 58 28.5	-1.5
	342nm,0.4s						
CMSA	Cobar Meteorol	5.71	99	eP	Pn	10 58 25.0	0.0
CMSA				eS	Sn	10 59 27.8	-3.6
	31nm,0.5s						
CMSA	Cobar Meteorol	5.71	99	eP	Pn	10 58 25.0	0.0
	31nm,0.5s						
CMSA				eS	Sn	10 59 27.8	-3.6
QLP	Quilpie	6.16	48	eP	Pn	10 58 33.9	+2.5
ARPS	Mount Arapiles	6.39	160	⇓iP	Pn	10 58 33.3	-1.4
ARPS				eS	Sn	10 59 42.5	-6.0
	99nm,0.2s						
ARPS	Mount Arapiles	6.39	160	⇓iP	Pn	10 58 33.3	-1.4
	99nm,0.2s						
ARPS				eS	Sn	10 59 42.5	-6.0
ASAR	Alice Springs	8.46	326	Pn	P	10 59 05.2	+1.6
	0.3nm,0.3s,baz=150,slow=12,SNR=27						
ASAR				Sn	Sn	11 00 36.5	-3.6
	1.1nm,0.3s,baz=150,slow=22,SNR=13						
ASPA	Alice Springs	8.46	326	eP	P	10 59 05.0	+1.4
ASPA				eS	Sn	11 00 39.0	-1.1
QIS	Mount Isa	10.19	3	eP	P	10 59 28.8	+1.2
QIS				eS	S	11 01 20.8	-2.2
	2.7nm,0.4s						
QIS	Mount Isa	10.19	3	eP	P	10 59 28.8	+1.2
	2.7nm,0.4s						
QIS				eS	S	11 01 20.8	-2.2
WB2	Warramunga Arr	11.61	337	eP	P	10 59 47.6	+0.7
WB2				eS	S	11 01 50.9	-6.8
WRA	Warramunga Arr	11.61	337	Pn	P	10 59 47.0	0.0
	0.3nm,0.3s,baz=158,slow=12,SNR=24						
WRA				Sn	S	11 01 51.2	-6.6
	0.5nm,0.3s,baz=158,slow=22,SNR=7.5						
WRAB	Tennant Creek	11.62	337	eP	P	10 59 44.7	-2.4
CTA	Charters Tower	12.46	33	Pn	P	10 59 59.5	+1.1
	0.3nm,0.3s,baz=208,slow=15,SNR=2.5						
CTA				Sn	S	11 02 12.0	-6.3
	0.4nm,0.3s,baz=258,slow=19,SNR=4.3						
CTA	Charters Tower	12.46	33	Pn	P	10 59 59.5	+1.1
CTA				Sn	S	11 02 12.0	-6.3
CTAO	Charters Tower	12.46	33	P	P	10 59 58.4	+0.1
	18nm,1.1s						
CTAO				eS	S	11 02 10.4	-7.9
TAU	Tasmania Unive	13.77	154	P	P	11 00 15.6	0.0
	62nm,1.3s						
MBWA	Marble Bar	19.84	294	eP	P	11 01 32.9	+0.9
	33nm,1.4s						

*IDC **03** 11:00:44.0±23.0, 5.96N×126.30E, mb4.3/4, mb1 4.4/4, mb1mx4.0/18, mbtmp4.3/4, Error ellipse: s-maj=412.6km s-min=83.0km az=179.0*
*MAN **03** 11:00:47.5, 6.50N×126.36E, h33^{km}, mb4.5, ML3.3, MS3.2*
ISC 03 11:00:45.9±1.3**, 6.38N**±0.08×**126.5E**±0.1**, h48**^{km}±18^{km}**, n16, σ0^{s}85**/18**, mb4.4**/7**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	Mati	0.60	341	eP	P	11 00 58.9	+0.7
MATI				eS	S	11 01 07.5	+0.2
KCP	Kidapawan	1.49	295	⇑eP	P	11 01 10.5	-0.3
KCP				i S	S	11 01 58.4	+29
BIPH	Bislig	1.79	357	⇓eP	P	11 01 14.8	-0.3
BIPH				i S	S	11 01 36.5	-0.2
BUKP	Musuan	2.03	317	eP	P	11 01 18.1	-0.4
BUTP	Butuan	2.70	342	eP	S	11 01 59.6	0.0
PAGZ	Pagadian	3.38	296	eP	P	11 01 37.0	-0.7
SCPH	Surigao	3.51	344	⇓eP	P	11 01 40.1	+0.7
KAKA	Kakadu	19.88	163	eP	P	11 05 16.3	+0.2
	10nm,0.6s						
FITZ	Fitzroy Crossi	24.34	182	eP	P	11 06 01.1	+0.4
	10nm,0.4s,mb4.6						
WRA	Warramunga Arr	27.28	164	P	P	11 06 27.0	-1.3
	1.6nm,0.8s,mb3.6,baz=344,slow=10,SNR=9.0						
ASAR	Alice Springs	30.74	167	P	P	11 06 58.0	-1.1
	1.3nm,0.4s,mb4.1,baz=345,slow=7.3,SNR=14						
KLBR	Kellerberrin	38.66	192	eP	P	11 08 08.5	+1.8
	26nm,0.3s,mb5.5						
MUN	Mundaring	39.38	194	eP	P	11 08 14.6	+1.9
	3.9nm,0.4s,mb4.5						
NWAO	Narrogin (SRO)	40.06	192	P	P	11 08 17.2	-1.1
	3.3nm,0.3s,mb4.5,baz=15,slow=9.1,SNR=9.2						
STKA	Stephens Creek	40.69	160	eP	P	11 08 23.5	-0.1
	4.7nm,0.9s,mb4.1						
STKA	Stephens Creek	40.69	160	P	P	11 08 23.5	-0.1
	5.1nm,0.6s,mb4.4,baz=335,slow=7.7,SNR=10						

*CSEM **03** 11:18:14.9, 32.03N×56.28E, h10^{km}, ML3.1, After TEH*
TEH 03 11:18:14.9, 32.03N×56.28E, h10^{km}, Mn3.1, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBAF	Bafgh	0.74	234	Pg	Pg	11 18 28.3	-1.6
IMEH	Mehriz	1.55	246	Pn	Pn	11 18 42.4	-0.4
ICHK	Chekchek	1.60	278	Pn	Pn	11 18 42.3	-1.1
ISRV	Sarvestan	3.79	227	Pn	Pn	11 19 14.8	+0.1
IANJ	Anjiloo	3.95	331	Pn	Pn	11 19 14.3	-2.7
ISHM	Shahmirzad	4.51	327	Pn	Pn	11 19 23.7	-1.2
IFIR	Firoozkooh	4.64	322	Pn	Pn	11 19 24.0	-2.8
IFIR	Firoozkooh	4.64	322	Sn	Sn	11 20 20.1	-1.4
IFIR	Firoozkooh	4.64	322	Lg		11 20 41.2	
IMOG	Moghan	4.80	31	Pn	Pn	11 19 26.2	-2.8
IPAY	Payeh	4.95	26	Pn	Pn	11 19 28.5	-2.7
IKRD	Kardeh	5.08	21	Pn	Pn	11 19 35.5	+2.5
IMYA	Miamay	5.34	35	Pn	Pn	11 19 33.9	-2.8
IAFJ	Afjeh	5.38	316	Lg		11 21 07.7	

*CSEM **03** 11:20:43.1±0.2, 37.40N×24.81W, h4^{km}, ML2.3, Error ellipse: s-maj=6.3km s-min=4.0km az=25.0, After PDA*
*PDA **03** 11:20:43.1±0.7, 37.40N×24.81W, h4^{km}±10^{km}, MD2.5, ML2.3, Error ellipse: s-maj=12.4km s-min=2.3km az=83.0*
SVSA 03 11:20:43.1±0.7**, 37.40N**×**24.81W, h4**^{km}±10^{km}**, MD2.5, ML2.3, Error ellipse: s-maj=12.4km s-min=2.3km az=83.0, Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.44	208	eS	Sg	11 20 56.8	-1.1
MIRA	Miradouro	0.54	316	eP	Pg	11 20 52.2	-1.7
MIRA				i S	Sg	11 20 59.7	-1.4
PCNG	Congro	0.60	309	eP	Pg	11 20 53.0	-2.1
PCNG				eS	Sg	11 21 01.0	-2.0
	32nm,0.1s						
PFAD	Fenais da Ajud	0.60	317	eS	Sg	11 21 01.4	-1.8
VIF	Vila Franca	0.61	305	eS	Sg	11 21 01.6	-1.9
	101nm,0.2s						
PRCH	Ribeira Ch	0.63	302	eS	Sg	11 21 01.6	-2.5
	80nm,0.2s						
MESC	Monte Escuro	0.64	308	eP	Pg	11 20 54.2	-1.8
MESC				eS	Sg	11 21 02.1	-2.5
LFA	Lagoa do Fogo	0.66	305	eP	Pg	11 20 54.4	-1.8
PMAT	Coroa da Mata	0.67	309	eP	Pg	11 20 54.4	-2.2
CML	Cha da Macela	0.70	303	eP	Pg	11 20 54.9	-2.1
CML				i S	Sg	11 21 03.5	-2.8
FAC	Faja de Cima	0.77	300	eP	Pg	11 20 56.0	-2.5
FAC				i S	Sg	11 21 05.5	-3.2
PSAN	Santo Antonio	0.86	302	eP	Pb	11 20 57.0	-3.2
PSAN				eS	Sg	11 21 07.8	-4.0
PFET	Feteiras	0.89	299	eP	Pb	11 20 57.4	-3.2
PFET				i S	Sb	11 21 08.1	-4.5
SET2	Ginetes	0.91	300	eP	Pb	11 20 58.0	-3.1
SET2				i S	Sb	11 21 08.8	-4.5
SET4	Mosteiros	0.92	302	i S	Sb	11 21 08.7	-4.9

*BJI **03** 11:54:33.6, 32.52S×178.78W, h6^{km}, mB5.5, mb5.2, Ms5.3, Msz4.9*
*NEIC **03** 11:54:36.1±0.2, 32.88S×179.16W, h10^{km}, mb5.4/47, MS4.8/48, Error ellipse: s-maj=9.4km s-min=6.4km az=153.0*
*HRVD **03** 11:54:36.1±0.2, 32.96S×178.77W, h46^{km}, MW5.3/64, Centroid moment Tensor Solution. LP body waves: s64,c124;Mantle waves: s62,c107; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.10±.03; $M_{\theta\theta}$-0.18±.02; $M_{\phi\phi}$-0.92±.02; $M_{r\theta}$0.15±.02; $M_{\theta\phi}$-0.51±.02; $M_{\phi r}$0.41±.02; Best double couple: $M_0$1.223×10^{17} NP1: ϕ_s210°, δ35°, λ95°. NP2:ϕ_s24°, δ56°, λ87°. Principal axes: T 1.183, Plg79°, Azm282°; N .077, Plg3°, Azm26°; P -1.263, Plg10°, Azm117°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **03** 11:54:39.1±1.1, 32.76S×179.03W, h33^{km}, mb5.5/4, MS4.8/8 Error ellipse: s-maj=12.5km s-min=11.2km az=29.2*
*IDC **03** 11:54:57.1±5.5, 32.93S×179.35W, h176^{km}±47^{km}, mb4.5/14, mb1 4.7/16, mb1mx4.5/19, mbtmp4.9/16, MS4.7/19, Ms1 4.7/19, ms1mx4.4/28, Error ellipse: s-maj=19.7km s-min=13.3km az=67.0*
ISC 03 11:54:41.1±0.9**, 33.38S**±0.05×**179.13W**±0.06**, h64**^{km}±8^{km}**, n400, σ1^{s}48**/272**, mb5.3**/54**, 25C-23D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	4.24	14	ePn	P	11 55 27.4	-17
RAO				eSn	S	11 56 14.8	-19
MXZ	Matakaoa Point	4.67	206	PN	P	11 55 54.3	+3.5
MXZ				SN	S	11 56 53.2	+8.9
MXZ				T		11 59 14.2	
MXZ	Matakaoa Point	4.67	206	PN	P	11 55 54.3	+3.5
MXZ				SN	S	11 56 53.2	+8.9
MXZ				T		11 59 14.2	
WIZ	White Island	5.12	215	PN	P	11 56 03.6	+6.7
WIZ	White Island	5.12	215	PN	P	11 56 03.6	+6.7
PUZ	Puketiti	5.14	204	PN	P	11 56 00.1	+2.7
PUZ				eSN	S	11 57 01.5	+5.5
PUZ	Puketiti	5.14	204	PN	P	11 56 00.1	+2.7
PUZ				eSN	S	11 57 01.5	+5.5
KUZ	Kuaotunu	5.40	230	PN	P	11 56 07.7	+6.9
KUZ	Kuaotunu	5.40	230	PN	P	11 56 07.7	+6.9
MYRZ	Mayor Island	5.43	223	PN	P	11 56 08.4	+7.1
MYRZ	Mayor Island	5.43	223	PN	P	11 56 08.4	+7.1
MWZ	Matawai	5.64	208	PN	P	11 56 07.0	+2.8
MWZ				eSN	S	11 57 15.8	+7.3
MWZ	Matawai	5.64	208	PN	P	11 56 07.0	+2.8
MWZ				eSN	S	11 57 15.8	+7.3
MARZ	Manawahe	5.73	215	ePN	P	11 56 09.9	+4.5
MARZ	Manawahe	5.73	215	ePN	P	11 56 09.9	+4.5
URZ	Urewera	5.75	211	P	P	11 56 08.7	+3.0
	34nm,0.3s,baz=53,slow=3.4,SNR=32						
URZ				S	S	11 57 22.3	+11
	141nm,0.3s,baz=145,slow=19,SNR=6.8						

URZ Urewera 5.75 211 PN **P** **11 56 08.0 +2.2**
URZ Urewera 5.75 211 PN **P** **11 56 08.0 +2.2**
EDRZ Edgecumbe 5.79 214 PN **P** **11 56 11.4 +5.1**
EDRZ Edgecumbe 5.79 214 PN **P** **11 56 11.4 +5.1**
MTAZ Motutapu 5.95 233 PN **P** **11 56 16.3 +7.7**
MTAZ Motutapu 5.95 233 PN **P** **11 56 16.3 +7.7**
WCZ Waipu Caves 5.95 243 ⇑PN **P** **11 56 15.5 +6.9**
WCZ Waipu Caves 5.95 243 ⇑PN **P** **11 56 15.5 +6.9**
MKAZ Moumakai 5.97 230 *e*PN **P** **11 56 16.2 +7.4**
MKAZ Moumakai 5.97 230 *e*PN **P** **11 56 16.2 +7.4**
KNZ Kokohu 6.20 204 *e*PN **P** **11 56 13.6 +1.6**
KNZ SN **S** **11 57 23.5 +1.3**
KNZ Kokohu 6.20 204 *e*PN **P** **11 56 13.6 +1.6**
KNZ SN **S** **11 57 23.5 +1.3**
WTAZ Waiatarua 6.26 234 *e*PN **P** **11 56 20.4 +7.6**
WTAZ Waiatarua 6.26 234 *e*PN **P** **11 56 20.4 +7.6**
OUZ Omahuta 6.29 251 ⇓PN **P** **11 56 19.4 +6.0**
OUZ Omahuta 6.29 251 ⇓PN **P** **11 56 19.4 +6.0**
BKZ Black Stump Fm 6.77 210 PN **P** **11 56 21.0 +0.9**
BKZ Black Stump Fm 6.77 210 PN **P** **11 56 21.0 +0.9**
RATZ Rangitukua 6.86 216 PN **P** **11 56 26.0 +4.7**
RATZ Rangitukua 6.86 216 PN **P** **11 56 26.0 +4.7**
HIZ Hauiti 7.07 222 PN **P** **11 56 29.5 +5.3**
HIZ Hauiti 7.07 222 PN **P** **11 56 29.5 +5.3**
WTVZ West Tongariro 7.14 215 PN **P** **11 56 28.9 +3.7**
WTVZ West Tongariro 7.14 215 PN **P** **11 56 28.9 +3.7**
OTVZ Oturere 7.14 215 *e*PN **P** **11 56 28.5 +3.3**
OTVZ Oturere 7.14 215 *e*PN **P** **11 56 28.5 +3.3**
NGZ Ngauruhoe 7.18 215 PN **P** **11 56 29.4 +3.7**
NGZ Ngauruhoe 7.18 215 PN **P** **11 56 29.4 +3.7**
MOVZ Moawhango 7.29 213 *e*PN **P** **11 56 29.2 +1.9**
MOVZ Moawhango 7.29 213 *e*PN **P** **11 56 29.2 +1.9**
WNVZ Wahianoa 7.30 214 *e*PN **P** **11 56 30.6 +3.2**
WNVZ Wahianoa 7.30 214 *e*PN **P** **11 56 30.6 +3.2**
PWZ Pawanui 7.38 205 PN **P** **11 56 27.7 -0.8**
PWZ Pawanui 7.38 205 PN **P** **11 56 27.7 -0.8**
VRZ Vera Road 7.57 219 PN **P** **11 56 35.4 +4.4**
VRZ Vera Road 7.57 219 PN **P** **11 56 35.4 +4.4**
WAZ Wanganui 7.93 215 PN **P** **11 56 39.1 +3.0**
WAZ SN **S** **11 58 12.8 +7.6**
WAZ Wanganui 7.93 215 PN **P** **11 56 39.1 +3.0**
WAZ SN **S** **11 58 12.8 +7.6**
BFZ Birch Farm 8.17 206 *e*PN **P** **11 56 38.9 -0.4**
BFZ SN **S** **11 58 14.3 +3.2**
BFZ Birch Farm 8.17 206 *e*PN **P** **11 56 38.9 -0.4**
BFZ SN **S** **11 58 14.3 +3.2**
MRZ Mangatainoka R 8.41 209 PN **P** **11 56 41.7 -0.9**
MRZ *e*SN **S** **11 58 15.8 -1.2**
MRZ Mangatainoka R 8.41 209 PN **P** **11 56 41.7 -0.9**
MRZ *e*SN **S** **11 58 15.8 -1.2**
KIW Kapiti Island 8.86 211 PN **P** **11 56 47.4 -1.3**
KIW Kapiti Island 8.86 211 PN **P** **11 56 47.4 -1.3**
MTW Mount Morrison 8.87 207 PN **P** **11 56 47.8 -1.0**
MTW Mount Morrison 8.87 207 PN **P** **11 56 47.8 -1.0**
CAW Cannon Point 8.99 209 *e*PN **P** **11 56 48.7 -1.9**
CAW Cannon Point 8.99 209 *e*PN **P** **11 56 48.7 -1.9**
PAWZ Paruwai Farm 9.09 207 PN **P** **11 56 51.1 -0.8**
PAWZ SN **S** **11 58 34.2 +0.5**
PAWZ Paruwai Farm 9.09 207 PN **P** **11 56 51.1 -0.8**
PAWZ SN **S** **11 58 34.2 +0.5**
MSWZ Moikau Station 9.18 207 PN **P** **11 56 52.0 -1.2**
MSWZ SN **S** **11 58 35.9 -0.1**
MSWZ Moikau Station 9.18 207 PN **P** **11 56 52.0 -1.2**
MSWZ SN **S** **11 58 35.9 -0.1**
MRW Makara Radio 9.25 210 PN **P** **11 56 53.8 -0.3**
MRW SN **S** **11 58 37.4 -0.2**
MRW Makara Radio 9.25 210 PN **P** **11 56 53.8 -0.3**
MRW SN **S** **11 58 37.4 -0.2**
SNZO South Karori 9.31 210 *e*PN **P** **11 56 53.0 -2.0**
SNZO SN **S** **11 58 38.2 -1.0**
SNZO South Karori 9.31 210 *e*PN **P** **11 56 53.0 -2.0**
SNZO SN **S** **11 58 38.2 -1.0**
TUWZ Tuamarina 9.74 212 PN **P** **11 56 59.7 -1.1**
TUWZ SN **S** **11 58 50.0 +0.4**
TUWZ Tuamarina 9.74 212 PN **P** **11 56 59.7 -1.1**
TUWZ SN **S** **11 58 50.0 +0.4**
NNZ Nelson 9.84 215 PN **P** **11 57 01.3 -0.8**
NNZ SN **S** **11 58 52.2 +0.3**
NNZ Nelson 9.84 215 PN **P** **11 57 01.3 -0.8**
NNZ SN **S** **11 58 52.2 +0.3**
QRZ Quartz Range 9.98 219 *e*PN **P** **11 57 03.3 -0.8**
QRZ SN **S** **11 58 57.0 +1.6**
QRZ Quartz Range 9.98 219 *e*PN **P** **11 57 03.3 -0.8**
QRZ SN **S** **11 58 57.0 +1.6**
BSWZ Blackbirch Sta 10.00 212 PN **P** **11 57 03.6 -0.8**
BSWZ Blackbirch Sta 10.00 212 PN **P** **11 57 03.6 -0.8**
THZ Tophouse 10.48 215 PN **P** **11 57 09.7 -1.3**
THZ SN **S** **11 59 07.2 -0.5**
THZ Tophouse 10.48 215 PN **P** **11 57 09.7 -1.3**
THZ SN **S** **11 59 07.2 -0.5**
KHZ Kahutara 10.72 211 PN **P** **11 57 13.0 -1.1**
KHZ *e*SN **S** **11 59 10.7 -2.6**
KHZ Kahutara 10.72 211 PN **P** **11 57 13.0 -1.1**
KHZ *e*SN **S** **11 59 10.7 -2.6**
DSZ Denniston Nort 11.02 218 PN **P** **11 57 17.2 -0.9**
DSZ Denniston Nort 11.02 218 PN **P** **11 57 17.2 -0.9**
LTZ Lake Taylor 11.57 213 PN **P** **11 57 23.3 -2.3**
LTZ SN **S** **11 59 30.4 -3.5**
LTZ Lake Taylor 11.57 213 PN **P** **11 57 23.3 -2.3**
LTZ SN **S** **11 59 30.4 -3.5**
MQZ McQueen's Vall 12.15 210 PN **P** **11 57 30.7 -2.6**
MQZ SN **S** **11 59 41.9 -5.8**
MQZ McQueen's Vall 12.15 210 PN **P** **11 57 30.7 -2.6**
MQZ SN **S** **11 59 41.9 -5.8**
RPZ Rata Peaks 12.86 214 P **P** **11 57 40.5 -2.2**
3.6nm,0.3s,baz=147,slow=1.2,SNR=17
RPZ S **S** **11 59 59.9 -4.8**
8.0nm,0.3s,baz=22,slow=21,SNR=10
RPZ Rata Peaks 12.86 214 PN **P** **11 57 40.5 -2.2**
RPZ SN **S** **11 59 58.8 -5.9**
RPZ Rata Peaks 12.86 214 PN **P** **11 57 40.5 -2.2**
RPZ SN **S** **11 59 58.8 -5.9**
FOZ Fox Glacier 13.41 217 *e*PN **P** **11 57 47.5 -2.4**
FOZ *e*SN **S** **12 00 10.3 -7.5**
FOZ Fox Glacier 13.41 217 *e*PN **P** **11 57 47.5 -2.4**
FOZ *e*SN **S** **12 00 10.3 -7.5**
ODZ Otahua Downs 14.08 211 PN **P** **11 57 56.5 -2.1**
ODZ SN **S** **12 00 29.6 -4.0**
ODZ Otahua Downs 14.08 211 PN **P** **11 57 56.5 -2.1**
ODZ SN **S** **12 00 29.6 -4.0**
JCZ Jackson Bay 14.25 218 PN **P** **11 57 58.8 -2.1**
JCZ SN **S** **12 00 32.8 -4.9**
JCZ Jackson Bay 14.25 218 PN **P** **11 57 58.8 -2.1**
JCZ SN **S** **12 00 32.8 -4.9**
WKZ Wanaka 14.66 215 PN **P** **11 58 04.5 -1.6**
WKZ Wanaka 14.66 215 PN **P** **11 58 04.5 -1.6**
MSZ Milford Sound 15.09 218 *e*PN **P** **11 58 09.4 -2.3**
MSZ Milford Sound 15.09 218 *e*PN **P** **11 58 09.4 -2.3**
TUZ Tuapeka 15.23 211 *e*PN **P** **11 58 12.3 -1.2**
TUZ Tuapeka 15.23 211 *e*PN **P** **11 58 12.3 -1.2**
NOUC Port Laguerre 17.08 307 *e*P **P** **11 58 38.0 +1.0**
AFI Afiamalu 20.50 21 *e*P Px 11 58 55.8
AFI *e*S Sx 12 02 17.0
RAR Rarotonga 21.00 60 *e*P **P** **11 59 16.4 -4.9**
RAR Rarotonga 21.00 60 LR LR 12 05 30.6
comp=Z,943nm,20.9s,baz=253,slow=30
CNB Canberra Magne 26.03 257 ⇓*i*P **P** **12 00 15.3 +5.3**
637nm,1.6s,mb5.9
CNB *e*SCP 12 07 13.7
118nm,0.9s
TBI Tubuai 27.87 77 *e*S **S** **12 05 03.1 -1.0**
TBI *e*LQ 12 05 54.7
TBI *e*LR LR 12 07 17.6
4µm,27.0s,baz=240
TAU Tasmania Unive 27.89 240 *e*P **P** **12 00 30.9 +3.9**
40nm,0.9s,mb5.0
TAU LR LR
comp=Z,940nm,22.0s
TOO Toolangi 29.01 252 *e*P **P** **12 00 42.2 +5.2**
comp=Z,0.5nm,0.7s
HNR Honiara 30.65 316 *e*P **P** **12 00 49.0 -2.7**
comp=Z,240nm,0.8s,mb6.1
PPT Papeete 30.84 67 *e*S **S** **12 05 45.6 -5.6**
PPT *e*LQ 12 07 00.0
PPT *e*LR LR 12 08 32.9
comp=Z,3µm,26.0s,baz=231
TIAR Tiarei 31.02 67 *e*P **P** **12 00 53.8 -1.2**
comp=Z,64nm,0.7s,mb5.5
STKA Stephens Creek 32.98 262 ⇓*i*P **P** **12 01 15.2 +3.2**
comp=Z,5.7nm,0.6s,mb4.7
STKA Stephens Creek 32.98 262 P **P** **12 01 15.2 +3.2**
comp=Z,4.3nm,0.5s,mb4.7,baz=102,slow=9.1,SNR=13
STKA PcP PcP 12 03 54.1 -0.7
comp=Z,5.9nm,0.6s,baz=57,slow=2.6,SNR=5.8
STKA PKiKP 12 11 20.4
comp=Z,1.6nm,0.7s,baz=104,slow=4.2,SNR=4.5
STKA LR LR 12 14 01.5
comp=Z,3µm,18.4s,baz=89,slow=35
CTA Charters Tower 33.47 284 *e*P **P** **12 01 18.3 +2.0**
comp=Z,88nm,0.6s,mb5.9
CTA Charters Tower 33.47 284 P **P** **12 01 18.4 +2.1**
comp=Z,96nm,0.6s,mb5.9,baz=110,slow=9.7,SNR=215
CTA LR LR 12 13 16.6
comp=Z,1µm,18.9s,baz=61,slow=33
CTAO Charters Tower 33.47 284 *e*P **P** **12 01 18.0 +1.8**
comp=Z,113nm,0.6s,mb6.0
CTAO LR LR
comp=Z,2µm,22.0s
PMG Port Moresby 39.13 300 ⇑*i*P **P** **12 02 04.8 +0.7**
PMG Port Moresby 39.13 300 P **P** **12 02 05.2 +1.2**
comp=Z,73nm,0.6s,mb5.6,baz=101,slow=4.8,SNR=58
PMG LR LR 12 15 46.8
comp=Z,1µm,18.9s,baz=332,slow=32
PMG Port Moresby 39.13 300 *e*P **P** **12 02 04.9 +0.8**
comp=Z,80nm,0.6s,mb5.6
PMG LR LR
comp=Z,1µm,20.0s
RKT Rikitea 39.96 87 *e*S **S** **12 08 15.2 +3.8**
RKT *e*LQ 12 11 12.5
RKT *e*LR LR 12 12 56.7
baz=246
ASAR Alice Springs 42.09 271 P **P** **12 02 29.6 +1.2**
comp=Z,44nm,0.6s,mb5.3,baz=110,slow=7.9,SNR=522
ASAR PKiKP 12 11 27.8
comp=Z,1.3nm,0.6s,baz=105,slow=1.3,SNR=12
ASAR LR LR 12 18 29.3
comp=Z,535nm,20.7s,baz=109,slow=34
ASPA Alice Springs 42.09 271 ⇑*i*P **P** **12 02 30.4 +2.0**
ASPA *e*S **S** **12 08 44.6 +1.7**
ASPA *e* 12 09 07.1
ASPA *e*SCS ScS 12 12 41.0 +19
WB2 Warramunga Arr 43.34 276 ⇓*i*P **P** **12 02 38.9 +0.2**
WB2 *e*S **S** **12 09 01.3 +0.1**
WB2 *e*SCS ScS 12 12 49.4 +19
WRAB Tennant Creek 43.34 276 ⇑*i*P **P** **12 02 39.9 +1.2**
WRAB Tennant Creek 43.34 276 *e*P **P** **12 02 39.0 +0.3**
comp=Z,132nm,0.6s,mb5.8
WRAB LR LR
comp=Z,566nm,22.0s
WRA Warramunga Arr 43.35 276 P **P** **12 02 39.1 +0.3**
comp=Z,63nm,0.5s,mb5.6,baz=116,slow=7.6,SNR=718
WRA PKiKP 12 11 29.0
comp=Z,1.3nm,0.5s,baz=100,slow=0.3,SNR=20
TAOE Nuku Hiva Isla 43.40 65 *e*S **S** **12 08 56.7 -5.5**
TAOE *e*LR LR 12 14 24.0
baz=237
FORT Forrest 44.43 258 *e*P **P** **12 02 49.2 +1.8**
comp=Z,2µm,0.5s
SBA Scott Base 45.01 184 *e*P **P** **12 02 58.3 +6.9**
comp=Z,43nm,1.2s,mb5.2
SBA *e*PcP PcP 12 04 36.0 +4.0
VNDA Vanda 45.05 186 P **P** **12 02 59.0 +7.3**
comp=Z,4.8nm,1.0s,mb4.3,baz=26,slow=7.7,SNR=8.2
VNDA PcP PcP 12 04 35.9 +3.7
comp=Z,3.3nm,0.6s,baz=356,slow=5.7,SNR=6.0
VNDA LR LR 12 18 14.3
comp=Z,457nm,19.9s,baz=40,slow=31
VNDA Vanda 45.05 186 *e*P **P** **12 02 58.5 +6.8**
comp=Z,8.4nm,1.0s,mb4.5
VNDA *e*PcP PcP 12 04 35.8 +3.7
VNDA LR LR
comp=Z,648nm,20.0s
YOMI Yo Mokiole 48.51 300 ⇓*i*P **P** **12 03 19.0 -0.8**
comp=Z,388nm,0.5s,mb6.4
KAKA Kakadu 48.59 283 *e*P **P** **12 03 19.9 -0.4**
comp=Z,76nm,0.6s,mb5.9
MENI Mendum Tagoi 48.70 300 ⇓*i*P **P** **12 03 20.7 -0.6**
comp=Z,203nm,0.7s,mb6.0
MENI *e*S tx 12 05 36.4
FITZ Fitzroy Crossi 51.47 273 ⇑*i*P **P** **12 03 42.8 +0.5**
comp=Z,49nm,0.9s,mb5.4
CASY Casey 52.07 209 *e*P **P** **12 03 49.4 +3.2**
NWAO Narrogin (SRO) 52.50 252 P **P** **12 03 50.1 +0.3**
comp=Z,11nm,0.6s,mb5.0,baz=106,slow=6.1,SNR=16
NWAO Narrogin (SRO) 52.50 252 *e*P **P** **12 03 49.9 +0.1**
comp=Z,31nm,1.1s,mb5.2
NWAO LR LR
comp=Z,862nm,20.0s
KLBR Kellerberrin 52.53 254 ⇑*i*P **P** **12 03 50.1 0.0**
comp=Z,470nm,0.8s
MUN Mundaring 53.64 253 ⇑*i*P **P** **12 03 58.4 +0.1**
comp=Z,20nm,1.1s,mb5.0
MBWA Marble Bar 55.01 266 *e*P **P** **12 04 07.9 -0.5**
comp=Z,36nm,0.8s,mb5.5
MBWA LR LR
comp=Z,1µm,20.0s
QSPA South Pole Qui 56.74 180 ⇓*i*P **P** **12 04 31.6 +11**
comp=Z,69nm,0.7s,mb5.8
POHA Pohakuloa 57.44 27 P **P** **12 04 22.7 -3.2**
comp=Z,837nm,0.8s
RPN Rapa Nui 59.61 104 LR LR 12 23 33.5
comp=Z,834nm,19.5s,baz=270,slow=29
MIDW Midway 61.28 2 PFAKE 12 05 00.0 +7.8
MIDW LR LR
comp=Z,3µm,19.0s
KEDI Kedomdong 64.33 277 ⇓*i*P **P** **12 05 12.0 -0.6**
comp=Z,49nm,0.6s,mb5.7
KEDI Kedomdong 64.33 277 *e*pP **P** **12 05 11.8 -0.8**
KEDI Kedomdong 64.33 277 ⇓*i*P **P** **12 05 04.3 -8.3**
comp=Z,98nm,0.6s,mb5.7
RATI Rata 64.68 276 ⇑*i*P **P** **12 05 14.1 -0.8**
SRDI Scrawed 65.97 276 ⇓*i*P **P** **12 05 22.6 -0.5**
MAW Mawson 69.19 201 P **P** **12 05 45.9 +3.5**
comp=Z,12nm,0.8s,mb4.9,baz=122,slow=4.5,SNR=5.1
MAW LR LR 12 35 17.3
comp=Z,668nm,18.9s,baz=98,slow=35
MAW Mawson 69.19 201 *e*P **P** **12 05 45.8 +3.4**
comp=Z,7.1nm,0.5s,mb4.8
PMSA Palmer Station 69.96 156 P **P** **12 05 49.7 +2.6**
CBIJ Chichi jima 70.48 324 LR LR 12 32 38.5
comp=Z,280nm,20.0s,baz=101,slow=32
PULI Pulasari 73.93 273 ⇓*i*P **P** **12 06 09.5 -2.1**
SYO Syowa Base 74.00 194 ⇓P **P** **12 06 14.5 +3.5**
USHA Ushuaia 74.01 146 LR LR 12 30 13.3
comp=Z,687nm,21.7s,baz=236,slow=28
KSM Kuching 74.67 282 *e*P **P** **12 06 15.2 -0.7**
PENI Pendagan 75.02 273 ⇓*i*P **P** **12 06 15.3 -2.6**
comp=Z,75nm,0.6s,mb5.5
SNAA Sanae 75.21 179 ⇑*i*P **P** **12 06 22.1 +4.3**
SNAA Sanae 75.21 179 ⇓*i* P **P** **12 06 26.9 +9.1**
SNAA Sanae 75.21 179 ⇑*i* P **P** **12 06 32.7 +15**
SNAA Sanae 75.21 179 P **P** **12 06 22.2 +4.3**
comp=Z,5.0nm,0.6s,mb4.6,baz=206,slow=12,SNR=35
SNAA Sanae 75.21 179 *e*P **P** **12 06 21.8 +4.0**
comp=Z,14nm,0.6s,mb5.1
VNA3 Neumayer Olymp 75.40 176 ⇑*i*P **P** **12 06 23.5 +4.6**
VNA3 Neumayer Olymp 75.40 176 ⇓*i* **P** **12 06 29.1 +10**
VNA3 Neumayer Olymp 75.40 176 **P** **12 06 33.6 +15**
VNA2 Neumayer--Watz 75.83 177 ⇑*i*P **P** **12 06 26.4 +5.0**
VNA2 Neumayer--Watz 75.83 177 ⇑*i* **P** **12 06 31.5 +10**
VNA2 Neumayer--Watz 75.83 177 ⇓*i* **P** **12 06 36.6 +15**
JOW Kunigami 77.97 313 PKKPbc 12 25 37.0
comp=Z,82nm,0.4s,baz=198,slow=17,SNR=7.0
MAJO Matsushiro 80.16 326 P **P** **12 06 40.3 -5.7**
comp=Z,5.7nm,0.8s,mb4.5
MAJO LR LR
comp=Z,395nm,19.0s
MAT Matsushiro 80.16 326 *e*P **P** **12 06 43.0 -3.0**
MAT LR LR
comp=Z,350nm,20.0s
MAT Matsushiro 80.16 326 P **P** **12 06 42.5 -3.5**
MAT S S 12 16 40.0 -4.2
TATO Taipei 80.97 308 P **P** **12 06 45.8 -4.7**
comp=Z,142nm,1.2s,mb5.8
PLCA Paso Flores 81.18 133 P **P** **12 06 55.7 +4.4**
comp=Z,2.1nm,0.7s,baz=199,slow=3.9,SNR=5.2
PLCA PKKPbc 12 25 26.6
comp=Z,1.0nm,0.9s,baz=342,slow=5.5,SNR=2.9
PLCA LR LR 12 37 26.7
comp=Z,284nm,18.2s,baz=239,slow=31
PLCA Paso Flores 81.18 133 *e*P **P** **12 06 55.6 +4.3**
comp=Z,30nm,1.4s,mb5.0
PLCA LR LR
comp=Z,381nm,21.0s
ASAJ Asahikawa 84.65 333 LR LR 12 43 27.9
comp=Z,634nm,19.0s,baz=170,slow=35
SSE Sheshan 85.36 312 P **P** **12 07 11.7 -0.9**
SSE AP pP 12 07 14.8 -16
SSE XP sP 12 07 16.2 -21
SSE S S 12 17 40.4 +3.7
SSE XS 12 17 45.9
SSE SS SS 12 23 13.5 -2.3
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,127nm,8.0s
SSE LR LR
comp=N,75nm,25.0s
SSE LR LR
comp=E,69nm,24.9s
SSE LR LR
comp=Z,133nm,25.7s
SSE Sheshan 85.36 312 P **P** **12 07 11.7 -0.9**
comp=Z,38nm,0.7s,mb5.6
SSE pP pP 12 07 14.8 -16
SSE sP sP 12 07 16.2 -21
SSE S S 12 17 40.4 +3.7
SSE sS 12 17 45.9
SSE SS SS 12 23 13.5 -2.3
SSE LR LR
comp=Z,130nm,25.7s
QIZ Qiongzhong 85.42 296 P **P** **12 07 14.5 +1.3**
QIZ S S 12 17 40.9 +3.4
QIZ Qiongzhong 85.42 296 PFAKE 12 07 20.0 +6.8
QIZ LR LR
comp=Z,410nm,19.0s
KS15 Wonju Array Si 86.02 320 P **P** **12 07 14.3 -1.4**
YSS Yuzh-Sakhalins 87.02 335 ⇓*i*P **P** **12 07 19.9 -0.5**
YSS pmax pmax
comp=Z,25nm,0.8s,mb5.5
YSS MLR MLR
comp=Z,300nm,17.0s
YSS Yuzh-Sakhalins 87.02 335 *e*P **P** **12 07 19.6 -0.8**
comp=Z,26nm,0.7s,mb5.6
YSS LR LR
comp=Z,682nm,22.0s
NJ2 Nanjing 87.47 311 *e*P **P** **12 07 24.2 +1.3**
NJ2 PP PP 12 10 52.9 +2.4
NJ2 SKS SKS 12 17 47.0 +4.5
NJ2 S S 12 18 01.0 +4.2
NJ2 AMB AMB
comp=Z,102nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,408nm,5.4s
NJ2 LR LR
comp=N,660nm,14.0s
NJ2 LR LR
comp=E,620nm,15.4s
NJ2 LR LR
comp=Z,2µm,14.0s
UNV Unalaska Valle 87.55 7 *e*P **P** **12 07 20.9 -1.8**
comp=Z,60nm,0.7s,mb5.9
TRQA Tornquist 88.01 135 PFAKE 12 07 40.0 +15
TRQA LR LR
comp=Z,310nm,19.0s
PET Petropavlovsk 88.19 347 *e*P **P** **12 07 25.1 -0.7**
PET *e*PS PS 12 19 38.1 +21
PET pmax pmax
comp=Z,18nm,0.6s,mb5.5
PET pmax pmax
comp=Z,100nm,20.2s
PET MLR MLR
comp=Z,300nm,21.0s
ISA Isabella 89.08 45 PFAKE 12 07 40.0 +10
ISA LR LR
comp=Z,257nm,20.0s
CMB Columbia Colle 89.61 42 *e*P **P** **12 07 32.8 -0.1**
comp=Z,22nm,1.1s,mb5.4
CMB LR LR
comp=Z,639nm,22.0s
OHCM Honcut 89.91 41 *e*P **P** **12 07 34.4 +0.1**
MTUM Tungsten Hills 90.18 44 *e*P **P** **12 07 36.3 +0.7**
MDJ Mudanjiang 90.54 326 P **P** **12 07 36.7 -0.4**
MDJ AP pP 12 07 39.8 -15
MDJ PP PP 12 11 09.0 -5.8
MDJ SKS SKS 12 18 04.6 +3.6
MDJ S S 12 18 30.2 +5.4
MDJ AMB AMB
comp=Z,11nm,1.1s,mb5.1
MDJ AMB AMB
comp=Z,114nm,3.5s
MDJ LR LR
comp=N,269nm,20.0s
MDJ LR LR
comp=E,133nm,20.8s
MDJ LR LR
comp=Z,428nm,21.6s
MDJ Mudanjiang 90.54 326 *e*P **P** **12 07 36.6 -0.5**
comp=Z,6.0nm,0.6s,mb5.1
MDJ LR LR
comp=Z,495nm,21.0s
LDFC Landfair 90.72 48 *e*P **P** **12 07 39.6 +1.4**
YBH Yreka Blue Hor 90.96 39 *e*P **P** **12 07 39.8 +0.6**
comp=Z,64nm,1.7s,mb5.6
NVAR Mina Array Bea 91.06 43 P **P** **12 07 40.0 +0.2**
comp=Z,4.8nm,0.8s,mb4.9,baz=226,slow=8.2,SNR=36
NVAR PKKPbc 12 25 06.3
comp=Z,0.6nm,0.7s,baz=55,slow=3.5,SNR=7.8
TPH Tonopah 91.45 44 *e*P **P** **12 07 41.6 +0.1**
comp=Z,35nm,1.2s,mb5.6
TPH *e* pP 12 07 57.7 -2.0
TPH LR LR
comp=Z,710nm,20.0s
HUMO Hull Mountain 91.46 38 *e*P **P** **12 07 42.3 +0.8**
comp=Z,78nm,1.6s,mb5.8
TUC Tucson 91.71 52 *e*P **P** **12 07 44.4 +1.6**
comp=Z,33nm,1.6s,mb5.4
CN2 Changchun 91.94 323 ⇓*e*P **P** **12 07 43.2 -0.4**
CN2 XP sP 12 07 52.0 -16
CN2 *e*S S 12 18 41.7 +4.5
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.3
CN2 LR LR
comp=N,400nm,20.0s
CN2 LR LR
comp=E,300nm,20.0s
CN2 LR LR
comp=Z,400nm,21.0s
GYA Guiyang 92.21 300 P **P** **12 07 48.2 +2.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,100nm,3.9s
GYA LR LR
comp=N,530nm,6.5s
GYA LR LR
comp=E,420nm,4.8s
GYA LR LR
comp=Z,270nm,4.5s
MOD Modoc 92.35 40 *e*P **P** **12 07 45.4 -0.2**
comp=Z,28nm,1.3s,mb5.4
ENH Enshi 92.50 305 *e*P **P** **12 07 46.3 -0.2**
comp=Z,9.7nm,0.7s,mb5.2
ENH LR LR
comp=Z,395nm,19.0s
KLR Kul'dur 93.12 330 *e*P **P** **12 07 43.0 -5.9**
WUAZ Wupatki 93.34 49 *e*P **P** **12 07 50.5 +0.3**
comp=Z,301nm,1.5s
CMAR Chiang Mai Arr 93.48 290 *e*P **P** **12 07 52.1 +0.8**
CMAR Chiang Mai Arr 93.48 290 P **P** **12 07 52.1 +0.8**
comp=Z,1.3nm,0.7s,mb4.5,baz=149,slow=3.7,SNR=6.9
CMAR PP PP 12 11 36.2 -2.8
comp=Z,3.3nm,0.8s,baz=135,slow=6.6,SNR=15
KMI Kunming 94.31 297 P **P** **12 07 56.6 +1.7**
KMI AMB AMB
comp=Z,6.0nm,0.5s,mb5.3
KMI LR LR
comp=Z,308nm,31.9s
KMI Kunming 94.31 297 *e*P **P** **12 07 56.6 +1.7**
KMI Kunming 94.31 297 P **P** **12 07 56.6 +1.7**
comp=Z,6.0nm,0.5s,mb5.3
KMI LR LR
comp=Z,310nm,31.9s
BJT Baijiatuau 94.36 316 PFAKE 12 08 10.0 +15
BJT LR LR
comp=Z,500nm,22.0s
ELK Elko 94.37 43 PKKPbc 12 24 57.1
comp=Z,0.7nm,0.5s,baz=225,slow=6.3,SNR=4.0
ELK LR LR 12 40 42.0
comp=Z,402nm,19.4s,baz=223,slow=29
BJI Beijing 94.38 316 *e*P **P** **12 07 54.7 -0.1**
BJI S S 12 18 54.7 -3.7
BJI PS PS 12 20 40.3 +13

BJI AMB AMB
comp=Z,7.0nm,1.8s,mb4.8
BJI LR LR
comp=N,333nm,21.5s
BJI LR LR
comp=E,308nm,24.9s
BJI LR LR
comp=Z,575nm,27.3s
BJI Beijing 94.38 316 *e*P **P 12 07 54.7 -0.1**
comp=Z,7.0nm,1.8s,mb4.8
BJI PP PP 12 11 53.4 +8.2
BJI S S 12 18 54.7 -3.7
BJI PS PS 12 20 40.3 +13
BJI SS SS 12 25 17.7 -7.7
BJI LR LR
comp=Z,580nm,27.3s
TXAR Lajitas Array 94.79 58 P **P 12 07 58.1 +1.1**
comp=Z,0.6nm,0.8s,baz=217,slow=6.3,SNR=7.1
TXAR PKKPbc 12 24 55.2
comp=Z,0.2nm,0.5s,baz=73,slow=5.4,SNR=3.9
TXAR LR LR 12 47 43.9
comp=Z,331nm,18.1s,baz=245,slow=33
DUG Dugway 95.43 45 PFAKE 12 08 10.0 +10
DUG LR LR
comp=Z,6μm,19.0s
TMUT Trail Mountain 95.82 46 *e*P **P 12 08 02.4 +1.0**
MA2 Magadan 95.91 345 PFAKE 12 08 10.0 +8.7
MA2 LR LR
comp=Z,324nm,20.0s
BMO Blue Mountains 95.96 39 *e*P **P 12 07 59.7 -2.2**
comp=Z,13nm,1.5s,mb5.2
ANMO Albuquerque 96.17 52 LR LR 12 47 44.9
ANMO Albuquerque 96.17 52 PFAKE 12 08 10.0 +6.9
ANMO LR LR
comp=Z,645nm,20.0s
SLKM Skilak Lake 96.51 14 *e*P **P 12 08 02.3 -1.7**
PV10 Paradox Valley 96.58 48 *e*P **P 12 08 07.9 +3.0**
HLID Hailey 96.67 41 *e*P **P 12 08 05.4 +0.2**
comp=Z,4.4nm,0.8s,mb4.9
HLID LR LR
comp=Z,577nm,19.0s
PV01 Paradox Valley 96.72 48 *e*P **P 12 08 06.6 +1.0**
HWUT Hardware Ranch 97.05 44 *e*P **P 12 08 06.2 -0.8**
comp=Z,1.8nm,0.7s,mb4.6
HWUT LR LR
comp=Z,478nm,21.0s
LPAZ La Paz 97.78 115 LR LR 12 42 40.1
comp=Z,236nm,21.6s,baz=164,slow=29
NEW Newport 98.33 37 LR LR 12 47 11.5
comp=Z,498nm,19.4s,baz=234,slow=32
NEW Newport 98.33 37 PFAKE 12 08 20.0 +7.4
NEW LR LR
comp=Z,658nm,21.0s
SDCO Great Sand Dun 98.44 50 P **P 12 08 18.4 +5.0**
comp=Z,0.4nm,0.6s
SDCO LR LR
comp=Z,393nm,22.0s
HIA Hailar 98.57 325 PFAKE 12 08 20.0 +6.3
HIA LR LR
comp=Z,302nm,21.0s
SEY Seymchan 98.65 347 *e*P **P 12 08 12.8 -0.9**
SEY *e*PPP PPP 12 14 22.8 -3.6
SEY *e* 12 18 43.6
SEY *e*S S 12 19 36.8 +2.8
SEY *e*PS PS 12 21 06.7 -5.8
SEY SS SS 12 26 15.3 -9.5
SEY SSS SSS 12 30 11.5 -2.1
SEY pmax pmax
comp=Z,4.0nm,0.6s,mb5.1
SEY smax
comp=N,210nm,9.0s
SEY smax
comp=E,160nm,5.8s
SEY MLR MLR
comp=E,610nm,20.0s
SEY MLR MLR
comp=Z,1μm,20.0s
SEY MLR MLR
comp=N,630nm,19.0s
PDAR Pinedale Array 98.94 44 P **P 12 08 16.9 +1.4**
comp=N,1.1nm,0.7s,mb4.5,baz=205,slow=2.9,SNR=11
PDAR PKKPbc 12 24 43.8
comp=N,2.1nm,1.3s,baz=59,slow=5.3,SNR=5.7
PDAR LR LR 12 42 54.2
comp=N,347nm,21.9s,baz=233,slow=29
TNA Tin City 99.00 5 *e*P **P 12 08 13.7 -1.6**
comp=N,2.2nm,0.7s,mb4.8
JTS JuntasAbangare 99.04 84 LR LR 12 46 40.3
comp=N,128nm,18.1s,baz=330,slow=31
MCK McKinley 99.70 13 *e*P **P 12 08 16.1 -2.3**
comp=N,3.5nm,0.7s,mb4.9
MCK LR LR
comp=Z,219nm,19.0s
LZH Lanzhou 99.73 307 *e*P **P 12 08 19.0 -0.3**
LZH AP pP 12 08 22.3 -15
LZH XP sP 12 08 23.6 -20
LZH *e*PP PP 12 12 24.1 -2.4
LZH SKS SKS 12 18 56.2 +5.3
LZH *e*S S 12 19 53.8 +10
LZH *e*SS SS 12 26 39.2 -1.2
LZH AMB AMB
comp=Z,31nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,124nm,6.3s
LZH LR LR
comp=N,568nm,15.2s
LZH LR LR
comp=Z,835nm,18.3s
LZH Lanzhou 99.73 307 *e*P **P 12 08 19.0 -0.3**
comp=Z,31nm,1.5s,mb5.5
LZH pP pP 12 08 22.3 -15
LZH sP sP 12 08 23.6 -20
LZH PP PP 12 12 24.1 -2.4
LZH SKS SKS 12 18 56.2 +5.3
LZH *e*S S 12 19 53.8 +10
LZH *e*SS SS 12 26 39.2 -1.2
LZH LR LR
comp=Z,840nm,18.3s
WALA Waterton Lakes 100.47 37 *e*Pdif P 12 08 22.9 +0.6
comp=Z,5.0nm,1.1s
COLA College 100.94 13 *e*Pdif P 12 08 23.1 -0.9
comp=Z,6.0nm,0.7s
COLA LR LR
comp=Z,556nm,19.0s
ILAR Eielson Array 101.03 13 *e*P P 12 08 25.1 +0.6
ILAR Eielson Array 101.03 13 P P 12 08 25.1 +0.7
comp=Z,2.2nm,0.7s,baz=228,slow=5.0,SNR=18
ILAR PKiKP 12 12 49.6
comp=Z,0.7nm,0.6s,baz=265,slow=2.6,SNR=6.5
ILAR PKKPbc 12 24 39.1
comp=Z,0.6nm,0.5s,baz=30,slow=2.6,SNR=10.0
DGAR Diego Garcia 101.07 253 PFAKE 12 08 40.0 +14
DGAR LR LR
comp=Z,118nm,20.0s
BILL Bilibino 101.70 354 *e*P P 12 08 26.3 -1.0
BILL Bilibino 101.70 354 *e*Pdif P 12 08 26.3 -1.1
comp=Z,2.6nm,0.9s
BILL LR LR
comp=Z,502nm,21.0s
DAWY Dawson 102.06 17 *e*Pdif Pdif 12 08 28.8 -0.3
RSSD Black Hills 102.99 46 PFAKE 12 08 40.0 +6.4
RSSD LR LR
comp=Z,2.0nm,19.0s
YAK Yakutsk 103.63 338 PFAKE 12 08 50.0 +14
YAK LR LR
comp=Z,387nm,21.0s
SONM Songino Array 104.70 318 Pdiff Pdif 12 08 39.5 -1.5
comp=Z,0.2nm,0.6s,baz=104,slow=5.9,SNR=3.0
SONM PKKP PKKP 12 24 36.8 +12
comp=Z,0.5nm,0.5s,baz=292,slow=3.2,SNR=5.3
LSA Lhasa 105.45 295 PFAKE 12 13 10.0
LSA LR LR
comp=Z,273nm,20.0s
INK Inuvik 106.90 16 *e*PKPdf 12 12 59.1
YKA Yellowknife Ar 108.53 26 *e*P Pdif 12 08 58.4 +0.8
YKA Yellowknife Ar 108.53 26 Pdiff Pdif 12 08 58.4 +0.8
comp=Z,0.2nm,0.7s,baz=235,slow=4.6,SNR=4.4
YKA PKiKP 12 13 03.0
comp=Z,0.8nm,0.6s,baz=257,slow=1.6,SNR=20
YKA PKKPbc 12 24 15.1
comp=Z,2.4nm,0.6s,baz=39,slow=3.2,SNR=41
SUR Sutherland 111.95 198 PFAKE 12 13 20.0 +11
SUR LR LR
comp=Z,128nm,19.0s
BOSA Boshof 114.15 203 PFAKE 12 13 30.0 +17
BOSA LR LR
comp=Z,271nm,20.0s
WMQ Urumqi 114.29 308 *e*PKP PKPdf 12 13 14.5 +1.2
WMQ PP PP 12 14 12.0 -2.6
WMQ PKS PKS 12 16 50.0 +0.9
WMQ PP PP
comp=Z,112nm,6.7s
WMQ LR LR
comp=N,309nm,16.8s
WMQ LR LR
comp=E,274nm,19.2s
WMQ LR LR
comp=Z,362nm,22.0s
FCC Fort Churchill 115.45 35 *e*PKIKP PKPdf 12 13 13.9 -1.3
LBTB Lobatse 117.34 205 PFAKE 12 13 30.0 +10
LBTB LR LR
comp=Z,313nm,20.0s
MATP Matopo 120.35 210 PKP PKPdf 12 13 28.6 +3.0
comp=Z,8.3nm,0.5s,baz=183,slow=2.0,SNR=36
RES Resolute Bay 120.37 18 *e*PKIKP PKPdf 12 13 23.8 -0.6
NVS Novosibirsk 120.73 318 *e*PKIKP PKPdf 12 13 24.2 -1.3
NVS *e* 12 13 39.8
NVS pmax pmax
comp=N,2.0nm,0.7s
NVS pmax pmax
comp=E,3.0nm,0.7s
NVS pmax pmax
comp=Z,7.0nm,0.7s
ULHL Ulahol 121.58 303 P PKPdf 12 13 29.5 +2.1
SNR=6.6
KZA Kyzart 122.23 302 P PKPdf 12 13 30.9 +2.2
SNR=15
TKM2 Tokmak 2 122.24 303 P PKPdf 12 13 29.8 +1.1
SNR=12
KURK Kurchatov 122.38 313 ⇓ *i* PKIKP PKPdf 12 13 29.4 +0.6
KURK Kurchatov 122.38 313 *e*PKPdf PKPdf 12 13 29.0 +0.2
KURK LR LR
comp=Z,80nm,22.0s
KBK Karagaybulak 122.62 303 P PKPdf 12 13 30.9 +1.5
SNR=10
UCH Uchtor 122.80 302 P PKPdf 12 13 31.6 +1.8
SNR=20
CHMS Chumysh 122.86 303 P PKPdf 12 13 30.8 +0.9
SNR=14
AAK Ala-Archa 122.93 302 P PKPdf 12 13 31.6 +1.6
SNR=11
AAK Ala-Archa 122.93 302 *i* PKIKP PKPdf 12 13 29.9 -0.1
AAK MLR MLR
comp=Z,200nm,21.0s
AAK Ala-Archa 122.93 302 *e*PKPdf PKPdf 12 13 30.5 +0.5
AAK LR LR
comp=Z,43nm,19.0s
USP Ospenovka 123.11 303 P PKPdf 12 13 31.5 +1.1
SNR=16
AML Almayashu 123.35 302 P PKPdf 12 13 32.6 +1.7
SNR=36
EKS2 Erkin-Say 123.44 302 P PKPdf 12 13 32.3 +1.2
SNR=8.6
LSZ Lusaka 125.04 213 *e*PKPdf PKPdf 12 13 38.2 +3.4
LSZ LR LR
comp=Z,288nm,22.0s
TSUM Tsumeb 125.33 199 *e*PKPdf PKPdf 12 13 38.7 +3.5
TSUM LR LR
comp=Z,315nm,22.0s
CHKZ Chkalovo 127.77 315 *e*PKPdf PKPdf 12 13 38.7 -0.3
BVAR Borovoye Array 127.82 314 PKP PKPdf 12 13 39.7 +0.5
comp=Z,15nm,0.5s,baz=142,slow=1.7,SNR=72
SCHQ Schefferville 129.07 44 PKP PKPdf 12 13 43.4 +1.9
comp=Z,8.0nm,1.3s,baz=100,slow=6.3,SNR=5.8
SCHQ Schefferville 129.07 44 PKP PKPdf 12 13 43.4 +1.9
SCHQ LR LR
comp=Z,609nm,20.0s
KMBO Kilima Mbogo 131.52 232 PKP PKPdf 12 13 50.7 +3.4
comp=Z,2.4nm,0.6s,baz=43,slow=5.4,SNR=6.5
KMBO Kilima Mbogo 131.52 232 *e*PKPdf PKPdf 12 13 50.7 +3.5
KMBO LR LR
comp=Z,269nm,20.0s
SUMG Summit 135.82 16 *e*PKPpre 12 13 51.5
SUMG *e*PKPdf PKPdf 12 13 57.1 +3.4
MBAR Mbarara 136.04 226 PFAKE 12 14 10.0 +14
MBAR LR LR
comp=Z,67nm,19.0s
ARCES ARCESS Array B 141.27 346 *e*PKHKP 12 13 59.5
ARCES ARCESS Array B 141.27 346 PKhKP 12 13 59.5
comp=Z,5.4nm,0.6s,baz=31,slow=4.1,SNR=26
ARCES PKP PKPdf 12 14 05.1 +1.6
comp=Z,17nm,0.6s,slow=0.9,SNR=22
ARCES ARCESS Array B 141.27 346 PKP PKPdf 12 13 59.5 -4.1
ARCES PKP PKPdf 12 14 05.1 +1.6
KTK1 Kautokeino 142.15 347 *e*P PKPdf 12 14 01.5 -3.5
LOF Lofoten 144.44 352 *e*P PKPbc 12 14 10.6 +1.9
LOF AMb AMB 12 14 15.9
comp=Z,154nm,2.0s
GNI Garni 144.49 294 *i* PKIKP PKPdf 12 14 11.0 +1.0
GNI MLR MLR
comp=Z,200nm,21.0s
GNI Garni 144.49 294 PKP PKPdf 12 14 12.9 +2.9
comp=Z,8.2nm,0.7s,baz=1.5,slow=21,SNR=5.5
GNI Garni 144.49 294 *e*PKPdf PKPdf 12 14 10.7 +0.7
GNI LR LR
comp=Z,189nm,20.0s
TI2 Plekhanov 144.54 297 *e*PKIKP PKPdf 12 14 11.2 +1.2
JOF Joensuu 144.79 336 *e*pkp PKPdf 12 14 09.1 -0.7
ZEI Tsey 145.18 298 *e*PKIKP PKPdf 12 14 11.6 +0.5
ONI Oni 145.51 298 P PKPdf 12 14 11.1 -0.6
GOF Gofitskoye 145.68 302 ⇑ *i* PKIKP PKPdf 12 14 14.6 +2.7
GOF pmax pmax
comp=Z,120nm,1.7s
BORG Borgarnes 145.79 17 PKPbc PKPbc 12 14 13.8 +1.4
comp=Z,40nm,0.8s,baz=6.9,slow=5.6,SNR=6.3
KIV Kislovodsk 146.01 301 *i* PKIKP PKPdf 12 14 14.4 +1.9
KIV *e*SS SS 12 36 26.1 0.0
KIV pmax pmax
comp=N,10.0nm,0.6s
KIV pmax pmax
comp=Z,9.0nm,0.6s
KIV Kislovodsk 146.01 301 *e*PKPdf PKPdf 12 14 14.5 +2.0
KIV LR LR
comp=Z,57nm,21.0s
MOR8 Moi Rana 146.18 350 *e*P PKPdf 12 14 12.8 +0.8
MOR8 AMb AMB 12 14 15.0
comp=Z,104nm,1.6s
STOK Stokkvaagen 146.22 351 ⇑ *i* P PKPdf 12 14 13.7 +1.5
KAF Kangasniemi 146.99 338 *e*pkp PKPdf 12 14 14.7 +1.1
OBN Obninsk 146.99 322 *e*PKIKP PKPdf 12 14 15.9 +2.1
OBN *i* 12 14 28.7
OBN pmax pmax
comp=Z,69nm,1.6s
OBN MLR MLR
comp=Z,300nm,23.0s
OBN Obninsk 146.99 322 *e*PKPdf PKPdf 12 14 14.5 +0.7
OBN LR LR
comp=Z,104nm,21.0s
ERZM Erzurum 147.07 293 *i* P PKPdf 12 14 18.5 +4.1
FINES FINESS Array B 147.56 338 *e*PKP2 PKPab 12 14 17.5 -4.1
FINES FINESS Array B 147.56 338 PKPbc PKPdf 12 14 17.5 +3.0
comp=Z,28nm,0.5s,baz=62,slow=4.9,SNR=224
FINES FINESS Array B 147.56 338 PKPbc PKPdf 12 14 17.5 +3.0
NSS Namsos 148.08 351 *e*P PKPdf 12 14 18.2 +2.9
SOC Sochi 148.18 300 *i* PKHKP 12 14 16.6
SOC *e* 12 21 27.0
SOC *e*SS SS 12 36 55.1 +4.0
SOC *e*SSS SSS 12 42 28.3 +0.7
SOC pmax pmax
comp=Z,24nm,0.9s
SOC pmax pmax
comp=N,27nm,1.0s
SOC pmax pmax
comp=E,10.0nm,0.7s
MALT Malatya 149.30 290 *e*PKPdf PKPdf 12 14 19.4 +1.4
VSU Vasula 149.50 333 *i* PKIKP PKPdf 12 14 21.6 +3.9
GZT Gaziantep 149.94 288 *i* P PKPdf 12 14 25.6 +6.5
MOL Molde 150.48 354 *e*P PKPdf 12 14 25.5 +6.4
EIL Elat 150.79 272 *e*PKPbc PKPdf 12 14 27.6 +7.0
DOMB Dombas 150.84 352 *e*P PKPdf 12 14 26.8 +7.2
DOMB AMb AMB 12 14 28.7
comp=Z,88nm,1.6s
COBT Iskenderun 150.93 286 *i* P PKPdf 12 14 28.4 +7.8
NB2 NORSAR Subarra151.52 349 PKPabc PKPdf 12 14 28.1 +7.4
comp=Z,43nm,0.6s,baz=17,slow=2.6
NB2 NORSAR Subarra151.52 349 PKPa 12 14 28.1
baz=17,slow=2.6
NOA NORSAR Array B151.52 349 PKP PKPdf 12 14 21.6 +0.9
comp=Z,1.9nm,0.8s,baz=39,slow=2.1,SNR=23
NOA PKPbc PKPdf 12 14 28.0 +7.3
comp=Z,34nm,0.6s,baz=14,slow=4.1,SNR=195
MNK Minsk 151.62 326 ⇓ *e*PKIKP PKPdf 12 14 26.0 +5.0
FOO Floro 151.64 356 ⇑ *i* P PKPdf 12 14 28.6 +7.8
NAO01 NORSAR Array S 151.76 350 *e*PKPbc PKPdf 12 14 28.6 +7.5
BOYT Boyabat 151.93 297 *i* P PKPdf 12 14 30.9 +9.0
HFS Hagfors 151.93 346 PKP PKPdf 12 14 20.8 -0.5
comp=Z,2.7nm,0.8s,baz=90,slow=3.0,SNR=3.4
HFS PKPbc PKPdf 12 14 28.5 +7.1
comp=Z,49nm,0.6s,baz=135,slow=2.1,SNR=92
HFS Hagfors 151.93 346 PKP PKPdf 12 14 20.8 -0.5
HFS PKPbc PKPdf 12 14 28.5 +7.1
HYA Hoyanger 151.99 355 *e*P PKPdf 12 14 30.6 +9.2
SUE Sulen 152.19 356 *e*P PKPdf 12 14 30.3 +8.6
MEST Erdemli 152.62 286 *i* P PKPdf 12 14 32.1 +9.0
RUND Rundenannen 152.79 355 *e*P PKPdf 12 14 31.8 +9.2
RUND AMb AMB 12 14 37.2
comp=Z,102nm,1.8s
DBIC Dimbokro 152.90 167 PKP PKPdf 12 14 28.6 +4.4
comp=Z,11nm,0.8s,baz=170,slow=2.4,SNR=14
DBIC PKPbc PKPdf 12 14 35.8 +12
comp=Z,10nm,0.7s,baz=156,slow=2.9,SNR=17
DBIC PKPab PKPab 12 14 45.6 +0.5
comp=Z,1.6nm,0.3s,baz=192,slow=3.0,SNR=7.6
DBIC Dimbokro 152.90 167 *e*PKPdf PKPdf 12 14 27.9 +3.8
DBIC LR LR
comp=Z,306nm,20.0s
AKASG Malin Array Be 152.98 318 PKP PKPdf 12 14 25.3 +2.2
comp=Z,11nm,0.6s,baz=52,slow=2.6,SNR=5.3
AKASG PKPbc PKPdf 12 14 31.1 +8.0
comp=Z,9.6nm,0.5s,baz=62,slow=2.2,SNR=47
BRTR Keskin Array B 153.02 293 PKP PKPdf 12 14 25.5 +2.0
comp=Z,0.8nm,0.5s,SNR=5.9
BRTR PKPbc PKPdf 12 14 32.5 +9.0
comp=Z,7.0nm,0.4s,baz=145,slow=3.9,SNR=35
ELDT Eldivan 153.13 295 *i* P PKPdf 12 14 32.7 +9.1
CSS Prodhromos 153.16 283 *e*PKPbc PKPdf 12 14 33.2 +9.3
ODD1 Odda 153.19 354 ⇑ *i* P PKPdf 12 14 31.3 +8.2
BLS5 Blasjo 153.68 354 ⇑ *i* P PKPdf 12 14 34.5 +11
KMY Karmoy 153.99 355 *e*P PKPdf 12 14 34.2 +10
SUW Suwalki 154.02 329 *e*PKPdf PKPdf 12 14 26.3 +2.0
SUW *e*PKPbc PKPdf 12 14 33.7 +9.3
SUW *e*PKP PKPdf 12 14 33.8 +9.4
SUW *e*PKPab PKPab 12 14 47.5 -1.1
SUW Suwalki 154.02 329 *e*PKP PKPdf 12 14 33.8 +9.4
LVV L'vov 156.28 321 *i* PKIKP PKPdf 12 14 45.5 +18
VRI Vrincioaia 156.62 310 ⇑ P PKPdf 12 14 18.7 -9.4
VRI Vrincioaia 156.62 310 ⇑ P PKPdf 12 14 18.7 -9.4
BURAR Bucovina Array 156.78 315 ⇓ P PKPdf 12 14 41.3 +13
BURAR Bucovina Array 156.78 315 ⇓ P PKPdf 12 14 41.3 +13
MLR Muntele Rosu 157.27 310 PKP PKPdf 12 14 32.6 +3.6
comp=Z,4.5nm,0.9s,baz=140,slow=2.0,SNR=4.3
MLR PKPab PKPab 12 15 04.0 +1.2
comp=Z,6.7nm,0.6s,baz=318,slow=4.0,SNR=13
MLR Muntele Rosu 157.27 310 ⇑ P PKPdf 12 14 31.1 +2.1
MLR Muntele Rosu 157.27 310 ⇑ P PKPdf 12 14 31.1 +2.1
EKA Eskdalemuir Ar 157.87 6 PKP PKPdf 12 14 31.1 +1.6
comp=Z,1.0nm,0.6s,slow=0.8,SNR=4.2
EKA PKPab PKPab 12 15 02.7 -2.3
comp=Z,4.0nm,0.6s,baz=346,slow=2.0,SNR=4.0
CRVS Cervenica-Dubn 158.17 321 *i* PKP PKPab 12 15 06.4 -0.2
CRVS *i* 12 15 25.5
OKC Ostrava-Krasne 159.17 327 *e*PKPDF PKPdf 12 14 33.1 +1.9
OKC *e*PKPAB PKPab 12 15 10.8 0.0
DPC Dobruska-Polom 159.58 331 *e*PKPDF PKPdf 12 14 33.5 +1.9
DPC *e*PKPAB PKPab 12 15 10.9 -1.6
UPC Upice 159.58 331 *e*PKPDF PKPdf 12 14 34.2 +2.6
UPC *e*PKPAB PKPab 12 15 11.3 -1.2
VYHS Vyhne 159.77 324 *i* PKP PKPab 12 15 12.3 -1.1
VYHS *i* 12 15 27.7
BZS Buzias 159.93 314 ⇑ P PKPdf 12 14 35.0 +2.8
BZS Buzias 159.93 314 ⇑ P PKPdf 12 14 35.0 +2.8
CLL Collm 160.01 337 *i* PKP2 PKPab 12 15 12.2 -2.2
CLL pmax pmax
comp=Z,16nm,0.8s
CLL MLR MLR
comp=Z,300nm,18.8s
CLL Collm 160.01 337 *i* PKP2 PKPab 12 15 12.2 -2.2
CLL *i* 12 15 25.8
CLL *i* 12 15 28.7
CLL *e* 12 16 49.0
BRG Berggiesshubel 160.06 335 *e*PKP2 PKPab 12 15 00.5 -14
BRG pmax pmax
comp=Z,17nm,1.6s
BRG MLR MLR
comp=N,300nm,29.2s
BRG MLR MLR
comp=E,240nm,29.2s
BRG MLR MLR
comp=Z,310nm,29.2s
BRG Berggiesshubel 160.06 335 *e*PKP PKPdf 12 15 00.5 +28
BRG *e* 12 15 11.1
BRG *e* 12 15 29.1
BRG LR LR
comp=Z,310nm,29.2s
IDI Anoyia 160.08 282 PKP PKPdf 12 14 33.1 +0.5
comp=Z,7.8nm,0.8s,baz=3.5,slow=24,SNR=3.2
IDI PKPab PKPab 12 15 15.0 -0.2
comp=Z,14nm,0.7s,baz=354,slow=9.1,SNR=5.3
PVCC Panska Ves 160.12 334 *e*PKPDF PKPdf 12 14 34.0 +1.8
PVCC *ex* x 12 14 43.5
VRAC Vranov 160.25 328 PKPab PKPab 12 15 13.5 -2.0
comp=Z,4.2nm,0.7s,baz=231,slow=2.7,SNR=3.9
NKC Novy Kostel 161.12 337 *e*PKPDF PKPdf 12 14 36.0 +2.8
NKC *e*PKPAB PKPab 12 15 18.3 -0.9
KHC Kasperske Hory 161.63 333 *e*PKPDF PKPdf 12 14 35.7 +1.9
KHC *e*PKPAB PKPab 12 15 19.3 -2.2
GERES GERESS Array B 161.81 332 PKP PKPdf 12 14 36.3 +2.4
GERES GERESS Array B 161.81 332 PKP PKPdf 12 14 36.2 +2.3
comp=Z,1.4nm,0.9s,baz=90,slow=2.7,SNR=7.7
GERES PKPab PKPab 12 15 20.0 -2.3
comp=Z,1.5nm,0.7s,baz=34,slow=4.8,SNR=6.4
GRF Grafenberg Arr 161.98 338 *e*PKP2 PKPab 12 15 22.1 -0.9
GRF *e* 12 19 01.7
CDF Champ du Feu 164.23 344 *e*PKP2 PKPab 12 15 30.6 -2.2
comp=Z,16nm,0.9s
FLN La Foliniere 164.60 3 *e*PKP2 PKPab 12 15 32.4 -2.0
LDF La Druitiere 164.78 3 *e*PKP2 PKPab 12 15 33.0 -2.2
HAU Haudompre 164.82 346 *e*PKP2 PKPab 12 15 33.8 -1.5
comp=Z,14nm,0.8s
HINF Hinteralfeld 164.89 344 *e*PKP2 PKPab 12 15 33.9 -1.8
SGMF Saint Gilles 164.92 9 *e*PKP2 PKPab 12 15 33.5 -2.3
comp=Z,46nm,0.8s
GRR Gorron 164.95 4 *e*PKP2 PKPab 12 15 33.9 -2.0
QUIF Quistinic 165.16 11 *e*PKP2 PKPab 12 15 35.0 -1.9
SSF Saint Saulge 166.19 352 *e*PKP2 PKPab 12 15 38.6 -2.8
comp=Z,7.8nm,0.7s
CABF La Chapelle 166.20 345 *e*PKP2 PKPab 12 15 39.4 -2.0
comp=Z,14nm,0.8s
AVF Avril sur Loir 166.47 353 *e*PKP2 PKPab 12 15 40.4 -2.2
SMF Signal de Mont 166.56 351 *e*PKP2 PKPab 12 15 40.1 -2.9
comp=Z,14nm,0.7s
BGF Bois d'Agland 166.75 354 *e*PKP2 PKPab 12 15 41.2 -2.6
MFF Saint Martin d 166.77 3 *e*PKP2 PKPab 12 15 41.7 -2.2
comp=Z,20nm,0.7s
LPL La Plagne 167.06 341 *e*PKP2 PKPab 12 15 43.4 -1.8
TCF Toulx Ste Croi 167.06 356 *e*PKP2 PKPab 12 15 43.2 -2.0
LPG La Plagne 167.08 341 *e*PKP2 PKPab 12 15 43.7 -1.6
comp=Z,21nm,0.8s
ORIF Oris-en-Rattie 167.84 343 *e*PKP2 PKPab 12 15 46.6 -2.0
comp=Z,29nm,0.8s
LFF La Frestale 168.45 0 *e*PKP2 PKPab 12 15 49.7 -1.6
MTLF Montolieu 170.00 354 *e*PKP2 PKPab 12 15 55.9 -2.3
ETSF Etsaut 170.43 6 *e*PKP2 PKPab 12 15 58.7 -1.4
comp=Z,25nm,1.1s
ESDC Sonseca Array 172.61 30 PKP PKPdf 12 14 45.3 +3.0
comp=Z,0.3nm,0.3s,slow=1.5,SNR=4.2
ESDC PKPab PKPab 12 16 08.6 -1.3
comp=Z,2.6nm,0.7s,baz=323,slow=3.7,SNR=8.5

IDC 03 12:11:31.2±12.0, 1.34N×126.11E, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=188.0km s-min=168.4km az=159.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.31**	**156**	*e*P	P	12 15 14.6	+4.0
	4.1nm,0.6s						
WRA	**Warramunga Arr**	**22.64**	**160**	P	P	12 16 33.3	-2.2
	1.7nm,0.5s,baz=338,slow=11,SNR=30						
WB2	**Warramunga Arr**	**22.64**	**159**	*e*P	P	12 16 33.7	-1.8
ASPA	**Alice Springs**	**25.99**	**164**	*e*P	P	12 17 06.7	-1.0
ASAR	**Alice Springs**	**25.99**	**164**	P	P	12 17 06.5	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.3s,baz=344,slow=8.3,SNR=8.3						
STKA	**Stephens Creek**	**36.15**	**157**	P	P	12 18 35.6	-1.8
	1.4nm,0.8s,baz=339,slow=8.6,SNR=3.3						

BJI 03 12:31:33.6, 24.60N×99.48E, h21km, ML3.4, Ms3.5, 1D, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**3.01**	**79**	PG	Pn	12 32 24.7	+3.5
KMI				SG	Sn	12 33 02.6	+5.6
KMI				Smax			
	comp=N,195nm,1.1s						
KMI				Smax			
	comp=E,80nm,0.9s						
KMI				LR	LR		
	comp=N,362nm,3.8s						
KMI				LR	LR		
	comp=E,103nm,3.8s						
CHRT	**Chiangrai**	**4.71**	**177**	⇓PN	Pn	12 32 47.0	+1.6
CHRT				PG	Pn	12 32 51.5	+6.1
CHRT				SG	Sn	12 33 47.0	+6.8
NANT	**Nan**	**5.88**	**169**	P	Pn	12 32 54.5	-7.4

WEL 03 12:32:37.4±0.2, 40.34S×174.06E, h91km±3km, ML3.6/13, 10C-2D, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.83**	**129**	PN	P	12 32 55.2	-0.5
KIW				SN	S	12 33 08.0	-1.1
WAZ	**Wanganui**	**0.92**	**51**	PN	P	12 32 56.6	+0.2
WAZ				SN	S	12 33 10.8	+0.1
NRZ	**Ngariki Road**	**1.00**	**354**	⇑PN	P	12 32 57.0	-0.5
DFE	**Dawson Falls**	**1.01**	**2**	⇓PN	P	12 32 57.3	-0.2
MRW	**Makara Radio**	**1.02**	**152**	⇑PN	P	12 32 57.7	+0.1
MRW				SN	S	12 33 11.7	-1.1
NNZ	**Nelson**	**1.02**	**210**	⇑PN	P	12 32 57.3	-0.4
NNZ				SN	S	12 33 12.7	-0.2
NEZ	**North Egmont**	**1.06**	**2**	PN	P	12 32 57.6	-0.6
NWEZ	**Newall Road**	**1.07**	**352**	PN	P	12 32 57.8	-0.4
RAEZ	**Rainy Point**	**1.08**	**14**	PN	P	12 32 57.4	-1.0
CAW	**Cannon Point**	**1.09**	**136**	PN	P	12 32 58.3	-0.2
CAW				SN	S	12 33 13.1	-1.2
SNZO	**South Karori**	**1.09**	**153**	PN	P	12 32 58.3	-0.2
SNZO				SN	S	12 33 13.2	-1.1
WEL	**Wellington**	**1.09**	**151**	PN	P	12 32 58.4	-0.2
TUWZ	**Tuamarina**	**1.10**	**185**	PN	P	12 32 58.1	-0.6
TUWZ				SN	S	12 33 13.7	-0.8
PKE	**Pukeiti**	**1.14**	**357**	PN	P	12 32 58.5	-0.6
PKE				SN	S	12 33 14.8	-0.6
MRZ	**Mangatainoka R**	**1.20**	**106**	⇑PN	P	12 32 59.2	-0.8
MRZ				SN	S	12 33 14.9	-1.9
BHW	**Baring Head**	**1.24**	**150**	PN	P	12 32 59.8	-0.6
BHW				SN	S	12 33 15.5	-2.0
QRZ	**Quartz Range**	**1.26**	**247**	⇓PN	P	12 32 59.3	-1.4
QRZ				SN	S	12 33 16.3	-1.8
VRZ	**Vera Road**	**1.32**	**24**	⇑PN	P	12 33 01.0	-0.5
VRZ				SN	S	12 33 18.8	-0.4
MTW	**Mount Morrison**	**1.37**	**127**	PN	P	12 33 01.3	-0.7
MTW				SN	S	12 33 18.1	-2.2
BSWZ	**Blackbirch Sta**	**1.39**	**186**	PN	P	12 33 02.3	+0.1
BSWZ				SN	S	12 33 19.7	-0.9
MSWZ	**Moikau Station**	**1.41**	**140**	PN	P	12 33 01.9	-0.6
CMWZ	**Cape Campbell**	**1.42**	**175**	SN	S	12 33 21.2	-0.1
PAWZ	**Paruwai Farm**	**1.47**	**136**	PN	P	12 33 02.8	-0.5
TSZ	**Takapari Road**	**1.48**	**80**	PN	P	12 33 01.9	-1.6
WNVZ	**Wahianoa**	**1.55**	**50**	PN	P	12 33 03.9	-0.5
FWVZ	**Far West T-bar**	**1.58**	**47**	PN	P	12 33 04.1	-0.5
MOVZ	**Moawhango**	**1.60**	**55**	PN	P	12 33 04.0	-1.0
WPVZ	**Whakapapa**	**1.61**	**46**	PN	P	12 33 04.1	-0.9
CNZ	**Chateau**	**1.61**	**46**	PN	P	12 33 04.3	-0.8
TUVZ	**Tukino**	**1.63**	**50**	PN	P	12 33 04.7	-0.6
TWVZ	**Taurewa**	**1.65**	**41**	PN	P	12 33 04.9	-0.6
NGZ	**Ngauruhoe**	**1.66**	**46**	PN	P	12 33 05.0	-0.7
THZ	**Tophouse**	**1.67**	**211**	⇑PN	P	12 33 05.4	-0.5
WTVZ	**West Tongariro**	**1.70**	**45**	PN	P	12 33 05.3	-0.9
BFZ	**Birch Farm**	**1.70**	**102**	PN	P	12 33 05.1	-1.2
OTVZ	**Oturere**	**1.70**	**47**	PN	P	12 33 05.7	-0.6
MGZ	**Maungaku**	**1.75**	**41**	*e*PN	P	12 33 06.1	-0.8
KATZ	**Kakaramea**	**1.85**	**43**	PN	P	12 33 07.9	-0.3
HIZ	**Hauiti**	**1.92**	**19**	⇑PN	P	12 33 07.9	-1.2
RATZ	**Rangitukua**	**1.97**	**43**	PN	P	12 33 08.8	-1.0
WATZ	**Wairara**	**2.08**	**39**	PN	P	12 33 09.9	-1.3
KHZ	**Kahutara**	**2.12**	**190**	PN	P	12 33 11.0	-0.8
PWZ	**Pawanui**	**2.17**	**83**	⇑PN	P	12 33 10.4	-2.1
BKZ	**Black Stump Fm**	**2.21**	**59**	PN	P	12 33 10.9	-2.2
DSZ	**Denniston Nort**	**2.21**	**230**	⇑PN	P	12 33 11.9	-1.3
LTZ	**Lake Taylor**	**2.79**	**208**	PN	P	12 33 18.9	-2.3
TOZ	**Tahuroa Road**	**2.83**	**24**	PN	P	12 33 20.0	-1.8
KNZ	**Kokohu**	**3.08**	**66**	*e*PN	P	12 33 21.2	-4.0
URZ	**Urewera**	**3.15**	**50**	PN	P	12 33 21.8	-4.2
MKAZ	**Moumakai**	**3.33**	**15**	⇑PN	P	12 33 26.8	-1.8
MWZ	**Matawai**	**3.35**	**55**	PN	P	12 33 24.5	-4.3
CRLZ	**Canterbury Las**	**3.41**	**198**	PN	P	12 33 26.1	-3.6
WTAZ	**Waiatarua**	**3.42**	**7**	PN	P	12 33 28.3	-1.6
OTAZ	**Otara**	**3.45**	**12**	PN	P	12 33 28.6	-1.6
MQZ	**McQueen's Vall**	**3.53**	**197**	PN	P	12 33 27.4	-4.0
MQZ				SN	S	12 34 04.3	-7.8
KAAZ	**Kauri Point**	**3.54**	**8**	PN	P	12 33 30.0	-1.5
MTAZ	**Motutapu**	**3.60**	**11**	PN	P	12 33 30.6	-1.8
KUZ	**Kuaotunu**	**3.81**	**20**	PN	P	12 33 32.5	-2.7
WCZ	**Waipu Caves**	**4.39**	**3**	*e*PN	P	12 33 41.7	-1.5

*MAN **03** 12:34:38.4, 6.72N×127.43E, h19km, mb4.7, ML3.6, MS3.6*
*NEIC **03** 12:34:39.1±0.3, 6.58N×127.33E, h35km, mb4.8/21, Error ellipse: s-maj=15.6km s-min=5.5km az=82.0*
*BJI **03** 12:34:39.1, 6.60N×127.30E, h35km, mB4.9, mb4.7, Ms4.6, Msz4.2*
*IDC **03** 12:34:41.0±5.2, 6.59N×127.22E, h50km±49km, mb4.1/15, mb1 4.2/15, mb1mx4.2/20, mbtmp4.4/15, MS3.8/1, Ms1 4.0/1, ms1mx2.7/25, Error ellipse: s-maj=31.0km s-min=12.5km az=73.0*
ISC 03 12:34:38.0±1.0, 6.58N±0.04×127.45E±0.07, h40km±9km, h39km±1.9km:pP-P, n62, σ1§07/63, mb4.6/35, MS4.2/3, 3C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.24**	**287**	*e*P	**P**	**12 34 59.0**	**-0.2**
MATI				*e*S	**S**	**12 35 14.3**	**-0.7**
BIPH	**Bislig**	**1.93**	**326**	⇑*i*P	**P**	**12 35 07.5**	**-1.5**
BIPH				*e*S	**S**	**12 35 28.1**	**-4.0**
KCP	**Kidapawan**	**2.38**	**281**	⇓*e*P	**P**	**12 35 16.4**	**+0.9**
KCP				*i* S	**S**	**12 35 45.1**	**+1.5**
BUKP	**Musuan**	**2.70**	**299**	*e*P	**P**	**12 35 20.6**	**+0.6**
BUTP	**Butuan**	**2.99**	**323**	*e*P	**P**	**12 35 23.8**	**-0.3**
CGP	**Cagayan de Oro**	**3.31**	**305**	⇑*e*P	**P**	**12 35 29.6**	**+0.9**
CGP				*e*S	**S**	**12 36 08.0**	**+0.8**
SCPH	**Surigao**	**3.73**	**329**	⇑*e*P	**P**	**12 35 33.0**	**-1.6**
PAGZ	**Pagadian**	**4.23**	**288**	*e*P	**P**	**12 35 42.4**	**+0.7**
TBP	**Tagbilaran**	**4.71**	**311**	*e*P	**P**	**12 35 42.5**	**-6.1**
TBP				*e*S	**S**	**12 36 40.7**	**-2.0**
SNPH	**Sibulan**	**5.00**	**304**	*e*P	**P**	**12 35 54.0**	**+1.4**
KAKA	**Kakadu**	**19.79**	**165**	*e*P	**P**	**12 39 07.3**	**-0.7**
	10.0nm,0.5s						
FITZ	**Fitzroy Crossi**	**24.59**	**184**	⇓*i*P	**P**	**12 39 56.6**	**+0.7**
	13nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**27.20**	**166**	*e*P	**P**	**12 40 19.5**	**-0.9**
	19nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**27.21**	**166**	P	**P**	**12 40 19.9**	**-0.5**
	12nm,1.1s,mb4.4,baz=339,slow=10,SNR=58						
WRA				PcP	PcP	12 43 40.3	+0.1
	1.1nm,0.5s,baz=332,slow=2.5,SNR=6.2						
WB2	**Warramunga Arr**	**27.21**	**166**	*e*P	**P**	**12 40 19.6**	**-0.9**
MBWA	**Marble Bar**	**28.58**	**195**	*e*P	**P**	**12 40 32.4**	**-0.4**
CMAR	**Chiang Mai Arr**	**30.17**	**296**	P	**P**	**12 40 45.5**	**-1.5**
	0.7nm,0.5s,mb3.6,baz=84,slow=7.8,SNR=6.1						
CMAR				PcP	PcP	12 43 47.2	-0.3
	1.4nm,1.0s,baz=147,slow=0.8,SNR=6.9						
CMAR				LR	LR	12 52 16.1	
	comp=Z,209nm,21.8s,MS3.7,baz=160,slow=35						
ASAR	**Alice Springs**	**30.71**	**168**	P	**P**	**12 40 51.1**	**-0.6**
	1.9nm,0.6s,mb4.1,baz=347,slow=7.6,SNR=35						
ASAR				PcP	PcP	12 43 49.1	+0.2
	3.0nm,0.5s,baz=344,slow=2.4,SNR=24						
ASPA	**Alice Springs**	**30.71**	**168**	*e*P	**P**	**12 40 51.0**	**-0.7**
LZH	**Lanzhou**	**36.47**	**327**	*e*P	**P**	**12 41 42.7**	**+1.4**
LZH				AP	pP	12 41 53.8	+1.3
LZH				XP	sP	12 41 56.7	-0.9
LZH				PP	PP	12 43 07.8	+1.9
LZH				AMB	AMB		
	comp=Z,25nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,112nm,5.2s						
LZH				LR	LR		
	comp=N,512nm,13.0s						
LZH				LR	LR		
	comp=Z,789nm,16.7s,MS4.6						
LZH	**Lanzhou**	**36.47**	**327**	*e*P	**P**	**12 41 42.7**	**+1.4**
	comp=Z,25nm,1.4s,mb5.0						
LZH				pP	pP	12 41 53.8	+1.3
LZH				sP	sP	12 41 56.7	-0.9
LZH				PP	PP	12 43 07.8	+1.9
LZH				sS		12 46 02.8	
LZH				LR	LR		
	comp=Z,790nm,16.7s,MS4.6						
CN2	**Changchun**	**37.12**	**358**	*e*P	**P**	**12 41 49.1**	**+2.5**
FORT	**Forrest**	**37.15**	**179**	*e*P	**P**	**12 41 47.5**	**+0.5**
	comp=Z,476nm,0.5s						
MDJ	**Mudanjiang**	**37.94**	**2**	P	**P**	**12 41 54.6**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	**37.94**	**2**	*e*P	**P**	**12 41 54.5**	**+1.0**
	comp=Z,29nm,1.0s,mb5.0						
KLBR	**Kellerberrin**	**39.07**	**193**	*e*P	**P**	**12 42 03.8**	**+0.8**
	comp=Z,159nm,1.3s,mb5.6						
ASAJ	**Asahikawa**	**39.68**	**17**	P	**P**	**12 42 10.1**	**+2.2**
	comp=Z,4.5nm,0.6s,mb4.4,baz=98,slow=14,SNR=4.1						
MUN	**Mundaring**	**39.81**	**195**	*e*P	**P**	**12 42 10.0**	**+0.8**
	comp=Z,12nm,0.5s,mb4.9						
NWAO	**Narrogin (SRO)**	**40.47**	**193**	P	**P**	**12 42 15.9**	**+1.3**
	comp=Z,16nm,0.5s,mb5.0,baz=26,slow=8.2,SNR=31						
NWAO	**Narrogin (SRO)**	**40.47**	**193**	*e*P	**P**	**12 42 15.6**	**+1.0**
	comp=Z,13nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**40.55**	**161**	⇓*i*P	**P**	**12 42 15.8**	**+0.5**
	comp=Z,4.1nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**40.55**	**161**	P	**P**	**12 42 15.8**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.2,baz=334,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**40.55**	**161**	*e*P	**P**	**12 42 15.1**	**-0.3**
YSS	**Yuzh-Sakhalins**	**42.33**	**16**	*e*P	**P**	**12 42 31.0**	**+1.2**
	comp=Z,9.6nm,0.9s,mb4.4						
HIA	**Hailar**	**43.04**	**353**	*e*P	**P**	**12 42 35.4**	**-0.1**
	comp=Z,8.2nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**44.67**	**341**	*e*P	**P**	**12 42 47.8**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.4						
SONM	**Songino Array**	**44.86**	**340**	P	**P**	**12 42 50.5**	**+0.2**
	comp=Z,1.3nm,0.5s,mb4.0,baz=153,slow=8.3,SNR=12						
SONM				PcP	PcP	12 44 31.7	-0.2
	comp=Z,2.5nm,1.1s,baz=161,slow=2.9,SNR=6.3						
TLY	**Talaya**	**49.08**	**341**	*e*P	**P**	**12 43 23.9**	**+0.6**
	comp=Z,3.5nm,1.1s,mb4.3						
WMQ	**Urumqi**	**50.85**	**323**	*e*P	**P**	**12 43 38.0**	**+1.0**
WMQ				AP	pP	12 43 48.0	-0.5
WMQ				XP	sP	12 43 52.0	-1.3
WMQ				PP	PP	12 45 35.0	+0.9
WMQ				SCP		12 48 47.5	
WMQ				S	**S**	**12 50 50.0**	**+1.2**
WMQ				XS		12 51 06.5	
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,60nm,3.6s						
WMQ				LR	LR		
	comp=N,345nm,23.1s,MS4.4						
WMQ				LR	LR		
	comp=E,279nm,20.8s,MS4.4						
WMQ				LR	LR		
	comp=Z,232nm,22.5s,MS4.2						
YAK	**Yakutsk**	**55.36**	**1**	*e*P	**P**	**12 44 08.9**	**-1.3**
	comp=Z,29nm,0.8s,mb5.4						
MA2	**Magadan**	**55.79**	**14**	*e*P	**P**	**12 44 14.0**	**+0.8**
	comp=Z,16nm,0.8s,mb5.1						
ZAL	**Zalesovo**	**58.41**	**332**	P	**P**	**12 44 29.6**	**-2.4**
	comp=Z,1.1nm,0.3s,mb4.3,baz=9.0,slow=7.8,SNR=4.0						
ZAL				PcP	PcP	12 45 20.6	-1.5
	comp=Z,1.1nm,0.6s,baz=85,slow=5.9,SNR=4.6						
KURK	**Kurchatov**	**59.76**	**326**	*e*P	**P**	**12 44 39.8**	**-1.5**
	comp=Z,16nm,1.0s,mb5.0						
KURK				*e*	pP	12 44 51.8	-1.2
BVAR	**Borovoye Array**	**65.35**	**326**	P	**P**	**12 45 17.3**	**-1.2**
	comp=Z,4.2nm,0.5s,mb4.7,baz=121,slow=8.6,SNR=26						
CHKZ	**Chkalovo**	**65.49**	**327**	*e*P	**P**	**12 45 17.4**	**-2.0**
	comp=Z,5.2nm,1.0s,mb4.5						
CHKZ				*e*	pP	12 45 29.8	-1.5
BILL	**Bilibino**	**66.64**	**15**	*e*P	**P**	**12 45 26.1**	**-0.2**
	comp=Z,6.7nm,1.0s,mb4.6						
IMA	**Indian Mountai**	**79.51**	**24**	*e*P	**P**	**12 46 43.0**	**+1.1**
	comp=Z,17nm,0.6s,mb5.2						
MCK	**McKinley**	**81.31**	**27**	*e*P	**P**	**12 46 52.4**	**+0.9**
	comp=Z,10nm,0.9s,mb4.8						
COLA	**College**	**81.83**	**25**	*e*P	**P**	**12 46 54.9**	**+0.7**
	comp=Z,2.7nm,0.7s,mb4.3						
ILAR	**Eielson Array**	**82.24**	**26**	P	**P**	**12 46 56.7**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.2,baz=248,slow=5.4,SNR=31						
VNDA	**Vanda**	**86.14**	**173**	P	**P**	**12 47 15.3**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.5,baz=304,slow=4.8,SNR=5.3						
INK	**Inuvik**	**87.27**	**22**	*e*P	**P**	**12 47 21.8**	**+0.6**
	comp=Z,2.5nm,1.0s,mb4.4						
ARCES	**ARCESS Array B**	**88.04**	**340**	P	**P**	**12 47 24.4**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.4,baz=90,slow=6.1,SNR=12						
FINES	**FINESS Array B**	**89.68**	**332**	P	**P**	**12 47 32.2**	**-0.6**
	comp=Z,1.1nm,0.5s,mb4.4,baz=72,slow=6.0,SNR=14						
AKASG	**Malin Array Be**	**90.15**	**321**	P	**P**	**12 47 34.2**	**-1.1**
	comp=Z,1.0nm,0.4s,mb4.5,baz=66,slow=5.1,SNR=9.3						
NOA	**NORSAR Array B**	**96.57**	**334**	P	**P**	**12 48 03.2**	**-1.3**
	comp=Z,1.0nm,0.7s,mb4.3,baz=64,slow=4.8,SNR=4.0						
NOA	**NORSAR Array B**	**96.57**	**334**	P	**P**	**12 48 03.2**	**-1.3**
GERES	**GERESS Array B**	**100.30**	**322**	P	P	12 48 21.3	-0.5
	comp=Z,0.2nm,0.3s,baz=31,slow=5.7,SNR=3.6						
DBIC	**Dimbokro**	**130.62**	**285**	PKP	PKPdf	12 53 47.7	+1.7
	comp=Z,3.2nm,1.1s,baz=293,slow=5.1,SNR=4.1						
DBIC	**Dimbokro**	**130.62**	**285**	PKP	PKPdf	12 53 47.7	+1.7
PLCA	**Paso Flores**	**142.37**	**157**	PKP	PKPdf	12 54 06.2	-0.6
	comp=Z,1.5nm,0.9s,baz=280,slow=7.7,SNR=3.5						
LPAZ	**La Paz**	**161.95**	**124**	PKPab	PKPab	12 55 27.3	+3.1
	comp=Z,1.1nm,0.6s,baz=261,slow=3.6,SNR=5.4						

IDC 03 12:42:03.4±2.8, 8.15N×91.86E, mb3.4/4, mb1 3.6/5, mb1mx3.5/18, mbtmp3.4/5, ML4.0/1, Error ellipse: s-maj=84.7km s-min=25.4km az=70.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.35**	**33**	Pn	P	12 45 00.9	-2.6
	0.3nm,0.3s,baz=226,slow=15,SNR=6.8						
SONM	**Songino Array**	**41.43**	**15**	P	P	12 49 51.5	-1.8
	0.4nm,0.7s,baz=201,slow=8.7,SNR=4.5						
ZAL	**Zalesovo**	**46.01**	**354**	P	P	12 50 28.5	-1.8
	0.4nm,0.3s,baz=286,slow=6.6,SNR=3.4						
WRA	**Warramunga Arr**	**50.27**	**124**	P	P	12 51 01.6	-2.3
	0.3nm,0.4s,baz=303,slow=9.0,SNR=13						
ASAR	**Alice Springs**	**51.84**	**129**	P	P	12 51 14.0	-1.8
	0.2nm,0.8s,baz=303,slow=7.3,SNR=4.3						

*NEIC **03** 12:48:44.2, 38.28S×176.19E, h158km, MG3.9(WEL), After WEL.*
WEL 03 12:48:44.2±0.2, 38.26S×176.21E, h156km±2km, ML3.9/6, 12C, Error ellipse: s-maj=1.9km s-min=1.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.69**	**209**	⇑PN	P	12 49 07.4	-0.3
URZ	**Urewera**	**0.71**	**90**	P	P	12 49 07.4	-0.4
URZ	**Urewera**	**0.71**	**90**	PN	P	12 49 07.4	-0.4
URZ				SN	S	12 49 24.8	-1.1
KATZ	**Kakaramea**	**0.82**	**209**	P	P	12 49 08.3	-0.1
KATZ	**Kakaramea**	**0.82**	**209**	PN	P	12 49 08.3	-0.1
MGZ	**Maungaku**	**0.90**	**215**	P	P	12 49 09.1	+0.1
MGZ	**Maungaku**	**0.90**	**215**	PN	P	12 49 09.0	0.0
BKZ	**Black Stump Fm**	**0.93**	**166**	P	P	12 49 09.2	0.0
BKZ				S	S	12 49 27.8	-0.6
BKZ	**Black Stump Fm**	**0.93**	**166**	⇑PN	P	12 49 09.2	0.0
BKZ				SN	S	12 49 27.9	-0.6
WTVZ	**West Tongariro**	**0.98**	**209**	P	P	12 49 09.4	-0.1
WTVZ	**West Tongariro**	**0.98**	**209**	PN	P	12 49 09.4	-0.1
OTVZ	**Oturere**	**0.99**	**205**	PN	P	12 49 09.9	+0.2
TWVZ	**Taurewa**	**1.01**	**216**	P	P	12 49 09.6	-0.2
TWVZ	**Taurewa**	**1.01**	**216**	⇑PN	P	12 49 09.6	-0.1
NGZ	**Ngauruhoe**	**1.03**	**207**	P	P	12 49 09.6	-0.3
NGZ	**Ngauruhoe**	**1.03**	**207**	PN	P	12 49 09.8	-0.2
MWZ	**Matawai**	**1.04**	**94**	P	P	12 49 10.3	+0.2
MWZ	**Matawai**	**1.04**	**94**	PN	P	12 49 10.2	+0.1
MWZ				SN	S	12 49 29.6	-0.4
CNZ	**Chateau**	**1.07**	**209**	P	P	12 49 10.0	-0.3
CNZ	**Chateau**	**1.07**	**209**	PN	P	12 49 09.9	-0.4
WPVZ	**Whakapapa**	**1.07**	**209**	*e*PN	P	12 49 10.0	-0.4
HIZ	**Hauiti**	**1.09**	**256**	P	P	12 49 10.2	-0.3
HIZ	**Hauiti**	**1.09**	**256**	⇑PN	P	12 49 10.2	-0.3
TUVZ	**Tukino**	**1.09**	**203**	P	P	12 49 10.5	-0.1
TUVZ	**Tukino**	**1.09**	**203**	⇑PN	P	12 49 10.6	0.0
TUVZ				SN	S	12 49 31.0	+0.1
FWVZ	**Far West T-bar**	**1.11**	**207**	P	P	12 49 10.5	-0.3
FWVZ	**Far West T-bar**	**1.11**	**207**	PN	P	12 49 10.6	-0.1
WNVZ	**Wahianoa**	**1.17**	**204**	P	P	12 49 11.1	-0.1
WNVZ	**Wahianoa**	**1.17**	**204**	⇑PN	P	12 49 11.1	-0.2
WNVZ				SN	S	12 49 32.2	+0.1
MOVZ	**Moawhango**	**1.20**	**197**	P	P	12 49 10.8	-0.8
MOVZ	**Moawhango**	**1.20**	**197**	PN	P	12 49 10.8	-0.7
MOVZ				SN	S	12 49 31.1	-1.6
KNZ	**Kokohu**	**1.38**	**124**	*e*P	P	12 49 13.5	+0.2
KNZ	**Kokohu**	**1.38**	**124**	PN	P	12 49 13.5	+0.2
KNZ				SN	S	12 49 34.5	-1.3
VRZ	**Vera Road**	**1.42**	**232**	P	P	12 49 13.4	-0.4
VRZ	**Vera Road**	**1.42**	**232**	⇑PN	P	12 49 13.3	-0.5
VRZ				SN	S	12 49 36.8	+0.2
PUZ	**Puketiti**	**1.63**	**84**	P	P	12 49 15.3	-0.6
PUZ	**Puketiti**	**1.63**	**84**	PN	P	12 49 15.3	-0.6
PUZ				SN	S	12 49 39.1	-1.3
WAZ	**Wanganui**	**1.77**	**212**	*e*P	P	12 49 16.4	-1.0
WAZ	**Wanganui**	**1.77**	**212**	PN	P	12 49 16.4	-1.0
MXZ	**Matakaoa Point**	**1.80**	**68**	P	P	12 49 17.6	-0.2
MXZ	**Matakaoa Point**	**1.80**	**68**	⇑PN	P	12 49 17.5	-0.3
MXZ				SN	S	12 49 42.4	-1.3
TSZ	**Takapari Road**	**1.80**	**186**	⇑PN	P	12 49 16.8	-1.0
TSZ				SN	S	12 49 41.4	-2.4
PWZ	**Pawanui**	**1.84**	**164**	⇑PN	P	12 49 17.6	-0.6
PWZ				SN	S	12 49 43.8	-0.6
BFZ	**Birch Farm**	**2.42**	**179**	*e*P	P	12 49 23.1	-2.0
BFZ	**Birch Farm**	**2.42**	**179**	PN	P	12 49 23.1	-2.0
MRZ	**Mangatainoka R**	**2.44**	**191**	P	P	12 49 23.1	-2.4
MRZ	**Mangatainoka R**	**2.44**	**191**	⇑PN	P	12 49 23.1	-2.4
MRZ				SN	S	12 49 52.4	-4.8
KIW	**Kapiti Island**	**2.78**	**201**	P	P	12 49 26.6	-3.1
KIW	**Kapiti Island**	**2.78**	**201**	PN	P	12 49 26.5	-3.2
MTW	**Mount Morrison**	**2.94**	**190**	P	P	12 49 28.4	-3.4
MTW	**Mount Morrison**	**2.94**	**190**	⇑PN	P	12 49 28.4	-3.4
CAW	**Cannon Point**	**2.97**	**197**	P	P	12 49 28.9	-3.3
CAW	**Cannon Point**	**2.97**	**197**	PN	P	12 49 28.9	-3.3
PAWZ	**Paruwai Farm**	**3.17**	**191**	PN	P	12 49 31.1	-3.6
MRW	**Makara Radio**	**3.18**	**201**	PN	P	12 49 31.3	-3.5
MRW				*e*SN	S	12 50 08.2	-5.4
WEL	**Wellington**	**3.22**	**200**	P	P	12 49 31.6	-3.7
WEL	**Wellington**	**3.22**	**200**	PN	P	12 49 31.6	-3.7
MSWZ	**Moikau Station**	**3.23**	**193**	P	P	12 49 31.7	-3.8
MSWZ	**Moikau Station**	**3.23**	**193**	PN	P	12 49 31.7	-3.8
SNZO	**South Karori**	**3.25**	**200**	P	P	12 49 31.9	-3.9
SNZO	**South Karori**	**3.25**	**200**	PN	P	12 49 31.8	-4.0
BHW	**Baring Head**	**3.31**	**198**	P	P	12 49 32.5	-3.9
BHW	**Baring Head**	**3.31**	**198**	PN	P	12 49 32.5	-3.9
TUWZ	**Tuamarina**	**3.61**	**208**	PN	P	12 49 36.1	-4.3
QRZ	**Quartz Range**	**3.83**	**227**	*e*P	P	12 49 38.1	-5.1
KHZ	**Kahutara**	**4.62**	**205**	*e*P	P	12 49 48.9	-4.7
LTZ	**Lake Taylor**	**5.42**	**212**	*e*P	P	12 49 59.0	-5.1

IDC 03 12:55:14.1±2.8, 5.29S×122.88E, mb3.1/2, mb1 3.3/3, mb1mx3.3/15, mbtmp3.2/3, ML3.0/1, Error ellipse: s-maj=216.2km s-min=28.4km az=65.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.34**	**144**	P	P	12 59 30.3	-1.5
	0.1nm,0.3s,baz=316,slow=12,SNR=4.5						
ASAR	**Alice Springs**	**21.14**	**151**	P	P	13 00 00.8	-2.3
	0.2nm,0.6s,baz=332,slow=12,SNR=5.5						
SONM	**Songino Array**	**54.85**	**346**	P	P	13 04 46.2	-2.3
	0.4nm,0.7s,baz=166,slow=8.9,SNR=3.8						

*CSEM **03** 12:59:43.6±0.2, 37.76N×25.40W, h5km, ML2.6, Error ellipse: s-maj=8.7km s-min=2.7km az=179.0, After PDA*
*PDA **03** 12:59:43.6±1.0, 37.76N×25.40W, h5km±1km, MD2.3, ML2.6, Error ellipse: s-maj=2.5km s-min=2.3km az=148.0*
SVSA 03 12:59:43.6±1.0, 37.76N×25.40W, h5km±1km, MD2.3, ML2.6, Error ellipse: s-maj=2.5km s-min=2.3km az=148.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCNG	**Congro**	**0.01**	**18**	*i* P	Pg	12 59 44.9	+0.4
PCNG				*i* S	Sg	12 59 46.1	+1.0
	5μm,0.1s						
VIF	**Vila Franca**	**0.04**	**243**	*i* P	Pg	12 59 45.2	+0.4
VIF				*i* S	Sg	12 59 46.7	+1.2
	2μm,0.3s						
FRA1	**Furnas**	**0.04**	**120**	*i* P	Pg	12 59 45.3	+0.5
MESC	**Monte Escuro**	**0.05**	**309**	*i* P	Pg	12 59 45.4	+0.5
MESC				*i* S	Sg	12 59 47.1	+1.3
LFA	**Lagoa do Fogo**	**0.07**	**279**	*i* P	Pg	12 59 45.7	+0.5
PRCH	**Ribeira Ch**	**0.07**	**242**	*i* P	Pg	12 59 45.5	+0.2
PRCH				*e*S	Sg	12 59 47.5	+1.1
	3μm,0.3s						
PMAT	**Coroa da Mata**	**0.08**	**313**	*i* P	Pg	12 59 45.7	+0.3
PMAT				*i* S	Sg	12 59 47.6	+1.0
	876nm,0.2s						
MIRA	**Miradouro**	**0.10**	**76**	*i* P	Pg	12 59 46.4	+0.7
PFAD	**Fenais da Ajud**	**0.10**	**38**	*i* P	Pg	12 59 46.4	+0.7
PVER	**Pico Vermelho**	**0.10**	**291**	*i* P	Pg	12 59 46.1	+0.3
CML	**Cha da Macela**	**0.12**	**274**	*i* P	Pg	12 59 46.4	+0.3
CML				*i* S	Sg	12 59 48.8	+1.0
FAC	**Faja de Cima**	**0.20**	**273**	*e*P	Pg	12 59 48.0	+0.3
FAC				*i* S	Sg	12 59 51.2	+0.8
PSET	**Sete Cidades**	**0.26**	**284**	*e*P	Pg	12 59 49.3	+0.4
PSET				*e*S	Sg	12 59 53.6	+1.1
	234nm,0.5s						
PSET	**Sete Cidades**	**0.26**	**284**	*e*P	Pg	12 59 49.3	+0.4
PSET				*e*S	Sg	12 59 53.6	+1.1
	234nm,0.5s						
PSAN	**Santo Antonio**	**0.28**	**289**	*e*P	Pg	12 59 49.6	+0.4
PFET	**Feteiras**	**0.31**	**280**	*e*P	Pg	12 59 49.8	-0.1
PFET				*e*S	Sg	12 59 54.7	+0.5
SET2	**Ginetes**	**0.33**	**284**	*e*P	Pg	12 59 50.5	+0.2
SET2				*e*S	Sg	12 59 55.0	+0.2
SET4	**Mosteiros**	**0.34**	**290**	*e*P	Pg	12 59 49.8	-0.6
SET4				*e*S	Sg	12 59 54.4	-0.5

*IDC **03** 13:09:28.4±2.6, 10.63N×91.12E, mb3.8/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.7/4, Error ellipse: s-maj=75.3km s-min=29.6km az=73.0*
ISC 03 13:09:29.1±4.4, 10.8N±0.2×91.1E±0.1, h20km±31km, n9, σ1§67/11, mb3.7/3, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.20**	**314**	*e*P	**P**	**13 12 00.1**	**+2.4**
VIS				AMb	AMB	13 12 10.4	
	comp=Z,22nm,0.8s						
VIS				*e*S	**S**	**13 13 51.2**	**-1.4**
BWNR	**Bhubaneshwar**	**10.75**	**333**	*e*P	**P**	**13 12 04.0**	**-1.2**
BWNR				AMb	AMB	13 12 10.5	
	comp=Z,18nm,0.1s						
BWNR				*e*S	**S**	**13 13 59.2**	**-6.8**
CMAR	**Chiang Mai Arr**	**10.80**	**44**	Pn	**P**	**13 12 04.5**	**-1.5**
	baz=235,slow=15,SNR=6.7						
BLSP	**Bilaspur**	**14.18**	**324**	*e*	**P**	**13 13 00.5**	**+9.3**
BLSP				AMb	AMB	13 13 03.1	
	comp=Z,5.5nm,0.7s						
BLSP				*e*S	**S**	**13 15 31.0**	**+2.2**
BHPL	**Bhopal**	**17.98**	**315**	*e*	**S**	**13 16 55.1**	**-2.0**
SONM	**Songino Array**	**39.15**	**16**	P	**P**	**13 16 59.1**	**+1.9**
	comp=Z,0.7nm,0.5s,mb3.6,baz=200,slow=9.4,SNR=9.3						
SONM				pP	pP	13 17 06.7	+3.5
	comp=Z,2.4nm,1.2s,baz=205,slow=9.3,SNR=5.7						
ZAL	**Zalesovo**	**43.35**	**355**	P	**P**	**13 17 32.9**	**+1.2**
	comp=Z,0.7nm,0.5s,mb3.7,baz=88,slow=3.2,SNR=3.1						
ASAR	**Alice Springs**	**54.09**	**130**	P	**P**	**13 18 54.2**	**-0.8**
	comp=Z,1.1nm,0.7s,mb3.9,baz=306,slow=6.7,SNR=7.8						
ASAR				pP	pP	13 19 01.6	+0.5
	comp=Z,1.5nm,0.8s,baz=308,slow=7.3,SNR=9.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**58.26**	**310**	pP	pP	13 19 34.4	+3.5
	comp=Z,0.2nm,0.4s,baz=45,slow=10,SNR=3.7						

*NEIC **03** 13:32:13.0, 15.75N×61.62W, h32km, MD3.6(TRN), After TRN.*

TRN 03 13:32:15.2, 15.84N×61.61W, h1km, MD3.7, M3.3(FDF), **2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.34**	**157**	⇓*i*P	Pg	13 32 21.8	-0.1
BBL				*e*S	Sg	13 32 26.9	+0.4
MDN	**Morne-Daniel**	**0.56**	**158**	⇓*i*P	Pg	13 32 25.7	-0.6
MDN				*e*S	Sg	13 32 33.6	-0.1
DBCT	**Belle View Cho**	**0.62**	**156**	*e*P	Pg	13 32 26.8	-0.7
DBCT				*e*S	Sg	13 32 35.2	-0.6
DSHT	**Scott's Head**	**0.66**	**160**	*e*P	Pg	13 32 27.5	-0.9
DSHT				*e*S	Sg	13 32 35.4	-1.8
MBRY		**1.01**	**329**	*e*P	Pb	13 32 33.6	-1.4
MBRY				*e*S	Sb	13 32 48.0	-0.5
MRYT		**1.01**	**329**	*e*P	Pb	13 32 33.6	-1.4
MRYT				*e*S	Sb	13 32 48.0	-0.5
MLYT		**1.04**	**328**	*e*P	Pb	13 32 34.0	-1.6
MGH	**Saint George's**	**1.05**	**326**	*e*P	Pb	13 32 34.3	-1.5
MBWH		**1.06**	**328**	*i* P	Pb	13 32 34.2	-1.6
MBGB		**1.07**	**326**	*e*P	Pb	13 32 34.3	-1.7
MBGB				*i* S	Sb	13 32 48.3	-2.0

*STR **03** 13:36:36.3±0.5, 43.50N×0.58W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **03** 13:36:36.4±0.2, 43.44N×0.57W, h20km, Ml2.2/3, Error ellipse: s-maj=3.5km s-min=2.2km az=152.0*
*CSEM **03** 13:36:36.9±0.1, 43.44N×0.57W, h10km, ML2.5/4, Error ellipse: s-maj=2.5km s-min=1.5km az=167.0*

MDD 03 13:36:37.0±0.6**, 43.47N×0.58W, h11km, mbLg1.8**/13**, Error ellipse: s-maj=4.4km s-min=2.3km az=10.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ORDF	**Ordiarp**	**0.36**	**226**	Pg	Pg	13 36 43.4	-1.1
ORDF				Sg	Sg	13 36 50.0	+0.6
ORDF	**Ordiarp**	**0.36**	**226**	Pg	Pg	13 36 43.4	-1.1
ORDF				Lg		13 36 49.9	
REYF	**Montagne du Re**	**0.42**	**161**	Pg	Pg	13 36 44.6	-1.0
REYF				Sg	Sg	13 36 51.0	-0.3
LARF	**Larrau**	**0.52**	**215**	Pg	Pg	13 36 46.3	-1.3
LARF				Sg	Sg	13 36 54.2	-0.4
OSSF	**Osses**	**0.54**	**247**	Pg	Pg	13 36 46.9	-1.1
OSSF				Sg	Sg	13 36 55.0	-0.2
ETSF	**Etsaut**	**0.57**	**178**	*e*Pg	Pg	13 36 46.9	-1.6
ETSF				*e*Sg	Sg	13 36 54.1	-2.1
	29nm,0.3s						
LABF	**Labassere**	**0.64**	**131**	Pg	Pg	13 36 48.8	-1.1
LABF				Sg	Sg	13 36 58.6	+0.2
LABF	**Labassere**	**0.64**	**131**	Pg	Pg	13 36 49.1	-0.8
LABF				Lg		13 36 59.2	
EALK	**Alkurruntz**	**0.72**	**250**	Pg	Pg	13 36 50.1	-1.4
	7.3nm,0.4s,SNR=17						
EALK				Lg		13 36 60.0	
	28nm,0.3s,SNR=22						
EPF	**Esparros**	**0.80**	**122**	*e*Pn	Pn	13 36 50.3	-3.8
EPF				*e*Pg	Pg	13 36 51.5	-1.7
EPF				*e*Sg	Sg	13 37 02.5	-1.4
	18nm,0.2s						
EBIE	**Bielsa**	**0.94**	**145**	Pg	Pg	13 36 53.9	-2.0
	1.7nm,0.3s,SNR=9.3						
EBIE				Lg		13 37 06.9	
	5.3nm,0.2s						
EBIE	**Bielsa**	**0.94**	**145**	Pg	Pg	13 36 53.9	-2.1
	1.7nm,0.3s,SNR=9.3						
ESAC	**San Caprasio**	**1.74**	**177**	Pg	Pg	13 37 09.4	-2.5
	16nm,0.3s,SNR=5.2						
ESAC				Lg		13 37 32.3	
	76nm,0.4s,SNR=10.0						
ESAC	**San Caprasio**	**1.74**	**177**	Pg	Pg	13 37 09.4	-2.5
	16nm,0.3s,SNR=5.2						
LFF	**La Frestale**	**1.75**	**32**	*e*Sg	Sg	13 37 33.3	-2.2
	9.0nm,0.4s						
MTLF	**Montolieu**	**2.04**	**93**	*e*Pg	Pg	13 37 14.3	-3.6
MTLF				*e*Sg	Sg	13 37 41.0	-4.2
	4.1nm,0.4s						
ELAN	**Lanestosa**	**2.09**	**265**	Pg	Pg	13 37 14.4	-4.4
	3.5nm,0.6s,SNR=4.0						
ELAN				Lg		13 37 43.9	
	10nm,0.7s,SNR=4.0						
EMIR	**Miracle**	**2.19**	**134**	Pg	Pg	13 37 16.7	-4.2
	1.8nm,0.3s,SNR=4.0						
EMIR				Lg		13 37 46.4	
	2.6nm,0.3s,SNR=4.0						
EMIR	**Miracle**	**2.19**	**134**	Pg	Pg	13 37 16.7	-4.2
	SNR=4.0						
RJF	**Les Rejaudoux**	**2.38**	**39**	*e*Sg	Sg	13 37 52.4	-3.8
	2.4nm,0.2s						
EPOB	**Poblet**	**2.44**	**149**	Pg	Pg	13 37 22.1	-3.8
	2.9nm,0.7s,SNR=7.9						
EPOB				Lg		13 37 54.5	
	2.3nm,0.3s,SNR=4.0						
ERTA	**Horta de San J**	**2.60**	**165**	Pg	Pg	13 37 24.7	-4.3
	2.1nm,0.4s,SNR=7.9						
ERTA				Lg		13 37 58.6	
	1.4nm,0.2s,SNR=4.0						
ERTA	**Horta de San J**	**2.60**	**165**	Pg	Pg	13 37 24.7	-4.2
	SNR=7.9						
EMOS	**Mosqueruela**	**3.10**	**178**	Pn	Pn	13 37 25.2	-1.7
	2.6nm,0.7s,SNR=7.9						
EMOS				Sn	Sn	13 38 01.3	-3.1
	SNR=7.9						
EMOS				Lg		13 38 13.5	
	1.2nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**3.27**	**78**	*e*Pn	Pn	13 37 24.1	-5.3

*IDC **03** 13:41:27.0±1.9, 4.67N×93.62E, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=76.7km s-min=20.9km az=63.0*
*NEIC **03** 13:41:31.6±0.7, 4.74N×93.66E, h30km, mb4.2/3, Error ellipse: s-maj=18.5km s-min=7.7km az=49.0*

ISC 03 13:41:30.6±0.9**, 4.7N**±0.1×**93.8E**±0.1**, h33km, n16, σ0.83**/16**, mb4.1**/11**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.88**	**85**	*e*P	**P**	**13 43 10.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**14.54**	**20**	Pn	**P**	**13 44 55.8**	**-0.2**
	0.2nm,0.3s,baz=213,slow=14,SNR=7.3						
KSM	**Kuching**	**16.84**	**101**	*e*P	**P**	**13 45 28.4**	**+2.9**
JIRN	**Jiri**	**23.90**	**343**	*e*P	**P**	**13 46 43.7**	**+1.3**
	7.6nm,0.8s,mb4.2						
PKI	**Pulchoki**	**24.05**	**342**	*e*P	**P**	**13 46 43.5**	**-0.4**
	3.9nm,0.4s,mb4.2						
KKN	**Kakani**	**24.30**	**341**	*e*P	**P**	**13 46 45.9**	**-0.4**
GKN	**Gorkha**	**24.71**	**340**	*e*P	**P**	**13 46 50.1**	**-0.2**
	8.6nm,0.7s,mb4.4						
KOLN	**Koldanda**	**24.86**	**338**	*e*P	**P**	**13 46 51.4**	**-0.3**
	12nm,1.0s,mb4.4						
LSA	**Lhasa**	**24.94**	**355**	*e*P	**P**	**13 46 54.2**	**+1.6**
	5.0nm,0.8s,mb4.1						
LSA				*e*		13 47 03.8	
SONM	**Songino Array**	**44.28**	**12**	P	**P**	**13 49 38.6**	**-0.3**
	0.7nm,0.9s,mb3.4,baz=188,slow=9.8,SNR=5.1						
SONM				PcP	PcP	13 51 23.3	-0.2
	0.6nm,0.6s,baz=203,slow=2.6,SNR=5.0						
WRA	**Warramunga Arr**	**46.82**	**123**	P	**P**	**13 49 59.7**	**+0.2**
	3.0nm,0.8s,mb4.3,baz=300,slow=9.1,SNR=20						
WRAB	**Tennant Creek**	**46.83**	**123**	*e*P	**P**	**13 49 59.1**	**-0.4**
	5.8nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**48.26**	**128**	P	**P**	**13 50 10.7**	**-0.1**
	0.7nm,0.7s,mb3.8,baz=297,slow=8.0,SNR=8.3						
ASAR				PcP	PcP	13 51 36.9	-0.9
	0.8nm,0.9s,baz=291,slow=3.0,SNR=6.1						
ZAL	**Zalesovo**	**49.58**	**353**	P	**P**	**13 50 20.6**	**0.0**
	1.5nm,0.5s,mb4.3,baz=316,slow=1.3,SNR=7.9						
BVAR	**Borovoye Array**	**51.82**	**342**	P	**P**	**13 50 36.7**	**-0.8**
	0.8nm,0.7s,mb3.8,baz=158,slow=8.0,SNR=4.7						
STKA	**Stephens Creek**	**58.26**	**132**	P	**P**	**13 51 24.4**	**-0.2**

IDC 03 13:53:16.0±4.2**, 8.75N×92.01E, mb3.4**/3**, mb1 3.6**/4**, mb1mx3.5**/18**, mbtmp3.4**/4**, ML3.7**/1**, Error ellipse: s-maj=117.7km s-min=29.0km az=79.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.77**	**34**	Pn	P	13 56 05.6	-2.7
	0.2nm,0.3s,baz=230,slow=14,SNR=4.5						
SONM	**Songino Array**	**40.82**	**15**	P	P	14 00 59.4	-1.5
	0.8nm,1.0s,baz=190,slow=7.5,SNR=5.5						
WRA	**Warramunga Arr**	**50.48**	**125**	P	P	14 02 15.9	-2.2
	0.3nm,0.3s,baz=307,slow=8.3,SNR=14						
ASAR	**Alice Springs**	**52.09**	**129**	P	P	14 02 28.2	-2.1
	0.2nm,0.6s,baz=303,slow=6.8,SNR=7.4						

*NEIC **03** 13:54:51.9±0.2, 21.21S×69.04W, mb4.7/35, Error ellipse: s-maj=9.2km s-min=4.8km az=77.0*
NEIC Felt [IV] at Calama; [III] at Guatacondo, Maria Elena, Pica and Tocopilla; [II] at Huara, Pozo Almonte and Quillagua.
*IDC **03** 13:54:51.9±0.4, 21.23S×69.10W, h86km±4km, mb4.2/15, mb1 4.3/17, mb1mx4.3/20, mbtmp4.5/17, MS3.6/8, Ms1 3.6/8, ms1mx3.5/22, Error ellipse: s-maj=19.1km s-min=6.8km az=82.0, Putative timing error at LPAZ*
*BJI **03** 13:54:51.9, 21.20S×69.00W, h84km, mB5.0, Ms4.9, Msz4.5*
*GUC **03** 13:54:53.4±1.0, 21.44S×69.27W, h90km±24km, ML4.9*

ISC 03 13:54:50.3±0.6**, 21.19S**±0.04×**69.12W**±0.06**, h83km**±6km**, h85km**±.8km**:pP-P, n109, σ1.19**/89**, mb4.6**/41**, 3C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.43**	**172**	P	**P**	**13 55 16.4**	**+1.2**
	baz=16,slow=11						
LVC				S	**S**	**13 55 34.5**	**+0.7**
	4µm,0.3s,baz=234,slow=19,SNR=110						
LVC	**Limon Verde**	**1.43**	**172**	*e*Pn	**P**	**13 55 15.8**	**+0.6**
LVC				*e*Sg	**S**	**13 55 32.2**	**-1.6**
SPCH	**San Pedro de A**	**1.91**	**154**	*e*P	**P**	**13 55 24.2**	**+2.6**
SPCH				*i* S	**S**	**13 55 46.6**	**+1.9**
SPCH				AMP		13 55 57.2	
	comp=N,16µm,0.4s						
ANCH	**Antofagasta**	**2.75**	**205**	*i* P	**P**	**13 55 32.2**	**-1.1**
ANCH				*i* S	**S**	**13 56 02.9**	**-2.6**
ANCH				AMP		13 56 15.1	
	comp=N,5µm,0.3s						
LPAZ	**La Paz**	**4.97**	**11**	P	**P**	**13 56 09.5**	**+5.6**
	comp=N,14nm,0.3s,baz=203,slow=5.7,SNR=146						
LPAZ				LR	LR	13 58 08.0	
	comp=N,237nm,18.8s,baz=290,slow=39						
LPAZ	**La Paz**	**4.97**	**11**	*e*P	**P**	**13 56 09.1**	**+5.1**
ARE	**Arequipa**	**5.21**	**334**	*e*P	**P**	**13 56 08.0**	**+0.7**
ARE				*e*		13 56 17.0	
ARE				*e*		13 56 51.0	
ARE				*e*S	**S**	**13 57 06.0**	**-0.6**
LCO	**Las Campanas**	**7.92**	**190**	*e*P	**P**	**13 56 46.1**	**+1.5**
LCO				*i* S	**S**	**13 58 11.5**	**-1.8**
FCH	**Farellones**	**12.13**	**185**	*i* S	**S**	**14 00 02.5**	**+7.1**
CLCH	**Cerro Calan**	**12.22**	**186**	*e*S	**S**	**14 00 00.8**	**+3.3**
SAML	**Samuel**	**13.45**	**26**	*e*P	**P**	**13 57 58.3**	**-0.6**
	comp=N,4.5nm,0.6s						
TRQA	**Tornquist**	**17.91**	**161**	*e*P	**P**	**13 58 52.9**	**-2.4**
	comp=N,26nm,0.7s						
PLCA	**Paso Flores**	**19.52**	**183**	P	**P**	**13 59 10.7**	**-2.7**
	comp=N,0.3nm,0.3s,baz=357,slow=13,SNR=15						
PLCA	**Paso Flores**	**19.52**	**183**	*e*P	**P**	**13 59 10.9**	**-2.5**
	comp=N,8.3nm,0.9s						
BDFB	**Brasilia**	**20.77**	**78**	P	**P**	**13 59 25.7**	**-0.8**
	comp=N,7.4nm,0.4s,baz=268,slow=9.4,SNR=14						
BDFB				LR	LR	14 07 33.3	
	comp=N,156nm,21.2s,baz=284,slow=37						
BAO	**Brasilia Array**	**20.79**	**78**	P	**P**	**13 59 25.7**	**-1.1**
CAM4	**Nova Friburgo**	**24.68**	**98**	(P)	**P**	**14 00 05.8**	**+0.9**
ROSC	**El Rosal**	**26.38**	**348**	LR	LR	14 10 33.8	
	comp=N,99nm,19.7s,baz=345,slow=36						
SDV	**Santo Domingo**	**29.93**	**357**	P	**P**	**14 00 51.6**	**-1.2**
	comp=N,6.1nm,0.8s,mb4.3,baz=295,slow=1.6,SNR=10.0						
SDV				LR	LR	14 14 23.3	
	comp=N,58nm,20.9s,baz=209,slow=39						
SDV	**Santo Domingo**	**29.93**	**357**	*e*P	**P**	**14 00 51.3**	**-1.5**
	comp=N,11nm,1.0s,mb4.4						
USHA	**Ushuaia**	**33.59**	**179**	P	**P**	**14 01 23.7**	**-0.7**
	comp=N,9.6nm,0.6s,mb4.8,baz=300,slow=4.2,SNR=4.6						
USHA				LR	LR	14 14 48.5	
	comp=N,146nm,19.9s,baz=61,slow=36						
JTS	**JuntasAbangare**	**34.94**	**332**	P	**P**	**14 01 35.8**	**-0.5**
	comp=N,11nm,1.0s,mb4.6						
SJG	**San Juan**	**39.17**	**4**	P	**P**	**14 02 10.0**	**-1.7**
	comp=N,22nm,0.6s,mb5.2,baz=195,slow=4.9,SNR=13						
SJG				pP	pP	14 02 31.4	-0.3
	comp=N,26nm,0.6s,baz=338,slow=20,SNR=3.0						
SJG	**San Juan**	**39.17**	**4**	*e*P	**P**	**14 02 10.1**	**-1.6**
	comp=N,30nm,0.8s,mb5.2						
SJG				*e*pP	pP	14 02 31.0	-0.7
SJG				*e*sP	sP	14 02 40.3	-1.2
PMSA	**Palmer Station**	**43.69**	**177**	*e*P	**P**	**14 02 40.9**	**-7.4**
	comp=N,125nm,1.3s,mb5.5						
OXF	**Oxford**	**58.66**	**340**	*e*P	**P**	**14 04 39.4**	**-1.9**
	comp=N,22nm,1.0s,mb5.1						
JCT	**Junction City**	**59.23**	**329**	*e*P	**P**	**14 04 44.7**	**-0.6**
	comp=N,23nm,1.1s,mb5.1						
WVT	**Waverly**	**59.69**	**342**	*e*P	**P**	**14 04 42.6**	**-5.8**
	comp=N,10nm,0.9s,mb4.8						
WVT				*e*pP	pP	14 05 07.6	-2.1
WVT				*e*sP	sP	14 05 17.4	-1.7
MIAR	**Mount Ida**	**60.11**	**337**	*e*P	**P**	**14 04 50.2**	**-1.1**
	comp=N,10nm,1.0s,mb4.8						
MIAR				*e*pP	pP	14 05 17.7	+5.2
TXAR	**Lajitas Array**	**60.26**	**325**	P	**P**	**14 04 51.9**	**-0.5**
	comp=N,1.4nm,0.9s,mb4.0,baz=153,slow=8.4,SNR=8.1						
TXAR				pP	pP	14 05 13.3	-0.4
	comp=N,0.6nm,0.6s,baz=146,slow=9.0,SNR=3.7						
TXAR	**Lajitas Array**	**60.26**	**325**	P	**P**	**14 04 51.9**	**-0.5**
TXAR				pP	pP	14 05 13.3	-0.4
VNA2	**Neumayer--Watz**	**61.01**	**161**	⇓*i*	**P**	**14 04 56.9**	**0.0**
VNA2	**Neumayer--Watz**	**61.01**	**161**	⇑*i*	pP	14 05 12.6	-5.6
MCWV	**Mont Chateau**	**61.35**	**351**	*e*P	**P**	**14 04 58.9**	**-0.8**
	comp=N,31nm,0.9s,mb5.3						
SSPA	**Standing Stone**	**62.05**	**352**	*e*P	**P**	**14 05 10.3**	**+6.0**
	comp=N,26nm,0.9s,mb5.3						
WMOK	**Wichita Mounta**	**62.35**	**333**	*e*P	**P**	**14 05 04.9**	**-1.6**
	comp=N,12nm,1.6s,mb4.7						
WMOK				*e*PcP	PcP	14 05 45.6	+0.6
ACSO	**Alum Creek Sta**	**62.45**	**348**	*e*P	**P**	**14 05 05.9**	**-1.1**
	comp=N,18nm,0.9s,mb5.1						
SNAA	**Sanae**	**62.64**	**161**	⇑*i*	**P**	**14 05 06.5**	**-1.3**
SNAA	**Sanae**	**62.64**	**161**	⇑*i*	**P**	**14 05 12.7**	**+4.9**
SNAA	**Sanae**	**62.64**	**161**	P	**P**	**14 05 06.5**	**-1.3**
	comp=N,3.0nm,0.7s,mb4.3,baz=254,slow=7.4,SNR=12						
AMTX	**Amarillo**	**63.77**	**330**	*e*P	**P**	**14 05 14.7**	**-1.1**
	comp=N,7.7nm,0.8s,mb4.6						
ANMO	**Albuquerque**	**66.14**	**327**	*e*P	**P**	**14 05 31.0**	**-0.1**
	comp=N,5.2nm,0.9s,mb4.4						
ANMO				*e*pP	pP	14 05 53.1	+0.5
ANMO				*e*sP	sP	14 06 02.6	+0.9
SADO	**Sadowa**	**66.27**	**352**	P	**P**	**14 05 30.4**	**-1.4**
	comp=N,6.5nm,0.8s,mb4.5,baz=197,slow=14,SNR=3.5						
SDCO	**Great Sand Dun**	**67.88**	**330**	*e*P	**P**	**14 05 42.4**	**+0.5**
	comp=N,18nm,1.2s,mb4.8						
SDCO				*e*pP	pP	14 06 04.6	+0.9
SDCO				*e*sP	sP	14 06 13.3	+0.7
DBIC	**Dimbokro**	**68.84**	**74**	P	**P**	**14 05 47.8**	**-0.5**
	comp=N,11nm,0.8s,mb4.8,baz=225,slow=6.3,SNR=20						
DBIC				pP	pP	14 06 10.1	0.0
	comp=N,11nm,0.7s,baz=210,slow=6.5,SNR=7.4						
DBIC	**Dimbokro**	**68.84**	**74**	*e*P	**P**	**14 05 47.6**	**-0.7**
	comp=N,15nm,0.9s,mb4.8						
DBIC				*e*PcP	PcP	14 06 10.1	-2.2
QSPA	**South Pole Qui**	**69.00**	**180**	⇓*i*P	**P**	**14 05 48.2**	**0.0**
	comp=N,9.3nm,0.7s,mb4.7						
WUAZ	**Wupatki**	**69.16**	**324**	*e*P	**P**	**14 05 51.5**	**+1.5**
	comp=N,227nm,1.2s						
PV01	**Paradox Valley**	**69.68**	**328**	*e*P	**P**	**14 05 53.7**	**+0.7**
PV01				*e*pP	pP	14 06 16.1	+1.2
PV01				*e*sP	sP	14 06 25.5	+1.8
PV10	**Paradox Valley**	**70.10**	**328**	*e*P	**P**	**14 05 55.4**	**-0.2**
SRU	**San Rafael**	**71.41**	**327**	*e*P	**P**	**14 06 04.0**	**+0.5**
SRU				*e*pP	pP	14 06 26.5	+1.2
SRU				*e*sP	sP	14 06 35.6	+1.5
MVU	**Marysvale**	**71.83**	**326**	*e*P	**P**	**14 06 06.8**	**+0.9**
	comp=N,18nm,1.1s,mb4.8						
MVU				*e*pP	pP	14 06 29.4	+1.5
MVU				*e*sP	sP	14 06 38.5	+1.8
ARUT	**Antelope Range**	**71.96**	**324**	*e*P	**P**	**14 06 08.6**	**+1.8**
ARUT				*e*pP	pP	14 06 31.1	+2.4
ARUT				*e*sP	sP	14 06 40.6	+3.1
DAU	**Daniels Canyon**	**72.76**	**328**	*e*P	**P**	**14 06 13.0**	**+1.6**
DAU				*e*pP	pP	14 06 35.0	+1.6
DAU				*e*sP	sP	14 06 44.7	+2.5
JLU	**Jordanelle**	**73.00**	**328**	*e*P	**P**	**14 06 13.8**	**+1.0**
JLU				*e*pP	pP	14 06 36.3	+1.5
JLU				*e*sP	sP	14 06 45.9	+2.3
PDAR	**Pinedale Array**	**73.74**	**330**	P	**P**	**14 06 15.8**	**-1.3**
	comp=N,1.3nm,0.8s,mb3.7,baz=141,slow=4.5,SNR=9.1						
HWUT	**Hardware Ranch**	**73.81**	**328**	*e*P	**P**	**14 06 17.9**	**+0.4**
	comp=N,7.0nm,0.8s,mb4.4						
HWUT				*e*PcP	PcP	14 06 33.0	0.0
HWUT				*e*pP	pP	14 06 40.5	+0.9
HWUT				*e*sP	sP	14 06 50.2	+1.7
TPH	**Tonopah**	**74.27**	**322**	*e*P	**P**	**14 06 18.3**	**-2.0**
	comp=N,13nm,1.4s,mb4.5						
TPH				*e*sP	sP	14 06 53.6	+2.4
LOHW	**Long Hollow**	**74.88**	**330**	*e*P	**P**	**14 06 24.5**	**+0.8**
LOHW				*e*pP	pP	14 06 46.8	+1.0
LOHW				*e*sP	sP	14 06 56.0	+1.3
WUWY	**Wally Ulrich**	**74.89**	**330**	*e*P	**P**	**14 06 24.7**	**+1.0**
TPAW	**Teton Pass**	**74.95**	**330**	*e*P	**P**	**14 06 25.2**	**+1.1**
TPAW				*e*pP	pP	14 06 47.5	+1.4
TPAW				*e*sP	sP	14 06 56.8	+1.7
ULM	**Lac du Bonnet**	**74.96**	**343**	P	**P**	**14 06 23.6**	**-0.4**
	comp=N,3.6nm,0.7s,mb4.2,baz=163,slow=6.9,SNR=9.0						
ULM				LR	LR	14 43 56.5	
	comp=N,64nm,20.7s,baz=359,slow=39						
RRI2	**Red Ridge**	**75.02**	**330**	*e*P	**P**	**14 06 25.6**	**+1.2**
RRI2				*e*pP	pP	14 06 47.8	+1.3
RRI2				*e*sP	sP	14 06 57.4	+1.9
ELK	**Elko**	**75.06**	**325**	LR	LR	14 37 36.1	
	comp=N,62nm,19.0s,baz=184,slow=34						
NVAR	**Mina Array Bea**	**75.13**	**322**	P	**P**	**14 06 26.1**	**+0.9**
	comp=N,2.5nm,0.8s,mb4.0,baz=154,slow=6.6,SNR=17						
NVAR				pP	pP	14 06 48.9	+1.6
	comp=N,1.0nm,0.7s,baz=164,slow=9.5,SNR=4.4						
IMW	**Indian Meadow**	**75.26**	**330**	*e*P	**P**	**14 06 27.1**	**+1.3**
IMW				*e*sP	pP	14 06 49.3	+1.4
IMW				*e*pP	sP	14 06 57.5	+0.7
SCHQ	**Schefferville**	**75.74**	**1**	P	**P**	**14 06 28.4**	**+0.2**
	comp=N,3.8nm,0.8s,mb4.2,baz=211,slow=4.4,SNR=7.4						
SCHQ				pP	pP	14 06 50.1	-0.3
	comp=N,2.3nm,0.6s,baz=164,slow=5.0,SNR=2.9						
SCHQ	**Schefferville**	**75.74**	**1**	*e*P	**P**	**14 06 28.2**	**-0.1**
	comp=N,7.2nm,0.8s,mb4.5						
SCHQ				*e*PcP	PcP	14 06 40.0	-1.0
SCHQ				*e*pP	pP	14 06 49.9	-0.5
DGMT	**Dagmar**	**76.11**	**337**	*e*P	**P**	**14 06 31.3**	**+0.8**
	comp=N,43nm,1.3s,mb5.0						
HLID	**Hailey**	**76.67**	**328**	*e*P	**P**	**14 06 35.6**	**+1.8**
	comp=N,16nm,1.1s,mb4.7						
HLID				*e*pP	pP	14 06 57.5	+1.6
HLID				*e*sP	sP	14 07 07.0	+1.9
MCMT	**McKenzie Canyo**	**76.86**	**330**	*e*P	**P**	**14 06 36.7**	**+1.9**
MCMT				*e*pP	pP	14 06 58.6	+1.6
MCMT				*e*sP	sP	14 07 08.3	+2.2
VNDA	**Vanda**	**77.12**	**190**	P	**P**	**14 06 35.5**	**-0.3**
	comp=N,2.0nm,0.8s,mb3.9,baz=94,slow=5.2,SNR=4.4						
VNDA	**Vanda**	**77.12**	**190**	*e*P	**P**	**14 06 36.4**	**+0.7**
	comp=N,4.7nm,1.1s,mb4.1						
BMO	**Blue Mountains**	**79.05**	**327**	*e*P	**P**	**14 06 47.8**	**+0.9**
	comp=N,18nm,1.2s,mb4.8						
BMO				*e*pP	pP	14 07 10.1	+1.0
BMO				*e*sP	sP	14 07 19.7	+1.3
TSUM	**Tsumeb**	**80.32**	**107**	*e*P	**P**	**14 06 54.7**	**+0.4**
	comp=N,5.5nm,0.8s,mb4.4						
TSUM				*e*PcP	PcP	14 07 01.9	+0.5
TSUM				*e*pP	pP	14 07 17.7	+1.2
WALA	**Waterton Lakes**	**80.50**	**332**	*e*P	**P**	**14 06 55.1**	**+0.5**
	comp=N,14nm,1.1s,mb4.7						
WALA				*e*sP	sP	14 07 27.7	+1.6
NEW	**Newport**	**81.38**	**330**	*e*P	**P**	**14 06 59.5**	**+0.2**
	comp=N,2.3nm,0.5s,mb4.3						
FCC	**Fort Churchill**	**82.29**	**347**	*e*P	**P**	**14 07 03.7**	**-0.1**
	comp=N,8.2nm,0.8s,mb4.6						
FCC				*e*pP	pP	14 07 26.4	+0.3
FCC				*e*sP	sP	14 07 35.5	+0.2
EDM	**Edmonton**	**83.40**	**335**	*e*P	**P**	**14 07 08.5**	**-1.0**
EDM				*e*pP	pP	14 07 31.7	-0.2
LBTB	**Lobatse**	**85.33**	**115**	LR	LR	14 41 35.4	
	comp=N,70nm,19.3s,baz=54,slow=33						
LBTB	**Lobatse**	**85.33**	**115**	P	**P**	**14 07 20.0**	**+0.3**
	comp=N,13nm,1.3s,mb4.7						
LBTB				*e*pP	pP	14 07 42.7	+0.4
ESDC	**Sonseca Array**	**85.75**	**45**	P	**P**	**14 07 22.3**	**+0.8**
	comp=N,0.2nm,0.3s,mb3.6,baz=236,slow=5.3,SNR=4.8						
ESLA	**Sonseca Array**	**85.75**	**45**	P	**P**	**14 07 17.7**	**-3.8**
	comp=N,7.4nm,1.4s,mb4.4						
YKA	**Yellowknife Ar**	**90.83**	**341**	P	**P**	**14 07 45.5**	**+0.3**
	comp=N,6.7nm,0.8s,mb4.8,baz=135,slow=4.6,SNR=146						
YKA				pP	pP	14 08 08.1	+0.1
	comp=N,1.7nm,0.7s,baz=134,slow=4.4,SNR=4.4						
YKA	**Yellowknife Ar**	**90.83**	**341**	P	**P**	**14 07 45.5**	**+0.3**
YKA				pP	pP	14 08 08.1	+0.1
LSZ	**Lusaka**	**91.18**	**107**	P	**P**	**14 07 44.7**	**-3.2**
	comp=N,3.1nm,1.1s,mb4.3						
DLBC	**Dease Lake**	**93.84**	**333**	*e*P	**P**	**14 08 00.2**	**+1.1**
INK	**Inuvik**	**100.58**	**340**	*e*Pdif	P	14 08 29.8	+0.3
	comp=N,1.0nm,0.8s						
ASAR	**Alice Springs**	**130.09**	**208**	PKP	PKPdf	14 13 52.0	+0.7
	comp=N,2.0nm,0.8s,baz=162,slow=2.2,SNR=15						
WRA	**Warramunga Arr**	**133.12**	**211**	PKP	PKPdf	14 13 57.8	+0.7
	comp=N,1.2nm,0.7s,baz=158,slow=1.7,SNR=20						
CHKZ	**Chkalovo**	**135.44**	**33**	*e*PKPdf	PKPdf	14 14 00.4	-0.1
BVAR	**Borovoye Array**	**135.65**	**34**	PKP	PKPdf	14 14 03.0	+2.1
	comp=N,1.6nm,0.8s,baz=270,slow=1.5,SNR=12						
BVAR				pPKP		14 14 26.6	
	comp=N,0.8nm,0.8s,baz=270,slow=1.5,SNR=3.1						
KURK	**Kurchatov**	**141.18**	**33**	*e*PKPdf	PKPdf	14 14 08.5	-2.5
ZAL	**Zalesovo**	**141.76**	**25**	PKhKP		14 14 09.1	
	comp=N,3.4nm,1.0s,baz=190,slow=0.4,SNR=7.8						
ZAL				PKP	PKPdf	14 14 13.5	+1.6
	comp=N,2.5nm,0.7s,baz=182,slow=3.9,SNR=12						
AAK	**Ala-Archa**	**142.84**	**46**	*e*PKPdf	PKPdf	14 14 12.4	-1.7
KSH	**Kashi**	**145.06**	**51**	*e*PKP	PKPdf	14 14 21.6	+3.5
NDI	**New Delhi**	**148.66**	**69**	*e*	PKPdf	14 14 25.5	+1.1
DDI	**Dehra Dun**	**149.16**	**66**	*e*	PKPdf	14 14 27.5	+2.4
WMQ	**Urumqi**	**150.33**	**35**	*e*PKP	PKPdf	14 14 26.5	0.0
WMQ				APKP		14 14 53.0	
WMQ				XPKP		14 15 04.0	
WMQ				PKS	PKS	14 18 00.0	-0.3
WMQ				PP	PP	14 18 10.5	-0.5
WMQ				PPP	PPP	14 21 23.0	-13
WMQ				PP	PP		
	comp=Z,107nm,4.8s						
WMQ				LR	LR		
	comp=N,87nm,23.2s						
WMQ				LR	LR		
	comp=E,120nm,24.7s						
WMQ				LR	LR		
	comp=Z,92nm,25.0s						
MAT	**Matsushiro**	**151.72**	**309**	*e*PKP	PKPdf	14 14 36.0	+7.1
MAT	**Matsushiro**	**151.72**	**309**	PKP	PKPdf	14 14 36.3	+7.4
SONM	**Songino Array**	**153.17**	**7**	PKP	PKPdf	14 14 32.9	+2.4
	comp=Z,1.5nm,0.8s,baz=302,slow=1.3,SNR=12						
SONM				PKPbc	PKPdf	14 14 40.5	+10
	comp=Z,1.2nm,0.8s,slow=1.2,SNR=7.2						
SONM				PKPab	PKPab	14 14 52.4	-0.1
	comp=Z,3.1nm,0.8s,baz=321,slow=4.5,SNR=15						
SONM				pPKPbc		14 15 04.0	
	comp=Z,1.7nm,0.7s,baz=327,slow=2.0,SNR=5.3						
ULN	**Ulaanbaatar**	**153.21**	**6**	*e*PKPdf	PKPdf	14 14 30.4	-0.2
ULN				*e*PKPbc	PKPdf	14 14 40.4	+10
ULN				*e*PKPab	PKPab	14 14 53.0	+0.4
CN2	**Changchun**	**154.40**	**335**	*e*PKP	PKPdf	14 14 31.2	-1.1
GTA	**Gaotai**	**159.51**	**25**	PKP	PKPdf	14 14 41.8	+2.8
GTA				APKP		14 15 06.1	
GTA				PKS	PKS	14 18 14.7	+3.2
GTA				PP	PP	14 19 04.9	+3.1
GTA				SKS	SKS	14 21 35.9	+1.7
GTA				PPP	PPP	14 22 49.3	+3.7
GTA				SKKS		14 25 42.7	
GTA				LR	LR		
	comp=N,112nm,22.1s						
GTA				LR	LR		
	comp=E,72nm,23.2s						
GTA				LR	LR		
	comp=Z,84nm,27.7s						
HHC	**Hu-ho-hao-te**	**160.39**	**358**	*e*PKP	PKPdf	14 14 39.8	0.0
HHC				APKP		14 15 00.8	
HHC				XPKP		14 15 14.8	
HHC				PKS	PKS	14 18 12.6	+0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HHC				PP	PP	14 19 06.1	-0.4
HHC				SKS	SKS	14 21 32.5	-2.5
HHC				PP	PP		
	comp=Z,58nm,10.1s						
LZH	Lanzhou	163.94	21	ePKP	PKPdf	14 14 42.5	-1.0
LZH				APKP		14 15 06.5	
LZH				XPKP		14 15 17.6	
LZH				LR	LR		
	comp=N,189nm,18.1s						
LZH				LR	LR		
	comp=Z,247nm,20.0s						
SSE	Sheshan	166.48	319	PKP	PKPdf	14 14 44.0	-2.0
NJ2	Nanjing	167.05	328	ePKP	PKPdf	14 14 45.6	-0.8
NJ2				APKP		14 15 12.3	
NJ2				XPKP		14 15 23.1	
NJ2				PKP2	PKPab	14 15 53.4	+0.6
NJ2				PP	PP	14 19 42.0	+0.3
NJ2				SKS	SKS	14 21 38.0	-2.0
NJ2				PP	PP		
	comp=Z,1μm,10.2s						

IDC 03 14:31:53.2±14.0**,6.85N×91.64E,mb3.4**/2**,mb1 3.7**/3**, mb1mx3.4**/17**,mbtmp3.4**/3**,ML3.5**/1**,Error ellipse: s-maj=328.8km s-min=50.7km az=93.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.55	31	Pn	P	14 35 07.5	-1.9
	0.1nm,0.3s,baz=224,slow=14,SNR=6.3						
WRA	Warramunga Arr	49.73	123	P	P	14 40 47.3	-2.4
	0.5nm,0.5s,baz=305,slow=8.3,SNR=12						
ASAR	Alice Springs	51.21	128	P	P	14 40 59.1	-1.8
	0.3nm,0.7s,baz=304,slow=8.0,SNR=8.6						

*NEIC **03** 14:45:35.7±0.8, 5.22N×94.14E, h30^{km}, mb4.8/5, Error ellipse: s-maj=23.3km s-min=10.8km az=58.0*
*IDC **03** 14:45:46.1±14.0, 5.58N×94.55E, h111^{km}±121^{km}, mb3.4/5, mb1 3.5/5, mb1mx3.4/16, mbtmp3.7/5, ML4.5/1, MS2.8/1, Ms1 3.0/1, ms1mx2.8/18, Error ellipse: s-maj=117.7km s-min=19.0km az=60.0*
ISC 03 14:45:35.1±0.8**,5.4N**±0.1×**94.42E**±0.09**,h33^{km},n14, σ1^{s}05**/15**,mb4.3**/10**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.20	91	ePn	Pn	14 47 08.6	+1.8
KULM				eSn	Sn	14 48 16.6	-0.7
CMAR	Chiang Mai Arr	13.68	18	P	P	14 48 53.2	+4.0
	0.7nm,0.3s,baz=208,slow=15,SNR=4.9						
CMAR				LR	LR	14 54 07.4	
	comp=Z,40nm,20.9s,baz=175,slow=37						
SONM	Songino Array	43.47	12	P	P	14 53 36.9	0.0
	0.4nm,0.4s,mb3.5,baz=197,slow=7.2,SNR=5.1						
WRA	Warramunga Arr	46.65	124	P	P	14 54 03.5	+0.9
	0.6nm,0.4s,mb3.9,baz=304,slow=9.3,SNR=23						
WRAB	Tennant Creek	46.65	124	eP	P	14 54 03.1	+0.5
	13nm,1.3s,mb4.7						
WB2	Warramunga Arr	46.66	124	eP	P	14 54 02.8	+0.1
KURK	Kurchatov	47.03	346	eP	P	14 54 05.2	0.0
	1.9nm,0.4s,mb4.4						
ASAR	Alice Springs	48.16	129	P	P	14 54 15.4	+1.0
	0.3nm,0.4s,mb3.7,baz=300,slow=7.7,SNR=16						
ZAL	Zalesovo	48.99	352	P	P	14 54 20.4	0.0
	1.1nm,0.3s,mb4.3,baz=305,slow=5.2,SNR=3.8						
CHKZ	Chkalovo	51.87	342	eP	P	14 54 42.2	-0.1
	3.0nm,0.4s,mb4.6						
PMG	Port Moresby	54.58	106	eP	P	14 55 00.1	-2.9
	14nm,1.0s,mb5.0						
CTAO	Charters Tower	56.90	118	eP	P	14 55 17.2	-2.4
	22nm,1.4s,mb5.0						
STKA	Stephens Creek	58.24	133	P	P	14 55 28.6	-0.3
FINES	FINESS Array B	74.99	332	P	P	14 57 14.7	0.0
	0.8nm,0.8s,mb3.7,baz=90,slow=3.8,SNR=3.4						

*TAP **03** 14:56:09.6, 24.19N×122.70E, h38^{km}±1^{km}, ML2.7*
JMA 03 14:56:08.8±0.1**,24.84N×122.91E,h39^{km},Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.39	166	P	P	14 56 17.8	-0.2
YOJ				eS	S	14 56 24.2	-0.3
IRIF	Iriomote-Funau	0.90	124	P	P	14 56 25.0	-0.1
IRIF				eS	S	14 56 37.1	0.0
JKRS	Kuro-shima	1.17	121	P	P	14 56 29.1	+0.2
JKRS				eS	S	14 56 44.3	+0.4
JIJ	Ishigaki jima	1.22	113	P	P	14 56 30.0	+0.4
JIJ				eS	S	14 56 45.5	+0.3

*NNC **03** 15:07:07.0±8.7, 33.12N×78.29E, Error ellipse: s-maj=196.0km s-min=88.8km az=66.0*
*IDC **03** 15:07:32.3±1.9, 35.62N×77.93E, mb3.6/4, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, ML3.5/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/22, Error ellipse: s-maj=55.9km s-min=25.3km az=47.0*
*BJI **03** 15:07:35.0, 35.82N×77.42E, h17^{km}, ML4.1*
*NEIC **03** 15:07:39.2±1.5, 35.65N×77.85E, h58^{km}±16^{km}, mb3.7/4, Error ellipse: s-maj=19.7km s-min=11.5km az=49.0*
ISC 03 15:07:39.8±0.9**,35.64N**±0.06×**78.2E**±0.1**,h79^{km}**±12^{km}**, n31,σ1^{s}40**/30**,mb4.0**/8**,4C-2D,Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	3.81	214	ePB	P	15 08 47.6	+10
PONG	Pong	4.13	208	ePB	P	15 08 42.0	+0.1
PONG				e		15 09 51.0	
SDNR	Sundarnagar	4.25	194	ePB	P	15 08 43.5	-0.1
SDNR				e		15 09 47.1	
KSH	Kashi	4.26	336	⇑PG	P	15 08 43.4	-0.3
KSH				Smax			
	comp=N,150nm,0.7s						
KSH				Smax			
	comp=E,670nm,1.6s						
BHK	Bhakra	4.47	200	eS	S	15 09 55.3	+18
DDI	Dehra Dun	5.30	181	e	P	15 09 16.7	+19
DDI				e		15 10 30.7	
NDI	New Delhi	6.99	187	e	P	15 09 24.0	+2.6
NDI				e		15 11 07.5	
AAK	Ala-Archa	7.56	339	⇓P	P	15 09 31.8	+2.5
	comp=E,11nm,1.1s						
AAK				⇓S	S	15 11 26.0	+32
	comp=E,47nm,1.1s						
AAK	Ala-Archa	7.56	339	ePn	P	15 09 25.1	-4.1
	comp=E,8.4nm,0.7s						
KOLN	Koldanda	9.09	148	eP	P	15 09 50.2	+0.1
	comp=E,9.7nm,0.4s						
GKN	Gorkha	9.37	143	eP	P	15 09 53.6	-0.3
	comp=E,19nm,0.4s						
KKN	Kakani	9.87	140	eP	P	15 10 00.0	-0.7
	comp=E,8.1nm,0.4s						
PKI	Pulchoki	10.11	141	eP	P	15 10 03.1	-0.9
	comp=E,7.6nm,0.5s						
JIRN	Jiri	10.46	137	eP	P	15 10 07.0	-1.7
	comp=E,12nm,0.3s						
MK31	Makanchi Array	11.56	14	⇑P	P	15 10 24.3	+0.9
	comp=E,2.2nm,0.7s,baz=201,slow=13,SNR=26						
BVA0	Borovoye Array	18.24	345	⇑P	P	15 11 49.3	+0.5
	comp=E,1.0nm,1.2s,baz=155,slow=13,SNR=7.7						
BVAR	Borovoye Array	18.24	345	P	P	15 11 46.9	-1.9
	comp=E,0.2nm,0.3s,baz=156,slow=14,SNR=5.8						
CHKZ	Chkalovo	18.81	346	⇑P	P	15 11 54.7	-0.7
	comp=E,4.9nm,1.6s						
CHKZ	Chkalovo	18.81	346	eP	P	15 11 52.4	-2.9
	comp=E,1.2nm,0.6s						
ZAL	Zalesovo	18.87	12	LR	LR	15 20 36.8	
	comp=E,34nm,18.2s,baz=191,slow=41						
SONM	Songino Array	24.16	51	P	P	15 12 52.6	+3.3
	comp=E,1.1nm,0.8s,mb3.3,baz=249,slow=8.5,SNR=8.7						
ULN	Ulaanbaatar	24.59	51	eP	P	15 12 57.1	+3.6
	comp=E,1.6nm,0.8s,mb3.5						
CMAR	Chiang Mai Arr	25.09	128	P	P	15 13 00.6	+2.0
	comp=E,1.4nm,0.8s,mb3.4,baz=312,slow=11,SNR=9.4						
FINES	FINESS Array B	41.50	325	P	P	15 15 20.5	+0.2
	comp=E,0.6nm,0.4s,mb3.8,baz=112,slow=10,SNR=7.7						
SUW	Suwalki	41.94	314	P	P	15 15 27.2	+3.3
GVD	Gavdhos	43.74	285	eP	P	15 15 35.1	-3.8
	comp=E,109nm,1.5s,mb5.4						
MORC	Moravsky Berou	45.55	308	P	P	15 15 52.5	-0.5
	comp=E,1.7nm,0.8s,mb3.8						
KONO	Kongsberg	49.42	321	P	P	15 16 20.0	-3.1
MA2	Magadan	51.42	38	eP	P	15 16 37.0	-1.4
WLF	Walferdange	52.85	309	P	P	15 16 48.2	-1.0
	comp=E,24nm,1.4s,mb5.0						
YKA	Yellowknife Ar	81.67	6	P	P	15 19 50.9	+0.8
	comp=E,0.3nm,0.5s,mb3.4,baz=345,slow=5.3,SNR=10						

MAN 03 15:19:26.2,12.58N×123.55E,h11^{km},mb3.5,ML2.2, MS1.7,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.24	161	eP	Pg	15 19 32.0	+0.6
CNP	Catarman	1.09	94	eP	Pb	15 19 47.2	+0.5
CNP				eS	Sb	15 20 01.9	+1.2
AUQP	San Andres	1.12	311	eP	Pb	15 19 49.2	+2.0
PVCP	Virac	1.17	30	eP	Pb	15 19 47.8	-0.2
OTRP	Odiongan	1.50	262	eP	Pn	15 19 52.6	-0.7
BOAC	Boac	1.87	298	eP	Pn	15 19 57.7	-0.9
GUIM	Jordan	2.16	206	eP	Pn	15 20 02.8	+0.1

IDC 03 15:47:44.0±11.0**,13.69N×92.92W,mb3.7**/2**,mb1 4.1**/3**, mb1mx3.6**/20**,mbtmp3.6**/3**,ML4.3**/1**,Error ellipse: s-maj=229.5km s-min=109.6km az=12.0,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	18.49	329	P	P	15 52 01.8	-1.6
	0.2nm,0.3s,baz=141,slow=12,SNR=3.2						
NVAR	Mina Array Bea	33.36	322	P	P	15 54 23.9	-2.2
	0.2nm,0.4s,baz=129,slow=7.9,SNR=4.0						
YKA	Yellowknife Ar	51.13	347	P	P	15 56 48.3	-2.1
	2.2nm,1.0s,baz=152,slow=7.4,SNR=21						

*IDC **03** 15:48:15.8±5.1, 12.83N×91.04E, mb3.9/2, mb1 4.0/3, mb1mx3.6/17, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=113.5km s-min=50.2km az=111.0*
ISC 03 15:48:10.0±1.3**,13.5N**±0.1×**90.1E**±0.2**,h33^{km},n9,σ0^{s}99**/9**, mb3.9**/2**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.85	59	Pn	P	15 50 32.7	+0.2
	0.1nm,0.3s,baz=242,slow=15,SNR=6.3						
JIRN	Jiri	14.51	346	eP	P	15 51 32.8	-2.3
	3.7nm,0.3s						
PKI	Pulchoki	14.63	343	eP	P	15 51 36.3	-0.3
DMN	Daman	14.75	343	eP	P	15 51 38.4	+0.2
KKN	Kakani	14.87	343	eP	P	15 51 39.9	+0.2
GKN	Gorkha	15.26	342	eP	P	15 51 46.4	+1.6
	7.2nm,0.3s						
KOLN	Koldanda	15.39	338	eP	P	15 51 53.0	+6.5
	5.6nm,0.5s						
WRA	Warramunga Arr	54.82	127	P	P	15 57 38.8	-0.8
	0.8nm,0.7s,mb3.9,baz=300,slow=9.9,SNR=22						
WRA				PcP	PcP	15 58 45.8	+4.4
	0.3nm,0.5s,baz=314,slow=3.5,SNR=5.1						
ASAR	Alice Springs	56.61	130	P	P	15 57 53.1	+0.7
	0.6nm,0.4s,mb4.0,baz=310,slow=7.0,SNR=28						

*NEIC **03** 15:55:57.1, 52.31N×163.72W, h21^{km}, ML3.8(AEIC), After AEIC.*
*IDC **03** 15:55:59.7±1.6, 52.74N×162.99W, mb3.9/7, mb1 4.2/9, mb1mx4.0/23, mbtmp3.9/9, ML4.2/2, Error ellipse: s-maj=32.2km s-min=24.5km az=20.0*
ISC 03 15:55:54.1±1.4**,52.41N**±0.06×**163.66W**±0.06**,h6^{km}**±10^{km}**, n41,σ1^{s}11**/49**,mb3.8**/7**,South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKUT	Akutan	2.15	325	P	Pn	15 56 31.3	+0.4
WESS	West Dahl Sout	2.17	343	P	Pn	15 56 32.2	+1.0
WESS				S	Sn	15 56 59.2	+0.5
WESN	West Dahl Nort	2.24	346	P	Pn	15 56 33.1	+0.9
WFAR	Faris Peak	2.24	343	P	Pn	15 56 33.4	+1.2
UNV	Unalaska Valle	2.24	311	P	Pn	15 56 31.9	-0.3
UNV				S	Sn	15 56 58.3	-2.1
LVA	Lava Point	2.26	322	P	Pn	15 56 33.1	+0.6
SSLS	Shishaldin Sou	2.32	355	P	Pn	15 56 34.2	+0.9
SSLS				S	Sn	15 57 03.0	+0.5
SSLW	Shishaldin Wes	2.39	354	P	Pn	15 56 35.1	+0.8
SSLW				S	Sn	15 57 05.5	+1.3
MTBL	Makushin Table	2.40	312	P	Pn	15 56 34.7	+0.2
MTBL				S	Sn	15 57 03.8	-0.7
MSW	Makushin Switc	2.41	310	P	Pn	15 56 34.5	-0.2
MSW				S	Sn	15 57 03.7	-1.1
SSLN	Shishaldin Nor	2.42	355	P	Pn	15 56 36.3	+1.6
FALS	False Pass	2.46	3	P	Pn	15 56 36.0	+0.6
FALS				S	Sn	15 57 06.1	+0.1
DRIA	Deer Island	2.70	17	P	Pn	15 56 38.8	0.0
DRIA				S	Sn	15 57 11.8	-0.2
OKFG	Magazine Ridge	2.76	293	P	Pn	15 56 38.2	-1.4
DT1	Dutton Round H	2.83	16	P	Pn	15 56 40.9	+0.3
BALA	Baldy Mountain	2.84	10	P	Pn	15 56 41.0	+0.2
DTNA	Dutton South F	2.87	16	P	Pn	15 56 41.7	+0.5
DOL	Dolgoi Island	2.95	20	P	Pn	15 56 42.3	0.0
HAG	Hague Volcano	3.10	19	P	Pn	15 56 45.6	+1.2
PVV	Pavlof Volcano	3.17	20	P	Pn	15 56 46.8	+1.3
SDPT	Sand Point	3.50	31	P	Pn	15 56 50.9	+0.7
KAWH	Katmai	7.83	37	P	Pn	15 57 49.2	-2.0
KAHC	Katmai Hardscr	7.95	35	P	Pn	15 57 51.6	-1.3
KDAK	Kodiak Island	8.32	45	eP	P	15 57 56.9	-1.2
RSO	Redoubt South	10.07	32	eP	P	15 58 21.7	-0.4
PWA	Palmer West	11.90	33	eP	P	15 58 45.7	-1.3
PMR	Palmer	12.11	35	eP	P	15 58 47.6	-2.4
EYAK	Cordova Ski Ar	12.79	43	eP	P	15 58 56.9	-2.1
DIV	Divide	13.10	41	eP	P	15 59 01.2	-1.9
THY	Trims Highway	14.51	34	eP	P	15 59 19.4	-2.1
MENT	Mentasta	14.93	37	eP	P	15 59 25.4	-1.6
ILAR	Eielson Array	15.10	28	Pn	P	15 59 24.6	-4.6
	0.4nm,0.3s,baz=221,slow=13,SNR=21						
DAWY	Dawson	17.17	38	eP	P	15 59 54.9	-0.8
DLBC	Dease Lake	19.87	59	Pn	P	16 00 29.3	+0.9
	0.4nm,0.3s,baz=274,slow=11,SNR=5.2						
INK	Inuvik	21.46	31	P	P	16 00 44.5	-0.4
	21nm,1.2s,mb4.3,baz=230,slow=11,SNR=11						
YKA	Yellowknife Ar	27.57	49	P	P	16 01 44.1	+0.9
	0.6nm,0.6s,mb3.4,baz=266,slow=8.3,SNR=16						
NVAR	Mina Array Bea	34.17	96	P	P	16 02 43.3	+1.5
	1.3nm,0.8s,mb3.9,baz=306,slow=7.5,SNR=8.5						
PDAR	Pinedale Array	36.94	83	P	P	16 03 06.8	+1.4
	1.3nm,0.6s,mb3.9,baz=310,slow=4.8,SNR=12						
ULM	Lac du Bonnet	41.00	65	P	P	16 03 40.1	+1.1
	0.9nm,0.5s,mb3.7,baz=300,slow=8.9,SNR=4.1						
TXAR	Lajitas Array	49.25	94	P	P	16 04 45.9	+0.8
	1.4nm,0.8s,mb4.0,baz=297,slow=5.6,SNR=6.9						
SONM	Songino Array	54.24	304	P	P	16 05 28.2	+5.8
	0.4nm,0.7s,mb3.5,baz=63,slow=6.4,SNR=3.4						

IDC 03 16:00:46.2±1.0**,53.01S×21.12E,mb3.8**/4**,mb1 4.0**/4**, mb1mx3.7**/16**,mbtmp3.9**/4**,MS3.3**/2**,Ms1 3.3**/2**, ms1mx2.7**/18**,Error ellipse: s-maj=42.1km s-min=30.1km az=83.0,South of Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	20.62	359	P	P	16 05 27.3	-2.2
	11nm,1.0s,baz=214,slow=7.3,SNR=3.8						
SNAA	Sanae	21.48	201	P	P	16 05 36.5	-1.6
	3.1nm,1.1s,baz=45,slow=10.0,SNR=3.9						
LBTB	Lobatse	28.16	9	LR	LR	16 16 10.5	
	comp=Z,59nm,21.9s,baz=97,slow=33						
MATP	Matopo	33.02	13	LR	LR	16 18 59.7	
	comp=Z,62nm,19.8s,baz=20,slow=33						
ASAR	Alice Springs	84.06	122	P	P	16 13 18.8	-1.0
	0.6nm,0.8s,baz=207,slow=6.0,SNR=3.6						
WRA	Warramunga Arr	87.36	120	P	P	16 13 35.1	-1.1
	0.6nm,0.9s,baz=208,slow=4.1,SNR=3.4						
WB2	Warramunga Arr	87.37	120	eP	P	16 13 41.2	+5.0
WB2				eS	tx	16 16 03.3	
PDAR	Pinedale Array	146.01	273	PKPbc	PKPbc	16 20 25.8	-1.4
	1.1nm,0.9s,baz=132,slow=3.2,SNR=7.3						
NVAR	Mina Array Bea	148.62	259	PKPbc	PKPdf	16 20 34.0	+1.5
	0.8nm,0.8s,baz=132,slow=4.8,SNR=6.1						
YKA	Yellowknife Ar	155.04	310	PKPab	PKPab	16 21 04.4	-1.6
	0.9nm,1.1s,baz=93,slow=5.0,SNR=6.3						

*NEIC **03** 16:26:17.5, 16.56N×95.78W, h57^{km}, mb3.6/2, MD3.9(MEX), After MEX.*
MEX 03 16:26:17.5±0.7**,16.56N×95.78W,h57^{km}**±18^{km}**,MD3.9, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.84	202	eP	P	16 26 31.3	-2.2
HUIG				i S	S	16 26 43.5	-2.0
CMIG	Matias Romero	1.01	58	i P	P	16 26 34.0	-1.8
CMIG				i S	S	16 26 47.2	-2.1
OXX	Oaxaca	1.04	300	i P	P	16 26 35.0	-1.3
OXX				i S	S	16 26 47.5	-2.6
VHO	Vista Hermosa	1.05	299	i P	P	16 26 35.0	-1.3
VHO				i S	S	16 26 48.0	-2.2
MNTX	Cornudas Mount	17.42	332	P	P	16 30 13.6	-4.5
	1.8nm,0.6s						
WMOK	Wichita Mounta	18.30	352	P	P	16 30 27.9	-1.2
	3.7nm,0.6s						

*NEIC **03** 16:39:26.5±2.3, 6.81S×127.65E, h230^{km}±23^{km}, mb4.1/3, Error ellipse: s-maj=26.1km s-min=18.3km az=223.0*
*IDC **03** 16:39:33.4±5.6, 7.42S×127.19E, h272^{km}±31^{km}, mb3.2/1, mb1 3.6/3, mb1mx3.2/11, mbtmp4.2/3, Error ellipse: s-maj=108.4km s-min=45.9km az=70.0*
ISC 03 16:39:26.1±1.6**,6.94S**±0.09×**127.5E**±0.1**,h238^{km}**±16^{km}**, n12,σ0^{s}76**/17**,mb3.6**/1**,1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.53	140	⇓iP	P	16 41 14.5	+0.4
	8.5nm,0.6s						
KAKA				eS	S	16 42 32.9	-5.7
FITZ	Fitzroy Crossi	11.24	189	eP	P	16 42 02.0	+0.5
	6.2nm,0.5s						
FITZ				eS	S	16 44 02.2	-1.5
WRAB	Tennant Creek	14.53	153	eP	P	16 42 41.9	-0.6
	5.7nm,0.6s						
WRA	Warramunga Arr	14.54	153	P	P	16 42 41.8	-0.7
	0.7nm,0.3s,baz=328,slow=12,SNR=53						
WRA				S	S	16 45 18.8	+1.0
	0.3nm,0.3s,baz=327,slow=19,SNR=8.3						
WB2	Warramunga Arr	14.54	153	eP	P	16 42 41.8	-0.8
WB2				eS	S	16 45 18.3	+0.4
MBWA	Marble Bar	16.01	207	eP	P	16 43 01.8	+1.6
ASPA	Alice Springs	17.74	160	eP	P	16 43 19.5	+0.4
ASAR	Alice Springs	17.74	160	P	P	16 43 19.4	+0.3
	1.9nm,0.3s,baz=345,slow=12,SNR=165						
ASAR				S	S	16 46 26.1	0.0
	0.1nm,0.3s,baz=334,slow=22,SNR=4.0						
ASAR				ScP		16 50 53.8	
	0.0nm,0.3s,baz=351,slow=2.4,SNR=5.5						
STKA	Stephens Creek	28.09	154	P	P	16 44 57.5	-0.5
	0.5nm,0.3s,mb3.6,baz=338,slow=9.9,SNR=5.5						
STKA	Stephens Creek	28.09	154	P	P	16 44 57.5	-0.5
STKA				eP		16 44 57.7	
TAU	Tasmania Unive	39.87	157	P	P	16 46 37.7	-0.5
LSA	Lhasa	50.46	318	P	P	16 48 01.7	-0.1

*NEIC **03** 16:42:25.2±3.6, 6.31S×147.96E, h102^{km}±23^{km}, mb4.2/1, Error ellipse: s-maj=61.1km s-min=24.7km az=79.0*
*IDC **03** 16:42:30.7±5.1, 6.69S×147.69E, h115^{km}±31^{km}, mb3.2/3, mb1 3.5/5, mb1mx3.3/13, mbtmp3.7/5, Error ellipse: s-maj=73.6km s-min=32.6km az=78.0*
ISC 03 16:42:27.8±3.9**,6.6S**±0.2×**147.7E**±0.4**,h111^{km}**±25^{km}**,n9, σ1^{s}15**/12**,mb3.7**/4**,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.88	190	P	P	16 43 13.4	+0.2
	14nm,0.3s,baz=9.0,slow=5.6,SNR=100						
PMG				S	S	16 43 47.4	-0.1
	8.8nm,0.3s,baz=221,slow=22,SNR=7.2						
PMG	Port Moresby	2.88	190	P	P	16 43 13.4	+0.2
PMG				e		16 43 18.9	
PMG				eSn	S	16 43 38.0	-9.5
PMG				S	S	16 43 47.4	-0.1
WRA	Warramunga Arr	18.57	223	P	P	16 46 37.3	-1.4
	0.3nm,0.3s,baz=44,slow=11,SNR=4.2						
ASAR	Alice Springs	21.56	216	P	P	16 47 10.8	+1.2
	0.9nm,0.3s,mb3.6,baz=50,slow=8.7,SNR=16						
ASPA	Alice Springs	21.56	216	eP	P	16 47 10.8	+1.2
STKA	Stephens Creek	25.83	192	P	P	16 47 49.6	-1.0
	1.3nm,0.7s,mb3.4,baz=48,slow=12,SNR=2.5						
KULM	Kulim	48.38	283	P	P	16 51 00.0	-0.7
CM31	Chiang Mai Arr	54.09	298	P	P	16 51 40.1	-3.6
	2.7nm,1.0s,mb4.2						
CMAR	Chiang Mai Arr	54.09	298	P	P	16 51 45.0	+1.3
	0.3nm,0.5s,mb3.5,baz=122,slow=6.0,SNR=4.4						

*NEIC **03** 16:45:50.0, 16.13N×97.55W, h14^{km}, MD3.6(MEX), After MEX.*
MEX 03 16:45:49.8±0.7**,16.10N×97.55W,h14^{km}**±23^{km}**,MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.63	298	i P	Pb	16 46 00.0	-2.0
PNIG				i S	Sb	16 46 08.6	-1.8
VHO	Vista Hermosa	1.25	39	i P	Pb	16 46 09.5	-3.1
VHO				i S	Sb	16 46 23.9	-4.4
OXX	Oaxaca	1.26	39	eP	Pb	16 46 09.5	-3.3
OXX				i S	Sb	16 46 25.0	-3.7
CMIG	Matias Romero	2.74	69	eP	Pn	16 46 30.8	-3.5
CMIG				i S	Sn	16 47 02.3	-5.2
FFD	Franklin Falls	35.07	34	eP	P	16 52 40.6	-3.8

*OMAN **03** 16:52:28.8, 29.31N×55.85E, Error ellipse: s-maj=33.1km s-min=2.9km az=350.0*
*IDC **03** 16:52:54.4±0.6, 27.25N×56.06E, mb4.3/19, mb1 4.5/22, mb1mx4.4/25, mbtmp4.4/22, ML4.0/2, MS3.3/7, Ms1 3.3/7, ms1mx3.2/28, Error ellipse: s-maj=16.3km s-min=15.4km az=36.0*
*MOS **03** 16:52:56.8±0.7, 27.19N×56.10E, h33^{km}, mb4.8/13, Error ellipse: s-maj=14.5km s-min=6.4km az=112.9*
*TEH **03** 16:52:57.4, 27.03N×55.90E, h10^{km}, Mn4.3*
*BJI **03** 16:52:57.4, 27.30N×56.00E, h35^{km}, mB4.9, mb4.6, Ms4.9, Msz4.4*
*NEIC **03** 16:52:59.5±0.2, 27.22N×56.01E, mb4.7/60, MS4.4/1, MN4.3(TEH), Error ellipse: s-maj=5.4km s-min=3.6km az=198.0*
*THR **03** 16:52:59.8±0.3, 27.65N×56.16E, h18^{km}±6^{km}, ML4.1*
*CSEM **03** 16:52:59.0±0.1, 27.17N×55.94E, h50^{km}, mb4.6/10, Ms3.9, Error ellipse: s-maj=3.3km s-min=1.8km az=63.0*
ISC 03 16:52:58.4±0.4**,27.26N**±0.02×**55.98E**±0.03**,h41^{km}**±3^{km}**, h34^{km}**±2.5^{km}**:pP-P,n229,σ1^{s}06**/241**,mb4.6**/84**,MS3.9**/14**, 11C-2D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	Banah	1.36	168	P	P	16 53 22.7	+1.3
	SNR=115						
BANOM				P		16 53 22.7	
	SNR=115						
ASHO	Ashiyiah	2.56	178	P	P	16 53 40.4	+1.9
	SNR=91						
ASHO				P		16 53 40.4	
	SNR=91						
KRBR	Kerman	2.80	14	Pg	P	16 53 43.0	+1.2
KRBR	Kerman	2.80	14	ePG	P	16 53 43.2	+1.4
KRBR				AML	AML	16 54 31.8	
	comp=N,1μm,0.6s						
GHIR	Ghir-Karzin	2.84	292	ePN	P	16 53 47.0	+4.6
GHIR				AML	AML	16 55 10.8	
	comp=N,732nm,0.6s						
GHIR	Ghir-Karzin	2.84	292	Pn	P	16 53 46.0	+3.6
ISRV	Sarvestan	3.29	311	Pn	P	16 53 55.4	+6.6
IMOK	Mook	3.39	303	Pn	P	16 53 54.4	+4.3
IPAR	Pars	3.64	316	Pn	P	16 53 55.4	+1.6
SHI	Shiraz	3.87	309	Pn	P	16 53 59.2	+2.3
ARQ	Araqi	3.94	173	P	P	16 53 59.4	+1.5
	SNR=19						
ARQ				P		16 53 59.4	
	SNR=19						
BIDO	Bidbid	4.20	152	P	P	16 54 00.0	-1.6
	SNR=14						
BIDO				P		16 54 00.0	
	SNR=14						
IMEH	Mehriz	4.29	344	Pn	P	16 54 04.4	+1.5

IBAF	Bafgh	4.33	355	Pn	P	16 54 03.9	+0.4
SMDO	Samad	4.58	155	P	P	16 54 06.8	-0.2
	SNR=19						
SMDO				P		16 54 06.8	
	SNR=19						
BSY	Bisya	4.63	166	P	P	16 54 08.0	+0.3
	SNR=11						
BSY				P		16 54 08.0	
	SNR=11						
BSYO	Bisya	4.65	165	P	P	16 54 08.0	0.0
	SNR=11						
ZHSF	Zahedan	4.83	60	ePn	P	16 54 09.0	-1.6
ZHSF	Zahedan	4.83	60	ePN	P	16 54 09.4	-1.2
ICHK	Chekchek	5.15	345	Pn	P	16 54 16.1	+1.0
JMDO	Jabal Madar	5.24	158	P	P	16 54 15.9	-0.3
	SNR=12						
JMDO				P		16 54 15.9	
	SNR=12						
WBK	Wadi Bani Khal	5.37	149	P	P	16 54 16.6	-1.5
	SNR=7.7						
WBK				P		16 54 16.6	
	SNR=7.7						
IBRJ	Borojen	6.08	319	Pn	P	16 54 32.3	+4.2
NASN	Na'in	6.17	334	ePn	P	16 54 28.0	-1.3
NASN	Na'in	6.17	334	ePN	P	16 54 29.0	-0.3
NASN				AML	AML	16 55 45.0	
	comp=N,50nm,0.6s						
RDF	Al-Radifah	7.63	285	eP	P	16 54 49.1	-0.6
NAY	Al-Naaiem	7.96	286	eP	P	16 54 53.7	-0.5
RST	Umm Al-Ruwaisa	8.22	288	eP	P	16 54 57.0	-0.9
IVRN	Varamin	8.53	336	Pn	P	16 55 00.7	-1.5
IQOM	Qom	8.65	332	Pn	P	16 55 01.5	-2.4
IQOM				Sn	S	16 56 37.0	-4.3
IFIR	Firoozkooh	8.80	343	Pn	P	16 55 05.2	-0.7
ASAO	Ashtian	8.88	326	ePn	P	16 55 06.0	-1.1
ASAO	Ashtian	8.88	326	ePN	P	16 55 06.8	-0.3
IDMV	Damavand	8.95	339	Pn	P	16 55 08.9	+0.9
IDMV	Damavand	8.95	339	Pn	P	16 55 05.2	-2.8
DAMV	Damavand	9.02	339	ePn	P	16 55 07.0	-2.0
DAMV	Damavand	9.02	339	ePN	P	16 55 07.7	-1.3
SHAO	Shalim	9.20	182	P	P	16 55 11.0	-0.5
	SNR=22						
SHAO				P		16 55 11.0	
	SNR=22						
IMOG	Moghan	9.28	17	Pn	P	16 55 13.5	+1.0
IAFJ	Afjeh	9.31	338	Pn	P	16 55 13.8	+0.8
WHFO	Wadi Hawf	9.51	193	P	P	16 55 15.2	-0.6
	SNR=26						
WHFO				P		16 55 15.2	
	SNR=26						
IPAY	Payeh	9.52	15	Pn	P	16 55 16.0	+0.1
IMHD	Mahdasht	9.54	333	Pn	P	16 55 14.7	-1.5
IMHD				Sn	S	16 56 58.8	-4.5
IRAZ	Razeghan	9.63	329	Pn	P	16 55 15.6	-1.8
IRAZ				Sn	S	16 57 00.5	-4.8
IMYA	Miamay	9.71	20	Pn	P	16 55 19.3	+0.8
RBK	Rabkut	9.84	190	P	P	16 55 20.4	0.0
	SNR=12						
RBK				P		16 55 20.4	
	SNR=12						
ABTO	Aybut	10.16	195	P	P	16 55 23.0	-1.8
	SNR=24						
ABTO				P		16 55 23.0	
	SNR=24						
RAYN	Ar Rayn	10.17	251	Pn	P	16 55 22.3	-2.6
	comp=N,225nm,0.7s,SNR=40						
IVIS	Veys	10.67	315	Pn	P	16 55 30.4	-1.3
IDHR	Dehrash	11.07	314	Pn	P	16 55 36.1	-1.1
BHD	Baghdad	11.68	304	eP	P	16 54 46.0	-59
BHD				eS	S	16 57 41.0	-14
BHD				ePcP		16 59 40.5	
BHD				eLQ		16 59 54.5	
BHD				eLR	LR	17 00 37.0	
SHKI	Saki	15.68	335	eP	P	16 56 39.0	+1.1
GNI	Garni	15.88	327	i P	P	16 56 46.1	+5.6
GNI				pmax	pmax		
	comp=Z,123nm,1.2s						
GNI	Garni	15.88	327	Pn	P	16 56 43.9	+3.4
	comp=Z,1.7nm,0.3s,baz=343,slow=0.9,SNR=19						
GNI				LR	LR	17 03 19.9	
	comp=Z,208nm,18.0s,baz=343,slow=39						
GNI	Garni	15.88	327	i P	P	16 56 46.1	+5.6
	comp=Z,123nm,1.2s						
ASF	Jabal al Asfar	17.28	291	P	P	16 56 58.7	+0.6
	comp=Z,0.7nm,0.3s,baz=340,slow=6.1,SNR=4.6						
ASF				LR	LR	17 05 19.6	
	comp=Z,26nm,19.8s,baz=328,slow=43						
ZEI	Tsey	18.34	331	eP	P	16 57 13.6	+2.3
ONI	Oni	18.38	329	P	P	16 57 15.1	+3.1
MALT	Malatya	18.39	311	eP	P	16 57 12.5	+0.6
	comp=Z,9.1nm,0.8s						
EIL	Elat	18.64	282	P	P	16 57 15.8	+0.7
	comp=Z,0.3nm,0.3s,baz=116,slow=12,SNR=6.5						
EIL	Elat	18.64	282	eP	P	16 57 14.9	-0.2
	comp=Z,18nm,0.9s						
DDI	Dehra Dun	19.59	76	e	P	16 57 27.0	+1.2
KIV	Kislovodsk	19.82	331	eP	P	16 57 28.0	-0.2
KIV				eS	S	17 01 05.0	+1.0
KIV				pmax	pmax		
	comp=Z,30nm,0.7s						
KIV				pmax	pmax		
	comp=N,13nm,0.5s						
KIV				pmax	pmax		
	comp=E,15nm,0.7s						
KIV				MLR	MLR		
	comp=N,14nm,19.0s						
KIV				MLR	MLR		
	comp=E,28nm,19.0s						
KIV				MLR	MLR		
	comp=Z,52nm,19.0s						
KIV	Kislovodsk	19.82	331	eP	P	16 57 28.0	-0.2
	comp=Z,30nm,0.7s						
KIV				eS	S	17 01 05.0	+1.0
GOF	Gofitskoye	20.56	333⇑	iP	P	16 57 35.3	-0.8
GOF				pmax	pmax		
	comp=Z,70nm,1.3s						
KSH	Kashi	20.64	49	eP	P	16 57 36.1	-0.8
KSH				eAP		16 57 43.9	
KSH				eXP		16 57 48.7	
KSH				ePP	PP	16 57 57.2	-1.8
KSH				ePPP	PPP	16 58 05.4	-2.9
KSH				LR	LR		
	comp=N,150nm,5.1s						
KSH				LR	LR		
	comp=E,270nm,4.6s						
AML	Almayashu	20.73	40	P	P	16 57 36.3	-1.5
	SNR=23						
SOC	Sochi	20.94	325	eP	P	16 57 38.6	-1.3
SOC				eS	S	17 01 24.3	-1.7
SOC				pmax	pmax		
	comp=Z,37nm,1.1s						
SOC				pmax	pmax		
	comp=N,54nm,1.0s						
SOC				pmax	pmax		
	comp=E,36nm,1.2s						
SOC				MLR	MLR		
	comp=N,160nm,12.0s,MS3.8						
SOC				MLR	MLR		
	comp=Z,193nm,12.0s,MS3.7						
SOC				MLR	MLR		
	comp=E,133nm,11.0s,MS3.8						
EKS2	Erkin-Say	21.12	39	P	P	16 57 41.3	-0.6
	SNR=30						
AAK	Ala-Archa	21.51	40	P	P	16 57 45.3	-0.4
	SNR=11						
AAK	Ala-Archa	21.51	40c	iP	P	16 57 44.3	-1.4
AAK				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.6						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.4						
AAK	Ala-Archa	21.51	40⇑	iP	P	16 57 44.3	-1.4
	comp=Z,28nm,1.2s,mb4.6						
AAK				LR	LR		
	comp=Z,100nm,14.0s,MS3.4						
KZA	Kyzart	21.61	42	P	P	16 57 46.2	-0.4
	SNR=19						
FRU	Bishkek	21.71	39	eP	P	16 57 51.0	+3.4
KBK	Karagaybulak	21.78	40	P	P	16 57 48.6	+0.2
	SNR=7.8						
CHMS	Chumysh	21.89	39	P	P	16 57 51.6	+2.1
	SNR=5.7						
USP	Ospenovka	21.92	38	P	P	16 57 52.0	+2.3
	SNR=12						
ULHL	Ulahol	22.30	43	P	P	16 57 53.5	0.0
	SNR=9.8						
ANN	Anapa	22.96	325	eP	P	16 58 06.3	+6.3
ISP	Isparta	23.85	303	i P	P	16 58 13.0	+4.3
KOLN	Koldanda	24.49	82	eP	P	16 58 16.3	+1.2
	comp=Z,26nm,1.3s,mb4.5						
GKN	Gorkha	25.38	82	eP	P	16 58 24.5	+0.9
	comp=Z,28nm,1.3s,mb4.6						
KKN	Kakani	25.97	82	eP	P	16 58 29.4	+0.3
	comp=Z,25nm,1.0s,mb4.7						
PKI	Pulchoki	26.10	82	eP	P	16 58 30.7	+0.4
	comp=Z,31nm,1.3s,mb4.7						
JIRN	Jiri	26.78	82	eP	P	16 58 36.6	0.0
	comp=Z,18nm,1.0s,mb4.6						
BVAR	Borovoye Array	27.89	19	P	P	16 58 45.8	-0.6
	comp=Z,9.9nm,0.8s,mb4.5,baz=202,slow=8.0,SNR=56						
BVAR				PcP	PcP	17 02 01.9	+0.3
	comp=Z,0.4nm,0.4s,baz=211,slow=1.9,SNR=4.5						
CHKZ	Chkalovo	28.53	18	eP	P	16 58 49.4	-2.7
	comp=Z,9.2nm,1.3s,mb4.3						
KURK	Kurchatov	29.08	30	i P	P	16 58 56.4	-0.6
MLR	Muntele Rosu	30.01	315	P	P	16 59 07.5	+2.1
	comp=Z,4.3nm,0.8s,mb4.2,baz=64,slow=5.9,SNR=5.7						
WMQ	Urumqi	30.41	49	P	P	16 59 08.7	-0.2
WMQ				AP	pP	16 59 18.0	-2.1
WMQ				XP	sP	16 59 22.0	-3.3
WMQ				PP	PP	17 00 09.0	-0.3
WMQ				S	S	17 04 05.5	-0.1
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,65nm,3.7s						
WMQ				LR	LR		
	comp=N,470nm,19.4s,MS4.3						
WMQ				LR	LR		
	comp=E,413nm,20.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,366nm,18.6s,MS4.1						
LSA	Lhasa	30.94	77	eP	P	16 59 14.9	+1.1
AKASG	Malin Array Be	31.01	326	i P	P	16 59 13.3	-0.9
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKASG	Malin Array Be	31.01	326	P	P	16 59 13.2	-0.9
	comp=Z,5.0nm,0.7s,mb4.5,baz=130,slow=7.9,SNR=18						
AKASG	Malin Array Be	31.01	326	i P	P	16 59 13.3	-0.9
	comp=Z,5.0nm,0.7s,mb4.5						
OBN	Obninsk	31.21	338	i P	P	16 59 16.1	+0.2
OBN				e	pP	16 59 28.8	+1.7
OBN						17 00 29.0	
OBN				pmax	pmax		
	comp=Z,34nm,1.6s,mb4.9						
OBN	Obninsk	31.21	338	i P	P	16 59 16.1	+0.2
	comp=Z,34nm,1.6s,mb4.9						
OBN				e	pP	16 59 28.8	+1.7
OBN				e		17 00 29.0	
MOS	Moscow	31.40	340	eP	P	16 59 17.7	+0.1
MOS				e		17 04 22.6	
SKO	Skopje	31.75	307	eP	P	16 59 11.0	-10
KMBO	Kilima Mbogo	33.48	216	i P	P	16 59 41.3	+5.2
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	Kilima Mbogo	33.48	216	P	P	16 59 36.3	+0.2
	comp=Z,0.5nm,0.3s,mb4.0,baz=124,slow=7.3,SNR=3.1						
KMBO	Kilima Mbogo	33.48	216	P	P	16 59 38.7	+2.6
	comp=Z,2.0nm,0.7s,mb4.2						
KOLS	Kolonicke sedl	33.81	319	i P	P	16 59 40.1	+1.5
KWP	Kalwaria	33.89	320	eP	P	16 59 42.2	+2.9
	comp=Z,13nm,1.0s,mb4.8						
ZAL	Zalesovo	34.05	31	P	P	16 59 39.4	-1.2
	comp=Z,3.0nm,0.4s,mb4.6,baz=232,slow=8.6,SNR=6.8						
ZAL				LR	LR	17 15 10.2	
	comp=Z,58nm,21.7s,MS3.3,baz=335,slow=39						
CRVS	Cervenica-Dubn	34.28	318	i P	P	16 59 43.1	+0.5
CRVS				e		17 01 07.0	
TIP	Timpagrande	34.65	300	P	P	16 59 42.4	-3.5
PSZ	Piszkesteto	34.81	316	eP	P	16 59 47.0	-0.2
	comp=Z,6.8nm,0.9s,mb4.6						
VYHS	Vyhne	35.69	316	i P	P	16 59 55.0	+0.3
OJC	Ojcow	35.83	320	eP	P	16 59 56.0	+0.1
SUW	Suwalki	35.96	327	eP	P	16 59 56.3	-0.6
MBAR	Mbarara	36.83	225	eP	P	17 00 04.5	-0.2
	comp=Z,3.4nm,1.0s,mb4.1						
MORC	Moravsky Berou	36.97	318	eP	P	17 00 05.0	-0.4
	comp=Z,17nm,1.4s,mb4.7						
VSU	Vasula	37.27	335	i P	P	17 00 07.3	-0.5
AQU	L'Aquila	37.66	305	eP	P	17 00 12.7	+1.4
	comp=Z,34nm,1.0s,mb5.0						
DPC	Dobruska-Polom	37.92	318	eP	P	17 00 13.8	+0.4
DPC				e		17 00 17.8	
KSP	Ksiaz	38.13	319	eP	P	17 00 13.0	-2.1
UPC	Upice	38.16	318	eP	P	17 00 16.3	+0.9
UPC				ex	x	17 00 20.0	
GTA	Gaotai	38.23	60	P	P	17 00 16.6	+0.5
GTA				AP	pP	17 00 25.8	-1.7
GTA				XP	sP	17 00 30.5	-2.1
GTA				S	S	17 06 04.6	-2.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,65nm,5.3s						
GTA				LR	LR		
	comp=Z,129nm,17.9s,MS3.8						
KBA	Koelnbreinsper	38.72	312⇑	iP	P	17 00 21.7	+1.6
	comp=Z,9.4nm,1.0s,mb4.5						
PRU	Pruhonice	38.86	317	eP	P	17 00 21.4	+0.2
GERES	GERESS Array B	39.00	315	P	P	17 00 22.7	+0.3
	comp=Z,5.2nm,1.1s,mb4.2,baz=115,slow=6.3,SNR=10						
PVCC	Panska Ves	39.03	318	eP	P	17 00 22.9	+0.3
PVCC				ex	x	17 00 28.1	
JOF	Joensuu	39.17	342	ep	P	17 00 24.1	+0.5
	comp=Z,3.8nm,0.3s,mb4.6						
JOF	Joensuu	39.17	342	eP	P	17 00 24.1	+0.5
JOF				pmax	pmax		
	comp=Z,4.0nm,0.3s,mb4.6						
KHC	Kasperske Hory	39.17	315	eP	P	17 00 23.8	0.0
KHC				ex	x	17 00 28.2	
BRG	Berggiesshubel	39.52	318	eP	P	17 00 27.5	+0.8
BRG				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
BRG	Berggiesshubel	39.52	318	eP	P	17 00 27.5	+0.8
	comp=Z,6.6nm,1.1s,mb4.3						
FINES	FINESS Array B	39.62	338	i P	P	17 00 27.7	+0.3
FINES				pmax	pmax		
	comp=Z,3.0nm,0.5s						
FINES	FINESS Array B	39.62	338	P	P	17 00 27.6	+0.3
	comp=Z,2.6nm,0.5s,mb4.3,baz=132,slow=8.2,SNR=21						
FINES				LR	LR	17 17 56.5	
	comp=Z,24nm,20.9s,MS3.0,baz=173,slow=38						
WTTA	Wattenberg	39.90	312⇑	iP	P	17 00 30.7	+0.8
	comp=Z,15nm,0.8s,mb4.8						
WATA	Walderalm	39.95	312⇑	iP	P	17 00 31.0	+0.7
	comp=Z,16nm,1.1s,mb4.7						
KAF	Kangasniemi	40.03	339	ep	P	17 00 31.2	+0.4
	comp=Z,0.5nm,0.4s,mb3.6						
KAF	Kangasniemi	40.03	339	eP	P	17 00 31.2	+0.4
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
SQTA	Sankt Quirin	40.17	312⇑	iP	P	17 00 31.9	-0.2
	comp=Z,5.7nm,0.8s,mb4.3						
NKC	Novy Kostel	40.21	317	eP	P	17 00 32.7	+0.3
NKC				ex	x	17 00 36.8	
CLL	Collm	40.23	319	eP	P	17 00 33.0	+0.4
CLL	Collm	40.23	319	P	P	17 00 33.0	+0.4
MOTA	Moosalm	40.27	312⇑	iP	P	17 00 32.8	-0.1
	comp=Z,13nm,1.5s,mb4.4						
VSL	Villasalto	40.37	300	eP	P	17 00 34.9	+1.0
	comp=Z,28nm,1.2s,mb4.9						
CMAR	Chiang Mai Arr	40.39	93	P	P	17 00 34.3	+0.1
	comp=Z,0.2nm,0.4s,baz=264,slow=9.1,SNR=2.5						
GRA1	Grafenberg Arr	40.80	316	eP	P	17 00 37.5	+0.2
	comp=Z,12nm,1.1s,mb4.4						
GRF	Grafenberg Arr	40.80	316	eP	P	17 00 37.5	+0.2
GRF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.4						
GRF	Grafenberg Arr	40.80	316	eP	P	17 00 37.5	+0.2
	comp=Z,12nm,1.1s,mb4.4						
MOX	Moxa	40.84	317	eP	P	17 00 42.0	+4.3
DAVA	Damuels	41.07	312⇑	iP	P	17 00 40.2	+0.7
	comp=Z,14nm,0.7s,mb4.7						
LZH	Lanzhou	41.33	65	eP	P	17 00 40.3	-1.6
LZH				AP	pP	17 00 50.7	-2.6
LZH				XP	sP	17 00 54.8	-3.5
LZH				PP	PP	17 02 19.5	-1.0
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb4.6						
LZH				AMB	AMB		
	comp=Z,112nm,5.2s						
LZH				LR	LR		
	comp=N,446nm,13.1s						
LZH				LR	LR		
	comp=Z,637nm,17.0s,MS4.6						
LZH	Lanzhou	41.33	65	eP	P	17 00 40.3	-1.6
	comp=Z,25nm,1.5s,mb4.6						
LZH				pP	pP	17 00 50.7	-2.6
LZH				sP	sP	17 00 54.8	-3.5
LZH				PP	PP	17 02 19.5	-1.0
LZH				LR	LR		
	comp=Z,640nm,17.0s,MS4.6						
KMI	Kunming	41.83	82	P	P	17 00 46.5	+0.4
KMI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.4						
KMI	Kunming	41.83	82	P	P	17 00 46.5	+0.4
	comp=Z,13nm,1.2s,mb4.4						
SBF	Sospel	42.19	306	eP	P	17 00 48.6	-0.2
	comp=Z,32nm,0.8s,mb4.7						
ZAK	Zakamensk	42.57	44⇑	eP	P	17 00 51.3	-0.5
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.8						
MBDF	Montbardon	42.77	307	eP	P	17 00 52.7	-0.8
	comp=Z,31nm,1.1s,mb4.7						
LPG	La Plagne	42.88	308	eP	P	17 00 54.7	+0.2
	comp=Z,15nm,0.8s,mb4.5						
LPL	La Plagne	42.90	309	eP	P	17 00 53.9	-0.7
	comp=Z,18nm,1.0s,mb4.5						
CDF	Champ du Feu	43.02	313	eP	P	17 00 54.3	-1.2
HINF	Hinteralfeld	43.18	312	eP	P	17 00 55.8	-1.1
ORIF	Oris-en-Rattie	43.42	308	eP	P	17 00 58.8	-0.1
ORIF				eR			
	comp=Z,81nm,22.5s						
CABF	La Chapelle	43.50	310	eP	P	17 01 00.4	+0.9
	comp=Z,74nm,1.4s,mb4.9						
SMRF	Simiane la Rot	43.54	306	eP	P	17 00 59.6	-0.2
HAU	Haudompre	43.55	312	eP	P	17 00 58.7	-1.1
	comp=Z,11nm,0.9s,mb4.3						
HAU				eR			
	comp=Z,72nm,22.0s						
WLF	Walferdange	43.99	314	P	P	17 01 03.8	+0.4
SONM	Songino Array	44.05	48	P	P	17 01 04.2	+0.3
	comp=Z,5.6nm,0.9s,mb4.3,baz=261,slow=9.2,SNR=53						
ULN	Ulaanbaatar	44.49	48c	iP	P	17 01 07.5	+0.1
ULN	Ulaanbaatar	44.49	48	eP	P	17 01 07.2	-0.2
	comp=Z,12nm,1.1s,mb4.5						
MEZF	Maizieres J'vi	44.49	313	eP	P	17 01 06.8	-0.6
LASF	Ste Croix	44.79	306	eP	P	17 01 09.3	-0.5
GIVF	Givet	44.92	315	eP	P	17 01 11.2	+0.4
	comp=Z,50nm,1.2s,mb4.9						
GYA	Guiyang	44.97	79	P	P	17 01 11.9	+0.4
GYA				AP	pP	17 01 21.7	-1.4
GYA				XP	sP	17 01 26.6	-1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,230nm,5.9s						
GYA				LR	LR		
	comp=N,80nm,16.1s,MS3.9						
GYA				LR	LR		
	comp=E,100nm,17.5s,MS3.9						
GYA				LR	LR		
	comp=Z,140nm,16.8s,MS4.0						
SMF	Signal de Mont	45.04	310	eP	P	17 01 11.1	-0.7
	comp=Z,22nm,1.0s,mb4.7						
DOU	Dourbes	45.06	315	P	P	17 01 13.3	+1.3
NB2	NORSAR Subarra	45.12	331	P	P	17 01 11.1	-1.2
	comp=Z,1.9nm,0.6s,mb4.1,baz=117,slow=7.9						
NOA	NORSAR Array B	45.12	331	P	P	17 01 11.2	-1.1
	comp=Z,2.6nm,0.7s,mb4.2,baz=118,slow=7.9,SNR=30						
NOA				LR	LR	17 20 10.2	
	comp=Z,29nm,19.4s,MS3.2,baz=85,slow=36						
BAIF	Baives	45.30	315	eP	P	17 01 14.4	+0.5
	comp=Z,69nm,1.3s,mb5.0						
SSF	Saint Saulge	45.32	310	eP	P	17 01 13.4	-0.6
	comp=Z,22nm,1.0s,mb4.7						
AVF	Avril sur Loir	45.39	310	eP	P	17 01 13.8	-0.8
BGF	Bois d'Agland	45.71	310	eP	P	17 01 16.4	-0.8
	comp=Z,9.4nm,0.7s,mb4.5						
ARE0	ARCESS Array S	45.87	346	P	P	17 01 18.4	+0.2
ARCES	ARCESS Array B	45.87	346	P	P	17 01 18.7	+0.6
	comp=Z,5.8nm,0.9s,mb4.5,baz=139,slow=8.6,SNR=30						
ARCES				LR	LR	17 23 22.5	
	comp=Z,55nm,19.4s,MS3.5,baz=192,slow=40						
MTLF	Montolieu	45.93	305	eP	P	17 01 19.1	+0.1
	comp=Z,21nm,1.0s,mb4.7						
TCF	Toulx Ste Croi	46.12	309	eP	P	17 01 20.0	-0.4
	comp=Z,26nm,1.1s,mb4.8						
RJF	Les Rejaudoux	46.53	308	eP	P	17 01 23.6	-0.1
	comp=Z,28nm,0.9s,mb4.9						
RJF				eR			
	comp=Z,73nm,18.1s						
HHC	Hu-ho-hao-te	47.28	58	eP	P	17 01 30.5	+0.9
HHC				AP	pP	17 01 39.2	-1.9
HHC				XP	sP	17 01 44.0	-2.0
HHC				PP	PP	17 03 22.7	+2.5
HHC				PCS		17 06 53.8	
HHC				S	S	17 08 21.9	+2.8
HHC				XS		17 08 38.6	
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,87nm,5.2s						
EPF	Esparros	47.30	305	eP	P	17 01 29.7	0.0
LDF	La Druitiere	47.91	312	eP	P	17 01 34.9	+0.5
ETSF	Etsaut	47.96	304	eP	P	17 01 35.0	+0.1
	comp=Z,22nm,1.0s,mb4.8						
FLN	La Foliniere	48.16	312	eP	P	17 01 35.4	-1.0
	comp=Z,105nm,1.4s,mb5.4						
FLN				eR			
	comp=Z,88nm,20.2s						
BOD	Bodaibo	50.42	36	eP	P	17 01 52.1	-1.6
BOD				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
WHN	Wuhan	50.72	72	eP	P	17 01 58.0	+1.7
NJ2	Nanjing	54.18	69	eP	P	17 02 20.6	-1.5
NJ2				AP	pP	17 02 30.6	-3.3
NJ2				XP	sP	17 02 34.1	-4.6
NJ2				PP	PP	17 04 22.7	-2.7
NJ2				S	S	17 09 52.0	-2.6
NJ2				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,800nm,5.0s						
NJ2				LR	LR		
	comp=N,1µm,21.2s,MS5.0						
NJ2				LR	LR		
	comp=E,1µm,20.6s,MS5.0						
MATP	Matopo	54.36	212	P	P	17 02 23.7	+0.1
	comp=E,4.1nm,0.7s,mb4.5,baz=24,slow=11,SNR=7.6						
MATP	Matopo	54.36	212	P	P	17 02 23.7	+0.1
JMIC	Jan Mayen	56.22	339	LR	LR	17 31 50.3	
	comp=E,83nm,18.3s,MS3.9,baz=254,slow=42						
SSE	Sheshan	56.34	69	P	P	17 02 34.7	-3.0
SSE				AP	pP	17 02 46.0	-3.6
SSE				S	S	17 10 21.3	-2.1
SSE				XS		17 10 41.2	
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,82nm,4.5s						
SSE				LR	LR		
	comp=N,256nm,27.8s,MS4.3						
SSE				LR	LR		
	comp=E,233nm,27.9s,MS4.3						
SSE				LR	LR		
	comp=Z,321nm,21.1s						
SSE	Sheshan	56.34	69	P	P	17 02 34.7	-3.0
	comp=Z,27nm,0.7s,mb5.4						
SSE				pP	pP	17 02 46.0	-3.6
SSE				S	S	17 10 21.3	-2.1
SSE				sS		17 10 41.2	
SSE				LR	LR		
	comp=Z,320nm,21.1s,MS4.4						
CN2	Changchun	57.30	54	eP	P	17 02 43.5	-0.9
CN2				eAP	pP	17 02 53.5	-2.8
CN2				eS	S	17 10 35.0	-0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CN2				LR	LR		
	comp=N,500nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,17.0s,MS4.8						
CN2				LR	LR		
	comp=Z,500nm,18.0s,MS4.7						
YAK	Yakutsk	58.70	32	i P	P	17 02 51.9	-2.0
YAK				pmax	pmax		

comp=Z,13nm,2.0s,mb4.6
TIXI Tiksi 59.00 21 *i* P **P 17 02 54.3 -1.6**
TIXI pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
KLR Kul'dur 60.83 47 *e*P **P 17 03 04.7 -4.0**
DBIC Dimbokro 61.09 262 P **P 17 03 10.1 -0.9**
comp=Z,1.7nm,0.5s,mb4.4,baz=37,slow=11,SNR=4.4
DBIC Dimbokro 61.09 262 *e*P **P 17 03 08.7 -2.3**
comp=Z,6.3nm,1.0s,mb4.7
BOSA Boshof 62.88 210 *e*P **P 17 03 22.8 0.0**
comp=Z,8.9nm,1.4s,mb4.7
BOSA Boshof 62.88 210 *e*P **P 17 03 22.8 0.0**
comp=Z,8.9nm,1.4s,mb4.7
SUMG Summit 65.56 341 *e*P **P 17 03 40.4 +0.8**
comp=Z,7.6nm,0.9s,mb4.7
YSS Yuzh-Sakhalins 68.52 47⇓*i*P **P 17 03 58.0 -0.6**
YSS *e* 17 04 05.8
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 68.52 47⇓*i*P **P 17 03 58.0 -0.6**
comp=Z,30nm,1.0s,mb5.2
YSS *e* 17 04 05.8
MA2 Magadan 69.25 33 *i* P **P 17 04 02.1 -0.7**
MA2 pmax pmax
comp=Z,22nm,2.1s,mb4.7
MA2 Magadan 69.25 33 *i* P **P 17 04 02.1 -0.7**
comp=Z,22nm,2.1s,mb4.7
BILL Bilibino 72.19 22 *i* P **P 17 04 20.4 0.0**
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
BILL Bilibino 72.19 22 *i* P **P 17 04 20.4 0.0**
comp=Z,6.0nm,1.3s,mb4.4
RES Resolute Bay 76.56 352 *e*P **P 17 04 45.5 0.0**
comp=Z,7.5nm,1.4s,mb4.4
FRB Frobisher Bay 79.42 338 P **P 17 05 02.5 +1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=59,slow=7.8,SNR=3.6
FRB Frobisher Bay 79.42 338 P **P 17 05 02.5 +1.0**
FITZ Fitzroy Crossi 81.17 116 *e*P **P 17 05 12.3 +0.6**
comp=Z,6.5nm,0.9s,mb4.6
KAKA Kakadu 84.05 107 *e*P **P 17 05 27.0 +0.4**
comp=Z,6.1nm,0.6s,mb4.9
IMA Indian Mountai 84.24 12 *e*P **P 17 05 27.3 +0.9**
comp=Z,34nm,1.0s,mb5.4
INK Inuvik 84.47 4 P **P 17 05 28.2 +0.8**
comp=Z,3.5nm,0.9s,mb4.5,baz=4.6,slow=5.6,SNR=10
INK Inuvik 84.47 4 *e*P **P 17 05 27.8 +0.4**
comp=Z,9.8nm,1.2s,mb4.8
SCHQ Schefferville 84.69 331 P **P 17 05 31.1 +2.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=55,slow=8.0,SNR=7.7
SCHQ Schefferville 84.69 331 *e*P **P 17 05 29.9 +1.0**
comp=Z,19nm,1.4s,mb5.0
COLA College 86.32 10 *e*P **P 17 05 35.0 -1.7**
comp=Z,5.8nm,0.9s,mb4.8
ILAR Eielson Array 86.56 10 P **P 17 05 38.4 +0.6**
comp=Z,2.0nm,0.7s,mb4.5,baz=317,slow=5.0,SNR=19
MCK McKinley 87.21 11 *e*P **P 17 05 41.7 +0.7**
comp=Z,26nm,1.5s,mb5.2
DAWY Dawson 88.19 7 *e*P **P 17 05 46.8 +1.1**
WRA Warramunga Arr 89.17 113 P **P 17 05 51.4 0.0**
comp=Z,1.6nm,1.0s,mb4.3,baz=306,slow=4.1,SNR=8.2
WB2 Warramunga Arr 89.18 113 *e*P **P 17 05 52.5 +1.0**
YKW3 Yellowknife Ar 90.18 356 *e*P **P 17 05 56.3 +1.1**
YKA Yellowknife Ar 90.25 356 P **P 17 05 57.0 +1.6**
comp=Z,1.3nm,0.8s,mb4.3,baz=5.0,slow=4.8,SNR=24
YKA Yellowknife Ar 90.25 356 P **P 17 05 57.0 +1.5**
ASAR Alice Springs 90.64 116 P **P 17 05 58.8 +0.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=308,slow=4.8,SNR=12

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*BJI **03** 17:10:19.7, 3.12N×95.75E, h24^{km}, mB5.1, mb5.2, Ms4.8, Msz4.5*
*IDC **03** 17:10:20.9±3.3, 3.12N×95.74E, h19^{km}±20^{km}, mb4.6/21, mb1 4.7/22, mb1mx4.6/25, mbtmp4.7/22, ML5.0/1, MS4.3/12, Ms1 4.3/12, ms1mx4.1/22, Error ellipse: s-maj=20.8km s-min=12.9km az=49.0*
*MOS **03** 17:10:21.9±0.9, 3.25N×95.73E, h33^{km}, mb5.3/28, MS4.5/12, Error ellipse: s-maj=15.1km s-min=6.6km az=105.9*
*NEIC **03** 17:10:22.0±0.2, 3.12N×95.73E, mb5.0/56, Error ellipse: s-maj=4.9km s-min=3.5km az=220.0*
*HRVD **03** 17:10:22.0±0.7, 2.77N×95.49E, h40^{km}±1^{km}, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s20,c29;Mantle waves: s38,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.83±.17; $M_{\theta\theta}$1.69±.11; $M_{\phi\phi}$0.13±.13; $M_{r\theta}$-1.15±.09; $M_{\theta\phi}$-0.25±.09; $M_{\phi r}$0.05±.13; Best double couple: $M_0$2.119×10^{16} NP1:ϕ_s282°, δ29°, λ-84°. NP2:ϕ_s95°, δ61°, λ-93°. Principal axes: T 2.065, Plg16°, Azm188°; N .103, Plg3°, Azm97°; P -2.173, Plg73°, Azm358°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 03 17:10:20.2±0.2, **3.08N**±0.03×**95.72E**±0.03, **h27**^{km}, **h27**^{km}±.8^{km}**:pP-P, n251,** σ**1**^{s}**05**/265, **mb5.0**/109, **MS4.5**/39, **14C-20D, Off west coast of northern Sumatera**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
KULM Kulim 5.38 66 *e*Pn **Pn 17 11 42.2 +1.3**
IPM Ipoh 5.50 74 P **Pn 17 11 43.6 +1.1**
SNG Songkhla 6.35 50 P **Pn 17 11 56.0 +1.4**
880nm,1.0s
KGM Kluang 7.67 98 P **Pn 17 12 14.1 +1.1**
NNT Nongplab 10.25 23 P **P 17 12 51.0 +2.1**
PENI Pendagan 12.77 132⇑*i*P **P 17 13 17.4 -5.5**
127nm,0.5s
PENI ⇓*i*pP 17 13 18.4
NST Nakhon Sawan 13.24 19 P **P 17 13 31.3 +2.1**
PULI Pulasari 13.88 132⇑*i*P **P 17 13 31.6 -6.2**
BDT Bhumibol Dam 14.44 13 P **P 17 13 46.0 +1.0**
KSM Kuching 14.66 96 *e*P **P 17 13 46.4 -1.6**
CM31 Chiang Mai Arr 15.60 11 *e*P **P 17 13 58.9 -1.4**
107nm,0.8s
CM31 *e* 17 14 04.2
CMAR Chiang Mai Arr 15.60 11 *i* P **P 17 14 00.6 +0.4**
CMAR pmax pmax
comp=Z,56nm,0.9s
CMAR Chiang Mai Arr 15.60 11 Pn **P 17 13 59.5 -0.7**
comp=Z,2.1nm,0.3s,baz=210,slow=14,SNR=172
CMAR LR LR 17 20 52.7
comp=Z,2µm,18.7s,baz=195,slow=41
CMAR ScP 17 22 34.9
comp=Z,0.0nm,0.3s,baz=234,slow=2.8,SNR=7.4
NANT Nan 16.36 17 P **P 17 14 11.0 +1.1**
CHRT Chiangrai 17.15 13 ⇓P **P 17 14 20.0 +0.1**
comp=Z,190nm,0.8s
MDRS Chennai 18.23 304 *e*P **P 17 14 34.0 +0.6**
MDRS *e* 17 18 04.0
MDRS *e* 17 19 10.0
VIS Vishakhapatnam 18.95 321 *e*P **P 17 14 41.5 -0.6**
VIS *e* 17 14 45.6
comp=Z,30nm,0.8s
VIS *e*S **S 17 18 07.6 -1.4**
TRD Trivandrum 19.42 287 *e*P **P 17 14 48.8 +1.2**
TRD *e* 17 14 49.5
comp=Z,55nm,0.9s
BWNR Bhubaneshwar 19.65 331 *e*P **P 17 14 47.6 -2.5**
BWNR *i* 17 14 50.6
BWNR *e* 17 14 52.0
comp=Z,60nm,0.7s
BWNR *e*S **S 17 18 23.0 -1.6**
KKM Kota Kinabalu 20.64 81 *e*P **P 17 15 00.3 -0.2**
KKM Kota Kinabalu 20.64 81 P **P 17 15 00.5 0.0**
QIZ Qiongzhong 21.02 40 P **P 17 15 04.3 -0.1**
QIZ S **S 17 18 52.7 +0.4**
QIZ SS SS 17 19 21.5 -3.6
QIZ LR LR
comp=N,883nm,16.0s,MS4.5
QIZ LR LR
comp=E,1µm,17.3s,MS4.5
QIZ LR LR
comp=Z,910nm,19.8s,MS4.2
QIZ Qiongzhong 21.02 40 *e*P **P 17 15 03.4 -1.0**
KELI Kelakatan 21.83 121⇓*i*P **P 17 15 14.1 +1.5**
HYB Hyderabad 22.06 311 *e*P **P 17 15 15.5 +0.6**
comp=Z,50nm,1.0s,mb4.9
HYB Hyderabad 22.06 311⇓*i*P **P 17 15 15.5 +0.6**
comp=Z,50nm,1.0s,mb4.9
HYB *e*S **S 17 19 29.0 +17**
KMI Kunming 22.93 17 P **P 17 15 24.7 +1.2**
KMI AP 17 15 32.3
KMI PP PP 17 15 56.8 +3.5
KMI S **S 17 19 32.7 +5.3**
KMI XS 17 19 45.8
KMI SSS SSS 17 20 36.6 +9.1
KMI AMB AMB
comp=Z,67nm,0.8s,mb5.1
KMI AMB AMB
comp=Z,123nm,5.0s
KMI LR LR
comp=N,2µm,14.1s,MS4.7
KMI LR LR
comp=E,646nm,14.8s,MS4.7
KMI LR LR
comp=Z,2µm,14.2s,MS4.7
KMI Kunming 22.93 17 P **P 17 15 24.7 +1.2**
comp=Z,67nm,0.8s,mb5.1
KMI pP 17 15 32.3
KMI PP PP 17 15 56.8 +3.5
KMI S **S 17 19 32.7 +5.3**
KMI sS 17 19 45.8
KMI SS SS 17 20 21.0 +9.0
KMI SSS SSS 17 20 36.6 +9.1
KMI LR LR
comp=Z,2µm,14.2s,MS4.7
RATI Rata 22.97 121⇓*i*P **P 17 15 21.9 -2.2**
BLSP Bilaspur 23.07 326 *e*P **P 17 15 25.0 +0.1**
KEDI Kedomdong 23.36 120⇑*i*P **P 17 15 27.3 -0.5**
TANI Tanete Lipujan 24.52 105⇓*i*P **P 17 15 40.1 +1.0**
comp=Z,37nm,0.7s,mb5.0
KAD Karad 25.43 305 *e*P **P 17 15 49.2 +1.5**
KAD *e* 17 15 52.2
comp=Z,28nm,1.4s
DGAR Diego Garcia 25.45 246 P **P 17 15 49.0 +1.0**
comp=Z,23nm,0.7s,mb4.8
DGAR *e*pP pP 17 15 55.8 +0.1
BUNI Buntu Taipa 25.48 105⇑*i*P **P 17 15 49.4 +1.1**
GYA Guiyang 25.50 23⇑*i*P **P 17 15 48.6 +0.3**
GYA AP pP 17 15 55.6 -0.5
GYA XP sP 17 15 57.5 -2.2
GYA PP PP 17 16 29.0 +1.2
GYA S **S 17 20 12.5 +1.1**
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.6
GYA AMB AMB
comp=Z,230nm,6.2s
GYA LR LR
comp=N,790nm,15.0s,MS4.5
GYA LR LR
comp=E,640nm,14.4s,MS4.5
GYA LR LR
comp=Z,930nm,14.6s,MS4.4
ALBI Allahabad 25.84 330 *e*P **P 17 15 51.5 +0.1**
JIRN Jiri 26.08 340 *e*P **P 17 15 54.5 +0.9**
comp=Z,247nm,0.6s,mb5.9
PKI Pulchoki 26.27 339 *e*P **P 17 15 55.7 +0.3**
comp=Z,76nm,0.5s,mb5.5
POO Poona 26.34 307 *e*P **P 17 15 57.0 +0.8**
DMN Daman 26.41 338 *e*P **P 17 15 57.0 +0.3**
comp=Z,92nm,0.7s,mb5.4
KKN Kakani 26.51 339 *e*P **P 17 15 58.0 +0.4**
comp=Z,207nm,0.7s,mb5.8
BHPL Bhopal 26.74 320 *e*P **P 17 16 00.9 +1.1**
BHPL *e* 17 19 46.2
LSA Lhasa 26.82 351 P **P 17 16 01.1 +0.6**
LSA Lhasa 26.82 351 *e*P **P 17 16 00.4 -0.1**
comp=Z,69nm,0.7s,mb5.3
GKN Gorkha 26.94 338 *e*P **P 17 16 02.0 +0.4**
comp=Z,205nm,0.7s,mb5.8
KOLN Koldanda 27.14 336 *e*P **P 17 16 03.6 +0.2**
comp=Z,299nm,0.8s,mb5.9
CD2 Chengdu 28.70 14 P **P 17 16 16.0 -1.4**
CD2 AMB AMB
comp=Z,52nm,0.7s,mb5.4
ENH Enshi 30.02 24 *e*P **P 17 16 26.4 -2.9**
comp=Z,13nm,0.6s,mb4.8
LGTI Lohaghat 30.06 332⇑*i*P **P 17 16 29.5 -0.1**
NDI New Delhi 30.96 327 *e*P **P 17 16 35.5 -2.1**
DDI Dehra Dun 31.83 330 *e* **P 17 16 43.0 -2.3**
WHN Wuhan 32.50 31 *e*P **P 17 16 51.5 +0.4**
XAN Xi'an 33.17 20 P **P 17 16 55.3 -1.5**
XAN AMB AMB
comp=Z,65nm,0.7s,mb5.7
XAN LR LR
comp=N,306nm,17.3s,MS4.4
XAN LR LR
comp=E,523nm,14.7s,MS4.4
XAN LR LR
comp=Z,725nm,15.6s,MS4.5
SDNR Sundarnagar 33.33 330 *e*P **P 17 16 58.5 +0.2**
MBWA Marble Bar 33.67 137 *e*P **P 17 17 00.3 -1.0**
comp=Z,18nm,0.8s,mb5.0
MBWA *e*pP pP 17 17 08.6 -0.7
LZH Lanzhou 33.69 12 ⇓P **P 17 16 59.7 -1.6**
LZH AP pP 17 17 08.0 -1.3
LZH XP sP 17 17 11.1 -1.6
LZH PP PP 17 18 12.8 -1.6
LZH *e*S **S 17 22 21.5 -0.2**
LZH XS 17 22 33.6
LZH SS SS 17 24 27.5 +0.1
LZH AMB AMB
comp=Z,54nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,157nm,5.1s
LZH LR LR
comp=N,1µm,12.5s
LZH LR LR
comp=Z,2µm,16.7s,MS4.9
LZH Lanzhou 33.69 12 ⇓P **P 17 16 59.7 -1.6**
comp=Z,54nm,1.5s,mb5.3
LZH pP pP 17 17 08.0 -1.3
LZH sP sP 17 17 11.1 -1.6
LZH PP PP 17 18 12.8 -1.6
LZH *e*S **S 17 22 21.5 -0.2**
LZH sS 17 22 33.6
LZH SS SS 17 24 27.5 +0.1
LZH LR LR
comp=Z,2µm,16.7s,MS4.9
THN Thein Dam 34.71 329 *e*P **P 17 17 08.1 -2.1**
comp=Z,21nm,0.7s,mb5.2
NJ2 Nanjing 36.10 34 *e*P **P 17 17 21.4 -0.6**
NJ2 AP pP 17 17 31.2 +1.2
NJ2 XP sP 17 17 35.3 +1.9
NJ2 PP PP 17 18 43.6 -0.9
NJ2 PPP PPP 17 19 03.6 -0.9
NJ2 S **S 17 22 56.0 -3.0**
NJ2 XS 17 23 12.0
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,240nm,4.2s
NJ2 LR LR
comp=N,1µm,20.2s,MS4.7
NJ2 LR LR
comp=E,898nm,21.4s,MS4.7
NJ2 LR LR
comp=Z,5µm,24.2s,MS5.2
FITZ Fitzroy Crossi 36.23 127 *e*P **P 17 17 21.4 -1.8**
comp=Z,11nm,0.6s,mb5.0
GTA Gaotai 36.35 5 P **P 17 17 22.9 -1.1**
GTA AP pP 17 17 32.0 0.0
GTA XP sP 17 17 35.3 -0.1
GTA PP PP 17 18 42.8 -4.9
GTA PPP PPP 17 19 01.4 -6.3
GTA PCP PcP 17 19 49.0 +0.4
GTA S **S 17 22 56.0 -6.8**
GTA XS 17 23 12.4
GTA SCP 17 23 34.6
GTA SCS ScS 17 27 37.6 +0.9
GTA AMB AMB
comp=Z,32nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,108nm,4.9s
GTA LR LR
comp=N,428nm,14.4s,MS4.4
GTA LR LR
comp=E,247nm,16.7s,MS4.4
GTA LR LR
comp=Z,593nm,15.2s,MS4.5
SSE Sheshan 36.79 38 P **P 17 17 27.9 +0.1**
SSE AP pP 17 17 36.7 +0.9
SSE XP sP 17 17 40.6 +1.4
SSE PP PP 17 18 52.8 -0.7
SSE S **S 17 23 11.2 +1.6**
SSE XS 17 23 27.5
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,207nm,5.8s
SSE LR LR
comp=N,358nm,23.8s,MS4.1
SSE LR LR
comp=E,189nm,23.8s,MS4.1
SSE LR LR
comp=Z,423nm,16.8s
SSE Sheshan 36.79 38 P **P 17 17 27.9 +0.1**
comp=Z,33nm,0.7s,mb5.3
SSE pP pP 17 17 36.7 +0.9
SSE sP sP 17 17 40.6 +1.4
SSE PP PP 17 18 52.8 -0.7
SSE S **S 17 23 11.2 +1.6**
SSE sS 17 23 27.5
SSE SS SS 17 25 53.9 +16
SSE LR LR
comp=Z,420nm,16.8s,MS4.3
JOW Kunigami 39.10 50 P **P 17 17 47.5 +0.3**
comp=Z,37nm,0.9s,mb5.1,baz=196,slow=4.7,SNR=5.0
BTO Baotou 39.52 17 *e*P **P 17 17 49.6 -1.0**
BTO AMB AMB
comp=Z,33nm,1.4s,mb4.9
KAKA Kakadu 39.70 114 *e*P **P 17 17 51.4 -0.9**
comp=Z,5.0nm,0.3s,mb4.7
MUN Mundaring 39.93 152 *e*P **P 17 17 55.1 +1.0**
comp=Z,7.1nm,0.6s,mb4.6
HHC Hu-ho-hao-te 40.22 19 *e*P **P 17 17 57.6 +1.3**
HHC AP pP 17 18 07.5 +3.1
HHC XP sP 17 18 10.4 +2.7
HHC PP PP 17 19 35.8 +3.3
HHC PCS 17 23 49.7
HHC S **S 17 24 03.4 +1.9**
HHC XS 17 24 21.2
HHC SCS ScS 17 27 58.7 -0.2
HHC AMB AMB
comp=Z,69nm,1.1s,mb5.3
HHC LR LR
comp=N,1µm,16.7s,MS4.8
HHC LR LR
comp=E,494nm,17.8s,MS4.8
HHC LR LR
comp=Z,1µm,16.0s,MS4.8
KSH Kashi 40.46 336 *e*P **P 17 17 58.8 +0.5**
KSH *e*AP pP 17 18 03.0 -3.4
KSH *e*XP sP 17 18 06.2 -3.5
KSH *e*PP PP 17 19 32.3 -2.6
KSH *e*PPP PPP 17 19 56.7 -5.8
KSH *e*PCP PcP 17 20 01.1 -0.3
KSH *e*SCP 17 23 46.5
KSH PCS 17 23 53.5
KSH S **S 17 24 05.2 +0.2**
KSH *e*SCS ScS 17 27 59.5 -0.8
KSH AMB AMB
comp=Z,190nm,4.1s
KSH LR LR
comp=N,210nm,5.1s
KSH LR LR
comp=E,90nm,4.6s
BJT Baijiatuau 41.17 24 *e*P **P 17 18 04.7 +0.6**
comp=E,64nm,0.8s,mb5.3
WMQ Urumqi 41.18 351⇓*i*P **P 17 18 04.4 +0.2**
WMQ AP pP 17 18 12.0 -0.3
WMQ XP sP 17 18 15.0 -0.6
WMQ PP PP 17 19 43.0 +0.7
WMQ PCP PcP 17 20 04.0 +0.3
WMQ SCP 17 23 51.0
WMQ S **S 17 24 16.0 +0.2**
WMQ AMB AMB
comp=Z,31nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,133nm,5.7s
WMQ LR LR
comp=N,578nm,15.3s,MS4.7
WMQ LR LR
comp=E,492nm,16.7s,MS4.7
WMQ LR LR
comp=Z,434nm,13.8s,MS4.5
BJI Beijing 41.19 24 P **P 17 18 05.3 +1.0**
BJI AP pP 17 18 13.4 +1.0
BJI XP sP 17 18 17.5 +1.8
BJI AMB AMB
comp=Z,109nm,0.8s,mb5.5
BJI AMB AMB
comp=Z,385nm,3.2s
BJI LR LR
comp=N,263nm,18.3s,MS4.5
BJI LR LR
comp=E,552nm,17.5s,MS4.5
BJI LR LR
comp=Z,265nm,21.5s,MS4.1
NWAO Narrogin (SRO) 41.20 152 P **P 17 18 05.0 +0.5**
comp=Z,17nm,1.1s,mb4.6,baz=311,slow=10,SNR=3.1
NWAO Narrogin (SRO) 41.20 152 P **P 17 18 05.0 +0.5**
ULHL Ulahol 42.71 339 P **P 17 18 17.7 +0.9**
SNR=24
DL2 Dalian 42.76 30 P **P 17 18 18.0 +0.8**
DL2 *e*S **S 17 24 41.6 +2.5**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.5
DL2 LR LR
comp=N,240nm,17.8s,MS4.2
DL2 LR LR
comp=E,190nm,17.7s,MS4.2
DL2 LR LR
comp=Z,430nm,18.2s,MS4.4
KZA Kyzart 42.93 338 P **P 17 18 20.0 +1.4**
SNR=9.1
UCH Uchtor 43.34 337 P **P 17 18 23.5 +1.5**
SNR=13
TKM2 Tokmak 2 43.53 338 P **P 17 18 24.3 +0.9**
SNR=15
KBK Karagaybulak 43.54 338 P **P 17 18 25.1 +1.5**
SNR=43
AML Almayashu 43.59 336 P **P 17 18 25.6 +1.6**
SNR=8.3
AAK Ala-Archa 43.70 337 P **P 17 18 27.4 +2.6**
SNR=10
AAK Ala-Archa 43.70 337*d i*P **P 17 18 24.9 +0.1**
AAK pmax pmax
comp=Z,17nm,0.8s,mb4.8
AAK MLR MLR
comp=Z,500nm,19.0s,MS4.4
AAK Ala-Archa 43.70 337 *e*P **P 17 18 24.4 -0.4**
FRU Bishkek 43.82 338 *e*P **P 17 18 27.0 +1.2**
FRU pmax pmax
comp=Z,158nm,2.2s,mb5.4
CHMS Chumysh 43.91 338 P **P 17 18 27.6 +1.0**
SNR=8.9
EKS2 Erkin-Say 44.00 337 P **P 17 18 28.7 +1.4**
SNR=22
USP Ospenovka 44.24 338 P **P 17 18 29.8 +0.7**
SNR=61
WRA Warramunga Arr 44.29 123 P **P 17 18 29.4 -0.5**
comp=Z,6.5nm,0.7s,mb4.5,baz=300,slow=9.4,SNR=126
WRAB Tennant Creek 44.29 123 *i* P **P 17 18 28.5 -1.4**
WRAB Tennant Creek 44.29 123 *e*P **P 17 18 29.1 -0.8**
comp=Z,18nm,0.6s,mb5.0
WB2 Warramunga Arr 44.30 123 *e*P **P 17 18 29.4 -0.6**
MKAR Makanchi Array 45.08 347 *i* P **P 17 18 35.3 -0.6**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
KS15 Wonju Array Si 45.16 37 *e*P **P 17 18 36.0 -0.6**
SONM Songino Array 45.52 10 P **P 17 18 39.2 -0.2**
comp=Z,21nm,0.8s,mb5.2,baz=190,slow=8.8,SNR=177
SONM PcP PcP 17 20 18.3 -0.1
comp=Z,5.2nm,0.7s,baz=189,slow=2.5,SNR=5.2
FORT Forrest 45.66 140 *e*P **P 17 18 41.6 +0.9**
comp=Z,489nm,0.6s
ULN Ulaanbaatar 45.67 11 *i* P **P 17 18 39.4 -1.1**
ULN Ulaanbaatar 45.67 11 *e*P **P 17 18 40.0 -0.5**
comp=Z,12nm,0.7s,mb4.9
ULN *e*PcP PcP 17 20 18.5 -0.4
ASPA Alice Springs 45.70 128 *e*P **P 17 18 41.0 -0.1**
ASAR Alice Springs 45.71 128 P **P 17 18 40.7 -0.5**
comp=Z,3.4nm,0.7s,mb4.4,baz=300,slow=7.9,SNR=53
ASAR ScP 17 24 10.3
comp=Z,0.9nm,0.8s,baz=330,slow=3.5,SNR=4.4
ASAR LR LR 17 38 30.4
comp=Z,161nm,18.4s,MS4.0,baz=298,slow=37
SNY Shenyang 45.95 29 ⇓P **P 17 18 42.4 -0.4**
SNY AMB AMB
comp=Z,60nm,0.6s,mb5.7
ZAK Zakamensk 47.56 7⇑*i*P **P 17 18 54.7 -0.8**
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.5
CN2 Changchun 48.34 29⇓*i*P **P 17 19 01.2 -0.4**

CN2 eAP pP 17 19 08.8 -1.0
CN2 eS **S** **17 25 59.8 +0.8**
CN2 AMB AMB
comp=Z,50nm,0.7s,mb5.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,600nm,19.0s,MS4.7
CN2 LR LR
comp=E,400nm,19.0s,MS4.7
CN2 LR LR
comp=Z,500nm,21.0s,MS4.5
MOY Mondy 48.62 4 eP **P** **17 19 03.3 -0.3**
MOY pmax pmax
comp=Z,21nm,2.7s,mb4.7
TLY Talaya 48.88 7 P **P** **17 19 06.1 +0.4**
comp=Z,168nm,0.7s,SNR=9.3
TLY Talaya 48.88 7 eP **P** **17 19 06.5 +0.8**
TLY e 17 20 30.0
TLY pmax pmax
comp=Z,21nm,0.8s,mb5.2
TLY MLR MLR
comp=Z,424nm,19.0s,MS4.5
TLY Talaya 48.88 7 eP **P** **17 19 05.8 +0.1**
comp=Z,30nm,0.9s,mb5.3
IRK Irkutsk 49.51 7 eP **P** **17 19 09.3 -1.2**
IRK pmax pmax
comp=Z,37nm,2.1s,mb5.0
KURK Kurchatov 49.61 346 P **P** **17 19 11.2 -0.1**
comp=Z,318nm,0.6s,SNR=48
KURK Kurchatov 49.61 346 P **P** **17 19 10.8 -0.5**
KURK pmax pmax
comp=Z,19nm,0.8s,mb5.2
KURK Kurchatov 49.61 346 eP **P** **17 19 10.8 -0.5**
comp=Z,36nm,0.7s,mb5.5
KURK epP pP 17 19 19.4 -0.1
HIA Hailar 50.37 20 eP **P** **17 19 16.5 -0.6**
comp=Z,32nm,0.9s,mb5.3
MDJ Mudanjiang 50.98 31 P **P** **17 19 21.9 +0.1**
MDJ AP pP 17 19 27.7 -2.4
MDJ XP sP 17 19 30.7 -2.5
MDJ PCS 17 24 32.3
MDJ S **S** **17 26 39.9 +4.2**
MDJ AMB AMB
comp=Z,23nm,0.7s,mb5.2
MDJ AMB AMB
comp=Z,46nm,3.1s
MDJ LR LR
comp=N,137nm,22.5s,MS4.2
MDJ LR LR
comp=E,183nm,20.0s,MS4.2
MDJ LR LR
comp=Z,277nm,19.0s,MS4.3
MAJO Matsushiro 51.34 44 eP **P** **17 19 24.0 -0.7**
comp=Z,7.6nm,0.7s,mb4.7
MAT Matsushiro 51.34 44 eP **P** **17 19 24.0 -0.7**
comp=Z,4.8nm,0.7s,mb4.5
MAT Matsushiro 51.34 44 P **P** **17 19 24.1 -0.6**
ZAL Zalesovo 51.48 352 P **P** **17 19 25.0 -0.5**
comp=Z,38nm,0.6s,mb5.5,baz=303,slow=6.0,SNR=204
ZAL LR LR 17 45 17.1
comp=Z,122nm,19.2s,MS4.0,baz=295,slow=41
RAYN Ar Rayn 52.58 297 P **P** **17 19 34.3 +0.1**
comp=Z,61nm,1.0s,SNR=12
NVS Novosibirsk 52.59 351 *i* P **P** **17 19 31.9 -1.9**
NVS *i* pP 17 19 40.1 -1.9
NVS eS **S** **17 26 57.8 +0.2**
NVS pmax pmax
comp=N,59nm,1.1s
NVS pmax pmax
comp=E,31nm,1.1s
NVS pmax pmax
comp=Z,46nm,1.1s,mb5.3
NVS smax
comp=N,16nm,1.6s
NVS smax
comp=E,9.0nm,1.6s
PMG Port Moresby 52.73 104 P **P** **17 19 35.6 +0.1**
comp=E,36nm,1.1s,mb5.2
BVA0 Borovoye Array 54.00 341 P **P** **17 19 43.3 -0.9**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BVAR Borovoye Array 54.00 341 P **P** **17 19 43.4 -0.8**
comp=Z,34nm,0.7s,mb5.4,baz=135,slow=8.4,SNR=213
CHKZ Chkalovo 54.48 342 P **P** **17 19 47.2 -0.6**
CHKZ pmax pmax
comp=Z,43nm,0.8s,mb5.4
CHKZ Chkalovo 54.48 342 eP **P** **17 19 47.1 -0.7**
comp=Z,88nm,0.8s,mb5.7
CTA Charters Tower 54.67 117 LR LR 17 46 39.8
comp=Z,309nm,19.8s,MS4.4,baz=108,slow=40
CTAO Charters Tower 54.67 117 eP **P** **17 19 49.5 -0.1**
comp=Z,30nm,1.3s,mb5.2
KLR Kul'dur 55.27 28 eP **P** **17 19 49.9 -3.7**
KLR e 17 20 06.0
KLR MLR MLR
comp=N,700nm,14.0s
KLR MLR MLR
comp=Z,900nm,14.0s,MS5.0
STKA Stephens Creek 55.71 132 eP **P** **17 19 59.1 +2.1**
comp=Z,3.5nm,0.6s,mb4.6
STKA Stephens Creek 55.71 132 P **P** **17 19 55.5 -1.5**
comp=Z,3.8nm,1.0s,mb4.4,baz=348,slow=9.3,SNR=4.6
STKA LR LR 17 47 59.7
comp=Z,290nm,19.2s,MS4.4,baz=116,slow=40
STKA Stephens Creek 55.71 132 eP **P** **17 19 54.9 -2.1**
BOD Bodaibo 56.46 12 ⇓*i* P **P** **17 20 01.3 -0.7**
BOD pmax pmax
comp=Z,17nm,1.1s,mb5.0
SHE Samaxi 56.49 318 *i* P **P** **17 19 58.5 -4.0**
ASAJ Asahikawa 58.08 38 LR LR 17 45 45.3
comp=Z,138nm,18.2s,MS4.1,baz=231,slow=37
CLNS Chul'man 58.41 18 eP **P** **17 20 15.5 -0.3**
CLNS e 17 21 06.2
CLNS e 17 22 18.8
CLNS eS **S** **17 28 16.4 +1.2**
CLNS eSS SS 17 32 08.5 -0.7
CLNS pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CLNS pmax pmax
comp=N,4.0nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax
comp=N,4.0nm,1.0s
CLNS smax
comp=Z,1.0nm,0.8s
CLNS smax
comp=E,3.0nm,1.0s
CLNS MLR MLR
comp=Z,1μm,16.0s,MS5.1
CLNS MLR MLR
comp=N,700nm,15.0s,MS4.9
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.9
KMBO Kilima Mbogo 58.59 267 P **P** **17 20 18.0 +0.3**
comp=E,3.0nm,1.0s,mb4.3,baz=59,slow=16,SNR=6.0
KMBO Kilima Mbogo 58.59 267 eP **P** **17 20 18.4 +0.7**
comp=E,7.4nm,0.9s,mb4.7
KMBO epP pP 17 20 26.6 +0.6
GNI Garni 58.92 316*d* *i* P **P** **17 20 18.9 -0.7**
GNI pmax pmax
comp=Z,25nm,1.9s
GNI MLR MLR
comp=Z,100nm,17.0s
GNI Garni 58.92 316 P **P** **17 20 19.1 -0.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=14,slow=14,SNR=4.1
GNI Garni 58.92 316 eP **P** **17 20 18.0 -1.6**
comp=Z,15nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 59.66 36⇑ eP **P** **17 20 24.7 +0.1**
YSS e pP 17 20 32.8 -0.2
YSS pmax pmax
comp=Z,30nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.7
YSS Yuzh-Sakhalins 59.66 36 eP **P** **17 20 23.4 -1.3**
comp=Z,54nm,1.4s,mb5.4
YSS epP pP 17 20 33.8 +0.8
SVE Sverdlovsk 60.40 339 ⇓*i* P **P** **17 20 29.1 -0.5**
SVE e pP 17 20 38.0 +0.1
SVE e 17 21 10.9
SVE e 17 22 40.0
SVE eS **S** **17 28 36.0 -5.0**
SVE pmax pmax
comp=Z,100nm,1.5s,mb5.6
SVE MLR MLR
comp=N,100nm,17.0s,MS4.5
SVE MLR MLR
comp=E,300nm,17.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,17.0s,MS4.5
KIV Kislovodsk 61.92 319 eP **P** **17 20 38.9 -1.2**
KIV pmax pmax
comp=Z,11nm,0.7s,mb5.1
KIV Kislovodsk 61.92 319 eP **P** **17 20 38.0 -2.0**
comp=Z,15nm,0.8s,mb5.2
MALT Malatya 62.78 312 eP **P** **17 20 43.4 -2.4**
comp=Z,19nm,1.3s,mb5.1
MALT epP pP 17 20 54.8 +0.6
EIL Elat 63.21 302 eP **P** **17 20 48.4 -0.3**
comp=Z,17nm,0.9s,mb5.2
SOC Sochi 63.74 318 eP **P** **17 20 48.8 -3.3**
SOC e 17 21 24.0
SOC e 17 23 09.9
SOC ePPP PPP 17 24 39.3 -6.4
SOC eS **S** **17 29 22.3 -1.1**
SOC e 17 30 40.5
SOC eSS SS 17 33 31.8 -1.2
SOC pmax pmax
comp=Z,22nm,0.7s,mb5.3
SOC pmax pmax
comp=N,13nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.6s
SOKR Solikamsk 63.80 339⇓ *i* P **P** **17 20 49.8 -2.4**
SOKR pmax pmax
comp=Z,40nm,0.8s,mb5.5
SOKR MLR MLR
comp=Z,180nm,18.0s,MS4.3
YAK Yakutsk 64.05 17*d* *i* P **P** **17 20 52.4 -1.4**
YAK e*PP pP 17 21 01.3 -0.9
YAK e 17 21 27.6
YAK e 17 23 18.4
YAK ePPP PPP 17 24 43.8 -4.8
YAK eS **S** **17 29 26.6 -0.3**
YAK e 17 30 39.8
YAK eSS SS 17 33 33.8 -3.6
YAK eSSS SSS 17 36 27.9 +1.6
YAK pmax pmax
comp=Z,42nm,0.9s,mb5.5
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,5.0nm,1.0s
YAK smax
comp=E,3.0nm,1.4s
YAK MLR MLR
comp=Z,350nm,15.0s,MS4.7
YAK MLR MLR
comp=N,415nm,20.0s,MS4.7
YAK MLR MLR
comp=E,236nm,17.0s,MS4.7
YAK Yakutsk 64.05 17 eP **P** **17 20 51.9 -1.9**
comp=E,125nm,1.0s,mb5.9
SIM Simferopol' 67.98 318 eP **P** **17 21 18.7 -0.6**
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.2
SKR Severo-Kuril's 69.20 36 eP **P** **17 21 25.0 -1.7**
SKR pmax pmax
comp=N,100nm,0.8s
SKR pmax pmax
comp=E,100nm,0.8s
SKR pmax pmax
comp=Z,120nm,0.8s,mb5.9
LSZ Lusaka 69.25 253 eP **P** **17 21 25.3 -2.2**
comp=Z,26nm,1.5s,mb4.9
LSZ epP pP 17 21 34.9 -1.0
MATP Matopo 69.87 247 P **P** **17 21 32.0 +0.7**
comp=Z,1.5nm,0.9s,baz=59,slow=5.9,SNR=2.2
MOS Moscow 69.97 329 eP **P** **17 21 29.1 -2.1**
MOS e pP 17 21 38.0 -1.6
OBN Obninsk 70.25 328K *i* P **P** **17 21 32.1 -0.9**
OBN e pP 17 21 40.2 -1.2
OBN pmax pmax
comp=Z,50nm,1.4s,mb5.2
OBN Obninsk 70.25 328 eP **P** **17 21 31.9 -1.0**
comp=Z,42nm,0.9s,mb5.4
OBN epP pP 17 21 40.6 -0.8
MA2 Magadan 70.30 26 *i* P **P** **17 21 32.7 -0.5**
MA2 pmax pmax
comp=Z,19nm,0.7s,mb5.1
MA2 MLR MLR
comp=Z,200nm,17.0s,MS4.4
MA2 Magadan 70.30 26 eP **P** **17 21 32.6 -0.6**
comp=Z,18nm,0.7s,mb5.1
PET Petropavlovsk 71.52 35 eP **P** **17 21 40.0 -0.7**
PET eS S 17 31 00.5 +4.1
PET pmax pmax
comp=Z,24nm,0.6s,mb5.3
PET MLR MLR
comp=Z,200nm,19.0s,MS4.4
TIXI Tiksi 71.61 11⇓ *i* P **P** **17 21 39.7 -1.3**
TIXI pmax pmax
comp=Z,39nm,0.7s,mb5.5
TIXI MLR MLR
comp=Z,355nm,19.0s,MS4.7
IDI Anoyia 72.60 306 P **P** **17 21 47.2 -0.4**
comp=Z,8.5nm,0.7s,mb4.8,baz=80,slow=10,SNR=7.0
SEY Seymchan 72.63 24 eP **P** **17 21 48.7 +1.6**
SEY 17 24 31.1
SEY eS S 17 31 09.1 +0.2
SEY e 17 31 46.6
SEY eSS SS 17 35 53.3 +2.7
SEY eSSS SSS 17 38 56.7 -3.5
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.1
SEY pmax pmax
comp=N,30nm,1.1s
SEY MLR MLR
comp=E,420nm,22.0s,MS4.9
SEY MLR MLR
comp=Z,770nm,22.0s,MS4.9
SEY MLR MLR
comp=N,600nm,23.0s,MS4.9
AKASG Malin Array Be 72.87 322 P **P** **17 21 47.5 -1.3**
comp=N,4.6nm,0.6s,mb4.6,baz=90,slow=5.4,SNR=31
VRI Vrincioaia 73.24 317⇑ P **P** **17 21 51.5 +0.5**
VRI Vrincioaia 73.24 317⇑ P **P** **17 21 51.5 +0.5**
LBTB Lobatse 73.41 243 LR LR 17 50 23.3
comp=N,284nm,19.3s,MS4.6,baz=231,slow=33
LBTB Lobatse 73.41 243 P **P** **17 21 54.6 +2.2**
comp=N,10nm,0.9s,mb4.8
LBTB epP pP 17 22 00.3 -0.6
MLR Muntele Rosu 73.69 317 P **P** **17 21 53.1 -0.6**
comp=N,8.6nm,0.8s,mb4.7,baz=111,slow=5.6,SNR=12
MLR Muntele Rosu 73.69 317⇑ P **P** **17 21 54.0 +0.3**
MLR Muntele Rosu 73.69 317⇑ P **P** **17 21 54.0 +0.3**
BOSA Boshof 74.45 239 P **P** **17 21 57.8 -0.5**
comp=N,9.5nm,1.0s,mb4.7
BOSA epP pP 17 22 06.4 -0.4
BURAR Bucovina Array 74.64 319⇑ P **P** **17 21 59.8 +0.7**
BURAR Bucovina Array 74.64 319⇑ P **P** **17 21 59.8 +0.7**
PUL Pulkovo 75.14 332 *i* P **P** **17 22 01.1 -0.6**
JOF Joensuu 75.82 335 *ep* **P** **17 22 02.5 -3.0**
comp=N,15nm,0.8s,mb5.0
JOF Joensuu 75.82 335 eP **P** **17 22 02.5 -3.0**
JOF pmax pmax
comp=Z,15nm,0.8s,mb5.0
LVV L'vov 75.88 321 eP **P** **17 22 05.9 -0.3**
LVV e pP 17 22 16.3 +1.7
VSU Vasula 76.49 330 *i* P **P** **17 22 09.1 -0.3**
LVZ Lovozero 76.57 340 *i* P **P** **17 22 08.8 -0.9**
LVZ pmax pmax
comp=Z,132nm,2.5s,mb5.4
LVZ MLR MLR
comp=Z,200nm,20.0s,MS4.4
LVZ Lovozero 76.57 340 *i* P **P** **17 22 08.9 -0.8**
KWP Kalwaria 76.69 320 eP **P** **17 22 11.1 +0.4**
KWP e pP 17 22 18.7 -0.5
KOLS Kolonicke sedl 76.83 320 *i* P **P** **17 22 12.7 +1.2**
KOLS ePcP PcP 17 22 21.8 -1.2
KOLS epP pP 17 22 26.7 +6.7
SUW Suwalki 77.29 325 eP **P** **17 22 13.5 -0.5**
SUW e pP 17 22 21.8 -0.7
CRVS Cervenica-Dubn 77.35 319 *i* P **P** **17 22 15.1 +0.7**
CRVS e 17 22 31.7
FINES FINESS Array B 77.66 333 *i* P **P** **17 22 15.5 -0.3**
FINES pmax pmax
comp=Z,8.0nm,0.8s
FINES FINESS Array B 77.66 333 P **P** **17 22 15.5 -0.3**
comp=Z,8.0nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=31
FINES LR LR 18 02 53.4
comp=Z,102nm,18.6s,MS4.2,baz=114,slow=41
KAF Kangasniemi 77.75 333 *ep* **P** **17 22 14.3 -2.0**
comp=Z,12nm,0.8s,mb4.9,baz=102,slow=5.1
KAF Kangasniemi 77.75 333 eP **P** **17 22 14.3 -2.0**
KAF pmax pmax
comp=Z,13nm,0.8s,mb4.9
NIE Niedzica 78.18 320 eP **P** **17 22 18.9 0.0**
PSZ Piszkesteto 78.23 318 eP **P** **17 22 18.8 -0.4**
comp=Z,17nm,0.9s,mb5.0
OJC Ojcow 78.64 321 eP **P** **17 22 21.4 0.0**
SUR Sutherland 78.96 236 LR LR 17 53 30.7
comp=Z,218nm,18.8s,MS4.5,baz=84,slow=33
SUR Sutherland 78.96 236 P **P** **17 22 27.4 +3.9**
comp=Z,28nm,0.9s,mb5.2
SUR epP pP 17 22 33.5 +1.4
VYHS Vyhne 79.01 319 *i* P **P** **17 22 24.0 +0.5**
OKC Ostrava-Krasne 79.64 320 eP **P** **17 22 27.5 +0.6**
OKC epP pP 17 22 35.5 +0.1
TSUM Tsumeb 79.83 250 eP **P** **17 22 27.2 -1.3**
comp=Z,7.8nm,1.2s,mb4.5
TSUM epP pP 17 22 37.7 +0.6
KEV Kevo 79.85 341 *ep* **P** **17 22 27.4 -0.2**
comp=Z,11nm,0.8s,mb4.8
KEV Kevo 79.85 341 eP **P** **17 22 27.4 -0.2**
KEV pmax pmax
comp=Z,11nm,0.8s,mb4.8
BILL Bilibino 79.95 21 eP **P** **17 22 27.8 -0.4**
BILL pmax pmax
comp=Z,14nm,1.8s,mb4.6
BILL MLR MLR
comp=Z,600nm,21.0s,MS4.9
BILL Bilibino 79.95 21 eP **P** **17 22 27.8 -0.4**
comp=Z,11nm,1.1s,mb4.7
MORC Moravsky Berou 80.02 320 eP **P** **17 22 29.1 +0.2**
comp=Z,7.8nm,1.0s,mb4.6
MORC epP pP 17 22 37.6 +0.1
ARCES ARCESS Array B 80.28 340 P **P** **17 22 29.9 0.0**
comp=Z,8.4nm,0.6s,mb4.8,baz=95,slow=4.9,SNR=51
ARCES LR LR 18 01 20.9
comp=Z,213nm,19.4s,MS4.5,baz=287,slow=38
ARCES ARCESS Array B 80.28 340 P **P** **17 22 29.9 0.0**
ARCES LR LR 18 01 20.9
DPC Dobruska-Polom 80.87 320 eP **P** **17 22 34.0 +0.6**
DPC epP pP 17 22 42.6 +0.7
KSP Ksiaz 80.94 321 eP **P** **17 22 34.2 +0.4**
KSP epP pP 17 22 43.2 +0.9
KSP Ksiaz 80.94 321 eP **P** **17 22 29.4 -4.3**
KSP e 17 22 34.4
UPC Upice 81.08 321 eP **P** **17 22 30.7 -3.8**
BOJS Bojanci 81.12 315 eP **P** **17 22 35.1 +0.2**
BOJS e pP 17 22 44.4 +1.0
PERS Pernice 81.31 317 eP **P** **17 22 36.5 +0.7**
LJU Ljubljana 81.67 316 eP **P** **17 22 38.9 +1.2**
PRU Pruhonice 81.97 320 eP **P** **17 22 39.9 +0.8**
PRU epP pP 17 22 47.0 -0.7
PVCC Panska Ves 82.00 320 eP **P** **17 22 40.4 +1.1**
BRG Berggiesshubel 82.42 321 eP **P** **17 22 42.4 +0.9**
BRG e pP 17 22 49.9 -0.2
BRG pmax pmax
comp=Z,19nm,1.7s,mb4.8
BRG Berggiesshubel 82.42 321 eP **P** **17 22 42.4 +0.9**
comp=Z,18nm,1.6s,mb4.8
BRG e pP 17 22 49.9 -0.2
GEC2 GERESS Array S 82.43 319 eP **P** **17 22 42.2 +0.6**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GEC2 GERESS Array S 82.43 319 eP **P** **17 22 42.2 +0.6**
comp=Z,7.0nm,0.9s,mb4.6
GERES GERESS Array B 82.43 319 P **P** **17 22 42.5 +0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=90,slow=5.3,SNR=41
KHC Kasperske Hory 82.53 319 eP **P** **17 22 42.5 +0.4**
KHC epP pP 17 22 48.5 -2.2
WET Wettzell 82.99 319 eP **P** **17 22 45.2 +0.7**
WET pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
WET Wettzell 82.99 319 eP **P** **17 22 45.2 +0.7**
comp=Z,4.0nm,0.9s,mb4.5
CLL Collm 83.05 321 eP **P** **17 22 45.0 +0.3**
CLL e pP 17 22 54.0 +0.7
CLL e 17 23 03.0
CLL Collm 83.05 321 P **P** **17 22 45.0 +0.3**
CLL e*PP pP 17 22 54.0 +0.7
NKC Novy Kostel 83.33 320 eP **P** **17 22 47.1 +0.9**
NKC epP pP 17 22 55.6 +0.8
HFS Hagfors 83.36 330 P **P** **17 22 46.3 +0.2**
comp=Z,12nm,1.0s,mb4.9,baz=104,slow=6.1,SNR=13
HFS Hagfors 83.36 330 P **P** **17 22 46.3 +0.2**
MOX Moxa 83.89 320 eP **P** **17 22 49.7 +0.7**
MOX Moxa 83.89 320 *i* P **P** **17 22 49.7 +0.7**
GRA1 Grafenberg Arr 84.10 319 eP **P** **17 22 51.3 +1.2**
comp=Z,8.0nm,0.9s,mb4.8
GRF Grafenberg Arr 84.10 319 eP **P** **17 22 51.3 +1.2**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
GRF Grafenberg Arr 84.10 319 eP **P** **17 22 51.3 +1.2**
comp=Z,8.0nm,0.9s,mb4.8
NB2 NORSAR Subarra 84.65 331 P **P** **17 22 52.0 -0.6**
comp=Z,1.7nm,0.8s,mb4.2,baz=96,slow=4.8
NOA NORSAR Array B 84.65 331 P **P** **17 22 52.5 -0.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=95,slow=5.2,SNR=5.9
NOA LR LR 18 07 55.2
comp=Z,78nm,19.3s,MS4.1,baz=80,slow=41
CLZ Clausthal 84.71 322 eP **P** **17 22 53.5 +0.4**
comp=Z,7.0nm,0.9s,mb4.8
BSEG Bad Segeberg 84.81 324 eP **P** **17 22 54.4 +0.8**
BSEG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
DAVOX Davos 84.92 317 P **P** **17 22 54.9 +0.7**
comp=Z,9.3nm,0.9s,mb4.9,baz=81,slow=6.9,SNR=6.9
TNS Taunus Mts 85.90 320 eP **P** **17 23 00.4 +1.3**
TNS pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
TNS Taunus Mts 85.90 320 eP **P** **17 23 00.4 +1.3**
comp=Z,5.0nm,0.8s,mb4.8
BFO Black Forest 85.98 318 eP **P** **17 22 59.9 +0.4**
BFO e*PP pP 17 23 08.4 +0.2
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BFO Black Forest 85.98 318 eP **P** **17 22 59.9 +0.4**
comp=Z,4.0nm,0.8s,mb4.7
BFO epP pP 17 23 08.4 +0.2
LPG La Plagne 87.10 315 eP **P** **17 23 05.6 +0.5**
comp=Z,26nm,1.0s,mb5.1
VNDA Vanda 87.95 169 LR LR 17 58 49.2
comp=Z,238nm,19.3s,MS4.6,baz=330,slow=33
QSPA South Pole Qui 93.02 180 eP **P** **17 23 33.6 +1.6**
comp=Z,1.6nm,0.6s,mb4.6
IMA Indian Mountai 95.42 23 eP **P** **17 23 44.6 +1.3**
comp=Z,12nm,0.7s,mb5.5
ILAR Eielson Array 98.55 23 P **P** **17 23 56.2 -1.3**
comp=Z,0.3nm,0.6s,mb4.0,baz=302,slow=3.7,SNR=4.3
ILAR PP PP 17 27 53.0 -7.8
comp=Z,0.8nm,0.9s,baz=307,slow=7.6,SNR=6.1
YKA Yellowknife Ar 110.66 15 PP PP 17 29 22.0 -10
comp=Z,0.6nm,0.7s,baz=330,slow=7.9,SNR=7.8
YKA PKKPbc 17 39 58.4
comp=Z,0.2nm,0.7s,baz=147,slow=2.6,SNR=4.4
ULM Lac du Bonnet 125.95 9 PKP PKPdf 17 29 20.9 -4.1
comp=Z,2.7nm,0.8s,baz=356,slow=3.6,SNR=7.0
NVAR Mina Array Bea 128.09 34 PKP PKPdf 17 29 27.8 -1.6
comp=Z,0.8nm,0.7s,baz=306,slow=0.8,SNR=5.8
PDAR Pinedale Array 128.96 24 PKP PKPdf 17 29 27.8 -3.2
comp=Z,0.6nm,0.6s,baz=109,slow=2.3,SNR=6.6
TXAR Lajitas Array 142.79 29 PKhKP 17 29 50.3
comp=Z,0.7nm,0.6s,baz=243,slow=2.8,SNR=4.4

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*ISK **03** 17:15:28.6,39.38N,38.37E,h34km,ML3.7*
ISC 03 17:15:28.9±0.5,**39.38N**±0.04×**38.39E**±0.05,**h34**km,**n22,**
σ0**s95**/30,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.99**	**152**	*i* P	**P**	**17 15 46.2**	**-0.3**
ELZG				*i* S	**S**	**17 15 58.9**	**-0.7**
MYA	**Malataya**	**1.05**	**178**	*i* PG	**P**	**17 15 47.2**	**-0.1**
MYA				*i* SG	**S**	**17 16 02.1**	**+1.1**
MALT	**Malatya**	**1.06**	**178**	*i* PG	**P**	**17 15 46.8**	**-0.7**
EZC	**Erzincan**	**1.16**	**71**	*i* PG	**P**	**17 15 44.2**	**-4.7**
EZC				*i* SG	**S**	**17 15 56.0**	**-7.9**
SVST	**Sivas**	**1.18**	**290**	*i* P	**P**	**17 15 47.4**	**-1.7**
SVST				*i* S	**S**	**17 16 06.2**	**+1.9**
GUMT	**Gumushane**	**1.37**	**37**	PN	**P**	**17 15 52.9**	**+1.0**
TOKT	**Tokat**	**1.70**	**304**	PN	**P**	**17 15 56.5**	**-0.2**
BINT	**Bingol**	**1.71**	**106**	*e*PN	**P**	**17 15 57.7**	**+0.9**
URFA	**Urfa**	**1.96**	**170**	PN	**P**	**17 15 59.6**	**-0.8**
BNN	**Bunyan**	**2.05**	**256**	PN	**P**	**17 16 02.3**	**+0.7**
GZT	**Gaziantep**	**2.12**	**198**	*i* P	**P**	**17 16 04.8**	**+2.1**
GZT				*i* S	**S**	**17 16 37.6**	**+10**
EZM	**Erzurum**	**2.35**	**76**	*e*PN	**P**	**17 16 06.0**	**0.0**
ERZM	**Erzurum**	**2.36**	**76**	*i* P	**P**	**17 16 11.2**	**+5.1**
ERZM				*i* S	**S**	**17 16 46.2**	**+12**
YOZ	**Yozgat**	**2.39**	**277**	PN	**P**	**17 16 06.6**	**+0.1**
VRT	**Varto**	**2.45**	**95**	*e*PN	**P**	**17 16 08.1**	**+0.7**
KVT	**Kavak**	**2.47**	**314**	*e*PN	**P**	**17 16 07.2**	**-0.5**
BTMT	**Batman**	**2.70**	**115**	*e*PN	**P**	**17 16 09.6**	**-1.3**
BEST	**Besiri**	**2.70**	**122**	*i* P	**P**	**17 16 15.0**	**+4.0**
BEST				*i* S	**S**	**17 16 52.8**	**+10**
AVNT	**Avonos**	**2.81**	**259**	*i* P	**P**	**17 16 12.0**	**-0.6**
AVNT				*i* S	**S**	**17 16 54.4**	**+8.7**
CORM	**Corum**	**3.00**	**287**	*e*PN	**P**	**17 16 14.5**	**-0.8**
KAMT	**Kaman**	**3.62**	**271**	*e*PN	**P**	**17 16 23.7**	**-0.4**
TOS	**Tosya**	**3.73**	**298**	*e*PN	**P**	**17 16 25.5**	**-0.1**

*IDC **03** 17:46:15.1±0.8, 22.70S×69.22E, mb4.1/9, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, MS4.0/11, Ms1 4.0/11, ms1mx3.8/20, Error ellipse: s-maj=26.7km s-min=20.1km az=25.0*
*NEIC **03** 17:46:16.3±0.4, 22.74S×69.19E, h10km, mb4.7/13, Error ellipse: s-maj=11.4km s-min=10.3km az=97.0*
*BJI **03** 17:46:18.8, 22.88S×69.26E, h21km, mB5.1, mb4.4*
ISC 03 17:46:14.4±0.5**, 22.76S**±0.08×**69.3E**±0.1**, h10km, n40, σ0.88**/31**, mb4.5**/27**, MS4.0**/11**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**15.57**	**12**	*e*P	**P**	**17 49 54.4**	**-1.4**
	146nm,1.5s						
KMBO	**Kilima Mbogo**	**37.80**	**300**	P	**P**	**17 53 33.7**	**+0.7**
	2.9nm,0.9s,mb4.0,baz=78,slow=11,SNR=5.3						
KMBO				LR	LR	18 05 47.2	
	comp=Z,217nm,18.7s,MS4.0,baz=85,slow=31						
KMBO	**Kilima Mbogo**	**37.80**	**300**	*e*P	**P**	**17 53 32.9**	**0.0**
	7.4nm,1.0s,mb4.4						
MATP	**Matopo**	**37.88**	**266**	P	**P**	**17 53 33.1**	**-0.4**
	2.3nm,0.8s,mb3.9,baz=95,slow=9.8,SNR=4.7						
LSZ	**Lusaka**	**39.43**	**273**	*e*P	**P**	**17 53 45.5**	**-1.0**
	6.0nm,1.1s,mb4.2						
BOSA	**Boshof**	**39.90**	**252**	P	**P**	**17 53 54.6**	**+4.2**
	2.1nm,0.6s,mb4.0						
MAW	**Mawson**	**45.02**	**183**	LR	LR	18 08 13.4	
	comp=Z,157nm,20.2s,MS3.9,baz=261,slow=29						
CMAR	**Chiang Mai Arr**	**50.20**	**38**	P	**P**	**17 55 13.6**	**+0.8**
	1.7nm,0.9s,mb4.1,baz=229,slow=7.2,SNR=11						
CMAR				LR	LR	18 14 22.4	
	comp=Z,49nm,18.4s,MS3.5,baz=230,slow=34						
KOLN	**Koldanda**	**52.11**	**16**	*e*PKIKP	**P**	**17 55 26.1**	**-1.1**
	40nm,1.3s,mb5.2						
DMN	**Daman**	**52.36**	**18**	*e*PKIKP	**P**	**17 55 29.6**	**+0.5**
	26nm,1.0s,mb5.1						
PKI	**Pulchoki**	**52.41**	**18**	*e*PKIKP	**P**	**17 55 30.6**	**+1.2**
	12nm,1.2s,mb4.7						
KKN	**Kakani**	**52.58**	**18**	*e*PKIKP	**P**	**17 55 31.0**	**+0.3**
	14nm,0.9s,mb4.9						
GKN	**Gorkha**	**52.61**	**17**	*e*PKIKP	**P**	**17 55 29.8**	**-1.1**
	22nm,1.2s,mb5.0						
JIRN	**Jiri**	**52.73**	**19**	*e*PKIKP	**P**	**17 55 32.8**	**+1.0**
	14nm,0.9s,mb4.9						
LSA	**Lhasa**	**56.25**	**23**	P	**P**	**17 56 03.8**	**+6.3**
	1.2nm,0.4s,mb4.3						
ASAR	**Alice Springs**	**58.95**	**105**	P	**P**	**17 56 16.2**	**-0.4**
	1.7nm,0.9s,mb4.1,baz=258,slow=6.5,SNR=16						
ASAR				LR	LR	18 18 34.7	
	comp=Z,208nm,20.2s,MS4.2,baz=242,slow=33						
WRA	**Warramunga Arr**	**60.25**	**101**	P	**P**	**17 56 25.6**	**0.0**
	2.3nm,0.9s,mb4.2,baz=256,slow=6.5,SNR=16						
WRAB	**Tennant Creek**	**60.27**	**101**	*e*P	**P**	**17 56 24.7**	**-1.0**
	7.9nm,0.7s,mb4.8						
EIL	**Elat**	**61.69**	**326**	LR	LR	18 19 00.5	
	comp=Z,80nm,20.4s,MS3.9,baz=299,slow=32						
ASF	**Jabal al Asfar**	**62.78**	**329**	LR	LR	18 18 42.8	
	comp=Z,52nm,20.9s,MS3.7,baz=222,slow=31						
STKA	**Stephens Creek**	**63.88**	**115**	LR	LR	18 20 50.6	
	comp=Z,299nm,21.2s,MS4.5,baz=110,slow=32						
STKA	**Stephens Creek**	**63.88**	**115**	P	**P**	**17 56 48.2**	**-1.5**
ENH	**Enshi**	**65.38**	**38**	P	**P**	**17 56 59.3**	**-0.2**
	8.1nm,0.9s,mb4.8						
GNI	**Garni**	**66.62**	**340**	P	**P**	**17 57 13.3**	**+5.9**
	9.9nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**67.36**	**180**	*e*P	**P**	**17 57 11.4**	**+0.1**
	8.2nm,1.0s,mb4.7						
GTA	**Gaotai**	**68.13**	**25**	P	**P**	**17 57 17.6**	**+0.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.4						
VNDA	**Vanda**	**68.51**	**166**	P	**P**	**17 57 20.3**	**+1.6**
	comp=Z,4.3nm,1.0s,mb4.3,baz=265,slow=6.5,SNR=7.1						
VNDA	**Vanda**	**68.51**	**166**	P	**P**	**17 57 20.3**	**+1.6**
CTA	**Charters Tower**	**70.95**	**104**	LR	LR	18 24 53.6	
	comp=Z,236nm,20.2s,MS4.4,baz=97,slow=33						
HHC	**Hu-ho-hao-te**	**74.50**	**32**	*e*P	**P**	**17 57 59.6**	**+4.6**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,92nm,3.7s						
PMG	**Port Moresby**	**75.33**	**94**	LR	LR	18 25 24.8	
	comp=Z,64nm,19.4s,MS3.9,baz=216,slow=31						
CHKZ	**Chkalovo**	**76.12**	**1**	P	**P**	**17 58 08.6**	**+4.6**
	comp=Z,2.1nm,1.1s,mb4.0						
ZAL	**Zalesovo**	**77.55**	**9**	P	**P**	**17 58 12.0**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=295,slow=6.3,SNR=5.9						
SONM	**Songino Array**	**77.79**	**25**	P	**P**	**17 58 14.2**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=207,slow=5.5,SNR=7.2						
DBIC	**Dimbokro**	**78.07**	**282**	LR	LR	18 30 22.6	
	comp=Z,177nm,19.9s,MS4.4,baz=76,slow=34						
ULN	**Ulaanbaatar**	**78.07**	**25**	*e*P	**P**	**17 58 15.3**	**+0.3**
	comp=Z,5.2nm,1.2s,mb4.3						
AKASG	**Malin Array Be**	**81.22**	**336**	P	**P**	**17 58 31.7**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=118,slow=4.8,SNR=4.0						
MAJO	**Matsushiro**	**87.77**	**49**	P	**P**	**17 59 09.1**	**+4.0**
	comp=Z,33nm,1.6s,mb5.3						
ARCES	**ARCESS Array B**	**97.21**	**346**	LR	LR	18 42 00.2	
	comp=Z,56nm,22.0s,MS4.0,baz=12,slow=34						
YKA	**Yellowknife Ar**	**140.20**	**3**	PKP	PKPdf	18 05 45.8	-0.3
	comp=Z,0.3nm,0.8s,baz=357,slow=2.4,SNR=5.5						

*NEIC **03** 18:04:06.6±1.7, 47.49N×92.63W, MN3.2, Error ellipse: s-maj=28.4km s-min=11.8km az=162.0, Suspected Mining explosion.*
NEIC NEAR Virginia.
*OTT **03** 18:04:08.5±0.5, 47.53N×92.59W, MN2.9/6, Blast, Minnesota, U.S. Mining explosion.*
*IDC **03** 18:04:10.3±5.6, 47.60N×92.60W, h13km±24km, mb1 3.1/3, mb1mx2.9/21, mbtmp2.8/3, ML3.2/1, Error ellipse: s-maj=47.3km s-min=24.2km az=95.0*
ISC 03 18:04:05.8±1.0**, 47.57N**±0.06×**92.65W**±0.05**, n16, σ1.50**/30**, Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.87**	**64**	*e*Pg	**Pg**	**18 04 23.8**	**+0.7**
EYMN				*e*Sg	**Sg**	**18 04 34.0**	**-0.7**
EYMN	**Ely**	**0.87**	**64**	PG	**Pg**	**18 04 23.9**	**+0.8**
EYMN				SG	**Sg**	**18 04 32.9**	**-1.7**
ATKO	**Atikokan Iron**	**1.44**	**29**	PG	**Pg**	**18 04 35.3**	**+0.8**
ATKO				SG	**Sg**	**18 04 53.2**	**-0.3**
ATKO				Trac		18 04 58.5	
	comp=Z,531nm,0.2s						
EPLO	**Experimental L**	**2.22**	**342**	PN	**Pn**	**18 04 47.2**	**+2.9**
EPLO				SN	**Sn**	**18 05 17.1**	**+4.2**
EPLO				Trac		18 05 20.4	
	comp=Z,204nm,0.2s						
TBO	**Thunder Bay**	**2.43**	**63**	PN	**Pn**	**18 04 48.0**	**+0.7**
TBO				SN	**Sn**	**18 05 23.0**	**+4.9**
TBO				Trac		18 05 25.6	
	comp=Z,20nm,0.2s						
SOLO	**Sioux Lookout**	**2.48**	**9**	PN	**Pn**	**18 04 50.3**	**+2.3**
SOLO				SN	**Sn**	**18 05 25.3**	**+5.9**
SOLO				Trac		18 05 35.0	
	comp=Z,16nm,0.2s						
ULM	**Lac du Bonnet**	**3.42**	**323**	Pn	**Pn**	**18 05 02.8**	**+1.4**
ULM				Pg	**Pg**	**18 05 11.1**	**-2.9**
ULM				Lg		18 05 55.7	
ULM	**Lac du Bonnet**	**3.42**	**323**	Pn	**Pn**	**18 05 02.8**	**+1.4**
	0.1nm,0.3s,baz=140,slow=8.2,SNR=4.0						
ULM				Pg	**Pg**	**18 05 11.1**	**-2.9**
	0.5nm,0.3s,baz=139,slow=16,SNR=11						
ULM				Lg		18 05 55.7	
	7.5nm,0.3s,baz=218,slow=19,SNR=32						
ULM	**Lac du Bonnet**	**3.42**	**323**	PN	**Pn**	**18 05 02.5**	**+1.2**
ULM				SN	**Sn**	**18 05 42.6**	**-0.6**
ULM				Trac		18 05 58.1	
	comp=Z,29nm,0.4s						
RLKO	**Red Lake**	**3.57**	**349**	PN	**Pn**	**18 05 03.9**	**+0.3**
RLKO				SN	**Sn**	**18 05 48.0**	**+0.9**
RLKO				SG	**Sg**	**18 06 00.3**	**-4.4**
RLKO				Trac		18 06 04.0	
	comp=Z,13nm,0.3s						
PKLO	**Pickle Lake**	**4.21**	**20**	PN	**Pn**	**18 05 13.1**	**+0.5**
PKLO				SN	**Sn**	**18 06 00.1**	**-3.0**
PKLO				SG	**Sg**	**18 06 18.0**	**-7.8**
PKLO				Trac		18 06 24.0	
	comp=Z,7.1nm,0.2s						
GTO	**Geraldton**	**4.35**	**58**	PN	**Pn**	**18 05 20.4**	**+5.7**
PNPO	**Pukaskwa Natio**	**4.39**	**74**	PN	**Pn**	**18 05 16.7**	**+1.4**
PNPO				SN	**Sn**	**18 06 06.2**	**-1.6**
PNPO				Trac		18 06 26.2	
	comp=Z,4.4nm,0.1s						
PDAR	**Pinedale Array**	**12.85**	**254**	Pn	**P**	**18 07 10.6**	**-1.9**
	0.1nm,0.3s,baz=70,slow=13,SNR=3.2						
YKA	**Yellowknife Ar**	**19.38**	**328**	P	**P**	**18 08 33.4**	**-2.0**
YKA	**Yellowknife Ar**	**19.38**	**328**	P	**P**	**18 08 33.4**	**-2.0**
	0.0nm,0.3s,baz=128,slow=11,SNR=4.6						

*IDC **03** 18:04:55.5±2.9, 36.24N×11.02W, mb3.2/1, mb1 3.9/2, mb1mx3.3/23, mbtmp3.5/2, ML4.7/1, Error ellipse: s-maj=180.6km s-min=47.8km az=134.0*
*NEIC **03** 18:04:59.1, 36.88N×11.08W, MG4.7(MDD), After MDD.*
*SFS **03** 18:04:59.0, 36.87N×11.00W*
*MDD **03** 18:04:59.4±1.3, 36.71N×11.33W, h71km±32km, mb4.3/32, Error ellipse: s-maj=12.2km s-min=7.8km az=56.0, PRXIMO*
*LDG **03** 18:05:00.5±0.2, 36.84N×11.16W, h10km, Ml3.9/8, Error ellipse: s-maj=4.7km s-min=3.0km az=53.0*
*CNRM **03** 18:05:00.6, 36.40N×11.08W, h30km, MD3.7*
*IGIL **03** 18:05:00.2, 36.77N×11.04W, h0km, ML3.5*
*INMG **03** 18:05:00.8±1.6, 36.70N×11.28W, h31km, ML3.5, Error ellipse: s-maj=5.8km s-min=3.7km az=71.0*
CSEM 03 18:05:02.4±0.2**, 36.88N×11.04W, h36**km±3km**, ML3.9**/24**, Error ellipse: s-maj=4.7km s-min=2.4km az=57.0, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**1.96**	**70**	*e*Pn	P	18 05 33.7	-0.1
PTEO				*e*Sn	S	18 05 58.2	+0.8
	242nm,0.3s						
PTEO	**Sao Teotonio**	**1.96**	**70**	P	P	18 05 33.7	-0.1
PTEO				S	S	18 05 58.2	+0.8
	121nm,0.3s						
LIS	**Lisbon**	**2.37**	**39**	*e*P	P	18 05 39.5	-0.1
LIS				*e*S	S	18 06 07.9	+0.2
LIS				*e*S	S	18 06 08.0	+0.2
LIS				AML	AML	18 06 14.2	
	comp=E,489nm,0.4s						
PLOU	**Loures**	**2.50**	**36**	*e*Pn	P	18 05 41.2	-0.3
PLOU				*e*Sn	S	18 06 12.0	+1.0
	comp=E,142nm,0.3s						
PLOU	**Loures**	**2.50**	**36**	P	P	18 05 41.2	-0.3
PLOU				S	S	18 06 12.0	+1.0
	comp=E,71nm,0.3s						
MOE	**Montemor**	**2.69**	**52**	*e*Pn	P	18 05 43.1	-1.1
MOE				*e*Sn	S	18 06 15.7	-0.2
PBEJ	**Beja**	**2.77**	**65**	*e*Pn	P	18 05 44.8	-0.6
PBEJ				*e*Sn	S	18 06 17.5	-0.5
	comp=E,124nm,0.3s						
PBEJ	**Beja**	**2.77**	**65**	P	P	18 05 44.8	-0.6
PBEJ				S	S	18 06 17.5	-0.5
	comp=E,62nm,0.3s						
PALC	**Alcoutim**	**2.90**	**77**	*e*Pn	P	18 05 46.2	-1.1
PALC				*e*Sn	S	18 06 20.2	-1.2
	comp=E,102nm,0.2s						
PALC	**Alcoutim**	**2.90**	**77**	P	P	18 05 46.2	-1.1
PALC				S	S	18 06 20.2	-1.2
	comp=E,51nm,0.2s						
EVO	**Evora**	**2.91**	**55**	*e*Pn	P	18 05 45.6	-1.8
EVO				*e*Sn	S	18 06 19.2	-2.3
	comp=E,260nm,0.3s						
ALMR	**Almeirim**	**2.99**	**40**	*e*P	P	18 05 47.9	-0.6
ALMR				AML	AML	18 05 49.4	
	comp=Z,81nm,0.6s						
ALMR				*e*S	S	18 06 23.9	+0.3
ALMR				*e*S	S	18 06 23.9	+0.3
ALMR	**Almeirim**	**2.99**	**40**	*e*P	P	18 05 47.9	-0.6
ALMR				*e*S	S	18 06 23.9	+0.4
	comp=Z,81nm,0.6s						
ALMR	**Almeirim**	**2.99**	**40**	*e*P	P	18 05 47.9	-0.6
	comp=Z,81nm,0.6s						
ALMR				*e*S	S	18 06 23.9	+0.4
EMIN	**Mina Concepcio**	**3.59**	**74**	P	P	18 05 55.6	-1.4
	comp=Z,2.0nm,0.1s,SNR=55						
EMIN				S	S	18 06 36.9	-1.9
	comp=Z,31nm,0.1s,SNR=16						
EMIN	**Mina Concepcio**	**3.59**	**74**	Pn	P	18 05 55.6	-1.4
	comp=Z,2.0nm,0.1s,SNR=55						
EMIN				Sn	S	18 06 36.9	-1.9
	comp=Z,31nm,0.1s,SNR=16						
EBAD	**Badajoz**	**3.69**	**58**	P	P	18 05 57.6	-0.9
	comp=Z,9.1nm,0.1s,SNR=7.9						
EBAD				S	S	18 06 40.0	-1.5
	comp=Z,264nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.69**	**58**	Pn	P	18 05 57.6	-0.9
	comp=Z,9.1nm,0.1s,SNR=7.9						
EBAD				Sn	S	18 06 40.0	-1.5
	comp=Z,264nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**4.07**	**42**	*e*Pn	P	18 06 02.6	-1.3
PCBR				*e*Sn	S	18 06 49.3	-1.6
	comp=Z,46nm,0.3s						
PCBR	**Castelo Branco**	**4.07**	**42**	P	P	18 06 02.6	-1.3
PCBR				S	S	18 06 49.3	-1.6
	comp=Z,23nm,0.3s						
ESPR	**Espera**	**4.15**	**89**	Pn	P	18 06 03.1	-2.0
ESPR				Sn	S	18 06 48.5	-4.6
ESPR	**Espera**	**4.15**	**89**	P	P	18 06 03.1	-2.0
	comp=Z,17nm,0.1s,SNR=60						
ESPR				S	S	18 06 49.4	-3.6
	comp=Z,142nm,0.3s						
ESPR	**Espera**	**4.15**	**89**	Pn	P	18 06 03.1	-2.0
	comp=Z,17nm,0.1s,SNR=60						
ESPR				Sn	S	18 06 48.5	-4.6
	comp=Z,142nm,0.3s						
MTE	**Manteigas**	**4.45**	**37**	*e*Pn	P	18 06 08.1	-1.2
MTE				*e*Sn	S	18 06 58.6	-2.0
	comp=Z,35nm,0.5s						
MTE	**Manteigas**	**4.45**	**37**	P	P	18 06 08.1	-1.2
MTE				S	S	18 06 58.6	-2.0
	comp=Z,17nm,0.5s						
EJIF	**Jimena Fronter**	**4.50**	**94**	P	P	18 06 07.5	-2.4
	comp=Z,3.5nm,0.3s,SNR=7.9						
EJIF				S	S	18 06 56.8	-5.0
	comp=Z,1.3nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**4.51**	**88**	P	P	18 06 09.0	-1.2
LIJA				S	S	18 06 58.2	-3.9
LIJA	**Lijar**	**4.51**	**88**	*i* P	P	18 06 09.0	-1.2
LIJA				*e*S	S	18 06 58.2	-4.0
PVIS	**Viseu**	**4.55**	**32**	*e*Pn	P	18 06 09.0	-1.7
PVIS				*e*Sn	S	18 07 00.6	-2.4
	comp=Z,75nm,0.1s						
PVIS	**Viseu**	**4.55**	**32**	P	P	18 06 09.0	-1.7
PVIS				S	S	18 07 00.6	-2.4
	comp=Z,38nm,0.1s						
ECAB	**El Cabril**	**4.62**	**73**	Pn	P	18 06 09.7	-2.1
ECAB				Sn	S	18 07 00.7	-4.3
ECAB	**El Cabril**	**4.62**	**73**	P	P	18 06 09.7	-2.1
	comp=Z,8.6nm,0.1s,SNR=7.9						
ECAB				S	S	18 07 01.7	-3.3
	comp=Z,6.1nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**4.62**	**73**	Pn	P	18 06 09.7	-2.0
	comp=Z,8.6nm,0.1s,SNR=7.9						
ECAB				Sn	S	18 07 00.7	-4.3
	comp=Z,6.1nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**5.04**	**92**	Pn	P	18 06 13.9	-3.7
EMIJ				Sn	S	18 07 11.8	-3.7
EMIJ	**Mijas**	**5.04**	**92**	P	P	18 06 15.1	-2.5
	comp=Z,2.5nm,0.2s,SNR=5.6						
EMIJ				S	S	18 07 10.1	-5.3
	comp=Z,4.4nm,0.2s,SNR=5.0						
EMIJ	**Mijas**	**5.04**	**92**	Pn	P	18 06 13.9	-3.7
	comp=Z,2.5nm,0.2s,SNR=5.6						
EMIJ				Sn	S	18 07 11.8	-3.6
	comp=Z,4.4nm,0.2s,SNR=5.0						
PVRL	**Vila Real**	**5.09**	**29**	*e*Pn	P	18 06 16.1	-2.2
PVRL				*e*Sn	S	18 07 13.4	-3.3
	comp=Z,50nm,0.1s						
PVRL	**Vila Real**	**5.09**	**29**	P	P	18 06 16.1	-2.2
PVRL				S	S	18 07 13.4	-3.3
	comp=Z,25nm,0.1s						
EADA	**Adamuz**	**5.29**	**74**	P	P	18 06 19.4	-1.7
	comp=Z,4.5nm,0.1s,SNR=51						
EADA				S	S	18 07 16.5	-5.2
	comp=Z,3.7nm,0.1s						
EADA	**Adamuz**	**5.29**	**74**	Pn	P	18 06 19.4	-1.7
	comp=Z,4.5nm,0.1s,SNR=51						
EADA				Sn	S	18 07 16.5	-5.3
	comp=Z,3.7nm,0.1s						
ELUQ	**Luque**	**5.45**	**81**	Pn	P	18 06 21.2	-2.0
ELUQ				Sn	S	18 07 22.3	-3.3
ELUQ	**Luque**	**5.45**	**81**	P	P	18 06 21.2	-2.0
	comp=Z,1.2nm,0.2s,SNR=7.9						
ELUQ				S	S	18 07 21.3	-4.3
	comp=Z,1.9nm,0.2s,SNR=6.1						
ELUQ	**Luque**	**5.45**	**81**	Pn	P	18 06 21.2	-2.1
	comp=Z,1.2nm,0.2s,SNR=7.9						
ELUQ				Sn	S	18 07 22.3	-3.3
	comp=Z,1.9nm,0.2s,SNR=6.1						
ELOB	**Lobios**	**5.49**	**24**	Pn	P	18 06 21.4	-2.4
ELOB				Sn	S	18 07 20.3	-6.3
ELOB	**Lobios**	**5.49**	**24**	P	P	18 06 21.4	-2.4
	comp=Z,23nm,0.2s,SNR=46						
ELOB				S	S	18 07 22.6	-4.1
	comp=Z,9.0nm,0.4s						
ELOB	**Lobios**	**5.49**	**24**	Pn	P	18 06 21.4	-2.4
	comp=Z,23nm,0.2s,SNR=46						
ELOB				Sn	S	18 07 20.3	-6.4
	comp=Z,9.0nm,0.4s						
ELOJ	**Sierra Loja**	**5.51**	**85**	P	P	18 06 21.1	-3.1
	comp=Z,0.6nm,0.2s,SNR=7.9						
ELOJ				S	S	18 07 22.4	-4.9
	comp=Z,7.3nm,0.3s,SNR=7.9						
EZAM	**Zamans**	**5.56**	**18**	P	P	18 06 21.8	-3.1
	comp=Z,9.9nm,0.2s,SNR=9.9						
EZAM				S	S	18 07 22.1	-6.4
	comp=Z,4.8nm,0.2s						
CIA	**Chichaoua**	**5.63**	**160**	*i* P	P	18 06 15.0	-11
CIA				*i* S	S	18 07 11.0	-19
ERON	**Agron**	**5.79**	**86**	P	P	18 06 25.9	-2.2
	comp=Z,2.2nm,0.3s,SNR=7.9						
ERON				S	S	18 07 29.9	-4.4
	comp=Z,5.7nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**5.90**	**75**	Pn	P	18 06 27.6	-2.1
EBAN				Sn	S	18 07 29.8	-7.3
EBAN	**Banos Encina**	**5.90**	**75**	P	P	18 06 27.6	-2.1
	comp=Z,4.8nm,0.2s,SNR=12						
EBAN				S	S	18 07 31.4	-5.7
	comp=Z,2.0nm,0.1s						
EBAN	**Banos Encina**	**5.90**	**75**	Pn	P	18 06 27.6	-2.1
	comp=Z,4.8nm,0.2s,SNR=12						
EBAN				Sn	S	18 07 29.8	-7.3
	comp=Z,2.0nm,0.1s						
PBRG	**Braganca**	**5.94**	**33**	*e*Pn	P	18 06 27.9	-2.3
PBRG				*e*Sn	S	18 07 33.3	-4.6
	comp=Z,30nm,0.2s						
PBRG	**Braganca**	**5.94**	**33**	P	P	18 06 27.9	-2.3
PBRG				S	S	18 07 33.3	-4.6
	comp=Z,15nm,0.2s						
ECOG	**Cogollos-Vega**	**5.99**	**84**	Pn	P	18 06 28.1	-2.8
ECOG				Sn	S	18 07 36.3	-2.8
ECOG	**Cogollos-Vega**	**5.99**	**84**	P	P	18 06 28.1	-2.8
	comp=Z,2.4nm,0.3s,SNR=7.9						
ECOG				S	S	18 07 34.9	-4.2
	comp=Z,1.0nm,0.2s,SNR=6.7						
ECAL	**Calabor**	**6.05**	**32**	P	P	18 06 29.4	-2.3
	comp=Z,27nm,0.2s,SNR=29						
ECAL				S	S	18 07 35.6	-5.2
	comp=Z,13nm,0.2s						
ECAL	**Calabor**	**6.05**	**32**	Pn	P	18 06 29.4	-2.4
	comp=Z,27nm,0.2s,SNR=29						
ECAL				Sn	S	18 07 35.6	-5.2
	comp=Z,13nm,0.2s						
ESDC	**Sonseca Array**	**6.22**	**61**	Pn	P	18 06 32.1	-2.1
	comp=Z,6.1nm,0.3s,baz=245,slow=13,SNR=26						
ESDC				Sn	S	18 07 40.9	-4.2
	comp=Z,18nm,0.3s,baz=247,slow=23,SNR=17						
ESDC	**Sonseca Array**	**6.22**	**61**	P	P	18 06 32.1	-2.1
	comp=Z,3.7nm,0.3s,baz=247,slow=13,SNR=26						
ESDC				S	S	18 07 40.6	-4.5
	comp=Z,8.8nm,0.3s,baz=247,slow=23,SNR=18						
ESDC	**Sonseca Array**	**6.22**	**61**	Pn	P	18 06 32.1	-2.1
	comp=Z,3.7nm,0.3s,SNR=26						
ESDC				Sn	S	18 07 40.6	-4.5
	comp=Z,8.8nm,0.3s,SNR=18						
ESLA	**Sonseca Array**	**6.22**	**61**	*e*Pn	P	18 06 32.1	-2.1
ESLA				*e*Sn	S	18 07 40.7	-4.3
ESLA	**Sonseca Array**	**6.22**	**61**	*e*Pn	P	18 06 32.1	-2.1
ESLA				*e*Sn	S	18 07 40.7	-4.4
OUK	**Oukaimeden**	**6.24**	**154**	*i* P	P	18 06 24.0	-10
OUK				*i* S	S	18 07 26.5	-19
CZD	**Col de Zad**	**6.24**	**126**	*i* P	P	18 06 27.0	-7.4
CZD				*i* S	S	18 07 30.0	-15
EMAZ	**Mazaricos**	**6.26**	**14**	Pn	P	18 06 30.8	-4.0
EMAZ				Sn	S	18 07 37.7	-8.4
EMAZ	**Mazaricos**	**6.26**	**14**	P	P	18 06 30.8	-4.0
	comp=Z,10.0nm,0.2s,SNR=14						
EMAZ				S	S	18 07 38.6	-7.5
	comp=Z,12nm,0.1s						
EMAZ	**Mazaricos**	**6.26**	**14**	Pn	P	18 06 30.8	-4.0
	comp=Z,10.0nm,0.2s,SNR=14						
ERUA	**La Rua**	**6.27**	**27**	P	P	18 06 32.3	-2.5
	comp=Z,9.4nm,0.1s,SNR=22						
ERUA				S	S	18 07 41.4	-4.9
	comp=Z,4.9nm,0.2s						
STS	**Santiago**	**6.29**	**17**	Pn	P	18 06 30.5	-4.7
STS				Sn	S	18 07 41.0	-5.8
STS	**Santiago**	**6.29**	**17**	P	P	18 06 31.1	-4.1
	comp=Z,5.5nm,0.1s,SNR=7.9						
STS				S	S	18 07 41.0	-5.8
	comp=Z,16nm,0.1s,SNR=7.9						
STS	**Santiago**	**6.29**	**17**	Pn	P	18 06 30.5	-4.7
	comp=Z,5.5nm,0.1s,SNR=7.9						
STS				Sn	S	18 07 41.0	-5.8
	comp=Z,16nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.41**	**79**	P	P	18 06 34.7	-2.2
	comp=Z,1.5nm,0.2s,SNR=10.0						
EQES				S	S	18 07 44.0	-5.7
	comp=Z,3.1nm,0.2s						
EQES	**Quesada**	**6.41**	**79**	Pn	P	18 06 34.7	-2.2
	comp=Z,1.5nm,0.2s,SNR=10.0						
EQES				Sn	S	18 07 44.0	-5.7
	comp=Z,3.1nm,0.2s						
EINC	**Incio**	**6.43**	**25**	P	P	18 06 34.7	-2.5
	comp=Z,13nm,0.1s,SNR=40						
EINC				S	S	18 07 43.6	-6.6
	comp=Z,28nm,1.0s						
EINC	**Incio**	**6.43**	**25**	Pn	P	18 06 34.7	-2.4
	comp=Z,13nm,0.1s,SNR=40						
EINC				Sn	S	18 07 43.6	-6.6
	comp=Z,28nm,1.0s						
EALB	**Alboran**	**6.52**	**96**	S	S	18 07 44.3	-8.1
	comp=Z,2.8nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.53**	**87**	Pn	P	18 06 35.5	-3.1
EBER				Sn	S	18 07 48.4	-4.2
EBER	**Berja**	**6.53**	**87**	P	P	18 06 35.5	-3.1
	comp=Z,1.7nm,0.3s,SNR=7.9						
EBER				S	S	18 07 46.6	-6.0
	comp=Z,2.9nm,0.3s,SNR=7.9						
EBER	**Berja**	**6.53**	**87**	Pn	P	18 06 35.5	-3.0
	comp=Z,1.7nm,0.3s,SNR=7.9						
EBER				Sn	S	18 07 48.4	-4.3
	comp=Z,2.9nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**6.79**	**80**	P	P	18 06 39.4	-2.8
	comp=Z,0.4nm,0.2s,SNR=7.9						
EHUE				S	S	18 07 52.7	-6.5

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
	comp=Z,0.4nm,0.1s,SNR=7.9						
EVIA	Vianos	6.99	73	P	P	18 06 42.5	-2.4
	comp=Z,4.5nm,0.2s,SNR=7.9						
EVIA				S	S	18 07 57.1	-6.8
	comp=Z,2.9nm,0.2s,SNR=6.8						
EPON	Pontenova	7.09	24	P	P	18 06 43.1	-3.3
	comp=Z,42nm,0.3s,SNR=72						
EPON				S	S	18 07 58.8	-7.9
	comp=Z,8.7nm,0.4s						
EPON	Pontenova	7.09	24	Pn	P	18 06 43.1	-3.3
	comp=Z,42nm,0.3s,SNR=72						
EPON				Sn	S	18 07 58.8	-7.9
	comp=Z,8.7nm,0.4s						
ETOB	Tobarra	7.72	74	P	P	18 06 51.3	-3.8
	comp=Z,3.3nm,0.3s,SNR=9.3						
ETOB				S	S	18 08 15.4	-6.9
	comp=Z,3.7nm,0.3s						
ETOB	Tobarra	7.72	74	Pn	P	18 06 51.3	-3.8
	comp=Z,3.3nm,0.3s,SNR=9.3						
ETOB				Sn	S	18 08 15.4	-6.9
	comp=Z,3.7nm,0.3s						
ELAN	Lanestosa	8.61	40	P	P	18 07 05.2	-2.3
	comp=Z,15nm,0.9s,SNR=5.7						
ELAN				S	S	18 08 35.3	-9.2
	comp=Z,275nm,1.9s,SNR=5.0						
ELAN	Lanestosa	8.61	40	Pn	P	18 07 05.2	-2.3
	comp=Z,15nm,0.9s,SNR=5.7						
EBEN	Beniarda	8.75	75	P	P	18 07 07.0	-2.4
	comp=Z,3.1nm,0.5s,SNR=7.9						
EBEN				S	S	18 08 39.6	-8.3
	comp=Z,10nm,0.8s,SNR=7.9						
EMOS	Mosqueruela	8.97	64	P	P	18 07 10.8	-1.6
	comp=Z,7.0nm,0.7s,SNR=8.2						
EMOS				S	S	18 08 45.0	-8.4
	comp=Z,28nm,1.2s						
EMOS	Mosqueruela	8.97	64	Pn	P	18 07 10.8	-1.7
	comp=Z,7.0nm,0.7s,SNR=8.2						
EMOS				Sn	S	18 08 45.0	-8.4
	comp=Z,28nm,1.2s						
ESAC	San Caprasio	9.51	56	P	P	18 07 17.8	-2.1
	comp=Z,5.3nm,0.2s,SNR=7.9						
ESAC				S	S	18 08 58.7	-8.0
	comp=Z,28nm,0.4s,SNR=7.9						
ESAC	San Caprasio	9.51	56	Pn	P	18 07 17.8	-2.1
	comp=Z,5.3nm,0.2s,SNR=7.9						
ESAC				Sn	S	18 08 58.7	-8.0
	SNR=7.9						
EALK	Alkurruntz	9.66	46	P	P	18 07 18.2	-3.8
	comp=Z,2.7nm,0.2s,SNR=7.9						
EALK				S	S	18 09 01.6	-8.8
	comp=Z,8.8nm,0.3s,SNR=7.9						
ERTA	Horta de San J	9.75	62	P	P	18 07 19.7	-3.5
	comp=Z,0.6nm,0.1s,SNR=7.9						
ERTA				S	S	18 09 04.3	-8.3
	comp=Z,4.0nm,0.4s,SNR=7.9						
ERTA	Horta de San J	9.75	62	Pn	P	18 07 19.7	-3.5
	comp=Z,0.6nm,0.1s,SNR=7.9						
ERTA				Sn	S	18 09 04.3	-8.3
	SNR=7.9						
SJPF	Ste Jean	9.76	47	ePn	P	18 07 19.5	-3.9
ETSF	Etsaut	10.04	50	ePn	P	18 07 24.7	-2.5
ETSF				eSn	S	18 09 10.6	-9.2
	comp=Z,2.3nm,0.3s						
EBIE	Bielsa	10.37	53	P	P	18 07 29.4	-2.3
	comp=Z,1.4nm,0.2s,SNR=8.6						
EBIE				S	S	18 09 19.5	-8.3
	comp=Z,53nm,1.8s						
EPOB	Poblet	10.42	61	P	P	18 07 28.3	-4.1
	comp=Z,2.9nm,0.7s,SNR=7.9						
EPOB				S	S	18 09 20.0	-9.0
	comp=Z,4.6nm,0.6s,SNR=7.9						
EPF	Esparros	10.67	51	ePn	P	18 07 33.1	-2.7
EPF				eSn	S	18 09 26.1	-9.0
	comp=Z,5.7nm,0.3s						
EMIR	Miracle	10.94	59	P	P	18 07 34.6	-4.9
	comp=Z,2.7nm,0.4s,SNR=7.9						
EMIR				S	S	18 09 32.6	-9.1
	comp=Z,3.0nm,0.3s,SNR=7.9						
LFF	La Frestale	12.00	44	ePn	P	18 07 50.4	-3.4
MTLF	Montolieu	12.02	53	ePn	P	18 07 49.6	-4.5
QUIF	Quistinic	12.46	25	ePn	P	18 07 55.9	-4.1
QUIF				eSn	S	18 10 07.7	-11
	comp=Z,2.2nm,0.2s						
MFF	Saint Martin d	12.66	36	ePn	P	18 07 59.1	-3.5
RJF	Les Rejaudoux	12.66	44	ePn	P	18 07 56.9	-5.7
RJF				eSn	S	18 10 13.2	-10
	comp=Z,1.1nm,0.2s						
ROSF	Rostrenen	12.79	24	ePn	P	18 08 00.3	-4.1
ROSF				eSn	S	18 10 15.1	-11
	comp=Z,1.3nm,0.2s						
SGMF	Saint Gilles	12.96	26	ePn	P	18 08 01.9	-4.8
SGMF				eSn	S	18 10 19.6	-11
TCF	Toulx Ste Croi	13.64	42	ePn	P	18 08 11.6	-4.0
TCF				eSn	S	18 10 36.6	-10
	comp=Z,2.0nm,0.3s						
FLN	La Foliniere	14.16	30	ePn	P	18 08 19.2	-3.1
LDF	La Druitiere	14.17	31	ePn	P	18 08 20.2	-2.3
GERES	GERESS Array B	21.61	49	P	P	18 09 52.4	+1.4
	comp=Z,0.6nm,0.7s,baz=233,slow=9.8,SNR=5.9						
NAO01	NORSAR Array S	27.72	23	P	P	18 10 46.5	-2.6
WRA	Warramunga Arr	145.42	70	PKPbc	PKPbc	18 24 35.8	-1.6
	comp=Z,0.8nm,0.6s,baz=315,slow=2.7,SNR=12						
ASAR	Alice Springs	147.17	76	PKPbc	PKPdf	18 24 40.4	+0.6
	comp=Z,0.7nm,0.8s,baz=302,slow=2.6,SNR=8.9						
ASAR	Alice Springs	147.17	76	PKPbc	PKPdf	18 24 40.3	+0.6

IDC 03 18:07:55.2±1.3**, 1.74N**×**126.75E, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.7**/15**, mbtmp3.6**/5**, Error ellipse: s-maj=142.5km s-min=20.7km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
WRA	Warramunga Arr	22.80	161	P	P	18 12 60.0	-1.1
	1.6nm,0.5s,baz=340,slow=11,SNR=24						
ASAR	Alice Springs	26.20	165	P	P	18 13 31.6	-1.9
	0.3nm,0.6s,baz=347,slow=7.9,SNR=9.3						
STKA	Stephens Creek	36.28	158	P	P	18 15 00.6	-1.8
	1.2nm,0.7s,baz=339,slow=8.6,SNR=5.2						
SONM	Songino Array	49.18	342	P	P	18 16 45.8	-1.2
	0.2nm,0.7s,baz=153,slow=11,SNR=3.6						
BVAR	Borovoye Array	68.99	327	P	P	18 19 01.8	-2.7
	0.3nm,0.7s,baz=90,slow=5.8,SNR=3.5						

*NEIC **03** 18:11:32.1±0.9, 14.60N×92.24E, h30^{km}, mb4.3/5, Error ellipse: s-maj=17.7km s-min=8.8km az=44.0*
*IDC **03** 18:11:33.4±1.0, 14.60N×93.36E, mb4.0/7, mb1 4.1/8, mb1mx3.9/19, mbtmp3.9/8, ML3.7/1, Error ellipse: s-maj=56.2km s-min=17.9km az=55.0*
ISC 03 18:11:29.6±0.8**, 14.56N**±0.09×**92.21E**±0.07**, h30^{km}, n24, σ1^{s}11**/24**, mb4.3**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CM31	Chiang Mai Arr	7.53	58	ePn	Pn	18 13 18.3	-2.0
CMAR	Chiang Mai Arr	7.53	58	Pn	Pn	18 13 18.5	-1.8
	0.4nm,0.3s,baz=244,slow=15,SNR=8.4						
BWNR	Bhubaneshwar	8.36	314	eP	P	18 13 30.7	-1.1
BWNR				eS	Sn	18 14 58.0	-8.1
BWNR				e		18 15 02.8	
	comp=E,594nm,0.2s						
BWNR				e		18 15 02.8	
	comp=N,278nm,0.3s						
VIS	Vishakhapatnam	9.09	291	eP	P	18 13 41.4	-0.5
VIS				eS	Sn	18 15 16.6	-7.7
VIS				e		18 15 32.1	
	comp=E,38nm,0.4s						
VIS				e		18 15 32.2	
	comp=N,52nm,0.3s						
BLSP	Bilaspur	12.17	310	eP	P	18 14 23.1	-0.9
BLSP				eS	S	18 16 27.3	-12
BLSP				e		18 16 38.5	
	comp=N,29nm,0.2s						
BLSP				e		18 16 38.6	
	comp=E,14nm,0.2s						
JIRN	Jiri	14.19	338	eP	P	18 14 51.0	+0.2
	comp=E,7.6nm,0.2s						
PKI	Pulchoki	14.41	335	eP	P	18 14 53.3	-0.4
PKI				eS	S	18 17 22.9	-10
DMN	Daman	14.57	334	eP	P	18 14 55.7	-0.1
	comp=E,7.9nm,0.2s						
KKN	Kakani	14.66	335	eP	P	18 14 56.8	-0.1
	comp=E,3.1nm,0.2s						
LSA	Lhasa	15.10	356	P	P	18 15 05.1	+2.4
	comp=E,5.3nm,0.6s						
LSA				epP		18 15 10.9	
GKN	Gorkha	15.12	333	eP	P	18 15 03.1	+0.2
	comp=E,15nm,0.3s						
KOLN	Koldanda	15.39	330	eP	P	18 15 07.1	+0.6
	comp=E,7.3nm,0.3s						
KOLN				eS	S	18 17 48.8	-7.6
ENH	Enshi	22.31	43	eP	P	18 16 27.3	+1.2
	comp=E,12nm,1.0s,mb4.3						
SONM	Songino Array	35.21	17	P	P	18 18 25.8	+2.7
	comp=E,1.0nm,0.6s,mb3.9,baz=200,slow=7.3,SNR=9.8						
ULN	Ulaanbaatar	35.42	17	eP	P	18 18 24.5	-0.5
	comp=E,1.7nm,1.0s,mb3.9						
BVAR	Borovoye Array	42.09	340	P	pP	18 19 30.9	+1.5
	comp=E,0.4nm,0.6s,baz=146,slow=10,SNR=4.0						
WRA	Warramunga Arr	53.78	129	P	P	18 20 52.7	+0.8
	comp=E,1.8nm,0.7s,mb4.1,baz=306,slow=11,SNR=43						
WRA				PcP	PcP	18 21 59.1	+1.6
	comp=E,0.4nm,0.5s,baz=325,slow=3.3,SNR=7.4						
WRAB	Tennant Creek	53.78	129	eP	P	18 20 50.8	-1.1
	comp=E,8.3nm,0.9s,mb4.7						
ASAR	Alice Springs	55.72	132	P	P	18 21 07.1	+1.0
	comp=E,1.3nm,0.4s,mb4.3,baz=310,slow=7.0,SNR=59						
ASAR				PcP	PcP	18 22 07.0	+2.0
	comp=E,0.4nm,0.5s,baz=315,slow=3.8,SNR=5.3						
MA2	Magadan	61.83	30	eP	P	18 21 48.6	+0.5
	comp=E,4.1nm,0.8s,mb4.6						
FINES	FINESS Array B	65.96	331	P	pP	18 22 24.8	+0.4
	comp=E,0.6nm,0.6s,baz=90,slow=3.8,SNR=6.9						
FINES	FINESS Array B	65.96	331	P	pP	18 22 24.8	+0.4
GERES	GERESS Array B	71.64	317	P	pP	18 23 01.3	+1.6
	comp=E,0.8nm,0.7s,baz=104,slow=5.5,SNR=5.9						
HFS	Hagfors	71.78	329	P	pP	18 23 00.8	+0.4
	comp=E,3.3nm,0.9s,baz=101,slow=7.6,SNR=4.4						

*NEIC **03** 18:18:38.8, 46.11N×27.18E, h3^{km}, ML3.0(BUC), After BUC.*
*CSEM **03** 18:18:41.0±0.5, 45.95N×27.01E, h15^{km}, ML3.0, Error ellipse: s-maj=14.1km s-min=5.5km az=9.0*
BUC 03 18:18:40.2±3.4**, 46.01N**×**27.10E, h15**^{km}±12^{km}**, MD2.5**/4**, 6C-6D, Error ellipse: s-maj=33.9km s-min=12.2km az=9.0, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
VRI	Vrincioaia	0.30	241	⇓iP	Pb	18 18 46.7	0.0
VRI				i S	Sb	18 18 52.0	+0.9
VRI	Vrincioaia	0.30	241	⇓iP	Pb	18 18 46.7	0.0
VRI				i S	Sb	18 18 52.0	+0.9
BRD	Bordesti	0.46	186	⇓iP	Pb	18 18 51.3	+1.8
BRD				i S	Sb	18 19 00.9	+5.1
BRD	Bordesti	0.46	186	⇓iP	Pb	18 18 51.3	+1.8
BRD				i S	Sb	18 19 00.9	+5.1
MLR	Muntele Rosu	0.96	238	⇓iP	Pb	18 18 59.0	+0.9
MLR				i S	Sb	18 19 12.8	+2.5
MLR	Muntele Rosu	0.96	238	⇓iP	Pb	18 18 59.0	+0.9
MLR				i S	Sb	18 19 12.8	+2.5
CFR	Carcaliu	1.11	139	⇑iP	Pb	18 18 60.0	-0.5
CFR				i S	Sb	18 19 15.3	+0.8
CFR	Carcaliu	1.11	139	⇑iP	Pb	18 19 00.0	-0.5
CFR				i S	Sb	18 19 15.3	+0.8
HARR	Harsova	1.45	156	⇑iP	Pn	18 19 06.0	0.0
HARR				i S	Sb	18 19 24.6	+0.3
HARR	Harsova	1.45	156	⇑iP	Pn	18 19 06.0	0.0
HARR				i S	Sb	18 19 24.6	+0.3
TLCR		1.46	124	⇑iP	Pn	18 19 07.7	+1.5
TLCR				i S	Sb	18 19 27.6	+2.9
TLCR		1.46	124	⇑iP	Pn	18 19 07.7	+1.5
TLCR				i S	Sb	18 19 27.5	+2.8

*IDC **03** 18:28:11.2±2.2, 12.87N×93.02E, mb3.6/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, ML4.3/1, Error ellipse: s-maj=66.0km s-min=27.3km az=82.0*
*NEIC **03** 18:28:15.8±0.6, 12.97N×93.14E, h30^{km}, mb4.0/6, Error ellipse: s-maj=13.2km s-min=5.8km az=53.0*
ISC 03 18:28:13.9±3.2**, 12.96N**±0.07×**93.20E**±0.07**, h32**^{km}±26^{km}**, n19, σ0^{s}76**/21**, mb3.9**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CM31	Chiang Mai Arr	7.78	45	ePn	Pn	18 30 07.8	0.0
CMAR	Chiang Mai Arr	7.78	45	Pn	Pn	18 30 08.4	+0.6
	1.0nm,0.3s,baz=236,slow=15,SNR=31						
CMAR				Sn	Sn	18 31 35.0	-0.7
	0.1nm,0.3s,baz=234,slow=28,SNR=2.8						
KULM	Kulim	10.59	135	P	P	18 30 46.5	-0.3
VIS	Vishakhapatnam	10.63	298	i P	P	18 30 44.3	-3.1
VIS				i S	S	18 32 33.5	-13
JIRN	Jiri	16.02	337	eP	P	18 31 58.8	0.0
	3.6nm,0.3s						
PKI	Pulchoki	16.26	335	eP	P	18 32 02.1	+0.3
	4.4nm,0.3s						
DMN	Daman	16.42	334	eP	P	18 32 03.8	0.0
	5.8nm,0.5s						
KKN	Kakani	16.50	335	eP	P	18 32 04.9	0.0
	1.9nm,0.2s						
LSA	Lhasa	16.77	354	eP	P	18 32 08.0	-0.2
	2.0nm,0.7s						
GKN	Gorkha	16.97	333	eP	P	18 32 11.0	+0.3
	6.1nm,0.3s						
KOLN	Koldanda	17.25	330	eP	P	18 32 15.8	+1.5
	8.8nm,0.7s						
KSM	Kuching	20.43	123	eP	P	18 32 51.2	-0.3
ENH	Enshi	22.89	39	eP	P	18 33 15.8	-0.3
	8.3nm,0.8s,mb4.2						
AAK	Ala-Archa	33.72	335	eP	P	18 34 54.6	0.0
	2.2nm,1.2s,mb4.0						
SONM	Songino Array	36.47	15	P	P	18 35 19.1	+1.1
	0.4nm,1.0s,mb3.3,baz=206,slow=7.8,SNR=4.6						
KURK	Kurchatov	39.48	345	eP	P	18 35 41.8	-1.4
	4.2nm,1.3s,mb4.0						
WRA	Warramunga Arr	52.04	128	P	P	18 37 23.1	0.0
	0.8nm,0.5s,mb3.9,baz=313,slow=8.0,SNR=34						
WRA				PcP	PcP	18 38 35.3	+0.2
	0.4nm,0.5s,baz=317,slow=3.1,SNR=9.7						
WRAB	Tennant Creek	52.04	128	eP	P	18 37 23.6	+0.4
	3.2nm,0.7s,mb4.4						
ASAR	Alice Springs	53.94	132	P	P	18 37 37.5	+0.4
	0.5nm,0.5s,mb3.7,baz=309,slow=6.8,SNR=28						
ASAR				PcP	PcP	18 38 43.0	+0.8
	0.9nm,1.1s,baz=313,slow=3.9,SNR=4.6						

IDC 03 18:44:48.8±8.2**, 5.19S**×**144.72E, h128**^{km}±135^{km}**, mb3.1**/2**, mb1 3.4**/4**, mb1mx3.3**/13**, mbtmp3.7**/4**, ML3.3**/2**, Error ellipse: s-maj=116.2km s-min=38.2km az=100.0, New Guinea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
PMG	Port Moresby	4.84	150	P	P	18 46 00.6	-0.2
	0.9nm,0.3s,slow=5.1,SNR=3.8						
PMG				S	S	18 46 55.0	-1.3
	0.7nm,0.3s,baz=254,slow=17,SNR=2.9						
WRA	Warramunga Arr	17.80	214	P	P	18 48 47.5	-2.5
	0.4nm,0.3s,baz=30,slow=11,SNR=54						
ASAR	Alice Springs	21.12	209	P	P	18 49 23.8	-1.0
	0.5nm,0.8s,baz=34,slow=10,SNR=9.9						
CMAR	Chiang Mai Arr	50.87	299	P	P	18 53 36.8	-2.2
	3.0nm,0.9s,baz=116,slow=6.1,SNR=13						

IGQ 03 18:54:40.5, 1.48S×**81.29W, h34**^{km}±8^{km}**, mb4.0, 1C-1D, Error ellipse: s-maj=12.2km s-min=7.7km az=27.2, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
HOJA	Cerro de Hojas	0.85	60	⇓P	P	18 54 56.6	+0.5
IGUA	Igualata	2.65	90	P	P	18 55 23.2	+1.4
IGUA				S	S	18 55 48.0	-5.1
ARRY	Arrayan	2.83	91	P	P	18 55 26.2	+1.7
ARRY				S	S	18 55 52.3	-5.5
RUN2	Runtun	2.88	89	P	P	18 55 27.4	+2.4
ULBA	Ulba	2.88	90	P	P	18 55 27.4	+2.2
PISA	Pisayambo	2.93	82	P	P	18 55 27.5	+1.7
NAS1	Nasa	2.93	73	P	P	18 55 27.1	+1.2
JUA2	San Juan 2	2.96	65	P	P	18 55 26.1	-0.2
TERV	Terraza Guagua	2.98	64	P	P	18 55 26.9	+0.4
TERV				S	S	18 55 56.7	-4.8
PINO	Pino	2.98	64	⇑P	P	18 55 26.8	+0.2
VC1	Cotopaxi 1	3.00	74	P	P	18 55 28.9	+2.0
VC1				S	S	18 56 00.5	-1.6
TAMB	Tambo	3.02	75	P	P	18 55 28.5	+1.3
YANA	Yana	3.03	64	P	P	18 55 27.3	0.0
ANTI	Antisana	3.29	72	P	P	18 55 32.5	+1.6
ANTI				S	S	18 56 09.0	-0.4
COTA	Cotacachi	3.46	59	P	P	18 55 37.1	+3.8
CAYR	Refugio Cayamb	3.60	66	P	P	18 55 38.7	+3.4
CAYR				S	S	18 56 18.0	+0.8
CAYA	Cayambe	3.64	65	P	P	18 55 38.1	+2.2
ECEN	Cerro Negro	4.03	55	P	P	18 55 44.3	+2.9
ECEN				S	S	18 56 28.2	+0.1

*UPP **03** 19:15:57.7, 55.99N×10.87E, h0^{km}, ML2.6, Mining explosion.*
*CSEM **03** 19:16:00.6±0.2, 56.27N×11.19E, h2^{km}, ML2.6, Error ellipse: s-maj=4.2km s-min=2.6km az=46.0, Mining explosion.*
*NAO **03** 19:16:01.0±4.9, 56.26N×11.09E, ML2.8*
*NEIC **03** 19:16:01.8, 56.15N×11.16E, ML2.8(BER), After BER.*
*BER **03** 19:16:02.0±3.5, 56.14N×11.06E, MW2.3, ML2.8(NAO)*
ISC 03 19:16:01.2±0.7**, 56.37N**±0.05×**11.25E**±0.09**, n26, σ1^{s}10**/37**, 2C, Denmark**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
COP	Copenhagen	0.96	136	i P	Pg	19 16 20.0	-0.3
COP				i		19 16 20.8	
COP				i S	Sg	19 16 27.0	-6.1
MUD	Monsted U'grnd	1.16	275	⇑iP	Pb	19 16 25.8	+2.1
MUD				i		19 16 26.4	
MUD				i S	Sb	19 16 44.3	+5.2
MUD	Monsted U'grnd	1.16	275	⇑iP	Pb	19 16 25.8	+2.1
MUD				i S	Sb	19 16 44.3	+5.2
VXJU	Vaexsjoe	2.11	73	P	Pn	19 16 38.9	+0.7
BSD	Bornholm Skovb	2.43	120	i P	Pn	19 16 41.4	-1.3
BSD				e		19 16 44.0	
BSD				i		19 16 47.4	
BSD				i S	Sn	19 17 23.1	+10
EKSU	Eksjoe	2.52	60	P	Pn	19 16 45.5	+1.4
BLEU	Blekinge	2.54	90	P	Pn	19 16 44.0	-0.4
OSKU	Oskarshamn	2.79	71	P	Pn	19 16 48.2	+0.3
LNKU	Linkoeping	2.96	49	P	Pn	19 16 51.0	+0.7
VSTU	Vaestervik	3.17	64	P	Pn	19 16 53.5	+0.3
ASKU	Askersund	3.18	36	P	Pn	19 16 54.3	+0.9
BYXU	Byxelkrok	3.30	71	P	Pn	19 16 55.2	+0.1
KONO	Kongsberg	3.40	346	eP	Pn	19 16 56.5	-0.1
VIKU	Vikbolandet	3.64	52	P	Pn	19 17 00.6	+0.7
NRAU	Nora	3.79	31	P	Pn	19 17 02.5	+0.4
HFS	Hagfors	3.99	18	Pn	Pn	19 17 04.7	-0.2
	baz=205,slow=12						
HFS				Pg	Pg	19 17 15.2	-5.5
	baz=197,slow=16						
HFS				Sn	Sn	19 17 55.2	+2.2
	baz=194,slow=37						
HFS				Lg		19 18 11.3	
	baz=202,slow=28						
HFS	Hagfors	3.99	18	Pn	Pn	19 17 04.7	-0.2
	baz=205,slow=12						
HFS				Sn	Sn	19 17 55.2	+2.2
	baz=194,slow=37						
HFS				Lg		19 18 11.3	
	baz=202,slow=28						
HFS	Hagfors	3.99	18	Pg	Pg	19 17 15.2	-5.6
	SNR=7.6						
GOTU	Gotland	4.21	69	P	Pn	19 17 07.9	-0.2
KMY	Karmoy	4.29	314	eP	Pn	19 17 08.9	-0.3
KMY				eS	Sn	19 17 57.0	-3.8
ODD1	Odda	4.31	327	eP	Pn	19 17 08.6	-0.9
NAO01	NORSAR Array S	4.49	358	ePn	Pn	19 17 10.8	-1.3
NAO01				ePb	Pb	19 17 24.9	+4.2
NAO01				eSn	Sn	19 18 04.3	-1.5
NAO01	NORSAR Array S	4.49	358	ePn	Pn	19 17 10.8	-1.2
NRTU	Norrtaelje	5.13	47	P	Pn	19 17 21.4	+0.2
FIA0	FINESS Array S	9.19	50	Pn	P	19 18 15.5	-2.5
	baz=254,slow=10						
FIA0				Sn	Sn	19 20 00.4	-3.1
	baz=245,slow=22						
FIA0				Lg		19 20 48.7	
	baz=245,slow=28						
ARA0	ARCESS Array S	14.65	20	Pn	P	19 19 25.7	-5.5
	baz=210,slow=16						

*IDC **03** 19:24:12.7±10.0, 16.25N×61.42W, mb4.0/4, mb1 4.3/5, mb1mx3.7/21, mbtmp4.0/5, ML6.0/1, Error ellipse: s-maj=241.2km s-min=64.5km az=177.0*
*TRN **03** 19:24:15.0, 15.87N×61.60W, h2^{km}, MD3.6, M3.2(FDF), Md3.2(FDF)*
*NEIC **03** 19:24:16.7, 15.60N×61.61W, h22^{km}, MD3.5(TRN), After TRN.*
ISC 03 19:24:13.7±1.2**, 15.8N**±0.2×**61.8W**±0.1**, h29**^{km}±15^{km}**, n10, σ0^{s}87**/16**, mb4.0**/4**, 2C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
BBL	Barber's Block	0.39	130	⇑iP	Pb	19 24 22.4	+0.1
BBL				eS	Sb	19 24 27.2	-1.0
MDN	Morne-Daniel	0.59	141	⇑iP	Pb	19 24 26.1	+0.7
MDN				eS	Sb	19 24 33.4	-0.1
DBCT	Belle View Cho	0.65	140	eP	Pb	19 24 27.4	+0.9
DBCT				eS	Sb	19 24 34.7	-0.6
DSHT	Scott's Head	0.68	145	eP	Pb	19 24 28.0	+1.0
DSHT				eS	Sb	19 24 35.5	-0.7
SJG	San Juan	4.78	300	Pn	Pn	19 25 27.1	+1.3
	12nm,0.3s,baz=165,slow=7.6,SNR=5.8						
SJG				Sn	Sn	19 26 19.4	-1.6
	5.9nm,0.3s,baz=344,slow=16,SNR=3.4						
SJG	San Juan	4.78	300	Pn	Pn	19 25 27.1	+1.3
SJG				Sn	Sn	19 26 19.4	-1.6
ULM	Lac du Bonnet	44.03	329	P	P	19 32 20.2	-0.3
	1.2nm,0.4s,mb4.0,baz=118,slow=7.5,SNR=3.9						
PDAR	Pinedale Array	48.76	314	P	P	19 32 59.1	+1.1
	1.2nm,0.8s,mb4.0,baz=117,slow=9.9,SNR=9.7						
YKA	Yellowknife Ar	59.38	335	P	P	19 34 14.5	-1.0
	2.0nm,0.7s,mb4.3,baz=108,slow=7.4,SNR=28						
ILAR	Eielson Array	73.78	334	P	P	19 35 47.0	+0.1
	0.5nm,0.6s,mb3.7,baz=79,slow=5.4,SNR=10						

*NEIC **03** 19:25:27.4, 35.91N×22.44E, h10^{km}, MD3.4(ATH), After ATH.*
*CSEM **03** 19:25:27.4, 35.91N×22.44E, h10^{km}, MD3.4/3, After ATH*
ATH 03 19:25:24.8, 35.75N×**22.48E, h5**^{km}**, MD3.5**/5**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
KYTH	Kithira	0.70	40	ePB	Pb	19 25 39.0	0.0
KYTH				eSB	Sb	19 25 47.5	-1.2
VLI	Veliai	1.03	21	ePN	Pn	19 25 44.9	-0.9
VAM	Vamos	1.44	103	ePB	Pb	19 25 52.0	+0.2
ITM	Ithomi	1.50	343	ePG	Pg	19 25 52.4	-2.3
NAIG	Nisos Aigina	2.16	22	ePN	Pn	19 26 03.5	+1.5
NSAL	Nisos Salamina	2.29	20	ePN	Pn	19 26 06.4	+2.6
APE	Apeiranthos	2.79	61	ePN	Pn	19 26 13.5	+2.6

IDC 03 19:26:02.0±1.1**, 10.01N**×**93.00E, h34**^{km}±6^{km}**, mb3.5**/5**, mb1 3.7**/6**, mb1mx3.5**/16**, mbtmp3.6**/6**, ML3.3**/1**, Error ellipse: s-maj=38.0km s-min=18.1km az=60.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	h m s	Res ISC
CMAR	Chiang Mai Arr	10.18	34	Pn	P	19 28 27.3	-1.6
	0.1nm,0.3s,baz=224,slow=14,SNR=6.7						
SONM	Songino Array	39.36	14	P	P	19 33 27.7	-2.1
	0.3nm,0.8s,baz=180,slow=4.3,SNR=2.9						
SONM				pP	pP	19 33 37.9	-1.8
	0.7nm,0.9s,baz=190,slow=8.8,SNR=4.8						
ZAL	Zalesovo	44.30	353	pP	pP	19 34 19.7	-0.6
	0.5nm,0.3s,baz=308,slow=24,SNR=1.9						
WRA	Warramunga Arr	50.42	126	P	P	19 34 56.3	-2.4
	1.2nm,0.6s,baz=305,slow=8.5,SNR=24						
WRA				pP	pP	19 35 06.5	-2.3
	2.2nm,1.1s,baz=304,slow=8.8,SNR=5.8						
ASAR	Alice Springs	52.15	131	P	P	19 35 09.6	-2.0
	1.2nm,1.0s,baz=303,slow=6.9,SNR=7.7						
STKA	Stephens Creek	62.39	134	P	P	19 36 21.9	-2.1
	1.5nm,0.7s,baz=335,slow=9.9,SNR=5.1						
GERES	GERESS Array B	75.49	318	P	P	19 37 43.1	-1.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.2nm,0.4s,baz=135,slow=2.8,SNR=2.6						
GERES				pP	pP	19 37 53.9	-1.2
	0.8nm,0.8s,baz=90,slow=2.7,SNR=4.1						

IDC 03 19:32:15.5±1.8**, 9.90N×92.70E, mb3.8**/5**, mb1 3.9**/6**, mb1mx3.7**/18**, mbtmp3.7**/6**, 1C, Error ellipse: s-maj=63.4km s-min=21.5km az=68.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.44	35	Pn	P	19 34 48.4	-1.2
	baz=220,slow=14,SNR=7.8						
SONM	Songino Array	39.54	15	P	P	19 39 47.3	-2.6
	0.7nm,0.9s,baz=198,slow=7.8,SNR=5.3						
BVAR	Borovoye Array	46.63	342	P	P	19 40 45.6	-1.6
	0.3nm,0.7s,baz=117,slow=9.7,SNR=2.4						
WRA	Warramunga Arr	50.59	126	P	P	19 41 15.9	-2.5
	1.5nm,0.7s,baz=306,slow=8.5,SNR=37						
WB2	Warramunga Arr	50.60	126	⇑*i*P	P	19 41 15.9	-2.6
ASAR	Alice Springs	52.30	130	P	P	19 41 28.8	-2.5
	1.4nm,0.8s,baz=311,slow=6.6,SNR=11						
STKA	Stephens Creek	62.52	134	P	P	19 42 42.2	-1.3
	2.3nm,0.8s,baz=319,slow=9.3,SNR=4.4						

IDC 03 19:47:32.5±4.2**, 22.02S×176.10W, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.9**/15**, mbtmp3.9**/4**, Error ellipse: s-maj=166.2km s-min=58.0km az=145.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.76	246	P	P	19 54 57.9	-2.6
	0.5nm,0.5s,baz=90,slow=9.3,SNR=4.0						
ASAR	Alice Springs	45.91	258	P	P	19 55 57.1	-1.8
	2.6nm,0.8s,baz=91,slow=7.2,SNR=24						
ASPA	Alice Springs	45.92	258	*e*P	P	19 55 58.9	-0.1
WB2	Warramunga Arr	46.15	263	*e*P	P	19 55 58.9	-1.9
WRA	Warramunga Arr	46.16	263	P	P	19 55 59.2	-1.7
	2.1nm,0.8s,baz=96,slow=8.4,SNR=38						
CMAR	Chiang Mai Arr	92.28	289	P	P	20 00 46.6	+0.3
	0.5nm,0.8s,baz=90,slow=4.5,SNR=4.1						
AKASG	Malin Array Be	145.19	332	PKP	PKPdf	20 07 10.0	-3.7
	0.8nm,0.6s,baz=42,slow=3.8,SNR=4.0						

MAN 03 20:04:39.1, 13.56N×120.26E, h38^{km}, mb3.9, ML2.7, MS2.3, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.17	356	*e*P	P	20 04 47.7	+1.8
LUBP	Lubang	0.17	356	*e*P	P	20 04 47.7	+1.8
LUBP				*e*S	S	20 04 52.5	+1.8
SJMP	San Jose	1.38	142	*e*P	P	20 05 02.5	+0.2
BOAC	Boac	1.55	94	*e*P	P	20 05 04.8	+0.1
BUSP	Coron	1.55	182	*e*P	P	20 05 05.3	+0.6
ENPP	El Nido	2.48	199	*e*P	P	20 05 17.8	-0.2
CUYO	Cuyo Island	2.80	164	*e*P	P	20 05 21.4	-1.1

DJA 03 20:25:21.7±0.9**, 9.42S×113.45E, h55^{km}**±40^{km}**, MD4.8**/4**, ML4.0**/3**, 7C-1D, Error ellipse: s-maj=48.9km s-min=17.2km az=6.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.16	36	⇑*e*Pn	P	20 25 40.8	-1.2
	119nm,0.2s						
SRDI				⇑*i*Sn	S	20 25 55.7	-1.3
KELI	Kelakatan	1.58	41	⇓*e*Pn	P	20 25 47.3	-0.6
KELI				⇑*i*Sn	S	20 26 05.2	-2.1
RATI	Rata	2.17	72	⇑*i*Pn	P	20 25 55.3	-0.9
	221nm,0.2s						
RATI				⇑*i*Sn	S	20 26 20.1	-1.9
KEDI	Kedomdong	2.79	71	⇑*e*Pn	P	20 26 03.5	-1.6
	28nm,0.2s						
KEDI				⇑*i*Sn	S	20 26 33.5	-4.2

DJA 03 20:27:40.9±0.8**, 9.34S×113.42E, h80^{km}, MD4.7**/4**, ML4.3**/4**, 8C-1D, Error ellipse: s-maj=18.9km s-min=15.9km az=40.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	1.12	40	⇑*e*Pn	P	20 28 00.4	-1.2
	547nm,0.2s						
SRDI				⇑*i*Sn	S	20 28 16.2	-1.0
KELI	Kelakatan	1.54	43	⇓*e*Pn	P	20 28 07.1	-0.2
	154nm,0.2s						
KELI				⇑*i*Sn	S	20 28 24.9	-1.8
RATI	Rata	2.17	74	⇑*e*Pn	P	20 28 15.0	-0.8
	461nm,0.2s						
RATI	Rata	2.17	74	⇑*i*P	P	20 28 16.0	+0.2
RATI				⇑*i*Sn	S	20 28 39.2	-2.5
KEDI	Kedomdong	2.79	72	⇑*e*Pn	P	20 28 23.4	-1.1
	79nm,0.2s						
KEDI				⇑*i*Sn	S	20 28 54.5	-2.6

*IDC **03** 20:33:46.9±1.1, 3.57S×135.84E, mb4.0/2, mb1 4.2/3, mb1mx4.0/9, mbtmp3.9/3, ML3.8/1, Error ellipse: s-maj=83.1km s-min=25.0km az=82.0*
*NEIC **03** 20:33:52.0±0.8, 3.97S×134.93E, h35^{km}, mb4.1/7, Error ellipse: s-maj=25.5km s-min=12.0km az=80.0*
ISC 03 20:33:50.3±2.0**, 3.90S**±0.06×**135.2E**±0.2**, h43^{km}**±18^{km}**, n17, σ1^{s}54**/20**, mb4.0**/6**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.18	197	*e*P	P	20 36 04.2	+1.2
	16nm,0.4s						
KAKA				*e*S	S	20 37 46.7	+0.6
WRAB	Tennant Creek	15.96	183	*e*P	P	20 37 31.9	-1.6
	19nm,0.7s						
WRAB				*e*S	S	20 40 19.0	-10
WB2	Warramunga Arr	15.97	183	*e*P	P	20 37 31.5	-2.1
WRA	Warramunga Arr	15.97	183	Pn	P	20 37 32.3	-1.3
	0.3nm,0.3s,baz=3.6,slow=13,SNR=19						
WRA				Sn	S	20 40 25.5	-3.6
	0.4nm,0.3s,baz=7.1,slow=23,SNR=5.9						
WRA				Lg		20 42 28.6	
	0.2nm,0.3s,baz=5.5,slow=26,SNR=3.4						
FITZ	Fitzroy Crossi	16.95	213	*e*P	P	20 37 45.8	-0.2
	2.6nm,0.2s						
CTA	Charters Tower	19.35	147	*e*P	P	20 38 16.7	+1.6
	7.0nm,1.2s						
CTAO	Charters Tower	19.35	147	*e*P	P	20 38 16.2	+1.0
	14nm,1.1s						
ASAR	Alice Springs	19.69	184	P	P	20 38 21.7	+2.9
	148nm,0.4s,baz=6.6,slow=11,SNR=2.2						
ASAR				S	S	20 41 55.1	+1.8
	78nm,0.3s,baz=3.7,slow=28,SNR=4.1						
ASAR				Lg		20 44 09.3	
	166nm,0.3s,baz=13,slow=32,SNR=5.1						
ASPA	Alice Springs	19.69	184	*e*P	P	20 38 21.5	+2.6
ASPA				*e*S	S	20 41 51.7	-1.6
MBWA	Marble Bar	22.83	220	*e*P	P	20 38 55.9	+5.0
	23nm,1.4s,mb4.4						
STKA	Stephens Creek	28.47	169	P	P	20 39 44.9	+1.3
	1.8nm,0.7s,mb3.8,baz=339,slow=8.6,SNR=3.9						
LSA	Lhasa	53.82	311	*e*P	P	20 43 16.3	+4.9
	2.3nm,0.8s,mb4.2						
SONM	Songino Array	57.39	337	P	P	20 43 37.2	+0.4
	0.4nm,0.6s,mb3.6,baz=155,slow=7.8,SNR=7.3						
CHKZ	Chkalovo	78.45	327	*e*P	P	20 45 48.2	-0.1
	1.4nm,0.8s,mb3.9						
ILAR	Eielson Array	88.36	25	P	P	20 46 37.0	-1.5
	0.4nm,0.5s,mb3.9,baz=265,slow=4.5,SNR=7.8						
ARCES	ARCESS Array B	100.47	340	P	P	20 47 33.8	-0.2
	5.9nm,1.1s,baz=72,slow=5.7,SNR=3.7						
LPAZ	La Paz	149.41	132	PKPbc	PKPdf	20 53 40.0	+8.8
	1.6nm,0.6s,baz=236,slow=4.7,SNR=7.4						

IDC 03 20:51:36.4±6.0**, 3.29N×93.69E, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.6**/17**, mbtmp3.6**/4**, ML4.0**/1**, Error ellipse: s-maj=179.4km s-min=28.3km az=72.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.93	18	Pn	P	20 55 23.3	-0.4
	0.2nm,0.3s,baz=207,slow=11,SNR=24						
SONM	Songino Array	45.71	12	P	P	20 59 59.0	-2.1
	0.1nm,0.4s,baz=192,slow=13,SNR=2.6						
WRA	Warramunga Arr	46.11	122	P	P	21 00 02.6	-2.0
	1.3nm,0.6s,baz=300,slow=9.1,SNR=15						
ASAR	Alice Springs	47.45	127	P	P	21 00 13.4	-1.7
	0.4nm,0.4s,baz=296,slow=7.5,SNR=6.6						

CASC 03 21:07:11.3±1.9**, 11.25N×87.18W, h23^{km}**±12^{km}**, MD3.7, ML3.4, 4C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	Copaltepe	1.09	32	⇓*e*P	Pn	21 07 31.0	-0.3
COPN				*e*S	Sb	21 07 47.6	+2.5
LEON	Leon	1.19	13	⇑*e*P	Pn	21 07 32.4	-0.3
TICN	Ticuantepe	1.21	50	⇓*e*P	Pn	21 07 32.8	-0.2
XAVN	Gruta Xavier	1.22	43	*e*P	Pn	21 07 32.7	-0.5
MIRN	Miramar	1.27	21	⇓*e*P	Pn	21 07 33.4	-0.4
APON	Apoyo	1.27	59	⇑*e*P	Pn	21 07 33.2	-0.7
MGAN	Managua	1.27	45	*e*P	Pn	21 07 33.3	-0.6
MGAN				*e*S	Sn	21 07 50.3	-0.1
MGAN				*i*		21 07 56.1	
	comp=E,725nm,0.4s						
MOMJ	Momotombo	1.31	28	⇑*e*P	Pn	21 07 33.8	-0.6
MOMJ				*e*S	Sn	21 07 51.9	+0.6
WILN	Americas 2	1.32	47	*e*P	Pn	21 07 33.5	-1.1
CNGN	Cerro Negro	1.33	21	⇑*e*P	Pn	21 07 34.0	-0.6
CRIN	San Cristobal	1.45	5	⇓*e*P	Pn	21 07 36.5	+0.1
CONN	Concepcion	1.55	78	*e*P	Pn	21 07 36.2	-1.7
CONN				*e*S	Sn	21 07 57.2	-0.3
PYTN	Playitas	1.68	40	⇓*e*P	Pn	21 07 38.9	-0.9
CGA2	Cerro Gallo 2	2.93	114	*e*S	Sn	21 08 34.1	+1.5
PRS1	Puriscal	3.08	114	*e*P	Pn	21 07 59.9	+0.1
BUS	Buena Vista	3.76	116	*e*P	Pn	21 08 09.1	-0.2
BUS				*e*S	Sn	21 08 52.8	-0.6

IDC 03 21:12:12.0±1.5**, 13.13N×144.72E, mb3.6**/4**, mb1 3.9**/4**, mb1mx3.6**/18**, mbtmp3.6**/4**, Error ellipse: s-maj=252.0km s-min=22.6km az=111.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	34.42	197	P	P	21 19 00.3	-3.2
	0.9nm,0.8s,baz=20,slow=9.3,SNR=6.7						
ASAR	Alice Springs	38.07	196	P	P	21 19 33.4	-0.9
	0.3nm,0.5s,baz=21,slow=13,SNR=4.0						
ILAR	Eielson Array	69.04	25	P	P	21 23 18.9	-2.4
	1.0nm,0.6s,baz=248,slow=6.2,SNR=22						
YKA	Yellowknife Ar	83.33	27	P	P	21 24 41.4	-0.5
	0.2nm,0.6s,baz=286,slow=5.3,SNR=4.5						

*NIED **03** 21:13:00, 37.30N×138.90E, h5^{km}, Mw3.4 Best double couple: $M_0 1.29\times10^{14}$ NP1:ϕ_s358°, δ60°, λ66°. NP2:ϕ_s219°, δ38°, λ125°.*
*JMA **03** 21:13:51.4, 37.27N×138.86E, h9^{km}±1^{km}, M3.3*
JMA Felt III J1.
ISC 03 21:13:51.0±0.7**, 37.28N**±0.03×**138.85E**±0.05**, h13^{km}**±5^{km}**, n9, σ0^{s}37**/16**, 1C-4D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.14	105	⇓P	Pg	21 13 54.4	-0.3
JHK				S	Sg	21 13 57.0	-0.1
JIZZ	Izumozaki	0.27	336	P	Pg	21 13 57.7	+0.8
JKT	Katashina	0.61	148	⇓P	Pb	21 14 02.6	-0.4
JKT				S	Sb	21 14 10.9	-0.2
JNS	Sasagawa	0.65	35	⇑P	Pb	21 14 03.5	-0.2
JNS				S	Sb	21 14 12.6	+0.2
JFY	Yanaizu	0.69	80	⇓P	Pb	21 14 04.3	-0.1
JFY				S	Sb	21 14 13.7	+0.1
JGK	Kuni	0.74	193	P	Pb	21 14 05.2	0.0
JGK				S	Sb	21 14 15.6	+0.7
JSD	Sado	0.88	328	P	Pb	21 14 07.2	-0.5
MAT	Matsushiro	0.90	215	P	Pb	21 14 07.5	-0.5
MAT				S	Sb	21 14 19.4	-0.2
JAG	Ashikaga	0.99	150	⇓P	Pb	21 14 09.7	+0.3
JAG				S	Sb	21 14 22.5	+0.4

*NEIC **03** 21:19:58.7, 16.19N×98.21W, h3^{km}, MD3.8(MEX), After MEX.*
MEX 03 21:19:59.0±0.6**, 16.21N×98.21W, h3^{km}**±6^{km}**, MD3.8, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.20	24	*i* P	Pg	21 20 02.7	-0.3
PNIG				*i* S	Sg	21 20 05.6	-0.2
VHO	Vista Hermosa	1.66	59	*i* P	Pn	21 20 24.5	-4.7
VHO				*i* S	Sb	21 20 46.7	-4.4
OXX	Oaxaca	1.67	58	*e*P	Pn	21 20 25.0	-4.3
OXX				*i* S	Sb	21 20 48.5	-3.0
ACX	Acapulco	1.76	292	*e*P	Pn	21 20 26.0	-4.6
ACX				*i* S	Sn	21 20 46.0	-7.8
ACX	Acapulco	1.76	292	*e*P	Pn	21 20 26.0	-4.6
ACX				*i* S	Sn	21 20 48.0	-5.8
HUIG	Huatulco	2.07	102	*e*P	Pn	21 20 34.3	-0.7
HUIG				*i* S	Sn	21 20 58.0	-3.7
HUIG	Huatulco	2.07	102	*e*P	Pn	21 20 33.0	-2.1
HUIG				*i* S	Sn	21 20 56.4	-5.3
CAIG	El Cayaco	2.14	293	*i* P	Pn	21 20 33.9	-2.2
CAIG				*i* S	Sn	21 20 56.9	-6.5
PLIG	Platanillo	2.50	331	*i* P	Pn	21 20 41.9	+0.7
PLIG				*i* S	Sn	21 21 08.2	-4.3
PLIG	Platanillo	2.50	331	*e*P	Pn	21 20 39.2	-2.0
PLIG				*i* S	Sn	21 21 08.2	-4.3
YAIG	Yautepec	2.76	343	*i* P	Pn	21 20 40.4	-4.5
YAIG				*i* S	Sn	21 21 14.6	-4.6
PPM	Popocatepetl	2.87	352	*e*P	Pn	21 20 42.7	-3.8
PPM				*e*P		21 20 48.0	
PPM				*i* S	Sn	21 21 18.0	-4.0
CMIG	Matias Romero	3.31	74	*e*P	Pn	21 20 48.9	-3.8
CMIG				*i* S	Sn	21 21 27.0	-6.1

MAN 03 21:32:50.6, 6.90N×122.83E, h76^{km}, mb3.7, ML2.4, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZMPH	Zamboanga City	0.76	274	⇓*i*P	P	21 33 07.9	+1.1
ZMPH				*i* S	S	21 33 18.6	-0.2
IPIL	Ipil	0.92	344	*e*P	P	21 33 10.7	+2.0
IPIL				*e*S	S	21 33 23.5	+1.3
PAGZ	Pagadian	1.09	30	*e*P	P	21 33 23.5	+13
PAGZ				*e*S	S	21 33 24.9	-1.1

BJI 03 21:33:46.1, 41.21N×107.72E, h22^{km}, ML3.6, Ms3.6, Msz3.4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTO	Baotou	1.84	108	*e*PG	Pn	21 34 17.0	0.0
HHC	Hu-ho-hao-te	2.93	96	*e*PG	Pn	21 34 36.3	+3.8
HHC				SG	Sn	21 35 14.2	+6.8
HHC				Smax			
	comp=N,238nm,0.6s						
HHC				Smax			
	comp=E,215nm,0.3s						
LZH	Lanzhou	5.95	212	PG	Pn	21 35 31.5	+16
LZH				SG	Sn	21 36 59.5	+36
LZH				Smax			
	comp=N,125nm,1.2s						
LZH				Smax			
	comp=E,96nm,1.1s						
LZH				LR	LR		
	comp=E,231nm,5.2s						
LZH				LR	LR		
	comp=Z,263nm,7.5s						
GTA	Gaotai	6.30	256	P	Pn	21 35 20.2	-0.1
GTA				PG	Pn	21 35 36.1	+16
GTA				Smax			
	comp=N,48nm,0.7s						
GTA				Smax			
	comp=E,20nm,1.1s						
GTA				LR	LR		
	comp=N,267nm,6.1s						
GTA				LR	LR		
	comp=E,208nm,5.0s						
GTA				LR	LR		
	comp=Z,149nm,6.5s						
XAN	Xi'an	7.22	172	P	Pn	21 35 29.7	-3.5

*IDC **03** 21:48:13.1±2.0, 2.94S×126.21E, mb3.6/2, mb1 4.2/3, mb1mx3.9/14, mbtmp3.9/3, ML4.6/1, Error ellipse: s-maj=353.0km s-min=26.7km az=71.0*
ISC 03 21:48:16.1±1.3**, 2.4S**±0.2×**128.0E**±0.4**, h33^{km}, n7, σ0^{s}15**/7**, mb3.6**/2**, 3D, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.20	157	*e*P	P	21 51 09.3	+12
	4.8nm,0.6s						
FITZ	Fitzroy Crossi	15.82	188	⇓*i*P	P	21 51 58.2	+0.1
	2.0nm,0.3s						
WRA	Warramunga Arr	18.55	161	P	P	21 52 32.6	+0.1
	1.8nm,0.3s,baz=330,slow=12,SNR=80						
WB2	Warramunga Arr	18.56	161	⇓*i*P	P	21 52 32.7	+0.2
WB2				*e*S	S	21 55 23.2	-32
ASAR	Alice Springs	21.95	165	P	P	21 53 08.4	-0.3
	4.4nm,0.6s,mb4.0,baz=343,slow=12,SNR=53						
ASPA	Alice Springs	21.95	165	⇓*i*P	P	21 53 08.6	-0.1
SONM	Songino Array	53.42	342	P	P	21 57 35.1	0.0
	0.1nm,0.4s,mb3.1,baz=152,slow=8.5,SNR=4.3						

*THR **03** 21:49:01.4±0.5, 30.80N×56.94E, h14^{km}±5^{km}, ML3.7*
*CSEM **03** 21:49:02.1±0.1, 30.77N×56.86E, h16^{km}, ML4.3/1, Error ellipse: s-maj=3.5km s-min=2.3km az=83.0*
*TEH **03** 21:49:04.7, 30.78N×56.80E, h10^{km}, Mn3.9*
ISC 03 21:49:02.1±0.6**, 30.82N**±0.04×**56.87E**±0.07**, h14^{km}, n34, σ1^{s}29**/35**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.84	186	*i* PG	Pg	21 49 17.2	-1.9
KRBR				AML	AML	21 49 30.9	
	comp=N,3µm,0.2s						
KRBR				AML	AML	21 49 32.1	
	comp=E,3µm,0.2s						
IBAF	Bafgh	1.35	305	Pg	Pg	21 49 26.5	-2.7
IMEH	Mehriz	2.02	287	Pn	Pn	21 49 37.8	+1.7
ICHK	Chekchek	2.54	305	Pn	Pn	21 49 44.7	+1.1
BNDS	Bandar-Abbas	3.46	190	*e*PN	Pn	21 49 57.1	+0.3
ISRV	Sarvestan	3.56	247	Pn	Pn	21 49 58.2	+0.1
ZHSF	Zahedan	3.59	109	*e*PN	Pn	21 49 58.0	-0.6
ZHSF				AML	AML	21 51 00.1	
	comp=N,134nm,0.6s						
SHI	Shiraz	3.95	254	Pn	Pn	21 49 58.5	-5.2
NASN	Na'in	3.98	301	*e*PN	Pn	21 50 05.1	+1.0
NASN				*e*SG	Sg	21 51 07.3	-7.4
NASN				AML	AML	21 51 16.3	
	comp=N,127nm,0.6s						
NASN	Na'in	3.98	301	*e*Pn	Pn	21 50 05.1	+1.0
	SNR=52						
NASN				*e*Sg	Sg	21 51 07.3	-7.3
	comp=N,127nm,0.6s,SNR=90						
IMOK	Mook	4.01	245	Pn	Pn	21 49 54.5	-10
GHIR	Ghir-Karzin	4.22	234	*e*PN	Pn	21 50 08.1	+0.5
IBRJ	Borojen	4.89	283	Pn	Pn	21 50 21.1	+4.1
IANJ	Anjiloo	5.25	333	Pn	Pn	21 50 21.3	-0.9
ISFB	Sefidab	5.26	313	Pn	Pn	21 50 24.5	+2.2
ISFB				Sn	Sn	21 51 20.3	-3.1
ILAS	Lasjerd	5.61	325	Pn	Pn	21 50 30.2	+3.0
IPAY	Payeh	5.89	17	Pn	Pn	21 50 31.7	+0.6
IFIR	Firoozkooh	5.92	325	Pn	Pn	21 50 31.0	-0.5
IFIR				Sn	Sn	21 51 36.4	-3.4
IVRN	Varamin	6.00	315	Pn	Pn	21 50 35.1	+2.4
IVRN	Varamin	6.00	315	Lg		21 52 11.3	
IKRD	Kardeh	6.09	13	Pn	Pn	21 50 38.4	+4.4
IMYA	Miamay	6.13	25	Pn	Pn	21 50 34.5	-0.1
IDMV	Damavand	6.24	321	Pn	Pn	21 50 36.0	-0.1
ISFR	Esferayen	6.28	8	Pn	Pn	21 50 30.7	-5.9
IQOM	Qom	6.32	311	Pn	Pn	21 50 37.0	-0.1
IQOM	Qom	6.32	311	Lg		21 52 20.6	
IQHU	Quchan	6.38	12	Pn	Pn	21 50 31.7	-6.4
IAFJ	Afjeh	6.62	321	Lg		21 52 30.7	
IAFJ	Afjeh	6.62	321	Pn	Pn	21 50 41.7	+0.3
IMHD	Mahdasht	7.11	315	Lg		21 52 45.5	
IMHD	Mahdasht	7.11	315	Pn	Pn	21 50 48.2	-0.1
IRAZ	Razeghan	7.40	310	Pn	Pn	21 50 52.2	-0.2
IRAZ				Sn	Sn	21 52 10.7	-6.2
RDF	Al-Radifah	8.31	259	*e*P	P	21 51 04.2	-0.9
NAY	Al-Naaiem	8.49	262	*e*P	P	21 51 08.0	+0.4

*NNC **03** 22:50:02.0±1.5, 44.24N×79.13E, h1^{km}±9^{km}, mpv3.2, Error ellipse: s-maj=23.2km s-min=6.0km az=139.0*
ISC 03 22:50:03.6±0.8**, 44.5N**±0.1×**78.8E**±0.2**, h10^{km}, n15, σ0^{s}39**/16**, 6C-4D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	2.81	237	P	Pn	22 50 49.3	-0.2
	SNR=24						
ULHL	Ulahol	2.94	220	P	Pn	22 50 50.6	-0.7
	SNR=18						
CHMS	Chumysh	3.30	244	P	Pn	22 50 56.3	-0.2
	SNR=7.9						
MK31	Makanchi Array	3.35	46	⇓Pn	Pn	22 50 56.6	-0.4
	1.0nm,0.2s,baz=216,slow=16,SNR=227						
MK31				Pg	Pg	22 51 04.9	-5.5
	13nm,0.6s,baz=211,slow=16,SNR=48						
MK31				⇓Sn	Sn	22 51 37.7	+0.4
	9.0nm,0.3s,baz=214,slow=25,SNR=3.9						
MK31				⇑Lg		22 51 47.2	
	21nm,0.5s,baz=216,slow=28,SNR=10						
USP	Ospenovka	3.35	250	P	Pn	22 50 57.1	0.0
	SNR=7.9						
KBK	Karagaybulak	3.36	238	P	Pn	22 50 57.3	+0.1
	SNR=16						
KZA	Kyzart	3.56	228	P	Pn	22 51 10.3	+10
	SNR=9.4						
AAK	Ala-Archa	3.65	241	P	Pn	22 51 01.1	-0.3
	SNR=5.7						
AAK	Ala-Archa	3.65	241	⇓Pn	Pn	22 51 01.3	-0.1
	0.9nm,0.3s						
AAK				⇑Pg	Pg	22 51 09.6	-6.9
	5.4nm,0.4s						
AAK				⇑Lg		22 52 00.4	
	42nm,0.7s						
UCH	Uchtor	3.87	235	P	Pn	22 51 05.2	+0.6
	SNR=7.7						
EKS2	Erkin-Say	4.09	245	P	Pn	22 51 07.9	+0.2
	SNR=8.6						
AML	Almayashu	4.42	239	P	Pn	22 51 12.9	+0.6
	SNR=5.2						
KURK	Kurchatov	6.21	359	⇑Pg	Px	22 52 00.1	
	0.8nm,0.4s						
KURK				⇑Lg		22 53 27.6	
	9.9nm,0.9s						
BVA0	Borovoye Array	10.16	330	Pn	P	22 52 32.3	-0.3
	baz=155,slow=13,SNR=4.8						
BVA0				⇓Lg		22 55 34.8	
	1.7nm,1.4s,baz=138,slow=28,SNR=4.6						
CHKZ	Chkalovo	10.62	333	⇑Lg		22 55 49.1	
	5.3nm,1.1s						

*IDC **03** 23:14:14.8±3.5, 54.72N×156.47W, mb3.8/4, mb1 3.9/6, mb1mx3.7/21, mbtmp3.8/6, ML3.7/2, Error ellipse: s-maj=76.3km s-min=28.0km az=158.0*
*NEIC **03** 23:14:18.8, 54.98N×156.26W, h17^{km}, ML3.2(AEIC), After AEIC.*
ISC 03 23:14:14.8±0.9**, 54.95N**±0.09×**156.17W**±0.07**, h17^{km}, n35, σ1^{s}04**/41**, mb3.6**/5**, South of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANPK	Aniakchak Peak	2.19	331	P	Pn	23 14 51.1	0.0
SDPT	Sand Point	2.50	281	P	Pn	23 14 56.2	+0.7
SDPT				S	Sn	23 15 26.2	+0.3
CAHL	Cahill	3.15	8	P	Pn	23 15 06.2	+1.5
CAHL				S	Sn	23 15 43.0	+0.7
PVV	Pavlof Volcano	3.25	280	P	Pn	23 15 06.2	0.0
ANCK	Angle Creek	3.28	6	P	Pn	23 15 08.1	+1.6
DOL	Dolgoi Island	3.28	276	P	Pn	23 15 06.9	+0.3
DOL				S	Sn	23 15 44.6	-1.0
MGLS	Mageik LS	3.30	8	P	Pn	23 15 07.6	+0.7
HAG	Hague Volcano	3.31	279	P	Pn	23 15 07.7	+0.7

HAG				S	Sn	23 15 44.9	-1.5
BLHA	Black Hill	3.45	285	P	Pn	23 15 09.7	+0.7
BLHA				S	Sn	23 15 49.4	-0.5
KDAK	Kodiak Island	3.47	34	P	Pn	23 15 10.1	+0.8
DTNA	Dutton South F	3.50	276	P	Pn	23 15 10.1	+0.3
DT1	Dutton Round H	3.52	275	P	Pn	23 15 10.1	+0.1
DT1				S	Sn	23 15 49.2	-2.4
WESN	West Dahl Nort	4.89	269	P	Pn	23 15 30.1	+0.7
CNPM	China Poot	5.31	28	P	Pn	23 15 36.2	+0.7
BRLK	Bradley Lake	5.61	29	P	Pn	23 15 39.8	+0.1
NCT	North Crescent	5.89	16	P	Pn	23 15 44.2	+0.7
SEW	Seward	6.30	32	P	Pn	23 15 49.0	-0.5
LTI	Latouche	6.79	38	P	Pn	23 15 56.3	+0.1
HIN	Hinchinbrook I	7.52	40	P	Pn	23 16 06.2	-0.3
GLI	Glacier Island	7.66	35	P	Pn	23 16 08.2	-0.2
GHO	Glory Hole Cre	7.82	26	P	Pn	23 16 10.0	-0.8
EYAK	Cordova Ski Ar	7.90	41	P	Pn	23 16 10.1	-1.8
JPK	Jack Peak	7.95	36	P	Pn	23 16 11.8	-0.7
VLZ	Valdez	8.09	36	P	P	23 16 13.9	-0.6
SCM	Sheep Creek Mo	8.31	30	P	P	23 16 16.8	-0.7
GLB	Gilahina Butte	9.20	40	P	P	23 16 27.6	-2.3
PAX	Paxson	9.74	30	P	P	23 16 35.5	-1.7
ILAR	Eielson Array	10.88	21	Pn	P	23 16 50.4	-2.4
	0.2nm,0.3s,baz=211,slow=13,SNR=12						
INK	Inuvik	17.02	29	P	P	23 18 16.9	+3.7
	0.2nm,0.3s,baz=226,slow=12,SNR=9.6						
INK	Inuvik	17.02	29	P	P	23 18 16.9	+3.7
YKA	Yellowknife Ar	22.50	54	P	P	23 19 18.8	+4.4
	0.1nm,0.5s,mb2.5,baz=271,slow=12,SNR=3.9						
ARCES	ARCESS Array B	55.81	359	P	P	23 23 53.3	+0.6
	2.6nm,1.0s,mb4.2,baz=12,slow=8.3,SNR=3.7						
SONM	Songino Array	56.40	307	P	P	23 23 58.1	+0.9
	0.6nm,0.5s,mb3.9,baz=52,slow=6.4,SNR=11						
FINES	FINESS Array B	63.93	359	P	P	23 24 49.6	+1.2
	0.6nm,0.6s,mb3.8,baz=22,slow=7.5,SNR=4.9						
BVAR	Borovoye Array	65.71	331	P	P	23 25 01.7	+1.8
	0.4nm,0.5s,mb3.8,baz=37,slow=7.2,SNR=3.8						

*NEIC **03** 23:38:11.3, 32.67S×71.67W, h20km, ML2.8(GUC), After GUC.*

GUC 03 23:38:11.3±0.7**, 32.67S×71.67W, h20km**±17km**, MD3.7, ML2.8, 2C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.35	176	⇓iP	Pb	23 38 18.9	+0.1
IHA				iS	Sb	23 38 24.3	+0.4
ROCH	El Roble	0.63	118	⇑iP	Pb	23 38 23.6	+0.1
LCCH	Las Cruces	0.81	174	iP	Pb	23 38 25.6	-0.9
LCCH				iS	Sb	23 38 36.5	-0.3
JACH	Jahuel	0.91	91	⇑iP	Pb	23 38 27.7	-0.6
JACH				iS	Sb	23 38 40.2	+0.3
RCDM	Rinconada Maip	1.09	138	eP	Pb	23 38 30.5	-0.8
RCDM				iS	Sb	23 38 45.3	+0.1
RCDM				AMP		23 38 50.6	
	comp=E,352nm,0.1s						
ILCH	Illapel	1.12	23	eP	Pb	23 38 31.2	-0.6
ILCH				iS	Sb	23 38 46.3	+0.4
ILCH				AMP		23 38 48.7	
	comp=E,358nm,0.2s						
TACH	Talagante	1.16	148	eP	Pb	23 38 31.5	-1.0
CLCH	Cerro Calan	1.20	127	eP	Pn	23 38 32.3	-0.8
CLCH				iS	Sb	23 38 48.1	0.0
CLCH				AMP		23 38 49.6	
	comp=N,349nm,0.3s						
FCH	Farellones	1.33	120	⇓iP	Pn	23 38 34.5	-0.5
FCH				AMP		23 38 53.2	
	comp=E,300nm,0.2s						
PCH	Pirque	1.35	135	iP	Pn	23 38 34.9	-0.5
PCH				iS	Sb	23 38 52.2	-0.6
CHCH	Chadas Angostu	1.52	146	eP	Pn	23 38 37.7	-0.1
CHCH				iS	Sn	23 38 57.1	+0.1
CACH	El Canelo	1.70	148	eP	Pn	23 38 41.3	+1.1
LMEL	Las Melosas	1.70	134	eP	Pn	23 38 40.5	+0.2
LMEL				iS	Sn	23 39 03.0	+1.4
LMEL				AMP		23 39 06.6	
	comp=N,324nm,0.4s						

*MOS **04** 00:02:59.0±1.5, 45.72N×149.49E, h166km, mb3.9/1, Error ellipse: s-maj=25.6km s-min=18.0km az=52.0*
*NEIC **04** 00:03:00.5±2.2, 45.84N×149.45E, h155km±18km, mb3.6/1, Error ellipse: s-maj=22.3km s-min=13.5km az=129.0*
*JMA **04** 00:03:00.7±0.6, 45.10N×149.77E, h147km, M3.9*
*IDC **04** 00:03:02.1±3.2, 45.83N×149.43E, h170km±30km, mb3.2/11, mb1 3.4/12, mb1mx3.3/23, mbtmp3.7/12, Error ellipse: s-maj=23.6km s-min=13.6km az=123.0*

ISC 04 00:02:58.8±1.0**, 45.4N**±0.1×**149.7E**±0.1**, h158km**±8km**, n43,** σ**1s37**/53**, mb3.8**/15**, 1C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YUK	Yuzh-Kuril'sk	3.03	245	ePN	P	00 03 46.5	-1.0
YUK				eS	S	00 04 25.1	+0.3
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.3s						
YUK				pmax	pmax		
	comp=E,190nm,0.4s						
YUK				smax			
	comp=N,360nm,0.3s						
YUK				smax			
	comp=E,300nm,0.5s						
NEM2	Nemuro 2	3.46	236	P	P	00 03 53.0	-0.1
NEM2				eS	S	00 04 34.0	-0.7
JNK	Nakash	3.97	245	P	P	00 04 01.1	+1.4
JAK	Akkeshi	4.30	238	P	P	00 04 04.0	+0.1
JAK				eS	S	00 04 53.6	-0.5
JTKR	Abashiri--Toko	4.34	253	P	P	00 04 05.4	+0.8
JMP	Maruseppu	4.70	255	P	P	00 04 11.6	+2.3
JAR	Ashorobuto	4.72	246	P	P	00 04 10.9	+1.5
JOB	Onbets	4.87	242	P	P	00 04 12.3	+0.8
JOB				eS	S	00 05 06.9	-0.8
YSS	Yuzh-Sakhalins	5.06	291	⇑iPN	P	00 04 12.0	-1.9
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	Yuzh-Sakhalins	5.06	291	ePn	P	00 04 10.6	-3.4
JKK2	Kamakawa 2	5.17	256	P	P	00 04 16.9	+1.6
ASAJ	Asahikawa	5.19	258	PN	P	00 04 17.0	+1.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	5.19	258	P	P	00 04 16.9	+1.2
	comp=Z,1.0nm,0.3s,baz=115,slow=14,SNR=3.9						
JCH	Churui	5.32	241	P	P	00 04 17.8	+0.4
JCH				eS	S	00 05 16.6	-1.7
JEM	Erimo	5.79	237	P	P	00 04 25.4	+1.8
JBT2	Biratori 2	5.87	246	P	P	00 04 26.0	+1.4
JNBK	Urakawa-nobuka	5.88	241	P	P	00 04 24.2	-0.6
JNBK				eS	S	00 05 28.2	-3.5
JKB	Kayabe	7.17	244	P	P	00 04 41.5	-0.6
JKB				eS	S	00 05 58.6	-3.9
JTM	Tenmabayashi	7.79	237	P	P	00 04 50.3	0.0
JTM				eS	S	00 06 11.3	-6.0
JANG	Nango	7.80	233	P	P	00 04 49.0	-1.4
JANG				eS	S	00 06 11.5	-6.0
JTH	Tanohata	7.91	229	eS	S	00 06 14.0	-6.2
JOSM	Okushiri--Mats	8.08	250	P	P	00 04 54.2	0.0
JRG	Rokugo	8.96	231	P	P	00 05 06.1	+0.3
JRG				eS	S	00 06 42.6	-2.6
JIO	Ouri	9.29	225	eS	S	00 06 48.8	-4.0
SONM	Songino Array	29.55	291	P	P	00 08 49.4	-1.0
	comp=Z,0.2nm,0.3s,mb3.4,baz=83,slow=9.3,SNR=6.2						
ILAR	Eielson Array	39.11	37	P	P	00 10 10.1	-1.6
	comp=Z,1.1nm,0.9s,mb3.5,baz=285,slow=8.0,SNR=8.3						
INK	Inuvik	44.09	31	eP	P	00 10 50.5	-1.5
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	Inuvik	44.09	31	P	P	00 10 50.6	-1.4
	comp=Z,0.3nm,0.4s,mb3.3,baz=237,slow=6.6,SNR=8.2						
INK	Inuvik	44.09	31	eP	P	00 10 50.5	-1.5
	comp=Z,0.5nm,0.3s,mb3.6						
CMAR	Chiang Mai Arr	49.70	254	P	P	00 11 36.8	+0.3
	comp=Z,1.0nm,0.3s,mb3.9,baz=50,slow=7.0,SNR=3.7						
JIRN	Jiri	52.65	273	eP	P	00 12 00.0	+1.4
	comp=Z,12nm,0.6s,mb4.8						
KKN	Kakani	53.21	274	eP	P	00 12 03.9	+1.2
	comp=Z,6.1nm,0.3s,mb4.8						
PKI	Pulchoki	53.25	274	eP	P	00 12 03.9	+0.9
	comp=Z,6.3nm,0.5s,mb4.6						
DMN	Daman	53.44	274	eP	P	00 12 06.0	+1.6
YKA	Yellowknife Ar	53.44	35	P	P	00 12 02.3	-1.6
	comp=Z,0.3nm,0.7s,mb3.2,baz=298,slow=7.2,SNR=4.5						
GKN	Gorkha	53.53	275	eP	P	00 12 06.0	+0.9
KOLN	Koldanda	54.40	275	eP	P	00 12 12.6	+1.2
	comp=Z,5.0nm,0.3s,mb4.8						
FINES	FINESS Array B	64.23	334	P	P	00 13 13.9	-4.4
	comp=Z,1.6nm,0.9s,mb3.9,baz=56,slow=6.9,SNR=3.9						
WRA	Warramunga Arr	66.48	196	P	P	00 13 35.0	+1.5
	comp=Z,0.3nm,0.8s,mb3.1,baz=8.9,slow=6.7,SNR=4.4						
NOA	NORSAR Array B	68.72	340	P	P	00 13 43.2	-3.4
	comp=Z,0.6nm,0.7s,mb3.4,baz=29,slow=5.7,SNR=3.0						
ASAR	Alice Springs	70.20	195	P	P	00 13 59.4	+3.1
	comp=Z,0.3nm,0.6s,mb3.2,baz=9.5,slow=5.5,SNR=3.6						
SCHQ	Schefferville	75.48	21	P	P	00 14 25.4	-1.0
	comp=Z,2.0nm,0.9s,mb3.8,baz=321,slow=6.5,SNR=2.9						
GERES	GERESS Array B	78.59	332	P	P	00 14 41.9	-1.8
	comp=Z,0.2nm,0.5s,mb3.0,baz=37,slow=6.7,SNR=4.1						

*CSEM **04** 00:03:42.1±0.5, 37.65N×44.22E, h12km, MD3.6, Error ellipse: s-maj=11.5km s-min=3.6km az=130.0*
*ISK **04** 00:03:44.6, 37.68N×44.05E, h11km, MD3.6*

ISC 04 00:03:43.4±1.4**, 37.62N**±0.06×**44.2E**±0.1**, h10km, n18,** σ**1s08**/22**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HKR	Hakkari	0.38	263	iPG	Pg	00 03 50.5	-0.6
VANT	Van	1.05	322	PG	Pg	00 04 03.9	-0.4
VANT				SG	Sg	00 04 17.4	-0.9
TVAN	Van	1.10	325	iP	Pb	00 04 03.8	-0.3
TVAN				iS	Sb	00 04 19.7	+1.4
VANB	Van	1.17	326	PG	Pg	00 04 04.8	-1.9
BTMT	Batman	2.23	286	ePN	Pn	00 04 21.6	+0.7
BEST	Besiri	2.35	277	iP	Pn	00 04 24.0	+1.4
BEST				iS	Sn	00 04 54.6	+2.9
GNI	Garni	2.56	9	ePN	Pn	00 04 26.6	+1.0
VRT	Varto	2.59	306	ePN	Pn	00 04 26.0	-0.1
DIY	Diyarbakir	3.17	276	PN	Pn	00 04 34.7	+0.4
ERZM	Erzurum	3.18	317	iP	Pn	00 04 38.0	+3.4
BINT	Bingol	3.19	294	ePN	Pn	00 04 34.4	-0.2
EZM	Erzurum	3.19	317	ePN	Pn	00 04 35.2	+0.6
PTK	Pertek	4.00	290	ePN	Pn	00 04 45.1	-1.0
ELZG	Elazig	4.22	284	iP	Pn	00 04 45.6	-3.6
ELZG				iS	Sn	00 05 50.8	+12
URFA	Urfa	4.29	269	ePN	Pn	00 04 50.3	+0.1
MALT	Malatya	4.62	280	ePN	Pn	00 04 54.0	-1.0
MYA	Malataya	4.62	280	ePN	Pn	00 04 54.0	-1.0
GAZ	Gaziantep	5.59	268	ePN	Pn	00 05 08.5	-0.2

*CSEM **04** 00:16:27.1±0.3, 67.83N×20.02E, h2km, ML2.5, Error ellipse: s-maj=7.2km s-min=5.7km az=82.0, Mining explosion.*
*UPP **04** 00:16:28.7, 67.83N×20.20E, h0km, ML2.5, Mining explosion.*
*IDC **04** 00:16:30.6±0.9, 67.80N×20.79E, mb1 3.1/4, mb1mx3.1/20, mbtmp3.1/4, ML2.3/4, Error ellipse: s-maj=17.0km s-min=6.3km az=122.0*

HEL 04 00:16:28.8±0.6**, 67.83N×20.05E, ML2.5**(UPP)**, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUA	Kurravaara	0.16	42	iP	Pg	00 16 31.5	-0.6
KUA				iS	Sg	00 16 33.4	-0.9
LANU	Lannavaara	0.76	73	iP	Pg	00 16 42.1	-2.0
MASU	Masugnsbyn	0.84	116	iP	Pg	00 16 43.4	-2.1
KIF	Kilpisjarvi	1.21	13	eP	Pb	00 16 50.9	-1.4
KIF				eS	Sb	00 17 07.7	-0.6
PAJU	Pajala	1.44	123	eP	Pn	00 16 54.2	-2.0
PAJU	Pajala	1.44	123	P	Pn	00 16 54.1	-2.0
KTK1	Kautokeino	1.67	43	eP	Pn	00 16 59.8	+0.3
KTK1	Kautokeino	1.67	43	P	Pn	00 16 59.7	+0.2
SGF	Sodankyl	2.51	96	eP	Pn	00 17 10.6	-0.9
SGF				eS	Sn	00 17 42.6	-0.6
SGF	Sodankyl	2.51	96	P	Pn	00 17 10.5	-1.0
SGF				S	Sn	00 17 42.5	-0.7
ARCES	ARCESS Array B	2.63	47	Pn	Pn	00 17 12.3	-0.8
	0.4nm,0.3s,baz=226,slow=15,SNR=26						
ARCES				Lg		00 17 47.7	
	1.8nm,0.3s,baz=229,slow=22,SNR=12						
MOR8	Moi Rana	2.76	235	eSG	Sg	00 17 52.6	-8.2
STOK	Stokkvaagen	3.14	245	e	Sg	00 18 17.9	+4.7
STOK	Stokkvaagen	3.14	245	e	Sg	00 18 17.9	+4.7
KEV	Kevo	3.18	49	eP	Pn	00 17 21.6	+0.5
KEV				eS	Sn	00 17 59.4	-0.9
OUL	Oulu	3.62	137	eP	Pn	00 17 25.8	-1.6
OUL				eS	Sn	00 18 09.4	-2.0
OUL	Oulu	3.62	137	P	Pn	00 17 25.7	-1.6
OUL				S	Sn	00 18 09.4	-2.0
KU4	Liikasenvaara	4.01	107	eP	Pn	00 17 31.2	-1.6
KU4				eS	Sn	00 18 18.2	-3.0
MSF	Maaselka	4.04	114	eP	Pn	00 17 31.1	-2.2
MSF				eS	Sn	00 18 18.6	-3.3
MSF	Maaselka	4.04	114	P	Pn	00 17 31.0	-2.2
MSF				S	Sn	00 18 18.6	-3.3
NSS	Namsos	4.66	228	e	Sg	00 18 56.0	-7.9
NSS	Namsos	4.66	228	e	Sg	00 18 56.0	-7.9
KJN	Kajaani	4.89	137	eP	Pn	00 17 44.4	-1.0
KJN				eS	Sn	00 18 40.4	-3.2
KJN	Kajaani	4.89	137	P	Pn	00 17 44.3	-1.1
KJN				S	Sn	00 18 40.4	-3.2
FINES	FINESS Array B	6.91	155	Pn	Pn	00 18 12.8	-1.0
	0.1nm,0.3s,baz=346,slow=7.9,SNR=3.4						
FINES				Sn	Sn	00 19 26.5	-7.8
	0.1nm,0.3s,baz=327,slow=38,SNR=2.9						
FINES				Lg		00 20 02.0	
	0.2nm,0.3s,slow=24,SNR=3.9						
NOA	NORSAR Array B	7.81	213	Pn	Pn	00 18 25.5	-0.9
	0.1nm,0.3s,baz=15,slow=11,SNR=3.3						
NOA				Sn	Sn	00 19 53.0	-3.7
	0.1nm,0.3s,baz=223,slow=23,SNR=2.2						
HFS	Hagfors	8.21	203	Pn	P	00 18 28.9	-3.1
	0.0nm,0.3s,baz=27,slow=13,SNR=2.2						
HFS				Sn	Sn	00 20 03.6	-3.2
	0.0nm,0.3s,baz=45,slow=20,SNR=2.6						

IDC 04 00:17:12.4±17.0**, 5.90N×94.29E, mb3.6**/2**, mb1 4.0**/3**, mb1mx3.6**/18**, mbtmp3.7**/3**, ML4.3**/1**, Error ellipse: s-maj=423.9km s-min=47.0km az=85.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.28	20	Pn	P	00 20 21.9	-3.0
	0.5nm,0.3s,baz=207,slow=9.6,SNR=4.4						
WRA	Warramunga Arr	47.02	124	P	P	00 25 46.1	-1.7
	1.2nm,0.9s,baz=302,slow=9.3,SNR=7.4						
ASAR	Alice Springs	48.56	129	P	P	00 25 57.6	-2.1
	0.3nm,0.5s,baz=295,slow=7.8,SNR=4.9						

*BJI **04** 00:18:02.5, 48.19N×90.01E, h15km, mB4.1, mb4.1, ML4.1, Ms3.3, Msz3.3*
*NNC **04** 00:18:17.7±2.9, 47.63N×88.93E, h23km±14km, mpv3.6, Error ellipse: s-maj=14.8km s-min=11.8km az=65.0*

ISC 04 00:18:06.8±1.1**, 47.7N**±0.2×**90.1E**±0.2**, h33km, n6,** σ**0s75**/11**, 12C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	5.42	263	⇑Pn	Pn	00 19 28.8	+1.3
	5.9nm,0.5s,baz=90,slow=14,SNR=68						
MK31				⇑Pg	P	00 19 40.5	+13
	4.0nm,0.4s,baz=88,slow=15,SNR=25						
MK31				⇑Lg		00 20 44.3	
	33nm,0.6s,baz=78,slow=34,SNR=11						
KURK	Kurchatov	8.12	296	⇑Pn	P	00 20 04.8	-0.4
	1.5nm,0.4s						
KURK				⇑Sn	Sn	00 21 30.1	-6.8
	6.6nm,0.7s						
KURK				⇑Lg		00 22 14.4	
	24nm,0.7s						
GTA	Gaotai	10.86	136	eP	P	00 20 43.8	+0.9
GTA				AP		00 20 50.0	
GTA				S	S	00 22 43.7	-0.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s						
GTA				AMB	AMB		
	comp=Z,46nm,8.8s						
GTA				LR	LR		
	comp=N,71nm,10.7s						
GTA				LR	LR		
	comp=E,89nm,9.5s						
GTA				LR	LR		
	comp=Z,65nm,5.0s						
AAK	Ala-Archa	12.14	251	⇑Pn	P	00 20 59.2	-1.0
	comp=Z,7.5nm,2.5s						
AAK				⇑Lg		00 24 15.9	
	comp=Z,5.9nm,1.1s						
BVA0	Borovoye Array	13.66	300	Pn	P	00 21 20.5	+0.2
	comp=Z,1.0nm,1.6s,baz=102,slow=15,SNR=8.4						
BVA0				⇑Sn	S	00 23 43.1	-8.8
	comp=Z,1.0nm,1.6s,baz=96,slow=21,SNR=5.0						
BVA0				⇑Lg		00 25 08.8	
	comp=Z,1.8nm,0.9s						
CHKZ	Chkalovo	13.72	303	⇑Pn	P	00 21 20.6	-0.4
	comp=Z,0.8nm,0.6s						
CHKZ				⇑Sn	S	00 23 45.4	-7.8
	comp=Z,1.7nm,0.8s						
CHKZ				⇓Lg		00 25 16.9	
	comp=Z,9.7nm,1.1s						

*IDC **04** 00:38:47.1±3.1, 30.89S×138.97E, mb1 3.1/3, mb1mx3.1/10, mbtmp2.9/3, ML3.0/3, Error ellipse: s-maj=66.6km s-min=15.7km az=39.0*
*AUST **04** 00:38:50.7, 33.05S×139.55E, ML3.2*

ISC 04 00:38:46.2±0.8**, 30.69S**±0.08×**139.19E**±0.08**, h10km, n6,** σ**1s18**/13**, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.38	120	eP	Pn	00 39 26.9	+1.0
STKA				eS	Sn	00 39 54.7	-0.6
	20nm,0.2s						
STKA	Stephens Creek	2.38	120	Pn	Pn	00 39 27.0	+1.1
	1.7nm,0.3s,baz=299,slow=13,SNR=35						
STKA				Pg	Pg	00 39 33.8	+0.1
	3.4nm,0.3s,baz=296,slow=15,SNR=21						
STKA				Sn	Sn	00 39 54.8	-0.6
	15nm,0.3s,baz=328,slow=11,SNR=10						
STKA				Lg		00 40 04.5	
	26nm,0.3s,baz=315,slow=14,SNR=12						
BBOO	Buckleboo	3.40	231	eP	Pn	00 39 39.8	-0.7
BBOO				eS	Sn	00 40 15.9	-5.4
	65nm,0.2s						
CMSA	Cobar Meteorol	5.64	100	eP	Pn	00 40 13.4	+1.2
CMSA				eS	Sn	00 41 15.3	-2.5
	7.7nm,0.6s						
ASAR	Alice Springs	8.43	325	Pn	P	00 40 52.5	+1.2
	0.1nm,0.3s,baz=148,slow=12,SNR=4.8						
ASAR				Sn	Sn	00 42 26.5	-1.0
	0.5nm,0.3s,baz=150,slow=22,SNR=8.7						
WRA	Warramunga Arr	11.56	337	Pn	P	00 41 34.9	+0.5
	0.2nm,0.3s,baz=160,slow=12,SNR=17						
WRA				Sn	S	00 43 40.9	-3.7
	0.3nm,0.3s,baz=162,slow=24,SNR=7.3						

*IDC **04** 00:43:39.8±1.4, 11.17S×162.94E, mb3.9/7, mb1 4.1/8, mb1mx4.1/15, mbtmp3.9/8, ML3.7/1, MS3.6/4, Ms1 3.6/4, ms1mx3.2/16, Error ellipse: s-maj=65.7km s-min=22.5km az=136.0*
*NEIC **04** 00:43:41.0±0.9, 11.30S×163.09E, h10km, mb4.1/2, Error ellipse: s-maj=25.3km s-min=15.4km az=140.0*

ISC 04 00:43:38.8±0.8**, 11.5S**±0.1×**163.20E**±0.09**, h10km, n13,** σ**1s30**/13**, mb3.8**/9**, MS3.6**/3**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	3.81	303	ePn	Pn	00 44 37.9	-1.0
HNR				eSn	Sn	00 45 25.3	+1.1
CTA	Charters Tower	18.38	240	P	P	00 47 58.3	+2.5
	0.2nm,0.3s,baz=45,slow=13,SNR=2.2						
CTA				LR	LR	00 52 56.9	
	comp=Z,90nm,21.8s,baz=49,slow=30						
STKA	Stephens Creek	28.41	221	P	P	00 49 38.2	+2.4
	3.6nm,0.9s,mb4.0,baz=28,slow=11,SNR=5.0						
STKA				LR	LR	01 00 11.5	
	comp=Z,193nm,21.3s,MS3.7,baz=23,slow=35						
WRAB	Tennant Creek	28.96	250	eP	P	00 49 40.0	-0.9
	4.9nm,1.0s,mb4.2						
WRA	Warramunga Arr	28.98	250	P	P	00 49 39.9	-1.1
	1.1nm,0.8s,mb3.6,baz=79,slow=9.1,SNR=8.5						
ASAR	Alice Springs	30.35	243	P	P	00 49 52.3	-0.9
	0.8nm,0.5s,mb3.7,baz=64,slow=10,SNR=8.4						
ASAR				LR	LR	01 01 36.5	
	comp=Z,105nm,20.9s,MS3.5,baz=155,slow=36						
RPZ	Rata Peaks	32.80	169	LR	LR	01 02 03.9	
	comp=Z,182nm,20.5s,MS3.8,baz=4.2,slow=33						
FITZ	Fitzroy Crossi	36.84	255	eP	P	00 50 48.0	-1.3
	2.6nm,0.9s,mb4.1						
SONM	Songino Array	77.58	325	P	P	00 55 36.8	0.0
	0.4nm,0.6s,mb3.5,baz=141,slow=5.9,SNR=4.4						
ILAR	Eielson Array	84.76	19	P	P	00 56 13.9	-0.3
	0.5nm,1.0s,mb3.6,baz=232,slow=5.8,SNR=4.7						
NVAR	Mina Array Bea	88.24	50	P	P	00 56 33.9	+2.0
	0.2nm,0.3s,mb3.8,baz=210,slow=6.0,SNR=4.8						
NVAR	Mina Array Bea	88.24	50	P	P	00 56 33.9	+2.0
YKA	Yellowknife Ar	96.54	28	P	P	00 57 09.0	-0.6
	0.1nm,0.5s,mb3.5,baz=257,slow=4.7,SNR=5.0						

*WAR **04** 01:07:37.5, 50.07N×18.47E, h0km, ML2.4, Mining Induced*
*PRU **04** 01:07:38.4, 50.10N×18.40E*

ISC 04 01:07:35.7±0.5**, 50.08N**±0.03×**18.41E**±0.03**, n17,** σ**1s38**/30**, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.14	272	ePG	Pg	01 07 42.0	+3.4
RAC				eSG	Sg	01 07 45.0	+4.5
OKC	Ostrava-Krasne	0.30	216	ePG	Pg	01 07 44.0	+2.3
OKC				eSG	Sg	01 07 48.9	+3.3
OJC	Ojcow	0.90	81	ePG	Pg	01 07 55.0	+1.3
OJC				eSG	Sg	01 08 06.0	+0.2
DPC	Dobruska-Polom	1.37	282	ePG	Pg	01 08 03.8	+0.7
DPC				eSG	Sg	01 08 22.0	+0.6
	25nm,0.3s						
NIE	Niedzica	1.40	118	ePG	Pg	01 08 02.0	-1.7
NIE				eSG	Sg	01 08 21.0	-1.3
KSP	Ksiaz	1.56	300	ePG	Pg	01 08 07.0	+0.2
KSP				eSG	Sg	01 08 28.0	+0.5
UPC	Upice	1.60	286	ePG	Pg	01 08 07.9	+0.2
UPC				eSG	Sg	01 08 28.8	-0.2
VYHS	Vyhne	1.61	170	iPG	Pg	01 08 06.9	-1.0
VYHS				iSG	Sg	01 08 29.5	+0.1
SMOL	Smolenice	1.69	203	ePG	Pg	01 08 07.9	-1.7
SMOL				iSG	Sg	01 08 32.7	+0.5
CRVS	Cervenica-Dubn	2.31	120	ePN	Pn	01 08 20.0	+4.4
CRVS				eSG	Sg	01 08 53.2	+0.6
PRU	Pruhonice	2.50	269	eSG	Sg	01 08 55.3	-3.6
KOLS	Kolonicke sedl	2.77	113	ePN	Pn	01 08 27.3	+5.2
KOLS				ePG	Pg	01 08 31.2	+0.3
KHC	Kasperske Hory	3.29	255	ePN	Pn	01 08 31.5	+2.0
KHC				ePG	Pg	01 08 39.0	-2.3
KHC				ex	x	01 09 06.0	
KHC				eSG	Sg	01 09 21.0	-4.1
MOA	Molln	3.53	232	i	Pn	01 08 36.9	+4.0
MOA	Molln	3.53	232	iSG	Sg	01 09 28.9	-4.3
	3.2nm,0.4s						
CLL	Collm	3.65	292	eSG	Sg	01 09 35.0	-2.4
NKC	Novy Kostel	3.84	275	eSG	Sg	01 09 39.9	-3.7

*MDD **04** 01:22:59.5±2.3, 37.22N×10.50W, mb3.5/4, Error ellipse: s-maj=19.9km s-min=14.9km az=52.0, PRXIMO*
*INMG **04** 01:23:00.1±1.0, 37.19N×10.55W, h5km, ML1.6, Error ellipse: s-maj=8.0km s-min=5.0km az=66.0*
*CSEM **04** 01:23:00.0±0.6, 37.23N×10.44W, h123km±4km, ML2.8/2, Error ellipse: s-maj=12.1km s-min=8.2km az=42.0*

ISC 04 01:22:59.3±1.7**, 37.30N**±0.07×**10.42W**±0.10**, h10km, n21,** σ**1s48**/37**, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.37	79	ePn	Pn	01 23 25.8	+1.3
PTEO				eSn	Sn	01 23 45.1	+2.3
	7.8nm,0.5s						
PTEO	Sao Teotonio	1.37	79	ePn	Pn	01 23 25.8	+1.3
PTEO				eSn	Sn	01 23 45.1	+2.3
	7.8nm,0.5s						

PLOU	Loures	1.87	32	*e*Pn	Pn	01 23 33.2	+1.5
PLOU				*e*Sn	Sn	01 23 58.0	+2.5
	6.4nm,0.2s						
PLOU	Loures	1.87	32	*e*Pn	Pn	01 23 33.2	+1.5
PLOU				*e*Sn	Sn	01 23 58.0	+2.5
	6.4nm,0.2s						
MOE	Montemor	2.04	53	*e*Sn	Sn	01 24 02.0	+2.2
PBEJ	Beja	2.15	70	*e*Pn	Pn	01 23 36.5	+0.8
PBEJ				*e*Sn	Sn	01 24 03.9	+1.3
	1.2nm,0.1s						
PBEJ	Beja	2.15	70	P	Pn	01 23 36.5	+0.8
PBEJ				S	Sn	01 24 03.9	+1.3
	0.6nm,0.1s						
EMIN	Mina Concepcio	3.01	80	P	Pn	01 23 48.0	0.0
	0.7nm,0.4s,SNR=7.9						
EMIN				S	Sn	01 24 23.7	-0.8
	1.7nm,0.2s,SNR=9.0						
EMIN	Mina Concepcio	3.01	80	P	Pn	01 23 48.0	0.0
	0.5nm,0.2s,SNR=7.9						
EMIN				S	Sn	01 24 23.7	-0.8
	1.7nm,0.2s,SNR=9.0						
EBAD	Badajoz	3.05	61	P	Pn	01 23 49.2	+0.6
	0.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	01 24 26.3	+0.7
	2.5nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.05	61	P	Pn	01 23 49.2	+0.6
	0.5nm,0.1s,SNR=7.9						
EBAD				S	Sn	01 24 26.3	+0.7
	2.5nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	3.42	41	*e*Sn	Sn	01 24 34.1	-0.9
ESPR	Espera	3.67	95	S	Sn	01 24 39.5	-1.7
	2.7nm,0.2s,SNR=7.9						
ESPR	Espera	3.67	95	S	Sn	01 24 39.5	-1.7
	2.7nm,0.2s,SNR=7.9						
EADA	Adamuz	4.71	78	P	Pn	01 24 11.3	-0.8
	1.9nm,0.6s,SNR=7.9						
EADA				S	Sn	01 25 05.1	-2.4
	0.7nm,0.1s,SNR=7.9						
EADA	Adamuz	4.71	78	P	Pn	01 24 11.3	-0.8
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	01 25 05.1	-2.4
	0.7nm,0.1s,SNR=7.9						
ELOB	Lobios	4.91	21	P	Pn	01 24 13.7	-1.3
	2.9nm,0.6s,SNR=4.0						
ELOB				S	Sn	01 25 10.0	-2.5
	0.9nm,0.1s,SNR=7.9						
ELOB	Lobios	4.91	21	P	Pn	01 24 13.7	-1.3
	0.2nm,0.1s,SNR=4.0						
ELOB				S	Sn	01 25 10.0	-2.5
	0.9nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	5.59	63	P	Pn	01 24 24.1	-0.4
	1.1nm,0.1s,baz=247,slow=13,SNR=5.1						
ESDC				S	Sn	01 25 27.5	-2.1
	0.2nm,0.2s,baz=247,slow=23,SNR=4.0						
ESDC	Sonseca Array	5.59	63	P	Pn	01 24 24.1	-0.4
	1.2nm,0.2s,SNR=5.1						
ESDC				S	Sn	01 25 27.5	-2.1
	0.2nm,0.2s,SNR=4.0						
EMAZ	Mazaricos	5.75	11	S	Sn	01 25 26.1	-7.5
	1.0nm,0.1s,SNR=7.9						

*IDC **04** 01:30:14.2±2.0, 10.89N×92.26E, mb4.0/6, mb1 4.1/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=94.6km s-min=20.5km az=62.0*

*NEIC **04** 01:30:18.8±1.2, 10.92N×92.34E, h30^{km}, mb4.3/2, Error ellipse: s-maj=57.6km s-min=11.2km az=61.0*

ISC 04 01:30:16.5±1.6**, 10.9N**±0.3×**92.3E**±0.5**, h30^{km}, n11, σ0^{s}51**/11**, mb4.0**/8**, 1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	38.72	15	P	P	01 37 40.1	+0.4
	0.2nm,0.4s,mb3.2,baz=198,slow=9.1,SNR=4.1						
ZAL	Zalesovo	43.38	354	P	P	01 38 17.9	-0.1
	0.6nm,0.3s,mb3.8,baz=280,slow=6.1,SNR=4.7						
CHKZ	Chkalovo	46.09	342	*e*P	P	01 38 39.3	-0.3
	0.9nm,0.4s,mb4.0						
WRA	Warramunga Arr	51.49	126	P	P	01 39 21.6	-0.3
	1.8nm,0.5s,mb4.3,baz=307,slow=8.3,SNR=68						
WRAB	Tennant Creek	51.49	126	*e*P	P	01 39 21.4	-0.4
	3.7nm,0.5s,mb4.6						
WB2	Warramunga Arr	51.50	126	⇓*i*P	P	01 39 21.5	-0.4
ASAR	Alice Springs	53.23	131	P	P	01 39 34.8	-0.1
	0.8nm,0.5s,mb3.9,baz=306,slow=7.0,SNR=16						
STKA	Stephens Creek	63.48	134	P	P	01 40 47.7	+1.3
	1.3nm,0.7s,mb4.2,baz=333,slow=11,SNR=3.2						
STKA	Stephens Creek	63.48	134	P	P	01 40 47.7	+1.3
ARCES	ARCESS Array B	71.85	340	P	P	01 41 38.3	0.0
	2.4nm,0.8s,mb4.2,baz=96,slow=8.2,SNR=3.2						
ARCES	ARCESS Array B	71.85	340	P	P	01 41 38.3	0.0

*IDC **04** 01:36:21.6±1.4, 24.88S×112.10W, mb4.0/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, MS3.9/13, Ms1 3.9/13, ms1mx3.6/28, Error ellipse: s-maj=47.5km s-min=23.0km az=47.0*

*NEIC **04** 01:36:22.9±0.9, 24.90S×112.09W, h10^{km}, mb4.3/6, Error ellipse: s-maj=27.3km s-min=14.2km az=222.0*

ISC 04 01:36:21.5±1.5**, 24.8S**±0.2×**112.1W**±0.3**, h10^{km}, n32, σ0^{s}99**/22**, mb4.1**/16**, MS4.0**/12**, Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	3.36	134	Sn	Sn	01 37 55.4	-0.1
	17nm,0.3s,baz=105,slow=20,SNR=3.5						
RPN				LR	LR	01 37 57.7	
	comp=Z,388nm,19.3s,baz=285,slow=29						
PLCA	Paso Flores	37.95	125	P	P	01 43 40.7	-0.3
	4.6nm,1.1s,mb4.1,baz=261,slow=10,SNR=3.2						
PLCA				LR	LR	01 55 22.5	
	comp=Z,202nm,20.0s,MS3.9,baz=97,slow=30						
PLCA	Paso Flores	37.95	125	P	P	01 43 40.7	-0.3
PLCA				LR	LR	01 55 22.5	
LVC	Limon Verde	39.44	96	*e*P	P	01 43 55.0	+1.4
	15nm,1.5s,mb4.5						
LPAZ	La Paz	41.84	87	P	P	01 44 15.3	+1.8
	2.0nm,0.8s,mb3.8,baz=240,slow=6.2,SNR=7.6						
LPAZ				LR	LR	01 57 24.0	
	comp=Z,76nm,21.2s,MS3.5,baz=279,slow=30						
LPAZ	La Paz	41.84	87	*e*P	P	01 44 14.9	+1.4
	5.4nm,1.1s,mb4.1						
LPAZ				LR	LR	01 57 23.9	
ROSC	El Rosal	47.06	56	LR	LR	02 00 34.6	
	comp=Z,102nm,18.6s,MS3.8,baz=205,slow=31						
SAML	Samuel	49.07	80	P	P	01 45 10.2	-1.0
	1.1nm,0.7s,mb4.0						
SDV	Santo Domingo	52.46	56	*e*P	P	01 45 35.6	-1.4
	3.1nm,0.9s,mb4.2						
TXAR	Lajitas Array	54.44	9	P	P	01 45 52.8	+1.5
	0.5nm,1.0s,mb3.4,baz=180,slow=5.4,SNR=4.2						
TXAR				LR	LR	02 05 42.9	
	comp=Z,48nm,19.7s,MS3.6,baz=320,slow=32						
JCT	Junction City	56.22	13	*e*P	P	01 46 04.3	0.0
	5.5nm,0.8s,mb4.6						
MNTX	Cornudas Mount	56.55	7	P	P	01 46 05.7	-1.0
	3.4nm,1.3s,mb4.2						
BDFB	Brasilia	60.32	94	P	P	01 46 32.9	-0.3
	1.9nm,0.7s,mb4.2,baz=210,slow=8.1,SNR=2.8						
BDFB				LR	LR	02 10 59.6	
	comp=Z,137nm,19.0s,MS4.1,baz=11,slow=34						
NVAR	Mina Array Bea	63.18	354	P	P	01 46 52.6	+0.5
	1.0nm,0.7s,mb4.0,baz=170,slow=7.8,SNR=6.9						
NVAR				LR	LR	02 07 17.2	
	comp=Z,44nm,19.5s,MS3.6,baz=5.0,slow=29						
VNDA	Vanda	65.11	194	LR	LR	02 08 54.2	
	comp=Z,149nm,19.1s,MS4.2,baz=236,slow=30						
ELK	Elko	65.29	357	P	P	01 47 07.4	+1.6
	1.6nm,1.1s,mb4.0,baz=152,slow=15,SNR=3.4						
PDAR	Pinedale Array	67.28	2	P	P	01 47 18.4	0.0
	0.9nm,0.9s,mb3.8,baz=194,slow=6.1,SNR=5.1						
NEW	Newport	72.88	356	P	P	01 47 51.7	-0.8
	1.6nm,0.7s,mb4.1,baz=170,slow=6.1,SNR=2.3						
NEW	Newport	72.88	356	P	P	01 47 51.7	-0.8
SADO	Sadowa	75.49	24	LR	LR	02 16 58.6	
	comp=Z,80nm,21.9s,MS4.0,baz=64,slow=32						
ULM	Lac du Bonnet	76.09	11	P	P	01 48 09.8	-1.2
	0.6nm,0.3s,mb3.9,baz=180,slow=3.0,SNR=2.4						
ULM	Lac du Bonnet	76.09	11	P	P	01 48 09.8	-1.2
DLBC	Dease Lake	84.28	351	P	P	01 48 55.0	+0.6
	2.2nm,0.8s,mb4.3,baz=162,slow=19,SNR=3.2						
YKA	Yellowknife Ar	87.03	359	P	P	01 49 07.0	-0.9
	0.5nm,0.8s,mb3.8,baz=172,slow=5.3,SNR=10						
YKA	Yellowknife Ar	87.03	359	P	P	01 49 07.0	-0.9
SCHQ	Schefferville	88.28	24	LR	LR	02 27 43.8	
	comp=Z,95nm,21.1s,MS4.2,baz=324,slow=35						
STKA	Stephens Creek	89.91	235	LR	LR	02 19 27.5	
	comp=Z,166nm,20.3s,MS4.5,baz=205,slow=29						
ILAR	Eielson Array	93.29	346	LR	LR	02 24 03.2	
	comp=Z,90nm,18.2s,MS4.3,baz=180,slow=31						
ASAR	Alice Springs	99.96	238	LR	LR	02 29 45.8	
	comp=Z,80nm,19.9s,MS4.2,baz=151,slow=32						
SONM	Songino Array	141.99	317	PKP	PKPdf	01 55 53.2	-3.4
	0.3nm,0.7s,baz=72,slow=4.6,SNR=2.7						
ZAL	Zalesovo	148.30	341	PKPbc	PKPdf	01 56 09.6	+2.4
	0.8nm,0.2s,baz=48,slow=5.4,SNR=2.1						
CMAR	Chiang Mai Arr	150.55	264	PKPbc	PKPdf	01 56 16.7	+4.9
	0.7nm,0.4s,baz=32,slow=2.4,SNR=4.2						

*NEIC **04** 01:48:44.2±3.0, 6.08S×151.46E, h62^{km}±23^{km}, mb4.1/3, Error ellipse: s-maj=36.5km s-min=20.4km az=123.0*

*IDC **04** 01:48:46.4±6.2, 5.88S×151.00E, h80^{km}±54^{km}, mb3.6/4, mb1 3.9/5, mb1mx3.6/13, mbtmp4.0/5, ML2.5/1, MS4.4/1, Ms1 4.4/1, ms1mx2.7/18, Error ellipse: s-maj=81.2km s-min=31.1km az=118.0*

ISC 04 01:48:43.5±4.2**, 6.1S**±0.2×**151.3E**±0.3**, h61^{km}**±33^{km}**, n11, σ0^{s}76**/11**, mb3.9**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.26	231	P	P	01 50 02.1	+0.7
	1.3nm,0.3s,baz=38,slow=8.8,SNR=8.8						
PMG				S	S	01 51 00.2	-1.2
	4.6nm,0.3s,baz=154,slow=20,SNR=10						
KAKA	Kakadu	19.72	249	*e*P	P	01 53 10.8	-0.1
	5.4nm,0.6s						
WRAB	Tennant Creek	21.46	229	*e*P	P	01 53 29.7	+1.0
	4.3nm,0.7s,mb3.9						
WB2	Warramunga Arr	21.46	229	*e*P	P	01 53 29.8	+1.0
WRA	Warramunga Arr	21.47	229	P	P	01 53 28.1	-0.7
	1.6nm,0.7s,mb3.5,baz=54,slow=10,SNR=18						
ASAR	Alice Springs	24.20	222	P	P	01 53 55.5	0.0
	3.6nm,0.7s,mb3.9,baz=53,slow=9.2,SNR=42						
ASPA	Alice Springs	24.20	222	*e*P	P	01 53 56.0	+0.5
STKA	Stephens Creek	27.22	198	P	P	01 54 23.1	-0.6
	1.4nm,0.8s,mb3.5,baz=26,slow=14,SNR=3.4						
FITZ	Fitzroy Crossi	27.73	242	*e*P	P	01 54 29.0	+0.4
	5.0nm,0.6s,mb4.3						
URZ	Urewera	39.68	148	LR	LR	02 09 33.5	
	comp=Z,556nm,20.5s,baz=279,slow=31						
ILAR	Eielson Array	83.91	22	P	P	02 01 06.7	-1.0
	1.5nm,0.8s,mb4.2,baz=246,slow=5.7,SNR=8.2						

*ATH **04** 02:09:37.8, 38.60N×23.73E, h25^{km}±1^{km}, MD3.1/8, ML2.9*

*NEIC **04** 02:09:37.8, 38.60N×23.73E, h25^{km}, ML2.9(ATH), After ATH.*

*THE **04** 02:09:38.4, 38.59N×23.70E, h6^{km}, ML2.8*

*CSEM **04** 02:09:38.2±0.1, 38.60N×23.77E, h5^{km}, ML2.9, Error ellipse: s-maj=3.4km s-min=1.4km az=92.0*

ISC 04 02:09:36.6±0.8**, 38.55N**±0.02×**23.72E**±0.06**, h9^{km}**±6^{km}**, n18, σ0^{s}67**/28**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.39	178	*e*PB	Pb	02 09 47.2	+1.9
MPAR				*e*SB	Sb	02 09 54.9	+3.8
ATH	Athens Observa	0.57	180	*e*PN	Pn	02 09 50.4	-0.2
ATH				*e*SN	Sn	02 09 59.6	-0.5
AOS	Alonnisos	0.64	11	*e*Pg	Pg	02 09 49.8	+0.4
MGER	Gerania Oros	0.67	213	*e*PN	Pn	02 09 51.5	-0.4
MGER				*e*SN	Sn	02 10 02.3	-0.2
NSAL	Nisos Salamina	0.67	198	*e*PN	Pn	02 09 51.8	-0.2
NAIG	Nisos Aigina	0.81	193	*e*PN	Pn	02 09 54.4	+0.5
NEO	Neokhori	0.85	333	*e*PN	Pn	02 09 53.6	-1.0
XOR	Xorichti	0.92	333	*e*Pg	Pg	02 09 55.0	0.0
XOR				*e*Sg	Sg	02 10 07.3	+0.1
AGG	Agios Georgios	1.19	294	*e*Pg	Pg	02 09 59.7	-0.7
AGG				*e*Sg	Sg	02 10 16.8	+0.6
PAIG	Paliouri	1.38	359	*e*Pb	Pb	02 10 02.3	+0.1
PAIG				*e*Sb	Sb	02 10 21.3	+1.5
LOS	Limnos	1.74	37	*e*Pb	Pb	02 10 07.8	-0.6
OUR	Ouranopolis	1.80	6	*e*Pb	Pb	02 10 08.5	-0.9
OUR				*e*Sb	Sb	02 10 31.4	-0.5
LIT	Litokhoron	1.82	329	*e*Pb	Pb	02 10 08.9	-0.9
LIT				*e*Sb	Sb	02 10 32.4	-0.2
PLG	Polygyros	1.84	353	*e*PN	Pn	02 10 08.9	+0.2
APE	Apeiranthos	2.06	135	*e*PB	Pb	02 10 13.5	-0.2
SRS	Serrai	2.57	358	*e*Pn	Pn	02 10 19.1	-0.1
SRS				*e*Sn	Sn	02 10 51.4	+0.4
GRG	Griva	2.62	338	*e*Pn	Pn	02 10 19.9	+0.1
KNT	Kendrikon	2.69	347	*e*Pn	Pn	02 10 21.4	+0.5
KNT				*e*Sn	Sn	02 10 54.3	+0.4

*NEIC **04** 02:20:09.3, 36.08S×178.52E, h33^{km}, ML4.0(WEL), After WEL.*

WEL 04 02:20:11.1±0.5**, 36.40S**×**178.53E, h129^{km}**±8^{km}**, ML3.9**/10**, 1C, Error ellipse: s-maj=8.4km s-min=7.8km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.17	189	P	P	02 20 33.8	-2.1
MXZ	Matakaoa Point	1.17	189	PN	P	02 20 33.8	-2.1
MXZ				SN	S	02 20 53.3	-1.4
PUZ	Puketiti	1.68	187	P	P	02 20 41.2	-0.4
PUZ				S	S	02 21 04.0	-0.9
PUZ	Puketiti	1.68	187	⇑PN	P	02 20 41.2	-0.4
PUZ				SN	S	02 21 04.0	-0.9
MWZ	Matawai	2.09	202	P	P	02 20 46.4	-0.1
MWZ	Matawai	2.09	202	PN	P	02 20 46.4	-0.2
MWZ				*e*SN	S	02 21 13.2	-0.3
URZ	Urewera	2.17	211	P	P	02 20 47.2	-0.4
URZ	Urewera	2.17	211	PN	P	02 20 47.2	-0.4
URZ				SN	S	02 21 15.3	-0.1
KNZ	Kokohu	2.70	194	*e*P	P	02 20 53.3	-1.3
KNZ	Kokohu	2.70	194	PN	P	02 20 53.3	-1.2
BKZ	Black Stump Fm	3.20	210	*e*PN	P	02 20 59.8	-1.3
MGZ	Maungaku	3.52	221	*e*PN	P	02 21 08.7	+3.4
NGZ	Ngauruhoe	3.61	219	P	P	02 21 09.0	+2.4
NGZ	Ngauruhoe	3.61	219	PN	P	02 21 09.0	+2.4
FWVZ	Far West T-bar	3.70	219	*e*PN	P	02 21 10.7	+2.9
MOVZ	Moawhango	3.72	215	*e*PN	P	02 21 08.7	+0.7
BFZ	Birch Farm	4.63	202	*e*P	P	02 21 17.6	-2.7
BFZ	Birch Farm	4.63	202	PN	P	02 21 17.6	-2.6

MAN 04 02:23:15.3, 9.49N×**122.62E, h23^{km}, mb4.2, ML3.0, MS2.7, Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNPH	Sibulan	0.62	104	*e*P	Pb	02 23 28.0	+0.5
GUIM	Jordan	1.13	358	*e*P	Pn	02 23 35.3	-0.6
GUIM				*e*S	Sb	02 23 51.0	+0.6
PAGZ	Pagadian	1.80	155	*e*P	Pn	02 23 45.2	-0.2
PAGZ				*e*S	Sn	02 24 08.2	+0.4

IDC 04 02:23:15.7±1.5**, 2.25S**×**127.38E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.8**/16**, mbtmp3.7**/5**, ML3.7**/1**, Error ellipse: s-maj=86.4km s-min=22.3km az=68.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.85	159	P	P	02 27 36.0	-3.6
	0.2nm,0.3s,baz=340,slow=11,SNR=17						
ASAR	Alice Springs	22.20	164	P	P	02 28 13.9	-1.5
	4.0nm,0.8s,baz=346,slow=8.9,SNR=28						
ASPA	Alice Springs	22.20	164	*e*P	P	02 28 13.9	-1.5
CTA	Charters Tower	25.58	135	P	P	02 28 47.6	-0.6
	2.4nm,0.8s,baz=294,slow=10.0,SNR=2.2						
STKA	Stephens Creek	32.37	157	P	P	02 29 46.6	-2.6
	0.5nm,0.5s,baz=320,slow=7.9,SNR=2.6						
SONM	Songino Array	53.15	342	P	P	02 32 35.4	-2.1
	0.4nm,0.9s,baz=158,slow=9.1,SNR=3.0						

*NEIC **04** 02:32:03.5±0.9, 18.17S×169.84E, h200^{km}, mb4.5/8, Error ellipse: s-maj=21.2km s-min=18.3km az=197.0*

*IDC **04** 02:32:15.3±6.3, 18.44S×169.64E, h309^{km}±58^{km}, mb3.6/10, mb1 3.8/10, mb1mx3.7/17, mbtmp4.3/10, Error ellipse: s-maj=33.2km s-min=16.3km az=42.0*

ISC 04 02:32:18.3±0.9**, 18.6S**±0.1×**169.5E**±0.1**, h350^{km}, n23, σ0^{s}79**/21**, mb4.0**/14**, 3C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	20.73	163	P	P	02 36 33.6	+0.3
	6.7nm,0.9s,baz=340,slow=17,SNR=3.5						
CTA	Charters Tower	21.96	262	*e*P	P	02 36 47.0	+1.6
	6.2nm,0.4s,mb4.2						
CTA	Charters Tower	21.96	262	P	P	02 36 46.9	+1.5
	8.9nm,0.5s,mb4.3,baz=87,slow=10,SNR=16						
CTAO	Charters Tower	21.96	262	*e*P	P	02 36 47.1	+1.7
	8.3nm,0.5s,mb4.2						
PMG	Port Moresby	23.46	290	P	P	02 36 59.2	-0.3
	6.4nm,0.5s,mb4.1,baz=128,slow=17,SNR=4.8						
STKA	Stephens Creek	28.39	237	*e*P	P	02 37 44.0	+0.3
	4.9nm,0.6s,mb3.9						
STKA	Stephens Creek	28.39	237	P	P	02 37 44.4	+0.7
	9.8nm,1.0s,mb4.0,baz=68,slow=7.2,SNR=20						
WB2	Warramunga Arr	33.15	262	⇑*i*P	P	02 38 23.9	-0.9
WRAB	Tennant Creek	33.15	262	*e*P	P	02 38 23.6	-1.2
	3.9nm,0.3s,mb4.1						
WRA	Warramunga Arr	33.16	262	P	P	02 38 24.1	-0.8
	2.5nm,0.3s,mb3.9,baz=80,slow=6.1,SNR=169						
WRA				PcP	PcP	02 40 59.5	+0.4
	0.5nm,0.5s,baz=86,slow=2.7,SNR=5.3						
WRA	Warramunga Arr	33.16	262	P	P	02 38 24.1	-0.8
WRA				PcP	PcP	02 40 59.5	+0.4
ASAR	Alice Springs	33.51	255	P	P	02 38 27.8	0.0
	20nm,0.5s,mb4.6,baz=82,slow=8.7,SNR=345						
ASAR				PcP	PcP	02 41 00.2	+0.1
	0.5nm,0.6s,baz=114,slow=2.5,SNR=3.9						
ASPA	Alice Springs	33.51	255	⇑*i*P	P	02 38 27.7	-0.2
KAKA	Kakadu	36.09	274	*e*P	P	02 38 49.3	-0.3
	3.1nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	41.53	263	⇑*i*P	P	02 39 35.0	+0.6
	12nm,0.9s,mb4.0						
MBWA	Marble Bar	46.71	258	*e*P	P	02 40 15.6	+0.3
	9.0nm,0.3s,mb4.5						
KLBR	Kellerberrin	48.20	244	*e*P	P	02 40 26.5	-0.1
	60nm,0.8s,mb4.9						
VNDA	Vanda	59.11	182	P	P	02 41 44.0	-0.5
	0.5nm,0.8s,mb3.0,slow=5.1,SNR=2.6						
CMAR	Chiang Mai Arr	78.43	294	P	P	02 43 45.0	+2.0
	1.0nm,0.3s,mb4.0,baz=117,slow=3.2,SNR=4.3						
SONM	Songino Array	86.81	323	P	P	02 44 24.4	-0.4
	0.6nm,0.8s,mb3.5,baz=135,slow=5.2,SNR=4.4						
ILAR	Eielson Array	89.52	17	P	P	02 44 36.9	-0.2
	0.3nm,0.7s,mb3.4,baz=242,slow=4.9,SNR=4.3						
ARCES	ARCESS Array B	124.47	345	PKP	PKPdf	02 50 36.3	+0.5
	5.6nm,1.2s,baz=45,slow=1.7,SNR=7.1						
GERES	GERESS Array B	144.00	333	PKP	PKPdf	02 51 12.7	+0.5
	1.3nm,0.9s,baz=27,slow=3.0,SNR=8.8						

CASC 04 02:38:02.7±2.3**, 13.93N**×**91.31W, h58^{km}**±26^{km}**, MD3.3, ML3.5, 3C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.50	321	⇓*e*P	P	02 38 13.8	-0.8
JAT				*e*S	S	02 38 24.4	+1.1
JAT				AML	AML	02 38 25.2	
	comp=N,3μm,0.3s						
FUG	Fuego 3	0.69	41	⇑*e*P	P	02 38 17.3	+0.6
IXG	Ixpaco	0.87	73	⇓*e*P	P	02 38 19.0	0.0
IXG				*e*S	S	02 38 32.8	+1.4
IXG				AML	AML	02 38 36.0	
	comp=N,2μm,0.3s						
TP2	Tecpan 2	0.90	18	⇑*e*P	P	02 38 20.4	+0.9
TP2				*e*S	S	02 38 34.5	+2.5
TP2				AML	AML	02 38 36.9	
	comp=N,1μm,0.9s						
RBDL	Robledal	1.59	83	⇑*e*P	P	02 38 30.1	+1.0
RBDL				*e*S	S	02 38 49.1	+0.5
SBLS	San Blas	1.64	93	*e*P	P	02 38 30.4	+0.5
SBLS				*e*S	S	02 38 50.2	+0.3
SNJE	San Jose	1.66	92	⇓*e*P	P	02 38 30.8	+0.7
SNJE				*e*S	S	02 38 49.9	-0.4
LFRS	El Faro	2.21	98	*e*P	P	02 38 38.3	+0.5

*BUG **04** 02:38:55.8, 51.68N×7.75E, h1^{km}, ML2.1*

*LDG **04** 02:38:57.5±0.2, 51.64N×7.71E, h1^{km}, Md3.3/1, Ml2.4/7, Error ellipse: s-maj=2.6km s-min=2.3km az=55.0, Suspected Mining induced.*

*BNS **04** 02:38:57.7±1.3, 51.64N×7.73E, h1^{km}, ML1.8*

*BGR **04** 02:38:57.9±0.3, 51.61N×7.80E, h1^{km}, ML2.0, Error ellipse: s-maj=5.6km s-min=4.4km az=122.0*

ISC 04 02:38:55.0±0.4**, 51.56N**±0.02×**7.75E**±0.05**, n19, σ1^{s}30**/38**, 1C, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BAHL	Ahlen	0.19	14	Pg	Pg	02 38 58.7	-0.1
BAHL				Sg	Sg	02 39 00.7	-0.6
BUG	Bochum--Univer	0.32	249	⇑*e*Pg	Pg	02 39 03.9	+2.5
BUG				Sg	Sg	02 39 09.8	+4.1
BNS	Bensberg	0.69	211	*e*Pg	Pg	02 39 12.8	+3.9
IBBN	Ibbenburen	0.75	0	*e*Pg	Pg	02 39 11.6	+1.6
IBBN				*e*Sg	Sg	02 39 19.3	-0.8
STB	Steinbach	1.12	211	*e*Pg	Pg	02 39 19.6	+2.2
STB				*e*Sg	Sg	02 39 35.7	+3.4
	13nm,0.2s						
KLL	Kalltalsperre	1.28	225	*e*Pg	Pg	02 39 21.3	+0.7
KLL				*e*Sg	Sg	02 39 38.9	+1.2
	18nm,0.2s						
BGG	Burgeitz	1.38	191	*e*Pg	Pg	02 39 24.9	+2.4
BGG				*e*Sg	Sg	02 39 42.2	+1.3
	9.6nm,0.8s						
TNS	Taunus Mts	1.41	161	*e*Pg	Pg	02 39 23.9	+0.7
TNS				*e*Sg	Sg	02 39 42.9	+1.1
CLZ	Clausthal	1.66	79	*e*Pg	Pg	02 39 27.0	-1.2
CLZ				*e*Sg	Sg	02 39 49.8	-0.5
WLF	Walferdange	2.15	209	*e*Sg	Sg	02 40 08.9	+2.4
GIVF	Givet	2.36	233	*e*Pn	Pn	02 39 36.1	+0.5
GIVF				*e*Pg	Pg	02 39 42.1	0.0
GIVF				*e*Sn	Sn	02 40 04.0	-1.6
GIVF				*e*Sg	Sg	02 40 12.8	-0.7
	8.6nm,0.3s						
BAIF	Baives	2.70	238	*e*Pn	Pn	02 39 40.9	+0.5
BAIF				*e*Pg	Pg	02 39 48.4	-0.5
BAIF				*e*Sn	Sn	02 40 12.5	-1.8
BAIF				*e*Sg	Sg	02 40 23.3	-1.6
	3.6nm,0.3s						
CDF	Champ du Feu	3.16	186	*e*Pn	Pn	02 39 47.7	+0.7
CDF				*e*Sg	Sg	02 40 38.7	-1.6
	1.4nm,0.4s						
RFYF	Reffroy	3.27	207	*e*Pn	Pn	02 39 48.7	+0.1
RFYF				*e*Sg	Sg	02 40 42.8	-1.3
	2.0nm,0.3s						
MEZF	Maizieres J’vi	3.52	211	*e*Pn	Pn	02 39 51.7	-0.4
HAU	Haudompre	3.67	195	*e*Pn	Pn	02 39 54.6	+0.4
HAU				*e*Sg	Sg	02 40 55.0	-2.1
	2.1nm,0.3s						
SFTF	Sexfontaines	3.78	209	*e*Pn	Pn	02 39 55.9	0.0
HINF	Hinteralfeld	3.79	189	*e*Pn	Pn	02 39 56.3	+0.4
HINF				*e*Sn	Sn	02 40 39.9	-2.0
HINF				*e*Sg	Sg	02 40 58.8	-2.3
	1.5nm,0.3s						
SSF	Saint Saulge	5.28	213	*e*Pn	Pn	02 40 16.7	-0.4

PRE 04 02:49:51.5±1.5**, 24.90S**×**26.83E, h5^{km}, ML3.5, 1C, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSR	Koster	0.95	176	⇑*i*P	Pb	02 50 08.9	-1.2
KSR				*e*S	Sb	02 50 21.2	-1.5
KSR				*e*		02 50 24.4	
	comp=Z,1μm,0.1s						
SLR	Silverton	1.55	123	*e*P	Pn	02 50 20.1	+0.2
SLR				*e*S	Sb	02 50 39.7	-0.6
SLR				*e*		02 50 44.2	
	comp=Z,1μm,0.3s						
PRYS	Parys	2.07	167	*e*P	Pn	02 50 25.6	-1.8
PRYS				*e*S	Sn	02 50 49.3	-4.5
PRYS				*e*		02 51 00.6	
	comp=Z,227nm,0.2s						
MSNA	Messina	3.88	50	*e*P	Pn	02 50 39.6	-13
MSNA				*e*S	Sn	02 51 23.5	-16
MSNA				*e*		02 51 33.0	
	comp=Z,61nm,0.1s						
BOSA	Boshof	3.96	201	*e*P	Pn	02 50 45.1	-9.1
BOSA				*e*S	Sn	02 51 30.1	-12

*ATH **04** 02:57:21.7, 38.10N×26.85E, h38^{km}±8^{km}, MD3.5/3*
*ISK **04** 02:57:21.1, 38.13N×26.79E, h10^{km}, MD3.5*
*NEIC **04** 02:57:21.7, 38.10N×26.85E, h38^{km}, MD3.5(ATH), After ATH.*
*CSEM **04** 02:57:21.4±0.1, 38.11N×26.81E, h12^{km}, MD3.5, Error ellipse: s-maj=2.6km s-min=2.0km az=74.0*
ISC 04 02:57:21.0±0.9, **38.13N**±0.02×**26.75E**±0.05, **h5**^{km}±7^{km}, **n27**, σ**0^{s}71**/35, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLCB	**Balcova**	**0.34**	**42**	*i* PG	**Pg**	**02 57 28.3**	**+0.4**
BLCB				*i* SG	**Sg**	**02 57 32.4**	**-0.2**
SMG	**Samos**	**0.42**	**171**	*e*PB	**Pb**	**02 57 31.1**	**+0.5**
SMG				*e*SB	**Sb**	**02 57 38.2**	**+1.2**
IZM	**Izmir**	**0.48**	**56**	*i* PG	**Pg**	**02 57 31.2**	**+0.5**
IZM				*i* SG	**Sg**	**02 57 37.4**	**+0.2**
KDAG	**Bornova**	**0.49**	**56**	*i* P	**Pg**	**02 57 30.6**	**-0.2**
KDAG				*i* S	**Sg**	**02 57 37.2**	**-0.2**
BODT	**Bodrum**	**1.15**	**157**	PN	**Pn**	**02 57 43.1**	**-0.7**
MLSB	**Milas**	**1.16**	**135**	PN	**Pn**	**02 57 43.5**	**-0.4**
PRK	**Paraskevi**	**1.18**	**342**	*e*PB	**Pb**	**02 57 43.8**	**+0.3**
PRK				*e*SN	**Sn**	**02 58 00.5**	**-0.2**
AYVA	**Ayvalik**	**1.18**	**358**	*i* P	**Pb**	**02 57 44.1**	**+0.6**
AYVA				*i* S	**Sb**	**02 58 00.3**	**+1.4**
BDRM	**Kayabasi**	**1.20**	**152**	*i* P	**Pb**	**02 57 44.7**	**+0.9**
BDRM				*i* S	**Sb**	**02 58 00.9**	**+1.5**
APE	**Apeiranthos**	**1.43**	**223**	PN	**Pn**	**02 57 47.2**	**-0.6**
APE	**Apeiranthos**	**1.43**	**223**	*e*PB	**Pb**	**02 57 47.1**	**-0.8**
MANT	**Manisa**	**1.47**	**75**	*i* P	**Pn**	**02 57 49.1**	**+0.8**
MANT				*i* S	**Sb**	**02 58 06.0**	**-1.3**
YER	**Yerkesik**	**1.57**	**129**	PN	**Pn**	**02 57 49.7**	**0.0**
EZN	**Ezine**	**1.73**	**349**	*e*PN	**Pn**	**02 57 52.4**	**+0.4**
BALB	**Balikesir**	**1.75**	**30**	*e*PN	**Pn**	**02 57 53.0**	**+0.7**
DENT	**Denizli**	**1.84**	**101**	*e*PN	**Pn**	**02 57 53.3**	**-0.3**
CANB	**Canakkale**	**1.90**	**7**	*e*PN	**Pn**	**02 57 54.9**	**+0.4**
DALT	**Dalyan (Mudla)**	**2.02**	**132**	*e*PN	**Pn**	**02 57 55.6**	**-0.6**
DST	**Dursunbey**	**2.08**	**44**	*e*PN	**Pn**	**02 57 55.9**	**-1.1**
PTL	**Penteli**	**2.28**	**269**	*e*PB	**Pb**	**02 58 01.2**	**-1.1**
FETY	**Fethiye**	**2.38**	**128**	*e*PN	**Pn**	**02 58 00.3**	**-1.1**
BNT	**Bandirma**	**2.40**	**22**	*e*PN	**Pn**	**02 58 01.8**	**+0.1**
KCT	**Karacabey**	**2.47**	**30**	*e*PN	**Pn**	**02 58 01.6**	**-1.0**
ORLT	**Orhaneli**	**2.54**	**40**	*e*PN	**Pn**	**02 58 03.9**	**+0.3**
ALT	**Altintas**	**2.79**	**70**	*e*PN	**Pn**	**02 58 06.9**	**-0.3**
RDO	**Rodhopi**	**3.16**	**343**	*e*PN	**Pn**	**02 58 12.4**	**0.0**
ESKT	**Eskisehir**	**3.49**	**65**	*e*PN	**Pn**	**02 58 17.0**	**-0.1**

IDC 04 03:01:50.0±1.6, **0.47N**×**125.41E**, **mb3.4**/3, **mb1 3.7**/3, **mb1mx3.6**/14, **mbtmp3.5**/3, **Error ellipse: s-maj=178.7km s-min=24.4km az=71.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.09**	**157**	P	P	03 06 46.1	-2.5
	1.6nm,0.7s,baz=335,slow=11,SNR=18						
ASAR	**Alice Springs**	**25.37**	**162**	P	P	03 07 19.7	-0.9
	0.6nm,0.5s,baz=341,slow=9.3,SNR=15						
SONM	**Songino Array**	**49.98**	**343**	P	P	03 10 45.9	-2.0
	0.3nm,0.9s,baz=169,slow=7.3,SNR=2.8						

DJA 04 03:17:10.4±0.9, **9.62S**×**116.11E**, **h15**^{km}, **MD4.7**/4, **ML4.2**/4, **4C-5D, Error ellipse: s-maj=18.1km s-min=11.6km az=154.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.06**	**327**	⇑*i*Pn	Pn	03 17 27.9	-2.8
	582nm,0.2s						
RATI	**Rata**	**1.06**	**327**	⇓*i*Pg	Pg	03 17 28.6	-3.1
RATI				⇓*i*Sn	Sn	03 17 41.4	-3.7
KEDI	**Kedomdong**	**1.13**	**0**	⇑*i*Pn	Pn	03 17 29.3	-2.3
	288nm,0.2s						
KEDI				⇑*i*Sn	Sn	03 17 42.7	-4.2
KELI	**Kelakatan**	**2.12**	**311**	⇑*i*Pn	Pn	03 17 44.2	-1.7
	77nm,0.2s						
KELI				⇓*i*Sn	Sn	03 18 08.7	-3.4
SRDI	**Scrawed**	**2.25**	**300**	⇓*i*Pn	Pn	03 17 44.7	-3.0
	104nm,0.2s						
SRDI				⇓*i*Sn	Sn	03 18 09.2	-6.2

MAN 04 03:18:38.0, 16.09N×**120.45E, h22**^{km}**, mb3.5, ML2.2, MS1.7, Luzon**

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*OMAN **04** 03:42:04.8, 33.74N×57.62E, h118^{km}±18^{km}, Error ellipse: s-maj=236.6km s-min=9.7km az=15.0*
*IDC **04** 03:42:40.6±0.9, 30.72N×56.86E, mb3.7/12, mb1 3.9/13, mb1mx3.8/21, mbtmp3.7/13, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=23.0km s-min=17.8km az=19.0*
*NEIC **04** 03:42:41.0, 30.79N×56.75E, h14^{km}, mb4.1/2, ML3.6(THR), MN4.0(TEH), After THR.*
*THR **04** 03:42:41.0±1.0, 30.79N×56.75E, h14^{km}±10^{km}, ML3.6*
*CSEM **04** 03:42:41.8±0.1, 30.70N×56.74E, h20^{km}, mb4.3/2, Error ellipse: s-maj=1.8km s-min=1.3km az=46.0*
*TEH **04** 03:42:44.4, 30.78N×56.70E, h10^{km}, Mn4.0*
*MOS **04** 03:42:44.5±0.7, 30.80N×56.89E, h38^{km}, mb4.5/2, Error ellipse: s-maj=19.0km s-min=15.4km az=77.5*
ISC 04 03:42:40.0±1.2, **30.78N**±0.03×**56.80E**±0.05, **h3**^{km}±9^{km}, **n60**, σ**0^{s}97**/64, **mb3.8**/14, **MS3.4**/1, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.80**	**182**	*i* Pg	**Pg**	**03 42 55.0**	**-1.0**
KRBR	**Kerman**	**0.80**	**182**	*i* PG	**Pg**	**03 42 56.0**	**0.0**
KRBR				AML	AML	03 43 09.8	
	comp=N,3μm,0.1s						
IBAF	**Bafgh**	**1.32**	**308**	Pg	**Pg**	**03 43 04.8**	**-1.6**
IMEH	**Mehriz**	**1.97**	**288**	Pn	**Pn**	**03 43 15.4**	**+0.8**
ICHK	**Chekchek**	**2.50**	**306**	Pn	**Pn**	**03 43 23.8**	**+1.5**
IPAR	**Pars**	**3.37**	**255**	Pn	**Pn**	**03 43 35.6**	**+0.9**
BNDS	**Bandar-Abbas**	**3.42**	**189**	*e*PN	**Pn**	**03 43 36.2**	**+0.9**
BNDS	**Bandar-Abbas**	**3.42**	**189**	*e*Pn	**Pn**	**03 43 36.0**	**+0.7**
ISRV	**Sarvestan**	**3.48**	**247**	Pn	**Pn**	**03 43 36.9**	**+0.7**
ZHSF	**Zahedan**	**3.64**	**108**	*e*Pn	**Pn**	**03 43 39.0**	**+0.5**
ZHSF	**Zahedan**	**3.64**	**108**	*e*PN	**Pn**	**03 43 39.6**	**+1.1**
ZHSF				AML	AML	03 44 47.2	
	comp=N,82nm,0.5s						
IMOK	**Mook**	**3.94**	**245**	Pn	**Pn**	**03 43 44.1**	**+1.3**
NASN	**Na'in**	**3.94**	**302**	*e*Pn	**Pn**	**03 43 43.0**	**+0.2**
NASN				*e*Sg	**Sg**	**03 44 42.0**	**-9.3**
NASN	**Na'in**	**3.94**	**302**	*e*PN	**Pn**	**03 43 43.2**	**+0.4**
NASN				*e*SG	**Sg**	**03 44 42.4**	**-8.9**
NASN				AML	AML	03 44 50.2	
	comp=N,131nm,0.6s						
NASN	**Na'in**	**3.94**	**302**	*e*Pn	**Pn**	**03 43 43.2**	**+0.4**
	SNR=52						
NASN				*e*Sg	**Sg**	**03 44 42.0**	**-9.3**
GHIR	**Ghir-Karzin**	**4.15**	**234**	*e*PN	**Pn**	**03 43 46.1**	**+0.5**
GHIR				AML	AML	03 45 08.9	
	comp=N,49nm,0.7s						
GHIR	**Ghir-Karzin**	**4.15**	**234**	*e*Pn	**Pn**	**03 43 46.0**	**+0.3**
BANOM	**Banah**	**4.86**	**185**	P	**Pn**	**03 43 56.7**	**+0.9**
	SNR=30						
BANOM				P		03 43 56.7	
	SNR=30						
ISFB	**Sefidab**	**5.24**	**314**	Pn	**Pn**	**03 44 01.4**	**+0.2**
ISFB				Lg		03 45 26.5	
IANJ	**Anjiloo**	**5.26**	**333**	Pn	**Pn**	**03 44 01.0**	**-0.4**
ILAS	**Lasjerd**	**5.60**	**326**	Pn	**Pn**	**03 44 08.0**	**+1.7**
IMOG	**Moghan**	**5.72**	**21**	Pn	**Pn**	**03 44 09.2**	**+1.3**
IFIR	**Firoozkooh**	**5.91**	**326**	Pn	**Pn**	**03 44 10.3**	**-0.3**
IFIR				Sn	**Sn**	**03 45 14.4**	**-5.4**
IPAY	**Payeh**	**5.94**	**17**	Pn	**Pn**	**03 44 12.0**	**+0.9**
IVRN	**Varamin**	**5.98**	**316**	Pn	**Pn**	**03 44 11.7**	**0.0**
ASHO	**Ashiyiah**	**6.11**	**186**	P	**Pn**	**03 44 14.4**	**+1.0**
	SNR=15						
ASHO				P		03 44 14.4	
	SNR=15						
IKRD	**Kardeh**	**6.14**	**13**	Pn	**Pn**	**03 44 18.4**	**+4.5**
IMYA	**Miamay**	**6.19**	**26**	Pn	**Pn**	**03 44 15.2**	**+0.6**
IDMV	**Damavand**	**6.23**	**321**	Pn	**Pn**	**03 44 15.2**	**+0.1**
IQOM	**Qom**	**6.29**	**312**	Pn	**Pn**	**03 44 14.8**	**-1.2**
IQOM				Sn	**Sn**	**03 45 23.2**	**-6.2**
IAFJ	**Afjeh**	**6.61**	**321**	Pn	**Pn**	**03 44 20.6**	**+0.1**
HOQ	**Hoqain**	**7.19**	**176**	P	**Pn**	**03 44 27.6**	**-1.0**
	SNR=8.8						
HOQ				P		03 44 27.6	
	SNR=8.8						
IRAZ	**Razeghan**	**7.38**	**310**	Pn	**Pn**	**03 44 30.8**	**-0.5**
RDF	**Al-Radifah**	**8.24**	**259**	*e*P	**P**	**03 44 40.9**	**-2.4**
NAY	**Al-Naaiem**	**8.42**	**262**	*e*P	**P**	**03 44 44.2**	**-1.7**
WHFO	**Wadi Hawf**	**13.10**	**193**	P	**P**	**03 45 45.0**	**-4.7**
	SNR=10						
WHFO				P		03 45 45.0	
	SNR=10						
ABTO	**Aybut**	**13.74**	**194**	P	**P**	**03 45 53.8**	**-4.5**
	SNR=14						
ABTO				P		03 45 53.8	
	SNR=14						
ASF	**Jabal al Asfar**	**17.03**	**280**	P	**P**	**03 46 39.9**	**-0.9**
	comp=N,0.2nm,0.3s,baz=253,slow=4.9,SNR=2.9						
AAK	**Ala-Archa**	**18.43**	**45**	*e*P	**P**	**03 46 57.1**	**-1.1**
AAK				pmax	pmax		
	comp=Z,20nm,1.8s						
AAK	**Ala-Archa**	**18.43**	**45**	*e*P	**P**	**03 46 57.0**	**-1.2**
	comp=Z,20nm,1.8s						
AAK	**Ala-Archa**	**18.43**	**45**	*e*P	**P**	**03 46 57.1**	**-1.1**
	comp=Z,20nm,1.8s						
BRTR	**Keskin Array B**	**20.86**	**302**	P	**P**	**03 47 25.1**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=105,slow=16,SNR=4.9						
BVAR	**Borovoye Array**	**24.34**	**20**	P	**P**	**03 48 00.9**	**+1.0**
	comp=Z,1.5nm,0.5s,mb3.7,baz=200,slow=8.3,SNR=10						
KURK	**Kurchatov**	**25.71**	**33**	*e*P	**P**	**03 48 13.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
KURK	**Kurchatov**	**25.71**	**33**	*e*P	**P**	**03 48 13.4**	**+0.4**
	comp=Z,6.3nm,1.3s,mb4.0						
KURK	**Kurchatov**	**25.71**	**33**	*e*P	**P**	**03 48 13.4**	**+0.4**
	comp=Z,6.3nm,1.3s,mb4.0						
MLR	**Muntele Rosu**	**28.15**	**310**	P	**P**	**03 48 36.2**	**+0.8**
	comp=Z,10nm,1.4s,mb4.2,baz=130,slow=18,SNR=2.4						
ZAL	**Zalesovo**	**30.69**	**33**	P	**P**	**03 48 57.3**	**-0.7**
	comp=Z,1.3nm,0.5s,mb4.0,baz=242,slow=10,SNR=9.7						
FINES	**FINESS Array B**	**36.67**	**336**	P	**P**	**03 49 49.8**	**+0.2**
	comp=Z,0.6nm,0.7s,mb3.5,baz=129,slow=12,SNR=4.6						
KMBO	**Kilima Mbogo**	**36.78**	**214**	P	**P**	**03 49 51.8**	**+0.8**
	comp=Z,0.5nm,0.5s,mb3.6,baz=37,slow=17,SNR=3.6						
GERES	**GERESS Array B**	**37.11**	**312**	P	**P**	**03 49 53.2**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=146,slow=4.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**40.01**	**98**	P	**P**	**03 50 17.3**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.7,baz=302,slow=8.5,SNR=3.6						
SONM	**Songino Array**	**41.23**	**51**	P	**P**	**03 50 28.5**	**+0.8**
	comp=Z,1.2nm,1.1s,mb3.5,baz=262,slow=8.7,SNR=6.4						
BOD	**Bodaibo**	**47.19**	**38**	*e*P	**P**	**03 51 14.3**	**-1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
BOD	**Bodaibo**	**47.19**	**38**	*e*P	**P**	**03 51 14.3**	**-1.2**
	comp=Z,5.0nm,1.1s,mb4.4						
MATP	**Matopo**	**57.72**	**212**	LR	LR	04 20 35.2	
	comp=Z,27nm,20.4s,MS3.4,baz=306,slow=39						
ILAR	**Eielson Array**	**82.97**	**10**	P	**P**	**03 55 06.2**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=320,slow=4.5,SNR=5.5						
YKA	**Yellowknife Ar**	**86.79**	**356**	P	**P**	**03 55 26.3**	**0.0**
	comp=Z,0.2nm,0.5s,mb3.6,baz=3.9,slow=5.3,SNR=7.3						
WRA	**Warramunga Arr**	**89.89**	**113**	P	**P**	**03 55 40.3**	**-1.9**
	comp=Z,0.5nm,0.8s,mb3.9,baz=317,slow=3.9,SNR=5.4						
ASAR	**Alice Springs**	**91.56**	**117**	P	**P**	**03 55 48.4**	**-1.4**
	comp=Z,0.8nm,0.8s,mb4.1,baz=308,slow=5.0,SNR=7.6						

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*IDC **04** 03:51:46.7±8.2, 14.65N×95.21W, mb3.5/2, mb1 3.9/3, mb1mx3.5/20, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=232.4km s-min=141.6km az=51.0*
*MEX **04** 03:51:52.1±1.3, 14.97N×94.99W, h11^{km}±35^{km}, MD4.1*
*NEIC **04** 03:51:53.0, 14.90N×95.08W, h17^{km}, MD4.0(MEX), After MEX.*
ISC 04 03:51:49.4±1.4, **15.1N**±0.1×**95.01W**±0.05, **h11**^{km}, **n9**, σ**0^{s}86**/14, **mb3.7**/2, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.28**	**304**	*i* P	**Pb**	**03 52 12.9**	**-0.1**
HUIG				*i* S	**Sb**	**03 52 28.2**	**-1.2**
CMIG	**Matias Romero**	**2.03**	**3**	*i* P	**Pn**	**03 52 23.7**	**-0.3**
CMIG				*i* S	**Sn**	**03 52 48.9**	**-0.6**
VHO	**Vista Hermosa**	**2.61**	**321**	*i* P	**Pn**	**03 52 34.0**	**+1.7**
VHO				*i* S	**Sn**	**03 53 04.0**	**-0.2**
OXX	**Oaxaca**	**2.61**	**321**	*i* P	**Pn**	**03 52 32.5**	**+0.3**
OXX				*i* S	**Sn**	**03 53 05.0**	**+0.8**
CCIG	**Comitan**	**3.02**	**66**	*e*P	**Pn**	**03 52 37.7**	**-0.4**
CCIG				*i* S	**Sn**	**03 53 15.0**	**+0.4**
TXAR	**Lajitas Array**	**16.31**	**332**	Pn	**P**	**03 55 41.5**	**+1.4**
	0.0nm,0.3s,baz=156,slow=15,SNR=9.2						
YKA	**Yellowknife Ar**	**49.37**	**348**	P	**P**	**04 00 40.4**	**-0.2**
	0.4nm,0.5s,mb3.7,baz=153,slow=7.3,SNR=10						
YKA	**Yellowknife Ar**	**49.37**	**348**	P	**P**	**04 00 40.4**	**-0.2**
ILAR	**Eielson Array**	**60.74**	**337**	P	**P**	**04 02 01.8**	**-1.4**
	0.5nm,0.8s,mb3.7,baz=143,slow=4.5,SNR=7.0						

GUC 04 03:58:44.5±0.7, **32.73S**×**71.70W**, **h29**^{km}±10^{km}, **MD3.5**, **ML2.1, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.29**	**49**	⇓*i*P	Pb	03 58 51.8	+0.1
PACH				*i* S	Sb	03 58 57.3	+0.7
ROCH	**El Roble**	**0.63**	**113**	*i* P	Pb	03 58 56.9	0.0
ROCH				*i* S	Sb	03 59 06.3	+0.9
JACH	**Jahuel**	**0.94**	**87**	*i* P	Pn	03 59 01.8	0.0
JACH				*i* S	Sb	03 59 14.0	-0.1
RCDM	**Rinconada Maip**	**1.07**	**136**	*e*P	Pn	03 59 03.6	-0.1
RCDM				*i* S	Sn	03 59 18.1	+0.5
RCDM				AMP		03 59 24.0	
	comp=E,86nm,0.1s						
TACH	**Talagante**	**1.12**	**145**	*i* P	Pn	03 59 03.9	-0.6
TACH				*i* S	Sn	03 59 19.2	+0.1
CLCH	**Cerro Calan**	**1.18**	**125**	*e*P	Pn	03 59 05.5	+0.1
CLCH				*i* S	Sn	03 59 21.4	+0.8
CLCH				AMP		03 59 26.3	
	comp=E,72nm,0.5s						
FCH	**Farellones**	**1.33**	**117**	⇓*i*P	Pn	03 59 08.1	+0.7
FCH				*i* S	Sn	03 59 25.9	+1.6
FCH				AMP		03 59 26.8	
	comp=E,62nm,0.2s						

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*ISK **04** 04:06:06.4, 41.17N×35.89E, h31^{km}, MD3.5*
*CSEM **04** 04:06:06.4, 41.17N×35.89E, h31^{km}, MD3.5, After ISK*
ISC 04 04:06:06.2±1.0, **41.19N**±0.06×**35.94E**±0.09, **h38**^{km}±11^{km}, **n22**, σ**0^{s}79**/28, **2C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.13**	**143**	*i* PG	**P**	**04 06 12.6**	**-0.1**
KVT				*i* SG	**S**	**04 06 17.0**	**-0.3**
BOYT	**Boyabat**	**0.82**	**287**	*i* P	**P**	**04 06 21.0**	**-0.3**
BOYT				*i* S	**S**	**04 06 32.8**	**+0.5**
BYBT	**Boyabat**	**0.93**	**288**	*i* PG	**P**	**04 06 23.2**	**+0.3**
BYBT				*i* SG	**S**	**04 06 34.8**	**-0.4**
TOKT	**Tokat**	**0.98**	**152**	*i* PG	**P**	**04 06 24.4**	**+0.8**
CTKT	**Corum**	**1.04**	**238**	*i* P	**P**	**04 06 21.5**	**-2.9**
CTKT				*i* S	**S**	**04 06 32.6**	**-5.4**
CORM	**Corum**	**1.42**	**225**	*i* PN	**P**	**04 06 30.0**	**+0.1**
TOS	**Tosya**	**1.46**	**265**	*i* PN	**P**	**04 06 30.6**	**+0.1**
YOZ	**Yozgat**	**1.62**	**197**	*i* PN	**P**	**04 06 33.0**	**+0.3**
BZK	**Bozkurt**	**1.65**	**299**	PN	**P**	**04 06 34.2**	**+1.0**
CANT	**Cankiri**	**1.85**	**253**	PN	**P**	**04 06 36.6**	**+0.5**
BALT	**Daday**	**1.96**	**281**	*i* P	**P**	**04 06 38.1**	**+0.6**
BALT				*i* S	**S**	**04 07 03.7**	**+2.6**
ELDT	**Eldivan**	**2.03**	**251**	*i* P	**P**	**04 06 39.1**	**+0.5**
ELDT				*i* S	**S**	**04 07 02.2**	**-0.8**
BNN	**Bunyan**	**2.33**	**182**	PN	**P**	**04 06 43.5**	**+0.5**
SAFT	**Safranbolu**	**2.46**	**272**	PN	**P**	**04 06 44.8**	**+0.1**
KAMT	**Kaman**	**2.49**	**224**	PN	**P**	**04 06 45.3**	**+0.1**
ANTO	**Ankara**	**2.74**	**242**	*e*PN	**P**	**04 06 48.4**	**-0.3**
MDU	**Mudurnu**	**3.66**	**260**	*e*PN	**P**	**04 07 02.2**	**+0.4**
KIZT	**Kizilcal**	**3.88**	**235**	*e*PN	**P**	**04 07 04.2**	**-0.7**
ESKT	**Eskisehir**	**4.23**	**248**	*e*PN	**P**	**04 07 09.2**	**-0.8**
TIRR	**Tirgusor**	**6.43**	**303**	⇑P	**P**	**04 07 39.5**	**-1.4**
TLCR		**6.56**	**310**	⇓P	**P**	**04 07 42.0**	**-0.8**
CFR	**Carcaliu**	**6.96**	**308**	⇑P	**P**	**04 07 48.0**	**-0.3**

KRSC 04 04:33:11.1±0.9, **55.58N**×**166.28E**, **h21**^{km}±5^{km}, **ML3.8**, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.42**	**205**	*i* P	Pb	04 33 19.0	-0.7
BKI				*i* S	Sb	04 33 24.4	-1.2
KBTR	**Krutoberegovo**	**2.05**	**289**	*e*P	Pn	04 33 44.0	-1.0
KBTR				*e*S	Sn	04 34 09.2	-1.0
KBG	**Krutoberegovo**	**2.12**	**290**	S	Sn	04 34 11.5	-0.6
KBG	**Krutoberegovo**	**2.12**	**290**	*e*P	Pn	04 33 44.3	-1.8
KBG				*e*S	Sn	04 34 09.4	-2.7
SPN	**Mys Shipunski**	**4.43**	**238**	*e*P	Pn	04 34 17.4	-1.4
SPN				*e*S	Sn	04 35 06.6	-3.8
NLC	**Nalytchevo**	**4.72**	**242**	*e*P	Pn	04 34 22.5	-0.5
NLC				*e*S	Sn	04 35 14.3	-3.5
UGLR	**Uglovaya**	**4.96**	**244**	*e*P	Pn	04 34 26.9	+0.5
UGLR				*e*S	Sn	04 35 22.5	-1.4
AVH	**Avacha**	**4.98**	**245**	*e*P	Pn	04 34 26.8	+0.2
AVH				*e*S	Sn	04 35 21.8	-2.5
KOK	**Koryaka**	**5.02**	**246**	*e*P	Pn	04 34 27.1	-0.1
KOK				*e*S	Sn	04 35 22.7	-2.6
GNL	**Ganaly**	**5.20**	**252**	*e*P	Pn	04 34 30.6	+0.9
KRMR	**Karymshinskiy**	**5.52**	**243**	*e*P	Pn	04 34 35.2	+0.9
KRMR				*e*S	Sn	04 35 35.5	-2.4

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*DJA **04** 04:49:15.8±1.0, 4.03S×118.26E, h489^{km}±11^{km}, MD5.0/2, ML4.2/2, Error ellipse: s-maj=71.9km s-min=62.5km az=63.0*
*NEIC **04** 04:49:21.0±1.2, 0.53N×119.81E, h54^{km}±12^{km}, mb4.4/9, Error ellipse: s-maj=16.6km s-min=5.7km az=61.0*
*IDC **04** 04:49:22.2±6.9, 0.54N×119.87E, h64^{km}±63^{km}, mb3.8/10, mb1 4.0/10, mb1mx3.9/16, mbtmp4.1/10, MS3.8/1, Ms1 3.8/1, ms1mx3.1/14, Error ellipse: s-maj=37.4km s-min=16.2km az=54.0*
ISC 04 04:49:18.5±1.3, **0.52N**±0.06×**119.8E**±0.1, **h47**^{km}±12^{km}, **n28**, σ**0^{s}65**/28, **mb4.2**/16, **MS3.7**/1, **4C, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**3.96**	**186**	⇑*i*Pn	**P**	**04 50 17.9**	**-0.3**
	235nm,0.2s						
TANI				⇑*i*Sn	**S**	**04 51 03.4**	**-0.5**
BUNI	**Buntu Taipa**	**4.18**	**173**	⇑*i*Pn	**P**	**04 50 21.9**	**+0.4**
	169nm,0.3s						
BUNI				⇑*i*Sn	**S**	**04 51 10.1**	**+0.4**
KKM	**Kota Kinabalu**	**6.55**	**327**	*e*Pn	**P**	**04 50 54.6**	**0.0**
KKM				*e*Sn	**S**	**04 52 09.2**	**+0.3**
KAKA	**Kakadu**	**18.17**	**137**	*e*P	**P**	**04 53 29.5**	**+0.3**
	18nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.38**	**163**	*e*P	**P**	**04 53 42.5**	**-0.8**
	12nm,0.6s						
MBWA	**Marble Bar**	**21.55**	**180**	*e*P	**P**	**04 54 05.2**	**-0.7**
	5.9nm,0.5s,mb4.3						
WRAB	**Tennant Creek**	**24.83**	**146**	*e*P	**P**	**04 54 37.8**	**-0.2**
	14nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**24.83**	**146**	P	**P**	**04 54 37.7**	**-0.4**
	5.4nm,0.9s,mb4.1,baz=333,slow=9.6,SNR=40						
WB2	**Warramunga Arr**	**24.84**	**146**	*e*P	**P**	**04 54 38.5**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.15**	**312**	P	**P**	**04 54 59.8**	**+0.1**
	0.9nm,0.4s,mb3.7,baz=122,slow=12,SNR=4.1						
ASPA	**Alice Springs**	**27.67**	**151**	*e*P	**P**	**04 55 06.4**	**+2.0**
ASAR	**Alice Springs**	**27.67**	**151**	P	**P**	**04 55 04.4**	**0.0**
	1.1nm,0.4s,mb3.8,baz=328,slow=7.8,SNR=22						
ASAR				PcP	PcP	04 58 19.8	-1.0
	0.4nm,0.6s,baz=340,slow=2.0,SNR=4.7						
PMG	**Port Moresby**	**28.97**	**111**	P	**P**	**04 55 15.5**	**-0.5**
	8.9nm,0.8s,mb4.5,baz=286,slow=15,SNR=2.5						
CTA	**Charters Tower**	**33.03**	**130**	LR	LR	05 09 33.9	
	comp=Z,150nm,18.2s,MS3.7,baz=50,slow=37						
NWAO	**Narrogin (SRO)**	**33.36**	**184**	P	**P**	**04 55 54.4**	**-0.1**
	7.7nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**38.26**	**149**	*e*P	**P**	**04 56 36.3**	**+0.3**
	3.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.26**	**149**	P	**P**	**04 56 36.5**	**+0.5**
	4.5nm,0.7s,mb4.3,baz=316,slow=9.1,SNR=18						
SONM	**Songino Array**	**48.54**	**348**	P	**P**	**04 57 59.9**	**+0.9**
	0.7nm,1.2s,mb3.6,baz=143,slow=7.2,SNR=2.9						
ZAL	**Zalesovo**	**60.55**	**337**	P	**P**	**04 59 25.6**	**-0.8**
	1.1nm,0.3s,mb4.5,baz=270,slow=5.8,SNR=5.6						
KURK	**Kurchatov**	**60.96**	**331**	P	**P**	**04 59 28.7**	**-0.5**
	35nm,0.9s,mb5.5,SNR=8.2						
KURK	**Kurchatov**	**60.96**	**331**	*e*P	**P**	**04 59 28.5**	**-0.8**
	5.2nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**66.67**	**331**	*e*P	**P**	**05 00 05.7**	**-0.8**
	1.4nm,0.7s,mb4.1						
KMBO	**Kilima Mbogo**	**82.57**	**269**	P	**P**	**05 01 39.9**	**+1.2**
	1.0nm,0.6s,mb4.1,baz=76,slow=11,SNR=4.3						
BRTR	**Keskin Array B**	**86.71**	**310**	P	**P**	**05 01 59.2**	**+0.3**
	1.5nm,0.6s,mb4.4,baz=120,slow=3.0,SNR=7.4						
QSPA	**South Pole Qui**	**90.45**	**180**	*e*P	**P**	**05 02 16.2**	**+0.3**
	1.8nm,0.6s,mb4.6						
ILAR	**Eielson Array**	**90.95**	**25**	P	**P**	**05 02 17.8**	**-0.7**
	0.4nm,0.7s,mb3.9,baz=266,slow=4.1,SNR=6.3						
SCHQ	**Schefferville**	**124.56**	**5**	PKP	PKPdf	05 08 14.4	+1.6
	1.6nm,0.8s,baz=342,slow=3.2,SNR=3.5						
TXAR	**Lajitas Array**	**128.99**	**51**	PKP	PKPdf	05 08 23.5	+1.3
	0.4nm,0.8s,baz=350,slow=0.2,SNR=3.7						

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*NEIC **04** 05:00:04.3, 14.25N×92.61W, h20^{km}, MD3.9(MEX), After MEX.*
*MEX **04** 05:00:04.3±0.4, 14.25N×92.61W, h20^{km}±556^{km}, MD3.9*
*IDC **04** 05:00:06.0±5.0, 14.91N×91.29W, h87^{km}±51^{km}, mb3.0/2, mb1 3.3/4, mb1mx3.1/20, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=87.7km s-min=19.6km az=55.0*
ISC 04 05:00:01.3±2.4, **14.2N**±0.1×**92.60W**±0.09, **h48**^{km}±25^{km}, **n12**, σ**1^{s}02**/16, **mb3.1**/2, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.13**	**12**	*i* P	**P**	**05 00 35.4**	**+0.2**
CCIG				*i* S	**S**	**05 00 59.7**	**-0.7**
SCX	**San Cristobal**	**2.53**	**359**	*e*P	**P**	**05 00 42.0**	**+1.1**
CMIG	**Matias Romero**	**3.63**	**323**	*i* P	**P**	**05 00 56.2**	**-0.2**
CMIG				*i* S	**S**	**05 01 36.7**	**-1.7**
OXX	**Oaxaca**	**4.90**	**306**	*e*P	**P**	**05 01 25.0**	**+11**
VHO	**Vista Hermosa**	**4.90**	**306**	*e*P	**P**	**05 01 24.7**	**+10**
VHO				*i* S	**S**	**05 02 10.6**	**+0.1**
JTS	**JuntasAbangare**	**8.42**	**117**	P	**P**	**05 01 56.9**	**-6.4**
	0.4nm,0.3s,baz=302,slow=15,SNR=6.7						
JTS				S	**S**	**05 03 20.4**	**-18**
	0.2nm,0.3s,baz=308,slow=21,SNR=2.1						
TXAR	**Lajitas Array**	**18.22**	**328**	P	**P**	**05 04 13.4**	**+1.0**
	0.0nm,0.3s,baz=152,slow=12,SNR=4.9						
NVAR	**Mina Array Bea**	**33.16**	**321**	P	**P**	**05 06 36.4**	**+1.0**
	0.2nm,0.6s,mb3.2,baz=125,slow=8.7,SNR=3.7						
LVC	**Limon Verde**	**43.32**	**147**	P	**P**	**05 07 59.4**	**-1.2**
	baz=320,slow=8.8						
LVC	**Limon Verde**	**43.32**	**147**	P	**P**	**05 07 59.4**	**-1.2**
YKA	**Yellowknife Ar**	**50.71**	**347**	P	**P**	**05 08 53.7**	**-4.3**
	0.1nm,0.6s,mb2.9,baz=150,slow=7.5,SNR=5.5						
YKA	**Yellowknife Ar**	**50.71**	**347**	P	**P**	**05 08 53.7**	**-4.3**

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*NEIC **04** 05:00:26.8±0.7, 50.11N×18.41E, h5^{km}, ML2.8(VIE), Error ellipse: s-maj=8.4km s-min=5.9km az=194.0*
*WAR **04** 05:00:27.1, 50.06N×18.42E, h0^{km}, ML2.6, Mining Induced*
*IPEC **04** 05:00:27.4±0.1, 50.09N×18.40E, h4^{km}±1^{km}, ML2.1/3, Error ellipse: s-maj=1.6km s-min=0.7km az=164.0*
*PRU **04** 05:00:28.2, 50.05N×18.36E*
*CSEM **04** 05:00:28.3±0.2, 50.07N×18.34E, h2^{km}, ML3.2/3, Error ellipse: s-maj=4.2km s-min=2.8km az=31.0*
ISC 04 05:00:25.9±0.4, **50.07N**±0.03×**18.39E**±0.03, **n31**, σ**1^{s}26**/55, **7C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.12**	**276**	⇑*i*PG	**Pg**	**05 00 31.0**	**+2.7**
RAC				⇑*e*SG	**Sg**	**05 00 34.0**	**+4.0**
RAC	**Raciborz**	**0.12**	**276**	⇑*i*Pg	**Pg**	**05 00 31.0**	**+2.7**
RAC				*e*Sg	**Sg**	**05 00 33.6**	**+3.6**
OKC	**Ostrava-Krasne**	**0.28**	**213**	*e*PG	**Pg**	**05 00 33.2**	**+1.7**
OKC				*e*SG	**Sg**	**05 00 37.7**	**+2.5**
MORC	**Moravsky Berou**	**0.62**	**242**	⇑P	**Pg**	**05 00 39.1**	**+0.8**
MORC	**Moravsky Berou**	**0.62**	**242**	*e*Pg	**Pg**	**05 00 39.3**	**+1.1**
MORC				*e*Sg	**Sg**	**05 00 47.6**	**+1.1**
	30nm,0.4s						
OJC	**Ojcow**	**0.92**	**80**	*e*PG	**Pg**	**05 00 44.0**	**-0.3**
OJC				*e*SG	**Sg**	**05 00 57.0**	**+0.4**
LIKS	**Likavka**	**1.12**	**155**	*i* SG	Sx	05 01 06.1	
JAVC	**Velka Javorina**	**1.30**	**201**	*e*Pn	**Pn**	**05 00 52.6**	**+1.3**

DPC	Dobruska-Polom	1.35	283	ePG	Pg	05 00 52.7	-0.2
DPC				eSG	Sg	05 01 11.1	+0.1
	93nm,0.5s						
DPC	Dobruska-Polom	1.35	283	ePg	Pg	05 00 52.7	-0.2
DPC				eSg	Sg	05 01 10.9	-0.1
VRAC	Vranov	1.39	237	⇑P	Pb	05 00 53.5	+1.0
VRAC	Vranov	1.39	237	ePn	Pn	05 00 53.3	+0.7
VRAC				eSg	Sg	05 01 11.2	-1.0
	38nm,0.4s						
NIE	Niedzica	1.41	117	ePG	Pg	05 00 52.0	-2.0
NIE				eSG	Sg	05 01 12.0	-0.8
KSP	Ksiaz	1.54	301	ePn	Pn	05 00 55.2	+0.4
KSP				ePg	Pg	05 00 56.7	0.0
KSP				eSn	Sn	05 01 16.0	+0.2
KSP				eSg	Sg	05 01 17.4	+0.1
KSP	Ksiaz	1.54	301	ePN	Pn	05 00 55.0	+0.2
KSP				ePG	Pg	05 00 57.0	+0.3
KSP				eSN	Sn	05 01 16.0	+0.2
KSP				eSG	Sg	05 01 17.0	-0.3
KSP	Ksiaz	1.54	301	ePg	Pg	05 00 56.7	0.0
KSP				eSn	Sn	05 01 16.0	+0.2
KSP				eSg	Sg	05 01 17.4	+0.1
UPC	Upice	1.58	287	ePG	Pg	05 00 57.2	-0.3
VYHS	Vyhne	1.61	169	ePG	Pg	05 00 57.8	-0.1
VYHS				i SG	Sg	05 01 18.2	-1.1
VYHS	Vyhne	1.61	169	ePn	Pn	05 00 58.0	+2.4
VYHS				i Sg	Sg	05 01 18.2	-1.1
KRUC	Moravsky	1.64	233	ePn	Pn	05 00 57.1	+0.9
KRUC				eSg	Sg	05 01 18.6	-2.0
	18nm,0.3s						
SMOL	Smolenice	1.68	202	i SG	Sg	05 01 20.3	-1.5
CRVS	Cervenica-Dubn	2.32	119	ePN	Pn	05 01 10.2	+4.3
CRVS				i SG	Sg	05 01 42.9	-0.3
PRU	Pruhonice	2.48	270	ePG	Pg	05 01 13.1	-2.3
PVCC	Panska Ves	2.49	282	ePG	Pg	05 01 13.9	-1.7
KOLS	Kolonicke sedl	2.78	113	ePG	Pg	05 01 20.7	-0.6
KHC	Kasperske Hory	3.27	255	ePN	Pn	05 01 19.5	+0.2
KHC				ePG	Pg	05 01 27.6	-3.5
KHC				ex	x	05 01 52.0	
KHC				eSG	Sg	05 02 11.3	-3.3
KHC	Kasperske Hory	3.27	255	ePg	Pg	05 01 27.6	-3.5
KHC				eSg	Sg	05 02 11.3	-3.3
MOA	Molln	3.51	232	⇑iPN	Pn	05 01 22.8	0.0
MOA				i SG	Sg	05 02 18.7	-4.0
	11nm,0.6s						
CLL	Collm	3.64	292	i SG	Sg	05 02 25.8	-1.2
BURAR	Bucovina Array	5.14	116	⇑P	Pn	05 01 47.2	+1.3
ESDC	Sonseca Array	18.87	245	Sn	S	05 08 22.0	+4.2
	0.6nm,0.2s,SNR=4.0						

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*NEIC **04** 05:03:25.0,38.01S×176.44E,h161km,MG3.9(WEL), After WEL.*
WEL 04 05:03:25.0±0.3**,38.02S×176.45E,h161**km±2km**,ML3.8**/14**, 6C-1D,Error ellipse: s-maj=2.6km s-min=2.4km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.57	114	P	P	05 03 47.8	-0.5
URZ	Urewera	0.57	114	⇑PN	P	05 03 47.8	-0.5
URZ				SN	S	05 04 05.1	-1.2
MWZ	Matawai	0.91	110	P	P	05 03 50.3	0.0
MWZ				S	S	05 04 09.4	-0.3
MWZ	Matawai	0.91	110	PN	P	05 03 50.3	+0.1
MWZ				SN	S	05 04 09.4	-0.3
BKZ	Black Stump Fm	1.14	178	P	P	05 03 52.1	-0.1
BKZ	Black Stump Fm	1.14	178	⇑PN	P	05 03 52.1	-0.1
BKZ				SN	S	05 04 12.6	-0.6
MGZ	Maungaku	1.21	216	P	P	05 03 53.0	+0.2
MGZ	Maungaku	1.21	216	⇑PN	P	05 03 53.0	+0.1
OTVZ	Oturere	1.29	208	PN	P	05 03 53.8	+0.1
OTVZ				eSN	S	05 04 16.0	+0.2
NGZ	Ngauruhoe	1.33	210	P	P	05 03 54.0	0.0
NGZ	Ngauruhoe	1.33	210	PN	P	05 03 54.2	+0.2
CNZ	Chateau	1.37	211	P	P	05 03 54.3	-0.1
CNZ	Chateau	1.37	211	⇓PN	P	05 03 54.3	-0.1
WPVZ	Whakapapa	1.38	211	PN	P	05 03 54.3	-0.1
KNZ	Kokohu	1.39	136	P	P	05 03 54.7	+0.1
KNZ	Kokohu	1.39	136	⇑PN	P	05 03 54.7	+0.1
KNZ				SN	S	05 04 15.9	-1.5
TUVZ	Tukino	1.39	206	⇑PN	P	05 03 54.5	-0.1
TUVZ				SN	S	05 04 17.7	+0.2
PUZ	Puketiti	1.43	93	eP	P	05 03 54.4	-0.6
PUZ	Puketiti	1.43	93	PN	P	05 03 54.4	-0.6
PUZ				SN	S	05 04 16.9	-1.3
WNVZ	Wahianoa	1.46	207	P	P	05 03 55.1	-0.2
WNVZ	Wahianoa	1.46	207	PN	P	05 03 55.1	-0.2
WNVZ				eSN	S	05 04 18.6	-0.2
MOVZ	Moawhango	1.48	201	PN	P	05 03 54.8	-0.8
MOVZ				eSN	S	05 04 17.8	-1.3
MXZ	Matakaoa Point	1.54	73	P	P	05 03 55.9	-0.3
MXZ	Matakaoa Point	1.54	73	PN	P	05 03 55.9	-0.2
MXZ				SN	S	05 04 19.6	-0.7
TSZ	Takapari Road	2.07	190	P	P	05 04 00.8	-1.1
TSZ	Takapari Road	2.07	190	⇑PN	P	05 04 00.8	-1.1
TSZ				SN	S	05 04 28.3	-2.1
WAZ	Wanganui	2.07	213	PN	P	05 04 01.1	-0.9
WAZ				SN	S	05 04 30.0	-0.4
BFZ	Birch Farm	2.66	183	eP	P	05 04 07.2	-2.0
BFZ	Birch Farm	2.66	183	PN	P	05 04 07.2	-2.0
BFZ				SN	S	05 04 40.1	-3.0
MRZ	Mangatainoka R	2.72	194	P	P	05 04 07.5	-2.4
MRZ	Mangatainoka R	2.72	194	PN	P	05 04 07.5	-2.4
KIW	Kapiti Island	3.07	202	P	P	05 04 11.2	-3.2
MTW	Mount Morrison	3.21	193	P	P	05 04 12.9	-3.3
CAW	Cannon Point	3.26	199	P	P	05 04 13.5	-3.3
MRW	Makara Radio	3.47	202	P	P	05 04 16.0	-3.5
MSWZ	Moikau Station	3.51	195	P	P	05 04 16.4	-3.6
SNZO	South Karori	3.55	202	P	P	05 04 16.7	-3.7

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*NEIC **04** 05:04:44.0,35.95N×13.74W,MG4.2(MDD),After MDD.*
*MDD **04** 05:04:44.2±1.5,35.95N×13.72W,mb4.3/16,Error ellipse: s-maj=16.5km s-min=13.5km az=128.0,PRXIMO*
*CSEM **04** 05:04:45.9±0.1,36.04N×13.65W,h12km,ML3.6/12,Error ellipse: s-maj=3.1km s-min=2.1km az=127.0*
*INMG **04** 05:04:46.1±1.6,35.77N×14.05W,h10km,ML2.6,Error ellipse: s-maj=7.4km s-min=6.3km az=83.0*
ISC 04 05:04:47.5±1.0**,36.24N**±0.05×**13.29W**±0.06**,h10**km**,n54,** σ**1s09**/95**,Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	3.88	69	ePn	Pn	05 05 50.4	+1.8
PTEO				eSn	Sn	05 06 38.0	+3.2
	7.6nm,0.4s						
PTEO	Sao Teotonio	3.88	69	Pn	Pn	05 05 50.4	+1.8
PTEO				Sn	Sn	05 06 38.0	+3.2
	3.8nm,0.4s						
PLOU	Loures	4.22	50	ePn	Pn	05 05 54.9	+1.5
PLOU				eSn	Sn	05 06 47.6	+4.3
PBEJ	Beja	4.69	66	ePn	Pn	05 06 01.3	+1.3
PBEJ				eSn	Sn	05 06 57.3	+2.2
	3.3nm,0.3s						
PBEJ	Beja	4.69	66	Pn	Pn	05 06 01.3	+1.3
PBEJ				Sn	Sn	05 06 57.3	+2.2
	1.6nm,0.3s						
PALC	Alcoutim	4.82	74	ePn	Pn	05 06 02.7	+0.8
PALC				eSn	Sn	05 06 59.9	+1.4
	6.1nm,0.1s						
PALC	Alcoutim	4.82	74	Pn	Pn	05 06 02.7	+0.8
PALC				Sn	Sn	05 06 59.9	+1.4
	3.0nm,0.1s						
EMIN	Mina Concepcio	5.51	72	Pn	Pn	05 06 11.8	+0.1
	1.2nm,0.1s,SNR=25						
EMIN				Sn	Sn	05 07 16.2	+0.3
	3.5nm,0.2s,SNR=7.2						
EMIN	Mina Concepcio	5.51	72	Pn	Pn	05 06 11.8	+0.1
	0.9nm,0.1s,SNR=25						
EMIN				Sn	Sn	05 07 16.2	+0.3
	3.5nm,0.2s,SNR=7.2						
EBAD	Badajoz	5.58	61	Pn	Pn	05 06 13.1	+0.4
	0.9nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	05 07 18.4	+0.7
	4.9nm,0.2s,SNR=7.9						
EBAD	Badajoz	5.58	61	Pn	Pn	05 06 13.1	+0.4
	1.5nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	05 07 18.5	+0.7
	4.9nm,0.2s,SNR=7.9						
PCBR	Castelo Branco	5.83	50	ePn	Pn	05 06 16.9	+0.8
PCBR				eSn	Sn	05 07 25.3	+1.5
ESPR	Espera	6.01	82	Pn	Pn	05 06 18.4	-0.4
	7.8nm,0.2s,SNR=7.6						
ESPR				Sn	Sn	05 07 27.9	-0.7
	23nm,0.3s,SNR=7.9						
ESPR	Espera	6.01	82	Pn	Pn	05 06 18.4	-0.4
	0.8nm,0.2s,SNR=7.6						
ESPR				Sn	Sn	05 07 27.9	-0.6
	23nm,0.3s,SNR=7.9						
MTE	Manteigas	6.13	46	ePn	Pn	05 06 21.7	+1.2
MTE				eSn	Sn	05 07 32.8	+1.3
	3.1nm,0.7s						
MTE	Manteigas	6.13	46	Pn	Pn	05 06 21.7	+1.2
MTE				Sn	Sn	05 07 32.8	+1.3
	1.6nm,0.7s						
PVIS	Viseu	6.15	42	eSn	Sn	05 07 32.6	+0.6
	4.3nm,0.1s						
PVIS	Viseu	6.15	42	Sn	Sn	05 07 32.6	+0.6
	2.2nm,0.1s						
EJIF	Jimena Fronter	6.31	86	Pn	Pn	05 06 23.4	+0.4
	6.0nm,0.6s,SNR=7.9						
PVRL	Vila Real	6.65	39	eSn	Sn	05 07 44.9	+0.5
	2.8nm,0.2s						
PVRL	Vila Real	6.65	39	Sn	Sn	05 07 44.9	+0.5
	1.4nm,0.2s						
EMIJ	Mijas	6.88	85	Sn	Sn	05 07 49.0	-1.0
	3.2nm,0.3s,SNR=4.0						
EMIJ	Mijas	6.88	85	Sn	Sn	05 07 49.0	-1.0
	3.2nm,0.3s,SNR=4.0						
EZAM	Zamans	6.89	30	Pn	Pn	05 06 31.1	-0.1
	3.9nm,0.3s,SNR=7.9						
EZAM				Sn	Sn	05 07 49.4	-1.2
	11nm,0.7s,SNR=4.0						
ELOB	Lobios	6.94	34	Pn	Pn	05 06 31.5	-0.3
	2.4nm,0.2s,SNR=11						
ELOB				Sn	Sn	05 07 51.3	-0.3
	1.3nm,0.1s						
ELOB	Lobios	6.94	34	Pn	Pn	05 06 31.5	-0.3
	0.7nm,0.1s,SNR=11						
ELOB				Sn	Sn	05 07 51.3	-0.3
	1.3nm,0.1s						
EADA	Adamuz	7.21	72	Pn	Pn	05 06 35.7	0.0
	1.3nm,0.2s,SNR=12						
EADA				Sn	Sn	05 07 57.4	-1.1
	3.4nm,0.3s,SNR=4.7						
EADA	Adamuz	7.21	72	Pn	Pn	05 06 35.7	0.0
	1.7nm,0.1s,SNR=12						
EADA				Sn	Sn	05 07 57.4	-1.1
	3.4nm,0.3s,SNR=4.7						
EMAZ	Mazaricos	7.48	25	Pn	Pn	05 06 38.5	-1.0
	5.1nm,0.5s,SNR=7.9						
EMAZ				Sn	Sn	05 08 01.1	-4.1
	4.3nm,0.3s,SNR=7.9						
EMAZ	Mazaricos	7.48	25	Pn	Pn	05 06 38.5	-0.9
	1.6nm,0.2s,SNR=7.9						
EMAZ				Sn	Sn	05 08 01.1	-4.1
	4.3nm,0.3s,SNR=7.9						
PBRG	Braganca	7.54	41	ePn	Pn	05 06 40.5	+0.3
PBRG				eSn	Sn	05 08 06.7	+0.1
STS	Santiago	7.58	27	Pn	Pn	05 06 40.9	+0.1
	25nm,0.9s,SNR=7.9						
ECAL	Calabor	7.64	40	Pn	Pn	05 06 41.2	-0.4
	2.3nm,0.3s,SNR=7.9						
ECAL				Sn	Sn	05 08 09.1	0.0
	1.8nm,0.3s,SNR=7.9						
ECAL	Calabor	7.64	40	Pn	Pn	05 06 41.2	-0.4
	1.2nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	05 08 09.1	0.0
	1.8nm,0.3s,SNR=7.9						
ECOG	Cogollos-Vega	7.87	80	Sn	Sn	05 08 11.1	-3.8
	0.7nm,0.2s,SNR=4.0						
ECOG	Cogollos-Vega	7.87	80	Sn	Sn	05 08 15.7	+0.8
	0.7nm,0.2s,SNR=4.0						
EINC	Incio	7.89	34	Pn	Pn	05 06 44.2	-0.9
	2.0nm,0.1s,SNR=18						
EINC				Sn	Sn	05 08 13.3	-2.1
	0.6nm,0.2s,SNR=7.9						
EINC	Incio	7.89	34	Pn	Pn	05 06 44.2	-0.9
	2.6nm,0.2s,SNR=18						
EINC				Sn	Sn	05 08 13.3	-2.0
	0.6nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	8.12	62	Pn	P	05 06 48.3	-0.1
ESDC				Sn	Sn	05 08 22.0	+0.7
ESDC	Sonseca Array	8.12	62	Pn	P	05 06 48.3	-0.1
	0.6nm,0.1s,baz=252,slow=13,SNR=3.6						
ESDC				Sn	Sn	05 08 19.3	-1.9
	0.6nm,0.2s,baz=246,slow=23,SNR=4.0						
ESDC	Sonseca Array	8.12	62	Pn	P	05 06 48.3	-0.1
	1.1nm,0.3s,SNR=3.6						
EQES	Quesada	8.32	76	Pn	P	05 06 50.0	-1.1
	1.1nm,0.3s,SNR=7.9						
EQES				Sn	Sn	05 08 24.1	-2.0
	1.6nm,0.2s,SNR=5.3						
EQES	Quesada	8.32	76	Pn	P	05 06 50.0	-1.1
	0.8nm,0.2s,SNR=7.9						
EQES				Sn	Sn	05 08 24.1	-2.0
	1.6nm,0.2s,SNR=5.3						
CICO	Icod de los Vi	8.38	201	Pn	P	05 06 40.8	-11
	1.2nm,0.4s,SNR=4.0						
EPON	Pontenova	8.51	32	Pn	P	05 06 53.0	-0.7
EPON				Sn	Sn	05 08 29.7	-1.1
EPON	Pontenova	8.51	32	Pn	P	05 06 53.0	-0.7
	4.5nm,0.5s,SNR=7.9						
EPON				Sn	Sn	05 08 27.0	-3.8
	1.2nm,0.4s,SNR=4.0						
EPON	Pontenova	8.51	32	Pn	P	05 06 53.0	-0.8
	1.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	05 08 29.7	-1.1
	1.2nm,0.4s,SNR=4.0						
EHUE	Huescar	8.70	76	Pn	P	05 06 55.6	-0.7
EHUE				Sn	Sn	05 08 33.9	-1.6
EHUE	Huescar	8.70	76	Pn	P	05 06 55.6	-0.7
	0.4nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	05 08 32.3	-3.2
	0.4nm,0.2s,SNR=7.9						
EHUE	Huescar	8.70	76	Pn	P	05 06 55.6	-0.8
	0.4nm,0.2s,SNR=7.9						
EHUE				Sn	Sn	05 08 33.9	-1.6
	0.4nm,0.2s,SNR=7.9						
EARI	Arriondas	9.40	39	Pn	P	05 07 06.9	+0.8
	1.0nm,0.3s,SNR=7.9						
ETOB	Tobarra	9.64	72	Pn	P	05 07 07.9	-1.5
	0.9nm,0.2s						
ETOB				Sn	Sn	05 08 56.7	-2.2
ETOB	Tobarra	9.64	72	Pn	P	05 07 07.9	-1.5
	3.4nm,0.6s,SNR=7.9						
ETOB				Sn	Sn	05 08 55.4	-3.5
	0.4nm,0.1s,SNR=4.0						
ETOB	Tobarra	9.64	72	Pn	P	05 07 07.9	-1.5
	0.9nm,0.2s						
ETOB				Sn	Sn	05 08 56.7	-2.1

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*NEIC **04** 05:38:55.2±0.5,6.83N×73.04W,mb3.7/2,Error ellipse: s-maj=14.0km s-min=9.6km az=90.0*
*IDC **04** 05:38:55.3±0.6,6.86N×73.04W,h158km±6km,mb3.2/6, mb1 3.5/8,mb1mx3.2/21,mbtmp3.7/8,Error ellipse: s-maj=18.2km s-min=7.6km az=124.0*
ISC 04 05:38:54.7±0.7**,6.84N**±0.08×**73.01W**±0.10**,h169**km±8km**, n13,** σ**0s79**/13**,mb3.4**/7**,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.37	214	P	P	05 39 35.7	0.0
	37nm,0.3s,baz=351,slow=2.3,SNR=159						
ROSC				S	S	05 40 07.2	-0.1
	54nm,0.3s,baz=85,slow=20,SNR=5.6						
SDV	Santo Domingo	3.10	49	P	P	05 39 45.1	+0.4
	28nm,0.3s,baz=229,slow=3.1,SNR=221						
SDV				S	S	05 40 23.1	-0.1
	23nm,0.3s,baz=303,slow=16,SNR=15						
SAML	Samuel	18.49	148	eP	P	05 42 58.8	-1.7
	1.6nm,0.4s						
SAML				epP		05 43 26.3	
LPAZ	La Paz	23.48	168	P	P	05 43 52.5	+2.2
	0.8nm,0.8s,mb3.2,baz=349,slow=10,SNR=2.5						
LPAZ				pP		05 44 23.9	
	1.1nm,0.8s,baz=341,slow=18,SNR=2.7						
TXAR	Lajitas Array	36.53	312	P	P	05 45 45.9	+0.2
	0.3nm,0.5s,mb3.2,baz=128,slow=9.7,SNR=6.6						
MNTX	Cornudas Mount	39.04	314	eP	P	05 46 06.5	-0.1
	0.9nm,0.6s,mb3.6						
ULM	Lac du Bonnet	47.30	340	P	P	05 47 12.7	-0.1
	0.7nm,0.4s,mb3.6,baz=127,slow=4.1,SNR=2.9						
SCHQ	Schefferville	48.11	5	P	P	05 47 19.6	+0.6
	0.9nm,0.7s,mb3.5,baz=217,slow=17,SNR=3.6						
PDAR	Pinedale Array	48.13	324	P	P	05 47 19.4	+0.1
	0.3nm,0.6s,mb3.1,baz=126,slow=7.8,SNR=3.5						
RPN	Rapa Nui	48.76	225	P	P	05 47 24.4	+0.1
	40nm,0.4s,baz=120,slow=2.8,SNR=2.7						
YKA	Yellowknife Ar	63.28	340	P	P	05 49 06.4	-0.9
	0.8nm,0.6s,mb3.7,baz=132,slow=6.8,SNR=25						
YKA				pP	pP	05 49 44.5	-2.8
	0.1nm,0.5s,baz=133,slow=6.8,SNR=2.3						
ASAR	Alice Springs	149.22	234	PKPbc	PKPdf	05 58 23.9	+4.5
	1.0nm,0.9s,baz=126,slow=3.3,SNR=7.6						
WRA	Warramunga Arr	150.45	241	PKPbc	PKPdf	05 58 27.9	+6.6
	0.4nm,0.4s,baz=108,slow=2.8,SNR=27						
WRA				pPKPbc		05 59 09.0	
	0.3nm,0.8s,baz=106,slow=2.8,SNR=1.5						

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*IDC **04** 06:00:14.8±2.7,13.10S×167.15E,h188km±22km, mb3.6/11,mb1 3.8/11,mb1mx3.7/17,mbtmp4.1/11,Error ellipse: s-maj=19.9km s-min=16.8km az=115.0*
*NEIC **04** 06:00:18.4±5.3,13.16S×167.13E,h221km±47km,mb4.1/1, Error ellipse: s-maj=24.1km s-min=13.9km az=46.0*
ISC 04 06:00:14.6±0.7**,13.2S**±0.1×**167.1E**±0.1**,h200**km**,n21,** σ**0s92**/13**,mb3.8**/12**,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.15	248	P	P	06 04 47.6	+2.7
	2.5nm,0.7s,mb3.8,baz=67,slow=15,SNR=3.7						
URZ	Urewera	26.52	162	P	P	06 05 36.2	+0.6
	3.1nm,0.5s,mb4.2,baz=10,slow=11,SNR=3.6						
STKA	Stephens Creek	29.93	227	P	P	06 06 06.2	0.0
	2.5nm,0.4s,mb4.2,baz=46,slow=8.3,SNR=9.6						
STKA				PcP	PcP	06 09 03.2	-0.5
	1.3nm,0.4s,baz=101,slow=5.2,SNR=6.4						
RPZ	Rata Peaks	30.63	174	P	P	06 06 12.1	-0.1
	4.4nm,0.6s,mb4.3,baz=297,slow=6.8,SNR=3.2						
WRA	Warramunga Arr	32.11	253	P	P	06 06 24.1	-1.2
	0.9nm,0.8s,mb3.3,baz=86,slow=9.1,SNR=12						
WRA				PcP	PcP	06 09 09.6	0.0
	0.1nm,0.5s,baz=89,slow=3.2,SNR=3.8						
WRA				ScP		06 12 34.8	
	0.7nm,1.0s,baz=84,slow=2.9,SNR=3.8						
ASAR	Alice Springs	33.14	247	P	P	06 06 32.8	-1.3
	1.6nm,0.6s,mb3.7,baz=76,slow=9.3,SNR=25						
ASAR				PcP	PcP	06 09 11.4	-1.0
	0.7nm,0.8s,baz=64,slow=2.2,SNR=5.6						
ASAR				ScP		06 12 38.8	
	1.1nm,1.1s,baz=68,slow=3.3,SNR=4.9						
VNDA	Vanda	64.42	181	P	P	06 10 30.4	-0.6
	0.6nm,0.6s,mb3.4,baz=125,slow=6.2,SNR=3.9						
CMAR	Chiang Mai Arr	74.20	294	P	P	06 11 32.2	+0.5
	0.6nm,0.3s,mb3.7,baz=121,slow=4.2,SNR=4.1						
QSPA	South Pole Qui	76.86	180	eP	P	06 11 45.7	+0.3
	2.7nm,0.6s,mb4.0						
SONM	Songino Array	81.17	323	P	P	06 12 10.2	+1.0
	0.3nm,0.5s,mb3.2,baz=117,slow=5.5,SNR=3.6						
ILAR	Eielson Array	85.08	18	P	P	06 12 28.1	-0.5
	2.1nm,0.7s,mb4.0,baz=247,slow=5.2,SNR=41						
YKA	Yellowknife Ar	96.22	27	P	P	06 13 20.2	-0.4
	0.1nm,0.4s,mb3.4,baz=256,slow=4.6,SNR=9.0						
YKA				pP	pP	06 14 07.9	-2.4
	0.2nm,0.7s,baz=252,slow=4.3,SNR=4.3						
YKA	Yellowknife Ar	96.22	27	P	P	06 13 20.2	-0.4
YKA				pP	pP	06 14 08.0	-2.4
KEV	Kevo	118.19	345	ep	PKPdf	06 18 52.4	+15
	3.6nm,0.7s						
ARCES	ARCESS Array B	118.71	346	PKP	PKPdf	06 18 39.5	+1.1
	1.3nm,0.4s,baz=75,slow=1.8,SNR=30						
JOF	Joensuu	121.39	338	ep	PKPdf	06 18 44.3	+0.6
	0.4nm,0.3s						
KAF	Kangasniemi	123.69	339	ep	PKPdf	06 18 48.6	+0.4
	0.4nm,0.3s						
FINES	FINESS Array B	124.23	339	PKP	PKPdf	06 18 50.5	+1.3
	1.3nm,0.7s,baz=63,slow=3.1,SNR=12						
NOA	NORSAR Array B	129.09	345	PKP	PKPdf	06 19 00.0	+1.5
	0.4nm,0.7s,baz=122,slow=5.2,SNR=2.7						
GERES	GERESS Array B	138.19	334	PKP	PKPdf	06 19 18.5	+2.7
	0.2nm,0.4s,baz=90,slow=1.0,SNR=3.5						
ESDC	Sonseca Array	152.45	345	PKPbc	PKPdf	06 19 49.3	+9.4
	1.5nm,0.7s,baz=28,slow=1.6,SNR=4.8						

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*NIED **04** 06:11:00,42.30N×143.00E,h50km,Mw3.8 Best double couple: M0 5.67×10^14 NP1:φs345°,δ73°,λ59°. NP2:φs229°, δ36°,λ149°.*
*MOS **04** 06:11:00.0±1.1,42.24N×142.97E,h65km,mb4.3/3,Error ellipse: s-maj=26.9km s-min=11.7km az=77.7*
*NEIC **04** 06:11:02.5±1.0,42.29N×142.90E,h69km±10km,mb3.8/2, Error ellipse: s-maj=13.5km s-min=7.7km az=113.0*
*JMA **04** 06:11:02.1±0.1,42.31N×143.00E,h51km±1km,M3.8*
JMA Felt I J1.
*IDC **04** 06:11:03.5±2.4,42.26N×142.88E,h79km±20km,mb3.3/8, mb1 3.6/9,mb1mx3.4/22,mbtmp3.7/9,Error ellipse: s-maj=22.6km s-min=16.8km az=123.0*
ISC 04 06:11:00.2±0.5**,42.22N**±0.05×**143.01E**±0.06**,h66**km±3km**, n28,** σ**0s90**/37**,mb3.6**/11**,5C-2D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.20	287	⇑P	P	06 11 10.3	0.0
JNBK				eS	S	06 11 17.0	-0.9
JEM	Erimo	0.23	152	⇑P	P	06 11 11.6	+1.1
JCH	Churui	0.47	33	⇑P	P	06 11 12.4	-0.1
JCH				eS	S	06 11 20.6	-0.9
JBT2	Biratori 2	0.73	320	⇓P	P	06 11 15.5	+0.2
JBT2				eS	S	06 11 26.6	0.0
JOB	Onbets	0.91	41	⇑P	P	06 11 18.6	+1.0
JOB				eS	S	06 11 31.5	+1.0
JFR	Furan	0.99	342	P	P	06 11 17.8	-0.8
JAR	Ashorobuto	1.21	27	⇑P	P	06 11 21.4	-0.2
JAR				eS	S	06 11 36.2	-1.3
JEW	Eniwo	1.31	299	⇓P	P	06 11 23.7	+0.7
JEW				eS	S	06 11 40.4	+0.5
JAB	Ashibetsu	1.41	336	P	P	06 11 25.0	+0.7
ASAJ	Asahikawa	1.92	351	PN	P	06 11 31.8	+0.5
ASAJ				S	S	06 11 57.1	+2.9
ASAJ				pmax	pmax		
	comp=Z,35nm,0.3s						
ASAJ				smax			
	comp=N,29nm,0.3s						
ASAJ	Asahikawa	1.92	351	P	P	06 11 31.8	+0.5
	comp=N,35nm,0.3s,baz=214,slow=8.3,SNR=37						
ASAJ				S	S	06 11 57.0	+2.8
	comp=N,29nm,0.3s,baz=307,slow=20,SNR=11						
YUK	Yuzh-Kuril'sk	2.76	48	ePN	P	06 11 42.0	-1.2
YUK				i S	S	06 12 15.0	-0.5
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				pmax	pmax		
	comp=E,200nm,0.3s						
YUK				pmax	pmax		
	comp=Z,2μm,0.7s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,730nm,0.5s						
YSS	Yuzh-Sakhalins	4.74	358	PN	P	06 12 10.5	-0.3
MAJO	Matsushiro	6.78	215	ePN	P	06 12 39.4	+0.2
JOW	Kunigami	19.53	223	P	P	06 15 24.6	-0.2
	comp=E,2.9nm,0.3s,baz=95,slow=29,SNR=4.6						
FX1	Attu Island--F	22.81	52	P	P	06 16 00.4	+2.7
FX1				pmax	pmax		
	comp=Z,23nm,0.8s						
FX1	Attu Island--F	22.81	52	P	P	06 16 00.4	+2.7
	comp=Z,23nm,0.8s,mb4.6,baz=225,slow=10.0,SNR=3.4						
SONM	Songino Array	26.31	295	P	P	06 16 30.8	-0.4
	comp=Z,0.6nm,0.7s,mb3.1,baz=72,slow=7.8,SNR=5.5						
ZAL	Zalesovo	39.53	308	P	P	06 18 25.6	-0.1
	comp=Z,1.3nm,0.4s,mb4.1,baz=336,slow=6.4,SNR=3.7						
ILAR	Eielson Array	44.50	35	P	P	06 19 06.3	+0.1
	comp=Z,1.3nm,1.1s,mb3.6,baz=274,slow=4.6,SNR=8.1						
CHKZ	Chkalovo	47.80	310	eP	P	06 19 31.9	-0.5
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.7						
CHKZ	Chkalovo	47.80	310	eP	P	06 19 31.9	-0.5
	comp=Z,1.2nm,0.8s,mb3.8						
BVAR	Borovoye Array	48.12	309	P	P	06 19 34.2	-0.8
	comp=Z,0.3nm,0.3s,mb3.6,baz=74,slow=9.4,SNR=4.2						
INK	Inuvik	49.24	29	eP	P	06 19 43.3	0.0
	comp=Z,0.4nm,0.5s,mb3.6						
YKA	Yellowknife Ar	58.73	32	P	P	06 20 52.0	-1.0

	comp=Z,0.1nm,0.4s,mb3.2,baz=302,slow=6.5,SNR=4.4						
WRA	**Warramunga Arr**	**62.37**	**189**	P	**P**	**06 21 17.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=4.9,slow=7.0,SNR=9.4						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**06 21 32.5**	**-1.1**
	comp=Z,0.3nm,0.5s,mb3.4,baz=80,slow=8.5,SNR=2.1						
TXAR	**Lajitas Array**	**86.01**	**53**	P	**P**	**06 23 36.8**	**+2.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=304,slow=3.9,SNR=5.5						

*IDC **04** 06:18:44.5±2.0,0.23N×98.43E,mb4.0/6,mb1 4.1/7, mb1mx3.9/16,mbtmp4.0/7,ML4.3/1,Error ellipse: s-maj=89.4km s-min=21.6km az=60.0*
*NEIC **04** 06:18:48.8±0.8,0.23N×98.40E,h30km,mb4.1/1,Error ellipse: s-maj=24.3km s-min=11.6km az=69.0*
ISC 04 06:18:46.7±1.1,**0.2N**±0.1×**98.4E**±0.2,**h30km,n9,σ0^{s}65**/9, **mb4.1**/7,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.51**	**24**	*e*Pn	**Pn**	**06 20 09.3**	**+0.3**
CMAR	**Chiang Mai Arr**	**18.12**	**2**	P	**P**	**06 22 57.6**	**-0.5**
	0.4nm,0.3s,baz=191,slow=11,SNR=7.3						
WRA	**Warramunga Arr**	**40.54**	**122**	P	**P**	**06 26 25.5**	**+0.2**
	0.3nm,0.5s,mb3.2,baz=304,slow=8.8,SNR=3.5						
SONM	**Songino Array**	**47.92**	**7**	P	**P**	**06 27 24.6**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=191,slow=9.5,SNR=8.7						
STKA	**Stephens Creek**	**51.85**	**132**	P	**P**	**06 27 54.1**	**-0.6**
	1.3nm,0.8s,mb3.9,baz=319,slow=11,SNR=2.2						
ZAL	**Zalesovo**	**54.69**	**350**	P	**P**	**06 28 15.1**	**-0.3**
	2.4nm,0.3s,mb4.7,baz=308,slow=4.9,SNR=4.0						
BVAR	**Borovoye Array**	**57.54**	**340**	P	**P**	**06 28 35.7**	**-0.2**
	2.1nm,1.0s,mb4.1,baz=143,slow=7.4,SNR=6.7						
CHKZ	**Chkalovo**	**58.01**	**341**	*e*P	**P**	**06 28 38.4**	**-0.7**
	1.3nm,0.7s,mb4.1						
ARCES	**ARCESS Array B**	**83.83**	**340**	P	**P**	**06 31 16.0**	**+1.6**
	3.1nm,0.9s,mb4.4,baz=90,slow=5.4,SNR=3.9						

IDC 04 06:24:22.7±24.0,**31.35N**×**140.30E,h295**km±262km, **mb2.9**/6,**mb1 3.2**/6,**mb1mx3.0**/20,**mbtmp3.6**/6,**Error ellipse: s-maj=53.3km s-min=19.6km az=103.0, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.58**	**312**	P	P	06 30 09.6	-1.7
	0.4nm,1.0s,baz=117,slow=6.4,SNR=2.9						
CMAR	**Chiang Mai Arr**	**39.42**	**261**	P	P	06 31 24.9	-1.3
	0.7nm,0.4s,baz=45,slow=6.4,SNR=3.3						
WRA	**Warramunga Arr**	**51.31**	**187**	P	P	06 32 57.3	-1.9
	0.5nm,0.7s,baz=1.7,slow=7.5,SNR=5.5						
ILAR	**Eielson Array**	**54.83**	**30**	P	P	06 33 22.3	-1.8
	1.1nm,1.0s,baz=258,slow=6.5,SNR=6.5						
INK	**Inuvik**	**59.88**	**25**	P	P	06 33 57.2	-2.1
	0.6nm,0.8s,baz=284,slow=7.3,SNR=5.0						
YKA	**Yellowknife Ar**	**69.20**	**29**	P	P	06 34 57.6	-1.2
	0.1nm,0.4s,baz=297,slow=6.0,SNR=8.2						

SKHL 04 06:30:08.9±0.2,**52.80N**×**142.20E,h10**km,**mb3.7**/4, **Sakhalin Island**

IDC 04 06:51:18.7±4.5,**55.03N**×**167.77E,mb3.2**/3,**mb1 3.7**/4, **mb1mx3.4**/21,**mbtmp3.3**/4,**ML3.0**/1,**Error ellipse: s-maj=83.0km s-min=19.8km az=57.0,Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**3.85**	**122**	Pn	Pn	06 52 16.9	-3.5
	3.6nm,0.3s,baz=262,slow=14,SNR=5.8						
FX1				Sn	Sn	06 53 01.2	-5.7
	2.0nm,0.3s,baz=287,slow=19,SNR=3.0						
ILAR	**Eielson Array**	**24.20**	**48**	P	P	06 56 36.8	-0.4
	0.4nm,0.7s,baz=257,slow=8.8,SNR=9.3						
YKA	**Yellowknife Ar**	**38.61**	**47**	P	P	06 58 42.7	-2.0
	0.4nm,0.7s,baz=299,slow=8.1,SNR=5.6						
TXAR	**Lajitas Array**	**65.73**	**73**	P	P	07 02 05.0	-2.1
	0.1nm,0.7s,baz=307,slow=4.5,SNR=3.5						

*NEIC **04** 07:14:32.8±0.8,11.34S×163.34E,h10km,mb4.4/8,Error ellipse: s-maj=24.1km s-min=13.1km az=144.0*
*IDC **04** 07:14:46.1±11.0,11.34S×163.04E,h116km±100km, mb3.7/8,mb1 3.9/10,mb1mx3.9/17,mbtmp4.1/10,ML3.7/2, MS3.7/4,Ms1 3.7/4,ms1mx3.3/19,Error ellipse: s-maj=46.2km s-min=31.9km az=120.0*
ISC 04 07:14:36.5±3.7,**11.4S**±0.1×**163.2E**±0.2,**h49**km±29km,**n23, σ1^{s}22**/23,**mb4.1**/13,**MS3.6**/3,**Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.78**	**301**	*e*Pn	**P**	**07 15 32.0**	**-1.8**
HNR				*e*Sn	**S**	**07 16 18.4**	**+0.9**
PMG	**Port Moresby**	**15.92**	**276**	P	**P**	**07 18 21.6**	**+2.7**
	0.7nm,0.3s,baz=131,slow=2.2,SNR=4.7						
PMG	**Port Moresby**	**15.92**	**276**	*e*P	**P**	**07 18 20.6**	**+1.7**
	44nm,1.1s						
CTA	**Charters Tower**	**18.45**	**240**	P	**P**	**07 18 51.9**	**+1.5**
	0.3nm,0.3s,baz=72,slow=13,SNR=4.7						
CTA				LR	LR	07 24 22.4	
	comp=Z,181nm,20.6s,baz=50,slow=31						
CTA	**Charters Tower**	**18.45**	**240**	P	**P**	**07 18 51.9**	**+1.5**
CTA				LR	LR	07 24 22.4	
CTAO	**Charters Tower**	**18.45**	**240**	*e*P	**P**	**07 18 52.5**	**+2.1**
	13nm,1.0s						
STKA	**Stephens Creek**	**28.49**	**221**	*e*P	**P**	**07 20 31.2**	**+1.8**
	5.5nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**28.49**	**221**	P	**P**	**07 20 31.4**	**+2.0**
	6.1nm,0.8s,mb4.3,baz=31,slow=11,SNR=8.8						
STKA				LR	LR	07 31 51.2	
	comp=Z,127nm,19.9s,MS3.5,baz=27,slow=36						
WRAB	**Tennant Creek**	**29.02**	**249**	*e*P	**P**	**07 20 33.1**	**-1.1**
	2.4nm,0.6s,mb4.1						
WB2	**Warramunga Arr**	**29.02**	**249**	*e*P	**P**	**07 20 33.3**	**-0.9**
WRA	**Warramunga Arr**	**29.03**	**249**	P	**P**	**07 20 33.5**	**-0.8**
	1.1nm,0.7s,mb3.7,baz=79,slow=8.9,SNR=20						
ASAR	**Alice Springs**	**30.41**	**242**	P	**P**	**07 20 46.0**	**-0.6**
	1.5nm,0.5s,mb4.0,baz=64,slow=10,SNR=20						
ASAR				LR	LR	07 32 39.7	
	comp=Z,106nm,21.1s,MS3.5,baz=248,slow=35						
FITZ	**Fitzroy Crossi**	**36.89**	**255**	*e*P	**P**	**07 21 41.3**	**-1.2**
	5.0nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**42.73**	**251**	P	**P**	**07 22 30.3**	**-0.6**
	3.5nm,0.6s,mb4.3						
VNDA	**Vanda**	**66.08**	**180**	LR	LR	07 48 25.4	
	comp=Z,78nm,19.2s,MS3.9,baz=205,slow=30						
ULN	**Ulaanbaatar**	**77.17**	**325**	P	**P**	**07 26 27.6**	**+0.7**
	2.3nm,0.5s,mb4.4						
SONM	**Songino Array**	**77.53**	**325**	P	**P**	**07 26 28.9**	**+0.1**
	1.3nm,0.8s,mb3.9,baz=136,slow=5.1,SNR=9.0						
BILL	**Bilibino**	**79.29**	**1**	*e*P	**P**	**07 26 36.7**	**-1.4**
	3.2nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**84.67**	**19**	P	**P**	**07 27 07.6**	**+1.6**
	0.9nm,1.0s,mb3.8,baz=233,slow=4.5,SNR=4.6						
NVAR	**Mina Array Bea**	**88.17**	**50**	P	**P**	**07 27 24.4**	**+0.7**
	0.9nm,0.8s,mb4.0,baz=233,slow=5.5,SNR=5.5						
ELK	**Elko**	**91.06**	**49**	P	**P**	**07 27 38.0**	**+0.8**
	0.6nm,0.7s,mb4.0,baz=259,slow=9.7,SNR=3.5						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**07 27 59.8**	**-1.5**
	0.1nm,0.5s,mb3.5,baz=258,slow=4.8,SNR=4.3						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**07 27 59.8**	**-1.5**

*NEIC **04** 07:28:34.5±2.1,23.28S×68.90W,h83km±14km,Error ellipse: s-maj=33.7km s-min=23.4km az=194.0*
*IDC **04** 07:28:34.4±2.4,23.18S×68.93W,h77km±13km,mb3.4/3, mb1 3.5/4,mb1mx3.3/15,mbtmp3.7/4,Error ellipse: s-maj=44.5km s-min=30.7km az=17.0*
ISC 04 07:28:35.7±1.7,**23.0S**±0.2×**68.9W**±0.2,**h97**km±7km,**n9, σ0^{s}82**/11,**mb3.6**/3,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.36**	**2**	P	**P**	**07 28 50.2**	**-0.1**
	788nm,0.3s,baz=191,slow=7.4						
LVC				S	**S**	**07 29 01.4**	**-0.1**
	2μm,0.3s,baz=348,slow=20,SNR=209						
LVC	**Limon Verde**	**0.36**	**2**	*e*Pn	**P**	**07 28 50.2**	**-0.1**
LVC				*e*Sn	**S**	**07 29 01.4**	**-0.1**
LPAZ	**La Paz**	**6.70**	**7**	P	**P**	**07 30 14.8**	**+1.6**
	0.1nm,0.3s,baz=180,slow=4.0,SNR=3.5						
LPAZ	**La Paz**	**6.70**	**7**	*e*Pn	**P**	**07 30 14.9**	**+1.8**
ARE	**Arequipa**	**6.92**	**339**	*e*P	**P**	**07 30 28.0**	**+12**
ARE				*e*S	**S**	**07 31 33.0**	**-0.9**
BDFB	**Brasilia**	**21.03**	**73**	P	**P**	**07 33 12.5**	**-0.9**
	1.8nm,0.5s,mb3.7,baz=243,slow=9.7,SNR=4.6						
ANMO	**Albuquerque**	**67.73**	**327**	P	**P**	**07 39 25.6**	**+0.6**
	0.6nm,0.8s,mb3.5,baz=149,slow=5.9,SNR=3.4						
YKA	**Yellowknife Ar**	**92.57**	**341**	P	**P**	**07 41 36.6**	**-0.3**
	0.2nm,0.7s,mb3.6,baz=138,slow=4.3,SNR=7.2						
YKA				pP	pP	07 41 59.8	-3.2
	0.2nm,0.8s,baz=134,slow=4.5,SNR=3.8						
WRA	**Warramunga Arr**	**131.68**	**210**	PKP	PKPdf	07 47 38.3	+0.2
	0.9nm,1.2s,baz=156,slow=1.8,SNR=6.4						

TAP 04 07:34:51.9,23.93N×**120.69E,h12**km,**ML3.6,4C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WNT	**Mingjian**	**0.05**	**186**	⇑*i*P	Pg	07 34 54.5	+0.3
WNT				S	Sg	07 34 56.5	+0.8
TYC	**Yuchr**	**0.15**	**100**	⇓*i*P	Pg	07 34 56.1	+0.5
TYC				S	Sg	07 34 59.2	+1.1
SMLT	**Sun Moon Lake**	**0.20**	**104**	⇓*i*P	Pg	07 34 57.0	+0.6
SMLT				S	Sg	07 35 00.6	+1.3
TCU	**Taichung**	**0.22**	**357**	⇑*i*P	Pg	07 34 57.3	+0.6
TCU				S	Sg	07 35 01.2	+1.3
WGK	**Gukeng**	**0.27**	**206**	⇓*i*P	Pg	07 34 58.4	+0.8
WGK				S	Sg	07 35 03.4	+1.9
CHN5	**Tsauling**	**0.33**	**182**	*i* P	Pg	07 34 59.3	+0.5
CHN5				S	Sg	07 35 04.8	+1.3
WTCT	**Ta-ch'eng**	**0.38**	**260**	⇓*i*P	Pg	07 35 00.1	+0.4
WTCT				S	Sg	07 35 06.6	+1.6
TWQ1	**Liyutan**	**0.42**	**10**	⇑*i*P	Pg	07 35 01.3	+0.7
TWQ1				S	Sg	07 35 08.0	+1.6
ALS	**Alishan**	**0.43**	**166**	⇓*i*P	Pg	07 35 01.4	+0.6
ALS				S	Sg	07 35 08.3	+1.7
CHN2	**Minshiung**	**0.44**	**206**	P	Pg	07 35 01.5	+0.5
CHN2				S	Sg	07 35 09.1	+2.1
NSY	**Sanyi**	**0.49**	**8**	*i* P	Pg	07 35 02.8	+0.9
NSY				S	Sg	07 35 10.3	+1.8
CHY	**Chiayi**	**0.49**	**210**	P	Pg	07 35 02.4	+0.4
CHY				S	Sg	07 35 10.2	+1.4
YUS	**Yu-Shan**	**0.50**	**151**	⇓*i*P	Pg	07 35 02.7	+0.6
YUS				S	Sg	07 35 10.1	+1.2
WSF	**Szhu**	**0.52**	**236**	P	Pg	07 35 02.3	-0.2
WSF				S	Sg	07 35 10.7	+1.2
TWT	**Tachien**	**0.55**	**54**	*i* P	Pb	07 35 02.7	-0.3
TWT				S	Sg	07 35 10.5	+0.1
CHN4	**Tsaushan**	**0.58**	**189**	*i* P	Pb	07 35 04.0	+0.4
CHN4				S	Sb	07 35 13.3	+1.8
WTP	**Ta-pu**	**0.68**	**186**	⇓*i*P	Pb	07 35 05.6	+0.2
WTP				S	Sb	07 35 15.6	+1.1
TWK	**Hsinying**	**0.69**	**196**	P	Pb	07 35 05.7	+0.4
TWK				S	Sb	07 35 16.8	+2.3
ESL	**Shilin**	**0.69**	**99**	*e*P	Pb	07 35 05.6	+0.2
EHY	**Hungye**	**0.72**	**126**	⇓*i*P	Pb	07 35 06.4	+0.6
EHY				S	Sb	07 35 16.8	+1.4
CHN8	**Yiju**	**0.73**	**217**	*e*P	Pb	07 35 06.2	+0.1
CHN8				S	Sb	07 35 17.4	+1.7
NSTT	**Nanjuang**	**0.75**	**22**	⇑*i*P	Pb	07 35 07.0	+0.5
NSTT				S	Sb	07 35 18.2	+1.7
CHN1	**Nanshi**	**0.76**	**191**	⇓*i*P	Pb	07 35 06.8	+0.3
CHN1				S	Sb	07 35 18.1	+1.6
STYT	**Tauyuan**	**0.77**	**175**	⇓P	Pb	07 35 07.0	+0.3
STYT				S	Sb	07 35 18.2	+1.4
ELDTW	**Lidau**	**0.80**	**158**	*i* P	Pb	07 35 07.6	+0.4
ELDTW				S	Sb	07 35 18.9	+1.2
NNS	**Nan Shan**	**0.80**	**51**	⇓*i*P	Pb	07 35 07.4	+0.1
NNS				S	Sb	07 35 18.8	+0.9
HWA	**Hwalien**	**0.84**	**87**	*i* P	Pb	07 35 08.8	+0.9
HWA				S	Sb	07 35 20.8	+1.8
TWD	**Chiawan**	**0.84**	**80**	*i* P	Pb	07 35 08.3	+0.3
TWD				S	Sb	07 35 19.8	+0.8
SGST	**Jiashian**	**0.85**	**187**	P	Pb	07 35 08.7	+0.6
SGST				S	Sb	07 35 21.2	+1.9
NSK	**Sanguang**	**0.96**	**39**	⇓*i*P	Pb	07 35 10.5	+0.5
NSK				S	Sb	07 35 22.6	+0.1
TAI1	**Yung-k'ang**	**0.98**	**206**	*e*P	Pb	07 35 11.3	+0.9
ENTT	**Nioudou**	**1.07**	**48**	*e*P	Pb	07 35 12.2	+0.4
ENTT				S	Sb	07 35 25.7	+0.1
ENA	**Nanau**	**1.08**	**62**	*i* P	Pb	07 35 12.6	+0.5
ENA				S	Sb	07 35 27.2	+1.2
PNG	**Penghu**	**1.10**	**251**	*e*P	Pb	07 35 11.9	-0.6
PNG				S	Sb	07 35 26.8	+0.2
TWM1	**Shoushan**	**1.13**	**193**	*e*P	Pb	07 35 14.7	+1.8
NCU	**National Centr**	**1.13**	**24**	*e*P	Pb	07 35 13.2	+0.3
NCU				S	Sb	07 35 28.1	+0.6
WDGT	**Dungji**	**1.16**	**235**	*e*P	Pb	07 35 13.2	-0.2
WDGT				S	Sb	07 35 27.7	-0.5
TWG	**Pinlang**	**1.16**	**162**	P	Pb	07 35 14.1	+0.6
TWG				S	Sb	07 35 30.2	+2.0
SSD	**Sandimen**	**1.18**	**183**	*e*P	Pb	07 35 14.5	+0.7
SSD				S	Sb	07 35 30.6	+1.8
TWE	**Neicheng**	**1.19**	**48**	P	Pb	07 35 14.7	+0.7
TWE				S	Sb	07 35 30.7	+1.6
TWC	**Suao**	**1.25**	**57**	P	Pb	07 35 15.5	+0.4
TWC				S	Sb	07 35 31.7	+0.7
TWA	**Mucha**	**1.32**	**38**	*e*P	Pb	07 35 15.6	-0.7
TWS1	**Kuangyinshan**	**1.34**	**29**	*e*P	Pb	07 35 16.3	-0.2
TWS1				S	Sb	07 35 34.8	+1.2
ECL	**Taimali**	**1.35**	**170**	*e*P	Pb	07 35 17.6	+0.9
ECL				S	Sb	07 35 35.4	+1.6
EGS		**1.45**	**51**	*e*P	Pn	07 35 18.8	+0.7
NWF	**Wu-fen Shan**	**1.51**	**41**	*e*P	Pn	07 35 19.9	+0.9
NWF				S	Sb	07 35 41.0	+2.6
EAST	**Anshuo**	**1.55**	**175**	*e*P	Pn	07 35 19.9	+0.4
EAST				S	Sb	07 35 40.6	+1.1
SCZT	**Fangliau**	**1.55**	**182**	*e*P	Pn	07 35 21.5	+1.9
TWB1	**Santiao Chiao**	**1.60**	**48**	*e*P	Pn	07 35 21.0	+0.8
TWB1				S	Sn	07 35 41.7	+0.8

MAN 04 07:36:38.7,12.63N×**123.31E,h33**km,**mb4.2,ML3.0, MS2.7,3C,Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.41**	**131**	*e*P	P	07 36 49.0	+1.1
MMPH				*e*S	S	07 36 56.0	+1.7
AUQP	**San Andres**	**0.93**	**318**	*e*P	P	07 36 55.5	+0.2
RCP	**Roxas**	**1.20**	**208**	⇑*e*P	P	07 37 00.2	+1.0
PVCP	**Virac**	**1.27**	**40**	*e*P	P	07 37 01.2	+1.1
PVCP				*e*S	S	07 37 19.7	+3.5
OTRP	**Odiongan**	**1.29**	**258**	*e*P	P	07 36 60.0	-0.5
GQP	**Guinayangan**	**1.52**	**327**	⇑*i*P	P	07 37 03.6	-0.3
GQP				*i* S	S	07 37 22.5	-0.3
BOAC	**Boac**	**1.65**	**300**	*e*P	P	07 37 03.6	-2.1
BOAC				*e*S	S	07 37 22.0	-3.9
SJMP	**San Jose**	**2.15**	**266**	*e*P	P	07 37 13.7	+0.9
LQP	**Lukban**	**2.27**	**311**	*e*P	P	07 37 12.3	-2.3
CVP	**Callao Caves**	**5.25**	**344**	⇑*e*P	P	07 37 56.2	-0.6

*NEIC **04** 07:42:41.1,17.61N×101.69W,h34km,MD3.9(MEX),After MEX.*
MEX 04 07:42:42.9±0.7,**17.71N**×**101.51W,h29**km±9km,**MD3.9, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.12**	**157**	*i* P	Pb	07 42 46.5	-1.7
ZIIG				*i* S	Sb	07 42 51.1	-0.6
ZIIG	**Zihuatanejo**	**0.12**	**157**	*i* P	Pb	07 42 46.8	-1.3
ZIIG				*i* S	Sb	07 42 50.4	-1.3
CAIG	**El Cayaco**	**1.36**	**119**	*i* P	Pn	07 43 03.7	-2.6
CAIG				*i* S	Sn	07 43 21.6	-1.9
CAIG	**El Cayaco**	**1.36**	**119**	*i* P	Pn	07 43 03.7	-2.6
CAIG				*i* S	Sn	07 43 19.5	-4.0
ACX	**Acapulco**	**1.74**	**119**	*e*P	Pn	07 43 11.0	-0.7
MOIG	**Morelia**	**1.98**	**9**	*i* P	Pn	07 43 12.7	-2.5
MOIG				*i* S	Sn	07 43 37.5	-1.7
MOIG	**Morelia**	**1.98**	**9**	*i* P	Pn	07 43 12.7	-2.5
MOIG				*i* S	Sn	07 43 35.2	-4.0
PLIG	**Platanillo**	**2.03**	**70**	*i* P	Pn	07 43 14.2	-1.7
PLIG				*i* S	Sn	07 43 39.7	-0.7
PLIG	**Platanillo**	**2.03**	**70**	*i* P	Pn	07 43 14.2	-1.7
PLIG				*i* S	Sn	07 43 37.2	-3.3
COLM	**Colima**	**2.53**	**306**	*e*P	Pn	07 43 18.5	-4.5
COLM				*i* S	Sn	07 43 44.1	-9.2
COLM	**Colima**	**2.53**	**306**	*e*P	Pn	07 43 18.5	-4.5
COLM				*i* S	Sn	07 43 50.0	-3.3
PPM	**Popocatepetl**	**3.05**	**63**	*e*P	Pn	07 43 28.0	-2.4
PPM				*i* S	Sn	07 44 05.3	-1.1
PPM	**Popocatepetl**	**3.05**	**63**	*i* P	Pn	07 43 26.4	-4.0
PPM				*e*P		07 43 28.0	
PPM				*i* S	Sn	07 44 02.8	-3.6
SFJM	**Santa Fe**	**3.11**	**333**	*e*P	Pn	07 43 29.5	-1.8
IIB	**San Bernardino**	**3.26**	**67**	*e*P	Pn	07 43 30.0	-3.3

*NIED **04** 07:50:00,42.10N×139.20E,h5km,Mw3.5 Best double couple: $M_0$2.01×10^14 NP1:ϕ_s123°,δ88°,λ20°. NP2:ϕ_s32°, δ70°,λ178°.*
JMA 04 07:50:11.3±0.1,**42.05N**×**139.15E,h14**km±1km,**M3.7, 2C-2D,Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.24**	**82**	⇓P	Pg	07 50 16.5	-0.3
JOSM				*e*S	Sg	07 50 20.0	-0.5
JSH	**Shimam**	**0.89**	**48**	⇑P	Pb	07 50 27.5	-0.5
JSH				*e*S	Sb	07 50 39.1	-0.4
JYM2	**Yakumo 2**	**0.91**	**85**	⇓P	Pb	07 50 28.3	-0.1
JYM2				*e*S	Sb	07 50 40.1	0.0
JSR	**Shiriuchi**	**1.08**	**118**	P	Pb	07 50 31.4	+0.1
JSR				*e*S	Sb	07 50 45.5	+0.5
JKB	**Kayabe**	**1.41**	**96**	P	Pn	07 50 37.2	+0.5
JKB				*e*S	Sb	07 50 55.4	+0.7
JNB	**Noboribetsu**	**1.46**	**73**	P	Pn	07 50 36.1	-1.3
JNB				*e*S	Sb	07 50 55.2	-0.9
JOT	**Ohata**	**1.57**	**115**	P	Pn	07 50 37.8	-1.2
JOT				*e*S	Sn	07 50 57.3	-1.9
JIW	**Iwasaki**	**1.59**	**156**	P	Pn	07 50 37.6	-1.7
JSK	**Shakotan**	**1.63**	**36**	⇑P	Pn	07 50 38.1	-1.7

KRSC 04 07:50:40.0±1.1,**56.26N**×**162.49E,h11**km±3km,**ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBG	**Krutoberegovo**	**0.12**	**92**	*i* P	Pg	07 50 44.4	+1.3
KBG				*i* S	Sg	07 50 47.4	+2.2
KBG				Smax			
	24μm,0.5s						
KBTR	**Krutoberegovo**	**0.19**	**106**	*i* P	Pg	07 50 45.2	+0.9
KBTR				*e*S	Sg	07 50 48.5	+1.3
KLY	**Klyuchi**	**1.03**	**274**	*e*P	Pb	07 50 58.4	-0.9
KLY				*e*S	Sb	07 51 10.7	-1.9
KRSR	**Krestovskiy**	**1.07**	**268**	*e*P	Pb	07 51 01.3	+1.1
KRSR				*e*S	Sb	07 51 16.1	+2.1
KPT	**Kopyto**	**1.30**	**258**	*e*P	Pb	07 51 04.5	+0.4
KPT				*e*S	Sb	07 51 22.3	+1.7
KMNR	**Kamenistaya**	**1.36**	**249**	*e*P	Pn	07 51 06.1	+1.1
KMNR				*e*S	Sb	07 51 25.2	+2.9
KOZ	**Kozyrevsk**	**1.48**	**263**	*e*P	Pn	07 51 07.6	+0.9
KOZ				*e*S	Sb	07 51 27.9	+2.2
SRDR	**Sredinnyy**	**1.55**	**273**	*i* P	Pn	07 51 08.9	+1.2
SRDR				*e*S	Sb	07 51 28.8	+1.1
TUMR	**Tumrok**	**1.65**	**234**	*e*P	Pn	07 51 10.2	+1.1
TUMR				*e*S	Sn	07 51 32.3	+1.9
ESO	**Esso**	**2.15**	**263**	*e*P	Pn	07 51 18.7	+2.4
ESO				*e*S	Sn	07 51 43.1	-0.1
BKI	**Bering**	**2.24**	**117**	*i* P	Pn	07 51 16.1	-1.4
BKI				*i* S	Sn	07 51 43.9	-1.5
SPN	**Mys Shipunski**	**3.48**	**205**	*e*P	Pn	07 51 34.6	-0.6
SPN				*e*S	Sn	07 52 15.0	-1.8
NLC	**Nalytchevo**	**3.59**	**212**	*e*P	Pn	07 51 35.5	-1.4
NLC				*e*S	Sn	07 52 16.9	-2.9
GNL	**Ganaly**	**3.67**	**227**	*e*P	Pn	07 51 38.8	+0.8
GNL				*e*S	Sn	07 52 22.1	+0.4
AVH	**Avacha**	**3.71**	**217**	*e*P	Pn	07 51 39.8	+1.3
AVH				*e*S	Sn	07 52 23.0	+0.4
KOK	**Koryaka**	**3.72**	**218**	*e*P	Pn	07 51 39.9	+1.3
KOK				*e*S	Sn	07 52 23.3	+0.4
UGLR	**Uglovaya**	**3.72**	**216**	*e*P	Pn	07 51 39.8	+1.1
UGLR				*e*S	Sn	07 52 23.2	+0.1
PET	**Petropavlovsk**	**3.94**	**216**	*e*P	Pn	07 51 42.8	+1.1
RUS	**Russkaya**	**4.49**	**213**	*e*P	Pn	07 51 47.8	-1.7
RUS				*e*S	Sn	07 52 39.1	-3.2
GRL	**Gorelyy**	**4.52**	**217**	*e*S	Sn	07 52 39.8	-3.5

IDC 04 07:50:43.9±53.0,**17.34S**×**179.43E,mb4.0**/3,**mb1 4.2**/3, **mb1mx3.8**/15,**mbtmp4.0**/3,**Error ellipse: s-maj=953.5km s-min=143.3km az=77.0,Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.11**	**240**	P	P	07 57 56.5	-1.5
	1.6nm,0.9s,baz=79,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**42.71**	**259**	P	P	07 58 42.9	-1.7
	0.5nm,0.3s,baz=94,slow=7.5,SNR=33						
ASAR	**Alice Springs**	**42.96**	**254**	P	P	07 58 44.8	-1.9
	2.7nm,0.6s,baz=86,slow=8.9,SNR=42						

IDC 04 08:09:16.7±4.0,**4.21S**×**129.95E,h247**km±44km,**mb3.1**/2, **mb1 3.4**/4,**mb1mx3.3**/12,**mbtmp3.8**/4,**Error ellipse: s-maj=147.0km s-min=13.3km az=76.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.80**	**164**	*e*P	P	08 11 14.4	-6.5
	4.7nm,0.4s						
KAKA				*e*S	S	08 12 49.4	-8.9
WRA	**Warramunga Arr**	**16.21**	**165**	P	P	08 12 48.5	-4.2
	0.4nm,0.3s,baz=346,slow=12,SNR=26						
WRA				S	S	08 15 42.4	-2.5
	0.3nm,0.3s,baz=332,slow=21,SNR=4.9						
WB2	**Warramunga Arr**	**16.22**	**165**	*e*P	P	08 12 48.7	-4.0
WB2				*e*S	S	08 15 42.6	-2.4
ASAR	**Alice Springs**	**19.72**	**169**	P	P	08 13 28.5	-0.7
	0.7nm,0.3s,baz=347,slow=10,SNR=24						
ASAR				S	S	08 16 58.2	+5.2
	0.1nm,0.3s,baz=352,slow=24,SNR=6.1						
ASPA	**Alice Springs**	**19.72**	**169**	*e*P	P	08 13 28.1	-1.1
ASPA				*e*S	S	08 16 58.1	+5.1
SONM	**Songino Array**	**55.80**	**341**	P	P	08 18 28.5	-1.7
	0.6nm,0.9s,baz=135,slow=6.1,SNR=3.7						
ZAL	**Zalesovo**	**69.08**	**333**	P	P	08 19 55.8	-1.8
	0.5nm,0.4s,baz=272,slow=4.3,SNR=3.1						

*NEIC **04** 08:14:30.7±5.7,22.02N×142.83E,h255km±55km,mb3.7/4, Error ellipse: s-maj=21.0km s-min=8.9km az=78.0*
*IDC **04** 08:14:30.2±1.5,22.06N×142.69E,h248km±13km, mb3.6/10,mb1 3.8/11,mb1mx3.7/20,mbtmp4.3/11,Error ellipse: s-maj=15.7km s-min=11.3km az=84.0*
ISC 04 08:14:28.9±1.3,**22.02N**±0.07×**142.7E**±0.2,**h251**km±12km, **n23,σ0^{s}75**/21,**mb3.8**/15,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.08**	**355**	P	**P**	**08 15 46.5**	**+0.3**
	24nm,0.3s,baz=288,slow=20,SNR=8.3						
CBIJ				S	**S**	**08 16 45.8**	**-0.7**
	27nm,0.3s,baz=297,slow=22,SNR=11						
SONM	**Songino Array**	**38.80**	**320**	P	**P**	**08 21 32.5**	**+1.6**
	1.9nm,0.4s,mb3.9,baz=119,slow=5.8,SNR=45						
CMAR	**Chiang Mai Arr**	**41.11**	**273**	S	**S**	**08 27 41.6**	**-2.3**
	1.5nm,0.5s,baz=68,slow=14,SNR=6.5						
WRAB	**Tennant Creek**	**42.49**	**192**	*e*P	**P**	**08 22 01.4**	**+0.1**
	5.9nm,0.7s,mb4.1						
WB2	**Warramunga Arr**	**42.49**	**192**	*e*P	**P**	**08 22 01.4**	**-0.1**
WRA	**Warramunga Arr**	**42.50**	**192**	P	**P**	**08 22 01.5**	**0.0**
	2.9nm,0.7s,mb3.8,baz=13,slow=8.6,SNR=26						
WRA				ScP		08 27 17.4	
	0.3nm,0.9s,baz=11,slow=4.4,SNR=4.5						
FITZ	**Fitzroy Crossi**	**43.23**	**204**	*e*P	**P**	**08 22 07.6**	**+0.2**
	3.1nm,0.8s,mb3.8						
ASAR	**Alice Springs**	**46.21**	**191**	P	**P**	**08 22 30.7**	**-0.1**
	0.6nm,0.5s,mb3.2,baz=15,slow=9.6,SNR=8.4						
STKA	**Stephens Creek**	**53.60**	**181**	P	**P**	**08 23 25.6**	**-0.7**
	0.4nm,0.4s,mb3.3,baz=16,slow=9.8,SNR=2.9						
KURK	**Kurchatov**	**56.93**	**317**	P	**P**	**08 23 50.2**	**+0.4**
	1.0nm,0.5s,mb3.7						
ILAR	**Eielson Array**	**61.96**	**27**	P	**P**	**08 24 22.2**	**-1.7**
	4.4nm,1.1s,mb4.0,baz=262,slow=5.1,SNR=29						
BVAR	**Borovoye Array**	**62.13**	**319**	P	**P**	**08 24 26.0**	**+0.8**
	4.0nm,0.3s,mb4.5,baz=89,slow=8.7,SNR=32						
YKA	**Yellowknife Ar**	**76.38**	**28**	P	**P**	**08 25 51.3**	**-0.4**
	1.7nm,0.6s,mb3.9,baz=292,slow=5.9,SNR=60						

YKA	**Yellowknife Ar**	**76.38**	**28**	P	**P**	**08 25 51.3**	**-0.5**
ARCES	**ARCESS Array B**	**78.47**	**341**	P	**P**	**08 26 03.6**	**+0.5**
	3.5nm,0.9s,mb4.0,baz=60,slow=9.8,SNR=6.9						
JOF	**Joensuu**	**79.83**	**334**	*e*p	**P**	**08 26 10.5**	**+0.1**
	0.5nm,0.4s,mb3.5						
KAF	**Kangasniemi**	**82.24**	**335**	*e*p	**P**	**08 26 22.2**	**-0.7**
	1.2nm,0.7s,mb3.6						
FINES	**FINESS Array B**	**82.70**	**334**	P	**P**	**08 26 25.2**	**-0.1**
	1.5nm,0.3s,mb4.1,baz=68,slow=5.7,SNR=23						
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**08 26 29.8**	**+1.0**
	1.5nm,0.6s,mb3.9,baz=273,slow=4.6,SNR=17						
PV10	**Paradox Valley**	**89.89**	**48**	*e*P	**P**	**08 27 01.1**	**+0.4**
PLCA	**Paso Flores**	**146.31**	**131**	PKPbc	PKPbc	08 33 41.8	+2.0
	3.5nm,0.9s,baz=238,slow=6.0,SNR=6.1						
LPAZ	**La Paz**	**150.36**	**84**	PKPbc	PKPdf	08 33 53.8	+8.4
	3.0nm,0.5s,baz=298,slow=3.5,SNR=15						
LPAZ	**La Paz**	**150.36**	**84**	*e*PKPbc	PKPdf	08 33 53.7	+8.2

MAN 04 08:27:39.1, 8.19N×126.30E, h108km, mb4.8, ML3.7, MS3.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.06**	**98**⇓	*e*P	P	08 27 54.1	+0.1
BIPH				*e*S	S	08 28 05.7	+0.4
BUTP	**Butuan**	**1.02**	**319**	*i* P	P	08 28 01.6	+1.0
BUTP				*e*S	S	08 28 19.8	+2.9
MATI	**Mati**	**1.24**	**182**	*e*P	P	08 28 03.0	-0.1
MATI				*e*S	S	08 28 22.2	+1.0
BUKP	**Musuan**	**1.26**	**256**	*e*P	P	08 28 03.0	-0.4
BUKP				*e*S	S	08 28 22.4	+0.7
SCPH	**Surigao**	**1.77**	**333**⇑	*e*P	P	08 28 10.1	+0.6

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*IDC **04** 08:34:45.6±9.8, 8.96S×125.99E, h185km±82km, mb3.3/1, mb1 3.2/3, mb1mx3.0/11, mbtmp3.7/3, Error ellipse: s-maj=131.4km s-min=67.3km az=62.0*

ISC 04 08:34:30.2±2.4**, 9.4S**±0.1×**124.1E**±0.1**, h79**km±26km**, n7, σ1^{s}33**/13**, mb3.5**/1**, 1D, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**8.75**	**170**	*e*P	**P**	**08 36 36.4**	**+0.5**
	1.7nm,0.3s						
FITZ				*e*S	**S**	**08 38 12.5**	**-1.3**
KAKA	**Kakadu**	**8.79**	**113**⇓	*i*P	**P**	**08 36 35.7**	**-0.8**
	3.6nm,0.3s						
KAKA				*e*S	**S**	**08 38 14.7**	**-0.1**
WRA	**Warramunga Arr**	**14.37**	**138**	P	**P**	**08 37 50.3**	**-0.9**
	0.4nm,0.3s,baz=320,slow=12,SNR=23						
WRA				S	**S**	**08 40 24.0**	**-5.0**
	0.5nm,0.3s,baz=322,slow=24,SNR=9.9						
WB2	**Warramunga Arr**	**14.38**	**138**	*e*P	**P**	**08 37 51.4**	**+0.2**
WB2				*e*S	**S**	**08 40 23.3**	**-5.8**
ASPA	**Alice Springs**	**16.96**	**148**	*e*P	**P**	**08 38 26.0**	**+2.1**
ASPA				*e*S	**S**	**08 41 27.8**	**-0.7**
ASAR	**Alice Springs**	**16.96**	**148**	P	**P**	**08 38 26.4**	**+2.6**
	0.2nm,0.3s,baz=323,slow=12,SNR=22						
ASAR				S	**S**	**08 41 30.2**	**+1.7**
	0.1nm,0.3s,baz=310,slow=22,SNR=6.6						
STKA	**Stephens Creek**	**27.59**	**147**	P	**P**	**08 40 10.3**	**-2.0**
	0.5nm,0.3s,mb3.5,baz=331,slow=10,SNR=3.7						

IDC 04 08:58:23.6±1.2**, 59.56N×30.30W, mb3.6**/5**, mb1 4.0**/6**, mb1mx3.6**/24**, mbtmp3.8**/6**, ML4.4**/1**, MS3.5**/2**, Ms1 3.5**/2**, ms1mx2.6**/27**, Error ellipse: s-maj=31.5km s-min=23.5km az=21.0, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.69**	**35**	Pn	Pn	09 00 04.0	-1.5
	7.5nm,0.3s,baz=229,slow=9.3,SNR=24						
BORG				Sn	Sn	09 01 18.9	-4.5
	1.7nm,0.3s,baz=286,slow=23,SNR=6.8						
FRB	**Frobisher Bay**	**18.43**	**299**	LR	LR	09 09 11.9	
	comp=Z,98nm,19.0s,baz=129,slow=35						
SCHQ	**Schefferville**	**20.17**	**273**	P	P	09 02 59.0	-3.1
	2.1nm,1.0s,baz=67,slow=12,SNR=4.3						
ESDC	**Sonseca Array**	**25.91**	**128**	P	P	09 03 57.3	-1.4
	1.3nm,0.6s,baz=327,slow=12,SNR=6.3						
YKA	**Yellowknife Ar**	**38.22**	**312**	P	P	09 05 44.1	-2.1
	0.7nm,0.7s,baz=57,slow=9.2,SNR=15						
YKA				PcP	PcP	09 07 57.3	-4.0
	0.2nm,0.6s,baz=37,slow=3.3,SNR=5.0						
YKA				LR	LR	09 20 39.5	
	comp=Z,90nm,19.2s,baz=40,slow=35						
ILAR	**Eielson Array**	**47.16**	**328**	P	P	09 06 57.5	-1.4
	1.3nm,1.0s,baz=16,slow=6.6,SNR=7.4						
PDAR	**Pinedale Array**	**49.30**	**287**	P	P	09 07 14.7	-1.0
	0.2nm,0.5s,baz=58,slow=8.5,SNR=3.8						

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*NEIC **04** 09:00:39.2±0.8, 17.73S×178.72W, h532km±9km, mb4.2/23, Error ellipse: s-maj=13.2km s-min=5.8km az=150.0*

*BJI **04** 09:00:39.2, 17.70S×178.70W, h531km, mB4.4, mb4.8*

*IDC **04** 09:00:40.3±6.1, 17.88S×178.63W, h544km±76km, mb3.7/11, mb1 4.0/11, mb1mx3.8/18, mbtmp4.6/11, Error ellipse: s-maj=32.1km s-min=19.2km az=13.0*

ISC 04 09:00:38.3±1.2**, 17.7S**±0.1×**178.76W**±0.08**, h530**km±15km**, h539**km±9.1km**:pP-P, n74, σ0^{s}92**/50**, mb4.2**/32**, 3C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.72**	**61**	*e*Pn	**P**	**09 02 32.8**	**-0.7**
	115nm,0.6s						
DZM	**Mont Dzumac**	**14.57**	**250**	*e*P	**P**	**09 03 45.6**	**+2.0**
URZ	**Urewera**	**20.76**	**189**	P	**P**	**09 04 41.8**	**-1.3**
	2.8nm,0.4s,baz=64,slow=3.8,SNR=6.9						
RPZ	**Rata Peaks**	**27.29**	**196**	P	**P**	**09 05 39.8**	**-1.8**
	4.8nm,0.8s,mb4.2,baz=117,slow=6.8,SNR=3.4						
CTA	**Charters Tower**	**33.15**	**260**⇓	*i*P	**P**	**09 06 32.5**	**+0.5**
	7.8nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**33.15**	**260**	*e*P	**P**	**09 06 32.2**	**+0.2**
	17nm,1.1s,mb4.5						
CNB	**Canberra Magne**	**33.27**	**232**	*e*P	**P**	**09 06 34.5**	**+1.6**
	274nm,0.7s						
PMG	**Port Moresby**	**34.10**	**280**	P	**P**	**09 06 41.8**	**+1.7**
	14nm,0.7s,mb4.6,baz=115,slow=4.4,SNR=6.3						
PMG	**Port Moresby**	**34.10**	**280**	*e*P	**P**	**09 06 41.1**	**+1.0**
	15nm,0.8s,mb4.6						
TOO	**Toolangi**	**37.02**	**230**⇓	*i*P	**P**	**09 07 05.3**	**+1.3**
	1.5nm,0.9s,mb3.5						
STKA	**Stephens Creek**	**38.42**	**241**⇓	*i*P	**P**	**09 07 16.8**	**+1.4**
	9.6nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**38.42**	**241**	P	**P**	**09 07 16.8**	**+1.4**
	11nm,0.5s,mb4.6,baz=89,slow=9.6,SNR=49						
WB2	**Warramunga Arr**	**44.33**	**259**⇓	*i*P	**P**	**09 08 02.0**	**-0.7**
WRAB	**Tennant Creek**	**44.33**	**259**	*e*P	**P**	**09 08 02.2**	**-0.5**
	14nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.34**	**259**	P	**P**	**09 08 02.3**	**-0.4**
	4.7nm,0.5s,mb4.3,baz=97,slow=7.1,SNR=117						
ASAR	**Alice Springs**	**44.52**	**254**	P	**P**	**09 08 04.7**	**+0.5**
	56nm,0.6s,mb5.3,baz=89,slow=8.2,SNR=1039						
ASPA	**Alice Springs**	**44.52**	**254**⇓	*i*P	**P**	**09 08 04.2**	**0.0**
KAKA	**Kakadu**	**47.26**	**269**⇓	*i*P	**P**	**09 08 24.8**	**-0.5**
	5.1nm,0.3s,mb4.5						
FORT	**Forrest**	**49.78**	**244**⇓	*i*P	**P**	**09 08 43.0**	**-1.0**
	563nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.73**	**260**	*e*P	**P**	**09 09 05.3**	**-0.3**
	5.0nm,0.9s,mb3.8						
MBWA	**Marble Bar**	**57.79**	**256**	*e*P	**P**	**09 09 39.7**	**-1.1**
	5.4nm,0.6s,mb4.0						
KLBR	**Kellerberrin**	**58.61**	**243**	*e*P	**P**	**09 09 45.2**	**-1.0**
	81nm,0.8s,mb5.0						
QSPA	**South Pole Qui**	**72.31**	**180**	*e*P	**P**	**09 11 11.1**	**+0.3**
	3.8nm,0.7s,mb3.9						
SSE	**Sheshan**	**75.38**	**310**	*e*P	**P**	**09 11 28.5**	**-0.4**
SSE				AP	pP	09 13 22.9	+0.6
SSE				S	S	09 20 26.7	+1.2
SSE				XS		09 23 45.1	
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,88nm,3.5s						
SSE	**Sheshan**	**75.38**	**310**	*e*P	**P**	**09 11 28.5**	**-0.4**
	comp=Z,37nm,0.7s,mb4.9						
SSE				pP	pP	09 13 22.9	+0.6
SSE				S	S	09 20 26.7	+1.2
SSE				sS		09 23 45.1	
SSE				SS	SS	09 25 47.7	+14
SSE				LR	LR		
	comp=Z,80nm,14.5s						
NJ2	**Nanjing**	**77.58**	**310**	*e*P	**P**	**09 11 44.9**	**+4.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
MDJ	**Mudanjiang**	**77.86**	**325**	P	**P**	**09 11 41.3**	**-0.8**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,55nm,4.2s						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**09 11 51.6**	**+0.5**
	comp=Z,3.5nm,0.8s,mb3.7,baz=217,slow=7.2,SNR=24						
CN2	**Changchun**	**79.69**	**323**	*e*P	**P**	**09 11 52.1**	**+0.3**
TUC	**Tucson**	**81.86**	**52**	*e*P	**P**	**09 12 04.2**	**+1.1**
	comp=Z,1.0nm,0.4s,mb3.6						
WUAZ	**Wupatki**	**82.89**	**49**	*e*P	**P**	**09 12 09.4**	**+1.1**
	comp=Z,39nm,0.8s,mb5.0						
MCK	**McKinley**	**84.45**	**13**	*e*P	**P**	**09 12 14.3**	**-1.0**
	comp=Z,2.0nm,0.7s,mb3.8						
HLID	**Hailey**	**84.72**	**41**	*e*P	**P**	**09 12 17.9**	**+0.8**
	comp=Z,2.3nm,0.8s,mb3.8						
COLA	**College**	**85.68**	**13**	*e*P	**P**	**09 12 19.7**	**-1.5**
	comp=Z,1.9nm,0.6s,mb3.9						
MNTX	**Cornudas Mount**	**85.75**	**55**	*e*P	**P**	**09 12 22.6**	**+0.1**
	comp=Z,1.6nm,0.9s,mb3.6						
ILAR	**Eielson Array**	**85.80**	**13**	P	**P**	**09 12 20.6**	**-1.3**
	comp=Z,1.3nm,0.5s,mb3.9,baz=225,slow=5.0,SNR=23						
PV10	**Paradox Valley**	**85.85**	**48**	*e*P	**P**	**09 12 22.6**	**-0.1**
PV01	**Paradox Valley**	**86.07**	**48**	*e*P	**P**	**09 12 24.1**	**+0.3**
TXAR	**Lajitas Array**	**86.19**	**58**	P	**P**	**09 12 26.1**	**+1.5**
	comp=Z,2.1nm,0.7s,mb3.9,baz=217,slow=6.1,SNR=32						
ANMO	**Albuquerque**	**86.25**	**52**	*e*P	**P**	**09 12 25.1**	**+0.4**
	comp=Z,1.7nm,1.0s,mb3.6						
TPAW	**Teton Pass**	**86.89**	**42**	*e*P	**P**	**09 12 27.9**	**+0.4**
HHC	**Hu-ho-hao-te**	**86.92**	**315**	*e*P	**P**	**09 12 27.0**	**-0.7**
HHC				AP	pP	09 14 30.5	+5.7
HHC				XP	sP	09 15 18.7	+1.2
HHC				PP	PP	09 16 02.1	+0.4
HHC				SKS	SKS	09 22 01.1	-2.0
HHC				S	S	09 22 22.2	+1.6
HHC				SS	SS	09 28 23.1	+0.9
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,165nm,5.1s						
SNOW	**Snow King Moun**	**87.00**	**43**	*e*P	**P**	**09 12 28.7**	**+0.7**
LOHW	**Long Hollow**	**87.17**	**42**	*e*P	**P**	**09 12 29.2**	**+0.4**
BW06	**Boulder Array**	**87.46**	**44**	*e*P	**P**	**09 12 30.1**	**-0.1**
	comp=Z,1.4nm,0.5s,mb3.9						
PDAR	**Pinedale Array**	**87.46**	**44**	P	**P**	**09 12 30.5**	**+0.3**
	comp=Z,1.4nm,0.5s,mb3.8,baz=212,slow=2.9,SNR=17						
LZH	**Lanzhou**	**90.53**	**308**	⇑P	**P**	**09 12 45.0**	**+0.4**
LZH				AP	pP	09 14 43.1	+0.4
LZH				XP	sP	09 15 40.3	+5.2
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH	**Lanzhou**	**90.53**	**308**	⇑P	**P**	**09 12 45.0**	**+0.4**
	comp=Z,21nm,1.3s,mb4.9						
LZH				pP	pP	09 14 43.1	+0.4
LZH				sP	sP	09 15 40.3	+5.2
INK	**Inuvik**	**91.81**	**15**	*e*P	**P**	**09 12 48.8**	**-1.0**
	comp=Z,2.5nm,0.9s,mb4.2						
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**09 13 00.7**	**-0.7**
	comp=Z,2.0nm,1.1s,mb4.2,baz=242,slow=4.3,SNR=18						
CHKZ	**Chkalovo**	**116.31**	**322**	*e*PKPdf	PKPdf	09 18 20.4	-0.6
FINES	**FINESS Array B**	**132.94**	**344**	PKP	PKPdf	09 18 52.5	-0.2
	comp=Z,1.2nm,0.8s,baz=117,slow=3.1,SNR=4.9						
KSP	**Ksiaz**	**144.86**	**343**	*e*PKP	PKPdf	09 19 15.8	+1.5
CLL	**Collm**	**145.23**	**347**	*i* PKP1	PKPbc	09 19 17.0	+1.1
BRG	**Berggiesshubel**	**145.43**	**346**	*e*P	PKPdf	09 19 17.7	+2.4
KHC	**Kasperske Hory**	**147.13**	**345**⇑	*e*PKPB		09 19 22.5	
KHC				*e*PKPAB	PKPab	09 19 26.0	-1.0
GERES	**GERESS Array B**	**147.37**	**345**	PKPbc	PKPdf	09 19 23.1	+4.6
	comp=Z,2.5nm,0.5s,baz=23,slow=2.8,SNR=25						
GIVF	**Givet**	**147.59**	**356**	*e*PKP1	PKPdf	09 19 23.2	+4.4
BAIF	**Baives**	**147.67**	**356**	*e*PKP1	PKPdf	09 19 23.5	+4.6
CDF	**Champ du Feu**	**149.02**	**352**	*e*PKP1	PKPdf	09 19 26.8	+5.7
	comp=Z,5.7nm,0.5s						
FLN	**La Foliniere**	**149.03**	**2**	*e*PKP1	PKPdf	09 19 26.4	+5.3
LDF	**La Druitiere**	**149.21**	**2**	*e*PKP1	PKPdf	09 19 26.6	+5.2
GRR	**Gorron**	**149.39**	**3**	*e*PKP1	PKPdf	09 19 27.4	+5.7
	comp=Z,5.7nm,0.4s						
HAU	**Haudompre**	**149.53**	**353**	*e*PKP1	PKPdf	09 19 27.8	+5.8
HINF	**Hinteralfeld**	**149.66**	**353**	*e*PKP1	PKPdf	09 19 27.9	+5.7
SSF	**Saint Saulge**	**150.70**	**357**	*e*PKP1	PKPdf	09 19 30.8	+7.0
	comp=Z,12nm,0.6s						
CABF	**La Chapelle**	**150.93**	**353**	*e*PKP1	PKPdf	09 19 31.3	+7.1
AVF	**Avril sur Loir**	**150.98**	**357**	*e*PKP1	PKPdf	09 19 30.9	+6.7
SMF	**Signal de Mont**	**151.10**	**356**	*e*PKP1	PKPdf	09 19 31.3	+6.9
MFF	**Saint Martin d**	**151.20**	**2**	*e*PKP1	PKPdf	09 19 31.6	+7.0
BGF	**Bois d'Agland**	**151.24**	**358**	*e*PKP1	PKPdf	09 19 31.9	+7.3
	comp=Z,9.1nm,0.5s						
TCF	**Toulx Ste Croi**	**151.52**	**359**	*e*PKP1	PKPdf	09 19 32.4	+7.4
ORIF	**Oris-en-Rattie**	**152.63**	**353**	*e*PKP1	PKPdf	09 19 35.1	+8.5
MBDF	**Montbardon**	**152.70**	**351**	*e*PKP1	PKPdf	09 19 36.1	+9.4

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*IDC **04** 09:01:16.1±0.9, 19.36S×174.03W, mb4.0/7, mb1 4.2/7, mb1mx4.0/18, mbtmp4.0/7, MS3.4/2, Ms1 3.4/2, ms1mx2.7/24, Error ellipse: s-maj=40.5km s-min=23.5km az=126.0*

*NEIC **04** 09:01:19.7±0.8, 19.51S×174.03W, h25km, mb4.5/2, Error ellipse: s-maj=25.3km s-min=16.5km az=123.0*

ISC 04 09:01:19.3±0.9**, 19.4S**±0.2×**174.1W**±0.2**, h33**km**, n15, σ0^{s}45**/11**, mb4.1**/8**, MS3.5**/2**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.28**	**200**	P	**P**	**09 05 50.3**	**-4.6**
	5.0nm,0.6s,baz=350,slow=11,SNR=5.0						
RPZ	**Rata Peaks**	**27.25**	**204**	P	**P**	**09 07 03.2**	**+0.8**
	4.4nm,0.6s,mb4.2,baz=218,slow=23,SNR=3.1						
CTAO	**Charters Tower**	**37.27**	**262**	*e*P	**P**	**09 08 29.9**	**-0.1**
	4.4nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**48.35**	**255**	P	**P**	**09 10 00.3**	**+0.3**
	1.7nm,0.6s,mb4.3,baz=97,slow=7.7,SNR=5.1						
WRAB	**Tennant Creek**	**48.39**	**260**	*e*P	**P**	**09 10 00.2**	**-0.2**
	4.3nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**48.40**	**260**	P	**P**	**09 10 00.3**	**-0.2**
	3.6nm,1.1s,mb4.3,baz=98,slow=7.5,SNR=7.3						
VNDA	**Vanda**	**59.34**	**186**	P	**P**	**09 11 19.4**	**-0.7**
	1.3nm,1.0s,mb3.9,baz=39,slow=6.5,SNR=2.2						
VNDA	**Vanda**	**59.34**	**186**	P	**P**	**09 11 19.4**	**-0.7**
JNU	**Nakatsue**	**74.08**	**314**	LR	LR	09 39 49.0	
	comp=Z,7.2nm,20.5s,MS3.0,baz=5.0,slow=31						
NVAR	**Mina Array Bea**	**77.74**	**42**	P	**P**	**09 13 14.8**	**0.0**
	1.2nm,1.1s,mb3.7,baz=198,slow=5.7,SNR=3.5						
JTS	**JuntasAbangare**	**92.56**	**80**	LR	LR	09 46 18.8	
	comp=Z,68nm,20.3s,MS4.1,baz=354,slow=29						
YKA	**Yellowknife Ar**	**94.02**	**24**	P	**P**	**09 14 35.0**	**+0.2**
	0.1nm,0.6s,mb3.4,baz=236,slow=4.8,SNR=3.7						
YKA	**Yellowknife Ar**	**94.02**	**24**	P	**P**	**09 14 35.0**	**+0.2**
BRTR	**Keskin Array B**	**148.72**	**316**	PKPbc	PKPdf	09 21 05.8	+6.3
	1.2nm,0.9s,baz=45,slow=6.1,SNR=3.4						
GERES	**GERESS Array B**	**149.97**	**350**	PKPbc	PKPdf	09 21 08.5	+7.2
	0.7nm,0.8s,baz=281,slow=5.0,SNR=3.4						

MAN 04 09:07:33.9, 12.74N×123.34E, h29km, mb4.0, ML2.8, MS2.6, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.47**	**143**	*e*P	Pb	09 07 45.0	+1.2
MMPH				*e*S	Sb	09 07 51.0	+0.4
AUQP	**San Andres**	**0.87**	**312**	*e*P	Pn	09 07 50.4	+0.2
AUQP				*e*S	Sb	09 08 04.8	+3.3
PVCP	**Virac**	**1.17**	**43**	*e*P	Pn	09 07 54.0	-0.5
RCP	**Roxas**	**1.31**	**206**	*e*P	Pn	09 07 55.7	-0.7
RCP				*e*S	Sn	09 08 13.6	+0.6
OTRP	**Odiongan**	**1.34**	**254**	*e*P	Pn	09 07 54.6	-2.3
GQP	**Guinayangan**	**1.45**	**323**	*e*P	Pn	09 08 10.2	+12
BOAC	**Boac**	**1.62**	**296**	*e*P	Pn	09 08 01.2	+0.3
BOAC				*e*S	Sn	09 08 21.4	+0.4
LQP	**Lukban**	**2.22**	**308**	*e*P	Pn	09 08 17.4	+7.9
GUIM	**Jordan**	**2.22**	**199**	*e*P	Pn	09 08 13.2	+3.6
APYP	**Conner**	**5.48**	**339**	*e*P	Pn	09 08 59.7	+4.0

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*IDC **04** 09:19:46.5±0.5, 5.89N×93.15E, mb4.4/22, mb1 4.5/23, mb1mx4.5/27, mbtmp4.4/23, ML4.4/1, MS3.5/2, Ms1 3.6/2, ms1mx2.9/23, Error ellipse: s-maj=20.0km s-min=13.3km az=56.0*

*MOS **04** 09:19:49.4±0.8, 5.83N×93.13E, h33km, mb4.7/6, Error ellipse: s-maj=15.5km s-min=8.4km az=111.0*

*BJI **04** 09:19:49.2, 5.38N×93.17E, h54km, mB5.1, mb4.7, Ms4.3, Msz3.9*

*NEIC **04** 09:19:50.7±0.2, 5.88N×93.18E, mb4.5/12, Error ellipse: s-maj=7.1km s-min=4.8km az=53.0*

ISC 04 09:19:46.9±2.0**, 5.82N**±0.05×**93.18E**±0.05**, h15**km±14km**, h29**km±.5km**:pP-P, n80, σ0^{s}94**/77**, mb4.5**/45**, MS3.8**/5**, 2C-1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.46**	**94**	*e*Pn	**Pn**	**09 21 38.4**	**+0.6**
KULM				*e*pP		09 21 46.1	
CMAR	**Chiang Mai Arr**	**13.77**	**24**	Pn	**P**	**09 23 03.8**	**-0.3**
	0.6nm,0.3s,baz=218,slow=13,SNR=12						
CMAR				LR	LR	09 29 10.5	
	comp=Z,142nm,19.1s,baz=210,slow=41						
CHG	**Chiang Mai**	**14.09**	**23**	P	**P**	**09 23 14.1**	**+5.8**
KKTK	**Khon Kaen**	**14.10**	**41**	P	**P**	**09 23 17.8**	**+9.4**
	556nm,0.6s						
NANT	**Nan**	**14.84**	**29**	P	**P**	**09 23 25.0**	**+6.8**
VIS	**Vishakhapatnam**	**15.25**	**322**	*e*P	**P**	**09 23 23.1**	**-0.4**
VIS				*e*S	**S**	**09 26 14.3**	**+1.6**
BWNR	**Bhubaneshwar**	**16.07**	**334**	*e*P	**P**	**09 23 32.3**	**-1.8**
BWNR				AMb	AMB	09 23 34.7	
	comp=Z,33nm,1.0s						
BWNR				*e*		09 26 19.1	
HYB	**Hyderabad**	**18.37**	**310**	*e*P	**P**	**09 24 02.0**	**-1.0**
HYB				*e*S	**S**	**09 27 20.0**	**-4.5**
HYB	**Hyderabad**	**18.37**	**310**	*i* P	**P**	**09 24 02.0**	**-1.0**
HYB				*e*S	**S**	**09 27 20.0**	**-4.5**
BLSP	**Bilaspur**	**19.42**	**328**	*e*P	**P**	**09 24 15.1**	**-0.4**
BLSP				AMb	AMB	09 24 20.2	
	comp=Z,19nm,0.5s						
BLSP				*e*S	**S**	**09 27 54.4**	**+6.2**
KMI	**Kunming**	**21.27**	**25**	P	**P**	**09 24 35.7**	**+0.6**
KMI				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.4						
KMI	**Kunming**	**21.27**	**25**	P	**P**	**09 24 35.7**	**+0.6**
	comp=Z,12nm,0.6s,mb4.4						
KAD	**Karad**	**21.80**	**303**	*e*P	**P**	**09 24 41.3**	**+0.8**
KAD				*e*		09 28 32.8	
JIRN	**Jiri**	**22.72**	**344**	*e*P	**P**	**09 24 50.5**	**+0.9**
PKI	**Pulchoki**	**22.86**	**342**	*e*P	**P**	**09 24 52.0**	**+1.0**
	comp=Z,59nm,0.8s,mb5.0						
GUN	**Gumba**	**23.04**	**343**	*e*P	**P**	**09 24 52.0**	**-0.7**
	comp=Z,54nm,0.9s,mb5.0						
KKN	**Kakani**	**23.11**	**342**	*e*P	**P**	**09 24 54.0**	**+0.6**
	comp=Z,31nm,0.8s,mb4.8						
GKN	**Gorkha**	**23.51**	**341**	*e*P	**P**	**09 24 57.8**	**+0.5**
	comp=Z,26nm,0.4s,mb5.1						
KOLN	**Koldanda**	**23.65**	**338**	*e*P	**P**	**09 25 00.0**	**+1.3**
	comp=Z,43nm,0.6s,mb5.0						
LSA	**Lhasa**	**23.83**	**356**	*e*P	**P**	**09 25 01.1**	**+0.7**
	comp=Z,17nm,0.6s,mb4.7						
LSA				*e*pP		09 25 08.2	
GYA	**Guiyang**	**24.23**	**31**	P	**P**	**09 25 05.6**	**+1.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2	**Chengdu**	**26.87**	**20**	P	**P**	**09 25 29.9**	**+0.8**
ENH	**Enshi**	**28.77**	**30**	*e*P	**P**	**09 25 44.9**	**-1.4**
	comp=Z,4.0nm,0.3s,mb4.6						
XAN	**Xi'an**	**31.65**	**25**	P	**P**	**09 26 10.2**	**-1.6**
XAN				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.9						
GTA	**Gaotai**	**33.98**	**9**	P	**P**	**09 26 34.2**	**+2.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
NJ2	**Nanjing**	**35.45**	**39**	*e*P	**P**	**09 26 46.1**	**+1.3**
NJ2				AP	pP	09 26 55.2	+5.9
NJ2				XP	sP	09 27 00.3	+9.1
NJ2				PP	PP	09 28 07.3	+2.6
NJ2				S	**S**	**09 32 18.0**	**-0.4**
NJ2				LR	LR		
	comp=N,2µm,15.0s						
NJ2				LR	LR		
	comp=E,640nm,22.9s						
NJ2				LR	LR		
	comp=Z,490nm,27.7s						
SSE	**Sheshan**	**36.37**	**43**	*e*P	**P**	**09 26 51.2**	**-1.3**
SSE				S	**S**	**09 32 32.3**	**-0.1**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,125µm,3.0s						
SSE				LR	LR		
	comp=N,62nm,20.7s,MS3.4						
SSE				LR	LR		
	comp=E,37nm,20.7s,MS3.4						
SSE				LR	LR		
	comp=Z,77nm,14.4s						
SSE	**Sheshan**	**36.37**	**43**	*e*P	**P**	**09 26 51.2**	**-1.3**
	comp=Z,28nm,0.7s,mb5.3						
SSE				pP	pP	09 27 00.4	+3.4
SSE				S	**S**	**09 32 32.3**	**-0.1**
SSE				sS		09 32 48.4	
SSE				SS	SS	09 35 12.7	+15
SSE				LR	LR		
	comp=Z,80nm,14.4s,MS3.6						
FITZ	**Fitzroy Crossi**	**39.88**	**127**	*e*P	**P**	**09 27 21.5**	**-0.6**
	comp=Z,3.9nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**40.23**	**339***c*	*i*P	**P**	**09 27 24.8**	**+0.1**
AAK				pmax	pmax		
	comp=Z,11nm,1.6s,mb4.3						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
AAK	**Ala-Archa**	**40.23**	**339**	*e*P	**P**	**09 27 24.9**	**+0.2**
	comp=Z,5.1nm,1.0s,mb4.2						
SONM	**Songino Array**	**43.37**	**13**	P	**P**	**09 27 51.0**	**+0.7**
	comp=Z,2.6nm,0.9s,mb3.9,baz=190,slow=8.6,SNR=14						
SONM				PcP	PcP	09 29 39.4	-0.1
	comp=Z,0.8nm,0.6s,baz=189,slow=3.1,SNR=3.7						
KURK	**Kurchatov**	**46.38**	**347**	*e*P	**P**	**09 28 14.2**	**-0.1**
	comp=Z,4.5nm,1.1s,mb4.3						
KURK				*e*pP	pP	09 28 23.1	+4.1
TLY	**Talaya**	**46.53**	**9**	*i* P	**P**	**09 28 17.3**	**+1.7**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TLY				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
WRA	**Warramunga Arr**	**47.89**	**123**	P	**P**	**09 28 26.7**	**0.0**
	comp=Z,3.5nm,0.7s,mb4.5,baz=302,slow=9.1,SNR=27						
WRAB	**Tennant Creek**	**47.90**	**123**⇓	*e*P	**P**	**09 28 26.8**	**0.0**
WRAB	**Tennant Creek**	**47.90**	**123**	*e*P	**P**	**09 28 26.6**	**-0.2**
	comp=Z,10nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**47.90**	**123**	*e*P	**P**	**09 28 26.1**	**-0.7**
ZAL	**Zalesovo**	**48.46**	**353**	P	**P**	**09 28 30.8**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.4,baz=296,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**49.37**	**128**	P	**P**	**09 28 38.5**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.1,baz=308,slow=7.6,SNR=12						
ASAR				PcP	PcP	09 30 00.6	-0.3
	comp=Z,1.1nm,0.8s,baz=292,slow=2.8,SNR=4.0						
NVS	**Novosibirsk**	**49.53**	**352**	*e*P	**P**	**09 28 37.9**	**-1.0**
BVAR	**Borovoye Array**	**50.63**	**342**	P	**P**	**09 28 46.6**	**-0.8**
	comp=Z,2.6nm,0.8s,mb4.2,baz=143,slow=7.4,SNR=15						
CHKZ	**Chkalovo**	**51.13**	**343**	*e*P	**P**	**09 28 50.5**	**-0.6**
	comp=Z,11nm,1.2s,mb4.7						
CHKZ				*e*pP	pP	09 28 59.1	+3.3
BOD	**Bodaibo**	**54.36**	**14**	*e*P	**P**	**09 29 12.1**	**-3.0**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
KMBO	**Kilima Mbogo**	**56.26**	**265**	*i* P	**P**	**09 29 29.5**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KMBO	**Kilima Mbogo**	**56.26**	**265**	P	**P**	**09 29 30.7**	**+1.1**
	comp=Z,3.2nm,0.7s,mb4.4,baz=41,slow=23,SNR=6.6						
ASF	**Jabal al Asfar**	**58.55**	**304**	P	**P**	**09 29 46.3**	**+0.9**
	comp=Z,4.2nm,0.7s,mb4.6,baz=359,slow=5.3,SNR=4.6						
STKA	**Stephens Creek**	**59.41**	**132**	P	**P**	**09 29 51.9**	**+0.4**
	comp=Z,0.6nm,0.4s,mb4.0,baz=330,slow=8.1,SNR=3.2						
EIL	**Elat**	**59.63**	**301**	LR	LR	09 58 04.8	
	comp=Z,51nm,18.5s,MS3.7,baz=290,slow=39						
YAK	**Yakutsk**	**62.24**	**18**	*i* P	pP	09 30 18.0	+3.1
OBN	**Obninsk**	**66.61**	**328**	*e*P	**P**	**09 30 36.6**	**-2.1**
OBN				*e*		09 31 04.9	
OBN				*e*		09 33 00.8	
OBN				*e*S	S	09 39 27.5	-0.4
OBN				*e*SS	SS	09 43 51.8	+4.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
MATP	**Matopo**	**68.64**	**246**	P	**P**	**09 30 52.4**	**+0.3**
	comp=Z,9.4nm,1.2s,mb4.6,baz=94,slow=7.8,SNR=5.4						
MA2	**Magadan**	**69.02**	**27**	*i* P	**P**	**09 30 53.8**	**0.0**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
AKASG	**Malin Array Be**	**69.17**	**322**	P	**P**	**09 30 52.8**	**-2.1**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.5s,mb4.3,baz=88,slow=5.2,SNR=6.9						
TIXI	Tiksi	69.42	11⇑	eP	P	09 30 55.3	-0.8
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.2						
MLR	Muntele Rosu	69.98	316	P	P	09 31 00.1	+0.2
	comp=Z,6.5nm,0.7s,mb4.7,baz=131,slow=5.6,SNR=13						
LBTB	Lobatse	72.42	242	P	P	09 31 15.5	+0.5
	comp=Z,2.5nm,0.7s,mb4.3,baz=16,slow=5.0,SNR=4.6						
LBTB	Lobatse	72.42	242	P	P	09 31 15.1	+0.1
	comp=Z,2.4nm,0.7s,mb4.2						
FINES	FINESS Array B	74.08	333	P	P	09 31 22.9	-1.1
	comp=Z,9.6nm,1.1s,mb4.7,baz=108,slow=6.0,SNR=13						
OJC	Ojcow	74.93	320	eP	P	09 31 29.0	-0.1
MORC	Moravsky Berou	76.31	320	eP	P	09 31 36.4	-0.6
	comp=Z,2.2nm,0.7s,mb4.2						
MORC				epP	pP	09 31 45.4	+3.7
VRAC	Vranov	76.87	319	P	P	09 31 39.5	-0.6
	comp=Z,1.7nm,0.5s,mb4.3,baz=356,slow=8.6,SNR=3.1						
ARCES	ARCESS Array B	76.87	340	P	P	09 31 39.4	-0.3
	comp=Z,2.4nm,0.6s,mb4.3,baz=90,slow=4.9,SNR=11						
GERES	GERESS Array B	78.72	319	P	P	09 31 50.7	+0.4
	comp=Z,11nm,1.1s,mb4.7,baz=90,slow=5.3,SNR=10.0						
CLL	Collm	79.34	321	e*PP	pP	09 32 04.0	+5.6
HFS	Hagfors	79.74	330	P	P	09 31 55.2	-0.4
	comp=Z,1.3nm,0.6s,mb4.1,baz=90,slow=10,SNR=3.6						
NOA	NORSAR Array B	81.05	331	P	P	09 32 01.7	-0.8
	comp=Z,2.2nm,1.1s,mb4.0,baz=344,slow=19,SNR=2.8						
DAVOX	Davos	81.20	316	P	P	09 32 04.2	+0.6
	comp=Z,6.1nm,0.6s,mb4.7,baz=118,slow=10,SNR=7.9						
DAVOX	Davos	81.20	316	P	P	09 32 04.2	+0.6
DAVOS	Davos	81.26	316	P	P	09 32 04.2	+0.3
RPZ	Rata Peaks	85.29	135	P	P	09 32 25.8	+1.2
	comp=Z,5.5nm,0.8s,mb4.8,baz=258,slow=11,SNR=2.7						
EKA	Eskdalemuir Ar	88.86	325	P	P	09 32 41.7	0.0
	comp=Z,2.4nm,0.8s,mb4.6,baz=100,slow=5.1,SNR=4.7						
VNDA	Vanda	91.12	168	P	P	09 32 52.4	+0.6
	comp=Z,2.0nm,1.1s,mb4.4,baz=73,slow=6.5,SNR=3.1						
SCHQ	Schefferville	117.31	347	PKP	PKPdf	09 38 33.2	-2.2
	comp=Z,1.4nm,0.8s,baz=4.9,slow=8.1,SNR=2.3						
NVAR	Mina Array Bea	127.16	31	PKP	PKPdf	09 38 55.0	+0.1
	comp=Z,0.7nm,0.9s,baz=284,slow=3.7,SNR=3.5						
PDAR	Pinedale Array	127.42	21	PKP	PKPdf	09 38 53.4	-1.9
	comp=Z,0.8nm,0.8s,baz=62,slow=0.9,SNR=5.6						
ANMO	Albuquerque	135.43	23	PKP	PKPdf	09 39 10.6	-0.1
	comp=Z,0.9nm,0.8s,baz=316,slow=4.5,SNR=3.6						
TXAR	Lajitas Array	141.48	24	PKiKP		09 39 22.9	
	comp=Z,0.4nm,0.6s,baz=219,slow=0.4,SNR=5.9						
LVC	Limon Verde	155.96	224	PKPab	PKPab	09 40 11.6	+0.8
	comp=Z,2.5nm,0.8s,baz=214,slow=3.2,SNR=4.3						
LPAZ	La Paz	158.93	239	PKPab	PKPab	09 40 23.7	0.0
	comp=Z,1.0nm,0.6s,baz=53,slow=2.6,SNR=4.5						

IDC 04 09:26:44.9±4.9**, 7.07N×87.88E, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.7**/17**, mbtmp3.7**/4**, ML4.5**/1**, Error ellipse: s-maj=131.6km s-min=33.3km az=79.0, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.63	43	Pn	P	09 30 27.7	-0.7
	0.7nm,0.3s,baz=228,slow=14,SNR=9.9						
SONM	Songino Array	43.58	18	P	P	09 34 50.5	-1.9
	0.3nm,0.5s,baz=194,slow=5.9,SNR=3.7						
WRA	Warramunga Arr	53.01	121	P	P	09 36 03.1	-3.0
	0.9nm,0.7s,baz=296,slow=7.1,SNR=11						
ASAR	Alice Springs	54.34	126	P	P	09 36 14.4	-1.4
	0.8nm,0.8s,baz=300,slow=7.4,SNR=11						

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*CASC **04** 09:27:30.9±2.1, 12.02N×88.01W, h16km±9km, MD4.3, ML3.8, mb4.5(NEIC)*
*NEIC **04** 09:27:35.4±1.2, 12.15N×87.78W, h66km±11km, mb4.5/34, Error ellipse: s-maj=11.6km s-min=5.4km az=50.0*
*IDC **04** 09:27:35.1±2.5, 12.27N×87.66W, h55km±24km, mb4.0/14, mb1 4.2/17, mb1mx3.9/27, mbtmp4.2/17, ML3.1/3, MS3.9/9, Ms1 3.9/9, ms1mx3.4/32, Error ellipse: s-maj=27.2km s-min=12.5km az=54.0*
*BJI **04** 09:27:35.3, 12.20N×87.80W, h66km, mB5.0, Ms5.1, Msz5.0*
ISC 04 09:27:31.9±0.5**, 11.99N**±0.05×**87.97W**±0.04**, h55**km±3km**, n129, σ1s10**/126**, mb4.4**/41**, MS4.3**/10**, 10C-17D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.13	68⇑	eP	P	09 27 51.6	-0.3
TELN	Telica	1.27	61⇑	eP	P	09 27 53.5	-0.3
CNCH	Conchagua	1.29	6⇓	eP	P	09 27 53.9	-0.2
MIRN	Miramar	1.31	70⇑	eP	P	09 27 54.4	0.0
CNGN	Cerro Negro	1.34	68⇓	eP	P	09 27 54.7	-0.2
MOMJ	Momotombo	1.46	73⇑	eP	P	09 27 56.1	-0.4
VSM	San Miguel	1.46	348⇓	eP	P	09 27 56.4	-0.1
BLLM	Bellamira	1.47	350⇓	eP	P	09 27 55.8	-0.8
BLLM				eS	S	09 28 17.0	+2.1
XAVN	Gruta Xavier	1.61	84⇓	eP	P	09 27 58.8	+0.1
MGAN	Managua	1.69	84⇓	eP	P	09 27 59.7	0.0
MGAN				eS	S	09 28 29.1	+8.9
TICN	Ticuantepe	1.70	88⇓	eP	P	09 28 00.1	+0.3
WILN	Americas 2	1.75	84⇑	eP	P	09 28 00.4	-0.1
WILN				eS	S	09 28 23.3	+1.6
MASN	Masaya	1.78	90⇓	eP	P	09 28 00.7	-0.2
MASN			⇑	eP		09 28 01.0	
CAHU	Cacacuatique	1.79	352⇓	eP	P	09 28 01.2	+0.2
SNVI	San Vicente	1.82	332⇓	eP	P	09 28 02.3	+0.7
SNVI				eS	S	09 28 25.1	+1.6
APON	Apoyo	1.86	92⇓	eP	P	09 28 01.7	-0.3
LCBS	La Ceiba	1.93	329⇑	eP	P	09 28 01.6	-1.3
LCBS				eS	S	09 28 26.9	+0.9
LFRS	El Faro	1.94	327⇑	eP	P	09 28 01.6	-1.6
LFRS				eS	S	09 28 26.8	+0.4
PYTN	Playitas	1.94	74⇓	eP	P	09 28 03.1	-0.1
LBRS	Las Brisas	2.03	329	eP	P	09 28 03.9	-0.5
LFU	La Fuente	2.08	328	eP	P	09 28 04.2	-0.8
SNET	Serv Nac Est T	2.09	324	eS	S	09 28 30.8	+0.7
SNET				i		09 28 35.6	
	comp=Z,927nm,0.3s						
BOQS	Boqueron	2.16	324⇑	eP	P	09 28 05.5	-0.7
CONN	Concepcion	2.33	100⇓	eP	P	09 28 07.7	-1.0
SBLS	San Blas	2.45	319⇓	eP	P	09 28 09.2	-1.2
SBLS				eS	S	09 28 40.0	+0.8
SNJE	San Jose	2.46	320⇓	eP	P	09 28 09.1	-1.4
RTR	El Retiro	2.50	319⇓	eP	P	09 28 10.1	-1.0
RTR				eS	S	09 28 40.1	-0.5
RBDL	Robledal	2.69	322⇓	eP	P	09 28 12.8	-1.1
RBDL				eS	S	09 28 45.1	-0.3
MTO2	Montecristo 2	2.75	331	eP	P	09 28 14.2	-0.5
VCR	Vista de Mar	2.95	129	eP	P	09 28 16.2	-1.3
JTS	JuntasAbangare	3.41	119	P	P	09 28 23.7	-0.2
	comp=Z,6.2nm,0.3s,baz=317,slow=17,SNR=22						
JTS				S	S	09 29 02.9	-0.5
	comp=Z,20nm,0.3s,baz=307,slow=14,SNR=8.0						
JTS				LR	LR	09 30 00.3	
	comp=Z,785nm,20.9s,baz=198,slow=44						
JTS	JuntasAbangare	3.41	119	ePn	P	09 28 23.6	-0.3
CGA2	Cerro Gallo 2	3.96	119	eP	P	09 28 34.2	+2.5
PRS1	Puriscal	4.11	119	eP	P	09 28 36.0	+2.3
LAJ	Bijagual	4.33	119	eP	P	09 28 33.7	-3.2
SJS	Escuela Geolog	4.35	118	eP	P	09 28 39.5	+2.3
TRTC	Tortuguero	4.40	108	eP	P	09 28 38.7	+0.8
LCR2	La Lucha 2	4.49	119	eP	P	09 28 39.9	+0.7
ICR	Volcan Irazu	4.53	116	eP	P	09 28 39.4	-0.3
BUS	Buena Vista	4.79	120⇑	eP	P	09 28 44.5	+1.1
ACR	Cerro Adams	5.77	125	eP	P	09 28 56.9	0.0
ROSC	El Rosal	15.23	117	P	P	09 31 06.8	+1.6
	comp=Z,0.5nm,0.3s,baz=274,slow=23,SNR=2.2						
ROSC				LR	LR	09 38 06.5	
	comp=Z,117nm,18.4s,baz=242,slow=42						
SDV	Santo Domingo	17.32	99	P	P	09 31 31.5	-0.1
	comp=Z,0.1nm,0.3s,baz=334,slow=8.4,SNR=6.1						
SDV	Santo Domingo	17.32	99	eP	P	09 31 31.4	-0.2
	comp=Z,7.5nm,0.8s						
HKT	Hockley	19.31	339	eP	P	09 31 55.2	0.0
	comp=Z,10nm,1.0s						
LRAL	Lakeview Retre	20.97	2	eP	P	09 32 13.2	+0.5
	comp=Z,21nm,0.8s						
JCT	Junction City	21.42	331	eP	P	09 32 16.4	-0.8
	comp=Z,34nm,0.8s,mb4.7						
GOGA	Godfrey	21.72	10	eP	P	09 32 21.4	+1.2
	comp=Z,27nm,0.5s,mb4.9						
SJG	San Juan	21.92	71	P	P	09 32 21.5	-0.8
	comp=Z,7.9nm,0.3s,mb4.6,baz=307,slow=19,SNR=2.1						
LTX	Lajitas	22.62	322	eP	P	09 32 30.4	+1.3
	comp=Z,11nm,0.7s,mb4.4						
TXAR	Lajitas Array	22.62	322	P	P	09 32 31.1	+2.0
	comp=Z,8.3nm,0.6s,mb4.3,baz=135,slow=9.8,SNR=109						
JSC	Jenkinsville	23.02	14	eP	P	09 32 32.9	-0.1
MIAR	Mount Ida	23.03	348	eP	P	09 32 33.7	+0.6
	comp=Z,61nm,0.8s,mb5.1						
UALR	University of	23.03	351	eP	P	09 32 33.5	+0.4
	comp=Z,26nm,0.8s,mb4.7						
CPCT	Cooper Cave	23.57	7	eP	P	09 32 39.2	+0.9
WMOK	Wichita Mounta	24.69	338	eP	P	09 32 49.2	0.0
	comp=Z,15nm,0.7s,mb4.6						
TZTN	Tazewell	24.77	9	eP	P	09 32 50.3	+0.3
MNTX	Cornudas Mount	25.35	323	eP	P	09 32 57.0	+1.6
	comp=Z,5.2nm,0.8s,mb4.1						
AMTX	Amarillo	25.97	334	eP	P	09 33 01.2	-0.1
	comp=Z,19nm,0.7s,mb4.7						
CCM	Cathedral Cave	26.12	354	eP	P	09 33 00.7	-2.0
	comp=Z,10nm,0.7s,mb4.5						
WCI	Wyandotte Cave	26.17	3	eP	P	09 33 02.1	-1.1
	comp=Z,16nm,0.7s,mb4.7						
KSU1	Kansas State U	28.07	346	eP	P	09 33 19.6	-0.9
ANMO	Albuquerque	28.36	327	P	P	09 33 24.9	+1.8
	comp=Z,1.3nm,0.6s,mb3.7,baz=158,slow=6.8,SNR=7.3						
ANMO	Albuquerque	28.36	327	eP	P	09 33 22.3	-0.7
	comp=Z,2.3nm,0.9s,mb3.8						
TUC	Tucson	29.13	318	eP	P	09 33 30.4	+0.5
	comp=Z,1.6nm,0.8s,mb3.8						
SDCO	Great Sand Dun	30.07	332	eP	P	09 33 39.2	+0.9
	comp=Z,4.4nm,0.8s,mb4.2						
WUAZ	Wupatki	31.58	322	eP	P	09 33 50.8	-0.8
	comp=Z,58nm,1.0s,mb5.4						
ISCO	Idaho Springs	31.80	334	eP	P	09 33 53.9	+0.4
	comp=Z,3.9nm,1.0s,mb4.2						
PV01	Paradox Valley	31.88	328	eP	P	09 33 54.6	+0.4
SAML	Samuel	32.24	129	eP	P	09 33 57.2	-0.4
	comp=Z,3.2nm,0.6s,mb4.3						
PV10	Paradox Valley	32.30	328	eP	P	09 33 57.9	0.0
SADO	Sadowa	33.53	11	P	P	09 34 06.8	-1.6
	comp=Z,8.5nm,0.5s,mb4.9,baz=214,slow=9.5,SNR=16						
SADO	Sadowa	33.53	11	P	P	09 34 06.8	-1.6
BW06	Boulder Array	35.94	333	eP	P	09 34 29.7	+0.6
	comp=Z,2.5nm,1.0s,mb4.1						
PDAR	Pinedale Array	35.94	333	P	P	09 34 30.2	+1.2
	comp=Z,1.5nm,0.7s,mb4.0,baz=126,slow=11,SNR=11						
PDAR				PcP	PcP	09 36 55.8	+0.5
	comp=Z,1.2nm,0.9s,baz=129,slow=3.9,SNR=5.4						
PDAR	Pinedale Array	35.94	333	P	P	09 34 30.2	+1.2
PDAR				PcP	PcP	09 36 55.8	+0.5
EYMN	Ely	35.97	356	eP	P	09 34 26.9	-2.3
	comp=Z,6.7nm,0.7s,mb4.7						
HWUT	Hardware Ranch	36.01	329	eP	P	09 34 30.0	+0.4
	comp=Z,5.9nm,0.7s,mb4.6						
AHID	Auburn Hatcher	36.65	331	eP	P	09 34 35.6	+0.6
	comp=Z,5.5nm,0.6s,mb4.6						
SNOW	Snow King Moun	37.03	332	eP	P	09 34 39.3	+1.1
LOHW	Long Hollow	37.08	332	eP	P	09 34 38.7	+0.1
WUWY	Wally Ulrich	37.08	332	eP	P	09 34 38.7	0.0
TPAW	Teton Pass	37.14	332	eP	P	09 34 40.7	+1.5
RRI2	Red Ridge	37.20	331	eP	P	09 34 40.5	+0.8
MOOW	Moose Ponds	37.25	332	eP	P	09 34 40.9	+0.9
IMW	Indian Meadow	37.45	332	eP	P	09 34 43.4	+1.7
NVAR	Mina Array Bea	37.72	320	P	P	09 34 46.4	+2.4
	comp=Z,1.4nm,0.8s,mb3.8,baz=118,slow=8.2,SNR=5.0						
NVAR				PcP	PcP	09 37 03.2	+2.5
	comp=Z,1.1nm,0.7s,baz=131,slow=4.7,SNR=6.5						
LKWY	Lake	37.74	334	P	P	09 34 44.0	-0.1
	comp=Z,4.7nm,0.8s,mb4.3						
YMR	Madison River	38.07	333	eP	P	09 34 47.8	+0.9
QLMT	Earthquake Lak	38.40	333	P	P	09 34 50.9	+1.3
ULM	Lac du Bonnet	38.70	352	P	P	09 34 50.5	-1.6
	comp=Z,13nm,0.6s,mb4.9,baz=168,slow=8.8,SNR=28						
ULM	Lac du Bonnet	38.70	352	eP	P	09 34 50.0	-2.0
	comp=Z,16nm,0.6s,mb4.9						
DGMT	Dagmar	38.80	343	eP	P	09 34 53.1	+0.2
	comp=Z,25nm,0.8s,mb5.0						
HLID	Hailey	38.87	329	eP	P	09 34 54.2	+0.7
	comp=Z,1.4nm,0.7s,mb3.8						
MCMT	McKenzie Canyo	39.04	332	eP	P	09 34 56.8	+1.9
BOZ	Bozeman (W)	39.12	334	eP	P	09 34 55.7	0.0
	comp=Z,5.4nm,0.8s,mb4.3						
WVOR	Wild Horse Val	40.38	324	eP	P	09 35 06.8	+0.7
	comp=Z,2.0nm,0.6s,mb4.0						
CHMT	Chamberlain Mo	40.82	333	eP	P	09 35 09.6	0.0
NEW	Newport	43.57	332	LR	LR	09 58 35.9	
	comp=Z,204nm,20.3s,MS4.0,baz=258,slow=43						
NEW	Newport	43.57	332	eP	P	09 35 31.3	-0.9
	comp=Z,2.4nm,0.7s,mb4.0						
EDM	Edmonton	45.85	339	eP	P	09 35 49.3	-1.1
SCHQ	Schefferville	45.86	17	P	P	09 35 48.8	-1.6
	comp=Z,12nm,0.7s,mb4.9,baz=210,slow=5.4,SNR=30						
SCHQ				LR	LR	09 56 24.7	
	comp=Z,204nm,18.1s,MS4.1,baz=298,slow=38						
SCHQ	Schefferville	45.86	17	eP	P	09 35 48.5	-1.9
	comp=Z,14nm,0.7s,mb5.0						
FCC	Fort Churchill	46.91	356	eP	P	09 35 56.8	-1.8
	comp=Z,9.3nm,0.8s,mb4.8						
BDFB	Brasilia	48.14	124	P	P	09 36 08.6	-0.2
	comp=Z,4.9nm,0.8s,mb4.6,baz=301,slow=5.7,SNR=6.6						
BDFB				LR	LR	09 57 58.4	
	comp=Z,127nm,20.5s,MS3.9,baz=103,slow=38						
FRB	Frobisher Bay	53.47	11	P	P	09 36 46.5	-2.1
	comp=Z,4.6nm,0.6s,mb4.6,baz=221,slow=10,SNR=11						
YKA	Yellowknife Ar	53.92	345	P	P	09 36 50.9	-1.0
	comp=Z,2.2nm,0.7s,mb4.2,baz=139,slow=7.6,SNR=56						
YKA				PcP	PcP	09 37 56.6	-0.1
	comp=Z,0.5nm,0.6s,baz=147,slow=4.0,SNR=7.6						
YKA				LR	LR	10 00 37.1	
	comp=Z,93nm,18.5s,MS3.9,baz=180,slow=37						
YKA	Yellowknife Ar	53.92	345	P	P	09 36 50.9	-1.0
YKA				PcP	PcP	09 37 56.6	-0.1
YKA				LR	LR	10 00 37.1	
YKW3	Yellowknife Ar	53.98	345	eP	P	09 36 50.0	-2.3
PLCA	Paso Flores	54.88	164	P	P	09 37 00.9	+1.7
	comp=Z,1.5nm,1.0s,mb4.0,baz=328,slow=9.5,SNR=1.9						
DLBC	Dease Lake	56.11	335	LR	LR	10 06 04.0	
	comp=Z,158nm,19.4s,MS4.1,baz=66,slow=41						
RES	Resolute Bay	62.80	358	eP	P	09 37 51.7	-2.0
	comp=Z,2.8nm,0.6s,mb4.6						
INK	Inuvik	63.49	343	P	P	09 37 57.0	-1.4
	comp=Z,3.2nm,1.0s,mb4.4,baz=144,slow=8.6,SNR=9.7						
INK				LR	LR	10 06 14.3	
	comp=Z,118nm,20.0s,MS4.1,baz=137,slow=37						
INK	Inuvik	63.49	343	eP	P	09 37 55.6	-2.8
	comp=Z,5.0nm,1.1s,mb4.6						
ILAR	Eielson Array	66.24	336	P	P	09 38 15.3	-0.8
	comp=Z,1.1nm,1.0s,mb3.9,baz=179,slow=6.2,SNR=14						
ILAR				LR	LR	10 10 21.7	
	comp=Z,110nm,19.7s,MS4.1,baz=0.1,slow=39						
VNA3	Neumayer Olymp	97.53	161	P	P	09 40 58.1	-2.6
VNA1	Neumayer--Stat	97.83	161	P	P	09 40 59.0	-3.1
VNA2	Neumayer--Watz	98.18	161	P	P	09 40 59.5	-4.1
CN2	Changchun	116.68	333	ePKP	PKPdf	09 46 17.5	+7.3
SONM	Songino Array	119.09	349	PKP	PKPdf	09 46 18.1	+3.3
	comp=Z,0.2nm,0.5s,baz=45,slow=2.0,SNR=2.2						
WMQ	Urumqi	124.32	4	ePKP	PKPdf	09 46 23.0	-2.0
WMQ				PP	PP	09 48 14.0	-1.6
WMQ				PKS	PKS	09 49 58.0	-2.8
WMQ				PPP	PPP	09 50 54.0	-0.5
WMQ				PP	PP		
	comp=Z,146nm,4.6s						
WMQ				LR	LR		
	comp=N,154nm,23.8s,MS4.8						
WMQ				LR	LR		
	comp=E,230nm,27.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,87nm,19.4s						
HHC	Hu-ho-hao-te	124.41	342	ePKP	PKPdf	09 46 30.9	+5.6
HHC				PP	PP	09 48 22.6	+6.4
SSE	Sheshan	128.83	328	ePKP	PKPdf	09 46 31.0	-3.1
NJ2	Nanjing	129.24	330	ePKP	PKPdf	09 46 32.1	-2.7
NJ2				PP	PP	09 48 47.5	-1.0
NJ2				PKS	PKS	09 50 06.0	-4.3
NJ2				PP	PP		
	comp=Z,870nm,11.2s						
NJ2				LR	LR		
	comp=N,540nm,25.6s						
NJ2				LR	LR		
	comp=E,470nm,20.2s						
NJ2				LR	LR		
	comp=Z,630nm,25.3s,MS5.2						
LZH	Lanzhou	130.90	347	ePKP	PKPdf	09 46 39.1	+1.2
LZH				XPKP		09 47 09.5	
LZH				LR	LR		
	comp=N,173nm,18.0s						
LZH				LR	LR		
	comp=Z,297nm,20.1s,MS5.0						
LZH	Lanzhou	130.90	347	ePKP	PKPdf	09 46 39.1	+1.2
LZH				pPKP		09 47 00.5	
LZH				sPKP		09 47 09.5	
LZH				LR	LR		
	comp=Z,300nm,20.1s,MS5.0						
ASAR	Alice Springs	138.63	248	PKP	PKPdf	09 46 54.5	+2.0
	comp=Z,0.6nm,0.8s,baz=103,slow=2.9,SNR=5.3						
WRA	Warramunga Arr	138.66	253	PKP	PKPdf	09 46 56.2	+3.6
	comp=Z,0.6nm,0.8s,baz=88,slow=3.0,SNR=7.8						
CMAR	Chiang Mai Arr	148.99	347	PKPbc	PKPdf	09 47 18.1	+7.5
	comp=Z,3.8nm,0.9s,baz=336,slow=2.9,SNR=10						

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*CASC **04** 09:45:09.6±1.7, 12.04N×88.04W, h39km±645km, MD4.0, mb4.1(NEIC)*
*IDC **04** 09:45:12.0±4.0, 12.41N×87.52W, h45km±75km, mb3.7/6, mb1 3.8/7, mb1mx3.5/22, mbtmp3.8/7, ML2.7/1, Error ellipse: s-maj=95.5km s-min=28.7km az=29.0*
*NEIC **04** 09:45:12.5±1.5, 12.20N×87.61W, h65km±28km, mb4.1/4, Error ellipse: s-maj=45.2km s-min=16.0km az=212.0*
ISC 04 09:45:08.3±0.8**, 11.95N**±0.06×**88.06W**±0.04**, h52**km±7km**, n33, σ0s88**/49**, mb3.9**/10**, 5C-8D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.23	68⇑	eP	P	09 45 29.2	-0.2
LEON				eS	S	09 45 45.9	+0.6
CNCH	Conchagua	1.33	9⇑	eP	P	09 45 31.5	+0.4
CNCH				eS	S	09 45 47.2	-0.8
TELN	Telica	1.36	61⇑	eP	P	09 45 30.9	-0.5
MIRN	Miramar	1.40	70⇓	eP	P	09 45 31.5	-0.5
CNGN	Cerro Negro	1.43	68⇓	eP	P	09 45 32.1	-0.4
CNGN				eS	S	09 45 51.1	+0.7
VSM	San Miguel	1.48	352	eP	P	09 45 33.6	+0.5
VSM				eS	S	09 45 52.0	+0.4
BLLM	Bellamira	1.49	353⇓	eP	P	09 45 34.1	+0.8
BLLM				eS	S	09 45 50.0	-1.8
MOMJ	Momotombo	1.55	73⇓	eP	P	09 45 33.7	-0.4
MOMJ				eS	S	09 45 53.7	+0.5
MGAN	Managua	1.78	84⇓	eP	P	09 45 37.0	-0.2
MGAN				eS	S	09 45 59.9	+1.1
TICN	Ticuantepe	1.79	87⇓	eP	P	09 45 37.5	+0.1
SNVI	San Vicente	1.82	335	eP	P	09 45 38.4	+0.6
SNVI				eS	S	09 45 58.9	-0.8
WILN	Americas 2	1.84	83⇑	eP	P	09 45 37.8	-0.4
WILN				eS	S	09 46 01.2	+1.0
LCBS	La Ceiba	1.92	332⇑	eP	P	09 45 39.2	-0.1
LFRS	El Faro	1.93	330⇓	eP	P	09 45 39.2	-0.2
LFRS				eS	S	09 46 02.4	0.0
BOQS	Boqueron	2.14	326	eP	P	09 45 42.8	+0.5
SBLS	San Blas	2.42	321	eP	P	09 45 46.5	+0.2
SBLS				eS	S	09 46 14.6	-0.3
SNJE	San Jose	2.43	322	eP	P	09 45 46.4	-0.2
SNJE				eS	S	09 46 15.2	0.0
RTR	El Retiro	2.48	321	eP	P	09 45 47.4	+0.2
RTR				eS	S	09 46 16.1	-0.3
RBDL	Robledal	2.67	324⇓	eP	P	09 45 51.4	+1.4
RBDL				eS	S	09 46 20.4	-0.9
JTS	JuntasAbangare	3.46	118	P	P	09 46 01.1	-0.1
	0.7nm,0.3s,baz=322,slow=18,SNR=6.1						
JTS				S	S	09 46 39.2	-2.1
	2.3nm,0.3s,baz=305,slow=20,SNR=4.3						
JTS	JuntasAbangare	3.46	118	ePn	P	09 46 00.8	-0.4
JTS				S	S	09 46 39.2	-2.1
JCT	Junction City	21.41	331	eP	P	09 49 54.7	+0.8
	4.1nm,0.4s,mb4.1						
TXAR	Lajitas Array	22.59	322	P	P	09 50 08.6	+3.0
	0.8nm,0.5s,mb3.4,baz=138,slow=10,SNR=28						
MIAR	Mount Ida	23.05	348	eP	P	09 50 11.4	+1.5
	7.7nm,0.8s,mb4.2						
WMOK	Wichita Mounta	24.69	338	eP	P	09 50 26.4	+0.4
	1.2nm,0.7s,mb3.5						
AMTX	Amarillo	25.97	334	eP	P	09 50 39.7	+1.7
	2.3nm,0.4s,mb4.1						
KSU1	Kansas State U	28.09	346	eP	P	09 50 57.2	-0.1
ULM	Lac du Bonnet	38.72	352	P	P	09 52 27.8	-1.2
	1.4nm,0.6s,mb3.9,baz=176,slow=12,SNR=4.4						
SCHQ	Schefferville	45.92	17	P	P	09 53 26.0	-1.7
	0.9nm,0.6s,mb3.9,baz=240,slow=18,SNR=3.6						
SCHQ	Schefferville	45.92	17	P	P	09 53 26.0	-1.7
FRB	Frobisher Bay	53.52	11	P	P	09 54 23.7	-2.0
	4.6nm,1.0s,mb4.4,baz=194,slow=8.3,SNR=2.9						
YKA	Yellowknife Ar	53.94	345	P	P	09 54 28.2	-0.6
	0.1nm,0.6s,mb3.0,baz=135,slow=7.9,SNR=7.5						
DLBC	Dease Lake	56.10	335	P	P	09 54 45.2	+0.6
	6.5nm,1.3s,mb4.5,baz=9.9,slow=27,SNR=2.3						

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*IDC **04** 09:54:46.4±0.6, 54.27S×137.10W, mb4.3/11, mb1 4.4/11, mb1mx4.3/17, mbtmp4.3/11, MS4.5/15, Ms1 4.5/15, ms1mx4.3/18, Error ellipse: s-maj=32.1km s-min=16.5km az=178.0*
*NEIC **04** 09:54:47.8±0.5, 54.10S×137.02W, h10km, mb4.9/5, Error ellipse: s-maj=16.5km s-min=12.4km az=176.0*
*HRVD **04** 09:54:47.8±0.2, 54.26S×137.03W, h14km±1km, MW5.1/62, Centroid moment Tensor Solution. LP body waves: s38,c59;Mantle waves: s62,c99; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.14±.18; Mθθ4.96±.23; Mφφ-4.83±.18; Mrθ0.47±.36; Mθφ3.64±.17; Mφr1.02±.33; Best double couple: Mo6.203×10^16 NP1:φs117°, δ80°, λ-1°. NP2:φs207°, δ89°, λ-170°. Principal axes: T 6.258, Plg7°, Azm341°; N -.116, Plg80°, Azm210°; P -6.148, Plg8°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 04 09:54:46.2±0.6**, 54.2S**±0.1×**137.1W**±0.2**, h10**km**, n33, σ1s00**/18**, mb4.5**/15**, MS4.4**/16**, 1C, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNDA	Vanda	31.61	201	LR	LR	10 11 10.2	
	comp=Z,382nm,19.1s,MS4.1,baz=81,slow=31						
RPN	Rapa Nui	33.86	48	LR	LR	10 11 45.6	
	comp=Z,1μm,19.5s,MS4.6,baz=217,slow=30						
URZ	Urewera	34.77	278	LR	LR	10 12 23.3	
	comp=Z,1μm,20.1s,MS4.7,baz=218,slow=30						
QSPA	South Pole Qui	35.97	180	eP	P	10 01 50.6	+2.2
	62nm,2.0s,mb5.2						
USHA	Ushuaia	38.40	120	P	P	10 02 09.6	+0.6
	13nm,1.0s,mb4.6,baz=251,slow=9.0,SNR=3.4						
USHA				LR	LR	10 14 21.5	
	comp=Z,388nm,19.4s,MS4.2,baz=224,slow=31						
PLCA	Paso Flores	45.27	101	P	P	10 03 05.0	-0.3
	3.1nm,1.1s,mb4.1,baz=205,slow=6.9,SNR=3.0						
PLCA				LR	LR	10 17 15.4	
	comp=Z,770nm,20.0s,MS4.6,baz=226,slow=30						
VNA2	Neumayer--Watz	50.15	161⇑	i	P	10 03 42.1	-0.9
SNAA	Sanae	50.37	163	P	P	10 03 44.7	0.0
	1.3nm,1.0s,mb3.9,baz=358,slow=12,SNR=2.7						
TRQA	Tornquist	51.98	104	eP	P	10 03 56.7	-0.7
	16nm,1.2s,mb4.8						
MAW	Mawson	57.61	189	LR	LR	10 25 58.4	
	comp=Z,320nm,21.5s,MS4.4,baz=345,slow=32						
LVC	Limon Verde	59.26	86	eP	P	10 04 49.7	-0.4
	5.8nm,0.6s,mb4.8						
STKA	Stephens Creek	59.95	256	P	P	10 04 53.4	-1.4
	5.4nm,1.1s,mb4.5,baz=136,slow=10,SNR=4.6						
STKA				LR	LR	10 27 00.6	
	comp=Z,348nm,20.9s,MS4.5,baz=78,slow=32						
STKA	Stephens Creek	59.95	256	eP	P	10 04 56.1	+1.4
LPAZ	La Paz	64.65	83	P	P	10 05 26.6	+0.4
	2.1nm,0.6s,mb4.3,baz=224,slow=6.7,SNR=9.6						
LPAZ				LR	LR	10 27 07.0	
	comp=Z,318nm,20.5s,MS4.5,baz=159,slow=30						
LPAZ	La Paz	64.65	83	eP	P	10 05 26.5	+0.3
	18nm,1.3s,mb5.0						
CTA	Charters Tower	66.19	268	LR	LR	10 30 24.8	
	comp=Z,256nm,18.6s,MS4.5,baz=203,slow=32						
ASAR	Alice Springs	70.59	256	P	P	10 06 02.6	-0.8
	3.4nm,0.8s,mb4.3,baz=137,slow=5.9,SNR=16						
ASAR				LR	LR	10 34 27.1	
	comp=Z,346nm,18.1s,MS4.7,baz=144,slow=34						
NWAO	Narrogin (SRO)	72.29	238	LR	LR	10 32 08.2	
	comp=Z,4.7nm,18.3s,MS2.8,baz=354,slow=31						
WRA	Warramunga Arr	73.26	259	P	P	10 06 19.1	-0.3
	1.6nm,0.8s,mb4.0,baz=141,slow=5.4,SNR=8.1						
SAML	Samuel	73.38	82	eP	P	10 06 18.7	-1.5
	8.5nm,1.2s,mb4.5						
PMG	Port Moresby	74.09	276	LR	LR	10 34 34.1	
	comp=Z,400nm,18.0s,MS4.8,baz=335,slow=32						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**76.94**	**99**	P	**P**	**10 06 40.0**	**-0.5**
	2.9nm,0.7s,mb4.3,baz=243,slow=3.3,SNR=2.9						
BDFB				LR	LR	10 37 22.1	
	comp=Z,380nm,18.2s,MS4.8,baz=53,slow=33						
ROSC	**El Rosal**	**78.46**	**65**	P	**P**	**10 06 51.6**	**+2.6**
	5.5nm,0.4s,mb4.9,baz=74,slow=21,SNR=6.5						
ROSC				LR	LR	10 34 46.0	
	comp=Z,173nm,18.5s,MS4.4,baz=222,slow=31						
TXAR	**Lajitas Array**	**88.06**	**29**	P	**P**	**10 07 38.4**	**+0.7**
	0.7nm,1.1s,mb3.8,baz=180,slow=6.3,SNR=3.2						
ANMO	**Albuquerque**	**92.64**	**25**	P	**P**	**10 07 59.1**	**+0.2**
	1.6nm,1.0s,mb4.4,baz=143,slow=9.6,SNR=2.9						
NVAR	**Mina Array Bea**	**93.66**	**15**	LR	LR	10 43 04.6	
	comp=Z,127nm,20.1s,MS4.4,baz=180,slow=31						
PDAR	**Pinedale Array**	**99.42**	**20**	LR	LR	10 46 16.9	
	comp=Z,173nm,18.7s,MS4.6,baz=119,slow=31						
FRB	**Frobisher Bay**	**128.98**	**32**	PKP	PKPdf	10 13 54.1	-2.1
	10nm,1.2s,baz=136,slow=3.6,SNR=3.3						
SONM	**Songino Array**	**140.78**	**288**	PKP	PKPdf	10 14 15.4	-3.0
	0.5nm,0.8s,baz=180,slow=2.5,SNR=4.0						
ESDC	**Sonseca Array**	**145.54**	**95**	PKPbc	PKPbc	10 14 25.9	+1.4
	3.1nm,0.7s,baz=236,slow=2.2,SNR=5.9						
ZAL	**Zalesovo**	**155.67**	**287**	PKPab	PKPab	10 15 08.1	+0.6
	1.4nm,0.9s,baz=356,slow=5.6,SNR=8.0						
DAVOX	**Davos**	**157.87**	**96**	PKPab	PKPab	10 15 14.4	-2.7
	2.5nm,0.7s,baz=166,slow=13,SNR=2.8						
BVAR	**Borovoye Array**	**163.69**	**277**	PKPab	PKPab	10 15 44.0	+1.9
	0.5nm,0.7s,baz=90,slow=4.3,SNR=2.8						

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*IDC **04** 09:59:32.7±2.2, 64.63N×31.37E, mb1 3.2/4, mb1mx3.0/19, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=29.4km s-min=9.5km az=103.0*
*NAO **04** 09:59:33.9±1.8, 64.76N×30.22E, ML2.3*
*HEL **04** 09:59:33.3±0.1, 64.68N×30.67E, ML1.9, ML2.3(NAO), Explosion*
*BER **04** 09:59:34.1±4.0, 64.70N×30.57E, ML2.3(NAO), Suspected explosion*
ISC 04 09:59:31.6±0.6**, 64.69N**±0.02×**30.6E**±0.1**, n22,** σ**0^{s}81**/37**, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.39**	**332**	*e*P	**Pb**	**09 59 58.6**	**+0.4**
MSF				*e*S	**Sb**	**10 00 16.6**	**+0.2**
KJN	**Kajaani**	**1.40**	**246**	*e*P	**Pb**	**09 59 58.6**	**+0.3**
KJN				*e*S	**Sb**	**10 00 16.7**	**+0.1**
KU4	**Liikasenvaara**	**1.73**	**346**	*e*P	**Pn**	**10 00 04.2**	**+1.0**
KU4				*e*S	**Sb**	**10 00 25.9**	**-0.5**
JOF	**Joensuu**	**1.81**	**170**	*e*P	**Pn**	**10 00 04.9**	**+0.6**
JOF				*e*S	**Sn**	**10 00 27.9**	**-0.3**
OUL	**Oulu**	**2.05**	**283**	*e*P	**Pn**	**10 00 09.2**	**+1.5**
OUL				*e*S	**Sn**	**10 00 35.5**	**+1.1**
APA0	**Apatity Array**	**3.08**	**17**	Pn	**Pn**	**10 00 23.4**	**+0.9**
	baz=187,slow=16						
APA0				Pg	**Pg**	**10 00 28.0**	**-5.1**
	baz=185,slow=22						
APA0				Sn	**Sn**	**10 00 60.0**	**-0.7**
	baz=198,slow=37						
APA0				Lg		10 01 09.1	
	baz=195,slow=28						
APA0	**Apatity Array**	**3.08**	**17**	*e*P	**Pn**	**10 00 23.4**	**+0.9**
APA0				*e*PG	**Pg**	**10 00 28.0**	**-5.1**
APA0				*e*S	**Sn**	**10 00 60.0**	**-0.7**
APA0				*e*SG	**Sg**	**10 01 09.1**	**-5.1**
SGF	**Sodankyl**	**3.23**	**331**	*e*P	**Pn**	**10 00 24.3**	**-0.2**
SGF				*e*S	**Sn**	**10 01 03.4**	**-0.8**
SGF				MSG		10 01 10.7	
	comp=Z,3.5nm,0.3s						
KAF	**Kangasniemi**	**3.23**	**219**	*e*P	**Pn**	**10 00 25.4**	**+0.8**
KAF				*e*S	**Sn**	**10 01 03.9**	**-0.5**
KAF				MSG		10 01 18.7	
	comp=Z,2.0nm,0.3s						
KEF	**Keuruu**	**3.62**	**228**	*e*P	**Pn**	**10 00 31.1**	**+1.1**
KEF				*e*S	**Sn**	**10 01 12.7**	**-1.4**
FIA0	**FINESS Array S**	**3.86**	**214**	*e*P	**Pn**	**10 00 33.9**	**+0.4**
FIA0				*e*S	**Sn**	**10 01 18.2**	**-2.0**
FIA0	**FINESS Array S**	**3.86**	**214**	Pn	**Pn**	**10 00 34.2**	**+0.7**
	baz=38,slow=16						
FIA0				Pg	**Pg**	**10 00 42.0**	**-6.6**
	baz=31,slow=16						
FIA0				Lg		10 01 32.0	
	baz=38,slow=28						
FINES	**FINESS Array B**	**3.86**	**214**	Pn	**Pn**	**10 00 33.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=38,slow=13,SNR=8.7						
FINES				Pg	**Pg**	**10 00 42.1**	**-6.4**
	comp=Z,0.4nm,0.3s,baz=36,slow=15,SNR=10						
FINES				Sn	**Sn**	**10 01 20.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=42,slow=23,SNR=3.4						
FINES				Lg		10 01 32.0	
	comp=Z,1.4nm,0.3s,baz=32,slow=30,SNR=15						
ARA0	**ARCESS Array S**	**5.26**	**340**	Pn	**Pn**	**10 00 52.5**	**-0.8**
	baz=154,slow=14						
ARA0				Lg		10 02 13.1	
	baz=154,slow=37						
ARA0	**ARCESS Array S**	**5.26**	**340**	*e*P	**Pn**	**10 00 52.5**	**-0.8**
ARA0				*e*SG		10 02 13.1	
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**10 00 52.4**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=155,slow=13,SNR=21						
ARCES				Sn	**Sn**	**10 01 50.5**	**-5.1**
	comp=Z,0.4nm,0.3s,baz=149,slow=24,SNR=3.9						
ARCES				Lg		10 02 13.7	
	comp=Z,0.8nm,0.3s,baz=150,slow=24,SNR=8.8						
HFS	**Hagfors**	**9.07**	**248**	Lg		10 04 13.9	
	baz=71,slow=28						
HFS	**Hagfors**	**9.07**	**248**	*e*SG		10 04 13.9	
HFS	**Hagfors**	**9.07**	**248**	Pn	**P**	**10 01 46.0**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=54,slow=12,SNR=4.3						
HFS				Sn	**Sn**	**10 03 23.2**	**-7.5**
	comp=Z,0.0nm,0.3s,baz=54,slow=20,SNR=2.6						
HFS				Lg		10 04 14.3	
	comp=Z,0.1nm,0.3s,baz=65,slow=28,SNR=4.7						
HFS	**Hagfors**	**9.07**	**248**	Lg		10 04 13.9	
	baz=71,slow=28						
NOA	**NORSAR Array B**	**9.57**	**256**	Pn	**P**	**10 01 52.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=76,slow=13,SNR=2.7						
NOA				Lg		10 04 30.9	
	comp=Z,0.2nm,0.3s,baz=36,slow=16,SNR=3.3						
TAOE	**Nuku Hiva Isla**	**123.87**	**349**	*e*LR	LR	10 15 24.3	

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*BER **04** 10:21:15.4±3.1, 76.09N×24.38E, MD2.9, ML2.7, ML2.7(NAO)*
*CSEM **04** 10:21:15.6±0.3, 75.83N×21.92E, h20^{km}, ML2.8, Error ellipse: s-maj=33.5km s-min=3.9km az=70.0*
*HEL **04** 10:21:16.6±0.8, 76.02N×23.33E, h10^{km}, ML2.8, MD2.9(BER), ML2.7(BER)*
*NAO **04** 10:21:17.1±4.7, 76.00N×22.98E, h18^{km}±43^{km}, ML2.7*
ISC 04 10:21:12.6±0.5**, 76.03N**±0.03×**24.4E**±0.3**, h10^{km}, n19,** σ**1^{s}50**/37**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**0.50**	**17**	⇑*i*P	**Pg**	**10 21 23.6**	**+0.8**
HOPEN				*e*S	**Sg**	**10 21 29.0**	**-0.6**
HOPEN				AML	AML	10 21 29.6	
	comp=Z,445nm,0.2s						
HSP	**Hornsund**	**2.29**	**300**	*e*P	**Pn**	**10 21 52.4**	**+1.4**
HSP				*e*(S)	**Sn**	**10 22 21.0**	**+1.5**
SPA0	**Spitsbergen Ar**	**2.81**	**324**	Pn	**Pn**	**10 21 58.8**	**+0.4**
	baz=143,slow=11						
SPA0				Sn	**Sn**	**10 22 31.5**	**-1.1**
	baz=134,slow=22						
SPA0				Lg		10 22 40.5	
	baz=151,slow=37						
SPA0	**Spitsbergen Ar**	**2.81**	**324**	*e*P	**Pn**	**10 21 58.8**	**+0.4**
SPA0				*e*S	**Sn**	**10 22 31.5**	**-1.1**
SPA0				*e*SG	**Sg**	**10 22 40.5**	**-5.6**
SPA0	**Spitsbergen Ar**	**2.81**	**324**	P	**Pn**	**10 21 58.8**	**+0.4**
SPA0				S	**Sn**	**10 22 31.4**	**-1.2**
SPA0				Sg	**Sg**	**10 22 40.4**	**-5.6**
KBS	**Kingsbay**	**3.96**	**323**	*e*P	**Pn**	**10 22 14.4**	**-0.5**
KBS				*e*S	**Sn**	**10 22 58.9**	**-3.0**
KBS				AML	AML	10 23 29.1	
	comp=Z,51nm,0.6s						
KBS	**Kingsbay**	**3.96**	**323**	P	**Pn**	**10 22 14.3**	**-0.6**
KBS				*e*S	**Sn**	**10 22 58.9**	**-3.0**
	comp=Z,51nm,0.6s,SNR=49						
KEV	**Kevo**	**6.36**	**172**	*e*P	**Pn**	**10 22 50.4**	**+1.6**
KEV				MPN		10 22 53.7	
	comp=Z,0.7nm,0.2s						
KEV				*e*S	**Sn**	**10 23 58.6**	**-3.6**
KEV	**Kevo**	**6.36**	**172**	P	**Pn**	**10 22 50.3**	**+1.6**
	comp=Z,0.7nm,0.2s						
KEV				S	**Sn**	**10 23 58.5**	**-3.7**
ARA0	**ARCESS Array S**	**6.54**	**177**	Pn	**Pn**	**10 22 51.6**	**+0.3**
	baz=356,slow=12						
ARA0				Sn	**Sn**	**10 24 03.6**	**-3.2**
	baz=8.0,slow=22						
ARA0	**ARCESS Array S**	**6.54**	**177**	*e*P	**Pn**	**10 22 51.6**	**+0.3**
ARA0				*e*S	**Sn**	**10 24 03.6**	**-3.2**
KIF	**Kilpisjarvi**	**7.15**	**190**	*e*P	**Pn**	**10 23 00.1**	**+0.2**
KIF				*e*S	**Sn**	**10 24 17.2**	**-4.7**
KIF	**Kilpisjarvi**	**7.15**	**190**	P	**Pn**	**10 23 00.0**	**+0.2**
KIF				S	**Sn**	**10 24 17.2**	**-4.7**
SGF	**Sodankyl**	**8.66**	**175**	*e*P	**P**	**10 23 20.9**	**0.0**
SGF				MPN		10 23 24.2	
	comp=Z,0.5nm,0.2s						
SGF				*e*S	**Sn**	**10 24 52.2**	**-7.6**
SGF	**Sodankyl**	**8.66**	**175**	P	**P**	**10 23 20.9**	**-0.1**
	comp=Z,0.5nm,0.2s						
SGF				S	**Sn**	**10 24 52.1**	**-7.6**
KU4	**Liikasenvaara**	**9.86**	**168**	*e*P	**P**	**10 23 38.7**	**+1.5**
KU4				*e*S	**Sn**	**10 25 21.8**	**-7.2**
MSF	**Maaselka**	**10.28**	**169**	*e*P	**P**	**10 23 44.4**	**+1.3**
OUL	**Oulu**	**11.02**	**177**	*e*S	**S**	**10 25 48.8**	**-8.6**
KJN	**Kajaani**	**12.06**	**173**	*e*P	**P**	**10 24 07.2**	**-0.1**

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*NIED **04** 10:24:00, 22.60N×121.30E, h20^{km}, Mw3.8 Best double couple: Mo6.31×10^{14} NP1:ϕ_s175°, δ47°, λ79°. NP2:ϕ_s11°, δ44°, λ102°.*
*JMA **04** 10:24:51.2±0.3, 22.64N×121.30E, h50^{km}, M4.2*
*BJI **04** 10:24:52.4, 22.91N×121.48E, h24^{km}, mb4.2, ML3.7, Ms4.0, Msz3.7*
*TAP **04** 10:24:53.0, 22.81N×121.34E, h19^{km}±1^{km}, ML4.3*
TAP Felt I J at Taitung, I J at Pinlang, II J at Chenggung, I J at Taimali, I J at Lidau, I J at Sandimen.
*NEIC **04** 10:24:55.9±2.3, 22.90N×121.59E, h44^{km}±27^{km}, Error ellipse: s-maj=27.5km s-min=16.7km az=221.0*
*IDC **04** 10:24:56.5±3.6, 22.86N×121.55E, h53^{km}±34^{km}, mb3.3/11, mb1 3.6/12, mb1mx3.5/22, mbtmp3.7/12, ML3.7/1, Error ellipse: s-maj=21.3km s-min=14.3km az=75.0*
ISC 04 10:24:52.3±0.3**, 22.76N**±0.02×**121.38E**±0.02**, h23**^{km}±3^{km}**, n83,** σ**1^{s}07**/121**, mb3.6**/11**, 14C-4D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.21**	**269**	⇓*i*P	**Pb**	**10 24 58.2**	**+0.3**
TTN				S	**Sb**	**10 25 01.6**	**-0.1**
TWG	**Pinlang**	**0.29**	**283**	⇓*i*P	**Pb**	**10 24 58.2**	**-0.8**
TWG				S	**Sb**	**10 25 02.7**	**-0.9**
CHKT	**Chengkung**	**0.34**	**358**	⇓*i*P	**Pb**	**10 24 59.3**	**-0.4**
CHKT				S	**Sb**	**10 25 03.9**	**-0.9**
ECL	**Taimali**	**0.42**	**248**	⇑*i*P	**Pb**	**10 25 01.1**	**0.0**
ECL				S	**Sb**	**10 25 06.8**	**-0.3**
ELDTW	**Lidau**	**0.55**	**322**	⇑*i*P	**Pb**	**10 25 01.6**	**-1.5**
ELDTW				S	**Sb**	**10 25 07.2**	**-3.3**
TAW	**Tawu**	**0.60**	**228**	P	**Pb**	**10 25 04.5**	**+0.5**
TAW				S	**Sb**	**10 25 13.0**	**+1.1**
EAST	**Anshuo**	**0.62**	**233**	⇓*i*P	**Pb**	**10 25 04.8**	**+0.6**
SSD	**Sandimen**	**0.69**	**269**	⇑*i*P	**Pb**	**10 25 04.8**	**-0.8**
SSD				S	**Sb**	**10 25 12.3**	**-2.4**
STYT	**Tauyuan**	**0.70**	**305**	⇑*i*P	**Pb**	**10 25 04.5**	**-1.2**
STYT				S	**Sb**	**10 25 13.4**	**-1.5**
LAY	**Lan-yu**	**0.73**	**167**	*e*P	**Pb**	**10 25 08.0**	**+1.8**
LAY				S	**Sb**	**10 25 20.1**	**+4.3**
EHY	**Hungye**	**0.75**	**356**	*e*P	**Pb**	**10 25 05.1**	**-1.5**
SCZT	**Fangliau**	**0.80**	**242**	*e*P	**Pb**	**10 25 08.0**	**+0.6**
SGST	**Jiashian**	**0.80**	**294**	⇑*i*P	**Pb**	**10 25 07.0**	**-0.4**
SGST				S	**Sb**	**10 25 18.7**	**+0.8**
SGLT	**Jiouru**	**0.82**	**268**	*e*P	**Pb**	**10 25 06.9**	**-0.8**
YUS	**Yu-Shan**	**0.83**	**332**	⇑*i*P	**Pb**	**10 25 06.8**	**-1.0**
YUS				S	**Sb**	**10 25 16.6**	**-2.0**
WTP	**Ta-pu**	**0.86**	**305**	⇑*i*P	**Pb**	**10 25 07.8**	**-0.5**
WTP				S	**Sb**	**10 25 19.2**	**-0.3**
TWM1	**Shoushan**	**0.89**	**274**	*e*P	**Pb**	**10 25 09.7**	**+0.9**
CHN1	**Nanshi**	**0.89**	**299**	⇑*i*P	**Pb**	**10 25 08.8**	**-0.2**
CHN1				S	**Sb**	**10 25 21.1**	**+0.7**
ALS	**Alishan**	**0.92**	**325**	⇑*i*P	**Pb**	**10 25 08.7**	**-0.7**
ALS				S	**Sb**	**10 25 19.6**	**-1.5**
CHN4	**Tsaushan**	**0.94**	**309**	⇑*i*P	**Pb**	**10 25 09.3**	**-0.4**
CHN4				S	**Sb**	**10 25 21.9**	**+0.2**
HEN	**Hengchun**	**0.95**	**219**	*e*P	**Pb**	**10 25 11.0**	**+1.0**
TWK	**Hsinying**	**0.97**	**302**	⇑*i*P	**Pb**	**10 25 09.8**	**-0.4**
TWK				S	**Sb**	**10 25 23.5**	**+1.0**
TWK1	**Hengchun**	**0.97**	**213**	*e*P	**Pb**	**10 25 10.8**	**+0.5**
CHN3	**Shinhua**	**0.99**	**289**	*e*P	**Pb**	**10 25 11.8**	**+1.2**
KAU	**Kaohsiung**	**1.01**	**259**	*e*P	**Pb**	**10 25 13.5**	**+2.6**
TWP	**Hsiaoliuchiu**	**1.02**	**247**	*e*P	**Pb**	**10 25 14.7**	**+3.4**
ESL	**Shilin**	**1.05**	**3**	*e*P	**Pb**	**10 25 12.3**	**+0.6**
CHN5	**Tsauling**	**1.06**	**322**	⇑*i*P	**Pb**	**10 25 11.3**	**-0.4**
CHN5				S	**Sb**	**10 25 26.3**	**+1.1**
TAI1	**Yung-k’ang**	**1.10**	**285**	*e*P	**Pn**	**10 25 12.7**	**+0.2**
CHN2	**Minshiung**	**1.14**	**313**	P	**Pn**	**10 25 13.2**	**+0.3**
CHN2				S	**Sb**	**10 25 28.4**	**+1.0**
CHY	**Chiayi**	**1.15**	**310**	*i* P	**Pn**	**10 25 13.2**	**0.0**
CHY				S	**Sb**	**10 25 28.2**	**+0.4**
SCLT	**Jiali**	**1.17**	**291**	*e*P	**Pn**	**10 25 13.7**	**+0.3**
SCLT				S	**Sb**	**10 25 30.5**	**+2.1**
WGK	**Gukeng**	**1.19**	**321**	*e*P	**Pn**	**10 25 13.7**	**-0.1**
SMLT	**Sun Moon Lake**	**1.21**	**339**	*e*P	**Pn**	**10 25 13.6**	**-0.4**
SMLT				S	**Sb**	**10 25 30.7**	**+1.2**
CHN8	**Yiju**	**1.23**	**299**	P	**Pn**	**10 25 13.7**	**-0.5**
CHN8				S	**Sb**	**10 25 31.4**	**+1.3**
HWA	**Hwalien**	**1.23**	**10**	*e*P	**Pn**	**10 25 14.5**	**+0.1**
TYC	**Yuchr**	**1.24**	**337**	*e*P	**Pn**	**10 25 14.4**	**0.0**
TYC				S	**Sb**	**10 25 31.4**	**+1.0**
WNT	**Mingjian**	**1.29**	**330**	⇑*i*P	**Pn**	**10 25 15.9**	**+0.8**
WNT				S	**Sn**	**10 25 32.5**	**+0.8**
TWD	**Chiawan**	**1.33**	**9**	*e*P	**Pn**	**10 25 14.3**	**-1.5**
WSF	**Szhu**	**1.38**	**310**	*e*P	**Pn**	**10 25 16.6**	**+0.2**
WSF				S	**Sn**	**10 25 34.6**	**+0.5**
NACB	**Ninganchiao**	**1.43**	**8**	*e*Pn	**Pn**	**10 25 15.4**	**-1.7**
WTCT	**Ta-ch’eng**	**1.50**	**318**	*e*P	**Pn**	**10 25 16.6**	**-1.4**
WDGT	**Dungji**	**1.66**	**288**	*e*P	**Pn**	**10 25 19.1**	**-1.4**
NNS	**Nan Shan**	**1.68**	**360**	*e*P	**Pn**	**10 25 21.1**	**+0.4**
TWQ1	**Liyutan**	**1.68**	**341**	*e*P	**Pn**	**10 25 22.3**	**+1.5**
TWQ1				S	**Sn**	**10 25 43.7**	**+2.0**
ENA	**Nanau**	**1.70**	**11**	*e*P	**Pn**	**10 25 21.1**	**+0.2**
NSY	**Sanyi**	**1.75**	**341**	*e*P	**Pn**	**10 25 23.8**	**+2.1**
NSY				S	**Sn**	**10 25 45.8**	**+2.4**
PNG	**Penghu**	**1.86**	**296**	*e*P	**Pn**	**10 25 22.3**	**-1.0**
PNG				S	**Sn**	**10 25 44.7**	**-1.6**
ENTT	**Nioudou**	**1.88**	**5**	*e*P	**Pn**	**10 25 23.6**	**0.0**
TWC	**Suao**	**1.89**	**13**	*e*P	**Pn**	**10 25 24.4**	**+0.6**
NSTT	**Nanjuang**	**1.90**	**350**	*e*P	**Pn**	**10 25 24.5**	**+0.7**
YHNB	**Yeheng**	**1.90**	**360**	*e*Pn	**Pn**	**10 25 23.9**	**0.0**
NSK	**Sanguang**	**1.91**	**359**	*e*P	**Pn**	**10 25 24.0**	**0.0**
TWE	**Neicheng**	**1.97**	**8**	*e*P	**Pn**	**10 25 25.1**	**+0.1**
TATO	**Taipei**	**2.21**	**3**	*e*Pn	**Pn**	**10 25 30.1**	**+1.7**
TWA	**Mucha**	**2.22**	**5**	*e*P	**Pn**	**10 25 29.2**	**+0.7**
YOJ	**Yonaguni jima**	**2.26**	**41**	P	**Pn**	**10 25 29.0**	**-0.1**
YOJ				S	**Sn**	**10 25 57.8**	**+1.2**
TWB1	**Santiao Chiao**	**2.31**	**14**	*e*P	**Pn**	**10 25 30.6**	**+0.8**
NWF	**Wu-fen Shan**	**2.33**	**9**	*e*P	**Pn**	**10 25 30.0**	**-0.1**
TWS1	**Kuangyinshan**	**2.33**	**1**	*e*P	**Pn**	**10 25 31.9**	**+1.8**
TWY	**Chenhua**	**2.52**	**5**	*e*P	**Pn**	**10 25 34.1**	**+1.4**
HATJ	**Hateruma jima**	**2.58**	**59**	P	**Pn**	**10 25 33.3**	**-0.3**
HATJ				*e*S	**Sn**	**10 26 04.8**	**+0.3**
IRIF	**Iriomote-Funau**	**2.67**	**53**	P	**Pn**	**10 25 35.4**	**+0.5**
IRIF				*e*S	**Sn**	**10 26 07.8**	**+0.9**
JKRS	**Kuro-shima**	**2.83**	**58**	P	**Pn**	**10 25 37.1**	**-0.1**
JKRS				*e*S	**Sn**	**10 26 11.1**	**+0.2**
JIJ	**Ishigaki jima**	**3.00**	**57**	P	**Pn**	**10 25 39.1**	**-0.5**
JIJ				*e*S	**Sn**	**10 26 15.3**	**+0.1**
KNM	**Kinmen**	**3.17**	**302**	*e*P	**Pn**	**10 25 41.4**	**-0.6**
QZH	**Quanzhou**	**3.35**	**311**	⇑*i*P	**Pn**	**10 25 43.0**	**-1.6**
QZH				S	**Sn**	**10 26 19.4**	**-4.8**
QZH				Smax			
	comp=N,270nm,0.9s						
QZH				Smax			
	comp=E,250nm,0.7s						
JTJ	**Tarama**	**3.58**	**58**	P	**Pn**	**10 25 47.2**	**-0.6**
JTJ				*e*S	**Sn**	**10 26 28.5**	**-1.3**
JMJ	**Miyako jima 2**	**4.13**	**59**	P	**Pn**	**10 25 55.9**	**+0.3**
JOGS	**Gusukube**	**4.19**	**61**	P	**Pn**	**10 25 56.1**	**-0.5**
JOGS				*e*S	**Sn**	**10 26 46.3**	**+0.8**
JOW	**Kunigami**	**7.46**	**56**	P	**Pn**	**10 26 39.1**	**-3.5**
	comp=E,2.8nm,0.3s,baz=122,slow=18,SNR=5.3						
JOW				S	**Sn**	**10 28 03.3**	**-4.2**
	comp=E,2.4nm,0.3s,baz=158,slow=28,SNR=2.8						
NJ2	**Nanjing**	**9.53**	**347**	*e*P	**P**	**10 27 11.4**	**+0.1**
NJ2				AP		10 27 16.8	
NJ2				XP		10 27 19.5	
NJ2				S	**Sn**	**10 28 59.0**	**+0.3**
NJ2				XS		10 29 07.0	
NJ2				Smax			
	comp=N,650nm,0.8s						
NJ2				Smax			
	comp=E,630nm,0.6s						
NJ2				LR	LR		
	comp=N,960nm,14.5s						
NJ2				LR	LR		
	comp=E,920nm,22.0s						
NJ2				LR	LR		
	comp=Z,470nm,11.2s						
CMAR	**Chiang Mai Arr**	**21.43**	**263**	P	**P**	**10 29 43.0**	**+2.0**
	comp=Z,1.2nm,0.4s,mb3.6,baz=63,slow=8.1,SNR=7.7						
SONM	**Songino Array**	**27.75**	**338**	P	**P**	**10 30 39.5**	**-1.7**
	comp=Z,0.9nm,0.8s,mb3.5,baz=150,slow=8.7,SNR=9.8						
WRA	**Warramunga Arr**	**44.28**	**162**	P	**P**	**10 32 59.9**	**-2.5**
	comp=Z,0.4nm,0.6s,mb3.4,baz=344,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**47.72**	**164**	P	**P**	**10 33 30.2**	**+0.6**
	comp=Z,0.4nm,0.4s,mb3.8,baz=350,slow=11,SNR=7.7						
ASAR				PcP	PcP	10 34 57.0	-2.0
	comp=Z,0.3nm,0.5s,baz=339,slow=2.8,SNR=3.8						
BVAR	**Borovoye Array**	**48.89**	**321**	P	**P**	**10 33 37.5**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.6,baz=80,slow=8.8,SNR=3.5						
CTA	**Charters Tower**	**49.02**	**148**	P	**P**	**10 33 39.8**	**+0.2**
	comp=Z,2.2nm,0.9s,mb4.2,baz=343,slow=17,SNR=2.0						
STKA	**Stephens Creek**	**57.67**	**160**	P	**P**	**10 34 39.8**	**-3.7**
	comp=Z,0.5nm,0.5s,mb3.9,baz=344,slow=7.4,SNR=2.5						
ILAR	**Eielson Array**	**70.40**	**27**	P	**P**	**10 36 04.0**	**-2.1**
	comp=Z,0.1nm,0.6s,mb2.9,baz=191,slow=15,SNR=2.9						
FINES	**FINESS Array B**	**72.76**	**330**	P	**P**	**10 36 18.3**	**-2.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=11,SNR=5.4						
NOA	**NORSAR Array B**	**79.57**	**332**	P	**P**	**10 36 57.1**	**-1.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=72,slow=5.2,SNR=2.2						
YKA	**Yellowknife Ar**	**84.21**	**23**	P	**P**	**10 37 21.5**	**-1.3**
	comp=Z,0.1nm,0.5s,mb3.2,baz=317,slow=4.2,SNR=3.9						

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*NEIC **04** 10:33:04.6±0.7, 10.83N×91.73E, mb4.6/5, Error ellipse: s-maj=19.6km s-min=9.4km az=57.0*
*IDC **04** 10:33:10.9±8.7, 10.97N×91.91E, h76^{km}±75^{km}, mb3.5/7, mb1 3.7/8, mb1mx3.5/19, mbtmp3.7/8, ML3.9/1, MS2.6/1, Ms1 2.8/1, ms1mx2.4/26, Error ellipse: s-maj=68.5km s-min=17.2km az=54.0*
ISC 04 10:33:02.3±0.7**, 10.82N**±0.10×**91.7E**±0.1**, h27**^{km}**, (h26**^{km}±.7^{km}**:pP-P), n17,** σ**0^{s}88**/19**, mb4.0**/12**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.32**	**42**	P	**P**	**10 35 32.6**	**+0.7**
	0.3nm,0.3s,baz=237,slow=16,SNR=4.5						
CMAR				LR	LR	10 39 21.0	
	comp=Z,36nm,20.2s,baz=225,slow=37						
KULM	**Kulim**	**10.40**	**121**	*e*Pn	**P**	**10 35 32.1**	**-1.0**
VIS	**Vishakhapatnam**	**10.64**	**311**	*e*P	**P**	**10 35 34.6**	**-1.8**
VIS				*e*S	**S**	**10 37 22.2**	**-13**
VIS				*e*S	**S**	**10 37 40.0**	**+4.4**
	comp=E,27nm,0.5s						
VIS				*e*		10 37 40.3	
	comp=N,30nm,0.5s						
ENH	**Enshi**	**25.45**	**38**	*e*P	**P**	**10 38 27.8**	**-2.1**
	comp=N,17nm,0.6s,mb4.7						
ENH				*e*pP	pP	10 38 35.6	-2.1
SONM	**Songino Array**	**38.91**	**16**	P	**P**	**10 40 28.1**	**+0.5**
	comp=N,0.2nm,0.6s,mb3.0,baz=200,slow=6.8,SNR=3.5						
KURK	**Kurchatov**	**41.22**	**347**	*e*P	**P**	**10 40 46.9**	**+0.4**
	comp=N,2.5nm,1.1s,mb3.8						
KURK				*e*pP	pP	10 40 55.7	+1.1
ZAL	**Zalesovo**	**43.36**	**354**	P	**P**	**10 41 04.0**	**0.0**
	comp=N,0.5nm,0.5s,mb3.5,baz=90,slow=20,SNR=2.6						
ZAL	**Zalesovo**	**43.36**	**354**	P	**P**	**10 41 04.0**	**0.0**
FITZ	**Fitzroy Crossi**	**44.12**	**130**	*e*P	**P**	**10 41 11.1**	**+0.5**
	comp=N,7.4nm,0.8s,mb4.5						
FITZ				*e*	pP	10 41 18.3	-0.5
BVAR	**Borovoye Array**	**45.46**	**342**	P	**P**	**10 41 21.3**	**+0.4**
	comp=N,0.7nm,0.6s,mb3.7,baz=146,slow=9.9,SNR=5.9						
CHKZ	**Chkalovo**	**45.96**	**343**	*e*P	**P**	**10 41 25.4**	**+0.6**
	comp=N,2.9nm,0.5s,mb4.5						
CHKZ				*e*pP	pP	10 41 33.0	+0.1
WRA	**Warramunga Arr**	**51.91**	**126**	P	**P**	**10 42 11.4**	**+0.2**
	comp=N,1.6nm,0.5s,mb4.2,baz=304,slow=8.6,SNR=39						
WRAB	**Tennant Creek**	**51.91**	**126**	*e*P	**P**	**10 42 11.1**	**-0.1**
	comp=N,8.3nm,0.6s,mb4.8						
WRAB				*e*pP	pP	10 42 18.8	-0.8
WB2	**Warramunga Arr**	**51.92**	**126**	*e*P	**P**	**10 42 11.2**	**-0.1**
WB2				*e*	pP	10 42 19.3	-0.3
ASAR	**Alice Springs**	**53.62**	**130**	P	**P**	**10 42 24.5**	**+0.5**
	comp=N,1.2nm,0.7s,mb4.0,baz=310,slow=6.3,SNR=14						
MLR	**Muntele Rosu**	**65.41**	**315**	P	**P**	**10 43 46.5**	**+1.5**
	comp=N,0.9nm,0.4s,mb4.2,baz=312,slow=16,SNR=2.4						
FINES	**FINESS Array B**	**69.01**	**332**	P	**P**	**10 44 06.8**	**-0.6**
	comp=N,0.7nm,0.7s,mb3.7,baz=104,slow=7.9,SNR=4.6						

IDC 04 10:41:41.8±13.0**, 17.66S**×**178.92W, h665**^{km}±182^{km}**, mb2.8**/8**, mb1 3.1**/8**, mb1mx3.0**/16**, mbtmp3.8**/8**, Error ellipse: s-maj=86.5km s-min=59.5km az=157.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.01**	**260**	P	P	10 47 26.1	-1.1
	2.6nm,0.8s,baz=265,slow=5.7,SNR=2.2						
STKA	**Stephens Creek**	**38.33**	**241**	P	P	10 48 09.0	-1.7
	2.1nm,1.0s,baz=128,slow=16,SNR=3.4						
WB2	**Warramunga Arr**	**44.19**	**259**	*e*P	P	10 48 55.2	-1.8
WRA	**Warramunga Arr**	**44.20**	**259**	P	P	10 48 55.0	-2.1
	1.0nm,0.7s,baz=92,slow=7.3,SNR=41						
ASAR	**Alice Springs**	**44.39**	**254**	P	P	10 48 57.2	-1.3
	4.4nm,0.5s,baz=88,slow=8.5,SNR=109						
ASPA	**Alice Springs**	**44.40**	**254**	*e*P	P	10 48 57.3	-1.3
NVAR	**Mina Array Bea**	**79.58**	**44**	P	P	10 52 42.9	-0.8
	0.4nm,0.8s,baz=211,slow=2.9,SNR=2.0						
ILAR	**Eielson Array**	**85.76**	**13**	P	P	10 53 12.7	-1.1
	0.1nm,0.5s,baz=214,slow=6.5,SNR=4.6						
TXAR	**Lajitas Array**	**86.27**	**58**	P	P	10 53 16.3	-0.8
	0.1nm,0.6s,baz=225,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**87.51**	**44**	P	P	10 53 21.2	-1.3
	0.3nm,0.8s,baz=225,slow=3.8,SNR=3.0						

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*NEIC **04** 10:45:39.4, 35.24S×72.23W, h38^{km}, MD3.9(GUC), After GUC.*
GUC 04 10:45:39.4±0.7**, 35.24S**×**72.23W, h38**^{km}±3^{km}**, MD3.9, ML3.1, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNCO	**Chanco**	**0.55**	**207**	*e*P	P	10 45 50.8	0.0
CNCO				*i* S	S	10 45 59.0	+0.2
LNCH	**Linares**	**0.79**	**140**	*e*P	P	10 45 57.4	+3.3
LNCH				*i* S	S	10 46 08.7	+3.8
LNCH				AMP		10 46 10.9	
	comp=E,1µm,0.2s						
NICH	**Los Niches**	**0.85**	**74**	*e*P	P	10 45 55.8	+0.8
NICH				*i* S	S	10 46 07.4	+0.8
SFDO	**San Fernando**	**1.18**	**58**	*e*P	P	10 46 00.3	+0.7
SFDO				*i* S	S	10 46 15.9	+1.1
CCHI	**Chillan**	**1.36**	**175**	*e*P	P	10 46 03.0	+0.7
CCHI				*i* S	S	10 46 20.9	+1.5
CCHI				AMP		10 46 22.5	
	comp=E,945nm,0.6s						
CACH	**El Canelo**	**1.75**	**51**	*e*P	P	10 46 09.0	+1.2
CHCH	**Chadas Angostu**	**1.84**	**45**	*e*P	P	10 46 10.8	+1.6
LMEL	**Las Melosas**	**2.18**	**51**	*e*P	P	10 46 15.0	+1.1
LMEL				*i* S	S	10 46 41.6	+1.7
LMEL				AMP		10 46 50.8	
	comp=E,110nm,0.6s						
FCH	**Farellones**	**2.50**	**41**	*e*P	P	10 46 18.3	-0.2
FCH				*i* S	S	10 46 49.8	+1.7
FCH				AMP		10 47 01.9	
	comp=N,86nm,0.5s						

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*JMA **04** 10:50:15.5±0.4, 24.15N×122.37E, h25^{km}, M2.3*
TAP 04 10:50:14.8, 24.04N×**122.37E, h12**^{km}±1^{km}**, ML2.9, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.72**	**54**	P	Pb	10 50 28.2	-0.6
YOJ				*e*S	Sb	10 50 37.1	-1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
IRIF	**Iriomote-Funau**	**1.28**	**76**	P	Pb	10 50 38.1	-0.2
IRIF				*e*S	Sb	10 50 54.6	+0.1
HATJ	**Hateruma jima**	**1.31**	**89**	*e*S	Sb	10 50 54.6	-0.9
JKRS	**Kuro-shima**	**1.51**	**82**	P	Pn	10 50 41.1	-0.7
JKRS				*e*S	Sb	10 51 01.0	-0.3
JIJ	**Ishigaki jima**	**1.65**	**78**	P	Pn	10 50 42.3	-1.5
JIJ				*e*S	Sn	10 51 01.8	-3.3

*IDC **04** 10:56:50.3±11.0, 51.87N×177.05W, mb3.6/6, mb1 4.0/6, mb1mx3.7/22, mbtmp3.6/6, Error ellipse: s-maj=208.6km s-min=52.9km az=78.0*

*NEIC **04** 10:57:11.4, 51.89N×176.01W, h138km, mb4.0/3, After AEIC.*

ISC 04 10:57:09.4±0.5**, 52.3N**±0.2×**176.2W**±0.1**, h139**km±6km**, n25,** σ**0ˢ70**/30**, mb3.7**/8**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSTR	**Great Sitkin T**	**0.24**	**167**	P	**P**	**10 57 29.6**	**+0.7**
GSTR				S	**S**	**10 57 44.4**	**+0.6**
GSTD	**Great Sitkin T**	**0.27**	**180**	P	**P**	**10 57 29.3**	**+0.2**
GSMY	**Great Sitkin M**	**0.29**	**169**	P	**P**	**10 57 29.4**	**+0.2**
GSMY				S	**S**	**10 57 44.0**	**-0.1**
GSIG	**Igitkin Island**	**0.37**	**158**	P	**P**	**10 57 29.4**	**0.0**
GSIG				S	**S**	**10 57 43.4**	**-1.3**
ADAG	**Mount Adagdak**	**0.45**	**219**	P	**P**	**10 57 30.0**	**+0.2**
KIKV	**Kanaga Island**	**0.78**	**235**	P	**P**	**10 57 32.2**	**+0.5**
KIWB	**Kanaga Island**	**0.78**	**233**	P	**P**	**10 57 32.0**	**+0.2**
KIMD	**Kanaga Island**	**0.88**	**230**	P	**P**	**10 57 32.5**	**+0.1**
KIMD				S	**S**	**10 57 49.0**	**-1.0**
ATKA	**Atka Island**	**1.21**	**95**	P	**P**	**10 57 36.0**	**+0.6**
ATKA				S	**S**	**10 57 55.0**	**-0.4**
ILAR	**Eielson Array**	**19.47**	**39**	P	**P**	**11 01 26.9**	**-0.4**
	0.4nm,0.7s,baz=231,slow=9.4,SNR=6.7						
INK	**Inuvik**	**25.73**	**35**	P	**P**	**11 02 28.3**	**+0.2**
	0.2nm,0.3s,mb3.2,baz=233,slow=8.3,SNR=6.6						
INK	**Inuvik**	**25.73**	**35**	P	**P**	**11 02 28.3**	**+0.2**
DLBC	**Dease Lake**	**26.46**	**58**	P	**P**	**11 02 35.9**	**+1.1**
	1.2nm,0.5s,mb3.8,baz=180,slow=20,SNR=2.4						
YKA	**Yellowknife Ar**	**33.38**	**48**	P	**P**	**11 03 34.2**	**-1.7**
	0.2nm,0.4s,mb3.2,baz=279,slow=8.1,SNR=5.6						
YKA	**Yellowknife Ar**	**33.38**	**48**	P	**P**	**11 03 34.2**	**-1.7**
HLID	**Hailey**	**41.11**	**77**	*e*P	**P**	**11 04 41.2**	**+0.4**
	0.7nm,0.6s,mb3.5						
MCMT	**McKenzie Canyo**	**41.33**	**74**	*e*P	**P**	**11 04 42.3**	**-0.3**
BW06	**Boulder Array**	**44.46**	**75**	*e*P	**P**	**11 05 07.9**	**0.0**
	2.3nm,0.4s,mb4.2						
PDAR	**Pinedale Array**	**44.46**	**75**	P	**P**	**11 05 08.4**	**+0.5**
	2.9nm,0.5s,mb4.2,baz=326,slow=3.0,SNR=37						
PV10	**Paradox Valley**	**47.49**	**79**	*e*P	**P**	**11 05 33.2**	**+1.4**
PV01	**Paradox Valley**	**47.92**	**79**	*e*P	**P**	**11 05 35.5**	**+0.3**
SDCO	**Great Sand Dun**	**50.02**	**77**	*e*P	**P**	**11 05 50.6**	**-0.7**
WMOK	**Wichita Mounta**	**56.05**	**76**	*e*P	**P**	**11 06 34.8**	**-1.2**
	1.0nm,0.5s,mb3.9						
TXAR	**Lajitas Array**	**56.90**	**84**	P	**P**	**11 06 41.5**	**-0.4**
	0.4nm,0.4s,mb3.6,baz=305,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**56.90**	**84**	P	**P**	**11 06 41.5**	**-0.4**

*MOS **04** 11:07:37.4±1.2, 0.82N×98.71E, h33km, mb4.7/12, Error ellipse: s-maj=12.3km s-min=7.2km az=113.0*

*BJI **04** 11:07:38.7, 0.10N×98.77E, h97km, mB5.2, mb4.8*

*IDC **04** 11:07:43.2±0.5, 0.83N×98.88E, h70km±3km, mb4.3/21, mb1 4.3/22, mb1mx4.3/27, mbtmp4.5/22, MS3.4/2, Ms1 3.5/2, ms1mx3.1/20, Error ellipse: s-maj=16.9km s-min=9.4km az=42.0*

*NEIC **04** 11:07:46.4±1.7, 0.87N×98.82E, h98km±16km, mb4.7/28, Error ellipse: s-maj=10.5km s-min=5.9km az=55.0*

ISC 04 11:07:42.1±0.3**, 0.82N**±0.04×**98.76E**±0.05**, h74**km**, h74**km±3.0km**:pP-P, n114,** σ**1ˢ12**/114**, mb4.6**/63**, 5C-6D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.37**	**31**	P	**P**	**11 08 49.1**	**+1.6**
KULM	**Kulim**	**4.83**	**23**	*e*Pn	**P**	**11 08 55.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**17.53**	**1**	P	**P**	**11 11 43.7**	**+0.5**
	baz=189,slow=10,SNR=1.1						
CMAR				LR	LR	11 19 14.9	
	comp=Z,60nm,18.5s,baz=185,slow=40						
CMAR				ScP		11 19 48.9	
	0.3nm,0.3s,baz=215,slow=3.6,SNR=10						
KKM	**Kota Kinabalu**	**18.17**	**73**	*e*P	**P**	**11 11 53.2**	**+2.1**
KKM	**Kota Kinabalu**	**18.17**	**73**	P	**P**	**11 11 51.8**	**+0.7**
TSM	**Tawau**	**19.40**	**79**	P	**P**	**11 12 05.4**	**+0.4**
GYA	**Guiyang**	**26.60**	**16**⇑	*i*P	**P**	**11 13 16.3**	**+0.7**
GYA				AP	pP	11 13 37.6	+4.8
GYA				XP	sP	11 13 49.4	+7.7
GYA				PP	PP	11 14 04.7	+2.8
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,3.0s						
GYA				LR	LR		
	comp=N,450nm,15.8s						
GYA				LR	LR		
	comp=E,610nm,16.2s						
GYA				LR	LR		
	comp=Z,430nm,15.2s						
JIRN	**Jiri**	**29.29**	**337**	*e*P	**P**	**11 13 39.1**	**-0.7**
	comp=Z,18nm,0.6s,mb4.8						
PKI	**Pulchoki**	**29.52**	**335**	*e*P	**P**	**11 13 41.9**	**0.0**
	comp=Z,12nm,0.5s,mb4.8						
LSA	**Lhasa**	**29.62**	**347**	*e*P	**P**	**11 13 44.9**	**+2.2**
LSA	**Lhasa**	**29.62**	**347**	*e*P	**P**	**11 13 44.4**	**+1.6**
	comp=Z,6.9nm,0.6s,mb4.5						
GUN	**Gumba**	**29.63**	**336**	*e*P	**P**	**11 13 39.9**	**-2.9**
	comp=Z,32nm,0.6s,mb5.2						
GKN	**Gorkha**	**30.23**	**335**	*e*P	**P**	**11 13 44.7**	**-3.4**
KOLN	**Koldanda**	**30.49**	**333**	*e*P	**P**	**11 13 49.6**	**-0.8**
	comp=Z,31nm,0.7s,mb5.1						
ENH	**Enshi**	**31.02**	**18**	*e*P	**P**	**11 13 53.2**	**-1.9**
	comp=Z,13nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.44**	**127**	*e*P	**P**	**11 14 05.3**	**-2.3**
	comp=Z,2.8nm,0.6s,mb4.2						
FITZ				*e*		11 14 10.3	
XAN	**Xi'an**	**34.39**	**15**	P	**P**	**11 14 22.1**	**-2.2**
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
LZH	**Lanzhou**	**35.41**	**7**	*e*P	**P**	**11 14 34.5**	**+1.6**
LZH				AP	pP	11 14 55.7	+4.8
LZH				XP	sP	11 15 07.8	+7.8
LZH				*e*PP	PP	11 15 56.7	+2.1
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,104nm,4.7s						
LZH				LR	LR		
	comp=E,445nm,12.9s						
LZH				LR	LR		
	comp=Z,598nm,16.8s						
LZH	**Lanzhou**	**35.41**	**7**	*e*P	**P**	**11 14 34.5**	**+1.6**
	comp=Z,22nm,1.3s,mb4.8						
LZH				pP	pP	11 14 55.7	+4.8
LZH				sP	sP	11 15 07.8	+7.8
LZH				*e*PP	PP	11 15 56.7	+2.1
LZH				LR	LR		
	comp=Z,600nm,16.8s						
KAKA	**Kakadu**	**36.02**	**113**	*e*P	**P**	**11 14 36.3**	**-2.0**
	comp=Z,9.6nm,0.4s,mb5.1						
NJ2	**Nanjing**	**36.40**	**29**	*e*P	**P**	**11 14 43.1**	**+1.8**
NJ2				AP	pP	11 15 07.1	+7.7
NJ2				XP	sP	11 15 20.4	+12
NJ2				PP	PP	11 16 11.4	+4.7
NJ2				S	**S**	**11 20 18.0**	**+1.3**
NJ2				XS		11 20 58.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,990nm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,18.8s						
NJ2				LR	LR		
	comp=E,940nm,17.4s						
NJ2				LR	LR		
	comp=Z,430nm,26.0s						
SSE	**Sheshan**	**36.85**	**33**	*e*P	**P**	**11 14 44.4**	**-0.7**
SSE				S	**S**	**11 20 30.0**	**+6.4**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=N,10.0nm,24.4s						
SSE				LR	LR		
	comp=E,62nm,24.4s						
SSE				LR	LR		
	comp=Z,51nm,24.7s						
SSE	**Sheshan**	**36.85**	**33**	*e*P	**P**	**11 14 44.4**	**-0.7**
	comp=Z,41nm,0.7s,mb5.5						
SSE				pP	pP	11 14 53.1	-10
SSE				S	**S**	**11 20 30.0**	**+6.4**
SSE				sS		11 20 45.4	
SSE				SS	SS	11 23 33.7	+38
SSE				LR	LR		
	comp=Z,50nm,24.7s						
KLBR	**Kellerberrin**	**36.92**	**152**	*e*P	**P**	**11 14 48.0**	**+2.3**
	comp=Z,217nm,1.4s						
NWAO	**Narrogin (SRO)**	**37.82**	**154**	P	**P**	**11 14 55.6**	**+2.5**
	comp=Z,13nm,0.8s,mb4.8,baz=283,slow=5.7,SNR=6.9						
GTA	**Gaotai**	**38.42**	**1**	P	**P**	**11 14 54.2**	**-3.9**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.1s,mb3.9						
GTA				AMB	AMB		
	comp=Z,123nm,5.0s						
GTA				LR	LR		
	comp=N,80nm,15.2s						
GTA				LR	LR		
	comp=E,85nm,14.8s						
GTA				LR	LR		
	comp=Z,149nm,14.8s						
WRA	**Warramunga Arr**	**40.51**	**123**	P	**P**	**11 15 14.6**	**-1.0**
	comp=Z,11nm,0.8s,mb4.7,baz=301,slow=9.1,SNR=96						
WRA				PcP	PcP	11 17 17.7	+0.1
	comp=Z,1.1nm,0.6s,baz=309,slow=2.4,SNR=4.8						
WRA				pPcP		11 17 36.9	
	comp=Z,2.1nm,0.6s,baz=303,slow=2.6,SNR=5.6						
WRA				ScP		11 20 58.9	
	comp=Z,0.5nm,0.9s,baz=306,slow=3.6,SNR=3.0						
WRAB	**Tennant Creek**	**40.52**	**123**⇓	*e*P	**P**	**11 15 14.9**	**-0.8**
WRAB	**Tennant Creek**	**40.52**	**123**	*e*P	**P**	**11 15 14.9**	**-0.8**
	comp=Z,33nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**40.52**	**123**⇓	*i*P	**P**	**11 15 15.0**	**-0.7**
WB2				*e*		11 15 19.7	
ASPA	**Alice Springs**	**41.92**	**128**	*e*P	**P**	**11 15 26.6**	**-0.7**
ASPA				*e*S	**S**	**11 21 33.9**	**-6.0**
ASAR	**Alice Springs**	**41.92**	**128**	*e*P	**P**	**11 15 26.5**	**-0.8**
ASAR	**Alice Springs**	**41.92**	**128**	P	**P**	**11 15 26.5**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.3,baz=304,slow=7.7,SNR=42						
ASAR				PcP	PcP	11 17 22.8	+0.5
	comp=Z,0.9nm,0.5s,baz=287,slow=2.3,SNR=4.8						
ASAR				pPcP		11 17 40.9	
	comp=Z,2.7nm,0.7s,baz=300,slow=2.9,SNR=8.9						
ASAR				ScP		11 21 05.2	
	comp=Z,0.5nm,0.9s,baz=316,slow=2.7,SNR=4.0						
ASAR				S	**S**	**11 21 34.8**	**-5.1**
	comp=Z,1.2nm,0.8s,baz=299,slow=15,SNR=5.8						
ASAR				LR	LR	11 32 28.7	
	comp=Z,82nm,20.2s,baz=103,slow=36						
FORT	**Forrest**	**41.99**	**141**	*e*P	**P**	**11 15 29.0**	**+1.3**
	comp=Z,790nm,0.5s						
FORT				*e*		11 15 35.4	
BJT	**Baijiatuau**	**42.11**	**20**	*e*P	**P**	**11 15 30.0**	**+1.4**
	comp=Z,16nm,0.6s,mb4.9						
BJI	**Beijing**	**42.14**	**20**	P	**P**	**11 15 29.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
BJI	**Beijing**	**42.14**	**20**	P	**P**	**11 15 29.8**	**+1.0**
	comp=Z,37nm,0.7s,mb5.2						
WMQ	**Urumqi**	**43.94**	**348**⇓	*i*P	**P**	**11 15 43.5**	**0.0**
WMQ				PP	PP	11 17 28.0	-0.4
WMQ				SCP		11 21 09.0	
WMQ				S	**S**	**11 22 07.0**	**-2.0**
WMQ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,146nm,4.0s						
WMQ				LR	LR		
	comp=N,179nm,23.8s						
WMQ				LR	LR		
	comp=E,132nm,20.1s						
WMQ				LR	LR		
	comp=Z,167nm,21.4s						
UCH	**Uchtor**	**46.64**	**335**	P	**P**	**11 16 05.9**	**+1.0**
	SNR=6.5						
TKM2	**Tokmak 2**	**46.77**	**337**	P	**P**	**11 16 06.7**	**+0.7**
	SNR=5.5						
AML	**Almayashu**	**46.91**	**334**	P	**P**	**11 16 08.1**	**+1.0**
	SNR=8.7						
AAK	**Ala-Archa**	**46.98**	**335**⇑	*e*P	**P**	**11 16 08.0**	**+0.4**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
AAK	**Ala-Archa**	**46.98**	**335**	*e*P	**P**	**11 16 07.4**	**-0.2**
	comp=Z,3.2nm,0.9s,mb4.0						
AAK				*e*	pP	11 16 27.8	+1.7
SONM	**Songino Array**	**47.30**	**7**	P	**P**	**11 16 10.9**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.4,baz=190,slow=9.4,SNR=52						
SONM				PcP	PcP	11 17 40.3	-0.1
	comp=Z,0.9nm,0.3s,baz=200,slow=4.1,SNR=6.5						
SONM				pPcP		11 18 00.3	
	comp=Z,1.6nm,0.5s,baz=188,slow=3.2,SNR=5.0						
SONM				ScP		11 21 26.1	
	comp=Z,0.9nm,0.8s,baz=214,slow=4.5,SNR=5.7						
EKS2	**Erkin-Say**	**47.30**	**335**	P	**P**	**11 16 10.9**	**+0.7**
	SNR=7.4						
ULN	**Ulaanbaatar**	**47.41**	**8***d*	*i*P	**P**	**11 16 12.1**	**+1.2**
ULN	**Ulaanbaatar**	**47.41**	**8**	*e*P	**P**	**11 16 11.3**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.2						
USP	**Ospenovka**	**47.50**	**336**	P	**P**	**11 16 12.1**	**+0.4**
	SNR=9.5						
MKAR	**Makanchi Array**	**48.00**	**345**	P	**P**	**11 16 15.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CN2	**Changchun**	**48.95**	**26**	*e*P	**P**	**11 16 22.3**	**-0.6**
CN2				*e*S	**S**	**11 23 18.6**	**-1.6**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
PMG	**Port Moresby**	**49.25**	**103**	P	**P**	**11 16 25.5**	**-0.1**
	comp=Z,6.3nm,0.9s,mb4.5,baz=198,slow=6.3,SNR=2.6						
ZAK	**Zakamensk**	**49.53**	**4**	*e*P	**P**	**11 16 28.2**	**+0.9**
ZAK				*e*	pP	11 16 46.7	+0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
CTA	**Charters Tower**	**50.94**	**117**	*e*P	**P**	**11 16 38.1**	**-0.3**
	comp=Z,8.0nm,0.8s,mb4.8						
CTA	**Charters Tower**	**50.94**	**117**	P	**P**	**11 16 37.5**	**-1.0**
	comp=Z,7.0nm,0.9s,mb4.7,baz=279,slow=11,SNR=4.6						
CTAO	**Charters Tower**	**50.94**	**117**	*e*P	**P**	**11 16 37.9**	**-0.6**
	comp=Z,13nm,0.9s,mb5.0						
MDJ	**Mudanjiang**	**51.45**	**28**	P	**P**	**11 16 41.8**	**-0.2**
MDJ				AP	pP	11 17 03.8	+3.1
MDJ				PCP	PcP	11 17 54.4	-1.2
MDJ				PP	PP	11 18 39.9	-0.5
MDJ				SCP		11 21 43.2	
MDJ				PCS		11 21 52.3	
MDJ				S	**S**	**11 23 55.5**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,77nm,4.8s						
MDJ				LR	LR		
	comp=N,26nm,30.2s						
MDJ				LR	LR		
	comp=E,10.0nm,20.4s						
MDJ				LR	LR		
	comp=Z,44nm,37.8s						
HIA	**Hailar**	**51.52**	**17**	*e*P	**P**	**11 16 42.2**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**51.95**	**133**	*e*P	**P**	**11 16 45.4**	**-0.5**
	comp=Z,5.5nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**51.95**	**133**	P	**P**	**11 16 45.4**	**-0.5**
	comp=Z,7.1nm,0.6s,mb4.9,baz=312,slow=7.3,SNR=28						
STKA				pP	pP	11 17 03.5	-1.2
	comp=Z,5.5nm,0.8s,baz=268,slow=2.7,SNR=4.3						
KURK	**Kurchatov**	**52.57**	**344**	P	**P**	**11 16 49.9**	**-0.4**
	comp=Z,44nm,0.8s,mb5.5,SNR=9.4						
KURK	**Kurchatov**	**52.57**	**344**	*e*P	**P**	**11 16 49.1**	**-1.2**
	comp=Z,5.8nm,0.8s,mb4.7						
NVS	**Novosibirsk**	**55.33**	**349**	*e*P	**P**	**11 17 07.4**	**-3.1**
KLR	**Kul'dur**	**55.91**	**26**	*e*P	**P**	**11 17 11.3**	**-3.4**
BVA0	**Borovoye Array**	**57.13**	**340**	P	**P**	**11 17 21.7**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**57.13**	**340**	P	**P**	**11 17 21.9**	**-1.5**
	comp=Z,4.0nm,0.6s,mb4.7,baz=143,slow=9.5,SNR=29						
BVAR				pP	pP	11 17 40.1	-2.4
	comp=Z,2.7nm,0.7s,baz=127,slow=7.4,SNR=6.8						
CHKZ	**Chkalovo**	**57.59**	**341**	P	**P**	**11 17 25.3**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**57.59**	**341**	*e*P	**P**	**11 17 25.3**	**-1.3**
	comp=Z,8.3nm,0.8s,mb4.8						
ASAJ	**Asahikawa**	**58.04**	**36**	P	**P**	**11 17 29.8**	**-0.1**
	comp=Z,5.0nm,0.8s,mb4.6,baz=327,slow=22,SNR=3.6						
BOD	**Bodaibo**	**58.11**	**10**	*e*P	**P**	**11 17 30.3**	**+0.2**
BOD				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.7						
YSS	**Yuzh-Sakhalins**	**59.79**	**33***d*	*i*P	**P**	**11 17 41.7**	**-0.2**
YSS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
YSS	**Yuzh-Sakhalins**	**59.79**	**33**	*e*P	**P**	**11 17 41.2**	**-0.7**
	comp=Z,44nm,1.5s,mb5.3						
KMBO	**Kilima Mbogo**	**61.54**	**268**	P	**P**	**11 17 55.2**	**+1.0**
	comp=Z,2.5nm,0.7s,mb4.4,baz=67,slow=12,SNR=8.7						
KMBO	**Kilima Mbogo**	**61.54**	**268**	*e*P	**P**	**11 17 54.9**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.1						
GNI	**Garni**	**62.65**	**316**	*i* P	**P**	**11 17 59.8**	**-1.5**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GNI	**Garni**	**62.65**	**316**	P	**P**	**11 18 01.2**	**-0.1**
	comp=Z,2.3nm,0.3s,mb4.5,baz=214,slow=19,SNR=2.8						
SVE	**Sverdlovsk**	**63.62**	**338**	*e*P	**P**	**11 18 09.0**	**+1.5**
YAK	**Yakutsk**	**65.36**	**15**⇑	*e*P	**P**	**11 18 18.3**	**-0.3**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s,mb5.0						
YAK	**Yakutsk**	**65.36**	**15**	*e*P	**P**	**11 18 18.2**	**-0.4**
	comp=Z,21nm,0.6s,mb5.2						
KIV	**Kislovodsk**	**65.62**	**319**⇑	*e*P	**P**	**11 18 19.5**	**-1.1**
KIV				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
EIL	**Elat**	**66.98**	**302**	P	**P**	**11 18 29.6**	**+0.2**
	comp=Z,7.5nm,0.9s,mb4.5,baz=105,slow=12,SNR=4.2						
SOC	**Sochi**	**67.45**	**318**	*e*P	**P**	**11 18 29.1**	**-3.1**
SOC				*e*		11 18 58.8	
SOC				*e*		11 20 57.9	
SOC				*e*PPP	PPP	11 22 35.2	-5.4
SOC				*e*S	S	11 27 23.2	+2.3
SOC				*e*		11 28 25.8	
SOC				*e*SS	SS	11 31 44.4	+0.5
SOC				pmax	pmax		
	comp=Z,57nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=N,24nm,0.6s						
SOC				pmax	pmax		
	comp=E,30nm,0.7s						
MBAR	**Mbarara**	**68.04**	**269**	*e*P	**P**	**11 18 36.5**	**+0.2**
	comp=E,5.9nm,1.0s,mb4.4						
ANN	**Anapa**	**69.42**	**318**	*e*P	**P**	**11 18 43.5**	**-0.8**
ANN				pmax	pmax		
	comp=Z,37nm,1.5s,mb5.0						
LSZ	**Lusaka**	**71.50**	**254**	*e*P	**P**	**11 18 57.6**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.1						
MATP	**Matopo**	**71.83**	**248**	P	**P**	**11 19 00.6**	**+1.3**
	comp=Z,5.3nm,0.7s,mb4.5,baz=70,slow=6.3,SNR=13						
MATP				pP	pP	11 19 18.6	-0.6
	comp=Z,4.7nm,0.7s,baz=106,slow=4.6,SNR=5.2						
TIXI	**Tiksi**	**73.30**	**10**⇓	*e*P	**P**	**11 19 07.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.2						
OBN	**Obninsk**	**73.76**	**328**⇑	*e*P	**P**	**11 19 10.5**	**+0.5**
OBN				*i*		11 19 21.0	
OBN				*e*S	S	11 28 37.9	+4.1
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
LBTB	**Lobatse**	**75.12**	**244**	P	**P**	**11 19 18.4**	**-0.1**
	comp=Z,4.8nm,0.9s,mb4.2,baz=124,slow=7.3,SNR=5.8						
LBTB	**Lobatse**	**75.12**	**244**	*e*P	**P**	**11 19 19.1**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.2						
BOSA	**Boshof**	**75.94**	**240**	*e*P	**P**	**11 19 23.8**	**+0.7**
	comp=Z,3.9nm,0.6s,mb4.3						
IDI	**Anoyia**	**76.39**	**306**	P	**P**	**11 19 25.0**	**-0.5**
	comp=Z,8.7nm,0.8s,mb4.5,baz=62,slow=6.9,SNR=7.4						
AKASG	**Malin Array Be**	**76.51**	**322**	P	**P**	**11 19 24.5**	**-1.4**
	comp=Z,4.1nm,0.8s,mb4.2,baz=87,slow=4.8,SNR=5.8						
AKASG				pP	pP	11 19 43.3	-2.6
	comp=Z,2.5nm,0.7s,baz=92,slow=4.7,SNR=3.9						
MLR	**Muntele Rosu**	**77.42**	**316**	P	**P**	**11 19 31.4**	**+0.5**
	comp=Z,7.5nm,0.9s,mb4.4,baz=27,slow=2.3,SNR=12						
MLR				pP	pP	11 19 50.6	-0.5
	comp=Z,8.2nm,0.9s,baz=231,slow=4.1,SNR=6.4						
MLR	**Muntele Rosu**	**77.42**	**316**	P	**P**	**11 19 31.4**	**+0.4**
MLR				pP	pP	11 19 50.6	-0.5
RPZ	**Rata Peaks**	**77.83**	**135**	P	**P**	**11 19 34.0**	**+0.7**
	comp=Z,7.5nm,0.8s,mb4.5,baz=323,slow=4.4,SNR=4.8						
JOF	**Joensuu**	**79.16**	**335**	*e*p	**P**	**11 19 39.3**	**-0.9**
	comp=Z,1.5nm,0.7s,mb3.9						
JOF	**Joensuu**	**79.16**	**335**	*e*P	**P**	**11 19 39.3**	**-0.9**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
SUR	**Sutherland**	**80.27**	**237**	*e*P	**P**	**11 19 49.1**	**+2.3**
	comp=Z,6.3nm,0.5s,mb4.7						
SUW	**Suwalki**	**80.89**	**325**	*e*P	**P**	**11 19 49.5**	**-0.1**
FINES	**FINESS Array B**	**81.06**	**332**	*i* P	**P**	**11 19 50.3**	**-0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FINES	**FINESS Array B**	**81.06**	**332**	P	**P**	**11 19 50.3**	**-0.1**
	comp=Z,2.5nm,0.6s,mb4.2,baz=100,slow=5.7,SNR=18						
FINES				pP	pP	11 20 09.1	-1.4
	comp=Z,1.0nm,0.5s,baz=107,slow=5.4,SNR=2.8						
FINES	**FINESS Array B**	**81.06**	**332**	P	**P**	**11 19 50.3**	**-0.1**
FINES				pP	pP	11 20 09.1	-1.5
KAF	**Kangasniemi**	**81.13**	**333**	*e*p	**P**	**11 19 49.9**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.1						
PSZ	**Piszkesteto**	**81.93**	**318**	*e*P	**P**	**11 19 55.2**	**0.0**
	comp=Z,2.3nm,0.5s,mb4.3						
ARCES	**ARCESS Array B**	**83.42**	**340**	P	**P**	**11 20 02.6**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.1,baz=90,slow=3.6,SNR=13						
ARCES				pP	pP	11 20 22.4	-0.2
	comp=Z,1.2nm,0.5s,baz=90,slow=3.6,SNR=1.6						
GERES	**GERESS Array B**	**86.13**	**319**	P	**P**	**11 20 16.8**	**+0.6**
	comp=Z,3.3nm,1.1s,mb4.2,baz=45,slow=1.9,SNR=9.2						
GERES				pP	pP	11 20 35.3	-1.3
	comp=Z,0.8nm,0.8s,baz=72,slow=4.2,SNR=3.2						
PDAR	**Pinedale Array**	**129.69**	**27**	pPKP		11 27 06.0	
	comp=Z,0.4nm,0.6s,baz=99,slow=1.5,SNR=3.9						
TXAR	**Lajitas Array**	**143.14**	**34**	PKhKP		11 27 07.5	
	comp=Z,0.4nm,0.6s,baz=204,slow=0.4,SNR=8.2						
TXAR				PKP	PKPdf	11 27 09.9	+1.7
	comp=Z,0.4nm,0.6s,baz=221,slow=0.5,SNR=8.3						
TXAR				pPKP		11 27 28.4	
	comp=Z,0.4nm,0.4s,baz=154,slow=0.4,SNR=4.4						
TXAR	**Lajitas Array**	**143.14**	**34**	PKP	PKPdf	11 27 07.5	-0.8
TXAR				PKP	PKPdf	11 27 09.9	+1.7
TXAR				pPKP		11 27 28.4	
BDFB	**Brasilia**	**144.06**	**244**	PKP	PKPdf	11 27 11.4	+1.3
	comp=Z,9.8nm,0.7s,baz=140,slow=4.2,SNR=11						
JCT	**Junction City**	**144.21**	**28**	*e*PKIKP	PKPdf	11 27 10.5	+0.4
LPAZ	**La Paz**	**159.92**	**219**	PKP	PKPdf	11 27 36.9	+3.6
	comp=Z,0.9nm,0.7s,baz=236,slow=3.6,SNR=3.7						
LPAZ				pPKP		11 27 57.3	
	comp=Z,0.6nm,0.6s,baz=175,slow=4.2,SNR=2.1						
LPAZ				PKPab	PKPab	11 28 17.2	+1.9
	comp=Z,1.5nm,0.6s,baz=129,slow=2.8,SNR=5.6						
LPAZ	**La Paz**	**159.92**	**219**	PKP	PKPdf	11 27 36.9	+3.6
LPAZ				pPKP		11 27 57.3	
LPAZ				*e*PKPab	PKPab	11 28 17.1	+1.8
SAML	**Samuel**	**160.29**	**245**	*e*PKPab	PKPab	11 28 17.1	+0.1

IDC 04 11:14:47.8±2.4**, 18.25N**×**147.25E, mb3.8**/6**, mb1 3.9**/6**, mb1mx3.8**/18**, mbtmp3.8**/6**, Error ellipse: s-maj=125.8km s-min=23.3km az=86.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.01**	**199**	P	P	11 22 23.4	-2.8
	0.4nm,0.5s,baz=21,slow=8.9,SNR=7.2						
ASAR	**Alice Springs**	**43.65**	**198**	P	P	11 22 55.0	-1.1
	0.3nm,0.5s,baz=12,slow=7.1,SNR=4.4						
SONM	**Songino Array**	**44.42**	**321**	P	P	11 23 00.9	-1.1
	0.2nm,0.4s,baz=139,slow=7.7,SNR=3.6						
STKA	**Stephens Creek**	**50.13**	**186**	P	P	11 23 45.5	-1.6
	1.4nm,0.8s,baz=11,slow=16,SNR=3.1						
ARCES	**ARCESS Array B**	**83.37**	**342**	P	P	11 27 17.1	-0.5
	3.3nm,0.9s,baz=59,slow=7.1,SNR=4.4						
FINES	**FINESS Array B**	**87.91**	**336**	P	P	11 27 38.0	-2.3
	0.6nm,0.5s,baz=72,slow=6.0,SNR=4.7						

*BJI **04** 11:39:17.6, 51.38N×179.91W, h19km, mB5.2, mb4.9, Ms4.4, Msz4.2*

*MOS **04** 11:39:18.5±0.8, 51.19N×179.34W, h41km, mb5.0/49,*

MS4.0/4, Error ellipse: s-maj=9.3km s-min=5.1km az=88.1
*NEIC **04** 11:39:20.5±0.4, 51.19N×179.33W, h46km±3km, mb4.8/70, ML4.5(AEIC), Error ellipse: s-maj=4.8km s-min=2.6km az=179.0*
*IDC **04** 11:39:21.1±1.8, 51.20N×179.35W, h49km±15km, mb4.3/28, mb1 4.5/29, mb1mx4.5/33, mbtmp4.6/29, ML4.2/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/24, Error ellipse: s-maj=14.8km s-min=9.6km az=169.0*
ISC 04 11:39:19.5±0.6**, 51.16N**±0.05×**179.34W**±0.04**, h52**km±4km**, h55**km±2.1km**: pP-P, n287,** σ0s**92**/293**, mb4.8**/107**, MS3.9**/16**, 13C-10D, Andreanof Islands**

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Code   Station Name        Δ°    AZ°   Phase ID          Time        Res
                                       Op      ISC       h  m  s     ISC
KIMD   Kanaga Island       1.45   65   P       P         11 39 43.0  -0.9
KIWB   Kanaga Island       1.53   62   P       P         11 39 44.6  -0.4
KIWB                                   S       S         11 40 04.4  +0.4
KIKV   Kanaga Island       1.54   61   P       P         11 39 44.8  -0.3
ADAG   Mount Adagdak       1.90   63   P       P         11 39 50.1   0.0
GSTD   Great Sitkin T      2.19   65   P       P         11 39 54.8  +0.6
GSTD                                   S       S         11 40 21.2  +1.2
GSMY   Great Sitkin M      2.23   65   P       P         11 39 54.8  -0.1
GSMY                                   S       S         11 40 22.1  +0.9
GSTR   Great Sitkin T      2.25   64   eP      P         11 39 55.5  +0.4
GSIG   Igitkin Island      2.29   68   P       P         11 39 55.6   0.0
ATKA   Atka Island         3.37   70   P       P         11 40 10.7  -0.3
ATKA                                   S       S         11 40 51.0  +0.9
SMY    Shemya              4.35  294   P       P         11 40 25.4  +0.5
FX1    Attu Island--F      4.94  293   P       P         11 40 32.7  -0.4
FX1                                    S       S         11 41 30.9  +1.3
FX1                                    pmax    pmax
       comp=Z,31nm,0.3s
FX1    Attu Island--F      4.94  293   P       P         11 40 32.7  -0.4
       comp=Z,31nm,0.3s,baz=205,slow=5.9,SNR=32
FX1                                    S       S         11 41 30.9  +1.3
       baz=57,slow=19,SNR=1.8
FX1    Attu Island--F      4.94  293   P       P         11 40 32.9  -0.2
TNA    Tin City           15.59   18   eP      P         11 42 55.3  -1.6
       comp=Z,19nm,1.4s
SVW2   Sparrevohn         16.46   44   eP      P         11 43 12.2  +4.2
RSO    Redoubt South      17.48   48   P       P         11 43 20.9   0.0
SPU    Mount Spurr        18.06   46   eP      P         11 43 27.8  -0.3
BILL   Bilibino           18.34  343c  iP      P         11 43 33.2  +1.8
BILL                                   pmax    pmax
       comp=Z,29nm,1.1s
BILL                                   MLR     MLR
       comp=Z,300nm,20.0s
BILL   Bilibino           18.34  343   eP      P         11 43 30.4  -0.9
       comp=Z,29nm,1.1s
SLKM   Skilak Lake        18.69   49   eP      P         11 43 34.3  -1.3
PWA    Palmer West        19.21   46   eP      P         11 43 40.2  -1.3
PMR    Palmer             19.53   46   eP      P         11 43 46.4  +1.4
IMA    Indian Mountai     19.81   31   eP      P         11 43 47.6  -0.5
SML    Sawmill            19.95   46   eP      P         11 43 47.3  -2.3
MCK    McKinley           20.39   40   eP      P         11 43 51.3  -2.9
MCK                                    pmax    pmax
       comp=Z,4.0nm,0.6s
MCK    McKinley           20.39   40   eP      P         11 43 51.3  -2.9
       comp=Z,4.5nm,0.6s
DIV    Divide             20.96   49   eP      P         11 43 57.4  -2.6
       comp=Z,38nm,0.5s
COLA   College            21.29   38⇑  eP      P         11 44 03.9  +0.5
COLA   College            21.29   38   eP      P         11 44 03.4   0.0
THY    Trims Highway      21.60   43   eP      P         11 44 05.7  -0.7
ILAR   Eielson Array      21.63   39   P       P         11 44 05.7  -1.0
       comp=Z,3.8nm,0.4s,mb4.2,baz=244,slow=6.8,SNR=57
ILAR                                   PcP     PcP       11 48 06.4  -1.2
       comp=Z,0.4nm,0.5s,baz=272,slow=2.9,SNR=7.8
ILAR                                   ScP               11 51 39.2
       comp=Z,0.4nm,0.7s,baz=288,slow=3.7,SNR=6.5
MENT   Mentasta           22.34   44   eP      P         11 44 13.7  -0.1
DAWY   Dawson             24.50   43   eP      P         11 44 33.5  -1.1
YSS    Yuzh-Sakhalins     25.00  275⇓  iP      P         11 44 40.8  +1.2
YSS                                    e       pP        11 44 56.0  +3.6
YSS                                    pmax    pmax
       comp=Z,40nm,1.0s,mb4.9
YSS    Yuzh-Sakhalins     25.00  275   eP      P         11 44 40.3  +0.7
       comp=Z,27nm,0.8s,mb4.8
ASAJ   Asahikawa          26.36  270   P       P         11 44 52.6  +0.2
ASAJ                                   pmax    pmax
       comp=Z,14nm,0.8s
ASAJ                                   MLR     MLR
       comp=Z,112nm,19.6s
ASAJ   Asahikawa          26.36  270   P       P         11 44 52.6  +0.2
       comp=Z,14nm,0.8s,mb4.5,baz=69,slow=12,SNR=8.1
ASAJ                                   LR      LR        11 55 17.1
       comp=Z,112nm,19.6s,MS3.4,baz=163,slow=36
INK    Inuvik             27.83   35   P       P         11 45 04.6  -1.0
INK                                                      11 48 19.9
INK                                    pmax    pmax
       comp=Z,3.0nm,0.6s
INK                                    pmax    pmax
       comp=Z,1.0nm,0.6s
INK    Inuvik             27.83   35   P       P         11 45 04.6  -1.0
       comp=Z,3.1nm,0.6s,mb4.1,baz=255,slow=8.9,SNR=30
INK                                    PcP     PcP       11 48 19.9  -1.0
       comp=Z,0.9nm,0.6s,baz=225,slow=6.3,SNR=4.5
INK    Inuvik             27.83   35   eP      P         11 45 04.1  -1.5
       comp=Z,4.5nm,0.8s,mb4.2
DLBC   Dease Lake         28.76   56   P       P         11 45 13.5  -0.5
       comp=Z,1.2nm,0.7s,mb3.7,baz=311,slow=20,SNR=2.9
DLBC                                   LR      LR        11 56 09.2
       comp=Z,136nm,21.6s,MS3.5,baz=262,slow=35
YAK    Yakutsk            29.31  312⇓  eP      P         11 45 19.7  +0.9
KLR    Kul'dur            30.91  286   eP      P         11 45 29.1  -4.1
YKW3   Yellowknife Ar     35.61   46   eP      P         11 46 12.3  -1.3
YKA    Yellowknife Ar     35.63   46   P       P         11 46 13.2  -0.6
       comp=Z,6.8nm,0.4s,mb4.9,baz=281,slow=7.7,SNR=258
YKA                                    PcP     PcP       11 48 41.6  -0.3
       comp=Z,0.5nm,0.5s,baz=288,slow=3.0,SNR=7.3
YKA                                    ScP               11 52 24.8
       comp=Z,0.4nm,0.7s,baz=292,slow=3.1,SNR=7.2
YKA    Yellowknife Ar     35.63   46   P       P         11 46 13.2  -0.6
YKA                                    PcP     PcP       11 48 41.6  -0.2
YKA                                    ScP               11 52 24.8
CN2    Changchun          37.25  281   eP      P         11 46 26.5  -1.2
CN2                                    eAP     pP        11 46 40.1  -1.1
CN2                                    eS      S         11 52 08.5  -2.2
CN2                                    AMB     AMB
       comp=Z,10.0nm,1.0s,mb4.6
BOD    Bodaibo            37.84  307⇓  iP      P         11 46 30.6  -1.8
BOD                                    pmax    pmax
       comp=Z,11nm,1.2s,mb4.5
HIA    Hailar             38.05  292   eP      P         11 46 32.4  -1.9
HIA                                    pmax    pmax
       comp=Z,6.0nm,0.5s
HIA    Hailar             38.05  292   eP      P         11 46 32.4  -1.9
       comp=Z,5.9nm,0.5s,mb4.6
EDM    Edmonton           39.22   60   eP      P         11 46 43.1  -0.8
NEW    Newport            39.28   69   P       P         11 46 45.0  +0.5
NEW                                    pmax    pmax
       comp=Z,6.0nm,0.6s
NEW    Newport            39.28   69   P       P         11 46 45.0  +0.5
       comp=Z,5.5nm,0.6s,mb4.5,baz=302,slow=8.4,SNR=19
NEW    Newport            39.28   69   eP      P         11 46 43.9  -0.6
       comp=Z,9.6nm,0.9s,mb4.5
RES    Resolute Bay       40.08   24   eP      P         11 46 50.3  -0.6
RES                                    pmax    pmax
       comp=Z,2.0nm,0.6s,mb4.0
RES    Resolute Bay       40.08   24   eP      P         11 46 50.2  -0.7
       comp=Z,2.4nm,0.6s,mb4.1
MOD    Modoc              40.65   79   eP      P         11 46 57.0  +1.1
       comp=Z,4.0nm,0.6s,mb4.2
BMO    Blue Mountains     40.88   74   eP      P         11 46 57.8   0.0
       comp=Z,3.2nm,0.8s,mb4.0
WVOR   Wild Horse Val     41.38   78   eP      P         11 47 02.6  +0.7
WVOR                                   pmax    pmax
       comp=Z,5.0nm,0.8s,mb4.2
WVOR   Wild Horse Val     41.38   78   eP      P         11 47 02.6  +0.7
       comp=Z,5.4nm,0.8s,mb4.2
MSO    Missoula           41.86   69   eP      P         11 47 05.6  -0.1
       comp=Z,10nm,1.3s,mb4.3
CHMT   Chamberlain Mo     42.22   69   eP      P         11 47 08.3  -0.4
HLID   Hailey             43.33   74   eP      P         11 47 18.3  +0.5
       comp=Z,5.7nm,0.8s,mb4.3
MCMT   McKenzie Canyo     43.57   71   eP      P         11 47 19.8  +0.1
BOZ    Bozeman (W)        43.85   70   eP      P         11 47 21.9  -0.1
BOZ                                    pmax    pmax
       comp=Z,13nm,0.9s,mb4.7
BOZ    Bozeman (W)        43.85   70   eP      P         11 47 21.9  -0.1
       comp=Z,13nm,0.9s,mb4.7
NVAR   Mina Array Bea     43.92   82   P       P         11 47 24.1  +1.5
       comp=Z,7.2nm,1.1s,mb4.3,baz=305,slow=6.9,SNR=19
NVAR                                   LR      LR        12 01 43.9
       comp=Z,38nm,21.7s,MS3.3,baz=115,slow=31
QLMT   Earthquake Lak     44.41   70   eP      P         11 47 27.1  +0.6
YMR    Madison River      44.78   70   eP      P         11 47 29.4  -0.1
YFT    Old Faithful       44.98   71   eP      P         11 47 32.5  +1.5
BJI    Beijing            45.09  282   eP      P         11 47 32.3  +0.3
BJI                                    AMB     AMB
       comp=Z,11nm,0.8s,mb4.7
BJI    Beijing            45.09  282   eP      P         11 47 32.3  +0.3
       comp=Z,11nm,0.8s,mb4.7
RRI2   Red Ridge          45.31   72   eP      P         11 47 34.2  +0.5
HVU    Hansel Valley      45.34   75   eP      P         11 47 34.3  +0.4
LOHW   Long Hollow        45.59   71   eP      P         11 47 36.2  +0.3
TLY    Talaya             45.89  302   eP      P         11 47 38.4  +0.2
TLY                                    pmax    pmax
       comp=Z,8.0nm,1.0s,mb4.6
TLY                                    MLR     MLR
       comp=Z,111nm,18.0s,MS3.9
TLY    Talaya             45.89  302   eP      P         11 47 37.8  -0.4
       comp=Z,4.7nm,0.6s,mb4.6
ULN    Ulaanbaatar        46.05  296c  iP      P         11 47 39.9  +0.4
ULN    Ulaanbaatar        46.05  296   eP      P         11 47 39.2  -0.3
       comp=Z,8.7nm,0.6s,mb4.9
HWUT   Hardware Ranch     46.17   74   P       P         11 47 41.0  +0.4
       comp=Z,4.4nm,0.6s,mb4.6
DUG    Dugway             46.25   77   eP      P         11 47 41.8  +0.6
DUG                                    pmax    pmax
       comp=Z,166nm,0.9s
DUG    Dugway             46.25   77   eP      P         11 47 41.8  +0.6
       comp=Z,166nm,0.9s
LAO    LASA Array         46.42   65   eP      P         11 47 42.0  -0.4
       comp=Z,5.9nm,0.4s,mb4.9
SONM   Songino Array      46.44  297   P       P         11 47 43.3  +0.8
       comp=Z,6.5nm,0.6s,mb4.7,baz=63,slow=7.9,SNR=56
SONM                                   PcP     PcP       11 49 16.2  -0.8
       comp=Z,1.5nm,0.6s,baz=71,slow=2.2,SNR=5.9
TCUT   Toone Canyon       46.56   75   eP      P         11 47 44.8  +1.2
BW06   Boulder Array      46.70   72   eP      P         11 47 44.4  -0.3
       comp=Z,11nm,0.6s,mb5.0
PDAR   Pinedale Array     46.70   72   P       P         11 47 45.5  +0.8
       comp=Z,9.7nm,0.5s,mb5.0,baz=310,slow=3.6,SNR=109
ZAK    Zakamensk          46.77  301⇑  iP      P         11 47 45.6  +0.4
ZAK                                    pmax    pmax
       comp=Z,8.0nm,1.3s,mb4.5
JLU    Jordanelle         46.84   75   eP      P         11 47 46.2  +0.4
DAU    Daniels Canyon     47.07   75   eP      P         11 47 48.2  +0.6
MOY    Mondy              47.30  304   eP      P         11 47 49.8  +0.5
MOY                                    pmax    pmax
       comp=Z,13nm,1.3s,mb4.7
HHC    Hu-ho-hao-te       47.42  286   eP      P         11 47 49.1  -1.3
HHC                                    PP      PP        11 49 38.2  -3.2
HHC                                    S       S         11 54 31.0  -8.9
HHC                                    SS      SS        11 57 55.6  -6.1
HHC                                    AMB     AMB
       comp=Z,19nm,0.5s,mb5.3
HHC                                    AMB     AMB
       comp=Z,141nm,5.0s
HHC                                    LR      LR
       comp=N,147nm,19.0s,MS4.3
HHC                                    LR      LR
       comp=E,253nm,18.4s,MS4.3
HHC                                    LR      LR
       comp=Z,180nm,21.4s,MS4.0
MVU    Marysvale          47.65   78   eP      P         11 47 52.2   0.0
       comp=Z,5.2nm,0.9s,mb4.6
SSE    Sheshan            47.65  269   eP      P         11 47 50.4  -1.9
SSE                                    S       S         11 54 34.1  -9.2
SSE                                    SS      SS        11 58 07.9  +1.9
SSE                                    AMB     AMB
       comp=Z,22nm,0.7s,mb5.3
SSE                                    AMB     AMB
       comp=Z,87nm,3.9s
SSE                                    LR      LR
       comp=N,40nm,31.0s,MS3.3
SSE                                    LR      LR
       comp=E,28nm,31.3s,MS3.3
SSE                                    LR      LR
       comp=Z,59nm,28.3s,MS3.4
SSE    Sheshan            47.65  269   eP      P         11 47 50.4  -1.9
       comp=Z,22nm,0.7s,mb5.3
SSE                                    pP      pP        11 48 22.2  +16
SSE                                    S       S         11 54 34.1  -9.2
SSE                                    sS                11 55 34.2
SSE                                    SS      SS        11 58 07.9  +1.9
SSE                                    LR      LR
       comp=Z,60nm,28.3s,MS3.4
MSU    Marysvale          47.67   78   eP      P         11 47 53.0  +0.6
TMUT   Trail Mountain     47.78   77   eP      P         11 47 53.8  +0.6
SRU    San Rafael         48.31   76   eP      P         11 47 57.5  +0.2
NJ2    Nanjing            48.48  272   eP      P         11 47 57.2  -1.5
NJ2                                    AP      pP        11 48 11.9  -0.6
NJ2                                    PP      PP        11 49 48.0  -3.4
NJ2                                    S       S         11 54 53.0  -1.9
NJ2                                    LR      LR
       comp=N,540nm,26.6s,MS4.5
NJ2                                    LR      LR
       comp=E,550nm,28.0s,MS4.5
NJ2                                    LR      LR
       comp=Z,630nm,13.6s
PV10   Paradox Valley     49.68   76   eP      P         11 48 07.5  -0.4
KBS    Kingsbay           50.00  357   eP      P         11 48 08.7  -1.2
KBS                                    pmax    pmax
       comp=Z,23nm,0.6s,mb5.4
KBS    Kingsbay           50.00  357   eP      P         11 48 08.7  -1.2
       comp=Z,23nm,0.6s,mb5.4
WUAZ   Wupatki            50.06   81   eP      P         11 48 11.1  +0.2
       comp=Z,96nm,0.9s,mb5.8
ULM    Lac du Bonnet      50.09   56   LR      LR        12 09 28.9
       comp=Z,91nm,19.9s,MS3.8,baz=276,slow=36
PV01   Paradox Valley     50.12   76   eP      P         11 48 11.0  -0.2
SDCO   Great Sand Dun     52.23   74   eP      P         11 48 27.2   0.0
       comp=Z,5.2nm,0.9s,mb4.5
ANMO   Albuquerque        53.47   78   i P     P         11 48 37.0  +0.5
SUMG   Summit             53.59   14   eP      P         11 48 35.2  -1.7
       comp=Z,10nm,0.7s,mb4.9
EYMN   Ely                53.77   56   eP      P         11 48 36.1  -2.4
       comp=Z,5.9nm,1.1s,mb4.4
ZAL    Zalesovo           53.95  313   P       P         11 48 37.2  -2.5
       comp=Z,1.2nm,0.3s,mb4.3,baz=54,slow=17,SNR=3.0
ZAL                                    PcP     PcP       11 49 44.6  +0.2
       comp=Z,2.6nm,0.8s,baz=103,slow=3.7,SNR=12
ZAL                                    LR      LR        12 15 55.3
       comp=Z,88nm,18.0s,MS3.9,baz=288,slow=41
LZH    Lanzhou            55.12  286   eP      P         11 48 47.0  -1.5
LZH                                    AP      pP        11 49 01.5  -1.1
LZH                                    ePP     PP        11 50 51.8  -1.8
LZH                                    AMB     AMB
       comp=Z,23nm,1.5s,mb5.0
LZH                                    AMB     AMB
       comp=Z,87nm,5.3s
LZH                                    LR      LR
       comp=E,351nm,14.9s
LZH                                    LR      LR
       comp=Z,413nm,17.8s,MS4.6
LZH    Lanzhou            55.12  286   eP      P         11 48 47.0  -1.5
       comp=Z,23nm,1.5s,mb5.0
LZH                                    pP      pP        11 49 01.5  -1.1
LZH                                    sP      sP        11 49 07.6  -1.0
LZH                                    ePP     PP        11 50 51.8  -1.8
LZH                                    LR      LR
       comp=Z,410nm,17.8s,MS4.5
GTA    Gaotai             55.33  292   P       P         11 48 49.8  -0.2
GTA                                    AP      pP        11 48 53.4  -11
GTA                                    XP      sP        11 48 56.3  -14
GTA                                    AMB     AMB
       comp=Z,19nm,0.6s,mb5.3
MNTX   Cornudas Mount     56.32   80   eP      P         11 48 56.1  -1.2
       comp=Z,5.1nm,0.8s,mb4.6
KEV    Kevo               57.87  349   ep      P         11 49 12.0  +4.3
       comp=Z,0.4nm,0.3s,mb3.9
ARCES  ARCESS Array B     58.25  350   P       P         11 49 08.7  -1.7
       comp=Z,4.4nm,0.8s,mb4.5,baz=18,slow=7.2,SNR=15
WMOK   Wichita Mounta     58.28   73   eP      P         11 49 10.0  -1.0
WMOK                                   pmax    pmax
       comp=Z,4.0nm,0.7s,mb4.6
WMOK   Wichita Mounta     58.28   73   eP      P         11 49 10.0  -1.1
       comp=Z,4.1nm,0.7s,mb4.6
KURK   Kurchatov          58.92  313   eP      P         11 49 13.5  -1.8
KURK                                   pmax    pmax
       comp=Z,10.0nm,0.8s,mb4.9
KURK   Kurchatov          58.92  313   eP      P         11 49 13.5  -1.7
       comp=Z,10nm,0.8s,mb4.9
TXAR   Lajitas Array      59.02   81   P       P         11 49 15.9  -0.4
       comp=Z,4.1nm,0.7s,mb4.6,baz=302,slow=4.5,SNR=47
WMQ    Urumqi             59.17  303⇑  iP      P         11 49 17.1   0.0
WMQ                                    PP      PP        11 51 30.0   0.0
WMQ                                    SCP               11 53 59.0
WMQ                                    S       S         11 57 18.0  -1.0
WMQ                                    AMB     AMB
       comp=Z,15nm,0.7s,mb5.1
WMQ                                    AMB     AMB
       comp=Z,92nm,3.7s
WMQ                                    LR      LR
       comp=N,167nm,25.0s,MS4.2
WMQ                                    LR      LR
       comp=E,142nm,20.3s,MS4.2
WMQ                                    LR      LR
       comp=Z,185nm,21.4s,MS4.2
MKAR   Makanchi Array     59.90  308   eP      P         11 49 20.6  -1.5
MKAR                                   pmax    pmax
       comp=Z,1.0nm,0.3s
CHKZ   Chkalovo           60.26  320   P       P         11 49 24.6  +0.2
CHKZ                                   pmax    pmax
       comp=Z,4.0nm,0.8s,mb4.5
CHKZ   Chkalovo           60.26  320   eP      P         11 49 22.5  -1.9
       comp=Z,4.7nm,0.7s,mb4.6
SCHQ   Schefferville      60.39   38   P       P         11 49 23.8  -1.5
       comp=Z,5.8nm,0.6s,mb4.8,baz=315,slow=8.1,SNR=38
SCHQ                                   LR      LR        12 16 07.2
       comp=Z,112nm,18.3s,MS4.0,baz=27,slow=37
CCM    Cathedral Cave     60.44   65   eP      P         11 49 23.7  -2.2
CCM                                    pmax    pmax
       comp=Z,4.0nm,0.6s,mb4.6
CCM    Cathedral Cave     60.44   65   eP      P         11 49 23.7  -2.2
       comp=Z,4.0nm,0.6s,mb4.6
JCT    Junction City      60.61   77   eP      P         11 49 26.5  -0.6
JCT                                    pmax    pmax
       comp=Z,4.0nm,0.6s,mb4.7
JCT    Junction City      60.61   77   eP      P         11 49 26.5  -0.6
       comp=Z,4.3nm,0.6s,mb4.8
BVA0   Borovoye Array     60.84  320   P       P         11 49 27.4  -0.9
BVAR   Borovoye Array     60.84  320   P       P         11 49 27.2  -1.2
       comp=Z,5.1nm,0.4s,mb5.0,baz=52,slow=6.8,SNR=37
BVAR                                   PcP     PcP       11 50 11.2  -0.2
       comp=Z,2.4nm,0.5s,baz=66,slow=3.1,SNR=7.3
WCI    Wyandotte Cave     63.11   62   eP      P         11 49 42.1  -1.7
WCI                                    pmax    pmax
       comp=Z,8.0nm,0.8s,mb4.9
WCI    Wyandotte Cave     63.11   62   eP      P         11 49 42.1  -1.7
       comp=Z,7.8nm,0.8s,mb4.9
JOF    Joensuu            63.72  345   ep      P         11 49 41.7  -5.6
       comp=Z,2.7nm,0.8s,mb4.3
JOF    Joensuu            63.72  345   eP      P         11 49 41.7  -5.6
JOF                                    pmax    pmax
       comp=Z,3.0nm,0.8s,mb4.4
KAF    Kangasniemi        65.25  347   ep      P         11 49 56.0  -1.2
       comp=Z,1.7nm,0.3s,mb4.5
KAF    Kangasniemi        65.25  347   eP      P         11 49 56.0  -1.2
KAF                                    pmax    pmax
       comp=Z,2.0nm,0.3s,mb4.6
TZTN   Tazewell           65.83   61   eP      P         11 49 60.0  -1.4
FINES  FINESS Array B     65.92  347   P       P         11 50 00.4  -1.1
       comp=Z,2.7nm,0.4s,mb4.7,baz=14,slow=7.7,SNR=27
FINES                                  LR      LR        12 24 14.4
       comp=Z,62nm,18.7s,MS3.8,baz=231,slow=41
ULHL   Ulahol             66.17  308   P       P         11 50 04.2  +0.7
       SNR=5.2
USP    Ospenovka          66.26  310   P       P         11 50 04.6  +0.6
       SNR=9.7
LRAL   Lakeview Retre     66.43   66   eP      P         11 50 03.7  -1.5
       comp=Z,7.2nm,0.7s,mb4.8
AAK    Ala-Archa          66.74  310   P       P         11 50 07.3  +0.3
       SNR=10.0
AAK    Ala-Archa          66.74  310c  iP      P         11 50 06.3  -0.7
AAK                                    pmax    pmax
       comp=Z,14nm,1.5s,mb4.8
AAK    Ala-Archa          66.74  310   eP      P         11 50 05.1  -1.9
       comp=Z,9.9nm,0.8s,mb4.9
KZA    Kyzart             66.79  309   P       P         11 50 07.5  +0.1
       SNR=8.5
PMG    Port Moresby       66.92  216   P       P         11 50 07.7  -0.9
       comp=Z,5.4nm,0.8s,mb4.6,baz=151,slow=19,SNR=2.3
UCH    Uchtor             67.04  309   P       P         11 50 10.4  +1.5
       SNR=5.9
EKS2   Erkin-Say          67.07  310   P       P         11 50 09.7  +0.7
       SNR=12
LSA    Lhasa              67.19  289   P       P         11 50 12.0  +1.9
LSA    Lhasa              67.19  289   eP      P         11 50 10.8  +0.7
LSA                                    pmax    pmax
       comp=Z,13nm,0.8s,mb5.0
LSA    Lhasa              67.19  289   eP      P         11 50 10.8  +0.8
       comp=Z,13nm,0.8s,mb5.0
AML    Almayashu          67.51  310   P       P         11 50 13.3  +1.5
       SNR=18
NB2    NORSAR Subarra     67.83  354   P       P         11 50 12.5  -1.0
       comp=Z,2.3nm,0.5s,mb4.5,baz=7.0,slow=6.2
NOA    NORSAR Array B     67.83  354   P       P         11 50 13.2  -0.4
       comp=Z,2.9nm,0.5s,mb4.6,baz=6.2,slow=6.2,SNR=14
NOA                                    LR      LR        12 20 27.9
       comp=Z,30nm,18.1s,MS3.6,baz=250,slow=36
NOA    NORSAR Array B     67.83  354   P       P         11 50 13.2  -0.4
NOA                                    LR      LR        12 20 27.9
HFS    Hagfors            68.56  353   P       P         11 50 17.3  -0.8
       comp=Z,5.9nm,0.4s,mb4.8,slow=3.0,SNR=30
OBN    Obninsk            69.95  339⇑  eP      P         11 50 25.8  -0.9
OBN                                    i       pP        11 50 40.4  -0.9
OBN                                    e                 11 53 00.6
OBN                                    eS      S         11 59 22.6  -9.0
OBN                                    pmax    pmax
       comp=Z,16nm,0.9s,mb5.0
OBN                                    MLR     MLR
       comp=Z,100nm,12.0s,MS4.3
CMAR   Chiang Mai Arr     70.70  276   P       P         11 50 31.7  -0.1
       comp=Z,1.8nm,0.6s,mb4.2,baz=29,slow=7.1,SNR=12
GUN    Gumba              71.62  292   eP      P         11 50 38.3  +1.1
       comp=Z,99nm,0.6s
JIRN   Jiri               71.63  291   eP      P         11 50 38.4  +1.1
       comp=Z,65nm,0.7s,mb5.7
KKN    Kakani             72.06  292   eP      P         11 50 40.5  +0.7
       comp=Z,45nm,0.5s,mb5.6
PKI    Pulchoki           72.15  292   eP      P         11 50 40.9  +0.5
       comp=Z,30nm,0.6s,mb5.4
GKN    Gorkha             72.28  293   eP      P         11 50 41.7  +0.6
       comp=Z,34nm,0.5s,mb5.5
DMN    Daman              72.30  292   eP      P         11 50 42.0  +0.8
       comp=Z,21nm,0.7s,mb5.2
KOLN   Koldanda           73.05  293   eP      P         11 50 46.0  +0.3
       comp=Z,20nm,0.8s,mb5.1
EKA    Eskdalemuir Ar     73.83    2   P       P         11 50 49.8  +0.2
       comp=Z,2.6nm,0.6s,mb4.3,baz=357,slow=5.3,SNR=8.3
SDNR   Sundarnagar        73.94  300   eP      P         11 50 51.5  +0.7
DDI    Dehra Dun          74.25  299   e       P         11 50 53.2  +0.6
BSEG   Bad Segeberg       74.96  354   eP      P         11 50 56.1  -0.1
BSEG                                   pmax    pmax
       comp=Z,19nm,0.8s,mb5.1
AKASG  Malin Array Be     75.65  342   P       P         11 50 59.9  -0.3
       comp=Z,9.4nm,0.4s,mb5.1,baz=21,slow=6.3,SNR=38
KAKA   Kakadu             76.14  229   eP      P         11 51 02.4  -1.3
       comp=Z,6.1nm,0.8s,mb4.6
CLZ    Clausthal          77.04  354   eP      P         11 51 08.5  +0.4
       comp=Z,16nm,0.8s,mb5.0
CLL    Collm              77.37  352   i P     P         11 51 17.0  +7.1
CLL                                    pmax    pmax
       comp=Z,8.0nm,0.8s,mb4.7
CLL    Collm              77.37  352   i P     P         11 51 17.0  +7.1
       comp=Z,8.0nm,0.8s,mb4.7
CLL    Collm              77.37  352   P       P         11 51 09.6  -0.3
       comp=Z,logA/T=1.0,mb4.7
KSP    Ksiaz              77.51  350   eP      P         11 51 10.4  -0.3
OJC    Ojcow              77.69  348   eP      P         11 51 11.7   0.0
BRG    Berggiesshubel     77.72  351   eP      P         11 51 11.6  -0.2
BRG                                    pmax    pmax
       comp=Z,6.0nm,0.8s,mb4.6
BRG    Berggiesshubel     77.72  351   eP      P         11 51 11.6  -0.2
       comp=Z,6.4nm,0.8s,mb4.6
KWP    Kalwaria           77.84  346   eP      P         11 51 13.3  +0.8
UPC    Upice              77.87  350   eP      P         11 51 12.4  -0.2
DPC    Dobruska-Polom     77.99  350   eP      P         11 51 13.4  +0.1
PVCC   Panska Ves         78.00  351   eP      P         11 51 16.2  +2.9
MOX    Moxa               78.14  353   eP      P         11 51 14.3  +0.2
MOX    Moxa               78.14  353   i P     P         11 51 14.3  +0.2
NKC    Novy Kostel        78.49  352   eP      P         11 51 16.4  +0.4
PRU    Pruhonice          78.54  351   eP      P         11 51 16.5  +0.2
KOLS   Kolonicke sedl     78.58  346   i P     P         11 51 17.0  +0.4
KOLS                                   e                 11 51 20.3
KOLS                                   ePP     PP        11 54 19.1  +2.6
CRVS   Cervenica-Dubn     78.74  346   eP      P         11 51 18.4  +1.0
TNS    Taunus Mts         78.78  355   eP      P         11 51 17.9  +0.3
TNS                                    pmax    pmax
       comp=Z,7.0nm,0.7s,mb4.7
TNS    Taunus Mts         78.78  355   eP      P         11 51 17.9  +0.3
       comp=Z,7.0nm,0.7s,mb4.7
VRAC   Vranov             78.99  349   ⇓P      P         11 51 19.3  +0.5
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Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
VRAC	Vranov	78.99	349	P	P	11 51 19.0	+0.2
	comp=Z,9.1nm,0.7s,mb4.8,baz=16,slow=4.5,SNR=6.4						
GIVF	Givet	79.05	357	eP	P	11 51 19.2	0.0
BAIF	Baives	79.11	358	eP	P	11 51 19.8	+0.3
	comp=Z,28nm,0.8s,mb4.9						
BAIF	Baives	79.11	358	eP	P	11 51 19.8	+0.3
BAIF				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
GRA1	Grafenberg Arr	79.12	353	eP	P	11 51 20.2	+0.7
	comp=Z,16nm,0.7s,mb5.1						
GRF	Grafenberg Arr	79.12	353	eP	P	11 51 20.2	+0.7
GRF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
GRF	Grafenberg Arr	79.12	353	eP	P	11 51 20.2	+0.7
GRF				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.1						
GRF	Grafenberg Arr	79.12	353	eP	P	11 51 20.2	+0.7
	comp=Z,16nm,0.7s,mb5.1						
BURAR	Bucovina Array	79.37	343	⇓P	P	11 51 21.6	+0.7
BURAR	Bucovina Array	79.37	343	⇓P	P	11 51 21.6	+0.7
KHC	Kasperske Hory	79.48	351	eP	P	11 51 21.7	+0.2
VYHS	Vyhne	79.51	348	eP	P	11 51 22.1	+0.4
VYHS				e		11 51 28.7	
WET	Wettzell	79.53	352	eP	P	11 51 22.0	+0.2
WET				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WET	Wettzell	79.53	352	eP	P	11 51 22.0	+0.2
	comp=Z,6.0nm,0.9s,mb4.5						
SMOL	Smolenice	79.67	349	eP	P	11 51 23.2	+0.7
SOC	Sochi	79.73	332	eP	P	11 51 19.9	-3.0
SOC				e		11 54 23.8	
SOC				ePPP	PPP	11 56 12.3	-4.5
SOC				e		12 01 37.2	
SOC				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,37nm,1.0s						
SOC				pmax	pmax		
	comp=E,13nm,0.8s						
GEC2	GERESS Array S	79.75	351	eP	P	11 51 22.9	-0.1
GEC2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
GEC2	GERESS Array S	79.75	351	eP	P	11 51 22.9	-0.1
	comp=Z,5.0nm,0.7s,mb4.5						
GERES	GERESS Array B	79.75	351	P	P	11 51 23.1	+0.2
	comp=Z,3.8nm,0.5s,mb4.6,baz=23,slow=5.2,SNR=26						
ZST	Bratislava	80.02	349	eP	P	11 51 25.5	+1.1
FLN	La Foliniere	80.45	1	eP	P	11 51 26.5	-0.2
LDF	La Druitiere	80.62	1	eP	P	11 51 27.3	-0.3
	comp=Z,22nm,0.6s,mb4.9						
LDF	La Druitiere	80.62	1	eP	P	11 51 27.3	-0.3
LDF				pmax	pmax		
	comp=Z,11nm,0.6s,mb5.0						
CDF	Champ du Feu	80.64	356	eP	P	11 51 27.7	0.0
	comp=Z,7.8nm,0.7s,mb4.5						
CDF	Champ du Feu	80.64	356	eP	P	11 51 27.7	0.0
CDF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
MEZF	Maizieres J'vi	80.65	357	eP	P	11 51 27.9	+0.2
GRR	Gorron	80.82	1	eP	P	11 51 28.7	0.0
	comp=Z,33nm,0.9s,mb5.0						
GRR	Gorron	80.82	1	eP	P	11 51 28.7	0.0
GRR				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
ROSF	Rostrenen	80.83	3	eP	P	11 51 28.8	+0.1
	comp=Z,67nm,1.2s,mb5.1						
ROSF	Rostrenen	80.83	3	eP	P	11 51 28.8	+0.1
ROSF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
SGMF	Saint Gilles	80.93	2	eP	P	11 51 29.3	+0.1
	comp=Z,19nm,0.6s,mb4.9						
SGMF	Saint Gilles	80.93	2	eP	P	11 51 29.3	+0.1
SGMF				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
HAU	Haudompre	81.09	356	eP	P	11 51 30.0	-0.1
ARSA	Arzberg	81.14	350	⇑iP	P	11 51 30.6	+0.2
CFR	Carcaliu	81.14	341	⇑P	P	11 51 31.0	+0.6
QUIF	Quistinic	81.25	3	eP	P	11 51 30.9	0.0
HINF	Hinteralfeld	81.26	356	eP	P	11 51 30.8	-0.2
MLR	Muntele Rosu	81.28	342	P	P	11 51 32.8	+1.7
	comp=Z,11nm,0.6s,mb5.0,baz=290,slow=3.0,SNR=31						
MLR				LR	LR	12 28 49.0	
	comp=Z,58nm,21.5s,MS3.9,baz=244,slow=36						
MLR	Muntele Rosu	81.28	342	⇓P	P	11 51 33.0	+1.9
WATA	Walderalm	81.44	353	⇓iP	P	11 51 32.6	+0.7
MOTA	Moosalm	81.46	353	⇓iP	P	11 51 32.6	+0.5
KBA	Koelnbreinsper	81.53	351	⇑iP	P	11 51 33.7	+1.3
SQTA	Sankt Quirin	81.58	353	⇑iP	P	11 51 33.4	+0.7
WRAB	Tennant Creek	81.61	223	eP	P	11 51 32.2	-1.1
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
WRAB	Tennant Creek	81.61	223	eP	P	11 51 32.2	-1.2
	comp=Z,2.5nm,0.7s,mb4.2						
WB2	Warramunga Arr	81.61	223	eP	P	11 51 32.5	-0.9
WRA	Warramunga Arr	81.62	223	P	P	11 51 32.6	-0.8
	comp=Z,2.0nm,0.6s,mb4.2,baz=32,slow=6.0,SNR=22						
HYF	Humbligny	81.94	359	eP	P	11 51 35.0	+0.5
OBKA	Obir	81.98	350	⇑iP	P	11 51 36.1	+1.4
DAVOX	Davos	82.12	354	P	P	11 51 36.6	+1.2
	comp=Z,4.0nm,0.5s,mb4.6,baz=355,slow=6.0,SNR=6.9						
SSF	Saint Saulge	82.13	358	eP	P	11 51 35.7	+0.2
SSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
SSF	Saint Saulge	82.13	358	eP	P	11 51 35.7	+0.2
	comp=Z,4.3nm,0.6s,mb4.6						
AVF	Avril sur Loir	82.40	358	eP	P	11 51 37.0	+0.1
	comp=Z,20nm,1.0s,mb4.7						
AVF	Avril sur Loir	82.40	358	eP	P	11 51 37.0	+0.1
AVF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CABF	La Chapelle	82.50	356	eP	P	11 51 37.9	+0.5
SMF	Signal de Mont	82.54	358	eP	P	11 51 37.7	+0.1
	comp=Z,16nm,0.7s,mb4.9						
SMF	Signal de Mont	82.54	358	eP	P	11 51 37.7	+0.1
SMF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
MFF	Saint Martin d	82.61	1	eP	P	11 51 38.2	+0.2
	comp=Z,30nm,1.0s,mb5.0						
MFF	Saint Martin d	82.61	1	eP	P	11 51 38.2	+0.2
MFF				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
TCF	Toulx Ste Croi	82.92	359	eP	P	11 51 39.8	+0.2
	comp=Z,9.4nm,0.8s,mb4.6						
TCF	Toulx Ste Croi	82.92	359	eP	P	11 51 39.8	+0.2
TCF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
RJF	Les Rejaudoux	83.91	359	eP	P	11 51 45.2	+0.7
FITZ	Fitzroy Crossi	84.06	232	⇑iP	P	11 51 46.3	+0.4
	comp=Z,14nm,0.6s,mb5.3						
ORIF	Oris-en-Rattie	84.19	356	eP	P	11 51 47.3	+1.4
	comp=Z,6.6nm,0.6s,mb4.6						
ORIF	Oris-en-Rattie	84.19	356	eP	P	11 51 47.3	+1.4
ORIF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
LFF	La Frestale	84.28	360	eP	P	11 51 46.9	+0.5
	comp=Z,16nm,0.6s,mb5.0						
LFF	La Frestale	84.28	360	eP	P	11 51 46.9	+0.5
LFF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.0						
CAF	Calviac	84.29	359	eP	P	11 51 47.2	+0.8
VIVF	Saint-Julien-l	84.30	357	eP	P	11 51 47.3	+0.8
	comp=Z,8.6nm,0.8s,mb4.7						
VIVF	Saint-Julien-l	84.30	357	eP	P	11 51 47.3	+0.8
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
MBDF	Montbardon	84.35	356	eP	P	11 51 47.9	+1.2
	comp=Z,14nm,0.8s,mb4.8						
MBDF	Montbardon	84.35	356	eP	P	11 51 47.9	+1.2
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8						
VTS	Vitosha	84.58	343	⇓P	P	11 51 36.3	-12
ASAR	Alice Springs	85.10	222	P	P	11 51 51.1	+0.2
	comp=Z,2.4nm,0.8s,mb4.4,baz=25,slow=5.5,SNR=21						
ASPA	Alice Springs	85.10	222	eP	P	11 51 51.3	+0.4
SMRF	Simiane la Rot	85.15	356	eP	P	11 51 52.2	+1.5
SBF	Sospel	85.17	355	eP	P	11 51 51.4	+0.6
FRF	La Foret Royal	85.52	356	eP	P	11 51 53.0	+0.5
	comp=Z,11nm,0.7s,mb4.9						
FRF	La Foret Royal	85.52	356	eP	P	11 51 53.0	+0.5
FRF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
LMR	La Mourre	85.75	356	eP	P	11 51 54.2	+0.5
MTLF	Montolieu	85.87	359	eP	P	11 51 55.2	+0.9
EPF	Esparros	86.19	0	eP	P	11 51 56.5	+0.7
ETSF	Etsaut	86.31	1	eP	P	11 51 57.6	+1.2
	comp=Z,12nm,0.6s,mb5.0						
ETSF	Etsaut	86.31	1	eP	P	11 51 57.6	+1.2
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.0						
PGF	Pioggiola	86.39	354	eP	P	11 51 57.4	+0.6
	comp=Z,59nm,1.0s,mb5.5						
PGF	Pioggiola	86.39	354	eP	P	11 51 57.4	+0.6
PGF				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.5						
STKA	Stephens Creek	89.56	212	P	P	11 52 13.5	+1.2
	comp=Z,4.3nm,0.8s,mb4.8,baz=337,slow=6.1,SNR=6.9						
STKA	Stephens Creek	89.56	212	eP	P	11 52 12.8	+0.5
DBIC	Dimbokro	122.20	6	PKP	PKPdf	11 58 09.9	+1.1
	comp=Z,1.6nm,0.5s,baz=9.4,slow=5.9,SNR=8.5						
PLCA	Paso Flores	131.23	107	PKP	PKPdf	11 58 27.3	+1.9
	comp=Z,1.3nm,0.7s,baz=4.9,slow=6.7,SNR=3.3						
TSUM	Tsumeb	145.41	331	ePKP	PKPdf	11 58 53.2	+1.6
LBTB	Lobatse	147.64	314	ePKP2	PKPab	11 59 00.1	-2.3
BOSA	Boshof	150.87	311	ePKIKP	PKPdf	11 59 08.0	+7.8

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*NAO **04** 13:13:20.6±2.8, 60.84N×29.05E, ML2.0*
*IDC **04** 13:13:23.9±2.0, 60.95N×28.96E, mb1 3.3/3, mb1mx3.1/18, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=18.3km s-min=10.5km az=163.0*
*BER **04** 13:13:24.3±4.0, 61.02N×28.94E, ML2.0(NAO), Suspected explosion*
HEL 04 13:13:23.2±0.2**, 60.92N×28.97E, ML1.8, ML2.0**(NAO)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	Virojoki	0.80	242	eP	Pg	13 13 37.3	-1.7
VJF				eS	Sg	13 13 46.9	-2.8
FIA0	FINESS Array S	1.50	292	Pn	Pn	13 13 49.5	-1.9
	baz=111,slow=16						
FIA0				Lg		13 14 10.1	
	baz=102,slow=37						
FIA0				Rg		13 14 17.3	
	baz=119,slow=56						
FIA0	FINESS Array S	1.50	292	eP	Pn	13 13 50.0	-1.4
FIA0				eS	Sb	13 14 09.1	-2.0
FINES	FINESS Array B	1.50	292	Pg	Pg	13 13 49.5	-3.6
	0.7nm,0.3s,baz=108,slow=16,SNR=31						
FINES				Lg		13 14 10.1	
	2.8nm,0.3s,baz=93,slow=29,SNR=37						
FINES				Rg		13 14 17.3	
	19nm,0.7s,baz=98,slow=28,SNR=37						
PVF	Pernaja	1.57	258	eP	Pn	13 13 51.9	-0.7
PVF				eS	Sb	13 14 12.7	-0.6
KAF	Kangasniemi	1.75	314	eP	Pn	13 13 54.6	-0.5
KAF				eS	Sn	13 14 16.4	-2.0
JOF	Joensuu	2.29	28	eP	Pn	13 14 01.8	-0.9
JOF				eS	Sn	13 14 30.1	-2.0
JOF				MSG		13 14 31.8	
	comp=Z,3.5nm,0.4s						
KEF	Keuruu	2.33	304	eP	Pn	13 14 03.2	-0.1
KEF				eS	Sn	13 14 31.1	-2.0
KJN	Kajaani	3.23	350	eP	Pn	13 14 15.5	-0.7
KJN				eS	Sn	13 14 53.3	-2.7
KJN				eSB	Sb	13 14 59.7	-1.7
KJN				MSG		13 15 00.5	
	comp=Z,3.3nm,0.2s						
VAF	Ylistaro	3.66	308	eP	Pn	13 14 20.4	-1.8
VAF				eS	Sn	13 15 02.9	-3.8
HFS	Hagfors	7.58	271	Pn	Pn	13 15 13.7	-4.0
	comp=Z,0.0nm,0.3s,baz=104,slow=12,SNR=3.0						
HFS				Sn	Sn	13 16 36.8	-8.5
	comp=Z,0.0nm,0.3s,baz=270,slow=5.9,SNR=2.6						
HFS				Lg		13 17 25.3	
	comp=Z,0.1nm,0.3s,baz=82,slow=33,SNR=3.3						
NOA	NORSAR Array B	8.63	279	Pn	P	13 15 28.4	-4.0
	comp=Z,0.1nm,0.3s,baz=113,slow=6.8,SNR=2.8						
NOA				Sn	Sn	13 17 03.8	-7.8
	comp=Z,0.1nm,0.3s,baz=148,slow=17,SNR=3.0						
NOA				Lg		13 17 54.0	
	comp=Z,0.2nm,0.3s,baz=109,slow=19,SNR=2.9						
ARA0	ARCESS Array S	8.77	352	Pn	P	13 15 28.9	-5.3
	baz=163,slow=16						
ARA0				Sn	Sn	13 17 05.7	-9.4
	baz=170,slow=28						
ARA0				Lg		13 17 48.4	
	baz=168,slow=28						
ARA0	ARCESS Array S	8.77	352	eP	P	13 15 28.9	-5.3
ARA0				eS	Sn	13 17 05.7	-9.4
ARA0				e		13 17 48.4	
ARCES	ARCESS Array B	8.77	352	Pn	P	13 15 29.1	-5.1
	comp=Z,0.1nm,0.3s,baz=169,slow=12,SNR=9.3						
ARCES				Sn	Sn	13 17 04.8	-10
	comp=Z,0.1nm,0.3s,baz=162,slow=24,SNR=3.8						
ARCES				Lg		13 17 49.0	
	comp=Z,0.2nm,0.3s,baz=153,slow=32,SNR=5.4						

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*NEIC **04** 13:17:42.4±0.8, 50.10N×18.45E, h5km, MG2.5(WAR), Error ellipse: s-maj=11.4km s-min=7.6km az=177.0*
*PRU **04** 13:17:43.8, 50.13N×18.34E*
WAR 04 13:17:42.4, 50.07N×18.46E, h0km, ML2.5, 3D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.17	275	⇓iPG	Pg	13 17 46.8	+1.0
RAC				⇓eSG	Sg	13 17 50.8	+2.7
RAC	Raciborz	0.17	275	⇓iPg	Pg	13 17 46.8	+1.0
RAC				eSg	Sg	13 17 49.8	+1.7
OKC	Ostrava-Krasne	0.31	221	ePG	Pg	13 17 49.0	+0.5
OKC				eSG	Sg	13 17 54.0	+1.4
MORC	Moravsky Berou	0.66	244	ePg	Pg	13 17 54.9	-0.7
OJC	Ojcow	0.87	79	ePg	Pg	13 17 59.1	-0.8
OJC				eSg	Sg	13 18 12.7	+1.2
LIKS	Likavka	1.10	157	eSN	Sn	13 18 21.3	+0.3
NIE	Niedzica	1.37	118	ePG	Pg	13 18 07.0	-2.7
NIE				eSG	Sg	13 18 26.0	-1.9
DPC	Dobruska-Polom	1.40	282	ePG	Pg	13 18 08.5	-1.9
DPC				eSG	Sg	13 18 27.0	-2.1
	50nm,0.3s						
KSP	Ksiaz	1.59	300	ePg	Pg	13 18 10.9	-3.2
KSP				eSg	Sg	13 18 32.8	-2.5
KSP	Ksiaz	1.59	300	ePG	Pg	13 18 11.0	-3.1
KSP				eSG	Sg	13 18 33.0	-2.3
KSP	Ksiaz	1.59	300	ePn	Pn	13 18 10.9	-0.9
KSP				ePg	Pg	13 18 13.5	-0.6
KSP				eSg	Sg	13 18 33.0	-2.3
VYHS	Vyhne	1.59	171	ePN	Pn	13 18 12.0	+0.1
VYHS				eSN	Sn	13 18 34.0	+0.5
UPC	Upice	1.63	287	ePG	Pg	13 18 12.1	-2.9
UPC				eSG	Sg	13 18 33.2	-3.5
KECS	Kecovo	2.07	139	eSN	Sn	13 18 48.3	+2.8
CRVS	Cervenica-Dubn	2.28	120	ePN	Pn	13 18 25.9	+4.2
CRVS				eSN	Sn	13 18 56.2	+5.3
PSZ	Piszkesteto	2.35	156	ePn	Pn	13 18 22.2	-0.6
PSZ				eSn	Sn	13 18 53.8	+1.1
PRU	Pruhonice	2.53	270	ePG	Pg	13 18 27.7	-5.2
PRU				eSG	Sg	13 19 00.2	-6.4
KHC	Kasperske Hory	3.31	255	ePN	Pn	13 18 33.0	-3.5
KHC				ePG	Pg	13 18 43.2	-5.3
KHC				ex	x	13 19 04.5	
KHC				eSG	Sg	13 19 28.6	-4.0
CLL	Collm	3.69	292	eSG	Sg	13 19 39.0	-6.1

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*STR **04** 13:28:50.8±0.1, 43.05N×0.38W, h5km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **04** 13:28:50.7±0.0, 43.05N×0.40W, h3km, Md3.2/2, Ml3.3/14, Error ellipse: s-maj=0.8km s-min=0.7km az=30.0*
*NEIC **04** 13:28:50.8, 43.05N×0.38W, h5km, ML3.3(LDG), ML2.9(STR), After STR.*
*CSEM **04** 13:28:50.8±0.1, 43.05N×0.39W, h3km, ML3.4/11, Error ellipse: s-maj=1.0km s-min=0.8km az=5.0*
ISC 04 13:28:48.9±0.4**, 43.25N**±0.02×**0.34W**±0.03**, h2**km±3km**, n33, σ1§22**/73**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	Montagne du Re	0.18	192	Pg	Pg	13 28 51.5	-1.0
LABF	Labassere	0.36	123	Pg	Pg	13 28 57.3	+1.1
ETSF	Etsaut	0.38	205	ePg	Pg	13 28 54.7	-1.8
ETSF				eSg	Sg	13 28 57.8	-3.8
	1μm,0.3s						
ORDF	Ordiarp	0.43	266	Pg	Pg	13 28 59.2	+1.6
ORDF				Sg	Sg	13 29 06.2	+2.8
VIEF	Viey	0.45	143	Pg	Pg	13 28 57.3	-0.6
VIEF				Sg	Sg	13 29 02.0	-1.9
LARF	Larrau	0.52	246	Pg	Pg	13 28 59.1	-0.1
LARF				Sg	Sg	13 29 06.0	-0.1
EPF	Esparros	0.54	113	ePg	Pg	13 29 00.8	+1.0
EPF				eSg	Sg	13 29 08.4	+1.4
	148nm,0.3s						
RESF	Ens	0.66	131	Pg	Pg	13 29 01.8	-0.4
RESF				Sg	Sg	13 29 10.3	-0.7
OSSF	Osses	0.67	271	Pg	Pg	13 29 02.7	+0.4
MELF	Melles	0.89	114	Pg	Pg	13 29 07.0	+0.3
SALF	Salau	1.22	113	Pg	Pg	13 29 12.8	-0.6
SALF				Sg	Sg	13 29 30.8	+1.1
LFF	La Frestale	1.86	24	ePn	Pn	13 29 24.5	+2.4
LFF				ePg	Pg	13 29 29.1	+3.0
LFF				eSn	Sn	13 29 49.2	+2.7
LFF				eSg	Sg	13 29 56.3	+5.3
	97nm,0.3s						
MTLF	Montolieu	1.87	86	ePn	Pn	13 29 22.9	+0.7
MTLF				ePg	Pg	13 29 26.8	+0.5
MTLF				eSg	Sg	13 29 51.7	+0.5
	66nm,0.3s						
VALF	Valcebollere	1.93	115	Pg	Pg	13 29 27.2	-0.2
RJF	Les Rejaudoux	2.45	32	ePn	Pn	13 29 32.4	+1.8
RJF				ePg	Pg	13 29 39.3	+1.4
RJF				eSn	Sn	13 30 02.9	+1.4
RJF				eSg	Sg	13 30 13.3	+2.7
	41nm,0.3s						
EBR	Ebro Roquetas	2.50	165	eSN	Sn	13 29 58.0	-4.7
LASF	Ste Croix	3.16	73	ePn	Pn	13 29 41.0	+0.4
LASF				ePg	Pg	13 29 51.3	-0.7
LASF				eSg	Sg	13 30 33.5	-0.6
	23nm,0.2s						
LBL	Lubilhac	3.26	51	Pn	Pn	13 29 43.0	+1.0
MFF	Saint Martin d	3.36	2	ePn	Pn	13 29 44.7	+1.2
MFF				ePg	Pg	13 29 56.5	+0.5
MFF				eSn	Sn	13 30 25.2	+0.7
MFF				eSg	Sg	13 30 41.7	+1.0
	13nm,0.3s						
TCF	Toulx Ste Croi	3.54	30	ePn	Pn	13 29 47.4	+1.3
TCF				ePg	Pg	13 29 59.9	+0.2
TCF				eSn	Sn	13 30 29.2	+0.1
TCF				eSg	Sg	13 30 47.9	+1.0
	12nm,0.2s						
VIVF	Saint-Julien-l	3.96	64	ePn	Pn	13 29 52.1	+0.1
VIVF				ePg	Pg	13 30 06.5	-1.4
VIVF				eSg	Sg	13 30 59.1	-1.6
	13nm,0.4s						
BGF	Bois d'Agland	4.01	33	ePn	Pn	13 29 53.5	+0.8
BGF				ePg	Pg	13 30 08.1	-0.9
BGF				eSg	Sg	13 31 02.7	+0.2
	52nm,0.4s						
AVF	Avril sur Loir	4.41	35	ePn	Pn	13 29 58.7	+0.3
AVF				eSn	Sn	13 30 49.5	-1.5
AVF				eSg	Sg	13 31 14.5	-1.1
	14nm,0.5s						
SMF	Signal de Mont	4.51	40	ePn	Pn	13 29 59.9	0.0
SMF				eSg	Sg	13 31 17.7	-1.5
	6.3nm,0.3s						
HYF	Humbligny	4.54	27	ePn	Pn	13 30 00.8	+0.6
HYF				eSg	Sg	13 31 19.4	-0.7
SSF	Saint Saulge	4.69	34	ePn	Pn	13 30 02.7	+0.4
SSF				ePg	Pg	13 30 20.7	-1.8
SSF				eSg	Sg	13 31 23.4	-1.5
	8.3nm,0.4s						
ORIF	Oris-en-Rattie	4.79	67	ePn	Pn	13 30 03.1	-0.6
ORIF				eSg	Sg	13 31 24.4	-3.8
	5.1nm,0.5s						
QUIF	Quistinic	5.07	338	ePn	Pn	13 30 07.5	-0.3
QUIF				eSn	Sn	13 31 05.5	-2.3
GRR	Gorron	5.16	356	ePn	Pn	13 30 09.2	+0.2
GRR				eSn	Sn	13 31 08.0	-1.9
GRR				eSg	Sg	13 31 39.1	-1.5
	4.4nm,0.3s						
SGMF	Saint Gilles	5.24	344	ePn	Pn	13 30 10.3	+0.1
SGMF				eSn	Sn	13 31 09.3	-2.8
LDF	La Druitiere	5.35	2	ePn	Pn	13 30 11.7	0.0
LDF				eSn	Sn	13 31 12.3	-2.5
ROSF	Rostrenen	5.49	339	ePn	Pn	13 30 13.3	-0.3
ROSF				eSn	Sn	13 31 14.8	-3.4
MEZF	Maizieres J'vi	6.46	34	ePn	Pn	13 30 27.0	-0.4

IDC 04 13:38:46.4±13.0**, 20.48S×175.18E, mb4.2**/4**, mb1 4.4**/5**, mb1mx4.0**/16**, mbtmp4.2**/5**, ML3.8**/1**, MS4.0**/3**, Ms1 4.0**/3**, ms1mx3.1**/18**, Error ellipse: s-maj=264.6km s-min=33.6km az=50.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.80	175	P	P	13 42 57.3	+0.1
	0.3nm,0.3s,baz=247,slow=1.3,SNR=3.9						
RPZ	Rata Peaks	23.43	188	P	P	13 43 56.2	-1.7
	8.1nm,0.9s,baz=4.5,slow=10.0,SNR=3.2						
RPZ				LR	LR	13 50 42.0	
	comp=Z,345nm,20.4s,baz=28,slow=30						
STKA	Stephens Creek	32.08	242	P	P	13 45 15.4	-1.9
	4.4nm,1.1s,baz=64,slow=9.1,SNR=3.5						
WB2	Warramunga Arr	38.25	263	eP	P	13 46 10.0	-0.1
WRA	Warramunga Arr	38.26	263	P	P	13 46 08.8	-1.4
	1.6nm,0.8s,baz=97,slow=8.5,SNR=15						
ASAR	Alice Springs	38.29	257	P	P	13 46 08.6	-1.9
	4.6nm,0.9s,baz=85,slow=9.5,SNR=24						
ASPA	Alice Springs	38.29	257	eP	P	13 46 08.5	-2.0
FITZ	Fitzroy Crossi	46.68	264	eP	P	13 47 21.0	+2.1
	14nm,0.9s						
VNDA	Vanda	57.46	183	LR	LR	14 08 32.1	
	comp=Z,322nm,18.2s,baz=7.7,slow=31						
ASAJ	Asahikawa	70.87	336	LR	LR	14 16 58.9	
	comp=Z,35nm,18.8s,baz=194,slow=32						

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*ISK **04** 14:22:16.9, 38.32N×25.20E, h18km, MD3.2*
*CSEM **04** 14:22:16.8±0.1, 38.35N×25.21E, h15km, ML3.4, Error ellipse: s-maj=3.3km s-min=2.8km az=14.0*
*ATH **04** 14:22:17.4, 38.38N×25.13E, h30km±11km, MD3.2/12, ML3.4*
*NEIC **04** 14:22:17.2, 38.35N×25.14E, h32km, ML3.4(ATH), After ATH.*
ISC 04 14:22:19.0±0.4**, 38.28N**±0.04×**25.15E**±0.04**, h30**km**, n26, σ1§19**/35**, 3C, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	1.04	258	ePN	Pn	14 22 37.5	-0.2
MPAR	Parnis Oros	1.12	264	ePN	Pn	14 22 39.0	+0.1
ATH	Athens Observa	1.17	255	ePN	Pn	14 22 40.0	+0.4
APE	Apeiranthos	1.24	166	ePN	Pn	14 22 40.4	-0.2
APE				eSN	Sn	14 22 57.7	+1.3
APE	Apeiranthos	1.24	166	ePB	Pb	14 22 41.2	-0.6
APE	Apeiranthos	1.24	166	ePb	Pb	14 22 40.8	-1.0
APE				eSn	Sn	14 22 57.7	+1.3
PRK	Paraskevi	1.31	42	ePN	Pn	14 22 40.7	-0.9
PRK				eSN	Sn	14 22 57.9	-0.2
NSAL	Nisos Salamina	1.38	255	ePN	Pn	14 22 43.0	+0.4
NAIG	Nisos Aigina	1.41	249	ePN	Pn	14 22 44.0	+1.0
NAIG	Nisos Aigina	1.41	249	ePn	Pn	14 22 44.5	+1.5
SMG	Samos	1.45	112	ePN	Pn	14 22 44.7	+1.1
BLCB	Balcova	1.49	85	ePN	Pn	14 22 43.2	-1.0
BLCB				eSN	Sn	14 23 01.8	-1.0
MGER	Gerania Oros	1.52	260	ePN	Pn	14 22 45.4	+0.9
MGER	Gerania Oros	1.52	260	ePn	Pn	14 22 46.0	+1.5
AYVA	Ayvalik	1.59	49	i P	Pn	14 22 45.7	+0.1
AYVA				i S	Sn	14 23 07.6	+2.4
LIA	Limnos Island	1.62	1	⇑iPB	Pb	14 22 43.6	-4.6
IZM	Izmir	1.67	85	ePN	Pn	14 22 45.3	-1.4
KDAG	Bornova	1.67	85	i P	Pn	14 22 48.9	+2.1
KDAG				i S	Sn	14 23 14.2	+6.9
LKR	Lokris	1.73	283	⇑iPN	Pn	14 22 46.9	-0.7
NEO	Neokhori	1.82	305	ePB	Pb	14 22 47.6	-4.0
BODT	Bodrum	2.10	125	ePN	Pn	14 22 51.8	-1.1
AYDN	Tasoluk	2.24	105	i P	Pn	14 23 00.7	+5.7
AYDN				i S	Sn	14 23 29.7	+7.8
VLI	Veliai	2.35	229	ePn	Pn	14 22 55.2	-1.2
MANT	Manisa	2.69	84	i P	Pn	14 23 08.5	+7.2
MANT				i S	Sn	14 23 42.3	+9.1
ITM	Ithomi	2.78	248	⇑iPb	Pb	14 23 04.1	-3.7
ULDT	Uludag	3.62	58	i P	Pn	14 23 24.3	+10
ULDT				i S	Sn	14 24 08.0	+11

*LJU **04** 14:39:14.9, 46.97N×14.63E, ML2.1*
*NEIC **04** 14:39:15.9±0.5, 46.97N×14.64E, h10km, ML2.7(VIE), Error ellipse: s-maj=6.0km s-min=4.2km az=45.0*
*CSEM **04** 14:39:15.6±0.1, 46.97N×14.66E, h10km, ML2.9/5, Error ellipse: s-maj=0.9km s-min=0.9km az=37.0*
*PRU **04** 14:39:16.2, 47.00N×14.70E*
ISC 04 14:39:14.6±0.3**, 46.99N**±0.02×**14.64E**±0.02**, h10km, n43, σ0.78**/72**, 9C-3D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BISS	**Bistriski jare**	**0.48**	**135**	*i* Pg	**Pg**	**14 39 24.7**	**+0.4**
BISS				*i* Sg	**Sg**	**14 39 30.6**	**-0.1**
	comp=Z,598nm,0.1s						
BISS	**Bistriski jare**	**0.48**	**135**	*i* Pg	**Pg**	**14 39 24.7**	**+0.4**
BISS				*i* Sg	**Sg**	**14 39 30.6**	**-0.2**
PERS	**Pernice**	**0.48**	**137**	⇓*i*Pg	**Pg**	**14 39 24.8**	**+0.5**
PERS				*i* Sg	**Sg**	**14 39 30.8**	**-0.1**
	comp=Z,157nm,0.1s						
OBKA	**Obir**	**0.48**	**187**	⇑*i*PG	**Pg**	**14 39 25.4**	**+1.0**
OBKA				*i* SG	**Sg**	**14 39 31.9**	**+0.9**
	comp=Z,80nm,0.2s						
ARSA	**Arzberg**	**0.66**	**66**	⇑*i*PG	**Pg**	**14 39 27.8**	**-0.1**
ARSA				*i* SG	**Sg**	**14 39 36.7**	**0.0**
	comp=Z,20nm,0.1s						
GROS	**Grobnik**	**0.79**	**131**	*i* Pg	**Pg**	**14 39 30.3**	**-0.2**
GORS	**Gorjuse**	**0.81**	**214**	*i* Pg	**Pg**	**14 39 31.3**	**+0.5**
GORS				*i* Sg	**Sg**	**14 39 41.6**	**0.0**
	comp=Z,49nm,0.2s						
GORS	**Gorjuse**	**0.81**	**214**	*i* Pg	**Pg**	**14 39 31.3**	**+0.5**
GORS				*i* Sg	**Sg**	**14 39 41.6**	**0.0**
	comp=Z,49nm,0.2s						
KBA	**Koelnbreinsper**	**0.89**	**276**	⇑*i*PG	**Pg**	**14 39 32.4**	**-0.1**
KBA				*i* SG	**Sg**	**14 39 45.3**	**+0.9**
	comp=Z,16nm,0.1s						
MOA	**Molln**	**0.90**	**344**	⇑*i*PG	**Pg**	**14 39 33.1**	**+0.5**
MOA				*i* SG	**Sg**	**14 39 45.6**	**+0.9**
	comp=Z,2.4nm,0.1s						
LSR	**Lussari**	**0.92**	**237**	⇑*i*Pg	**Pg**	**14 39 33.3**	**+0.2**
PDKS	**Podkum**	**0.96**	**165**	*i* Pg	**Pg**	**14 39 34.2**	**+0.3**
CADS	**Cadrg**	**0.98**	**220**	*i* Pg	**Pg**	**14 39 34.3**	**0.0**
CADS				*i* Sg	**Sg**	**14 39 47.2**	**-0.2**
	comp=Z,39nm,0.2s						
CADS	**Cadrg**	**0.98**	**220**	*i* Pg	**Pg**	**14 39 34.3**	**0.0**
CADS				*i* Sg	**Sg**	**14 39 47.2**	**-0.2**
	comp=Z,39nm,0.2s						
DOBS	**Dobrina**	**1.01**	**145**	*i* Pg	**Pg**	**14 39 34.9**	**0.0**
DOBS				*e*Sg	**Sg**	**14 39 48.2**	**-0.3**
	comp=Z,8.0nm,0.1s						
DOBS	**Dobrina**	**1.01**	**145**	*i* Pg	**Pg**	**14 39 34.9**	**-0.1**
DOBS				*e*Sg	**Sg**	**14 39 48.2**	**-0.3**
PTCC	**Patocco-Chiusa**	**1.06**	**237**	*e*Pn	**Pn**	**14 39 35.8**	**+0.3**
PTCC				*e*Sn	**Sn**	**14 39 49.8**	**-0.5**
PTCC	**Patocco-Chiusa**	**1.06**	**237**	*e*Pn	**Pn**	**14 39 35.8**	**+0.4**
DRE	**Drenchia**	**1.07**	**221**	⇓*i*Pg	**Pg**	**14 39 35.7**	**-0.2**
DRE				*i* Sg	**Sg**	**14 39 50.2**	**0.0**
ROBS	**Robic**	**1.08**	**227**	*i* Pg	**Pg**	**14 39 35.9**	**-0.2**
ROBS				*i* Sg	**Sg**	**14 39 50.4**	**-0.2**
	comp=Z,4.0nm,0.1s						
VOY	**Vojsko**	**1.09**	**209**	*e*Sg	**Sg**	**14 39 50.7**	**-0.2**
VOJS	**Vojsko**	**1.09**	**209**	*i* Pg	**Pg**	**14 39 36.6**	**+0.2**
PLRO	**Paularo**	**1.11**	**247**	⇓*i*Pg	**Pg**	**14 39 36.6**	**-0.4**
PLRO				*i* Sg	**Sg**	**14 39 51.9**	**+0.1**
LEGS	**Legarje**	**1.14**	**155**	*i* Pg	**Pg**	**14 39 37.6**	**+0.1**
JAVS	**Javornik**	**1.17**	**200**	*i* Pg	**Pg**	**14 39 38.0**	**0.0**
JAVS				*e*Sg	**Sg**	**14 39 53.3**	**-0.2**
	comp=Z,10.0nm,0.2s						
JAVS	**Javornik**	**1.17**	**200**	*i* Pg	**Pg**	**14 39 38.0**	**+0.1**
JAVS				*e*Sg	**Sg**	**14 39 53.3**	**-0.2**
	comp=Z,10.0nm,0.2s						
GOLS	**Golise**	**1.19**	**145**	*i* Pg	**Pg**	**14 39 38.4**	**0.0**
GOLS				*e*Sg	**Sg**	**14 39 53.4**	**-1.0**
	comp=Z,12nm,0.2s						
GOLS	**Golise**	**1.19**	**145**	*i* Pg	**Pg**	**14 39 38.4**	**-0.1**
GOLS				*e*Sg	**Sg**	**14 39 53.3**	**-1.1**
VISS	**Visnje**	**1.19**	**173**	*i* Pg	**Pg**	**14 39 38.3**	**-0.2**
BAD	**Bernadia**	**1.22**	**233**	⇑*i*Pg	**Pg**	**14 39 38.6**	**-0.4**
BAD				*i* Sg	**Sg**	**14 39 54.3**	**-1.1**
KOGS	**Kog**	**1.23**	**115**	*e*Pg	**Pg**	**14 39 39.1**	**-0.2**
KOGS				*e*Sg	**Sg**	**14 39 56.3**	**+0.6**
CRES	**Cresnjev**	**1.29**	**154**	*i* Pg	**Pg**	**14 39 41.5**	**+1.0**
CRES				*e*Sg	**Sg**	**14 39 57.5**	**-0.3**
	comp=Z,5.0nm,0.3s						
FVI	**Forni Avoltri**	**1.34**	**254**	*e*Pn	**Pn**	**14 39 41.1**	**+1.7**
BOJS	**Bojanci**	**1.54**	**164**	*e*Pg	**Pg**	**14 39 44.8**	**-0.7**
GEC2	**GERESS Array S**	**1.96**	**342**	*e*Pn	**Pn**	**14 39 51.8**	**+3.4**
GEC2				*e*Sn	**Sn**	**14 40 18.2**	**+5.0**
WATA	**Walderalm**	**2.12**	**281**	⇑*i*PG	**Pg**	**14 39 55.4**	**-1.6**
WATA				*i* SG	**Sg**	**14 40 26.2**	**+1.0**
	comp=Z,3.6nm,0.2s						
KHC	**Kasperske Hory**	**2.26**	**342**	*e*PN	**Pn**	**14 39 55.5**	**+2.9**
KHC				*e*SG	**Sg**	**14 40 26.2**	**-3.7**
SQTA	**Sankt Quirin**	**2.35**	**277**	⇑*i*PG	**Pg**	**14 40 00.3**	**-1.4**
SQTA				*i* SG	**Sg**	**14 40 33.4**	**+0.3**
	comp=Z,7.3nm,0.4s						
MOTA	**Moosalm**	**2.44**	**280**	⇑*i*PG	**Pg**	**14 40 02.0**	**-1.3**
MOTA				*i* SG	**Sg**	**14 40 36.2**	**+0.3**
	comp=Z,1.7nm,0.3s						
PRU	**Pruhonice**	**3.00**	**359**	*e*SG	**Sg**	**14 40 52.6**	**-2.1**
DPC	**Dobruska-Polom**	**3.54**	**18**	*e*SG	**Sg**	**14 41 07.5**	**-5.2**
NKC	**Novy Kostel**	**3.56**	**337**	*e*SG	**Sg**	**14 41 09.2**	**-3.9**
UPC	**Upice**	**3.64**	**14**	*e*SG	**Sg**	**14 41 11.0**	**-4.8**

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*IDC **04** 14:50:47.4±1.3, 69.06N×16.16W, mb3.6/3, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML3.6/2, MS3.5/3, Ms1 3.5/3, ms1mx3.1/15, Error ellipse: s-maj=40.6km s-min=23.1km az=30.0*
ISC 04 14:50:46.3±0.8**, 68.98N**±0.04×**16.2W**±0.2**, h10km, n25, σ0.80**/32**, mb3.5**/3**, MS3.5**/2**, Iceland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**2.54**	**197**	P	**Pn**	**14 51 27.9**	**-0.5**
IGRI				S	**Sn**	**14 51 59.4**	**-0.3**
ILEI	**Leirhofn**	**2.58**	**183**	P	**Pn**	**14 51 28.3**	**-0.7**
ILEI				S	**Sn**	**14 52 01.1**	**+0.3**
IFLA	**Flatey**	**2.90**	**193**	P	**Pn**	**14 51 33.2**	**-0.3**
IGIL	**Gilhagi**	**2.92**	**181**	P	**Pn**	**14 51 32.7**	**-1.0**
IGIL				S	**Sn**	**14 52 08.6**	**-0.5**
IHED	**Heoinshofoi**	**2.94**	**189**	P	**Pn**	**14 51 33.5**	**-0.6**
IHED				S	**Sn**	**14 52 09.4**	**-0.4**
IBRE	**Brettingsstaoi**	**2.94**	**194**	P	**Pn**	**14 51 33.5**	**-0.6**
IBRE				S	**Sn**	**14 52 10.4**	**+0.6**
ISIG	**Siglufjorour**	**3.04**	**201**	P	**Pn**	**14 51 35.7**	**+0.2**
IGRA	**Granastaoir**	**3.12**	**191**	P	**Pn**	**14 51 36.2**	**-0.4**
IGRA				S	**Sn**	**14 52 14.6**	**+0.3**
IHLA	**Hella**	**3.16**	**197**	P	**Pn**	**14 51 36.7**	**-0.5**
IHRN	**Hraun**	**3.25**	**210**	P	**Pn**	**14 51 39.0**	**+0.5**
IKVO	**Krokottuvotn**	**3.29**	**185**	P	**Pn**	**14 51 38.7**	**-0.3**
IGRS	**Grimsstaoir**	**3.35**	**180**	P	**Pn**	**14 51 39.2**	**-0.7**
IGRS				S	**Sn**	**14 52 20.9**	**+0.6**
IREN	**Reynihlio**	**3.36**	**185**	P	**Pn**	**14 51 39.6**	**-0.4**
IREN				S	**Sn**	**14 52 22.0**	**+1.7**
ISVA	**Svartarkot**	**3.68**	**187**	P	**Pn**	**14 51 44.5**	**-0.1**
ISVA				S	**Sn**	**14 52 31.1**	**+2.6**
IADA	**Aoalbol**	**3.98**	**176**	P	**Pn**	**14 51 48.0**	**-0.9**
IHVA	**Hvannstoosfjol**	**4.04**	**178**	P	**Pn**	**14 51 48.8**	**-0.9**
IBRU	**Bruarjokull**	**4.17**	**179**	P	**Pn**	**14 51 50.4**	**-1.1**
IVSH	**V-Sauoahnukur**	**4.19**	**177**	P	**Pn**	**14 51 51.4**	**-0.4**
BORG	**Borgarnes**	**4.71**	**208**	Pn	**Pn**	**14 52 00.6**	**+1.5**
	5.6nm,0.3s,baz=32,slow=3.5,SNR=12						
FINES	**FINESS Array B**	**18.88**	**93**	P	**P**	**14 55 09.5**	**+0.9**
	0.1nm,0.3s,baz=323,slow=9.5,SNR=5.8						
FINES				LR	LR	15 01 44.2	
	comp=Z,96nm,19.0s,baz=35,slow=35						
FRB	**Frobisher Bay**	**21.04**	**281**	LR	LR	15 02 45.8	
	comp=Z,117nm,20.6s,MS3.2,baz=71,slow=34						
GERES	**GERESS Array B**	**24.93**	**129**	P	**P**	**14 56 11.8**	**+1.4**
	0.4nm,0.6s,mb3.1,baz=302,slow=9.3,SNR=3.6						
YKA	**Yellowknife Ar**	**36.73**	**310**	P	**P**	**14 57 55.0**	**+0.2**
	0.8nm,0.9s,mb3.5,baz=36,slow=8.3,SNR=9.3						
ULM	**Lac du Bonnet**	**40.84**	**285**	LR	LR	15 15 11.7	
	comp=Z,112nm,19.1s,MS3.8,baz=1.9,slow=36						
PDAR	**Pinedale Array**	**52.02**	**291**	P	**P**	**14 59 58.3**	**+0.7**
	1.7nm,1.3s,mb3.8,baz=27,slow=4.0,SNR=3.0						

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*IDC **04** 14:53:24.7±0.7, 17.55S×68.47W, h200km±5km, mb3.3/5, mb1 3.6/7, mb1mx3.5/16, mbtmp3.9/7, Error ellipse: s-maj=19.1km s-min=11.1km az=89.0*
*NEIC **04** 14:53:25.7±0.6, 17.48S×68.47W, h206km±6km, Error ellipse: s-maj=12.7km s-min=11.7km az=120.0*
ISC 04 14:53:24.4±0.6**, 17.56S**±0.06×**68.45W**±0.08**, h213km**±6km**, n14, σ0.81**/14**, mb3.4**/5**, 1C, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.30**	**14**	P	**P**	**14 53 58.8**	**+0.8**
	76nm,0.3s,baz=186,slow=4.2,SNR=1844						
LPAZ				S	**S**	**14 54 22.9**	**-1.0**
	47nm,0.3s,baz=208,slow=8.4,SNR=22						
ARE	**Arequipa**	**3.11**	**290**	⇑*i*P	**P**	**14 54 16.3**	**-0.1**
ARE				*e*S	**S**	**14 54 57.0**	**+0.2**
LVC	**Limon Verde**	**5.05**	**185**	P	**P**	**14 54 41.9**	**+1.5**
	6.4nm,0.3s,baz=350,slow=11,SNR=30						
LVC				S	**S**	**14 55 38.4**	**-1.0**
	7.9nm,0.3s,baz=118,slow=21,SNR=11						
SAML	**Samuel**	**9.97**	**32**	*e*Pn	**P**	**14 55 44.4**	**+0.5**
BDFB	**Brasilia**	**19.68**	**87**	P	**P**	**14 57 39.6**	**+0.6**
	1.4nm,0.3s,baz=278,slow=8.5,SNR=7.2						
TXAR	**Lajitas Array**	**57.70**	**323**	P	**P**	**15 02 54.0**	**-0.9**
	0.2nm,0.5s,mb3.0,baz=143,slow=9.0,SNR=2.6						
DBIC	**Dimbokro**	**67.24**	**75**	P	**P**	**15 03 57.0**	**-1.3**
	1.2nm,0.5s,mb3.8,baz=225,slow=7.4,SNR=4.2						
PDAR	**Pinedale Array**	**70.94**	**329**	P	**P**	**15 04 20.2**	**-0.1**
	0.3nm,0.4s,mb3.2,baz=116,slow=8.4,SNR=4.8						
NVAR	**Mina Array Bea**	**72.69**	**321**	P	**P**	**15 04 31.3**	**+0.4**
	0.3nm,0.4s,mb3.2,baz=135,slow=6.4,SNR=3.4						
YKA	**Yellowknife Ar**	**87.63**	**340**	P	**P**	**15 05 49.8**	**+0.5**
	0.7nm,0.4s,mb3.8,baz=131,slow=4.7,SNR=33						
YKA	**Yellowknife Ar**	**87.63**	**340**	P	**P**	**15 05 49.8**	**+0.5**
ASAR	**Alice Springs**	**133.58**	**209**	PKP	PKPdf	15 12 19.4	+3.2
	0.2nm,0.7s,baz=124,slow=1.4,SNR=3.5						
WRA	**Warramunga Arr**	**136.53**	**212**	PKP	PKPdf	15 12 25.2	+3.5
	0.3nm,0.6s,baz=151,slow=1.9,SNR=4.6						
SONM	**Songino Array**	**149.51**	**7**	PKPbc	PKPdf	15 12 50.5	+7.2
	0.3nm,0.4s,baz=324,slow=3.1,SNR=5.0						

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*CSEM **04** 14:53:50.4±0.4, 37.93N×26.30W, h2km, ML2.3, Error ellipse: s-maj=11.0km s-min=7.4km az=24.0, After PDA*
*PDA **04** 14:53:50.4±0.6, 37.93N×26.30W, h2km±3km, MD2.6, ML2.3, Error ellipse: s-maj=11.6km s-min=4.4km az=17.0*
SVSA 04 14:53:50.4±0.6**, 37.93N**×**26.30W, h2km**±3km**, MD2.6, ML2.3, Error ellipse: s-maj=11.6km s-min=4.4km az=17.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET2	**Ginetes**	**0.40**	**102**	*i* P	Pg	14 53 57.8	-0.5
SET2				*i* S	Sg	14 54 03.4	-0.2
SET4	**Mosteiros**	**0.40**	**98**	*i* P	Pg	14 53 57.6	-0.7
SET4				*i* S	Sg	14 54 03.0	-0.6
PFET	**Feteiras**	**0.42**	**105**	*e*P	Pg	14 53 57.9	-0.8
PFET				*i* S	Sg	14 54 03.4	-0.9
PSAN	**Santo Antonio**	**0.46**	**100**	*i* P	Pg	14 53 58.5	-1.0
PSAN				*i* S	Sg	14 54 04.8	-0.9
FAC	**Faja de Cima**	**0.53**	**107**	*i* S	Sg	14 54 06.8	-1.4
CML	**Cha da Macela**	**0.61**	**105**	*e*S	Sg	14 54 08.8	-2.1
LFA	**Lagoa do Fogo**	**0.66**	**103**	*e*P	Pg	14 54 01.9	-1.7
PMAT	**Coroa da Mata**	**0.66**	**100**	*i* S	Sg	14 54 10.5	-2.0
	88nm,0.2s						
PRCH	**Ribeira Ch**	**0.68**	**107**	*i* S	Sg	14 54 10.8	-2.1
	119nm,0.2s						
MESC	**Monte Escuro**	**0.69**	**101**	*e*P	Pg	14 54 02.1	-2.0
MESC				*i* S	Sg	14 54 11.0	-2.3
VIF	**Vila Franca**	**0.70**	**105**	*e*S	Sg	14 54 11.5	-2.3
	25nm,0.2s						
PCNG	**Congro**	**0.73**	**103**	*e*S	Sg	14 54 12.1	-2.6
	78nm,0.1s						
PFAD	**Fenais da Ajud**	**0.78**	**96**	*e*S	Sg	14 54 12.9	-3.3

CASC 04 14:55:58.1±2.5**, 10.71N**×**86.62W, h32km**±37km**, MD3.8, ML3.2, 4C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	**Concepcion**	**1.30**	**49**	⇑*e*P	Pn	14 56 19.2	-1.1
APON	**Apoyo**	**1.32**	**24**	*e*P	Pn	14 56 20.5	-0.1
TICN	**Ticuantepe**	**1.37**	**16**	*e*P	Pn	14 56 21.1	-0.2
COPN	**Copaltepe**	**1.46**	**1**	⇓*e*P	Pn	14 56 21.8	-0.9
COPN				*e*S	Sn	14 56 40.8	0.0
MGAN	**Managua**	**1.48**	**14**	⇓*e*P	Pn	14 56 24.6	+1.8
MGAN				*i*		14 56 28.9	
	comp=Z,327nm,0.3s						
APYN	**Apoyeque**	**1.54**	**10**	⇑*e*P	Pn	14 56 22.9	-0.8
LEON	**Leon**	**1.72**	**351**	⇑*e*P	Pn	14 56 25.2	-1.1
MIRN	**Miramar**	**1.72**	**357**	⇑*e*P	Pn	14 56 25.4	-1.0
MIRN				*e*S	Sn	14 56 48.7	+1.2
CNGN	**Cerro Negro**	**1.78**	**358**	*e*P	Pn	14 56 26.0	-1.3
CGA2	**Cerro Gallo 2**	**2.23**	**108**	*e*P	Pn	14 56 33.7	0.0
CGA2				*e*S	Sn	14 56 58.6	-1.8
PRS1	**Puriscal**	**2.39**	**107**	*e*P	Pn	14 56 35.0	-0.9
PRS1				*e*S	Sn	14 57 05.1	+0.8
LAJ	**Bijagual**	**2.60**	**109**	*e*P	Pn	14 56 33.8	-5.2
LCR2	**La Lucha 2**	**2.75**	**110**	*e*P	Pn	14 56 41.5	+0.4

KRSC 04 15:10:52.2±2.1**, 55.34N**×**160.42E, h187km**±2km**, ML3.9, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.17**	**250**	*i* P	P	15 11 18.1	+0.9
TUMR				*e*S	S	15 11 36.0	-0.4
KMNR	**Kamenistaya**	**0.43**	**346**	*e*P	P	15 11 18.5	+0.6
KMNR				*e*S	S	15 11 37.3	-0.4
CIRR	**Tsirk**	**0.80**	**13**	*e*P	P	15 11 21.3	+1.8
CIRR				*e*S	S	15 11 42.3	+1.6
KLY	**Klyuchi**	**0.98**	**8**	*e*P	P	15 11 21.2	+0.5
KLY				*e*S	S	15 11 42.5	-0.2
SRDR	**Sredinnyy**	**1.06**	**338**	*i* P	P	15 11 21.5	+0.3
SRDR				*e*S	S	15 11 42.8	-0.9
ESO	**Esso**	**1.14**	**302**	*i* P	P	15 11 22.0	+0.1
ESO				*i* S	S	15 11 46.8	+1.9
KBG	**Krutoberegovo**	**1.58**	**54**	*i* P	P	15 11 26.6	+0.7
KBG				*e*S	S	15 11 49.8	-2.1
KBG				Smax			
	660nm,0.7s						
KBG	**Krutoberegovo**	**1.58**	**54**	*e*P	P	15 11 26.3	+0.4
KBG				*e*S	S	15 11 50.8	-1.1
KBG				Smax			
	420nm,0.8s						
KBTR	**Krutoberegovo**	**1.61**	**56**	*e*P	P	15 11 26.7	+0.5
KBTR				*e*S	S	15 11 49.9	-2.5
GNL	**Ganaly**	**2.19**	**222**	*i* P	P	15 11 33.6	+1.3
GNL				*e*S	S	15 12 03.6	+0.5
SPN	**Mys Shipunski**	**2.26**	**186**	*e*P	P	15 11 32.7	-0.3
SPN				*e*S	S	15 12 02.3	-2.2
NLC	**Nalytchevo**	**2.26**	**197**	*e*P	P	15 11 33.5	+0.4
NLC				*e*S	S	15 12 03.3	-1.3
AVH	**Avacha**	**2.30**	**206**	*e*P	P	15 11 35.4	+1.9
AVH				*e*S	S	15 12 07.3	+2.0
KOK	**Koryaka**	**2.30**	**208**	*e*P	P	15 11 36.0	+2.5
KOK				*e*S	S	15 12 06.6	+1.2
UGLR	**Uglovaya**	**2.33**	**204**	*e*P	P	15 11 35.3	+1.4
UGLR				*e*S	S	15 12 07.2	+1.2
PET	**Petropavlovsk**	**2.54**	**205**	*e*P	P	15 11 37.2	+0.9
PET				*e*S	S	15 12 10.2	-0.1
KRMR	**Karymshinskiy**	**2.85**	**209**	*e*P	P	15 11 41.3	+1.3
KRMR				*e*S	S	15 12 16.8	0.0
GRL	**Gorelyy**	**3.12**	**207**	*e*P	P	15 11 44.7	+1.5
GRL				*e*S	S	15 12 23.7	+1.2
RUS	**Russkaya**	**3.12**	**202**	*i* P	P	15 11 43.6	+0.4
RUS				*e*S	S	15 12 21.0	-1.6
BKI	**Bering**	**3.18**	**90**	*i* P	P	15 11 45.1	+1.2
BKI				*i* S	S	15 12 22.6	-1.2

IDC 04 15:20:52.9±3.0**, 4.14S**×**126.58E, h296km**±32km**, mb2.9**/3**, mb1 3.2**/4**, mb1mx3.1**/14**, mbtmp3.7**/4**, Error ellipse: s-maj=62.0km s-min=11.6km az=64.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.43**	**155**	P	P	15 24 36.9	-2.0
	0.6nm,0.3s,baz=330,slow=11,SNR=95						
WRA				S	S	15 27 39.9	-0.7
	0.1nm,0.3s,baz=330,slow=21,SNR=5.0						
ASAR	**Alice Springs**	**20.66**	**161**	P	P	15 25 11.2	+0.1
	0.5nm,0.4s,baz=347,slow=12,SNR=18						
ASAR				S	S	15 28 44.3	+4.7
	1.7nm,0.7s,baz=348,slow=23,SNR=8.5						
CMAR	**Chiang Mai Arr**	**35.30**	**310**	P	P	15 27 20.5	-1.5
	0.9nm,0.6s,baz=130,slow=6.6,SNR=7.1						
SONM	**Songino Array**	**54.71**	**343**	P	P	15 29 51.8	-2.0
	0.5nm,0.4s,baz=154,slow=5.6,SNR=6.6						

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*NEIC **04** 15:23:10.5±0.5, 20.65S×178.22W, h500km, mb4.4/8, Error ellipse: s-maj=17.3km s-min=12.3km az=174.0*
*IDC **04** 15:23:13.7±2.0, 20.79S×178.32W, h531km±22km, mb3.6/9, mb1 3.7/10, mb1mx3.5/18, mbtmp4.4/10, Error ellipse: s-maj=23.8km s-min=12.6km az=170.0*
ISC 04 15:23:12.3±2.9**, 20.8S**±0.2×**178.4W**±0.1**, h525km**±35km**, n31, σ0.79**/23**, mb4.2**/15**, 5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.86**	**192**	P	**P**	**15 26 49.2**	**-0.8**
	1.1nm,0.3s,baz=91,slow=6.7,SNR=9.4						
CTA	**Charters Tower**	**33.11**	**265**	⇓*i*P	**P**	**15 29 06.7**	**+0.7**
	5.9nm,0.4s,mb4.5						
CTA	**Charters Tower**	**33.11**	**265**	P	**P**	**15 29 06.8**	**+0.8**
	8.2nm,0.5s,mb4.5,baz=93,slow=10,SNR=24						
CTAO	**Charters Tower**	**33.11**	**265**	*e*P	**P**	**15 29 06.5**	**+0.5**
	7.5nm,0.5s,mb4.5						
PMG	**Port Moresby**	**35.06**	**284**	P	**P**	**15 29 22.7**	**+0.4**
	6.6nm,0.6s,mb4.3,baz=206,slow=18,SNR=7.7						
PMG	**Port Moresby**	**35.06**	**284**	*e*P	**P**	**15 29 22.5**	**+0.2**
	12nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**37.35**	**244**	P	**P**	**15 29 42.3**	**+1.2**
	1.8nm,0.5s,mb3.9,baz=312,slow=20,SNR=3.9						
ASAR	**Alice Springs**	**44.11**	**257**	P	**P**	**15 30 35.5**	**+0.2**
	9.0nm,0.5s,mb4.6,baz=90,slow=8.3,SNR=186						
ASAR				PcP	PcP	15 32 09.0	-0.5
	1.3nm,0.6s,baz=102,slow=4.2,SNR=8.0						
ASAR				ScP		15 35 11.6	
	0.4nm,0.7s,baz=98,slow=3.8,SNR=4.3						
ASAR				S	**S**	**15 36 29.0**	**-1.1**
	0.8nm,0.8s,baz=92,slow=16,SNR=7.5						
ASPA	**Alice Springs**	**44.12**	**257**	⇓*i*P	**P**	**15 30 35.8**	**+0.5**
WB2	**Warramunga Arr**	**44.20**	**262**	⇓*i*P	**P**	**15 30 35.6**	**-0.4**
WRAB	**Tennant Creek**	**44.21**	**262**	*e*P	**P**	**15 30 35.4**	**-0.7**
	7.7nm,0.3s,mb4.7						
WRA	**Warramunga Arr**	**44.22**	**262**	P	**P**	**15 30 35.6**	**-0.5**
	3.6nm,0.3s,mb4.4,baz=97,slow=7.4,SNR=166						
KAKA	**Kakadu**	**47.63**	**272**	⇓*i*P	**P**	**15 31 01.9**	**-0.5**
	6.4nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.64**	**263**	⇓*i*P	**P**	**15 31 39.0**	**-0.4**
	3.8nm,0.5s,mb4.0						
MBWA	**Marble Bar**	**57.45**	**258**	P	**P**	**15 32 11.8**	**-1.0**
	3.2nm,0.6s,mb3.7						
NWAO	**Narrogin (SRO)**	**57.93**	**244**	P	**P**	**15 32 16.5**	**+0.5**
	6.2nm,1.0s,mb3.8,baz=25,slow=10,SNR=3.0						
NWAO	**Narrogin (SRO)**	**57.93**	**244**	P	**P**	**15 32 16.5**	**+0.5**
RPN	**Rapa Nui**	**62.73**	**111**	P	**P**	**15 32 47.2**	**-0.4**
	49nm,0.5s,mb5.2,baz=89,slow=5.4,SNR=3.8						
QSPA	**South Pole Qui**	**69.30**	**180**	*e*P	**P**	**15 33 28.5**	**+1.0**
	3.3nm,0.7s,mb4.0						
ILAR	**Eielson Array**	**88.65**	**13**	P	**P**	**15 35 08.7**	**-1.0**
	1.2nm,0.7s,mb3.8,baz=226,slow=5.6,SNR=16						
PDAR	**Pinedale Array**	**89.40**	**43**	P	**P**	**15 35 14.0**	**+0.3**
	0.5nm,0.8s,mb3.4,baz=256,slow=5.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**89.87**	**290**	P	**P**	**15 35 18.2**	**+1.8**
	0.5nm,0.5s,mb3.6,baz=110,slow=2.7,SNR=5.0						
BVAR	**Borovoye Array**	**119.06**	**320**	PKP	PKPdf	15 41 00.7	-0.1
	0.9nm,0.4s,baz=180,slow=1.5,SNR=5.7						
ARCES	**ARCESS Array B**	**129.12**	**349**	PKP	PKPdf	15 41 20.0	+0.2
	1.2nm,0.6s,baz=90,slow=1.2,SNR=8.4						
ARCES	**ARCESS Array B**	**129.12**	**349**	PKP	PKPdf	15 41 20.0	+0.2
FINES	**FINESS Array B**	**135.93**	**343**	PKP	PKPdf	15 41 32.0	-0.7
	0.4nm,0.4s,baz=90,slow=5.7,SNR=4.3						
AKASG	**Malin Array Be**	**143.08**	**331**	PKhKP		15 41 43.5	
	5.5nm,0.4s,baz=43,slow=4.2,SNR=25						
AKASG	**Malin Array Be**	**143.08**	**331**	PKP	PKPdf	15 41 43.5	-2.1
CLL	**Collm**	**148.24**	**346**	*i* PKP1	PKPdf	15 41 59.3	+5.1
CLL				*e*PKP2	PKPab	15 42 04.0	-1.8
BRG	**Berggiesshubel**	**148.43**	**345**	*e*P	PKPdf	15 42 00.4	+5.8
GERES	**GERESS Array B**	**150.36**	**344**	PKPbc	PKPdf	15 42 04.9	+7.2
	1.1nm,0.7s,baz=36,slow=1.7,SNR=10						

IDC 04 15:23:14.5±6.2**, 7.56S**×**104.59E, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=214.9km s-min=28.9km az=54.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.44**	**348**	P	P	15 28 53.1	-2.0
	1.6nm,0.8s,baz=182,slow=8.5,SNR=12						
CMAR				tx	tx	15 29 03.8	
	1.5nm,0.8s,baz=185,slow=8.2,SNR=7.9						
WRA	**Warramunga Arr**	**31.35**	**116**	P	P	15 29 37.0	-2.2
	0.5nm,0.8s,baz=288,slow=10,SNR=3.8						
WRA				tx	tx	15 29 48.0	
	0.6nm,0.5s,baz=286,slow=10,SNR=5.7						
SONM	**Songino Array**	**55.17**	**1**	P	P	15 32 49.1	-2.1
	0.6nm,0.8s,baz=171,slow=10,SNR=5.1						
SONM				*i* x	x	15 33 03.0	
	0.8nm,0.8s,baz=180,slow=8.1,SNR=6.3						

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*NEIC **04** 15:36:01.4±4.6, 36.04N×70.60E, h168km±37km, mb3.9/2, Error ellipse: s-maj=46.9km s-min=17.6km az=49.0*
*IDC **04** 15:36:09.0±28.0, 36.25N×70.79E, h236km±267km, mb3.1/5, mb1 3.3/6, mb1mx3.0/19, mbtmp3.8/6, ML4.2/1, Error ellipse: s-maj=154.5km s-min=26.1km az=30.0*
ISC 04 15:36:01.4±6.4**, 36.1N**±0.3×**70.6E**±0.4**, h179km**±51km**, n8, σ1.04**/8**, mb3.3**/4**, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.17**	**24**	*e*Pn	**P**	**15 37 45.0**	**+0.4**
	2.5nm,0.4s						
BVAR	**Borovoye Array**	**16.90**	**360**	P	**P**	**15 39 48.3**	**-0.3**
	0.9nm,0.3s,baz=164,slow=12,SNR=10						
CHKZ	**Chkalovo**	**17.55**	**0**	*e*P	**P**	**15 39 54.3**	**-1.6**
	2.5nm,0.4s						
ZAL	**Zalesovo**	**20.38**	**25**	P	**P**	**15 40 26.2**	**+0.8**
	0.6nm,0.4s,baz=255,slow=3.0,SNR=3.3						
FINES	**FINESS Array B**	**37.61**	**326**	P	**P**	**15 43 00.8**	**+0.8**
	0.8nm,0.8s,mb3.4,baz=187,slow=33,SNR=3.0						
ARCES	**ARCESS Array B**	**41.37**	**338**	P	**P**	**15 43 31.1**	**+0.2**
	3.0nm,0.9s,mb3.9,baz=111,slow=7.7,SNR=2.8						
WRA	**Warramunga Arr**	**82.07**	**122**	P	**P**	**15 48 03.3**	**+0.1**
	0.2nm,0.9s,mb2.8,baz=323,slow=4.9,SNR=5.2						
ASAR	**Alice Springs**	**84.31**	**125**	P	**P**	**15 48 14.0**	**-0.5**
	0.2nm,0.6s,mb3.0,baz=311,slow=5.2,SNR=5.1						

IDC 04 15:39:21.8±4.2**, 9.05N**×**92.05E, mb3.5**/2**, mb1 3.6**/3**, mb1mx3.4**/17**, mbtmp3.4**/3**, MS2.7**/1**, Ms1 2.9**/1**, ms1mx2.7**/14**, Error ellipse: s-maj=113.0km s-min=33.6km az=78.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.50**	**35**	Pn	P	15 42 08.3	-2.2
	baz=225,slow=14,SNR=4.4						
CMAR				LR	LR	15 47 05.0	
	comp=Z,42nm,20.9s,baz=205,slow=40						
SONM	**Songino Array**	**40.52**	**15**	P	P	15 47 02.5	-1.8
	0.9nm,0.9s,baz=211,slow=7.2,SNR=8.2						
WRA	**Warramunga Arr**	**50.63**	**125**	P	P	15 48 23.0	-2.0
	0.3nm,0.5s,baz=306,slow=8.4,SNR=7.3						

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*IDC **04** 15:45:21.7±1.0, 3.28S×135.44E, mb4.1/5, mb1 4.4/8, mb1mx4.2/14, mbtmp4.2/8, ML4.1/3, MS3.4/3, Ms1 3.4/3, ms1mx3.2/18, Error ellipse: s-maj=50.9km s-min=20.4km az=73.0*
*NEIC **04** 15:45:23.4±0.6, 3.36S×135.28E, h10km, mb4.3/6, Error ellipse: s-maj=14.6km s-min=9.9km az=80.0*
ISC 04 15:45:24.2±0.6**, 3.66S**±0.05×**135.38E**±0.09**, h33km, n21, σ1.63**/25**, mb4.0**/7**, MS3.6**/1**, 2C, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.45**	**198**	*e*P	**P**	**15 47 42.8**	**+1.8**
	36nm,0.4s						
KAKA				*i* S	**S**	**15 49 24.5**	**-2.7**
PMG	**Port Moresby**	**13.02**	**117**	Pn	**P**	**15 48 31.2**	**+1.7**
	0.8nm,0.3s,baz=304,slow=8.8,SNR=7.1						
PMG				Sn	**S**	**15 50 51.1**	**-3.0**
	0.6nm,0.3s,baz=199,slow=21,SNR=8.5						
PMG				LR	LR	15 53 55.9	
	comp=Z,55nm,20.9s,baz=98,slow=39						

PMG	**Port Moresby**	**13.02**	**117**	*e*Pn	**P**	**15 48 31.1**	**+1.6**
PMG				Sn	**S**	**15 50 51.1**	**-3.0**
PMG				LR	LR	15 53 55.9	
WRAB	**Tennant Creek**	**16.20**	**183**	*e*Pn	**P**	**15 49 10.6**	**-0.4**
	35nm,0.7s						
WB2	**Warramunga Arr**	**16.21**	**183**	⇑*i*P	**P**	**15 49 11.0**	**-0.2**
WRA	**Warramunga Arr**	**16.21**	**184**	Pn	**P**	**15 49 11.3**	**+0.1**
	1.4nm,0.3s,baz=7.2,slow=13,SNR=63						
WRA				Sn	**S**	**15 52 07.2**	**-2.3**
	baz=5.3,slow=22,SNR=2.9						
FITZ	**Fitzroy Crossi**	**17.23**	**213**	*e*P	**P**	**15 49 25.5**	**+1.5**
	14nm,1.1s						
FITZ				*e*S	**S**	**15 52 27.4**	**-5.6**
CTA	**Charters Tower**	**19.47**	**148**	P	**P**	**15 49 54.5**	**+3.4**
	0.6nm,0.3s,baz=326,slow=16,SNR=6.7						
CTAO	**Charters Tower**	**19.47**	**148**	*e*P	**P**	**15 49 55.2**	**+4.1**
	3.3nm,0.5s						
ASAR	**Alice Springs**	**19.94**	**184**	P	**P**	**15 49 59.5**	**+3.3**
	23nm,0.8s,baz=6.9,slow=11,SNR=275						
ASAR				LR	LR	15 58 23.7	
	comp=Z,144nm,18.9s,baz=0.1,slow=38						
ASPA	**Alice Springs**	**19.94**	**184**	⇑*i*P	**P**	**15 49 59.6**	**+3.4**
MBWA	**Marble Bar**	**23.11**	**220**	*e*P	**P**	**15 50 31.8**	**+3.5**
	6.4nm,0.5s,mb4.3						
STKA	**Stephens Creek**	**28.67**	**169**	P	**P**	**15 51 22.0**	**+1.8**
	3.9nm,1.0s,mb4.1,baz=337,slow=9.3,SNR=4.9						
STKA				LR	LR	16 04 17.6	
	comp=Z,149nm,20.3s,MS3.6,baz=250,slow=39						
STKA	**Stephens Creek**	**28.67**	**169**	P	**P**	**15 51 22.0**	**+1.8**
STKA				LR	LR	16 04 17.6	
SONM	**Songino Array**	**57.23**	**337**	P	**P**	**15 55 09.2**	**-1.4**
	0.2nm,0.4s,mb3.5,baz=152,slow=8.5,SNR=3.2						
ZAL	**Zalesovo**	**71.12**	**331**	P	**P**	**15 56 40.7**	**-0.5**
	0.5nm,0.3s,mb3.9,baz=36,slow=4.9,SNR=4.3						
ZAL	**Zalesovo**	**71.12**	**331**	P	**P**	**15 56 40.7**	**-0.5**
KURK	**Kurchatov**	**72.61**	**326**	*e*P	**P**	**15 56 50.7**	**+0.6**
	3.8nm,0.9s,mb4.3						
CHKZ	**Chkalovo**	**78.34**	**327**	*e*P	**P**	**15 57 21.9**	**-0.8**
	2.2nm,1.0s,mb4.0						
ILAR	**Eielson Array**	**88.08**	**25**	P	**P**	**15 58 10.5**	**-1.7**
	1.1nm,0.8s,mb4.1,baz=262,slow=4.3,SNR=13						
LPAZ	**La Paz**	**149.45**	**131**	PKPbc	PKPdf	16 05 15.8	+9.4
	3.9nm,0.8s,baz=271,slow=0.7,SNR=14						

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*NEIC **04** 16:04:14.7±1.3, 4.67S×149.49E, h563^{km}±18^{km}, mb4.3/3, Error ellipse: s-maj=43.8km s-min=15.9km az=128.0*
*IDC **04** 16:04:14.6±2.5, 4.69S×149.59E, h562^{km}±32^{km}, mb2.8/5, mb1 3.1/6, mb1mx2.9/14, mbtmp3.7/6, Error ellipse: s-maj=55.3km s-min=22.7km az=116.0*
ISC 04 16:04:14.1±1.4**, 4.7S**±0.3×**149.5E**±0.3**, h571**^{km}±20^{km}**, n11, σ0.52**/12**, mb3.7**/7**, 2C-1D, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.21**	**206**	P	**P**	**16 05 47.5**	**0.0**
	1.9nm,0.3s,baz=26,slow=6.5,SNR=9.3						
PMG				S	**S**	**16 07 01.7**	**0.0**
	0.9nm,0.3s,baz=155,slow=22,SNR=4.7						
KAKA	**Kakadu**	**18.62**	**244**	⇓*i*P	**P**	**16 07 57.7**	**+0.1**
	4.7nm,0.4s						
WRAB	**Tennant Creek**	**21.13**	**223**	*e*P	**P**	**16 08 20.8**	**+0.1**
	2.6nm,0.3s,mb4.3						
WB2	**Warramunga Arr**	**21.14**	**223**	⇑*i*P	**P**	**16 08 21.1**	**+0.3**
WRA	**Warramunga Arr**	**21.15**	**223**	P	**P**	**16 08 21.2**	**+0.3**
	1.0nm,0.3s,mb3.9,baz=46,slow=9.5,SNR=44						
ASAR	**Alice Springs**	**24.11**	**217**	P	**P**	**16 08 47.5**	**-0.1**
	0.5nm,0.5s,mb3.4,baz=49,slow=8.7,SNR=21						
FITZ	**Fitzroy Crossi**	**26.85**	**238**	⇑*i*P	**P**	**16 09 11.0**	**-0.8**
	3.4nm,0.6s,mb4.2						
SONM	**Songino Array**	**64.52**	**329**	P	**P**	**16 13 57.3**	**+0.2**
	0.4nm,0.4s,mb3.2,baz=135,slow=4.1,SNR=6.9						
ILAR	**Eielson Array**	**83.33**	**23**	P	**P**	**16 15 41.2**	**-1.1**
	0.4nm,0.8s,mb3.0,baz=241,slow=5.0,SNR=5.3						
INK	**Inuvik**	**89.55**	**21**	P	**P**	**16 16 12.8**	**+1.0**
	0.5nm,0.4s,mb3.7,baz=264,slow=6.9,SNR=3.7						
INK	**Inuvik**	**89.55**	**21**	P	**P**	**16 16 12.8**	**+0.9**

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*IDC **04** 16:05:24.2±8.0, 32.19S×179.69W, h292^{km}±89^{km}, mb3.1/3, mb1 3.3/4, mb1mx3.2/15, mbtmp3.8/4, Error ellipse: s-maj=94.4km s-min=43.3km az=176.0*
ISC 04 16:05:29.3±2.4**, 32.9S**±0.4×**179.4W**±0.5**, h396**^{km}±39^{km}**, n14, σ0.72**/17**, mb3.3**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.99**	**202**	PN	**P**	**16 06 51.5**	**-0.1**
MXZ				SN	**S**	**16 07 55.4**	**-0.7**
PUZ	**Puketiti**	**5.48**	**200**	PN	**P**	**16 06 57.4**	**+0.7**
PUZ				SN	**S**	**16 08 05.9**	**+0.7**
MWZ	**Matawai**	**5.95**	**204**	PN	**P**	**16 07 02.5**	**+0.8**
URZ	**Urewera**	**6.04**	**207**	P	**P**	**16 07 01.8**	**-1.0**
	1.3nm,0.3s,baz=210,slow=8.8,SNR=29						
URZ				S	**S**	**16 08 16.6**	**+0.4**
	1.4nm,0.3s,baz=235,slow=21,SNR=10						
URZ	**Urewera**	**6.04**	**207**	PN	**P**	**16 07 02.1**	**-0.6**
URZ				SN	**S**	**16 08 16.5**	**+0.3**
KNZ	**Kokohu**	**6.53**	**201**	PN	**P**	**16 07 09.1**	**+0.8**
BKZ	**Black Stump Fm**	**7.06**	**207**	PN	**P**	**16 07 13.9**	**-0.4**
MRZ	**Mangatainoka R**	**8.71**	**206**	PN	**P**	**16 07 32.0**	**-1.2**
THZ	**Tophouse**	**10.74**	**213**	PN	**P**	**16 07 56.3**	**-0.7**
KHZ	**Kahutara**	**11.00**	**209**	PN	**P**	**16 08 00.2**	**+0.2**
STKA	**Stephens Creek**	**32.86**	**261**	P	**P**	**16 11 30.6**	**+1.3**
	1.6nm,0.8s,mb3.4,baz=90,slow=7.1,SNR=2.5						
ASAR	**Alice Springs**	**41.89**	**270**	P	**P**	**16 12 44.2**	**0.0**
	0.4nm,0.4s,mb3.1,baz=106,slow=7.4,SNR=12						
WRA	**Warramunga Arr**	**43.12**	**276**	P	**P**	**16 12 53.2**	**-0.8**
	0.8nm,0.4s,mb3.4,baz=113,slow=7.9,SNR=10						
FINES	**FINESS Array B**	**147.09**	**338**	PKPbc	PKPdf	16 24 28.7	+6.2
	0.8nm,0.6s,baz=63,slow=3.1,SNR=4.6						

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*IDC **04** 16:16:33.3±1.3, 8.25N×93.32E, mb3.8/6, mb1 3.9/7, mb1mx3.7/18, mbtmp3.7/7, ML3.9/1, Error ellipse: s-maj=60.1km s-min=21.6km az=54.0*
*NEIC **04** 16:16:38.0±0.6, 8.31N×93.40E, h30^{km}, mb4.2/2, Error ellipse: s-maj=17.8km s-min=8.5km az=52.0*
ISC 04 16:16:37.3±6.8**, 8.4N**±0.2×**93.5E**±0.4**, h37**^{km}±55^{km}**, n11, σ0.28**/11**, mb3.9**/8**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.70**	**113**	*e*Pn	**P**	**16 18 29.8**	**+0.1**
CMAR	**Chiang Mai Arr**	**11.30**	**27**	Pn	**P**	**16 19 19.4**	**0.0**
	0.2nm,0.3s,baz=212,slow=14,SNR=3.1						
ZAL	**Zalesovo**	**45.96**	**353**	P	**P**	**16 24 58.7**	**+0.2**
	0.6nm,0.3s,mb3.9,baz=283,slow=3.4,SNR=3.0						
ZAL	**Zalesovo**	**45.96**	**353**	P	**P**	**16 24 58.7**	**+0.2**
CHKZ	**Chkalovo**	**48.80**	**342**	*e*P	**P**	**16 25 20.2**	**-0.5**
	0.7nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**49.05**	**126**	P	**P**	**16 25 22.9**	**-0.2**
	0.4nm,0.6s,mb3.6,baz=304,slow=8.6,SNR=16						
WRAB	**Tennant Creek**	**49.05**	**125**	P	**P**	**16 25 23.1**	**0.0**
	1.4nm,0.3s,mb4.5						
ASAR	**Alice Springs**	**50.70**	**130**	P	**P**	**16 25 35.8**	**0.0**
	0.2nm,0.6s,mb3.3,baz=306,slow=7.1,SNR=5.0						
FINES	**FINESS Array B**	**71.98**	**332**	P	**P**	**16 27 58.4**	**-0.4**
	1.3nm,0.9s,mb3.9,baz=100,slow=8.5,SNR=3.9						
HFS	**Hagfors**	**77.71**	**330**	P	**P**	**16 28 32.2**	**+0.4**
	3.3nm,1.0s,mb4.2,baz=117,slow=6.4,SNR=6.7						
NOA	**NORSAR Array B**	**78.99**	**331**	P	**P**	**16 28 39.2**	**+0.4**
	1.4nm,0.9s,mb3.9,baz=97,slow=5.5,SNR=3.3						

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*CSEM **04** 16:22:14.4±0.1, 31.77N×49.56E, h30^{km}, ML3.8/2, Error ellipse: s-maj=4.6km s-min=3.6km az=131.0*
THR 04 16:22:14.9±0.7**, 31.91N**×**49.63E, h18**^{km}±8^{km}**, ML2.9, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.73**	**286**	*e*PG	Pb	16 22 28.7	-0.2
SHGR				*e*SG	Sb	16 22 39.5	+1.1
SHGR				AML	AML	16 22 43.5	
	comp=N,714nm,0.2s						
SHGR	**Shooshtar-Gavs**	**0.73**	**286**	*e*Pg	Pb	16 22 28.7	-0.2
	SNR=94						
SHGR				*e*Sg	Sb	16 22 39.5	+1.1
	comp=N,714nm,0.2s,SNR=94						
ASAO	**Ashtian**	**2.65**	**7**	*e*PN	Pn	16 22 59.4	+1.7
ASAO				*e*SG	Sn	16 23 38.1	+8.4
ASAO				AML	AML	16 23 49.1	
	comp=N,35nm,0.7s						
ASAO	**Ashtian**	**2.65**	**7**	*e*Pn	Pn	16 22 59.4	+1.7
	SNR=52						
ASAO				*e*Sg	Sn	16 23 38.2	+8.4
	comp=N,35nm,0.7s,SNR=91						
NASN	**Na'in**	**2.83**	**71**	*e*PN	Pn	16 23 01.8	+1.6
RST	**Umm Al-Ruwaisa**	**3.30**	**224**	*e*P	Pn	16 23 03.9	-3.1
NAY	**Al-Naaiem**	**3.36**	**219**	*e*P	Pn	16 23 04.3	-3.4
NAY				*e*S	Sn	16 23 40.3	-7.3
RDF	**Al-Radifah**	**3.47**	**212**	*e*P	Pn	16 23 05.3	-4.1
RDF				*e*S	Sn	16 23 43.0	-7.5
SNGE	**Sanandaj**	**3.71**	**330**	*e*PN	Pn	16 23 13.3	+0.6
SNGE				AML	AML	16 24 21.1	
	comp=N,22nm,0.4s						
DAMV	**Damavand**	**4.19**	**27**	*e*PN	Pn	16 23 20.3	+0.7

IDC 04 16:29:21.9±3.3**, 29.67N**×**69.41E, mb3.4**/6**, mb1 3.7**/6**, mb1mx3.5**/20**, mbtmp3.4**/6**, Error ellipse: s-maj=127.5km s-min=29.1km az=74.0, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**23.35**	**1**	P	P	16 34 30.4	-2.2
	0.5nm,0.9s,baz=188,slow=10,SNR=3.8						
ZAL	**Zalesovo**	**26.71**	**20**	P	P	16 35 03.4	-1.1
	0.4nm,0.3s,baz=310,slow=19,SNR=2.4						
SONM	**Songino Array**	**33.66**	**47**	P	P	16 36 11.0	+4.6
	0.3nm,0.7s,baz=242,slow=8.7,SNR=3.5						
WRA	**Warramunga Arr**	**79.63**	**120**	P	P	16 41 31.5	-1.5
	0.3nm,0.6s,baz=321,slow=5.1,SNR=4.6						
ASAR	**Alice Springs**	**81.54**	**123**	P	P	16 41 41.4	-1.7
	0.6nm,1.0s,baz=309,slow=5.5,SNR=4.6						
YKA	**Yellowknife Ar**	**88.11**	**2**	P	P	16 42 14.6	-0.5
	0.1nm,0.4s,baz=348,slow=4.9,SNR=4.5						

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*NEIC **04** 16:30:13.1±1.0, 19.97S×177.88W, h500^{km}, mb4.2/5, Error ellipse: s-maj=34.5km s-min=22.9km az=158.0*
*IDC **04** 16:30:26.8±8.9, 20.02S×178.53W, h640^{km}±89^{km}, mb3.2/5, mb1 3.4/5, mb1mx3.1/14, mbtmp4.2/5, Error ellipse: s-maj=110.5km s-min=45.7km az=136.0*
ISC 04 16:30:21.9±1.2**, 20.1S**±0.2×**178.4W**±0.2**, h600**^{km}**, n16, σ0.51**/13**, mb4.0**/10**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**33.20**	**264**	*e*P	**P**	**16 36 12.8**	**+0.6**
	5.3nm,0.7s,mb4.3						
PMG	**Port Moresby**	**34.94**	**283**	*e*P	**P**	**16 36 27.1**	**+0.4**
	4.6nm,0.3s,mb4.6						
STKA	**Stephens Creek**	**37.66**	**244**	P	**P**	**16 36 48.4**	**-0.4**
	1.9nm,1.0s,mb3.6,baz=90,slow=9.1,SNR=2.8						
STKA	**Stephens Creek**	**37.66**	**244**	P	**P**	**16 36 48.4**	**-0.4**
ASAR	**Alice Springs**	**44.29**	**256**	P	**P**	**16 37 41.9**	**+0.2**
	5.1nm,0.8s,mb4.1,baz=89,slow=7.9,SNR=76						
ASAR				PcP	PcP	16 39 12.6	-0.2
	0.4nm,0.6s,baz=103,slow=3.9,SNR=4.7						
ASPA	**Alice Springs**	**44.29**	**256**	⇑*i*P	**P**	**16 37 42.0**	**+0.4**
WB2	**Warramunga Arr**	**44.32**	**262**	*e*P	**P**	**16 37 41.8**	**-0.1**
WRAB	**Tennant Creek**	**44.32**	**262**	*e*P	**P**	**16 37 41.5**	**-0.5**
	3.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**44.33**	**262**	P	**P**	**16 37 41.7**	**-0.3**
	3.2nm,0.7s,mb4.0,baz=96,slow=7.6,SNR=142						
KAKA	**Kakadu**	**47.64**	**271**	⇑*i*P	**P**	**16 38 07.5**	**+0.3**
	4.1nm,0.4s,mb4.3						
QSPA	**South Pole Qui**	**69.94**	**180**	*e*P	**P**	**16 40 35.2**	**+0.2**
	1.0nm,0.5s,mb3.5						
ILAR	**Eielson Array**	**88.02**	**13**	P	**P**	**16 42 10.3**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=221,slow=5.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**89.68**	**290**	P	**P**	**16 42 17.4**	**-1.3**
	0.7nm,0.4s,mb3.8,baz=90,slow=21,SNR=4.1						
BVAR	**Borovoye Array**	**118.58**	**320**	PKP	PKPdf	16 48 02.8	+0.6
	0.5nm,0.4s,baz=135,slow=2.0,SNR=7.4						
AKASG	**Malin Array Be**	**142.53**	**331**	PKP	PKPdf	16 48 46.7	-0.4
	3.4nm,0.7s,baz=44,slow=4.4,SNR=15						
CLL	**Collm**	**147.63**	**347**	*e*PKP1	PKPdf	16 49 03.0	+7.3

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*BJI **04** 16:47:17.2, 18.30S×177.90W, h513^{km}, mB4.8, mb4.4*
*NEIC **04** 16:47:18.2±0.7, 18.28S×177.92W, h513^{km}±8^{km}, mb4.2/15, Error ellipse: s-maj=11.6km s-min=5.8km az=150.0*
*IDC **04** 16:47:23.8±1.9, 18.41S×178.04W, h576^{km}±23^{km}, mb3.5/18, mb1 3.7/18, mb1mx3.7/22, mbtmp4.4/18, Error ellipse: s-maj=19.6km s-min=9.2km az=155.0*
ISC 04 16:47:20.9±1.7**, 18.4S**±0.1×**178.04W**±0.08**, h556**^{km}±21^{km}**, n107, σ0.78**/45**, mb4.0**/29**, 3C-8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.49**	**54**	*e*Pn	**P**	**16 49 07.9**	**-6.7**
	66nm,0.9s						
NOUC	**Port Laguerre**	**15.15**	**253**	*e*P	**P**	**16 50 31.2**	**-0.1**
NOUC	**Port Laguerre**	**15.15**	**253**	*e*P	**P**	**16 50 31.2**	**-0.1**
URZ	**Urewera**	**20.24**	**191**	P	**P**	**16 51 18.6**	**-1.3**
	4.0nm,0.3s,baz=270,slow=20,SNR=10						
CTA	**Charters Tower**	**33.72**	**261**	P	**P**	**16 53 18.2**	**+0.3**
	4.0nm,0.4s,mb4.3,baz=88,slow=11,SNR=25						
CTAO	**Charters Tower**	**33.72**	**261**	*e*P	**P**	**16 53 18.1**	**+0.2**
	5.5nm,0.3s,mb4.6						
PMG	**Port Moresby**	**34.89**	**280**	P	**P**	**16 53 28.6**	**+0.9**
	14nm,0.8s,mb4.5,baz=72,slow=6.1,SNR=6.7						
PMG	**Port Moresby**	**34.89**	**280**	*e*P	**P**	**16 53 28.2**	**+0.5**
	22nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**38.70**	**242**	P	**P**	**16 54 00.3**	**+1.5**
	4.5nm,0.6s,mb4.2,baz=68,slow=9.0,SNR=19						
WB2	**Warramunga Arr**	**44.88**	**260**	*e*P	**P**	**16 54 47.5**	**-0.5**
WB2				*e*S	**S**	**17 00 44.1**	**-1.7**
WRAB	**Tennant Creek**	**44.88**	**260**	*e*P	**P**	**16 54 47.2**	**-0.8**
	5.0nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.89**	**260**	P	**P**	**16 54 47.8**	**-0.3**
	2.3nm,0.3s,mb4.1,baz=98,slow=6.8,SNR=180						
WRA				PcP	PcP	16 56 17.3	-0.7
	1.3nm,0.5s,baz=99,slow=3.1,SNR=6.4						
WRA				S	**S**	**17 00 42.2**	**-3.8**
	1.2nm,0.8s,baz=100,slow=12,SNR=5.5						
ASAR	**Alice Springs**	**45.00**	**255**	P	**P**	**16 54 49.1**	**+0.2**
	15nm,0.5s,mb4.8,baz=89,slow=8.9,SNR=455						
ASAR				PcP	PcP	16 56 17.8	-0.6
	3.6nm,0.7s,baz=104,slow=3.8,SNR=9.1						
ASAR				S	**S**	**17 00 47.4**	**-0.1**
	4.1nm,0.8s,baz=88,slow=16,SNR=32						
ASPA	**Alice Springs**	**45.00**	**255**	⇑*i*P	**P**	**16 54 49.0**	**+0.1**
ASPA				*i* S	**S**	**17 00 47.9**	**+0.4**
KAKA	**Kakadu**	**47.93**	**269**	⇑*i*P	**P**	**16 55 10.9**	**-0.4**
	3.0nm,0.3s,mb4.3						
FITZ	**Fitzroy Crossi**	**53.30**	**261**	⇑*i*P	**P**	**16 55 50.4**	**0.0**
	2.1nm,0.3s,mb4.0						
MBWA	**Marble Bar**	**58.30**	**256**	*e*P	**P**	**16 56 24.2**	**-0.7**
	5.3nm,0.8s,mb3.8						
NWAO	**Narrogin (SRO)**	**59.29**	**242**	P	**P**	**16 56 31.3**	**-0.1**
	11nm,1.1s,mb4.0,baz=17,slow=16,SNR=1.9						
VNDA	**Vanda**	**59.99**	**185**	P	**P**	**16 56 36.0**	**+0.5**
	2.4nm,1.1s,mb3.5,baz=53,slow=10,SNR=5.5						
VNDA	**Vanda**	**59.99**	**185**	*e*P	**P**	**16 56 36.1**	**+0.7**
	0.6nm,0.5s,mb3.2						
MAT	**Matsushiro**	**68.51**	**323**	*e*P	**P**	**16 57 29.0**	**-0.7**
	11nm,0.5s,mb4.7						
MAT	**Matsushiro**	**68.51**	**323**	P	**P**	**16 57 28.8**	**-0.9**
QSPA	**South Pole Qui**	**71.66**	**180**	*e*P	**P**	**16 57 48.0**	**+0.4**
	7.1nm,1.0s,mb4.0						
YBH	**Yreka Blue Hor**	**78.68**	**39**	P	**P**	**16 58 27.2**	**+0.2**
	1.4nm,0.7s,mb3.4,baz=219,slow=11,SNR=2.7						
MDJ	**Mudanjiang**	**78.79**	**325**	P	**P**	**16 58 28.5**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,45nm,4.7s						
MDJ	**Mudanjiang**	**78.79**	**325**	*e*P	**P**	**16 58 28.4**	**+0.9**
	comp=Z,16nm,1.0s,mb4.3						
NVAR	**Mina Array Bea**	**79.53**	**44**	P	**P**	**16 58 31.8**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.4,baz=220,slow=7.8,SNR=8.7						
CN2	**Changchun**	**80.62**	**322**	*e*P	**P**	**16 58 37.8**	**+0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
WVOR	**Wild Horse Val**	**81.55**	**40**	*e*P	**P**	**16 58 40.8**	**-1.0**
	comp=Z,2.1nm,0.6s,mb3.7						
ELK	**Elko**	**82.78**	**43**	P	**P**	**16 58 48.4**	**+0.3**
	comp=Z,2.0nm,0.9s,mb3.7,baz=250,slow=4.2,SNR=6.4						
HLID	**Hailey**	**84.77**	**41**	*e*P	**P**	**16 58 58.0**	**+0.2**
	comp=Z,1.5nm,0.8s,mb3.6						
ENH	**Enshi**	**84.83**	**304**	*e*P	**P**	**16 58 59.4**	**+1.0**
	comp=Z,24nm,1.3s,mb4.6						
MCK	**McKinley**	**84.94**	**13**	*e*P	**P**	**16 58 56.9**	**-1.3**
	comp=Z,1.6nm,0.6s,mb3.7						
TXAR	**Lajitas Array**	**85.96**	**57**	P	**P**	**16 59 04.9**	**+1.0**
	comp=Z,0.6nm,0.5s,mb3.5,baz=225,slow=5.3,SNR=8.4						
ANMO	**Albuquerque**	**86.13**	**51**	P	**P**	**16 59 05.4**	**+0.8**
	comp=Z,1.2nm,0.6s,mb3.7,baz=358,slow=3.4,SNR=2.6						
ILAR	**Eielson Array**	**86.28**	**13**	P	**P**	**16 59 03.3**	**-1.3**
	comp=Z,2.4nm,1.0s,mb3.8,baz=218,slow=5.2,SNR=15						
PDAR	**Pinedale Array**	**87.47**	**43**	P	**P**	**16 59 10.1**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.5,baz=225,slow=2.1,SNR=7.2						
CMAR	**Chiang Mai Arr**	**89.38**	**290**	P	**P**	**16 59 21.3**	**+1.1**
	comp=Z,2.5nm,0.9s,mb4.0,baz=109,slow=2.8,SNR=17						
SONM	**Songino Array**	**94.15**	**319**	P	**P**	**16 59 41.8**	**+0.4**
	comp=Z,0.5nm,0.7s,mb3.8,baz=118,slow=3.1,SNR=5.3						
YKA	**Yellowknife Ar**	**94.63**	**25**	P	**P**	**16 59 41.9**	**-1.2**
	comp=Z,0.4nm,0.5s,mb3.8,baz=244,slow=4.4,SNR=12						
YKA	**Yellowknife Ar**	**94.63**	**25**	P	**P**	**16 59 41.9**	**-1.2**
SCHQ	**Schefferville**	**117.04**	**37**	PKP	PKPdf	17 05 04.6	+2.1
	comp=Z,2.5nm,0.9s,baz=130,slow=5.4,SNR=3.8						
KEV	**Kevo**	**126.41**	**349**	*e*pkp	PKPdf	17 05 20.5	+0.3
	comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**126.86**	**350**	PKP	PKPdf	17 05 21.6	+0.5
	comp=Z,6.5nm,1.0s,baz=71,slow=1.5,SNR=19						
JOF	**Joensuu**	**131.13**	**343**	*e*pkp	PKPdf	17 05 29.8	+0.4
	comp=Z,3.7nm,0.5s						
KAF	**Kangasniemi**	**133.13**	**345**	*e*pkp	PKPdf	17 05 31.3	-1.8
	comp=Z,2.3nm,0.5s						
FINES	**FINESS Array B**	**133.75**	**344**	PKP	PKPdf	17 05 34.2	-0.1
	comp=Z,1.7nm,0.7s,baz=79,slow=1.7,SNR=9.7						
NOA	**NORSAR Array B**	**136.90**	**353**	PKP	PKPdf	17 05 40.9	+0.8
	comp=Z,1.1nm,0.7s,baz=83,slow=12,SNR=3.6						
NOA	**NORSAR Array B**	**136.90**	**353**	PKP	PKPdf	17 05 40.9	+0.8
KMBO	**Kilima Mbogo**	**140.24**	**245**	PKhKP		17 05 44.6	
	comp=Z,0.7nm,0.5s,baz=58,slow=22,SNR=3.0						
AKASG	**Malin Array Be**	**141.16**	**332**	PKhKP		17 05 43.7	
	comp=Z,1.3nm,0.4s,baz=43,slow=4.2,SNR=18						
AKASG	**Malin Array Be**	**141.16**	**332**	PKP		17 05 43.7	
BSEG	**Bad Segeberg**	**143.95**	**352**	*e*PKPbc	PKPbc	17 05 53.3	+0.9
OJC	**Ojcow**	**145.19**	**340**	*e*PKP	PKPdf	17 05 57.5	+2.5
BURAR	**Bucovina Array**	**145.21**	**332**	⇓P	PKPdf	17 05 58.2	+3.1
BURAR	**Bucovina Array**	**145.21**	**332**	⇓P	PKPdf	17 05 58.2	+3.1
KOLS	**Kolonicke sedl**	**145.39**	**336**	*e*PKP	PKPdf	17 05 58.5	+3.1
KOLS				*e*		17 06 04.3	
CFR	**Carcaliu**	**145.54**	**327**	⇓P	PKPdf	17 05 59.3	+3.5
CFR	**Carcaliu**	**145.54**	**327**	⇓P	PKPdf	17 05 59.3	+3.6
NIE	**Niedzica**	**145.70**	**339**	*e*PKP	PKPdf	17 05 58.3	+2.4
CRVS	**Cervenica-Dubn**	**145.72**	**337**	*e*PKP	PKPdf	17 05 59.6	+3.7
CLZ	**Clausthal**	**145.98**	**351**	*e*PKPbc	PKPbc	17 06 00.0	+2.1
CLL	**Collm**	**146.02**	**348**	⇓*i*PKP1	PKPbc	17 05 59.9	+1.9
OKC	**Ostrava-Krasne**	**146.05**	**341**	*e*PKP	PKPdf	17 06 00.1	+3.7
UPC	**Upice**	**146.06**	**344**	*e*PKP	PKPdf	17 06 00.5	+4.1
DPC	**Dobruska-Polom**	**146.12**	**343**	*e*PKP	PKPdf	17 06 00.7	+4.2
BRG	**Berggiesshubel**	**146.22**	**346**	*i* PKP	PKPdf	17 06 00.7	+4.0
PVCC	**Panska Ves**	**146.40**	**345**	*e*PKP	PKPdf	17 06 01.2	+4.2
KECS	**Kecovo**	**146.43**	**338**	*e*PKP	PKPdf	17 06 01.3	+4.2
MLR	**Muntele Rosu**	**146.43**	**329**	⇓P	PKPdf	17 06 00.6	+3.4
MLR	**Muntele Rosu**	**146.43**	**329**	⇓P	PKPdf	17 06 00.6	+3.4
PRU	**Pruhonice**	**146.91**	**345**	*e*PKP	PKPdf	17 06 02.5	+4.7
MOX	**Moxa**	**146.92**	**349**	P	PKPdf	17 06 02.3	+4.5
VYHS	**Vyhne**	**147.00**	**339**	*i* PKP	PKPdf	17 06 03.3	+5.3
VYHS				*e*		17 06 06.3	
NKC	**Novy Kostel**	**147.15**	**348**	*e*PKP	PKPdf	17 06 03.2	+5.0
SMOL	**Smolenice**	**147.44**	**341**	*e*PKP	PKPdf	17 06 04.3	+5.5
SMOL				*e*		17 06 08.2	
ZST	**Bratislava**	**147.82**	**341**	*e*PKP	PKPdf	17 06 05.8	+6.4
TNS	**Taunus Mts**	**147.83**	**352**	*e*PKPbc	PKPdf	17 06 05.0	+5.7
GRA1	**Grafenberg Arr**	**147.91**	**349**	*e*PKPbc	PKPdf	17 06 05.3	+5.8
GRF	**Grafenberg Arr**	**147.91**	**349**	*e*PKP	PKPdf	17 06 05.3	+5.8
KHC	**Kasperske Hory**	**147.94**	**346**	*e*PKP	PKPdf	17 06 05.2	+5.7
WET	**Wettzell**	**148.09**	**346**	*e*PKPbc	PKPdf	17 06 05.8	+6.0
GEC2	**GERESS Array S**	**148.18**	**345**	*e*PKPbc	PKPdf	17 06 05.6	+5.7
GERES	**GERESS Array B**	**148.18**	**345**	PKPbc	PKPdf	17 06 05.8	+5.9
	comp=Z,6.2nm,0.5s,baz=24,slow=3.1,SNR=52						
GIVF	**Givet**	**148.29**	**356**	*e*PKP1	PKPdf	17 06 05.7	+5.7
	comp=Z,34nm,0.8s						
BZS	**Buzias**	**148.33**	**333**	⇓P	PKPdf	17 06 06.0	+5.8
BAIF	**Baives**	**148.36**	**357**	*e*PKP1	PKPdf	17 06 06.1	+5.9
	comp=Z,18nm,0.7s						
FUR	**Furstenfeldbru**	**149.35**	**348**	*e*PKPbc	PKPdf	17 06 09.0	+7.2
FLN	**La Foliniere**	**149.65**	**3**	*e*PKP1	PKPdf	17 06 08.7	+6.5
	comp=Z,28nm,0.8s						
BFO	**Black Forest**	**149.70**	**352**	*e*PKPbc	PKPdf	17 06 09.3	+7.0
CDF	**Champ du Feu**	**149.75**	**353**	*e*PKP1	PKPdf	17 06 09.5	+7.1
	comp=Z,14nm,0.6s						
LDF	**La Druitiere**	**149.84**	**3**	*e*PKP1	PKPdf	17 06 09.1	+6.5
	comp=Z,13nm,0.6s						
MEZF	**Maizieres J'vi**	**149.87**	**356**	*e*PKP1	PKPdf	17 06 10.3	+7.7
SGMF	**Saint Gilles**	**150.00**	**6**	*e*PKP1	PKPdf	17 06 09.4	+6.6
	comp=Z,41nm,1.0s						
GRR	**Gorron**	**150.00**	**4**	*e*PKP1	PKPdf	17 06 09.7	+6.9
	comp=Z,13nm,0.5s						
HAU	**Haudompre**	**150.25**	**354**	*e*PKP1	PKPdf	17 06 10.6	+7.4
	comp=Z,24nm,0.6s						
HINF	**Hinteralfeld**	**150.39**	**353**	*e*PKP1	PKPdf	17 06 10.7	+7.3
	comp=Z,8.1nm,0.6s						
SSF	**Saint Saulge**	**151.39**	**358**	*e*PKP1	PKPdf	17 06 13.3	+8.4
	comp=Z,15nm,0.7s						
CABF	**La Chapelle**	**151.66**	**354**	*e*PKP1	PKPdf	17 06 14.3	+9.0
	comp=Z,19nm,0.8s						
MFF	**Saint Martin d**	**151.82**	**3**	*e*PKP1	PKPdf	17 06 13.8	+8.3
	comp=Z,9.1nm,0.6s						
BGF	**Bois d'Agland**	**151.91**	**359**	*e*PKP1	PKPdf	17 06 14.2	+8.5
TCF	**Toulx Ste Croi**	**152.19**	**360**	*e*PKP1	PKPdf	17 06 14.7	+8.7
	comp=Z,16nm,0.9s						
LPL	**La Plagne**	**152.67**	**353**	*e*PKP1	PKPdf	17 06 16.8	+10
LPG	**La Plagne**	**152.69**	**353**	*e*PKP1	PKPdf	17 06 16.9	+10
	comp=Z,10nm,0.9s						
RJF	**Les Rejaudoux**	**153.17**	**1**	*e*PKP1	PKPdf	17 06 17.5	+10
ORIF	**Oris-en-Rattie**	**153.36**	**354**	*e*PKP1	PKPdf	17 06 17.8	+10
	comp=Z,28nm,1.2s						
MBDF	**Montbardon**	**153.44**	**352**	*e*PKP1	PKPdf	17 06 18.0	+10
	comp=Z,8.2nm,0.6s						

IDC 04 16:49:47.4±12.0**, 9.97N**×**92.20E, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.4**/17**, mbtmp3.4**/3**, ML3.3**/1**, Error ellipse: s-maj=267.4km s-min=45.8km az=98.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.68**	**37**	Pn	P	16 52 21.9	-2.9
	0.1nm,0.3s,baz=226,slow=14,SNR=2.8						
WRA	**Warramunga Arr**	**51.03**	**126**	P	P	16 58 51.5	-2.2
	0.5nm,0.4s,baz=307,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**52.72**	**130**	P	P	16 59 04.3	-2.1
	0.3nm,0.4s,baz=306,slow=7.4,SNR=7.4						

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*IDC **04** 17:04:06.4±7.3, 31.33S×179.64E, h447^{km}±94^{km}, mb2.4/2, mb1 2.8/3, mb1mx2.8/14, mbtmp3.6/3, Error ellipse: s-maj=93.7km s-min=36.3km az=4.0*
ISC 04 17:04:05.3±2.8**, 31.6S**±0.4×**179.8W**±0.6**, h501**^{km}±65^{km}**, n13, σ0.82**/14**, mb2.7**/2**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.17**	**194**	PN	**P**	**17 05 44.7**	**+0.4**
MXZ				SN	**S**	**17 07 03.2**	**+0.6**
PUZ	**Puketiti**	**6.67**	**194**	PN	**P**	**17 05 48.5**	**-0.8**
PUZ				SN	**S**	**17 07 10.6**	**-1.0**
MWZ	**Matawai**	**7.09**	**197**	PN	**P**	**17 05 53.1**	**-0.3**
URZ	**Urewera**	**7.14**	**200**	P	**P**	**17 05 54.1**	**+0.2**
	7.0nm,0.3s,baz=6.7,slow=2.8,SNR=44						
URZ				S	**S**	**17 07 20.0**	**-0.1**
	3.0nm,0.3s,baz=21,slow=22,SNR=18						
URZ	**Urewera**	**7.14**	**200**	PN	**P**	**17 05 53.2**	**-0.7**
BKZ	**Black Stump Fm**	**8.16**	**201**	*e*PN	**P**	**17 06 05.3**	**+0.8**
HIZ	**Hauiti**	**8.20**	**211**	PN	**P**	**17 06 08.3**	**+3.4**
TSZ	**Takapari Road**	**9.14**	**201**	PN	**P**	**17 06 14.9**	**+0.1**
MRZ	**Mangatainoka R**	**9.81**	**201**	PN	**P**	**17 06 22.2**	**+0.4**
ASAR	**Alice Springs**	**41.55**	**269**	P	**P**	**17 11 10.5**	**+0.8**
	0.1nm,0.7s,mb2.4,baz=101,slow=6.9,SNR=4.3						
WRA	**Warramunga Arr**	**42.65**	**274**	P	**P**	**17 11 17.1**	**-1.3**
	0.2nm,0.3s,mb3.0,baz=112,slow=7.5,SNR=11						
FINES	**FINESS Array B**	**145.70**	**338**	PKPbc	PKPbc	17 22 51.0	+4.5
	0.6nm,0.5s,baz=45,slow=2.7,SNR=7.3						
NOA	**NORSAR Array B**	**149.66**	**349**	PKPab	PKPab	17 23 09.8	+3.5
	2.3nm,0.9s,baz=10,slow=1.6,SNR=3.3						

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*NIED **04** 17:25:00, 42.30N×143.00E, h47^{km}, Mw3.8 Best double couple: $M_0$5.72×10^{14} NP1:ϕ_s24°, δ67°, λ76°. NP2:ϕ_s237°, δ27°, λ120°.*
*MOS **04** 17:25:08.0±1.5, 42.25N×143.12E, h64^{km}, mb4.1/8, Error ellipse: s-maj=18.9km s-min=9.6km az=91.7*
*JMA **04** 17:25:10.7±0.1, 42.32N×143.04E, h50^{km}±1^{km}, M3.6 Broadband fault plane solution: P waves. NP1:ϕ_s276°,*

δ50°,λ155°. NP2:φs23°,δ71°,λ43°. Principal axes: T Plg43°, Azm247°; N Plg44°, Azm42°; P Plg13°, Azm145°;
JMA Felt I J1.
*NEIC **04** 17:25:12.1±1.1, 42.32N×142.88E, h78km±9km, mb4.0/7 Error ellipse: s-maj=13.7km s-min=8.8km az=113.0*
*IDC **04** 17:25:12.1±2.8, 42.30N×142.91E, h76km±21km, mb3.4/10, mb1 3.6/10, mb1mx3.5/21, mbtmp3.7/10, Error ellipse: s-maj=24.2km s-min=20.9km az=114.0*
ISC 04 17:25:08.7±0.4**, 42.26N**±0.04×**143.07E**±0.06**, h69**km±2km**, n39, σ1^{s}02**/50**, mb3.7**/18**, 4C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.24**	**274**	⇓P	**P**	**17 25 19.0**	**-0.4**
JNBK				*e*S	**S**	**17 25 26.0**	**-1.3**
JEM	**Erimo**	**0.26**	**166**	⇑P	**P**	**17 25 20.0**	**+0.4**
JEM				*e*S	**S**	**17 25 27.1**	**-0.4**
ERM	**Erimo**	**0.26**	**166**	Pn	**P**	**17 25 20.4**	**+0.8**
	18μm,0.4s						
JCH	**Churui**	**0.41**	**31**	⇑P	**P**	**17 25 20.6**	**-0.1**
JCH				S	**S**	**17 25 28.4**	**-1.1**
JBT2	**Biratori 2**	**0.73**	**315**	⇓P	**P**	**17 25 24.4**	**+0.3**
JBT2				*e*S	**S**	**17 25 35.2**	**-0.3**
JOB	**Onbets**	**0.85**	**41**	⇑P	**P**	**17 25 26.7**	**+1.2**
JOB				*e*S	**S**	**17 25 39.3**	**+1.4**
JFR	**Furan**	**0.97**	**339**	⇓P	**P**	**17 25 26.3**	**-0.7**
JFR				*e*S	**S**	**17 25 38.8**	**-1.7**
JAR	**Ashorobuto**	**1.15**	**26**	⇑P	**P**	**17 25 29.8**	**+0.4**
JAR				*e*S	**S**	**17 25 44.3**	**-0.5**
JEW	**Eniwo**	**1.33**	**296**	⇓P	**P**	**17 25 32.8**	**+0.8**
JEW				*e*S	**S**	**17 25 50.1**	**+1.0**
JAB	**Ashibetsu**	**1.39**	**334**	⇓P	**P**	**17 25 33.8**	**+1.1**
ASAJ	**Asahikawa**	**1.88**	**349**	PN	**P**	**17 25 40.4**	**+1.0**
ASAJ				S	**S**	**17 26 04.5**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,57nm,0.3s						
ASAJ				smax			
	comp=N,28nm,0.3s						
ASAJ	**Asahikawa**	**1.88**	**349**	P	**P**	**17 25 40.4**	**+1.0**
	comp=N,57nm,0.3s,baz=225,slow=8.3,SNR=246						
ASAJ				S	**S**	**17 26 04.5**	**+2.5**
	comp=N,28nm,0.3s,baz=32,slow=30,SNR=8.7						
YUK	**Yuzh-Kuril'sk**	**2.70**	**48**	*e*PN	**P**	**17 25 47.3**	**-3.6**
YUK				*i* S	**S**	**17 26 20.8**	**-1.7**
YUK				pmax	pmax		
	comp=Z,180nm,0.4s						
YUK				smax			
	comp=N,2μm,0.7s						
YUK				smax			
	comp=E,1μm,0.6s						
YUK				smax			
	comp=N,730nm,0.5s						
YUK				smax			
	comp=E,350nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.70**	**357**	*e*PN	**P**	**17 26 21.0**	**+2.2**
YSS	**Yuzh-Sakhalins**	**4.70**	**357**	*e*Pn	**P**	**17 26 20.1**	**+1.3**
MAJO	**Matsushiro**	**6.84**	**215**	*e*PN	**P**	**17 26 49.0**	**+0.4**
YAK	**Yakutsk**	**21.35**	**343**	P	**P**	**17 29 50.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
YAK	**Yakutsk**	**21.35**	**343**	P	**P**	**17 29 50.1**	**-1.6**
	comp=Z,6.5nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**25.89**	**295**	*e*P	**P**	**17 30 35.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
ULN	**Ulaanbaatar**	**25.89**	**295**	*e*P	**P**	**17 30 35.6**	**0.0**
	comp=Z,1.4nm,0.7s,mb3.5						
SONM	**Songino Array**	**26.33**	**295**	P	**P**	**17 30 40.1**	**+0.4**
	comp=Z,1.6nm,0.8s,mb3.5,baz=80,slow=8.3,SNR=10						
ZAL	**Zalesovo**	**39.54**	**308**	P	**P**	**17 32 34.3**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.1,baz=31,slow=6.4,SNR=7.3						
KURK	**Kurchatov**	**43.88**	**304**	*e*P	**P**	**17 33 09.7**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**43.88**	**304**	*e*P	**P**	**17 33 09.7**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.0						
ILAR	**Eielson Array**	**44.44**	**35**	P	**P**	**17 33 14.8**	**+0.8**
	comp=Z,1.1nm,1.1s,mb3.5,baz=270,slow=6.3,SNR=6.9						
CHKZ	**Chkalovo**	**47.80**	**310**	*e*P	**P**	**17 33 40.7**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.1						
CHKZ	**Chkalovo**	**47.80**	**310**	*e*P	**P**	**17 33 40.7**	**-0.1**
	comp=Z,1.9nm,0.7s,mb4.0						
INK	**Inuvik**	**49.18**	**29**	P	**P**	**17 33 52.6**	**+1.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=285,slow=4.3,SNR=4.1						
AAK	**Ala-Archa**	**49.29**	**295**	*e*P	**P**	**17 33 51.7**	**-0.7**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AAK	**Ala-Archa**	**49.29**	**295**	*e*P	**P**	**17 33 51.7**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**58.67**	**32**	P	**P**	**17 35 01.4**	**+0.6**
	comp=Z,0.1nm,0.5s,mb3.1,baz=302,slow=6.5,SNR=3.2						
KEV	**Kevo**	**59.03**	**339**	*e*p	**P**	**17 35 00.9**	**-2.3**
	comp=Z,0.3nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**59.57**	**339**	P	**P**	**17 35 06.6**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=58,slow=8.5,SNR=5.1						
JOF	**Joensuu**	**61.98**	**331**	*e*p	**P**	**17 35 22.0**	**-1.4**
	comp=Z,0.4nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**62.42**	**189**	P	**P**	**17 35 27.2**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.3,baz=5.4,slow=6.6,SNR=4.4						
KAF	**Kangasniemi**	**64.27**	**332**	*e*p	**P**	**17 35 37.2**	**-1.1**
	comp=Z,0.3nm,0.4s,mb3.5						
FINES	**FINESS Array B**	**64.80**	**332**	P	**P**	**17 35 41.0**	**-0.8**
	comp=Z,1.2nm,0.5s,mb4.0,baz=56,slow=7.6,SNR=30						
NOA	**NORSAR Array B**	**69.86**	**337**	P	**P**	**17 36 13.4**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=33,slow=5.0,SNR=2.7						
GERES	**GERESS Array B**	**78.93**	**329**	P	**P**	**17 37 06.8**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.4,baz=31,slow=5.7,SNR=3.7						

WEL 04 17:49:19.1±0.1**, 35.86S**×**177.19E, h33**km**, ML3.5**/3**, Error ellipse: s-maj=1.8km s-min=1.1km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.37**	**159**	PN	Pn	17 49 55.1	-1.5
PUZ				SN	Sn	17 50 22.0	-2.9
PUZ				*e*SN	Sn	17 50 22.1	-2.8
URZ	**Urewera**	**2.40**	**181**	PN	Pn	17 49 55.7	-1.3
URZ				*e*SN	Sn	17 50 23.4	-2.2
MWZ	**Matawai**	**2.49**	**174**	*e*PN	Pn	17 49 56.8	-1.5
MWZ				*e*SN	Sn	17 50 25.7	-2.2
MWZ				*e*SN	Sn	17 50 25.9	-2.0

*IDC **04** 17:51:52.8±17.0, 7.82S×118.98E, mb3.7/2, mb1 3.8/3, mb1mx3.6/14, mbtmp3.7/3, ML3.7/1, Error ellipse: s-maj=315.3km s-min=185.8km az=7.0*
*DJA **04** 17:52:13.1±1.0, 8.71S×119.52E, h284km±18km, MD4.5/3, ML4.0/3, Error ellipse: s-maj=230.3km s-min=37.4km az=0.0*
ISC 04 17:52:17.8±2.5**, 11.0S**±0.4×**118.9E**±0.2**, h42**km±44km**, n6, σ1^{s}09**/9**, mb3.9**/1**, 3C-3D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.70**	**311**	⇓*e*Pn	**P**	**17 53 13.6**	**-0.4**
	78nm,0.2s						
KEDI				⇑*e*Sn	**S**	**17 53 57.0**	**0.0**
RATI	**Rata**	**4.01**	**303**	⇓*e*Pn	**P**	**17 53 19.4**	**+1.0**
	26nm,0.2s						
RATI				⇑*e*Sn	**S**	**17 54 08.5**	**+3.7**
SRDI	**Scrawed**	**5.32**	**297**	⇑*e*Pn	**P**	**17 53 36.2**	**-0.6**
	8.5nm,0.2s						
SRDI				⇓*e*Sn	**S**	**17 54 37.1**	**-0.6**
WRA	**Warramunga Arr**	**17.32**	**123**	P	**P**	**17 56 17.3**	**-0.9**
	0.2nm,0.3s,baz=304,slow=12,SNR=17						
ASAR	**Alice Springs**	**19.06**	**133**	P	**P**	**17 56 41.8**	**+2.3**
	0.8nm,0.3s,baz=314,slow=8.1,SNR=30						
STKA	**Stephens Creek**	**29.52**	**138**	P	**P**	**17 58 19.9**	**-0.7**
	1.7nm,0.7s,mb3.9,baz=324,slow=11,SNR=4.9						

*IDC **04** 18:07:12.3±2.9, 6.70N×126.77E, h61km±23km, mb3.6/8, mb1 3.8/8, mb1mx3.7/17, mbtmp3.9/8, MS3.5/2, Ms1 3.5/2, ms1mx2.9/23, Error ellipse: s-maj=69.8km s-min=16.0km az=67.0*
*MAN **04** 18:07:15.2, 6.67N×126.30E, h19km, mb4.6, ML3.5, MS3.5*
*NEIC **04** 18:07:22.8±7.5, 6.53N×126.53E, h163km±73km, mb4.1/4, Error ellipse: s-maj=38.2km s-min=10.5km az=61.0*
ISC 04 18:07:11.0±0.9**, 6.57N**±0.06×**126.69E**±0.09**, h65**km±8km**, n24, σ1^{s}12**/28**, mb3.9**/12**, 3C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.57**	**311**	*e*P	**P**	**18 07 22.5**	**-1.7**
MATI				*e*S	**S**	**18 07 30.5**	**-3.5**
BIPH	**Bislig**	**1.63**	**348**	⇑*e*P	**P**	**18 07 38.0**	**-0.2**
BIPH				*e*S	**S**	**18 07 57.5**	**-0.6**
KCP	**Kidapawan**	**1.65**	**285**	⇑*e*P	**P**	**18 07 37.3**	**-1.1**
KCP				*i* S	**S**	**18 07 59.7**	**+1.1**
BUKP	**Musuan**	**2.07**	**309**	*e*P	**P**	**18 07 44.0**	**-0.1**
BUKP				*e*S	**S**	**18 08 09.0**	**+0.2**
BUTP	**Butuan**	**2.61**	**336**	*e*P	**P**	**18 07 54.6**	**+2.8**
BUTP				*e*S	**S**	**18 08 30.4**	**+8.1**
SCPH	**Surigao**	**3.40**	**340**	⇑*e*P	**P**	**18 08 05.2**	**+2.2**
PAGZ	**Pagadian**	**3.52**	**291**	*e*P	**P**	**18 08 04.3**	**-0.3**
MSLP	**Maasin**	**3.98**	**333**	*e*P	**P**	**18 08 10.5**	**-0.5**
MSLP				*e*S	**S**	**18 08 58.2**	**+1.6**
BESP	**Borongan**	**5.15**	**346**	*e*P	**P**	**18 08 32.2**	**+4.9**
GUIM	**Jordan**	**5.72**	**315**	*e*P	**P**	**18 08 36.2**	**+1.1**
PMG	**Port Moresby**	**25.84**	**128**	LR	LR	18 21 29.7	
	comp=Z,74nm,19.8s,baz=25,slow=33						
WRAB	**Tennant Creek**	**27.40**	**164**	P	**P**	**18 12 53.7**	**+1.1**
	1.7nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**27.40**	**164**	P	**P**	**18 12 52.8**	**+0.2**
	0.7nm,0.6s,mb3.4,baz=345,slow=9.7,SNR=14						
WRA				ScP		18 19 45.4	
	0.3nm,0.5s,baz=346,slow=3.1,SNR=9.9						
MBWA	**Marble Bar**	**28.39**	**194**	*e*P	**P**	**18 13 01.2**	**-0.3**
	3.5nm,0.5s,mb4.2						
CMAR	**Chiang Mai Arr**	**29.50**	**296**	P	**P**	**18 13 11.2**	**-0.2**
	0.5nm,0.8s,mb3.2,baz=98,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**30.87**	**167**	P	**P**	**18 13 24.1**	**+0.5**
	0.5nm,0.4s,mb3.6,baz=342,slow=7.3,SNR=14						
ASAR				PcP	PcP	18 16 19.4	+0.3
	0.5nm,0.7s,baz=344,slow=2.4,SNR=6.4						
ASAR				ScP		18 19 56.5	
	0.2nm,0.7s,baz=349,slow=3.1,SNR=5.1						
ASAJ	**Asahikawa**	**39.91**	**18**	LR	LR	18 29 24.1	
	comp=Z,110nm,21.0s,baz=331,slow=34						
STKA	**Stephens Creek**	**40.79**	**160**	P	**P**	**18 14 48.7**	**+1.1**
	2.3nm,0.8s,mb4.0,baz=356,slow=8.7,SNR=4.0						
SONM	**Songino Array**	**44.61**	**341**	P	**P**	**18 15 19.1**	**+0.5**
	0.5nm,0.8s,mb3.3,baz=158,slow=7.9,SNR=3.7						
ZAL	**Zalesovo**	**58.06**	**332**	P	**P**	**18 16 58.8**	**-0.9**
	0.7nm,0.4s,mb4.0,baz=319,slow=14,SNR=3.3						
KURK	**Kurchatov**	**59.35**	**327**	*e*P	**P**	**18 17 06.5**	**-2.1**
	3.7nm,0.6s,mb4.6						
CHKZ	**Chkalovo**	**65.08**	**327**	*e*P	**P**	**18 17 45.3**	**-1.5**
	0.8nm,0.6s,mb3.7						
ARCES	**ARCESS Array B**	**87.78**	**340**	P	**P**	**18 19 53.0**	**-0.7**
	3.8nm,0.9s,mb4.4,baz=83,slow=7.3,SNR=2.7						
FINES	**FINESS Array B**	**89.33**	**332**	P	**P**	**18 20 00.8**	**-0.3**
	1.8nm,0.9s,mb4.1,baz=72,slow=4.4,SNR=6.0						

*NEIC **04** 18:10:04.8, 34.73N×25.38E, h32km, MD3.5(ATH), After ATH.*
*CSEM **04** 18:10:06.6±1.5, 34.81N×25.36E, h30km, MD3.5, Error ellipse: s-maj=37.2km s-min=8.0km az=29.0*
ATH 04 18:10:04.0, 34.64N×**25.40E, h26**km±1km**, MD3.5**/7**, 2C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.34**	**46**	⇑*i*PB	Pb	18 10 11.6	0.0
NPS	**Neapolis**	**0.65**	**16**	*e*PN	Pn	18 10 16.6	-0.8
GVD	**Gavdhos**	**1.10**	**281**	*e*PN	Pn	18 10 25.1	+1.2
VAM	**Vamos**	**1.25**	**308**	⇑*i*PN	Pn	18 10 27.3	+1.3
KARP	**Karpathos**	**1.70**	**57**	*e*PN	Pn	18 10 33.9	+1.4
THR1	**Thera Island**	**1.73**	**2**	*e*P	Pn	18 10 32.8	-0.1
SANT	**Santorini**	**1.73**	**2**	*e*Pn	Pn	18 10 32.4	-0.5
SANT	**Santorini**	**1.73**	**2**	*e*Pn	Pn	18 10 32.4	-0.5
THR3	**Thira Island,**	**1.77**	**0**	*e*P	Pn	18 10 33.2	-0.3
THR5	**Thira Island,**	**1.77**	**359**	*e*P	Pn	18 10 33.7	+0.1
APE	**Apeiranthos**	**2.43**	**2**	*e*PN	Pn	18 10 44.0	+1.1
APE	**Apeiranthos**	**2.43**	**2**	*e*Pn	Pn	18 10 42.0	-0.9
KYTH	**Kithira**	**2.53**	**311**	*e*PN	Pn	18 10 46.0	+1.6
VLI	**Veliai**	**2.88**	**317**	*e*Pn	Pn	18 10 48.2	-1.2
SMG	**Samos**	**3.28**	**20**	*e*PN	Pn	18 10 56.9	+1.9
AGG	**Agios Georgios**	**5.02**	**332**	*e*P	Pn	18 11 18.4	-1.3

*MOS **04** 18:16:00.7±1.4, 51.50N×178.17E, h33km, mb4.9/15, Error ellipse: s-maj=10.4km s-min=7.2km az=96.9*
*BJI **04** 18:16:00.9, 51.89N×177.53E, h11km, mB5.1, mb4.5, Ms4.4, Msz4.1*
*NEIC **04** 18:16:03.5±0.3, 51.44N×178.07E, mb4.5/23, ML4.9(PMR), ML4.8(AEIC), Error ellipse: s-maj=9.1km s-min=4.1km az=177.0*
*IDC **04** 18:16:04.2±0.7, 51.56N×178.21E, h46km±5km, mb4.0/27, mb1 4.2/27, mb1mx4.2/30, mbtmp4.3/27, MS3.9/14, Ms1 3.8/14, ms1mx3.7/27, Error ellipse: s-maj=15.1km s-min=7.8km az=4.0*
ISC 04 18:16:03.1±0.3**, 51.49N**±0.06×**178.13E**±0.03**, h54**km**, h54**km±4.7km**: pP-P, n153, σ1^{s}10**/162**, mb4.5**/67**, MS3.8**/23**, 5C-13D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.78**	**298**	P	**P**	**18 16 47.0**	**+0.7**
SMY				S	**S**	**18 17 20.1**	**+1.4**
KIMD	**Kanaga Island**	**2.90**	**83**	P	**P**	**18 16 49.2**	**+1.1**
KIKV	**Kanaga Island**	**2.95**	**81**	P	**P**	**18 16 49.8**	**+1.1**
KIKV				S	**S**	**18 17 25.3**	**+2.2**
KIWB	**Kanaga Island**	**2.96**	**81**	P	**P**	**18 16 50.0**	**+1.2**
ADAG	**Mount Adagdak**	**3.31**	**79**	P	**P**	**18 16 54.3**	**+0.5**
ADAG				S	**S**	**18 17 32.9**	**+0.6**
FX1	**Attu Island--F**	**3.36**	**296**	P	**P**	**18 16 55.0**	**+0.5**
FX1				S	**S**	**18 17 34.8**	**+1.4**
FX1				pmax	pmax		
	comp=Z,395nm,0.3s						
FX1				smax			
	comp=N,404nm,0.3s						
FX1	**Attu Island--F**	**3.36**	**296**	P	**P**	**18 16 55.0**	**+0.5**
	comp=N,395nm,0.3s,baz=183,slow=5.5,SNR=181						
FX1				S	**S**	**18 17 34.8**	**+1.4**
	comp=N,404nm,0.3s,baz=130,slow=22,SNR=14						
FX1	**Attu Island--F**	**3.36**	**296**	P	**P**	**18 16 55.5**	**+1.1**
GSTD	**Great Sitkin T**	**3.60**	**79**	P	**P**	**18 16 58.8**	**+1.0**
GSMY	**Great Sitkin M**	**3.65**	**79**	P	**P**	**18 16 59.5**	**+0.8**
GSTR	**Great Sitkin T**	**3.66**	**78**	*e*P	**P**	**18 16 59.1**	**+0.4**
GSIG	**Igitkin Island**	**3.73**	**80**	P	**P**	**18 17 00.6**	**+0.9**
ATKA	**Atka Island**	**4.81**	**78**	P	**P**	**18 17 15.5**	**+0.6**
ATKA				S	**S**	**18 18 09.4**	**-0.6**
UNV	**Unalaska Valle**	**9.63**	**70**	*e*P	**P**	**18 18 22.0**	**+0.4**
	comp=N,139nm,0.5s						
PET	**Petropavlovsk**	**12.03**	**285**	*e*P	**P**	**18 18 57.6**	**+3.5**
PET				*e*S	**S**	**18 21 14.1**	**+6.5**
PET				MLR	MLR		
	comp=Z,200nm,21.0s						
TNA	**Tin City**	**15.81**	**22**	*e*P	**P**	**18 19 45.8**	**+2.4**
	comp=Z,27nm,1.5s						
MA2	**Magadan**	**17.37**	**308**	*ce*P	**P**	**18 20 04.7**	**+1.8**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.4s						
BILL	**Bilibino**	**17.58**	**345**	⇓*e*P	**P**	**18 20 07.3**	**+1.8**
BILL				*e*S	**S**	**18 23 24.7**	**+7.6**
BILL				pmax	pmax		
	comp=Z,19nm,1.4s						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s						
BILL	**Bilibino**	**17.58**	**345**	*e*P	**P**	**18 20 06.6**	**+1.1**
	comp=Z,16nm,1.0s						
RSO	**Redoubt South**	**18.46**	**50**	*e*P	**P**	**18 20 15.9**	**-0.5**
SPU	**Mount Spurr**	**18.99**	**48**	*e*P	**P**	**18 20 23.5**	**+0.9**
SLKM	**Skilak Lake**	**19.68**	**50**	*e*P	**P**	**18 20 29.4**	**-0.8**
IMA	**Indian Mountai**	**20.39**	**34**	*e*P	**P**	**18 20 37.6**	**0.0**
IMA				pmax	pmax		
	comp=Z,128nm,1.0s						
IMA	**Indian Mountai**	**20.39**	**34**	*e*P	**P**	**18 20 37.6**	**0.0**
	comp=Z,128nm,1.0s						
SML	**Sawmill**	**20.88**	**47**	*e*P	**P**	**18 20 41.3**	**-1.4**
MCK	**McKinley**	**21.18**	**42**	*e*P	**P**	**18 20 45.7**	**0.0**
MCK				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.2						
MCK	**McKinley**	**21.18**	**42**	*e*P	**P**	**18 20 45.6**	**0.0**
	comp=Z,16nm,1.2s,mb4.2						
EYAK	**Cordova Ski Ar**	**21.86**	**51**	*e*P	**P**	**18 20 52.2**	**-0.3**
DIV	**Divide**	**21.94**	**50**	*e*P	**P**	**18 20 54.3**	**+1.1**
	comp=Z,123nm,1.1s,mb5.2						
COLA	**College**	**22.03**	**40**	⇑*e*P	**P**	**18 20 56.3**	**+2.2**
COLA	**College**	**22.03**	**40**	*e*P	**P**	**18 20 54.5**	**+0.4**
	comp=Z,19nm,1.0s,mb4.5						
ILAR	**Eielson Array**	**22.38**	**40**	P	**P**	**18 20 56.6**	**-1.0**
	comp=Z,4.0nm,1.0s,mb3.8,baz=232,slow=8.2,SNR=25						
ILAR				pP		18 21 09.4	
	comp=Z,10nm,1.1s,baz=253,slow=9.4,SNR=12						
ILAR				ScP		18 28 23.1	
	comp=Z,0.6nm,1.0s,baz=288,slow=2.9,SNR=4.4						
ILAR				LR	LR	18 30 57.2	
	comp=Z,157nm,18.7s,MS3.5,baz=82,slow=40						
THY	**Trims Highway**	**22.45**	**44**	*e*P	**P**	**18 20 58.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**23.39**	**273**	⇑*e*P	**P**	**18 21 10.3**	**+2.9**
YSS				pmax	pmax		
	comp=Z,37nm,1.4s,mb4.6						
YSS				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.3						
YSS	**Yuzh-Sakhalins**	**23.39**	**273**	*e*P	**P**	**18 21 09.2**	**+1.8**
ASAJ	**Asahikawa**	**24.79**	**267**	P	**P**	**18 21 22.4**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.8s						
ASAJ	**Asahikawa**	**24.79**	**267**	P	**P**	**18 21 22.4**	**+1.4**
	comp=Z,22nm,0.8s,mb4.7,baz=110,slow=3.7,SNR=14						
DAWY	**Dawson**	**25.35**	**44**	*e*P	**P**	**18 21 25.8**	**-0.3**
YAK	**Yakutsk**	**27.90**	**311**	*d i*P	**P**	**18 21 47.7**	**-1.9**
YAK				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.7						
YAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.5						
INK	**Inuvik**	**28.48**	**36**	P	**P**	**18 21 54.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK				MLR	MLR		
	comp=Z,253nm,20.0s						
INK	**Inuvik**	**28.48**	**36**	P	**P**	**18 21 54.5**	**-0.2**
	comp=Z,2.4nm,0.5s,mb4.1,baz=258,slow=8.5,SNR=14						
INK				LR	LR	18 33 41.2	
	comp=Z,253nm,20.0s,MS3.8,baz=65,slow=37						
INK	**Inuvik**	**28.48**	**36**	*e*P	**P**	**18 21 54.0**	**-0.8**
	comp=Z,11nm,1.1s,mb4.4						
KLR	**Kul'dur**	**29.30**	**284**	*e*P	**P**	**18 21 58.7**	**-3.5**
TIXI	**Tiksi**	**29.60**	**331**	*i* P	**P**	**18 22 03.0**	**-1.7**
TIXI				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.4						
DLBC	**Dease Lake**	**29.90**	**56**	P	**P**	**18 22 08.6**	**+1.2**
	comp=Z,9.8nm,1.3s,mb4.4,baz=267,slow=13,SNR=5.6						
DLBC				LR	LR	18 33 31.0	
	comp=Z,192nm,20.2s,MS3.7,baz=265,slow=35						
MDJ	**Mudanjiang**	**32.66**	**277**	P	**P**	**18 22 28.8**	**-3.0**
MDJ				AP	pP	18 22 43.2	-2.5
MDJ				PP	PP	18 23 43.2	+1.2
MDJ				PCP	PcP	18 25 14.5	-2.4
MDJ				S	**S**	**18 27 40.3**	**-2.7**
MDJ				PCS		18 28 59.4	
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,100nm,5.1s						
MDJ				LR	LR		
	comp=N,107nm,42.3s						
MDJ				LR	LR		
	comp=E,52nm,36.0s						
MDJ				LR	LR		
	comp=Z,123nm,22.7s						
CN2	**Changchun**	**35.63**	**279**	*e*P	**P**	**18 22 56.8**	**-0.6**
BOD	**Bodaibo**	**36.36**	**306**	*e*P	**P**	**18 23 01.0**	**-2.4**
BOD				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
CBIJ	**Chichi jima**	**36.41**	**242**	LR	LR	18 34 19.7	
	comp=Z,159nm,22.0s,MS3.8,baz=359,slow=30						
YKW3	**Yellowknife Ar**	**36.52**	**46**	*e*P	**P**	**18 23 03.9**	**-0.9**
YKA	**Yellowknife Ar**	**36.54**	**46**	P	**P**	**18 23 04.4**	**-0.5**
	comp=Z,1.8nm,0.6s,mb4.1,baz=281,slow=8.0,SNR=28						
YKA				PcP	PcP	18 25 27.3	-0.5
	comp=Z,0.3nm,0.5s,baz=292,slow=3.5,SNR=3.6						
YKA				ScP		18 29 06.8	
	comp=Z,0.1nm,0.5s,baz=290,slow=3.7,SNR=5.0						
YKA				LR	LR	18 39 16.4	
	comp=Z,306nm,19.1s,MS4.1,baz=245,slow=38						
YKA	**Yellowknife Ar**	**36.54**	**46**	P	**P**	**18 23 04.5**	**-0.4**
YKA				PcP	PcP	18 25 27.3	-0.5
YKA				ScP		18 29 06.8	
YKA				LR	LR	18 39 16.4	
EDM	**Edmonton**	**40.43**	**60**	*e*P	**P**	**18 23 36.2**	**-1.1**
RES	**Resolute Bay**	**40.43**	**24**	*e*P	**P**	**18 23 36.9**	**-0.3**
RES				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
RES	**Resolute Bay**	**40.43**	**24**	*e*P	**P**	**18 23 36.9**	**-0.3**
	comp=Z,2.2nm,0.8s,mb3.9						
NEW	**Newport**	**40.64**	**68**	P	**P**	**18 23 38.8**	**-0.3**
	comp=Z,3.3nm,0.7s,mb4.1,baz=324,slow=7.1,SNR=4.1						
YBH	**Yreka Blue Hor**	**40.76**	**80**	P	**P**	**18 23 40.9**	**+0.7**
	comp=Z,5.9nm,0.8s,mb4.2,baz=333,slow=1.6,SNR=11						
BMO	**Blue Mountains**	**42.30**	**73**	*e*P	**P**	**18 23 52.6**	**-0.1**
	comp=Z,2.6nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**44.48**	**295**	*d i*P	**P**	**18 24 10.9**	**+0.6**
ULN	**Ulaanbaatar**	**44.48**	**295**	*e*P	**P**	**18 24 10.6**	**+0.3**
	comp=Z,10nm,0.7s,mb4.7						
HLID	**Hailey**	**44.75**	**72**	*e*P	**P**	**18 24 11.7**	**-0.9**
	comp=Z,4.4nm,1.0s,mb4.2						
SONM	**Songino Array**	**44.87**	**295**	P	**P**	**18 24 14.3**	**+0.9**
	comp=Z,6.2nm,0.6s,mb4.6,baz=59,slow=8.4,SNR=63						
SONM				ScP		18 29 44.9	
	comp=Z,0.5nm,0.9s,baz=45,slow=2.0,SNR=3.7						
ZAK	**Zakamensk**	**45.24**	**300**	*e*P	**P**	**18 24 16.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.1						
NVAR	**Mina Array Bea**	**45.44**	**81**	P	**P**	**18 24 19.2**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.4,baz=297,slow=6.5,SNR=23						
NVAR				pP	pP	18 24 30.5	-1.8
	comp=Z,3.1nm,0.7s,baz=293,slow=6.9,SNR=7.8						
NVAR	**Mina Array Bea**	**45.44**	**81**	P	**P**	**18 24 19.2**	**+1.1**
NVAR				pP	pP	18 24 30.5	-1.8
MNV	**Mina**	**45.53**	**81**	*e*P	**P**	**18 24 19.0**	**+0.1**
MNV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MNV	**Mina**	**45.53**	**81**	*e*P	**P**	**18 24 19.0**	**+0.1**
	comp=Z,3.2nm,0.7s,mb4.4						
HHC	**Hu-ho-hao-te**	**45.80**	**284**	*e*P	**P**	**18 24 22.9**	**+1.9**
HHC				PP	PP	18 26 10.6	+1.5
HHC				S	**S**	**18 31 01.2**	**+1.1**
HHC				SS	SS	18 34 18.4	+1.5
HHC				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
HHC				AMB	AMB		
	comp=Z,102nm,5.7s						
ELK	**Elko**	**45.91**	**76**	P	**P**	**18 24 22.5**	**+0.7**
ELK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ELK	**Elko**	**45.91**	**76**	P	**P**	**18 24 22.5**	**+0.7**
	comp=Z,0.9nm,0.5s,mb4.0,baz=277,slow=9.9,SNR=6.4						
ELK	**Elko**	**45.91**	**76**	*e*P	**P**	**18 24 20.8**	**-1.0**
MTUM	**Tungsten Hills**	**45.95**	**82**	P	**P**	**18 24 21.3**	**-0.9**
SSE	**Sheshan**	**46.08**	**267**	*e*P	**P**	**18 24 20.8**	**-2.5**
SSE				S	**S**	**18 31 00.8**	**-3.4**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,253nm,3.7s						
SSE				LR	LR		
	comp=N,25nm,24.4s,MS3.3						
SSE				LR	LR		
	comp=E,35nm,24.4s,MS3.3						
SSE				LR	LR		
	comp=Z,40nm,26.5s,MS3.2						
SSE	**Sheshan**	**46.08**	**267**	*e*P	**P**	**18 24 20.8**	**-2.5**
	comp=Z,38nm,0.7s,mb5.4						
SSE				pP	pP	18 24 37.0	-0.6
SSE				S	**S**	**18 31 00.8**	**-3.4**
SSE				sS		18 31 29.5	
SSE				SS	SS	18 34 54.2	+32
SSE				LR	LR		
	comp=Z,40nm,26.5s,MS3.2						
TRCR	**Troy Canyon**	**47.16**	**79**	P	**P**	**18 24 30.8**	**-1.0**
FCC	**Fort Churchill**	**47.26**	**45**	P	**P**	**18 24 33.6**	**+1.4**
DUG	**Dugway**	**47.71**	**75**	*e*P	**P**	**18 24 36.4**	**+0.4**
DUG				pmax	pmax		
	comp=Z,134nm,1.1s						
DUG	**Dugway**	**47.71**	**75**	*e*P	**P**	**18 24 36.4**	**+0.4**
	comp=Z,134nm,1.1s						
BW06	**Boulder Array**	**48.09**	**71**	*e*P	**P**	**18 24 37.0**	**-2.0**
	comp=Z,3.3nm,0.6s,mb4.5						
PDAR	**Pinedale Array**	**48.10**	**71**	P	**P**	**18 24 38.2**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=309,slow=4.4,SNR=21						
PDAR				pP	pP	18 24 50.5	-2.7
	comp=Z,2.1nm,0.6s,baz=307,slow=3.6,SNR=8.4						
PDAR				LR	LR	18 43 04.1	
	comp=Z,101nm,21.3s,MS3.8,baz=88,slow=34						

ULM	**Lac du Bonnet**	**51.22**	**55**	P	**P**	**18 25 02.1**	**-0.6**
	comp=Z,1.4nm,0.6s,mb4.1,baz=335,slow=6.4,SNR=2.7						
ULM				LR	LR	18 47 48.4	
	comp=Z,169nm,18.8s,MS4.1,baz=250,slow=37						
WUAZ	**Wupatki**	**51.56**	**79**	P	**P**	**18 25 03.9**	**-1.7**
RW3	**Ridgway**	**52.02**	**74**	P	**P**	**18 25 08.1**	**-0.9**
ZAL	**Zalesovo**	**52.56**	**312**	P	**P**	**18 25 11.3**	**-1.5**
	comp=Z,2.3nm,0.5s,mb4.4,baz=68,slow=4.0,SNR=9.7						
ZAL				LR	LR	18 48 49.4	
	comp=Z,88nm,19.4s,MS3.8,baz=50,slow=37						
NVS	**Novosibirsk**	**52.72**	**314**	⇓*i*P	**P**	**18 25 12.1**	**-1.9**
NVS				*e*	pP	18 25 26.9	-1.6
NVS				pmax	pmax		
	comp=Z,18nm,1.6s,mb4.8						
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,11nm,1.5s						
LZH	**Lanzhou**	**53.50**	**284**	⇓P	**P**	**18 25 19.5**	**-0.6**
LZH				PP	PP	18 27 22.3	-0.1
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,203nm,14.5s						
LZH				LR	LR		
	comp=Z,276nm,17.5s,MS4.4						
LZH	**Lanzhou**	**53.50**	**284**	⇓P	**P**	**18 25 19.5**	**-0.6**
LZH				*PP	pP	18 25 35.6	+1.0
LZH						18 27 22.3	
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,280nm,17.5s,MS4.4						
LZH	**Lanzhou**	**53.50**	**284**	⇓P	**P**	**18 25 19.5**	**-0.6**
	comp=Z,27nm,1.3s,mb5.0						
LZH				pP	pP	18 25 35.6	+1.0
LZH				sP	sP	18 25 42.5	+1.7
LZH				PP	PP	18 27 22.3	-0.1
LZH				LR	LR		
	comp=Z,280nm,17.5s,MS4.4						
SDCO	**Great Sand Dun**	**53.66**	**73**	*e*P	**P**	**18 25 20.1**	**-1.2**
	comp=Z,3.0nm,1.2s,mb4.1						
GTA	**Gaotai**	**53.73**	**290**	P	**P**	**18 25 22.0**	**+0.3**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
FRB	**Frobisher Bay**	**53.92**	**30**	P	**P**	**18 25 21.4**	**-1.4**
	comp=Z,3.4nm,0.4s,mb4.6,baz=317,slow=7.0,SNR=5.4						
KEV	**Kevo**	**57.24**	**348**	*e*p	**P**	**18 25 51.7**	**+5.0**
	comp=Z,0.3nm,0.3s,mb3.8						
KURK	**Kurchatov**	**57.54**	**312**	P	**P**	**18 25 48.9**	**-0.1**
	comp=Z,143nm,0.9s						
KURK	**Kurchatov**	**57.54**	**312**	*d i*P	**P**	**18 25 48.1**	**-0.9**
KURK				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
KURK	**Kurchatov**	**57.54**	**312**	*e*P	**P**	**18 25 47.6**	**-1.3**
	comp=Z,34nm,1.0s,mb5.3						
ARCES	**ARCESS Array B**	**57.64**	**349**	P	**P**	**18 25 48.0**	**-1.5**
	comp=Z,5.1nm,0.9s,mb4.5,baz=28,slow=8.5,SNR=11						
ARCES				LR	LR	18 51 04.2	
	comp=Z,67nm,18.8s,MS3.8,baz=202,slow=36						
WMQ	**Urumqi**	**57.65**	**301**	⇓*i*P	**P**	**18 25 49.9**	**0.0**
WMQ				PP	PP	18 28 00.0	+0.3
WMQ				PCS		18 30 42.0	
WMQ				S	**S**	**18 33 42.5**	**+0.2**
WMQ				SCS	ScS	18 35 30.0	-0.8
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,107nm,4.0s						
WMQ				LR	LR		
	comp=N,212nm,21.4s,MS4.3						
WMQ				LR	LR		
	comp=E,196nm,23.8s,MS4.3						
WMQ				LR	LR		
	comp=Z,330nm,22.7s,MS4.4						
MNTX	**Cornudas Mount**	**57.82**	**78**	*e*P	**P**	**18 25 51.2**	**0.0**
MKAR	**Makanchi Array**	**58.44**	**307**	*i* P	**P**	**18 25 54.0**	**-1.3**
CHKZ	**Chkalovo**	**58.98**	**319**	*e*P	**P**	**18 25 57.6**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.1						
CHKZ	**Chkalovo**	**58.98**	**319**	*e*P	**P**	**18 25 57.5**	**-1.4**
	comp=Z,22nm,1.2s,mb5.1						
BVA0	**Borovoye Array**	**59.54**	**318**	*i* P	**P**	**18 26 02.3**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WMOK	**Wichita Mounta**	**59.69**	**71**	*e*P	**P**	**18 26 03.2**	**-0.9**
WMOK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
WMOK	**Wichita Mounta**	**59.69**	**71**	*e*P	**P**	**18 26 03.2**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**60.53**	**79**	P	**P**	**18 26 10.0**	**0.0**
	comp=Z,1.5nm,0.7s,mb4.3,baz=304,slow=4.5,SNR=15						
TXAR				pP	pP	18 26 21.2	-3.5
	comp=Z,2.4nm,0.6s,baz=301,slow=5.5,SNR=12						
TXAR				LR	LR	18 52 54.8	
	comp=Z,52nm,18.7s,MS3.7,baz=35,slow=37						
SCHQ	**Schefferville**	**61.09**	**37**	P	**P**	**18 26 11.8**	**-1.5**
	comp=Z,4.3nm,0.8s,mb4.6,baz=4.5,slow=3.4,SNR=9.3						
SCHQ				LR	LR	18 51 49.3	
	comp=Z,110nm,18.0s,MS4.0,baz=18,slow=35						
SCHQ	**Schefferville**	**61.09**	**37**	P	**P**	**18 26 11.8**	**-1.6**
SCHQ				LR	LR	18 51 49.3	
JOF	**Joensuu**	**62.97**	**344**	*e*p	**P**	**18 26 23.9**	**-2.0**
	comp=Z,0.4nm,0.3s,mb4.0						
TKM2	**Tokmak 2**	**64.54**	**307**	P	**P**	**18 26 36.5**	**+0.2**
	SNR=12						
KAF	**Kangasniemi**	**64.56**	**346**	*e*p	**P**	**18 26 34.9**	**-1.1**
	comp=Z,0.4nm,0.3s,mb3.9						
ULHL	**Ulahol**	**64.72**	**307**	P	**P**	**18 26 37.8**	**+0.4**
	SNR=7.3						
USP	**Ospenovka**	**64.83**	**308**	P	**P**	**18 26 38.4**	**+0.3**
	SNR=11						
KBK	**Karagaybulak**	**65.06**	**308**	P	**P**	**18 26 39.9**	**+0.2**
	SNR=8.7						
FINES	**FINESS Array B**	**65.23**	**346**	*i* P	**P**	**18 26 39.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.23**	**346**	P	**P**	**18 26 39.0**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=31,slow=6.5,SNR=12						
FINES				LR	LR	18 59 30.6	
	comp=Z,57nm,19.9s,MS3.8,baz=13,slow=40						
AAK	**Ala-Archa**	**65.30**	**308**	P	**P**	**18 26 41.6**	**+0.4**
	SNR=7.5						
AAK	**Ala-Archa**	**65.30**	**308**	P	**P**	**18 26 40.6**	**-0.6**
	comp=Z,49nm,0.8s,mb5.6,SNR=8.6						
AAK	**Ala-Archa**	**65.30**	**308**	*d i*P	**P**	**18 26 40.3**	**-0.9**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
AAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.0						
KZA	**Kyzart**	**65.34**	**307**	P	**P**	**18 26 42.3**	**+0.9**
	SNR=6.6						
LSA	**Lhasa**	**65.58**	**287**	P	**P**	**18 26 45.0**	**+1.7**
EKS2	**Erkin-Say**	**65.63**	**308**	P	**P**	**18 26 43.8**	**+0.5**
	SNR=13						
AML	**Almayashu**	**66.07**	**308**	P	**P**	**18 26 47.2**	**+1.0**
	SNR=10						
NB2	**NORSAR Subarra**	**67.33**	**353**	P	**P**	**18 26 52.7**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.9,baz=11,slow=6.2						
NOA	**NORSAR Array B**	**67.33**	**353**	P	**P**	**18 26 52.4**	**-1.3**
	comp=Z,1.4nm,0.8s,mb4.1,baz=11,slow=6.3,SNR=4.2						
NOA				LR	LR	18 59 26.2	
	comp=Z,50nm,19.8s,MS3.7,baz=130,slow=39						
NOA	**NORSAR Array B**	**67.33**	**353**	P	**P**	**18 26 52.4**	**-1.3**
NOA				LR	LR	18 59 26.2	
HFS	**Hagfors**	**68.03**	**352**	P	**P**	**18 26 57.1**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=45,slow=4.2,SNR=7.4						
OBN	**Obninsk**	**69.06**	**338**	⇓*e*P	**P**	**18 27 04.1**	**-0.5**
OBN				*e**PP	pP	18 27 22.9	+3.2
OBN				*e*		18 27 26.9	
OBN				*i* S	S	18 35 59.8	-4.5
OBN				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
CMAR	**Chiang Mai Arr**	**69.09**	**274**	*i* P	**P**	**18 27 05.5**	**+0.1**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**69.09**	**274**	P	**P**	**18 27 05.3**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=29,slow=6.8,SNR=14						
JIRN	**Jiri**	**70.03**	**289**	*e*P	**P**	**18 27 12.0**	**+1.0**
	comp=Z,37nm,0.7s,mb5.4						
KKN	**Kakani**	**70.46**	**290**	*e*P	**P**	**18 27 14.5**	**+0.9**
	comp=Z,29nm,0.8s,mb5.3						
PKI	**Pulchoki**	**70.55**	**290**	*e*P	**P**	**18 27 14.7**	**+0.5**
	comp=Z,28nm,0.9s,mb5.2						
GKN	**Gorkha**	**70.68**	**291**	*e*P	**P**	**18 27 15.3**	**+0.4**
	comp=Z,31nm,0.7s,mb5.3						
DMN	**Daman**	**70.70**	**290**	*e*P	**P**	**18 27 15.6**	**+0.5**
	comp=Z,42nm,1.2s,mb5.2						
KOLN	**Koldanda**	**71.46**	**291**	*e*P	**P**	**18 27 19.0**	**-0.6**
	comp=Z,25nm,1.0s,mb5.1						
AKASG	**Malin Array Be**	**74.82**	**340**	P	**P**	**18 27 38.2**	**-0.6**
	comp=Z,1.2nm,0.3s,mb4.2,baz=20,slow=6.1,SNR=13						
GOF	**Gofitskoye**	**76.31**	**329**	⇑*i*P	**P**	**18 27 48.0**	**+0.6**
GOF				pmax	pmax		
	comp=Z,70nm,1.3s,mb5.4						
KIV	**Kislovodsk**	**77.41**	**329**	⇓*e*P	**P**	**18 27 54.7**	**+1.1**
KIV				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.1						
BURAR	**Bucovina Array**	**78.58**	**342**	⇑P	**P**	**18 28 00.7**	**+0.8**
SOC	**Sochi**	**78.68**	**331**	*e*P	**P**	**18 27 59.3**	**-1.3**
SOC				*e*		18 30 55.8	
SOC				*e*PPP	PPP	18 32 47.4	-3.3
SOC				*e*S	S	18 37 49.2	-2.9
SOC				*e*		18 38 17.1	
SOC				*e*SS	SS	18 42 58.9	-1.0
SOC				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
SOC				pmax	pmax		
	comp=N,29nm,1.1s						
SOC				pmax	pmax		
	comp=E,14nm,0.9s						
GERES	**GERESS Array B**	**79.16**	**350**	P	**P**	**18 28 06.6**	**+3.5**
	comp=E,0.7nm,0.9s,mb3.6,baz=18,slow=3.1,SNR=3.4						
MLR	**Muntele Rosu**	**80.46**	**341**	⇓P	**P**	**18 28 11.5**	**+1.3**
MLR	**Muntele Rosu**	**80.46**	**341**	P	**P**	**18 28 11.0**	**+0.9**
	comp=E,1.5nm,0.5s,mb4.2,baz=150,slow=17,SNR=5.2						
WRAB	**Tennant Creek**	**80.78**	**221**	*e*P	**P**	**18 28 11.5**	**-0.8**
WRA	**Warramunga Arr**	**80.79**	**221**	P	**P**	**18 28 12.1**	**-0.3**
	comp=E,1.3nm,0.9s,mb3.9,baz=30,slow=5.7,SNR=14						
MALT	**Malatya**	**83.88**	**329**	*e*P	**P**	**18 28 28.4**	**+0.6**
MALT				pmax	pmax		
	comp=Z,16nm,1.4s,mb5.0						
MALT	**Malatya**	**83.88**	**329**	*e*P	**P**	**18 28 28.4**	**+0.5**
	comp=Z,16nm,1.4s,mb5.0						
ASAR	**Alice Springs**	**84.30**	**220**	P	**P**	**18 28 30.9**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.8,baz=25,slow=6.3,SNR=7.7						
STKA	**Stephens Creek**	**89.01**	**210**	P	**P**	**18 28 54.9**	**+1.9**
	comp=Z,3.0nm,0.9s,mb4.6,baz=54,slow=23,SNR=3.1						
STKA	**Stephens Creek**	**89.01**	**210**	P	**P**	**18 28 54.9**	**+1.9**
URZ	**Urewera**	**89.38**	**181**	LR	LR	19 03 07.1	
	comp=Z,119nm,21.5s,MS4.3,baz=255,slow=32						
PLCA	**Paso Flores**	**132.85**	**105**	PKP	PKPdf	18 35 13.7	+1.8
	comp=Z,6.3nm,1.3s,baz=198,slow=5.3,SNR=3.4						
MAW	**Mawson**	**145.40**	**218**	PKPbc	PKPbc	18 35 35.5	+1.5
	comp=Z,19nm,1.1s,baz=76,slow=4.2,SNR=3.7						

*NEIC **04** 18:20:57.3,32.60S×72.93W,h18^{km},ML3.4(GUC),After GUC.*

GUC 04 18:20:57.3±0.7**,32.60S**×**72.93W,h18**^{km}±3^{km}**,MD4.0, ML3.4,3C-3D,Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**1.27**	**87**	*e*P	Pn	18 21 19.6	-0.6
PACH				*i* S	Sb	18 21 36.3	+0.2
LCCH	**Las Cruces**	**1.44**	**128**	⇓*i*P	Pn	18 21 22.2	-0.5
LCCH				*i* S	Sb	18 21 40.5	-0.7
ROCH	**El Roble**	**1.66**	**103**	*i* S	Sn	18 21 48.0	+1.0
TACH	**Talagante**	**1.98**	**123**	⇓*i*P	Pn	18 21 30.4	0.0
JACH	**Jahuel**	**1.98**	**93**	⇑*i*P	Pn	18 21 30.4	-0.1
JACH				*i* S	Sn	18 21 55.7	+0.8
RCDM	**Rinconada Maip**	**1.99**	**117**	*e*P	Pn	18 21 30.9	+0.2
RCDM				*i* S	Sn	18 21 55.9	+0.5
RCDM				AMP		18 21 58.9	
	comp=E,255nm,0.6s						
CLCH	**Cerro Calan**	**2.16**	**112**	*e*P	Pn	18 21 33.7	+0.6
CLCH				*i* S	Sn	18 22 01.5	+1.8
CLCH				AMP		18 22 07.0	
	comp=N,618nm,0.7s						
PCH	**Pirque**	**2.27**	**117**	*i* P	Pn	18 21 35.3	+0.7
PCH				*i* S	Sn	18 22 04.5	+2.1
CHCH	**Chadas Angostu**	**2.33**	**125**	*e*P	Pn	18 21 35.6	+0.1
FCH	**Farellones**	**2.34**	**109**	⇑*i*P	Pn	18 21 36.6	+1.0
FCH				*i* S	Sn	18 22 06.3	+2.2
FCH				AMP		18 22 09.4	
	comp=E,246nm,0.7s						
CACH	**El Canelo**	**2.47**	**128**	⇓*i*P	Pn	18 21 38.4	+0.9
LMEL	**Las Melosas**	**2.60**	**119**	⇑*i*P	Pn	18 21 40.3	+0.9
LMEL				*i* S	Sn	18 22 12.4	+1.5
LMEL				AMP		18 22 15.7	
	comp=N,274nm,0.1s						
TLL	**Tololo Astrono**	**3.04**	**37**	*e*P	Pn	18 21 44.4	-1.1

*KRSC **04** 18:22:41.8±1.1,53.09N×160.17E,h39^{km}±2^{km},ML3.9*

ISC 04 18:22:41.8±0.8**,53.08N**±0.05×**160.22E**±0.07**,h43**^{km}±8^{km}**, n18,**σ**0^{s}76**/34**,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.12**	**280**	*e*P	**P**	**18 22 48.6**	**-0.1**
SPN				*e*S	**S**	**18 22 53.7**	**0.0**
NLC	**Nalytchevo**	**0.54**	**280**	*e*P	**P**	**18 22 52.9**	**-0.2**
NLC				*e*S	**S**	**18 23 01.0**	**-0.2**
UGLR	**Uglovaya**	**0.85**	**279**	*i* P	**P**	**18 22 57.9**	**+0.5**
UGLR				*e*S	**S**	**18 23 09.7**	**+0.8**
AVH	**Avacha**	**0.91**	**282**	*i* P	**P**	**18 22 58.7**	**+0.4**
AVH				*e*S	**S**	**18 23 11.1**	**+0.7**
PET	**Petropavlovsk**	**0.95**	**267**	*e*P	**P**	**18 22 58.4**	**-0.4**
PET				*e*S	**S**	**18 23 10.4**	**-1.0**
KOK	**Koryaka**	**0.98**	**283**	*i* P	**P**	**18 22 59.3**	**+0.1**
KOK				*e*S	**S**	**18 23 11.0**	**-1.1**
RUS	**Russkaya**	**1.22**	**239**	*e*P	**P**	**18 23 02.2**	**-0.5**
RUS				*e*S	**S**	**18 23 17.2**	**-1.1**
KRMR	**Karymshinskiy**	**1.29**	**260**	*e*P	**P**	**18 23 03.6**	**0.0**
KRMR				*e*S	**S**	**18 23 19.8**	**-0.2**
GRL	**Gorelyy**	**1.41**	**249**	*e*P	**P**	**18 23 05.7**	**+0.3**
GRL				*e*S	**S**	**18 23 23.1**	**+0.2**
GNL	**Ganaly**	**1.50**	**295**	*e*P	**P**	**18 23 06.9**	**+0.2**
GNL				*e*S	**S**	**18 23 26.4**	**+1.2**
TUMR	**Tumrok**	**2.21**	**359**	*i* P	**P**	**18 23 17.2**	**+0.4**
TUMR				*e*S	**S**	**18 23 43.0**	**0.0**
PAU	**Pauzhetka**	**2.64**	**234**	*e*P	**P**	**18 23 24.3**	**+1.3**
PAU				*e*S	**S**	**18 23 53.8**	**-0.2**
KMNR	**Kamenistaya**	**2.68**	**0**	*e*P	**P**	**18 23 23.1**	**-0.4**
ESO	**Esso**	**2.99**	**343**	*e*P	**P**	**18 23 27.4**	**-0.5**
ESO				*e*S	**S**	**18 24 02.5**	**-0.3**
KBTR	**Krutoberegovo**	**3.48**	**25**	*e*P	**P**	**18 23 34.4**	**-0.4**
KBTR				*e*S	**S**	**18 24 13.0**	**-2.3**
KBG	**Krutoberegovo**	**3.50**	**23**	P	**P**	**18 23 37.3**	**+2.3**
KBG				*e*S	**S**	**18 24 16.8**	**+1.1**
KBG				Smax			
	240nm,1.0s						
KBG	**Krutoberegovo**	**3.50**	**23**	*i* P	**P**	**18 23 36.8**	**+1.8**
KBG				*e*S	**S**	**18 24 15.7**	**0.0**
BKI	**Bering**	**4.00**	**55**	*e*S	**S**	**18 24 22.4**	**-5.9**

DJA 04 18:30:59.6±1.6**,10.46S**×**113.88E,h160**^{km}**,ML3.8**/1**, 5C-3D,Error ellipse: s-maj=43.4km s-min=19.0km az=166.0,South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.98**	**7**	⇓*e*Pn	P	18 31 34.7	-0.7
SRDI				⇓*e*Sn	S	18 32 01.5	-1.6
KELI	**Kelakatan**	**2.31**	**15**	⇑*e*Pn	P	18 31 39.8	+0.5
KELI				⇑*e*Sn	S	18 32 14.2	+4.3
RATI	**Rata**	**2.37**	**43**	⇑*e*Pn	P	18 31 37.9	-2.2
RATI				⇓*e*Sn	S	18 32 09.2	-2.1
KEDI	**Kedomdong**	**2.94**	**49**	⇑*e*Pn	P	18 31 52.1	+4.8
	37nm,0.2s						
KEDI				⇑*e*Sn	S	18 32 21.5	-2.4

CASC 04 18:42:50.8±2.1**,12.98N**×**87.80W,h169**^{km}±9^{km}**,MD3.9, 10C-4D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.30**	**354**	⇑*e*P	P	18 43 12.7	-1.2
BLLM	**Bellamira**	**0.63**	**317**	⇑*e*P	P	18 43 14.3	-0.9
VSM	**San Miguel**	**0.64**	**314**	⇑*e*P	P	18 43 14.7	-0.6
CRIN	**San Cristobal**	**0.78**	**111**	⇑*e*P	P	18 43 16.8	+0.7
CRIN				*e*S	S	18 43 36.0	+0.4
TELN	**Telica**	**1.02**	**111**	⇑*e*P	P	18 43 17.9	+0.2
TELN				*e*S	S	18 43 39.5	+1.2
LEON	**Leon**	**1.05**	**122**	⇓*e*P	P	18 43 18.3	+0.4
LEON				*e*S	S	18 43 36.9	-2.0
CNGN	**Cerro Negro**	**1.18**	**114**	*e*P	P	18 43 18.1	-1.0
CNGN				*e*S	S	18 43 41.1	+0.2
SNVI	**San Vicente**	**1.19**	**302**	*e*P	P	18 43 19.1	-0.1
SNVI				⇓*e*P		18 43 19.9	
SNVI				*e*S	S	18 43 42.9	+1.7
MIRN	**Miramar**	**1.19**	**117**	*e*P	P	18 43 19.2	0.0
MIRN				*e*S	S	18 43 42.1	+0.9
LCBS	**La Ceiba**	**1.33**	**301**	⇓*e*P	P	18 43 20.1	-0.4
LCBS				*e*S	S	18 43 42.9	-0.5
MOMJ	**Momotombo**	**1.35**	**115**	*e*P	P	18 43 21.2	+0.5
MOMJ				*e*S	S	18 43 45.4	+1.5
LFRS	**El Faro**	**1.38**	**298**	⇑*e*P	P	18 43 20.7	-0.4
LFRS				*e*S	S	18 43 44.0	-0.4
COPN	**Copaltepe**	**1.42**	**124**	⇓*e*P	P	18 43 21.8	+0.4
COPN				*e*S	S	18 43 43.8	-1.3
LBRS	**Las Brisas**	**1.43**	**302**	*e*P	P	18 43 21.2	-0.2
LBRS				*e*S	S	18 43 46.5	+1.5
LFU	**La Fuente**	**1.49**	**301**	*e*P	P	18 43 22.6	+0.5
APYN	**Apoyeque**	**1.60**	**117**	⇑*e*P	P	18 43 23.9	+0.7
APYN				*e*S	S	18 43 48.7	+0.6
BOQS	**Boqueron**	**1.62**	**298**	*e*P	P	18 43 23.4	-0.1
BOQS				*e*S	S	18 43 50.8	+2.2
MGAN	**Managua**	**1.73**	**118**	*e*S	S	18 43 50.9	+0.4
WILN	**Americas 2**	**1.77**	**117**	*e*S	S	18 43 52.7	+1.3
TICN	**Ticuantepe**	**1.80**	**121**	*e*P	P	18 43 26.2	+1.0
TICN				*e*S	S	18 43 52.4	+0.6
SNJE	**San Jose**	**1.97**	**297**	*e*P	P	18 43 27.2	+0.2
SNJE				*e*S	S	18 43 56.5	+1.5
SBLS	**San Blas**	**1.97**	**296**	⇑*e*P	P	18 43 27.4	+0.4
SBLS				*e*S	S	18 43 56.7	+1.7
RTR	**El Retiro**	**2.01**	**297**	⇑*e*P	P	18 43 28.4	+0.9
RTR				*e*S	S	18 43 58.5	+2.6
RBDL	**Robledal**	**2.15**	**302**	⇑*e*P	P	18 43 29.6	+0.4

*MOS **04** 19:05:16.1±1.2,2.81N×126.38E,h33^{km},mb6.3/57, MS5.5/40,Error ellipse: s-maj=7.1km s-min=4.4km az=117.4*

*BJI **04** 19:05:17.6,2.59N×126.40E,h66^{km},mB6.1,mb6.1,Ms5.6, Msz5.5*

*IDC **04** 19:05:18.5±1.2,2.54N×126.49E,h48^{km}±10^{km},mb5.7/33, mb1 5.6/33,mb1mx5.6/33,mbtmp5.9/33,MS5.0/9, Ms1 5.0/9,ms1mx4.6/19,Error ellipse: s-maj=13.1km s-min=6.6km az=75.0*

*NEIC **04** 19:05:19.9±0.7,2.67N×126.41E,h59^{km}±6^{km},mb6.1/85, ME5.8,MW5.9,Error ellipse: s-maj=4.4km s-min=3.4km az=50.0 Broadband fault plane solution: P waves. NP1: ϕ_s345°,δ50°,λ90°. NP2:ϕ_s165°,δ40°,λ90°. Principal axes: T Plg85°, Azm255°; N Plg0°, Azm0°; P Plg5°, Azm75°; Moment Tensor Solution. s18 Moment tensor: Scale 10^{17} Nm; M_{rr}7.04; $M_{\theta\theta}$-3.89; $M_{\phi\phi}$-3.16; $M_{r\theta}$-1.92; $M_{\theta\phi}$4.01; $M_{\phi r}$-0.48; Best double couple: $M_0$7.6×10^{17} NP1: ϕ_s145°,δ42°,λ110°. NP2:ϕ_s300°,δ51°,λ73°. Principal axes: T 7.51, Plg76°, Azm150°; N .12, Plg13°, Azm310°; P -7.63, Plg4°, Azm42°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*HRVD **04** 19:05:19.9±0.2,2.84N×126.50E,h26^{km},MW5.8/71, Centroid moment Tensor Solution. LP body waves: s71,c144;Mantle waves: s67,c197; Half duration: 2^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}6.01±.09; $M_{\theta\theta}$-1.10±.07; $M_{\phi\phi}$-4.91±.08; $M_{r\theta}$2.18±.20; $M_{\theta\phi}$2.82±.06; $M_{\phi r}$2.20±.17; Best double couple: $M_0$6.908×10^{17} NP1: ϕ_s131°,δ45°,λ57°. NP2:ϕ_s354°,δ54°,λ119°. Principal axes: T 7.333, Plg67°, Azm323°; N -.849, Plg23°, Azm156°; P -6.484, Plg5°, Azm64°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 04 19:05:17.1±0.1**,2.60N**±0.02×**126.45E**±0.03**,h52**^{km}**, h52**^{km}±3.4^{km}**:pP-P,n778,**σ**1^{s}12**/640**,mb6.1**/153**,MS5.4**/68**, 147C-41D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.98**	**234**	*e*P	**P**	**19 05 45.0**	**-3.8**
MATI	**Mati**	**4.32**	**357**	*e*P	**P**	**19 06 20.7**	**-1.3**
DAV	**Davao City (W)**	**4.52**	**349**	*e*P	**P**	**19 06 25.0**	**+0.2**
KCP	**Kidapawan**	**4.58**	**343**	⇓*e*P	**P**	**19 06 26.4**	**+0.7**
KCP				*i* S	**S**	**19 07 28.1**	**+10**
BUKP	**Musuan**	**5.42**	**345**	*e*P	**P**	**19 06 37.2**	**-0.1**
BIPH	**Bislig**	**5.54**	**359**	⇑*e*P	**P**	**19 06 39.2**	**+0.2**
BIPH				*e*S	**S**	**19 07 42.9**	**+0.6**
PAGZ	**Pagadian**	**6.04**	**330**	*e*P	**P**	**19 06 45.5**	**-0.4**
CGP	**Cagayan de Oro**	**6.07**	**343**	⇓*e*P	**P**	**19 06 48.2**	**+1.8**
ZMPH	**Zamboanga City**	**6.15**	**315**	⇓*i*P	**P**	**19 06 42.0**	**-5.5**
BUTP	**Butuan**	**6.38**	**353**	*e*P	**P**	**19 06 51.5**	**+0.8**
IPIL	**Ipil**	**6.44**	**323**	*e*P	**P**	**19 06 50.9**	**-0.7**
SCPH	**Surigao**	**7.20**	**352**	⇑*e*P	**P**	**19 07 01.9**	**-0.3**
TBP	**Tagbilaran**	**7.50**	**340**	*e*P	**P**	**19 07 06.0**	**-0.3**
MSLP	**Maasin**	**7.65**	**348**	*e*P	**P**	**19 07 09.2**	**+0.8**
LLP	**Lapu-Lapu**	**8.05**	**342**	⇑*e*P	**P**	**19 07 13.7**	**-0.3**
PLP	**Palo**	**8.63**	**350**	*e*P	**P**	**19 07 22.0**	**+0.1**
PLP				*e*S	**S**	**19 08 43.4**	**-16**
TSM	**Tawau**	**8.72**	**281**	P	**P**	**19 07 24.4**	**+1.2**
BUNI	**Buntu Taipa**	**8.73**	**225**	*e*P	**P**	**19 07 23.6**	**+0.3**
GUIM	**Jordan**	**8.84**	**334**	*e*P	**P**	**19 07 25.4**	**+0.5**
BESP	**Borongan**	**8.99**	**354**	*e*P	**P**	**19 07 28.2**	**+1.3**
TANI	**Tanete Lipujan**	**9.27**	**230**	⇑*e*P	**P**	**19 07 34.9**	**+4.2**
RCP	**Roxas**	**9.63**	**338**	⇑*e*P	**P**	**19 07 36.9**	**+1.1**
NINI	**Niniconang**	**9.67**	**224**	⇑*e*P	**P**	**19 07 38.9**	**+2.5**
KALP	**Kalibo**	**9.89**	**336**	*e*P	**P**	**19 07 32.0**	**-7.5**
MMPH	**Masbate**	**10.09**	**344**	*e*P	**P**	**19 07 51.0**	**+8.9**
BATP	**Bataraza**	**10.58**	**306**	*e*P	**P**	**19 07 48.7**	**-0.1**
OTRP	**Odiongan**	**10.64**	**336**	*e*P	**P**	**19 07 51.9**	**+2.3**
KKM	**Kota Kinabalu**	**10.76**	**289**	*e*Pn	**P**	**19 07 53.5**	**+2.3**
KKM	**Kota Kinabalu**	**10.76**	**289**	P	**P**	**19 07 54.5**	**+3.2**
SJMP	**San Jose**	**11.13**	**332**	*e*P	**P**	**19 07 57.0**	**+0.8**
PVCP	**Virac**	**11.15**	**348**	*e*P	**P**	**19 07 56.9**	**+0.3**
BUSP	**Coron**	**11.21**	**327**	*e*P	**P**	**19 08 00.4**	**+3.1**
AUQP	**San Andres**	**11.29**	**341**	*e*P	**P**	**19 08 14.8**	**+16**
BOAC	**Boac**	**11.71**	**337**	*e*P	**P**	**19 08 06.1**	**+2.1**
GQP	**Guinayangan**	**11.91**	**341**	*e*P	**P**	**19 08 10.0**	**+3.4**
LUBP	**Lubang**	**12.64**	**331**	*e*P	**P**	**19 08 17.8**	**+1.2**
TGY	**Tagaytay City**	**12.66**	**335**	⇑*e*P	**P**	**19 08 25.2**	**+8.5**
POLP	**Polilio Island**	**12.84**	**340**	*e*P	**P**	**19 08 20.9**	**+1.6**
BALP	**Baler**	**13.91**	**340**	*e*P	**P**	**19 08 33.8**	**+0.5**
PCPH	**Palayan**	**13.91**	**338**	⇑*e*P	**P**	**19 08 33.5**	**+0.1**
SCZP	**Santa Cruz**	**14.59**	**334**	*e*P	**P**	**19 08 45.5**	**+3.3**
MENI	**Mendum Tagoi**	**14.86**	**110**	⇓*e*P	**P**	**19 08 48.8**	**+3.1**
MENI				pmax	pmax		
	comp=Z,110nm,0.9s						
MENI	**Mendum Tagoi**	**14.86**	**110**	⇓*e*P	**P**	**19 08 48.8**	**+3.1**
	comp=Z,221nm,0.9s						
BCPH	**Baguio City Da**	**14.86**	**337**	⇑*e*P	**P**	**19 08 50.9**	**+5.2**
PALP	**Palanan**	**14.90**	**345**	*e*P	**P**	**19 08 45.7**	**-0.6**
CAUP	**Cauayan**	**14.96**	**343**	*e*P	**P**	**19 08 45.9**	**-1.1**
YOMI	**Yo Moklole**	**15.04**	**110**	⇑*e*P	**P**	**19 08 47.9**	**-0.1**
	comp=Z,688nm,0.7s						
KEDI	**Kedomdong**	**15.09**	**223**	⇓*e*P	**P**	**19 08 51.6**	**+2.9**
KEDI				pmax	pmax		
	comp=Z,960nm,0.7s						
KEDI	**Kedomdong**	**15.09**	**223**	⇓*e*P	**P**	**19 08 51.6**	**+2.9**
	comp=Z,960nm,0.7s						
KEDI				⇓*e*PP	PP	19 08 57.0	-4.0
KEDI	**Kedomdong**	**15.09**	**223**	⇓*e*PP	PP	19 08 57.0	-4.0
BOLP	**Bolinao**	**15.13**	**335**	*e*P	**P**	**19 08 52.6**	**+3.4**
RATI	**Rata**	**15.65**	**224**	⇑*e*P	**P**	**19 08 59.2**	**+3.2**
	comp=Z,2µm,1.0s						
RATI				⇓*e*PP	PP	19 09 04.3	-4.6
RATI				⇑*e*PcP		19 09 10.1	
RATI	**Rata**	**15.65**	**224**	⇓*e*PP	PP	19 09 04.3	-4.6
RATI	**Rata**	**15.65**	**224**	⇑*e*PcP		19 09 10.1	
ABRA	**Dolores**	**15.98**	**340**	*e*P	**P**	**19 09 00.2**	**+0.2**
KELI	**Kelakatan**	**16.06**	**228**	*e*P	**P**	**19 09 03.8**	**+2.7**
	comp=Z,325nm,1.0s						
SGCP	**Mt. Cagua**	**16.13**	**345**	*e*P	**P**	**19 09 02.0**	**+0.1**
KSM	**Kuching**	**16.17**	**266**	P	**P**	**19 09 02.7**	**+0.2**
KSM				*e*ScP		19 17 28.1	
KAKA	**Kakadu**	**16.34**	**159**	⇑*i*P	**P**	**19 09 00.3**	**-4.3**
	comp=Z,2µm,1.2s						
SRDI	**Scrawed**	**16.49**	**228**	⇑*e*P	**P**	**19 09 09.4**	**+2.9**
SRDI				pmax	pmax		
	comp=Z,73nm,1.0s						

SRDI Scrawed 16.49 228⇑ eP P 19 09 09.4 +2.9
comp=Z,73nm,1.0s
SRDI ⇑ epP 19 09 13.6
SRDI ⇑ ePcP 19 09 24.0
SRDI Scrawed 16.49 228⇑ epP 19 09 13.6
SRDI Scrawed 16.49 228⇑ ePcP 19 09 24.0
BBP Basco 18.26 346 eP P 19 09 26.5 -2.1
FITZ Fitzroy Crossi 20.59 182⇑ iP P 19 09 52.9 -1.5
comp=Z,715nm,0.6s
FITZ eS S 19 13 38.0 +1.3
GUMO Guam 21.23 58 eP P 19 09 59.0 -1.8
GUMO pmax pmax
comp=Z,438nm,1.1s,mb5.7
GUMO Guam 21.23 58 eP P 19 09 59.0 -1.9
comp=Z,438nm,1.1s,mb5.7
NACB Ninganchiao 21.95 348 eP P 19 10 04.2 -3.8
PULI Pulasari 22.29 246⇑ eP P 19 10 11.7 +0.3
comp=Z,871nm,1.0s,mb5.8
YHNB Yeheng 22.48 348 eP P 19 10 10.2 -2.9
TATO Taipei 22.75 348 eP P 19 10 13.0 -3.0
comp=Z,424nm,1.1s,mb5.8
PENI Pendagan 22.75 249⇑ eP P 19 10 16.0 -0.1
PENI eS S 19 14 05.7 -11
PENI pmax pmax
comp=Z,1μm,0.8s,mb6.5
PENI Pendagan 22.75 249⇑ eP P 19 10 16.0 -0.1
comp=Z,3μm,0.8s,mb6.4
PENI ⇑ eS S 19 14 05.7 -11
HKC Hong Kong 22.93 330 i P P 19 10 22.0 +4.3
HKC i S S 19 14 27.0 +7.2
QIZ Qiongzhong 23.04 316 P P 19 10 18.8 0.0
QIZ S S 19 14 21.2 -0.5
QIZ SS SS 19 15 08.1 -1.1
QIZ AMB AMB
comp=Z,161nm,1.2s,mb5.3
QIZ LR LR
comp=N,6μm,22.8s,MS5.1
QIZ LR LR
comp=E,3μm,17.9s,MS5.1
QIZ LR LR
comp=Z,10μm,28.6s
QIZ Qiongzhong 23.04 316 eP P 19 10 19.5 +0.7
comp=Z,207nm,1.1s,mb5.5
QZH Quanzhou 23.47 342⇑ iP P 19 10 21.2 -1.7
QZH S S 19 14 30.0 +0.8
QZH AMB AMB
comp=Z,480nm,0.9s,mb5.9
QZH AMB AMB
comp=Z,2μm,3.4s
QZH LR LR
comp=N,21μm,28.7s
QZH LR LR
comp=E,15μm,21.3s
QZH LR LR
comp=Z,53μm,25.1s,MS5.9
WRAB Tennant Creek 23.70 161 P P 19 10 24.1 -1.1
comp=Z,3μm,0.5s,mb7.0
WRAB Tennant Creek 23.70 161 eP P 19 10 24.5 -0.7
WRAB eS S 19 14 37.5 +4.2
WRAB pmax pmax
comp=Z,933nm,0.9s,mb6.2
WRAB Tennant Creek 23.70 161 eP P 19 10 24.4 -0.8
comp=Z,932nm,0.9s,mb6.2
WRAB eS S 19 14 37.5 +4.2
WRA Warramunga Arr 23.71 161 P P 19 10 24.1 -1.2
comp=Z,194nm,0.4s,mb5.8,baz=336,slow=10,SNR=1556
WRA S S 19 14 33.4 0.0
comp=Z,98nm,1.0s,baz=343,slow=17,SNR=7.4
WRA P3KPbc 19 43 40.3
comp=Z,0.6nm,0.8s,baz=161,slow=3.4,SNR=6.6
PMG Port Moresby 23.84 120 P P 19 10 24.4 -2.2
PMG pmax pmax
comp=Z,150nm,1.0s
PMG Port Moresby 23.84 120 P P 19 10 25.3 -1.3
comp=Z,47nm,0.9s,baz=278,slow=7.9,SNR=12
PMG Port Moresby 23.84 120 eP P 19 10 25.1 -1.4
comp=Z,151nm,1.0s,mb5.4
GZH Guangzhou 24.00 329 P P 19 10 30.5 +2.4
GZH S S 19 14 34.9 -3.5
GZH LR LR
comp=N,7μm,19.0s
GZH LR LR
comp=E,5μm,27.7s
GZH LR LR
comp=Z,13μm,22.1s,MS5.4
JOW Kunigami 24.15 4 P P 19 10 30.1 +0.6
comp=Z,1μm,1.0s,mb6.3,baz=190,slow=7.8,SNR=59
MBWA Marble Bar 24.52 195⇑ iP P 19 10 33.5 +0.3
comp=Z,454nm,1.0s,mb6.0
IPM Ipoh 25.45 275 P P 19 10 43.6 +1.5
KULM Kulim 25.88 277 eP P 19 10 44.8 -1.3
SNG Songkhla 26.13 281 P P 19 10 51.0 +2.5
comp=Z,168nm,0.8s,mb5.6
KKTK Khon Kaen 26.95 302 P P 19 10 55.8 -0.2
comp=Z,2μm,0.9s,mb6.7
ASAR Alice Springs 27.10 165 P P 19 10 55.4 -1.9
comp=Z,121nm,0.5s,mb5.7,baz=346,slow=6.6,SNR=1179
ASAR PcP PcP 19 14 17.9 +0.4
comp=Z,28nm,0.7s,baz=339,slow=2.0,SNR=4.8
ASAR S S 19 15 29.6 -0.3
comp=Z,44nm,1.1s,baz=353,slow=14,SNR=2.2
ASAR P3KPbc 19 43 28.4
comp=Z,1.6nm,0.9s,baz=157,slow=3.2,SNR=8.4
ASAR Alice Springs 27.10 165 P P 19 10 55.4 -1.9
ASAR PcP PcP 19 14 17.9 +0.4
ASAR S S 19 15 29.6 -0.3
ASAR e 19 43 28.4
ASPA Alice Springs 27.10 165⇑ iP P 19 10 55.2 -2.1
ASPA eS S 19 15 33.2 +3.3
NNT Nongplab 28.25 292 P P 19 11 08.5 +0.8
CBIJ Chichi jima 28.64 30 P P 19 11 09.6 -1.6
comp=Z,324nm,0.6s,mb6.2,baz=205,slow=1.8,SNR=9.7
SSE Sheshan 28.77 351⇑ P P 19 11 11.5 -0.8
SSE S S 19 15 58.8 +2.1
SSE AMB AMB
comp=Z,154nm,1.5s,mb5.5
SSE AMB AMB
comp=Z,339nm,2.7s,mb5.6
SSE LR LR
comp=N,5μm,30.5s,MS5.0
SSE LR LR
comp=E,3μm,30.4s,MS5.0
SSE LR LR
comp=Z,7μm,29.3s,MS5.1
SSE Sheshan 28.77 351⇑ P P 19 11 11.5 -0.8
comp=Z,154nm,1.5s,mb5.5
SSE pP pP 19 11 21.1 -4.3
SSE S S 19 15 58.8 +2.1
SSE sS 19 16 14.1
SSE LR LR
comp=Z,7μm,29.3s,MS5.1
NST Nakhon Sawan 28.99 298⇑ P P 19 11 15.0 +0.6
comp=Z,208nm,1.0s,mb5.8
CTA Charters Tower 29.77 140⇑ iP P 19 11 20.2 -1.1
comp=Z,66nm,0.9s,mb5.4
CTA Charters Tower 29.77 140⇑ iP P 19 11 20.2 -1.1
CTA pmax pmax
comp=Z,66nm,0.9s
CTA Charters Tower 29.77 140 P P 19 11 20.2 -1.1
comp=Z,98nm,1.0s,mb5.5,baz=326,slow=12,SNR=32
CTAO Charters Tower 29.77 140 eP P 19 11 20.0 -1.3
CTAO pmax pmax
comp=Z,104nm,0.9s,mb5.6
CTAO MLR MLR
comp=Z,5μm,20.0s,MS5.1
CTAO Charters Tower 29.77 140 eP P 19 11 19.9 -1.3
comp=Z,104nm,0.9s,mb5.6
CTAO LR LR
comp=Z,5μm,20.0s,MS5.1
NANT Nan 29.91 304⇑ P P 19 11 21.0 -1.5
comp=Z,538nm,1.0s,mb6.2
WHN Wuhan 30.06 339⇑ P P 19 11 23.1 -0.6
WHN PPP PPP 19 12 43.0 +5.7
WHN LR LR
comp=Z,18μm,24.4s,MS5.6
NJ2 Nanjing 30.15 347 eP P 19 11 23.9 -0.7
NJ2 PP PP 19 12 25.1 +0.7
NJ2 S S 19 16 19.0 +0.4
NJ2 AMB AMB
comp=Z,2μm,1.0s,mb6.7
NJ2 AMB AMB
comp=Z,4μm,4.4s
NJ2 LR LR
comp=N,24μm,19.0s,MS5.8
NJ2 LR LR
comp=E,8μm,23.6s,MS5.8
NJ2 LR LR
comp=Z,24μm,26.7s,MS5.7
GYA Guiyang 30.38 323⇑ iP P 19 11 26.3 -0.4
GYA PCP PcP 19 14 26.8 +1.2
GYA AMB AMB
comp=Z,70nm,1.3s,mb5.2
GYA AMB AMB
comp=Z,580nm,3.5s
GYA LR LR
comp=N,5μm,24.8s,MS5.2
GYA LR LR
comp=E,6μm,26.6s,MS5.2
GYA LR LR
comp=Z,10μm,24.5s,MS5.3
BDT Bhumibol Dam 30.63 300 P P 19 11 28.0 -0.9
comp=Z,80nm,0.9s,mb5.5
CHRT Chiangrai 31.19 305⇑ P P 19 11 33.0 -0.8
comp=Z,284nm,1.0s,mb6.0
CM31 Chiang Mai Arr 31.21 302 eP P 19 11 33.2 -0.8
comp=Z,204nm,0.9s,mb6.0
CM31 ePcP PcP 19 14 28.5 +0.7
CM31 eScP 19 18 09.8
CMAR Chiang Mai Arr 31.21 302 P P 19 11 34.4 +0.3
comp=Z,191nm,0.9s,mb5.9,baz=120,slow=7.2,SNR=306
CMAR PcP PcP 19 14 29.1 +1.2
comp=Z,29nm,1.0s,baz=158,slow=1.3,SNR=9.6
CMAR ScP 19 18 07.8
comp=Z,11nm,1.0s,baz=140,slow=2.5,SNR=9.0
CMAR LR LR 19 26 22.5
comp=Z,3μm,18.4s,MS4.9,baz=125,slow=40
CMAR P3KPbc 19 43 16.6
comp=Z,1.4nm,0.9s,baz=301,slow=5.9,SNR=7.6
CMAR Chiang Mai Arr 31.21 302 P P 19 11 34.4 +0.3
CMAR PcP PcP 19 14 29.1 +1.2
CMAR ScP 19 18 07.8
CMAR LR LR 19 26 22.5
CMAR e 19 43 16.6
CHG Chiang Mai 31.38 303⇑ P P 19 11 34.9 -0.6
comp=Z,150nm,0.9s,mb5.8
ENH Enshi 31.87 331 eP P 19 11 38.2 -1.4
comp=Z,565nm,1.0s,mb6.3
ENH ePcP PcP 19 14 29.7 +0.2
KMI Kunming 31.99 317 P P 19 11 39.8 -1.0
KMI PP PP 19 12 46.2 -1.8
KMI PPP PPP 19 13 02.0 -1.3
KMI PCP PcP 19 14 29.7 -0.2
KMI S S 19 16 47.0 -0.5
KMI SCP 19 18 09.1
KMI PCS 19 18 13.3
KMI SS SS 19 18 39.6 -2.7
KMI SSS SSS 19 19 03.0 -3.3
KMI SCS ScS 19 22 06.0 +1.2
KMI AMB AMB
comp=Z,157nm,1.4s,mb5.7
KMI AMB AMB
comp=Z,1μm,3.3s
KMI LR LR
comp=N,3μm,28.2s,MS5.0
KMI LR LR
comp=E,3μm,25.2s,MS5.0
KMI LR LR
comp=Z,8μm,26.4s,MS5.3
KMI Kunming 31.99 317 P P 19 11 39.8 -1.0
comp=Z,157nm,1.4s,mb5.7
KMI pP pP 19 11 49.9 -4.2
KMI *PP pP 19 11 49.9 -4.2
KMI *SP sP 19 11 54.3 -6.3
KMI 19 12 46.2
KMI PPP PPP 19 13 02.0 -1.3
KMI 19 14 29.7
KMI S S 19 16 47.0 -0.5
KMI *SS 19 17 04.6
KMI SS SS 19 18 39.6 -2.7
KMI SSS SSS 19 19 03.0 -3.3
KMI 19 22 06.0
KMI pmax pmax
comp=Z,157nm,1.4s,mb5.7
KMI MLR MLR
comp=Z,8μm,26.4s,MS5.3
KMI Kunming 31.99 317 P P 19 11 39.8 -1.0
comp=Z,157nm,1.4s,mb5.7
KMI pP pP 19 11 49.9 -4.2
KMI sP sP 19 11 54.3 -6.3
KMI PP PP 19 12 46.2 -1.8
KMI PPP PPP 19 13 02.0 -1.3
KMI PcP PcP 19 14 29.7 -0.2
KMI S S 19 16 47.0 -0.5
KMI sS 19 17 04.6
KMI ScP 19 18 09.1
KMI PcS 19 18 13.3
KMI SS SS 19 18 39.6 -2.7
KMI SSS SSS 19 19 03.0 -3.3
KMI ScS ScS 19 22 06.0 +1.2
KMI LR LR
comp=Z,8μm,26.4s,MS5.3
JHJ Hachijo jima 2 32.83 21 LR LR 19 25 48.9
comp=Z,3μm,18.8s,MS5.0,baz=268,slow=37
FORT Forrest 33.23 177⇑ iP P 19 11 50.9 -0.6
comp=Z,22μm,0.8s
FORT eS S 19 17 05.0 -1.8
TIA Tai'an 34.54 347 P P 19 12 01.6 -1.1
TIA PCP PcP 19 14 37.4 +0.5
TIA AMB AMB
comp=Z,140nm,1.0s,mb5.8
TIA LR LR
comp=N,5μm,21.0s
KS15 Wonju Array Si 34.69 2 eP P 19 12 03.7 -0.4
KS15 ePcP PcP 19 14 38.4 +1.1
INCN Inchon 34.71 0 eP P 19 12 03.6 -0.5
comp=N,320nm,0.9s,mb6.2
KLBR Kellerberrin 35.00 193⇓ iP P 19 12 07.1 +0.4
comp=N,4μm,1.2s
KLBR eS S 19 17 36.4 +2.3
XAN Xi'an 35.30 334 P P 19 12 07.3 -1.9
XAN S S 19 17 30.0 -8.7
XAN AMB AMB
comp=Z,234nm,1.2s,mb6.0
XAN AMB AMB
comp=Z,411nm,3.2s
XAN LR LR
comp=N,8μm,27.1s,MS5.4
XAN LR LR
comp=E,6μm,28.0s,MS5.4
XAN LR LR
comp=Z,15μm,27.1s,MS5.6
CD2 Chengdu 35.39 325⇑ iP P 19 12 09.1 -1.0
CD2 AMB AMB
comp=Z,611nm,1.4s,mb6.3
MAJO Matsushiro 35.47 16 eP P 19 12 09.0 -1.7
MAJO e 19 14 39.9
MAJO pmax pmax
comp=Z,383nm,1.4s,mb6.1
MAJO MLR MLR
comp=Z,5μm,22.0s,MS5.2
MAJO Matsushiro 35.47 16 eP P 19 12 08.9 -1.8
comp=Z,383nm,1.4s,mb6.1
MAJO ePcP PcP 19 14 39.9 +0.3
MAJO eScP 19 18 22.7
MAJO LR LR
comp=Z,5μm,22.0s,MS5.2
MAT Matsushiro 35.47 16 eP P 19 12 09.0 -1.7
MAT eS S 19 17 37.0 -4.4
MAT pmax pmax
comp=Z,528nm,1.5s,mb6.2
MAT MLR MLR
comp=Z,11μm,20.0s,MS5.6
MAT Matsushiro 35.47 16 eP P 19 12 09.0 -1.7
comp=Z,528nm,1.5s,mb6.2
MAT eS S 19 17 37.0 -4.4
MAT LR LR
comp=Z,11μm,20.0s,MS5.6
MAT Matsushiro 35.47 16 P P 19 12 08.7 -2.0
MAT S S 19 17 39.0 -2.4
DL2 Dalian 36.40 354 P P 19 12 18.8 +0.3
DL2 AP pP 19 12 31.4 -0.7
DL2 XP sP 19 12 41.2 +2.7
DL2 PCP PcP 19 14 43.5 +1.2
DL2 S S 19 17 55.0 -0.6
DL2 PCS 19 18 27.8
DL2 AMB AMB
comp=Z,760nm,1.0s,mb6.6
DL2 LR LR
comp=N,3μm,25.5s,MS5.0
DL2 LR LR
comp=E,1μm,22.3s,MS5.0
DL2 LR LR
comp=Z,5μm,24.5s,MS5.2
NWAO Narrogin (SRO) 36.40 193 P P 19 12 18.3 -0.3
NWAO S S 19 17 57.0 +1.4
NWAO pmax pmax
comp=Z,385nm,1.2s
NWAO smax
comp=N,26nm,0.9s
NWAO Narrogin (SRO) 36.40 193 P P 19 12 18.3 -0.2
comp=N,384nm,1.2s,mb6.2,baz=23,slow=10,SNR=61
NWAO S S 19 17 57.0 +1.4
comp=N,26nm,0.9s,baz=236,slow=15,SNR=3.4
NWAO Narrogin (SRO) 36.40 193⇑ iP P 19 12 18.7 +0.1
comp=N,261nm,1.1s,mb6.1
STKA Stephens Creek 37.19 158 eP P 19 12 24.0 -1.2
comp=N,286nm,1.0s,mb6.1
STKA i S S 19 18 06.9 -0.8
STKA Stephens Creek 37.19 158 P P 19 12 24.4 -0.7
comp=N,325nm,1.0s,mb6.1,baz=336,slow=7.7,SNR=319
STKA PP PP 19 13 49.0 -4.0
comp=N,76nm,0.8s,baz=322,slow=12,SNR=2.2
STKA S S 19 18 05.8 -1.9
comp=N,7.4nm,0.8s,baz=102,slow=22,SNR=7.4
TIY Taiyuan 37.23 341⇓ P P 19 12 26.2 +0.7
TIY S S 19 18 11.0 +2.6
TIY LR LR
comp=N,15μm,25.0s
TIY LR LR
comp=Z,4μm,25.0s,MS5.1
BJT Baijiatuau 38.39 347 eP P 19 12 34.7 -0.4
BJT e 19 14 48.4
BJT pmax pmax
comp=Z,441nm,0.8s
BJT Baijiatuau 38.39 347 eP P 19 12 34.7 -0.5
comp=Z,441nm,0.8s,mb6.2
BJT ePcP PcP 19 14 48.4 -0.1
BJI Beijing 38.41 347 P P 19 12 34.9 -0.4
BJI PCP PcP 19 14 49.6 +1.1
BJI S S 19 18 23.6 -2.7
BJI AMB AMB
comp=Z,514nm,0.8s,mb6.3
BJI AMB AMB
comp=Z,2μm,2.8s,mb6.3
BJI LR LR
comp=N,4μm,26.4s,MS5.3
BJI LR LR
comp=E,4μm,25.0s,MS5.3
BJI LR LR
comp=Z,9μm,27.2s,MS5.5
BJI Beijing 38.41 347 P P 19 12 34.9 -0.4
BJI *SP sP 19 12 48.7 -6.5
BJI 19 14 49.6
BJI S S 19 18 23.6 -2.7
BJI *SS 19 18 41.0
BJI 19 22 45.3
BJI pmax pmax
comp=Z,514nm,0.8s,mb6.3
BJI MLR MLR
comp=Z,9μm,27.2s,MS5.5
BJI Beijing 38.41 347 P P 19 12 34.9 -0.4
comp=Z,514nm,0.8s,mb6.3
BJI sP sP 19 12 48.7 -6.5
BJI PcP PcP 19 14 49.6 +1.1
BJI S S 19 18 23.6 -2.7
BJI sS 19 18 41.0
BJI ScS ScS 19 22 45.3 +5.9
BJI LR LR
comp=Z,9μm,27.2s,MS5.5
SNY Shenyang 39.13 357⇑ P P 19 12 41.9 +0.6
SNY AP pP 19 12 54.8 -0.1
SNY S S 19 18 38.6 +1.4
SNY AMB AMB
comp=Z,360nm,1.0s,mb6.1
SNY AMB AMB
comp=Z,1μm,2.9s,mb6.1
SNY LR LR
comp=N,5μm,24.0s,MS5.3
SNY LR LR
comp=E,4μm,27.6s,MS5.3
SNY LR LR
comp=Z,7μm,28.2s,MS5.4
LZH Lanzhou 39.33 331⇑ iP P 19 12 43.0 0.0
LZH PP PP 19 14 18.2 +0.5
LZH S S 19 18 42.3 +2.1
LZH SS SS 19 21 29.8 +1.5
LZH AMB AMB
comp=Z,724nm,1.5s,mb6.2
LZH AMB AMB
comp=Z,2μm,5.4s
LZH LR LR
comp=N,8μm,13.2s
LZH LR LR
comp=Z,17μm,17.1s,MS5.9
LZH Lanzhou 39.33 331⇑ iP P 19 12 43.0 0.0
LZH *PP pP 19 12 52.5 -4.1
LZH *SP sP 19 12 56.6 -6.3
LZH 19 14 18.2
LZH S S 19 18 42.3 +2.1
LZH *SS 19 18 58.1
LZH SS SS 19 21 29.8 +1.5
LZH pmax pmax
comp=Z,724nm,1.5s,mb6.2
LZH MLR MLR
comp=Z,17μm,17.1s,MS5.9
LZH Lanzhou 39.33 331⇑ iP P 19 12 43.0 0.0
comp=Z,724nm,1.5s,mb6.2
LZH pP pP 19 12 52.5 -4.1
LZH sP sP 19 12 56.6 -6.3
LZH PP PP 19 14 18.2 +0.5
LZH S S 19 18 42.3 +2.1
LZH sS 19 18 58.1
LZH SS SS 19 21 29.8 +1.5
LZH LR LR
comp=Z,17μm,17.1s,MS5.9
AGT Agartala 40.06 305⇑ iP P 19 12 51.0 +1.9
AGT i 19 14 23.0
SHL Shillong 40.33 308 e P 19 12 58.0 +6.7
SHL e 19 18 46.0
HHC Hu-ho-hao-te 40.38 342 eP P 19 12 51.6 0.0
HHC AP pP 19 13 02.3 -3.0
HHC PP PP 19 14 29.0 +0.5
HHC PCP PcP 19 14 55.1 +0.4
HHC PCS 19 18 44.8
HHC S S 19 18 58.9 +3.1
HHC SS SS 19 21 50.9 0.0
HHC AMB AMB
comp=Z,253nm,1.2s,mb5.8
HHC LR LR
comp=N,6μm,28.0s,MS5.4
HHC LR LR
comp=E,3μm,26.8s,MS5.4
HHC LR LR
comp=Z,13μm,30.3s,MS5.6
BTO Baotou 40.64 341 eP P 19 12 52.3 -1.5
BTO AMB AMB
comp=Z,62nm,1.0s,mb5.2
CN2 Changchun 41.03 359 eP P 19 12 56.5 -0.5
CN2 PP PP 19 14 35.4 +0.3
CN2 PCP PcP 19 14 57.0 +0.2
CN2 eS S 19 19 03.2 -2.3
CN2 SS SS 19 22 06.3 +1.5
CN2 LR LR
comp=N,2μm,23.0s,MS5.2
CN2 LR LR
comp=E,3μm,23.0s,MS5.2
CN2 LR LR
comp=Z,4μm,29.0s
MDJ Mudanjiang 41.93 3 P P 19 13 05.2 +0.8
MDJ PP PP 19 14 43.1 -1.9
MDJ PCP PcP 19 14 59.3 -0.5
MDJ PCS 19 18 51.1
MDJ S S 19 19 23.0 +4.2
MDJ AMB AMB
comp=Z,493nm,1.3s,mb6.0
MDJ LR LR
comp=N,7μm,27.2s,MS5.4
MDJ LR LR
comp=E,3μm,28.0s,MS5.4
MDJ LR LR
comp=Z,8μm,26.1s,MS5.5
MDJ Mudanjiang 41.93 3 eP P 19 13 04.9 +0.5
comp=Z,601nm,1.1s,mb6.1
CAL Calcutta 41.94 301 eP P 19 13 05.5 +0.7
CAL e 19 19 29.0
ERM Erimo 42.00 19 P P 19 13 06.8 +1.8
comp=Z,852nm,1.4s,mb6.2,SNR=9.5
LSA Lhasa 42.98 312 P P 19 13 14.4 +1.2

LSA Lhasa 42.98 312 *e*P P 19 13 14.1 +0.9
LSA *e* 19 15 04.2
LSA pmax pmax
comp=Z,208nm,0.8s,mb5.9
LSA Lhasa 42.98 312 *e*P P 19 13 14.1 +0.9
comp=Z,208nm,0.8s,mb5.9
LSA *e*PcP PcP 19 15 04.2 +0.8
RIV Riverview 43.08 149⇓*i*P P 19 13 14.8 +0.9
BWNR Bhubaneshwar 43.36 297 *e* P 19 13 10.0 -6.4
CNB Canberra Magne 43.40 152 *e*P P 19 13 16.8 +0.2
comp=Z,1µm,1.0s,mb6.7
TOO Toolangi 43.70 158⇑*i*P P 19 13 19.5 +0.5
comp=Z,2.3nm,0.7s
TOO Toolangi 43.70 158⇑*i*P P 19 13 19.5 +0.5
TOO pmax pmax
comp=Z,2.0nm,0.7s
ASAJ Asahikawa 43.74 17 P P 19 13 19.5 +0.3
ASAJ S S 19 19 50.4 +5.1
ASAJ pmax pmax
comp=Z,150nm,1.0s
ASAJ smax
comp=N,8.0nm,1.0s
ASAJ Asahikawa 43.74 17 P P 19 13 19.5 +0.3
comp=N,150nm,1.0s,mb5.7,baz=239,slow=13,SNR=41
ASAJ S S 19 19 50.4 +5.1
comp=N,7.6nm,1.0s,baz=338,slow=19,SNR=4.0
GTA Gaotai 43.92 330⇑*i*P P 19 13 20.3 -0.4
GTA AP pP 19 13 34.1 -0.3
GTA PCP PcP 19 15 06.8 +0.3
GTA PPP PPP 19 15 42.0 -1.1
GTA PCS 19 18 57.8
GTA S S 19 19 50.8 +2.9
GTA SS SS 19 23 00.1 +2.8
GTA AMB AMB
comp=Z,239nm,1.3s,mb5.8
GTA AMB AMB
comp=Z,1µm,3.8s
GTA LR LR
comp=N,9µm,25.5s,MS5.6
GTA LR LR
comp=E,5µm,29.3s,MS5.6
GTA LR LR
comp=Z,16µm,26.6s,MS5.8
YUK Yuzh-Kuril'sk 44.70 20⇑*i*P P 19 13 24.8 -2.1
YUK *e* 19 15 07.5
YUK *e*SS SS 19 23 15.0 +3.3
YUK pmax pmax
comp=N,190nm,0.5s
YUK pmax pmax
comp=E,820nm,1.0s
YUK pmax pmax
comp=Z,3µm,1.0s,mb7.1
YUK pmax pmax
comp=N,2µm,2.7s
VIS Vishakhapatnam 44.88 293 *e*P P 19 13 27.2 -1.4
VIS *e* 19 13 31.7
comp=Z,287nm,1.0s
VIS *e*S S 19 19 59.3 -2.7
JIRN Jiri 45.81 307 *e*P P 19 13 35.3 -0.7
comp=Z,533nm,0.9s,mb6.5
NOUC Port Laguerre 46.02 124 *e*P P 19 13 36.5 -1.2
NOUC Port Laguerre 46.02 124 *e*P P 19 13 36.5 -1.2
DZM Mont Dzumac 46.13 124 *e*P P 19 13 31.8 -6.7
YSS Yuzh-Sakhalins 46.39 15α *i*P P 19 13 40.0 -0.3
YSS *i* *SP sP 19 13 56.0 -4.2
YSS *e* 19 15 15.0
YSS *e*S S 19 20 23.0 -0.3
YSS *e**SS 19 20 43.0
YSS pmax pmax
comp=N,900nm,4.0s
YSS pmax pmax
comp=E,500nm,4.0s
YSS pmax pmax
comp=Z,1µm,4.0s
YSS pmax pmax
comp=E,130nm,1.2s
YSS pmax pmax
comp=Z,340nm,1.2s,mb6.2
YSS pmax pmax
comp=N,270nm,2.0s
YSS smax
comp=N,1µm,14.0s
YSS Yuzh-Sakhalins 46.39 15⇑*i*P P 19 13 39.8 -0.5
comp=N,326nm,1.1s,mb6.2
YSS *e*PcP PcP 19 15 15.2 +0.3
PKI Pulchoki 46.40 306 *e*P P 19 13 39.6 -1.0
comp=N,840nm,1.4s,mb6.5
KKN Kakani 46.59 307 *e*P P 19 13 41.1 -1.0
comp=N,737nm,1.2s,mb6.5
DMN Daman 46.66 306 *e*P P 19 13 41.8 -0.8
comp=N,712nm,1.0s,mb6.6
KLR Kul'dur 46.67 5κ *i*P P 19 13 39.2 -3.2
KLR *e* pP 19 13 56.5 +0.3
KLR *e* 19 15 23.5
KLR *e*S S 19 20 23.0 -4.2
KLR *e*SS SS 19 23 41.0 -5.6
KLR pmax pmax
comp=N,77nm,1.2s
KLR pmax pmax
comp=E,150nm,1.2s
KLR pmax pmax
comp=Z,280nm,1.2s,mb6.1
KLR MLR MLR
comp=N,4µm,25.0s
HIA Hailar 46.84 354 *e*P P 19 13 43.8 0.0
HIA *e* 19 15 17.1
HIA pmax pmax
comp=Z,532nm,1.1s
HIA Hailar 46.84 354 *e*P P 19 13 43.8 0.0
comp=Z,532nm,1.1s,mb6.4
HIA *e*PcP PcP 19 15 17.1 +0.6
MDRS Chennai 46.85 285 *e*P P 19 13 43.0 -1.3
MDRS *e* 19 15 50.0
MDRS *e* 19 19 23.0
BLSP Bilaspur 47.19 298 *i* P P 19 13 45.8 -1.0
BLSP *e* 19 14 05.6
GKN Gorkha 47.20 307 *e*P P 19 13 45.6 -1.3
comp=Z,643nm,1.0s,mb6.5
KOLN Koldanda 47.94 306 *e*P P 19 13 52.1 -0.6
comp=Z,2µm,1.0s,mb7.0
ULN Ulaanbaatar 48.10 343⇑*i*P P 19 13 53.1 -0.5
ULN *e* 19 15 21.7
ULN pmax pmax
comp=Z,273nm,1.1s,mb6.2
ULN MLR MLR
comp=Z,1µm,20.0s,MS4.8
ULN Ulaanbaatar 48.10 343⇑*i*P P 19 13 53.1 -0.6
comp=Z,273nm,1.1s,mb6.2
ULN *e*PcP PcP 19 15 21.7 +0.6
ULN LR LR
comp=Z,1µm,20.0s,MS4.8
SONM Songino Array 48.27 342 P P 19 13 54.2 -0.7
comp=Z,212nm,1.1s,mb6.1,baz=159,slow=5.0,SNR=362
SONM PcP PcP 19 15 21.6 0.0
comp=Z,48nm,0.8s,baz=155,slow=2.3,SNR=6.5
TAU Tasmania Unive 49.06 160 *e*P P 19 14 01.1 -0.1
TAU pmax pmax
comp=Z,78nm,1.1s,mb5.7
TAU MLR MLR
comp=Z,720nm,21.0s,MS4.6
TAU Tasmania Unive 49.06 160 *e*P P 19 14 01.1 -0.1
comp=Z,78nm,1.1s,mb5.7
TAU LR LR
comp=Z,720nm,21.0s,MS4.6
HYB Hyderabad 49.24 291⇑*e*P P 19 14 02.0 -0.8
HYB *e*S S 19 21 03.0 -0.7
HYB pmax pmax
comp=Z,560nm,1.0s,mb6.5
HYB Hyderabad 49.24 291⇑*e*P P 19 14 02.0 -0.8
comp=Z,560nm,1.0s,mb6.5
HYB *e*S S 19 21 03.0 -0.7
HYB Hyderabad 49.24 291⇑*i*P P 19 14 02.0 -0.8
comp=Z,560nm,1.0s,mb6.5
HYB *e*pP pP 19 14 17.5 +0.8
HYB *e*S S 19 21 03.0 -0.7
TRD Trivandrum 49.57 279 *e*P P 19 14 04.7 -0.8
TRD *e*S S 19 21 08.5 +0.1
NGP Nagpur 49.66 296 *e*P P 19 14 05.6 -0.4
NGP *e*S S 19 21 11.3 +1.8
LATR Latur 51.30 292 *e*P P 19 14 17.6 -1.0
LGTI Lohaghat 51.31 306 *e*P P 19 14 18.0 -0.5
LGTI *e* 19 15 34.3
PTH Pithoragarh 51.37 306 *e*P P 19 14 18.0 -1.0
PTH *e* 19 19 30.0
AKL Akola 51.39 294 *i* P P 19 14 17.0 -2.2

ZAK Zakamensk 51.49 341⇑*i*P P 19 14 18.9 -0.6
ZAK *e* 19 15 33.8
ZAK pmax pmax
comp=Z,48nm,1.3s,mb5.3
BHPL Bhopal 51.67 298 *e*P P 19 14 20.6 -0.6
BHPL *e* 19 14 22.8
comp=Z,564nm,0.9s
BHPL *e*S S 19 21 36.5 -0.7
MNGI Mangalore 52.08 284 *i* P P 19 14 22.8 -1.5
MNGI *i* S S 19 21 44.1 +1.2
comp=Z,2µm,3.6s
TLY Talaya 52.51 342 P P 19 14 27.9 +0.8
comp=Z,1µm,0.8s,mb6.9,SNR=69
TLY Talaya 52.51 342 *e*P P 19 14 26.8 -0.3
TLY pmax pmax
comp=Z,217nm,1.0s,mb6.0
TLY Talaya 52.51 342⇑*i*P P 19 14 26.6 -0.5
comp=Z,194nm,0.9s,mb6.0
IRK Irkutsk 52.81 343⇑*i*P P 19 14 28.8 -0.6
IRK pmax pmax
comp=Z,398nm,2.4s,mb5.9
KAD Karad 53.32 290⇓*i*P P 19 14 32.0 -1.7
MOY Mondy 53.34 341 *e*P P 19 14 33.5 +0.1
MOY pmax pmax
comp=Z,581nm,1.4s,mb6.3
GOA Goa 53.37 287 *e* P 19 14 39.4 +5.4
DDI Dehra Dun 53.40 306 *e*P P 19 14 33.3 -0.8
DDI *e*S S 19 21 59.9 -0.8
WMQ Urumqi 53.49 326⇑*i*P P 19 14 33.8 -0.8
WMQ AP pP 19 14 47.7 -0.9
WMQ PCP PcP 19 15 41.0 +0.1
WMQ PP PP 19 16 35.8 -1.0
WMQ PCS 19 19 38.5
WMQ S S 19 22 02.0 +0.3
WMQ SCS ScS 19 24 17.0 +1.1
WMQ SS SS 19 25 41.5 -0.3
WMQ AMB AMB
comp=Z,261nm,1.2s,mb6.0
WMQ AMB AMB
comp=Z,1µm,3.6s
WMQ LR LR
comp=N,10µm,21.2s,MS6.0
WMQ LR LR
comp=E,10µm,23.0s,MS6.0
WMQ LR LR
comp=Z,13µm,25.0s,MS5.9
NDI New Delhi 53.51 304 *e*P P 19 14 31.5 -3.4
NDI *e* 19 21 59.0
POO Poona 53.85 291 *e*P P 19 14 36.3 -1.3
POO *e* 19 14 38.4
comp=Z,279nm,1.2s
POO *e*S S 19 22 05.0 -2.0
SKR Severo-Kuril's 54.05 23 *e*P P 19 14 34.5 -4.1
SKR *e* 19 16 47.0
SKR *e*PPP PPP 19 17 52.0 -0.6
SKR *e*S S 19 22 10.0 +0.7
SKR *e*PS PS 19 22 22.0 -5.6
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=E,480nm,1.5s
SKR pmax pmax
comp=Z,800nm,1.5s,mb6.4
SKR pmax pmax
comp=Z,2µm,6.0s
SKR smax
comp=N,3µm,10.0s
CLNS Chul'man 54.09 359⇑*i*P P 19 14 38.8 0.0
CLNS *e* 19 15 40.5
CLNS *e* 19 16 34.5
CLNS *e*S S 19 22 15.6 +5.9
CLNS pmax pmax
comp=E,65nm,0.8s
CLNS pmax pmax
comp=Z,271nm,0.8s,mb6.2
CLNS pmax pmax
comp=N,171nm,0.9s
CLNS pmax pmax
comp=Z,55nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,61nm,1.0s
CLNS pmax pmax
comp=E,58nm,1.1s
CLNS smax
comp=E,51nm,1.5s
CLNS smax
comp=Z,16nm,1.2s
CLNS smax
comp=N,69nm,1.6s
SMLA Simla 54.41 307 *i* P P 19 14 39.0 -2.5
SMLA *i* 19 22 09.8
SDNR Sundarnagar 54.70 307 *e*P P 19 14 43.1 -0.5
DGAR Diego Garcia 54.79 259 *e*P P 19 14 43.1 -1.4
DGAR pmax pmax
comp=Z,170nm,1.3s,mb5.9
DGAR Diego Garcia 54.79 259 *e*P P 19 14 43.1 -1.4
comp=Z,170nm,1.3s,mb5.9
BOM Bombay 54.88 291 *e*P P 19 14 43.9 -1.2
BOM *e* 19 22 14.4
AJM Ajmer 55.00 301 *i* P P 19 14 44.0 -1.8
BHK Bhakra 55.11 307 *e*P P 19 14 45.5 -1.1
BHK *e* 19 22 25.5
PONG Pong 55.67 307 *e*P P 19 14 50.0 -0.6
DLH Dalhousie 55.87 308 *e*P P 19 14 51.0 -1.1
DLH *e* 19 14 54.5
BOD Bodaibo 55.93 352 *e*P P 19 14 51.4 -0.7
BOD pmax pmax
comp=Z,9.0nm,1.5s
BHV Bhavnagar 56.05 294 *e*P P 19 14 53.0 -0.5
PET Petropavlovsk 56.87 23⇑*i*P P 19 14 58.6 -0.3
PET *e* 19 15 53.3
PET *i* S S 19 22 50.3 +3.5
PET *e*SP SP 19 23 13.1 +14
PET pmax pmax
comp=Z,1µm,2.6s,mb6.4
PET pmax pmax
comp=Z,179nm,1.5s,mb5.9
PET pmax pmax
comp=N,86nm,1.7s
PET pmax pmax
comp=E,40nm,1.1s
PET smax
comp=N,900nm,14.6s
PET smax
comp=E,400nm,14.2s
PET MLR MLR
comp=Z,2µm,22.0s,MS5.0
PET Petropavlovsk 56.87 23⇑*i*P P 19 14 58.3 -0.6
comp=Z,485nm,1.6s,mb6.3
PET *e*PcP PcP 19 15 53.7 -0.1
MKAR Makanchi Array 58.32 326 *i* P P 19 15 07.7 -1.5
MKAR pmax pmax
comp=Z,18nm,0.5s
MKAR Makanchi Array 58.32 326 *i* P P 19 15 07.8 -1.4
BHJ Bhuj 58.61 296 *e*P P 19 15 11.9 +0.4
BHJ *e* 19 15 13.3
comp=Z,413nm,1.1s
BHJ *e*S S 19 23 09.0 -1.0
KSH Kashi 58.64 316⇑*i*P P 19 15 12.0 +0.5
KSH *e*AP pP 19 15 27.2 +1.4
KSH PCP PcP 19 15 59.5 -1.4
KSH *e*PP PP 19 17 24.0 +0.7
KSH *e*PPP PPP 19 18 54.4 +7.0
KSH *e*SCP 19 19 56.0
KSH *e*PCS 19 20 01.3
KSH *e*S S 19 23 13.6 +3.4
KSH AMB AMB
comp=Z,1µm,1.8s,mb6.7
KSH LR LR
comp=N,2µm,15.2s
KSH LR LR
comp=E,5µm,23.4s
YAK Yakutsk 59.33 2*c* *i*P P 19 15 15.3 -0.7
YAK *e* 19 16 01.3
YAK *e* 19 17 25.1
YAK *e*S S 19 23 20.3 +1.4
YAK *e* 19 24 58.9
YAK *e*SS SS 19 27 12.1 -3.6
YAK pmax pmax
comp=Z,586nm,1.0s,mb6.6
YAK pmax pmax
comp=N,212nm,1.2s
YAK pmax pmax
comp=E,68nm,1.1s

YAK pmax pmax
comp=E,36nm,1.0s
YAK pmax pmax
comp=Z,29nm,1.0s,mb5.3
YAK pmax pmax
comp=N,53nm,1.2s
YAK smax
comp=N,243nm,1.7s
YAK smax
comp=Z,11nm,1.1s
YAK smax
comp=E,21nm,1.2s
YAK Yakutsk 59.33 2⇑*i*P P 19 15 15.1 -0.9
comp=E,618nm,0.9s,mb6.6
YAK LR LR
comp=Z,1µm,21.0s,MS5.1
ULHL Ulahol 59.67 319 P P 19 15 19.0 +0.4
SNR=8.3
AAA Alma-Ata 59.69 320*c* *i*P P 19 15 16.0 -2.7
AAA S S 19 23 18.0 -5.8
AAA pmax pmax
comp=Z,800nm,3.5s
AAA smax
comp=N,500nm,6.0s
AAA smax
comp=E,600nm,6.0s
AAA MLR MLR
comp=Z,5µm,24.0s,MS5.6
MSZ Milford Sound 59.84 147 PN P 19 15 19.4 -0.3
MSZ Milford Sound 59.84 147 PN P 19 15 19.4 -0.3
MA2 Magadan 59.86 14*c* *i*P P 19 15 19.7 +0.1
MA2 *e*S S 19 23 27.1 +1.4
MA2 pmax pmax
comp=N,80nm,1.1s
MA2 pmax pmax
comp=Z,200nm,1.1s,mb6.1
MA2 pmax pmax
comp=E,50nm,1.4s
MA2 MLR MLR
comp=Z,11µm,25.0s,MS5.9
MA2 Magadan 59.86 14⇑*i*P P 19 15 19.4 -0.2
comp=Z,286nm,1.1s,mb6.2
JCZ Jackson Bay 59.92 146 PN P 19 15 20.1 -0.2
JCZ Jackson Bay 59.92 146 PN P 19 15 20.1 -0.2
FOZ Fox Glacier 60.13 145 PN P 19 15 21.3 -0.5
FOZ Fox Glacier 60.13 145 PN P 19 15 21.3 -0.5
KZA Kyzart 60.26 318 P P 19 15 22.7 +0.1
SNR=342
TKM2 Tokmak 2 60.40 319 P P 19 15 23.1 -0.6
SNR=196
KBK Karagaybulak 60.71 319 P P 19 15 25.5 -0.2
SNR=124
UCH Uchtor 60.81 318 P P 19 15 26.6 +0.2
SNR=481
LBZ Lake Benmore 60.92 145 PN P 19 15 25.5 -1.5
LBZ Lake Benmore 60.92 145 PN P 19 15 25.5 -1.5
THZ Tophouse 60.99 142 PN P 19 15 25.5 -2.1
THZ Tophouse 60.99 142 PN P 19 15 25.5 -2.1
CHMS Chumysh 60.99 319 P P 19 15 27.1 -0.5
SNR=81
AAK Ala-Archa 61.00 318 P P 19 15 27.1 -0.6
SNR=105
AAK Ala-Archa 61.00 318 P P 19 15 26.0 -1.7
comp=Z,563nm,1.0s,mb6.7
AAK Ala-Archa 61.00 318*c* *i*P P 19 15 26.2 -1.5
AAK pmax pmax
comp=Z,225nm,1.7s,mb6.0
AAK MLR MLR
comp=Z,8µm,26.0s,MS5.8
AAK Ala-Archa 61.00 318⇑*i*P P 19 15 25.9 -1.8
comp=Z,171nm,1.2s,mb6.0
AAK *e*pP pP 19 15 43.0 +1.0
AAK LR LR
comp=Z,465nm,19.0s,MS4.7
FRU Bishkek 61.01 319⇑*i*P P 19 15 26.0 -1.7
FRU pmax pmax
comp=Z,300nm,2.0s,mb6.1
FRU MLR MLR
comp=Z,4µm,24.0s,MS5.4
RPZ Rata Peaks 61.01 144 P P 19 15 26.2 -1.6
comp=Z,160nm,0.8s,mb6.2,baz=341,slow=1.9,SNR=58
USP Ospenovka 61.28 319 P P 19 15 28.7 -0.8
SNR=308
AML Almayashu 61.32 318 P P 19 15 29.6 -0.2
SNR=472
ZAL Zalesovo 61.46 333 P P 19 15 29.0 -1.6
comp=Z,33nm,0.8s,mb5.5,baz=351,slow=6.8,SNR=110
ZAL S S 19 23 45.5 -0.8
comp=Z,2.5nm,1.0s,baz=216,slow=18,SNR=2.9
EKS2 Erkin-Say 61.49 318 P P 19 15 30.8 -0.2
SNR=257
ODZ Otahua Downs 61.58 146 PN P 19 15 30.4 -1.1
ODZ Otahua Downs 61.58 146 PN P 19 15 30.4 -1.1
KHZ Kahutara 61.75 142 PN P 19 15 30.5 -2.2
KHZ Kahutara 61.75 142 PN P 19 15 30.5 -2.2
SNZO South Karori 61.87 140 *e*P P 19 15 30.5 -3.1
comp=Z,193nm,1.2s,mb6.1
KURK Kurchatov 62.54 328 P P 19 15 36.7 -1.1
comp=Z,3µm,0.7s,mb7.5
KURK Kurchatov 62.54 328⇑*i*P P 19 15 36.5 -1.3
KURK *e* 19 17 52.6
KURK pmax pmax
comp=Z,314nm,0.8s,mb6.5
KURK Kurchatov 62.54 328⇑*i*P P 19 15 36.5 -1.4
comp=Z,314nm,0.8s,mb6.5
KURK *e*PP PP 19 17 52.6 -5.1
PUZ Puketiti 62.63 136 *e*PN P 19 15 37.5 -1.1
PUZ Puketiti 62.63 136 *e*PN P 19 15 37.5 -1.1
NVS Novosibirsk 62.74 334⇑*i*P P 19 15 36.4 -2.8
NVS *e**PP pP 19 15 49.3 -4.3
NVS *e* 19 16 15.1
NVS *i* S S 19 23 59.8 -2.6
NVS *e*PS PS 19 24 40.5 +13
NVS *i* 19 25 25.9
NVS pmax pmax
comp=N,297nm,2.1s
NVS pmax pmax
comp=E,220nm,2.1s
NVS pmax pmax
comp=Z,355nm,2.1s,mb6.1
NVS smax
comp=N,80nm,1.6s
NVS smax
comp=E,136nm,1.6s
MCQ Macquarie Isla 62.95 159⇓*i*P P 19 15 41.0 +0.4
SEY Seymchan 63.19 13 *e*P P 19 15 44.7 +2.7
SEY 19 16 19.0
SEY *e* 19 18 08.7
SEY *e*S S 19 24 15.9 +8.1
SEY *e* 19 25 27.8
SEY *e* 19 28 17.1
SEY pmax pmax
comp=N,200nm,0.9s
SEY pmax pmax
comp=Z,300nm,0.9s,mb6.4
SEY pmax pmax
comp=E,90nm,1.0s
SEY smax
comp=E,1µm,8.6s
SEY MLR MLR
comp=N,4µm,26.0s,MS5.7
SEY MLR MLR
comp=Z,10µm,26.0s,MS5.9
SEY MLR MLR
comp=E,5µm,27.0s,MS5.7
FX1 Attu Island--F 63.19 30 P P 19 15 41.8 -0.3
comp=E,239nm,0.9s,mb6.3,baz=59,slow=9.1,SNR=18
FX1 LR LR 19 40 19.1
comp=E,62nm,19.5s,baz=257,slow=33
FX1 Attu Island--F 63.19 30 *e*P P 19 15 42.5 +0.3
AFI Afiamalu 63.38 107 *e*P P 19 15 43.7 -0.2
BVA0 Borovoye Array 68.11 327 *i* P P 19 16 12.7 -0.9
BVA0 pmax pmax
comp=Z,95nm,2.1s,mb5.5
BVAR Borovoye Array 68.11 327 P P 19 16 12.8 -0.8
comp=Z,31nm,0.7s,mb5.5,baz=127,slow=7.4,SNR=146
BVAR S S 19 25 07.2 -0.8
comp=Z,1.5nm,0.9s,baz=100,slow=8.8,SNR=3.2
BVAR PKPPKP 19 44 29.7
comp=Z,3.2nm,1.1s,baz=288,slow=4.7,SNR=9.3
WBK Wadi Bani Khal 68.23 293 P P 19 16 14.1 -0.8
SNR=12
CHKZ Chkalovo 68.28 328 P P 19 16 12.8 -1.8
CHKZ pmax pmax
comp=Z,328nm,1.8s,mb6.1
TIXI Tiksi 68.96 1⇑*i*P P 19 16 17.4 -1.2

TIXI eS S 19 25 18.2 +0.3
TIXI eSS SS 19 29 42.3 -3.7
TIXI pmax pmax
comp=Z,245nm,1.0s,mb6.1
TIXI pmax pmax
comp=E,26nm,0.9s
TIXI pmax pmax
comp=Z,671nm,1.5s,mb6.3
TIXI Tiksi 68.96 1 iP P 19 16 17.5 -1.1
JMDO Jabal Madar 69.01 293 P P 19 16 19.1 -0.6
SNR=28
BIDO Bidbid 69.11 294 P P 19 16 19.5 -0.8
SNR=30
BIDO P 19 16 19.5
SNR=30
SMDO Samad 69.13 294 P P 19 16 20.0 -0.4
SNR=24
CASY Casey 69.67 187 eP P 19 16 23.6 +0.6
DRV Dumont d'Urvil 69.79 174 P P 19 16 38.0 +14
DRV Dumont d'Urvil 69.79 174 L 19 34 00.0
HOQ Hoqain 69.86 294 P P 19 16 24.4 -0.4
SNR=11
BSY Bisya 69.88 293 P P 19 16 24.2 -0.8
SNR=26
ARQ Araqi 70.56 294 P P 19 16 28.2 -0.9
SNR=31
BILL Bilibino 70.71 15 c iP P 19 16 29.0 -0.2
BILL e pP 19 16 46.0 +2.1
BILL e 19 19 06.6
BILL i S S 19 25 39.9 +1.6
BILL pmax pmax
comp=Z,192nm,1.8s,mb5.7
BILL MLR MLR
comp=Z,800nm,15.0s,MS5.1
BILL Bilibino 70.71 15 ⇑ iP P 19 16 28.6 -0.6
comp=Z,130nm,1.3s,mb5.7
BANOM Banah 71.03 296 P P 19 16 31.7 -0.2
SNR=26
ASHO Ashiyiah 71.11 295 P P 19 16 31.9 -0.6
SNR=50
RBK Rabkut 72.29 287 P P 19 16 39.1 -0.4
SNR=11
WHFO Wadi Hawf 72.72 288 P P 19 16 40.0 -2.2
SNR=44
ABTO Aybut 73.15 287 P P 19 16 43.3 -1.4
SNR=7.9
UNV Unalaska Valle 74.50 34 eP P 19 16 52.4 +0.5
comp=Z,601nm,1.1s,mb6.4
SVE Sverdlovsk 74.77 329 ⇑ iP P 19 16 55.0 +1.7
SVE eS S 19 26 20.0 -4.5
SVE e 19 27 04.0
SVE pmax pmax
comp=Z,960nm,1.9s,mb6.4
SVE pmax pmax
comp=N,500nm,3.0s
SVE pmax pmax
comp=E,800nm,3.0s
SVE pmax pmax
comp=Z,2μm,3.0s
SVE MLR MLR
comp=N,1μm,26.0s,MS5.3
SVE MLR MLR
comp=E,2μm,26.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,26.0s,MS5.4
RAR Rarotonga 75.87 113 LR LR 19 49 05.9
comp=Z,1μm,20.1s,MS5.2,baz=280,slow=35
MUKL Al Mukalla 77.17 284 ⇓ eP P 19 17 07.6 -0.2
MUKL AMb AMB 19 17 09.5
comp=Z,674nm,1.4s,mb6.4
SOKR Solikamsk 77.55 331 c iP P 19 17 06.8 -2.2
SOKR i S tx 19 27 31.0
SOKR pmax pmax
comp=Z,260nm,1.0s,mb6.1
SOKR MLR MLR
comp=Z,4μm,25.0s,MS5.6
TNA Tin City 77.73 23 ⇑ iP P 19 17 10.4 +0.6
comp=Z,49nm,1.3s,mb5.3
BAK Baki 78.14 311 ⇑ iP P 19 17 10.0 -2.7
BAK i S S 19 27 05.0 +3.3
BAK pmax pmax
comp=Z,3μm,3.0s
MAK Makhachkala 80.14 313 d iP P 19 17 24.0 +0.5
MAK i pP 19 17 41.5 +3.1
MAK ePPP PPP 19 22 12.0 -6.8
MAK i S S 19 27 24.0 +1.3
MAK e 19 27 46.0
MAK ePS PS 19 28 12.0 -3.0
MAK pmax pmax
comp=Z,2μm,2.0s,mb6.7
MAK smax
comp=N,1μm,8.0s
MAK smax
comp=E,2μm,8.0s
MAK MLR MLR
comp=Z,1μm,15.0s,MS5.4
SHKI Saki 80.20 311 ⇓ iP P 19 17 24.0 +0.1
RAYN Ar Rayn 80.67 293 P P 19 17 26.4 -0.3
comp=Z,1μm,0.9s
LBOS 80.84 284 ⇑ eP P 19 17 28.1 +0.4
LBOS AMb AMB 19 17 29.3
comp=Z,1μm,1.9s,mb6.4
DHBB Dhamar BB 81.67 284 ⇓ eP P 19 17 32.5 +0.5
DHBB AMb AMB 19 17 34.4
comp=Z,324nm,2.0s,mb5.9
SVW2 Sparrevohn 81.92 29 eP P 19 17 33.9 +1.5
BHD Baghdad 81.95 303 i P P 19 17 30.5 -2.7
BHD Baghdad 81.95 303 i S S 19 27 47.0 +5.4
GNI Garni 81.99 310 eP P 19 17 33.9 +0.6
GNI Garni 81.99 310 P P 19 17 35.2 +2.0
GNI pmax pmax
comp=Z,180nm,1.2s
GNI Garni 81.99 310 P P 19 17 34.3 +1.1
comp=Z,44nm,1.0s,mb5.3,baz=275,slow=1.1,SNR=25
MTA Mtatsminda 82.04 312 P P 19 17 29.1 -4.4
TI2 Plekhanov 82.08 312 α iP P 19 17 34.4 +0.7
TI2 eS S 19 27 46.6 +3.9
TI2 pmax pmax
comp=Z,2μm,3.0s
TI2 MLR MLR
comp=E,1μm,26.0s,MS5.2
TI2 MLR MLR
comp=Z,1μm,26.0s,MS5.1
TI2 MLR MLR
comp=N,1μm,24.0s,MS5.2
DUS Dusheti 82.13 312 P P 19 17 36.8 +2.9
VNDA Vanda 82.35 173 P P 19 17 34.6 +0.2
VNDA Vanda 82.35 173 P P 19 17 35.2 +0.8
VNDA pmax pmax
comp=Z,86nm,0.7s
VNDA Vanda 82.35 173 P P 19 17 35.2 +0.8
comp=Z,86nm,0.7s,mb5.8,baz=320,slow=5.9,SNR=207
VNDA Vanda 82.35 173 eP P 19 17 35.3 +0.9
VNDA LR LR
comp=Z,3μm,21.0s,MS5.6
MAW Mawson 82.61 200 ⇓ iP P 19 17 37.9 +2.0
MAW Mawson 82.61 200 P P 19 17 37.3 +1.4
comp=Z,27nm,0.8s,mb5.3,baz=42,slow=4.9,SNR=8.6
MAW LR LR 19 50 15.6
comp=Z,404nm,20.6s,MS4.8,baz=58,slow=33
HKR Hakkari 82.64 307 eP P 19 17 38.1 +1.5
ZEI Tsey 82.77 313 eP P 19 17 38.1 +0.9
ZEI i 19 20 42.4
ZEI eS S 19 27 53.6 +3.9
VANT Van 82.95 308 eP P 19 17 41.1 +2.9
VANB Van 82.96 308 eP P 19 17 38.7 +0.5
KDAK Kodiak Island 82.98 32 P P 19 17 38.7 +0.8
comp=Z,1μm,1.1s,mb6.8,SNR=10
KDAK Kodiak Island 82.98 32 ⇑ iP P 19 17 39.0 +1.1
comp=Z,141nm,0.8s,mb6.0
ONI Oni 83.09 312 P P 19 17 39.6 +0.8
MSL Mosul 83.11 306 eP P 19 17 39.0 -0.1
MSL Mosul 83.11 306 eS S 19 27 50.5 -2.8
RSO Redoubt South 83.20 30 eP P 19 17 39.8 +0.9
SBA Scott Base 83.27 172 eP P 19 17 40.8 +1.7
SBA pmax pmax
comp=Z,88nm,1.0s,mb5.7
SBA Scott Base 83.27 172 eP P 19 17 40.8 +1.8
comp=Z,88nm,1.0s,mb5.7
KARS Kars 83.27 310 eP P 19 17 42.2 +2.4
GOF Gofitskoye 83.51 315 ⇑ iP P 19 17 40.5 -0.4
GOF e 19 20 56.0
GOF i S S 19 27 54.5 -2.6
GOF pmax pmax
comp=Z,130nm,1.0s,mb6.0
GOF pmax pmax
comp=Z,360nm,2.5s,mb6.1
GOF smax
comp=N,130nm,2.5s
IMA Indian Mountai 83.52 24 P P 19 17 42.2 +1.7
IMA pmax pmax
comp=Z,1μm,1.0s,mb7.0
IMA Indian Mountai 83.52 24 eP P 19 17 41.4 +0.9
PECR Pechory 83.60 326 c iP P 19 17 41.0 -0.1
PECR pmax pmax
comp=Z,7μm,1.8s
PECR pmax pmax
comp=Z,3μm,2.8s
PECR MLR MLR
comp=Z,4μm,25.0s,MS5.7
SPU Mount Spurr 83.62 29 eP P 19 17 41.6 +0.6
KIV Kislovodsk 83.71 314 c iP P 19 17 42.5 +0.6
KIV e 19 20 55.0
KIV i 19 28 01.8
KIV pmax pmax
comp=N,33nm,0.9s
KIV pmax pmax
comp=Z,84nm,0.9s,mb5.9
KIV Kislovodsk 83.71 314 ⇑ iP P 19 17 42.2 +0.3
comp=Z,86nm,0.9s,mb5.9
KIV LR LR
comp=Z,233nm,20.0s,MS4.6
BCA Borcka 84.41 311 eP P 19 17 47.4 +1.9
VRT Varto 84.42 309 eP P 19 17 48.2 +2.6
BTMT Batman 84.44 308 eP P 19 17 47.5 +1.8
SLKM Skilak Lake 84.45 30 eP P 19 17 45.9 +0.6
FIB Fire Island 84.53 29 eP P 19 17 46.6 +1.0
EZM Erzurum 84.57 310 eP P 19 17 48.1 +1.8
PPT Papeete 85.04 108 eP P 19 17 51.4 +2.2
comp=Z,35nm,1.2s,mb5.3
PPT Papeete 85.04 108 eLR LR 19 45 09.6
comp=Z,4μm,28.2s
PPT Papeete 85.04 108 P P 19 17 51.2 +2.1
comp=Z,17nm,0.4s,mb5.5,baz=213,slow=12,SNR=3.0
PAE Paea 85.04 108 eP P 19 17 51.1 +1.9
comp=Z,59nm,0.9s,mb5.7
PMR Palmer 85.06 29 eP P 19 17 48.8 +0.5
BINT Bingol 85.23 309 eP P 19 17 51.8 +2.1
TIAR Tiarei 85.25 108 eP P 19 17 52.3 +2.0
comp=Z,216nm,1.0s,mb6.2
MCK McKinley 85.29 26 ⇑ iP P 19 17 49.5 +0.1
MCK pmax pmax
comp=Z,263nm,0.3s,mb6.8
MCK McKinley 85.29 26 ⇑ iP P 19 17 49.5 +0.1
comp=Z,263nm,0.3s,mb6.8
TVO Taravao 85.36 108 eP P 19 17 53.0 +2.2
comp=Z,201nm,1.0s,mb6.2
DIY Diyarbakir 85.43 308 eP P 19 17 52.5 +1.8
SML Sawmill 85.45 28 ⇑ iP P 19 17 51.0 +0.8
TBI Tubuai 85.60 114 eLR LR 19 45 38.6
comp=Z,4μm,30.0s
EZC Erzincan 85.76 309 eP P 19 17 56.0 +3.8
COLA College 85.83 25 ⇓ eP P 19 17 52.2 +0.2
COLA College 85.83 25 eP P 19 17 52.1 +0.1
SOC Sochi 85.85 313 i P P 19 17 52.3 -0.3
SOC e 19 21 12.5
SOC ePPP PPP 19 23 05.5 -5.7
SOC eS S 19 28 14.3 -5.9
SOC eSS SS 19 33 59.6 -2.0
SOC eSSS SSS 19 37 32.8 +2.1
SOC pmax pmax
comp=Z,432nm,0.8s,mb6.7
SOC pmax pmax
comp=N,73nm,1.1s
SOC pmax pmax
comp=E,64nm,0.9s
SOC MLR MLR
comp=E,1μm,21.0s,MS5.5
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.6
SOC MLR MLR
comp=N,1μm,22.0s,MS5.5
SOC Sochi 85.85 313 ⇑ iP P 19 17 52.6 0.0
GUMT Gumushane 86.02 310 eP P 19 17 55.7 +2.2
PTK Pertek 86.09 309 eP P 19 17 55.7 +1.9
ILAR Eielson Array 86.23 25 P P 19 17 53.1 -0.9
comp=N,25nm,1.2s,mb5.3,baz=302,slow=4.8,SNR=66
ILAR PP PP 19 21 13.0 -3.9
comp=N,8.4nm,1.1s,baz=271,slow=5.7,SNR=5.8
ILAR PKKPbc 19 35 50.1
comp=N,1.6nm,0.9s,baz=57,slow=2.4,SNR=6.9
ILAR PKPPKP 19 44 04.5
comp=N,0.9nm,1.0s,baz=353,slow=1.0,SNR=4.7
PMOR Pomariorio Ree 86.47 105 eP P 19 17 58.5 +2.2
comp=N,136nm,1.2s,mb6.0
MEH Mehetia 86.49 108 eP P 19 17 58.0 +1.7
comp=N,56nm,1.0s,mb5.7
URFA Urfa 86.55 307 eP P 19 17 57.5 +1.3
DIV Divide 86.66 29 eP P 19 17 57.0 +0.8
comp=N,844nm,1.2s,mb6.8
EYAK Cordova Ski Ar 86.67 30 eP P 19 17 58.2 +2.0
MALT Malatya 86.85 308 eP P 19 17 58.2 +0.5
MALT Malatya 86.85 308 P P 19 17 59.6 +2.0
MALT pmax pmax
comp=Z,380nm,1.2s,mb6.5
MYA Malataya 86.85 308 eP P 19 17 59.9 +2.2
MOS Moscow 87.20 326 α iP P 19 17 59.2 +0.3
MOS e pP 19 18 16.3 +2.3
MOS e 19 21 24.6
MOS e 19 28 18.3
MOS eS S 19 28 24.5 -8.3
MOS ePS PS 19 29 32.9 -9.3
MOS ePPS PPS 19 30 03.5 -5.4
MOS eSS SS 19 34 17.1 -3.5
MOS pmax pmax
comp=Z,3μm,2.1s,mb7.1
MOS pmax pmax
comp=Z,809nm,1.1s,mb6.9
ANN Anapa 87.48 315 ⇓ iP P 19 17 58.6 -1.9
ANN e 19 18 06.3
ANN e 19 21 28.5
ANN eS 19 28 22.9
ANN e 19 28 35.2
ANN pmax pmax
comp=Z,674nm,1.1s,mb6.8
ANN MLR MLR
comp=Z,2μm,25.0s,MS5.5
ANN Anapa 87.48 315 eP P 19 17 59.3 -1.2
OBN Obninsk 87.81 325 P P 19 18 02.8 +0.9
comp=Z,3μm,0.7s,SNR=90
OBN Obninsk 87.81 325 c iP P 19 18 01.9 0.0
OBN i 19 21 27.8
OBN eS 19 28 25.8
OBN eSS SS 19 34 30.0 +0.2
OBN pmax pmax
comp=Z,524nm,0.9s,mb6.8
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.4
OBN Obninsk 87.81 325 ⇑ iP P 19 18 01.8 0.0
comp=Z,388nm,0.8s,mb6.7
GAZ Gaziantep 87.84 307 eP P 19 18 04.0 +1.6
ASF Jabal al Asfar 88.25 302 P P 19 18 06.1 +1.6
comp=Z,293nm,1.0s,mb6.5,baz=320,slow=1.4,SNR=152
ASF PP PP 19 21 32.3 -2.3
comp=Z,12nm,1.1s,baz=70,slow=6.0,SNR=3.3
ASF LR LR 20 04 57.0
comp=Z,499nm,19.0s,MS5.0,baz=328,slow=40
TOKT Tokat 88.26 310 eP P 19 18 05.5 +1.1
LVZ Lovozero 88.29 338 eP P 19 18 01.8 -2.0
LVZ pmax pmax
comp=Z,77nm,1.4s,mb5.7
LVZ pmax pmax
comp=N,6.0nm,1.0s
LVZ pmax pmax
comp=E,10.0nm,0.9s
LVZ MLR MLR
comp=Z,2μm,22.0s,MS5.5
LVZ Lovozero 88.29 338 ⇓ eP P 19 18 03.3 -0.5
KVT Kavak 88.61 311 eP P 19 18 07.1 +1.0
HTY Hatay 88.73 306 eP P 19 18 07.9 +1.1
APA Apatity 88.78 337 ⇑ iP P 19 18 05.9 -0.3
APA i S S 19 28 50.0 +2.7
APA pmax pmax
comp=Z,140nm,1.6s,mb6.0
APA MLR MLR
comp=E,2μm,19.0s
BNN Bunyan 88.86 309 eP P 19 18 08.0 +0.8
HWQ Hawqa 88.97 304 eP P 19 18 08.9 +1.0
CEYT Ceyhan 89.01 307 eP P 19 18 09.4 +1.4
BHL Bhannes 89.23 304 eP P 19 18 10.3 +1.2
KMBO Kilima Mbogo 89.25 269 ⇑ iP P 19 18 11.6 +1.9
KMBO pmax pmax
comp=Z,190nm,1.4s
KMBO Kilima Mbogo 89.25 269 P P 19 18 11.4 +1.8
comp=Z,58nm,0.9s,mb5.9,baz=46,slow=6.5,SNR=110
KMBO Kilima Mbogo 89.25 269 ⇑ iP P 19 18 11.6 +1.9
comp=Z,190nm,1.4s,mb6.2
DAWY Dawson 89.50 26 ⇑ iP P 19 18 10.6 +0.9
BYBT Boyabat 89.56 311 eP P 19 18 11.3 +0.8
CORM Corum 89.73 310 eP P 19 18 11.7 +0.4
SIM Simferopol' 89.83 315 c iP P 19 18 12.5 +0.8
SIM eS S 19 29 01.0 +3.5
SIM pmax pmax
comp=Z,188nm,0.9s,mb6.4
SIM Simferopol' 89.83 315 ⇑ eP P 19 18 12.5 +0.8
EIL Elat 90.03 300 P P 19 18 14.2 +1.2
comp=Z,99nm,1.0s,mb6.1,baz=62,slow=3.6,SNR=45
EIL Elat 90.03 300 ⇑ iP P 19 18 13.9 +0.9
comp=Z,222nm,1.3s,mb6.3
JOF Joensuu 90.05 333 ep P 19 18 11.1 -1.1
comp=Z,5.2nm,0.4s,mb5.2
JOF Joensuu 90.05 333 eP P 19 18 11.1 -1.1
JOF pmax pmax
comp=Z,5.0nm,0.4s,mb5.2
BZK Bozkurt 90.10 312 eP P 19 18 07.8 -5.3
TOS Tosya 90.14 311 eP P 19 18 14.1 +0.8
CANT Cankiri 90.48 310 eP P 19 18 15.3 +0.5
KAMT Kaman 90.49 309 eP P 19 18 14.8 0.0
PHNC Paralimni 90.51 305 ⇑ P P 19 18 16.3 +1.2
PHNC Paralimni 90.51 305 ⇑ iP P 19 18 16.3 +1.2
KEV Kevo 90.84 340 ep P 19 18 15.0 -0.9
comp=Z,2.0nm,0.3s
KEV Kevo 90.84 340 eP P 19 18 15.0 -0.9
KEV pmax pmax
comp=Z,2.0nm,0.3s,mb4.9
PUL Pulkovo 90.86 330 ⇓ eP P 19 18 16.6 +0.4
CSS Prodhromos 91.08 305 ⇑ P P 19 18 18.1 +0.3
comp=Z,2.5nm,1.0s
CSS Prodhromos 91.08 305 ⇑ iP P 19 18 18.1 +0.3
SAFT Safranbolu 91.14 311 eP P 19 18 18.0 +0.2
ANTO Ankara 91.16 310 eP P 19 18 17.0 -1.0
ANTO Ankara 91.16 310 ⇑ P P 19 18 19.1 +1.1
MAMC Mammari 91.16 305 ⇑ P P 19 18 18.9 +0.7
MAMC Mammari 91.16 305 ⇑ eP P 19 18 18.9 +0.7
LOD Lodumlu 91.18 310 eP P 19 18 18.6 +0.5
SYO Syowa Base 91.28 201 ⇓ P P 19 18 19.4 +1.5
INK Inuvik 91.31 21 P P 19 18 18.4 +0.4
comp=Z,86nm,1.1s,mb6.0,baz=278,slow=5.6,SNR=121
INK S 19 28 47.0
comp=Z,0.8nm,0.7s,baz=318,slow=32,SNR=9.5
INK PKKPbc 19 35 40.0
comp=Z,5.4nm,0.8s,baz=87,slow=2.9,SNR=13
INK LR LR 19 58 05.2
comp=Z,245nm,20.8s,MS4.6,baz=261,slow=35
INK Inuvik 91.31 21 ⇑ iP P 19 18 18.2 +0.1
comp=Z,184nm,1.4s,mb6.2
ARCES ARCESS Array B 91.40 340 P P 19 18 18.5 +0.1
comp=Z,55nm,0.8s,mb5.9,baz=76,slow=5.0,SNR=66
ARCES PKKPbc 19 35 40.1
comp=Z,2.2nm,0.7s,baz=225,slow=1.7,SNR=7.9
ARCES LR LR 20 06 03.7
comp=Z,991nm,19.6s,MS5.3,baz=71,slow=40
ARCES ARCESS Array B 91.40 340 P P 19 18 18.5 +0.1
ARCES PKKPbc 19 35 40.1
ARCES LR LR 20 06 03.6
ARE0 ARCESS Array S 91.40 340 eP P 19 18 17.8 -0.6
LEF Lefka 91.43 305 eP P 19 18 20.0 +0.6
SZAC Souni-Zanaja 91.47 305 P P 19 18 20.1 +0.5
HDMB Hadim 91.62 307 eP P 19 18 20.7 +0.5
KONT Konya--Tatoy 91.64 308 eP P 19 18 20.2 -0.1
ALFC Alevga 91.67 305 ⇑ P P 19 18 20.4 -0.1
comp=Z,2.3nm,0.8s
ALFC Alevga 91.67 305 ⇑ eP P 19 18 20.4 -0.1
AKMC Akamas 91.90 305 ⇑ P P 19 18 21.2 -0.4
AKMC Akamas 91.90 305 ⇑ iP P 19 18 21.2 -0.4
KIZT Kizilcal 91.94 309 eP P 19 18 21.8 +0.1
KBS Kingsbay 92.05 350 P P 19 18 21.0 -0.3
KBS pmax pmax
comp=Z,21nm,1.0s,mb5.4
KBS Kingsbay 92.05 350 eP P 19 18 22.3 +1.0
KBS eSKSa 19 28 52.8
KBS e 19 30 29.1
KBS AMS AMS 20 02 08.5
comp=Z,1μm,26.6s,MS5.3
KTK1 Kautokeino 92.30 339 eP P 19 18 23.4 +0.8
comp=Z,120nm,1.7s,mb6.0
KTK1 Kautokeino 92.30 339 eP P 19 18 23.4 +0.8
KTK1 AMb AMB 19 18 30.9
comp=Z,120nm,1.7s,mb5.9
MDU Mudurnu 92.31 311 eP P 19 18 23.9 +0.6
KAF Kangasniemi 92.46 332 ep P 19 18 22.7 -0.8
comp=Z,2.8nm,0.3s,mb5.1
KAF Kangasniemi 92.46 332 eP P 19 18 22.7 -0.8
KAF pmax pmax
comp=Z,3.0nm,0.3s,mb5.1
QSPA South Pole Qui 92.52 180 eP P 19 18 24.8 +1.4
comp=Z,152nm,1.2s,mb6.3
AKASG Malin Array Be 92.58 321 P P 19 18 23.9 -0.5
comp=Z,56nm,0.9s,mb6.0,baz=70,slow=4.3,SNR=112
AKASG PP PP 19 22 05.2 -3.6
comp=Z,16nm,1.0s,baz=70,slow=7.7,SNR=4.3
AKASG PKKPbc 19 35 36.9
comp=Z,0.8nm,0.6s,baz=272,slow=3.6,SNR=6.2
ESKT Eskisehir 92.68 310 eP P 19 18 25.0 -0.1
FINES FINESS Array B 92.69 332 P P 19 18 23.5 -1.0
comp=Z,15nm,0.8s,mb5.5,baz=62,slow=5.4,SNR=64
BCK Bucak 93.09 308 eP P 19 18 27.3 +0.4
ISP Isparta 93.11 308 eP P 19 18 26.2 -0.9
ISP Isparta 93.11 308 P P 19 18 27.0 -0.1
ISP pmax pmax
comp=Z,75nm,0.9s,mb6.1
ALT Altintas 93.30 309 eP P 19 18 27.8 -0.1
KIS Kishinev 93.32 317 α iP P 19 18 26.5 -1.3
KIS e 19 22 13.0
KIS eS S 19 29 30.0 +1.8
KIS pmax pmax
comp=Z,300nm,1.2s,mb6.6
KIS pmax pmax
comp=Z,700nm,2.0s,mb6.7
KIS MLR MLR
comp=Z,5μm,22.0s,MS5.9
KIS MLR MLR
comp=E,5μm,23.0s
KIS MLR MLR
comp=Z,4μm,24.0s
HRT Hereke 93.45 311 eP P 19 18 27.8 -0.7
HRT Hereke 93.45 311 P P 19 18 28.6 +0.1
TLCR 93.55 315 ⇑ P P 19 18 29.1 +0.2
TRO Tromso 93.61 340 eP P 19 18 25.4 -3.2
TRO LR LR
comp=Z,1459μm,23.8s
TRO Tromso 93.61 340 eP P 19 18 25.4 -3.2
TRO eSS SS 19 35 50.1 -2.7
TRO AMS AMS 20 06 23.4
comp=Z,1μm,23.8s,MS5.4
ELL Elmali 93.70 307 eP P 19 18 29.8 0.0
YLV Yalova 93.70 311 eP P 19 18 29.1 -0.5
TAOE Nuku Hiva Isla 93.75 99 eSS SS 19 36 03.9 +7.8
TAOE eLR LR 19 48 59.7
KHL Karahalli 93.84 309 P P 19 18 30.8 +0.5
TIRR Tirgusor 93.93 315 ⇑ P P 19 18 30.6 0.0
CFR Carcaliu 94.03 315 ⇑ P P 19 18 31.6 +0.6
CFR Carcaliu 94.03 315 P P 19 18 31.5 +0.5
ORLT Orhaneli 94.12 310 eP P 19 18 32.0 +0.5
IAS Iasi 94.14 318 P P 19 18 32.4 +0.9
HARR Harsova 94.24 315 ⇓ P P 19 18 33.6 +1.6
DENT Denizli 94.28 308 P P 19 18 32.5 +0.1
CTT Catalca 94.34 311 eP P 19 18 32.0 -0.5
FETY Fethiye 94.37 307 eP P 19 18 31.8 -1.0
DALT Dalyan (Mudla) 94.71 307 P P 19 18 34.4 +0.1
BNT Bandirma 94.83 311 eP P 19 18 34.8 0.0
PRD Provadia 94.83 314 P P 19 18 36.0 +1.3
DLBC Dease Lake 94.85 31 P P 19 18 35.5 +1.1
comp=Z,54nm,1.1s,mb5.9,baz=281,slow=4.3,SNR=36
DLBC LR LR 19 59 02.1
comp=Z,472nm,18.6s,MS5.0,baz=261,slow=34
DLBC Dease Lake 94.85 31 ⇑ iP P 19 18 36.0 +1.6
ALE Alert 94.87 1 P P 19 18 34.5 +0.4
comp=Z,68nm,1.4s,mb5.9,SNR=8.1
VRI Vrincioaia 94.91 316 ⇑ P P 19 18 35.5 +0.5
BALB Balikesir 94.95 310 eP P 19 18 35.2 -0.1
YER Yerkesik 94.95 307 eP P 19 18 35.5 +0.1
MRMT Marmara Adasi 95.04 311 eP P 19 18 35.2 -0.5
MFT Murefte 95.25 311 eP P 19 18 35.4 -1.3

EDRB Edirne 95.50 312 *e*P **P** 19 18 38.0 +0.2
MLR Muntele Rosu 95.51 316 P **P** 19 18 38.4 +0.6
MLR pmax pmax
comp=Z,81nm,0.9s
MLR Muntele Rosu 95.51 316 P **P** 19 18 38.4 +0.7
comp=Z,81nm,0.8s,mb6.2,baz=46,slow=2.1,SNR=79
MLR Muntele Rosu 95.51 316 ⇑P **P** 19 18 38.5 +0.7
MLR Muntele Rosu 95.51 316 ⇑P **P** 19 18 38.5 +0.7
CANB Canakkale 95.52 310 *e*P **P** 19 18 37.9 0.0
JMB Yambol 95.53 313 P **P** 19 18 38.2 +0.3
BUC Bucharest 95.58 315 ⇓P **P** 19 18 39.9 +1.8
IZM Izmir 95.59 309 *e*P **P** 19 18 38.6 +0.3
BUC1 Bucharest 95.64 315 ⇓P **P** 19 18 39.9 +1.5
BURAR Bucovina Array 95.65 318 ⇓P **P** 19 18 39.6 +1.3
BURAR Bucovina Array 95.65 318 ⇓P **P** 19 18 39.6 +1.3
SUW Suwalki 95.68 325 *e*P **P** 19 18 38.3 0.0
SUW *e*pP pP 19 18 48.5 -5.0
SUW MLR MLR 20 04 28.9
comp=Z,2μm,25.5s,MS5.6
BODT Bodrum 95.73 307 *e*P **P** 19 18 38.7 -0.3
MBAR Mbarara 95.73 270 P **P** 19 18 39.3 -0.2
comp=Z,87nm,0.9s,mb6.2,SNR=18
MBAR Mbarara 95.73 270 ⇑*i*P **P** 19 18 39.2 -0.3
MBAR pmax pmax
comp=Z,14nm,0.9s,mb5.4
MBAR Mbarara 95.73 270 ⇑*i*P **P** 19 18 39.2 -0.3
comp=Z,14nm,0.9s,mb5.4
BLCB Balcova 95.76 309 *e*P **P** 19 18 39.2 +0.1
SZH Strazhica 95.88 314 P **P** 19 18 32.5 -7.0
LVV L'vov 96.02 320 *i* P **P** 19 18 42.6 +2.7
LVV *e* 19 22 34.0
LVV MLR MLR
comp=N,1μm,24.0s,MS5.5
LVV MLR MLR
comp=E,1μm,24.0s,MS5.5
LVV MLR MLR
comp=Z,2μm,24.0s,MS5.6
EZN Ezine 96.11 310 *e*P **P** 19 18 40.0 -0.6
ALN Alexandroupoli 96.16 311 *e*P **P** 19 18 40.7 -0.1
DIM Dimitrovgrad 96.36 313 *e*P **P** 19 18 42.0 +0.3
MOR8 Moi Rana 96.37 338 *e*P **P** 19 18 40.0 -1.2
comp=Z,72nm,2.0s,mb5.8
MOR8 Moi Rana 96.37 338 ⇓*i*P **P** 19 18 39.8 -1.3
MOR8 AMb AMB 19 18 47.4
comp=Z,72nm,2.0s,mb5.8
KWP Kalwaria 96.89 320 *e*P **P** 19 18 44.6 +0.6
KWP *e*pP pP 19 18 54.6 -4.6
KWP *e*PP PP 19 22 41.5 -0.8
KWP MLR MLR 20 05 52.6
comp=Z,3μm,26.2s,MS5.7
PLD Plovdiv 96.96 313 *e*P **P** 19 18 44.0 -0.5
RZN Rozhen 97.02 312 P **P** 19 18 44.5 -0.3
APE Apeiranthos 97.14 308 *e*P **P** 19 18 41.8 -3.6
APE Apeiranthos 97.14 308*c i*P **P** 19 18 44.2 -1.2
APE Apeiranthos 97.14 308 P **P** 19 18 45.0 -0.4
PGB Panagyurishte 97.28 313 P **P** 19 18 46.0 +0.1
SANT Santorini 97.30 307 ⇑*i*P **P** 19 18 44.9 -1.2
comp=Z,108nm,1.1s,mb6.2
SANT *e*PP PP 19 22 43.4 -2.5
THR1 Thera Island 97.30 307 *e*P **P** 19 18 45.2 -0.9
KOLS Kolonicke sedl 97.32 320 *e*P **P** 19 18 47.3 +1.4
THR3 Thira Island, 97.34 307 *e*P **P** 19 18 45.8 -0.6
WAR Warsaw 97.34 323 *e*P **P** 19 18 44.6 -1.3
WAR LR LR
comp=Z,4μm,29.0s,MS5.8
WAR Warsaw 97.34 323 *e*P **P** 19 18 44.5 -1.4
WAR MLR MLR 20 03 38.5
comp=Z,4μm,29.0s,MS5.8
THR5 Thira Island, 97.38 307 *e*P **P** 19 18 46.8 +0.3
MMB Musomiste 97.77 312 P **P** 19 18 47.5 -0.6
OUR Ouranopolis 97.80 311 *e*P **P** 19 18 48.1 -0.2
CRVS Cervenica-Dubn 97.85 320 *e*P **P** 19 18 50.4 +2.1
CRVS *e* 19 22 59.5
IDI Anoyia 97.92 306 P **P** 19 18 48.7 -0.2
comp=Z,79nm,1.0s,mb6.2,baz=52,slow=5.0,SNR=36
NSS Namsos 97.95 337 *e*P **P** 19 18 49.9 +1.6
NSS Namsos 97.95 337 *e* **P** 19 18 49.9 +1.6
NSS AMS AMS 20 06 53.5
comp=Z,2μm,20.7s,MS5.5
SRS Serrai 97.96 312 *e*P **P** 19 18 48.5 -0.4
VTS Vitosha 97.96 313 ⇑P **P** 19 18 48.7 -0.3
VTS Vitosha 97.96 313 P **P** 19 18 49.4 +0.4
VTS Vitosha 97.96 313 P **P** 19 18 49.0 0.0
DJES Djerdap 98.05 316 ⇑*i*P **P** 19 18 49.8 +0.5
AOS Alonnisos 98.08 310 *e*P **P** 19 18 49.7 +0.1
SOH Sokhos 98.19 312 *e*P **P** 19 18 48.9 -1.2
KKB Krupnik 98.19 313 P **P** 19 18 49.0 -1.0
DAG Danmarks Havn 98.33 352 ⇓*e*P **P** 19 18 49.5 -0.4
DAG pmax pmax
comp=Z,73nm,1.0s,mb6.2
DAG Danmarks Havn 98.33 352 ⇓*e*P **P** 19 18 49.5 -0.4
comp=Z,73nm,1.0s,mb6.2
DAG Danmarks Havn 98.33 352 ⇓*i*P **P** 19 18 49.5 -0.4
comp=Z,73nm,1.0s,mb6.2
MATP Matopo 98.35 250 P **P** 19 18 51.8 +0.5
comp=Z,10nm,1.0s,mb5.3,baz=116,slow=4.3,SNR=13
MATP PKKPbc 19 35 24.1
comp=Z,3.1nm,0.7s,baz=302,slow=1.7,SNR=9.4
NIE Niedzica 98.46 321 *e*P **P** 19 18 50.8 -0.2
KNT Kendrikon 98.46 312 *e*P **P** 19 18 50.9 -0.4
BZS Buzias 98.47 317 ⇓P **P** 19 18 50.9 -0.3
THE Thessaloniki 98.51 312 *e*P **P** 19 18 50.1 -1.4
XOR Xorichti 98.58 310 *e*P **P** 19 18 51.2 -0.6
KECS Kecovo 98.58 320 *e*P **P** 19 18 52.4 +0.8
KECS *e* 19 19 13.2
OJC Ojcow 98.59 322 *e*P **P** 19 18 52.2 +0.6
BOLS Boljevac 98.61 315 ⇓*i*P **P** 19 18 51.8 -0.1
GVD Gavdhos 98.64 306 *e*P **P** 19 18 51.6 -0.6
comp=Z,65nm,0.9s,mb6.2
LSZ Lusaka 98.65 255 *e*P **P** 19 18 53.2 +0.6
LSZ pmax pmax
comp=Z,29nm,1.3s,mb5.7
LSZ Lusaka 98.65 255 *e*P **P** 19 18 53.2 +0.5
comp=Z,29nm,1.3s,mb5.6
LSZ *e*PKP 19 23 26.2
GRG Griva 98.87 312 *e*P **P** 19 18 52.2 -0.9
HFS Hagfors 98.88 332 P **P** 19 18 52.1 -0.6
comp=Z,142nm,1.4s,mb6.3,baz=117,slow=3.3,SNR=20
HFS PKKPbc 19 35 20.0
comp=Z,2.9nm,0.7s,baz=207,slow=3.3,SNR=5.6
RKT Rikitea 98.90 113 *e*SKSac 19 29 29.3
RKT *e*SP SP 19 31 54.7 +7.8
RKT *e*LR LR 19 50 44.6
comp=Z,2μm,30.2s
RES Resolute Bay 98.96 10 ⇑*i*P **P** 19 18 53.2 +0.4
RES pmax pmax
comp=Z,43nm,0.8s,mb6.0
RES Resolute Bay 98.96 10 ⇑*i*P **P** 19 18 53.2 +0.4
comp=Z,43nm,0.8s,mb6.0
LIT Litokhoron 98.97 311 *e*P **P** 19 18 52.9 -0.7
SVIS Svilajnac 99.03 315 ⇑*i*P **P** 19 18 54.6 +0.8
PSZ Piszkesteto 99.10 319 *e*P **P** 19 18 54.4 +0.4
PSZ pmax pmax
comp=Z,101nm,1.5s,mb6.1
PSZ Piszkesteto 99.10 319 *e*Pdif **P** 19 18 54.4 +0.4
comp=Z,101nm,1.5s,mb6.1
PSZ Piszkesteto 99.10 319 ⇑*e*P **P** 19 18 54.6 +0.6
GKP Gorka Klasztor 99.29 325 *e*P **P** 19 18 55.8 +1.1
GKP *e*PP PP 19 23 00.1 -0.2
GKP MLR MLR 20 07 02.4
comp=Z,4μm,25.7s,MS5.8
AGG Agios Georgios 99.30 310 *e*P **P** 19 18 53.8 -1.3
SKO Skopje 99.37 313 ⇓*i*P **P** 19 18 55.4 0.0
SKO *i* PP PP 19 23 01.0 -0.3
GRUS Gruza 99.48 315 ⇑*i*P **P** 19 18 56.7 +0.9
VYHS Vyhne 99.64 320 *e*P **P** 19 18 57.0 +0.6
VYHS *e* 19 23 08.7
VYHS Vyhne 99.64 320 *e*P **P** 19 18 57.0 +0.6
VYHS *e* pP 19 19 16.8 +5.2
VYHS *e*PP PP 19 23 03.7 +0.4
NB2 NORSAR Subarra 99.66 333 P **P** 19 18 54.9 -1.3
comp=Z,40nm,1.0s,mb5.8,baz=66,slow=4.5
NB2 NORSAR Subarra 99.66 333 P **P** 19 18 54.9 -1.3
NB2 pmax pmax
comp=Z,40nm,1.0s,mb5.8
NB2 NORSAR Subarra 99.66 333 P **P** 19 18 54.9 -1.3
baz=66,slow=4.6
NOA NORSAR Array B 99.66 333 P **P** 19 18 55.2 -1.1
comp=Z,19nm,0.9s,mb5.5,baz=67,slow=4.6,SNR=33
NOA PP PP 19 22 58.8 -4.4
comp=Z,0.8nm,0.7s,baz=88,slow=4.4,SNR=2.7
NOA PKKPbc 19 35 18.8
comp=Z,3.0nm,0.9s,baz=67,slow=3.0,SNR=4.5
NOA LR LR 20 10 01.0
comp=Z,2μm,21.8s,MS5.5,baz=55,slow=39
NOA NORSAR Array B 99.66 333 P **P** 19 18 55.2 -1.1
NOA PP PP 19 22 58.8 -4.4
NOA PKKPbc 19 35 18.8
NOA LR LR 20 10 00.9
FNA Florina 99.67 312 *e*P **P** 19 18 56.1 -0.6
OKC Ostrava-Krasne 99.72 321 *e*PDIF **P** 19 18 56.8 +0.1
OKC AMS AMS 20 08 40.0
comp=Z,1μm,22.1s
NAO01 NORSAR Array S 99.89 333 *e*Pdif **P** 19 18 56.8 -0.4
comp=Z,39nm,1.2s,mb5.7
DIVS Divcibare 99.94 315 ⇑*i*P **P** 19 18 58.5 +0.6
BSD Bornholm Skovb 100.01 327 *i* P P 19 18 58.3 +0.4
BSD pmax pmax
comp=Z,43nm,1.0s
BSD MLR MLR
comp=Z,2μm,24.0s,MS5.5
BSD Bornholm Skovb 100.01 327 *i* P P 19 18 58.3 +0.4
comp=Z,43nm,1.0s
comp=Z,2μm,24.0s
MORC Moravsky Berou 100.11 321 *e*P P 19 18 59.0 +0.5
MORC pmax pmax
comp=Z,19nm,1.1s
MORC Moravsky Berou 100.11 321 *e*Pdif P 19 18 59.0 +0.5
comp=Z,19nm,1.1s
SRO Srobarova 100.15 319 *e*P P 19 18 59.4 +0.6
SRO1 Iza 100.22 319 *e*P P 19 18 59.5 +0.4
KSP Ksiaz 100.57 323 *e*Pdif P 19 19 01.1 +0.5
KSP *e*SKS 19 30 09.5
KSP Ksiaz 100.57 323 *e*P P 19 19 01.5 +0.9
KSP *e*PP PP 19 23 08.2 -2.4
KSP MLR MLR 20 05 13.9
comp=Z,5μm,27.1s,MS5.9
MOL Molde 100.58 336 *e*P P 19 19 01.1 +0.7
YKW3 Yellowknife Ar 100.60 24 *e*Pdif P 19 19 00.9 +0.5
YKA Yellowknife Ar 100.63 24 P P 19 19 00.7 +0.2
comp=Z,12nm,0.9s,baz=300,slow=4.6,SNR=173
YKA PKiKP 19 23 27.9
comp=Z,4.0nm,1.0s,baz=301,slow=1.8,SNR=8.5
YKA PKKPbc 19 35 14.6
comp=Z,0.9nm,0.7s,baz=115,slow=2.7,SNR=8.1
DPC Dobruska-Polom 100.69 322 *e*PDIF P 19 19 01.7 +0.5
DPC *e*PP PP 19 23 12.2 +0.5
DPC AMS AMS 20 05 10.0
comp=Z,3μm,28.7s
ZST Bratislava 100.83 320 *e*P P 19 19 02.8 +1.0
VRAC Vranov 100.83 321 P P 19 19 02.8 +1.0
VRAC pmax pmax
comp=Z,17nm,1.0s
VRAC Vranov 100.83 321 P P 19 19 02.8 +1.0
comp=Z,17nm,1.0s,baz=63,slow=6.0,SNR=16
VRAC Vranov 100.83 321 P P 19 19 03.4 +1.6
UPC Upice 100.84 322 *e*PDIF P 19 19 02.4 +0.6
UPC *e*PP PP 19 23 12.2 -0.6
JMIC Jan Mayen 100.88 346 AMS AMS 20 05 00.9
comp=Z,829nm,28.5s,MS5.1
LBTB Lobatse 100.93 245 *e*P P 19 19 04.1 +1.3
LBTB pmax pmax
comp=Z,9.0nm,1.1s
LBTB Lobatse 100.93 245 P P 19 19 04.5 +1.7
comp=Z,4.1nm,1.1s,baz=123,slow=9.3,SNR=2.6
LBTB Lobatse 100.93 245 *e*Pdif P 19 19 04.1 +1.2
comp=Z,8.7nm,1.1s
PGC Sidney 101.18 39 *e*Pdif P 19 19 04.0 +0.7
comp=Z,46nm,1.3s
RUE Ruedersdorf 101.53 325 *e*Pdif P 19 19 05.7 +0.9
comp=Z,34nm,0.8s
PVCC Panska Ves 101.71 323 *e*PDIF P 19 19 06.5 +0.8
PVCC AMS AMS 20 05 40.0
comp=Z,3μm,25.1s
KOGS Kog 101.88 318 *e*P P 19 19 06.7 +0.2
PRU Pruhonice 101.90 322 *e*PDIF P 19 19 07.3 +0.8
PRU *e*PP PP 19 23 20.7 +0.3
PRU AMS AMS 20 08 00.0
comp=Z,3μm,24.4s
BRG Berggiesshubel 101.97 323 *e*P P 19 19 07.5 +0.7
BRG pmax pmax
comp=Z,47nm,1.3s
BRG MLR MLR
comp=Z,1μm,24.0s,MS5.4
BRG Berggiesshubel 101.97 323 *e*PKP P 19 19 07.5 +0.7
comp=Z,47nm,1.3s
BRG *i* 19 19 32.2
BRG *e* 19 23 30.2
BRG *e*PP PP 19 23 36.0 +15
BRG *i* 19 32 41.0
BRG LR LR
comp=Z,1μm,24.0s,MS5.4
ARSA Arzberg 102.12 319 ⇓*i*P Pdif 19 19 08.4 +0.8
comp=Z,23nm,1.8s
CLL Collm 102.38 324 ⇑*i*P Pdif 19 19 08.7 0.0
CLL pmax pmax
comp=Z,36nm,1.3s
CLL MLR MLR
comp=Z,24μm,24.4s
CLL Collm 102.38 324 ⇑*i*P Pdif 19 19 08.7 0.0
comp=Z,36nm,1.3s
CLL *i* 19 19 32.8
CLL LR LR
comp=Z,24μm,24.4s
CLL Collm 102.38 324 ⇑P Pdif 19 19 08.7 0.0
comp=Z,logA/T=1.4
CLL *i* *SP 19 19 32.8
CLL *e*PP PP 19 23 23.0 -1.1
CLL *e* 19 23 53.0
BER Bergen 102.55 334 AMS AMS 20 11 56.1
comp=Z,2μm,21.2s,MS5.5
PERS Pernice 102.58 319 *e*P Pdif 19 19 13.0 +3.4
MOA Molln 102.75 320 ⇑*i*P Pdif 19 19 11.0 +0.6
comp=Z,31nm,1.4s
KHC Kasperske Hory 102.77 322 *e*PDIF Pdif 19 19 11.3 +0.9
KHC AMS AMS 20 06 20.0
comp=Z,3μm,29.0s
GEC2 GERESS Array S 102.79 321 *e*P Pdif 19 19 11.4 +0.9
GEC2 *e* 19 23 28.0
GERES GERESS Array B 102.79 321 P Pdif 19 19 11.6 +1.1
comp=Z,9.1nm,1.0s,baz=76,slow=5.5,SNR=31
GERES PP PP 19 23 26.8 -0.7
comp=Z,11nm,1.1s,baz=76,slow=5.5,SNR=9.4
GERES PKKPbc 19 35 09.3
comp=Z,1.3nm,0.8s,baz=243,slow=3.0,SNR=6.4
BOJS Bojanci 102.82 318 *e*P Pdif 19 19 11.5 +0.8
BSEG Bad Segeberg 102.93 327 *e*P Pdif 19 19 11.8 +0.8
BSEG *e* 19 23 27.2
NKC Novy Kostel 103.08 323 *e*PDIF Pdif 19 19 12.5 +0.7
NKC AMS AMS 20 06 30.0
comp=Z,2μm,22.0s
LJU Ljubljana 103.14 318 *e*P Pdif 19 19 14.0 +1.8
WET Wettzell 103.20 322 *e*P Pdif 19 19 13.3 +1.0
WET *e* 19 23 30.0
MOX Moxa 103.44 324 *e*P Pdif 19 19 13.9 +0.6
MOX pmax pmax
comp=Z,27nm,1.2s
MOX MLR MLR
comp=Z,700nm,23.0s,MS5.1
MOX Moxa 103.44 324 *e*P Pdif 19 19 13.9 +0.6
comp=Z,27nm,1.2s
MOX *e* 19 23 23.4
MOX LR LR
comp=Z,700nm,23.0s,MS5.1
MOX Moxa 103.44 324 *i* P Pdif 19 19 13.9 +0.6
comp=Z,logA/T=1.4
MOX PP PP 19 23 23.0 -9.2
MOX LQ 19 47 00.0
MOX LR LR 19 53 00.0
MOX L 20 00 00.0
TIP Timpagrande 103.49 311 *e*Pdif Pdif 19 19 14.8 +0.9
JAVS Javornik 103.50 318 *e*P Pdif 19 19 13.8 +0.1
VOY Vojsko 103.57 319 *e*P Pdif 19 19 13.8 -0.2
KBA Koelnbreinsper 103.59 320 ⇑*i*P Pdif 19 19 15.2 +1.1
comp=Z,18nm,1.2s
KBA Koelnbreinsper 103.59 320 ⇑*i*P Pdif 19 19 15.2 +1.1
KBA pmax pmax
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 103.66 46 Pdiff Pdif 19 19 18.0 +3.4
comp=Z,1.9nm,0.7s,baz=170,slow=4.3,SNR=4.4
CLZ Clausthal 103.71 325 *e*Pdif Pdif 19 19 16.2 +1.7
CLZ *e*PP PP 19 23 34.3 +0.2
GRA1 Grafenberg Arr 104.02 323 *e*Pdif Pdif 19 19 17.1 +1.2
GRA1 *e*PP PP 19 23 38.4 +2.1
GRA1 *e*SP SP 19 32 52.1 +13
GRA1 *e*SS SS 19 38 34.4 +16
GRA1 LR LR
comp=Z,2μm,27.6s,MS5.5
GRF Grafenberg Arr 104.02 323 *e*P Pdif 19 19 17.1 +1.2
GRF *e* 19 23 38.4
GRF *e*SS SS 19 38 34.4 +16
GRF Grafenberg Arr 104.02 323 *e*P Pdif 19 19 17.1 +1.2
GRF *e* 19 23 38.4
GRF *e*SS SS 19 38 34.4 +16
GRF Grafenberg Arr 104.02 323 *e*Pdif Pdif 19 19 17.1 +1.2
GRF *e*PP PP 19 23 38.4 +2.1
GRF *e*SP SP 19 32 52.1 +13
GRF *e*SS SS 19 38 34.4 +16
GRF LR LR
comp=Z,2μm,27.6s,MS5.5
SNAA Sanae 104.06 195 P Pdif 19 19 18.0 +2.4
SNAA pmax pmax
comp=Z,2.0nm,0.9s
SNAA Sanae 104.06 195 Pdiff Pdif 19 19 18.0 +2.4
comp=Z,1.6nm,0.9s,baz=294,slow=19,SNR=4.0
SNAA Sanae 104.06 195 *e*Pdif Pdif 19 19 17.2 +1.6
SNAA *e*PKKPab 19 35 23.9
FUR Furstenfeldbru 104.53 321 *e*P Pdif 19 19 20.0 +1.8
NEW Newport 105.28 38 *e*P Pdif 19 19 22.0 +0.5
NEW pmax pmax
comp=Z,8.0nm,1.0s
NEW Newport 105.28 38 Pdiff Pdif 19 19 22.1 +0.7
comp=Z,6.1nm,1.0s,baz=271,slow=7.0,SNR=5.6
NEW Newport 105.28 38 *e*Pdif Pdif 19 19 22.0 +0.5
comp=Z,7.8nm,1.0s
EDM Edmonton 105.43 33 *e*Pdif Pdif 19 19 23.4 +1.3
EDM *e*PKP 19 23 36.8
TNS Taunus Mts 105.47 324 *e*P Pdif 19 19 24.1 +1.8
DAVOX Davos 105.92 320 Pdiff Pdif 19 19 25.1 +0.7
comp=Z,2.6nm,0.5s,baz=288,slow=5.3,SNR=7.3
DAVOX PKKPab 19 35 16.7
comp=Z,8.1nm,0.9s,baz=250,slow=7.1,SNR=5.4
BFO Black Forest 106.30 322 *e*P Pdif 19 19 26.6 +0.6
BFO *e* 19 23 54.2
BMO Blue Mountains 106.41 42 *e*P Pdif 19 19 27.4 +0.8
BMO pmax pmax
comp=Z,4.0nm,1.3s
BMO Blue Mountains 106.41 42 *e*Pdif Pdif 19 19 27.4 +0.8
comp=Z,4.0nm,1.3s
CDF Champ du Feu 106.91 323 *e*P Pdif 19 19 27.3 -1.4
comp=Z,52nm,1.4s
CDF Champ du Feu 106.91 323 *e*P Pdif 19 19 27.3 -1.4
CDF pmax pmax
comp=Z,26nm,1.4s
HINF Hinteralfeld 107.41 322 *e*P Pdif 19 19 29.6 -1.3
HAU Haudompre 107.64 322 *e*P Pdif 19 19 30.4 -1.5
HAU *e*R
comp=Z,790nm,21.5s
NVAR Mina Array Bea 107.86 48 Pdiff Pdif 19 19 32.8 -0.3
comp=Z,1.0nm,0.7s,baz=297,slow=4.0,SNR=5.6
NVAR PKiKP 19 23 42.2
comp=Z,3.0nm,0.9s,baz=302,slow=1.0,SNR=7.6
NVAR PKKPbc 19 34 56.0
comp=Z,2.7nm,0.8s,baz=115,slow=5.2,SNR=9.5
NVAR PKKPab 19 35 09.1
comp=Z,5.8nm,0.8s,baz=131,slow=4.7,SNR=15
PGF Pioggiola 108.05 316 *e*P Pdif 19 19 32.8 -1.1
comp=Z,54nm,1.2s
PGF Pioggiola 108.05 316 *e*P Pdif 19 19 32.8 -1.1
PGF pmax pmax
comp=Z,27nm,1.2s
CABF La Chapelle 108.39 321 *e*P Pdif 19 19 34.3 -0.9
LPG La Plagne 108.42 320 *e*P Pdif 19 19 34.8 -0.6
comp=Z,31nm,1.3s
LPG La Plagne 108.42 320 *e*P Pdif 19 19 34.8 -0.6
LPG pmax pmax
comp=Z,16nm,1.3s
LPL La Plagne 108.43 320 *e*P Pdif 19 19 34.8 -0.6
comp=Z,52nm,1.4s
LPL La Plagne 108.43 320 *e*P Pdif 19 19 34.8 -0.6
LPL pmax pmax
comp=Z,26nm,1.4s
SBF Sospel 108.62 318 *e*P Pdif 19 19 34.7 -1.6
HLID Hailey 108.82 42 *e*PKP 19 23 43.8
ORIF Oris-en-Rattie 109.22 320 *e*P Pdif 19 19 37.8 -1.1
comp=Z,102nm,1.9s
ORIF *e*R
comp=Z,1μm,22.5s
ELK Elko 109.31 45 PKiKP 19 23 44.8
comp=Z,8.9nm,0.9s,baz=290,slow=2.0,SNR=17
ELK PKKPbc 19 34 51.1
comp=Z,2.4nm,0.7s,baz=158,slow=2.3,SNR=11
ELK PKKPab 19 35 02.7
comp=Z,6.0nm,1.1s,baz=99,slow=3.9,SNR=8.6
ELK Elko 109.31 45 *e*PKP 19 23 44.5
BOZ Bozeman (W) 109.78 39 *e*PKP 19 23 45.6
AVF Avril sur Loir 110.00 322 *e*P Pdif 19 19 40.9 -1.4
VIVF Saint-Julien-l 110.03 320 *e*P Pdif 19 19 41.3 -1.2
comp=Z,83nm,1.7s
LASF Ste Croix 110.89 319 *e*P Pdif 19 19 46.7 +0.4
comp=Z,150nm,1.6s
TCF Toulx Ste Croi 110.93 322 *e*P Pdif 19 19 45.5 -0.9
RRI2 Red Ridge 110.97 41 *e*PKP PKPdf 19 23 47.8 +3.1
TPAW Teton Pass 111.15 41 *e*PKP PKPdf 19 23 47.6 +2.5
MOOW Moose Ponds 111.17 41 *e*PKP PKPdf 19 23 48.2 +3.0
DUG Dugway 111.23 45 PKIKP PKPdf 19 23 49.2 +3.9
DUG Dugway 111.23 45 *e*PKP PKPdf 19 23 48.2 +2.9
WUWY Wally Ulrich 111.26 41 *e*PKP PKPdf 19 23 47.2 +1.9
SNOW Snow King Moun 111.29 41 *e*PKP PKPdf 19 23 48.9 +3.5
FLN La Foliniere 111.31 325 *e*P Pdif 19 19 46.6 -1.4
FLN *e*R
comp=Z,1μm,22.8s
LOHW Long Hollow 111.32 41 *e*PKP PKPdf 19 23 48.3 +2.9
HWUT Hardware Ranch 111.53 43 *e*PKP PKPdf 19 23 48.9 +3.0
NOQ North Oquirrh 111.53 44 *e*PKP PKPdf 19 23 49.2 +3.3
NLU North Lily Min 111.84 45 *e*PKP PKPdf 19 23 49.7 +3.1
JLU Jordanelle 112.02 44 *e*PKP PKPdf 19 23 49.8 +2.9
MVU Marysvale 112.31 46 *e*PKP PKPdf 19 23 51.3 +3.8
MSU Marysvale 112.33 46 *e*PKIKP PKPdf 19 23 51.6 +4.1
BW06 Boulder Array 112.38 41 *e*PKP PKPdf 19 23 50.4 +2.9
PDAR Pinedale Array 112.38 41 Pdiff Pdif 19 19 53.0 +0.1
comp=Z,0.2nm,0.9s,baz=304,slow=3.3,SNR=2.6
PDAR PKiKP 19 23 50.2
comp=Z,2.8nm,1.0s,baz=180,slow=1.5,SNR=12
PDAR PKKPbc 19 34 40.0
comp=Z,2.7nm,0.7s,baz=109,slow=5.1,SNR=11
PDAR PKKPab 19 34 48.3
comp=Z,13nm,1.0s,baz=124,slow=5.3,SNR=21
LAO LASA Array 112.60 36 *e*PKP PKPdf 19 23 50.6 +2.8
TMUT Trail Mountain 112.72 45 *e*PKP PKPdf 19 23 51.1 +2.9
ROSF Rostrenen 113.10 326 *e*P Pdif 19 19 54.9 -1.0
comp=Z,90nm,1.4s
SRU San Rafael 113.28 45 *e*PKIKP PKPdf 19 23 52.1 +2.7
EPF Esparros 113.64 320 *e*P Pdif 19 19 57.4 -1.0
comp=Z,50nm,1.4s
WUAZ Wupatki 114.07 49 *e*PKP PKPdf 19 23 54.5 +3.5
PV10 Paradox Valley 114.64 45 *e*PKP PKPdf 19 23 55.6 +3.4
PV01 Paradox Valley 115.08 46 *e*PKPdf PKPdf 19 23 56.0 +3.0
RW3 Ridgway 115.66 45 PKIKP PKPdf 19 23 50.1 -4.0
TUC Tucson 115.71 52 *e*PKIKP PKPdf 19 23 57.4 +3.1
PHWY Pilot Hill 115.77 41 *e*PKPdf PKPdf 19 23 56.4 +2.2
ULM Lac du Bonnet 116.08 29 PKP PKPdf 19 23 55.8 +1.2
comp=Z,5.6nm,0.8s,baz=299,slow=3.9,SNR=12
ULM PKKPbc 19 34 29.7
comp=Z,3.2nm,0.8s,baz=126,slow=4.6,SNR=4.9
ULM Lac du Bonnet 116.08 29 *e*PKPdf PKPdf 19 23 56.0 +1.4
ISCO Idaho Springs 116.38 43 *e*PKIKP PKPdf 19 23 57.8 +2.4
SDCO Great Sand Dun 117.42 45 *e*PKPdf PKPdf 19 24 00.8 +3.3
ANMO Albuquerque 117.98 48 *e*PKIKP PKPdf 19 24 02.1 +3.5
ANMO Albuquerque 117.98 48 PKKPbc 19 34 20.8
comp=Z,0.9nm,0.6s,baz=133,slow=4.6,SNR=3.0
ESDC Sonseca Array 118.11 318 PKP PKPdf 19 24 01.3 +2.6
comp=Z,1.0nm,0.5s,baz=1.9,slow=2.9,SNR=7.8
ESDC PP PP 19 25 11.3 -7.9
comp=Z,3.5nm,0.8s,baz=49,slow=7.5,SNR=5.8
ESDC PKKPbc 19 34 20.8
comp=Z,0.4nm,0.4s,baz=255,slow=4.2,SNR=4.7
PBRG Braganca 118.77 322 *e*PKPdf PKPdf 19 24 02.9 +2.9
PVRL Vila Real 119.67 322 *e*PKPdf PKPdf 19 24 05.0 +3.2
EYMN Ely 119.75 28 *e*PKPdf PKPdf 19 24 03.5 +1.8
MTE Manteigas 120.05 321 *e*PKPdf PKPdf 19 24 05.8 +3.3
MTE *e*LQ 20 01 58.3
MTE *e*LR LR 20 09 47.9
comp=Z,1μm,22.0s
PVIS Viseu 120.10 321 *e*PKPdf PKPdf 19 24 05.9 +3.3
MNTX Cornudas Mount 120.17 51 *e*PKPdf PKPdf 19 24 05.6 +2.6
PCBR Castelo Branco 120.32 320 *e*PKPdf PKPdf 19 24 06.2 +3.1
CBKS Cedar Bluff 120.81 41 *e*PKIKP PKPdf 19 24 05.6 +1.6
EVO Evora 121.39 319 *e*PKIKP PKPdf 19 24 07.9 +2.8
comp=Z,170nm,1.3s
EVO *e*R
comp=Z,884nm,21.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPN	Rapa Nui	121.41	120	PKP	PKPdf	19 24 07.7	+2.2
	comp=Z,38nm,0.5s,baz=159,slow=12,SNR=3.3						
AMTX	Amarillo	121.50	46	ePKPdf	PKPdf	19 24 07.9	+2.4
PBEJ	Beja	121.57	318	ePKPdf	PKPdf	19 24 08.9	+3.4
PALC	Alcoutim	121.61	318	ePKPdf	PKPdf	19 24 08.9	+3.3
SCHQ	Schefferville	121.72	9	PKP	PKPdf	19 24 07.8	+2.5
	comp=Z,11nm,0.7s,baz=354,slow=2.3,SNR=20						
SCHQ	Schefferville	121.72	9	ePKPdf	PKPdf	19 24 07.5	+2.2
LTX	Lajitas	122.50	53	ePKIKP	PKPdf	19 24 10.1	+2.6
TXAR	Lajitas Array	122.50	53	PKP	PKPdf	19 24 09.9	+2.4
	comp=Z,11nm,0.8s,baz=261,slow=1.1,SNR=58						
TXAR				PKKPbc		19 34 02.2	
	comp=Z,1.4nm,0.7s,baz=127,slow=6.3,SNR=12						
TXAR	Lajitas Array	122.50	53	PKP	PKPdf	19 24 09.9	+2.4
TXAR				PKKPbc		19 34 02.2	
KSU1	Kansas State U	122.66	39	ePKPdf	PKPdf	19 24 09.8	+2.2
WMOK	Wichita Mounta	123.63	45	ePKIKP	PKPdf	19 24 11.1	+1.5
JFWS	Jewell Farm	123.91	32	ePKIKP	PKPdf	19 24 11.2	+1.3
JCT	Junction City	125.00	50	ePKIKP	PKPdf	19 24 14.6	+2.2
USHA	Ushuaia	126.54	169	PKP	PKPdf	19 24 17.8	+3.1
	comp=Z,17nm,0.8s,baz=343,slow=1.0,SNR=3.4						
CCM	Cathedral Cave	126.61	37	PKPdf	PKPdf	19 24 17.1	+1.8
CCM	Cathedral Cave	126.61	37	ePKPdf	PKPdf	19 24 16.6	+1.3
FVM	French Village	127.14	37	ePKIKP	PKPdf	19 24 18.1	+1.8
MIAR	Mount Ida	127.30	42	ePKIKP	PKPdf	19 24 18.8	+2.1
AAM	Ann Arbor	127.65	28	PKIKP	PKPdf	19 24 17.9	+0.7
UALR	University of	127.98	41	ePKPdf	PKPdf	19 24 19.9	+1.8
NATX	Nacogdoches	128.13	45	ePKPdf	PKPdf	19 24 20.9	+2.5
HKT	Hockley	128.25	48	ePKIKP	PKPdf	19 24 20.3	+1.6
BLO	Bloomington	128.54	33	ePKIKP	PKPdf	19 24 21.3	+2.3
USIN	University of	128.76	35	ePKPdf	PKPdf	19 24 21.3	+1.8
WCI	Wyandotte Cave	129.34	33	ePKIKP	PKPdf	19 24 22.7	+2.2
ERPA	Erie	129.45	25	ePKPdf	PKPdf	19 24 22.3	+1.7
ACSO	Alum Creek Sta	129.57	29	ePKPdf	PKPdf	19 24 22.1	+1.2
OXF	Oxford	130.03	39	PKIKP	PKPdf	19 24 24.7	+2.8
OXF	Oxford	130.03	39	ePKPdf	PKPdf	19 24 24.3	+2.3
DBIC	Dimbokro	130.53	281	PKhKP		19 24 14.8	
	comp=Z,1.5nm,0.6s,baz=139,slow=14,SNR=3.5						
DBIC				PKP	PKPdf	19 24 25.5	+2.1
	comp=Z,28nm,0.8s,baz=124,slow=4.0,SNR=3.7						
DBIC				SKPbc		19 27 46.5	
	comp=Z,60nm,1.2s,baz=355,slow=7.2,SNR=15						
DBIC	Dimbokro	130.53	281	ePKPdf	PKPdf	19 24 25.6	+2.2
DBIC				eSKPbc		19 27 47.0	
SWET	Sewanee	131.67	36	ePKPdf	PKPdf	19 24 26.2	+1.2
LRAL	Lakeview Retre	132.51	39	ePKPdf	PKPdf	19 24 28.8	+2.1
FWV	Forest Hill	132.69	30	ePKPdf	PKPdf	19 24 28.8	+1.9
ELN	Prospectdale	133.00	30	ePKPdf	PKPdf	19 24 29.4	+1.9
PLCA	Paso Flores	139.05	160	PKhKP		19 24 31.9	
	comp=Z,6.4nm,0.8s,baz=178,slow=5.2,SNR=8.9						
PLCA				PKP	PKPdf	19 24 40.9	+2.4
	comp=Z,11nm,0.6s,baz=200,slow=3.0,SNR=20						
TRQA	Tornquist	143.88	169	ePKPdf	PKPdf	19 24 47.2	+0.2
LMEL	Las Melosas	145.24	155⇑	eP	PKPdf	19 24 52.1	+2.5
CLCH	Cerro Calan	145.49	154⇑	eP	PKPdf	19 24 52.7	+2.7
FCH	Farellones	145.65	155⇑	eP	PKPdf	19 24 52.8	+2.5
JTS	JuntasAbangare	146.21	67	PKIKP	PKPdf	19 24 53.8	+2.0
JTS				pmax	pmax		
	comp=Z,81nm,0.9s						
JTS	JuntasAbangare	146.21	67	PKPbc	PKPbc	19 24 53.8	+0.8
	comp=Z,81nm,0.8s,baz=329,slow=5.8,SNR=7.8						
JTS	JuntasAbangare	146.21	67	ePKPdf	PKPdf	19 24 54.0	+2.2
TLL	Tololo Astrono	148.08	151	eP	PKPdf	19 24 57.8	+3.4
LVC	Limon Verde	155.14	144	PKP	PKPdf	19 25 08.1	+3.1
	comp=Z,6.1nm,0.8s,baz=310,slow=1.4,SNR=11						
LVC				PKPbc	PKPdf	19 25 18.5	+14
	comp=Z,15nm,0.7s,baz=224,slow=2.2,SNR=8.6						
LVC				PKPab	PKPab	19 25 31.6	-0.7
	comp=Z,48nm,1.0s,baz=223,slow=7.5,SNR=6.2						
LVC	Limon Verde	155.14	144	ePKPdf	PKPdf	19 25 08.2	+3.2
LVC				ePKPbc	PKPdf	19 25 18.1	+13
LVC				ePKPab	PKPab	19 25 33.8	+1.4
SJG	San Juan	155.96	31	PKIKP	PKPdf	19 25 08.9	+2.7
SJG						19 25 36.3	
SJG				pmax	pmax		
	comp=Z,5.0nm,0.3s						
SJG	San Juan	155.96	31	PKP	PKPdf	19 25 08.9	+2.8
	comp=Z,5.3nm,0.3s,baz=293,slow=21,SNR=7.3						
SJG				PKPab	PKPab	19 25 36.3	+0.4
	comp=Z,113nm,1.2s,baz=321,slow=20,SNR=10						
SJG	San Juan	155.96	31	ePKPdf	PKPdf	19 25 08.4	+2.3
SJG				ePKPdif		19 25 17.8	
SJG				ePKPab	PKPab	19 25 35.7	-0.3
ARE	Arequipa	157.61	129	eP	PKPdf	19 25 12.0	+3.6
ARE				i		19 25 45.8	
ROSC	El Rosal	157.96	70	PKP	PKPdf	19 25 12.0	+3.0
	comp=Z,19nm,0.9s,baz=97,slow=8.0,SNR=20						
ROSC				PKPab	PKPab	19 25 44.3	-0.4
	comp=Z,31nm,0.8s,baz=96,slow=8.9,SNR=11						
SDV	Santo Domingo	159.50	56	PKPdf	PKPdf	19 25 13.0	+2.2
SDV	Santo Domingo	159.50	56	PKP	PKPdf	19 25 13.4	+2.6
	comp=Z,36nm,1.1s,baz=318,slow=1.9,SNR=43						
SDV				PKPab	PKPab	19 25 51.3	0.0
	comp=Z,14nm,0.7s,baz=4.9,slow=4.4,SNR=5.3						
SDV	Santo Domingo	159.50	56	ePKPdf	PKPdf	19 25 13.2	+2.4
LPAZ	La Paz	160.23	134	PKIKP	PKPdf	19 25 15.1	+3.7
LPAZ						19 25 56.1	
LPAZ				pmax	pmax		
	comp=Z,18nm,1.0s						
LPAZ	La Paz	160.23	134	PKP	PKPdf	19 25 15.1	+3.7
	comp=Z,18nm,1.0s,baz=24,slow=0.7,SNR=51						
LPAZ				PKPab	PKPab	19 25 56.0	+1.7
	comp=Z,18nm,0.8s,baz=38,slow=6.2,SNR=7.0						
LPAZ	La Paz	160.23	134	ePKPdf	PKPdf	19 25 15.5	+4.1
BDFB	Brasilia	165.94	202	PKP	PKPdf	19 25 20.2	+3.1
	comp=Z,12nm,1.0s,baz=90,slow=2.2,SNR=9.5						
BDFB				PKPab	PKPab	19 26 20.7	+1.4
	comp=Z,7.2nm,0.8s,baz=150,slow=3.2,SNR=4.1						
SAML	Samuel	168.53	124	ePKPdf	PKPdf	19 25 21.1	+2.3
SAML				ePKPab	PKPab	19 26 30.9	+0.3

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*NEIC **04** 19:21:45.4±0.6, 9.18N×92.31E, mb4.3/4, Error ellipse: s-maj=15.8km s-min=7.8km az=48.0*
*IDC **04** 19:21:45.6±1.5, 9.19N×92.39E, h36km±6km, mb3.4/5, mb1 3.6/6, mb1mx3.5/17, mbtmp3.6/6, Error ellipse: s-maj=56.2km s-min=15.7km az=63.0*
ISC 04 19:21:43.5±0.8**, 9.2N**±0.1×**92.4E**±0.1**, h37km, h37km**±1.5km**:pP-P, n15,** σ**0.53**/14**, mb3.9**/8**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	9.08	115	ePn	P	19 23 54.7	-0.4
CMAR	Chiang Mai Arr	11.19	34	Pn	P	19 24 23.6	-0.6
	baz=234,slow=14,SNR=4.9						
HYB	Hyderabad	15.73	303	eP	P	19 25 23.0	-1.1
HYB	Hyderabad	15.73	303	i P	P	19 25 23.0	-1.1
LSA	Lhasa	20.43	357	eP	P	19 26 20.6	+0.3
	16nm,1.1s						
SONM	Songino Array	40.29	15	P	P	19 29 18.2	-0.6
	0.8nm,0.7s,mb3.6,baz=191,slow=6.9,SNR=6.4						
SONM				pP	pP	19 29 30.2	+0.8
	0.6nm,0.6s,baz=199,slow=9.4,SNR=3.9						
KURK	Kurchatov	42.92	347	eP	P	19 29 40.9	+0.5
	4.8nm,1.1s,mb4.1						
ZAL	Zalesovo	45.03	354	P	P	19 29 57.7	+0.4
	0.6nm,0.8s,mb3.5,baz=276,slow=9.2,SNR=3.0						
ZAL				pP	pP	19 30 08.3	+0.3
	0.6nm,0.8s,baz=289,slow=6.0,SNR=1.9						
ZAL	Zalesovo	45.03	354	P	P	19 29 57.7	+0.4
ZAL				pP	pP	19 30 08.3	+0.3
BVAR	Borovoye Array	47.19	342	P	P	19 30 14.8	+0.4
	0.2nm,0.5s,mb3.4,baz=135,slow=8.4,SNR=4.1						
BVAR				pP	pP	19 30 25.8	+0.7
	1.2nm,0.8s,baz=157,slow=11,SNR=5.2						
CHKZ	Chkalovo	47.69	343	eP	P	19 30 19.0	+0.7
	2.6nm,0.7s,mb4.4						
CHKZ				epP	pP	19 30 29.3	+0.3
WRA	Warramunga Arr	50.45	125	P	P	19 30 40.0	-0.1
	0.7nm,0.5s,mb4.0,baz=307,slow=8.5,SNR=14						
WRA				pP	pP	19 30 50.8	0.0
	0.8nm,0.4s,baz=302,slow=9.1,SNR=5.2						
WRAB	Tennant Creek	50.45	125	eP	P	19 30 40.4	+0.3
	2.1nm,0.6s,mb4.3						
ASAR	Alice Springs	52.10	130	P	P	19 30 52.5	+0.1
	0.5nm,0.7s,mb3.5,baz=299,slow=6.7,SNR=5.8						
ASAR				pP	pP	19 31 02.2	-1.0
	0.7nm,0.7s,baz=302,slow=7.1,SNR=5.3						
FINES	FINESS Array B	70.73	332	pP	pP	19 33 08.3	-0.5
	1.0nm,0.7s,baz=45,slow=2.7,SNR=1.6						

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*MOS **04** 19:50:52.9±2.0, 34.65N×23.52E, h33km, mb4.2/2, Error ellipse: s-maj=15.8km s-min=8.7km az=80.0*
*IDC **04** 19:50:55.9±3.2, 34.63N×23.49E, h58km±24km, mb3.6/9, mb1 3.7/15, mb1mx3.6/28, mbtmp3.8/15, ML3.9/6, Error ellipse: s-maj=28.0km s-min=20.4km az=33.0*
*CSEM **04** 19:50:55.3±0.3, 34.76N×23.61E, h70km±1km, mb4.1/2, Error ellipse: s-maj=8.0km s-min=2.7km az=23.0*
*ATH **04** 19:50:57.3, 34.84N×23.80E, h33km±4km, MD3.6/10*
*NEIC **04** 19:50:57.0, 34.88N×23.78E, h38km, MD3.6(ATH), After ATH.*
ISC 04 19:50:54.1±1.1**, 34.66N**±0.09×**23.55E**±0.07**, h60km**±7km**, n56,** σ**1.00**/59**, mb3.8**/11**, 2C-4D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.48	68⇓	iPB	P	19 51 04.5	-1.3
VAM	Vamos	0.91	36⇓	iPN	P	19 51 10.8	-0.3
IDI	Anoyia	1.27	60	P	P	19 51 17.1	+1.1
	46nm,0.3s,baz=239,slow=15,SNR=244						
IDI				S	S	19 51 35.2	+3.0
	124nm,0.3s,baz=324,slow=19,SNR=17						
KYTH	Kithira	1.67	346	ePB	P	19 51 24.0	+2.4
KYTH	Kithira	1.67	346	ePn	P	19 51 23.0	+1.4
XRY	Khrisi	1.78	83	ePN	P	19 51 24.5	+1.4
NPS	Neapolis	1.80	70⇑	iPb	P	19 51 25.3	+1.9
NPS	Neapolis	1.80	70⇑	iPB	P	19 51 25.1	+1.7
NPS	Neapolis	1.80	70	i Pb	P	19 51 25.3	+1.9
VLI	Veliai	2.11	347	ePB	P	19 51 31.5	+3.8
THR5	Thira Island,	2.28	39	eP	P	19 51 30.2	0.0
THR3	Thira Island,	2.31	40	eP	P	19 51 30.7	+0.2
THR1	Thera Island	2.31	42	eP	P	19 51 30.4	-0.1
SANT	Santorini	2.31	42	ePn	P	19 51 29.6	-1.0
SANT	Santorini	2.31	42	ePn	P	19 51 29.6	-1.0
ITM	Ithomi	2.83	333	ePN	P	19 51 42.2	+4.2
APE	Apeiranthos	2.89	33	ePN	P	19 51 40.0	+1.2
APE	Apeiranthos	2.89	33	ePn	P	19 51 38.5	-0.3
NAIG	Nisos Aigina	3.09	359	ePn	P	19 51 41.7	+0.1
KARP	Karpathos	3.09	72⇓	iPN	P	19 51 42.0	+0.4
KARP	Karpathos	3.09	72⇓	iPn	P	19 51 40.8	-0.8
PTL	Penteli	3.39	4	ePn	P	19 51 45.0	-0.8
LKR	Lokris	4.00	354	ePn	P	19 51 54.0	-0.4
SMG	Samos	4.04	40	ePN	P	19 51 56.0	+1.1
ARG	Arkhangelos	4.04	66	ePN	P	19 51 55.2	+0.2
ARG	Arkhangelos	4.04	66	eP	P	19 51 55.0	0.0
AGG	Agios Georgios	4.46	348	eP	P	19 52 01.4	+0.5
AOS	Alonnisos	4.51	3	eP	P	19 52 00.2	-1.3
NEO	Neokhori	4.64	357	ePn	P	19 52 03.2	-0.2
LIT	Litokhoron	5.49	351	eP	P	19 52 14.6	-0.6
OUR	Ouranopolis	5.67	3	eP	P	19 52 16.6	-1.0
GRG	Griva	6.35	352	eP	P	19 52 26.7	-0.5
SRS	Serrai	6.44	0	eP	P	19 52 27.5	-0.9
VAE	Valguarnera	7.91	293	P	P	19 52 56.0	+7.1
	0.9nm,0.3s,baz=7.7,slow=23,SNR=2.1						
VAE				S	S	19 54 18.3	+0.5
	1.1nm,0.3s,baz=294,slow=14,SNR=3.4						
VAE	Valguarnera	7.91	293	S	S	19 54 18.3	+0.5
CSS	Prodhromos	8.05	85	Pn	P	19 52 45.6	-5.2
EIL	Elat	10.87	114	P	P	19 53 27.1	-2.1
	0.6nm,0.3s,baz=13,slow=7.9,SNR=9.7						
EIL				S	S	19 55 19.6	-11
	1.2nm,0.3s,baz=274,slow=36,SNR=7.5						
EIL	Elat	10.87	114	Pn	P	19 53 26.8	-2.4
ASF	Jabal al Asfar	11.43	99	P	P	19 53 36.1	-0.7
	0.3nm,0.3s,baz=156,slow=18,SNR=3.3						
ASF				S	S	19 55 35.2	-8.5
	0.4nm,0.3s,baz=188,slow=21,SNR=3.5						
VRAC	Vranov	15.51	343	P	P	19 54 34.4	+4.2
	0.4nm,0.3s,baz=151,slow=9.0,SNR=5.0						
GERES	GERESS Array B	15.94	336	P	P	19 54 35.5	-0.3
	0.1nm,0.3s,baz=5.4,slow=28,SNR=2.3						
AKASG	Malin Array Be	16.55	13	P	P	19 54 42.9	-0.5
	0.7nm,0.3s,baz=206,slow=10,SNR=5.0						
HFS	Hagfors	26.28	349	P	P	19 56 25.4	0.0
	2.4nm,0.5s,mb4.0,baz=146,slow=11,SNR=15						
FINES	FINESS Array B	26.85	3	P	P	19 56 30.2	-0.4
	3.6nm,1.1s,mb3.8,baz=159,slow=12,SNR=6.4						
NOA	NORSAR Array B	27.56	347	P	P	19 56 36.4	-0.7
	1.4nm,1.0s,mb3.5,baz=151,slow=10,SNR=2.8						
EKA	Eskdalemuir Ar	27.70	326	P	P	19 56 39.9	+1.4
	1.2nm,0.5s,mb3.8,baz=128,slow=8.3,SNR=6.0						
ARCES	ARCESS Array B	34.94	1	P	P	19 57 41.0	-0.8
	1.5nm,0.8s,mb4.0,baz=191,slow=6.2,SNR=6.1						
BVAR	Borovoye Array	37.65	46	P	P	19 58 04.7	0.0
	0.8nm,0.7s,mb3.6,baz=248,slow=8.0,SNR=4.3						
CHKZ	Chkalovo	37.90	45	P	P	19 58 07.1	+0.3
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
CHKZ	Chkalovo	37.90	45	P	P	19 58 07.1	+0.3
	comp=Z,2.0nm,0.7s,mb4.0						
MKAR	Makanchi Array	45.15	56	eP	P	19 59 07.2	+0.9
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	Makanchi Array	45.15	56	eP	P	19 59 07.2	+0.9
	comp=Z,1.0nm,0.3s,mb4.1						
ZAL	Zalesovo	46.29	46	P	P	19 59 14.7	-0.5
	comp=Z,0.5nm,0.5s,mb3.7,baz=182,slow=5.9,SNR=3.2						
SONM	Songino Array	60.82	50	P	P	20 01 02.0	-0.2
	comp=Z,0.4nm,0.5s,mb3.8,baz=276,slow=7.0,SNR=5.0						
YKA	Yellowknife Ar	77.51	342	P	P	20 02 46.7	+2.3
	comp=Z,0.1nm,0.4s,mb3.1,baz=36,slow=5.5,SNR=3.5						
WRA	Warramunga Arr	117.85	96	PKP	PKPdf	20 09 37.6	+3.4
	comp=Z,0.4nm,1.1s,baz=308,slow=1.8,SNR=2.9						

IDC 04 20:00:57.1±11.0**, 2.23N**×**126.22E, h235km**±125km**, mb3.3**/5**, mb1 3.5**/5**, mb1mx3.3**/16**, mbtmp3.9**/5**, Error ellipse: s-maj=184.8km s-min=18.1km az=73.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.43	160	P	P	20 05 46.1	-0.7
	2.4nm,0.6s,baz=340,slow=12,SNR=52						
ASAR	Alice Springs	26.81	164	P	P	20 06 15.4	-2.4
	1.2nm,0.8s,baz=339,slow=8.8,SNR=6.1						
SONM	Songino Array	48.55	342	P	P	20 09 15.9	-2.5
	1.4nm,0.9s,baz=159,slow=9.0,SNR=11						
BVAR	Borovoye Array	68.30	327	P	P	20 11 34.7	+0.2
	0.4nm,0.7s,baz=104,slow=5.9,SNR=2.6						
VNDA	Vanda	82.01	173	P	P	20 12 49.8	-1.9
	2.2nm,0.8s,baz=322,slow=5.7,SNR=4.5						

IDC 04 20:04:43.2±17.0**, 1.73N**×**124.49E, h114km**±169km**, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.5**/15**, mbtmp3.9**/4**, Error ellipse: s-maj=194.3km s-min=21.6km az=73.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.60	156	P	P	20 09 43.6	-1.1
	2.7nm,0.7s,baz=334,slow=10,SNR=17						
ASAR	Alice Springs	26.85	161	P	P	20 10 13.8	-1.4
	1.0nm,0.9s,baz=342,slow=8.4,SNR=5.3						
SONM	Songino Array	48.53	344	P	P	20 13 14.6	-1.9
	1.2nm,0.8s,baz=159,slow=8.2,SNR=12						
VNDA	Vanda	81.74	172	P	P	20 16 48.8	-1.4
	1.5nm,0.8s,baz=334,slow=4.9,SNR=3.9						

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*IDC **04** 20:26:09.9±7.8, 11.86N×93.65E, h129km±65km, mb3.5/4, mb1 3.8/4, mb1mx3.4/16, mbtmp3.9/4, Error ellipse: s-maj=71.0km s-min=20.2km az=60.0*
ISC 04 20:25:51.5±1.2**, 11.5N**±0.1×**92.3E**±0.1**, h33km, n6,** σ**0.89**/6**, mb4.0**/3**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.44	42	P	P	20 28 07.5	-0.7
	0.1nm,0.3s,baz=232,slow=15,SNR=4.8						
VIS	Vishakhapatnam	10.62	307	i P	P	20 28 24.1	-0.4
VIS				i S	S	20 30 11.2	-12
SONM	Songino Array	38.09	15	P	P	20 33 10.1	+1.2
	0.6nm,0.7s,mb3.4,baz=203,slow=8.2,SNR=5.1						
SONM				PcP	PcP	20 35 25.5	+1.4
	0.2nm,0.6s,baz=214,slow=2.5,SNR=3.3						
WRA	Warramunga Arr	51.89	127	P	P	20 34 59.3	0.0
	2.4nm,0.4s,mb4.5,baz=301,slow=10.0,SNR=101						
ASAR	Alice Springs	53.67	131	P	P	20 35 12.5	-0.1
	1.0nm,0.5s,mb4.0,baz=307,slow=6.7,SNR=29						
GERES	GERESS Array B	73.90	318	P	pP	20 37 35.5	+0.2
	0.3nm,0.5s,baz=101,slow=5.0,SNR=3.3						

MAN 04 20:29:13.4, 14.31N×**119.07E, h23km, mb4.1, ML3.0, MS2.7, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	1.28	116	eP	Pn	20 29 35.6	-0.5
LUBP				eS	Sn	20 29 49.7	-3.0
SCZP	Santa Cruz	1.67	29	eP	Pn	20 29 41.3	-0.5
SCZP				eS	Sn	20 30 00.3	-2.5
BUSP	Coron	2.54	154	eP	Pn	20 29 54.4	+0.2
BUSP				eS	Sn	20 30 21.7	-3.1
SJMP	San Jose	2.71	132	eP	Pn	20 29 56.6	0.0
SJMP				eS	Sn	20 30 25.4	-3.7
POLP	Polilio Island	2.81	81	eP	Pn	20 29 58.2	+0.1
POLP				eS	Sn	20 30 31.9	+0.2
BOAC	Boac	2.82	107	eP	Pn	20 29 57.8	-0.5
ENPP	El Nido	3.10	174	eP	Pn	20 30 02.2	0.0
ENPP				eS	Sn	20 30 35.5	-3.4
CUYO	Cuyo Island	3.93	151	eP	Pn	20 30 13.1	-0.8
CUYO				eS	Sn	20 30 54.8	-5.1

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*NEIC **04** 20:58:07.4±0.4, 43.71N×105.16W, ML3.3, Error ellipse: s-maj=5.8km s-min=5.1km az=151.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
*IDC **04** 20:58:09.1±2.9, 43.81N×105.57W, h16km±15km, mb4.4/1, mb1 3.8/6, mb1mx3.5/22, mbtmp3.6/6, ML3.5/5, Error ellipse: s-maj=56.5km s-min=9.0km az=146.0*
ISC 04 20:58:05.4±0.5**, 43.79N**±0.04×**105.12W**±0.06**, n29,** σ**1.18**/33**, mb4.5**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.50	186	ePn	Pn	20 58 49.3	+1.3
PHWY				eSn	Sn	20 59 20.7	+0.9
LAO	LASA Array	3.00	345	ePn	Pn	20 58 57.0	+1.9
BW06	Boulder Array	3.40	254	ePn	Pn	20 59 00.8	0.0
BW06				eSn	Sn	20 59 41.9	-0.5
PDAR	Pinedale Array	3.40	254	Pn	Pn	20 58 59.9	-0.9
	4.7nm,0.3s,baz=76,slow=15,SNR=43						
PDAR				Pg	Pg	20 59 09.0	-4.3
	11nm,0.3s,baz=62,slow=19,SNR=23						
PDAR				Lg		20 59 45.3	
	18nm,0.3s,baz=66,slow=32,SNR=8.4						
LKWY	Lake	3.88	283	ePn	Pn	20 59 09.0	+1.4
LOHW	Long Hollow	3.98	269	ePn	Pn	20 59 10.2	+1.2
ISCO	Idaho Springs	4.01	185	ePn	Pn	20 59 09.8	+0.4
ISCO				eSn	Sn	20 59 59.2	+1.4
MOOW	Moose Ponds	4.07	271	ePn	Pn	20 59 10.4	0.0
WUWY	Wally Ulrich	4.09	268	ePn	Pn	20 59 11.1	+0.5
SNOW	Snow King Moun	4.10	267	ePn	Pn	20 59 12.2	+1.4
YFT	Old Faithful	4.17	281	ePn	Pn	20 59 13.1	+1.4
IMW	Indian Meadow	4.21	273	ePn	Pn	20 59 12.8	+0.5
TPAW	Teton Pass	4.24	268	ePn	Pn	20 59 12.4	-0.4
AHID	Auburn Hatcher	4.49	259	ePn	Pn	20 59 17.5	+1.3
RRI2	Red Ridge	4.53	266	ePn	Pn	20 59 16.2	-0.6
DGMT	Dagmar	4.72	7	ePn	Pn	20 59 22.9	+3.3
HWUT	Hardware Ranch	5.23	248	ePn	Pn	20 59 25.0	-1.7
	9.8nm,0.4s						
TCUT	Toone Canyon	5.37	242	ePn	Pn	20 59 27.6	-1.1
SDCO	Great Sand Dun	6.05	183	ePn	Pn	20 59 37.6	-0.7
	1.4nm,0.6s						
PV01	Paradox Valley	6.23	206	ePn	Pn	20 59 40.0	-0.9
CBKS	Cedar Bluff	6.42	139	ePg	Pg	21 00 08.9	-4.6
	12nm,0.4s						
DUG	Dugway	6.76	241	ePn	Pn	20 59 45.5	-2.9
	53nm,0.5s						
MVU	Marysvale	7.52	228	ePn	Pn	20 59 50.9	-8.1
	3.0nm,0.5s						
ELK	Elko	8.10	251	Pn	P	21 00 04.2	-2.8
	0.2nm,0.3s,baz=49,slow=11,SNR=3.0						
ELK				Lg		21 02 10.4	
	0.1nm,0.3s,baz=65,slow=19,SNR=1.4						
ULM	Lac du Bonnet	9.03	41	Pn	P	21 00 19.0	-1.0
	2.4nm,0.3s,baz=234,slow=11,SNR=14						
ULM				Lg		21 02 50.6	
	0.2nm,0.3s,baz=146,slow=17,SNR=1.9						
EYMN	Ely	10.37	62	ePn	P	21 00 37.7	-0.7
NVAR	Mina Array Bea	11.29	246	Pn	P	21 00 49.8	-1.2
	0.1nm,0.3s,baz=58,slow=12,SNR=3.6						
YKA	Yellowknife Ar	19.54	347	P	P	21 02 36.3	-0.7
	0.1nm,0.3s,baz=161,slow=11,SNR=4.1						
ARCES	ARCESS Array B	61.33	18	P	P	21 08 24.1	-0.5
	4.0nm,0.9s,mb4.5,baz=333,slow=6.0,SNR=5.3						

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*IDC **04** 21:00:36.2±1.1, 13.14N×49.56E, mb3.6/10, mb1 3.8/10, mb1mx3.7/18, mbtmp3.6/10, Error ellipse: s-maj=29.1km s-min=23.9km az=54.0*
*NEIC **04** 21:00:37.7±0.8, 13.12N×49.55E, h10km, Error ellipse: s-maj=20.3km s-min=16.4km az=59.0*
*DHMR **04** 21:00:40.8±1.4, 13.41N×49.02E, h3km±112km, ML3.8*
*CSEM **04** 21:00:41.0±0.1, 13.16N×49.26E, h40km, ML3.6, Error ellipse: s-maj=4.3km s-min=3.3km az=5.0*
ISC 04 21:00:35.2±0.7**, 13.23N**±0.06×**49.39E**±0.04**, h3km, n19,** σ**1.31**/24**, mb3.7**/10**, 4D, Eastern Gulf of Aden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MUKL	Al Mukalla	1.29	345	i P	Pb	21 01 00.0	+0.3
MUKL				i S	Sb	21 01 16.1	-0.3
MUKL				AML	AML	21 01 16.8	
	comp=E,1μm,0.7s						
BDHA	Al Bayda'	3.79	282⇓	iP	Pn	21 01 38.4	+2.7
BDHA				AML	AML	21 01 39.4	
	comp=E,664nm,0.3s						
BDHA				i S	Sn	21 02 22.1	+0.7
LBOS		4.07	279⇓	eP	Pn	21 01 42.3	+2.5
LBOS				AML	AML	21 01 43.1	
	comp=N,375nm,0.5s						
LBOS				i S	Sn	21 02 28.7	+0.1
DHBB	Dhamar BB	5.03	286	i S	Sn	21 02 51.4	-1.5
TRBA	At Turbah	5.13	271⇓	eP	Pn	21 01 55.1	+0.3
TRBA				i S	Sn	21 02 54.7	-0.7
TRBA	At Turbah	5.13	271⇓	eP	Pn	21 01 55.1	+0.3
TRBA				i S	Sn	21 02 52.9	-2.5
HAJJ	Hajjah	6.12	294	i S	Sn	21 03 17.2	-3.0
ASF	Jabal al Asfar	22.06	331	P	P	21 05 36.0	+3.0
	comp=N,2.7nm,0.8s,mb3.8,baz=67,slow=7.7,SNR=2.3						
MATP	Matopo	39.25	212	P	P	21 08 06.3	-0.6
	comp=N,1.3nm,0.8s,mb3.7,baz=68,slow=5.4,SNR=3.2						
AKASG	Malin Array Be	40.82	340	P	P	21 08 20.4	+0.9
	comp=N,0.7nm,0.5s,mb3.6,baz=150,slow=7.2,SNR=6.3						
AKASG	Malin Array Be	40.82	340	P	P	21 08 20.4	+0.9
GERES	GERESS Array B	46.12	328	P	P	21 09 03.6	+1.2
	comp=N,0.1nm,0.3s,mb3.2,baz=150,slow=7.9,SNR=2.7						
CMAR	Chiang Mai Arr	47.84	77	P	P	21 09 15.1	-1.4
	comp=N,1.1nm,0.9s,mb3.9,baz=270,slow=8.8,SNR=7.9						
ZAL	Zalesovo	49.26	27	P	P	21 09 24.7	-2.3
	comp=N,0.4nm,0.5s,mb3.8,baz=181,slow=9.5,SNR=2.3						
FINES	FINESS Array B	51.01	346	P	P	21 09 40.9	+0.6
	comp=N,1.0nm,0.6s,mb3.9,baz=124,slow=14,SNR=5.4						
HFS	Hagfors	53.65	339	P	P	21 09 59.5	-0.5
	comp=N,0.9nm,0.6s,mb3.9,baz=117,slow=6.4,SNR=2.6						
HFS	Hagfors	53.65	339	P	P	21 09 59.5	-0.6
SONM	Songino Array	58.31	42	P	P	21 10 33.6	-0.1
	comp=N,0.2nm,0.6s,mb3.3,baz=270,slow=4.3,SNR=2.7						
WRA	Warramunga Arr	89.80	110	P	P	21 13 37.3	+0.1
	comp=N,0.3nm,0.7s,mb3.7,baz=300,slow=3.7,SNR=4.2						

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*CSEM **04** 21:32:58.5±0.2, 38.01N×26.18W, h30km, ML2.9, Error ellipse: s-maj=19.3km s-min=2.3km az=33.0*
*PDA **04** 21:33:00.7±1.1, 37.93N×26.24W, MD2.9, ML2.9, Error ellipse: s-maj=5.8km s-min=1.2km az=32.0*
SVSA 04 21:33:00.7±1.1**, 37.93N**×**26.24W, MD2.9, ML2.9, Error ellipse: s-maj=5.8km s-min=1.2km az=32.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SET2	Ginetes	0.35	104	i P	Pg	21 33 07.5	-0.3
SET2				i S	Sg	21 33 12.6	+0.1
SET4	Mosteiros	0.35	99	i P	Pg	21 33 07.2	-0.6
SET4				i S	Sg	21 33 12.3	-0.2
PFET	Feteiras	0.38	108	i P	Pg	21 33 07.6	-0.6
PFET				i S	Sg	21 33 13.3	+0.1
PSAN	Santo Antonio	0.41	101	i P	Pg	21 33 08.1	-0.9
PSAN				i S	Sg	21 33 13.9	-0.6
FAC	Faja de Cima	0.49	109	eP	Pg	21 33 09.7	-0.8
FAC				i S	Sg	21 33 16.8	-0.3

PDA Ponta Delgada 0.49 112 *i* S Sg 21 33 16.5 -0.6
CML Cha da Macela 0.57 106 *i* P Pg 21 33 10.7 -1.4
CML *e*S Sg 21 33 18.8 -1.0
PVER Pico Vermelho 0.59 103 *e*P Pg 21 33 10.9 -1.6
PMAT Coroa da Mata 0.62 101 *e*P Pg 21 33 11.6 -1.5
PMAT *i* S Sg 21 33 19.9 -1.4
448nm,0.2s
PMAT Coroa da Mata 0.62 101 *e*P Pg 21 33 11.6 -1.5
PMAT *i* S Sg 21 33 19.9 -1.4
448nm,0.2s
LFA Lagoa do Fogo 0.62 105 *e*P Pg 21 33 11.5 -1.6
PRCH Ribeira Ch 0.64 108 *e*P Pg 21 33 11.8 -1.6
PRCH *i* S Sg 21 33 20.5 -1.4
602nm,0.3s
PRCH Ribeira Ch 0.64 108 *e*P Pg 21 33 11.8 -1.6
PRCH *i* S Sg 21 33 20.5 -1.4
602nm,0.3s
MESC Monte Escuro 0.64 102 *e*P Pg 21 33 11.8 -1.8
MESC *i* S Sg 21 33 20.1 -2.0
VIF Vila Franca 0.66 106 *e*P Pg 21 33 12.4 -1.5
VIF *e*S Sg 21 33 21.1 -1.6
118nm,0.2s
VIF Vila Franca 0.66 106 *e*P Pg 21 33 12.4 -1.5
VIF *e*S Sg 21 33 21.1 -1.6
118nm,0.2s
PCNG Congro 0.69 104 *e*P Pg 21 33 13.0 -1.4
PCNG *i* S Sg 21 33 21.8 -1.8
182nm,0.2s
PCNG Congro 0.69 104 *e*P Pg 21 33 13.0 -1.4
PCNG *i* S Sg 21 33 21.8 -1.8
182nm,0.2s
FRA1 Furnas 0.72 105 *e*P Pg 21 33 13.7 -1.5
PFAD Fenais da Ajud 0.73 97 *e*P Pg 21 33 13.0 -2.3
PFAD *e*S Sg 21 33 22.4 -2.7
MIRA Miradouro 0.78 101 *e*P Pg 21 33 13.9 -2.3
PFAV Pico das Favas 1.02 320 *i* S Sg 21 33 29.5 -5.3
61nm,0.2s
PFAV Pico das Favas 1.02 320 *i* S Sg 21 33 29.5 -5.3
61nm,0.2s
RIB2 Ribeirinha 1.04 315 *i* S Sb 21 33 30.3 -5.0
77nm,0.2s
RIB2 Ribeirinha 1.04 315 *i* S Sb 21 33 30.3 -5.0
77nm,0.2s
ADH Angra Heroismo 1.06 313 *e*S Sb 21 33 31.0 -5.0
PVNV Vila Nova 1.10 319 *i* S Sb 21 33 31.4 -5.6
94nm,0.2s
PVNV Vila Nova 1.10 319 *i* S Sb 21 33 31.4 -5.6
94nm,0.2s
PPAD Pico dos Padre 1.13 313 *i* S Sb 21 33 32.4 -5.4
40nm,0.3s
PPAD Pico dos Padre 1.13 313 *i* S Sb 21 33 32.4 -5.4
40nm,0.3s
PBIS Biscoitos 1.15 316 *e*S Sb 21 33 33.2 -5.2
26nm,0.4s
PBIS Biscoitos 1.15 316 *e*S Sb 21 33 33.2 -5.2
26nm,0.4s
ASBA Santa Barbara 1.16 313 *e*S Sb 21 33 33.2 -5.6
18nm,0.2s
PSBA Serra de Santa 1.19 315 *e*P Pb 21 33 19.6 -4.3
PSBA *e*S Sb 21 33 34.5 -5.2
114nm,0.4s
PSMN Pico do Norte, 1.32 134 *i* S Sb 21 33 36.8 -6.5
PMAN Manadas 1.61 296 *e*S Sb 21 33 43.8 -8.2
59nm,0.2s
PPNO Prainha do Nor 1.68 289 *e*S Sb 21 33 45.8 -8.2
94nm,0.2s
ROSA Rosais 1.76 297 *e*rx 21 33 28.2
PICO Pico 1.81 289 *e*P Pn 21 33 28.9 -4.5
PICO *e*S Sn 21 33 49.1 -8.3
CALA Caldeira 2.04 289 *e*rx 21 33 54.9
PCED Cedros 2.06 290 *e*rx 21 33 49.6

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*MOS **04** 21:35:41.8±1.1, 22.39S×176.43W, h33km, mb5.6/11, Error ellipse: s-maj=12.0km s-min=10.4km az=168.3*
*BJI **04** 21:35:49.4, 21.88S×176.19W, h95km, mB5.5, mb5.1*
*NEIC **04** 21:35:50.5±0.1, 22.43S×176.49W, mb5.3/65, Error ellipse: s-maj=6.5km s-min=3.8km az=149.0*
*IDC **04** 21:35:50.3±0.5, 22.42S×176.60W, h99km±3km, mb4.9/28, mb1 5.1/30, mb1mx5.1/30, mbtmp5.3/30, MS4.0/13, Ms1 4.0/13, ms1mx3.8/23, Error ellipse: s-maj=14.1km s-min=8.5km az=155.0*
*HRVD **04** 21:35:50.5±0.2, 22.65S×176.00W, h111km±2km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s45,c62; Mantle waves: s64,c114; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr5.54±.18; Mθθ0.58±.20; Mφφ-6.13±.20; Mrθ-1.82±.16; Mθφ0.36±.24; Mφr-2.71±.17; Best double couple: M0 6.715×10^16 NP1:φs340°, δ36°, λ61°. NP2:φs194°, δ59°, λ109°. Principal axes: T 6.701, Plg69°, Azm145°; N .022, Plg16°, Azm4°; P -6.729, Plg13°, Azm270°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **04** 21:35:54.1±4.2, 22.43S×176.49W, h100km*
ISC 04 21:35:48.4±0.2, **22.69S**±0.04×**176.47W**±0.04, **h99**km, **h99**km±1.1km**:pP-P, n450,** σ**1**.**01**/215, **mb5.1**/89, **53C-11D, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 9.80 28 *e*Pn P 21 37 59.8 -8.2
144nm,0.7s
AFI *e*Sn S 21 39 33.0 -24
RAR Rarotonga 15.56 88 P P 21 39 19.2 -4.2
23nm,0.3s,baz=246,slow=8.4,SNR=23
RAR S S 21 41 54.3 -19
6.2nm,0.3s,baz=76,slow=23,SNR=4.2
RAR Rarotonga 15.56 88 *e*P P 21 39 19.1 -4.3
479nm,0.8s
DZM Mont Dzumac 15.82 269 *e*P P 21 39 32.7 +6.0
NOUC Port Laguerre 15.95 269 *e*P P 21 39 31.4 +3.1
PUZ Puketiti 15.99 195 *e*PN P 21 39 24.5 -4.3
PUZ Puketiti 15.99 195 *e*PN P 21 39 24.5 -4.3
URZ Urewera 16.47 198 P P 21 39 33.3 -1.4
11nm,0.3s,baz=34,slow=1.5,SNR=24
URZ S S 21 42 22.3 -11
2.0nm,0.3s,baz=138,slow=12,SNR=3.6
URZ LR LR 21 45 40.8
comp=Z,319nm,19.4s,baz=53,slow=35
URZ Urewera 16.47 198 *e*PN P 21 39 29.6 -5.1
URZ *e*SN S 21 42 24.4 -9.3
URZ Urewera 16.47 198 *e*PN P 21 39 29.6 -5.1
URZ *e*SN S 21 42 24.4 -9.3
QRZ Quartz Range 20.33 205 PN P 21 40 18.0 -0.8
QRZ Quartz Range 20.33 205 PN P 21 40 18.0 -0.8
NNZ Nelson 20.36 202 *e*PN P 21 40 15.6 -3.4
NNZ Nelson 20.36 202 *e*PN P 21 40 15.6 -3.4
THZ Tophouse 21.01 203 *e*PN P 21 40 23.0 -2.6
THZ *e*SN S 21 44 00.7 -8.0
THZ Tophouse 21.01 203 *e*PN P 21 40 23.0 -2.6
THZ *e*SN S 21 44 00.7 -8.0
KHZ Kahutara 21.37 201 PN P 21 40 27.1 -2.2
KHZ *e*SN S 21 44 10.0 -5.4
KHZ Kahutara 21.37 201 PN P 21 40 27.1 -2.2
KHZ *e*SN S 21 44 10.0 -5.4
DSZ Denniston Nort 21.40 205 *e*PN P 21 40 27.6 -2.0
DSZ Denniston Nort 21.40 205 *e*PN P 21 40 27.6 -2.0
LTZ Lake Taylor 22.13 202 *e*PN P 21 40 36.6 0.0
LTZ Lake Taylor 22.13 202 *e*PN P 21 40 36.6 0.0
RPZ Rata Peaks 23.38 203 P P 21 40 47.6 -1.2
42nm,0.5s,mb5.0,baz=295,slow=2.0,SNR=17
RPZ S S 21 44 55.3 +4.5
6.0nm,0.6s,baz=355,slow=18,SNR=4.8
RPZ LR LR 21 49 44.4
comp=Z,262nm,19.1s,baz=327,slow=35
FOZ Fox Glacier 23.77 206 *e*PN P 21 40 51.0 -1.5
FOZ Fox Glacier 23.77 206 *e*PN P 21 40 51.0 -1.5
LBZ Lake Benmore 24.27 204 *e*PN P 21 40 56.4 -1.0
LBZ Lake Benmore 24.27 204 *e*PN P 21 40 56.4 -1.0
JCZ Jackson Bay 24.57 206 *e*PN P 21 41 00.9 +0.6
JCZ Jackson Bay 24.57 206 *e*PN P 21 41 00.9 +0.6
ODZ Otahua Downs 24.67 202 *e*PN P 21 41 01.9 +0.6
ODZ Otahua Downs 24.67 202 *e*PN P 21 41 01.9 +0.6
TBI Tubuai 24.85 97 *e*LR LR 21 46 50.4
2µm,56.0s
MSZ Milford Sound 25.40 207 *e*PN P 21 41 08.7 +0.6
MSZ Milford Sound 25.40 207 *e*PN P 21 41 08.7 +0.6
PAE Paea 25.71 84 *e*P P 21 41 09.6 -1.7
84nm,1.1s,mb5.1
PPT Papeete 25.74 83 *e*P P 21 41 10.1 -1.4
90nm,1.5s,mb5.0
PPT Papeete 25.74 83 *e*LR LR 21 47 08.0
2µm,30.5s
PPT Papeete 25.74 83 *e*P P 21 41 09.7 -1.8
PPT Papeete 25.74 83 P P 21 41 09.7 -1.9
34nm,0.8s,mb4.8,baz=221,slow=11,SNR=3.3
TIAR Tiarei 25.95 84 *e*P P 21 41 12.1 -1.4
324nm,1.1s,mb5.7
TVO Taravao 25.98 84 *e*P P 21 41 12.1 -1.7
154nm,1.0s,mb5.4
HNR Honiara 26.16 296 *e*P P 21 41 19.5 +4.0
88nm,0.9s,mb5.2
CNB Canberra Magne 32.26 239 *e*P P 21 42 12.5 +2.8
140nm,0.9s,mb5.7
CTA Charters Tower 34.75 267⇑*i*P P 21 42 32.6 +1.4
48nm,0.4s,mb5.7
CTA Charters Tower 34.75 267 *e*P P 21 42 32.5 +1.3
CTA Charters Tower 34.75 267 P P 21 42 32.3 +1.1
91nm,0.7s,mb5.7,baz=95,slow=10,SNR=133
CTAO Charters Tower 34.75 267 *e*P P 21 42 32.5 +1.3
87nm,0.8s,mb5.6
PMG Port Moresby 37.25 285*c i*P P 21 42 53.4 +1.0
PMG Port Moresby 37.25 285 P P 21 42 52.8 +0.4
80nm,0.9s,mb5.7,baz=100,slow=6.7,SNR=18
PMG Port Moresby 37.25 285⇑*e*P P 21 42 53.3 +0.9
85nm,0.9s,mb5.7
TAOE Nuku Hiva Isla 37.44 74 *e*P P 21 42 52.0 -1.9
TAOE *e*LR LR 21 52 33.4
RKT Rikitea 38.13 99 *e*P P 21 42 58.6 -1.0
114nm,1.4s,mb5.5
RKT Rikitea 38.13 99 *e*LR LR 21 52 37.5
982nm,37.5s
STKA Stephens Creek 38.19 247 *e*P P 21 43 00.9 +0.9
16nm,0.7s,mb5.0
STKA *i* 21 45 14.2
STKA Stephens Creek 38.19 247 P P 21 43 00.8 +0.8
26nm,0.8s,mb5.1,baz=92,slow=9.4,SNR=23
STKA PcP PcP 21 45 13.9 +0.6
10nm,0.6s,baz=47,slow=6.1,SNR=6.0
ASAR Alice Springs 45.45 259 P P 21 43 59.7 +0.3
ASAR Alice Springs 45.45 259 P P 21 43 59.8 +0.3
44nm,0.8s,mb5.2,baz=96,slow=7.9,SNR=249
ASAR pP pP 21 44 24.0 +1.1
12nm,0.8s,baz=92,slow=6.9,SNR=2.6
ASAR PcP PcP 21 45 37.6 +0.3
16nm,0.7s,baz=104,slow=4.4,SNR=9.5
ASAR ScP 21 49 22.1
2.7nm,0.8s,baz=104,slow=4.8,SNR=6.5
ASAR S S 21 50 29.6 -2.9
2.1nm,0.7s,baz=97,slow=14,SNR=7.8
ASAR PKiKP 21 52 33.0
0.4nm,0.5s,baz=104,slow=1.6,SNR=6.0
ASPA Alice Springs 45.45 259⇑*i*P P 21 43 59.7 +0.3
ASPA *e*S S 21 50 29.7 -2.9
WRAB Tennant Creek 45.74 264⇓*e*P P 21 44 01.7 -0.1
WRAB Tennant Creek 45.74 264 *e*P P 21 44 01.3 -0.5
60nm,0.7s,mb5.4
WRAB *e*PcP PcP 21 45 38.2 -0.2
WRA Warramunga Arr 45.75 264 P P 21 44 01.4 -0.4
36nm,0.6s,mb5.3,baz=102,slow=8.4,SNR=270
WRA pP pP 21 44 26.3 +0.9
6.9nm,0.7s,baz=104,slow=7.8,SNR=3.0
WRA PcP PcP 21 45 38.7 +0.2
27nm,0.9s,baz=97,slow=3.7,SNR=13
WRA ScP 21 49 23.7
4.0nm,0.9s,baz=95,slow=4.2,SNR=5.9
WRA S S 21 50 32.8 -4.1
5.2nm,1.0s,baz=102,slow=14,SNR=9.8
WRA PKiKP 21 52 32.6
0.5nm,0.7s,baz=88,slow=0.7,SNR=6.6
KAKA Kakadu 49.47 272⇑*i*P P 21 44 30.2 -0.7
34nm,0.7s,mb5.4
FORT Forrest 49.78 248 *e*P P 21 44 32.2 -0.9
3µm,0.6s
FITZ Fitzroy Crossi 54.18 264 *e*P P 21 45 05.7 -0.4
35nm,0.6s,mb5.6
SBA Scott Base 55.80 184 *e*P P 21 45 20.4 +3.3
126nm,1.3s,mb5.8
VNDA Vanda 55.88 186 P P 21 45 19.4 +1.7
23nm,1.0s,mb5.2,baz=0.5,slow=7.1,SNR=37
VNDA LR LR 22 02 53.7
comp=Z,202nm,21.6s,baz=43,slow=29
VNDA Vanda 55.88 186 *e*P P 21 45 19.9 +2.2
74nm,1.4s,mb5.5
KLBR Kellerberrin 58.45 246 *e*P P 21 45 35.4 -1.0
516nm,0.8s
NWAO Narrogin (SRO) 58.69 244 P P 21 45 37.4 -0.7
8.9nm,0.5s,mb5.1,baz=121,slow=7.0,SNR=10
NWAO Narrogin (SRO) 58.69 244 *e*P P 21 45 38.4 +0.4
14nm,0.9s,mb5.0
MBWA Marble Bar 58.79 258 *e*P P 21 45 37.7 -1.2
25nm,0.7s,mb5.4
CASY Casey 62.62 206⇑*i*P P 21 46 05.3 +1.1
CBIJ Chichi jima 63.62 319 LR LR 22 12 59.0
comp=Z,113nm,18.3s,baz=144,slow=35
BUNI Buntu Taipa 63.91 277 *e*Pn P 21 46 12.8 -0.8
NINI Niniconang 64.14 276 *e*Pn P 21 46 13.4 -1.6
KKM Kota Kinabalu 71.70 285 *e*P P 21 47 01.5 -0.5
JOW Kunigami 72.66 310 LR LR 22 16 24.6
comp=Z,127nm,19.0s,baz=116,slow=34
MAJO Matsushiro 72.81 323 *e*P P 21 47 06.7 -1.4
7.1nm,0.7s,mb4.6
MAT Matsushiro 72.81 323 *e*P P 21 47 06.0 -2.2
7.5nm,0.8s,mb4.6
MAT Matsushiro 72.81 323 P P 21 47 06.2 -2.0
KSM Kuching 75.13 278 *e*P P 21 47 21.8 -0.3
FX1 Attu Island--F 75.79 354 P P 21 47 22.6 -2.3
50nm,0.7s,mb5.3,baz=137,slow=5.0,SNR=9.8
FX1 Attu Island--F 75.79 354 *e*P P 21 47 23.2 -1.7
ASAJ Asahikawa 76.32 331 P P 21 47 27.9 -0.3
25nm,1.0s,mb4.9,baz=222,slow=8.3,SNR=11
YSS Yuzh-Sakhalins 78.48 333*c i*P P 21 47 39.7 -0.4
YSS pmax pmax
comp=Z,36nm,1.2s,mb5.0
YSS Yuzh-Sakhalins 78.48 333 *e*P P 21 47 40.0 -0.1
comp=Z,33nm,1.1s,mb5.0
MWC Mount Wilson 79.27 46 *e*P P 21 47 44.2 -0.4
MAW Mawson 80.00 200 *e*P P 21 47 50.2 +2.3
comp=Z,52nm,0.6s,mb5.5
MAW Mawson 80.00 200 P P 21 47 50.0 +2.1
comp=Z,68nm,0.7s,mb5.6,baz=132,slow=6.8,SNR=40
CMB Columbia Colle 80.11 42 *e*P P 21 47 48.5 -0.6
comp=Z,50nm,1.4s,mb5.2
SSE Sheshan 80.18 310 *e*P P 21 47 48.9 -0.7
SSE AP pP 21 48 13.5 -2.0
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,113nm,5.5s
SSE LR LR
comp=N,547nm,13.8s
SSE LR LR
comp=E,482nm,13.7s
SSE LR LR
comp=Z,564nm,13.7s
SSE Sheshan 80.18 310 *e*P P 21 47 48.9 -0.7
comp=Z,30nm,0.7s,mb5.2
SSE pP pP 21 48 13.5 -2.0
SSE S S 21 57 46.0 +1.2
SSE sS 21 58 33.5
SSE SS SS 22 03 42.7 +43
SSE LR LR
comp=Z,560nm,13.7s
OHCM Honcut 80.28 40 *e*P P 21 47 49.5 -0.4
WDC Whiskeytown Da 80.46 39 *e*P P 21 47 50.7 -0.2
comp=Z,69nm,1.4s,mb5.3
OMM Old Mammoth Mi 80.72 43 *e*P P 21 47 52.8 +0.4
MTUM Tungsten Hills 80.83 43 *e*P P 21 47 53.4 +0.4
YBH Yreka Blue Hor 81.12 38 P P 21 47 54.3 0.0
comp=Z,27nm,0.7s,mb5.2,baz=147,slow=0.5,SNR=57
YBH Yreka Blue Hor 81.12 38 *e*P P 21 47 54.8 +0.4
comp=Z,31nm,0.8s,mb5.2
WCN Washoe City 81.29 41 *e*P P 21 47 55.6 +0.3
comp=Z,23nm,1.0s,mb5.0
LBCM Butte Creek Ri 81.32 39 P P 21 47 55.7 +0.3
LTIM Timbered Crate 81.45 39 P P 21 47 56.6 +0.5
USHA Ushuaia 81.53 146 P P 21 47 58.2 +2.0
comp=Z,16nm,0.9s,mb4.8,baz=271,slow=3.6,SNR=2.9
USHA LR LR 22 13 40.2
comp=Z,195nm,21.6s,baz=224,slow=28
HUMO Hull Mountain 81.56 37 *e*P P 21 47 57.0 +0.4
comp=Z,24nm,1.0s,mb5.0
NVAR Mina Array Bea 81.65 42 P P 21 47 57.2 0.0
comp=Z,14nm,1.0s,mb4.7,baz=213,slow=7.1,SNR=49
NVAR pP pP 21 48 22.3 -0.9
comp=Z,3.7nm,0.7s,baz=217,slow=7.7,SNR=2.5
NVAR PKKPbc 22 06 30.0
comp=Z,0.4nm,0.6s,baz=101,slow=2.0,SNR=3.9
NVAR LR LR 22 18 38.4
comp=Z,48nm,21.5s,baz=150,slow=32
LDFC Landfair 81.74 47 *e*P P 21 47 58.3 +0.6
MNV Mina 81.74 42 *e*P P 21 47 57.7 0.0
comp=Z,64nm,1.5s,mb5.2
TPH Tonopah 82.11 43 *e*P P 21 48 00.0 +0.4
comp=Z,11nm,0.6s,mb4.8
NJ2 Nanjing 82.36 309 *e*P P 21 48 02.0 +1.0
NJ2 XP sP 21 48 32.1 -5.9
NJ2 PP PP 21 51 15.1 +2.7
NJ2 AMB AMB
comp=Z,540nm,4.0s
NJ2 LR LR
comp=N,290nm,23.9s
NJ2 LR LR
comp=E,560nm,27.2s
NJ2 LR LR
comp=Z,370nm,24.5s
MOD Modoc 82.60 39 *e*P P 21 48 02.1 +0.1
comp=Z,34nm,1.0s,mb5.1
MDJ Mudanjiang 83.12 324 P P 21 48 04.7 +0.1
MDJ AP pP 21 48 31.3 +0.6
MDJ XP sP 21 48 41.5 0.0
MDJ PP PP 21 51 16.3 -1.9
MDJ AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
MDJ AMB AMB
comp=Z,123nm,5.3s
MDJ LR LR
comp=N,342nm,15.3s
MDJ LR LR
comp=E,275nm,13.0s
MDJ LR LR
comp=Z,350nm,14.3s
TUC Tucson 83.22 51 *e*P P 21 48 06.1 +0.8
comp=Z,41nm,1.2s,mb5.1
BMN Battle Mountai 83.53 41 *e*P P 21 48 07.0 +0.2
comp=Z,57nm,1.4s,mb5.2
WVOR Wild Horse Val 83.90 39 *e*P P 21 48 08.8 +0.3
comp=Z,42nm,1.0s,mb5.2
VIPM Ingram Point 84.08 37 P P 21 48 09.9 +0.5
OOW Octopus West 84.35 32 P P 21 48 12.1 +1.5
OCWA Octopus Mounta 84.36 32 *e*P P 21 48 11.8 +1.1
comp=Z,82nm,1.0s,mb5.5
ARUT Antelope Range 84.38 45 *e*P P 21 48 11.6 +0.5
WUAZ Wupatki 84.52 48 *e*P P 21 48 12.5 +0.7
comp=Z,696nm,1.4s
WUAZ *e*pP pP 21 48 38.8 +0.8
CN2 Changchun 84.89 322 *e*P P 21 48 13.5 0.0
CN2 *e*AP pP 21 48 38.1 -1.6
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
SYO Syowa Base 84.91 192 ⇓P P 21 48 14.8 +1.8
ELK Elko 84.93 42 P P 21 48 13.5 -0.2
comp=Z,13nm,0.9s,mb4.8,baz=244,slow=5.9,SNR=37
ELK pP pP 21 48 40.3 +0.4
comp=Z,8.5nm,1.1s,baz=227,slow=5.5,SNR=3.8
ELK Elko 84.93 42 *e*P P 21 48 13.8 0.0
comp=Z,22nm,1.0s,mb5.0
ELK *e*pP pP 21 48 40.9 +0.9
RSO Redoubt South 85.07 12 *e*P P 21 48 13.4 -0.5
SVW2 Sparrevohn 85.18 10 *e*P P 21 48 13.4 -1.1
PGC Sidney 85.33 32 *e*P P 21 48 15.5 0.0
comp=Z,17nm,0.5s,mb5.2
KULM Kulim 85.48 278 *e*P P 21 48 17.9 +0.8
MVU Marysvale 85.58 45 *e*P P 21 48 18.0 +1.0
comp=Z,19nm,1.1s,mb4.9
MVU *e*pP pP 21 48 46.2 +2.9
SLKM Skilak Lake 85.61 13 *e*P P 21 48 16.0 -0.5
MSU Marysvale 85.61 45 *e*P P 21 48 18.2 +1.0
MSU *e*pP pP 21 48 42.6 -0.8
BBB Bella Bella 85.66 27 P P 21 48 17.6 +0.6
comp=Z,33nm,0.9s,mb5.2,baz=229,slow=3.9,SNR=4.3
SNAA Sanae 85.79 178⇑*i*P P 21 48 18.6 +1.4
SNAA Sanae 85.79 178⇑*i* sP 21 48 50.2 -4.0
SNAA Sanae 85.79 178⇑*e*P P 21 48 18.3 +1.1
VNA3 Neumayer Olymp 85.87 176⇑*i*P P 21 48 20.4 +2.8
DUG Dugway 86.13 43 *e*P P 21 48 18.4 -1.3
comp=Z,89nm,1.2s,mb5.6
BMO Blue Mountains 86.15 38 *e*P P 21 48 19.1 -0.5
comp=Z,6.3nm,0.8s,mb4.6
MA2 Magadan 86.27 344*de*P P 21 48 19.6 -0.2
MA2 pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MA2 Magadan 86.27 344 *e*P P 21 48 18.3 -1.5
comp=Z,9.6nm,0.8s,mb4.8
VNA2 Neumayer--Watz 86.33 176⇑*i*P P 21 48 23.1 +3.2
VNA2 Neumayer--Watz 86.33 176⇑*i* sP 21 48 55.7 -1.1
WTV Waterville 86.48 34 P P 21 48 21.4 +0.3
VNA1 Neumayer--Stat 86.55 176⇑*i*P P 21 48 24.7 +3.7
TMUT Trail Mountain 86.67 45 *e*P P 21 48 23.4 +1.1
PLCA Paso Flores 86.74 133 P P 21 48 24.5 +1.9
comp=Z,16nm,0.8s,mb5.0,baz=237,slow=4.1,SNR=24
PLCA LR LR 22 17 15.9
comp=Z,92nm,19.2s,baz=204,slow=29
PMR Palmer 86.81 13 *e*P P 21 48 21.9 -0.5
MNTX Cornudas Mount 86.86 54 *e*P P 21 48 23.7 +0.3
comp=Z,49nm,1.1s,mb5.3
MNTX *e*pP pP 21 48 50.3 +0.5
SRU San Rafael 87.02 45 *e*P P 21 48 24.4 +0.4
SRU *e*pP pP 21 48 52.2 +1.8
LTX Lajitas 87.04 57 *e*P P 21 48 25.0 +0.7
comp=Z,62nm,1.2s,mb5.4
LTX *e*pP pP 21 48 51.6 +0.9
TXAR Lajitas Array 87.04 57 P P 21 48 24.7 +0.3
comp=Z,19nm,0.8s,mb5.0,baz=217,slow=6.3,SNR=128
TXAR pP pP 21 48 51.1 +0.4
comp=Z,6.0nm,0.9s,baz=207,slow=5.6,SNR=2.7
TXAR LR LR 22 18 19.0
comp=Z,87nm,20.3s,baz=295,slow=29
HLID Hailey 87.06 40 *e*P P 21 48 24.3 +0.3
comp=Z,5.7nm,0.8s,mb4.5
DIV Divide 87.13 14 *e*P P 21 48 24.0 0.0
comp=Z,226nm,1.3s,mb5.9
DIV *e*pP pP 21 48 50.0 -0.3
SML Sawmill 87.17 13 *e*P P 21 48 23.3 -0.9
DAU Daniels Canyon 87.25 44 *e*P P 21 48 25.9 +0.8
TCUT Toone Canyon 87.53 43 *e*P P 21 48 26.9 +0.5
PV10 Paradox Valley 87.62 47 *e*P P 21 48 27.1 +0.2
ANMO Albuquerque 87.67 51*c i*P P 21 48 28.0 +0.8
ANMO Albuquerque 87.67 51 P P 21 48 27.6 +0.4
comp=Z,32nm,1.3s,mb5.2,baz=229,slow=5.3,SNR=24
ANMO pP pP 21 48 53.8 +0.2
comp=Z,11nm,1.1s,baz=225,slow=5.6,SNR=4.0
ANMO Albuquerque 87.67 51 *e*P P 21 48 27.8 +0.5
comp=Z,42nm,1.4s,mb5.3
ANMO *e*pP pP 21 48 53.9 +0.3
PNT Penticton 87.68 33 P P 21 48 27.3 +0.4
HWUT Hardware Ranch 87.70 43 *e*P P 21 48 27.0 -0.2
comp=Z,3.4nm,0.6s,mb4.5
PV01 Paradox Valley 87.81 47 *e*P P 21 48 27.8 -0.1
TNA Tin City 88.21 4 *e*P P 21 48 28.8 -0.2
comp=Z,5.0nm,0.6s,mb4.7
NEW Newport 88.32 35 P P 21 48 29.4 -0.6
comp=Z,8.0nm,0.8s,mb4.8,baz=217,slow=6.3,SNR=5.7
MCK McKinley 88.80 12 *e*P P 21 48 31.2 -0.6
comp=Z,21nm,0.9s,mb5.2
SEY Seymchan 88.82 346 *e*P P 21 48 32.8 +0.8
SEY *e* 21 48 48.8
SEY pmax pmax
comp=N,40nm,0.8s
SEY pmax pmax
comp=E,20nm,0.8s
SEY pmax pmax
comp=Z,40nm,0.8s,mb5.5
GYA Guiyang 88.96 299 P P 21 48 34.3 +0.8
GYA AP pP 21 49 00.2 +0.2
GYA XP sP 21 49 10.7 +0.2
GYA PP PP 21 52 06.3 -0.1
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,90nm,3.8s
THY Trims Highway 89.16 13 *e*P P 21 48 33.6 +0.1
MSO Missoula 89.21 38 *e*P P 21 48 33.5 -0.7
comp=Z,13nm,1.3s,mb4.8
DLBC Dease Lake 89.51 22 P P 21 48 35.9 +0.6
comp=Z,28nm,1.3s,mb5.2,baz=221,slow=6.3,SNR=6.7
DLBC Dease Lake 89.51 22 *e*P P 21 48 36.1 +0.8
BW06 Boulder Array 89.58 43 *e*P P 21 48 35.7 -0.3
comp=Z,5.6nm,0.7s,mb4.8
PDAR Pinedale Array 89.58 43 P P 21 48 35.8 -0.3
comp=Z,5.2nm,0.9s,mb4.7,baz=207,slow=3.3,SNR=11
PDAR LR LR 22 19 05.3
comp=Z,109nm,21.7s,baz=163,slow=29
CHMT Chamberlain Mo 89.65 38 *e*P P 21 48 36.2 -0.1

CHMT ep P pP 21 49 02.9 +0.1
SDCO Great Sand Dun 89.71 49 eP **P** **21 48 36.9 +0.1**
comp=Z,5.2nm,0.7s,mb4.8
BOZ Bozeman (W) 89.88 39 eP **P** **21 48 37.4 0.0**
comp=Z,48nm,1.4s,mb5.4
COLA College 90.03 12 c iP **P** **21 48 37.0 -0.6**
COLA College 90.03 12 eP **P** **21 48 36.6 -1.0**
ILAR Eielson Array 90.13 12 P **P** **21 48 36.8 -1.3**
comp=Z,11nm,0.8s,mb5.0,baz=228,slow=5.8,SNR=79
ILAR pP pP 21 49 02.2 -2.4
comp=Z,3.1nm,0.9s,baz=226,slow=6.3,SNR=2.1
ILAR PKiKP 21 53 30.9
comp=Z,0.6nm,0.8s,baz=286,slow=3.1,SNR=4.6
ILAR PKKPbc 22 06 07.5
comp=Z,0.1nm,0.5s,baz=355,slow=1.5,SNR=5.1
ILAR LR LR 22 28 17.9
comp=Z,59nm,18.8s,baz=194,slow=35
IMA Indian Mountai 90.16 9 eP **P** **21 48 38.4 +0.2**
WALA Waterton Lakes 90.51 36 eP **P** **21 48 40.1 -0.1**
comp=Z,23nm,1.1s,mb5.2
WALA epP pP 21 49 08.0 +1.3
JCT Junction City 90.55 57 eP **P** **21 48 41.0 +0.1**
comp=Z,32nm,1.0s,mb5.4
XAN Xi'an 90.58 307 P **P** **21 48 41.8 +0.8**
XAN AMB AMB
comp=Z,17nm,1.0s,mb5.1
NANT Nan 90.78 290 P **P** **21 48 33.0 -9.2**
AMTX Amarillo 91.09 53 eP **P** **21 48 42.9 -0.5**
comp=Z,50nm,1.3s,mb5.5
AMTX epP pP 21 49 09.7 -0.2
DAWY Dawson 91.17 15 eP **P** **21 48 43.2 +0.2**
BILL Bilibino 91.35 354 c iP **P** **21 48 43.6 -0.1**
BILL pmax pmax
comp=Z,18nm,0.8s,mb5.2
BILL Bilibino 91.35 354 eP **P** **21 48 43.3 -0.5**
comp=Z,21nm,0.8s,mb5.3
KMI Kunming 91.60 296 P **P** **21 48 46.9 +1.0**
KMI AP pP 21 49 14.3 +1.8
KMI XP sP 21 49 25.2 +2.3
KMI AMB AMB
comp=Z,13nm,0.9s,mb5.2
KMI LR LR
comp=N,869nm,13.3s
KMI LR LR
comp=E,1μm,13.4s
KMI LR LR
comp=Z,864nm,13.6s
KMI Kunming 91.60 296 P **P** **21 48 46.9 +1.0**
comp=Z,13nm,0.9s,mb5.2
KMI pP pP 21 49 14.3 +1.8
KMI sP sP 21 49 25.2 +2.3
KMI PP PP 21 52 29.5 +2.0
KMI PPP PPP 21 54 31.4 +2.3
KMI SKS SKS 21 59 09.0 +1.5
KMI S S 21 59 36.3 +1.5
KMI sS 22 00 23.6
KMI PS PS 22 01 03.2 +1.2
KMI SS SS 22 05 49.6 +2.7
KMI SSS SSS 22 09 27.9 +2.4
KMI LR LR
comp=Z,860nm,13.6s
CM31 Chiang Mai Arr 92.18 289 eP **P** **21 48 49.7 +1.0**
comp=Z,20nm,1.0s,mb5.3
CMAR Chiang Mai Arr 92.18 289 i P **P** **21 48 50.4 +1.7**
CMAR pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 92.18 289 P **P** **21 48 50.0 +1.3**
comp=Z,11nm,0.8s,mb5.1,baz=131,slow=3.2,SNR=73
CMAR pP pP 21 49 13.3 -2.0
comp=Z,0.9nm,0.4s,baz=22,slow=4.4,SNR=1.5
CMAR PKKPbc 22 06 03.5
comp=Z,1.6nm,0.6s,baz=288,slow=4.7,SNR=13
EDM Edmonton 93.17 32 eP **P** **21 48 52.0 -0.5**
EDM epP pP 21 49 19.5 +0.5
WMOK Wichita Mounta 93.17 54 eP **P** **21 48 52.6 -0.3**
comp=Z,8.0nm,0.8s,mb5.1
HKT Hockley 93.44 59 eP **P** **21 48 53.8 -0.5**
comp=Z,28nm,1.4s,mb5.4
YAK Yakutsk 94.67 338⇓ eP **P** **21 48 58.4 -0.6**
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.7
YAK MLR MLR
comp=Z,100nm,13.0s
YAK Yakutsk 94.67 338 eP **P** **21 48 58.7 -0.3**
comp=Z,19nm,0.6s,mb5.7
LZH Lanzhou 95.22 307⇑ P **P** **21 49 03.7 +1.5**
LZH AP pP 21 49 30.5 +1.7
LZH XP sP 21 49 41.2 +2.0
LZH ePP PP 21 52 56.5 +1.3
LZH AMB AMB
comp=Z,27nm,1.4s,mb5.5
LZH AMB AMB
comp=Z,117nm,5.3s
LZH LR LR
comp=N,876nm,15.0s
LZH LR LR
comp=Z,1μm,18.1s
LZH Lanzhou 95.22 307⇑ P **P** **21 49 03.7 +1.5**
comp=Z,27nm,1.4s,mb5.5
LZH pP pP 21 49 30.5 +1.7
LZH sP sP 21 49 41.2 +2.0
LZH ePP PP 21 52 56.5 +1.3
LZH SKS SKS 21 59 29.0 +1.7
LZH eS S 22 00 07.7 +2.0
LZH sS 22 00 53.6
LZH eSS SS 22 06 40.3 +2.0
LZH LR LR
comp=Z,1μm,18.1s
JTS JuntasAbangare 95.28 81 P **P** **21 49 03.8 +0.8**
comp=Z,10nm,0.8s,mb5.3,baz=266,slow=16,SNR=3.0
JTS LR LR 22 22 26.8
comp=Z,93nm,21.1s,baz=86,slow=29
JTS JuntasAbangare 95.28 81 eP **P** **21 49 03.2 +0.2**
comp=Z,14nm,0.8s,mb5.5
INK Inuvik 96.01 15 eP **P** **21 49 04.3 -0.7**
comp=Z,14nm,1.3s,mb5.2
LVC Limon Verde 96.36 118 LR LR 22 24 56.9
comp=Z,80nm,19.9s,baz=25,slow=30
LVC Limon Verde 96.36 118 eP **P** **21 49 10.2 +2.5**
comp=Z,30nm,1.8s,mb5.4
YKA Yellowknife Ar 97.90 24 P **P** **21 49 13.0 -0.7**
comp=Z,4.0nm,0.7s,mb5.1,baz=238,slow=4.5,SNR=56
YKA pP pP 21 49 39.1 -1.2
comp=Z,1.2nm,1.1s,baz=92,slow=20,SNR=1.4
YKA PP PP 21 53 11.8 -4.2
comp=Z,0.3nm,0.8s,baz=236,slow=6.7,SNR=4.0
YKA PKiKP 21 53 46.0
comp=Z,0.2nm,0.4s,baz=240,slow=1.6,SNR=4.7
YKA PKKPbc 22 05 46.4
comp=Z,1.0nm,0.5s,baz=38,slow=2.4,SNR=17
YKA Yellowknife Ar 97.90 24 P **P** **21 49 13.0 -0.7**
YKA pP pP 21 49 39.1 -1.2
YKA PP PP 21 53 11.8 -4.2
ULN Ulaanbaatar 97.94 319 eP **P** **21 49 14.5 +0.3**
SONM Songino Array 98.33 318 P **P** **21 49 15.5 -0.5**
comp=Z,0.6nm,0.5s,mb4.3,baz=122,slow=3.3,SNR=7.2
SONM PP PP 21 53 13.6 -5.8
comp=Z,1.1nm,1.1s,baz=113,slow=8.1,SNR=3.6
SONM PKiKP 21 53 47.3
comp=Z,0.6nm,0.6s,baz=173,slow=2.2,SNR=4.6
SONM PKKPbc 22 05 45.7
comp=Z,1.0nm,0.7s,baz=262,slow=3.2,SNR=8.3
SONM tx tx 22 06 16.5
comp=Z,0.4nm,0.8s,baz=270,slow=2.5,SNR=5.4
GTA Gaotai 99.45 309 P **P** **21 49 26.5 +5.1**
GTA AMB AMB
comp=Z,2.0nm,1.1s,mb4.6
LPAZ La Paz 99.91 112 P **P** **21 49 26.5 +2.6**
comp=Z,4.0nm,0.9s,mb5.0,baz=219,slow=4.0,SNR=13
LPAZ PP PP 21 53 29.0 -3.1
comp=Z,0.5nm,0.5s,baz=265,slow=6.0,SNR=4.4
LPAZ PKKPbc 22 05 43.6
comp=Z,0.7nm,0.9s,baz=52,slow=1.1,SNR=3.7
LPAZ La Paz 99.91 112 ePdif **P** **21 49 26.5 +2.6**
comp=Z,5.0nm,1.0s,mb5.1
TIXI Tiksi 101.22 345 i P P 21 49 27.6 -0.9
TIXI pmax pmax
comp=Z,3.0nm,0.6s
ULM Lac du Bonnet 101.37 40 P P 21 49 28.1 -1.6
comp=Z,0.6nm,0.3s,baz=162,slow=1.0,SNR=3.3
RES Resolute Bay 109.49 16 ePKP 21 54 06.8
ZAL Zalesovo 113.09 321 ePKIKP PKPdf 21 54 13.7 -0.1
ZAL Zalesovo 113.09 321 PKiKP 21 54 13.7
comp=Z,3.0nm,0.6s,baz=336,slow=2.6,SNR=21
ZAL PKKPbc 22 05 01.6
comp=Z,0.4nm,0.3s,baz=243,slow=3.0,SNR=3.6

NVS Novosibirsk 114.10 321 ePKIKP PKPdf 21 54 14.3 -1.5
KURK Kurchatov 116.56 317 ePKPdf PKPdf 21 54 20.8 +0.1
KSH Kashi 117.30 304 ePKP PKPdf 21 54 25.4 +3.1
KSH LR LR
comp=N,250nm,5.0s
KSH LR LR
comp=E,260nm,5.4s
ULHL Ulahol 117.43 307 P PKPdf 21 54 24.2 +1.7
SNR=8.4
TKM2 Tokmak 2 117.98 308 P PKPdf 21 54 24.7 +1.1
SNR=9.4
FRB Frobisher Bay 118.03 29 PKP PKPdf 21 54 22.5 -0.6
comp=E,4.5nm,1.0s,baz=161,slow=4.2,SNR=5.6
FRB Frobisher Bay 118.03 29 PKP PKPdf 21 54 22.5 -0.6
KZA Kyzart 118.15 307 P PKPdf 21 54 26.1 +2.2
SNR=8.6
KBK Karagaybulak 118.43 307 P PKPdf 21 54 25.7 +1.2
SNR=6.8
CHMS Chumysh 118.60 308 P PKPdf 21 54 25.6 +0.8
SNR=7.6
UCH Uchtor 118.71 307 P PKPdf 21 54 27.1 +2.1
SNR=11
AAK Ala-Archa 118.76 307 P PKPdf 21 54 26.7 +1.5
SNR=5.5
AAK Ala-Archa 118.76 307⇓ i PKIKP PKPdf 21 54 24.6 -0.5
AAK Ala-Archa 118.76 307 ePKPdf PKPdf 21 54 24.9 -0.3
USP Ospenovka 118.81 308 P PKPdf 21 54 26.2 +1.0
SNR=15
AML Almayashu 119.31 307 P PKPdf 21 54 28.0 +1.8
SNR=15
SCHQ Schefferville 119.49 39 PKP PKPdf 21 54 25.8 -0.4
comp=E,2.4nm,0.8s,baz=300,slow=3.8,SNR=4.6
SCHQ PKKPbc 22 04 39.9
comp=E,1.8nm,0.7s,baz=358,slow=10,SNR=5.2
CHKZ Chkalovo 121.48 320 ePKPdf PKPdf 21 54 30.1 0.0
SUR Sutherland 122.81 197 ePKPdf PKPdf 21 54 35.7 +2.5
DAG Danmarks Havn 124.76 6⇑ i PKIKP PKPdf 21 54 36.0 +0.1
DAG pmax pmax
comp=Z,5.0nm,0.5s
DAG Danmarks Havn 124.76 6⇑ i P PKPdf 21 54 36.0 +0.1
comp=Z,4.9nm,0.5s
BOSA Boshof 124.86 203 ePKPdf PKPdf 21 54 39.8 +2.5
SUMG Summit 124.92 14 ePKPdf PKPdf 21 54 38.0 +1.7
SOKR Solikamsk 127.69 329⇑ i PKIKP PKPdf 21 54 41.1 -0.8
SOKR pmax pmax
comp=Z,20nm,1.0s
LBTB Lobatse 127.97 206 PKP PKPdf 21 54 45.7 +2.2
comp=Z,3.6nm,0.6s,baz=212,slow=1.7,SNR=12
LBTB Lobatse 127.97 206 ePKPdf PKPdf 21 54 45.6 +2.2
MATP Matopo 130.71 211 PKP PKPdf 21 54 50.8 +2.0
comp=Z,9.9nm,0.7s,baz=173,slow=1.8,SNR=31
MATP PP PP 21 57 13.3 +3.6
comp=Z,4.4nm,1.1s,baz=70,slow=4.0,SNR=3.0
MATP SKPbc 21 58 05.7
comp=Z,13nm,1.0s,baz=169,slow=5.3,SNR=6.6
MATP PKKP PKKP 22 04 43.6 +7.5
comp=Z,3.5nm,1.2s,baz=68,slow=2.3,SNR=3.7
MATP Matopo 130.71 211 PKP PKPdf 21 54 50.8 +2.0
MATP PP PP 21 57 13.3 +3.6
MATP SKPbc 21 58 05.7
MATP PKKP PKKP 22 04 43.6 +7.5
KEV Kevo 130.87 349 epkp PKPdf 21 54 47.8 0.0
ARCES ARCESS Array B 131.32 350 PKhKP 21 54 37.5
comp=Z,3.5nm,1.0s,slow=3.6,SNR=6.4
ARCES PKP PKPdf 21 54 49.3 +0.7
comp=Z,21nm,0.6s,baz=11,slow=1.4,SNR=75
ARCES SKPbc 21 58 04.2
comp=Z,5.6nm,0.9s,baz=12,slow=11,SNR=4.8
ARE0 ARCESS Array S 131.32 350 ePKPdf PKPdf 21 54 49.2 +0.6
APA Apatity 131.41 345⇓ i PKIKP PKPdf 21 54 49.7 +0.9
APA pmax pmax
comp=Z,43nm,1.3s
LSZ Lusaka 135.21 215 ePKPdf PKPdf 21 54 58.9 +1.7
JOF Joensuu 135.64 342 epkp PKPdf 21 54 56.9 +0.1
KAF Kangasniemi 137.63 344 epkp PKPdf 21 54 55.8 -4.7
FINES FINESS Array B 138.26 344 PKhKP 21 54 52.0
comp=Z,1.9nm,0.6s,baz=69,slow=3.6,SNR=15
FINES PKP PKPdf 21 55 04.0 +2.3
comp=Z,20nm,0.8s,baz=70,slow=4.0,SNR=38
FINES SKPbc 21 58 28.6
comp=Z,3.3nm,0.8s,baz=90,slow=3.8,SNR=6.1
FINES FINESS Array B 138.26 344 PKP PKPdf 21 54 52.0 -10
FINES PKP PKPdf 21 55 04.0 +2.3
FINES SKPbc 21 58 28.6
OBN Obninsk 139.35 331 ePKHKP 21 54 56.5
OBN e 21 55 04.4
OBN i 21 58 09.6
OBN pmax pmax
comp=Z,6.0nm,0.7s
KMBO Kilima Mbogo 139.51 239 PKhKP 21 54 59.8
comp=Z,2.8nm,0.7s,baz=68,slow=4.9,SNR=9.5
KMBO PKP PKPdf 21 55 08.0 +2.8
comp=Z,4.4nm,0.7s,baz=50,slow=3.1,SNR=11
KMBO Kilima Mbogo 139.51 239 ePKPpre 21 54 59.3
KMBO ePKPdf PKPdf 21 55 07.2 +2.0
KMBO PKP PKPdf 21 55 08.0 +2.8
VSU Vasula 140.57 341 i PKHKP 21 55 00.3
GOF Gofitskoye 140.86 314 ePKIKP PKPdf 21 55 09.0 +2.2
GNI Garni 141.16 306 PKP PKPdf 21 55 09.3 +1.8
comp=Z,7.8nm,0.8s,baz=152,slow=2.3,SNR=5.6
GNI Garni 141.16 306 ePKPdf PKPdf 21 55 09.2 +1.7
NB2 NORSAR Subarra 141.30 354 PKPabc PKPdf 21 55 02.0 -5.1
comp=Z,2.3nm,0.6s,baz=10.0,slow=3.1
NOA NORSAR Array B 141.30 354 PKhKP 21 55 01.8
comp=Z,4.0nm,0.6s,baz=16,slow=4.7,SNR=19
NOA PKP PKPdf 21 55 08.6 +1.6
comp=Z,2.0nm,0.5s,baz=33,slow=2.1,SNR=10
NOA SKPbc 21 58 37.8
comp=Z,0.6nm,0.8s,baz=360,slow=3.6,SNR=3.0
KIV Kislovodsk 141.49 313⇓ i PKIKP PKPdf 21 55 10.5 +2.6
SOC Sochi 143.62 314 i PKIKP PKPdf 21 55 14.8 +3.2
SOC e 21 58 21.2
SOC ePPP PPP 22 01 35.3 -6.0
SOC eSS SS 22 17 02.5 +2.0
SOC eSSS SSS 22 22 25.5 +0.7
SOC pmax pmax
comp=N,39nm,1.2s
SOC pmax pmax
comp=Z,41nm,1.2s
SOC pmax pmax
comp=E,20nm,1.0s
ERZM Erzurum 143.72 307 i P PKPbc 21 55 12.1 +1.3
BEST Besiri 144.33 304 i P PKPbc 21 55 13.5 +0.9
ANN Anapa 144.59 317⇓ i PKIKP PKPdf 21 55 12.6 -0.6
ANN pmax pmax
comp=Z,108nm,0.8s
MBAR Mbarara 144.82 233 ePKPdf PKPdf 21 55 16.0 +1.4
SUW Suwalki 145.38 340 ePKP PKPdf 21 55 15.6 +1.3
SUW Suwalki 145.38 340 eP PKPdf 21 55 15.7 +1.3
AKASG Malin Array Be 145.61 331 ePKP2 PKPab 21 55 15.8 -2.0
AKASG Malin Array Be 145.61 331 PKPbc PKPbc 21 55 15.8 +0.3
comp=Z,43nm,0.5s,baz=41,slow=4.3,SNR=218
AKASG pPKPbc 21 55 40.6
comp=Z,17nm,0.8s,baz=37,slow=4.3,SNR=1.6
AKASG SKP 21 58 39.7
comp=Z,0.9nm,0.6s,baz=84,slow=4.3,SNR=4.7
ELZG Elazig 145.90 306 i P PKPdf 21 55 19.7 +4.0
MUD Monsted U'grnd 146.02 354⇑ i PKP2 PKPab 21 55 17.6 -1.6
MUD pmax pmax
comp=Z,49nm,0.6s
MUD Monsted U'grnd 146.02 354⇑ i P PKPdf 21 55 17.6 +2.3
comp=Z,49nm,0.6s
MUD i 21 55 45.8
MALT Malatya 146.37 306 ePKPbc PKPbc 21 55 20.1 +2.3
COP Copenhagen 146.39 351 i PKP2 PKPab 21 55 18.8 -1.8
COP pmax pmax
comp=Z,37nm,0.6s
COP Copenhagen 146.39 351 i P PKPdf 21 55 18.8 +2.8
comp=Z,37nm,0.6s
BSD Bornholm Skovb 146.52 348⇑ i PKP2 PKPab 21 55 18.8 -2.4
BSD pmax pmax
comp=Z,62nm,0.6s
BSD Bornholm Skovb 146.52 348⇑ i P PKPdf 21 55 18.8 +2.6
comp=Z,62nm,0.6s
SIM Simferopol' 146.57 319 ePKP2 PKPab 21 55 20.9 -0.8
SIM pmax pmax
comp=Z,107nm,0.8s
SVST Sivas 146.98 309 i P PKPdf 21 55 22.6 +5.1
EKA Eskdalemuir Ar 147.02 7 PKPbc PKPdf 21 55 20.4 +3.3
comp=Z,25nm,0.7s,baz=335,slow=3.2,SNR=40
BWH Wardlaw 147.11 8⇑ eP PKPdf 21 55 20.2 +3.0
BBH Bruntsheil 147.24 7⇑ eP PKPdf 21 55 20.4 +3.0
BHH Howats Hill 147.25 7⇑ eP PKPdf 21 55 20.7 +3.3
GZT Gaziantep 147.31 304 i P PKPdf 21 55 22.6 +4.5
BTA Talkin 147.49 7⇑ eP PKPdf 21 55 21.7 +3.9

BDL Dobcross Hall 147.56 7⇑ eP PKPdf 21 55 22.0 +4.0
WAR Warsaw 147.57 340 ePKP PKPdf 21 55 25.4 +7.4
WAR Warsaw 147.57 340 eP PKPdf 21 55 25.4 +7.3
BBO1 Bothel 147.59 7⇑ eP PKPdf 21 55 21.1 +3.1
GKP Gorka Klasztor 147.73 345 ePKIKP PKPdf 21 55 21.0 +2.8
GKP e 21 55 23.3
GKP e 21 55 26.0
GKP Gorka Klasztor 147.73 345 ePKP PKPdf 21 55 20.8 +2.6
GKP e 21 55 23.3
GKP e 21 55 25.9
GKP Gorka Klasztor 147.73 345 ePKP PKPdf 21 55 20.8 +2.6
GKP e 21 55 23.3
GKP e 21 55 26.0
GKP Gorka Klasztor 147.73 345 eP PKPdf 21 55 21.0 +2.7
GKP e 21 55 25.9
KAHT Ahir Dag 147.75 305 i P PKPdf 21 55 23.9 +5.1
BOYT Boyabat 147.76 313 i P PKPdf 21 55 23.8 +5.2
DMUB Kingscourt 147.85 12 eP PKPdf 21 55 22.8 +4.4
CTKT Corum 148.17 312 i P PKPdf 21 55 24.6 +5.2
DCN Croghan 148.30 12 eP PKPdf 21 55 24.0 +4.8
KIS Kishinev 148.34 326 ePKIKP PKPdf 21 55 23.0 +3.6
BSEG Bad Segeberg 148.38 352 ePKP2 PKPab 21 55 24.8 -3.7
LVV L'vov 148.49 334 ePKIKP PKPdf 21 55 23.4 +3.8
DLF Lyons Farm 148.49 12 eP PKPdf 21 55 24.4 +4.9
COBT Iskenderun 148.55 303 i P PKPdf 21 55 25.9 +5.8
BALT Daday 148.73 314 i P PKPdf 21 55 26.2 +5.9
AVNT Avonos 148.85 308 i P PKPdf 21 55 21.8 +1.2
ASF Jabal al Asfar 149.02 295 PKP PKPdf 21 55 23.1 +2.1
comp=Z,6.8nm,1.1s,baz=80,slow=0.2,SNR=3.6
ASF PKPbc PKPdf 21 55 28.1 +7.1
comp=Z,26nm,0.8s,baz=296,slow=1.0,SNR=3.6
ASF PKPab PKPab 21 55 31.6 -0.2
comp=Z,11nm,0.8s,baz=301,slow=2.3,SNR=8.8
KWP Kalwaria 149.16 335 ePKP PKPdf 21 55 26.8 +6.1
KWP e 21 55 31.6
KWP e 21 55 31.8
KWP Kalwaria 149.16 335 ePKP PKPdf 21 55 26.8 +6.2
KWP e 21 55 31.6
KWP Kalwaria 149.16 335 eP PKPdf 21 55 26.9 +6.2
KWP e 21 55 31.8
ELDT Eldivan 149.17 312 i P PKPdf 21 55 27.4 +6.4
RUE Ruedersdorf 149.23 348 ePKPbc PKPdf 21 55 26.8 +6.1
SBD1 Bryn Du 149.39 8⇑ eP PKPdf 21 55 26.4 +5.5
SBD1 AMb AMB 21 55 28.9
comp=Z,85nm,1.5s
OJC Ojcow 149.70 339 ePKP PKPdf 21 55 28.0 +6.5
BHL Bhannes 149.71 299 eP PKPdf 21 55 29.1 +7.1
HLM1 Long Mynd 149.81 8⇑ eP PKPdf 21 55 27.6 +6.0
HLM1 AMb AMB 21 55 29.6
comp=Z,105nm,1.8s
WIT Witteveen 149.83 356 ePKP PKPdf 21 55 29.2 +7.6
SSP1 Stoney Pound 149.88 8 eP PKPdf 21 55 27.8 +6.1
SSP1 AMb AMB 21 55 29.2
comp=Z,130nm,1.5s
CFR Carcaliu 149.88 324 PKP2 PKPab 21 55 29.1 -5.9
KOLS Kolonicke sedl 149.89 335 ePKHKP 21 55 24.3
KOLS e 21 55 33.1
KOLS Kolonicke sedl 149.89 335 ePKP PKPdf 21 55 24.3 +2.5
KOLS e 21 55 28.8
KOLS e 21 55 33.1
SGKT Sivrigoynuk 150.06 313 i P PKPdf 21 55 28.9 +6.5
MEST Erdemli 150.15 305 i P PKPdf 21 55 29.5 +6.8
VRI Vrincioaia 150.17 326 PKHKP 21 55 29.1
KSP Ksiaz 150.19 344 ePKP2 PKPab 21 55 29.4 -6.7
KSP Ksiaz 150.19 344 ePKPdf PKPdf 21 55 24.4 +2.2
KSP ePKP PKPdf 21 55 29.4 +7.2
KSP e 21 57 32.9
KSP Ksiaz 150.19 344 ePKP PKPdf 21 55 24.2 +2.0
KSP e 21 55 29.6
KSP e 21 55 35.6
KSP Ksiaz 150.19 344 eP PKPdf 21 55 24.7 +2.5
KSP e 21 55 29.9
KSP e 21 56 00.0
HTR Trewern Hill 150.19 8⇑ eP PKPdf 21 55 28.3 +6.1
NIE Niedzica 150.21 338 ePKP PKPdf 21 55 28.3 +6.0
CRVS Cervenica-Dubn 150.22 336 ePKP PKPdf 21 55 29.9 +7.5
CRVS e 21 55 36.2
HARR Harsova 150.31 324 PKIKP PKPdf 21 55 30.3 +7.7
MCH1 Michaelchurch 150.31 8⇑ eP PKPdf 21 55 28.7 +6.3
MCH1 AMb AMB 21 55 29.4
comp=Z,70nm,0.8s
HAE Alders End 150.33 8⇑ eP PKPdf 21 55 28.9 +6.4
HAE AMb AMB 21 55 31.7
comp=Z,146nm,2.1s
RAC Raciborz 150.33 341 ePKPdf PKPdf 21 55 28.9 +6.4
CLZ Clausthal 150.42 351 ePKPdf PKPdf 21 55 24.5 +1.9
CLZ ePKPbc PKPdf 21 55 30.1 +7.5
CLZ ePKPab PKPab 21 55 36.4 -0.6
CLL Collm 150.50 348 ePKP PKPdf 21 55 24.0 +1.3
CLL i PKP PKPdf 21 55 29.9 +7.2
CLL epPKP 21 55 57.0
CLL Collm 150.50 348 ePKIKP PKPdf 21 55 24.0 +1.3
CLL i PKP1 PKPdf 21 55 29.9 +7.2
CLL i PKP2 PKPab 21 55 36.3 -1.1
CLL e*PPKP 21 55 57.0
OKC Ostrava-Krasne 150.56 341 ePKPDF PKPdf 21 55 25.4 +2.6
OKC ⇑ i PKPB 21 55 30.1
OKC ePKPAB PKPab 21 55 36.6 -1.1
UPC Upice 150.56 344 ePKPDF PKPdf 21 55 25.2 +2.4
UPC ⇑ i PKPB 21 55 30.4
UPC ePKPAB PKPab 21 55 36.9 -0.8
DPC Dobruska-Polom 150.63 343 i PKIKP PKPdf 21 55 30.8 +7.9
DPC e 21 55 38.0
DPC Dobruska-Polom 150.63 343⇑ i PKPB 21 55 30.8
DPC ePKPAB PKPab 21 55 38.0 +0.1
WTSB Winterswijk 150.66 356 i PKP PKPdf 21 55 30.1 +7.2
HGH Gray Hill 150.69 8⇑ eP PKPdf 21 55 29.1 +6.2
HGH AMb AMB 21 55 30.4
comp=Z,96nm,1.1s
HENT Hendek 150.71 315 i P PKPdf 21 55 30.2 +6.8
BRG Berggiesshubel 150.72 346 ePKIKP PKPdf 21 55 25.0 +2.0
BRG i 21 55 30.8
BRG i 21 55 37.4
BRG pmax pmax
comp=Z,80nm,0.9s
MORC Moravsky Berou 150.80 341 ePKPdf PKPdf 21 55 24.8 +1.6
MORC ePKPbc PKPdf 21 55 30.6 +7.4
MORC ePKPab PKPab 21 55 37.5 -1.1
MLR Muntele Rosu 150.83 327 PKIKP PKPdf 21 55 31.0 +7.6
PVCC Panska Ves 150.90 345 i PKIKP PKPdf 21 55 31.3 +8.0
PVCC Panska Ves 150.90 345⇑ i PKPB 21 55 31.3
KECS Kecovo 150.94 336 ePKP PKPdf 21 55 31.5 +8.1
KECS e 21 55 38.8
LIKS Likavka 150.94 339 ePKP PKPdf 21 55 32.5 +9.1
EIL Elat 151.02 291 PKPbc PKPdf 21 55 32.0 +7.8
comp=Z,36nm,0.9s,baz=42,slow=3.0,SNR=28
EIL Elat 151.02 291 ePKPbc PKPdf 21 55 31.8 +7.7
CSS Prodhromos 151.28 302 ePKPbc PKPdf 21 55 32.0 +7.6
CSS ePKPab PKPab 21 55 40.2 -1.0
ESKT Eskisehir 151.37 312 i P PKPdf 21 55 31.7 +7.3
MOX Moxa 151.39 349 ePKIKP PKPdf 21 55 26.3 +2.3
MOX e 21 55 32.0
MOX pmax pmax
comp=Z,83nm,1.3s
MOX Moxa 151.39 349 i P PKPdf 21 55 26.3 +2.3
MOX PP2 21 55 32.0
PRU Pruhonice 151.41 345 ePKPDF PKPdf 21 55 25.8 +1.7
PRU ⇑ i PKPB 21 55 32.1
PRU ePKPAB PKPab 21 55 40.5 -0.7
VYHS Vyhne 151.51 338 i PKP PKPdf 21 55 32.5 +8.2
VYHS e 21 55 41.4
VYHS e 21 55 58.4
PSZ Piszkesteto 151.62 337 ePKPbc PKPdf 21 55 32.7 +8.2
PSZ ePKPab PKPab 21 55 41.8 -0.4
PSZ Piszkesteto 151.62 337⇑ i PKP/F 21 55 32.6
NKC Novy Kostel 151.63 348 i PKIKP PKPdf 21 55 32.8 +8.4
NKC e 21 55 41.0
NKC Novy Kostel 151.63 348⇑ i PKPB 21 55 32.8
NKC ePKPAB PKPab 21 55 41.0 -1.1
HGN Heimansgroeve 151.91 357 i PKP PKPdf 21 55 32.8 +7.9
comp=Z,47nm,0.8s
SMOL Smolenice 151.95 340 ePKP PKPdf 21 55 34.3 +9.3
SMOL e 21 55 43.6
MENF Mencas 152.16 2 eP PKPdf 21 55 33.3 +8.1
ULDT Uludag 152.22 315 i P PKPdf 21 55 34.1 +8.5
TNS Taunus Mts 152.25 353 ePKIKP PKPdf 21 55 34.1 +8.8
TNS e 21 55 43.9
SRO Srobarova 152.28 338 ePKP PKPdf 21 55 34.4 +8.9
SRO e 21 55 44.9
SRO2 Moca 152.29 338 ePKP PKPdf 21 55 33.9 +8.4
ZST Bratislava 152.34 340 ePKP PKPdf 21 55 34.7 +9.2

ZST e 21 55 45.2
GRA1 Grafenberg Arr 152.38 349 ePKPdf PKPdf 21 55 27.3 +1.8
GRA1 ePKPbc PKPdf 21 55 34.6 +9.1
GRA1 ePKPab PKPab 21 55 44.9 -0.4
GRF Grafenberg Arr 152.38 349 ePKP PKPdf 21 55 27.3 +1.8
GRF ePKP PKPdf 21 55 34.6 +9.1
GRF ePKP PKPdf 21 55 44.9 +19
KHC Kasperske Hory 152.44 346c iPKIKP PKPdf 21 55 34.5 +8.9
KHC Kasperske Hory 152.44 346 ePKPDF PKPdf 21 55 27.5 +1.9
KHC ⇑iPKPB 21 55 34.5
KHC ePKPAB PKPab 21 55 45.0 -0.6
WET Wettzell 152.58 347 ePKIKP PKPdf 21 55 27.7 +1.9
WET e 21 55 34.7
WET e 21 55 45.7
GIVF Givet 152.62 358 ePKIKP PKPdf 21 55 27.6 +1.7
ABH Alteburg 152.68 354 eP PKPdf 21 55 35.1 +9.2
GEC2 GERESS Array S 152.68 345 ePKIKP PKPdf 21 55 27.6 +1.6
GEC2 e 21 55 34.8
GEC2 e 21 55 45.9
GERES GERESS Array B 152.68 345 PKP PKPdf 21 55 27.1 +1.1
comp=Z,3.4nm,0.9s,baz=45,slow=1.9,SNR=23
GERES PKPbc PKPdf 21 55 34.2 +8.2
comp=Z,11nm,0.6s,baz=23,slow=1.8,SNR=81
GERES PKPab PKPab 21 55 45.0 -1.6
comp=Z,6.9nm,0.7s,baz=26,slow=5.5,SNR=14
BAIF Baives 152.68 359 ePKIKP PKPdf 21 55 27.7 +1.8
comp=Z,50nm,1.4s
BZS Buzias 152.79 332 ⇓P PKPdf 21 55 28.0 +1.7
TOD Tromm 152.81 352 eP PKPdf 21 55 35.1 +9.0
RUP Ruppelstein 152.90 355 eP PKPdf 21 55 35.8 +10
WLF Walferdange 153.00 356 ePKPbc PKPdf 21 55 36.0 +10
WLF ePKPab PKPab 21 55 47.6 -0.3
BTOK Tokmak 153.14 315 i P PKPdf 21 55 35.7 +8.8
MOA Molln 153.46 344⇑iP PKPdf 21 55 28.1 +1.0
MOA i 21 55 36.5
MOA i 21 55 49.7
DNZL Cakiroluk 153.47 310 i P PKPdf 21 55 37.3 +10
LANF Langenberg 153.54 354 eP PKPdf 21 55 37.0 +10
STU Stuttgart 153.58 352 ePKPdf PKPdf 21 55 29.2 +2.0
STU ePKPbc PKPdf 21 55 36.6 +9.4
STU ePKPab PKPab 21 55 49.4 -1.0
ARSA Arzberg 153.66 341⇑iP PKPdf 21 55 28.2 +0.9
ARSA i 21 55 37.0
ARSA i 21 55 47.9
FUR Furstenfeldbru 153.83 348 ePKIKP PKPdf 21 55 28.9 +1.4
FUR e 21 55 37.5
FUR e 21 55 50.6
BFO Black Forest 154.13 353 ePKPbc PKPdf 21 55 38.1 +10
BFO ePKPab PKPab 21 55 51.6 -1.1
WLS Welschbruch 154.15 354 eP PKPdf 21 55 37.9 +10
KDAG Bornova 154.35 313 i P PKPdf 21 55 37.3 +8.8
KBA Koelnbreinsper 154.41 344⇑iP PKPdf 21 55 30.1 +1.7
KBA i 21 55 38.2
KBA i 21 55 53.7
THEF They Montfort 154.44 356 eP PKPdf 21 55 38.7 +10
GRUS Gruza 154.54 330⇓iPKP PKPdf 21 55 30.4 +1.8
WATA Walderalm 154.57 347⇑iP PKPdf 21 55 29.9 +1.3
WATA i 21 55 38.7
WATA i 21 55 53.8
FELD Feldberg 154.61 353 eP PKPdf 21 55 29.9 +1.3
MOTA Moosalm 154.66 348⇑iP PKPdf 21 55 29.9 +1.2
MOTA i 21 55 39.0
MOTA i 21 55 54.1
SQTA Sankt Quirin 154.75 348⇓iP PKPdf 21 55 30.0 +1.2
SQTA i 21 55 39.6
SQTA i 21 55 55.0
DAVA Damuels 154.93 350⇑iP PKPdf 21 55 30.8 +1.7
DAVA i 21 55 40.9
DAVA i 21 55 55.4
LJU Ljubljana 155.04 342 i PKPdf PKPdf 21 55 31.1 +1.8
LJU i PKPbc PKPdf 21 55 40.1 +11
LJU i PKPab PKPab 21 55 55.4 -1.2
VOY Vojsko 155.24 343 e PKPdf 21 55 35.2 +5.7
VOY ePKPbc PKPdf 21 55 39.7 +10
VOY ePKPab PKPab 21 55 55.7 -1.8
LOMF Lomont 155.25 355 eP PKPdf 21 55 35.7 +6.2
BOJS Bojanci 155.31 340 i PKPdf PKPdf 21 55 31.8 +2.2
BOJS i PKPab PKPab 21 55 57.0 -0.8
BOJS epPKPbc 21 56 10.0
HYF Humbligny 155.46 1 ePKIKP PKPdf 21 55 32.0 +2.2
SSF Saint Saulge 155.68 0 ePKIKP PKPdf 21 55 32.0 +1.9
comp=Z,19nm,1.0s
AVF Avril sur Loir 155.95 0 ePKIKP PKPdf 21 55 32.0 +1.6
CABF La Chapelle 156.04 356 ePKIKP PKPdf 21 55 33.0 +2.4
comp=Z,23nm,0.9s
SMF Signal de Mont 156.10 359 ePKIKP PKPdf 21 55 32.4 +1.8
comp=Z,33nm,1.4s
BGF Bois d'Agland 156.18 1 ePKIKP PKPdf 21 55 32.8 +2.1
TCF Toulx Ste Croi 156.43 2 ePKIKP PKPdf 21 55 32.9 +1.8
comp=Z,17nm,0.9s
VAI Varese 156.49 351 ePKP PKPdf 21 55 32.5 +1.4
ORX Oropa 156.82 352 P PKPab 21 56 02.2 -2.1
TRAV 156.97 352 P PKPab 21 56 03.4 -1.5
LPL La Plagne 157.08 354 ePKIKP PKPdf 21 55 34.3 +2.4
LPG La Plagne 157.09 354 ePKIKP PKPdf 21 55 34.5 +2.5
comp=Z,9.0nm,0.9s
LSD Ceresole Reale 157.09 353 P PKPab 21 56 04.7 -0.8
RJF Les Rejaudoux 157.38 4 ePKIKP PKPdf 21 55 34.2 +1.9
RSP Reno Superiore 157.38 353 P PKPab 21 56 05.8 -0.9
FENE Fenestrelle 157.53 353 P PKPab 21 56 05.5 -1.9
BNI Bardonecchia 157.54 354 ePKPdf PKPdf 21 55 34.4 +1.9
BNI ePKPab PKPab 21 56 06.5 -0.9
GRAM 157.60 348 P PKPab 21 56 05.3 -2.4
RRL Cesana Torines 157.66 354 P PKPab 21 56 07.5 -0.5
BHB Bricherasio 157.69 353 P PKPab 21 56 05.9 -2.2
VALM 157.70 347 P PKPab 21 56 06.9 -1.2
CODM 157.74 348 P PKPab 21 56 06.2 -2.0
ORIF Oris-en-Rattie 157.74 356 ePKIKP PKPdf 21 55 35.0 +2.2
comp=Z,14nm,0.8s
BACM 157.80 347 P PKPab 21 56 06.6 -2.0
PCP Pian Castagno 157.81 350 P PKPab 21 56 07.0 -1.6
SARO Sassorosso 157.82 347 P PKPab 21 56 07.0 -1.6
MBDF Montbardon 157.86 354 ePKIKP PKPdf 21 55 35.0 +2.0
comp=Z,17nm,0.9s
PZZ Prazzo 158.04 353 P PKPab 21 56 07.3 -2.3
ROB Roburent 158.15 352 P PKPab 21 56 07.3 -2.8
FIN Finale Ligure 158.19 351 P PKPab 21 56 07.1 -3.1
STV2 Anna di Valdie 158.27 353 P PKPab 21 56 07.6 -3.0
STV Sta Anna Valdi 158.27 353 P PKPab 21 56 07.4 -3.2
ENR Entracque 158.28 352 P PKPab 21 56 07.8 -2.8
MONE Monesi 158.38 352 P PKPab 21 56 08.8 -2.3
IMI Imperia 158.53 351 P PKPab 21 56 09.5 -2.2
NEGI Negi 158.62 352 P PKPab 21 56 09.3 -2.7
EVO Evora 161.37 29 ePKIKP PKPdf 21 55 37.7 +0.7
comp=Z,36nm,1.2s
ESDC Sonseca Array 161.91 19 PKP PKPdf 21 55 39.6 +2.1
comp=Z,2.5nm,0.8s,baz=339,slow=2.4,SNR=7.3
ESDC PKPab PKPab 21 56 25.5 -0.9
comp=Z,7.4nm,0.8s,baz=333,slow=4.4,SNR=15
DBIC Dimbokro 162.14 152 PKP PKPdf 21 55 40.1 +1.6
comp=Z,4.6nm,0.7s,baz=134,slow=6.6,SNR=6.2
DBIC PKPab PKPab 21 56 28.2 0.0
comp=Z,16nm,0.8s,baz=185,slow=4.4,SNR=16
DBIC PP PP 22 00 15.5 +2.7
comp=Z,3.1nm,1.0s,baz=175,slow=11,SNR=2.2
DBIC Dimbokro 162.14 152 ePKPdf PKPdf 21 55 40.0 +1.4

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*BJI **04** 21:45:48.9, 6.07S×101.44E, h49km, mB5.2, mb5.0, Ms5.0, Msz4.7*
*NEIC **04** 21:45:51.0±0.3, 5.61S×101.50E, mb5.1/29, Error ellipse: s-maj=10.4km s-min=5.9km az=51.0*
*IDC **04** 21:45:52.1±0.5, 5.04S×102.50E, mb4.7/18, mb1 4.7/18, mb1mx4.7/21, mbtmp4.7/18, MS4.2/3, Ms1 4.2/3, ms1mx3.4/18, Error ellipse: s-maj=24.9km s-min=13.8km az=52.0*
*MOS **04** 21:45:54.1±2.0, 5.13S×102.19E, h33km, mb5.1/14, Error ellipse: s-maj=13.4km s-min=8.0km az=106.0*
ISC 04 21:45:49.6±0.4**, 5.59S**±0.05×**101.57E**±0.06**, h27km, h27km**±.9km**:pP-P, n148, σ1§07**/133**, mb4.9**/65**, MS4.6**/16**, 12C-4D, Southwest of Sumatera**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PENI Pendagan 3.59 90⇑ePn Pn 21 46 44.9 0.0
4μm,0.6s
PULI Pulasari 4.45 100⇑ePn Pn 21 46 55.8 -1.4
679nm,1.1s
COCO West Island 8.05 215 Pn P 21 47 43.3 -4.5
1μm,1.1s,SNR=9.8
KSM Kuching 11.20 51 ePn P 21 48 30.8 -0.5
KKM Kota Kinabalu 18.64 52 eP P 21 50 08.4 +0.6
NST Nakhon Sawan 21.17 356 P P 21 50 35.0 -0.4
42nm,0.9s,mb4.8
KKTK Khon Kaen 21.82 3 P P 21 50 42.0 +0.1
1μm,0.8s
MBWA Marble Bar 23.44 133 eP P 21 50 58.6 +0.7
59nm,1.4s,mb4.8
CM31 Chiang Mai Arr 24.04 354 eP P 21 51 03.9 +0.2
181nm,1.1s,mb5.4
CMAR Chiang Mai Arr 24.04 354 eP P 21 51 04.2 +0.5
CMAR Chiang Mai Arr 24.04 354 P P 21 51 04.2 +0.5
35nm,0.9s,mb4.8,baz=185,slow=8.6,SNR=78
CMAR LR LR 22 02 35.4
comp=Z,594nm,18.1s,MS4.1,baz=185,slow=42
NANT Nan 24.25 358 P P 21 51 05.0 -0.8
CHRT Chiangrai 25.36 356 ⇑P P 21 51 16.5 +0.1
440nm,1.0s,mb5.9
QIZ Qiongzhong 25.79 18 eP P 21 51 21.3 +0.9
QIZ eS S 21 55 48.2 +2.6
QIZ LR LR
comp=N,1μm,12.6s,MS4.7
QIZ LR LR
comp=E,945nm,15.1s,MS4.7
FITZ Fitzroy Crossi 26.59 120⇓iP P 21 51 27.8 0.0
comp=E,28nm,0.9s,mb4.8
FITZ i pP 21 51 35.8 +0.1
KMI Kunming 30.55 2 P P 21 52 04.7 +1.3
KMI S S 21 57 05.8 +3.5
KMI SS SS 21 58 51.7 +8.0
KMI AMB AMB
comp=Z,28nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,195nm,5.5s
KMI LR LR
comp=N,532nm,14.8s,MS4.7
KMI LR LR
comp=E,1μm,15.4s,MS4.7
KMI LR LR
comp=Z,580nm,15.3s,MS4.3
KMI Kunming 30.55 2 P P 21 52 04.7 +1.3
comp=Z,28nm,1.2s,mb5.0
KMI pP pP 21 52 12.4 +1.1
KMI S S 21 57 05.8 +3.5
KMI SS SS 21 58 51.7 +8.0
KMI LR LR
comp=Z,580nm,15.3s,MS4.3
KAKA Kakadu 31.27 105 eP P 21 52 15.6 +5.8
comp=Z,17nm,0.9s,mb4.9
GYA Guiyang 32.24 9⇑iP P 21 52 18.4 +0.2
GYA AP pP 21 52 29.4 +3.3
GYA PP PP 21 53 25.9 +0.1
GYA S S 21 57 27.8 -0.9
GYA AMB AMB
comp=Z,30nm,1.1s,mb5.0
GYA AMB AMB
comp=Z,120nm,3.8s
GYA LR LR
comp=N,1μm,12.6s,MS4.9
GYA LR LR
comp=E,1μm,12.6s,MS4.9
GYA LR LR
comp=Z,1μm,12.3s,MS4.7
HYB Hyderabad 32.24 316 eP P 21 52 25.0 +6.7
HYB Hyderabad 32.24 316 i P P 21 52 25.0 +6.7
WRA Warramunga Arr 34.90 117 P P 21 52 40.7 -0.7
comp=Z,11nm,0.9s,mb4.8,baz=290,slow=10,SNR=27
WRAB Tennant Creek 34.91 117c iP P 21 52 41.1 -0.3
WRAB Tennant Creek 34.91 117 eP P 21 52 40.5 -0.9
comp=Z,50nm,0.9s,mb5.5
ASPA Alice Springs 35.93 123 eP P 21 52 51.2 +1.1
ASAR Alice Springs 35.93 123 P P 21 52 50.3 +0.2
comp=Z,5.2nm,1.0s,mb4.4,baz=299,slow=7.7,SNR=15
JIRN Jiri 36.24 337 eP P 21 52 53.4 +0.8
comp=Z,96nm,0.8s,mb5.8
CD2 Chengdu 36.35 3 P P 21 52 53.5 0.0
PKI Pulchoki 36.48 335 eP P 21 52 55.0 +0.4
comp=Z,37nm,1.1s,mb5.2
LSA Lhasa 36.49 345 P P 21 52 56.6 +1.9
LSA Lhasa 36.49 345 eP P 21 52 55.3 +0.6
comp=Z,28nm,1.0s,mb5.2
DMN Daman 36.64 335 eP P 21 52 56.5 +0.5
comp=Z,60nm,1.1s,mb5.3
KKN Kakani 36.72 335 eP P 21 52 57.1 +0.4
comp=Z,49nm,1.0s,mb5.3
GKN Gorkha 37.18 335 eP P 21 53 00.7 +0.2
comp=Z,75nm,1.0s,mb5.5
KOLN Koldanda 37.43 333 eP P 21 53 02.7 +0.1
comp=Z,56nm,0.9s,mb5.4
WHN Wuhan 37.96 18 eP P 21 53 08.0 +1.0
WHN AP pP 21 53 16.0 +1.0
XAN Xi'an 40.02 10 P P 21 53 24.1 -0.1
XAN S S 21 59 27.0 -1.0
XAN AMB AMB
comp=Z,53nm,1.1s,mb5.2
XAN LR LR
comp=N,406nm,15.0s,MS4.7
XAN LR LR
comp=E,670nm,14.3s,MS4.7
XAN LR LR
comp=Z,1μm,13.0s,MS4.9
NJ2 Nanjing 40.90 23 eP P 21 53 34.0 +2.6
NJ2 AP pP 21 53 41.0 +1.6
NJ2 XP sP 21 53 45.2 +2.5
NJ2 PP PP 21 55 12.4 +3.6
NJ2 S S 21 59 46.0 +5.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
NJ2 AMB AMB
comp=Z,780nm,4.8s
NJ2 LR LR
comp=N,290nm,23.9s,MS4.4
NJ2 LR LR
comp=E,560nm,27.2s,MS4.4
NJ2 LR LR
comp=Z,370nm,24.5s,MS4.2
SSE Sheshan 41.02 26 eP P 21 53 31.6 -0.8
SSE AMB AMB
comp=Z,50nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,56nm,3.1s
SSE Sheshan 41.02 26 eP P 21 53 31.6 -0.8
comp=Z,50nm,0.8s,mb5.2
LZH Lanzhou 41.51 3 ⇑P P 21 53 37.5 +1.0
LZH AP pP 21 53 45.1 +0.6
LZH PP PP 21 55 17.6 +2.2
LZH eS S 21 59 53.5 +3.3
LZH SS SS 22 02 54.5 +4.3
LZH AMB AMB
comp=Z,53nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,157nm,5.4s
LZH LR LR
comp=N,829nm,12.7s
LZH LR LR
comp=Z,1μm,16.5s,MS4.9
LZH Lanzhou 41.51 3 ⇑P P 21 53 37.5 +1.0
comp=Z,53nm,1.3s,mb5.0
LZH pP pP 21 53 45.1 +0.6
LZH sP sP 21 53 49.5 +1.7
LZH PP PP 21 55 17.6 +2.2
LZH eS S 21 59 53.5 +3.3
LZH sS 22 00 05.6
LZH SS SS 22 02 54.5 +4.3
LZH LR LR
comp=Z,1μm,16.5s,MS4.9
DDI Dehra Dun 42.22 329 e P 21 53 41.4 -1.0
SDNR Sundarnagar 43.72 329 eP P 21 54 02.5 +8.0
GTA Gaotai 44.80 358 P P 21 54 03.1 -0.1
GTA AP pP 21 54 14.2 +3.0
GTA S S 22 00 40.3 +2.1
GTA SS SS 22 03 56.1 +5.4
GTA AMB AMB
comp=Z,13nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,152nm,7.6s
GTA LR LR
comp=N,571nm,14.8s,MS4.9
GTA LR LR
comp=E,860nm,15.2s,MS4.9
GTA LR LR
comp=Z,694nm,14.8s,MS4.7
PMG Port Moresby 45.34 98 P P 21 54 06.4 -1.3
comp=Z,11nm,0.7s,mb4.8,baz=210,slow=8.1,SNR=1.8
PMG Port Moresby 45.34 98 eP P 21 54 07.9 +0.1
comp=Z,16nm,0.6s,mb5.0
STKA Stephens Creek 45.63 130 eP P 21 54 12.0 +2.1
comp=Z,8.1nm,0.7s,mb4.8
STKA Stephens Creek 45.63 130 P P 21 54 11.2 +1.3
comp=Z,2.8nm,0.5s,mb4.4,baz=148,slow=17,SNR=10
CTA Charters Tower 45.72 113 eP P 21 54 11.9 +1.2
comp=Z,16nm,1.0s,mb4.9
CTA Charters Tower 45.72 113 P P 21 54 10.6 -0.1
comp=Z,5.6nm,0.9s,mb4.5,baz=281,slow=11,SNR=4.5
CTAO Charters Tower 45.72 113 eP P 21 54 10.6 -0.1
comp=Z,25nm,1.0s,mb5.1
BTO Baotou 46.62 9 eP P 21 54 17.8 +0.2
BJT Baijiatuau 47.34 15 eP P 21 54 23.5 +0.3
comp=Z,34nm,1.2s,mb5.2
BJI Beijing 47.36 15 P P 21 54 23.9 +0.5
BJI AMB AMB
comp=Z,24nm,1.0s,mb5.1
BJI LR LR
comp=N,937nm,15.1s,MS5.0
BJI LR LR
comp=E,349nm,12.2s,MS5.0
BJI LR LR
comp=Z,451nm,16.0s,MS4.5
BJI Beijing 47.36 15 P P 21 54 23.9 +0.5
comp=Z,24nm,1.0s,mb5.1
BJI LR LR
comp=Z,450nm,16.0s,MS4.5
WMQ Urumqi 50.75 347⇑iP P 21 54 50.2 +0.7
WMQ AP pP 21 54 58.0 +0.3
WMQ PCP PcP 21 56 07.0 +0.4
WMQ S S 22 02 03.0 +1.0
WMQ SCS ScS 22 04 35.0 -0.3
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,113nm,4.0s
WMQ LR LR
comp=N,524nm,17.4s,MS4.8
WMQ LR LR
comp=E,752nm,17.5s,MS4.8
WMQ LR LR
comp=Z,650nm,19.9s,MS4.7
SONM Songino Array 53.37 4 P P 21 55 09.7 +0.7
comp=Z,18nm,1.1s,mb4.9,baz=190,slow=7.5,SNR=54
ULN Ulaanbaatar 53.45 5c iP P 21 55 10.3 +0.6
ULN Ulaanbaatar 53.45 5 eP P 21 55 09.8 +0.1
comp=Z,40nm,1.4s,mb5.2
CN2 Changchun 53.68 21 eP P 21 55 10.2 -1.3
CN2 eS S 22 02 40.6 -1.4
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.0
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,600nm,15.0s,MS4.9
CN2 LR LR
comp=E,600nm,15.0s,MS4.9
CN2 LR LR
comp=Z,600nm,15.0s,MS4.8
AAK Ala-Archa 53.93 335 eP P 21 55 12.2 -1.0
comp=Z,7.1nm,1.1s,mb4.5
FRU Bishkek 54.05 336 eP P 21 55 21.0 +6.9
FRU e 21 55 40.0
MAT Matsushiro 54.14 36 eP P 21 55 14.0 -0.9
MAT Matsushiro 54.14 36 P P 21 55 13.8 -1.1
ZAK Zakamensk 55.77 1⇑eP P 21 55 26.5 -0.1
ZAK e 21 57 31.3
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.9
MDJ Mudanjiang 55.96 24 P P 21 55 29.5 +1.5
MDJ AP pP 21 55 38.3 +2.0
MDJ PCP PcP 21 56 27.2 +1.0
MDJ PP PP 21 57 35.0 +0.7
MDJ PCS 22 00 27.1
MDJ AMB AMB
comp=Z,11nm,1.8s,mb4.6
MDJ AMB AMB
comp=Z,60nm,5.2s
MDJ LR LR
comp=N,125nm,17.1s,MS4.2
MDJ LR LR
comp=E,91nm,15.7s,MS4.2
MDJ LR LR
comp=Z,160nm,16.6s,MS4.2
MDJ Mudanjiang 55.96 24 eP P 21 55 27.6 -0.5
comp=Z,14nm,1.0s,mb4.9
HIA Hailar 56.88 14 eP P 21 55 34.0 -0.6
comp=Z,19nm,1.3s,mb5.0
HIA epP pP 21 55 41.9 -1.0
MOY Mondy 57.03 360 eP P 21 55 35.9 +0.3
MOY pmax pmax
comp=Z,21nm,2.0s,mb4.8
TLY Talaya 57.07 2 eP P 21 55 36.5 +0.6
TLY pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TLY MLR MLR
comp=Z,457nm,15.0s,MS4.7
TLY Talaya 57.07 2 eP P 21 55 36.0 +0.1
comp=Z,12nm,1.1s,mb4.8
TLY epP pP 21 55 44.3 +0.1
IRK Irkutsk 57.66 2 eP P 21 55 37.6 -2.4
IRK e 21 57 48.9
IRK pmax pmax
comp=Z,31nm,1.8s,mb5.0
KURK Kurchatov 59.47 343 i P P 21 55 52.2 -0.5
KURK Kurchatov 59.47 343 eP P 21 55 51.2 -1.5
comp=Z,11nm,1.1s,mb4.8
KURK epP pP 21 55 59.0 -2.0
ZAL Zalesovo 60.96 349 eP P 21 56 01.3 -1.5
ZAL Zalesovo 60.96 349 P P 21 56 01.3 -1.4
comp=Z,10nm,1.0s,mb4.9,baz=290,slow=4.9,SNR=30
ZAL LR LR 22 24 24.7
comp=Z,111nm,18.4s,MS4.0,baz=54,slow=38
ASAJ Asahikawa 61.73 32 P P 21 56 07.2 -0.9
comp=Z,10nm,0.9s,mb5.0,baz=223,slow=17,SNR=5.3
NVS Novosibirsk 62.12 348 i P P 21 56 08.5 -2.1
NVS eS S 22 04 32.5 +0.2
NVS pmax pmax
comp=Z,29nm,1.7s,mb5.1
NVS pmax pmax
comp=N,24nm,1.6s
NVS pmax pmax
comp=E,12nm,1.6s
NVS smax
comp=N,14nm,1.9s
NVS smax
comp=E,13nm,2.0s
YSS Yuzh-Sakhalins 63.73 30 eP P 21 56 20.4 -1.0
YSS e pP 21 56 28.0 -1.7
YSS Yuzh-Sakhalins 63.73 30 eP P 21 56 19.8 -1.6
comp=E,23nm,0.8s,mb5.3
YSS epP pP 21 56 28.0 -1.7
BOD Bodaibo 64.00 7 eP P 21 56 22.1 -0.8
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.8
BOD pmax pmax
comp=Z,11nm,1.3s,mb4.7
KMBO Kilima Mbogo 64.33 271 P P 21 56 23.1 -2.8
CHKZ Chkalovo 64.53 340 eP P 21 56 24.8 -1.7
CHKZ epP pP 21 56 32.4 -2.4
YAK Yakutsk 70.82 14c iP P 21 57 04.8 -0.9
YAK pmax pmax
comp=Z,54nm,1.5s,mb5.3
YAK MLR MLR
comp=Z,400nm,17.0s,MS4.7
YAK Yakutsk 70.82 14 eP P 21 57 04.6 -1.1
comp=Z,56nm,1.0s,mb5.4
YAK epP pP 21 57 12.4 -1.8
RPZ Rata Peaks 71.36 134 P P 21 57 12.0 +2.7
comp=Z,6.5nm,0.9s,mb4.5,baz=35,slow=7.3,SNR=2.3
ASF Jabal al Asfar 71.95 306 P P 21 57 21.2 +8.1
comp=Z,6.6nm,0.9s,mb4.6,baz=55,slow=6.9,SNR=3.1
MATP Matopo 72.22 250 P P 21 57 22.1 +7.3
comp=Z,7.2nm,1.0s,mb4.6,baz=94,slow=5.0,SNR=6.8
KIV Kislovodsk 72.27 320 i P P 21 57 15.6 +0.9
KIV pmax pmax
comp=Z,17nm,1.1s,mb4.9
LSZ Lusaka 72.54 256 eP P 21 57 15.1 -1.8
GOF Gofitskoye 72.54 321 eP P 21 57 24.5 +8.1
EIL Elat 72.78 303 P P 21 57 25.8 +7.7
comp=Z,14nm,0.9s,mb4.9,baz=63,slow=9.6,SNR=4.6
EIL Elat 72.78 303 P P 21 57 18.5 +0.4
SOC Sochi 74.05 318 eP P 21 57 23.2 -2.0
SOC e 21 57 36.1
SOC e 22 00 09.1
SOC ePPP PPP 22 02 07.8 +11

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOC				eS	S	22 06 52.8	-2.0
SOC				eSS	SS	22 11 40.1	-2.1
SOC				eSSS	SSS	22 15 03.1	+8.8
SOC				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
SOC				pmax	pmax		
	comp=N,11nm,0.7s						
SOC				pmax	pmax		
	comp=E,12nm,0.9s						
PET	**Petropavlovsk**	**75.55**	**32**	eP	**P**	**21 57 33.9**	**+0.3**
PET				pmax	pmax		
	comp=Z,14nm,0.5s,mb5.2						
PET	**Petropavlovsk**	**75.55**	**32**	eP	**P**	**21 57 32.9**	**-0.7**
	comp=Z,34nm,1.0s,mb5.2						
CSS	**Prodhromos**	**75.65**	**308**	P	**P**	**21 57 34.9**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9						
MA2	**Magadan**	**75.66**	**23**	eP	**P**	**21 57 34.4**	**+0.3**
MA2				e	pP	21 57 42.1	-0.4
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MA2				pmax	pmax		
	comp=E,3.0nm,0.9s						
MA2	**Magadan**	**75.66**	**23**	eP	**P**	**21 57 33.9**	**-0.2**
	comp=E,37nm,1.4s,mb5.1						
MA2				epP	pP	21 57 42.0	-0.5
VNDA	**Vanda**	**78.36**	**169**	eP	**P**	**21 57 56.4**	**+7.6**
VNDA	**Vanda**	**78.36**	**169**	P	**P**	**21 57 56.4**	**+7.5**
	comp=E,2.9nm,0.8s,mb4.2,baz=319,slow=5.8,SNR=4.8						
TIXI	**Tiksi**	**79.14**	**9**	⇓eP	**P**	**21 57 52.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
MOS	**Moscow**	**80.36**	**329**	eP	**P**	**21 57 58.8**	**-1.2**
MOS				e	pP	21 58 07.9	-0.6
OBN	**Obninsk**	**80.65**	**328**	⇓eP	**P**	**21 58 02.6**	**+1.1**
OBN				e		22 01 06.5	
OBN				i S	S	22 08 08.0	+2.3
OBN				pmax	pmax		
	comp=Z,35nm,2.4s,mb4.9						
OBN				pmax	pmax		
	comp=Z,30nm,2.1s,mb4.8						
AKASG	**Malin Array Be**	**83.26**	**322**	eP	**P**	**21 58 21.7**	**+6.5**
AKASG	**Malin Array Be**	**83.26**	**322**	P	**P**	**21 58 21.7**	**+6.5**
	comp=Z,4.4nm,0.7s,mb4.6,baz=92,slow=5.3,SNR=6.3						
BILL	**Bilibino**	**85.97**	**20**	⇓eP	**P**	**21 58 29.2**	**+0.8**
BILL				e	pP	21 58 36.6	-0.4
BILL				eS	S	22 08 52.0	-6.8
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.8						
BILL	**Bilibino**	**85.97**	**20**	eP	**P**	**21 58 28.4**	**-0.1**
	comp=Z,2.8nm,0.4s,mb4.8						
BILL				epP	pP	21 58 36.1	-0.9
VSU	**Vasula**	**86.87**	**329**	⇑eP	**P**	**21 58 34.3**	**+1.2**
KOLS	**Kolonicke sedl**	**87.18**	**320**	eP	**P**	**21 58 37.5**	**+2.7**
KOLS				e		21 58 43.6	
SUW	**Suwalki**	**87.70**	**325**	eP	**P**	**21 58 36.2**	**-0.9**
SUW				epP	pP	21 58 44.7	-1.1
FINES	**FINESS Array B**	**88.00**	**332**	eP	**P**	**21 58 41.9**	**+3.5**
FINES	**FINESS Array B**	**88.00**	**332**	P	**P**	**21 58 41.9**	**+3.5**
	comp=Z,2.5nm,0.8s,mb4.5,baz=104,slow=5.7,SNR=3.6						
KAF	**Kangasniemi**	**88.07**	**333**	ep	**P**	**21 58 47.0**	**+8.3**
	comp=Z,5.8nm,0.7s,mb4.9						
KAF	**Kangasniemi**	**88.07**	**333**	eP	**P**	**21 58 47.0**	**+8.3**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**90.36**	**340**	eP	**P**	**21 58 53.2**	**+3.8**
ARCES	**ARCESS Array B**	**90.36**	**340**	P	**P**	**21 58 53.2**	**+3.8**
	comp=Z,4.4nm,1.1s,mb4.7,baz=51,slow=7.8,SNR=2.4						
ARCES				LR	LR	22 43 32.1	
	comp=Z,141nm,19.5s,MS4.4,baz=285,slow=38						
MORC	**Moravsky Berou**	**90.37**	**320**	P	**P**	**21 58 50.4**	**+0.5**
GERES	**GERESS Array B**	**92.76**	**319**	eP	**P**	**21 59 07.9**	**+7.0**
GERES	**GERESS Array B**	**92.76**	**319**	P	**P**	**21 59 07.9**	**+7.0**
	comp=Z,1.5nm,0.8s,mb4.5,baz=135,slow=1.9,SNR=4.8						
YKA	**Yellowknife Ar**	**117.31**	**18**	ePKIKP	PKPdf	22 04 34.2	-3.1
YKA	**Yellowknife Ar**	**117.31**	**18**	PKP	PKPdf	22 04 34.2	-3.1
	comp=Z,0.1nm,0.4s,baz=318,slow=1.9,SNR=3.9						
YKA	**Yellowknife Ar**	**117.31**	**18**	PKP	PKPdf	22 04 34.2	-3.1
NVAR	**Mina Array Bea**	**131.29**	**42**	PKP	PKPdf	22 05 03.1	-1.8
	comp=Z,0.6nm,0.7s,baz=217,slow=4.5,SNR=3.5						
PDAR	**Pinedale Array**	**133.86**	**32**	PKP	PKPdf	22 05 08.3	-1.3
	comp=Z,0.5nm,0.9s,baz=45,slow=2.6,SNR=3.6						
BDFB	**Brasilia**	**143.23**	**235**	ePKIKP	PKPdf	22 05 30.0	+2.8
BDFB	**Brasilia**	**143.23**	**235**	PKP	PKPdf	22 05 30.0	+2.8
	comp=Z,1.1nm,0.4s,baz=126,slow=5.2,SNR=3.5						
MNTX	**Cornudas Mount**	**143.79**	**41**	ePKPdf	PKPdf	22 05 23.7	-4.0
SSPA	**Standing Stone**	**145.10**	**359**	ePKPbc	PKPbc	22 05 25.3	-0.1
SSPA				epPKPdf		22 05 33.8	
ACSO	**Alum Creek Sta**	**145.27**	**6**	ePKPbc	PKPbc	22 05 26.1	+0.3
ACSO				epPKPdf		22 05 34.2	
WMOK	**Wichita Mounta**	**145.43**	**30**	ePKPbc	PKPbc	22 05 26.0	-0.3
WMOK				epPKPdf		22 05 35.7	
CCM	**Cathedral Cave**	**145.65**	**18**	ePKPbc	PKPbc	22 05 26.5	-0.3
CCM				epPKPdf		22 05 35.2	
MVL	**Millersville**	**145.69**	**357**	ePKPbc	PKPbc	22 05 28.1	+1.3
MVL				epPKPdf		22 05 35.6	
BLO	**Bloomington**	**145.78**	**11**	PKPdf	PKPdf	22 05 27.9	-3.1
FVM	**French Village**	**145.96**	**17**	ePKPdf	PKPdf	22 05 27.8	-3.6
FVM				epPKPdf		22 05 36.9	
MCWV	**Mont Chateau**	**146.06**	**2**	ePKPbc	PKPbc	22 05 29.1	+1.3
MCWV				epPKPdf		22 05 37.4	
LTX	**Lajitas**	**146.44**	**42**	ePKPbc	PKPbc	22 05 29.4	+0.5
LTX				epPKPdf		22 05 39.6	
TXAR	**Lajitas Array**	**146.44**	**42**	PKPbc	PKPbc	22 05 32.0	+3.1
	comp=Z,6.0nm,0.9s,baz=289,slow=1.5,SNR=46						
MIAR	**Mount Ida**	**147.96**	**24**	ePKPdf	PKPdf	22 05 30.5	-4.3
JCT	**Junction City**	**148.10**	**37**	ePKP2	PKPab	22 05 35.7	-2.8
CPCT	**Cooper Cave**	**149.76**	**10**	ePKPbc	PKPdf	22 05 38.4	+0.7
LVC	**Limon Verde**	**150.46**	**198**	PKP	PKPdf	22 05 43.0	+3.9
	comp=Z,1.4nm,0.7s,baz=277,slow=11,SNR=3.5						
LVC				PKPbc	PKPdf	22 05 48.7	+10
	comp=Z,17nm,0.8s,baz=201,slow=1.6,SNR=21						
LVC				PKPab	PKPab	22 05 56.8	+8.3
	comp=Z,10nm,1.0s,baz=338,slow=0.3,SNR=5.7						
LVC	**Limon Verde**	**150.46**	**198**	PKP	PKPdf	22 05 43.0	+3.9
LVC				ePKPab	PKPab	22 05 48.1	-0.3
LVC				PKPbc	PKPdf	22 05 48.7	+10
LVC				PKPab	PKPab	22 05 56.8	+8.3
HKT	**Hockley**	**150.74**	**32**	ePKPbc	PKPdf	22 05 42.3	+3.0
HKT				e		22 05 50.2	
JSC	**Jenkinsville**	**151.33**	**5**	ePKPab	PKPab	22 05 50.4	-1.3
LPAZ	**La Paz**	**155.99**	**205**	PKP	PKPdf	22 05 51.9	+5.0
	comp=Z,0.8nm,0.6s,baz=151,slow=2.8,SNR=4.2						
LPAZ				PKPab	PKPab	22 06 21.0	+9.1
	comp=Z,1.1nm,0.6s,baz=207,slow=7.8,SNR=2.6						
LPAZ	**La Paz**	**155.99**	**205**	ePKPdf	PKPdf	22 05 43.9	-3.0
LPAZ				PKP	PKPdf	22 05 51.9	+5.0
LPAZ				epPKPdf		22 05 53.3	
LPAZ				PKPab	PKPab	22 06 21.0	+9.1

*NIED **04** 21:46:00,29.90N×130.70E,h35km,Mw3.9 Best double couple: M$_0$8.06×10^{14} NP1:ϕ$_s$33°,δ77°,λ87°. NP2:ϕ$_s$225°, δ13°,λ102°.*

JMA 04 21:46:04.9±0.1**,29.86N×130.73E,h35**km±2km**,M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.74**	**269**	P	P	21 46 18.8	-0.1
JNN				S	S	21 46 29.3	+0.1
JKC	**Kuchinoerabu**	**0.76**	**322**	P	P	21 46 19.3	+0.2
JTN	**Tanegashima 3**	**0.82**	**15**	P	P	21 46 20.3	+0.3
JTN				S	S	21 46 31.5	+0.4
JTSR	**Tashiro 2**	**1.31**	**7**	P	P	21 46 27.3	+0.2
JSU	**Suzuyama**	**1.66**	**352**	P	P	21 46 31.9	-0.1
JSU				S	S	21 46 52.8	+0.5
JAM	**Amami Oshima**	**1.75**	**215**	P	P	21 46 33.9	+0.6
JAM				S	S	21 46 55.5	+0.9
JSJ	**Shimokoshiki**	**2.01**	**335**	P	P	21 46 36.6	-0.5
JSJ				S	S	21 47 01.7	+0.5

*IDC **04** 22:08:02.8±0.6,22.57S×66.14W,h244km±5km,mb3.8/9, mb1 4.0/13,mb1mx4.0/17,mbtmp4.5/13,Error ellipse: s-maj=13.3km s-min=11.1km az=167.0*
*NEIC **04** 22:08:03.1±0.9,22.46S×66.09W,h238km±9km,mb4.5/14, Error ellipse: s-maj=13.3km s-min=9.6km az=78.0*
*BJI **04** 22:08:06.1,22.50S×66.10W,h238km*
ISC 04 22:08:02.3±0.8**,22.46S**±0.06×**66.11W**±0.08**,h243**km±7km**, h246**km±4.1km**:pP-P,n45,**σ1^s**17**/41**,mb4.1**/18**,4C-2D, Jujuy Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.59**	**266**	P	**P**	**22 08 51.4**	**+1.0**
	175nm,0.3s,baz=93,slow=6.3,SNR=1898						
LVC				S	**S**	**22 09 27.8**	**0.0**
	119nm,0.3s,baz=305,slow=22,SNR=46						
LVC	**Limon Verde**	**2.59**	**266**	ePn	**P**	**22 08 50.9**	**+0.5**
LVC				eSn	**S**	**22 09 26.9**	**-0.8**
LPAZ	**La Paz**	**6.43**	**342**	P	**P**	**22 09 38.6**	**+2.3**
	10nm,0.3s,baz=158,slow=8.9,SNR=138						
LPAZ				S	**S**	**22 10 54.1**	**+4.2**
	1.5nm,0.3s,baz=310,slow=20,SNR=15						
LPAZ	**La Paz**	**6.43**	**342**	ePn	**P**	**22 09 38.3**	**+2.0**
	46nm,0.6s						
LPAZ				eS	**S**	**22 10 53.5**	**+3.6**
ARE	**Arequipa**	**7.83**	**319**	⇑iP	**P**	**22 09 53.6**	**-0.6**
ARE				eS	**S**	**22 11 20.0**	**-1.8**
SAML	**Samuel**	**13.73**	**12**	ePn	**P**	**22 11 08.9**	**+0.3**
	15nm,1.0s						
TRQA	**Tornquist**	**15.94**	**168**	eP	**P**	**22 11 31.0**	**-4.2**
	16nm,0.6s						
BDFB	**Brasilia**	**18.40**	**72**	P	**P**	**22 12 01.2**	**-0.5**
	3.9nm,0.3s,baz=268,slow=8.1,SNR=4.3						
PLCA	**Paso Flores**	**18.60**	**191**	P	**P**	**22 12 01.0**	**-2.6**
	0.5nm,0.3s,baz=11,slow=13,SNR=20						
PLCA	**Paso Flores**	**18.60**	**191**	P	**P**	**22 12 01.0**	**-2.6**
CAM4	**Nova Friburgo**	**21.77**	**94**	eP	**P**	**22 12 36.5**	**+1.3**
CAM4				i		22 12 41.1	
SDV	**Santo Domingo**	**31.47**	**351**	P	**P**	**22 14 02.9**	**-0.6**
	5.4nm,0.4s,mb4.6,baz=139,slow=2.1,SNR=19						
SDV	**Santo Domingo**	**31.47**	**351**	eP	**P**	**22 14 02.7**	**-0.8**
	5.0nm,0.3s,mb4.6						
RCBR	**Riachuelo**	**33.53**	**65**	eP	**P**	**22 14 20.6**	**-0.7**
	9.2nm,0.4s,mb4.7						
VNA3	**Neumayer Olymp**	**58.34**	**162**	⇓i	**P**	**22 17 35.2**	**+1.5**
VNA2	**Neumayer--Watz**	**58.89**	**161**	⇓i	**P**	**22 17 39.0**	**+1.5**
SNAA	**Sanae**	**60.53**	**161**	⇑i	**P**	**22 17 47.5**	**-1.1**
SNAA	**Sanae**	**60.53**	**161**	P	**P**	**22 17 47.4**	**-1.2**
	30nm,1.3s,mb4.8						
TXAR	**Lajitas Array**	**62.92**	**323**	P	**P**	**22 18 04.4**	**-0.6**
	0.6nm,0.7s,mb3.3,baz=152,slow=8.5,SNR=8.9						
DBIC	**Dimbokro**	**66.55**	**72**	P	**P**	**22 18 26.2**	**-2.4**
	4.4nm,0.6s,mb4.3,baz=203,slow=6.7,SNR=19						
DBIC				pP	pP	22 19 25.0	+0.1
	4.2nm,0.9s,baz=242,slow=7.4,SNR=2.6						
DBIC	**Dimbokro**	**66.55**	**72**	eP	**P**	**22 18 26.6**	**-2.0**
	7.5nm,0.9s,mb4.3						
QSPA	**South Pole Qui**	**67.73**	**180**	⇑iP	**P**	**22 18 35.9**	**+1.0**
	9.2nm,1.0s,mb4.4						
SDCO	**Great Sand Dun**	**70.42**	**328**	eP	**P**	**22 18 52.3**	**+0.4**
	6.3nm,1.1s,mb4.2						
WUAZ	**Wupatki**	**71.85**	**322**	eP	**P**	**22 19 02.0**	**+1.5**
	56nm,1.1s,mb5.1						
ISCO	**Idaho Springs**	**72.08**	**329**	eP	**P**	**22 19 02.4**	**+0.5**
	1.6nm,0.8s,mb3.7						
SYO	**Syowa Base**	**74.68**	**159**	⇑P	**P**	**22 19 16.0**	**-0.4**
PDAR	**Pinedale Array**	**76.26**	**329**	P	**P**	**22 19 26.4**	**+0.6**
	0.7nm,0.7s,mb3.4,baz=146,slow=5.3,SNR=6.2						
SCHQ	**Schefferville**	**76.98**	**360**	P	**P**	**22 19 28.2**	**-1.2**
	2.0nm,0.9s,mb3.8,baz=168,slow=7.8,SNR=5.2						
ULM	**Lac du Bonnet**	**77.04**	**341**	P	**P**	**22 19 28.4**	**-1.4**
	1.2nm,0.5s,mb3.8,baz=139,slow=7.2,SNR=4.9						
ULM				pP	pP	22 20 27.4	-0.2
	1.1nm,0.7s,baz=153,slow=2.3,SNR=1.6						
TSUM	**Tsumeb**	**77.28**	**106**	eP	**P**	**22 19 31.1**	**-0.8**
	17nm,0.9s,mb4.7						
ELK	**Elko**	**77.70**	**324**	eP	**P**	**22 19 34.7**	**+0.9**
	1.4nm,0.8s,mb3.6						
NVAR	**Mina Array Bea**	**77.86**	**321**	P	**P**	**22 19 34.9**	**+0.2**
	1.3nm,0.5s,mb3.8,baz=140,slow=7.0,SNR=3.6						
NVAR				pP	pP	22 20 32.9	+0.4
	0.1nm,0.3s,baz=135,slow=5.1,SNR=0.5						
HLID	**Hailey**	**79.25**	**326**	eP	**P**	**22 19 43.8**	**+1.8**
	4.7nm,0.8s,mb4.2						
ESDC	**Sonseca Array**	**84.72**	**43**	P	**P**	**22 20 10.0**	**-0.3**
	2.6nm,0.9s,mb4.0,baz=238,slow=4.4,SNR=8.9						
YKA	**Yellowknife Ar**	**92.97**	**340**	P	**P**	**22 20 48.6**	**-0.1**
	1.4nm,0.6s,mb4.2,baz=129,slow=4.5,SNR=35						
YKA				pP	pP	22 21 46.7	-1.4
	0.6nm,0.8s,baz=126,slow=4.0,SNR=2.6						
YKA	**Yellowknife Ar**	**92.97**	**340**	P	**P**	**22 20 48.6**	**-0.1**
YKA				pP	pP	22 21 46.7	-1.4
ASAR	**Alice Springs**	**130.19**	**204**	PKP	PKPdf	22 26 44.5	+0.4
	0.8nm,0.5s,baz=151,slow=2.1,SNR=8.2						
ASAR				SKPbc		22 29 43.6	
	2.5nm,1.0s,baz=151,slow=4.6,SNR=7.6						
WRA	**Warramunga Arr**	**133.36**	**207**	PKP	PKPdf	22 26 50.8	+0.6
	0.7nm,0.6s,baz=153,slow=1.9,SNR=9.0						
WRA				SKPbc		22 29 55.3	
	2.9nm,1.1s,baz=149,slow=3.7,SNR=6.6						
ZAL	**Zalesovo**	**141.66**	**28**	PKP	PKPdf	22 27 03.6	-0.7
	0.5nm,0.4s,baz=169,slow=6.3,SNR=2.8						
HYB	**Hyderabad**	**146.46**	**92**	eP	PKPdf	22 27 16.0	+2.3
HYB	**Hyderabad**	**146.46**	**92**	i PKP	PKPdf	22 27 16.0	+2.3
WMQ	**Urumqi**	**149.65**	**39**	ePKP	PKPdf	22 27 26.2	+8.2
SONM	**Songino Array**	**153.98**	**12**	PKP	PKPdf	22 27 25.7	+1.6
	0.7nm,0.8s,baz=135,slow=1.7,SNR=4.6						
SONM				PKPbc	PKPdf	22 27 32.4	+8.3
	0.4nm,0.4s,baz=275,slow=1.3,SNR=7.1						
SONM				PKPab	PKPab	22 27 47.6	-1.7
	0.4nm,0.5s,baz=317,slow=2.6,SNR=3.6						
SONM				pPKPbc		22 28 36.4	
	0.6nm,0.7s,baz=315,slow=1.7,SNR=1.8						
SONM	**Songino Array**	**153.98**	**12**	PKP	PKPdf	22 27 25.7	+1.6
SONM				PKPbc	PKPdf	22 27 32.4	+8.3
SONM				PKPab	PKPab	22 27 47.6	-1.7
SONM				pPKPbc		22 28 36.4	
CMAR	**Chiang Mai Arr**	**165.44**	**103**	PKPab	PKPab	22 28 38.1	-1.4
	0.9nm,0.8s,baz=268,slow=4.5,SNR=6.5						

IDC 04 22:13:30.2±7.0**,20.84S×64.34E,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.6**/16**,mbtmp3.6**/4**,MS3.8**/4**,Ms1 3.8**/4**, ms1mx3.5**/17**,Error ellipse: s-maj=183.4km s-min=44.7km az=70.0,Mauritius - Reunion region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**33.50**	**264**	LR	LR	22 33 21.2	
	comp=Z,98nm,18.6s,baz=107,slow=36						
CMAR	**Chiang Mai Arr**	**51.72**	**43**	P	P	22 22 39.5	-2.1
	0.4nm,0.3s,baz=238,slow=8.5,SNR=2.6						
CMAR				LR	LR	22 40 25.8	
	comp=Z,68nm,18.3s,baz=200,slow=31						
ASAR	**Alice Springs**	**63.86**	**107**	P	P	22 24 06.0	-1.1
	0.4nm,0.9s,baz=262,slow=6.4,SNR=4.5						
ASAR				LR	LR	22 47 34.6	
	comp=Z,74nm,18.1s,baz=87,slow=32						
WRA	**Warramunga Arr**	**65.11**	**103**	P	P	22 24 12.5	-2.9
	0.5nm,0.8s,baz=253,slow=5.3,SNR=3.4						
SONM	**Songino Array**	**78.08**	**27**	P	P	22 25 31.0	-1.5
	0.3nm,0.7s,baz=198,slow=4.6,SNR=3.7						
PMG	**Port Moresby**	**80.05**	**96**	LR	LR	22 57 06.7	
	comp=Z,79nm,19.2s,baz=248,slow=33						

JMA 04 22:33:58.8±0.2**,43.49N×146.86E,h39**km±3km**,M3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.82**	**262**	P	P	22 34 14.1	+0.1
NEM2				eS	S	22 34 25.3	+0.2
JRA	**Rausu**	**1.34**	**290**	P	P	22 34 21.6	+0.2
JRA				eS	S	22 34 38.1	-0.1
JNK	**Nakash**	**1.56**	**274**	P	P	22 34 24.4	-0.1
JNK				eS	S	22 34 43.4	-0.3
JAK	**Akkeshi**	**1.66**	**253**	eS	S	22 34 46.5	+0.4
JTKR	**Abashiri--Toko**	**2.19**	**284**	P	P	22 34 34.3	+0.7
JTKR				eS	S	22 35 00.7	+1.0
JAR	**Ashorobuto**	**2.26**	**266**	P	P	22 34 34.8	+0.3
JAR				eS	S	22 35 01.7	+0.3
JOB	**Onbets**	**2.29**	**256**	P	P	22 34 35.6	+0.7
JOB				eS	S	22 35 02.9	+0.8
JMP	**Maruseppu**	**2.59**	**283**	P	P	22 34 40.2	+1.0
JCH	**Churui**	**2.71**	**252**	P	P	22 34 40.9	0.0
JCH				eS	S	22 35 12.4	-0.4

IDC 04 22:43:59.1±3.9**,49.84S×126.57E,mb3.6**/3**,mb1 3.8**/3**, mb1mx3.7**/10**,mbtmp3.7**/3**,Error ellipse: s-maj=121.7km s-min=67.6km az=102.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.17**	**38**	P	P	22 48 46.0	-2.1
	2.4nm,1.0s,baz=196,slow=15,SNR=2.3						
ASAR	**Alice Springs**	**26.75**	**15**	P	P	22 49 40.3	-1.8
	1.8nm,0.6s,baz=184,slow=9.9,SNR=13						
WRA	**Warramunga Arr**	**30.47**	**15**	P	P	22 50 13.4	-2.2
	0.4nm,0.9s,baz=189,slow=12,SNR=3.1						
YKA	**Yellowknife Ar**	**145.07**	**45**	PKPbc	PKPbc	23 03 35.6	-1.6
	0.5nm,0.9s,baz=262,slow=2.9,SNR=5.7						

*MOS **04** 22:50:26.5±1.0,48.45N×152.99E,h142km,mb4.2/2,Error ellipse: s-maj=29.5km s-min=15.3km az=88.4*
*NEIC **04** 22:50:29.6±0.9,48.53N×152.94E,h150km,mb4.1/2,Error ellipse: s-maj=22.4km s-min=15.3km az=168.0*
*IDC **04** 22:50:32.7±3.8,48.50N×153.03E,h179km±38km, mb3.3/11,mb1 3.5/12,mb1mx3.4/22,mbtmp3.8/12,Error ellipse: s-maj=26.1km s-min=17.3km az=156.0*
ISC 04 22:50:29.4±1.3**,48.7N**±0.1×**153.1E**±0.2**,h158**km±10km**, n19,**σ1^s**07**/20**,mb3.6**/13**,Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.83**	**43**	ePN	**P**	**22 51 15.0**	**-0.7**
SKR				eS	**S**	**22 51 50.9**	**-0.2**
SKR				pmax	pmax		
	comp=Z,70nm,0.4s						
SKR				smax			
	comp=N,60nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=Z,30nm,0.5s						
ASAJ	**Asahikawa**	**8.54**	**242**	P	**P**	**22 52 32.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=36,slow=12,SNR=3.1						
ILAR	**Eielson Array**	**35.09**	**40**	P	**P**	**22 57 08.5**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.4,baz=260,slow=5.6,SNR=15						
INK	**Inuvik**	**40.07**	**34**	P	**P**	**22 57 51.1**	**+0.9**
	comp=Z,0.6nm,0.3s,mb3.6,baz=287,slow=7.3,SNR=5.1						
ZAL	**Zalesovo**	**41.51**	**304**	P	**P**	**22 58 02.5**	**+0.5**
	comp=Z,0.6nm,0.3s,mb3.7,baz=141,slow=17,SNR=2.7						
KURK	**Kurchatov**	**46.30**	**302**	eP	**P**	**22 58 40.6**	**+0.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**46.30**	**302**	eP	**P**	**22 58 40.6**	**+0.2**
	comp=Z,2.1nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**49.19**	**309**	eP	**P**	**22 59 02.4**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
CHKZ	**Chkalovo**	**49.19**	**309**	eP	**P**	**22 59 02.4**	**-0.4**
	comp=Z,3.6nm,0.5s,mb4.3						
YKA	**Yellowknife Ar**	**49.42**	**38**	P	**P**	**22 59 05.0**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.5,baz=298,slow=7.3,SNR=10						
ARCES	**ARCESS Array B**	**56.04**	**340**	P	**P**	**22 59 53.3**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=38,slow=10,SNR=4.4						
JOF	**Joensuu**	**59.61**	**333**	epkp	**P**	**23 00 15.2**	**-3.1**
KAF	**Kangasniemi**	**61.70**	**335**	epkp	**P**	**23 00 30.6**	**-1.8**
FINES	**FINESS Array B**	**62.30**	**334**	P	**P**	**23 00 35.8**	**-0.6**
	comp=Z,0.9nm,0.4s,mb4.0,baz=36,slow=7.6,SNR=37						
PDAR	**Pinedale Array**	**63.66**	**55**	P	**P**	**23 00 46.9**	**+1.4**
	comp=Z,0.2nm,0.6s,mb3.1,baz=342,slow=2.9,SNR=3.4						
NOA	**NORSAR Array B**	**66.41**	**341**	P	**P**	**23 01 03.0**	**+0.1**
	comp=Z,0.6nm,0.8s,mb3.5,baz=41,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**70.31**	**199**	P	**P**	**23 01 25.2**	**-2.4**
	comp=Z,0.3nm,0.8s,mb3.1,baz=25,slow=7.6,SNR=3.7						
SCHQ	**Schefferville**	**71.56**	**23**	P	**P**	**23 01 35.1**	**+0.7**
	comp=Z,2.2nm,1.0s,mb3.8,baz=306,slow=8.7,SNR=6.3						
GERES	**GERESS Array B**	**76.72**	**334**	P	**P**	**23 02 05.2**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.4,baz=45,slow=5.7,SNR=5.2						

IDC 04 22:55:05.2±2.4**,6.72S×68.36E,mb3.5**/3**,mb1 3.7**/3**, mb1mx3.5**/16**,mbtmp3.5**/3**,MS3.0**/1**,Ms1 3.2**/1**, ms1mx2.9**/16**,Error ellipse: s-maj=89.2km s-min=36.8km az=56.0,Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**39.19**	**50**	LR	LR	23 18 23.4	
	comp=Z,21nm,19.1s,baz=69,slow=36						
SONM	**Songino Array**	**63.82**	**28**	P	P	23 05 39.2	-2.4
	0.9nm,1.1s,baz=225,slow=6.1,SNR=3.5						
ASAR	**Alice Springs**	**64.95**	**113**	P	P	23 05 46.7	-2.7
	0.2nm,0.6s,baz=254,slow=6.6,SNR=3.5						
WRA	**Warramunga Arr**	**65.19**	**109**	P	P	23 05 49.6	-1.4
	0.6nm,0.9s,baz=280,slow=5.9,SNR=3.3						
YKA	**Yellowknife Ar**	**124.29**	**2**	PKP	PKPdf	23 14 04.7	-3.1
	0.2nm,0.6s,baz=349,slow=2.6,SNR=5.9						
NVAR	**Mina Array Bea**	**147.86**	**10**	PKPbc	PKPdf	23 14 53.6	+2.2
	0.7nm,0.8s,baz=315,slow=2.6,SNR=3.9						

*CSEM **04** 23:04:11.2±0.5,37.82N×26.29W,h3km,ML2.1,Error ellipse: s-maj=11.5km s-min=7.1km az=35.0,After PDA*
*PDA **04** 23:04:11.2±1.0,37.82N×26.29W,h3km±4km,MD2.6, ML2.1,Error ellipse: s-maj=12.3km s-min=1.6km az=33.0*
SVSA 04 23:04:11.2±1.0**,37.82N×26.29W,h3**km±4km**,MD2.6, ML2.1,Error ellipse: s-maj=12.3km s-min=1.6km az=33.0,Azores Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SET2	**Ginetes**	**0.38**	**86**	eP	Pg	23 04 18.0	-0.9
SET2				i S	Sg	23 04 23.4	-0.6
SET4	**Mosteiros**	**0.39**	**82**	eP	Pg	23 04 18.2	-0.8
SET4				i S	Sg	23 04 23.5	-0.8
PFET	**Feteiras**	**0.40**	**90**	i S	Sg	23 04 23.8	-0.6
FAC	**Faja de Cima**	**0.51**	**95**	i S	Sg	23 04 26.8	-1.3
CML	**Cha da Macela**	**0.59**	**94**	i S	Sg	23 04 29.1	-1.8
PVER	**Pico Vermelho**	**0.61**	**92**	i S	Sg	23 04 29.6	-2.1
	17nm,0.2s						
LFA	**Lagoa do Fogo**	**0.64**	**94**	eP	Pg	23 04 22.1	-1.9
PRCH	**Ribeira Ch**	**0.65**	**98**	eS	Sg	23 04 31.1	-1.7
	67nm,0.2s						
PMAT	**Coroa da Mata**	**0.65**	**90**	eS	Sg	23 04 30.8	-2.0
	35nm,0.3s						
MESC	**Monte Escuro**	**0.67**	**92**	i S	Sg	23 04 31.3	-2.2
VIF	**Vila Franca**	**0.68**	**96**	eS	Sg	23 04 31.4	-2.4
	17nm,0.2s						
FRA1	**Furnas**	**0.74**	**96**	eS	Sg	23 04 32.5	-3.4
PFAD	**Fenais da Ajud**	**0.77**	**88**	eS	Sg	23 04 33.1	-3.6
PFAV	**Pico das Favas**	**1.09**	**325**	eS	Sb	23 04 41.4	-5.4
	8.7nm,0.1s						
RIB2	**Ribeirinha**	**1.10**	**321**	eS	Sb	23 04 41.8	-5.3
	16nm,0.2s						
PVNV	**Vila Nova**	**1.16**	**324**	eS	Sb	23 04 42.6	-6.3
	25nm,0.2s						
PPAD	**Pico dos Padre**	**1.18**	**319**	eS	Sb	23 04 43.8	-5.6
	13nm,0.2s						

*IDC **04** 23:06:55.2±1.3,8.54N×94.30E,mb3.7/6,mb1 3.9/6, mb1mx3.7/18,mbtmp3.7/6,Error ellipse: s-maj=62.5km s-min=27.6km az=46.0*
*NEIC **04** 23:06:59.8±0.8,8.59N×94.47E,h30km,mb4.3/2,Error ellipse: s-maj=39.1km s-min=11.2km az=224.0*
ISC 04 23:06:58.5±1.0**,8.6N**±0.2×**94.5E**±0.2**,h33**km**,n10,** σ**0^{s}91**/10**,mb3.8**/8**,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.90**	**118**	ePn	**Pn**	**23 08 38.7**	**-1.4**
SONM	**Songino Array**	**40.38**	**12**	P	**P**	**23 14 36.1**	**+1.2**
	0.2nm,0.7s,mb3.0,baz=206,slow=8.6,SNR=4.2						
SONM	**Songino Array**	**40.38**	**12**	P	**P**	**23 14 36.1**	**+1.2**
WRA	**Warramunga Arr**	**48.37**	**126**	P	**P**	**23 15 40.2**	**+0.8**
	0.5nm,0.5s,mb3.8,baz=305,slow=8.8,SNR=9.8						
WRAB	**Tennant Creek**	**48.37**	**126**	P	**P**	**23 15 40.5**	**+1.0**
	4.9nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**48.91**	**341**	eP	**P**	**23 15 42.5**	**-0.7**
	0.8nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**72.26**	**332**	P	**P**	**23 18 21.1**	**-1.0**
	0.5nm,0.7s,mb3.5,baz=90,slow=3.8,SNR=3.8						
GERES	**GERESS Array B**	**77.55**	**318**	P	**P**	**23 18 52.8**	**0.0**
	1.0nm,0.9s,mb3.8,baz=104,slow=5.5,SNR=6.5						
HFS	**Hagfors**	**78.03**	**330**	P	**P**	**23 18 54.5**	**-0.7**
	0.7nm,0.5s,mb3.9,baz=124,slow=5.2,SNR=4.2						
DAVOX	**Davos**	**80.14**	**316**	P	**P**	**23 19 07.7**	**+0.8**
	1.5nm,0.7s,mb4.0,baz=354,slow=22,SNR=2.7						

IDC 04 23:23:42.8±1.3**,4.90N×126.31E,mb3.6**/4**,mb1 3.8**/4**, mb1mx3.6**/16**,mbtmp3.6**/4**,Error ellipse: s-maj=151.1km s-min=21.8km az=71.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.92**	**163**	P	P	23 29 16.3	-2.3
	1.3nm,0.4s,baz=342,slow=11,SNR=42						
ASAR	**Alice Springs**	**29.34**	**166**	P	P	23 29 48.5	-1.2
	0.2nm,0.5s,baz=351,slow=8.4,SNR=4.4						
SONM	**Songino Array**	**46.06**	**341**	P	P	23 32 08.1	-2.1
	0.2nm,0.9s,baz=158,slow=7.8,SNR=2.1						
ZAL	**Zalesovo**	**59.36**	**333**	P	P	23 33 46.9	-2.3
	0.5nm,0.3s,baz=156,slow=9.1,SNR=2.6						

*IDC **04** 23:47:00.7±0.5, 7.34N×93.98E, mb4.2/14, mb1 4.4/15, mb1mx4.3/20, mbtmp4.2/15, ML4.0/1, MS4.2/3, Ms1 4.2/3, ms1mx3.6/22, Error ellipse: s-maj=23.1km s-min=14.0km az=58.0*

*MOS **04** 23:47:03.8±1.2, 7.24N×93.97E, h33km, mb4.7/7, Error ellipse: s-maj=19.1km s-min=8.9km az=117.0*

*BJI **04** 23:47:04.1, 7.12N×94.06E, h31km, mB5.2, mb4.6, Ms4.5, Msz4.1*

*NEIC **04** 23:47:05.4±0.3, 7.24N×93.94E, h30km, mb4.5/13, Error ellipse: s-maj=11.0km s-min=6.2km az=55.0*

ISC 04 23:47:04.9±1.3**, 7.23N**±0.05×**93.98E**±0.05**, h42**km±11km**, h8**km±7.2km**:pP-P, n72,** σ1s**19**/71**, mb4.5**/35**, MS4.0**/4**, 3D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.91**	**106**	*e*Pn	**P**	**23 48 47.1**	**+0.9**
CM31	**Chiang Mai Arr**	**12.16**	**23**	Pn	**P**	**23 49 57.2**	**-1.1**
	5.7nm,0.6s						
CM31				*e*pPn		23 50 03.1	
CMAR	**Chiang Mai Arr**	**12.16**	**23**	Pn	**P**	**23 50 02.5**	**+4.1**
	0.3nm,0.3s,baz=210,slow=14,SNR=18						
CMAR				LR	LR	23 54 52.0	
	comp=Z,52nm,20.5s,baz=220,slow=39						
VIS	**Vishakhapatnam**	**14.71**	**316**	*e*P	**P**	**23 50 30.6**	**-1.6**
VIS				*e*		23 50 35.4	
	comp=Z,27nm,0.5s						
VIS				*e*S	**S**	**23 52 58.8**	**-16**
VIS				*e*		23 53 01.3	
HYB	**Hyderabad**	**18.14**	**305**	*e*P	**P**	**23 51 13.0**	**-2.6**
HYB				*e*S	**S**	**23 54 34.0**	**+0.7**
HYB	**Hyderabad**	**18.14**	**305**	*i* P	**P**	**23 51 13.0**	**-2.6**
HYB				*e*S	**S**	**23 54 34.0**	**+0.7**
BLSP	**Bilaspur**	**18.70**	**324**	*e*P	**P**	**23 51 23.5**	**+1.1**
BLSP				*e*		23 51 26.1	
	comp=Z,14nm,0.6s						
BLSP				*e*		23 54 58.9	
JIRN	**Jiri**	**21.62**	**341**	*e*P	**P**	**23 51 54.7**	**+1.3**
	comp=Z,21nm,0.6s,mb4.7						
PKI	**Pulchoki**	**21.80**	**339**	*e*P	**P**	**23 51 56.7**	**+1.5**
	comp=Z,20nm,0.6s,mb4.7						
DMN	**Daman**	**21.94**	**339**	*e*P	**P**	**23 51 58.5**	**+1.9**
KKN	**Kakani**	**22.04**	**339**	*e*P	**P**	**23 51 59.1**	**+1.5**
	comp=Z,39nm,1.0s,mb4.8						
GKN	**Gorkha**	**22.47**	**338**	*e*P	**P**	**23 52 02.0**	**+0.1**
LSA	**Lhasa**	**22.51**	**354**	*e*P	**P**	**23 52 03.8**	**+1.5**
LSA	**Lhasa**	**22.51**	**354**	*e*P	**P**	**23 52 03.5**	**+1.2**
	comp=Z,6.0nm,0.6s,mb4.2						
KOLN	**Koldanda**	**22.67**	**336**	*e*P	**P**	**23 52 03.9**	**0.0**
	comp=Z,43nm,0.9s,mb4.9						
CD2	**Chengdu**	**25.27**	**20**	P	**P**	**23 52 30.0**	**+0.9**
GTA	**Gaotai**	**32.46**	**8**	P	**P**	**23 53 36.8**	**+3.2**
GTA				AP	pP	23 53 40.8	-4.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
NJ2	**Nanjing**	**33.86**	**40**	*e*P	**P**	**23 53 46.1**	**+0.3**
NJ2				AP	pP	23 53 56.4	-0.8
NJ2				XP	sP	23 53 59.6	-3.0
NJ2				PP	PP	23 55 00.2	+0.3
NJ2				S	**S**	**23 59 07.0**	**+0.9**
NJ2				XS		23 59 23.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,940nm,4.8s						
NJ2				LR	LR		
	comp=N,290nm,12.4s						
NJ2				LR	LR		
	comp=E,470nm,25.2s						
NJ2				LR	LR		
	comp=Z,410nm,25.4s						
SSE	**Sheshan**	**34.79**	**43**	*e*P	**P**	**23 53 51.7**	**-2.1**
SSE				AP	pP	23 53 59.2	-6.1
SSE				S	**S**	**23 59 21.4**	**+0.8**
SSE				XS		23 59 38.0	
SSE				AMB	AMB		
	comp=Z,18nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,113nm,5.8s						
SSE	**Sheshan**	**34.79**	**43**	*e*P	**P**	**23 53 51.7**	**-2.1**
	comp=Z,18nm,0.6s,mb5.2						
SSE				pP	pP	23 53 59.2	-6.1
SSE				S	**S**	**23 59 21.4**	**+0.8**
SSE				sS		23 59 38.0	
SSE				SS	SS	00 01 54.1	+19
SSE				LR	LR		
	comp=Z,50nm,41.9s,MS2.9						
HHC	**Hu-ho-hao-te**	**36.97**	**22**	*e*P	**P**	**23 54 14.9**	**+2.8**
HHC				AP	pP	23 54 19.6	-4.0
HHC				XP	sP	23 54 22.5	-6.4
HHC				PP	PP	23 55 38.0	-0.9
HHC				S	**S**	**23 59 53.1**	**-0.8**
HHC				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,73nm,4.3s						
AAK	**Ala-Archa**	**39.23**	**337**⇓	*e*P	**P**	**23 54 34.1**	**+3.2**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**39.23**	**337**	*e*P	**P**	**23 54 31.1**	**+0.2**
	comp=Z,6.2nm,0.9s,mb4.3						
AAK				*e*pP	pP	23 54 34.7	-7.8
FITZ	**Fitzroy Crossi**	**40.13**	**129**	*e*P	**P**	**23 54 38.2**	**-0.4**
	comp=Z,7.6nm,0.8s,mb4.5						
SONM	**Songino Array**	**41.82**	**13**	P	**P**	**23 54 51.0**	**-1.3**
	comp=Z,1.4nm,0.8s,mb3.6,baz=195,slow=7.4,SNR=10						
SONM				PcP	PcP	23 56 48.1	-0.3
	comp=Z,0.7nm,0.5s,baz=199,slow=3.3,SNR=7.7						
KURK	**Kurchatov**	**45.19**	**346**⇓	*e*P	**P**	**23 55 21.0**	**+1.4**
KURK	**Kurchatov**	**45.19**	**346**	*e*P	**P**	**23 55 19.4**	**-0.2**
	comp=Z,14nm,1.3s,mb4.6						
KURK				*e*pP	pP	23 55 23.1	-8.2
CN2	**Changchun**	**45.65**	**32**	*e*P	**P**	**23 55 29.4**	**+6.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NWAO	**Narrogin (SRO)**	**45.66**	**152**	P	**P**	**23 55 23.5**	**0.0**
	comp=Z,4.5nm,0.7s,mb4.5,baz=356,slow=14,SNR=3.4						
NWAO				PcP	PcP	23 57 01.0	-0.6
	comp=Z,14nm,1.0s,baz=288,slow=3.2,SNR=3.1						
NWAO	**Narrogin (SRO)**	**45.66**	**152**	P	**P**	**23 55 23.5**	**0.0**
NWAO				PcP	PcP	23 57 01.0	-0.6
ZAL	**Zalesovo**	**47.16**	**353**	*i* P	**P**	**23 55 34.9**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.4s						
ZAL	**Zalesovo**	**47.16**	**353**	P	**P**	**23 55 34.4**	**-0.6**
	comp=Z,2.9nm,0.4s,mb4.5,baz=309,slow=7.3,SNR=13						
ZAL	**Zalesovo**	**47.16**	**353**	P	**P**	**23 55 34.4**	**-0.6**
HIA	**Hailar**	**47.17**	**23**	*e*P	**P**	**23 55 36.0**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**48.02**	**125**	*i* P	**P**	**23 55 42.1**	**-0.2**
WRA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WRA	**Warramunga Arr**	**48.02**	**125**	P	**P**	**23 55 42.1**	**-0.2**
	comp=Z,6.2nm,0.5s,mb4.9,baz=305,slow=8.6,SNR=118						
WRA				PcP	PcP	23 57 10.0	-0.2
	comp=Z,0.4nm,0.5s,baz=312,slow=3.0,SNR=6.4						
WRAB	**Tennant Creek**	**48.03**	**125**	*i* P	**P**	**23 55 42.2**	**-0.2**
WRAB	**Tennant Creek**	**48.03**	**125**	*e*P	**P**	**23 55 41.8**	**-0.6**
	comp=Z,14nm,0.8s,mb5.0						
NVS	**Novosibirsk**	**48.25**	**352**	*e*P	**P**	**23 55 41.8**	**-1.8**
NVS				pmax	pmax		
	comp=Z,17nm,3.0s						
NVS				pmax	pmax		
	comp=N,10.0nm,2.6s						
NVS				pmax	pmax		
	comp=E,16nm,3.0s						
BVAR	**Borovoye Array**	**49.54**	**341**	P	**P**	**23 55 52.3**	**-1.3**
	comp=E,2.9nm,0.9s,mb4.3,baz=149,slow=8.6,SNR=12						
BVAR				PcP	PcP	23 57 14.6	-0.6
	comp=E,0.4nm,0.5s,baz=117,slow=9.7,SNR=3.8						
ASPA	**Alice Springs**	**49.63**	**129**⇓	*i*P	**P**	**23 55 55.1**	**+0.4**
ASAR	**Alice Springs**	**49.63**	**129**	P	**P**	**23 55 54.5**	**-0.1**
	comp=E,17nm,1.2s,mb5.0,baz=309,slow=7.5,SNR=36						
ASAR				PcP	PcP	23 57 16.4	+0.5
	comp=E,0.7nm,0.5s,baz=311,slow=3.5,SNR=5.1						
CHKZ	**Chkalovo**	**50.03**	**342**	*e*P	**P**	**23 55 56.7**	**-0.6**
	comp=E,16nm,1.1s,mb5.0						
CHKZ				*e*pP	pP	23 56 00.2	-8.9
BOD	**Bodaibo**	**52.80**	**13**	*e*P	**P**	**23 56 16.7**	**-1.5**
KMBO	**Kilima Mbogo**	**57.20**	**264**	*i* P	**P**	**23 56 51.9**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	**Kilima Mbogo**	**57.20**	**264**	P	**P**	**23 56 50.3**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=66,slow=11,SNR=7.7						
KMBO	**Kilima Mbogo**	**57.20**	**264**	*e*P	**P**	**23 56 51.6**	**+0.9**
	comp=Z,1.3nm,0.7s,mb4.1						
SOC	**Sochi**	**59.53**	**317**	*e*P	**P**	**23 57 04.4**	**-2.2**
SOC				*e*		23 57 51.3	
SOC				*e*PP	PP	23 59 13.9	-6.1
STKA	**Stephens Creek**	**59.78**	**133**	P	**P**	**23 57 08.1**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.3,baz=314,slow=2.8,SNR=5.5						
STKA	**Stephens Creek**	**59.78**	**133**	P	**P**	**23 57 07.1**	**-1.4**
TIXI	**Tiksi**	**67.89**	**11**	*e*P	**P**	**23 57 59.0**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MATP	**Matopo**	**69.95**	**245**	P	**P**	**23 58 14.8**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=225,slow=2.3,SNR=6.2						
JOF	**Joensuu**	**71.35**	**335**	*e*p	**P**	**23 58 20.4**	**-1.8**
	comp=Z,0.4nm,0.4s,mb3.7						
FINES	**FINESS Array B**	**73.20**	**332**	*i* P	**P**	**23 58 32.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**73.20**	**332**	P	**P**	**23 58 32.0**	**-1.1**
	comp=Z,1.4nm,0.5s,mb4.2,baz=63,slow=4.3,SNR=10						
LBTB	**Lobatse**	**73.80**	**241**	*e*P	**P**	**23 58 38.4**	**+1.0**
	comp=Z,8.1nm,1.0s,mb4.6						
KEV	**Kevo**	**75.38**	**341**	*e*p	**P**	**23 58 46.3**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.7						
MORC	**Moravsky Berou**	**75.75**	**319**	*e*P	**P**	**23 58 48.1**	**0.0**
	comp=Z,3.3nm,1.0s,mb4.2						
ARCES	**ARCESS Array B**	**75.81**	**340**	*e*P	**P**	**23 58 47.9**	**-0.1**
ARCES	**ARCESS Array B**	**75.81**	**340**	P	**P**	**23 58 47.9**	**-0.2**
	comp=Z,1.8nm,0.7s,mb4.1,baz=135,slow=3.4,SNR=9.4						
MAW	**Mawson**	**77.88**	**192**	LR	LR	00 29 35.8	
	comp=Z,238nm,19.2s,MS4.5,baz=252,slow=33						
GERES	**GERESS Array B**	**78.19**	**318**	P	**P**	**23 59 01.1**	**-0.7**
	comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=15						
KHC	**Kasperske Hory**	**78.29**	**319**	*e*P	**P**	**23 59 02.0**	**-0.3**
SUR	**Sutherland**	**79.84**	**235**	LR	LR	00 30 03.2	
	comp=Z,40nm,20.9s,MS3.8,baz=177,slow=32						
ESDC	**Sonseca Array**	**91.51**	**310**	P	**P**	**00 00 09.5**	**+0.8**
	comp=Z,0.7nm,0.6s,mb4.2,baz=59,slow=3.7,SNR=4.4						
VNDA	**Vanda**	**92.34**	**168**	P	**P**	**00 00 13.4**	**+1.7**
	comp=Z,0.9nm,0.7s,mb4.2,baz=277,slow=8.1,SNR=4.2						
DBIC	**Dimbokro**	**97.87**	**278**	LR	LR	00 41 29.8	
	comp=Z,234nm,18.1s,MS4.7,baz=82,slow=33						
NVAR	**Mina Array Bea**	**125.55**	**31**	PKP	PKPdf	00 06 05.7	+3.4
	comp=Z,0.2nm,0.3s,baz=270,slow=1.8,SNR=3.4						
PDAR	**Pinedale Array**	**125.82**	**21**	PKP	PKPdf	00 06 04.9	+2.2
	comp=Z,0.4nm,0.5s,baz=63,slow=3.3,SNR=4.7						
TXAR	**Lajitas Array**	**139.87**	**24**	PKiKP		00 06 34.5	
	comp=Z,0.3nm,0.5s,baz=360,slow=1.0,SNR=8.5						
LVC	**Limon Verde**	**157.52**	**225**	PKPab	PKPab	00 07 32.1	+0.5
	comp=Z,2.0nm,0.8s,baz=174,slow=7.0,SNR=3.6						
LPAZ	**La Paz**	**160.33**	**241**	PKPab	PKPab	00 07 45.2	+1.4
	comp=Z,1.1nm,0.9s,baz=64,slow=12,SNR=2.5						

*NEIC **05** 00:07:39.3±1.1, 58.52S×26.10W, h107km±9km, mb5.1/17, Error ellipse: s-maj=7.3km s-min=5.2km az=223.0*

*IDC **05** 00:07:40.0±0.4, 58.60S×26.34W, h108km±2km, mb4.7/20, mb1 4.7/21, mb1mx4.6/24, mbtmp5.1/21, MS4.1/11, Ms1 4.0/11, ms1mx3.7/18, Error ellipse: s-maj=11.6km s-min=10.2km az=18.0*

*HRVD **05** 00:07:39.3±0.2, 58.73S×25.87W, h108km±2km, MW5.3/62, Centroid moment Tensor Solution. LP body waves: s45,c60; Mantle waves: s62,c103; Half duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr-0.60±.02; Mθθ1.06±.03; Mφφ-0.45±.03; Mrθ0.12±.02; Mθφ0.11±.03; Mφr-0.36±.02; Best double couple: M0.994×10^17 NP1: φs53°, δ54°, λ-142°. NP2:φs298°, δ60°, λ-43°. Principal axes: T 1.074, Plg4°, Azm357°; N -.159, Plg40°, Azm90°; P -.914, Plg50°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **05** 00:07:39.3, 58.50S×26.10W, h107km, mB5.2*

ISC 05 00:07:38.8±1.7**, 58.53S**±0.06×**26.1W**±0.1**, h110**km±16km**, h109**km±2.3km**:pP-P, n165,** σ1s**01**/73**, mb5.0**/28**, 5C-3D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.29**	**156**	*e*	**P**	**00 10 58.4**	**+1.9**
VNA1	**Neumayer--Stat**	**14.29**	**156**	*e*	Px	00 11 21.0	
VNA1	**Neumayer--Stat**	**14.29**	**156**	*e*	Px	00 11 29.8	
VNA1	**Neumayer--Stat**	**14.29**	**156**	*e*S	**S**	**00 13 26.6**	**-5.9**
VNA1	**Neumayer--Stat**	**14.29**	**156**⇑	*i*Pn	**P**	**00 10 55.6**	**-0.9**
VNA1				*e*		00 10 58.4	
VNA1				*e*		00 11 21.0	
VNA1				*e*		00 11 29.8	
VNA1				*e*		00 13 16.0	
VNA1				*e*S	**S**	**00 13 26.6**	**-5.9**
VNA3	**Neumayer Olymp**	**14.46**	**158**	*e*	**P**	**00 11 00.1**	**+1.3**
VNA3	**Neumayer Olymp**	**14.46**	**158**	*e*	Px	00 11 22.6	
VNA3	**Neumayer Olymp**	**14.46**	**158**	*e*	Px	00 11 32.1	
VNA3	**Neumayer Olymp**	**14.46**	**158**	*e*S	**S**	**00 13 31.1**	**-5.5**
VNA3	**Neumayer Olymp**	**14.46**	**158**⇑	*i*Pn	**P**	**00 10 57.8**	**-1.0**
VNA3				*e*		00 11 00.1	
VNA3				*e*		00 11 22.6	
VNA3				*e*		00 11 32.1	
VNA3				*e*		00 13 20.0	
VNA3				*e*S	**S**	**00 13 31.1**	**-5.5**
VNA2	**Neumayer--Watz**	**14.69**	**155**	*e*	**P**	**00 11 02.7**	**+1.1**
VNA2	**Neumayer--Watz**	**14.69**	**155**	*e*	Px	00 11 24.1	
VNA2	**Neumayer--Watz**	**14.69**	**155**	*e*	Px	00 11 33.1	
VNA2	**Neumayer--Watz**	**14.69**	**155**	*e*S	**S**	**00 13 37.6**	**-4.2**
VNA2	**Neumayer--Watz**	**14.69**	**155**⇑	*i*Pn	**P**	**00 11 00.1**	**-1.5**
VNA2				*e*		00 11 02.7	
VNA2				*e*		00 11 24.1	
VNA2				*e*		00 11 33.1	
VNA2				*e*		00 13 26.6	
VNA2				*e*S	**S**	**00 13 37.6**	**-4.2**
VNA2				*e*		00 16 04.3	
VNA2				*e*		00 19 31.4	
SNAA	**Sanae**	**16.25**	**153**	*e*	**P**	**00 11 24.1**	**+2.8**
SNAA	**Sanae**	**16.25**	**153**	*e*	Px	00 11 48.2	
SNAA	**Sanae**	**16.25**	**153**	*e*	Px	00 11 55.8	
SNAA	**Sanae**	**16.25**	**153**	*e*S	**S**	**00 14 09.6**	**-8.0**
SNAA	**Sanae**	**16.25**	**153**	P	**P**	**00 11 21.0**	**-0.3**
	32nm,0.3s,baz=322,slow=13,SNR=226						
SNAA				S	**S**	**00 14 07.0**	**-11**
	0.9nm,0.3s,baz=341,slow=18,SNR=5.4						
SNAA				LR	LR	00 15 45.9	
	comp=Z,330nm,19.6s,baz=40,slow=30						
SNAA	**Sanae**	**16.25**	**153**⇑	*i*Pn	**P**	**00 11 21.1**	**-0.2**
SNAA				*e*		00 11 24.1	
SNAA				*e*		00 11 48.2	
SNAA				*e*		00 11 55.8	
SNAA				*e*		00 13 58.1	
SNAA				*e*S	**S**	**00 14 09.6**	**-8.0**
SNAA				*e*		00 16 08.4	
SNAA				*e*		00 19 32.3	
PMSA	**Palmer Station**	**18.82**	**235**	*e*P	**P**	**00 11 50.8**	**-1.1**
	108nm,0.7s						
EFI	**East Falkland**	**19.37**	**277**	Pn	**P**	**00 11 58.5**	**+0.6**
	3µm,0.5s						
USHA	**Ushuaia**	**23.24**	**261**	P	**P**	**00 12 37.2**	**+0.9**
	67nm,0.7s,mb5.1,baz=101,slow=12,SNR=56						
USHA				LR	LR	00 19 45.1	
	comp=Z,472nm,21.6s,baz=48,slow=31						
TRQA	**Tornquist**	**30.87**	**296**	*e*P	**P**	**00 13 45.0**	**-1.6**
	10nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**31.72**	**180**⇓	*i*P	**P**	**00 13 53.8**	**+0.3**
	29nm,0.8s,mb5.1						
PLCA	**Paso Flores**	**33.06**	**283**	P	**P**	**00 14 05.0**	**-0.5**
	28nm,0.6s,mb5.3,baz=131,slow=9.6,SNR=102						
PLCA				LR	LR	00 26 07.1	
	comp=Z,206nm,18.8s,baz=132,slow=34						
MAW	**Mawson**	**37.83**	**141**	P	**P**	**00 14 45.7**	**+0.2**
	11nm,0.7s,mb4.8,baz=9.9,slow=8.5,SNR=3.4						
FCH	**Farellones**	**38.68**	**291**	*e*P	**P**	**00 14 54.2**	**+1.2**
CLCH	**Cerro Calan**	**38.75**	**291**	*e*P	**P**	**00 14 54.5**	**+1.0**
SUR	**Sutherland**	**40.81**	**71**	P	**P**	**00 15 13.5**	**+2.9**
	10nm,1.0s,mb4.6,baz=214,slow=11,SNR=4.0						
SBA	**Scott Base**	**43.65**	**184**	*e*P	**P**	**00 15 33.9**	**+0.8**
	24nm,0.6s,mb5.1						
VNDA	**Vanda**	**44.12**	**182**	P	**P**	**00 15 37.9**	**+1.0**
	36nm,0.5s,mb5.3,baz=187,slow=6.6,SNR=281						
VNDA	**Vanda**	**44.12**	**182**	*e*P	**P**	**00 15 37.1**	**+0.2**
	31nm,0.5s,mb5.3						
BAO	**Brasilia Array**	**45.80**	**330**	P	**P**	**00 15 51.6**	**+0.6**
BDFB	**Brasilia**	**45.80**	**330**	P	**P**	**00 15 51.8**	**+0.8**
	22nm,0.4s,mb5.2,baz=159,slow=7.4,SNR=54						
BDFB				LR	LR	00 31 22.7	
	comp=Z,224nm,21.0s,baz=172,slow=31						
BOSA	**Boshof**	**46.09**	**72**	*e*P	**P**	**00 15 52.9**	**-0.3**
	11nm,0.8s,mb4.6						
LVC	**Limon Verde**	**47.06**	**301**	P	**P**	**00 16 01.0**	**+0.2**
	10nm,0.7s,mb4.7,baz=158,slow=2.5,SNR=16						
LVC				LR	LR	00 35 43.1	
	comp=Z,77nm,19.6s,baz=162,slow=36						
LVC	**Limon Verde**	**47.06**	**301**	*e*P	**P**	**00 15 58.9**	**-1.9**
LBTB	**Lobatse**	**49.24**	**70**	P	**P**	**00 16 18.0**	**+0.2**
	8.7nm,0.8s,mb4.7,baz=219,slow=6.6,SNR=15						
LBTB				pP	pP	00 16 45.2	+1.3
	5.3nm,0.6s,baz=211,slow=8.5,SNR=3.5						
LBTB				LR	LR	00 33 30.2	
	comp=Z,146nm,21.1s,baz=212,slow=31						
LBTB	**Lobatse**	**49.24**	**70**	*e*P	**P**	**00 16 16.2**	**-1.5**
	35nm,1.4s,mb5.1						
LBTB				LR	LR		
	comp=Z,347nm,22.0s						
TSUM	**Tsumeb**	**50.45**	**58**	P	**P**	**00 16 27.9**	**+0.9**
	comp=Z,6.8nm,0.6s,mb4.7,baz=204,slow=6.9,SNR=21						
TSUM				pP	pP	00 16 54.6	+1.3
	comp=Z,7.9nm,0.8s,baz=201,slow=8.0,SNR=5.0						
TSUM	**Tsumeb**	**50.45**	**58**	*e*P	**P**	**00 16 25.8**	**-1.3**
	comp=Z,28nm,1.3s,mb5.0						
CASY	**Casey**	**51.38**	**159**	*e*P	**P**	**00 16 32.6**	**-0.9**
LPAZ	**La Paz**	**52.29**	**306**	P	**P**	**00 16 41.0**	**+0.1**
	comp=Z,7.2nm,0.5s,mb4.9,baz=151,slow=5.5,SNR=34						
LPAZ	**La Paz**	**52.29**	**306**	*e*P	**P**	**00 16 39.8**	**-1.1**
	comp=Z,8.3nm,0.6s,mb4.9						
ARE	**Arequipa**	**53.60**	**302**	*e*P	**P**	**00 16 51.0**	**+0.4**
MATP	**Matopo**	**54.53**	**70**	P	**P**	**00 16 57.0**	**-0.4**
	comp=Z,7.0nm,0.8s,mb4.8,baz=201,slow=6.6,SNR=13						
MATP				pP	pP	00 17 24.9	+0.9
	comp=Z,5.2nm,0.5s,baz=222,slow=9.5,SNR=4.7						
MATP				LR	LR	00 35 31.1	
	comp=Z,117nm,20.5s,baz=233,slow=31						
SAML	**Samuel**	**56.96**	**315**	*e*P	**P**	**00 17 12.0**	**-2.9**
	comp=Z,10nm,0.6s,mb5.0						
LSZ	**Lusaka**	**58.78**	**66**	*e*P	**P**	**00 17 26.0**	**-1.5**
	comp=Z,20nm,1.2s,mb5.0						
DBIC	**Dimbokro**	**67.20**	**23**	P	**P**	**00 18 22.9**	**-0.2**
	comp=Z,15nm,0.5s,mb5.1,baz=169,slow=7.5,SNR=74						
DBIC				pP	pP	00 18 48.8	-2.0
	comp=Z,7.4nm,0.6s,baz=174,slow=7.6,SNR=3.8						
DBIC	**Dimbokro**	**67.20**	**23**	*e*P	**P**	**00 18 22.0**	**-1.1**
	comp=Z,17nm,0.6s,mb5.0						
DBIC				LR	LR		
	comp=Z,299nm,20.0s						
MBAR	**Mbarara**	**72.80**	**61**	P	**P**	**00 18 58.5**	**+1.6**
ROSC	**El Rosal**	**73.93**	**309**	P	**P**	**00 19 03.7**	**+0.2**
	comp=Z,5.6nm,0.5s,mb4.6,baz=71,slow=19,SNR=5.2						
ROSC				LR	LR	00 51 09.5	
	comp=Z,92nm,20.9s,baz=4.1,slow=35						
KMBO	**Kilima Mbogo**	**75.42**	**67**	P	**P**	**00 19 15.0**	**+2.9**
	comp=Z,0.8nm,0.7s,baz=230,slow=7.1,SNR=3.7						
KMBO				pP	pP	00 19 41.7	+1.3
	comp=Z,2.2nm,1.0s,baz=118,slow=3.8,SNR=3.4						
KMBO				LR	LR	00 50 48.0	
	comp=Z,206nm,18.1s,baz=97,slow=34						
KMBO	**Kilima Mbogo**	**75.42**	**67**	P	**P**	**00 19 15.0**	**+2.9**
KMBO				pP	pP	00 19 41.7	+1.3
KMBO				LR	LR	00 50 48.0	
SDV	**Santo Domingo**	**76.17**	**314**	P	**P**	**00 19 15.4**	**-0.9**
	comp=Z,9.2nm,0.8s,mb4.6,baz=212,slow=6.1,SNR=18						
SDV	**Santo Domingo**	**76.17**	**314**	*e*P	**P**	**00 19 14.3**	**-1.9**
	comp=Z,6.5nm,0.6s,mb4.5						
MSZ	**Milford Sound**	**76.51**	**190**	*e*PN	**P**	**00 19 17.4**	**-0.2**
MSZ	**Milford Sound**	**76.51**	**190**	*e*PN	**P**	**00 19 17.4**	**-0.2**
RPZ	**Rata Peaks**	**77.13**	**193**	P	**P**	**00 19 21.5**	**+0.5**
	comp=Z,15nm,0.8s,mb4.8,baz=175,slow=6.1						
RPZ	**Rata Peaks**	**77.13**	**193**	P	**P**	**00 19 21.5**	**+0.5**
TAU	**Tasmania Unive**	**78.78**	**175**	*e*P	**P**	**00 19 29.0**	**-1.1**
THZ	**Tophouse**	**78.83**	**194**	PN	**P**	**00 19 30.6**	**+0.2**
THZ	**Tophouse**	**78.83**	**194**	PN	**P**	**00 19 30.6**	**+0.2**
URZ	**Urewera**	**81.64**	**198**	P	**P**	**00 19 45.8**	**+0.3**
	comp=Z,12nm,0.7s,mb4.8,baz=297,slow=3.4,SNR=14						
JTS	**JuntasAbangare**	**83.33**	**302**	P	**P**	**00 19 54.0**	**-0.5**
	comp=Z,4.1nm,0.6s,mb4.5,baz=236,slow=17,SNR=3.9						
NWAO	**Narrogin (SRO)**	**83.89**	**150**	P	**P**	**00 19 57.0**	**0.0**
	comp=Z,10.0nm,0.7s,mb4.8,baz=198,slow=5.0,SNR=12						
MUN	**Mundaring**	**84.51**	**149**	*e*P	**P**	**00 20 00.1**	**+0.1**
	comp=Z,13nm,0.6s,mb5.0						
KLBR	**Kellerberrin**	**85.29**	**150**⇓	*i*P	**P**	**00 20 03.8**	**-0.1**
	comp=Z,406nm,1.2s						
CNB	**Canberra Magne**	**86.44**	**176**	*e*P	**P**	**00 20 09.9**	**+0.4**
	comp=Z,334nm,1.7s,mb6.0						
FORT	**Forrest**	**88.46**	**158**⇓	*i*P	**P**	**00 20 19.9**	**+0.6**
	comp=Z,1µm,0.6s						
FORT				*e*pP	pP	00 20 49.7	+1.4
STKA	**Stephens Creek**	**89.36**	**170**	*e*P	**P**	**00 20 23.8**	**+0.3**
	comp=Z,11nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**89.36**	**170**	P	**P**	**00 20 23.7**	**+0.2**
	comp=Z,14nm,0.6s,mb5.2,baz=152,slow=4.0,SNR=33						
STKA				pP	pP	00 20 50.5	-2.1
	comp=Z,7.2nm,0.8s,baz=150,slow=6.6,SNR=3.2						
STKA				LR	LR	00 59 39.9	
	comp=Z,184nm,20.4s,baz=20,slow=35						
ASPA	**Alice Springs**	**96.45**	**162**	*e*P	**P**	**00 20 56.2**	**0.0**
ASPA				*e*pP	pP	00 21 26.1	+0.6
ASAR	**Alice Springs**	**96.45**	**162**	P	**P**	**00 20 55.9**	**-0.3**
	comp=Z,11nm,0.5s,mb5.5,baz=183,slow=4.2,SNR=209						
ASAR				pP	pP	00 21 23.4	-2.1
	comp=Z,6.2nm,0.7s,baz=190,slow=4.2,SNR=6.9						
ASAR				PKiKP		00 25 33.1	
	comp=Z,0.6nm,0.5s,baz=168,slow=1.3,SNR=7.6						
ASAR				PKKPbc		00 37 38.9	
	comp=Z,1.9nm,0.5s,baz=12,slow=2.2,SNR=43						
ASAR				LR	LR	01 06 06.6	
	comp=Z,164nm,18.3s,baz=66,slow=36						
WRA	**Warramunga Arr**	**100.17**	**161**	P	P	00 21 12.5	-0.7
	comp=Z,2.1nm,0.7s,baz=196,slow=4.3,SNR=28						
WRA				pP		00 21 41.6	
	comp=Z,1.0nm,0.9s,baz=198,slow=4.6,SNR=2.1						
WRA				PP	PP	00 25 21.4	-1.0
	comp=Z,0.6nm,0.8s,baz=187,slow=6.4,SNR=4.5						
WRA				PKiKP		00 25 39.6	
	comp=Z,1.1nm,0.8s,baz=223,slow=1.4,SNR=8.6						
WRA				PKKPbc		00 37 29.1	
	comp=Z,1.2nm,0.6s,baz=351,slow=2.9,SNR=10						
WRAB	**Tennant Creek**	**100.18**	**161**	*e*Pdif	P	00 21 11.3	-2.0
FITZ	**Fitzroy Crossi**	**100.18**	**153**	*e*P	P	00 21 14.4	+1.1
	comp=Z,2.9nm,0.6s						
TXAR	**Lajitas Array**	**108.42**	**296**	PKiKP		00 25 55.5	
	comp=Z,0.2nm,0.7s,baz=90,slow=1.3,SNR=3.7						
GERES	**GERESS Array B**	**111.89**	**27**	PKiKP		00 26 00.7	
	comp=Z,0.3nm,0.5s,baz=180,slow=1.0,SNR=4.8						
BURAR	**Bucovina Array**	**113.90**	**35**	⇑P	PKPdf	00 26 05.6	+1.9
EKA	**Eskdalemuir Ar**	**115.00**	**14**	PKP	PKPdf	00 26 07.0	+1.3
	comp=Z,0.8nm,0.5s,baz=236,slow=3.0,SNR=4.2						
EKA				PKKPbc		00 36 42.4	
	comp=Z,5.4nm,1.0s,baz=0.7,slow=2.8,SNR=7.9						
SCHQ	**Schefferville**	**117.66**	**335**	PKP	PKPdf	00 26 11.5	+0.8
	comp=Z,6.1nm,0.5s,baz=197,slow=1.2,SNR=44						
SCHQ	**Schefferville**	**117.66**	**335**	*e*PKP	PKPdf	00 26 10.5	-0.3
AKASG	**Malin Array Be**	**117.86**	**36**	PKP	PKPdf	00 26 11.6	+0.4
	comp=Z,2.0nm,0.6s,baz=238,slow=1.4,SNR=10						
MSU	**Marysvale**	**119.97**	**295**	*e*PKP	PKPdf	00 26 16.2	+0.5
PDAR	**Pinedale Array**	**122.12**	**300**	PKP	PKPdf	00 26 19.7	0.0
	comp=Z,1.3nm,0.5s,baz=124,slow=5.5,SNR=23						
PDAR				pPKP		00 26 49.5	
	comp=Z,0.8nm,0.5s,baz=130,slow=5.7,SNR=3.1						
HWUT	**Hardware Ranch**	**122.13**	**298**	*e*PKP	PKPdf	00 26 19.8	0.0
HFS	**Hagfors**	**122.36**	**22**	PKP	PKPdf	00 26 19.4	-0.4
	comp=Z,2.4nm,0.5s,baz=180,slow=3.0,SNR=17						
HFS				PKKPbc		00 36 15.7	
	comp=Z,4.8nm,0.5s,baz=72,slow=4.7,SNR=36						
ULM	**Lac du Bonnet**	**122.42**	**314**	PKP	PKPdf	00 26 19.9	-0.2
	comp=Z,3.0nm,0.5s,baz=61,slow=1.3,SNR=10						
ULM				pPKP		00 26 48.9	
	comp=Z,1.4nm,0.5s,baz=122,slow=2.8,SNR=2.2						
ULM				PKKPbc		00 36 15.8	
	comp=Z,1.9nm,0.5s,baz=325,slow=3.7,SNR=6.0						
NB2	**NORSAR Subarra**	**122.73**	**21**	PKPdf	PKPdf	00 26 21.2	+0.8
	comp=Z,20nm,1.7s,baz=202,slow=1.9						
NB2	**NORSAR Subarra**	**122.73**	**21**	PKPd		00 26 21.2	
	baz=202,slow=1.9						
NOA	**NORSAR Array B**	**122.73**	**21**	PKP	PKPdf	00 26 21.6	+1.2
	comp=Z,2.6nm,0.6s,baz=202,slow=1.9,SNR=11						

NOA PKKPbc 00 36 14.4
comp=Z,1.3nm,0.6s,baz=23,slow=3.3,SNR=7.1
NVAR Mina Array Bea 122.86 291 PKP PKPdf 00 26 23.1 +1.9
comp=Z,0.9nm,0.6s,baz=115,slow=4.1,SNR=8.6
NVAR pPKP 00 26 51.1
comp=Z,0.9nm,0.6s,baz=111,slow=3.5,SNR=4.1
KOLN Koldanda 123.47 91 *e*P PKPdf 00 26 23.0 +0.3
comp=Z,20nm,0.5s
CMAR Chiang Mai Arr 123.64 111 PKP PKPdf 00 26 23.9 +0.6
comp=Z,8.8nm,0.7s,baz=226,slow=4.0,SNR=26
CMAR pPKP 00 26 52.6
comp=Z,6.2nm,0.6s,baz=235,slow=3.6,SNR=5.9
OBN Obninsk 123.95 38 *e*PKP PKPdf 00 26 22.9 -0.1
DMN Daman 124.13 92 *e*P PKPdf 00 26 24.7 +0.7
comp=Z,20nm,0.7s
GKN Gorkha 124.20 92 *e*P PKPdf 00 26 24.3 +0.1
comp=Z,24nm,0.8s
PKI Pulchoki 124.26 92 *e*P PKPdf 00 26 24.8 +0.5
comp=Z,8.1nm,0.4s
KKN Kakani 124.37 92 *e*P PKPdf 00 26 25.1 +0.6
comp=Z,17nm,0.6s
JIRN Jiri 124.74 93 *e*P PKPdf 00 26 26.4 +1.3
comp=Z,38nm,0.6s
FRB Frobisher Bay 126.17 338 PKP PKPdf 00 26 27.5 +0.6
comp=Z,27nm,0.5s,baz=143,slow=4.2,SNR=95
FRB pPKP 00 26 57.0
comp=Z,4.4nm,0.5s,baz=123,slow=6.0,SNR=2.0
HRY Holter Researc 126.20 302 *e*PKP PKPdf 00 26 28.2 +0.8
FINES FINESS Array B 126.30 28 PKP PKPdf 00 26 27.8 +0.7
comp=Z,6.2nm,0.5s,baz=90,slow=7.6,SNR=62
FINES pPKP 00 26 58.7
comp=Z,2.7nm,0.5s,baz=144,slow=2.3,SNR=3.5
FINES SKPbc 00 29 36.2
comp=Z,0.4nm,0.4s,baz=193,slow=2.4,SNR=3.9
FINES PKKPbc 00 36 00.8
comp=Z,0.4nm,0.6s,baz=63,slow=4.3,SNR=4.4
FINES FINESS Array B 126.30 28 PKP PKPdf 00 26 27.8 +0.7
FINES pPKP 00 26 58.7
FINES SKPbc 00 29 36.2
FINES PKKPbc 00 36 00.8
SFJD Kangerlussuaq 126.52 348 *i* P PKPdf 00 26 28.8 +1.4
comp=Z,18nm,0.6s
CHMT Chamberlain Mo 126.99 301 *e*PKP PKPdf 00 26 29.4 +0.5
BMO Blue Mountains 127.30 297 *e*PKP PKPdf 00 26 29.4 -0.2
FCC Fort Churchill 128.60 322 *e*PKP PKPdf 00 26 31.3 -0.4
JOF Joensuu 128.88 30 *e*p PKPdf 00 26 31.9 -0.2
comp=Z,12nm,0.6s
LSA Lhasa 128.97 96 PKP PKPdf 00 26 36.2 +3.0
LSA Lhasa 128.97 96 *e*PKP PKPdf 00 26 35.5 +2.2
AML Almayashu 129.46 72 P PKPdf 00 26 35.6 +1.8
SNR=17
EKS2 Erkin-Say 129.89 71 P PKPdf 00 26 35.8 +1.2
SNR=13
UCH Uchtor 129.94 72 P PKPdf 00 26 37.9 +3.2
SNR=9.1
KZA Kyzart 130.20 73 P PKPdf 00 26 36.6 +1.4
SNR=6.7
AAK Ala-Archa 130.23 72 P PKPdf 00 26 36.2 +0.9
SNR=12
AAK Ala-Archa 130.23 72 *e*PKP PKPdf 00 26 34.7 -0.6
KBK Karagaybulak 130.47 72 P PKPdf 00 26 38.5 +2.8
SNR=5.4
USP Ospenovka 130.70 71 P PKPdf 00 26 38.2 +2.1
SNR=7.5
SUMG Summit 131.09 355 *e*PKP PKPdf 00 26 38.0 +1.9
KMI Kunming 131.14 110 PKP PKPdf 00 26 38.8 +1.4
KMI LR LR
comp=Z,50nm,31.6s
ARCES ARCESS Array B 133.03 22 PKhKP 00 26 26.8
comp=Z,1.4nm,0.7s,baz=216,slow=4.4,SNR=7.4
ARCES PKP PKPdf 00 26 40.8 +0.9
comp=Z,8.2nm,0.5s,baz=204,slow=1.6,SNR=37
ARCES SKPbc 00 29 59.1
comp=Z,3.8nm,0.7s,baz=200,slow=2.4,SNR=9.6
ARE0 ARCESS Array S 133.03 22 *e*PKP PKPdf 00 26 39.9 0.0
KEV Kevo 133.51 23 *e*p PKPdf 00 26 40.1 -0.6
comp=Z,6.2nm,0.7s
DAG Danmarks Havn 135.12 2 *e*P PKPdf 00 26 44.0 +0.4
DAG Danmarks Havn 135.12 2 *i* P PKPdf 00 26 44.0 +0.4
comp=Z,5.1nm,0.4s
BVAR Borovoye Array 135.59 59 PKhKP 00 26 33.7
comp=Z,0.8nm,0.5s,baz=220,slow=5.0,SNR=7.5
BVAR PKP PKPdf 00 26 46.4 +1.4
comp=Z,6.9nm,0.5s,baz=202,slow=3.1,SNR=35
BVAR pPKP 00 27 15.7
comp=Z,2.5nm,0.6s,SNR=2.7
BVAR SKPbc 00 30 07.1
comp=Z,2.3nm,0.7s,baz=243,slow=3.3,SNR=7.9
WMQ Urumqi 137.80 80 *e*PKP PKPdf 00 26 49.5 +0.2
WMQ XPKP 00 27 27.0
WMQ PP PP 00 29 42.0 +0.8
WMQ PKS PKS 00 30 24.0 -0.4
WMQ PPP PPP 00 32 44.0 +0.8
WMQ SKS SKS 00 33 48.0 +1.2
WMQ PP PP
comp=Z,200nm,5.1s
WMQ LR LR
comp=N,207nm,27.0s
WMQ LR LR
comp=E,162nm,24.0s
WMQ LR LR
comp=Z,154nm,21.6s
KURK Kurchatov 137.91 67 *e*PKP PKPdf 00 26 41.3 -8.0
YKA Yellowknife Ar 138.37 316 PKhKP 00 26 39.2
comp=Z,0.9nm,0.5s,baz=126,slow=3.8,SNR=18
YKA PKP PKPdf 00 26 50.6 +0.8
comp=Z,10nm,0.6s,baz=127,slow=2.3,SNR=66
YKA pPKP 00 27 18.6
comp=Z,3.6nm,0.6s,baz=126,slow=2.2,SNR=3.2
YKA sPKP 00 27 34.9
comp=Z,4.9nm,0.8s,baz=125,slow=2.2,SNR=5.7
YKA SKPbc 00 30 12.9
comp=Z,2.3nm,0.6s,baz=131,slow=3.5,SNR=20
YKA Yellowknife Ar 138.37 316 PKP 00 26 39.2
YKA PKP PKPdf 00 26 50.6 +0.8
YKA pPKP 00 27 18.6
YKA sPKP 00 27 34.9
YKA SKPbc 00 30 12.9
YKW3 Yellowknife Ar 138.42 316 *e*PKP PKPdf 00 26 47.3 -2.6
ENH Enshi 138.71 114 *e*PKP PKPdf 00 26 52.4 +1.1
RES Resolute Bay 140.37 337 *e*PKP PKPdf 00 26 46.9 -6.3
LZH Lanzhou 140.56 102 *e*PKP PKPdf 00 26 54.5 +0.1
LZH *e*PP PP 00 29 59.6 +1.8
LZH PP PP
comp=Z,126nm,7.6s
LZH LR LR
comp=N,261nm,18.1s
LZH LR LR
comp=Z,398nm,20.0s
LZH Lanzhou 140.56 102 *e*PKP PKPdf 00 26 54.5 +0.1
LZH pPKP 00 27 19.5
LZH sPKP 00 27 29.0
LZH *e*PP PP 00 29 59.6 +1.8
LZH LR LR
comp=Z,400nm,20.0s
GTA Gaotai 140.97 95 PKP PKPdf 00 26 54.6 -0.5
GTA PPP PPP 00 33 01.4 -7.0
GTA SKS SKS 00 33 54.6 +2.6
GTA SKKS 00 36 35.4
GTA PP PP
comp=Z,131nm,6.1s
GTA LR LR
comp=N,210nm,25.9s
GTA LR LR
comp=E,244nm,22.0s
GTA LR LR
comp=Z,255nm,26.6s
WHN Wuhan 141.23 119 PKP PKPdf 00 26 57.1 +1.3
DLBC Dease Lake 142.22 304 PKhKP 00 26 53.0
comp=Z,1.9nm,0.4s,baz=181,slow=18,SNR=4.2
ZAL Zalesovo 142.88 66 PKhKP 00 26 55.1
comp=Z,5.7nm,0.4s,baz=255,slow=2.5,SNR=21
ZAL PKKPbc 00 34 54.2
comp=Z,0.8nm,0.7s,baz=151,slow=14,SNR=4.7
NJ2 Nanjing 144.53 123 *e*PKP PKPdf 00 27 02.0 +0.6
NJ2 APKP 00 27 32.9
NJ2 XPKP 00 27 40.6
NJ2 PP PP 00 30 24.0 +2.2
NJ2 SKS SKS 00 33 55.0 -2.7
NJ2 SKKS 00 37 00.0
NJ2 PP PP
comp=Z,800nm,5.7s
NJ2 LR LR
comp=N,600nm,28.2s
NJ2 LR LR
comp=E,410nm,21.0s
NJ2 LR LR
comp=Z,850nm,26.7s
SSE Sheshan 144.72 127 *e*PKP PKPdf 00 27 02.6 +0.8
BTO Baotou 147.14 104 *e*PKP PKPdf 00 27 08.6 +3.0
TIA Tai'an 147.22 117 *e*PKP PKPdf 00 27 09.1 +3.3
INK Inuvik 148.06 318 PKP PKPdf 00 27 06.6 +0.4
comp=Z,23nm,0.6s,baz=101,slow=2.4,SNR=12
INK PKPbc PKPdf 00 27 10.8 +4.6
comp=Z,23nm,0.6s,baz=86,slow=2.3,SNR=83
INK pPKPbc 00 27 40.2
comp=Z,11nm,0.6s,baz=110,slow=6.8,SNR=3.3
INK Inuvik 148.06 318 *e*PKP PKPdf 00 27 05.5 -0.7
HHC Hu-ho-hao-te 148.10 105 *e*PKP PKPdf 00 27 12.1 +5.0
HHC PKS PKS 00 30 43.9 +2.7
HHC PP PP 00 30 47.4 +4.5
HHC SKKS 00 37 26.2
HHC PP PP
comp=Z,106nm,5.9s
HHC LR LR
comp=N,261nm,28.5s
HHC LR LR
comp=E,177nm,26.2s
HHC LR LR
comp=Z,369nm,29.7s
DAWY Dawson 148.84 309 *e*PKPdf PKPdf 00 27 06.2 -1.4
DAWY *e*PKPbc PKPdf 00 27 11.9 +4.4
BJT Baijiatuau 149.77 111 *e*PKPbc PKPdf 00 27 16.2 +6.4
BJI Beijing 149.79 111 *e*PKP PKPdf 00 27 15.6 +5.8
BJI LR LR
comp=Z,77nm,25.4s
SONM Songino Array 150.23 90 PKP PKPdf 00 27 11.2 +1.0
comp=Z,20nm,0.6s,baz=217,slow=2.0,SNR=75
SONM PKPbc PKPdf 00 27 17.1 +6.9
comp=Z,16nm,0.4s,baz=228,slow=2.8,SNR=110
SONM pPKPbc 00 27 45.7
comp=Z,29nm,0.7s,baz=196,slow=2.9,SNR=11
DIV Divide 150.49 301 *e*PKPbc PKPdf 00 27 17.3 +7.1
ULN Ulaanbaatar 150.59 91 *e*PKPdf PKPdf 00 27 11.6 +0.8
ULN *e*PKPbc PKPdf 00 27 17.4 +6.6
TLY Talaya 151.06 82 *e*PKPbc PKPdf 00 27 18.4 +7.0
THY Trims Highway 151.28 306 *e*PKPbc PKPdf 00 27 19.2 +7.9
SML Sawmill 151.88 302 *e*PKPbc PKPdf 00 27 20.1 +7.8
ILAR Eielson Array 152.15 308 PKP PKPdf 00 27 13.3 +0.7
comp=Z,1.3nm,0.7s,baz=307,slow=0.8,SNR=8.0
ILAR PKPbc PKPdf 00 27 20.4 +7.9
comp=Z,8.4nm,0.4s,baz=147,slow=2.7,SNR=69
ILAR pPKPbc 00 27 49.8
comp=Z,5.9nm,0.6s,baz=149,slow=5.6,SNR=4.6
SLKM Skilak Lake 152.29 298 *e*PKPbc PKPdf 00 27 21.0 +8.1
COLA College 152.57 308 *e*PKPbc PKPdf 00 27 21.0 +7.8
MCK McKinley 152.73 305 *e*PKPbc PKPdf 00 27 22.1 +8.7
IMA Indian Mountai 155.19 310 *e*PKPbc PKPdf 00 27 28.4 +12
IMA *e*PKPab PKPab 00 27 43.5 -1.0
CN2 Changchun 157.11 118 *e*PKP PKPdf 00 27 20.6 +0.7
CN2 APKP 00 27 47.6
CN2 XPKP 00 27 57.8

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*IDC **05** 00:14:20.0±0.8, 20.09S×66.79E, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=29.3km s-min=19.0km az=180.0*
*NEIC **05** 00:14:21.5±0.5, 20.12S×66.80E, h10^{km}, mb4.6/3, Error ellipse: s-maj=18.2km s-min=11.3km az=187.0*
ISC 05 00:14:19.7±0.6**, 20.1S**±0.2×**66.8E**±0.1**, h10^{km}, n21,** σ**0^{s}51**/14**, mb4.1**/13**, Mauritius - Reunion region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KMBO Kilima Mbogo 34.55 299 P **P 00 21 11.2 +0.5**
0.8nm,0.8s,mb3.7,baz=129,slow=12,SNR=2.5
MATP Matopo 35.91 263 P **P 00 21 22.4 +0.1**
2.9nm,1.1s,mb4.1,baz=105,slow=7.7,SNR=3.3
LBTB Lobatse 38.29 255 P **P 00 21 42.1 -0.1**
4.1nm,1.1s,mb4.0,baz=147,slow=13,SNR=3.6
MBWA Marble Bar 49.31 101 P **P 00 23 11.5 +0.3**
6.3nm,0.9s,mb4.7
CMAR Chiang Mai Arr 49.62 41 P **P 00 23 14.4 +0.8**
1.6nm,0.5s,mb4.3,baz=234,slow=8.6,SNR=6.3
ASAR Alice Springs 61.81 107 P **P 00 24 41.6 +0.1**
1.4nm,0.7s,mb4.2,baz=262,slow=6.4,SNR=11
AAK Ala-Archa 62.84 6 *e*P **P 00 24 47.6 -0.5**
5.5nm,1.5s,mb4.5
WRA Warramunga Arr 62.98 103 P **P 00 24 49.3 0.0**
1.5nm,0.9s,mb4.1,baz=260,slow=6.0,SNR=7.3
WRAB Tennant Creek 62.99 103 *e*P **P 00 24 48.7 -0.6**
6.1nm,1.0s,mb4.7
BVAR Borovoye Array 72.91 2 P **P 00 25 49.9 -0.9**
0.6nm,0.7s,mb3.7,baz=153,slow=6.6,SNR=5.6
ZAL Zalesovo 75.37 11 P **P 00 26 04.5 -0.5**
1.1nm,0.8s,mb3.8,baz=268,slow=5.9,SNR=7.9
SONM Songino Array 76.39 26 P **P 00 26 11.7 +0.7**
1.8nm,0.8s,mb4.0,baz=218,slow=5.3,SNR=16
AKASG Malin Array Be 77.92 337 P **P 00 26 19.5 +0.2**
0.4nm,0.4s,mb3.7,baz=137,slow=4.5,SNR=4.2
AKASG Malin Array Be 77.92 337 P **P 00 26 19.5 +0.2**
MAT Matsushiro 87.77 50 APKP 00 27 44.6
YKA Yellowknife Ar 137.66 1 PKP PKPdf 00 33 46.9 +0.1
0.4nm,0.7s,baz=345,slow=2.2,SNR=5.6
YKA Yellowknife Ar 137.66 1 PKP PKPdf 00 33 46.9 +0.1
ULM Lac du Bonnet 146.96 340 PKPbc PKPbc 00 34 03.1 +1.1
1.5nm,0.7s,baz=30,slow=5.9,SNR=5.8
EDM Edmonton 146.97 0 *e*PKPbc PKPbc 00 34 03.9 +2.0
TXAR Lajitas Array 167.42 319 PKPab PKPab 00 35 31.5 -2.1
0.5nm,0.8s,baz=56,slow=4.5,SNR=4.5
TXAR Lajitas Array 167.42 319 PKPab PKPab 00 35 31.5 -2.1

IDC 05 00:21:57.0±14.0**, 21.86S**×**179.23E, h479**^{km}±171^{km}**, mb3.1**/3**, mb1 3.5**/3**, mb1mx3.1**/14**, mbtmp4.0**/3**, Error ellipse: s-maj=240.7km s-min=58.1km az=166.0, South of Fiji Islands**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
ASAR Alice Springs 41.70 259 P P 00 29 02.4 -1.9
0.8nm,0.4s,baz=97,slow=7.2,SNR=12
WRA Warramunga Arr 41.87 264 P P 00 29 04.9 -0.7
1.8nm,0.5s,baz=97,slow=8.3,SNR=67
TXAR Lajitas Array 89.96 58 P P 00 34 04.9 -0.8
0.4nm,0.7s,baz=217,slow=6.3,SNR=5.1
HFS Hagfors 140.41 349 PKhKP 00 40 26.8
1.4nm,0.4s,baz=45,slow=2.0,SNR=12
AKASG Malin Array Be 142.87 328 PKP PKPdf 00 40 34.5 -0.2
0.7nm,0.5s,baz=29,slow=3.8,SNR=5.8

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*THR **05** 00:22:59.8±0.6, 30.78N×56.90E, h14^{km}±6^{km}, ML3.0*
*CSEM **05** 00:23:00.4±0.2, 30.74N×56.91E, h18^{km}, ML3.6/1, Error ellipse: s-maj=4.9km s-min=3.1km az=36.0*
*TEH **05** 00:23:08.9, 30.72N×55.95E, h10^{km}, Mn3.0*
ISC 05 00:23:00.7±0.8**, 30.72N**±0.06×**56.8E**±0.1**, h14^{km}, n14,** σ**1^{s}30**/15**, Northern and central Iran**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KRBR Kerman 0.74 185 *e*PG **Pg 00 23 15.1 -0.5**
KRBR AML AML 00 23 27.0
comp=N,618nm,0.1s
IBAF Bafgh 1.39 309 Pg **Pg 00 23 25.1 -3.4**
IMEH Mehriz 2.02 290 Pg **Pg 00 23 35.6 -5.4**
ICHK Chekchek 2.57 307 Pn **Pn 00 23 42.8 +0.1**
BNDS Bandar-Abbas 3.36 190 *e*PN **Pn 00 23 55.3 +1.4**
BNDS AML AML 00 24 55.1
comp=N,25nm,0.5s
IPAR Pars 3.38 256 Pn **Pn 00 23 51.3 -3.0**
ZHSF Zahedan 3.59 107 *e*PN **Pn 00 23 56.5 -0.7**
ZHSF AML AML 00 25 01.5
comp=N,26nm,0.7s
NASN Na'in 4.00 302 *e*PN **Pn 00 24 03.6 +0.6**
NASN *e*SG **Sg 00 25 04.9 -9.2**
NASN AML AML 00 25 14.0
comp=N,23nm,0.5s
NASN Na'in 4.00 302 *e*Pn **Pn 00 24 03.6 +0.5**
SNR=52
NASN *e*Sg **Sg 00 25 04.9 -9.2**
comp=N,23nm,0.5s,SNR=90
GHIR Ghir-Karzin 4.13 235 *e*PN **Pn 00 24 05.8 +0.9**
IFIR Firoozkooh 5.98 326 Pn **Pn 00 24 31.0 0.0**
IFIR Firoozkooh 5.98 326 Lg 00 26 03.2
IVRN Varamin 6.05 316 Pn **Pn 00 24 33.3 +1.3**
IDMV Damavand 6.30 322 Pn **Pn 00 24 36.0 +0.5**

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*IDC **05** 00:39:21.5±0.5, 2.66N×126.54E, mb4.6/18, mb1 4.7/18, mb1mx4.7/21, mbtmp4.6/18, MS4.1/2, Ms1 4.2/2, ms1mx3.3/18, Error ellipse: s-maj=27.4km s-min=11.9km az=73.0*
*MOS **05** 00:39:24.8±1.1, 2.61N×126.47E, h33^{km}, mb4.9/16, Error ellipse: s-maj=18.4km s-min=6.7km az=107.6*
*BJI **05** 00:39:30.6, 2.91N×126.50E, h71^{km}, mB5.2, mb5.0, Ms4.5, Msz4.1*
*NEIC **05** 00:39:32.0±0.2, 2.57N×126.54E, mb4.9/32, Error ellipse: s-maj=8.8km s-min=4.9km az=72.0*
*HRVD **05** 00:39:32.0±0.9, 2.51N×126.25E, h84^{km}±10^{km}, MW4.8/32, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s32,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.51±.26; $M_{\theta\theta}$0.02±.20; $M_{\phi\phi}$0.48±.24; $M_{r\theta}$0.45±.11; $M_{\theta\phi}$1.72±.15; $M_{\phi r}$-0.64±.21; Best double couple: $M_0$1.952×10^{16} NP1:ϕ_s263°,δ67°,λ-18°. NP2: ϕ_s360°,δ73°,λ-156°. Principal axes: T 2.006, Plg5°, Azm130°; N -.109, Plg61°, Azm32°; P -1.897, Plg29°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 05 00:39:30.5±0.2**, 2.58N**±0.03×**126.54E**±0.06**, h87^{km}, h87^{km}**±2.3^{km}**:pP-P, n130,** σ**1^{s}08**/139**, mb4.8**/68**, 11C-11D, Northern Molucca Sea**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res ISC
KCP Kidapawan 4.63 342⇑*e*P **P 00 40 37.5 -2.0**
KCP *i* S **S 00 41 34.0 +1.6**
BUKP Musuan 5.46 344 *e*P **P 00 40 49.3 -1.6**
PAGZ Pagadian 6.10 329 *e*P **P 00 40 57.5 -2.2**
IPIL Ipil 6.51 323 *e*P **P 00 41 02.8 -2.6**
KKM Kota Kinabalu 10.85 289 *e*P **P 00 42 04.7 +0.1**
KSM Kuching 16.25 266 *e*P **P 00 43 15.9 +1.0**
KAKA Kakadu 16.28 159 *e*P **P 00 43 12.4 -2.9**
22nm,0.4s
FITZ Fitzroy Crossi 20.57 182⇑*i*P **P 00 44 03.0 -1.5**
49nm,0.7s
FITZ *e*S **S 00 47 47.5 +3.0**
WRAB Tennant Creek 23.65 161 P **P 00 44 34.0 -0.8**
324nm,0.4s,SNR=44
WRAB Tennant Creek 23.65 161*c i*P **P 00 44 34.5 -0.3**
WRAB Tennant Creek 23.65 161 *e*P **P 00 44 32.6 -2.2**
43nm,0.6s,mb5.0
WRA Warramunga Arr 23.66 161 P **P 00 44 34.3 -0.5**
25nm,0.8s,mb4.6,baz=339,slow=10,SNR=125
WRA S **S 00 48 47.6 +7.6**
4.0nm,1.0s,baz=341,slow=20,SNR=7.4
JOW Kunigami 24.17 4 P **P 00 44 38.9 -0.9**
88nm,1.1s,mb5.0,baz=153,slow=20,SNR=3.1
MBWA Marble Bar 24.52 195 *e*P **P 00 44 43.1 -0.1**
28nm,0.9s,mb4.7
ASAR Alice Springs 27.06 165 P **P 00 45 05.9 -1.0**
7.8nm,0.6s,mb4.4,baz=350,slow=6.8,SNR=93
ASAR S **S 00 49 42.4 +5.9**
1.3nm,0.9s,baz=347,slow=19,SNR=2.4
ASPA Alice Springs 27.06 165⇓*i*P **P 00 45 06.1 -0.8**
ASPA *e*S **S 00 49 50.1 +14**
CBIJ Chichi jima 28.62 30 LR LR 00 55 14.8
comp=Z,278nm,21.2s,baz=278,slow=33
SSE Sheshan 28.81 350 *e*P **P 00 45 23.3 +0.7**
SSE AP pP 00 45 42.9 +0.4
SSE S **S 00 50 09.2 +4.6**
SSE AMB AMB
comp=Z,16nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,178nm,4.2s
SSE LR LR
comp=Z,189nm,28.3s
SSE Sheshan 28.81 350 *e*P **P 00 45 23.3 +0.7**
comp=Z,16nm,0.7s,mb4.8
SSE pP pP 00 45 42.9 +0.4
SSE S **S 00 50 09.2 +4.6**
SSE sS 00 50 46.5
SSE SS SS 00 52 18.9 +41
SSE LR LR
comp=Z,190nm,28.3s
CTA Charters Tower 29.70 140 P **P 00 45 30.1 -0.5**
comp=Z,5.2nm,0.6s,mb4.4,baz=311,slow=12,SNR=8.4
WHN Wuhan 30.11 339 *e*P **P 00 45 33.0 -1.2**
NJ2 Nanjing 30.19 347 *e*P **P 00 45 35.5 +0.6**
NJ2 AP pP 00 45 56.2 +1.2
NJ2 PP PP 00 46 37.6 +1.0
NJ2 PPP PPP 00 46 56.2 +5.3
NJ2 S **S 00 50 26.0 -0.5**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,560nm,4.4s
NJ2 LR LR
comp=N,740nm,24.4s
NJ2 LR LR
comp=E,380nm,14.4s
NJ2 LR LR
comp=Z,850nm,26.7s
GYA Guiyang 30.45 323⇑*i*P **P 00 45 39.6 +2.3**
GYA XP sP 00 46 02.8 -4.8
GYA S **S 00 50 36.0 +5.4**
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,110nm,3.4s
GYA LR LR
comp=N,140nm,15.8s
GYA LR LR
comp=E,180nm,16.0s
GYA LR LR
comp=Z,130nm,15.4s
CMAR Chiang Mai Arr 31.30 302 P **P 00 45 44.5 -0.3**
comp=Z,6.5nm,0.9s,mb4.3,baz=118,slow=6.6,SNR=16
CMAR ScP 00 52 19.9
comp=Z,0.6nm,0.4s,baz=135,slow=2.6,SNR=4.7
ENH Enshi 31.93 331 *e*P **P 00 45 48.1 -2.0**
comp=Z,26nm,1.0s,mb4.9
KMI Kunming 32.06 316 P **P 00 45 51.0 -0.3**
KMI AP pP 00 46 12.8 +1.2
KMI S **S 00 50 58.1 +2.3**
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.3
KMI LR LR
comp=N,155nm,9.8s
KMI LR LR
comp=E,214nm,18.9s
KMI LR LR
comp=Z,311nm,18.7s
KMI Kunming 32.06 316 P **P 00 45 51.0 -0.3**
comp=Z,6.0nm,1.0s,mb4.3
KMI pP pP 00 46 12.8 +1.2
KMI S **S 00 50 58.1 +2.3**
KMI LR LR
comp=Z,310nm,18.7s
FORT Forrest 33.20 178 *e*P **P 00 46 01.0 -0.2**
comp=Z,2μm,0.7s
KLBR Kellerberrin 34.99 193 *e*P **P 00 46 17.5 +1.0**
comp=Z,94nm,0.8s,mb5.7
CD2 Chengdu 35.46 325 P **P 00 46 19.6 -0.9**
MAT Matsushiro 35.47 16 *e*P **P 00 46 19.0 -1.5**
comp=Z,8.9nm,0.7s,mb4.7
MAT Matsushiro 35.47 16 P **P 00 46 18.9 -1.6**
NWAO Narrogin (SRO) 36.40 193 P **P 00 46 29.4 +1.0**
comp=Z,3.9nm,0.6s,mb4.5,baz=159,slow=15,SNR=6.9
STKA Stephens Creek 37.13 159⇑*i*P **P 00 46 34.3 -0.2**
comp=Z,18nm,0.8s,mb5.0
STKA Stephens Creek 37.13 159 P **P 00 46 34.4 -0.1**
comp=Z,17nm,0.7s,mb5.1,baz=330,slow=7.6,SNR=34
BJT Baijiatuau 38.44 347 *e*P **P 00 46 44.8 -0.5**
comp=Z,26nm,0.7s,mb5.2
BJI Beijing 38.45 347 *e*P **P 00 46 44.9 -0.5**
comp=Z,29nm,0.6s,mb5.3
BJI LR LR
comp=Z,60nm,29.8s
SNY Shenyang 39.16 356⇓*i*P **P 00 46 51.9 +0.6**
SNY AMB AMB
comp=Z,30nm,0.7s,mb5.2
SNY LR LR
comp=Z,360nm,25.0s
LZH Lanzhou 39.40 331 ⇓P **P 00 46 53.5 +0.2**
LZH AP pP 00 47 14.3 +0.2
LZH PP PP 00 48 29.5 +0.7
LZH *e*S **S 00 52 49.6 +1.5**
LZH AMB AMB
comp=Z,36nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,163nm,5.2s
LZH LR LR

comp=N,765nm,12.8s
LZH LR LR
comp=Z,984nm,16.7s
LZH Lanzhou 39.40 331 ⇓P **P 00 46 53.5 +0.2**
comp=Z,36nm,1.5s,mb5.0
LZH pP pP 00 47 14.3 +0.2
LZH sP sP 00 47 25.2 +0.8
LZH PP PP 00 48 29.5 +0.7
LZH *e*S **S 00 52 49.6 +1.5**
LZH sS 00 53 26.1
LZH SS SS 00 55 41.5 +2.7
LZH LR LR
comp=Z,980nm,16.7s
HHC Hu-ho-hao-te 40.42 342 *e*P **P 00 47 01.4 -0.3**
HHC PP PP 00 48 38.9 -0.7
HHC S **S 00 53 02.7 -0.7**
HHC SS SS 00 55 55.4 -5.3
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,160nm,6.5s
HHC LR LR
comp=N,261nm,27.9s
HHC LR LR
comp=E,177nm,25.6s
HHC LR LR
comp=Z,369nm,28.6s
CN2 Changchun 41.06 359 *e*P **P 00 47 08.1 +1.2**
CN2 *e*S **S 00 53 13.0 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CN2 LR LR
comp=Z,200nm,12.0s
MDJ Mudanjiang 41.95 3 *e*P **P 00 47 14.5 +0.2**
comp=Z,17nm,0.9s,mb4.8
LSA Lhasa 43.06 312 *e*P **P 00 47 24.8 +1.3**
LSA Lhasa 43.06 312 *e*P **P 00 47 23.8 +0.3**
comp=Z,111nm,0.6s,mb4.8
ASAJ Asahikawa 43.74 17 P **P 00 47 28.9 +0.1**
comp=Z,5.5nm,0.6s,mb4.5,baz=215,slow=12,SNR=5.0
GTA Gaotai 43.98 330 P **P 00 47 30.8 -0.1**
GTA AP pP 00 47 50.6 -1.3
GTA XP sP 00 48 00.4 -1.6
GTA PP PP 00 49 14.8 -1.4
GTA PPP PPP 00 49 53.8 -1.2
GTA SCP 00 53 03.7
GTA S **S 00 53 50.0 -5.6**
GTA XS 00 54 31.5
GTA AMB AMB
comp=Z,9.0nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,149nm,6.8s
GTA LR LR
comp=N,210nm,25.5s
GTA LR LR
comp=E,241nm,21.3s
GTA LR LR
comp=Z,257nm,28.9s
JIRN Jiri 45.89 307 *e*P **P 00 47 46.0 -0.3**
comp=Z,18nm,0.6s,mb5.0
YSS Yuzh-Sakhalins 46.39 15⇑ *e*P **P 00 47 50.8 +0.8**
YSS pmax pmax
comp=Z,20nm,1.4s,mb4.7
PKI Pulchoki 46.48 306 *e*P **P 00 47 50.9 0.0**
comp=Z,13nm,0.6s,mb4.9
KKN Kakani 46.68 307 *e*P **P 00 47 51.6 -0.9**
comp=Z,17nm,0.7s,mb4.9
KLR Kul'dur 46.69 5 *e*P **P 00 47 49.0 -3.3**
DMN Daman 46.74 306 *e*P **P 00 47 52.4 -0.6**
comp=Z,36nm,0.9s,mb5.1
HIA Hailar 46.87 354 *e*P **P 00 47 53.1 -0.6**
comp=Z,14nm,0.8s,mb4.8
GKN Gorkha 47.28 307 *e*P **P 00 47 56.5 -0.7**
comp=Z,22nm,0.8s,mb4.9
KOLN Koldanda 48.02 306 *e*P **P 00 48 02.3 -0.7**
comp=Z,66nm,0.8s,mb5.5
ULN Ulaanbaatar 48.15 342 *d i*P **P 00 48 03.6 -0.1**
ULN Ulaanbaatar 48.15 342 *e*P **P 00 48 02.7 -1.0**
comp=Z,12nm,0.9s,mb4.7
SONM Songino Array 48.32 342 P **P 00 48 04.6 -0.4**
comp=Z,6.2nm,0.8s,mb4.5,baz=154,slow=8.2,SNR=53
SONM PcP PcP 00 49 31.9 +1.0
comp=Z,3.1nm,0.8s,baz=166,slow=2.3,SNR=6.4
HYB Hyderabad 49.33 291 *e*P **P 00 48 13.0 -0.2**
HYB Hyderabad 49.33 291 *i*P **P 00 48 13.0 -0.2**
ZAK Zakamensk 51.54 341 *e*P **P 00 48 28.6 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
TLY Talaya 52.55 342 *c i*P **P 00 48 36.9 -0.2**
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MOY Mondy 53.39 340 *e*P **P 00 48 43.6 +0.2**
WMQ Urumqi 53.55 326⇑ *i*P **P 00 48 44.8 +0.1**
WMQ AP pP 00 49 06.0 -0.3
WMQ PCP PcP 00 49 49.5 -0.7
WMQ PP PP 00 50 49.0 +1.5
WMQ PPP PPP 00 51 59.0 +1.6
WMQ PCS 00 53 47.0
WMQ S **S 00 56 10.0 +0.7**
WMQ AMB AMB
comp=Z,16nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,252nm,5.0s
WMQ LR LR
comp=N,524nm,25.6s
WMQ LR LR
comp=E,476nm,24.3s
WMQ LR LR
comp=Z,543nm,27.0s
SMLA Simla 54.49 307 *i*P **P 00 48 43.2 -8.5**
BOD Bodaibo 55.97 352 *e*P **P 00 49 01.3 -0.7**
BOD pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
THN Thein Dam 56.11 308 *e*P **P 00 49 02.1 -1.3**
PET Petropavlovsk 56.85 23 *e*P **P 00 49 09.3 +0.9**
PET pmax pmax
comp=Z,20nm,1.2s,mb5.0
MKAR Makanchi Array 58.39 326 *i*P **P 00 49 18.3 -0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.4s
KSH Kashi 58.72 316 *e*P **P 00 49 24.8 +3.2**
KSH *e*XP sP 00 49 50.5 -3.0
KSH *e*PCP PcP 00 50 11.0 +0.8
KSH *e*PP PP 00 51 36.0 +2.0
KSH *e*PPP PPP 00 53 02.5 +4.1
KSH *e*SCP 00 54 01.0
KSH *e*PCS 00 54 12.0
KSH *e*S **S 00 57 21.8 +4.1**
KSH *e*SCS ScS 00 59 00.0 +0.8
KSH AMB AMB
comp=Z,220nm,4.7s
KSH LR LR
comp=N,460nm,6.5s
KSH LR LR
comp=E,360nm,5.3s
YAK Yakutsk 59.35 2⇓ *e*P **P 00 49 25.7 +0.1**
YAK pmax pmax
comp=Z,45nm,0.8s,mb5.5
ULHL Ulahol 59.75 319 P **P 00 49 29.2 +0.6**
SNR=7.9
MA2 Magadan 59.86 14 *d i*P **P 00 49 30.0 +0.9**
MA2 Magadan 59.86 14 *e*P **P 00 49 29.1 0.0**
comp=Z,19nm,0.9s,mb5.1
KZA Kyzart 60.33 318 P **P 00 49 34.0 +1.3**
SNR=16
TKM2 Tokmak 2 60.48 319 P **P 00 49 34.2 +0.6**
SNR=14
KBK Karagaybulak 60.79 319 P **P 00 49 36.4 +0.7**
SNR=11
UCH Uchtor 60.89 318 P **P 00 49 37.9 +1.5**
SNR=20
AAK Ala-Archa 61.08 318⇑ *e*P **P 00 49 37.1 -0.6**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK MLR MLR
comp=Z,200nm,23.0s
AAK Ala-Archa 61.08 318 *e*P **P 00 49 36.2 -1.4**
comp=Z,6.9nm,1.0s,mb4.6
USP Ospenovka 61.35 319 P **P 00 49 40.4 +0.8**
SNR=19
AML Almayashu 61.40 318 P **P 00 49 41.1 +1.3**
SNR=25
ZAL Zalesovo 61.52 333 *i*P **P 00 49 39.2 -1.3**
ZAL pmax pmax
comp=Z,4.0nm,1.0s

ZAL Zalesovo 61.52 333 P **P 00 49 39.1 -1.3**
comp=Z,4.0nm,1.0s,mb4.4,baz=355,slow=7.1,SNR=12
EKS2 Erkin-Say 61.57 318 P **P 00 49 41.9 +0.9**
SNR=18
KURK Kurchatov 62.60 328 P **P 00 49 47.7 -0.1**
comp=Z,186nm,0.7s,SNR=32
KURK Kurchatov 62.60 328 *c i*P **P 00 49 46.3 -1.5**
KURK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KURK Kurchatov 62.60 328 *e*P **P 00 49 46.2 -1.6**
comp=Z,20nm,0.6s,mb5.2
NVS Novosibirsk 62.80 334 *e*P **P 00 49 45.9 -3.2**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BVA0 Borovoye Array 68.17 327 *i*P **P 00 50 24.7 +1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.7
BVAR Borovoye Array 68.17 327 P **P 00 50 23.0 -0.4**
comp=Z,1.5nm,0.5s,mb4.1,baz=139,slow=8.9,SNR=11
CHKZ Chkalovo 68.35 328 P **P 00 50 23.6 -0.9**
CHKZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
TIXI Tiksi 68.99 1⇓ *e*P **P 00 50 27.5 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.5s,mb4.7
BILL Bilibino 70.71 15⇓ *e*P **P 00 50 39.0 +0.4**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SVE Sverdlovsk 74.83 329 *e*P **P 00 51 03.3 +0.3**
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.1
VNDA Vanda 82.32 173 P **P 00 51 45.1 +1.6**
comp=Z,5.6nm,0.8s,mb4.5,baz=291,slow=4.6,SNR=15
RSO Redoubt South 83.18 30 P **P 00 51 49.1 +0.9**
IMA Indian Mountai 83.51 24 *e*P **P 00 51 51.4 +1.8**
comp=Z,77nm,0.9s,mb5.5
GOF Gofitskoye 83.59 315 *e*P **P 00 52 03.5 +13**
MCK McKinley 85.27 26 *e*P **P 00 51 58.6 +0.1**
comp=Z,38nm,0.9s,mb4.3
SML Sawmill 85.43 28 *e*P **P 00 52 00.6 +1.3**
SOC Sochi 85.93 313 *e*P **P 00 52 00.7 -1.5**
SOC *e* 00 55 20.4
SOC *e*PPP PPP 00 57 12.7 -9.3
SOC *e*S S 01 02 22.3 -4.6
SOC *e*SS SS 01 08 08.7 -0.7
SOC pmax pmax
comp=N,24nm,0.8s
SOC pmax pmax
comp=Z,39nm,0.8s,mb5.4
SOC pmax pmax
comp=E,57nm,0.9s
ILAR Eielson Array 86.22 25 P **P 00 52 04.2 +1.2**
comp=E,1.1nm,0.8s,mb3.9,baz=243,slow=5.2,SNR=17
MALT Malatya 86.93 308 ⇓P **P 00 52 09.4 +2.2**
MALT Malatya 86.93 308 *e*P **P 00 52 06.3 -0.9**
comp=E,13nm,1.3s,mb4.7
MOS Moscow 87.27 326 *e*P **P 00 52 10.4 +2.0**
MOS pmax pmax
comp=Z,48nm,1.2s,mb5.3
ANN Anapa 87.56 315 *e*P **P 00 52 06.7 -3.4**
ANN *i* *PP pP 00 52 16.3 -17
ANN *e* 01 02 28.3
ANN pmax pmax
comp=Z,29nm,1.0s,mb5.3
OBN Obninsk 87.88 325 *c i*P **P 00 52 12.4 +1.0**
OBN *e*S S 01 02 32.9 -12
OBN pmax pmax
comp=Z,14nm,0.7s,mb5.1
OBN Obninsk 87.88 325 *e*P **P 00 52 10.9 -0.5**
comp=Z,13nm,0.6s,mb5.1
KMBO Kilima Mbogo 89.33 269 *i*P **P 00 52 24.5 +5.3**
KMBO pmax pmax
comp=Z,3.0nm,0.7s
KMBO Kilima Mbogo 89.33 269 P **P 00 52 21.5 +2.3**
comp=Z,2.9nm,0.7s,mb4.4,baz=52,slow=5.8,SNR=16
KMBO Kilima Mbogo 89.33 269 *e*P **P 00 52 20.8 +1.5**
comp=Z,3.7nm,0.9s,mb4.4
DAWY Dawson 89.49 26 *e*P **P 00 52 19.5 +0.7**
JOF Joensuu 90.11 333 *e*p **P 00 52 21.3 -0.4**
comp=Z,2.6nm,0.6s,mb4.5
JOF Joensuu 90.11 333 *e*P **P 00 52 21.3 -0.4**
JOF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
INK Inuvik 91.30 21 P **P 00 52 28.1 +0.9**
comp=Z,5.4nm,1.1s,mb4.6,baz=279,slow=7.9,SNR=7.6
ARCES ARCESS Array B 91.45 340 P **P 00 52 28.2 +0.4**
comp=Z,2.6nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=4.9
AKASG Malin Array Be 92.66 321 P **P 00 52 33.5 -0.3**
comp=Z,0.7nm,0.4s,mb4.3,baz=69,slow=5.0,SNR=5.3
FINES FINESS Array B 92.75 332 *i*P **P 00 52 34.9 +1.0**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 92.75 332 P **P 00 52 34.0 0.0**
comp=Z,1.5nm,0.7s,mb4.5,baz=70,slow=4.9,SNR=10
BURAR Bucovina Array 95.72 318 ⇓P **P 00 52 49.5 +1.7**
NOA NORSAR Array B 99.72 333 LR LR 01 46 49.0
comp=Z,101nm,18.1s,baz=350,slow=41
MORC Moravsky Berou 100.18 321 *e*P P 00 53 08.0 0.0
comp=Z,10nm,0.4s
YKA Yellowknife Ar 100.62 24 *i*P P 00 53 11.2 +1.5
YKA pmax pmax
comp=Z,1.0nm,1.0s
YKA Yellowknife Ar 100.62 24 P P 00 53 10.7 +1.1
comp=Z,1.1nm,1.0s,baz=300,slow=4.5,SNR=12
YKA Yellowknife Ar 100.62 24 P P 00 53 10.7 +1.1
JCT Junction City 124.95 50 *e*PKIKP PKPdf 00 58 23.3 +2.1
DBIC Dimbokro 130.62 281 PKP PKPdf 00 58 35.2 +2.7
comp=Z,1.7nm,0.6s,baz=192,slow=3.5,SNR=3.3
LPAZ La Paz 160.15 134 PKPab PKPab 01 00 06.3 +3.1
comp=Z,1.2nm,0.7s,baz=147,slow=2.4,SNR=5.1

*IDC **05** 00:55:43.4±1.8,36.17N×68.13E,mb3.8/9,mb1 4.0/10, mb1mx3.8/20,mbtmp3.8/10,ML3.8/1,Error ellipse: s-maj=46.0km s-min=28.6km az=31.0*
*NEIC **05** 00:55:50.2±0.9,36.50N×68.30E,h35km,mb4.0/2,Error ellipse: s-maj=20.2km s-min=9.1km az=51.0*
*NNC **05** 00:55:51.0±3.0,36.30N×68.71E,h103km±33km,mpv3.9, Error ellipse: s-maj=27.1km s-min=23.8km az=139.0*
ISC 05 00:55:50.0±1.4,36.64N±0.04×68.4E±0.1,h42km±13km, n36,σ1§13/39,mb3.7/8,2C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**4.02**	**133**	P	**P**	**00 56 51.5**	**+0.8**
CEP				S	**S**	**00 57 44.0**	**+6.8**
THW	**Thamme Wali**	**4.72**	**143**	P	**P**	**00 57 11.7**	**+11**
CHCP	**Chirah Chowk**	**4.97**	**125**	P	**P**	**00 57 04.4**	**+0.2**
DRP	**Derazinda**	**5.11**	**162**	P	**P**	**00 57 05.9**	**-0.1**
AML	**Almayashu**	**6.85**	**35**	P	**P**	**00 57 30.6**	**+0.1**
	SNR=13						
UCH	**Uchtor**	**7.32**	**38**	P	**P**	**00 57 37.5**	**+0.5**
	SNR=37						
KZA	**Kyzart**	**7.60**	**42**	P	**P**	**00 57 41.5**	**+0.7**
	SNR=7.5						
AAK	**Ala-Archa**	**7.62**	**36**	P	**P**	**00 57 41.4**	**+0.2**
	SNR=13						
AAK	**Ala-Archa**	**7.62**	**36**	⇓P	**P**	**00 57 41.1**	**0.0**
	3.8nm,0.5s						
AAK				⇓S	**S**	**00 59 07.9**	**+0.9**
	14nm,1.4s						
AAK	**Ala-Archa**	**7.62**	**36**	Pn	**P**	**00 57 40.1**	**-1.0**
	58nm,0.4s,SNR=16						
AAK	**Ala-Archa**	**7.62**	**36**	*e*P	**P**	**00 57 39.8**	**-1.4**
KBK	**Karagaybulak**	**7.85**	**38**	P	**P**	**00 57 45.2**	**+0.7**
	SNR=26						
CHMS	**Chumysh**	**8.02**	**36**	P	**P**	**00 57 48.1**	**+1.4**
	SNR=8.1						
USP	**Ospenovka**	**8.11**	**33**	P	**P**	**00 57 46.8**	**-1.2**
	SNR=5.7						
TKM2	**Tokmak 2**	**8.37**	**39**	P	**P**	**00 57 50.0**	**-1.7**
	SNR=6.1						
MK31	**Makanchi Array**	**14.49**	**41**	⇓P	**P**	**00 59 12.3**	**-1.8**
	2.6nm,0.8s,baz=228,slow=14,SNR=26						
KOLN	**Koldanda**	**15.60**	**120**	*e*P	**P**	**00 59 34.5**	**+6.0**
	20nm,0.8s						
GKN	**Gorkha**	**16.19**	**117**	*e*P	**P**	**00 59 36.5**	**+0.5**
BVA0	**Borovoye Array**	**16.45**	**4**	⇑P	**P**	**00 59 39.5**	**+0.4**
	0.6nm,0.8s,baz=270,slow=38,SNR=15						
BVAR	**Borovoye Array**	**16.45**	**4**	Pn	**P**	**00 59 40.9**	**+1.9**
	0.3nm,0.3s,baz=173,slow=12,SNR=12						
BVAR				Sn	**S**	**01 02 37.3**	**-2.3**
	0.0nm,0.3s,baz=160,slow=17,SNR=2.3						

KKN Kakani 16.78 117 *e*P **P 00 59 42.9 -0.5**
PKI Pulchoki 17.00 117 *e*P **P 00 59 46.1 0.0**
CHKZ Chkalovo 17.11 4⇑P **P 00 59 46.5 -0.8**
6.5nm,1.9s
CHKZ Chkalovo 17.11 4 *e*P **P 00 59 46.4 -1.0**
1.3nm,0.6s
JIRN Jiri 17.51 116 *e*P **P 00 59 50.6 -2.0**
10nm,0.5s
ZAL Zalesovo 20.71 28 P **P 01 00 29.3 +0.3**
1.9nm,0.3s,baz=240,slow=5.7,SNR=9.2
SONM Songino Array 29.99 56 P **P 01 01 58.0 +1.3**
0.6nm,0.6s,mb3.5,baz=266,slow=8.7,SNR=8.1
ULN Ulaanbaatar 30.44 56 P **P 01 02 00.3 -0.3**
FINES FINESS Array B 36.21 327 P **P 01 02 49.0 -1.3**
0.6nm,0.8s,mb3.6,baz=117,slow=9.3,SNR=3.2
ARCES ARCESS Array B 40.23 338 P **P 01 03 24.1 +0.3**
11nm,1.2s,mb4.5,baz=127,slow=9.0,SNR=4.0
NOA NORSAR Array B 43.01 323 P **P 01 03 46.2 -0.4**
0.8nm,1.0s,mb3.4,baz=150,slow=22,SNR=2.7
INK Inuvik 74.09 8 P **P 01 07 24.2 +1.5**
1.0nm,0.6s,mb3.9,baz=26,slow=4.6,SNR=4.6
ILAR Eielson Array 75.20 15 P **P 01 07 30.6 +1.4**
0.4nm,0.8s,mb3.4,baz=318,slow=5.5,SNR=5.9
YKA Yellowknife Ar 81.18 1 P **P 01 08 03.6 +1.4**
0.9nm,0.7s,mb3.8,baz=352,slow=5.3,SNR=15
YKA Yellowknife Ar 81.18 1 P **P 01 08 03.6 +1.4**
WRA Warramunga Arr 83.86 120 P **P 01 08 14.4 -2.5**
0.3nm,0.9s,mb3.4,baz=325,slow=4.8,SNR=5.0

IDC 05 01:04:15.4±1.6,4.20N×126.51E,mb4.1/3,mb1 4.3/3, mb1mx3.8/16,mbtmp4.1/3,Error ellipse: s-maj=147.7km s-min=32.4km az=73.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.19**	**162**	P	P	01 09 43.0	-1.5
	3.3nm,0.7s,baz=342,slow=10,SNR=20						
ASAR	**Alice Springs**	**28.62**	**166**	P	P	01 10 13.4	-2.4
	0.6nm,0.8s,baz=346,slow=7.6,SNR=7.3						
ASAR				PcP	PcP	01 13 25.6	-1.6
	0.3nm,0.3s,baz=333,slow=2.4,SNR=3.7						
ARCES	**ARCESS Array B**	**89.94**	**340**	P	P	01 17 15.9	-1.5
	6.3nm,1.1s,baz=67,slow=6.9,SNR=4.1						

*NEIC **05** 01:12:22.0±5.3,51.19N×178.28E,h9km±33km,mb4.0/1, Error ellipse: s-maj=28.2km s-min=9.6km az=189.0*
*IDC **05** 01:12:27.9±3.4,51.38N×178.41E,h46km±31km,mb3.5/9, mb1 3.8/9,mb1mx3.6/22,mbtmp3.8/9,ML3.8/1,Error ellipse: s-maj=52.7km s-min=19.6km az=16.0*
ISC 05 01:12:21.7±5.0,51.1N±0.3×178.3E±0.2,h20km±35km,n20, σ0§79/21,mb3.8/10,1C,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMY	**Shemya**	**3.04**	**303**	*e*P	**Pn**	**01 13 09.3**	**-0.5**
FX1	**Attu Island--F**	**3.61**	**301**	P	**Pn**	**01 13 22.4**	**+4.6**
	31nm,0.3s,baz=214,slow=5.5,SNR=40						
FX1				S	**Sn**	**01 14 01.1**	**+0.7**
	5.1nm,0.3s,baz=79,slow=17,SNR=2.2						
FX1	**Attu Island--F**	**3.61**	**301**	P	**Pn**	**01 13 18.4**	**+0.5**
ILAR	**Eielson Array**	**22.59**	**40**	P	**P**	**01 17 21.1**	**-0.7**
	0.6nm,0.5s,mb3.3,baz=237,slow=8.4,SNR=17						
DAWY	**Dawson**	**25.54**	**43**	*e*P	**P**	**01 17 51.6**	**+1.3**
INK	**Inuvik**	**28.72**	**35**	P	**P**	**01 18 18.7**	**-0.5**
	1.0nm,0.8s,mb3.6,baz=230,slow=4.9,SNR=4.4						
INK	**Inuvik**	**28.72**	**35**	P	**P**	**01 18 18.7**	**-0.5**
YKA	**Yellowknife Ar**	**36.73**	**46**	P	**P**	**01 19 28.3**	**-0.6**
	0.2nm,0.4s,mb3.3,baz=284,slow=7.9,SNR=4.8						
EDM	**Edmonton**	**40.53**	**59**	P	**P**	**01 20 02.0**	**+1.3**
HLID	**Hailey**	**44.77**	**72**	*e*P	**P**	**01 20 36.2**	**+0.8**
NVAR	**Mina Array Bea**	**45.41**	**81**	P	**P**	**01 20 41.0**	**+0.5**
	0.5nm,0.6s,mb3.5,baz=290,slow=8.3,SNR=4.9						
NVAR	**Mina Array Bea**	**45.41**	**81**	P	**P**	**01 20 41.0**	**+0.5**
BW06	**Boulder Array**	**48.13**	**70**	*e*P	**P**	**01 21 01.3**	**-0.5**
	0.9nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**48.13**	**70**	P	**P**	**01 21 01.9**	**0.0**
	1.4nm,0.7s,mb4.1,baz=309,slow=3.9,SNR=14						
ARCES	**ARCESS Array B**	**58.00**	**349**	P	**P**	**01 22 13.7**	**-0.9**
	5.5nm,1.1s,mb4.5,baz=28,slow=8.6,SNR=9.5						
CHKZ	**Chkalovo**	**59.30**	**319**	*e*P	**P**	**01 22 23.0**	**-0.9**
TXAR	**Lajitas Array**	**60.51**	**79**	P	**P**	**01 22 31.9**	**-0.7**
	0.1nm,0.3s,mb3.4,baz=297,slow=4.6,SNR=4.5						
FINES	**FINESS Array B**	**65.59**	**346**	P	**P**	**01 23 05.0**	**-0.5**
	2.0nm,1.1s,mb4.1,baz=15,slow=6.7,SNR=9.3						
NOA	**NORSAR Array B**	**67.70**	**353**	P	**P**	**01 23 18.6**	**-0.3**
	0.5nm,0.5s,mb3.8,baz=355,slow=4.7,SNR=2.9						
BURAR	**Bucovina Array**	**78.94**	**342**	⇑P	**P**	**01 24 26.1**	**+1.3**

*IDC **05** 01:40:44.6±2.8, 17.62S×167.24E,mb4.1/4,mb1 4.3/4, mb1mx4.1/13,mbtmp4.1/4,MS3.3/2,Ms1 3.3/2, ms1mx2.7/18,Error ellipse: s-maj=119.2km s-min=31.9km az=140.0*
ISC 05 01:40:48.9±5.0,18.3S±0.3×167.5E±0.3,h54km±51km,n6, σ1§75/6,mb3.9/4,MS3.2/2,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.92**	**195**	*e*P	**P**	**01 41 48.6**	**+0.4**
DZM				*e*S	**S**	**01 42 32.9**	**-0.6**
CTA	**Charters Tower**	**20.16**	**261**	LR	LR	01 51 02.8	
	comp=Z,71nm,18.6s,MS3.0,baz=229,slow=31						
STKA	**Stephens Creek**	**27.02**	**235**	P	**P**	**01 46 30.3**	**+2.2**
	4.4nm,0.8s,mb4.1,baz=78,slow=8.0,SNR=6.8						
WRA	**Warramunga Arr**	**31.36**	**261**	P	**P**	**01 47 05.7**	**-1.2**
	0.7nm,1.0s,mb3.5,baz=92,slow=9.3,SNR=6.7						
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**01 47 10.4**	**-0.1**
	2.3nm,0.5s,mb4.2,baz=81,slow=8.4,SNR=39						
ASAR				LR	LR	02 00 04.2	
	comp=Z,59nm,18.3s,MS3.3,baz=192,slow=37						
ILAR	**Eielson Array**	**89.79**	**18**	P	**P**	**01 53 42.1**	**-0.3**
	0.5nm,0.7s,mb4.0,baz=236,slow=5.0,SNR=8.1						

*NEIC **05** 02:08:07.0, 18.78N×68.55W,h148km,MD3.8(RSPR), After RSPR.*
RSPR 05 02:08:07.0,18.78N×68.55W,h148km±3km,MD3.8/14, MD3.8/14,11C-3D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**1.40**	**103**	*e*P	P	02 08 35.6	-0.1
AGPR				*e*S	S	02 08 57.4	-0.5
LSP	**Las Mesas**	**1.51**	**113**	*e*P	P	02 08 35.9	-1.0
LSP				*e*S	S	02 08 59.5	-0.4
MGP	**Maguayo**	**1.59**	**119**	*e*P	P	02 08 38.0	+0.4
MGP				*e*S	S	02 09 00.8	-0.5
LRS	**Lares**	**1.69**	**106**	*e*P	P	02 08 38.2	-0.6
LRS				*e*S	S	02 09 03.0	-0.3
AOPR	**Arecibo Observ**	**1.76**	**104**	*e*P	P	02 08 38.9	-0.7
AOPR				*e*S	S	02 09 03.9	-0.8
PORP	**Portuguez**	**1.96**	**111**	*e*P	P	02 08 41.0	-0.8
PORP				*e*S	S	02 09 08.6	0.0
OBIP	**Obispado Ponce**	**1.99**	**111**	*e*P	P	02 08 41.0	-1.2
OBIP				*e*S	S	02 09 08.4	-0.8
CELP	**Cerrillos**	**2.00**	**110**	*e*P	P	02 08 41.5	-0.8
CELP				*e*S	S	02 09 10.1	+0.6
CSB	**Colonia Sabana**	**2.32**	**102**	*e*P	P	02 08 46.2	-0.1
CSB				*e*S	S	02 09 16.7	+0.2
SJG	**San Juan**	**2.37**	**106**	*e*P	P	02 08 46.0	-1.0
SJG				*e*S	S	02 09 17.2	-0.4
CBYP	**Canovanas**	**2.61**	**101**	*e*P	P	02 08 50.1	+0.2
CBYP				*e*S	S	02 09 21.9	-0.9
CPD	**Cerro la Pandu**	**2.61**	**106**	*e*P	P	02 08 49.8	-0.2
CPD				*e*S	S	02 09 23.0	+0.1
HUMP	**Col San Antoni**	**2.64**	**103**	*e*P	P	02 08 49.9	-0.5
HUMP				*e*S	S	02 09 23.3	-0.3
MTP	**Monte Pirata**	**2.92**	**103**	*e*P	P	02 08 54.3	+0.3
MTP				*e*S	S	02 09 29.8	-0.1

*IDC **05** 02:18:07.3±1.4, 12.79N×123.62E,mb3.4/4,mb1 3.7/4, mb1mx3.5/17,mbtmp3.4/4,Error ellipse: s-maj=131.2km s-min=24.9km az=76.0*
*MAN **05** 02:18:09.1, 12.82N×123.30E,h11km,mb4.6,ML3.5, MS3.4*
ISC 05 02:18:10.3±0.7,12.79N±0.03×123.27E±0.04,h23km±7km, n25,σ1§19/32,mb3.4/4,1C-2D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.55**	**141**	*e*P	**Pb**	**02 18 20.0**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MMPH				eS	Sb	02 18 30.0	+1.3
AUQP	San Andres	0.79	313	eP	Pb	02 18 24.5	-0.7
PVCP	Virac	1.18	47	eP	Pn	02 18 29.2	-2.3
PVCP				eS	Sb	02 18 47.6	+0.9
OTRP	Odiongan	1.29	251	eP	Pn	02 18 32.8	-0.3
RCP	Roxas	1.32	203⇓	eP	Pn	02 18 33.2	-0.4
GQP	Guinayangan	1.37	324	eP	Pn	02 18 32.6	-1.7
GQP				iS	Sn	02 18 53.3	+1.6
CNP	Catarman	1.39	101	eP	Pn	02 18 33.7	-0.8
CNP				eS	Sn	02 18 54.5	+2.3
BOAC	Boac	1.54	296	eP	Pn	02 18 35.9	-0.8
BOAC				eS	Sn	02 18 57.5	+1.4
SJMP	San Jose	2.12	261	eP	Pn	02 18 45.6	+0.6
LQP	Lukban	2.14	308⇑	eP	Pn	02 18 45.0	-0.2
LQP				iS	Sn	02 19 12.0	+0.7
GUIM	Jordan	2.25	197	eP	Pn	02 18 48.1	+1.3
POLP	Polilio Island	2.32	326	eP	Pn	02 18 49.3	+1.4
BESP	Borongan	2.42	119	eP	Pn	02 18 59.1	+10
LBPH	Los Banos	2.44	304	eP	Pn	02 18 49.3	-0.4
LLP	Lapu-Lapu	2.55	164	eP	Pn	02 18 50.6	-0.5
LLP				eS	Sn	02 19 23.4	+1.7
ARP	Angono	2.69	310	eP	Pn	02 18 51.8	-1.4
QVPH	Quezon City--P	2.84	311⇓	eP	Pn	02 18 57.6	+2.3
CUYO	Cuyo Island	2.93	229	eP	Pn	02 18 56.2	-0.3
LUBP	Lubang	3.09	288	eP	Pn	02 18 58.2	-0.6
BUSP	Coron	3.10	256	eP	Pn	02 18 59.2	+0.2
BALP	Baler	3.36	331	eP	Pn	02 19 03.1	+0.4
WRA	Warramunga Arr	34.30	161	P	P	02 24 54.1	-3.2
	0.7nm,1.0s,mb3.5,baz=341,slow=9.2,SNR=4.8						
SONM	Songino Array	37.68	341	P	P	02 25 25.3	-0.2
	0.7nm,0.9s,mb3.4,baz=149,slow=8.4,SNR=4.0						
ASAR	Alice Springs	37.69	164	P	P	02 25 24.4	-1.6
	0.5nm,0.8s,mb3.3,baz=339,slow=7.1,SNR=6.5						
YKA	Yellowknife Ar	92.64	23	P	P	02 31 20.0	-1.1
	0.1nm,0.5s,mb3.5,baz=287,slow=5.5,SNR=4.1						

CASC 05 02:49:53.5±2.1, 13.71N×89.72W, h101^{km}±9^{km}, MD3.8, 5C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.16	35⇑	eP	P	02 50 07.8	0.0
SBLS				eS	S	02 50 19.8	+1.2
SNJE	San Jose	0.19	34⇑	iP	P	02 50 07.7	-0.2
RTR	El Retiro	0.20	20⇑	eP	P	02 50 07.5	-0.4
RBDL	Robledal	0.40	4⇓	iP	P	02 50 09.0	+0.1
RBDL				eS	S	02 50 21.0	+0.5
BOQS	Boqueron	0.42	87	eP	P	02 50 08.7	-0.4
LFU	La Fuente	0.58	86⇓	eP	P	02 50 10.0	-0.3
LFU				eS	S	02 50 24.9	+2.1
LFRS	El Faro	0.64	98⇓	eP	P	02 50 09.9	-0.7
LFRS				eS	S	02 50 23.5	-0.1
LBRS	Las Brisas	0.65	88⇓	eP	P	02 50 10.3	-0.5
LBRS				eS	S	02 50 24.4	+0.6
LCBS	La Ceiba	0.72	94⇓	eP	P	02 50 10.6	-0.8
LCBS				eS	S	02 50 25.3	+0.5
MTO2	Montecristo 2	0.77	27⇑	iP	P	02 50 12.2	+0.4
MTO2				eS	S	02 50 26.3	+0.8
IXG	Ixpaco	0.85	303⇓	eP	P	02 50 12.9	+0.2
IXG				eS	S	02 50 28.3	+1.2
SNVI	San Vicente	0.86	96⇓	eP	P	02 50 12.1	-0.7
SNVI				eS	S	02 50 28.1	+0.9
BLLM	Bellamira	1.46	100	eP	P	02 50 18.9	-0.8
BLLM				eS	S	02 50 41.6	+2.2
CAHU	Cacacuatique	1.46	87⇓	eP	P	02 50 19.4	-0.4
TP2	Tecpan 2	1.66	310⇓	eP	P	02 50 24.0	+1.8
CNCH	Conchagua	1.88	103⇓	eP	P	02 50 24.2	-0.8
JAT	Jato	1.96	288⇑	eP	P	02 50 27.1	+1.1

IDC 05 03:04:34.5±33.0, 15.25S×165.66E, h497^{km}±343^{km}, mb3.3/4, mb1 3.4/5, mb1mx3.3/15, mbtmp4.3/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/11, Error ellipse: s-maj=218.7km s-min=52.7km az=70.0

ISC 05 03:03:54.4±5.1, 15.3S±0.3×167.4E±0.4, h168^{km}±59^{km}, n8, σ1^{s}63/7, mb4.0/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.80	188	eP	P	03 05 32.8	0.0
DZM				eS	S	03 06 49.1	-0.2
CTA	Charters Tower	20.73	254	P	P	03 08 24.6	+1.4
	0.3nm,0.3s,baz=96,slow=13,SNR=3.3						
URZ	Urewera	24.42	161	LR	LR	03 17 35.7	
	comp=Z,106nm,18.6s,baz=236,slow=31						
STKA	Stephens Creek	28.76	230	P	P	03 09 40.1	+1.6
	4.6nm,0.6s,mb4.4,baz=44,slow=9.2,SNR=16						
WRA	Warramunga Arr	31.85	257	P	P	03 10 03.9	-2.0
	1.1nm,0.5s,mb3.8,baz=86,slow=9.0,SNR=19						
ASAR	Alice Springs	32.63	250	P	P	03 10 11.5	-1.1
	4.3nm,0.8s,mb4.3,baz=80,slow=9.1,SNR=59						
SONM	Songino Array	83.05	324	P	P	03 16 02.4	+0.1
	0.5nm,0.4s,mb3.6,baz=136,slow=5.8,SNR=8.5						
ARCES	ARCESS Array B	120.84	345	PKP	PKPdf	03 22 27.6	+1.4
	2.1nm,0.9s,baz=59,slow=2.0,SNR=6.0						

NEIC 05 03:15:11.9±2.0, 5.42S×146.94E, h213^{km}±24^{km}, mb4.5/3, Error ellipse: s-maj=36.6km s-min=17.1km az=129.0
IDC 05 03:15:12.7±1.9, 5.59S×147.23E, h228^{km}±22^{km}, mb3.2/3, mb1 3.6/5, mb1mx3.5/13, mbtmp4.0/5, Error ellipse: s-maj=57.2km s-min=15.5km az=112.0

ISC 05 03:15:09.2±1.6, 5.3S±0.1×146.9E±0.2, h196^{km}±17^{km}, n10, σ1^{s}02/14, mb3.9/4, 1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.08	176	P	P	03 16 14.0	+1.5
	21nm,0.3s,baz=15,slow=7.6,SNR=42						
PMG				S	S	03 17 00.5	-0.9
	10nm,0.3s,baz=214,slow=22,SNR=3.3						
KAKA	Kakadu	16.03	242	eP	P	03 18 45.5	0.0
	12nm,0.6s						
WRAB	Tennant Creek	18.96	219	eP	P	03 19 16.6	-1.3
	10nm,0.6s						
WRA	Warramunga Arr	18.98	219	P	P	03 19 17.1	-0.9
	1.0nm,0.3s,baz=38,slow=11,SNR=50						
WRA				S	S	03 22 38.0	-0.4
	0.1nm,0.3s,baz=44,slow=20,SNR=8.0						
ASAR	Alice Springs	22.11	213	P	P	03 19 50.3	+1.0
	3.4nm,0.7s,mb4.0,baz=40,slow=7.3,SNR=43						
ASAR				S	S	03 23 36.8	+1.6
	0.5nm,0.7s,baz=38,slow=17,SNR=5.1						
ASAR	Alice Springs	22.11	213	P	P	03 19 50.3	+1.0
ASAR				S	S	03 23 36.8	+1.6
ASPA	Alice Springs	22.12	213⇓	iP	P	03 19 50.6	+1.3
FITZ	Fitzroy Crossi	24.33	237	eP	P	03 20 09.9	-0.7
	6.8nm,0.3s,mb4.8						
SONM	Songino Array	63.74	331	P	P	03 25 23.1	+0.9
	0.5nm,0.9s,mb3.1,baz=141,slow=6.2,SNR=3.3						
ILAR	Eielson Array	84.90	23	P	P	03 27 21.9	-1.1
	0.9nm,0.7s,mb3.6,baz=252,slow=4.9,SNR=10						

IDC 05 03:28:58.3±8.2, 18.47S×179.62E, mb3.8/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=367.2km s-min=34.4km az=144.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.51	262	P	P	03 35 28.6	+4.2
	baz=99,slow=13,SNR=1.0						
WRA	Warramunga Arr	42.69	260	P	P	03 36 57.3	-1.6
	0.5nm,0.3s,baz=96,slow=8.2,SNR=17						
ASAR	Alice Springs	42.84	255	P	P	03 36 58.2	-1.8
	0.6nm,0.4s,baz=86,slow=7.9,SNR=12						
ILAR	Eielson Array	86.86	14	P	P	03 41 44.5	-1.2
	1.3nm,1.2s,baz=222,slow=5.8,SNR=11						

IDC 05 03:55:00.5±2.7, 23.85S×177.53W, mb3.7/5, mb1 4.0/5, mb1mx3.9/14, mbtmp3.7/5, Error ellipse: s-maj=184.7km s-min=25.6km az=155.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.84	248	P	P	04 02 09.6	-2.7
	1.2nm,0.5s,baz=90,slow=14,SNR=3.3						
ASAR	Alice Springs	44.27	260	P	P	04 03 11.9	-1.9
	0.2nm,0.4s,baz=90,slow=7.0,SNR=8.8						
WRA	Warramunga Arr	44.66	265	P	P	04 03 16.1	-1.0
	0.3nm,0.5s,baz=102,slow=8.0,SNR=9.0						
NVAR	Mina Array Bea	83.16	43	P	P	04 07 29.2	-0.7
	0.6nm,0.6s,baz=221,slow=8.3,SNR=5.9						
PDAR	Pinedale Array	91.09	43	P	P	04 08 06.9	-1.4
	0.5nm,0.7s,baz=214,slow=3.3,SNR=4.7						

IDC 05 03:57:20.1±16.0, 11.81N×87.64W, mb3.6/4, mb1 3.8/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=307.4km s-min=62.1km az=4.0
CASC 05 03:57:27.8±2.4, 11.93N×88.15W, h36^{km}±999^{km}, MD4.0, ML3.1

ISC 05 03:57:27.2±1.0, 11.91N±0.08×88.14W±0.06, h64^{km}±10^{km}, n27, σ0^{s}87/37, mb3.5/4, 9C-3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	1.32	68⇑	eP	P	03 57 49.5	-0.6
CRIN	San Cristobal	1.32	54	eP	P	03 57 49.2	-0.9
CNCH	Conchagua	1.39	12⇑	eP	P	03 57 50.1	-1.0
CNCH				eS	S	03 58 09.9	+1.2
TELN	Telica	1.45	62	eP	P	03 57 52.6	+0.7
MIRN	Miramar	1.49	69	eP	P	03 57 51.9	-0.6
VSM	San Miguel	1.51	355⇓	eP	P	03 57 52.2	-0.5
VSM				eS	S	03 58 12.9	+1.4
BLLM	Bellamira	1.52	356⇑	eP	P	03 57 51.9	-1.0
BLLM				eS	S	03 58 11.3	-0.5
CNGN	Cerro Negro	1.53	67⇑	eP	P	03 57 51.1	-1.8
MOMJ	Momotombo	1.64	72⇓	eP	P	03 57 54.0	-0.5
XAVN	Gruta Xavier	1.79	82	eP	P	03 57 57.7	+1.2
SNVI	San Vicente	1.82	338⇑	eP	P	03 57 57.0	+0.1
MGAN	Managua	1.87	83⇑	eP	P	03 57 57.7	+0.2
MGAN				eS	S	03 58 19.7	-0.2
MGAN				i		03 58 27.8	
	comp=N,209nm,0.4s						
TICN	Ticuantepe	1.87	86	eP	P	03 57 58.5	+0.8
LCBS	La Ceiba	1.91	335⇑	eP	P	03 57 57.5	-0.7
LCBS				eS	S	03 58 20.4	-0.7
LFRS	El Faro	1.92	332	eP	P	03 57 57.6	-0.7
LFRS				eS	S	03 58 21.0	-0.3
WILN	Americas 2	1.93	82	eP	P	03 57 59.7	+1.3
WILN				eS	S	03 58 21.8	+0.4
LBRS	Las Brisas	2.02	334	eP	P	03 57 57.9	-1.7
BOQS	Boqueron	2.12	329⇓	eP	P	03 58 01.2	+0.1
PYTN	Playitas	2.13	73	eP	P	03 58 02.4	+1.1
SBLS	San Blas	2.40	323	eP	P	03 58 05.5	+0.5
SBLS				eS	S	03 58 33.4	+0.1
SNJE	San Jose	2.41	324⇑	eP	P	03 58 06.9	+1.6
RTR	El Retiro	2.46	324⇑	eP	P	03 58 06.1	+0.2
RTR				eS	S	03 58 35.8	+1.0
CONN	Concepcion	2.49	98	eP	P	03 58 06.8	+0.5
CONN				eS	S	03 58 34.7	-0.8
TXAR	Lajitas Array	22.57	322	P	P	04 02 26.9	+3.8
	comp=N,0.4nm,0.5s,mb3.1,baz=135,slow=10,SNR=7.6						
ULM	Lac du Bonnet	38.75	352	P	P	04 04 46.5	-0.3
	comp=N,1.0nm,0.4s,mb3.9,baz=168,slow=8.5,SNR=3.4						
SCHQ	Schefferville	45.98	17	P	P	04 05 45.3	-0.4
	comp=N,1.1nm,0.7s,mb3.9,baz=241,slow=10,SNR=5.6						
YKA	Yellowknife Ar	53.95	345	P	P	04 06 46.6	+0.2
	comp=N,0.2nm,0.5s,mb3.3,baz=132,slow=8.5,SNR=8.6						

NEIC 05 03:59:34.4, 32.64S×72.98W, h20^{km}, ML3.4(GUC), After GUC.

GUC 05 03:59:34.4±0.8, 32.64S×72.98W, h20^{km}±3^{km}, MD3.7, ML3.4, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	1.30	86	eP	Pn	03 59 56.9	-0.8
PACH				iS	Sb	04 00 14.4	0.0
LCCH	Las Cruces	1.45	126	eP	Pn	03 59 59.3	-0.4
LCCH				iS	Sn	04 00 18.3	0.0
TACH	Talagante	1.99	121⇑	iP	Pn	04 00 07.6	+0.1
TACH				iS	Sn	04 00 32.6	+0.6
PEL	Peldehue	1.99	105	iS	Sn	04 00 34.1	+1.9
RCDM	Rinconada Maip	2.01	116	iP	Pn	04 00 07.8	0.0
RCDM				iS	Sn	04 00 33.5	+0.9
JACH	Jahuel	2.01	92⇑	iP	Pn	04 00 07.3	-0.5
JACH				iS	Sn	04 00 32.9	+0.3
DSCH	Colegio Aleman	2.16	111	iP	Pn	04 00 10.9	+0.9
DSCH				iS	Sn	04 00 38.0	+1.6
DSCH				AMP		04 00 42.2	
	comp=N,416nm,0.6s						
ANTU	Antumapu	2.17	116	eS	Sn	04 00 38.2	+1.4
ANTU				AMP		04 00 39.9	
	comp=N,383nm,0.5s						
CLCH	Cerro Calan	2.18	111⇑	iP	Pn	04 00 11.1	+0.8
CLCH				iS	Sn	04 00 38.7	+1.7
CLCH				AMP		04 00 40.6	
	comp=E,284nm,0.4s						
PCH	Pirque	2.29	116⇓	iP	Pn	04 00 12.5	+0.7
PCH				iS	Sn	04 00 41.5	+1.9
CHCH	Chadas Angostu	2.33	124⇓	iP	Pn	04 00 12.8	+0.3
FCH	Farellones	2.36	108⇑	iP	Pn	04 00 13.5	+0.7
FCH				iS	Sn	04 00 43.3	+1.9
FCH				AMP		04 00 44.0	
	comp=N,187nm,0.3s						
SFDO	San Fernando	2.56	141	eP	Pn	04 00 15.9	+0.2
SFDO				iS	Sn	04 00 47.5	+0.9
LMEL	Las Melosas	2.62	118	eP	Pn	04 00 17.2	+0.7
LMEL				iS	Sn	04 00 49.6	+1.6
LMEL				AMP		04 00 50.9	
	comp=N,189nm,0.3s						

NEIC 05 04:44:25.8±0.3, 22.00S×68.40W, mb5.0/35, Error ellipse: s-maj=9.8km s-min=6.9km az=76.0
IDC 05 04:44:25.8±0.4, 22.20S×68.68W, h111^{km}±4^{km}, mb4.2/11, mb1 4.3/13, mb1mx4.2/17, mbtmp4.5/13, MS3.6/2, Ms1 3.5/2, ms1mx2.7/20, Error ellipse: s-maj=21.2km s-min=10.7km az=86.0
HRVD 05 04:44:25.8±0.6, 21.98S×68.51W, h150^{km}±6^{km}, MW4.8/38, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s38,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.05±.17; $M_{\theta\theta}$-1.00±.16; $M_{\phi\phi}$2.05±.22; $M_{r\theta}$-0.67±.09; $M_{\theta\phi}$-0.51±.14; $M_{\phi r}$-1.14±.15; Best double couple: $M_0$2.245×10^{16} NP1:ϕ_s134°, δ43°, λ-153°. NP2: ϕ_s23°, δ72°, λ-50°. Principal axes: T 2.447, Plg17°, Azm85°; N -.403, Plg37°, Azm189°; P -2.043, Plg48°, Azm335°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
BJI 05 04:44:25.7, 22.00S×68.40W, h112^{km}, mB5.4

ISC 05 04:44:24.3±0.3, 21.95S±0.05×68.41W±0.08, h113^{km}, h113^{km}±1.5^{km}:pP-P, n100, σ1^{s}08/87, mb4.8/40, 1C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	0.80	215	P	P	04 44 43.7	-0.3
	388nm,0.3s,baz=28,slow=6.6,SNR=4296						
LVC				S	S	04 44 57.2	-1.7
	2μm,0.3s,baz=253,slow=19,SNR=166						
LVC	Limon Verde	0.80	215	eP	P	04 44 43.2	-0.9
LPAZ	La Paz	5.64	3	P	P	04 45 51.4	+4.4
	2.4nm,0.3s,baz=190,slow=6.4,SNR=41						
LPAZ	La Paz	5.64	3	eP	P	04 45 50.8	+3.8
	99nm,1.1s						
ARE	Arequipa	6.19	331	eP	P	04 45 54.0	-0.5
ARE				e		04 46 03.0	
ARE				iS	S	04 47 02.0	-2.5
NNA	Nana	12.77	320	eP	P	04 47 22.1	-0.7
	68nm,0.8s						
SAML	Samuel	13.87	22	eP	P	04 47 36.2	-0.9
	6.9nm,0.9s						
TRQA	Tornquist	16.98	162	eP	P	04 48 11.5	-4.7
	34nm,1.4s						
PLCA	Paso Flores	18.81	185	P	P	04 48 35.2	-2.3
	0.1nm,0.3s,baz=337,slow=13,SNR=3.7						
PLCA				LR	LR	04 57 11.3	
	comp=Z,220nm,18.1s,baz=207,slow=41						
PLCA	Paso Flores	18.81	185	eP	P	04 48 34.4	-3.1
	8.2nm,1.1s						
BDFB	Brasilia	20.29	75	P	P	04 48 53.3	0.0
	17nm,0.7s,baz=256,slow=13,SNR=17						
BDFB				LR	LR	04 58 27.4	
	comp=Z,107nm,18.6s,baz=92,slow=41						
BDFB	Brasilia	20.29	75	P	P	04 48 53.3	0.0
BDFB				LR	LR	04 58 27.4	
BAO	Brasilia Array	20.32	75	P	P	04 48 52.8	-0.7
ROSC	El Rosal	27.27	347	P	P	04 50 01.8	+1.5
	7.9nm,0.7s,mb4.3,baz=93,slow=19,SNR=7.4						
SDV	Santo Domingo	30.72	356	eP	P	04 50 29.5	-1.6
	13nm,0.8s,mb4.7						
SJG	San Juan	39.88	3	eP	P	04 51 46.9	-1.8
	16nm,0.6s,mb5.0						
COW	Cow Castle Cre	56.26	348	eP	P	04 53 54.2	-1.3
JSC	Jenkinsville	57.24	347	eP	P	04 54 01.3	-1.0
HKT	Hockley	57.95	332	eP	P	04 54 06.5	-0.9
	44nm,1.6s,mb5.2						
SWET	Sewanee	59.23	343	eP	P	04 54 14.5	-1.7
ELN	Prospectdale	60.00	349	eP	P	04 54 20.8	-0.6
JCT	Junction City	60.23	329	eP	P	04 54 22.0	-1.1
	41nm,0.8s,mb5.5						
MIAR	Mount Ida	61.06	336	eP	P	04 54 27.4	-1.3
	5.6nm,0.6s,mb4.8						
TXAR	Lajitas Array	61.26	325	P	P	04 54 29.8	-0.3
	4.0nm,0.6s,mb4.6,baz=151,slow=8.4,SNR=57						
TXAR				pP	pP	04 54 58.5	+0.7
	1.6nm,0.7s,baz=159,slow=11,SNR=4.0						
TXAR				sP	sP	04 55 10.1	-0.2
	0.9nm,0.6s,baz=138,slow=11,SNR=2.1						
SNAA	Sanae	61.70	161	e	pP	04 55 00.8	+0.6
SNAA	Sanae	61.70	161	e	PcP	04 55 12.3	-0.1
SNAA	Sanae	61.70	161	e	sP	04 55 20.0	+7.3
SNAA	Sanae	61.70	161	P	P	04 54 31.8	-0.7
	1.3nm,0.7s,mb4.1,baz=272,slow=9.0,SNR=8.0						
SNAA	Sanae	61.70	161⇑	iP	P	04 54 31.7	-0.8
SNAA				e	pP	04 55 00.8	+0.6
SNAA				e		04 55 12.3	
SNAA				e		04 55 20.0	
WCI	Wyandotte Cave	62.17	344	eP	P	04 54 33.6	-2.5
	24nm,1.2s,mb5.1						
MCWV	Mont Chateau	62.21	350	eP	P	04 54 35.7	-0.6
	15nm,0.6s,mb5.2						
FVM	French Village	63.11	341	eP	P	04 54 40.0	-2.2
	30nm,1.0s,mb5.2						
CCM	Cathedral Cave	63.43	340	eP	P	04 54 42.3	-2.1
	14nm,0.9s,mb4.9						
MNTX	Cornudas Mount	64.03	325	eP	P	04 54 46.6	-1.8
	18nm,1.0s,mb4.9						
ALLY	Alegheny Colle	64.20	350	eP	P	04 54 48.0	-1.3
ERPA	Erie	64.64	350	eP	P	04 54 51.3	-0.9
	17nm,0.7s,mb5.0						
AMTX	Amarillo	64.75	330	eP	P	04 54 51.8	-1.2
	26nm,1.3s,mb4.9						
ANMO	Albuquerque	67.13	327	eP	P	04 55 08.5	+0.3
	23nm,0.9s,mb5.0						
TUC	Tucson	67.48	322	eP	P	04 55 10.4	+0.1
	24nm,1.4s,mb4.8						
QSPA	South Pole Qui	68.24	180⇓	iP	P	04 55 14.7	+0.4
	7.1nm,0.7s,mb4.6						
DBIC	Dimbokro	68.42	73	P	P	04 55 17.2	+0.7
	7.5nm,0.7s,mb4.6,baz=239,slow=6.0,SNR=15						
DBIC	Dimbokro	68.42	73	eP	P	04 55 16.2	-0.3
	21nm,1.3s,mb4.8						
SDCO	Great Sand Dun	68.87	329	eP	P	04 55 19.4	+0.5
	35nm,0.9s,mb5.2						
WUAZ	Wupatki	70.17	324	eP	P	04 55 27.9	+1.1
	542nm,0.9s						
ISCO	Idaho Springs	70.57	330	eP	P	04 55 29.8	+0.6
	15nm,0.8s,mb4.9						
PV01	Paradox Valley	70.67	327	eP	P	04 55 30.9	+1.1
PV10	Paradox Valley	71.09	327	eP	P	04 55 32.6	+0.3
SRU	San Rafael	72.41	327	eP	P	04 55 40.4	+0.3
MSU	Marysvale	72.81	325	eP	P	04 55 43.8	+1.3
MVU	Marysvale	72.83	325	eP	P	04 55 43.4	+0.8
	32nm,0.9s,mb5.2						
TMUT	Trail Mountain	72.89	327	eP	P	04 55 43.6	+0.6
ARUT	Antelope Range	72.96	324	eP	P	04 55 45.3	+1.9
MPU	Maple Canyon	73.65	327	eP	P	04 55 47.7	+0.3
DAU	Daniels Canyon	73.76	327	eP	P	04 55 48.8	+0.8
JLU	Jordanelle	74.00	327	eP	P	04 55 50.3	+0.9
BW06	Boulder Array	74.73	330	eP	P	04 55 53.3	-0.2
	4.8nm,0.8s,mb4.3						
PDAR	Pinedale Array	74.73	330	P	P	04 55 54.2	+0.7
	3.7nm,0.7s,mb4.2,baz=140,slow=6.8,SNR=27						
HWUT	Hardware Ranch	74.81	328	eP	P	04 55 54.2	+0.2
	23nm,0.9s,mb4.9						
SPUT	South Promonto	75.03	327	eP	P	04 55 55.8	+0.5
BGU	Big Grassy Mou	75.04	327	eP	P	04 55 55.8	+0.4
TPH	Tonopah	75.27	322	eP	P	04 55 56.9	+0.2
	7.7nm,1.0s,mb4.4						
AHID	Auburn Hatcher	75.46	329	eP	P	04 55 58.4	+0.8
	41nm,0.9s,mb5.2						
ULM	Lac du Bonnet	75.89	342	P	P	04 55 59.6	-0.3
	5.5nm,0.6s,mb4.5,baz=144,slow=6.0,SNR=17						
ULM	Lac du Bonnet	75.89	342	eP	P	04 55 58.4	-1.5
	33nm,1.6s,mb4.8						
ELK	Elko	76.06	325	eP	P	04 56 01.8	+0.7
	12nm,1.0s,mb4.6						
NVAR	Mina Array Bea	76.13	322	P	P	04 56 02.9	+1.4
	4.1nm,0.9s,mb4.2,baz=145,slow=7.4,SNR=23						
NVAR				pP	pP	04 56 30.9	+0.5
	2.0nm,0.8s,baz=142,slow=6.9,SNR=4.0						
NVAR	Mina Array Bea	76.13	322	P	P	04 56 02.9	+1.4
NVAR				pP	pP	04 56 30.9	+0.5
LAO	LASA Array	76.39	334	eP	P	04 56 03.2	+0.4
	31nm,1.2s,mb4.9						
LAO				epP	pP	04 56 30.0	-1.6
SCHQ	Schefferville	76.48	1	P	P	04 56 03.5	+0.4
	3.5nm,0.7s,mb4.2,baz=195,slow=3.7,SNR=10						
VNDA	Vanda	76.49	190	P	P	04 56 01.5	-1.4
LKWY	Lake	76.51	331	eP	P	04 56 04.9	+1.4
	18nm,0.9s,mb4.8						
YFT	Old Faithful	76.62	330	eP	P	04 56 05.3	+1.1
YMR	Madison River	76.84	330	eP	P	04 56 06.1	+0.7
DGMT	Dagmar	77.07	336	eP	P	04 56 07.2	+0.6
	30nm,0.9s,mb5.0						
GCMT	Greycliff	77.13	332	eP	P	04 56 07.9	+0.9
QLMT	Earthquake Lak	77.18	330	eP	P	04 56 08.5	+1.2
HLID	Hailey	77.67	328	eP	P	04 56 11.5	+1.5
	32nm,0.9s,mb5.0						
HLID				epP	pP	04 56 41.1	+2.2
MCMT	McKenzie Canyo	77.84	329	eP	P	04 56 12.3	+1.4
OHCM	Honcut	78.58	321	eP	P	04 56 15.4	+0.3
HRY	Holter Researc	78.80	331	eP	P	04 56 17.3	+1.2
HRY				epP	pP	04 56 45.9	+0.9
CHMT	Chamberlain Mo	79.59	331	eP	P	04 56 21.2	+0.8
MOD	Modoc	79.61	323	eP	P	04 56 21.2	+0.7
	14nm,1.0s,mb4.7						
BMO	Blue Mountains	80.04	327	eP	P	04 56 23.1	+0.2
	25nm,1.0s,mb5.0						
BMO				epP	pP	04 56 52.3	+0.5
FCC	Fort Churchill	83.17	347	eP	P	04 56 38.7	-0.1
	11nm,0.9s,mb4.7						
FCC				epP	pP	04 57 08.0	0.0
MATP	Matopo	88.61	111	P	P	04 57 08.2	+1.9
	4.9nm,1.2s,mb4.4,baz=211,slow=3.5,SNR=5.5						
MATP				pP	pP	04 57 37.4	+1.5
	2.4nm,0.9s,baz=235,slow=5.1,SNR=2.8						
YKA	Yellowknife Ar	91.77	340	P	P	04 57 20.7	+0.7
	4.9nm,0.8s,mb4.8,baz=135,slow=4.4,SNR=101						
YKA				pP	pP	04 57 50.7	+0.9
	1.7nm,0.7s,baz=136,slow=4.7,SNR=6.1						
YKA				sP	sP	04 58 03.3	+1.4
	1.9nm,0.7s,baz=135,slow=4.4,SNR=4.8						
YKA	Yellowknife Ar	91.77	340	P	P	04 57 20.7	+0.7
YKA				pP	pP	04 57 50.7	+0.9
YKA				sP	sP	04 58 03.3	+1.4
YKW3	Yellowknife Ar	91.82	340	eP	P	04 57 20.5	+0.2
ASAR	Alice Springs	129.73	207	PKP	PKPdf	05 03 22.2	+1.3
	2.1nm,0.8s,baz=145,slow=2.3,SNR=16						
WRA	Warramunga Arr	132.80	210	PKP	PKPdf	05 03 28.4	+1.5
	1.1nm,0.5s,baz=156,slow=1.7,SNR=23						
ZAL	Zalesovo	142.16	26	PKP	PKPdf	05 03 45.5	+2.6
	2.7nm,0.5s,baz=182,slow=2.1,SNR=11						
WMQ	Urumqi	150.56	37	ePKP	PKPdf	05 03 59.0	+1.8
WMQ				APKP		05 04 26.0	
WMQ				XPKP		05 04 36.0	
WMQ				PKS	PKS	05 07 33.0	+2.1
WMQ				PP	PP	05 07 45.0	+2.1
WMQ				SKS	SKS	05 10 55.0	+3.2
WMQ				PP	PP		
	comp=Z,218nm,4.8s						
WMQ				LR	LR		
	comp=N,78nm,18.6s						
WMQ				LR	LR		
	comp=E,92nm,22.2s						
WMQ				LR	LR		
	comp=Z,142nm,17.7s						
SONM	Songino Array	153.84	8	PKP	PKPdf	05 04 05.3	+3.6
	comp=Z,1.8nm,0.8s,baz=321,slow=1.5,SNR=17						
SONM				PKPbc	PKPdf	05 04 12.6	+11
	comp=Z,2.2nm,0.7s,baz=308,slow=1.1,SNR=14						
SONM				PKPab	PKPab	05 04 26.8	+1.0
	comp=Z,1.1nm,0.8s,baz=332,slow=4.5,SNR=5.2						

CN2	**Changchun**	**155.37**	**335**	*e*PKP	PKPdf	05 04 05.8	+1.9
GTA	**Gaotai**	**159.90**	**27**	PKP	PKPdf	05 04 12.7	+3.0
GTA				APKP		05 04 40.8	
GTA				XPKP		05 04 52.6	
GTA				PP	PP	05 08 37.1	+2.8
GTA				SS	SS	05 28 35.2	+4.0
GTA				PP	PP		
	comp=Z,54nm,7.6s						
GTA				LR	LR		
	comp=N,410nm,22.1s						
GTA				LR	LR		
	comp=E,239nm,22.4s						
GTA				LR	LR		
	comp=Z,127nm,28.9s						
HHC	**Hu-ho-hao-te**	**161.16**	**0**	*e*PKP	PKPdf	05 04 12.9	+1.9
HHC				APKP		05 04 39.6	
HHC				XPKP		05 04 50.3	
HHC				PP	PP	05 08 40.7	-0.8
HHC				SKS	SKS	05 11 04.0	+0.9
LZH	**Lanzhou**	**164.38**	**24**	*e*PKP	PKPdf	05 04 14.5	+0.2
LZH				APKP		05 04 49.3	
LZH				XPKP		05 05 03.1	
LZH				LR	LR		
	comp=N,161nm,18.0s						
LZH				LR	LR		
	comp=Z,273nm,20.0s						
LZH	**Lanzhou**	**164.38**	**24**	*e*PKP	PKPdf	05 04 14.5	+0.2
LZH				pPKP		05 04 49.3	
LZH				sPKP		05 05 03.1	
LZH				*e*PP	PKPab	05 05 12.3	+0.7
LZH				LR	LR		
	comp=Z,270nm,20.0s						
SSE	**Sheshan**	**167.49**	**319**	*e*PKP	PKPdf	05 04 16.1	-0.9
GYA	**Guiyang**	**173.65**	**44**	*e*PKP	PKPdf	05 04 21.5	+1.0
GYA				APKP		05 04 48.6	
GYA				PP	PP	05 09 45.0	-0.4
GYA				PP	PP		
	comp=Z,120nm,6.4s						

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*IDC **05** 04:49:59.4±3.9, 9.53S×113.09E, mb3.4/3, mb1 3.6/3, mb1mx3.5/13, mbtmp3.4/3, Error ellipse: s-maj=149.1km s-min=26.1km az=55.0*
*DJA **05** 04:50:08.0±0.9, 9.48S×113.45E, h22km±5km, MD5.1/4, ML4.5/4, Error ellipse: s-maj=18.5km s-min=15.7km az=43.0*
*NEIC **05** 04:50:10.5±3.6, 9.21S×113.70E, h76km±26km, mb3.9/1, Error ellipse: s-maj=56.5km s-min=13.8km az=51.0*
ISC 05 04:50:09.1±2.0**, 9.2S**±0.1×**113.6E**±0.1**, h80**km±17km**, n11, σ0ˢ67**/16**, mb3.4**/4**, 4C-7D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.94**	**36**	⇑*e*Pn	**P**	**04 50 26.9**	**-0.8**
	909nm,0.2s						
SRDI				⇑*i*Sn	**S**	**04 50 41.3**	**-0.3**
KELI	**Kelakatan**	**1.36**	**42**	⇓*e*Pn	**P**	**04 50 33.6**	**+0.5**
	465nm,0.2s						
KELI				⇓*e*Sn	**S**	**04 50 52.3**	**+1.4**
RATI	**Rata**	**2.00**	**75**	⇓*e*Pn	**P**	**04 50 41.4**	**-0.1**
RATI				⇓*i*P		04 50 43.8	
RATI				*i* Sn	**S**	**04 51 05.2**	**-0.2**
RATI	**Rata**	**2.00**	**75**	⇓*e*Pn	**P**	**04 50 41.4**	**-0.1**
	463nm,0.2s						
RATI	**Rata**	**2.00**	**75**	⇓*i*P	**P**	**04 50 43.8**	**+2.3**
RATI				⇓*i*Sn	**S**	**04 51 05.2**	**-0.2**
KEDI	**Kedomdong**	**2.61**	**73**	⇑*e*Pn	**P**	**04 50 49.7**	**-0.5**
	55nm,0.2s						
KEDI				⇑*e*Sn	**S**	**04 51 20.3**	**-0.6**
WRA	**Warramunga Arr**	**22.70**	**120**	P	**P**	**04 55 05.0**	**+0.1**
	0.5nm,0.7s,mb3.0,baz=294,slow=11,SNR=6.7						
WRAB	**Tennant Creek**	**22.71**	**120**	P	**P**	**04 55 04.6**	**-0.4**
ASAR	**Alice Springs**	**24.15**	**129**	P	**P**	**04 55 19.8**	**+0.9**
	0.4nm,0.7s,mb2.8,baz=303,slow=8.1,SNR=7.0						
SONM	**Songino Array**	**57.18**	**354**	P	**P**	**04 59 50.1**	**0.0**
	0.9nm,0.4s,mb4.2,baz=171,slow=8.4,SNR=22						
CHKZ	**Chkalovo**	**72.45**	**335**	P	**P**	**05 01 28.2**	**-0.5**
	0.6nm,0.4s,mb3.8						

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*IDC **05** 04:55:17.7±2.4, 13.77S×166.50E, mb3.6/4, mb1 3.8/4, mb1mx3.7/14, mbtmp3.6/4, Error ellipse: s-maj=119.8km s-min=30.4km az=138.0*
ISC 05 04:55:16.4±2.4**, 13.8S**±0.6×**166.4E**±0.6**, n5, σ0ˢ05**/4**, mb3.5**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.99**	**227**	P	**P**	**05 01 20.0**	**0.0**
	3.8nm,1.1s,mb4.1,baz=45,slow=5.7,SNR=3.5						
WRA	**Warramunga Arr**	**31.26**	**254**	P	**P**	**05 01 40.3**	**0.0**
	0.1nm,0.6s,mb2.9,baz=86,slow=9.3,SNR=5.2						
ASAR	**Alice Springs**	**32.24**	**247**	P	**P**	**05 01 48.9**	**0.0**
	0.4nm,0.6s,mb3.6,baz=75,slow=9.5,SNR=10						
ILAR	**Eielson Array**	**85.89**	**18**	P	**P**	**05 07 59.0**	**0.0**
	0.2nm,0.5s,mb3.5,baz=236,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**119.13**	**345**	PKP	PKPdf	05 14 07.8	-0.9
	2.1nm,1.0s,SNR=3.6						

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*STR **05** 05:02:02.8±0.4, 42.63N×0.84E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **05** 05:02:03.2±0.1, 42.61N×0.83E, h7km, Md2.3/1, Ml2.3/6, Error ellipse: s-maj=1.0km s-min=0.8km az=57.0*
*CSEM **05** 05:02:03.3±0.1, 42.61N×0.82E, h2km, ML2.5/6, Error ellipse: s-maj=1.2km s-min=1.2km az=137.0*
MDD 05 05:02:03.4±0.2**, 42.61N×0.83E, h8**km±5km**, mbLg1.8**/17**, 1C, Error ellipse: s-maj=1.8km s-min=1.2km az=19.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.27**	**349**	Pg	Pg	05 02 08.8	-0.1
MELF				Sg	Sg	05 02 12.7	+0.1
MELF	**Melles**	**0.27**	**349**	Pg	Pg	05 02 08.9	0.0
MELF				Lg		05 02 12.8	
SALF	**Salau**	**0.31**	**60**	Pg	Pg	05 02 09.3	-0.3
SALF				Sg	Sg	05 02 13.3	-0.5
SALF	**Salau**	**0.31**	**60**	Pg	Pg	05 02 09.3	-0.3
SALF				Lg		05 02 13.3	
CSOR	**Sort**	**0.32**	**136**	Pg	Pg	05 02 09.4	-0.6
CSOR				Lg		05 02 13.9	
	30nm,0.1s						
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	05 02 11.1	-0.4
MLS				Sg	Sg	05 02 16.2	-0.7
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	05 02 11.1	-0.4
MLS				Lg		05 02 16.1	
RESF	**Ens**	**0.41**	**299**	Pg	Pg	05 02 11.3	-0.5
RESF				Lg		05 02 16.7	
EBIE	**Bielsa**	**0.51**	**279**	⇑Pg	Pg	05 02 12.9	-0.8
	3.4nm,0.3s,SNR=18						
EBIE				Lg		05 02 19.6	
	16nm,0.1s,SNR=48						
EBIE	**Bielsa**	**0.51**	**279**	Pg	Pg	05 02 12.9	-0.8
	3.4nm,0.3s,SNR=18						
CORG	**Organya**	**0.52**	**136**	Pg	Pg	05 02 13.0	-0.9
CORG				Lg		05 02 20.2	
	9.0nm,0.1s						
PAND	**Andorre**	**0.54**	**99**	Pg	Pg	05 02 13.1	-1.1
PAND				Lg		05 02 19.7	
EPF	**Esparros**	**0.56**	**320**	*e*Pg	Pg	05 02 14.3	-0.2
EPF				*e*Sg	Sg	05 02 20.9	-1.1
	19nm,0.2s						
GRBF	**Gourbit**	**0.57**	**66**	Pg	Pg	05 02 14.1	-0.7
GRBF				Lg		05 02 21.5	
VIEF	**Viey**	**0.65**	**295**	Pg	Pg	05 02 15.3	-1.2
VIEF				Sg	Sg	05 02 24.1	-1.2
VIEF	**Viey**	**0.65**	**295**	Pg	Pg	05 02 15.4	-1.1
VIEF				Lg		05 02 24.0	
CAVN	**Les Avellanes**	**0.73**	**185**	Pg	Pg	05 02 17.2	-0.7
CAVN				Lg		05 02 27.5	
	6.2nm,0.1s						
CLLI	**Llivia**	**0.86**	**98**	Pg	Pg	05 02 18.7	-1.8
CLLI				Lg		05 02 30.0	
	1.9nm,0.1s						
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	05 02 19.3	-1.4
	7.2nm,0.7s,SNR=6.4						
EMIR				Lg		05 02 31.0	
	1.9nm,0.1s,SNR=5.5						
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	05 02 19.3	-1.4
	7.2nm,0.7s,SNR=6.4						
CARF	**Carcanieres**	**0.95**	**83**	S	Sb	05 02 33.0	-1.1
CBRU	**Bruguera**	**1.05**	**107**	Pg	Pg	05 02 23.0	-1.4
ETSF	**Etsaut**	**1.06**	**286**	*e*Pg	Pg	05 02 22.6	-2.0
ETSF				*e*Sg	Sg	05 02 36.3	-2.5
	14nm,0.2s						
MTLF	**Montolieu**	**1.25**	**54**	*e*Pn	Pn	05 02 25.5	-1.7
MTLF				*e*Pg	Pg	05 02 26.7	-1.7
MTLF				*e*Sg	Sg	05 02 43.2	-2.0
	3.6nm,0.2s						
MTLF	**Montolieu**	**1.25**	**54**	*e*Pg	Pg	05 02 26.7	-1.7
MTLF				*e*Sg	Sg	05 02 43.2	-2.0
	1.8nm,0.2s						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	05 02 26.9	-1.8
	6.2nm,0.9s,SNR=7.4						
EPOB				Lg		05 02 44.1	
	2.1nm,0.1s,SNR=8.3						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	05 02 26.9	-1.8
	6.2nm,0.9s,SNR=7.4						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	05 02 28.4	-1.1
	18nm,0.3s,SNR=4.6						
ESAC				Lg		05 02 45.8	
	10.0nm,0.1s,SNR=14						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	05 02 28.4	-1.1
	18nm,0.3s,SNR=4.6						
CFON	**Fontmartina**	**1.46**	**125**	Pg	Pg	05 02 30.5	-2.1
CFON				Lg		05 02 49.6	
	30nm,0.3s						
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	05 02 31.6	-2.4
	8.2nm,0.7s,SNR=10						
EJON				Lg		05 02 53.3	
	10nm,1.0s,SNR=6.9						
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	05 02 32.5	-1.4
	8.2nm,0.7s,SNR=10						
ERTA	**Horta de San J**	**1.69**	**193**	Pn	Pn	05 02 32.8	-0.6
	12nm,1.0s,SNR=6.4						
ERTA				Lg		05 02 57.3	
	2.7nm,0.1s,SNR=9.7						
ERTA	**Horta de San J**	**1.69**	**193**	Pn	Pn	05 02 33.4	0.0
	12nm,1.0s,SNR=6.4						
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	05 02 37.7	-2.0
	1.1nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.33**	**358**	*e*Pg	Pg	05 02 46.5	-3.4
LFF				*e*Sg	Sg	05 03 16.6	-4.4
	4.0nm,0.3s						
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	05 02 48.1	-4.1
	0.2nm,0.1s,SNR=4.0						
EMOS				Lg		05 03 19.1	
	1.1nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	05 02 48.1	-4.1
	0.2nm,0.1s,SNR=4.0						
CAF	**Calviac**	**2.48**	**21**	*e*Sn	Sn	05 03 11.2	-4.4
CAF				*e*Sg	Sg	05 03 21.5	-4.6
	3.7nm,0.3s						
LASF	**Ste Croix**	**2.65**	**55**	*e*Pn	Pn	05 02 44.3	-2.9
LASF				*e*Pg	Pg	05 02 52.2	-4.1
LASF				*e*Sg	Sg	05 03 26.8	-4.9
	1.5nm,0.3s						
RJF	**Les Rejaudoux**	**2.74**	**10**	*e*Pg	Pg	05 02 54.0	-4.1
RJF				*e*Sg	Sg	05 03 29.4	-5.2
	2.6nm,0.2s						

IDC 05 05:04:13.2±44.0**, 16.51S×176.14W, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/15**, mbtmp4.0**/3**, Error ellipse: s-maj=817.0km s-min=159.8km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.20**	**240**	P	P	05 12 00.5	-0.9
	1.2nm,0.5s,baz=93,slow=11,SNR=6.0						
WRA	**Warramunga Arr**	**47.03**	**258**	P	P	05 12 46.5	-2.0
	0.6nm,0.3s,baz=96,slow=7.5,SNR=39						
ASAR	**Alice Springs**	**47.26**	**253**	P	P	05 12 48.1	-2.2
	3.0nm,0.6s,baz=88,slow=8.3,SNR=66						
ASPA	**Alice Springs**	**47.27**	**253**	*e*P	P	05 12 48.4	-2.0

OTT 05 05:07:00.5±0.3**, 71.85N×75.52W, h18**km**, MN3.4**/4**, 1D, Baffin Island Seismic Zone, Northwest Territories 133km southeast from Pond Inlet, Nu, Baffin Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PINU	**Pond Inlet**	**1.14**	**320**	⇓PG	Pb	05 07 21.4	+0.1
PINU				SG	Sb	05 07 35.9	+0.3
TULEG	**Thule**	**5.05**	**18**	PN	Pn	05 08 14.7	-2.7
TULEG				SN	Sn	05 09 09.4	-6.6
RES	**Resolute Bay**	**6.26**	**306**	PN	Pn	05 08 31.9	-2.4
RES				SN	Sn	05 09 40.9	-5.2
RES				LG		05 10 19.9	
RES				Trac		05 10 33.1	
	comp=Z,18nm,0.7s						
FRB	**Frobisher Bay**	**8.55**	**159**	PN	P	05 09 03.2	-3.2
FRB				SN	Sn	05 10 31.3	-12
FRB				LG		05 11 24.4	
FRB				Trac		05 11 29.8	
	comp=Z,35nm,0.5s						
YRTN	**Rankin Inlet**	**11.05**	**223**	PN	P	05 09 37.4	-3.2
YRTN				SN	S	05 11 31.3	-13
YRTN				LG		05 12 40.4	
LUPN	**Lupin Mine**	**14.10**	**262**	PN	P	05 10 15.8	-5.3
LUPN				SN	S	05 12 41.7	-16
LUPN				LG		05 14 11.6	
KUQ	**Kuujjuuaa**	**14.11**	**164**	PN	P	05 10 14.9	-6.3
KUQ				SN	S	05 12 44.4	-14
KUQ				LG		05 14 10.2	
KUQ				Trac		05 14 27.8	
	comp=Z,9.4nm,0.4s						
YNEN	**Yamba Lake Nor**	**14.47**	**260**	LG		05 14 23.0	
LDGN	**Lac de Gras No**	**14.60**	**258**	LG		05 14 28.8	
FCC	**Fort Churchill**	**15.14**	**219**	PN	P	05 10 30.2	-4.6
FCC				SN	S	05 13 08.2	-14
FCC				LG		05 14 47.6	
NODN	**Nodinka Narrow**	**15.24**	**257**	LG		05 14 48.2	
IHLN	**Indian Hill La**	**15.70**	**255**	SN	S	05 13 25.9	-10
IHLN				LG		05 15 02.5	
YKW3	**Yellowknife Ar**	**17.40**	**258**	PN	P	05 10 57.7	-5.8
YKW3				SN	S	05 13 58.2	-17
YKW3				LG		05 15 51.1	
YKW3				Trac		05 16 03.1	
	comp=Z,7.3nm,0.7s						
SILO	**Sutton Inlier**	**17.90**	**198**	PN	P	05 11 06.2	-3.7
SILO				SN	S	05 14 16.0	-10
VIMO	**Victor Mine**	**19.44**	**195**	PN	P	05 11 24.9	-3.6
VIMO				SN	S	05 14 50.5	-11

IDC 05 05:26:31.2±3.9**, 11.21N×92.27E, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/17**, mbtmp3.7**/3**, ML4.2**/1**, Error ellipse: s-maj=98.3km s-min=34.4km az=80.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.67**	**41**	Pn	P	05 28 52.5	-2.2
	0.6nm,0.3s,baz=229,slow=15,SNR=11						
SONM	**Songino Array**	**38.39**	**15**	P	P	05 33 53.7	-2.2
	0.3nm,0.3s,baz=200,slow=7.7,SNR=4.2						
WRA	**Warramunga Arr**	**51.70**	**127**	P	P	05 35 40.6	-1.9
	0.5nm,0.5s,baz=306,slow=8.6,SNR=5.1						

IDC 05 05:46:22.0±2.3**, 8.08N×93.34E, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/17**, mbtmp3.7**/5**, ML3.5**/1**, Error ellipse: s-maj=98.0km s-min=25.7km az=60.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.66**	**27**	Pn	P	05 49 19.3	+6.5
	0.1nm,0.3s,baz=214,slow=14,SNR=4.4						
SONM	**Songino Array**	**41.14**	**13**	P	P	05 54 07.8	-1.7
	0.1nm,0.4s,baz=195,slow=9.3,SNR=4.8						
WRA	**Warramunga Arr**	**49.02**	**125**	P	P	05 55 10.9	-2.1
	0.4nm,0.4s,baz=304,slow=8.7,SNR=10						
ASAR	**Alice Springs**	**50.65**	**130**	P	P	05 55 23.5	-1.9
	0.4nm,0.4s,baz=297,slow=7.9,SNR=6.3						
ARCES	**ARCESS Array B**	**74.80**	**340**	P	P	05 58 04.0	-1.6
	5.2nm,1.2s,baz=104,slow=7.4,SNR=3.5						

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*NIED **05** 05:58:00, 31.50N×131.20E, h50km, Mw4.4 Best double couple: M₀4.21×10¹⁵ NP1:φs70°, δ80°, λ37°. NP2:φs332°, δ53°, λ167°.*
*MOS **05** 05:58:47.6±1.0, 31.52N×131.08E, h33km, mb4.8/14, Error ellipse: s-maj=12.9km s-min=8.0km az=93.3*
*JMA **05** 05:58:51.7, 31.46N×131.30E, h49km±1km, M4.4*
JMA Felt III J1.
*IDC **05** 05:58:51.4±1.7, 31.56N×131.11E, h49km±17km, mb4.0/17, mb1 4.2/20, mb1mx4.2/26, mbtmp4.4/20, ML4.2/3, MS3.4/5, Ms1 3.4/5, ms1mx3.2/28, Error ellipse: s-maj=17.7km s-min=12.9km az=109.0*
*NEIC **05** 05:58:54.8±1.1, 31.63N×131.27E, h79km±10km, mb4.6/16, MW4.3(NIED), Error ellipse: s-maj=10.4km s-min=8.9km az=176.0*
NEIC Recorded [3 JMA] in Miyazaki, [2 JMA] in Kagoshima and [1 JMA] in Kumamoto Prefectures.
*BJI **05** 05:58:54.4, 31.36N×131.35E, h103km, mB4.7, mb4.5*
ISC 05 05:58:50.0±0.3**, 31.49N**±0.03×**131.37E**±0.04**, h49**km**, n104, σ1ˢ32**/116**, mb4.5**/39**, MS3.6**/7**, 8C-6D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.10**	**294**	⇑P	**P**	**05 58 59.1**	**+1.5**
JNAR				S	**S**	**05 59 04.8**	**+1.6**
JTZ	**Takazaki**	**0.48**	**329**	⇓P	**P**	**05 59 02.5**	**+1.5**
JTZ				S	**S**	**05 59 10.8**	**+2.0**
JTSR	**Tashiro 2**	**0.50**	**230**	⇓P	**P**	**05 59 02.3**	**+1.0**
JTSR				S	**S**	**05 59 10.3**	**+0.9**
JTSN	**Tsuno**	**0.76**	**8**	⇓P	**P**	**05 59 06.6**	**+2.0**
JTSN				S	**S**	**05 59 18.3**	**+2.9**
JSU	**Suzuyama**	**0.79**	**272**	⇑P	**P**	**05 59 05.5**	**+0.6**
JSU				S	**S**	**05 59 16.1**	**+0.2**
JTN	**Tanegashima 3**	**0.90**	**202**	⇓P	**P**	**05 59 08.2**	**+1.7**
JTN				*e*S	**S**	**05 59 20.6**	**+1.9**
JZO	**Okuchi**	**0.93**	**315**	⇑P	**P**	**05 59 07.9**	**+1.0**
JZO				*e*S	**S**	**05 59 20.5**	**+1.1**
JIU2	**Izumi 2**	**1.16**	**336**	⇓P	**P**	**05 59 11.8**	**+1.7**
JSJ	**Shimokoshiki**	**1.43**	**278**	⇑P	**P**	**05 59 13.9**	**-0.2**
JOW	**Kunigami**	**5.37**	**211**	P	**P**	**06 00 08.7**	**-1.0**
	73nm,0.3s,baz=84,slow=12,SNR=54						
JOW				S	**S**	**06 01 08.8**	**-2.3**
	17nm,0.3s,baz=114,slow=26,SNR=3.6						
KS15	**Wonju Array Si**	**6.60**	**335**	*e*P	**P**	**06 00 28.8**	**+1.9**
INCN	**Inchon**	**7.15**	**328**	*e*P	**P**	**06 00 34.1**	**-0.4**
	36nm,0.3s						
JHJ	**Hachijo jima 2**	**7.30**	**75**	P	**P**	**06 00 38.5**	**+1.8**
	22nm,0.3s,baz=57,slow=23,SNR=3.5						
MAJO	**Matsushiro**	**7.59**	**47**	*e*P	**P**	**06 00 41.5**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,21nm,0.6s						
MAJO	**Matsushiro**	**7.59**	**47**	*e*P	**P**	**06 00 41.5**	**+0.9**
	comp=Z,21nm,0.6s						
MAT	**Matsushiro**	**7.59**	**47**	*e*P	**P**	**06 00 41.0**	**+0.4**
MAT				S	**S**	**06 02 05.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,14nm,0.4s						
MAT	**Matsushiro**	**7.59**	**47**	*e*P	**P**	**06 00 41.0**	**+0.4**
	comp=Z,14nm,0.4s						
MAT				S	**S**	**06 02 05.0**	**-1.1**
MAT	**Matsushiro**	**7.59**	**47**	P	**P**	**06 00 41.1**	**+0.5**
MAT				*e*S	**S**	**06 02 04.6**	**-1.5**
CBIJ	**Chichi jima**	**10.40**	**112**	LR	LR	06 04 12.5	
	comp=Z,64nm,21.0s,baz=204,slow=30						
NJ2	**Nanjing**	**10.67**	**276**	*e*P	**P**	**06 01 24.1**	**+1.1**
NJ2				PP	PP	06 01 34.5	+3.3
NJ2				XP		06 01 49.6	
NJ2				S	**S**	**06 03 19.0**	**-3.1**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s						
NJ2				AMB	AMB		
	comp=Z,480nm,4.3s						
NJ2				LR	LR		
	comp=N,1μm,15.6s						
NJ2				LR	LR		
	comp=E,490nm,14.0s						
NJ2				LR	LR		
	comp=Z,810nm,14.7s						
TIA	**Tai'an**	**12.74**	**296**	*e*P	**P**	**06 01 52.4**	**+1.5**
BJI	**Beijing**	**14.99**	**309**	*e*P	**P**	**06 02 22.8**	**+2.6**
BJI				AMB	AMB		
	comp=Z,12nm,1.4s						
BJI	**Beijing**	**14.99**	**309**	*e*P	**P**	**06 02 22.8**	**+2.6**
	comp=Z,12nm,1.4s						
ASAJ	**Asahikawa**	**15.39**	**32**	P	**P**	**06 02 25.8**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=250,slow=18,SNR=4.5						
ASAJ				S	**S**	**06 05 13.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=255,slow=32,SNR=3.1						
ASAJ				LR	LR	06 08 14.3	
	comp=Z,103nm,19.8s,baz=297,slow=36						
KLR	**Kul'dur**	**17.73**	**1**	*e*P	**P**	**06 02 53.0**	**-1.8**
ENH	**Enshi**	**18.82**	**272**	*e*P	**P**	**06 03 08.2**	**-0.1**
	comp=Z,25nm,0.6s						
XAN	**Xi'an**	**19.05**	**284**	P	**P**	**06 03 15.7**	**+4.8**
XAN				AMB	AMB		
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**19.80**	**337**	⇓*i*P	**P**	**06 03 18.5**	**-0.5**
GYA	**Guiyang**	**22.17**	**263**	⇑*i*P	**P**	**06 03 42.1**	**-1.2**
GYA				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
LZH	**Lanzhou**	**23.30**	**289**	⇑P	**P**	**06 03 54.5**	**+0.3**
LZH				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.5						
LZH	**Lanzhou**	**23.30**	**289**	⇑P	**P**	**06 03 54.5**	**+0.3**
LZH				*PP		06 04 02.5	
LZH				*SP		06 04 06.1	
LZH				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.5						
LZH	**Lanzhou**	**23.30**	**289**	⇑P	**P**	**06 03 54.5**	**+0.3**
	comp=Z,23nm,1.2s,mb4.5						
LZH				pP		06 04 02.5	
LZH				sP		06 04 06.1	
CD2	**Chengdu**	**23.61**	**276**	P	**P**	**06 03 56.5**	**-0.8**
SONM	**Songino Array**	**25.06**	**318**	P	**P**	**06 04 10.7**	**-0.5**
	comp=Z,5.0nm,0.7s,mb4.2,baz=134,slow=9.7,SNR=35						
SONM				ScP		06 11 19.3	
	comp=Z,0.4nm,0.8s,baz=90,slow=1.4,SNR=2.7						
KMI	**Kunming**	**25.95**	**263**	P	**P**	**06 04 20.3**	**+0.5**
KMI				S	**S**	**06 08 42.8**	**-1.6**
KMI				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.4						
KMI				LR	LR		
	comp=N,148nm,15.1s,MS3.9						
KMI				LR	LR		
	comp=E,204nm,11.9s,MS3.9						
KMI				LR	LR		
	comp=Z,133nm,13.0s,MS3.7						
KMI	**Kunming**	**25.95**	**263**	P	**P**	**06 04 20.3**	**+0.5**
KMI				*PP	pP	06 04 35.0	+2.8
KMI				S	**S**	**06 08 42.8**	**-1.6**
KMI				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
KMI				MLR	MLR		
	comp=Z,130nm,13.0s,MS3.6						
KMI	**Kunming**	**25.95**	**263**	P	**P**	**06 04 20.3**	**+0.5**
	comp=Z,11nm,0.9s,mb4.4						
KMI				pP	pP	06 04 35.0	+2.8
KMI				sP	sP	06 04 43.7	+5.6
KMI				S	**S**	**06 08 42.8**	**-1.6**
KMI				LR	LR		
	comp=Z,130nm,13.0s,MS3.6						
GTA	**Gaotai**	**26.80**	**296**	P	**P**	**06 04 26.1**	**-1.3**
GTA				PP	PP	06 05 20.4	+7.0
GTA				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.7						
ZAK	**Zakamensk**	**28.14**	**320**	*e*P	**P**	**06 04 37.4**	**-2.1**
ZAK				*e*	pP	06 04 52.5	+0.4
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.6						
PET	**Petropavlovsk**	**29.20**	**35**	*e*P	**P**	**06 04 48.4**	**-0.6**
PET				*e*		06 07 57.9	
PET				pmax	pmax		
	comp=Z,100nm,18.3s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.5						
CMAR	**Chiang Mai Arr**	**32.01**	**254**	LR	LR	06 19 44.6	
	comp=Z,41nm,18.2s,MS3.1,baz=65,slow=39						
JIRN	**Jiri**	**39.27**	**276**	*e*P	**P**	**06 06 16.5**	**+0.8**
	comp=Z,7.6nm,0.4s,mb4.8						
GUN	**Gumba**	**39.47**	**277**	*e*P	**P**	**06 06 18.0**	**+0.7**
	comp=Z,26nm,0.5s,mb5.2						
ZAL	**Zalesovo**	**39.97**	**318**	P	**P**	**06 06 19.9**	**-1.3**
	comp=Z,1.0nm,0.3s,mb4.0,baz=318,slow=12,SNR=4.0						
ZAL				LR	LR	06 24 33.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,81nm,19.4s,MS3.6,baz=76,slow=39						
KKN	**Kakani**	**40.01**	**277**	*e*P	**P**	**06 06 20.2**	**-1.6**
	comp=Z,11nm,0.5s,mb4.8						
KKN	**Kakani**	**40.01**	**277**	*e*P	**P**	**06 06 20.2**	**-1.6**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
TIXI	**Tiksi**	**40.24**	**359**	*e*P	**P**	**06 06 22.3**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,38nm,17.0s,MS3.3						
GKN	**Gorkha**	**40.49**	**277**	*e*P	**P**	**06 06 25.7**	**-0.1**
KOLN	**Koldanda**	**41.44**	**278**	*e*P	**P**	**06 06 33.0**	**-0.6**
	comp=Z,4.7nm,0.4s,mb4.5						
BILL	**Bilibino**	**41.83**	**19**	*i* P	**P**	**06 06 35.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.6						
KURK	**Kurchatov**	**43.12**	**312**	P	**P**	**06 06 45.1**	**-2.0**
	comp=Z,42nm,0.4s,mb5.5,SNR=7.9						
KURK	**Kurchatov**	**43.12**	**312**	*i* P	**P**	**06 06 45.7**	**-1.4**
KURK	**Kurchatov**	**43.12**	**312**	*e*P	**P**	**06 06 45.2**	**-1.9**
	comp=Z,3.4nm,0.5s,mb4.3						
TKM2	**Tokmak 2**	**45.12**	**301**	P	**P**	**06 07 03.0**	**-0.3**
	SNR=18						
KZA	**Kyzart**	**45.45**	**300**	P	**P**	**06 07 07.9**	**+2.0**
	SNR=7.5						
USP	**Ospenovka**	**45.89**	**302**	P	**P**	**06 07 09.7**	**+0.2**
	SNR=7.5						
AAK	**Ala-Archa**	**45.95**	**301**	P	**P**	**06 07 10.7**	**+0.8**
	SNR=6.7						
AAK	**Ala-Archa**	**45.95**	**301**	*i* P	**P**	**06 07 06.9**	**-3.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**45.95**	**301**	*e*P	**P**	**06 07 06.4**	**-3.5**
	comp=Z,4.8nm,0.7s,mb4.5						
UCH	**Uchtor**	**45.98**	**300**	P	**P**	**06 07 12.0**	**+1.9**
	SNR=14						
AML	**Almayashu**	**46.59**	**300**	P	**P**	**06 07 16.5**	**+1.6**
	SNR=10						
CHKZ	**Chkalovo**	**48.24**	**316**	*e*P	**P**	**06 07 24.9**	**-2.7**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
CHKZ	**Chkalovo**	**48.24**	**316**	*e*P	**P**	**06 07 24.9**	**-2.7**
	comp=Z,5.7nm,0.6s,mb4.8						
BVAR	**Borovoye Array**	**48.35**	**315**	P	**P**	**06 07 27.1**	**-1.5**
	comp=Z,6.4nm,0.3s,mb5.1,baz=100,slow=9.5,SNR=61						
BVAR				PcP	PcP	06 08 53.4	-1.6
	comp=Z,0.8nm,0.5s,baz=45,slow=2.0,SNR=3.7						
FITZ	**Fitzroy Crossi**	**49.61**	**187**	*e*P	**P**	**06 07 39.7**	**+1.0**
	comp=Z,3.4nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**51.21**	**176**	*e*P	**P**	**06 07 52.0**	**+1.2**
WRA	**Warramunga Arr**	**51.22**	**176**	P	**P**	**06 07 49.8**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=354,slow=8.0,SNR=6.1						
ASAR	**Alice Springs**	**54.90**	**177**	P	**P**	**06 08 18.3**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=11,slow=13,SNR=9.1						
MCK	**McKinley**	**57.76**	**31**	*e*P	**P**	**06 08 38.0**	**-0.1**
MCK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
MCK	**McKinley**	**57.76**	**31**	*e*P	**P**	**06 08 38.0**	**0.0**
	comp=Z,2.3nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**58.52**	**30**	P	**P**	**06 08 43.0**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=269,slow=6.6,SNR=15						
INK	**Inuvik**	**62.98**	**25**	*e*P	**P**	**06 09 13.3**	**-0.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**62.98**	**25**	*e*P	**P**	**06 09 13.2**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.4						
KEV	**Kevo**	**65.58**	**338**	*e*p	**P**	**06 09 24.8**	**-5.6**
	comp=Z,9.2nm,0.7s,mb4.9						
KEV	**Kevo**	**65.58**	**338**	*e*P	**P**	**06 09 24.8**	**-5.6**
KEV				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**66.15**	**338**	P	**P**	**06 09 31.9**	**-2.1**
	comp=Z,4.0nm,0.7s,mb4.6,baz=56,slow=7.3,SNR=14						
JOF	**Joensuu**	**66.81**	**331**	*e*p	**P**	**06 09 32.9**	**-5.3**
	comp=Z,9.0nm,0.5s,mb5.1						
OBN	**Obninsk**	**67.40**	**322**	*e*P	**P**	**06 09 38.6**	**-3.5**
OBN				*e*		06 12 15.8	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
GOF	**Gofitskoye**	**67.41**	**310**	*e*P	**P**	**06 09 41.5**	**-0.8**
KIV	**Kislovodsk**	**68.06**	**309**	*e*P	**P**	**06 09 44.8**	**-1.6**
KIV				*e*SS	SS	06 22 57.2	-7.9
KIV				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**68.06**	**309**	*e*P	**P**	**06 09 45.0**	**-1.5**
	comp=Z,31nm,1.2s,mb5.2						
FINES	**FINESS Array B**	**69.66**	**330**	P	**P**	**06 09 53.8**	**-2.2**
	comp=Z,5.1nm,0.3s,mb4.9,baz=63,slow=6.0,SNR=127						
FINES				LR	LR	06 42 34.4	
	comp=Z,65nm,20.1s,MS3.9,baz=46,slow=38						
SOC	**Sochi**	**70.18**	**309**	*e*P	**P**	**06 09 55.6**	**-3.8**
SOC				*e*		06 10 20.0	
SOC				*e*PPP	PPP	06 14 07.6	-10
SOC				*e*S	S	06 19 02.7	-3.1
SOC				pmax	pmax		
	comp=N,50nm,0.9s						
SOC				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=E,35nm,1.0s						
YKA	**Yellowknife Ar**	**72.61**	**26**	P	**P**	**06 10 14.0**	**+0.4**
	comp=E,0.7nm,0.5s,mb3.9,baz=304,slow=5.6,SNR=26						
AKASG	**Malin Array Be**	**73.33**	**320**	P	**P**	**06 10 16.2**	**-1.8**
	comp=E,4.8nm,0.4s,mb4.8,baz=55,slow=6.4,SNR=37						
RAYN	**Ar Rayn**	**74.77**	**288**	P	**P**	**06 10 26.0**	**-1.0**
	comp=E,64nm,0.8s,SNR=8.8						
SUW	**Suwalki**	**74.80**	**324**	*e*P	**P**	**06 10 23.4**	**-3.2**
NB2	**NORSAR Subarra**	**75.81**	**334**	P	**P**	**06 10 29.9**	**-2.2**
	comp=E,4.7nm,0.6s,mb4.6,baz=47,slow=5.6						
NB2	**NORSAR Subarra**	**75.81**	**334**	P	**P**	**06 10 29.9**	**-2.2**
NB2				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.6						
NOA	**NORSAR Array B**	**75.81**	**334**	P	**P**	**06 10 30.1**	**-2.0**
	comp=Z,6.6nm,0.6s,mb4.7,baz=49,slow=5.6,SNR=26						
KWP	**Kalwaria**	**77.46**	**321**	*e*P	**P**	**06 10 41.1**	**-0.5**
OJC	**Ojcow**	**78.67**	**322**	*e*P	**P**	**06 10 47.8**	**-0.5**
CLL	**Collm**	**81.39**	**326**	P	**P**	**06 11 02.0**	**-0.8**
GERES	**GERESS Array B**	**82.64**	**324**	P	**P**	**06 11 08.8**	**-0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
GERES	**GERESS Array B**	**82.64**	**324**	P	**P**	**06 11 08.8**	**-0.5**
	comp=Z,0.9nm,0.9s,mb3.8,baz=34,slow=4.8,SNR=5.5						
NVAR	**Mina Array Bea**	**84.91**	**48**	P	**P**	**06 11 22.5**	**+1.5**
	comp=Z,1.2nm,0.6s,mb4.2,baz=281,slow=4.6,SNR=3.9						
EKA	**Eskdalemuir Ar**	**85.17**	**336**	P	**P**	**06 11 21.1**	**-0.8**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**85.17**	**336**	P	**P**	**06 11 21.1**	**-0.8**
	comp=Z,1.4nm,0.4s,mb4.4,baz=42,slow=4.9,SNR=7.9						
DAVOX	**Davos**	**85.94**	**324**	P	**P**	**06 11 25.6**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.5,baz=90,slow=4.1,SNR=4.6						
PDAR	**Pinedale Array**	**87.36**	**40**	P	**P**	**06 11 34.6**	**+1.7**
	comp=Z,1.4nm,0.8s,mb4.2,slow=1.5,SNR=9.5						
ULM	**Lac du Bonnet**	**88.50**	**28**	P	**P**	**06 11 38.9**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.6,baz=307,slow=5.9,SNR=7.6						
PV10	**Paradox Valley**	**90.58**	**43**	*e*P	**P**	**06 11 50.2**	**+1.9**
DBIC	**Dimbokro**	**123.56**	**304**	PKIKP	PKPdf	06 17 42.5	-0.3
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DBIC	**Dimbokro**	**123.56**	**304**	PKP	PKPdf	06 17 42.5	-0.3
	comp=Z,2.3nm,0.9s,baz=354,slow=4.5,SNR=7.4						

IDC 05 06:18:54.5±2.9**, 23.49S**×**148.24E, mb3.6**/1**, mb1 3.5**/4**, mb1mx3.5**/9**, mbtmp3.4**/4**, ML3.0**/3**, Error ellipse: s-maj=32.8km s-min=30.0km az=65.0, Queensland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**3.85**	**331**	Pn	Pn	06 19 55.0	-1.3
	1.3nm,0.3s,baz=139,slow=17,SNR=16						
CTA				Pg	Pg	06 20 05.6	-5.9
	5.3nm,0.3s,baz=152,slow=17,SNR=27						
CTA				Lg		06 20 57.0	
	4.9nm,0.3s,baz=229,slow=19,SNR=12						
ASAR	**Alice Springs**	**13.15**	**266**	Pn	P	06 22 03.0	-2.3
	0.1nm,0.3s,baz=92,slow=14,SNR=12						
ASAR				Lg		06 25 52.4	
	0.1nm,0.3s,baz=82,slow=26,SNR=2.9						
WRA	**Warramunga Arr**	**13.39**	**283**	Pn	P	06 22 05.8	-2.7
	0.1nm,0.3s,baz=98,slow=12,SNR=4.9						
WRA				Lg		06 25 59.0	
	0.1nm,0.3s,baz=106,slow=30,SNR=3.6						
SONM	**Songino Array**	**80.33**	**333**	P	P	06 31 07.4	-1.5
	0.5nm,0.8s,baz=153,slow=5.5,SNR=3.6						

*ATH **05** 06:44:55.8, 37.28N×28.55E, h37km, MD3.2/3*
*ISK **05** 06:44:59.8, 37.11N×28.01E, h19km, MD3.0*
*CSEM **05** 06:44:59.5±0.1, 37.09N×28.01E, h20km, MD3.0, Error ellipse: s-maj=3.3km s-min=2.1km az=13.0*
ISC 05 06:45:00.0±0.4**, 37.06N**±0.03×**27.98E**±0.03**, h10km, n18, σ1ˢ14**/27**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.26**	**73**	*i* PG	**Pg**	**06 45 05.4**	**-0.1**
BDRM	**Kayabasi**	**0.42**	**271**	*i* P	**Pg**	**06 45 09.2**	**+0.6**
BDRM				*i* S	**Sg**	**06 45 12.1**	**-2.4**
BODT	**Bodrum**	**0.53**	**271**	PG	**Pg**	**06 45 11.6**	**+0.8**
BODT				SG	**Sg**	**06 45 19.7**	**+1.7**
DALT	**Dalyan (Mudla)**	**0.60**	**118**	PG	**Pg**	**06 45 11.8**	**-0.4**
DALT				SG	**Sg**	**06 45 21.3**	**+0.9**
AYDN	**Tasoluk**	**0.61**	**353**	*i* P	**Pb**	**06 45 12.6**	**+0.3**
AYDN				*i* S	**Sg**	**06 45 20.9**	**+0.5**
ARG	**Arkhangelos**	**0.85**	**172**	*e*PN	**Pn**	**06 45 17.0**	**-0.8**
ARG				*e*SN	**Sn**	**06 45 32.0**	**+1.6**
ARG	**Arkhangelos**	**0.85**	**172**	*e*P	**Pb**	**06 45 16.5**	**+0.1**
ARG				*e*S	**Sb**	**06 45 32.2**	**+4.6**
FETY	**Fethiye**	**0.98**	**115**	*e*PG	**Pg**	**06 45 19.1**	**-0.7**
DNZL	**Cakiroluk**	**1.06**	**53**	*i* P	**Pb**	**06 45 20.1**	**+0.1**
DNZL				*i* S	**Sb**	**06 45 35.0**	**+1.3**
DENT	**Denizli**	**1.09**	**50**	*e*PG	**Pg**	**06 45 20.6**	**-1.3**
SMG	**Samos**	**1.11**	**306**	*e*PN	**Pn**	**06 45 21.0**	**-0.6**
IZM	**Izmir**	**1.45**	**337**	*e*PN	**Pn**	**06 45 26.0**	**-0.4**
KDAG	**Bornova**	**1.46**	**337**	*i* P	**Pn**	**06 45 26.1**	**-0.4**
KDAG				*i* S	**Sb**	**06 45 47.1**	**+1.9**
MANT	**Manisa**	**1.50**	**18**	*i* P	**Pn**	**06 45 28.7**	**+1.5**
MANT				*i* S	**Sb**	**06 45 50.4**	**+3.8**
BLCB	**Balcova**	**1.52**	**331**	*e*PN	**Pn**	**06 45 25.8**	**-1.6**
KARP	**Karpathos**	**1.65**	**204**	*e*PN	**Pn**	**06 45 29.0**	**-0.2**
KHL	**Karahalli**	**1.76**	**44**	*e*PN	**Pn**	**06 45 28.7**	**-2.2**
BTOK	**Tokmak**	**2.70**	**1**	*i* P	**Pn**	**06 45 43.0**	**-1.3**
BTOK				*i* S	Px	06 45 52.3	

IDC 05 06:55:08.5±6.5**, 17.04S**×**177.65W, mb3.8**/2**, mb1 4.1**/2**, mb1mx3.6**/15**, mbtmp3.8**/2**, Error ellipse: s-maj=313.6km s-min=53.6km az=145.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.51**	**259**	P	P	07 03 30.7	-1.1
	0.5nm,0.3s,baz=93,slow=7.6,SNR=12						
ASAR	**Alice Springs**	**45.73**	**253**	P	P	07 03 31.1	-2.4
	1.1nm,0.8s,baz=88,slow=8.1,SNR=11						
GERES	**GERESS Array B**	**146.95**	**346**	PKPbc	PKPbc	07 14 52.4	-0.2
	0.1nm,0.4s,baz=56,slow=3.5,SNR=3.7						

*NEIC **05** 07:02:54.5±1.0, 21.11S×68.65W, h128km±13km, mb3.8/1, Error ellipse: s-maj=26.9km s-min=12.1km az=84.0*
*IDC **05** 07:02:54.9±0.8, 21.16S×68.55W, h128km±11km, mb3.9/5, mb1 3.8/7, mb1mx3.5/17, mbtmp4.2/7, Error ellipse: s-maj=29.5km s-min=11.4km az=95.0*
ISC 05 07:02:52.8±0.7**, 21.22S**±0.06×**69.0W**±0.2**, h155km**±9km**, n12, σ0ˢ90**/16**, mb4.0**/4**, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.39**	**176**	P	**P**	**07 03 22.9**	**+0.9**
	143nm,0.3s,baz=14,slow=10,SNR=115						
LVC				S	**S**	**07 03 44.0**	**-0.4**
	96nm,0.3s,baz=100,slow=23,SNR=4.4						
LPAZ	**La Paz**	**4.97**	**10**	P	**P**	**07 04 08.6**	**+1.7**
	3.1nm,0.3s,baz=173,slow=14,SNR=24						
LPAZ				S	**S**	**07 05 03.8**	**-0.2**
	0.2nm,0.3s,baz=205,slow=19,SNR=2.6						
LPAZ	**La Paz**	**4.97**	**10**	*e*P	**P**	**07 04 07.8**	**+1.0**
LPAZ				S	**S**	**07 05 03.8**	**-0.2**
ARE	**Arequipa**	**5.29**	**333**	*e*P	**P**	**07 04 11.0**	**+0.1**
ARE				*e*S	**S**	**07 05 10.0**	**-1.4**
TRQA	**Tornquist**	**17.84**	**162**	*e*P	**P**	**07 06 52.0**	**-0.6**
	4.2nm,0.7s						
PLCA	**Paso Flores**	**19.50**	**184**	P	**P**	**07 07 14.7**	**+4.7**
	0.3nm,0.3s,baz=3.7,slow=10,SNR=14						
BDFB	**Brasilia**	**20.66**	**78**	P	**P**	**07 07 20.6**	**-1.4**
	3.1nm,0.4s,baz=260,slow=9.0,SNR=14						
SDV	**Santo Domingo**	**29.96**	**357**	P	**P**	**07 08 49.9**	**+1.0**
	0.9nm,0.4s,mb3.9,baz=278,slow=15,SNR=3.1						
SJG	**San Juan**	**39.19**	**4**	P	**P**	**07 10 08.1**	**+0.7**
	7.8nm,0.6s,mb4.5,baz=297,slow=12,SNR=5.3						
DBIC	**Dimbokro**	**68.74**	**74**	P	**P**	**07 13 42.2**	**-0.2**
	2.8nm,0.7s,mb4.1,baz=238,slow=5.8,SNR=6.2						
YKA	**Yellowknife Ar**	**90.89**	**341**	P	**P**	**07 15 44.9**	**+5.3**
	0.4nm,0.5s,mb3.7,baz=134,slow=4.7,SNR=10						
YKA				pP	pP	07 16 17.5	-1.5
	0.9nm,1.0s,baz=131,slow=4.6,SNR=5.1						
YKA	**Yellowknife Ar**	**90.89**	**341**	P	**P**	**07 15 44.9**	**+5.3**
YKA				pP	pP	07 16 17.6	-1.5

CASC 05 07:12:14.5±2.4**, 8.27N**×**82.69W, h30km**±7km**, MD3.8, MW4.3, 2C-3D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.52**	**0**⇑	*e*P	Pb	07 12 25.6	+0.2
BRU2				*e*S	Sb	07 12 33.4	+0.7
ACR	**Cerro Adams**	**0.61**	**309**⇑	*e*P	Pb	07 12 25.8	-0.9
ACR				*e*S	Sb	07 12 34.7	-0.3
BUS	**Buena Vista**	**1.66**	**321**⇓	*e*P	Pn	07 12 41.8	-0.2
BUS				*e*S	Sn	07 13 03.5	+1.1
LCR2	**La Lucha 2**	**1.96**	**319**⇓	*e*P	Pn	07 12 46.7	+0.5
LCR2				*e*S	Sn	07 13 10.2	+0.2
ICR	**Volcan Irazu**	**2.04**	**327**	*e*P	Pn	07 12 47.6	+0.2
ICR				*e*S	Sn	07 13 15.2	+3.0
PRS1	**Puriscal**	**2.34**	**317**	*e*P	Pn	07 12 51.3	-0.4
PRS1				*e*S	Sn	07 13 19.1	-0.6
TRTC	**Tortuguero**	**2.50**	**336**⇓	*e*P	Pn	07 12 54.2	+0.1

*BER **05** 07:38:21.7±2.3, 76.09N×24.38E, h2km±14km, MD2.2, ML2.6, ML2.2(NAO)*
*NAO **05** 07:38:24.2±5.0, 75.98N×22.61E, h26km±35km, ML2.2*
ISC 05 07:38:18.8±1.1**, 76.08N**±0.06×**23.9E**±0.3**, h2km, n4, σ1ˢ15**/9**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**0.51**	**30**⇑	*i*P	**Pg**	**07 38 29.7**	**+0.8**
HOPEN				*e*S	**Sg**	**07 38 35.4**	**-0.3**
HOPEN				AML	AML	07 38 35.6	
	comp=Z,434nm,0.2s						
HSP	**Hornsund**	**2.17**	**300**	*e*P	**Pn**	**07 38 58.7**	**+2.3**
HSP				*e*(S)	**Sn**	**07 39 32.7**	**+8.4**
SPA0	**Spitsbergen Ar**	**2.71**	**325**	Pn	**Pn**	**07 39 04.7**	**+0.6**
	baz=144,slow=14						
SPA0				Pg	**Pg**	**07 39 11.2**	**-1.6**
	baz=127,slow=12						
SPA0				Sn	**Sn**	**07 39 37.1**	**-0.7**
	baz=141,slow=28						
SPA0				Lg		07 39 46.6	
	baz=132,slow=28						
ARA0	**ARCESS Array S**	**6.59**	**175**	Pn	**Pn**	**07 39 58.3**	**-0.8**
	baz=351,slow=11						
ARA0				Sn	**Sn**	**07 41 09.1**	**-6.7**
	baz=360,slow=22						

*NEIC **05** 07:42:30.7±3.8, 16.72S×179.26W, h524km±42km, mb3.8/1, Error ellipse: s-maj=60.8km s-min=15.4km az=154.0*
*IDC **05** 07:42:31.1±5.2, 16.91S×179.18W, h532km±56km, mb3.3/10, mb1 3.7/10, mb1mx3.6/18, mbtmp4.1/10, Error ellipse: s-maj=75.3km s-min=17.8km az=151.0*
ISC 05 07:42:28.2±1.5**, 16.5S**±0.6×**179.4W**±0.3**, h500km, n44, σ0ˢ31**/12**, mb3.7**/10**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.00**	**258**	P	**P**	**07 49 52.0**	**-0.2**
	0.5nm,0.3s,mb3.4,baz=96,slow=7.8,SNR=20						
WRA				PcP	PcP	07 51 25.4	-2.1
	0.3nm,0.4s,baz=88,slow=3.8,SNR=4.8						
ASAR	**Alice Springs**	**44.30**	**253**	P	**P**	**07 49 54.7**	**+0.2**
	2.8nm,0.4s,mb4.1,baz=88,slow=7.9,SNR=68						
ASAR				PcP	PcP	07 51 25.9	-2.6
	0.7nm,0.6s,baz=105,slow=3.9,SNR=4.5						
YBH	**Yreka Blue Hor**	**78.05**	**40**	P	**P**	**07 53 36.4**	**+0.6**
	0.9nm,0.5s,mb3.5,baz=225,slow=7.1,SNR=3.2						
NVAR	**Mina Array Bea**	**79.08**	**44**	P	**P**	**07 53 41.6**	**+0.3**
	1.8nm,0.8s,mb3.7,baz=216,slow=7.5,SNR=14						
ILAR	**Eielson Array**	**84.76**	**13**	P	**P**	**07 54 09.7**	**+0.2**
	0.9nm,0.5s,mb3.7,baz=222,slow=5.2,SNR=28						
NEW	**Newport**	**84.94**	**36**	P	**P**	**07 54 10.4**	**-0.4**
	1.5nm,0.8s,mb3.7,baz=194,slow=4.2,SNR=3.1						
TXAR	**Lajitas Array**	**86.04**	**58**	P	**P**	**07 54 16.4**	**-0.2**
	0.9nm,0.8s,mb3.5,baz=216,slow=6.6,SNR=11						
PDAR	**Pinedale Array**	**86.99**	**44**	P	**P**	**07 54 20.5**	**-0.2**
	1.0nm,0.5s,mb3.8,baz=217,slow=2.8,SNR=11						
INK	**Inuvik**	**90.81**	**15**	P	**P**	**07 54 38.0**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=24,slow=3.2,SNR=5.2						
INK	**Inuvik**	**90.81**	**15**	P	**P**	**07 54 37.4**	**-0.5**
	0.8nm,0.7s,mb3.8						
YKA	**Yellowknife Ar**	**93.47**	**25**	P	**P**	**07 54 50.0**	**-0.2**
	0.8nm,0.6s,mb3.9,baz=242,slow=4.6,SNR=28						
YKA	**Yellowknife Ar**	**93.47**	**25**	P	**P**	**07 54 50.0**	**-0.2**
MDRS	**Chennai**	**103.42**	**280**	*e*	Pdif	07 55 33.0	-3.0
BVAR	**Borovoye Array**	**115.21**	**321**	PKP	PKPdf	08 00 11.6	-0.2
	0.5nm,0.5s,baz=117,slow=3.3,SNR=3.7						
ARCES	**ARCESS Array B**	**124.81**	**350**	PKP	PKPdf	08 00 29.9	0.0
	1.7nm,0.8s,baz=90,slow=1.2,SNR=7.8						
UPC	**Upice**	**143.92**	**343**	*e*PKP	PKPdf	08 01 06.6	+1.0
CLL	**Collm**	**143.93**	**347**⇓	*i*PKIKP	PKPdf	08 01 06.5	+0.9
	logA/T=1.1						
CLL				*e*PP	PP	08 04 32.0	+3.9
DPC	**Dobruska-Polom**	**143.97**	**343**	*e*PKP	PKPdf	08 01 07.3	+1.6
BRG	**Berggiesshubel**	**144.12**	**346**	*e*P	PKPbc	08 01 07.5	+1.7
MORC	**Moravsky Berou**	**144.12**	**341**	*e*PKPdf	PKPdf	08 01 07.8	+1.8
PVCC	**Panska Ves**	**144.28**	**345**	*e*PKP	PKPdf	08 01 08.2	+2.0
PRU	**Pruhonice**	**144.78**	**344**	*e*PKP	PKPdf	08 01 09.3	+2.1
KHC	**Kasperske Hory**	**145.82**	**345**	*e*PKP	PKPdf	08 01 12.7	+3.7
GERES	**GERESS Array B**	**146.05**	**344**	PKPbc	PKPbc	08 01 12.8	+1.8
	1.4nm,0.5s,baz=22,slow=3.7,SNR=17						
BAIF	**Baives**	**146.43**	**356**	*e*PKP1	PKPbc	08 01 13.5	+1.7
	3.8nm,0.5s						
CDF	**Champ du Feu**	**147.74**	**352**	*e*PKP1	PKPdf	08 01 16.9	+4.8
FLN	**La Foliniere**	**147.84**	**1**	*e*PKP1	PKPdf	08 01 16.6	+4.4
MEZF	**Maizieres J'vi**	**147.91**	**354**	*e*PKP1	PKPdf	08 01 17.6	+5.2
LDF	**La Druitiere**	**148.02**	**1**	*e*PKP1	PKPdf	08 01 16.9	+4.4
	8.5nm,0.4s						
GRR	**Gorron**	**148.21**	**2**	*e*PKP1	PKPdf	08 01 17.7	+4.9
	4.8nm,0.4s						
HAU	**Haudompre**	**148.26**	**353**	*e*PKP1	PKPdf	08 01 18.0	+5.1
HINF	**Hinteralfeld**	**148.38**	**352**	*e*PKP1	PKPdf	08 01 18.0	+4.9
DAVOX	**Davos**	**148.88**	**348**	PKPbc	PKPdf	08 01 20.3	+6.4
	9.2nm,0.5s,baz=231,slow=2.0,SNR=17						
SSF	**Saint Saulge**	**149.47**	**356**	*e*PKP1	PKPdf	08 01 21.1	+6.2
	6.9nm,0.5s						
CABF	**La Chapelle**	**149.67**	**353**	*e*PKP1	PKPdf	08 01 22.0	+6.7
	11nm,0.9s						
AVF	**Avril sur Loir**	**149.75**	**356**	*e*PKP1	PKPdf	08 01 21.2	+5.8
	2.8nm,0.5s						
BGF	**Bois d'Agland**	**150.01**	**357**	*e*PKP1	PKPdf	08 01 22.7	+6.9
MFF	**Saint Martin d**	**150.01**	**1**	*e*PKP1	PKPdf	08 01 22.0	+6.2
TCF	**Toulx Ste Croi**	**150.30**	**358**	*e*PKP1	PKPdf	08 01 22.7	+6.5
LPL	**La Plagne**	**150.66**	**351**	*e*PKP1	PKPdf	08 01 24.7	+7.9
	3.1nm,0.5s						
LPG	**La Plagne**	**150.67**	**351**	*e*PKP1	PKPdf	08 01 25.3	+8.5
	1.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**151.36**	**352**	*e*PKP1	PKPdf	08 01 25.6	+7.8
MBDF	**Montbardon**	**151.42**	**351**	*e*PKP1	PKPdf	08 01 25.7	+7.8
	9.9nm,0.8s						
VIVF	**Saint-Julien-l**	**151.56**	**354**	*e*PKP1	PKPdf	08 01 25.9	+7.8

*BJI **05** 07:45:01.1, 6.01S×101.60E, h23km, mB4.4, mb4.6, Ms4.4, Msz4.1*
*NEIC **05** 07:45:03.7±11.0, 5.72S×101.65E, h9km±69km, mb4.7/8, Error ellipse: s-maj=28.5km s-min=11.2km az=62.0*
*IDC **05** 07:45:03.2±0.9, 5.65S×101.72E, mb4.2/8, mb1 4.3/8, mb1mx4.2/15, mbtmp4.2/8, MS3.9/4, Ms1 3.9/4, ms1mx3.4/18, Error ellipse: s-maj=36.5km s-min=19.7km az=50.0*
ISC 05 07:45:06.1±0.6**, 5.66S**±0.09×**101.8E**±0.1**, h33km, (h26km**±5.7km**:pP-P), n40, σ0ˢ87**/28**, mb4.5**/20**, MS4.1**/10**, 3C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKTK	**Khon Kaen**	**21.88**	**3**	P	**P**	**07 50 00.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**24.12**	**353**	P	**P**	**07 50 20.1**	**0.0**
	9.7nm,1.0s,mb4.2,baz=187,slow=8.2,SNR=35						
CMAR				LR	LR	08 01 13.7	
	comp=Z,133nm,18.4s,MS3.5,baz=190,slow=40						
CHRT	**Chiangrai**	**25.44**	**356**	⇓P	**P**	**07 50 32.0**	**-0.8**
	150nm,0.8s,mb5.6						
FITZ	**Fitzroy Crossi**	**26.40**	**120**	*e*P	**P**	**07 50 42.0**	**+0.3**
	11nm,0.9s,mb4.4						
KMI	**Kunming**	**30.61**	**2**	P	**P**	**07 51 19.6**	**+0.1**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=N,432nm,16.4s,MS4.5						
KMI				LR	LR		
	comp=E,687nm,15.5s,MS4.5						
KMI				LR	LR		
	comp=Z,335nm,15.2s,MS4.1						
GYA	**Guiyang**	**32.28**	**8**⇓	*i*P	**P**	**07 51 34.0**	**-0.2**
GYA				AP	pP	07 51 43.2	-0.6
GYA				XP	sP	07 51 47.6	-0.6
GYA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb5.1						
GYA				LR	LR		
	comp=N,520nm,12.2s,MS4.6						
GYA				LR	LR		
	comp=E,520nm,11.6s,MS4.6						
GYA				LR	LR		
	comp=Z,540nm,11.6s,MS4.5						
WRA	**Warramunga Arr**	**34.71**	**117**	P	**P**	**07 51 55.2**	**0.0**
	comp=Z,1.9nm,0.7s,mb4.2,baz=290,slow=10.0,SNR=11						
WRAB	**Tennant Creek**	**34.71**	**117**	*e*P	**P**	**07 51 56.2**	**+0.9**
	comp=Z,6.3nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**35.74**	**123**	P	**P**	**07 52 04.3**	**+0.3**
	comp=Z,2.6nm,1.1s,mb4.1,baz=304,slow=6.8,SNR=8.6						
ENH	**Enshi**	**36.48**	**11**	*e*P	**P**	**07 52 09.5**	**-0.7**
	comp=Z,26nm,1.5s,mb5.0						
LSA	**Lhasa**	**36.60**	**344**	P	**P**	**07 52 11.1**	**-0.1**
LZH	**Lanzhou**	**41.57**	**3**	⇑P	**P**	**07 52 51.9**	**-0.6**
LZH				AP	pP	07 53 01.5	-0.8
LZH				XP	sP	07 53 05.4	-1.1
LZH				AMB	AMB		
	comp=Z,29nm,1.4s,mb4.7						
LZH				LR	LR		
	comp=N,192nm,12.8s						
LZH				LR	LR		
	comp=Z,353nm,17.0s,MS4.3						
LZH	**Lanzhou**	**41.57**	**3**	⇑P	**P**	**07 52 51.9**	**-0.6**
	comp=Z,29nm,1.4s,mb4.7						
LZH				pP	pP	07 53 01.5	-0.8
LZH				sP	sP	07 53 05.4	-1.1
LZH				PP	PP	07 54 04.2	-27
LZH				LR	LR		
	comp=Z,350nm,17.0s,MS4.3						
GTA	**Gaotai**	**44.88**	**358**	P	**P**	**07 53 19.3**	**0.0**
GTA				AP	pP	07 53 25.6	-3.6
GTA				XP	sP	07 53 28.5	-4.8
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.1						
GTA				AMB	AMB		
	comp=Z,44nm,8.4s						
GTA				LR	LR		
	comp=N,306nm,13.3s,MS4.5						
GTA				LR	LR		
	comp=E,313nm,14.1s,MS4.5						
GTA				LR	LR		
	comp=Z,278nm,14.8s,MS4.3						
STKA	**Stephens Creek**	**45.45**	**130**	P	**P**	**07 53 20.8**	**-3.2**
BJI	**Beijing**	**47.37**	**15**	*e*P	**P**	**07 53 39.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
BJI				LR	LR		
	comp=Z,200nm,17.3s,MS4.1						
BJI	**Beijing**	**47.37**	**15**	*e*P	**P**	**07 53 39.0**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.7						
BJI				LR	LR		
	comp=Z,200nm,17.3s,MS4.1						
WMQ	**Urumqi**	**50.86**	**347**⇑	*i*P	**P**	**07 54 05.3**	**-0.6**
WMQ				AMB	AMB		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,13nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,183nm,4.8s						
WMQ				LR	LR		
	comp=Z,156nm,16.8s,MS4.1						
SONM	**Songino Array**	**53.42**	**4**	P	**P**	**07 54 24.6**	**-0.4**
	comp=Z,4.7nm,0.8s,mb4.5,baz=190,slow=7.5,SNR=21						
ULN	**Ulaanbaatar**	**53.50**	**4**	*e*P	**P**	**07 54 25.3**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**59.59**	**343**	*e*P	**P**	**07 55 05.1**	**-3.9**
	comp=Z,5.7nm,0.9s,mb4.6						
ZAL	**Zalesovo**	**61.06**	**349**	LR	LR	08 26 21.3	
	comp=Z,54nm,20.6s,MS3.7,baz=224,slow=41						
BVAR	**Borovoye Array**	**64.20**	**340**	P	**P**	**07 55 39.7**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.1,baz=141,slow=9.5,SNR=8.5						
MAW	**Mawson**	**67.21**	**195**	LR	LR	08 20 49.7	
	comp=Z,291nm,18.9s,MS4.5,baz=124,slow=32						
MATP	**Matopo**	**72.37**	**250**	P	**P**	**07 56 31.3**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=94,slow=5.3,SNR=4.0						
MATP				LR	LR	08 21 15.9	
	comp=Z,81nm,20.5s,MS4.0,baz=130,slow=30						
MATP	**Matopo**	**72.37**	**250**	P	**P**	**07 56 31.3**	**+0.2**
MATP				LR	LR	08 21 15.9	
AKASG	**Malin Array Be**	**83.43**	**322**	P	**P**	**07 57 32.3**	**+0.8**
	comp=Z,0.6nm,0.3s,mb4.0,baz=87,slow=4.6,SNR=8.6						
QSPA	**South Pole Qui**	**84.33**	**180**	P	**P**	**07 57 34.2**	**-1.3**
FINES	**FINESS Array B**	**88.14**	**332**	P	**P**	**07 57 56.8**	**+2.3**
	comp=Z,1.5nm,0.8s,mb4.3,baz=124,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**88.14**	**332**	P	**P**	**07 57 56.8**	**+2.3**
YKA	**Yellowknife Ar**	**117.31**	**18**	PKP	PKPdf	08 03 48.5	+0.6
	comp=Z,0.2nm,0.9s,baz=342,slow=1.4,SNR=3.5						
YKA	**Yellowknife Ar**	**117.31**	**18**	PKP	PKPdf	08 03 48.5	+0.6
NVAR	**Mina Array Bea**	**131.21**	**42**	PKP	PKPdf	08 04 19.4	+3.9
	comp=Z,0.3nm,0.7s,baz=193,slow=1.0,SNR=4.0						
SSPA	**Standing Stone**	**145.17**	**360**	*e*PKPdf	PKPdf	08 04 41.2	+0.6
ACSO	**Alum Creek Sta**	**145.31**	**6**	*e*PKPdf	PKPdf	08 04 40.9	+0.1
TXAR	**Lajitas Array**	**146.36**	**43**	PKPbc	PKPbc	08 04 46.4	+2.2
	comp=Z,3.6nm,0.8s,baz=230,slow=0.7,SNR=15						
TXAR	**Lajitas Array**	**146.36**	**43**	PKPbc	PKPbc	08 04 46.4	+2.2
MIAR	**Mount Ida**	**147.94**	**24**	*e*PKPdf	PKPdf	08 04 48.4	+2.9
JCT	**Junction City**	**148.05**	**37**	PKPdf	PKPdf	08 04 47.3	+1.5
JCT				*e*PKPdf	PKPdf	08 04 50.9	+5.2
LVC	**Limon Verde**	**150.46**	**198**	*e*PKPbc	PKPdf	08 04 56.6	+6.8

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*BJI **05** 08:30:12.3, 7.15S×129.91E, h9km, mB5.2, mb4.9, Ms4.5, Msz4.1*

*IDC **05** 08:30:17.5±0.5, 6.66S×129.51E, mb4.7/11, mb1 4.8/13, mb1mx4.8/15, mbtmp4.7/13, ML4.3/3, MS4.3/14, Ms1 4.3/14, ms1mx4.1/21, Error ellipse: s-maj=28.6km s-min=14.7km az=61.0*

*NEIC **05** 08:30:18.9±2.9, 6.70S×129.46E, h9km±17km, mb5.1/31, Error ellipse: s-maj=8.9km s-min=4.8km az=60.0*

*HRVD **05** 08:30:18.9±0.2, 6.62S×129.48E, h13km±1km, MW5.1/59, Centroid moment Tensor Solution. LP body waves: s31,c39;Mantle waves: s59,c98; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.43±.20; $M_{\theta\theta}$-4.11±.14; $M_{\phi\phi}$6.53±.22; $M_{r\theta}$-0.20±.36; $M_{\theta\phi}$-0.56±.14; $M_{\phi r}$0.56±.42; Best double couple: $M_0$5.375×10^{16} NP1:ϕ_s42°,δ83°,λ-1°. NP2:ϕ_s132°,δ89°,λ-173°. Principal axes: T 6.596, Plg4°, Azm267°; N -2.45, Plg83°, Azm144°; P -4.155, Plg6°, Azm357°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **05** 08:30:21.2±1.3, 6.67S×129.49E, h33km, mb5.1/13 Error ellipse: s-maj=14.0km s-min=7.5km az=111.7*

ISC 05 08:30:19.6±0.2, **6.85S**±0.03×**129.44E**±0.06, **h30**km, **h30**km±2.2km**:pP-P, n148,** σ1§**18**/134, **mb5.0**/57, **MS4.3**/25, **9C-5D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.54**	**153**	⇓*i*P	**Pn**	**08 31 56.1**	**-0.2**
	168nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.78**	**198**	*e*P	**P**	**08 33 06.2**	**-2.7**
	67nm,0.5s						
FITZ				*e*S	**S**	**08 35 15.0**	**-5.3**
WRAB	**Tennant Creek**	**13.85**	**160**	Pn	**P**	**08 33 32.0**	**-4.5**
	1μm,1.1s,SNR=98						
WRAB	**Tennant Creek**	**13.85**	**160**	*i* P	**P**	**08 33 32.1**	**-4.4**
WRAB	**Tennant Creek**	**13.85**	**160**	*e*P	**P**	**08 33 31.9**	**-4.6**
	371nm,1.0s						
WRAB				*e*S	**S**	**08 36 01.1**	**-9.1**
WRA	**Warramunga Arr**	**13.86**	**160**	Pn	**P**	**08 33 32.1**	**-4.4**
	2.3nm,0.3s,baz=336,slow=13,SNR=66						
WRA				Sn	**S**	**08 36 00.1**	**-10**
	1.7nm,0.3s,baz=335,slow=22,SNR=8.5						
DAV	**Davao City (W)**	**14.35**	**344**	*e*P	**P**	**08 33 45.0**	**+2.0**
MBWA	**Marble Bar**	**17.05**	**212**	*e*P	**P**	**08 34 15.1**	**-2.6**
	80nm,1.2s						
ASAR	**Alice Springs**	**17.27**	**166**	P	**P**	**08 34 18.7**	**-1.6**
ASAR				S	**S**	**08 37 28.6**	**-1.1**
ASAR	**Alice Springs**	**17.27**	**166**	P	**P**	**08 34 18.7**	**-1.6**
	1.7nm,0.3s,baz=333,slow=6.8,SNR=74						
ASAR				S	**S**	**08 37 24.7**	**-5.0**
	0.5nm,0.3s,baz=353,slow=22,SNR=3.0						
ASAR				LR	LR	08 41 17.0	
	comp=Z,1000nm,18.4s,baz=341,slow=38						
ASPA	**Alice Springs**	**17.27**	**166**	*e*P	**P**	**08 34 18.9**	**-1.4**
ASPA				*e*S	**S**	**08 37 28.6**	**-1.1**
PMG	**Port Moresby**	**17.73**	**99**	P	**P**	**08 34 26.7**	**+0.6**
	1.5nm,0.3s,baz=317,slow=6.5,SNR=7.1						
PMG				LR	LR	08 42 05.1	
	comp=Z,1μm,19.1s,baz=54,slow=40						
PMG	**Port Moresby**	**17.73**	**99**	*e*P	**P**	**08 34 26.9**	**+0.7**
	138nm,1.3s						
KKM	**Kota Kinabalu**	**18.39**	**314**	*e*P	**P**	**08 34 31.9**	**-2.5**
KSM	**Kuching**	**20.80**	**293**	*e*P	**P**	**08 35 04.6**	**+3.4**
CTA	**Charters Tower**	**20.96**	**131**	*e*P	**P**	**08 35 03.9**	**+1.1**
	45nm,0.9s						
CTA				*e*S	**S**	**08 38 56.4**	**+6.5**
CTA	**Charters Tower**	**20.96**	**131**	P	**P**	**08 35 03.9**	**+1.1**
	34nm,0.8s,baz=307,slow=13,SNR=23						
CTA				LR	LR	08 43 58.9	
	comp=Z,1μm,19.0s,MS4.3,baz=313,slow=39						
CTAO	**Charters Tower**	**20.96**	**131**	*e*P	**P**	**08 35 03.3**	**+0.5**
	57nm,0.8s						
CTAO				LR	LR		
	comp=Z,2μm,21.0s,MS4.4						
FORT	**Forrest**	**23.84**	**183**	⇓*i*P	**P**	**08 35 33.6**	**+2.3**
	comp=Z,2μm,0.6s						
KLBR	**Kellerberrin**	**26.93**	**202**	⇑*i*P	**P**	**08 36 02.5**	**+2.1**
	comp=Z,648nm,0.9s						
STKA	**Stephens Creek**	**27.37**	**157**	*e*P	**P**	**08 36 04.5**	**+0.1**
	comp=Z,27nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**27.37**	**157**	P	**P**	**08 36 05.0**	**+0.6**
	comp=Z,31nm,0.9s,mb4.8,baz=328,slow=8.6,SNR=27						
STKA				LR	LR	08 49 00.0	
	comp=Z,508nm,18.4s,MS4.1,baz=323,slow=41						
MUN	**Mundaring**	**27.89**	**205**	*e*P	**P**	**08 36 10.5**	**+1.4**
	comp=Z,23nm,1.4s,mb4.6						
NWAO	**Narrogin (SRO)**	**28.32**	**202**	P	**P**	**08 36 14.3**	**+1.3**
	comp=Z,19nm,0.7s,mb4.9,baz=29,slow=10,SNR=10						
NWAO	**Narrogin (SRO)**	**28.32**	**202**	*e*P	**P**	**08 36 14.1**	**+1.2**
	comp=Z,26nm,0.9s,mb4.9						
NWAO				LR	LR		
	comp=Z,683nm,21.0s,MS4.2						
TOO	**Toolangi**	**33.89**	**157**	⇑*i*P	**P**	**08 37 04.4**	**+2.4**
	comp=Z,1.1nm,0.9s						
TOO	**Toolangi**	**33.89**	**157**	*e*P	**P**	**08 37 04.4**	**+2.4**
CBIJ	**Chichi jima**	**35.93**	**20**	LR	LR	08 50 08.2	
	comp=Z,229nm,20.9s,MS3.9,baz=169,slow=33						
NANT	**Nan**	**38.11**	**312**	P	**P**	**08 37 37.0**	**-0.9**
BDT	**Bhumibol Dam**	**38.44**	**309**	P	**P**	**08 37 40.5**	**-0.3**
SSE	**Sheshan**	**38.55**	**349**	*e*P	**P**	**08 37 44.5**	**+3.0**
SSE				S	**S**	**08 43 38.3**	**+3.3**
SSE				SCS	ScS	08 47 43.6	-4.1
SSE				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.0						
SSE				AMB	AMB		
	comp=Z,122nm,3.2s						
SSE				LR	LR		
	comp=N,22nm,27.0s,MS3.6						
SSE				LR	LR		
	comp=E,135nm,27.1s,MS3.6						
SSE				LR	LR		
	comp=Z,133nm,32.6s						
SSE	**Sheshan**	**38.55**	**349**	*e*P	**P**	**08 37 44.5**	**+3.0**
	comp=Z,31nm,1.0s,mb5.0						
SSE				pP	pP	08 38 08.5	+18
SSE				S	**S**	**08 43 38.3**	**+3.3**
SSE				sS		08 44 16.9	
SSE				SS	SS	08 46 34.6	+18
SSE				ScS	ScS	08 47 43.6	-4.1
SSE				LR	LR		
	comp=Z,130nm,32.6s,MS3.5						
CMAR	**Chiang Mai Arr**	**39.21**	**310**	*i* P	**P**	**08 37 50.0**	**+2.9**
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**39.21**	**310**	P	**P**	**08 37 47.6**	**+0.5**
	comp=Z,7.3nm,0.8s,mb4.5,baz=132,slow=6.6,SNR=18						
CMAR				PcP	PcP	08 39 58.4	+1.9
	comp=Z,3.3nm,0.8s,baz=163,slow=2.5,SNR=7.0						
CHG	**Chiang Mai**	**39.42**	**311**	⇑P	**P**	**08 37 49.8**	**+0.9**
	comp=Z,23nm,1.1s,mb4.8						
GYA	**Guiyang**	**39.80**	**327**	⇑*i*P	**P**	**08 37 52.2**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
WHN	**Wuhan**	**39.89**	**340**	⇑P	**P**	**08 37 53.2**	**+0.5**
WHN				AMB	AMB		
	comp=Z,138nm,1.5s,mb5.5						
NJ2	**Nanjing**	**39.98**	**346**	*e*P	**P**	**08 37 53.6**	**+0.2**
NJ2				PP	PP	08 39 32.8	+3.8
NJ2				S	**S**	**08 43 55.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,130nm,1.3s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,290nm,7.6s						
NJ2				LR	LR		
	comp=N,2μm,16.1s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,16.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,220nm,15.8s,MS4.1						
KMI	**Kunming**	**41.05**	**322**	P	**P**	**08 38 04.0**	**+1.8**
KMI				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.5						
KMI				AMB	AMB		
	comp=Z,138nm,4.2s						
KMI	**Kunming**	**41.05**	**322**	*e*P	**P**	**08 38 04.0**	**+1.8**
KMI	**Kunming**	**41.05**	**322**	P	**P**	**08 38 04.0**	**+1.8**
	comp=Z,20nm,1.5s,mb4.5						
ENH	**Enshi**	**41.58**	**334**	*e*P	**P**	**08 38 05.8**	**-0.8**
	comp=Z,27nm,1.2s,mb4.8						
MAJO	**Matsushiro**	**43.94**	**10**	*e*P	**P**	**08 38 23.9**	**-1.9**
MAJO	**Matsushiro**	**43.94**	**10**	*e*P	**P**	**08 38 23.9**	**-1.8**
	comp=Z,60nm,1.5s,mb5.1						
MAT	**Matsushiro**	**43.94**	**10**	*e*P	**P**	**08 38 24.0**	**-1.8**
	comp=Z,19nm,1.0s,mb4.8						
MAT	**Matsushiro**	**43.94**	**10**	P	**P**	**08 38 24.2**	**-1.6**
CD2	**Chengdu**	**44.88**	**328**	P	**P**	**08 38 32.8**	**-0.7**
XAN	**Xi'an**	**45.07**	**336**	P	**P**	**08 38 33.1**	**-1.8**
XAN				AP	pP	08 38 44.5	+0.6
XAN				AMB	AMB		
	comp=Z,27nm,1.5s,mb4.9						
BJT	**Baijiatuau**	**48.21**	**346**	*e*P	**P**	**08 38 59.0**	**-0.6**
	comp=Z,91nm,1.4s,mb5.6						
BJI	**Beijing**	**48.23**	**346**	P	**P**	**08 38 59.2**	**-0.6**
BJI				AP	pP	08 39 08.2	-0.7
BJI				XP	sP	08 39 12.0	-0.5
BJI				PCP	PcP	08 40 27.9	+1.0
BJI				S	**S**	**08 45 50.4**	**-5.8**
BJI				SS	SS	08 49 24.4	+3.9
BJI				AMB	AMB		
	comp=Z,36nm,1.4s,mb5.2						
BJI				LR	LR		
	comp=Z,134nm,21.9s,MS3.9						
BJI	**Beijing**	**48.23**	**346**	P	**P**	**08 38 59.2**	**-0.6**
BJI				S	**S**	**08 45 50.4**	**-5.8**
BJI	**Beijing**	**48.23**	**346**	P	**P**	**08 38 59.2**	**-0.6**
	comp=Z,36nm,1.4s,mb5.2						
BJI				pP	pP	08 39 08.2	-0.7
BJI				sP	sP	08 39 12.0	-0.5
BJI				PcP	PcP	08 40 27.9	+1.0
BJI				S	**S**	**08 45 50.4**	**-5.8**
BJI				SS	SS	08 49 24.4	+3.9
BJI				LR	LR		
	comp=Z,130nm,21.9s,MS3.9						
SNY	**Shenyang**	**48.73**	**354**	⇑P	**P**	**08 39 02.7**	**-0.9**
SNY				AP	pP	08 39 10.6	-2.1
SNY				S	**S**	**08 45 59.1**	**-4.1**
SNY				AMB	AMB		
	comp=Z,20nm,2.0s,mb4.8						
SNY				LR	LR		
	comp=N,310nm,20.8s						
SNY				LR	LR		
	comp=Z,310nm,20.6s,MS4.3						
LZH	**Lanzhou**	**49.01**	**332**	⇑P	**P**	**08 39 06.0**	**+0.2**
LZH				AP	pP	08 39 14.5	-0.4
LZH				XP	sP	08 39 17.6	-0.9
LZH				*e*PP	PP	08 41 01.5	+2.1
LZH				*e*S	**S**	**08 46 12.0**	**+4.8**
LZH				XS		08 46 26.6	
LZH				AMB	AMB		
	comp=Z,76nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,285nm,5.7s						
LZH				LR	LR		
	comp=N,782nm,13.7s						
LZH	**Lanzhou**	**49.01**	**332**	P	**P**	**08 39 06.0**	**+0.2**
LZH				*e*S	**S**	**08 46 12.0**	**+4.8**
LZH	**Lanzhou**	**49.01**	**332**	⇑P	**P**	**08 39 06.0**	**+0.2**
	comp=N,76nm,1.4s,mb5.5						
LZH				pP	pP	08 39 14.5	-0.4
LZH				sP	sP	08 39 17.6	-0.9
LZH				*e*PP	PP	08 41 01.5	+2.1
LZH				*e*S	**S**	**08 46 12.0**	**+4.8**
LZH				sS		08 46 26.6	
LZH				SS	SS	08 49 42.1	+8.3
LZH				LR	LR		
	comp=Z,2μm,17.5s,MS5.2						
HHC	**Hu-ho-hao-te**	**50.23**	**342**	*e*P	**P**	**08 39 15.4**	**+0.3**
HHC				PP	PP	08 41 12.7	+1.4
HHC				S	**S**	**08 46 25.9**	**+1.9**
HHC				PS	PS	08 46 35.6	-0.6
HHC				SCS	ScS	08 49 02.8	+1.9
HHC				SS	SS	08 49 53.6	-0.8
HHC				AMB	AMB		
	comp=Z,19nm,1.7s,mb4.8						
HHC				AMB	AMB		
	comp=Z,189nm,4.5s						
HHC				LR	LR		
	comp=N,183nm,22.6s,MS4.2						
HHC				LR	LR		
	comp=E,174nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=Z,231nm,33.3s						
CN2	**Changchun**	**50.54**	**356**	*e*P	**P**	**08 39 16.5**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MDJ	**Mudanjiang**	**51.23**	**0**	P	**P**	**08 39 21.4**	**-1.2**
MDJ				AMB	AMB		
	comp=Z,19nm,1.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,91nm,4.6s						
MDJ				LR	LR		
	comp=N,129nm,25.0s,MS3.9						
MDJ				LR	LR		
	comp=E,35nm,21.6s,MS3.9						
MDJ				LR	LR		
	comp=Z,164nm,25.0s,MS4.0						
MDJ	**Mudanjiang**	**51.23**	**0**	*e*P	**P**	**08 39 23.5**	**+0.9**
	comp=Z,19nm,1.4s,mb4.8						
MDJ				LR	LR		
	comp=Z,219nm,21.0s,MS4.2						
VIS	**Vishakhapatnam**	**51.66**	**299**	*e*	**P**	**08 39 21.0**	**-5.3**
RPZ	**Rata Peaks**	**51.70**	**142**	P	**P**	**08 39 27.2**	**+1.0**
	comp=Z,12nm,0.6s,mb5.0,baz=231,slow=3.9,SNR=4.5						
LSA	**Lhasa**	**51.70**	**317**	P	**P**	**08 39 27.5**	**+1.0**
LSA	**Lhasa**	**51.70**	**317**	*e*P	**P**	**08 39 27.4**	**+1.0**
	comp=Z,23nm,1.0s,mb5.1						
LSA				LR	LR		
	comp=Z,231nm,20.0s,MS4.2						
GTA	**Gaotai**	**53.57**	**332**	P	**P**	**08 39 40.3**	**+0.1**
GTA				AP	pP	08 39 47.5	-1.9
GTA				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
GTA				AMB	AMB		
	comp=Z,153nm,9.1s						
GTA				LR	LR		
	comp=N,181nm,22.1s,MS4.4						
GTA				LR	LR		
	comp=E,304nm,21.7s,MS4.4						
GTA				LR	LR		
	comp=Z,218nm,18.6s,MS4.2						
JIRN	**Jiri**	**54.07**	**311**	*e*P	**P**	**08 39 43.8**	**-0.2**
	comp=Z,75nm,1.1s,mb5.5						
GUN	**Gumba**	**54.43**	**311**	*e*P	**P**	**08 39 46.6**	**-0.1**
	comp=Z,148nm,1.1s,mb5.8						
PKI	**Pulchoki**	**54.60**	**311**	*e*P	**P**	**08 39 47.2**	**-0.8**
	comp=Z,46nm,1.0s,mb5.4						
KKN	**Kakani**	**54.82**	**311**	*e*P	**P**	**08 39 49.0**	**-0.5**
	comp=Z,89nm,1.3s,mb5.7						
DMN	**Daman**	**54.85**	**311**	*e*P	**P**	**08 39 49.5**	**-0.3**
	comp=Z,69nm,1.1s,mb5.6						
YSS	**Yuzh-Sakhalins**	**54.85**	**11**	*e*P	**P**	**08 39 50.0**	**+0.4**
GKN	**Gorkha**	**55.41**	**311**	*e*P	**P**	**08 39 53.8**	**-0.1**
	comp=Z,90nm,1.1s,mb5.7						
HYB	**Hyderabad**	**55.75**	**296**	*i* P	**P**	**08 40 00.0**	**+3.6**
KOLN	**Koldanda**	**56.08**	**310**	*e*P	**P**	**08 39 58.2**	**-0.4**
	comp=Z,153nm,1.4s,mb5.8						
ULN	**Ulaanbaatar**	**57.95**	**342**	*i* P	**P**	**08 40 11.6**	**0.0**
SONM	**Songino Array**	**58.12**	**342**	P	**P**	**08 40 12.2**	**-0.6**
	comp=Z,14nm,0.9s,mb5.0,baz=166,slow=5.1,SNR=14						
ZAK	**Zakamensk**	**61.34**	**341**	⇓*i*P	**P**	**08 40 33.9**	**-1.0**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.7						
NDI	**New Delhi**	**61.45**	**308**	*e*	**P**	**08 40 41.0**	**+5.0**
DDI	**Dehra Dun**	**61.55**	**310**	*e*	**P**	**08 40 42.0**	**+5.3**
TLY	**Talaya**	**62.36**	**342**	*i* P	**P**	**08 40 42.2**	**+0.4**
TLY				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.9						
TLY	**Talaya**	**62.36**	**342**	*e*P	**P**	**08 40 41.5**	**-0.2**
	comp=Z,7.7nm,1.0s,mb4.8						
WMQ	**Urumqi**	**62.96**	**327**	⇑*i*P	**P**	**08 40 45.8**	**0.0**
WMQ				PP	PP	08 43 05.0	-0.9
WMQ				SCP		08 45 20.5	
WMQ				S	**S**	**08 49 13.0**	**+0.7**
WMQ				XS		08 49 30.0	
WMQ				AMB	AMB		
	comp=Z,16nm,1.1s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,239nm,5.1s						
WMQ				LR	LR		
	comp=N,318nm,26.0s,MS4.6						
WMQ				LR	LR		
	comp=E,350nm,24.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,302nm,25.2s,MS4.4						
MOY	**Mondy**	**63.19**	**341**	*e*P	**P**	**08 40 48.3**	**+1.1**
MOY				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.5						
CLNS	**Chul'man**	**63.57**	**357**	*e*P	**P**	**08 40 48.4**	**-1.3**
CLNS				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
PET	**Petropavlovsk**	**64.59**	**19**	*e*P	**P**	**08 40 56.2**	**-0.2**
PET				*e*		08 43 24.0	
PET				*e*S	**S**	**08 49 33.5**	**+1.2**
PET				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
PET				pmax	pmax		
	comp=Z,100nm,10.3s						
PET				smax			
	comp=E,100nm,10.9s						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.0						
BOD	**Bodaibo**	**65.66**	**351**	*e*P	**P**	**08 41 01.2**	**-2.0**
BOD				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
KSH	**Kashi**	**67.53**	**318**	*e*P	**P**	**08 41 19.2**	**+3.8**
KSH				AMB	AMB		
	comp=Z,70nm,4.4s						
MA2	**Magadan**	**68.36**	**11**	*i* P	**P**	**08 41 20.9**	**+0.7**
MA2				pmax	pmax		
	comp=Z,21nm,1.7s,mb4.9						
MA2	**Magadan**	**68.36**	**11**	*e*P	**P**	**08 41 20.2**	**0.0**
	comp=Z,15nm,1.0s,mb5.0						
YAK	**Yakutsk**	**68.67**	**0**	*e*P	**P**	**08 41 22.9**	**+0.8**
YAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,15nm,0.8s						
AAK	**Ala-Archa**	**70.06**	**320**	*i* P	**P**	**08 41 31.1**	**+0.1**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
AAK	**Ala-Archa**	**70.06**	**320**	*e*P	**P**	**08 41 30.9**	**-0.1**
	comp=Z,22nm,1.4s,mb4.9						
FX1	**Attu Island--F**	**70.08**	**26**	LR	LR	09 09 25.5	
	comp=Z,9.2nm,21.2s,baz=236,slow=34						
FRU	**Bishkek**	**70.09**	**320**	*e*P	**P**	**08 41 32.0**	**+0.9**
FRU				*e*		08 41 51.0	
ZAL	**Zalesovo**	**71.20**	**334**	*e*P	**P**	**08 41 37.9**	**+0.2**
ZAL	**Zalesovo**	**71.20**	**334**	P	**P**	**08 41 37.9**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=342,slow=7.7,SNR=4.1						
KURK	**Kurchatov**	**72.10**	**329**	P	**P**	**08 41 43.2**	**+0.1**
	comp=Z,87nm,1.1s,mb5.6,SNR=15						
KURK	**Kurchatov**	**72.10**	**329**	*i* P	**P**	**08 41 43.1**	**0.0**
KURK	**Kurchatov**	**72.10**	**329**	*e*P	**P**	**08 41 42.8**	**-0.3**
	comp=Z,36nm,1.1s,mb5.2						
NVS	**Novosibirsk**	**72.49**	**334**	*i* P	**P**	**08 41 44.0**	**-1.3**
NVS				*e*S	S	08 51 03.4	-2.7
NVS				pmax	pmax		
	comp=N,31nm,2.0s						
NVS				pmax	pmax		
	comp=Z,49nm,2.0s,mb5.1						
NVS				pmax	pmax		
	comp=E,35nm,2.3s						
NVS				smax			
	comp=E,29nm,2.5s						
VNDA	**Vanda**	**72.67**	**173**	*e*P	**P**	**08 41 47.4**	**+1.4**
VNDA	**Vanda**	**72.67**	**173**	P	**P**	**08 41 47.4**	**+1.4**
	comp=E,3.2nm,0.7s,mb4.4,baz=327,slow=6.9,SNR=9.1						
VNDA				LR	LR	09 13 04.7	
	comp=E,290nm,18.8s,MS4.6,baz=137,slow=35						
BVAR	**Borovoye Array**	**77.64**	**328**	P	**P**	**08 42 14.3**	**-0.5**
	comp=E,3.3nm,0.9s,mb4.3,baz=117,slow=6.6,SNR=11						
CHKZ	**Chkalovo**	**77.84**	**329**	*e*P	**P**	**08 42 15.7**	**-0.2**
	comp=E,5.0nm,1.0s,mb4.4						
TIXI	**Tiksi**	**78.34**	**360**	*i* P	**P**	**08 42 17.3**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BILL	**Bilibino**	**79.09**	**13**	*e*P	**P**	**08 42 22.3**	**-0.2**
BILL				*e*S	S	08 52 34.0	+16
BILL				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.0						
TBI	**Tubuai**	**79.17**	**112**	*e*LR	LR	09 08 03.0	
	comp=Z,568nm,32.5s						
PPT	**Papeete**	**79.40**	**107**	*e*LR	LR	09 08 10.0	
	comp=Z,417nm,29.0s						
QSPA	**South Pole Qui**	**83.13**	**180**	⇓*i*P	**P**	**08 42 45.5**	**+2.0**
	comp=Z,31nm,1.1s,mb5.2						
SVE	**Sverdlovsk**	**84.35**	**329**	⇓*e*P	**P**	**08 42 50.5**	**+0.4**
SVE				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.6						
RAYN	**Ar Rayn**	**87.17**	**294**	P	**P**	**08 43 06.9**	**+2.0**
	comp=Z,65nm,0.8s,SNR=11						
GNI	**Garni**	**90.33**	**310**	LR	LR	09 28 28.9	
	comp=Z,63nm,20.5s,MS4.0,baz=308,slow=39						
KMBO	**Kilima Mbogo**	**92.04**	**269**	P	**P**	**08 43 30.1**	**+2.2**
	comp=Z,0.5nm,0.5s,mb4.1,baz=234,slow=24,SNR=3.0						
KMBO				LR	LR	09 26 00.3	
	comp=Z,178nm,19.4s,MS4.5,baz=94,slow=36						
KIV	**Kislovodsk**	**92.37**	**314**	*e*P	**P**	**08 43 28.2**	**-0.5**
KIV				*e*SS	SS	09 00 38.4	-3.7
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
RKT	**Rikitea**	**92.45**	**113**	*e*LR	LR	09 14 11.9	
	comp=Z,308nm,35.8s						
COLA	**College**	**93.06**	**25**	*i* P	**P**	**08 43 31.3**	**-0.1**
ILAR	**Eielson Array**	**93.45**	**25**	P	**P**	**08 43 31.9**	**-1.3**
	comp=Z,1.4nm,0.7s,mb4.5,baz=256,slow=4.0,SNR=20						
ILAR				PP	PP	08 47 16.7	-3.7
	comp=Z,1.9nm,1.3s,baz=259,slow=6.0,SNR=4.1						
ILAR				LR	LR	09 21 59.1	
	comp=Z,98nm,20.3s,MS4.3,baz=153,slow=33						
SNAA	**Sanae**	**95.68**	**194**	LR	LR	09 25 47.0	
	comp=Z,110nm,21.0s,MS4.3,baz=226,slow=35						
ASF	**Jabal al Asfar**	**95.74**	**302**	LR	LR	09 29 59.5	
	comp=Z,182nm,20.3s,MS4.5,baz=336,slow=37						
ANN	**Anapa**	**96.19**	**314**	*e*P	**P**	**08 43 45.9**	**-0.4**
ANN				*i*	pP	08 43 57.0	+1.1
ANN				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.6						
DAWY	**Dawson**	**96.62**	**26**	*e*P	**P**	**08 43 48.6**	**+0.9**
OBN	**Obninsk**	**97.21**	**325**	*e*P	**P**	**08 43 51.1**	**+0.5**
OBN				*e*S	S	08 55 14.2	+5.8
OBN				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.2						
EIL	**Elat**	**97.23**	**299**	LR	LR	09 30 42.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,257nm,18.5s,MS4.7,baz=106,slow=37						
MATP	**Matopo**	**97.80**	**248**	LR	LR	09 24 24.5	
	comp=Z,150nm,19.9s,MS4.5,baz=68,slow=33						
INK	**Inuvik**	**98.93**	**22**	LR	LR	09 23 03.6	
	comp=Z,101nm,21.9s,MS4.3,baz=290,slow=32						
RES	**Resolute Bay**	**107.63**	**11**	*e*Pdif	Pdif	08 44 37.5	+1.0
	comp=Z,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**107.86**	**26**	PKiKP		08 48 45.8	
	comp=Z,0.3nm,0.6s,baz=298,slow=1.8,SNR=7.8						
YKA				PKKPbc		09 00 00.2	
	comp=Z,0.6nm,1.0s,baz=107,slow=2.9,SNR=6.2						
YKA	**Yellowknife Ar**	**107.86**	**26**	PKPdf		08 48 45.8	
YKA				PKKPbc		09 00 00.2	
NVAR	**Mina Array Bea**	**111.64**	**51**	PKiKP		08 48 54.2	
	comp=Z,0.5nm,0.8s,baz=230,slow=1.7,SNR=3.8						
GERES	**GERESS Array B**	**111.95**	**320**	PKiKP		08 48 53.5	
	comp=Z,0.9nm,0.7s,baz=90,slow=2.7,SNR=7.0						
PDAR	**Pinedale Array**	**117.18**	**45**	PKP	PKPdf	08 49 05.0	-2.3
	comp=Z,1.2nm,1.0s,baz=225,slow=2.1,SNR=7.3						
PV10	**Paradox Valley**	**118.77**	**50**	*e*PKiKP		08 49 09.0	
ISCO	**Idaho Springs**	**120.91**	**47**	*e*PKIKP	PKPdf	08 49 13.0	-1.7
SDCO	**Great Sand Dun**	**121.63**	**50**	*e*PKiKP		08 49 14.3	
ANMO	**Albuquerque**	**121.66**	**53**	*e*PKIKP	PKPdf	08 49 14.8	-1.4
ULM	**Lac du Bonnet**	**122.62**	**33**	PKP	PKPdf	08 49 13.4	-4.3
	comp=Z,1.2nm,0.5s,baz=167,slow=2.7,SNR=4.5						
MNTX	**Cornudas Mount**	**123.34**	**57**	*e*PKiKP		08 49 17.7	
TXAR	**Lajitas Array**	**125.33**	**59**	PKP	PKPdf	08 49 20.6	-2.9
	comp=Z,1.3nm,0.8s,baz=246,slow=1.2,SNR=15						
JCT	**Junction City**	**128.28**	**56**	*e*PKIKP	PKPdf	08 49 26.6	-2.6
PLCA	**Paso Flores**	**129.21**	**160**	PKP	PKPdf	08 49 29.3	-1.3
	comp=Z,3.6nm,1.1s,baz=215,slow=2.1,SNR=4.3						
DBIC	**Dimbokro**	**134.62**	**273**	PKP	PKPdf	08 49 39.1	-2.4
	comp=Z,2.3nm,0.6s,baz=299,slow=1.9,SNR=5.7						
LRAL	**Lakeview Retre**	**137.33**	**47**	*e*PKPdf	PKPdf	08 49 40.3	-5.7
LVC	**Limon Verde**	**145.65**	**149**	*e*PKPdf	PKPdf	08 50 00.6	-0.4
JTS	**JuntasAbangare**	**145.83**	**82**	*e*PKP2	PKPab	08 49 59.3	-0.2
NNA	**Nana**	**147.86**	**125**	*e*PKPdf	PKPdf	08 50 02.6	-2.3
LPAZ	**La Paz**	**151.18**	**143**	*e*PKIKP	PKPdf	08 50 08.4	-1.7
LPAZ	**La Paz**	**151.18**	**143**	PKP	PKPdf	08 50 09.7	-0.4
	comp=Z,3.0nm,0.9s,baz=290,slow=0.5,SNR=9.9						
LPAZ				PKPbc	PKPdf	08 50 15.9	+5.8
	comp=Z,8.5nm,0.9s,baz=66,slow=0.2,SNR=21						
SDV	**Santo Domingo**	**160.01**	**83**	*e*PKPdf	PKPdf	08 50 19.5	-2.3

IDC 05 08:38:02.8±7.2**, 18.81S×176.43W, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.7**/15**, mbtmp3.6**/3**, Error ellipse: s-maj=311.1km s-min=39.4km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.33**	**260**	P	P	08 46 30.6	-2.0
	0.5nm,0.3s,baz=98,slow=7.3,SNR=14						
ASAR	**Alice Springs**	**46.37**	**255**	P	P	08 46 31.4	-1.4
	0.6nm,0.4s,baz=89,slow=7.9,SNR=13						
ILAR	**Eielson Array**	**86.35**	**12**	P	P	08 50 46.5	-1.2
	0.5nm,1.0s,baz=204,slow=3.6,SNR=4.1						

IDC 05 08:44:01.7±7.0**, 7.29S×150.10E, $h67^{km}$**$\pm63^{km}$**, mb3.5**/3**, mb1 3.8**/5**, mb1mx3.6**/13**, mbtmp3.9**/5**, ML3.8**/2**, Error ellipse: s-maj=74.6km s-min=32.9km az=114.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.59**	**234**	P	P	08 44 54.6	-1.7
	15nm,0.3s,baz=69,slow=5.5,SNR=25						
PMG				S	S	08 45 37.0	-0.7
	69nm,0.3s,baz=4.1,slow=23,SNR=19						
WRA	**Warramunga Arr**	**19.80**	**229**	P	P	08 48 26.6	-2.8
	0.6nm,0.3s,baz=54,slow=11,SNR=37						
ASAR	**Alice Springs**	**22.52**	**222**	P	P	08 48 56.0	-0.8
	0.9nm,0.6s,baz=47,slow=11,SNR=10						
STKA	**Stephens Creek**	**25.72**	**197**	P	P	08 49 25.9	-1.8
	2.2nm,0.8s,baz=11,slow=10,SNR=3.2						
ILAR	**Eielson Array**	**85.46**	**23**	P	P	08 56 31.9	-1.1
	0.6nm,0.6s,baz=252,slow=4.4,SNR=12						

*BJI **05** 08:57:40.1, 49.84N×131.98E, $h15^{km}$, ML4.1*
SKHL 05 08:57:36.4±0.1**, 49.82N×132.26E, $h11^{km}$**$\pm1^{km}$**, mb4.6**/8**, 2C, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KLR	**Kul'dur**	**0.68**	**210**	*e*Pg	Pg	08 57 48.7	-1.4
KLR				*e*Sg	Sg	08 57 57.7	-1.5
GRNR	**Gornyy**	**2.83**	**69**	*e*Pg	Pg	08 58 28.2	-4.8
GRNR				AMB	AMB	08 58 31.0	
	42nm,0.4s						
GRNR				sPg		08 58 33.3	
GRNR				*e*Sg	Sg	08 59 05.9	-4.9
GRNR				A		08 59 12.3	
	513nm,0.4s						
EKMR	**Ekimchan**	**3.28**	**7**	*e*Pn	Pn	08 58 29.2	+0.3
EKMR				sPg		08 58 33.5	
EKMR				*e*Pg	Pg	08 58 35.0	-7.0
EKMR				AMB	AMB	08 58 42.2	
	42nm,0.5s						
EKMR				AMB	AMB	08 58 42.2	
	15nm,0.5s						
EKMR				AMB	AMB	08 58 42.2	
	60nm,0.5s						
EKMR				*e*Sn	Sn	08 59 07.4	-0.9
EKMR				*e*Sg	Sg	08 59 18.0	-7.8
EKMR				A		08 59 24.5	
	140nm,0.6s						
EKMR				A		08 59 24.5	
	350nm,0.6s						
EKMR				A		08 59 24.5	
	220nm,0.6s						
YASR	**Yasnyy**	**4.38**	**324**	⇑*i*Pn	Pn	08 58 43.3	-1.2
YASR				AMB	AMB	08 58 44.4	
	40nm,0.5s						
YASR				AMB	AMB	08 58 44.4	
	30nm,0.5s						
YASR				AMB	AMB	08 58 44.4	
	70nm,0.5s						
YASR				*e*Pg	Pg	08 58 55.8	-8.1
YASR				*i* Sg	Sg	08 59 54.0	-8.3
YASR				A		08 59 58.5	
	50nm,0.5s						
YASR				A		08 59 58.5	
	100nm,0.5s						
YASR				A		08 59 58.5	
	80nm,0.5s						
ZEA	**Zeya**	**5.01**	**324**	⇑*i*Pn	Pn	08 58 52.8	-0.5
ZEA				AMB	AMB	08 58 53.3	
	58nm,0.4s						
ZEA				AMB	AMB	08 58 53.3	
	50nm,0.4s						
ZEA				AMB	AMB	08 58 53.3	
	110nm,0.4s						
ZEA				pPn		08 58 57.7	
ZEA				*e*Pg	Pg	08 59 08.1	-8.3
ZEA				*e*Sg	Sg	09 00 12.9	-10
ZEA				A		09 00 18.5	
	120nm,0.6s						
ZEA				A		09 00 18.5	
	240nm,0.8s						
BMKR	**Bomnak**	**5.33**	**338**	*e*Pn	Pn	08 58 57.2	-0.7
BMKR				*e*Pg	Pg	08 59 14.4	-8.4
BMKR				AMB	AMB	08 59 17.4	
	62nm,0.5s						
BMKR				AMB	AMB	08 59 17.4	
	15nm,0.5s						
BMKR				AMB	AMB	08 59 17.4	
	55nm,0.5s						
BMKR				*e*Sn	Sn	08 59 57.9	-2.1
BMKR				*e*Sg	Sg	09 00 24.3	-10
BMKR				A		09 00 24.8	
	82nm,0.4s						
BMKR				A		09 00 24.8	
	69nm,0.4s						
BMKR				A		09 00 24.8	
	35nm,0.4s						
MDJ	**Mudanjiang**	**5.51**	**200**	PG	Pg	08 59 18.4	-8.1
MDJ				SG	Sg	09 00 27.9	-12
MDJ				Smax			
	comp=N,118nm,0.8s						
MDJ				Smax			
	comp=E,117nm,0.8s						
TEY	**Ternei**	**5.62**	**147**	*e*rx	rx	08 59 23.2	
TEY				*e*Sg	Sg	09 00 32.0	-12
KROS	**Kirovskiy**	**5.65**	**327**	*e*Pn	Pn	08 59 01.9	-0.5
KROS				AMB	AMB	08 59 03.0	
	comp=E,7.0nm,0.4s						
KROS				AMB	AMB	08 59 03.0	
	comp=E,20nm,0.4s						
KROS				*e*Pg	Pg	08 59 19.6	-10
KROS				*e*Sg	Sg	09 00 32.9	-12
KROS				A		09 00 35.4	
	comp=E,21nm,0.6s						
KROS				A		09 00 35.4	
	comp=E,52nm,0.6s						
KROS				A		09 00 35.4	
	comp=E,22nm,0.6s						
NKL	**Nikolayevsk**	**6.23**	**54**	*e*Pg	Pg	08 59 29.2	-12
NKL				AMB	AMB	08 59 32.0	
	comp=E,10.0nm,0.5s						
NKL				AMB	AMB	08 59 32.0	
	comp=E,17nm,0.5s						
NKL				AMB	AMB	08 59 32.0	
	comp=E,26nm,0.5s						
NKL				sPg		08 59 35.0	
NKL				*e*Sg	Sg	09 00 50.1	-14
NKL				A		09 01 00.0	
	comp=E,80nm,0.7s						
CN2	**Changchun**	**7.62**	**220**	*e*P	Pn	08 59 33.5	+3.4
CN2				Smax			
	comp=N,100nm,0.9s						
CN2				Smax			
	comp=E,100nm,0.9s						
TUP	**Tupik**	**8.86**	**306**	*e*rx	rx	08 59 48.2	
TUP				*e*Pg	P	09 00 17.9	+31
TUP				AMB	AMB	09 00 23.2	
	comp=E,7.0nm,0.4s						
TUP				*e*Sg	Sg	09 02 12.5	-19
TUP				A		09 02 19.6	
	comp=E,53nm,1.4s						

DJA 05 09:03:41.0±1.3**, 8.72S×116.26E, $h116^{km}$**$\pm7^{km}$**, ML3.5**/2**, 6C, Error ellipse: s-maj=63.6km s-min=18.6km az=173.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.28**	**328**	⇑*e*Pn	P	09 03 57.1	-0.4
RATI	**Rata**	**0.72**	**270**	⇑*e*Pn	P	09 04 00.4	+0.1
RATI				⇑*e*Sn	S	09 04 14.2	-0.7
KELI	**Kelakatan**	**1.82**	**286**	⇑*e*Pn	P	09 04 12.8	+0.3
	18nm,0.2s						
SRDI	**Scrawed**	**2.11**	**276**	⇑*e*Pn	P	09 04 15.3	-0.9
	43nm,0.2s						
SRDI				⇑*e*Sn	S	09 04 40.9	-1.8

IDC 05 09:11:49.7±14.0**, 20.29S×177.63W, $h490^{km}$**$\pm126^{km}$**, mb3.2**/5**, mb1 3.4**/5**, mb1mx3.2**/15**, mbtmp4.0**/5**, Error ellipse: s-maj=155.1km s-min=45.0km az=135.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.86**	**264**	P	P	09 17 51.2	-0.6
	1.2nm,0.6s,baz=89,slow=13,SNR=4.6						
ASAR	**Alice Springs**	**44.90**	**256**	P	P	09 19 19.9	-1.4
	1.2nm,0.4s,baz=90,slow=7.9,SNR=37						
ASAR				PcP	PcP	09 20 50.9	-2.2
	0.4nm,0.5s,baz=100,slow=4.3,SNR=4.9						
WRA	**Warramunga Arr**	**44.97**	**262**	P	P	09 19 20.1	-1.9
	0.8nm,0.3s,baz=97,slow=7.6,SNR=54						
ILAR	**Eielson Array**	**88.03**	**13**	P	P	09 23 46.5	-1.0
	0.4nm,0.5s,baz=214,slow=5.4,SNR=8.1						
CMAR	**Chiang Mai Arr**	**90.37**	**289**	P	P	09 23 59.5	+0.1
	1.0nm,0.5s,baz=122,slow=3.3,SNR=4.8						
GERES	**GERESS Array B**	**150.09**	**345**	PKPbc	PKPdf	09 30 44.3	+6.0
	0.8nm,0.8s,baz=225,slow=1.4,SNR=4.8						

IDC 05 09:17:20.7±1.6**, 5.75S×149.09E, mb3.6**/3**, mb1 4.0**/4**, mb1mx3.8**/13**, mbtmp3.8**/4**, ML3.3**/1**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.2**/13**, Error ellipse: s-maj=107.1km s-min=26.0km az=122.0, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.10**	**208**	Pn	Pn	09 18 26.1	0.0
	15nm,0.3s,baz=52,slow=5.0,SNR=30						
PMG				Sn	Sn	09 19 10.3	-5.2
	9.3nm,0.3s,baz=336,slow=23,SNR=6.1						
PMG				LR	LR	09 20 14.4	
	comp=Z,105nm,20.1s,baz=160,slow=42						
WRA	**Warramunga Arr**	**20.11**	**224**	P	P	09 21 56.0	-3.1
	2.6nm,0.5s,baz=50,slow=11,SNR=39						
WRA				PcP	PcP	09 26 11.3	-2.9
	0.3nm,0.6s,baz=47,slow=1.7,SNR=5.7						
ASAR	**Alice Springs**	**23.04**	**218**	P	P	09 22 27.6	-1.2
	1.0nm,0.6s,baz=52,slow=9.4,SNR=22						
ILAR	**Eielson Array**	**84.44**	**23**	P	P	09 29 55.2	-1.0
	0.2nm,0.6s,baz=248,slow=4.9,SNR=6.0						

*MOS **05** 10:17:39.3±1.4, 36.65N×71.32E, $h91^{km}$, mb4.2/9, Error ellipse: s-maj=11.8km s-min=7.0km az=89.6*
*NEIC **05** 10:17:39.0±1.2, 36.67N×71.34E, $h72^{km}\pm12^{km}$, mb4.3/5, Error ellipse: s-maj=13.6km s-min=6.4km az=57.0*
*BJI **05** 10:17:40.0, 36.85N×71.11E, $h91^{km}$, mB5.3, mb4.6*
*IDC **05** 10:17:43.8±5.0, 36.73N×71.29E, $h114^{km}\pm46^{km}$, mb3.9/17, mb1 4.0/19, mb1mx3.9/26, mbtmp4.3/19, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=17.8km s-min=14.6km az=33.0*
*NNC **05** 10:17:45.1±10.0, 37.15N×70.81E, $h117^{km}\pm124^{km}$, mpv4.9, Error ellipse: s-maj=112.0km s-min=68.2km az=86.0*
ISC 05 10:17:40.5±0.5**, 36.66N**±0.02×**71.43E**±0.06**, $h101^{km}$**$\pm6^{km}$**, n98, σ1s31**/117**, mb4.0**/25**, 9C-5D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.86**	**172**	⇓P	**P**	**10 18 27.9**	**+2.6**
CHCP	**Chirah Chowk**	**3.35**	**153**	⇑P	**P**	**10 18 35.5**	**+3.4**
THW	**Thamme Wali**	**3.87**	**176**	⇑P	**P**	**10 18 40.6**	**+1.5**
SBDP	**Sheikh Budin**	**4.38**	**187**	⇓P	**P**	**10 18 46.6**	**+0.5**
KSH	**Kashi**	**4.58**	**50**	P	**P**	**10 18 53.0**	**+4.2**
KSH				S	**S**	**10 19 45.0**	**+3.8**
KSH				Smax			
	comp=N,970nm,0.3s						
KSH				Smax			
	comp=E,680nm,0.6s						
SARP	**Sargodha**	**4.84**	**167**	P	**P**	**10 18 52.8**	**+0.4**
SARP				S	**S**	**10 19 46.0**	**-1.6**
DRP	**Derazinda**	**5.01**	**192**	P	**P**	**10 18 53.6**	**-1.1**
DLH	**Dalhousie**	**5.56**	**136**	*e*P	**P**	**10 19 04.0**	**+1.9**
DLH				*e*S	**S**	**10 20 05.0**	**-0.3**
AML	**Almayashu**	**5.74**	**17**	P	**P**	**10 19 04.3**	**-0.2**
	SNR=466						
PONG	**Pong**	**6.00**	**140**	*e*P	**P**	**10 19 11.0**	**+2.8**
PONG				*e*		10 20 18.0	
UCH	**Uchtor**	**6.05**	**22**	P	**P**	**10 19 09.0**	**+0.2**
	SNR=65						
KZA	**Kyzart**	**6.17**	**28**	P	**P**	**10 19 11.3**	**+0.9**
	SNR=80						
EKS2	**Erkin-Say**	**6.26**	**16**	P	**P**	**10 19 11.4**	**-0.3**
	SNR=154						
AAK	**Ala-Archa**	**6.42**	**21**	P	**P**	**10 19 13.9**	**0.0**
	SNR=145						
AAK	**Ala-Archa**	**6.42**	**21**	⇓P	**P**	**10 19 13.8**	**-0.1**
	comp=E,35nm,0.3s						
AAK				⇑S	**S**	**10 20 24.0**	**-2.2**
	comp=E,59nm,0.5s						
AAK	**Ala-Archa**	**6.42**	**21**	Pn	**P**	**10 19 13.3**	**-0.6**
	comp=E,1µm,0.3s						
AAK	**Ala-Archa**	**6.42**	**21**	PN	**P**	**10 19 14.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,11nm,0.3s						
AAK	**Ala-Archa**	**6.42**	**21**	*e*P	**P**	**10 19 12.9**	**-1.0**
	comp=Z,86nm,0.4s						
KBK	**Karagaybulak**	**6.57**	**23**	P	**P**	**10 19 17.7**	**+1.6**
	SNR=8.9						
FRU	**Bishkek**	**6.63**	**21**	⇓*i*PN	**P**	**10 19 17.2**	**+0.2**
BHK	**Bhakra**	**6.67**	**140**	*e*P	**P**	**10 19 20.0**	**+2.5**
BHK				*e*		10 20 33.2	
ULHL	**Ulahol**	**6.70**	**32**	P	**P**	**10 19 18.6**	**+0.6**
	SNR=23						
CHMS	**Chumysh**	**6.83**	**21**	P	**P**	**10 19 19.4**	**-0.2**
	SNR=40						
SDNR	**Sundarnagar**	**6.90**	**137**	*e*P	**P**	**10 19 20.9**	**+0.3**
SDNR				*e*S	**S**	**10 20 35.5**	**-2.7**
USP	**Ospenovka**	**7.00**	**19**	P	**P**	**10 19 21.1**	**-1.0**
	SNR=71						
TKM2	**Tokmak 2**	**7.03**	**26**	P	**P**	**10 19 22.8**	**+0.5**
	SNR=28						
SMLA	**Simla**	**7.29**	**138**	*i* P	Px	10 19 25.0	
SMLA				*i* S	Sx	10 20 43.7	
KLP	**Kalpa**	**7.63**	**130**	*e*P	**P**	**10 19 32.8**	**+2.3**
KLP				*e*		10 20 55.9	
KLP				*e*		10 21 03.6	
	comp=N,1µm,0.7s						
KLP				*e*		10 21 04.1	
	comp=E,1µm,0.7s						
DDI	**Dehra Dun**	**8.40**	**137**	*e*P	**P**	**10 19 43.3**	**+2.3**
DDI				*e*S	**S**	**10 21 09.3**	**-5.5**
JOSI	**Joshimath**	**9.11**	**130**	*e*	**P**	**10 19 43.4**	**-7.1**
JOSI				*e*S	**S**	**10 21 25.8**	**-6.3**
KHET	**Khetri**	**9.33**	**155**	*e*	**P**	**10 20 00.0**	**+6.5**
KHET				*e*S	**S**	**10 21 32.5**	**-4.8**
KHET				*e*		10 21 37.1	
	comp=E,76nm,0.9s						
KHET				*e*		10 21 37.7	
	comp=N,75nm,1.3s						
NDI	**New Delhi**	**9.33**	**147**	*e*P	**P**	**10 19 53.0**	**-0.5**
NDI				*e*S	**S**	**10 21 31.0**	**-6.3**
AYAN	**Aya Nagar**	**9.47**	**148**	*e*P	**P**	**10 19 56.0**	**+0.7**
AYAN				*e*		10 21 39.6	
AYAN				*e*		10 21 42.1	
	comp=Z,30nm,0.8s						
KUDL	**Kundal**	**9.51**	**152**	*e*P	**P**	**10 19 54.4**	**-1.5**
KUDL				*e*S	**S**	**10 21 35.1**	**-6.5**
KUDL				*e*		10 21 38.8	
	comp=Z,40nm,1.1s						
SONA	**Sohna**	**9.65**	**149**	*e*P	**P**	**10 19 56.8**	**-1.0**
SONA				*e*S	**S**	**10 21 40.0**	**-5.1**
SONA				*e*		10 21 43.6	
	comp=N,52nm,0.4s						
SONA				*e*		10 21 43.8	
	comp=E,100nm,0.3s						
JASL	**Jaisalmer**	**9.72**	**183**	*e*P	**P**	**10 19 55.0**	**-3.8**
PTH	**Pithoragarh**	**10.22**	**131**	*e*	**P**	**10 20 02.1**	**-3.4**
PTH				*e*		10 21 58.5	
AGRA	**Agra**	**10.91**	**148**	*e*P	**P**	**10 20 13.5**	**-1.1**
AGRA				*e*S	**S**	**10 22 08.2**	**-7.0**
AGRA				*e*		10 22 15.1	
	comp=N,154nm,0.9s						
AGRA				*e*		10 22 15.5	
	comp=E,159nm,0.9s						
MK31	**Makanchi Array**	**12.96**	**35**	⇑P	**P**	**10 20 40.6**	**-1.1**
	comp=E,4.7nm,0.7s,baz=226,slow=15,SNR=71						
MKAR	**Makanchi Array**	**12.96**	**35**	*i* P	**P**	**10 20 41.1**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KOLN	**Koldanda**	**13.58**	**127**	*e*P	**P**	**10 20 50.0**	**+0.1**
	comp=Z,14nm,0.3s						
GKN	**Gorkha**	**14.10**	**124**	*e*P	**P**	**10 20 55.9**	**-0.7**
	comp=Z,66nm,0.5s						
KKN	**Kakani**	**14.67**	**123**	*e*P	**P**	**10 21 03.5**	**-0.5**
	comp=Z,23nm,0.4s						
KKN	**Kakani**	**14.67**	**123**	*e*P	**P**	**10 21 03.5**	**-0.5**
KKN				pmax	pmax		
	comp=Z,12nm,0.4s						
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**P**	**10 21 05.9**	**-1.0**
	comp=Z,18nm,0.3s						
PKI	**Pulchoki**	**14.90**	**123**	*e*P	**P**	**10 21 05.9**	**-1.0**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
KURK	**Kurchatov**	**14.97**	**18**	⇑P	**P**	**10 21 10.1**	**+2.5**
	comp=Z,3.4nm,0.7s,baz=235,slow=10,SNR=8.7						
KURK				⇑S	**S**	**10 24 00.2**	**+9.2**
	comp=Z,7.5nm,2.7s						
KURK	**Kurchatov**	**14.97**	**18**	P	**P**	**10 21 10.0**	**+2.4**
	comp=Z,69nm,0.7s,SNR=10.0						
KURK	**Kurchatov**	**14.97**	**18**	*i* P	**P**	**10 21 10.0**	**+2.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**14.97**	**18**	*e*P	**P**	**10 21 07.5**	**-0.1**
GUN	**Gumba**	**15.00**	**121**	*e*P	**P**	**10 21 07.1**	**-1.1**
	comp=Z,42nm,0.5s						
JIRN	**Jiri**	**15.38**	**122**	*e*P	**P**	**10 21 11.8**	**-1.1**
	comp=Z,46nm,0.3s						
BVA0	**Borovoye Array**	**16.38**	**358**	⇑P	**P**	**10 21 22.2**	**-3.1**
	comp=Z,0.6nm,0.5s,baz=178,slow=17,SNR=45						
BVA0				⇑S	**S**	**10 24 12.8**	**-10**
	comp=Z,1.2nm,1.1s,baz=165,slow=25,SNR=4.3						
BVA0	**Borovoye Array**	**16.38**	**358**	*i* P	**P**	**10 21 22.2**	**-3.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**16.38**	**358**	P	**P**	**10 21 22.2**	**-3.0**
	comp=Z,1.9nm,0.3s,baz=162,slow=13,SNR=24						
BVAR				S	**S**	**10 24 26.3**	**+3.2**
	comp=Z,0.3nm,0.3s,baz=169,slow=22,SNR=3.3						
CHKZ	**Chkalovo**	**17.02**	**358**	⇓P	**P**	**10 21 29.7**	**-3.5**
	comp=Z,2.3nm,0.5s						
CHKZ				⇑S	**S**	**10 24 32.2**	**-5.5**
	comp=Z,10nm,1.9s						
CHKZ	**Chkalovo**	**17.02**	**358**	P	**P**	**10 21 30.4**	**-2.9**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	**Chkalovo**	**17.02**	**358**	*e*P	**P**	**10 21 30.2**	**-3.0**
	comp=Z,5.6nm,0.7s						
LSA	**Lhasa**	**17.89**	**107**	*e*P	**P**	**10 21 48.4**	**+4.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.6s						
LSA	**Lhasa**	**17.89**	**107**	*e*P	**P**	**10 21 48.4**	**+4.2**
	comp=Z,11nm,0.6s						
ZAL	**Zalesovo**	**19.61**	**24**	P	**P**	**10 22 01.6**	**-1.3**
	comp=Z,4.4nm,0.3s,baz=254,slow=5.2,SNR=30						
NVS	**Novosibirsk**	**19.91**	**20**	*e*P	**P**	**10 22 06.0**	**-0.1**
NVS				*e*S	**S**	**10 25 39.7**	**+0.2**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.2s						
NVS				smax			
	comp=N,19nm,2.0s						
NVS				smax			
	comp=E,6.0nm,1.5s						
HYB	**Hyderabad**	**20.18**	**160**	*e*P	**P**	**10 22 14.0**	**+4.9**
HYB				*e*S	**S**	**10 25 48.0**	**+3.1**
HYB	**Hyderabad**	**20.18**	**160**	*i* P	**P**	**10 22 14.0**	**+4.9**
HYB				*e*S	**S**	**10 25 48.0**	**+3.1**
GNI	**Garni**	**21.17**	**288**	*i* P	**P**	**10 22 19.3**	**+0.3**
GNI				pmax	pmax		
	comp=Z,15nm,1.3s						
GNI	**Garni**	**21.17**	**288**	P	**P**	**10 22 19.2**	**+0.2**
	comp=Z,2.9nm,0.4s,mb4.0,baz=357,slow=21,SNR=4.5						
ZEI	**Tsey**	**21.98**	**295**	*e*P	**P**	**10 22 31.4**	**+4.4**
ZEI				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.6						
GTA	**Gaotai**	**22.49**	**74**	P	**P**	**10 22 36.2**	**+4.2**
GTA				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.3						
GOF	**Gofitskoye**	**22.96**	**300**	*e*P	**P**	**10 22 34.2**	**-2.3**
KIV	**Kislovodsk**	**23.02**	**297**	*i* P	**P**	**10 22 37.1**	**+0.1**
KIV				*e**PP		10 22 57.6	
KIV				*e*		10 23 08.1	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
MOY	**Mondy**	**25.75**	**45**	*e*P	**P**	**10 23 05.3**	**+2.3**
ZAK	**Zakamensk**	**26.62**	**49**	*e*P	**P**	**10 23 09.7**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.3						
SONM	**Songino Array**	**27.96**	**55**	P	**P**	**10 23 24.9**	**+1.6**
	comp=Z,1.2nm,0.4s,mb3.8,baz=268,slow=8.9,SNR=23						
ULN	**Ulaanbaatar**	**28.40**	**56**	*i* P	**P**	**10 23 23.6**	**-3.6**
OBN	**Obninsk**	**30.04**	**319**	*e*P	**P**	**10 23 44.1**	**+2.4**
OBN				*e*		10 24 48.7	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**30.23**	**119**	P	**P**	**10 23 45.7**	**+1.9**
	comp=Z,1.0nm,0.4s,mb3.8,baz=315,slow=10,SNR=4.2						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**10 24 07.2**	**-1.4**
	comp=Z,3.9nm,0.8s,mb4.3,baz=78,slow=8.1,SNR=5.4						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**10 24 07.2**	**-1.4**
FINES	**FINESS Array B**	**37.54**	**326**	P	**P**	**10 24 45.5**	**-0.5**
	comp=Z,1.3nm,0.4s,mb4.2,baz=90,slow=13,SNR=10						
FINES				LR	LR	10 43 53.8	
	comp=Z,69nm,19.1s,baz=218,slow=42						
ARCES	**ARCESS Array B**	**41.13**	**337**	P	**P**	**10 25 15.4**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=114,slow=8.6,SNR=20						
ARCES				LR	LR	10 45 32.4	

	comp=Z,37nm,18.9s,baz=15,slow=41						
HFS	**Hagfors**	**43.15**	**322**	P	**P**	**10 25 31.5**	**-0.7**
	comp=Z,5.6nm,0.4s,mb4.6,baz=108,slow=9.4,SNR=30						
YAK	**Yakutsk**	**43.63**	**36**	*i* P	**P**	**10 25 34.9**	**-1.1**
YAK				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.0						
NB2	**NORSAR Subarra**	**44.46**	**323**	P	**P**	**10 25 41.7**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.4,baz=98,slow=7.9						
NB2	**NORSAR Subarra**	**44.46**	**323**	P	**P**	**10 25 41.7**	**-1.0**
NB2				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.4						
NOA	**NORSAR Array B**	**44.46**	**323**	P	**P**	**10 25 41.7**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.4,baz=96,slow=7.7,SNR=20						
TIXI	**Tiksi**	**45.49**	**22**	*i* P	**P**	**10 25 51.2**	**+0.4**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
BILL	**Bilibino**	**58.31**	**26**	*e*P	**P**	**10 27 26.7**	**+0.2**
BILL				*e**PP	pP	10 28 04.8	+13
BILL				*e*		10 29 31.8	
BILL				*e*S	**S**	**10 35 32.8**	**+14**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MATP	**Matopo**	**69.76**	**223**	P	**P**	**10 28 41.9**	**+0.1**
	comp=Z,4.9nm,0.4s,mb4.7,baz=21,slow=5.8,SNR=24						
INK	**Inuvik**	**73.69**	**9**	P	**P**	**10 29 05.0**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**73.69**	**9**	P	**P**	**10 29 05.0**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.0,baz=354,slow=4.7,SNR=20						
INK	**Inuvik**	**73.69**	**9**	*e*P	**P**	**10 29 04.6**	**+0.4**
	comp=Z,2.0nm,0.6s,mb4.0						
ILAR	**Eielson Array**	**74.53**	**16**	P	**P**	**10 29 08.2**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.2,baz=311,slow=4.9,SNR=6.2						
FRB	**Frobisher Bay**	**75.01**	**343**	P	**P**	**10 29 12.2**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=4.9,slow=6.6,SNR=5.3						
YKA	**Yellowknife Ar**	**81.07**	**3**	P	**P**	**10 29 45.7**	**+0.5**
	comp=Z,0.7nm,0.4s,mb3.8,baz=350,slow=5.4,SNR=33						
SCHQ	**Schefferville**	**82.08**	**337**	P	**P**	**10 29 51.5**	**+0.9**
	comp=Z,0.9nm,0.5s,mb3.8,baz=41,slow=19,SNR=6.5						
DLBC	**Dease Lake**	**83.57**	**11**	P	**P**	**10 29 59.1**	**+1.2**
	comp=Z,7.1nm,1.4s,mb4.3,baz=348,slow=18,SNR=2.6						
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**10 30 01.9**	**+0.6**
	comp=Z,2.3nm,0.6s,mb4.2,baz=310,slow=5.0,SNR=28						
CTA	**Charters Tower**	**90.30**	**115**	P	**P**	**10 30 31.9**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.3,baz=271,slow=9.1,SNR=3.0						

IDC 05 10:24:01.5±12.0**, 1.57N**×**126.97E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/14**, mbtmp3.8**/3**, Error ellipse: s-maj=198.5km s-min=172.1km az=152.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.57**	**162**	P	P	10 29 03.7	-1.3
	0.8nm,0.4s,baz=341,slow=11,SNR=58						
ASAR	**Alice Springs**	**25.97**	**165**	P	P	10 29 36.0	-1.8
	0.2nm,0.4s,baz=336,slow=8.6,SNR=9.9						
STKA	**Stephens Creek**	**36.04**	**159**	P	P	10 31 04.8	-2.0
	4.8nm,0.8s,baz=333,slow=8.1,SNR=5.0						

IDC 05 10:24:58.2±16.0**, 0.17S**×**125.14E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/14**, mbtmp3.9**/3**, Error ellipse: s-maj=257.2km s-min=194.0km az=165.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.62**	**156**	P	P	10 29 50.0	-2.2
	2.2nm,0.3s,baz=333,slow=11,SNR=22						
ASAR	**Alice Springs**	**24.86**	**161**	P	P	10 30 23.6	-0.4
	0.7nm,0.4s,baz=344,slow=9.3,SNR=13						
STKA	**Stephens Creek**	**35.17**	**155**	P	P	10 31 53.0	-3.0
	3.3nm,0.9s,baz=324,slow=7.5,SNR=4.1						

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*NIED **05** 10:27:00, 37.30N×134.90E, h400km, Mw4.3 Best double couple: Mo3.33×10^15 NP1:φs182°, δ80°, λ115°. NP2: φs292°, δ27°, λ23°.*
*MOS **05** 10:27:28.3±0.9, 37.27N×134.77E, h335km, mb4.1/9, Error ellipse: s-maj=13.6km s-min=9.8km az=119.7*
*BJI **05** 10:27:32.0, 37.35N×134.90E, h396km, mB4.5, mb4.7*
*NEIC **05** 10:27:33.9±0.4, 37.28N×134.77E, h379km±4km, mb4.5/21, MW4.3(NIED), Error ellipse: s-maj=5.7km s-min=4.7km az=162.0*
*JMA **05** 10:27:33.2±0.1, 37.31N×134.93E, h392km±2km, M4.2*
*IDC **05** 10:27:33.1±1.1, 37.31N×134.72E, h369km±12km, mb3.6/26, mb1 3.8/28, mb1mx3.8/31, mbtmp4.4/28, Error ellipse: s-maj=10.6km s-min=8.5km az=86.0*
ISC 05 10:27:33.0±0.2**, 37.33N**±0.04×**134.81E**±0.04**, h385**km±2km**, n123, σ0.98**/139**, mb4.2**/49**, 5C-1D, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKG	**Kaga**	**1.61**	**130**	P	**P**	**10 28 25.8**	**+0.2**
JKG				*e*S	**S**	**10 29 06.6**	**-0.2**
JJH	**Hakui**	**1.62**	**104**	P	**P**	**10 28 26.0**	**+0.3**
SAI	**Saigo**	**1.63**	**227**	P	**P**	**10 28 26.6**	**+0.9**
JHG	**Hegura jima**	**1.75**	**72**	P	**P**	**10 28 26.8**	**+0.4**
JHG				*e*S	**S**	**10 29 08.9**	**+0.7**
JSZ	**Suzu**	**2.03**	**86**	P	**P**	**10 28 28.6**	**+0.5**
JSZ				*e*S	**S**	**10 29 12.0**	**+0.7**
JWT	**Wachi**	**2.09**	**167**	P	**P**	**10 28 29.4**	**+0.9**
JWT				*e*S	**S**	**10 29 12.5**	**+0.5**
JGM	**Miyama**	**2.23**	**136**	P	**P**	**10 28 29.5**	**0.0**
JGM				*e*S	**S**	**10 29 13.4**	**-0.4**
JHS	**Saijyo**	**2.70**	**211**	P	**P**	**10 28 33.7**	**+0.8**
JHS				S	**S**	**10 29 21.0**	**+1.0**
JSD	**Sado**	**2.83**	**74**	P	**P**	**10 28 33.8**	**-0.1**
MAJO	**Matsushiro**	**2.83**	**105**	*e*P	**P**	**10 28 33.4**	**-0.6**
MAT	**Matsushiro**	**2.83**	**105**	*e*P	**P**	**10 28 34.0**	**0.0**
MAT	**Matsushiro**	**2.83**	**105**	P	**P**	**10 28 33.8**	**-0.2**
MAT				S	**S**	**10 29 21.4**	**-0.5**
MAT	**Matsushiro**	**2.83**	**105**	P	**P**	**10 28 33.9**	**-0.1**
MAT				*e*S	**S**	**10 29 22.2**	**+0.3**
JIE	**Ise**	**3.31**	**152**	P	**P**	**10 28 38.8**	**+0.7**
JIE				*e*S	**S**	**10 29 29.2**	**0.0**
JYN	**Shimob**	**3.52**	**120**	P	**P**	**10 28 39.3**	**-0.7**
JRY	**Ryogami san**	**3.54**	**110**	P	**P**	**10 28 40.0**	**-0.2**
JNS	**Sasagawa**	**3.61**	**81**	P	**P**	**10 28 40.3**	**-0.6**
JWZ	**Kozaga**	**3.86**	**169**	P	**P**	**10 28 43.4**	**+0.2**
JWZ				*e*S	**S**	**10 29 38.5**	**+0.2**
JOD2	**Odawara 2**	**4.02**	**120**	P	**P**	**10 28 44.3**	**-0.5**
JOD2				S	**S**	**10 29 41.4**	**+0.3**
JTO	**Tosashimizu**	**4.75**	**201**	P	**P**	**10 28 53.1**	**+0.9**
JMK	**Ichinoseki**	**5.30**	**70**	P	**P**	**10 28 57.1**	**-1.0**
KS15	**Wonju Array Si**	**5.52**	**273**	*e*P	**P**	**10 29 01.8**	**+1.4**
BSO1	**Boso 1**	**5.66**	**116**	P	**P**	**10 29 00.4**	**-1.5**
BSO1				*e*S	**S**	**10 30 09.4**	**-2.3**
JHJ	**Hachijo jima 2**	**5.84**	**134**	P	**P**	**10 29 02.8**	**-1.1**
	10nm,0.3s,baz=66,slow=18,SNR=3.3						
JHJ				S	**S**	**10 30 18.0**	**+2.7**
	27nm,0.3s,baz=59,slow=19,SNR=4.2						
JOSM	**Okushiri--Mats**	**5.96**	**36**	P	**P**	**10 29 05.3**	**+0.2**
JOT	**Ohata**	**6.30**	**48**	P	**P**	**10 29 08.5**	**-0.6**
ERM	**Erimo**	**7.96**	**51**	Pn	**P**	**10 29 26.4**	**-1.7**
	1μm,0.3s						
MDJ	**Mudanjiang**	**8.28**	**333**	P	**P**	**10 29 32.8**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,26nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,81nm,4.5s						
MDJ	**Mudanjiang**	**8.28**	**333**	*e*P	**P**	**10 29 32.7**	**+0.8**
	comp=Z,23nm,1.0s						
ASAJ	**Asahikawa**	**8.99**	**39**	P	**P**	**10 29 38.2**	**-1.9**
ASAJ				S	**S**	**10 31 15.4**	**-5.2**
ASAJ				pmax	pmax		
	comp=Z,38nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
ASAJ	**Asahikawa**	**8.99**	**39**	P	**P**	**10 29 38.1**	**-2.0**
	comp=N,38nm,0.3s,baz=243,slow=9.4,SNR=213						
ASAJ				S	**S**	**10 31 15.3**	**-5.2**
	comp=N,6.1nm,0.3s,baz=349,slow=32,SNR=10						
CN2	**Changchun**	**9.62**	**315**	*e*P	**P**	**10 29 48.4**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**10.73**	**48**	*e*P	**P**	**10 29 58.4**	**-2.2**
YUK				*e*S	**S**	**10 31 50.8**	**-6.7**
YUK				pmax	pmax		
	comp=Z,540nm,0.5s						
YUK				pmax	pmax		
	comp=N,310nm,0.4s						
YUK				pmax	pmax		
	comp=E,130nm,0.4s						
YUK				smax			
	comp=N,2μm,0.8s						
YUK				smax			
	comp=E,600nm,0.8s						
YUK				smax			
	comp=N,1μm,0.6s						
YUK				smax			
	comp=E,390nm,0.5s						
YSS	**Yuzh-Sakhalins**	**11.28**	**29**	*e*P	**P**	**10 30 06.0**	**-1.0**
YSS				pmax	pmax		
	comp=Z,16nm,0.6s						
YSS	**Yuzh-Sakhalins**	**11.28**	**29**	*e*P	**P**	**10 30 06.0**	**-1.0**
	comp=Z,16nm,0.6s						
CBIJ	**Chichi jima**	**11.95**	**146**	S	**S**	**10 32 14.1**	**-9.4**
	comp=Z,42nm,0.3s,baz=320,slow=20,SNR=9.3						
NJ2	**Nanjing**	**14.14**	**253**	*e*P	**P**	**10 30 38.9**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s						
BJI	**Beijing**	**14.81**	**286**	*e*P	**P**	**10 30 45.3**	**-1.0**
BJI				AMB	AMB		
	comp=Z,32nm,0.8s						
BJI	**Beijing**	**14.81**	**286**	*e*P	**P**	**10 30 45.3**	**-1.0**
	comp=Z,32nm,0.8s						
BJI				sP		10 30 57.0	
BJT	**Baijiatuau**	**14.81**	**286**	*e*P	**P**	**10 30 45.5**	**-0.9**
BJT				pmax	pmax		
	comp=Z,20nm,0.6s						
BJT	**Baijiatuau**	**14.81**	**286**	*e*P	**P**	**10 30 45.5**	**-0.9**
	comp=Z,20nm,0.6s						
HIA	**Hailar**	**16.18**	**322**	*e*P	**P**	**10 30 59.1**	**-1.2**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HIA	**Hailar**	**16.18**	**322**	*e*P	**P**	**10 30 59.1**	**-1.2**
	comp=Z,6.1nm,0.6s						
TATO	**Taipei**	**16.76**	**227**	*e*P	**P**	**10 31 04.8**	**-1.6**
	comp=Z,126nm,0.9s						
YHNB	**Yeheng**	**17.06**	**226**	*e*P	**P**	**10 31 08.4**	**-1.1**
HHC	**Hu-ho-hao-te**	**18.38**	**288**	*e*P	**P**	**10 31 22.0**	**-0.6**
HHC				XP		10 33 03.1	
HHC				S	**S**	**10 34 27.6**	**-0.9**
HHC				SCP		10 38 33.2	
HHC				PCS		10 39 10.6	
HHC				SCS	ScS	10 42 14.1	+0.7
HHC				AMB	AMB		
	comp=Z,23nm,0.8s						
HHC				AMB	AMB		
	comp=Z,118nm,7.7s						
XAN	**Xi'an**	**21.27**	**269**	P	**P**	**10 31 50.3**	**-0.5**
XAN				AMB	AMB		
	comp=Z,36nm,0.5s,mb5.1						
ENH	**Enshi**	**22.15**	**259**	*e*P	**P**	**10 31 58.5**	**-0.7**
	comp=Z,28nm,0.6s,mb4.9						
ULN	**Ulaanbaatar**	**22.87**	**306**	*e*P	**P**	**10 32 02.6**	**-3.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**22.87**	**306**	*e*P	**P**	**10 32 02.6**	**-3.0**
	comp=Z,4.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**23.29**	**306**	P	**P**	**10 32 09.2**	**-0.3**
	comp=Z,3.7nm,0.5s,mb4.0,baz=110,slow=9.5,SNR=26						
LZH	**Lanzhou**	**24.81**	**277**	⇑P	**P**	**10 32 23.5**	**+0.1**
LZH				AP		10 32 30.1	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.5						
LZH	**Lanzhou**	**24.81**	**277**	⇑P	**P**	**10 32 23.5**	**+0.1**
LZH				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.5						
LZH	**Lanzhou**	**24.81**	**277**	⇑P	**P**	**10 32 23.5**	**+0.1**
	comp=Z,27nm,1.3s,mb4.5						
LZH				pP		10 32 30.1	
LZH				sP		10 32 33.4	
ZAK	**Zakamensk**	**26.00**	**310**	*e*P	**P**	**10 32 32.6**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.2						
GYA	**Guiyang**	**26.15**	**254**	⇑*i*P	**P**	**10 32 34.5**	**-1.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
GTA	**Gaotai**	**27.42**	**285**	P	**P**	**10 32 45.1**	**-1.7**
GTA				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.6						
NANT	**Nan**	**35.05**	**248**	P	**P**	**10 33 51.0**	**-1.6**
CHRT	**Chiangrai**	**35.08**	**250**	⇓P	**P**	**10 33 54.0**	**+1.2**
	comp=Z,200nm,0.6s						
CHG	**Chiang Mai**	**36.35**	**249**	⇑P	**P**	**10 34 04.0**	**+0.6**
	comp=Z,12nm,0.6s,mb4.4						
CMAR	**Chiang Mai Arr**	**36.57**	**249**	P	**P**	**10 34 05.6**	**+0.3**
	comp=Z,2.7nm,0.5s,mb3.9,baz=45,slow=8.5,SNR=14						
CMAR				ScP		10 39 29.9	
	comp=Z,0.7nm,0.4s,baz=5.6,slow=3.2,SNR=5.2						
LSA	**Lhasa**	**36.93**	**271**	*e*P	**P**	**10 34 10.8**	**+2.6**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.1						
LSA	**Lhasa**	**36.93**	**271**	*e*P	**P**	**10 34 10.8**	**+2.6**
	comp=Z,4.9nm,0.5s,mb4.1						
ZAL	**Zalesovo**	**37.84**	**312**	P	**P**	**10 34 14.3**	**-1.0**
	comp=Z,1.1nm,0.3s,mb3.6,baz=45,slow=4.3,SNR=3.2						
ZAL				ScP		10 39 32.1	
	comp=Z,0.9nm,0.4s,baz=4.7,slow=7.0,SNR=4.2						
MKAR	**Makanchi Array**	**39.47**	**301**	*e*P	**P**	**10 34 28.6**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KURK	**Kurchatov**	**41.58**	**307**	*e*P	**P**	**10 34 45.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.2						
KURK	**Kurchatov**	**41.58**	**307**	*e*P	**P**	**10 34 45.0**	**-0.8**
	comp=Z,8.5nm,0.7s,mb4.2						
JIRN	**Jiri**	**41.74**	**271**	*e*P	**P**	**10 34 48.4**	**+0.9**
	comp=Z,57nm,0.5s,mb5.2						
GUN	**Gumba**	**41.88**	**272**	*e*P	**P**	**10 34 49.2**	**+0.6**
	comp=Z,79nm,0.6s,mb5.2						
PKI	**Pulchoki**	**42.40**	**272**	*e*P	**P**	**10 34 52.7**	**-0.1**
	comp=Z,29nm,0.6s,mb4.8						
PKI	**Pulchoki**	**42.40**	**272**	*e*P	**P**	**10 34 52.7**	**-0.1**
PKI				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.5						
KKN	**Kakani**	**42.41**	**272**	*e*P	**P**	**10 34 53.1**	**+0.3**
	comp=Z,25nm,0.4s,mb4.9						
DMN	**Daman**	**42.63**	**272**	*e*P	**P**	**10 34 54.5**	**-0.1**
	comp=Z,14nm,0.4s,mb4.6						
GKN	**Gorkha**	**42.83**	**273**	*e*P	**P**	**10 34 56.3**	**+0.1**
	comp=Z,95nm,0.7s,mb5.2						
TNA	**Tin City**	**43.25**	**31**	*e*P	**P**	**10 34 59.9**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.4						
KOLN	**Koldanda**	**43.76**	**273**	*e*P	**P**	**10 35 03.8**	**+0.2**
	comp=Z,13nm,0.3s,mb4.8						
TKM2	**Tokmak 2**	**44.82**	**296**	P	**P**	**10 35 12.9**	**+1.1**
	SNR=8.4						
KZA	**Kyzart**	**45.27**	**295**	P	**P**	**10 35 16.9**	**+1.5**
	SNR=8.7						
KBK	**Karagaybulak**	**45.34**	**296**	P	**P**	**10 35 17.0**	**+1.1**
	SNR=5.9						
AAK	**Ala-Archa**	**45.67**	**296**	P	**P**	**10 35 18.7**	**+0.2**
	SNR=5.3						
AAK	**Ala-Archa**	**45.67**	**296**	*e*P	**P**	**10 35 17.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
AAK	**Ala-Archa**	**45.67**	**296**	*e*P	**P**	**10 35 17.6**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**46.23**	**312**	*e*P	**P**	**10 35 22.0**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,65nm,1.2s,mb4.8						
CHKZ	**Chkalovo**	**46.23**	**312**	*e*P	**P**	**10 35 22.0**	**-0.7**
	comp=Z,65nm,1.2s,mb4.8						
AML	**Almayashu**	**46.38**	**296**	P	**P**	**10 35 25.1**	**+1.1**
	SNR=39						
BVAR	**Borovoye Array**	**46.45**	**311**	P	**P**	**10 35 24.1**	**-0.3**
	comp=Z,2.3nm,0.3s,mb4.0,baz=100,slow=6.9,SNR=18						
ILAR	**Eielson Array**	**52.06**	**32**	P	**P**	**10 36 06.1**	**-0.4**
	comp=Z,2.6nm,0.5s,mb3.7,baz=265,slow=5.9,SNR=71						
INK	**Inuvik**	**56.51**	**26**	P	**P**	**10 36 38.1**	**0.0**
INK				pmax	pmax		
	comp=Z,2.0nm,0.3s						
INK	**Inuvik**	**56.51**	**26**	P	**P**	**10 36 38.0**	**-0.1**
	comp=Z,2.2nm,0.3s,mb3.9,baz=297,slow=6.8,SNR=44						
INK	**Inuvik**	**56.51**	**26**	*e*P	**P**	**10 36 37.8**	**-0.3**
	comp=Z,2.6nm,0.5s,mb3.8						
WRAB	**Tennant Creek**	**56.95**	**181**	P	**P**	**10 36 40.0**	**-1.8**
	comp=Z,67nm,0.5s,mb5.2,SNR=13						
WRAB	**Tennant Creek**	**56.95**	**181**	*e*P	**P**	**10 36 40.7**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**56.95**	**181**	*e*P	**P**	**10 36 40.6**	**-1.2**
	comp=Z,10nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**56.96**	**181**	P	**P**	**10 36 40.8**	**-1.1**
	comp=Z,9.2nm,0.6s,mb4.3,baz=359,slow=7.6,SNR=168						
WRA				PcP	PcP	10 37 32.1	-0.1
	comp=Z,1.0nm,0.5s,baz=357,slow=4.5,SNR=6.0						
WRA				ScP		10 40 54.6	
	comp=Z,0.2nm,0.5s,baz=358,slow=5.0,SNR=5.0						
CTA	**Charters Tower**	**58.11**	**167**	P	**P**	**10 36 48.7**	**-1.0**
	comp=Z,1.9nm,0.6s,mb3.6,baz=359,slow=8.1,SNR=7.8						
ASAR	**Alice Springs**	**60.67**	**181**	P	**P**	**10 37 06.3**	**-0.5**
	comp=Z,1.4nm,0.4s,mb3.7,baz=360,slow=5.7,SNR=49						
ASPA	**Alice Springs**	**60.67**	**181**	*e*P	**P**	**10 37 06.1**	**-0.7**
DLBC	**Dease Lake**	**61.59**	**37**	P	**P**	**10 37 14.1**	**+1.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=349,slow=10,SNR=5.2						
ARCES	**ARCESS Array B**	**61.81**	**338**	P	**P**	**10 37 13.6**	**-0.1**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**61.81**	**338**	P	**P**	**10 37 13.6**	**-0.1**
	comp=Z,2.6nm,0.9s,mb3.8,baz=56,slow=7.9,SNR=7.8						
FINES	**FINESS Array B**	**66.02**	**330**	P	**P**	**10 37 40.4**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.0,baz=70,slow=6.1,SNR=20						
YKA	**Yellowknife Ar**	**66.13**	**28**	P	**P**	**10 37 41.7**	**+0.3**
YKA	**Yellowknife Ar**	**66.13**	**28**	P	**P**	**10 37 41.6**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.5,baz=306,slow=6.7,SNR=26						
STKA	**Stephens Creek**	**69.13**	**174**	P	**P**	**10 38 00.6**	**+0.2**
	comp=Z,2.3nm,0.8s,mb3.9,baz=337,slow=10,SNR=3.0						
STKA	**Stephens Creek**	**69.13**	**174**	P	**P**	**10 38 00.6**	**+0.2**
AKASG	**Malin Array Be**	**70.75**	**320**	P	**P**	**10 38 09.5**	**-0.3**
	comp=Z,2.8nm,0.3s,mb4.2,baz=49,slow=6.3,SNR=24						
HFS	**Hagfors**	**71.55**	**333**	P	**P**	**10 38 14.2**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.1,baz=56,slow=5.3,SNR=19						
NB2	**NORSAR Subarra**	**71.78**	**335**	P	**P**	**10 38 15.4**	**-0.2**
	comp=Z,1.1nm,0.5s,mb3.6,baz=45,slow=6.2						
NOA	**NORSAR Array B**	**71.78**	**335**	P	**P**	**10 38 15.7**	**0.0**
	comp=Z,1.7nm,0.7s,mb3.7,baz=43,slow=6.0,SNR=8.1						
EDM	**Edmonton**	**72.30**	**36**	*e*P	**P**	**10 38 19.8**	**+1.0**
YBH	**Yreka Blue Hor**	**74.25**	**49**	P	**P**	**10 38 31.8**	**+1.6**
	comp=Z,1.4nm,0.8s,mb3.7,baz=288,slow=3.2,SNR=4.8						
BMO	**Blue Mountains**	**75.51**	**44**	*e*P	**P**	**10 38 38.3**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.2						
FRB	**Frobisher Bay**	**77.57**	**10**	P	**P**	**10 38 48.8**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.2,baz=16,slow=5.0,SNR=20						
HLID	**Hailey**	**77.93**	**44**	*e*P	**P**	**10 38 52.4**	**+1.8**
	comp=Z,1.4nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**78.94**	**50**	P	**P**	**10 38 58.1**	**+2.1**
	comp=Z,2.2nm,0.6s,mb4.0,baz=293,slow=4.8,SNR=18						
ELK	**Elko**	**79.29**	**47**	P	**P**	**10 38 59.5**	**+1.7**
	comp=Z,0.7nm,0.5s,mb3.6,baz=316,slow=5.0,SNR=4.8						
GERES	**GERESS Array B**	**79.56**	**325**	P	**P**	**10 38 59.5**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.2,baz=22,slow=7.2,SNR=4.6						
PDAR	**Pinedale Array**	**81.11**	**42**	P	**P**	**10 39 08.5**	**+1.2**
	comp=Z,1.4nm,0.7s,mb3.8,baz=344,slow=0.9,SNR=13						
ULM	**Lac du Bonnet**	**82.03**	**30**	P	**P**	**10 39 12.4**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.2,baz=302,slow=5.5,SNR=11						
SCHQ	**Schefferville**	**86.35**	**12**	P	**P**	**10 39 33.8**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.0,baz=34,slow=4.3,SNR=7.9						
TXAR	**Lajitas Array**	**93.99**	**48**	P	**P**	**10 40 11.0**	**+1.8**
	comp=Z,4.0nm,1.1s,mb4.3,baz=286,slow=3.1,SNR=18						
TXAR	**Lajitas Array**	**93.99**	**48**	P	**P**	**10 40 11.0**	**+1.8**
LPAZ	**La Paz**	**150.84**	**50**	PKPbc	PKPdf	10 46 43.6	+9.0
	comp=Z,1.2nm,0.5s,baz=265,slow=2.1,SNR=6.6						

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*NEIC **05** 10:41:11.5, 27.74S×71.75W, h40km, After GUC.*
GUC 05 10:41:11.5±0.7**, 27.74S**×**71.75W, h40**km**, ML3.6, 2C, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.21**	**134**	*i* P	P	10 41 32.8	+0.6
VACH				*i* S	S	10 41 49.6	+2.0
VACH				AMP		10 41 50.3	
	comp=E,3μm,0.2s						
CPCH	**Copiapo**	**1.29**	**73**	⇑*i*P	P	10 41 34.2	+0.8
CPCH				*i* S	S	10 41 51.4	+1.5
LCO	**Las Campanas**	**1.57**	**144**	*e*P	P	10 41 38.7	+1.3
LCO				*i* S	S	10 41 58.9	+2.2
LCO				AMP		10 42 00.3	
	comp=N,986nm,0.5s						
TLL	**Tololo Astrono**	**2.56**	**161**	⇑*i*P	P	10 41 52.5	+1.0
TLL				*i* S	S	10 42 22.8	+1.1
TLL				AMP		10 42 28.4	
	comp=N,254nm,0.5s						
LVC	**Limon Verde**	**5.71**	**27**	*e*P	P	10 42 32.6	-3.4
	comp=N,3.7nm,0.3s						

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*KRSC **05** 10:43:08.6±1.1, 59.20N×158.97E, h19km±12km, ML3.8*
*NERS **05** 10:43:14.4, 58.83N×159.17E*
ISC 05 10:43:11.4±0.4**, 58.99N**±0.03×**159.40E**±0.08**, h10**km**, n20,** σ**1.30**/30**, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OSSR	**Ossora**	**1.91**	**81**	*i* P	**Pn**	**10 43 43.6**	**-0.8**
OSSR				*e*S	**Sn**	**10 44 08.1**	**-0.6**
OSSR				Smax			
	900nm,0.5s						
SRDR	**Sredinnyy**	**2.69**	**176**	*e*P	**Pn**	**10 43 54.0**	**-1.5**
SRDR				*e*S	**Sn**	**10 44 27.1**	**-1.3**
KLY	**Klyuchi**	**2.77**	**165**	P	**Pn**	**10 43 58.6**	**+1.9**
KOZ	**Kozyrevsk**	**2.95**	**175**	*e*P	**Pn**	**10 43 59.3**	**0.0**
KOZ				*e*S	**Sn**	**10 44 36.0**	**+0.8**
ESO	**Esso**	**3.10**	**187**	*e*P	**Pn**	**10 43 59.5**	**-1.9**
ESO				*e*S	**Sn**	**10 44 37.4**	**-1.4**
ESO				Smax			
	110nm,0.5s						
KBG	**Krutoberegovo**	**3.27**	**146**	*e*P	**Pn**	**10 44 04.2**	**+0.4**
KBG				*e*S	**Sn**	**10 44 45.9**	**+2.7**
KMNR	**Kamenistaya**	**3.27**	**172**	P	**Pn**	**10 44 03.6**	**-0.3**
KBTR	**Krutoberegovo**	**3.34**	**145**	*e*P	**Pn**	**10 44 05.9**	**+1.0**
KBTR				*e*S	**Sn**	**10 44 47.2**	**+2.1**
TUMR	**Tumrok**	**3.74**	**173**	*e*P	**Pn**	**10 44 10.6**	**+0.1**
OMS	**Omsukchan**	**3.96**	**335**	*e*Sg	**Sg**	**10 45 22.0**	**-1.2**
TLAR	**Talaya**	**4.11**	**304**	*e*	**Pg**	**10 44 35.4**	**+1.9**
TLAR				*e*Sg	**Sg**	**10 45 29.0**	**+0.6**
TLAR				Sgmax		10 45 42.4	
	50nm,0.6s						
MA2	**Magadan**	**4.46**	**281**	*e*P	**Pn**	**10 44 24.4**	**+3.6**
MA2				*e*		10 44 32.4	
MA2				*e*Sg	**Sg**	**10 45 33.0**	**-7.1**
MA2				Sgmax		10 45 56.7	
	100nm,0.6s						
MA2				Sgmax		10 45 56.7	
	20nm,0.6s						
MGD	**Magadan 1**	**4.54**	**287**	*e*P	**Pn**	**10 44 24.5**	**+2.6**
MGD				*e*Sg	**Sg**	**10 45 35.0**	**-7.6**
MGD				Sgmax		10 45 44.5	
	80nm,0.5s						
MGD				Sgmax		10 45 44.5	
	60nm,0.5s						
GOLD	**Kubaka**	**4.71**	**3**	*e*Pg	**Pg**	**10 44 44.2**	**-1.3**
GOLD				*e*Sg	**Sg**	**10 45 48.9**	**+0.5**
GOLD				Sgmax		10 45 55.5	
	50nm,0.6s						
GOLD				Sgmax		10 45 55.5	
	10.0nm,0.4s						
SEY	**Seymchan**	**5.23**	**322**	*e*	Px	10 44 54.0	
SEY				*e*P		10 44 58.0	
SEY				*e*		10 45 00.9	
SEY				*e*S	Sx	10 46 07.5	
SEY				Sgmax		10 46 22.5	
	40nm,0.6s						
GNL	**Ganaly**	**5.37**	**189**	*e*P	**Pn**	**10 44 30.1**	**-3.5**
KOK	**Koryaka**	**5.73**	**185**	*e*P	**Pn**	**10 44 38.2**	**-0.5**
AVH	**Avacha**	**5.75**	**184**	*e*P	**Pn**	**10 44 38.3**	**-0.7**
UGLR	**Uglovaya**	**5.80**	**183**	*e*P	**Pn**	**10 44 39.6**	**-0.1**
OCHR	**Omchak**	**6.32**	**300**	*e*	**Pg**	**10 45 25.2**	**+7.5**
OCHR				*e*Sg	**Sg**	**10 46 33.2**	**-8.7**
OCHR				Sgmax		10 46 51.5	
	40nm,0.6s						
OCHR				Sgmax		10 46 51.5	
	10.0nm,0.6s						

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*IDC **05** 10:55:27.9±0.9, 6.77N×72.95W, h165km±16km, mb2.8/1, mb1 3.1/3, mb1mx2.8/21, mbtmp3.3/3, Error ellipse: s-maj=66.3km s-min=8.0km az=132.0*
ISC 05 10:55:27.5±1.1**, 7.0N**±0.2×**73.2W**±0.2**, h165**km**, n4,** σ**0.72**/5**, mb3.2**/1**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.40**	**209**	P	**P**	**10 56 08.9**	**+0.3**
	14nm,0.3s,baz=101,slow=22,SNR=35						
ROSC				S	**S**	**10 56 39.9**	**-0.3**
	22nm,0.3s,baz=108,slow=15,SNR=7.5						
SDV	**Santo Domingo**	**3.14**	**52**	P	**P**	**10 56 18.7**	**+0.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.1nm,0.3s,baz=262,slow=3.5,SNR=16						
SDV				S	**S**	**10 56 56.0**	**-0.6**
	4.0nm,0.3s,baz=78,slow=23,SNR=20						
YKA	**Yellowknife Ar**	**63.12**	**340**	P	**P**	**11 05 39.3**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=133,slow=6.5,SNR=11						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	PKPdf	11 15 00.5	+5.9
	0.2nm,0.5s,baz=106,slow=2.5,SNR=5.4						

*NEIC **05** 11:09:56.8±0.7, 18.78S×67.06W, h265km±7km, mb4.1/1, Error ellipse: s-maj=12.8km s-min=10.1km az=220.0*
*IDC **05** 11:09:56.1±0.8, 18.78S×67.00W, h261km±7km, mb3.3/7, mb1 3.6/10, mb1mx3.5/17, mbtmp4.0/10, Error ellipse: s-maj=18.4km s-min=9.6km az=89.0*
ISC 05 11:09:56.2±0.7, **18.78S**±0.06×**67.07W**±0.09, **h274**km±7km, **n19**, σ**0^{s}82**/19, **mb3.5**/7, **1D**, **Central Bolivia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.68**	**338**	P	**P**	**11 10 48.3**	**+1.0**
	14nm,0.3s,baz=126,slow=5.7,SNR=299						
LPAZ				S	**S**	**11 11 27.1**	**0.0**
	7.6nm,0.3s,baz=61,slow=24,SNR=22						
LPAZ	**La Paz**	**2.68**	**338**	*e*P	**P**	**11 10 48.0**	**+0.7**
LVC	**Limon Verde**	**4.18**	**204**	P	**P**	**11 11 04.0**	**+0.3**
	9.4nm,0.3s,baz=6.5,slow=7.9,SNR=149						
LVC				S	**S**	**11 11 56.0**	**-0.3**
	15nm,0.3s,baz=295,slow=23,SNR=24						
LVC	**Limon Verde**	**4.18**	**204**	*e*P	**P**	**11 11 03.5**	**-0.2**
ARE	**Arequipa**	**4.81**	**298**	⇓*i*P	**P**	**11 11 10.9**	**-0.1**
ARE				*e*S	**S**	**11 12 09.0**	**-0.4**
NNA	**Nana**	**11.59**	**304**	*e*P	**P**	**11 12 34.8**	**-0.5**
	6.8nm,0.5s						
BDFB	**Brasilia**	**18.47**	**83**	P	**P**	**11 13 54.6**	**+0.4**
	1.4nm,0.3s,baz=268,slow=10,SNR=12						
BAO	**Brasilia Array**	**18.49**	**83**	P	**P**	**11 13 54.4**	**0.0**
PLCA	**Paso Flores**	**22.08**	**187**	P	**P**	**11 14 30.3**	**+0.6**
	1.2nm,0.7s,mb3.4,baz=344,slow=19,SNR=5.3						
TXAR	**Lajitas Array**	**59.46**	**323**	P	**P**	**11 19 32.4**	**-0.3**
	0.2nm,0.4s,mb2.9,baz=149,slow=7.2,SNR=11						
DBIC	**Dimbokro**	**66.31**	**74**	P	**P**	**11 20 15.4**	**-2.2**
	2.2nm,0.7s,mb4.0,baz=242,slow=3.8,SNR=7.1						
MSU	**Marysvale**	**70.97**	**324**	*e*P	**P**	**11 20 47.1**	**+1.3**
PDAR	**Pinedale Array**	**72.67**	**329**	P	**P**	**11 20 56.2**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=123,slow=9.6,SNR=6.9						
ULM	**Lac du Bonnet**	**73.29**	**341**	P	**P**	**11 20 58.0**	**-1.4**
	1.4nm,0.6s,mb3.8,baz=150,slow=8.3,SNR=3.1						
NVAR	**Mina Array Bea**	**74.47**	**321**	P	**P**	**11 21 07.8**	**+1.3**
	0.6nm,0.8s,mb3.3,baz=184,slow=11,SNR=4.0						
YKA	**Yellowknife Ar**	**89.22**	**340**	P	**P**	**11 22 21.5**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=128,slow=4.7,SNR=28						
ASAR	**Alice Springs**	**133.11**	**207**	PKP	PKPdf	11 28 41.8	+1.9
	0.4nm,0.7s,baz=135,slow=2.1,SNR=7.4						
WRA	**Warramunga Arr**	**136.16**	**210**	PKP	PKPdf	11 28 48.5	+2.9
	0.8nm,0.7s,baz=149,slow=1.8,SNR=7.1						
SONM	**Songino Array**	**150.53**	**9**	PKPbc	PKPdf	11 29 17.1	+7.6
	0.9nm,0.6s,baz=302,slow=1.9,SNR=8.4						
SONM				PKPab	PKPab	11 29 23.3	-2.0
	0.5nm,0.6s,baz=295,slow=3.5,SNR=4.2						

IDC 05 11:38:43.8±1.4, **65.85S**×**134.52E**, **mb3.6**/3, **mb1 4.0**/4, **mb1mx3.8**/13, **mbtmp3.8**/4, **ML4.1**/1, **Error ellipse: s-maj=101.4km s-min=23.4km az=94.0**, **South of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.27**	**156**	Pn	P	11 42 06.8	-2.0
	0.8nm,0.3s,baz=309,slow=13,SNR=15						
VNDA				Sn	S	11 44 40.7	-8.3
	0.5nm,0.3s,baz=218,slow=19,SNR=3.4						
SNAA	**Sanae**	**39.74**	**200**	P	P	11 46 17.4	-1.8
	1.2nm,1.0s,baz=198,slow=12,SNR=7.5						
ASAR	**Alice Springs**	**42.19**	**359**	P	P	11 46 38.1	-1.5
	0.5nm,0.6s,baz=174,slow=9.3,SNR=14						
WRA	**Warramunga Arr**	**45.89**	**360**	P	P	11 47 07.4	-2.1
	0.5nm,0.7s,baz=181,slow=6.7,SNR=6.3						

*IPEC **05** 11:47:03.3±0.3, 51.63N×16.22E, ML1.6/2, Error ellipse: s-maj=2.1km s-min=1.6km az=29.0*
*CSEM **05** 11:47:04.6±0.3, 51.55N×16.11E, h0km, ML2.8/3, Error ellipse: s-maj=4.6km s-min=2.9km az=4.0*
*PRU **05** 11:47:05.0, 51.53N×16.10E*
*WAR **05** 11:47:05.3, 51.56N×16.10E, h1km, ML2.6, Mining Induced*
*NEIC **05** 11:47:06.6±2.1, 51.45N×15.97E, h5km, ML2.8(VIE), ML2.5(BRG), Error ellipse: s-maj=25.3km s-min=10.4km az=208.0*
ISC 05 11:47:03.3±0.8, **51.50N**±0.04×**16.08E**±0.04, **n20**, σ**1^{s}19**/38, **1C**, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**169**	*e*PG	**Pg**	**11 47 18.0**	**+1.2**
KSP				*e*SG	**Sg**	**11 47 28.0**	**+2.3**
UPC	**Upice**	**1.00**	**183**	*e*PG	**Pg**	**11 47 24.5**	**+1.3**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**11 47 27.3**	**+0.8**
DPC				*e*SG	**Sg**	**11 47 42.7**	**+0.6**
	30nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pg	**Pg**	**11 47 27.3**	**+0.8**
DPC				*e*Sg	**Sg**	**11 47 43.0**	**+0.9**
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG	**Pg**	**11 47 31.6**	**+1.0**
PVCC	**Panska Ves**	**1.37**	**225**	Pg	**Pg**	**11 47 31.6**	**+1.0**
PVCC				*e*Sg	**Sg**	**11 47 51.2**	**+2.4**
BRG	**Berggiesshubel**	**1.49**	**246**	*i* Pg	**Pg**	**11 47 33.1**	**+0.1**
BRG				*i* Sg	**Sg**	**11 47 53.8**	**+1.0**
PRU	**Pruhonice**	**1.81**	**213**	*e*PG	**Pg**	**11 47 38.4**	**-1.0**
PRU				*e*x	x	11 47 55.8	
PRU				*e*SG	**Sg**	**11 48 03.0**	**-0.4**
PRU	**Pruhonice**	**1.81**	**213**	Pg	**Pg**	**11 47 38.4**	**-1.0**
PRU				Sg	**Sg**	**11 48 03.0**	**-0.4**
CLL	**Collm**	**1.94**	**265**	*e*PN	**Pn**	**11 47 38.0**	**+0.1**
CLL				*i* PG	**Pg**	**11 47 40.7**	**-1.3**
CLL				*e*SG	**Sg**	**11 48 07.0**	**-0.9**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*P	**Pn**	**11 47 38.2**	**0.0**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**11 47 38.8**	**+0.6**
MORC				*e*Sg	**Sg**	**11 48 07.7**	**-0.9**
	4.4nm,0.2s						
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*PG	**Pg**	**11 47 44.9**	**-0.8**
OKC				*e*SG	**Sg**	**11 48 13.1**	**-0.9**
VRAC	**Vranov**	**2.22**	**171**	*e*Pn	**Pn**	**11 47 43.4**	**+1.5**
VRAC				*e*Sg	**Sg**	**11 48 16.4**	**-0.9**
	2.6nm,0.2s						
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**11 47 46.4**	**+1.2**
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**11 47 48.7**	**+0.9**
NKC				*e*PG	**Pg**	**11 47 54.9**	**-0.9**
OJC	**Ojcow**	**2.68**	**117**	*e*PG	**Pg**	**11 47 56.0**	**-0.8**
OJC				*e*SG	**Sg**	**11 48 32.0**	**-0.6**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**11 47 51.3**	**+0.2**
KHC				*e*PG	**Pg**	**11 47 57.8**	**-2.7**
KHC				*e*x	x	11 48 28.0	
KHC				*e*SG	**Sg**	**11 48 36.1**	**-2.7**
KHC	**Kasperske Hory**	**2.87**	**215**	Pg	**Pg**	**11 47 57.8**	**-2.7**
KHC				Sg	**Sg**	**11 48 36.1**	**-2.7**
MOA	**Molln**	**3.84**	**199**	⇑*i*PN	**Pn**	**11 48 05.5**	**+0.5**
MOA				*i* SG	**Sg**	**11 49 09.2**	**-2.1**
	2.5nm,0.3s						

*NDI **05** 12:19:18.3±5.9, 28.52N×84.52E, h10km, MD4.1, ML3.9*
*IDC **05** 12:19:19.8±1.7, 28.08N×84.08E, mb3.6/3, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=52.4km s-min=29.5km az=55.0*
*NEIC **05** 12:19:22.4±1.1, 28.56N×84.38E, h10km, Error ellipse: s-maj=13.8km s-min=10.0km az=197.0*
*DMN **05** 12:19:24.7±0.5, 28.25N×84.39E, h47km±2km, Ml5.2/5*
ISC 05 12:19:24.5±0.4, **28.11N**±0.05×**84.10E**±0.02, **h33**km, **n31**, σ**1^{s}32**/43, **mb3.5**/3, **Nepal**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**0.49**	**103**	*e*Pg	**P**	**12 19 35.1**	**+0.2**
GKN				*e*Sg	**Sb**	**12 19 41.5**	**-0.6**
	19µm,0.3s						
KOLN	**Koldanda**	**0.56**	**233**	*e*Pg	**P**	**12 19 42.4**	**+6.6**
KOLN				*e*Sg	**Sb**	**12 19 54.8**	**+11**
	6µm,0.2s						
DMN	**Daman**	**1.02**	**119**	*e*Pg	**P**	**12 19 44.0**	**+1.5**
DMN				*e*Sg	**S**	**12 19 57.5**	**+1.6**
	15µm,0.3s						
KKN	**Kakani**	**1.09**	**107**	*e*Pg	**P**	**12 19 43.7**	**+0.2**
KKN				*e*Sg	**S**	**12 19 56.8**	**-0.8**
	6µm,0.3s						
PKI	**Pulchoki**	**1.28**	**115**	*e*Pg	**P**	**12 19 47.1**	**+1.0**
PKI				*e*Sg	**S**	**12 20 03.3**	**+0.9**
	3µm,0.2s						
GUN	**Gumba**	**1.59**	**97**	*e*Pg	**P**	**12 19 50.5**	**-0.1**
GUN				*e*Sg	**S**	**12 20 10.4**	**+0.2**
	3µm,0.3s						
JIRN	**Jiri**	**1.90**	**103**	*e*Pn	**Pn**	**12 19 55.3**	**-0.1**
JIRN				*e*Sn	**Sn**	**12 20 17.1**	**-1.3**
	5µm,0.2s						
ALBI	**Allahabad**	**3.46**	**217**	*e*P	**P**	**12 20 19.5**	**+2.1**
LGTI	**Lohaghat**	**3.64**	**292**	*e*PB	**Pb**	**12 20 30.5**	**+2.5**
LGTI				*e*		12 21 22.5	
PTH	**Pithoragarh**	**3.70**	**294**	*e*PB	**Pb**	**12 20 27.0**	**-2.0**
PTH				*e*		12 21 09.0	
GTK	**Gangtok**	**4.08**	**100**	*e*P	**P**	**12 20 16.0**	**-10**
GTK				*e*SN	**Sn**	**12 21 02.0**	**-12**
JOSI	**Joshimath**	**4.65**	**303**	*e*PB	**Pb**	**12 20 39.5**	**-5.8**
AGRA	**Agra**	**5.53**	**262**	*e*	**P**	**12 20 58.8**	**+12**
AGRA				*e*S	**S**	**12 21 51.1**	**+1.2**
AGRA				*e*		12 22 30.6	
	comp=E,310nm,0.6s						
AGRA				*e*		12 22 30.9	
	comp=N,331nm,0.5s						
JHNI	**Jhansi**	**5.62**	**243**	*e*	**Sn**	**12 21 51.0**	**-1.4**
JHNI				*e*		12 22 27.0	
DDI	**Dehra Dun**	**5.72**	**294**	*e*	**P**	**12 21 01.0**	**+12**
NDI	**New Delhi**	**6.09**	**277**	*e*	**P**	**12 21 02.0**	**+7.5**
NDI				*e*S	**S**	**12 22 02.5**	**-1.5**
KLP	**Kalpa**	**6.12**	**305**	*e*	**P**	**12 20 58.9**	**+4.0**
KLP				*e*		12 22 34.7	
KLP				*e*		12 22 55.1	
	comp=E,407nm,1.1s						
AYAN	**Aya Nagar**	**6.16**	**275**	*e*	**P**	**12 21 05.1**	**+10**
AYAN				*i*		12 21 28.4	
AYAN				*e*		12 21 37.6	
SONA	**Sohna**	**6.20**	**273**	*e*	**P**	**12 21 06.9**	**+11**
SONA				*e*S	**S**	**12 22 06.5**	**-0.1**
SONA				*e*		12 22 07.5	
	comp=E,46nm,0.3s						
SONA				*e*		12 22 07.6	
	comp=N,29nm,0.2s						
BLSP	**Bilaspur**	**6.22**	**197**	*e*P	**P**	**12 20 57.8**	**+1.5**
BLSP				*e*S	**S**	**12 22 06.0**	**-1.1**
BLSP				*e*SB	**Sb**	**12 22 40.9**	**+14**
SMLA	**Simla**	**6.74**	**298**	*i*	**P**	**12 21 06.2**	**+2.5**
SMLA				*i*		12 22 17.5	
SDNR	**Sundarnagar**	**7.05**	**300**	*e*P	**P**	**12 21 02.5**	**-5.6**
HYB	**Hyderabad**	**11.81**	**207**	*e*P	**P**	**12 22 12.0**	**-1.6**
HYB				*e*S	rx	12 25 39.0	
HYB	**Hyderabad**	**11.81**	**207**	*i* P	**P**	**12 22 12.0**	**-1.6**
HYB				*e*S	rx	12 24 39.0	
POO	**Poona**	**13.39**	**227**	*e*P	**P**	**12 22 35.0**	**+0.2**
POO				*e*		12 25 08.5	
KAD	**Karad**	**14.11**	**222**	*e*P	**P**	**12 22 44.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**16.67**	**122**	Pn	**P**	**12 23 16.6**	**-0.6**
	comp=N,0.3nm,0.3s,baz=308,slow=12,SNR=15						
SONM	**Songino Array**	**26.23**	**35**	P	**P**	**12 24 57.0**	**-1.3**
	comp=N,0.5nm,0.6s,mb3.2,baz=222,slow=9.9,SNR=9.3						
FINES	**FINESS Array B**	**50.52**	**328**	pP	pP	12 28 25.9	-5.3
	comp=N,0.6nm,0.7s,baz=108,slow=6.0,SNR=1.7						
HFS	**Hagfors**	**56.35**	**326**	P	**P**	**12 29 02.6**	**-1.8**
	comp=N,1.1nm,0.7s,mb4.0,baz=76,slow=6.1,SNR=6.1						
ASAR	**Alice Springs**	**70.39**	**132**	P	**P**	**12 30 35.5**	**-1.9**
	comp=N,0.2nm,0.6s,mb3.2,baz=317,slow=6.3,SNR=5.8						

*IDC **05** 12:27:18.0±1.1, 5.23N×92.89E, mb4.2/8, mb1 4.4/9, mb1mx4.2/17, mbtmp4.2/9, ML4.7/1, MS3.6/3, Ms1 3.7/3, ms1mx3.1/22, Error ellipse: s-maj=50.2km s-min=17.6km az=57.0*
*NEIC **05** 12:27:22.5±0.6, 5.26N×92.94E, h30km, mb4.4/4, Error ellipse: s-maj=13.7km s-min=9.1km az=74.0*
*BJI **05** 12:27:22.5, 5.30N×92.90E, h30km, mb4.6*
ISC 05 12:27:21.5±2.6, **5.3N**±0.1×**93.01E**±0.09, **h35**km±23km, **n27**, σ**0^{s}90**/28, **mb4.3**/15, **MS4.0**/2, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**14.29**	**23**	*e*P	**P**	**12 30 43.9**	**+0.3**
	12nm,0.6s						
CMAR	**Chiang Mai Arr**	**14.29**	**23**	Pn	**P**	**12 30 44.0**	**+0.3**
	1.1nm,0.3s,baz=219,slow=14,SNR=50						
CMAR				LR	LR	12 36 48.5	
	comp=Z,59nm,18.2s,baz=225,slow=40						
CMAR	**Chiang Mai Arr**	**14.29**	**23**	Pn	**P**	**12 30 44.0**	**+0.3**
CMAR				LR	LR	12 36 48.5	
VIS	**Vishakhapatnam**	**15.55**	**323**	*e*P	**P**	**12 30 59.1**	**-0.8**
VIS				*e*S	**S**	**12 33 37.2**	**-14**
SALM	**Salem**	**15.94**	**294**	*e*P	**P**	**12 31 06.0**	**+1.1**
SALM				*e*S	**S**	**12 33 48.0**	**-12**
BWNR	**Bhubaneshwar**	**16.46**	**335**	*e*P	**P**	**12 31 09.4**	**-2.1**
BWNR				*e*S	**S**	**12 33 59.2**	**-13**
QIZ	**Qiongzhong**	**21.34**	**49**	*e*P	**P**	**12 32 08.9**	**+1.0**
KMI	**Kunming**	**21.80**	**24**	P	**P**	**12 32 13.2**	**+0.7**
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.0						
KMI	**Kunming**	**21.80**	**24**	P	**P**	**12 32 13.2**	**+0.7**
	comp=Z,7.0nm,1.0s,mb4.0						
BHPL	**Bhopal**	**23.32**	**321**	*e*P	**P**	**12 32 28.5**	**+1.0**
BHPL				AMb	AMB	12 32 29.2	
	comp=Z,6.5nm,0.2s,mb4.7						
LSA	**Lhasa**	**24.32**	**356**	P	**P**	**12 32 40.8**	**+3.6**
LSA	**Lhasa**	**24.32**	**356**	*e*P	**P**	**12 32 39.7**	**+2.4**
	comp=Z,11nm,0.6s,mb4.5						
XAN	**Xi’an**	**32.18**	**25**	P	**P**	**12 33 47.0**	**-1.5**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
GTA	**Gaotai**	**34.50**	**9**	P	**P**	**12 34 08.7**	**+0.2**
GTA				AP	pP	12 34 14.7	-3.9
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
SONM	**Songino Array**	**43.90**	**13**	P	**P**	**12 35 26.8**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=195,slow=9.0,SNR=11						
SONM				PcP	PcP	12 37 13.4	+0.6
	comp=Z,1.5nm,1.1s,baz=185,slow=3.7,SNR=4.6						
KURK	**Kurchatov**	**46.83**	**347**	P	**P**	**12 35 50.0**	**+0.1**
WRA	**Warramunga Arr**	**47.76**	**123**	P	**P**	**12 35 57.5**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.6,baz=300,slow=9.1,SNR=14						
ZAL	**Zalesovo**	**48.94**	**354**	P	**P**	**12 36 06.6**	**+0.4**
	comp=Z,3.3nm,0.4s,mb4.7,baz=308,slow=4.4,SNR=17						
ASAR	**Alice Springs**	**49.20**	**128**	P	**P**	**12 36 08.4**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=300,slow=8.1,SNR=17						
HIA	**Hailar**	**49.31**	**23**	*e*P	**P**	**12 36 08.2**	**-0.9**
	comp=Z,6.4nm,0.9s,mb4.7						
CHKZ	**Chkalovo**	**51.56**	**343**	*e*P	**P**	**12 36 24.9**	**-1.4**
	comp=Z,1.9nm,0.6s,mb4.2						
CTA	**Charters Tower**	**58.09**	**117**	LR	LR	13 03 49.5	
	comp=Z,96nm,19.0s,MS3.9,baz=222,slow=38						
STKA	**Stephens Creek**	**59.20**	**132**	P	**P**	**12 37 21.6**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.5,baz=329,slow=5.9,SNR=9.5						
FINES	**FINESS Array B**	**74.45**	**333**	P	**P**	**12 38 57.2**	**-0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=90,slow=4.2,SNR=4.0						
ARCES	**ARCESS Array B**	**77.28**	**341**	P	**P**	**12 39 14.1**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=67,slow=9.2,SNR=3.9						
GERES	**GERESS Array B**	**78.98**	**319**	P	**P**	**12 39 24.2**	**+0.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=104,slow=5.5,SNR=6.1						
DBIC	**Dimbokro**	**97.16**	**277**	LR	LR	13 21 08.7	
	comp=Z,51nm,18.4s,MS4.0,baz=77,slow=33						

*JMA **05** 12:32:20.3±0.2, 30.68N×138.23E, h516km, M4.3*
*MOS **05** 12:32:21.4±0.8, 30.58N×137.78E, h465km, mb4.0/7, Error ellipse: s-maj=18.5km s-min=10.0km az=108.1*
*BJI **05** 12:32:22.6, 30.54N×137.72E, h474km, mB4.9, mb4.7*
*NEIC **05** 12:32:23.7±0.8, 30.68N×137.82E, h471km±8km, mb4.4/14, Error ellipse: s-maj=9.9km s-min=8.5km az=127.0*
*IDC **05** 12:32:23.0±0.8, 30.67N×137.88E, h463km±9km, mb3.4/14, mb1 3.5/17, mb1mx3.5/25, mbtmp4.3/17, Error ellipse: s-maj=16.8km s-min=10.0km az=87.0*
ISC 05 12:32:21.9±0.4, **30.59N**±0.05×**137.96E**±0.07, **h471**km±4km, **n82**, σ**0^{s}92**/92, **mb4.0**/31, **3C**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.96**	**31**	P	**P**	**12 33 31.9**	**+1.0**
	26nm,0.3s,baz=84,slow=21,SNR=7.7						
JHJ				S	**S**	**12 34 25.2**	**-0.1**
	79nm,0.3s,baz=50,slow=20,SNR=8.5						
JHJ2	**Mitsune**	**2.97**	**32**	P	**P**	**12 33 31.7**	**+0.8**
JHJ2				S	**S**	**12 34 26.7**	**+1.2**
TK01	**Tokai 1**	**3.18**	**354**	P	**P**	**12 33 34.0**	**+1.5**
TK02	**Tokai 2**	**3.35**	**357**	S	**S**	**12 34 34.5**	**+3.9**
JWZ	**Kozaga**	**3.50**	**328**	P	**P**	**12 33 36.4**	**+1.5**
JIE	**Ise**	**3.94**	**345**	P	**P**	**12 33 40.1**	**+1.6**
JWY	**Kouya**	**4.13**	**332**	P	**P**	**12 33 42.0**	**+1.8**
JOD2	**Odawara 2**	**4.75**	**11**	P	**P**	**12 33 45.3**	**-0.5**
JOD2				S	**S**	**12 34 51.2**	**-0.9**
BSO1	**Boso 1**	**4.78**	**31**	P	**P**	**12 33 45.0**	**-1.1**
BSO1				S	**S**	**12 34 51.0**	**-1.6**
CBIJ	**Chichi jima**	**5.08**	**132**	P	**P**	**12 33 47.4**	**-1.5**
	25nm,0.3s,baz=289,slow=15,SNR=6.0						
CBIJ				S	**S**	**12 34 55.0**	**-2.7**
	43nm,0.3s,baz=271,slow=22,SNR=6.5						
CBIJ	**Chichi jima**	**5.08**	**132**	P	**P**	**12 33 47.8**	**-1.1**
JRY	**Ryogami san**	**5.47**	**8**	P	**P**	**12 33 52.3**	**-0.4**
JRY				S	**S**	**12 35 03.7**	**-0.7**
MAJO	**Matsushiro**	**5.94**	**2**	*e*P	**P**	**12 33 56.4**	**-1.0**
MAJO				pmax	pmax		
	comp=Z,44nm,0.5s						
MAJO	**Matsushiro**	**5.94**	**2**	*e*P	**P**	**12 33 56.4**	**-1.0**
	comp=Z,44nm,0.5s						
MAT	**Matsushiro**	**5.94**	**2**	*e*P	**P**	**12 33 57.0**	**-0.4**
MAT				*e*S	**S**	**12 35 11.0**	**-1.8**
MAT				pmax	pmax		
	comp=Z,44nm,0.7s						
MAT	**Matsushiro**	**5.94**	**2**	*e*P	**P**	**12 33 57.0**	**-0.4**
	comp=Z,44nm,0.7s						
MAT				*e*S	**S**	**12 35 11.0**	**-1.8**
MAT	**Matsushiro**	**5.94**	**2**	P	**P**	**12 33 56.5**	**-0.9**
MAT				S	**S**	**12 35 11.4**	**-1.4**
JSJ	**Shimokoshiki**	**7.15**	**281**	P	**P**	**12 34 10.8**	**+0.9**
JMK	**Ichinoseki**	**8.76**	**17**	P	**P**	**12 34 26.9**	**-0.3**
KS15	**Wonju Array Si**	**10.79**	**312**	*e*P	**P**	**12 34 48.8**	**-0.3**
JOT	**Ohata**	**11.05**	**12**	P	**P**	**12 34 52.2**	**+0.3**
JOSM	**Okushiri--Mats**	**11.53**	**6**	P	**P**	**12 34 57.1**	**+0.1**
JKB	**Kayabe**	**11.54**	**12**	P	**P**	**12 34 57.3**	**+0.2**
ASAJ	**Asahikawa**	**13.99**	**14**	P	**P**	**12 35 23.3**	**+0.4**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**13.99**	**14**	P	**P**	**12 35 23.2**	**+0.4**
	comp=Z,5.9nm,0.3s,baz=224,slow=11,SNR=39						
JTKR	**Abashiri--Toko**	**14.16**	**18**	P	**P**	**12 35 26.5**	**+1.9**
NEM2	**Nemuro 2**	**14.18**	**24**	P	**P**	**12 35 25.8**	**+1.0**
SNY	**Shenyang**	**16.11**	**318**	⇑P	**P**	**12 35 45.1**	**+0.6**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.5s						
NJ2	**Nanjing**	**16.39**	**280**	*e*P	**P**	**12 35 46.8**	**-0.6**
NJ2				AMB	AMB		
	comp=Z,90nm,0.9s						
YSS	**Yuzh-Sakhalins**	**16.75**	**11**	*e*P	**P**	**12 35 52.6**	**+1.7**
YSS				pmax	pmax		
	comp=Z,11nm,0.4s						
YSS	**Yuzh-Sakhalins**	**16.75**	**11**	*e*P	**P**	**12 35 52.6**	**+1.7**
	comp=Z,11nm,0.4s						
BJT	**Baijiatuau**	**20.08**	**304**	*e*P	**P**	**12 36 21.7**	**-1.5**
BJI	**Beijing**	**20.08**	**304**	P	**P**	**12 36 23.1**	**-0.2**
BJI				AMB	AMB		
	comp=Z,15nm,1.2s						
BJI	**Beijing**	**20.08**	**304**	P	**P**	**12 36 23.1**	**-0.2**
	comp=Z,15nm,1.2s						
HIA	**Hailar**	**23.20**	**329**	*e*P	**P**	**12 36 52.1**	**+0.1**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	**Hailar**	**23.20**	**329**	*e*P	**P**	**12 36 52.1**	**+0.1**
	comp=Z,5.4nm,0.7s,mb4.1						
HHC	**Hu-ho-hao-te**	**23.67**	**303**	*e*P	**P**	**12 36 56.2**	**-0.1**
HHC				XP		12 39 08.0	
HHC				S	**S**	**12 40 33.0**	**-3.9**
HHC				SCP		12 43 20.3	
HHC				PCS		12 44 06.1	
HHC				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.5						
HHC				AMB	AMB		
	comp=Z,164nm,4.4s						
ENH	**Enshi**	**24.53**	**277**	*e*P	**P**	**12 37 03.2**	**-1.0**
	comp=Z,24nm,0.4s,mb5.0						
XAN	**Xi’an**	**24.75**	**286**	P	**P**	**12 37 05.4**	**-0.7**
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb4.7						
GYA	**Guiyang**	**27.76**	**269**	⇑*i*P	**P**	**12 37 32.3**	**-0.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
SONM	**Songino Array**	**29.63**	**314**	P	**P**	**12 37 48.8**	**-0.2**
	comp=Z,1.8nm,0.5s,mb3.8,baz=128,slow=8.4,SNR=19						
GTA	**Gaotai**	**32.27**	**296**	⇑*i*P	**P**	**12 38 11.7**	**+0.1**
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.3						
ZAK	**Zakamensk**	**32.54**	**317**	*e*P	**P**	**12 38 13.3**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.6						
CM31	**Chiang Mai Arr**	**37.32**	**260**	*e*P	**P**	**12 38 54.7**	**+0.7**
	comp=Z,6.3nm,0.6s,mb4.2						
CMAR	**Chiang Mai Arr**	**37.32**	**260**	P	**P**	**12 38 54.8**	**+0.7**
	comp=Z,3.6nm,0.6s,mb4.0,baz=56,slow=6.7,SNR=26						
ZAL	**Zalesovo**	**44.43**	**317**	P	**P**	**12 39 50.1**	**-0.7**
	comp=Z,1.1nm,0.8s,mb3.4,baz=358,slow=8.1,SNR=4.5						
JIRN	**Jiri**	**45.00**	**280**	*e*P	**P**	**12 39 56.2**	**+0.6**
	comp=Z,49nm,0.4s						
GUN	**Gumba**	**45.19**	**280**	*e*P	**P**	**12 39 57.6**	**+0.5**
PKI	**Pulchoki**	**45.69**	**280**	*e*P	**P**	**12 40 00.2**	**-0.7**
KKN	**Kakani**	**45.73**	**280**	*e*P	**P**	**12 40 01.0**	**-0.2**
	comp=Z,17nm,0.6s,mb4.7						
KKN	**Kakani**	**45.73**	**280**	*e*P	**P**	**12 40 01.0**	**-0.2**
KKN				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.4						
DMN	**Daman**	**45.93**	**280**	*e*P	**P**	**12 40 02.7**	**-0.1**
	comp=Z,13nm,0.5s,mb4.6						
GKN	**Gorkha**	**46.22**	**281**	*e*P	**P**	**12 40 04.7**	**-0.3**
	comp=Z,9.9nm,0.4s,mb4.6						
KOLN	**Koldanda**	**47.16**	**281**	*e*P	**P**	**12 40 12.2**	**0.0**
	comp=Z,33nm,0.8s,mb4.8						
KURK	**Kurchatov**	**47.90**	**313**	*e*P	**P**	**12 40 16.4**	**-1.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
KURK	**Kurchatov**	**47.90**	**313**	*e*P	**P**	**12 40 16.4**	**-1.2**
	comp=Z,3.8nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**50.36**	**184**	P	**P**	**12 40 36.6**	**+0.2**
	comp=Z,3.9nm,0.6s,mb3.9,baz=0.9,slow=7.6,SNR=26						
TKM2	**Tokmak 2**	**50.40**	**302**	P	**P**	**12 40 36.5**	**+0.2**
	SNR=11						
KZA	**Kyzart**	**50.77**	**301**	P	**P**	**12 40 40.2**	**+1.1**
	SNR=7.7						
KBK	**Karagaybulak**	**50.91**	**302**	P	**P**	**12 40 40.3**	**+0.2**
	SNR=8.7						
AAK	**Ala-Archa**	**51.24**	**302**	P	**P**	**12 40 42.4**	**-0.2**
	SNR=7.3						
AAK	**Ala-Archa**	**51.24**	**302**	*e*P	**P**	**12 40 41.1**	**-1.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.0						
AAK	**Ala-Archa**	**51.24**	**302**	*e*P	**P**	**12 40 41.1**	**-1.5**
	comp=Z,4.8nm,0.6s,mb4.0						
UCH	**Uchtor**	**51.29**	**302**	P	**P**	**12 40 43.8**	**+0.9**
	SNR=7.3						
AML	**Almayashu**	**51.91**	**302**	P	**P**	**12 40 48.0**	**+0.6**
	SNR=20						
CHKZ	**Chkalovo**	**52.80**	**316**	*e*P	**P**	**12 40 52.2**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.0						
CHKZ	**Chkalovo**	**52.80**	**316**	*e*P	**P**	**12 40 52.2**	**-1.5**
	comp=Z,3.5nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**52.97**	**316**	P	**P**	**12 40 54.2**	**-0.7**
	comp=Z,1.8nm,0.4s,mb3.8,baz=103,slow=8.5,SNR=12						
BVAR				PcP	PcP	12 41 55.4	-0.8
	comp=Z,0.3nm,0.4s,baz=90,slow=5.9,SNR=3.7						
ASAR	**Alice Springs**	**54.09**	**185**	P	**P**	**12 41 03.8**	**+0.5**
	comp=Z,2.2nm,0.7s,mb3.6,baz=18,slow=13,SNR=26						
ILAR	**Eielson Array**	**56.48**	**30**	P	**P**	**12 41 19.6**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.0,baz=253,slow=5.7,SNR=9.6						
INK	**Inuvik**	**61.42**	**25**	*e*P	**P**	**12 41 53.4**	**+0.8**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**61.42**	**25**	*e*P	**P**	**12 41 53.4**	**+0.8**
	comp=Z,1.8nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**62.22**	**177**	P	**P**	**12 41 58.8**	**+0.5**
	comp=Z,2.4nm,0.9s,mb3.6,baz=326,slow=7.3,SNR=5.0						
STKA	**Stephens Creek**	**62.22**	**177**	P	**P**	**12 41 59.1**	**+0.7**
ARCES	**ARCESS Array B**	**69.01**	**340**	P	**P**	**12 42 40.6**	**+0.5**
	comp=Z,3.3nm,0.4s,mb4.2,baz=63,slow=8.4,SNR=32						
JOF	**Joensuu**	**70.30**	**332**	*e*p	**P**	**12 42 45.2**	**-2.7**
	comp=Z,3.8nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**70.82**	**28**	P	**P**	**12 42 52.0**	**+1.1**
	comp=Z,1.4nm,1.1s,mb3.4,baz=296,slow=6.1,SNR=8.2						
FINES	**FINESS Array B**	**73.16**	**332**	P	**P**	**12 43 04.4**	**-0.1**
	comp=Z,1.8nm,0.4s,mb4.0,baz=69,slow=5.3,SNR=33						

AKASG	**Malin Array Be**	**77.61**	**322**	P	**P**	**12 43 29.1**	**-0.3**
	comp=Z,1.5nm,0.4s,mb3.8,baz=48,slow=5.4,SNR=13						
HFS	**Hagfors**	**78.73**	**335**	P	**P**	**12 43 35.2**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.1,baz=108,slow=4.7,SNR=30						
NB2	**NORSAR Subarra**	**78.97**	**337**	P	**P**	**12 43 36.1**	**-0.3**
	comp=Z,2.0nm,0.6s,mb3.8,baz=46,slow=5.6						
NOA	**NORSAR Array B**	**78.97**	**337**	P	**P**	**12 43 36.7**	**+0.3**
	comp=Z,1.9nm,0.6s,mb3.8,baz=45,slow=5.3,SNR=9.7						

*CSEM **05** 12:33:26.2±0.2, 79.47N×2.50E, h30^{km}, ML2.8, Error ellipse: s-maj=10.5km s-min=2.7km az=8.0*
*BER **05** 12:33:29.7±5.5, 79.37N×3.66E, h15^{km}±502^{km}, MD3.2, ML2.8, ML2.6(NAO)*
*NEIC **05** 12:33:30.0, 79.36N×3.80E, h15^{km}, ML2.6(NAO), After BER.*
*IDC **05** 12:33:32.2±2.3, 80.02N×9.75E, mb3.4/2, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=122.9km s-min=18.2km az=57.0*
*NAO **05** 12:33:34.5±1.8, 79.13N×5.98E, ML2.6*
ISC 05 12:33:31.1±1.1**, 78.82N**±0.10×**4.7E**±0.3**, h10^{km}, n15, σ0^{s}98**/22**, mb3.0**/1**, Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.41**	**82**	*e*P	**Pn**	**12 33 56.5**	**-0.6**
KBS				*e*S	**Sb**	**12 34 15.6**	**+0.5**
KBS				AML	AML	12 34 16.3	
	comp=Z,127nm,0.5s						
SPA0	**Spitsbergen Ar**	**2.43**	**100**	Pn	**Pn**	**12 34 12.4**	**+0.8**
	baz=300,slow=12						
SPA0				Sn	**Sn**	**12 34 42.7**	**+1.1**
	baz=325,slow=16						
HSP	**Hornsund**	**2.92**	**123**	*e*P	**Pn**	**12 34 19.6**	**+1.0**
HSP				*e*(S)	**Sn**	**12 34 53.1**	**-1.0**
HOPEN	**Hopen**	**4.92**	**108**	*e*P	**Pn**	**12 34 45.9**	**-1.0**
HOPEN				*e*S	**Sn**	**12 35 42.9**	**-1.6**
HOPEN				AML	AML	12 35 45.9	
	comp=Z,47nm,0.1s						
DAG	**Danmarks Havn**	**5.33**	**259**	*e*P	**Pn**	**12 34 43.0**	**-10**
DAG				*i*		12 35 39.0	
DAG	**Danmarks Havn**	**5.33**	**259**	*i* P	**Pn**	**12 34 43.0**	**-10**
DAG				*i*		12 35 39.0	
ARA0	**ARCESS Array S**	**10.81**	**138**	Pn	**P**	**12 36 09.2**	**+0.3**
	baz=340,slow=12						
ARA0				Sn	**S**	**12 38 07.1**	**-3.8**
	baz=5.0,slow=22						
ARA0	**ARCESS Array S**	**10.81**	**138**	Pn	**P**	**12 36 09.1**	**+0.3**
	SNR=55						
ARA0				Sn	**S**	**12 38 07.1**	**-3.8**
	SNR=55						
ARCES	**ARCESS Array B**	**10.81**	**138**	Pn	**P**	**12 36 09.9**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=345,slow=10,SNR=8.8						
ARCES				Sn	**S**	**12 38 15.4**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=345,slow=21,SNR=2.5						
SUMG	**Summit**	**12.01**	**262**	*e*P	**P**	**12 36 15.0**	**-10**
	comp=Z,8.5nm,0.5s						
SUMG	**Summit**	**12.01**	**262**	*e*P	**P**	**12 36 15.0**	**-10**
	comp=Z,8.5nm,0.5s						
FINES	**FINESS Array B**	**18.66**	**147**	P	**P**	**12 37 58.5**	**+7.7**
	comp=Z,0.1nm,0.3s,baz=315,slow=7.9,SNR=2.6						
HFS	**Hagfors**	**19.00**	**166**	P	**P**	**12 38 05.7**	**+11**
	comp=Z,1.3nm,0.5s,slow=8.6,SNR=9.1						
YKA	**Yellowknife Ar**	**34.48**	**314**	P	**P**	**12 40 19.9**	**-0.6**
	comp=Z,0.2nm,1.0s,mb3.0,baz=12,slow=8.8,SNR=3.8						
YKA	**Yellowknife Ar**	**34.48**	**314**	P	**P**	**12 40 19.9**	**-0.6**

IDC 05 12:44:36.3±1.4**, 1.26N**×**126.32E, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.7**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=186.5km s-min=24.4km az=72.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**160**	P	P	12 49 37.7	-1.3
	2.7nm,0.7s,baz=338,slow=11,SNR=8.5						
ASAR	**Alice Springs**	**25.85**	**164**	P	P	12 50 10.1	-1.4
	0.9nm,0.5s,baz=343,slow=8.3,SNR=21						
ASAR				PcP	PcP	12 53 38.4	-3.2
	0.2nm,0.5s,baz=358,slow=2.4,SNR=4.5						
SONM	**Songino Array**	**49.50**	**342**	P	P	12 53 28.9	-1.7
	0.2nm,0.6s,baz=162,slow=9.1,SNR=2.2						

*IDC **05** 12:56:47.5±1.4, 55.56N×163.46E, mb3.3/3, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=61.7km s-min=13.8km az=25.0*
*MOS **05** 12:56:50.8±1.6, 55.39N×163.40E, h44^{km}, mb4.3/1, Error ellipse: s-maj=22.8km s-min=15.4km az=79.1*
*KRSC **05** 12:56:50.9±1.2, 55.51N×163.42E, h35^{km}±5^{km}, ML4.2*
ISC 05 12:56:50.7±0.4**, 55.42N**±0.03×**163.50E**±0.05**, h35^{km}, n42, σ1^{s}28**/79**, mb3.4**/3**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.88**	**334**	P	**P**	**12 57 05.1**	**-1.5**
KBTR				S	**S**	**12 57 15.7**	**-2.6**
KBTR	**Krutoberegovo**	**0.88**	**334**	*i* P	**P**	**12 57 05.1**	**-1.5**
KBTR				*e*S	**S**	**12 57 16.2**	**-2.1**
KBG	**Krutoberegovo**	**0.95**	**332**	*i* P	**P**	**12 57 06.0**	**-1.6**
KBG				*e*S	**S**	**12 57 17.0**	**-3.2**
KBG				Smax			
	4μm,0.9s						
KBG	**Krutoberegovo**	**0.95**	**332**	*i* P	**P**	**12 57 06.1**	**-1.5**
KBG				*e*S	**S**	**12 57 18.5**	**-1.7**
BKI	**Bering**	**1.43**	**98**	*i* P	**P**	**12 57 15.0**	**+0.4**
BKI				*i* S	**S**	**12 57 32.8**	**+0.4**
ZLN	**Zelenaya**	**1.64**	**292**	*i* P	**P**	**12 57 18.3**	**+0.8**
ZLN				*i* S	**S**	**12 57 39.1**	**+1.5**
CIRR	**Tsirk**	**1.70**	**295**	*e*P	**P**	**12 57 20.3**	**+1.8**
CIRR				*e*S	**S**	**12 57 39.9**	**+0.7**
KLY	**Klyuchi**	**1.84**	**300**	P	**P**	**12 57 19.1**	**-1.3**
KLY				S	**S**	**12 57 40.0**	**-2.6**
KLY	**Klyuchi**	**1.84**	**300**	*i* P	**P**	**12 57 19.0**	**-1.4**
KLY				*e*S	**S**	**12 57 40.0**	**-2.6**
KRSR	**Krestovskiy**	**1.84**	**297**	*i* P	**P**	**12 57 20.6**	**+0.2**
KRSR				*e*S	**S**	**12 57 42.2**	**-0.4**
KMNR	**Kamenistaya**	**1.88**	**282**	*i* P	**P**	**12 57 22.4**	**+1.4**
KMNR				*e*S	**S**	**12 57 43.7**	**-0.1**
TUMR	**Tumrok**	**1.92**	**267**	*e*P	**P**	**12 57 22.6**	**+1.0**
TUMR				*e*S	**S**	**12 57 46.1**	**+1.4**
KPT	**Kopyto**	**1.93**	**288**	*i* P	**P**	**12 57 22.7**	**+0.9**
KPT				*e*S	**S**	**12 57 46.5**	**+1.4**
KOZR	**Kozyr**	**2.14**	**289**	PN	**P**	**12 57 26.4**	**+1.7**
KOZR				S	**S**	**12 57 52.9**	**+2.7**
KOZ	**Kozyrevsk**	**2.15**	**289**	P	**P**	**12 57 26.4**	**+1.6**
KOZ				S	**S**	**12 57 52.9**	**+2.4**
KOZ	**Kozyrevsk**	**2.15**	**289**	*i* P	**P**	**12 57 26.4**	**+1.6**
KOZ				*e*S	**S**	**12 57 51.5**	**+1.0**
SRDR	**Sredinnyy**	**2.31**	**294**	*e*P	**P**	**12 57 28.1**	**+0.9**
SRDR				*e*S	**S**	**12 57 53.1**	**-1.6**
KII	**Karymskiy**	**2.73**	**241**	*e*P	**P**	**12 57 32.9**	**-0.2**
KII				*e*S	**S**	**12 58 05.3**	**0.0**
ESO	**Esso**	**2.76**	**282**	*i* P	**P**	**12 57 34.3**	**+0.7**
ESO				*i* S	**S**	**12 58 05.2**	**-1.0**
SPN	**Mys Shipunski**	**3.10**	**223**	P	**P**	**12 57 37.1**	**-1.2**
SPN				S	**S**	**12 58 10.0**	**-4.6**
SPN	**Mys Shipunski**	**3.10**	**223**	*e*P	**P**	**12 57 37.5**	**-0.8**
SPN				*e*S	**S**	**12 58 11.7**	**-2.9**
NLC	**Nalytchevo**	**3.32**	**229**	P	**P**	**12 57 41.2**	**-0.3**
NLC				S	**S**	**12 58 17.0**	**-3.3**
NLC	**Nalytchevo**	**3.32**	**229**	*e*P	**P**	**12 57 41.0**	**-0.5**
NLC				*e*S	**S**	**12 58 17.5**	**-2.8**
SDLR	**Sedlovina**	**3.45**	**233**	*e*P	**P**	**12 57 44.4**	**+1.0**
SDLR				*e*S	**S**	**12 58 23.2**	**-0.4**
UGLR	**Uglovaya**	**3.52**	**233**	*e*P	**P**	**12 57 45.3**	**+0.9**
UGLR				*e*S	**S**	**12 58 24.5**	**-1.0**
AVH	**Avacha**	**3.53**	**234**	*e*P	**P**	**12 57 44.9**	**+0.4**
AVH				*e*S	**S**	**12 58 24.0**	**-1.5**
KOK	**Koryaka**	**3.56**	**235**	*e*P	**P**	**12 57 46.2**	**+1.3**
KOK				*e*S	**S**	**12 58 24.9**	**-1.4**
GNL	**Ganaly**	**3.67**	**244**	*e*P	**P**	**12 57 47.1**	**+0.6**
GNL				*e*S	**S**	**12 58 27.9**	**-1.3**
PET	**Petropavlovsk**	**3.72**	**232**	P	**P**	**12 57 46.1**	**-1.2**
PET				S	**S**	**12 58 26.6**	**-3.9**
PET	**Petropavlovsk**	**3.72**	**232**	*e*PN	**P**	**12 57 49.2**	**+1.9**
PET				*e*S	**S**	**12 58 28.7**	**-1.8**
PET				pmax	pmax		
	comp=Z,17nm,0.5s						
PET				smax			
	comp=N,66nm,0.4s						
PET				smax			
	comp=E,61nm,0.4s						
PET	**Petropavlovsk**	**3.72**	**232**	*e*P	**P**	**12 57 47.4**	**+0.1**
PET				*e*S	**S**	**12 58 28.9**	**-1.6**
OSSR	**Ossora**	**3.85**	**357**	*i* S	**S**	**12 58 28.5**	**-5.2**
OSSR				Smax			
	comp=E,50nm,0.5s						
KRMR	**Karymshinskiy**	**4.09**	**233**	*e*P	**P**	**12 57 54.7**	**+2.2**
KRMR				*e*S	**S**	**12 58 40.6**	**+0.8**
RUS	**Russkaya**	**4.20**	**227**	P	**P**	**12 57 53.9**	**-0.2**
RUS				S	**S**	**12 58 38.2**	**-4.4**
RUS	**Russkaya**	**4.20**	**227**	*e*P	**P**	**12 57 54.0**	**-0.1**
RUS				*e*S	**S**	**12 58 41.6**	**-1.0**
GRL	**Gorelyy**	**4.30**	**230**	*e*P	**P**	**12 57 57.1**	**+1.6**
GRL				*e*S	**S**	**12 58 45.4**	**+0.2**
APC	**Apacha**	**4.49**	**239**	*e*P	**P**	**12 57 58.0**	**-0.1**
APC				*e*S	**S**	**12 58 48.3**	**-1.5**
FX1	**Attu Island--F**	**6.22**	**110**	Pn	**P**	**12 58 21.6**	**-0.9**
	comp=E,5.3nm,0.3s,baz=25,slow=4.5,SNR=8.8						
FX1				Sn	**S**	**12 59 29.5**	**-3.9**
	comp=E,3.7nm,0.3s,baz=116,slow=18,SNR=6.0						
SONM	**Songino Array**	**35.34**	**282**	P	**P**	**13 03 43.5**	**-0.9**
	comp=E,0.1nm,0.4s,mb3.1,baz=62,slow=7.7,SNR=3.0						
FINES	**FINESS Array B**	**58.75**	**338**	P	**P**	**13 06 44.8**	**-2.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**58.75**	**338**	P	**P**	**13 06 44.8**	**-2.0**
	comp=Z,0.9nm,0.9s,mb3.8,baz=27,slow=8.5,SNR=5.1						
TXAR	**Lajitas Array**	**67.93**	**70**	P	**P**	**13 07 48.5**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.4,baz=302,slow=4.1,SNR=3.8						

*CSEM **05** 13:03:58.4±0.2, 37.94N×26.22W, h2^{km}, ML3.1, Error ellipse: s-maj=21.5km s-min=3.1km az=32.0, After PDA*
*PDA **05** 13:03:58.4±0.8, 37.94N×26.22W, h2^{km}±2^{km}, MD2.8, ML3.1, Error ellipse: s-maj=6.4km s-min=0.8km az=37.0*
SVSA 05 13:03:58.4±0.8**, 37.94N**×**26.22W, h2^{km}**±2^{km}**, MD2.8, ML3.1, Error ellipse: s-maj=6.4km s-min=0.8km az=37.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	**Mosteiros**	**0.34**	**101**	*i* P	Pg	13 04 04.9	-0.3
SET2	**Ginetes**	**0.34**	**106**	*i* P	Pg	13 04 05.0	-0.3
SET3	**Pilar**	**0.35**	**98**	*e*P	Pg	13 04 04.8	-0.6
PFET	**Feteiras**	**0.36**	**109**	*i* P	Pg	13 04 05.2	-0.5
PSAN	**Santo Antonio**	**0.40**	**102**	*i* P	Pg	13 04 05.8	-0.7
PSET	**Sete Cidades**	**0.41**	**106**	*e*P	Pg	13 04 05.8	-0.9
PSET				*e*S	Sg	13 04 11.7	-0.5
	2μm,0.4s						
FAC	**Faja de Cima**	**0.48**	**110**	*i* P	Pg	13 04 06.9	-1.1
FAC				*i* S	Sg	13 04 13.8	-0.7
PDA	**Ponta Delgada**	**0.48**	**113**	*i* S	Sg	13 04 14.0	-0.5
CML	**Cha da Macela**	**0.56**	**107**	*i* P	Pg	13 04 08.2	-1.4
CML				*i* S	Sg	13 04 15.6	-1.5
PVER	**Pico Vermelho**	**0.58**	**104**	*e*P	Pg	13 04 08.4	-1.6
PVER				*i* S	Sg	13 04 16.1	-1.6
	496nm,0.3s						
PMAT	**Coroa da Mata**	**0.61**	**101**	*e*P	Pg	13 04 09.1	-1.4
PMAT				*i* S	Sg	13 04 16.9	-1.7
	738nm,0.3s						
LFA	**Lagoa do Fogo**	**0.61**	**106**	*i* P	Pg	13 04 09.1	-1.5
PRCH	**Ribeira Ch**	**0.62**	**109**	*i* P	Pg	13 04 09.3	-1.6
PRCH				*i* S	Sg	13 04 17.5	-1.7
	2μm,0.3s						
MESC	**Monte Escuro**	**0.63**	**103**	*e*P	Pg	13 04 09.4	-1.6
MESC				*i* S	Sg	13 04 17.4	-2.1
VIF	**Vila Franca**	**0.65**	**107**	*e*P	Pg	13 04 09.8	-1.6
VIF				*i* S	Sg	13 04 18.1	-1.9
	282nm,0.3s						
PCNG	**Congro**	**0.68**	**104**	*e*P	Pg	13 04 10.1	-1.8
PCNG				*i* S	Sg	13 04 18.9	-2.0
	831nm,0.3s						
FRA1	**Furnas**	**0.71**	**106**	*e*P	Pg	13 04 10.7	-1.9
FRA1				*e*S	Sg	13 04 20.1	-2.0
PFAD	**Fenais da Ajud**	**0.72**	**98**	*e*P	Pg	13 04 10.6	-2.2
PFAD				*i* S	Sg	13 04 19.4	-2.9
MIRA	**Miradouro**	**0.76**	**101**	*e*P	Pg	13 04 11.5	-2.1
MIRA				*i* S	Sg	13 04 20.7	-3.1
PFAV	**Pico das Favas**	**1.03**	**319**	*e*P	Pb	13 04 14.7	-3.9
PFAV				*e*S	Sb	13 04 27.3	-5.0
	61nm,0.4s						
PSCM	**Serra do Cume**	**1.04**	**318**	*e*P	Pb	13 04 14.8	-3.9
PSCM				*e*S	Sb	13 04 27.7	-4.9
	223nm,0.3s						
RIB2	**Ribeirinha**	**1.05**	**315**	*i* S	Sb	13 04 28.0	-4.9
	64nm,0.2s						
ADH	**Angra Heroismo**	**1.07**	**312**	*e*S	Sb	13 04 28.0	-5.6
PVNV	**Vila Nova**	**1.10**	**319**	*e*P	Pb	13 04 15.8	-4.1
PVNV				*i* S	Sb	13 04 29.2	-5.3
	60nm,0.2s						
PPAD	**Pico dos Padre**	**1.13**	**313**	*e*S	Sb	13 04 30.1	-5.3
	39nm,0.3s						
PSBA	**Serra de Santa**	**1.20**	**314**	*e*rx		13 04 24.9	
PSMN	**Pico do Norte,**	**1.31**	**135**	*i* S	Sb	13 04 34.0	-6.6
ROSA	**Rosais**	**1.77**	**297**	*e*rx		13 04 25.7	
CALA	**Caldeira**	**2.05**	**289**	*e*rx		13 04 26.2	

*BJI **05** 13:17:27.0, 10.02N×93.52E, h44^{km}, mB5.1, mb4.7, Ms4.3, Msz4.1*
*MOS **05** 13:17:28.2±1.2, 10.31N×93.66E, h37^{km}, mb5.1/13, MS4.0/4, Error ellipse: s-maj=11.2km s-min=6.3km az=101.9*
*NEIC **05** 13:17:29.1±0.3, 10.23N×93.66E, h30^{km}, mb4.8/24, Error ellipse: s-maj=8.3km s-min=6.7km az=53.0*
*IDC **05** 13:17:30.4±3.8, 10.33N×93.78E, h38^{km}±32^{km}, mb4.1/18, mb1 4.2/19, mb1mx4.2/23, mbtmp4.3/19, ML3.8/1, MS3.9/12, Ms1 4.0/12, ms1mx3.7/22, Error ellipse: s-maj=23.0km s-min=13.2km az=54.0*
ISC 05 13:17:26.7±0.4**, 10.20N**±0.05×**93.68E**±0.03**, h28^{km}**±1.2^{km}**:pP-P, n129, σ0^{s}99**/129**, mb4.6**/47**, MS4.1**/21**, 5C-7D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**6.39**	**68**	P	**Pn**	**13 19 02.0**	**+0.4**
NST	**Nakhon Sawan**	**8.31**	**48**	P	**P**	**13 19 29.2**	**+0.8**
BDT	**Bhumibol Dam**	**8.70**	**36**	P	**P**	**13 19 34.0**	**+0.2**
CM31	**Chiang Mai Arr**	**9.66**	**31**	*e*P	**P**	**13 19 47.7**	**+0.5**
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**9.66**	**31**	Pn	**P**	**13 19 47.5**	**+0.3**
	0.3nm,0.3s,baz=225,slow=15,SNR=16						
CMAR				LR	LR	13 24 06.9	
	comp=Z,328nm,18.8s,baz=225,slow=42						
CHG	**Chiang Mai**	**9.96**	**30**	⇓P	**P**	**13 19 56.1**	**+4.8**
	23nm,1.0s						
KKTK	**Khon Kaen**	**10.79**	**55**	P	**P**	**13 20 03.0**	**+0.4**
NANT	**Nan**	**10.92**	**38**	P	**P**	**13 20 05.0**	**+0.6**
CHRT	**Chiangrai**	**11.28**	**31**	⇓P	**P**	**13 20 10.5**	**+1.3**
	263nm,0.9s						
VIS	**Vishakhapatnam**	**12.52**	**308**	*e*P	**P**	**13 20 25.1**	**-1.0**
VIS				*e*S	**S**	**13 22 30.9**	**-15**
VIS				*e*		13 22 39.0	
	comp=E,82nm,0.7s						
VIS				*e*		13 22 41.1	
	comp=N,103nm,0.7s						
BWNR	**Bhubaneshwar**	**12.59**	**324**	*e*S	**S**	**13 22 34.3**	**-13**
SALM	**Salem**	**15.27**	**277**	*e*	**P**	**13 21 07.0**	**+4.7**
SALM				*e*		13 23 43.0	
HYB	**Hyderabad**	**16.34**	**298**	*e*P	**P**	**13 21 17.0**	**+1.0**
	comp=N,50nm,1.0s						
HYB				*e*S	**S**	**13 24 18.0**	**+2.0**
HYB	**Hyderabad**	**16.34**	**298**	*i* P	**P**	**13 21 17.0**	**+1.0**
	comp=N,50nm,1.0s						
HYB				*e*S	**S**	**13 24 18.0**	**+2.0**
KMI	**Kunming**	**17.16**	**29**	P	**P**	**13 21 30.4**	**+4.1**
KMI				AP		13 21 37.1	
KMI				XP		13 21 39.6	
KMI				S	**S**	**13 24 44.0**	**+9.4**
KMI				AMB	AMB		
	comp=Z,40nm,1.4s						
KMI				AMB	AMB		
	comp=Z,90nm,3.1s						
KMI				LR	LR		
	comp=N,404nm,12.8s						
KMI				LR	LR		
	comp=E,426nm,15.4s						
KMI				LR	LR		
	comp=Z,271nm,12.4s						
KMI	**Kunming**	**17.16**	**29**	P	**P**	**13 21 30.4**	**+4.1**
	comp=Z,40nm,1.4s						
KMI				pP		13 21 37.1	
KMI				sP		13 21 39.6	
KMI				S	**S**	**13 24 44.0**	**+9.4**
MNGI	**Mangalore**	**18.68**	**280**	*i* P	**P**	**13 21 46.9**	**+1.8**
MNGI				*i*		13 24 58.2	
JIRN	**Jiri**	**18.75**	**339**	*e*P	**P**	**13 21 45.3**	**-0.6**
	comp=Z,215nm,1.5s						
PKI	**Pulchoki**	**18.96**	**337**	*e*P	**P**	**13 21 48.2**	**-0.2**
	comp=Z,145nm,1.3s						
DMN	**Daman**	**19.11**	**336**	*e*P	**P**	**13 21 49.6**	**-0.6**
	comp=Z,111nm,0.9s						
KKN	**Kakani**	**19.20**	**337**	*e*P	**P**	**13 21 50.8**	**-0.5**
	comp=Z,79nm,1.0s						
LSA	**Lhasa**	**19.55**	**353**	P	**P**	**13 21 54.4**	**-0.8**
LSA	**Lhasa**	**19.55**	**353**	*e*P	**P**	**13 21 54.1**	**-1.1**
	comp=Z,42nm,0.9s						
GKN	**Gorkha**	**19.65**	**336**	*e*P	**P**	**13 21 56.1**	**-0.3**
	comp=Z,112nm,1.0s						
KOLN	**Koldanda**	**19.89**	**333**	*e*P	**P**	**13 21 58.8**	**-0.2**
	comp=Z,72nm,0.9s						
KAD	**Karad**	**20.20**	**293**	*e*P	**P**	**13 22 01.8**	**-0.5**
KAD				*e*		13 22 08.0	
	comp=Z,44nm,1.9s						
BHPL	**Bhopal**	**20.23**	**312**	*e*P	**P**	**13 22 04.3**	**+1.7**
BHPL				*e*		13 22 06.7	
	comp=Z,38nm,1.0s						
GYA	**Guiyang**	**20.30**	**35**	⇑*i*P	**P**	**13 22 04.6**	**+1.3**
GYA				AP		13 22 13.2	
GYA				XP		13 22 16.8	
GYA				AMB	AMB		
	comp=Z,70nm,1.0s						
GYA				AMB	AMB		
	comp=Z,170nm,3.6s						
GYA				LR	LR		
	comp=N,400nm,11.2s,MS4.3						
GYA				LR	LR		
	comp=E,560nm,10.2s,MS4.3						
GYA				LR	LR		
	comp=Z,370nm,10.7s,MS4.0						
POO	**Poona**	**20.91**	**296**	*e*P	**P**	**13 22 07.5**	**-2.0**
POO				*e*		13 22 14.9	
	comp=Z,49nm,1.1s						
CD2	**Chengdu**	**22.64**	**23**	⇑*i*P	**P**	**13 22 27.3**	**+0.4**
CD2				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.6						
NDI	**New Delhi**	**24.01**	**322**	*e*	**P**	**13 22 39.5**	**-0.8**
NDI				*e*		13 28 02.5	
DDI	**Dehra Dun**	**24.76**	**326**	*e*	**P**	**13 22 49.2**	**+1.7**
DDI				*e*		13 27 35.7	
ENH	**Enshi**	**24.82**	**34**	*e*P	**P**	**13 22 48.1**	**+0.1**
	comp=Z,44nm,0.9s,mb5.0						
LZH	**Lanzhou**	**27.37**	**18**	⇑P	**P**	**13 23 12.0**	**+0.3**
LZH				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.6						
LZH				LR	LR		
	comp=N,383nm,12.7s						
LZH				LR	LR		
	comp=Z,576nm,15.3s,MS4.3						
LZH	**Lanzhou**	**27.37**	**18**	⇑P	**P**	**13 23 12.0**	**+0.3**
	comp=Z,28nm,1.4s,mb4.6						
LZH				pP	pP	13 23 18.5	-1.4
LZH				sP	sP	13 23 22.2	-1.4
LZH				PP	PP	13 23 45.1	-14
LZH				LR	LR		
	comp=Z,580nm,15.3s,MS4.3						
XAN	**Xi'an**	**27.54**	**28**	P	**P**	**13 23 10.3**	**-2.9**
XAN				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
WHN	**Wuhan**	**27.92**	**41**	⇓P	**P**	**13 23 17.5**	**+0.7**
GTA	**Gaotai**	**29.60**	**10**	P	**P**	**13 23 31.9**	**+0.1**
GTA				AP	pP	13 23 42.1	+2.1
GTA				PP	PP	13 24 27.9	-0.3
GTA				PCP	PcP	13 26 37.0	+0.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.1						
NJ2	**Nanjing**	**31.85**	**43**	*e*P	**P**	**13 23 52.5**	**+0.8**
NJ2				AP	pP	13 24 00.5	+0.6
NJ2				XP	sP	13 24 06.4	+2.9
NJ2				PP	PP	13 24 57.9	+0.3
NJ2				PPP	PPP	13 25 16.9	+4.3
NJ2				S	**S**	**13 29 00.0**	**+0.7**
NJ2				XS		13 29 18.0	
NJ2				AMB	AMB		
	comp=Z,90nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,640nm,4.6s						
NJ2				LR	LR		
	comp=N,600nm,21.6s						
NJ2				LR	LR		
	comp=E,630nm,14.1s						
NJ2				LR	LR		
	comp=Z,550nm,19.7s,MS4.2						
SSE	**Sheshan**	**32.92**	**47**	*e*P	**P**	**13 23 56.3**	**-4.7**
	comp=Z,44nm,0.7s,mb5.5						
SSE				pP	pP	13 24 04.7	-4.6
SSE				S	**S**	**13 29 13.4**	**-2.6**
SSE				sS		13 29 27.2	
SSE				SS	SS	13 31 39.8	+24
SSE				LR	LR		
	comp=Z,90nm,19.2s,MS3.5						
KSH	**Kashi**	**33.19**	**335**	*e*P	**P**	**13 24 05.0**	**+1.7**
KSH				*e*AP	pP	13 24 14.6	+3.1
KSH				*e*XP	sP	13 24 21.6	+6.5
KSH				AMB	AMB		
	comp=Z,140nm,5.2s						
WMQ	**Urumqi**	**33.90**	**352**	P	**P**	**13 24 09.5**	**+0.1**
WMQ				AP	pP	13 24 17.0	-0.7
WMQ				PP	PP	13 25 23.0	-0.2
WMQ				PCP	PcP	13 26 49.0	+1.3
WMQ				*e*S	**S**	**13 29 33.0**	**+2.0**
WMQ				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,181nm,4.4s						
WMQ				LR	LR		
	comp=N,78nm,13.5s,MS3.9						
WMQ				LR	LR		
	comp=E,141nm,14.7s,MS3.9						
WMQ				LR	LR		
	comp=Z,109nm,18.0s,MS3.6						
HHC	**Hu-ho-hao-te**	**34.38**	**24**	*e*P	**P**	**13 24 14.0**	**+0.4**
HHC				AP	pP	13 24 22.8	+1.0
HHC				XP	sP	13 24 27.0	+1.6
HHC				PP	PP	13 25 30.6	+1.2
HHC				S	**S**	**13 29 37.4**	**-1.1**
HHC				PCS		13 30 35.7	
HHC				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,94nm,3.9s						
HHC				LR	LR		
	comp=N,153nm,17.3s,MS4.1						
HHC				LR	LR		
	comp=E,283nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=Z,135nm,11.9s,MS3.9						
ULHL	**Ulahol**	**35.40**	**337**	P	**P**	**13 24 22.7**	**+0.5**
	SNR=6.2						
KZA	**Kyzart**	**35.64**	**336**	P	**P**	**13 24 24.9**	**+0.6**
	SNR=20						
BJT	**Baijiatuau**	**35.79**	**30**	*e*P	**P**	**13 24 26.3**	**+0.7**
	comp=Z,11nm,1.0s,mb4.7						
BJI	**Beijing**	**35.81**	**30**	*e*P	**P**	**13 24 26.6**	**+0.8**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,211nm,15.1s,MS4.1						
BJI				LR	LR		
	comp=E,184nm,15.6s,MS4.1						
BJI				LR	LR		
	comp=Z,107nm,19.7s,MS3.6						
BJI	**Beijing**	**35.81**	**30**	*e*P	**P**	**13 24 26.6**	**+0.8**
	comp=Z,9.0nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=Z,110nm,19.7s,MS3.6						
UCH	**Uchtor**	**36.06**	**336**	P	**P**	**13 24 28.5**	**+0.6**
	SNR=9.4						
TKM2	**Tokmak 2**	**36.22**	**337**	P	**P**	**13 24 29.8**	**+0.6**
	SNR=8.8						
KBK	**Karagaybulak**	**36.25**	**336**	P	**P**	**13 24 30.4**	**+1.0**
	SNR=11						
AML	**Almayashu**	**36.32**	**335**	P	**P**	**13 24 31.1**	**+1.0**
	SNR=35						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AAK	Ala-Archa	36.41	336	P	P	13 24 30.0	-0.8
	comp=Z,92nm,1.2s,mb5.6,SNR=19						
AAK	Ala-Archa	36.41	336	P	P	13 24 31.8	+1.0
AAK				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
AAK	Ala-Archa	36.41	336	eP	P	13 24 30.1	-0.6
	comp=Z,8.5nm,1.0s,mb4.6						
FRU	Bishkek	36.53	336	eP	P	13 24 32.0	+0.2
CHMS	Chumysh	36.61	336	P	P	13 24 32.7	+0.2
	SNR=7.5						
EKS2	Erkin-Say	36.72	335	P	P	13 24 34.9	+1.5
	SNR=16						
USP	Ospenovka	36.94	336	P	P	13 24 35.5	+0.3
	SNR=15						
MKAR	Makanchi Array	37.73	347	i P	P	13 24 41.2	-0.7
MKAR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONM	Songino Array	39.02	14	P	P	13 24 52.6	0.0
	comp=Z,5.7nm,1.0s,mb4.2,baz=203,slow=5.9,SNR=31						
SONM				PcP	PcP	13 27 03.3	+0.3
	comp=Z,1.8nm,1.0s,baz=191,slow=3.0,SNR=4.8						
ULN	Ulaanbaatar	39.20	14	i P	P	13 24 53.7	-0.4
ZAK	Zakamensk	40.84	9	eP	P	13 25 07.5	-0.1
ZAK				e		13 26 44.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s						
TLY	Talaya	42.16	9	i P	P	13 25 18.1	-0.3
TLY				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.9						
KURK	Kurchatov	42.26	346	i P	P	13 25 19.1	-0.2
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.4						
KURK	Kurchatov	42.26	346	eP	P	13 25 16.9	-2.4
	comp=Z,25nm,1.3s,mb4.7						
CN2	Changchun	43.34	34	eP	P	13 25 28.6	+0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZAL	Zalesovo	44.20	352	P	P	13 25 34.9	-0.2
	comp=Z,12nm,1.0s,mb4.6,baz=300,slow=7.9,SNR=57						
HIA	Hailar	44.59	24	P	P	13 25 38.2	0.0
	comp=Z,2.6nm,0.6s,mb4.2						
NVS	Novosibirsk	45.29	352	eP	P	13 25 41.6	-2.2
NVS				pmax	pmax		
	comp=N,9.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.1						
BVA0	Borovoye Array	46.66	341	i P	P	13 25 53.7	-0.9
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BVAR	Borovoye Array	46.66	341	P	P	13 25 54.0	-0.6
	comp=Z,11nm,1.0s,mb4.7,baz=143,slow=7.4,SNR=35						
BVAR				PcP	PcP	13 27 28.6	+0.1
	comp=Z,1.2nm,0.8s,baz=180,slow=5.8,SNR=2.5						
BVAR				S	S	13 32 41.2	-0.1
	comp=Z,1.4nm,1.1s,baz=135,slow=15,SNR=4.1						
CHKZ	Chkalovo	47.14	341	P	P	13 25 57.8	-0.6
CHKZ				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.1						
CHKZ	Chkalovo	47.14	341	eP	P	13 25 57.6	-0.7
	comp=Z,11nm,0.5s,mb5.0						
WRA	Warramunga Arr	49.99	127	P	P	13 26 20.4	-0.5
	comp=Z,1.8nm,0.8s,mb4.2,baz=303,slow=8.9,SNR=6.4						
BOD	Bodaibo	50.01	14	eP	P	13 26 17.8	-2.8
BOD				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
KRV	Ganca	51.57	314	eP	P	13 26 31.0	-1.6
KRV				i	pP	13 26 38.0	-3.2
ASAR	Alice Springs	51.76	131	P	P	13 26 34.0	-0.3
	comp=Z,3.0nm,0.8s,mb4.3,baz=302,slow=6.9,SNR=22						
ASAR				LR	LR	13 48 37.2	
	comp=Z,87nm,18.9s,MS3.8,baz=296,slow=36						
GNI	Garni	52.51	313	i P	P	13 26 40.1	+0.4
GNI				pmax	pmax		
	comp=Z,32nm,1.9s						
GNI	Garni	52.51	313	P	P	13 26 41.2	+1.4
	comp=Z,3.3nm,0.5s,mb4.5,baz=342,slow=17,SNR=5.3						
GNI	Garni	52.51	313	eP	P	13 26 40.7	+0.9
	comp=Z,38nm,1.5s,mb5.1						
SVE	Sverdlovsk	53.09	338	eP	P	13 26 43.0	-0.8
YSS	Yuzh-Sakhalins	55.26	39	eP	P	13 27 02.2	+2.4
YSS				e		13 29 01.2	
KIV	Kislovodsk	55.31	317	d iP	P	13 27 00.3	0.0
KIV				pmax	pmax		
	comp=Z,22nm,0.7s,mb5.3						
KIV	Kislovodsk	55.31	317	eP	P	13 27 00.4	+0.2
	comp=Z,12nm,0.8s,mb5.0						
ASF	Jabal al Asfar	56.60	302	P	P	13 27 10.2	+0.5
	comp=Z,1.2nm,0.3s,mb4.4,baz=42,slow=4.7,SNR=3.8						
KMBO	Kilima Mbogo	57.26	262	P	P	13 27 16.9	+2.2
	comp=Z,0.6nm,0.4s,mb4.0,baz=45,slow=12,SNR=3.1						
KMBO				LR	LR	13 50 23.3	
	comp=Z,101nm,18.2s,MS4.0,baz=95,slow=34						
YAK	Yakutsk	57.95	19	i P	P	13 27 16.9	-1.9
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ANN	Anapa	59.14	316	eP	P	13 27 36.3	+8.9
ANN				i *PP	pP	13 27 46.3	+10
ANN				eS		13 35 55.8	
ANN				pmax	pmax		
	comp=Z,52nm,1.0s,mb5.5						
CTA	Charters Tower	59.85	120	eP	P	13 27 33.1	+0.5
	comp=Z,5.9nm,1.2s,mb4.5						
CTA				e	pP	13 27 41.4	+0.1
CTA	Charters Tower	59.85	120	P	P	13 27 34.1	+1.5
	comp=Z,7.1nm,1.1s,mb4.6,baz=334,slow=4.6,SNR=4.9						
CTA				LR	LR	13 52 32.0	
	comp=Z,140nm,21.0s,MS4.1,baz=103,slow=35						
CTAO	Charters Tower	59.85	120	eP	P	13 27 34.3	+1.7
	comp=Z,11nm,1.1s,mb4.8						
STKA	Stephens Creek	62.04	134	eP	P	13 27 46.9	-0.4
	comp=Z,8.7nm,1.6s,mb4.6						
STKA	Stephens Creek	62.04	134	P	P	13 27 47.1	-0.2
	comp=Z,5.6nm,1.0s,mb4.7,baz=304,slow=9.4,SNR=4.1						
STKA				LR	LR	13 54 55.9	
	comp=Z,151nm,20.0s,MS4.2,baz=303,slow=36						
MOS	Moscow	62.88	328	eP	P	13 27 50.9	-1.6
MOS				e	pP	13 27 59.0	-2.2
MOS				pmax	pmax		
	comp=Z,51nm,0.7s						
OBN	Obninsk	63.19	327	eP	P	13 27 53.5	-1.0
OBN				e		13 30 19.2	
OBN				pmax	pmax		
	comp=Z,24nm,1.5s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.0						
MA2	Magadan	64.94	28	i P	P	13 28 04.6	-1.3
MA2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TIXI	Tiksi	65.06	12	i P	P	13 28 04.8	-1.7
TIXI				pmax	pmax		
	comp=Z,18nm,1.9s,mb4.8						
KIS	Kishinev	65.52	317	eP	P	13 28 21.0	+11
AKASG	Malin Array Be	66.07	321	P	P	13 28 08.8	-4.5
	comp=Z,3.3nm,0.8s,mb4.4,baz=86,slow=5.1,SNR=9.8						
AKASG	Malin Array Be	66.07	321	P	P	13 28 08.8	-4.5
VRI	Vrincioaia	66.73	316	⇓P	P	13 28 18.0	+0.4
PET	Petropavlovsk	66.94	37	eP	P	13 28 17.4	-1.4
PET				e		13 37 04.1	
PET				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
MLR	Muntele Rosu	67.21	315	⇑P	P	13 28 21.0	+0.3
BURAR	Bucovina Array	68.04	317	⇓P	P	13 28 25.1	-0.7
SUW	Suwalki	70.37	324	eP	P	13 28 39.1	-1.0
FINES	FINESS Array B	70.46	332	i P	P	13 28 39.2	-1.2
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES	FINESS Array B	70.46	332	P	P	13 28 39.2	-1.2
	comp=Z,2.9nm,0.9s,mb4.2,baz=63,slow=3.1,SNR=8.4						
FINES				LR	LR	14 02 44.3	
	comp=Z,52nm,21.1s,MS3.8,baz=208,slow=39						
MATP	Matopo	70.94	244	P	P	13 28 45.1	+1.0
	comp=Z,16nm,1.4s,mb4.8,baz=53,slow=8.9,SNR=4.2						
ARCES	ARCESS Array B	72.94	340	P	P	13 28 55.2	+0.1
	comp=Z,3.7nm,0.8s,mb4.4,baz=124,slow=4.4,SNR=6.6						
ARCES				LR	LR	14 03 44.0	
	comp=Z,167nm,20.0s,MS4.3,baz=184,slow=38						
BILL	Bilibino	74.11	22	⇓iP	P	13 29 01.5	-0.4
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
BILL				MLR	MLR		
	comp=Z,1µm,19.0s,MS5.1						
BOJS	Bojanci	74.70	314	eP	P	13 29 05.6	-0.1
BOJS				e		13 29 17.0	
PERS	Pernice	74.81	316	eP	P	13 29 06.5	+0.1
LBTB	Lobatse	74.97	241	LR	LR	13 56 31.7	
	comp=Z,18nm,20.4s,MS3.4,baz=3.2,slow=31						
GERES	GERESS Array B	75.81	318	P	P	13 29 11.7	-0.3
	comp=Z,3.2nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=20						
KHC	Kasperske Hory	75.89	318	eP	P	13 29 11.0	-1.5
NOA	NORSAR Array B	77.50	330	P	P	13 29 20.4	-0.8
	comp=Z,2.7nm,1.0s,mb4.1,baz=92,slow=5.6,SNR=4.6						
NOA				LR	LR	14 05 16.2	
	comp=Z,81nm,19.0s,MS4.1,baz=275,slow=37						
LPG	La Plagne	80.67	315	eP	P	13 29 38.9	+0.2
	comp=Z,27nm,1.0s,mb4.8						
URZ	Urewera	91.13	129	LR	LR	14 10 05.0	
	comp=Z,203nm,20.9s,MS4.5,baz=38,slow=35						
ILAR	Eielson Array	92.77	22	P	P	13 30 37.6	+0.2
	comp=Z,1.1nm,1.1s,mb4.2,baz=307,slow=3.9,SNR=4.1						
ILAR				LR	LR	14 18 04.5	
	comp=Z,107nm,19.4s,MS4.3,baz=351,slow=39						
INK	Inuvik	94.90	16	P	P	13 30 47.2	0.0
	comp=Z,1.1nm,1.0s,mb4.2,baz=294,slow=2.0,SNR=3.7						
DBIC	Dimbokro	97.17	278	LR	LR	14 13 16.0	
	comp=Z,67nm,20.4s,MS4.1,baz=100,slow=34						
ULM	Lac du Bonnet	119.23	7	PKP	PKPdf	13 36 14.3	-4.0
	comp=Z,2.2nm,1.1s,baz=20,slow=3.4,SNR=3.1						
NVAR	Mina Array Bea	123.16	30	PKP	PKPdf	13 36 24.1	-2.1
	comp=Z,1.3nm,0.8s,baz=2.7,slow=1.0,SNR=8.5						
PDAR	Pinedale Array	123.17	20	PKP	PKPdf	13 36 22.8	-3.3
	comp=Z,1.1nm,0.8s,baz=45,slow=2.1,SNR=10						
ANMO	Albuquerque	131.22	22	PKP	PKPdf	13 36 38.1	-3.8
	comp=Z,0.8nm,0.8s,baz=21,slow=3.4,SNR=4.1						
TXAR	Lajitas Array	137.28	23	PKP	PKPdf	13 36 49.9	-3.3
	comp=Z,0.9nm,0.9s,baz=243,slow=2.8,SNR=6.2						
BDFB	Brasilia	142.31	258	PKP	PKPdf	13 37 00.3	-2.3
	comp=Z,2.4nm,0.7s,baz=100,slow=6.0,SNR=3.7						
PLCA	Paso Flores	146.54	202	PKPbc	PKPbc	13 37 08.2	+2.6
	comp=Z,3.2nm,0.8s,baz=195,slow=5.2,SNR=7.9						

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*CSEM **05** 13:21:38.0±0.4, 37.96N×26.22W, h5^{km}, ML2.5, Error ellipse: s-maj=7.1km s-min=5.2km az=93.0, After PDA*
*PDA **05** 13:21:38.0±0.7, 37.96N×26.22W, h5^{km}±2^{km}, MD2.4, ML2.5, Error ellipse: s-maj=12.4km s-min=5.8km az=22.0*
SVSA 05 13:21:38.0±0.7**, 37.96N×26.22W, h5^{km}±2^{km}, MD2.4, ML2.5, Error ellipse: s-maj=12.4km s-min=5.8km az=22.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	Mosteiros	0.34	104	eP	Pg	13 21 44.2	-0.7
SET4				i S	Sg	13 21 49.1	-0.4
SET2	Ginetes	0.34	109	eP	Pg	13 21 44.4	-0.5
SET2				i S	Sg	13 21 49.0	-0.6
PFET	Feteiras	0.37	112	eP	Pg	13 21 44.5	-0.9
PFET				i S	Sg	13 21 49.5	-0.8
PSAN	Santo Antonio	0.40	105	i S	Sg	13 21 50.4	-1.1
PSET	Sete Cidades	0.41	109	eS	Sg	13 21 50.5	-1.4
	255nm,0.3s						
FAC	Faja de Cima	0.48	112	i S	Sg	13 21 52.8	-1.4
CML	Cha da Macela	0.56	109	i S	Sg	13 21 54.9	-1.9
PVER	Pico Vermelho	0.58	106	i S	Sg	13 21 54.9	-2.5
	78nm,0.2s						
PMAT	Coroa da Mata	0.61	103	i S	Sg	13 21 56.2	-2.1
	116nm,0.2s						
LFA	Lagoa do Fogo	0.61	107	i S	Sg	13 21 56.1	-2.3
PRCH	Ribeira Ch	0.63	111	i S	Sg	13 21 56.7	-2.2
	215nm,0.3s						
MESC	Monte Escuro	0.63	105	eS	Sg	13 21 56.8	-2.3
VIF	Vila Franca	0.65	109	eS	Sg	13 21 57.5	-2.2
	41nm,0.2s						
PCNG	Congro	0.68	106	eS	Sg	13 21 57.8	-2.8
	66nm,0.3s						
FRA1	Furnas	0.71	107	eS	Sg	13 21 58.6	-3.2
PFAD	Fenais da Ajud	0.72	99	eS	Sg	13 21 58.6	-3.3
MIRA	Miradouro	0.76	103	i S	Sg	13 22 00.1	-3.3

IDC 05 13:22:45.0±6.0**, 20.25S×177.56W, mb3.9**/3**, mb1 4.0**/3**, mb1mx3.7**/14**, mbtmp3.9**/3**, Error ellipse: s-maj=190.8km s-min=95.7km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.27	244	P	P	13 30 07.2	-1.6
	1.6nm,0.8s,baz=61,slow=10,SNR=3.4						
ASAR	Alice Springs	44.98	256	P	P	13 31 02.0	-2.0
	1.1nm,0.6s,baz=100,slow=8.1,SNR=13						
WRA	Warramunga Arr	45.05	262	P	P	13 31 02.8	-1.8
	0.5nm,0.4s,baz=95,slow=7.3,SNR=4.6						
AKASG	Malin Array Be	143.00	332	PKP	PKPdf	13 42 20.1	-2.2
	0.2nm,0.2s,baz=40,slow=4.5,SNR=5.6						

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*NIED **05** 13:25:00, 33.80N×142.60E, h8^{km}, Mw4.1 Best double couple: $M_0$1.65×10^{15} NP1:ϕ_s175°, δ63°, λ-113°. NP2: ϕ_s38°, δ35°, λ-53°.*
*IDC **05** 13:25:45.8±0.6, 33.84N×142.63E, mb4.1/14, mb1 4.3/16, mb1mx4.2/22, mbtmp4.1/16, ML3.8/2, Error ellipse: s-maj=21.2km s-min=16.7km az=104.0*
*JMA **05** 13:25:46.3±0.3, 33.81N×142.60E, h17^{km}, M4.0*
*MOS **05** 13:25:48.4±1.7, 34.00N×142.72E, h33^{km}, mb4.3/3, Error ellipse: s-maj=21.5km s-min=10.3km az=111.7*
*NEIC **05** 13:25:48.0±7.1, 33.85N×142.57E, h14^{km}±43^{km}, mb4.4/2, Error ellipse: s-maj=17.5km s-min=12.5km az=84.0*
*BJI **05** 13:25:50.0, 34.36N×142.40E, h14^{km}, mB4.7, mb4.5*
ISC 05 13:25:46.6±0.5**, 33.86N**±0.04**×142.59E**±0.04**, h17^{km}, n53, σ1^{s}19**/71**, mb4.1**/18**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.55	301	P	Pn	13 26 14.2	+0.5
BSO1				S	Sn	13 26 34.3	+0.7
BSO2	Boso 2	1.76	301	S	Sn	13 26 41.6	+2.7
BSO3	Boso 3	1.96	299	P	Pn	13 26 20.7	+1.1
BSO3				S	Sn	13 26 45.5	+1.6
BSO4	Boso 4	2.18	302	P	Pn	13 26 24.0	+1.3
BSO4				S	Sn	13 26 51.5	+2.1
KTR	Katsuura	2.28	305	P	Pn	13 26 23.8	-0.3
KTR				S	Sn	13 26 54.2	+2.2
CHOJ	Chosi	2.33	323	P	Pn	13 26 26.0	+1.2
CHOJ				S	Sn	13 26 54.9	+1.7
JHJ2	Mitsune	2.44	253	P	Pn	13 26 26.8	+0.4
JHJ2				S	Sn	13 26 55.1	-1.0
JHJ	Hachijo jima 2	2.46	253	Pn	Pn	13 26 26.8	0.0
	39nm,0.3s,baz=75,slow=18,SNR=16						
JHJ				Sn	Sn	13 26 54.0	-2.7
	84nm,0.3s,baz=89,slow=22,SNR=9.2						
JIM2	Oshima 3	2.75	289	P	Pn	13 26 30.7	-0.2
JIM2				eS	Sn	13 27 01.6	-2.5
JOD2	Odawara 2	3.21	297	P	Pn	13 26 37.0	-0.4
JOD2				S	Sn	13 27 14.9	-0.8
JAG	Ashikaga	3.63	316	P	Pn	13 26 43.0	-0.3
JAG				eS	Sn	13 27 25.5	-0.7
JYN	Shimob	3.71	297	P	Pn	13 26 44.4	-0.1
JYN				S	Sn	13 27 27.7	-0.7
JRY	Ryogami san	3.72	306	P	Pn	13 26 44.6	0.0
JRY				S	Sn	13 27 27.8	-0.6
JMM	Marumori	4.25	340	P	Pn	13 26 50.4	-1.8
JMM				eS	Sn	13 27 37.3	-4.7
MAJO	Matsushiro	4.48	308	eP	Pn	13 26 55.4	0.0
MAT	Matsushiro	4.48	308	eP	Pn	13 26 55.0	-0.4
MAT				eS	Sn	13 27 46.0	-1.7
MAT	Matsushiro	4.48	308	P	Pn	13 26 55.4	0.0
MAT				S	Sn	13 27 45.5	-2.2
MAT	Matsushiro	4.48	308	P	Pn	13 26 55.7	+0.3
MAT				S	Sn	13 27 46.9	-0.8
JNS	Sasagawa	4.76	327	P	Pn	13 26 59.8	+0.4
JNS				eS	Sn	13 27 54.0	-0.8
JIE	Ise	4.91	278	P	Pn	13 27 01.7	+0.2
JGM	Miyama	5.17	292	P	Pn	13 27 06.7	+1.5
JMK	Ichinoseki	5.20	348	P	Pn	13 27 03.3	-2.3
JMK				eS	Sn	13 28 00.2	-5.6
JYK	Kaneyama	5.36	341	P	Pn	13 27 06.4	-1.4
JYK				eS	Sn	13 28 07.4	-2.4
JSD	Sado	5.45	321	P	Pn	13 27 07.9	-1.2
CBIJ	Chichi jima	6.75	183	Sn	Sn	13 28 35.5	-9.2
	10nm,0.3s,baz=309,slow=20,SNR=4.2						
ASAJ	Asahikawa	10.24	0	P	P	13 28 11.7	-4.2
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	10.24	0	Pn	P	13 28 11.7	-4.2
	comp=Z,0.9nm,0.3s,baz=260,slow=17,SNR=6.2						
YSS	Yuzh-Sakhalins	13.08	0	eP	P	13 28 50.2	-4.0
YSS				pmax	pmax		
	comp=Z,20nm,1.1s						
YSS	Yuzh-Sakhalins	13.08	0	eP	P	13 28 50.2	-4.0
	comp=Z,20nm,1.1s						
HHC	Hu-ho-hao-te	25.54	295	eP	P	13 31 20.8	+4.9
HHC				AMB	AMB		
	comp=Z,31nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,133nm,4.5s						
ULN	Ulaanbaatar	30.01	308	eP	P	13 31 57.9	+1.4
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ULN	Ulaanbaatar	30.01	308	eP	P	13 31 57.9	+1.4
	comp=Z,4.2nm,0.9s,mb4.2						
SONM	Songino Array	30.43	308	P	P	13 32 01.2	+1.0
	comp=Z,5.1nm,1.1s,mb4.2,baz=106,slow=8.5,SNR=18						
ZAK	Zakamensk	33.05	312	eP	P	13 32 24.3	+1.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
ZAL	Zalesovo	44.81	315	P	P	13 34 02.2	+1.2
	comp=Z,0.8nm,0.5s,mb3.8,baz=33,slow=11,SNR=6.5						
KURK	Kurchatov	48.68	310	eP	P	13 34 30.3	-1.3
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
KURK	Kurchatov	48.68	310	eP	P	13 34 30.3	-1.3
	comp=Z,4.5nm,1.1s,mb4.4						
ILAR	Eielson Array	51.68	31	P	P	13 34 53.9	-0.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=248,slow=6.0,SNR=5.8						
CHKZ	Chkalovo	53.21	315	P	P	13 35 03.2	-2.7
WRA	Warramunga Arr	54.08	190	P	P	13 35 11.7	-1.0
	comp=Z,3.3nm,0.7s,mb4.4,baz=8.2,slow=7.7,SNR=17						
ASAR	Alice Springs	57.80	189	P	P	13 35 38.7	-0.8
	comp=Z,1.9nm,0.9s,mb4.1,baz=7.2,slow=4.9,SNR=12						
STKA	Stephens Creek	65.39	181	P	P	13 36 30.4	-0.1
	comp=Z,1.6nm,0.8s,mb4.1,baz=8.1,slow=7.1,SNR=2.9						
YKA	Yellowknife Ar	66.07	30	P	P	13 36 33.9	-0.3
	comp=Z,0.5nm,0.7s,mb3.6,baz=296,slow=6.4,SNR=7.6						
FINES	FINESS Array B	72.07	333	P	P	13 37 11.2	-0.1
	comp=Z,1.5nm,0.7s,mb4.0,baz=63,slow=4.3,SNR=5.9						
NVAR	Mina Array Bea	76.12	53	P	P	13 37 35.9	+0.7
	comp=Z,1.2nm,0.8s,mb3.9,baz=277,slow=7.2,SNR=5.4						
AKASG	Malin Array Be	77.40	323	P	P	13 37 41.9	-0.1
	comp=Z,1.0nm,0.5s,mb4.0,baz=46,slow=5.8,SNR=7.4						
AKASG	Malin Array Be	77.40	323	P	P	13 37 41.9	-0.1
NB2	NORSAR Subarra	77.48	338	P	P	13 37 42.5	+0.3
	comp=Z,2.3nm,0.7s,mb4.2,baz=39,slow=5.6						
NOA	NORSAR Array B	77.48	338	P	P	13 37 42.9	+0.7
	comp=Z,3.9nm,1.1s,mb4.3,baz=39,slow=5.6,SNR=6.9						
PDAR	Pinedale Array	79.20	46	P	P	13 37 53.4	+1.3
	comp=Z,0.5nm,0.6s,mb3.6,baz=278,slow=3.0,SNR=3.6						
FRB	Frobisher Bay	79.63	14	P	P	13 37 54.5	+0.5
	comp=Z,3.5nm,0.9s,mb4.3,baz=12,slow=6.4,SNR=4.0						
TXAR	Lajitas Array	91.27	53	P	P	13 38 53.8	+1.3
	comp=Z,0.4nm,0.6s,mb4.0,baz=302,slow=2.9,SNR=7.7						
LPAZ	La Paz	147.30	65	PKPbc	PKPdf	13 45 32.8	+1.7
	comp=Z,1.6nm,0.8s,baz=356,slow=8.2,SNR=7.1						

IDC 05 13:30:21.8±1.2**, 10.13N×93.45E, mb3.7**/7**, mb1 4.0**/8**, mb1mx3.8**/18**, mbtmp3.7**/8**, ML3.9**/1**, Error ellipse: s-maj=45.2km s-min=20.6km az=59.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.84	32	Pn	P	13 32 46.1	-1.6
	0.3nm,0.3s,baz=222,slow=15,SNR=3.4						
SONM	Songino Array	39.14	14	P	P	13 37 51.0	-1.8
	0.3nm,0.6s,baz=200,slow=11,SNR=3.4						
ZAL	Zalesovo	44.24	353	P	P	13 38 32.0	-2.5
	1.6nm,0.3s,baz=316,slow=6.7,SNR=5.9						
BVAR	Borovoye Array	46.65	341	P	P	13 38 50.8	-2.9
	0.3nm,0.4s,baz=135,slow=8.4,SNR=3.7						
WRA	Warramunga Arr	50.13	127	P	P	13 39 19.2	-2.0
	0.4nm,0.6s,baz=305,slow=8.6,SNR=4.8						
ASAR	Alice Springs	51.88	131	P	P	13 39 32.2	-2.3
	0.5nm,0.7s,baz=302,slow=6.7,SNR=12						
ARCES	ARCESS Array B	72.93	340	P	P	13 41 53.2	-1.3
	3.4nm,1.0s,baz=98,slow=6.4,SNR=3.2						
GERES	GERESS Array B	75.71	318	P	P	13 42 09.9	-1.0
	0.4nm,0.7s,baz=135,slow=4.2,SNR=3.6						

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*NEIC **05** 13:36:31.2, 16.74N×100.04W, h9^{km}, MD4.2(MEX), After MEX.*
MEX 05 13:36:31.4±1.0**, 16.76N×100.04W, h11^{km}**±5^{km}**, MD4.2, 2C-2D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	47	⇓iP	Pg	13 36 34.5	-0.6
ACX				eS	Sg	13 36 37.5	-0.1
ACX	Acapulco	0.16	47	⇓iP	Pg	13 36 34.5	-0.6
ACX				i S	Sg	13 36 37.3	-0.3
CAIG	El Cayaco	0.36	323	⇑iP	Pg	13 36 37.9	-1.0
CAIG				eS	Sg	13 36 43.9	-0.1
ZIIG	Zihuatanejo	1.60	302	eP	Pn	13 36 56.4	-3.5
ZIIG				eS	Sn	13 37 16.4	-4.3
PLIG	Platanillo	1.71	17	⇑iP	Pn	13 36 56.1	-5.3
PLIG				eS	Sn	13 37 17.1	-6.1
PNIG	Pinotepa	1.87	101	eP	Pn	13 36 59.3	-4.3
PNIG				eS	Sn	13 37 22.8	-4.6
YAIG	Yautepec	2.29	24	i P	Pn	13 37 03.1	-6.6
YAIG				eS	Sn	13 37 33.0	-5.1
PPM	Popocatepetl	2.66	30	eP	Pn	13 37 08.2	-6.8
PPM				eP		13 37 09.5	
PPM				eS	Sn	13 37 43.0	-4.5
PPM				i S	Sn	13 37 44.6	-3.0
UNM	Universidad Na	2.69	18	eP	Pn	13 37 17.5	+2.1
UNM				eS	Sn	13 37 51.5	+3.3
IIB	San Bernardino	2.72	36	eP	Pn	13 37 12.9	-3.0
IIB				eS	Sn	13 37 46.9	-2.3
MOIG	Morelia	3.10	340	eP	Pn	13 37 18.9	-2.4
MOIG				eS	Sn	13 38 01.9	+3.1
MOIG	Morelia	3.10	340	eP	Pn	13 37 17.9	-3.4
MOIG				i S	Sn	13 37 54.1	-4.7
VHO	Vista Hermosa	3.18	84	eP	Pn	13 37 19.1	-3.3
VHO				eS	Sn	13 37 56.8	-3.9
OXX	Oaxaca	3.19	84	eP	Pn	13 37 21.5	-1.0
OXX				eS	Sn	13 37 59.0	-1.9
OXX	Oaxaca	3.19	84	eP	Pn	13 37 18.0	-4.5
OXX				eS	Sn	13 37 57.5	-3.4
IISM	Ciudad Serdan	3.37	48	eP	Pn	13 37 18.0	-7.1
IISM				eS	Sn	13 38 03.3	-2.2
SFJM	Santa Fe	4.67	323	eP	Pn	13 37 45.5	+1.9
SFJM				eS	Sn	13 38 36.0	-2.5
SFJM	Santa Fe	4.67	323	eP	Pn	13 37 42.5	-1.1
SFJM				eS	Sn	13 38 36.0	-2.5
CMIG	Matias Romero	4.95	85	eP	Pn	13 37 46.6	-0.8
CMIG				i S	Sn	13 38 42.5	-2.8
CMIG	Matias Romero	4.95	85	eP	Pn	13 37 46.1	-1.3
CMIG				i S	Sn	13 38 40.0	-5.3

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*IDC **05** 13:50:04.1±2.5, 51.50N×178.74E, mb3.6/7, mb1 3.9/8, mb1mx3.9/8, mbtmp3.7/8, ML3.7/1, Error ellipse: s-maj=62.4km s-min=15.2km az=4.0*
*NEIC **05** 13:50:08.0±7.1, 51.58N×178.62E, h29^{km}±53^{km}, mb3.9/1, Error ellipse: s-maj=37.9km s-min=18.1km az=181.0*
ISC 05 13:50:05.8±7.0**, 51.5N**±0.3**×178.7E**±0.2**, h26^{km}**±54^{km}**, n11, σ1^{s}12**/12**, mb3.7**/8**, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	3.64	294	Pn	Pn	13 51 01.1	-0.7
	21nm,0.3s,baz=218,slow=4.6,SNR=37						
FX1				Sn	Sn	13 51 48.4	+3.9
	2.5nm,0.3s,baz=227,slow=20,SNR=2.2						
FX1	Attu Island--F	3.64	294	eP	Pn	13 51 01.9	0.0
IMA	Indian Mountai	20.17	33	P	P	13 54 37.5	-3.2
ILAR	Eielson Array	22.14	40	P	P	13 55 02.1	+1.4
	0.5nm,0.5s,mb3.2,baz=237,slow=8.5,SNR=9.9						
INK	Inuvik	28.26	36	P	P	13 55 59.1	+0.8
	2.3nm,1.3s,mb3.6,baz=242,slow=7.6,SNR=3.5						
YKA	Yellowknife Ar	36.28	46	P	P	13 57 08.5	+0.1
	0.2nm,0.4s,mb3.4,baz=284,slow=7.7,SNR=8.9						
NVAR	Mina Array Bea	45.11	81	P	P	13 58 22.1	+0.7
	0.3nm,0.6s,mb3.3,baz=292,slow=4.9,SNR=2.9						
BW06	Boulder Array	47.77	71	P	P	13 58 42.1	-0.3
	0.8nm,0.6s,mb3.9						
PDAR	Pinedale Array	47.77	71	P	P	13 58 42.4	0.0
	0.7nm,0.7s,mb3.8,baz=309,slow=3.2,SNR=7.2						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**57.66**	**349**	P	**P**	**13 59 54.6**	**-0.9**
	4.5nm,0.8s,mb4.5,baz=30,slow=9.8,SNR=5.7						
FINES	**FINESS Array B**	**65.27**	**346**	P	**P**	**14 00 45.8**	**-0.9**
	1.3nm,0.9s,mb4.0,baz=34,slow=5.0,SNR=5.2						

IDC 05 13:52:05.9±1.4**, 4.87N**×**94.86E, mb3.9**/7**, mb1 4.1**/8**, mb1mx4.0**/17**, mbtmp3.9**/8**, ML3.9**/1**, Error ellipse: s-maj=69.3km s-min=21.2km az=53.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.08**	**16**	Pn	P	13 55 37.0	+7.8
	0.2nm,0.3s,baz=211,slow=12,SNR=20						
SONM	**Songino Array**	**43.94**	**11**	P	P	14 00 14.4	-1.9
	1.5nm,1.1s,baz=188,slow=9.2,SNR=5.7						
WRA	**Warramunga Arr**	**45.98**	**124**	P	P	14 00 31.1	-1.9
	1.8nm,0.8s,baz=302,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**47.47**	**128**	P	P	14 00 43.0	-1.8
	0.6nm,0.6s,baz=299,slow=8.1,SNR=8.1						
ZAL	**Zalesovo**	**49.60**	**352**	P	P	14 00 59.1	-1.7
	1.1nm,0.3s,baz=331,slow=3.8,SNR=5.2						
FINES	**FINESS Array B**	**75.69**	**332**	P	P	14 03 53.0	-1.7
	1.2nm,0.7s,baz=100,slow=8.5,SNR=4.6						
ARCES	**ARCESS Array B**	**78.32**	**340**	P	P	14 04 07.7	-1.5
	2.2nm,0.8s,baz=100,slow=6.4,SNR=5.6						
GERES	**GERESS Array B**	**80.53**	**319**	P	P	14 04 20.3	-1.3
	0.4nm,0.6s,baz=45,slow=1.9,SNR=4.1						

*CASC **05** 13:52:44.1±1.9, 15.63N×93.99W, h20^{km}±999^{km}, MD4.8, mb4.2(NEIC)*
*NEIC **05** 13:52:45.8±0.7, 15.78N×93.78W, mb4.2/2, MD4.5(MEX), Error ellipse: s-maj=16.1km s-min=8.3km az=204.0*
*MEX **05** 13:52:46.2±1.1, 15.77N×93.81W, h96^{km}±18^{km}, MD4.5*
*IDC **05** 13:52:48.6±1.6, 16.29N×93.19W, h93^{km}±6^{km}, mb3.8/9, mb1 4.0/11, mb1mx3.7/24, mbtmp4.1/11, MS3.2/1, Ms1 3.2/1, ms1mx2.2/22, Error ellipse: s-maj=62.1km s-min=14.6km az=45.0*
ISC 05 13:52:45.2±0.3**, 15.89N**±0.04×**93.83W**±0.03**, h97**^{km}±5^{km}**, h92**^{km}±2.7^{km}**:pP-P, n44,** σ**1^{s}10**/61**, mb4.0**/9**, 3C-4D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.57**	**320**	*i* P	**P**	**13 53 13.8**	**+1.2**
CMIG				*i* S	**S**	**13 53 35.3**	**+2.4**
CCIG	**Comitan**	**1.68**	**76**	*e*P	**P**	**13 53 14.4**	**+0.3**
CCIG				*e*S	**S**	**13 53 34.2**	**-1.0**
HUIG	**Huatulco**	**2.19**	**267**	*e*P	**P**	**13 53 19.8**	**-1.0**
HUIG				*e*S	**S**	**13 53 45.9**	**-1.4**
TUIG	**Tuzandepetl**	**2.21**	**345**	*e*P	**P**	**13 53 21.6**	**+0.6**
TUIG				*i* S	**S**	**13 53 47.1**	**-0.5**
TUIG	**Tuzandepetl**	**2.21**	**345**	*e*P	**P**	**13 53 21.6**	**+0.6**
TUIG				*i* S	**S**	**13 53 48.3**	**+0.6**
JAT	**Jato**	**2.63**	**126**	⇓*e*P	**P**	**13 53 27.1**	**+0.2**
JAT				*e*S	**S**	**13 53 58.1**	**+0.1**
EVV	**El Vigia**	**2.94**	**331**	*e*P	**P**	**13 53 31.0**	**-0.1**
EVV				*e*S	**S**	**13 54 00.0**	**-5.6**
EVV	**El Vigia**	**2.94**	**331**	*e*P	**P**	**13 53 31.0**	**-0.1**
EVV				*e*S	**S**	**13 54 07.5**	**+1.9**
OXX	**Oaxaca**	**3.02**	**294**	*e*P	**P**	**13 53 33.0**	**+0.8**
OXX				*e*S	**S**	**13 54 06.0**	**-1.5**
VHO	**Vista Hermosa**	**3.02**	**293**	*i* P	**P**	**13 53 32.8**	**+0.6**
VHO				*i* S	**S**	**13 54 05.2**	**-2.4**
VHO	**Vista Hermosa**	**3.02**	**293**	*i* P	**P**	**13 53 32.8**	**+0.6**
VHO				*i* S	**S**	**13 54 08.2**	**+0.5**
IXG	**Ixpaco**	**3.68**	**117**	*e*P	**P**	**13 53 40.8**	**-0.4**
IXG				*e*S	**S**	**13 54 24.0**	**+0.2**
SCIG		**3.97**	**39**	⇑*i*P	**P**	**13 53 45.0**	**-0.2**
SCIG				*i* S	**S**	**13 54 30.2**	**-0.8**
SBLS	**San Blas**	**4.55**	**116**	⇓*e*P	**P**	**13 53 54.3**	**+1.1**
SBLS				*e*S	**S**	**13 54 46.2**	**+0.9**
SNJE	**San Jose**	**4.55**	**116**	*e*P	**P**	**13 53 53.0**	**-0.2**
LFRS	**El Faro**	**5.13**	**115**	*e*P	**P**	**13 54 01.1**	**-0.1**
LFRS				*e*S	**S**	**13 55 01.3**	**+1.7**
LCBS	**La Ceiba**	**5.19**	**115**	⇓*e*P	**P**	**13 54 02.0**	**0.0**
SNVI	**San Vicente**	**5.33**	**114**	*e*P	**P**	**13 54 04.1**	**+0.2**
PPM	**Popocatepetl**	**5.56**	**305**	*i* P	**P**	**13 54 06.2**	**-0.8**
PPM				*e*S	**S**	**13 55 10.2**	**0.0**
PPM	**Popocatepetl**	**5.56**	**305**	*i* P	**P**	**13 54 06.2**	**-0.8**
PPM				*e*P		13 54 11.0	
PPM				*e*S	**S**	**13 55 10.2**	**0.0**
VSM	**San Miguel**	**5.91**	**114**	*e*P	**P**	**13 54 12.1**	**+0.4**
BLLM	**Bellamira**	**5.93**	**113**	⇑*i*P	**P**	**13 54 10.8**	**-1.2**
TEIG	**Tepich**	**6.83**	**50**	*e*P	**P**	**13 54 21.7**	**-2.7**
	106nm,0.4s						
JTS	**JuntasAbangare**	**10.28**	**122**	Pn	**P**	**13 55 09.8**	**-1.5**
	239nm,0.4s,SNR=10						
JTS	**JuntasAbangare**	**10.28**	**122**	P	**P**	**13 55 10.2**	**-1.1**
	7.9nm,0.3s,baz=312,slow=17,SNR=23						
JTS	**JuntasAbangare**	**10.28**	**122**	*e*P	**P**	**13 55 09.1**	**-2.2**
PRS1	**Puriscal**	**10.98**	**121**	*e*P	**P**	**13 55 21.3**	**+0.7**
LCR2	**La Lucha 2**	**11.36**	**121**	⇑*e*P	**P**	**13 55 26.0**	**+0.2**
BUS	**Buena Vista**	**11.67**	**121**	⇓*e*P	**P**	**13 55 30.1**	**+0.3**
SOR	**Soroa**	**12.31**	**54**	*e*P	**P**	**13 55 35.7**	**-2.6**
	baz=239						
SOR				*e*S	**S**	**13 57 47.7**	**-6.0**
	comp=N,1μm,0.6s						
	comp=E,1μm,0.6s						
TXAR	**Lajitas Array**	**16.16**	**328**	P	**P**	**13 56 31.7**	**+3.9**
	comp=E,0.1nm,0.3s,baz=152,slow=14,SNR=7.9						
AMTX	**Amarillo**	**20.19**	**341**	*e*P	**P**	**13 57 15.4**	**+1.1**
	comp=E,14nm,0.7s						
ANMO	**Albuquerque**	**22.11**	**332**	P	**P**	**13 57 36.1**	**+2.6**
	comp=E,0.8nm,0.5s,mb3.3,baz=153,slow=9.4,SNR=4.4						
SDV	**Santo Domingo**	**23.69**	**104**	P	**P**	**13 57 49.2**	**+0.2**
	comp=E,5.2nm,0.7s,mb4.0,baz=324,slow=8.1,SNR=8.8						
SDV	**Santo Domingo**	**23.69**	**104**	*e*P	**P**	**13 57 49.2**	**+0.1**
	comp=E,4.1nm,0.6s,mb3.9						
SJG	**San Juan**	**26.56**	**81**	LR	LR	14 08 36.2	
	comp=E,46nm,19.1s,baz=274,slow=37						
NVAR	**Mina Array Bea**	**31.10**	**321**	P	**P**	**13 58 59.6**	**+3.0**
	comp=E,1.7nm,0.7s,mb3.9,baz=119,slow=9.5,SNR=13						
NVAR				pP	pP	13 59 22.0	+3.3
	comp=E,0.9nm,0.5s,baz=135,slow=12,SNR=4.1						
ULM	**Lac du Bonnet**	**34.32**	**358**	P	**P**	**13 59 22.5**	**-1.7**
	comp=E,1.5nm,0.6s,mb4.0,baz=167,slow=8.5,SNR=4.6						
YKA	**Yellowknife Ar**	**48.80**	**347**	P	**P**	**14 01 22.1**	**0.0**
	comp=E,2.3nm,0.5s,mb4.3,baz=153,slow=7.3,SNR=74						
YKA				pP	pP	14 01 43.3	-2.3
	comp=E,0.6nm,0.6s,baz=150,slow=7.6,SNR=3.1						
YKA	**Yellowknife Ar**	**48.80**	**347**	P	**P**	**14 01 22.1**	**0.0**
YKA				pP	pP	14 01 43.3	-2.3
BDFB	**Brasilia**	**55.02**	**123**	P	**P**	**14 02 07.6**	**-1.7**
	comp=E,4.7nm,0.7s,mb4.6,baz=284,slow=11,SNR=5.8						
INK	**Inuvik**	**58.14**	**344**	P	**P**	**14 02 30.6**	**-0.2**
	comp=E,1.8nm,0.7s,mb4.2,baz=124,slow=5.6,SNR=16						
INK				pP	pP	14 02 53.3	-1.6
	comp=E,2.6nm,0.6s,baz=138,slow=8.6,SNR=7.0						
ILAR	**Eielson Array**	**60.42**	**337**	P	**P**	**14 02 46.6**	**+0.2**
	comp=E,0.5nm,0.9s,mb3.5,baz=119,slow=4.7,SNR=7.5						
ILAR				pP	pP	14 03 10.2	-0.7
	comp=E,0.5nm,0.6s,baz=131,slow=5.0,SNR=4.8						
ARCES	**ARCESS Array B**	**84.91**	**18**	P	**P**	**14 05 10.7**	**+0.6**
	comp=E,5.5nm,1.0s,mb4.4,baz=297,slow=5.4,SNR=8.7						

*IDC **05** 14:02:32.6±1.3, 5.48N×93.19E, mb4.1/8, mb1 4.3/9, mb1mx4.1/17, mbtmp4.0/9, ML4.1/1, Error ellipse: s-maj=59.4km s-min=20.4km az=52.0*
*NEIC **05** 14:02:36.3±0.8, 5.27N×92.94E, h30^{km}, mb4.6/1, Error ellipse: s-maj=24.6km s-min=14.8km az=63.0*
ISC 05 14:02:34.6±0.9**, 5.3N**±0.1×**93.0E**±0.2**, h30**^{km}**, n11,** σ**0^{s}88**/11**, mb4.1**/10**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.34**	**24**	Pn	**P**	**14 05 58.8**	**+1.0**
	0.3nm,0.3s,baz=228,slow=14,SNR=5.8						
SONM	**Songino Array**	**43.94**	**13**	P	**P**	**14 10 39.0**	**-1.6**
	1.1nm,0.7s,mb3.7,baz=195,slow=8.2,SNR=9.5						
SONM				PcP	PcP	14 12 26.7	0.0
	0.3nm,0.4s,baz=205,slow=3.8,SNR=4.9						
WRA	**Warramunga Arr**	**47.78**	**123**	P	**P**	**14 11 11.3**	**-0.2**
	3.7nm,0.7s,mb4.5,baz=302,slow=9.1,SNR=40						
ZAL	**Zalesovo**	**48.96**	**354**	P	**P**	**14 11 19.8**	**-0.4**
	1.5nm,0.4s,mb4.4,baz=290,slow=7.0,SNR=4.9						
ASAR	**Alice Springs**	**49.22**	**127**	P	**P**	**14 11 22.6**	**0.0**
	0.9nm,0.5s,mb4.0,baz=297,slow=7.8,SNR=8.7						
CHKZ	**Chkalovo**	**51.58**	**343**	*e*P	**P**	**14 11 39.5**	**-0.7**
	3.1nm,0.4s,mb4.6						
JOF	**Joensuu**	**72.68**	**335**	*e*p	**P**	**14 14 00.1**	**-1.2**
	1.2nm,0.5s,mb4.1						
FINES	**FINESS Array B**	**74.45**	**333**	P	**P**	**14 14 11.8**	**+0.2**
	1.7nm,0.7s,mb4.1,baz=87,slow=5.5,SNR=8.4						
ARCES	**ARCESS Array B**	**77.30**	**341**	P	**P**	**14 14 28.2**	**+0.7**
	1.1nm,0.5s,mb4.0,baz=106,slow=5.5,SNR=11						
GERES	**GERESS Array B**	**78.97**	**319**	P	**P**	**14 14 38.6**	**+1.4**
	0.6nm,0.5s,mb3.8,baz=90,slow=5.3,SNR=7.2						
ILAR	**Eielson Array**	**97.57**	**22**	P	**P**	**14 16 07.7**	**+0.7**
	0.3nm,0.6s,mb4.0,baz=304,slow=2.6,SNR=5.9						

*NEIC **05** 14:03:09.2±1.5, 11.30S×166.88E, h10^{km}, mb4.6/3, Error ellipse: s-maj=50.8km s-min=17.4km az=130.0*
*IDC **05** 14:03:23.1±11.0, 11.52S×166.72E, h122^{km}±102^{km}, mb3.7/7, mb1 3.9/7, mb1mx3.8/15, mbtmp4.1/7, Error ellipse: s-maj=58.9km s-min=38.5km az=120.0*
ISC 05 14:03:19.8±1.9**, 11.4S**±0.3×**166.6E**±0.3**, h100**^{km}**, n13,** σ**0^{s}85**/11**, mb4.1**/10**, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**21.37**	**244**	P	**P**	**14 08 02.4**	**+1.7**
	4.4nm,1.0s,mb3.7,baz=68,slow=14,SNR=6.7						
STKA	**Stephens Creek**	**30.77**	**225**	P	**P**	**14 09 28.4**	**+0.4**
	2.9nm,1.1s,mb3.9,baz=63,slow=14,SNR=2.9						
WRA	**Warramunga Arr**	**32.14**	**251**	P	**P**	**14 09 39.3**	**-0.8**
	3.7nm,0.8s,mb4.1,baz=84,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**33.38**	**244**	P	**P**	**14 09 49.7**	**-1.1**
	4.4nm,0.7s,mb4.4,baz=72,slow=9.4,SNR=57						
ASAR				PcP	PcP	14 12 29.5	-0.8
	0.4nm,0.6s,baz=75,slow=2.2,SNR=4.6						
ASPA	**Alice Springs**	**33.38**	**244**	*e*P	**P**	**14 09 49.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**40.09**	**255**	*e*P	**P**	**14 10 47.6**	**+0.4**
	7.2nm,1.4s,mb4.3						
MBWA	**Marble Bar**	**45.87**	**252**	*e*P	**P**	**14 11 34.3**	**+0.3**
	5.1nm,0.6s,mb4.4						
ENH	**Enshi**	**68.75**	**309**	*e*P	**P**	**14 14 14.4**	**-0.8**
	3.7nm,0.5s,mb4.5						
CMAR	**Chiang Mai Arr**	**73.00**	**293**	P	**P**	**14 14 41.9**	**+0.9**
	5.7nm,1.1s,mb4.3,baz=128,slow=4.5,SNR=12						
SONM	**Songino Array**	**79.42**	**324**	P	**P**	**14 15 16.9**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=143,slow=5.6,SNR=5.7						
ILAR	**Eielson Array**	**83.57**	**18**	P	**P**	**14 15 37.6**	**-0.1**
	0.6nm,0.9s,mb3.4,baz=234,slow=4.3,SNR=7.0						
ARCES	**ARCESS Array B**	**116.86**	**346**	PKP	PKPdf	14 21 52.0	-0.2
	1.6nm,0.8s,baz=68,slow=3.1,SNR=7.0						
ARCES	**ARCESS Array B**	**116.86**	**346**	PKP	PKPdf	14 21 52.0	-0.2

MAN 05 14:07:52.0, 13.18N×**123.01E, h27**^{km}**, mb4.1, ML2.9, MS2.5, 1C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.35**	**293**	*e*P	Pb	14 08 00.5	+0.6
GQP	**Guinayangan**	**0.90**	**323**	*e*P	Pb	14 08 09.3	+0.4
GQP				*i* S	Sb	14 08 28.0	+7.5
MMPH	**Masbate**	**1.02**	**144**	*e*P	Pn	14 08 10.5	-0.1
BOAC	**Boac**	**1.16**	**284**	*e*P	Pn	14 08 10.5	-2.2
BOAC				*e*S	Sn	14 08 27.8	0.0
PVCP	**Virac**	**1.19**	**70**	*e*P	Pn	14 08 12.1	-1.0
LQP	**Lukban**	**1.70**	**303**	⇑*e*P	Pn	14 08 20.9	+0.5

*BJI **05** 14:40:50.8, 37.16N×68.10E, h55^{km}, ML3.9*
*NEIC **05** 14:40:53.5±0.8, 36.56N×68.28E, h55^{km}, mb4.0/10, Error ellipse: s-maj=18.7km s-min=8.8km az=225.0*
*NNC **05** 14:40:53.1±5.1, 37.37N×67.74E, mpv4.2, Error ellipse: s-maj=45.5km s-min=39.7km az=170.0*
*MOS **05** 14:40:55.1±0.8, 37.36N×67.93E, h33^{km}, mb4.3/3, Error ellipse: s-maj=23.2km s-min=10.6km az=77.3*
*IDC **05** 14:40:59.0±8.1, 37.47N×68.06E, h48^{km}±70^{km}, mb3.5/8, mb1 3.8/9, mb1mx3.6/19, mbtmp3.8/9, ML3.9/1, MS3.4/2, Ms1 3.3/2, ms1mx2.9/17, Error ellipse: s-maj=48.0km s-min=22.9km az=14.0*
ISC 05 14:40:47.2±1.8**, 36.88N**±0.04×**68.03E**±0.07**, h2**^{km}±13^{km}**, n52,** σ**0^{s}94**/59**, mb3.6**/8**, MS3.3**/2**, 5C-3D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.40**	**133**	P	**Pn**	**14 41 56.5**	**0.0**
CEP				S	**Sn**	**14 42 50.0**	**+1.0**
THW	**Thamme Wali**	**5.09**	**142**	P	**Pn**	**14 42 05.9**	**-0.4**
CHCP	**Chirah Chowk**	**5.35**	**125**	P	**Pn**	**14 42 09.1**	**-0.9**
DRP	**Derazinda**	**5.43**	**160**	P	**Pn**	**14 42 11.0**	**0.0**
KSH	**Kashi**	**6.79**	**65**	P	**Pn**	**14 42 30.6**	**+0.4**
KSH				S	**Sn**	**14 43 48.8**	**-0.2**
KSH				Smax			
	comp=N,60nm,0.6s						
KSH				Smax			
	comp=E,60nm,0.6s						
AML	**Almayashu**	**6.83**	**38**	P	**Pn**	**14 42 31.9**	**+1.0**
	SNR=52						
EKS2	**Erkin-Say**	**7.27**	**36**	P	**Pn**	**14 42 38.5**	**+1.4**
	SNR=15						
UCH	**Uchtor**	**7.32**	**41**	P	**Pn**	**14 42 38.6**	**+0.9**
	SNR=72						
AAK	**Ala-Archa**	**7.60**	**39**	P	**Pn**	**14 42 42.5**	**+0.8**
	SNR=24						
AAK	**Ala-Archa**	**7.60**	**39**	⇑P	**Pn**	**14 42 42.3**	**+0.6**
	comp=E,6.1nm,0.4s						
AAK				⇑S	**Sn**	**14 44 08.7**	**-0.7**
	comp=E,16nm,0.8s						
AAK	**Ala-Archa**	**7.60**	**39**	Pn	**Pn**	**14 42 41.7**	**+0.1**
	comp=E,150nm,0.4s,SNR=25						
AAK	**Ala-Archa**	**7.60**	**39**	P	**Pn**	**14 42 42.3**	**+0.7**
AAK				S	**Sn**	**14 44 09.1**	**-0.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AAK				smax			
	comp=E,12nm,0.8s						
AAK	**Ala-Archa**	**7.60**	**39**	*e*P	**Pn**	**14 42 41.3**	**-0.4**
	comp=E,9.8nm,0.5s						
KZA	**Kyzart**	**7.62**	**45**	P	**Pn**	**14 42 42.3**	**+0.4**
	SNR=114						
KBK	**Karagaybulak**	**7.85**	**41**	P	**Pn**	**14 42 46.4**	**+1.2**
	SNR=54						
CHMS	**Chumysh**	**8.00**	**38**	P	**Pn**	**14 42 47.5**	**+0.3**
	SNR=12						
USP	**Ospenovka**	**8.08**	**36**	P	**P**	**14 42 48.7**	**+0.4**
	SNR=7.9						
ULHL	**Ulahol**	**8.30**	**47**	P	**P**	**14 42 51.1**	**-0.3**
	SNR=13						
TKM2	**Tokmak 2**	**8.38**	**42**	P	**P**	**14 42 53.1**	**+0.7**
	SNR=7.4						
MK31	**Makanchi Array**	**14.51**	**42**	⇓P	**P**	**14 44 13.6**	**-1.8**
	comp=E,4.2nm,0.8s,baz=232,slow=13,SNR=45						
MKAR	**Makanchi Array**	**14.51**	**42**	*i* P	**P**	**14 44 13.9**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**15.78**	**25**	⇓P	**P**	**14 44 34.4**	**+2.4**
	comp=Z,4.6nm,1.5s,baz=274,slow=17,SNR=6.3						
KURK	**Kurchatov**	**15.78**	**25**	*e*P	**P**	**14 44 35.7**	**+3.8**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	**Kurchatov**	**15.78**	**25**	*e*P	**P**	**14 44 35.7**	**+3.8**
	comp=Z,3.2nm,0.8s						
KOLN	**Koldanda**	**15.97**	**120**	*e*P	**P**	**14 44 30.2**	**-4.4**
	comp=Z,4.0nm,0.3s						
BVA0	**Borovoye Array**	**16.23**	**5**	⇑P	**P**	**14 44 37.1**	**-0.6**
	comp=Z,1.1nm,1.1s,baz=179,slow=13,SNR=17						
BVA0				⇑S	**S**	**14 47 32.2**	**-6.0**
	comp=Z,1.2nm,1.4s,baz=199,slow=27,SNR=3.5						
BVA0	**Borovoye Array**	**16.23**	**5**	*i* P	**P**	**14 44 37.0**	**-0.7**
BVA0				*e*S	**S**	**14 47 32.2**	**-6.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BVA0				smax			
	comp=E,2.0nm,1.4s						
BVAR	**Borovoye Array**	**16.23**	**5**	P	**P**	**14 44 36.7**	**-1.0**
	comp=E,0.5nm,0.3s,baz=180,slow=16,SNR=10						
GKN	**Gorkha**	**16.56**	**118**	*e*P	**P**	**14 44 38.0**	**-4.0**
	comp=E,16nm,0.3s						
CHKZ	**Chkalovo**	**16.89**	**5**	⇓P	**P**	**14 44 45.8**	**-0.4**
	comp=E,4.5nm,1.1s						
CHKZ				⇑S	**S**	**14 47 47.1**	**-6.5**
	comp=E,3.1nm,1.0s						
CHKZ	**Chkalovo**	**16.89**	**5**	P	**P**	**14 44 45.7**	**-0.4**
CHKZ				S	**S**	**14 47 47.2**	**-6.4**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CHKZ				smax			
	comp=E,7.0nm,1.7s						
CHKZ	**Chkalovo**	**16.89**	**5**	*e*P	**P**	**14 44 45.9**	**-0.2**
	comp=E,39nm,0.6s						
DMN	**Daman**	**17.13**	**118**	*e*P	**P**	**14 44 45.3**	**-3.9**
	comp=E,9.6nm,0.4s						
KKN	**Kakani**	**17.14**	**117**	*e*P	**P**	**14 44 45.3**	**-4.1**
	comp=E,9.7nm,0.4s						
PKI	**Pulchoki**	**17.36**	**117**	*e*P	**P**	**14 44 47.7**	**-4.5**
	comp=E,15nm,0.7s						
JIRN	**Jiri**	**17.87**	**116**	*e*P	**P**	**14 44 54.9**	**-3.6**
	comp=E,13nm,0.4s						
ZAL	**Zalesovo**	**20.64**	**29**	P	**P**	**14 45 28.9**	**-1.5**
	comp=E,3.4nm,0.4s,baz=258,slow=9.3,SNR=11						
ZAL				LR	LR	14 55 01.3	
	comp=E,29nm,20.1s,MS2.6,baz=119,slow=42						
NVS	**Novosibirsk**	**20.77**	**25**	*e*P	**P**	**14 45 30.0**	**-1.7**
SONM	**Songino Array**	**30.10**	**56**	P	**P**	**14 46 60.0**	**-0.1**
	comp=E,0.2nm,0.6s,mb3.0,baz=270,slow=8.6,SNR=2.4						
ENH	**Enshi**	**34.95**	**89**	P	**P**	**14 47 49.5**	**+6.9**
FINES	**FINESS Array B**	**35.85**	**327**	P	**P**	**14 47 49.9**	**+0.1**
	comp=E,1.6nm,0.9s,mb3.9,baz=135,slow=8.1,SNR=5.9						
GERES	**GERESS Array B**	**40.76**	**305**	P	**P**	**14 48 31.9**	**+0.9**
	comp=E,0.4nm,0.6s,mb3.2,baz=76,slow=8.1,SNR=3.7						
NB2	**NORSAR Subarra**	**42.64**	**323**	P	**P**	**14 48 45.9**	**-0.3**
	comp=E,1.3nm,0.5s,mb3.9,baz=100,slow=7.9						
NB2	**NORSAR Subarra**	**42.64**	**323**	P	**P**	**14 48 45.9**	**-0.3**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.8						
NOA	**NORSAR Array B**	**42.64**	**323**	P	**P**	**14 48 46.6**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.0,baz=100,slow=8.1,SNR=8.9						
MATP	**Matopo**	**68.12**	**220**	LR	LR	15 23 46.1	
	comp=Z,79nm,18.1s,MS4.0,baz=12,slow=37						
INK	**Inuvik**	**73.89**	**8**	*e*P	**P**	**14 52 25.0**	**+0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**73.89**	**8**	*e*P	**P**	**14 52 25.0**	**+0.3**
	comp=Z,1.4nm,0.6s,mb4.1						
ILAR	**Eielson Array**	**75.04**	**15**	P	**P**	**14 52 32.2**	**+0.8**
	comp=Z,0.7nm,0.9s,mb3.6,baz=318,slow=4.5,SNR=5.9						
YKA	**Yellowknife Ar**	**80.95**	**1**	P	**P**	**14 53 04.5**	**+0.6**
YKA	**Yellowknife Ar**	**80.95**	**1**	P	**P**	**14 53 04.4**	**+0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=352,slow=5.5,SNR=36						
WRA	**Warramunga Arr**	**84.23**	**120**	P	**P**	**14 53 27.3**	**+5.6**
	comp=Z,0.4nm,0.9s,mb3.5,baz=325,slow=4.7,SNR=4.2						

MAN 05 14:46:46.2, 12.42N×**123.69E, h7**^{km}**, mb4.5, ML3.3, MS3.2, 4C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.09**	**225**	⇑*i*P	Pg	14 46 49.0	+0.7
MMPH				*i* S	Sg	14 46 52.0	+2.3
CNP	**Catarman**	**0.96**	**84**	*e*P	Pb	14 47 05.1	+0.4
RCP	**Roxas**	**1.25**	**227**	⇑*e*P	Pb	14 47 09.5	-0.3
RCP				*e*S	Sb	14 47 27.4	+1.4
PVCP	**Virac**	**1.26**	**21**	*e*P	Pb	14 47 09.1	-0.7
AUQP	**San Andres**	**1.33**	**312**	*e*P	Pb	14 47 12.3	+1.2
OTRP	**Odiongan**	**1.63**	**268**	*e*P	Pn	14 47 14.4	-1.0
PLP	**Palo**	**1.78**	**134**	*e*P	Pn	14 47 16.9	-0.7
PLP				*e*S	Sn	14 47 41.1	+0.5
BESP	**Borongan**	**1.90**	**115**	*e*P	Pn	14 47 11.3	-8.0
GQP	**Guinayangan**	**1.91**	**321**	⇑*i*P	Pn	14 47 19.0	-0.5
BOAC	**Boac**	**2.07**	**300**	*e*P	Pn	14 47 24.6	+2.8
GUIM	**Jordan**	**2.08**	**211**	*e*P	Pn	14 47 22.6	+0.7
GUIM				*e*S	Sn	14 47 49.8	+1.4
LLP	**Lapu-Lapu**	**2.11**	**172**	⇑*e*P	Pn	14 47 22.0	-0.3
LLP				*e*S	Sn	14 47 49.1	+0.1
LQP	**Lukban**	**2.68**	**309**	*e*P	Pn	14 47 33.6	+3.0

IDC 05 14:47:24.9±5.3**, 36.17S**×**52.51E, mb3.9**/2**, mb1 4.2**/2**, mb1mx3.6**/17**, mbtmp3.9**/2**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.2**/19**, Error ellipse: s-maj=349.8km s-min=45.0km az=34.0, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**37.63**	**334**	LR	LR	15 08 15.0	
	comp=Z,34nm,21.7s,baz=94,slow=33						
ASAR	**Alice Springs**	**69.79**	**105**	P	P	14 58 37.3	-1.8
	0.7nm,0.5s,baz=232,slow=5.7,SNR=17						
WRA	**Warramunga Arr**	**72.10**	**102**	P	P	14 58 51.5	-1.7
	0.9nm,0.8s,baz=234,slow=5.4,SNR=12						
ILAR	**Eielson Array**	**149.10**	**16**	PKPbc	PKPdf	15 07 13.8	+2.2
	0.4nm,0.6s,baz=316,slow=3.5,SNR=7.2						
YKA	**Yellowknife Ar**	**152.46**	**347**	PKPbc	PKPdf	15 07 21.7	+4.9
	0.1nm,0.5s,baz=30,slow=1.8,SNR=3.9						

*IDC **05** 14:58:38.4±0.9, 14.27N×147.10E, mb3.7/8, mb1 4.0/8, mb1mx3.9/18, mbtmp3.7/8, Error ellipse: s-maj=33.3km s-min=21.5km az=105.0*
*NEIC **05** 14:58:46.6±0.8, 14.19N×146.81E, h60^{km}, mb4.4/2, Error ellipse: s-maj=22.8km s-min=15.5km az=111.0*
ISC 05 14:58:41.6±0.8**, 14.2N**±0.1×**147.0E**±0.1**, h33**^{km}**, n14,** σ**0^{s}50**/13**, mb3.9**/10**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.14**	**253**	*e*P	**P**	**14 59 15.3**	**-0.3**
WRAB	**Tennant Creek**	**36.15**	**200**	*e*P	**P**	**15 05 42.4**	**-0.6**
	2.9nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**36.17**	**200**	P	**P**	**15 05 42.8**	**-0.3**
	2.3nm,1.0s,mb4.1,baz=23,slow=9.9,SNR=4.6						
ASAR	**Alice Springs**	**39.78**	**199**	P	**P**	**15 06 14.5**	**+1.2**
	0.2nm,0.5s,mb3.1,baz=24,slow=9.0,SNR=3.7						
CMAR	**Chiang Mai Arr**	**46.18**	**282**	P	**P**	**15 07 05.8**	**+0.3**
	0.6nm,0.6s,mb3.7,baz=74,slow=6.6,SNR=4.2						
SONM	**Songino Array**	**47.41**	**323**	P	**P**	**15 07 15.1**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=136,slow=7.7,SNR=7.0						
ZAL	**Zalesovo**	**62.31**	**324**	P	**P**	**15 09 02.4**	**-0.4**
	0.9nm,0.4s,mb4.3,baz=12,slow=5.7,SNR=4.7						
ZAL	**Zalesovo**	**62.31**	**324**	P	**P**	**15 09 02.4**	**-0.4**
KURK	**Kurchatov**	**65.42**	**319**	*e*P	**P**	**15 09 23.0**	**-0.2**
	5.9nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**67.11**	**25**	P	**P**	**15 09 33.8**	**+0.1**
	0.3nm,0.5s,mb3.6,baz=257,slow=5.8,SNR=15						
NVAR	**Mina Array Bea**	**84.92**	**52**	P	**P**	**15 11 14.5**	**-0.4**
	0.1nm,0.3s,mb3.4,baz=278,slow=6.4,SNR=2.0						
FINES	**FINESS Array B**	**91.43**	**336**	P	**P**	**15 11 45.7**	**+0.2**
	1.9nm,0.6s,mb4.6,baz=82,slow=3.9,SNR=14						
FINES	**FINESS Array B**	**91.43**	**336**	P	**P**	**15 11 45.7**	**+0.2**
DBIC	**Dimbokro**	**145.18**	**305**	PKPbc	PKPbc	15 18 19.4	+2.2
	2.1nm,0.7s,baz=56,slow=6.0,SNR=5.2						

DJA 05 15:04:09.4±0.2**, 8.57S**×**115.65E, h33**^{km}**, ML3.6**/2**, 1C-6D, Error ellipse: s-maj=13.9km s-min=5.8km az=178.0, Bali region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.19**	**218**	⇑*e*Pg	Pn	15 04 15.3	-0.4
RATI				⇓*e*Sg	Sn	15 04 20.8	+1.1
KEDI	**Kedomdong**	**0.47**	**79**	⇓*e*Pg	P	15 04 18.2	-1.2
KEDI				⇓*e*Sg	Sb	15 04 25.9	-0.5
KELI	**Kelakatan**	**1.20**	**287**	⇓*e*Pn	Pn	15 04 28.7	-1.4
	82nm,0.2s						
KELI				*e*Sn	Sn	15 04 43.8	-1.6
SRDI	**Scrawed**	**1.49**	**273**	⇓*e*Pn	Pn	15 04 32.6	-1.7
	56nm,0.2s						
SRDI				⇓*e*Sn	Sn	15 04 50.7	-2.1

*IDC **05** 15:05:44.1±1.2, 13.97N×124.63E, mb3.7/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, Error ellipse: s-maj=60.2km s-min=19.0km az=63.0*
*MAN **05** 15:05:45.5, 14.27N×124.97E, h92^{km}, mb4.4, ML3.3, MS3.2*
ISC 05 15:05:44.6±2.3**, 14.31N**±0.06×**124.95E**±0.06**, h26**^{km}±19^{km}**, n27,** σ**1^{s}04**/32**, mb3.7**/6**, 1C-3D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**1.05**	**228**	*e*P	**Pn**	**15 06 00.2**	**-3.6**
PVCP				*e*S	**Sb**	**15 06 09.9**	**-7.6**
CNP	**Catarman**	**1.81**	**189**	*e*P	**Pn**	**15 06 15.7**	**+1.0**
MMPH	**Masbate**	**2.33**	**214**	*e*P	**Pn**	**15 06 23.0**	**+0.8**
AUQP	**San Andres**	**2.42**	**246**	*e*P	**Pn**	**15 06 25.0**	**+1.6**
GQP	**Guinayangan**	**2.47**	**261**	*e*P	**Pn**	**15 06 24.0**	**-0.1**
GQP				*e*S	**Sn**	**15 06 53.9**	**+0.2**
BESP	**Borongan**	**2.74**	**170**	*e*P	**Pn**	**15 06 34.2**	**+6.2**
POLP	**Polilio Island**	**2.95**	**278**	*e*P	**Pn**	**15 06 32.1**	**+1.1**
PLP	**Palo**	**3.13**	**180**	*e*P	**Pn**	**15 06 32.4**	**-1.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOAC	Boac	3.14	255	eP	Pn	15 06 34.3	+0.7
LQP	Lukban	3.32	267⇑	eP	Pn	15 06 35.6	-0.5
LQP				eS	Sn	15 07 15.2	0.0
OTRP	Odiongan	3.45	236	eP	Pn	15 06 37.4	-0.7
RCP	Roxas	3.48	218⇓	eP	Pn	15 06 39.0	+0.4
BALP	Baler	3.56	294	eP	Pn	15 06 37.9	-1.7
TGY	Tagaytay City	3.90	267⇓	eP	Pn	15 06 44.2	-0.3
PCPH	Palayan	3.93	289⇓	eP	Pn	15 06 42.2	-2.7
PCPH				eS	Sn	15 07 25.0	-5.7
CAUP	Cauayan	3.99	311	eP	Pn	15 06 46.2	+0.4
SJMP	San Jose	4.16	244	eP	Pn	15 06 48.6	+0.4
LUBP	Lubang	4.61	263	eP	Pn	15 06 54.9	+0.5
APYP	Conner	5.02	315	eP	Pn	15 07 01.2	+0.9
APYP				eS	Sn	15 07 57.4	-0.7
CUYO	Cuyo Island	5.16	229	eP	Pn	15 07 01.9	-0.4
BUSP	Coron	5.17	244	eP	Pn	15 07 01.9	-0.5
CMAR	Chiang Mai Arr	25.28	283	P	P	15 11 10.5	-0.3
	0.9nm,0.7s,mb3.4,baz=96,slow=8.2,SNR=6.3						
WRA	Warramunga Arr	35.27	165	P	P	15 12 37.5	-2.1
	0.3nm,0.3s,mb3.6,baz=342,slow=8.8,SNR=13						
SONM	Songino Array	36.80	339	P	P	15 12 55.8	+3.6
	0.3nm,0.5s,mb3.4,baz=151,slow=9.6,SNR=3.2						
ASAR	Alice Springs	38.75	167	P	P	15 13 08.5	-0.3
	1.1nm,0.4s,mb3.9,baz=345,slow=7.7,SNR=29						
STKA	Stephens Creek	48.62	161	P	P	15 14 28.9	+0.5
	1.6nm,0.7s,mb4.2,baz=336,slow=10.0,SNR=4.3						
FINES	FINESS Array B	81.75	331	P	P	15 18 04.8	+2.6
	0.7nm,0.7s,mb3.7,baz=63,slow=4.3,SNR=3.4						

FUNV 05 15:36:27.6, 6.77N×73.16W, h165km, MD3.7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.37	38⇓	iP	P	15 36 56.7	-0.7
CAPV				eS	S	15 37 17.8	-2.7
VIGV	El Vigia	2.72	41	eP	P	15 37 11.4	-1.3
VIGV				iS	S	15 37 44.0	-3.3
SOCV	Socops	2.73	57⇑	iP	P	15 37 11.8	-1.1
SOCV				eS	S	15 37 43.3	-4.4
VIRV	Villa del Rosa	3.78	11	eP	P	15 37 24.1	-2.1
VIRV				eS	S	15 38 05.9	-5.4
CURV	Curarigua	4.52	44	eP	P	15 37 33.6	-2.1
CURV				eS	S	15 38 21.9	-6.4
BAUV	El Baul	5.51	67	eP	P	15 37 45.4	-3.4
BAUV				eS	S	15 38 44.7	-7.0

*THR **05** 16:04:19.5±1.0, 30.21N×57.61E, h14km±8km, ML3.7*
*IDC **05** 16:04:20.4±3.8, 30.38N×57.54E, mb3.5/4, mb1 3.8/5, mb1mx3.5/19, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=93.8km s-min=33.1km az=173.0*
*CSEM **05** 16:04:21.9±0.1, 30.12N×57.55E, h20km, ML4.0/1, Error ellipse: s-maj=4.0km s-min=2.3km az=96.0*
*TEH **05** 16:04:27.0, 30.37N×57.46E, h10km, Mn3.4*
ISC 05 16:04:21.1±0.4, 30.13N±0.03×57.56E±0.05, h14km, n32, σ1s05/34, mb3.4/4, 3D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.71	258	iPG	Pg	16 04 34.5	-1.0
KRBR				eSG	Sg	16 04 44.8	-0.4
KRBR				AML	AML	16 04 50.5	
	comp=N,3µm,0.5s						
KRBR	Kerman	0.71	258	iPg	Pg	16 04 34.5	-1.0
	SNR=90						
KRBR				eSg	Sg	16 04 44.8	-0.4
	comp=N,3µm,0.5s,SNR=90						
IBAF	Bafgh	2.25	311	Pn	Pn	16 05 00.5	+2.0
ZHSF	Zahedan	2.84	100	ePN	Pn	16 05 06.1	-0.7
ZHSF				eSG	Sg	16 05 47.0	-8.6
ZHSF				AML	AML	16 05 57.1	
	comp=N,167nm,0.9s						
ZHSF	Zahedan	2.84	100	ePn	Pn	16 05 06.1	-0.8
	SNR=52						
ZHSF				eSg	Sg	16 05 47.0	-8.6
	comp=N,167nm,0.9s,SNR=90						
BNDS	Bandar-Abbas	2.98	205	ePN	Pn	16 05 10.3	+1.3
BNDS				AML	AML	16 05 50.7	
	comp=N,280nm,0.4s						
ICHK	Chekchek	3.43	309	Pn	Pn	16 05 15.5	+0.2
BANOM	Banah	4.34	195	⇓P	Pn	16 05 28.8	+0.6
GHIR	Ghir-Karzin	4.40	246	ePN	Pn	16 05 29.1	0.0
NASN	Na'in	4.86	304	ePN	Pn	16 05 34.7	-0.9
ASHO	Ashiyiah	5.59	194	⇓P	Pn	16 05 45.7	-0.2
IANJ	Anjiloo	6.14	331	Pn	Pn	16 05 54.1	+0.4
IMOG	Moghan	6.14	14	Pn	Pn	16 05 53.8	+0.1
ISFB	Sefidab	6.17	314	Lg		16 07 32.5	
ISFB	Sefidab	6.17	314	Pn	Pn	16 05 55.2	+1.1
IPAY	Payeh	6.41	10	Pn	Pn	16 05 57.1	-0.4
ILAS	Lasjerd	6.51	325	Pn	Pn	16 05 58.7	-0.2
IMYA	Miamay	6.55	18	Pn	Pn	16 05 59.9	+0.5
IKRD	Kardeh	6.67	7	Pn	Pn	16 06 02.9	+1.8
IFIR	Firoozkooh	6.82	325	Pn	Pn	16 06 03.0	-0.3
IFIR	Firoozkooh	6.82	325	Lg		16 07 51.1	
ARQ	Araqi	6.83	188	P	Pn	16 06 03.5	+0.1
	SNR=13						
SMDO	Samad	7.06	176	⇓P	Pn	16 06 08.4	+1.8
BSY	Bisya	7.36	183	P	Pn	16 06 11.2	+0.4
	SNR=5.2						
BSYO	Bisya	7.38	182	P	Pn	16 06 11.2	+0.2
	SNR=5.2						
IAFJ	Afjeh	7.53	321	Pn	Pn	16 06 14.3	+1.1
WBK	Wadi Bani Khal	7.60	170	P	Pn	16 06 11.1	-3.1
	SNR=9.1						
EIL	Elat	19.61	274	P	P	16 08 51.2	-0.6
	comp=N,0.1nm,0.3s,baz=38,slow=9.1,SNR=4.1						
FINES	FINESS Array B	37.53	336	P	P	16 11 34.3	-1.8
	comp=N,1.3nm,1.0s,mb3.6,baz=127,slow=6.9,SNR=4.8						
GERES	GERESS Array B	38.04	312	P	P	16 11 37.8	-2.7
	comp=N,0.3nm,0.6s,mb3.2,baz=108,slow=9.3,SNR=5.0						
SONM	Songino Array	41.12	50	P	P	16 12 05.4	-0.7
	comp=N,0.5nm,1.0s,mb3.1,baz=270,slow=4.3,SNR=2.2						
YKA	Yellowknife Ar	87.49	356	P	P	16 17 08.0	-0.9
	comp=N,0.3nm,0.7s,mb3.6,baz=359,slow=4.4,SNR=11						

IDC 05 16:04:37.2±9.3, 12.97N×92.46E, mb3.4/2, mb1 3.5/3, mb1mx3.3/16, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=196.1km s-min=48.5km az=106.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.29	48	Pn	P	16 06 38.9	-2.7
	0.1nm,0.3s,baz=238,slow=15,SNR=5.8						
WRA	Warramunga Arr	52.62	128	P	P	16 13 52.7	-2.8
	0.1nm,0.6s,baz=300,slow=10.0,SNR=2.9						
ASAR	Alice Springs	54.48	132	P	P	16 14 07.4	-1.8
	0.2nm,0.5s,baz=310,slow=6.6,SNR=5.1						

*JMA **05** 16:12:55.4±0.3, 44.05N×148.03E, M4.7*
*MOS **05** 16:12:56.0±2.0, 44.76N×148.16E, h50km, mb4.3/2, Error ellipse: s-maj=21.2km s-min=17.3km az=98.3*
*IDC **05** 16:12:59.8±3.9, 44.56N×148.12E, h80km±42km, mb3.3/10, mb1 3.6/11, mb1mx3.6/20, mbtmp3.6/11, ML3.5/1, Error ellipse: s-maj=64.7km s-min=22.5km az=2.0*
ISC 05 16:12:54.9±1.0, 44.47N±0.05×148.21E±0.10, h53km±9km, n28, σ1s10/37, mb3.6/10, 2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.80	342⇓	iPN	P	16 13 09.0	-1.2
KUR				iS	S	16 13 20.5	-1.0
KUR				pmax	pmax		
	comp=N,410nm,0.4s						
KUR				pmax	pmax		
	comp=E,410nm,0.4s						
KUR				pmax	pmax		
	comp=Z,570nm,0.4s						
KUR				smax			
	comp=N,12µm,2.0s						
KUR				smax			
	comp=E,6µm,2.0s						
KUR				smax			
	comp=N,2µm,0.6s						
KUR				smax			
	comp=E,4µm,0.6s						
YUK	Yuzh-Kuril'sk	1.75	256⇓	iPN	P	16 13 22.4	-1.0
YUK				iS	S	16 13 44.2	-0.3
YUK				pmax	pmax		
	comp=Z,850nm,0.3s						
YUK				pmax	pmax		
	comp=N,260nm,0.2s						
YUK				pmax	pmax		
	comp=E,380nm,0.3s						
YUK				smax			
	comp=N,5µm,0.5s						
YUK				smax			
	comp=E,2µm,0.5s						
YUK				smax			
	comp=N,3µm,0.3s						
YUK				smax			
	comp=E,2µm,0.4s						
NEM2	Nemuro 2	2.10	239	P	P	16 13 27.9	-0.5
NEM2				eS	S	16 13 51.3	-2.0
JRA	Rausu	2.29	258	P	P	16 13 32.6	+1.5
JRA				eS	S	16 14 00.1	+2.1
JNK	Nakash	2.67	252	P	P	16 13 37.4	+0.9
JNK				eS	S	16 14 07.2	-0.6
JAK	Akkeshi	2.94	241	P	P	16 13 40.0	-0.4
JAK				eS	S	16 14 13.0	-1.7
JTKR	Abashiri--Toko	3.13	262	P	P	16 13 44.3	+1.2
JAR	Ashorobuto	3.42	251	P	P	16 13 48.3	+1.2
JCH	Churui	3.98	244	P	P	16 13 54.8	-0.3
ASAJ	Asahikawa	4.05	267	PN	P	16 13 58.0	+2.0
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	Asahikawa	4.05	267	P	P	16 13 58.0	+2.0
	comp=Z,2.5nm,0.3s,baz=96,slow=18,SNR=12						
JFR	Furan	4.27	254	P	P	16 14 01.4	+2.3
JNBK	Urakawa-nobuka	4.54	243	P	P	16 14 02.8	-0.1
YSS	Yuzh-Sakhalins	4.56	305	ePN	P	16 14 04.5	+1.4
YSS				iS	S	16 14 55.5	+0.1
YSS				smax			
	comp=N,140nm,0.6s						
YSS				smax			
	comp=E,160nm,0.8s						
JKB	Kayabe	5.85	246	P	P	16 14 21.1	0.0
JKB				eS	S	16 15 24.1	-3.6
JOT	Ohata	6.10	242	P	P	16 14 23.8	-0.8
JOT				eS	S	16 15 28.9	-5.0
SONM	Songino Array	28.91	292	P	P	16 18 51.6	+0.9
	comp=E,0.5nm,0.9s,mb3.2,baz=83,slow=8.2,SNR=4.5						
ILAR	Eielson Array	40.45	37	P	P	16 20 29.6	+0.3
	comp=E,0.3nm,0.5s,mb3.3,baz=268,slow=8.2,SNR=8.9						
YKA	Yellowknife Ar	54.78	34	P	P	16 22 21.1	+0.2
	comp=E,0.3nm,0.5s,mb3.6,baz=298,slow=6.8,SNR=7.7						
ARCES	ARCESS Array B	58.84	340	P	P	16 22 48.2	-1.5
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	ARCESS Array B	58.84	340	P	P	16 22 48.2	-1.5
	comp=Z,3.5nm,0.8s,mb4.4,baz=23,slow=6.9,SNR=3.9						
FINES	FINESS Array B	64.58	333	P	P	16 23 27.3	-0.9
FINES				*PP	pP	16 23 38.0	-5.0
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES				pmax	pmax		
	comp=N,1.0nm,0.8s						
FINES	FINESS Array B	64.58	333	P	P	16 23 27.3	-0.9
	comp=N,0.6nm,0.5s,mb3.9,baz=36,slow=7.5,SNR=14						
FINES				pP	pP	16 23 38.0	-5.0
	comp=N,1.2nm,0.8s,baz=76,slow=5.7,SNR=2.3						
NVAR	Mina Array Bea	66.55	59	P	P	16 23 41.8	+0.5
	comp=N,0.4nm,0.5s,mb3.7,baz=311,slow=5.7,SNR=3.5						
PDAR	Pinedale Array	68.86	50	P	P	16 23 55.6	0.0
	comp=N,0.5nm,0.8s,mb3.5,baz=263,slow=7.3,SNR=3.8						
NOA	NORSAR Array B	69.21	339	P	P	16 23 57.0	-0.4
	comp=N,0.4nm,0.7s,mb3.4,baz=42,slow=5.2,SNR=2.5						
GERES	GERESS Array B	78.90	331	P	P	16 24 52.7	-0.9
	comp=N,0.2nm,0.3s,mb3.5,baz=53,slow=4.9,SNR=4.0						
TXAR	Lajitas Array	81.61	57	P	P	16 25 09.2	+0.6
	comp=N,0.5nm,0.4s,mb3.8,baz=287,slow=3.7,SNR=11						
TXAR				pP	pP	16 25 23.0	-0.9
	comp=N,0.4nm,0.7s,baz=300,slow=5.4,SNR=3.4						

*MOS **05** 16:15:11.6±1.1, 5.10N×94.26E, h33km, mb4.6/7, Error ellipse: s-maj=16.3km s-min=8.2km az=102.2*
*BJI **05** 16:15:13.0, 4.86N×94.38E, h72km, mB5.1, mb4.7, Ms4.1, Msz4.1*
*NEIC **05** 16:15:15.4±0.3, 5.15N×94.28E, mb4.7/17, Error ellipse: s-maj=10.1km s-min=5.3km az=50.0*
*IDC **05** 16:15:15.7±0.6, 5.26N×94.32E, h48km±4km, mb4.2/16, mb1 4.3/17, mb1mx4.2/23, mbtmp4.4/17, MS3.4/2, Ms1 3.4/2, ms1mx2.9/17, Error ellipse: s-maj=24.9km s-min=12.2km az=49.0*
ISC 05 16:15:13.4±0.4, 5.16N±0.06×94.35E±0.07, h47km, h47km±1.4km:pP-P, n77, σ1s01/75, mb4.6/43, MS4.0/3, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.28	89	ePn	P	16 16 47.1	+1.4
BDT	Bhumibol Dam	12.85	20	P	P	16 18 17.5	+1.6
CM31	Chiang Mai Arr	13.96	18	eP	P	16 18 25.7	-4.8
	14nm,0.5s						
CMAR	Chiang Mai Arr	13.96	18	P	P	16 18 32.2	+1.7
	2.4nm,0.3s,baz=208,slow=14,SNR=39						
CMAR				LR	LR	16 24 36.9	
	comp=Z,55nm,18.4s,baz=200,slow=40						
CHG	Chiang Mai	14.30	18	⇑P	P	16 18 41.4	+6.5
	31nm,0.6s						
NANT	Nan	14.91	24	P	P	16 18 48.0	+5.1
JIRN	Jiri	23.69	342	eP	P	16 20 23.0	+1.1
	20nm,0.8s,mb4.6						
PKI	Pulchoki	23.86	340	eP	P	16 20 25.7	+2.2
DMN	Daman	24.00	339	eP	P	16 20 26.8	+1.9
KKN	Kakani	24.11	340	eP	P	16 20 26.5	+0.6
	11nm,0.6s,mb4.5						
GKN	Gorkha	24.52	339	eP	P	16 20 30.1	+0.1
	31nm,0.6s,mb5.0						
LSA	Lhasa	24.60	353	P	P	16 20 31.8	+1.1
LSA	Lhasa	24.60	353	eP	P	16 20 30.5	-0.2
	12nm,0.7s,mb4.5						
KOLN	Koldanda	24.70	337	eP	P	16 20 31.8	0.0
	24nm,0.6s,mb4.9						
ENH	Enshi	28.77	28	eP	P	16 21 07.4	-1.7
	15nm,0.7s,mb4.8						
XAN	Xi'an	31.77	23	P	P	16 21 34.0	-1.6
XAN				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
GTA	Gaotai	34.46	7	P	P	16 21 58.0	-0.8
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
NJ2	Nanjing	35.24	38	eP	P	16 22 06.4	+0.8
NJ2				S	S	16 27 36.0	+0.9
NJ2				AMB	AMB		
	comp=Z,60nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,160nm,8.9s						
NJ2				LR	LR		
	comp=N,570nm,15.2s,MS4.5						
NJ2				LR	LR		
	comp=E,340nm,15.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,470nm,11.6s,MS4.5						
SSE	Sheshan	36.07	41	eP	P	16 22 09.9	-2.8
SSE				S	S	16 27 47.3	-0.6
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,161nm,5.0s						
SSE				LR	LR		
	comp=N,33nm,16.3s,MS3.5						
SSE				LR	LR		
	comp=E,53nm,16.4s,MS3.5						
SSE				LR	LR		
	comp=Z,83nm,15.3s,MS3.6						
SSE	Sheshan	36.07	41	eP	P	16 22 09.9	-2.8
	comp=Z,44nm,0.7s,mb5.5						
SSE				pP	pP	16 22 19.2	-6.0
SSE				S	S	16 27 47.3	-0.6
SSE				sS		16 28 00.8	
SSE				SS	SS	16 30 47.4	+35
SSE				LR	LR		
	comp=Z,80nm,15.3s,MS3.6						
FITZ	Fitzroy Crossi	38.56	128	eP	P	16 22 33.5	-0.1
	comp=Z,11nm,0.7s,mb4.7						
BJI	Beijing	39.91	26	eP	P	16 22 46.2	+1.6
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
BJI	Beijing	39.91	26	eP	P	16 22 46.2	+1.6
	comp=Z,9.0nm,0.7s,mb4.6						
AAK	Ala-Archa	41.27	338	iP	P	16 22 55.8	0.0
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
AAK	Ala-Archa	41.27	338	eP	P	16 22 55.0	-0.8
	comp=Z,1.7nm,0.8s,mb3.7						
KAKA	Kakadu	41.81	115	eP	P	16 23 00.4	-0.2
	comp=Z,19nm,1.2s,mb4.6						
MKAR	Makanchi Array	42.77	348	iP	P	16 23 07.9	-0.2
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	Songino Array	43.76	12	P	P	16 23 15.5	-0.6
	comp=Z,4.4nm,0.7s,mb4.3,baz=192,slow=8.0,SNR=51						
SONM				pP	pP	16 23 29.0	+0.2
	comp=Z,4.0nm,0.8s,baz=192,slow=8.6,SNR=10						
SONM				PcP	PcP	16 25 02.6	-0.2
	comp=Z,1.6nm,0.8s,baz=193,slow=3.3,SNR=5.9						
SONM				pPcP		16 25 16.1	
	comp=Z,0.9nm,0.5s,baz=194,slow=4.2,SNR=4.2						
ULN	Ulaanbaatar	43.92	12	eP	P	16 23 16.8	-0.7
	comp=Z,3.2nm,0.6s,mb4.2						
ZAK	Zakamensk	45.69	8	eP	P	16 23 30.7	-0.9
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.1s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
WRA	Warramunga Arr	46.56	124	P	P	16 23 39.2	+0.4
	comp=Z,6.3nm,0.6s,mb4.7,baz=302,slow=9.3,SNR=73						
WRA				pP	pP	16 23 52.7	+1.2
	comp=Z,9.1nm,0.7s,baz=302,slow=9.4,SNR=10						
WRAB	Tennant Creek	46.56	124	P	P	16 23 39.0	+0.2
	comp=Z,79nm,0.5s,mb5.9,SNR=8.2						
WRAB	Tennant Creek	46.56	124	iP	P	16 23 39.5	+0.7
WRAB	Tennant Creek	46.56	124	iP	P	16 23 39.5	+0.7
WRAB	Tennant Creek	46.56	124	eP	P	16 23 39.5	+0.7
	comp=Z,36nm,1.0s,mb5.3						
TLY	Talaya	47.01	8	iP	P	16 23 42.0	+0.1
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KURK	Kurchatov	47.28	346	P	P	16 23 44.6	+0.5
	comp=Z,62nm,0.5s,mb5.8,SNR=12						
KURK	Kurchatov	47.28	346	iP	P	16 23 44.1	0.0
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	Kurchatov	47.28	346	eP	P	16 23 43.9	-0.2
	comp=Z,9.9nm,0.8s,mb4.8						
ASPA	Alice Springs	48.05	128	eP	P	16 23 50.8	+0.3
ASAR	Alice Springs	48.05	128	P	P	16 23 50.8	+0.3
	comp=Z,1.6nm,0.4s,mb4.4,baz=300,slow=7.8,SNR=35						
ASAR				pP	pP	16 24 05.7	+2.4
	comp=Z,6.2nm,0.9s,baz=299,slow=7.6,SNR=10						
ZAL	Zalesovo	49.25	353	iP	P	16 23 59.2	-0.1
ZAL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ZAL	Zalesovo	49.25	353	P	P	16 23 58.9	-0.4
	comp=Z,4.1nm,0.8s,mb4.5,baz=308,slow=5.8,SNR=16						
ZAL				pP	pP	16 24 11.9	-0.2
	comp=Z,3.0nm,0.6s,baz=276,slow=4.7,SNR=4.9						
MDJ	Mudanjiang	49.95	33	eP	P	16 24 06.1	+1.2
NVS	Novosibirsk	50.34	352	eP	P	16 24 06.1	-1.6
NVS				pmax	pmax		
	comp=N,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
BVA0	Borovoye Array	51.61	342	iP	P	16 24 16.4	-0.9
BVAR	Borovoye Array	51.61	342	P	P	16 24 16.4	-0.9
	comp=Z,4.8nm,0.9s,mb4.4,baz=143,slow=9.9,SNR=14						
BVAR				pP	pP	16 24 29.5	-0.6
	comp=Z,2.4nm,0.6s,baz=145,slow=10,SNR=8.4						
CHKZ	Chkalovo	52.10	342	P	P	16 24 20.5	-0.5
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CHKZ	Chkalovo	52.10	342	eP	P	16 24 20.4	-0.6
	comp=Z,6.3nm,0.6s,mb4.7						
CHKZ				epP	pP	16 24 33.4	-0.4
PMG	Port Moresby	54.58	105	P	P	16 24 39.8	0.0
PMG	Port Moresby	54.58	105	P	P	16 24 39.7	-0.1
	comp=Z,23nm,1.1s,mb5.1,baz=16,slow=7.4,SNR=4.0						
BOD	Bodaibo	54.73	13	eP	P	16 24 32.0	-8.4
BOD				pmax	pmax		
	comp=Z,33nm,0.8s,mb5.4						
BOD				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
CTAO	Charters Tower	56.83	118	eP	P	16 24 55.3	-0.7
	comp=Z,4.9nm,1.0s,mb4.5						
ASAJ	Asahikawa	57.34	40	P	P	16 24 57.9	-1.4
	comp=Z,3.5nm,0.8s,mb4.4,baz=328,slow=19,SNR=3.0						
KMBO	Kilima Mbogo	57.37	265	LR	LR	16 45 58.2	
	comp=Z,75nm,20.1s,MS3.8,baz=90,slow=32						
SVE	Sverdlovsk	57.99	339	eP	sP	16 25 17.5	-4.6
STKA	Stephens Creek	58.11	133	pP	pP	16 25 18.2	+0.3
	comp=Z,1.7nm,0.4s,baz=304,slow=11,SNR=2.2						
YAK	Yakutsk	62.49	18	iP	P	16 25 32.0	-2.3
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
MA2	Magadan	69.07	27	eP	P	16 26 15.5	-0.8
	comp=Z,6.1nm,0.6s,mb4.7						
MA2				epP	pP	16 26 28.7	-1.1
MATP	Matopo	69.44	246	P	P	16 26 19.6	+0.3
	comp=Z,1.6nm,1.1s,mb3.9,baz=135,slow=2.9,SNR=2.4						
TIXI	Tiksi	69.84	11	iP	P	16 26 19.4	-1.5
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
MLR	Muntele Rosu	71.26	316	P	P	16 26 30.1	+0.2
	comp=Z,6.0nm,1.1s,mb4.4,baz=158,slow=11,SNR=2.8						
MLR				pP	pP	16 26 43.9	+0.6
	comp=Z,4.8nm,0.6s,baz=187,slow=6.7,SNR=4.4						
FINES	FINESS Array B	75.20	333	iP	P	16 26 52.0	-0.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	FINESS Array B	75.20	333	P	P	16 26 52.0	-0.6
	comp=Z,1.9nm,0.4s,mb4.3,baz=94,slow=5.6,SNR=32						
FINES				pP	pP	16 27 05.6	-0.6
	comp=Z,1.5nm,0.5s,baz=91,slow=5.7,SNR=5.4						
FINES	FINESS Array B	75.20	333	P	P	16 26 52.0	-0.6
FINES				pP	pP	16 27 05.6	-0.6
ARCES	ARCESS Array B	77.88	340	P	P	16 27 07.4	-0.2
	comp=Z,5.7nm,0.9s,mb4.5,baz=49,slow=11,SNR=3.6						
ARCES				pP	pP	16 27 21.0	-0.1
	comp=Z,3.1nm,0.8s,baz=99,slow=6.4,SNR=1.8						
BILL	Bilibino	78.52	21⇓	iP	P	16 27 10.9	-0.2
BILL				S		16 37 18.9	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.3						
FX1	Attu Island--F	79.16	37	P	P	16 27 15.1	+0.2
	comp=Z,11nm,0.6s,mb5.0,baz=250,slow=18,SNR=3.8						
GERES	GERESS Array B	79.98	319	P	P	16 27 20.2	+0.8
	comp=Z,0.7nm,0.5s,mb3.8,baz=114,slow=5.0,SNR=11						
GERES				pP	pP	16 27 33.5	+0.4
	comp=Z,2.5nm,0.8s,baz=90,slow=5.3,SNR=10						
KHC	Kasperske Hory	80.08	319	eP	P	16 27 20.5	+0.5
KHC				e	pP	16 27 33.5	-0.1
KHC	Kasperske Hory	80.08	319	eP	P	16 27 20.5	+0.5
KHC				x	x	16 27 33.5	
NOA	NORSAR Array B	82.19	331	P	P	16 27 30.5	-0.2
	comp=Z,1.1nm,0.8s,mb3.8,baz=93,slow=5.4,SNR=4.0						
NOA				pP	pP	16 27 43.4	-1.0
	comp=Z,1.4nm,0.8s,baz=94,slow=5.4,SNR=3.6						
NOA	NORSAR Array B	82.19	331	P	P	16 27 30.5	-0.2
NOA				pP	pP	16 27 43.4	-1.0
EKA	Eskdalemuir Ar	90.06	325	P	P	16 28 10.2	+0.8
	comp=Z,1.9nm,0.7s,mb4.6,baz=69,slow=7.1,SNR=4.5						
INK	Inuvik	99.53	16	P	P	16 28 53.8	+1.4
	comp=Z,5.8nm,1.4s,mb4.8,slow=1.0,SNR=4.0						
YKA	Yellowknife Ar	109.00	14	PP	PP	16 34 04.6	-6.1
	comp=Z,0.2nm,0.7s,baz=334,slow=7.9,SNR=5.3						
SCHQ	Schefferville	118.21	348	PKP	PKPdf	16 33 57.6	+2.1
	comp=Z,1.1nm,0.6s,baz=342,slow=3.2,SNR=3.1						

*IDC **05** 16:31:38.2±1.4, 15.63N×88.86W, mb3.7/9, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, ML3.6/4, MS3.7/9, Ms1 3.7/9, ms1mx3.3/22, Error ellipse: s-maj=57.1km s-min=20.0km az=54.0*
*NEIC **05** 16:31:40.3±0.7, 15.70N×88.60W, h10km, mb4.2/6, Error ellipse: s-maj=14.3km s-min=11.3km az=48.0*
NEIC Felt at Puerto Barrios. Also felt at San Pedro Sula, Honduras.
*BJI **05** 16:31:40.2, 15.70N×88.60W, h10km, mB4.9, Ms4.8, Msz4.5*
*CASC **05** 16:31:42.1±2.6, 15.41N×89.12W, MD4.6, ML4.7, mb4.2(NEIC)*
ISC 05 16:31:39.2±0.3, 15.66N±0.02×89.01W±0.03, h10km, n65, σ1s23/76, mb3.8/12, MS4.0/10, 9C-6D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTO2	Montecristo 2	1.30	195⇓	eP	Pb	16 32 01.7	-1.6
MTO2				eS	Sb	16 32 17.6	-2.2
RBDL	Robledal	1.67	203⇑	eP	Pn	16 32 07.3	-1.5
RBDL				eS	Sn	16 32 30.1	-0.3
RTR	El Retiro	1.86	199⇑	eP	Pn	16 32 10.5	-1.0
SNJE	San Jose	1.87	198⇑	eP	Pn	16 32 10.4	-1.3
SNJE				eS	Sn	16 32 34.2	-1.3
LFU	La Fuente	1.90	183	eP	Pn	16 32 12.3	+0.1
SBLS	San Blas	1.91	198⇑	eP	Pn	16 32 11.1	-1.0
SBLS				eS	Sn	16 32 35.2	-1.2
LBRS	Las Brisas	1.91	181⇑	eP	Pn	16 32 12.0	-0.2
LBRS				eS	Sn	16 32 37.3	+0.8
BOQS	Boqueron	1.93	188⇓	eP	Pn	16 32 12.3	-0.2
BOQS				eS	Sn	16 32 37.2	+0.2
SNET	Serv Nac Est T	1.98	186⇓	eP	Pn	16 32 14.3	+1.2
SNET				eS	Sn	16 32 36.3	-1.8
PCG	Pacaya	1.99	231	eP	Pn	16 32 16.2	+2.8
PCG				eS	Sn	16 32 40.8	+2.2
LCBS	La Ceiba	2.00	179⇑	eP	Pn	16 32 13.1	-0.3
LCBS				eS	Sn	16 32 37.6	-1.0
LFRS	El Faro	2.03	181⇑	eP	Pn	16 32 13.8	-0.1
CAHU	Cacacuatique	2.03	158⇓	eP	Pn	16 32 16.4	+2.5
CAHU				eS	Sn	16 32 39.8	+0.2
IXG	Ixpaco	2.03	224	eP	Pn	16 32 13.0	-1.0
IXG				eS	Sn	16 32 39.5	-0.1
SNVI	San Vicente	2.04	175	eP	Pn	16 32 15.1	+1.0
SNVI				eS	Sn	16 32 38.8	-1.1
TP2	Tecpan 2	2.13	246⇓	eP	Pn	16 32 15.8	+0.5
TP2				eS	Sn	16 32 43.7	+1.7
FUG	Fuego 3	2.14	236⇑	eP	Pn	16 32 14.9	-0.6
FUG				eS	Sn	16 32 44.1	+1.7
BLLM	Bellamira	2.33	161⇑	eP	Pn	16 32 19.9	+1.7
BLLM				eS	Sn	16 32 48.8	+1.6
VSM	San Miguel	2.33	162	eP	Pn	16 32 20.4	+2.2
VSM				eS	Sn	16 32 48.8	+1.6
CNCH	Conchagua	2.63	154	eP	Pn	16 32 24.2	+1.7
CNCH				eS	Sn	16 32 55.6	+0.8
JAT	Jato	2.87	243⇓	eP	Pn	16 32 26.6	+0.7
CCIG	Comitan	3.07	282	eP	Pn	16 32 34.9	+6.1
CCIG				eS	Sg	16 33 21.0	-0.5
TEIG	Tepich	4.59	9	ePn	Pn	16 32 50.9	+0.5
TEIG				ePg	Pg	16 33 09.5	-1.4
TEIG				eSg	Sg	16 34 13.0	+0.9
CMIG	Matias Romero	5.81	285	i P	Pn	16 33 07.9	+0.3
CMIG				i S	Sx	16 34 27.5	
JTS	JuntasAbangare	6.64	143	Pn	Pn	16 33 15.7	-3.6
	1.3nm,0.3s,baz=270,slow=13,SNR=2.8						
JTS				Pg	Pb	16 33 33.8	-0.9
	1.6nm,0.3s,baz=324,slow=14,SNR=4.6						
JTS				Lg		16 35 05.3	
	1.5nm,0.3s,baz=257,slow=15,SNR=3.1						
JTS				LR	LR	16 36 07.4	
	comp=Z,702nm,18.2s,baz=150,slow=41						
JTS	JuntasAbangare	6.64	143	Pn	Pn	16 33 15.7	-3.7
JTS				ePg	Pg	16 33 44.7	-7.2
EVV	El Vigia	6.67	296	eP	Pn	16 33 28.5	+8.8
VHO	Vista Hermosa	7.54	282	eP	Pn	16 33 37.3	+5.3
VHO				eS	Sn	16 35 07.1	+8.7
ROSC	El Rosal	17.98	125	P	P	16 35 52.8	+1.6
	1.4nm,0.3s,baz=270,slow=14,SNR=6.6						
ROSC				LR	LR	16 43 03.1	
	comp=Z,206nm,18.8s,baz=22,slow=38						
TXAR	Lajitas Array	19.17	318	P	P	16 36 07.8	+2.2
	0.1nm,0.3s,baz=140,slow=9.8,SNR=20						
TXAR				sP		16 36 14.9	
	0.3nm,0.3s,baz=136,slow=10.0,SNR=13						
TXAR				S	S	16 39 48.3	+12
	0.2nm,0.3s,baz=141,slow=12,SNR=4.1						
SDV	Santo Domingo	19.17	108	P	P	16 36 04.9	-0.7
	0.4nm,0.3s,baz=289,slow=6.3,SNR=4.3						
SDV	Santo Domingo	19.17	108	eP	P	16 36 04.7	-1.0
	14nm,1.1s						
MIAR	Mount Ida	19.25	349	eP	P	16 36 05.5	-0.9
	7.9nm,0.6s						
SWET	Sewanee	19.67	8	P	P	16 36 04.8	-6.5
CPCT	Cooper Cave	20.11	11	eP	P	16 36 16.1	0.0
WMOK	Wichita Mounta	20.93	337	eP	P	16 36 24.5	-0.1
	20nm,1.2s						
WMOK				eS	S	16 40 20.0	+7.1
SJG	San Juan	22.01	80	LR	LR	16 44 22.5	
	comp=Z,174nm,20.6s,MS3.5,baz=252,slow=35						
AMTX	Amarillo	22.27	332	eP	P	16 36 38.5	+0.4
	18nm,0.9s,mb4.5						
CCM	Cathedral Cave	22.39	355	eP	P	16 36 39.0	-0.3
	6.2nm,0.8s,mb4.1						
ANMO	Albuquerque	24.78	324	LR	LR	16 48 30.5	
	comp=Z,55nm,18.4s,MS3.1,slow=41						
SDCO	Great Sand Dun	26.39	330	P	P	16 37 20.2	+2.6
	5.4nm,1.1s,mb4.0						
PDAR	Pinedale Array	32.24	331	P	P	16 38 09.1	-1.0
	0.2nm,0.5s,mb3.2,baz=100,slow=10,SNR=2.9						
NVAR	Mina Array Bea	34.32	317	P	P	16 38 28.7	+0.7
	0.4nm,0.7s,mb3.5,baz=122,slow=8.5,SNR=4.5						
ULM	Lac du Bonnet	34.94	352	P	P	16 38 31.1	-2.2
	1.3nm,0.6s,mb4.0,baz=160,slow=2.7,SNR=3.3						
MCMT	McKenzie Canyo	35.36	330	eP	P	16 38 37.1	+0.1
LPAZ	La Paz	37.85	146	LR	LR	16 54 59.5	
	comp=Z,123nm,19.7s,MS3.7,baz=292,slow=37						
SCHQ	Schefferville	42.70	19	P	P	16 39 37.0	-0.9
	1.5nm,0.8s,mb3.8,baz=240,slow=14,SNR=2.8						
SCHQ				PcP	PcP	16 41 27.9	-2.4
	4.8nm,1.2s,baz=253,slow=4.3,SNR=3.9						
SCHQ				LR	LR	16 58 50.4	
	comp=Z,101nm,20.6s,MS3.7,baz=307,slow=38						
SCHQ	Schefferville	42.70	19	P	P	16 39 37.0	-0.9
SCHQ				PcP	PcP	16 41 27.9	-2.4
YKA	Yellowknife Ar	50.13	345	P	P	16 40 35.3	-1.2
	0.6nm,0.8s,mb3.7,baz=140,slow=7.6,SNR=13						
BDFB	Brasilia	51.05	126	LR	LR	17 05 25.9	
	comp=Z,89nm,21.6s,MS3.8,baz=59,slow=40						
DLBC	Dease Lake	52.38	334	P	P	16 40 54.2	+0.6
	1.7nm,0.9s,mb4.0,baz=157,slow=15,SNR=3.3						
DLBC	Dease Lake	52.38	334	P	P	16 40 54.2	+0.6
INK	Inuvik	59.70	342	P	P	16 41 44.8	-1.3
	1.1nm,0.9s,mb3.9,baz=135,slow=11,SNR=2.9						
ILAR	Eielson Array	62.49	336	P	P	16 42 03.0	-1.9
	1.0nm,1.0s,mb3.9,baz=120,slow=5.0,SNR=7.5						
ILAR				LR	LR	17 15 01.7	
	comp=Z,118nm,19.7s,MS4.1,baz=358,slow=42						
GERES	GERESS Array B	86.48	40	P	P	16 44 23.8	+0.3
	0.2nm,0.6s,mb3.6,baz=212,slow=13,SNR=3.3						
FINES	FINESS Array B	87.77	26	LR	LR	17 20 40.5	
	comp=Z,58nm,20.2s,MS4.0,baz=260,slow=34						
CN2	Changchun	112.96	334	ePKP	PKPdf	16 50 18.7	-1.0
HHC	Hu-ho-hao-te	120.62	342	ePKP	PKPdf	16 50 34.9	+0.2
HHC				PP	PP	16 52 01.7	-1.6
HHC				SKS	SKS	16 57 46.3	+13
HHC				SKKS		16 58 59.1	
HHC				SS	SS	17 08 35.8	+5.7
HHC				PP	PP		
	comp=Z,69nm,11.3s						
WMQ	Urumqi	120.73	3	ePKP	PKPdf	16 50 34.5	-0.4
WMQ				PP	PP	16 52 07.0	+3.0
WMQ				PKS	PKS	16 54 10.0	+2.6
WMQ				PPP	PPP	16 54 41.0	+2.5
WMQ				LR	LR		
	comp=N,77nm,15.7s,MS4.5						
WMQ				LR	LR		
	comp=E,63nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,96nm,20.0s,MS4.4						
SSE	Sheshan	125.20	328	ePKP	PKPdf	16 50 42.7	-1.2
NJ2	Nanjing	125.56	331	ePKP	PKPdf	16 50 37.7	-6.8
LZH	Lanzhou	127.12	347	ePKP	PKPdf	16 50 45.5	-1.8
LZH				XPKP		16 50 50.2	
LZH				LR	LR		
	comp=N,146nm,18.0s						
LZH				LR	LR		
	comp=Z,237nm,20.1s,MS4.9						
LZH	Lanzhou	127.12	347	ePKP	PKPdf	16 50 45.5	-1.8
LZH				pPKP		16 50 48.9	
LZH				sPKP		16 50 50.2	
CTA	Charters Tower	127.41	257	LR	LR	17 21 29.1	
	comp=Z,78nm,19.5s,MS4.4,baz=121,slow=32						
CMAR	Chiang Mai Arr	145.20	347	PKPbc	PKPbc	16 51 17.4	-1.0
	comp=Z,1.8nm,0.8s,baz=339,slow=3.4,SNR=12						
CMAR				pPKPbc		16 51 23.9	
	comp=Z,1.5nm,0.7s,baz=336,slow=3.2,SNR=7.0						

IDC 05 16:40:35.6±2.5, 2.26S×68.78E, mb3.5/3, mb1 3.8/3, mb1mx3.6/13, mbtmp3.5/3, MS3.5/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=68.2km s-min=45.7km az=69.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	36.12	54	P	P	16 47 39.9	-1.7
	0.4nm,0.8s,baz=248,slow=9.7,SNR=3.3						
CMAR				LR	LR	17 00 49.2	
	comp=Z,26nm,18.1s,baz=43,slow=34						
SONM	Songino Array	59.71	28	P	P	16 50 42.1	-2.4
	0.5nm,0.7s,baz=219,slow=6.9,SNR=5.7						
WRA	Warramunga Arr	66.28	111	P	P	16 51 26.4	-2.1
	1.3nm,1.1s,baz=287,slow=5.9,SNR=10						
TXAR	Lajitas Array	152.13	346	PKPbc	PKPdf	17 00 34.0	+5.1
	0.2nm,0.9s,baz=333,slow=4.0,SNR=2.1						

MAN 05 16:52:27.4, 7.21N×124.46E, h1^{km}, mb3.9, ML2.7, MS2.3, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	0.65	107⇓	eP	Pg	16 52 39.7	-0.7
KCP				i S	Sg	16 52 56.4	+7.3
BUKP	Musuan	0.90	42	eP	Pg	16 52 47.9	+2.6
PAGZ	Pagadian	1.25	301	eP	Pb	16 52 52.5	+1.2

OTT 05 16:59:50.7±0.3, 52.77N×67.21W, MN2.8/6, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.07	6	PN	Pn	17 00 26.9	-0.2
SCHQ				SG	Sg	17 00 54.8	-5.0
SCHQ				Trac		17 00 57.7	
	comp=Z,30nm,0.2s						
MNQ	Manicouagan	2.44	204	PN	Pn	17 00 31.8	-0.7
MNQ				Trac		17 01 08.4	
	comp=Z,27nm,0.2s						
SMQ	Clarke City	2.58	173	PN	Pn	17 00 35.1	+0.7
SMQ				Trac		17 01 16.2	
	comp=Z,14nm,0.2s						
ICQ	Pointe Anglais	3.26	181	PN	Pn	17 00 42.1	-1.9
ICQ				SN	Sn	17 01 21.9	-2.2
ICQ				Trac		17 01 39.0	
	comp=Z,8.9nm,0.2s						
CNQ	Baie Comeau	3.52	189	PN	Pn	17 00 46.5	-1.3
CNQ				Trac		17 01 47.9	
	comp=Z,7.4nm,0.2s						
GSQ	Grosses Roches	3.87	179	PN	Pn	17 00 51.7	-1.0
LG4Q	La Grande 4	4.23	284	PN	Pn	17 00 54.8	-3.0
LG4Q				SN	Sn	17 01 43.1	-5.5
LG4Q				Trac		17 02 03.5	
	comp=Z,4.4nm,0.2s						
LMQ	La Malbaie	5.60	202	PN	Pn	17 01 14.2	-3.1
DRLN	Deer Lake	7.07	116	PN	Pn	17 01 33.4	-4.5
VLDQ	Val d'Or	8.03	239	PN	P	17 01 46.6	-4.8
VIMO	Victor Mine	10.02	277	PN	P	17 02 11.5	-7.3

FUNV 05 17:12:19.1, 6.61N×73.16W, h167^{km}, MW3.1
NEIC 05 17:12:20.6±1.0, 6.42N×72.55W, h172^{km}±8^{km}, mb4.4/2, Error ellipse: s-maj=24.7km s-min=12.8km az=137.0
IDC 05 17:12:22.3±2.7, 6.68N×73.15W, h172^{km}±19^{km}, mb3.1/3, mb1 3.5/4, mb1mx3.0/19, mbtmp3.7/4, Error ellipse: s-maj=58.3km s-min=23.6km az=96.0
ISC 05 17:12:20.1±0.6, 6.81N±0.06×72.95W±0.07, h168^{km}±6^{km}, n18, σ0^{s}90/24, mb3.6/4, 1C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.22	31⇓	iP	P	17 12 49.9	+1.1
CAPV				eS	S	17 13 11.8	+0.9
ROSC	El Rosal	2.38	215	P	P	17 13 01.3	0.0
	72nm,0.3s,baz=2.1,slow=2.6,SNR=61						
ROSC				S	S	17 13 31.4	-1.5
	78nm,0.3s,baz=262,slow=22,SNR=19						
VIGV	El Vigia	2.55	38	eP	P	17 13 04.5	+1.1
VIGV				eS	S	17 13 37.6	+1.0
SDV	Santo Domingo	3.08	48	ePn	P	17 13 10.7	+0.8
SDV				eSn	S	17 13 48.3	+0.2
VIRV	Villa del Rosa	3.70	8	i P	P	17 13 16.9	-0.9
VIRV				eS	S	17 14 01.0	-1.2
SANV	Sanarito	4.31	51⇑	iP	P	17 13 26.4	+0.8
SANV				eS	S	17 14 15.3	-0.8
CURV	Curarigua	4.34	43	eP	P	17 13 26.7	+0.6
CURV				eS	S	17 14 16.3	-0.6
DABV	Dabajuro	4.68	29	eP	P	17 13 31.1	+0.6
DABV				eS	S	17 14 23.8	-0.9
BAUV	El Baul	5.30	66⇓	iP	P	17 13 38.0	-0.6
BAUV				eS	S	17 14 37.5	-1.9
JTS	JuntasAbangare	12.36	287	eP	P	17 15 17.8	+6.4
	13nm,0.9s						
LPAZ	La Paz	23.44	168	pP		17 17 49.3	
	0.7nm,0.7s,baz=23,slow=12,SNR=2.7						
LVC	Limon Verde	29.51	172	P	P	17 18 11.8	+0.7
	8.9nm,0.9s,mb4.5						
TXAR	Lajitas Array	36.59	312	P	P	17 19 11.1	-0.7
	0.2nm,0.5s,mb3.0,baz=132,slow=11,SNR=4.5						
SCHQ	Schefferville	48.13	5	P	P	17 20 45.3	+0.5
	0.9nm,0.4s,mb3.7,baz=157,slow=13,SNR=5.1						
YKA	Yellowknife Ar	63.33	340	P	P	17 22 33.7	+0.5
	0.4nm,0.7s,mb3.4,baz=132,slow=6.6,SNR=8.3						
YKA	Yellowknife Ar	63.33	340	P	P	17 22 33.7	+0.5
ASAR	Alice Springs	149.25	234	PKPbc	PKPdf	17 31 50.4	+5.4
	0.5nm,0.6s,baz=116,slow=3.7,SNR=12						
WRA	Warramunga Arr	150.48	241	PKPbc	PKPdf	17 31 53.5	+6.5
	0.4nm,0.4s,baz=109,slow=2.7,SNR=20						

BJI 05 17:14:05.0, 5.23S×151.16E, h272^{km}, mB4.9, mb4.4
NEIC 05 17:14:06.3±1.5, 5.11S×150.79E, h250^{km}±15^{km}, mb4.3/27, Error ellipse: s-maj=13.1km s-min=8.2km az=97.0
IDC 05 17:14:06.4±0.9, 5.17S×150.86E, h251^{km}±7^{km}, mb4.0/11, mb1 4.2/12, mb1mx4.2/15, mbtmp4.6/12, Error ellipse: s-maj=21.8km s-min=11.3km az=113.0
ISC 05 17:14:04.3±1.4, 5.12S±0.06×150.85E±0.08, h245^{km}±13^{km}, h253^{km}±1.7^{km}:pP-P, n67, σ0^{s}95/65, mb4.3/39, 3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.61	220	P	P	17 15 28.8	+0.8
	13nm,0.3s,baz=39,slow=6.1,SNR=35						
PMG				S	S	17 16 40.3	+6.8
	20nm,0.3s,baz=50,slow=18,SNR=5.6						
PMG	Port Moresby	5.61	220	ePn	P	17 15 28.4	+0.4
	356nm,1.0s						
PMG				eSn	S	17 16 12.4	-21
CTA	Charters Tower	15.53	196	eP	P	17 17 34.0	+1.5
	4.5nm,0.8s						
CTAO	Charters Tower	15.53	196	eP	P	17 17 33.8	+1.3
	7.8nm,0.9s						
KAKA	Kakadu	19.68	246⇓	iP	P	17 18 16.1	-0.5
	24nm,0.6s						
WRAB	Tennant Creek	21.79	226	P	P	17 18 38.0	+0.7
	468nm,0.6s,SNR=78						
WRAB	Tennant Creek	21.79	226	eP	P	17 18 37.8	+0.5
	71nm,0.6s,mb5.4						
WRAB				eS	S	17 22 18.6	+1.1
WRA	Warramunga Arr	21.80	226	P	P	17 18 38.3	+0.9
	30nm,0.5s,mb5.1,baz=50,slow=9.8,SNR=227						
ASAR	Alice Springs	24.63	220	P	P	17 19 04.3	+0.1
	7.0nm,0.4s,mb4.7,baz=52,slow=8.9,SNR=473						
ASAR				PcP	PcP	17 22 35.8	+0.1
	2.2nm,0.7s,baz=61,slow=2.7,SNR=9.1						
ASPA	Alice Springs	24.63	220⇓	iP	P	17 19 04.2	-0.1
ASPA				eS	S	17 23 05.9	+0.5
FITZ	Fitzroy Crossi	27.81	240	eP	P	17 19 32.0	-1.2
	6.8nm,0.5s,mb4.5						
STKA	Stephens Creek	27.99	197⇓	iP	P	17 19 34.0	-0.8
	4.5nm,0.7s,mb4.2						
STKA	Stephens Creek	27.99	197	P	P	17 19 34.0	-0.8
	5.7nm,0.8s,mb4.3,baz=349,slow=9.2,SNR=11						
FORT	Forrest	33.33	217	eP	P	17 20 20.4	-0.9
	610nm,0.6s						
MBWA	Marble Bar	34.13	239	eP	P	17 20 26.8	-1.4
	9.3nm,0.6s,mb4.5						
AFI	Afiamalu	37.83	106	P	P	17 20 59.2	-0.1
	51nm,1.0s,mb5.0						
KLBR	Kellerberrin	40.68	226	eP	P	17 21 21.4	-1.2
	114nm,0.6s,mb5.5						
NWAO	Narrogin (SRO)	41.79	224	P	P	17 21 30.6	-1.0
	5.1nm,0.5s,mb4.2,baz=60,slow=8.1,SNR=13						
NWAO	Narrogin (SRO)	41.79	224	eP	P	17 21 30.5	-1.2
	16nm,1.0s,mb4.4						
MUN	Mundaring	42.00	226	eP	P	17 21 32.5	-0.9
	6.2nm,0.8s,mb4.1						
MAJO	Matsushiro	43.10	345	P	P	17 21 43.5	+1.3
KS15	Wonju Array Si	47.44	335	eP	P	17 22 15.6	-0.8
ENH	Enshi	52.97	314	P	P	17 22 57.1	-0.8
	3.5nm,0.7s,mb3.9						
CMAR	Chiang Mai Arr	56.26	296	P	P	17 23 22.5	+0.8
	3.4nm,1.0s,mb3.8,baz=110,slow=5.8,SNR=10						
CM31	Chiang Mai Arr	56.26	296	eP	P	17 23 21.8	+0.1
	11nm,1.1s,mb4.3						
HHC	Hu-ho-hao-te	58.19	326	eP	P	17 23 36.5	+1.6
HHC				AP	pP	17 24 33.6	+3.6
HHC				XP	sP	17 25 00.9	+4.2
HHC				PP	PP	17 25 49.7	+1.5
HHC				S	S	17 31 19.0	+3.4
HHC				SS	SS	17 35 15.1	+1.7
HHC				AMB	AMB		
	comp=Z,94nm,4.0s						
HIA	Hailar	60.55	337	eP	P	17 23 50.3	-0.6
	comp=Z,13nm,1.3s,mb4.4						
MA2	Magadan	64.49	360	eP	P	17 24 15.3	-1.3
	comp=Z,6.0nm,0.9s,mb4.2						
GTA	Gaotai	64.58	318	P	P	17 24 17.7	+0.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.2						
ULN	Ulaanbaatar	65.25	329	eP	P	17 24 21.1	-0.6
	comp=Z,2.4nm,0.7s,mb3.9						
SONM	Songino Array	65.57	329	P	P	17 24 24.4	+0.7
	comp=Z,2.9nm,0.5s,mb4.2,baz=147,slow=5.4,SNR=42						
SONM				pP	pP	17 25 21.6	+1.3
	comp=Z,0.1nm,0.4s,baz=160,slow=3.6,SNR=2.3						
LSA	Lhasa	66.82	305	eP	P	17 24 33.4	+1.5
LSA	Lhasa	66.82	305	eP	P	17 24 33.1	+1.1
	comp=Z,7.9nm,0.9s,mb4.3						
CASY	Casey	67.15	196	eP	P	17 24 33.3	-0.1
	comp=Z,17nm,0.9s,mb4.7						
YAK	Yakutsk	68.92	349	eP	P	17 24 44.2	-0.1
	comp=Z,9.8nm,1.0s,mb4.4						
TLY	Talaya	69.39	331	P	P	17 24 47.5	+0.1
	comp=Z,3.4nm,1.1s,mb3.9						
JIRN	Jiri	70.29	302	eP	P	17 24 53.4	+0.1
	comp=Z,5.0nm,0.6s,mb4.3						
PKI	Pulchoki	70.93	301	eP	P	17 24 56.9	-0.2
KKN	Kakani	71.10	302	eP	P	17 24 58.0	-0.1
	comp=Z,9.8nm,0.7s,mb4.6						
GKN	Gorkha	71.71	302	eP	P	17 25 01.2	-0.5
	comp=Z,14nm,0.7s,mb4.7						
KOLN	Koldanda	72.53	301	eP	P	17 25 06.1	-0.6
	comp=Z,13nm,0.7s,mb4.7						
VNDA	Vanda	72.59	178	eP	P	17 25 06.7	+0.6
	comp=Z,6.1nm,1.1s,mb4.1						
BILL	Bilibino	73.80	6	eP	P	17 25 13.9	+0.6
	comp=Z,4.7nm,1.0s,mb4.1						
HYB	Hyderabad	74.76	289	eP	P	17 25 19.0	-0.8
HYB	Hyderabad	74.76	289	i P	P	17 25 19.0	-0.8
ZAL	Zalesovo	80.35	327	P	P	17 25 48.7	-0.9
	comp=Z,2.1nm,0.5s,mb4.0,baz=2.8,slow=5.2,SNR=13						
ZAL				pP	pP	17 26 49.5	+1.3
	comp=Z,0.5nm,0.5s,baz=112,slow=8.1,SNR=1.8						
MCK	McKinley	81.91	23	eP	P	17 25 57.0	-0.5
	comp=Z,4.6nm,0.9s,mb4.1						
TKM2	Tokmak 2	82.75	314	P	P	17 26 03.3	+1.1
	SNR=7.4						
KZA	Kyzart	82.81	313	P	P	17 26 04.4	+1.9
	SNR=6.8						
KURK	Kurchatov	82.83	322	eP	P	17 26 01.6	-0.8
	comp=Z,5.7nm,1.2s,mb4.2						
COLA	College	82.87	22	eP	P	17 26 00.6	-1.8
	comp=Z,6.5nm,1.0s,mb4.3						
ILAR	Eielson Array	83.19	22	P	P	17 26 03.0	-1.0
	comp=Z,2.6nm,0.8s,mb4.0,baz=244,slow=4.9,SNR=31						
ILAR				pP	pP	17 27 04.3	+1.3
	comp=Z,1.0nm,0.8s,baz=237,slow=5.8,SNR=3.7						
AAK	Ala-Archa	83.48	314	eP	P	17 26 06.0	0.0
	comp=Z,3.3nm,1.0s,mb4.0						
USP	Ospenovka	83.62	314	P	P	17 26 07.3	+0.7
	SNR=7.4						
AML	Almayashu	83.94	313	P	P	17 26 10.3	+2.0
	SNR=9.2						
EKS2	Erkin-Say	84.00	314	P	P	17 26 09.7	+1.2
	SNR=7.3						
QSPA	South Pole Qui	84.84	180	eP	P	17 26 13.4	+1.4
	comp=Z,4.4nm,0.6s,mb4.4						
CHKZ	Chkalovo	88.32	324	eP	P	17 26 27.3	-1.9
	comp=Z,1.5nm,0.9s,mb3.8						
INK	Inuvik	89.45	21	P	P	17 26 34.2	0.0
	comp=Z,4.6nm,1.2s,mb4.2,baz=264,slow=7.4,SNR=5.1						
NVAR	Mina Array Bea	93.81	52	P	P	17 26 56.2	+1.2
	comp=Z,0.4nm,0.6s,mb3.6,baz=263,slow=4.1,SNR=6.7						
YKA	Yellowknife Ar	96.61	28	P	P	17 27 07.6	+0.4
	comp=Z,0.6nm,0.6s,mb4.0,baz=270,slow=4.8,SNR=17						
PLCA	Paso Flores	120.67	144	PKP	PKPdf	17 32 29.5	+2.2
	comp=Z,1.3nm,1.0s,baz=297,slow=4.5,SNR=3.2						
GERES	GERESS Array B	123.29	327	PKP	PKPdf	17 32 33.3	+1.1
	comp=Z,1.3nm,0.6s,baz=71,slow=1.4,SNR=17						
LPAZ	La Paz	135.97	120	PKP	PKPdf	17 32 59.4	+2.4
	comp=Z,0.9nm,0.6s,baz=334,slow=2.8,SNR=5.6						
SDV	Santo Domingo	138.68	82	PKP	PKPdf	17 33 04.5	+2.4
	comp=Z,2.9nm,0.5s,baz=265,slow=0.7,SNR=5.3						
BDFB	Brasilia	152.17	138	PKPbc	PKPdf	17 33 34.0	+9.4
	comp=Z,4.2nm,0.5s,baz=226,slow=2.5,SNR=7.8						
DBIC	Dimbokro	155.78	275	PKPab	PKPab	17 33 59.1	-0.9
	comp=Z,3.2nm,0.9s,baz=86,slow=5.9,SNR=4.2						

JMA 05 17:44:58.0±0.2, 24.72N×122.67E, h89^{km}, M1.6
TAP 05 17:44:57.1, 24.51N×122.69E, h92^{km}±1^{km}, ML3.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.30	99	P	P	17 45 12.0	+1.2
YOJ				eS	S	17 45 22.3	+1.1
IRIF	Iriomote-Funau	0.96	100	P	P	17 45 18.0	+1.2
IRIF				eS	S	17 45 33.5	+2.0
HATJ	Hateruma jima	1.11	114	eS	S	17 45 37.8	+3.1
JKRS	Kuro-shima	1.23	102	P	P	17 45 21.8	+1.7
JKRS				S	S	17 45 39.3	+2.0
JIJ	Ishigaki jima	1.33	96	P	P	17 45 22.3	+1.0
JIJ				S	S	17 45 40.1	+0.8
JTJ	Tarama	1.84	86	P	P	17 45 29.1	+1.3
JTJ				S	S	17 45 52.4	+2.1

NEIC 05 18:04:15.7±1.1, 20.60S×177.98W, h512^{km}±13^{km}, mb4.1/15, Error ellipse: s-maj=18.0km s-min=8.1km az=149.0
IDC 05 18:04:20.5±3.7, 20.83S×178.00W, h565^{km}±42^{km}, mb3.5/10, mb1 3.8/11, mb1mx3.7/16, mbtmp4.4/11, Error ellipse: s-maj=22.2km s-min=17.0km az=134.0
ISC 05 18:04:14.6±1.5, 20.65S±0.09×178.01W±0.10, h507^{km}±17^{km}, n49, σ1^{s}15/31, mb4.0/22, 8C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.97	43	eP	P	18 06 21.4	-0.9
	54nm,0.9s						
URZ	Urewera	18.05	192	P	P	18 07 56.4	+1.5
	3.0nm,0.3s,baz=268,slow=2.8,SNR=17						
URZ				S	S	18 10 51.6	-0.9
	0.2nm,0.3s,baz=288,slow=20,SNR=3.0						
CTA	Charters Tower	33.46	265	eP	P	18 10 13.4	+1.1
	3.0nm,0.6s,mb3.9						
CTA	Charters Tower	33.46	265	P	P	18 10 13.8	+1.5
	5.8nm,0.8s,mb4.1,baz=88,slow=9.6,SNR=7.7						
CTAO	Charters Tower	33.46	265	eP	P	18 10 13.2	+0.9
	6.5nm,0.8s,mb4.1						
STKA	Stephens Creek	37.71	244	P	P	18 10 48.8	+1.4
	1.7nm,0.6s,mb3.6,baz=51,slow=6.5,SNR=2.9						
ASAR	Alice Springs	44.47	257	P	P	18 11 42.5	+0.8
	5.7nm,0.5s,mb4.3,baz=91,slow=7.7,SNR=165						
ASAR				PcP	PcP	18 13 14.1	-0.7
	1.0nm,0.5s,baz=102,slow=4.0,SNR=7.1						
ASPA	Alice Springs	44.47	257⇓	iP	P	18 11 42.2	+0.5
WRAB	Tennant Creek	44.56	262	eP	P	18 11 42.0	-0.4
	7.3nm,0.8s,mb4.2						
WRA	Warramunga Arr	44.57	262	P	P	18 11 42.0	-0.4
	2.0nm,0.3s,mb4.0,baz=97,slow=7.5,SNR=75						
KAKA	Kakadu	47.96	271	eP	P	18 12 08.0	-0.6
	7.1nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	52.99	262	eP	P	18 12 45.5	0.0
	8.6nm,1.1s,mb4.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SBA	Scott Base	57.72	184	P	P	18 13 15.5	-2.2
	134nm,1.6s,mb5.0						
MBWA	Marble Bar	57.81	257	eP	P	18 13 16.7	-2.3
	2.1nm,0.4s,mb3.8						
CMB	Columbia Colle	79.58	43	eP	P	18 15 29.7	+0.1
	4.6nm,1.0s,mb4.0						
NVAR	Mina Array Bea	81.14	43	P	P	18 15 38.5	+0.8
	3.5nm,0.8s,mb3.9,baz=212,slow=6.8,SNR=15						
TPH	Tonopah	81.64	44	eP	P	18 15 40.6	+0.4
	5.4nm,0.8s,mb4.1						
BGU	Big Grassy Mou	85.91	44	P	P	18 16 04.0	+2.8
ENH	Enshi	86.11	304	P	P	18 16 01.7	-0.8
	3.5nm,0.6s,mb4.2						
MCK	McKinley	87.12	13	eP	P	18 16 05.1	-1.4
	3.4nm,1.0s,mb4.0						
TXAR	Lajitas Array	87.15	57	P	P	18 16 09.0	+1.6
	1.8nm,0.7s,mb3.9,baz=215,slow=7.2,SNR=27						
TXAR	Lajitas Array	87.15	57	P	P	18 16 09.0	+1.6
ANMO	Albuquerque	87.51	51	P	P	18 16 08.1	-0.8
	1.0nm,0.6s,mb3.7						
COLA	College	88.36	12	eP	P	18 16 10.5	-1.7
	6.6nm,0.8s,mb4.4						
ILAR	Eielson Array	88.46	13	P	P	18 16 11.4	-1.3
	1.6nm,0.6s,mb4.0,baz=215,slow=5.0,SNR=24						
QLMT	Earthquake Lak	88.94	41	eP	P	18 16 16.6	+1.1
PDAR	Pinedale Array	89.08	43	P	P	18 16 16.6	+0.4
	1.8nm,0.5s,mb4.2,baz=211,slow=2.8,SNR=19						
SDCO	Great Sand Dun	89.46	49	eP	P	18 16 18.4	+0.4
	3.1nm,1.1s,mb4.0						
CMAR	Chiang Mai Arr	90.15	290	P	P	18 16 23.1	+1.4
	2.7nm,1.1s,mb4.0,baz=103,slow=2.9,SNR=5.3						
SONM	Songino Array	95.86	319	P	P	18 16 46.7	-0.4
	0.2nm,0.5s,mb3.5,baz=133,slow=3.8,SNR=2.9						
ARCES	ARCESS Array B	129.07	350	PKP	PKPdf	18 22 23.8	0.0
	9.3nm,1.1s,baz=39,slow=1.1,SNR=9.9						
ARCES	ARCESS Array B	129.07	350	PKP	PKPdf	18 22 23.8	0.0
FINES	FINESS Array B	135.91	344	PKhKP		18 22 24.7	
	0.8nm,0.7s,slow=7.6,SNR=3.6						
FINES				PKP	PKPdf	18 22 35.4	-1.4
	3.0nm,1.0s,baz=90,slow=5.6,SNR=4.8						
BRTR	Keskin Array B	146.93	312	PKPbc	PKPbc	18 23 00.5	+1.6
	baz=127,slow=4.6						
BURAR	Bucovina Array	147.19	330	⇓P	PKPdf	18 23 00.8	+4.0
KOLS	Kolonicke sedl	147.44	335	ePKP	PKPdf	18 23 02.9	+5.8
CRVS	Cervenica-Dubn	147.79	336	ePKP	PKPdf	18 23 05.8	+8.1
OKC	Ostrava-Krasne	148.17	340	⇑ePKPB		18 23 01.2	
CLZ	Clausthal	148.19	350	ePKPbc	PKPdf	18 23 03.3	+5.1
CLL	Collm	148.21	347	i PKP1	PKPdf	18 23 03.2	+4.9
UPC	Upice	148.21	343	⇑ePKPB		18 23 03.6	
DPC	Dobruska-Polom	148.27	342	⇑ePKPB		18 23 03.8	
MLR	Muntele Rosu	148.34	327	⇑P	PKPdf	18 23 04.8	+6.0
PRU	Pruhonice	149.08	344	⇑ePKPB		18 23 05.6	
NKC	Novy Kostel	149.34	347	⇑ePKPB		18 23 06.4	
TNS	Taunus Mts	150.05	352	ePKPbc	PKPdf	18 23 08.1	+6.8
KHC	Kasperske Hory	150.11	345	⇑ePKPB		18 23 08.1	
BZS	Buzias	150.33	332	⇑P	PKPdf	18 23 08.1	+6.2
GERES	GERESS Array B	150.34	344	PKPbc	PKPdf	18 23 08.5	+6.7
	1.4nm,0.5s,baz=36,slow=1.7,SNR=17						

MAN 05 18:18:42.6, 15.24N×122.03E, h11km, mb4.3, ML3.2, MS2.9, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	Polilio Island	0.52	190	eP	Pg	18 18 53.5	+0.4
POLP				eS	Sg	18 19 02.7	+2.5
BALP	Baler	0.66	319	eP	Pb	18 18 55.6	-0.1
PCPH	Palayan	0.96	290	⇓eP	Pb	18 19 00.4	-0.3
PCPH				eS	Sb	18 19 16.0	+2.8
LQP	Lukban	1.22	203	eP	Pb	18 19 09.0	+3.8
GQP	Guinayangan	1.39	163	eP	Pn	18 19 06.7	-1.3
CAUP	Cauayan	1.71	353	eP	Pn	18 19 11.4	-1.2

MAN 05 18:38:28.4, 8.30N×125.11E, h32km, mb3.9, ML2.7, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.42	187	eP	Pb	18 38 38.5	+0.8
BUKP				eS	Sb	18 38 44.0	-0.1
CGP	Cagayan de Oro	0.44	291	i P	Pb	18 38 39.4	+1.3
CGP				i S	Sb	18 38 46.5	+1.8
KCP	Kidapawan	1.28	181	⇑eP	Pn	18 38 51.4	+0.9
KCP				i S	Sn	18 39 06.2	-0.4
PAGZ	Pagadian	1.77	256	eP	Pn	18 38 57.1	-0.4
MSLP	Maasin	1.84	352	eP	Pn	18 39 07.4	+8.9
BESP	Borongan	3.30	6	eP	Pn	18 39 18.9	-0.3

*KRSC **05** 18:41:46.4±1.1, 56.39N×163.79E, h8km±2km, ML4.4*
*MOS **05** 18:41:47.6±1.2, 56.44N×163.79E, h38km, mb4.5/6, Error ellipse: s-maj=16.4km s-min=9.4km az=66.4*
*NEIC **05** 18:41:50.0±0.9, 56.59N×163.54E, h37km±9km, mb4.3/8, Error ellipse: s-maj=9.6km s-min=5.4km az=143.0*
*IDC **05** 18:41:49.1±0.8, 56.47N×163.68E, h31km±5km, mb3.6/10, mb1 3.9/11, mb1mx3.8/19, mbtmp3.8/11, ML3.3/1, Error ellipse: s-maj=18.0km s-min=12.0km az=20.0*
ISC 05 18:41:44.5±0.3**, 56.43N**±0.03×**163.97E**±0.04**, h8km, (h30km±.6km:pP-P), n66,** σ**1§27**/96**, mb3.9**/18**, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.68	252	P	Pg	18 41 58.6	+0.5
KBTR				S	Sg	18 42 06.6	-0.6
KBTR	Krutoberegovo	0.68	252	i P	Pg	18 41 58.7	+0.6
KBTR				i S	Sg	18 42 07.1	-0.1
KBG	Krutoberegovo	0.73	257	i P	Pb	18 41 59.6	+0.6
KBG				i S	Sg	18 42 08.5	-0.3
KBG				Smax			
	25µm,0.6s						
KBG	Krutoberegovo	0.73	257	i P	Pb	18 41 59.3	+0.3
KBG				i S	Sg	18 42 08.9	+0.1
KBG				Smax			
	15µm,0.8s						
BKI	Bering	1.67	137	i P	Pn	18 42 15.6	+1.4
BKI				i S	Sn	18 42 37.1	+1.1
ZLN	Zelenaya	1.82	258	i P	Pn	18 42 17.9	+1.5
ZLN				eS	Sn	18 42 40.3	+0.5
CIRR	Tsirk	1.82	261	eP	Pn	18 42 17.0	+0.5
CIRR				eS	Sn	18 42 39.6	-0.4
KLY	Klyuchi	1.85	268	eP	Pn	18 42 15.2	-1.7
KLY				eS	Sn	18 42 36.6	-4.1
KRSR	Krestovskiy	1.91	265	i P	Pn	18 42 18.2	+0.5
KRSR				eS	Sn	18 42 41.8	-0.4
KPT	Kopyto	2.15	259	eP	Pn	18 42 22.5	+1.4
KPT				eS	Sn	18 42 47.6	-0.6
KMNR	Kamenistaya	2.20	254	eP	Pn	18 42 23.7	+1.8
KMNR				eS	Sn	18 42 50.4	+0.9
KOZR	Kozyr	2.30	263	PN	Pn	18 42 25.1	+1.7
KOZR				S	Sn	18 42 53.5	+1.3
KOZ	Kozyrevsk	2.32	263	P	Pn	18 42 25.1	+1.5
KOZ				S	Sn	18 42 53.5	+1.0
KOZ	Kozyrevsk	2.32	263	eP	Pn	18 42 25.0	+1.4
KOZ				eS	Sn	18 42 53.5	+1.0
SRDR	Sredinnyy	2.37	269	i P	Pn	18 42 24.8	+0.5
SRDR				eS	Sn	18 42 55.3	+1.4
TUMR	Tumrok	2.44	244	i P	Pn	18 42 27.0	+1.6
TUMR				eS	Sn	18 42 56.2	+0.5
ESO	Esso	2.99	262	i P	Pn	18 42 33.7	+0.5
ESO				eS	Sn	18 43 07.8	-1.8
KII	Karymskiy	3.53	229	eP	Pn	18 42 42.6	+1.8
KII				eS	Sn	18 43 22.8	-0.4
SPN	Mys Shipunski	4.04	216	P	Pn	18 42 47.7	-0.4
SPN				S	Sn	18 43 31.3	-5.0
SPN	Mys Shipunski	4.04	216	i P	Pn	18 42 47.7	-0.4
NLC	Nalytchevo	4.22	221	P	Pn	18 42 50.3	-0.3
NLC				S	Sn	18 43 37.0	-3.8
NLC	Nalytchevo	4.22	221	eP	Pn	18 42 50.2	-0.4
NLC				eS	Sn	18 43 37.7	-3.1
AVH	Avacha	4.38	226	eP	Pn	18 42 53.7	+0.8
AVH				eS	Sn	18 43 44.0	-0.8
UGLR	Uglovaya	4.39	225	eP	Pn	18 42 54.0	+1.0
UGLR				eS	Sn	18 43 44.4	-0.6
KOK	Koryaka	4.40	227	i P	Pn	18 42 54.7	+1.5
KOK				eS	Sn	18 43 44.9	-0.4
GNL	Ganaly	4.42	234	eP	Pn	18 42 54.2	+0.8
GNL				eS	Sn	18 43 44.6	-1.1
PET	Petropavlovsk	4.60	224	ePn	Pn	18 42 56.4	+0.4
PET				eSn	Sn	18 43 45.8	-4.5
PET	Petropavlovsk	4.60	224	eP	Pn	18 42 57.3	+1.3
PET				eS	Sn	18 43 48.6	-1.7
KRMR	Karymshinskiy	4.95	226	eP	Pn	18 43 02.0	+1.0
KRMR				eS	Sn	18 43 56.1	-3.1
RUS	Russkaya	5.12	221	P	Pn	18 43 03.8	+0.5
RUS				S	Sn	18 43 59.4	-3.9
RUS	Russkaya	5.12	221	eP	Pn	18 43 03.7	+0.4
RUS				eS	Sn	18 43 59.4	-3.9
GRL	Gorelyy	5.19	224	eP	Pn	18 43 04.7	+0.4
GRL				eS	Sn	18 44 03.0	-2.1
APC	Apacha	5.29	231	eP	Pn	18 43 05.3	-0.4
FX1	Attu Island--F	6.41	120	Pn	Pn	18 43 21.3	-0.3
	2.2nm,0.3s,baz=295,slow=20,SNR=19						
FX1				Sn	Sn	18 44 33.9	-1.8
	1.5nm,0.3s,baz=198,slow=20,SNR=2.6						
FX1	Attu Island--F	6.41	120	ePn	Pn	18 43 18.3	-3.2
BILL	Bilibino	11.70	4	eP	P	18 44 32.1	-2.6
YAK	Yakutsk	18.26	302	eP	P	18 45 57.2	-2.4
YAK				pmax	pmax		
	comp=Z,11nm,1.0s						
YAK	Yakutsk	18.26	302	eP	P	18 45 57.2	-2.4
	comp=Z,11nm,1.0s						
TIXI	Tiksi	21.15	330	eP	P	18 46 30.9	-1.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
IMA	Indian Mountai	22.08	47	P	P	18 46 42.0	+0.7
IMA				pmax	pmax		
	comp=Z,39nm,1.4s,mb4.6						
IMA	Indian Mountai	22.08	47	P	P	18 46 42.0	+0.7
	comp=Z,39nm,1.4s,mb4.6						
MCK	McKinley	24.09	53	P	P	18 47 02.0	+1.2
MCK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.6						
MCK	McKinley	24.09	53	P	P	18 47 02.0	+1.2
	comp=Z,3.0nm,1.1s,mb3.6						
ILAR	Eielson Array	24.91	50	P	P	18 47 08.9	+0.3
	comp=Z,1.0nm,0.7s,mb3.5,baz=261,slow=7.9,SNR=11						
ILAR				pP		18 47 17.7	
	comp=Z,1.3nm,0.7s,baz=262,slow=7.1,SNR=7.5						
MAJO	Matsushiro	26.38	232	eP	P	18 47 21.1	-1.7
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
MAJO	Matsushiro	26.38	232	eP	P	18 47 21.1	-1.7
	comp=Z,5.1nm,0.7s,mb4.2						
INK	Inuvik	29.86	41	P	P	18 47 53.9	-0.1
	comp=Z,0.9nm,0.8s,mb3.5,baz=280,slow=9.3,SNR=4.2						
INK				pP	pP	18 48 02.4	+6.0
	comp=Z,1.8nm,1.1s,baz=297,slow=3.7,SNR=3.2						
SONM	Songino Array	35.40	281	P	P	18 48 39.6	-2.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=61,slow=7.7,SNR=15						
SONM				PcP	PcP	18 51 10.7	-1.9
	comp=Z,0.3nm,0.5s,baz=84,slow=2.0,SNR=4.4						
YKA	Yellowknife Ar	39.21	47	P	P	18 49 14.7	+0.4
YKA				*PP	pP	18 49 23.4	+6.7
YKA	Yellowknife Ar	39.21	47	P	P	18 49 14.6	+0.4
	comp=Z,0.6nm,0.4s,mb3.7,baz=299,slow=8.2,SNR=11						
YKA				pP	pP	18 49 23.4	+6.7
	comp=Z,0.7nm,0.5s,baz=299,slow=8.2,SNR=8.5						
KURK	Kurchatov	47.90	301	P	P	18 50 21.3	-3.2
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	Kurchatov	47.90	301	P	P	18 50 21.3	-3.2
	comp=Z,1.8nm,0.9s,mb4.1						
FCC	Fort Churchill	49.48	42	eP	P	18 50 35.9	-0.7
FCC				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.4						
FCC	Fort Churchill	49.48	42	eP	P	18 50 35.9	-0.7
	comp=Z,5.5nm,1.3s,mb4.4						
CHKZ	Chkalovo	49.54	309	eP	P	18 50 34.1	-3.0
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CHKZ	Chkalovo	49.54	309	eP	P	18 50 34.1	-3.1
	comp=Z,3.7nm,1.0s,mb4.4						
ELK	Elko	52.54	71	pP	pP	18 51 10.4	+7.8
	comp=Z,1.2nm,0.8s,baz=326,slow=3.6,SNR=3.4						
NVAR	Mina Array Bea	52.60	75	pP	pP	18 51 10.9	+7.9
	comp=Z,1.2nm,0.7s,baz=293,slow=9.6,SNR=5.5						
PDAR	Pinedale Array	54.01	65	P	P	18 51 11.9	+1.1
	comp=Z,0.3nm,0.7s,mb3.3,baz=304,slow=3.3,SNR=2.9						
PDAR				pP	pP	18 51 21.1	+7.7
	comp=Z,0.6nm,0.6s,baz=352,slow=2.5,SNR=5.0						
LSA	Lhasa	56.45	274	eP	P	18 51 26.6	-2.3
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
LSA	Lhasa	56.45	274	eP	P	18 51 26.6	-2.3
	comp=Z,2.7nm,0.6s,mb4.5						
FINES	FINESS Array B	57.92	338	P	P	18 51 36.6	-2.2
	comp=Z,0.5nm,0.6s,mb3.7,baz=56,slow=6.9,SNR=4.7						
CMAR	Chiang Mai Arr	61.03	260	P	P	18 51 58.2	-2.6
	comp=Z,1.6nm,0.6s,mb4.3,baz=12,slow=7.0,SNR=12						
TXAR	Lajitas Array	67.34	71	P	P	18 52 43.0	+1.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=4.0,SNR=3.1						
TXAR				pP	pP	18 52 52.8	+8.4
	comp=Z,0.8nm,0.7s,baz=307,slow=6.3,SNR=2.5						
WRA	Warramunga Arr	80.07	208	P	P	18 53 56.0	-0.1
	comp=Z,0.7nm,0.8s,mb3.7,baz=16,slow=6.0,SNR=5.5						
ASAR	Alice Springs	83.74	208	P	P	18 54 15.3	+0.2
	comp=Z,0.9nm,1.1s,mb3.8,baz=16,slow=4.4,SNR=4.0						

*NIED **05** 18:59:00, 24.80N×121.80E, h5km, Mw3.9 Best double couple: M0 7.15×10^14 NP1:φs264°, δ51°, λ-79°. NP2:φs68°, δ40°, λ-103°.*
*BJI **05** 18:59:13.9, 24.48N×121.85E, h5km, mB5.0, mb4.4, ML4.0, Ms4.2, Msz4.0*
*TAP **05** 18:59:17.4, 24.65N×121.83E, h10km, ML4.0*
TAP Felt IV J at Suao, II J at Ilan, III J at Neicheng, IV J at Nanau, II J at Nioudou, I J at Sanguang.
*JMA **05** 18:59:18.4±0.3, 24.76N×121.84E, h41km, M3.6*
ISC 05 18:59:17.7±0.2**, 24.67N**±0.01×**121.89E**±0.02**, h10km, n65,** σ**1§11**/97**, mb4.5**/1**, MS4.3**/1**, 15D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.07	212	⇓iP	Pg	18 59 19.5	-0.5
ILA	Ilan	0.16	308	⇓iP	Pg	18 59 20.9	-0.5
ILA				S	Sg	18 59 23.4	-0.5
EGS		0.18	12	⇓iP	Pg	18 59 22.1	+0.3
EGS				S	Sg	18 59 25.0	+0.5
TWE	Neicheng	0.21	285	⇓iP	Pg	18 59 21.2	-1.1
TWE				S	Sg	18 59 23.8	-1.5
ENA	Nanau	0.27	210	⇓iP	Pg	18 59 22.7	-0.8
ENA				S	Sg	18 59 26.1	-1.2
ENTT	Nioudou	0.29	265	⇓iP	Pg	18 59 22.6	-1.2
ENTT				S	Sg	18 59 26.0	-2.0
TWB1	Santiao Chiao	0.35	15	i P	Pg	18 59 24.7	-0.3
TWB1				S	Sg	18 59 29.2	-0.6
NWF	Wu-fen Shan	0.41	346	⇓iP	Pg	18 59 26.1	-0.1
NWF				S	Sg	18 59 32.0	+0.1
TWA	Mucha	0.42	319	⇓iP	Pg	18 59 25.8	-0.5
TWA				S	Sg	18 59 31.9	0.0
NSK	Sanguang	0.48	271	⇓iP	Pg	18 59 26.2	-1.4
NSK				S	Sg	18 59 31.4	-2.7
TAP1	Taipei	0.50	318	⇓iP	Pg	18 59 27.6	-0.2
TAP1				S	Sg	18 59 34.9	+0.3
TAP	Taipei	0.51	317	⇓iP	Pg	18 59 27.6	-0.4
TAP				S	Sg	18 59 34.4	-0.6
NNS	Nan Shan	0.52	245	eP	Pg	18 59 26.8	-1.5
NNS				S	Sg	18 59 33.0	-2.4
TWS1	Kuangyinshan	0.61	315	⇓iP	Pb	18 59 30.1	+0.1
TWS1				S	Sg	18 59 38.4	+0.2
TWD	Chiawan	0.64	205	i P	Pb	18 59 29.4	-1.2
TWD				S	Sg	18 59 38.0	-1.3
TWY	Chenhua	0.66	337	⇓iP	Pb	18 59 30.8	-0.1
NCU	National Centr	0.71	296	⇓iP	Pb	18 59 31.9	+0.2
NCU				S	Sb	18 59 42.8	+1.6
HWA	Hwalien	0.73	201	P	Pb	18 59 31.5	-0.6
HWA				S	Sb	18 59 41.6	-0.3
TWT	Tachien	0.77	238	eP	Pb	18 59 32.1	-0.6
NSTT	Nanjuang	0.81	268	eP	Pb	18 59 32.7	-0.8
NSTT				S	Sb	18 59 43.6	-0.6
ESL	Shilin	0.94	206	⇓iP	Pb	18 59 34.7	-1.1
ESL				S	Sb	18 59 47.7	-0.5
PCYT	Pengchaiyu	0.97	10	i P	Pb	18 59 36.4	+0.1
PCYT				S	Sb	18 59 50.5	+1.5
YOJ	Yonaguni jima	1.04	101	P	Pb	18 59 37.7	+0.3
YOJ				S	Sb	18 59 52.0	+1.1
NSY	Sanyi	1.06	257	eP	Pb	18 59 38.2	+0.5
NSY				S	Sb	18 59 52.9	+1.6
TWQ1	Liyutan	1.06	253	eP	Pb	18 59 38.2	+0.4
TWQ1				S	Sb	18 59 53.2	+1.6
SMLT	Sun Moon Lake	1.19	229	eP	Pb	18 59 39.5	-0.5
TYC	Yuchr	1.21	231	eP	Pb	18 59 39.4	-0.9
TCU	Taichung	1.22	245	eP	Pb	18 59 41.1	+0.6
EHY	Hungye	1.27	204	P	Pb	18 59 40.6	-0.6
EHY				S	Sb	18 59 56.2	-1.2
WNT	Mingjian	1.35	235	eP	Pb	18 59 44.3	+1.6
TWF1	Yuli	1.42	203	eP	Pn	18 59 43.9	+0.2
YUS	Yu-Shan	1.45	216	eP	Pn	18 59 44.6	+0.5
YUS				S	Sb	19 00 03.6	+0.8
ALS	Alishan	1.52	221	eP	Pn	18 59 45.9	+0.7
CHN5	Tsauling	1.54	226	eP	Pn	18 59 47.0	+1.7
WGK	Gukeng	1.56	231	eP	Pn	18 59 47.6	+1.9
CHKT	Chengkung	1.63	197	eP	Pn	18 59 47.1	+0.3
ELDTW	Lidau	1.67	209	eP	Pn	18 59 47.9	+0.6
IRIF	Iriomote-Funau	1.71	101	P	Pn	18 59 47.0	-0.9
IRIF				eS	Sn	19 00 08.0	-2.0
CHN4	Tsaushan	1.77	222	eP	Pn	18 59 51.0	+2.3
CHY	Chiayi	1.77	229	eP	Pn	18 59 50.0	+1.2
STYT	Tauyuan	1.82	215	eP	Pn	18 59 50.6	+1.1
WTP	Ta-pu	1.83	220	eP	Pn	18 59 51.2	+1.6
WSF	Szhu	1.83	236	eP	Pn	18 59 50.1	+0.4
HATJ	Hateruma jima	1.85	109	P	Pn	18 59 49.8	-0.1
HATJ				eS	Sn	19 00 12.9	-0.6
TWK	Hsinying	1.89	223	eP	Pn	18 59 52.5	+2.0
CHN1	Nanshi	1.93	220	eP	Pn	18 59 52.9	+1.8
SGST	Jiashian	1.98	217	eP	Pn	18 59 53.6	+1.9
JKRS	Kuro-shima	1.98	102	P	Pn	18 59 51.3	-0.4
JKRS				eS	Sn	19 00 15.3	-1.5
TWG	Pinlang	1.98	202	eP	Pn	18 59 52.0	+0.2
CHN8	Yiju	2.02	230	eP	Pn	18 59 52.2	-0.1
JIJ	Ishigaki jima	2.08	98	P	Pn	18 59 52.4	-0.7
JIJ				eS	Sn	19 00 17.0	-2.3
CHN3	Shinhua	2.11	222	eP	Pn	18 59 56.6	+3.0
SCLT	Jiali	2.15	227	eP	Pn	18 59 57.6	+3.5
ECL	Taimali	2.23	203	eP	Pn	18 59 54.1	-1.2
SSD	Sandimen	2.23	211	eP	Pn	18 59 57.1	+1.7
TWM1	Shoushan	2.27	217	eP	Pn	18 59 59.2	+3.3
PNG	Penghu	2.40	243	eP	Pn	18 59 58.0	+0.2
EAST	Anshuo	2.46	203	eP	Pn	18 59 60.0	+1.3
JTJ	Tarama	2.56	90	P	Pn	19 00 00.1	0.0
JTJ				eS	Sn	19 00 32.6	+1.0
SCZT	Fangliau	2.56	207	eP	Pn	19 00 02.9	+2.8
QZH	Quanzhou	3.01	276	P	Pn	19 00 04.8	-1.6
QZH				S	Sn	19 00 38.0	-4.9
QZH				Smax			
	comp=N,260nm,0.7s						
QZH				Smax			
	comp=E,150nm,0.6s						
KNM	Kinmen	3.16	266	eP	Pn	19 00 08.1	-0.4
NJ2	Nanjing	7.83	341	eP	Pn	19 01 14.8	+0.3
NJ2				AP		19 01 17.6	
NJ2				XP		19 01 21.2	
NJ2				S	Sn	19 02 44.5	+0.4
NJ2				XS		19 02 48.4	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,320nm,4.6s						
NJ2				Smax			
	comp=N,70nm,0.7s						
NJ2				Smax			
	comp=E,90nm,0.9s						
NJ2				LR	LR		
	comp=N,360nm,7.9s						
NJ2				LR	LR		
	comp=E,580nm,6.9s						
NJ2				LR	LR		
	comp=Z,620nm,12.4s						
GZH	Guangzhou	7.98	260	P	Pn	19 01 10.2	-6.4
GZH				Smax			
	comp=N,40nm,0.9s						
GZH				Smax			
	comp=E,23nm,1.2s						
WMQ	Urumqi	33.79	313	eP	P	19 06 02.0	+0.1
WMQ				AP	pP	19 06 06.0	+1.1
WMQ				XP	sP	19 06 09.0	+2.9
WMQ				PP	PP	19 07 15.0	-0.1
WMQ				PCP	PcP	19 08 41.0	-0.3
WMQ				eS	S	19 11 25.0	+0.4
WMQ				XS		19 11 32.0	
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,173nm,4.4s						
WMQ				LR	LR		
	comp=N,313nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=E,274nm,13.2s,MS4.3						
WMQ				LR	LR		
	comp=Z,428nm,15.6s,MS4.3						

*IDC **05** 19:02:14.2±2.8, 43.42N×105.23W, mb1 3.6/3, mb1mx3.3/19, mbtmp3.3/3, ML3.5/3, Error ellipse: s-maj=60.2km s-min=9.5km az=153.0*
*NEIC **05** 19:02:16.1±1.0, 43.74N×105.21W, ML3.2, Error ellipse: s-maj=13.1km s-min=10.9km az=113.0, Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.
ISC 05 19:02:13.9±1.0**, 43.73N**±0.07×**105.2W**±0.1**, n19,** σ**1§34**/19**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	3.35	255	Pn	Pn	19 03 09.6	+1.0
	4.2nm,0.3s,baz=68,slow=15,SNR=74						
PDAR				Lg		19 03 55.1	
	7.5nm,0.3s,baz=70,slow=27,SNR=8.0						
LKWY	Lake	3.86	284	ePn	Pn	19 03 17.6	+1.8
ISCO	Idaho Springs	3.94	185	ePn	Pn	19 03 18.6	+1.6
YFT	Old Faithful	4.15	282	ePn	Pn	19 03 22.0	+2.1
AHID	Auburn Hatcher	4.44	260	eP	Pn	19 03 22.8	-1.3
QLMT	Earthquake Lak	4.63	286	ePn	Pn	19 03 26.1	-0.7
HWUT	Hardware Ranch	5.17	248	ePn	Pn	19 03 33.2	-1.3
	6.6nm,0.5s						
TCUT	Toone Canyon	5.30	243	ePn	Pn	19 03 35.7	-0.6
DAU	Daniels Canyon	5.61	236	ePn	Pn	19 03 41.5	+0.9
RW3	Ridgway	5.79	200	Pn	Pn	19 03 48.0	+4.8
PV10	Paradox Valley	6.09	210	ePn	Pn	19 03 49.4	+2.0
SRU	San Rafael	6.12	223	ePn	Pn	19 03 46.1	-1.8
TMUT	Trail Mountain	6.33	228	ePn	Pn	19 03 51.6	+0.8
NLU	North Lily Min	6.39	236	ePn	Pn	19 03 49.7	-1.9
HLID	Hailey	6.71	272	ePn	Pn	19 03 56.5	+0.4
MSU	Marysvale	7.42	228	ePn	Pn	19 04 05.6	-0.6
ARUT	Antelope Range	8.63	229	ePn	P	19 04 21.6	-1.5
ULM	Lac du Bonnet	9.10	41	Pn	P	19 04 28.1	-1.4
	0.9nm,0.3s,baz=226,slow=10,SNR=6.8						
ULM				Pg	P	19 05 00.9	+31
	1.3nm,0.3s,baz=229,slow=17,SNR=6.6						
ULM				Lg		19 07 02.1	
	0.3nm,0.3s,baz=134,slow=22,SNR=3.1						
YKA	Yellowknife Ar	19.59	347	P	P	19 06 46.4	+0.3
	0.1nm,0.3s,baz=157,slow=12,SNR=6.7						

*JMA **05** 19:04:18.3±0.2, 24.90N×121.90E, h46km, M2.7*
TAP 05 19:04:16.6, 24.65N×121.83E, h12km, ML3.3, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.09	100	P	Pb	19 04 37.7	+0.8
YOJ				S	Sb	19 04 51.8	+0.9
IRIF	Iriomote-Funau	1.76	100	P	Pn	19 04 46.8	-0.4
IRIF				eS	Sn	19 05 08.3	-1.3
HATJ	Hateruma jima	1.90	108	P	Pn	19 04 49.6	+0.5
HATJ				eS	Sn	19 05 12.4	-0.7
JKRS	Kuro-shima	2.03	101	P	Pn	19 04 51.2	+0.2
JKRS				eS	Sn	19 05 15.6	-0.8
JIJ	Ishigaki jima	2.13	97	P	Pn	19 04 52.3	-0.1
JIJ				eS	Sn	19 05 17.6	-1.3

TAP 05 19:06:12.2, 24.66N×121.83E, h8km, ML1.4, Taiwan

*NIED **05** 19:06:00, 24.60N×121.80E, h32km, Mw5.8 Best double couple: M0 4.91×10^17 NP1:φs70°, δ84°, λ63°. NP2:φs328°, δ28°, λ167°.*
*NEIC **05** 19:06:51.5±0.9, 24.64N×121.94E, h4km±5km, mb5.7/148, MS5.6/116, MW5.7, ML5.9(TAP), Error ellipse: s-maj=4.0km s-min=3.3km az=86.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^17Nm; Mrr-3.33; Mθθ1.88; Mφφ1.45; Mrθ0.18; Mθφ1.98; Mφr-1.34; Best*

double couple: $M_0$3.8×10^{17} NP1:ϕ_s245°,δ42°,λ-63°. NP2:ϕ_s31°,δ54°,λ-112°. Principal axes: T 3.74, Plg6°, Azm136°; N .03, Plg18°, Azm44°; P -3.77, Plg71°, Azm246°;

NEIC At least two people injured in I-lan and items knocked from shelves in I-lan and T'ai-pei Counties. Recorded [5 TAP] in I-lan; [4 TAP] in Hua-lien and T'ai-pei; [3 TAP] in T'ao-yuan; [2 TAP] in Nan-t'ou Counties. Also recorded [2 JMA] on Yonaguni-jima and [1 JMA] on Iriomote-jima and Ishigaki-jima, Ryukyu Islands.

*TAP **05** 19:06:51.7,24.65N×121.84E,h6km,ML5.9*

TAP Felt V J at Suao, V J at Ilan, V J at Neicheng, III J, V J at Nanau, V J at Nioudou, III J at Santiao Chiao, III J at Mucha, IV J, III J at Sanguang, III J at Nanshan, III J at Taipai, II J at Kuangyinshan, II J at Chiawan, III J at Jungli (National Central University), III J at Hualien, III J at Tachien, II J at Nanjuang, II J at Shilin, II J at Sanyi, II J at Liyutan, II J at Ryuetan, I J at Yuchr, I J at Taichung, I J at Hungye, II J at Mingjian, II J at Alishan, II J at Tsauling, II J at Gukeng, I J at Chenggung, I J at Lidau, I J at Tsaushan, I J at Chiayi, I J at Dapu, I J at Nanshi, I J at Jiali, II J at Anpu.

*HRVD **05** 19:06:51.5±0.2,24.70N×121.81E,h12km,MW5.8/70, Centroid moment Tensor Solution. LP body waves: s52,c97;Mantle waves: s70,c182; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.52±.10; $M_{\theta\theta}$1.11±.10; $M_{\phi\phi}$1.41±.11; $M_{r\theta}$1.07±.26; $M_{\theta\phi}$4.86±.08; $M_{\phi r}$-0.69±.30; Best double couple: $M_0$5.277×10^{17} NP1: ϕ_s4°,δ66°,λ-156°. NP2:ϕ_s264°,δ68°,λ-26°. Principal axes: T 6.13, Plg2°, Azm314°; N -1.705, Plg57°, Azm47°; P -4.424, Plg33°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*JMA **05** 19:06:52.2±0.3,24.58N×121.77E,h41km,M6.2*

JMA Felt II J1.

*IDC **05** 19:06:53.6±2.8,24.67N×121.96E,h16km±16km,mb5.2/19, mb1 5.3/22,mb1mx5.3/23,mbtmp5.3/22,ML4.7/3,MS5.4/4, Ms1 5.5/4,ms1mx4.8/12,Error ellipse: s-maj=16.5km s-min=12.0km az=66.0*

*MOS **05** 19:06:54.6±1.1,24.68N×122.00E,h33km,mb6.0/112, MS5.7/62,Error ellipse: s-maj=6.9km s-min=3.6km az=117.2*

*BJI **05** 19:06:54.3,25.04N×121.62E,h5km,mB5.8,mb5.3,ML6.4, Ms6.3,Msz5.9*

ISC 05 19:06:51.9±0.3,**24.71N**±0.01×**121.91E**±0.01,**h11**km±1km, **h18**km±2.2km**:pP-P,n805,**σ**1s16**/788,**mb5.6**/198,**MS5.7**/145, **96C-53D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.11	209	i P	Pg	19 06 54.3	-0.5
EGS		0.14	10	⇓iP	Pg	19 06 56.9	+1.6
ILA	Ilan	0.16	293	⇓iP	Pg	19 06 55.5	0.0
ILA				S	Sg	19 06 58.3	+0.3
TWE	Neicheng	0.22	274	⇓iP	Pg	19 06 55.9	-0.7
TWB1	Santiao Chiao	0.31	14	⇓iP	Pg	19 06 59.5	+1.1
ENA	Nanau	0.31	209	⇓iP	Pg	19 06 57.6	-0.8
ENA				S	Sg	19 07 01.6	-1.2
ENTT	Nioudou	0.32	258	⇓iP	Pg	19 06 57.5	-1.0
NWF	Wu-fen Shan	0.38	343	⇓iP	Pg	19 07 00.8	+1.1
TWA	Mucha	0.40	313	⇓iP	Pg	19 07 00.6	+0.4
TWA				S	Sg	19 07 07.3	+1.7
TATO	Taipei	0.47	305	sPg	Pg	19 07 01.4	0.0
TATO				PcS	Sg	19 07 09.5	+1.8
TATO	Taipei	0.47	305	⇑iP	Pg	19 07 01.3	-0.1
TATO				eS	Sg	19 07 09.0	+1.2
TAP1	Taipei	0.48	314	⇓iP	Pg	19 07 02.4	+0.7
YHNB	Yeheng	0.48	266	⇑iP	Pg	19 07 00.5	-1.2
YHNB				eS	Sg	19 07 05.8	-2.5
TAP	Taipei	0.49	313	⇓iP	Pg	19 07 02.5	+0.6
NSK	Sanguang	0.50	267	⇓iP	Pg	19 07 00.9	-1.1
NNS	Nan Shan	0.55	242	⇓iP	Pg	19 07 01.6	-1.5
NNS				S	Sg	19 07 10.2	-0.4
TWS1	Kuangyinshan	0.59	312	⇓iP	Pb	19 07 04.8	+1.0
NACB	Ninganchiao	0.60	208	⇑iP	Pb	19 07 02.4	-1.5
NACB				eS	Sg	19 07 10.2	-1.9
TWY	Chenhua	0.63	334	⇓iP	Pb	19 07 05.6	+1.1
TWD	Chiawan	0.68	205	⇓iP	Pb	19 07 04.2	-1.1
TWD				S	Sb	19 07 12.8	-1.7
NCU	National Centr	0.70	292	⇓iP	Pb	19 07 06.6	+0.9
HWA	Hwalien	0.78	201	⇓iP	Pb	19 07 06.4	-0.5
TWT	Tachien	0.80	236	P	Pb	19 07 06.6	-0.8
NSTT	Nanjuang	0.83	265	⇓iP	Pb	19 07 07.5	-0.3
ESL	Shilin	0.99	206	⇓iP	Pb	19 07 09.4	-1.1
ESL				S	Sb	19 07 22.4	-1.0
YOJ	Yonaguni jima	1.03	103	⇑P	Pb	19 07 12.1	+0.7
YOJ				S	Sb	19 07 26.7	+2.0
NSY	Sanyi	1.08	255	⇓iP	Pb	19 07 13.0	+0.8
TWQ1	Liyutan	1.09	251	⇓iP	Pb	19 07 12.7	+0.3
TWQ1				S	Sb	19 07 29.1	+2.7
SMLT	Sun Moon Lake	1.23	229	⇑iP	Pb	19 07 14.4	-0.3
TYC	Yuchr	1.25	230	i P	Pb	19 07 14.4	-0.6
TCU	Taichung	1.25	244	⇓iP	Pb	19 07 16.0	+0.9
EHY	Hungye	1.31	204	⇑iP	Pb	19 07 15.5	-0.5
EHY				S	Sb	19 07 33.8	+1.2
WNT	Mingjian	1.39	234	eP	Pn	19 07 18.4	+1.1
WNT				S	Sb	19 07 38.1	+3.2
TWF1	Yuli	1.46	203	eP	Pn	19 07 17.8	-0.5
TWF1				S	Sb	19 07 37.5	+0.5
YUS	Yu-Shan	1.49	216	⇑iP	Pn	19 07 19.2	+0.4
ALS	Alishan	1.56	220	⇑iP	Pn	19 07 20.6	+0.9
CHN5	Tsauling	1.57	226	eP	Pn	19 07 20.4	+0.5
WGK	Gukeng	1.59	231	eP	Pn	19 07 21.6	+1.3
WGK				S	Sb	19 07 43.7	+2.8
CHKT	Chengkung	1.67	197	P	Pn	19 07 21.0	-0.4
CHKT				S	Sn	19 07 44.4	+1.4
IRIF	Iriomote-Funau	1.70	102	⇑P	Pn	19 07 21.7	-0.1
IRIF				S	Sn	19 07 44.2	+0.5
ELDTW	Lidau	1.71	209	eP	Pn	19 07 22.3	+0.3
CHN2	Minshiung	1.75	229	eP	Pn	19 07 23.9	+1.4
CHN4	Tsaushan	1.81	222	eP	Pn	19 07 25.0	+1.7
CHY	Chiayi	1.81	229	eP	Pn	19 07 24.0	+0.6
HATJ	Hateruma jima	1.85	110	P	Pn	19 07 23.9	0.0
HATJ				eS	Sn	19 07 46.3	-1.1
STYT	Tauyuan	1.86	215	eP	Pn	19 07 23.9	-0.2
WSF	Szhu	1.87	236	P	Pn	19 07 24.8	+0.6
WSF				S	Sn	19 07 49.2	+1.3
WTP	Ta-pu	1.87	219	eP	Pn	19 07 24.8	+0.6
TWK	Hsinying	1.93	222	eP	Pn	19 07 26.2	+1.1
CHN1	Nanshi	1.97	220	eP	Pn	19 07 27.0	+1.4
JKRS	Kuro-shima	1.97	103	⇑P	Pn	19 07 25.8	+0.1
JKRS				eS	Sn	19 07 50.5	-0.1
SGST	Jiashian	2.02	217	eP	Pn	19 07 27.0	+0.6
TWG	Pinlang	2.02	202	eP	Pn	19 07 24.9	-1.5
CHN8	Yiju	2.06	229	eP	Pn	19 07 26.4	-0.5
CHN8				S	Sn	19 07 54.9	+2.2
TTN	Taitung	2.06	200	eP	Pn	19 07 27.2	+0.2
JIJ	Ishigaki jima	2.06	99	P	Pn	19 07 26.4	-0.6
JIJ				S	Sn	19 07 52.1	-0.9
CHN3	Shinhua	2.15	221	eP	Pn	19 07 29.8	+1.6
SCLT	Jiali	2.18	226	eP	Pn	19 07 29.8	+1.0
ECL	Taimali	2.27	203	eP	Pn	19 07 29.4	-0.5
SSD	Sandimen	2.27	211	eP	Pn	19 07 30.3	+0.3
SSD				S	Sn	19 08 00.1	+1.9
TWM1	Shoushan	2.31	216	eP	Pn	19 07 33.2	+2.6
SGLT	Jiouru	2.36	214	eP	Pn	19 07 33.2	+1.9
PNG	Penghu	2.43	243	P	Pn	19 07 31.6	-0.5
PNG				S	Sn	19 08 00.9	-1.3
EAST	Anshuo	2.51	203	eP	Pn	19 07 32.4	-0.9
WDGT	Dungji	2.51	235	P	Pn	19 07 33.1	-0.2
WDGT				S	Sn	19 08 04.0	-0.2
TAW	Tawu	2.51	202	eP	Pn	19 07 34.1	+0.7
JTJ	Tarama	2.54	91	⇑P	Pn	19 07 34.5	+0.6
JTJ				eS	Sn	19 08 06.8	+1.7
KAU	Kaohsiung	2.58	215	eP	Pn	19 07 35.2	+0.8
SCZT	Fangliau	2.60	207	eP	Pn	19 07 35.3	+0.5
LAY	Lan-yu	2.67	187	eP	Pn	19 07 34.3	-1.4
LAY				S	Sn	19 08 08.1	-0.3
TWP	Hsiaoliuchiu	2.74	211	eP	Pn	19 07 37.8	+1.1
HEN	Hengchun	2.89	202	eP	Pn	19 07 40.3	+1.5
TWK1	Hengchun	2.93	200	eP	Pn	19 07 39.5	+0.2
QZH	Quanzhou	3.02	275	⇑iP	Pn	19 07 38.5	-2.1
QZH				S	Sn	19 08 13.8	-3.4
QZH				Smax			
	comp=N,133µm,1.5s						
QZH				Smax			
	comp=E,30µm,1.2s						
QZH				LR	LR		
	comp=N,604µm,10.0s						
QZH				LR	LR		
	comp=E,354µm,9.0s						
QZH				LR	LR		
	comp=Z,370µm,11.2s						
JMJ	Miyako jima 2	3.08	87	⇑P	Pn	19 07 42.4	+0.9
JMJ				eS	Sn	19 08 20.4	+1.7
KNM	Kinmen	3.17	266	P	Pn	19 07 42.9	0.0
JOGS	Gusukube	3.18	88	⇑P	Pn	19 07 43.9	+0.9
JOGS				eS	Sn	19 08 23.3	+2.0
BBP	Basco	4.24	179	eP	Sn	19 08 42.0	-6.2
JKE	Kume jima 2	4.70	69	P	Pn	19 08 07.1	+2.7
JAGN	Aguni-jima	5.17	68	P	Pn	19 08 15.1	+4.0
NAH1	Naha	5.44	73	P	Pn	19 08 18.7	+3.8
JJT2	Tamagusuku 2	5.47	74	P	Pn	19 08 18.8	+3.4
JIH	Iheya	5.93	66	⇑P	Pn	19 08 23.4	+1.5
JIH				eS	Sn	19 09 34.1	+3.4
JOW	Kunigami	6.12	68	Pn	Pn	19 08 25.1	+0.6
	comp=Z,45nm,0.3s,baz=232,slow=6.7,SNR=15						
JOW	Kunigami	6.12	68	P	Pn	19 08 25.5	+1.0
JOW				eS	Sn	19 09 34.2	-1.1
SSE	Sheshan	6.40	354	⇑P	Pn	19 08 25.5	-3.0
SSE				Smax			
	comp=N,4µm,1.5s						
SSE				Smax			
	comp=E,6µm,1.0s						
SSE				LR	LR		
	comp=N,39µm,14.5s						
SSE				LR	LR		
	comp=E,188µm,14.5s						
SSE				LR	LR		
	comp=Z,63µm,17.0s						
SSE	Sheshan	6.40	354	⇑Pn	Pn	19 08 25.5	-3.0
	comp=Z,571nm,0.8s						
SSE				Sn	Sn	19 09 44.1	+1.8
APYP	Conner	6.84	185	eP	Pn	19 08 34.2	-0.4
APYP				eS	Sn	19 09 46.8	-6.4
JTK	Tokunoshima	7.03	63	P	Pn	19 08 37.5	+0.1
JTK				eS	Sn	19 09 48.6	-9.5
ABRA	Dolores	7.11	189	eP	Pn	19 08 39.1	+0.6
HKC	Hong Kong	7.49	253	i Pn	Pn	19 08 44.0	+0.2
HKC				Sn	Sn	19 10 06.0	-3.6
PALP	Palanan	7.62	176	eP	Pn	19 08 45.7	+0.1
CAUP	Cauayan	7.72	181	eP	Pn	19 08 48.8	+1.7
NJ2	Nanjing	7.80	341	eP	Pn	19 08 44.1	-4.0
NJ2				Smax			
	comp=N,33µm,1.3s						
NJ2				Smax			
	comp=E,15µm,1.0s						
NJ2				LR	LR		
	comp=N,153µm,18.0s						
NJ2				LR	LR		
	comp=E,332µm,12.9s						
NJ2				LR	LR		
	comp=Z,176µm,9.8s						
JAM	Amami Oshima	7.82	60	P	Pn	19 08 48.6	+0.2
BCPH	Baguio City Da	8.37	189	⇓eP	P	19 08 55.5	-0.6
BOLP	Bolinao	8.49	193	eP	P	19 08 59.7	+2.0
WHN	Wuhan	8.87	313	P	P	19 08 58.2	-4.8
WHN				S	Sn	19 10 38.3	-5.7
WHN				LR	LR		
	comp=Z,166µm,8.6s						
BALP	Baler	8.92	182	eP	P	19 09 05.3	+1.5
SCZP	Santa Cruz	9.08	192	eP	P	19 09 06.4	+0.5
PCPH	Palayan	9.13	185	⇑eP	P	19 09 06.6	0.0
POLP	Polilio Island	9.93	180	eP	P	19 09 19.1	+1.4
LQP	Lukban	10.54	182	⇑eP	P	19 09 28.2	+2.1
TIA	Tai'an	12.19	341	eP	P	19 09 44.0	-4.4
TIA				LR	LR		
	comp=N,18µm,11.0s						
TIA				LR	LR		
	comp=E,85µm,12.0s						
SJMP	San Jose	12.20	184	eP	P	19 09 50.2	+1.5
ENH	Enshi	12.34	299	⇑eP	P	19 09 46.9	-3.5
	comp=E,3.1nm,0.6s						
ENH				eS	S	19 11 59.5	-10
QIZ	Qiongzhong	12.54	246	eP	P	19 09 51.1	-2.1
BUSP	Coron	12.74	188	eP	P	19 09 56.1	+0.2
INCN	Inchon	13.36	16	eP	P	19 10 04.2	+0.1
	comp=E,145nm,1.0s						
KS15	Wonju Array Si	13.69	21	eP	P	19 10 07.3	-1.1
GYA	Guiyang	13.87	280	⇑iP	P	19 10 08.6	-2.2
GYA				PP	PP	19 10 19.8	-2.0
GYA				PPP	PPP	19 10 25.9	-2.9
GYA				S	S	19 12 44.6	-1.2
GYA				AMB	AMB		
	comp=Z,70nm,1.1s						
GYA				AMB	AMB		
	comp=Z,2µm,7.8s						
GYA				LR	LR		
	comp=N,102µm,8.4s						
GYA				LR	LR		
	comp=E,94µm,9.5s						
GYA				LR	LR		
	comp=Z,125µm,8.7s						
GUIM	Jordan	14.02	177	eP	P	19 10 15.7	+2.8
DL2	Dalian	14.16	359	⇑P	P	19 10 12.2	-2.4
DL2				S	S	19 12 50.1	-2.6
DL2				AMB	AMB		
	comp=Z,100nm,1.1s						
DL2				AMB	AMB		
	comp=Z,1µm,9.0s						
DL2				LR	LR		
	comp=E,56µm,17.7s						
DL2				LR	LR		
	comp=Z,28µm,12.9s						
LLP	Lapu-Lapu	14.44	172	⇑eP	P	19 10 20.9	+2.5
XAN	Xi'an	14.64	312	P	P	19 10 17.5	-3.4
XAN				LR	LR		
	comp=N,24µm,7.6s						
XAN				LR	LR		
	comp=E,24µm,8.4s						
XAN				LR	LR		
	comp=Z,46µm,13.0s						
MSLP	Maasin	14.76	169	eP	P	19 10 25.4	+2.8
TIY	Taiyuan	15.28	330	eP	P	19 10 29.0	-0.2
TIY				LR	LR		
	comp=N,38µm,11.0s						
BJT	Baijiatuau	16.01	344	⇑eP	P	19 10 38.7	0.0
BJT				pmax	pmax		
	comp=Z,367nm,1.2s						
BJT	Baijiatuau	16.01	344	⇑eP	P	19 10 38.7	0.0
	comp=Z,367nm,1.2s						
BJI	Beijing	16.03	344	P	P	19 10 39.1	+0.1
BJI				S	S	19 13 37.5	+0.7
BJI				AMB	AMB		
	comp=Z,130nm,1.3s						
BJI				AMB	AMB		
	comp=Z,3µm,4.5s						
BJI				LR	LR		
	comp=N,21µm,16.1s						
BJI				LR	LR		
	comp=E,71µm,15.6s						
BJI				LR	LR		
	comp=Z,21µm,21.8s						
BJI	Beijing	16.03	344	P	P	19 10 39.1	+0.1
	comp=Z,130nm,1.3s						
BJI				sP		19 10 53.7	
BJI				S	S	19 13 37.5	+0.7
BJI				sS		19 14 02.1	
BUTP	Butuan	16.05	167	eP	P	19 10 43.2	+3.9
BATP	Bataraza	16.30	195	eP		19 10 45.7	
PAGZ	Pagadian	16.82	175	eP		19 10 52.7	
BUKP	Musuan	17.00	169	eP	P	19 10 54.2	+2.8
SNY	Shenyang	17.13	4	⇑P	P	19 10 54.0	+1.1
SNY				AP		19 10 59.1	
SNY				XP		19 11 02.8	
SNY				S	S	19 14 07.8	+5.7
SNY				AMB	AMB		
	comp=Z,40nm,1.1s						
SNY				AMB	AMB		
	comp=Z,3µm,8.8s						
SNY				LR	LR		
	comp=N,49µm,12.9s						
SNY				LR	LR		
	comp=E,72µm,12.2s						
SNY				LR	LR		
	comp=Z,49µm,13.5s						
CD2	Chengdu	17.20	295	P	P	19 10 52.0	-1.8
CD2				PP	PP	19 11 06.2	-2.0
CD2				PPP	PPP	19 11 14.1	-2.3
CD2				S	S	19 13 57.0	-6.6
CD2				SS	SS	19 14 17.1	-7.9
CD2				LR	LR		
	comp=Z,26µm,7.0s						
KMI	Kunming	17.39	275	P	P	19 10 56.4	+0.1
KMI				XP		19 11 01.1	
KMI				PP	PP	19 11 11.9	+1.1
KMI				AMB	AMB		
	comp=Z,1µm,5.5s						
KMI				LR	LR		
	comp=N,149µm,13.0s						
KMI				LR	LR		
	comp=E,87µm,10.7s						
KMI				LR	LR		
	comp=Z,95µm,10.9s						
KMI	Kunming	17.39	275	P	P	19 10 56.4	+0.1
KMI				S	S	19 14 09.8	+1.6
KMI				pmax	pmax		
	comp=Z,1.0nm,5.5s						
KMI	Kunming	17.39	275	P	P	19 10 56.4	+0.1
	comp=Z,1.2nm,5.5s						
KMI				sP		19 11 01.1	
KMI				PP	PP	19 11 11.9	+1.1
KMI				S	S	19 14 09.8	+1.6
KMI				sS		19 14 12.6	
KMI				SS	SS	19 14 31.8	+1.8
KMI				SSS	SSS	19 14 43.8	+0.6
JHJ	Hachijo jima 2	17.74	58	P	P	19 11 04.4	+3.9
	comp=Z,14nm,0.3s,baz=248,slow=6.9,SNR=8.5						
JHJ				LR	LR	19 17 29.9	
	comp=Z,12µm,20.4s,baz=63,slow=36						
HHC	Hu-ho-hao-te	18.27	334	eP	P	19 11 07.6	+0.4
HHC				PP	PP	19 11 22.8	+0.4
HHC				LR	LR		
	comp=N,36µm,16.7s						
HHC				LR	LR		
	comp=E,38µm,18.4s						
HHC				LR	LR		
	comp=Z,37µm,19.0s						
MAJO	Matsushiro	18.30	46	eP	P	19 11 06.3	-1.2
MAJO				pmax	pmax		
	comp=Z,289nm,1.8s						
MAJO	Matsushiro	18.30	46	eP	P	19 11 06.3	-1.2
	comp=Z,289nm,1.8s						
MAT	Matsushiro	18.30	46	eP	P	19 11 06.0	-1.5
MAT				eS	S	19 14 36.0	+7.3
MAT				pmax	pmax		
	comp=Z,12nm,0.9s						
MAT	Matsushiro	18.30	46	eP	P	19 11 06.0	-1.5
	comp=Z,12nm,0.9s						
MAT				eS	S	19 14 36.0	+7.3
MAT	Matsushiro	18.30	46	P	P	19 11 06.3	-1.2
MAT				S	S	19 14 36.0	+7.3
CBIJ	Chichi jima	18.40	78	P	P	19 11 08.9	+0.1
	comp=Z,9.4nm,0.3s,baz=287,slow=19,SNR=2.7						
CBIJ				LR	LR	19 17 10.6	
	comp=Z,6µm,20.7s,baz=252,slow=34						
UBT	Ubonrachathani	18.43	242	P	P	19 11 12.0	+2.7
BTO	Baotou	18.72	331	eP	P	19 11 13.6	+1.0
BTO				S	S	19 14 38.3	+0.2
BTO				AMB	AMB		
	comp=Z,267nm,2.2s						
LZH	Lanzhou	19.24	310	⇑iP	P	19 11 19.5	+0.7
LZH				AP		19 11 20.7	
LZH				XP		19 11 21.8	
LZH				PP	PP	19 11 37.2	+1.2
LZH				AMB	AMB		
	comp=Z,1µm,1.5s						
LZH				AMB	AMB		
	comp=Z,10µm,7.6s						
LZH				LR	LR		
	comp=N,31µm,9.6s						
LZH				LR	LR		
	comp=Z,46µm,12.4s						
LZH	Lanzhou	19.24	310	⇑iP	P	19 11 19.5	+0.7
LZH				S	S	19 14 51.3	+1.4
LZH				pmax	pmax		
	comp=Z,1µm,1.5s						
LZH	Lanzhou	19.24	310	⇑iP	P	19 11 19.5	+0.7
	comp=Z,1µm,1.5s						
LZH				pP		19 11 20.7	
LZH				sP		19 11 21.8	
LZH				PP	PP	19 11 37.2	+1.2
LZH				S	S	19 14 51.3	+1.4
LZH				sS		19 14 55.7	
LZH				SS	SS	19 15 16.5	+0.5
CN2	Changchun	19.27	8	⇑P	P	19 11 19.7	+0.5
CN2				AMB	AMB		
	comp=Z,60nm,1.0s						
CN2				AMB	AMB		
	comp=Z,500nm,8.0s						
CN2				LR	LR		
	comp=N,26µm,14.0s						
CN2				LR	LR		
	comp=E,69µm,14.0s						
CN2				LR	LR		
	comp=Z,31µm,14.0s						
KKM	Kota Kinabalu	19.34	197	P	P	19 11 18.5	-1.7
KKM	Kota Kinabalu	19.34	197	P	P	19 11 20.0	-0.2
KKTK	Khon Kaen	19.70	249	P	P	19 11 25.5	+1.3
VLA	Vladivostok	20.12	22	i PP	PP	19 11 50.0	+1.7
NANT	Nan	20.54	258	⇑P	P	19 11 31.5	-1.7
	comp=Z,475nm,1.0s						
TSM	Tawau	20.66	191	P	P	19 11 33.5	-0.9
MDJ	Mudanjiang	20.83	16	P	P	19 11 36.3	+0.3
MDJ				AP		19 11 41.7	
MDJ				XP		19 11 44.7	
MDJ				AMB	AMB		
	comp=Z,65nm,1.3s						
MDJ				AMB	AMB		
	comp=Z,937nm,5.5s						
MDJ				LR	LR		
	comp=N,26µm,17.3s,MS6.1						
MDJ				LR	LR		
	comp=E,71µm,17.3s,MS6.1						
MDJ				LR	LR		
	comp=Z,41µm,13.2s,MS6.0						
MDJ	Mudanjiang	20.83	16	eP	P	19 11 36.3	+0.3
	comp=Z,670nm,1.5s						
CHRT	Chiangrai	21.02	261	⇓P	P	19 11 39.0	+0.9
	comp=Z,2µm,1.3s,mb6.2						
CHG	Chiang Mai	22.10	259	⇑P	P	19 11 49.3	+0.3
	comp=Z,150nm,1.3s,mb5.3						
CM31	Chiang Mai Arr	22.23	258	eP	P	19 11 50.4	+0.2
	comp=Z,88nm,0.9s,mb5.2						
CMAR	Chiang Mai Arr	22.23	258	P	P	19 11 50.8	+0.5
	comp=Z,72nm,1.0s,mb5.0,baz=65,slow=7.6,SNR=128						
CMAR				PcP	PcP	19 15 46.6	-0.9
	comp=Z,9.6nm,0.8s,baz=40,slow=1.0,SNR=10						
CMAR				LR	LR	19 20 57.6	
	comp=Z,20µm,21.2s,MS5.5,baz=75,slow=38						
NST	Nakhon Sawan	22.30	250	⇓P	P	19 11 52.5	+1.5
	comp=Z,117nm,1.0s,mb5.3						
BDT	Bhumibol Dam	22.62	255	P	P	19 11 55.0	+0.8
	comp=Z,22nm,0.9s,mb4.6						
GTA	Gaotai	23.70	314	⇑P	P	19 12 04.9	+0.4
GTA				PP	PP	19 12 39.4	+2.0
GTA				PPP	PPP	19 12 51.2	+3.8
GTA				AMB	AMB		
	comp=Z,145nm,1.5s,mb5.2						
GTA				AMB	AMB		
	comp=Z,4µm,6.9s						
GTA				LR	LR		
	comp=N,22µm,9.1s						
GTA				LR	LR		
	comp=E,17µm,12.2s						
GTA				LR	LR		
	comp=Z,23µm,12.5s,MS5.8						
NNT	Nongplab	24.17	244	P	P	19 12 13.0	+3.6
HIA	Hailar	24.58	357	eP	P	19 12 12.9	-0.1
HIA				pmax	pmax		
	comp=Z,519nm,1.3s						
HIA	Hailar	24.58	357	eP	P	19 12 12.9	-0.1
	comp=Z,519nm,1.3s,mb5.9						
IMP	Imphal	25.39	276	eP	P	19 12 20.0	-1.0
KLR	Kul'dur	25.67	15	eP	P	19 12 21.3	-2.0
KLR				e		19 13 09.5	
KLR				eS	S	19 16 53.5	+4.4
KLR				pmax	pmax		
	comp=N,110nm,1.6s						
KLR				pmax	pmax		
	comp=E,220nm,1.6s						
KLR				pmax	pmax		
	comp=Z,300nm,1.6s,mb5.6						
KLR				pmax	pmax		

comp=N,1μm,9.0s
KLR pmax pmax
comp=Z,2μm,9.0s
KLR smax
comp=N,5μm,13.5s
KLR smax
comp=E,3μm,13.5s
KLR MLR MLR
comp=N,43μm,13.0s
KLR MLR MLR
comp=Z,70μm,13.0s,MS6.4
KSM Kuching 25.67 208 *e*P **P 19 12 20.8 -2.9**
ASAJ Asahikawa 25.69 36 P **P 19 12 24.3 +0.7**
comp=Z,136nm,1.3s,mb5.3,baz=249,slow=14,SNR=13
ULN Ulaanbaatar 25.94 337 PFAKE 19 12 40.0 +14
ULN LR LR
comp=Z,30μm,19.0s,MS5.8
SONM Songino Array 26.15 336 P **P 19 12 28.4 +0.5**
comp=Z,215nm,1.0s,mb5.6,baz=155,slow=7.5,SNR=184
SONM ScP 19 19 33.2
comp=Z,4.9nm,0.8s,baz=165,slow=4.0,SNR=3.8
SHL Shillong 27.17 278 *e*P **P 19 12 37.0 -0.4**
SHL *e*S **S 19 17 15.0 +0.9**
YUK Yuzh-Kuril'sk 27.45 39 *e*P **P 19 12 44.0 +4.2**
YUK pmax pmax
comp=Z,2μm,2.0s,mb6.4
YUK MLR MLR
comp=Z,8μm,16.0s,MS5.4
YUK MLR MLR
comp=N,19μm,20.0s,MS5.8
YUK MLR MLR
comp=E,16μm,17.0s,MS5.8
YSS Yuzh-Sakhalins 27.74 32α *i*P **P 19 12 46.0 +3.6**
YSS *e* 19 13 24.0
YSS *e*S **S 19 17 25.0 +1.9**
YSS *e* 19 17 45.0
YSS pmax pmax
comp=Z,130nm,1.2s,mb5.4
YSS pmax pmax
comp=Z,1μm,7.0s
YSS pmax pmax
comp=Z,440nm,1.3s,mb5.9
YSS pmax pmax
comp=N,240nm,1.5s
YSS MLR MLR
comp=Z,10μm,17.0s,MS5.4
YSS MLR MLR
comp=N,5μm,16.0s,MS5.3
YSS MLR MLR
comp=E,4μm,14.0s,MS5.3
YSS Yuzh-Sakhalins 27.74 32 P **P 19 12 43.9 +1.5**
comp=E,608nm,1.4s,mb6.0
YSS LR LR
comp=Z,10μm,19.0s,MS5.4
LSA Lhasa 27.76 287 P **P 19 12 43.8 +1.1**
LSA AP pP 19 12 53.8 +7.9
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.7
LSA AMB AMB
comp=Z,680nm,7.2s
LSA LR LR
comp=N,5μm,11.6s
LSA LR LR
comp=E,13μm,8.5s
LSA LR LR
comp=Z,10μm,8.5s
LSA Lhasa 27.76 287⇑ *e*P **P 19 12 43.2 +0.5**
LSA pmax pmax
comp=Z,67nm,0.7s,mb5.4
LSA Lhasa 27.76 287⇑ *e*P **P 19 12 43.2 +0.5**
comp=Z,67nm,0.7s,mb5.4
AGT Agartala 27.93 275 *i*P **P 19 12 45.0 +0.7**
AGT *i* 19 13 49.0
TANI Tanete Lipujan 28.08 185⇓ *e*P **P 19 12 43.6 -2.2**
TANI pmax pmax
comp=Z,13nm,0.7s,mb4.7
TANI Tanete Lipujan 28.08 185⇓ *e*P **P 19 12 43.6 -2.2**
comp=Z,13nm,0.7s,mb4.7
KULM Kulim 28.10 230 *e*P **P 19 12 44.7 -1.3**
BUNI Buntu Taipa 28.23 183⇓ *e*P **P 19 12 46.0 -1.2**
comp=Z,7.3nm,0.6s,mb4.5
IPM Ipoh 28.35 228 P **P 19 12 48.2 0.0**
KGM Kluang 28.82 221 P **P 19 12 52.5 0.0**
NINI Niniconang 29.03 184⇑ *e*P **P 19 12 53.0 -1.3**
NINI pmax pmax
comp=Z,116nm,1.2s,mb5.5
NINI Niniconang 29.03 184⇑ *e*P **P 19 12 53.0 -1.3**
comp=Z,116nm,1.2s,mb5.5
ZAK Zakamensk 29.42 335⇑ *i*P **P 19 12 56.6 -0.9**
ZAK *e* 19 14 06.7
ZAK *e* 19 19 43.6
ZAK pmax pmax
comp=Z,18nm,1.4s,mb4.6
ZAK pmax pmax
comp=Z,26nm,1.3s,mb4.8
ZAK pmax pmax
comp=Z,4.0nm,2.7s
TLY Talaya 30.34 337 P **P 19 13 05.9 +0.2**
comp=Z,489nm,1.5s,mb6.0,SNR=41
TLY Talaya 30.34 337 *e*P **P 19 13 05.3 -0.4**
TLY *e* 19 14 14.5
TLY *e*S **S 19 18 12.6 +8.0**
TLY *e*SSS SSS 19 19 49.7 -15
TLY pmax pmax
comp=Z,142nm,1.5s,mb5.5
TLY MLR MLR
comp=Z,18μm,14.0s,MS5.9
TLY Talaya 30.34 337 *e*P **P 19 13 05.2 -0.5**
comp=Z,134nm,1.3s,mb5.5
TLY LR LR
comp=Z,6μm,19.0s,MS5.3
CAL Calcutta 30.80 273 *e*P **P 19 13 13.4 +3.4**
CAL *e*S **S 19 18 19.3 +7.2**
MOY Mondy 31.32 335 *e*P **P 19 13 14.4 +0.1**
MOY pmax pmax
comp=Z,135nm,1.6s,mb5.5
JIRN Jiri 32.12 283 *e*P **P 19 13 21.4 -0.2**
comp=Z,436nm,1.4s,mb6.1
CLNS Chul'man 32.17 3 *e*P **P 19 13 20.8 -0.9**
CLNS *e**PP pP 19 13 27.2 +2.3
CLNS *e*PPP PP 19 14 34.5 +5.8
CLNS *e* 19 16 06.6
CLNS *e*S **S 19 18 30.8 -2.4**
CLNS *e*SS SS 19 20 33.1 +6.3
CLNS pmax pmax
comp=Z,65nm,1.3s,mb5.3
CLNS pmax pmax
comp=N,40nm,1.1s
CLNS pmax pmax
comp=E,18nm,1.1s
CLNS pmax pmax
comp=Z,16nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=E,23nm,1.1s
CLNS smax
comp=N,847nm,12.2s
CLNS smax
comp=Z,791nm,12.3s
CLNS smax
comp=E,217nm,12.0s
CLNS MLR MLR
comp=N,15μm,14.0s,MS5.9
CLNS MLR MLR
comp=Z,18μm,14.0s,MS5.9
CLNS MLR MLR
comp=E,4μm,12.0s,MS5.9
YOMI Yo Moklole 32.67 144⇑ *e*P **P 19 13 25.0 -1.5**
comp=E,75nm,1.5s,mb5.4
BOK Bokaro 32.80 276 *i*P **P 19 13 26.2 -1.3**
BOK *i*S **S 19 18 46.6 +3.3**
PKI Pulchoki 32.82 283 *e*P **P 19 13 27.0 -0.6**
comp=E,190nm,1.1s,mb6.0
PKI Pulchoki 32.82 283 *e*P **P 19 13 27.0 -0.6**
PKI pmax pmax
comp=Z,95nm,1.1s,mb5.6
KKN Kakani 32.92 283 *e*P **P 19 13 27.6 -0.9**
comp=Z,768nm,1.5s,mb6.4
KKN Kakani 32.92 283 *e*P **P 19 13 27.6 -0.9**
KKN pmax pmax
comp=Z,384nm,1.5s,mb6.1
DMN Daman 33.08 283 *e*P **P 19 13 29.2 -0.7**
comp=Z,238nm,1.0s,mb6.1
KEDI Kedomdong 33.47 190⇑ *e*P **P 19 13 31.6 -1.8**
KEDI pmax pmax
comp=Z,105nm,0.9s,mb5.8
KEDI Kedomdong 33.47 190⇑ *e*P **P 19 13 31.6 -1.8**
comp=Z,105nm,0.9s,mb5.8
GKN Gorkha 33.47 284 *e*P **P 19 13 32.4 -1.0**
comp=Z,326nm,1.2s,mb6.2
KELI Kelakatan 33.51 193⇑ *e*P **P 19 13 33.9 +0.1**
comp=Z,27nm,1.3s,mb5.0
BOD Bodaibo 33.57 352 *e*P **P 19 13 31.2 -2.7**
BOD pmax pmax
comp=Z,31nm,1.6s,mb5.0
BWNR Bhubaneshwar 33.58 270 *e*P **P 19 13 35.3 +1.0**
WMQ Urumqi 33.78 313⇓ *i*P **P 19 13 36.1 +0.3**
WMQ AMB AMB
comp=Z,110nm,1.1s,mb5.7
WMQ AMB AMB
comp=Z,452nm,3.6s
WMQ LR LR
comp=N,9μm,12.2s,MS5.9
WMQ LR LR
comp=E,10μm,12.6s,MS5.9
WMQ LR LR
comp=Z,12μm,13.0s,MS5.8
RATI Rata 33.80 191⇓ *e*P **P 19 13 34.1 -2.2**
comp=Z,396nm,1.4s,mb6.2
SRDI Scrawed 33.84 194⇑ *e*P **P 19 13 36.4 -0.3**
PENI Pendagan 34.22 211⇑ *e*P **P 19 13 37.2 -2.7**
PENI pmax pmax
comp=Z,121nm,1.0s,mb5.8
PENI Pendagan 34.22 211⇑ *e*P **P 19 13 37.2 -2.7**
comp=Z,121nm,1.0s,mb5.8
KOLN Koldanda 34.41 284 *e*P **P 19 13 40.8 -0.6**
comp=Z,290nm,1.2s,mb6.1
PULI Pulasari 34.54 209⇑ *e*P **P 19 13 39.7 -3.0**
BLSP Bilaspur 36.50 274 *e*P **P 19 13 59.8 +0.5**
BLSP *e* 19 15 10.7
VIS Vishakhapatnam 36.54 267 *e*P **P 19 14 01.2 +1.6**
VIS *e* 19 14 10.8
comp=Z,28nm,0.6s
VIS *e* 19 15 00.8
SKR Severo-Kuril's 36.95 37 *e*P **P 19 13 57.5 -5.2**
SKR *e* 19 16 16.0
SKR *e* 19 22 50.0
SKR pmax pmax
comp=Z,160nm,0.9s,mb5.8
LGTI Lohaghat 37.25 287 *e*P **P 19 14 08.0 +2.5**
PTH Pithoragarh 37.27 287 *e*P **P 19 14 06.5 +0.8**
YAK Yakutsk 37.68 6 *e*P **P 19 14 07.1 -1.7**
YAK *e**PP pP 19 14 16.8 +4.8
YAK *i* 19 16 01.8
YAK *e*S **S 19 20 03.1 +4.8**
YAK *i* 19 24 23.8
YAK pmax pmax
comp=Z,114nm,1.1s,mb5.5
YAK pmax pmax
comp=N,72nm,1.2s
YAK pmax pmax
comp=E,29nm,1.2s
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.2
YAK pmax pmax
comp=N,21nm,1.1s
YAK pmax pmax
comp=E,22nm,1.2s
YAK smax
comp=E,692nm,19.0s
YAK smax
comp=Z,222nm,16.3s
YAK smax
comp=N,1μm,20.1s
YAK MLR MLR
comp=Z,12μm,14.0s,MS5.9
YAK MLR MLR
comp=N,10μm,15.0s,MS5.8
YAK MLR MLR
comp=E,5μm,12.0s,MS5.8
YAK Yakutsk 37.68 6 *e*P **P 19 14 07.0 -1.8**
comp=E,163nm,1.2s,mb5.6
YAK LR LR
comp=Z,13μm,20.0s,MS5.7
MKAR Makanchi Array 38.43 315 *i*P **P 19 14 14.2 -1.0**
MKAR pmax pmax
comp=Z,133nm,1.3s
KAKA Kakadu 38.58 163 *e*P **P 19 14 12.8 -4.0**
comp=Z,32nm,0.9s,mb5.1
DDI Dehra Dun 39.11 288 *e*P **P 19 14 21.8 +0.7**
DDI *e* 19 23 23.9
PET Petropavlovsk 39.51 35 *e*P **P 19 14 22.5 -1.7**
PET *e*S **S 19 20 24.7 -1.4**
PET *e* 19 24 25.3
PET pmax pmax
comp=Z,200nm,13.8s
PET pmax pmax
comp=Z,39nm,1.0s,mb5.1
PET pmax pmax
comp=Z,300nm,7.2s
PET smax
comp=N,800nm,28.4s
PET MLR MLR
comp=Z,6μm,18.0s,MS5.4
PET Petropavlovsk 39.51 35 P **P 19 14 22.7 -1.5**
comp=Z,50nm,1.1s,mb5.2
PET LR LR
comp=Z,4μm,22.0s,MS5.2
SMLA Simla 39.84 290 *i*P **P 19 14 26.6 -0.6**
SMLA *i* 19 20 24.7
NDI New Delhi 39.95 286 *e*P **P 19 14 27.0 -1.1**
NDI *e* 19 20 31.0
SDNR Sundarnagar 40.00 290 *e*P **P 19 14 28.5 +0.1**
ZAL Zalesovo 40.18 326 P **P 19 14 28.4 -1.3**
comp=Z,26nm,0.8s,mb5.0,baz=360,slow=8.6,SNR=70
MA2 Magadan 40.26 22 *e*P **P 19 14 31.4 +1.1**
MA2 *e* 19 16 09.3
MA2 *e*S **S 19 20 40.0 +2.9**
MA2 pmax pmax
comp=Z,80nm,1.4s,mb5.3
MA2 pmax pmax
comp=N,40nm,1.3s
MA2 pmax pmax
comp=E,40nm,1.3s
MA2 MLR MLR
comp=Z,14μm,18.0s,MS5.9
MA2 Magadan 40.26 22⇑ *e*P **P 19 14 29.9 -0.4**
comp=Z,168nm,1.3s,mb5.6
MA2 LR LR
comp=Z,2μm,20.0s,MS5.0
BHK Bhakra 40.47 290 *e*P **P 19 14 34.0 +1.7**
BHPL Bhopal 40.54 277 *e*P **P 19 14 33.9 +1.0**
BHPL *e* pP 19 14 35.3 -0.9
comp=Z,78nm,1.3s
BHPL *e* 19 15 45.9
PONG Pong 40.85 291 *e*P **P 19 14 36.0 +0.6**
MDRS Chennai 40.93 261 *e*P **P 19 14 36.0 -0.2**
MDRS *e* 19 19 12.0
MDRS *e* 19 20 53.0
HYB Hyderabad 40.97 268 *e*P **P 19 14 37.0 +0.5**
HYB *e*S **S 19 20 48.0 -0.2**
HYB pmax pmax
comp=Z,225nm,1.4s,mb5.6
HYB Hyderabad 40.97 268 *e*P **P 19 14 37.0 +0.5**
comp=Z,225nm,1.4s,mb5.6
HYB *e*S **S 19 20 48.0 -0.2**
HYB Hyderabad 40.97 268 *i*P **P 19 14 37.0 +0.5**
comp=Z,225nm,1.4s,mb5.6
HYB *e*S **S 19 20 48.0 -0.2**
HYB *e*SS SS 19 23 46.0 +0.6
HYB LR LR
comp=Z,10nm,14.0s
THN Thein Dam 41.04 292 *e*P **P 19 14 37.1 +0.2**
comp=Z,27nm,0.8s,mb4.9
AAA Alma-Ata 41.06 308 *e*P **P 19 14 40.0 +2.9**
AAA *e*S **S 19 20 54.0 +4.6**
AAA pmax pmax
comp=Z,900nm,6.0s
AAA smax
comp=N,2μm,9.0s
AAA MLR MLR
comp=Z,10μm,10.0s,MS6.0
KSH Kashi 41.17 302 *e*P **P 19 14 41.1 +3.1**
KSH *e*AP pP 19 14 47.2 +6.0
KSH *e*XP sP 19 14 48.7 +6.1
KSH LR LR
comp=N,13μm,10.5s,MS6.2
KSH LR LR
comp=E,10μm,10.3s,MS6.2
NVS Novosibirsk 41.43 327 *e*P **P 19 14 38.6 -1.3**
NVS *e* 19 16 21.2
NVS *e*S **S 19 20 50.9 -3.7**
NVS pmax pmax
comp=N,148nm,1.8s
NVS pmax pmax
comp=E,302nm,1.8s
NVS pmax pmax
comp=Z,352nm,1.8s,mb5.7
NVS smax
comp=N,33nm,2.1s
NVS smax
comp=E,157nm,2.1s
AKL Akola 41.47 274 *e*P **P 19 14 40.0 -0.6**
PMG Port Moresby 41.91 141 *e*P **P 19 14 44.0 -0.4**
PMG pmax pmax
comp=Z,402nm,1.2s
PMG Port Moresby 41.91 141 P **P 19 14 44.3 0.0**
comp=Z,197nm,1.0s,mb5.7,baz=353,slow=9.6,SNR=11
PMG LR LR 19 31 47.8
comp=Z,4μm,18.2s,MS5.4,baz=132,slow=36
PMG Port Moresby 41.91 141 *e*P **P 19 14 44.0 -0.4**
comp=Z,402nm,1.2s,mb5.9
KURK Kurchatov 42.12 319 P **P 19 14 45.9 +0.3**
comp=Z,395nm,1.7s,mb5.8,SNR=14
KURK Kurchatov 42.12 319 *i*P **P 19 14 44.8 -0.8**
KURK pmax pmax
comp=Z,77nm,1.6s,mb5.1
KURK Kurchatov 42.12 319 *e*P **P 19 14 44.6 -1.0**
comp=Z,136nm,1.4s,mb5.4
KURK LR LR
comp=Z,2μm,22.0s,MS4.9
AJM Ajmer 42.48 283⇑ *i*P **P 19 14 48.0 -0.9**
LATR Latur 42.49 271 *e*P **P 19 14 48.8 -0.3**
CHMS Chumysh 42.59 307 P **P 19 14 52.9 +3.3**
SNR=25
FRU Bishkek 42.66 307 *e*P **P 19 14 51.5 +1.3**
FRU *e*S **S 19 21 18.0 +5.0**
FRU pmax pmax
comp=Z,180nm,1.8s,mb5.5
FRU MLR MLR
comp=Z,9μm,15.0s,MS5.8
FRU MLR MLR
comp=E,12μm,11.0s
FITZ Fitzroy Crossi 42.70 175 *e*P **P 19 14 47.2 -3.6**
comp=E,37nm,1.2s,mb5.0
FITZ *e*S **S 19 21 04.2 -10**
AAK Ala-Archa 42.72 307 P **P 19 14 52.2 +1.6**
comp=E,116nm,1.2s,mb5.5,SNR=37
AAK Ala-Archa 42.72 307 *i*P **P 19 14 50.5 -0.1**
AAK pmax pmax
comp=Z,52nm,2.1s,mb4.9
AAK MLR MLR
comp=Z,9μm,18.0s,MS5.7
AAK Ala-Archa 42.72 307 *e*P **P 19 14 49.9 -0.8**
comp=Z,16nm,0.8s,mb4.8
AAK LR LR
comp=Z,2μm,21.0s,MS5.1
SEY Seymchan 43.27 20 *e*P **P 19 14 56.5 +1.7**
SEY 19 16 43.5
SEY *e*S **S 19 21 21.5 0.0**
SEY SSS SSS 19 25 21.5 +3.7
SEY pmax pmax
comp=Z,450nm,1.4s,mb6.0
SEY pmax pmax
comp=N,140nm,1.3s
SEY pmax pmax
comp=E,190nm,1.3s
SEY smax
comp=N,4μm,11.2s
SEY smax
comp=E,1μm,6.8s
SEY MLR MLR
comp=Z,26μm,16.0s,MS6.2
SEY MLR MLR
comp=N,15μm,18.0s,MS6.0
SEY MLR MLR
comp=E,7μm,13.0s,MS6.0
SALM Salem 43.32 261 *e* **P 19 15 00.0 +4.1**
SALM *e* 19 16 11.0
COCO West Island 44.08 217 P **P 19 15 03.5 +1.4**
comp=E,564nm,1.2s,mb6.2,SNR=11
KAD Karad 44.98 270 *e*P **P 19 15 09.3 0.0**
KAD *e* 19 15 14.6
comp=Z,54nm,0.9s
MBWA Marble Bar 45.64 183 *e*P **P 19 15 10.2 -4.2**
comp=Z,21nm,0.7s,mb5.2
MBWA LR LR
comp=Z,2μm,22.0s,MS5.0
TRD Trivandrum 45.75 257 *e* **P 19 15 28.2 +13**
TRD *e*S **S 19 22 02.2 +4.2**
BOM Bombay 45.76 273 *e*P **P 19 15 16.4 +1.0**
MNGI Mangalore 45.87 264 *i*P **P 19 15 17.3 +1.0**
MNGI *i*S **S 19 22 00.8 +1.1**
GOA Goa 45.88 268 *e*P **P 19 15 22.5 +6.0**
GOA *e*S **S 19 22 10.3 +11**
WRAB Tennant Creek 45.99 164 P **P 19 15 14.7 -2.6**
comp=Z,855nm,1.4s,mb6.5,SNR=54
WRAB Tennant Creek 45.99 164 *e*P **P 19 15 14.3 -3.0**
WRAB pmax pmax
comp=Z,369nm,1.3s,mb6.2
WRAB MLR MLR
comp=Z,606nm,20.0s
WRAB Tennant Creek 45.99 164 *e*P **P 19 15 14.3 -2.9**
comp=Z,370nm,1.3s,mb6.2
WRAB LR LR
comp=Z,606nm,20.0s
WRA Warramunga Arr 46.00 164 P **P 19 15 14.6 -2.7**
comp=Z,132nm,1.3s,mb5.7,baz=346,slow=8.8,SNR=112
KWAJ Kwajalein Atol 46.29 102 PFAKE 19 15 30.0 +10
KWAJ LR LR
comp=Z,1μm,22.0s,MS4.8
TIXI Tiksi 47.14 3⇑ *i*P **P 19 15 23.9 -1.8**
TIXI *e* 19 17 19.9
TIXI *e*S **S 19 22 17.0 -0.1**
TIXI pmax pmax
comp=Z,298nm,1.8s,mb5.9
TIXI pmax pmax
comp=E,40nm,1.6s
TIXI pmax pmax
comp=Z,522nm,1.9s,mb6.1
TIXI MLR MLR
comp=Z,21μm,16.0s,MS6.2
TIXI MLR MLR
comp=E,1μm,9.0s
TIXI Tiksi 47.14 3 *i*P **P 19 15 24.1 -1.6**
TIXI LR LR
comp=Z,12μm,21.0s,MS5.8
BHJ Bhuj 47.52 280 *e* **P 19 15 32.6 +3.3**
BHJ *e*S **S 19 22 22.5 -0.6**
BVA0 Borovoye Array 47.69 320 *i*P **P 19 15 29.3 -1.0**
BVA0 pmax pmax
comp=Z,38nm,1.9s,mb5.1
BVAR Borovoye Array 47.69 320 S **S 19 22 25.4 +0.3**
comp=Z,0.7nm,0.8s,baz=180,slow=1.4,SNR=2.3
BVAR PKPPKP 19 46 33.9
comp=Z,3.0nm,1.2s,baz=270,slow=1.4,SNR=4.4
CHKZ Chkalovo 47.74 321 P **P 19 15 29.1 -1.6**
CHKZ pmax pmax
comp=Z,35nm,0.8s,mb5.4
CHKZ Chkalovo 47.74 321 *e*P **P 19 15 28.7 -2.0**
comp=Z,66nm,0.9s,mb5.7
SMY Shemya 48.01 40 PFAKE 19 15 40.0 +7.2
SMY LR LR
comp=Z,8μm,21.0s,MS5.7
ASPA Alice Springs 49.47 165⇓ *i*P **P 19 15 42.0 -2.4**
ASPA *e*S **S 19 22 50.2 -0.3**
ASPA *e*SCS ScS 19 25 31.6 -1.8
ASAR Alice Springs 49.47 165 P **P 19 15 42.0 -2.5**
comp=Z,137nm,1.4s,mb5.8,baz=339,slow=7.2,SNR=95
CTA Charters Tower 50.44 150 *e*P **P 19 15 51.0 -0.8**
comp=Z,122nm,1.3s,mb5.8
CTA *e*S **S 19 23 05.7 +1.8**
CTA Charters Tower 50.44 150 *e*P **P 19 15 51.0 -0.8**
CTA *e*S **S 19 23 05.7 +1.8**
CTA pmax pmax
comp=Z,122nm,1.3s
CTA Charters Tower 50.44 150 S **S 19 23 04.8 +0.9**
comp=Z,12nm,1.4s,baz=189,slow=15,SNR=3.1
CTAO Charters Tower 50.44 150⇓ *e*P **P 19 15 51.1 -0.7**
CTAO pmax pmax
comp=Z,443nm,1.4s,mb6.3
CTAO MLR MLR
comp=Z,4μm,19.0s,MS5.4
CTAO Charters Tower 50.44 150⇓ *e*P **P 19 15 51.0 -0.8**
comp=Z,443nm,1.4s,mb6.3
CTAO LR LR

comp=Z,4µm,19.0s,MS5.4
BILL Bilibino 50.97 20 *e*P **P** **19 15 55.0 -0.3**
BILL *i* 19 17 08.7
BILL *i* S **S** **19 23 15.5 +4.8**
BILL pmax pmax
comp=Z,168nm,2.1s,mb5.6
BILL MLR MLR
comp=Z,7µm,19.0s,MS5.7
BILL Bilibino 50.97 20 *e*P **P** **19 15 53.1 -2.1**
comp=Z,173nm,1.4s,mb5.8
BILL LR LR
comp=Z,7µm,20.0s,MS5.7
SVE Sverdlovsk 54.02 323⇑ *e*P **P** **19 16 18.8 +0.7**
SVE *e* 19 17 21.6
SVE pmax pmax
comp=Z,140nm,1.7s,mb5.6
FORT Forrest 55.48 174 *e*P **P** **19 16 25.5 -3.8**
comp=Z,2µm,1.4s
FORT Forrest 55.48 174 *e*P PcP 19 17 26.6 -2.6
comp=Z,763nm,0.6s
FORT *e*PCP PP 19 18 20.9 -14
KLBR Kellerberrin 56.12 184 *e*P **P** **19 16 32.2 -1.6**
comp=Z,430nm,1.4s,mb6.3
SOKR Solikamsk 56.46 326⇑ *i*P **P** **19 16 34.0 -1.8**
SOKR *i* SS SS 19 28 04.5 -8.3
SOKR pmax pmax
comp=Z,60nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,12µm,20.0s,MS6.0
MUN Mundaring 56.62 186 *e*P **P** **19 16 36.7 -0.8**
comp=Z,13nm,1.2s,mb4.8
MUN Mundaring 56.62 186 *e*P PcP 19 17 30.3 -3.4
comp=Z,14nm,1.2s
MUN Mundaring 56.62 186 *e*P **P** **19 16 36.7 -0.8**
MUN pmax pmax
comp=Z,13nm,1.2s,mb4.8
WBK Wadi Bani Khal 57.23 282 P **P** **19 16 47.3 +5.4**
SNR=5.3
NWAO Narrogin (SRO) 57.48 185 P **P** **19 16 42.2 -1.3**
NWAO pmax pmax
comp=Z,110nm,1.5s
NWAO Narrogin (SRO) 57.48 185 *e*P **P** **19 16 39.4 -4.1**
comp=Z,30nm,0.9s,mb5.3
NWAO LR LR
comp=Z,956nm,20.0s,MS4.9
DGAR Diego Garcia 57.78 243 *i* P **P** **19 16 44.6 -1.3**
DGAR MLR MLR
comp=Z,1µm,19.0s,MS5.1
SMDO Samad 57.93 283 P **P** **19 16 51.4 +4.7**
SNR=9.0
ASHO Ashiyiah 59.26 285 P **P** **19 16 58.3 +2.3**
SNR=9.9
STKA Stephens Creek 59.33 161⇑ *i*P **P** **19 16 54.0 -2.4**
comp=Z,28nm,1.2s,mb5.2
STKA *e*S **S** **19 25 01.4 -1.6**
STKA Stephens Creek 59.33 161 P **P** **19 16 53.9 -2.5**
comp=Z,150nm,1.5s,mb5.8,baz=334,slow=7.2,SNR=31
TNA Tin City 59.58 27 *e*P **P** **19 16 55.4 -2.3**
comp=Z,29nm,1.4s,mb5.1
BAK Baki 61.20 304⇑ *i*P **P** **19 17 07.0 -2.1**
BAK *i* S **S** **19 25 32.0 +5.1**
BAK MLR MLR
comp=N,16µm,10.0s,MS6.6
BAK MLR MLR
comp=E,16µm,10.0s,MS6.6
BAK MLR MLR
comp=Z,4µm,10.0s,MS5.8
SHE Samaxi 62.04 304⇓ *i*P **P** **19 17 14.0 -0.8**
SHE *i* S **S** **19 25 42.0 +4.5**
SHE MLR MLR
comp=N,4µm,15.0s,MS5.9
SHE MLR MLR
comp=E,4µm,15.0s,MS5.9
MAK Makhachkala 62.50 307 *d* i P **P** **19 17 19.0 +1.2**
MAK *i* 19 19 40.0
MAK *i* S **S** **19 25 46.0 +2.7**
MAK pmax pmax
comp=Z,200nm,1.5s,mb6.0
MAK pmax pmax
comp=Z,900nm,8.0s
MAK smax
comp=N,2µm,7.0s
MAK smax
comp=E,600nm,7.0s
MAK MLR MLR
comp=E,6µm,12.0s
MAK MLR MLR
comp=Z,8µm,12.0s,MS6.1
SHKI Saki 63.02 305⇓ *i*P **P** **19 17 21.0 -0.2**
SHKI *e*S **S** **19 25 53.0 +3.1**
SHKI pmax pmax
comp=Z,150nm,1.2s,mb6.0
RBK Rabkut 63.03 278 P **P** **19 17 27.0 +5.4**
SNR=6.6
PECR Pechory 63.13 322 *e*P **P** **19 17 21.0 -0.7**
PECR *e*PS **S** **19 25 46.0 -5.0**
PECR pmax pmax
comp=Z,2µm,1.6s
PECR pmax pmax
comp=Z,500nm,3.0s
PECR MLR MLR
comp=Z,8µm,18.0s,MS5.9
WHFO Wadi Hawf 63.28 278 P **P** **19 17 28.1 +4.9**
SNR=6.6
NOUC Port Laguerre 63.43 133 *e*P **P** **19 17 24.7 +0.5**
DZM Mont Dzumac 63.51 133 *e*P **P** **19 17 22.6 -2.2**
DZM Mont Dzumac 63.51 133 *e*P **P** **19 17 22.6 -2.2**
KRV Ganca 63.76 305⇓ *i*P **P** **19 17 25.0 -1.2**
KRV *i* S **S** **19 26 00.0 +0.8**
ABTO Aybut 63.89 278 P **P** **19 17 32.0 +4.6**
SNR=5.8
TI2 Plekhanov 64.73 306⇑ *i*P **P** **19 17 34.4 +2.0**
TI2 *e*S **S** **19 26 15.2 +4.1**
GNI Garni 65.05 304 *i* P **P** **19 17 35.3 +0.7**
GNI pmax pmax
comp=Z,266nm,1.6s
GNI MLR MLR
comp=Z,3µm,18.0s
GNI Garni 65.05 304 *e*P **P** **19 17 35.5 +1.0**
comp=Z,278nm,1.4s,mb6.1
GNI LR LR
comp=Z,4µm,22.0s,MS5.5
CNB Canberra Magne 65.11 155 *e*P **P** **19 17 34.3 -0.7**
comp=Z,886nm,1.3s,mb6.6
SVW2 Sparrevohn 65.11 32 *e*P **P** **19 17 33.7 -0.9**
ZEI Tsey 65.14 307 *i* P **P** **19 17 34.5 -0.6**
GOF Gofitskoye 65.32 310⇑ *i*P **P** **19 17 36.0 -0.2**
GOF pmax pmax
comp=Z,600nm,2.5s,mb6.2
GOF pmax pmax
comp=Z,470nm,1.9s,mb6.2
IMA Indian Mountai 65.44 27 *e*P **P** **19 17 37.6 +1.0**
IMA pmax pmax
comp=Z,60nm,0.9s,mb5.6
IMA Indian Mountai 65.44 27 *e*P **P** **19 17 37.1 +0.5**
comp=Z,14nm,1.0s,mb5.0
ONI Oni 65.50 307 P **P** **19 17 45.4 +8.0**
KIV Kislovodsk 65.77 309 *d* i P **P** **19 17 39.0 -0.1**
KIV *e* 19 20 02.9
KIV *i* S S 19 26 25.2 +1.3
KIV pmax pmax
comp=Z,370nm,1.4s,mb6.2
KIV MLR MLR
comp=Z,5µm,23.0s,MS5.7
KIV Kislovodsk 65.77 309 *e*P **P** **19 17 38.3 -0.8**
comp=Z,549nm,1.4s,mb6.4
TOO Toolangi 65.80 160 *e*P **P** **19 17 38.3 -1.1**
comp=Z,1.8nm,1.5s
TOO *e* 19 18 47.8
TOO Toolangi 65.80 160 *e*P **P** **19 17 38.3 -1.1**
TOO pmax pmax
comp=Z,2.0nm,1.5s
LVZ Lovozero 66.35 336 *e*P **P** **19 17 41.3 -1.1**
LVZ *e* 19 21 40.7
LVZ pmax pmax
comp=Z,58nm,1.0s,mb5.6
LVZ pmax pmax
comp=N,12nm,1.1s
LVZ pmax pmax
comp=E,19nm,1.6s
LVZ MLR MLR
comp=Z,5µm,18.0s,MS5.8
LVZ MLR MLR
comp=N,1µm,22.0s,MS5.8
LVZ MLR MLR
comp=E,6µm,18.0s,MS5.8

LVZ Lovozero 66.35 336 *i* P **P** **19 17 42.5 +0.1**
VOR Voronezh 66.59 318 *e*P **P** **19 17 44.0 -0.2**
VOR *e* 19 18 11.0
VOR pmax pmax
comp=Z,230nm,1.8s,mb5.9
VOR pmax pmax
comp=E,170nm,1.6s
MOS Moscow 66.80 322⇑ *i*P **P** **19 17 45.1 -0.3**
MOS *e* 19 17 57.6
MOS *e* 19 18 15.7
MOS *e* 19 20 13.0
MOS *e*PPP PPP 19 21 49.5 -1.5
MOS *e*S S 19 26 35.0 -1.1
MOS *e* 19 26 53.0
MOS *e*PS PS 19 27 01.8 +2.0
MOS *e*PPS PPS 19 27 16.6 +6.0
MOS pmax pmax
comp=Z,600nm,1.8s,mb6.3
MOS pmax pmax
comp=Z,395nm,1.7s,mb6.2
MOS pmax pmax
comp=N,101nm,1.2s
MOS pmax pmax
comp=E,78nm,0.8s
MOS MLR MLR
comp=Z,6µm,23.9s,MS5.7
APA Apatity 66.86 335⇑ *i*P **P** **19 17 45.0 -0.7**
APA *i* 19 18 09.0
APA *e* 19 26 33.0
APA pmax pmax
comp=Z,110nm,1.3s,mb5.7
APA MLR MLR
comp=Z,8µm,17.0s,MS6.0
BHD Baghdad 66.95 297 *e*P **P** **19 17 42.5 -4.3**
BHD *e*S S 19 26 36.0 -2.4
KDAK Kodiak Island 67.10 35 P **P** **19 17 46.8 -0.6**
comp=Z,21nm,0.7s,mb5.3
KDAK LR LR
comp=Z,1µm,21.0s,MS5.1
MSL Mosul 67.20 301 *e*P **P** **19 17 45.0 -3.4**
MSL *e*PcP PcP 19 17 57.5 -19
MSL *e*S S 19 26 44.0 +2.6
OBN Obninsk 67.50 322 P **P** **19 17 48.8 -1.1**
comp=Z,579nm,1.7s,mb6.3,SNR=11
OBN Obninsk 67.50 322 *e*P **P** **19 17 49.1 -0.8**
OBN *e* 19 20 14.7
OBN *i* S S 19 26 45.3 +0.7
OBN pmax pmax
comp=Z,180nm,1.5s,mb5.9
OBN MLR MLR
comp=Z,6µm,21.0s,MS5.8
OBN Obninsk 67.50 322 *e*P **P** **19 17 47.2 -2.7**
comp=Z,585nm,1.8s,mb6.3
OBN LR LR
comp=Z,2µm,19.0s,MS5.3
PWA Palmer West 67.75 31 *e*P **P** **19 17 50.8 -0.5**
PWA pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
PWA Palmer West 67.75 31 *e*P **P** **19 17 50.8 -0.5**
comp=Z,9.7nm,0.5s,mb5.1
MCK McKinley 67.78 29 *e*P **P** **19 17 51.7 +0.2**
MCK pmax pmax
comp=Z,32nm,1.3s,mb5.2
MCK MLR MLR
comp=Z,2µm,21.0s,MS5.3
MCK McKinley 67.78 29 *e*P **P** **19 17 51.7 +0.2**
comp=Z,32nm,1.3s,mb5.2
MCK LR LR
comp=Z,2µm,21.0s,MS5.3
SOC Sochi 67.95 309 *i* P **P** **19 17 53.8 +0.8**
SOC *e* 19 18 20.0
SOC *e* 19 20 23.1
SOC *e*PPP PPP 19 22 06.7 +4.8
SOC *e*S S 19 26 50.0 -0.2
SOC *e* 19 27 49.6
SOC *e*SS SS 19 31 16.7 +3.1
SOC pmax pmax
comp=Z,170nm,1.4s,mb5.9
SOC pmax pmax
comp=N,41nm,1.0s
SOC pmax pmax
comp=E,78nm,1.7s
SOC MLR MLR
comp=Z,5µm,19.0s,MS5.8
SOC MLR MLR
comp=N,5µm,20.0s,MS5.8
SOC MLR MLR
comp=E,3µm,18.0s,MS5.8
COLA College 68.03 27 *e*P **P** **19 17 49.3 -3.8**
COLA pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
COLA MLR MLR
comp=Z,3µm,19.0s,MS5.5
COLA College 68.03 27 *e*P **P** **19 17 49.3 -3.8**
comp=Z,3.2nm,0.4s,mb4.7
COLA LR LR
comp=Z,3µm,19.0s,MS5.5
PMR Palmer 68.11 31 *e*P **P** **19 17 52.0 -1.6**
PMR pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
PMR Palmer 68.11 31 *e*P **P** **19 17 52.0 -1.6**
comp=Z,9.8nm,0.9s,mb4.8
SML Sawmill 68.44 31 *e*P **P** **19 17 53.9 -1.7**
ILAR Eielson Array 68.45 27 P **P** **19 17 54.0 -1.8**
comp=Z,2.3nm,0.5s,mb4.5,baz=296,slow=5.4,SNR=13
ILAR PKPPKP
comp=Z,0.9nm,1.1s,baz=90,slow=1.8,SNR=5.6
JOF Joensuu 68.58 331 *e*p **P** **19 17 55.2 -1.3**
comp=Z,32nm,0.6s,mb5.4
KEV Kevo 68.74 338 *e*p **P** **19 17 56.2 -1.2**
comp=Z,27nm,0.7s,mb5.3
KEV Kevo 68.74 338 *e*P **P** **19 17 56.2 -1.2**
KEV pmax pmax
comp=Z,27nm,0.7s,mb5.3
RAYN Ar Rayn 68.83 287 P **P** **19 17 57.6 -1.1**
comp=Z,182nm,1.8s,SNR=38
ARCES ARCESS Array B 69.30 338 P **P** **19 18 00.4 -0.5**
comp=Z,24nm,1.0s,mb5.1,baz=72,slow=3.8,SNR=14
ARE0 ARCESS Array S 69.31 338 *e*P **P** **19 18 00.5 -0.4**
KBS Kingsbay 69.65 349 *e*P **P** **19 18 01.7 -1.2**
KBS pmax pmax
comp=Z,47nm,1.1s,mb5.3
KBS MLR MLR
comp=Z,9µm,20.0s,MS6.0
KBS Kingsbay 69.65 349 *e*P **P** **19 18 01.7 -1.2**
comp=Z,47nm,1.1s,mb5.3
KBS LR LR
comp=Z,9µm,20.0s,MS6.0
KBS Kingsbay 69.65 349 *e*S S 19 27 11.7 +1.8
KBS *e*SS SS 19 31 41.6 +2.1
KBS AMS AMS 19 52 04.3
comp=Z,6µm,19.6s,MS5.8
PUL Pulkovo 69.78 327 *i* P **P** **19 18 04.2 +0.3**
DIV Divide 69.79 31 *e*P **P** **19 18 00.6 -3.3**
comp=Z,81nm,0.9s,mb5.7
MALT Malatya 70.25 304 *e*P **P** **19 18 07.8 +0.6**
MALT pmax pmax
comp=Z,149nm,1.1s,mb5.8
MALT Malatya 70.25 304 *e*P **P** **19 18 07.8 +0.5**
comp=Z,149nm,1.1s,mb5.8
TAU Tasmania Unive 71.24 161 *e*P **P** **19 18 11.7 -1.4**
TAU pmax pmax
comp=Z,412nm,1.7s,mb6.1
TAU MLR MLR
comp=Z,486nm,20.0s,MS4.8
TAU Tasmania Unive 71.24 161 *e*P **P** **19 18 11.7 -1.4**
comp=Z,412nm,1.7s,mb6.1
TAU LR LR
comp=Z,486nm,20.0s,MS4.8
FINES FINESS Array B 71.33 330 P **P** **19 18 12.4 -0.9**
comp=Z,20nm,0.7s,mb5.2,baz=65,slow=6.6,SNR=96
TRO Tromso 71.47 339 *e*P **P** **19 18 09.6 -4.5**
TRO LR LR
comp=Z,5434µm,21.8s
TRO Tromso 71.47 339 *e*P **P** **19 18 09.6 -4.5**
TRO *e*S S 19 27 23.8 -7.4
TRO AMS AMS 19 52 38.0
comp=Z,5µm,21.8s,MS5.8
SIM Simferopol' 71.49 312 *j* *e*P **P** **19 18 14.0 -0.6**
SIM *e* 19 21 02.0
SIM *e*PPP PPP 19 22 43.0 +6.4
SIM *e*S S 19 27 36.0 +4.2
SIM *e* 19 28 17.0
SIM pmax pmax
comp=Z,65nm,0.8s,mb5.6

SIM pmax pmax
comp=Z,200nm,12.8s
DAWY Dawson 71.78 27 *e*P **P** **19 18 15.3 -0.7**
VSU Vasula 71.91 327⇑ *i*P **P** **19 18 16.6 -0.3**
INK Inuvik 72.50 22 *e*P **P** **19 18 18.0 -2.2**
INK pmax pmax
comp=Z,46nm,1.3s
INK Inuvik 72.50 22 *e*P **P** **19 18 18.0 -2.2**
comp=Z,46nm,1.3s,mb5.2
MNK Minsk 72.55 322 *e*P **P** **19 18 18.0 -2.7**
IDID Didziasalis 72.89 323 *e*P **P** **19 18 22.4 -0.3**
IDID AMb AMB 19 18 25.6
comp=Z,48nm,1.1s,mb5.3
ALE Alert 72.97 1 P **P** **19 18 21.6 -1.1**
comp=Z,158nm,1.2s,mb5.8,SNR=24
IZAR Zarasai 73.02 324 *e*P **P** **19 18 23.3 -0.1**
IZAR AMb AMB 19 18 26.3
comp=Z,39nm,1.1s,mb5.2
ISAL Salakas 73.14 324 *e*P **P** **19 18 23.9 -0.3**
ISAL AMb AMB 19 18 26.5
comp=Z,31nm,1.2s,mb5.1
IIGN Ignalina 73.16 324 *e*P **P** **19 18 24.1 -0.1**
IIGN AMb AMB 19 18 27.2
comp=Z,32nm,1.1s,mb5.2
ANTO Ankara 73.97 307⇓ *i*P **P** **19 18 29.8 +0.6**
KIS Kishinev 74.37 315 *e*P **P** **19 18 29.0 -2.4**
KIS *e* pP 19 18 34.0 -0.8
KIS *e*S S 19 28 00.0 -4.3
KIS *e*PS PS 19 29 00.0 +20
KIS MLR MLR
comp=Z,5µm,16.0s,MS5.9
KIS MLR MLR
comp=N,3µm,15.0s,MS6.0
KIS MLR MLR
comp=E,5µm,15.0s,MS6.0
PHNC Paralimni 74.63 302 P **P** **19 18 33.8 +0.6**
IAS Iasi 75.11 315 P **P** **19 18 35.7 0.0**
CSS Prodhromos 75.19 302 P **P** **19 18 35.8 -0.6**
comp=E,2.0nm,1.0s
MAMC Mammari 75.20 302 P **P** **19 18 35.7 -0.8**
SUW Suwalki 75.28 323 P **P** **19 18 35.3 -1.2**
SUW pmax pmax
comp=Z,460nm,1.0s,mb6.4
SUW Suwalki 75.28 323 *e*P **P** **19 18 35.9 -0.6**
SUW *e*PcP PcP 19 18 47.4 -2.9
SUW Suwalki 75.28 323 *e*P **P** **19 18 35.9 -0.6**
SUW *e*PcP PcP 19 18 47.4 -2.8
SUW *e*S S 19 28 15.6 +1.2
SUW MLR MLR 20 01 47.1
comp=Z,5µm,21.1s,MS5.8
SUW Suwalki 75.28 323 *e*S S 19 28 15.6 +1.3
CFR Carcaliu 75.43 313⇑ P **P** **19 18 37.8 +0.2**
TIRR Tirgusor 75.50 312⇑ P **P** **19 18 36.4 -1.6**
TIRR Tirgusor 75.50 312⇑ P **P** **19 18 36.5 -1.5**
TIRR Tirgusor 75.50 312⇑ P **P** **19 18 36.5 -1.5**
SZAC Souni-Zanaja 75.60 302⇑ P **P** **19 18 38.6 -0.2**
SZAC Souni-Zanaja 75.60 302⇑ *e*P **P** **19 18 38.6 -0.2**
ALFC Alevga 75.69 302 P **P** **19 18 38.5 -0.7**
comp=Z,1.9nm,0.9s
EIL Elat 75.72 296 *e*P **P** **19 18 39.3 -0.3**
comp=Z,100nm,1.4s,mb5.5
HARR Harsova 75.74 313⇑ P **P** **19 18 40.7 +1.3**
PSN Preselentsi 75.92 312 *i* P **P** **19 18 41.3 +0.9**
AKMC Akamas 75.94 302⇑ P **P** **19 18 39.9 -0.8**
AKMC Akamas 75.94 302⇑ *e*P **P** **19 18 39.9 -0.8**
DAG Danmarks Havn 75.96 351⇑ *i*P **P** **19 18 39.3 -0.7**
DAG pmax pmax
comp=Z,20nm,0.9s,mb5.0
DAG Danmarks Havn 75.96 351⇑ *i*P **P** **19 18 39.3 -0.7**
comp=Z,20nm,0.9s,mb5.0
PPCY Paphos 75.97 302⇑ P **P** **19 18 40.3 -0.6**
PPCY Paphos 75.97 302⇑ *e*P **P** **19 18 40.3 -0.6**
NSS Namsos 76.08 335 AMS AMS 19 53 51.3
comp=Z,5µm,21.1s,MS5.8
VRI Vrincioaia 76.12 314⇑ P **P** **19 18 42.6 +1.1**
SIT Sitka 76.22 33 PFAKE 19 18 50.0 +8.2
SIT LR LR
comp=Z,3µm,20.0s,MS5.6
ISP Isparta 76.33 305 *e*P **P** **19 18 41.2 -1.6**
ISP pmax pmax
comp=Z,130nm,1.1s,mb5.8
ISP Isparta 76.33 305 *e*P **P** **19 18 41.2 -1.7**
comp=Z,130nm,1.1s,mb5.8
LVV L'vov 76.35 319 *e*P **P** **19 18 40.7 -2.0**
LVV *e* 19 21 31.5
LVV *e*PPP PPP 19 23 24.1 +0.8
LVV *e*S S 19 28 24.0 -2.2
LVV *e*SS SS 19 33 20.3 -3.2
LVV MLR MLR
comp=Z,1µm,16.0s,MS5.3
LVV MLR MLR
comp=E,2µm,19.0s,MS5.5
LVV MLR MLR
comp=N,1µm,15.0s,MS5.5
BURAR Bucovina Array 76.45 316⇑ P **P** **19 18 43.5 +0.2**
PRD Provadia 76.63 311 P **P** **19 18 44.7 +0.3**
MLR Muntele Rosu 76.76 314 P **P** **19 18 45.2 +0.1**
comp=N,90nm,1.3s,mb5.5,baz=8.3,slow=3.8,SNR=24
MLR Muntele Rosu 76.76 314⇓ P **P** **19 18 45.4 +0.3**
WAR Warsaw 77.16 322 *e*P **P** **19 18 47.7 +0.5**
WAR *e*PcP PcP 19 18 55.6 -2.8
WAR *e*S S 19 28 37.2 +2.2
WAR *e*sS 19 28 52.4
WAR MLR MLR 19 55 57.9
comp=N,3µm,24.4s,MS5.5
KWP Kalwaria 77.22 319 *e*P **P** **19 18 47.8 +0.3**
KWP *e*S S 19 28 33.8 -1.8
KWP MLR MLR 19 55 45.5
comp=N,5µm,19.4s,MS5.8
KWP Kalwaria 77.22 319 *e*S S 19 28 33.8 -1.8
MTUR Matau 77.44 314 P **P** **19 18 50.1 +1.3**
SZH Strazhica 77.60 312 *i* P **P** **19 18 50.7 +0.9**
KOLS Kolonicke sedl 77.76 318 *e*P **P** **19 18 49.5 -1.0**
KOLS *e* 19 19 10.2
UZH Uzhgorod 77.86 318 *c* *i*P **P** **19 18 51.4 +0.3**
UZH *e*S S 19 28 36.0 -6.6
RES Resolute Bay 78.05 9 *e*P **P** **19 18 50.3 -1.3**
RES pmax pmax
comp=Z,48nm,1.1s,mb5.3
RES Resolute Bay 78.05 9 *e*P **P** **19 18 50.2 -1.4**
comp=Z,48nm,1.1s,mb5.3
NB2 NORSAR Subarra 78.07 332 P **P** **19 18 51.0 -1.0**
comp=Z,57nm,0.9s,mb5.5,baz=59,slow=5.6
NB2 NORSAR Subarra 78.07 332 P **P** **19 18 51.0 -1.0**
NB2 pmax pmax
comp=Z,57nm,0.9s,mb5.5
NB2 NORSAR Subarra 78.07 332 P **P** **19 18 51.0 -1.0**
baz=59,slow=5.6
NOA NORSAR Array B 78.07 332 P **P** **19 18 51.3 -0.7**
comp=Z,26nm,0.8s,mb5.2,baz=61,slow=5.6,SNR=50
DLBC Dease Lake 78.16 31 *e*P **P** **19 18 52.7 +0.2**
CRVS Cervenica-Dubn 78.26 318 *e*P **P** **19 18 56.0 +2.8**
CRVS *e* 19 19 04.6
CRVS Cervenica-Dubn 78.26 318 *e* **P** **19 18 56.0 +2.8**
CRVS *e* 19 19 04.6
NAO01 NORSAR Array S 78.31 332 *e*P **P** **19 18 50.9 -2.4**
comp=Z,35nm,1.0s,mb5.2
NAO01 LR LR
comp=Z,11µm,22.0s,MS6.2
DIM Dimitrovgrad 78.34 311 P **P** **19 18 54.0 +0.2**
OJC Ojcow 78.70 320 *e*P **P** **19 18 55.7 +0.1**
OJC *e*S S 19 28 54.6 +3.1
OJC Ojcow 78.70 320 *e*P **P** **19 18 55.7 +0.1**
OJC *e* 19 20 05.0
OJC *e*S S 19 28 54.6 +3.1
OJC MLR MLR 19 54 58.9
comp=Z,4µm,22.9s,MS5.6
NIE Niedzica 78.73 319 *e*P **P** **19 18 54.7 -1.1**
MOL Molde 78.78 335 *e*P **P** **19 18 59.2 +3.4**
GKP Gorka Klasztor 78.82 324 *e*P **P** **19 18 56.0 -0.2**
GKP *e*PcP PcP 19 19 01.3 -4.2
GKP *e*pP pP 19 19 03.7 +4.1
GKP *e*S S 19 28 56.1 +3.4
GKP LR LR
comp=Z,9µm,18.0s,MS6.2
GKP Gorka Klasztor 78.82 324 *e*P **P** **19 18 56.0 -0.2**
GKP *e*PcP PcP 19 19 01.4 -4.1
GKP *e*pP pP 19 19 03.7 +4.0
GKP *e*S S 19 28 56.1 +3.4
GKP MLR MLR 19 57 56.5
comp=Z,9µm,18.0s,MS6.2
PLD Plovdiv 78.89 311 P **P** **19 18 57.5 +0.7**
KECS Kecovo 79.02 318 *e*P **P** **19 18 57.7 +0.3**

KECS *e* pP 19 19 03.1 +2.2
RZN Rozhen 79.04 311 *i* P **P** **19 18 58.0 +0.3**
PGB Panagyurishte 79.08 312 *i* P **P** **19 18 58.5 +0.6**
BSD Bornholm Skovb 79.19 326 *i* P Px 19 19 16.3
comp=Z,74nm,1.0s
BSD *i* S S 19 28 56.3 -0.4
BSD *i* 19 38 15.3
comp=Z,8μm,20.0s
DJES Djerdap 79.33 314⇑ *i* P **P** **19 18 59.2 -0.1**
KONO Kongsberg 79.47 331 *i* P **P** **19 19 01.2 +1.5**
KONO MLR MLR
comp=Z,18μm,20.0s,MS6.4
KONO Kongsberg 79.47 331 *e*S S 19 28 57.9 -1.6
KONO *e*SS SS 19 34 09.7 -0.3
BZS Buzias 79.51 315 ⇓P **P** **19 18 59.8 -0.4**
PSZ Piszkesteto 79.52 318 P **P** **19 19 00.5 -0.2**
PSZ pmax pmax
comp=Z,230nm,1.6s,mb5.9
PSZ Piszkesteto 79.62 318 P **P** **19 19 01.3 +0.6**
PSZ Piszkesteto 79.62 318⇓ *e*P **P** **19 19 01.2 +0.5**
RAC Raciborz 79.69 320 *e*P **P** **19 19 01.5 +0.5**
RAC *e*S S 19 29 00.4 -1.6
RAC MLR MLR 19 59 11.4
comp=Z,4μm,16.7s,MS5.9
VTS Vitosha 79.71 312⇑ P **P** **19 19 01.6 +0.3**
VTS Vitosha 79.71 312 P **P** **19 19 02.6 +1.3**
VTS Vitosha 79.71 312 *i* P **P** **19 19 01.5 +0.2**
MMB Musomiste 79.76 311 *i* P **P** **19 19 01.5 -0.1**
OKC Ostrava-Krasne 79.83 320 *e*P **P** **19 19 01.3 -0.5**
OKC *e*pP pP 19 19 07.5 +2.3
OKC *e*S S 19 29 05.8 +2.4
OKC AMS AMS 20 06 40.0
comp=Z,4μm,15.5s
VYHS Vyhne 80.01 319 *e*P **P** **19 19 02.8 0.0**
VYHS *e* 19 19 08.7
VYHS *e* 19 20 06.6
VYHS *e* 19 29 29.4
BOJS Boljevac 80.03 314⇑ *i*P **P** **19 19 03.6 +0.6**
KKB Krupnik 80.09 311 *i* P **P** **19 19 03.5 +0.2**
COP Copenhagen 80.16 327⇑ *e*P **P** **19 19 08.9 +5.5**
COP *i* 19 22 07.7
COP *i* S S 19 29 08.1 +1.3
COP LR LR
comp=Z,5μm,19.0s,MS5.9
COP Copenhagen 80.16 327⇑ *i*P **P** **19 19 08.9 +5.5**
comp=Z,53nm,0.9s,mb5.5
COP *i* 19 22 07.7
COP *i* S S 19 29 08.1 +1.3
COP pmax pmax
comp=Z,53nm,0.9s,mb5.5
COP MLR MLR
comp=Z,5μm,19.0s,MS5.9
COP Copenhagen 80.16 327⇑ *e*P **P** **19 19 08.9 +5.5**
comp=Z,53nm,0.9s,mb5.5
COP *i* 19 22 07.7
COP *i* S S 19 29 08.1 +1.3
COP LR LR
comp=Z,5μm,19.0s,MS5.9
MORC Moravsky Berou 80.20 320 P **P** **19 19 04.1 +0.3**
MORC pmax pmax
comp=Z,130nm,1.5s,mb5.6
MORC Moravsky Berou 80.20 320 P **P** **19 19 04.2 +0.4**
BUD Budapest 80.34 318⇑ *e*PcP PcP 19 19 05.5 -6.6
KSP Ksiaz 80.43 322 *e*P **P** **19 19 04.4 -0.6**
KSP *e* 19 19 10.8
KSP *e*S S 19 29 10.4 +0.7
KSP MLR MLR
comp=Z,8μm,24.3s,MS6.0
KSP Ksiaz 80.43 322 *e*P **P** **19 19 04.4 -0.6**
KSP *e*pP pP 19 19 05.6 -2.8
KSP *e*PcP PcP 19 19 10.8 -1.7
KSP *e*S S 19 29 10.4 +0.7
KSP *e*SS SS 19 34 39.7 +15
KSP *e* 19 38 31.8
KSP LR LR
comp=Z,8μm,24.3s,MS6.0
KSP Ksiaz 80.43 322 *e*P **P** **19 19 05.4 +0.4**
KSP *e*PcP PcP 19 19 09.4 -3.1
KSP *e*S S 19 29 12.5 +2.8
KSP MLR MLR 19 58 13.6
comp=Z,8μm,22.0s,MS6.0
BARS Barje 80.54 313⇑ *i*P **P** **19 19 05.5 -0.2**
DPC Dobruska-Polom 80.64 321 *e*P **P** **19 19 06.7 +0.6**
DPC *e*pP pP 19 19 12.1 +2.6
DPC *e*S S 19 29 12.3 +0.4
DPC AMS AMS 20 00 30.0
comp=Z,5μm,15.5s
SRO1 Iza 80.69 318 *e*P **P** **19 19 06.8 +0.4**
UPC Upice 80.75 322 *e*P **P** **19 19 06.9 +0.3**
GRUS Gruza 80.82 314⇑ *i*P **P** **19 19 08.2 0.0**
SMOL Smolnice 80.84 319 *e*P **P** **19 19 08.8 +1.6**
VRAC Vranov 80.97 320 ⇓P **P** **19 19 08.3 +0.5**
VRAC Vranov 80.97 320 P **P** **19 19 08.4 +0.6**
RUE Ruedersdorf 81.04 324 *e*P **P** **19 19 08.8 +0.7**
comp=Z,91nm,1.1s,mb5.6
SKO Skopje 81.16 312 *i* P **P** **19 19 09.3 +0.3**
SKO pmax pmax
comp=Z,94nm,1.2s,mb5.6
SKO Skopje 81.16 312 *i* P **P** **19 19 09.3 +0.3**
comp=Z,0.1nm,1.2s
ZST Bratislava 81.18 319 *e*P **P** **19 19 08.6 -0.4**
ZST *e* 19 19 23.6
ZST *e*S S 19 29 15.7 -1.8
DIVS Divcibare 81.20 314⇓ *i*P **P** **19 19 08.8 -0.3**
MUD Monsted U'grnd 81.34 329 *i* P **P** **19 19 10.0 +0.4**
comp=Z,44nm,1.0s,mb5.3
MUD *i* 19 19 24.8
MUD *i* S S 19 29 23.3 +4.3
comp=Z,9μm,20.0s
PVCC Panska Ves 81.55 322 *e*P **P** **19 19 11.5 +0.7**
PVCC *e*S S 19 29 22.6 +1.4
PVCC MLR MLR
comp=Z,4μm,22.8s,MS5.7
PVCC Panska Ves 81.55 322 *e*P **P** **19 19 11.5 +0.7**
PVCC *e*pP pP 19 19 15.8 +1.5
PVCC *e*S S 19 29 22.6 +1.4
PVCC AMS AMS 19 59 40.0
comp=Z,4μm,22.8s
VKA Vienna 81.61 319⇑ *i*P **P** **19 19 11.7 +0.5**
comp=Z,194nm,2.0s,mb5.7
VKA Vienna 81.61 319⇑ *i*P **P** **19 19 11.7 +0.5**
VKA pmax pmax
comp=Z,194nm,2.0s,mb5.7
BRG Berggiesshubel 81.73 322 *i* P **P** **19 19 11.9 +0.1**
BRG *i* 19 19 17.6
BRG *i* 19 19 27.7
BRG *e* 19 22 21.0
BRG *i* S S 19 29 25.0 +1.9
BRG *i* PS PS 19 30 13.0 -0.2
BRG *i* SS SS 19 34 50.0 +5.9
BRG pmax pmax
comp=Z,112nm,1.8s,mb5.5
BRG MLR MLR
comp=Z,6μm,18.6s,MS6.0
BRG Berggiesshubel 81.73 322 *i* P **P** **19 19 11.9 +0.1**
comp=Z,112nm,1.8s,mb5.5
BRG *i* 19 19 17.6
BRG *i* 19 19 27.7
BRG *e*PP PP 19 22 21.0 0.0
BRG *i* S S 19 29 25.0 +1.9
BRG *i* PS PS 19 30 13.0 -0.2
BRG *i* SS SS 19 34 50.0 +5.9
BRG LR LR
comp=Z,6μm,18.6s,MS6.0
PRU Pruhonice 81.82 322 *e*P **P** **19 19 12.1 -0.2**
PRU *e*S S 19 29 23.1 -1.0
PRU AMS AMS 20 00 30.0
comp=Z,4μm,18.7s
SNZO South Karori 81.90 143 PFAKE 19 19 20.0 +7.2
SNZO LR LR
comp=Z,2μm,20.0s,MS5.6
CLL Collm 82.03 323 *i* P **P** **19 19 13.6 +0.3**
CLL *i* pP 19 19 18.9 +2.1
CLL *e*S S 19 29 26.0 -0.2
CLL pmax pmax
comp=Z,45nm,1.0s,mb5.3
CLL MLR MLR
comp=Z,9μm,16.0s,MS6.2
CLL Collm 82.03 323 *i* P **P** **19 19 13.6 +0.3**
comp=Z,45nm,1.0s,mb5.3
CLL *i* pP 19 19 18.9 +2.1
CLL *e*S S 19 29 26.0 -0.2
CLL LR LR
comp=Z,9μm,16.0s,MS6.2
CLL Collm 82.03 323 P **P** **19 19 13.6 +0.3**
comp=Z,logA/T=1.7,mb5.4
CLL *i* pP 19 19 18.9 +2.1
CLL *e* 19 19 24.0
CLL *e* 19 19 28.0
CLL *e*PP PP 19 22 25.0 +1.6
CLL *e*PPP PPP 19 24 15.0 -0.4
CLL *e*S S 19 29 26.0 -0.2
CLL *e*PPS PPS 19 30 36.0 -1.9
CLL *e*SS SS 19 35 00.0 +11
SUMG Summit 82.06 354 *e*P **P** **19 19 13.4 +0.4**
comp=Z,73nm,1.3s,mb5.5
BSEG Bad Segeberg 82.11 326 *e*P **P** **19 19 15.2 +1.5**
YKW3 Yellowknife Ar 82.19 23 *e*P **P** **19 19 11.3 -2.6**
YKA Yellowknife Ar 82.24 23 P **P** **19 19 12.5 -1.7**
comp=Z,14nm,0.9s,mb4.9,baz=312,slow=5.0,SNR=94
YKA PKKPbc 19 37 38.6
comp=Z,1.3nm,1.1s,baz=120,slow=2.3,SNR=7.7
YKA PKPPKP 19 45 37.0
comp=Z,0.1nm,0.4s,baz=135,slow=1.7,SNR=3.5
YKA Yellowknife Ar 82.24 23 P **P** **19 19 12.5 -1.7**
YKA PKKPbc 19 37 38.6
YKA PP' 19 45 37.0
KOGS Kog 82.50 318 *e*P **P** **19 19 16.0 +0.1**
ARSA Arzberg 82.56 319⇑ *i*P **P** **19 19 16.4 +0.2**
comp=Z,41nm,1.6s,mb5.2
KHC Kasperske Hory 82.79 321 *e*P **P** **19 19 17.7 +0.4**
KHC AMS AMS 20 00 30.0
comp=Z,4μm,16.1s
GEC2 GERESS Array S 82.86 321 *e*P **P** **19 19 17.8 +0.1**
GEC2 pmax pmax
comp=Z,73nm,1.3s,mb5.5
GEC2 GERESS Array S 82.86 321 *e*P **P** **19 19 17.8 +0.1**
comp=Z,73nm,1.3s,mb5.5
GERES GERESS Array B 82.86 321 P **P** **19 19 17.7 +0.1**
comp=Z,18nm,0.9s,mb5.1,baz=45,slow=3.8,SNR=65
GERES PKKPbc 19 37 38.8
comp=Z,0.5nm,0.7s,baz=236,slow=3.5,SNR=5.9
NKC Novy Kostel 82.88 322 *e*P **P** **19 19 18.0 +0.3**
NKC AMS AMS 20 00 10.0
comp=Z,8μm,16.3s
SISC Sisak 82.88 317 *i* P **P** **19 19 17.1 -0.7**
MOA Molln 83.02 320⇑ *i*P **P** **19 19 19.3 +0.8**
comp=Z,110nm,1.2s,mb5.8
PERS Pernice 83.10 318 *e*P **P** **19 19 19.0 +0.1**
MOX Moxa 83.13 323 *e*P **P** **19 19 19.9 +0.9**
MOX pmax pmax
comp=Z,94nm,1.7s,mb5.5
MOX MLR MLR
comp=Z,9μm,21.0s,MS6.1
MOX Moxa 83.13 323 *e*P **P** **19 19 19.9 +0.9**
comp=Z,94nm,1.7s,mb5.5
MOX LR LR
comp=Z,9μm,21.0s,MS6.1
MOX Moxa 83.13 323 *i* P **P** **19 19 19.9 +0.9**
comp=Z,logA/T=1.8,mb5.6
MOX S S 19 29 43.0 +5.7
MOX L 20 01 11.0
CLZ Clausthal 83.17 324 *e*P **P** **19 19 19.7 +0.5**
comp=Z,134nm,1.5s,mb5.8
WET Wettzell 83.18 321 *e*P **P** **19 19 19.7 +0.4**
WET pmax pmax
comp=Z,110nm,1.7s,mb5.6
WET Wettzell 83.18 321 *e*P **P** **19 19 19.7 +0.4**
comp=Z,110nm,1.7s,mb5.6
OBKA Obir 83.50 318⇑ *i*P **P** **19 19 21.4 +0.4**
comp=Z,50nm,1.4s,mb5.5
BOJS Bojanci 83.56 317 *e*P **P** **19 19 22.1 +0.7**
LJU Ljubljana 83.74 318 *e*P **P** **19 19 22.3 +0.1**
GRA1 Grafenberg Arr 83.83 322 *e*P **P** **19 19 23.1 +0.5**
comp=Z,187nm,1.5s,mb6.0
GRA1 *e*S S 19 30 07.3 +23
GRA1 LR LR
comp=Z,5μm,21.4s,MS5.9
GRF Grafenberg Arr 83.83 322 *e*P **P** **19 19 23.1 +0.5**
GRF pmax pmax
comp=Z,187nm,1.5s,mb6.0
GRF MLR MLR
comp=Z,5μm,21.4s,MS5.9
GRF Grafenberg Arr 83.83 322 *e*P **P** **19 19 23.1 +0.5**
GRF pmax pmax
comp=Z,187nm,1.5s,mb6.0
GRF MLR MLR
comp=Z,5μm,21.4s,MS5.9
GRF Grafenberg Arr 83.83 322 *e*P **P** **19 19 23.1 +0.5**
comp=Z,187nm,1.5s,mb6.0
GRF *e*S S 19 30 07.3 +23
GRF LR LR
comp=Z,5μm,21.4s,MS5.9
KBA Koelnbreinsper 83.94 319⇑ *i*P **P** **19 19 23.3 0.0**
comp=Z,91nm,1.4s,mb5.7
KBA Koelnbreinsper 83.94 319⇑ *i*P **P** **19 19 23.3 0.0**
KBA pmax pmax
comp=Z,91nm,1.4s,mb5.7
JAVS Javornik 84.10 318 *e*P **P** **19 19 23.7 -0.4**
VOY Vojsko 84.13 318 *e*P **P** **19 19 23.3 -0.9**
VOY *e* 19 20 33.0
PTCC Patocco-Chiusa 84.27 319 *e*P **P** **19 19 25.1 +0.1**
GMNA Gemona 84.41 319 *e*P **P** **19 19 25.3 -0.3**
FVI Forni Avoltri 84.52 319 *e*P **P** **19 19 25.6 -0.6**
FUR Furstenfeldbru 84.59 321 *e*P **P** **19 19 27.1 +0.6**
FUR pmax pmax
comp=Z,231nm,1.1s,mb6.2
FUR Furstenfeldbru 84.59 321 *e*P **P** **19 19 27.1 +0.6**
comp=Z,231nm,1.1s,mb6.2
WATA Walderalm 84.85 320⇓ *i*P **P** **19 19 27.7 -0.1**
comp=Z,151nm,1.7s,mb5.8
WATA Walderalm 84.85 320⇓ *i*P **P** **19 19 27.7 -0.1**
WATA pmax pmax
comp=Z,151nm,1.7s,mb5.8
WTSB Winterswijk 84.97 326 *e*P **P** **19 19 28.7 +0.5**
TNS Taunus Mts 85.07 324 *e*P **P** **19 19 29.2 +0.4**
TNS pmax pmax
comp=Z,67nm,1.5s,mb5.5
TNS Taunus Mts 85.07 324 *e*P **P** **19 19 29.2 +0.4**
comp=Z,67nm,1.5s,mb5.5
MOTA Moosalm 85.12 320⇓ *i*P **P** **19 19 29.1 0.0**
comp=Z,18nm,1.2s,mb5.1
MOTA Moosalm 85.12 320⇓ *i*P **P** **19 19 29.1 0.0**
MOTA pmax pmax
comp=Z,18nm,1.2s,mb5.1
SQTA Sankt Quirin 85.12 320⇑ *i*P **P** **19 19 29.3 +0.1**
comp=Z,101nm,1.4s,mb5.8
SQTA Sankt Quirin 85.12 320⇑ *i*P **P** **19 19 29.3 +0.1**
SQTA pmax pmax
comp=Z,101nm,1.4s,mb5.8
TOD Tromm 85.21 323 *e*P **P** **19 19 29.6 +0.1**
STU Stuttgart 85.45 322 *e*P **P** **19 19 31.4 +0.7**
STU pmax pmax
comp=Z,56nm,1.0s,mb5.7
STU Stuttgart 85.45 322 *e*P **P** **19 19 31.4 +0.6**
comp=Z,56nm,1.0s,mb5.7
CTI Castel Tesino 85.47 319 *e*P **P** **19 19 30.5 -0.4**
FG5 Orsara di Pugl 85.59 314 *e*P **P** **19 19 33.5 +1.9**
TIP Timpagrande 85.60 311 *e*P **P** **19 19 31.9 +0.1**
KMBO Kilima Mbogo 85.61 267⇓ *e*P **P** **19 19 32.6 +0.2**
KMBO pmax pmax
comp=Z,46nm,1.4s
KMBO MLR MLR
comp=Z,1μm,19.0s
KMBO Kilima Mbogo 85.61 267 P **P** **19 19 34.0 +1.7**
comp=Z,20nm,1.1s,mb5.2,baz=45,slow=7.9,SNR=24
KMBO Kilima Mbogo 85.61 267⇓ *e*P **P** **19 19 32.6 +0.3**
comp=Z,46nm,1.4s,mb5.5
KMBO LR LR
comp=Z,1μm,19.0s,MS5.4
MRLC Muro Lucano 85.70 313 *e*P **P** **19 19 36.6 +4.4**
ABH Alteburg 85.74 324 *e*P **P** **19 19 33.1 +0.9**
KTD Kalmit 85.76 323 *e*P **P** **19 19 32.9 +0.6**
DAVA Damuels 85.86 321⇑ *i*P **P** **19 19 33.6 +0.8**
comp=Z,52nm,1.2s,mb5.6
ARV Arcevia 85.99 316 *e*P **P** **19 19 34.2 +0.7**
FSSB Fossombrone 85.99 317 *e*P **P** **19 19 34.3 +0.7**
BRMO Bormio 86.00 320 *e*P **P** **19 19 34.4 +0.8**
CII Carovilli 86.00 314 *e*P **P** **19 19 35.2 +1.5**
RSM Repubblica di 86.08 317 *e*P **P** **19 19 35.5 +1.5**
HGN Heimansgroeve 86.10 325 *e*P **P** **19 19 33.1 -0.8**
comp=Z,57nm,1.7s,mb5.5
HGN *e*PPP PP 19 22 48.2 -7.8
HGN *e*S 19 29 56.3
HGN *e*SS SS 19 35 54.8 +6.3
LANF Langenberg 86.10 323 *e*P **P** **19 19 35.3 +1.3**
RUP Ruppelstein 86.10 324 *e*P **P** **19 19 34.2 +0.2**
SNTG Esanatoglia 86.11 316 *e*P **P** **19 19 35.1 +0.9**
BFO Black Forest 86.17 322 *e*P **P** **19 19 34.1 -0.3**
BFO pmax pmax
comp=Z,105nm,1.8s,mb5.8
BFO Black Forest 86.17 322 *e*P **P** **19 19 34.1 -0.3**
comp=Z,105nm,1.8s,mb5.8
NRCA Norcia 86.22 316 *e*P **P** **19 19 34.9 +0.1**
AQU L'Aquila 86.27 315 P **P** **19 19 35.7 +0.7**
AQU pmax pmax
comp=Z,440nm,1.4s,mb6.5
AQU L'Aquila 86.27 315 *e*P **P** **19 19 35.8 +0.8**
SDI San Donato 86.33 315 *e*P **P** **19 19 36.5 +1.2**
SAL Salo 86.37 319 *e*P **P** **19 19 36.2 +0.8**
PTQR Pietraquaria 86.44 315 *e*P **P** **19 19 36.4 +0.5**
SFI Santa Sofia 86.46 317 *e*P **P** **19 19 37.6 +1.7**
CRE Caprese Michel 86.55 317 *e*P **P** **19 19 38.0 +1.7**
PGD Poggio Sodo 86.56 317 *e*P **P** **19 19 38.0 +1.6**
PGC Sidney 86.58 37 *e*P **P** **19 19 36.8 +0.5**
comp=Z,72nm,0.9s,mb5.9
FELD Feldberg 86.61 322 *e*P **P** **19 19 37.3 +0.8**
SOI Samo 86.61 310 *e*P **P** **19 19 37.4 +0.6**
WLF Walferdange 86.61 324 P **P** **19 19 37.8 +1.3**
WLF pmax pmax
comp=Z,250nm,1.6s,mb6.2
WLF Walferdange 86.61 324 *e*P **P** **19 19 35.6 -0.8**
comp=Z,218nm,1.5s,mb6.2
VMG Vicchio 86.62 317 *e*P **P** **19 19 38.1 +1.4**
WLS Welschbruch 86.67 323 *e*P **P** **19 19 37.9 +1.1**
LIBD Limburg 86.68 322 *e*P **P** **19 19 37.8 +1.0**
OCWA Octopus Mounta 86.68 38 PFAKE 19 19 50.0 +13
OCWA LR LR
comp=Z,2μm,21.0s,MS5.5
SEI Scarperia 86.69 317 *e*P **P** **19 19 38.4 +1.4**
CDF Champ du Feu 86.71 323 *e*P **P** **19 19 35.9 -1.1**
comp=Z,322nm,1.5s,mb6.0
CDF Champ du Feu 86.71 323 *e*P **P** **19 19 35.9 -1.1**
CDF pmax pmax
comp=Z,161nm,1.5s,mb6.0
MNS Montasola 86.72 316 *e*P **P** **19 19 37.7 +0.5**
ZCCA Zocca 86.77 318 *e*P **P** **19 19 39.2 +1.9**
ECH Echery 86.89 323 *e*P **P** **19 19 38.3 +0.4**
GSCL Gusciola 87.00 318 *e*P **P** **19 19 39.7 +1.2**
GIVF Givet 87.06 325 *e*P **P** **19 19 37.4 -1.2**
comp=Z,262nm,1.8s,mb5.9
GIVF Givet 87.06 325 *e*P **P** **19 19 37.4 -1.2**
GIVF pmax pmax
comp=Z,131nm,1.8s,mb5.9
MOF Molkenrain 87.11 322 *e*P **P** **19 19 39.6 +0.7**
HINF Hinteralfeld 87.28 322 *e*P **P** **19 19 38.2 -1.6**
comp=Z,171nm,1.7s,mb5.7
HINF Hinteralfeld 87.28 322 *e*P **P** **19 19 38.2 -1.6**
HINF pmax pmax
comp=Z,86nm,1.7s,mb5.7
BAIF Baives 87.41 325 *e*P **P** **19 19 39.1 -1.2**
comp=Z,188nm,1.7s,mb5.7
BAIF Baives 87.41 325 *e*P **P** **19 19 39.1 -1.2**
BAIF pmax pmax
comp=Z,94nm,1.7s,mb5.7
CMW Cultus Mountai 87.44 37 P **P** **19 19 41.7 +1.1**
HAU Haudompre 87.45 323 *e*P **P** **19 19 39.0 -1.6**
comp=Z,80nm,1.4s,mb5.4
HAU *e*R
comp=Z,6μm,19.0s
HAU Haudompre 87.45 323 *e*P **P** **19 19 39.0 -1.6**
HAU pmax pmax
comp=Z,40nm,1.4s,mb5.5
HAU MLR MLR
comp=Z,6μm,19.0s,MS6.0
THEF They Montfort 87.53 323 *e*P **P** **19 19 41.6 +0.7**
LOMF Lomont 87.56 322 *e*P **P** **19 19 42.0 +0.9**
ESK Eskdalemuir 87.59 332 PFAKE 19 19 50.0 +8.9
ESK LR LR
comp=Z,2μm,19.0s,MS5.5
MCGN Macugnaga 87.68 320 *e*P **P** **19 19 42.2 +0.5**
MEZF Maizieres J'vi 87.87 324 *e*P **P** **19 19 41.6 -1.0**
comp=Z,374nm,1.7s,mb6.0
TTW Tolt Reservoir 88.10 37 P **P** **19 19 46.4 +2.7**
CABF La Chapelle 88.40 322 *e*P **P** **19 19 44.1 -1.1**
comp=Z,134nm,1.7s,mb5.6
CABF La Chapelle 88.40 322 *e*P **P** **19 19 44.1 -1.1**
CABF pmax pmax
comp=Z,67nm,1.7s,mb5.6
SFJ Sondre 88.41 357 PFAKE 19 20 00.0 +15
SFJ LR LR
comp=Z,4μm,19.0s,MS5.8
SFJD Kangerlussuaq 88.41 357 *i* P **P** **19 19 50.6 +5.9**
comp=Z,13nm,0.8s,mb5.2
SFJD Kangerlussuaq 88.41 357 *e*S S 19 30 36.4 +8.3
comp=Z,3μm,19.0s
NLW Nelson Butte 88.61 36 P **P** **19 19 47.6 +1.4**
LPG La Plagne 88.65 320 *e*P **P** **19 19 45.7 -0.7**
comp=Z,10nm,0.9s,mb5.9
LPG La Plagne 88.65 320 *e*P **P** **19 19 45.7 -0.7**
LPG pmax pmax
comp=Z,53nm,0.9s,mb5.9
LPL La Plagne 88.65 320 *e*P **P** **19 19 45.5 -0.9**
comp=Z,107nm,1.1s,mb5.8
LPL La Plagne 88.65 320 *e*P **P** **19 19 45.5 -0.9**
LPL pmax pmax
comp=Z,54nm,1.1s,mb5.8
WPW White Pass 88.76 38 P **P** **19 19 48.1 +1.3**
EDM Edmonton 88.83 30 *e*P **P** **19 19 45.8 -1.3**
PGF Pioggiola 88.95 317 *e*P **P** **19 19 46.7 -1.2**
comp=Z,131nm,0.9s,mb6.0
PGF Pioggiola 88.95 317 *e*P **P** **19 19 46.7 -1.2**
PGF pmax pmax
comp=Z,66nm,0.9s,mb6.0
BNI Bardonecchia 88.95 320 *e*P **P** **19 19 47.4 -0.4**
BNI pmax pmax
comp=Z,46nm,1.1s,mb5.7
BNI Bardonecchia 88.95 320 *e*P **P** **19 19 47.4 -0.5**
comp=Z,46nm,1.1s,mb5.7
COR Corvallis 88.95 40 *e*P **P** **19 19 50.7 +2.8**
COR pmax pmax
comp=Z,146nm,1.3s,mb6.2
COR MLR MLR
comp=Z,439nm,19.0s,MS4.9
COR Corvallis 88.95 40 *e*P **P** **19 19 50.7 +2.8**
comp=Z,146nm,1.3s,mb6.2
COR LR LR
comp=Z,439nm,19.0s,MS4.9
MBDF Montbardon 89.08 320 *e*P **P** **19 19 47.8 -0.7**
comp=Z,42nm,1.1s,mb5.4
MBDF Montbardon 89.08 320 *e*P **P** **19 19 47.8 -0.7**
MBDF pmax pmax
comp=Z,21nm,1.1s,mb5.4
SBF Sospel 89.17 319 *e*P **P** **19 19 47.2 -1.7**
comp=Z,101nm,0.8s,mb5.9
SBF Sospel 89.17 319 *e*P **P** **19 19 47.2 -1.7**
SBF pmax pmax
comp=Z,51nm,0.8s,mb5.9
KEBM Edson Butte 89.29 42 *e*P **P** **19 19 50.6 +1.0**
ORIF Oris-en-Rattie 89.49 320 *e*P **P** **19 19 49.1 -1.3**
comp=Z,46nm,0.8s,mb5.5
ORIF *e*R
comp=Z,7μm,20.2s
SSF Saint Saulge 89.57 323 *e*P **P** **19 19 49.0 -1.7**
SSF pmax pmax
comp=Z,33nm,1.5s,mb5.4
SSF Saint Saulge 89.57 323 *e*P **P** **19 19 49.0 -1.7**
comp=Z,33nm,1.5s,mb5.5
SMF Signal de Mont 89.63 323 *e*P **P** **19 19 49.3 -1.7**
comp=Z,268nm,1.6s,mb6.0
SMF Signal de Mont 89.63 323 *e*P **P** **19 19 49.3 -1.7**
SMF pmax pmax
comp=Z,134nm,1.6s,mb6.0
AVF Avril sur Loir 89.81 323 *e*P **P** **19 19 50.2 -1.7**
comp=Z,123nm,1.3s,mb5.8
AVF Avril sur Loir 89.81 323 *e*P **P** **19 19 50.2 -1.7**
AVF pmax pmax
comp=Z,62nm,1.3s,mb5.8
OD2 Odessa Site #2 89.90 36 P **P** **19 19 54.4 +2.1**
HYF Humbligny 89.91 324 *e*P **P** **19 19 51.3 -1.0**
HBO Huckleberry Mo 89.96 41 P **P** **19 19 56.0 +3.4**
LMR La Mourre 90.03 319 *e*P **P** **19 19 51.3 -1.6**
comp=Z,265nm,1.5s,mb6.0
LMR La Mourre 90.03 319 *e*P **P** **19 19 51.3 -1.6**
LMR pmax pmax
comp=Z,133nm,1.5s,mb6.0
PLDF La Plantade 90.16 322 *e*P **P** **19 19 53.8 +0.3**
NEW Newport 90.20 35 *e*P **P** **19 19 53.6 0.0**
NEW pmax pmax
comp=Z,36nm,0.9s
NEW MLR MLR
comp=Z,2μm,19.0s
NEW Newport 90.20 35 *e*P **P** **19 19 53.6 -0.1**
comp=Z,36nm,0.9s,mb5.7

NEW LR LR
comp=Z,2μm,19.0s,MS5.5
SMRF Simiane la Rot 90.21 320 *eP* **P 19 19 52.6 -1.2**
comp=Z,49nm,1.1s,mb5.5
VIVF Saint-Julien-l 90.22 321 *eP* **P 19 19 52.4 -1.4**
comp=Z,86nm,1.1s,mb5.7
VIVF Saint-Julien-l 90.22 321 *eP* **P 19 19 52.4 -1.4**
VIVF pmax pmax
comp=Z,43nm,1.1s,mb5.7
BGF Bois d'Agland 90.23 323 *eP* **P 19 19 52.3 -1.5**
comp=Z,180nm,1.7s,mb5.8
BGF Bois d'Agland 90.23 323 *eP* **P 19 19 52.3 -1.5**
BGF pmax pmax
comp=Z,90nm,1.7s,mb5.8
HUMO Hull Mountain 90.28 42 *eP* **P 19 19 55.8 +1.7**
comp=Z,40nm,1.1s,mb5.7
HUMO LR LR
comp=Z,2μm,22.0s,MS5.4
AGO Saint Agoulin 90.38 322 *eP* **P 19 19 55.4 +0.9**
LDF La Druitiere 90.54 326 *eP* **P 19 19 53.4 -1.8**
comp=Z,171nm,1.8s,mb5.8
LDF La Druitiere 90.54 326 *eP* **P 19 19 53.4 -1.8**
LDF pmax pmax
comp=Z,86nm,1.8s,mb5.8
FLN La Foliniere 90.62 326 *eP* **P 19 19 53.8 -1.7**
FLN *eR*
comp=Z,10μm,21.2s
PYM Petit Puy Mans 90.63 322 *eP* **P 19 19 55.2 -0.5**
TCF Toulx Ste Croi 90.75 323 *eP* **P 19 19 55.0 -1.2**
comp=Z,189nm,1.5s,mb5.9
TCF Toulx Ste Croi 90.75 323 *eP* **P 19 19 55.0 -1.2**
TCF pmax pmax
comp=Z,95nm,1.5s,mb5.9
LBL Lubilhac 90.81 322 *eP* **P 19 19 56.4 -0.1**
YBH Yreka Blue Hor 90.93 43 *eP* **P 19 19 57.1 -0.1**
YBH pmax pmax
comp=Z,52nm,1.2s
YBH MLR MLR
comp=Z,1μm,19.0s
YBH Yreka Blue Hor 90.93 43 *eP* **P 19 19 57.1 -0.1**
comp=Z,52nm,1.2s,mb5.7
YBH LR LR
comp=Z,1μm,19.0s,MS5.4
CASY Casey 91.11 185 *eP* **P 19 19 56.0 -1.4**
CASY LR LR
comp=Z,1μm,20.0s,MS5.3
LASF Ste Croix 91.16 320 *eP* **P 19 19 57.1 -1.0**
comp=Z,192nm,1.7s,mb5.8
MBAR Mbarara 91.31 270 P **P 19 19 59.4 -0.2**
MBAR pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
MBAR MLR MLR
comp=Z,400nm,19.0s,MS4.9
MBAR Mbarara 91.31 270 P **P 19 19 59.4 -0.2**
comp=Z,9.4nm,1.2s,mb5.0
MBAR LR LR
comp=Z,400nm,19.0s,MS4.9
WALA Waterton Lakes 91.32 33 *eP* **P 19 19 60.0 +1.2**
comp=Z,72nm,1.2s,mb5.9
FCC Fort Churchill 91.65 18 *eP* **P 19 19 58.7 -1.3**
FCC pmax pmax
comp=Z,46nm,1.1s,mb5.7
FCC Fort Churchill 91.65 18 *eP* **P 19 19 58.7 -1.4**
comp=Z,46nm,1.1s,mb5.7
WDC Whiskeytown Da 91.69 43 *eP* **P 19 20 00.8 +0.1**
WDC pmax pmax
comp=Z,54nm,1.2s,mb5.8
WDC MLR MLR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 91.69 43 *eP* **P 19 20 00.8 +0.1**
comp=Z,54nm,1.2s,mb5.8
WDC LR LR
comp=Z,1μm,20.0s,MS5.4
RJF Les Rejaudoux 91.73 322 *eP* **P 19 20 00.0 -0.8**
comp=Z,450nm,1.5s,mb6.3
RJF *eR*
comp=Z,7μm,21.0s
RJF Les Rejaudoux 91.73 322 *eP* **P 19 20 00.0 -0.8**
RJF pmax pmax
comp=Z,225nm,1.5s,mb6.3
RJF MLR MLR
comp=Z,7μm,21.0s,MS6.1
DRV Dumont d'Urvil 92.11 173 SS SS 19 37 26.0 +12
DRV L 19 46 00.0
BMO Blue Mountains 92.24 38 *eP* **P 19 20 02.4 -0.7**
comp=Z,32nm,1.1s,mb5.6
BMO LR LR
comp=Z,2μm,20.0s,MS5.5
HOPS Hopland 92.25 45 PFAKE 19 20 10.0 +6.7
HOPS LR LR
comp=Z,2μm,19.0s,MS5.6
LBCM Butte Creek Ri 92.28 43 P **P 19 20 02.9 -0.5**
MOD Modoc 92.30 41 *eP* **P 19 20 02.9 -0.6**
comp=Z,80nm,1.2s,mb5.9
MOD LR LR
comp=Z,1μm,19.0s,MS5.5
ROSF Rostrenen 92.30 327 *eP* **P 19 20 01.5 -1.8**
comp=Z,209nm,1.7s,mb5.9
ROSF Rostrenen 92.30 327 *eP* **P 19 20 01.5 -1.8**
ROSF pmax pmax
comp=Z,104nm,1.7s,mb5.9
LFF La Frestale 92.39 323 *eP* **P 19 20 03.1 -0.7**
comp=Z,205nm,1.5s,mb5.9
LFF La Frestale 92.39 323 *eP* **P 19 20 03.1 -0.7**
LFF pmax pmax
comp=Z,102nm,1.5s,mb5.9
FFC Flin Flon 92.39 24 P **P 19 20 02.7 -0.8**
comp=Z,170nm,1.2s,mb6.2,SNR=8.6
FFC Flin Flon 92.39 24 *eP* **P 19 20 01.3 -2.2**
FFC pmax pmax
comp=Z,51nm,1.2s,mb5.7
FFC Flin Flon 92.39 24 *eP* **P 19 20 01.3 -2.2**
comp=Z,51nm,1.2s,mb5.7
MTLF Montolieu 92.55 321 *eP* **P 19 20 03.5 -1.0**
comp=Z,206nm,1.8s,mb6.0
MTLF Montolieu 92.55 321 *eP* **P 19 20 03.5 -1.0**
MTLF pmax pmax
comp=Z,103nm,1.8s,mb6.0
MSO Missoula 92.78 35 *eP* **P 19 20 05.5 -0.1**
comp=Z,27nm,1.2s,mb5.5
MSO LR LR
comp=Z,1μm,19.0s,MS5.5
WVOR Wild Horse Val 92.97 40 *eP* **P 19 20 06.2 -0.3**
WVOR pmax pmax
comp=Z,41nm,1.3s,mb5.7
WVOR MLR MLR
comp=Z,2μm,20.0s,MS5.6
WVOR Wild Horse Val 92.97 40 *eP* **P 19 20 06.2 -0.3**
comp=Z,41nm,1.3s,mb5.7
WVOR LR LR
comp=Z,2μm,20.0s,MS5.6
OHCM Honcut 93.07 44 *eP* **P 19 20 07.8 +0.7**
CHMT Chamberlain Mo 93.08 34 *eP* **P 19 20 06.9 0.0**
EPF Esparros 93.81 321 *eP* **P 19 20 09.0 -1.4**
comp=Z,84nm,1.6s,mb5.6
EPF Esparros 93.81 321 *eP* **P 19 20 09.0 -1.4**
EPF pmax pmax
comp=Z,42nm,1.6s,mb5.6
HRY Holter Researc 93.94 34 *eP* **P 19 20 10.2 -0.7**
PAHR Pah Rah Range 94.16 43 *eP* **P 19 20 13.9 +1.8**
comp=Z,15nm,1.0s,mb5.6
WCN Washoe City 94.17 43 *eP* **P 19 20 14.0 +1.9**
WCN pmax pmax
comp=Z,23nm,1.0s,mb5.6
WCN Washoe City 94.17 43 *eP* **P 19 20 14.0 +1.8**
comp=Z,23nm,1.0s,mb5.5
ETSF Etsaut 94.41 322 *eP* **P 19 20 11.0 -2.1**
comp=Z,112nm,1.6s,mb5.8
ETSF Etsaut 94.41 322 *eP* **P 19 20 11.0 -2.1**
ETSF pmax pmax
comp=Z,56nm,1.6s,mb5.7
CMB Columbia Colle 94.53 45 *eP* **P 19 20 12.9 -0.9**
CMB pmax pmax
comp=Z,33nm,1.0s,mb5.7
CMB MLR MLR
comp=Z,2μm,22.0s,MS5.5
CMB Columbia Colle 94.53 45 *eP* **P 19 20 12.8 -0.9**
comp=Z,33nm,1.0s,mb5.7
CMB LR LR
comp=Z,2μm,22.0s,MS5.5
SAO San Andreas Ge 94.58 46 PFAKE 19 20 30.0 +16
SAO LR LR
comp=Z,1μm,20.0s,MS5.3
HLID Hailey 94.66 37 *eP* **P 19 20 15.2 +1.0**
comp=Z,12nm,0.9s,mb5.3
HLID LR LR
comp=Z,2μm,20.0s,MS5.5

BOZ Bozeman (W) 94.76 34 PFAKE 19 20 30.0 +15
BOZ LR LR
comp=Z,3μm,19.0s,MS5.8
BMN Battle Mountai 95.03 41 *eP* **P 19 20 19.1 +3.0**
BMN pmax pmax
comp=Z,24nm,1.1s,mb5.5
BMN MLR MLR
comp=Z,2μm,20.0s,MS5.5
BMN Battle Mountai 95.03 41 *eP* **P 19 20 19.1 +3.0**
comp=Z,24nm,1.1s,mb5.5
BMN LR LR
comp=Z,2μm,20.0s,MS5.5
QLMT Earthquake Lak 95.42 35 *eP* **P 19 20 19.4 +1.7**
NVAR Mina Array Bea 95.60 43 P **P 19 20 18.8 0.0**
comp=Z,9.6nm,0.8s,mb5.3,baz=293,slow=4.3,SNR=36
NVAR Mina Array Bea 95.60 43 P **P 19 20 18.8 0.0**
MNV Mina 95.70 43 PFAKE 19 20 30.0 +11
MNV LR LR
comp=Z,2μm,20.0s,MS5.5
PPT Papeete 95.87 107 *eS* S 19 31 38.8 +3.9
PPT *eLQ* 19 47 25.8
PPT *eLR* LR 19 51 01.8
comp=Z,4μm,24.0s,baz=289
YFT Old Faithful 95.99 35 *eP* **P 19 20 23.2 +2.8**
ELK Elko 96.01 40 *eP* **P 19 20 21.1 +0.6**
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK MLR MLR
comp=Z,2μm,21.0s
ELK Elko 96.01 40 *eP* **P 19 20 21.1 +0.6**
comp=Z,6.4nm,1.1s,mb5.0
ELK LR LR
comp=Z,2μm,21.0s,MS5.5
MTUM Tungsten Hills 96.09 44 *eP* **P 19 20 22.8 +1.8**
LKWY Lake 96.14 35 PFAKE 19 20 30.0 +9.0
LKWY LR LR
comp=Z,4μm,20.0s,MS5.9
DGMT Dagmar 96.29 29 P **P 19 20 21.2 -0.4**
comp=Z,45nm,1.3s,mb5.7
DGMT LR LR
comp=Z,2μm,19.0s,MS5.7
TPH Tonopah 96.49 43 *eP* **P 19 20 22.3 -0.5**
TPH pmax pmax
comp=Z,29nm,1.2s,mb5.6
TPH MLR MLR
comp=Z,1μm,19.0s,MS5.5
TPH Tonopah 96.49 43 *eP* **P 19 20 22.3 -0.5**
comp=Z,28nm,1.2s,mb5.6
TPH LR LR
comp=Z,1μm,19.0s,MS5.5
LAO LASA Array 96.69 31 PFAKE 19 20 30.0 +6.6
LAO LR LR
comp=Z,3μm,20.0s,MS5.8
AHID Auburn Hatcher 97.00 36 PFAKE 19 20 40.0 +15
AHID LR LR
comp=Z,2μm,20.0s,MS5.5
HWUT Hardware Ranch 97.53 37 *eP* **P 19 20 27.9 +0.5**
comp=Z,19nm,1.5s,mb5.4
HWUT LR LR
comp=Z,3μm,19.0s,MS5.7
BW06 Boulder Array 97.82 36 *eP* **P 19 20 29.8 +1.1**
comp=Z,6.6nm,1.4s,mb5.0
BW06 LR LR
comp=Z,2μm,19.0s,MS5.7
PDAR Pinedale Array 97.82 36 P **P 19 20 28.9 +0.3**
comp=Z,1.1nm,0.9s,baz=270,slow=1.5,SNR=7.6
PDAR PP PP 19 24 34.9 +5.0
comp=Z,3.6nm,1.2s,baz=342,slow=4.7,SNR=5.3
PDAR PKKP PKKP 19 37 01.2 +0.3
comp=Z,0.9nm,0.9s,baz=149,slow=5.3,SNR=4.8
ULM Lac du Bonnet 98.21 23 P **P 19 20 30.2 0.0**
comp=Z,1.9nm,0.8s,mb4.7,baz=332,slow=7.7,SNR=3.1
ULM Lac du Bonnet 98.21 23 P **P 19 20 30.2 0.0**
ULM LR LR
comp=Z,5μm,20.0s,MS6.0
TBI Tubuai 98.27 112 *eS* S 19 31 59.2 +4.1
TBI *eLQ* 19 48 16.6
TBI *eLR* LR 19 51 39.9
comp=Z,3μm,25.0s,baz=286
ESDC Sonseca Array 98.45 321 PP PP 19 24 28.1 -6.4
comp=Z,1.6nm,0.8s,baz=56,slow=9.3,SNR=3.1
ESLA Sonseca Array 98.45 321 PFAKE 19 20 40.0 +8.4
ESLA LR LR
comp=Z,16μm,20.0s,MS6.5
MVU Marysvale 99.24 40 PFAKE 19 20 50.0 +15
MVU LR LR
comp=Z,1μm,19.0s,MS5.5
MSU Marysvale 99.26 40 *eP* **P 19 20 36.4 +1.2**
LSZ Lusaka 99.54 258 *eP* **P 19 20 34.7 -2.3**
LSZ pmax pmax
comp=Z,18nm,1.4s,mb5.3
LSZ MLR MLR
comp=Z,4μm,21.0s,MS5.9
LSZ Lusaka 99.54 258 *eP* **P 19 20 34.7 -2.3**
comp=Z,18nm,1.4s,mb5.3
LSZ LR LR
comp=Z,4μm,21.0s,MS5.9
PFO Pinyon Flat Ob 99.74 46 PFAKE 19 20 50.0 +12
PFO LR LR
comp=Z,477nm,20.0s,MS5.0
SRU San Rafael 99.81 39 *eP* **P 19 20 36.8 -0.9**
SCHQ Schefferville 100.44 5 *eP* P 19 20 40.1 -0.1
comp=Z,13nm,1.3s
SCHQ LR LR
comp=Z,5μm,19.0s,MS6.0
PV10 Paradox Valley 101.16 38 *eP* P 19 20 45.8 +1.9
EYMN Ely 101.70 22 PFAKE 19 21 00.0 +14
EYMN LR LR
comp=Z,3μm,22.0s,MS5.8
ISCO Idaho Springs 102.02 36 PFAKE 19 21 00.0 +12
ISCO LR LR
comp=Z,2μm,19.0s,MS5.7
SDCO Great Sand Dun 103.57 37 PFAKE 19 21 10.0 +15
SDCO LR LR
comp=Z,3μm,19.0s,MS5.9
TUC Tucson 104.23 44 PFAKE 19 21 10.0 +12
TUC LR LR
comp=Z,1μm,19.0s,MS5.4
ANMO Albuquerque 105.03 39 PFAKE 19 25 30.0
ANMO LR LR
comp=Z,2μm,21.0s,MS5.7
LBTB Lobatse 105.39 249 PFAKE 19 25 30.0
LBTB LR LR
comp=Z,1μm,20.0s,MS5.5
CBKS Cedar Bluff 105.76 33 PFAKE 19 25 30.0
CBKS LR LR
comp=Z,2μm,20.0s,MS5.6
JFWS Jewell Farm 106.48 24 PFAKE 19 25 30.0
JFWS LR LR
comp=Z,3μm,19.0s,MS5.9
BOSA Boshof 106.89 246 PFAKE 19 25 30.0
BOSA LR LR
comp=Z,1μm,20.0s,MS5.5
AMTX Amarillo 107.76 37 PFAKE 19 25 30.0
AMTX LR LR
comp=Z,2μm,20.0s,MS5.6
MNTX Cornudas Mount 107.97 41 PFAKE 19 25 30.0
MNTX LR LR
comp=Z,2μm,22.0s,MS5.6
AAM Ann Arbor 109.27 20 PFAKE 19 25 30.0
AAM LR LR
comp=Z,3μm,21.0s,MS5.9
WMOK Wichita Mounta 109.41 35 PFAKE 19 25 40.0
WMOK LR LR
comp=Z,2μm,20.0s,MS5.7
NCB Newcomb 110.08 12 PFAKE 19 25 40.0 +13
NCB LR LR
comp=Z,3μm,19.0s,MS5.8
CCM Cathedral Cave 110.24 27 PFAKE 19 25 40.0 +13
CCM LR LR
comp=Z,592nm,19.0s,MS5.2
TSUM Tsumeb 110.40 258 PFAKE 19 25 40.0 +12
TSUM LR LR
comp=Z,4μm,22.0s,MS5.9
ERPA Erie 110.50 17 PFAKE 19 25 40.0 +13
ERPA LR LR
comp=Z,4μm,20.0s,MS6.0
ADH Angra Heroismo 110.66 335 *eLR* LR 19 59 50.0
LTX Lajitas 110.69 42 PFAKE 19 25 40.0 +12
LTX LR LR
comp=Z,2μm,20.0s,MS5.6
TXAR Lajitas Array 110.69 42 Pdiff Pdif 19 21 27.5 +1.3
comp=Z,0.8nm,1.1s,baz=27,slow=2.8,SNR=4.9
TXAR PKiKP 19 25 25.1
comp=Z,2.4nm,1.1s,baz=236,slow=1.9,SNR=5.7
TXAR PKKPbc 19 36 24.2
comp=Z,0.2nm,0.4s,baz=146,slow=3.3,SNR=4.9
TXAR Lajitas Array 110.69 42 Pdif Pdif 19 21 27.5 +1.3
TXAR PKPdf PKPdf 19 25 25.1 -3.1
TXAR PKKPbc 19 36 24.2
ACSO Alum Creek Sta 111.36 20 PFAKE 19 25 40.0 +11
ACSO LR LR
comp=Z,3μm,20.0s,MS5.9
SUR Sutherland 111.69 243 PFAKE 19 25 40.0 +10
SUR LR LR
comp=Z,874nm,21.0s,MS5.3
HRV Harvard--Oak R 111.98 11 PFAKE 19 25 40.0 +10
HRV LR LR
comp=Z,2μm,20.0s,MS5.8
WCI Wyandotte Cave 112.04 24 PFAKE 19 25 40.0 +10
WCI LR LR
comp=Z,576nm,20.0s,MS5.2
JCT Junction City 112.11 38 PFAKE 19 25 40.0 +9.2
JCT LR LR
comp=Z,1μm,19.0s,MS5.5
MIAR Mount Ida 112.14 31 PFAKE 19 25 40.0 +9.3
MIAR LR LR
comp=Z,2μm,20.0s,MS5.8
SSPA Standing Stone 112.44 16 PFAKE 19 25 40.0 +8.8
SSPA LR LR
comp=Z,663nm,20.0s,MS5.2
MCWV Mont Chateau 112.83 18 *eS* Pdif 19 21 38.8 +3.5
MCWV LR LR
comp=Z,3μm,19.0s,MS5.9
NATX Nacogdoches 113.86 34 PFAKE 19 25 40.0 +5.7
NATX LR LR
comp=Z,3μm,19.0s,MS5.9
OXF Oxford 114.03 28 PFAKE 19 25 40.0 +5.4
OXF LR LR
comp=Z,3μm,19.0s,MS5.9
HKT Hockley 114.70 36 PKIKP PKPdf 19 25 28.4 -7.5
HKT Hockley 114.70 36 PKPdf PKPdf 19 25 35.4 -0.4
HKT LR LR
comp=Z,444nm,19.0s,MS5.1
CBN Corbin 114.86 17 PFAKE 19 25 50.0 +14
CBN LR LR
comp=Z,5μm,20.0s,MS6.1
LRAL Lakeview Retre 116.32 27 PFAKE 19 25 50.0 +11
LRAL LR LR
comp=Z,3μm,22.0s,MS5.9
GOGA Godfrey 117.36 24 PFAKE 19 25 50.0 +9.0
GOGA LR LR
comp=Z,4μm,19.0s,MS6.1
NHSC New Hope 118.78 21 PFAKE 19 25 50.0 +6.2
NHSC LR LR
comp=Z,4μm,19.0s,MS6.0
DBIC Dimbokro 119.52 294 *e*PKIKP PKPdf 19 25 42.2 -3.4
DBIC MLR MLR
comp=Z,1μm,20.0s
DBIC Dimbokro 119.52 294 PKP PKPdf 19 25 42.5 -3.1
comp=Z,3.6nm,0.6s,baz=64,slow=1.9,SNR=8.4
DBIC PKKPbc 19 35 53.9
comp=Z,4.4nm,0.9s,baz=210,slow=5.7,SNR=4.7
DWPF Disney 122.88 25 PFAKE 19 26 00.0 +8.2
DWPF LR LR
comp=Z,996nm,22.0s,MS5.4
BBSR BB Station 122.90 7 PFAKE 19 26 00.0 +8.3
BBSR LR LR
comp=Z,1μm,21.0s,MS5.6
SNAA Sanae 123.94 198 PKPdf 19 25 50.6 -2.3
SNAA Sanae 123.94 198 PKP PKPdf 19 25 50.1 -2.8
comp=Z,5.4nm,1.2s,baz=44,slow=4.6,SNR=3.2
VNA2 Neumayer--Watz 125.58 198 PKPdf 19 25 53.8 -2.2
VNA2 Neumayer--Watz 125.58 198 ⇓*i* PKPdf 19 25 59.4 +3.4
VNA2 Neumayer--Watz 125.58 198 PKPdf 19 26 06.4 +10
VNA3 Neumayer Olymp 126.05 197 PKPdf 19 25 54.8 -2.1
VNA3 Neumayer Olymp 126.05 197 ⇑*i* PKPdf 19 25 59.7 +2.8
TEIG Tepich 126.55 36 PFAKE 19 26 10.0 +11
TEIG LR LR
comp=Z,716nm,20.0s,MS5.3
JTS JuntasAbangare 136.45 40 PKIKP PKPdf 19 26 14.5 -3.4
JTS MLR MLR
comp=Z,243nm,20.0s
SJG San Juan 136.73 11 PFAKE 19 26 30.0 +12
SJG LR LR
comp=Z,1μm,22.0s,MS5.6
PMSA Palmer Station 139.75 176 PFAKE 19 26 30.0 +7.4
PMSA LR LR
comp=Z,2μm,19.0s,MS5.8
SDV Santo Domingo 144.44 22 PKP PKPdf 19 26 27.8 -4.5
comp=Z,114nm,0.9s,baz=341,slow=2.1,SNR=87
SDV SKPbc 19 30 09.1
comp=Z,12nm,0.9s,baz=300,slow=6.5,SNR=4.8
SDV Santo Domingo 144.44 22 *e*PKPdf PKPdf 19 26 27.6 -4.7
SDV LR LR
comp=Z,1μm,22.0s,MS5.7
ROSC El Rosal 146.64 30 PKPbc PKPbc 19 26 35.4 +1.0
comp=Z,20nm,0.6s,baz=76,slow=6.8,SNR=17
USHA Ushuaia 148.95 168 PKPbc PKPdf 19 26 40.6 +2.1
comp=Z,97nm,1.3s,baz=182,slow=3.0,SNR=10.0
RCBR Riachuelo 151.62 308 *e*PKPbc PKPdf 19 26 47.9 +3.9
RCBR LR LR
comp=Z,2μm,20.0s,MS5.9
CS6B Jaguaretama 153.31 313 ⇓*i* PKPdf 19 26 51.9 +5.5
CS6B *i* 19 26 56.0
NNA Nana 158.20 58 PFAKE 19 27 00.0 +7.2
NNA LR LR
comp=Z,270nm,20.0s,MS5.1
PLCA Paso Flores 160.92 150 PKP PKPdf 19 26 53.0 -2.0
comp=Z,7.8nm,1.2s,baz=272,slow=1.3,SNR=6.7
PLCA PKPab PKPab 19 27 36.1 -0.8
comp=Z,9.9nm,0.9s,baz=200,slow=4.1,SNR=13
SAML Samuel 163.60 18 *e*PKPdf PKPdf 19 26 55.2 -3.2
SAML *e*PKPab PKPab 19 27 46.5 -2.9
ARE Arequipa 165.02 59 *e*P PKPdf 19 27 01.0 +1.2
TRQA Tornquist 166.28 167 *e*PKPdf PKPdf 19 26 57.4 -2.8
TRQA *e*PKPab PKPab 19 27 57.4 -3.0
BDFB Brasilia 166.94 312 PKP PKPdf 19 26 58.9 -2.5
comp=Z,19nm,1.2s,baz=76,slow=1.9,SNR=9.4
BDFB PKPab PKPab 19 28 03.1 -0.7
comp=Z,8.3nm,1.2s,baz=18,slow=6.4,SNR=2.5
LPAZ La Paz 167.41 50 *e*PKIKP PKPdf 19 27 00.9 -0.7
LPAZ *e* 19 28 04.5
LPAZ MLR MLR
comp=Z,1μm,20.0s
LPAZ La Paz 167.41 50 PKP PKPdf 19 27 01.5 -0.1
comp=Z,52nm,1.3s,baz=20,slow=3.3,SNR=64
LPAZ PKPab PKPab 19 28 04.9 -1.0
comp=Z,26nm,1.2s,baz=353,slow=7.4,SNR=3.6
LVC Limon Verde 169.87 80 PKP PKPdf 19 27 02.7 -0.2
comp=Z,15nm,1.2s,baz=236,slow=2.3,SNR=17
LVC PKPab PKPab 19 28 14.2 -2.4
comp=Z,2.9nm,0.7s,baz=236,slow=7.3,SNR=3.9
LVC Limon Verde 169.87 80 *e*PKPdf PKPdf 19 27 01.1 -1.8
LVC *e*PKPab PKPab 19 28 14.6 -1.9

NIED ***05*** *19:08:00,24.50N×121.80E,h8km,Mw5.7 Best double couple: M0 3.94×10^17 NP1:ϕs12°,δ57°,λ-132°. NP2: ϕs251°,δ51°,λ-44°.*

TAP ***05*** *19:08:00.1,24.65N×121.80E,h7km,ML6.0*

TAP Felt V J at Ilan, V J at Neicheng, V J at Nioudou, III J, V J at Nanau, IV J, III J at Nanshan, III J at Taipai, II J at Kuangyinshan, II J at Chiawan, II J at Jungli (National Central University), III J at Tachien, III J at Nanjuang, II J at Shilin, II J at Sanyi, II J at Liyutan, II J at Ryuetan, I J at Yuchr, I J at Hungye, II J at Mingjian, II J at Alishan, II J at Gukeng, I J at Lidau, II J at Tsaushan, I J at Tauyuan, I J at Dapu, I J at Dungshan, I J at Nanshi, I J at Jiashian, I J at Shinhua, II J at Jiali, V J at Suao, III J at Santiao Chiao, II J at Anpu, II J at Hualien, II J at Taichung, III J at Tsauling, II J at Chiayi, I J at Penghu.

NEIC ***05*** *19:08:01.7±0.3,24.72N×121.92E,h10km,mb5.4/40, ML5.9(TAP),Error ellipse: s-maj=8.2km s-min=6.1km az=62.0*

NEIC Recorded [5 TAP] in I-lan; [4 TAP] in Hua-lien and T'ai-pei; [3 TAP] in Miao-li and T'ai-tung; [2 TAP] in Chang-hua, Chia-i, Nan-t'ou and T'ao-yuan; [1 TAP] in Kao-hsiung, T'ai-nan and T'ai-tung Counties.

JMA ***05*** *19:08:01.7±0.3,24.52N×121.80E,h49km,M5.7*

JMA Felt II J1.

IDC ***05*** *19:08:01.0±0.6,24.69N×121.84E,mb5.1/15,mb1 5.2/16, mb1mx5.0/22,mbtmp5.1/16,ML4.8/1,MS5.5/4,Ms1 5.4/4, ms1mx5.2/11,Error ellipse: s-maj=23.1km s-min=14.6km az=64.0*

HRVD ***05*** *19:08:01.7±0.3,24.74N×121.79E,h12km,MW5.7/68,*

Centroid moment Tensor Solution. LP body waves: s46,c81;Mantle waves: s68,c144; Half duration: 1.8 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.98±.14; $M_{\theta\theta}$0.34±.14; $M_{\phi\phi}$1.64±.14; $M_{r\theta}$1.84±.39; $M_{\theta\phi}$4.58±.11; $M_{\phi r}$0.26±.39; Best double couple: $M_0$5.099×10^{17} NP1: ϕ_s358°,δ62°,λ-165°. NP2:ϕ_s261°,δ77°,λ-29°. Principal axes: T 5.87, Plg10°, Azm312°; N -1.545, Plg58°, Azm60°; P -4.329, Plg29°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*BJI **05** 19:08:01.0,24.62N×121.68E,h6km,mB5.8,mb5.4,ML5.5,Ms6.1,Msz5.8*

ISC 05 19:07:59.9±0.4,**24.68N**±0.02×**121.89E**±0.02,**h6**km±2km,**n153**,σ**1.25**/166,**mb5.3**/53,**MS5.6**/7,**3C,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILA	Ilan	0.15	302	i P	Pg	19 08 03.1	-0.1
ILA				S	Sg	19 08 05.7	+0.3
EGS		0.17	12	i P	Pg	19 08 05.0	+1.6
TWE	Neicheng	0.21	281	i P	Pg	19 08 03.3	-0.9
ENA	Nanau	0.29	209	P	Pg	19 08 05.3	-0.5
ENA				S	Sg	19 08 09.0	-0.7
ENTT	Nioudou	0.30	262	eP	Pg	19 08 04.5	-1.5
NWF	Wu-fen Shan	0.40	345	P	Pg	19 08 08.7	+0.8
TWA	Mucha	0.41	317	i P	Pg	19 08 08.1	0.0
TWA				S	Sg	19 08 14.9	+1.3
TATO	Taipei	0.47	308	ePg	Pg	19 08 08.7	-0.7
TATO				e		19 08 19.5	
YHNB	Yeheng	0.47	269	ePg	Pg	19 08 07.8	-1.5
YHNB				eSg	Sg	19 08 15.5	-0.2
NSK	Sanguang	0.49	269	eP	Pg	19 08 07.8	-1.9
TAP	Taipei	0.50	315	i P	Pg	19 08 10.0	+0.1
NNS	Nan Shan	0.53	243	eP	Pg	19 08 09.6	-1.0
NNS				S	Sg	19 08 17.6	0.0
NACB	Ninganchiao	0.57	208	ePg	Pg	19 08 10.5	-0.9
NACB				eSg	Sg	19 08 16.6	-2.5
TWS1	Kuangyinshan	0.60	314	eP	Pg	19 08 12.4	+0.5
TWY	Chenhua	0.65	336	eP	Pg	19 08 13.8	+0.9
TWD	Chiawan	0.66	204	i P	Pg	19 08 12.2	-0.9
TWD				S	Sg	19 08 21.7	-0.2
NCU	National Centr	0.70	294	eP	Pg	19 08 14.0	+0.1
TWT	Tachien	0.78	237	eP	Pb	19 08 15.2	-0.3
NSTT	Nanjuang	0.81	267	eP	Pb	19 08 15.7	-0.3
ESL	Shilin	0.96	206	P	Pb	19 08 17.7	-0.9
ESL				S	Sb	19 08 31.5	+0.1
YOJ	Yonaguni jima	1.04	102	P	Pb	19 08 21.1	+1.1
YOJ				eS	Sb	19 08 35.3	+1.6
NSY	Sanyi	1.06	256	eP	Pb	19 08 20.6	+0.3
TWQ1	Liyutan	1.07	252	eP	Pb	19 08 21.3	+0.8
SMLT	Sun Moon Lake	1.21	229	P	Pb	19 08 22.1	-0.7
TYC	Yuchr	1.22	231	eP	Pb	19 08 22.4	-0.7
EHY	Hungye	1.28	204	P	Pb	19 08 23.7	-0.4
EHY				S	Sb	19 08 41.4	+0.7
WNT	Mingjian	1.36	234	eP	Pb	19 08 26.3	+0.9
TWF1	Yuli	1.43	202	eP	Pn	19 08 26.6	+0.1
TWF1				S	Sb	19 08 46.5	+1.4
YUS	Yu-Shan	1.47	216	eP	Pn	19 08 26.9	-0.1
ALS	Alishan	1.53	221	eP	Pn	19 08 28.9	+0.9
WGK	Gukeng	1.57	231	eP	Pn	19 08 30.1	+1.6
CHKT	Chengkung	1.65	197	eP	Pn	19 08 30.9	+1.3
ELDTW	Lidau	1.69	208	eP	Pn	19 08 30.7	+0.5
IRIF	Iriomote-Funau	1.71	101	P	Pn	19 08 30.1	-0.4
IRIF				eS	Sn	19 08 52.2	-0.7
CHN4	Tsaushan	1.78	222	eP	Pn	19 08 33.9	+2.3
STYT	Tauyuan	1.83	215	eP	Pn	19 08 34.7	+2.4
WSF	Szhu	1.85	236	eP	Pn	19 08 32.6	+0.1
WSF				S	Sn	19 08 55.5	-0.9
WTP	Ta-pu	1.85	220	eP	Pn	19 08 35.9	+3.4
HATJ	Hateruma jima	1.85	109	P	Pn	19 08 32.4	-0.1
HATJ				eS	Sn	19 08 54.6	-1.9
TWK	Hsinying	1.91	223	eP	Pn	19 08 35.1	+1.8
CHN1	Nanshi	1.94	220	eP	Pn	19 08 36.7	+2.8
JKRS	Kuro-shima	1.98	103	P	Pn	19 08 34.3	-0.1
JKRS				eS	Sn	19 08 58.2	-1.6
SGST	Jiashian	1.99	217	eP	Pn	19 08 36.9	+2.3
SGST				S	Sn	19 09 05.5	+5.4
CHN8	Yiju	2.03	229	eP	Pn	19 08 35.1	0.0
JIJ	Ishigaki jima	2.07	98	P	Pn	19 08 36.1	+0.4
JIJ				eS	Sn	19 09 00.4	-1.8
CHN3	Shinhua	2.12	221	eP	Pn	19 08 39.1	+2.7
SCLT	Jiali	2.16	226	eP	Pn	19 08 38.9	+2.0
SSD	Sandimen	2.25	211	eP	Pn	19 08 40.9	+2.7
JTJ	Tarama	2.56	90	P	Pn	19 08 43.7	+1.1
SCZT	Fangliau	2.58	207	eP	Pn	19 08 45.5	+2.6
QZH	Quanzhou	3.01	276	eP	Pn	19 08 47.2	-1.9
QZH				S	Sn	19 09 22.8	-3.2
QZH				Smax			
	comp=N,52µm,0.9s						
QZH				Smax			
	comp=E,34µm,1.4s						
QZH				LR	LR		
	comp=N,515µm,9.1s						
QZH				LR	LR		
	comp=E,251µm,9.2s						
QZH				LR	LR		
	comp=Z,319µm,9.3s						
JOW	Kunigami	6.14	68	Pn	Pn	19 09 34.8	+1.3
	comp=Z,53nm,0.3s,baz=259,slow=15,SNR=4.6						
SSE	Sheshan	6.42	355	P	Pn	19 09 36.1	-1.3
SSE				S	Sn	19 10 52.5	+0.7
SSE				Smax			
	comp=N,2µm,1.4s						
SSE				Smax			
	comp=E,974nm,1.0s						
SSE				LR	LR		
	comp=N,44µm,14.7s						
SSE				LR	LR		
	comp=E,167µm,14.7s						
SSE				LR	LR		
	comp=Z,46µm,9.9s						
SSE	Sheshan	6.42	355	Pn	Pn	19 09 36.1	-1.3
	comp=Z,802nm,1.0s						
SSE				Sn	Sn	19 10 52.5	+0.7
NJ2	Nanjing	7.81	341	eP	Pn	19 10 01.2	+4.3
NJ2				AP		19 10 05.3	
NJ2				XP		19 10 08.5	
NJ2				S	Sn	19 11 31.4	+4.7
NJ2				XS		19 11 36.5	
NJ2				AMB	AMB		
	comp=Z,930nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,4µm,4.2s						
NJ2				LR	LR		
	comp=N,133µm,12.9s						
NJ2				LR	LR		
	comp=E,159µm,11.6s						
NJ2				LR	LR		
	comp=Z,114µm,8.9s						
ENH	Enshi	12.34	300	P	P	19 10 52.5	-6.6
KS15	Wonju Array Si	13.71	21	P	P	19 11 15.3	-2.1
BJT	Baijiatuau	16.03	344	P	P	19 11 48.1	+0.5
KMI	Kunming	17.38	275	P	P	19 12 04.1	-0.7
KMI				XP		19 12 10.6	
KMI				PP	PP	19 12 18.7	-0.6
KMI				S	S	19 15 16.2	-0.9
KMI				SS	SS	19 15 37.1	-1.5
KMI				AMB	AMB		
	comp=Z,48nm,1.8s						
KMI				AMB	AMB		
	comp=Z,501nm,3.9s						
KMI				LR	LR		
	comp=N,118µm,15.1s						
KMI				LR	LR		
	comp=E,65µm,12.6s						
KMI				LR	LR		
	comp=Z,82µm,12.6s						
KMI	Kunming	17.38	275	P	P	19 12 04.1	-0.7
	comp=Z,48nm,1.8s						
KMI				sP		19 12 10.6	
KMI				PP	PP	19 12 18.7	-0.6
KMI				S	S	19 15 16.2	-0.9
KMI				SS	SS	19 15 37.1	-1.5
HHC	Hu-ho-hao-te	18.29	334	eP	P	19 12 18.3	+2.3
HHC				PP	PP	19 12 34.0	+2.7
HHC				S	S	19 15 41.3	+3.8
HHC				SS	SS	19 16 02.1	+1.0
HHC				LR	LR		
	comp=N,27µm,11.3s						
HHC				LR	LR		
	comp=E,28µm,11.3s						
HHC				LR	LR		
	comp=Z,16µm,17.3s						
MAT	Matsushiro	18.32	46	P	P	19 12 15.0	-1.5
MAT	Matsushiro	18.32	46	P	P	19 12 15.2	-1.3
LZH	Lanzhou	19.24	310	⇑P	P	19 12 27.5	-0.1
LZH				AP		19 12 29.0	
LZH				PP	PP	19 12 45.3	+0.6
LZH				S	S	19 15 58.6	-0.6
LZH				SS	SS	19 16 23.6	-1.4
LZH				AMB	AMB		
	comp=Z,693nm,1.5s						
LZH				AMB	AMB		
	comp=Z,2µm,5.4s						
LZH				LR	LR		
	comp=N,13µm,9.5s						
LZH				LR	LR		
	comp=Z,15µm,12.3s						
LZH	Lanzhou	19.24	310	⇑P	P	19 12 27.5	-0.1
	comp=Z,693nm,1.5s						
LZH				pP		19 12 29.0	
LZH				sP		19 12 29.7	
LZH				PP	PP	19 12 45.3	+0.6
LZH				S	S	19 15 58.6	-0.6
LZH				sS		19 16 02.5	
LZH				SS	SS	19 16 23.6	-1.4
CN2	Changchun	19.29	8	eP	P	19 12 29.9	+1.8
KKM	Kota Kinabalu	19.32	197	P	P	19 12 21.0	-7.6
MDJ	Mudanjiang	20.85	16	P	P	19 12 48.9	+3.9
MDJ				AP		19 12 54.5	
MDJ				PCS		19 20 29.4	
MDJ				SCS	ScS	19 24 11.0	-0.5
MDJ				AMB	AMB		
	comp=Z,129nm,1.5s						
MDJ				AMB	AMB		
	comp=Z,1µm,6.4s						
MDJ				LR	LR		
	comp=N,17µm,13.1s,MS5.9						
MDJ				LR	LR		
	comp=E,26µm,11.3s,MS5.9						
MDJ				LR	LR		
	comp=Z,30µm,10.3s,MS6.0						
MDJ	Mudanjiang	20.85	16	eP	P	19 12 40.1	-4.8
	comp=Z,316nm,1.4s						
CM31	Chiang Mai Arr	22.21	258	eP	P	19 12 54.0	-4.8
	comp=Z,76nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	22.21	258	P	P	19 13 00.7	+1.8
	comp=Z,42nm,0.9s,mb4.9,baz=66,slow=8.6,SNR=7.9						
CMAR				PcP	PcP	19 16 56.0	-0.4
	comp=Z,3.1nm,0.8s,baz=37,slow=1.1,SNR=3.4						
GTA	Gaotai	23.70	314	P	P	19 13 14.9	+1.6
GTA				AP		19 13 20.1	
GTA				XP		19 13 22.8	
GTA				S	S	19 17 29.3	+4.1
GTA				AMB	AMB		
	comp=Z,121nm,2.0s,mb5.0						
GTA				AMB	AMB		
	comp=Z,3µm,8.4s						
GTA				LR	LR		
	comp=N,12µm,11.0s						
GTA				LR	LR		
	comp=E,12µm,8.4s						
GTA				LR	LR		
	comp=Z,11µm,15.2s,MS5.5						
HIA	Hailar	24.60	357	eP	P	19 13 20.1	-1.9
	comp=Z,266nm,1.3s,mb5.6						
ASAJ	Asahikawa	25.71	36	P	P	19 13 34.1	+1.5
	comp=Z,59nm,1.3s,mb5.0,baz=299,slow=19,SNR=2.0						
ASAJ				LR	LR	19 24 17.3	
	comp=Z,16µm,18.1s,MS5.6,baz=245,slow=38						
SONM	Songino Array	26.17	336	P	P	19 13 37.6	+0.8
	comp=Z,108nm,0.9s,mb5.4,baz=157,slow=3.0,SNR=7.0						
LSA	Lhasa	27.75	287	P	P	19 13 51.7	+0.2
	comp=Z,182nm,1.2s,mb5.6						
YSS	Yuzh-Sakhalins	27.77	32	P	P	19 13 53.6	+2.2
	comp=Z,202nm,1.1s,mb5.7						
TLY	Talaya	30.36	337	eP	P	19 14 13.1	-1.5
	comp=Z,31nm,0.8s,mb5.1						
WMQ	Urumqi	33.78	313	P	P	19 14 44.3	-0.4
WMQ				PP	PP	19 15 57.0	-0.6
WMQ				PPP	PPP	19 16 15.0	-0.2
WMQ				PCP	PcP	19 17 23.5	-0.6
WMQ				S	S	19 20 07.5	-0.2
WMQ				XS		19 20 14.0	
WMQ				PCS		19 21 08.0	
WMQ				SS	SS	19 22 12.5	-0.4
WMQ				AMB	AMB		
	comp=Z,73nm,1.1s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,342nm,3.8s						
WMQ				LR	LR		
	comp=N,8µm,15.8s,MS5.7						
WMQ				LR	LR		
	comp=E,8µm,16.0s,MS5.7						
WMQ				LR	LR		
	comp=Z,7µm,17.4s,MS5.5						
ALBI	Allahabad	36.24	280	e	P	19 15 02.0	-3.9
YAK	Yakutsk	37.71	6	eP	P	19 15 16.6	-1.1
	comp=Z,56nm,0.9s,mb5.3						
ZAL	Zalesovo	40.19	326	P	P	19 15 39.0	+0.4
	comp=Z,18nm,0.8s,mb4.9,baz=8.7,slow=7.2,SNR=4.8						
MA2	Magadan	40.28	22	eP	P	19 15 36.0	-3.3
	comp=Z,46nm,1.1s,mb5.1						
KSH	Kashi	41.17	302	eP	P	19 15 50.1	+3.3
KSH				eAP	pP	19 15 52.0	+3.5
KSH				ePCP	PcP	19 17 45.8	-0.9
KSH				eSCP		19 21 35.2	
KSH				ePCS		19 21 36.2	
KSH				eS	S	19 22 06.7	+6.3
KSH				eXS		19 22 13.0	
KSH				eSCS	ScS	19 25 50.5	+0.6
KSH				AMB	AMB		
	comp=Z,130nm,2.4s,mb5.1						
KSH				LR	LR		
	comp=N,2µm,6.9s						
KSH				LR	LR		
	comp=E,3µm,7.7s						
PMG	Port Moresby	41.90	141	P	P	19 15 53.4	+0.3
	comp=E,74nm,0.8s,mb5.3,baz=7.5,slow=11,SNR=5.1						
KURK	Kurchatov	42.13	319	P	P	19 15 49.7	-4.8
	comp=E,45nm,1.0s,mb5.0						
AAK	Ala-Archa	42.72	307	P	P	19 15 57.8	-1.7
	comp=E,25nm,0.9s,mb5.0						
MBWA	Marble Bar	45.61	183	P	P	19 16 16.8	-6.3
	comp=E,51nm,1.1s,mb5.4						
WRAB	Tennant Creek	45.97	164	eP	P	19 16 24.9	-1.1
	comp=E,238nm,1.3s,mb6.0						
WRA	Warramunga Arr	45.98	164	P	P	19 16 24.8	-1.2
	comp=E,32nm,0.8s,mb5.3,baz=346,slow=8.4,SNR=6.5						
CHKZ	Chkalovo	47.75	321	eP	P	19 16 38.4	-1.1
	comp=E,96nm,1.1s,mb5.7						
ASPA	Alice Springs	49.45	165	eP	P	19 16 55.2	+2.1
ASAR	Alice Springs	49.45	165	P	P	19 16 52.9	-0.2
	comp=E,6.5nm,0.5s,mb4.9,baz=349,slow=6.5,SNR=3.6						
CTA	Charters Tower	50.42	150	eP	P	19 17 02.1	+1.5
	comp=E,68nm,1.2s,mb5.5						
CTA				ePCP	PcP	19 18 19.6	+0.4
CTAO	Charters Tower	50.42	150	eP	P	19 16 59.6	-1.0
	comp=E,328nm,1.4s,mb6.2						
BILL	Bilibino	51.00	20	eP	P	19 16 59.5	-4.8
	comp=E,28nm,1.0s,mb5.2						
KLBR	Kellerberrin	56.09	184	eP	P	19 17 40.3	-2.2
	comp=E,133nm,0.8s,mb6.0						
NWAO	Narrogin (SRO)	57.46	185	eP	P	19 17 47.3	-4.9
	comp=E,34nm,0.9s,mb5.4						
STKA	Stephens Creek	59.31	161	eP	P	19 18 04.4	-0.7
	comp=E,16nm,0.9s,mb5.1						
STKA	Stephens Creek	59.31	161	P	P	19 18 04.8	-0.3
	comp=E,22nm,1.0s,mb5.1,baz=340,slow=8.6,SNR=4.0						
STKA				LR	LR	19 46 57.0	
	comp=E,2µm,18.7s,MS5.3,baz=241,slow=39						
CNB	Canberra Magne	65.09	155	eP	P	19 18 43.2	-0.6
	comp=E,241nm,0.8s,mb6.3						
KIV	Kislovodsk	65.78	309	eP	P	19 18 41.9	-6.1
	comp=E,110nm,1.3s,mb5.7						
OBN	Obninsk	67.51	322	eP	P	19 18 54.8	-4.0
	comp=E,364nm,1.8s,mb6.1						
MCK	McKinley	67.81	29	P	P	19 18 54.7	-5.8
	comp=E,22nm,1.3s,mb5.0						
ARCES	ARCESS Array B	69.32	338	P	P	19 19 09.5	-0.3
	comp=E,8.8nm,0.8s,mb4.7,baz=63,slow=8.1,SNR=2.9						
MALT	Malatya	70.26	304	eP	P	19 19 14.5	-1.5
	comp=E,34nm,0.9s,mb5.3						
TAU	Tasmania Unive	71.22	161	P	P	19 19 19.9	-1.9
	comp=E,171nm,1.5s,mb5.8						
FINES	FINESS Array B	71.34	330	P	P	19 19 21.1	-1.1
	comp=E,10nm,0.6s,mb4.9,baz=72,slow=7.0,SNR=6.0						
DAWY	Dawson	71.80	27	P	P	19 19 23.9	-1.1
INK	Inuvik	72.52	22	eP	P	19 19 24.1	-5.0
	comp=E,29nm,1.0s,mb5.2						
CSS	Prodhromos	75.19	302	eP	P	19 19 43.9	-1.4
	comp=E,50nm,0.8s,mb5.5						
SUW	Suwalki	75.29	323	eP	P	19 19 45.2	-0.2
SUW	Suwalki	75.29	323	eP	P	19 19 45.2	-0.3
MLR	Muntele Rosu	76.77	314	P	P	19 19 54.5	+0.5
	comp=E,18nm,0.9s,mb5.0,baz=96,slow=9.2,SNR=2.5						
KWP	Kalwaria	77.23	319	eP	P	19 19 57.4	+1.0
KWP	Kalwaria	77.23	319	eP	P	19 19 57.4	+1.0
RES	Resolute Bay	78.07	9	eP	P	19 19 54.8	-5.8
	comp=E,14nm,1.0s,mb4.8						
NB2	NORSAR Subarra	78.09	332	P	P	19 19 59.5	-1.4
	comp=E,26nm,0.9s,mb5.2,baz=59,slow=5.6						
NB2	NORSAR Subarra	78.09	332	P	P	19 19 59.5	-1.4
	baz=59,slow=5.9						
NOA	NORSAR Array B	78.09	332	P	P	19 20 00.1	-0.9
	comp=E,16nm,0.9s,mb5.0,baz=58,slow=5.6,SNR=6.0						
DLBC	Dease Lake	78.19	31	P	P	19 19 57.0	-4.5
SKO	Skopje	81.16	312	i P	P	19 20 18.8	+0.9
BRG	Berggiesshubel	81.74	322	i P	P	19 20 21.2	+0.5
	comp=E,15nm,1.1s,mb4.8						
OHR	Ohrid	81.97	312	i P	P	19 20 29.7	+7.6
CLL	Collm	82.05	323	eP	P	19 20 22.0	-0.3
	comp=E,25nm,1.0s,mb5.1						
CLL	Collm	82.05	323	P	P	19 20 22.0	-0.3
	comp=E,logA/T=1.4,mb5.1						
CLL				e		19 20 41.0	
CLL				i		19 21 32.0	
SUMG	Summit	82.08	354	P	P	19 20 19.0	-3.0
	comp=E,30nm,1.1s,mb5.1						
YKA	Yellowknife Ar	82.26	23	P	P	19 20 23.0	-0.2
	comp=E,4.0nm,0.6s,mb4.5,baz=312,slow=4.9,SNR=3.4						
GERES	GERESS Array B	82.87	321	P	P	19 20 27.5	+0.9
	comp=E,9.2nm,1.0s,mb4.8,baz=56,slow=4.6,SNR=4.9						
GERES				PKKPbc		19 38 50.0	
	comp=E,0.8nm,0.7s,baz=225,slow=2.8,SNR=6.7						
KMBO	Kilima Mbogo	85.59	267	LR	LR	20 02 42.0	
	comp=E,2µm,18.4s,MS5.5,baz=92,slow=38						
KMBO	Kilima Mbogo	85.59	267	P	P	19 20 40.2	-1.0
	comp=E,22nm,1.2s,mb5.3						
NEW	Newport	90.23	35	eP	P	19 21 03.2	+0.6
	comp=E,18nm,0.9s,mb5.4						
FCC	Fort Churchill	91.67	18	eP	P	19 21 06.8	-2.2
	comp=E,11nm,0.9s,mb5.2						
CMB	Columbia Colle	94.55	45	eP	P	19 21 22.2	-0.5
	comp=E,24nm,1.2s,mb5.5						
HLID	Hailey	94.69	37	eP	P	19 21 25.2	+2.0
	comp=E,11nm,1.1s,mb5.2						
BMN	Battle Mountai	95.06	41	P	P	19 21 25.6	+0.6
	comp=E,14nm,1.1s,mb5.3						
NVAR	Mina Array Bea	95.63	43	P	P	19 21 29.6	+1.9
	comp=E,4.3nm,0.9s,mb4.9,baz=297,slow=4.8,SNR=3.9						
HWUT	Hardware Ranch	97.56	37	P	P	19 21 37.0	+0.7
	comp=E,5.1nm,1.1s,mb5.0						
PDAR	Pinedale Array	97.85	36	LR	LR	20 11 03.4	
	comp=E,2µm,18.7s,MS5.6,baz=347,slow=39						
SCHQ	Schefferville	100.46	5	eP	P	19 21 48.5	-0.7
	comp=E,7.3nm,1.1s						
SYO	Syowa Base	110.09	202	⇑X		19 26 46.4	
DBIC	Dimbokro	119.52	294	PKP	PKPdf	19 26 52.4	-1.4
	comp=E,1.7nm,0.6s,baz=114,slow=4.7,SNR=4.2						
DBIC	Dimbokro	119.52	294	PKP	PKPdf	19 26 52.4	-1.4
VNA2	Neumayer--Watz	125.56	198		Pdif	19 23 33.5	-5.9
VNA3	Neumayer Olymp	126.03	197		Pdif	19 23 33.2	-8.2
SDV	Santo Domingo	144.47	22	PKP	PKPdf	19 27 38.4	-2.2
	comp=E,38nm,0.9s,baz=302,slow=9.5,SNR=2.2						
ROSC	El Rosal	146.66	30	PKPbc	PKPbc	19 27 47.3	+4.0
	comp=E,14nm,0.6s,baz=283,slow=18,SNR=2.4						
USHA	Ushuaia	148.93	168	PKPbc	PKPdf	19 27 51.3	+4.5
	comp=E,18nm,0.9s,baz=234,slow=1.6,SNR=2.8						
PLCA	Paso Flores	160.91	150	PKPab	PKPab	19 28 46.5	+0.7
	comp=E,7.9nm,0.9s,baz=217,slow=2.7,SNR=6.8						
SAML	Samuel	163.62	18	ePKPab	PKPab	19 28 55.2	-3.1
TRQA	Tornquist	166.27	167	ePKPab	PKPab	19 29 08.4	-0.8
BDFB	Brasilia	166.94	312	PKP	PKPdf	19 28 09.6	0.0
	comp=E,4.7nm,0.9s,baz=48,slow=3.5,SNR=3.4						
LVC	Limon Verde	169.88	80	PKPab	PKPab	19 29 26.4	+0.9
	comp=E,3.5nm,0.8s,baz=9.3,slow=7.0,SNR=2.2						

TAP 05 19:10:01.9,24.65N×121.81E,h4km,ML3.9,Taiwan

*TAP **05** 19:12:23.2,24.67N×121.83E,h10km±1km,ML4.1*

TAP Felt III J at Suao, II J at Neicheng, I J, II J at Nioudou, III J at Nanau, I J at Santiao Chiao, I J, I J at Sanguang, III J at Ilan.

*JMA **05** 19:12:24.1±0.2,24.90N×121.95E,h56km*

ISC 05 19:12:22.5±0.5,**24.66N**±0.03×**121.92E**±0.03,**h7**km±5km,**n32**,σ**0.93**/48,**1D,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.08	230	eP	Pg	19 12 24.8	+0.2
EGS		0.18	4	i P	Pg	19 12 28.0	+1.6
EGS				S	Sg	19 12 29.9	+1.0
TWE	Neicheng	0.23	285	⇓iP	Pg	19 12 27.0	-0.4
TWE				S	Sg	19 12 29.4	-1.2
ENA	Nanau	0.28	215	P	Pg	19 12 28.6	+0.3
ENA				S	Sg	19 12 31.9	-0.2
ENTT	Nioudou	0.32	266	i P	Pg	19 12 28.4	-0.6
ENTT				S	Sg	19 12 31.6	-1.7
TWB1	Santiao Chiao	0.35	11	eP	Pg	19 12 30.7	+1.0
TWB1				S	Sg	19 12 34.3	-0.1
NWF	Wu-fen Shan	0.43	343	i P	Pg	19 12 31.5	+0.4
NWF				S	Sg	19 12 36.9	0.0
TWA	Mucha	0.44	316	i P	Pg	19 12 31.3	-0.1
TWA				S	Sg	19 12 36.5	-0.8
NSK	Sanguang	0.51	272	eP	Pg	19 12 31.9	-0.9
NSK				S	Sg	19 12 38.2	-1.4
TAP	Taipei	0.53	315	i P	Pg	19 12 33.2	0.0
TAP				S	Sg	19 12 39.9	-0.5
TWS1	Kuangyinshan	0.63	314	eP	Pg	19 12 35.4	+0.3
TWY	Chenhua	0.68	335	P	Pg	19 12 35.9	-0.2
NCU	National Centr	0.73	295	eP	Pg	19 12 37.4	+0.3
NCU				S	Sg	19 12 47.4	+0.5
TWT	Tachien	0.79	239	eP	Pb	19 12 37.7	-0.5
TWT				S	Sb	19 12 48.7	-0.1
NSTT	Nanjuang	0.83	268	eP	Pb	19 12 38.7	-0.3
ESL	Shilin	0.95	208	eP	Pb	19 12 40.6	-0.4
PCYT	Pengchaiyu	0.97	8	i P	Pb	19 12 41.6	+0.2
YOJ	Yonaguni jima	1.02	101	P	Pb	19 12 43.0	+1.0
YOJ				S	Sb	19 12 56.7	+1.3
NSY	Sanyi	1.08	257	eP	Pb	19 12 44.3	+1.1
TWQ1	Liyutan	1.09	254	eP	Pb	19 12 44.1	+0.9
SMLT	Sun Moon Lake	1.21	230	eP	Pb	19 12 44.8	-0.5
TYC	Yuchr	1.23	232	eP	Pb	19 12 45.7	0.0
EHY	Hungye	1.27	205	eP	Pb	19 12 46.8	+0.3
TWF1	Yuli	1.42	204	eP	Pn	19 12 48.5	-0.3
YUS	Yu-Shan	1.46	217	eP	Pn	19 12 49.5	0.0
ALS	Alishan	1.53	222	eP	Pn	19 12 52.0	+1.5
CHN5	Tsauling	1.55	227	eP	Pn	19 12 52.9	+2.2
CHN5				S	Sb	19 13 13.8	+2.9
IRIF	Iriomote-Funau	1.68	101	P	Pn	19 12 51.8	-0.8
IRIF				eS	Sn	19 13 13.6	-1.1
CHN4	Tsaushan	1.78	223	eP	Pn	19 12 56.5	+2.5
HATJ	Hateruma jima	1.82	109	eS	Sn	19 13 17.4	-0.8
JKRS	Kuro-shima	1.95	102	P	Pn	19 12 56.2	-0.3
JKRS				eS	Sn	19 13 20.1	-1.4
JIJ	Ishigaki jima	2.05	98	P	Pn	19 12 57.3	-0.6
JIJ				eS	Sn	19 13 22.1	-1.9

*JMA **05** 19:13:49.3±0.2,25.00N×121.87E,h35km*

TAP 05 19:13:48.7,24.65N×121.77E,h8km,ML3.3,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.15	99	P	Pb	19 14 09.7	-0.7
YOJ				S	Sb	19 14 24.6	-0.7
IRIF	Iriomote-Funau	1.81	100	P	Pn	19 14 19.0	-1.6
IRIF				eS	Sn	19 14 40.8	-3.2
JKRS	Kuro-shima	2.08	101	P	Pn	19 14 23.4	-1.1
JKRS				eS	Sn	19 14 48.3	-2.6
JIJ	Ishigaki jima	2.18	97	P	Pn	19 14 24.4	-1.5
JIJ				eS	Sn	19 14 49.2	-4.2

TAP 05 19:16:07.0,24.65N×121.83E,h10km,ML2.9,Taiwan

*NIED **05** 19:16:00,25.00N×121.90E,h5km,Mw4.7 Best double*

couple: $M_0$1.29×10^{16} NP1:ϕ_s97°,δ76°,λ-50°. NP2:ϕ_s203°, δ42°,λ-159°.

*JMA **05** 19:16:25.8±0.4,25.05N×121.88E,h24^{km},M4.8*

*IDC **05** 19:16:25.3±0.6,24.64N×122.00E,mb4.3/14,mb1 4.5/15, mb1mx4.4/23,mbtmp4.3/15,ML4.1/1,MS4.7/1,Ms1 4.7/1, ms1mx4.3/21,Error ellipse: s-maj=29.8km s-min=14.4km az=63.0*

*TAP **05** 19:16:26.0,24.65N×121.76E,h8^{km},ML4.8*

TAP Felt III J at Suao, IV J at Neicheng, IV J at Ilan, IV J at Nioudou, V J at Nanau, II J, III J at Sanguang, II J at Mucha, II J at Nanshan, II J, II J at Taipai, I J at Kuangyinshan, I J at Chiawan, I J at Jungli (National Central University), II J at Tachien, I J at Nanjuang, I J at Anpu.

*BJI **05** 19:16:25.0,24.51N×121.70E,h8^{km},mB5.3,mb5.4,ML4.8, Ms5.6,Msz5.0*

*NEIC **05** 19:16:27.0±0.4,24.60N×121.76E,h10^{km},mb4.7/21, ML5.0(TAP),Error ellipse: s-maj=8.8km s-min=7.4km az=57.0*

NEIC Recorded [4 TAP] in I-lan; [3 TAP] in T'ao-yuan; [2 TAP] in Hua-lien and T'ai-pei and [1 TAP] in Miao-li Counties.

ISC 05 19:16:25.9±0.3,**24.65N**±0.01×**121.81E**±0.02,**h6**^{km}±2^{km}, **n120**,σ**1**ˢ**23**/148,**mb4.4**/33,**MS5.1**/1,**10C-12D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.05**	**143**	⇓iP	**Pg**	**19 16 28.4**	**+1.1**
ILA	**Ilan**	**0.13**	**332**	⇓iP	**Pg**	**19 16 28.9**	**+0.3**
ILA				S	**Sg**	**19 16 31.3**	**+0.9**
TWE	**Neicheng**	**0.15**	**297**	⇓iP	**Pg**	**19 16 28.8**	**-0.2**
EGS		**0.22**	**29**	⇑iP	**Pg**	**19 16 31.4**	**+1.0**
EGS				S	**Sg**	**19 16 34.0**	**+0.6**
ENTT	**Nioudou**	**0.23**	**267**	⇓iP	**Pg**	**19 16 30.1**	**-0.4**
ENA	**Nanau**	**0.23**	**197**	⇑iP	**Pg**	**19 16 31.0**	**+0.4**
ENA				S	**Sg**	**19 16 34.4**	**+0.6**
TWA	**Mucha**	**0.39**	**327**	⇓iP	**Pg**	**19 16 33.7**	**0.0**
TWA				S	**Sg**	**19 16 38.6**	**-0.3**
TWB1	**Santiao Chiao**	**0.39**	**24**	⇑iP	**Pg**	**19 16 33.8**	**+0.1**
YHNB	**Yeheng**	**0.40**	**273**	ePg	**Pg**	**19 16 33.1**	**-0.8**
YHNB				eSg	**Sg**	**19 16 37.7**	**-1.6**
NSK	**Sanguang**	**0.42**	**274**	⇓iP	**Pg**	**19 16 33.6**	**-0.6**
NSK				S	**Sg**	**19 16 38.1**	**-1.7**
NWF	**Wu-fen Shan**	**0.42**	**356**	⇑iP	**Pg**	**19 16 34.6**	**+0.3**
NWF				S	**Sg**	**19 16 39.2**	**-0.7**
TATO	**Taipei**	**0.44**	**317**	ePg	**Pg**	**19 16 34.4**	**-0.3**
TATO				eSg	**Sg**	**19 16 40.1**	**-0.5**
TATO	**Taipei**	**0.44**	**317**	PcP	**Pg**	**19 16 34.6**	**-0.1**
TATO				PcS	**Sg**	**19 16 39.8**	**-0.7**
NNS	**Nan Shan**	**0.45**	**242**	⇑iP	**Pg**	**19 16 34.2**	**-0.7**
TAP1	**Taipei**	**0.47**	**326**	⇓iP	**Pg**	**19 16 35.5**	**+0.3**
TAP	**Taipei**	**0.48**	**324**	⇓iP	**Pg**	**19 16 35.7**	**+0.2**
TAP				S	**Sg**	**19 16 42.0**	**+0.1**
NACB	**Ninganchiao**	**0.52**	**203**	ePg	**Pg**	**19 16 35.4**	**-0.9**
NACB				eSg	**Sg**	**19 16 40.1**	**-3.0**
TWS1	**Kuangyinshan**	**0.57**	**321**	⇓iP	**Pg**	**19 16 38.0**	**+0.6**
TWS1				S	**Sg**	**19 16 45.3**	**+0.2**
TWD	**Chiawan**	**0.60**	**199**	⇑iP	**Pg**	**19 16 37.5**	**-0.4**
TWD				S	**Sg**	**19 16 45.6**	**-0.4**
TWY	**Chenhua**	**0.65**	**343**	⇓iP	**Pg**	**19 16 39.1**	**+0.2**
NCU	**National Centr**	**0.65**	**299**	⇓iP	**Pg**	**19 16 39.5**	**+0.6**
NCU				S	**Sg**	**19 16 49.6**	**+2.0**
HWA	**Hwalien**	**0.70**	**196**	i P	**Pg**	**19 16 39.6**	**-0.2**
TWT	**Tachien**	**0.70**	**236**	eP	**Pg**	**19 16 38.8**	**-1.1**
TWT				S	**Sg**	**19 16 47.3**	**-2.0**
NSTT	**Nanjuang**	**0.74**	**269**	eP	**Pg**	**19 16 39.1**	**-1.5**
NSTT				S	**Sg**	**19 16 49.5**	**-1.0**
ESL	**Shilin**	**0.90**	**203**	i P	**Pb**	**19 16 42.7**	**-0.9**
ESL				S	**Sb**	**19 16 54.7**	**-0.9**
NSY	**Sanyi**	**0.99**	**257**	⇓P	**Pb**	**19 16 45.6**	**+0.6**
NSY				S	**Sb**	**19 16 58.9**	**+0.8**
TWQ1	**Liyutan**	**1.00**	**253**	eP	**Pb**	**19 16 45.3**	**+0.2**
PCYT	**Pengchaiyu**	**1.00**	**13**	i P	**Pb**	**19 16 45.1**	**-0.1**
PCYT				S	**Sb**	**19 16 59.6**	**+1.1**
YOJ	**Yonaguni jima**	**1.11**	**100**	P	**Pb**	**19 16 46.8**	**-0.2**
YOJ				S	**Sb**	**19 17 02.3**	**+0.7**
SMLT	**Sun Moon Lake**	**1.13**	**228**	⇑P	**Pb**	**19 16 47.0**	**-0.5**
TYC	**Yuchr**	**1.15**	**230**	eP	**Pb**	**19 16 47.1**	**-0.7**
TCU	**Taichung**	**1.15**	**244**	eP	**Pb**	**19 16 48.9**	**+1.1**
EHY	**Hungye**	**1.23**	**202**	⇑P	**Pb**	**19 16 48.3**	**-0.8**
WNT	**Mingjian**	**1.29**	**234**	eP	**Pb**	**19 16 51.3**	**+1.2**
TWF1	**Yuli**	**1.38**	**200**	⇑P	**Pb**	**19 16 51.5**	**-0.2**
YUS	**Yu-Shan**	**1.40**	**214**	⇑P	**Pn**	**19 16 52.1**	**0.0**
ALS	**Alishan**	**1.46**	**219**	eP	**Pn**	**19 16 53.3**	**+0.3**
CHN5	**Tsauling**	**1.48**	**225**	eP	**Pn**	**19 16 54.2**	**+1.0**
WGK	**Gukeng**	**1.49**	**230**	eP	**Pn**	**19 16 54.4**	**+1.0**
CHKT	**Chengkung**	**1.60**	**195**	eP	**Pn**	**19 16 53.8**	**-1.1**
ELDTW	**Lidau**	**1.63**	**207**	eP	**Pn**	**19 16 55.9**	**+0.6**
CHN2	**Minshiung**	**1.66**	**228**	eP	**Pn**	**19 16 57.1**	**+1.4**
CHN4	**Tsaushan**	**1.71**	**221**	eP	**Pn**	**19 16 58.1**	**+1.6**
CHY	**Chiayi**	**1.71**	**228**	eP	**Pn**	**19 16 58.5**	**+2.0**
STYT	**Tauyuan**	**1.77**	**213**	eP	**Pn**	**19 16 58.0**	**+0.6**
WSF	**Szhu**	**1.77**	**236**	eP	**Pn**	**19 16 57.9**	**+0.6**
IRIF	**Iriomote-Funau**	**1.77**	**100**	P	**Pn**	**19 16 56.2**	**-1.2**
IRIF				eS	**Sn**	**19 17 18.5**	**-2.0**
WTP	**Ta-pu**	**1.78**	**218**	eP	**Pn**	**19 16 59.0**	**+1.5**
TWK	**Hsinying**	**1.84**	**222**	eP	**Pn**	**19 16 59.7**	**+1.4**
CHN1	**Nanshi**	**1.88**	**219**	eP	**Pn**	**19 17 00.5**	**+1.7**
HATJ	**Hateruma jima**	**1.91**	**108**	P	**Pn**	**19 16 59.5**	**+0.2**
HATJ				eS	**Sn**	**19 17 24.6**	**+0.6**
SGST	**Jiashian**	**1.93**	**216**	eP	**Pn**	**19 17 01.4**	**+1.9**
TWG	**Pinlang**	**1.94**	**201**	eP	**Pn**	**19 17 00.2**	**+0.3**
CHN8	**Yiju**	**1.96**	**229**	eP	**Pn**	**19 17 00.9**	**+0.9**
TTN	**Taitung**	**1.98**	**198**	eP	**Pn**	**19 17 01.5**	**+1.1**
JKRS	**Kuro-shima**	**2.04**	**101**	P	**Pn**	**19 17 00.5**	**-0.8**
JKRS				eS	**Sn**	**19 17 25.1**	**-2.3**
CHN3	**Shinhua**	**2.05**	**221**	eP	**Pn**	**19 17 02.6**	**+1.2**
SCLT	**Jiali**	**2.09**	**226**	eP	**Pn**	**19 17 02.4**	**+0.5**
JIJ	**Ishigaki jima**	**2.14**	**97**	P	**Pn**	**19 17 01.2**	**-1.5**
JIJ				eS	**Sn**	**19 17 26.8**	**-3.1**
SSD	**Sandimen**	**2.18**	**210**	eP	**Pn**	**19 17 04.0**	**+0.7**
ECL	**Taimali**	**2.19**	**201**	eP	**Pn**	**19 17 04.1**	**+0.7**
TWM1	**Shoushan**	**2.22**	**215**	eP	**Pn**	**19 17 05.8**	**+2.0**
SGLT	**Jiouru**	**2.27**	**213**	eP	**Pn**	**19 17 06.5**	**+2.0**
PNG	**Penghu**	**2.33**	**243**	eP	**Pn**	**19 17 04.1**	**-1.3**
WDGT	**Dungji**	**2.41**	**235**	eP	**Pn**	**19 17 05.5**	**-1.0**
EAST	**Anshuo**	**2.43**	**202**	eP	**Pn**	**19 17 07.9**	**+1.1**
TAW	**Tawu**	**2.43**	**200**	eP	**Pn**	**19 17 06.5**	**-0.3**
SCZT	**Fangliau**	**2.52**	**206**	eP	**Pn**	**19 17 09.0**	**+0.9**
JTJ	**Tarama**	**2.63**	**90**	P	**Pn**	**19 17 09.1**	**-0.5**
TWP	**Hsiaoliuchiu**	**2.65**	**210**	eP	**Pn**	**19 17 12.7**	**+2.7**
HEN	**Hengchun**	**2.81**	**201**	eP	**Pn**	**19 17 13.3**	**+1.0**
TWK1	**Hengchun**	**2.85**	**199**	eP	**Pn**	**19 17 14.8**	**+2.0**
QZH	**Quanzhou**	**2.94**	**276**	P	**Pn**	**19 17 12.3**	**-1.8**
QZH				S	**Sn**	**19 17 45.5**	**-4.7**
QZH				Smax			
	comp=N,3μm,0.9s						
QZH				Smax			
	comp=E,2μm,0.9s						
KNM	**Kinmen**	**3.09**	**266**	eP	**Pn**	**19 17 15.0**	**-1.2**
JMJ	**Miyako jima 2**	**3.17**	**86**	P	**Pn**	**19 17 17.7**	**+0.4**
JOGS	**Gusukube**	**3.27**	**87**	P	**Pn**	**19 17 19.2**	**+0.4**
JKE	**Kume jima 2**	**4.79**	**69**	P	**Pn**	**19 17 42.0**	**+1.6**
JOW	**Kunigami**	**6.22**	**68**	Pn	**Pn**	**19 18 00.1**	**-0.5**
	comp=E,9.5nm,0.3s,baz=233,slow=15,SNR=4.0						
JOW				LR	LR	19 20 36.3	
	comp=E,7μm,18.3s,baz=142,slow=41						
NJ2	**Nanjing**	**7.82**	**341**	eP	**Pn**	**19 18 24.1**	**+1.1**
NJ2				AP		19 18 27.4	
NJ2				XP		19 18 31.4	
NJ2				S	**Sn**	**19 19 54.4**	**+1.5**
NJ2				XS		19 19 58.6	
NJ2				AMB	AMB		
	comp=Z,220nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,4μm,4.2s						
NJ2				Smax			
	comp=N,2μm,1.4s						
NJ2				Smax			
	comp=E,1μm,1.0s						
NJ2				LR	LR		
	comp=N,29μm,8.0s						
NJ2				LR	LR		
	comp=E,33μm,10.9s						
NJ2				LR	LR		
	comp=Z,10μm,12.5s						
ENH	**Enshi**	**12.29**	**300**	P	**P**	**19 19 23.8**	**-0.6**
KS15	**Wonju Array Si**	**13.77**	**21**	eP	**P**	**19 19 41.5**	**-2.6**
KMI	**Kunming**	**17.32**	**276**	P	**P**	**19 20 27.0**	**-3.0**
KMI				AMB	AMB		
	comp=Z,122nm,2.0s						
KMI	**Kunming**	**17.32**	**276**	P	**P**	**19 20 27.0**	**-3.0**
	comp=Z,122nm,2.0s						
HHC	**Hu-ho-hao-te**	**18.29**	**335**	eP	**P**	**19 20 45.5**	**+3.5**
HHC				PP	PP	19 21 01.0	+3.8
HHC				S	**S**	**19 24 08.9**	**+5.4**
HHC				SS	SS	19 24 31.8	+4.7
HHC				PCP	PcP	19 25 17.9	+2.9
HHC				AMB	AMB		
	comp=Z,97nm,4.9s						
HHC				LR	LR		
	comp=N,11μm,10.7s						
HHC				LR	LR		
	comp=E,7μm,14.9s						
HHC				LR	LR		
	comp=Z,10μm,11.9s						
MAJO	**Matsushiro**	**18.40**	**46**	P	**P**	**19 20 47.5**	**+4.1**
	comp=Z,15nm,1.2s						
MDJ	**Mudanjiang**	**20.90**	**16**	P	**P**	**19 21 13.4**	**+2.0**
	comp=Z,44nm,1.0s						
CM31	**Chiang Mai Arr**	**22.13**	**258**	eP	**P**	**19 21 24.2**	**+0.1**
	comp=Z,74nm,1.2s,mb5.0						
CMAR	**Chiang Mai Arr**	**22.13**	**258**	P	**P**	**19 21 24.8**	**+0.7**
	comp=Z,5.5nm,0.8s,mb4.0,baz=75,slow=7.9,SNR=9.2						
HIA	**Hailar**	**24.62**	**357**	eP	**P**	**19 21 47.0**	**-1.2**
	comp=Z,165nm,1.8s,mb5.3						
SONM	**Songino Array**	**26.17**	**336**	P	**P**	**19 22 02.8**	**0.0**
	comp=Z,10nm,0.9s,mb4.3,baz=167,slow=7.5,SNR=8.8						
LSA	**Lhasa**	**27.69**	**287**	eP	**P**	**19 22 15.4**	**-1.5**
	comp=Z,16nm,1.1s,mb4.5						
YSS	**Yuzh-Sakhalins**	**27.83**	**32**	eP	**P**	**19 22 20.6**	**+2.6**
	comp=Z,11nm,0.7s,mb4.6						
TLY	**Talaya**	**30.36**	**337**	P	**P**	**19 22 34.6**	**-6.0**
	comp=Z,7.6nm,0.9s,mb4.4						
WMQ	**Urumqi**	**33.75**	**313**	P	**P**	**19 23 09.6**	**-0.8**
WMQ				PP	PP	19 24 22.0	-1.2
WMQ				PPP	PPP	19 24 40.0	-0.7
WMQ				PCP	PcP	19 25 49.0	-1.0
WMQ				S	**S**	**19 28 33.0**	**-0.3**
WMQ				XS		19 28 39.5	
WMQ				PCS		19 29 33.5	
WMQ				SS	SS	19 30 38.0	-0.2
WMQ				AMB	AMB		
	comp=Z,53nm,1.6s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,237nm,4.4s						
WMQ				LR	LR		
	comp=N,2μm,15.3s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,15.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,2μm,14.7s,MS5.0						
YAK	**Yakutsk**	**37.74**	**6**	P	**P**	**19 23 44.5**	**+0.4**
	comp=Z,8.4nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**40.17**	**327**	P	**P**	**19 24 02.0**	**-2.4**
	comp=Z,2.9nm,0.9s,mb4.0,baz=3.6,slow=9.4,SNR=7.9						
MA2	**Magadan**	**40.34**	**22**	P	**P**	**19 24 07.8**	**+2.1**
	comp=Z,2.0nm,0.7s,mb4.0						
PMG	**Port Moresby**	**41.92**	**141**	P	**P**	**19 24 16.4**	**-2.8**
	comp=Z,17nm,0.8s,mb4.7,baz=276,slow=9.2,SNR=2.8						
KURK	**Kurchatov**	**42.11**	**320**	eP	**P**	**19 24 18.0**	**-2.3**
	comp=Z,22nm,1.6s,mb4.5						
AAK	**Ala-Archa**	**42.68**	**307**	P	**P**	**19 24 23.7**	**-1.5**
	comp=Z,3.3nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**45.96**	**163**	eP	**P**	**19 24 50.0**	**-1.8**
	comp=Z,9.5nm,0.7s,mb4.8						
BVAR	**Borovoye Array**	**47.68**	**320**	P	**P**	**19 25 03.7**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=94,slow=8.3,SNR=9.4						
CHKZ	**Chkalovo**	**47.73**	**321**	eP	**P**	**19 25 03.4**	**-2.0**
	comp=Z,9.5nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**49.44**	**165**	P	**P**	**19 25 16.0**	**-3.0**
	comp=Z,1.1nm,0.6s,mb4.1,baz=341,slow=6.7,SNR=16						
CTA	**Charters Tower**	**50.43**	**150**	P	**P**	**19 25 25.1**	**-1.5**
	comp=Z,7.8nm,0.7s,mb4.8,baz=330,slow=12,SNR=8.1						
CTAO	**Charters Tower**	**50.43**	**150**	eP	**P**	**19 25 25.1**	**-1.6**
	comp=Z,22nm,1.1s,mb5.1						
BILL	**Bilibino**	**51.05**	**20**	eP	**P**	**19 25 32.8**	**+2.1**
	comp=Z,2.6nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**59.30**	**160**	P	**P**	**19 26 27.8**	**-3.3**
	comp=Z,4.7nm,0.7s,mb4.6,baz=337,slow=4.0,SNR=7.9						
KIV	**Kislovodsk**	**65.74**	**309**	P	**P**	**19 27 14.0**	**+0.2**
	comp=Z,16nm,1.2s,mb4.9						
ILAR	**Eielson Array**	**68.54**	**27**	P	**P**	**19 27 28.9**	**-2.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=278,slow=5.2,SNR=5.4						
JOF	**Joensuu**	**68.58**	**331**	ep	**P**	**19 27 24.7**	**-6.7**
	comp=Z,3.5nm,0.7s,mb4.4						
MALT	**Malatya**	**70.21**	**304**	eP	**P**	**19 27 40.1**	**-1.7**
	comp=Z,8.1nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**71.33**	**330**	P	**P**	**19 27 45.9**	**-2.3**
	comp=Z,2.4nm,0.6s,mb4.3,baz=76,slow=7.9,SNR=13						
INK	**Inuvik**	**72.58**	**22**	eP	**P**	**19 27 53.8**	**-1.7**
	comp=Z,13nm,1.5s,mb4.6						
MLR	**Muntele Rosu**	**76.74**	**314**	P	**P**	**19 28 20.2**	**+0.4**
	comp=Z,4.0nm,1.0s,mb4.3,baz=97,slow=8.1,SNR=3.6						
NOA	**NORSAR Array B**	**78.08**	**332**	P	**P**	**19 28 27.8**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=59,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**82.32**	**23**	P	**P**	**19 28 48.3**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=314,slow=5.0,SNR=6.0						
GERES	**GERESS Array B**	**82.85**	**321**	P	**P**	**19 28 54.0**	**+1.5**
	comp=Z,1.5nm,0.8s,mb4.1,baz=56,slow=4.8,SNR=10						
FCC	**Fort Churchill**	**91.73**	**18**	P	**P**	**19 29 36.4**	**+1.1**
	comp=Z,2.4nm,0.9s,mb4.5						
HLID	**Hailey**	**94.75**	**37**	P	**P**	**19 29 51.5**	**+1.9**
	comp=Z,1.2nm,0.9s,mb4.3						

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*TAP **05** 19:19:35.5,24.65N×121.83E,h10^{km},ML3.6*

TAP Felt II J at Suao, III J at Ilan, II J at Neicheng, II J at Nanau, II J at Nioudou, I J at Santiao Chiao.

*JMA **05** 19:19:36.1±0.2,24.85N×121.85E,h45^{km}*

ISC 05 19:19:35.5±0.3,**24.67N**±0.01×**121.89E**±0.02,**h10**^{km},**n45**, σ**1**ˢ**08**/69,**1C-4D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**210**	⇓iP	**Pg**	**19 19 37.5**	**-0.2**
ILA	**Ilan**	**0.16**	**307**	⇓iP	**Pg**	**19 19 38.8**	**-0.2**
ILA				S	**Sg**	**19 19 41.4**	**0.0**
EGS		**0.18**	**13**	⇑iP	**Pg**	**19 19 40.0**	**+0.6**
EGS				S	**Sg**	**19 19 42.8**	**+0.7**
TWE	**Neicheng**	**0.21**	**284**	⇓iP	**Pg**	**19 19 39.4**	**-0.5**
TWE				S	**Sg**	**19 19 41.8**	**-1.1**
ENA	**Nanau**	**0.28**	**209**	eP	**Pg**	**19 19 41.0**	**-0.2**
ENTT	**Nioudou**	**0.29**	**264**	i P	**Pg**	**19 19 40.9**	**-0.7**
ENTT				S	**Sg**	**19 19 44.2**	**-1.5**
TWB1	**Santiao Chiao**	**0.35**	**15**	P	**Pg**	**19 19 42.6**	**0.0**
TWB1				S	**Sg**	**19 19 47.2**	**-0.3**
NWF	**Wu-fen Shan**	**0.41**	**346**	⇓iP	**Pg**	**19 19 44.0**	**+0.2**
NWF				S	**Sg**	**19 19 49.4**	**0.0**
TWA	**Mucha**	**0.41**	**318**	i P	**Pg**	**19 19 43.8**	**-0.1**
TWA				S	**Sg**	**19 19 49.1**	**-0.4**
NSK	**Sanguang**	**0.48**	**271**	i P	**Pg**	**19 19 44.4**	**-0.9**
NSK				S	**Sg**	**19 19 49.5**	**-2.2**
TAP1	**Taipei**	**0.49**	**318**	i P	**Pg**	**19 19 45.7**	**+0.2**
TAP1				S	**Sg**	**19 19 51.1**	**-1.1**
TAP	**Taipei**	**0.51**	**317**	i P	**Pg**	**19 19 45.7**	**0.0**
TAP				S	**Sg**	**19 19 52.4**	**-0.2**
NNS	**Nan Shan**	**0.52**	**244**	eP	**Pg**	**19 19 45.0**	**-1.0**
TWS1	**Kuangyinshan**	**0.60**	**315**	i P	**Pg**	**19 19 48.2**	**+0.6**
TWS1				S	**Sg**	**19 19 56.3**	**+0.5**
TWD	**Chiawan**	**0.65**	**204**	eP	**Pb**	**19 19 47.8**	**-0.6**
TWD				S	**Sg**	**19 19 56.3**	**-0.9**
TWY	**Chenhua**	**0.66**	**337**	i P	**Pb**	**19 19 48.8**	**+0.1**
TWY				S	**Sg**	**19 19 56.6**	**-1.0**
NCU	**National Centr**	**0.70**	**295**	i P	**Pb**	**19 19 50.1**	**+0.7**
NCU				S	**Sb**	**19 20 00.2**	**+1.3**
HWA	**Hwalien**	**0.74**	**200**	eP	**Pb**	**19 19 51.4**	**+1.5**
NSTT	**Nanjuang**	**0.81**	**267**	eP	**Pb**	**19 19 51.2**	**0.0**
ESL	**Shilin**	**0.95**	**206**	eP	**Pb**	**19 19 52.8**	**-0.8**
ESL				S	**Sb**	**19 20 06.2**	**+0.2**
PCYT	**Pengchaiyu**	**0.97**	**10**	eP	**Pb**	**19 19 57.1**	**+3.1**
YOJ	**Yonaguni jima**	**1.04**	**101**	P	**Pb**	**19 19 55.7**	**+0.5**
YOJ				S	**Sb**	**19 20 10.2**	**+1.4**
NSY	**Sanyi**	**1.06**	**256**	eP	**Pb**	**19 19 57.4**	**+2.0**
NSY				S	**Sb**	**19 20 12.0**	**+2.9**
TWQ1	**Liyutan**	**1.06**	**253**	eP	**Pb**	**19 19 56.6**	**+1.1**
SMLT	**Sun Moon Lake**	**1.19**	**229**	eP	**Pb**	**19 19 57.1**	**-0.7**
TYC	**Yuchr**	**1.21**	**231**	eP	**Pb**	**19 19 57.9**	**-0.2**
EHY	**Hungye**	**1.27**	**204**	eP	**Pb**	**19 19 59.6**	**+0.6**
EHY				S	**Sb**	**19 20 15.6**	**+0.3**
WNT	**Mingjian**	**1.35**	**235**	eP	**Pb**	**19 20 02.3**	**+1.8**
WNT				S	**Sb**	**19 20 21.0**	**+3.3**
TWF1	**Yuli**	**1.42**	**202**	eP	**Pn**	**19 20 03.0**	**+1.5**
YUS	**Yu-Shan**	**1.45**	**216**	eP	**Pn**	**19 20 02.7**	**+0.7**
ALS	**Alishan**	**1.52**	**221**	eP	**Pn**	**19 20 05.0**	**+2.0**
CHN5	**Tsauling**	**1.54**	**226**	eP	**Pg**	**19 20 06.4**	**+0.2**
CHN5				S	**Sg**	**19 20 26.8**	**+0.1**
WGK	**Gukeng**	**1.56**	**231**	eP	**Pn**	**19 20 06.6**	**+3.1**
ELDTW	**Lidau**	**1.68**	**209**	eP	**Pn**	**19 20 06.7**	**+1.6**
IRIF	**Iriomote-Funau**	**1.71**	**101**	P	**Pn**	**19 20 05.2**	**-0.5**
IRIF				S	**Sn**	**19 20 26.7**	**-1.1**
CHN4	**Tsaushan**	**1.77**	**222**	eP	**Pg**	**19 20 10.1**	**-0.7**
STYT	**Tauyuan**	**1.82**	**215**	eP	**Pn**	**19 20 09.6**	**+2.4**
WTP	**Ta-pu**	**1.83**	**220**	eP	**Pg**	**19 20 11.1**	**-1.1**
HATJ	**Hateruma jima**	**1.85**	**109**	eS	**Sn**	**19 20 30.6**	**-0.8**
CHN1	**Nanshi**	**1.93**	**220**	eP	**Pg**	**19 20 12.8**	**-1.3**
SGST	**Jiashian**	**1.98**	**217**	eP	**Pg**	**19 20 13.3**	**-1.8**
SGST				S	**Sg**	**19 20 39.3**	**-2.2**
JKRS	**Kuro-shima**	**1.98**	**102**	P	**Pn**	**19 20 09.4**	**-0.1**
JKRS				S	**Sn**	**19 20 33.7**	**-1.0**
TWG	**Pinlang**	**1.99**	**202**	eP	**Pn**	**19 20 10.8**	**+1.2**
JIJ	**Ishigaki jima**	**2.08**	**98**	P	**Pn**	**19 20 10.5**	**-0.4**
JIJ				S	**Sn**	**19 20 35.0**	**-2.1**
SSD	**Sandimen**	**2.23**	**211**	eP	**Pb**	**19 20 15.0**	**-0.6**

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*JMA **05** 19:24:58.3±0.2,24.86N×121.85E,h38^{km},M3.5*

*TAP **05** 19:24:58.4,24.66N×121.85E,h9^{km},ML3.5*

TAP Felt II J at Suao, I J at Ilan, III J at Nanau, I J at Nioudou.

ISC 05 19:24:58.6±0.3,**24.69N**±0.02×**121.92E**±0.02,**h9**^{km},**n50**, σ**1**ˢ**17**/74,**3D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.11**	**220**	⇓iP	**Pg**	**19 25 00.4**	**-0.8**
TWC				S	**Sg**	**19 25 01.7**	**-1.3**
EGS		**0.15**	**3**	eP	**Pg**	**19 25 02.8**	**+0.8**
EGS				S	**Sg**	**19 25 04.3**	**0.0**
ILA	**Ilan**	**0.18**	**295**	i P	**Pg**	**19 25 01.7**	**-0.7**
ILA				S	**Sg**	**19 25 04.3**	**-0.7**
TWE	**Neicheng**	**0.23**	**277**	i P	**Pg**	**19 25 02.4**	**-1.1**
TWE				S	**Sg**	**19 25 05.0**	**-1.9**
ENA	**Nanau**	**0.31**	**212**	eP	**Pg**	**19 25 04.1**	**-0.9**
ENA				S	**Sg**	**19 25 07.6**	**-1.6**
TWB1	**Santiao Chiao**	**0.32**	**11**	⇓iP	**Pg**	**19 25 05.7**	**+0.5**
TWB1				S	**Sg**	**19 25 10.2**	**+0.6**
ENTT	**Nioudou**	**0.33**	**261**	P	**Pg**	**19 25 03.9**	**-1.4**
NWF	**Wu-fen Shan**	**0.40**	**341**	i P	**Pg**	**19 25 06.9**	**+0.2**
NWF				S	**Sg**	**19 25 12.4**	**+0.3**
TWA	**Mucha**	**0.42**	**313**	⇓iP	**Pg**	**19 25 06.9**	**-0.2**
TWA				S	**Sg**	**19 25 12.0**	**-0.9**
TAP1	**Taipei**	**0.50**	**314**	P	**Pg**	**19 25 08.8**	**0.0**
TAP1				S	**Sg**	**19 25 15.0**	**-0.5**
NSK	**Sanguang**	**0.51**	**268**	eP	**Pg**	**19 25 07.1**	**-1.8**
NSK				S	**Sg**	**19 25 13.9**	**-2.0**
TAP	**Taipei**	**0.51**	**313**	P	**Pg**	**19 25 08.7**	**-0.3**
TAP				S	**Sg**	**19 25 15.4**	**-0.4**
NNS	**Nan Shan**	**0.56**	**244**	eP	**Pg**	**19 25 07.9**	**-1.9**
TWS1	**Kuangyinshan**	**0.61**	**312**	eP	**Pg**	**19 25 11.0**	**+0.1**
TWS1				S	**Sg**	**19 25 19.2**	**+0.1**
TWY	**Chenhua**	**0.65**	**333**	eP	**Pg**	**19 25 11.4**	**-0.2**
TWD	**Chiawan**	**0.68**	**206**	eP	**Pb**	**19 25 10.8**	**-1.4**
TWD				S	**Sg**	**19 25 19.1**	**-2.2**
NCU	**National Centr**	**0.72**	**293**	eP	**Pb**	**19 25 14.4**	**+1.5**
HWA	**Hwalien**	**0.77**	**202**	eP	**Pb**	**19 25 13.1**	**-0.6**
TWT	**Tachien**	**0.81**	**238**	eP	**Pb**	**19 25 13.0**	**-1.4**
NSTT	**Nanjuang**	**0.84**	**266**	eP	**Pb**	**19 25 14.4**	**-0.5**
NSTT				S	**Sb**	**19 25 28.3**	**+2.2**
PCYT	**Pengchaiyu**	**0.94**	**8**	P	**Pb**	**19 25 17.3**	**+0.6**
ESL	**Shilin**	**0.98**	**207**	eP	**Pb**	**19 25 16.5**	**-0.8**
YOJ	**Yonaguni jima**	**1.02**	**103**	P	**Pb**	**19 25 18.1**	**+0.2**
YOJ				S	**Sb**	**19 25 32.6**	**+1.4**
NSY	**Sanyi**	**1.09**	**256**	eP	**Pb**	**19 25 19.4**	**+0.1**
NSY				S	**Sb**	**19 25 34.7**	**+1.3**
TWQ1	**Liyutan**	**1.10**	**252**	eP	**Pb**	**19 25 19.7**	**+0.3**
SMLT	**Sun Moon Lake**	**1.23**	**229**	eP	**Pb**	**19 25 20.5**	**-1.1**
TYC	**Yuchr**	**1.25**	**231**	eP	**Pb**	**19 25 21.2**	**-0.7**
EHY	**Hungye**	**1.30**	**205**	eP	**Pb**	**19 25 22.0**	**-0.8**
EHY				S	**Sb**	**19 25 37.5**	**-1.9**
WNT	**Mingjian**	**1.39**	**235**	eP	**Pn**	**19 25 25.0**	**+0.8**
WNT				S	**Sb**	**19 25 44.1**	**+2.1**
TWF1	**Yuli**	**1.45**	**203**	eP	**Pn**	**19 25 24.3**	**-0.8**
YUS	**Yu-Shan**	**1.49**	**217**	eP	**Pn**	**19 25 25.5**	**-0.2**
YUS				S	**Sb**	**19 25 45.0**	**+0.1**
ALS	**Alishan**	**1.56**	**221**	eP	**Pn**	**19 25 28.2**	**+1.6**
CHN5	**Tsauling**	**1.57**	**226**	eP	**Pn**	**19 25 28.3**	**+1.4**
CHN5				S	**Sb**	**19 25 48.7**	**+1.3**
WGK	**Gukeng**	**1.60**	**231**	eP	**Pn**	**19 25 28.5**	**+1.3**
WGK				S	**Sb**	**19 25 49.8**	**+1.7**
IRIF	**Iriomote-Funau**	**1.68**	**102**	P	**Pn**	**19 25 27.6**	**-0.9**
IRIF				S	**Sn**	**19 25 49.4**	**-0.9**
ELDTW	**Lidau**	**1.71**	**209**	eP	**Pn**	**19 25 28.9**	**+0.1**
CHN4	**Tsaushan**	**1.81**	**223**	eP	**Pn**	**19 25 32.3**	**+2.1**
HATJ	**Hateruma jima**	**1.83**	**110**	eS	**Sn**	**19 25 53.3**	**-0.7**
STYT	**Tauyuan**	**1.86**	**215**	eP	**Pn**	**19 25 32.0**	**+1.0**
WTP	**Ta-pu**	**1.87**	**220**	eP	**Pn**	**19 25 33.3**	**+2.2**
TWK	**Hsinying**	**1.93**	**223**	eP	**Pn**	**19 25 33.1**	**+1.1**
JKRS	**Kuro-shima**	**1.95**	**103**	P	**Pn**	**19 25 31.9**	**-0.4**
JKRS				S	**Sn**	**19 25 56.8**	**-0.4**
CHN1	**Nanshi**	**1.97**	**221**	eP	**Pn**	**19 25 34.0**	**+1.5**
SGST	**Jiashian**	**2.02**	**218**	eP	**Pn**	**19 25 35.3**	**+2.1**
TWG	**Pinlang**	**2.02**	**203**	eP	**Pn**	**19 25 35.0**	**+1.7**
JIJ	**Ishigaki jima**	**2.05**	**99**	P	**Pn**	**19 25 33.0**	**-0.7**
JIJ				S	**Sn**	**19 25 57.6**	**-2.0**
CHN8	**Yiju**	**2.06**	**230**	eP	**Pn**	**19 25 35.4**	**+1.6**
ECL	**Taimali**	**2.27**	**203**	eP	**Pn**	**19 25 37.8**	**+1.0**
SSD	**Sandimen**	**2.27**	**212**	eP	**Pn**	**19 25 39.8**	**+2.9**
EAST	**Anshuo**	**2.50**	**203**	eP	**Pn**	**19 25 41.6**	**+1.4**

TAP 05 19:27:10.1,24.65N×121.81E,h8^{km},ML2.7,Taiwan

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*NIED **05** 19:27:00,24.90N×121.90E,h5^{km},Mw4.7 Best double couple: $M_0$1.21×10^{16} NP1:ϕ_s100°,δ79°,λ-66°. NP2: ϕ_s212°,δ26°,λ-156°.*

*IDC **05** 19:27:54.3±0.8,24.80N×122.03E,mb4.0/12,mb1 4.1/12, mb1mx4.0/20,mbtmp4.0/12,Error ellipse: s-maj=37.0km s-min=16.1km az=67.0*

*TAP **05** 19:27:54.4,24.66N×121.80E,h11^{km},ML4.8*

TAP Felt IV J at Ilan, IV J at Neicheng, III J at Nioudou, I J, IV J at Nanau, I J at Mucha, II J at Sanguang, II J, I J at Taipai, I J at Jungli (National Central University), I J at Tachien, I J at Nanjuang.

*NEIC **05** 19:27:55.7±0.5,24.70N×121.83E,h10^{km},mb4.5/15, ML4.7(TAP),Error ellipse: s-maj=9.8km s-min=7.7km az=71.0*

NEIC Recorded [4 TAP] in I-lan; [2 TAP] in Hua-lien, T'ai-pei and T'ao-yuan; [1 TAP] in T'ai-chung Counties.

*JMA **05** 19:27:55.4±0.3,24.94N×121.87E,h35^{km},M4.3*

*BJI **05** 19:27:58.5,25.00N×121.43E,h5^{km},mB5.3,mb4.2,ML4.6, Ms5.0,Msz4.9*

ISC 05 19:27:54.8±0.3,**24.68N**±0.01×**121.86E**±0.02,**h9**^{km}±2^{km}, **n110**,σ**1**ˢ**21**/141,**mb4.3**/27,**MS4.7**/1,**14C-13D**,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**185**	⇓iP	**Pg**	**19 27 57.1**	**+0.2**
ILA	**Ilan**	**0.13**	**312**	⇓iP	**Pg**	**19 27 58.0**	**+0.1**
ILA				S	**Sg**	**19 28 00.3**	**+0.4**
TWE	**Neicheng**	**0.18**	**284**	⇓iP	**Pg**	**19 27 58.2**	**-0.5**
EGS		**0.18**	**23**	⇑iP	**Pg**	**19 27 59.8**	**+1.0**
EGS				S	**Sg**	**19 28 03.7**	**+2.3**
ENTT	**Nioudou**	**0.27**	**262**	⇓iP	**Pg**	**19 27 59.7**	**-0.7**
ENA	**Nanau**	**0.27**	**203**	⇑iP	**Pg**	**19 28 00.1**	**-0.3**
ENA				S	**Sg**	**19 28 03.5**	**-0.6**
TWB1	**Santiao Chiao**	**0.35**	**20**	⇑iP	**Pg**	**19 28 02.5**	**+0.5**
TWB1				S	**Sg**	**19 28 07.3**	**+0.5**
TWA	**Mucha**	**0.39**	**321**	⇓iP	**Pg**	**19 28 02.9**	**+0.2**
TWA				S	**Sg**	**19 28 07.3**	**-0.8**
NWF	**Wu-fen Shan**	**0.40**	**350**	⇓iP	**Pg**	**19 28 03.5**	**+0.6**
NWF				S	**Sg**	**19 28 08.5**	**+0.2**
YHNB	**Yeheng**	**0.44**	**269**	ePg	**Pg**	**19 28 02.7**	**-0.9**
YHNB				eSg	**Sg**	**19 28 07.2**	**-2.4**
TATO	**Taipei**	**0.45**	**312**	ePg	**Pg**	**19 28 03.1**	**-0.7**
TATO	**Taipei**	**0.45**	**312**	SKiKP	**Pg**	**19 28 03.8**	**-0.1**
TATO				ScS	**Sg**	**19 28 09.4**	**-0.6**
NSK	**Sanguang**	**0.45**	**270**	⇓iP	**Pg**	**19 28 03.2**	**-0.8**
NSK				S	**Sg**	**19 28 08.0**	**-2.1**
TAP1	**Taipei**	**0.47**	**320**	⇓iP	**Pg**	**19 28 04.9**	**+0.5**
TAP1				S	**Sg**	**19 28 10.8**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TAP	**Taipei**	**0.48**	**319**	⇓*i*P	**Pg**	**19 28 04.8**	**+0.3**
TAP				S	**Sg**	**19 28 10.7**	**-0.3**
NNS	**Nan Shan**	**0.50**	**242**	⇑*i*P	**Pg**	**19 28 03.8**	**-1.1**
NNS				S	**Sg**	**19 28 09.8**	**-1.8**
NACB	**Ninganchiao**	**0.55**	**205**	*e*Pg	**Pg**	**19 28 04.8**	**-1.2**
NACB				*e*Sg	**Sg**	**19 28 11.7**	**-1.7**
TWS1	**Kuangyinshan**	**0.58**	**317**	⇓*i*P	**Pg**	**19 28 07.2**	**+0.7**
TWD	**Chiawan**	**0.64**	**202**	⇑*i*P	**Pg**	**19 28 06.7**	**-1.0**
TWD				S	**Sg**	**19 28 15.2**	**-1.0**
TWY	**Chenhua**	**0.64**	**339**	⇓*i*P	**Pg**	**19 28 08.1**	**+0.5**
NCU	**National Centr**	**0.67**	**296**	⇓*i*P	**Pb**	**19 28 09.0**	**+0.7**
NCU				S	**Sg**	**19 28 19.3**	**+1.9**
HWA	**Hwalien**	**0.73**	**198**	P	**Pb**	**19 28 08.9**	**-0.4**
HWA				S	**Sb**	**19 28 19.2**	**0.0**
TWT	**Tachien**	**0.75**	**236**	⇑P	**Pb**	**19 28 08.6**	**-1.0**
TWT				S	**Sb**	**19 28 18.0**	**-1.7**
NSTT	**Nanjuang**	**0.78**	**267**	⇓*i*P	**Pb**	**19 28 09.7**	**-0.3**
NSTT				S	**Sb**	**19 28 18.7**	**-1.8**
ESL	**Shilin**	**0.94**	**204**	⇑*i*P	**Pb**	**19 28 12.1**	**-0.8**
ESL				S	**Sb**	**19 28 23.8**	**-1.5**
PCYT	**Pengchaiyu**	**0.97**	**12**	⇑*i*P	**Pb**	**19 28 13.9**	**+0.6**
PCYT				S	**Sb**	**19 28 27.9**	**+1.8**
NSY	**Sanyi**	**1.03**	**256**	*e*P	**Pb**	**19 28 15.2**	**+0.8**
NSY				S	**Sb**	**19 28 28.0**	**+0.3**
TWQ1	**Liyutan**	**1.04**	**252**	*e*P	**Pb**	**19 28 14.9**	**+0.4**
TWQ1				S	**Sb**	**19 28 27.6**	**-0.4**
YOJ	**Yonaguni jima**	**1.07**	**101**	P	**Pb**	**19 28 15.4**	**+0.3**
YOJ				S	**Sb**	**19 28 29.9**	**+0.8**
SMLT	**Sun Moon Lake**	**1.18**	**228**	P	**Pb**	**19 28 16.3**	**-0.5**
TYC	**Yuchr**	**1.19**	**230**	⇑*i*P	**Pb**	**19 28 16.6**	**-0.5**
TCU	**Taichung**	**1.20**	**244**	*e*P	**Pb**	**19 28 18.0**	**+0.8**
EHY	**Hungye**	**1.26**	**203**	P	**Pb**	**19 28 17.7**	**-0.6**
WNT	**Mingjian**	**1.33**	**234**	⇑*i*P	**Pb**	**19 28 20.6**	**+1.1**
TWF1	**Yuli**	**1.41**	**201**	⇑P	**Pn**	**19 28 20.7**	**-0.1**
YUS	**Yu-Shan**	**1.44**	**215**	*e*P	**Pn**	**19 28 21.2**	**0.0**
ALS	**Alishan**	**1.51**	**220**	*e*P	**Pn**	**19 28 22.7**	**+0.5**
CHN5	**Tsauling**	**1.52**	**225**	⇑*i*P	**Pn**	**19 28 23.4**	**+1.1**
WGK	**Gukeng**	**1.54**	**230**	⇑P	**Pn**	**19 28 23.8**	**+1.2**
CHKT	**Chengkung**	**1.63**	**196**	*e*P	**Pn**	**19 28 23.7**	**-0.2**
ELDTW	**Lidau**	**1.67**	**208**	*e*P	**Pn**	**19 28 24.9**	**+0.4**
CHN2	**Minshiung**	**1.70**	**228**	*e*P	**Pn**	**19 28 26.7**	**+1.8**
IRIF	**Iriomote-Funau**	**1.74**	**101**	P	**Pn**	**19 28 24.7**	**-0.8**
IRIF				S	**Sn**	**19 28 46.3**	**-1.7**
CHN4	**Tsaushan**	**1.75**	**221**	*e*P	**Pn**	**19 28 27.4**	**+1.8**
CHY	**Chiayi**	**1.76**	**228**	⇑P	**Pn**	**19 28 26.6**	**+0.8**
STYT	**Tauyuan**	**1.81**	**214**	*e*P	**Pn**	**19 28 27.1**	**+0.6**
WSF	**Szhu**	**1.81**	**236**	P	**Pn**	**19 28 27.6**	**+1.0**
WSF				S	**Sn**	**19 28 51.3**	**+1.4**
WTP	**Ta-pu**	**1.82**	**219**	*e*P	**Pn**	**19 28 28.8**	**+2.1**
TWK	**Hsinying**	**1.88**	**222**	*e*P	**Pn**	**19 28 29.2**	**+1.7**
HATJ	**Hateruma jima**	**1.88**	**109**	P	**Pn**	**19 28 27.8**	**+0.3**
HATJ				S	**Sn**	**19 28 50.0**	**-1.6**
CHN1	**Nanshi**	**1.92**	**220**	*e*P	**Pn**	**19 28 29.7**	**+1.7**
SGST	**Jiashian**	**1.97**	**217**	*e*P	**Pn**	**19 28 30.2**	**+1.4**
TWG	**Pinlang**	**1.98**	**201**	*e*P	**Pn**	**19 28 29.8**	**+0.8**
CHN8	**Yiju**	**2.00**	**229**	*e*P	**Pn**	**19 28 30.3**	**+1.0**
JKRS	**Kuro-shima**	**2.01**	**102**	P	**Pn**	**19 28 29.1**	**-0.3**
JKRS				S	**Sn**	**19 28 53.9**	**-0.9**
TTN	**Taitung**	**2.02**	**199**	*e*P	**Pn**	**19 28 31.0**	**+1.5**
CHN3	**Shinhua**	**2.10**	**221**	*e*P	**Pn**	**19 28 32.6**	**+2.1**
JIJ	**Ishigaki jima**	**2.11**	**98**	P	**Pn**	**19 28 29.7**	**-1.0**
JIJ				S	**Sn**	**19 28 55.2**	**-2.1**
SCLT	**Jiali**	**2.13**	**226**	*e*P	**Pn**	**19 28 32.8**	**+1.7**
SSD	**Sandimen**	**2.23**	**211**	*e*P	**Pn**	**19 28 33.4**	**+1.0**
ECL	**Taimali**	**2.23**	**202**	*e*P	**Pn**	**19 28 33.5**	**+1.0**
TWM1	**Shoushan**	**2.26**	**216**	*e*P	**Pn**	**19 28 35.6**	**+2.6**
SGLT	**Jiouru**	**2.31**	**213**	*e*P	**Pn**	**19 28 36.0**	**+2.4**
PNG	**Penghu**	**2.37**	**243**	*e*P	**Pn**	**19 28 33.8**	**-0.8**
WDGT	**Dungji**	**2.45**	**235**	*e*P	**Pn**	**19 28 35.0**	**-0.7**
EAST	**Anshuo**	**2.46**	**202**	*e*P	**Pn**	**19 28 37.0**	**+1.2**
TAW	**Tawu**	**2.47**	**201**	*e*P	**Pn**	**19 28 38.4**	**+2.4**
KAU	**Kaohsiung**	**2.53**	**214**	*e*P	**Pn**	**19 28 38.9**	**+2.1**
SCZT	**Fangliau**	**2.56**	**207**	*e*P	**Pn**	**19 28 39.3**	**+2.1**
JTJ	**Tarama**	**2.59**	**90**	P	**Pn**	**19 28 36.6**	**-1.0**
TWK1	**Hengchun**	**2.89**	**200**	*e*P	**Pn**	**19 28 42.3**	**+0.5**
QZH	**Quanzhou**	**2.98**	**276**	P	**Pn**	**19 28 41.0**	**-2.2**
QZH				S	**Sn**	**19 29 15.6**	**-3.8**
QZH				Smax			
	comp=N,2µm,1.0s						
QZH				Smax			
	comp=E,1µm,0.6s						
QZH				LR	LR		
	comp=N,10µm,12.2s						
QZH				LR	LR		
	comp=E,8µm,15.8s						
QZH				LR	LR		
	comp=Z,11µm,9.5s						
KNM	**Kinmen**	**3.13**	**266**	*e*P	**Pn**	**19 28 45.3**	**0.0**
NJ2	**Nanjing**	**7.81**	**341**	*e*P	**Pn**	**19 29 47.9**	**-3.5**
NJ2				S	**Sn**	**19 31 11.3**	**-10**
NJ2				XS		19 31 16.3	
NJ2				Smax			
	comp=N,290nm,0.8s						
NJ2				Smax			
	comp=E,530nm,0.9s						
NJ2				LR	LR		
	comp=N,9µm,7.0s						
NJ2				LR	LR		
	comp=E,11µm,10.1s						
NJ2				LR	LR		
	comp=Z,10µm,9.4s						
ENH	**Enshi**	**12.31**	**300**	*e*P	**P**	**19 30 50.3**	**-3.0**
	comp=Z,5.2nm,0.7s						
KS15	**Wonju Array Si**	**13.73**	**21**	P	**P**	**19 31 09.8**	**-2.3**
KMI	**Kunming**	**17.35**	**275**	P	**P**	**19 32 01.0**	**+2.1**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s						
KMI	**Kunming**	**17.35**	**275**	P	**P**	**19 32 01.0**	**+2.1**
	comp=Z,6.0nm,1.1s						
CN2	**Changchun**	**19.30**	**8**	*e*P	**P**	**19 32 25.7**	**+3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
CM31	**Chiang Mai Arr**	**22.17**	**258**	*e*P	**P**	**19 32 54.9**	**+2.0**
	comp=Z,6.9nm,0.9s,mb4.1						
CMAR	**Chiang Mai Arr**	**22.17**	**258**	P	**P**	**19 32 53.5**	**+0.6**
	comp=Z,3.8nm,0.9s,mb3.8,baz=63,slow=8.3,SNR=12						
GTA	**Gaotai**	**23.68**	**314**	P	**P**	**19 33 08.2**	**+0.7**
GTA				AP		19 33 15.6	
GTA				XP		19 33 19.2	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb3.9						
HIA	**Hailar**	**24.60**	**357**	P	**P**	**19 33 14.2**	**-2.2**
	comp=Z,16nm,1.1s,mb4.5						
SONM	**Songino Array**	**26.16**	**336**	P	**P**	**19 33 31.4**	**+0.3**
	comp=Z,4.8nm,0.9s,mb4.0,baz=129,slow=7.9,SNR=19						
LSA	**Lhasa**	**27.72**	**287**	*e*P	**P**	**19 33 46.4**	**+0.8**
LSA	**Lhasa**	**27.72**	**287**	*e*P	**P**	**19 33 45.2**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.2						
TLY	**Talaya**	**30.35**	**337**	P	**P**	**19 34 08.3**	**-0.6**
	comp=Z,4.0nm,0.9s,mb4.2						
JIRN	**Jiri**	**32.08**	**283**	*e*P	**P**	**19 34 24.0**	**-0.4**
	comp=Z,13nm,0.9s,mb4.8						
KKN	**Kakani**	**32.88**	**283**	*e*P	**P**	**19 34 30.1**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8						
DMN	**Daman**	**33.04**	**283**	*e*P	**P**	**19 34 31.0**	**-1.8**
	comp=Z,7.9nm,0.8s,mb4.7						
GKN	**Gorkha**	**33.44**	**284**	*e*P	**P**	**19 34 35.1**	**-1.1**
	comp=Z,4.3nm,0.5s,mb4.6						
WMQ	**Urumqi**	**33.76**	**313**	*e*P	**P**	**19 34 39.0**	**+0.1**
WMQ				AP	pP	19 34 43.0	+1.5
WMQ				XP	sP	19 34 46.0	+3.3
WMQ				PP	PP	19 35 52.0	+0.1
WMQ				PCP	PcP	19 37 18.0	-0.4
WMQ				*e*S	**S**	**19 40 02.0**	**+0.6**
WMQ				XS		19 40 09.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,204nm,3.9s						
WMQ				LR	LR		
	comp=N,913nm,16.7s,MS4.8						
WMQ				LR	LR		
	comp=E,1µm,17.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,828nm,15.2s,MS4.6						
KOLN	**Koldanda**	**34.37**	**284**	*e*P	**P**	**19 34 43.1**	**-1.2**
ZAL	**Zalesovo**	**40.17**	**326**	P	**P**	**19 35 31.7**	**-1.1**
	comp=Z,1.1nm,0.5s,mb3.8,baz=355,slow=8.5,SNR=7.4						
MBWA	**Marble Bar**	**45.61**	**183**	P	**P**	**19 36 11.4**	**-6.0**
	comp=Z,49nm,1.5s,mb5.2						
WRAB	**Tennant Creek**	**45.98**	**164**	*e*P	**P**	**19 36 20.9**	**+0.6**
	comp=Z,13nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**45.98**	**164**	P	**P**	**19 36 18.5**	**-1.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=346,slow=8.7,SNR=13						
BVAR	**Borovoye Array**	**47.68**	**320**	P	**P**	**19 36 33.2**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=108,slow=8.4,SNR=9.6						
CHKZ	**Chkalovo**	**47.73**	**321**	*e*P	**P**	**19 36 32.8**	**-1.1**
	comp=Z,3.9nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**49.45**	**165**	P	**P**	**19 36 47.7**	**+0.2**
	comp=Z,0.5nm,0.4s,mb3.9,baz=24,slow=12,SNR=11						
CTA	**Charters Tower**	**50.44**	**150**	P	**P**	**19 36 56.6**	**+1.6**
	comp=Z,4.4nm,0.8s,mb4.6,baz=328,slow=9.5,SNR=8.3						
CTAO	**Charters Tower**	**50.44**	**150**	P	**P**	**19 36 52.1**	**-3.0**
	comp=Z,7.1nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**59.31**	**160**	P	**P**	**19 37 60.0**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=287,slow=11,SNR=3.6						
MALT	**Malatya**	**70.23**	**304**	P	**P**	**19 39 10.6**	**+0.4**
	comp=Z,5.2nm,1.4s,mb4.3						
FINES	**FINESS Array B**	**71.33**	**330**	P	**P**	**19 39 14.7**	**-1.9**
	comp=Z,2.4nm,1.0s,mb4.1,baz=56,slow=8.2,SNR=8.0						
SUW	**Suwalki**	**75.28**	**323**	*e*P	**P**	**19 39 37.0**	**-2.7**
	comp=Z,28nm,1.5s,mb5.0						
NOA	**NORSAR Array B**	**78.08**	**332**	P	**P**	**19 39 53.7**	**-1.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=68,slow=4.8,SNR=3.3						
YKA	**Yellowknife Ar**	**82.28**	**23**	P	**P**	**19 40 15.7**	**-1.9**
	comp=Z,0.2nm,0.5s,mb3.3,baz=312,slow=4.9,SNR=3.8						
YKA	**Yellowknife Ar**	**82.28**	**23**	P	**P**	**19 40 15.7**	**-1.9**
GERES	**GERESS Array B**	**82.85**	**321**	P	**P**	**19 40 20.9**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,slow=1.3,SNR=4.2						

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*JMA **05** 19:44:23.0±0.2, 24.91N×121.84E, h39km, M2.7*
TAP 05 19:44:22.3, 24.65N×121.82E, h10km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.10**	**100**	P	Pb	19 44 43.1	+0.1
YOJ				S	Sb	19 44 57.8	+0.6
IRIF	**Iriomote-Funau**	**1.77**	**100**	P	Pn	19 44 52.5	-0.8
IRIF				*e*S	Sn	19 45 14.7	-1.3
HATJ	**Hateruma jima**	**1.90**	**108**	*e*S	Sn	19 45 18.7	-0.8
JKRS	**Kuro-shima**	**2.04**	**101**	P	Pn	19 44 56.8	-0.3
JKRS				S	Sn	19 45 21.6	-1.2
JIJ	**Ishigaki jima**	**2.13**	**97**	P	Pn	19 44 58.0	-0.5
JIJ				S	Sn	19 45 22.7	-2.6

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*IDC **05** 19:45:03.0±3.4, 40.28N×48.36E, mb3.6/3, mb1 3.6/5, mb1mx3.4/18, mbtmp3.5/5, ML4.0/1, Error ellipse: s-maj=71.0km s-min=16.0km az=158.0*
*CSEM **05** 19:45:02.9±0.2, 39.90N×48.58E, h20km, ML3.5*
*THR **05** 19:45:04.5±0.3, 39.87N×48.44E, h22km±6km, ML3.2*
*TEH **05** 19:45:06.2, 39.71N×48.49E, h10km, Mn3.5*
ISC 05 19:45:03.9±0.6**, 39.95N**±0.05×**48.66E**±0.07**, h33km, n25, σ1s06**/26**, mb3.5**/3**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**1.28**	**208**	*e*PG	**P**	**19 45 25.5**	**-0.1**
GRMI				*e*SG	**S**	**19 45 40.8**	**-1.1**
GRMI				AML	AML	19 45 42.4	
	comp=N,1µm,0.2s						
IHRS	**Heris**	**2.06**	**218**	Pn	**Pn**	**19 45 37.2**	**+0.3**
IBST	**Bostanabad**	**2.64**	**212**	Pn	**Pn**	**19 45 45.4**	**+0.2**
IBST	**Bostanabad**	**2.64**	**212**	Pn	**Pn**	**19 45 45.4**	**+0.2**
ISHB	**Shabestar**	**2.89**	**236**	Pn	**Pn**	**19 45 48.0**	**-0.8**
ISHB	**Shabestar**	**2.89**	**236**	Pn	**Pn**	**19 45 48.0**	**-0.8**
GNI	**Garni**	**3.01**	**275**	Pn	**Pn**	**19 45 52.5**	**+2.0**
	comp=N,1.7nm,0.3s,baz=335,slow=3.3,SNR=12						
GNI				Lg		19 46 29.5	
	comp=N,9.5nm,0.3s,baz=53,slow=3.6,SNR=5.9						
MAKU	**Maku**	**3.13**	**260**	*e*PN	**Pn**	**19 45 52.3**	**+0.2**
MAKU				AML	AML	19 46 49.7	
	comp=N,32nm,0.5s						
IRAZ	**Razeghan**	**4.65**	**167**	Sn	**Sn**	**19 47 02.7**	**-4.5**
IPRN	**Paran-Amol**	**4.66**	**142**	Pn	**Pn**	**19 46 14.2**	**+0.4**
IPRN	**Paran-Amol**	**4.66**	**142**	Pn	**Pn**	**19 46 14.2**	**+0.4**
IAFJ	**Afjeh**	**4.75**	**148**	Pn	**Pn**	**19 46 15.8**	**+0.7**
IAFJ	**Afjeh**	**4.75**	**148**	Sn	**Sn**	**19 47 06.3**	**-3.4**
SNGE	**Sanandaj**	**4.96**	**193**	*e*PN	**Pn**	**19 46 18.6**	**+0.5**
IDMV	**Damavand**	**5.12**	**147**	Pn	**Pn**	**19 46 20.6**	**+0.3**
IDMV	**Damavand**	**5.12**	**147**	Pn	**Pn**	**19 46 21.9**	**+1.6**
IGLO	**Galoogah**	**5.27**	**132**	Pn	**Pn**	**19 46 23.4**	**+1.0**
IGLO	**Galoogah**	**5.27**	**132**	Pn	**Pn**	**19 46 23.4**	**+1.0**
IFIR	**Firoozkooh**	**5.38**	**142**	Pn	**Pn**	**19 46 24.5**	**+0.4**
IFIR	**Firoozkooh**	**5.38**	**142**	Pn	**Pn**	**19 46 25.4**	**+1.3**
IFIR	**Firoozkooh**	**5.38**	**142**	Sn	**Sn**	**19 47 22.0**	**-3.7**
BVAR	**Borovoye Array**	**19.77**	**41**	P	**P**	**19 49 33.5**	**-0.2**
	comp=N,0.4nm,0.3s,baz=225,slow=8.9,SNR=8.2						
FINES	**FINESS Array B**	**25.58**	**335**	P	**P**	**19 50 30.0**	**-1.2**
	comp=N,0.5nm,0.6s,mb3.2,baz=149,slow=11,SNR=7.9						
ARCES	**ARCESS Array B**	**32.08**	**345**	P	**P**	**19 51 28.6**	**-1.0**
	comp=N,2.0nm,0.9s,mb4.0,baz=144,slow=12,SNR=2.4						
YKA	**Yellowknife Ar**	**77.02**	**352**	P	**P**	**19 56 54.1**	**-0.3**
	comp=N,0.2nm,0.5s,mb3.3,baz=8.1,slow=5.3,SNR=5.1						

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*JMA **05** 19:45:34.0±0.3, 25.03N×121.89E, h34km*
TAP 05 19:45:32.4, 24.65N×121.78E, h9km, ML3.0, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.14**	**99**	P	Pb	19 45 54.4	+0.6
YOJ				S	Sb	19 46 09.0	+0.5
IRIF	**Iriomote-Funau**	**1.80**	**100**	P	Pn	19 46 03.6	-0.4
IRIF				S	Sn	19 46 25.5	-1.7
HATJ	**Hateruma jima**	**1.94**	**107**	P	Pn	19 46 06.6	+0.7
JKRS	**Kuro-shima**	**2.07**	**101**	P	Pn	19 46 07.8	0.0
JKRS				*e*S	Sn	19 46 33.4	-0.6

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*JMA **05** 19:54:03.1±0.3, 25.07N×121.93E, h21km, M2.7*
TAP 05 19:54:03.1, 24.66N×121.81E, h11km, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.11**	**100**	P	Pb	19 54 23.9	+0.1
YOJ				S	Sb	19 54 39.1	+1.0
IRIF	**Iriomote-Funau**	**1.78**	**100**	P	Pn	19 54 33.6	-0.5
IRIF				S	Sn	19 54 55.2	-1.6
JKRS	**Kuro-shima**	**2.05**	**101**	P	Pn	19 54 37.8	-0.1
JKRS				S	Sn	19 55 02.3	-1.3
JIJ	**Ishigaki jima**	**2.15**	**97**	P	Pn	19 54 38.7	-0.6
JIJ				S	Sn	19 55 03.8	-2.3

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*NEIC **05** 19:54:55.9±1.5, 24.72N×122.24E, h10km, mb4.4/1, ML4.2(TAP), Error ellipse: s-maj=20.5km s-min=14.5km az=172.0*
NEIC Recorded [4 TAP] in I-lan and [1 TAP] in Hua-lien and T'ai-pei Counties.
*JMA **05** 19:55:01.7±0.4, 24.90N×121.84E, h34km, M3.9*
*TAP **05** 19:55:01.2, 24.67N×121.82E, h13km, ML4.0*
TAP Felt III J at Suao, II J at Neicheng, II J at Nioudou, III J at Nanau, I J, I J at Sanguang, I J at Nanshan.
ISC 05 19:55:02.0±0.2**, 24.68N**±0.01×**121.86E**±0.02**, h13km, n62, σ1s01**/94**, 5C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**186**	⇓*i*P	**Pg**	**19 55 04.3**	**-0.5**
EGS		**0.17**	**23**	⇑*i*P	**Pg**	**19 55 06.6**	**+0.4**
EGS				S	**Sg**	**19 55 09.1**	**+0.1**
TWE	**Neicheng**	**0.18**	**282**	⇓*i*P	**Pg**	**19 55 05.5**	**-0.8**
TWE				S	**Sg**	**19 55 07.7**	**-1.4**
ENTT	**Nioudou**	**0.27**	**261**	⇓*i*P	**Pg**	**19 55 06.9**	**-0.9**
ENTT				S	**Sg**	**19 55 09.4**	**-2.4**
ENA	**Nanau**	**0.28**	**203**	⇑*i*P	**Pg**	**19 55 07.3**	**-0.7**
ENA				S	**Sg**	**19 55 10.9**	**-1.1**
TWB1	**Santiao Chiao**	**0.34**	**20**	⇑*i*P	**Pg**	**19 55 09.3**	**0.0**
TWB1				S	**Sg**	**19 55 13.9**	**-0.2**
TWA	**Mucha**	**0.39**	**320**	⇓*i*P	**Pg**	**19 55 10.0**	**-0.1**
TWA				S	**Sg**	**19 55 15.0**	**-0.5**
NWF	**Wu-fen Shan**	**0.39**	**350**	⇓*i*P	**Pg**	**19 55 10.4**	**+0.2**
NWF				S	**Sg**	**19 55 15.6**	**0.0**
YHNB	**Yeheng**	**0.44**	**268**	*e*Pg	**Pg**	**19 55 10.0**	**-1.1**
YHNB				*e*Sg	**Sg**	**19 55 14.3**	**-2.8**
TATO	**Taipei**	**0.44**	**311**	*e*Pg	**Pg**	**19 55 10.7**	**-0.5**
TATO				*e*Sg	**Sg**	**19 55 15.5**	**-1.8**
NSK	**Sanguang**	**0.46**	**269**	⇓*i*P	**Pg**	**19 55 10.3**	**-1.1**
NSK				S	**Sg**	**19 55 15.5**	**-2.2**
TAP1	**Taipei**	**0.47**	**319**	⇓*i*P	**Pb**	**19 55 11.8**	**+0.2**
TAP1				S	**Sg**	**19 55 18.1**	**+0.1**
TAP	**Taipei**	**0.48**	**318**	⇓*i*P	**Pb**	**19 55 11.9**	**+0.1**
TAP				S	**Sg**	**19 55 18.1**	**-0.3**
NNS	**Nan Shan**	**0.50**	**241**	⇑*i*P	**Pb**	**19 55 11.0**	**-1.2**
NNS				S	**Sb**	**19 55 17.9**	**-1.3**
NACB	**Ninganchiao**	**0.56**	**205**	*e*Pg	**Pg**	**19 55 11.8**	**-1.6**
NACB				*e*Sg	**Sg**	**19 55 17.8**	**-3.3**
TWS1	**Kuangyinshan**	**0.58**	**316**	⇓*i*P	**Pb**	**19 55 14.2**	**+0.7**
TWS1				S	**Sb**	**19 55 21.3**	**0.0**
TWY	**Chenhua**	**0.63**	**338**	⇓*i*P	**Pb**	**19 55 15.0**	**+0.5**
TWY				S	**Sb**	**19 55 23.0**	**0.0**
TWD	**Chiawan**	**0.65**	**202**	P	**Pb**	**19 55 13.9**	**-0.7**
TWD				S	**Sb**	**19 55 21.9**	**-1.4**
NCU	**National Centr**	**0.67**	**295**	⇓P	**Pb**	**19 55 16.1**	**+0.9**
NCU				S	**Sb**	**19 55 25.6**	**+1.5**
HWA	**Hwalien**	**0.74**	**198**	*e*P	**Pb**	**19 55 16.1**	**-0.2**
HWA				S	**Sb**	**19 55 26.1**	**0.0**
TWT	**Tachien**	**0.76**	**236**	*e*P	**Pb**	**19 55 15.4**	**-1.2**
TWT				S	**Sb**	**19 55 26.6**	**+0.1**
NSTT	**Nanjuang**	**0.78**	**266**	⇓P	**Pb**	**19 55 16.9**	**-0.1**
ESL	**Shilin**	**0.95**	**204**	⇑P	**Pb**	**19 55 19.1**	**-0.8**
ESL				S	**Sb**	**19 55 31.6**	**-0.5**
PCYT	**Pengchaiyu**	**0.96**	**12**	*e*P	**Pb**	**19 55 20.7**	**+0.6**
PCYT				S	**Sb**	**19 55 34.1**	**+1.6**
NSY	**Sanyi**	**1.03**	**255**	*e*P	**Pb**	**19 55 22.1**	**+0.8**
NSY				S	**Sb**	**19 55 34.7**	**+0.1**
TWQ1	**Liyutan**	**1.04**	**252**	*e*P	**Pb**	**19 55 21.9**	**+0.5**
TWQ1				S	**Sb**	**19 55 35.2**	**+0.3**
YOJ	**Yonaguni jima**	**1.07**	**102**	P	**Pb**	**19 55 21.8**	**-0.2**
YOJ				S	**Sb**	**19 55 36.7**	**+1.0**
SMLT	**Sun Moon Lake**	**1.18**	**228**	*e*P	**Pb**	**19 55 23.5**	**-0.4**
SMLT				S	**Sb**	**19 55 40.6**	**+1.6**
TYC	**Yuchr**	**1.20**	**230**	*e*P	**Pb**	**19 55 23.7**	**-0.5**
TCU	**Taichung**	**1.20**	**244**	*e*P	**Pb**	**19 55 25.2**	**+1.0**
TCU				S	**Sb**	**19 55 40.2**	**+0.8**
EHY	**Hungye**	**1.27**	**203**	*e*P	**Pb**	**19 55 24.9**	**-0.4**
WNT	**Mingjian**	**1.34**	**233**	*e*P	**Pb**	**19 55 27.5**	**+1.0**
TWF1	**Yuli**	**1.42**	**201**	*e*P	**Pn**	**19 55 27.7**	**0.0**
TWF1				S	**Sb**	**19 55 46.4**	**+0.5**
YUS	**Yu-Shan**	**1.45**	**215**	*e*P	**Pn**	**19 55 28.3**	**+0.2**
ALS	**Alishan**	**1.51**	**220**	*e*P	**Pn**	**19 55 29.9**	**+0.9**
CHN5	**Tsauling**	**1.53**	**225**	*e*P	**Pn**	**19 55 30.0**	**+0.7**
WGK	**Gukeng**	**1.54**	**230**	*e*P	**Pn**	**19 55 30.6**	**+1.1**
CHKT	**Chengkung**	**1.64**	**196**	*e*P	**Pn**	**19 55 30.5**	**-0.4**
ELDTW	**Lidau**	**1.68**	**208**	*e*P	**Pn**	**19 55 31.0**	**-0.4**
CHN2	**Minshiung**	**1.71**	**228**	*e*P	**Pn**	**19 55 34.0**	**+2.2**
IRIF	**Iriomote-Funau**	**1.74**	**101**	P	**Pn**	**19 55 31.2**	**-1.1**
IRIF				S	**Sn**	**19 55 53.0**	**-1.5**
CHN4	**Tsaushan**	**1.76**	**221**	*e*P	**Pn**	**19 55 34.8**	**+2.2**
CHY	**Chiayi**	**1.76**	**228**	*e*P	**Pn**	**19 55 33.2**	**+0.6**
STYT	**Tauyuan**	**1.82**	**214**	*e*P	**Pn**	**19 55 34.7**	**+1.3**
WSF	**Szhu**	**1.82**	**235**	*e*P	**Pn**	**19 55 33.3**	**-0.2**
WSF				S	**Sn**	**19 55 56.9**	**+0.3**
WTP	**Ta-pu**	**1.83**	**219**	*e*P	**Pn**	**19 55 35.4**	**+1.8**
HATJ	**Hateruma jima**	**1.88**	**109**	P	**Pn**	**19 55 34.3**	**0.0**
TWK	**Hsinying**	**1.89**	**222**	*e*P	**Pn**	**19 55 36.1**	**+1.7**
CHN1	**Nanshi**	**1.93**	**219**	*e*P	**Pn**	**19 55 36.5**	**+1.5**
SGST	**Jiashian**	**1.98**	**216**	*e*P	**Pn**	**19 55 36.7**	**+1.1**
TWG	**Pinlang**	**1.99**	**201**	*e*P	**Pn**	**19 55 36.1**	**+0.2**
CHN8	**Yiju**	**2.01**	**229**	*e*P	**Pn**	**19 55 36.2**	**0.0**
JKRS	**Kuro-shima**	**2.01**	**102**	P	**Pn**	**19 55 35.5**	**-0.6**
JKRS				S	**Sn**	**19 56 00.4**	**-0.9**
CHN3	**Shinhua**	**2.10**	**221**	*e*P	**Pn**	**19 55 39.8**	**+2.3**
JIJ	**Ishigaki jima**	**2.10**	**98**	P	**Pn**	**19 55 36.4**	**-1.1**
JIJ				*e*S	**Sn**	**19 56 01.3**	**-2.5**
SSD	**Sandimen**	**2.23**	**210**	*e*P	**Pn**	**19 55 40.3**	**+1.0**
ECL	**Taimali**	**2.24**	**202**	*e*P	**Pn**	**19 55 39.5**	**+0.1**
TWM1	**Shoushan**	**2.27**	**216**	*e*P	**Pn**	**19 55 41.4**	**+1.5**
WDGT	**Dungji**	**2.46**	**235**	*e*P	**Pn**	**19 55 42.0**	**-0.6**
EAST	**Anshuo**	**2.47**	**202**	*e*P	**Pn**	**19 55 44.4**	**+1.6**
SCZT	**Fangliau**	**2.57**	**207**	*e*P	**Pn**	**19 55 44.5**	**+0.4**
JTJ	**Tarama**	**2.59**	**90**	P	**Pn**	**19 55 44.2**	**-0.2**

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*JMA **05** 19:57:35.7±0.2, 24.96N×121.87E, h33km, M2.9*
*TAP **05** 19:57:35.2, 24.67N×121.82E, h9km±1km, ML3.5*
TAP Felt II J at Suao, II J at Neicheng, I J at Nioudou, III J at Nanau.
ISC 05 19:57:36.0±0.3**, 24.67N**±0.02×**121.88E**±0.02**, h9km, n47, σ1s05**/61**, 4C-5D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.07**	**201**	⇓*i*P	**Pg**	**19 57 37.8**	**-0.3**
EGS		**0.18**	**17**	*i* P	**Pg**	**19 57 40.5**	**+0.6**
EGS				S	**Sg**	**19 57 43.1**	**+0.6**
TWE	**Neicheng**	**0.20**	**284**	⇑*i*P	**Pg**	**19 57 39.5**	**-0.7**
TWE				S	**Sg**	**19 57 42.0**	**-1.1**
ENA	**Nanau**	**0.27**	**207**	⇓*i*P	**Pg**	**19 57 41.2**	**-0.5**
ENA				S	**Sg**	**19 57 44.5**	**-1.1**
ENTT	**Nioudou**	**0.28**	**263**	⇑*i*P	**Pg**	**19 57 41.0**	**-0.9**
TWB1	**Santiao Chiao**	**0.35**	**17**	⇓*i*P	**Pg**	**19 57 43.1**	**0.0**
TWB1				S	**Sg**	**19 57 47.8**	**-0.2**
NWF	**Wu-fen Shan**	**0.40**	**348**	⇓*i*P	**Pg**	**19 57 44.4**	**+0.2**
NWF				S	**Sg**	**19 57 49.8**	**+0.1**
TWA	**Mucha**	**0.40**	**319**	⇓*i*P	**Pg**	**19 57 44.1**	**-0.1**
TWA				S	**Sg**	**19 57 49.3**	**-0.5**
NSK	**Sanguang**	**0.47**	**270**	⇑*i*P	**Pg**	**19 57 44.5**	**-1.1**
TAP1	**Taipei**	**0.48**	**319**	P	**Pg**	**19 57 45.9**	**+0.1**
TAP1				S	**Sg**	**19 57 51.9**	**-0.5**
TAP	**Taipei**	**0.49**	**317**	P	**Pg**	**19 57 46.0**	**0.0**
TAP				S	**Sg**	**19 57 52.6**	**-0.1**
NNS	**Nan Shan**	**0.51**	**243**	⇑P	**Pg**	**19 57 45.1**	**-1.3**
NNS				S	**Sg**	**19 57 51.6**	**-1.7**
TWS1	**Kuangyinshan**	**0.59**	**316**	*e*P	**Pg**	**19 57 48.1**	**+0.1**
TWS1				S	**Sg**	**19 57 56.1**	**+0.1**
TWD	**Chiawan**	**0.64**	**203**	P	**Pb**	**19 57 47.8**	**-1.2**
TWD				S	**Sg**	**19 57 55.9**	**-1.7**
TWY	**Chenhua**	**0.65**	**337**	*e*P	**Pb**	**19 57 49.0**	**-0.1**
NCU	**National Centr**	**0.69**	**295**	*e*P	**Pb**	**19 57 50.3**	**+0.5**
HWA	**Hwalien**	**0.74**	**200**	*e*P	**Pb**	**19 57 50.1**	**-0.4**
TWT	**Tachien**	**0.76**	**237**	*e*P	**Pb**	**19 57 50.3**	**-0.7**
NSTT	**Nanjuang**	**0.80**	**267**	*e*P	**Pb**	**19 57 50.6**	**-0.9**
ESL	**Shilin**	**0.95**	**205**	*e*P	**Pb**	**19 57 53.0**	**-1.1**
PCYT	**Pengchaiyu**	**0.97**	**11**	*e*P	**Pb**	**19 57 54.7**	**+0.2**
NSY	**Sanyi**	**1.05**	**256**	*e*P	**Pb**	**19 57 56.6**	**+0.8**
YOJ	**Yonaguni jima**	**1.05**	**101**	P	**Pb**	**19 57 55.9**	**-0.1**
YOJ				S	**Sb**	**19 58 10.6**	**+1.0**
TWQ1	**Liyutan**	**1.06**	**252**	*e*P	**Pb**	**19 57 55.8**	**-0.2**
SMLT	**Sun Moon Lake**	**1.19**	**229**	*e*P	**Pb**	**19 57 57.4**	**-0.9**
TYC	**Yuchr**	**1.21**	**231**	*e*P	**Pb**	**19 57 57.9**	**-0.6**
EHY	**Hungye**	**1.27**	**204**	*e*P	**Pb**	**19 57 59.0**	**-0.6**
WNT	**Mingjian**	**1.35**	**234**	*e*P	**Pb**	**19 58 02.3**	**+1.4**
TWF1	**Yuli**	**1.42**	**202**	*e*P	**Pn**	**19 58 01.0**	**-1.0**
YUS	**Yu-Shan**	**1.45**	**216**	*e*P	**Pn**	**19 58 02.9**	**+0.4**
ALS	**Alishan**	**1.52**	**220**	*e*P	**Pn**	**19 58 04.6**	**+1.2**
CHN5	**Tsauling**	**1.53**	**226**	*e*P	**Pn**	**19 58 05.3**	**+1.6**
WGK	**Gukeng**	**1.55**	**231**	*e*P	**Pn**	**19 58 04.6**	**+0.7**
ELDTW	**Lidau**	**1.67**	**208**	*e*P	**Pn**	**19 58 06.0**	**+0.3**
IRIF	**Iriomote-Funau**	**1.72**	**101**	P	**Pn**	**19 58 05.5**	**-0.9**
CHN4	**Tsaushan**	**1.76**	**222**	*e*P	**Pn**	**19 58 09.2**	**+2.3**
CHY	**Chiayi**	**1.77**	**229**	*e*P	**Pn**	**19 58 09.0**	**+2.0**
STYT	**Tauyuan**	**1.82**	**214**	*e*P	**Pn**	**19 58 09.3**	**+1.6**
WSF	**Szhu**	**1.83**	**236**	*e*P	**Pn**	**19 58 07.7**	**-0.2**
WTP	**Ta-pu**	**1.83**	**219**	*e*P	**Pn**	**19 58 10.3**	**+2.4**
TWK	**Hsinying**	**1.89**	**222**	*e*P	**Pn**	**19 58 10.7**	**+1.9**
CHN1	**Nanshi**	**1.93**	**220**	*e*P	**Pn**	**19 58 11.6**	**+2.3**
SGST	**Jiashian**	**1.98**	**217**	*e*P	**Pn**	**19 58 11.9**	**+1.8**
TWG	**Pinlang**	**1.99**	**202**	*e*P	**Pn**	**19 58 11.4**	**+1.2**
JKRS	**Kuro-shima**	**1.99**	**102**	P	**Pn**	**19 58 09.7**	**-0.5**
JKRS				S	**Sn**	**19 58 34.3**	**-1.2**
JIJ	**Ishigaki jima**	**2.09**	**98**	P	**Pn**	**19 58 10.7**	**-0.9**
JIJ				S	**Sn**	**19 58 35.6**	**-2.3**
SSD	**Sandimen**	**2.23**	**211**	*e*P	**Pn**	**19 58 15.9**	**+2.2**

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*BJI **05** 20:01:22.9, 16.31N×145.74E, h553km, mB5.4, mb4.3*
*NEIC **05** 20:01:23.9±1.7, 16.33N×145.57E, h540km±20km, mb4.2/33, Error ellipse: s-maj=11.2km s-min=6.1km az=90.0*
*IDC **05** 20:01:24.9±2.7, 16.31N×145.64E, h548km±33km, mb3.6/15, mb1 3.8/15, mb1mx3.7/20, mbtmp4.5/15, Error ellipse: s-maj=17.4km s-min=10.2km az=87.0*
ISC 05 20:01:22.5±1.9**, 16.31N**±0.05×**145.56E**±0.08**, h536km**±25km**, n70, σ0s96**/67**, mb4.2**/52**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**21.18**	**343**	*e*P	**P**	**20 05 29.6**	**-1.4**
	6.0nm,0.5s,mb4.5						
MAT	**Matsushiro**	**21.18**	**343**	*e*P	**P**	**20 05 30.0**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.9nm,0.5s,mb4.4						
MAT	Matsushiro	21.18	343	P	P	20 05 30.0	-1.0
PMG	Port Moresby	25.60	176	P	P	20 06 10.4	-0.6
	22nm,1.0s,mb4.7,baz=329,slow=12,SNR=5.6						
PMG	Port Moresby	25.60	176	P	P	20 06 10.4	-0.6
	20nm,0.7s,mb4.9						
ENH	Enshi	35.76	299	eP	P	20 07 39.1	+1.5
	3.8nm,0.7s,mb4.0						
CTA	Charters Tower	36.18	179	eP	P	20 07 41.3	+0.2
	4.9nm,0.8s,mb4.1						
CTA	Charters Tower	36.18	179	P	P	20 07 41.8	+0.7
	5.9nm,0.8s,mb4.2,baz=347,slow=8.4,SNR=10.0						
CTAO	Charters Tower	36.18	179	eP	P	20 07 41.7	+0.5
WRAB	Tennant Creek	37.67	197	P	P	20 07 53.0	-0.3
	155nm,0.6s,SNR=12						
WRAB	Tennant Creek	37.67	197	eP	P	20 07 53.4	+0.1
	25nm,0.6s,mb4.9						
WRA	Warramunga Arr	37.68	197	P	P	20 07 53.9	+0.5
	12nm,0.6s,mb4.6,baz=22,slow=8.8,SNR=178						
WRA				PcP	PcP	20 09 57.1	-0.1
	1.9nm,0.7s,baz=14,slow=3.3,SNR=6.8						
HHC	Hu-ho-hao-te	38.21	317	eP	P	20 07 57.4	0.0
HHC				AP	pP	20 09 31.3	-1.6
HHC				PP	PP	20 09 37.9	-0.1
HHC				S	S	20 13 11.4	-2.7
HHC				XS		20 16 04.2	
HHC				SCS	ScS	20 17 04.1	-1.8
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,976nm,13.1s						
HIA	Hailar	39.00	333	eP	P	20 08 04.5	+0.7
	comp=Z,5.8nm,0.9s,mb4.1						
FITZ	Fitzroy Crossi	39.43	211	eP	P	20 08 07.5	-0.1
	comp=Z,9.5nm,0.6s,mb4.5						
ASAR	Alice Springs	41.34	196	P	P	20 08 22.9	+0.1
	comp=Z,6.2nm,0.8s,mb4.2,baz=18,slow=7.9,SNR=72						
ASAR				PcP	PcP	20 10 09.2	+0.1
	comp=Z,1.0nm,0.6s,baz=19,slow=4.1,SNR=5.8						
ASPA	Alice Springs	41.34	196	eP	P	20 08 23.1	+0.2
FX1	Attu Island--F	42.46	25	P	P	20 08 32.8	+1.3
	comp=Z,9.6nm,0.6s,mb4.5,baz=263,slow=15,SNR=6.3						
MA2	Magadan	43.37	4	eP	P	20 08 38.5	0.0
	comp=Z,8.2nm,1.0s,mb4.2						
CM31	Chiang Mai Arr	44.45	280	eP	P	20 08 45.0	-2.5
	comp=Z,2.3nm,0.5s,mb4.0						
CMAR	Chiang Mai Arr	44.45	280	P	P	20 08 49.1	+1.6
	comp=Z,1.6nm,0.4s,mb3.9,baz=76,slow=6.4,SNR=24						
ULN	Ulaanbaatar	44.58	323	eP	P	20 08 49.1	+0.9
	comp=Z,3.5nm,0.6s,mb4.1						
SONM	Songino Array	44.94	323	P	P	20 08 52.0	+1.1
	comp=Z,2.4nm,0.4s,mb4.0,baz=139,slow=6.8,SNR=31						
SONM				PcP	PcP	20 10 20.8	-0.4
	comp=Z,1.2nm,0.9s,baz=162,slow=3.9,SNR=4.5						
MBWA	Marble Bar	45.05	215	eP	P	20 08 51.6	-0.5
	comp=Z,37nm,1.4s,mb4.7						
YAK	Yakutsk	47.03	350	eP	P	20 09 05.8	-0.9
	comp=Z,16nm,0.6s,mb4.7						
STKA	Stephens Creek	48.06	185	eP	P	20 09 14.2	-0.8
	comp=Z,1.7nm,0.4s,mb3.9						
STKA	Stephens Creek	48.06	185	P	P	20 09 14.3	-0.7
	comp=Z,2.1nm,0.5s,mb4.0,baz=300,slow=18,SNR=16						
FORT	Forrest	49.76	200	eP	P	20 09 27.2	-0.5
	comp=Z,160nm,0.5s						
LSA	Lhasa	51.41	295	eP	P	20 09 41.9	+2.1
	comp=Z,7.9nm,0.8s,mb4.1						
BILL	Bilibino	53.38	10	eP	P	20 09 52.6	-0.8
	comp=Z,6.7nm,0.9s,mb4.0						
KLBR	Kellerberrin	54.60	209	eP	P	20 10 01.4	-1.1
	comp=Z,30nm,0.6s,mb4.7						
MUN	Mundaring	55.66	210	eP	P	20 10 09.4	-0.4
	comp=Z,6.7nm,0.6s,mb4.0						
JIRN	Jiri	55.75	293	eP	P	20 10 11.4	+0.9
	comp=Z,11nm,0.7s,mb4.2						
PKI	Pulchoki	56.45	292	eP	P	20 10 15.6	+0.3
	comp=Z,3.6nm,0.3s,mb4.0						
KKN	Kakani	56.55	293	eP	P	20 10 16.5	+0.4
	comp=Z,7.4nm,0.9s,mb3.9						
DMN	Daman	56.71	293	eP	P	20 10 17.6	+0.4
	comp=Z,3.4nm,0.4s,mb3.9						
GKN	Gorkha	57.11	293	eP	P	20 10 20.1	+0.2
	comp=Z,19nm,1.0s,mb4.3						
KOLN	Koldanda	58.04	293	eP	P	20 10 26.5	+0.3
	comp=Z,7.1nm,0.8s,mb3.9						
ZAL	Zalesovo	59.84	323	P	P	20 10 37.5	-0.3
	comp=Z,1.1nm,0.7s,mb3.3,baz=11,slow=5.9,SNR=6.7						
KURK	Kurchatov	62.96	319	P	P	20 10 58.7	+0.5
	comp=Z,76nm,0.7s,mb5.2,SNR=13						
KURK	Kurchatov	62.96	319	eP	P	20 10 58.1	-0.1
	comp=Z,12nm,0.9s,mb4.3						
MCK	McKinley	64.71	27	eP	P	20 11 08.4	-0.7
	comp=Z,1.7nm,0.8s,mb3.5						
AAK	Ala-Archa	65.27	310	P	P	20 11 12.9	-0.1
	comp=Z,1.3nm,0.9s,mb3.4						
COLA	College	65.46	26	eP	P	20 11 12.5	-1.2
	comp=Z,3.6nm,0.6s,mb4.0						
ILAR	Eielson Array	65.83	26	P	P	20 11 14.5	-1.6
	comp=Z,4.7nm,0.5s,mb4.3,baz=251,slow=5.7,SNR=115						
THY	Trims Highway	66.03	27	eP	P	20 11 16.9	-0.3
CHKZ	Chkalovo	68.12	322	eP	P	20 11 29.8	-0.5
	comp=Z,3.5nm,0.8s,mb3.9						
INK	Inuvik	71.61	23	eP	P	20 11 50.3	-0.4
	comp=Z,7.9nm,0.9s,mb4.1						
DLBC	Dease Lake	73.34	33	eP	P	20 12 01.8	+1.0
YKA	Yellowknife Ar	80.15	28	P	P	20 12 37.7	+0.2
	comp=Z,2.3nm,0.6s,mb3.7,baz=288,slow=5.4,SNR=45						
YKA	Yellowknife Ar	80.15	28	P	P	20 12 37.7	+0.2
RES	Resolute Bay	81.76	14	eP	P	20 12 46.1	+0.6
	comp=Z,3.9nm,0.7s,mb4.0						
RES				e		20 12 53.4	
NEW	Newport	82.76	42	eP	P	20 12 51.4	+0.3
	comp=Z,2.2nm,0.6s,mb3.9						
CMB	Columbia Colle	83.24	52	eP	P	20 12 54.4	+0.7
	comp=Z,2.0nm,0.7s,mb3.8						
EDM	Edmonton	83.57	36	eP	P	20 12 55.0	-0.1
BMO	Blue Mountains	83.60	45	eP	P	20 12 56.0	+0.6
	comp=Z,8.2nm,1.0s,mb4.2						
KEV	Kevo	84.15	342	ep	P	20 12 54.8	-2.7
NVAR	Mina Array Bea	84.71	52	P	P	20 13 02.5	+1.5
	comp=Z,3.1nm,0.7s,mb4.0,baz=268,slow=4.4,SNR=21						
ARCES	ARCESS Array B	84.71	342	P	P	20 13 00.6	+0.4
	comp=Z,2.7nm,0.6s,mb4.0,baz=68,slow=6.0,SNR=16						
TPH	Tonopah	85.63	52	eP	P	20 13 06.6	+1.2
	comp=Z,3.6nm,0.7s,mb4.1						
HLID	Hailey	85.97	46	eP	P	20 13 07.8	+0.9
	comp=Z,5.4nm,0.9s,mb4.2						
JOF	Joensuu	86.12	335	ep	P	20 13 05.4	-1.7
	comp=Z,3.9nm,0.5s,mb4.3						
HWUT	Hardware Ranch	88.61	47	eP	P	20 13 20.2	+0.9
	comp=Z,4.5nm,0.6s,mb4.5						
FINES	FINESS Array B	88.99	335	P	P	20 13 19.8	-0.8
	comp=Z,4.4nm,0.6s,mb4.5,baz=66,slow=5.5,SNR=51						
PDAR	Pinedale Array	89.58	45	P	P	20 13 24.6	+0.7
	comp=Z,0.8nm,0.7s,mb3.7,baz=246,slow=2.1,SNR=8.4						
FCC	Fort Churchill	90.84	27	eP	P	20 13 26.9	-2.3
	comp=Z,2.9nm,1.3s,mb4.0						
DBIC	Dimbokro	142.87	306	PKP	PKPdf	20 19 55.1	-0.5
	comp=Z,3.0nm,0.6s,baz=19,slow=5.9,SNR=16						
LVC	Limon Verde	146.95	106	ePKPdf	PKPdf	20 20 05.4	+3.1
LVC				ePKPbc	PKPbc	20 20 08.4	+3.8
LPAZ	La Paz	147.68	95	PKPbc	PKPdf	20 20 10.5	+6.9
	comp=Z,2.5nm,0.7s,baz=320,slow=3.2,SNR=12						
LPAZ	La Paz	147.68	95	ePKPdf	PKPdf	20 20 06.7	+3.1
LPAZ				ePKPbc	PKPdf	20 20 10.5	+6.9

*NEIC **05** 20:27:17.9, 31.64S×68.81W, h2km, mb4.3/6, MD4.0(SJA), ML4.0(GUC), After GUC.*
NEIC Felt [III] at San Juan.
GUC 05 20:27:17.9±0.9**, 31.64S×68.81W, h2**km±7km**, MD4.1, ML4.0, 3C-1D, San Juan Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.15	50	⇑iP	Pg	20 27 21.2	+0.3
ZON				eS	Sg	20 27 26.6	+3.6
JACH	Jahuel	1.83	235	eP	Pn	20 27 49.4	-1.2
JACH				i S	Sn	20 28 14.8	+0.1
FCH	Farellones	2.09	216	eP	Pn	20 27 53.7	-0.7
FCH				i S	Sn	20 28 21.7	+0.4
FCH				AMP		20 28 35.5	
	comp=E,441nm,0.5s						
PEL	Peldehue	2.18	226	eP	Pn	20 27 56.1	+0.5
PEL				i S	Sn	20 28 29.1	+5.5
TLL	Tololo Astrono	2.26	310	⇑iP	Pn	20 27 57.7	+1.0
TLL				i S	Sn	20 28 27.8	+2.3
TLL				AMP		20 28 38.1	
	comp=N,3µm,0.6s						
CLCH	Cerro Calan	2.27	219	⇑iP	Pn	20 27 57.2	+0.2
CLCH				i S	Sn	20 28 27.6	+1.6
CLCH				AMP		20 28 43.0	
	comp=E,1µm,0.6s						
ROCH	El Roble	2.28	234	eP	Pn	20 27 57.6	+0.5
DSCH	Colegio Aleman	2.29	220	eP	Pn	20 27 57.8	+0.5
DSCH				i S	Sn	20 28 27.4	+1.0
DSCH				AMP		20 28 35.4	
	comp=N,2µm,0.5s						
PACH	Papudo	2.40	248	⇓iP	Pn	20 27 59.3	+0.5
PACH				i S	Sn	20 28 30.7	+1.6
PCH	Pirque	2.44	216	eP	Pn	20 28 00.4	+1.1
PCH				i S	Sn	20 28 32.2	+2.0
LMEL	Las Melosas	2.49	208	eP	Pn	20 28 01.0	+0.9
LMEL				i S	Sn	20 28 33.6	+2.1
LMEL				AMP		20 28 41.0	
	comp=N,257nm,0.7s						
RCDM	Rinconada Maip	2.49	222	eP	Pn	20 28 01.1	+1.0
RCDM				AMP		20 28 38.3	
	comp=E,598nm,0.3s						
CHCH	Chadas Angostu	2.76	214	eP	Pn	20 28 04.5	+0.5
LCCH	Las Cruces	2.96	231	eP	Pn	20 28 07.6	+0.8
LCO	Las Campanas	3.09	328	eP	Pn	20 28 08.9	+0.2
LCO				AMP		20 28 56.1	
	comp=E,796nm,0.3s						
SFDO	San Fernando	3.49	211	eP	Pn	20 28 14.2	-0.2
TRQA	Tornquist	8.51	141	ePn	P	20 29 18.5	-6.5
TRQA				eSn	Sn	20 30 43.1	-20
LVC	Limon Verde	9.00	359	ePn	P	20 29 26.1	-5.7
LPAZ	La Paz	15.30	2	eP	P	20 30 54.4	-2.3
	comp=E,2.2nm,0.8s						
SAML	Samuel	23.18	14	eP	P	20 32 22.6	-4.4
	comp=E,15nm,1.5s						
SDV	Santo Domingo	40.34	357	P	P	20 34 55.7	-3.0
	comp=E,1.4nm,0.7s						
JTS	JuntasAbangare	44.47	337	P	P	20 35 36.2	+3.7
	comp=E,9.9nm,1.1s						
SJG	San Juan	49.53	3	P	P	20 36 08.9	-3.4
	comp=E,14nm,0.9s						
QSPA	South Pole Qui	58.59	180	eP	P	20 37 12.5	-5.5
	comp=E,1.6nm,0.6s						

*JMA **05** 20:35:13.6±0.2, 24.89N×121.84E, h48km*
TAP 05 20:35:13.8, 24.66N×121.83E, h6km**, ML2.8, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.09	100	P	Pb	20 35 33.6	-1.2
YOJ				S	Sb	20 35 48.2	-0.9
IRIF	Iriomote-Funau	1.76	100	P	Pn	20 35 42.8	-2.4
IRIF				eS	Sn	20 36 04.4	-3.8
JKRS	Kuro-shima	2.03	102	P	Pn	20 35 47.1	-1.9
JKRS				eS	Sn	20 36 12.2	-2.8
JIJ	Ishigaki jima	2.13	97	P	Pn	20 35 48.3	-2.1
JIJ				eS	Sn	20 36 13.3	-4.2

*JMA **05** 20:36:02.1±0.4, 25.02N×121.86E, h42km*
TAP 05 20:36:01.5, 24.65N×121.77E, h6km**, ML3.0, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.15	99	P	Pb	20 36 22.6	-0.7
YOJ				eS	Sb	20 36 37.6	-0.6
IRIF	Iriomote-Funau	1.81	100	P	Pn	20 36 31.7	-1.8
IRIF				eS	Sn	20 36 53.7	-3.3
JKRS	Kuro-shima	2.08	101	P	Pn	20 36 36.3	-1.0
JKRS				eS	Sn	20 37 01.1	-2.8
JIJ	Ishigaki jima	2.18	97	P	Pn	20 36 37.0	-1.8
JIJ				eS	Sn	20 37 01.6	-4.8

NEIC 05 20:43:45.7±2.8**, 42.50N×126.04W, h10**km**, mb3.3**/2**, 1C, Error ellipse: s-maj=33.3km s-min=10.4km az=79.0, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBO	Dodson Butte	2.15	72	⇑P	Pn	20 44 21.3	-0.8
HUMO	Hull Mountain	2.28	86	P	Pn	20 44 23.1	-0.9
HSO	Harness Mounta	2.39	64	P	Pn	20 44 24.5	-1.1
YBH	Yreka Blue Hor	2.59	106	eP	Pn	20 44 27.6	-0.9
HBO	Huckleberry Mo	3.03	62	P	Pn	20 44 34.3	-0.5
IRO	Indian Ridge	3.15	60	P	Pn	20 44 35.6	-0.7
BROR	Big Rock Looko	3.15	55	P	Pn	20 44 35.2	-1.2
FRIS	Frissel Point	3.34	58	P	Pn	20 44 38.3	-0.9
HUOR	Husband	3.46	61	P	Pn	20 44 40.3	-0.5
SSOR	Sweet Springs	3.50	47	P	Pn	20 44 40.3	-1.1
TDH	Tom, Dick, Har	4.15	46	P	Pn	20 44 49.2	-1.3
BMO	Blue Mountains	6.75	67	eP	Pn	20 45 25.2	-2.2
SDCO	Great Sand Dun	16.40	100	P	P	20 47 36.4	-1.1
	0.9nm,0.6s						
FFC	Flin Flon	19.95	44	eP	P	20 48 17.3	-3.2
	1.8nm,0.7s						
WMOK	Wichita Mounta	22.60	101	P	P	20 48 46.7	-0.9

*NEIC **05** 20:45:00.9±0.7, 28.30S×67.42W, h113km±7km, mb4.3/17, Error ellipse: s-maj=10.8km s-min=7.8km az=63.0*
*IDC **05** 20:45:00.1±2.8, 28.33S×67.40W, h111km±22km, mb3.8/11, mb1 3.9/14, mb1mx3.8/20, mbtmp4.1/14, Error ellipse: s-maj=25.0km s-min=19.0km az=55.0*
*GUC **05** 20:45:02.4±1.0, 28.14S×67.76W, h150km, ML4.7*
ISC 05 20:44:59.9±0.9**, 28.27S**±0.05×**67.47W**±0.07**, h117**km±8km**, n51, σ1^{s}04**/52**, mb4.2**/25**, 5C, La Rioja Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	2.71	289	⇑iP	P	20 45 43.5	+0.4
CPCH				i S	S	20 46 13.9	-2.0
CPCH				AMP		20 46 16.2	
	comp=E,8µm,0.2s						
VACH	Vallenar	2.92	263	⇑iP	P	20 45 46.6	+0.7
VACH				i S	S	20 46 19.7	-1.0
LCO	Las Campanas	2.94	255	⇑iP	P	20 45 47.3	+1.1
LCO				i S	S	20 46 21.4	+0.1
LCO				AMP		20 46 23.0	
	comp=N,1µm,0.3s						
TLL	Tololo Astrono	3.48	236	⇑iP	P	20 45 54.1	+0.7
TLL				i S	S	20 46 35.1	+0.9
TLL				AMP		20 46 40.5	
	comp=N,733nm,0.5s						
LVC	Limon Verde	5.78	347	P	P	20 46 26.3	+1.8
	comp=N,5.2nm,0.3s,baz=178,slow=9.2,SNR=47						
LVC				S	S	20 47 30.3	+0.2
	comp=N,2.5nm,0.3s,baz=196,slow=11,SNR=4.8						
LVC	Limon Verde	5.78	347	ePn	P	20 46 26.2	+1.7
	comp=N,12nm,0.3s						
LVC				eSn	S	20 47 24.7	-5.4
TRQA	Tornquist	10.79	156	eP	P	20 47 31.4	-0.6
LPAZ	La Paz	11.94	357	P	P	20 47 47.8	+0.5
	comp=N,0.2nm,0.3s,baz=203,slow=7.7,SNR=5.4						
PLCA	Paso Flores	12.69	191	P	P	20 47 55.2	-1.9
	comp=N,0.1nm,0.3s,baz=58,slow=23,SNR=3.3						
SAML	Samuel	19.64	13	eP	P	20 49 21.1	-0.6
	comp=N,9.5nm,0.7s						
BDFB	Brasilia	21.95	59	P	P	20 49 44.7	-0.2
	comp=N,2.4nm,0.4s,mb3.9,baz=229,slow=12,SNR=5.9						
SDV	Santo Domingo	37.06	355	P	P	20 51 55.5	-4.9
	comp=N,4.9nm,0.8s,mb4.5						
JTS	JuntasAbangare	41.90	334	P	P	20 52 39.8	-0.6
	comp=N,6.7nm,1.0s,mb4.3						
SJG	San Juan	46.12	2	P	P	20 53 11.5	-2.9
TEIG	Tepich	52.24	335	eP	P	20 54 00.1	-1.2
	comp=N,6.7nm,0.5s,mb4.9						
SWET	Sewanee	65.50	343	eP	P	20 55 31.4	-1.5
LTX	Lajitas	66.93	326	P	P	20 55 40.3	-1.7
	comp=N,3.4nm,0.7s,mb4.3						
TXAR	Lajitas Array	66.93	326	P	P	20 55 41.9	-0.1
	comp=N,0.7nm,0.7s,mb3.6,baz=149,slow=7.4,SNR=8.1						
MIAR	Mount Ida	67.17	337	eP	P	20 55 41.5	-2.0
	comp=N,2.2nm,0.6s,mb4.2						
WMOK	Wichita Mounta	69.30	333	P	P	20 55 52.7	-3.9
	comp=N,2.2nm,1.0s,mb3.9						
DBIC	Dimbokro	69.59	70	P	P	20 55 58.0	-0.7
	comp=N,1.9nm,0.4s,mb4.3,baz=198,slow=6.8,SNR=8.5						
DBIC	Dimbokro	69.59	70	eP	P	20 55 57.6	-1.0
	comp=N,2.7nm,0.6s,mb4.2						
SYO	Syowa Base	69.74	158	⇑P	P	20 55 57.5	-1.2
ANMO	Albuquerque	72.87	327	P	P	20 56 18.1	+0.2
	comp=N,1.6nm,0.8s,mb3.9,baz=121,slow=6.7,SNR=4.9						
ANMO	Albuquerque	72.87	327	eP	P	20 56 17.9	0.0
	comp=N,1.5nm,0.7s,mb3.9						
SADO	Sadowa	73.46	351	P	P	20 56 19.9	-1.2
	comp=N,2.4nm,0.5s,mb4.3,baz=319,slow=6.7,SNR=3.8						
SDCO	Great Sand Dun	74.72	330	eP	P	20 56 29.1	+0.6
	comp=N,1.3nm,0.6s,mb3.8						
WUAZ	Wupatki	75.76	324	eP	P	20 56 35.5	+1.0
	comp=N,42nm,0.7s,mb5.3						
PV01	Paradox Valley	76.44	328	P	P	20 56 39.9	+1.6
ISCO	Idaho Springs	76.46	331	eP	P	20 56 38.3	0.0
	comp=N,2.6nm,0.8s,mb4.0						
PV10	Paradox Valley	76.86	328	eP	P	20 56 41.0	+0.4
TSUM	Tsumeb	76.94	105	eP	P	20 56 42.5	+1.1
	comp=N,6.6nm,1.3s,mb4.2						
MSU	Marysvale	78.48	326	eP	P	20 56 51.0	+1.4
HWUT	Hardware Ranch	80.59	328	eP	P	20 57 01.1	+0.3
	comp=N,10nm,1.0s,mb4.6						
PDAR	Pinedale Array	80.60	330	P	P	20 57 01.0	+0.1
	comp=N,1.6nm,0.6s,mb4.0,baz=127,slow=7.4,SNR=16						
LBTB	Lobatse	81.06	113	eP	P	20 57 04.2	+0.5
	comp=N,3.3nm,0.7s,mb4.3						
NVAR	Mina Array Bea	81.61	322	P	P	20 57 06.8	+0.6
	comp=N,0.9nm,0.8s,mb3.6,baz=141,slow=6.7,SNR=4.9						
ELK	Elko	81.71	325	P	P	20 57 07.0	+0.3
	comp=N,1.6nm,0.7s,mb4.0,baz=140,slow=3.1,SNR=8.8						
ULM	Lac du Bonnet	82.13	342	P	P	20 57 07.6	-1.1
	comp=N,0.7nm,0.4s,mb3.8,baz=150,slow=4.7,SNR=3.4						
YMR	Madison River	82.73	330	eP	P	20 57 12.8	+0.9
HLID	Hailey	83.44	328	eP	P	20 57 16.7	+1.3
	comp=N,5.0nm,1.0s,mb4.3						
MCMT	McKenzie Canyo	83.69	329	eP	P	20 57 18.0	+1.3
YBH	Yreka Blue Hor	86.33	322	P	P	20 57 29.7	-0.1
	comp=N,6.1nm,1.3s,mb4.4,baz=102,slow=4.7,SNR=3.6						
WALA	Waterton Lakes	87.42	331	P	P	20 57 34.9	0.0
MBAR	Mbarara	96.95	94	P	P	20 58 21.1	+1.3
	comp=N,1.2nm,0.8s,mb4.4						
YKA	Yellowknife Ar	97.97	340	P	P	20 58 23.2	0.0
	comp=N,0.5nm,0.7s,mb4.2,baz=140,slow=4.4,SNR=16						
ASAR	Alice Springs	124.41	204	PKP	PKPdf	21 03 46.0	+0.4
	comp=N,1.6nm,0.5s,baz=137,slow=1.9,SNR=36						
WRA	Warramunga Arr	127.64	206	PKP	PKPdf	21 03 52.9	+0.9
	comp=N,2.5nm,0.6s,baz=167,slow=1.7,SNR=37						
KURK	Kurchatov	146.00	39	ePKPdf	PKPdf	21 04 26.8	+2.3
AAK	Ala-Archa	146.16	55	ePKPdf	PKPdf	21 04 27.0	+2.0
ZAL	Zalesovo	147.31	31	PKPbc	PKPdf	21 04 29.1	+2.5
	comp=N,6.8nm,0.4s,baz=164,slow=3.4,SNR=25						

IDC 05 20:49:12.2±1.1**, 11.80N×92.28E, mb3.6**/5**, mb1 3.8**/6**, mb1mx3.6**/16**, mbtmp3.5**/6**, Error ellipse: s-maj=50.1km s-min=21.1km az=54.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.23	43	Pn	P	20 51 26.0	-3.6
	baz=230,slow=14,SNR=5.2						
ZAL	Zalesovo	42.45	353	P	P	20 57 09.9	-0.5
	0.7nm,0.8s,baz=313,slow=16,SNR=3.7						
WRA	Warramunga Arr	52.05	127	P	P	20 58 23.3	-2.9
	0.3nm,0.6s,baz=301,slow=9.9,SNR=7.5						
WRA				PcP	PcP	20 59 36.6	-2.0
	0.4nm,1.0s,baz=316,slow=3.1,SNR=9.5						
ASAR	Alice Springs	53.84	131	P	P	20 58 37.2	-2.2
	0.3nm,0.5s,baz=305,slow=6.7,SNR=8.5						
ASAR				PcP	PcP	20 59 44.0	-1.3
	0.3nm,0.6s,baz=306,slow=3.2,SNR=4.3						
FINES	FINESS Array B	68.41	332	P	P	21 00 14.7	-3.0
	0.8nm,0.8s,baz=90,slow=4.2,SNR=2.5						
FINES				pP	pP	21 00 22.8	+5.1
	1.0nm,0.7s,baz=135,slow=5.4,SNR=2.6						
GERES	GERESS Array B	73.70	318	P	P	21 00 48.3	-1.5
	0.3nm,0.7s,baz=82,slow=6.9,SNR=4.1						

*JMA **05** 21:05:30.5±0.3, 25.10N×121.94E, h33km, M2.4*
TAP 05 21:05:28.8, 24.64N×121.76E, h8km**, ML2.9, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.15	99	P	Pb	21 05 50.9	+0.3
YOJ				eS	Sb	21 06 05.8	+0.2
IRIF	Iriomote-Funau	1.82	99	P	Pn	21 05 59.9	-0.9
IRIF				eS	Sn	21 06 21.7	-2.6
HATJ	Hateruma jima	1.95	107	eS	Sn	21 06 27.1	-0.6
JKRS	Kuro-shima	2.09	101	P	Pn	21 06 04.6	0.0
JKRS				eS	Sn	21 06 29.3	-1.8
JIJ	Ishigaki jima	2.19	97	P	Pn	21 06 05.3	-0.8
JIJ				eS	Sn	21 06 30.4	-3.2

*NIED **05** 21:06:00, 24.80N×121.90E, h32km, Mw4.2 Best double couple: $M_0$2.19×10[15] NP1:ϕ_s251°, δ67°, λ-50°. NP2:ϕ_s6°, δ46°, λ-146°.*
*JMA **05** 21:06:12.5±0.2, 24.84N×121.88E, h43km, M3.8*
*TAP **05** 21:06:12.9, 24.66N×121.87E, h5km±1km, ML4.1*
TAP Felt IV J at Suao, II J at Neicheng, IV J at Nanau, II J at Nioudou, I J at Sanguang, I J at Nanshan, I J at Tachien.
*NEIC **05** 21:06:13.7±1.5, 24.64N×121.78E, h10km, mb3.8/3, Error ellipse: s-maj=20.9km s-min=10.8km az=89.0*
NEIC Recorded [5 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in T'ao-yuan Counties.
ISC 05 21:06:12.0±0.2**, 24.67N**±0.02×**121.94E**±0.02**, h5**km**, n69, σ1^{s}12**/92**, mb3.6**/3**, 6C-10D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.10	232	⇓iP	Pg	21 06 14.4	+0.2
EGS		0.17	358	⇓iP	Pg	21 06 16.7	+1.2
EGS				S	Sg	21 06 19.4	+1.6
TWE	Neicheng	0.25	281	⇑iP	Pg	21 06 16.7	-0.4
TWE				S	Sg	21 06 19.3	-1.2
ENA	Nanau	0.30	216	⇓iP	Pg	21 06 18.0	-0.1
ENA				S	Sg	21 06 21.5	-0.7
TWB1	Santiao Chiao	0.34	8	⇓iP	Pg	21 06 19.5	+0.7
TWB1				S	Sg	21 06 23.9	+0.6
ENTT	Nioudou	0.34	264	⇑iP	Pg	21 06 18.2	-0.6
NWF	Wu-fen Shan	0.42	340	⇓iP	Pg	21 06 20.9	+0.5
TWA	Mucha	0.44	313	⇓iP	Pg	21 06 21.0	+0.1
TWA				S	Sg	21 06 26.4	-0.5
TATO	Taipei	0.51	306	ePg	Pg	21 06 21.7	-0.4
TATO				eSg	Sg	21 06 27.2	-1.7
YHNB	Yeheng	0.51	270	ePg	Pg	21 06 21.2	-1.0
YHNB				eSg	Sg	21 06 24.8	-4.3
TAP1	Taipei	0.52	314	⇓iP	Pg	21 06 22.9	+0.5
TAP1				S	Sg	21 06 28.7	-0.7
NSK	Sanguang	0.53	270	⇑iP	Pg	21 06 21.6	-0.9
NSK				S	Sg	21 06 27.3	-2.3
TAP	Taipei	0.54	313	⇓iP	Pg	21 06 22.9	+0.2
TAP				S	Sg	21 06 29.4	-0.4
NNS	Nan Shan	0.56	246	⇑iP	Pg	21 06 22.2	-1.0
NNS				S	Sg	21 06 29.1	-1.8
NACB	Ninganchiao	0.59	212	ePg	Pg	21 06 23.0	-0.7
NACB				eSg	Sg	21 06 30.4	-1.2
TWS1	Kuangyinshan	0.64	312	⇓iP	Pg	21 06 25.4	+0.7
TWS1				S	Sg	21 06 33.0	-0.2
TWD	Chiawan	0.67	208	eP	Pg	21 06 24.6	-0.8
TWD				S	Sg	21 06 33.0	-1.2
TWY	Chenhua	0.67	333	⇓iP	Pg	21 06 25.8	+0.4
NCU	National Centr	0.74	294	eP	Pg	21 06 27.2	+0.4
HWA	Hwalien	0.76	204	eP	Pg	21 06 26.6	-0.5
HWA				S	Sg	21 06 36.8	-0.5
TWT	Tachien	0.81	239	eP	Pb	21 06 27.2	-0.9
NSTT	Nanjuang	0.85	267	⇑P	Pb	21 06 28.2	-0.7
PCYT	Pengchaiyu	0.96	7	i P	Pb	21 06 31.1	+0.5
ESL	Shilin	0.97	208	eP	Pb	21 06 30.0	-0.9
YOJ	Yonaguni jima	1.00	102	P	Pb	21 06 31.8	+0.4
YOJ				S	Sb	21 06 45.8	+1.2
NSY	Sanyi	1.10	257	⇑P	Pb	21 06 33.6	+0.5
TWQ1	Liyutan	1.11	253	eP	Pb	21 06 33.1	-0.1
SMLT	Sun Moon Lake	1.23	231	eP	Pb	21 06 34.6	-0.7
TYC	Yuchr	1.25	232	eP	Pb	21 06 34.7	-1.0
TCU	Taichung	1.27	246	eP	Pb	21 06 36.4	+0.5
TCU				S	Sb	21 06 53.7	+1.3
EHY	Hungye	1.29	206	eP	Pb	21 06 35.8	-0.6
WNT	Mingjian	1.39	236	eP	Pb	21 06 39.1	+1.0
TWF1	Yuli	1.44	204	eP	Pn	21 06 38.7	-0.1
YUS	Yu-Shan	1.48	218	eP	Pn	21 06 39.4	0.0
ALS	Alishan	1.55	222	eP	Pn	21 06 40.9	+0.5
CHN5	Tsauling	1.57	227	eP	Pn	21 06 41.8	+1.1
CHN5				S	Sb	21 07 02.3	+1.0
WGK	Gukeng	1.60	232	eP	Pn	21 06 42.5	+1.5
CHKT	Chengkung	1.65	199	eP	Pn	21 06 39.8	-2.1
IRIF	Iriomote-Funau	1.67	101	P	Pn	21 06 41.2	-0.8

IRIF				eS	Sb	21 07 02.7	-1.3
ELDTW	**Lidau**	**1.70**	**210**	eP	**Pn**	**21 06 42.7**	**+0.2**
CHN2	**Minshiung**	**1.75**	**230**	eP	**Pn**	**21 06 44.9**	**+1.6**
CHN4	**Tsaushan**	**1.80**	**223**	eP	**Pn**	**21 06 45.8**	**+1.8**
HATJ	**Hateruma jima**	**1.81**	**109**	P	**Pn**	**21 06 43.8**	**-0.3**
HATJ				eS	**Sn**	**21 07 06.9**	**-0.8**
CHY	**Chiayi**	**1.81**	**230**	eP	**Pn**	**21 06 45.2**	**+1.1**
STYT	**Tauyuan**	**1.85**	**216**	eP	**Pn**	**21 06 45.9**	**+1.2**
WTP	**Ta-pu**	**1.87**	**221**	eP	**Pn**	**21 06 46.9**	**+2.0**
WSF	**Szhu**	**1.88**	**237**	eP	**Pn**	**21 06 45.0**	**0.0**
TWK	**Hsinying**	**1.93**	**224**	eP	**Pn**	**21 06 48.0**	**+2.2**
JKRS	**Kuro-shima**	**1.94**	**103**	P	**Pn**	**21 06 45.5**	**-0.4**
JKRS				eS	**Sn**	**21 07 09.5**	**-1.4**
CHN1	**Nanshi**	**1.96**	**221**	eP	**Pn**	**21 06 47.9**	**+1.6**
TWG	**Pinlang**	**2.01**	**203**	eP	**Pn**	**21 06 47.1**	**+0.2**
SGST	**Jiashian**	**2.01**	**218**	eP	**Pn**	**21 06 49.0**	**+2.0**
JIJ	**Ishigaki jima**	**2.03**	**98**	P	**Pn**	**21 06 46.1**	**-1.2**
JIJ				eS	**Sn**	**21 07 10.7**	**-2.6**
CHN8	**Yiju**	**2.06**	**230**	eP	**Pn**	**21 06 48.3**	**+0.7**
CHN3	**Shinhua**	**2.15**	**222**	eP	**Pn**	**21 06 51.8**	**+2.9**
SCLT	**Jiali**	**2.19**	**227**	eP	**Pn**	**21 06 51.3**	**+1.8**
ECL	**Taimali**	**2.26**	**204**	eP	**Pn**	**21 06 51.0**	**+0.5**
SSD	**Sandimen**	**2.26**	**212**	eP	**Pn**	**21 06 51.9**	**+1.4**
TWM1	**Shoushan**	**2.31**	**217**	eP	**Pn**	**21 06 54.3**	**+3.1**
PNG	**Penghu**	**2.44**	**244**	eP	**Pn**	**21 06 51.8**	**-1.3**
EAST	**Anshuo**	**2.49**	**204**	eP	**Pn**	**21 06 55.4**	**+1.5**
JTJ	**Tarama**	**2.51**	**90**	P	**Pn**	**21 06 54.1**	**-0.1**
JTJ				eS	**Sn**	**21 07 24.2**	**-1.4**
WDGT	**Dungji**	**2.52**	**236**	eP	**Pn**	**21 06 53.7**	**-0.5**
SCZT	**Fangliau**	**2.59**	**208**	eP	**Pn**	**21 06 57.7**	**+2.4**
KNM	**Kinmen**	**3.20**	**266**	eP	**Pn**	**21 07 02.0**	**-2.0**
QIZ	**Qiongzhong**	**12.55**	**246**	P	**P**	**21 09 05.1**	**-9.1**
	72nm,1.3s						
ULN	**Ulaanbaatar**	**25.98**	**337**	P	**P**	**21 11 47.6**	**+0.4**
	2.4nm,1.1s,mb3.6						
TLY	**Talaya**	**30.38**	**337**	P	**P**	**21 12 24.9**	**-2.2**
	0.8nm,0.7s,mb3.6						
CHKZ	**Chkalovo**	**47.78**	**321**	P	**P**	**21 14 46.9**	**-5.1**
	0.7nm,0.8s,mb3.7						

*BJI **05** 21:22:45.5, 9.98S×115.98E, h67km, mb4.5*
*DJA **05** 21:22:45.2±0.8, 10.12S×115.38E, h33km, MD4.7/4, ML5.4/3, Error ellipse: s-maj=20.2km s-min=7.7km az=8.0*
*NEIC **05** 21:22:47.9±1.1, 9.90S×115.24E, h49km±10km, mb4.5/17, Error ellipse: s-maj=15.4km s-min=7.7km az=48.0*
*IDC **05** 21:22:51.5±6.8, 9.65S×115.50E, h69km±63km, mb3.8/7, mb1 4.0/7, mb1mx3.9/12, mbtmp4.1/7, Error ellipse: s-maj=47.8km s-min=22.0km az=50.0*
ISC 05 21:22:46.3±1.1**, 9.95S**±0.07×**115.33E**±0.06**, h56**km±9km**, n42, σ1^{s}15**/42**, mb4.5**/22**, 4C-6D, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**1.23**	**9**	⇑ePn	**P**	**21 23 07.1**	**-0.5**
KEDI	**Kedomdong**	**1.64**	**28**	⇑ePn	**P**	**21 23 13.8**	**+0.4**
	3µm,0.3s						
KEDI				⇓eSn	**S**	**21 23 32.5**	**-1.0**
SRDI	**Scrawed**	**1.87**	**321**	⇑ePn	**P**	**21 23 16.3**	**-0.3**
	3µm,0.2s						
SRDI				⇓eSn	**S**	**21 23 38.0**	**-1.0**
KELI	**Kelakatan**	**1.91**	**334**	⇓ePn	**P**	**21 23 17.4**	**+0.3**
	2µm,0.3s						
KELI				⇓eSn	**S**	**21 23 41.4**	**+1.5**
NINI	**Niniconang**	**7.03**	**39**	⇓eP	**P**	**21 24 29.8**	**+0.9**
TANI	**Tanete Lipujan**	**7.62**	**32**	⇓eP	**P**	**21 24 37.9**	**+0.8**
BUNI	**Buntu Taipa**	**7.97**	**39**	⇑eP	**P**	**21 24 43.1**	**+1.1**
MBWA	**Marble Bar**	**11.93**	**160**	eP	**P**	**21 25 31.9**	**-4.1**
	10.0nm,0.6s						
MBWA				eS	**S**	**21 27 34.1**	**-14**
FITZ	**Fitzroy Crossi**	**12.87**	**130**	eP	**P**	**21 25 46.9**	**-1.7**
	11nm,0.9s						
FITZ				eS	**S**	**21 28 02.9**	**-8.0**
WRA	**Warramunga Arr**	**20.86**	**121**	P	**P**	**21 27 27.8**	**+1.9**
	1.5nm,0.6s,baz=290,slow=12,SNR=9.4						
WRAB	**Tennant Creek**	**20.86**	**121**	eP	**P**	**21 27 25.2**	**-0.8**
	11nm,0.9s						
ASAR	**Alice Springs**	**22.37**	**130**	P	**P**	**21 27 44.9**	**+3.9**
	1.1nm,0.6s,mb3.5,baz=302,slow=9.1,SNR=11						
CMAR	**Chiang Mai Arr**	**32.53**	**330**	P	**P**	**21 29 15.9**	**+1.6**
	3.0nm,0.6s,mb4.4,baz=161,slow=8.2,SNR=16						
STKA	**Stephens Creek**	**32.67**	**136**	P	**P**	**21 29 16.6**	**+1.1**
ENH	**Enshi**	**40.38**	**352**	eP	**P**	**21 30 20.3**	**-0.2**
	3.2nm,0.8s,mb4.1						
LSA	**Lhasa**	**45.78**	**330**	eP	**P**	**21 31 05.8**	**+1.4**
LSA	**Lhasa**	**45.78**	**330**	eP	**P**	**21 31 04.8**	**+0.3**
	5.5nm,0.8s,mb4.5						
JIRN	**Jiri**	**46.84**	**324**	eP	**P**	**21 31 12.5**	**-0.3**
	26nm,0.7s,mb5.3						
PKI	**Pulchoki**	**47.24**	**323**	eP	**P**	**21 31 15.6**	**-0.3**
	5.6nm,0.5s,mb4.7						
DMN	**Daman**	**47.45**	**323**	eP	**P**	**21 31 17.1**	**-0.4**
	22nm,0.9s,mb5.1						
KKN	**Kakani**	**47.48**	**323**	eP	**P**	**21 31 17.3**	**-0.5**
	11nm,0.7s,mb4.9						
GKN	**Gorkha**	**48.02**	**323**	eP	**P**	**21 31 20.9**	**-1.1**
	20nm,0.9s,mb5.2						
KOLN	**Koldanda**	**48.47**	**322**	eP	**P**	**21 31 24.3**	**-1.2**
	13nm,0.8s,mb5.0						
MAJO	**Matsushiro**	**51.01**	**24**	eP	**P**	**21 31 39.3**	**-5.5**
	3.0nm,0.7s,mb4.3						
GTA	**Gaotai**	**51.18**	**345**	P	**P**	**21 31 46.4**	**+0.3**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
ULN	**Ulaanbaatar**	**58.02**	**353**	eP	**P**	**21 32 33.9**	**-1.9**
	comp=Z,1.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**58.07**	**353**	P	**P**	**21 32 35.0**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.3,baz=169,slow=6.3,SNR=4.7						
AAK	**Ala-Archa**	**64.26**	**328**	P	**P**	**21 33 18.1**	**+0.1**
KURK	**Kurchatov**	**68.31**	**336**	eP	**P**	**21 33 42.0**	**-1.5**
	comp=Z,1.2nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**68.69**	**341**	P	**P**	**21 33 44.9**	**-1.0**
	comp=Z,1.3nm,0.4s,mb4.2,baz=168,slow=5.2,SNR=5.3						
MA2	**Magadan**	**74.88**	**18**	P	**P**	**21 34 21.9**	**-0.6**
	comp=Z,2.2nm,0.6s,mb4.3						
KMBO	**Kilima Mbogo**	**78.06**	**271**	P	**P**	**21 34 44.5**	**+3.0**
	comp=Z,2.0nm,1.0s,mb4.0,baz=72,slow=3.6,SNR=6.2						
KMBO	**Kilima Mbogo**	**78.06**	**271**	eP	**P**	**21 34 44.0**	**+2.6**
	comp=Z,2.3nm,0.9s,mb4.1						
LSZ	**Lusaka**	**84.70**	**255**	P	**P**	**21 35 17.1**	**+0.9**
	comp=Z,8.3nm,1.5s,mb4.6						
BOSA	**Boshof**	**85.38**	**242**	eP	**P**	**21 35 22.5**	**+3.2**
	comp=Z,24nm,1.7s,mb5.0						
MALT	**Malatya**	**86.01**	**310**	eP	**P**	**21 35 24.1**	**+2.0**
	comp=Z,1.9nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**98.30**	**331**	P	**P**	**21 36 19.5**	**+0.8**
	comp=Z,0.7nm,0.6s,mb4.3,baz=104,slow=7.9,SNR=4.1						
YKA	**Yellowknife Ar**	**116.51**	**23**	PKP	PKPdf	21 41 26.6	+2.9
	comp=Z,0.6nm,0.9s,baz=319,slow=2.0,SNR=6.4						
YKA	**Yellowknife Ar**	**116.51**	**23**	PKP	PKPdf	21 41 26.6	+2.9
NVAR	**Mina Array Bea**	**124.40**	**50**	PKP	PKPdf	21 41 44.1	+4.5
	comp=Z,0.6nm,0.7s,baz=207,slow=4.0,SNR=4.0						
ACSO	**Alum Creek Sta**	**145.73**	**25**	ePKPdf	PKPdf	21 42 22.1	+3.3
WCI	**Wyandotte Cave**	**145.79**	**31**	ePKPdf	PKPdf	21 42 21.4	+2.4

MAN 05 21:50:30.9, 11.52N×125.58E, h4km, mb4.0, ML2.8, MS2.4, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.16**	**298**	eP	Pg	21 50 33.8	-0.4
PLP	**Palo**	**0.69**	**239**	eP	Pg	21 50 44.1	-0.6
PLP				eS	Sg	21 50 59.1	+5.2
MSLP	**Maasin**	**1.55**	**207**	eP	Pn	21 50 60.0	+0.5

DJA 05 22:28:31.0±0.9**, 10.01S×115.31E, h33**km**, MD4.7**/4**, ML4.5**/4**, 2C-5D, Error ellipse: s-maj=19.3km s-min=10.3km az=175.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**1.30**	**10**	⇓ePn	Pn	22 28 51.1	-2.0
	990nm,0.1s						
RATI				⇑eSn	Sn	22 29 05.6	-3.8
KEDI	**Kedomdong**	**1.71**	**28**	⇓ePn	Pn	22 28 57.8	-1.2
	272nm,0.2s						
KEDI				⇓eSn	Sn	22 29 17.7	-2.2
SRDI	**Scrawed**	**1.91**	**323**	⇑ePn	Pn	22 29 00.2	-1.7
	620nm,0.2s						
SRDI				⇓eSn	Sn	22 29 22.2	-2.8
KELI	**Kelakatan**	**1.96**	**336**	⇓ePn	Pn	22 29 01.3	-1.2
	130nm,0.2s						
KELI				eSn	Sn	22 29 23.6	-2.6

*JMA **05** 22:51:42.1±0.2, 25.19N×121.98E, h24km, M2.6*
TAP 05 22:51:42.1, 24.63N×121.76E, h6km, ML3.2, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.15**	**98**	P	Pb	22 52 03.2	-0.8
YOJ				eS	Sb	22 52 18.2	-0.8
IRIF	**Iriomote-Funau**	**1.82**	**99**	P	Pn	22 52 12.3	-1.9
IRIF				eS	Sn	22 52 34.8	-3.0
JKRS	**Kuro-shima**	**2.09**	**100**	P	Pn	22 52 16.5	-1.5
JKRS				eS	Sn	22 52 42.2	-2.4
JIJ	**Ishigaki jima**	**2.19**	**96**	P	Pn	22 52 17.2	-2.3

PGC 05 23:04:07.6, 48.29N×128.73W, h10km, MLSn3.2/1**, Mw3.8, Northern Juan de Fuca ridge., Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAYB	**Maynard**	**2.35**	**25**	Pn	Pn	23 04 44.4	-2.5
MAYB				Sn	Sn	23 05 12.3	-3.8
	comp=Z,8.0nm,0.3s						
MAYB				Trac		23 05 12.7	
	comp=Z,8.0nm,0.3s						
WOSB	**Woss**	**2.35**	**36**	Pn	Pn	23 04 44.6	-2.3
HOLB	**Holberg**	**2.39**	**9**	Pn	Pn	23 04 45.7	-1.7
HOLB				Sn	Sn	23 05 13.3	-3.7
	comp=Z,8.0nm,0.3s						
HOLB				Trac		23 05 15.1	
	comp=Z,8.0nm,0.3s						
BTB	**Buttle Lake**	**2.43**	**60**	Sn	Sn	23 05 14.8	-3.3
	comp=Z,10.0nm,0.4s						
BTB				Trac		23 05 17.1	
	comp=Z,10.0nm,0.4s						
PHC	**Port Hardy**	**2.57**	**19**	Trac		23 05 21.2	
	comp=Z,5.0nm,0.5s						
PHC	**Port Hardy**	**2.57**	**19**	Sn	Sn	23 05 16.2	-5.3
NCRB	**Newcastle Ridg**	**2.75**	**39**	Pn	Pn	23 04 50.6	-2.0
MGB	**Mount Grey**	**2.77**	**74**	Pn	Pn	23 04 50.4	-2.5
MGB				Sn	Sn	23 05 23.0	-3.8
	comp=Z,4.0nm,0.5s						
MGB				Trac		23 05 25.3	
	comp=Z,4.0nm,0.5s						
BBB	**Bella Bella**	**3.92**	**6**	Pn	Pn	23 05 06.8	-2.5
BBB				Sn	Sn	23 05 49.8	-6.1
BBB				Trac		23 05 51.2	
	comp=Z,15nm,0.5s						

TAP 05 23:18:41.0, 24.68N×121.85E, h7km±1km**, ML2.0, Taiwan**

*NIED **05** 23:19:00, 24.90N×121.90E, h5km, Mw4.0 Best double couple: Mo1.05×10^15 NP1:φs309°, δ85°, λ-20°. NP2:φs40°, δ70°, λ-174°.*
*JMA **05** 23:19:36.4±0.3, 24.85N×121.86E, h39km, M4.1*
*IDC **05** 23:19:36.0±2.0, 24.86N×122.28E, mb4.0/4, mb1 4.2/4, mb1mx3.9/18, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.9/17, Error ellipse: s-maj=293.5km s-min=22.0km az=69.0*
*TAP **05** 23:19:36.9, 24.66N×121.88E, h4km±1km, ML4.3*
TAP Felt III J at Suao, I J, IV J at Nanau, II J at Nioudou, I J at Santiao Chiao, I J at Sanguang, I J at Nanshan, I J at Jungli (National Central University).
*NEIC **05** 23:19:37.1±1.3, 24.53N×121.22E, h32km±10km, mb4.6/5, ML4.5(TAP), Error ellipse: s-maj=26.8km s-min=14.6km az=81.0*
NEIC Recorded [4 TAP] in I-lan; [2 TAP] in Hua-lien; [1 TAP] in T'ai-pei and T'ao-yuan Counties.
*BJI **05** 23:19:41.4, 24.78N×121.59E, h33km, mB4.7, mb4.3, ML4.2, Ms3.8, Msz3.3*
ISC 05 23:19:36.0±0.2**, 24.68N**±0.01×**121.96E**±0.02**, h4**km**, n78, σ1^{s}24**/103**, mb4.3**/9**, 8C-11D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.12**	**235**	⇓iP	**Pg**	**23 19 38.4**	**-0.2**
EGS		**0.17**	**351**	⇓iP	**Pg**	**23 19 40.7**	**+1.4**
EGS				S	**Sg**	**23 19 43.4**	**+1.8**
TWE	**Neicheng**	**0.27**	**279**	⇑iP	**Pg**	**23 19 40.7**	**-0.7**
ENA	**Nanau**	**0.32**	**218**	⇓iP	**Pg**	**23 19 42.1**	**-0.3**
ENA				S	**Sg**	**23 19 45.6**	**-1.2**
TWB1	**Santiao Chiao**	**0.33**	**5**	⇓iP	**Pg**	**23 19 43.5**	**+1.0**
TWB1				S	**Sg**	**23 19 48.0**	**+1.0**
ENTT	**Nioudou**	**0.36**	**264**	⇑iP	**Pg**	**23 19 42.2**	**-1.0**
NWF	**Wu-fen Shan**	**0.42**	**337**	⇓iP	**Pg**	**23 19 45.1**	**+0.7**
TWA	**Mucha**	**0.45**	**311**	⇓iP	**Pg**	**23 19 45.1**	**+0.1**
TWA				S	**Sg**	**23 19 50.5**	**-0.6**
TATO	**Taipei**	**0.52**	**305**	ePg	**Pg**	**23 19 46.1**	**-0.3**
TATO				eSg	**Sg**	**23 19 51.9**	**-1.5**
YHNB	**Yeheng**	**0.53**	**269**	ePg	**Pg**	**23 19 45.3**	**-1.3**
TAP1	**Taipei**	**0.53**	**312**	⇓iP	**Pg**	**23 19 47.0**	**+0.3**
TAP1				S	**Sg**	**23 19 53.4**	**-0.3**
TAP	**Taipei**	**0.55**	**311**	⇓iP	**Pg**	**23 19 47.1**	**+0.2**
TAP				S	**Sg**	**23 19 53.8**	**-0.4**
NSK	**Sanguang**	**0.55**	**270**	⇑iP	**Pg**	**23 19 45.8**	**-1.2**
NSK				S	**Sg**	**23 19 51.3**	**-2.9**
NNS	**Nan Shan**	**0.58**	**246**	⇑iP	**Pg**	**23 19 46.3**	**-1.4**
NNS				S	**Sg**	**23 19 53.8**	**-1.7**
NACB	**Ninganchiao**	**0.60**	**213**	ePg	**Pg**	**23 19 47.0**	**-1.1**
NACB				eSg	**Sg**	**23 19 55.1**	**-1.1**
TWS1	**Kuangyinshan**	**0.65**	**311**	⇓iP	**Pg**	**23 19 49.5**	**+0.6**
TWS1				S	**Sg**	**23 19 57.5**	**-0.1**
TWY	**Chenhua**	**0.68**	**331**	⇓iP	**Pg**	**23 19 49.9**	**+0.4**
TWD	**Chiawan**	**0.68**	**209**	⇓iP	**Pg**	**23 19 48.8**	**-0.9**
TWD				S	**Sg**	**23 19 57.0**	**-1.8**
NCU	**National Centr**	**0.76**	**292**	⇑P	**Pg**	**23 19 51.5**	**+0.3**
NCU				S	**Sg**	**23 20 02.7**	**+1.4**
HWA	**Hwalien**	**0.77**	**205**	eP	**Pg**	**23 19 50.1**	**-1.3**
TWT	**Tachien**	**0.83**	**239**	eP	**Pb**	**23 19 51.1**	**-1.5**
NSTT	**Nanjuang**	**0.87**	**267**	⇑iP	**Pb**	**23 19 52.4**	**-0.9**
PCYT	**Pengchaiyu**	**0.95**	**6**	i P	**Pb**	**23 19 55.3**	**+0.7**
YOJ	**Yonaguni jima**	**0.98**	**103**	P	**Pb**	**23 19 55.9**	**+0.7**
YOJ				S	**Sb**	**23 20 10.3**	**+2.0**
ESL	**Shilin**	**0.99**	**209**	eP	**Pb**	**23 19 54.3**	**-0.9**
NSY	**Sanyi**	**1.12**	**257**	eP	**Pb**	**23 19 57.6**	**+0.1**
NSY				S	**Sb**	**23 20 14.0**	**+1.7**
TWQ1	**Liyutan**	**1.13**	**253**	eP	**Pb**	**23 19 57.4**	**-0.3**
SMLT	**Sun Moon Lake**	**1.25**	**231**	⇑iP	**Pb**	**23 19 59.0**	**-0.8**
TYC	**Yuchr**	**1.27**	**233**	⇑iP	**Pb**	**23 19 59.1**	**-1.0**
TCU	**Taichung**	**1.28**	**246**	eP	**Pb**	**23 20 00.8**	**+0.5**
TCU				S	**Sb**	**23 20 18.4**	**+1.4**
EHY	**Hungye**	**1.31**	**207**	eP	**Pb**	**23 20 00.2**	**-0.5**
WNT	**Mingjian**	**1.41**	**236**	eP	**Pn**	**23 20 03.1**	**+0.6**
WNT				S	**Sb**	**23 20 23.2**	**+2.5**
TWF1	**Yuli**	**1.45**	**205**	eP	**Pn**	**23 20 03.0**	**-0.1**
YUS	**Yu-Shan**	**1.50**	**218**	eP	**Pn**	**23 20 03.4**	**-0.3**
ALS	**Alishan**	**1.57**	**222**	eP	**Pn**	**23 20 05.5**	**+0.7**
CHN5	**Tsauling**	**1.59**	**228**	eP	**Pn**	**23 20 05.9**	**+0.8**
CHN5				S	**Sb**	**23 20 27.2**	**+1.3**
WGK	**Gukeng**	**1.61**	**232**	eP	**Pn**	**23 20 06.2**	**+0.8**
IRIF	**Iriomote-Funau**	**1.65**	**102**	P	**Pn**	**23 20 05.4**	**-0.5**
IRIF				eS	**Sb**	**23 20 27.0**	**-0.6**
CHKT	**Chengkung**	**1.67**	**199**	eP	**Pn**	**23 20 05.5**	**-0.6**
ELDTW	**Lidau**	**1.72**	**210**	eP	**Pn**	**23 20 07.5**	**+0.6**
CHN2	**Minshiung**	**1.77**	**230**	eP	**Pn**	**23 20 08.6**	**+0.9**
HATJ	**Hateruma jima**	**1.79**	**110**	P	**Pn**	**23 20 08.2**	**+0.2**
HATJ				eS	**Sn**	**23 20 30.9**	**-0.5**
CHN4	**Tsaushan**	**1.82**	**224**	eP	**Pn**	**23 20 10.1**	**+1.8**
CHY	**Chiayi**	**1.83**	**230**	eP	**Pn**	**23 20 08.9**	**+0.4**
STYT	**Tauyuan**	**1.87**	**216**	eP	**Pn**	**23 20 10.6**	**+1.5**
STYT				S	**Sn**	**23 20 35.2**	**+1.9**
WTP	**Ta-pu**	**1.89**	**221**	eP	**Pn**	**23 20 10.8**	**+1.5**
WTP				S	**Sn**	**23 20 36.3**	**+2.6**
JKRS	**Kuro-shima**	**1.92**	**103**	P	**Pn**	**23 20 09.7**	**0.0**
JKRS				eS	**Sn**	**23 20 33.1**	**-1.5**
TWK	**Hsinying**	**1.95**	**224**	eP	**Pn**	**23 20 11.7**	**+1.5**
CHN1	**Nanshi**	**1.98**	**222**	eP	**Pn**	**23 20 12.5**	**+1.9**
JIJ	**Ishigaki jima**	**2.01**	**99**	P	**Pn**	**23 20 10.4**	**-0.7**
JIJ				eS	**Sn**	**23 20 35.5**	**-1.5**
TWG	**Pinlang**	**2.02**	**204**	eP	**Pn**	**23 20 10.3**	**-0.9**
SGST	**Jiashian**	**2.03**	**219**	eP	**Pn**	**23 20 13.1**	**+1.8**
CHN8	**Yiju**	**2.08**	**231**	eP	**Pn**	**23 20 11.7**	**-0.4**
CHN3	**Shinhua**	**2.16**	**223**	eP	**Pn**	**23 20 15.7**	**+2.5**
ECL	**Taimali**	**2.27**	**204**	eP	**Pn**	**23 20 16.7**	**+1.9**
SSD	**Sandimen**	**2.28**	**213**	eP	**Pn**	**23 20 16.8**	**+1.9**
TWM1	**Shoushan**	**2.32**	**218**	eP	**Pn**	**23 20 18.6**	**+3.1**
PNG	**Penghu**	**2.46**	**244**	eP	**Pn**	**23 20 16.1**	**-1.4**
JTJ	**Tarama**	**2.50**	**90**	P	**Pn**	**23 20 18.2**	**+0.2**
EAST	**Anshuo**	**2.50**	**204**	eP	**Pn**	**23 20 19.3**	**+1.2**
TAW	**Tawu**	**2.51**	**203**	eP	**Pn**	**23 20 19.5**	**+1.3**
WDGT	**Dungji**	**2.53**	**237**	eP	**Pn**	**23 20 17.4**	**-1.2**
SCZT	**Fangliau**	**2.61**	**208**	eP	**Pn**	**23 20 21.8**	**+2.3**
TWK1	**Hengchun**	**2.92**	**202**	eP	**Pn**	**23 20 21.7**	**-2.5**
QZH	**Quanzhou**	**3.07**	**276**	P	**Pn**	**23 20 24.6**	**-1.6**
QZH				S	**Sn**	**23 20 58.7**	**-5.1**
QZH				Smax			
	comp=N,620nm,0.8s						
QZH				Smax			
	comp=E,370nm,0.9s						
KNM	**Kinmen**	**3.22**	**266**	eP	**Pn**	**23 20 27.2**	**-1.1**
JOW	**Kunigami**	**6.08**	**68**	LR	LR	23 23 02.0	
	comp=E,199nm,18.1s,baz=287,slow=36						
NJ2	**Nanjing**	**7.84**	**340**	eP	**Pn**	**23 21 35.4**	**+1.9**
NJ2				S	**Sn**	**23 23 01.1**	**-2.5**
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,190nm,4.1s						
NJ2				Smax			
	comp=N,140nm,1.0s						
NJ2				Smax			
	comp=E,100nm,1.0s						
NJ2				LR	LR		
	comp=N,480nm,14.7s						
NJ2				LR	LR		
	comp=E,840nm,13.4s						
NJ2				LR	LR		
	comp=Z,540nm,15.0s						
HIA	**Hailar**	**24.60**	**357**	eP	**P**	**23 24 57.1**	**-1.2**
	comp=Z,7.7nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**25.98**	**337**	eP	**P**	**23 25 10.7**	**-0.7**
	comp=Z,2.5nm,0.9s,mb3.7						
SONM	**Songino Array**	**26.20**	**336**	P	**P**	**23 25 12.4**	**-0.9**
	comp=Z,6.1nm,1.2s,mb4.0,baz=157,slow=9.4,SNR=8.1						
WRAB	**Tennant Creek**	**45.95**	**164**	P	**P**	**23 27 58.9**	**-3.2**
	comp=Z,14nm,1.3s,mb4.7						
WRA	**Warramunga Arr**	**45.96**	**164**	P	**P**	**23 28 00.9**	**-1.3**
	comp=Z,3.3nm,1.1s,mb4.2,baz=346,slow=8.8						
ASAR	**Alice Springs**	**49.44**	**166**	P	**P**	**23 28 29.6**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.6,baz=349,slow=7.0,SNR=5.9						
CTAO	**Charters Tower**	**50.39**	**150**	P	**P**	**23 28 32.5**	**-4.2**
	comp=Z,10nm,1.1s,mb4.8						
FINES	**FINESS Array B**	**71.38**	**330**	P	**P**	**23 30 57.3**	**-1.4**
	comp=Z,4.0nm,1.1s,mb4.2,baz=90,slow=8.3,SNR=3.1						
INK	**Inuvik**	**72.50**	**22**	eP	**P**	**23 31 11.2**	**+5.9**
	comp=Z,12nm,0.9s,mb4.8						
NEW	**Newport**	**90.19**	**35**	P	**P**	**23 32 35.9**	**-2.9**

*MOS **05** 23:19:38.6±1.9, 36.29N×71.20E, h33km, mb4.9/16, Error ellipse: s-maj=10.4km s-min=7.1km az=109.7*
*BJI **05** 23:19:41.9, 36.36N×70.83E, h75km, mB5.0, mb5.0, Ms4.2, Msz4.0*
*NEIC **05** 23:19:42.4±1.4, 36.13N×71.04E, h67km±13km, mb4.7/13, Error ellipse: s-maj=14.7km s-min=6.6km az=55.0*
*IDC **05** 23:19:47.6±0.9, 36.20N×71.09E, h113km±7km, mb4.0/14, mb1 4.2/15, mb1mx4.1/19, mbtmp4.4/15, Error ellipse: s-maj=17.3km s-min=14.3km az=48.0*
*NNC **05** 23:19:57.0±10.0, 36.93N×71.21E, h192km±95km, mpv5.2, Error ellipse: s-maj=194.4km s-min=70.0km az=96.0*
ISC 05 23:19:46.0±0.4**, 36.26N**±0.02×**71.31E**±0.05**, h111**km±4km**, h112**km±4.0km**:pP-P, n123, σ1^{s}28**/145**, mb4.3**/32**, 6C-12D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.48**	**168**	⇓P	**P**	**23 20 27.8**	**+1.9**
CHCP	**Chirah Chowk**	**3.05**	**148**	⇓P	**P**	**23 20 36.2**	**+2.5**
THW	**Thamme Wali**	**3.48**	**174**	⇓P	**P**	**23 20 40.2**	**+0.8**
SBDP	**Sheikh Budin**	**3.97**	**186**	⇑P	**P**	**23 20 45.4**	**-0.7**
SARP	**Sargodha**	**4.47**	**165**	⇓P	**P**	**23 20 52.9**	**0.0**
SARP				S	**S**	**23 21 42.0**	**-2.2**
DRP	**Derazinda**	**4.60**	**192**	⇓P	**P**	**23 20 54.5**	**-0.1**
JMU	**Jammu**	**4.61**	**139**	⇓iP	**P**	**23 20 57.0**	**+2.2**
JMU				i		23 21 50.5	
KSH	**Kashi**	**4.92**	**47**	P	**P**	**23 21 02.3**	**+3.4**
KSH				S	**S**	**23 22 00.0**	**+5.0**
KSH				Smax			
	comp=N,900nm,0.8s						
KSH				Smax			
	comp=E,850nm,0.4s						
THN	**Thein Dam**	**5.28**	**135**	e	**S**	**23 22 05.0**	**+1.1**
DLH	**Dalhousie**	**5.34**	**133**	eP	**P**	**23 21 06.0**	**+1.3**
DLH				e		23 22 05.0	
PONG	**Pong**	**5.77**	**137**	eP	**P**	**23 21 12.0**	**+1.6**
PONG				e		23 22 18.0	
AML	**Almayashu**	**6.15**	**17**	P	**P**	**23 21 16.1**	**+0.5**
	SNR=447						
BHK	**Bhakra**	**6.43**	**137**	eP	**P**	**23 21 21.1**	**+1.5**
BHK				e		23 22 31.3	
BHK	**Bhakra**	**6.43**	**137**	eP	**P**	**23 21 21.0**	**+1.4**
UCH	**Uchtor**	**6.46**	**22**	P	**P**	**23 21 20.6**	**+0.7**
	SNR=477						
KZA	**Kyzart**	**6.56**	**27**	P	**P**	**23 21 22.0**	**+0.6**
	SNR=184						
EKS2	**Erkin-Say**	**6.67**	**16**	P	**P**	**23 21 23.0**	**+0.1**
	SNR=153						
SDNR	**Sundarnagar**	**6.68**	**134**	eP	**P**	**23 21 22.5**	**-0.5**
SDNR				e		23 22 34.7	
AAK	**Ala-Archa**	**6.82**	**20**	P	**P**	**23 21 25.5**	**+0.6**
	SNR=378						
AAK	**Ala-Archa**	**6.82**	**20**	⇑P	**P**	**23 21 25.4**	**+0.5**
	comp=E,100nm,0.5s						
AAK				⇓S	**S**	**23 22 39.6**	**-2.0**
	comp=E,397nm,0.6s						
AAK	**Ala-Archa**	**6.82**	**20**	Pn	**P**	**23 21 24.4**	**-0.5**
	comp=E,2µm,0.3s						
AAK	**Ala-Archa**	**6.82**	**20**	ePN	**P**	**23 21 24.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,159nm,0.5s						
AAK	**Ala-Archa**	**6.82**	**20**	ePn	**P**	**23 21 24.4**	**-0.6**
	comp=Z,160nm,0.5s						
AAK				eSn	**S**	**23 22 29.0**	**-13**
KBK	**Karagaybulak**	**6.98**	**23**	P	**P**	**23 21 28.1**	**+1.0**
	SNR=76						
FRU	**Bishkek**	**7.04**	**20**	⇓iPN	**P**	**23 21 29.0**	**+1.1**
FRU				i S	**S**	**23 22 44.0**	**-3.0**
FRU				pmax	pmax		
	comp=Z,170nm,0.9s						
FRU				smax			
	comp=E,630nm,1.4s						
SMLA	**Simla**	**7.07**	**135**	i P	**P**	**23 21 26.7**	**-1.6**
SMLA				i		23 22 44.6	
ULHL	**Ulahol**	**7.09**	**31**	P	**P**	**23 21 29.1**	**+0.5**
	SNR=102						
CHMS	**Chumysh**	**7.23**	**20**	P	**P**	**23 21 30.4**	**-0.1**
	SNR=185						
USP	**Ospenovka**	**7.42**	**18**	P	**P**	**23 21 32.5**	**-0.5**
	SNR=80						
TKM2	**Tokmak 2**	**7.43**	**25**	P	**P**	**23 21 33.5**	**+0.3**
	SNR=249						
DDI	**Dehra Dun**	**8.18**	**134**	eP	**P**	**23 21 44.5**	**+1.2**
DDI				e		23 23 09.9	
NDI	**New Delhi**	**9.05**	**145**	eP	**P**	**23 21 53.0**	**-2.0**
NDI				e		23 23 32.0	
PTH	**Pithoragarh**	**10.04**	**129**	eP	**P**	**23 22 06.2**	**-2.0**
PTH				e		23 23 55.4	
LGTI	**Lohaghat**	**10.12**	**130**	eP	**P**	**23 22 08.0**	**-1.4**
LGTI				e		23 25 07.5	
AJM	**Ajmer**	**10.16**	**163**	⇓iP	**P**	**23 22 08.0**	**-1.8**
AJM				i		23 23 56.0	
BHJ	**Bhuj**	**13.04**	**187**	eP	**P**	**23 22 45.3**	**-2.7**
BHJ				e		23 25 00.1	
BHJ				e		23 25 24.1	
	comp=N,78nm,0.5s						
BHJ				e		23 25 24.3	
	comp=E,193nm,0.5s						
MK31	**Makanchi Array**	**13.34**	**35**	⇓P	**P**	**23 22 51.6**	**-0.2**
	comp=E,9.2nm,0.4s,baz=217,slow=14,SNR=676						
KOLN	**Koldanda**	**13.42**	**126**	eP	**P**	**23 22 51.3**	**-1.6**
	comp=E,108nm,0.6s						
GKN	**Gorkha**	**13.96**	**122**	eP	**P**	**23 22 57.9**	**-2.0**
	comp=E,135nm,0.4s						
GKN				eS	**S**	**23 25 25.2**	**-7.2**
BHPL	**Bhopal**	**14.01**	**156**	eP	**P**	**23 22 58.4**	**-2.2**
BHPL				e		23 23 03.1	
	comp=Z,41nm,0.5s						
BHPL				eS	**S**	**23 25 29.6**	**-4.0**

DMN	**Daman**	**14.53**	**123**	eP	**P**	**23 23 06.8**	**-0.4**
	comp=Z,96nm,0.5s						
KKN	**Kakani**	**14.54**	**122**	eP	**P**	**23 23 05.7**	**-1.6**
	comp=Z,129nm,0.6s						
KKN				eS	**S**	**23 25 39.2**	**-6.7**
KKN	**Kakani**	**14.54**	**122**	eP	**P**	**23 23 05.7**	**-1.6**
KKN				eS	**S**	**23 25 39.2**	**-6.7**
KKN				pmax	pmax		
	comp=Z,65nm,0.6s						
WMQ	**Urumqi**	**14.63**	**54**	⇓iP	**P**	**23 23 08.7**	**+0.3**
WMQ				AP		23 23 23.0	
WMQ				XP		23 23 38.0	
WMQ				S	**S**	**23 25 47.0**	**-0.9**
WMQ				PCP	PcP	23 28 21.0	+6.0
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,171nm,4.4s						
WMQ				LR	LR		
	comp=N,105nm,11.8s						
WMQ				LR	LR		
	comp=E,126nm,13.6s						
WMQ				LR	LR		
	comp=Z,94nm,10.2s						
PKI	**Pulchoki**	**14.77**	**122**	eP	**P**	**23 23 08.9**	**-1.3**
	comp=Z,68nm,0.4s						
PKI	**Pulchoki**	**14.77**	**122**	eP	**P**	**23 23 08.9**	**-1.3**
PKI				pmax	pmax		
	comp=Z,34nm,0.4s						
JIRN	**Jiri**	**15.25**	**120**	eP	**P**	**23 23 14.9**	**-1.4**
	comp=Z,237nm,0.5s						
JIRN				eS	**S**	**23 25 56.5**	**-5.8**
KURK	**Kurchatov**	**15.38**	**18**	⇑P	**P**	**23 23 20.2**	**+2.4**
	comp=Z,15nm,0.9s,baz=204,slow=8.6,SNR=40						
KURK	**Kurchatov**	**15.38**	**18**	P	**P**	**23 23 20.4**	**+2.6**
	comp=Z,207nm,0.7s,SNR=17						
KURK	**Kurchatov**	**15.38**	**18**	i P	**P**	**23 23 16.3**	**-1.5**
KURK	**Kurchatov**	**15.38**	**18**	eP	**P**	**23 23 12.4**	**-5.3**
	comp=Z,32nm,0.8s						
BVA0	**Borovoye Array**	**16.77**	**358**	⇑P	**P**	**23 23 33.5**	**-1.6**
	comp=Z,2.3nm,0.8s,baz=168,slow=12,SNR=74						
BVA0				⇓S	**S**	**23 26 30.1**	**-6.6**
	comp=Z,2.5nm,1.3s,baz=171,slow=24,SNR=4.8						
BVAR	**Borovoye Array**	**16.77**	**358**	P	**P**	**23 23 33.4**	**-1.7**
	comp=Z,2.5nm,0.3s,baz=158,slow=12,SNR=48						
BLSP	**Bilaspur**	**16.94**	**143**	eP	**P**	**23 23 36.2**	**-1.2**
BLSP				e		23 23 40.9	
	comp=Z,8.5nm,0.4s						
BLSP				eS	**S**	**23 26 40.2**	**-0.4**
CHKZ	**Chkalovo**	**17.42**	**359**	⇑P	**P**	**23 23 40.9**	**-2.3**
	comp=Z,14nm,0.9s						
CHKZ				⇑S	**S**	**23 26 43.0**	**-8.1**
	comp=Z,11nm,1.1s						
CHKZ	**Chkalovo**	**17.42**	**359**	eP	**P**	**23 23 40.0**	**-3.2**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.8s						
CHKZ	**Chkalovo**	**17.42**	**359**	eP	**P**	**23 23 40.0**	**-3.2**
	comp=Z,16nm,0.8s						
POO	**Poona**	**17.80**	**172**	eP	**P**	**23 23 48.7**	**+0.7**
POO				e		23 23 50.0	
	comp=Z,38nm,0.7s						
POO				eS	**S**	**23 27 03.3**	**+3.4**
LSA	**Lhasa**	**17.87**	**106**	P	**P**	**23 23 51.2**	**+2.4**
LSA	**Lhasa**	**17.87**	**106**	eP	**P**	**23 23 50.5**	**+1.7**
LSA				eS	**S**	**23 26 55.9**	**-5.4**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**17.87**	**106**	eP	**P**	**23 23 50.5**	**+1.7**
	comp=Z,28nm,0.8s						
LSA				eS	**S**	**23 26 55.9**	**-5.4**
LATR	**Latur**	**18.37**	**164**	eP	**P**	**23 23 54.5**	**0.0**
KAD	**Karad**	**19.05**	**172**	eP	**P**	**23 24 02.8**	**+0.9**
KAD				e		23 24 05.0	
	comp=Z,28nm,0.8s						
HYB	**Hyderabad**	**19.84**	**159**	eP	**P**	**23 24 11.0**	**+0.8**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	**Hyderabad**	**19.84**	**159**	eP	**P**	**23 24 11.0**	**+0.8**
	comp=Z,70nm,1.0s						
HYB				eS	S	23 28 04.0	+22
HYB	**Hyderabad**	**19.84**	**159**	i P	**P**	**23 24 11.0**	**+0.8**
	comp=Z,70nm,1.0s						
HYB				eS	**S**	**23 27 43.0**	**+0.7**
ZAL	**Zalesovo**	**20.01**	**24**	P	**P**	**23 24 11.1**	**-0.7**
	comp=Z,38nm,0.4s,baz=254,slow=6.1,SNR=99						
KRV	**Ganca**	**20.02**	**290**	i P	**P**	**23 24 12.0**	**0.0**
NVS	**Novosibirsk**	**20.32**	**20**	eP	**P**	**23 24 13.5**	**-1.4**
NVS				eS	**S**	**23 27 51.0**	**-0.3**
NVS				pmax	pmax		
	comp=N,20nm,0.6s						
NVS				pmax	pmax		
	comp=Z,43nm,0.6s						
NVS				pmax	pmax		
	comp=E,15nm,0.8s						
NVS				smax			
	comp=N,47nm,1.6s						
NVS				smax			
	comp=E,38nm,1.6s						
SHL	**Shillong**	**20.58**	**115**	eP	**P**	**23 24 20.0**	**+2.2**
SHL				e		23 27 57.0	
GNI	**Garni**	**21.21**	**289**	i P	**P**	**23 24 26.0**	**+2.0**
GNI				pmax	pmax		
	comp=Z,27nm,1.4s						
GNI	**Garni**	**21.21**	**289**	P	**P**	**23 24 26.0**	**+2.1**
	comp=Z,7.3nm,0.6s,mb4.2,baz=347,slow=3.3,SNR=13						
GNI	**Garni**	**21.21**	**289**	eP	**P**	**23 24 25.4**	**+1.5**
	comp=Z,22nm,0.8s,mb4.5						
VIS	**Vishakhapatnam**	**21.31**	**147**	eP	**P**	**23 24 26.5**	**+1.3**
VIS				e		23 24 29.9	
	comp=Z,19nm,0.4s						
VIS				e		23 28 20.3	
TI2	**Plekhanov**	**21.31**	**293**	eP	**P**	**23 24 29.6**	**+4.6**
SVE	**Sverdlovsk**	**21.79**	**344**	eP	**P**	**23 24 30.0**	**+0.4**
SVE				e		23 25 08.0	
ZEI	**Tsey**	**22.07**	**296**	eP	**P**	**23 24 35.0**	**+2.6**
ZEI				eS	**S**	**23 28 34.5**	**+11**
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb3.9						
GTA	**Gaotai**	**22.69**	**73**	P	**P**	**23 24 42.9**	**+4.4**
GTA				PP	PP	23 25 17.1	+6.2
GTA				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,77nm,7.2s						
GTA				LR	LR		
	comp=N,82nm,7.2s						
GTA				LR	LR		
	comp=E,80nm,8.4s						
GTA				LR	LR		
	comp=Z,152nm,6.1s						
KIV	**Kislovodsk**	**23.12**	**298**	eP	**P**	**23 24 43.7**	**+1.1**
KIV				e		23 25 01.5	
KIV				eS	**S**	**23 28 55.0**	**+13**
KIV				eSS	SS	23 29 40.9	+4.2
KIV				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.0						
SOC	**Sochi**	**25.20**	**297**	eP	**P**	**23 25 01.8**	**-0.7**
SOC				e		23 25 43.0	
SOC				e		23 28 29.4	
SOC				eS	**S**	**23 29 11.1**	**-6.0**
SOC				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.6						
SOC				pmax	pmax		
	comp=N,16nm,0.8s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.8s						
MOY	**Mondy**	**26.10**	**45**	eP	**P**	**23 25 14.7**	**+3.9**
MOY				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.1						
LZH	**Lanzhou**	**26.20**	**81**	eP	**P**	**23 25 17.9**	**+6.0**
LZH				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.5						
ZAK	**Zakamensk**	**26.96**	**48**	eP	**P**	**23 25 20.0**	**+1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.5						
ANN	**Anapa**	**26.97**	**299**	i	**P**	**23 25 19.5**	**+0.7**
ANN				e		23 26 01.3	
SONM	**Songino Array**	**28.27**	**55**	P	**P**	**23 25 32.3**	**+1.8**
	comp=Z,6.5nm,1.1s,mb4.1,baz=270,slow=7.8,SNR=8.5						
ULN	**Ulaanbaatar**	**28.71**	**55**	i P	**P**	**23 25 36.1**	**+1.6**
ULN	**Ulaanbaatar**	**28.71**	**55**	eP	**P**	**23 25 35.1**	**+0.7**
	comp=Z,2.4nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**30.12**	**119**	P	**P**	**23 25 48.9**	**+1.5**
	comp=Z,1.0nm,0.6s,mb3.6,baz=300,slow=8.6,SNR=4.9						
OBN	**Obninsk**	**30.28**	**320**	eP	**P**	**23 25 46.3**	**-2.1**
OBN				e		23 26 47.8	
OBN				pmax	pmax		
	comp=Z,26nm,1.9s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s						
BOD	**Bodaibo**	**35.38**	**39**	eP	**P**	**23 26 38.4**	**+6.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
JOF	**Joensuu**	**36.20**	**330**	ep	**P**	**23 26 38.7**	**-0.5**
	comp=Z,3.2nm,0.4s,mb4.6						
FINES	**FINESS Array B**	**37.82**	**326**	P	**P**	**23 26 52.8**	**0.0**
	comp=Z,3.1nm,0.8s,mb4.2,baz=108,slow=9.4,SNR=23						
FINES				pP	pP	23 27 16.9	-1.4
	comp=Z,3.3nm,0.7s,baz=108,slow=12,SNR=5.5						
FINES	**FINESS Array B**	**37.82**	**326**	P	**P**	**23 26 52.8**	**0.0**
FINES				pP	pP	23 27 16.9	-1.4
NJ2	**Nanjing**	**39.26**	**82**	eP	**P**	**23 27 09.3**	**+4.2**
NJ2				PP	PP	23 28 46.8	+6.3
NJ2				S	**S**	**23 32 56.0**	**-1.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,290nm,5.5s						
NJ2				LR	LR		
	comp=N,310nm,16.4s						
NJ2				LR	LR		
	comp=E,320nm,15.7s						
NJ2				LR	LR		
	comp=Z,300nm,12.1s						
KEV	**Kevo**	**41.12**	**338**	ep	**P**	**23 27 19.2**	**-0.8**
SSE	**Sheshan**	**41.46**	**82**	eP	**P**	**23 27 25.5**	**+2.3**
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,54nm,4.0s						
SSE	**Sheshan**	**41.46**	**82**	eP	**P**	**23 27 25.5**	**+2.3**
	comp=Z,44nm,0.7s,mb5.4						
ARCES	**ARCESS Array B**	**41.46**	**338**	P	**P**	**23 27 23.4**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.3,baz=119,slow=8.6,SNR=18						
GERES	**GERESS Array B**	**43.27**	**306**	P	**P**	**23 27 37.6**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.2,baz=80,slow=12,SNR=2.5						
YAK	**Yakutsk**	**44.02**	**35**	i P	**P**	**23 27 43.7**	**+0.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
NB2	**NORSAR Subarra**	**44.72**	**323**	P	**P**	**23 27 48.0**	**-1.2**
	comp=Z,2.3nm,0.6s,mb4.1,baz=96,slow=7.4						
NB2	**NORSAR Subarra**	**44.72**	**323**	P	**P**	**23 27 48.0**	**-1.2**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**44.72**	**323**	P	**P**	**23 27 48.2**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.1,baz=98,slow=7.8,SNR=13						
NOA				pP	pP	23 28 13.3	-1.9
	comp=Z,3.8nm,0.7s,baz=97,slow=7.9,SNR=4.5						
NOA	**NORSAR Array B**	**44.72**	**323**	P	**P**	**23 27 48.2**	**-1.0**
NOA				pP	pP	23 28 13.3	-1.9
TIXI	**Tiksi**	**45.90**	**22**	eP	**P**	**23 27 58.2**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**57.79**	**298**	pP	pP	23 29 54.8	0.0
	comp=Z,0.4nm,0.5s,baz=55,slow=7.6,SNR=3.2						
BILL	**Bilibino**	**58.71**	**26**	eP	**P**	**23 29 33.2**	**-0.5**
BILL				i		23 30 20.4	
BILL				S	S	23 37 49.5	+22
BILL				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s						
BILL	**Bilibino**	**58.71**	**26**	eP	**P**	**23 29 34.3**	**+0.6**
	comp=Z,11nm,0.9s,mb4.9						
MATP	**Matopo**	**69.40**	**223**	P	**P**	**23 30 43.1**	**-0.9**
	comp=Z,3.4nm,0.5s,mb4.5,baz=24,slow=6.9,SNR=37						
INK	**Inuvik**	**74.10**	**9**	P	**P**	**23 31 11.9**	**+1.0**
INK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
INK	**Inuvik**	**74.10**	**9**	P	**P**	**23 31 11.8**	**+0.9**
	comp=Z,5.7nm,0.6s,mb4.5,baz=341,slow=6.8,SNR=19						
DBIC	**Dimbokro**	**74.94**	**267**	P	**P**	**23 31 14.3**	**-2.5**
	comp=Z,1.8nm,0.9s,mb3.8,baz=13,slow=7.9,SNR=4.2						
ILAR	**Eielson Array**	**74.94**	**16**	P	**P**	**23 31 16.1**	**+0.3**
ILAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ILAR				pmax	pmax		
	comp=N,1.0nm,0.7s						
ILAR	**Eielson Array**	**74.94**	**16**	P	**P**	**23 31 16.1**	**+0.3**
	comp=N,3.7nm,0.9s,mb4.1,baz=318,slow=4.9,SNR=28						
ILAR				pP	pP	23 31 46.6	+2.4
	comp=N,0.6nm,0.7s,baz=290,slow=5.9,SNR=2.4						
DAWY	**Dawson**	**77.10**	**13**	eP	**P**	**23 31 29.3**	**+1.3**
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**23 31 51.9**	**+0.3**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA				pmax	pmax		
	comp=N,2.0nm,0.8s						
YKA	**Yellowknife Ar**	**81.47**	**3**	P	**P**	**23 31 51.9**	**+0.3**
	comp=N,1.5nm,0.4s,mb4.2,baz=349,slow=5.4,SNR=12						
YKA				pP	pP	23 32 21.1	+0.7
	comp=N,1.5nm,0.8s,baz=350,slow=5.4,SNR=2.4						
WRA	**Warramunga Arr**	**81.65**	**122**	P	**P**	**23 31 53.4**	**0.0**
	comp=N,1.1nm,0.4s,mb4.0,baz=325,slow=4.9,SNR=9.6						
WRAB	**Tennant Creek**	**81.65**	**122**	eP	**P**	**23 31 53.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
WRAB	**Tennant Creek**	**81.65**	**122**	eP	**P**	**23 31 53.3**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.6						
ASAR	**Alice Springs**	**83.91**	**125**	P	**P**	**23 32 05.0**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.9,baz=312,slow=4.9,SNR=12						
CTAO	**Charters Tower**	**90.21**	**115**	P	**P**	**23 32 34.2**	**-1.1**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
CTAO	**Charters Tower**	**90.21**	**115**	P	**P**	**23 32 34.2**	**-1.1**
	comp=Z,5.5nm,0.9s,mb4.7						

OTT 05 23:28:25.6±0.1**, 64.66N×110.67W, h1**km**, MN3.0**/15**, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.05**	**35**	PG	Pg	23 28 26.3	-0.2
LDGN	**Lac de Gras No**	**0.07**	**74**	PG	Pg	23 28 27.4	+0.4
DVKN	**Diavik Mine**	**0.22**	**134**	PG	Pg	23 28 29.6	-0.4
DVKN				SG	Sg	23 28 32.4	-0.5
DVKN				Trac		23 28 33.8	
	comp=Z,201nm,0.1s						
ACKN	**Achilles Lake**	**0.34**	**346**	PG	Pg	23 28 31.9	-0.6
ACKN				SG	Sg	23 28 36.5	-0.6
ACKN				Trac		23 28 38.0	
	comp=Z,95nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**144**	PG	Pg	23 28 33.0	-0.7
LGSN				SG	Sg	23 28 38.8	-0.2
LGSN				Trac		23 28 39.8	
	comp=Z,76nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**301**	PG	Pg	23 28 33.2	-0.9
YMBN				SG	Sg	23 28 39.0	-0.9
YMBN				Trac		23 28 40.4	
	comp=Z,193nm,0.2s						
YNEN	**Yamba Lake Nor**	**0.46**	**340**	PG	Pg	23 28 34.0	-0.8
YNEN				SG	Sg	23 28 40.3	-0.6
YNEN				Trac		23 28 41.5	
	comp=Z,121nm,0.1s						
GLWN	**Glow Worm Lake**	**0.58**	**83**	PG	Pg	23 28 36.2	-1.0
GLWN				SG	Sg	23 28 44.1	-0.8
GLWN				Trac		23 28 44.3	
	comp=Z,60nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**190**	PG	Pg	23 28 38.5	-1.3
NODN				SG	Sg	23 28 47.9	-1.5
NODN				Trac		23 28 49.9	
	comp=Z,91nm,0.1s						
MLON	**Marlo Lake**	**0.77**	**154**	PG	Pg	23 28 39.2	-1.8
MLON				SG	Sg	23 28 50.4	-1.0
MLON				Trac		23 28 52.1	
	comp=Z,28nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	23 28 42.4	-1.5
BOXN				SG	Sg	23 28 54.8	-1.2
BOXN				Trac		23 28 55.6	
	comp=Z,83nm,0.2s						
CAMN	**Camsell Lake**	**0.94**	**186**	PG	Pg	23 28 42.6	-1.7
CAMN				SG	Sg	23 28 55.3	-1.5
CAMN				Trac		23 28 56.6	
	comp=Z,63nm,0.1s						
MGTN	**Margaret Lake**	**1.09**	**154**	PG	Pg	23 28 45.6	-1.8
MGTN				SG	Sg	23 28 58.9	-3.0
MGTN				Trac		23 29 01.8	
	comp=Z,121nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**347**	PG	Pg	23 28 45.7	-2.1
LUPN				SG	Sg	23 29 00.1	-2.5
LUPN				Trac		23 29 06.2	
	comp=Z,54nm,0.1s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	23 28 46.6	-2.0
SNPN				SG	Sg	23 29 02.2	-1.8
SNPN				Trac		23 29 06.7	
	comp=Z,353nm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	23 28 50.0	-2.9
IHLN				SG	Sg	23 29 07.1	-3.9
IHLN				Trac		23 29 09.1	
	comp=Z,54nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**152**	PG	Pg	23 28 51.5	-2.2
KNDN				SG	Sg	23 29 08.7	-3.7
KNDN				Trac		23 29 12.6	
	comp=Z,30nm,0.1s						
DSMN	**Discovery Mine**	**2.06**	**225**	PN	Pn	23 29 01.8	0.0
DSMN				SN	Sn	23 29 27.6	-0.8
DSMN				Trac		23 29 30.2	
	comp=Z,42nm,0.1s						
CTLN	**Castor Lake**	**2.32**	**267**	PN	Pn	23 29 04.2	-1.4
CTLN				SN	Sn	23 29 29.2	-5.9
CTLN				Trac		23 29 37.5	
	comp=Z,17nm,0.1s						
YKW3	**Yellowknife Ar**	**2.75**	**222**	PN	Pn	23 29 08.7	-2.9
YKW3				SN	Sn	23 29 41.3	-4.6
YKW3				Trac		23 29 58.0	
	comp=Z,20nm,0.1s						
GALN	**Gameti Lake**	**2.94**	**262**	PN	Pn	23 29 12.2	-2.2
GALN				SN	Sn	23 29 46.8	-4.0
GALN				Trac		23 29 55.0	
	comp=Z,17nm,0.1s						
FNBB	**Fort Nelson**	**8.22**	**231**	PN	P	23 30 24.0	-4.9
FNBB				SN	Sn	23 31 50.8	-13
INK	**Inuvik**	**9.80**	**302**	PN	P	23 30 45.1	-5.5
INK				SN	Sn	23 32 29.0	-14
FCC	**Fort Churchill**	**9.82**	**119**	PN	P	23 30 45.5	-5.4
FCC				SN	Sn	23 32 28.0	-15
RES	**Resolute Bay**	**11.40**	**21**	PN	P	23 31 04.4	-8.0
DAWY	**Dawson**	**12.40**	**280**	PN	P	23 31 21.6	-4.4

MAN 05 23:28:51.3, 12.68N×123.19E, h11km**, mb4.1, ML2.9, MS2.7, 2C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.53**	**127**	⇑iP	Pg	23 29 02.0	0.0
MMPH				i S	Sg	23 29 11.0	+1.8
AUQP	**San Andres**	**0.81**	**322**	eP	Pb	23 29 07.3	+0.4
AUQP				eS	Sb	23 29 22.0	+4.3
OTRP	**Odiongan**	**1.19**	**255**	eP	Pb	23 29 12.5	-0.9
RCP	**Roxas**	**1.20**	**202**	⇓eP	Pb	23 29 13.0	-0.5
PVCP	**Virac**	**1.30**	**46**	eP	Pb	23 29 15.5	+0.1
GQP	**Guinayangan**	**1.42**	**329**	⇓eP	Pn	23 29 16.1	-1.1
GQP				i S	Sb	23 29 35.5	+0.3
CNP	**Catarman**	**1.44**	**97**	eP	Pn	23 29 16.0	-1.5
BOAC	**Boac**	**1.52**	**301**	eP	Pn	23 29 18.6	-0.1
BOAC				eS	Sb	23 29 35.7	-2.7
GUIM	**Jordan**	**2.13**	**196**	eP	Pn	23 29 30.8	+3.5
LQP	**Lukban**	**2.15**	**312**	⇑eP	Pn	23 29 27.3	-0.3
LLP	**Lapu-Lapu**	**2.47**	**162**	eP	Pn	23 29 32.2	0.0

*NEIC **05** 23:41:56.3±0.7, 2.62N×94.00E, mb4.3/5, Error ellipse: s-maj=22.9km s-min=12.3km az=70.0*

*IDC **05** 23:41:56.9±1.1, 2.72N×94.04E, h28km±5km, mb3.8/6, mb1 4.0/7, mb1mx3.8/16, mbtmp4.0/7, ML4.4/1, Error ellipse: s-maj=48.8km s-min=17.6km az=55.0*

ISC 05 23:41:54.6±1.0**, 2.6N**±0.1×**94.0E**±0.2**, h28**km**, h28**km±.5km**: pP-P, n14,** σ0§**81**/13**, mb4.0**/10**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**16.45**	**17**	eP	**P**	**23 45 45.6**	**+0.2**
	6.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**16.45**	**17**	Pn	**P**	**23 45 46.5**	**+1.1**
	0.5nm,0.3s,baz=212,slow=12,SNR=29						
CMAR				sP		23 45 55.6	
	0.3nm,0.3s,baz=212,slow=12,SNR=5.6						
LSA	**Lhasa**	**27.05**	**355**	eP	**P**	**23 47 37.9**	**+1.0**
	4.5nm,0.6s,mb4.2						
LSA				epP	pP	23 47 46.5	+1.5
WRA	**Warramunga Arr**	**45.51**	**121**	P	**P**	**23 50 14.0**	**+0.1**
	0.7nm,0.9s,mb3.6,baz=299,slow=8.9,SNR=4.8						
WRA				pP	pP	23 50 23.0	+0.7
	1.4nm,0.7s,baz=300,slow=8.8,SNR=6.5						
SONM	**Songino Array**	**46.28**	**12**	P	**P**	**23 50 18.6**	**-1.1**
	2.1nm,0.8s,mb4.2,baz=202,slow=6.7,SNR=6.1						
ULN	**Ulaanbaatar**	**46.44**	**12**	eP	**P**	**23 50 19.7**	**-1.2**
	1.3nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**46.81**	**126**	P	**P**	**23 50 24.4**	**+0.2**
	1.9nm,1.2s,mb3.9,baz=279,slow=8.9,SNR=4.4						
ASAR				PcP	PcP	23 51 58.0	+0.5
	0.6nm,0.8s,baz=301,slow=3.3,SNR=6.7						
KURK	**Kurchatov**	**49.64**	**347**	eP	**P**	**23 50 45.5**	**-0.3**
	4.2nm,0.9s,mb4.5						
KURK				epP	pP	23 50 53.8	-0.5
ZAL	**Zalesovo**	**51.69**	**353**	P	**P**	**23 51 01.0**	**-0.3**
	3.4nm,0.4s,mb4.6,baz=310,slow=6.4,SNR=14						
ZAL				pP	pP	23 51 09.5	-0.4
	2.4nm,0.4s,baz=314,slow=6.7,SNR=7.3						
CHKZ	**Chkalovo**	**54.39**	**343**	eP	**P**	**23 51 20.7**	**-0.7**
	5.2nm,1.0s,mb4.4						
CHKZ				epP	pP	23 51 28.9	-1.0
FINES	**FINESS Array B**	**77.26**	**333**	P	**P**	**23 53 47.5**	**-0.4**
	1.0nm,1.0s,mb3.7,slow=5.7,SNR=3.7						
FINES				pP	pP	23 53 56.2	-0.5
	0.4nm,0.6s,baz=259,slow=29,SNR=1.4						
FINES	**FINESS Array B**	**77.26**	**333**	P	**P**	**23 53 47.5**	**-0.4**
FINES				pP	pP	23 53 56.2	-0.5
GERES	**GERESS Array B**	**81.63**	**319**	P	**P**	**23 54 13.2**	**+1.5**
	0.6nm,0.9s,mb3.5,baz=112,slow=7.2,SNR=4.2						
GERES				pP	pP	23 54 21.7	+1.2
	0.3nm,0.6s,baz=80,slow=8.1,SNR=3.3						
TXAR	**Lajitas Array**	**143.99**	**27**	PKP	PKPdf	00 01 29.0	-4.2
	0.2nm,0.4s,baz=180,slow=1.3,SNR=5.1						
TXAR				pPKP		00 01 39.6	
	0.3nm,0.5s,baz=162,slow=4.0,SNR=4.0						

*DJA **05** 23:55:30.8±0.9, 11.83S×118.20E, h15km, MD4.7/2, ML5.9/4, Error ellipse: s-maj=37.3km s-min=17.9km az=47.0*

*NEIC **05** 23:55:33.2±0.7, 11.48S×118.40E, h40km, mb4.2/4, Error ellipse: s-maj=19.1km s-min=7.8km az=223.0*

ISC 05 23:55:30.6±3.0**, 11.6S**±0.1×**118.32E**±0.10**, h31**km±28km**, n15,** σ1§**30**/25**, mb4.2**/3**, 2C-3D, South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**3.74**	**324**	⇑ePn	**Pn**	**23 56 29.6**	**+1.9**
	3µm,0.2s						
KEDI				⇓eSn	**Sn**	**23 57 11.5**	**+0.3**
RATI	**Rata**	**3.93**	**315**	⇑ePn	**Pn**	**23 56 31.2**	**+0.9**
	3µm,0.3s						
RATI				⇓eSn	**Sn**	**23 57 15.1**	**-0.8**
KELI	**Kelakatan**	**5.02**	**311**	Pn	**Pn**	**23 56 46.6**	**+0.8**
	1µm,0.3s						
KELI				eSn	**Sn**	**23 57 42.7**	**-0.8**
SRDI	**Scrawed**	**5.12**	**306**	⇓ePn	**Pn**	**23 56 46.9**	**-0.3**
	993nm,0.2s						
SRDI				eSn	**Sn**	**23 57 43.6**	**-2.5**
FITZ	**Fitzroy Crossi**	**9.62**	**133**	eP	**P**	**23 57 48.9**	**-1.3**
	40nm,0.4s						
FITZ				eS	**Sn**	**23 59 30.8**	**-7.4**
MBWA	**Marble Bar**	**9.65**	**172**	ePn	**P**	**23 57 50.8**	**+0.2**
	1µm,1.4s						
MBWA				eSn	**Sn**	**23 59 25.1**	**-14**
KAKA	**Kakadu**	**13.86**	**96**	eP	**P**	**23 58 45.0**	**-2.4**
	7.0nm,0.6s						
KAKA				eS	**S**	**00 01 08.6**	**-12**
WRAB	**Tennant Creek**	**17.53**	**120**	eP	**P**	**23 59 33.0**	**-1.4**
	8.9nm,0.6s						
KKM	**Kota Kinabalu**	**17.61**	**353**	P	**P**	**23 59 35.5**	**0.0**
ASPA	**Alice Springs**	**19.10**	**131**	eP	**P**	**23 59 55.2**	**+1.5**
ASPA				eS	**S**	**00 03 15.1**	**-7.1**
KLBR	**Kellerberrin**	**19.95**	**181**	eP	**P**	**00 00 09.5**	**+6.4**
KLBR				eS	**S**	**00 03 29.1**	**-11**
MUN	**Mundaring**	**20.42**	**185**	eP	**P**	**00 00 16.3**	**+8.3**
MUN				eS	**S**	**00 03 40.0**	**-10**
CTAO	**Charters Tower**	**28.15**	**111**	eP	**P**	**00 01 23.8**	**+1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	3.9nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**67.20**	**326**	eP	**P**	**00 06 31.4**	**+7.3**
	2.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**70.99**	**335**	P	**P**	**00 06 49.1**	**+1.9**
	2.3nm,0.7s,mb4.2						

*NEIC **06** 00:06:33.0, 41.31S×172.81E, h138km, MG3.8(WEL), After WEL.*
NEIC Felt at Westport.
WEL 06 00:06:32.9±0.3**, 41.30S×172.81E, h139**km±2km**, ML3.6**/9**, 4C, Error ellipse: s-maj=1.6km s-min=1.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.44**	**80**	P	P	00 06 52.7	-0.5
NNZ				S	S	00 07 06.6	-2.2
NNZ	**Nelson**	**0.44**	**80**	⇑PN	P	00 06 52.7	-0.6
NNZ				SN	S	00 07 06.7	-2.1
THZ	**Tophouse**	**0.47**	**171**	P	P	00 06 52.8	-0.6
THZ				S	S	00 07 06.9	-2.1
THZ	**Tophouse**	**0.47**	**171**	⇑PN	P	00 06 52.8	-0.6
THZ				SN	S	00 07 06.9	-2.2
QRZ	**Quartz Range**	**0.51**	**336**	P	P	00 06 53.2	-0.4
QRZ				S	S	00 07 06.7	-2.7
QRZ	**Quartz Range**	**0.51**	**336**	⇑PN	P	00 06 53.2	-0.4
QRZ				SN	S	00 07 06.9	-2.5
TUWZ	**Tuamarina**	**0.87**	**99**	PN	P	00 06 55.5	-0.2
DSZ	**Denniston Nort**	**0.88**	**239**	P	P	00 06 55.2	-0.7
DSZ	**Denniston Nort**	**0.88**	**239**	PN	P	00 06 55.2	-0.7
DSZ				SN	S	00 07 09.9	-3.5
BSWZ	**Blackbirch Sta**	**0.91**	**118**	P	P	00 06 55.8	-0.3
BSWZ	**Blackbirch Sta**	**0.91**	**118**	PN	P	00 06 55.8	-0.3
BSWZ				SN	S	00 07 13.2	-0.7
KHZ	**Kahutara**	**1.25**	**154**	eP	P	00 06 58.9	-0.4
KHZ	**Kahutara**	**1.25**	**154**	PN	P	00 06 58.9	-0.4
MRW	**Makara Radio**	**1.43**	**88**	P	P	00 07 00.7	-0.6
MRW	**Makara Radio**	**1.43**	**88**	⇑PN	P	00 07 00.7	-0.5
SNZO	**South Karori**	**1.43**	**91**	P	P	00 07 00.6	-0.7
SNZO	**South Karori**	**1.43**	**91**	PN	P	00 07 00.6	-0.7
LTZ	**Lake Taylor**	**1.54**	**195**	P	P	00 07 01.8	-0.6
LTZ	**Lake Taylor**	**1.54**	**195**	PN	P	00 07 01.9	-0.5
BHW	**Baring Head**	**1.56**	**95**	P	P	00 07 01.8	-0.9
BHW	**Baring Head**	**1.56**	**95**	PN	P	00 07 01.8	-0.9
KIW	**Kapiti Island**	**1.65**	**75**	PN	P	00 07 03.3	-0.4
CAW	**Cannon Point**	**1.72**	**84**	P	P	00 07 03.7	-0.8
CAW	**Cannon Point**	**1.72**	**84**	PN	P	00 07 03.6	-0.8
MSWZ	**Moikau Station**	**1.84**	**94**	P	P	00 07 04.9	-1.0
MSWZ	**Moikau Station**	**1.84**	**94**	PN	P	00 07 04.9	-1.0
MTW	**Mount Morrison**	**2.04**	**87**	P	P	00 07 07.1	-1.1
MTW	**Mount Morrison**	**2.04**	**87**	PN	P	00 07 07.1	-1.1
MRZ	**Mangatainoka R**	**2.19**	**74**	eP	P	00 07 09.1	-1.1
MRZ	**Mangatainoka R**	**2.19**	**74**	PN	P	00 07 09.1	-1.1
WVZ	**Waitaha Valley**	**2.35**	**220**	eP	P	00 07 10.8	-1.4
MQZ	**McQueen's Vall**	**2.41**	**183**	P	P	00 07 11.3	-1.7
MQZ	**McQueen's Vall**	**2.41**	**183**	PN	P	00 07 11.2	-1.8
VRZ	**Vera Road**	**2.63**	**35**	P	P	00 07 16.4	+0.5
WNVZ	**Wahianoa**	**2.90**	**48**	P	P	00 07 19.3	-0.1

*JMA **06** 00:09:19.8±0.4, 25.03N×121.90E, h53km, M2.6*
TAP 06 00:09:18.5, 24.65N×121.77E, h8km, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.15**	**99**	P	Pb	00 09 40.0	-0.1
YOJ				S	Sb	00 09 54.9	-0.1
IRIF	**Iriomote-Funau**	**1.81**	**100**	P	Pn	00 09 48.7	-1.6
IRIF				S	Sn	00 10 10.6	-3.1
HATJ	**Hateruma jima**	**1.95**	**107**	eS	Sn	00 10 15.5	-1.6
JKRS	**Kuro-shima**	**2.08**	**101**	P	Pn	00 09 53.6	-0.6
JKRS				S	Sn	00 10 17.9	-2.6
JIJ	**Ishigaki jima**	**2.18**	**97**	P	Pn	00 09 53.8	-1.8
JIJ				S	Sn	00 10 18.8	-4.2

*CSEM **06** 00:19:41.8±0.4, 37.70N×44.07E, h5km, MD3.6, Error ellipse: s-maj=8.0km s-min=3.8km az=118.0*
*ISK **06** 00:19:43.0, 37.70N×43.96E, h3km, MD3.6*
ISC 06 00:19:42.3±1.4**, 37.65N**±0.06×**44.1E**±0.1**, h3km, n18, σ1s03**/25**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.30**	**256**	i PG	**Pg**	**00 19 48.2**	**0.0**
VANT	**Van**	**0.97**	**325**	PG	**Pg**	**00 20 01.5**	**-0.2**
TVAN	**Van**	**1.04**	**328**	i P	**Pb**	**00 20 02.0**	**-0.5**
TVAN				i S	**Sn**	**00 20 20.6**	**+1.9**
VANB	**Van**	**1.10**	**329**	PG	**Pg**	**00 20 02.1**	**-2.1**
VANB				SG	**Sg**	**00 20 17.3**	**-1.6**
BTMT	**Batman**	**2.14**	**285**	PN	**Pn**	**00 20 20.4**	**+1.1**
BTMT				SN	**Sn**	**00 20 48.6**	**+1.9**
BEST	**Besiri**	**2.26**	**277**	i P	**Pn**	**00 20 21.6**	**+0.5**
BEST				i S	**Sn**	**00 20 50.0**	**+0.2**
VRT	**Varto**	**2.51**	**307**	PN	**Pn**	**00 20 24.4**	**-0.2**
GNI	**Garni**	**2.54**	**11**	ePN	**Pn**	**00 20 26.7**	**+1.6**
DIY	**Diyarbakir**	**3.08**	**276**	ePN	**Pn**	**00 20 32.2**	**-0.6**
BINT	**Bingol**	**3.10**	**294**	ePN	**Pn**	**00 20 33.1**	**+0.1**
ERZM	**Erzurum**	**3.11**	**317**	i P	**Pb**	**00 20 38.7**	**+0.8**
ERZM				i S	**Sb**	**00 21 20.6**	**+4.2**
EZM	**Erzurum**	**3.11**	**317**	ePN	**Pn**	**00 20 33.4**	**+0.2**
PTK	**Pertek**	**3.91**	**290**	PN	**Pn**	**00 20 44.5**	**-0.1**
ELZG	**Elazig**	**4.13**	**283**	i P	**Pn**	**00 20 46.9**	**-0.7**
ELZG				i S	**Pg**	**00 20 58.3**	**-6.4**
URFA	**Urfa**	**4.20**	**269**	ePN	**Pn**	**00 20 48.8**	**+0.1**
MALT	**Malatya**	**4.53**	**280**	PN	**Pn**	**00 20 52.3**	**-1.1**
MYA	**Malataya**	**4.54**	**280**	ePN	**Pn**	**00 20 52.2**	**-1.3**
GZT	**Gaziantep**	**5.21**	**269**	i P	**Pn**	**00 21 09.7**	**+6.7**
GZT				i S	**Pg**	**00 21 31.4**	**+5.1**

*NEIC **06** 00:20:23.2, 15.93N×98.12W, h20km, MD3.7(MEX), After MEX.*
MEX 06 00:20:23.5±0.5**, 15.94N×98.14W, h20**km±19km**, MD3.7, 1C, Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.45**	**1**	⇑i P	Pb	00 20 31.1	-1.5
PNIG				eS	Sb	00 20 37.2	-1.6
VHO	**Vista Hermosa**	**1.76**	**50**	eP	Pn	00 20 50.5	-2.8
VHO				eS	Sn	00 21 09.4	-5.8
VHO	**Vista Hermosa**	**1.76**	**50**	eP	Pn	00 20 50.5	-2.8
VHO				i S	Sn	00 21 10.1	-5.2
OXX	**Oaxaca**	**1.77**	**50**	eP	Pn	00 20 49.5	-4.0
OXX				eS	Sn	00 21 10.5	-5.1
ACX	**Acapulco**	**1.94**	**299**	eP	Pn	00 21 10.0	+14
ACX				eS	Sn	00 21 28.0	+8.1
PLIG	**Platanillo**	**2.77**	**332**	eP	Pn	00 21 05.2	-2.6
PLIG				i S	Sn	00 21 35.2	-5.7
YAIG	**Yautepec**	**3.04**	**343**	eP	Pn	00 21 07.1	-4.5
PPM	**Popocatepetl**	**3.14**	**352**	i P	Pn	00 21 14.1	+0.9
PPM				eS	Sn	00 21 47.3	-3.2
PPM	**Popocatepetl**	**3.14**	**352**	i P	Pn	00 21 10.8	-2.3
PPM				eS	Sn	00 21 47.3	-3.2
CMIG	**Matias Romero**	**3.33**	**69**	eP	Pn	00 21 11.9	-3.8
CMIG				i S	Sn	00 21 49.4	-5.6

*TEH **06** 00:29:38.9, 38.80N×48.36E, h10km, Mn3.7*
*THR **06** 00:29:38.7±0.5, 38.86N×48.57E, h28km±4km, ML3.7*
*CSEM **06** 00:29:38.0±0.3, 39.03N×48.53E, h40km, ML3.7, Error ellipse: s-maj=8.9km s-min=3.2km az=10.0*
ISC 06 00:29:39.3±1.5**, 38.9N**±0.1×**48.58E**±0.09**, h32**km±10km**, n22, σ0s90**/25**, Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**0.53**	**266**	i PG	**Pb**	**00 29 49.8**	**-0.5**
GRMI				eSG	**Sb**	**00 29 57.5**	**-0.4**
GRMI				AML	AML	00 29 58.4	
	comp=E,12µm,0.1s						
GRMI	**Germi**	**0.53**	**266**	i Pg	**Pb**	**00 29 49.8**	**-0.5**
	SNR=110						
GRMI				eSg	**Sb**	**00 29 57.5**	**-0.4**
	comp=E,12µm,0.1s,SNR=110						
IHRS	**Heris**	**1.31**	**247**	Pn	**Pn**	**00 30 01.3**	**-0.5**
IHRS	**Heris**	**1.31**	**247**	Pn	**Pn**	**00 30 01.3**	**-0.5**
ITBZ	**Tabriz**	**2.00**	**253**	Pn	**Pn**	**00 30 09.7**	**-1.9**
IMRD	**Marand**	**2.25**	**267**	Pn	**Pn**	**00 30 13.9**	**-1.2**
MAKU	**Maku**	**3.07**	**281**	ePN	**Pn**	**00 30 27.7**	**+0.9**
MAKU				eSG	**Sb**	**00 31 12.1**	**+1.6**
MAKU				AML	AML	00 31 14.1	
	comp=N,94nm,0.4s						
MAKU	**Maku**	**3.07**	**281**	eSg	**Sn**	**00 31 12.1**	**+9.3**
	SNR=92						
IRAZ	**Razeghan**	**3.61**	**162**	Pn	**Pn**	**00 30 32.7**	**-1.7**
SNGE	**Sanandaj**	**3.88**	**195**	ePN	**Pn**	**00 30 39.0**	**+0.7**
IAFJ	**Afjeh**	**3.90**	**139**	Pn	**Pn**	**00 30 38.3**	**-0.3**
DAMV	**Damavand**	**4.21**	**139**	ePN	**Pn**	**00 30 43.2**	**+0.3**
DAMV				AML	AML	00 31 34.0	
	comp=N,85nm,0.4s						
DAMV	**Damavand**	**4.21**	**139**	ePn	**Pn**	**00 30 43.2**	**+0.3**
	SNR=54						
IDMV	**Damavand**	**4.28**	**139**	Pn	**Pn**	**00 30 44.5**	**+0.5**
IDMV	**Damavand**	**4.28**	**139**	Pn	**Pn**	**00 30 44.8**	**+0.8**
IDHR	**Dehrash**	**4.50**	**204**	Pn	**Pn**	**00 30 47.6**	**+0.5**
IVIS	**Veys**	**4.54**	**198**	Pn	**Pn**	**00 30 48.0**	**+0.4**
IFIR	**Firoozkooh**	**4.62**	**133**	Pn	**Pn**	**00 30 48.7**	**-0.2**
IFIR	**Firoozkooh**	**4.62**	**133**	Pn	**Pn**	**00 30 49.2**	**+0.3**
IFIR	**Firoozkooh**	**4.62**	**133**	Pn	**Pn**	**00 30 49.2**	**+0.3**
IKOM	**Komasi**	**4.74**	**191**	Pn	**Pn**	**00 30 51.4**	**+0.8**
IGHG	**Ghaleghazi**	**4.79**	**200**	Pn	**Pn**	**00 30 51.5**	**+0.2**

IDC 06 00:34:34.1±44.0**, 10.20S×162.89E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, mbtmp3.8**/3**, Error ellipse: s-maj=743.5km s-min=103.6km az=57.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**29.17**	**247**	P	P	00 40 36.5	-3.0
	0.3nm,0.3s,baz=79,slow=8.8,SNR=5.3						
STKA	**Stephens Creek**	**29.21**	**219**	P	P	00 40 38.1	-1.7
	2.3nm,0.9s,baz=21,slow=8.6,SNR=3.2						
ASAR	**Alice Springs**	**30.71**	**240**	P	P	00 40 51.6	-1.6
	0.5nm,0.4s,baz=63,slow=10,SNR=8.1						

CASC 06 00:51:34.7±2.6**, 13.88N×91.22W, h17**km±12km**, MD4.0, 4C-7D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.59**	**317**	⇓eP	Pb	00 51 46.5	+0.3
JAT				eS	Sb	00 51 56.5	+2.5
FUG	**Fuego 3**	**0.67**	**33**	⇓eP	Pb	00 51 47.6	0.0
PCG	**Pacaya**	**0.78**	**49**	eP	Pb	00 51 50.3	+0.8
PCG				eS	Sb	00 52 02.9	+3.3
IXG	**Ixpaco**	**0.80**	**69**	⇓eP	Pb	00 51 49.7	-0.1
IXG				eS	Sb	00 52 02.2	+2.2
TP2	**Tecpan 2**	**0.92**	**12**	⇓eP	Pb	00 51 50.6	-1.2
TP2				eS	Sb	00 52 04.3	+0.9
RBDL	**Robledal**	**1.51**	**81**	⇑eP	Pn	00 51 60.0	-1.2
RBDL				eS	Sn	00 52 20.7	+0.2
RTR	**El Retiro**	**1.53**	**89**	eP	Pn	00 52 01.1	-0.4
RTR				eS	Sn	00 52 22.9	+1.7
SBLS	**San Blas**	**1.55**	**91**	⇓eP	Pn	00 52 01.2	-0.7
SBLS				eS	Sn	00 52 21.9	+0.2
SNJE	**San Jose**	**1.57**	**90**	eP	Pn	00 52 01.7	-0.4
SNJE				eS	Sn	00 52 22.5	+0.4
BOQS	**Boqueron**	**1.89**	**94**	eP	Pn	00 52 07.0	+0.3
BOQS				eS	Sn	00 52 31.6	+1.4
LFU	**La Fuente**	**2.05**	**93**	⇑eP	Pn	00 52 08.6	-0.4
LFRS	**El Faro**	**2.12**	**97**	eP	Pn	00 52 08.8	-1.1
LFRS				eS	Sn	00 52 36.4	+0.4
LCBS	**La Ceiba**	**2.19**	**96**	⇑eP	Pn	00 52 10.2	-0.8
LCBS				eS	Sn	00 52 37.6	-0.3
SNVI	**San Vicente**	**2.33**	**96**	eP	Pn	00 52 12.2	-0.8
SNVI				eP		00 52 12.3	
SNVI				eS	Sn	00 52 40.7	-0.8
SNVI				eS	Sn	00 52 41.4	0.0
VSM	**San Miguel**	**2.90**	**99**	⇑eP	Pn	00 52 21.0	-0.1
VSM				eS	Sn	00 52 57.2	+1.3
BLLM	**Bellamira**	**2.93**	**98**	⇓eP	Pn	00 52 21.4	-0.2
CNCH	**Conchagua**	**3.35**	**100**	⇓eP	Pn	00 52 26.8	-0.7
CNCH				eS	Sn	00 53 07.4	+0.1

*IDC **06** 01:14:04.3±1.2, 33.77S×56.48E, mb4.1/7, mb1 4.2/7, mb1mx3.9/19, mbtmp4.1/7, MS3.6/2, Ms1 3.6/2, ms1mx2.8/19, Error ellipse: s-maj=60.6km s-min=22.5km az=20.0*
*NEIC **06** 01:14:06.0±0.7, 33.69S×56.51E, h10km, mb4.0/2, Error ellipse: s-maj=39.9km s-min=13.9km az=198.0*
ISC 06 01:14:04.2±0.9**, 33.7S**±0.3×**56.5E**±0.2**, h10km, n13, σ0s62**/9**, mb4.0**/8**, MS3.5**/2**, Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATP	**Matopo**	**28.13**	**291**	P	**P**	**01 19 59.6**	**+1.2**
	1.9nm,0.9s,mb3.7,baz=131,slow=7.0,SNR=2.8						
MATP				LR	LR	01 29 26.3	
	comp=Z,119nm,20.3s,MS3.5,baz=113,slow=33						
KMBO	**Kilima Mbogo**	**37.10**	**327**	LR	LR	01 34 48.6	
	comp=Z,94nm,20.6s,MS3.6,baz=99,slow=34						
TSUM	**Tsumeb**	**37.49**	**283**	P	**P**	**01 21 18.7**	**-1.2**
	1.6nm,0.8s,mb3.9,baz=120,slow=8.0,SNR=4.7						
TSUM	**Tsumeb**	**37.49**	**283**	eP	**P**	**01 21 19.1**	**-0.8**
	1.0nm,0.6s,mb3.8						
ASAR	**Alice Springs**	**67.22**	**104**	P	**P**	**01 25 01.1**	**+0.1**
	1.0nm,0.8s,mb3.9,baz=237,slow=5.8,SNR=6.4						
ASF	**Jabal al Asfar**	**68.09**	**342**	P	**P**	**01 25 05.9**	**-0.4**
	0.6nm,0.4s,mb4.0,baz=320,slow=7.9,SNR=1.8						
WRA	**Warramunga Arr**	**69.36**	**101**	P	**P**	**01 25 14.0**	**-0.3**
	5.1nm,1.1s,mb4.3,baz=237,slow=5.6,SNR=7.7						
WRAB	**Tennant Creek**	**69.37**	**101**	eP	**P**	**01 25 14.7**	**+0.3**
	1.0nm,0.5s,mb4.0						
DBIC	**Dimbokro**	**70.54**	**292**	P	**P**	**01 25 28.3**	**+6.7**
	3.0nm,0.9s,mb4.2,baz=140,slow=7.9,SNR=3.0						
BVAR	**Borovoye Array**	**87.22**	**8**	P	**P**	**01 26 51.7**	**+0.1**
	0.8nm,0.8s,mb4.0,baz=180,slow=4.3,SNR=2.7						
ILAR	**Eielson Array**	**145.80**	**18**	PKPbc	PKPbc	01 33 44.0	+1.0
	0.6nm,0.6s,baz=307,slow=3.7,SNR=13						
YKA	**Yellowknife Ar**	**150.65**	**352**	PKPbc	PKPdf	01 33 57.5	+4.5
	1.1nm,0.7s,baz=14,slow=2.1,SNR=29						
YKA				PKPab	PKPab	01 34 04.5	-0.1
	1.0nm,0.6s,baz=13,slow=2.2,SNR=9.8						
YKA	**Yellowknife Ar**	**150.65**	**352**	PKPbc	PKPdf	01 33 57.5	+4.5
YKA				PKPab	PKPab	01 34 04.5	-0.1

*NEIC **06** 01:36:35.0, 34.99S×70.62W, h2km, ML3.1(GUC), After GUC.*
GUC 06 01:36:35.0±0.9**, 34.99S×70.62W, h2**km±3km**, MD3.7, ML3.1, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFDO	**San Fernando**	**0.49**	**318**	⇓i P	Pg	01 36 45.2	+0.3
NICH	**Los Niches**	**0.51**	**268**	⇑i P	Pg	01 36 44.6	-0.4
NICH				i S	Sg	01 36 53.2	+1.4
CACH	**El Canelo**	**0.87**	**1**	⇑i P	Pg	01 36 51.5	-0.8
CACH				i S	Sg	01 37 04.6	+0.8
CHCH	**Chadas Angostu**	**1.05**	**358**	⇑i P	Pb	01 36 54.8	-0.8
CHCH				i S	Sb	01 37 09.7	+0.1
LNCH	**Linares**	**1.18**	**223**	⇑i P	Pb	01 37 00.5	+2.8
LNCH				i S	Sb	01 37 16.5	+3.2
LNCH				AMP		01 37 17.5	
	comp=E,1µm,0.7s						
LMEL	**Las Melosas**	**1.19**	**17**	eP	Pb	01 36 56.7	-1.2
LMEL				i S	Sb	01 37 13.5	0.0
LMEL				AMP		01 37 14.1	
	comp=N,299nm,0.4s						
LNV	**Longovilo**	**1.22**	**327**	⇓i P	Pb	01 36 57.6	-0.9
LNV				i S	Sb	01 37 14.3	-0.2
TACH	**Talagante**	**1.35**	**349**	eP	Pb	01 36 59.8	-1.0
TACH				i S	Sb	01 37 18.7	+0.2
PCH	**Pirque**	**1.36**	**4**	eP	Pb	01 37 00.3	-0.6
ANTU	**Antumapu**	**1.41**	**359**	i S	Sb	01 37 20.4	+0.3
ANTU				AMP		01 37 22.3	
	comp=E,431nm,0.4s						
RCDM	**Rinconada Maip**	**1.50**	**354**	⇑i P	Pn	01 37 02.5	-0.6
RCDM				i S	Sb	01 37 22.9	+0.2
RCDM				AMP		01 37 25.3	
	comp=E,510nm,0.5s						
CLCH	**Cerro Calan**	**1.59**	**2**	eP	Pn	01 37 04.1	-0.2
CLCH				i S	Sb	01 37 25.8	+0.6
CLCH				AMP		01 37 28.2	
	comp=E,499nm,0.3s						
FCH	**Farellones**	**1.68**	**9**	eP	Pn	01 37 05.4	-0.1
FCH				i S	Sb	01 37 29.1	+1.3
FCH				AMP		01 37 30.4	
	comp=E,305nm,0.4s						
LCCH	**Las Cruces**	**1.70**	**332**	⇑i P	Pn	01 37 05.6	-0.3
LCCH				i S	Sb	01 37 28.5	0.0
CCHI	**Chillan**	**2.00**	**216**	eP	Pn	01 37 10.0	-0.2
CCHI				i S	Sn	01 37 36.9	+0.6
CCHI				AMP		01 37 41.5	
	comp=E,603nm,0.8s						
ROCH	**El Roble**	**2.04**	**351**	⇑i P	Pn	01 37 11.4	+0.7

*BJI **06** 01:39:05.9, 11.21S×163.38E, h18km, mB5.7, mb5.4, Ms5.8, Msz5.5*
*NEIC **06** 01:39:06.9±0.2, 11.06S×163.21E, h10km, mb5.5/52, MS5.7/121, MW5.9, Error ellipse: s-maj=6.7km s-min=5.5km az=131.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr0.10; Mθθ-5.56; Mφφ5.46; Mrθ5.31; Mθφ3.93; Mφr-1.92; Best double couple: Mo8.4×10^17 NP1:φs238°, δ68°, λ-20°. NP2:φs336°, δ72°, λ-156°. Principal axes: T 6.73, Plg3°, Azm107°; N 3.25, Plg61°, Azm12°; P -9.98, Plg29°, Azm198°;*
*HRVD **06** 01:39:06.9±0.1, 11.01S×163.12E, h15km, MW5.9/72, Centroid moment Tensor Solution. LP body waves: s70,c159; Mantle waves: s72,c252; Half duration: 2s3 Moment tensor: Scale 10^18Nm; Mrr0.10±.01; Mθθ-0.37±.01; Mφφ0.26±.01; Mrθ0.22±.03; Mθφ0.76±.01; Mφr-0.56±.04; Best double couple: Mo1.013×10^18 NP1: φs258°, δ54°, λ2°. NP2:φs167°, δ88°, λ144°. Principal axes: T .941, Plg26°, Azm116°; N .145, Plg53°, Azm345°; P -1.086, Plg24°, Azm218°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*CSEM **06** 01:39:09.5, 11.03S×163.10E, h33km, mb5.5*
*MOS **06** 01:39:09.8±1.4, 11.07S×163.10E, h33km, mb5.5/31, Error ellipse: s-maj=9.0km s-min=7.8km az=50.9*
*IDC **06** 01:39:11.2±2.9, 11.06S×163.02E, h30km±20km, mb4.9/20, mb1 5.1/22, mb1mx5.0/23, mbtmp5.1/22, ML4.4/2, MS5.5/16, Ms1 5.5/16, ms1mx5.5/16, Error ellipse: s-maj=16.0km s-min=11.9km az=130.0*
ISC 06 01:39:09.4±0.2**, 11.10S**±0.04×**163.11E**±0.03**, h34km, h34**km±1.4km**:pP-P, n339, σ1s26**/219**, mb5.4**/84**, MS5.6**/159**, 12C-8D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.52**	**298**	⇑ePn	**P**	**01 40 04.0**	**+0.9**
HNR				eSn	**S**	**01 40 44.1**	**-0.2**
NOUC	**Port Laguerre**	**11.36**	**165**	eP	**P**	**01 41 49.6**	**-2.9**
NOUC				eS	**S**	**01 43 51.2**	**-8.0**
NOUC	**Port Laguerre**	**11.36**	**165**	eP	**P**	**01 41 49.6**	**-2.9**
NOUC				eS	**S**	**01 43 51.2**	**-8.0**
DZM	**Mont Dzumac**	**11.37**	**164**	eP	**P**	**01 41 49.6**	**-2.9**
DZM				eS	**S**	**01 43 41.3**	**-18**
DZM	**Mont Dzumac**	**11.37**	**164**	eP	**P**	**01 41 49.6**	**-2.9**
DZM				eS	**S**	**01 43 41.3**	**-18**
PMG	**Port Moresby**	**15.79**	**275**	eP	**P**	**01 42 52.4**	**+1.5**
PMG				pmax	pmax		
	comp=Z,470nm,1.2s						
PMG	**Port Moresby**	**15.79**	**275**	Pn	**P**	**01 42 54.4**	**+3.5**
	comp=Z,1.8nm,0.3s,baz=93,slow=6.3,SNR=17						
PMG	**Port Moresby**	**15.79**	**275**	eP	**P**	**01 42 52.4**	**+1.4**
	comp=Z,470nm,1.2s						
CTA	**Charters Tower**	**18.52**	**239**	⇓i P	**P**	**01 43 25.5**	**+0.2**
	comp=Z,103nm,0.9s						
CTA	**Charters Tower**	**18.52**	**239**	⇓i P	**P**	**01 43 25.5**	**+0.2**
CTA				pmax	pmax		
	comp=Z,103nm,0.9s						
CTA	**Charters Tower**	**18.52**	**239**	P	**P**	**01 43 25.5**	**+0.2**
	comp=Z,2.3nm,0.3s,baz=68,slow=12,SNR=40						
CTA				LR	LR	01 49 31.8	
	comp=Z,25µm,21.3s,baz=58,slow=34						
CTAO	**Charters Tower**	**18.52**	**239**	eP	**P**	**01 43 24.5**	**-0.8**
CTAO				pmax	pmax		
	comp=Z,340nm,1.3s						
CTAO	**Charters Tower**	**18.52**	**239**	eP	**P**	**01 43 24.5**	**-0.7**
	comp=Z,340nm,1.3s						
KWAJ	**Kwajalein Atol**	**20.27**	**13**	P	**P**	**01 43 43.8**	**-1.0**
	comp=Z,3µm,1.8s						
KWAJ				LR	LR		
	comp=Z,4µm,20.0s,MS4.7						
AFI	**Afiamalu**	**24.67**	**99**	PFAKE		01 44 40.0	+11
AFI				LR	LR		
	comp=Z,18µm,19.0s,MS5.6						
RIV	**Riverview**	**25.13**	**204**	eP	**P**	**01 44 34.4**	**+1.5**
RAO	**Raoul Island**	**25.30**	**138**	PFAKE		01 44 40.0	+5.5
RAO				LR	LR		
	comp=Z,17µm,20.0s,MS5.6						
CNB	**Canberra Magne**	**27.16**	**205**	eP	**P**	**01 44 52.6**	**+0.9**
	comp=Z,538nm,0.9s,mb6.1						
STKA	**Stephens Creek**	**28.67**	**221**	⇓i P	**P**	**01 45 04.5**	**-0.9**
	comp=Z,71nm,0.9s,mb5.4						
STKA				eS	**S**	**01 49 53.1**	**+2.7**
STKA	**Stephens Creek**	**28.67**	**221**	P	**P**	**01 45 04.5**	**-0.8**
	comp=Z,97nm,1.0s,mb5.5,baz=15,slow=6.9,SNR=73						
STKA				LR	LR	01 55 40.5	
	comp=Z,19µm,20.5s,MS5.7,baz=35,slow=34						
WRAB	**Tennant Creek**	**29.03**	**249**	d i P	**P**	**01 45 06.6**	**-2.1**
WRAB	**Tennant Creek**	**29.03**	**249**	eP	**P**	**01 45 06.8**	**-1.9**
	comp=Z,167nm,1.4s,mb5.6						
WRAB				LR	LR		
	comp=Z,6µm,20.0s,MS5.2						
WRA	**Warramunga Arr**	**29.04**	**249**	P	**P**	**01 45 07.6**	**-1.2**
	comp=Z,26nm,0.9s,mb5.0,baz=80,slow=9.2,SNR=84						
URZ	**Urewera**	**29.81**	**157**	P	**P**	**01 45 16.7**	**+1.2**
	comp=Z,2.3nm,0.4s,mb4.3,baz=343,slow=7.1,SNR=6.1						
URZ				LR	LR	01 55 40.7	
	comp=Z,11µm,18.4s,MS5.5,baz=195,slow=33						
KAKA	**Kakadu**	**30.05**	**264**	eP	**P**	**01 45 15.1**	**-2.6**
	comp=Z,31nm,0.6s,mb5.2						
ASAR	**Alice Springs**	**30.47**	**242**	P	**P**	**01 45 19.4**	**-2.1**
	comp=Z,18nm,0.5s,mb5.0,baz=63,slow=10,SNR=117						
ASAR				S	**S**	**01 50 20.9**	**+1.9**
	comp=Z,4.0nm,1.0s,baz=66,slow=16,SNR=3.7						
ASAR				ScP		01 52 01.4	
	comp=Z,8.3nm,1.1s,baz=74,slow=3.1,SNR=8.7						
ASAR				LR	LR	01 57 04.9	
	comp=Z,14µm,18.9s,MS5.6,baz=65,slow=35						
ASPA	**Alice Springs**	**30.47**	**242**	⇑i P	**P**	**01 45 19.3**	**-2.2**
TOO	**Toolangi**	**30.75**	**208**	eP	**P**	**01 45 24.2**	**+0.4**
	comp=Z,3.9nm,0.9s						
TOO				eS	**S**	**01 50 30.8**	**+7.6**
TOO	**Toolangi**	**30.75**	**208**	eP	**P**	**01 45 24.2**	**+0.4**
TOO				eS	**S**	**01 50 30.8**	**+7.6**
TOO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SNZO	**South Karori**	**31.78**	**163**	PFAKE		01 45 40.0	+7.2
SNZO				LR	LR		
	comp=Z,11µm,20.0s,MS5.5						
RPZ	**Rata Peaks**	**33.22**	**169**	P	**P**	**01 45 46.6**	**+1.2**
	comp=Z,20nm,0.8s,mb5.1,slow=9.1,SNR=2.8						
RPZ				LR	LR	01 57 51.4	
	comp=Z,13µm,18.6s,MS5.7,baz=341,slow=34						
TAU	**Tasmania Unive**	**34.55**	**201**	PFAKE		01 46 10.0	+13
TAU				LR	LR		
	comp=Z,1µm,20.0s,MS4.6						
FITZ	**Fitzroy Crossi**	**36.87**	**255**	eP	**P**	**01 46 14.9**	**-1.8**
	comp=Z,68nm,0.8s,mb5.5						
RAR	**Rarotonga**	**36.96**	**111**	P	**P**	**01 46 19.9**	**+2.5**
	comp=Z,51nm,1.2s,mb5.2,baz=225,slow=11,SNR=2.3						
RAR				LR	LR	01 58 14.9	
	comp=Z,5µm,19.4s,MS5.3,baz=280,slow=31						
RAR	**Rarotonga**	**36.96**	**111**	P	**P**	**01 46 19.9**	**+2.5**
RAR				LR	LR	01 58 14.9	
FORT	**Forrest**	**37.91**	**234**	⇑i P	**P**	**01 46 24.5**	**-0.9**
	comp=Z,3µm,0.9s						
MBWA	**Marble Bar**	**42.73**	**251**	eP	**P**	**01 47 04.0**	**-1.4**
	comp=Z,110nm,1.2s,mb5.5						
MBWA				LR	LR		
	comp=Z,8µm,20.0s,MS5.6						
CBIJ	**Chichi jima**	**43.05**	**332**	LR	LR	02 02 49.8	
	comp=Z,4µm,18.4s,MS5.4,baz=138,slow=33						
PAE	**Paea**	**46.20**	**104**	eP	**P**	**01 47 34.3**	**+1.1**
	comp=Z,250nm,1.1s,mb6.0						
PPT	**Papeete**	**46.20**	**104**	eP	**P**	**01 47 34.5**	**+1.3**
	comp=Z,74nm,1.4s,mb5.4						
PPT	**Papeete**	**46.20**	**104**	eS	**S**	**01 54 16.4**	**0.0**
PPT				eLQ		01 58 48.7	
PPT				eLR	LR	02 00 41.0	
	comp=Z,12µm,28.8s,baz=275						
TIAR	**Tiarei**	**46.42**	**104**	eP	**P**	**01 47 36.3**	**+1.4**
	comp=Z,217nm,0.9s,mb6.1						
KLBR	**Kellerberrin**	**46.51**	**237**	eP	**P**	**01 47 33.7**	**-1.8**

comp=Z,881nm,1.2s
TVO Taravao 46.51 104 *e*P **P** **01 47 37.2 +1.5**
comp=Z,111nm,0.8s,mb5.8
TBI Tubuai 46.72 112 *e*S **S** **01 54 22.3 -1.4**
TBI *e*LQ 01 59 03.2
TBI *e*LR LR 02 01 06.8
comp=Z,14μm,30.0s,baz=282
NWAO Narrogin (SRO) 47.30 235 P **P** **01 47 42.0 +0.3**
NWAO pmax pmax
comp=Z,44nm,1.1s
NWAO Narrogin (SRO) 47.30 235 P **P** **01 47 41.9 +0.2**
comp=Z,52nm,1.1s,mb5.4,baz=65,slow=9.4,SNR=9.4
NWAO Narrogin (SRO) 47.30 235 *e*P **P** **01 47 41.1 -0.6**
comp=Z,44nm,1.1s,mb5.3
NWAO LR LR
comp=Z,12μm,21.0s,MS5.8
MEH Mehetia 47.64 104 *e*P **P** **01 47 45.9 +1.3**
comp=Z,263nm,1.3s,mb6.1
PMOR Pomariorio Ree 47.82 100 *e*P **P** **01 47 47.3 +1.3**
comp=Z,321nm,1.2s,mb6.2
MUN Mundaring 47.88 237 *e*P **P** **01 47 45.6 -0.7**
comp=Z,33nm,0.9s,mb5.4
MUN *e*S **S** **01 54 42.3 +2.2**
MUN Mundaring 47.88 237 *e*P **P** **01 47 45.6 -0.7**
MUN *e*S **S** **01 54 42.3 +2.2**
MUN pmax pmax
comp=Z,33nm,0.9s,mb5.4
KIP Kipapa 50.02 50 PFAKE 01 48 10.0 +7.1
KIP LR LR
comp=Z,7μm,19.0s,MS5.7
JOW Kunigami 50.65 319 LR LR 02 05 28.2
comp=Z,4μm,22.0s,MS5.4,baz=122,slow=31
POHA Pohakuloa 50.98 53 PFAKE 01 48 20.0 +10
POHA LR LR
comp=Z,57μm,19.0s,MS6.6
MAJO Matsushiro 52.87 335 P **P** **01 48 26.8 +2.6**
MAJO pmax pmax
comp=Z,49nm,1.2s,mb5.3
MAJO Matsushiro 52.87 335 *e*P **P** **01 48 22.7 -1.5**
comp=Z,49nm,1.3s,mb5.3
MAJO LR LR
comp=Z,5μm,21.0s,MS5.5
MAT Matsushiro 52.87 335 P **P** **01 48 24.0 -0.2**
MAT *e*S **S** **01 55 45.0 -4.1**
MAT pmax pmax
comp=Z,60nm,1.4s,mb5.3
MAT MLR MLR
comp=Z,5μm,20.0s,MS5.5
MAT Matsushiro 52.87 335 P **P** **01 48 24.0 -0.2**
comp=Z,60nm,1.4s,mb5.3
MAT *e*S **S** **01 55 45.0 -4.1**
MAT LR LR
comp=Z,5μm,20.0s,MS5.5
MAT Matsushiro 52.87 335 P **P** **01 48 23.5 -0.7**
MAT *S* **S** **01 55 45.0 -4.1**
NACB Ninganchiao 53.60 311 *e*P **P** **01 48 29.9 +0.1**
YHNB Yeheng 54.05 312 *e*P **P** **01 48 32.5 -0.6**
TATO Taipei 54.15 312 *e*P **P** **01 48 32.0 -1.8**
comp=Z,136nm,1.2s,mb5.8
TATO LR LR
comp=Z,8μm,22.0s,MS5.7
TAOE Nuku Hiva Isla 55.86 93 *e*S **S** **01 56 30.0 +0.3**
TAOE *e*LR LR 02 05 09.6
baz=261
QZH Quanzhou 56.28 310⇑ *i*P **P** **01 48 51.6 +2.4**
QZH S **S** **01 56 39.0 +3.9**
QZH AMB AMB
comp=Z,160nm,1.3s,mb5.9
QZH AMB AMB
comp=Z,2μm,8.6s
QZH LR LR
comp=N,980nm,12.9s,MS5.6
QZH LR LR
comp=E,3μm,13.5s,MS5.6
QZH LR LR
comp=Z,12μm,42.5s
DRV Dumont d'Urvil 57.65 191 P **P** **01 49 08.0 +10**
DRV S **S** **01 56 57.0 +4.4**
DRV R 02 06 00.0
ASAJ Asahikawa 58.03 343 P **P** **01 49 02.4 +1.0**
comp=Z,97nm,1.2s,mb5.7,baz=218,slow=7.9,SNR=19
SSE Sheshan 58.11 318 P **P** **01 49 03.6 +1.4**
SSE AP pP 01 49 15.2 +2.6
SSE XP sP 01 49 18.8 +2.1
SSE PP PP 01 51 12.4 -0.2
SSE S **S** **01 57 03.4 +4.3**
SSE SS SS 02 00 57.9 +5.6
SSE AMB AMB
comp=Z,61nm,0.8s,mb5.7
SSE AMB AMB
comp=Z,355nm,11.8s
SSE LR LR
comp=N,2μm,20.4s,MS5.3
SSE LR LR
comp=E,2μm,20.4s,MS5.3
SSE LR LR
comp=Z,3μm,23.6s,MS5.4
SSE Sheshan 58.11 318 P **P** **01 49 03.6 +1.4**
comp=Z,61nm,0.8s,mb5.7
SSE pP pP 01 49 15.2 +2.6
SSE sP sP 01 49 18.8 +2.1
SSE PP PP 01 51 12.4 -0.2
SSE S **S** **01 57 03.4 +4.3**
SSE sS 01 57 23.3
SSE SS SS 02 00 57.9 +5.6
SSE LR LR
comp=Z,3μm,23.6s,MS5.4
KS15 Wonju Array Si 58.50 327 *e*P **P** **01 49 03.8 -1.0**
INCN Inchon 59.20 327 *e*P **P** **01 49 10.3 +0.7**
comp=Z,98nm,1.3s,mb5.7
INCN LR LR
comp=Z,5μm,20.0s,MS5.6
RKT Rikitea 60.00 110 *e*S **S** **01 57 28.3 +4.6**
RKT *e*LR LR 02 07 11.6
comp=Z,14μm,28.2s,baz=281
NJ2 Nanjing 60.26 317 *e*P **P** **01 49 17.3 +0.3**
NJ2 AP pP 01 49 27.4 -0.1
NJ2 XP sP 01 49 31.3 -0.2
NJ2 PP PP 01 51 32.9 +1.0
NJ2 S **S** **01 57 26.0 -1.0**
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,4.7s
NJ2 LR LR
comp=N,5μm,30.9s
NJ2 LR LR
comp=E,3μm,14.6s
NJ2 LR LR
comp=Z,2μm,12.0s
QIZ Qiongzhong 60.44 299 *e*P **P** **01 49 21.8 +3.4**
QIZ S **S** **01 57 31.2 +1.8**
QIZ LR LR
comp=E,2μm,23.5s
QIZ LR LR
comp=Z,4μm,25.3s,MS5.5
YSS Yuzh-Sakhalins 60.59 344 *e*P **P** **01 49 18.0 -1.0**
YSS *e* 01 49 37.0
YSS *e* 01 50 06.0
YSS *e*S **S** **01 57 34.0 +3.1**
YSS *e*PPS PPS 01 58 04.0 +4.4
YSS *e* 01 59 06.0
YSS *e*SSS SSS 02 04 04.0 -2.2
YSS smax
comp=N,1μm,13.0s
YSS smax
comp=E,2μm,11.0s
YSS MLR MLR
comp=Z,3μm,16.0s,MS5.6
YSS MLR MLR
comp=N,3μm,18.0s
YSS Yuzh-Sakhalins 60.59 344 *e*P **P** **01 49 18.3 -0.7**
comp=N,72nm,1.2s,mb5.7
YSS LR LR
comp=Z,4μm,20.0s,MS5.6
VLA Vladivostok 61.02 334 *e*P **P** **01 49 29.0 +6.9**
VLA *e*PPP PPP 01 53 08.0 +1.3
VLA *i* S **S** **01 57 41.0 +4.4**
VLA *i* PS PS 01 58 09.0 +12
VLA *e* 01 59 11.0
VLA *i* SS SS 02 01 41.0 +3.3
VLA *i* SSS SSS 02 04 19.0 +3.2
VLA pmax pmax
comp=Z,1μm,10.0s
VLA pmax pmax
comp=N,1μm,11.0s
VLA pmax pmax
comp=Z,1μm,7.0s
VLA pmax pmax
comp=N,500nm,6.0s
VLA smax
comp=E,3μm,13.0s
VLA smax
comp=N,1μm,10.0s
VLA MLR MLR
comp=N,2μm,16.0s,MS5.3
VLA MLR MLR
comp=Z,3μm,16.0s,MS5.5
VLA MLR MLR
comp=E,1μm,20.0s,MS5.3
SKR Severo-Kuril's 61.82 355 *e*P pP 01 49 46.0 +8.3
SKR *e*PPP PPP 01 53 14.0 -0.5
SKR *e*S **S** **01 57 48.0 +1.4**
SKR *e*PS PS 01 58 10.0 +2.3
SKR *e*SS SS 02 01 44.0 -6.3
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,4μm,10.0s
SKR MLR MLR
comp=E,4μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s,MS5.6
WHN Wuhan 62.51 313⇑ P **P** **01 49 32.5 +0.3**
WHN S **S** **01 57 52.0 -3.6**
WHN LR LR
comp=Z,9μm,20.1s,MS5.9
DL2 Dalian 62.99 325 *e*P **P** **01 49 35.6 +0.3**
DL2 S **S** **01 58 03.7 +2.3**
DL2 AMB AMB
comp=Z,320nm,7.4s
DL2 LR LR
comp=N,2μm,26.1s,MS5.3
DL2 LR LR
comp=E,1μm,26.0s,MS5.3
DL2 LR LR
comp=Z,2μm,30.0s,MS5.1
MDJ Mudanjiang 63.22 334 P **P** **01 49 37.7 +1.0**
MDJ AP pP 01 49 47.7 +0.5
MDJ XP sP 01 49 52.0 +0.8
MDJ PCP PcP 01 50 13.6 0.0
MDJ PP PP 01 52 01.4 +4.1
MDJ S **S** **01 58 08.6 +4.4**
MDJ SS SS 02 02 15.1 +2.6
MDJ AMB AMB
comp=Z,32nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,50nm,3.1s
MDJ LR LR
comp=N,2μm,17.6s,MS5.6
MDJ LR LR
comp=E,3μm,17.6s,MS5.6
MDJ LR LR
comp=Z,3μm,22.5s,MS5.5
MDJ Mudanjiang 63.22 334 *e*P **P** **01 49 37.2 +0.5**
comp=Z,151nm,1.6s,mb5.9
PET Petropavlovsk 63.98 357 *e*P **P** **01 49 42.3 +0.8**
PET *e*S **S** **01 58 17.6 +4.1**
PET *e*PS PS 01 58 37.3 -0.3
PET *e*SS SS 02 02 19.6 -4.2
PET *e*SSS SSS 02 05 08.8 -3.9
PET pmax pmax
comp=Z,65nm,1.2s,mb5.5
PET pmax pmax
comp=Z,500nm,12.9s
PET smax
comp=E,2μm,18.2s
PET MLR MLR
comp=Z,2μm,13.0s,MS5.6
PET Petropavlovsk 63.98 357 *e*P **P** **01 49 40.5 -1.0**
comp=Z,60nm,1.0s,mb5.6
PET LR LR
comp=Z,3μm,20.0s,MS5.5
KULM Kulim 64.25 281 *e*P **P** **01 49 42.5 -1.4**
SMY Shemya 64.27 7 PFAKE 01 49 50.0 +6.6
SMY LR LR
comp=Z,8μm,20.0s,MS5.9
FX1 Attu Island--F 64.30 7 P **P** **01 49 44.0 +0.4**
comp=Z,29nm,0.8s,mb5.4,baz=153,slow=5.1,SNR=6.5
PTCN Pitcairn Islan 64.45 113 PFAKE 01 50 00.0 +15
PTCN LR LR
comp=Z,5μm,20.0s,MS5.7
CN2 Changchun 64.49 331 *e*P **P** **01 49 48.3 +3.3**
CN2 *e*S **S** **01 58 24.3 +4.3**
CN2 SS SS 02 02 35.6 +3.5
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,380nm,3.0s
CN2 LR LR
comp=N,5μm,20.0s,MS5.8
CN2 LR LR
comp=E,5μm,20.0s,MS5.8
CN2 LR LR
comp=Z,5μm,20.0s,MS5.7
CASY Casey 65.41 201 PFAKE 01 50 00.0 +9.5
CASY LR LR
comp=Z,2μm,20.0s,MS5.3
ENH Enshi 65.94 310 *e*P **P** **01 49 53.5 -1.1**
comp=Z,49nm,0.9s,mb5.5
KLR Kul'dur 66.11 338 *e*P **P** **01 49 51.5 -3.8**
KLR *e*S S 01 58 41.5 +1.8
KLR smax
comp=N,2μm,13.0s
KLR smax
comp=E,2μm,13.0s
GYA Guiyang 66.32 305⇑ *i*P **P** **01 49 57.6 +0.6**
GYA AP pP 01 50 07.8 +0.1
GYA XP sP 01 50 11.9 +0.4
GYA PP PP 01 52 26.6 +1.3
GYA S S 01 58 47.3 +4.6
GYA XS 01 59 05.4
GYA SS SS 02 03 04.7 +4.0
GYA AMB AMB
comp=Z,20nm,1.1s,mb5.1
GYA AMB AMB
comp=Z,230nm,4.8s
GYA LR LR
comp=N,2μm,20.1s,MS5.5
GYA LR LR
comp=E,2μm,22.8s,MS5.5
GYA LR LR
comp=Z,3μm,19.8s,MS5.5
VNDA Vanda 66.42 180 P **P** **01 49 57.6 +0.8**
comp=Z,12nm,0.9s,mb4.9,baz=347,slow=7.1,SNR=24
VNDA LR LR 02 14 04.4
comp=Z,2μm,19.2s,MS5.4,baz=359,slow=32
SBA Scott Base 66.77 179 PFAKE 01 50 10.0 +11
SBA LR LR
comp=Z,3μm,22.0s,MS5.5
BJI Beijing 66.92 322 *e*P **P** **01 50 02.3 +1.7**
BJI PP PP 01 52 32.9 +3.0
BJI S S 01 58 52.0 +2.3
BJI LR LR
comp=N,5μm,18.7s,MS5.8
BJI LR LR
comp=E,3μm,20.5s,MS5.8
BJI LR LR
comp=Z,5μm,30.6s
NST Nakhon Sawan 67.77 292 P **P** **01 50 05.7 -0.6**
NANT Nan 68.32 295 P **P** **01 50 06.0 -3.7**
KMI Kunming 68.95 302⇑ P **P** **01 50 15.1 +1.6**
KMI AP pP 01 50 27.1 +2.9
KMI PP PP 01 52 50.9 +2.6
KMI S S 01 59 17.6 +3.4
KMI XS 01 59 37.7
KMI SKS SKS 02 00 08.8 +2.6
KMI SCS ScS 02 00 12.0 +4.4
KMI SS SS 02 03 45.6 +3.8
KMI AMB AMB
comp=Z,29nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,483nm,14.0s
KMI smax
comp=E,562nm,14.1s
KMI MLR MLR
comp=Z,1μm,14.0s,MS5.3
KMI MLR MLR
comp=N,800nm,12.0s,MS5.2
KMI MLR MLR
comp=E,200nm,14.0s,MS5.2
KMI Kunming 68.95 302⇑ P **P** **01 50 15.1 +1.6**
KMI *PP pP 01 50 27.1 +2.9
KMI *SP sP 01 50 32.0 +4.0
KMI 01 52 50.9
KMI S S 01 59 17.6 +3.4
KMI *SS 01 59 37.7
KMI 02 00 08.8
KMI SS SS 02 03 45.6 +3.8
KMI pmax pmax
comp=Z,29nm,1.3s,mb5.0
KMI MLR MLR
comp=Z,4μm,25.8s,MS5.5
KMI Kunming 68.95 302⇑ P **P** **01 50 15.1 +1.6**
comp=Z,29nm,1.3s,mb5.0
KMI pP pP 01 50 27.1 +2.9
KMI sP sP 01 50 32.0 +4.0
KMI PP PP 01 52 50.9 +2.6
KMI S S 01 59 17.6 +3.4
KMI sS 01 59 37.7
KMI SKS SKS 02 00 08.8 +2.6
KMI ScS ScS 02 00 12.0 +4.4
KMI SS SS 02 03 45.6 +3.8
KMI LR LR
comp=Z,4μm,25.8s,MS5.5
CHRT Chiangrai 69.51 296⇓ P **P** **01 50 17.0 0.0**
CM31 Chiang Mai Arr 69.77 294 PFAKE 01 50 30.0 +11
CM31 LR LR
comp=Z,2μm,20.0s,MS5.3
CMAR Chiang Mai Arr 69.77 294 P **P** **01 50 18.6 -0.1**
comp=Z,6.7nm,0.8s,mb4.6,baz=120,slow=4.4,SNR=17
CMAR LR LR 02 18 04.8
comp=Z,1μm,20.6s,MS5.1,baz=110,slow=34
HHC Hu-ho-hao-te 70.22 321 *e*P **P** **01 50 21.3 +0.3**
HHC PCP PcP 01 50 39.6 -3.2
HHC PP PP 01 52 57.6 -0.8
HHC S S 01 59 33.5 +4.7
HHC SKS SKS 02 00 14.7 -0.6
HHC SCS ScS 02 00 23.9 +6.7
HHC AMB AMB
comp=Z,54nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,406nm,3.9s
HHC LR LR
comp=N,2μm,17.8s,MS5.7
HHC LR LR
comp=E,3μm,19.6s,MS5.7
HHC LR LR
comp=Z,3μm,24.4s,MS5.5
CD2 Chengdu 70.59 308 P **P** **01 50 24.9 +1.5**
CD2 PP PP 01 52 59.0 -3.0
CD2 S S 01 59 27.6 -5.8
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CD2 LR LR
comp=N,3μm,17.4s
CD2 LR LR
comp=Z,3μm,15.6s,MS5.7
MA2 Magadan 71.13 353 *e*P **P** **01 50 25.7 -0.5**
MA2 *e* 01 50 50.8
MA2 *e*S S 01 59 39.8 +0.7
MA2 *e* 02 00 27.7
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 MLR MLR
comp=Z,4μm,22.0s,MS5.6
MA2 Magadan 71.13 353 *e*P **P** **01 50 24.2 -2.0**
comp=Z,10nm,0.6s,mb4.9
MA2 LR LR
comp=Z,2μm,20.0s,MS5.4
HIA Hailar 71.16 332 *e*P **P** **01 50 27.6 +1.1**
HIA pmax pmax
comp=Z,41nm,0.9s
HIA Hailar 71.16 332 *e*P **P** **01 50 27.6 +1.0**
comp=Z,41nm,0.9s,mb5.4
LZH Lanzhou 72.89 313⇓ P **P** **01 50 38.9 +1.8**
LZH AP pP 01 50 48.7 +0.9
LZH XP sP 01 50 52.3 +0.7
LZH PP PP 01 53 24.0 +2.4
LZH S S 02 00 03.1 +3.3
LZH SKS SKS 02 00 35.2 +0.1
LZH AMB AMB
comp=Z,210nm,1.2s,mb5.9
LZH AMB AMB
comp=Z,680nm,5.5s
LZH LR LR
comp=E,5μm,17.0s
LZH LR LR
comp=Z,6μm,20.0s,MS5.9
LZH Lanzhou 72.89 313⇓ P **P** **01 50 38.9 +1.8**
comp=Z,210nm,1.2s,mb5.9
LZH pP pP 01 50 48.7 +0.9
LZH sP sP 01 50 52.3 +0.7
LZH PP PP 01 53 24.0 +2.4
LZH S S 02 00 03.1 +3.3
LZH SKS SKS 02 00 35.2 +0.1
LZH SS SS 02 04 42.0 -0.8
LZH LR LR
comp=Z,6μm,20.0s,MS5.9
SEY Seymchan 74.27 355 *e*P **P** **01 50 42.4 -2.2**
SEY 01 50 57.8
SEY *e* 01 53 33.3
SEY *e*PPP PPP 01 55 23.3 +5.8
SEY *e*S S 02 00 12.0 -2.7
SEY 02 00 38.9
SEY SSS SSS 02 08 21.1 +5.6
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.5
SEY pmax pmax
comp=N,20nm,0.9s
CLNS Chul'man 74.69 339 *e*P **P** **01 50 51.0 +3.9**
CLNS *e* pP 01 51 02.0 +4.2
CLNS *e*S S 02 00 26.3 +6.8
CLNS *e* 02 00 54.4
CLNS *e*SS SS 02 05 04.7 -4.6
CLNS pmax pmax
comp=N,25nm,0.9s
CLNS pmax pmax
comp=Z,43nm,0.9s,mb5.4
CLNS pmax pmax
comp=E,16nm,1.2s
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,1μm,15.4s
CLNS smax
comp=Z,483nm,14.0s
CLNS smax
comp=E,562nm,14.1s
CLNS MLR MLR
comp=Z,1μm,14.0s,MS5.3
CLNS MLR MLR
comp=N,800nm,12.0s,MS5.2
CLNS MLR MLR
comp=E,200nm,14.0s,MS5.2
ULN Ulaanbaatar 76.84 325 *e*P **P** **01 50 59.8 +0.2**
ULN pmax pmax
comp=Z,34nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,4μm,22.0s,MS5.7
ULN Ulaanbaatar 76.84 325 *e*P **P** **01 50 59.8 +0.1**
comp=Z,34nm,0.8s,mb5.3
ULN LR LR
comp=Z,4μm,22.0s,MS5.7
SONM Songino Array 77.19 325 P **P** **01 51 02.1 +0.5**
comp=Z,26nm,1.1s,mb5.1,baz=141,slow=4.8,SNR=36
GTA Gaotai 77.24 315 P **P** **01 51 03.1 +1.0**
GTA AP pP 01 51 13.4 +0.6
GTA XP sP 01 51 17.6 +1.0
GTA PP PP 01 54 00.3 +2.6
GTA S S 02 00 51.3 +3.4
GTA SKS SKS 02 01 09.2 +2.3
GTA SS SS 02 05 54.4 +5.3
GTA AMB AMB
comp=Z,27nm,1.3s,mb5.0
GTA AMB AMB
comp=Z,316nm,5.7s
GTA LR LR
comp=N,3μm,20.9s,MS5.7
GTA LR LR
comp=E,2μm,21.7s,MS5.7
GTA LR LR

comp=Z,4µm,24.0s,MS5.6
YAK Yakutsk 77.43 345 *e*P P **01 51 03.7 +1.1**
YAK *e**PP pP 01 51 14.8 +1.5
YAK *e* 02 00 51.7
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,1.0s,mb4.9
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK Yakutsk 77.43 345 *i*P P **01 51 02.2 -0.4**
YAK LR LR
comp=Z,2µm,21.0s,MS5.5
KDAK Kodiak Island 77.59 23 PFAKE 01 51 10.0 +6.4
KDAK LR LR
comp=Z,852nm,19.0s,MS5.1
QSPA South Pole Qui 78.91 180 *e*P P **01 51 11.5 +1.1**
comp=Z,57nm,1.2s,mb5.4
BILL Bilibino 78.96 1 *i*P P **01 51 09.7 -1.2**
BILL *i* pP 01 51 19.1 -2.5
BILL *i*S S 02 01 13.2 +7.5
BILL *i*SS SS 02 06 18.1 +3.9
BILL pmax pmax
comp=Z,31nm,1.1s,mb5.2
BILL Bilibino 78.96 1 *e*P P **01 51 09.5 -1.5**
comp=Z,72nm,1.1s,mb5.5
BOD Bodaibo 79.49 336 *e*P P **01 51 12.2 -1.8**
BOD pmax pmax
comp=Z,18nm,1.4s,mb4.8
LSA Lhasa 80.20 303 P P **01 51 18.0 -0.4**
LSA Lhasa 80.20 303 *e*P P **01 51 20.2 +1.8**
LSA pmax pmax
comp=Z,35nm,1.4s,mb5.1
LSA Lhasa 80.20 303 *e*P P **01 51 20.2 +1.8**
comp=Z,35nm,1.4s,mb5.1
ZAK Zakamensk 80.27 326 *e*P P **01 51 17.8 -0.5**
ZAK pmax pmax
comp=Z,15nm,1.7s,mb4.7
CAL Calcutta 80.48 295 *e* P **01 51 23.4 +3.4**
IRK Irkutsk 80.70 328 *e*P P **01 51 23.3 +2.7**
IRK pmax pmax
comp=Z,40nm,2.4s,mb4.9
TLY Talaya 80.74 327 P P **01 51 21.0 +0.2**
comp=Z,167nm,0.8s,mb6.0,SNR=13
TLY Talaya 80.74 327 *e*P P **01 51 22.1 +1.3**
TLY *e*S S 02 01 27.4 +2.7
TLY pmax pmax
comp=Z,26nm,0.9s,mb5.2
TLY MLR MLR
comp=Z,2µm,18.0s,MS5.5
TLY Talaya 80.74 327 *e*P P **01 51 21.9 +1.1**
comp=Z,21nm,0.8s,mb5.1
TLY LR LR
comp=Z,578nm,20.0s,MS4.9
MOY Mondy 82.17 326 *e*P P **01 51 31.2 +3.0**
MOY pmax pmax
comp=Z,33nm,2.2s,mb4.9
RPN Rapa Nui 82.88 116 PFAKE 01 51 40.0 +7.6
RPN LR LR
comp=Z,815nm,20.0s,MS5.1
IMA Indian Mountai 83.27 16 P P **01 51 33.8 +0.3**
IMA Indian Mountai 83.27 16 *e*P P **01 51 33.2 -0.3**
MAW Mawson 83.70 202 P P **01 51 36.1 +0.5**
comp=Z,50nm,1.1s,mb5.6,baz=50,slow=4.9,SNR=3.5
MAW LR LR 02 25 05.4
comp=Z,2µm,19.6s,MS5.5,baz=90,slow=33
JIRN Jiri 83.76 300 *e*P P **01 51 36.8 -0.1**
comp=Z,74nm,1.1s,mb5.7
VIS Vishakhapatnam 83.79 289 *e* P **01 51 35.6 -1.7**
COLA College 84.16 19 *e*P P **01 51 37.0 -1.0**
MENT Mentasta 84.31 22 *e*P P **01 51 40.6 +1.7**
ILAR Eielson Array 84.40 19 P P **01 51 37.5 -1.8**
comp=Z,2.9nm,0.7s,mb4.5,baz=242,slow=5.8,SNR=26
ILAR LR LR 02 24 01.3
comp=Z,4µm,20.8s,MS5.7,baz=245,slow=32
PKI Pulchoki 84.40 299 *e*P P **01 51 40.3 +0.1**
comp=Z,145nm,1.2s,mb6.0
PKI Pulchoki 84.40 299 *e*P P **01 51 40.3 +0.1**
PKI pmax pmax
comp=Z,73nm,1.2s,mb5.7
SIT Sitka 84.54 29 PFAKE 01 51 50.0 +10
SIT LR LR
comp=Z,10µm,19.0s,MS6.2
KKN Kakani 84.57 300 *e*P P **01 51 41.1 +0.1**
comp=Z,55nm,0.9s,mb5.7
KKN Kakani 84.57 300 *e*P P **01 51 41.1 +0.1**
KKN pmax pmax
comp=Z,28nm,0.9s,mb5.4
HOPS Hopland 84.64 49 PFAKE 01 51 50.0 +8.9
HOPS LR LR
comp=Z,3µm,20.0s,MS5.7
DMN Daman 84.67 299 *e*P P **01 51 42.0 +0.5**
comp=Z,204nm,1.1s,mb6.2
SAO San Andreas Ge 85.17 51 PFAKE 01 51 50.0 +6.2
SAO LR LR
comp=Z,5µm,21.0s,MS5.9
GKN Gorkha 85.17 300 *e*P P **01 51 43.8 -0.2**
comp=Z,67nm,0.9s,mb5.8
WDC Whiskeytown Da 85.54 47 PFAKE 01 52 00.0 +15
WDC LR LR
comp=Z,4µm,22.0s,MS5.8
TIXI Tiksi 85.66 350 PFAKE 01 52 00.0 +15
TIXI LR LR
comp=Z,2µm,19.0s,MS5.4
YBH Yreka Blue Hor 85.79 46 P P **01 51 47.0 +0.3**
YBH pmax pmax
comp=Z,18nm,1.0s
YBH Yreka Blue Hor 85.79 46 P P **01 51 46.8 +0.1**
comp=Z,16nm,1.1s,mb5.2,baz=218,slow=6.2,SNR=10
YBH Yreka Blue Hor 85.79 46 *e*P P **01 51 45.9 -0.7**
comp=Z,18nm,1.0s,mb5.2
YBH LR LR
comp=Z,3µm,21.0s,MS5.7
HUMO Hull Mountain 85.90 45 *e*P P **01 51 46.7 -0.5**
comp=Z,22nm,1.0s,mb5.3
HUMO LR LR
comp=Z,4µm,21.0s,MS5.8
OHCM Honcut 85.92 49 *e*P P **01 51 45.5 -1.9**
KOLN Koldanda 86.00 299 *e*P P **01 51 47.5 -0.6**
comp=Z,25nm,0.9s,mb5.5
COR Corvallis 86.31 43 PFAKE 01 52 00.0 +11
COR LR LR
comp=Z,3µm,22.0s,MS5.6
CMB Columbia Colle 86.36 50 P P **01 51 49.1 -0.5**
CMB pmax pmax
comp=Z,29nm,1.1s,mb5.4
CMB Columbia Colle 86.36 50 *e*P P **01 51 47.2 -2.3**
comp=Z,29nm,1.2s,mb5.4
CMB LR LR
comp=Z,4µm,19.0s,MS5.8
DAWY Dawson 86.55 22 *e*P P **01 51 49.9 +0.1**
OCWA Octopus Mounta 86.81 40 PFAKE 01 52 00.0 +8.5
OCWA LR LR
comp=Z,4µm,19.0s,MS5.8
MWC Mount Wilson 87.11 54 P P **01 51 53.1 -0.2**
MWC Mount Wilson 87.11 54 *e*P P **01 51 52.2 -1.1**
WCN Washoe City 87.19 49 P P **01 51 54.4 +0.8**
WCN Washoe City 87.19 49 *e*P P **01 51 52.9 -0.7**
comp=Z,34nm,1.3s,mb5.4
OMM Old Mammoth Mi 87.30 51 *e*P P **01 51 53.8 -0.3**
WMQ Urumqi 87.31 315 ⇓ *i*P P **01 51 54.8 +0.8**
WMQ AP pP 01 52 08.0 +3.0
WMQ PP PP 01 55 18.0 -2.9
WMQ SKS SKS 02 02 17.0 +0.6
WMQ S S 02 02 31.0 +1.0
WMQ SS SS 02 08 21.0 +3.0
WMQ AMB AMB
comp=Z,17nm,1.4s,mb5.1
WMQ AMB AMB
comp=Z,449nm,6.9s
WMQ LR LR
comp=N,2µm,17.0s,MS5.7
WMQ LR LR
comp=E,2µm,20.6s,MS5.7
WMQ LR LR
comp=Z,3µm,24.4s,MS5.7
MOD Modoc 87.55 47 *e*P P **01 51 54.7 -0.6**
comp=Z,19nm,1.0s,mb5.3
MOD LR LR
comp=Z,3µm,21.0s,MS5.6
MTUM Tungsten Hills 87.55 51 *e*P P **01 51 54.4 -1.0**
NVAR Mina Array Bea 88.04 50 P P **01 51 57.6 -0.1**
comp=Z,12nm,0.9s,mb5.1,baz=234,slow=4.1,SNR=18
NVAR LR LR 02 24 05.1
comp=Z,4µm,19.6s,MS5.8,baz=230,slow=31
MNV Mina 88.16 50 P P **01 51 58.1 -0.1**
MNV pmax pmax
comp=Z,22nm,1.1s,mb5.3
MNV Mina 88.16 50 *e*P P **01 51 55.7 -2.5**
comp=Z,22nm,1.1s,mb5.3
MNV LR LR
comp=Z,4µm,20.0s,MS5.8
PFO Pinyon Flat Ob 88.24 55 P P **01 51 58.6 -0.2**
PFO pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
PFO Pinyon Flat Ob 88.24 55 P P **01 51 57.7 -1.0**
comp=Z,8.7nm,0.8s,mb5.0
PFO LR LR
comp=Z,700nm,20.0s,MS5.1
TPH Tonopah 88.77 51 PFAKE 01 52 10.0 +8.8
TPH LR LR
comp=Z,4µm,21.0s,MS5.8
WVOR Wild Horse Val 88.89 46 P P **01 52 01.9 +0.2**
WVOR pmax pmax
comp=Z,52nm,1.3s,mb5.7
WVOR Wild Horse Val 88.89 46 *e*P P **01 52 01.2 -0.5**
comp=Z,52nm,1.3s,mb5.7
WVOR LR LR
comp=Z,4µm,20.0s,MS5.8
DGAR Diego Garcia 89.23 263 PFAKE 01 52 20.0 +16
DGAR LR LR
comp=Z,493nm,19.0s,MS5.0
BMN Battle Mountai 89.38 49 *e*P P **01 52 04.5 +0.5**
BMN pmax pmax
comp=Z,30nm,1.4s,mb5.4
BMN MLR MLR
comp=Z,3µm,20.0s,MS5.6
BMN Battle Mountai 89.38 49 *e*P P **01 52 04.5 +0.5**
comp=Z,30nm,1.4s,mb5.4
BMN LR LR
comp=Z,3µm,20.0s,MS5.6
LDFC Landfair 89.67 54 *e*P P **01 52 05.1 -0.4**
TRCR Troy Canyon 90.08 51 *e*P P **01 52 06.7 -0.7**
BMO Blue Mountains 90.47 44 *e*P P **01 52 06.9 -2.1**
BMO pmax pmax
comp=Z,39nm,1.5s,mb5.5
BMO MLR MLR
comp=Z,3µm,22.0s,MS5.7
BMO Blue Mountains 90.47 44 *e*P P **01 52 06.9 -2.1**
comp=Z,39nm,1.5s,mb5.5
BMO LR LR
comp=Z,3µm,22.0s,MS5.7
INK Inuvik 90.80 19 P P **01 52 10.6 +0.5**
comp=Z,4.6nm,1.1s,mb4.7,baz=218,slow=3.7,SNR=8.1
ELK Elko 90.92 49 P P **01 52 11.4 +0.1**
ELK pmax pmax
comp=Z,17nm,1.0s
ELK Elko 90.92 49 *e*P P **01 52 10.8 -0.5**
comp=Z,17nm,1.0s,mb5.3
ELK LR LR
comp=Z,2µm,22.0s,MS5.6
SYO Syowa Base 90.97 197 ⇑ P P **01 52 10.5 -0.3**
SYO Syowa Base 90.97 197 ⇑ pP pP 01 52 21.6 -0.2
NEW Newport 91.48 41 PFAKE 01 52 20.0 +6.4
NEW LR LR
comp=Z,2µm,19.0s,MS5.7
ARUT Antelope Range 91.60 52 P P **01 52 13.9 -0.6**
MKAR Makanchi Array 91.80 317 *i*P P **01 52 15.2 +0.1**
HLID Hailey 92.17 46 *e*P P **01 52 16.2 -0.8**
comp=Z,24nm,1.3s,mb5.4
HLID LR LR
comp=Z,3µm,19.0s,MS5.7
TUC Tucson 92.59 58 PFAKE 01 52 30.0 +11
TUC LR LR
comp=Z,2µm,20.0s,MS5.6
MVU Marysvale 92.70 51 *e*P P **01 52 20.4 +0.9**
comp=Z,21nm,1.3s,mb5.4
MVU LR LR
comp=Z,3µm,20.0s,MS5.7
MSU Marysvale 92.73 51 P P **01 52 20.4 +0.8**
MSU Marysvale 92.73 51 *e*P P **01 52 19.6 0.0**
WUAZ Wupatki 92.75 55 *e*P P **01 52 19.3 -0.5**
comp=Z,116nm,1.1s,mb6.2
WUAZ LR LR
comp=Z,45µm,22.0s
HVU Hansel Valley 92.96 48 *e*P P **01 52 20.4 -0.2**
MSO Missoula 93.23 43 PFAKE 01 52 30.0 +8.3
MSO LR LR
comp=Z,1µm,21.0s,MS5.3
CHMT Chamberlain Mo 93.71 43 *e*P P **01 52 22.4 -1.4**
HWUT Hardware Ranch 93.81 49 PFAKE 01 52 40.0 +16
HWUT LR LR
comp=Z,2µm,20.0s,MS5.6
AHID Auburn Hatcher 94.38 47 PFAKE 01 52 40.0 +13
AHID LR LR
comp=Z,2µm,21.0s,MS5.6
QLMT Earthquake Lak 94.53 45 *e*P P **01 52 28.6 +0.9**
BOZ Bozeman (W) 94.55 45 PFAKE 01 52 40.0 +12
BOZ LR LR
comp=Z,3µm,22.0s,MS5.7
KSH Kashi 94.78 309 *e*P P **01 52 31.6 +2.7**
KSH *e*AP pP 01 52 42.1 +2.2
KSH *e*XP sP 01 52 44.8 +1.4
KSH *e*PP PP 01 56 23.4 +3.4
KSH *e*SKS SKS 02 03 02.3 +2.1
KSH *e*S S 02 03 38.7 +1.9
KSH *e*XS 02 03 58.0
KSH *e*SS SS 02 10 12.4 +7.1
KSH AMB AMB
comp=Z,110nm,4.9s
KSH LR LR
comp=N,990nm,15.2s,MS5.7
KSH LR LR
comp=E,2µm,18.8s,MS5.7
EDM Edmonton 94.96 37 *e*P P **01 52 27.9 -1.5**
KURK Kurchatov 95.03 321 P P **01 52 29.4 -0.4**
KURK pmax pmax
comp=Z,15nm,1.3s,mb5.3
KURK Kurchatov 95.03 321 *e*P P **01 52 27.3 -2.5**
comp=Z,15nm,1.4s,mb5.2
KURK LR LR
comp=Z,927nm,21.0s,MS5.2
PV10 Paradox Valley 95.12 52 *e*P P **01 52 31.0 +0.4**
LKWY Lake 95.21 46 PFAKE 01 52 40.0 +9.2
LKWY LR LR
comp=Z,5µm,20.0s,MS5.9
PV01 Paradox Valley 95.45 52 *e*P P **01 52 31.5 -0.5**
BW06 Boulder Array 95.49 48 PFAKE 01 52 40.0 +7.9
BW06 LR LR
comp=Z,3µm,19.0s,MS5.7
PDAR Pinedale Array 95.49 48 P P **01 52 32.1 0.0**
comp=Z,4.6nm,1.1s,mb4.8,baz=243,slow=3.3,SNR=16
PDAR LR LR 02 28 45.3
comp=Z,2µm,20.9s,MS5.5,baz=269,slow=31
YKA Yellowknife Ar 96.21 28 P P **01 52 33.1 -1.8**
comp=Z,3.2nm,0.9s,mb4.8,baz=255,slow=4.5,SNR=18
YKA LR LR 02 33 06.5
comp=Z,3µm,18.4s,MS5.8,baz=250,slow=34
AAK Ala-Archa 96.40 312 *i*P P **01 52 35.6 -0.6**
AAK MLR MLR
comp=Z,545nm,19.0s,MS5.0
PMSA Palmer Station 96.50 162 PFAKE 01 52 50.0 +14
PMSA LR LR
comp=Z,2µm,20.0s,MS5.6
ANMO Albuquerque 96.61 56 *i*P P **01 52 35.0 -2.4**
ANMO Albuquerque 96.61 56 PFAKE 01 52 50.0 +13
ANMO LR LR
comp=Z,2µm,19.0s,MS5.6
SNAA Sanae 96.89 184 ⇑ *i*P P **01 52 39.7 +1.9**
SNAA *e* pP 01 52 49.8 +1.0
SNAA *e* 01 52 57.6
MNTX Cornudas Mount 97.01 59 PFAKE 01 52 50.0 +11
MNTX LR LR
comp=Z,3µm,21.0s,MS5.8
SDCO Great Sand Dun 97.78 53 PFAKE 01 52 50.0 +7.4
SDCO LR LR
comp=Z,3µm,21.0s,MS5.8
VNA2 Neumayer--Watz 97.92 183 ⇑ *i*P P **01 52 45.2 +2.7**
VNA2 *e* pP 01 52 56.1 +2.7
VNA2 *e* 01 53 01.4
ISCO Idaho Springs 97.98 51 PFAKE 01 52 50.0 +6.5
ISCO LR LR
comp=Z,5µm,19.0s,MS6.0
LTX Lajitas 98.13 62 PFAKE 01 53 00.0 +16
LTX LR LR
comp=Z,2µm,21.0s,MS5.7
TXAR Lajitas Array 98.13 62 P P **01 52 45.9 +1.5**
comp=Z,0.6nm,0.9s,baz=211,slow=5.3,SNR=3.2
TXAR LR LR 02 28 50.1
comp=Z,2µm,20.3s,MS5.6,baz=285,slow=30
LAO LASA Array 98.43 44 PFAKE 01 53 00.0 +15
LAO LR LR
comp=Z,2µm,21.0s,MS5.6
DGMT Dagmar 99.99 42 PFAKE 01 53 00.0 +7.6
DGMT LR LR
comp=Z,1µm,19.0s,MS5.5
CHKZ Chkalovo 100.32 323 P P 01 52 53.3 -0.4
CHKZ pmax pmax
comp=Z,5.0nm,1.1s
CHKZ Chkalovo 100.32 323 *e*Pdif P 01 52 52.7 -1.0
comp=Z,5.1nm,1.1s
AMTX Amarillo 100.49 56 PFAKE 01 53 10.0 +15
AMTX LR LR
comp=Z,3µm,20.0s,MS5.8
JCT Junction City 101.60 61 PFAKE 01 53 10.0 +10
JCT LR LR
comp=Z,3µm,19.0s,MS5.8
FFC Flin Flon 101.80 36 PFAKE 01 53 10.0 +10
FFC LR LR
comp=Z,1µm,21.0s,MS5.3
CBKS Cedar Bluff 102.41 53 PFAKE 01 53 10.0 +6.5
CBKS LR LR
comp=Z,3µm,22.0s,MS5.8
WMOK Wichita Mounta 102.86 57 PFAKE 01 53 20.0 +14
WMOK LR LR
comp=Z,3µm,20.0s,MS5.8
HKT Hockley 104.97 62 PFAKE 01 53 30.0 +15
HKT LR LR
comp=Z,3µm,21.0s,MS5.8
ULM Lac du Bonnet 105.49 41 PFAKE 01 57 40.0
ULM LR LR
comp=Z,2µm,21.0s,MS5.7
NATX Nacogdoches 106.10 60 PFAKE 01 57 40.0
NATX LR LR
comp=Z,2µm,22.0s,MS5.7
PAYG Puerto Ayora 106.16 94 PFAKE 01 57 40.0
PAYG LR LR
comp=Z,2µm,19.0s,MS5.6
MIAR Mount Ida 107.13 57 PFAKE 01 57 50.0
MIAR LR LR
comp=Z,3µm,20.0s,MS5.8
EYMN Ely 108.47 43 PFAKE 01 57 50.0
EYMN LR LR
comp=Z,2µm,20.0s,MS5.6
PLCA Paso Flores 108.53 140 PFAKE 01 57 50.0
PLCA LR LR
comp=Z,1µm,19.0s,MS5.4
CCM Cathedral Cave 109.05 54 PFAKE 01 57 50.0
CCM LR LR
comp=Z,1µm,20.0s,MS5.5
JFWS Jewell Farm 109.65 48 PFAKE 01 57 50.0
JFWS LR LR
comp=Z,3µm,20.0s,MS5.9
OXF Oxford 110.57 57 PFAKE 01 57 50.0 +11
OXF LR LR
comp=Z,2µm,20.0s,MS5.8
KBS Kingsbay 110.72 354 PFAKE 01 57 50.0 +12
KBS LR LR
comp=Z,972nm,20.0s,MS5.4
TEIG Tepich 111.10 73 PFAKE 01 57 50.0 +10
TEIG LR LR
comp=Z,750nm,20.0s,MS5.3
LRAL Lakeview Retre 112.60 59 PFAKE 01 58 00.0 +17
LRAL LR LR
comp=Z,3µm,20.0s,MS6.0
WCI Wyandotte Cave 112.94 53 PFAKE 01 58 00.0 +17
WCI LR LR
comp=Z,2µm,20.0s,MS5.8
JTS JuntasAbangare 113.25 84 PFAKE 01 58 00.0 +16
JTS LR LR
comp=Z,386nm,21.0s,MS5.0
LVZ Lovozero 114.08 341 *e*PKIKP PKPdf 01 57 39.6 -5.1
LVZ MLR MLR
comp=Z,2µm,22.0s,MS5.6
LVZ MLR MLR
comp=N,1µm,24.0s,MS5.5
LVZ MLR MLR
comp=E,571nm,23.0s,MS5.5
AAM Ann Arbor 114.55 49 PFAKE 01 58 00.0 +14
AAM LR LR
comp=Z,2µm,20.0s,MS5.7
ACSO Alum Creek Sta 115.31 51 PFAKE 01 58 00.0 +12
ACSO LR LR
comp=Z,3µm,20.0s,MS5.9
TRQA Tornquist 115.45 142 PFAKE 01 58 00.0 +12
TRQA LR LR
comp=Z,1µm,20.0s,MS5.6
GOGA Godfrey 115.54 58 PFAKE 01 58 00.0 +12
GOGA LR LR
comp=Z,3µm,22.0s,MS5.8
ARCES ARCESS Array B 115.72 345 PKP PKPdf 01 57 49.3 +1.4
comp=Z,0.8nm,0.6s,baz=63,slow=2.7,SNR=6.1
NNA Nana 116.20 109 PFAKE 01 58 00.0 +10
NNA LR LR
comp=Z,346nm,22.0s,MS4.9
ERPA Erie 117.27 48 PFAKE 01 58 00.0 +8.5
ERPA LR LR
comp=Z,2µm,19.0s,MS5.8
DWPF Disney 117.54 64 PFAKE 01 58 10.0 +18
DWPF LR LR
comp=Z,1µm,20.0s,MS5.4
MCWV Mont Chateau 117.78 51 PFAKE 01 58 10.0 +17
MCWV LR LR
comp=Z,4µm,20.0s,MS6.1
NHSC New Hope 118.31 58 PFAKE 01 58 10.0 +16
NHSC LR LR
comp=Z,3µm,19.0s,MS5.9
GNI Garni 118.70 310 PFAKE 01 58 10.0 +16
GNI LR LR
comp=Z,830nm,20.0s,MS5.4
LVC Limon Verde 119.02 124 PFAKE 01 58 10.0 +15
LVC LR LR
comp=Z,2µm,20.0s,MS5.7
SSPA Standing Stone 119.09 50 PFAKE 01 58 10.0 +15
SSPA LR LR
comp=Z,3µm,22.0s,MS5.9
KIV Kislovodsk 119.42 314 PFAKE 01 58 10.0 +14
KIV LR LR
comp=Z,421nm,22.0s,MS5.0
OBN Obninsk 119.49 328 *e*PKIKP PKPdf 01 58 01.5 +6.0
OBN *e* 01 59 22.7
OBN *e* 02 05 08.3
OBN *e*SS SS 02 15 36.7 -2.7
OBN pmax pmax
comp=Z,13nm,1.5s
OBN MLR MLR
comp=Z,1µm,16.0s,MS5.7
OBN Obninsk 119.49 328 PFAKE 01 58 10.0 +14
OBN LR LR
comp=Z,488nm,21.0s,MS5.1
CBN Corbin 119.92 52 PFAKE 01 58 10.0 +13
CBN LR LR
comp=Z,4µm,21.0s,MS6.0
FINES FINESS Array B 120.85 338 PKP PKPdf 01 57 59.2 +1.2
comp=Z,1.0nm,0.7s,baz=104,slow=5.7,SNR=4.6
NCB Newcomb 120.99 45 PFAKE 01 58 10.0 +11
NCB LR LR
comp=Z,3µm,20.0s,MS5.9
SCHQ Schefferville 121.43 31 PFAKE 01 58 10.0 +11
SCHQ LR LR
comp=Z,6µm,21.0s,MS6.2
SOC Sochi 121.60 315 *i* PKIKP PKPdf 01 57 58.6 -1.3
SOC *e* 01 59 30.9
SOC *e*PPP PPP 02 02 07.0 -5.3
SOC *e*PS PS 02 09 20.5 -5.4
SOC *e*SS SS 02 16 09.5 +2.4
SOC *e*SSS SSS 02 20 39.5 +1.2
SOC pmax pmax
comp=Z,28nm,1.2s
SOC pmax pmax
comp=N,18nm,1.0s
SOC pmax pmax
comp=E,20nm,0.8s
SOC MLR MLR
comp=Z,2µm,22.0s,MS5.6
SOC MLR MLR
comp=N,950nm,21.0s,MS5.6
SOC MLR MLR
comp=E,1µm,21.0s,MS5.6
LPAZ La Paz 122.47 117 PKIKP PKPdf 01 58 04.4 +2.2
LPAZ MLR MLR
comp=Z,1µm,21.0s

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
LPAZ	La Paz	122.47	117	PKP	PKPdf	01 58 04.3	+2.2
	comp=Z,1.2nm,0.7s,baz=270,slow=5.1,SNR=5.2						
HRV	Harvard--Oak R	123.26	46	PFAKE		01 58 20.0	+17
HRV				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
BOSA	Boshof	123.28	225	PFAKE		01 58 20.0	+16
BOSA				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
SUR	Sutherland	123.72	218	PFAKE		01 58 20.0	+16
SUR				LR	LR		
	comp=Z,474nm,19.0s,MS5.2						
MALT	Malatya	123.88	309	ePKIKP	PKPdf	01 58 06.3	+1.8
PQI	Presque Isle	124.25	40	PFAKE		01 58 20.0	+15
PQI				LR	LR		
	comp=Z,12µm,21.0s,MS6.5						
KMBO	Kilima Mbogo	124.83	261	ePKIKP	PKPdf	01 58 06.9	-0.1
KMBO				MLR	MLR		
	comp=Z,3µm,22.0s						
KMBO	Kilima Mbogo	124.83	261	PKP	PKPdf	01 58 10.3	+3.3
	comp=Z,2.7nm,1.1s,baz=56,slow=6.7,SNR=7.1						
KMBO	Kilima Mbogo	124.83	261	ePKPdf	PKPdf	01 58 06.9	-0.1
KMBO				PKP	PKPdf	01 58 10.3	+3.3
KMBO				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
LBTB	Lobatse	125.19	229	ePKIKP	PKPdf	01 58 09.6	+2.2
LBTB				MLR	MLR		
	comp=Z,3µm,21.0s,MS5.9						
NOA	NORSAR Array B	126.05	344	PKP	PKPdf	01 58 09.5	+1.5
	comp=Z,1.9nm,0.9s,baz=34,slow=1.9,SNR=4.5						
SDV	Santo Domingo	127.08	87	ePKPdf	PKPdf	01 58 11.4	+0.1
SDV				LR	LR		
	comp=Z,946nm,20.0s,MS5.5						
KONO	Kongsberg	127.65	343	PFAKE		01 58 20.0	+8.8
KONO				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
LSZ	Lusaka	128.23	240	ePKIKP	PKPdf	01 58 15.4	+2.0
LSZ				MLR	MLR		
	comp=Z,2µm,19.0s,MS5.9						
SAML	Samuel	129.83	112	PFAKE		01 58 30.0	+13
SAML				LR	LR		
	comp=Z,991nm,20.0s,MS5.5						
MBAR	Mbarara	131.26	259	PFAKE		01 58 30.0	+11
MBAR				LR	LR		
	comp=Z,454nm,22.0s,MS5.1						
BBSR	BB Station	131.28	57	PFAKE		01 58 30.0	+11
BBSR				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
OKC	Ostrava-Krasne	131.77	330	ePKP	PKPdf	01 58 29.6	+10
OKC				ex	x	02 01 00.0	
OKC				ex	x	02 18 21.2	
OKC				AMS	AMS	02 57 30.0	
	comp=Z,2µm,18.8s						
SJG	San Juan	131.94	76	PFAKE		01 58 30.0	+10
SJG				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
KSP	Ksiaz	131.97	332	ePKIKP	PKPdf	01 58 20.1	+0.5
KSP				eSS	SS	02 18 10.3	-6.2
KSP				MLR	MLR		
	comp=Z,3µm,23.7s,MS5.9						
KSP	Ksiaz	131.97	332	ePKPdf	PKPdf	01 58 20.1	+0.5
KSP				ePP	PP	02 00 55.4	+10
KSP				eSS	SS	02 18 10.3	-6.2
KSP				LR	LR		
	comp=Z,3µm,23.7s,MS5.9						
DPC	Dobruska-Polom	132.29	332	ex	x	02 00 54.5	
DPC				ex	x	02 18 12.3	
DPC				AMS	AMS	02 57 50.0	
	comp=Z,1µm,20.0s						
PVCC	Panska Ves	132.97	333	ePKP	PKPdf	01 58 25.0	+3.5
PVCC				ex	x	02 18 35.6	
BRG	Berggiesshubel	133.00	334	ePKIKP	PKPdf	01 58 32.6	+11
BRG				e		02 00 58.0	
BRG				eSS	SS	02 18 27.0	-1.8
BRG				MLR	MLR		
	comp=Z,2µm,18.6s,MS5.9						
CLL	Collm	133.08	335	PKIKP	PKPdf	01 58 34.0	+12
CLL				MLR	MLR		
	comp=Z,2µm,17.9s,MS5.8						
CLL	Collm	133.08	335	PKP	PKPdf	01 58 34.0	+12
CLL				ePP	PP	02 01 02.0	+10
CLL				eSKP		02 01 47.0	
CLL				LR	LR		
	comp=Z,2µm,17.9s,MS5.8						
CLL	Collm	133.08	335	e	PKPdf	01 58 34.0	+12
CLL				ePP	PP	02 01 02.0	+10
CLL				e		02 01 47.0	
CLL				ePPP	PPP	02 03 43.0	-2.9
CLL				e		02 06 05.0	
CLL				ePPS	PPS	02 12 47.0	0.0
CLL				eSS	SS	02 18 38.0	+8.2
CLL				eSSS	SSS	02 23 24.0	-3.3
PRU	Pruhonice	133.37	332	ex	x	02 00 59.3	
PRU				ex	x	02 18 25.4	
PRU				AMS	AMS	02 59 20.0	
	comp=Z,2µm,19.0s						
NKC	Novy Kostel	134.11	334	ePKIKP	PKPdf	01 58 22.8	-0.9
NKC				e		02 18 41.8	
NKC	Novy Kostel	134.11	334	ePKP	PKPdf	01 58 22.8	-0.9
NKC				ex	x	02 01 10.3	
NKC				ex	x	02 18 41.8	
NKC				AMS	AMS	02 59 40.0	
	comp=Z,2µm,18.1s						
KHC	Kasperske Hory	134.42	332	ePKIKP	PKPdf	01 58 27.5	+3.2
KHC				e		02 18 48.0	
KHC				MLR	MLR		
	comp=Z,2µm,25.1s,MS5.7						
KHC	Kasperske Hory	134.42	332	ePKP	PKPdf	01 58 27.5	+3.2
KHC				ex	x	02 01 13.1	
KHC				ex	x	02 18 48.0	
KHC				AMS	AMS	02 56 10.0	
	comp=Z,2µm,25.1s						
SKO	Skopje	134.55	320	ePKP	PKPdf	01 58 32.5	+7.8
GERES	GERESS Array B	134.56	332	PKP	PKPdf	01 58 24.3	-0.2
	comp=Z,0.8nm,0.7s,baz=135,slow=1.9,SNR=6.9						
ESK	Eskdalemuir	134.59	349	PFAKE		01 58 40.0	+16
ESK				LR	LR		
	comp=Z,331nm,20.0s,MS5.0						
TSUM	Tsumeb	134.60	229	PFAKE		01 58 40.0	+15
TSUM				LR	LR		
	comp=Z,4µm,21.0s,MS6.1						
PERS	Pernice	135.41	329	ePKPdf	PKPdf	01 58 34.9	+8.8
BOJS	Bojanci	136.09	327	ePKPdf	PKPdf	01 58 29.8	+2.4
LJU	Ljubljana	136.11	328	ePKPdf	PKPdf	01 58 34.5	+7.1
CDF	Champ du Feu	137.67	336	ePKIKP	PKPdf	01 58 31.5	+1.3
	comp=Z,20nm,1.3s						
BDFB	Brasilia	139.31	130	PKP	PKPdf	01 58 36.6	+2.6
	comp=Z,1.4nm,0.6s,baz=297,slow=2.3,SNR=3.3						
LPL	La Plagne	140.20	334	ePKIKP	PKPdf	01 58 36.2	+1.3
LPG	La Plagne	140.21	334	ePKIKP	PKPdf	01 58 36.3	+1.4
	comp=Z,64nm,1.6s						
SSF	Saint Saulge	140.22	338	ePKIKP	PKPdf	01 58 35.9	+1.0
	comp=Z,16nm,1.0s						
AVF	Avril sur Loir	140.51	338	ePKIKP	PKPdf	01 58 36.5	+1.1
ROSF	Rostrenen	141.16	345	ePKIKP	PKPdf	01 58 37.9	+1.4
	comp=Z,57nm,1.0s						
TCF	Toulx Ste Croi	141.35	339	ePKIKP	PKPdf	01 58 38.0	+1.1
	comp=Z,98nm,1.8s						
VIVF	Saint-Julien-l	141.60	335	ePKIKP	PKPdf	01 58 38.7	+1.3
	comp=Z,49nm,1.5s						
MFF	Saint Martin d	141.87	341	ePKIKP	PKPdf	01 58 39.5	+1.7
SMRF	Simiane la Rot	141.92	333	ePKIKP	PKPdf	01 58 38.0	0.0
	comp=Z,112nm,1.5s						
LASF	Ste Croix	142.57	335	ePKIKP	PKPdf	01 58 40.5	+1.4
	comp=Z,88nm,1.6s						
MTLF	Montolieu	143.85	336	ePKIKP	PKPdf	01 58 42.2	+0.9
	comp=Z,73nm,1.3s						
EPF	Esparros	144.83	338	ePKIKP	PKPdf	01 58 44.3	+1.3
ETSF	Etsaut	145.27	339	ePKIKP	PKPdf	01 58 44.9	+1.1
	comp=Z,87nm,1.1s						
ESDC	Sonseca Array	149.31	340	PKPbc	PKPdf	01 58 57.6	+7.0
	comp=Z,5.9nm,1.1s,baz=17,slow=2.8,SNR=4.7						
MTE	Manteigas	149.67	346	ePKPbc	PKPdf	01 58 57.3	+6.2
ADH	Angra Heroismo	151.04	17	eLR	LR	02 49 27.5	
EVO	Evora	151.55	345	ePKP1	PKPdf	01 59 01.4	+7.4
	comp=Z,59nm,1.2s						
EVO				eR			
	comp=Z,3µm,21.8s						
RCBR	Riachuelo	154.69	131	PFAKE		01 59 10.0	+11
RCBR				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
DBIC	Dimbokro	167.32	251	PKP	PKPdf	01 59 15.3	+2.7
	comp=Z,3.6nm,0.8s,baz=34,slow=1.5,SNR=4.7						
DBIC				PKPab	PKPab	02 00 20.4	+0.8
	comp=Z,3.7nm,1.0s,baz=48,slow=3.5,SNR=2.3						
DBIC	Dimbokro	167.32	251	PKP	PKPdf	01 59 15.3	+2.7
DBIC				PKPab	PKPab	02 00 20.4	+0.8
DBIC				LR	LR		
	comp=Z,2µm,20.0s						

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*MOS **06** 01:42:00.5±1.4, 44.69N×147.72E, h90km, mb3.7/4, Error ellipse: s-maj=35.3km s-min=20.0km az=54.6*
*JMA **06** 01:42:01.7±0.3, 44.04N×147.97E, h76km, M3.9*
*IDC **06** 01:42:03.9±4.8, 44.50N×147.57E, h117km±70km, mb3.4/5, mb1 3.5/6, mb1mx3.3/20, mbtmp3.7/6, Error ellipse: s-maj=240.4km s-min=27.7km az=173.0*
ISC 06 01:41:59.5±1.0**, 44.33N**±0.09×**147.9E**±0.1**, h91**km±7km**, n29, σ1^{s}38**/40**, mb3.9**/6**, 1C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.90	357	⇓iPN	P	01 42 17.0	-1.4
KUR				iS	S	01 42 32.0	-0.5
KUR				pmax	pmax		
	comp=Z,320nm,0.4s						
KUR				smax			
	comp=N,1µm,0.4s						
KUR				smax			
	comp=E,1µm,0.4s						
YUK	Yuzh-Kuril'sk	1.52	259	⇑iPN	P	01 42 25.1	-0.9
YUK				iS	S	01 42 44.2	-1.3
YUK				pmax	pmax		
	comp=Z,380nm,0.3s						
YUK				smax			
	comp=N,760nm,0.5s						
YUK				smax			
	comp=E,1µm,0.5s						
YUK				smax			
	comp=E,2µm,0.9s						
NEM2	Nemuro 2	1.85	239	P	P	01 42 30.5	+0.2
NEM2				eS	S	01 42 52.1	-0.9
JRA	Rausu	2.06	260	P	P	01 42 34.8	+1.8
JNK	Nakash	2.44	253	P	P	01 42 39.2	+0.9
JNK				eS	S	01 43 08.0	+0.8
JAK	Akkeshi	2.70	241	P	P	01 42 41.9	0.0
JAK				eS	S	01 43 12.4	-1.3
JTKR	Abashiri--Toko	2.92	264	P	P	01 42 46.4	+1.5
JAR	Ashorobuto	3.18	252	P	P	01 42 50.1	+1.5
JAR				eS	S	01 43 26.5	+0.8
JCH	Churui	3.74	244	P	P	01 42 56.2	-0.1
JCH				eS	S	01 43 37.3	-2.1
JKK2	Kamakawa 2	3.76	265	P	P	01 42 58.5	+1.9
ASAJ	Asahikawa	3.84	269	PN	P	01 42 59.6	+2.0
ASAJ				S	S	01 43 39.4	-2.4
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	3.84	269	P	P	01 42 59.5	+1.9
	comp=N,2.3nm,0.3s,baz=94,slow=13,SNR=9.0						
ASAJ				S	S	01 43 39.4	-2.5
	comp=N,0.8nm,0.3s,baz=125,slow=19,SNR=2.9						
JSE	Soyaes	3.87	281	P	P	01 42 59.6	+1.6
JFR	Furan	4.04	255	P	P	01 43 02.0	+1.6
JNBK	Urakawa-nobuka	4.30	243	P	P	01 43 03.5	-0.5
JNBK				eS	S	01 43 50.7	-2.5
JWK2	Keihoku	4.40	285	P	P	01 43 08.4	+3.0
JKB	Kayabe	5.61	247	P	P	01 43 21.6	-0.3
JKB				eS	S	01 44 20.4	-5.2
JOT	Ohata	5.85	242	eS	S	01 44 25.4	-6.2
JANG	Nango	6.18	232	eS	S	01 44 31.7	-8.0
ILAR	Eielson Array	40.69	37	P	P	01 49 31.3	-0.6
ILAR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ILAR	Eielson Array	40.69	37	P	P	01 49 31.3	-0.6
	comp=Z,1.5nm,1.1s,mb3.7,baz=268,slow=8.2,SNR=7.2						
INK	Inuvik	45.62	31	P	P	01 50 12.6	+0.9
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	Inuvik	45.62	31	P	P	01 50 12.6	+0.8
	comp=Z,0.6nm,0.3s,mb3.7,baz=300,slow=7.9,SNR=5.7						
CHG	Chiang Mai	47.98	254	⇓P	P	01 50 32.7	+1.7
	comp=Z,16nm,1.0s,mb4.8						
YKA	Yellowknife Ar	55.01	34	P	P	01 51 22.4	-0.7
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=6.9,SNR=7.0						
FINES	FINESS Array B	64.61	333	P	P	01 52 26.7	-2.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	64.61	333	P	P	01 52 26.7	-2.1
	comp=Z,0.6nm,0.5s,mb3.7,baz=45,slow=5.4,SNR=6.7						
NOA	NORSAR Array B	69.26	339	P	P	01 52 56.5	-1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	69.26	339	P	P	01 52 56.5	-1.6
	comp=Z,0.7nm,0.8s,mb3.5,baz=298,slow=10,SNR=2.7						

BJI 06 01:46:47.6, 40.21N×118.88E, h14km, ML4.0, 2D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BJI	Beijing	2.08	266	P	Pn	01 47 24.8	+2.2
BJI				PG	Pg	01 47 29.4	+0.2
BJI				SG	Sg	01 47 53.9	-3.1
BJI				Smax			
	comp=N,703nm,0.5s						
BJI				Smax			
	comp=E,1µm,0.5s						
DL2	Dalian	2.49	121	PG	Pg	01 47 32.1	-5.3
DL2				SG	Sg	01 48 03.1	-7.6
DL2				Smax			
	comp=N,385nm,0.6s						
DL2				Smax			
	comp=E,427nm,0.6s						
SNY	Shenyang	3.90	64	⇓P	Pn	01 47 49.6	+1.1
SNY				⇓PG	Pg	01 48 00.3	-5.3
SNY				S	Sn	01 48 36.7	+2.1
SNY				SG	Sg	01 48 50.7	-7.0
SNY				Smax			
	comp=N,150nm,0.5s						
SNY				Smax			
	comp=E,330nm,0.6s						
TIA	Tai'an	4.22	200	eP	Pn	01 47 52.8	-0.3
TIA				Smax			
	comp=N,144nm,0.6s						
TIA				Smax			
	comp=E,79nm,0.6s						
HHC	Hu-ho-hao-te	5.61	279	ePG	Pg	01 48 29.5	-10
HHC				SG	Sg	01 49 43.8	-11
HHC				Smax			
	comp=N,112nm,0.5s						
HHC				Smax			
	comp=E,143nm,0.8s						
CN2	Changchun	6.07	52	ePG	Pg	01 48 37.5	-11
CN2				Smax			
	comp=N,160nm,0.8s						
CN2				Smax			
	comp=E,110nm,0.8s						
BTO	Baotou	6.77	276	ePG	Pg	01 48 49.7	-13
BTO				SG	Sg	01 50 17.9	-15
BTO				Smax			
	comp=N,87nm,0.5s						
BTO				Smax			
	comp=E,56nm,0.8s						

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*NEIC **06** 01:47:06.4±1.6, 20.39S×178.97W, h522km±14km, mb3.8/1, Error ellipse: s-maj=71.5km s-min=10.6km az=152.0*
*IDC **06** 01:47:09.2±3.2, 20.59S×178.89W, h555km±38km, mb3.2/8, mb1 3.5/8, mb1mx3.4/15, mbtmp4.1/8, Error ellipse: s-maj=82.8km s-min=13.1km az=155.0*
ISC 06 01:47:05.5±2.1**, 20.3S**±0.5×**179.1W**±0.3**, h517**km±21km**, n18, σ0^{s}65**/14**, mb3.7**/9**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AFI	Afiamalu	9.44	49	eP	P	01 49 17.9	-0.3
STKA	Stephens Creek	36.98	244	P	P	01 53 31.8	+0.1
	4.7nm,1.1s,mb3.9,baz=96,slow=10,SNR=2.9						
STKA	Stephens Creek	36.98	244	P	P	01 53 31.8	+0.2
ASAR	Alice Springs	43.59	257	P	P	01 54 25.8	+0.8
	1.3nm,0.4s,mb3.8,baz=89,slow=8.4,SNR=33						
ASAR				PcP	PcP	01 56 00.1	-1.6
	0.8nm,0.6s,baz=96,slow=4.3,SNR=7.3						
ASAR				S	S	02 00 16.3	-0.7
	0.8nm,1.0s,baz=98,slow=15,SNR=3.3						
WRAB	Tennant Creek	43.64	262	eP	P	01 54 24.2	-1.1
WRA	Warramunga Arr	43.64	262	P	P	01 54 25.9	+0.5
	0.6nm,0.3s,mb3.6,baz=97,slow=7.3,SNR=23						
YBH	Yreka Blue Hor	80.77	39	P	P	01 58 26.9	+1.1
	1.7nm,0.7s,mb3.6,baz=231,slow=3.8,SNR=4.1						
NVAR	Mina Array Bea	81.58	44	P	P	01 58 30.4	+0.5
	0.9nm,0.6s,mb3.4,baz=225,slow=7.7,SNR=4.3						
TXAR	Lajitas Array	87.80	58	P	P	01 58 59.6	-0.8
	1.2nm,1.1s,mb3.5,baz=214,slow=6.5,SNR=3.7						
ILAR	Eielson Array	88.37	13	P	P	01 59 02.1	-0.1
	0.8nm,0.6s,mb3.7,baz=207,slow=8.1,SNR=13						
ILAR	Eielson Array	88.37	13	P	P	01 59 02.1	-0.1
BW06	Boulder Array	89.52	44	eP	P	01 59 07.8	-0.3
	0.6nm,0.4s,mb3.8						
PDAR	Pinedale Array	89.52	44	P	P	01 59 08.0	-0.1
	0.8nm,0.7s,mb3.7,baz=207,slow=3.3,SNR=6.1						
ARCES	ARCESS Array B	128.57	349	PKP	PKPdf	02 05 12.7	0.0
	5.4nm,1.2s,baz=15,slow=1.9,SNR=5.9						
FINES	FINESS Array B	135.32	343	PKP	PKPdf	02 05 26.4	+0.9
	0.7nm,0.9s,baz=56,slow=6.9,SNR=4.5						
FINES	FINESS Array B	135.32	343	PKP	PKPdf	02 05 26.4	+0.9
CLL	Collm	147.66	346	ePKP1	PKPdf	02 05 53.0	+5.7
GERES	GERESS Array B	149.76	343	PKPbc	PKPdf	02 05 57.1	+6.4
	0.6nm,0.5s,baz=45,slow=1.9,SNR=6.3						

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*IDC **06** 01:55:01.4±2.2, 11.03S×162.97E, mb4.0/5, mb1 4.2/6, mb1mx4.1/14, mbtmp4.1/6, ML4.7/1, Error ellipse: s-maj=73.7km s-min=25.2km az=124.0*
*NEIC **06** 01:55:02.1±1.1, 11.22S×163.17E, h10km, mb4.0/1, Error ellipse: s-maj=23.6km s-min=15.4km az=117.0*
ISC 06 01:55:04.1±1.4**, 11.3S**±0.1×**163.1E**±0.2**, h33**km**, n10, σ0^{s}80**/10**, mb3.8**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HNR	Honiara	3.56	300	eP	P	01 55 58.9	+0.5
CTA	Charters Tower	18.40	239	P	P	01 59 19.2	+0.6
	1.5nm,0.3s,baz=29,slow=13,SNR=3.8						
CTAO	Charters Tower	18.40	239	P	P	01 59 19.1	+0.5
STKA	Stephens Creek	28.52	221	P	P	02 01 01.3	+2.4
	2.8nm,1.1s,mb3.9,baz=45,slow=13,SNR=2.3						
STKA	Stephens Creek	28.52	221	P	P	02 00 59.8	+0.9
WRAB	Tennant Creek	28.93	249	eP	P	02 01 01.9	-0.7
	1.2nm,0.5s,mb3.9						
WRA	Warramunga Arr	28.95	249	P	P	02 01 01.8	-1.0
	0.9nm,0.4s,mb3.8,baz=80,slow=8.9,SNR=14						
ASAR	Alice Springs	30.36	242	P	P	02 01 14.6	-0.7
	2.3nm,0.8s,mb4.0,baz=69,slow=9.9,SNR=14						
SONM	Songino Array	77.30	325	P	P	02 06 57.1	0.0
	0.6nm,0.7s,mb3.6,baz=117,slow=6.4,SNR=3.7						
ILAR	Eielson Array	84.56	19	P	P	02 07 35.0	0.0
	1.1nm,1.1s,mb3.9,baz=231,slow=5.8,SNR=4.3						

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*NEIC **06** 02:18:03.6±0.8, 11.22S×163.34E, h10km, mb4.7/3, Error ellipse: s-maj=22.8km s-min=13.0km az=140.0*
*IDC **06** 02:18:08.9±9.6, 11.15S×163.18E, h45km±88km, mb3.9/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.1/8, ML4.0/1, Error ellipse: s-maj=56.7km s-min=30.7km az=130.0*
ISC 06 02:18:07.9±3.9**, 11.2S**±0.1×**163.2E**±0.2**, h52**km±31km**, n13, σ0^{s}81**/14**, mb4.2**/10**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
HNR	Honiara	3.63	299	eP	P	02 19 02.5	-0.6
HNR				eS	S	02 19 45.4	+0.4
CTA	Charters Tower	18.49	240	P	P	02 22 23.8	+1.7
	0.3nm,0.3s,baz=75,slow=14,SNR=4.8						
STKA	Stephens Creek	28.60	221	P	P	02 24 02.5	+1.1
	2.8nm,0.8s,mb4.0,baz=58,slow=15,SNR=4.1						
STKA	Stephens Creek	28.60	221	eP	P	02 24 02.3	+0.8
WRAB	Tennant Creek	29.02	249	eP	P	02 24 04.3	-1.1
	2.6nm,0.5s,mb4.2						
WRA	Warramunga Arr	29.04	249	P	P	02 24 04.5	-1.0
	1.7nm,0.6s,mb4.0,baz=79,slow=9.3,SNR=17						
WRA				PcP	PcP	02 27 13.3	+0.2
	0.7nm,0.6s,baz=76,slow=2.8,SNR=7.4						
ASAR	Alice Springs	30.45	242	P	P	02 24 16.9	-1.2
	1.2nm,0.5s,mb3.9,baz=62,slow=10,SNR=13						
ASAR				PcP	PcP	02 27 15.9	-0.7
	0.6nm,0.7s,baz=71,slow=2.3,SNR=5.2						
ULN	Ulaanbaatar	76.98	325	eP	P	02 29 57.3	+0.5
	14nm,1.6s,mb4.7						
SONM	Songino Array	77.33	325	P	P	02 29 59.4	+0.6
	1.5nm,0.7s,mb4.0,baz=135,slow=5.2,SNR=8.5						
COLA	College	84.27	19	eP	P	02 30 35.1	+0.1
	3.1nm,0.6s,mb4.6						
ILAR	Eielson Array	84.51	19	P	P	02 30 35.8	-0.5
	8.8nm,1.4s,mb4.7,baz=249,slow=5.4,SNR=14						
NVAR	Mina Array Bea	88.09	50	P	P	02 30 54.6	+0.2
	0.9nm,0.7s,mb4.1,baz=227,slow=6.2,SNR=5.8						
YKA	Yellowknife Ar	96.31	28	P	P	02 31 31.6	0.0
	0.7nm,0.9s,mb4.1,baz=256,slow=4.4,SNR=7.2						

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*ATH **06** 02:35:43.7, 35.82N×29.51E, h5km, MD3.5/5*
*ISK **06** 02:35:44.4, 35.86N×29.49E, h29km, MD3.5*
*CSEM **06** 02:35:44.0±0.1, 35.90N×29.50E, h20km, Mw3.2, Error ellipse: s-maj=2.4km s-min=1.4km az=41.0*
*NEIC **06** 02:35:45.3±0.5, 35.91N×29.38E, h10km, MD3.6(ATH), ML3.6(NIC), Error ellipse: s-maj=11.0km s-min=6.0km az=190.0*
*NIC **06** 02:35:50.8±0.3, 36.10N×29.73E, h25km, mb4.1, ML3.6, MW3.2*
ISC 06 02:35:44.0±0.5**, 35.81N**±0.03×**29.51E**±0.04**, h22**km±6km**, n50, σ1^{s}15**/65**, 2D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.34	11	⇓iPB	Pb	02 35 50.5	-1.0
FETY	Fethiye	0.89	338	PG	Pb	02 35 59.9	-0.7
FETY				SG	Sb	02 36 12.5	+0.4
ELL	Elmali	0.99	19	ePG	Pb	02 36 01.7	-0.6
DALT	Dalyan (Mudla)	1.19	324	ePN	Pn	02 36 05.1	-0.4
DALT				eSN	Sn	02 36 20.0	-1.0
ARG	Arkhangelos	1.19	290	⇓iPB	Pb	02 36 06.4	+0.7
YER	Yerkesik	1.65	324	ePN	Pn	02 36 11.8	-0.3
BCK	Bucak	1.86	28	PN	Pn	02 36 15.2	+0.1
DNZL	Cakiroluk	1.91	349	iP	Pb	02 36 18.9	+0.9
DNZL				iS	Sb	02 36 42.2	+0.6
KAP	Karpathos	1.92	263	ePb	Pb	02 36 16.9	-1.2
KARP	Karpathos	1.93	263	ePN	Pb	02 36 19.9	+1.6
KARP	Karpathos	1.93	263	ePb	Pb	02 36 16.9	-1.4
DENT	Denizli	1.98	349	ePN	Pn	02 36 16.5	-0.3
BDRM	Kayabasi	2.08	308	iP	Pb	02 36 23.2	+2.4
BDRM				iS	Sb	02 36 47.1	+0.7
BODT	Bodrum	2.17	306	ePN	Pn	02 36 19.0	-0.5
ISP	Isparta	2.18	21	ePN	Pn	02 36 19.4	-0.3
ISP	Isparta	2.18	21	eP	Pn	02 36 20.8	+1.1
AYDN	Tasoluk	2.26	325	iP	Pb	02 36 27.5	+3.6
AYDN				iS	Sb	02 36 53.5	+1.8
AKMC	Akamas	2.44	108	P	Pn	02 36 26.7	+3.3
PPCY	Paphos	2.50	111	P	Pb	02 36 28.1	+0.1
KHL	Karahalli	2.51	0	ePN	Pn	02 36 23.9	-0.5
ALFC	Alevga	2.61	104	P	Pb	02 36 28.6	-1.3
	18nm,0.2s						
ALFC				S	Sn	02 36 58.3	+1.1
HDMB	Hadim	2.67	64	ePN	Pn	02 36 26.3	-0.3
MANT	Manisa	2.78	344	iP	Pb	02 36 32.3	-0.6
MANT				iS	Sb	02 37 07.1	+0.4
LEF	Lefka	2.85	103	ePN	Pn	02 36 29.7	+0.5
SMG	Samos	2.86	312	ePb	Pb	02 36 34.5	+0.3
SMG	Samos	2.86	312	ePN	Pb	02 36 33.5	-0.7
SZAC	Souni-Zanaja	2.96	110	P	Pn	02 36 33.9	+3.1
	9.7nm,0.3s						
SZAC				S	Sn	02 37 08.2	+2.2
MAMC	Mammari	3.10	101	P	Pn	02 36 35.9	+3.1
KONT	Konya--Tatoy	3.13	46	ePN	Pn	02 36 32.6	-0.6
IZM	Izmir	3.14	326	ePN	Pn	02 36 32.9	-0.5
NPS	Neapolis	3.22	261	ePN	Pn	02 36 36.5	+2.0
BLCB	Balcova	3.24	323	ePN	Pn	02 36 34.2	-0.5
CSS	Prodhromos	3.24	104	P	Pn	02 36 37.0	+2.2
	2.6nm,0.2s						
CSS				S	Sn	02 37 14.4	+1.3
CSS	Prodhromos	3.24	104	eP	Pn	02 36 31.4	-3.3
CSS				S	Sn	02 37 14.4	+1.3
CSS	Prodhromos	3.24	104	eP	Pn	02 36 31.4	-3.4
CSS				S	Sn	02 37 14.4	+1.3
KIZT	Kizilcal	3.60	31	ePN	Pn	02 36 38.8	-1.1
PHNC	Paralimni	3.79	101	P	Pn	02 36 46.4	+3.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MEST	**Erdemli**	**3.83**	**77**	*i* P	**Pn**	**02 36 42.0**	**-1.2**
MEST				*i* S	**Sn**	**02 37 29.6**	**+1.5**
ESKT	**Eskisehir**	**3.85**	**16**	*i* P	**Pn**	**02 36 47.8**	**+4.3**
ESKT				*i* S	**Sn**	**02 37 33.3**	**+4.6**
BHL	**Bhannes**	**5.40**	**109**	*e*PN	**Pn**	**02 37 05.6**	**+0.2**
HNTI	**Hanita**	**5.42**	**119**	Pn	**Pn**	**02 37 04.6**	**-1.0**
HNTI				Sn	**Sn**	**02 38 01.7**	**-6.4**
HWQ	**Hawqa**	**5.50**	**104**	*e*PN	**Pn**	**02 37 08.2**	**+1.4**
OFRI	**'Ofer**	**5.54**	**123**	Pn	**Pn**	**02 37 07.2**	**-0.2**
ELDT	**Eldivan**	**5.60**	**32**	*i* P	**Pn**	**02 37 06.2**	**-2.0**
KSDI	**Kefar Szold**	**5.71**	**115**	Pn	**Pn**	**02 37 08.7**	**-1.1**
KSHT	**Keshet**	**5.93**	**117**	Pn	**Pn**	**02 37 10.8**	**-2.0**
HMDT	**Nahal Hemdat**	**6.13**	**124**	Pn	**Pn**	**02 37 14.3**	**-1.4**
KZIT	**Kziot**	**6.38**	**139**	Pn	**Pn**	**02 37 19.0**	**-0.2**
KZIT				Sn	**Sn**	**02 38 27.1**	**-5.0**
DRGI	**Dragot**	**6.46**	**129**	Pn	**Pn**	**02 37 20.0**	**-0.4**
GZT	**Gaziantep**	**6.67**	**74**	*i* P	**Pn**	**02 37 23.0**	**-0.2**

IDC ***06*** *02:37:17.9±1.5, 11.13S×163.07E, mb4.0/6, mb1 4.2/7, mb1mx4.1/14, mbtmp4.0/7, ML3.6/1, MS3.8/2, Ms1 3.7/2, ms1mx3.0/20, Error ellipse: s-maj=68.4km s-min=25.0km az=138.0*

NEIC ***06*** *02:37:18.9±0.8, 11.37S×163.23E, h10km, mb4.2/3, Error ellipse: s-maj=21.5km s-min=14.1km az=143.0*

ISC 06 02:37:23.8±3.9**, 11.4S**±0.1×**163.1E**±0.2**, h57**km±31km**, n14,** σ**0.67**/14**, mb3.9**/8**, MS3.8**/1**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.61**	**302**	*e*P	**P**	**02 38 18.2**	**-0.5**
HNR				S	**S**	**02 39 01.1**	**+0.7**
PMG	**Port Moresby**	**15.75**	**276**	LR	LR	02 45 40.8	
	comp=Z,241nm,19.8s,baz=90,slow=32						
CTA	**Charters Tower**	**18.33**	**240**	P	**P**	**02 41 41.5**	**+5.8**
	0.1nm,0.3s,baz=48,slow=12,SNR=2.3						
CTAO	**Charters Tower**	**18.33**	**240**	P	**P**	**02 41 34.1**	**-1.7**
	1.5nm,0.6s						
STKA	**Stephens Creek**	**28.42**	**221**	P	**P**	**02 43 16.6**	**+1.2**
	1.9nm,0.8s,mb3.8,baz=352,slow=7.1,SNR=2.6						
STKA				LR	LR	02 53 00.8	
	comp=Z,245nm,20.6s,MS3.8,baz=273,slow=33						
STKA	**Stephens Creek**	**28.42**	**221**	*e*P	**P**	**02 43 16.2**	**+0.9**
STKA				LR	LR	02 53 00.8	
WRA	**Warramunga Arr**	**28.89**	**249**	P	**P**	**02 43 19.9**	**+0.3**
	0.9nm,0.6s,mb3.7,baz=79,slow=9.0,SNR=7.1						
ASAR	**Alice Springs**	**30.29**	**242**	P	**P**	**02 43 31.8**	**-0.3**
	1.8nm,0.7s,mb3.9,baz=63,slow=9.7,SNR=14						
ULN	**Ulaanbaatar**	**77.03**	**325**	*e*P	**P**	**02 49 11.6**	**-0.9**
	3.2nm,1.1s,mb4.2						
SONM	**Songino Array**	**77.39**	**325**	P	**P**	**02 49 14.2**	**-0.2**
	1.4nm,0.9s,mb3.9,baz=108,slow=4.6,SNR=3.9						
NVAR	**Mina Array Bea**	**88.26**	**50**	P	**P**	**02 50 11.0**	**+0.6**
	0.4nm,0.5s,mb3.9,baz=222,slow=6.7,SNR=4.8						
NVAR	**Mina Array Bea**	**88.26**	**50**	P	**P**	**02 50 11.0**	**+0.6**
HLID	**Hailey**	**92.41**	**46**	*e*P	**P**	**02 50 30.2**	**+0.5**
	1.6nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**96.48**	**28**	P	**P**	**02 50 47.4**	**-0.4**
	0.2nm,0.6s,mb3.7,baz=255,slow=4.8,SNR=5.1						

WEL 06 02:38:33.9±0.4**, 35.94S**×**178.30E, h223**km±7km**, ML3.5**/9**, Error ellipse: s-maj=9.5km s-min=7.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.62**	**180**	PN	P	02 39 10.7	-0.3
PUZ	**Puketiti**	**2.13**	**181**	PN	P	02 39 15.6	-0.2
PUZ				SN	S	02 39 47.2	-1.0
PUZ				SN	S	02 39 47.3	-0.9
MWZ	**Matawai**	**2.47**	**194**	PN	P	02 39 19.7	+0.3
MWZ				SN	S	02 39 54.0	-0.5
URZ	**Urewera**	**2.50**	**202**	PN	P	02 39 19.1	-0.6
URZ				SN	S	02 39 54.6	-0.7
URZ				SN	S	02 39 54.6	-0.6
KNZ	**Kokohu**	**3.12**	**189**	PN	P	02 39 25.8	-0.8
BKZ	**Black Stump Fm**	**3.53**	**203**	PN	P	02 39 30.6	-0.8

BJI ***06*** *02:49:14.0, 3.26N×128.57E, h38km, mB5.4, mb5.2, Ms4.9, Msz4.6*

MOS ***06*** *02:49:15.2±1.3, 3.54N×128.20E, h33km, mb5.2/18, Error ellipse: s-maj=21.3km s-min=9.7km az=109.3*

NEIC ***06*** *02:49:15.5±0.2, 3.25N×128.50E, mb5.2/40, Error ellipse: s-maj=7.0km s-min=5.0km az=88.0*

HRVD ***06*** *02:49:15.5±0.6, 3.28N×128.30E, h19km±3km, MW5.2/35, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s35,c45; Half duration: 1.0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.05±.40; $M_{\theta\theta}$-0.82±.22; $M_{\phi\phi}$-1.23±.26; $M_{r\theta}$-3.99±1.11; $M_{\theta\phi}$1.26±.16; $M_{\phi r}$5.71±1.47; Best double couple: $M_0$7.299×10^{16} NP1:ϕ_s133°,δ9°,λ78°. NP2:ϕ_s325°,δ81°,λ92°. Principal axes: T 7.182, Plg54°, Azm237°; N .227, Plg2°, Azm145°; P -7.415, Plg36°, Azm53°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***06*** *02:49:17.9±2.5, 3.17N×128.22E, h53km±22km, mb4.5/16, mb1 4.6/16, mb1mx4.6/18, mbtmp4.8/16, MS4.3/7, Ms1 4.4/7, ms1mx4.2/21 Error ellipse: s-maj=22.9km s-min=10.8km az=74.0*

DJA ***06*** *02:49:19.5±0.8, 3.32N×128.30E, h100km, mb5.1/9, Error ellipse: s-maj=36.6km s-min=8.2km az=174.0*

ISC 06 02:49:13.7±0.2**, 3.20N**±0.03×**128.50E**±0.04**, h34**km**, h34**km±2.7km**:pP-P, n172,** σ**1.16**/166**, mb5.1**/71**, MS4.6**/22**, 15C-13D, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**4.34**	**329**	*e*P	**P**	**02 50 21.4**	**+2.4**
DAV	**Davao City (W)**	**4.82**	**323**	*e*P	**P**	**02 50 29.0**	**+3.2**
KCP	**Kidapawan**	**5.08**	**318⇓**	*e*P	**P**	**02 50 31.7**	**+2.2**
KCP				*i* S	**S**	**02 51 37.4**	**+10**
BUKP	**Musuan**	**5.77**	**324**	*e*P	**P**	**02 50 41.8**	**+2.7**
BUTP	**Butuan**	**6.41**	**334**	*e*P	**P**	**02 50 51.0**	**+2.9**
CGP	**Cagayan de Oro**	**6.45**	**324**	*e*P	**P**	**02 50 53.7**	**+5.0**
PAGZ	**Pagadian**	**6.87**	**312**	*i* P	**P**	**02 50 55.4**	**+0.7**
SCPH	**Surigao**	**7.19**	**336**	*e*P	**P**	**02 51 00.0**	**+0.9**
SCPH				*i* S	**S**	**02 52 20.0**	**-0.5**
ZMPH	**Zamboanga City**	**7.41**	**300⇓**	*e*P	**P**	**02 51 01.0**	**-1.2**
TBP	**Tagbilaran**	**7.92**	**325**	*e*P	**P**	**02 51 10.3**	**+1.0**
BUNI	**Buntu Taipa**	**10.63**	**230⇑**	*e*P	**P**	**02 51 45.1**	**-1.8**
	268nm,0.3s						
TANI	**Tanete Lipujan**	**11.24**	**234⇑**	*e*P	**P**	**02 51 57.0**	**+1.9**
	68nm,0.4s						
NINI	**Niniconang**	**11.55**	**229⇓**	*e*P	**P**	**02 51 59.8**	**+0.4**
	322nm,0.5s						
KKM	**Kota Kinabalu**	**12.56**	**283**	*e*P	**P**	**02 52 11.8**	**-1.1**
YOMI	**Yo Moklole**	**13.38**	**116⇓**	*e*P	**P**	**02 52 29.2**	**+5.4**
	205nm,1.4s						
KAKA	**Kakadu**	**16.28**	**166**	*e*P	**P**	**02 53 02.2**	**+0.7**
	62nm,0.6s						
KEDI	**Kedomdong**	**16.95**	**227⇓**	*e*P	**P**	**02 53 10.5**	**+0.6**
	218nm,0.5s						
RATI	**Rata**	**17.53**	**227⇑**	*e*P	**P**	**02 53 18.8**	**+1.6**
	252nm,0.8s						
KELI	**Kelakatan**	**17.99**	**231⇑**	*e*P	**P**	**02 53 25.6**	**+2.6**
	127nm,1.0s						
KSM	**Kuching**	**18.25**	**265**	*e*P	**P**	**02 53 25.4**	**-0.9**
SRDI	**Scrawed**	**18.42**	**231⇑**	*e*P	**P**	**02 53 29.1**	**+0.7**
	157nm,0.6s						
FITZ	**Fitzroy Crossi**	**21.35**	**187**	*e*P	**P**	**02 53 59.2**	**-1.0**
	52nm,1.2s,mb4.7						
NACB	**Ninganchiao**	**21.89**	**343**	*e*P	**P**	**02 54 06.0**	**+0.4**
PMG	**Port Moresby**	**22.42**	**124**	P	**P**	**02 54 14.7**	**+3.8**
	23nm,0.9s,mb4.6,baz=297,slow=18,SNR=2.5						
PMG				LR	LR	03 02 54.2	
	comp=Z,2µm,18.8s,MS4.5,baz=322,slow=36						
PMG	**Port Moresby**	**22.42**	**124**	P	**P**	**02 54 10.7**	**-0.2**
	130nm,1.1s,mb5.3						
PMG				*e*		02 54 21.9	
PMG				LR	LR	03 02 54.2	
YHNB	**Yeheng**	**22.42**	**343**	*e*P	**P**	**02 54 11.2**	**+0.3**
QZH	**Quanzhou**	**23.63**	**337**	P	**P**	**02 54 21.6**	**-1.2**
QZH				AMB	AMB		
	comp=Z,140nm,1.1s,mb5.3						
QZH				AMB	AMB		
	comp=Z,1µm,5.9s						
QZH				LR	LR		
	comp=Z,1µm,16.9s,MS4.4						
WRAB	**Tennant Creek**	**23.69**	**166**	P	**P**	**02 54 25.1**	**+1.7**
	comp=Z,1µm,0.8s,SNR=61						
WRAB	**Tennant Creek**	**23.69**	**166**	*e*P	**P**	**02 54 24.2**	**+0.8**
	comp=Z,343nm,1.1s,mb5.7						
WRA	**Warramunga Arr**	**23.70**	**166**	P	**P**	**02 54 24.7**	**+1.2**
	comp=Z,40nm,0.5s,mb5.1,baz=344,slow=10,SNR=184						
QIZ	**Qiongzhong**	**24.09**	**312**	P	**P**	**02 54 27.8**	**+0.5**
PENI	**Pendagan**	**24.87**	**250⇓**	*e*P	**P**	**02 54 32.0**	**-2.9**
	comp=Z,184nm,0.6s,mb5.5						
MBWA	**Marble Bar**	**25.68**	**199**	*e*P	**P**	**02 54 42.1**	**-0.5**
	comp=Z,29nm,0.8s,mb4.9						
CBIJ	**Chichi jima**	**27.14**	**28**	LR	LR	03 03 21.1	
	comp=Z,1µm,20.2s,MS4.4,baz=210,slow=31						
ASAR	**Alice Springs**	**27.21**	**169**	P	**P**	**02 54 56.4**	**-0.3**
	comp=Z,5.8nm,0.4s,mb4.4,baz=350,slow=6.6,SNR=44						
ASAR				PcP	PcP	02 58 16.3	-0.2
	comp=Z,3.2nm,0.4s,baz=356,slow=2.1,SNR=11						
ASAR				S	**S**	**02 59 32.2**	**+0.7**
	comp=Z,14nm,1.2s,baz=354,slow=16,SNR=4.2						
ASPA	**Alice Springs**	**27.21**	**169⇑**	*i*P	**P**	**02 54 56.8**	**+0.1**
ASPA				*e*S	**S**	**02 59 31.8**	**+0.3**
KULM	**Kulim**	**27.84**	**275**	*e*P	**P**	**02 55 02.3**	**-0.2**
SSE	**Sheshan**	**28.59**	**347**	P	**P**	**02 55 04.0**	**-5.0**
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,206nm,7.2s						
SSE				LR	LR		
	comp=N,214nm,17.6s,MS4.0						
SSE				LR	LR		
	comp=E,313nm,17.7s,MS4.0						
SSE				LR	LR		
	comp=Z,449nm,18.3s,MS4.1						
SSE	**Sheshan**	**28.59**	**347**	P	**P**	**02 55 04.0**	**-5.0**
	comp=Z,38nm,0.7s,mb5.2						
SSE				pP	pP	02 55 13.2	-5.6
SSE				sP	sP	02 55 16.7	-6.5
SSE				S	**S**	**02 59 41.5**	**-12**
SSE				sS		02 59 56.9	
SSE				LR	LR		
	comp=Z,450nm,18.3s,MS4.1						
CTA	**Charters Tower**	**28.98**	**144**	*e*P	**P**	**02 55 17.0**	**+4.5**
	comp=Z,5.1nm,0.8s,mb4.3						
CTA	**Charters Tower**	**28.98**	**144**	P	**P**	**02 55 13.4**	**+1.0**
	comp=Z,4.5nm,0.9s,mb4.2,baz=333,slow=9.0,SNR=3.8						
CTAO	**Charters Tower**	**28.98**	**144**	*e*P	**P**	**02 55 08.8**	**-3.7**
	comp=Z,22nm,1.1s,mb4.8						
NJ2	**Nanjing**	**30.10**	**344**	*e*P	**P**	**02 55 19.4**	**-3.0**
NJ2				AP	pP	02 55 28.9	-3.3
NJ2				XP	sP	02 55 32.9	-3.9
NJ2				S	**S**	**03 00 10.0**	**-7.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1µm,6.4s						
NJ2				LR	LR		
	comp=N,1µm,16.8s,MS4.8						
NJ2				LR	LR		
	comp=E,1µm,18.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,2µm,19.5s,MS4.8						
GYA	**Guiyang**	**31.19**	**320⇑**	*i*P	**P**	**02 55 36.2**	**+4.0**
GYA				AP	pP	02 55 45.2	+3.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NANT	**Nan**	**31.30**	**302**	P	**P**	**02 55 32.6**	**-0.6**
CHRT	**Chiangrai**	**32.55**	**303**	⇓P	**P**	**02 55 43.5**	**-0.6**
	comp=Z,113nm,0.7s,mb5.9						
CM31	**Chiang Mai Arr**	**32.66**	**300**	*e*P	**P**	**02 55 44.4**	**-0.7**
	comp=Z,15nm,0.7s,mb5.0						
CMAR	**Chiang Mai Arr**	**32.66**	**300**	P	**P**	**02 55 44.2**	**-0.9**
	comp=Z,7.4nm,0.6s,mb4.8,baz=118,slow=7.9,SNR=26						
CMAR				ScP		03 02 09.1	
	comp=Z,0.8nm,0.4s,baz=111,slow=1.7,SNR=5.1						
CMAR				LR	LR	03 09 16.0	
	comp=Z,284nm,18.7s,MS4.0,baz=110,slow=37						
CHG	**Chiang Mai**	**32.81**	**300**	⇓P	**P**	**02 55 45.9**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.3						
KMI	**Kunming**	**33.01**	**314**	⇑P	**P**	**02 55 50.1**	**+2.0**
KMI				AP	pP	02 55 58.3	+0.3
KMI				XP	sP	02 56 00.9	-1.5
KMI				S	**S**	**03 01 04.0**	**+0.9**
KMI				SS	SS	03 03 05.3	+1.2
KMI				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.3						
KMI				AMB	AMB		
	comp=Z,198nm,4.3s						
KMI				LR	LR		
	comp=N,721nm,23.5s						
KMI				LR	LR		
	comp=E,494nm,17.9s						
KMI				LR	LR		
	comp=Z,510nm,20.2s,MS4.2						
KMI	**Kunming**	**33.01**	**314**	⇑P	**P**	**02 55 50.1**	**+2.0**
	comp=Z,40nm,0.9s,mb5.3						
KMI				pP	pP	02 55 58.3	+0.3
KMI				sP	sP	02 56 00.9	-1.5
KMI				PP	PP	02 57 04.3	+5.3
KMI				S	**S**	**03 01 04.0**	**+0.9**
KMI				SS	SS	03 03 05.3	+1.2
KMI				LR	LR		
	comp=Z,510nm,20.2s,MS4.2						
FORT	**Forrest**	**33.79**	**181⇑**	*i*P	**P**	**02 55 54.1**	**-0.6**
	comp=Z,1µm,0.9s						
KS15	**Wonju Array Si**	**34.09**	**359**	*e*P	**P**	**02 55 57.0**	**-0.2**
MAJO	**Matsushiro**	**34.37**	**14**	*e*P	**P**	**02 55 58.4**	**-1.3**
	comp=Z,15nm,0.6s,mb5.1						
MAT	**Matsushiro**	**34.37**	**14**	*e*P	**P**	**02 55 57.0**	**-2.7**
	comp=Z,15nm,0.8s,mb5.0						
MAT				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
MAT	**Matsushiro**	**34.37**	**14**	P	**P**	**02 55 57.3**	**-2.4**
XAN	**Xi'an**	**35.70**	**332**	P	**P**	**02 56 10.3**	**-0.8**
XAN				AP	pP	02 56 17.6	-3.4
XAN				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.9						
XAN				LR	LR		
	comp=N,282nm,10.9s,MS4.4						
XAN				LR	LR		
	comp=E,323nm,12.8s,MS4.4						
XAN				LR	LR		
	comp=Z,3µm,20.7s						
KLBR	**Kellerberrin**	**36.07**	**196**	*e*P	**P**	**02 56 13.2**	**-1.0**
	comp=Z,386nm,1.0s						
CD2	**Chengdu**	**36.12**	**322**	P	**P**	**02 56 16.8**	**+2.1**
MUN	**Mundaring**	**36.88**	**198**	*e*P	**P**	**02 56 21.4**	**+0.4**
	comp=Z,14nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**37.04**	**161**	*e*P	**P**	**02 56 22.5**	**+0.2**
	comp=Z,46nm,0.6s,mb5.5						
STKA				*e*S	**S**	**03 02 03.2**	**-2.1**
STKA	**Stephens Creek**	**37.04**	**161**	P	**P**	**02 56 22.8**	**+0.4**
	comp=Z,40nm,0.8s,mb5.3,baz=342,slow=7.7,SNR=20						
NWAO	**Narrogin (SRO)**	**37.48**	**196**	P	**P**	**02 56 26.4**	**+0.3**
	comp=Z,10nm,0.5s,mb4.9,baz=32,slow=9.8,SNR=10						
NWAO	**Narrogin (SRO)**	**37.48**	**196**	*e*P	**P**	**02 56 26.3**	**+0.3**
	comp=Z,32nm,1.1s,mb5.1						
BJI	**Beijing**	**38.34**	**345**	*e*P	**P**	**02 56 32.7**	**-0.4**
BJI				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=N,296nm,15.9s,MS4.6						
BJI				LR	LR		
	comp=E,737nm,15.9s,MS4.6						
BJI				LR	LR		
	comp=Z,523nm,17.6s,MS4.4						
BJI	**Beijing**	**38.34**	**345**	*e*P	**P**	**02 56 32.7**	**-0.4**
	comp=Z,51nm,0.9s,mb5.2						
BJI				LR	LR		
	comp=Z,520nm,17.6s,MS4.4						
SNY	**Shenyang**	**38.71**	**354**	⇓P	**P**	**02 56 36.5**	**+0.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7						
LZH	**Lanzhou**	**39.87**	**328**	*e*P	**P**	**02 56 46.5**	**+0.7**
LZH				AP	pP	02 56 58.5	+2.6
LZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.4						
LZH	**Lanzhou**	**39.87**	**328**	*e*P	**P**	**02 56 46.5**	**+0.7**
	comp=Z,80nm,1.0s,mb5.4						
LZH				pP	pP	02 56 58.5	+2.6
LZH				sP	sP	02 57 05.0	+4.8
HHC	**Hu-ho-hao-te**	**40.47**	**340⇑**	*i*P	**P**	**02 56 52.3**	**+1.5**
HHC				AP	pP	02 57 03.6	+2.7
HHC				XP	sP	02 57 08.1	+2.9
HHC				PP	PP	02 58 28.9	+1.4
HHC				PCS		03 02 45.2	
HHC				S	**S**	**03 03 01.9**	**+4.8**
HHC				SS	SS	03 05 54.7	+2.8
HHC				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.2						
HHC				AMB	AMB		
	comp=Z,354nm,14.9s						
HHC				LR	LR		
	comp=N,463nm,18.4s,MS4.6						
HHC				LR	LR		
	comp=E,579nm,19.0s,MS4.6						
HHC				LR	LR		
	comp=Z,584nm,17.2s,MS4.5						
CN2	**Changchun**	**40.52**	**357**	*e*P	**P**	**02 56 51.3**	**+0.1**
CN2				*e*XP	sP	02 57 05.2	-0.4
CN2				*e*S	**S**	**03 03 00.8**	**+3.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				AMB	AMB		
	comp=Z,700nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,500nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=Z,800nm,17.0s,MS4.6						
MDJ	**Mudanjiang**	**41.26**	**1**	P	**P**	**02 56 58.0**	**+0.7**
MDJ				AP	pP	02 57 10.7	+3.3
MDJ				PP	PP	02 58 37.6	+2.1
MDJ				S	**S**	**03 03 11.6**	**+2.9**
MDJ				SS	SS	03 06 11.4	+3.4
MDJ				AMB	AMB		
	comp=Z,58nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,78nm,3.2s						
MDJ				LR	LR		
	comp=N,378nm,20.7s						
MDJ				LR	LR		
	comp=E,178nm,29.8s						
MDJ				LR	LR		
	comp=Z,563nm,19.0s,MS4.5						
ASAJ	**Asahikawa**	**42.62**	**15**	P	**P**	**02 57 09.8**	**+1.3**
	comp=Z,28nm,0.8s,mb5.0,baz=209,slow=12,SNR=16						
ASAJ				LR	LR	03 13 41.2	
	comp=Z,882nm,18.8s,MS4.7,baz=314,slow=34						
LSA	**Lhasa**	**44.12**	**311**	P	**P**	**02 57 21.0**	**+0.2**
GTA	**Gaotai**	**44.47**	**328**	P	**P**	**02 57 24.0**	**+0.5**
GTA				AP	pP	02 57 34.0	+0.3
GTA				XP	sP	02 57 37.6	-0.3
GTA				PP	PP	02 59 09.0	+0.5
GTA				SCP		03 02 56.4	
GTA				S	**S**	**03 03 57.3**	**+1.6**
GTA				XS		03 04 13.6	
GTA				SS	SS	03 07 08.1	+1.3
GTA				SCS	ScS	03 07 17.6	+1.3
GTA				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,150nm,4.2s						
GTA				LR	LR		
	comp=N,473nm,19.0s,MS4.6						
GTA				LR	LR		
	comp=E,575nm,20.2s,MS4.6						
GTA				LR	LR		
	comp=Z,1µm,18.6s,MS4.8						
YSS	**Yuzh-Sakhalins**	**45.31**	**14**	*e*P	**P**	**02 57 30.0**	**-0.2**
YSS				*e*		02 57 44.5	
YSS				pmax	pmax		
	comp=Z,220nm,0.5s,mb6.2						
YSS	**Yuzh-Sakhalins**	**45.31**	**14**	*e*P	**P**	**02 57 29.9**	**-0.3**
	comp=Z,17nm,0.6s,mb5.1						
KLR	**Kul'dur**	**45.95**	**3⇑**	*i*P	**P**	**02 57 32.2**	**-3.0**
KLR				pmax	pmax		
	comp=E,30nm,1.6s						
KLR				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.2						
JIRN	**Jiri**	**47.11**	**305**	*e*P	**P**	**02 57 44.5**	**-0.1**
	comp=Z,50nm,0.7s,mb5.5						
PKI	**Pulchoki**	**47.71**	**305**	*e*P	**P**	**02 57 49.7**	**+0.3**
	comp=Z,20nm,0.7s,mb5.3						
KKN	**Kakani**	**47.90**	**305**	*e*P	**P**	**02 57 50.2**	**-0.7**
	comp=Z,60nm,0.9s,mb5.6						
DMN	**Daman**	**47.98**	**305**	*e*P	**P**	**02 57 51.3**	**-0.2**
	comp=Z,42nm,0.8s,mb5.5						
ULN	**Ulaanbaatar**	**48.18**	**341**	*i* P	**P**	**02 57 51.0**	**-1.8**
ULN	**Ulaanbaatar**	**48.18**	**341**	*e*P	**P**	**02 57 52.5**	**-0.3**
	comp=Z,7.7nm,0.8s,mb4.8						
SONM	**Songino Array**	**48.38**	**340**	P	**P**	**02 57 53.6**	**-0.6**
	comp=Z,3.3nm,0.6s,mb4.6,baz=150,slow=8.7,SNR=11						
GKN	**Gorkha**	**48.51**	**305**	*e*P	**P**	**02 57 54.5**	**-1.1**
	comp=Z,92nm,1.3s,mb5.6						
KOLN	**Koldanda**	**49.27**	**304**	*e*P	**P**	**02 58 01.3**	**-0.2**
	comp=Z,78nm,0.7s,mb5.9						
HYB	**Hyderabad**	**50.95**	**290**	*e*P	**P**	**02 58 14.0**	**-0.4**
HYB	**Hyderabad**	**50.95**	**290**	*i* P	**P**	**02 58 14.0**	**-0.4**
HYB				*e*sP	sP	02 58 33.0	+4.2
ZAK	**Zakamensk**	**51.62**	**340**	*e*P	**P**	**02 58 17.4**	**-1.6**
ZAK				*e*		02 59 33.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TLY	**Talaya**	**52.59**	**341**	*i* P	**P**	**02 58 24.4**	**-1.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.3						
MOY	**Mondy**	**53.49**	**339**	*e*P	**P**	**02 58 33.1**	**+0.1**
MOY				pmax	pmax		
	comp=Z,22nm,2.1s,mb4.7						
WMQ	**Urumqi**	**54.17**	**324⇓**	*i*P	**P**	**02 58 38.2**	**+0.1**
WMQ				AP	pP	02 58 50.0	+1.6
WMQ				XP	sP	02 58 52.0	-0.5
WMQ				PCP	PcP	02 59 42.5	+0.2
WMQ				PCS		03 03 40.0	
WMQ				S	**S**	**03 06 11.5**	**+0.4**
WMQ				XS		03 06 28.0	
WMQ				AMB	AMB		
	comp=Z,34nm,0.8s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,494nm,7.3s						
WMQ				LR	LR		
	comp=N,2µm,25.6s,MS5.1						
WMQ				LR	LR		
	comp=E,912nm,24.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,928nm,21.0s,MS4.8						
POO	**Poona**	**55.55**	**290⇑**	*i*P	**P**	**02 58 46.0**	**-2.4**
PET	**Petropavlovsk**	**55.55**	**22**	*e*P	**P**	**02 58 49.0**	**+1.0**
PET				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.4						
PET				MLR	MLR		
	comp=Z,400nm,15.0s,MS4.6						
BOD	**Bodaibo**	**55.66**	**351**	*e*P	**P**	**02 58 47.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.8						
SDNR	**Sundarnagar**	**55.98**	**306**	*e*P	**P**	**02 58 51.5**	**+0.1**
DGAR	**Diego Garcia**	**56.91**	**259**	*i* P	**P**	**02 58 56.2**	**-2.0**
DGAR	**Diego Garcia**	**56.91**	**259**	*e*P	**P**	**02 58 55.7**	**-2.5**
	comp=Z,34nm,0.8s,mb5.4						
YAK	**Yakutsk**	**58.70**	**1***d*	*i*P	**P**	**02 59 09.3**	**-0.9**
YAK				pmax	pmax		
	comp=Z,155nm,1.8s,mb5.7						
YAK	**Yakutsk**	**58.70**	**1**	*e*P	**P**	**02 59 09.8**	**-0.4**
	comp=Z,123nm,1.3s,mb5.8						
MA2	**Magadan**	**58.81**	**13***d*	*i*P	**P**	**02 59 11.2**	**+0.3**
MA2				pmax	pmax		
	comp=Z,72nm,1.8s,mb5.4						
MA2	**Magadan**	**58.81**	**13**	*e*P	**P**	**02 59 10.3**	**-0.6**
	comp=Z,40nm,1.1s,mb5.4						
MKAR	**Makanchi Array**	**59.00**	**325**	*i* P	**P**	**02 59 11.5**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.4s						
KSH	**Kashi**	**59.66**	**315**	*e*P	**P**	**02 59 19.3**	**+2.1**
KSH				*e*AP	pP	02 59 28.6	+1.1
KSH				*e*XP	sP	02 59 33.3	+1.7
KSH				*e*PCP	PcP	03 00 04.4	+0.7
KSH				*e*PP	PP	03 01 33.6	+2.8
KSH				*e*SCP		03 04 01.6	
KSH				*e*PCS		03 04 05.0	
KSH				*e*S	**S**	**03 07 26.1**	**+2.5**
KSH				*e*XS		03 07 44.5	
KSH				*e*SCS	ScS	03 09 02.8	+1.8
KSH				*e*SS	SS	03 11 25.0	+4.3
KSH				AMB	AMB		
	comp=Z,200nm,3.2s						
KSH				LR	LR		
	comp=N,1µm,10.9s,MS5.5						
KSH				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=E,2µm,11.2s,MS5.5						
ULHL	**Ulahol**	**60.60**	**318**	P	**P**	**02 59 23.0**	**-0.5**
	SNR=13						
KZA	**Kyzart**	**61.20**	**317**	P	**P**	**02 59 27.9**	**+0.4**
	SNR=24						
TKM2	**Tokmak 2**	**61.31**	**318**	P	**P**	**02 59 27.9**	**-0.4**
	SNR=20						
FX1	**Attu Island--F**	**61.68**	**29**	LR	LR	03 23 34.9	
	comp=E,18nm,19.3s,baz=268,slow=33						
FX1	**Attu Island--F**	**61.68**	**29**	*e*P	**P**	**02 59 31.3**	**+0.7**
UCH	**Uchtor**	**61.76**	**317**	P	**P**	**02 59 31.7**	**+0.4**
	SNR=21						
AAK	**Ala-Archa**	**61.93**	**317**	P	**P**	**02 59 31.8**	**-0.7**
	comp=E,56nm,0.9s,mb5.7,SNR=7.9						
AAK	**Ala-Archa**	**61.93**	**317**	P	**P**	**02 59 32.1**	**-0.4**
AAK				pmax	pmax		
	comp=Z,22nm,1.4s,mb5.1						
AAK	**Ala-Archa**	**61.93**	**317**	*e*P	**P**	**02 59 30.9**	**-1.6**
	comp=Z,7.2nm,0.8s,mb4.8						
SEY	**Seymchan**	**62.17**	**12**	*e*P	**P**	**02 59 33.7**	**-0.1**
SEY				*e*		03 14 42.7	
SEY				pmax	pmax		
	comp=N,50nm,1.2s						
SEY				pmax	pmax		
	comp=E,30nm,1.2s						
SEY				pmax	pmax		
	comp=Z,130nm,1.2s,mb5.9						
USP	**Ospenovka**	**62.19**	**318**	P	**P**	**02 59 33.4**	**-0.8**
	SNR=19						
AML	**Almayashu**	**62.28**	**317**	P	**P**	**02 59 35.0**	**+0.2**
	SNR=27						
EKS2	**Erkin-Say**	**62.43**	**317**	P	**P**	**02 59 35.6**	**-0.2**
	SNR=22						
KURK	**Kurchatov**	**63.14**	**327**	P	**P**	**02 59 39.1**	**-1.3**
	comp=Z,294nm,0.7s,SNR=23						
KURK	**Kurchatov**	**63.14**	**327**	*i* P	**P**	**02 59 39.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,13nm,0.8s,mb5.1						
KURK	**Kurchatov**	**63.14**	**327**	*e*P	**P**	**02 59 38.5**	**-1.9**
	comp=Z,34nm,0.8s,mb5.5						
TIXI	**Tiksi**	**68.36**	**0**	*i* P	**P**	**03 00 12.7**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.1						
BVA0	**Borovoye Array**	**68.73**	**327**	P	**P**	**03 00 14.7**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
CHKZ	**Chkalovo**	**68.88**	**327**	*i* P	**P**	**03 00 15.3**	**-1.6**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
CHKZ	**Chkalovo**	**68.88**	**327**	*e*P	**P**	**03 00 15.2**	**-1.7**
	comp=Z,113nm,1.2s,mb5.7						
SVE	**Sverdlovsk**	**75.33**	**328**	*e*P	**P**	**03 00 54.0**	**-1.2**
IMA	**Indian Mountai**	**82.16**	**24**	*e*P	**P**	**03 01 33.5**	**+1.3**
	comp=Z,161nm,1.3s,mb5.8						
RAYN	**Ar Rayn**	**82.31**	**293**	P	**P**	**03 01 33.3**	**-0.6**
	comp=Z,74nm,0.7s,SNR=16						
VNDA	**Vanda**	**82.68**	**173**	P	**P**	**03 01 35.0**	**+0.2**
	comp=Z,15nm,0.9s,mb5.0,baz=311,slow=5.5,SNR=25						
VNDA				LR	LR	03 35 01.2	
	comp=Z,339nm,18.5s,MS4.8,baz=273,slow=33						
GNI	**Garni**	**83.17**	**310**	*i* P	**P**	**03 01 39.1**	**+1.2**
GNI				pmax	pmax		
	comp=Z,15nm,1.6s						
GNI	**Garni**	**83.17**	**310**	*e*P	**P**	**03 01 39.3**	**+1.3**
	comp=Z,7.9nm,0.8s,mb4.8						
TI2	**Plekhanov**	**83.21**	**311**	*e*P	**P**	**03 01 38.2**	**+0.1**
PPT	**Papeete**	**83.28**	**108**	*e*LR	LR	03 28 11.2	
	comp=Z,398nm,25.8s						
ZEI	**Tsey**	**83.87**	**312**	*e*P	**P**	**03 01 41.7**	**+0.2**
TBI	**Tubuai**	**83.96**	**114**	*e*LR	LR	03 28 29.3	
	comp=Z,466nm,23.2s						
KIV	**Kislovodsk**	**84.78**	**314**	*e*P	**P**	**03 01 46.0**	**0.0**
KIV				*e*		03 05 01.1	
KIV				*e*S	S	03 12 06.5	-3.5
KIV				*e*SS	SS	03 17 34.8	-11
KIV				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.8						
KIV				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.5						
ILAR	**Eielson Array**	**84.83**	**25**	P	**P**	**03 01 45.8**	**0.0**
	comp=Z,3.8nm,1.0s,mb4.5,baz=243,slow=3.2,SNR=12						
ERZM	**Erzurum**	**85.76**	**310**	*i* P	**P**	**03 01 52.0**	**+1.0**
SOC	**Sochi**	**86.93**	**313**	*e*P	**P**	**03 01 57.1**	**+0.5**
SOC				*e*		03 05 12.5	
SOC				*e*S	S	03 12 17.0	-14
SOC				*e*SSS	SSS	03 21 43.1	-4.6
SOC				pmax	pmax		
	comp=N,12nm,1.0s						
SOC				pmax	pmax		
	comp=E,8.0nm,1.0s						
SOC				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.3						
DAWY	**Dawson**	**88.08**	**26**	*e*P	**P**	**03 02 02.8**	**+1.2**
MALT	**Malatya**	**88.09**	**308**	*e*P	**P**	**03 02 02.0**	**-0.3**
	comp=Z,16nm,1.6s,mb5.0						
OBN	**Obninsk**	**88.51**	**325**	*i* P	**P**	**03 02 06.3**	**+2.4**
OBN				*e*		03 05 29.8	
OBN				*e*		03 12 27.9	
OBN				*e*SS	SS	03 18 30.7	-8.8
OBN				pmax	pmax		
	comp=Z,15nm,1.6s,mb5.1						
OBN				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.8						
JOF	**Joensuu**	**90.45**	**333**	*e*p	**P**	**03 02 10.2**	**-2.7**
	comp=Z,3.9nm,0.7s,mb4.8						
JOF	**Joensuu**	**90.45**	**333**	*e*P	**P**	**03 02 10.2**	**-2.7**
JOF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
KMBO	**Kilima Mbogo**	**91.30**	**269**	*i* P	**P**	**03 02 19.5**	**+1.5**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	**Kilima Mbogo**	**91.30**	**269**	P	**P**	**03 02 16.9**	**-1.1**
	comp=Z,3.4nm,1.1s,mb4.6,baz=53,slow=5.9,SNR=7.3						
KMBO	**Kilima Mbogo**	**91.30**	**269**	P	**P**	**03 02 16.9**	**-1.1**
ARCES	**ARCESS Array B**	**91.55**	**340**	P	**P**	**03 02 16.6**	**-1.2**
	comp=Z,13nm,1.2s,mb5.2,baz=79,slow=6.7,SNR=13						
SYO	**Syowa Base**	**92.57**	**201**	⇓P	**P**	**03 02 23.1**	**+0.6**
SYO	**Syowa Base**	**92.57**	**201**	⇑pP	pP	03 02 37.7	+4.3
KAF	**Kangasniemi**	**92.88**	**333**	*e*p	**P**	**03 02 19.0**	**-5.1**
	comp=Z,1.7nm,0.8s,mb4.5						
KAF	**Kangasniemi**	**92.88**	**333**	*e*P	**P**	**03 02 19.0**	**-5.1**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**93.11**	**180**	⇑*i*P	**P**	**03 02 26.6**	**+1.8**
	comp=Z,19nm,1.0s,mb5.5						
FINES	**FINESS Array B**	**93.13**	**332**	*i* P	**P**	**03 02 23.3**	**-2.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**93.13**	**332**	P	**P**	**03 02 23.7**	**-1.5**
	comp=Z,0.5nm,0.5s,mb4.2,baz=82,slow=4.9,SNR=11						
RKT	**Rikitea**	**97.25**	**113**	*e*LR	LR	03 34 38.8	
	comp=Z,240nm,29.0s						
YKA	**Yellowknife Ar**	**99.25**	**25**	P	**P**	**03 02 54.1**	**+1.1**
	comp=Z,1.4nm,0.8s,mb4.6,baz=299,slow=4.6,SNR=17						
YKA				PKKPbc		03 19 18.5	
	comp=Z,0.1nm,0.4s,baz=104,slow=2.3,SNR=3.6						
NOA	**NORSAR Array B**	**100.04**	**334**	P	P	03 02 55.0	-1.7
	comp=Z,0.3nm,0.6s,baz=350,slow=2.8,SNR=2.6						
NOA				LR	LR	03 49 49.7	
	comp=Z,269nm,20.7s,MS4.7,baz=235,slow=36						
NOA	**NORSAR Array B**	**100.04**	**334**	P	P	03 02 55.0	-1.7
NOA				LR	LR	03 49 49.7	
GERES	**GERESS Array B**	**103.59**	**322**	Pdiff	Pdif	03 03 15.8	+3.0
	comp=Z,0.5nm,0.9s,baz=90,slow=2.7,SNR=3.7						
TXAR	**Lajitas Array**	**120.52**	**53**	PKP	PKPdf	03 08 05.1	+2.6
	comp=Z,0.7nm,1.0s,baz=233,slow=3.2,SNR=9.0						
TXAR				PKKPbc		03 18 10.5	
	comp=Z,0.3nm,0.8s,baz=117,slow=5.6,SNR=5.0						
JCT	**Junction City**	**123.06**	**50**	PKPdf	PKPdf	03 08 09.7	+2.2
DBIC	**Dimbokro**	**132.41**	**282**	PKP	PKPdf	03 08 28.4	+2.5
	comp=Z,2.3nm,0.6s,baz=77,slow=5.8,SNR=4.3						
PLCA	**Paso Flores**	**138.87**	**158**	PKP	PKPdf	03 08 40.0	+3.0
	comp=Z,19nm,1.6s,baz=190,slow=4.0,SNR=2.3						
PLCA	**Paso Flores**	**138.87**	**158**	PKPdf	PKPdf	03 08 39.1	+2.1
TRQA	**Tornquist**	**144.00**	**166**	*e*PKPdf	PKPdf	03 08 46.8	+0.7
JTS	**JuntasAbangare**	**144.10**	**68**	*e*PKPdf	PKPdf	03 08 48.4	+1.4
ROSC	**El Rosal**	**155.83**	**71**	PKPab	PKPab	03 09 37.1	+2.8
	comp=Z,5.2nm,0.7s,baz=109,slow=16,SNR=6.1						
SDV	**Santo Domingo**	**157.47**	**58**	PKP	PKPdf	03 09 10.6	+3.4
	baz=236,slow=1.1						
SDV	**Santo Domingo**	**157.47**	**58**	*e*PKPdf	PKPdf	03 09 09.6	+2.4
LPAZ	**La Paz**	**159.11**	**130**	PKP	PKPdf	03 09 13.5	+4.4
	comp=Z,1.5nm,0.8s,baz=301,slow=3.6,SNR=6.0						
LPAZ				PKPab	PKPab	03 09 51.2	+3.0
	comp=Z,1.6nm,0.7s,baz=175,slow=3.2,SNR=4.7						
BDFB	**Brasilia**	**167.17**	**195**	PKPab	PKPab	03 10 23.6	+0.4
	comp=Z,5.0nm,1.1s,baz=105,slow=9.3,SNR=3.4						

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*IDC **06** 03:02:27.3±1.0, 24.88N×122.44E, mb3.9/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, MS4.0/1, Ms1 4.0/1, ms1mx3.1/20, Error ellipse: s-maj=37.7km s-min=21.1km az=70.0*

*NEIC **06** 03:02:28.8±0.5, 24.77N×122.01E, h10km, mb4.1/3, ML4.5(TAP), Error ellipse: s-maj=9.3km s-min=7.7km az=61.0*

NEIC Recorded [3 TAP] in I-lan and [1 TAP] in Hua-lien, T'ai-pei and T'ao-yuan Counties.

*JMA **06** 03:02:28.6±0.3, 24.83N×121.89E, h47km, M4.2*

*TAP **06** 03:02:29.2, 24.79N×121.96E, h9km, ML4.4*

TAP Felt I J, I J at Suao, III J at Neicheng, I J, II J at Nioudou, III J at Nanau, I J at Taipai, I J at Sanguang, I J at Kuangyinshan, I J at Nanshan.

*BJI **06** 03:02:34.8, 25.24N×121.46E, h10km, mB5.0, mb4.0, ML4.2, Ms4.2*

ISC 06 03:02:28.8±0.3**, 24.82N**±0.02×**122.04E**±0.02**, h9km, n77, σ1.26**/108**, mb4.0**/9**, MS4.0**/1**, 5C-11D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.10**	**284**	⇑*i*P	**Pg**	**03 02 31.4**	**0.0**
TWB1	**Santiao Chiao**	**0.19**	**346**	⇑*i*P	**Pg**	**03 02 33.8**	**+0.8**
TWB1				S	**Sg**	**03 02 36.9**	**+1.0**
TWC	**Suao**	**0.27**	**220**	⇑*i*P	**Pg**	**03 02 33.9**	**-0.7**
TWC				S	**Sg**	**03 02 36.7**	**-1.7**
NWF	**Wu-fen Shan**	**0.34**	**317**	⇓*i*P	**Pg**	**03 02 36.2**	**+0.3**
NWF				S	**Sg**	**03 02 40.9**	**+0.3**
TWE	**Neicheng**	**0.35**	**254**	⇓*i*P	**Pg**	**03 02 35.0**	**-1.1**
TWE				S	**Sg**	**03 02 38.9**	**-2.0**
TWA	**Mucha**	**0.44**	**291**	⇓*i*P	**Pg**	**03 02 37.4**	**-0.5**
TWA				S	**Sg**	**03 02 43.1**	**-0.8**
ENTT	**Nioudou**	**0.47**	**248**	⇓*i*P	**Pg**	**03 02 36.9**	**-1.4**
ENA	**Nanau**	**0.48**	**215**	*e*P	**Pg**	**03 02 37.7**	**-0.8**
ENA				S	**Sg**	**03 02 43.0**	**-1.9**
TAP1	**Taipei**	**0.52**	**295**	⇓*i*P	**Pg**	**03 02 39.3**	**0.0**
TAP1				S	**Sg**	**03 02 45.8**	**-0.5**
TATO	**Taipei**	**0.53**	**287**	⇑*i*Pg	**Pg**	**03 02 38.6**	**-0.8**
TAP	**Taipei**	**0.53**	**294**	⇓*i*P	**Pg**	**03 02 39.4**	**-0.2**
TAP				S	**Sg**	**03 02 46.2**	**-0.6**
TWY	**Chenhua**	**0.60**	**319**	⇓*i*P	**Pg**	**03 02 41.3**	**+0.3**
YHNB	**Yeheng**	**0.62**	**256**	⇑*i*Pg	**Pg**	**03 02 39.5**	**-1.9**
TWS1	**Kuangyinshan**	**0.63**	**296**	⇓*i*P	**Pg**	**03 02 41.8**	**+0.2**
TWS1				S	**Sg**	**03 02 51.8**	**+1.8**
NSK	**Sanguang**	**0.64**	**257**	⇓*i*P	**Pb**	**03 02 40.0**	**-1.7**
NSK				S	**Sg**	**03 02 47.0**	**-3.2**
NNS	**Nan Shan**	**0.72**	**238**	*e*P	**Pb**	**03 02 41.3**	**-1.7**
NNS				S	**Sb**	**03 02 50.2**	**-2.5**
NACB	**Ninganchiao**	**0.76**	**212**	⇓*e*Pg	**Pg**	**03 02 42.7**	**-1.5**
NACB				*e*Sg	**Sg**	**03 02 52.5**	**-1.8**
NCU	**National Centr**	**0.79**	**281**	⇓*i*P	**Pb**	**03 02 44.6**	**+0.4**
NCU				S	**Sb**	**03 02 55.6**	**+0.8**
PCYT	**Pengchaiyu**	**0.81**	**2**	*i* P	**Pb**	**03 02 45.6**	**+1.1**
TWD	**Chiawan**	**0.84**	**209**	*e*P	**Pb**	**03 02 44.3**	**-0.8**
TWD				S	**Sb**	**03 02 54.6**	**-1.7**
HWA	**Hwalien**	**0.93**	**205**	*e*P	**Pb**	**03 02 46.6**	**0.0**
HWA				S	**Sb**	**03 02 58.5**	**-0.4**
YOJ	**Yonaguni jima**	**0.95**	**112**	P	**Pb**	**03 02 47.7**	**+0.7**
YOJ				S	**Sb**	**03 03 01.8**	**+2.3**
NSTT	**Nanjuang**	**0.96**	**259**	P	**Pb**	**03 02 46.8**	**-0.5**
NSTT				S	**Sb**	**03 03 00.1**	**+0.2**
TWT	**Tachien**	**0.97**	**235**	*e*P	**Pb**	**03 02 46.2**	**-1.1**
ESL	**Shilin**	**1.15**	**209**	*e*P	**Pb**	**03 02 49.8**	**-0.5**
ESL				S	**Sb**	**03 03 05.0**	**-0.1**
NSY	**Sanyi**	**1.23**	**251**	*e*P	**Pb**	**03 02 52.6**	**+0.7**
NSY				S	**Sb**	**03 03 08.2**	**+0.6**
TWQ1	**Liyutan**	**1.25**	**248**	*e*P	**Pb**	**03 02 52.4**	**+0.3**
SMLT	**Sun Moon Lake**	**1.40**	**228**	*e*P	**Pn**	**03 02 54.2**	**-0.3**
TCU	**Taichung**	**1.41**	**242**	*e*P	**Pn**	**03 02 55.8**	**+1.0**
TYC	**Yuchr**	**1.41**	**230**	P	**Pn**	**03 02 54.4**	**-0.4**
TYC				S	**Sb**	**03 03 13.9**	**+1.0**
EHY	**Hungye**	**1.46**	**207**	*e*P	**Pn**	**03 02 55.8**	**+0.2**
WNT	**Mingjian**	**1.55**	**233**	*e*P	**Pn**	**03 02 57.8**	**+1.0**
IRIF	**Iriomote-Funau**	**1.61**	**107**	P	**Pn**	**03 02 56.9**	**-0.8**
IRIF				*e*S	**Sb**	**03 03 17.5**	**-1.2**
TWF1	**Yuli**	**1.61**	**205**	*e*P	**Pn**	**03 02 57.6**	**0.0**
TWF1				S	**Sb**	**03 03 18.2**	**-0.4**
YUS	**Yu-Shan**	**1.66**	**217**	*e*P	**Pn**	**03 02 58.8**	**+0.5**
ALS	**Alishan**	**1.73**	**221**	*e*P	**Pn**	**03 03 00.6**	**+1.4**
CHN5	**Tsauling**	**1.74**	**226**	*e*P	**Pn**	**03 03 01.0**	**+1.5**
CHN5				S	**Sn**	**03 03 23.6**	**+1.6**
WGK	**Gukeng**	**1.76**	**230**	*e*P	**Pn**	**03 03 01.6**	**+1.8**
HATJ	**Hateruma jima**	**1.78**	**115**	P	**Pn**	**03 02 59.7**	**-0.3**
HATJ				*e*S	**Sn**	**03 03 22.2**	**-0.7**
CHKT	**Chengkung**	**1.82**	**200**	*e*P	**Pn**	**03 03 01.0**	**+0.3**
ELDTW	**Lidau**	**1.87**	**210**	*e*P	**Pn**	**03 03 01.7**	**+0.3**
JKRS	**Kuro-shima**	**1.89**	**108**	P	**Pn**	**03 03 01.4**	**-0.1**
JKRS				*e*S	**Sn**	**03 03 24.9**	**-0.7**
CHN2	**Minshiung**	**1.92**	**228**	*e*P	**Pn**	**03 03 03.8**	**+1.8**
JIJ	**Ishigaki jima**	**1.97**	**103**	P	**Pn**	**03 03 02.0**	**-0.7**
CHN4	**Tsaushan**	**1.97**	**222**	*e*P	**Pn**	**03 03 04.6**	**+1.8**
CHN4				S	**Sn**	**03 03 31.2**	**+3.4**
CHY	**Chiayi**	**1.98**	**229**	*e*P	**Pn**	**03 03 04.4**	**+1.6**
STYT	**Tauyuan**	**2.02**	**216**	*e*P	**Pn**	**03 03 04.8**	**+1.2**
WTP	**Ta-pu**	**2.04**	**220**	*e*P	**Pn**	**03 03 05.2**	**+1.4**
TWK	**Hsinying**	**2.10**	**223**	*e*P	**Pn**	**03 03 06.2**	**+1.6**
TWK				S	**Sn**	**03 03 34.1**	**+3.0**
CHN1	**Nanshi**	**2.14**	**221**	*e*P	**Pn**	**03 03 06.2**	**+1.1**
CHN1				S	**Sn**	**03 03 34.3**	**+2.3**
TWG	**Pinlang**	**2.18**	**204**	*e*P	**Pn**	**03 03 06.2**	**+0.4**
SGST	**Jiashian**	**2.19**	**218**	*i* P	**Pn**	**03 03 07.6**	**+1.8**
SGST				S	**Sn**	**03 03 35.9**	**+2.6**
CHN8	**Yiju**	**2.23**	**229**	*e*P	**Pn**	**03 03 07.0**	**+0.6**
ECL	**Taimali**	**2.43**	**204**	*e*P	**Pn**	**03 03 11.0**	**+1.7**
JTJ	**Tarama**	**2.43**	**94**	P	**Pn**	**03 03 09.9**	**+0.6**
SSD	**Sandimen**	**2.44**	**212**	*e*P	**Pn**	**03 03 10.6**	**+1.2**
TWM1	**Shoushan**	**2.48**	**217**	*e*P	**Pn**	**03 03 13.6**	**+3.5**
EAST	**Anshuo**	**2.66**	**205**	*e*P	**Pn**	**03 03 13.2**	**+0.6**
TAW	**Tawu**	**2.67**	**203**	*e*P	**Pn**	**03 03 15.4**	**+2.6**
WDGT	**Dungji**	**2.67**	**235**	*e*P	**Pn**	**03 03 12.6**	**-0.3**
SCZT	**Fangliau**	**2.76**	**208**	*e*P	**Pn**	**03 03 15.6**	**+1.5**
LAY	**Lan-yu**	**2.81**	**189**	*e*P	**Pn**	**03 03 14.1**	**-0.6**
QZH	**Quanzhou**	**3.13**	**273**	P	**Pn**	**03 03 16.7**	**-2.7**
QZH				S	**Sn**	**03 03 50.9**	**-6.4**
QZH				Smax			
	comp=N,1µm,0.8s						
QZH				Smax			
	comp=E,380nm,0.7s						
QZH				LR	LR		
	comp=N,1µm,6.7s						
QZH				LR	LR		
	comp=E,2µm,10.6s						
QZH				LR	LR		
	comp=Z,2µm,9.4s						
KNM	**Kinmen**	**3.31**	**264**	*e*P	**Pn**	**03 03 21.4**	**-0.4**
CD2	**Chengdu**	**17.26**	**295**	P	**P**	**03 06 33.0**	**+1.3**
HHC	**Hu-ho-hao-te**	**18.22**	**334**	*e*P	**P**	**03 06 44.0**	**+0.3**
HHC				AP		03 06 47.6	
HHC				XP		03 06 50.6	
HHC				S	**S**	**03 10 03.2**	**-1.0**
HHC				PCP	PcP	03 11 18.2	+1.0
HHC				AMB	AMB		
	comp=Z,15nm,0.4s						
HHC				AMB	AMB		
	comp=Z,394nm,5.5s						
HHC				LR	LR		
	comp=N,463nm,19.0s						
HHC				LR	LR		
	comp=E,579nm,17.3s						
CMAR	**Chiang Mai Arr**	**22.37**	**258**	P	**P**	**03 07 30.9**	**+2.1**
	comp=E,1.0nm,0.4s,mb3.6,baz=56,slow=9.8,SNR=3.4						
ULN	**Ulaanbaatar**	**25.88**	**336**	*e*P	**P**	**03 08 01.7**	**-0.8**
	comp=E,5.6nm,1.3s,mb3.9						
SONM	**Songino Array**	**26.10**	**336**	P	**P**	**03 08 04.1**	**-0.4**
	comp=E,4.8nm,1.0s,mb4.0,baz=144,slow=8.8,SNR=13						
KURK	**Kurchatov**	**42.11**	**319**	*e*P	**P**	**03 10 21.4**	**-1.4**
	comp=E,0.9nm,0.6s,mb3.6						
WRAB	**Tennant Creek**	**46.07**	**164**	*e*P	**P**	**03 10 52.6**	**-2.5**
WRA	**Warramunga Arr**	**46.07**	**164**	P	**P**	**03 10 52.7**	**-2.4**
	comp=E,5.8nm,0.7s,mb4.6,baz=346,slow=8.7,SNR=37						
CHKZ	**Chkalovo**	**47.73**	**321**	*e*P	**P**	**03 11 05.7**	**-2.0**
	comp=E,1.7nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**03 11 20.2**	**-2.0**
	comp=E,0.8nm,0.6s,mb3.9,baz=342,slow=7.6,SNR=6.0						
ASAR				LR	LR	03 33 53.7	
	comp=E,134nm,18.7s,MS4.0,baz=256,slow=38						
STKA	**Stephens Creek**	**59.39**	**161**	P	**P**	**03 12 30.9**	**-3.1**
	comp=E,2.9nm,0.8s,mb4.4,baz=333,slow=9.0,SNR=4.5						
YKA	**Yellowknife Ar**	**82.08**	**23**	P	**P**	**03 14 47.9**	**-2.6**
	comp=E,1.1nm,1.2s,mb3.7,baz=315,slow=5.2,SNR=4.9						
YKA	**Yellowknife Ar**	**82.08**	**23**	P	**P**	**03 14 47.9**	**-2.6**

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*NEIC **06** 03:15:17.2±1.6, 7.03S×155.93E, h108km±14km, mb4.4/5, Error ellipse: s-maj=18.0km s-min=12.3km az=160.0*

*IDC **06** 03:15:17.7±5.5, 6.97S×155.88E, h105km±44km, mb3.8/5, mb1 3.9/7, mb1mx3.8/14, mbtmp4.2/7, Error ellipse: s-maj=44.7km s-min=22.3km az=104.0*

ISC 06 03:15:16.5±1.7**, 7.1S**±0.1×**155.97E**±0.10**, h120km**±17km**, n24, σ0.99**/19**, mb4.2**/11**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.57**	**121**	P	**P**	**03 16 24.0**	**-0.7**
PMG	**Port Moresby**	**9.01**	**255**	P	**P**	**03 17 25.1**	**+0.4**
	3.0nm,0.3s,baz=56,slow=10,SNR=8.4						
PMG	**Port Moresby**	**9.01**	**255**	*e*P	**P**	**03 17 25.0**	**+0.3**
CTA	**Charters Tower**	**15.97**	**215**	P	**P**	**03 18 57.9**	**+2.2**
	0.2nm,0.3s,baz=44,slow=9.0,SNR=5.0						
CTAO	**Charters Tower**	**15.97**	**215**	*e*P	**P**	**03 18 58.1**	**+2.5**
	6.1nm,1.0s						
KAKA	**Kakadu**	**23.82**	**255**	*e*P	**P**	**03 20 19.4**	**-0.2**
	24nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**24.54**	**237**	*e*P	**P**	**03 20 26.7**	**+0.2**
	7.1nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**24.55**	**237**	P	**P**	**03 20 27.0**	**+0.5**
	4.1nm,0.5s,mb4.2,baz=63,slow=9.4,SNR=27						
WRA				PcP	PcP	03 24 03.5	+0.8
	0.7nm,0.5s,baz=68,slow=2.8,SNR=7.0						
ASAR	**Alice Springs**	**26.83**	**230**	P	**P**	**03 20 47.0**	**-0.7**
	1.3nm,0.5s,mb3.7,baz=60,slow=9.6,SNR=30						
ASAR				PcP	PcP	03 24 08.9	+1.3
	0.7nm,0.4s,baz=83,slow=3.3,SNR=6.8						
ASPA	**Alice Springs**	**26.83**	**230**	*e*P	**P**	**03 20 46.7**	**-1.0**
STKA	**Stephens Creek**	**28.05**	**207**	P	**P**	**03 21 01.6**	**+2.8**
	1.3nm,0.6s,mb3.6,baz=32,slow=13,SNR=2.7						
FITZ	**Fitzroy Crossi**	**31.49**	**247**	*e*P	**P**	**03 21 28.2**	**-1.1**
	10nm,0.6s,mb4.7						
FORT	**Forrest**	**35.17**	**224**	*e*P	**P**	**03 22 00.5**	**-0.3**
	364nm,0.9s						
MBWA	**Marble Bar**	**37.69**	**244**	*e*P	**P**	**03 22 20.5**	**-1.6**
	2.7nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**43.15**	**231**	*e*P	**P**	**03 23 06.4**	**-0.6**
	35nm,0.5s,mb5.3						
ULN	**Ulaanbaatar**	**69.62**	**327**	*e*P	**P**	**03 26 15.4**	**+0.6**
SONM	**Songino Array**	**69.95**	**327**	P	**P**	**03 26 17.4**	**+0.6**
	12nm,1.2s,mb4.6,baz=134,slow=5.9,SNR=12						
VNDA	**Vanda**	**70.44**	**179**	P	**P**	**03 26 19.9**	**+0.6**
	0.3nm,0.6s,mb3.3						
ILAR	**Eielson Array**	**83.13**	**21**	P	**P**	**03 27 30.1**	**+0.1**
	0.4nm,0.9s,mb3.3,baz=254,slow=4.9,SNR=11						
MATP	**Matopo**	**121.57**	**241**	PKP	PKPdf	03 33 59.5	+2.8
	3.2nm,0.6s,baz=110,slow=0.7,SNR=19						
GERES	**GERESS Array B**	**127.64**	**329**	PKP	PKPdf	03 34 10.7	+2.9
	0.5nm,0.5s,baz=45,slow=1.9,SNR=6.1						
TSUM	**Tsumeb**	**131.37**	**237**	PKP	PKPdf	03 34 19.7	+4.0
	0.8nm,0.6s,baz=165,slow=4.2,SNR=6.1						
BDFB	**Brasilia**	**147.21**	**134**	PKPbc	PKPdf	03 34 48.9	+4.7
	4.2nm,0.8s,baz=250,slow=1.6,SNR=3.1						
DBIC	**Dimbokro**	**160.95**	**270**	PKPab	PKPab	03 35 49.3	+0.5
	5.6nm,0.8s,baz=88,slow=4.8,SNR=11						

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*DMN **06** 03:22:31.3±0.8, 31.02N×83.55E, h10km, Ml4.7/5, Error ellipse: s-maj=24.5km s-min=14.5km az=53.0*

*NDI **06** 03:22:39.6±5.7, 30.50N×83.79E, mb4.8, mb4.6(NEIC)*

*MOS **06** 03:22:40.4±1.1, 30.66N×83.70E, h33km, mb4.7/16, Error ellipse: s-maj=11.9km s-min=6.4km az=114.9*

*BJI **06** 03:22:41.1, 30.59N×83.81E, h44km, mB5.2, mb4.5, Ms4.5, Msz4.2*

*NEIC **06** 03:22:43.6±0.6, 30.62N×83.76E, h50km±7km, mb4.6/20, Error ellipse: s-maj=7.4km s-min=5.1km az=49.0*

*IDC **06** 03:22:43.8±5.6, 30.54N×83.77E, h51km±50km, mb4.1/17, mb1 4.2/18, mb1mx4.2/21, mbtmp4.3/18, ML4.1/1, MS3.6/1, Ms1 3.8/1, ms1mx3.0/21, Error ellipse: s-maj=18.3km s-min=13.1km az=43.0*

ISC 06 03:22:42.9±0.5**, 30.52N**±0.03×**83.70E**±0.03**, h63km**±6km**, n129, σ1.20**/148**, mb4.5**/41**, 7C-6D, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**2.64**	**162**	*e*Pn	**P**	**03 23 25.6**	**+1.5**
GKN				*e*Sn	**S**	**03 24 05.5**	**+10**
	655nm,0.4s						
KOLN	**Koldanda**	**2.74**	**182**	*e*Pn	**P**	**03 23 26.8**	**+1.2**
KKN	**Kakani**	**3.05**	**153**	*e*Pn	**P**	**03 23 31.1**	**+1.1**
KKN				*e*Sn	**S**	**03 24 15.9**	**+10**
	1µm,1.0s						
DMN	**Daman**	**3.15**	**157**	*e*Pn	**P**	**03 23 32.3**	**+0.9**
DMN				*e*Sn	**S**	**03 24 17.7**	**+10**
	2µm,0.9s						
PTH	**Pithoragarh**	**3.17**	**253**	*e*PB	**P**	**03 23 36.0**	**+4.4**
PTH				*e*SB	**S**	**03 24 19.0**	**+11**
LGTI	**Lohaghat**	**3.18**	**251**	*e*PB	**P**	**03 23 39.5**	**+7.8**
LGTI				*e*SB	**S**	**03 24 23.9**	**+15**
PKI	**Pulchoki**	**3.30**	**153**	*e*Pn	**P**	**03 23 34.3**	**+0.9**
PKI				*e*Sn	**S**	**03 24 22.3**	**+11**
	1µm,1.1s						
JIRN	**Jiri**	**3.59**	**142**	*e*Pn	**P**	**03 23 38.4**	**+0.9**
JIRN				*e*Sn	**S**	**03 24 27.8**	**+8.9**
	856nm,1.1s						
ALBI	**Allahabad**	**5.45**	**198**	*e*	**P**	**03 24 20.5**	**+17**
SMLA	**Simla**	**5.65**	**278**	*i* P	Px	03 24 06.8	
SMLA				*i*		03 25 14.3	
SDNR	**Sundarnagar**	**5.86**	**281**	*e*P	**P**	**03 24 09.9**	**+0.9**
NDI	**New Delhi**	**5.93**	**254**	*e*P	**P**	**03 24 07.5**	**-2.6**
NDI				*e*S	**S**	**03 25 17.0**	**-0.5**
LSA	**Lhasa**	**6.51**	**95**	P	**P**	**03 24 18.0**	**-0.2**
BLSP	**Bilaspur**	**8.47**	**190**	*e*P	**P**	**03 24 43.8**	**-1.6**
BLSP				*e*S	**S**	**03 26 15.0**	**-5.4**
SHL	**Shillong**	**8.75**	**122**	*e*P	**P**	**03 24 45.0**	**-4.2**
SHL				*e*		03 26 26.0	
AJM	**Ajmer**	**8.92**	**245**	*e*P	**P**	**03 24 51.4**	**-0.1**
AJM				AMb	AMB	03 24 57.9	
	comp=Z,24nm,0.7s						
AJM				*e*S	**S**	**03 26 23.4**	**-8.1**
BHPL	**Bhopal**	**9.16**	**219**	*e*P	**P**	**03 24 51.4**	**-3.3**
BHPL				AMb	AMB	03 24 54.1	
	comp=Z,19nm,0.9s						
BHPL				*i* S	**S**	**03 26 30.2**	**-7.0**
BHPL				*e*		03 27 25.9	
BWNR	**Bhubaneshwar**	**10.36**	**169**	*e*P	**P**	**03 25 09.1**	**-2.0**
THW	**Thamme Wali**	**10.44**	**286**	P	**P**	**03 25 17.8**	**+5.6**
CEP	**Cherat**	**10.52**	**291**	P	**P**	**03 25 08.7**	**-4.6**
KSH	**Kashi**	**10.98**	**327**	*e*P	**P**	**03 25 18.5**	**-1.0**
KSH				*e*AP		03 25 21.3	
KSH				*e*PP	PP	03 25 26.6	-1.5
KSH				*e*S	**S**	**03 27 22.4**	**+0.9**
KSH				*e*SS	SS	03 27 34.5	-2.3
KSH				AMB	AMB		
	comp=Z,80nm,2.8s						
KSH				LR	LR		
	comp=N,1µm,10.9s						
KSH				LR	LR		
	comp=E,2µm,11.2s						
AKL	**Akola**	**11.48**	**213**	*i* P	**P**	**03 25 21.5**	**-4.8**
AKL				*e*		03 26 46.8	
AKL				*e*		03 34 18.6	
VIS	**Vishakhapatnam**	**12.74**	**182**	*e*P	**P**	**03 25 38.3**	**-4.9**
VIS				AMb	AMB	03 25 42.0	
	comp=Z,19nm,1.3s						
VIS				*e*S	**S**	**03 27 54.3**	**-10**
WMQ	**Urumqi**	**13.65**	**12**	*e*P	**P**	**03 25 54.3**	**-0.7**
WMQ				AP		03 25 58.0	
WMQ				*e*S	**S**	**03 28 27.0**	**+1.5**
WMQ				SS	SS	03 28 42.0	-1.0
WMQ				AMB	AMB		
	comp=Z,14nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,313nm,5.7s						
WMQ				LR	LR		
	comp=N,424nm,9.7s						
WMQ				LR	LR		
	comp=E,528nm,9.2s						
WMQ				LR	LR		
	comp=Z,410nm,8.9s						
HYB	**Hyderabad**	**13.86**	**201**	⇓*e*P	**P**	**03 25 52.0**	**-5.8**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						

HYB	Hyderabad	13.86	201⇓	eP	P	03 25 52.0	-5.8
	comp=Z,60nm,1.0s						
HYB				eS	S	03 28 20.0	-11
HYB	Hyderabad	13.86	201⇓	iP	P	03 25 52.0	-5.8
	comp=Z,60nm,1.0s						
HYB				eS	S	03 28 20.0	-11
AAK	Ala-Archa	14.16	331	P	P	03 26 00.1	-1.5
AAK				pmax	pmax		
	comp=Z,31nm,1.5s						
AAK	Ala-Archa	14.16	331	eP	P	03 25 58.1	-3.5
	comp=Z,6.8nm,0.8s						
FRU	Bishkek	14.27	332	eP	P	03 26 04.0	+0.9
POO	Poona	14.91	219	e	P	03 26 08.0	-3.6
POO				⇑i		03 28 47.0	
KAD	Karad	15.75	216	eP	P	03 26 25.3	+3.0
KAD				e		03 26 28.1	
	comp=Z,17nm,1.2s						
GTA	Gaotai	15.90	52	P	P	03 26 25.7	+1.7
GTA				AP		03 26 29.2	
GTA				XP		03 26 32.0	
GTA				S	S	03 29 13.7	-4.4
GTA				SS	SS	03 29 31.2	-7.5
GTA				AMB	AMB		
	comp=Z,24nm,1.0s						
GTA				AMB	AMB		
	comp=Z,280nm,4.9s						
GTA				LR	LR		
	comp=N,875nm,13.3s						
GTA				LR	LR		
	comp=E,284nm,12.2s						
GTA				LR	LR		
	comp=Z,342nm,14.1s						
MKAR	Makanchi Array	16.29	357	i P	P	03 26 27.2	-1.6
MKAR				pmax	pmax		
	comp=Z,12nm,0.7s						
CD2	Chengdu	17.26	84	P	P	03 26 41.0	-0.2
KMI	Kunming	17.68	103	P	P	03 26 44.3	-2.1
KMI				S	S	03 29 55.2	-3.4
KMI				AMB	AMB		
	comp=Z,18nm,0.7s						
KMI				LR	LR		
	comp=N,565nm,16.6s						
KMI				LR	LR		
	comp=E,603nm,17.4s						
KMI				LR	LR		
	comp=Z,740nm,20.7s						
KMI	Kunming	17.68	103	P	P	03 26 44.3	-2.1
	comp=Z,18nm,0.7s						
KMI				sP		03 26 48.0	
KMI				S	S	03 29 55.2	-3.4
LZH	Lanzhou	17.73	66	eP	P	03 26 47.5	+0.6
LZH				XP		03 27 02.5	
LZH				AMB	AMB		
	comp=Z,26nm,1.5s						
LZH	Lanzhou	17.73	66	eP	P	03 26 47.5	+0.6
LZH				pmax	pmax		
	comp=Z,26nm,1.5s						
LZH	Lanzhou	17.73	66	eP	P	03 26 47.5	+0.6
	comp=Z,26nm,1.5s						
LZH				pP		03 26 59.0	
LZH				sP		03 27 02.5	
CHG	Chiang Mai	18.08	127	⇑P	P	03 26 55.0	+3.6
	comp=Z,20nm,0.9s						
CM31	Chiang Mai Arr	18.32	127	eP	P	03 26 52.3	-2.0
	comp=Z,35nm,1.1s						
CMAR	Chiang Mai Arr	18.32	127	i P	P	03 26 55.2	+0.9
CMAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	Chiang Mai Arr	18.32	127	P	P	03 26 53.5	-0.8
	comp=Z,0.2nm,0.3s,baz=309,slow=11,SNR=17						
CMAR				LR	LR	03 35 17.3	
	comp=Z,175nm,19.5s,baz=300,slow=41						
NANT	Nan	19.34	123	P	P	03 27 05.0	-0.9
KURK	Kurchatov	20.53	351	P	P	03 27 15.5	-2.8
	comp=Z,396nm,0.8s,SNR=91						
KURK	Kurchatov	20.53	351	eP	P	03 27 15.6	-2.7
KURK				pmax	pmax		
	comp=Z,65nm,0.9s						
KURK	Kurchatov	20.53	351	eP	P	03 27 15.6	-2.7
	comp=Z,65nm,0.9s						
GYA	Guiyang	20.58	96⇑	iP	P	03 27 17.6	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,1.1s						
NST	Nakhon Sawan	21.10	131	P	P	03 27 24.0	-0.3
XAN	Xi'an	21.60	74	P	P	03 27 27.1	-2.1
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
KKTK	Khon Kaen	22.47	125	P	P	03 27 41.0	+3.1
BVA0	Borovoye Array	24.50	340	i P	P	03 27 57.2	-0.1
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	Borovoye Array	24.50	340	P	P	03 27 57.5	+0.1
	comp=Z,7.9nm,1.0s,mb4.2,baz=146,slow=9.9,SNR=14						
SONM	Songino Array	24.53	39	P	P	03 27 59.2	+1.5
	comp=Z,6.4nm,0.7s,mb4.2,baz=228,slow=10,SNR=25						
HHC	Hu-ho-hao-te	24.78	58	eP	P	03 28 02.0	+1.8
HHC				PP	PP	03 28 37.9	-0.7
HHC				PCP	PcP	03 31 40.5	+4.2
HHC				S	S	03 32 22.7	+7.5
HHC				AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.0						
HHC				AMB	AMB		
	comp=Z,202nm,4.7s						
HHC				LR	LR		
	comp=N,439nm,14.3s						
HHC				LR	LR		
	comp=E,258nm,16.1s						
HHC				LR	LR		
	comp=Z,265nm,15.5s						
ULN	Ulaanbaatar	24.90	39d	iP	P	03 28 01.8	+0.5
ULN	Ulaanbaatar	24.90	39	eP	P	03 28 01.7	+0.4
	comp=Z,16nm,1.0s,mb4.5						
CHKZ	Chkalovo	25.01	341	eP	P	03 28 01.6	-0.7
CHKZ				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
CHKZ	Chkalovo	25.01	341	eP	P	03 28 01.6	-0.7
	comp=Z,17nm,1.0s,mb4.5						
TLY	Talaya	25.78	29	eP	P	03 28 10.0	+0.5
TLY				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
TLY	Talaya	25.78	29	eP	P	03 28 10.0	+0.5
	comp=Z,5.7nm,1.2s,mb4.0						
WHN	Wuhan	26.37	82	eP	P	03 28 15.0	-0.1
NJ2	Nanjing	30.01	78	eP	P	03 28 48.3	+0.4
NJ2				AP	pP	03 28 57.9	-5.4
NJ2				XP	sP	03 29 01.9	-8.9
NJ2				PP	PP	03 29 46.6	-1.1
NJ2				S	S	03 33 42.0	+1.9
NJ2				XS		03 33 56.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1µm,4.6s						
NJ2				LR	LR		
	comp=Z,570nm,13.7s						
SSE	Sheshan	32.11	79	P	P	03 29 04.5	-1.9
SSE				AMB	AMB		
	comp=Z,48nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,154nm,5.6s						
SSE	Sheshan	32.11	79	P	P	03 29 04.5	-1.9
	comp=Z,48nm,0.7s,mb5.4						
GNI	Garni	32.98	298	P	P	03 29 15.1	+1.3
GNI				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GNI	Garni	32.98	298	P	P	03 29 15.1	+1.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=20,SNR=3.5						
GNI	Garni	32.98	298	eP	P	03 29 14.9	+1.0
SOKR	Solikamsk	34.24	336⇓	iP	P	03 29 23.3	-1.2
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
BOD	Bodaibo	34.36	29	eP	P	03 29 23.7	-1.8
KIV	Kislovodsk	34.94	304	i P	P	03 29 30.6	0.0
KIV				e		03 32 01.4	
KIV				eSS	SS	03 37 13.7	-0.7
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KIV				MLR	MLR		
	comp=Z,300nm,20.0s						
KIV	Kislovodsk	34.94	304	P	P	03 29 30.9	+0.3
	comp=Z,6.3nm,0.6s,mb4.7						
CN2	Changchun	35.45	56	eP	P	03 29 34.3	-0.7
CN2				eS	S	03 35 07.1	+2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,2µm,22.0s						
CN2				LR	LR		
	comp=E,1µm,22.0s						
CN2				LR	LR		
	comp=Z,1µm,23.0s						
SOC	Sochi	37.03	303	eP	P	03 29 45.0	-3.3
SOC				e		03 31 09.8	
SOC				eS	S	03 35 28.2	-0.6
SOC				e		03 39 53.7	
SOC				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.8						
SOC				pmax	pmax		
	comp=N,5.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
MALT	Malatya	37.84	294	eP	P	03 29 57.2	+2.1
MALT				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
MALT	Malatya	37.84	294	eP	P	03 29 57.2	+2.1
	comp=Z,3.0nm,0.9s,mb4.0						
MDJ	Mudanjiang	38.50	55	P	P	03 30 00.9	+0.4
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,133nm,3.6s						
MDJ				LR	LR		
	comp=N,163nm,24.1s						
MDJ				LR	LR		
	comp=Z,85nm,21.1s						
KLR	Kul'dur	40.56	49	eP	P	03 30 14.2	-3.4
OBN	Obninsk	41.33	320	i P	P	03 30 23.1	-0.7
OBN				e		03 31 56.2	
OBN				e		03 32 21.9	
OBN				eS	S	03 36 33.5	+0.1
OBN				eSS	SS	03 39 35.7	+1.4
OBN				pmax	pmax		
	comp=Z,23nm,1.9s,mb4.5						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s						
JOF	Joensuu	46.34	330	ep	P	03 31 03.5	-0.6
	comp=Z,4.8nm,0.7s,mb4.5						
VRI	Vrincioaia	46.36	306	⇑P	P	03 31 08.0	+3.5
MLR	Muntele Rosu	46.92	305	⇓P	P	03 31 10.8	+1.9
APA	Apatity	47.30	336⇑	iP	P	03 31 06.8	-4.8
APA				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
BURAR	Bucovina Array	47.37	308	⇑P	P	03 31 12.4	0.0
BURAR	Bucovina Array	47.37	308	⇑P	P	03 31 12.4	0.0
TIXI	Tiksi	47.78	18	i P	P	03 31 14.5	-0.8
TIXI				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
FINES	FINESS Array B	48.30	327	P	P	03 31 19.1	-0.4
	comp=Z,2.1nm,0.7s,mb4.3,baz=112,slow=8.3,SNR=14						
ARCES	ARCESS Array B	50.73	337	P	P	03 31 37.7	-0.3
	comp=Z,4.4nm,0.8s,mb4.4,baz=98,slow=6.4,SNR=6.3						
KMBO	Kilima Mbogo	54.22	243	P	P	03 32 05.6	+0.8
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	Kilima Mbogo	54.22	243	P	P	03 32 05.6	+0.8
	comp=Z,3.1nm,0.9s,mb4.2,baz=38,slow=11,SNR=11						
KMBO	Kilima Mbogo	54.22	243	eP	P	03 32 05.5	+0.7
	comp=Z,2.6nm,0.9s,mb4.2						
GERES	GERESS Array B	54.95	311	P	P	03 32 10.5	+0.9
	comp=Z,0.6nm,0.8s,mb3.7,baz=76,slow=4.0,SNR=3.7						
NB2	NORSAR Subarra	55.40	326	P	P	03 32 11.1	-1.6
	comp=Z,1.9nm,0.8s,mb4.2,baz=88,slow=7.4						
NB2	NORSAR Subarra	55.40	326	P	P	03 32 11.1	-1.6
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
NOA	NORSAR Array B	55.40	326	P	P	03 32 11.5	-1.2
	comp=Z,1.9nm,0.7s,mb4.2,baz=88,slow=7.3,SNR=8.8						
CDF	Champ du Feu	59.22	311	eP	P	03 32 39.2	-0.6
	comp=Z,9.5nm,1.1s,mb4.5						
CDF	Champ du Feu	59.22	311	eP	P	03 32 39.2	-0.6
CDF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
LPG	La Plagne	60.24	308	eP	P	03 32 46.7	-0.2
	comp=Z,20nm,1.0s,mb4.8						
LPG	La Plagne	60.24	308	eP	P	03 32 46.7	-0.2
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
LPL	La Plagne	60.25	308	eP	P	03 32 46.7	-0.3
	comp=Z,12nm,0.9s,mb4.6						
LPL	La Plagne	60.25	308	eP	P	03 32 46.7	-0.3
LPL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
MEZF	Maizieres J'vi	60.64	312	eP	P	03 32 48.9	-0.6
SSF	Saint Saulge	62.01	310	eP	P	03 32 58.3	-0.5
LFF	La Frestale	64.48	309	eP	P	03 33 14.7	-0.3
ESDC	Sonseca Array	69.61	305	P	P	03 33 48.8	+1.4
	comp=Z,1.7nm,0.9s,mb4.0,baz=54,slow=5.9,SNR=5.0						
WRA	Warramunga Arr	69.91	129	P	P	03 33 49.5	-0.1
	comp=Z,9.0nm,0.9s,mb4.7,baz=322,slow=6.2,SNR=20						
WRAB	Tennant Creek	69.91	129	eP	P	03 33 49.5	-0.1
WRAB				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1						
WRAB	Tennant Creek	69.91	129	eP	P	03 33 49.5	0.0
	comp=Z,37nm,1.4s,mb5.1						
SUMG	Summit	69.91	344	eP	P	03 33 49.9	+1.2
	comp=Z,16nm,1.0s,mb4.9						
ASAR	Alice Springs	72.26	132	P	P	03 34 03.5	0.0
	comp=Z,2.6nm,0.7s,mb4.3,baz=325,slow=6.4,SNR=16						
MATP	Matopo	73.34	233	P	P	03 34 10.2	+0.1
	comp=Z,2.6nm,0.7s,mb4.3,baz=39,slow=8.6,SNR=11						
IMA	Indian Mountai	74.25	21	eP	P	03 34 15.7	+1.3
IMA				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.1						
IMA	Indian Mountai	74.25	21	eP	P	03 34 15.7	+1.3
	comp=Z,17nm,0.7s,mb5.1						
COLA	College	76.83	20	i P	P	03 34 29.1	-0.1
ILAR	Eielson Array	77.19	20	P	P	03 34 31.4	+0.3
	comp=Z,2.7nm,0.9s,mb4.2,baz=307,slow=5.4,SNR=14						
INK	Inuvik	77.67	13	eP	P	03 34 34.2	+0.5
INK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
INK	Inuvik	77.67	13	eP	P	03 34 34.2	+0.5
	comp=Z,6.1nm,1.1s,mb4.4						
CTA	Charters Tower	78.39	122	P	P	03 34 38.8	+0.2
	comp=Z,5.0nm,0.9s,mb4.4,baz=334,slow=8.0,SNR=4.4						
CTAO	Charters Tower	78.39	122	eP	P	03 34 39.2	+0.6
CTAO				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
CTAO	Charters Tower	78.39	122	eP	P	03 34 39.1	+0.5
	comp=Z,10nm,1.2s,mb4.6						
STKA	Stephens Creek	82.84	133	P	P	03 35 02.1	+0.1
	comp=Z,1.6nm,0.6s,mb4.2,baz=261,slow=6.1,SNR=4.0						
STKA	Stephens Creek	82.84	133	P	P	03 35 02.0	0.0
DBIC	Dimbokro	85.41	275	P	P	03 35 16.6	+1.3
	comp=Z,3.8nm,0.6s,mb4.7,baz=63,slow=3.9,SNR=11						
YKA	Yellowknife Ar	86.15	8	P	P	03 35 18.3	+0.6
	comp=Z,1.8nm,0.6s,mb4.5,baz=338,slow=5.0,SNR=40						
TXAR	Lajitas Array	120.07	7	PKP	PKPdf	03 41 29.3	+2.4
	comp=Z,0.4nm,0.8s,baz=180,slow=1.1,SNR=5.6						
LPAZ	La Paz	150.62	292	PKPbc	PKPdf	03 42 31.6	+8.8
	comp=Z,1.6nm,1.1s,baz=297,slow=2.3,SNR=3.6						
LPAZ				PKPab	PKPab	03 42 37.7	+0.2
	comp=Z,1.1nm,0.6s,baz=346,slow=4.2,SNR=4.1						
LVC	Limon Verde	154.31	281	PKPbc	PKPdf	03 42 40.4	+13
	comp=Z,3.3nm,1.1s,baz=181,slow=4.9,SNR=2.9						
LVC				PKPab	PKPab	03 42 53.3	+0.4
	comp=Z,1.0nm,0.7s,baz=323,slow=4.9,SNR=3.3						
PLCA	Paso Flores	156.79	237	PKPab	PKPab	03 43 03.2	+0.2
	comp=Z,1.4nm,1.1s,baz=181,slow=3.8,SNR=3.4						

IDC 06 03:28:08.2±8.3**, 1.93N**×**125.63E, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.8**/13**, mbtmp4.0**/3**, Error ellipse: s-maj=160.5km s-min=129.5km az=70.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.91	180	eP	P	03 32 47.6	+3.2
	16nm,1.5s						
WRA	Warramunga Arr	23.36	159	P	P	03 33 18.3	-1.2
	1.4nm,0.3s,baz=336,slow=11,SNR=29						
ASAR	Alice Springs	26.69	163	P	P	03 33 49.3	-1.8
	0.9nm,0.6s,baz=349,slow=7.1,SNR=17						
STKA	Stephens Creek	36.88	157	P	P	03 35 18.7	-1.8
	3.1nm,0.7s,baz=332,slow=8.9,SNR=7.7						

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*IDC **06** 03:33:43.9±1.3, 11.11S×163.13E, mb4.1/7, mb1 4.4/8, mb1mx4.3/14, mbtmp4.1/8, MS4.2/7, Ms1 4.3/7, ms1mx4.0/20, Error ellipse: s-maj=61.1km s-min=20.0km az=137.0*

*NEIC **06** 03:33:45.1±0.8, 11.18S×163.20E, h10^{km}, mb4.5/7, Error ellipse: s-maj=20.5km s-min=13.5km az=137.0*

*BJI **06** 03:33:45.6, 11.20S×163.20E, h10^{km}, mB5.4, mb4.6*

ISC 06 03:33:41.8±5.2**, 11.38S**±0.10×**163.26E**±0.08**, h1**^{km}±32^{km}**, n28,** σ1^{s}**16**/23**, mb4.3**/14**, MS4.2**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	3.79	300	eP	Pn	03 34 42.6	0.0
HNR				eS	Sn	03 35 29.1	+0.7
CTA	Charters Tower	18.50	240	P	P	03 38 03.9	+2.5
	baz=66,slow=14,SNR=6.1						
CTA				LR	LR	03 44 28.7	
	comp=Z,997nm,18.5s,baz=56,slow=35						
CTAO	Charters Tower	18.50	240	eP	P	03 38 03.1	+1.7
	32nm,1.1s						
STKA	Stephens Creek	28.55	221	eP	P	03 39 43.7	+2.3
	4.5nm,0.9s,mb4.3						
STKA	Stephens Creek	28.55	221	P	P	03 39 43.6	+2.3
	2.4nm,0.8s,mb4.1,baz=32,slow=12,SNR=4.6						
STKA				LR	LR	03 50 28.0	
	comp=Z,577nm,20.0s,MS4.2,baz=36,slow=35						
WRAB	Tennant Creek	29.07	249	eP	P	03 39 44.7	-1.4
	3.3nm,0.5s,mb4.4						
WRA	Warramunga Arr	29.08	249	P	P	03 39 45.2	-1.0
	2.7nm,0.7s,mb4.2,baz=78,slow=9.1,SNR=12						
URZ	Urewera	29.50	157	LR	LR	03 50 06.9	
	comp=Z,391nm,19.3s,MS4.0,baz=56,slow=33						
KAKA	Kakadu	30.16	264	eP	P	03 39 53.9	-2.0
	6.3nm,0.6s,mb4.6						
ASAR	Alice Springs	30.47	242	P	P	03 39 58.2	-0.4
	2.0nm,0.5s,mb4.2,baz=64,slow=10,SNR=18						
ASAR				LR	LR	03 51 42.1	
	comp=Z,549nm,19.0s,MS4.2,baz=67,slow=35						
ASPA	Alice Springs	30.47	242	eP	P	03 39 58.0	-0.6
RPZ	Rata Peaks	32.92	170	LR	LR	03 51 50.0	
	comp=Z,458nm,21.8s,MS4.1,baz=194,slow=33						
FITZ	Fitzroy Crossi	36.94	255	eP	P	03 40 53.8	-0.7
	25nm,1.5s,mb4.7						
MBWA	Marble Bar	42.78	251	eP	P	03 41 43.1	+0.1
	1.9nm,0.6s,mb4.0						
PPT	Papeete	45.99	103	eLQ		03 53 24.1	
PPT				eLR	LR	03 55 26.9	
	320nm,27.2s						
KLBR	Kellerberrin	46.47	237	eP	P	03 42 15.9	+3.4
	154nm,1.3s						
TBI	Tubuai	46.48	111	eLQ		03 53 51.1	
TBI				eLR	LR	03 55 42.5	
	498nm,29.0s						
RKT	Rikitea	59.77	110	eLR	LR	04 01 49.1	
	490nm,31.8s						
CN2	Changchun	64.80	331	eP	P	03 44 26.2	+1.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.9						
VNDA	Vanda	66.13	180	P	P	03 44 32.4	-0.2
CMAR	Chiang Mai Arr	70.02	294	LR	LR	04 12 54.6	
	comp=Z,100nm,21.2s,MS4.0,baz=75,slow=34						
ULN	Ulaanbaatar	77.15	325	eP	P	03 45 37.5	-1.4
	comp=Z,6.9nm,1.1s,mb4.7						
SONM	Songino Array	77.51	325	P	P	03 45 40.7	-0.2
	comp=Z,0.9nm,0.6s,mb4.1,baz=126,slow=6.2,SNR=2.8						
GTA	Gaotai	77.54	315	eP	P	03 45 47.5	+6.2
GTA				AP	pP	03 45 54.8	+13
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.6						
ILAR	Eielson Array	84.62	19	P	P	03 46 17.8	-0.2
	comp=Z,0.5nm,0.7s,mb3.9,baz=225,slow=5.1,SNR=5.9						
NVAR	Mina Array Bea	88.11	50	P	P	03 46 36.3	+0.5
	comp=Z,1.3nm,0.8s,mb4.3,baz=242,slow=10,SNR=7.0						
PFO	Pinyon Flat Ob	88.28	55	P	P	03 46 50.0	+13
	comp=Z,151nm,0.6s,SNR=23						
YKA	Yellowknife Ar	96.39	28	P	P	03 47 13.8	+0.3
	comp=Z,0.1nm,0.4s,mb3.7,baz=249,slow=5.3,SNR=3.5						
YKA				LR	LR	04 26 23.8	
	comp=Z,164nm,18.9s,MS4.5,baz=120,slow=33						

IDC 06 03:44:15.6±40.0**, 11.76S**×**161.34E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=676.2km s-min=102.2km az=57.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	27.05	219	P	P	03 49 59.9	-1.7
	1.5nm,0.9s,baz=34,slow=12,SNR=2.9						
WRA	Warramunga Arr	27.18	249	P	P	03 50 01.3	-1.7
	0.5nm,0.9s,baz=80,slow=9.2,SNR=4.8						
ASAR	Alice Springs	28.63	242	P	P	03 50 13.8	-2.2
	0.5nm,0.5s,baz=64,slow=10,SNR=8.1						

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*NEIC **06** 03:46:26.5±1.0, 11.31S×163.15E, h10^{km}, mb4.6/8, Error ellipse: s-maj=25.9km s-min=15.3km az=137.0*

*BJI **06** 03:46:26.5, 11.30S×163.10E, h10^{km}, mB5.4, mb4.7*

*IDC **06** 03:46:42.5±11.0, 11.68S×163.15E, h150^{km}±100^{km}, mb3.8/8, mb1 4.1/10, mb1mx4.0/15, mbtmp4.3/10, MS4.0/4, Ms1 4.0/4, ms1mx3.9/13, Error ellipse: s-maj=47.7km s-min=32.0km az=112.0*

ISC 06 03:46:23.6±5.3**, 11.4S**±0.1×**163.16E**±0.08**, h4**^{km}±33^{km}**, n28,** σ1^{s}**23**/28**, mb4.3**/16**, MS4.0**/2**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	3.71	301	eP	Pn	03 47 23.5	+0.6
HNR				eS	Sn	03 48 08.3	+0.6
PMG	Port Moresby	15.86	276	P	P	03 50 17.9	+8.4
	0.4nm,0.3s,baz=169,slow=7.8,SNR=3.6						
PMG				LR	LR	03 55 36.1	
	comp=Z,323nm,19.2s,baz=97,slow=34						
CTA	Charters Tower	18.41	240	eP	P	03 50 45.5	+3.9
	12nm,0.8s						
CTA	Charters Tower	18.41	240	P	P	03 50 45.6	+4.0
	0.4nm,0.3s,baz=76,slow=13,SNR=16						
CTA				LR	LR	03 57 07.7	
	comp=Z,539nm,18.1s,baz=50,slow=34						
CTAO	Charters Tower	18.41	240	eP	P	03 50 44.9	+3.3
	18nm,0.8s						
STKA	Stephens Creek	28.48	221	eP	P	03 52 24.3	+2.3
	6.3nm,0.8s,mb4.3						
STKA	Stephens Creek	28.48	221	P	P	03 52 22.8	+0.8
	6.4nm,0.8s,mb4.3,baz=54,slow=11,SNR=13						
STKA				LR	LR	04 02 09.6	
	comp=Z,496nm,21.1s,MS4.1,baz=29,slow=33						
WRAB	Tennant Creek	28.97	249	eP	P	03 52 25.2	-1.3
WRA	Warramunga Arr	28.98	249	P	P	03 52 26.1	-0.6
	2.2nm,0.8s,mb3.9,baz=79,slow=9.1,SNR=18						
URZ	Urewera	29.52	157	LR	LR	04 01 31.0	
	comp=Z,310nm,20.7s,MS3.9,baz=158,slow=30						
KAKA	Kakadu	30.06	264	eP	P	03 52 34.7	-1.7
	26nm,1.5s,mb4.7						
ASAR	Alice Springs	30.37	242	P	P	03 52 38.8	-0.3
	1.5nm,0.5s,mb4.0,baz=63,slow=9.9,SNR=24						
ASPA	Alice Springs	30.38	242	eP	P	03 52 39.0	-0.1
FITZ	Fitzroy Crossi	36.84	255	eP	P	03 53 34.4	-0.6
	31nm,1.9s,mb4.8						
CN2	Changchun	64.76	331	eP	P	03 57 03.5	-2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
VNDA	Vanda	66.12	180	eP	P	03 57 17.2	+3.4
	comp=Z,0.5nm,0.6s,mb3.7						
XAN	Xi'an	68.50	314	P	P	03 57 28.4	-1.1
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.1						
CMAR	Chiang Mai Arr	69.93	295	P	P	03 57 45.9	+7.4
	comp=Z,0.8nm,0.4s,mb4.0,baz=108,slow=5.7,SNR=3.7						
LZH	Lanzhou	73.12	313	eP	P	03 57 57.5	+0.1
LZH				AP	pP	03 58 02.0	+3.4
LZH				XP	sP	03 58 05.0	+5.9
LZH				AMB	AMB		
	comp=Z,29nm,1.5s,mb5.0						
LZH	Lanzhou	73.12	313	eP	P	03 57 57.5	+0.1
	comp=Z,29nm,1.5s,mb5.0						
LZH				pP	pP	03 58 02.0	+3.4
LZH				sP	sP	03 58 05.0	+5.9
ULN	Ulaanbaatar	77.11	325	eP	P	03 58 21.1	+1.2
	comp=Z,8.6nm,1.1s,mb4.6						
SONM	Songino Array	77.46	325	P	P	03 58 23.6	+1.7
	comp=Z,3.0nm,0.9s,mb4.2,baz=135,slow=5.2,SNR=10						
GTA	Gaotai	77.48	315	eP	P	03 58 27.4	+5.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GTA				AP	pP	03 58 32.1	+8.7
GTA				XP	sP	03 58 34.3	+10
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
ILAR	**Eielson Array**	**84.66**	**19**	P	**P**	**03 59 00.6**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.7,baz=252,slow=6.5,SNR=4.3						
NVAR	**Mina Array Bea**	**88.19**	**50**	P	**P**	**03 59 17.4**	**-0.1**
	comp=Z,0.8nm,0.8s,mb4.0,baz=256,slow=3.0,SNR=4.8						
NVAR	**Mina Array Bea**	**88.19**	**50**	P	**P**	**03 59 17.4**	**-0.1**
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**03 59 54.0**	**-1.0**
	comp=Z,0.5nm,0.9s,mb3.9,baz=256,slow=4.5,SNR=4.4						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**03 59 54.0**	**-1.0**

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*IDC **06** 03:56:45.9±1.5, 11.76S×162.38E, mb3.9/7, mb1 4.1/8, mb1mx4.0/14, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=70.3km s-min=23.9km az=136.0*

*NEIC **06** 03:56:47.0±0.9, 11.65S×162.21E, h10km, mb3.8/3, Error ellipse: s-maj=24.6km s-min=14.3km az=136.0*

ISC 06 03:56:49.3±0.8**, 11.7S**±0.1×**162.1E**±0.1**, h33km, n14, σ1^{s}20**/14**, mb3.8**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.11**	**316**	*e*P	**P**	**03 57 37.2**	**+0.1**
CTA	**Charters Tower**	**17.41**	**239**	P	**P**	**04 00 57.2**	**+5.9**
	0.1nm,0.3s,baz=62,slow=16,SNR=3.6						
CTA	**Charters Tower**	**17.41**	**239**	P	**P**	**04 00 57.2**	**+5.9**
CTAO	**Charters Tower**	**17.41**	**239**	P	**P**	**04 00 50.2**	**-1.1**
	0.9nm,0.5s						
STKA	**Stephens Creek**	**27.61**	**220**	P	**P**	**04 02 37.2**	**+1.3**
	1.6nm,0.5s,mb3.9,baz=4.9,slow=13,SNR=3.5						
WRAB	**Tennant Creek**	**27.94**	**249**	P	**P**	**04 02 36.5**	**-2.5**
	1.0nm,0.5s,mb3.7						
WRA	**Warramunga Arr**	**27.95**	**249**	P	**P**	**04 02 38.7**	**-0.4**
	0.8nm,0.7s,mb3.5,baz=78,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**29.36**	**242**	P	**P**	**04 02 52.1**	**+0.5**
	0.5nm,0.5s,mb3.5,baz=64,slow=10,SNR=5.3						
SONM	**Songino Array**	**77.12**	**325**	P	**P**	**04 08 43.9**	**+2.6**
	0.6nm,0.6s,mb3.7,baz=135,slow=4.1,SNR=3.2						
COLA	**College**	**85.02**	**19**	*e*P	**P**	**04 09 20.8**	**-1.6**
	2.5nm,0.7s,mb4.5						
ILAR	**Eielson Array**	**85.26**	**20**	P	**P**	**04 09 23.9**	**+0.3**
	1.7nm,1.1s,mb4.1,baz=221,slow=5.1,SNR=4.6						
NVAR	**Mina Array Bea**	**89.14**	**51**	P	**P**	**04 09 43.3**	**+0.3**
	0.2nm,0.5s,mb3.7,baz=217,slow=4.5,SNR=3.0						
YKA	**Yellowknife Ar**	**97.17**	**28**	P	**P**	**04 10 18.8**	**-0.4**
	0.1nm,0.4s,mb3.6,baz=260,slow=4.6,SNR=4.5						
YKA	**Yellowknife Ar**	**97.17**	**28**	P	**P**	**04 10 18.8**	**-0.5**

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*TRN **06** 04:04:55.9, 11.06N×60.59W, h21km, MD2.9*

FUNV 06 04:04:53.7, 10.85N×62.35W, h76km, MW2.3, 2C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.23**	**149**⇑	*i*P	P	04 05 05.0	-0.2
GUIV				*i* S	S	04 05 13.6	-0.2
CRUV	**Carupano**	**0.89**	**259**⇑	*i*P	P	04 05 10.4	-1.0
CRUV				*i* S	S	04 05 22.9	-1.7
GUNV	**Guanoco**	**0.90**	**221**	*e*P	P	04 05 11.0	-0.5
GUNV				*e*S	S	04 05 24.1	-0.7
ITEV	**Isla Los Testi**	**0.92**	**303**⇓	*i*P	P	04 05 11.2	-0.6
ITEV				*e*S	S	04 05 24.3	-1.0
TRN	**Trinidad (W)**	**0.95**	**102**⇓	*i*P	P	04 05 13.2	+1.1
TRN				*e*S	S	04 05 26.1	+0.3
TPP	**Pointe-a-Pierr**	**1.02**	**121**	*e*P	P	04 05 17.5	+4.5
TPP				*e*S	S	04 05 31.4	+3.9
GRW	**Mount Saint Ca**	**1.47**	**27**	*e*P	P	04 05 21.3	+2.4
GRW				*e*S	S	04 05 41.7	+4.1
CAOV	**Caicara del Or**	**5.26**	**229**	*e*S	S	04 07 03.4	-8.0
BAUV	**El Baul**	**5.92**	**252**	*e*P	P	04 06 17.3	-3.2
BAUV				*e*S	S	04 07 19.2	-8.6

MAN 06 04:07:38.8, 12.89N×122.71E, h8km, mb3.7, ML2.4, MS1.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.43**	**356**	*e*P	Pg	04 07 47.7	+0.2
OTRP	**Odiongan**	**0.85**	**232**	*e*P	Pb	04 07 55.2	-0.2
GQP	**Guinayangan**	**1.04**	**346**⇓	*e*P	Pb	04 07 57.4	-1.2
GQP				*e*S	Sb	04 08 15.2	+3.1
MMPH	**Masbate**	**1.04**	**121**	*i* P	Pb	04 07 58.5	-0.2

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*NEIC **06** 04:09:21.9±2.0, 11.03S×163.64E, h10km, mb4.4/2, Error ellipse: s-maj=38.0km s-min=23.3km az=100.0*

*IDC **06** 04:09:24.9±2.3, 10.69S×162.79E, mb3.9/5, mb1 4.1/6, mb1mx4.0/14, mbtmp3.9/6, ML3.8/1, Error ellipse: s-maj=80.1km s-min=28.8km az=124.0*

ISC 06 04:09:24.9±1.2**, 11.2S**±0.1×**163.4E**±0.1**, h33km, n10, σ1^{s}28**/11**, mb3.9**/6**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.84**	**296**	*e*P	**P**	**04 10 23.9**	**+0.7**
HNR				*e*S	**S**	**04 11 08.1**	**+0.3**
CTA	**Charters Tower**	**18.75**	**240**	P	**P**	**04 13 48.2**	**+4.5**
	0.2nm,0.3s,baz=70,slow=10,SNR=6.8						
CTAO	**Charters Tower**	**18.75**	**240**	*e*P	**P**	**04 13 44.4**	**+0.7**
	15nm,1.1s						
STKA	**Stephens Creek**	**28.82**	**221**	P	**P**	**04 15 24.8**	**+2.5**
	3.2nm,0.7s,mb4.2,baz=36,slow=11,SNR=5.7						
WRAB	**Tennant Creek**	**29.30**	**249**	*e*P	**P**	**04 15 25.5**	**-1.2**
WRA	**Warramunga Arr**	**29.31**	**249**	P	**P**	**04 15 26.2**	**-0.6**
	1.2nm,0.7s,mb3.7,baz=78,slow=8.9,SNR=15						
ASAR	**Alice Springs**	**30.72**	**242**	P	**P**	**04 15 38.5**	**-0.8**
	0.9nm,0.8s,mb3.6,baz=77,slow=8.9,SNR=9.1						
ULN	**Ulaanbaatar**	**77.08**	**325**	P	**P**	**04 21 15.7**	**-0.9**
	10nm,1.7s,mb4.5						
SONM	**Songino Array**	**77.44**	**325**	P	**P**	**04 21 17.6**	**-1.1**
	0.3nm,0.5s,mb3.4,baz=90,slow=4.3,SNR=2.4						
ILAR	**Eielson Array**	**84.37**	**19**	P	**P**	**04 21 57.9**	**+3.2**
	1.3nm,1.2s,mb3.9,baz=225,slow=2.6,SNR=3.1						

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*IDC **06** 04:23:37.9±1.4, 11.28S×163.02E, mb4.1/6, mb1 4.4/7, mb1mx4.2/14, mbtmp4.1/7, ML4.0/1, Error ellipse: s-maj=63.0km s-min=22.0km az=135.0*

*NEIC **06** 04:23:39.4±1.1, 11.33S×163.07E, h10km, mb4.3/6, Error ellipse: s-maj=26.2km s-min=15.4km az=133.0*

ISC 06 04:23:41.5±1.0**, 11.4S**±0.1×**163.0E**±0.1**, h33km, n14, σ1^{s}13**/15**, mb4.1**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.54**	**303**	*e*P	**P**	**04 24 35.6**	**+0.2**
HNR				*e*S	**S**	**04 25 25.8**	**+9.2**
CTA	**Charters Tower**	**18.23**	**240**	*e*P	**P**	**04 27 56.1**	**+2.2**
	8.5nm,0.8s						
CTA	**Charters Tower**	**18.23**	**240**	P	**P**	**04 27 55.5**	**+1.6**
	0.3nm,0.3s,baz=76,slow=12,SNR=16						
CTAO	**Charters Tower**	**18.23**	**240**	*e*P	**P**	**04 27 55.1**	**+1.3**
	12nm,0.8s						
STKA	**Stephens Creek**	**28.35**	**221**	*e*P	**P**	**04 29 35.8**	**+1.1**
	5.4nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**28.35**	**221**	P	**P**	**04 29 36.0**	**+1.3**
	5.5nm,0.7s,mb4.3,baz=32,slow=12,SNR=10						
WRAB	**Tennant Creek**	**28.78**	**249**	*e*P	**P**	**04 29 38.1**	**-0.5**
	2.8nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**28.79**	**249**	P	**P**	**04 29 37.7**	**-1.0**
	1.8nm,0.6s,mb4.0,baz=80,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**30.20**	**242**	P	**P**	**04 29 50.2**	**-1.0**
	1.2nm,0.7s,mb3.7,baz=65,slow=10.0,SNR=9.3						
FITZ	**Fitzroy Crossi**	**36.64**	**255**	*e*P	**P**	**04 30 45.6**	**-1.4**
	6.3nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**76.99**	**325**	*e*P	**P**	**04 35 33.5**	**+0.8**
	16nm,1.8s,mb4.7						
SONM	**Songino Array**	**77.34**	**325**	P	**P**	**04 35 36.0**	**+1.3**
	1.4nm,0.9s,mb3.9,baz=146,slow=4.5,SNR=5.5						
ILAR	**Eielson Array**	**84.73**	**19**	P	**P**	**04 36 11.4**	**-1.7**
	1.0nm,1.1s,mb3.8,baz=230,slow=4.7,SNR=5.4						
NVAR	**Mina Array Bea**	**88.35**	**50**	P	**P**	**04 36 32.0**	**+0.6**
	0.9nm,0.8s,mb4.0,baz=231,slow=5.1,SNR=4.9						

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*IDC **06** 04:39:58.5±0.5, 10.99S×163.01E, mb5.0/17, mb1 5.1/19, mb1mx5.1/20, mbtmp5.0/19, ML4.5/2, MS5.6/11, Ms1 5.6/11, ms1mx5.5/21, Error ellipse: s-maj=19.0km s-min=14.6km az=133.0*

*BJI **06** 04:39:58.3, 11.33S×163.15E, h24km, mB5.8, mb5.2, Ms6.1, Msz5.8*

*NEIC **06** 04:39:59.4±0.2, 11.05S×163.05E, h10km, mb5.6/55, MS5.7/16, MW6.1, Error ellipse: s-maj=6.3km s-min=5.1km az=139.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.03; $M_{\theta\theta}$-1.08; $M_{\phi\phi}$1.11; $M_{r\theta}$0.49; $M_{\theta\phi}$1.70; $M_{\phi r}$0.02; Best double couple: $M_0$2.1×10^{18} NP1: ϕ_s344°, δ77°, λ-177°. NP2:ϕ_s253°, δ87°, λ-13°. Principal axes: T 2.07, Plg7°, Azm299°; N .03, Plg76°, Azm60°; P -2.09, Plg12°, Azm208°;*

*HRVD **06** 04:39:59.4±0.1, 11.04S×163.06E, h13km, MW6.0/74, Centroid moment Tensor Solution. LP body waves: s69, c165; Mantle waves: s74, c278; Half duration: 2^{s}5 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04±.01; $M_{\theta\theta}$-0.23±.01; $M_{\phi\phi}$0.27±.01; $M_{r\theta}$-0.07±.03; $M_{\theta\phi}$1.24±.01; $M_{\phi r}$-0.49±.05; Best double couple: $M_0$1.356×10^{18} NP1: ϕ_s265°, δ69°, λ3°. NP2:ϕ_s174°, δ87°, λ159°. Principal axes: T 1.411, Plg16°, Azm128°; N -.11, Plg69°, Azm346°; P -1.301, Plg12°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*MOS **06** 04:40:02.3±1.3, 11.06S×163.05E, h37km, mb5.7/34 Error ellipse: s-maj=8.4km s-min=7.6km az=176.5*

ISC 06 04:40:03.1±0.2**, 11.09S**±0.04×**162.96E**±0.03**, h47km**±1.3km**: pP-P, n270, σ1^{s}05**/242**, mb5.5**/94**, MS5.8**/47**, 14C-11D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.39**	**299**	*e*P	**P**	**04 40 55.7**	**+0.8**
HNR				*e*S	**S**	**04 41 40.4**	**+6.2**
NOUC	**Port Laguerre**	**11.41**	**164**	*e*P	**P**	**04 42 42.3**	**-4.0**
NOUC				*e*S	**S**	**04 44 43.1**	**-10**
NOUC	**Port Laguerre**	**11.41**	**164**	*e*P	**P**	**04 42 42.3**	**-4.0**
NOUC				*e*S	**S**	**04 44 43.1**	**-10**
DZM	**Mont Dzumac**	**11.42**	**163**	*e*P	**P**	**04 42 41.8**	**-4.7**
DZM				*e*S	**S**	**04 44 41.1**	**-12**
DZM	**Mont Dzumac**	**11.42**	**163**	*e*P	**P**	**04 42 41.8**	**-4.7**
DZM				*e*S	**S**	**04 44 41.1**	**-12**
PMG	**Port Moresby**	**15.64**	**275**	*e*P	**P**	**04 43 45.0**	**+3.0**
PMG				pmax	pmax		
	comp=Z,298nm,1.0s						
PMG	**Port Moresby**	**15.64**	**275**	Pn	**P**	**04 43 44.7**	**+2.6**
	comp=Z,2.1nm,0.3s,baz=95,slow=8.7,SNR=17						
PMG				LR	LR	04 49 09.1	
	comp=Z,14µm,18.3s,baz=113,slow=35						
PMG	**Port Moresby**	**15.64**	**275**	*e*P	**P**	**04 43 45.0**	**+2.9**
	comp=Z,298nm,1.0s						
CTA	**Charters Tower**	**18.40**	**239**⇓	*i*P	**P**	**04 44 17.5**	**+0.9**
	comp=Z,69nm,0.8s						
CTA				*e*pP		04 44 28.9	
CTA				*e*S	**S**	**04 47 53.4**	**+17**
CTA	**Charters Tower**	**18.40**	**239**⇓	*i*P	**P**	**04 44 17.5**	**+0.9**
CTA				pmax	pmax		
	comp=Z,69nm,0.8s						
CTA	**Charters Tower**	**18.40**	**239**	P	**P**	**04 44 17.7**	**+1.1**
	comp=Z,2.7nm,0.3s,baz=67,slow=13,SNR=51						
CTAO	**Charters Tower**	**18.40**	**239**	P	**P**	**04 44 17.4**	**+0.8**
CTAO				Sn	**S**	**04 47 47.3**	**+10**
CTAO	**Charters Tower**	**18.40**	**239**	*e*P	**P**	**04 44 17.4**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,204nm,0.9s						
CTAO	**Charters Tower**	**18.40**	**239**	*e*P	**P**	**04 44 17.4**	**+0.8**
	comp=Z,204nm,0.9s						
KWAJ	**Kwajalein Atol**	**20.29**	**13**	*e*P	**P**	**04 44 36.1**	**-1.6**
	comp=Z,551nm,0.6s						
KWAJ				LR	LR		
	comp=Z,5µm,22.0s,MS4.9						
AFI	**Afiamalu**	**24.82**	**99**	*e*P	**P**	**04 45 20.7**	**-1.9**
AFI				pmax	pmax		
	comp=Z,2µm,2.0s,mb6.3						
AFI	**Afiamalu**	**24.82**	**99**	*e*P	**P**	**04 45 20.7**	**-2.0**
	comp=Z,2µm,2.0s,mb6.3						
CNB	**Canberra Magne**	**27.10**	**205**	*e*P	**P**	**04 45 44.3**	**+0.6**
	comp=Z,473nm,1.0s,mb6.0						
STKA	**Stephens Creek**	**28.58**	**220**⇓	*i*P	**P**	**04 45 56.4**	**-0.7**
	comp=Z,42nm,0.9s,mb5.2						
STKA				*e*S	**S**	**04 50 46.5**	**+6.0**
STKA	**Stephens Creek**	**28.58**	**220**	P	**P**	**04 45 57.3**	**+0.2**
	comp=Z,66nm,0.9s,mb5.3,baz=36,slow=10,SNR=38						
STKA				LR	LR	04 56 39.4	
	comp=Z,47µm,18.2s,MS6.1,baz=33,slow=35						
WRAB	**Tennant Creek**	**28.90**	**249**	P	**P**	**04 45 58.0**	**-1.9**
	comp=Z,239nm,0.9s,mb5.9,SNR=19						
WRAB	**Tennant Creek**	**28.90**	**249**	*e*P	**P**	**04 45 58.1**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,93nm,1.1s,mb5.4						
WRAB	**Tennant Creek**	**28.90**	**249**	*e*P	**P**	**04 45 58.1**	**-1.8**
	comp=Z,93nm,1.1s,mb5.4						
WRA	**Warramunga Arr**	**28.91**	**249**	P	**P**	**04 45 59.3**	**-0.7**
	comp=Z,8.9nm,0.5s,mb4.8,baz=77,slow=9.1,SNR=80						
URZ	**Urewera**	**29.88**	**157**	P	**P**	**04 46 09.0**	**+0.5**
	comp=Z,8.3nm,0.9s,mb4.4,baz=275,slow=10,SNR=3.3						
URZ				LR	LR	04 56 33.6	
	comp=Z,21µm,18.3s,MS5.8,baz=344,slow=33						
KAKA	**Kakadu**	**29.90**	**264**	*e*P	**P**	**04 46 07.0**	**-1.9**
	comp=Z,26nm,0.6s,mb5.1						
ASAR	**Alice Springs**	**30.34**	**242**	P	**P**	**04 46 11.6**	**-1.2**
	comp=Z,13nm,0.9s,mb4.7,baz=66,slow=9.4,SNR=85						
ASAR				LR	LR	04 58 03.8	
	comp=Z,30µm,18.1s,MS6.0,baz=65,slow=36						
ASPA	**Alice Springs**	**30.35**	**242**	*e*P	**P**	**04 46 11.4**	**-1.4**
TOO	**Toolangi**	**30.69**	**208**	*e*P	**P**	**04 46 16.2**	**+0.5**
	comp=Z,2.7nm,1.0s						
TOO				*e*S	**S**	**04 51 21.4**	**+7.7**
TOO	**Toolangi**	**30.69**	**208**	*e*P	**P**	**04 46 16.2**	**+0.5**
TOO				*e*S	**S**	**04 51 21.4**	**+7.7**
TOO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SNZO	**South Karori**	**31.83**	**163**	PFAKE		04 46 40.0	+14
SNZO				LR	LR		
	comp=Z,20µm,20.6s,MS5.8						
RPZ	**Rata Peaks**	**33.26**	**169**	LR	LR	04 58 34.5	
	comp=Z,22µm,19.0s,MS5.9,baz=341,slow=34						
TAU	**Tasmania Unive**	**34.50**	**200**	PFAKE		04 47 00.0	+11
TAU				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
FITZ	**Fitzroy Crossi**	**36.73**	**255**⇓	*i*P	**P**	**04 47 06.7**	**-1.2**
	comp=Z,65nm,0.8s,mb5.5						
RAR	**Rarotonga**	**37.10**	**110**	P	**P**	**04 47 10.8**	**-0.2**
FORT	**Forrest**	**37.80**	**233**	*e*P	**P**	**04 47 15.9**	**-0.9**
	comp=Z,3µm,0.9s						
FORT				*e*S	**S**	**04 52 53.9**	**-10**
MBWA	**Marble Bar**	**42.59**	**251**	*e*P	**P**	**04 47 56.5**	**-0.2**
	comp=Z,127nm,1.2s,mb5.5						
MBWA				LR	LR		
	comp=Z,21µm,19.0s,MS6.0						
MIDW	**Midway**	**43.46**	**26**	PFAKE		04 48 10.0	+6.4
MIDW				LR	LR		
	comp=Z,11µm,20.0s,MS5.8						
PAE	**Paea**	**46.34**	**104**	*e*P	**P**	**04 48 26.6**	**-0.1**
	comp=Z,560nm,1.5s,mb6.3						
PPT	**Papeete**	**46.34**	**104**	*e*P	**P**	**04 48 26.3**	**-0.5**
	comp=Z,118nm,1.3s,mb5.7						
PPT	**Papeete**	**46.34**	**104**	*e*LQ		04 59 42.1	
PPT				*e*LR	LR	05 01 38.3	
	comp=Z,18µm,27.5s,baz=275						
PPT	**Papeete**	**46.34**	**104**	P	**P**	**04 48 26.0**	**-0.8**
	comp=Z,28nm,0.8s,mb5.3,baz=55,slow=13,SNR=2.1						
KLBR	**Kellerberrin**	**46.39**	**237**⇓	*i*P	**P**	**04 48 26.2**	**-0.7**
	comp=Z,204nm,0.6s,mb6.2						
TIAR	**Tiarei**	**46.56**	**104**	*e*P	**P**	**04 48 28.2**	**-0.3**
	comp=Z,1µm,1.9s,mb6.5						
TVO	**Taravao**	**46.66**	**104**	*e*P	**P**	**04 48 29.0**	**-0.2**
	comp=Z,425nm,1.3s,mb6.2						
TBI	**Tubuai**	**46.86**	**112**	*e*P	**P**	**04 48 30.8**	**+0.1**
	comp=Z,279nm,1.1s,mb6.1						
TBI				*e*LQ		04 59 52.5	
TBI				*e*LR	LR	05 02 00.9	
	comp=Z,21µm,29.8s,baz=280						
NWAO	**Narrogin (SRO)**	**47.18**	**235**	*e*P	**P**	**04 48 33.2**	**0.0**
NWAO				pmax	pmax		
	comp=Z,276nm,2.0s						
NWAO				MLR	MLR		
	comp=Z,23µm,19.0s						
NWAO	**Narrogin (SRO)**	**47.18**	**235**	*e*P	**P**	**04 48 33.2**	**0.0**
	comp=Z,276nm,2.0s,mb5.8						
NWAO				LR	LR		
	comp=Z,23µm,19.0s,MS6.2						
MUN	**Mundaring**	**47.76**	**237**⇓	*i*P	**P**	**04 48 37.6**	**-0.1**
	comp=Z,29nm,0.9s,mb5.3						
MUN				*e*S	**S**	**04 55 36.5**	**+6.8**
MUN	**Mundaring**	**47.76**	**237**⇓	*i*P	**P**	**04 48 37.6**	**-0.1**
MUN				*e*S	**S**	**04 55 36.5**	**+6.8**
MUN				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
MEH	**Mehetia**	**47.79**	**104**	*e*P	**P**	**04 48 38.1**	**0.0**
	comp=Z,368nm,1.5s,mb6.2						
PMOR	**Pomariorio Ree**	**47.96**	**100**	*e*P	**P**	**04 48 39.3**	**-0.2**
	comp=Z,263nm,1.2s,mb6.1						
KIP	**Kipapa**	**50.13**	**50**	PFAKE		04 49 10.0	+14
KIP				LR	LR		
	comp=Z,14µm,22.0s,MS5.9						
MAJO	**Matsushiro**	**52.80**	**335**	*e*P	**P**	**04 49 14.3**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,69nm,1.4s,mb5.4						
MAJO				MLR	MLR		
	comp=Z,10µm,21.0s,MS5.8						
MAJO	**Matsushiro**	**52.80**	**335**	*e*P	**P**	**04 49 14.3**	**-1.8**
	comp=Z,69nm,1.4s,mb5.4						
MAJO				LR	LR		
	comp=Z,10µm,21.0s,MS5.8						
MAT	**Matsushiro**	**52.80**	**335**	*e*P	**P**	**04 49 14.0**	**-2.0**
MAT				*e*S	**S**	**04 56 37.0**	**-2.4**
MAT				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.3						
MAT				MLR	MLR		
	comp=Z,10µm,20.0s,MS5.9						
MAT	**Matsushiro**	**52.80**	**335**	*e*P	**P**	**04 49 14.0**	**-2.0**
	comp=Z,54nm,1.4s,mb5.3						
MAT				*e*S	**S**	**04 56 37.0**	**-2.4**
MAT				LR	LR		
	comp=Z,10µm,20.0s,MS5.9						
MAT	**Matsushiro**	**52.80**	**335**	P	**P**	**04 49 13.5**	**-2.5**
MAT				S	**S**	**04 56 37.0**	**-2.4**
NACB	**Ninganchiao**	**53.48**	**311**	*e*P	**P**	**04 49 21.0**	**-0.3**
YHNB	**Yeheng**	**53.94**	**312**	*e*P	**P**	**04 49 24.1**	**-0.5**
TATO	**Taipei**	**54.03**	**312**	PFAKE		04 49 40.0	+15
TATO				LR	LR		
	comp=Z,12µm,21.0s,MS6.0						
QZH	**Quanzhou**	**56.16**	**310**	P	**P**	**04 49 41.5**	**+0.8**
QZH				S	**S**	**04 57 31.0**	**+6.3**
QZH				AMB	AMB		
	comp=Z,160nm,1.3s,mb5.9						
QZH				AMB	AMB		
	comp=Z,2µm,6.9s						
QZH				LR	LR		
	comp=N,2µm,11.2s,MS5.8						
QZH				LR	LR		
	comp=E,4µm,11.8s,MS5.8						
QZH				LR	LR		
	comp=Z,22µm,44.0s						
DRV	**Dumont d'Urvil**	**57.63**	**191**	P	**P**	**04 49 54.0**	**+3.3**
DRV				S	**S**	**04 57 52.0**	**+8.4**
DRV				L		05 04 00.0	
ASAJ	**Asahikawa**	**57.97**	**343**	P	**P**	**04 49 53.6**	**+0.3**
	comp=Z,31nm,0.8s,mb5.4,baz=250,slow=9.8,SNR=7.1						
SSE	**Sheshan**	**58.01**	**318**	P	**P**	**04 49 54.8**	**+1.1**
SSE				AP	pP	04 50 07.3	+0.3
SSE				PP	PP	04 52 03.7	-0.5
SSE				S	**S**	**04 57 51.7**	**+2.8**
SSE				SS	SS	05 01 44.0	+1.9
SSE				AMB	AMB		
	comp=Z,73nm,0.9s,mb5.7						
SSE				AMB	AMB		
	comp=Z,246nm,7.6s						
SSE				LR	LR		
	comp=N,5µm,21.2s,MS5.7						
SSE				LR	LR		
	comp=E,1µm,21.2s,MS5.7						
SSE				LR	LR		
	comp=Z,5µm,23.7s,MS5.5						
SSE	**Sheshan**	**58.01**	**318**	P	**P**	**04 49 54.8**	**+1.1**
	comp=Z,73nm,0.9s,mb5.7						
SSE				pP	pP	04 50 07.3	+0.3
SSE				sP	sP	04 50 14.6	+2.1
SSE				PP	PP	04 52 03.7	-0.5
SSE				S	**S**	**04 57 51.7**	**+2.8**
SSE				sS		04 58 16.1	
SSE				SS	SS	05 01 44.0	+1.9
SSE				LR	LR		
	comp=Z,5µm,23.7s,MS5.5						
KS15	**Wonju Array Si**	**58.41**	**328**	P	**P**	**04 49 53.0**	**-3.5**
INCN	**Inchon**	**59.11**	**327**	*e*P	**P**	**04 50 01.2**	**-0.1**
	comp=Z,206nm,1.5s,mb5.9						
GZH	**Guangzhou**	**59.26**	**305**	P	**P**	**04 50 07.5**	**+5.0**
GZH				S	**S**	**04 58 03.5**	**-1.8**
GZH				LR	LR		
	comp=N,3µm,16.4s,MS5.7						
GZH				LR	LR		
	comp=E,4µm,19.9s,MS5.7						
GZH				LR	LR		
	comp=Z,5µm,19.0s,MS5.7						
RKT	**Rikitea**	**60.14**	**110**	*e*LQ		05 05 31.6	
RKT				*e*LR	LR	05 08 05.5	
	comp=Z,20µm,28.2s,baz=274						
NJ2	**Nanjing**	**60.16**	**317**	*e*P	**P**	**04 50 08.4**	**-0.2**
NJ2				PP	PP	04 52 24.2	+0.7
NJ2				S	**S**	**04 58 13.0**	**-3.8**
NJ2				XS		04 58 37.0	
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1µm,4.6s						
NJ2				LR	LR		
	comp=N,4µm,25.9s,MS5.7						
NJ2				LR	LR		
	comp=E,6µm,26.0s,MS5.7						
NJ2				LR	LR		
	comp=Z,3µm,20.9s						
YSS	**Yuzh-Sakhalins**	**60.54**	**344**	*e*P	**P**	**04 50 12.0**	**+1.0**
YSS				*e*	pP	04 50 24.8	+0.5
YSS				*e*		04 50 48.0	
YSS				*e*S	**S**	**04 58 26.0**	**+4.5**
YSS				*e*PS	PS	04 58 40.0	-3.7
YSS				*e*SS	SS	05 02 26.0	+4.7
YSS				smax			
	comp=N,1µm,12.0s						
YSS				MLR	MLR		
	comp=N,6µm,17.0s,MS6.0						
YSS				MLR	MLR		
	comp=Z,7µm,17.0s,MS5.9						
YSS				MLR	MLR		
	comp=E,7µm,16.0s,MS6.0						
YSS	**Yuzh-Sakhalins**	**60.54**	**344**	P	**P**	**04 50 10.5**	**-0.5**
	comp=E,186nm,1.5s,mb6.0						
VLA	**Vladivostok**	**60.95**	**334**	*e*P	**P**	**04 50 16.0**	**+2.1**
VLA				*e*		04 50 50.0	
VLA				*e*PPP	PPP	04 53 55.0	-3.6
VLA				*i* S	**S**	**04 58 28.0**	**+1.2**
VLA				*i* PS	PS	04 58 54.0	+4.9
VLA				pmax	pmax		
	comp=Z,2µm,8.0s						
VLA				pmax	pmax		
	comp=N,500nm,11.0s						
VLA				pmax	pmax		
	comp=Z,1µm,7.0s						
VLA				smax			
	comp=E,4µm,13.0s						
VLA				smax			
	comp=N,2µm,14.0s						
VLA				MLR	MLR		
	comp=Z,5µm,14.0s,MS5.8						
VLA				MLR	MLR		
	comp=N,4µm,15.0s,MS5.8						
VLA				MLR	MLR		
	comp=E,2µm,12.0s,MS5.8						
WHN	**Wuhan**	**62.40**	**313**	P	**P**	**04 50 22.5**	**-1.2**
WHN				S	**S**	**04 58 41.0**	**-4.3**
WHN				LR	LR		
	comp=Z,14µm,19.7s,MS6.1						
DL2	**Dalian**	**62.90**	**325**	P	**P**	**04 50 28.9**	**+1.9**
DL2				AP	pP	04 50 40.2	-0.2
DL2				S	**S**	**04 58 57.6**	**+6.2**
DL2				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.2						
DL2				LR	LR		
	comp=N,3µm,23.4s,MS5.5						
DL2				LR	LR		
	comp=E,2µm,19.8s,MS5.5						
DL2				LR	LR		
	comp=Z,3µm,28.2s						
MDJ	**Mudanjiang**	**63.14**	**334**	P	**P**	**04 50 28.9**	**+0.4**
MDJ				AP	pP	04 50 40.4	-1.5

MDJ PP PP 04 52 48.8 -0.4
MDJ S **S** **04 58 58.1 +3.7**
MDJ SS SS 05 03 06.0 +3.1
MDJ AMB AMB
comp=Z,31nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,167nm,3.5s
MDJ LR LR
comp=N,5µm,20.0s,MS5.9
MDJ LR LR
comp=E,5µm,18.1s,MS5.9
MDJ LR LR
comp=Z,7µm,20.0s,MS5.8
SNY Shenyang 63.89 328 ⇑P **P** **04 50 38.7 +5.3**
SNY S **S** **04 59 11.7 +7.9**
SNY SS SS 05 03 16.6 +2.4
SNY AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
SNY AMB AMB
comp=Z,770nm,10.0s
SNY LR LR
comp=N,6µm,17.3s,MS5.8
SNY LR LR
comp=E,2µm,19.1s,MS5.8
SNY LR LR
comp=Z,6µm,18.2s,MS5.8
PET Petropavlovsk 63.96 357 *e*P **P** **04 50 38.1 +4.4**
PET *e*S **S** **04 59 12.3 +7.8**
PET *e*PS PS 04 59 35.2 +4.6
PET *e*SS SS 05 03 17.0 +2.0
PET *e*SSS SSS 05 06 11.4 +7.3
PET pmax pmax
comp=Z,50nm,1.1s,mb5.5
PET pmax pmax
comp=Z,700nm,8.0s
PET pmax pmax
comp=Z,900nm,6.9s
PET smax
comp=E,2µm,18.7s
PET MLR MLR
comp=Z,4µm,13.0s,MS5.8
PET MLR MLR
comp=Z,4µm,15.0s
FX1 Attu Island--F 64.31 7 P **P** **04 50 35.9 -0.1**
comp=Z,36nm,0.7s,mb5.5,baz=151,slow=6.2,SNR=8.5
FX1 LR LR 05 12 52.7
comp=Z,189nm,19.9s,baz=207,slow=31
FX1 Attu Island--F 64.31 7 *e*P **P** **04 50 35.6 -0.3**
CN2 Changchun 64.40 331 ⇓P **P** **04 50 37.3 +0.6**
CN2 *e*S **S** **04 59 06.7 -3.4**
CN2 SS SS 05 03 21.8 -0.5
CN2 AMB AMB
comp=Z,20nm,1.2s,mb5.0
CN2 AMB AMB
comp=Z,330nm,3.0s
CN2 LR LR
comp=N,8µm,20.0s,MS6.0
CN2 LR LR
comp=E,6µm,20.0s,MS6.0
CN2 LR LR
comp=Z,7µm,20.0s,MS5.9
CASY Casey 65.36 201 PFAKE 04 50 50.0 +7.4
CASY LR LR
comp=Z,4µm,20.0s,MS5.6
KLR Kul'dur 66.04 338 *e*P **P** **04 50 44.5 -2.7**
KLR *e*S S 04 59 36.5 +6.5
KLR smax
comp=N,3µm,11.0s
KLR smax
comp=E,2µm,11.0s
GYA Guiyang 66.19 305 ⇑*i*P **P** **04 50 47.6 -0.9**
GYA AP pP 04 51 01.8 -0.3
GYA PP PP 04 53 19.4 +2.6
GYA S S 04 59 39.9 +7.6
GYA SS SS 05 03 51.4 +1.2
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,112nm,4.2s
GYA LR LR
comp=N,4µm,21.0s,MS5.7
GYA LR LR
comp=E,3µm,20.7s,MS5.7
GYA LR LR
comp=Z,4µm,22.5s,MS5.6
VNDA Vanda 66.42 180 *e*P **P** **04 50 50.3 +1.1**
VNDA pmax pmax
comp=Z,89nm,1.4s
VNDA MLR MLR
comp=Z,4µm,22.0s
VNDA Vanda 66.42 180 P **P** **04 50 50.8 +1.6**
comp=Z,8.1nm,0.8s,mb4.8,baz=353,slow=7.6,SNR=13
VNDA LR LR 05 14 48.0
comp=Z,4µm,18.6s,MS5.7,baz=1.1,slow=31
VNDA Vanda 66.42 180 *e*P **P** **04 50 50.2 +1.1**
comp=Z,89nm,1.4s,mb5.6
VNDA LR LR
comp=Z,4µm,22.0s,MS5.6
SBA Scott Base 66.78 179 *e*P **P** **04 50 53.8 +2.3**
SBA *e* pP 04 51 08.7 +3.7
SBA pmax pmax
comp=Z,240nm,1.5s,mb6.0
SBA Scott Base 66.78 179 *e*P **P** **04 50 50.8 -0.7**
comp=Z,184nm,1.6s,mb5.9
SBA LR LR
comp=Z,4µm,22.0s,MS5.5
BJI Beijing 66.82 323 *e*P **P** **04 50 51.4 -0.9**
BJI AP pP 04 51 05.9 +0.1
BJI S S 04 59 44.8 +5.1
BJI AMB AMB
comp=Z,46nm,1.6s,mb5.3
BJI LR LR
comp=N,9µm,20.1s,MS6.0
BJI LR LR
comp=E,6µm,22.5s,MS6.0
BJI LR LR
comp=Z,10µm,31.4s
BJI Beijing 66.82 323 *e*P **P** **04 50 51.4 -0.9**
comp=Z,46nm,1.6s,mb5.3
BJI pP pP 04 51 05.9 +0.1
BJI S S 04 59 44.8 +5.1
BJI ScS ScS 05 00 50.6 +8.9
NST Nakhon Sawan 67.63 292 P **P** **04 50 58.7 +1.0**
TIY Taiyuan 67.76 319 *e*P **P** **04 51 02.6 +4.4**
TIY S S 04 59 59.0 +8.0
TIY LR LR
comp=N,6µm,17.0s
XAN Xi'an 68.15 314 P **P** **04 50 59.7 -1.0**
XAN AP pP 04 51 09.9 -4.4
XAN S S 04 59 53.1 -2.6
XAN SS SS 05 04 18.9 -1.4
XAN AMB AMB
comp=Z,65nm,1.6s,mb5.4
XAN LR LR
comp=N,3µm,20.4s,MS5.8
XAN LR LR
comp=E,4µm,19.8s,MS5.8
XAN LR LR
comp=Z,5µm,20.9s,MS5.8
NANT Nan 68.18 295 P **P** **04 51 05.0 +3.9**
KMI Kunming 68.82 302 ⇑P **P** **04 51 06.5 +1.5**
KMI PP PP 04 53 40.6 +1.0
KMI S S 05 00 10.4 +6.5
KMI SKS SKS 05 01 00.5 +4.3
KMI SS SS 05 04 37.8 +6.5
KMI AMB AMB
comp=Z,53nm,1.6s,mb5.2
KMI AMB AMB
comp=Z,349nm,6.7s
KMI LR LR
comp=N,4µm,23.3s,MS5.7
KMI LR LR
comp=E,3µm,20.9s,MS5.7
KMI LR LR
comp=Z,7µm,26.3s
KMI Kunming 68.82 302 ⇑P **P** **04 51 06.5 +1.5**
KMI *PP pP 04 51 22.9 +4.3
KMI *SP sP 04 51 29.9 +6.2
KMI 04 53 40.6
KMI S S 05 00 10.4 +6.5
KMI *SS 05 00 33.2
KMI 05 01 00.5
KMI SS SS 05 04 37.8 +6.5
KMI pmax pmax
comp=Z,53nm,1.6s,mb5.2
KMI MLR MLR
comp=Z,7µm,26.3s,MS5.8
KMI Kunming 68.82 302 ⇑P **P** **04 51 06.5 +1.5**
comp=Z,53nm,1.6s,mb5.2
KMI pP pP 04 51 22.9 +4.3
KMI sP sP 04 51 29.9 +6.2
KMI PP PP 04 53 40.6 +1.0
KMI S S 05 00 10.4 +6.5
KMI SKS SKS 05 01 00.5 +4.3
KMI SS SS 05 04 37.8 +6.5
KMI LR LR
comp=Z,7µm,26.3s,MS5.8
CHRT Chiangrai 69.37 296 ⇑P **P** **04 51 07.0 -1.4**
comp=Z,124nm,0.8s,mb5.9
CM31 Chiang Mai Arr 69.63 294 *e*P **P** **04 51 10.4 +0.4**
comp=Z,38nm,1.2s,mb5.2
CMAR Chiang Mai Arr 69.63 294 P **P** **04 51 09.9 -0.1**
comp=Z,10nm,0.9s,mb4.8,baz=126,slow=5.0,SNR=18
CMAR LR LR 05 18 54.8
comp=Z,2µm,21.0s,MS5.3,baz=105,slow=34
CHG Chiang Mai 69.75 295 ⇓P **P** **04 51 10.7 -0.1**
comp=Z,28nm,1.5s,mb5.0
HHC Hu-ho-hao-te 70.11 321 ⇓*i*P **P** **04 51 12.7 +0.1**
HHC AP pP 04 51 26.1 -0.2
HHC PP PP 04 53 50.0 0.0
HHC S S 05 00 21.6 +2.8
HHC XS 05 00 37.7
HHC SCS ScS 05 01 11.6 +4.2
HHC SS SS 05 04 50.4 -0.3
HHC AMB AMB
comp=Z,59nm,1.7s,mb5.2
HHC LR LR
comp=N,3µm,29.1s,MS5.5
HHC LR LR
comp=E,3µm,29.1s,MS5.5
HHC LR LR
comp=Z,8µm,38.7s
CD2 Chengdu 70.47 308 P **P** **04 51 15.0 0.0**
CD2 PCP PcP 04 51 38.8 +2.5
CD2 PP PP 04 53 50.1 -3.3
CD2 S S 05 00 20.1 -3.0
CD2 XS 05 00 42.6
CD2 AMB AMB
comp=Z,80nm,1.2s,mb5.5
CD2 AMB AMB
comp=Z,1µm,9.0s
CD2 LR LR
comp=N,5µm,16.9s
CD2 LR LR
comp=Z,5µm,17.3s,MS5.8
BTO Baotou 70.94 320 *e*P **P** **04 51 17.1 -0.6**
BTO AMB AMB
comp=Z,56nm,1.4s,mb5.3
MA2 Magadan 71.10 353 *ce*P **P** **04 51 17.5 -0.8**
MA2 *e*S S 05 00 32.7 +2.8
MA2 pmax pmax
comp=Z,30nm,1.7s,mb5.0
MA2 Magadan 71.10 353 *e*P **P** **04 51 17.1 -1.2**
comp=Z,19nm,0.8s,mb5.1
MA2 *e* 04 51 24.5
LZH Lanzhou 72.78 313 P **P** **04 51 29.9 +1.2**
LZH PP PP 04 54 16.0 +2.9
LZH S S 05 00 56.0 +6.4
LZH SKS SKS 05 01 28.0 +2.8
LZH SS SS 05 05 39.0 +6.6
LZH AMB AMB
comp=Z,250nm,1.7s,mb5.9
LZH AMB AMB
comp=Z,720nm,4.0s
LZH LR LR
comp=N,8µm,17.7s
LZH LR LR
comp=Z,10µm,21.1s,MS6.1
LZH Lanzhou 72.78 313 P **P** **04 51 29.9 +1.2**
LZH *PP pP 04 51 43.2 +0.8
LZH *SP sP 04 51 47.4 -0.1
LZH 04 54 16.0
LZH S S 05 00 56.0 +6.4
LZH 05 01 28.0
LZH SS SS 05 05 39.0 +6.6
LZH pmax pmax
comp=Z,250nm,1.7s,mb5.9
LZH MLR MLR
comp=Z,10µm,21.1s,MS6.1
LZH Lanzhou 72.78 313 P **P** **04 51 29.9 +1.2**
comp=Z,250nm,1.7s,mb5.9
LZH pP pP 04 51 43.2 +0.8
LZH sP sP 04 51 47.4 -0.1
LZH PP PP 04 54 16.0 +2.9
LZH S S 05 00 56.0 +6.4
LZH SKS SKS 05 01 28.0 +2.8
LZH SS SS 05 05 39.0 +6.6
LZH LR LR
comp=Z,10µm,21.1s,MS6.1
SEY Seymchan 74.24 355 *e*P **P** **04 51 35.1 -1.6**
SEY *e* pP 04 51 52.7 +2.3
SEY *e*PPP PPP 04 56 08.8 -1.0
SEY *e*S S 05 01 02.2 -3.3
SEY 05 01 39.3
SEY SS SS 05 05 50.1 -3.9
SEY SSS SSS 05 09 09.2 +2.5
SEY pmax pmax
comp=Z,90nm,1.6s,mb5.5
CLNS Chul'man 74.62 339 *e*P **P** **04 51 40.5 +1.5**
CLNS *e**PP pP 04 51 48.1 -4.6
CLNS *e* pP 04 51 53.3 +0.6
CLNS *e* 04 54 29.0
CLNS *e*PPP PPP 04 56 08.9 -4.4
CLNS *e*S S 05 01 20.1 +10
CLNS *e* 05 01 56.5
CLNS pmax pmax
comp=Z,72nm,1.1s,mb5.5
CLNS pmax pmax
comp=N,56nm,1.4s
CLNS pmax pmax
comp=E,18nm,1.6s
CLNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,13nm,1.2s
CLNS pmax pmax
comp=E,13nm,1.1s
CLNS smax
comp=N,2µm,16.6s
CLNS smax
comp=Z,1µm,17.3s
CLNS smax
comp=E,643nm,11.4s
CLNS MLR MLR
comp=Z,3µm,15.0s,MS5.7
CLNS MLR MLR
comp=N,3µm,18.0s
CLNS MLR MLR
comp=E,300nm,12.0s
ULN Ulaanbaatar 76.75 325 *c*i*P **P** **04 51 51.9 +0.6**
ULN Ulaanbaatar 76.75 325 *e*P **P** **04 51 52.2 +0.9**
comp=E,248nm,1.6s,mb5.9
SONM Songino Array 77.10 325 P **P** **04 51 53.4 +0.1**
comp=E,20nm,0.8s,mb5.1,baz=135,slow=3.5,SNR=41
GTA Gaotai 77.13 315 P **P** **04 51 54.6 +0.9**
GTA AP pP 04 52 05.0 -2.4
GTA XP sP 04 52 09.0 -3.6
GTA PP PP 04 54 50.9 +1.8
GTA S S 05 01 42.3 +4.6
GTA XS 05 01 59.8
GTA SKS SKS 05 02 00.6 +3.5
GTA SS SS 05 06 45.0 +6.3
GTA AMB AMB
comp=Z,22nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,298nm,4.6s
GTA LR LR
comp=N,4µm,20.2s,MS5.8
GTA LR LR
comp=E,3µm,22.4s,MS5.8
GTA LR LR
comp=Z,6µm,24.3s,MS5.8
YAK Yakutsk 77.38 345 *c*i*P **P** **04 51 57.0 +2.4**
YAK *e* pP 04 52 15.5 +7.2
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.2
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.3s
YAK Yakutsk 77.38 345 *e*P **P** **04 51 54.6 +0.1**
comp=E,81nm,1.2s,mb5.5
QSPA South Pole Qui 78.92 180 ⇑*i*P **P** **04 52 06.1 +3.4**
comp=E,116nm,1.2s,mb5.7
SVW2 Sparrevohn 79.03 19 *e*P **P** **04 52 04.6 +1.0**
BOD Bodaibo 79.42 336 *e*P **P** **04 51 58.6 -7.2**
BOD pmax pmax
comp=Z,29nm,1.7s,mb4.9
LSA Lhasa 80.07 303 P **P** **04 52 10.0 +0.1**
ZAK Zakamensk 80.18 326 ⇑*i*P **P** **04 52 10.1 0.0**
ZAK pmax pmax
comp=Z,25nm,1.5s,mb4.9
CAL Calcutta 80.34 295 *e* pP 04 52 22.3 -3.0
IRK Irkutsk 80.62 328 *e*P **P** **04 52 14.4 +2.0**
IRK pmax pmax
comp=Z,45nm,1.8s,mb5.1
TLY Talaya 80.65 327 P **P** **04 52 13.6 +1.0**
comp=Z,182nm,0.8s,mb6.1,SNR=22
TLY Talaya 80.65 327 *e*P **P** **04 52 13.1 +0.5**
TLY *e* pP 04 52 30.2 +3.8
TLY *e* 04 55 14.6
TLY *e*S S 05 02 19.4 +4.6
TLY *e*PS PS 05 03 02.6 -5.2
TLY pmax pmax
comp=Z,36nm,0.9s,mb5.3
TLY Talaya 80.65 327 *e*P **P** **04 52 12.6 0.0**
comp=Z,29nm,0.9s,mb5.2
BWNR Bhubaneshwar 82.01 292 *e*P **P** **04 52 19.0 -1.3**
BWNR AMb AMB 04 52 25.9
comp=Z,55nm,0.8s,mb5.6
MOY Mondy 82.08 326 *e*P **P** **04 52 23.1 +3.1**
MOY pmax pmax
comp=Z,46nm,2.4s,mb5.0
RPN Rapa Nui 83.01 116 PFAKE 04 52 40.0 +15
RPN LR LR
comp=Z,1µm,20.0s,MS5.2
IMA Indian Mountai 83.30 16 *e*P **P** **04 52 26.0 +0.1**
JIRN Jiri 83.62 300 *e*P **P** **04 52 28.3 -0.1**
comp=Z,396nm,1.9s,mb6.2
VIS Vishakhapatnam 83.65 289 *e*P **P** **04 52 29.3 +0.6**
VIS *e* 04 52 34.5
comp=Z,62nm,1.5s
VIS *e*S S 05 02 47.5 +1.5
MAW Mawson 83.65 202 LR LR 05 27 12.5
comp=Z,5µm,18.4s,MS5.9,baz=91,slow=34
COLA College 84.19 19 *e*P **P** **04 52 29.4 -1.0**
COLA pmax pmax
comp=Z,24nm,0.9s,mb5.3
COLA College 84.19 19 *e*P **P** **04 52 30.3 -0.1**
PKI Pulchoki 84.27 299 *e*P **P** **04 52 31.5 -0.2**
comp=Z,203nm,1.3s,mb6.1
PKI Pulchoki 84.27 299 *e*P **P** **04 52 31.5 -0.2**
PKI pmax pmax
comp=Z,102nm,1.3s,mb5.8
MENT Mentasta 84.36 22 *e*P **P** **04 52 32.0 +0.7**
KKN Kakani 84.43 300 *e*P **P** **04 52 32.6 +0.1**
comp=Z,288nm,1.6s,mb6.2
KKN Kakani 84.43 300 *e*P **P** **04 52 32.6 +0.1**
KKN pmax pmax
comp=Z,144nm,1.6s,mb5.8
ILAR Eielson Array 84.44 19 P **P** **04 52 30.9 -0.8**
comp=Z,2.8nm,0.6s,mb4.6,baz=238,slow=5.5,SNR=35
DMN Daman 84.53 299 *e*P **P** **04 52 33.2 +0.2**
comp=Z,244nm,1.2s,mb6.2
GKN Gorkha 85.04 300 *e*P **P** **04 52 34.9 -0.6**
comp=Z,257nm,1.3s,mb6.2
TIXI Tiksi 85.62 350 *e*P **P** **04 52 37.6 +0.2**
TIXI *e*S S 05 03 06.8 +2.5
TIXI *e*PS PS 05 04 08.3 -0.6
TIXI pmax pmax
comp=Z,33nm,1.3s,mb5.4
TIXI MLR MLR
comp=Z,22µm,15.0s,MS6.7
TIXI MLR MLR
comp=E,11µm,16.0s
TIXI Tiksi 85.62 350 *i*P **P** **04 52 37.5 +0.1**
WDC Whiskeytown Da 85.64 47 *e*P **P** **04 52 38.2 0.0**
WDC *e**PP pP 04 52 51.9 -0.3
WDC pmax pmax
comp=Z,47nm,1.4s,mb5.5
WDC Whiskeytown Da 85.64 47 *e*P **P** **04 52 38.2 0.0**
comp=Z,47nm,1.4s,mb5.5
WDC *e*pP pP 04 52 51.9 -0.3
KOLN Koldanda 85.87 299 *e*P **P** **04 52 39.1 -0.5**
comp=Z,52nm,1.0s,mb5.7
YBH Yreka Blue Hor 85.89 46 P **P** **04 52 40.4 +1.0**
comp=Z,8.8nm,0.8s,mb5.0,baz=270,slow=1.5,SNR=10.0
HUMO Hull Mountain 86.00 45 *e*P **P** **04 52 39.8 -0.1**
comp=Z,30nm,1.0s,mb5.5
HUMO *e* pP 04 52 55.3 +1.4
OHCM Honcut 86.03 49 *e*P **P** **04 52 40.0 -0.1**
OHCM *e*pP pP 04 52 53.5 -0.6
BBB Bella Bella 86.17 35 LR LR 05 26 14.6
comp=Z,3µm,20.4s,MS5.7,baz=19,slow=32
CMB Columbia Colle 86.46 50 *e*P **P** **04 52 42.1 -0.2**
CMB *e* pP 04 52 55.7 -0.6
CMB pmax pmax
comp=Z,33nm,1.4s,mb5.4
CMB Columbia Colle 86.46 50 *e*P **P** **04 52 42.1 -0.1**
comp=Z,33nm,1.4s,mb5.4
CMB *e* pP 04 52 55.7 -0.6
DAWY Dawson 86.60 22 *e*P **P** **04 52 42.8 +0.5**
WMQ Urumqi 87.19 316 ⇓*i*P **P** **04 52 46.6 +0.9**
WMQ AP pP 04 53 00.0 +0.3
WMQ PP PP 04 56 14.0 +1.6
WMQ SKS SKS 05 03 08.0 +1.4
WMQ S S 05 03 22.0 +2.0
WMQ AMB AMB
comp=Z,40nm,1.6s,mb5.4
WMQ AMB AMB
comp=Z,310nm,3.7s
WMQ LR LR
comp=N,8µm,20.2s,MS6.2
WMQ LR LR
comp=E,7µm,24.0s,MS6.2
WMQ LR LR
comp=Z,7µm,24.8s,MS6.0
MWC Mount Wilson 87.22 55 *e*P **P** **04 52 46.3 +0.2**
MWC *e**PP pP 04 53 00.0 -0.1
MOD Modoc 87.65 47 *e*P **P** **04 52 48.3 +0.3**
comp=Z,49nm,1.3s,mb5.6
MOD *e*pP pP 04 53 02.2 +0.2
MTUM Tungsten Hills 87.66 51 *e*P **P** **04 52 48.8 +0.7**
PAHR Pah Rah Range 87.69 49 P **P** **04 52 48.2 0.0**
comp=Z,6.8nm,0.5s,mb5.1
BAR Barrett 87.95 56 *e*P **P** **04 52 49.8 +0.2**
BAR *e*pP pP 04 53 02.7 -0.9
HYB Hyderabad 88.02 288 *e*P **P** **04 52 53.0 +2.8**
HYB Hyderabad 88.02 288 *i*P **P** **04 52 53.0 +2.8**
NVAR Mina Array Bea 88.15 50 P **P** **04 52 51.1 +0.7**
comp=Z,8.7nm,0.7s,mb5.1,baz=225,slow=6.2,SNR=44
MNV Mina 88.26 50 *e*P **P** **04 52 51.1 +0.1**
MNV pmax pmax
comp=Z,46nm,1.4s,mb5.5
MNV Mina 88.26 50 *e*P **P** **04 52 51.1 +0.2**
comp=Z,46nm,1.4s,mb5.5
TPH Tonopah 88.88 51 *e*P **P** **04 52 54.0 +0.1**
TPH pmax pmax
comp=Z,13nm,1.1s,mb5.2
TPH Tonopah 88.88 51 *e*P **P** **04 52 54.0 +0.1**
comp=Z,13nm,1.1s,mb5.2
WVOR Wild Horse Val 88.99 46 *e*P **P** **04 52 54.7 +0.4**
WVOR *e**PP pP 04 53 08.0 -0.4
WVOR pmax pmax
comp=Z,85nm,1.4s,mb5.9
WVOR Wild Horse Val 88.99 46 *e*P **P** **04 52 54.7 +0.4**
comp=Z,85nm,1.4s,mb5.9
WVOR *e*pP pP 04 53 08.0 -0.5
DGAR Diego Garcia 89.09 263 PFAKE 04 53 10.0 +15
DGAR LR LR
comp=Z,913nm,19.0s,MS5.2
BMN Battle Mountai 89.48 49 *e*P **P** **04 52 55.9 -0.8**
BMN *e**PP pP 04 53 10.8 0.0
BMN pmax pmax
comp=Z,51nm,1.5s,mb5.6
BMN Battle Mountai 89.48 49 *e*P **P** **04 52 55.9 -0.8**
comp=Z,51nm,1.5s,mb5.6
BMN *e*pP pP 04 53 10.8 0.0

LDFC	**Landfair**	**89.79**	**54**	*e*P	**P**	**04 52 58.5**	**+0.3**
JOSI	**Joshimath**	**89.96**	**301**	*i*	**P**	**04 52 50.3**	**-8.9**
TRCR	**Troy Canyon**	**90.19**	**51**	*e*P	**P**	**04 52 60.0**	**-0.1**
BHPL	**Bhopal**	**90.27**	**294**	*e*P	**P**	**04 53 04.1**	**+3.4**
BMO	**Blue Mountains**	**90.57**	**44**	*e*P	**P**	**04 53 01.5**	**-0.2**
BMO				*e**PP	pP	04 53 16.0	+0.2
BMO				pmax	pmax		
	comp=Z,29nm,1.3s,mb5.5						
BMO	**Blue Mountains**	**90.57**	**44**	*e*P	**P**	**04 53 01.5**	**-0.2**
	comp=Z,28nm,1.3s,mb5.4						
BMO				*e*pP	pP	04 53 16.0	+0.2
AGRA	**Agra**	**90.63**	**297**	*i* P	**P**	**04 53 00.9**	**-1.5**
AGRA				AMb	AMB	04 53 05.9	
	comp=Z,58nm,0.4s,mb6.3						
ELK	**Elko**	**91.03**	**49**	*e*P	**P**	**04 53 03.9**	**0.0**
ELK				*e**PP	pP	04 53 18.5	+0.4
ELK				pmax	pmax		
	comp=Z,37nm,1.4s						
ELK	**Elko**	**91.03**	**49**	P	**P**	**04 53 03.9**	**-0.1**
	comp=Z,6.2nm,0.8s,mb5.0,baz=248,slow=4.9,SNR=29						
ELK	**Elko**	**91.03**	**49**	*e*P	**P**	**04 53 03.9**	**0.0**
	comp=Z,37nm,1.4s,mb5.5						
ELK				*e*pP	pP	04 53 18.5	+0.4
ASOR	**Ausora**	**91.09**	**299**	*i* P	**P**	**04 53 05.9**	**+1.4**
DDI	**Dehra Dun**	**91.18**	**301**	*e*P	**P**	**04 53 01.5**	**-3.4**
KLP	**Kalpa**	**91.27**	**302**	*i* P	**P**	**04 53 05.3**	**0.0**
NDI	**New Delhi**	**91.56**	**299**	*e*P	**P**	**04 53 05.5**	**-1.2**
NEW	**Newport**	**91.57**	**41**	*e*P	**P**	**04 53 05.5**	**-0.7**
NEW				*e**PP	pP	04 53 19.6	-0.8
NEW				pmax	pmax		
	comp=Z,38nm,1.4s						
NEW	**Newport**	**91.57**	**41**	LR	LR	05 27 41.9	
	comp=Z,3µm,20.9s,MS5.7,baz=292,slow=31						
NEW	**Newport**	**91.57**	**41**	*e*P	**P**	**04 53 05.5**	**-0.7**
	comp=Z,38nm,1.4s,mb5.5						
NEW				*e*pP	pP	04 53 19.6	-0.8
AYAN	**Aya Nagar**	**91.59**	**299**	*i* P	**P**	**04 53 05.8**	**-1.1**
AYAN				AMb	AMB	04 53 10.6	
	comp=Z,5.2nm,0.0s						
MKAR	**Makanchi Array**	**91.69**	**317**	*i* P	**P**	**04 53 06.5**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,68nm,1.2s						
ARUT	**Antelope Range**	**91.71**	**52**	*e*P	**P**	**04 53 06.9**	**-0.3**
KKR	**Kurukshetra**	**92.15**	**300**	*i* P	**P**	**04 53 09.2**	**-0.1**
HLID	**Hailey**	**92.27**	**46**	*e*P	**P**	**04 53 09.9**	**+0.3**
	comp=Z,26nm,1.3s,mb5.4						
HLID				*e*	pP	04 53 24.6	+0.9
KHET	**Khetri**	**92.66**	**298**	*e*P	**P**	**04 53 09.9**	**-1.8**
MVU	**Marysvale**	**92.81**	**51**	*e*P	**P**	**04 53 12.4**	**+0.2**
	comp=Z,22nm,1.3s,mb5.4						
MSU	**Marysvale**	**92.84**	**51**	*e*P	**P**	**04 53 13.5**	**+1.2**
WUAZ	**Wupatki**	**92.87**	**55**	*e*P	**P**	**04 53 12.9**	**+0.4**
WUAZ				*e*	pP	04 53 27.0	+0.3
HVU	**Hansel Valley**	**93.07**	**48**	*e*P	**P**	**04 53 13.4**	**+0.1**
CHMT	**Chamberlain Mo**	**93.80**	**43**	*e*P	**P**	**04 53 15.5**	**-1.0**
WALA	**Waterton Lakes**	**93.82**	**41**	*e*P	**P**	**04 53 15.1**	**-1.4**
	comp=Z,33nm,1.4s,mb5.6						
TCUT	**Toone Canyon**	**93.94**	**49**	*e*P	**P**	**04 53 18.4**	**+1.2**
QLMT	**Earthquake Lak**	**94.63**	**45**	*e*P	**P**	**04 53 21.4**	**+1.1**
HRY	**Holter Researc**	**94.72**	**43**	*e*P	**P**	**04 53 20.9**	**+0.2**
KURK	**Kurchatov**	**94.93**	**321**	P	**P**	**04 53 21.3**	**-0.2**
	comp=Z,74nm,1.4s,mb5.9,SNR=9.3						
KURK	**Kurchatov**	**94.93**	**321**	*i* P	**P**	**04 53 21.1**	**-0.4**
KURK				pmax	pmax		
	comp=Z,18nm,1.6s,mb5.2						
KURK	**Kurchatov**	**94.93**	**321**	*e*P	**P**	**04 53 20.1**	**-1.4**
	comp=Z,36nm,1.5s,mb5.6						
EDM	**Edmonton**	**95.04**	**37**	P	**P**	**04 53 19.6**	**-2.4**
PV10	**Paradox Valley**	**95.23**	**52**	*e*P	**P**	**04 53 23.1**	**-0.2**
LKWY	**Lake**	**95.31**	**46**	P	**P**	**04 53 24.6**	**+1.2**
LKWY				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.3						
LKWY	**Lake**	**95.31**	**46**	P	**P**	**04 53 24.6**	**+1.2**
	comp=Z,24nm,1.8s,mb5.3						
PDAR	**Pinedale Array**	**95.60**	**48**	P	**P**	**04 53 25.0**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=198,slow=4.7,SNR=7.9						
FRU	**Bishkek**	**96.23**	**312**	*e*P	**P**	**04 53 30.0**	**+2.4**
YKA	**Yellowknife Ar**	**96.27**	**28**	P	**P**	**04 53 26.5**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.6,baz=261,slow=5.0,SNR=3.8						
YKW3	**Yellowknife Ar**	**96.28**	**28**	*e*P	**P**	**04 53 26.1**	**-1.3**
YKW3				*e*pP	pP	04 53 41.1	-0.4
AAK	**Ala-Archa**	**96.29**	**312**	*i* P	**P**	**04 53 29.2**	**+1.3**
ANMO	**Albuquerque**	**96.73**	**56**	*i* P	**P**	**04 53 28.2**	**-1.9**
ANMO	**Albuquerque**	**96.73**	**56**	P	**P**	**04 53 30.6**	**+0.5**
	comp=Z,3.0nm,1.0s,mb4.7						
ANMO				*e*pP	pP	04 53 43.5	-0.7
JASL	**Jaisalmer**	**96.75**	**296**	*i* P	**P**	**04 53 30.4**	**0.0**
SNAA	**Sanae**	**96.88**	**184⇑**	*i*P	**P**	**04 53 31.5**	**+1.5**
VNA3	**Neumayer Olymp**	**97.71**	**182⇑**	*i*P	**P**	**04 53 40.5**	**+6.8**
VNA3				*e*	pP	04 53 56.3	+8.4
VNA3				*e*		04 54 04.5	
VNA2	**Neumayer--Watz**	**97.92**	**183⇑**	*i*P	**P**	**04 53 36.4**	**+1.8**
VNA2				*e*	pP	04 53 49.1	+0.3
VNA2				*e*		04 53 57.5	
TXAR	**Lajitas Array**	**98.25**	**62**	P	**P**	**04 53 37.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=225,slow=5.3,SNR=7.8						
CHKZ	**Chkalovo**	**100.22**	**323**	*i* P	P	04 53 44.4	-1.1
CHKZ				pmax	pmax		
	comp=Z,13nm,1.6s						
CHKZ	**Chkalovo**	**100.22**	**323**	*e*P	P	04 53 45.8	+0.3
	comp=Z,17nm,1.5s						
BVA0	**Borovoye Array**	**100.30**	**322**	P	P	04 53 45.3	-0.6
BVA0				pmax	pmax		
	comp=Z,7.0nm,1.9s						
HKT	**Hockley**	**105.10**	**62**	*e*PKiKP		04 58 24.5	
CCM	**Cathedral Cave**	**109.16**	**54**	PKKPdf		05 10 59.9	
KIV	**Kislovodsk**	**119.31**	**314**	*e*PKIKP	PKPdf	04 58 48.9	+1.4
KIV				*e*		05 00 13.5	
KIV				*e*		05 05 57.3	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s						
OBN	**Obninsk**	**119.40**	**328**	*e*PKIKP	PKPdf	04 58 43.1	-4.3
OBN				*e*		05 00 09.0	
OBN				*e*		05 05 55.2	
OBN				*e*SS	SS	05 16 33.1	+3.7
OBN				pmax	pmax		
	comp=Z,4.0nm,1.1s						
JMIC	**Jan Mayen**	**119.91**	**357**	LR	LR	05 12 43.7	
	comp=Z,427nm,21.1s,MS5.1,baz=199,slow=33						
FINES	**FINESS Array B**	**120.78**	**338**	PKP	PKPdf	04 58 53.9	+3.9
	comp=Z,0.9nm,0.6s,SNR=5.0						
SOC	**Sochi**	**121.48**	**315**	*i* PKIKP	PKPdf	04 58 50.9	-0.9
SOC				*e*		05 00 27.4	
SOC				*e*PPP	PPP	05 02 57.3	-6.6
SOC				*e*PS	PS	05 10 17.7	+0.3
SOC				*e*SS	SS	05 17 04.7	+8.0
SOC				*e*SSS	SSS	05 21 24.0	-3.9
SOC				pmax	pmax		
	comp=Z,25nm,1.1s						
SOC				pmax	pmax		
	comp=N,26nm,0.9s						
SOC				pmax	pmax		
	comp=E,22nm,1.1s						
LPAZ	**La Paz**	**122.61**	**117**	PKP	PKPdf	04 58 57.3	+2.7
	comp=E,1.5nm,0.6s,baz=268,slow=4.6,SNR=6.9						
LPAZ	**La Paz**	**122.61**	**117**	PKPdf	PKPdf	04 58 56.1	+1.6
LPAZ				*e*pPKPdf		04 59 10.2	
NOA	**NORSAR Array B**	**125.99**	**343**	PKP	PKPdf	04 59 02.9	+3.0
	comp=E,1.0nm,0.9s,baz=54,slow=2.7,SNR=3.4						
SDV	**Santo Domingo**	**127.23**	**87**	*e*PKPdf	PKPdf	04 59 04.4	+0.8
OKC	**Ostrava-Krasne**	**131.68**	**330**	*e*PP	PP	05 01 26.6	-9.1
KSP	**Ksiaz**	**131.89**	**332**	*e*PKIKP	PKPdf	04 59 19.2	+7.6
KSP				*e*		05 01 37.9	
SJG	**San Juan**	**132.08**	**76**	*e*PKPdf	PKPdf	04 59 13.2	+0.4
DPC	**Dobruska-Polom**	**132.21**	**332**	*e*PP	PP	05 01 40.3	+1.4
PVCC	**Panska Ves**	**132.89**	**333**	*e*PP	PP	05 01 41.6	-1.3
CLL	**Collm**	**133.01**	**335**	PKP	PKPdf	04 59 30.0	+16
CLL				*e*PP	PP	05 01 42.0	-1.6
CLL				*e*PKS	PKS	05 02 56.0	+7.0
CLL	**Collm**	**133.01**	**335**	*e*	PKPdf	04 59 30.0	+16
CLL				*e*PP	PP	05 01 42.0	-1.6
CLL				*e*PKS	PKS	05 02 56.0	+7.0
CLL				*e*PPS	PPS	05 13 36.0	-3.0
CLL				*e*SS	SS	05 19 29.0	+8.9
PRU	**Pruhonice**	**133.29**	**332**	*e*PP	PP	05 01 53.3	+7.7
NKC	**Novy Kostel**	**134.04**	**334**	*e*PP	PP	05 01 51.6	+0.8
KHC	**Kasperske Hory**	**134.34**	**332**	*e*PKP	PKPdf	04 59 18.1	+1.9
KHC				*e*PP	PP	05 02 00.0	+7.4
GERES	**GERESS Array B**	**134.49**	**332**	PKP	PKPdf	04 59 17.5	+1.0
	comp=E,0.7nm,0.8s,baz=108,slow=4.2,SNR=4.3						
CDF	**Champ du Feu**	**137.60**	**336**	*e*PKIKP	PKPdf	04 59 23.2	+1.0
DAVOX	**Davos**	**137.75**	**332**	PKP	PKPdf	04 59 25.3	+2.8
	comp=E,1.3nm,0.8s,baz=110,slow=17,SNR=3.9						
BDFB	**Brasilia**	**139.44**	**130**	PKhKP		04 59 23.1	
	comp=E,3.3nm,0.9s,baz=190,slow=7.2,SNR=3.4						
SSF	**Saint Saulge**	**140.16**	**338**	*e*PKIKP	PKPdf	04 59 28.1	+1.2
	comp=E,91nm,1.7s						
AVF	**Avril sur Loir**	**140.44**	**338**	*e*PKIKP	PKPdf	04 59 28.6	+1.2
ROSF	**Rostrenen**	**141.12**	**345**	*e*PKIKP	PKPdf	04 59 27.7	-0.9
TCF	**Toulx Ste Croi**	**141.28**	**339**	*e*PKIKP	PKPdf	04 59 30.0	+1.1
	comp=E,70nm,1.7s						
VIVF	**Saint-Julien-l**	**141.53**	**335**	*e*PKIKP	PKPdf	04 59 30.9	+1.5
MFF	**Saint Martin d**	**141.81**	**341**	*e*PKIKP	PKPdf	04 59 32.0	+2.2
	comp=E,139nm,1.7s						
LASF	**Ste Croix**	**142.50**	**335**	*e*PKIKP	PKPdf	04 59 32.5	+1.4
	comp=E,83nm,1.5s						
MTLF	**Montolieu**	**143.78**	**336**	*e*PKIKP	PKPdf	04 59 33.9	+0.7
	comp=E,172nm,1.7s						
MLS	**Moulis**	**144.54**	**337**	*e*P	PKPbc	04 59 34.2	-0.2
RESF	**Ens**	**144.96**	**337**	*e*P	PKPdf	04 59 37.8	+2.4
VIEF	**Viey**	**145.01**	**338**	*e*P	PKPdf	04 59 37.9	+2.4
ETSF	**Etsaut**	**145.21**	**339**	*e*PKIKP	PKPdf	04 59 36.8	+1.0
	comp=E,96nm,0.9s						
ESDC	**Sonseca Array**	**149.25**	**340**	PKPbc	PKPdf	04 59 51.1	+8.5
	comp=E,4.4nm,0.9s,baz=28,slow=1.8,SNR=8.4						
MTE	**Manteigas**	**149.62**	**346**	*e*PKPbc	PKPdf	04 59 50.9	+7.8
EVO	**Evora**	**151.50**	**345**	*e*PKP1	PKPdf	04 59 57.0	+11
	comp=E,158nm,1.6s						

MOS ***06*** *05:01:12.7±1.0, 84.85N×99.11E, h10km, mb5.5/96, MS4.6/7, Error ellipse: s-maj=35.1km s-min=5.0km az=88.9*

IDC ***06*** *05:01:13.3±0.5, 84.92N×98.88E, mb4.7/27, mb1 4.8/28, mb1mx4.8/29, mbtmp4.7/28, ML3.9/1, MS4.3/3, Ms1 4.3/3, ms1mx3.9/27, Error ellipse: s-maj=17.0km s-min=9.6km az=140.0*

BJI ***06*** *05:01:13.0, 85.35N×99.26E, h40km, mB5.8, mb5.1, Ms5.6, Msz5.4*

NEIC ***06*** *05:01:14.8±0.1, 84.91N×98.84E, h10km, mb5.3/110, MS4.4/4, Error ellipse: s-maj=3.7km s-min=2.1km az=151.0*

HRVD ***06*** *05:01:14.8±0.6, 84.95N×99.81E, h12km, MW5.3/38, Centroid moment Tensor Solution. LP body waves: s12,c12;Mantle waves: s38,c56; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74±.06; $M_{\theta\theta}$0.67±.06; $M_{\phi\phi}$0.07±.07; $M_{r\theta}$-0.03±.24; $M_{\theta\phi}$-0.28±.05; $M_{\phi r}$-0.75±.27; Best double couple: $M_0$1.024×10^{17} NP1: ϕ_s91°, δ40°, λ-137°. NP2:ϕ_s325°, δ64°, λ-58°. Principal axes: T .84, Plg13°, Azm33°; N .367, Plg28°, Azm130°; P -1.207, Plg58°, Azm280°; nsta1 refers to body waves, nsta2 refers to surface waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 05:01:13.5±1.3**, 84.90N**±0.02×**99.1E**±0.2**, h14**km±8km**, h21**km±1.6km**:pP-P, n425,** σ**1s03**/445**, mb5.2**/162**, MS5.0**/18**, 31C-23D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**14.23**	**140**	*e*P	**P**	**05 04 35.0**	**-1.2**
TIXI				*e*S	**S**	**05 07 14.5**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,75nm,1.6s						
TIXI				MLR	MLR		
	comp=Z,401nm,9.0s						
TIXI	**Tiksi**	**14.23**	**140**	*i* P	**P**	**05 04 36.3**	**+0.1**
DAG	**Danmarks Havn**	**16.34**	**314⇓**	*i*P	**P**	**05 05 01.3**	**-2.3**
DAG				pmax	pmax		
	comp=Z,20nm,1.0s						
DAG	**Danmarks Havn**	**16.34**	**314⇓**	*i*P	**P**	**05 05 01.3**	**-2.3**
	comp=Z,20nm,1.0s						
ARCES	**ARCESS Array B**	**19.74**	**267**	P	**P**	**05 05 43.0**	**-2.2**
	comp=Z,0.5nm,0.3s,baz=18,slow=7.7,SNR=14						
ARCES				LR	LR	05 13 53.3	
	comp=Z,1µm,18.6s,baz=353,slow=38						
ARCES	**ARCESS Array B**	**19.74**	**267**	P	**P**	**05 05 43.0**	**-2.2**
ARCES				LR	LR	05 13 53.3	
ARE0	**ARCESS Array S**	**19.74**	**267**	*e*P	**P**	**05 05 42.8**	**-2.4**
TRO	**Tromso**	**20.23**	**274**	*e*P	**P**	**05 05 50.3**	**-0.2**
	comp=Z,122nm,1.5s						
TRO	**Tromso**	**20.23**	**274**	*e*P	**P**	**05 05 50.3**	**-0.2**
TRO				AMb	AMB	05 05 55.6	
	comp=Z,122nm,1.5s						
RES	**Resolute Bay**	**20.43**	**11⇑**	*e*P	**P**	**05 05 50.7**	**-1.8**
RES				pmax	pmax		
	comp=Z,116nm,1.8s						
RES	**Resolute Bay**	**20.43**	**11⇑**	*e*P	**P**	**05 05 50.7**	**-1.8**
	comp=Z,116nm,1.8s						
KTK1	**Kautokeino**	**20.45**	**269**	*e*P	**P**	**05 05 51.0**	**-1.7**
	comp=Z,162nm,1.6s						
KTK1	**Kautokeino**	**20.45**	**269**	*e*P	**P**	**05 05 51.0**	**-1.7**
KTK1				AMb	AMB	05 06 05.2	
	comp=Z,162nm,1.6s						
LVZ	**Lovozero**	**20.52**	**257**	*i* P	**P**	**05 05 51.4**	**-2.1**
APA	**Apatity**	**20.96**	**258⇑**	*i*P	**P**	**05 06 06.0**	**+8.0**
APA				*i* S	**S**	**05 10 04.0**	**+18**
APA				pmax	pmax		
	comp=Z,200nm,1.9s						
APA				MLR	MLR		
	comp=Z,1µm,14.0s,MS4.5						
SUMG	**Summit**	**21.59**	**326**	*e*P	**P**	**05 06 05.2**	**+0.7**
	comp=Z,1µm,2.0s,mb5.9						
YAK	**Yakutsk**	**23.84**	**144*d***	*i*P	**P**	**05 06 26.8**	**+0.5**
YAK				*e*		05 07 14.8	
YAK				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,48nm,1.3s						
YAK				pmax	pmax		
	comp=E,14nm,1.3s						
YAK	**Yakutsk**	**23.84**	**144**	*i* Pr		05 06 27.3	
SEY	**Seymchan**	**24.48**	**118**	*e*P	**P**	**05 06 31.2**	**-1.3**
SEY				pmax	pmax		
	comp=Z,200nm,1.9s,mb5.2						
SEY				pmax	pmax		
	comp=N,70nm,1.3s						
INK	**Inuvik**	**25.26**	**44**	*e*P	**P**	**05 06 40.2**	**+0.2**
INK				pmax	pmax		
	comp=Z,113nm,1.1s						
INK	**Inuvik**	**25.26**	**44**	P	**P**	**05 06 40.3**	**+0.3**
	comp=Z,21nm,0.9s,mb4.7,baz=6.3,slow=14,SNR=35						
INK	**Inuvik**	**25.26**	**44**	*e*P	**P**	**05 06 40.2**	**+0.2**
	comp=Z,114nm,1.1s,mb5.3						
JOF	**Joensuu**	**25.71**	**258**	*e*p	**P**	**05 06 42.0**	**-2.2**
	comp=Z,29nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**26.03**	**63**	*e*P	**P**	**05 06 49.6**	**+2.4**
KAF	**Kangasniemi**	**26.94**	**262**	*e*p	**P**	**05 06 52.3**	**-3.3**
	comp=Z,12nm,1.0s,mb4.4						
KAF	**Kangasniemi**	**26.94**	**262**	*e*P	**P**	**05 06 52.3**	**-3.3**
KAF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.4						
SOKR	**Solikamsk**	**27.00**	**229⇑**	*i*P	**P**	**05 06 59.4**	**+3.2**
SOKR						05 08 01.5	
SOKR				MLR	MLR		
	comp=Z,2µm,18.0s,MS4.7						
BOD	**Bodaibo**	**27.42**	**163**	*e*P	**P**	**05 06 56.9**	**-3.1**
BOD				pmax	pmax		
	comp=Z,39nm,1.7s,mb4.7						
FINES	**FINESS Array B**	**27.62**	**262**	P	**P**	**05 07 01.1**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.5,baz=37,slow=9.5,SNR=20						
FINES				LR	LR	05 17 38.4	
	comp=Z,633nm,21.1s,MS4.2,baz=195,slow=36						
COLA	**College**	**27.66**	**58*c***	*i*P	**P**	**05 07 04.3**	**+2.1**
COLA	**College**	**27.66**	**58**	*e*P	**P**	**05 07 04.0**	**+1.8**
MA2	**Magadan**	**27.68**	**121*d***	*i*P	**P**	**05 07 03.1**	**+0.8**
MA2				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.1						
MA2	**Magadan**	**27.68**	**121⇓**	*e*P	**P**	**05 07 03.0**	**+0.7**
	comp=Z,88nm,1.5s,mb5.2						
ILAR	**Eielson Array**	**27.84**	**57**	P	**P**	**05 07 05.0**	**+1.3**
	comp=Z,7.7nm,0.9s,mb4.3,baz=350,slow=8.2,SNR=55						
ILAR				PcP	PcP	05 10 18.5	-1.6
	comp=Z,2.1nm,0.9s,baz=324,slow=3.5,SNR=8.5						
CLNS	**Chul'man**	**28.79**	**150**	*e*P	**P**	**05 07 12.7**	**+0.3**
CLNS				*e*PPP	PPP	05 08 05.7	-13
CLNS				*e*		05 10 16.1	
CLNS				*e*S	**S**	**05 12 00.6**	**+0.3**
CLNS				pmax	pmax		
	comp=N,37nm,1.3s						
CLNS				pmax	pmax		
	comp=Z,53nm,1.3s,mb5.1						
CLNS				pmax	pmax		
	comp=E,11nm,0.9s						
CLNS				smax			
	comp=E,181nm,11.1s						
CLNS				smax			
	comp=Z,330nm,13.3s						
CLNS				smax			
	comp=N,647nm,13.0s						
CLNS				MLR	MLR		
	comp=Z,4µm,22.0s,MS5.0						
CLNS				MLR	MLR		
	comp=N,3µm,16.0s						
CLNS				MLR	MLR		
	comp=E,600nm,15.0s						
PUL	**Pulkovo**	**28.90**	**257**	*i* P	**P**	**05 07 13.7**	**+0.3**
DAWY	**Dawson**	**29.08**	**50**	*e*P	**P**	**05 07 14.9**	**-0.1**
DAWY				*e*		05 07 22.2	
NB2	**NORSAR Subarra**	**29.35**	**277**	P	**P**	**05 07 15.9**	**-1.5**
	comp=E,79nm,1.7s,mb5.2,baz=11,slow=8.6						
NB2	**NORSAR Subarra**	**29.35**	**277**	P	**P**	**05 07 15.9**	**-1.5**
NB2				pmax	pmax		
	comp=Z,79nm,1.7s,mb5.2						
NB2	**NORSAR Subarra**	**29.35**	**277**	P	**P**	**05 07 15.9**	**-1.5**
	baz=10,slow=9.3						
NOA	**NORSAR Array B**	**29.35**	**277**	P	**P**	**05 07 16.9**	**-0.5**
	comp=Z,12nm,1.2s,mb4.5,baz=15,slow=8.7,SNR=4.5						
SVE	**Sverdlovsk**	**29.48**	**224⇑**	*e*P	**P**	**05 07 18.7**	**0.0**
SVE				*e*		05 08 21.0	
SVE				*e*S		05 14 00.0	
SVE				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.1						
MENT	**Mentasta**	**29.89**	**55**	*e*P	**P**	**05 07 23.1**	**+0.9**
HFS	**Hagfors**	**30.02**	**274**	P	**P**	**05 07 22.4**	**-1.1**
	comp=Z,3.5nm,0.8s,mb4.2,baz=7.1,slow=12,SNR=5.8						
VSU	**Vasula**	**30.51**	**261**	*i* P	**P**	**05 07 26.1**	**-1.6**
VSU	**Vasula**	**30.51**	**261**	*i* P	**P**	**05 07 26.2**	**-1.5**
PWA	**Palmer West**	**30.70**	**61**	*e*P	**P**	**05 07 30.1**	**+0.7**
PMR	**Palmer**	**30.81**	**60**	*e*P	**P**	**05 07 30.4**	**0.0**
PECR	**Pechory**	**31.17**	**242**	*e*P	**P**	**05 07 33.0**	**-0.6**
PECR				pmax	pmax		
	comp=Z,70nm,1.2s,mb5.4						
PECR				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.9						
FRB	**Frobisher Bay**	**31.44**	**349**	P	**P**	**05 07 34.7**	**-1.2**
	comp=Z,11nm,1.2s,mb4.6,baz=0.3,slow=10.0,SNR=3.3						
YKW3	**Yellowknife Ar**	**31.99**	**29**	*e*P	**P**	**05 07 39.4**	**-1.3**
YKW3				*e*		05 07 46.7	
YKA	**Yellowknife Ar**	**32.05**	**29**	P	**P**	**05 07 40.2**	**-1.0**
	comp=Z,3.8nm,1.0s,mb4.2,baz=352,slow=8.3,SNR=24						
YKA				PcP	PcP	05 10 29.3	-1.6
	comp=Z,1.4nm,0.8s,baz=335,slow=3.1,SNR=9.6						
CHKZ	**Chkalovo**	**32.08**	**212**	*i* P	**P**	**05 07 40.3**	**-1.3**
CHKZ				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.3						
CHKZ	**Chkalovo**	**32.08**	**212**	*e*P	**P**	**05 07 40.9**	**-0.7**
	comp=Z,29nm,0.6s,mb5.3						
MOS	**Moscow**	**32.27**	**249**	*e*P	**P**	**05 07 41.6**	**-1.6**
MOS				*e*		05 08 48.6	
MOS				pmax	pmax		
	comp=Z,200nm,1.8s,mb5.7						
MOS				pmax	pmax		
	comp=Z,105nm,1.6s,mb5.4						
BVA0	**Borovoye Array**	**32.74**	**212**	P	**P**	**05 07 46.6**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
BVAR	**Borovoye Array**	**32.74**	**212**	P	**P**	**05 07 46.8**	**-0.5**
	comp=Z,16nm,1.0s,mb4.9,slow=4.4,SNR=49						
IRK	**Irkutsk**	**32.83**	**174**	*e*P	**P**	**05 07 46.7**	**-1.5**
IRK				*e*		05 09 00.5	
IRK				pmax	pmax		
	comp=Z,177nm,1.4s,mb5.8						
OBN	**Obninsk**	**32.98**	**249**	P	**P**	**05 07 48.4**	**-1.0**
	comp=Z,254nm,1.1s,mb6.1,SNR=10						
OBN	**Obninsk**	**32.98**	**249*c***	*i*P	**P**	**05 07 48.8**	**-0.6**
OBN				*e*		05 10 31.8	
OBN				pmax	pmax		
	comp=Z,119nm,1.6s,mb5.6						
OBN				MLR	MLR		
	comp=Z,900nm,23.0s,MS4.4						
OBN	**Obninsk**	**32.98**	**249**	*e*P	**P**	**05 07 48.6**	**-0.8**
	comp=Z,163nm,1.6s,mb5.7						
OBN				LR	LR		
	comp=Z,251nm,20.0s						
MOY	**Mondy**	**33.39**	**178**	*e*P	**P**	**05 07 53.8**	**+0.8**
MOY				pmax	pmax		
	comp=Z,160nm,1.7s,mb5.7						
TLY	**Talaya**	**33.39**	**175**	P	**P**	**05 07 52.8**	**-0.2**
	comp=Z,108nm,1.6s,mb5.5,SNR=18						
TLY	**Talaya**	**33.39**	**175*c***	*i*P	**P**	**05 07 51.8**	**-1.2**
TLY				pmax	pmax		
	comp=Z,68nm,2.2s,mb5.2						
TLY	**Talaya**	**33.39**	**175**	*e*P	**P**	**05 07 51.7**	**-1.4**
	comp=Z,68nm,1.6s,mb5.3						
TLY				LR	LR		
	comp=Z,1µm,21.0s,MS4.6						
MUD	**Monsted U'grnd**	**34.06**	**278**	*i* P	**P**	**05 07 58.6**	**-0.2**
MUD				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
MUD	**Monsted U'grnd**	**34.06**	**278**	*i* P	**P**	**05 07 58.6**	**-0.2**
	comp=Z,28nm,1.2s,mb5.1						
MUD				*i*		05 19 05.3	
MNK	**Minsk**	**34.33**	**258**	*e*P	**P**	**05 07 58.0**	**-3.2**
ZAK	**Zakamensk**	**34.69**	**175**	*e*P	**P**	**05 08 04.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.6						
KURK	**Kurchatov**	**34.70**	**203**	P	**P**	**05 08 03.3**	**-1.1**
	comp=Z,96nm,0.9s,mb5.7,SNR=12						
KURK	**Kurchatov**	**34.70**	**203*d***	*i*P	**P**	**05 08 03.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,21nm,1.8s,mb4.8						
KURK	**Kurchatov**	**34.70**	**203**	*e*P	**P**	**05 08 03.1**	**-1.3**
	comp=Z,55nm,1.5s,mb5.3						
KURK				LR	LR		
	comp=Z,440nm,22.0s,MS4.2						
PET	**Petropavlovsk**	**34.80**	**114**	*e*P	**P**	**05 08 09.0**	**+3.8**
PET				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
SUW	**Suwalki**	**35.23**	**263**	*e*P	**P**	**05 08 07.1**	**-1.7**
DLBC	**Dease Lake**	**35.29**	**44**	P	**P**	**05 08 10.8**	**+1.5**
	comp=Z,12nm,1.0s,mb4.8,baz=356,slow=7.7,SNR=16						
VOR	**Voronezh**	**36.11**	**246**	*e*P	**P**	**05 08 15.0**	**-1.4**
VOR				*e**PP	pP	05 08 22.0	+1.6
VOR				pmax	pmax		
	comp=Z,150nm,1.6s,mb5.7						
VOR				pmax	pmax		
	comp=N,160nm,1.5s						
BSEG	**Bad Segeberg**	**36.45**	**276**	*e*P	**P**	**05 08 18.9**	**-0.3**
GKP	**Gorka Klasztor**	**36.49**	**269**	*e*P	**P**	**05 08 19.1**	**-0.4**
KLR	**Kul'dur**	**36.72**	**144**	*e*P	**P**	**05 08 17.5**	**-4.0**
KLR				*e*		05 09 41.8	
WAR	**Warsaw**	**37.17**	**265**	*e*P	**P**	**05 08 19.3**	**-5.9**
ULN	**Ulaanbaatar**	**37.25**	**171**	*e*P	**P**	**05 08 26.7**	**+0.8**
ULN				*e*		05 08 33.0	
ULN				pmax	pmax		
	comp=Z,88nm,1.5s,mb5.4						
ULN	**Ulaanbaatar**	**37.25**	**171**	*e*P	**P**	**05 08 26.7**	**+0.7**
	comp=Z,88nm,1.5s,mb5.4						
ULN				*e*		05 08 33.0	
SONM	**Songino Array**	**37.27**	**172**	P	**P**	**05 08 27.2**	**+1.1**
	comp=Z,34nm,1.0s,mb5.1,baz=347,slow=7.4,SNR=82						
MKAR	**Makanchi Array**	**38.51**	**199**	*i* P	**P**	**05 08 35.3**	**-1.2**
CLZ	**Clausthal**	**38.52**	**275**	*e*P	**P**	**05 08 37.1**	**+0.5**
	comp=Z,67nm,1.4s,mb5.2						
WTSB	**Winterswijk**	**38.72**	**279**	*e*P	**P**	**05 08 39.2**	**+1.0**
	comp=Z,69nm,2.3s,mb5.0						
CLL	**Collm**	**38.82**	**272⇓**	*i*P	**P**	**05 08 38.5**	**-0.6**
CLL				*i*		05 08 45.6	
CLL				*e*S	**S**	**05 14 30.0**	**-5.9**
CLL				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.0						
CLL	**Collm**	**38.82**	**272⇓**	*i*P	**P**	**05 08 38.5**	**-0.6**
	comp=Z,41nm,1.4s,mb5.0						
CLL				*i*		05 08 45.6	
CLL				*e*S	**S**	**05 14 30.0**	**-5.9**
CLL	**Collm**	**38.82**	**272**	⇓P	**P**	**05 08 38.5**	**-0.6**
	comp=Z,logA/T=1.5,mb5.0						
CLL				*i*		05 08 45.6	
CLL				*e*		05 09 30.0	
CLL				*e*PP	PP	05 10 03.0	-8.9
CLL				*e*S	**S**	**05 14 30.0**	**-5.9**
KSP	**Ksiaz**	**38.98**	**269⇓**	*e*P	**P**	**05 08 40.2**	**-0.3**
KSP				*e*pP	pP	05 08 46.7	+2.2
KSP				*e*SS	tx	05 18 32.6	
KSP	**Ksiaz**	**38.98**	**269**	*e*P	**P**	**05 08 40.3**	**-0.2**
BRG	**Berggiesshubel**	**39.16**	**271**	*e*P	**P**	**05 08 42.0**	**0.0**
BRG				*i*		05 08 48.9	
BRG				pmax	pmax		
	comp=Z,78nm,1.8s,mb5.1						
BRG	**Berggiesshubel**	**39.16**	**271**	*e*P	**P**	**05 08 42.0**	**0.0**
	comp=Z,78nm,1.8s,mb5.1						

BRG *i* 05 08 48.9
OJC Ojcow 39.29 265 *e*P **P** **05 08 43.0 0.0**
LVV L'vov 39.31 261 *e*P **P** **05 08 43.2 0.0**
LVV *e* 05 10 15.2
UPC Upice 39.34 269⇓ *e*P **P** **05 08 42.2 -1.3**
DPC Dobruska-Polom 39.47 269 *e*P **P** **05 08 44.8 +0.3**
RAC Raciborz 39.57 267 *e*P **P** **05 08 45.5 +0.2**
RAC MLR MLR
comp=Z,1µm,20.0s,MS4.7
MOX Moxa 39.60 274 *e*P **P** **05 08 45.9 +0.3**
MOX pmax pmax
comp=Z,132nm,1.7s,mb5.4
MOX Moxa 39.60 274 *e*P **P** **05 08 45.9 +0.3**
comp=Z,132nm,1.7s,mb5.4
MOX Moxa 39.60 274 *i* P **P** **05 08 45.9 +0.3**
comp=Z,logA/T=1.9,mb5.4
KWP Kalwaria 39.61 262 *e*P **P** **05 08 46.2 +0.5**
KWP MLR MLR 05 25 29.9
comp=Z,1µm,20.0s,MS4.7
YSS Yuzh-Sakhalins 39.65 132⇑ *e*P **P** **05 08 47.0 +0.9**
YSS pmax pmax
comp=Z,100nm,1.6s,mb5.3
YSS Yuzh-Sakhalins 39.65 132 *i* P **P** **05 08 46.9 +0.8**
OKC Ostrava-Krasne 39.81 267⇓ *i*P **P** **05 08 47.3 -0.1**
MORC Moravsky Berou 39.93 268 *e*P **P** **05 08 48.5 +0.2**
MORC pmax pmax
comp=Z,66nm,1.4s,mb5.2
MORC Moravsky Berou 39.93 268 *e*P **P** **05 08 48.5 +0.1**
comp=Z,66nm,1.4s,mb5.2
NKC Novy Kostel 39.93 273⇓ *e*P **P** **05 08 48.7 +0.3**
HGN Heimansgroeve 39.98 279 *e*P **P** **05 08 48.8 +0.1**
comp=Z,49nm,1.7s,mb5.0
PRU Pruhonice 39.99 271⇓ *e*P **P** **05 08 49.0 +0.2**
NIE Niedzica 40.04 265 *e*P **P** **05 08 48.3 -0.9**
TNS Taunus Mts 40.30 277 *e*P **P** **05 08 51.2 -0.2**
TNS pmax pmax
comp=Z,111nm,2.2s,mb5.2
TNS Taunus Mts 40.30 277 *e*P **P** **05 08 51.2 -0.2**
comp=Z,111nm,2.2s,mb5.2
KOLS Kolonicke sedl 40.34 263 *e*P **P** **05 08 52.1 +0.4**
KOLS *e* 05 08 58.4
SCHQ Schefferville 40.35 347 P **P** **05 08 52.0 +0.2**
comp=Z,24nm,1.4s,mb4.7,baz=19,slow=6.5,SNR=7.3
SCHQ Schefferville 40.35 347 *e*P **P** **05 08 50.9 -0.8**
comp=Z,118nm,1.8s,mb5.3
CRVS Cervenica-Dubn 40.45 263 *e*P **P** **05 08 54.4 +1.8**
VRAC Vranov 40.48 268 P **P** **05 08 53.2 +0.4**
VRAC pmax pmax
comp=Z,21nm,1.1s
VRAC Vranov 40.48 268 P **P** **05 08 53.2 +0.4**
comp=Z,21nm,1.1s,mb4.8,baz=23,slow=8.9,SNR=15
VRAC Vranov 40.48 268 P **P** **05 08 53.7 +0.8**
GRA1 Grafenberg Arr 40.58 274 *e*P **P** **05 08 54.3 +0.6**
comp=Z,89nm,1.3s,mb5.2
GRF Grafenberg Arr 40.58 274 *e*P **P** **05 08 54.3 +0.6**
GRF pmax pmax
comp=Z,89nm,1.3s,mb5.2
GRF Grafenberg Arr 40.58 274 *e*P **P** **05 08 54.3 +0.6**
GRF pmax pmax
comp=Z,89nm,1.3s,mb5.2
GRF Grafenberg Arr 40.58 274 *e*P **P** **05 08 54.3 +0.6**
comp=Z,89nm,1.3s,mb5.2
ABH Alteburg 40.72 278 *e*P **P** **05 08 55.4 +0.6**
GIVF Givet 40.74 280 *e*P **P** **05 08 54.6 -0.4**
comp=Z,92nm,1.4s,mb4.9
GIVF Givet 40.74 280 *e*P **P** **05 08 54.6 -0.4**
GIVF pmax pmax
comp=Z,46nm,1.4s,mb4.9
BAIF Baives 40.84 281 *e*P **P** **05 08 55.7 -0.1**
comp=Z,131nm,1.5s,mb5.0
BAIF Baives 40.84 281 *e*P **P** **05 08 55.7 -0.1**
BAIF pmax pmax
comp=Z,66nm,1.5s,mb5.0
TOD Tromm 40.88 276 *e*P **P** **05 08 56.4 +0.3**
KHC Kasperske Hory 40.92 271⇓ *i*P **P** **05 08 57.0 +0.5**
KHC *ex* x 05 09 03.5
RUP Ruppelstein 40.94 278 *e*P **P** **05 08 55.0 -1.6**
WET Wettzell 40.97 272 *e*P **P** **05 08 57.4 +0.5**
WET pmax pmax
comp=Z,110nm,2.1s,mb5.1
WET Wettzell 40.97 272 *e*P **P** **05 08 57.4 +0.5**
comp=Z,110nm,2.1s,mb5.1
VYHS Vyhne 41.09 266 *i* P **P** **05 08 57.9 +0.1**
VYHS *e* 05 09 04.5
GEC2 GERESS Array S 41.20 271 *e*P **P** **05 08 58.9 +0.2**
GEC2 pmax pmax
comp=Z,44nm,1.3s,mb4.9
GEC2 GERESS Array S 41.20 271 *e*P **P** **05 08 58.9 +0.2**
comp=Z,44nm,1.3s,mb4.9
GERES GERESS Array B 41.20 271 P **P** **05 08 59.2 +0.5**
comp=Z,7.2nm,0.9s,mb4.3,baz=11,slow=6.8,SNR=32
MDJ Mudanjiang 41.22 147 P **P** **05 08 58.5 -0.5**
MDJ S **S** **05 15 11.7 -0.2**
MDJ AMB AMB
comp=Z,40nm,1.2s,mb4.9
WMQ Urumqi 41.35 193⇓ *i*P **P** **05 09 01.2 +1.2**
WMQ PP PP 05 10 39.0 +0.2
WMQ PCP PcP 05 10 59.0 0.0
WMQ PCS 05 14 50.0
WMQ S **S** **05 15 15.0 +1.1**
WMQ SS SS 05 18 15.0 +2.1
WMQ AMB AMB
comp=Z,56nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,546nm,3.6s
WMQ LR LR
comp=N,5µm,22.2s,MS5.4
WMQ LR LR
comp=E,4µm,21.6s,MS5.4
WMQ LR LR
comp=Z,5µm,21.0s,MS5.4
EDM Edmonton 41.38 29 *e*P **P** **05 08 59.2 -1.0**
BURAR Bucovina Array 41.39 259⇑ P **P** **05 09 00.6 +0.2**
BURAR Bucovina Array 41.39 259⇑ P **P** **05 09 00.6 +0.3**
ZST Bratislava 41.53 268 *e*P **P** **05 09 02.2 +0.9**
ZST *e* 05 09 09.5
PSZ Piszkesteto 41.56 265 *e*P **P** **05 09 02.8 +1.2**
PSZ pmax pmax
comp=Z,96nm,1.5s,mb5.2
PSZ Piszkesteto 41.56 265 *e*P **P** **05 09 02.8 +1.2**
comp=Z,96nm,1.5s,mb5.2
PSZ Piszkesteto 41.56 265⇑ *e*P **P** **05 09 02.9 +1.3**
LANF Langenberg 41.59 277 *e*P **P** **05 09 02.4 +0.6**
STU Stuttgart 41.67 276 *e*P **P** **05 09 03.1 +0.7**
STU pmax pmax
comp=Z,44nm,1.1s,mb5.0
STU Stuttgart 41.67 276 *e*P **P** **05 09 03.1 +0.7**
comp=Z,44nm,1.1s,mb5.0
KIS Kishinev 41.69 256 *e*P **P** **05 09 02.0 -0.6**
KIS *e* pP 05 09 08.0 +1.3
KIS *e* 05 10 44.0
CN2 Changchun 41.84 151 *e*P **P** **05 09 03.5 -0.4**
CN2 *e*S **S** **05 15 19.5 -1.5**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.8
CN2 AMB AMB
comp=Z,2µm,4.0s
SRO2 Moca 41.85 266 *e*P **P** **05 09 05.3 +1.4**
SRO1 Iza 41.87 267 *e*P **P** **05 09 06.1 +2.1**
FUR Furstenfeldbru 42.09 274 *e*P **P** **05 09 06.7 +0.8**
FUR pmax pmax
comp=Z,67nm,1.2s,mb5.2
FUR Furstenfeldbru 42.09 274 *e*P **P** **05 09 06.7 +0.8**
comp=Z,67nm,1.2s,mb5.2
MOA Molln 42.13 270⇑ *i*P **P** **05 09 07.2 +0.9**
comp=Z,38nm,1.5s,mb4.8
BFO Black Forest 42.19 276 *e*P **P** **05 09 07.6 +0.9**
BFO pmax pmax
comp=Z,30nm,1.4s,mb4.7
BFO Black Forest 42.19 276 *e*P **P** **05 09 07.6 +0.9**
comp=Z,30nm,1.4s,mb4.7
WLS Welschbruch 42.19 277 *e*P **P** **05 09 07.5 +0.8**
CDF Champ du Feu 42.20 278 *e*P **P** **05 09 07.0 +0.2**
comp=Z,254nm,1.8s,mb5.3
CDF Champ du Feu 42.20 278 *e*P **P** **05 09 07.0 +0.2**
CDF pmax pmax
comp=Z,127nm,1.8s,mb5.2
MEZF Maizieres J'vi 42.31 280 *e*P **P** **05 09 07.9 +0.2**
comp=Z,160nm,1.8s,mb5.1
ECH Echery 42.40 278 *e*P **P** **05 09 09.0 +0.5**
LIBD Limburg 42.43 277 *e*P **P** **05 09 09.7 +1.0**
GOF Gofitskoye 42.44 241⇑ *i*P **P** **05 09 09.2 +0.4**
GOF pmax pmax
comp=Z,140nm,1.7s,mb5.3
THEF They Montfort 42.50 279 *e*P **P** **05 09 10.1 +0.9**
FLN La Foliniere 42.53 285 *e*P **P** **05 09 08.3 -1.2**
CHMS Chumysh 42.56 207 P **P** **05 09 11.3 +1.5**
SNR=17
TKM2 Tokmak 2 42.60 206 P **P** **05 09 11.0 +0.8**
SNR=38
FELD Feldberg 42.67 277 *e*P **P** **05 09 11.1 +0.5**
LDF La Druitiere 42.67 285 *e*P **P** **05 09 09.9 -0.7**
comp=Z,108nm,1.5s,mb5.1
LDF La Druitiere 42.67 285 *e*P **P** **05 09 09.9 -0.7**
LDF pmax pmax
comp=Z,54nm,1.5s,mb5.1
HAU Haudompre 42.68 278 *e*P **P** **05 09 10.9 +0.1**
comp=Z,99nm,1.2s,mb5.1
HAU Haudompre 42.68 278 *e*P **P** **05 09 10.9 +0.1**
HAU pmax pmax
comp=Z,50nm,1.2s,mb5.1
FRU Bishkek 42.73 207 *e*P **P** **05 09 12.0 +0.8**
FRU *i* 05 10 52.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.4
MOF Molkenrain 42.77 278 *e*P **P** **05 09 11.9 +0.5**
HINF Hinteralfeld 42.83 278 *e*P **P** **05 09 11.7 -0.2**
comp=Z,98nm,1.5s,mb5.0
HINF Hinteralfeld 42.83 278 *e*P **P** **05 09 11.7 -0.2**
HINF pmax pmax
comp=Z,49nm,1.5s,mb5.0
WATA Walderalm 42.88 273⇑ *i*P **P** **05 09 13.5 +1.1**
comp=Z,54nm,1.7s,mb5.0
WATA Walderalm 42.88 273⇑ *i*P **P** **05 09 13.5 +1.1**
WATA pmax pmax
comp=Z,54nm,1.7s,mb5.0
AAK Ala-Archa 42.93 207 P **P** **05 09 14.5 +1.6**
SNR=31
AAK Ala-Archa 42.93 207 P **P** **05 09 13.6 +0.7**
comp=Z,207nm,1.6s,mb5.6,SNR=33
AAK Ala-Archa 42.93 207 *e*P **P** **05 09 12.9 0.0**
AAK pmax pmax
comp=Z,127nm,1.6s,mb5.4
AAK Ala-Archa 42.93 207 *e*P **P** **05 09 12.9 0.0**
comp=Z,127nm,1.6s,mb5.4
EKS2 Erkin-Say 42.93 208 P **P** **05 09 13.8 +0.9**
SNR=7.0
GRR Gorron 42.94 285 *e*P **P** **05 09 12.1 -0.7**
comp=Z,106nm,1.5s,mb5.0
GRR Gorron 42.94 285 *e*P **P** **05 09 12.1 -0.7**
GRR pmax pmax
comp=Z,53nm,1.5s,mb5.0
KBA Koelnbreinsper 42.98 271⇑ *i*P **P** **05 09 15.1 +1.9**
comp=Z,51nm,1.5s,mb5.0
KBA Koelnbreinsper 42.98 271⇑ *i*P **P** **05 09 15.1 +1.9**
KBA pmax pmax
comp=Z,51nm,1.5s,mb5.0
VRI Vrincioaia 42.99 258⇑ P **P** **05 09 12.5 -0.8**
DAVA Damuels 43.08 275⇑ *i*P **P** **05 09 15.3 +1.3**
comp=Z,37nm,1.4s,mb4.9
BBS Basel-Blauen 43.12 277 *e*P **P** **05 09 13.9 -0.4**
ANN Anapa 43.14 246 *e*P **P** **05 09 09.8 -4.7**
ANN pmax pmax
comp=Z,70nm,1.0s,mb5.3
ROSF Rostrenen 43.19 288 *e*P **P** **05 09 14.1 -0.8**
comp=Z,219nm,1.6s,mb5.3
ROSF Rostrenen 43.19 288 *e*P **P** **05 09 14.1 -0.8**
ROSF pmax pmax
comp=Z,109nm,1.6s,mb5.3
SGMF Saint Gilles 43.21 287 *e*P **P** **05 09 14.7 -0.4**
ULHL Ulahol 43.25 205 P **P** **05 09 16.8 +1.4**
SNR=16
PERS Pernice 43.26 269 *e*P **P** **05 09 16.4 +0.9**
LOMF Lomont 43.29 278 *e*P **P** **05 09 15.8 +0.1**
UCH Uchtor 43.34 207 P **P** **05 09 18.1 +1.9**
SNR=22
KOGS Kog 43.34 268 *e*P **P** **05 09 18.3 +2.1**
MLR Muntele Rosu 43.43 258 P **P** **05 09 18.6 +1.7**
comp=Z,12nm,0.9s,mb4.6,baz=348,slow=16,SNR=8.5
MLR Muntele Rosu 43.43 258⇑ P **P** **05 09 19.2 +2.3**
MLR Muntele Rosu 43.43 258⇑ P **P** **05 09 19.2 +2.3**
OBKA Obir 43.44 270⇓ *i*P **P** **05 09 17.7 +0.8**
comp=Z,43nm,1.1s,mb5.1
KZA Kyzart 43.46 206 P **P** **05 09 18.8 +1.7**
SNR=21
AML Almayashu 43.47 208 P **P** **05 09 19.2 +2.0**
SNR=25
FVI Forni Avoltri 43.51 272 *e*P **P** **05 09 18.5 +1.0**
CFR Carcaliu 43.55 256⇓ P **P** **05 09 17.3 -0.6**
KIV Kislovodsk 43.56 241 *d i*P **P** **05 09 18.2 +0.3**
KIV *i* 05 09 26.2
KIV *e* 05 10 58.4
KIV *e*S **S** **05 15 42.1 -4.1**
KIV *e*SS SS 05 18 57.8 +4.0
KIV pmax pmax
comp=Z,81nm,1.3s,mb5.3
KIV MLR MLR
comp=Z,700nm,20.0s,MS4.6
KIV Kislovodsk 43.56 241 *e*P **P** **05 09 18.4 +0.5**
comp=Z,83nm,1.1s,mb5.4
KIV *e* 05 09 25.4
DAVOX Davos 43.59 275 P **P** **05 09 19.7 +1.6**
comp=Z,22nm,1.2s,mb4.8,baz=331,slow=5.0,SNR=9.5
PTCC Patocco-Chiusa 43.65 271 *e*P **P** **05 09 18.6 0.0**
BZS Buzias 43.69 263⇓ P **P** **05 09 19.4 +0.4**
SNY Shenyang 43.73 153⇓ P **P** **05 09 19.8 +0.5**
SNY AMB AMB
comp=Z,40nm,1.6s,mb4.9
HYF Humbligny 43.74 282 *e*P **P** **05 09 18.9 -0.5**
GMNA Gemona 43.79 271 *e*P **P** **05 09 20.1 +0.4**
BRMO Bormio 43.84 274 *e*P **P** **05 09 22.1 +2.0**
SSF Saint Saulge 43.87 281 *e*P **P** **05 09 19.7 -0.7**
SSF pmax pmax
comp=Z,32nm,1.4s,mb4.9
SSF Saint Saulge 43.87 281 *e*P **P** **05 09 19.7 -0.7**
comp=Z,32nm,1.4s,mb4.9
LJU Ljubljana 43.90 270 *e*P **P** **05 09 21.7 +1.0**
VOY Vojsko 43.97 271 *e*P **P** **05 09 21.3 +0.1**
CABF La Chapelle 44.09 278 *e*P **P** **05 09 22.2 0.0**
comp=Z,92nm,1.4s,mb5.0
CABF La Chapelle 44.09 278 *e*P **P** **05 09 22.2 0.0**
CABF pmax pmax
comp=Z,46nm,1.4s,mb5.0
AVF Avril sur Loir 44.15 281 *e*P **P** **05 09 22.2 -0.5**
comp=Z,152nm,1.7s,mb5.2
AVF Avril sur Loir 44.15 281 *e*P **P** **05 09 22.2 -0.5**
AVF pmax pmax
comp=Z,76nm,1.7s,mb5.2
CTI Castel Tesino 44.15 273 *e*P **P** **05 09 23.3 +0.6**
SOC Sochi 44.16 244 *e*P **P** **05 09 20.6 -2.3**
SOC *e* 05 11 04.8
SOC *e*PPP PPP 05 11 42.3 -3.0
SOC *e*S **S** **05 15 52.2 -2.8**
SOC *e*SS SS 05 19 08.9 +4.1
SOC *e*SSS SSS 05 19 53.9 -5.4
SOC pmax pmax
comp=Z,14nm,0.6s,mb4.9
SOC pmax pmax
comp=N,11nm,0.9s
SOC pmax pmax
comp=E,22nm,1.0s
CEY Cerknica 44.21 270 *e*P **P** **05 09 23.2 0.0**
SMF Signal de Mont 44.26 281 *e*P **P** **05 09 22.7 -0.9**
comp=E,191nm,1.9s,mb5.2
SMF Signal de Mont 44.26 281 *e*P **P** **05 09 22.7 -0.9**
SMF pmax pmax
comp=Z,95nm,1.9s,mb5.2
HHC Hu-ho-hao-te 44.34 166 *e*P **P** **05 09 25.4 +1.1**
HHC PP PP 05 11 10.9 +1.7
HHC S **S** **05 15 58.1 +0.6**
HHC SS SS 05 19 10.1 +2.0
HHC AMB AMB
comp=Z,21nm,2.0s,mb4.5
HHC LR LR
comp=N,4µm,19.0s,MS5.5
HHC LR LR
comp=E,3µm,16.6s,MS5.5
HHC LR LR
comp=Z,6µm,17.8s,MS5.5
BOJS Bojanci 44.37 269 *e*P **P** **05 09 25.0 +0.5**
BGF Bois d'Agland 44.43 282 *e*P **P** **05 09 24.5 -0.5**
comp=Z,175nm,1.4s,mb5.3
BGF Bois d'Agland 44.43 282 *e*P **P** **05 09 24.5 -0.5**
BGF pmax pmax
comp=Z,87nm,1.4s,mb5.3
MCGN Macugnaga 44.57 276 *e*P **P** **05 09 27.7 +1.6**
BEO Belgrade 44.58 264⇓ *i*P **P** **05 09 26.3 0.0**
VAI Varese 44.59 276 *e*P **P** **05 09 27.0 +0.7**
ZEI Tsey 44.64 239 *e*P **P** **05 09 26.6 -0.2**
ZEI *i* *PP pP 05 09 31.1 +0.3
ZEI pmax pmax
comp=Z,21nm,1.4s,mb4.8
MFF Saint Martin d 44.65 284 *e*P **P** **05 09 26.3 -0.4**
comp=Z,180nm,1.7s,mb5.3
MFF Saint Martin d 44.65 284 *e*P **P** **05 09 26.3 -0.4**
MFF pmax pmax
comp=Z,90nm,1.7s,mb5.3
TCF Toulx Ste Croi 44.75 282 *e*P **P** **05 09 27.0 -0.6**
comp=Z,71nm,1.3s,mb5.0
TCF Toulx Ste Croi 44.75 282 *e*P **P** **05 09 27.0 -0.6**
TCF pmax pmax
comp=Z,35nm,1.3s,mb5.0
AGO Saint Agoulin 44.91 281 *e*P **P** **05 09 28.7 -0.1**
ULM Lac du Bonnet 44.92 14 P **P** **05 09 28.3 -0.5**
comp=Z,4.9nm,1.0s,mb4.3,baz=352,slow=9.1,SNR=7.5
ULM PcP PcP 05 11 09.1 -1.6
comp=Z,1.2nm,0.5s,baz=23,slow=4.1,SNR=3.5
LPL La Plagne 45.12 278 *e*P **P** **05 09 31.0 +0.5**
comp=Z,38nm,1.2s,mb4.8
LPL La Plagne 45.12 278 *e*P **P** **05 09 31.0 +0.5**
LPL pmax pmax
comp=Z,19nm,1.2s,mb4.8
LPG La Plagne 45.14 277 *e*P **P** **05 09 31.4 +0.8**
comp=Z,79nm,1.6s,mb5.0
LPG La Plagne 45.14 277 *e*P **P** **05 09 31.4 +0.8**
LPG pmax pmax
comp=Z,39nm,1.6s,mb5.0
PYM Petit Puy Mans 45.22 281 *e*P **P** **05 09 31.8 +0.5**
BJI Beijing 45.26 161 *e*P **P** **05 09 32.7 +1.0**
BJI AMB AMB
comp=Z,55nm,1.5s,mb5.2
BJI AMB AMB
comp=Z,464nm,3.1s
BJI Beijing 45.26 161 *e*P **P** **05 09 32.7 +1.0**
comp=Z,55nm,1.5s,mb5.2
WALA Waterton Lakes 45.51 30 *e*P **P** **05 09 33.9 +0.3**
comp=Z,87nm,1.4s,mb5.5
WALA *e* 05 09 41.2
GTA Gaotai 45.64 179⇑ P **P** **05 09 35.9 +1.1**
GTA PP PP 05 11 23.5 +1.2
GTA PCS 05 15 07.1
GTA S **S** **05 16 18.2 +1.9**
GTA SS SS 05 19 34.7 +2.5
GTA AMB AMB
comp=Z,21nm,1.5s,mb4.8
GTA AMB AMB
comp=Z,397nm,4.6s
GTA LR LR
comp=N,2µm,16.7s,MS5.5
GTA LR LR
comp=E,4µm,17.5s,MS5.5
GTA LR LR
comp=Z,6µm,17.5s,MS5.6
LBL Lubilhac 45.71 281 *e*P **P** **05 09 35.1 -0.1**
ORIF Oris-en-Rattie 45.79 278 *e*P **P** **05 09 36.0 +0.2**
comp=Z,109nm,1.5s,mb5.3
ORIF Oris-en-Rattie 45.79 278 *e*P **P** **05 09 36.0 +0.2**
ORIF pmax pmax
comp=Z,55nm,1.5s,mb5.3
RJF Les Rejaudoux 45.79 283 *e*P **P** **05 09 35.4 -0.4**
comp=Z,185nm,1.6s,mb5.5
RJF Les Rejaudoux 45.79 283 *e*P **P** **05 09 35.4 -0.4**
RJF pmax pmax
comp=Z,92nm,1.6s,mb5.5
MBDF Montbardon 45.90 277 *e*P **P** **05 09 37.3 +0.6**
comp=Z,121nm,1.6s,mb5.3
MBDF Montbardon 45.90 277 *e*P **P** **05 09 37.3 +0.6**
MBDF pmax pmax
comp=Z,60nm,1.6s,mb5.3
GSCL Gusciola 45.93 273 *e*P **P** **05 09 38.2 +1.3**
SHKI Saki 45.95 236 *e*P **P** **05 09 36.0 -1.1**
VIVF Saint-Julien-l 45.96 279 *e*P **P** **05 09 37.0 -0.1**
comp=Z,88nm,1.6s,mb5.1
VIVF Saint-Julien-l 45.96 279 *e*P **P** **05 09 37.0 -0.1**
VIVF pmax pmax
comp=Z,44nm,1.6s,mb5.1
KSH Kashi 45.98 205 *e*P **P** **05 09 39.5 +2.1**
KSH *e*PCP PcP 05 11 15.0 +0.4
KSH *e*PP PP 05 11 28.3 +2.7
KSH *e*PCS 05 15 09.7
KSH *e*S **S** **05 16 25.8 +4.7**
KSH *e*SS SS 05 19 42.4 +4.1
KSH AMB AMB
comp=Z,260nm,2.4s,mb5.7
KSH LR LR
comp=N,320nm,7.1s
KSH LR LR
comp=E,940nm,12.9s
SURF Saint Ours 46.14 277 *e*P **P** **05 09 40.0 +1.4**
NEW Newport 46.15 33 *e*P **P** **05 09 39.8 +1.2**
NEW *e* 05 09 46.4
NEW pmax pmax
comp=Z,124nm,1.3s
NEW Newport 46.15 33 *e*P **P** **05 09 39.8 +1.1**
comp=Z,124nm,1.3s,mb5.7
NEW *e* 05 09 46.4
SEI Scarperia 46.16 273 *e*P **P** **05 09 41.0 +2.3**
LFF La Frestale 46.22 283 *e*P **P** **05 09 38.9 -0.3**
VMG Vicchio 46.23 272 *e*P **P** **05 09 41.0 +1.7**
SFI Santa Sofia 46.26 272 *e*P **P** **05 09 40.2 +0.6**
PGD Poggio Sodo 46.30 272 *e*P **P** **05 09 42.2 +2.3**
CRE Caprese Michel 46.54 272 *e*P **P** **05 09 43.0 +1.3**
KRV Ganca 46.57 237⇑ *i*P **P** **05 09 41.0 -1.0**
KRV *i* 05 11 28.0
KRV pmax pmax
comp=N,30nm,1.4s
KRV pmax pmax
comp=E,20nm,1.4s
KRV pmax pmax
comp=Z,90nm,1.4s,mb5.5
SMRF Simiane la Rot 46.75 278 *e*P **P** **05 09 43.5 +0.1**
LASF Ste Croix 46.80 280 *e*P **P** **05 09 44.2 +0.4**
comp=Z,87nm,1.3s,mb5.2
TBM Table Mountain 47.07 37 P **P** **05 09 46.0 +0.2**
GNI Garni 47.19 238 *i* P **P** **05 09 47.6 +0.7**
GNI pmax pmax
comp=Z,51nm,1.5s
GNI Garni 47.19 238 P **P** **05 09 46.9 0.0**
comp=Z,2.9nm,0.4s,mb4.6,baz=170,slow=23,SNR=9.9
GNI Garni 47.19 238 *e*P **P** **05 09 47.4 +0.5**
comp=Z,73nm,1.5s,mb5.4
FMW Mount Fremont 47.24 38 P **P** **05 09 47.6 +0.3**
EYMN Ely 47.30 10 *e*P **P** **05 09 46.3 -1.4**
comp=Z,12nm,0.8s,mb4.9
SKO Skopje 47.32 262 *i* P **P** **05 09 47.7 -0.3**
EBG Ellensburg 47.33 37 P **P** **05 09 48.2 +0.3**
LON Longmire 47.42 38 P **P** **05 09 49.4 +0.7**
WAH2 Wahluke Slope 47.53 36 P **P** **05 09 50.1 +0.5**
AQU L'Aquila 47.66 270 *e*P **P** **05 09 51.5 +0.8**
AQU pmax pmax
comp=Z,132nm,1.4s,mb5.8
AQU L'Aquila 47.66 270 *e*P **P** **05 09 51.5 +0.9**
comp=Z,132nm,1.4s,mb5.8
CHMT Chamberlain Mo 47.68 30 *e*P **P** **05 09 51.1 +0.4**
GBL Gable Mountain 47.70 36 P **P** **05 09 51.4 +0.5**
MSO Missoula 47.73 30 *e*P **P** **05 09 51.4 +0.2**
comp=Z,38nm,1.1s,mb5.3
HRY Holter Researc 47.94 28 *e*P **P** **05 09 52.2 -0.6**
HRY *e* 05 09 58.8
LAO LASA Array 48.19 23 *e*P **P** **05 09 55.1 +0.4**
comp=Z,103nm,1.3s,mb5.7
ETSF Etsaut 48.36 284 *e*P **P** **05 09 54.8 -1.3**
comp=Z,48nm,1.4s,mb5.0
ETSF Etsaut 48.36 284 *e*P **P** **05 09 54.8 -1.3**
ETSF pmax pmax
comp=Z,24nm,1.4s,mb5.0
TVAN Van 48.90 239 *i* P **P** **05 10 02.2 +2.0**
LZH Lanzhou 48.98 175 *e*P **P** **05 10 02.0 +1.0**
LZH AP pP 05 10 08.4 +3.3
LZH PP PP 05 11 56.0 +1.3
LZH *e*S **S** **05 17 04.4 +0.7**
LZH SS SS 05 20 31.0 +0.7
LZH AMB AMB
comp=Z,160nm,1.4s,mb5.9
LZH AMB AMB
comp=Z,490nm,4.1s
LZH LR LR
comp=E,4µm,12.8s
LZH LR LR
comp=Z,5µm,13.6s,MS5.7
LZH Lanzhou 48.98 175 *e*P **P** **05 10 02.0 +1.0**
LZH *PP pP 05 10 08.4 +3.3
LZH 05 11 56.0
LZH *e*S **S** **05 17 04.4 +0.7**
LZH *SS 05 17 15.0

LZH				SS	SS	05 20 31.0	+0.7
LZH				pmax	pmax		
	comp=Z,160nm,1.4s,mb5.9						
LZH				MLR	MLR		
	comp=Z,5μm,13.6s,MS5.7						
LZH	**Lanzhou**	**48.98**	**175**	*e*P	**P**	**05 10 02.0**	**+1.0**
	comp=Z,160nm,1.4s,mb5.9						
LZH				pP	pP	05 10 08.4	+3.3
LZH				sP	sP	05 10 11.5	+4.8
LZH				PP	PP	05 11 56.0	+1.3
LZH				*e*S	**S**	**05 17 04.4**	**+0.7**
LZH				sS		05 17 15.0	
LZH				SS	SS	05 20 31.0	+0.7
LZH				LR	LR		
	comp=Z,5μm,13.6s,MS5.7						
BOZ	**Bozeman (W)**	**49.02**	**28**	*e*P	**P**	**05 10 01.5**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,106nm,1.4s,mb5.7						
BOZ	**Bozeman (W)**	**49.02**	**28**	*e*P	**P**	**05 10 01.5**	**+0.5**
	comp=Z,106nm,1.4s,mb5.7						
TIA	**Tai'an**	**49.11**	**161**	⇑P	**P**	**05 10 02.2**	**+0.3**
TIA				AMB	AMB		
	comp=Z,88nm,1.4s,mb5.6						
MALT	**Malatya**	**49.50**	**244**	*e*P	**P**	**05 10 05.5**	**+0.5**
MALT				*e*		05 10 12.3	
MALT				pmax	pmax		
	comp=Z,33nm,1.5s,mb5.1						
MALT	**Malatya**	**49.50**	**244**	*e*P	**P**	**05 10 05.5**	**+0.5**
	comp=Z,33nm,1.5s,mb5.1						
MALT				*e*		05 10 12.3	
BMO	**Blue Mountains**	**49.55**	**34**	*e*P	**P**	**05 10 05.8**	**+0.6**
	comp=Z,62nm,1.3s,mb5.5						
BMO				*e*		05 10 12.6	
VIPM	**Ingram Point**	**49.72**	**37**	P	**P**	**05 10 07.5**	**+1.0**
MCMT	**McKenzie Canyo**	**49.78**	**30**	*e*P	**P**	**05 10 07.8**	**+0.8**
MCMT				*e*	pP	05 10 13.9	+2.8
QLMT	**Earthquake Lak**	**49.84**	**28**	*e*P	**P**	**05 10 08.1**	**+0.6**
QLMT				*e*		05 10 15.0	
YNR	**Norris Junctio**	**49.98**	**28**	*e*P	**P**	**05 10 09.7**	**+1.1**
YMR	**Madison River**	**50.02**	**28**	*e*P	**P**	**05 10 09.0**	**+0.2**
LKWY	**Lake**	**50.15**	**27**	*e*P	**P**	**05 10 11.5**	**+1.7**
LKWY				pmax	pmax		
	comp=Z,251nm,2.1s,mb5.9						
LKWY	**Lake**	**50.15**	**27**	*e*P	**P**	**05 10 11.5**	**+1.7**
	comp=Z,251nm,2.1s,mb5.9						
YFT	**Old Faithful**	**50.24**	**28**	*e*P	**P**	**05 10 12.4**	**+1.9**
GZT	**Gaziantep**	**50.52**	**245**	*i* P	**P**	**05 10 13.3**	**+0.6**
XAN	**Xi'an**	**51.09**	**170**	P	**P**	**05 10 16.2**	**-0.9**
XAN				AP	pP	05 10 28.0	+6.8
XAN				AMB	AMB		
	comp=Z,19nm,1.7s,mb4.8						
COBT	**Iskenderun**	**51.46**	**246**	*i* P	**P**	**05 10 20.8**	**+0.9**
HUMO	**Hull Mountain**	**51.48**	**39**	*e*P	**P**	**05 10 20.8**	**+0.8**
	comp=Z,51nm,1.3s,mb5.3						
ESDC	**Sonseca Array**	**51.85**	**287**	P	**P**	**05 10 22.5**	**-0.3**
	comp=Z,1.7nm,0.8s,mb4.1,baz=357,slow=7.7,SNR=5.9						
WVOR	**Wild Horse Val**	**51.89**	**35**	*e*P	**P**	**05 10 23.6**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,64nm,1.4s,mb5.4						
WVOR	**Wild Horse Val**	**51.89**	**35**	*e*P	**P**	**05 10 23.6**	**+0.5**
	comp=Z,64nm,1.4s,mb5.4						
AHID	**Auburn Hatcher**	**51.91**	**28**	*e*P	**P**	**05 10 22.3**	**-0.9**
	comp=Z,65nm,1.5s,mb5.3						
PDAR	**Pinedale Array**	**51.98**	**27**	P	**P**	**05 10 23.5**	**-0.2**
	comp=Z,5.5nm,1.0s,mb4.4,slow=3.0,SNR=21						
MOD	**Modoc**	**52.33**	**37**	*e*P	**P**	**05 10 27.1**	**+0.7**
	comp=Z,44nm,1.3s,mb5.2						
MOD				*e*		05 10 33.4	
LHEM	**Herd Peak**	**52.50**	**39**	P	**P**	**05 10 28.6**	**+0.9**
HVU	**Hansel Valley**	**52.83**	**30**	*e*P	**P**	**05 10 30.2**	**+0.1**
HWUT	**Hardware Ranch**	**53.05**	**29**	*e*P	**P**	**05 10 31.6**	**-0.1**
	comp=Z,150nm,1.4s,mb5.7						
HWUT				*e*		05 10 38.4	
HWUT				*e*		05 10 44.2	
CSS	**Prodhromos**	**53.25**	**249**	*e*P	**P**	**05 10 32.3**	**-1.1**
	comp=Z,36nm,1.4s,mb5.1						
NJ2	**Nanjing**	**53.31**	**159**	*e*P	**P**	**05 10 33.3**	**-0.5**
NJ2				AP	pP	05 10 43.3	+5.3
NJ2				XP	sP	05 10 47.2	+7.6
NJ2				PP	PP	05 12 34.9	-0.8
NJ2				S	**S**	**05 18 00.0**	**-3.2**
NJ2				XS		05 18 18.0	
NJ2				AMB	AMB		
	comp=Z,1μm,4.6s						
NJ2				LR	LR		
	comp=N,6μm,19.0s,MS5.8						
NJ2				LR	LR		
	comp=E,5μm,19.3s,MS5.8						
NJ2				LR	LR		
	comp=Z,9μm,16.9s,MS5.9						
TCUT	**Toone Canyon**	**53.54**	**28**	*e*P	**P**	**05 10 35.0**	**-0.4**
ELK	**Elko**	**53.74**	**32**	*e*P	**P**	**05 10 37.1**	**+0.2**
ELK				pmax	pmax		
	comp=Z,20nm,1.2s						
ELK	**Elko**	**53.74**	**32**	*e*P	**P**	**05 10 37.1**	**+0.2**
	comp=Z,20nm,1.2s,mb4.9						
BMN	**Battle Mountai**	**53.96**	**34**	*e*P	**P**	**05 10 38.9**	**+0.5**
BMN				*e*		05 10 46.0	
BMN				pmax	pmax		
	comp=Z,35nm,1.2s,mb5.2						
BMN	**Battle Mountai**	**53.96**	**34**	*e*P	**P**	**05 10 38.9**	**+0.4**
	comp=Z,35nm,1.2s,mb5.2						
BMN				*e*		05 10 46.0	
NOQ	**North Oquirrh**	**53.98**	**29**	P	**P**	**05 10 38.8**	**+0.3**
CD2	**Chengdu**	**54.14**	**175**	P	**P**	**05 10 41.0**	**+1.1**
CD2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.6						
DAU	**Daniels Canyon**	**54.25**	**28**	*e*P	**P**	**05 10 40.9**	**+0.3**
SSE	**Sheshan**	**54.34**	**157**	P	**P**	**05 10 40.8**	**-0.5**
SSE				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.0						
SSE				AMB	AMB		
	comp=Z,5μm,11.7s						
SSE	**Sheshan**	**54.34**	**157**	P	**P**	**05 10 40.8**	**-0.5**
	comp=Z,23nm,1.1s,mb5.0						
MPU	**Maple Canyon**	**54.63**	**29**	*e*P	**P**	**05 10 43.6**	**+0.2**
WHN	**Wuhan**	**54.68**	**164**	⇑P	**P**	**05 10 43.2**	**-0.7**
OHCM	**Honcut**	**54.83**	**38**	*e*P	**P**	**05 10 44.3**	**-0.6**
OHCM				*e*	pP	05 10 50.4	+1.4
DDI	**Dehra Dun**	**55.07**	**202**	*e*	**P**	**05 10 44.1**	**-2.7**
ISCO	**Idaho Springs**	**55.09**	**23**	*e*P	**P**	**05 10 46.7**	**0.0**
ISCO				*e*		05 10 53.6	
ISCO				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.1						
ISCO	**Idaho Springs**	**55.09**	**23**	*e*P	**P**	**05 10 46.7**	**0.0**
	comp=Z,26nm,1.3s,mb5.1						
ISCO				*e*		05 10 53.6	
ACSO	**Alum Creek Sta**	**55.09**	**2**	*e*P	**P**	**05 10 46.5**	**-0.3**
	comp=Z,48nm,1.4s,mb5.3						
TMUT	**Trail Mountain**	**55.37**	**28**	*e*P	**P**	**05 10 49.1**	**+0.3**
LSA	**Lhasa**	**55.38**	**188**	P	**P**	**05 10 49.1**	**+0.1**
SRU	**San Rafael**	**55.58**	**28**	*e*P	**P**	**05 10 49.8**	**-0.6**
ASF	**Jabal al Asfar**	**55.73**	**245**	P	**P**	**05 10 51.6**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.8,baz=237,slow=0.5,SNR=14						
NVAR	**Mina Array Bea**	**55.90**	**35**	P	**P**	**05 10 53.2**	**+0.6**
	comp=Z,5.8nm,1.0s,mb4.6,baz=13,slow=4.2,SNR=22						
MNV	**Mina**	**55.90**	**35**	*e*P	**P**	**05 10 52.7**	**0.0**
MNV				*e*		05 10 59.0	
MNV				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
MNV	**Mina**	**55.90**	**35**	*e*P	**P**	**05 10 52.7**	**0.0**
	comp=Z,32nm,1.2s,mb5.2						
MNV				*e*		05 10 59.0	
MSU	**Marysvale**	**56.11**	**29**	*e*P	**P**	**05 10 54.4**	**+0.3**
MSU				*e*		05 11 01.0	
MSU				*e*		05 11 07.3	
TRCR	**Troy Canyon**	**56.11**	**33**	*e*P	**P**	**05 10 54.5**	**+0.4**
MVU	**Marysvale**	**56.12**	**29**	*e*P	**P**	**05 10 54.3**	**+0.2**
	comp=Z,35nm,1.1s,mb5.3						
MVU				*e*		05 11 01.3	
MVU				*e*		05 11 07.2	
BLO	**Bloomington**	**56.13**	**5**	*e*P	**P**	**05 10 52.3**	**-2.0**
BLO				pmax	pmax		
	comp=Z,51nm,1.4s,mb5.4						
BLO	**Bloomington**	**56.13**	**5**	*e*P	**P**	**05 10 52.3**	**-1.9**
	comp=Z,51nm,1.4s,mb5.4						
TPH	**Tonopah**	**56.31**	**34**	*e*P	**P**	**05 10 55.4**	**-0.2**
TPH				*e*		05 11 02.8	
TPH				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.3						
TPH	**Tonopah**	**56.31**	**34**	*e*P	**P**	**05 10 55.4**	**-0.2**
	comp=Z,41nm,1.2s,mb5.3						
TPH				*e*		05 11 02.8	
PV10	**Paradox Valley**	**56.38**	**26**	*e*P	**P**	**05 10 56.4**	**+0.3**
PV01	**Paradox Valley**	**56.64**	**26**	*e*P	**P**	**05 10 57.8**	**-0.1**
OMM	**Old Mammoth Mi**	**56.67**	**36**	*e*P	**P**	**05 10 59.1**	**+0.9**
OMM				*e*		05 11 05.9	
NDI	**New Delhi**	**56.73**	**203**	*e*	**P**	**05 10 56.0**	**-2.8**
NDI				*e*		05 13 02.0	
ARUT	**Antelope Range**	**56.77**	**31**	*e*P	**P**	**05 10 58.7**	**-0.2**
ARUT				*e*		05 11 05.8	
MTUM	**Tungsten Hills**	**56.96**	**36**	*e*P	**P**	**05 11 00.3**	**+0.1**
SDCO	**Great Sand Dun**	**57.14**	**23**	*e*P	**P**	**05 11 00.4**	**-1.1**
	comp=Z,29nm,1.4s,mb5.1						
CCM	**Cathedral Cave**	**57.19**	**10**	*e*P	**P**	**05 10 58.8**	**-3.1**
CCM				*e*		05 11 06.2	
CCM				pmax	pmax		
	comp=Z,53nm,1.4s,mb5.4						
CCM	**Cathedral Cave**	**57.19**	**10**	*e*P	**P**	**05 10 58.8**	**-3.1**
	comp=Z,53nm,1.4s,mb5.4						
CCM				*e*		05 11 06.2	
GKN	**Gorkha**	**57.19**	**195**	*e*P	**P**	**05 11 00.6**	**-1.4**
	comp=Z,300nm,1.6s,mb6.1						
GUN	**Gumba**	**57.26**	**194**	*e*P	**P**	**05 11 01.5**	**-1.0**
	comp=Z,175nm,1.6s,mb5.8						
KKN	**Kakani**	**57.39**	**195**	*e*P	**P**	**05 11 02.1**	**-1.3**
	comp=Z,218nm,1.6s,mb5.9						
KKN	**Kakani**	**57.39**	**195**	*e*P	**P**	**05 11 02.1**	**-1.3**
KKN				pmax	pmax		
	comp=Z,109nm,1.6s,mb5.6						
KOLN	**Koldanda**	**57.45**	**196**	*e*P	**P**	**05 11 01.8**	**-2.1**
	comp=Z,202nm,1.7s,mb5.9						
JIRN	**Jiri**	**57.50**	**194**	*e*P	**P**	**05 11 03.2**	**-1.0**
	comp=Z,185nm,1.7s,mb5.8						
DMN	**Daman**	**57.58**	**195**	*e*P	**P**	**05 11 03.2**	**-1.5**
PKI	**Pulchoki**	**57.61**	**194**	*e*P	**P**	**05 11 03.7**	**-1.2**
	comp=Z,188nm,1.6s,mb5.9						
PKI	**Pulchoki**	**57.61**	**194**	*e*P	**P**	**05 11 03.7**	**-1.2**
PKI				pmax	pmax		
	comp=Z,94nm,1.6s,mb5.6						
LRV	**Little Rabbit**	**57.75**	**38**	*e*P	**P**	**05 11 06.8**	**+1.0**
EIL	**Elat**	**58.37**	**247**	P	**P**	**05 11 09.5**	**-0.7**
	comp=Z,13nm,1.1s,mb4.9,baz=201,slow=2.2,SNR=16						
EIL	**Elat**	**58.37**	**247**	*e*P	**P**	**05 11 08.4**	**-1.8**
	comp=Z,52nm,1.4s,mb5.4						
GYA	**Guiyang**	**58.61**	**172**	⇓*i*P	**P**	**05 11 11.9**	**0.0**
GYA				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
GYA				AMB	AMB		
	comp=Z,190nm,3.8s						
GYA				LR	LR		
	comp=N,2μm,20.1s,MS5.5						
GYA				LR	LR		
	comp=E,3μm,22.0s,MS5.5						
GYA				LR	LR		
	comp=Z,4μm,21.4s,MS5.5						
WUAZ	**Wupatki**	**59.13**	**29**	*e*P	**P**	**05 11 15.3**	**-0.1**
	comp=Z,368nm,1.0s						
LDFC	**Landfair**	**59.40**	**32**	*e*P	**P**	**05 11 16.8**	**-0.5**
ANMO	**Albuquerque**	**59.89**	**24**	*e*P	**P**	**05 11 19.7**	**-1.0**
ANMO				*e*	pP	05 11 25.7	+0.7
ANMO				pmax	pmax		
	comp=Z,47nm,1.3s						
ANMO	**Albuquerque**	**59.89**	**24**	*e*P	**P**	**05 11 19.7**	**-1.0**
	comp=Z,47nm,1.3s,mb5.4						
ANMO				*e*	pP	05 11 25.7	+0.8
KMI	**Kunming**	**59.90**	**176**	⇑P	**P**	**05 11 20.8**	**-0.1**
KMI				PP	PP	05 13 36.0	+0.9
KMI				S	**S**	**05 19 30.0**	**-0.6**
KMI				SS	SS	05 23 27.6	-0.7
KMI				AMB	AMB		
	comp=Z,30nm,1.6s,mb5.1						
KMI				AMB	AMB		
	comp=Z,382nm,10.6s						
KMI				LR	LR		
	comp=N,2μm,14.9s,MS5.4						
KMI				LR	LR		
	comp=E,2μm,17.1s,MS5.4						
KMI				LR	LR		
	comp=Z,2μm,17.9s,MS5.3						
KMI	**Kunming**	**59.90**	**176**	⇑P	**P**	**05 11 20.8**	**-0.1**
KMI				*PP	pP	05 11 25.4	+0.2
KMI				*SP	sP	05 11 26.9	+0.2
KMI						05 13 36.0	
KMI				S	**S**	**05 19 30.0**	**-0.6**
KMI				SS	SS	05 23 27.6	-0.7
KMI				pmax	pmax		
	comp=Z,30nm,1.6s,mb5.1						
KMI				MLR	MLR		
	comp=Z,2μm,17.9s,MS5.3						
KMI	**Kunming**	**59.90**	**176**	⇑P	**P**	**05 11 20.8**	**-0.1**
	comp=Z,30nm,1.6s,mb5.1						
KMI				pP	pP	05 11 25.4	+0.2
KMI				sP	sP	05 11 26.9	+0.2
KMI				PP	PP	05 13 36.0	+0.9
KMI				S	**S**	**05 19 30.0**	**-0.6**
KMI				SS	SS	05 23 27.6	-0.7
KMI				LR	LR		
	comp=Z,2μm,17.9s,MS5.3						
MWC	**Mount Wilson**	**60.10**	**35**	*e*P	**P**	**05 11 20.9**	**-1.3**
MET	**Memphis--Engin**	**60.13**	**9**	*e*P	**P**	**05 11 20.3**	**-2.1**
WMOK	**Wichita Mounta**	**60.34**	**17**	*e*P	**P**	**05 11 21.4**	**-2.4**
WMOK				*e*		05 11 28.4	
WMOK				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.3						
WMOK	**Wichita Mounta**	**60.34**	**17**	*e*P	**P**	**05 11 21.4**	**-2.5**
	comp=Z,35nm,1.1s,mb5.3						
WMOK				*e*		05 11 28.4	
UALR	**University of**	**60.44**	**11**	*e*P	**P**	**05 11 22.6**	**-1.9**
	comp=Z,32nm,1.0s,mb5.3						
UALR				*e*		05 11 29.6	
MIAR	**Mount Ida**	**60.65**	**12**	*e*P	**P**	**05 11 24.0**	**-1.9**
MIAR				pmax	pmax		
	comp=Z,47nm,1.4s,mb5.4						
MIAR	**Mount Ida**	**60.65**	**12**	*e*P	**P**	**05 11 24.0**	**-1.9**
	comp=Z,47nm,1.4s,mb5.4						
OXF	**Oxford**	**60.75**	**8**	*e*P	**P**	**05 11 24.9**	**-1.7**
OXF				pmax	pmax		
	comp=Z,139nm,1.0s,mb6.0						
OXF	**Oxford**	**60.75**	**8**	*e*P	**P**	**05 11 24.9**	**-1.6**
	comp=Z,139nm,1.0s,mb6.0						
ASHO	**Ashiyiah**	**61.76**	**225**	P	**P**	**05 11 32.8**	**-0.8**
	SNR=8.7						
ASHO				P		05 11 32.8	
	SNR=8.7						
GOGA	**Godfrey**	**61.90**	**2**	*e*P	**P**	**05 11 33.4**	**-1.0**
GOGA				pmax	pmax		
	comp=Z,63nm,1.5s,mb5.5						
GOGA	**Godfrey**	**61.90**	**2**	*e*P	**P**	**05 11 33.4**	**-1.0**
	comp=Z,63nm,1.5s,mb5.5						
LRAL	**Lakeview Retre**	**62.25**	**6**	*e*P	**P**	**05 11 34.6**	**-2.2**
	comp=Z,55nm,1.5s,mb5.5						
TUC	**Tucson**	**62.35**	**28**	*e*P	**P**	**05 11 37.4**	**0.0**
TUC				*e*	pP	05 11 43.6	+1.9
TUC				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.4						
TUC	**Tucson**	**62.35**	**28**	*e*P	**P**	**05 11 37.4**	**0.0**
	comp=Z,42nm,1.4s,mb5.4						
TUC				*e*	pP	05 11 43.6	+1.9
ARQ	**Araqi**	**63.07**	**224**	P	**P**	**05 11 41.1**	**-1.2**
	SNR=10						
ARQ				P		05 11 41.1	
	SNR=10						
MNTX	**Cornudas Mount**	**63.17**	**23**	*e*P	**P**	**05 11 41.3**	**-1.5**
	comp=Z,20nm,1.2s,mb5.1						
NATX	**Nacogdoches**	**63.41**	**13**	*e*P	**P**	**05 11 43.4**	**-1.0**
	comp=Z,53nm,1.2s,mb5.5						
RAYN	**Ar Rayn**	**63.64**	**236**	P	**P**	**05 11 45.1**	**-0.8**
	comp=Z,118nm,1.2s,SNR=16						
WBK	**Wadi Bani Khal**	**63.64**	**222**	P	**P**	**05 11 45.8**	**-0.2**
	SNR=8.6						
WBK				P		05 11 45.8	
	SNR=8.6						
JCT	**Junction City**	**64.56**	**18**	*e*P	**P**	**05 11 50.3**	**-1.5**
JCT				*e*		05 11 57.1	
JCT				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.5						
JCT	**Junction City**	**64.56**	**18**	*e*P	**P**	**05 11 50.3**	**-1.5**
	comp=Z,50nm,1.1s,mb5.5						
JCT				*e*		05 11 57.1	
LTX	**Lajitas**	**65.58**	**22**	*e*P	**P**	**05 11 57.3**	**-1.1**
LTX				*e*		05 12 05.0	
LTX				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.4						
LTX	**Lajitas**	**65.58**	**22**	*e*P	**P**	**05 11 57.3**	**-1.2**
	comp=Z,41nm,1.1s,mb5.4						
LTX				*e*		05 12 05.0	
TXAR	**Lajitas Array**	**65.58**	**22**	P	**P**	**05 11 57.4**	**-1.1**
	comp=Z,10nm,0.7s,mb5.0,baz=10,slow=3.7,SNR=71						
CHG	**Chiang Mai**	**66.17**	**180**	⇑P	**P**	**05 12 01.4**	**-0.9**
	comp=Z,16nm,1.4s,mb4.8						
NANT	**Nan**	**66.19**	**178**	P	**P**	**05 12 01.0**	**-1.4**
CMAR	**Chiang Mai Arr**	**66.52**	**180**	P	**P**	**05 12 03.8**	**-0.9**
	comp=Z,7.4nm,1.0s,mb4.7,baz=352,slow=7.3,SNR=19						
POO	**Poona**	**66.96**	**206**	⇑*i*P	**P**	**05 12 06.0**	**-1.4**
WHFO	**Wadi Hawf**	**68.62**	**227**	P	**P**	**05 12 16.6**	**-1.3**
	SNR=10.0						
WHFO				P		05 12 16.6	
	SNR=10.0						
DBIC	**Dimbokro**	**84.64**	**284**	P	**P**	**05 13 48.0**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.4,baz=358,slow=11,SNR=3.6						
SDV	**Santo Domingo**	**86.23**	**350**	P	**P**	**05 13 56.2**	**+0.9**
	comp=Z,18nm,0.8s,mb5.3,baz=13,slow=5.0,SNR=25						
SDV	**Santo Domingo**	**86.23**	**350**	*e*P	**P**	**05 13 56.2**	**+0.8**
	comp=Z,81nm,1.4s,mb5.8						
ROSC	**El Rosal**	**90.28**	**353**	P	**P**	**05 14 17.2**	**+2.5**
	comp=Z,4.5nm,0.8s,mb4.9,baz=107,slow=6.0,SNR=6.4						

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*IDC **06** 05:06:13.0±0.9, 85.03N×98.93E, mb4.0/8, mb1 4.2/9, mb1mx4.0/19, mbtmp4.0/9, ML3.4/1, MS5.1/1, Ms1 5.2/1, ms1mx4.0/25, Error ellipse: s-maj=31.7km s-min=17.6km az=133.0*

*NEIC **06** 05:06:14.3±0.5, 85.12N×97.24E, h10^{km}, mb4.3/2, Error ellipse: s-maj=13.8km s-min=10.6km az=137.0*

ISC 06 05:06:11.9±0.5**, 85.14N**±0.08×**9 6E**± **, h10^{km}, n17, σ0^{s}84**/17**, mb3.9**/9**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**11.67**	**288**	P	**P**	**05 09 01.0**	**-0.2**
ARCES	**ARCESS Array B**	**19.47**	**263**	P	**P**	**05 10 44.2**	**+3.2**
	0.2nm,0.3s,baz=20,slow=13,SNR=2.9						
RES	**Resolute Bay**	**20.24**	**8**	*e*P	**P**	**05 10 48.2**	**-1.2**
BILL	**Bilibino**	**20.95**	**97**	*e*P	**P**	**05 10 57.3**	**+0.5**
	20nm,1.4s						
INK	**Inuvik**	**25.28**	**41**	P	**P**	**05 11 40.5**	**+1.4**
	8.1nm,1.1s,mb4.2,baz=1.0,slow=11,SNR=3.5						
INK	**Inuvik**	**25.28**	**41**	*e*P	**P**	**05 11 40.1**	**+1.1**
ILAR	**Eielson Array**	**27.94**	**54**	P	**P**	**05 12 03.7**	**+0.1**
	0.5nm,0.8s,mb3.2,baz=349,slow=11,SNR=4.2						
ILAR				LR	LR	05 24 01.9	
	comp=Z,4μm,21.9s,baz=247,slow=38						
CHKZ	**Chkalovo**	**32.14**	**208**	*e*P	**P**	**05 12 40.4**	**-0.6**
BVAR	**Borovoye Array**	**32.80**	**209**	P	**P**	**05 12 47.0**	**+0.2**
	4.1nm,0.9s,mb4.3,slow=10,SNR=4.3						
ULN	**Ulaanbaatar**	**37.54**	**168**	*e*P	**P**	**05 13 26.9**	**-0.4**
	8.5nm,1.3s,mb4.3						
SONM	**Songino Array**	**37.56**	**168**	P	**P**	**05 13 27.1**	**-0.4**
	4.4nm,0.9s,mb4.2,baz=354,slow=6.9,SNR=6.9						
GERES	**GERESS Array B**	**40.91**	**268**	P	**P**	**05 13 59.4**	**+4.1**
	2.1nm,1.1s,mb3.7,baz=18,slow=8.4,SNR=4.2						
BW06	**Boulder Array**	**51.88**	**24**	P	**P**	**05 15 21.7**	**-0.2**
PDAR	**Pinedale Array**	**51.88**	**24**	P	**P**	**05 15 22.3**	**+0.4**
	1.4nm,1.1s,mb3.8,baz=342,slow=4.7,SNR=4.2						
HWUT	**Hardware Ranch**	**52.97**	**26**	*e*P	**P**	**05 15 29.5**	**-0.6**
NVAR	**Mina Array Bea**	**55.86**	**32**	P	**P**	**05 15 52.0**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=342,slow=2.9,SNR=3.9						
TXAR	**Lajitas Array**	**65.46**	**19**	P	**P**	**05 16 55.8**	**-0.8**
	1.2nm,0.7s,mb4.0,baz=355,slow=3.7,SNR=7.8						

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*BJI **06** 05:13:54.3, 4.82N×95.10E, h22^{km}, mb5.0*

*NEIC **06** 05:13:55.9±0.5, 4.69N×94.76E, h30^{km}, mb4.6/12, Error ellipse: s-maj=14.6km s-min=8.2km az=49.0*

*IDC **06** 05:14:05.6±8.1, 5.04N×95.17E, h105^{km}±70^{km}, mb4.1/12, mb1 4.3/13, mb1mx4.2/18, mbtmp4.4/13, ML4.4/1, Error ellipse: s-maj=49.4km s-min=15.6km az=54.0*

ISC 06 05:13:54.6±0.6**, 4.72N**±0.08×**94.87E**±0.08**, h30^{km}, n46, σ1^{s}06**/46**, mb4.6**/28**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.79**	**84**	*e*P	**Pn**	**05 15 21.6**	**+0.9**
CM31	**Chiang Mai Arr**	**14.22**	**16**	P	**P**	**05 17 17.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**14.22**	**16**	P	**P**	**05 17 18.1**	**+1.7**
	0.6nm,0.3s,baz=203,slow=14,SNR=8.3						
JIRN	**Jiri**	**24.27**	**341**	*e*P	**P**	**05 19 11.3**	**+0.8**
	21nm,0.6s,mb4.8						
GYA	**Guiyang**	**24.38**	**26**	⇑*i*P	**P**	**05 19 11.3**	**-0.4**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
PKI	**Pulchoki**	**24.45**	**339**	*e*P	**P**	**05 19 13.6**	**+1.3**
	comp=Z,6.6nm,0.4s,mb4.4						
GUN	**Gumba**	**24.60**	**341**	*e*P	**P**	**05 19 13.1**	**-0.7**
	comp=Z,22nm,0.5s,mb4.9						
KKN	**Kakani**	**24.69**	**339**	*e*P	**P**	**05 19 14.6**	**-0.1**
	comp=Z,11nm,0.6s,mb4.6						
GKN	**Gorkha**	**25.12**	**338**	*e*P	**P**	**05 19 18.1**	**-0.6**
	comp=Z,17nm,0.4s,mb5.0						
KOLN	**Koldanda**	**25.31**	**336**	*e*P	**P**	**05 19 20.5**	**0.0**
	comp=Z,24nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**37.88**	**128**	*e*P	**P**	**05 21 11.1**	**0.0**
	comp=Z,6.8nm,0.8s,mb4.4						
HHC	**Hu-ho-hao-te**	**38.97**	**20**	*e*P	**P**	**05 21 23.6**	**+3.6**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.9						
BJI	**Beijing**	**40.07**	**26**	*e*P	**P**	**05 21 29.0**	**-0.1**
BJI				AMB	AMB		
	comp=Z,26nm,0.7s,mb5.1						
BJI	**Beijing**	**40.07**	**26**	*e*P	**P**	**05 21 29.0**	**-0.1**
	comp=Z,26nm,0.7s,mb5.1						
ULHL	**Ulahol**	**40.89**	**339**	P	**P**	**05 21 36.2**	**+0.4**
	SNR=15						
KZA	**Kyzart**	**41.11**	**338**	P	**P**	**05 21 38.7**	**+1.1**
	SNR=7.8						
KAKA	**Kakadu**	**41.15**	**115**	*e*P	**P**	**05 21 37.4**	**-0.8**
UCH	**Uchtor**	**41.52**	**337**	P	**P**	**05 21 42.3**	**+1.3**
	SNR=14						
TKM2	**Tokmak 2**	**41.71**	**339**	P	**P**	**05 21 42.5**	**-0.1**
	SNR=11						
AML	**Almayashu**	**41.76**	**336**	P	**P**	**05 21 44.3**	**+1.3**
	SNR=24						
AAK	**Ala-Archa**	**41.87**	**337**	P	**P**	**05 21 45.4**	**+1.4**
	SNR=8.6						
AAK	**Ala-Archa**	**41.87**	**337**	P	**P**	**05 21 44.7**	**+0.8**
	comp=Z,66nm,0.8s,mb5.3,SNR=11						
AAK	**Ala-Archa**	**41.87**	**337**	P	**P**	**05 21 44.4**	**+0.5**
	comp=Z,66nm,0.8s,mb5.3,SNR=11						
AAK	**Ala-Archa**	**41.87**	**337**	*e*P	**P**	**05 21 44.3**	**+0.4**
	comp=Z,6.5nm,0.7s,mb4.4						
EKS2	**Erkin-Say**	**42.17**	**337**	P	**P**	**05 21 47.5**	**+1.1**
	SNR=7.0						
SONM	**Songino Array**	**44.08**	**11**	P	**P**	**05 21 60.0**	**-1.9**
	comp=Z,2.8nm,0.8s,mb4.0,baz=190,slow=8.8,SNR=16						
SONM				PcP	PcP	05 23 46.7	-0.6
	comp=Z,1.0nm,0.6s,baz=198,slow=3.6,SNR=5.4						
ULN	**Ulaanbaatar**	**44.24**	**12**	*e*P	**P**	**05 22 01.1**	**-2.0**
	comp=Z,1.5nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**45.88**	**124**	P	**P**	**05 22 17.2**	**+0.6**
	comp=Z,11nm,0.6s,mb5.0,baz=301,slow=9.6,SNR=154						
WRAB	**Tennant Creek**	**45.89**	**124**	*e*P	**P**	**05 22 17.4**	**+0.7**
	comp=Z,12nm,0.6s,mb5.0						
CN2	**Changchun**	**47.34**	**30**	*e*P	**P**	**05 22 25.9**	**-1.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**47.38**	**128**	P	**P**	**05 22 29.0**	**+0.6**
	comp=Z,2.0nm,0.4s,mb4.4,baz=300,slow=7.8,SNR=29						
KURK	**Kurchatov**	**47.83**	**346**	P	**P**	**05 22 30.0**	**-1.5**
	comp=Z,50nm,0.5s,mb5.8,SNR=8.5						
KURK	**Kurchatov**	**47.83**	**346**	*e*P	**P**	**05 22 29.9**	**-1.7**
	comp=Z,3.9nm,0.6s,mb4.6						
BVAR	**Borovoye Array**	**52.19**	**342**	P	**P**	**05 23 03.9**	**-1.0**
	comp=Z,13nm,0.7s,mb5.0,baz=142,slow=8.6,SNR=80						
CHKZ	**Chkalovo**	**52.68**	**342**	*e*P	**P**	**05 23 07.3**	**-1.2**
MLR	**Muntele Rosu**	**71.93**	**316**	P	**P**	**05 25 17.8**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.5,baz=129,slow=13,SNR=4.8						
FINES	**FINESS Array B**	**75.82**	**332**	P	**P**	**05 25 38.9**	**-0.7**
	comp=Z,3.2nm,0.4s,mb4.6,baz=99,slow=6.3,SNR=58						
KAF	**Kangasniemi**	**75.91**	**333**	*e*p	**P**	**05 25 38.1**	**-1.9**
	comp=Z,2.6nm,0.5s,mb4.4						
ARCES	**ARCESS Array B**	**78.46**	**340**	P	**P**	**05 25 53.9**	**-0.2**
	comp=Z,2.7nm,0.5s,mb4.4,baz=92,slow=5.4,SNR=34						
GERES	**GERESS Array B**	**80.65**	**319**	P	**P**	**05 26 07.4**	**+1.1**
	comp=Z,2.5nm,0.6s,mb4.3,baz=109,slow=5.3,SNR=26						
HFS	**Hagfors**	**81.53**	**330**	P	**P**	**05 26 10.7**	**+0.1**
	comp=Z,1.1nm,0.3s,mb4.2,baz=123,slow=4.1,SNR=15						
NB2	**NORSAR Subarra**	**82.82**	**331**	P	**P**	**05 26 16.5**	**-0.8**
	comp=Z,1.9nm,0.8s,mb4.2,baz=92,slow=5.6						
NOA	**NORSAR Array B**	**82.82**	**331**	P	**P**	**05 26 16.4**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.1,baz=94,slow=5.1,SNR=4.7						
NOA	**NORSAR Array B**	**82.82**	**331**	P	**P**	**05 26 16.4**	**-0.9**
ESDC	**Sonseca Array**	**93.79**	**310**	P	**P**	**05 27 11.1**	**+0.6**
	comp=Z,0.2nm,0.7s,mb3.7,baz=61,slow=4.7,SNR=4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILAR	**Eielson Array**	**97.37**	**22**	P	**P**	**05 27 24.5**	**-1.6**
	comp=Z,0.3nm,0.6s,mb3.9,baz=290,slow=4.4,SNR=7.1						

*TAP **06** 05:17:00.7,24.66N×121.81E,h9^{km},ML3.4*
TAP Felt II J at Suao, II J at Neicheng, II J at Nioudou, III J at Nanau, I J at Sanguang, I J at Nanshan.
*JMA **06** 05:17:01.7±0.2,24.90N×121.84E,h39^{km},M2.8*
ISC 06 05:17:01.0±0.3**,24.66N**±0.02×**121.85E**±0.02**,h9^{km},n44,** σ**0.95**/65**,1C-6D,Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.05**	**178**	⇓iP	**Pg**	**05 17 02.7**	**-0.1**
TWE	**Neicheng**	**0.17**	**290**	⇓iP	**Pg**	**05 17 04.3**	**-0.5**
TWE				S	**Sg**	**05 17 06.7**	**-0.6**
EGS		**0.20**	**23**	P	**Pg**	**05 17 05.4**	**+0.1**
EGS				S	**Sg**	**05 17 09.1**	**+1.1**
ENA	**Nanau**	**0.25**	**202**	P	**Pg**	**05 17 06.0**	**-0.2**
ENA				S	**Sg**	**05 17 09.4**	**-0.4**
ENTT	**Nioudou**	**0.26**	**265**	⇓iP	**Pg**	**05 17 05.8**	**-0.6**
ENTT				S	**Sg**	**05 17 08.6**	**-1.3**
TWB1	**Santiao Chiao**	**0.37**	**20**	⇑iP	**Pg**	**05 17 08.3**	**-0.2**
TWB1				S	**Sg**	**05 17 13.1**	**-0.4**
TWA	**Mucha**	**0.40**	**323**	⇓iP	**Pg**	**05 17 09.2**	**+0.1**
TWA				S	**Sg**	**05 17 14.1**	**-0.4**
NWF	**Wu-fen Shan**	**0.41**	**352**	⇓iP	**Pg**	**05 17 09.5**	**+0.1**
NWF				S	**Sg**	**05 17 14.8**	**-0.1**
NSK	**Sanguang**	**0.45**	**272**	⇓iP	**Pg**	**05 17 09.3**	**-0.7**
NSK				S	**Sg**	**05 17 14.3**	**-1.7**
TAP1	**Taipei**	**0.48**	**322**	i P	**Pg**	**05 17 10.8**	**+0.2**
TAP1				S	**Sg**	**05 17 15.8**	**-1.2**
NNS	**Nan Shan**	**0.48**	**243**	P	**Pg**	**05 17 09.9**	**-0.9**
NNS				S	**Sg**	**05 17 16.4**	**-0.9**
TAP	**Taipei**	**0.49**	**321**	i P	**Pg**	**05 17 10.9**	**+0.1**
TAP				S	**Sg**	**05 17 16.8**	**-0.6**
TWS1	**Kuangyinshan**	**0.59**	**318**	P	**Pg**	**05 17 13.3**	**+0.6**
TWS1				S	**Sg**	**05 17 21.8**	**+1.2**
TWD	**Chiawan**	**0.62**	**202**	eP	**Pg**	**05 17 12.8**	**-0.7**
TWD				S	**Sg**	**05 17 20.8**	**-1.1**
TWY	**Chenhua**	**0.65**	**340**	eP	**Pg**	**05 17 14.1**	**0.0**
NCU	**National Centr**	**0.67**	**297**	eP	**Pb**	**05 17 15.0**	**+0.5**
HWA	**Hwalien**	**0.72**	**198**	eP	**Pb**	**05 17 15.0**	**-0.2**
TWT	**Tachien**	**0.73**	**237**	eP	**Pb**	**05 17 14.8**	**-0.8**
TWT				S	**Sb**	**05 17 25.1**	**-0.3**
NSTT	**Nanjuang**	**0.77**	**268**	eP	**Pb**	**05 17 15.8**	**-0.4**
NSTT				S	**Sb**	**05 17 25.7**	**-0.8**
ESL	**Shilin**	**0.93**	**204**	eP	**Pb**	**05 17 18.0**	**-0.8**
PCYT	**Pengchaiyu**	**0.98**	**12**	eP	**Pb**	**05 17 20.7**	**+0.9**
NSY	**Sanyi**	**1.02**	**256**	eP	**Pb**	**05 17 21.8**	**+1.4**
TWQ1	**Liyutan**	**1.03**	**253**	eP	**Pb**	**05 17 21.4**	**+0.9**
YOJ	**Yonaguni jima**	**1.08**	**100**	P	**Pb**	**05 17 21.7**	**+0.3**
YOJ				S	**Sb**	**05 17 36.6**	**+1.2**
SMLT	**Sun Moon Lake**	**1.16**	**228**	eP	**Pb**	**05 17 22.2**	**-0.6**
TYC	**Yuchr**	**1.18**	**230**	eP	**Pb**	**05 17 22.6**	**-0.5**
EHY	**Hungye**	**1.25**	**203**	eP	**Pb**	**05 17 23.4**	**-0.9**
WNT	**Mingjian**	**1.32**	**234**	eP	**Pb**	**05 17 27.2**	**+1.7**
TWF1	**Yuli**	**1.40**	**201**	eP	**Pn**	**05 17 26.4**	**-0.4**
YUS	**Yu-Shan**	**1.43**	**215**	eP	**Pn**	**05 17 27.0**	**-0.2**
ALS	**Alishan**	**1.49**	**220**	eP	**Pn**	**05 17 29.2**	**+1.1**
CHN5	**Tsauling**	**1.50**	**225**	eP	**Pn**	**05 17 29.6**	**+1.3**
CHN2	**Minshiung**	**1.68**	**228**	eP	**Pn**	**05 17 33.0**	**+2.1**
CHN4	**Tsaushan**	**1.74**	**222**	eP	**Pn**	**05 17 33.7**	**+2.0**
CHN4				S	**Sn**	**05 17 58.8**	**+4.7**
CHY	**Chiayi**	**1.74**	**229**	eP	**Pn**	**05 17 33.3**	**+1.5**
IRIF	**Iriomote-Funau**	**1.75**	**100**	P	**Pn**	**05 17 31.1**	**-0.7**
IRIF				eS	**Sn**	**05 17 53.1**	**-1.3**
STYT	**Tauyuan**	**1.79**	**214**	eP	**Pn**	**05 17 33.9**	**+1.5**
WTP	**Ta-pu**	**1.81**	**219**	eP	**Pn**	**05 17 34.3**	**+1.6**
TWK	**Hsinying**	**1.86**	**222**	eP	**Pn**	**05 17 34.9**	**+1.5**
HATJ	**Hateruma jima**	**1.89**	**108**	P	**Pn**	**05 17 33.8**	**0.0**
HATJ				eS	**Sn**	**05 17 57.3**	**-0.6**
CHN1	**Nanshi**	**1.90**	**220**	eP	**Pn**	**05 17 35.5**	**+1.5**
SGST	**Jiashian**	**1.95**	**217**	eP	**Pn**	**05 17 35.7**	**+1.0**
JKRS	**Kuro-shima**	**2.02**	**102**	P	**Pn**	**05 17 35.5**	**-0.1**
JKRS				eS	**Sn**	**05 17 59.7**	**-1.5**
JIJ	**Ishigaki jima**	**2.11**	**98**	P	**Pn**	**05 17 36.8**	**-0.2**
JIJ				eS	**Sn**	**05 18 01.1**	**-2.6**

*MOS **06** 05:21:41.7±0.9,84.94N×99.22E,h10^{km},mb6.2/107, MS6.1/55,Error ellipse: s-maj=27.7km s-min=5.1km az=88.6 Broadband fault plane solution: P waves. $M_0$3.6×10^{18} NP1:ϕ_s1°,δ42°,λ-43°. NP2:ϕ_s126°,δ62°, λ-124°. Principal axes: T Plg11°, Azm240°; N Plg29°, Azm143°; P Plg58°, Azm348°;*
*IDC **06** 05:21:41.9±0.4,84.93N×99.07E,mb5.4/32,mb1 5.6/33, mb1mx5.6/33,mbtmp5.5/33,ML4.7/1,MS6.0/19,Ms1 6.0/19, ms1mx5.9/25 Error ellipse: s-maj=14.6km s-min=8.5km az=139.0*
*BJI **06** 05:21:41.4,84.90N×99.40E,h10^{km},mB6.5,mb5.6,Ms6.3, Msz6.1*
*BGS **06** 05:21:43.6,84.95N×99.39E,h10^{km},mb5.7*
*HRVD **06** 05:21:43.4±0.1,84.93N×98.69E,h12^{km},MW6.3/78, Centroid moment Tensor Solution. LP body waves: s67,c132;Mantle waves: s78,c338; Half duration: 3.3s Moment tensor: Scale 10^{18}Nm; M_{rr}-2.95±.02; $M_{\theta\theta}$1.79±.02; $M_{\phi\phi}$1.16±.02; $M_{r\theta}$-0.25±.05; $M_{\theta\phi}$-1.53±.01; $M_{\phi r}$-0.36±.06; Best double couple: $M_0$3.026×10^{18} NP1: ϕ_s121°,δ45°,λ-102°. NP2:ϕ_s318°,δ46°,λ-78°. Principal axes: T 3.037, Plg0°, Azm39°; N -.022, Plg8°, Azm129°; P -3.016, Plg82°, Azm307°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*NEIC **06** 05:21:43.4±0.1,84.95N×99.39E,h10^{km},mb6.1/199, MS6.1/122,MW6.2,MW6.3(MOS) Error ellipse: s-maj=2.9km s-min=1.6km az=153.0,Moment Tensor Solution. s32 Moment tensor: Scale 10^{18}Nm; M_{rr}-1.62; $M_{\theta\theta}$1.10; $M_{\phi\phi}$0.52; $M_{r\theta}$0.62; $M_{\theta\phi}$-1.49; $M_{\phi r}$0.82; Best double couple: $M_0$2.3×10^{18} NP1:ϕ_s281°,δ53°,λ-133°. NP2:ϕ_s158°,δ54°,λ-48°. Principal axes: T 2.33, Plg1°, Azm220°; N -.04, Plg33°, Azm310°; P -2.29, Plg57°, Azm129°;*
ISC 06 05:21:40.4±0.6**,84.92N**±0.02×**99.7E**±0.1**,h3^{km}**±3^{km}**, h23^{km}**±2.0^{km}**:pP-P,n1154,**σ**1.05**/1211**,mb5.9**/275**, MS6.1**/185**,64C-205D,North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**12.07**	**293**	eP	**P**	**05 24 30.6**	**-5.4**
KBS				pmax	pmax		
	comp=Z,160nm,0.9s						
KBS	**Kingsbay**	**12.07**	**293**	eP	**P**	**05 24 29.8**	**-6.2**
KBS				eS	**S**	**05 26 38.2**	**-14**
ALE	**Alert**	**12.52**	**349**	Pn	**P**	**05 24 34.0**	**-8.0**
	comp=Z,495nm,0.7s,SNR=24						
HOPEN	**Hopen**	**13.17**	**276**	eP	**P**	**05 24 45.2**	**-5.5**
HOPEN				eS	**S**	**05 27 01.7**	**-17**
HOPEN				AML	AML	05 27 05.7	
	comp=Z,59nm,0.5s						
TIXI	**Tiksi**	**14.21**	**141**	eP	**P**	**05 25 02.0**	**-2.2**
TIXI				eS	**S**	**05 27 44.0**	**+0.6**
TIXI				pmax	pmax		
	comp=Z,583nm,2.8s						
TIXI	**Tiksi**	**14.21**	**141**	i P	**P**	**05 25 05.5**	**+1.3**
DAG	**Danmarks Havn**	**16.37**	**314**	⇓iP	**P**	**05 25 30.1**	**-2.0**
DAG				pmax	pmax		
	comp=Z,411nm,1.2s						
DAG	**Danmarks Havn**	**16.37**	**314**	⇓iP	**P**	**05 25 30.1**	**-2.0**
	comp=Z,410nm,1.2s						
DAG				e		05 26 27.0	
	comp=Z,44µm,22.0s						
KEV	**Kevo**	**19.45**	**267**	ep	**P**	**05 26 06.1**	**-4.1**
	comp=Z,728nm,0.7s						
KEV	**Kevo**	**19.45**	**267**	eP	**P**	**05 26 06.1**	**-4.1**
KEV				pmax	pmax		
	comp=Z,728nm,0.7s						
ARCES	**ARCESS Array B**	**19.79**	**268**	P	**P**	**05 26 12.1**	**-2.1**
	comp=Z,3.5nm,0.3s,baz=18,slow=10,SNR=65						
ARCES				LR	LR	05 34 23.6	
	comp=Z,66µm,18.1s,baz=9.7,slow=39						
ARE0	**ARCESS Array S**	**19.80**	**268**	eP	**P**	**05 26 11.9**	**-2.3**
TRO	**Tromso**	**20.29**	**275**	eP	**P**	**05 26 16.6**	**-2.9**
TRO				eS	**S**	**05 30 06.8**	**+4.6**
RES	**Resolute Bay**	**20.40**	**11**	eP	**P**	**05 26 18.8**	**-1.9**
RES				pmax	pmax		
	comp=Z,869nm,1.5s						
RES	**Resolute Bay**	**20.40**	**11**	eP	**P**	**05 26 18.8**	**-1.9**
	comp=Z,869nm,1.5s						
KTK1	**Kautokeino**	**20.51**	**270**	eP	**P**	**05 26 19.9**	**-1.9**
	comp=Z,1µm,1.3s						
KTK1	**Kautokeino**	**20.51**	**270**	eP	**P**	**05 26 19.9**	**-1.9**
KTK1				AMb	AMB	05 26 31.5	
	comp=Z,1µm,1.3s						
LVZ	**Lovozero**	**20.58**	**257**	P	**P**	**05 26 20.1**	**-2.5**
	comp=Z,3µm,1.1s,SNR=31						
LVZ	**Lovozero**	**20.58**	**257**	i P	**P**	**05 26 19.5**	**-3.1**
LVZ				eS	**S**	**05 30 07.4**	**-0.9**
LVZ				pmax	pmax		
	comp=Z,25µm,7.4s						
LVZ				pmax	pmax		
	comp=N,21µm,7.1s						
LVZ				pmax	pmax		
	comp=E,4µm,4.0s						
LVZ				smax			
	comp=E,17µm,6.8s						
LVZ				smax			
	comp=Z,8µm,7.3s						
LVZ				smax			
	comp=N,19µm,10.2s						
LVZ				MLR	MLR		
	comp=Z,31µm,13.0s,MS5.9						
LVZ				MLR	MLR		
	comp=N,24µm,20.0s						
LVZ				MLR	MLR		
	comp=E,25µm,15.0s						
LVZ	**Lovozero**	**20.58**	**257**	⇑iP	**P**	**05 26 21.3**	**-1.3**
APA	**Apatity**	**21.01**	**259**	⇑iP	**P**	**05 26 25.0**	**-2.0**
APA				i S	**S**	**05 30 13.0**	**-3.8**
APA				i SS	SS	05 30 41.0	-7.7
APA				pmax	pmax		
	comp=Z,5.0nm,2.2s						
APA				pmax	pmax		
	comp=Z,28µm,14.0s						
JMIC	**Jan Mayen**	**21.27**	**301**	P	**P**	**05 26 29.6**	**0.0**
	comp=Z,68nm,0.8s,mb5.1,baz=124,slow=7.7,SNR=8.2						
JMIC				LR	LR	05 33 13.6	
	comp=Z,16µm,19.1s,MS5.4,baz=14,slow=33						
JMIC	**Jan Mayen**	**21.27**	**301**	eP	**P**	**05 26 29.9**	**+0.3**
JMIC				eS	**S**	**05 30 27.8**	**+6.0**
SUMG	**Summit**	**21.61**	**327**	eP	**P**	**05 26 33.2**	**+0.2**
	comp=Z,14µm,2.1s,mb7.0						
LOF	**Lofoten**	**22.23**	**279**	eP	**P**	**05 26 42.1**	**+2.9**
	comp=Z,952nm,1.4s,mb6.0						
LOF	**Lofoten**	**22.23**	**279**	eP	**P**	**05 26 42.1**	**+2.9**
LOF				AMb	AMB	05 26 59.0	
	comp=Z,952nm,1.4s,mb6.0						
YAK	**Yakutsk**	**23.82**	**144**	d iP	**P**	**05 26 55.6**	**+1.0**
YAK				eS	**S**	**05 31 14.6**	**+6.9**
YAK				pmax	pmax		
	comp=Z,139nm,1.1s,mb5.3						
YAK				pmax	pmax		
	comp=N,95nm,1.2s						
YAK				pmax	pmax		
	comp=E,27nm,1.0s						
YAK				smax			
	comp=N,7.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,1.0s						
YAK				smax			
	comp=Z,11nm,1.0s						
YAK				MLR	MLR		
	comp=N,10µm,20.0s,MS5.5						
YAK				MLR	MLR		
	comp=E,8µm,15.0s,MS5.5						
YAK	**Yakutsk**	**23.82**	**144**	eP	**P**	**05 26 55.5**	**+0.9**
	comp=E,328nm,1.0s,mb5.7						
YAK				LR	LR		
	comp=Z,20µm,20.0s,MS5.6						
MOR8	**Moi Rana**	**24.06**	**277**	eP	**P**	**05 26 55.0**	**-1.9**
	comp=Z,523nm,1.5s,mb5.7						
MOR8	**Moi Rana**	**24.06**	**277**	eP	**P**	**05 26 55.0**	**-1.9**
MOR8				AMb	AMB	05 27 14.7	
	comp=Z,523nm,1.6s,mb5.7						
SEY	**Seymchan**	**24.44**	**118**	eP	**P**	**05 27 03.0**	**+2.4**
SEY						05 27 37.6	
SEY				ePPP	PPP	05 27 49.0	+2.6
SEY				eS	**S**	**05 31 20.4**	**+2.1**
SEY				SS	SS	05 32 19.6	+7.6
SEY				pmax	pmax		
	comp=Z,1µm,1.7s,mb6.0						
SEY				pmax	pmax		
	comp=N,400nm,1.4s						
SEY				pmax	pmax		
	comp=E,210nm,1.2s						
SEY				smax			
	comp=N,18µm,7.4s						
SEY				smax			
	comp=E,4µm,6.8s						
SEY				MLR	MLR		
	comp=Z,43µm,13.0s,MS6.1						
SEY				MLR	MLR		
	comp=N,25µm,14.0s,MS6.0						
SEY				MLR	MLR		
	comp=E,13µm,11.0s,MS6.0						
INK	**Inuvik**	**25.21**	**44**	P	**P**	**05 27 08.6**	**+0.6**
	comp=E,520nm,1.2s,mb5.9,baz=357,slow=12,SNR=125						
INK				S	**S**	**05 31 45.2**	**+14**
	comp=E,17nm,0.7s,baz=83,slow=18,SNR=7.5						
INK	**Inuvik**	**25.21**	**44**	eP	**P**	**05 27 08.3**	**+0.4**
	comp=E,788nm,1.5s,mb6.0						
JOF	**Joensuu**	**25.76**	**258**	ep	**P**	**05 27 11.6**	**-1.6**
	comp=E,281nm,0.8s,mb5.8						
NSS	**Namsos**	**25.89**	**278**	eP	**P**	**05 27 12.1**	**-2.3**
NSS				eS	**S**	**05 31 49.1**	**+6.3**
NSS				AMS	AMS	05 44 51.1	
	comp=Z,14µm,16.0s,MS5.6						
IMA	**Indian Mountai**	**25.98**	**63**	P	**P**	**05 27 12.6**	**-2.6**
IMA				pmax	pmax		
	comp=Z,3µm,1.6s,mb6.5						
IMA	**Indian Mountai**	**25.98**	**63**	eP	**P**	**05 27 17.7**	**+2.5**
KAF	**Kangasniemi**	**27.00**	**263**	ep	**P**	**05 27 22.5**	**-2.1**
	comp=Z,51nm,0.8s,mb5.1						
KAF	**Kangasniemi**	**27.00**	**263**	eP	**P**	**05 27 22.5**	**-2.1**
KAF				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.1						
SOKR	**Solikamsk**	**27.06**	**230**	c iP	**P**	**05 27 24.7**	**-0.5**
SOKR				i S	**S**	**05 31 58.7**	**-3.2**
SOKR				pmax	pmax		
	comp=Z,240nm,1.0s,mb5.7						
SOKR				MLR	MLR		
	comp=Z,67µm,18.0s,MS6.2						
BOD	**Bodaibo**	**27.42**	**163**	eP	**P**	**05 27 26.7**	**-1.8**
BOD				pmax	pmax		
	comp=Z,235nm,1.4s,mb5.5						
COLA	**College**	**27.61**	**58**	c iP	**P**	**05 27 31.1**	**+0.9**
COLA	**College**	**27.61**	**58**	eP	**P**	**05 27 32.4**	**+2.2**
MA2	**Magadan**	**27.64**	**121**	d iP	**P**	**05 27 31.8**	**+1.3**
MA2				eS	**S**	**05 32 10.2**	**-1.1**
MA2				pmax	pmax		
	comp=Z,300nm,2.4s,mb5.5						
MA2	**Magadan**	**27.64**	**121**	eP	**P**	**05 27 31.5**	**+1.0**
	comp=Z,1µm,2.1s,mb6.1						
MA2				LR	LR		
	comp=Z,9µm,19.0s,MS5.4						
FINES	**FINESS Array B**	**27.68**	**263**	P	**P**	**05 27 30.1**	**-0.8**
	comp=Z,44nm,0.9s,mb5.1,baz=18,slow=12,SNR=41						
FINES				LR	LR	05 39 12.2	
	comp=Z,24µm,18.5s,MS5.8,baz=192,slow=38						
SFJ	**Sondre**	**27.70**	**335**	eP	**P**	**05 27 29.8**	**-1.2**
	comp=Z,696nm,1.4s,mb6.1						
SFJ				LR	LR		
	comp=Z,29µm,20.0s,MS5.8						
SFJD	**Kangerlussuaq**	**27.70**	**335**	⇓iP	**P**	**05 27 30.6**	**-0.4**
	comp=Z,280nm,1.4s,mb5.7						
SFJD				i S	**S**	**05 32 18.5**	**+6.3**
	comp=Z,26µm,18.0s						
ILAR	**Eielson Array**	**27.78**	**58**	P	**P**	**05 27 33.4**	**+1.7**
ILAR						05 30 47.1	
ILAR	**Eielson Array**	**27.78**	**58**	P	**P**	**05 27 33.4**	**+1.6**
	comp=Z,24nm,0.9s,baz=350,slow=5.9,SNR=120						
ILAR				PcP	PcP	05 30 47.0	-1.5
	comp=Z,21nm,1.1s,baz=329,slow=3.5,SNR=6.1						
ILAR				LR	LR	05 37 37.1	
	comp=Z,28µm,21.1s,MS5.8,baz=11,slow=34						
ILAR	**Eielson Array**	**27.78**	**58**	P	**P**	**05 27 33.4**	**+1.6**
ILAR				PcP	PcP	05 30 47.0	-1.5
ILAR				LR	LR	05 37 37.1	
MOL	**Molde**	**28.21**	**282**	eP	**P**	**05 27 34.5**	**-1.1**
	comp=Z,245nm,1.8s,mb5.5						
MOL	**Molde**	**28.21**	**282**	eP	**P**	**05 27 34.5**	**-1.1**
MOL				AMb	AMB	05 27 50.7	
	comp=Z,245nm,1.8s,mb5.5						
CLNS	**Chul'man**	**28.78**	**151**	eP	**P**	**05 27 40.5**	**-0.3**
CLNS				e		05 28 32.5	
CLNS				ePPP	PPP	05 28 41.9	-4.4
CLNS				eS	**S**	**05 32 32.1**	**+2.3**
CLNS				eSS	SS	05 33 58.9	+2.7
CLNS				pmax	pmax		
	comp=N,94nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,173nm,1.1s,mb5.7						
CLNS				pmax	pmax		
	comp=E,38nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,131nm,1.3s,mb5.5						
CLNS				pmax	pmax		
	comp=N,69nm,1.0s						
CLNS				pmax	pmax		
	comp=E,88nm,1.1s						
CLNS				smax			
	comp=N,10µm,16.9s						
CLNS				smax			
	comp=Z,4µm,16.3s						
CLNS				smax			
	comp=E,845nm,16.4s						
CLNS				MLR	MLR		
	comp=Z,17µm,15.0s,MS5.8						
CLNS				MLR	MLR		
	comp=N,16µm,16.0s,MS5.8						
CLNS				MLR	MLR		
	comp=E,2µm,13.0s,MS5.8						
PUL	**Pulkovo**	**28.96**	**258**	eP	**P**	**05 27 41.7**	**-0.7**
PUL				eS	**S**	**05 32 30.2**	**-2.4**
PUL				pmax	pmax		
	comp=Z,275nm,1.2s,mb5.9						
PUL				pmax	pmax		
	comp=N,642nm,1.4s						
PUL				pmax	pmax		
	comp=E,93nm,0.8s						
PUL				MLR	MLR		
	comp=Z,26µm,18.0s,MS5.9						
PUL				MLR	MLR		
	comp=N,16µm,19.0s,MS5.8						
PUL				MLR	MLR		
	comp=E,12µm,16.0s,MS5.8						
PUL	**Pulkovo**	**28.96**	**258**	i P	**P**	**05 27 42.0**	**-0.4**
DAWY	**Dawson**	**29.02**	**51**	eP	**P**	**05 27 42.6**	**-0.4**
NB2	**NORSAR Subarra**	**29.40**	**278**	P	**P**	**05 27 45.1**	**-1.3**
	comp=E,492nm,1.7s,mb6.0,baz=17,slow=8.6						
NB2	**NORSAR Subarra**	**29.40**	**278**	P	**P**	**05 27 45.1**	**-1.3**
NB2				pmax	pmax		
	comp=Z,492nm,1.7s,mb6.0						
NB2	**NORSAR Subarra**	**29.40**	**278**	P	**P**	**05 27 45.1**	**-1.3**
	baz=17,slow=9.3						
NOA	**NORSAR Array B**	**29.40**	**278**	P	**P**	**05 27 45.7**	**-0.6**
	comp=Z,48nm,1.1s,mb5.1,baz=12,slow=8.7,SNR=17						
NOA				LR	LR	05 39 17.0	
	comp=Z,20µm,20.3s,MS5.7,baz=5.0,slow=36						
NOA	**NORSAR Array B**	**29.40**	**278**	P	**P**	**05 27 45.7**	**-0.6**
NOA				LR	LR	05 39 17.0	
NAO01	**NORSAR Array S**	**29.62**	**278**	eP	**P**	**05 27 47.5**	**-0.8**
	comp=Z,164nm,1.4s,mb5.6						
NAO01				LR	LR		
	comp=Z,24µm,21.0s,MS5.8						
HFS	**Hagfors**	**30.07**	**275**	P	**P**	**05 27 51.5**	**-0.9**
	comp=Z,34nm,1.0s,mb5.0,baz=14,slow=6.1,SNR=22						
BER	**Bergen**	**30.56**	**283**	eP	**P**	**05 27 54.9**	**-1.8**
BER				eS	**S**	**05 33 00.6**	**+2.5**
VSU	**Vasula**	**30.57**	**261**	d iP	**P**	**05 27 55.5**	**-1.2**
VSU	**Vasula**	**30.57**	**261**	i Pr		05 27 55.6	
PWA	**Palmer West**	**30.64**	**61**	eP	**P**	**05 27 59.1**	**+1.7**
SVW2	**Sparrevohn**	**30.73**	**67**	eP	**P**	**05 27 59.5**	**+1.3**
KONO	**Kongsberg**	**30.91**	**279**	i P	**P**	**05 27 58.7**	**-1.1**
KONO	**Kongsberg**	**30.91**	**279**	eP	**P**	**05 27 59.4**	**-0.4**
KONO				eS	**S**	**05 33 04.7**	**+1.1**
PECR	**Pechory**	**31.23**	**243**	eP	**P**	**05 28 02.4**	**-0.2**
PECR				e		05 29 02.0	
PECR				ePPP	PPP	05 29 19.0	-1.3
PECR				e		05 31 04.0	
PECR				eS	**S**	**05 33 02.4**	**-6.1**
PECR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
PECR				pmax	pmax		
	comp=Z,5µm,12.0s						
PECR				smax			
	comp=N,9µm,14.0s						
PECR				MLR	MLR		
	comp=Z,134µm,22.0s,MS6.6						
FRB	**Frobisher Bay**	**31.43**	**350**	P	**P**	**05 28 03.4**	**-0.9**
	comp=Z,75nm,1.0s,mb5.5,baz=359,slow=8.9,SNR=24						
FRB				PcP	PcP	05 30 57.1	-0.8
	comp=Z,9.6nm,0.8s,baz=227,slow=20,SNR=3.8						
YKW3	**Yellowknife Ar**	**31.94**	**30**	eP	**P**	**05 28 07.6**	**-1.2**
STAV	**Stavanger**	**31.96**	**282**	eP	**P**	**05 28 08.5**	**-0.5**
YKA	**Yellowknife Ar**	**32.01**	**30**	P	**P**	**05 28 08.4**	**-1.0**
	comp=Z,64nm,1.1s,mb5.4,baz=352,slow=8.2,SNR=163						
YKA				PcP	PcP	05 30 57.7	-1.7
	comp=Z,9.9nm,0.9s,baz=342,slow=3.1,SNR=5.0						
YKA				LR	LR	05 41 34.8	
	comp=Z,83µm,18.6s,MS6.5,baz=335,slow=37						
YKA	**Yellowknife Ar**	**32.01**	**30**	P	**P**	**05 28 08.4**	**-1.0**
YKA				PcP	PcP	05 30 57.7	-1.7
YKA				LR	LR	05 41 34.8	
CHKZ	**Chkalovo**	**32.12**	**213**	i P	**P**	**05 28 09.9**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,372nm,1.5s,mb6.0						
CHKZ	**Chkalovo**	**32.12**	**213**	eP	**P**	**05 28 09.7**	**-0.8**
	comp=Z,398nm,1.3s,mb6.1						
MOS	**Moscow**	**32.33**	**249**	κ iP	**P**	**05 28 12.2**	**0.0**
MOS				e		05 29 23.5	
MOS				ePPP	PPP	05 29 31.9	-3.0
MOS				e		05 30 59.7	
MOS				eS	**S**	**05 33 26.4**	**+0.8**
MOS				eSS	SS	05 35 25.0	+5.3
MOS				eSSS	SSS	05 35 38.7	-4.3
MOS				e		05 38 42.8	
MOS				pmax	pmax		
	comp=Z,284nm,1.5s,mb5.9						
MOS				pmax	pmax		
	comp=N,3µm,4.8s						
MOS				pmax	pmax		
	comp=Z,3µm,4.8s						
MOS				smax			
	comp=N,14µm,11.8s						
BVA0	**Borovoye Array**	**32.78**	**213**	i P	**P**	**05 28 16.3**	**+0.1**
BVA0				pmax	pmax		
	comp=Z,97nm,1.4s,mb5.5						
BVAR	**Borovoye Array**	**32.78**	**213**	P	**P**	**05 28 16.1**	**-0.1**
	comp=Z,58nm,0.9s,mb5.5,baz=4.4,slow=7.2,SNR=104						
BVAR				PP	PP	05 29 19.9	-5.7
	comp=Z,81nm,0.9s,baz=9.5,slow=8.8,SNR=5.3						
IRK	**Irkutsk**	**32.84**	**175**	⇓iP	**P**	**05 28 15.5**	**-1.3**
IRK				pmax	pmax		
	comp=Z,701nm,1.2s,mb6.5						
OBN	**Obninsk**	**33.03**	**250**	P	**P**	**05 28 17.4**	**-1.0**
	comp=Z,2µm,1.2s,mb6.9,SNR=56						
OBN	**Obninsk**	**33.03**	**250**	d iP	**P**	**05 28 17.4**	**-1.0**
OBN				e		05 29 25.5	
OBN				eSS	SS	05 35 32.8	-3.2
OBN				pmax	pmax		
	comp=Z,531nm,2.0s,mb6.1						
OBN				MLR	MLR		
	comp=Z,35µm,18.0s,MS6.1						
OBN	**Obninsk**	**33.03**	**250**	eP	**P**	**05 28 17.4**	**-1.0**
	comp=Z,385nm,1.1s,mb6.2						
OBN				LR	LR		
	comp=Z,11µm,22.0s,MS5.5						
IZAR	**Zarasai**	**33.29**	**261**	eP	**P**	**05 28 19.7**	**-1.0**
IZAR				AMb	AMB	05 28 24.1	
	comp=Z,82nm,1.4s,mb5.5						
TLY	**Talaya**	**33.40**	**176**	P	**P**	**05 28 21.1**	**-0.6**
	comp=Z,685nm,1.3s,mb6.4,SNR=88						
TLY	**Talaya**	**33.40**	**176**	eP	**P**	**05 28 21.6**	**-0.1**
TLY				eS	**S**	**05 33 41.5**	**-1.0**
TLY				pmax	pmax		
	comp=Z,255nm,1.5s,mb5.9						
TLY				MLR	MLR		
	comp=Z,26µm,18.0s,MS6.0						
TLY	**Talaya**	**33.40**	**176**	eP	**P**	**05 28 20.7**	**-0.9**
	comp=Z,234nm,1.4s,mb5.9						
TLY				LR	LR		
	comp=Z,7µm,19.0s,MS5.4						
MOY	**Mondy**	**33.41**	**179**	eP	**P**	**05 28 22.0**	**+0.3**
MOY				pmax	pmax		
	comp=Z,682nm,2.4s,mb6.2						
ISAL	**Salakas**	**33.48**	**261**	eP	**P**	**05 28 21.5**	**-0.7**
ISAL				AMb	AMB	05 28 26.6	
	comp=Z,107nm,1.5s,mb5.6						

IDID Didziasalis 33.68 260 *e*P P **05 28 23.1 -0.9**
IDID AMb AMB 05 28 27.6
comp=Z,57nm,1.5s,mb5.3

IIGN Ignalina 33.69 261 *e*P P **05 28 23.3 -0.8**
IIGN AMb AMB 05 28 27.6
comp=Z,72nm,1.4s,mb5.4

MCD Coleburn Disti 34.07 290⇑ *e*P P **05 28 27.4 +0.1**
MUD Monsted U'grnd 34.11 278⇓ *i*P P **05 28 27.6 -0.2**
MUD *i* S S **05 33 49.2 -4.2**
MUD pmax pmax
comp=Z,141nm,1.0s,mb5.8

MUD Monsted U'grnd 34.11 278⇓ *i*P P **05 28 27.6 -0.2**
comp=Z,141nm,1.0s,mb5.8
MUD *i* 05 28 38.4
MUD *i* S S **05 33 49.2 -4.2**
MUD *i* 05 34 07.3
comp=Z,24µm,17.0s

KDAK Kodiak Island 34.26 65 *e*P P **05 28 29.9 +0.9**
comp=Z,105nm,1.0s,mb5.7
KDAK LR LR
comp=Z,8µm,19.0s,MS5.5

MDO Dochfour 34.30 291⇑ *e*P P **05 28 29.1 -0.2**
MME1 Meikle Cairn 34.31 290 *e*P P **05 28 29.4 0.0**
MNK Minsk 34.39 259⇑ *i*P P **05 28 28.0 -2.2**
COP Copenhagen 34.59 275⇓ *i*P P **05 28 30.5 -1.3**
COP *i* S S **05 34 02.3 +1.6**
COP pmax pmax
comp=Z,132nm,1.0s,mb5.8

COP MLR MLR
comp=Z,11µm,17.0s,MS5.7

COP Copenhagen 34.59 275⇓ *i*P P **05 28 30.5 -1.3**
comp=Z,132nm,1.0s,mb5.8
COP *i* S S **05 34 02.3 +1.6**
comp=Z,11µm,17.0s

ZAK Zakamensk 34.70 176⇓ *i*P P **05 28 33.0 +0.1**
ZAK pmax pmax
comp=Z,51nm,1.6s,mb5.2

KURK Kurchatov 34.74 204 P P **05 28 32.9 -0.3**
comp=Z,520nm,0.9s,mb6.5,SNR=38
KURK Kurchatov 34.74 204 *i* P P **05 28 32.9 -0.3**
KURK pmax pmax
comp=Z,1µm,4.0s

KURK Kurchatov 34.74 204 *e*P P **05 28 32.5 -0.7**
comp=Z,169nm,1.3s,mb5.8
KURK LR LR
comp=Z,14µm,22.0s,MS5.7

PET Petropavlovsk 34.76 115 *e*P P **05 28 31.7 -1.7**
PET *e* 05 29 55.1
PET *e*S S **05 34 10.0 +6.5**
PET pmax pmax
comp=Z,88nm,1.1s,mb5.6

PET pmax pmax
comp=Z,2µm,14.1s

PET pmax pmax
comp=Z,3µm,15.3s

PET smax
comp=N,7µm,25.7s

PET MLR MLR
comp=Z,16µm,20.0s,MS5.8

PET MLR MLR
comp=Z,15µm,20.0s

PET Petropavlovsk 34.76 115 *e*P P **05 28 33.1 -0.3**
comp=Z,85nm,1.1s,mb5.6
PET LR LR
comp=Z,15µm,20.0s,MS5.7

BSD Bornholm Skovb 34.93 272 *e*P P **05 28 33.7 -1.1**
BSD *i* S S **05 34 05.4 -0.7**
BSD *i* 05 34 07.8
BSD pmax pmax
comp=Z,143nm,1.3s,mb5.7

BSD Bornholm Skovb 34.93 272 *e*P P **05 28 33.7 -1.1**
comp=Z,143nm,1.3s,mb5.7
BSD *i* S S **05 34 05.4 -0.7**
BSD *i* 05 34 07.8

BSD Bornholm Skovb 34.93 272 *i* P P **05 28 33.7 -1.1**
comp=Z,143nm,1.3s,mb5.7
BSD *i* S S **05 34 05.4 -0.7**
BSD *i* 05 34 07.8
comp=Z,13µm,17.0s

EDU Dundee 35.07 290 *e*P P **05 28 35.7 -0.3**
DLBC Dease Lake 35.24 44 P P **05 28 39.0 +1.6**
comp=Z,172nm,1.1s,mb5.9,baz=357,slow=9.7,SNR=48
DLBC LR LR 05 43 51.8
comp=Z,18µm,20.1s,MS5.8,baz=3.6,slow=38

DLBC Dease Lake 35.24 44 *e*P P **05 28 38.7 +1.4**
SUW Suwalki 35.28 264 *e*P P **05 28 36.7 -1.2**
SUW *e*pP pP 05 28 43.6 +4.9
SUW *e*S S **05 34 11.5 -0.1**
SUW MLR MLR 05 42 55.5
comp=Z,45µm,22.3s,MS6.2

EAB Aberfoyle 35.54 291 *e*P P **05 28 38.9 -1.1**
EAB AMb AMB 05 28 44.7
comp=Z,181nm,1.6s,mb5.7

RGN Rugen 35.63 274 P P **05 28 37.9 -2.9**
comp=Z,1µm,1.5s,mb6.5

PCOU Corrie 35.72 291⇑ *e*P P **05 28 41.5 0.0**
EAU Auchinoon 35.80 290⇑ *e*P P **05 28 42.3 0.0**
EAU AMb AMB 05 28 54.6
comp=Z,487nm,1.5s,mb6.2

POB1 Observatory 35.89 291 *e*P P **05 28 43.0 0.0**
PMSU Muirshiel 35.91 291⇑ *e*P P **05 28 43.2 0.0**
PCA1 Carrot 36.02 291⇑ *e*P P **05 28 44.2 +0.2**
FX1 Attu Island--F 36.13 100 *e*P P **05 28 44.4 -0.6**
VOR Voronezh 36.17 247 *e*P P **05 28 44.7 -0.7**
VOR *e* 05 28 50.5
VOR pmax pmax
comp=Z,470nm,1.7s,mb6.1

VOR pmax pmax
comp=N,500nm,1.6s

VOR pmax pmax
comp=E,100nm,1.6s

SIT Sitka 36.27 49 *e*P P **05 28 50.2 +4.1**
ESK Eskdalemuir 36.31 290 P P **05 28 46.8 +0.3**
comp=E,418nm,1.9s,mb6.0,SNR=8.3

ESK Eskdalemuir 36.31 290 *e*P P **05 28 43.6 -2.9**
ESK pmax pmax
comp=Z,539nm,1.9s,mb6.2

ESK MLR MLR
comp=Z,3µm,22.0s,MS5.1

ESK Eskdalemuir 36.31 290 *e*P P **05 28 43.6 -2.9**
comp=Z,539nm,1.9s,mb6.2
ESK LR LR
comp=Z,3µm,22.0s,MS5.1

ESK Eskdalemuir 36.31 290⇑ *e*P P **05 28 46.6 +0.2**
ESK AMb AMB 05 28 51.7
comp=Z,196nm,1.5s,mb5.8

SMY Shemya 36.37 99 *e*P P **05 28 49.4 +2.4**
SMY MLR MLR
comp=Z,22µm,20.0s,MS5.9

FCC Fort Churchill 36.40 12 *e*P P **05 28 45.8 -1.4**
FCC pmax pmax
comp=Z,787nm,1.5s,mb6.4

FCC Fort Churchill 36.40 12 *e*P P **05 28 45.8 -1.4**
comp=Z,788nm,1.5s,mb6.4

BBH Bruntsheil 36.47 289 *e*P P **05 28 47.6 -0.2**
GMK Mull of Kintyr 36.48 292⇑ *e*P P **05 28 47.8 -0.1**
BWH Wardlaw 36.49 290⇑ *e*P P **05 28 48.5 +0.6**
BSEG Bad Segeberg 36.51 276 *e*P P **05 28 48.1 -0.1**
BHH Howats Hill 36.53 290 *e*P P **05 28 47.6 -0.8**
GKP Gorka Klasztor 36.55 269 *e*P P **05 28 48.0 -0.5**
GKP *e*pP pP 05 28 56.4 +7.0
GKP *e*S S **05 34 34.0 +2.9**
GKP LR LR
comp=Z,38µm,22.4s,MS6.1

GKP Gorka Klasztor 36.55 269 *e*P P **05 28 48.0 -0.6**
GKP *e*pP pP 05 28 56.4 +7.0
GKP *e*S S **05 34 34.0 +2.9**
GKP MLR MLR 05 43 29.8
comp=Z,38µm,22.4s,MS6.1

BCC1 Chapelcross 36.61 290 *e*P P **05 28 49.6 +0.6**
BTA Talkin 36.67 289⇑ *e*P P **05 28 49.1 -0.4**
KLR Kul'dur 36.71 144 *e*P P **05 28 46.8 -3.1**
KLR *e*S S **05 34 33.5 0.0**
KLR pmax pmax
comp=N,360nm,2.8s

KLR pmax pmax
comp=E,350nm,2.8s

KLR pmax pmax
comp=Z,420nm,2.8s,mb5.8

KLR smax
comp=N,6µm,15.0s

KLR smax
comp=E,4µm,15.0s

AKUT Akutan 36.76 79 *e*P P **05 28 52.3 +2.0**
GCL Cushendall 36.79 293⇑ *e*P P **05 28 50.7 +0.1**

BDL Dobcross Hall 36.80 289⇑ *e*P P **05 28 49.9 -0.7**
SKR Severo-Kuril's 36.88 118 *e*P P **05 28 48.0 -3.3**
SKR MLR MLR
comp=E,20µm,16.0s,MS6.0

SKR MLR MLR
comp=Z,12µm,16.0s,MS5.8

SKR MLR MLR
comp=N,10µm,18.0s,MS6.0

GAL1 Galloway 36.88 291 *e*P P **05 28 50.3 -1.0**
BBO1 Bothel 36.89 290 *e*P P **05 28 50.4 -1.0**
WAR Warsaw 37.23 265 *e*P P **05 28 54.7 +0.4**
WAR *e*pP pP 05 29 02.8 +7.7
WAR *e*PP PP 05 30 22.1 +0.9
WAR *e*S S **05 34 38.7 -2.9**
WAR MLR MLR 05 43 40.5
comp=N,40µm,23.9s,MS6.1

ULN Ulaanbaatar 37.26 172⇓ *e*P P **05 28 55.2 +0.7**
ULN *e* 05 30 22.0
ULN *e* 05 31 14.4
ULN pmax pmax
comp=Z,119nm,1.1s,mb5.6

ULN MLR MLR
comp=Z,24µm,20.0s,MS6.0

ULN Ulaanbaatar 37.26 172⇓ *e*P P **05 28 55.2 +0.6**
comp=Z,119nm,1.1s,mb5.6
ULN *e*PP PP 05 30 22.0 +0.5
ULN *e*PcP PcP 05 31 14.4 -0.2
ULN LR LR
comp=Z,24µm,20.0s,MS6.0

SONM Songino Array 37.28 173 P P **05 28 55.8 +1.1**
comp=Z,156nm,0.9s,mb5.8,baz=346,slow=6.3,SNR=123

HPK Haverah Park 37.52 288⇑ *e*P P **05 28 57.2 +0.5**
WIM Isle of Man 37.59 291 *e*P P **05 28 57.4 +0.1**
GMM Mts of Mourne 37.61 292 *e*P P **05 28 57.1 -0.3**
RUE Ruedersdorf 37.64 273 *e*P P **05 28 57.2 -0.5**
comp=Z,209nm,1.1s,mb5.8

WIT Witteveen 37.94 280 *e*P P **05 29 02.0 +1.8**
LHO Holmfirth 37.95 288⇑ *e*P P **05 29 00.4 +0.1**
DMUB Kingscourt 38.02 293 *e*P P **05 29 01.2 +0.3**
KBI1 Birley Grange 38.21 288 *e*P P **05 29 02.6 +0.1**
WME Myndd Eilian 38.31 290⇑ *e*P P **05 29 03.0 -0.2**
WME AMb AMB 05 29 08.9
comp=Z,220nm,2.2s,mb5.5

WCB1 Church Bay 38.34 291⇑ *e*P P **05 29 03.2 -0.4**
WCB1 AMb AMB 05 29 09.4
comp=Z,255nm,1.9s,mb5.6

YRC Rhoscolyn 38.47 291⇑ *e*P P **05 29 04.6 -0.1**
YRC AMb AMB 05 29 09.4
comp=Z,199nm,1.5s,mb5.6

KWE Weaver Farm 38.48 288⇑ *e*P P **05 29 05.2 +0.5**
MKAR Makanchi Array 38.54 199 *i* P P **05 29 03.6 -1.7**
MKAR pmax pmax
comp=Z,892nm,1.8s

MKAR Makanchi Array 38.54 199 *i* P P **05 29 03.7 -1.6**
CLZ Clausthal 38.58 276 *e*P P **05 29 06.0 +0.4**
comp=Z,571nm,1.3s,mb6.1

DLF Lyons Farm 38.59 292 *e*P P **05 29 05.8 +0.1**
DCN Croghan 38.60 293 *e*P P **05 29 05.9 +0.1**
DSB Dublin 38.63 292 *e*P P **05 29 03.5 -2.5**
comp=Z,363nm,1.6s,mb5.9

YRE Yr Eifl 38.73 290⇑ *e*P P **05 29 06.7 -0.2**
YRE AMb AMB 05 29 12.7
comp=Z,263nm,1.8s,mb5.7

WTSB Winterswijk 38.77 279⇓ *i*P P **05 29 07.4 +0.2**
comp=Z,337nm,2.2s,mb5.7
CLL Collm 38.87 273 *i* P P **05 29 07.5 -0.6**
CLL *e*S S **05 35 04.0 -2.5**
CLL pmax pmax
comp=Z,1µm,2.7s,mb6.1

CLL MLR MLR
comp=Z,23µm,20.5s,MS6.0

CLL Collm 38.87 273 *i* P P **05 29 07.5 -0.6**
comp=Z,1µm,2.7s,mb6.1
CLL *i* 05 29 18.3
CLL *e*S S **05 35 04.0 -2.5**
CLL LR LR
comp=Z,23µm,20.5s,MS6.0

CLL Collm 38.87 273 P P **05 29 07.5 -0.6**
comp=Z,logA/T=2.6,mb6.1
CLL *i* 05 29 15.7
CLL *i* 05 29 18.3
CLL *e*PP PP 05 30 38.0 -2.8
CLL *e* 05 30 43.0
CLL *e*PPP PPP 05 30 56.0 -7.8
CLL *e*S S **05 35 04.0 -2.5**
CLL *e* 05 37 21.0
CLL *e*SS SS 05 37 48.0 -0.4
KSP Ksiaz 39.04 270 *e*P P **05 29 09.0 -0.5**
KSP *e* 05 29 17.6
KSP *e**PP Px 05 30 40.2
KSP *e* 05 31 18.1
KSP *e*S S **05 34 59.4 -10**
KSP *e*SS SS 05 37 45.2 -6.9
KSP MLR MLR
comp=Z,48µm,23.0s,MS6.3

KSP Ksiaz 39.04 270 *e*P P **05 29 09.3 -0.1**
KSP *e*pP pP 05 29 17.7 +7.3
KSP *e*S S **05 35 08.5 -0.5**
KSP MLR MLR 05 44 44.1
comp=Z,42µm,23.0s,MS6.2

HLM1 Long Mynd 39.06 289 *e*P P **05 29 09.7 +0.1**
SSP1 Stoney Pound 39.18 289 *e*P P **05 29 09.7 -0.9**
BRG Berggiesshubel 39.22 272 *i* P P **05 29 10.7 -0.3**
BRG *i* pP 05 29 13.3 +1.5
BRG *i* 05 29 17.1
BRG *i* S S **05 35 10.0 -1.7**
BRG pmax pmax
comp=Z,236nm,1.8s,mb5.6

BRG MLR MLR
comp=Z,28µm,23.3s,MS6.0

BRG Berggiesshubel 39.22 272 *i* P P **05 29 10.7 -0.3**
comp=Z,236nm,1.8s,mb5.6
BRG *i* pP 05 29 13.3 +1.5
BRG *i* 05 29 17.1
BRG *i* PP PP 05 30 37.0 -7.8
BRG *i* S S **05 35 10.0 -1.7**
BRG LR LR
comp=Z,28µm,23.3s,MS6.0

OJC Ojcow 39.34 266 *e*P P **05 29 11.8 -0.2**
OJC *e*PP PP 05 30 42.2 -4.0
OJC *e*S S **05 35 12.8 -0.8**
OJC MLR MLR 05 45 56.4
comp=Z,44µm,18.9s,MS6.3

LVV L'vov 39.37 262 *e*P P **05 29 12.0 -0.2**
LVV *i* PPP PP 05 30 52.8 +6.4
LVV *e*S S **05 35 14.0 0.0**
LVV *e*SS SS 05 38 04.8 +5.5
LVV *e*SSS SSS 05 38 29.4 -4.7
LVV MLR MLR
comp=Z,12µm,16.0s,MS5.8

LVV MLR MLR
comp=N,10µm,17.0s,MS5.8

LVV MLR MLR
comp=E,8µm,17.0s,MS5.8

UPC Upice 39.40 270⇓ *i*P P **05 29 12.2 -0.2**
PVCC Panska Ves 39.50 271⇓ *e*S S **05 35 16.6 +0.5**
PVCC AMS AMS 05 49 50.0
comp=E,20µm,19.4s

HAE Alders End 39.51 288 *e*P P **05 29 13.2 -0.2**
HAE AMb AMB 05 29 19.8
comp=Z,452nm,2.0s,mb5.9

DPC Dobruska-Polom 39.52 270⇓ *i*P P **05 29 13.6 +0.1**
DPC *e*PP PP 05 30 42.3 -5.8
DPC *e*S S **05 35 16.6 +0.2**
DPC AMS AMS 05 45 10.0
comp=Z,27µm,22.2s

HTR Trewern Hill 39.53 289⇑ *e*P P **05 29 13.6 +0.1**
HTR AMb AMB 05 29 18.7
comp=Z,64nm,2.1s,mb5.0

MCH1 Michaelchurch 39.58 289 *e*P P **05 29 14.2 +0.2**
RAC Raciborz 39.62 268 *e*P P **05 29 14.7 +0.4**
RAC *e*S S **05 35 07.4 -10**
RAC MLR MLR
comp=Z,44µm,21.8s,MS6.3

RAC Raciborz 39.62 268 *e*P P **05 29 14.7 +0.4**
RAC *e*PP PP 05 30 39.5 -10
RAC *e*S S **05 35 07.4 -10**
RAC MLR MLR 05 45 50.8
comp=Z,44µm,21.8s,MS6.3

YSS Yuzh-Sakhalins 39.62 133x *i*P P **05 29 15.0 +0.6**
YSS *i* pP 05 29 17.0 +1.8
YSS *i* S S **05 35 22.0 +4.1**
YSS pmax pmax
comp=N,130nm,1.4s

YSS pmax pmax
comp=Z,220nm,1.4s,mb5.7

YSS pmax pmax
comp=Z,2µm,3.0s

YSS pmax pmax
comp=N,2µm,4.0s

YSS pmax pmax
comp=E,1µm,4.0s

YSS smax
comp=N,6µm,15.0s

YSS MLR MLR
comp=E,8µm,21.0s,MS5.8

YSS MLR MLR
comp=Z,12µm,21.0s,MS5.7

YSS MLR MLR
comp=N,13µm,22.0s,MS5.8

YSS Yuzh-Sakhalins 39.62 133 *e*P P **05 29 15.4 +1.0**
comp=N,281nm,1.4s,mb5.8
YSS LR LR
comp=Z,15µm,22.0s,MS5.8

MOX Moxa 39.65 274 *e*P P **05 29 14.4 -0.2**
MOX pmax pmax
comp=Z,607nm,1.5s,mb6.1

MOX MLR MLR
comp=Z,13µm,19.0s,MS5.8

MOX Moxa 39.65 274 *e*P P **05 29 14.4 -0.2**
comp=Z,607nm,1.5s,mb6.1
MOX LR LR
comp=Z,13µm,19.0s,MS5.8

MOX Moxa 39.65 274⇓ *i*P P **05 29 14.4 -0.2**
comp=Z,logA/T=2.6,mb6.1
MOX S S **05 35 22.0 +3.7**
MOX L 05 52 03.0
KWP Kalwaria 39.67 263 *e*P P **05 29 14.9 +0.2**
KWP *e*pP pP 05 29 22.8 +7.2
KWP *e*PP PP 05 30 42.8 -6.9
KWP *e*S S **05 35 27.1 +8.6**
KWP Kalwaria 39.67 263 *e*P P **05 29 14.9 +0.2**
KWP *e*pP pP 05 29 22.8 +7.2
KWP *e*PP PP 05 30 42.8 -7.0
KWP *e*S S **05 35 27.1 +8.5**
KWP MLR MLR 05 44 23.7
comp=Z,38µm,26.0s,MS6.1

OKC Ostrava-Krasne 39.87 268⇓ *i*P P **05 29 16.6 +0.2**
OKC *e*PP PP 05 30 52.9 +1.0
OKC *e*S S **05 35 22.2 +0.6**
OKC AMS AMS 05 46 00.0
comp=Z,35µm,20.3s

HGH Gray Hill 39.92 289 *e*P P **05 29 16.8 0.0**
HGH AMb AMB 05 29 23.2
comp=Z,366nm,2.0s,mb5.8

PRA Prague 39.97 271 ⇓P P **05 29 20.0 +2.8**
PRA PP PP 05 30 58.0 +5.0
PRA AMS AMS 05 56 30.0

MORC Moravsky Berou 39.98 268 *e*P P **05 29 16.6 -0.7**
MORC pmax pmax
comp=Z,332nm,1.4s,mb5.9

MORC Moravsky Berou 39.98 268 *e*P P **05 29 16.6 -0.8**
comp=Z,332nm,1.4s,mb5.9

NKC Novy Kostel 39.99 273⇓ *i*P P **05 29 18.0 +0.7**
NKC *e*S S **05 35 22.9 -0.4**
NKC AMS AMS 05 44 30.0
comp=Z,21µm,19.8s

HGN Heimansgroeve 40.04 280⇓ *i*P P **05 29 17.0 -0.8**
comp=Z,218nm,2.6s,mb5.4
HGN *e*PP PP 05 30 46.7 -7.0
HGN *e*S S **05 35 22.6 -1.4**
HGN *e*SS SS 05 38 15.0 +0.9
PRU Pruhonice 40.04 271⇓ *i*P P **05 29 18.3 +0.5**
PRU *e*PP PP 05 30 58.5 +4.7
PRU *e*S S **05 35 25.2 +1.1**
PRU AMS AMS 05 50 20.0
comp=Z,24µm,17.9s

NIE Niedzica 40.09 265 *e*P P **05 29 17.2 -1.0**
FFC Flin Flon 40.25 19 P P **05 29 18.8 -0.7**
comp=Z,176nm,1.4s,mb5.6,SNR=20
FFC Flin Flon 40.25 19 *e*P P **05 29 17.9 -1.6**
FFC pmax pmax
comp=Z,203nm,0.3s,mb6.3

FFC MLR MLR
comp=Z,14µm,20.0s,MS5.8

FFC Flin Flon 40.25 19 *e*P P **05 29 17.9 -1.6**
comp=Z,203nm,0.3s,mb6.3
FFC LR LR
comp=Z,14µm,20.0s,MS5.8

SCHQ Schefferville 40.34 348 P P **05 29 19.9 -0.3**
comp=Z,49nm,1.0s,mb5.2,baz=16,slow=7.7,SNR=33
SCHQ LR LR 05 46 00.3
comp=Z,17µm,19.2s,MS5.9,baz=349,slow=36

SCHQ Schefferville 40.34 348 *e*P P **05 29 19.6 -0.6**
comp=Z,454nm,1.5s,mb6.0
SCHQ LR LR
comp=Z,25µm,22.0s,MS6.0

TNS Taunus Mts 40.35 277 *e*P P **05 29 20.6 +0.3**
TNS pmax pmax
comp=Z,423nm,1.6s,mb5.9

TNS Taunus Mts 40.35 277 *e*P P **05 29 20.6 +0.3**
comp=Z,423nm,1.6s,mb5.9
KOLS Kolonicke sedl 40.40 263 *e*P P **05 29 21.4 +0.7**
KOLS *e* 05 30 58.7
KOLS Kolonicke sedl 40.40 263 *e*P P **05 29 21.4 +0.7**
KOLS *e* 05 29 40.9
KOLS *e*PP PP 05 30 58.7 +1.3
KOLS *e* 05 31 08.6
CRVS Cervenica-Dubn 40.50 264 *e*P P **05 29 23.9 +2.3**
CRVS *e*sP sP 05 29 28.6 +5.8
CRVS *e*PP PP 05 30 56.5 -1.9
CRVS *e* 05 31 32.1
CRVS *e*S S **05 35 31.0 0.0**
VRAC Vranov 40.53 269 P P **05 29 22.3 +0.5**
LIKS Likavka 40.57 266 *e*P P **05 29 23.0 +0.9**
LIKS *e* 05 31 00.3
LIKS Likavka 40.57 266 *e*P P **05 29 23.0 +0.9**
LIKS *e* 05 29 33.9
LIKS *e*PP PP 05 31 00.3 +1.3
MENF Mencas 40.57 284 *e*P P **05 29 22.4 +0.3**
GRA1 Grafenberg Arr 40.63 274 *e*P P **05 29 23.1 +0.5**
comp=Z,521nm,1.2s,mb6.0
GRA1 *e*pP pP 05 29 31.7 +8.2
GRA1 *e*sP sP 05 29 34.9 +11
GRA1 *e*PP PP 05 31 01.1 +1.4
GRA1 *e*S S **05 35 38.9 +6.0**
GRA1 LR LR
comp=Z,16µm,20.9s,MS5.8

GRF Grafenberg Arr 40.63 274 *e*P P **05 29 23.1 +0.5**
GRF *e**PP pP 05 29 31.7 +8.2
GRF *e* 05 31 01.1
GRF *e*S S **05 35 38.9 +6.0**
GRF pmax pmax
comp=Z,521nm,1.2s,mb6.0

GRF MLR MLR
comp=Z,16µm,20.9s,MS5.8

GRF Grafenberg Arr 40.63 274 *e*P P **05 29 23.1 +0.5**
GRF *e**PP pP 05 29 31.7 +8.2
GRF *e* 05 31 01.1
GRF *e*S S **05 35 38.9 +6.0**
GRF LR LR
comp=Z,521nm,1.2s,mb6.0

GRF MLR MLR
comp=Z,16µm,20.9s,MS5.8

GRF Grafenberg Arr 40.63 274 *e*P P **05 29 23.1 +0.5**
comp=Z,521nm,1.2s,mb6.0
GRF *e*pP pP 05 29 31.7 +8.2
GRF *e*sP sP 05 29 34.9 +11
GRF *e*PP PP 05 31 01.1 +1.4
GRF *e*S S **05 35 38.9 +6.0**
GRF LR LR
comp=Z,16µm,20.9s,MS5.8

GRFO Grafenberg 40.63 274 *e*P P **05 29 23.1 +0.5**
comp=Z,7µm,1.2s
UZH Uzhgorod 40.70 263c *i*P P **05 29 20.0 -3.2**
UZH *e*S S **05 35 23.0 -11**
UZH Uzhgorod 40.70 263 *e*P P **05 29 23.0 -0.2**
ABH Alteburg 40.77 278⇓ *e*P P **05 29 24.3 +0.5**
GIVF Givet 40.79 281⇓ *i*P P **05 29 23.2 -0.7**
comp=Z,1µm,1.9s,mb6.0
GIVF Givet 40.79 281⇓ *i*P P **05 29 23.2 -0.7**
GIVF pmax pmax
comp=Z,735nm,1.9s,mb6.0

JAVC Velka Javorina 40.88 268 P P **05 29 26.2 +1.5**
BAIF Baives 40.89 281⇓ *i*P P **05 29 24.3 -0.4**
comp=Z,911nm,1.5s,mb5.9
BAIF Baives 40.89 281⇓ *i*P P **05 29 24.3 -0.4**
BAIF pmax pmax

comp=Z,456nm,1.5s,mb5.9
TOD Tromm 40.93 277⇓ *e*P P **05 29 25.5 +0.4**
KHC Kasperske Hory 40.98 272⇓ *i*P P **05 29 26.2 +0.7**
KHC *e* 05 29 34.0
KHC *e* 05 31 03.1
KHC *e* 05 31 19.5
KHC *e*S **S** **05 35 31.5 -6.6**
KHC MLR MLR
comp=Z,20µm,15.8s,MS6.1
KHC Kasperske Hory 40.98 272⇓ *i*P P **05 29 26.2 +0.7**
KHC x x 05 29 34.0
KHC *e*PP PP 05 31 03.1 0.0
KHC *ex* x 05 31 19.5
KHC *e*S **S** **05 35 31.5 -6.6**
KHC AMS AMS 05 51 20.0
comp=Z,20µm,15.8s
RUP Ruppelstein 40.99 279 *e*P P **05 29 26.4 +0.8**
RUP Ruppelstein 40.99 279⇓ *e*P P **05 29 26.5 +0.9**
KECS Kecovo 41.01 265 *e*P P **05 29 26.3 +0.6**
KECS *e* 05 31 00.8
KECS Kecovo 41.01 265 *e*P P **05 29 26.3 +0.6**
KECS *e* 05 29 36.5
KECS *e*PP PP 05 31 00.8 -2.6
WET Wettzell 41.03 273 *e*P P **05 29 26.4 +0.5**
WET pmax pmax
comp=Z,441nm,1.6s,mb5.8
WET Wettzell 41.03 273 *e*P P **05 29 26.4 +0.5**
comp=Z,441nm,1.6s,mb5.8
SWS Schriesheim 41.06 277 *e*P P **05 29 26.6 +0.4**
WLF Walferdange 41.11 279 *e*P P **05 29 26.8 +0.3**
WLF pmax pmax
comp=Z,337nm,1.4s,mb5.8
WLF Walferdange 41.11 279 *e*P P **05 29 26.8 +0.3**
comp=Z,337nm,1.4s,mb5.8
SIND Sindeldorf 41.12 276 P P **05 29 27.1 +0.5**
SIND Sindeldorf 41.12 276⇓ *e*P P **05 29 27.0 +0.4**
VYHS Vyhne 41.14 267 *e*P P **05 29 27.1 +0.3**
VYHS *e* 05 31 00.9
VYHS *e*S **S** **05 35 31.8 -8.7**
VYHS Vyhne 41.14 267 *e*P P **05 29 27.1 +0.3**
VYHS *e* 05 29 37.7
VYHS *e*PP PP 05 31 00.9 -4.0
VYHS *e*S **S** **05 35 31.8 -8.7**
MDJ Mudanjiang 41.20 147 P P **05 29 27.3 -0.1**
MDJ AP pP 05 29 30.0 +1.8
MDJ PP PP 05 31 08.0 +2.4
MDJ PCP PcP 05 31 25.7 -1.5
MDJ S **S** **05 35 40.4 -1.1**
MDJ XS 05 35 52.0
MDJ SS SS 05 38 43.6 +4.5
MDJ AMB AMB
comp=Z,137nm,1.3s,mb5.4
MDJ AMB AMB
comp=Z,2µm,3.2s
MDJ LR LR
comp=E,12µm,20.3s
MDJ LR LR
comp=Z,9µm,17.7s,MS5.7
SMOL Smolenice 41.25 268 *e*P P **05 29 29.1 +1.4**
SMOL *e* 05 29 36.1
GEC2 GERESS Array S 41.25 272 *e*P P **05 29 28.2 +0.5**
GEC2 pmax pmax
comp=Z,405nm,1.4s,mb5.9
GEC2 GERESS Array S 41.25 272 *e*P P **05 29 28.2 +0.5**
comp=Z,405nm,1.4s,mb5.9
GERES GERESS Array B 41.25 272 P P **05 29 28.6 +0.8**
comp=Z,47nm,1.1s,mb5.0,baz=22,slow=7.2,SNR=69
KTD Kalmit 41.28 277 *e*P P **05 29 28.8 +0.9**
KTD Kalmit 41.28 277 *e*P P **05 29 28.6 +0.7**
EDM Edmonton 41.33 30 *e*P P **05 29 28.7 +0.4**
WMQ Urumqi 41.38 193⇑ *i*P P **05 29 29.9 +1.1**
WMQ XP sP 05 29 36.5 +6.5
WMQ PP PP 05 31 08.0 +0.4
WMQ PCP PcP 05 31 28.0 +0.3
WMQ PCS 05 35 19.0
WMQ S **S** **05 35 44.0 -0.1**
WMQ AMB AMB
comp=Z,76nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,1µm,5.4s
WMQ LR LR
comp=N,57µm,23.4s,MS6.5
WMQ LR LR
comp=E,27µm,20.0s,MS6.5
WMQ LR LR
comp=Z,66µm,22.4s,MS6.5
BURAR Bucovina Array 41.45 260 P P **05 29 29.3 -0.1**
BBB Bella Bella 41.59 43 P P **05 29 32.6 +2.4**
comp=Z,81nm,1.1s,mb5.3,baz=338,slow=9.8,SNR=4.1
ZST Bratislava 41.59 268 *e*P P **05 29 31.5 +1.2**
ZST *e* 05 29 38.3
ZST *e* 05 31 15.1
ZST Bratislava 41.59 268 *e*P P **05 29 31.5 +1.2**
ZST *e* 05 29 38.3
ZST *e*PP PP 05 31 04.9 -4.8
ZST *e* 05 31 15.1
ZST *e*S **S** **05 35 34.2 -13**
VKA Vienna 41.59 269⇓ *i*P P **05 29 30.5 +0.2**
comp=Z,2µm,3.0s
VKA MLRZ 05 56 00.0
comp=Z,16nm,10.0s
VKA Vienna 41.59 269⇓ *i*P P **05 29 30.5 +0.2**
VKA pmax pmax
comp=Z,2µm,3.0s
VKA MLR MLR
comp=Z,16µm,10.0s,MS6.2
PSZ Piszkesteto 41.62 265 *e*P P **05 29 31.5 +0.9**
PSZ pmax pmax
comp=Z,445nm,1.4s,mb5.9
PSZ Piszkesteto 41.62 265 *e*P P **05 29 31.5 +0.9**
comp=Z,445nm,1.4s,mb5.9
PSZ Piszkesteto 41.62 265⇓ *e*P P **05 29 31.9 +1.4**
LANF Langenberg 41.64 278 *e*P P **05 29 31.3 +0.6**
IAS Iasi 41.66 258 P P **05 29 31.2 +0.3**
STU Stuttgart 41.72 276 *e*P P **05 29 31.5 +0.1**
STU pmax pmax
comp=Z,309nm,1.1s,mb5.8
STU Stuttgart 41.72 276 *e*P P **05 29 31.5 +0.1**
comp=Z,309nm,1.1s,mb5.8
KIS Kishinev 41.75 256ĸ *i*P P **05 29 30.0 -1.6**
KIS *e* 05 31 32.0
KIS *i*S **S** **05 35 49.0 -0.3**
KIS pmax pmax
comp=Z,400nm,1.0s,mb6.0
KIS pmax pmax
comp=N,4µm,6.0s
KIS pmax pmax
comp=Z,4µm,6.0s
KIS smax
comp=N,14µm,14.0s
KIS smax
comp=E,6µm,14.0s
KIS MLR MLR
comp=Z,32µm,19.0s,MS6.2
KIS MLR MLR
comp=N,25µm,20.0s,MS6.3
KIS MLR MLR
comp=E,26µm,16.0s,MS6.3
HDH Heidenheim 41.82 275 P P **05 29 33.2 +1.0**
HDH Heidenheim 41.82 275⇓ *e*P P **05 29 33.0 +0.8**
CN2 Changchun 41.83 152 *e*P P **05 29 32.3 0.0**
CN2 *e*XP sP 05 29 39.6 +6.0
CN2 PP PP 05 31 18.3 +5.9
CN2 *e*S **S** **05 35 50.6 0.0**
CN2 AMB AMB
comp=Z,80nm,1.3s,mb5.2
CN2 AMB AMB
comp=Z,4µm,4.0s
CN2 LR LR
comp=N,23µm,17.0s,MS6.2
CN2 LR LR
comp=E,21µm,17.0s,MS6.2
CN2 LR LR
comp=Z,29µm,17.0s,MS6.2
SRO Srobarova 41.86 267 *e*P P **05 29 34.5 +1.9**
SRO *e* 05 29 44.3
LBG Lerchenberg 41.87 277 P P **05 29 33.9 +1.3**
LBG Lerchenberg 41.87 277⇓ *e*P P **05 29 33.5 +0.9**
SRO2 Moca 41.91 267 *e*P P **05 29 34.1 +1.2**
SRO2 *e* 05 29 45.3
SRO1 Iza 41.92 267 *e*P P **05 29 34.4 +1.4**
SRO1 *e* 05 29 45.1
BUCH Bad Urach 42.03 276 P P **05 29 35.4 +1.5**
BUCH Bad Urach 42.03 276⇓ *e*P P **05 29 34.8 +0.9**

STR Strasbourg 42.04 278 *e*P P **05 29 35.5 +1.5**
BUD Budapest 42.13 266 *e*P P **05 29 36.0 +1.3**
FUR Furstenfeldbru 42.14 274 *e*P P **05 29 35.4 +0.6**
FUR pmax pmax
comp=Z,2µm,2.3s,mb6.3
FUR Furstenfeldbru 42.14 274 *e*P P **05 29 35.4 +0.6**
comp=Z,2µm,2.3s,mb6.3
SOP Sopron 42.15 269⇓ *e*P P **05 29 36.0 +1.1**
MOA Molln 42.19 271⇓ *i*P P **05 29 35.8 +0.6**
comp=Z,3µm,3.9s
AAA Alma-Ata 42.24 205 *i* P P **05 29 38.0 +2.3**
AAA *i* 05 31 16.0
AAA *e*S **S** **05 35 56.0 -0.6**
AAA pmax pmax
comp=Z,900nm,6.0s
AAA smax
comp=E,10µm,16.0s
AAA MLR MLR
comp=Z,50µm,16.0s,MS6.5
BFO Black Forest 42.24 277 P P **05 29 36.1 +0.5**
comp=Z,289nm,1.5s,mb5.7,SNR=25
BFO Black Forest 42.24 277 *e*P P **05 29 36.1 +0.5**
BFO *e**PP pP 05 29 44.7 +8.2
BFO pmax pmax
comp=Z,291nm,1.5s,mb5.7
BFO Black Forest 42.24 277 *e*P P **05 29 36.1 +0.5**
comp=Z,291nm,1.5s,mb5.7
BFO *e*pP pP 05 29 44.7 +8.2
WLS Welschbruch 42.24 278 *e*P P **05 29 36.5 +0.8**
CDF Champ du Feu 42.25 278⇓ *i*P P **05 29 35.6 -0.1**
comp=Z,658nm,1.2s,mb5.8
CDF Champ du Feu 42.25 278⇓ *i*P P **05 29 35.6 -0.1**
CDF pmax pmax
comp=Z,329nm,1.2s,mb5.8
MEZF Maizieres J'vi 42.36 280⇓ *i*P P **05 29 36.4 -0.2**
comp=Z,1µm,1.9s,mb6.0
SPAK Spaichingen 42.42 277 *e*P P **05 29 38.0 +0.8**
SPAK Spaichingen 42.42 277⇓ *e*P P **05 29 38.1 +0.9**
GUT Gutenstein 42.43 276 P P **05 29 38.4 +1.2**
GUT Gutenstein 42.43 276⇓ *e*P P **05 29 37.9 +0.7**
ECH Echery 42.46 278 *e*P P **05 29 38.1 +0.7**
LIBD Limburg 42.48 278 *e*P P **05 29 38.6 +1.0**
LIBD Limburg 42.48 278 *e*P P **05 29 38.8 +1.2**
GOF Gofitskoye 42.49 241⇑ *i*P P **05 29 38.3 +0.5**
GOF *i* 05 31 13.9
GOF pmax pmax
comp=Z,510nm,1.7s,mb5.9
GOF pmax pmax
comp=Z,1µm,1.7s,mb6.2
THEF They Montfort 42.55 279 *e*P P **05 29 38.9 +0.7**
FLN La Foliniere 42.58 286⇓ *i*P P **05 29 37.1 -1.3**
comp=Z,1µm,1.9s,mb5.9
FLN *e*R
comp=Z,13µm,17.2s
FLN La Foliniere 42.58 286⇓ *i*P P **05 29 37.1 -1.3**
FLN pmax pmax
comp=Z,503nm,1.9s,mb5.9
FLN MLR MLR
comp=Z,13µm,17.3s,MS5.9
CHMS Chumysh 42.60 207 P P **05 29 40.5 +1.9**
SNR=40
TKM2 Tokmak 2 42.64 206 P P **05 29 40.7 +1.7**
SNR=108
KIZ Kirchzarten 42.65 277 P P **05 29 39.8 +0.8**
KIZ Kirchzarten 42.65 277⇓ *e*P P **05 29 39.6 +0.6**
ARSA Arzberg 42.67 270⇓ *i*P P **05 29 40.1 +0.9**
comp=Z,3µm,3.3s
LDF La Druitiere 42.72 285⇓ *i*P P **05 29 38.5 -1.1**
comp=Z,1µm,1.9s,mb6.0
LDF La Druitiere 42.72 285⇓ *i*P P **05 29 38.5 -1.1**
LDF pmax pmax
comp=Z,688nm,1.9s,mb6.1
FELD Feldberg 42.72 277⇓ *e*P P **05 29 40.1 +0.5**
UBR Uberruh 42.73 275 P P **05 29 41.2 +1.6**
UBR Uberruh 42.73 275 *e*P P **05 29 40.1 +0.5**
HAU Haudompre 42.74 279⇓ *i*P P **05 29 39.4 -0.3**
comp=Z,735nm,1.2s,mb6.0
HAU *e*R
comp=Z,28µm,17.8s
HAU Haudompre 42.74 279⇓ *i*P P **05 29 39.4 -0.3**
HAU pmax pmax
comp=Z,368nm,1.2s,mb6.0
HAU MLR MLR
comp=Z,28µm,17.8s,MS6.2
FRU Bishkek 42.77 207 *i* P P **05 29 41.0 +0.9**
FRU pmax pmax
comp=Z,2µm,2.5s,mb6.3
FRU MLR MLR
comp=Z,80nm,16.0s,MS6.7
SLE Schleitheim 42.78 277⇓ *i*P P **05 29 40.0 -0.1**
VLA Vladivostok 42.81 145*c* *i*P P **05 29 39.0 -1.4**
VLA *i* 05 29 48.0
VLA *i* 05 31 30.0
VLA *i*S **S** **05 36 03.0 -2.0**
VLA *i*SS SS 05 39 17.0 +7.6
VLA pmax pmax
comp=N,1µm,5.6s
VLA pmax pmax
comp=Z,3µm,5.6s
VLA pmax pmax
comp=E,2µm,10.0s
VLA smax
comp=N,6µm,16.0s
VLA smax
comp=E,3µm,14.0s
VLA MLR MLR
comp=N,11µm,14.0s,MS5.9
VLA MLR MLR
comp=Z,13µm,14.0s,MS6.0
VLA MLR MLR
comp=E,4µm,15.0s,MS5.9
MOF Molkenrain 42.82 278 *e*P P **05 29 40.7 +0.3**
SISB Singen-Sch Ber 42.82 276 P P **05 29 41.6 +1.2**
STEIN Stein am Rhein 42.85 276⇓ *i*P P **05 29 40.8 +0.2**
HINF Hinteralfeld 42.88 278⇓ *i*P P **05 29 40.3 -0.6**
comp=E,528nm,1.4s,mb5.8
HINF Hinteralfeld 42.88 278⇓ *i*P P **05 29 40.3 -0.6**
HINF pmax pmax
comp=Z,264nm,1.4s,mb5.8
TRULL Truellikon 42.88 277⇓ *i*P P **05 29 40.3 -0.6**
KBK Karagaybulak 42.93 207 P P **05 29 40.7 -0.7**
SNR=8.9
WATA Walderalm 42.94 274⇓ *i*P P **05 29 42.2 +0.8**
comp=Z,1µm,2.4s,mb6.1
WATA Walderalm 42.94 274⇓ *i*P P **05 29 42.2 +0.8**
WATA pmax pmax
comp=Z,1µm,2.4s,mb6.1
FLACH Flaach 42.97 277⇓ *i*P P **05 29 41.4 -0.2**
MOTA Moosalm 42.97 274⇓ *i*P P **05 29 41.8 +0.2**
comp=Z,875nm,2.9s,mb6.0
MOTA Moosalm 42.97 274⇓ *i*P P **05 29 41.8 +0.2**
MOTA pmax pmax
comp=Z,875nm,2.9s,mb6.0
AAK Ala-Archa 42.97 207 P P **05 29 43.3 +1.6**
SNR=94
AAK Ala-Archa 42.97 207 P P **05 29 42.8 +1.1**
comp=Z,613nm,1.6s,mb6.1
AAK Ala-Archa 42.97 207 P P **05 29 43.0 +1.3**
AAK 05 31 21.4
AAK pmax pmax
comp=Z,3µm,2.1s,mb6.7
AAK Ala-Archa 42.97 207 *e*P P **05 29 41.8 +0.1**
comp=Z,553nm,1.5s,mb6.1
AAK LR LR
comp=Z,33µm,20.0s,MS6.2
EKS2 Erkin-Say 42.97 208 P P **05 29 42.8 +1.1**
SNR=36
WEIN Weingarten 42.98 276⇓ *i*P P **05 29 41.8 +0.1**
GRR Gorron 42.98 286⇓ *i*P P **05 29 40.5 -1.2**
comp=Z,569nm,1.5s,mb5.8
GRR Gorron 42.98 286⇓ *i*P P **05 29 40.5 -1.2**
GRR pmax pmax
comp=Z,284nm,1.5s,mb5.8
KBA Koelnbreinsper 43.03 272⇓ *i*P P **05 29 43.6 +1.4**
comp=Z,4µm,3.8s
KBA Koelnbreinsper 43.03 272⇓ *i*P P **05 29 43.6 +1.4**
KBA pmax pmax
comp=Z,4µm,3.8s
VRI Vrincioaia 43.05 258 P P **05 29 44.2 +1.9**
SULZ Sulz-Cheisache 43.05 277⇓ *i*P P **05 29 42.1 -0.2**
SQTA Sankt Quirin 43.08 274⇓ *i*P P **05 29 43.7 +1.1**
comp=Z,1µm,2.7s,mb6.2
SQTA Sankt Quirin 43.08 274⇓ *i*P P **05 29 43.7 +1.1**
SQTA pmax pmax
comp=Z,1µm,2.7s,mb6.2

WILA Wila 43.10 276⇓ *i*P P **05 29 42.9 +0.2**
DAVA Damuels 43.14 275⇓ *i*P P **05 29 44.1 +1.1**
comp=Z,2µm,2.9s,mb6.3
LIENZ Alp Oberkamor 43.16 276⇓ *i*P P **05 29 43.9 +0.7**
BBS Basel-Blauen 43.17 278 *e*P P **05 29 43.2 -0.1**
BBS Basel-Blauen 43.17 278⇓ *e*P P **05 29 43.8 +0.5**
ZUR Zurich 43.17 277⇓ *i*P P **05 29 43.2 -0.1**
ANN Anapa 43.20 247*c* *i*P P **05 29 44.1 +0.6**
ANN *e* 05 31 28.5
ANN *e*S **S** **05 36 10.7 0.0**
ANN *e*SS SS 05 39 21.3 +4.7
ANN pmax pmax
comp=Z,348nm,1.3s,mb5.9
ANN MLR MLR
comp=Z,17µm,20.0s,MS6.0
ANN MLR MLR
comp=N,49µm,22.0s,MS6.4
ANN MLR MLR
comp=E,30µm,21.0s,MS6.4
SGMF Saint Gilles 43.26 288⇓ *i*P P **05 29 43.0 -1.0**
comp=E,919nm,1.7s,mb5.9
SGMF Saint Gilles 43.26 288⇓ *i*P P **05 29 43.0 -1.0**
SGMF pmax pmax
comp=Z,459nm,1.7s,mb5.9
BOURR Bourrignon 43.27 278⇓ *i*P P **05 29 44.2 +0.2**
BALST Balsthal 43.28 277⇓ *i*P P **05 29 44.1 -0.1**
ULHL Ulahol 43.29 206 P P **05 29 45.7 +1.4**
SNR=48
SIM Simferopol' 43.33 250*c* *i*P P **05 29 45.5 +0.9**
SIM *e* 05 31 27.0
SIM *e*S **S** **05 36 11.0 -1.5**
SIM *e*SS SS 05 39 17.0 -1.9
SIM pmax pmax
comp=Z,600nm,7.5s
SIM MLR MLR
comp=Z,32µm,17.0s,MS6.3
BST Brest 43.34 289 *e*P P **05 29 44.8 +0.2**
LOMF Lomont 43.34 278 *e*P P **05 29 44.3 -0.4**
UCH Uchtor 43.38 207 P P **05 29 47.7 +2.7**
SNR=82
KOGS Kog 43.40 269 *e*P P **05 29 45.2 +0.1**
KOGS *e*PP PP 05 31 26.9 -1.3
PLONS Plons 43.42 276⇓ *i*P P **05 29 45.6 +0.3**
GROS Grobnik 43.45 270 *e*P P **05 29 45.2 -0.3**
SEST Monte Rota 43.46 273 P P **05 29 47.0 +1.4**
MLR Muntele Rosu 43.49 259 P P **05 29 46.7 +0.8**
MLR pmax pmax
comp=Z,145nm,1.3s
MLR Muntele Rosu 43.49 259 P P **05 29 46.7 +0.8**
comp=Z,145nm,1.2s,mb5.6,baz=16,slow=3.7,SNR=17
MLR Muntele Rosu 43.49 259 P P **05 29 46.8 +0.9**
OBKA Obir 43.49 271⇑ *i*P P **05 29 47.0 +1.1**
comp=Z,4µm,3.4s
KZA Kyzart 43.49 207 P P **05 29 48.0 +2.1**
SNR=78
AML Almayashu 43.51 208 P P **05 29 48.6 +2.5**
SNR=70
BRES Bressanone 43.55 273 P P **05 29 48.7 +2.3**
FVI Forni Avoltri 43.56 272 *e*P P **05 29 47.7 +1.2**
MUO Muotathal 43.56 276⇓ *i*P P **05 29 47.0 +0.5**
ZOU Zoufplan 43.59 272⇓ *e*P P **05 29 47.0 +0.4**
CFR Carcaliu 43.61 257 P P **05 29 47.1 +0.2**
KIV Kislovodsk 43.62 241*d* *i*P P **05 29 47.4 +0.5**
KIV *e* 05 31 29.2
KIV *e* 05 31 32.5
KIV *e*SS SS 05 39 28.1 +4.0
KIV pmax pmax
comp=Z,480nm,1.5s,mb6.0
KIV MLR MLR
comp=Z,43µm,23.0s,MS6.3
KIV Kislovodsk 43.62 241 *e*P P **05 29 47.6 +0.6**
comp=Z,648nm,1.3s,mb6.2
KIV LR LR
comp=Z,11µm,22.0s,MS5.7
DAVOX Davos 43.64 275⇓ *i*P P **05 29 48.0 +0.9**
QUIF Quistinic 43.65 288⇓ *i*P P **05 29 46.2 -0.9**
comp=Z,1µm,1.7s,mb6.0
QUIF Quistinic 43.65 288⇓ *i*P P **05 29 46.2 -0.9**
QUIF pmax pmax
comp=Z,536nm,1.7s,mb6.0
LLS Linth-Limmern 43.65 276⇓ *i*P P **05 29 47.8 +0.6**
BNALP Bannalp 43.68 277⇓ *i*P P **05 29 47.9 +0.5**
PTCC Patocco-Chiusa 43.70 272 *e*P P **05 29 48.2 +0.6**
SNY Shenyang 43.72 154 ⇓P P **05 29 48.0 +0.2**
SNY AP pP 05 29 56.2 +7.5
SNY XP sP 05 30 00.5 +11
SNY PP PP 05 31 30.7 -0.8
SNY S **S** **05 36 14.6 -3.7**
SNY AMB AMB
comp=Z,3µm,14.3s
SNY LR LR
comp=E,11µm,17.8s
SNY LR LR
comp=Z,9µm,20.8s,MS5.7
BZS Buzias 43.75 263 P P **05 29 48.8 +0.8**
FUORN Ofenpass 43.76 275⇓ *i*P P **05 29 49.4 +1.3**
DOBS Dobrina 43.77 270 *e*P P **05 29 47.8 -0.3**
BRANT Les Verrieres 43.78 279⇓ *i*P P **05 29 48.5 +0.3**
HYF Humbligny 43.79 282⇓ *i*P P **05 29 47.7 -0.6**
ISR Istrita 43.81 258 P P **05 29 51.0 +2.5**
HASLI Hasliberg 43.82 277⇓ *i*P P **05 29 49.0 +0.5**
APPI Appiano 43.82 274 P P **05 29 49.2 +0.7**
MTUR Matau 43.83 260 P P **05 29 51.5 +2.8**
GMNA Gemona 43.84 272 *e*P P **05 29 49.1 +0.4**
BAD Bernadia 43.88 272⇑ *e*P P **05 29 49.0 0.0**
BRMO Bormio 43.90 275 *e*P P **05 29 50.4 +1.3**
MPRI Monte Prat 43.90 272⇓ *e*P P **05 29 49.0 -0.2**
TORNY Torny 43.90 278⇓ *i*P P **05 29 49.6 +0.4**
TORNY Torny 43.90 278⇓ *i*P P **05 29 49.5 +0.3**
DRE Drenchia 43.91 271⇓ *e*P P **05 29 49.0 -0.2**
BUA Buia 43.91 272⇑ *e*P P **05 29 50.0 +0.7**
SSF Saint Saulge 43.92 282⇓ *i*P P **05 29 48.4 -1.0**
SSF pmax pmax
comp=Z,299nm,1.4s,mb5.8
SSF Saint Saulge 43.92 282⇓ *i*P P **05 29 48.4 -1.0**
comp=Z,299nm,1.4s,mb5.8
WIMIS Wimmis 43.95 277⇓ *i*P P **05 29 50.1 +0.5**
LJU Ljubljana 43.96 270 *e*P P **05 29 49.8 +0.2**
LJU *e*PP PP 05 31 37.5 +3.7
LJU *e*S **S** **05 36 21.9 +0.2**
LJU *e*SS SS 05 39 56.7 +27
LJU Ljubljana 43.96 270 *e*P P **05 29 49.8 +0.2**
LJU *e* 05 29 58.0
LJU *e*PP PP 05 31 37.5 +3.7
LJU *e*S **S** **05 36 21.9 +0.2**
LJU *e*SS SS 05 39 56.7 +27
VDL Val di Lei 43.97 276⇓ *i*P P **05 29 50.9 +1.2**
COLI Coloredo 43.97 272⇓ *i*P P **05 29 50.0 +0.2**
BERNI Berninapass 43.99 275⇓ *i*P P **05 29 51.3 +1.4**
VOY Vojsko 44.02 271 *e*P P **05 29 49.8 -0.4**
VOY *e* 05 29 59.6
VOY *e* 05 31 45.2
VOY *e* 05 32 36.2
FUSIO Fusio 44.07 276⇓ *i*P P **05 29 51.5 +0.9**
CRES Cresnjev 44.09 270 P P **05 29 51.5 +0.8**
HARR Harsova 44.11 257 P P **05 29 51.0 0.0**
CABF La Chapelle 44.14 279⇓ *i*P P **05 29 50.8 -0.4**
comp=Z,389nm,1.3s,mb5.7
CABF La Chapelle 44.14 279⇓ *i*P P **05 29 50.8 -0.4**
CABF pmax pmax
comp=Z,194nm,1.3s,mb5.7
AVF Avril sur Loir 44.20 282⇓ *i*P P **05 29 50.8 -0.9**
comp=Z,656nm,1.4s,mb5.9
AVF Avril sur Loir 44.20 282⇓ *i*P P **05 29 50.8 -0.9**
AVF pmax pmax
comp=Z,328nm,1.4s,mb5.9
GIMEL Gimel 44.20 279⇓ *i*P P **05 29 51.9 +0.2**
TLI Talmassons 44.20 272⇑ *e*P P **05 29 52.0 +0.3**
CTI Castel Tesino 44.21 273 *e*P P **05 29 51.7 0.0**
SOC Sochi 44.22 244 *i*P P **05 29 50.4 -1.5**
SOC *e* 05 31 40.1
SOC *e*PPP PPP 05 32 12.6 -1.6
SOC *i*S **S** **05 36 22.7 -2.9**
SOC *e*SS SS 05 39 42.9 +7.7
SOC *e* 05 39 45.7
SOC *e*SSS SSS 05 40 25.6 -3.9
SOC pmax pmax
comp=Z,126nm,1.6s,mb5.4
SOC pmax pmax
comp=N,87nm,1.2s
SOC pmax pmax
comp=E,71nm,1.5s
SOC MLR MLR

comp=Z,84µm,20.0s,MS6.7
SOC MLR MLR
comp=N,37µm,19.0s,MS6.4
SOC MLR MLR
comp=E,20µm,17.0s,MS6.4
LKBD Leukerbad 44.23 277⇓ *i* P **P 05 29 52.4 +0.5**
MAK Makhachkala 44.24 236 *d* P **P 05 29 54.0 +2.0**
MAK *i* 05 31 44.0
MAK *i* S **S 05 36 28.0 +2.2**
MAK pmax pmax
comp=N,3µm,8.0s
MAK pmax pmax
comp=Z,7µm,8.0s
MAK smax
comp=N,9µm,10.0s
CEY Cerknica 44.27 271 *e* P **P 05 29 52.0 -0.2**
SENIN Lac Senin 44.28 278⇓ *i* P **P 05 29 53.0 +0.7**
MABI Malga Bissina 44.30 274 P **P 05 29 53.2 +0.7**
SMF Signal de Mont 44.31 281⇓ *i* P **P 05 29 51.4 -1.1**
comp=N,998nm,1.7s,mb6.0
SMF Signal de Mont 44.31 281⇓ *i* P **P 05 29 51.4 -1.1**
SMF pmax pmax
comp=Z,499nm,1.7s,mb6.0
AIGLE Aigle 44.33 278⇓ *i* P **P 05 29 52.9 +0.2**
HHC Hu-ho-hao-te 44.34 167⇓ *i* P **P 05 29 53.8 +0.9**
HHC XP sP 05 29 57.9 +3.8
HHC PP PP 05 31 40.5 +2.8
HHC PCS 05 35 29.4
HHC S **S 05 36 25.1 -2.2**
HHC ScS ScS 05 39 46.3 -3.6
HHC AMB AMB
comp=Z,2µm,12.5s
HHC LR LR
comp=N,20µm,19.0s,MS6.2
HHC LR LR
comp=E,12µm,15.5s,MS6.2
HHC LR LR
comp=Z,24µm,18.4s,MS6.2
TRI Trieste 44.36 271 *e* P **P 05 29 53.3 +0.4**
SISC Sisak 44.36 269 *i* P **P 05 29 52.2 -0.7**
GRYON Gryon 44.41 278⇓ *i* P **P 05 29 53.6 +0.2**
GRYON Gryon 44.41 278⇓ *i* P **P 05 29 53.7 +0.3**
BOJS Bojanci 44.43 270 *e* P **P 05 29 52.7 -0.8**
BOJS *e* PP PP 05 31 37.4 -1.1
BOJS *e* S **S 05 36 30.4 +1.9**
BOJS *e* SS SS 05 40 00.2 +21
BGF Bois d'Agland 44.48 282⇓ *i* P **P 05 29 53.1 -0.8**
comp=Z,1µm,1.4s,mb6.2
BGF Bois d'Agland 44.48 282⇓ *i* P **P 05 29 53.1 -0.8**
BGF pmax pmax
comp=Z,618nm,1.4s,mb6.1
SALAN Lac Salanfe 44.53 278⇓ *i* P **P 05 29 54.6 +0.3**
MMK Mattmark 44.53 277⇓ *i* P **P 05 29 55.4 +1.1**
DIX Grande Dixence 44.55 278⇓ *i* P **P 05 29 55.4 +0.9**
BTO Baotou 44.56 169 *e* P **P 05 29 54.1 -0.5**
BTO S **S 05 36 29.9 -0.6**
BTO AMB AMB
comp=Z,57nm,2.6s,mb4.9
MUGIO Muggio 44.56 276⇓ *i* P **P 05 29 54.7 +0.1**
EMV Vieux Emosson 44.62 278⇓ *i* P **P 05 29 55.4 +0.4**
MCGN Macugnaga 44.62 277 *e* P **P 05 29 56.4 +1.3**
BEO Belgrade 44.64 264⇓ *i* P **P 05 29 55.9 +0.7**
VAI Varese 44.64 276 *e* P **P 05 29 56.0 +0.8**
DJES Djerdap 44.64 262⇓ *i* P **P 05 29 54.9 -0.3**
MFF Saint Martin d 44.70 285⇓ *i* P **P 05 29 54.9 -0.8**
comp=Z,745nm,1.5s,mb6.0
MFF Saint Martin d 44.70 285⇓ *i* P **P 05 29 54.9 -0.8**
MFF pmax pmax
comp=Z,373nm,1.5s,mb6.0
ZEI Tsey 44.70 240 *e* P **P 05 29 56.7 +0.9**
ZEI *i* *PP pP 05 30 03.1 +6.5
ZEI *i* PP 05 31 41.5
ZEI *i* S **S 05 36 31.7 -0.8**
ZEI pmax pmax
comp=Z,98nm,1.4s,mb5.5
SAL Salo 44.74 274 *e* P **P 05 29 56.7 +0.6**
TCF Toulx Ste Croi 44.80 283⇓ *i* P **P 05 29 55.5 -1.0**
comp=Z,975nm,1.6s,mb6.1
TCF Toulx Ste Croi 44.80 283⇓ *i* P **P 05 29 55.5 -1.0**
TCF pmax pmax
comp=Z,487nm,1.6s,mb6.1
ULM Lac du Bonnet 44.89 14 P **P 05 29 56.4 -0.8**
comp=Z,44nm,1.0s,mb5.2,baz=356,slow=7.9,SNR=33
ULM PcP PcP 05 31 38.8 -0.4
comp=Z,19nm,0.9s,baz=13,slow=5.0,SNR=5.4
ULM LR LR 05 49 09.1
comp=Z,37µm,18.4s,MS6.3,baz=358,slow=37
ULM Lac du Bonnet 44.89 14 *e* P **P 05 29 56.1 -1.1**
comp=Z,142nm,1.3s,mb5.6
ONI Oni 44.92 240 P **P 05 29 58.8 +1.2**
ONI S PP 05 31 42.7 -0.8
ORX Oropa 44.95 277 P **P 05 29 58.1 +0.4**
ORO Oropa 44.95 277 *e* P **P 05 29 58.3 +0.6**
AGO Saint Agoulin 44.96 282 *e* P **P 05 29 58.0 +0.2**
PLDF La Plantade 44.99 281 *e* P **P 05 29 57.9 -0.2**
TRAV 45.09 277 P **P 05 29 58.7 -0.1**
SVIS Svilajnac 45.09 263⇑ *i* P **P 05 29 59.1 +0.2**
LPL La Plagne 45.17 278⇓ *i* P **P 05 29 59.6 +0.1**
comp=Z,429nm,1.4s,mb5.8
LPL La Plagne 45.17 278⇓ *i* P **P 05 29 59.6 +0.1**
LPL pmax pmax
comp=Z,214nm,1.4s,mb5.8
LPG La Plagne 45.19 278⇓ *i* P **P 05 29 59.8 +0.2**
comp=Z,651nm,1.4s,mb6.0
LPG La Plagne 45.19 278⇓ *i* P **P 05 29 59.8 +0.2**
LPG pmax pmax
comp=Z,326nm,1.4s,mb6.0
LSD Ceresole Reale 45.19 278 P **P 05 30 00.4 +0.8**
BJI Beijing 45.26 162 *e* P **P 05 30 01.6 +1.4**
BJI PCP PcP 05 31 36.7 -4.0
BJI S **S 05 36 45.2 +4.6**
BJI AMB AMB
comp=Z,105nm,1.9s,mb5.3
BJI AMB AMB
comp=Z,6µm,5.2s
BJI LR LR
comp=N,17µm,20.1s,MS6.1
BJI LR LR
comp=E,18µm,22.3s,MS6.1
BJI LR LR
comp=Z,20µm,20.9s,MS6.0
BJI Beijing 45.26 162 *e* P **P 05 30 01.6 +1.4**
comp=Z,105nm,1.9s,mb5.3
BJI PcP PcP 05 31 36.7 -4.0
BJI S **S 05 36 45.2 +4.6**
BJI ScS ScS 05 39 59.4 +3.7
BJI LR LR
comp=Z,20µm,20.9s,MS6.0
PYM Petit Puy Mans 45.27 282 *e* P **P 05 30 01.0 +0.8**
DUS Dusheti 45.31 239 P **P 05 30 03.6 +2.9**
PGC Sidney 45.38 40 *e* P **P 05 30 01.5 +0.4**
comp=Z,2µm,1.8s,mb6.6
DIVS Divcibare 45.40 265⇑ *i* P **P 05 30 00.5 -0.8**
WALA Waterton Lakes 45.47 31 *e* P **P 05 30 02.4 +0.6**
comp=Z,788nm,1.5s,mb6.3
RSP Reno Superiore 45.49 278 P **P 05 30 02.9 +0.9**
BOLS Boljevac 45.49 263⇑ *i* P **P 05 30 01.6 -0.4**
GDM Grand'Maison 45.54 279 *e* P **P 05 30 03.4 +1.0**
GRUS Gruza 45.54 264⇓ *i* P **P 05 30 01.6 -0.8**
FENE Fenestrelle 45.62 278 P **P 05 30 03.2 +0.1**
BNI Bardonecchia 45.64 278 *e* P **P 05 30 03.8 +0.6**
BNI pmax pmax
comp=Z,236nm,1.5s,mb5.9
BNI Bardonecchia 45.64 278 *e* P **P 05 30 03.8 +0.6**
comp=Z,236nm,1.5s,mb5.9
PRD Provadia 45.64 257 *e* P **P 05 30 04.0 +0.8**
GTA Gaotai 45.66 180 P **P 05 30 04.2 +0.8**
GTA AP pP 05 30 08.0 +3.7
GTA XP sP 05 30 10.7 +6.0
GTA PCP PcP 05 31 41.6 -0.5
GTA PP PP 05 31 52.1 +1.2
GTA SCP 05 35 33.8
GTA S **S 05 36 46.8 +0.5**
GTA AMB AMB
comp=Z,116nm,1.7s,mb5.5
GTA AMB AMB
comp=Z,5µm,5.7s
GTA LR LR
comp=N,35µm,19.4s,MS6.5
GTA LR LR
comp=E,29µm,17.1s,MS6.5
GTA LR LR
comp=Z,47µm,19.8s,MS6.4
TI2 Plekhanov 45.67 239K *i* P **P 05 30 04.4 +1.0**
TI2 *i* 05 31 57.6
TI2 pmax pmax
comp=Z,100nm,1.0s,mb5.7
TI2 pmax pmax
comp=Z,240nm,1.0s,mb6.1
TI2 MLR MLR
comp=N,7µm,16.0s,MS6.0
TI2 MLR MLR
comp=Z,28µm,16.0s,MS6.3
TI2 MLR MLR
comp=E,13µm,16.0s,MS6.0
BOB Bobbio (Coli) 45.67 275 *e* P **P 05 30 04.5 +1.0**
MTA Mtatsminda 45.70 239 P **P 05 30 03.6 -0.2**
MTA S PP 05 31 59.5 +8.2
RRL Cesana Torines 45.76 278 P **P 05 30 04.2 +0.1**
LBL Lubilhac 45.76 281 *e* P **P 05 30 04.9 +0.8**
BHB Bricherasio 45.79 277 P **P 05 30 04.0 -0.4**
PVL Pavlikeni 45.80 259 *e* P **P 05 30 04.0 -0.5**
RJF Les Rejaudoux 45.84 283⇓ *i* P **P 05 30 03.9 -0.8**
comp=E,429nm,1.2s,mb5.9
RJF *e* R
comp=E,24µm,17.8s
RJF Les Rejaudoux 45.84 283⇓ *i* P **P 05 30 03.9 -0.8**
RJF pmax pmax
comp=Z,215nm,1.2s,mb6.0
RJF MLR MLR
comp=Z,24µm,17.8s,MS6.2
ORIF Oris-en-Rattie 45.84 279⇓ *i* P **P 05 30 04.4 -0.4**
comp=Z,447nm,1.2s,mb6.0
ORIF *e* R
comp=Z,13µm,20.2s
GRAM 45.89 275 P **P 05 30 05.5 +0.3**
ERBM Eremo 45.93 274 *e* P **P 05 30 06.7 +1.2**
MBDF Montbardon 45.95 278⇓ *i* P **P 05 30 05.9 +0.3**
comp=E,468nm,1.1s,mb6.0
MBDF Montbardon 45.95 278⇓ *i* P **P 05 30 05.9 +0.3**
MBDF pmax pmax
comp=Z,234nm,1.1s,mb6.0
ZCCA Zocca 45.95 274 *e* P **P 05 30 07.5 +1.8**
PCP Pian Castagno 45.98 276 P **P 05 30 05.3 -0.6**
GSCL Gusciola 45.99 274 *e* P **P 05 30 07.1 +1.2**
SHKI Saki 46.01 236⇑ *i* P **P 05 30 06.0 -0.1**
SHKI pmax pmax
comp=Z,200nm,1.6s,mb5.8
VIVF Saint-Julien-I 46.01 280⇓ *i* P **P 05 30 05.3 -0.8**
comp=Z,837nm,1.9s,mb6.0
VIVF Saint-Julien-I 46.01 280⇓ *i* P **P 05 30 05.3 -0.8**
VIVF pmax pmax
comp=Z,419nm,1.9s,mb6.0
CODM 46.01 275 P **P 05 30 05.8 -0.3**
VALM 46.02 274 P **P 05 30 06.3 +0.2**
KSH Kashi 46.02 206 *e* P **P 05 30 06.0 -0.3**
KSH *e* AP pP 05 30 13.7 +6.5
KSH *e* XP sP 05 30 16.6 +9.1
KSH *e* PP PP 05 31 58.8 +4.3
KSH *e* SCP 05 35 35.5
KSH *e* PCS 05 35 36.9
KSH *e* S **S 05 36 56.8 +5.3**
KSH *e* XS 05 37 03.6
KSH *e* SCS ScS 05 40 01.9 +1.3
KSH AMB AMB
comp=Z,1µm,3.5s
KSH LR LR
comp=N,42µm,15.7s,MS6.6
KSH LR LR
comp=E,14µm,11.6s,MS6.6
GENL Genova Univers 46.08 276 P **P 05 30 06.3 -0.4**
BACM 46.10 275 P **P 05 30 06.3 -0.6**
NEW Newport 46.11 34 *e* P **P 05 30 08.1 +1.3**
NEW pmax pmax
comp=Z,897nm,1.4s
NEW MLR MLR
comp=Z,58µm,21.0s
NEW Newport 46.11 34 P **P 05 30 08.3 +1.5**
comp=Z,349nm,1.1s,mb6.2,baz=341,slow=7.4,SNR=84
NEW Newport 46.11 34 *e* P **P 05 30 08.1 +1.3**
comp=Z,897nm,1.4s,mb6.5
NEW LR LR
comp=Z,58µm,21.0s,MS6.5
FNVD Fontana Vidola 46.12 274 P **P 05 30 08.1 +1.1**
DOI San Damiano 46.13 277 *e* P **P 05 30 06.8 -0.3**
PZZ Prazzo 46.14 278 P **P 05 30 06.2 -1.0**
SARO Sassorosso 46.17 274 P **P 05 30 07.5 +0.1**
SURF Saint Ours 46.19 278 *e* P **P 05 30 09.3 +1.8**
VLC Villacollemand 46.19 274 *e* P **P 05 30 08.5 +1.0**
comp=Z,342nm,1.2s,mb6.2
BCA Borcka 46.20 242 P **P 05 30 09.3 +1.7**
SEI Scarperia 46.21 273 *e* P **P 05 30 09.8 +2.1**
PLE Pljevlja 46.21 265⇓ *i* P **P 05 30 08.3 +0.5**
VINC Vinca 46.23 274 P **P 05 30 07.7 -0.2**
RSM Repubblica di 46.24 272 *e* P **P 05 30 09.4 +1.5**
OCWA Octopus Mounta 46.24 40 *e* P **P 05 30 09.5 +1.6**
comp=Z,250nm,1.1s,mb6.1
OCWA LR LR
comp=Z,34µm,19.0s,MS6.3
LFF La Frestale 46.27 284⇓ *i* P **P 05 30 07.7 -0.4**
comp=Z,601nm,1.6s,mb6.0
LFF La Frestale 46.27 284⇓ *i* P **P 05 30 07.7 -0.4**
LFF pmax pmax
comp=Z,300nm,1.6s,mb6.0
BDI Bagni Di Lucca 46.27 274 *e* P **P 05 30 09.1 +0.9**
ROB Roburent 46.28 277 P **P 05 30 06.5 -1.8**
VMG Vicchio 46.29 273 *e* P **P 05 30 10.2 +1.9**
BZK Bozkurt 46.30 250 P **P 05 30 09.8 +1.3**
SFI Santa Sofia 46.32 273 *e* P **P 05 30 09.5 +1.0**
FIN Finale Ligure 46.34 276 *e* P **P 05 30 08.5 -0.2**
PGD Poggio Sodo 46.36 273 *e* P **P 05 30 10.5 +1.6**
STV2 Anna di Valdie 46.38 277 P **P 05 30 07.9 -1.1**
STV Sta Anna Valdi 46.38 277 P **P 05 30 08.2 -0.8**
UPM Unac-Piva 46.38 266⇓ *i* P **P 05 30 09.3 +0.2**
ENR Entracque 46.39 277 P **P 05 30 07.4 -1.7**
JMB Yambol 46.44 258 *e* P **P 05 30 11.0 +1.5**
DGMT Dagmar 46.44 22 *e* P **P 05 30 08.9 -0.5**
comp=Z,697nm,1.8s,mb6.3
DGMT LR LR
comp=Z,41µm,22.0s,MS6.3
FSSB Fossombrone 46.45 272 *e* P **P 05 30 10.1 +0.6**
SHE Samaxi 46.46 235⇑ *i* P **P 05 30 08.5 -1.2**
SHE *i* S **S 05 36 54.5 -3.2**
BARS Barje 46.51 263⇓ *i* P **P 05 30 09.1 -0.9**
MONE Monesi 46.51 277 P **P 05 30 08.6 -1.5**
AOI Ancona 46.51 271 P **P 05 30 10.1 0.0**
DL2 Dalian 46.56 156 *e* P **P 05 30 11.2 +0.6**
DL2 PP PP 05 31 59.1 -0.9
DL2 S **S 05 37 01.2 +1.9**
DL2 SS SS 05 40 20.4 +2.8
DL2 AMB AMB
comp=Z,70nm,1.3s,mb5.4
DL2 AMB AMB
comp=Z,760nm,5.7s
DL2 LR LR
comp=E,12µm,15.9s
DL2 LR LR
comp=Z,8µm,15.7s,MS5.8
PGB Panagyurishte 46.57 260 *e* P **P 05 30 10.0 -0.5**
CRE Caprese Michel 46.59 273 *e* P **P 05 30 11.8 +1.1**
VTS Vitosha 46.61 261 P **P 05 30 10.8 -0.1**
VTS Vitosha 46.61 261 *e* P **P 05 30 10.0 -0.9**
PII Pisa 46.62 274 *e* P **P 05 30 11.0 +0.1**
SAOF Saorge 46.62 277 *e* P **P 05 30 09.9 -1.0**
TOUF Mont Tournerai 46.62 277 *e* P **P 05 30 11.0 +0.1**
AUTN L'Aution 46.62 277 *e* P **P 05 30 11.5 +0.6**
KRV Ganca 46.62 237⇑ *i* P **P 05 30 11.0 0.0**
KRV *i* S **S 05 36 49.0 -11**
ARV Arcevia 46.62 272 *e* P **P 05 30 11.3 +0.4**
IVA Berane 46.62 265⇓ *i* P **P 05 30 11.3 +0.4**
BAK Baki 46.64 233⇑ *i* P **P 05 30 08.0 -3.2**
BAK *e* S **S 05 36 56.0 -4.3**
BAK MLR MLR
comp=N,39µm,16.0s,MS6.8
BAK MLR MLR
comp=E,78µm,16.0s,MS6.8
BAK MLR MLR
comp=Z,97µm,16.0s,MS6.8
IMI Imperia 46.66 277 P **P 05 30 09.6 -1.7**
BADI Badiali 46.67 272 P **P 05 30 12.8 +1.4**
BRY Bratogost 46.72 266⇓ *i* P **P 05 30 11.8 +0.1**
CING Cingoli 46.72 271 P **P 05 30 11.9 +0.2**
MVIF Mont Vial 46.74 277 *e* P **P 05 30 11.2 -0.7**
SBF Sospel 46.75 277⇓ *i* P **P 05 30 10.9 -1.1**
comp=Z,632nm,1.2s,mb6.1
SBF Sospel 46.75 277⇓ *i* P **P 05 30 10.9 -1.1**
SBF pmax pmax
comp=Z,316nm,1.2s,mb6.1
STOF St-Etienne Org 46.75 279 *e* P **P 05 30 12.7 +0.7**
NKY Niksic 46.76 265⇓ *i* P **P 05 30 12.0 -0.1**
BOYT Boyabat 46.77 249 *i* P **P 05 30 14.8 +2.7**
BALT Daday 46.78 251 *i* P **P 05 30 13.3 +1.1**
SMRF Simiane la Rot 46.80 279⇓ *i* P **P 05 30 11.9 -0.5**
comp=Z,266nm,1.4s,mb5.7
STON Ston 46.82 267 *i* P **P 05 30 10.7 -1.9**
LASF Ste Croix 46.85 281⇓ *i* P **P 05 30 12.7 -0.1**
comp=Z,707nm,1.3s,mb6.1
SNTG Esanatoglia 46.86 272 *e* P **P 05 30 13.1 +0.3**
REVF Revere 46.88 277 *e* P **P 05 30 11.3 -1.7**
PVY Plav 46.89 264⇓ *i* P **P 05 30 13.4 +0.3**
MURB Monte Urbino 46.89 272 P **P 05 30 13.8 +0.7**
KARS Kars 46.91 241 *e* P Px 05 29 14.7
KARS Kars 46.91 241 P **P 05 30 14.7 +1.4**
VILF Villemus 46.91 279 *e* P **P 05 30 14.0 +0.8**
PRAF Pradon 47.01 279 *e* P **P 05 30 14.3 +0.3**
TBM Table Mountain 47.02 37 P **P 05 30 14.5 +0.4**
TAVF Tavernes 47.12 278 *e* P **P 05 30 15.2 +0.3**
TTG Podgorica 47.12 265⇓ *i* P **P 05 30 14.2 -0.8**
SAFT Safranbolu 47.13 251 P **P 05 30 15.4 +0.4**
GRFL Gerfalco 47.15 274 *e* P **P 05 30 09.0 -6.1**
TREF Trevaresse 47.17 279 *e* P **P 05 30 16.5 +1.2**
HCY Herceg Novi 47.17 266⇓ *i* P **P 05 30 15.6 +0.3**
TOS Tosya 47.22 250 P **P 05 30 17.0 +1.3**
PUYF Puyloubier 47.23 279 *e* P **P 05 30 16.3 +0.5**
GNI Garni 47.24 239 *d* P **P 05 30 16.8 +0.9**
GNI pmax pmax
comp=Z,231nm,1.5s
GNI MLR MLR
comp=Z,28µm,20.0s
GNI Garni 47.24 239 P **P 05 30 17.8 +1.9**
comp=Z,163nm,1.2s,mb5.8,baz=357,slow=2.7,SNR=26
GNI Garni 47.24 239 *e* P **P 05 30 17.1 +1.2**
comp=Z,310nm,1.4s,mb6.0
GNI LR LR
comp=Z,29µm,22.0s,MS6.2
NRCA Norcia 47.27 271 *e* P **P 05 30 16.4 +0.4**
EYMN Ely 47.27 10 *e* P **P 05 30 15.5 -0.6**
comp=Z,146nm,1.2s,mb5.8
EYMN LR LR
comp=Z,59µm,20.0s,MS6.5
BUM Brajici-Budva 47.28 265⇓ *i* P **P 05 30 16.0 -0.2**
EBG Ellensburg 47.28 37 P **P 05 30 16.6 +0.4**
KKB Krupnik 47.34 261 *e* P **P 05 30 16.0 -0.7**
GUMT Gumushane 47.34 244 *e* P Px 05 29 17.4
GUMT Gumushane 47.34 244 P **P 05 30 17.4 +0.7**
KDZ Kurdzhali 47.35 259 *e* P **P 05 30 18.0 +1.2**
LMR La Mourre 47.36 278⇓ *i* P **P 05 30 15.8 -1.0**
comp=Z,320nm,1.4s,mb5.8
LMR La Mourre 47.36 278⇓ *i* P **P 05 30 15.8 -1.0**
LMR pmax pmax
comp=Z,160nm,1.4s,mb5.8
LON Longmire 47.37 38 P **P 05 30 17.7 +0.8**
RZN Rozhen 47.37 260 *e* P **P 05 30 15.0 -1.9**
SKO Skopje 47.38 263⇓ *i* P **P 05 30 16.1 -0.9**
SKO *i* 05 31 48.7
SKO *i* S **S 05 37 10.7 -0.1**
SKO *i* SS SS 05 40 32.4 +0.5
SKO pmax pmax
comp=Z,160nm,1.1s,mb5.9
SKO Skopje 47.38 263⇓ *i* P **P 05 30 16.1 -0.9**
comp=Z,160nm,1.1s,mb5.9
SKO *i* 05 30 27.9
SKO *i* PcP PcP 05 31 48.7 +0.6
SKO *i* S **S 05 37 10.7 -0.1**
SKO *i* SS SS 05 40 32.4 +0.5
SKO Skopje 47.38 263⇓ *i* P **P 05 30 16.1 -0.9**
SKO *i* 05 30 27.9
comp=Z,0.2nm,1.1s
SKO *i* PcP PcP 05 31 48.7 +0.6
SKO *i* S **S 05 37 10.7 -0.1**
SKO *i* SS SS 05 40 32.4 +0.5
GELF Grande-Etoile 47.40 279 *e* P **P 05 30 18.1 +0.9**
TERO Teramo 47.43 271 P **P 05 30 17.0 -0.4**
WPW White Pass 47.44 38 P **P 05 30 17.9 +0.6**
WRD Warden 47.46 36 P **P 05 30 17.6 0.0**
WAH2 Wahluke Slope 47.49 36 P **P 05 30 18.3 +0.5**
TIY Taiyuan 47.49 166⇑ P **P 05 30 22.0 +4.1**
TIY LR LR
comp=N,16µm,16.0s
MMB Musomiste 47.56 260 *e* P **P 05 30 18.0 -0.4**
ULC Ulcinj 47.58 265⇓ *i* P **P 05 30 18.3 -0.3**
MDW Midway 47.62 36 P **P 05 30 19.4 +0.6**
MXC Moxie City 47.63 37 P **P 05 30 19.4 +0.6**
CHMT Chamberlain Mo 47.64 30 *e* P **P 05 30 19.5 +0.5**
CANT Cankiri 47.68 250 P **P 05 30 20.8 +1.4**
MSO Missoula 47.69 31 *e* P **P 05 30 19.6 +0.2**
comp=N,213nm,1.0s,mb6.1
MSO LR LR
comp=Z,19µm,20.0s,MS6.1
AQU L'Aquila 47.72 271 *e* P **P 05 30 20.9 +1.3**
TOKT Tokat 47.72 247 P **P 05 30 21.1 +1.4**
MTLF Montolieu 47.73 282⇓ *i* P **P 05 30 19.2 -0.5**
comp=Z,557nm,1.9s,mb6.0
MTLF Montolieu 47.73 282⇓ *i* P **P 05 30 19.2 -0.5**
MTLF pmax pmax
comp=Z,278nm,1.9s,mb6.0
ERZM Erzurum 47.74 242 *i* P **P 05 30 21.7 +1.8**
EZM Erzurum 47.74 242 *e* P Px 05 29 21.6
MNS Montasola 47.75 272 *e* P **P 05 30 20.0 +0.1**
HRT Hereke 47.80 254 P **P 05 30 21.3 0.0**
ELDT Eldivan 47.81 250 *i* P **P 05 30 21.3 +0.9**
SGKT Sivrigoynuk 47.85 252 *i* P **P 05 30 21.2 +0.5**
HRY Holter Researc 47.90 29 *e* P **P 05 30 20.7 -0.3**
PGF Pioggiola 47.92 275⇓ *i* P **P 05 30 20.2 -1.0**
comp=Z,657nm,1.3s,mb6.2
PGF Pioggiola 47.92 275⇓ *i* P **P 05 30 20.2 -1.0**
PGF pmax pmax
comp=Z,328nm,1.3s,mb6.2
VAY Valandovo 47.93 262 *i* P **P 05 30 20.7 -0.6**
VAY *i* 05 31 48.8
VAY *i* S **S 05 37 19.3 +0.8**
VAY Valandovo 47.93 262 *i* P **P 05 30 20.7 -0.6**
VAY *i* PcP PcP 05 31 48.8 -1.3
VAY *i* PP PP 05 31 59.9 -13
VAY ⇑*i* S **S 05 37 19.3 +0.8**
VAY *i* SS SS 05 40 52.2 +11
REDWA Red Mountain 47.95 36 P **P 05 30 22.1 +0.7**
INTR Introdacqua 48.01 270 P **P 05 30 21.9 -0.1**
MDU Mudurnu 48.02 253 P **P 05 30 23.1 +1.0**
EZC Erzincan 48.02 244 *e* P Px 05 29 22.9
EZC Erzincan 48.02 244 P **P 05 30 22.9 +0.8**
SRS Serrai 48.04 261 *e* P **P 05 30 21.8 -0.4**
ALN Alexandroupoli 48.04 258 *e* P **P 05 30 22.2 0.0**
PTQR Pietraquaria 48.05 271 *e* P **P 05 30 23.0 +0.8**
KNT Kendrikon 48.05 261 *e* P **P 05 30 22.6 +0.3**
YLV Yalova 48.08 255 P **P 05 30 22.1 -0.4**
LRDF Laroque-de-Fa 48.10 282 *e* P **P 05 30 22.8 +0.2**
MTCE Montecelio 48.10 272 P **P 05 30 22.8 +0.1**
OSSF Osses 48.11 286 *e* P **P 05 30 22.3 -0.4**
FGMS Monte Sant'Ang 48.13 268 *e* P **P 05 30 22.5 -0.4**
LPEF Le Peyrat 48.14 282 *e* P **P 05 30 23.3 +0.3**
LAO LASA Array 48.15 24 *e* P **P 05 30 22.9 0.0**
comp=Z,2µm,1.9s,mb6.9
LAO LR LR
comp=Z,58µm,20.0s,MS6.6
EALK Alkurruntz 48.17 286 P **P 05 30 22.4 -0.8**
comp=Z,2µm,3.4s
VVLD Villa Vallelon 48.18 271 P **P 05 30 23.7 +0.5**
INCN Inchon 48.18 151 *e* P **P 05 30 22.8 -0.5**
comp=Z,51nm,0.9s,mb5.5
INCN LR LR
comp=Z,9µm,19.0s,MS5.8
MLS Moulis 48.20 283 *e* P **P 05 30 23.0 -0.4**
CII Carovilli 48.26 270 *e* P **P 05 30 23.6 -0.3**
KS15 Wonju Array Si 48.27 150 *e* P **P 05 30 21.8 -2.3**
GUAR Guarcino 48.28 271 P **P 05 30 24.7 +0.7**
OHR Ohrid 48.29 263⇓ *i* P **P 05 30 23.0 -1.1**
OHR *i* 05 32 12.9
OHR *i* PS PS 05 37 24.6 -6.9
OHR *i* SS SS 05 40 43.4 -4.6
OHR Ohrid 48.29 263⇓ *i* P **P 05 30 23.0 -1.1**
OHR *i* 05 30 49.8
OHR *i* PP PP 05 32 12.9 -3.3
OHR ⇑*i* 05 36 40.4
OHR *i* S **S 05 37 04.2 -19**
OHR *i* PS PS 05 37 24.6 -6.9
OHR *i* SS SS 05 40 43.4 -4.6
GRG Griva 48.30 262 *e* P **P 05 30 23.9 -0.3**
SDI San Donato 48.32 270 *e* P **P 05 30 25.0 +0.7**
ELAN Lanestosa 48.32 288 P **P 05 30 23.4 -1.0**

comp=Z,2µm,3.3s
SOH Sokhos 48.35 261 eP P 05 30 22.5 -2.1
MA9 Marino 48.36 272 eP P 05 30 25.4 +0.7
VIEF Viey 48.37 284 eP P 05 30 25.7 +1.0
SALF Salau 48.39 283 eP P 05 30 24.8 -0.1
EARI Arriondas 48.40 289 P P 05 30 24.7 -0.2
comp=Z,2µm,3.7s
ETSF Etsaut 48.41 285⇓iP P 05 30 24.3 -0.7
comp=Z,648nm,1.9s,mb6.0
ETSF Etsaut 48.41 285⇓iP P 05 30 24.3 -0.7
ETSF pmax pmax
comp=Z,324nm,1.9s,mb6.0
LOD Lodumlu 48.47 251 P P 05 30 26.6 +1.1
FILF Fillols 48.47 282 eP P 05 30 26.2 +0.7
ANTO Ankara 48.48 251 P P 05 30 26.9 +1.3
FDAF Les Forges d'A 48.49 285 eP P 05 30 26.0 +0.4
VRT Varto 48.50 242 eP Px 05 29 19.9
SJAF Saint Jean de 48.52 281 eP P 05 30 25.8 -0.1
ULDT Uludag 48.52 255 iP P 05 30 21.3 -4.7
PQI Presque Isle 48.53 349 eP P 05 30 24.9 -1.0
comp=Z,2µm,1.6s,mb6.8
EPON Pontenova 48.54 291 P P 05 30 25.5 -0.5
comp=Z,2µm,3.2s
EJON La Jonquera 48.55 281 P P 05 30 26.1 0.0
comp=Z,1µm,3.0s
EBIE Bielsa 48.56 284 P P 05 30 26.8 +0.7
comp=Z,2µm,3.4s
FNA Florina 48.56 263 eP P 05 30 26.6 +0.4
THE Thessaloniki 48.58 261 eP P 05 30 25.1 -1.2
FG5 Orsara di Pugl 48.61 269 eP P 05 30 27.4 +0.8
ORLT Orhaneli 48.64 255 P P 05 30 27.2 +0.4
RFI Roccamonfina 48.71 270 eP P 05 30 28.3 +1.0
FG4 Candela 48.74 269 eP P 05 30 28.1 +0.5
BINT Bingol 48.84 243 P P 05 30 29.7 +1.3
KAMT Kaman 48.90 250 P P 05 30 30.9 +2.1
GCMT Greycliff 48.91 27 eP P 05 30 29.3 +0.4
TVAN Van 48.95 240 iP P 05 30 31.3 +2.1
BOZ Bozeman (W) 48.97 29 eP P 05 30 29.6 +0.3
BOZ pmax pmax
comp=Z,670nm,1.3s,mb6.5
BOZ Bozeman (W) 48.97 29 eP P 05 30 30.2 +0.9
comp=Z,674nm,1.4s,mb6.5
BOZ LR LR
comp=Z,30µm,19.0s,MS6.3
ESKT Eskisehir 48.99 253 P P 05 30 30.2 +0.6
ESKT Eskisehir 48.99 253 iP P 05 30 27.8 -1.8
LZH Lanzhou 48.99 176 ⇓P P 05 30 30.5 +0.9
LZH PP PP 05 32 23.0 -0.3
LZH S S 05 37 34.4 +0.8
LZH XS 05 37 47.0
LZH AMB AMB
comp=Z,390nm,1.3s,mb6.3
LZH AMB AMB
comp=Z,6µm,5.5s
LZH LR LR
comp=N,38µm,16.5s
LZH LR LR
comp=Z,37µm,19.3s,MS6.4
LZH Lanzhou 48.99 176 ⇓P P 05 30 30.5 +0.9
comp=Z,390nm,1.3s,mb6.3
LZH pP pP 05 30 42.1 +12
LZH sP sP 05 30 45.3 +14
LZH PP PP 05 32 23.0 -0.3
LZH S S 05 37 34.4 +0.8
LZH sS 05 37 47.0
LZH SS SS 05 41 02.0 +2.0
LZH LR LR
comp=Z,37µm,19.3s,MS6.4
CSSN Cassano Irpino 49.05 269 eP P 05 30 30.4 +0.4
EMAZ Mazaricos 49.07 293 P P 05 30 29.1 -0.9
comp=Z,2µm,3.1s
EZN Ezine 49.08 258 P P 05 30 29.9 -0.3
TIA Tai'an 49.11 161 ⇓P P 05 30 30.7 +0.2
TIA PP PP 05 32 25.0 +0.6
TIA S S 05 37 39.0 +3.8
TIA AMB AMB
comp=Z,319nm,1.2s,mb6.2
TIA LR LR
comp=N,4µm,15.0s,MS6.1
TIA LR LR
comp=E,15µm,16.0s,MS6.1
MRLC Muro Lucano 49.12 269 eP P 05 30 31.8 +1.3
LIT Litokhoron 49.14 262 eP P 05 30 31.5 +0.8
EINC Incio 49.22 291 P P 05 30 29.9 -1.4
comp=E,3µm,3.3s
BNN Bunyan 49.24 248 P P 05 30 32.5 +1.1
LCI Lecce 49.30 266 eP P 05 30 31.8 -0.1
SGO Sicignano 49.33 269 P P 05 30 33.3 +1.2
ELZG Elazig 49.33 244 iP P 05 30 33.7 +1.5
COR Corvallis 49.45 40 eP P 05 30 34.1 +1.1
COR pmax pmax
comp=Z,1µm,1.8s,mb6.5
COR MLR MLR
comp=Z,10µm,21.0s,MS5.8
COR Corvallis 49.45 40 eP P 05 30 34.1 +1.1
comp=Z,1µm,1.8s,mb6.5
COR LR LR
comp=Z,10µm,21.0s,MS5.8
BMO Blue Mountains 49.50 34 eP P 05 30 33.5 +0.1
comp=Z,587nm,1.5s,mb6.4
BMO LR LR
comp=Z,45µm,20.0s,MS6.5
ALT Altintas 49.52 254 P P 05 30 34.3 +0.7
KIZT Kizilcal 49.54 252 P P 05 30 34.1 +0.3
MYA Malataya 49.55 245 eP Px 05 29 35.2
MYA Malataya 49.55 245 P P 05 30 35.2 +1.3
MALT Malatya 49.56 245 eP Px 05 29 33.3
MALT Malatya 49.56 245 eP P 05 30 34.5 +0.5
MALT pmax pmax
comp=Z,133nm,1.4s,mb5.8
MALT Malatya 49.56 245 eP P 05 30 34.5 +0.5
comp=Z,133nm,1.4s,mb5.8
ESAC San Caprasio 49.57 285 P P 05 30 31.9 -2.1
comp=Z,2µm,3.4s
MAJO Matsushiro 49.71 139 eP P 05 30 33.4 -1.7
MAJO pmax pmax
comp=Z,282nm,1.8s,mb6.0
MAJO MLR MLR
comp=Z,6µm,20.0s,MS5.6
MAJO Matsushiro 49.71 139 eP P 05 30 33.4 -1.7
comp=Z,282nm,1.8s,mb6.0
MAJO LR LR
comp=Z,6µm,20.0s,MS5.6
MAT Matsushiro 49.71 139 eP P 05 30 33.0 -2.1
MAT eS S 05 37 53.0 +9.5
MAT pmax pmax
comp=Z,94nm,1.5s,mb5.6
MAT MLR MLR
comp=Z,6µm,20.0s,MS5.6
MAT Matsushiro 49.71 139 eP P 05 30 33.0 -2.1
comp=Z,94nm,1.5s,mb5.6
MAT eS S 05 37 53.0 +9.5
MAT LR LR
comp=Z,6µm,20.0s,MS5.6
MAT Matsushiro 49.71 139 P P 05 30 33.4 -1.7
MAT S S 05 37 52.0 +8.5
ORI Oriolo Calabro 49.72 268 eP P 05 30 36.3 +1.2
MCMT McKenzie Canyo 49.74 30 eP P 05 30 36.0 +0.8
QLMT Earthquake Lak 49.80 29 eP P 05 30 36.7 +1.0
EPOB Poblet 49.80 283 P P 05 30 35.4 -0.3
comp=Z,2µm,3.4s
XOR Xorichti 49.81 261 eP P 05 30 37.2 +1.4
DIY Diyarbakir 49.83 243 eP Px 05 29 37.4
DIY Diyarbakir 49.83 243 P P 05 30 37.4 +1.4
HKR Hakkari 49.87 239 eP Px 05 29 35.3
HKR Hakkari 49.87 239 P P 05 30 37.8 +1.4
ECAL Calabor 49.88 291 P P 05 30 34.6 -1.8
comp=Z,2µm,3.3s
IGT Igoumenitsa 49.90 264 eP P 05 30 35.9 -0.6
YNR Norris Junctio 49.94 28 eP P 05 30 37.5 +0.7
YMR Madison River 49.98 28 eP P 05 30 37.7 +0.6
PBRG Braganca 50.02 291 eP P 05 30 37.6 +0.2
comp=Z,111nm,1.7s,mb5.6
ELOB Lobios 50.06 292 P P 05 30 37.3 -0.4
comp=Z,2µm,3.3s
LKWY Lake 50.11 28 eP P 05 30 39.9 +1.9
LKWY pmax pmax
comp=Z,151nm,1.0s,mb6.0
LKWY MLR MLR
comp=Z,69µm,19.0s,MS6.7
LKWY Lake 50.11 28 eP P 05 30 39.9 +1.9
comp=Z,151nm,1.0s,mb6.0
LKWY LR LR
comp=Z,69µm,19.0s,MS6.7
YFT Old Faithful 50.20 28 eP P 05 30 40.7 +2.0
AGG Agios Georgios 50.23 262 eP P 05 30 38.6 -0.4
ERTA Horta de San J 50.26 284 P P 05 30 38.9 -0.3
comp=Z,2µm,3.5s
MSNY Massena 50.29 355 eP P 05 30 40.4 +1.0
KHL Karahalli 50.30 254 P P 05 30 39.8 +0.2
EBR Ebro Roquetas 50.38 283 eTs 05 30 44.0
URFA Urfa 50.40 245 eP Px 05 29 41.1
KDAG Bornova 50.41 256 iP P 05 30 36.7 -3.8
SADO Sadowa 50.54 359 P P 05 30 41.5 +0.2
comp=Z,30nm,1.0s,mb5.2,baz=6.3,slow=7.1,SNR=15
TIP Timpagrande 50.57 267 eP P 05 30 41.7 +0.1
GZT Gaziantep 50.58 246 iP P 05 30 42.8 +1.0
PVRL Vila Real 50.62 292 eP P 05 30 41.8 -0.2
comp=Z,115nm,1.6s,mb5.6
WVL Waterville 50.66 350 eP P 05 30 42.7 +0.4
comp=Z,780nm,1.3s,mb6.5
ISP Isparta 50.69 253 iP P 05 30 42.7 +0.1
ISP Isparta 50.69 253 eP P 05 30 42.8 +0.2
comp=Z,262nm,1.3s,mb6.0
GAZ Gaziantep 50.79 246 eP Px 05 29 47.1
DENT Denizli 50.90 255 P P 05 30 45.1 +0.9
VSL Villasalto 50.91 275 eP P 05 30 44.0 -0.2
comp=Z,306nm,1.4s,mb6.0
EMOS Mosqueruela 50.91 284 P P 05 30 43.7 -0.5
comp=Z,1µm,3.0s
HLID Hailey 50.93 32 eP P 05 30 44.0 -0.3
comp=Z,299nm,1.8s,mb5.9
HLID LR LR
comp=Z,31µm,21.0s,MS6.3
GRI Girifalco 50.95 267 eP P 05 30 44.4 -0.1
CGL Cagliari Serpe 51.05 275 eP P 05 30 45.4 +0.1
BCK Bucak 51.06 253 P P 05 30 45.6 +0.2
CEYT Ceyhan 51.07 248 P P 05 30 46.6 +1.1
XAN Xi'an 51.09 170 P P 05 30 45.2 -0.5
XAN AP pP 05 30 54.6 +8.0
XAN S S 05 38 01.9 -0.8
XAN AMB AMB
comp=Z,89nm,1.5s,mb5.5
XAN LR LR
comp=N,15µm,21.3s,MS6.1
XAN LR LR
comp=E,16µm,22.8s,MS6.1
XAN LR LR
comp=Z,21µm,20.5s,MS6.1
KEBM Edson Butte 51.09 41 P P 05 30 47.0 +1.4
PVIS Viseu 51.20 292 eP P 05 30 46.7 +0.3
comp=Z,70nm,1.6s,mb5.3
PVIS Viseu 51.20 292 eP P 05 30 45.4 -1.0
MIV Mineville/With 51.20 354 eP P 05 30 45.4 -1.0
NCB Newcomb 51.31 354 eP P 05 30 46.8 -0.4
comp=Z,394nm,2.0s,mb6.0
NCB LR LR
comp=Z,23µm,21.0s,MS6.2
HDMB Hadim 51.39 251 P P 05 30 46.9 -1.0
HUMO Hull Mountain 51.44 40 eP P 05 30 49.1 +0.9
comp=Z,177nm,1.0s,mb6.0
HUMO LR LR
comp=Z,32µm,20.0s,MS6.3
MTE Manteigas 51.48 291 eP P 05 30 47.9 -0.6
comp=Z,184nm,1.7s,mb5.7
MTE eS S 05 38 11.2 +3.2
MTE eLR LR 05 45 53.7
comp=Z,8µm,18.0s
MTE Manteigas 51.48 291 eP P 05 30 47.8 -0.8
comp=Z,166nm,1.4s,mb5.8
COBT Iskenderun 51.52 247 iP P 05 30 49.9 +1.0
YER Yerkesik 51.58 255 P P 05 30 49.8 +0.4
SOI Samo 51.73 268 eP P 05 30 49.1 -1.4
KBO Bosley Butte 51.76 41 eP P 05 30 50.6 0.0
ELL Elmali 51.83 254 P P 05 30 51.2 0.0
MTTG Motta San Giov 51.83 268 eP P 05 30 49.7 -1.6
WVOR Wild Horse Val 51.84 36 eP P 05 30 51.7 +0.4
WVOR pmax pmax
comp=Z,532nm,1.5s,mb6.2
WVOR MLR MLR
comp=Z,37µm,20.0s,MS6.4
WVOR Wild Horse Val 51.84 36 eP P 05 30 51.7 +0.5
comp=Z,532nm,1.5s,mb6.2
WVOR LR LR
comp=Z,37µm,20.0s,MS6.4
AHID Auburn Hatcher 51.87 29 eP P 05 30 51.7 +0.2
comp=Z,322nm,1.4s,mb6.1
AHID LR LR
comp=Z,17µm,20.0s,MS6.1
APE Apeiranthos 51.88 258 iP P 05 30 51.0 -0.7
APE Apeiranthos 51.88 258 P P 05 30 50.5 -1.2
ACCN Adirondack Com 51.90 354 eP P 05 30 49.9 -1.8
ESDC Sonseca Array 51.90 288 P P 05 30 50.7 -1.0
comp=Z,9.3nm,0.8s,baz=3.4,slow=8.0,SNR=30
ESDC PcP PcP 05 32 04.5 -0.1
baz=351,slow=3.4,SNR=4.1
ESDC Sonseca Array 51.90 288 P P 05 30 50.6 -1.1
comp=Z,29nm,1.3s,mb5.0
ESLA Sonseca Array 51.90 288 eP P 05 30 51.3 -0.5
comp=Z,73nm,1.5s,mb5.4
ESLA LR LR
comp=Z,83µm,19.0s,MS6.8
HTY Hatay 51.92 247 P P 05 30 52.3 +0.3
BW06 Boulder Array 51.94 27 eP P 05 30 51.5 -0.5
comp=Z,392nm,1.5s,mb6.1
BW06 LR LR
comp=Z,42µm,20.0s,MS6.5
PDAR Pinedale Array 51.94 27 P P 05 30 52.0 0.0
comp=Z,59nm,1.0s,mb5.5,slow=3.0,SNR=62
PDAR LR LR 05 52 49.1
comp=Z,38µm,21.3s,MS6.4,baz=12,slow=36
PDAR PKPKP 06 01 15.8
comp=Z,3.0nm,1.3s,baz=135,slow=3.8,SNR=5.2
MNO Monte Soro 51.99 269 eP P 05 30 52.8 +0.4
PCBR Castelo Branco 52.03 291 eP P 05 30 52.2 -0.5
comp=Z,136nm,1.6s,mb5.6
EIBI Ibiza 52.08 282 P P 05 30 52.5 -0.6
comp=Z,2µm,3.4s
MOD Modoc 52.29 37 eP P 05 30 55.6 +1.0
comp=Z,436nm,1.4s,mb6.2
MOD LR LR
comp=Z,15µm,22.0s,MS6.0
YBH Yreka Blue Hor 52.32 40 P P 05 30 56.1 +1.2
comp=Z,22nm,0.8s,mb5.1,baz=39,slow=7.4,SNR=15
YBH Yreka Blue Hor 52.32 40 eP P 05 30 55.0 +0.1
comp=Z,73nm,1.1s,mb5.5
YBH LR LR
comp=Z,28µm,20.0s,MS6.3
JFWS Jewell Farm 52.33 9 eP P 05 30 53.5 -1.4
JFWS pmax pmax
comp=Z,102nm,0.9s,mb5.8
JFWS MLR MLR
comp=Z,39µm,19.0s,MS6.5
JFWS Jewell Farm 52.33 9 eP P 05 30 53.5 -1.4
comp=Z,102nm,0.9s,mb5.8
JFWS LR LR
comp=Z,39µm,19.0s,MS6.5
LHEM Herd Peak 52.45 39 P P 05 30 56.9 +1.0
GENY Geneseo 52.54 358 eP P 05 30 56.6 +0.1
EBEN Beniarda 52.54 284 P P 05 30 57.0 +0.5
comp=Z,3µm,3.6s
SANT Santorini 52.58 258 eP P 05 30 56.1 -0.8
comp=Z,330nm,1.1s,mb6.2
SANT e 05 31 04.9
THR1 Thera Island 52.58 258 eP P 05 30 57.1 +0.2
ETOB Tobarra 52.71 285 P P 05 30 57.5 -0.4
comp=Z,2µm,3.6s
HRV Harvard--Oak R 52.75 352 eP P 05 30 57.3 -0.8
HRV pmax pmax
comp=Z,436nm,2.1s,mb6.0
HRV MLR MLR
comp=Z,20µm,20.0s,MS6.2
HRV Harvard--Oak R 52.75 352 eP P 05 30 57.3 -0.8
comp=Z,436nm,2.1s,mb6.0
HRV LR LR
comp=Z,20µm,20.0s,MS6.2
HVU Hansel Valley 52.78 30 eP P 05 30 58.6 +0.3
AAM Ann Arbor 53.00 3 eP P 05 30 59.8 -0.2
AAM pmax pmax
comp=Z,121nm,1.1s,mb5.7
AAM MLR MLR
comp=Z,56µm,21.0s,MS6.6
AAM Ann Arbor 53.00 3 eP P 05 30 59.8 -0.2
comp=Z,122nm,1.1s,mb5.7
AAM LR LR
comp=Z,56µm,21.0s,MS6.6
HWUT Hardware Ranch 53.01 29 eP P 05 30 59.8 -0.3
comp=Z,825nm,1.3s,mb6.5
HWUT LR LR
comp=Z,30µm,19.0s,MS6.4
EBAD Badajoz 53.07 290 P P 05 30 59.0 -1.5
comp=Z,2µm,3.3s
THN Thein Dam 53.09 205 eP P 05 30 59.4 -1.4
comp=Z,32nm,0.7s,mb5.4
MAMC Mammari 53.11 250 P P 05 30 59.8 -1.1
KHMM Horse Mountain 53.12 41 eP P 05 31 01.5 +0.7
ALFC Alevga 53.18 251 ⇑P P 05 30 59.7 -1.7
comp=Z,1.6nm,1.3s
ALFC Alevga 53.18 251⇑eP P 05 30 59.7 -1.7
LEF Lefka 53.19 250 P P 05 31 00.2 -1.3
ERPA Erie 53.19 360 eP P 05 31 01.6 +0.2
comp=Z,117nm,1.2s,mb5.7
ERPA LR LR
comp=Z,15µm,20.0s,MS6.0
JHJ Hachijo jima 2 53.21 138 LR LR 05 55 13.5
comp=Z,5µm,19.7s,MS5.6,baz=52,slow=38
PHNC Paralimni 53.21 249 P P 05 31 01.7 +0.1
SPUT South Promonto 53.27 30 eP P 05 31 01.4 -0.5
LIS Lisbon 53.28 293 eP P 05 31 02.9 +0.8
LIS eS S 05 38 35.7 +3.1
LIS eS S 05 38 35.8 +3.2
LIS AMS AMS 06 04 18.3
comp=Z,11µm,19.2s,MS5.9
LIS Lisbon 53.28 293 eP P 05 31 02.9 +0.8
LIS eS S 05 38 35.7 +3.1
comp=Z,11µm,19.2s
NJ2 Nanjing 53.30 160 eP P 05 31 01.9 -0.4
NJ2 AP pP 05 31 11.9 +8.7
NJ2 XP sP 05 31 15.8 +12
NJ2 PP PP 05 33 03.5 -0.7
NJ2 S S 05 38 30.0 -3.0
NJ2 XS 05 38 44.0
NJ2 AMB AMB
comp=Z,70nm,0.9s,mb5.6
NJ2 AMB AMB
comp=Z,1µm,7.1s
NJ2 LR LR
comp=N,28µm,15.8s
NJ2 LR LR
comp=E,29µm,26.4s
NJ2 LR LR
comp=Z,28µm,11.5s,MS6.6
CSS Prodhromos 53.31 250 ⇑P P 05 31 01.9 -0.4
CSS Prodhromos 53.31 250⇑eP P 05 31 01.9 -0.4
EVO Evora 53.37 291 eP P 05 31 00.9 -1.9
comp=Z,546nm,1.9s,mb5.8
EVO eR
comp=Z,12µm,18.2s
EADA Adamuz 53.45 288 P P 05 31 02.9 -0.4
comp=Z,2µm,3.4s
WDC Whiskeytown Da 53.48 40 eP P 05 31 03.3 -0.2
WDC pmax pmax
comp=Z,919nm,2.1s,mb6.3
WDC MLR MLR
comp=Z,28µm,19.0s,MS6.3
WDC Whiskeytown Da 53.48 40 eP P 05 31 03.2 -0.3
comp=Z,919nm,2.1s,mb6.3
WDC LR LR
comp=Z,28µm,19.0s,MS6.3
EMUR La Murta 53.48 285 P P 05 31 01.9 -1.7
comp=Z,2µm,3.2s
TCUT Toone Canyon 53.50 29 eP P 05 31 03.6 -0.1
SZAC Souni-Zanaja 53.55 250 ⇑P P 05 31 03.3 -0.8
SZAC Souni-Zanaja 53.55 250⇑eP P 05 31 03.3 -0.8
PONG Pong 53.56 205 eP P 05 31 05.0 +0.8
BGU Big Grassy Mou 53.62 31 eP P 05 31 04.3 -0.3
ALLY Alegheny Colle 53.66 360 eP P 05 31 04.0 -0.8
EQES Quesada 53.68 287 P P 05 31 03.7 -1.3
comp=Z,2µm,3.4s
ELK Elko 53.70 33 eP P 05 31 05.6 +0.5
ELK pmax pmax
comp=Z,181nm,1.3s
ELK MLR MLR
comp=Z,37µm,20.0s
ELK Elko 53.70 33 eP P 05 31 05.5 +0.4
comp=Z,181nm,1.3s,mb5.8
ELK LR LR
comp=Z,37µm,20.0s,MS6.4
IDI Anoyia 53.71 258 P P 05 31 04.4 -0.9
comp=Z,18nm,0.6s,mb5.2,baz=3.1,slow=17,SNR=9.0
HWQ Hawqa 53.77 247 eP P 05 31 05.7 -0.1
CAEH 'Ain El Ouahch 53.83 277 P P 05 31 06.0 -0.1
PBEJ Beja 53.86 291 eP P 05 31 05.3 -1.0
comp=Z,104nm,2.5s,mb5.3
PBEJ Beja 53.86 291 eP P 05 31 05.0 -1.3
KLP Kalpa 53.90 203 eP P 05 31 07.0 +0.3
BMN Battle Mountai 53.91 35 eP P 05 31 07.4 +0.7
BMN e 05 32 14.3
BMN pmax pmax
comp=Z,220nm,1.3s,mb5.9
BMN MLR MLR
comp=Z,30µm,20.0s,MS6.3
BMN Battle Mountai 53.91 35 eP P 05 31 07.4 +0.8
comp=Z,220nm,1.3s,mb5.9
BMN ePcP PcP 05 32 14.3 +2.2
BMN LR LR
comp=Z,30µm,20.0s,MS6.3
NOQ North Oquirrh 53.94 30 eP P 05 31 06.8 0.0
SDNR Sundarnagar 53.98 204 eP P 05 31 06.5 -0.7
EMIN Mina Concepcio 54.02 290 P P 05 31 06.0 -1.5
comp=Z,1µm,3.2s
BHK Bhakra 54.08 205 e P 05 31 12.1 +4.1
BHK e 05 33 59.7
BHD Baghdad 54.10 238 iP P 05 31 05.0 -3.1
BHD i 05 32 34.0
ABA Alger-Bouzarea 54.14 280 P P 05 31 08.0 -0.4
DFRA Djebel Bou Aff 54.15 278 P P 05 31 09.0 +0.6
CD2 Chengdu 54.16 176 P P 05 31 09.0 +0.4
CD2 XP sP 05 31 16.7 +6.9
CD2 PP PP 05 33 14.9 +3.1
CD2 S S 05 38 43.9 -0.7
CD2 AMB AMB
comp=Z,220nm,0.8s,mb6.1
CD2 AMB AMB
comp=Z,4µm,5.4s
CD2 LR LR
comp=N,20µm,16.8s
CD2 LR LR
comp=Z,12µm,13.2s,MS6.1
BHL Bhannes 54.16 247 eP P 05 31 08.0 -0.6
DAU Daniels Canyon 54.21 29 eP P 05 31 09.0 +1.0
CKFL Kef-Lekhel 54.22 277 P P 05 31 08.0 -0.9
GVD Gavdhos 54.22 259 P P 05 31 08.0 -1.0
comp=Z,125nm,1.0s,mb5.8
PAL Palisades 54.27 354 eP P 05 31 09.1 -0.2
PAL pmax pmax
comp=Z,103nm,1.0s,mb5.7
PAL Palisades 54.27 354 eP P 05 31 09.1 -0.2
comp=Z,103nm,1.0s,mb5.7
SSE Sheshan 54.33 157 P P 05 31 09.0 -0.9
SSE S S 05 38 45.9 -1.1
SSE AMB AMB
comp=Z,102nm,1.1s,mb5.7
SSE AMB AMB
comp=Z,2µm,6.9s
SSE LR LR
comp=N,4µm,25.3s,MS5.7
SSE LR LR
comp=E,8µm,25.3s,MS5.7
SSE LR LR
comp=Z,7µm,20.8s,MS5.7
SSE Sheshan 54.33 157 P P 05 31 09.0 -0.9
comp=Z,102nm,1.1s,mb5.7
SSE sP sP 05 31 13.6 +2.5
SSE S S 05 38 45.9 -1.1
SSE sS 05 38 53.3
SSE SS SS 05 42 29.2 +0.7
SSE LR LR
comp=Z,7µm,20.8s,MS5.7
CASM Ain Smara 54.38 277 P P 05 31 09.0 -1.1
PALC Alcoutim 54.39 291 eP P 05 31 09.7 -0.5
comp=Z,72nm,1.5s,mb5.4
PALC Alcoutim 54.39 291 eP P 05 31 09.6 -0.6
PTEO Sao Teotonio 54.41 292 eP P 05 31 09.4 -1.0
comp=Z,82nm,2.1s,mb5.3
CPNY Central Park 54.49 354 eP P 05 31 10.6 -0.3
PAHR Pah Rah Range 54.52 37 eP P 05 31 11.3 +0.1
comp=Z,151nm,1.3s,mb5.9
SET Setif 54.53 278 P P 05 31 12.0 +0.7
EBER Berja 54.56 286 P P 05 31 10.7 -0.8
comp=Z,1µm,3.2s
CTEI Djebel Teioual 54.58 277 P P 05 31 09.0 -2.6
MPU Maple Canyon 54.59 29 eP P 05 31 11.9 +0.2
BRNJ Basking Ridge 54.60 355 eP P 05 31 10.2 -1.5
SSPA Standing Stone 54.67 358 eP P 05 31 10.5 -1.7

comp=Z,359nm,1.8s,mb6.1
SSPA LR LR
comp=Z,8µm,20.0s,MS5.8
WHN Wuhan 54.68 165 ⇓P **P 05 31 11.5 -1.0**
WHN S **S 05 38 52.6 +0.9**
WHN AMB AMB
comp=Z,7µm,4.0s
WHN LR LR
comp=Z,31µm,17.9s,MS6.4
CKHR Kef el Ahmar 54.70 278 P **P 05 31 13.0 +0.4**
EMHD Djebel Mahouad 54.75 280 P **P 05 31 14.0 +1.1**
OHCM Honcut 54.78 39 *eP* **P 05 31 12.2 -0.8**
EBNR Beni Rached 54.78 282 P **P 05 31 14.5 +1.4**
JOSI Joshimath 54.83 201 *e* **P 05 31 03.3 -10**
JOSI *e* 05 31 27.1
comp=Z,766nm,1.2s
ESPR Espera 54.84 289 P **P 05 31 12.7 -0.9**
comp=Z,2µm,3.2s
WCN Washoe City 54.91 37 *eP* **P 05 31 14.1 +0.1**
WCN pmax pmax
comp=Z,388nm,1.3s,mb6.3
WCN Washoe City 54.91 37 *eP* **P 05 31 14.1 +0.1**
comp=Z,388nm,1.3s,mb6.3
ECHA Ech Chlef 54.94 282 P **P 05 31 15.0 +0.7**
HOPS Hopland 55.03 40 *eP* **P 05 31 17.3 +2.3**
comp=Z,479nm,1.7s,mb6.2
HOPS LR LR
comp=Z,35µm,19.0s,MS6.5
ISCO Idaho Springs 55.05 24 *eP* **P 05 31 14.7 -0.3**
ISCO pmax pmax
comp=Z,117nm,1.1s,mb5.8
ISCO MLR MLR
comp=Z,46µm,20.0s,MS6.5
ISCO Idaho Springs 55.05 24 *eP* **P 05 31 14.7 -0.3**
comp=Z,117nm,1.1s,mb5.8
ISCO LR LR
comp=Z,46µm,20.0s,MS6.5
EMIJ Mijas 55.05 288 P **P 05 31 13.8 -1.4**
comp=Z,2µm,3.2s
ACSO Alum Creek Sta 55.07 3 *eP* **P 05 31 14.1 -1.2**
comp=Z,184nm,1.1s,mb6.0
ACSO LR LR
comp=Z,44µm,21.0s,MS6.5
DDI Dehra Dun 55.11 203 *eP* **P 05 31 14.8 -0.8**
DDI *e* 05 36 40.3
EANR 'Ain N'Sour 55.16 282 P **P 05 31 16.0 +0.1**
MVL Millersville 55.30 356 *eP* **P 05 31 17.4 +0.5**
TMUT Trail Mountain 55.33 29 *eP* **P 05 31 16.9 -0.1**
LSA Lhasa 55.41 189 P **P 05 31 16.0 -1.8**
EALB Alboran 55.53 286 P **P 05 31 17.1 -1.5**
comp=Z,3µm,3.1s
NSHM Saint Helena R 55.53 40 P **P 05 31 17.9 -0.7**
SRU San Rafael 55.54 28 *eP* **P 05 31 18.0 -0.6**
MCWV Mont Chateau 55.65 360 *eP* **P 05 31 17.9 -1.5**
comp=Z,124nm,1.3s,mb5.8
MCWV LR LR
comp=Z,14µm,21.0s,MS6.0
ETRT Tiaret 55.70 282 P **P 05 31 20.0 +0.2**
ASF Jabal al Asfar 55.78 246 P **P 05 31 19.6 -0.8**
comp=Z,51nm,1.1s,mb5.5,baz=240,slow=0.7,SNR=32
PTH Pithoragarh 55.81 201 *eP* **P 05 31 20.9 +0.2**
NVAR Mina Array Bea 55.85 36 P **P 05 31 21.6 +0.8**
comp=Z,72nm,1.1s,mb5.6,baz=11,slow=3.2,SNR=62
NVAR LR LR 05 56 30.3
comp=Z,27µm,19.4s,MS6.3,baz=10.0,slow=37
MNV Mina 55.86 36 *eP* **P 05 31 20.7 -0.2**
MNV pmax pmax
comp=Z,160nm,1.1s,mb6.0
MNV MLR MLR
comp=Z,30µm,20.0s,MS6.4
MNV Mina 55.86 36 *eP* **P 05 31 20.7 -0.2**
comp=Z,160nm,1.1s,mb6.0
MNV LR LR
comp=Z,30µm,20.0s,MS6.4
SDMD Soldier's Deli 55.89 357 *eP* **P 05 31 19.4 -1.8**
KALG Kalgarh 55.90 202 *e* **P 05 31 18.8 -2.6**
comp=Z,298nm,1.1s,mb6.2
LGTI Lohaghat 55.91 201 *eP* **P 05 31 21.5 +0.1**
MSU Marysvale 56.07 30 *eP* **P 05 31 22.5 +0.1**
TRCR Troy Canyon 56.07 33 *eP* **P 05 31 22.9 +0.4**
MVU Marysvale 56.07 30 *eP* **P 05 31 22.8 +0.3**
comp=Z,344nm,1.1s,mb6.3
MVU LR LR
comp=Z,21µm,20.0s,MS6.2
BLO Bloomington 56.11 6 *eP* **P 05 31 21.2 -1.5**
BLO pmax pmax
comp=Z,907nm,2.1s,mb6.4
BLO Bloomington 56.11 6 *eP* **P 05 31 21.2 -1.4**
comp=Z,907nm,2.1s,mb6.4
CMB Columbia Colle 56.13 38 *eP* **P 05 31 22.6 -0.3**
comp=Z,686nm,2.2s,mb6.3
CMB LR LR
comp=Z,22µm,19.0s,MS6.3
CBKS Cedar Bluff 56.22 18 *eP* **P 05 31 21.1 -2.4**
CBKS pmax pmax
comp=Z,205nm,1.2s,mb6.0
CBKS MLR MLR
comp=Z,36µm,19.0s,MS6.5
CBKS Cedar Bluff 56.22 18 *eP* **P 05 31 21.1 -2.4**
comp=Z,205nm,1.2s,mb6.0
CBKS LR LR
comp=Z,36µm,19.0s,MS6.5
TPH Tonopah 56.26 35 *eP* **P 05 31 24.0 +0.2**
comp=Z,266nm,1.3s,mb6.1
TPH LR LR
comp=Z,33µm,20.0s,MS6.4
PV10 Paradox Valley 56.34 27 *eP* **P 05 31 25.0 +0.7**
SAC San Andreas 56.47 40 P **P 05 31 25.4 +0.1**
PV01 Paradox Valley 56.60 27 *eP* **P 05 31 25.9 -0.3**
SLM Saint Louis 56.60 9 *eP* **P 05 31 24.5 -1.7**
comp=Z,111nm,1.0s,mb5.8
OMM Old Mammoth Mi 56.62 36 *eP* **P 05 31 27.4 +0.9**
ARUT Antelope Range 56.73 31 *eP* **P 05 31 27.1 -0.1**
NDI New Delhi 56.77 204 *eP* **P 05 31 25.5 -2.1**
NDI *e* 05 39 14.5
MTUM Tungsten Hills 56.91 36 *eP* **P 05 31 29.0 +0.5**
AYAN Aya Nagar 56.97 204 *eP* **P 05 31 28.0 -1.0**
WCI Wyandotte Cave 57.05 6 *eP* **P 05 31 27.4 -2.1**
comp=Z,90nm,1.0s,mb5.8
WCI LR LR
comp=Z,6µm,22.0s,MS5.7
CBN Corbin 57.09 357 P **P 05 31 28.7 -1.1**
comp=Z,977nm,1.9s,mb6.5
CBN LR LR
comp=Z,41µm,19.0s,MS6.5
SDCO Great Sand Dun 57.10 24 *eP* **P 05 31 28.6 -1.3**
comp=Z,210nm,1.4s,mb6.0
SDCO LR LR
comp=Z,55µm,22.0s,MS6.6
CCM Cathedral Cave 57.16 10 P **P 05 31 27.5 -2.8**
CCM S **S 05 39 22.8 -1.7**
CCM Cathedral Cave 57.16 10 *eP* **P 05 31 27.5 -2.7**
comp=Z,349nm,1.4s,mb6.2
SONA Sohna 57.21 204 *eP* **P 05 31 29.6 -1.1**
GKN Gorkha 57.22 196 *eP* **P 05 31 29.3 -1.5**
comp=Z,649nm,1.4s,mb6.5
FVM French Village 57.25 10 *eP* **P 05 31 28.1 -2.7**
comp=Z,468nm,1.6s,mb6.3
GUN Gumba 57.29 195 *eP* **P 05 31 29.8 -1.5**
comp=Z,343nm,1.1s,mb6.3
USIN University of 57.30 7 *eP* **P 05 31 29.8 -1.5**
comp=Z,414nm,1.5s,mb6.2
SAO San Andreas Ge 57.34 39 *eP* **P 05 31 32.0 +0.4**
comp=Z,262nm,1.4s,mb6.1
SAO LR LR
comp=Z,20µm,19.0s,MS6.2
KKN Kakani 57.42 195 *eP* **P 05 31 31.0 -1.2**
comp=Z,499nm,1.3s,mb6.4
KHET Khetri 57.43 205 *eP* **P 05 31 30.8 -1.4**
KHET *e* 05 31 37.3
comp=Z,284nm,1.9s
KOLN Koldanda 57.48 197 *eP* **P 05 31 30.8 -1.9**
comp=Z,450nm,1.3s,mb6.3
JIRN Jiri 57.53 194 *eP* **P 05 31 31.3 -1.7**
comp=Z,591nm,1.5s,mb6.4
DMN Daman 57.61 195 *eP* **P 05 31 32.5 -1.0**
comp=Z,635nm,1.4s,mb6.5
PKI Pulchoki 57.64 195 *eP* **P 05 31 32.5 -1.2**
comp=Z,502nm,1.5s,mb6.3
LRV Little Rabbit 57.70 39 *eP* **P 05 31 35.1 +1.0**
FWV Forest Hill 57.72 0 *eP* **P 05 31 34.7 +0.5**
ELN Prospectdale 58.08 0 *eP* **P 05 31 37.3 +0.7**
AGRA Agra 58.19 203 *eP* **P 05 31 35.9 -1.7**
EIL Elat 58.42 248 P **P 05 31 38.5 -0.7**
comp=Z,59nm,1.1s,mb5.5,baz=354,slow=8.5,SNR=32
EIL Elat 58.42 248 *eP* **P 05 31 38.2 -1.0**
comp=Z,319nm,1.4s,mb6.2
GYA Guiyang 58.62 173 ⇓*i*P **P 05 31 40.5 -0.1**
GYA AP pP 05 31 44.9 +3.4
GYA XP sP 05 31 47.8 +6.0
GYA PP PP 05 33 54.2 +2.2
GYA S **S 05 39 47.3 +3.5**
GYA AMB AMB
comp=Z,230nm,1.4s,mb6.0
GYA AMB AMB
comp=Z,2µm,4.2s
GYA LR LR
comp=N,9µm,18.8s,MS6.0
GYA LR LR
comp=E,5µm,18.2s,MS6.0
GYA LR LR
comp=Z,11µm,18.2s,MS6.0
JASL Jaisalmer 58.78 210 *eP* **P 05 31 41.1 -0.6**
PVMO Portageville 58.82 9 P **P 05 31 41.8 -0.1**
JOW Kunigami 58.86 150 LR LR 05 59 16.8
comp=Z,8µm,18.9s,MS5.9,baz=124,slow=38
UTMT University of 58.91 8 *eP* **P 05 31 41.3 -1.2**
comp=Z,456nm,1.1s,mb6.4
GLAT Glass 58.97 8 *eP* **P 05 31 41.7 -1.3**
AJM Ajmer 59.06 206 ⇓*i*P **P 05 31 42.0 -1.7**
WUAZ Wupatki 59.09 29 *eP* **P 05 31 43.4 -0.3**
comp=Z,9µm,1.7s
WUAZ LR LR
comp=Z,284µm,21.0s
GNAR Gosnell 59.27 9 *eP* **P 05 31 43.1 -1.9**
HALT Halls 59.33 9 *eP* **P 05 31 43.8 -1.7**
CBIJ Chichi jima 59.34 136 *i* LR LR 05 55 31.8
comp=Z,3µm,21.1s,MS5.3,baz=339,slow=34
LDFC Landfair 59.35 33 *eP* **P 05 31 45.1 -0.5**
SHL Shillong 59.52 188 *eP* **P 05 31 45.0 -1.9**
SHL *e* 05 38 53.0
HBAR Harrisburg 59.67 10 *eP* **P 05 31 46.3 -1.4**
CPCT Cooper Cave 59.84 4 *eP* **P 05 31 46.6 -2.3**
ANMO Albuquerque 59.85 25 P **P 05 31 48.2 -0.8**
ANMO Albuquerque 59.85 25 P **P 05 31 48.3 -0.7**
comp=Z,144nm,1.0s,mb5.9,baz=358,slow=6.2,SNR=79
ANMO Albuquerque 59.85 25 *eP* **P 05 31 48.1 -1.0**
comp=Z,310nm,1.2s,mb6.2
ANMO LR LR
comp=Z,55µm,20.0s,MS6.7
KMI Kunming 59.91 177 ⇓P **P 05 31 49.0 -0.6**
KMI AP pP 05 31 54.5 +4.0
KMI XP sP 05 31 55.7 +4.9
KMI S **S 05 40 01.3 +0.6**
KMI AMB AMB
comp=Z,148nm,1.8s,mb5.7
KMI AMB AMB
comp=Z,3µm,4.6s
KMI LR LR
comp=N,14µm,18.9s,MS6.3
KMI LR LR
comp=E,17µm,23.4s,MS6.3
KMI LR LR
comp=Z,15µm,18.2s
KMI Kunming 59.91 177 ⇓P **P 05 31 49.0 -0.6**
comp=Z,148nm,1.8s,mb5.7
KMI pP pP 05 31 54.5 +4.0
KMI sP sP 05 31 55.7 +4.9
KMI S **S 05 40 01.3 +0.6**
KMI SS SS 05 43 58.0 0.0
KMI LR LR
comp=Z,15µm,18.2s,MS6.2
MWC Mount Wilson 60.05 36 *eP* **P 05 31 50.6 +0.1**
SWET Sewanee 60.06 5 *eP* **P 05 31 48.2 -2.3**
AMTX Amarillo 60.08 20 *eP* **P 05 31 48.7 -1.9**
comp=Z,201nm,1.7s,mb5.9
AMTX LR LR
comp=Z,62µm,19.0s,MS6.8
MET Memphis--Engin 60.11 9 *eP* **P 05 31 49.6 -1.2**
WMOK Wichita Mounta 60.31 18 *eP* **P 05 31 50.9 -1.3**
comp=Z,352nm,1.3s,mb6.2
WMOK LR LR
comp=Z,23µm,20.0s,MS6.3
QZH Quanzhou 60.37 160 *i* PR 05 31 51.1
QZH S **S 05 40 09.7 +3.2**
QZH AMB AMB
comp=Z,160nm,1.1s,mb6.0
QZH AMB AMB
comp=Z,3µm,7.4s
QZH LR LR
comp=N,3µm,10.6s,MS6.3
QZH LR LR
comp=E,12µm,14.0s,MS6.3
QZH LR LR
comp=Z,21µm,16.2s,MS6.4
UALR University of 60.42 11 *eP* **P 05 31 51.0 -1.9**
comp=Z,419nm,1.4s,mb6.3
TATO Taipei 60.44 157 *eP* **P 05 31 53.5 +0.3**
comp=Z,498nm,1.5s,mb6.3
TATO LR LR
comp=Z,8µm,20.0s,MS5.9
BANOM Banah 60.57 225 P **P 05 31 54.1 0.0**
SNR=7.6
MIAR Mount Ida 60.62 13 *eP* **P 05 31 52.1 -2.2**
comp=Z,262nm,1.3s,mb6.2
MIAR LR LR
comp=Z,54µm,20.0s,MS6.7
OXF Oxford 60.73 9 *eP* **P 05 31 53.7 -1.3**
comp=Z,1µm,1.1s,mb6.9
OXF LR LR
comp=Z,24µm,20.0s,MS6.3
YHNB Yeheng 60.74 157 *eP* **P 05 31 56.0 +0.8**
PFO Pinyon Flat Ob 60.75 34 P **P 05 31 54.0 -1.2**
comp=Z,620nm,1.2s,mb6.6,SNR=50
PFO Pinyon Flat Ob 60.75 34 *eP* **P 05 31 54.3 -0.9**
comp=Z,187nm,1.3s,mb6.1
PFO LR LR
comp=Z,8µm,20.0s,MS5.9
AGT Agartala 61.20 189 *i* **P 05 32 02.0 +3.6**
AGT *i* 05 33 12.0
BOK Bokaro 61.38 194 *i* **P 05 31 52.4 -7.2**
BOK *i* 05 34 19.2
MIDW Midway 61.44 94 PFAKE 05 32 10.0 +10
MIDW LR LR
comp=Z,7µm,21.0s,MS5.8
BAR Barrett 61.66 35 *eP* **P 05 32 00.7 -0.7**
ASHO Ashiyiah 61.81 225 P **P 05 32 02.0 -0.5**
SNR=38
GOGA Godfrey 61.88 3 *eP* **P 05 32 01.3 -1.6**
comp=Z,234nm,1.3s,mb6.2
GOGA LR LR
comp=Z,41µm,21.0s,MS6.6
BHPL Bhopal 62.18 203 ⇓*i*P **P 05 32 02.1 -2.9**
BHPL *e* 05 32 08.6
comp=Z,302nm,1.7s
NHSC New Hope 62.19 360 *eP* **P 05 32 04.9 0.0**
comp=Z,1µm,1.8s,mb6.7
NHSC LR LR
comp=Z,7µm,22.0s,MS5.8
LRAL Lakeview Retre 62.23 6 *eP* **P 05 32 03.0 -2.2**
comp=Z,274nm,1.4s,mb6.2
LRAL LR LR
comp=Z,42µm,19.0s,MS6.6
TUC Tucson 62.31 29 *eP* **P 05 32 05.3 -0.4**
comp=Z,303nm,1.5s,mb6.2
TUC LR LR
comp=Z,23µm,19.0s,MS6.4
BHJ Bhuj 62.48 211 *i* P **P 05 32 05.7 -1.3**
BHJ *e* 05 32 12.4
comp=Z,492nm,1.8s
BHJ *e*S **S 05 40 36.3 +2.9**
BHJ *e* 05 40 38.3
BBSR BB Station 62.74 345 P **P 05 32 07.9 -0.7**
comp=Z,895nm,1.9s,mb6.6
BBSR LR LR
comp=Z,7µm,19.0s,MS5.9
HOQ Hoqain 62.83 224 P **P 05 32 09.2 -0.1**
SNR=28
ARQ Araqi 63.12 225 P **P 05 32 10.0 -1.2**
SNR=29
MNTX Cornudas Mount 63.13 24 *eP* **P 05 32 09.4 -1.8**
comp=Z,612nm,1.3s,mb6.6
MNTX LR LR
comp=Z,38µm,21.0s,MS6.5
BLSP Bilaspur 63.14 198 *eP* **P 05 32 09.5 -1.8**
BLSP *e* 05 33 59.6
EFAM Famara 63.16 296 P **P 05 32 10.4 -1.0**
comp=Z,1µm,2.3s,mb6.6
SMDO Samad 63.30 223 P **P 05 32 11.9 -0.5**
SNR=28
NATX Nacogdoches 63.38 14 *eP* **P 05 32 11.9 -0.9**
comp=Z,495nm,1.3s,mb6.5
NATX LR LR
comp=Z,43µm,19.0s,MS6.7
BSY Bisya 63.67 224 P **P 05 32 13.6 -1.1**
SNR=23
WBK Wadi Bani Khal 63.69 222 P **P 05 32 14.8 -0.1**
SNR=64
RAYN Ar Rayn 63.70 236 P **P 05 32 14.2 -0.7**
comp=Z,513nm,1.2s,SNR=68
EBAJ Bajamar 63.97 298 P **P 05 32 16.9 +0.4**
comp=Z,2µm,2.8s,mb6.6
JMDO Jabal Madar 63.98 223 P **P 05 32 16.0 -0.8**
SNR=31
EOSO Osorio 64.37 298 P **P 05 32 15.4 -3.8**
comp=Z,1µm,3.1s
EGOM La Gomera 64.41 299 P **P 05 32 18.6 -0.9**
comp=Z,597nm,2.1s,mb6.2
JCT Junction City 64.53 19 *eP* **P 05 32 18.7 -1.5**
comp=Z,418nm,1.1s,mb6.4
JCT LR LR
comp=Z,45µm,19.0s,MS6.7
AKL Akola 64.72 204 *i* P **P 05 32 19.0 -2.6**
AKL *e* 05 39 02.2
CHRT Chiangrai 65.14 180 ⇓P **P 05 32 23.0 -1.3**
comp=Z,408nm,1.3s,mb6.3
HKT Hockley 65.16 15 *eP* **P 05 32 22.6 -1.7**
comp=Z,326nm,1.7s,mb6.1
HKT LR LR
comp=Z,5µm,19.0s,MS5.7
LTX Lajitas 65.55 22 *eP* **P 05 32 25.6 -1.2**
comp=Z,548nm,1.5s,mb6.4
LTX LR LR
comp=Z,45µm,21.0s,MS6.7
TXAR Lajitas Array 65.55 22 P **P 05 32 25.7 -1.1**
comp=Z,130nm,1.0s,mb5.9,baz=19,slow=4.4,SNR=150
TXAR PKPPKP 06 01 02.9
comp=Z,0.6nm,0.9s,baz=169,slow=6.4,SNR=4.7
TXAR PKP2bc 06 01 10.3
comp=Z,8.0nm,1.2s,baz=190,slow=2.4,SNR=14
TXAR LR LR 06 01 25.3
comp=Z,42µm,20.9s,MS6.6,baz=305,slow=36
TXAR Lajitas Array 65.55 22 P **P 05 32 25.7 -1.1**
TXAR P'P' 06 01 02.9
TXAR ⇑*e* 06 01 10.3
TXAR LR LR 06 01 25.4
QIZ Qiongzhong 66.05 170 P **P 05 32 30.2 0.0**
QIZ AP pP 05 32 34.7 +3.6
QIZ XP sP 05 32 37.4 +6.0
QIZ S S 05 41 20.1 +2.5
QIZ AMB AMB
comp=Z,106nm,1.6s,mb5.6
QIZ LR LR
comp=E,11µm,17.1s
QIZ LR LR
comp=Z,13µm,21.1s,MS6.1
CHG Chiang Mai 66.19 181 ⇓P **P 05 32 29.9 -1.1**
comp=Z,74nm,1.0s,mb5.7
NANT Nan 66.20 179 P **P 05 32 29.8 -1.3**
CM31 Chiang Mai Arr 66.54 181 *eP* **P 05 32 33.2 -0.1**
comp=Z,87nm,1.0s,mb5.7
CM31 LR LR
comp=Z,14µm,19.0s,MS6.2
CMAR Chiang Mai Arr 66.54 181 P **P 05 32 32.4 -0.9**
comp=Z,38nm,1.0s,mb5.4,baz=352,slow=7.3,SNR=50
CMAR PKP2bc 06 01 11.6
comp=Z,0.3nm,0.3s,baz=214,slow=5.2,SNR=4.2
CMAR LR LR 06 04 05.3
comp=Z,13µm,18.4s,MS6.2,baz=25,slow=38
CMAR Chiang Mai Arr 66.54 181 P **P 05 32 32.4 -0.9**
CMAR ⇑*e* 06 01 11.6
CMAR LR LR 06 04 05.3
BOM Bombay 66.68 208 *eP* **P 05 32 35.9 +1.7**
BOM *e* 05 41 16.5
POO Poona 67.00 207 ⇓*i* **P 05 32 33.0 -3.2**
POO *i* S S 05 41 32.0 +3.0
DWPF Disney 67.17 1 PFAKE 05 32 50.0 +13
DWPF LR LR
comp=Z,5µm,20.0s,MS5.7
VIS Vishakhapatnam 67.49 197 *i* **P 05 32 35.0 -4.3**
BDT Bhumibol Dam 67.75 181 P **P 05 32 41.0 0.0**
HYB Hyderabad 67.93 202 ⇓*eP* **P 05 32 40.0 -2.1**
comp=Z,250nm,1.4s,mb6.0
HYB *e*S S 05 41 36.0 -4.2
HYB Hyderabad 67.93 202 ⇓*i*P **P 05 32 40.0 -2.1**
comp=Z,250nm,1.4s,mb6.0
HYB *e*sP sP 05 32 50.5 +7.1
HYB *e*PP PP 05 35 10.0 -3.9
HYB *e*S S 05 41 40.0 -0.2
HYB *e*SP SP 05 42 04.0 -0.3
HYB *e*SS SS 05 46 08.0 +4.8
HYB LR LR
comp=Z,34nm,14.0s
KAD Karad 68.20 206 *eP* **P 05 32 42.5 -1.3**
KKTK Khon Kaen 68.66 177 P **P 05 32 47.0 +0.3**
WHFO Wadi Hawf 68.68 227 P **P 05 32 45.4 -1.4**
SNR=42
RBK Rabkut 69.06 227 P **P 05 32 47.5 -1.6**
SNR=23
ABTO Aybut 69.27 228 P **P 05 32 49.4 -1.0**
SNR=17
NST Nakhon Sawan 69.31 180 P **P 05 32 49.8 -0.9**
comp=Z,52nm,1.2s,mb5.3
KIP Kipapa 69.88 76 PFAKE 05 33 10.0 +16
KIP LR LR
comp=Z,19µm,22.0s,MS6.3
SOR Soroa 72.46 3 *eP* **P 05 33 09.2 -0.4**
SOR Soroa 72.46 3 *eP* **P 05 33 09.2 -0.4**
MNGI Mangalore 72.51 205 *i* P **P 05 33 07.7 -2.3**
MNGI *i* 05 42 31.7
MGV Manicaragua 73.14 360 *eP* **P 05 33 13.2 -0.4**
MGV *e*S S 05 42 34.1 -6.7
MGV Manicaragua 73.14 360 *eP* **P 05 33 13.2 -0.4**
MGV *e*S S 05 42 34.1 -6.7
TEIG Tepich 74.97 8 *eP* **P 05 33 23.8 -0.4**
TEIG LR LR
comp=Z,14µm,20.0s,MS6.2
LMGC Las Mercedes 75.17 357 *eP* **P 05 33 25.2 -0.1**
LMGC Las Mercedes 75.17 357 *eP* **P 05 33 25.2 -0.1**
RCC Rio Carpintero 75.23 356 *eP* **P 05 33 27.0 +1.3**
RCC Rio Carpintero 75.23 356 *eP* **P 05 33 27.0 +1.3**
COLM Colima 75.65 23 *i* P **P 05 33 26.6 -1.5**
PPM Popocatepetl 75.92 18 *i* P **P 05 33 26.2 -3.3**
SJG San Juan 76.97 346 *eP* **P 05 33 35.5 0.0**
comp=Z,535nm,2.0s,mb6.1
SJG LR LR
comp=Z,7µm,20.0s,MS6.0
CVJ Coleyville 77.00 357 ⇑*eP* **P 05 33 36.9 +1.2**
STH Stony Hill 77.15 357 ⇑*eP* **P 05 33 37.4 +0.9**
GWJ Greenwich 77.15 357 ⇑*eP* **P 05 33 37.5 +1.1**
HOJ Hope 77.22 357 ⇑*eP* **P 05 33 38.2 +1.3**
ZIIG Zihuatanejo 77.28 21 *i* P **P 05 33 37.0 -0.3**
SABS Saba 77.39 343 *eP* **P 05 33 39.6 +1.8**
SABT Saba 77.39 343 *eP* **P 05 33 39.6 +1.8**
KKM Kota Kinabalu 79.09 163 *eP* **P 05 33 47.9 +0.6**
KKM Kota Kinabalu 79.09 163 P **P 05 33 47.2 0.0**
HUIG Huatulco 79.26 16 *i* P **P 05 33 48.4 +0.3**
KWAJ Kwajalein Atol 79.36 111 PFAKE 05 34 00.0 +11
KWAJ LR LR
comp=Z,1µm,19.0s,MS5.2
BBL Barber's Block 79.42 342 *eP* **P 05 33 50.8 +1.8**
KULM Kulim 79.63 179 *eP* **P 05 33 50.2 0.0**
MDN Morne-Daniel 79.63 341 *eP* **P 05 33 51.5 +1.4**
IPM Ipoh 80.33 179 P **P 05 33 55.4 +1.4**
TSM Tawau 80.88 162 P **P 05 33 56.4 -0.4**
TELN Telica 82.56 6 *eP* **P 05 34 08.0 +2.4**
PYTN Playitas 82.64 6 ⇓*eP* **P 05 34 07.5 +1.5**
CNGN Cerro Negro 82.67 6 ⇑*eP* **P 05 34 08.3 +2.2**
GRHS Sauteurs 82.71 342 *eP* **P 05 34 06.3 0.0**
MIRN Miramar 82.73 6 *eP* **P 05 34 09.2 +2.8**
LEON Leon 82.75 7 *eP* **P 05 34 05.9 -0.7**
MOMJ Momotombo 82.76 6 *eP* **P 05 34 08.5 +1.9**
GRW Mount Saint Ca 82.77 342 *eP* **P 05 34 08.1 +1.5**
WILN Americas 2 83.01 6 *eP* **P 05 34 09.2 +1.3**
XAVN Gruta Xavier 83.02 6 *eP* **P 05 34 09.9 +2.0**
MGAN Managua 83.02 6 *eP* **P 05 34 09.3 +1.3**
MGAN ⇑*eP* pP 05 34 09.4 +0.5
TICN Ticuantepe 83.14 6 *eP* **P 05 34 11.8 +3.3**
APON Apoyo 83.25 6 *eP* **P 05 34 11.9 +2.8**
KSM Kuching 83.51 169 *eP* **P 05 34 10.6 +0.2**
CONN Concepcion 83.61 5 ⇑*eP* **P 05 34 12.8 +1.9**
TPR Prospect 83.72 341 *eP* **P 05 34 14.0 +2.6**
BOT Bacolet 83.73 341 *eP* **P 05 34 14.3 +2.8**
CRZC La Cruz 84.22 5 ⇑*eP* **P 05 34 16.8 +2.9**
TRN Trinidad (W) 84.27 341 *eP* **P 05 34 16.4 +2.2**
TBH Brigand Hill 84.42 341 *eP* **P 05 34 20.1 +5.1**

TBH	Brigand Hill	84.42	341	e	P	05 34 20.1	+5.1
TPP	Pointe-a-Pierr	84.60	341	eP	P	05 34 18.9	+3.0
TRTC	Tortuguero	84.60	3	⇑eP	P	05 34 16.4	+0.5
DBIC	Dimbokro	84.69	285	P	P	05 34 15.9	-0.5
	comp=Z,24nm,1.1s,mb5.2,baz=350,slow=6.5,SNR=20						
DBIC				LR	LR	06 13 07.0	
	comp=Z,6µm,20.1s,MS6.0,baz=1.5,slow=36						
DBIC	Dimbokro	84.69	285	eP	P	05 34 16.0	-0.3
	comp=Z,494nm,1.9s,mb6.3						
DBIC				LR	LR		
	comp=Z,7µm,19.0s,MS6.1						
JTS	JuntasAbangare	84.88	5	eP	P	05 34 15.6	-1.7
	comp=Z,146nm,1.4s,mb5.9						
JTS				LR	LR		
	comp=Z,3µm,20.0s,MS5.6						
LIO	Limon	85.17	3	eP	P	05 34 21.8	+3.1
ICR	Volcan Irazu	85.19	4	eP	P	05 34 20.0	+1.2
SJS	Escuela Geolog	85.23	4	eP	P	05 34 18.8	-0.2
LAJ	Bijagual	85.31	4	eP	P	05 34 21.3	+1.9
LCR2	La Lucha 2	85.43	4	⇓eP	P	05 34 20.5	+0.5
BUS	Buena Vista	85.62	3	⇓eP	P	05 34 21.3	+0.3
SDV	Santo Domingo	86.22	350	eP	P	05 34 24.4	+0.4
	comp=Z,195nm,0.9s,mb6.3						
SDV				LR	LR		
	comp=Z,7µm,19.0s,MS6.0						
ACR	Cerro Adams	86.52	3	eP	P	05 34 27.1	+1.6
KMBO	Kilima Mbogo	88.75	242	P	P	05 34 37.2	+1.0
	comp=Z,4.5nm,1.1s,baz=1.7,slow=3.9,SNR=26						
KMBO				LR	LR	06 22 11.2	
	comp=Z,7µm,19.6s,baz=13,slow=41						
KMBO	Kilima Mbogo	88.75	242	eP	P	05 34 37.7	+1.5
	comp=Z,454nm,2.7s,mb6.3						
KMBO				LR	LR		
	comp=Z,7µm,19.0s,MS6.1						
MBAR	Mbarara	88.76	249	P	P	05 34 36.4	+0.1
	comp=Z,122nm,1.5s,mb6.0,SNR=14						
MBAR	Mbarara	88.76	249	eP	P	05 34 35.4	-0.8
	comp=Z,33nm,1.2s,mb5.5						
MBAR				LR	LR		
	comp=Z,1µm,22.0s,MS5.3						
ROSC	El Rosal	90.27	354	P	P	05 34 45.3	+2.0
	comp=Z,48nm,1.1s,mb5.8,baz=141,slow=1.5,SNR=39						
ROSC				LR	LR	06 16 36.3	
	comp=Z,7µm,19.9s,MS6.1,baz=2.3,slow=36						
DGAR	Diego Garcia	92.81	207	eP	P	05 34 55.0	0.0
	comp=Z,445nm,1.8s,mb6.6						
DGAR				LR	LR		
	comp=Z,3µm,22.0s,MS5.7						
PAYG	Puerto Ayora	95.71	10	eP	P	05 35 09.2	+0.9
	comp=Z,211nm,1.9s,mb6.2						
PAYG				LR	LR		
	comp=Z,7µm,22.0s,MS6.1						
RCBR	Riachuelo	99.43	315	PFAKE		05 35 40.0	+15
RCBR				LR	LR		
	comp=Z,6µm,21.0s,MS6.1						
TAOE	Nuku Hiva Isla	101.34	61	eSP	SP	05 48 45.4	-1.0
TAOE				eSS	SS	05 54 35.1	+20
TAOE				eLR	LR	06 08 28.8	
LSZ	Lusaka	103.50	250	PFAKE		05 36 00.0	+17
LSZ				LR	LR		
	comp=Z,5µm,20.0s,MS6.0						
SAML	Samuel	103.78	343	ePdif	Pdif	05 35 44.4	-0.3
	comp=Z,195nm,2.5s						
SAML				LR	LR		
	comp=Z,5µm,21.0s,MS6.0						
WRA	Warramunga Arr	105.58	146	Pdiff	Pdif	05 35 52.3	-0.1
	comp=Z,6.4nm,1.1s,baz=355,slow=4.9,SNR=13						
WRA				PKiKP		05 40 05.1	
	comp=Z,1.2nm,0.9s,baz=343,slow=1.9,SNR=5.0						
WRA				PKKPbc		05 51 29.7	
	comp=Z,2.0nm,0.8s,baz=183,slow=2.8,SNR=19						
MBWA	Marble Bar	106.21	161	PFAKE		05 40 20.0	
MBWA				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
CTAO	Charters Tower	106.40	135	PFAKE		05 40 20.0	
CTAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
NNA	Nana	107.02	356	PFAKE		05 40 20.0	
NNA				LR	LR		
	comp=Z,866nm,21.0s,MS5.3						
TSUM	Tsumeb	108.31	260	PFAKE		05 40 20.0	
TSUM				LR	LR		
	comp=Z,6µm,20.0s,MS6.2						
PPT	Papeete	109.20	71	eSP	SP	05 50 05.8	+0.8
PPT				eSS	SS	05 56 04.9	+3.0
PPT				eLR	LR	06 12 40.2	
	comp=Z,25µm,24.2s,baz=354						
LPAZ	La Paz	111.18	347	PP	PP	05 40 47.8	-11
	comp=Z,2.6nm,1.0s,baz=351,slow=8.2,SNR=4.9						
LPAZ				PKKPbc		05 51 13.2	
	baz=113,slow=1.1,SNR=3.9						
LPAZ	La Paz	111.18	347	PFAKE		05 40 30.0	+13
LPAZ				LR	LR		
	comp=Z,6µm,22.0s,MS6.1						
LBTB	Lobatse	113.37	252	PFAKE		05 40 30.0	+8.9
LBTB				LR	LR		
	comp=Z,7µm,20.0s,MS6.3						
TBI	Tubuai	114.94	71	eSP	SP	05 50 52.3	-8.0
TBI				eSS	SS	05 57 28.2	+10
TBI				eLR	LR	06 14 47.8	
	comp=Z,21µm,24.0s,baz=349						
RKT	Rikitea	115.87	57	eSP	SP	05 51 11.3	+2.6
RKT				eSS	SS	05 57 35.6	+5.3
RKT				eLR	LR	06 15 28.1	
	comp=Z,14µm,34.8s,baz=358						
BOSA	Boshof	116.97	252	PFAKE		05 40 40.0	+12
BOSA				LR	LR		
	comp=Z,7µm,21.0s,MS6.2						
STKA	Stephens Creek	117.83	140	PKP	PKPdf	05 40 27.9	-1.7
	comp=Z,8.2nm,1.2s,baz=293,slow=5.1,SNR=4.8						
NWAO	Narrogin (SRO)	117.86	163	PFAKE		05 40 40.0	+10
NWAO				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
PTCN	Pitcairn Islan	118.16	52	PFAKE		05 40 40.0	+10
PTCN				LR	LR		
	comp=Z,7µm,22.0s,MS6.3						
SUR	Sutherland	121.08	256	PKP	PKPdf	05 40 35.6	-0.4
	comp=Z,9.0nm,0.9s,baz=148,slow=6.8,SNR=4.7						
SUR	Sutherland	121.08	256	PKP	PKPdf	05 40 35.6	-0.4
SUR				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
RPN	Rapa Nui	121.41	30	PFAKE		05 40 50.0	+13
RPN				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
URZ	Urewera	126.79	106	PKP	PKPdf	05 40 44.2	-2.3
	comp=Z,12nm,1.0s,baz=40,slow=7.0,SNR=3.7						
TRIS	Tristan da Cun	128.65	288	PFAKE		05 41 00.0	+10
TRIS				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
TAU	Tasmania Unive	129.16	136	PFAKE		05 41 00.0	+8.9
TAU				LR	LR		
	comp=Z,719nm,20.0s,MS5.4						
SNZO	South Karori	129.61	109	PFAKE		05 41 00.0	+8.0
SNZO				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
TRQA	Tornquist	132.71	340	ePKPdf	PKPdf	05 40 56.1	-1.9
TRQA				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
PLCA	Paso Flores	135.58	349	PKhKP		05 40 54.0	
	comp=Z,5.2nm,1.1s,baz=9.0,slow=7.0,SNR=4.0						
PLCA				PKP	PKPdf	05 41 03.1	-0.1
	comp=Z,9.2nm,1.0s,baz=348,slow=2.3,SNR=11						
PLCA	Paso Flores	135.58	349	PKP	PKPdf	05 40 54.0	-9.3
PLCA				PKP	PKPdf	05 41 03.1	-0.1
PLCA				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
USHA	Ushuaia	149.64	346	PKPbc	PKPdf	05 41 31.7	+4.8
	comp=Z,41nm,1.2s,baz=256,slow=2.2,SNR=8.7						
CASY	Casey	151.09	171	ePKPbc	PKPdf	05 41 33.9	+5.0
CASY				LR	LR		
	comp=Z,5µm,20.0s,MS6.3						
SYO	Syowa Base	155.94	230	⇓P	PKPdf	05 41 35.0	-0.4
PMSA	Palmer Station	159.49	340	PFAKE		05 41 50.0	+10
PMSA				LR	LR		
	comp=Z,6µm,22.0s,MS6.4						
VNA2	Neumayer--Watz	161.67	272	⇑iP	PKPdf	05 41 36.1	-6.0
SNAA	Sanae	161.99	267	PKPab	PKPab	05 42 28.4	-0.5
	comp=Z,5.7nm,1.1s,baz=32,slow=5.7,SNR=4.4						
SNAA	Sanae	161.99	267	⇑iPKPdf	PKPdf	05 41 35.3	-7.1
SNAA				PKPab	PKPab	05 42 28.4	-0.5
VNA3	Neumayer Olymp	162.18	274	⇑iP	PKPdf	05 41 34.8	-7.8
VNDA	Vanda	164.38	134	PKP	PKPdf	05 41 43.6	-1.1
	comp=Z,11nm,1.4s,baz=7.4,slow=2.9,SNR=5.1						
VNDA				PKPab	PKPab	05 42 38.9	-0.3
	comp=Z,15nm,1.1s,baz=317,slow=5.1,SNR=9.7						
VNDA	Vanda	164.38	134	PKP	PKPdf	05 41 43.6	-1.1
VNDA				ePKPab	PKPab	05 42 38.6	-0.6
VNDA				PKPab	PKPab	05 42 38.9	-0.3
VNDA				LR	LR		
	comp=Z,8µm,21.0s						
SBA	Scott Base	165.03	131	PFAKE		05 42 00.0	+15
SBA				LR	LR		
	comp=Z,5µm,21.0s						

IDC 06 05:45:15.9±2.2**, 20.21N**×**142.94E, mb3.4**/4**, mb1 3.8**/4**, mb1mx3.6**/17**, mbtmp3.4**/4**, Error ellipse: s-maj=306.9km s-min=22.7km az=109.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.78	192	P	P	05 52 59.1	-1.6
	0.6nm,0.6s,baz=14,slow=8.0,SNR=14						
ASAR	Alice Springs	44.49	192	P	P	05 53 28.9	-2.1
	0.3nm,0.6s,baz=13,slow=6.5,SNR=6.4						
ILAR	Eielson Array	63.46	27	P	P	05 55 47.5	-2.1
	0.9nm,1.1s,baz=258,slow=5.9,SNR=7.4						
YKA	Yellowknife Ar	77.87	28	P	P	05 57 15.2	-1.5
	0.2nm,0.5s,baz=291,slow=5.3,SNR=4.7						

*IDC **06** 05:51:45.0±1.8, 11.21S×163.19E, mb4.0/6, mb1 4.2/6, mb1mx4.1/13, mbtmp3.9/6, Error ellipse: s-maj=76.2km s-min=24.0km az=131.0*
*NEIC **06** 05:51:46.4±1.1, 11.18S×163.24E, h10^{km}, mb4.3/2, Error ellipse: s-maj=53.4km s-min=13.5km az=134.0*
ISC 06 05:51:48.3±1.4**, 11.3S**±0.3×**163.2E**±0.3**, h33^{km}, n9, σ0.76**/9**, mb3.9**/7**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	18.50	240	P	P	05 56 05.6	+1.6
	8.6nm,1.0s						
STKA	Stephens Creek	28.60	221	P	P	05 57 44.0	+0.2
	2.2nm,0.8s,mb4.0,baz=29,slow=4.4,SNR=4.4						
WRAB	Tennant Creek	29.04	249	eP	P	05 57 47.1	-0.7
WRA	Warramunga Arr	29.05	249	P	P	05 57 47.1	-0.8
	1.5nm,0.8s,mb3.8,baz=78,slow=8.8,SNR=14						
ASAR	Alice Springs	30.46	242	P	P	05 57 59.5	-0.9
	1.0nm,1.0s,mb3.5,baz=64,slow=10.0,SNR=6.3						
SONM	Songino Array	77.36	325	P	P	06 03 42.2	+0.6
	1.3nm,0.8s,mb3.9,baz=124,slow=4.5,SNR=6.2						
COLA	College	84.28	19	P	P	06 04 17.1	-0.6
	4.0nm,0.9s,mb4.5						
ILAR	Eielson Array	84.52	19	P	P	06 04 19.1	+0.2
	0.6nm,0.7s,mb3.8,baz=225,slow=5.0,SNR=8.5						
YKA	Yellowknife Ar	96.31	28	P	P	06 05 14.8	+0.4
	0.2nm,0.7s,mb3.6,baz=255,slow=4.3,SNR=5.1						

*IGIL **06** 05:52:53.9, 36.40N×8.10W, h18^{km}, ML2.5*
*NEIC **06** 05:52:54.8, 36.52N×8.03W, h19^{km}, MG3.9(MDD), After MDD.*
*CSEM **06** 05:52:55.5±0.3, 36.63N×7.92W, h70^{km}±3^{km}, ML2.5, Error ellipse: s-maj=6.4km s-min=2.1km az=32.0*
*SFS **06** 05:52:55.0, 36.43N×8.07W*
*INMG **06** 05:52:56.1±1.2, 36.49N×8.06W, h28^{km}±14^{km}, ML2.5, Error ellipse: s-maj=9.2km s-min=4.0km az=37.0*
MDD 06 05:52:55.2±1.3**, 36.50N**×**8.05W, h25**^{km}±21^{km}**, mb3.9**/15**, 1C-1D, Error ellipse: s-maj=20.3km s-min=5.6km az=33.0, PRXIMO, West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALC	Alcoutim	1.07	25	eP	Pn	05 53 13.9	-0.8
PALC				eS	Sb	05 53 27.4	-1.1
	65nm,0.1s						
PALC	Alcoutim	1.07	25	eP	Pn	05 53 13.9	-0.8
PALC				eS	Sb	05 53 27.4	-1.1
	65nm,0.1s						
PTEO	Sao Teotonio	1.18	333	eP	Pn	05 53 15.1	-1.2
PTEO				eS	Sb	05 53 29.4	-2.1
	35nm,0.2s						
PTEO	Sao Teotonio	1.18	333	P	Pn	05 53 15.1	-1.2
PTEO				S	Sb	05 53 29.4	-2.1
	18nm,0.2s						
PBEJ	Beja	1.53	5	eP	Pn	05 53 20.1	-1.3
PBEJ				eS	Sn	05 53 38.0	-2.6
	26nm,0.1s						
PBEJ	Beja	1.53	5	eP	Pn	05 53 20.1	-1.3
PBEJ				eS	Sn	05 53 38.0	-2.6
	26nm,0.1s						
EMIN	Mina Concepcio	1.68	41	⇑P	Pn	05 53 21.9	-1.6
	1.1nm,0.1s,SNR=18						
EMIN				S	Sn	05 53 41.4	-2.9
	11nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	1.68	41	P	Pn	05 53 21.9	-1.5
	1.3nm,0.1s,SNR=18						
EMIN				S	Sn	05 53 41.4	-2.9
	12nm,0.1s,SNR=7.9						
ESPR	Espera	1.80	78	⇓P	Pn	05 53 23.9	-1.3
	8.6nm,0.3s,SNR=18						
ESPR				S	Sn	05 53 44.5	-2.9
	139nm,0.3s,SNR=7.9						
ESPR	Espera	1.80	78	P	Pn	05 53 23.9	-1.3
	7.0nm,0.2s,SNR=18						
ESPR				S	Sn	05 53 44.5	-3.0
	137nm,0.3s,SNR=7.9						
MOE	Montemor	2.04	353	ePn	Pn	05 53 26.5	-2.1
LIJA	Lijar	2.17	78	eP	Pn	05 53 33.0	+2.6
LIJA				eS	Sn	05 53 54.0	-2.7
EBAD	Badajoz	2.40	20	P	Pn	05 53 31.7	-2.1
	3.6nm,0.1s,SNR=7.9						
EBAD				S	Sn	05 53 59.8	-2.9
	39nm,0.2s,SNR=7.9						
EBAD	Badajoz	2.40	20	P	Pn	05 53 31.7	-2.1
	1.9nm,0.0s,SNR=7.9						
EBAD				S	Sn	05 53 59.8	-2.9
	12nm,0.1s,SNR=7.9						
PLOU	Loures	2.54	340	ePn	Pn	05 53 34.1	-1.6
PLOU				eSn	Sn	05 54 02.3	-3.9
	21nm,0.2s						
PLOU	Loures	2.54	340	P	Pn	05 53 34.1	-1.6
PLOU				S	Sn	05 54 02.3	-3.9
	11nm,0.2s						
EMIJ	Mijas	2.64	88	P	Pn	05 53 34.5	-2.7
	1.6nm,0.3s,SNR=7.9						
EMIJ				S	Sn	05 54 04.7	-4.1
	3.0nm,0.2s,SNR=7.9						
ALMR	Almeirim	2.69	351	eP	Pn	05 53 36.0	-1.9
ALMR				AML	AML	05 53 37.4	
	comp=Z,18nm,0.1s						
ALMR				eS	Sn	05 54 06.7	-3.2
ALMR				eS	Sn	05 54 06.7	-3.2
ALMR	Almeirim	2.69	351	eP	Pn	05 53 36.0	-1.8
ALMR				eS	Sn	05 54 06.7	-3.2
	comp=Z,18nm,0.1s						
ALMR	Almeirim	2.69	351	eP	Pn	05 53 36.0	-1.8
	comp=Z,18nm,0.1s						
ALMR				eS	Sn	05 54 06.7	-3.2
EADA	Adamuz	3.23	58	P	Pn	05 53 43.6	-2.0
	comp=Z,3.0nm,0.1s,SNR=7.9						
EADA				S	Sn	05 54 19.1	-4.6
	comp=Z,11nm,0.1s,SNR=7.9						
EADA	Adamuz	3.23	58	P	Pn	05 53 43.6	-2.0
	comp=Z,2.0nm,0.1s,SNR=7.9						
EADA				S	Sn	05 54 19.1	-4.6
	comp=Z,9.9nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	3.37	8	ePn	Pn	05 53 45.3	-2.2
PCBR				eSn	Sn	05 54 22.3	-4.9
	comp=Z,13nm,0.2s						
PCBR	Castelo Branco	3.37	8	P	Pn	05 53 45.3	-2.2
PCBR				S	Sn	05 54 22.3	-4.9
	comp=Z,6.4nm,0.2s						
MTE	Manteigas	3.92	6	ePn	Pn	05 53 52.7	-2.6
MTE				eSn	Sn	05 54 35.8	-5.2
	comp=Z,14nm,0.8s						
MTE	Manteigas	3.92	6	P	Pn	05 53 52.7	-2.6
MTE				S	Sn	05 54 35.8	-5.2
	comp=Z,7.2nm,0.8s						
EBER	Berja	4.17	83	P	Pn	05 53 56.7	-2.2
EBER				S	Sn	05 54 43.3	-4.1
EBER	Berja	4.17	83	P	Pn	05 53 56.7	-2.2
	comp=Z,1.8nm,0.3s,SNR=4.0						
EBER				S	Sn	05 54 42.1	-5.3
	comp=Z,7.8nm,0.7s,SNR=4.0						
EBER	Berja	4.17	83	P	Pn	05 53 56.7	-2.2
	comp=Z,0.6nm,0.1s,SNR=4.0						
EBER				S	Sn	05 54 43.3	-4.1
	comp=Z,2.6nm,0.2s,SNR=4.0						
EQES	Quesada	4.18	70	P	Pn	05 53 56.9	-2.3
EQES				S	Sn	05 54 43.4	-4.5
EQES	Quesada	4.18	70	P	Pn	05 53 56.9	-2.3
	comp=Z,1.1nm,0.1s,SNR=7.9						
EQES				S	Sn	05 54 42.1	-5.8
	comp=Z,2.8nm,0.2s,SNR=7.9						
EQES	Quesada	4.18	70	P	Pn	05 53 56.9	-2.3
	comp=Z,1.0nm,0.1s,SNR=7.9						
EQES				S	Sn	05 54 43.4	-4.5
	comp=Z,1.2nm,0.1s,SNR=7.9						
PVIS	Viseu	4.21	2	ePn	Pn	05 53 56.5	-3.1
PVIS				eSn	Sn	05 54 42.0	-6.6
	comp=Z,11nm,0.1s						
PVIS	Viseu	4.21	2	P	Pn	05 53 56.5	-3.1
PVIS				S	Sn	05 54 42.0	-6.6
	comp=Z,5.3nm,0.1s						
ESDC	Sonseca Array	4.52	44	P	Pn	05 54 01.1	-2.8
	comp=Z,1.8nm,0.1s,baz=231,slow=13,SNR=7.9						
ESDC				S	Sn	05 54 49.3	-7.1
	comp=Z,4.3nm,0.2s,baz=227,slow=23,SNR=7.9						
ESDC	Sonseca Array	4.52	44	P	Pn	05 54 01.1	-2.8
	comp=Z,1.8nm,0.1s,SNR=7.9						
PVRL	Vila Real	4.78	3	ePn	Pn	05 54 04.3	-3.3
PVRL				eSn	Sn	05 54 55.5	-7.3
	comp=Z,14nm,0.1s						
PVRL	Vila Real	4.78	3	P	Pn	05 54 04.3	-3.3
PVRL				S	Sn	05 54 55.5	-7.3
	comp=Z,6.9nm,0.1s						
ELOB	Lobios	5.36	360	P	Pn	05 54 12.3	-3.4
	comp=Z,1.3nm,0.2s,SNR=7.9						
ELOB				S	Sn	05 55 09.4	-8.1
	comp=Z,5.2nm,0.1s,SNR=7.9						
ELOB	Lobios	5.36	360	P	Pn	05 54 12.4	-3.4
ELOB				S	Sn	05 55 09.4	-8.1
	comp=Z,5.8nm,0.1s,SNR=7.9						
PBRG	Braganca	5.39	10	ePn	Pn	05 54 12.9	-3.4
PBRG				eSn	Sn	05 55 10.4	-8.0
	comp=Z,4.8nm,0.3s						
PBRG	Braganca	5.39	10	P	Pn	05 54 12.9	-3.4
PBRG				S	Sn	05 55 10.4	-8.0
	comp=Z,2.4nm,0.3s						
ECAL	Calabor	5.53	10	P	Pn	05 54 14.9	-3.3
	comp=Z,1.2nm,0.2s,SNR=4.0						
ECAL				S	Sn	05 55 13.6	-8.2
	comp=Z,2.7nm,0.1s,SNR=7.9						
ECAL	Calabor	5.53	10	P	Pn	05 54 14.9	-3.3
	comp=Z,0.2nm,0.1s,SNR=4.0						
ECAL				S	Sn	05 55 13.6	-8.1
	comp=Z,6.5nm,0.2s,SNR=7.9						
ETOB	Tobarra	5.59	66	P	Pn	05 54 15.1	-3.9
	comp=Z,0.7nm,0.2s,SNR=7.9						
ETOB				S	Sn	05 55 15.1	-8.2
	comp=Z,1.6nm,0.1s,SNR=7.9						
ETOB	Tobarra	5.59	66	P	Pn	05 54 15.1	-3.9
	comp=Z,0.4nm,0.1s,SNR=7.9						
EMUR	La Murta	5.60	74	P	Pn	05 54 16.1	-3.1
	comp=Z,1.2nm,0.3s,SNR=7.9						
EMUR				S	Sn	05 55 13.8	-10
	comp=Z,5.8nm,0.8s,SNR=7.9						
EINC	Incio	6.18	5	P	Pn	05 54 24.4	-3.0
EINC				S	Sn	05 55 30.7	-7.2
EINC	Incio	6.18	5	P	Pn	05 54 24.4	-2.9
	comp=Z,0.8nm,0.3s,SNR=4.0						
EINC				S	Sn	05 55 29.1	-8.8
	comp=Z,1.1nm,0.2s,SNR=4.0						
EINC	Incio	6.18	5	P	Pn	05 54 24.4	-2.9
	SNR=4.0						
EINC				S	Sn	05 55 30.7	-7.2
	comp=Z,0.5nm,0.1s,SNR=4.0						
EMAZ	Mazaricos	6.48	354	S	Sn	05 55 36.3	-9.2
	comp=Z,1.8nm,0.1s,SNR=4.0						
EBEN	Beniarda	6.59	68	P	Pn	05 54 29.8	-3.3
	comp=Z,8.9nm,0.9s,SNR=7.9						
EBEN				S	Sn	05 55 38.9	-9.3
	comp=Z,1.3nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	7.09	55	P	Pn	05 54 37.7	-2.4
	comp=Z,1.1nm,0.3s,SNR=7.9						
EMOS				S	Sn	05 55 51.7	-9.1
	comp=Z,2.4nm,0.4s,SNR=7.9						
EALK	Alkurruntz	8.39	35	P	P	05 54 54.5	-3.7
	comp=Z,1.8nm,0.3s,SNR=7.9						
EALK				S	Sn	05 56 21.8	-11
	comp=Z,7.2nm,0.5s,SNR=7.9						
EBIE	Bielsa	8.84	43	P	P	05 55 00.9	-3.6
	comp=Z,1.2nm,0.4s,SNR=7.9						
EBIE				S	Sn	05 56 32.3	-12
	comp=Z,1.6nm,0.5s,SNR=7.9						

*IDC **06** 06:17:47.0±0.4, 47.78N×69.78W, mb4.6/26, mb1 4.8/30, mb1mx4.7/32, mbtmp4.6/30, ML4.0/4, Error ellipse: s-maj=9.1km s-min=6.6km az=133.0*
*NEIC **06** 06:17:49.0, 47.75N×69.73W, h13^{km}, mb4.9/78, MS4.8/76, MN5.3(OTT), After OTT.*
NEIC Felt [V] at Riviere-du-Loup. Felt [IV-V] in the St. Lawrence, Saguenay and Ottawa Valleys from Baie-Comeau and Matane to Montreal and Ottawa. Also felt in the Eastern Townships and in New Brunswick. Felt [IV] at Ashland, Fort Kent, Frenchville, Saint Francis and Van Buren, Maine and [II-III] in many parts of Maine, Massachusetts, New Hampshire, Vermont and northeastern New York.
*BJI **06** 06:17:49.0, 47.80N×69.70W, h13^{km}, mB6.0, mb4.9, Ms5.5, Msz5.2*
*OTT **06** 06:17:49.7±0.2, 47.75N×69.73W, h13^{km}±1^{km}, MN5.4/31*
OTT Charlevoix Seismic Zone, Quebec Felt. 17km southwest from Riviere-du-Loup, Qc Felt strongly in the regions of Charlevoix, Saguenay and Quebec City. Felt as far as the Ottawa valley, Montreal, Fredericton, Nb and Boston, Mass.
*MOS **06** 06:17:50.6±1.1, 47.88N×69.66W, h33^{km}, mb5.1/25, Error ellipse: s-maj=21.0km s-min=8.2km az=59.8*
ISC 06 06:17:48.5±0.3**, 47.79N**±0.02×**70.00W**±0.02**, h29**^{km}±2^{km}**, h16**^{km}±1.0^{km}**:pP-P, n413, σ1.41**/482**, mb4.8**/114**, MS4.8**/81**, 44C-32D, Gaspe Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
A64	Saint Simeon	0.08	63	⇓PG	Pb	06 17 53.0	-0.6
A64				SG	Sn	06 17 55.3	-1.3
A64				Trac		06 17 55.6	
	comp=Z,45µm,0.2s						
A61	Sainte Mathild	0.12	213	⇓PG	Pb	06 17 54.8	+1.0
A61				SG	Sb	06 17 58.6	+1.2
A61				Trac		06 17 58.9	
	comp=Z,150µm,0.1s						
A21	Saint Andre	0.22	113	⇑PG	Pb	06 17 52.0	-2.8
A21				SG	Sb	06 17 53.8	-5.4
A21				Trac		06 17 54.2	
	comp=Z,107µm,0.1s						
A16	Riviere Ouelle	0.32	181	⇑PG	Pb	06 17 56.3	+0.1
A16				SG	Sb	06 18 01.0	-0.3
A16				Trac		06 18 01.3	
	comp=Z,60µm,0.2s						
LMQ	La Malbaie	0.33	223	⇓Pg	Pb	06 17 58.0	+1.7
LMQ				Sg	Sb	06 18 05.1	+3.6
LMQ	La Malbaie	0.33	223	⇓PG	Pb	06 17 58.0	+1.8
LMQ				SG	Sb	06 18 04.2	+2.7
LMQ				Trac		06 18 05.1	
	comp=Z,52µm,0.1s						
A54	Misere	0.44	220	⇓PG	Pb	06 17 59.6	+1.8
A54				SG	Sb	06 18 07.1	+2.8
A54				Trac		06 18 07.7	
	comp=Z,112µm,0.2s						
A11	Saint Roch-des	0.56	194	⇓PG	Pb	06 18 00.8	+0.9
A11				SG	Sb	06 18 08.8	+1.1
A11				Trac		06 18 09.6	
	comp=Z,58µm,0.3s						
DAQ	Lac Daran	0.86	282	⇓PG	Pb	06 18 07.7	+3.0
DAQ				SG	Sb	06 18 22.1	+6.2
DAQ				Trac		06 18 31.2	
	comp=Z,8µm,0.2s						
QCQ	Quebec	1.33	221	⇓PG	Pn	06 18 14.0	+2.5
QCQ				SG	Sn	06 18 33.5	+5.0
QCQ				Trac		06 18 35.9	
	comp=Z,19µm,0.3s						
PQI	Presque Isle	1.75	129	ePn	Pn	06 18 16.6	-0.9
PQI				eS	Sn	06 18 38.1	-1.0
CNQ	Baie Comeau	1.98	39	PN	Pn	06 18 20.8	0.0
CNQ				SN	Sn	06 18 44.5	-0.3
CNQ				Trac		06 18 47.9	
	comp=Z,3µm,0.2s						
DPQ	Saint Jean	2.20	241	⇓PN	Pn	06 18 27.2	+3.3

DPQ SN Sn 06 18 59.7 +9.3
DPQ Trac 06 19 00.3
comp=Z,16µm,0.4s
GSQ Grosses Roches 2.23 59 ⇑PN Pn 06 18 24.1 -0.3
GSQ SN Sn 06 18 48.5 -2.7
GSQ SG Sn 06 18 53.7 +2.5
GSQ Trac 06 18 57.8
comp=Z,7µm,0.3s
ICQ Pointe Anglais 2.50 45 ⇑PN Pn 06 18 27.5 -0.8
ICQ SN Sn 06 18 56.0 -2.2
ICQ SG Sn 06 19 01.3 +3.2
ICQ Trac 06 19 01.8
comp=Z,8µm,0.4s
MNQ Manicouagan 2.86 16 PN Pn 06 18 33.5 +0.2
MNQ PG Pn 06 18 39.6 +6.2
MNQ SN Sn 06 19 04.4 -2.8
MNQ SG Sn 06 19 14.6 +7.3
MNQ Trac 06 19 24.3
comp=Z,1µm,0.2s
MOQ Mont Orford 2.93 213 PN Pn 06 18 36.5 +2.2
MOQ SN Sn 06 19 11.4 +2.5
MOQ SG Sn 06 19 20.5 +12
MOQ Trac 06 19 22.6
comp=Z,11µm,0.3s
WVL Waterville 3.23 176 ePn Pn 06 18 38.6 -0.1
SMQ Clarke City 3.26 40 PN Pn 06 18 39.9 +0.9
SMQ SN Sn 06 19 17.5 +0.2
SMQ SG Sn 06 19 27.4 +10
SMQ Trac 06 19 40.0
comp=Z,2µm,0.2s
MNT Montreal 3.39 229 PN Pn 06 18 42.7 +1.9
MNT PG Pn 06 18 47.8 +7.0
MNT SN Sn 06 19 21.7 +1.1
MNT SG Sn 06 19 34.3 +14
MNT Trac 06 19 37.1
comp=Z,4µm,0.2s
GGN Saint George 3.45 140 ⇑PN Pn 06 18 39.7 -2.0
GGN SN Sn 06 19 18.3 -3.8
GGN SG Sn 06 19 33.7 +12
GGN Trac 06 19 43.3
comp=Z,4µm,0.3s
MRHQ Morin Heights 3.46 238 ⇓PN Pn 06 18 44.2 +2.2
MRHQ PG Pn 06 18 50.9 +9.0
MRHQ SN Sn 06 19 25.3 +2.8
MRHQ SG Sn 06 19 37.6 +15
MRHQ Trac 06 19 41.6
comp=Z,8µm,0.4s
TRQ Mont Tremblant 3.49 245 ⇓PN Pn 06 18 44.4 +2.1
TRQ PG Pn 06 18 51.4 +9.1
TRQ SN Sn 06 19 29.1 +5.9
TRQ SG Sn 06 19 39.3 +16
TRQ Trac 06 19 42.4
comp=Z,10µm,0.3s
ALFO Alfred 4.00 239 ⇓PN Pn 06 18 51.4 +1.9
ALFO PG Pn 06 18 59.0 +9.4
ALFO SN Sn 06 19 41.7 +5.7
ALFO SG Sn 06 19 54.3 +18
ALFO Trac 06 20 03.1
comp=Z,5µm,0.4s
LMN Caledonia Moun 4.06 117 ⇑PN Pn 06 18 47.1 -3.3
LMN SN Sn 06 19 30.6 -6.9
LMN SG Sn 06 19 48.5 +11
LMN Trac 06 19 55.0
comp=Z,3µm,0.5s
GRQ Grand Remous 4.17 256 ⇓PN Pn 06 18 53.2 +1.3
GRQ PG Pn 06 19 03.3 +11
GRQ SN Sn 06 19 44.6 +4.3
GRQ SG Sn 06 20 01.9 +21
GRQ Trac 06 20 06.5
comp=Z,6µm,0.3s
GAC Glen Almond 4.31 243 ⇓PN Pn 06 18 55.5 +1.6
GAC PN Pn 06 18 55.5 +1.6
GAC PG Pn 06 19 05.3 +11
GAC PG Pn 06 19 05.3 +11
GAC SN Sn 06 19 47.2 +3.3
GAC SN Sn 06 19 48.1 +4.2
GAC SG Sn 06 20 02.8 +19
GAC SG Sn 06 20 03.3 +19
GAC Trac 06 20 06.0
comp=Z,7µm,0.3s
GAC Trac 06 20 06.0
comp=Z,7µm,0.3s
MSNY Massena 4.37 232 ePn Pn 06 18 57.1 +2.3
MSNY eSn Sn 06 19 48.5 +3.0
CBRQ Cabonga Reserv 4.41 266 ⇓PN Pn 06 18 56.2 +0.8
CBRQ PG Pn 06 19 06.5 +11
CBRQ SN Sn 06 19 50.5 +4.1
CBRQ SG Sn 06 20 09.7 +23
CBRQ Trac 06 20 17.0
comp=Z,5µm,0.4s
MIV Mineville/With 4.46 215 ePn Pn 06 18 57.4 +1.3
WBO Williamsburg 4.60 235 PN Pn 06 18 59.7 +1.7
WBO PG Pn 06 19 07.9 +10
WBO SN Sn 06 19 53.3 +2.2
WBO SG Sn 06 20 10.1 +19
WBO Trac 06 20 13.7
comp=Z,3µm,0.3s
OTT Ottawa 4.61 241 PN Pn 06 18 59.5 +1.3
OTT PN Pn 06 18 59.6 +1.4
OTT SN Sn 06 19 54.8 +3.2
OTT SN Sn 06 19 54.9 +3.3
OTT SG Sn 06 20 11.0 +19
OTT SG Sn 06 20 11.5 +20
OTT Trac 06 20 15.0
comp=Z,5µm,0.4s
OTT Trac 06 20 16.1
comp=Z,6µm,0.4s
NCB Newcomb 4.83 219 ePn Pn 06 19 02.0 +0.8
NCB eSn Sn 06 19 56.4 -0.6
VLDQ Val d'Or 5.02 276 ⇓PN Pn 06 19 06.8 +2.8
VLDQ PG Pn 06 19 22.7 +19
VLDQ SN Sn 06 20 07.0 +5.2
VLDQ SG Sn 06 20 34.5 +33
VLDQ Trac 06 20 38.9
comp=Z,4µm,0.5s
ACCN Adirondack Com 5.10 212 ePn Pn 06 19 05.4 +0.2
MPPO Murphy's Point 5.29 237 PN Pn 06 19 09.0 +1.1
MPPO SN Sn 06 20 07.8 -0.8
MPPO SG Sn 06 20 31.5 +23
MPPO Trac 06 20 38.3
comp=Z,2µm,0.3s
CRLO Chalk River 5.36 254 ⇓PN Pn 06 19 08.5 -0.2
CRLO PG Pn 06 19 21.3 +13
CRLO SN Sn 06 20 10.9 +0.7
CRLO SG Sn 06 20 37.2 +27
CRLO Trac 06 20 39.9
comp=Z,8µm,0.5s
HRV Harvard--Oak R 5.40 192 ePn Pn 06 19 07.9 -1.4
PEMO Pembroke 5.41 250 PN Pn 06 19 09.6 +0.1
PEMO SN Sn 06 20 13.4 +1.7
PEMO SG Sn 06 20 36.3 +25
PEMO Trac 06 20 46.6
comp=Z,4µm,0.4s
HAL Halifax 5.45 123 PN Pn 06 19 07.0 -3.0
HAL SN Sn 06 20 06.1 -6.5
HAL Trac 06 20 07.8
comp=Z,2µm,0.5s
HAL SG Sn 06 20 33.4 +21
PLVO Plevna 5.62 243 ⇓PN Pn 06 19 13.7 +1.3
PLVO SN Sn 06 20 18.6 +1.9
PLVO SG Sn 06 20 40.1 +23
PLVO Trac 06 20 54.1
comp=Z,10µm,0.8s
KGNO Kingston 5.76 234 PN Pn 06 19 15.2 +0.8
KGNO SN Sn 06 20 19.3 -1.0
KGNO SG Sn 06 20 46.1 +26
KGNO Trac 06 20 55.3
comp=Z,2µm,0.3s
ALGO Algonquin Park 5.82 255 ⇓PN Pn 06 19 14.7 -0.6
ALGO SN Sn 06 20 21.6 -0.3
ALGO SG Sn 06 20 53.2 +31
ALGO Trac 06 20 59.7
comp=Z,3µm,0.2s
BANO Bancroft 6.14 246 PN Pn 06 19 19.5 -0.4
BANO SN Sn 06 20 31.3 +1.4
BANO SG Sn 06 20 57.9 +28
BANO Trac 06 21 07.4
comp=Z,3µm,0.5s
DELO Deloro Mine 6.22 241 PN Pn 06 19 21.3 +0.3
DELO SN Sn 06 20 32.4 +0.5
DELO SG Sn 06 21 00.7 +29
DELO Trac 06 21 06.8
comp=Z,3µm,0.4s
PECO Prince Edward 6.22 234 PN Pn 06 19 21.6 +0.6
PECO SN Sn 06 20 31.0 -0.9
PECO SG Sn 06 21 00.6 +29
PECO Trac 06 21 14.0
comp=Z,3µm,0.5s
EEO Eldee 6.29 263 ⇓PN Pn 06 19 21.3 -0.6
EEO SN Sn 06 20 33.6 0.0
EEO SG Sn 06 21 06.3 +33
EEO Trac 06 21 19.1
comp=Z,5µm,0.5s
LG4Q La Grande 4 6.40 338 PN Pn 06 19 21.9 -1.6
LG4Q SN Sn 06 20 32.9 -3.4
LG4Q SG Sn 06 21 05.5 +29
LG4Q Trac 06 21 18.8
comp=Z,1µm,0.4s
KILO Kirkland Lake 6.55 280 PN Pn 06 19 24.2 -1.4
KILO SN Sn 06 20 39.7 -0.3
KILO SG Sn 06 21 14.5 +34
KILO Trac 06 21 27.0
comp=Z,7µm,0.6s
MALO McAlpine Lake 6.81 293 ⇓PN Pn 06 19 28.3 -1.0
MALO SN Sn 06 20 44.5 -2.2
MALO SG Sn 06 21 22.4 +36
MALO Trac 06 21 30.4
comp=Z,9µm,1.0s
BUKO Buck Lake 6.89 254 ⇓PN Pn 06 19 28.7 -1.6
BUKO SN Sn 06 20 46.5 -2.1
BUKO SG Sn 06 21 22.6 +34
BUKO Trac 06 21 31.8
comp=Z,4µm,0.4s
RSPO Restoule Provi 6.90 259 ⇓PN Pn 06 19 29.4 -1.1
RSPO SN Sn 06 20 47.0 -1.9
RSPO SG Sn 06 21 21.7 +33
RSPO Trac 06 21 30.1
comp=Z,3µm,0.4s
LINO Lindsay 7.01 244 PN Pn 06 19 30.9 -1.1
LINO SN Sn 06 20 50.3 -1.3
LINO LG 06 21 24.1
LINO Trac 06 21 31.6
comp=Z,8µm,0.9s
SADO Sadowa 7.02 248 Pn Pn 06 19 30.8 -1.4
17nm,0.3s,baz=82,slow=13,SNR=139
SADO Sn Sn 06 20 51.4 -0.5
163nm,0.3s,baz=103,slow=6.9,SNR=12
SADO Lg 06 21 25.1
612nm,0.3s,baz=346,slow=20,SNR=12
SADO Sadowa 7.02 248 PN Pn 06 19 30.7 -1.4
SADO SN Sn 06 20 51.3 -0.5
SADO SG Sn 06 21 25.3 +33
SADO Trac 06 21 33.2
comp=Z,3µm,0.4s
WLVO Wesleyville 7.02 240 PN Pn 06 19 33.1 +0.9
WLVO SN Sn 06 20 51.4 -0.5
WLVO SG Sn 06 21 24.4 +32
WLVO Trac 06 21 40.8
comp=Z,3µm,0.5s
SCHQ Schefferville 7.32 15 Pn Pn 06 19 33.4 -3.1
10.0nm,0.3s,baz=194,slow=9.8,SNR=262
SCHQ Sn Sn 06 20 53.6 -5.8
76nm,0.3s,baz=102,slow=16,SNR=11
SCHQ Lg 06 21 30.2
86nm,0.3s,baz=286,slow=16,SNR=8.3
SCHQ Schefferville 7.32 15 ePn Pn 06 19 33.3 -3.1
SCHQ eSn Sn 06 20 53.4 -6.1
SCHQ Schefferville 7.32 15 PN Pn 06 19 33.4 -3.0
SCHQ SN Sn 06 20 50.4 -9.0
SCHQ SG Sn 06 21 29.3 +30
SCHQ Trac 06 21 42.3
comp=Z,629nm,0.4s
PAL Palisades 7.34 204 ePn Pn 06 19 36.3 -0.3
PKRO Pickering 7.40 242 PN Pn 06 19 36.7 -0.8
PKRO SN Sn 06 21 00.1 -1.2
PKRO LG 06 21 35.2
PKRO Trac 06 21 52.1
comp=Z,10µm,0.5s
KLBO Killbear Provi 7.45 255 PN Pn 06 19 36.7 -1.5
KLBO SN Sn 06 20 58.8 -3.8
KLBO LG 06 21 37.6
KLBO Trac 06 21 45.2
comp=Z,3µm,0.5s
GENY Geneseo 7.46 231 ePn Pn 06 19 37.8 -0.5
GENY eSn Sn 06 21 01.3 -1.5
MEDO Medina 7.53 235 PN Pn 06 19 38.9 -0.4
MEDO SN Sn 06 21 01.7 -2.9
MEDO SG Sn 06 21 41.4 +37
MEDO Trac 06 21 53.1
comp=Z,2µm,0.5s
CPNY Central Park 7.55 204 ePn Pn 06 19 39.6 0.0
SUNO Sudbury Onapin 7.81 266 ⇓PN Pn 06 19 41.0 -2.3
SUNO SN Sn 06 21 06.6 -5.0
SUNO SG Sn 06 21 53.3 +42
SUNO Trac 06 22 02.5
comp=Z,5µm,0.6s
BRNJ Basking Ridge 7.83 206 ePn Pn 06 19 43.9 +0.5
CLWO Collingwood 7.90 249 PN Pn 06 19 43.2 -1.3
CLWO SN Sn 06 21 11.1 -2.8
CLWO SG Sn 06 21 48.6 +35
CLWO Trac 06 21 59.5
comp=Z,8µm,0.8s
STCO Saint Catharin 7.91 238 PN Pn 06 19 44.1 -0.4
STCO SN Sn 06 21 13.3 -0.6
STCO SG Sn 06 21 53.1 +39
STCO Trac 06 22 03.4
comp=Z,3µm,0.5s
OTRO Otter Rapids 8.02 292 PN P 06 19 43.7 -2.4
OTRO SN Sn 06 21 13.8 -3.0
OTRO SG Sn 06 21 59.3 +42
OTRO Trac 06 22 09.0
comp=Z,6µm,0.4s
EFO Effingham 8.06 238 PN P 06 19 46.0 -0.6
EFO PG P 06 20 07.6 +21
EFO SN Sn 06 21 13.8 -4.1
EFO LG 06 21 58.3
EFO Trac 06 22 04.7
comp=Z,2µm,0.4s
RD01 Burlington 8.17 241 PN P 06 19 46.4 -1.9
RD01 SN Sn 06 21 18.3 -2.3
RD01 LG 06 22 00.7
RD01 Trac 06 22 14.9
comp=Z,6µm,0.4s
ACTO Acton 8.19 243 PN P 06 19 47.1 -1.4
ACTO SN Sn 06 21 18.4 -2.7
ACTO LG 06 22 01.7
ACTO Trac 06 22 09.1
comp=Z,5µm,0.6s
RD04 Stoney Creek 8.24 239 PN P 06 19 48.1 -1.1
RD04 SN Sn 06 21 21.6 -0.8
RD04 SG Sn 06 21 59.6 +37
RD04 Trac 06 22 15.2
comp=Z,3µm,0.4s
RD02 Waterdown 8.25 241 PN P 06 19 48.2 -1.2
RD02 SN Sn 06 21 19.5 -3.1
RD02 SG Sn 06 22 02.9 +40
RD02 Trac 06 22 08.2
comp=Z,5µm,0.6s
TOBO Tobermory, Bru 8.36 256 PN P 06 19 49.3 -1.5
TOBO SN Sn 06 21 21.7 -3.5
TOBO LG 06 22 07.4
TOBO Trac 06 22 23.0
comp=Z,3µm,0.5s
RD03 Mount Hope 8.37 240 PN P 06 19 49.9 -1.1
RD03 SN Sn 06 21 20.8 -4.8
RD03 LG 06 22 08.8
RD03 Trac 06 22 21.2
comp=Z,4µm,0.4s
TYNO Tyneside 8.38 240 PN P 06 19 49.6 -1.5
TYNO SN Sn 06 21 21.9 -3.8
TYNO LG 06 22 06.0
TYNO Trac 06 22 34.1
comp=Z,3µm,0.6s
ELGO Elora Gorge 8.38 244 PN P 06 19 49.1 -2.0
ELGO SN Sn 06 21 19.3 -6.6
ELGO SG Sn 06 22 01.6 +36
ELGO Trac 06 22 09.9
comp=Z,9µm,1.0s
DRLN Deer Lake 8.42 75 PN P 06 19 46.8 -4.9
DRLN SN Sn 06 21 14.4 -12
DRLN SG Sn 06 22 03.5 +37
DRLN Trac 06 22 32.3
comp=Z,1µm,0.8s
KAPO Kapuskasing 8.46 286 ⇓PN P 06 19 49.5 -2.7
KAPO SN Sn 06 21 22.8 -4.9
KAPO SG Sn 06 22 09.2 +42
KAPO Trac 06 22 18.6
comp=Z,7µm,1.4s
HGVO Hagersville 8.61 240 PN P 06 19 52.2 -2.1
HGVO SN Sn 06 21 27.2 -4.3
HGVO SG Sn 06 22 14.4 +43
HGVO Trac 06 22 22.0
comp=Z,3µm,0.5s
BRCO Bruce Peninsul 8.72 250 PN P 06 19 54.4 -1.5
BRCO SN Sn 06 21 32.0 -2.2
BRCO LG 06 22 14.6
BRCO Trac 06 22 23.7
comp=Z,2µm,0.3s
MVL Millersville 9.04 213 ePn P 06 20 00.1 -0.1
ERPA Erie 9.07 235 ePn P 06 19 59.7 -1.0
ERPA eSn Sn 06 21 41.1 -1.8
SSPA Standing Stone 9.12 221⇑ePn P 06 20 00.5 -0.9
SSPA eSn Sn 06 21 40.3 -3.8
ALLY Alegheny Colle 9.48 233 ePn P 06 20 05.7 -0.6
SDMD Soldier's Deli 9.73 213 ePn P 06 20 08.9 -0.8
VIMO Victor Mine 10.13 305 PN P 06 20 11.4 -3.7
VIMO SN S 06 22 03.2 -5.5
VIMO LG 06 23 00.8
VIMO Trac 06 23 12.3
comp=Z,3µm,1.0s
KUQ Kuujjuuaa 10.38 5 PN P 06 20 14.7 -3.9
KUQ SN S 06 22 05.8 -9.1
KUQ LG 06 23 06.9
KUQ Trac 06 23 32.5
comp=Z,429nm,0.5s
MCWV Mont Chateau 10.80 225 ePn P 06 20 23.4 -1.0
PLIO Pelee Island, 10.82 241 PN P 06 20 21.6 -3.0
PLIO SN S 06 22 19.2 -6.5
PLIO SG S 06 23 18.9 +53
PLIO Trac 06 23 27.5
comp=Z,2µm,0.8s
PNPO Pukaskwa Natio 10.91 280 PN P 06 20 21.8 -4.0
PNPO SN S 06 22 19.6 -8.3
PNPO SG S 06 23 28.0 +60
PNPO Trac 06 23 31.1
comp=Z,3µm,1.0s
CBN Corbin 10.99 212 ePn P 06 20 27.0 0.0
AAM Ann Arbor 11.11 245 ePn P 06 20 25.6 -3.0
AAM eSn S 06 22 27.4 -5.4
GTO Geraldton 11.37 286 PN P 06 20 28.5 -3.6
GTO SN S 06 22 33.8 -5.4
GTO LG 06 23 43.6
GTO Trac 06 23 53.0
comp=Z,2µm,0.6s
SILO Sutton Inlier 11.50 311 PN P 06 20 29.2 -4.7
SILO SN S 06 22 33.7 -8.7
SILO LG 06 23 42.5
SILO Trac 06 23 50.6
comp=Z,3µm,1.2s
ACSO Alum Creek Sta 12.01 236 ePn P 06 20 38.4 -2.4
ACSO eSn S 06 22 47.9 -6.9
FWV Forest Hill 12.92 222 ePn P 06 20 51.7 -1.3
TBO Thunder Bay 12.98 281 PN P 06 20 50.0 -3.6
TBO SN S 06 23 11.6 -6.4
TBO LG 06 24 27.0
TBO Trac 06 24 57.8
comp=Z,1000nm,0.8s
LDIO Lac des Isle M 13.08 283 PN P 06 20 50.4 -4.6
LDIO SN S 06 23 08.9 -12
LDIO LG 06 24 32.4
LDIO Trac 06 24 46.9
comp=Z,2µm,0.9s
ELN Prospectdale 13.19 221 ePn P 06 20 55.1 -1.4
PKLO Pickle Lake 13.69 293 PN P 06 20 58.7 -4.3
PKLO SN S 06 23 26.7 -8.3
PKLO LG 06 24 51.8
PKLO Trac 06 25 05.0
comp=Z,2µm,1.1s
MUMO Musselwhite Mi 13.91 298 SN S 06 23 29.7 -10
MUMO LG 06 25 00.9
MUMO Trac 06 25 15.6
comp=Z,1µm,1.0s
ATKO Atikokan Iron 14.41 282 PN P 06 21 07.7 -4.8
ATKO SN S 06 23 40.3 -12
ATKO LG 06 25 13.2
ATKO Trac 06 25 24.4
comp=Z,2µm,1.5s
EYMN Ely 14.43 279 ePn P 06 21 07.4 -5.3
48nm,0.6s
EYMN Ely 14.43 279 PN P 06 21 07.9 -4.7
EYMN SN S 06 23 44.1 -8.4
EYMN LG 06 25 14.9
EYMN Trac 06 25 40.9
comp=Z,13µm,1.0s
SOLO Sioux Lookout 14.69 287 PN P 06 21 11.7 -4.3
SOLO SN S 06 23 52.5 -6.1
SOLO LG 06 25 24.4
SOLO Trac 06 25 38.5
comp=Z,682nm,0.7s
BLO Bloomington 14.75 240 ePn P 06 21 14.0 -2.8
112nm,0.8s
BLO eSn S 06 23 51.2 -8.9
JFWS Jewell Farm 15.04 259 ePn P 06 21 17.1 -3.6
642nm,0.6s
WCI Wyandotte Cave 15.25 237 ePn P 06 21 21.0 -2.5
47nm,0.6s
WCI eSn S 06 24 03.4 -8.6
EPLO Experimental L 15.76 286 PN P 06 21 24.7 -5.2
EPLO SN S 06 24 15.2 -8.6
EPLO LG 06 25 53.0
EPLO Trac 06 26 10.5
comp=Z,1µm,1.0s
RLKO Red Lake 15.79 291 PN P 06 21 25.8 -4.5
RLKO SN S 06 24 17.6 -6.8
RLKO LG 06 25 56.9
RLKO Trac 06 26 09.9
comp=Z,1µm,0.8s
BBSR BB Station 15.92 163 ePn P 06 21 31.1 -1.1
59nm,0.7s
BBSR eSn S 06 24 16.9 -11
FRB Frobisher Bay 16.02 2 Pn P 06 21 26.4 -6.8
2.5nm,0.3s,baz=181,slow=13,SNR=32
FRB Sn S 06 24 17.0 -13
4.2nm,0.3s,baz=106,slow=19,SNR=4.2
FRB Lg 06 25 57.5
2.7nm,0.3s,baz=268,slow=21,SNR=9.2
FRB Frobisher Bay 16.02 2 Pn P 06 21 26.4 -6.8
FRB Sn S 06 24 17.0 -13
FRB Lg 06 25 57.5
FRB Frobisher Bay 16.02 2 PN P 06 21 26.6 -6.5
FRB SN S 06 24 13.7 -16
FRB LG 06 25 56.1
FRB Trac 06 26 24.8
comp=Z,532nm,1.2s
USIN University of 16.22 239 ePn P 06 21 33.1 -2.8
54nm,0.6s
USIN eSn S 06 24 27.4 -7.1
CPCT Cooper Cave 16.40 227 ePn P 06 21 37.5 -0.6
CPCT eSn S 06 24 35.0 -3.6
ULM Lac du Bonnet 17.12 288 Pn P 06 21 42.6 -4.6
3.7nm,0.3s,baz=89,slow=12,SNR=33
ULM Sn S 06 24 45.8 -9.4
3.4nm,0.3s,baz=10,slow=21,SNR=4.1
ULM Lg 06 26 37.7
8.8nm,0.3s,baz=358,slow=19,SNR=6.7
ULM Lac du Bonnet 17.12 288 eP P 06 21 41.8 -5.4
1.6nm,0.6s
ULM eS S 06 24 46.8 -8.4
ULM Lac du Bonnet 17.12 288 PN P 06 21 42.3 -5.0
ULM SN S 06 24 44.6 -11
ULM LG 06 26 36.2
ULM Trac 06 26 50.5
comp=Z,2µm,1.1s
SWET Sewanee 17.29 229 ePn P 06 21 49.1 -0.2
SLM Saint Louis 17.32 246 ePn P 06 21 48.4 -1.4
53nm,0.7s
SLM eSn S 06 24 54.6 -5.1
GOGA Godfrey 17.59 220 P P 06 21 51.8 -1.5
28nm,0.9s
FVM French Village 17.84 244 eP P 06 21 54.9 -1.4
27nm,0.6s
FCC Fort Churchill 18.00 317 eP P 06 21 52.0 -6.1
FCC eS S 06 25 01.2 -14
FCC Fort Churchill 18.00 317 PN P 06 21 52.1 -6.0
FCC SN S 06 25 06.5 -8.6
FCC LG 06 27 02.0
FCC Trac 06 27 24.8
comp=Z,590nm,1.0s

CCM Cathedral Cave 18.30 246 *e*P P **06 22 00.6 -1.4**
38nm,0.7s
YRTN Rankin Inlet 19.46 329 PN P **06 22 12.8 -2.8**
YRTN SN S **06 25 38.9 -9.0**
YRTN LG 06 27 41.5
YRTN Trac 06 28 01.1
comp=Z,1μm,1.6s
LRAL Lakeview Retre 19.55 227 *e*P P **06 22 19.0 +2.2**
10nm,0.6s
OXF Oxford 19.67 235 *e*P P **06 22 19.2 +1.1**
50nm,0.6s
FFC Flin Flon 21.05 301 P P **06 22 32.5 +0.2**
299nm,1.1s,mb5.5,SNR=40
FFC Flin Flon 21.05 301 *e*P P **06 22 32.2 -0.1**
49nm,0.8s,mb4.9
FFC LR LR
comp=Z,697nm,19.0s,MS4.1
UALR University of 21.15 240 *e*P P **06 22 35.4 +2.0**
comp=Z,24nm,0.8s,mb4.6
DWPF Disney 21.57 208 *e*P P **06 22 39.9 +2.0**
comp=Z,134nm,0.8s,mb5.4
DWPF LR LR
comp=Z,412nm,19.0s,MS3.9
MIAR Mount Ida 22.03 242 *e*P P **06 22 44.8 +2.4**
comp=Z,238nm,0.8s,mb5.7
MIAR LR LR
comp=Z,2μm,20.0s,MS4.5
DGMT Dagmar 22.73 285 *e*P P **06 22 52.1 +3.0**
comp=Z,66nm,0.6s,mb5.2
DGMT LR LR
comp=Z,1μm,19.0s,MS4.4
CBKS Cedar Bluff 23.31 258 *e*P P **06 22 59.5 +4.7**
comp=Z,94nm,1.0s,mb5.2
CBKS LR LR
comp=Z,2μm,19.0s,MS4.6
LAO LASA Array 24.48 281 *e*P P **06 23 10.6 +4.4**
comp=Z,761nm,0.5s
LAO LR LR
comp=Z,2μm,21.0s,MS4.6
NATX Nacogdoches 24.66 238 *e*P P **06 23 11.4 +3.4**
comp=Z,121nm,1.3s,mb5.3
NATX *e* 06 23 15.3
WMOK Wichita Mounta 25.10 249 *e*P P **06 23 14.4 +2.3**
comp=Z,269nm,1.2s,mb5.7
WMOK LR LR
comp=Z,2μm,19.0s,MS4.5
HKT Hockley 26.68 237 *e*P P **06 23 28.8 +1.9**
comp=Z,30nm,1.2s,mb4.7
HKT *e* 06 23 33.4
HKT LR LR
comp=Z,502nm,20.0s,MS4.1
ISCO Idaho Springs 26.73 266 *e*P P **06 23 29.9 +2.6**
comp=Z,182nm,0.3s
ISCO LR LR
comp=Z,2μm,19.0s,MS4.6
AMTX Amarillo 26.86 253 P P **06 23 30.7 +2.3**
comp=Z,7.9nm,0.6s,mb4.4
AMTX *e* 06 23 35.6
AMTX LR LR
comp=Z,1μm,20.0s,MS4.5
SDCO Great Sand Dun 27.71 262 PFAKE 06 23 50.0 +14
SDCO LR LR
comp=Z,2μm,19.0s,MS4.8
EDM Edmonton 27.77 298 *e*P P **06 23 37.3 +0.8**
LKWY Lake 27.94 279 PFAKE 06 23 50.0 +12
LKWY LR LR
comp=Z,3μm,22.0s,MS4.8
BW06 Boulder Array 28.07 275 *e*P P **06 23 41.5 +2.2**
comp=Z,14nm,1.0s,mb4.6
BW06 LR LR
comp=Z,2μm,21.0s,MS4.6
PDAR Pinedale Array 28.07 275 P P **06 23 42.0 +2.6**
comp=Z,5.0nm,0.7s,mb4.2,baz=72,slow=9.3,SNR=18
HRY Holter Researc 28.17 284 P P **06 23 41.9 +1.6**
BOZ Bozeman (W) 28.38 281 PFAKE 06 24 00.0 +18
BOZ LR LR
comp=Z,2μm,22.0s,MS4.6
JCT Junction City 28.62 244 *e*P P **06 23 46.6 +2.1**
comp=Z,238nm,0.8s
JCT *e* 06 23 50.6
SUMG Summit 28.69 19 *e*P P **06 23 44.4 -0.3**
comp=Z,20nm,1.0s,mb4.8
YKA Yellowknife Ar 28.73 317 *i* P P **06 23 46.6 +1.5**
YKA pmax pmax
comp=Z,6.0nm,0.9s
YKA Yellowknife Ar 28.73 317 P P **06 23 46.6 +1.5**
comp=Z,5.5nm,0.9s,mb4.3,baz=97,slow=8.9,SNR=34
YKW3 Yellowknife Ar 28.75 317 *e*P P **06 23 47.0 +1.8**
YKW3 Yellowknife Ar 28.75 317 PN P **06 23 47.3 +2.0**
YKW3 SN S 06 29 12.4 +41
YKW3 LG 06 32 33.5
YKW3 Trac 06 33 03.9
comp=Z,1μm,1.5s
YKW3 Trac 06 33 04.1
comp=Z,590nm,1.2s
RES Resolute Bay 29.02 347 *e*P P **06 23 48.1 +0.4**
comp=Z,0.1nm,0.6s
CHMT Chamberlain Mo 29.04 285 *e*P P **06 23 49.3 +1.3**
MSO Missoula 29.52 285 PFAKE 06 24 10.0 +18
MSO LR LR
comp=Z,1μm,20.0s,MS4.6
PV01 Paradox Valley 29.56 265 *e*P P **06 23 55.7 +2.8**
PV01 *ep*P pP 06 23 59.5 -1.8
PV10 Paradox Valley 29.75 266 *e*P P **06 23 57.3 +2.7**
SJG San Juan 29.77 173 P P **06 23 55.7 +0.8**
comp=Z,12nm,0.7s,mb4.7,baz=42,slow=4.5,SNR=9.0
SJG PP PP 06 24 46.2 -5.9
comp=Z,42nm,0.9s,baz=351,slow=8.6,SNR=15
SJG San Juan 29.77 173 *e*P P **06 23 55.1 +0.3**
comp=Z,12nm,0.8s,mb4.7
HWUT Hardware Ranch 29.91 274 PFAKE 06 24 10.0 +14
HWUT LR LR
comp=Z,2μm,22.0s,MS4.7
ANMO Albuquerque 29.93 258 *e*P P **06 23 58.8 +2.6**
ANMO Albuquerque 29.93 258 P P **06 23 59.5 +3.2**
comp=Z,1.7nm,0.8s,mb3.8,baz=67,slow=7.0,SNR=7.6
ANMO Albuquerque 29.93 258 P P **06 23 59.5 +3.2**
ANMO LR LR
comp=Z,1μm,20.0s,MS4.6
DAU Daniels Canyon 30.24 271 *e*P P **06 24 01.6 +2.7**
HLID Hailey 31.00 279 PFAKE 06 24 20.0 +15
HLID LR LR
comp=Z,2μm,20.0s,MS4.8
NEW Newport 31.14 289 P P **06 24 08.3 +1.7**
comp=Z,3.0nm,0.9s,mb4.1,baz=101,slow=5.2,SNR=3.5
NEW Newport 31.14 289 P P **06 24 08.3 +1.7**
TEIG Tepich 31.23 215 PFAKE 06 24 20.0 +12
TEIG LR LR
comp=Z,797nm,20.0s,MS4.4
LTX Lajitas 31.80 247 PFAKE 06 24 30.0 +17
LTX LR LR
comp=Z,2μm,20.0s,MS4.8
TXAR Lajitas Array 31.80 247 P P **06 24 15.2 +2.5**
comp=Z,45nm,1.3s,mb5.1,baz=61,slow=7.7,SNR=68
MSU Marysvale 31.80 269 P P **06 24 15.2 +2.6**
MSU *ep*P pP 06 24 19.6 -1.4
MVU Marysvale 31.82 269 PFAKE 06 24 30.0 +17
MVU LR LR
comp=Z,1μm,20.0s,MS4.6
BMO Blue Mountains 32.41 283 *e*P P **06 24 19.1 +1.3**
comp=Z,13nm,1.4s,mb4.6
BMO LR LR
comp=Z,2μm,19.0s,MS4.7
ELK Elko 32.77 275 P P **06 24 24.6 +3.6**
comp=Z,3.9nm,0.7s,mb4.4,baz=53,slow=7.8,SNR=12
ELK Elko 32.77 275 P P **06 24 24.6 +3.6**
ELK LR LR
comp=Z,2μm,19.0s,MS4.7
WUAZ Wupatki 32.88 263 *e*P P **06 24 25.0 +3.0**
ARUT Antelope Range 33.02 269 *e*P P **06 24 26.2 +3.0**
ARUT *ep*P pP 06 24 30.5 -1.2
ARUT *es*P sP 06 24 32.5 -3.0
TRCR Troy Canyon 34.18 271 *e*P P **06 24 36.0 +2.8**
BMN Battle Mountai 34.25 275 PFAKE 06 24 50.0 +16
BMN LR LR
comp=Z,1μm,20.0s,MS4.7
WVOR Wild Horse Val 34.28 279 PFAKE 06 24 50.0 +16
WVOR LR LR
comp=Z,2μm,19.0s,MS4.9
TUC Tucson 34.40 258 PFAKE 06 24 50.0 +15
TUC LR LR
comp=Z,1μm,21.0s,MS4.6
TPH Tonopah 35.42 272 PFAKE 06 25 00.0 +16
TPH LR LR
comp=Z,1μm,21.0s,MS4.7
MOD Modoc 35.63 280 PFAKE 06 25 00.0 +14
MOD LR LR
comp=Z,2μm,19.0s,MS4.8
LDFC Landfair 35.63 266 *e*P P **06 24 48.3 +2.5**
LDFC *ep*P pP 06 24 52.8 -1.5
OCWA Octopus Mounta 35.78 291 PFAKE 06 25 00.0 +13
OCWA LR LR
comp=Z,3μm,20.0s,MS5.1
MNV Mina 35.87 273 PFAKE 06 25 00.0 +12
MNV LR LR
comp=Z,1μm,20.0s,MS4.7
NVAR Mina Array Bea 35.97 273 P P **06 24 51.6 +3.1**
comp=Z,1.3nm,0.2s,mb4.4,baz=58,slow=0.2,SNR=34
DLBC Dease Lake 36.37 310 P P **06 24 53.8 +2.1**
comp=Z,2.3nm,0.9s,mb4.1,baz=113,slow=7.7,SNR=3.2
COR Corvallis 36.44 285 PFAKE 06 25 10.0 +18
COR LR LR
comp=Z,362nm,21.0s,MS4.1
HUMO Hull Mountain 37.06 282 PFAKE 06 25 10.0 +12
HUMO LR LR
comp=Z,1μm,19.0s,MS4.7
INK Inuvik 37.13 327 P P **06 24 59.9 +1.9**
comp=Z,8.8nm,0.7s,mb4.7,baz=81,slow=8.8,SNR=36
INK Inuvik 37.13 327 *e*P P **06 24 59.7 +1.7**
comp=Z,1.0nm,1.4s
INK *ep*P pP 06 25 03.6 -3.0
INK *es*P sP 06 25 06.4 -3.8
YBH Yreka Blue Hor 37.30 281 PFAKE 06 25 10.0 +10
YBH LR LR
comp=Z,1μm,19.0s,MS4.8
PFO Pinyon Flat Ob 37.39 265 PFAKE 06 25 10.0 +9.5
PFO LR LR
comp=Z,425nm,22.0s,MS4.2
CMB Columbia Colle 37.58 274 PFAKE 06 25 20.0 +18
CMB LR LR
comp=Z,1μm,19.0s,MS4.8
WDC Whiskeytown Da 37.74 279 PFAKE 06 25 20.0 +17
WDC LR LR
comp=Z,2μm,22.0s,MS4.8
SDV Santo Domingo 38.77 181 P P **06 25 13.4 +1.1**
comp=Z,4.0nm,0.8s,mb4.2,baz=49,slow=4.8,SNR=7.3
SDV PcP PcP 06 27 24.3 +0.3
comp=Z,17nm,0.7s,baz=9.1,slow=1.5,SNR=14
SDV Santo Domingo 38.77 181 *e*P P **06 25 13.1 +0.7**
comp=Z,6.1nm,0.8s,mb4.4
SDV *ep*P pP 06 25 18.9 -2.0
HOPS Hopland 38.88 277 PFAKE 06 25 30.0 +17
HOPS LR LR
comp=Z,1μm,20.0s,MS4.8
SAO San Andreas Ge 38.97 273 PFAKE 06 25 30.0 +16
SAO LR LR
comp=Z,1μm,20.0s,MS4.7
SIT Sitka 39.44 309 PFAKE 06 25 30.0 +13
SIT LR LR
comp=Z,2μm,21.0s,MS4.9
JTS JuntasAbangare 39.45 204 PFAKE 06 25 30.0 +12
JTS LR LR
comp=Z,271nm,21.0s,MS4.1
DAWY Dawson 39.86 320 *e*P P **06 25 23.6 +2.7**
ESK Eskdalemuir 40.73 54 PFAKE 06 25 40.0 +12
ESK LR LR
comp=Z,468nm,19.0s,MS4.4
EKA Eskdalemuir Ar 40.75 54 P P **06 25 27.4 -0.9**
comp=Z,7.5nm,0.7s,mb4.4,baz=282,slow=7.1,SNR=26
MENT Mentasta 42.00 319 *e*P P **06 25 41.6 +3.3**
KBS Kingsbay 42.03 17 PFAKE 06 25 50.0 +12
KBS LR LR
comp=Z,1μm,20.0s,MS4.8
ILAR Eielson Array 42.88 322 P P **06 25 48.4 +2.8**
comp=Z,2.3nm,0.8s,mb4.0,baz=55,slow=6.3,SNR=9.4
ILAR PP PP 06 27 29.6 +2.2
comp=Z,2.4nm,1.0s,baz=80,slow=8.7,SNR=4.3
ROSC El Rosal 42.94 186 P P **06 25 49.2 +2.5**
comp=Z,10nm,1.0s,mb4.5,baz=280,slow=23,SNR=4.0
ROSC PcP PcP 06 27 38.4 +0.9
comp=Z,13nm,0.8s,baz=92,slow=12,SNR=5.5
COLA College 43.26 322 PFAKE 06 26 00.0 +12
COLA LR LR
comp=Z,2μm,21.0s,MS5.0
QUIF Quistinic 43.54 64 *e*P P **06 25 50.7 -0.4**
comp=Z,20nm,0.7s,mb4.7
SGMF Saint Gilles 43.76 63⇑*i*P P **06 25 52.5 -0.3**
PVRL Vila Real 43.80 75 *e*P P **06 25 52.6 -0.7**
comp=Z,40nm,1.4s,mb5.0
PVIS Viseu 43.97 75 *e*P P **06 25 54.7 0.0**
comp=Z,17nm,1.2s,mb4.6
PBRG Braganca 44.17 73 *e*P P **06 25 56.6 +0.3**
comp=Z,17nm,1.4s,mb4.6
MTE Manteigas 44.37 76 *e*P P **06 25 57.2 -0.7**
comp=Z,35nm,2.3s,mb4.7
GRR Gorron 44.72 62⇑*i*P P **06 26 00.4 -0.2**
comp=Z,25nm,0.8s,mb4.8
FLN La Foliniere 44.78 62⇑*i*P P **06 26 00.9 -0.2**
comp=Z,34nm,0.7s,mb5.0
PMR Palmer 44.82 318 *e*P P **06 26 04.4 +3.2**
EVO Evora 45.05 78⇑*i*P P **06 26 01.9 -1.4**
comp=Z,113nm,1.5s,mb5.2
LDF La Druitiere 45.07 62⇑*i*P P **06 26 03.2 -0.2**
comp=Z,32nm,0.7s,mb4.9
IMA Indian Mountai 45.21 325 *e*P P **06 26 06.5 +2.2**
comp=Z,177nm,1.8s,mb5.6
PBEJ Beja 45.42 79 *e*P P **06 26 06.3 0.0**
comp=Z,23nm,1.5s,mb4.8
KONO Kongsberg 45.73 44 PFAKE 06 26 20.0 +12
KONO LR LR
comp=Z,1μm,20.0s,MS4.9
NB2 NORSAR Subarra 45.95 42 P P **06 26 09.9 -0.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=292,slow=7.9
NOA NORSAR Array B 45.95 42 P P **06 26 10.3 +0.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=290,slow=7.5,SNR=8.6
NOA PcP PcP 06 27 47.3 +0.1
comp=Z,0.6nm,0.7s,baz=67,slow=3.3,SNR=3.9
NOA NORSAR Array B 45.95 42 P P **06 26 10.3 +0.1**
NOA PcP PcP 06 27 47.3 +0.1
MFF Saint Martin d 45.97 64⇑*i*P P **06 26 10.3 -0.2**
comp=Z,9.1nm,0.5s,mb4.6
PALC Alcoutim 45.98 79 *e*P P **06 26 10.8 0.0**
comp=Z,32nm,1.4s,mb5.1
BAIF Baives 46.93 58⇑*i*P P **06 26 17.6 -0.5**
comp=Z,29nm,0.9s,mb4.9
OSSF Osses 46.93 69 *e*P P **06 26 17.4 -0.8**
ESDC Sonseca Array 47.08 74 P P **06 26 19.0 -0.4**
comp=Z,5.3nm,1.0s,mb4.4,baz=304,slow=8.1,SNR=14
ESLA Sonseca Array 47.08 74 PFAKE 06 26 30.0 +11
ESLA LR LR
comp=Z,6μm,20.0s,MS5.5
GIVF Givet 47.26 58⇑*i*P P **06 26 20.1 -0.6**
comp=Z,20nm,0.6s,mb4.9
LFF La Frestale 47.33 66⇑*i*P P **06 26 20.9 -0.4**
comp=Z,61nm,0.9s,mb5.2
HFS Hagfors 47.44 42 P P **06 26 22.2 +0.2**
comp=Z,5.3nm,0.8s,mb4.5,baz=292,slow=8.0,SNR=5.7
TCF Toux Ste Croi 47.55 63⇑*i*P P **06 26 22.4 -0.6**
comp=Z,22nm,0.8s,mb4.9
ETSF Etsaut 47.55 69⇑*i*P P **06 26 23.3 +0.2**
comp=Z,54nm,0.6s,mb5.5
RJF Les Rejaudoux 47.62 65⇑*i*P P **06 26 22.8 -0.8**
comp=Z,49nm,1.1s,mb5.2
BGF Bois d'Agland 47.80 63⇑*i*P P **06 26 24.2 -0.8**
comp=Z,12nm,0.6s,mb4.8
KDAK Kodiak Island 47.92 314 PFAKE 06 26 40.0 +14
KDAK LR LR
comp=Z,475nm,19.0s,MS4.5
SSF Saint Saulge 47.95 62⇑*i*P P **06 26 25.3 -0.8**
comp=Z,18nm,0.7s,mb4.9
AVF Avril sur Loir 47.99 62⇑*i*P P **06 26 25.5 -1.0**
comp=Z,16nm,0.8s,mb4.8
ARCES ARCESS Array B 48.05 28 P P **06 26 27.1 +0.5**
comp=Z,10.0nm,0.5s,mb5.1,baz=292,slow=6.9,SNR=60
ARE0 ARCESS Array S 48.05 28 *e*P P **06 26 26.9 +0.3**
MEZF Maizieres J'vi 48.15 60⇑*i*P P **06 26 27.3 -0.4**
comp=Z,26nm,0.9s,mb5.0
AGO Saint Agoulin 48.22 63 *e*P P **06 26 27.9 -0.4**
SMF Signal de Mont 48.35 62⇑*i*P P **06 26 28.1 -1.2**
BSEG Bad Segeberg 48.50 51 *e*P P **06 26 28.7 -1.6**
BSEG pmax pmax
comp=Z,45nm,1.6s,mb5.2
LBL Lubilhac 48.71 64 *e*P P **06 26 31.4 -0.6**
SALF Salau 48.72 68 *e*P P **06 26 32.8 +0.6**
MTLF Montolieu 49.06 67⇑*i*P P **06 26 34.5 -0.2**
comp=Z,116nm,1.0s,mb5.5
HAU Haudompre 49.15 60⇑*i*P P **06 26 34.8 -0.6**
comp=Z,7.0nm,0.7s,mb4.5
TNS Taunus Mts 49.25 56 *e*P P **06 26 36.0 -0.1**
TNS pmax pmax
comp=Z,34nm,1.5s,mb5.2
TNS Taunus Mts 49.25 56 *e*P P **06 26 36.0 -0.1**
comp=Z,34nm,1.5s,mb5.2
EBR Ebro Roquetas 49.33 71 *e*Ts 06 26 43.2
CDF Champ du Feu 49.48 59⇑*i*P P **06 26 37.6 -0.4**
comp=Z,10.0nm,0.8s,mb4.6
CLZ Clausthal 49.52 54 *e*P P **06 26 38.3 +0.1**
comp=Z,14nm,1.0s,mb5.0
HINF Hinteralfeld 49.54 60⇑*i*P P **06 26 37.8 -0.6**
comp=Z,8.4nm,0.6s,mb4.6
STR Strasbourg 49.68 58 *e*P P **06 26 43.9 +4.4**
LASF Ste Croix 49.68 65⇑*i*P P **06 26 39.2 -0.3**
comp=Z,49nm,1.2s,mb5.1
CABF La Chapelle 49.70 61⇑*i*P P **06 26 39.4 -0.3**
comp=Z,16nm,0.7s,mb4.8
TOD Tromm 49.76 57 *e*P P **06 26 39.9 -0.1**
VIVF Saint-Julien-l 49.77 64⇑*i*P P **06 26 40.0 -0.2**
comp=Z,76nm,1.2s,mb5.3
BFO Black Forest 50.13 58 *e*P P **06 26 42.1 -0.8**
BFO pmax pmax
comp=Z,11nm,0.8s,mb4.9
BFO Black Forest 50.13 58 *e*P P **06 26 42.1 -0.8**
comp=Z,11nm,0.8s,mb4.9
ORIF Oris-en-Rattie 50.47 63⇑*i*P P **06 26 45.2 -0.3**
comp=Z,23nm,0.9s,mb4.9
SPAK Spaichingen 50.51 58 *e*P P **06 26 53.5 +7.7**
LPL La Plagne 50.66 62⇑*i*P P **06 26 47.0 0.0**
comp=Z,16nm,0.7s,mb4.8
LPG La Plagne 50.68 62⇑*i*P P **06 26 47.3 +0.2**
comp=Z,13nm,0.7s,mb4.7
SMRF Simiane la Rot 50.78 64⇑*i*P P **06 26 48.0 +0.1**
comp=Z,21nm,0.8s,mb4.8
MOX Moxa 50.80 54 *e*P P **06 26 47.7 -0.2**
MOX pmax pmax
comp=Z,21nm,1.5s,mb4.8
MOX Moxa 50.80 54 *e*P P **06 26 47.7 -0.2**
comp=Z,21nm,1.5s,mb4.8
MOX Moxa 50.80 54 *i* P P **06 26 47.7 -0.2**
comp=Z,logA/T=1.1,mb4.8
GRA1 Grafenberg Arr 51.07 56 *e*P P **06 26 49.9 -0.1**
comp=Z,31nm,1.5s,mb5.0
GRF Grafenberg Arr 51.07 56 *e*P P **06 26 49.9 -0.1**
GRF pmax pmax
comp=Z,31nm,1.5s,mb5.0
GRF Grafenberg Arr 51.07 56 *e*P P **06 26 49.9 -0.1**
comp=Z,31nm,1.5s,mb5.0
MBDF Montbardon 51.10 63⇑*i*P P **06 26 50.2 -0.1**
comp=Z,9.9nm,0.7s,mb4.5
CLL Collm 51.21 53 *i* P P **06 26 50.6 -0.5**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 51.21 53 *i* P P **06 26 50.6 -0.5**
comp=Z,7.0nm,0.9s,mb4.6
CLL *i* 06 26 55.6
CLL Collm 51.21 53 P P **06 26 50.6 -0.5**
comp=Z,logA/T=0.9,mb4.6
CLL *i* *SP sP 06 26 55.6 -7.7
NKC Novy Kostel 51.47 54 *e*P P **06 26 52.7 -0.3**
VAI Varese 51.68 61 *e*P P **06 26 54.6 -0.1**
LMR La Mourre 51.70 65 *e*P P **06 26 54.2 -0.7**
comp=Z,25nm,0.9s,mb4.8
KAF Kangasniemi 51.91 36 *e*p P **06 26 54.1 -2.1**
comp=Z,6.9nm,1.0s,mb4.5
KAF Kangasniemi 51.91 36 *e*P P **06 26 54.1 -2.1**
KAF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BRG Berggiesshubel 51.95 53 *e*P P **06 26 56.5 -0.1**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BRG Berggiesshubel 51.95 53 *e*P P **06 26 56.5 -0.1**
comp=Z,8.6nm,1.0s,mb4.6
FINES FINESS Array B 52.17 37 P P **06 26 58.2 0.0**
comp=Z,8.2nm,0.9s,mb4.7,baz=303,slow=7.0,SNR=20
FINES PcP PcP 06 28 08.6 -1.1
comp=Z,2.8nm,0.7s,baz=315,slow=2.7,SNR=4.1
MOTA Moosalm 52.24 58⇑*i*P P **06 26 58.8 -0.1**
comp=Z,7.6nm,1.2s,mb4.5
WET Wettzell 52.28 55 *e*P P **06 26 59.0 -0.2**
WET pmax pmax
comp=Z,19nm,1.5s,mb4.8
WET Wettzell 52.28 55 *e*P P **06 26 59.0 -0.2**
comp=Z,19nm,1.5s,mb4.8
SQTA Sankt Quirin 52.37 58⇓*i*P P **06 27 00.2 +0.3**
comp=Z,16nm,1.3s,mb4.8
PVCC Panska Ves 52.47 53 *e*P P **06 26 56.7 -3.9**
WATA Walderalm 52.52 58⇓*i*P P **06 27 01.2 +0.2**
comp=Z,12nm,1.2s,mb4.7
KHC Kasperske Hory 52.67 55 *e*P P **06 27 02.0 -0.1**
KHC Kasperske Hory 52.67 55 *e*P P **06 27 02.1 0.0**
BOB Bobbio (Coli) 52.68 62 *e*P P **06 27 02.7 +0.4**
PRU Pruhonice 52.74 54 *e*P P **06 27 02.4 -0.2**
GEC2 GERESS Array S 52.90 55 *e*P P **06 27 03.6 -0.2**
GEC2 pmax pmax
comp=Z,24nm,1.8s,mb4.8
GEC2 GERESS Array S 52.90 55 *e*P P **06 27 03.6 -0.2**
comp=Z,24nm,1.8s,mb4.8
GERES GERESS Array B 52.90 55 P P **06 27 03.5 -0.3**
comp=Z,1.9nm,0.8s,mb4.1,baz=315,slow=6.6,SNR=15
KSP Ksiaz 53.22 52⇑*e*P P **06 27 05.2 -1.0**
KSP Ksiaz 53.22 52 *e*P P **06 27 06.1 0.0**
UPC Upice 53.25 53 *e*P P **06 27 06.1 -0.3**
CTI Castel Tesino 53.27 59 *e*P P **06 27 06.1 -0.4**
JOF Joensuu 53.41 34 *e*p P **06 27 04.7 -2.7**
comp=Z,25nm,0.8s,mb5.2
JOF Joensuu 53.41 34 *e*P P **06 27 04.7 -2.7**
JOF pmax pmax
comp=Z,25nm,0.8s,mb5.2
DPC Dobruska-Polom 53.51 53 *e*P P **06 27 08.2 -0.1**
KBA Koelnbreinsper 53.67 57⇑*i*P P **06 27 09.4 -0.1**
comp=Z,17nm,1.5s,mb4.8
MOA Molln 53.76 56⇑*i*P P **06 27 10.9 +0.8**
comp=Z,11nm,1.5s,mb4.6
VSU Vasula 54.08 40 *e*P P **06 27 12.4 +0.1**
OBKA Obir 54.67 57⇑*i*P P **06 27 16.1 -0.8**
comp=Z,28nm,0.8s,mb5.3
OKC Ostrava-Krasne 54.77 52 *e*P P **06 27 17.1 -0.4**
ARSA Arzberg 54.80 56⇑*i*P P **06 27 18.1 +0.3**
comp=Z,12nm,1.2s,mb4.8
SUW Suwalki 54.97 46 *e*P P **06 27 18.8 -0.2**
ZST Bratislava 55.14 55 *e*P P **06 27 17.9 -2.4**
OJC Ojcow 55.43 51 *e*P P **06 27 21.8 -0.5**
ARV Arcevia 55.47 61 *e*P P **06 27 21.5 -1.2**
VYHS Vyhne 55.91 53 *e*P P **06 27 24.7 -1.1**
MNS Montasola 55.97 62 *e*P P **06 27 25.1 -1.3**
SAML Samuel 56.81 172 PFAKE 06 27 40.0 +7.3
SAML LR LR
comp=Z,2μm,21.0s,MS5.1
CRVS Cervenica-Dubn 57.08 52 *e*P P **06 27 34.1 -0.1**
KOLS Kolonicke sedl 57.49 51 *e*P P **06 27 37.1 +0.1**
NNA Nana 59.82 188 PFAKE 06 28 10.0 +16
NNA LR LR
comp=Z,220nm,20.0s,MS4.3
TIXI Tiksi 60.11 353 *e*P P **06 27 54.8 -0.2**
TIXI pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
TIXI Tiksi 60.11 353 PFAKE 06 28 10.0 +15
TIXI LR LR
comp=Z,1μm,19.0s,MS5.1
OBN Obninsk 60.40 39⇑*i*P P **06 27 56.9 -0.2**
OBN *e* 06 28 42.5
OBN *e* 06 30 08.6
OBN *es*S sS 06 40 05.5 -2.0
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.4
OBN Obninsk 60.40 39 PFAKE 06 28 10.0 +13
OBN LR LR
comp=Z,349nm,19.0s,MS4.5
RCBR Riachuelo 61.24 140 PFAKE 06 28 20.0 +17
RCBR LR LR
comp=Z,2μm,19.0s,MS5.3
MLR Muntele Rosu 61.59 53 P P **06 28 06.4 +1.0**
comp=Z,7.8nm,0.9s,mb4.8,baz=344,slow=6.5,SNR=4.3
LPAZ La Paz 63.80 178 P P **06 28 20.9 +0.5**
comp=Z,12nm,0.7s,mb5.0,baz=355,slow=5.7,SNR=49
LPAZ La Paz 63.80 178 *e*P P **06 28 20.6 +0.1**
comp=Z,12nm,0.8s,mb5.0
LPAZ LR LR
comp=Z,1μm,21.0s,MS5.0
ARE Arequipa 63.97 182 *e*P P **06 28 22.0 +0.5**
BAO Brasilia Array 66.13 157 P P **06 28 34.8 -0.6**
BAO *i* 06 28 38.7
BDFB Brasilia 66.13 157 P P **06 28 35.7 +0.2**
comp=Z,9.2nm,0.5s,mb5.1,baz=350,slow=6.8,SNR=27
MA2 Magadan 67.93 339 *e*P P **06 28 47.2 +1.1**
MA2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
MA2 Magadan 67.93 339 PFAKE 06 29 00.0 +14

MA2 LR LR
comp=Z,989nm,19.0s,MS5.1
DBIC Dimbokro 68.48 104 P **P** **06 28 49.8 -0.6**
comp=Z,7.1nm,0.6s,mb4.9,baz=302,slow=7.4,SNR=20
DBIC Dimbokro 68.48 104 *e*P **P** **06 28 49.5 -0.8**
comp=Z,10nm,0.6s,mb5.0
DBIC LR LR
comp=Z,951nm,19.0s,MS5.0
YAK Yakutsk 69.40 350 *e*P **P** **06 28 56.9 +1.7**
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.1
YAK Yakutsk 69.40 350 PFAKE 06 29 10.0 +15
YAK LR LR
comp=Z,692nm,20.0s,MS4.9
SOC Sochi 70.00 47 *e*P **P** **06 28 58.0 -1.1**
SOC *e* 06 29 21.7
SOC *e* 06 31 30.3
SOC *e*S S 06 38 05.0 -1.3
SOC *e* 06 38 54.2
SOC *e*SS SS 06 42 37.1 -0.1
SOC pmax pmax
comp=Z,28nm,0.9s,mb5.2
SOC pmax pmax
comp=N,29nm,1.0s
SOC pmax pmax
comp=E,16nm,0.7s
LVC Limon Verde 70.08 179 *e*P **P** **06 29 01.2 +1.2**
comp=E,36nm,0.7s,mb5.4
LVC *e* 06 29 05.0
LVC LR LR
comp=Z,1μm,19.0s,MS5.1
KIV Kislovodsk 71.16 45⇓ *i*P **P** **06 29 07.4 +1.2**
KIV *e* 06 29 27.9
KIV *e* 06 31 43.1
KIV *e*S S 06 38 22.0 +2.2
KIV *e*SS SS 06 42 51.7 -3.9
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.7
KIV Kislovodsk 71.16 45 PFAKE 06 29 20.0 +14
KIV LR LR
comp=Z,184nm,20.0s,MS4.3
PET Petropavlovsk 71.38 331 PFAKE 06 29 20.0 +13
PET LR LR
comp=Z,1μm,21.0s,MS5.1
ZEI Tsey 72.63 45 *e*P **P** **06 29 15.4 +0.5**
ZEI pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MALT Malatya 73.25 51 *e*P **P** **06 29 20.1 +1.5**
comp=Z,20nm,1.0s,mb5.0
BOD Bodaibo 74.70 358 *e*P **P** **06 29 27.5 +0.9**
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
GNI Garni 75.05 46⇑ *i*P **P** **06 29 31.2 +2.2**
GNI pmax pmax
comp=Z,20nm,1.1s
GNI Garni 75.05 46 PFAKE 06 29 40.0 +11
GNI LR LR
comp=Z,774nm,22.0s,MS5.0
EIL Elat 77.74 59 *e*P **P** **06 29 45.5 +1.2**
comp=Z,16nm,0.9s,mb5.0
KURK Kurchatov 78.23 20 P **P** **06 29 47.2 +0.7**
comp=Z,80nm,0.9s,mb5.7,SNR=12
KURK Kurchatov 78.23 20 *i*P **P** **06 29 48.1 +1.6**
KURK Kurchatov 78.23 20 PFAKE 06 30 00.0 +14
KURK LR LR
comp=Z,253nm,19.0s,MS4.6
MIDW Midway 80.23 301 PFAKE 06 30 10.0 +12
MIDW LR LR
comp=Z,3μm,20.0s,MS5.6
MOY Mondy 80.62 6 *e*P **P** **06 30 02.8 +3.4**
MOY pmax pmax
comp=Z,15nm,0.8s,mb5.0
TLY Talaya 80.76 4 *e*P **P** **06 30 02.9 +2.8**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TLY Talaya 80.76 4 PFAKE 06 30 10.0 +10
TLY LR LR
comp=Z,212nm,22.0s,MS4.5
YSS Yuzh-Sakhalins 81.41 338 *e*P **P** **06 30 05.3 +1.7**
YSS pmax pmax
comp=Z,25nm,1.5s,mb4.9
YSS MLR MLR
comp=Z,500nm,15.0s,MS5.0
YSS Yuzh-Sakhalins 81.41 338 PFAKE 06 30 20.0 +16
YSS LR LR
comp=Z,974nm,21.0s,MS5.1
KLR Kul'dur 81.55 346 *e*P **P** **06 30 03.2 -1.1**
ZAK Zakamensk 82.04 4 *e*P **P** **06 30 10.1 +3.3**
ZAK pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
RPN Rapa Nui 82.53 215 PFAKE 06 30 20.0 +10
RPN LR LR
comp=Z,455nm,21.0s,MS4.8
CHMS Chumysh 84.39 25 P **P** **06 30 21.8 +2.9**
SNR=9.4
EKS2 Erkin-Say 84.42 26 P **P** **06 30 22.4 +3.3**
SNR=13
AAK Ala-Archa 84.65 26⇓ *i*P **P** **06 30 22.4 +2.1**
AAK pmax pmax
comp=Z,11nm,1.7s,mb4.7
AAK MLR MLR
comp=Z,600nm,20.0s,MS5.0
AAK Ala-Archa 84.65 26 PFAKE 06 30 30.0 +10
AAK LR LR
comp=Z,205nm,21.0s,MS4.5
ULN Ulaanbaatar 84.69 2⇓ *i*P **P** **06 30 23.8 +3.4**
ULN Ulaanbaatar 84.69 2 PFAKE 06 30 30.0 +10
ULN LR LR
comp=Z,815nm,22.0s,MS5.1
TKM2 Tokmak 2 84.70 25 P **P** **06 30 23.6 +3.1**
SNR=14
SONM Songino Array 84.71 2 P **P** **06 30 24.0 +3.5**
comp=Z,6.3nm,0.9s,mb4.8,baz=340,slow=4.8,SNR=10
AML Almayashu 84.88 26 P **P** **06 30 25.3 +3.9**
SNR=11
UCH Uchtor 85.03 26 P **P** **06 30 26.0 +3.9**
SNR=8.7
KZA Kyzart 85.38 25 P **P** **06 30 27.6 +3.7**
SNR=9.7
ULHL Ulahol 85.51 24 P **P** **06 30 27.7 +3.1**
SNR=6.8
TRQA Tornquist 85.77 174 *e*P **P** **06 30 27.1 +1.2**
comp=Z,15nm,0.9s,mb5.2
TRQA *e* 06 30 31.1
TRQA LR LR
comp=Z,3μm,21.0s,MS5.6
MDJ Mudanjiang 86.38 346 P **P** **06 30 30.4 +1.6**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.8
WMQ Urumqi 86.68 16 *e*P **P** **06 30 32.8 +2.5**
WMQ AP pP 06 30 39.0 -0.5
WMQ XP sP 06 30 41.5 -1.0
WMQ PP PP 06 33 57.0 +2.2
WMQ SKS SKS 06 40 55.5 -4.9
WMQ S S 06 41 07.5 +3.7
WMQ AMB AMB
comp=Z,11nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,443nm,4.6s
WMQ LR LR
comp=N,790nm,23.4s,MS5.3
WMQ LR LR
comp=E,940nm,21.0s,MS5.3
WMQ LR LR
comp=Z,1μm,22.0s,MS5.2
CN2 Changchun 87.78 349 *e*P **P** **06 30 37.4 +1.8**
CN2 LR LR
comp=Z,660nm,18.0s,MS5.1
PLCA Paso Flores 88.14 180 P **P** **06 30 39.0 +1.6**
comp=Z,8.8nm,0.7s,mb5.1,baz=349,slow=4.3,SNR=23
PLCA Paso Flores 88.14 180 P **P** **06 30 39.0 +1.6**
PLCA LR LR
comp=Z,2μm,19.0s,MS5.6
HHC Hu-ho-hao-te 91.73 359 *e*P **P** **06 30 55.8 +1.6**
HHC PP PP 06 34 40.6 +5.0
HHC AMB AMB
comp=Z,982nm,10.7s
MAJO Matsushiro 92.34 338 PFAKE 06 31 10.0 +13
MAJO LR LR
comp=Z,649nm,21.0s,MS5.0
GTA Gaotai 92.71 8 *e*P **P** **06 31 01.4 +2.7**
GTA AP pP 06 31 07.5 -0.5
GTA XP sP 06 31 09.8 -1.1
GTA PP PP 06 34 45.5 +2.1
GTA SKS SKS 06 41 32.0 -5.0
GTA S S 06 42 02.0 +3.2
GTA XS 06 42 13.1
GTA SS SS 06 48 17.7 +1.9
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,671nm,5.0s
GTA LR LR
comp=N,476nm,17.9s,MS5.2
GTA LR LR
comp=E,476nm,16.0s,MS5.2
GTA LR LR
comp=Z,734nm,19.0s,MS5.2
INCN Inchon 93.82 347 PFAKE 06 31 20.0 +16
INCN LR LR
comp=Z,809nm,19.0s,MS5.2
NJ2 Nanjing 100.13 352 *e*P P 06 31 32.8 +0.1
NJ2 AP 06 31 43.4
NJ2 XP 06 31 47.3
NJ2 PP PP 06 35 40.0 -1.0
NJ2 S S 06 43 00.0 -1.9
NJ2 XS 06 43 17.0
NJ2 AMB AMB
comp=Z,820nm,5.8s
NJ2 LR LR
comp=N,1μm,17.6s
NJ2 LR LR
comp=E,2μm,27.6s
NJ2 LR LR
comp=Z,1μm,23.1s
SSE Sheshan 100.83 350 P P 06 31 36.4 +0.5
SSE AMB AMB
comp=Z,2μm,11.3s
SSE Sheshan 100.83 350 P P 06 31 36.4 +0.5
comp=Z,18nm,0.7s
LSZ Lusaka 106.62 94 PFAKE 06 36 30.0
LSZ LR LR
comp=Z,2μm,20.0s,MS5.7
TATO Taipei 106.84 349 PFAKE 06 36 30.0
TATO LR LR
comp=Z,586nm,19.0s,MS5.2
KMI Kunming 107.13 7 PKP 06 36 13.7
KMI LR LR
comp=Z,550nm,23.9s,MS5.0
LBTB Lobatse 111.72 104 PFAKE 06 36 30.0 +4.7
LBTB LR LR
comp=Z,2μm,21.0s,MS5.7
CM31 Chiang Mai Arr 113.32 11 PFAKE 06 36 40.0 +11
CM31 LR LR
comp=Z,371nm,20.0s,MS5.0
SUR Sutherland 113.68 113 PFAKE 06 36 40.0 +11
SUR LR LR
comp=Z,513nm,22.0s,MS5.1
BOSA Boshof 113.96 107 PFAKE 06 36 40.0 +10
BOSA LR LR
comp=Z,3μm,21.8s,MS5.8
DGAR Diego Garcia 128.67 51 PFAKE 06 37 10.0 +12
DGAR LR LR
comp=Z,238nm,21.0s,MS4.9
QSPA South Pole Qui 137.66 180⇓ *i*P PKPdf 06 37 12.0 -1.5
VNDA Vanda 144.23 197 PKP PKPdf 06 37 21.8 -3.2
comp=Z,6.0nm,0.8s,baz=89,slow=5.1,SNR=13
WRA Warramunga Arr 145.93 316 PKPbc PKPbc 06 37 28.4 +2.8
comp=Z,14nm,0.6s,baz=23,slow=2.8,SNR=132
FITZ Fitzroy Crossi 147.74 331 *e*PKP PKPdf 06 37 33.1 +0.5
comp=Z,8.4nm,0.8s
MAW Mawson 149.08 147 PKPbc PKPdf 06 37 35.3 +2.0
comp=Z,35nm,0.7s,baz=254,slow=5.4,SNR=7.2
ASPA Alice Springs 149.32 313 *e*PKP PKPdf 06 37 37.3 +2.3
STKA Stephens Creek 151.25 292 *i* PKP PKPdf 06 37 41.1 +3.3
comp=Z,7.3nm,0.7s
STKA Stephens Creek 151.25 292 PKP PKPdf 06 37 35.2 -2.6
comp=Z,5.5nm,0.7s,baz=266,slow=23,SNR=3.1
STKA PKPbc PKPdf 06 37 41.1 +3.3
comp=Z,8.4nm,0.7s,baz=62,slow=2.5,SNR=27
STKA Stephens Creek 151.25 292 PKP PKPdf 06 37 35.2 -2.6
STKA PKPbc PKPdf 06 37 41.1 +3.4

JMA 06 06:27:26.0±0.3, 44.53N×147.06E, h164km±3km, M3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.50**	**220**	P	P	06 27 56.6	-0.4
NEM2				*e*S	S	06 28 19.6	-1.4
JRA	**Rausu**	**1.51**	**248**	P	P	06 27 56.9	-0.2
JNK	**Nakash**	**1.93**	**242**	P	P	06 28 01.5	-0.1
JAK	**Akkeshi**	**2.30**	**229**	P	P	06 28 05.5	-0.4
JAK				*e*S	S	06 28 35.3	-1.3
JTKR	**Abashiri--Toko**	**2.33**	**257**	P	P	06 28 05.7	-0.6
JTKR				*e*S	S	06 28 35.4	-1.9
JAR	**Ashorobuto**	**2.68**	**244**	P	P	06 28 10.8	+0.2
JAR				*e*S	S	06 28 45.9	+1.1
JMP	**Maruseppu**	**2.71**	**260**	P	P	06 28 10.2	-0.7
JMP				*e*S	S	06 28 44.6	-0.8
JOB	**Onbets**	**2.85**	**236**	P	P	06 28 12.6	-0.1
JOB				*e*S	S	06 28 46.8	-1.7
JKK2	**Kamakawa 2**	**3.17**	**260**	P	P	06 28 16.4	-0.3
JKK2				*e*S	S	06 28 54.7	-1.0
JSE	**Soyaes**	**3.22**	**279**	P	P	06 28 15.8	-1.5
JCH	**Churui**	**3.30**	**236**	P	P	06 28 17.6	-0.8
JCH				*e*S	S	06 28 55.9	-2.7
JFR	**Furan**	**3.51**	**249**	P	P	06 28 21.1	0.0
JWK2	**Keihoku**	**3.75**	**284**	P	P	06 28 23.9	-0.3
JNBK	**Urakawa-nobuka**	**3.86**	**236**	P	P	06 28 23.9	-1.7
JEW	**Eniwo**	**4.41**	**249**	P	P	06 28 32.4	-0.3

IDC 06 06:58:45.5±2.2, 11.30S×163.14E, mb3.8/5, mb1 4.0/5, mb1mx3.9/13, mbtmp3.8/5, Error ellipse: s-maj=79.1km s-min=27.1km az=126.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.54**	**221**	P	P	07 04 44.5	-0.6
	2.5nm,0.8s,baz=36,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**29.00**	**249**	P	P	07 04 46.4	-3.0
	0.5nm,0.6s,baz=80,slow=9.1,SNR=6.3						
ASAR	**Alice Springs**	**30.40**	**242**	P	P	07 04 59.0	-2.9
	0.6nm,0.7s,baz=69,slow=9.8,SNR=7.2						
SONM	**Songino Array**	**77.38**	**325**	P	P	07 10 43.4	-0.6
	1.0nm,1.0s,baz=135,slow=5.2,SNR=4.7						
ILAR	**Eielson Array**	**84.58**	**19**	P	P	07 11 19.9	-1.8
	0.3nm,0.7s,baz=223,slow=4.8,SNR=6.9						

*NEIC **06** 07:00:13.3, 36.86N×9.61W, MG4.0(MDD), After MDD.*
*CSEM **06** 07:00:13.4±0.4, 36.71N×9.79W, h30km, ML3.4/13, Error ellipse: s-maj=8.0km s-min=5.0km az=44.0*
*INMG **06** 07:00:15.4±0.9, 36.78N×9.67W, h18km±17km, ML2.3, Error ellipse: s-maj=16.5km s-min=3.0km az=55.0*
MDD 06 07:00:14.1±1.5, 36.88N×9.59W, mb3.9/12, Error ellipse: s-maj=14.3km s-min=8.6km az=47.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**0.96**	**46**	*e*P	Pg	07 00 34.1	+0.9
PTEO				*e*S	Sg	07 00 48.0	+2.1
	37nm,0.2s						
PTEO	**Sao Teotonio**	**0.96**	**46**	*e*P	Pg	07 00 34.1	+0.9
PTEO				*e*S	Sg	07 00 48.0	+2.1
	37nm,0.2s						
PALC	**Alcoutim**	**1.78**	**70**	*e*Pn	Pn	07 00 45.1	-1.3
PALC				*e*Sn	Sn	07 01 07.4	-2.7
	18nm,0.2s						
PALC	**Alcoutim**	**1.78**	**70**	*e*Pn	Pn	07 00 45.1	-1.3
PALC				*e*Sn	Sn	07 01 07.4	-2.7
	18nm,0.2s						
PBEJ	**Beja**	**1.78**	**50**	*e*Pn	Pn	07 00 45.1	-1.3
PBEJ				*e*Sn	Sn	07 01 07.6	-2.5
	10nm,0.1s						
PBEJ	**Beja**	**1.78**	**50**	*e*Pn	Pn	07 00 45.1	-1.3
PBEJ				*e*Sn	Sn	07 01 07.6	-2.5
	10nm,0.1s						
MOE	**Montemor**	**1.91**	**30**	*e*Pn	Pn	07 00 46.9	-1.3
MOE				*e*Sn	Sn	07 01 10.6	-2.7
PLOU	**Loures**	**2.03**	**10**	*e*Pn	Pn	07 00 48.4	-1.5
PLOU				*e*Sn	Sn	07 01 13.5	-2.9
	21nm,0.1s						
PLOU	**Loures**	**2.03**	**10**	*e*Pn	Pn	07 00 48.4	-1.5
PLOU				*e*Sn	Sn	07 01 13.5	-2.9
	21nm,0.1s						
EMIN	**Mina Concepcio**	**2.49**	**68**	Pn	Pn	07 00 54.3	-2.1
	1.5nm,0.2s,SNR=7.9						
EMIN				Sn	Sn	07 01 24.2	-3.7
	6.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.49**	**68**	Pn	Pn	07 00 54.3	-2.1
	0.7nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	07 01 24.2	-3.7
	1.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.77**	**47**	Pn	Pn	07 00 58.3	-2.1
	1.3nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	07 01 31.1	-4.0
	14nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**2.77**	**47**	Pn	Pn	07 00 58.3	-2.1
	1.6nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	07 01 31.1	-4.0
	10nm,0.1s,SNR=7.9						
ESPR	**Espera**	**2.99**	**89**	Pn	Pn	07 01 00.8	-2.8
	9.2nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	07 01 35.5	-5.2
	38nm,0.2s,SNR=7.9						
ESPR	**Espera**	**2.99**	**89**	Pn	Pn	07 01 00.8	-2.8
	9.4nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	07 01 35.5	-5.2
	38nm,0.2s,SNR=7.9						
PCBR	**Castelo Branco**	**3.39**	**29**	*e*Pn	Pn	07 01 07.5	-1.8
PCBR				*e*Sn	Sn	07 01 46.1	-4.7
	2.4nm,0.3s						
PCBR	**Castelo Branco**	**3.39**	**29**	*e*Pn	Pn	07 01 07.5	-1.8
PCBR				*e*Sn	Sn	07 01 46.1	-4.7
	2.4nm,0.3s						
ECAB	**El Cabril**	**3.52**	**69**	Pn	Pn	07 01 08.9	-2.3
	1.2nm,0.2s,SNR=7.9						
ECAB	**El Cabril**	**3.52**	**69**	Pn	Pn	07 01 08.9	-2.3
	0.6nm,0.1s,SNR=7.9						
MTE	**Manteigas**	**3.86**	**24**	*e*Pn	Pn	07 01 13.6	-2.4
MTE				*e*Sn	Sn	07 01 57.0	-5.7
	4.5nm,0.5s						
MTE	**Manteigas**	**3.86**	**24**	*e*Pn	Pn	07 01 13.6	-2.4
MTE				*e*Sn	Sn	07 01 57.0	-5.7
	4.5nm,0.5s						
EMIJ	**Mijas**	**3.88**	**93**	Sn	Sn	07 01 56.7	-6.5
	3.3nm,0.4s,SNR=4.0						
EMIJ	**Mijas**	**3.88**	**93**	Sn	Sn	07 01 56.0	-7.2
	4.6nm,0.4s,SNR=4.0						
PVIS	**Viseu**	**4.05**	**19**	*e*Pn	Pn	07 01 16.0	-2.7
PVIS				*e*Sn	Sn	07 02 01.7	-5.9
	4.5nm,0.1s						
PVIS	**Viseu**	**4.05**	**19**	Pn	Pn	07 01 16.0	-2.7
PVIS				Sn	Sn	07 02 01.7	-5.9
	2.2nm,0.1s						
EADA	**Adamuz**	**4.18**	**71**	Pn	Pn	07 01 18.0	-2.6
	1.5nm,0.2s,SNR=7.9						
EADA				Sn	Sn	07 02 04.6	-6.4
	3.4nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**4.18**	**71**	Pn	Pn	07 01 18.0	-2.6
	0.5nm,0.1s,SNR=7.9						
EADA				Sn	Sn	07 02 04.6	-6.3
	4.9nm,0.2s,SNR=7.9						
PVRL	**Vila Real**	**4.62**	**18**	*e*Pn	Pn	07 01 23.8	-3.0
PVRL				*e*Sn	Sn	07 02 15.4	-6.7
	6.0nm,0.2s						
PVRL	**Vila Real**	**4.62**	**18**	Pn	Pn	07 01 23.8	-3.0
PVRL				Sn	Sn	07 02 15.4	-6.7
	3.0nm,0.2s						
ELOB	**Lobios**	**5.12**	**13**	Pn	Pn	07 01 30.2	-3.6
ELOB				Sn	Sn	07 02 25.7	-8.9
ELOB	**Lobios**	**5.12**	**13**	Pn	Pn	07 01 30.2	-3.6
	2.9nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	07 02 26.4	-8.2
	2.2nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**5.12**	**13**	Pn	Pn	07 01 30.2	-3.6
	0.7nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	07 02 25.7	-8.9
	2.2nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.23**	**56**	Pn	Pn	07 01 32.4	-3.0
	1.1nm,0.1s,baz=243,slow=13,SNR=7.9						
ESDC				Sn	Sn	07 02 31.5	-5.8
	2.2nm,0.2s,baz=240,slow=23,SNR=7.9						
ESDC	**Sonseca Array**	**5.23**	**56**	Pn	Pn	07 01 32.4	-3.0
	1.1nm,0.1s,SNR=7.9						
ESDC				Sn	Sn	07 02 31.5	-5.8
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.27**	**78**	Pn	Pn	07 01 32.3	-3.7
EQES				Sn	Sn	07 02 31.3	-7.1
EQES	**Quesada**	**5.27**	**78**	Pn	Pn	07 01 32.3	-3.7
	1.1nm,0.4s,SNR=7.9						
EQES				Sn	Sn	07 02 31.3	-7.1
	1.5nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.27**	**78**	Pn	Pn	07 01 32.3	-3.7
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	Sn	07 02 31.3	-7.1
	1.7nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.39**	**23**	*e*Pn	Pn	07 01 34.6	-3.0
PBRG				*e*Sn	Sn	07 02 33.6	-7.8
	2.4nm,0.2s						
PBRG	**Braganca**	**5.39**	**23**	Pn	Pn	07 01 34.6	-3.0
PBRG				Sn	Sn	07 02 33.6	-7.8
	1.2nm,0.2s						
ECAL	**Calabor**	**5.51**	**23**	Pn	Pn	07 01 36.5	-2.9
	1.8nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	07 02 37.2	-7.3
	6.5nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**5.51**	**23**	Pn	Pn	07 01 36.5	-2.9
	1.4nm,0.1s,SNR=7.9						
ECAL				Sn	Sn	07 02 37.2	-7.3
	4.7nm,0.3s,SNR=7.9						
EINC	**Incio**	**6.03**	**16**	Pn	Pn	07 01 42.7	-3.9
	1.6nm,0.2s,SNR=7.9						
EINC				Sn	Sn	07 02 48.9	-8.4
	2.1nm,0.4s,SNR=7.9						
EINC	**Incio**	**6.03**	**16**	Pn	Pn	07 01 42.7	-3.9
	SNR=7.9						
EMAZ	**Mazaricos**	**6.08**	**4**	Pn	Pn	07 01 42.4	-5.0
	1.3nm,0.1s,SNR=7.9						
EMAZ				Sn	Sn	07 02 49.6	-9.1
	6.2nm,0.4s,SNR=7.9						
EMAZ	**Mazaricos**	**6.08**	**4**	Pn	Pn	07 01 42.3	-5.1
	1.5nm,0.1s,SNR=7.9						
EPON	**Pontenova**	**6.71**	**15**	Pn	Pn	07 01 52.3	-3.9
	2.8nm,0.4s,SNR=4.0						
EPON	**Pontenova**	**6.71**	**15**	Pn	Pn	07 01 52.3	-3.9
	1.1nm,0.1s,SNR=4.0						

*MOS **06** 07:08:53.8±1.5, 84.94N×97.93E, h10km, mb4.4/4, Error ellipse: s-maj=99.9km s-min=12.3km az=89.4*
*BJI **06** 07:08:53.9, 84.90N×98.60E, h10km, mB5.1, mb4.5, Ms4.5, Msz4.3*
*IDC **06** 07:08:54.2±0.7, 84.94N×98.85E, mb4.1/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.1/14, ML3.6/1, Error ellipse: s-maj=22.0km s-min=13.6km az=132.0*
*NEIC **06** 07:08:55.9±0.4, 84.89N×98.56E, h10km, mb4.3/8, Error ellipse: s-maj=11.9km s-min=7.4km az=142.0*
ISC 06 07:08:54.4±0.3, 84.92N±0.06×98.9E±0.8, h10km, n43, σ1§02/43, mb4.1/22, MS4.3/2, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**12.01**	**292**	*e*P	P	**07 11 44.0**	**-4.3**
TIXI	**Tiksi**	**14.26**	**140**	*e*P	P	**07 12 20.0**	**+2.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.2s						
ARCES	**ARCESS Array B**	**19.73**	**267**	P	P	**07 13 22.9**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=23,slow=9.2,SNR=7.4						
SUMG	**Summit**	**21.57**	**326**	*e*P	P	**07 13 47.6**	**+2.1**
	comp=Z,68nm,1.7s,mb4.8						
INK	**Inuvik**	**25.25**	**44**	P	P	**07 14 21.5**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**25.25**	**44**	P	P	**07 14 21.4**	**+0.1**
	comp=Z,2.4nm,0.7s,mb3.8,baz=357,slow=11,SNR=9.7						
INK	**Inuvik**	**25.25**	**44**	*e*P	P	**07 14 22.6**	**+1.3**
	comp=Z,9.2nm,1.2s,mb4.2						
FINES	**FINESS Array B**	**27.61**	**262**	P	P	**07 14 42.2**	**-1.0**
	comp=Z,1.6nm,0.7s,mb3.8,baz=23,slow=14,SNR=6.3						
ILAR	**Eielson Array**	**27.84**	**57**	P	P	**07 14 45.0**	**-0.1**
	comp=Z,8.3nm,1.5s,mb4.1,baz=355,slow=6.5,SNR=7.1						
NOA	**NORSAR Array B**	**29.33**	**277**	P	P	**07 14 58.0**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.6,baz=9.5,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**32.04**	**29**	P	P	**07 15 21.1**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=353,slow=9.5,SNR=11						
YKA				PcP	PcP	07 18 10.3	-2.1
	comp=Z,0.3nm,0.7s,baz=338,slow=3.1,SNR=5.1						
BVAR	**Borovoye Array**	**32.75**	**212**	P	P	**07 15 28.5**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=11,slow=7.6,SNR=13						

MOY Mondy 33.41 178 eP P 07 15 34.1 -0.5
KURK Kurchatov 34.72 203 eP P 07 15 43.7 -2.2
KURK pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
KURK Kurchatov 34.72 203 eP P 07 15 43.7 -2.2
comp=Z,2.0nm,0.6s,mb4.2
FCC Fort Churchill 36.41 11 eP P 07 15 59.2 -1.0
SONM Songino Array 37.29 172 P P 07 16 07.7 0.0
comp=Z,3.7nm,0.8s,mb4.3,baz=344,slow=8.1,SNR=33
DPC Dobruska-Polom 39.45 269 eP P 07 16 35.0 +9.2
MOX Moxa 39.58 274 eP P 07 16 27.7 +0.8
MOX pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MOX Moxa 39.58 274 eP P 07 16 27.7 +0.8
comp=Z,6.0nm,0.9s,mb4.3
MOX Moxa 39.58 274 i P P 07 16 27.7 +0.8
comp=Z,logA/T=0.8,mb4.3
OKC Ostrava-Krasne 39.80 267 eP P 07 16 22.7 -6.0
NKC Novy Kostel 39.92 273 eP P 07 16 30.3 +0.6
SCHQ Schefferville 40.33 347 P P 07 16 33.4 +0.4
comp=Z,1.5nm,0.8s,mb3.8,baz=316,slow=8.7,SNR=3.6
SCHQ Schefferville 40.33 347 eP P 07 16 33.0 0.0
comp=Z,0.7nm,0.6s,mb3.6
KHC Kasperske Hory 40.91 271 eP P 07 16 39.0 +1.2
GERES GERESS Array B 41.18 271 P P 07 16 40.8 +0.7
comp=Z,1.2nm,0.8s,mb3.6,baz=16,slow=9.7,SNR=9.0
WMQ Urumqi 41.36 192 eP P 07 16 42.0 +0.4
WMQ AP pP 07 16 46.0 +1.4
WMQ XP sP 07 16 49.0 +3.2
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.3
WMQ AMB AMB
comp=Z,167nm,5.2s
WMQ LR LR
comp=N,267nm,20.4s,MS4.3
WMQ LR LR
comp=E,254nm,18.8s,MS4.3
WMQ LR LR
comp=Z,323nm,20.4s,MS4.2
FRU Bishkek 42.74 207 eP P 07 16 53.0 +0.3
KIV Kislovodsk 43.56 241 eP P 07 16 59.5 +0.2
KIV Kislovodsk 43.56 241 eP P 07 16 59.5 +0.1
comp=Z,17nm,1.2s,mb4.7
HHC Hu-ho-hao-te 44.36 166 eP P 07 17 07.2 +1.3
HHC PP PP 07 18 51.9 +1.1
HHC AMB AMB
comp=Z,12nm,0.9s,mb4.6
HHC LR LR
comp=N,256nm,23.8s,MS4.3
HHC LR LR
comp=E,323nm,20.8s,MS4.3
HHC LR LR
comp=Z,521nm,19.6s,MS4.5
BMO Blue Mountains 49.54 34 eP P 07 17 47.5 +0.9
comp=Z,1.2nm,0.7s,mb4.0
MCMT McKenzie Canyo 49.77 29 eP P 07 17 48.4 +0.1
BW06 Boulder Array 51.97 26 eP P 07 18 05.0 -0.1
comp=Z,9.9nm,1.6s,mb4.5
PDAR Pinedale Array 51.97 26 P P 07 18 04.8 -0.3
comp=Z,4.5nm,1.3s,mb4.2,slow=4.4,SNR=8.7
NJ2 Nanjing 53.33 159 eP P 07 18 12.2 -3.2
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NVAR Mina Array Bea 55.89 35 P P 07 18 33.4 -0.7
comp=Z,0.2nm,0.4s,mb3.5,baz=22,slow=3.7,SNR=3.9
MSU Marysvale 56.10 29 eP P 07 18 35.6 +0.1
PV10 Paradox Valley 56.37 26 eP P 07 18 38.6 +1.1
PV01 Paradox Valley 56.62 26 eP P 07 18 39.0 -0.3
TXAR Lajitas Array 65.57 22 P P 07 19 38.6 -1.2
comp=Z,1.7nm,0.6s,mb4.3,baz=9.2,slow=3.4,SNR=32
CMAR Chiang Mai Arr 66.54 180 P P 07 19 45.2 -1.0
comp=Z,0.8nm,0.4s,mb4.1,baz=352,slow=6.9,SNR=4.5

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*MOS **06** 07:12:09.3±0.9, 84.79N×99.87E, h10km, mb4.7/37, MS4.3/7, Error ellipse: s-maj=58.1km s-min=7.7km az=89.1*

*IDC **06** 07:12:09.8±0.6, 84.90N×99.52E, mb4.2/13, mb1 4.4/14, mb1mx4.3/18, mbtmp4.2/14, ML3.5/1, MS4.3/4, Ms1 4.3/4, ms1mx3.9/21, Error ellipse: s-maj=21.3km s-min=13.6km az=141.0*

*BJI **06** 07:12:09.3, 84.90N×98.90E, h10km, mB5.4, mb4.7, Ms4.7, Msz4.4*

*NEIC **06** 07:12:11.8±0.3, 84.92N×98.93E, h10km, mb4.6/43, Error ellipse: s-maj=8.1km s-min=4.2km az=152.0*

ISC 06 07:12:11.0±2.2**, 84.89N**±0.04×**99.3E**±0.4**, h18**km±15km**, h14**km±2.1km**:pP-P, n157,** σ0**s**97/164**, mb4.5**/69**, MS4.3**/13**, 10C-7D, North of Severnaya Zemlya**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBS Kingsbay 12.05 292 eP P 07 14 59.7 -4.9
TIXI Tiksi 14.21 140⇑iP P 07 15 35.3 +2.3
TIXI pmax pmax
comp=Z,14nm,1.7s
TIXI MLR MLR
comp=Z,500nm,20.0s
DAG Danmarks Havn 16.36 314 eP P 07 15 58.0 -2.9
DAG Danmarks Havn 16.36 314 i P P 07 15 58.0 -2.9
ARCES ARCESS Array B 19.76 268 P P 07 16 40.0 -2.4
comp=Z,0.2nm,0.3s,slow=11,SNR=6.4
ARCES LR LR 07 24 42.8
comp=Z,844nm,19.2s,baz=33,slow=38
APA Apatity 20.97 258⇑iP P 07 17 06.5 +11
APA eS S 07 21 00.0 +17
APA pmax pmax
comp=Z,16nm,1.0s
SUMG Summit 21.62 327 eP P 07 17 00.2 -1.4
comp=Z,141nm,1.9s,mb5.1
YAK Yakutsk 23.82 144 eP P 07 17 22.0 -1.0
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.2
INK Inuvik 25.26 44 eP P 07 17 37.5 +0.6
INK pmax pmax
comp=Z,19nm,1.3s
INK Inuvik 25.26 44 P P 07 17 36.4 -0.4
comp=Z,7.1nm,0.9s,mb4.2,baz=359,slow=16,SNR=15
INK Inuvik 25.26 44 eP P 07 17 37.5 +0.7
comp=Z,19nm,1.3s,mb4.5
JOF Joensuu 25.72 258 ep P 07 17 37.8 -3.5
comp=Z,16nm,0.8s,mb4.6
IMA Indian Mountai 26.02 63 eP P 07 17 47.3 +3.2
IMA pmax pmax
comp=Z,138nm,1.8s,mb5.2
IMA Indian Mountai 26.02 63 eP P 07 17 47.2 +3.2
comp=Z,138nm,1.8s,mb5.2
KAF Kangasniemi 26.96 263 ep P 07 17 48.9 -3.8
comp=Z,4.7nm,1.0s,mb4.0
KAF Kangasniemi 26.96 263 eP P 07 17 48.9 -3.8
KAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
SOKR Solikamsk 27.01 229⇑iP P 07 17 48.8 -4.4
SOKR i S S 07 22 20.5 -7.5
SOKR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
SOKR MLR MLR
comp=Z,580nm,18.0s,MS4.2
BOD Bodaibo 27.40 163 eP P 07 17 53.7 -3.1
FINES FINESS Array B 27.64 263 P P 07 17 58.1 -0.8
comp=Z,7.0nm,0.9s,mb4.3,baz=27,slow=13,SNR=13
MA2 Magadan 27.65 121 eP P 07 17 58.5 -0.5
MA2 pmax pmax
comp=Z,9.0nm,1.4s,mb4.2
MA2 MLR MLR
comp=Z,300nm,15.0s,MS4.0
COLA College 27.66 58 eP P 07 18 01.8 +2.8
COLA pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
COLA College 27.66 58 eP P 07 18 01.8 +2.8
comp=Z,4.8nm,1.0s,mb4.1
ILAR Eielson Array 27.83 57 P P 07 18 00.7 +0.1
comp=Z,2.2nm,0.8s,mb3.8,baz=349,slow=8.6,SNR=16
ILAR PcP PcP 07 21 14.8 -2.1
comp=Z,1.0nm,0.8s,baz=329,slow=3.6,SNR=7.7
ILAR LR LR 07 28 12.0
comp=Z,410nm,21.2s,MS4.0,baz=183,slow=35
NOA NORSAR Array B 29.37 277 P P 07 18 15.2 +0.7
comp=Z,1.5nm,0.9s,mb3.7,baz=18,slow=9.0,SNR=3.4
VSU Vasula 30.53 261⇓iP P 07 18 24.2 -0.6
YKA Yellowknife Ar 32.06 29 P P 07 18 37.0 -1.2
comp=Z,1.4nm,0.9s,mb3.8,baz=350,slow=8.3,SNR=16
YKA PcP PcP 07 21 26.2 -1.5
comp=Z,0.6nm,0.7s,baz=343,slow=3.3,SNR=11
YKA LR LR 07 31 52.3
comp=Z,864nm,19.0s,MS4.5,baz=355,slow=37
YKA Yellowknife Ar 32.06 29 P P 07 18 37.0 -1.2
YKA PcP PcP 07 21 26.2 -1.5
YKA LR LR 07 31 52.3
CHKZ Chkalovo 32.07 213 i P P 07 18 37.5 -1.0
CHKZ pmax pmax
comp=Z,12nm,1.2s,mb4.6
BVA0 Borovoye Array 32.73 213 i P P 07 18 43.1 -1.1
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
OBN Obninsk 32.99 250⇑iP P 07 18 45.3 -1.1
OBN e 07 21 25.4
OBN eS S 07 23 58.5 -4.3
OBN eSS SS 07 26 03.6 +0.7
OBN pmax pmax
comp=Z,35nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.1
OBN Obninsk 32.99 250 eP P 07 18 45.1 -1.3
comp=Z,46nm,1.7s,mb5.1
MOY Mondy 33.37 178 eP P 07 18 50.1 +0.3
MOY pmax pmax
comp=Z,19nm,1.8s,mb4.7
TLY Talaya 33.37 175⇑iP P 07 18 48.8 -1.0
TLY pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,300nm,19.0s,MS4.0
TLY Talaya 33.37 175 eP P 07 18 47.7 -2.1
comp=Z,6.8nm,1.1s,mb4.5
ZAK Zakamensk 34.67 176 eP P 07 19 00.6 -0.4
KURK Kurchatov 34.70 203⇑iP P 07 19 00.2 -1.0
KURK Kurchatov 34.70 203 eP P 07 18 59.7 -1.5
comp=Z,3.6nm,0.8s,mb4.3
FCC Fort Churchill 36.44 12 eP P 07 19 14.2 -1.7
FCC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FCC Fort Churchill 36.44 12 eP P 07 19 14.2 -1.7
comp=Z,3.3nm,0.9s,mb4.3
BSEG Bad Segeberg 36.47 276 eP P 07 19 16.9 +0.6
ULN Ulaanbaatar 37.23 171⇓iP P 07 19 23.1 +0.4
ULN Ulaanbaatar 37.23 171 eP P 07 19 22.5 -0.2
comp=Z,4.3nm,0.9s,mb4.3
SONM Songino Array 37.25 172 P P 07 19 23.5 +0.6
comp=Z,9.2nm,0.8s,mb4.7,baz=347,slow=8.4,SNR=44
MKAR Makanchi Array 38.50 199 i P P 07 19 32.0 -1.4
MKAR pmax pmax
comp=Z,17nm,1.2s
CLZ Clausthal 38.54 275 eP P 07 19 34.6 +0.9
comp=Z,8.0nm,0.9s,mb4.5
CLL Collm 38.84 273 eP P 07 19 36.0 -0.2
CLL e 07 19 47.0
CLL Collm 38.84 273 P P 07 19 36.0 -0.2
CLL e 07 19 47.0
CLL ePP PP 07 21 04.0 -5.1
KSP Ksiaz 39.00 269 eP P 07 19 31.6 -5.9
KSP e*PP pP 07 19 37.3 -5.5
KSP Ksiaz 39.00 269 eP P 07 19 37.4 -0.1
BRG Berggiesshubel 39.18 272 eP P 07 19 39.1 0.0
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BRG Berggiesshubel 39.18 272 eP P 07 19 39.1 0.0
comp=Z,5.7nm,1.1s,mb4.2
OJC Ojcow 39.31 266 eP P 07 19 39.9 -0.2
LVV L'vov 39.33 261 eP P 07 19 40.0 -0.2
PVCC Panska Ves 39.47 271 eP P 07 19 41.3 -0.1
DPC Dobruska-Polom 39.49 269 eP P 07 19 41.5 -0.1
MOX Moxa 39.62 274 eP P 07 19 42.9 +0.2
MOX pmax pmax
comp=Z,15nm,1.1s,mb4.6
MOX Moxa 39.62 274 eP P 07 19 42.9 +0.2
comp=Z,15nm,1.1s,mb4.6
MOX Moxa 39.62 274 i P P 07 19 42.9 +0.2
comp=Z,logA/T=1.1,mb4.6
YSS Yuzh-Sakhalins 39.63 132⇓iP P 07 19 43.8 +1.0
YSS pmax pmax
comp=Z,32nm,1.7s,mb4.8
YSS MLR MLR
comp=Z,400nm,15.0s,MS4.4
KWP Kalwaria 39.63 263 eP P 07 19 42.9 +0.1
OKC Ostrava-Krasne 39.83 267 eP P 07 19 43.1 -1.3
MORC Moravsky Berou 39.95 268 eP P 07 19 44.9 -0.5
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MORC Moravsky Berou 39.95 268 eP P 07 19 44.9 -0.5
comp=Z,5.2nm,1.0s,mb4.2
NKC Novy Kostel 39.95 273 eP P 07 19 45.8 +0.4
PRU Pruhonice 40.01 271 eP P 07 19 46.4 +0.5
SCHQ Schefferville 40.37 348 P P 07 19 46.8 -2.0
comp=Z,97nm,2.2s,mb5.2
CRVS Cervenica-Dubn 40.46 264 eP P 07 19 55.2 +5.6
CRVS Cervenica-Dubn 40.46 264 esP sP 07 19 55.2 -1.9
GRA1 Grafenberg Arr 40.60 274 eP P 07 19 51.5 +0.8
comp=Z,9.0nm,0.8s,mb4.5
GRF Grafenberg Arr 40.60 274 eP P 07 19 51.5 +0.8
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
GRF Grafenberg Arr 40.60 274 eP P 07 19 51.5 +0.8
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
GRF Grafenberg Arr 40.60 274 eP P 07 19 51.5 +0.8
comp=Z,9.0nm,0.8s,mb4.5
GIVF Givet 40.76 280 eP P 07 19 52.2 +0.1
BAIF Baives 40.86 281 eP P 07 19 53.1 +0.2
comp=Z,23nm,1.1s,mb4.4
BAIF Baives 40.86 281 eP P 07 19 53.1 +0.2
BAIF pmax pmax
comp=Z,12nm,1.1s,mb4.4
KHC Kasperske Hory 40.94 272⇓iP P 07 19 54.1 +0.5
KHC Kasperske Hory 40.94 272 eP P 07 19 54.0 +0.4
WET Wettzell 40.99 272 eP P 07 19 54.7 +0.7
WET pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
WET Wettzell 40.99 272 eP P 07 19 54.7 +0.7
comp=Z,3.0nm,0.8s,mb4.0
VYHS Vyhne 41.10 266 eP P 07 19 55.5 +0.6
MDJ Mudanjiang 41.19 147 P P 07 19 55.8 +0.1
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.2
MDJ AMB AMB
comp=Z,255nm,5.0s
GEC2 GERESS Array S 41.22 271 eP P 07 19 56.7 +0.9
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
GEC2 GERESS Array S 41.22 271 eP P 07 19 56.7 +0.9
comp=Z,3.0nm,0.9s,mb3.9
GERES GERESS Array B 41.22 271 P P 07 19 56.7 +0.9
comp=Z,3.1nm,0.9s,mb4.0,baz=9.5,slow=8.1,SNR=20
WMQ Urumqi 41.34 193⇓iP P 07 19 57.2 +0.3
WMQ AP pP 07 20 01.0 -1.2
WMQ XP sP 07 20 04.0 -0.4
WMQ PP PP 07 21 35.0 -0.5
WMQ PCS 07 25 46.0
WMQ S S 07 26 11.0 +0.8
WMQ XS 07 26 18.0
WMQ SS SS 07 29 11.0 +1.6
WMQ AMB AMB
comp=Z,16nm,1.3s,mb4.5
WMQ AMB AMB
comp=Z,306nm,5.4s
WMQ LR LR
comp=N,1μm,22.4s,MS4.8
WMQ LR LR
comp=E,915nm,24.2s,MS4.8
WMQ LR LR
comp=Z,957nm,22.5s,MS4.6
EDM Edmonton 41.38 29 eP P 07 19 57.1 0.0
PSZ Piszkesteto 41.58 265 eP P 07 19 58.7 +0.1
BFO Black Forest 42.21 277 eP P 07 20 04.1 +0.3
BFO pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
BFO Black Forest 42.21 277 eP P 07 20 04.1 +0.3
comp=Z,5.0nm,1.0s,mb4.1
CDF Champ du Feu 42.22 278 eP P 07 20 04.4 +0.5
comp=Z,35nm,1.3s,mb4.5
CDF Champ du Feu 42.22 278 eP P 07 20 04.4 +0.5
CDF pmax pmax
comp=Z,18nm,1.3s,mb4.5
HAU Haudompre 42.71 279 eP P 07 20 08.3 +0.5
comp=Z,25nm,0.9s,mb4.6
HAU Haudompre 42.71 279 eP P 07 20 08.3 +0.5
HAU pmax pmax
comp=Z,13nm,0.9s,mb4.7
HINF Hinteralfeld 42.85 278 eP P 07 20 09.1 +0.1
AAK Ala-Archa 42.93 207 i P P 07 20 09.9 +0.2
AAK pmax pmax
comp=Z,15nm,1.7s,mb4.5
AAK MLR MLR
comp=Z,1μm,19.0s,MS4.8
AAK Ala-Archa 42.93 207 eP P 07 20 09.7 -0.1
comp=Z,19nm,1.4s,mb4.6
KBA Koelnbreinsper 43.00 271⇑iP P 07 20 12.0 +1.7
comp=Z,12nm,1.0s,mb4.6
KBA Koelnbreinsper 43.00 271⇑iP P 07 20 12.0 +1.7
KBA pmax pmax
comp=Z,12nm,1.0s,mb4.6
OBKA Obir 43.46 270⇑iP P 07 20 15.4 +1.4
comp=Z,15nm,1.2s,mb4.6
KIV Kislovodsk 43.57 241d iP P 07 20 15.0 +0.1
KIV eS S 07 26 38.3 -4.5
KIV pmax pmax
comp=Z,22nm,1.0s,mb4.8
KIV Kislovodsk 43.57 241 eP P 07 20 15.2 +0.3
comp=Z,20nm,0.9s,mb4.8
BRMO Bormio 43.86 274 eP P 07 20 19.3 +2.0
SSF Saint Saulge 43.89 281 eP P 07 20 17.2 -0.3
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
SSF Saint Saulge 43.89 281 eP P 07 20 17.2 -0.3
comp=Z,9.0nm,1.0s,mb4.5
CABF La Chapelle 44.11 279 eP P 07 20 19.7 +0.4
AVF Avril sur Loir 44.18 281 eP P 07 20 19.4 -0.4
comp=Z,28nm,1.3s,mb4.5
AVF Avril sur Loir 44.18 281 eP P 07 20 19.4 -0.4
AVF pmax pmax
comp=Z,14nm,1.3s,mb4.5
SOC Sochi 44.18 244 eP P 07 20 18.3 -1.6
SOC e 07 22 04.3
SOC ePPP PPP 07 22 39.2 -3.3
SOC eS S 07 26 50.2 -1.4
SOC eSS SS 07 30 10.2 +8.7
SOC eSSS SSS 07 30 52.2 -4.1
SOC pmax pmax
comp=E,42nm,0.9s
SOC pmax pmax
comp=Z,31nm,0.9s,mb5.0
SOC pmax pmax
comp=N,10.0nm,0.7s
SOC MLR MLR
comp=Z,1μm,20.0s,MS4.8
SOC MLR MLR
comp=N,708nm,19.0s,MS4.6
SOC MLR MLR
comp=E,359nm,22.0s,MS4.6
HHC Hu-ho-hao-te 44.32 167 eP P 07 20 21.3 +0.2
HHC XP sP 07 20 27.7 -0.9
HHC PP PP 07 22 04.6 -1.3
HHC SCP 07 25 56.4
HHC eS S 07 26 53.5 -0.2
HHC SCS ScS 07 30 16.1 -0.2
HHC AMB AMB
comp=Z,7.0nm,0.6s,mb4.6
HHC LR LR
comp=N,230nm,18.4s,MS4.3
HHC LR LR
comp=E,323nm,21.4s,MS4.3
HHC LR LR
comp=Z,427nm,19.6s,MS4.4
ULM Lac du Bonnet 44.93 14 P P 07 20 25.5 -0.3
comp=Z,1.2nm,0.5s,mb4.0,baz=12,slow=8.5,SNR=3.2
ULM LR LR 07 38 46.9
comp=Z,452nm,19.8s,MS4.4,baz=294,slow=36
ULM Lac du Bonnet 44.93 14 P P 07 20 25.5 -0.3
comp=Z,1.9nm,0.7s,mb4.0
LPL La Plagne 45.14 278 eP P 07 20 28.3 +0.7
LPG La Plagne 45.16 278 eP P 07 20 28.5 +0.8
GTA Gaotai 45.63 179 eP P 07 20 32.3 +0.8
GTA AP pP 07 20 35.7 -1.1
GTA XP sP 07 20 38.3 -0.7
GTA PP PP 07 22 21.1 +2.1
GTA S S 07 27 17.6 +5.0
GTA XS 07 27 24.9
GTA SS SS 07 30 34.6 +6.2
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,506nm,5.3s
GTA LR LR
comp=N,370nm,19.8s,MS4.5
GTA LR LR
comp=E,442nm,17.9s,MS4.5
GTA LR LR
comp=Z,419nm,18.6s,MS4.4
ORIF Oris-en-Rattie 45.81 278 eP P 07 20 33.4 +0.5
RJF Les Rejaudoux 45.81 283 eP P 07 20 32.7 -0.2
comp=Z,16nm,0.8s,mb4.7
RJF Les Rejaudoux 45.81 283 eP P 07 20 32.7 -0.2
RJF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SEI Scarperia 46.18 273 eP P 07 20 37.5 +1.7
VMG Vicchio 46.25 273 eP P 07 20 37.9 +1.5
PGD Poggio Sodo 46.32 273 eP P 07 20 39.7 +2.8
LASF Ste Croix 46.83 280 eP P 07 20 41.5 +0.6
comp=Z,41nm,1.3s,mb4.9
GNI Garni 47.19 238 eP P 07 20 44.1 +0.2
GNI pmax pmax
comp=Z,10.0nm,1.3s
CHMT Chamberlain Mo 47.68 30 eP P 07 20 47.8 +0.1
MSO Missoula 47.74 31 eP P 07 20 48.1 0.0
comp=Z,12nm,1.2s,mb4.8
HRY Holter Researc 47.95 29 eP P 07 20 50.6 +0.8
BMO Blue Mountains 49.55 34 eP P 07 21 02.7 +0.6
comp=Z,4.9nm,1.0s,mb4.5
MCMT McKenzie Canyo 49.78 30 eP P 07 21 04.6 +0.7
QLMT Earthquake Lak 49.84 28 eP P 07 21 03.9 -0.5
HLID Hailey 50.98 31 eP P 07 21 14.4 +1.4
comp=Z,2.0nm,0.9s,mb4.0
ESDC Sonseca Array 51.88 287 P P 07 21 19.2 -0.7
comp=Z,1.0nm,0.7s,mb3.9,baz=0.1,slow=9.0,SNR=4.3
BW06 Boulder Array 51.98 27 eP P 07 21 20.2 -0.5
comp=Z,11nm,1.4s,mb4.6
PDAR Pinedale Array 51.98 27 P P 07 21 20.4 -0.2
comp=Z,1.1nm,0.7s,mb3.9,slow=3.0,SNR=9.2
HWUT Hardware Ranch 53.05 29 eP P 07 21 28.8 +0.1
comp=Z,14nm,1.1s,mb4.8
NJ2 Nanjing 53.29 159 eP P 07 21 30.8 +0.3
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
WHN Wuhan 54.66 164 eP P 07 21 41.4 +0.8
NVAR Mina Array Bea 55.90 35 P P 07 21 49.8 +0.3
comp=Z,2.1nm,1.0s,mb4.1,baz=2.9,slow=3.1,SNR=7.7
MNV Mina 55.91 35 eP P 07 21 50.5 +1.0
MNV pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MNV Mina 55.91 35 eP P 07 21 50.5 +0.9
comp=Z,5.0nm,1.1s,mb4.5
MSU Marysvale 56.11 30 eP P 07 21 51.5 +0.5
MVU Marysvale 56.12 30 eP P 07 21 51.4 +0.4
comp=Z,8.0nm,1.0s,mb4.7
PV10 Paradox Valley 56.38 27 eP P 07 21 53.4 +0.5
PV01 Paradox Valley 56.64 26 eP P 07 21 54.6 -0.3
ARUT Antelope Range 56.78 31 eP P 07 21 55.9 +0.1
GYA Guiyang 58.59 172⇓iP P 07 22 08.2 -0.5
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WUAZ Wupatki 59.13 29 eP P 07 22 12.4 0.0
comp=Z,83nm,1.0s,mb5.7
ANMO Albuquerque 59.90 24⇑iP P 07 22 17.1 -0.5
ANMO Albuquerque 59.90 24 eP P 07 22 16.9 -0.7
comp=Z,7.9nm,1.0s,mb4.7
WMOK Wichita Mounta 60.35 17 eP P 07 22 19.0 -1.8
WMOK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
WMOK Wichita Mounta 60.35 17 eP P 07 22 19.0 -1.7
comp=Z,6.5nm,1.0s,mb4.6
OXF Oxford 60.76 8 eP P 07 22 22.2 -1.3
OXF pmax pmax
comp=Z,26nm,0.9s,mb5.4
OXF Oxford 60.76 8 eP P 07 22 22.2 -1.4
comp=Z,26nm,0.9s,mb5.4
JCT Junction City 64.57 18 eP P 07 22 47.4 -1.4
JCT pmax pmax
comp=Z,11nm,1.0s,mb4.8
JCT Junction City 64.57 18 eP P 07 22 47.4 -1.3
comp=Z,11nm,1.0s,mb4.8
TXAR Lajitas Array 65.59 22 P P 07 22 54.2 -1.2
comp=Z,3.4nm,0.7s,mb4.5,baz=357,slow=3.5,SNR=28
TXAR Lajitas Array 65.59 22 P P 07 22 54.2 -1.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	66.51	180	P	P	07 23 00.2	-1.2
	comp=Z,1.7nm,0.5s,mb4.3,baz=351,slow=8.1,SNR=9.5						
SDV	Santo Domingo	86.25	350	eP	P	07 24 52.5	+0.3
	comp=Z,11nm,1.2s,mb5.0						

*NEIC **06** 07:28:38.6±0.8,20.03S×66.75W,h239km±9km,mb4.0/1, Error ellipse: s-maj=15.2km s-min=10.6km az=74.0*

*IDC **06** 07:28:38.2±1.2,20.05S×66.78W,h231km±12km,mb3.0/3, mb1 3.3/6,mb1mx3.1/17,mbtmp3.7/6,Error ellipse: s-maj=25.7km s-min=10.2km az=96.0*

ISC 06 07:28:37.8±0.9**,20.04S**±0.07×**66.8W**±0.1**,h245**km±10km**, n11,**σ**0^{s}95**/16**,mb3.4**/3**,1D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	3.25	218	P	P	07 29 33.3	+0.2
	4.8nm,0.3s,baz=21,slow=7.0,SNR=38						
LVC				S	S	07 30 15.1	-1.1
	5.6nm,0.3s,baz=178,slow=18,SNR=36						
LVC	Limon Verde	3.25	218	⇓ePn	P	07 29 33.3	+0.1
LVC				eS	S	07 30 12.5	-3.7
LPAZ	La Paz	3.95	341	P	P	07 29 42.8	+1.5
	2.9nm,0.3s,baz=160,slow=9.4,SNR=70						
LPAZ				S	S	07 30 31.4	+0.8
	0.8nm,0.3s,baz=277,slow=15,SNR=12						
LPAZ	La Paz	3.95	341	eP	P	07 29 42.6	+1.3
LPAZ				eS	S	07 30 29.7	-0.9
ARE	Arequipa	5.72	308	eP	P	07 30 03.0	0.0
ARE				eS	S	07 31 09.0	-0.5
NNA	Nana	12.56	308	P	P	07 31 30.1	+0.6
BDFB	Brasilia	18.38	79	P	P	07 32 35.9	-1.0
	0.4nm,0.3s,baz=279,slow=9.1,SNR=5.7						
PLCA	Paso Flores	20.88	188	P	P	07 33 03.3	+1.5
	1.1nm,0.5s,baz=17,slow=7.2,SNR=2.8						
TXAR	Lajitas Array	60.62	323	P	P	07 38 24.8	-0.4
	0.1nm,0.4s,mb2.8,baz=158,slow=6.7,SNR=3.8						
CCM	Cathedral Cave	62.20	338	eP	P	07 38 34.1	-1.4
	2.0nm,0.6s,mb3.9						
YKA	Yellowknife Ar	90.50	340	P	P	07 41 13.1	+0.6
	0.3nm,0.5s,mb3.4,baz=127,slow=4.6,SNR=15						

*NIED **06** 07:50:00,38.80N×141.60E,h38km,Mw4.0 Best double couple: $M_0$1.01×10^{15} NP1:ϕ_s328°,δ72°,λ22°. NP2:ϕ_s231°, δ69°,λ161°.*

*JMA **06** 07:50:58.2,38.78N×141.62E,h67km±1km,M3.5 Broadband fault plane solution: P waves. NP1:ϕ_s320°, δ51°,λ34°. NP2:ϕ_s207°,δ64°,λ135°. Principal axes: T Plg49°, Azm167°; N Plg40°, Azm3°; P Plg8°, Azm266°;*

JMA Felt I J1.

ISC 06 07:50:58.4±1.6**,38.76N**±0.05×**141.7E**±0.1**,h62**km±10km**, n8,σ**0^s**44**/16**,4C-3D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.32	1	⇑P	P	07 51 09.1	+0.2
OFUJ				S	S	07 51 16.9	+0.2
JIO	Ouri	0.39	219	⇑P	P	07 51 09.9	+0.4
JIO				S	S	07 51 18.0	+0.3
JMK	Ichinoseki	0.39	299	⇑P	P	07 51 09.5	-0.1
JMK				S	S	07 51 17.7	-0.1
JOM	Ohasama	0.77	338	⇑P	P	07 51 13.4	-0.3
JOM				S	S	07 51 25.0	0.0
JOU	Okura	0.87	244	⇓P	P	07 51 15.0	0.0
JOU				S	S	07 51 27.6	+0.1
JYK	Kaneyama	1.03	279	⇓P	P	07 51 16.7	-0.4
JYK				S	S	07 51 31.0	0.0
JMM	Marumori	1.12	218	⇓P	P	07 51 17.8	-0.6
JMM				S	S	07 51 32.2	-1.1
MAT	Matsushiro	3.52	232	P	P	07 51 52.7	+0.7
MAT				S	S	07 52 33.5	+0.8

IDC 06 07:59:08.9±2.7**,84.98N**×**86.38E,mb3.4**/4**,mb1 3.7**/4**, mb1mx3.4**/17**,mbtmp3.4**/4**,Error ellipse: s-maj=118.9km s-min=26.1km az=89.0,North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	25.90	33	P	P	08 04 42.1	-1.3
	1.2nm,1.2s,slow=15,SNR=2.8						
YKA	Yellowknife Ar	32.43	18	P	P	08 05 39.3	-2.7
	0.1nm,0.4s,baz=355,slow=7.4,SNR=3.2						
SONM	Songino Array	37.64	158	P	P	08 06 25.0	-1.7
	0.6nm,0.9s,baz=344,slow=9.0,SNR=6.6						
TXAR	Lajitas Array	65.81	10	P	P	08 09 55.8	-1.7
	0.5nm,0.6s,baz=355,slow=2.6,SNR=6.4						

GUC 06 08:22:03.8±0.6**,25.91S**×**69.65W,h113**km±11km**,ML3.6, 1C-1D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	1.57	203	⇓iP	P	08 22 32.2	+0.1
CPCH				i S	S	08 22 53.1	-0.4
VACH	Vallenar	2.83	200	i S	S	08 23 22.1	-0.3
LCO	Las Campanas	3.23	197	eP	P	08 22 53.8	-0.1
LCO				i S	S	08 23 32.2	+0.3
LCO				AMP		08 23 44.6	
	comp=E,82nm,0.7s						
SPCH	San Pedro de A	3.27	24	⇑iP	P	08 22 54.7	+0.2
SPCH				i S	S	08 23 33.2	+0.3
SPCH				AMP		08 23 37.5	
	comp=N,209nm,0.6s						
LVC	Limon Verde	3.35	12	eP	P	08 22 55.6	0.0
LVC				i S	S	08 23 36.9	+2.0
LVC				AMP		08 23 41.7	
	comp=E,53nm,0.4s						

*NEIC **06** 08:23:05.6±0.3,57.79S×157.65E,h10km,mb4.8/11,Error ellipse: s-maj=12.4km s-min=7.1km az=70.0*

*BJI **06** 08:23:05.5,57.80S×157.60E,h10km,mB5.2,Ms4.9, Msz4.6*

*IDC **06** 08:23:11.8±4.4,57.80S×157.44E,h53km±38km,mb4.4/10, mb1 4.4/12,mb1mx4.3/15,mbtmp4.6/12,ML3.9/2,MS4.2/4, Ms1 4.1/4,ms1mx3.6/13,Error ellipse: s-maj=24.1km s-min=16.1km az=71.0*

ISC 06 08:23:05.0±0.5**,57.88S**±0.06×**157.2E**±0.2**,h10**km**,n69, σ0^{s}97**/34**,mb4.8**/18**,MS4.2**/4**,5C-1D,Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	Macquarie Isla	3.54	17	eP	Pn	08 23 56.5	-4.7
MCQ				eS	Sn	08 24 32.4	-11
TAU	Tasmania Unive	16.22	333	P	P	08 26 54.3	0.0
RPZ	Rata Peaks	16.63	37	P	P	08 27 00.7	+1.1
	0.7nm,0.3s,baz=225,slow=11,SNR=2.8						
VNDA	Vanda	19.79	177	P	P	08 27 37.1	-0.8
	0.2nm,0.3s,baz=350,slow=12,SNR=13						
VNDA				LR	LR	08 34 26.1	
	comp=Z,521nm,19.2s,baz=8.1,slow=34						
VNDA	Vanda	19.79	177	eP	P	08 27 37.4	-0.6
	31nm,1.2s						
SBA	Scott Base	20.33	174	P	P	08 27 43.1	-0.5
	2.6nm,0.7s						
TOO	Toolangi	21.72	334	eP	P	08 27 58.9	+0.8
	1.2nm,0.9s						
URZ	Urewera	23.57	42	P	P	08 28 16.6	+0.4
	11nm,0.7s,mb4.4,baz=194,slow=13,SNR=3.2						
URZ				PcP	PcP	08 31 59.8	-3.3
	8.9nm,0.7s,baz=225,slow=7.1,SNR=3.6						
URZ				LR	LR	08 35 38.5	
	comp=Z,279nm,21.6s,MS3.7,baz=129,slow=32						
STKA	Stephens Creek	28.10	331	eP	P	08 28 58.8	+0.1
	2.3nm,0.8s,mb3.9						
STKA	Stephens Creek	28.10	331	P	P	08 28 58.9	+0.2
	4.4nm,1.0s,mb4.0,baz=150,slow=11,SNR=6.0						
STKA				LR	LR	08 39 08.3	
	comp=Z,780nm,18.6s,MS4.3,baz=302,slow=34						
QSPA	South Pole Qui	32.22	180	⇓iP	P	08 29 36.5	+1.7
	29nm,1.3s,mb5.0						
FORT	Forrest	33.67	311	eP	P	08 29 46.8	-1.1
	566nm,1.0s						
NWAO	Narrogin (SRO)	36.69	295	eP	P	08 30 13.9	+0.3
	13nm,1.1s,mb4.7						
KLBR	Kellerberrin	37.53	297	eP	P	08 30 21.4	+0.6
	245nm,1.1s,mb5.8						
KLBR				e		08 30 32.3	
MUN	Mundaring	37.96	295	eP	P	08 30 24.7	+0.4
	5.8nm,0.7s,mb4.4						
ASPA	Alice Springs	38.05	324	⇑iP	P	08 30 24.9	-0.3
ASPA				e		08 30 36.3	
CTA	Charters Tower	38.58	343	eP	P	08 30 29.5	-0.2
	7.7nm,1.0s,mb4.4						
CTA				e		08 30 40.3	
CTA				e		08 30 50.6	
CTA	Charters Tower	38.58	343	P	P	08 30 27.1	-2.6
	6.6nm,1.0s,mb4.3,baz=161,slow=10,SNR=5.1						
CTAO	Charters Tower	38.58	343	eP	P	08 30 29.5	-0.2
	6.8nm,0.6s,mb4.5						
MAW	Mawson	40.05	216	LR	LR	08 48 52.3	
	comp=Z,373nm,19.3s,MS4.2,baz=90,slow=38						
WRA	Warramunga Arr	41.42	327	P	P	08 30 52.0	-1.1
	14nm,0.8s,mb4.7,baz=161,slow=7.3,SNR=81						
WRA				PcP	PcP	08 32 48.7	-3.1
	8.9nm,1.2s,baz=162,slow=3.2,SNR=10						
WRAB	Tennant Creek	41.42	327	P	P	08 30 52.0	-1.1
	128nm,0.8s,mb5.6,SNR=9.9						
WRAB	Tennant Creek	41.42	327	eP	P	08 30 52.0	-1.1
	49nm,1.3s,mb5.0						
WRAB				e		08 31 03.1	
SYO	Syowa Base	45.62	207	⇑P	PcP	08 33 03.6	-1.7
FITZ	Fitzroy Crossi	46.03	316	eP	P	08 31 30.7	+0.3
	22nm,0.8s,mb5.1						
FITZ				e		08 31 42.1	
KAKA	Kakadu	48.82	327	⇑iP	P	08 31 51.3	-1.0
	16nm,0.6s,mb5.2						
PMG	Port Moresby	48.97	347	P	P	08 31 53.5	+0.1
	19nm,0.9s,mb5.2,baz=168,slow=3.8,SNR=4.6						
PMSA	Palmer Station	53.74	160	P	P	08 32 25.9	-2.8
	99nm,1.4s,mb5.5						
PLCA	Paso Flores	73.96	144	P	P	08 34 41.1	-0.7
	4.4nm,0.8s,mb4.4,baz=202,slow=7.2,SNR=12						
LBTB	Lobatse	88.06	223	P	P	08 35 57.8	+1.4
	5.4nm,1.0s,mb4.7,baz=145,slow=8.1,SNR=6.4						
CMAR	Chiang Mai Arr	89.93	306	P	P	08 36 06.6	+1.1
	1.2nm,0.6s,mb4.4,baz=176,slow=4.7,SNR=5.9						
MATP	Matopo	91.13	227	P	P	08 36 11.8	+0.8
	2.3nm,0.8s,mb4.5,baz=158,slow=10,SNR=4.9						
MATP	Matopo	91.13	227	P	P	08 36 11.8	+0.8
LPAZ	La Paz	97.20	137	P	P	08 36 38.9	+0.1
	0.6nm,0.7s,mb4.2,baz=239,slow=2.1,SNR=5.0						
LPAZ	La Paz	97.20	137	P	P	08 36 38.9	+0.1
WMQ	Urumqi	116.59	311	ePKP	PKPdf	08 41 50.0	-1.6
WMQ				ePP	PP	08 43 04.0	+3.2
WMQ				PKS	PKS	08 45 25.0	+0.8
WMQ				SKS	SKS	08 48 58.0	+14
WMQ				PP	PP		
	comp=Z,140nm,4.6s						
WMQ				LR	LR		
	comp=N,106nm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=E,112nm,18.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,124nm,18.6s,MS4.5						
NVAR	Mina Array Bea	118.91	63	PKP	PKPdf	08 41 52.7	-3.6
	comp=Z,1.3nm,0.8s,baz=206,slow=3.3,SNR=7.4						
NVAR	Mina Array Bea	118.91	63	PKP	PKPdf	08 41 52.7	-3.6
TXAR	Lajitas Array	119.11	81	PP	PP	08 43 12.8	-5.9
	comp=Z,0.2nm,0.5s,baz=243,slow=8.4,SNR=3.5						
TXAR				PKKPbc		08 52 08.8	
	comp=Z,0.2nm,0.8s,baz=76,slow=5.2,SNR=3.8						
MSU	Marysvale	121.94	68	ePKPdf	PKPdf	08 41 59.5	-2.6
PV10	Paradox Valley	123.40	70	ePKPdf	PKPdf	08 42 02.2	-2.8
PDAR	Pinedale Array	126.48	66	PKP	PKPdf	08 42 07.7	-2.9
	comp=Z,1.1nm,0.7s,baz=157,slow=3.8,SNR=9.6						
DBIC	Dimbokro	127.03	203	PKP	PKPdf	08 42 09.4	-3.0
	comp=Z,2.1nm,0.9s,baz=298,slow=4.2,SNR=3.6						
IMA	Indian Mountai	129.00	23	ePKPdf	PKPdf	08 42 12.4	-2.5
COLA	College	129.31	27	PKPdf	PKPdf	08 42 10.5	-5.0
ILAR	Eielson Array	129.46	27	PKP	PKPdf	08 42 11.8	-4.1
	comp=Z,5.0nm,1.0s,baz=294,slow=3.1,SNR=29						
BVAR	Borovoye Array	130.95	307	PKP	PKPdf	08 42 16.8	-2.2
	comp=Z,2.0nm,0.9s,baz=135,slow=2.1,SNR=6.7						
WCI	Wyandotte Cave	135.16	87	ePKPdf	PKPdf	08 42 23.2	-4.1
INK	Inuvik	135.61	30	PKhKP		08 42 13.5	
	comp=Z,1.4nm,0.9s,baz=204,slow=6.2,SNR=5.6						
INK				PKP	PKPdf	08 42 23.5	-3.8
	comp=Z,3.0nm,0.9s,baz=152,slow=3.0,SNR=10						
INK	Inuvik	135.61	30	PKP		08 42 13.5	
INK				PKP	PKPdf	08 42 23.5	-3.8
YKA	Yellowknife Ar	137.82	44	PKhKP		08 42 16.9	
	comp=Z,1.2nm,0.6s,baz=237,slow=3.2,SNR=32						
YKA				PKP	PKPdf	08 42 28.9	-2.6
	comp=Z,1.6nm,0.7s,baz=243,slow=2.1,SNR=20						
ULM	Lac du Bonnet	138.44	68	PKP	PKPdf	08 42 26.9	-6.0
	comp=Z,2.1nm,0.8s,baz=201,slow=9.4,SNR=3.6						
ULM	Lac du Bonnet	138.44	68	PKP	PKPdf	08 42 26.9	-6.0
FCC	Fort Churchill	144.19	58	⇑iPKPdf	PKPdf	08 42 37.2	-5.4
NCB	Newcomb	145.65	91	⇑ePKPdf	PKPdf	08 42 42.2	-3.4
MSNY	Massena	146.00	89	ePKPdf	PKPdf	08 42 42.9	-3.2
MIV	Mineville/With	146.09	92	ePKPdf	PKPdf	08 42 43.5	-2.9
MLR	Muntele Rosu	148.04	269	PKPbc	PKPdf	08 42 50.7	+1.2
	comp=Z,7.7nm,0.8s,baz=102,slow=7.5,SNR=3.6						
RES	Resolute Bay	149.17	30	ePKPdf	PKPdf	08 42 47.9	-2.7
RES				ePKPbc	PKPdf	08 42 51.3	+0.8
OKC	Ostrava-Krasne	154.86	269	ePKPAB	PKPab	08 43 25.9	+3.1
FINES	FINESS Array B	155.51	299	PKPab	PKPab	08 43 23.9	-1.3
	comp=Z,2.3nm,0.7s,baz=72,slow=6.0,SNR=7.6						
DPC	Dobruska-Polom	156.12	269	ePKPAB	PKPab	08 43 21.9	-6.3
ARCES	ARCESS Array B	156.37	319	PKPab	PKPab	08 43 28.1	-0.7
	comp=Z,4.0nm,0.7s,baz=135,slow=5.1,SNR=8.3						
UPC	Upice	156.38	269	ePKPAB	PKPab	08 43 23.6	-5.7
KHC	Kasperske Hory	156.89	264	ePKPAB	PKPab	08 43 30.9	-0.6
DAVOX	Davos	157.36	255	PKPab	PKPab	08 43 33.2	-0.5
	comp=Z,4.8nm,0.8s,baz=142,slow=4.2,SNR=6.6						
ESDC	Sonseca Array	158.07	222	PKPab	PKPab	08 43 36.6	-0.3
	comp=Z,1.2nm,0.7s,baz=149,slow=3.6,SNR=6.8						
HFS	Hagfors	161.20	292	PKPab	PKPab	08 43 49.3	-0.4
	comp=Z,3.9nm,0.7s,baz=135,slow=4.2,SNR=5.7						
NOA	NORSAR Array B	162.53	295	PKPab	PKPab	08 43 53.5	-2.0
	comp=Z,1.5nm,0.8s,baz=94,slow=4.6,SNR=4.7						

*MOS **06** 08:24:44.9±1.0,84.87N×99.23E,h10km,mb5.3/79, MS4.2/19,Error ellipse: s-maj=40.5km s-min=5.8km az=89.5*

*IDC **06** 08:24:44.8±0.5,84.91N×99.59E,mb4.4/20,mb1 4.6/21, mb1mx4.5/23,mbtmp4.4/21,ML4.4/1,MS4.4/12,Ms1 4.4/12, ms1mx4.1/27,Error ellipse: s-maj=18.1km s-min=11.0km az=147.0*

*NEIC **06** 08:24:46.6±0.1,84.90N×99.41E,h10km,mb5.1/90, MS4.2/7,Error ellipse: s-maj=4.5km s-min=2.8km az=150.0*

*HRVD **06** 08:24:46.6±0.3,84.95N×99.67E,h14km±1km,MW5.1/62, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s62,c116; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.75±.66; $M_{\theta\theta}$3.69±.36; $M_{\phi\phi}$2.07±.36; $M_{r\theta}$0.84±.67; $M_{\theta\phi}$-2.51±.15; $M_{\phi r}$-2.45±.92; Best double couple: $M_0$6.187×10^{16} NP1: ϕ_s115°,δ36°,λ-110°. NP2:ϕ_s319°,δ57°,λ-76°. Principal axes: T 5.918, Plg11°, Azm39°; N .548, Plg12°, Azm131°; P -6.456, Plg74°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **06** 08:24:46.5,84.90N×99.40E,h10km,mB5.3,mb4.8,Ms5.0, Msz4.7*

ISC 06 08:24:44.1±1.4**,84.94N**±0.03×**99.3E**±0.3**,h4**km±8km**, h20**km±2.4km**:pP-P,n308,σ1^{s}06**/315**,mb5.0**/121**,MS4.4**/35**, 17C-10D,North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	12.03	292	eP	P	08 27 33.0	-6.0
TIXI	Tiksi	14.25	141	eP	P	08 28 07.8	-0.4
TIXI				pmax	pmax		
	comp=Z,40nm,1.8s						
TIXI				MLR	MLR		
	comp=Z,660nm,17.0s						
DAG	Danmarks Havn	16.33	314	eP	P	08 28 36.0	+0.8
DAG	Danmarks Havn	16.33	314	i P	P	08 28 36.0	+0.8
KEV	Kevo	19.41	266	ep	P	08 29 06.7	-6.7
	comp=Z,26nm,0.8s						
KEV	Kevo	19.41	266	eP	P	08 29 06.7	-6.7
KEV				pmax	pmax		
	comp=Z,26nm,0.8s						
ARCES	ARCESS Array B	19.76	268	P	P	08 29 15.6	-1.8
	comp=Z,1.7nm,0.3s,baz=20,slow=10,SNR=20						
ARCES				LR	LR	08 37 24.5	
	comp=Z,803nm,18.2s,baz=6.1,slow=38						
RES	Resolute Bay	20.39	11	eP	P	08 29 21.6	-2.5
RES				pmax	pmax		
	comp=Z,39nm,1.4s						
RES	Resolute Bay	20.39	11	eP	P	08 29 21.6	-2.5
	comp=Z,38nm,1.4s						
LVZ	Lovozero	20.55	257	⇑iP	P	08 29 25.5	-0.3
LVZ				pmax	pmax		
	comp=Z,50nm,1.3s						
LVZ				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.0						
BILL	Bilibino	20.61	101	⇑iP	P	08 29 27.8	+1.4
BILL				i		08 29 44.3	
BILL				pmax	pmax		
	comp=Z,41nm,1.1s						
APA	Apatity	20.98	258	⇑iP	P	08 29 30.8	+0.6
APA				i S	S	08 33 21.0	+1.3
APA				pmax	pmax		
	comp=Z,550nm,2.4s						
APA				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.3						
SUMG	Summit	21.57	327	eP	P	08 29 38.4	+2.2
	comp=Z,396nm,2.0s,mb5.5						
YAK	Yakutsk	23.86	144	eP	P	08 29 59.4	+0.9
	comp=Z,19nm,0.6s,mb4.7						
YAK				e		08 30 07.9	
YAK				LR	LR		
	comp=Z,602nm,22.0s,MS4.0						
SEY	Seymchan	24.48	118	eP	P	08 30 08.2	+3.7
SEY				e		08 34 28.8	
SEY				pmax	pmax		
	comp=E,20nm,1.1s						
SEY				pmax	pmax		
	comp=Z,40nm,1.1s,mb4.8						
INK	Inuvik	25.22	44	eP	P	08 30 11.4	-0.2
INK				pmax	pmax		
	comp=Z,64nm,1.2s						
INK	Inuvik	25.22	44	P	P	08 30 12.0	+0.4
	comp=Z,35nm,1.1s,mb4.8,baz=359,slow=12,SNR=48						
INK	Inuvik	25.22	44	eP	P	08 30 11.4	-0.2
	comp=Z,64nm,1.2s,mb5.0						
JOF	Joensuu	25.73	258	ep	P	08 30 13.4	-3.1
	comp=Z,27nm,0.8s,mb4.8						
IMA	Indian Mountai	26.00	63	eP	P	08 30 22.4	+3.5
KAF	Kangasniemi	26.97	263	ep	P	08 30 20.2	-7.7
SOKR	Solikamsk	27.04	229	⇑iP	P	08 30 28.5	-0.1
SOKR				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
SOKR				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.4						
BOD	Bodaibo	27.45	163	eP	P	08 30 30.2	-2.2
BOD				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.4						
COLA	College	27.63	58	eP	P	08 30 35.9	+2.0
FINES	FINESS Array B	27.65	263	P	P	08 30 32.4	-1.7
	comp=Z,13nm,1.1s,mb4.5,baz=18,slow=12,SNR=12						
FINES				PcP	PcP	08 33 47.8	-4.0
	comp=Z,3.0nm,0.8s,baz=27,slow=4.3,SNR=4.3						
MA2	Magadan	27.68	121	eP	P	08 30 35.6	+1.2
MA2				pmax	pmax		
	comp=Z,44nm,1.5s,mb4.9						
MA2	Magadan	27.68	121	eP	P	08 30 35.6	+1.2
	comp=Z,44nm,1.5s,mb4.9						
ILAR	Eielson Array	27.80	57	P	P	08 30 35.9	+0.5
	comp=Z,1.6nm,0.8s,baz=351,slow=7.2,SNR=17						
ILAR				PcP	PcP	08 33 49.4	-2.7
	comp=Z,1.8nm,0.9s,baz=329,slow=3.5,SNR=6.9						
ILAR				LR	LR	08 41 00.3	
	comp=Z,428nm,18.3s,MS4.1,baz=354,slow=35						
CLNS	Chul'man	28.82	151	eP	P	08 30 44.4	-0.3
CLNS				e		08 31 35.1	
CLNS				ePPP	PPP	08 31 44.2	-6.2
CLNS				eS	S	08 35 35.8	+2.0
CLNS				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=N,10.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,15nm,1.2s						
CLNS				smax			
	comp=N,200nm,13.6s						
CLNS				smax			
	comp=Z,140nm,19.5s						
CLNS				smax			
	comp=E,34nm,11.4s						
CLNS				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s						
CLNS				MLR	MLR		
	comp=E,100nm,19.0s						
NB2	NORSAR Subarra	29.36	277	P	P	08 30 48.3	-1.3
	comp=E,56nm,1.7s,mb5.0,baz=10.0,slow=8.6						
NB2	NORSAR Subarra	29.36	277	P	P	08 30 48.3	-1.3
NB2				pmax	pmax		
	comp=Z,56nm,1.7s,mb5.0						
NB2	NORSAR Subarra	29.36	277	P	P	08 30 48.3	-1.3
	baz=10,slow=9.3						
NOA	NORSAR Array B	29.36	277	P	P	08 30 48.6	-0.9
	comp=Z,4.8nm,1.0s,mb4.2,baz=18,slow=8.8,SNR=3.9						
MENT	Mentasta	29.85	55	eP	P	08 30 52.1	-1.8
HFS	Hagfors	30.04	274	P	P	08 30 54.6	-1.1
	comp=Z,6.0nm,0.9s,mb4.3,slow=7.4,SNR=5.3						
VSU	Vasula	30.54	261	⇓iP	P	08 30 59.6	-0.4
YKW3	Yellowknife Ar	31.94	29	eP	P	08 31 11.1	-1.2
YKA	Yellowknife Ar	32.01	29	P	P	08 31 11.7	-1.2
	comp=Z,2.4nm,0.9s,mb4.0,baz=353,slow=7.8,SNR=23						
YKA				PcP	PcP	08 34 01.1	-1.8
	comp=Z,0.9nm,0.7s,baz=334,slow=3.5,SNR=5.9						
YKA				LR	LR	08 44 18.1	
	comp=Z,1μm,18.6s,MS4.6,baz=335,slow=37						
YKA	Yellowknife Ar	32.01	29	P	P	08 31 11.7	-1.2
YKA				PcP	PcP	08 34 01.1	-1.8
YKA				LR	LR	08 44 18.1	
CHKZ	Chkalovo	32.12	213	eP	P	08 31 13.2	-0.8
CHKZ				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.2						
CHKZ	Chkalovo	32.12	213	eP	P	08 31 13.2	-0.8
	comp=Z,46nm,1.1s,mb5.2						
MOS	Moscow	32.30	249	eP	P	08 31 17.6	+2.0
MOS				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.2						
OBN	Obninsk	33.01	250	eP	P	08 31 20.4	-1.3
OBN				e		08 31 28.7	
OBN				e		08 34 04.8	
OBN				eS	S	08 36 36.9	-2.8
OBN				eSS	SS	08 38 35.3	-3.6
OBN				pmax	pmax		
	comp=Z,63nm,1.7s,mb5.3						
OBN				MLR	MLR		
	comp=Z,700nm,20.0s,MS4.4						
OBN	Obninsk	33.01	250	eP	P	08 31 20.7	-1.0
	comp=Z,102nm,1.4s,mb5.6						
TLY	Talaya	33.43	175	P	P	08 31 23.2	-2.2
	comp=Z,70nm,1.2s,mb5.5,SNR=13						
TLY	Talaya	33.43	175	eP	P	08 31 24.2	-1.2
TLY				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
TLY	Talaya	33.43	175	eP	P	08 31 24.2	-1.2
	comp=Z,21nm,1.3s,mb4.9						
MOY	Mondy	33.43	178	eP	P	08 31 26.0	+0.6
MOY				pmax	pmax		
	comp=Z,83nm,1.8s,mb5.4						
MNK	Minsk	34.36	259	eP	P	08 31 31.0	-2.5
ZAK	Zakamensk	34.73	176	eP	P	08 31 35.9	-0.7
KURK	Kurchatov	34.75	203	P	P	08 31 35.1	-1.7
	comp=Z,83nm,0.7s,mb5.8,SNR=9.6						
KURK	Kurchatov	34.75	203	eP	P	08 31 35.7	-1.1
KURK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
KURK				MLR	MLR		
	comp=Z,181nm,20.0s,MS3.8						
KURK	Kurchatov	34.75	203	eP	P	08 31 35.7	-1.1
	comp=Z,9.8nm,0.8s,mb4.8						
KURK				LR	LR		
	comp=Z,181nm,20.0s,MS3.8						
VOR	Voronezh	36.15	246	eP	P	08 31 48.0	-0.7
VOR				e*PP	pP	08 31 55.0	+5.2
VOR				pmax	pmax		
	comp=N,60nm,1.6s						
VOR				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.3						

BSEG Bad Segeberg 36.47 276 *e*P **P** **08 31 51.0 -0.4**
KLR Kul'dur 36.74 144 *e*P **P** **08 31 50.1 -3.7**
KLR *e* 08 33 20.2
KLR MLR MLR
comp=N,500nm,13.0s
KLR MLR MLR
comp=Z,700nm,13.0s,MS4.6
ULN Ulaanbaatar 37.28 171⇑ *i*P **P** **08 31 59.6 +1.3**
SONM Songino Array 37.30 172 P **P** **08 31 59.0 +0.5**
comp=Z,20nm,0.9s,mb4.9,baz=344,slow=8.0,SNR=95
SONM PP PP 08 33 19.6 -6.1
comp=Z,1.6nm,0.8s,baz=354,slow=13,SNR=2.4
SONM PcP PcP 08 34 18.0 -0.3
comp=Z,3.0nm,0.9s,baz=310,slow=1.5,SNR=3.6
CLZ Clausthal 38.54 275 *e*P **P** **08 32 08.9 +0.1**
comp=Z,44nm,1.2s,mb5.1
MKAR Makanchi Array 38.55 199 *i* P **P** **08 32 08.1 -0.9**
MKAR pmax pmax
comp=Z,50nm,1.1s
WTSB Winterswijk 38.73 279 *e*P **P** **08 32 12.5 +2.1**
CLL Collm 38.84 273⇓ *i*P **P** **08 32 10.6 -0.7**
CLL *i* 08 32 13.8
CLL *e* 08 32 18.0
CLL pmax pmax
comp=Z,18nm,1.3s,mb4.6
CLL MLR MLR
comp=Z,400nm,18.8s,MS4.3
CLL Collm 38.84 273⇓ *i*P **P** **08 32 10.6 -0.7**
comp=Z,18nm,1.3s,mb4.6
CLL *i* 08 32 13.8
CLL *e* 08 32 18.0
CLL LR LR
comp=Z,400nm,18.8s,MS4.3
CLL Collm 38.84 273⇓ P **P** **08 32 10.6 -0.7**
comp=Z,logA/T=1.1,mb4.6
CLL *i* 08 32 13.8
CLL *e* 08 32 18.0
CLL *e*PP PP 08 33 45.0 +1.0
CLL *e*PPP PPP 08 34 10.0 +3.1
KSP Ksiaz 39.00 269 *e*P **P** **08 32 12.0 -0.7**
KSP *e* 08 32 19.9
KSP Ksiaz 39.00 269 *e*P **P** **08 32 12.8 +0.1**
BRG Berggiesshubel 39.18 272 *e*P **P** **08 32 14.1 -0.1**
BRG *i* 08 32 21.5
BRG pmax pmax
comp=Z,74nm,1.9s,mb5.1
BRG Berggiesshubel 39.18 272 *e*P **P** **08 32 14.1 -0.1**
comp=Z,74nm,1.9s,mb5.1
BRG *i* 08 32 21.5
BRG *e* 08 43 35.1
OJC Ojcow 39.31 266 *e*P **P** **08 32 15.2 -0.1**
PVCC Panska Ves 39.47 271 *e*P **P** **08 32 16.9 +0.3**
PVCC *ex* x 08 32 24.7
PVCC AMS AMS 08 47 40.0
comp=Z,300nm,20.8s
DPC Dobruska-Polom 39.49 269 *e*P **P** **08 32 17.0 +0.2**
DPC *ex* x 08 32 24.5
DPC AMS AMS 08 48 00.0
comp=Z,400nm,18.6s
MOX Moxa 39.62 274 *e*P **P** **08 32 16.4 -1.4**
MOX pmax pmax
comp=Z,64nm,1.6s,mb5.1
MOX Moxa 39.62 274 *e*P **P** **08 32 16.4 -1.4**
comp=Z,64nm,1.6s,mb5.1
MOX Moxa 39.62 274 *i* P **P** **08 32 16.4 -1.4**
comp=Z,logA/T=1.6,mb5.1
KWP Kalwaria 39.64 263 *e*P **P** **08 32 18.7 +0.7**
KWP pmax pmax
comp=Z,61nm,1.0s,mb5.3
KWP Kalwaria 39.64 263 *e*P **P** **08 32 18.7 +0.7**
comp=Z,60nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 39.66 132 *e*P **P** **08 32 19.0 +0.8**
YSS MLR MLR
comp=Z,400nm,16.0s,MS4.3
OKC Ostrava-Krasne 39.84 267 *e*P **P** **08 32 20.0 +0.4**
OKC *ex* x 08 32 27.8
OKC AMS AMS 08 49 40.0
comp=Z,500nm,18.2s
MORC Moravsky Berou 39.95 268 *e*P **P** **08 32 20.3 -0.3**
MORC *e* 08 32 27.9
MORC pmax pmax
comp=Z,48nm,1.4s,mb5.0
MORC Moravsky Berou 39.95 268 *e*P **P** **08 32 20.3 -0.3**
comp=Z,48nm,1.4s,mb5.0
MORC *e* 08 32 27.9
NKC Novy Kostel 39.95 273 *e*P **P** **08 32 21.0 +0.4**
NKC *ex* x 08 32 27.7
NKC AMS AMS 08 47 20.0
comp=Z,400nm,19.4s
HGN Heimansgroeve 40.00 279 *e*P **P** **08 32 18.2 -2.8**
comp=Z,37nm,3.5s
PRU Pruhonice 40.01 271 *e*P **P** **08 32 19.9 -1.1**
PRU MLR MLR
comp=Z,300nm,24.5s,MS4.0
PRU Pruhonice 40.01 271 *e*P **P** **08 32 19.9 -1.1**
PRU *ex* x 08 32 29.5
PRU AMS AMS 08 46 10.0
comp=Z,300nm,24.5s
NIE Niedzica 40.06 265 *e*P **P** **08 32 20.4 -1.1**
SCHQ Schefferville 40.31 348 P **P** **08 32 23.9 +0.4**
comp=Z,5.7nm,1.1s,mb4.2,baz=27,slow=10,SNR=7.2
TNS Taunus Mts 40.31 277 *e*P **P** **08 32 23.6 0.0**
TNS pmax pmax
comp=Z,21nm,1.1s,mb4.8
TNS Taunus Mts 40.31 277 *e*P **P** **08 32 23.6 0.0**
comp=Z,21nm,1.1s,mb4.8
KOLS Kolonicke sedl 40.37 263 *e*P **P** **08 32 21.5 -2.5**
KOLS *e* 08 33 54.5
KOLS Kolonicke sedl 40.37 263 *e*P **P** **08 32 21.5 -2.5**
KOLS *e* 08 32 32.0
KOLS *e*PP PP 08 33 54.5 -6.1
CRVS Cervenica-Dubn 40.47 264 *e*P **P** **08 32 23.8 -1.1**
CRVS *e* 08 32 36.6
VRAC Vranov 40.50 269 P **P** **08 32 25.8 +0.7**
comp=Z,9.7nm,0.8s,mb4.6,baz=11,slow=11,SNR=9.5
GRA1 Grafenberg Arr 40.60 274 *e*P **P** **08 32 26.1 +0.2**
comp=Z,68nm,1.2s,mb5.2
GRA1 *e*pP pP 08 32 33.6 +6.6
GRF Grafenberg Arr 40.60 274 *e*P **P** **08 32 26.1 +0.2**
GRF *e**PP pP 08 32 33.6 +6.6
GRF pmax pmax
comp=Z,68nm,1.2s,mb5.2
GRF Grafenberg Arr 40.60 274 *e*P **P** **08 32 26.1 +0.2**
GRF *e**PP pP 08 32 33.6 +6.6
GRF pmax pmax
comp=Z,68nm,1.2s,mb5.2
GRF Grafenberg Arr 40.60 274 *e*P **P** **08 32 26.1 +0.2**
comp=Z,68nm,1.2s,mb5.2
GRF *e*pP pP 08 32 33.6 +6.6
GIVF Givet 40.75 280 *e*P **P** **08 32 26.7 -0.5**
comp=Z,74nm,1.4s,mb4.8
GIVF Givet 40.75 280 *e*P **P** **08 32 26.7 -0.5**
GIVF pmax pmax
comp=Z,37nm,1.4s,mb4.8
BAIF Baives 40.85 281 *e*P **P** **08 32 27.9 0.0**
comp=Z,120nm,1.6s,mb5.0
BAIF Baives 40.85 281 *e*P **P** **08 32 27.9 0.0**
BAIF pmax pmax
comp=Z,60nm,1.5s,mb5.0
KHC Kasperske Hory 40.94 272 *e*P **P** **08 32 29.6 +0.9**
KHC *ex* x 08 32 37.4
KHC AMS AMS 08 47 30.0
comp=Z,300nm,19.6s
KECS Kecovo 40.97 265 *e* **P** **08 32 35.8 +6.8**
WET Wettzell 40.99 272 *e*P **P** **08 32 29.4 +0.3**
WET pmax pmax
comp=Z,30nm,1.4s,mb4.7
WET Wettzell 40.99 272 *e*P **P** **08 32 29.4 +0.3**
comp=Z,30nm,1.4s,mb4.7
WLF Walferdange 41.07 279 *e*P **P** **08 32 29.8 0.0**
WLF pmax pmax
comp=Z,37nm,1.5s,mb4.8
WLF Walferdange 41.07 279 *e*P **P** **08 32 29.8 0.0**
comp=Z,37nm,1.5s,mb4.8
VYHS Vyhne 41.11 266 *e*P **P** **08 32 30.5 +0.4**
VYHS *e* 08 32 37.1
SMOL Smolenice 41.21 268 *e*P **P** **08 32 32.0 +1.0**
GEC2 GERESS Array S 41.22 271 *e*P **P** **08 32 31.1 +0.1**
GEC2 pmax pmax
comp=Z,65nm,1.6s,mb5.0
GEC2 GERESS Array S 41.22 271 *e*P **P** **08 32 31.1 +0.1**
comp=Z,65nm,1.6s,mb5.0
GERES GERESS Array B 41.22 271 P **P** **08 32 31.3 +0.3**
comp=Z,3.7nm,0.8s,mb4.0,baz=8.1,slow=9.4,SNR=26
MDJ Mudanjiang 41.24 147 P **P** **08 32 31.7 +0.5**
MDJ AP pP 08 32 37.3 +5.0
MDJ XP sP 08 32 40.7 +7.9
MDJ S **S** **08 38 46.6 +1.1**
MDJ SS SS 08 41 40.9 -2.4
MDJ AMB AMB
comp=Z,19nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,100nm,3.7s
MDJ LR LR
comp=E,276nm,21.5s
MDJ LR LR
comp=Z,205nm,25.3s,MS3.9
EDM Edmonton 41.33 29 *e*P **P** **08 32 32.0 +0.1**
WMQ Urumqi 41.39 193⇓ *i*P **P** **08 32 33.3 +0.8**
WMQ XP sP 08 32 40.0 +5.9
WMQ PP PP 08 34 11.0 -0.3
WMQ PCP PcP 08 34 31.0 -0.3
WMQ PCS 08 38 22.0
WMQ S **S** **08 38 47.0 -0.7**
WMQ AMB AMB
comp=Z,18nm,1.4s,mb4.5
WMQ AMB AMB
comp=Z,272nm,4.3s
WMQ LR LR
comp=N,2μm,18.8s,MS5.1
WMQ LR LR
comp=E,1μm,16.2s,MS5.1
WMQ LR LR
comp=Z,2μm,21.4s
BURAR Bucovina Array 41.42 260⇑ P **P** **08 32 32.8 +0.2**
ZST Bratislava 41.56 268 *e*P **P** **08 32 34.0 +0.4**
ZST *e* 08 32 42.1
PSZ Piszkesteto 41.59 265 *e*P **P** **08 32 34.1 +0.3**
PSZ *e* 08 32 42.5
PSZ pmax pmax
comp=Z,51nm,1.4s,mb5.0
PSZ Piszkesteto 41.59 265 *e*P **P** **08 32 34.1 +0.3**
comp=Z,51nm,1.4s,mb5.0
PSZ *e* 08 32 42.5
STU Stuttgart 41.69 276 *e*P **P** **08 32 34.7 +0.1**
STU pmax pmax
comp=Z,43nm,1.1s,mb5.0
STU Stuttgart 41.69 276 *e*P **P** **08 32 34.7 +0.1**
comp=Z,42nm,1.1s,mb5.0
KIS Kishinev 41.72 256 *e*P **P** **08 32 38.0 +3.1**
KIS *e* 08 34 09.0
KIS MLR MLR
comp=Z,400nm,15.0s,MS4.4
CN2 Changchun 41.86 151 *e*P **P** **08 32 36.6 +0.4**
CN2 *e*S **S** **08 38 51.4 -3.1**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,260nm,4.0s
CN2 LR LR
comp=N,750nm,13.0s,MS4.9
CN2 LR LR
comp=E,820nm,13.0s,MS4.9
CN2 LR LR
comp=Z,810nm,14.0s,MS4.8
MOA Molln 42.15 271⇑ *i*P **P** **08 32 39.3 +0.8**
comp=Z,34nm,1.5s,mb4.8
BFO Black Forest 42.20 277 *e*P **P** **08 32 39.0 +0.1**
BFO pmax pmax
comp=Z,31nm,1.4s,mb4.8
BFO Black Forest 42.20 277 *e*P **P** **08 32 39.0 +0.1**
comp=Z,31nm,1.4s,mb4.8
CDF Champ du Feu 42.21 278 *e*P **P** **08 32 39.2 +0.2**
comp=Z,158nm,1.6s,mb5.1
CDF Champ du Feu 42.21 278 *e*P **P** **08 32 39.2 +0.2**
CDF pmax pmax
comp=Z,79nm,1.6s,mb5.1
MEZF Maizieres J'vi 42.32 280 *e*P **P** **08 32 40.1 +0.3**
comp=Z,162nm,1.8s,mb5.1
USP Ospenovka 42.34 207 P **P** **08 32 40.7 +0.5**
SNR=29
GOF Gofitskoye 42.47 241⇑ *i*P **P** **08 32 43.0 +1.8**
GOF *i* S PP 08 34 25.8 +3.3
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.0
FLN La Foliniere 42.54 285 *e*P **P** **08 32 40.7 -1.0**
CHMS Chumysh 42.60 207 P **P** **08 32 46.4 +4.2**
SNR=6.2
TKM2 Tokmak 2 42.65 206 P **P** **08 32 43.9 +1.3**
SNR=24
LDF La Druitiere 42.68 285 *e*P **P** **08 32 41.9 -0.9**
HAU Haudompre 42.70 279 *e*P **P** **08 32 43.0 0.0**
comp=Z,100nm,1.2s,mb5.1
HAU Haudompre 42.70 279 *e*P **P** **08 32 43.0 0.0**
HAU pmax pmax
comp=Z,50nm,1.2s,mb5.1
FRU Bishkek 42.77 207 *e*P **P** **08 32 45.0 +1.4**
FRU *e* 08 34 23.0
FRU pmax pmax
comp=Z,130nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,2μm,16.0s,MS5.2
HINF Hinteralfeld 42.84 278 *e*P **P** **08 32 43.9 -0.2**
comp=Z,97nm,1.6s,mb5.0
HINF Hinteralfeld 42.84 278 *e*P **P** **08 32 43.9 -0.2**
HINF pmax pmax
comp=Z,49nm,1.6s,mb5.0
MOTA Moosalm 42.93 274⇑ *i*P **P** **08 32 46.3 +1.4**
comp=Z,15nm,1.4s,mb4.5
MOTA Moosalm 42.93 274⇑ *i*P **P** **08 32 46.3 +1.4**
MOTA pmax pmax
comp=Z,15nm,1.4s,mb4.5
AAK Ala-Archa 42.98 207 P **P** **08 32 46.1 +0.8**
SNR=20
AAK Ala-Archa 42.98 207 P **P** **08 32 45.5 +0.2**
comp=Z,131nm,1.4s,mb5.5,SNR=27
AAK Ala-Archa 42.98 207 *d* *i*P **P** **08 32 45.3 0.0**
AAK pmax pmax
comp=Z,57nm,1.7s,mb5.0
AAK MLR MLR
comp=Z,2μm,15.0s,MS5.0
AAK Ala-Archa 42.98 207 *e*P **P** **08 32 44.5 -0.9**
comp=Z,79nm,1.6s,mb5.2
KBA Koelnbreinsper 43.00 271⇑ *i*P **P** **08 32 47.4 +2.0**
comp=Z,53nm,1.3s,mb5.1
KBA Koelnbreinsper 43.00 271⇑ *i*P **P** **08 32 47.4 +2.0**
KBA pmax pmax
comp=Z,53nm,1.3s,mb5.1
VRI Vrincioaia 43.02 258⇑ P **P** **08 32 46.7 +1.1**
DAVA Damuels 43.10 275⇓ *i*P **P** **08 32 46.8 +0.6**
comp=Z,56nm,1.8s,mb5.0
SGMF Saint Gilles 43.22 287 *e*P **P** **08 32 46.6 -0.6**
comp=Z,174nm,1.5s,mb5.3
SGMF Saint Gilles 43.22 287 *e*P **P** **08 32 46.6 -0.6**
SGMF pmax pmax
comp=Z,87nm,1.5s,mb5.3
PERS Pernice 43.28 270 *e*P **P** **08 32 48.5 +0.8**
PERS *e* 08 32 56.2
UCH Uchtor 43.38 207 P **P** **08 32 50.4 +1.8**
SNR=16
MLR Muntele Rosu 43.46 258 P **P** **08 32 49.9 +0.6**
comp=Z,8.9nm,0.9s,mb4.5,baz=115,slow=22,SNR=2.4
MLR Muntele Rosu 43.46 258⇑ P **P** **08 32 51.1 +1.9**
MLR Muntele Rosu 43.46 258⇑ P **P** **08 32 51.1 +1.9**
KZA Kyzart 43.50 206 P **P** **08 32 51.1 +1.5**
SNR=17
AML Almayashu 43.51 208 P **P** **08 32 51.6 +1.9**
SNR=15
FVI Forni Avoltri 43.53 272 *e*P **P** **08 32 50.7 +1.0**
KIV Kislovodsk 43.60 241 *d* *i*P **P** **08 32 50.7 +0.4**
KIV *i* 08 32 59.1
KIV *e* 08 34 31.6
KIV *i* 08 34 39.0
KIV *i* 08 39 21.3
KIV *e*SS SS 08 42 32.1 +4.8
KIV pmax pmax
comp=Z,55nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,400nm,17.0s,MS4.4
KIV Kislovodsk 43.60 241 *e*P **P** **08 32 50.8 +0.5**
comp=Z,77nm,1.1s,mb5.3
DAVOX Davos 43.60 275 P **P** **08 32 51.2 +0.9**
comp=Z,5.3nm,0.8s,mb4.3,baz=342,slow=11,SNR=7.5
QUIF Quistinic 43.61 288 *e*P **P** **08 32 49.9 -0.5**
comp=Z,246nm,1.6s,mb5.4
QUIF Quistinic 43.61 288 *e*P **P** **08 32 49.9 -0.5**
QUIF pmax pmax
comp=Z,123nm,1.6s,mb5.4
SNY Shenyang 43.76 154⇑ P **P** **08 32 52.2 +0.6**
SNY AMB AMB
comp=Z,20nm,2.0s,mb4.5
GMNA Gemona 43.81 271 *e*P **P** **08 32 52.4 +0.4**
BRMO Bormio 43.86 274 *e*P **P** **08 32 54.3 +1.9**
SSF Saint Saulge 43.88 281 *e*P **P** **08 32 52.0 -0.6**
SSF pmax pmax
comp=Z,32nm,1.3s,mb4.9
SSF Saint Saulge 43.88 281 *e*P **P** **08 32 52.0 -0.6**
comp=Z,32nm,1.3s,mb4.9
CABF La Chapelle 44.10 279 *e*P **P** **08 32 54.4 0.0**
comp=Z,100nm,1.5s,mb5.0
CABF La Chapelle 44.10 279 *e*P **P** **08 32 54.4 0.0**
CABF pmax pmax
comp=Z,50nm,1.5s,mb5.0
JAVS Javornik 44.11 271 *e*P **P** **08 32 54.3 -0.2**
AVF Avril sur Loir 44.17 281 *e*P **P** **08 32 54.3 -0.6**
comp=Z,121nm,1.5s,mb5.1
AVF Avril sur Loir 44.17 281 *e*P **P** **08 32 54.3 -0.6**
AVF pmax pmax
comp=Z,60nm,1.5s,mb5.1
CTI Castel Tesino 44.17 273 *e*P **P** **08 32 55.4 +0.4**
CEY Cerknica 44.23 270 *e*P **P** **08 32 55.0 -0.4**
CEY *e* 08 33 03.3
SMF Signal de Mont 44.27 281 *e*P **P** **08 32 55.0 -0.7**
comp=Z,102nm,1.6s,mb5.0
SMF Signal de Mont 44.27 281 *e*P **P** **08 32 55.0 -0.7**
SMF pmax pmax
comp=Z,51nm,1.6s,mb5.0
HHC Hu-ho-hao-te 44.37 167 *e*P **P** **08 32 57.5 +0.8**
HHC XP sP 08 33 03.7 +5.4
HHC PP PP 08 34 43.1 +1.5
HHC PCS 08 38 35.6
HHC S **S** **08 39 29.9 -1.3**
HHC SS SS 08 42 43.0 +1.4
HHC SCS ScS 08 42 52.6 -0.9
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,186nm,4.0s
HHC LR LR
comp=N,302nm,20.2s,MS4.5
HHC LR LR
comp=E,439nm,18.4s,MS4.5
HHC LR LR
comp=Z,367nm,20.2s,MS4.3
BOJS Bojanci 44.39 269 *e*P **P** **08 32 59.6 +2.8**
BGF Bois d'Agland 44.44 282 *e*P **P** **08 32 56.8 -0.3**
comp=Z,179nm,1.3s,mb5.3
BGF Bois d'Agland 44.44 282 *e*P **P** **08 32 56.8 -0.3**
BGF pmax pmax
comp=Z,89nm,1.3s,mb5.3
MCGN Macugnaga 44.59 277 *e*P **P** **08 32 59.7 +1.4**
MFF Saint Martin d 44.66 285 *e*P **P** **08 32 58.5 -0.4**
comp=Z,147nm,1.5s,mb5.3
MFF Saint Martin d 44.66 285 *e*P **P** **08 32 58.5 -0.4**
MFF pmax pmax
comp=Z,73nm,1.5s,mb5.3
TCF Toulx Ste Croi 44.76 282 *e*P **P** **08 32 59.1 -0.7**
comp=Z,93nm,1.3s,mb5.2
TCF Toulx Ste Croi 44.76 282 *e*P **P** **08 32 59.1 -0.7**
TCF pmax pmax
comp=Z,47nm,1.3s,mb5.2
ULM Lac du Bonnet 44.87 14 P **P** **08 33 01.5 +0.9**
comp=Z,5.1nm,1.1s,mb4.2,baz=358,slow=6.8,SNR=5.1
ULM LR LR 08 52 54.4
comp=Z,405nm,18.6s,MS4.4,baz=164,slow=38
LPL La Plagne 45.13 278 *e*P **P** **08 33 03.2 +0.5**
LPG La Plagne 45.15 278 *e*P **P** **08 33 03.5 +0.6**
comp=Z,59nm,1.3s,mb5.0
LPG La Plagne 45.15 278 *e*P **P** **08 33 03.5 +0.6**
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.0
BJI Beijing 45.29 162 *e*P **P** **08 33 04.2 +0.2**
BJI AMB AMB
comp=Z,22nm,0.9s,mb5.0
BJI LR LR
comp=N,264nm,22.3s,MS4.4
BJI LR LR
comp=E,447nm,20.5s,MS4.4
BJI LR LR
comp=Z,260nm,33.0s
BJI Beijing 45.29 162 *e*P **P** **08 33 04.2 +0.2**
comp=Z,22nm,0.9s,mb5.0
BJI LR LR
comp=Z,260nm,33.0s,MS4.0
TI2 Plekhanov 45.65 239 *e*P **P** **08 33 11.0 +4.2**
GTA Gaotai 45.68 179 P **P** **08 33 08.2 +1.1**
GTA AP pP 08 33 12.1 +3.8
GTA XP sP 08 33 14.7 +5.9
GTA PCP PcP 08 34 45.3 -0.4
GTA PP PP 08 34 56.4 +1.7
GTA S **S** **08 39 51.9 +1.8**
GTA XS 08 39 59.5
GTA SS SS 08 43 08.8 +3.0
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GTA AMB AMB
comp=Z,214nm,5.3s
GTA LR LR
comp=N,636nm,19.0s,MS4.7
GTA LR LR
comp=E,572nm,17.9s,MS4.7
GTA LR LR
comp=Z,750nm,18.6s,MS4.7
RJF Les Rejaudoux 45.80 283 *e*P **P** **08 33 07.4 -0.6**
comp=Z,67nm,1.2s,mb5.1
RJF Les Rejaudoux 45.80 283 *e*P **P** **08 33 07.4 -0.6**
RJF pmax pmax
comp=Z,33nm,1.3s,mb5.1
ORIF Oris-en-Rattie 45.80 278 *e*P **P** **08 33 08.1 +0.1**
comp=Z,33nm,0.8s,mb5.0
ORIF Oris-en-Rattie 45.80 278 *e*P **P** **08 33 08.1 +0.1**
ORIF pmax pmax
comp=Z,17nm,0.8s,mb5.0
MBDF Montbardon 45.91 278 *e*P **P** **08 33 09.5 +0.6**
comp=Z,56nm,1.1s,mb5.1
MBDF Montbardon 45.91 278 *e*P **P** **08 33 09.5 +0.6**
MBDF pmax pmax
comp=Z,28nm,1.1s,mb5.1
VIVF Saint-Julien-l 45.97 280 *e*P **P** **08 33 09.0 -0.3**
comp=Z,92nm,1.6s,mb5.2
VIVF Saint-Julien-l 45.97 280 *e*P **P** **08 33 09.0 -0.3**
VIVF pmax pmax
comp=Z,46nm,1.6s,mb5.2
KSH Kashi 46.03 205 P **P** **08 33 14.8 +4.9**
KSH *e*AP pP 08 33 19.6 +8.6
KSH *e*XP sP 08 33 22.8 +11
KSH *e*PCP PcP 08 34 49.0 +2.1
KSH *e*PP PP 08 35 04.8 +6.7
KSH *e*PCS 08 38 40.3
KSH *e*SCP 08 38 41.5
KSH *e*S **S** **08 40 02.0 +7.0**
KSH *e*XS 08 40 10.2
KSH *e*SCS ScS 08 43 06.7 +2.6
KSH AMB AMB
comp=Z,250nm,4.8s
KSH LR LR
comp=N,430nm,8.8s
KSH LR LR
comp=E,480nm,6.0s
NEW Newport 46.11 33 *e*P **P** **08 33 11.1 +0.7**
NEW pmax pmax
comp=Z,19nm,1.0s
NEW Newport 46.11 33 *e*P **P** **08 33 11.1 +0.8**
comp=Z,19nm,1.0s,mb5.0
SEI Scarperia 46.18 273 *e*P **P** **08 33 12.0 +1.0**
LFF La Frestale 46.23 283 *e*P **P** **08 33 11.1 -0.3**
comp=Z,149nm,1.6s,mb5.4
LFF La Frestale 46.23 283 *e*P **P** **08 33 11.1 -0.3**
LFF pmax pmax
comp=Z,75nm,1.6s,mb5.4
VMG Vicchio 46.25 273 *e*P **P** **08 33 13.2 +1.6**
SFI Santa Sofia 46.28 272 *e*P **P** **08 33 15.7 +3.9**
PGD Poggio Sodo 46.32 272 *e*P **P** **08 33 13.8 +1.7**
CRE Caprese Michel 46.55 272 *e*P **P** **08 33 14.6 +0.6**
KRV Ganca 46.60 237⇑ *i*P **P** **08 33 14.0 -0.4**
SBF Sospel 46.71 277 *e*P **P** **08 33 14.6 -0.6**
comp=Z,172nm,1.2s,mb5.5
SBF Sospel 46.71 277 *e*P **P** **08 33 14.6 -0.6**
SBF pmax pmax
comp=Z,86nm,1.2s,mb5.6
SMRF Simiane la Rot 46.77 279 *e*P **P** **08 33 15.7 +0.1**
LASF Ste Croix 46.82 280 *e*P **P** **08 33 16.3 +0.3**
comp=Z,142nm,1.3s,mb5.4
GNI Garni 47.22 238 *e*P **P** **08 33 20.6 +1.3**
GNI pmax pmax
comp=Z,17nm,1.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GNI	Garni	47.22	238	eP	P	08 33 20.6	+1.3
	comp=Z,17nm,1.0s,mb4.9						
LMR	La Mourre	47.32	278	eP	P	08 33 19.3	-0.7
SKO	Skopje	47.35	262	eP	P	08 33 27.5	+7.2
CHMT	Chamberlain Mo	47.63	30	eP	P	08 33 21.3	-1.2
AQU	L'Aquila	47.68	271	eP	P	08 33 23.5	+0.6
AQU				pmax	pmax		
	comp=Z,48nm,1.1s,mb5.4						
AQU	L'Aquila	47.68	271	eP	P	08 33 23.5	+0.5
	comp=Z,48nm,1.1s,mb5.4						
MTLF	Montolieu	47.69	282	eP	P	08 33 22.6	-0.3
	comp=Z,25nm,1.2s,mb4.8						
MSO	Missoula	47.69	31	eP	P	08 33 22.9	0.0
	comp=Z,10nm,0.9s,mb4.9						
PGF	Pioggiola	47.88	275	eP	P	08 33 23.9	-0.6
	comp=Z,312nm,1.6s,mb5.8						
PGF	Pioggiola	47.88	275	eP	P	08 33 23.9	-0.6
PGF				pmax	pmax		
	comp=Z,156nm,1.6s,mb5.8						
HRY	Holter Researc	47.90	29	eP	P	08 33 22.5	-2.1
LAO	LASA Array	48.14	23	eP	P	08 33 26.7	+0.3
	comp=Z,23nm,0.9s,mb5.2						
BOZ	Bozeman (W)	48.97	29	eP	P	08 33 33.3	+0.5
	comp=Z,8.9nm,0.9s,mb4.8						
LZH	Lanzhou	49.02	175	eP	P	08 33 34.4	+1.1
LZH				AP	pP	08 33 42.1	+7.6
LZH				XP	sP	08 33 46.0	+11
LZH				AMB	AMB		
	comp=Z,90nm,1.5s,mb5.6						
LZH				LR	LR		
	comp=N,1μm,16.6s						
LZH				LR	LR		
	comp=Z,860nm,20.4s,MS4.7						
LZH	Lanzhou	49.02	175	eP	P	08 33 34.4	+1.1
LZH				*PP	pP	08 33 42.1	+7.6
LZH				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.6						
LZH				MLR	MLR		
	comp=Z,860nm,20.4s,MS4.7						
LZH	Lanzhou	49.02	175	eP	P	08 33 34.4	+1.1
	comp=Z,90nm,1.5s,mb5.6						
LZH				pP	pP	08 33 42.1	+7.6
LZH				sP	sP	08 33 46.0	+11
LZH				LR	LR		
	comp=Z,860nm,20.4s,MS4.7						
BMO	Blue Mountains	49.50	34	eP	P	08 33 37.6	+0.6
	comp=Z,13nm,1.0s,mb4.9						
MALT	Malatya	49.54	245	eP	P	08 33 37.9	+0.6
MALT				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
MALT	Malatya	49.54	245	eP	P	08 33 37.9	+0.6
	comp=Z,17nm,1.4s,mb4.9						
MCMT	McKenzie Canyo	49.74	30	eP	P	08 33 39.3	+0.5
QLMT	Earthquake Lak	49.79	28	eP	P	08 33 40.1	+1.0
YMR	Madison River	49.98	28	eP	P	08 33 40.0	-0.5
LKWY	Lake	50.10	28	eP	P	08 33 43.2	+1.7
	comp=Z,9.9nm,1.0s,mb4.8						
ISP	Isparta	50.66	253	eP	P	08 33 46.2	+0.3
ESDC	Sonseca Array	51.86	287	P	P	08 33 54.7	-0.3
	comp=Z,1.7nm,0.8s,mb4.0,baz=355,slow=8.8,SNR=5.4						
PDAR	Pinedale Array	51.93	27	P	P	08 33 54.8	-0.7
	comp=Z,1.6nm,1.0s,mb3.9,slow=1.5,SNR=10						
PDAR				LR	LR	08 56 11.7	
	comp=Z,519nm,18.5s,MS4.6,baz=6.2,slow=36						
MOD	Modoc	52.29	37	eP	P	08 33 58.8	+0.6
	comp=Z,9.6nm,1.0s,mb4.7						
HWUT	Hardware Ranch	53.01	29	eP	P	08 34 03.0	-0.6
	comp=Z,17nm,1.0s,mb4.9						
CSS	Prodhromos	53.28	249	P	P	08 34 05.4	-0.3
	comp=Z,56nm,1.8s,mb5.2						
TCUT	Toone Canyon	53.50	29	P	P	08 34 07.5	+0.3
BMN	Battle Mountai	53.91	34	eP	P	08 34 11.5	+1.3
	comp=Z,7.1nm,1.0s,mb4.5						
CD2	Chengdu	54.18	175	eP	P	08 34 12.0	-0.3
DAU	Daniels Canyon	54.21	29	eP	P	08 34 14.4	+2.0
SSE	Sheshan	54.37	157	P	P	08 34 10.5	-3.2
	comp=Z,34nm,0.7s,mb5.4						
SSE				sP	sP	08 34 23.4	+8.1
SSE				S	S	08 41 44.8	-6.1
SSE				sS		08 42 00.9	
SSE				SS	SS	08 45 27.9	-4.6
SSE				LR	LR		
	comp=Z,140nm,23.9s,MS4.0						
MPU	Maple Canyon	54.59	29	eP	P	08 34 15.1	-0.1
OHCM	Honcut	54.78	38	eP	P	08 34 17.8	+1.2
ISCO	Idaho Springs	55.04	23	eP	P	08 34 18.2	-0.3
	comp=Z,1.7nm,0.8s,mb4.1						
DDI	Dehra Dun	55.12	202	e	P	08 34 16.3	-2.9
TMUT	Trail Mountain	55.33	29	eP	P	08 34 20.6	0.0
TMUT				e		08 34 29.4	
SRU	San Rafael	55.54	28	eP	P	08 34 21.8	-0.3
ASF	Jabal al Asfar	55.76	245	P	P	08 34 23.0	-0.9
	comp=Z,9.8nm,1.1s,mb4.7,baz=346,slow=4.2,SNR=4.8						
NVAR	Mina Array Bea	55.85	35	P	P	08 34 22.9	-1.5
	comp=Z,2.3nm,0.8s,mb4.3,baz=344,slow=3.7,SNR=14						
NVAR				PcP	PcP	08 35 23.6	+0.5
	comp=Z,3.2nm,1.1s,baz=6.2,slow=3.7,SNR=4.2						
NVAR	Mina Array Bea	55.85	35	P	P	08 34 22.9	-1.5
NVAR				PcP	PcP	08 35 23.6	+0.5
MSU	Marysvale	56.06	30	eP	P	08 34 26.2	+0.3
MVU	Marysvale	56.07	30	eP	P	08 34 26.1	+0.1
	comp=Z,8.4nm,0.9s,mb4.8						
TPH	Tonopah	56.26	34	P	P	08 34 26.5	-0.9
	comp=Z,6.7nm,0.9s,mb4.7						
PV10	Paradox Valley	56.33	27	eP	P	08 34 28.3	+0.4
PV01	Paradox Valley	56.59	26	eP	P	08 34 29.9	+0.1
OMM	Old Mammoth Mi	56.63	36	eP	P	08 34 30.4	+0.4
ARUT	Antelope Range	56.73	31	eP	P	08 34 31.3	+0.6
ARUT				e		08 34 38.8	
CCM	Cathedral Cave	57.15	10	eP	P	08 34 31.6	-2.1
CCM				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
CCM	Cathedral Cave	57.15	10	eP	P	08 34 31.6	-2.1
	comp=Z,9.1nm,0.9s,mb4.8						
GKN	Gorkha	57.24	195	eP	P	08 34 32.6	-1.9
	comp=Z,52nm,1.0s,mb5.5						
GUN	Gumba	57.30	194	eP	P	08 34 33.8	-1.1
	comp=Z,40nm,0.9s,mb5.4						
KKN	Kakani	57.43	195	eP	P	08 34 34.4	-1.5
	comp=Z,90nm,1.4s,mb5.6						
KKN	Kakani	57.43	195	eP	P	08 34 34.4	-1.5
KKN				pmax	pmax		
	comp=Z,45nm,1.4s,mb5.3						
KOLN	Koldanda	57.49	197	eP	P	08 34 34.6	-1.7
	comp=Z,58nm,1.0s,mb5.5						
JIRN	Jiri	57.54	194	eP	P	08 34 35.8	-0.8
	comp=Z,116nm,1.6s,mb5.7						
DMN	Daman	57.62	195	eP	P	08 34 35.8	-1.3
	comp=Z,78nm,1.2s,mb5.6						
PKI	Pulchoki	57.65	195	eP	P	08 34 35.6	-1.8
	comp=Z,27nm,0.9s,mb5.3						
PKI	Pulchoki	57.65	195	eP	P	08 34 35.6	-1.8
PKI				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
EIL	Elat	58.40	247	P	P	08 34 41.8	-0.8
	comp=Z,36nm,1.4s,mb5.2						
GYA	Guiyang	58.64	172	⇓iP	P	08 34 44.0	-0.3
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
JOW	Kunigami	58.89	150	LR	LR	09 01 59.0	
	comp=Z,229nm,21.3s,MS4.3,baz=314,slow=38						
WUAZ	Wupatki	59.09	29	eP	P	08 34 47.4	+0.1
ANMO	Albuquerque	59.85	24	⇓iP	P	08 34 52.2	-0.3
ANMO	Albuquerque	59.85	24	eP	P	08 34 51.4	-1.2
	comp=Z,13nm,1.2s,mb4.8						
KMI	Kunming	59.94	176	P	P	08 34 52.9	-0.4
KMI				PP	PP	08 37 12.2	+4.7
KMI				S	S	08 43 04.7	+0.3
KMI				SS	SS	08 47 00.7	-1.1
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,252nm,4.3s						
KMI				LR	LR		
	comp=N,282nm,17.6s,MS4.7						
KMI				LR	LR		
	comp=E,371nm,18.3s,MS4.7						
KMI				LR	LR		
	comp=Z,411nm,16.7s,MS4.6						
KMI	Kunming	59.94	176	P	P	08 34 52.9	-0.4
KMI				*PP	pP	08 34 56.4	+1.9
KMI				*SP	sP	08 34 57.6	+2.7
KMI						08 37 12.2	
KMI				S	S	08 43 04.7	+0.3
KMI				SS	SS	08 47 00.7	-1.1
KMI				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
KMI				MLR	MLR		
	comp=Z,410nm,16.7s,MS4.6						
KMI	Kunming	59.94	176	P	P	08 34 52.9	-0.4
	comp=Z,15nm,1.2s,mb4.9						
KMI				pP	pP	08 34 56.4	+1.9
KMI				sP	sP	08 34 57.6	+2.7
KMI				PP	PP	08 37 12.2	+4.7
KMI				S	S	08 43 04.7	+0.3
KMI				SS	SS	08 47 00.7	-1.1
KMI				LR	LR		
	comp=Z,410nm,16.7s,MS4.6						
OXF	Oxford	60.71	8	eP	P	08 34 57.9	-0.5
OXF				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.5						
OXF	Oxford	60.71	8	eP	P	08 34 57.9	-0.5
	comp=Z,38nm,0.9s,mb5.5						
RAYN	Ar Rayn	63.68	236	P	P	08 35 17.0	-1.3
	comp=Z,117nm,0.9s,SNR=8.8						
JCT	Junction City	64.52	18	eP	P	08 35 22.6	-1.1
JCT				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
JCT	Junction City	64.52	18	eP	P	08 35 22.6	-1.1
	comp=Z,13nm,1.0s,mb4.9						
LTX	Lajitas	65.54	22	eP	P	08 35 28.6	-1.7
LTX				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
LTX	Lajitas	65.54	22	eP	P	08 35 28.6	-1.7
	comp=Z,6.4nm,0.7s,mb4.8						
TXAR	Lajitas Array	65.54	22	P	P	08 35 28.6	-1.7
	comp=Z,4.3nm,0.7s,mb4.6,baz=357,slow=3.2,SNR=39						
TXAR				LR	LR	09 03 44.0	
	comp=Z,528nm,21.7s,MS4.7,baz=55,slow=36						
CMAR	Chiang Mai Arr	66.56	180	P	P	08 35 34.9	-2.1
	comp=Z,5.7nm,0.9s,mb4.6,baz=350,slow=8.4,SNR=18						
CMAR				LR	LR	09 06 56.2	
	comp=Z,224nm,19.8s,MS4.4,baz=25,slow=38						
HYB	Hyderabad	67.94	201	eP	P	08 35 44.0	-1.7
HYB	Hyderabad	67.94	201	iP	P	08 35 44.0	-1.7
DBIC	Dimbokro	84.65	285	P	P	08 37 19.7	+0.1
	comp=Z,3.8nm,1.0s,mb4.5,baz=5.6,slow=9.2,SNR=2.7						
DBIC				LR	LR	09 15 58.5	
	comp=Z,91nm,19.2s,MS4.2,baz=35,slow=36						
DBIC	Dimbokro	84.65	285	P	P	08 37 19.7	+0.1
DBIC				LR	LR	09 15 58.5	
JTS	JuntasAbangare	84.86	4	LR	LR	09 13 39.1	
	comp=Z,190nm,21.3s,MS4.5,baz=351,slow=35						
SDV	Santo Domingo	86.19	350	eP	P	08 37 28.3	+0.9
	comp=Z,16nm,0.9s,mb5.2						
KMBO	Kilima Mbogo	88.73	242	LR	LR	09 26 07.4	
	comp=Z,119nm,18.8s,MS4.3,baz=78,slow=42						
ROSC	El Rosal	90.24	354	LR	LR	09 21 01.4	
	comp=Z,150nm,18.6s,MS4.5,baz=15,slow=37						
WRA	Warramunga Arr	105.62	146	Pdiff	Pdif	08 38 55.5	-0.7
	comp=Z,1.1nm,0.9s,baz=2.0,slow=5.5,SNR=5.8						
PLCA	Paso Flores	135.55	349	PKP	PKPdf	08 44 06.2	-0.6
	comp=Z,1.4nm,0.9s,baz=202,slow=4.9,SNR=4.2						

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*ISK **06** 08:38:09.4, 37.85N×43.77E, h16km, ML4.1*
*CSEM **06** 08:38:09.5±0.1, 37.69N×43.48E, h2km, mb4.2/5, Error ellipse: s-maj=5.2km s-min=2.6km az=1.0*
*IDC **06** 08:38:10.0±1.2, 37.78N×43.36E, mb3.9/6, mb1 4.1/8, mb1mx3.8/18, mbtmp3.9/8, ML2.5/2, MS3.3/1, Ms1 3.3/1, ms1mx3.0/16, Error ellipse: s-maj=26.8km s-min=13.6km az=135.0*
*NEIC **06** 08:38:11.8±0.7, 37.57N×43.57E, h10km, mb4.2/3, MD4.1(ISK), Error ellipse: s-maj=13.8km s-min=7.6km az=174.0*
*MOS **06** 08:38:12.4±2.3, 37.29N×43.48E, h33km, mb4.3/5, Error ellipse: s-maj=18.0km s-min=11.6km az=117.6*
ISC 06 08:38:11.0±0.4**, 37.53N**±0.05×**43.56E**±0.05**, h16km, n65, σ1ˢ10**/69**, mb3.8**/9**, 1C-2D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.15	69	iPG	Pb	08 38 15.8	+0.6
HKR	Hakkari	0.15	69	Pg	Pb	08 38 15.9	+0.7
VANT	Van	0.93	351	iPG	Pb	08 38 23.4	-4.9
VANT				iSG	Sb	08 38 33.7	-6.5
TVAN	Van	1.01	353	iP	Pb	08 38 24.4	-5.3
TVAN				iS	Sb	08 38 34.8	-7.7
MSL	Mosul	1.29	197	iPn	Px	08 37 41.5	
MSL				iPg	Px	08 37 43.2	
MSL				iSb	Sx	08 38 01.5	
MSL				iSg	Sx	08 38 02.7	
BTMT	Batman	1.77	293	PN	Pn	08 38 42.6	+1.2
BTMT				SN	Sn	08 39 07.9	+4.2
BEST	Besiri	1.86	282	iP	Pn	08 38 44.0	+1.3
BEST				iS	Sn	08 39 10.5	+4.6
VRT	Varto	2.27	316	PN	Pn	08 38 46.1	-2.4
VRT	Varto	2.27	316	Pn	Pn	08 38 49.3	+0.8
VRT	Varto	2.27	316	Pn	Pn	08 38 49.3	+0.8
DIY	Diyarbakir	2.67	279	ePN	Pn	08 38 54.4	+0.1
DIY	Diyarbakir	2.67	279	Pn	Pn	08 38 54.4	+0.1
BINT	Bingol	2.77	300	ePN	Pn	08 38 54.1	-1.6
BINT	Bingol	2.77	300	Pn	Pn	08 38 56.9	+1.2
GNI	Garni	2.78	19	ePN	Pn	08 38 49.3	-6.5
GNI	Garni	2.78	19	Pn	Pn	08 38 54.9	-0.8
	15nm,0.3s,baz=250,slow=1.9,SNR=31						
GNI				Lg		08 39 33.2	
	8.0nm,0.3s,baz=186,slow=19,SNR=3.6						
GNI	Garni	2.78	19	ePn	Pn	08 38 54.4	-1.4
GNI	Garni	2.78	19	eP	Pn	08 38 54.4	-1.4
ERZM	Erzurum	2.93	325	iP	Pn	08 38 58.7	+0.7
ERZM				iS	Sn	08 39 34.1	+0.9
EZM	Erzurum	2.94	325	PN	Pn	08 38 55.3	-2.7
EZC	Erzincan	3.68	308	Pn	Pn	08 39 13.7	+5.1
ELZG	Elazig	3.75	286	iP	Pn	08 39 08.8	-0.7
ELZG	Elazig	3.75	286	iP	Pn	08 39 08.8	-0.7
ELZG				iS	Sn	08 40 11.9	+18
URFA	Urfa	3.77	270	ePN	Pn	08 39 11.5	+1.6
URFA	Urfa	3.77	270	Pn	Pn	08 39 10.0	+0.1
URFA	Urfa	3.77	270	Pn	Pn	08 39 10.0	+0.1
MALT	Malatya	4.14	283	ePN	Pn	08 39 15.1	0.0
MALT	Malatya	4.14	283	ePn	Pn	08 39 14.4	-0.7
MALT	Malatya	4.14	283	ePn	Pn	08 39 14.4	-0.7
BHD	Baghdad	4.30	171	ePn	Px	08 39 43.0	
BHD				eSn	Sx	08 40 35.0	
BHD				iSb	Sx	08 40 47.0	
BHD				iLg		08 40 55.0	
BHD				iSg	Sx	08 40 58.0	
TI2	Plekhanov	4.30	12	iP	Pn	08 39 23.8	+6.4
GUMT	Gumushane	4.33	314	Pn	Pn	08 39 19.1	+1.3
GZT	Gaziantep	4.78	270	iP	Pn	08 39 23.2	-1.0
GZT				iS	Pb	08 39 35.0	+1.1
GAZ	Gaziantep	5.07	268	Pn	Pn	08 39 28.4	0.0
GAZ	Gaziantep	5.07	268	Pn	Pn	08 39 28.4	0.0
KAHT	Ahir Dag	5.32	273	iP	Pn	08 39 31.1	-0.7
KAHT				iS	Sn	08 41 03.4	+30
COBT	Iskenderun	5.93	262	iP	Pn	08 39 40.1	-0.4
ASF	Jabal al Asfar	7.65	228	Pn	Pn	08 40 03.9	-0.7
	0.9nm,0.3s,baz=276,slow=15,SNR=3.2						
ASF				Lg		08 42 13.9	
	1.0nm,0.3s,baz=295,slow=19,SNR=2.5						
EIL	Elat	10.62	225	LR	LR	08 45 24.8	
	comp=Z,147nm,19.8s,baz=102,slow=41						
ASHO	Ashiyiah	16.66	137	⇓P	P	08 42 05.6	+0.1
	SNR=5.8						
ARQ	Araqi	18.00	138	⇑P	P	08 42 21.2	-1.0
MOS	Moscow	18.66	349	eP	P	08 42 38.8	+8.6
BSY	Bisya	18.84	138	⇓P	P	08 42 32.1	-0.4
BSYO	Bisya	18.87	138	P	P	08 42 32.1	-0.8
SMDO	Samad	19.05	135	P	P	08 42 35.8	+0.6
	SNR=11						
WHFO	Wadi Hawf	21.49	153	P	P	08 43 02.5	+1.3
	SNR=18						
RBK	Rabkut	22.03	152	P	P	08 43 08.0	+1.4
	SNR=14						
BVAR	Borovoye Array	24.22	42	P	P	08 43 28.1	+0.4
	1.0nm,0.7s,mb3.4,baz=247,slow=11,SNR=4.0						
GERES	GERESS Array B	24.38	307	P	P	08 43 28.8	-0.6
	2.1nm,0.9s,mb3.6,baz=98,slow=6.9,SNR=13						
CHKZ	Chkalovo	24.66	40	eP	P	08 43 31.6	-0.4
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.0						
CHKZ	Chkalovo	24.66	40	eP	P	08 43 31.6	-0.4
	comp=Z,6.3nm,1.2s,mb4.0						
CHKZ	Chkalovo	24.66	40	eP	P	08 43 31.6	-0.4
	comp=Z,6.3nm,1.2s,mb4.0						
CLL	Collm	25.59	312	eP	P	08 43 38.0	-2.9
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
CLL	Collm	25.59	312	P	P	08 43 42.0	+1.1
CLL	Collm	25.59	312	eP	P	08 43 38.0	-2.9
	comp=Z,8.0nm,1.0s,mb4.2						
GRA1	Grafenberg Arr	26.18	308	eP	P	08 43 47.6	+1.3
	comp=Z,6.0nm,1.0s,mb4.1						
GRF	Grafenberg Arr	26.18	308	eP	P	08 43 47.6	+1.3
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
GRF	Grafenberg Arr	26.18	308	eP	P	08 43 47.6	+1.3
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
GRF	Grafenberg Arr	26.18	308	eP	P	08 43 47.6	+1.3
	comp=Z,6.0nm,1.0s,mb4.1						
DAVOX	Davos	26.46	301	P	P	08 43 45.1	-3.9
	comp=Z,4.5nm,0.8s,mb4.0,baz=121,slow=13,SNR=5.1						
DAVOS	Davos	26.52	301	P	P	08 43 45.1	-4.5
ESDC	Sonseca Array	36.87	288	P	P	08 45 17.6	-2.8
	comp=Z,0.9nm,0.7s,mb3.7,baz=49,slow=9.6,SNR=4.7						
CMAR	Chiang Mai Arr	51.71	96	P	P	08 47 20.4	+0.7
	comp=Z,0.6nm,0.5s,mb3.8,baz=307,slow=9.0,SNR=4.1						
YKA	Yellowknife Ar	78.78	350	P	P	08 50 13.3	-0.6
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	Yellowknife Ar	78.78	350	P	P	08 50 13.3	-0.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=22,slow=6.0,SNR=7.7						

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*DJA **06** 08:42:15.1±1.5, 8.45S×116.44E, h33km, MD4.7/4, ML4.9/3, Error ellipse: s-maj=41.4km s-min=24.3km az=43.0*
*IDC **06** 08:42:24.1±6.9, 8.57S×115.95E, h81km±80km, mb3.9/4, mb1 4.1/4, mb1mx3.9/11, mbtmp4.2/4, Error ellipse: s-maj=109.4km s-min=16.9km az=51.0*
ISC 06 08:42:16.4±4.9**, 8.4S**±0.2×**116.19E**±0.08**, h18km**±38km**, n19, σ0ˢ82**/23**, mb4.1**/4**, 8C-7D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.14	211	⇓iPn	Pn	08 42 22.5	-0.8
KEDI	Kedomdong	0.14	211	⇓iPn	Pn	08 42 22.5	-0.8
	6μm,0.3s						
KEDI	Kedomdong	0.14	211	⇓iP	Pn	08 42 22.8	-0.5
RATI	Rata	0.74	241	⇓iPn	Pn	08 42 31.5	-0.3
	6μm,0.3s						
RATI	Rata	0.74	241	⇑iP	Pn	08 42 32.0	+0.2
RATI	Rata	0.74	241	⇓ePn	Pn	08 42 31.5	-0.3
	6μm,0.3s						
RATI	Rata	0.74	241	⇑iP	Pn	08 42 32.4	+0.6
KELI	Kelakatan	1.69	275	⇑iPn	Pn	08 42 45.9	+0.6
	367nm,0.3s						
KELI	Kelakatan	1.69	275	⇓iP	Pn	08 42 47.2	+1.9
KELI				⇑iSn	Sn	08 43 06.2	-0.4
KELI	Kelakatan	1.69	275	⇑iPn	Pn	08 42 45.9	+0.6
	367nm,0.3s						
KELI				⇑iSn	Sn	08 43 06.4	-0.2
SRDI	Scrawed	2.03	267	⇑iPn	Pn	08 42 50.1	-0.1
	667nm,0.2s						
SRDI	Scrawed	2.03	267	⇑iPn	Pn	08 42 50.1	-0.1
	477nm,0.4s						
SRDI	Scrawed	2.03	267	⇓iP	Pn	08 42 50.9	+0.7
FITZ	Fitzroy Crossi	13.35	137	eP	P	08 45 26.6	-1.1
	5.3nm,0.3s						
FITZ				eS	S	08 47 51.2	-5.4
WRA	Warramunga Arr	21.00	125	P	P	08 47 01.2	-0.3
	13nm,0.7s,mb4.4,baz=300,slow=12,SNR=172						
WRA				S	S	08 50 52.8	+3.0
	0.6nm,0.7s,baz=292,slow=21,SNR=3.4						
ASPA	Alice Springs	22.79	134	eP	P	08 47 20.6	+1.1
ASAR	Alice Springs	22.79	134	P	P	08 47 20.5	+1.0
	4.7nm,0.6s,mb4.1,baz=308,slow=8.6,SNR=91						
STKA	Stephens Creek	33.24	138	P	P	08 48 54.7	-0.2
	2.3nm,0.9s,mb4.1,baz=323,slow=10,SNR=4.9						
SONM	Songino Array	56.62	352	P	P	08 51 59.8	-0.9
	0.9nm,0.6s,mb4.0,baz=171,slow=8.7,SNR=8.5						

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*IDC **06** 08:53:35.8±2.4, 46.60N×146.88E, mb3.7/6, mb1 3.8/7, mb1mx3.6/20, mbtmp3.7/7, ML3.5/1, Error ellipse: s-maj=60.4km s-min=24.7km az=150.0*
*JMA **06** 08:53:37.5±0.3, 44.28N×148.11E, h100km, M3.2*
ISC 06 08:53:37.3±1.2**, 44.2N**±0.1×**147.9E**±0.2**, h156km**±10km**, n22, σ0ˢ98**/30**, mb3.5**/6**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.75	244	P	P	08 54 09.6	-0.6
NEM2				eS	S	08 54 33.7	-2.0
JRA	Rausu	2.01	265	P	P	08 54 12.8	-0.4
JRA				eS	S	08 54 40.0	-0.9
JNK	Nakash	2.37	257	P	P	08 54 17.7	+0.1
JNK				eS	S	08 54 48.2	-0.3
JAK	Akkeshi	2.60	245	P	P	08 54 20.6	+0.1
JAK				eS	S	08 54 53.2	-0.4
JTKR	Abashiri--Toko	2.88	268	P	P	08 54 23.9	-0.1
JAR	Ashorobuto	3.11	255	P	P	08 54 28.0	+1.0
JAR				eS	S	08 55 07.2	+2.1
JCH	Churui	3.65	247	P	P	08 54 34.3	+0.4
JCH				eS	S	08 55 18.4	+1.0
JKK2	Kamakawa 2	3.73	267	P	P	08 54 35.7	+0.8
ASAJ	Asahikawa	3.82	271	Pn	P	08 54 36.8	+0.7
	2.8nm,0.3s,baz=75,slow=22,SNR=18						
JSE	Soyaes	3.88	284	P	P	08 54 35.7	-1.2
JFR	Furan	3.97	257	P	P	08 54 39.4	+1.2
JNBK	Urakawa-nobuka	4.20	245	P	P	08 54 41.5	+0.4
JKB	Kayabe	5.52	248	P	P	08 54 59.6	+1.1
JKB				eS	S	08 56 01.5	+0.1
JOT	Ohata	5.75	244	P	P	08 55 01.9	+0.3
JANG	Nango	6.06	234	P	P	08 55 05.3	-0.3
JANG				eS	S	08 56 12.4	-1.9
SONM	Songino Array	28.82	292	P	P	08 59 22.6	0.0
	0.4nm,0.8s,mb3.2,baz=75,slow=8.2,SNR=3.1						
ILAR	Eielson Array	40.84	37	P	P	09 01 07.2	+2.5
	0.4nm,1.0s,mb3.0,baz=266,slow=5.3,SNR=4.3						
INK	Inuvik	45.78	31	P	P	09 01 44.1	-0.2
	0.5nm,0.6s,mb3.4,baz=296,slow=6.3,SNR=11						
FINES	FINESS Array B	64.76	333	P	P	09 03 59.2	-1.3
	2.2nm,0.8s,mb4.1,baz=47,slow=8.3,SNR=19						
NB2	NORSAR Subarra	69.42	339	P	P	09 04 28.9	-0.8
	1.0nm,0.4s,mb3.9,baz=30,slow=6.2						
NOA	NORSAR Array B	69.42	339	P	P	09 04 29.0	-0.7
	1.0nm,0.8s,mb3.6,baz=44,slow=8.1,SNR=3.7						
HFS	Hagfors	69.53	337	P	P	09 04 29.4	-0.9
	2.3nm,0.8s,mb3.9,baz=34,slow=5.3,SNR=6.5						

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*IDC **06** 09:02:51.5±0.8, 30.72N×56.85E, mb4.0/11, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, ML3.6/3, Error ellipse: s-maj=21.7km s-min=18.5km az=17.0*
*NEIC **06** 09:02:52.6, 30.76N×56.77E, h14km, mb4.4/14, ML4.2(THR), MN4.3(TEH), After THR.*
*BJI **06** 09:02:52.4, 30.80N×56.80E, h10km, mB4.7, mb4.4, Ms4.1, Msz3.8*
*THR **06** 09:02:52.6±0.7, 30.76N×56.77E, h14km±7km, ML4.2*
*TEH **06** 09:02:53.9, 30.68N×56.84E, h10km, Mn4.3*
*CSEM **06** 09:02:53.1±0.1, 30.76N×56.79E, h18km, mb4.6/10, ML4.9/1, Error ellipse: s-maj=2.2km s-min=1.4km az=37.0*
*MOS **06** 09:02:55.3±1.0, 30.83N×56.85E, h33km, mb4.7/7, Error ellipse: s-maj=14.2km s-min=8.2km az=125.5*
ISC 06 09:02:53.6±1.2**, 30.78N**±0.03×**56.78E**±0.04**, h22km**±10km**, n92, σ0ˢ92**/98**, mb4.3**/25**, MS3.8**/1**, 3C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.80	181	iPg	Pb	09 03 07.0	-1.6
KRBR	Kerman	0.80	181	iPG	Pb	09 03 07.2	-1.4
KRBR				AML	AML	09 03 25.5	
	comp=E,8μm,0.3s						
IBAF	Bafgh	1.32	308	Pg	Pn	09 03 17.0	0.0
IMEH	Mehriz	1.96	289	Pn	Pn	09 03 27.4	+1.3
ICHK	Chekchek	2.50	306	Pn	Pn	09 03 34.7	+0.8
ISAD	Sadrabad	2.88	294	Pn	Pn	09 03 40.6	+1.3
BNDS	Bandar-Abbas	3.41	189	ePN	Pn	09 03 47.7	+0.9
BNDS				AML	AML	09 04 42.6	
	comp=N,422nm,0.5s						
BNDS	Bandar-Abbas	3.41	189	ePn	Pn	09 03 47.0	+0.2
ISRV	Sarvestan	3.47	247	Pn	Pn	09 03 48.1	+0.4
ZHSF	Zahedan	3.65	108	ePn	Pn	09 03 50.0	-0.2
ZHSF	Zahedan	3.65	108	ePN	Pn	09 03 50.8	+0.6
ZHSF				AML	AML	09 04 58.2	

	comp=N,286nm,0.8s						
SHI	Shiraz	3.86	254	Pn	Pn	09 03 53.7	+0.4
IMOK	Mook	3.93	245	Pn	Pn	09 03 53.8	-0.4
NASN	Na'in	3.94	302	ePn	Pn	09 03 54.0	-0.3
NASN				eSg	Sn	09 04 54.0	+14
NASN	Na'in	3.94	302	ePN	Pn	09 03 54.9	+0.6
NASN				eSG	Sn	09 04 54.8	+14
NASN				AML	AML	09 05 03.4	
	comp=N,487nm,0.5s						
NASN	Na'in	3.94	302	ePn	Pn	09 03 54.9	+0.6
	SNR=52						
NASN				eSg	Sn	09 04 54.8	+14
	comp=N,487nm,0.5s,SNR=90						
GHIR	Ghir-Karzin	4.14	234	ePn	Pn	09 03 57.0	-0.1
GHIR	Ghir-Karzin	4.14	234	ePN	Pn	09 03 57.4	+0.3
BANOM	Banah	4.86	185	⇓P	Pn	09 04 08.1	+0.7
	SNR=52						
QAM	Qamsar	5.24	308	Pn	Pn	09 04 17.0	+4.3
IFIR	Firoozkooh	5.91	326	Pn	Pn	09 04 22.1	-0.1
IVRN	Varamin	5.98	316	Pn	Pn	09 04 23.0	-0.2
ASHO	Ashiyiah	6.11	186	P	Pn	09 04 25.5	+0.5
	SNR=30						
IDMV	Damavand	6.22	322	Pn	Pn	09 04 26.3	-0.3
IQOM	Qom	6.29	312	Pn	Pn	09 04 27.2	-0.3
IQOM				Sn	Sn	09 05 36.3	-3.1
DAMV	Damavand	6.29	321	ePn	Pn	09 04 27.0	-0.7
DAMV	Damavand	6.29	321	ePN	Pn	09 04 27.8	+0.1
IAFJ	Afjeh	6.60	321	Pn	Pn	09 04 31.5	-0.5
ASAO	Ashtian	6.82	305	ePn	Pn	09 04 34.0	-1.1
ASAO	Ashtian	6.82	305	ePN	Pn	09 04 34.9	-0.2
IRAZ	Razeghan	7.37	311	Pn	Pn	09 04 41.8	-0.9
IRAZ				Lg		09 06 46.9	
ARQ	Araqi	7.42	182	⇑P	Pn	09 04 43.9	+0.5
	SNR=9.3						
SMDO	Samad	7.77	171	P	Pn	09 04 47.3	-1.1
	SNR=14						
BSY	Bisya	8.01	177	P	P	09 04 52.2	+0.5
	SNR=11						
BSYO	Bisya	8.03	177	P	P	09 04 52.2	+0.3
	SNR=11						
WBK	Wadi Bani Khal	8.37	166	⇓P	P	09 04 54.9	-1.8
SNGE	Sanandaj	9.02	301	ePN	P	09 05 05.1	-0.5
SNGE	Sanandaj	9.02	301	ePn	P	09 05 05.0	-0.7
GNI	Garni	13.54	317	Pn	P	09 06 09.7	+2.8
	comp=N,0.7nm,0.3s,baz=346,slow=22,SNR=2.2						
GNI	Garni	13.54	317	P	P	09 06 09.2	+2.3
ZEI	Tsey	15.78	323	eP	P	09 06 36.5	+0.3
MALT	Malatya	16.87	301	eP	P	09 06 51.1	+1.1
MALT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
MALT	Malatya	16.87	301	eP	P	09 06 51.1	+1.1
	comp=Z,7.2nm,1.0s						
MALT	Malatya	16.87	301	eP	P	09 06 51.1	+1.1
	comp=Z,7.2nm,1.0s						
ASF	Jabal al Asfar	17.02	280	P	P	09 06 51.9	0.0
	comp=Z,0.5nm,0.3s,baz=314,slow=8.7,SNR=5.5						
KIV	Kislovodsk	17.24	324	eP	P	09 06 55.4	+0.7
KIV				pmax	pmax		
	comp=Z,21nm,0.9s						
KIV	Kislovodsk	17.24	324	eP	P	09 06 55.4	+0.7
	comp=Z,21nm,0.9s						
AAK	Ala-Archa	18.44	45	eP	P	09 07 08.6	-1.0
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	Ala-Archa	18.44	45	eP	P	09 07 08.6	-1.0
	comp=Z,4.0nm,0.8s						
EIL	Elat	18.90	272	P	P	09 07 16.1	+0.9
	comp=Z,0.7nm,0.3s,baz=105,slow=12,SNR=2.8						
EIL	Elat	18.90	272	P	P	09 07 15.6	+0.4
	comp=Z,5.9nm,0.8s						
EIL	Elat	18.90	272	P	P	09 07 15.6	+0.4
	comp=Z,5.8nm,0.8s						
CSS	Prodhromos	20.12	288	eP	P	09 07 26.3	-2.6
	comp=Z,50nm,1.6s						
ISP	Isparta	22.77	295	eP	P	09 07 57.6	+1.9
ISP				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.5						
ISP	Isparta	22.77	295	eP	P	09 07 57.5	+1.9
	comp=Z,23nm,1.3s,mb4.5						
KOLN	Koldanda	23.57	91	eP	P	09 08 04.3	+0.8
	comp=Z,17nm,0.8s,mb4.5						
HYB	Hyderabad	23.86	119	i P	P	09 08 07.0	+0.6
HYB	Hyderabad	23.86	119	eP	P	09 08 07.0	+0.6
BVAR	Borovoye Array	24.34	20	P	P	09 08 12.5	+1.6
	comp=Z,2.6nm,0.6s,mb3.9,baz=207,slow=9.9,SNR=18						
GKN	Gorkha	24.41	89	eP	P	09 08 12.7	+1.0
	comp=Z,32nm,0.8s,mb4.8						
DMN	Daman	24.90	90	eP	P	09 08 16.2	-0.3
CHKZ	Chkalovo	24.98	20	eP	P	09 08 16.1	-0.8
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
KKN	Kakani	25.01	90	eP	P	09 08 18.4	+0.9
	comp=Z,47nm,0.9s,mb5.0						
KKN	Kakani	25.01	90	eP	P	09 08 18.4	+0.9
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.7						
PKI	Pulchoki	25.17	90	eP	P	09 08 19.4	+0.4
	comp=Z,72nm,1.0s,mb5.2						
PKI	Pulchoki	25.17	90	eP	P	09 08 19.4	+0.4
PKI				pmax	pmax		
	comp=Z,36nm,1.0s,mb4.9						
GUN	Gumba	25.50	89	eP	P	09 08 23.4	+1.3
	comp=Z,33nm,0.7s,mb5.0						
KURK	Kurchatov	25.72	33	eP	P	09 08 22.5	-1.4
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
JIRN	Jiri	25.82	89	eP	P	09 08 25.5	+0.4
	comp=Z,44nm,0.9s,mb5.0						
WMQ	Urumqi	27.65	53	eP	P	09 08 42.0	+0.3
WMQ				AP	pP	09 08 46.0	-2.2
WMQ				XP	sP	09 08 49.0	-2.1
WMQ				eS	S	09 13 21.0	+0.3
WMQ				SS	SS	09 14 36.0	-4.2
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,131nm,3.6s						
WMQ				LR	LR		
	comp=N,237nm,19.0s,MS3.9						
WMQ				LR	LR		
	comp=E,218nm,17.5s,MS3.9						
WMQ				LR	LR		
	comp=Z,164nm,18.4s,MS3.6						
OBN	Obninsk	28.26	335	⇑iP	P	09 08 48.0	+0.9
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
OBN	Obninsk	28.26	335	⇑iP	P	09 08 48.0	+0.9
	comp=Z,5.0nm,0.7s,mb4.2						
KSP	Ksiaz	36.02	316	eP	P	09 09 53.7	-1.3
JOF	Joensuu	36.06	340	ep	P	09 09 54.5	-0.7
	comp=Z,5.7nm,0.8s,mb4.5						
FINES	FINESS Array B	36.66	336	P	P	09 10 00.6	+0.3
	comp=Z,1.2nm,0.5s,mb4.0,baz=132,slow=9.4,SNR=28						
GERES	GERESS Array B	37.10	312	P	P	09 10 03.3	-0.8
	comp=Z,0.7nm,0.6s,mb3.7,baz=97,slow=11,SNR=7.8						
KHC	Kasperske Hory	37.25	312	eP	P	09 10 05.0	-0.3
CMAR	Chiang Mai Arr	40.02	98	P	P	09 10 28.6	-0.2
	comp=Z,3.7nm,1.1s,mb4.0,baz=305,slow=8.4,SNR=10						
NB2	NORSAR Subarra	42.43	329	P	P	09 10 47.1	-1.0
	comp=Z,0.9nm,0.6s,mb3.6,baz=112,slow=7.9						
NB2	NORSAR Subarra	42.43	329	P	P	09 10 47.1	-1.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
NOA	NORSAR Array B	42.43	329	P	P	09 10 47.5	-0.6
	comp=Z,2.4nm,0.8s,mb3.9,baz=115,slow=7.9,SNR=5.4						
HHC	Hu-ho-hao-te	44.91	61	eP	P	09 11 04.9	-3.6
HHC				PP	PP	09 12 50.1	-4.2
HHC				PCS		09 16 39.1	
HHC				S	S	09 17 40.3	-4.2
HHC				SCS	ScS	09 20 58.9	-3.1
HHC				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,151nm,11.3s						
BOD	Bodaibo	47.20	38	eP	P	09 11 26.1	-0.2
BOD				e		09 13 23.0	
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BOD	Bodaibo	47.20	38	eP	P	09 11 26.1	-0.2
	comp=Z,6.0nm,1.0s,mb4.5						
CN2	Changchun	54.70	56	eP	P	09 12 22.7	-0.7
MATP	Matopo	57.71	212	P	P	09 12 44.1	-1.2
	comp=Z,2.0nm,0.8s,mb4.2,baz=28,slow=7.7,SNR=4.7						
DBIC	Dimbokro	62.30	261	P	P	09 13 16.3	-0.5
	comp=Z,3.1nm,0.8s,mb4.5,baz=53,slow=7.6,SNR=2.7						
INK	Inuvik	80.92	4	P	P	09 15 07.2	+0.1
	comp=Z,2.2nm,1.2s,mb4.0,baz=337,slow=4.0,SNR=4.6						
ILAR	Eielson Array	82.98	10	P	P	09 15 17.8	-0.1
	comp=Z,0.4nm,0.6s,mb3.6,baz=317,slow=4.2,SNR=15						
YKA	Yellowknife Ar	86.80	356	P	P	09 15 37.6	+0.7
	comp=Z,0.4nm,0.5s,mb3.9,baz=2.2,slow=5.2,SNR=22						
YKA	Yellowknife Ar	86.80	356	P	P	09 15 37.7	+0.8
WRA	Warramunga Arr	89.90	113	P	P	09 15 51.5	-1.2
	comp=Z,0.6nm,0.7s,mb4.0,baz=316,slow=4.0,SNR=10.0						

*IDC **06** 09:12:30.5±0.8, 14.99S×173.92W, mb4.1/9, mb1 4.5/9, mb1mx4.3/16, mbtmp4.1/9, MS3.8/3, Ms1 3.8/3, ms1mx3.5/17, Error ellipse: s-maj=47.4km s-min=19.8km az=144.0*

*NEIC **06** 09:12:31.9±0.4, 14.95S×173.92W, h10km, mb4.3/4, Error ellipse: s-maj=23.9km s-min=9.6km az=144.0*

ISC 06 09:12:33.8±0.7**, 15.0S**±0.2×**174.0W**±0.2**, h33km, n18, σ0^{s}64**/17**, mb4.1**/12**, MS3.8**/2**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.40	63	eP	P	09 13 02.3	-9.2
AFI				eS	S	09 13 20.6	-19
RAR	Rarotonga	14.83	117	LR	LR	09 20 09.5	
	comp=Z,399nm,21.5s,baz=305,slow=31						
WRAB	Tennant Creek	49.38	257	eP	P	09 21 22.4	-0.2
	6.4nm,1.1s,mb4.6						
WRA	Warramunga Arr	49.39	256	P	P	09 21 22.9	+0.2
	2.0nm,0.9s,mb4.2,baz=90,slow=6.8,SNR=24						
ASAR	Alice Springs	49.70	252	P	P	09 21 25.3	+0.3
	9.0nm,0.8s,mb4.9,baz=87,slow=7.9,SNR=67						
ASAR				LR	LR	09 39 42.7	
	comp=Z,62nm,19.3s,MS3.6,baz=90,slow=33						
ASPA	Alice Springs	49.71	252	eP	P	09 21 25.5	+0.5
VNDA	Vanda	63.69	186	P	P	09 23 03.2	-0.7
	15nm,1.4s,mb4.8,baz=15,slow=5.5,SNR=3.2						
NVAR	Mina Array Bea	74.42	42	P	P	09 24 12.2	+1.7
	1.1nm,0.8s,mb3.8,baz=218,slow=8.4,SNR=7.9						
NVAR				LR	LR	09 50 04.9	
	comp=Z,79nm,19.5s,MS4.0,baz=220,slow=30						
HLID	Hailey	79.69	40	eP	P	09 24 39.8	-0.1
	1.1nm,0.7s,mb3.9						
TXAR	Lajitas Array	80.86	56	P	P	09 24 46.6	+0.1
	1.5nm,0.9s,mb3.9,baz=233,slow=6.3,SNR=13						
ANMO	Albuquerque	80.98	50	P	P	09 24 47.0	0.0
	0.4nm,0.5s,mb3.6,baz=199,slow=2.6,SNR=4.0						
ANMO	Albuquerque	80.98	50	eP	P	09 24 47.1	+0.2
	2.4nm,1.1s,mb4.0						
COLA	College	82.10	11	eP	P	09 24 51.4	-0.8
	9.1nm,1.3s,mb4.5						
ILAR	Eielson Array	82.18	11	P	P	09 24 51.5	-1.0
	0.5nm,0.8s,mb3.5,baz=217,slow=5.3,SNR=7.0						
PDAR	Pinedale Array	82.36	42	P	P	09 24 54.3	+0.4
	0.8nm,0.9s,mb3.6,baz=207,slow=3.3,SNR=5.2						
YKA	Yellowknife Ar	89.97	24	P	P	09 25 30.4	-0.4
	0.5nm,0.9s,mb3.8,baz=239,slow=4.8,SNR=8.1						
YKA	Yellowknife Ar	89.97	24	P	P	09 25 30.4	-0.4
GERES	GERESS Array B	145.69	351	PKPbc	PKPbc	09 32 11.4	+1.8
	1.9nm,1.1s,baz=63,slow=3.0,SNR=6.1						

DJA 06 09:26:13.4±1.5**, 8.58S**×**116.52E, h33km, MD4.7**/4**, ML4.1**/3**, 3C-2D, Error ellipse: s-maj=46.5km s-min=28.6km az=136.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.41	283	⇓iPn	Pn	09 26 21.2	-1.7
	3μm,0.2s						
RATI	Rata	0.99	262	ePn	Pn	09 26 30.4	-0.7
	1μm,0.2s						
RATI	Rata	0.99	262	⇑iP	P	09 26 30.6	-0.3
RATI				⇑iSn	Sn	09 26 41.1	-2.9
KELI	Kelakatan	2.04	280	⇑iPn	Pn	09 26 46.1	-0.1
	51nm,0.2s						
SRDI	Scrawed	2.35	272	⇓iPn	Pn	09 26 49.3	-1.4
	37nm,0.2s						

DJA 06 09:28:57.6±0.8**, 8.55S**×**116.13E, h15km, MD4.7**/4**, ML4.0**/1**, 3C-3D, Error ellipse: s-maj=24.3km s-min=15.4km az=132.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.06	343	⇓iPn	Pn	09 29 00.5	-3.1
	4μm,0.2s						
RATI	Rata	0.62	253	⇑iPn	Pn	09 29 09.6	-1.9
	2μm,0.2s						
RATI	Rata	0.62	253	⇓iP	Pb	09 29 10.0	+0.4
KELI	Kelakatan	1.66	281	⇑iPn	Pn	09 29 24.1	-2.3
KELI				⇑eSn	Sn	09 29 42.4	-5.0
SRDI	Scrawed	1.97	272	⇓iPn	Pn	09 29 28.4	-2.5
	96nm,0.2s						

*IDC **06** 10:17:46.0±0.8, 84.97N×99.27E, mb3.8/9, mb1 4.0/10, mb1mx3.9/19, mbtmp3.8/10, ML3.3/1, MS3.5/4, Ms1 3.6/4, ms1mx3.3/18, Error ellipse: s-maj=28.1km s-min=15.7km az=145.0*

*NEIC **06** 10:17:47.5±0.6, 84.98N×99.01E, h10km, mb4.3/2, Error ellipse: s-maj=19.7km s-min=9.3km az=149.0*

ISC 06 10:17:45.7±0.7**, 85.0N**±0.1×**9 9E**± **, h10km, n14, σ0^{s}88**/14**, mb3.8**/10**, MS3.7**/3**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	19.71	267	P	P	10 22 15.8	-1.8
	0.1nm,0.3s,baz=37,slow=6.1,SNR=3.5						
ARCES				LR	LR	10 30 36.7	
	comp=Z,45nm,18.2s,baz=204,slow=39						
ARCES	ARCESS Array B	19.71	267	P	P	10 22 15.8	-1.8
ARCES				LR	LR	10 30 36.7	
INK	Inuvik	25.21	44	P	P	10 23 12.2	0.0
	1.9nm,0.8s,mb3.6,baz=346,slow=14,SNR=12						
INK	Inuvik	25.21	44	eP	P	10 23 12.2	-0.1
	5.5nm,1.1s,mb4.0						
FINES	FINESS Array B	27.60	262	P	P	10 23 34.4	0.0
	4.6nm,1.2s,mb4.0,baz=11,slow=14,SNR=3.3						
ILAR	Eielson Array	27.81	57	P	P	10 23 37.1	+0.8
	0.5nm,1.0s,mb3.1,baz=342,slow=8.6,SNR=5.6						
ILAR				LR	LR	10 33 19.9	
	comp=Z,114nm,20.9s,MS3.4,baz=184,slow=34						
YKA	Yellowknife Ar	31.98	29	P	P	10 24 12.6	-0.9
	0.4nm,0.8s,mb3.3,baz=355,slow=9.6,SNR=13						
YKA				PcP	PcP	10 27 01.9	-1.6
	0.4nm,0.7s,baz=340,slow=3.4,SNR=8.1						
YKA				LR	LR	10 37 10.8	
	comp=Z,116nm,20.0s,MS3.6,slow=36						
SONM	Songino Array	37.37	171	P	P	10 24 59.4	-0.4
	2.5nm,0.8s,mb4.1,baz=344,slow=8.2,SNR=25						
VRAC	Vranov	40.45	268	P	P	10 25 26.7	+1.3
	2.4nm,0.7s,mb4.0,baz=76,slow=4.8,SNR=3.5						
GERES	GERESS Array B	41.16	271	P	P	10 25 32.4	+1.2
	0.7nm,0.8s,mb3.4,baz=8.1,slow=9.4,SNR=6.8						
BOZ	Bozeman (W)	48.94	28	eP	P	10 26 32.6	-0.7
	4.6nm,1.1s,mb4.4						
PDAR	Pinedale Array	51.90	26	P	P	10 26 56.7	+0.8
	0.5nm,0.6s,mb3.6,baz=45,slow=2.1,SNR=6.0						
PV10	Paradox Valley	56.30	26	P	P	10 27 28.6	+0.3
TXAR	Lajitas Array	65.50	21	P	P	10 28 30.1	-0.6
	1.0nm,0.7s,mb4.0,baz=359,slow=3.4,SNR=15						
TXAR				LR	LR	10 58 15.3	
	comp=Z,89nm,18.6s,MS4.0,baz=115,slow=37						

*IDC **06** 10:18:45.1±1.4, 7.49N×91.76E, mb3.9/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, ML4.1/1, MS3.6/3, Ms1 3.7/3, ms1mx3.3/13, Error ellipse: s-maj=46.3km s-min=27.4km az=51.0*

*NEIC **06** 10:18:50.1±0.6, 7.54N×92.00E, h30km, mb4.5/11, Error ellipse: s-maj=13.9km s-min=7.8km az=47.0*

*BJI **06** 10:18:52.3, 7.65N×92.80E, h14km, mB5.0, mb4.5*

ISC 06 10:18:48.0±0.8**, 7.47N**±0.10×**91.96E**±0.10**, h30km, n25, σ1^{s}11**/27**, mb4.4**/16**, MS3.6**/3**, 1C, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	8.90	104	P	P	10 20 56.6	-1.1
KULM				eS	Sn	10 22 32.9	-5.2
CM31	Chiang Mai Arr	12.87	31	P	P	10 21 49.6	-2.2
CMAR	Chiang Mai Arr	12.87	31	Pn	P	10 21 49.8	-1.9
	0.3nm,0.3s,baz=228,slow=14,SNR=26						
CMAR				LR	LR	10 26 47.5	
	comp=Z,60nm,18.1s,baz=220,slow=37						
VIS	Vishakhapatnam	13.21	321	eP	P	10 21 50.5	-5.8
VIS				eS	S	10 24 03.0	-20
KMI	Kunming	20.36	29	P	P	10 23 27.6	+2.7
	18nm,1.1s						
KMI				LR	LR		
	comp=Z,70nm,30.2s,MS2.8						
JIRN	Jiri	20.81	345	eP	P	10 23 30.4	+0.8
	comp=Z,63nm,1.1s						
PKI	Pulchoki	20.93	344	eP	P	10 23 30.1	-0.8
	comp=Z,26nm,0.8s						
GUN	Gumba	21.13	345	eP	P	10 23 33.1	+0.2
	comp=Z,45nm,0.8s,mb4.9						
KKN	Kakani	21.18	343	eP	P	10 23 32.9	-0.4
	comp=Z,40nm,0.9s,mb4.8						
GKN	Gorkha	21.57	342	eP	P	10 23 37.1	-0.2
	comp=Z,46nm,0.8s,mb4.9						
KOLN	Koldanda	21.69	340	eP	P	10 23 38.5	0.0
	comp=Z,55nm,0.8s,mb5.0						
GYA	Guiyang	23.50	35	⇑iP	P	10 23 57.6	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
CD2	Chengdu	25.80	24	P	P	10 24 19.4	+1.0
GTA	Gaotai	32.58	11	eP	P	10 25 20.1	+1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.5						
HHC	Hu-ho-hao-te	37.55	25	eP	P	10 26 03.4	+1.9
HHC				PP	PP	10 27 29.9	-0.3
HHC				PCP	PcP	10 28 21.0	+1.5
HHC				S	S	10 31 50.8	+2.5
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,146nm,5.4s						
SONM	Songino Array	42.06	15	P	P	10 26 39.3	+0.6
	comp=Z,3.0nm,0.6s,mb4.1,baz=190,slow=8.0,SNR=25						
ULN	Ulaanbaatar	42.26	15	eP	P	10 26 39.0	-1.3
	comp=Z,1.3nm,0.4s,mb3.9						
KURK	Kurchatov	44.52	348	eP	P	10 26 58.8	+0.2
	comp=Z,7.8nm,1.1s,mb4.5						
CHKZ	Chkalovo	49.21	343	eP	P	10 27 35.0	-0.5
	comp=Z,4.0nm,1.1s,mb4.4						
WRA	Warramunga Arr	49.81	124	P	P	10 27 41.3	+0.8
	comp=Z,0.8nm,0.5s,mb4.0,baz=306,slow=8.5,SNR=27						
WRAB	Tennant Creek	49.81	124	eP	P	10 27 40.7	+0.1
	comp=Z,4.9nm,0.7s,mb4.7						
FINES	FINESS Array B	72.06	333	P	P	10 30 09.9	-1.2
	comp=Z,1.8nm,1.0s,mb4.0,baz=135,slow=8.1,SNR=5.7						
GERES	GERESS Array B	76.69	318	P	P	10 30 38.2	+0.2
	comp=Z,1.0nm,1.0s,mb3.7,baz=104,slow=5.5,SNR=3.7						
NOA	NORSAR Array B	79.02	331	P	P	10 30 49.8	-0.8
	comp=Z,1.2nm,0.9s,mb3.8,baz=39,slow=9.1,SNR=3.4						
NOA				LR	LR	11 09 26.1	
	comp=Z,46nm,19.3s,MS3.8,slow=38						
ILAR	Eielson Array	95.92	22	LR	LR	11 18 25.0	
	comp=Z,77nm,19.3s,MS4.2,baz=0.6,slow=37						

*IDC **06** 10:19:52.0±1.6, 35.86N×65.42E, mb3.8/8, mb1 4.0/9, mb1mx3.8/17, mbtmp3.8/9, ML4.3/1, MS2.8/1, Ms1 2.9/1, ms1mx2.6/17, Error ellipse: s-maj=37.2km s-min=24.0km az=43.0*

*NEIC **06** 10:19:56.7±10.0, 36.31N×65.70E, h17km±59km, mb3.8/2, Error ellipse: s-maj=33.6km s-min=13.7km az=215.0*

*MOS **06** 10:19:57.3±1.1, 36.35N×65.77E, h33km, mb4.2/1, Error ellipse: s-maj=30.1km s-min=14.8km az=81.8*

ISC 06 10:19:54.2±2.5**, 36.33N**±0.10×**65.8E**±0.1**, h10km**±17km**, n25, σ0^{s}69**/27**, mb3.7**/8**, MS2.8**/1**, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	Almayashu	8.45	44	P	P	10 21 59.2	-0.4
	SNR=38						
EKS2	Erkin-Say	8.85	42	P	P	10 22 09.2	+4.0
	SNR=7.0						
UCH	Uchtor	8.99	46	P	P	10 22 07.5	+0.5
	SNR=16						
AAK	Ala-Archa	9.23	44	P	P	10 22 09.2	-1.2
	SNR=29						
AAK	Ala-Archa	9.23	44	Pn	P	10 22 09.5	-0.9
	149nm,0.5s,SNR=38						
AAK	Ala-Archa	9.23	44	ePn	P	10 22 09.7	-0.7
AAK				eS	Sn	10 23 55.7	+0.3
KZA	Kyzart	9.34	49	P	P	10 22 12.7	+0.9
	SNR=10.0						
CHMS	Chumysh	9.61	43	P	P	10 22 15.3	-0.3
	SNR=7.5						
USP	Ospenovka	9.65	41	P	P	10 22 15.7	-0.5
	SNR=19						
TKM2	Tokmak 2	10.04	46	P	P	10 22 20.8	-0.7
	SNR=18						
BVAR	Borovoye Array	17.01	10	Pn	P	10 23 54.0	+0.5
	1.0nm,0.3s,baz=176,slow=12,SNR=20						
BVAR				Sn	S	10 27 01.0	-0.5
	0.2nm,0.3s,baz=201,slow=20,SNR=4.2						
KURK	Kurchatov	17.10	29	eP	P	10 23 56.3	+1.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	Kurchatov	17.10	29	eP	P	10 23 56.3	+1.5
	comp=Z,4.1nm,0.8s						
CHKZ	Chkalovo	17.67	10	eP	P	10 24 01.4	-0.5
SONM	Songino Array	31.93	56	P	P	10 26 22.1	+0.2
	comp=Z,0.4nm,0.9s,mb3.3,baz=243,slow=13,SNR=3.0						
CMAR	Chiang Mai Arr	34.20	112	P	P	10 26 41.7	-0.3
	comp=Z,1.2nm,1.0s,mb3.8,baz=299,slow=8.3,SNR=4.1						
FINES	FINESS Array B	35.32	328	P	P	10 26 50.6	-0.5
	comp=Z,1.0nm,0.6s,mb3.9,baz=129,slow=12,SNR=7.0						
ARCES	ARCESS Array B	39.74	339	P	P	10 27 29.1	+0.9
	comp=Z,0.9nm,0.6s,mb3.6,baz=131,slow=9.6,SNR=3.5						
NOA	NORSAR Array B	41.99	324	P	P	10 27 46.2	-0.4
	comp=Z,0.8nm,0.6s,mb3.5,baz=102,slow=8.1,SNR=4.0						
NOA				LR	LR	10 45 38.4	
	comp=Z,12nm,22.0s,MS2.8,baz=125,slow=37						
NOA	NORSAR Array B	41.99	324	P	P	10 27 46.2	-0.4
NOA				LR	LR	10 45 38.4	
INK	Inuvik	74.68	7	eP	P	10 31 34.2	-0.8
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	74.68	7	P	P	10 31 35.9	+0.9
	comp=Z,0.9nm,0.6s,mb3.9,baz=336,slow=6.1,SNR=10						
INK	Inuvik	74.68	7	eP	P	10 31 34.2	-0.8
	comp=Z,0.9nm,0.6s,mb3.9						
ILAR	Eielson Array	76.03	14	P	P	10 31 42.4	-0.3
	comp=Z,2.2nm,1.2s,mb4.0,baz=308,slow=3.0,SNR=4.3						
YKA	Yellowknife Ar	81.52	0	P	P	10 32 13.4	+0.8
	comp=Z,0.6nm,0.6s,mb3.7,baz=352,slow=5.5,SNR=18						

*NEIC **06** 10:23:24.6±1.6, 7.62S×104.48E, mb4.4/2, Error ellipse: s-maj=72.4km s-min=11.3km az=53.0*

*BJI **06** 10:23:24.6, 7.60S×104.50E, h31km, mB5.1, mb4.9*

*IDC **06** 10:23:25.8±2.1, 7.49S×104.73E, h32km±5km, mb3.8/5, mb1 4.0/5, mb1mx3.8/12, mbtmp4.0/5, Error ellipse: s-maj=88.1km s-min=16.9km az=55.0*

ISC 06 10:23:21.0±1.4**, 7.9S**±0.2×**104.1E**±0.3**, h31km, h31km**±**.9km:pP-P, n12, σ0^{s}62**/10**, mb4.2**/8**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	26.68	349	eP	P	10 28 58.7	-0.8
	20nm,1.2s,mb4.5						
CM31				e	pP	10 29 08.5	0.0
CMAR	Chiang Mai Arr	26.68	349	P	P	10 28 59.1	-0.4
	5.3nm,0.8s,mb4.2,baz=180,slow=8.7,SNR=32						
CMAR				pP	pP	10 29 08.8	+0.4
	6.7nm,1.0s,baz=177,slow=9.2,SNR=5.4						
WRA	Warramunga Arr	31.61	115	P	P	10 29 43.1	-0.5
	1.0nm,0.6s,mb3.8,baz=286,slow=12,SNR=6.0						
WRA				pP	pP	10 29 51.6	-1.0
	2.5nm,0.6s,baz=286,slow=12,SNR=8.7						
WRAB	Tennant Creek	31.61	115	eP	P	10 29 43.3	-0.3
WRAB				e	pP	10 29 51.9	-0.8
STKA	Stephens Creek	42.21	130	P	P	10 31 13.8	+0.7
	4.0nm,1.2s,mb3.9,baz=312,slow=7.9,SNR=3.4						
STKA				pP	pP	10 31 22.3	0.0
	1.0nm,0.5s,baz=309,slow=8.4,SNR=2.0						
HHC	Hu-ho-hao-te	48.98	7	eP	P	10 32 07.7	+0.9
HHC				AP	pP	10 32 17.2	+1.1
HHC				XP	sP	10 32 21.9	+2.1
HHC				PP	PP	10 33 57.7	-2.6
HHC				S	S	10 39 08.7	+0.8
HHC				SS	SS	10 42 34.4	0.0
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.1						

SONM	Songino Array	55.52	2	P	P	10 32 54.9	-0.8
	comp=Z,1.6nm,0.7s,mb4.2,baz=181,slow=7.4,SNR=13						
BVAR	Borovoye Array	67.12	339	P	P	10 34 14.3	+0.5
	comp=Z,0.4nm,0.5s,mb3.8,baz=143,slow=7.2,SNR=2.8						
CHKZ	Chkalovo	67.56	339	eP	P	10 34 16.9	+0.2
	comp=Z,1.3nm,0.5s,mb4.2						
YKA	Yellowknife Ar	118.66	19	pPKP		10 42 16.9	
	comp=Z,0.3nm,1.1s,baz=326,slow=1.9,SNR=3.9						
TXAR	Lajitas Array	146.27	47	PKPbc	PKPbc	10 43 03.2	+3.9
	comp=Z,0.8nm,0.7s,baz=270,slow=1.8,SNR=11						
TXAR				pPKPbc		10 43 12.4	
	comp=Z,3.2nm,0.9s,baz=297,slow=2.0,SNR=15						
TXAR	Lajitas Array	146.27	47	PKPbc	PKPbc	10 43 03.2	+3.9
TXAR				pPKPbc		10 43 12.4	

*BJI **06** 10:24:21.8, 8.30S×104.48E, h48km, mB5.3, mb4.8*
*NEIC **06** 10:24:25.6±0.8, 7.71S×104.36E, mb4.6/8, Error ellipse: s-maj=23.7km s-min=7.7km az=218.0*
*IDC **06** 10:24:26.2±1.9, 7.70S×104.41E, h30km±5km, mb4.1/6, mb1 4.3/6, mb1mx4.1/13, mbtmp4.3/6, MS3.2/1, Ms1 3.4/1, ms1mx2.7/11, Error ellipse: s-maj=74.5km s-min=15.5km az=54.0*
ISC 06 10:24:25.1±0.8, **7.5S**±0.1×**104.68E**±0.07, **h31km**, **h31km**±1.7km**:pP-P, n28, σ1.06**/29, **mb4.5**/17, **MS3.1**/1, **3C-2D, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	9.42	97	⇑iPn	P	10 26 43.2	+1.2
SRDI				i Sn	Sn	10 28 28.9	+1.0
KELI	Kelakatan	9.75	95	⇑iPn	P	10 26 48.0	+1.4
KELI				i Sn	Sn	10 28 34.5	-1.5
RATI	Rata	10.81	97	⇓iP	P	10 27 02.4	+1.2
RATI				i Sn	S	10 29 00.3	-1.8
KEDI	Kedomdong	11.37	96	⇓iP	P	10 27 08.9	+0.2
KEDI				i Sn	S	10 29 11.5	-4.1
CM31	Chiang Mai Arr	26.41	348	eP	P	10 30 01.1	-0.1
	22nm,1.0s,mb4.6						
CM31				e	pP	10 30 10.0	-0.2
CMAR	Chiang Mai Arr	26.41	348	P	P	10 30 00.5	-0.7
	18nm,1.0s,mb4.6,baz=182,slow=8.3,SNR=15						
CMAR				pP	pP	10 30 09.8	-0.3
	6.7nm,0.7s,baz=186,slow=8.1,SNR=5.8						
CMAR				LR	LR	10 41 56.0	
	comp=Z,56nm,20.1s,MS3.1,baz=175,slow=40						
WRA	Warramunga Arr	31.28	116	P	P	10 30 44.1	-0.8
	2.7nm,0.6s,mb4.3,baz=286,slow=11,SNR=10						
WRA				pP	pP	10 30 53.6	-0.4
	2.9nm,0.6s,baz=286,slow=12,SNR=5.3						
WRAB	Tennant Creek	31.29	116	eP	P	10 30 44.3	-0.7
	6.0nm,0.5s,mb4.7						
KMI	Kunming	32.49	357	P	P	10 31 05.2	+10
	10.0nm,1.2s,mb4.5						
GYA	Guiyang	33.82	3	⇑iP	P	10 31 07.9	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
STKA	Stephens Creek	42.04	130	P	P	10 32 15.8	0.0
	comp=Z,3.1nm,1.0s,mb3.9,baz=322,slow=9.8,SNR=4.2						
STKA				pP	pP	10 32 24.2	-0.8
	comp=Z,4.6nm,1.1s,baz=304,slow=10,SNR=3.2						
STKA	Stephens Creek	42.04	130	P	P	10 32 15.8	0.0
STKA				pP	pP	10 32 24.2	-0.8
CTA	Charters Tower	42.14	112	P	P	10 32 18.0	+1.2
	comp=Z,4.6nm,0.8s,mb4.1,baz=283,slow=6.5,SNR=4.2						
CTA				pP	pP	10 32 26.0	0.0
	comp=Z,11nm,1.3s,baz=272,slow=8.7,SNR=2.7						
CTA	Charters Tower	42.14	112	P	P	10 32 18.0	+1.2
CTA				pP	pP	10 32 26.0	0.0
CTAO	Charters Tower	42.14	112	eP	P	10 32 17.9	+1.1
	comp=Z,7.9nm,1.0s,mb4.3						
LZH	Lanzhou	43.37	359	eP	P	10 32 27.5	+0.9
LZH				AP	pP	10 32 38.0	+2.2
LZH				XP	sP	10 32 41.0	+1.4
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
LZH	Lanzhou	43.37	359	eP	P	10 32 27.5	+0.9
	comp=Z,15nm,1.0s,mb4.7						
LZH				pP	pP	10 32 38.0	+2.2
LZH				sP	sP	10 32 41.0	+1.4
GTA	Gaotai	46.90	355	eP	P	10 32 55.6	+0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
WMQ	Urumqi	53.36	345	eP	P	10 33 44.0	0.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
CN2	Changchun	54.43	18	eP	P	10 33 51.4	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
SONM	Songino Array	55.12	1	P	P	10 33 57.4	+0.4
	comp=Z,4.7nm,0.9s,mb4.5,baz=180,slow=7.8,SNR=11						
SONM				PcP	PcP	10 34 57.6	-0.2
	comp=Z,0.8nm,0.6s,baz=186,slow=4.2,SNR=4.1						
ULN	Ulaanbaatar	55.17	2	eP	P	10 33 57.7	+0.4
	comp=Z,3.3nm,0.8s,mb4.4						
KURK	Kurchatov	62.22	342	eP	P	10 34 42.0	-4.3
	comp=Z,4.1nm,0.7s,mb4.7						
BVAR	Borovoye Array	66.96	338	P	P	10 35 15.2	-1.9
	comp=Z,0.7nm,0.5s,mb4.0,baz=127,slow=7.4,SNR=4.3						
CHKZ	Chkalovo	67.40	339	eP	P	10 35 18.0	-1.8
	comp=Z,3.4nm,1.0s,mb4.3						
TXAR	Lajitas Array	145.62	47	PKPbc	PKPbc	10 44 04.7	+2.9
	comp=Z,1.9nm,0.6s,baz=297,slow=2.0,SNR=13						
TXAR				pPKPbc		10 44 14.0	
	comp=Z,2.2nm,0.7s,baz=284,slow=3.7,SNR=6.4						
TXAR	Lajitas Array	145.62	47	PKPbc	PKPbc	10 44 04.7	+2.9
TXAR				pPKPbc		10 44 14.0	
JCT	Junction City	147.62	42	ePKPbc	PKPdf	10 44 08.9	-0.8

IDC 06 10:40:19.5±2.0, **4.49N**×**93.78E**, **mb3.5**/4, **mb1 3.8**/5, **mb1mx3.7**/15, **mbtmp3.6**/5, **ML4.2**/1, **Error ellipse: s-maj=73.7km s-min=26.1km az=60.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.77	20	Pn	P	10 43 50.8	-1.0
	0.3nm,0.3s,baz=209,slow=12,SNR=4.6						
SONM	Songino Array	44.52	12	P	P	10 48 32.6	-2.1
	0.3nm,0.7s,baz=193,slow=10,SNR=2.9						
WRA	Warramunga Arr	46.67	123	P	P	10 48 50.2	-1.8
	0.7nm,0.5s,baz=301,slow=9.1,SNR=12						
ASAR	Alice Springs	48.09	127	P	P	10 49 01.4	-1.9
	0.3nm,0.6s,baz=303,slow=8.0,SNR=5.6						
FINES	FINESS Array B	75.52	333	P	P	10 52 05.7	-1.7
	1.5nm,1.1s,baz=117,slow=8.5,SNR=4.2						

*IDC **06** 10:42:55.3±1.4, 1.70N×92.06E, mb3.8/6, mb1 4.0/7, mb1mx3.9/14, mbtmp3.8/7, MS3.2/1, Ms1 3.4/1, ms1mx3.2/12, Error ellipse: s-maj=52.3km s-min=22.4km az=53.0*
*NEIC **06** 10:43:01.8±3.5, 1.85N×92.30E, h40km±29km, mb4.3/2, Error ellipse: s-maj=33.5km s-min=11.9km az=47.0*
ISC 06 10:42:59.3±6.1, **1.9N**±0.2×**92.3E**±0.2, **h36km**±50km, **n15**, **σ0.73**/14, **mb3.9**/8, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	9.00	68	eP	P	10 45 09.6	-0.2
CMAR	Chiang Mai Arr	17.73	21	P	P	10 47 05.0	-0.2
	baz=216,slow=13,SNR=8.3						
CMAR				LR	LR	10 54 38.9	
	comp=Z,73nm,18.1s,baz=180,slow=39						
VIS	Vishakhapatnam	18.05	331	e	P	10 47 17.5	+8.3
HYB	Hyderabad	20.52	320	eP	P	10 47 38.0	+0.7
HYB	Hyderabad	20.52	320	i P	P	10 47 38.0	+0.7
WRA	Warramunga Arr	46.58	120	P	P	10 51 26.1	+0.1
	1.6nm,0.6s,mb4.2,baz=298,slow=8.6,SNR=24						
WRAB	Tennant Creek	46.59	120	eP	P	10 51 26.2	+0.2
	3.7nm,0.7s,mb4.4						
SONM	Songino Array	47.39	13	P	P	10 51 33.8	+1.9
	1.0nm,0.6s,mb3.9,baz=194,slow=8.8,SNR=12						
ASAR	Alice Springs	47.76	125	P	P	10 51 35.1	-0.1
	0.3nm,0.5s,mb3.6,baz=302,slow=8.1,SNR=4.0						
BVAR	Borovoye Array	54.13	344	P	P	10 52 22.2	-0.8
	1.3nm,0.9s,mb3.9,baz=135,slow=6.3,SNR=4.6						
CHKZ	Chkalovo	54.65	344	eP	P	10 52 25.9	-0.9
	1.4nm,0.7s,mb4.1						
FINES	FINESS Array B	77.17	333	P	P	10 54 50.2	-0.8
	1.1nm,0.8s,mb3.8,baz=180,slow=3.8,SNR=4.5						
FINES	FINESS Array B	77.17	333	P	P	10 54 50.2	-0.8
GERES	GERESS Array B	81.09	319	P	P	10 55 12.7	+0.3
	0.6nm,0.8s,mb3.6,baz=135,slow=9.4,SNR=5.1						
TXAR	Lajitas Array	145.42	25	PKPbc	PKPbc	11 02 37.6	+2.9
	0.6nm,0.9s,baz=326,slow=3.3,SNR=5.3						

*IDC **06** 11:01:28.6±6.2, 15.05N×99.15W, mb3.5/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.4/6, ML3.0/1, Error ellipse: s-maj=130.1km s-min=103.3km az=74.0*
*NEIC **06** 11:01:49.7, 16.83N×100.41W, h7km, MD4.2(MEX), After MEX.*
*MEX **06** 11:01:49.8±1.1, 16.83N×100.41W, h8km±5km, MD4.3*
ISC 06 11:01:47.8±0.9, **16.79N**±0.05×**100.40W**±0.03, **h28km**±4km, **n32**, **σ1.19**/59, **mb3.3**/4, **1C-1D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.28	27	eP	Pb	11 01 54.7	-0.2
CAIG				eS	Sb	11 01 58.4	-1.3
ACX	Acapulco	0.47	81	⇓iP	Pb	11 01 59.2	+1.5
ACX				eS	Sb	11 02 05.4	+1.1
ZIIG	Zihuatanejo	1.30	309	⇑eP	Pn	11 02 09.7	-0.8
ZIIG				eS	Sn	11 02 27.0	-0.1
PLIG	Platanillo	1.81	28	eP	Pn	11 02 15.7	-2.0
PLIG				eS	Sn	11 02 40.0	+0.1
PNIG	Pinotepa	2.22	100	eP	Pn	11 02 24.0	+0.4
PNIG				eS	Sn	11 02 50.1	-0.2
YAIG	Yautepec	2.42	31	eP	Pn	11 02 25.5	-0.9
YAIG				eS	Sn	11 02 54.8	-0.6
UNM	Universidad Na	2.78	25	eP	Pn	11 02 30.5	-1.1
UNM				eS	Sn	11 03 10.0	+5.4
UNM	Universidad Na	2.78	25	eP	Pn	11 02 30.5	-1.1
UNM				eS	Sn	11 03 03.5	-1.1
PPM	Popocatepetl	2.82	36	eP	Pn	11 02 30.6	-1.6
PPM				eS	Sn	11 03 07.4	+1.7
PPM				eS	Sn	11 03 10.2	+4.5
PPM	Popocatepetl	2.82	36	eP	Pn	11 02 30.6	-1.6
PPM				eP		11 02 30.7	
PPM				eS	Sn	11 03 07.4	+1.7
PPM				i S	Sn	11 03 07.9	+2.2
IIB	San Bernardino	2.92	42	eP	Pn	11 02 30.5	-3.0
IIB				eS	Sn	11 03 09.0	+1.0
IIB	San Bernardino	2.92	42	i P	Pn	11 02 31.0	-2.5
IIB				eS	Sn	11 03 09.0	+1.0
MOIG	Morelia	2.97	345	eP	Pn	11 02 36.7	+2.5
MOIG				eS	Sn	11 03 11.4	+2.1
MOIG	Morelia	2.97	345	eP	Pn	11 02 33.9	-0.4
MOIG				i S	Sn	11 03 09.7	+0.4
VHO	Vista Hermosa	3.52	85	eP	Pn	11 02 42.6	+0.5
VHO				eS	Sn	11 03 23.0	-0.3
OXX	Oaxaca	3.53	85	eP	Pn	11 02 42.9	+0.7
OXX				eS	Sn	11 03 24.2	+0.6
IISM	Ciudad Serdan	3.61	52	eP	Pn	11 02 44.0	+0.6
IISM				eS	Sn	11 03 33.0	+7.3
COLM	Colima	3.93	308	eP	Pn	11 02 53.1	+5.2
COLM				eS	Sn	11 03 34.1	+0.4
COLM	Colima	3.93	308	eP	Pn	11 02 49.8	+1.8
COLM				eS	Sn	11 03 34.1	+0.4
CGX	Ciudad Guzman	4.13	315	eP	Pn	11 03 05.0	+14
CGX				eS	Sn	11 03 47.0	+8.3
SFJM	Santa Fe	4.45	326	eP	Pn	11 03 06.5	+11
SFJM				eS	Sn	11 03 49.0	+2.2
SFJM	Santa Fe	4.45	326	i P	Pn	11 02 55.5	+0.2
SFJM				eS	Sn	11 03 48.0	+1.2
EVV	El Vigia	5.09	70	eP	Pn	11 03 17.0	+13
EVV				eS	Sn	11 03 54.5	-8.5
EVV	El Vigia	5.09	70	eP	Pn	11 03 06.5	+2.1
EVV				eS	Sn	11 04 07.0	+4.0
CMIG	Matias Romero	5.29	86	eP	Pn	11 03 06.1	-1.0
CMIG				i S	Sn	11 04 07.8	-0.1
TXAR	Lajitas Array	12.84	347	Pn	P	11 05 01.4	+10
	0.0nm,0.3s,baz=165,slow=18,SNR=3.3						
WMOK	Wichita Mounta	17.93	4	P	P	11 05 57.8	+0.8
	1.7nm,0.8s						
ANMO	Albuquerque	18.88	344	P	P	11 06 14.2	+5.6
	0.8nm,0.7s,baz=143,slow=12,SNR=4.8						
NVAR	Mina Array Bea	26.67	327	P	P	11 07 28.1	+1.7
	0.3nm,0.5s,mb3.1,baz=148,slow=11,SNR=5.5						
PDAR	Pinedale Array	27.05	345	P	P	11 07 29.1	-0.7
	0.4nm,0.8s,mb3.0,baz=175,slow=11,SNR=3.6						
YKA	Yellowknife Ar	46.73	351	P	P	11 10 14.0	-2.1
	0.5nm,0.7s,mb3.5,baz=160,slow=7.2,SNR=11						
ILAR	Eielson Array	57.17	338	P	P	11 11 32.3	-2.2
	0.6nm,0.9s,mb3.6,baz=137,slow=6.6,SNR=4.4						

DJA 06 11:02:38.7±1.5, **8.54S**×**116.45E**, **h33km**, **MD4.7**/4, **ML4.7**/3, **5C-3D, Error ellipse: s-maj=40.3km s-min=24.5km az=126.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.34	279	⇓iPn	Pn	11 02 45.9	-1.2
	3μm,0.2s						
RATI	Rata	0.92	259	⇓ePn	Pn	11 02 54.9	-0.6
	4μm,0.2s						
RATI	Rata	0.92	259	⇑iP	P	11 02 55.3	0.0
RATI				⇓iSn	Sn	11 03 04.9	-2.8
KELI	Kelakatan	1.96	279	⇑iPn	Pn	11 03 09.6	-0.7
	153nm,0.2s						
KELI	Kelakatan	1.96	279	⇑iP	P	11 03 10.4	+0.2
SRDI	Scrawed	2.28	271	⇑iPn	Pn	11 03 13.8	-1.1
	252nm,0.2s						
SRDI	Scrawed	2.28	271	⇑iP	P	11 03 14.6	-0.1

IDC 06 11:08:21.2±1.4, **14.82S**×**176.58E**, **mb3.9**/6, **mb1 4.3**/6, **mb1mx4.1**/14, **mbtmp3.9**/6, **MS3.5**/1, **Ms1 3.5**/1, **ms1mx2.7**/21, **Error ellipse: s-maj=99.9km s-min=23.1km az=147.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.35	179	LR	LR	11 19 43.5	
	comp=Z,132nm,21.3s,baz=206,slow=29						
STKA	Stephens Creek	36.13	236	P	P	11 15 23.8	-3.4
	3.7nm,0.8s,baz=49,slow=7.5,SNR=6.5						
WRA	Warramunga Arr	40.55	257	P	P	11 16 04.2	0.0
	0.5nm,0.9s,baz=90,slow=9.3,SNR=3.6						
NVAR	Mina Array Bea	80.66	46	P	P	11 20 37.5	-0.2
	1.0nm,0.8s,baz=211,slow=6.4,SNR=5.8						
ILAR	Eielson Array	84.06	15	P	P	11 20 52.0	-2.8
	1.1nm,0.9s,baz=233,slow=5.9,SNR=8.8						
TXAR	Lajitas Array	88.49	59	P	P	11 21 16.2	-1.2
	0.7nm,1.0s,baz=259,slow=4.6,SNR=4.6						
PDAR	Pinedale Array	88.51	45	P	P	11 21 16.6	-0.5
	1.2nm,1.1s,baz=225,slow=2.1,SNR=5.6						

*TAP **06** 11:09:36.6, 24.65N×121.76E, h8km, ML3.1*
TAP Felt II J at Suao, I J at Neicheng, I J at Nioudou, II J at Nanau.
*JMA **06** 11:09:37.1±0.2, 25.02N×121.86E, h33km, M2.4*
ISC 06 11:09:36.7±0.3, **24.66N**±0.02×**121.82E**±0.02, **h6km**±3km, **n42**, **σ1.12**/58, **4C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	Suao	0.06	149	⇓iP	Pg	11 09 39.2	+0.8
TWC				S	Sg	11 09 40.4	+0.9
TWE	Neicheng	0.15	294	⇓iP	Pg	11 09 39.6	-0.2
TWE				S	Sg	11 09 41.5	-0.5
EGS		0.21	30	eP	Pg	11 09 41.7	+0.6
EGS				S	Sg	11 09 44.5	+0.5
ENTT	Nioudou	0.23	265	⇑iP	Pg	11 09 40.9	-0.5
ENTT				S	Sg	11 09 43.5	-1.0
ENA	Nanau	0.24	196	⇓iP	Pg	11 09 41.8	+0.1
ENA				S	Sg	11 09 44.9	-0.1
TWB1	Santiao Chiao	0.38	25	⇑iP	Pg	11 09 44.6	+0.2
TWB1				S	Sg	11 09 50.0	+0.5
TWA	Mucha	0.38	327	i P	Pg	11 09 44.6	+0.2
NWF	Wu-fen Shan	0.41	356	i P	Pg	11 09 45.4	+0.5
NWF				S	Sg	11 09 50.6	+0.2
NSK	Sanguang	0.42	272	⇑iP	Pg	11 09 44.4	-0.7
NSK				S	Sg	11 09 48.7	-2.0
NNS	Nan Shan	0.46	241	⇑iP	Pg	11 09 45.0	-1.0
TAP1	Taipei	0.46	325	P	Pg	11 09 46.4	+0.4
TAP	Taipei	0.47	323	P	Pg	11 09 46.1	-0.1
TWS1	Kuangyinshan	0.57	321	P	Pg	11 09 48.8	+0.7
TWD	Chiawan	0.61	199	eP	Pg	11 09 48.3	-0.7
TWD				S	Sg	11 09 56.3	-0.9
TWY	Chenhua	0.64	342	eP	Pg	11 09 49.7	+0.1
NCU	National Centr	0.65	298	eP	Pg	11 09 50.2	+0.5
NCU				S	Sg	11 10 02.0	+3.6
HWA	Hwalien	0.71	196	eP	Pg	11 09 53.8	+2.9
TWT	Tachien	0.71	235	eP	Pg	11 09 49.5	-1.4
NSTT	Nanjuang	0.74	268	eP	Pg	11 09 50.9	-0.6
NSTT				S	Sg	11 09 59.8	-1.6
ESL	Shilin	0.91	203	eP	Pb	11 09 53.5	-1.0
NSY	Sanyi	0.99	256	eP	Pb	11 09 55.9	0.0
PCYT	Pengchaiyu	0.99	14	eP	Pb	11 09 55.9	+0.1
TWQ1	Liyutan	1.00	252	eP	Pb	11 09 55.6	-0.4
YOJ	Yonaguni jima	1.11	100	P	Pb	11 09 57.8	-0.1
YOJ				S	Sb	11 10 12.9	+0.6
SMLT	Sun Moon Lake	1.14	227	eP	Pb	11 09 57.3	-1.1
TYC	Yuchr	1.15	229	eP	Pb	11 09 58.0	-0.7
EHY	Hungye	1.23	201	eP	Pb	11 09 59.7	-0.4
TWF1	Yuli	1.39	200	eP	Pn	11 10 02.7	+0.1
YUS	Yu-Shan	1.41	214	eP	Pn	11 10 02.4	-0.5
ALS	Alishan	1.47	219	eP	Pn	11 10 05.2	+1.3
CHN5	Tsauling	1.48	225	eP	Pn	11 10 04.6	+0.5
CHN5				S	Sb	11 10 26.3	+3.1
CHN4	Tsaushan	1.72	221	eP	Pn	11 10 09.2	+1.9
IRIF	Iriomote-Funau	1.77	100	P	Pn	11 10 07.2	-1.0
IRIF				S	Sn	11 10 28.6	-2.7
STYT	Tauyuan	1.78	213	eP	Pn	11 10 09.5	+1.3
WTP	Ta-pu	1.79	218	eP	Pn	11 10 10.6	+2.3
TWK	Hsinying	1.84	221	eP	Pn	11 10 11.2	+2.0
CHN1	Nanshi	1.88	219	eP	Pn	11 10 11.5	+1.8
HATJ	Hateruma jima	1.91	108	eS	Sn	11 10 34.8	0.0
SGST	Jiashian	1.94	216	eP	Pn	11 10 13.0	+2.6
JKRS	Kuro-shima	2.04	101	P	Pn	11 10 11.3	-0.7
JKRS				S	Sn	11 10 36.0	-2.1
JIJ	Ishigaki jima	2.14	97	P	Pn	11 10 12.5	-0.9
JIJ				S	Sn	11 10 37.9	-2.7
SSD	Sandimen	2.19	210	eP	Pn	11 10 16.3	+2.1

*BJI **06** 11:31:02.8, 2.52N×128.86E, h254km, mB4.8, mb4.5*
*NEIC **06** 11:31:04.3±1.6, 2.80N×128.67E, h225km±16km, mb4.7/21, Error ellipse: s-maj=10.7km s-min=4.9km az=70.0*
*IDC **06** 11:31:05.2±1.7, 2.78N×128.55E, h228km±15km, mb4.0/12, mb1 4.1/12, mb1mx4.0/16, mbtmp4.5/12, Error ellipse: s-maj=21.9km s-min=9.0km az=82.0*
*MAN **06** 11:31:19.7, 4.10N×124.23E, h433km, mb3.9, ML2.7, MS2.3*
ISC 06 11:31:03.3±1.0, **2.79N**±0.04×**128.66E**±0.09, **h230km**±9km, **n58**, **σ0.85**/56, **mb4.5**/33, **5C-1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	5.50	320	⇓iP	P	11 32 25.3	-0.1
BUKP	Musuan	6.20	325	eP	P	11 32 33.5	-0.7
BUTP	Butuan	6.84	334	eP	P	11 32 44.4	+1.9
PAGZ	Pagadian	7.27	314	eP	P	11 32 46.6	-1.3
KKM	Kota Kinabalu	12.82	285	eP	P	11 33 59.1	+0.5
KAKA	Kakadu	15.85	166	⇑iP	P	11 34 35.5	-0.3
	27nm,0.5s						
KSM	Kuching	18.38	266	P	P	11 35 04.1	+0.6
FITZ	Fitzroy Crossi	20.97	188	eP	P	11 35 29.2	-0.3
	13nm,0.4s						
WRAB	Tennant Creek	23.26	166	P	P	11 35 53.0	+1.3
	119nm,0.3s,SNR=9.6						
WRAB	Tennant Creek	23.26	166	eP	P	11 35 52.1	+0.3
	15nm,0.4s,mb4.9						
WRAB				e		11 36 05.2	
WRA	Warramunga Arr	23.26	166	P	P	11 35 52.4	+0.6
	7.0nm,0.4s,mb4.6,baz=346,slow=10,SNR=122						
WRA				S	S	11 39 50.3	+6.4
	1.7nm,0.8s,baz=336,slow=20,SNR=5.4						
WRA				ScP		11 42 49.3	
	0.7nm,0.6s,baz=341,slow=2.9,SNR=6.4						
MBWA	Marble Bar	25.35	200	eP	P	11 36 10.8	-0.4
	4.3nm,0.5s,mb4.3						
ASAR	Alice Springs	26.78	169	P	P	11 36 23.9	-0.3
	5.3nm,0.4s,mb4.5,baz=351,slow=7.3,SNR=137						
ASAR				PcP	PcP	11 39 41.2	+0.1
	0.9nm,0.4s,baz=357,slow=2.0,SNR=5.9						
ASAR				ScP		11 42 59.0	
	1.3nm,0.6s,baz=347,slow=2.7,SNR=18						
ASPA	Alice Springs	26.78	169	⇑iP	P	11 36 23.8	-0.4
CTAO	Charters Tower	28.55	144	P	P	11 36 47.1	+7.0
CMAR	Chiang Mai Arr	33.01	300	P	P	11 37 19.4	+0.4
	2.1nm,0.6s,mb3.8,baz=115,slow=7.2,SNR=12						
CMAR				PcP	PcP	11 39 57.5	+0.3
	0.3nm,0.4s,baz=135,slow=2.6,SNR=4.3						
CMAR				ScP		11 43 18.7	
	0.5nm,0.4s,baz=144,slow=2.3,SNR=5.7						
FORT	Forrest	33.38	181	⇑iP	P	11 37 21.6	-0.5
	742nm,0.6s						
MAJO	Matsushiro	34.73	14	eP	P	11 37 32.2	-1.3
	15nm,0.6s,mb4.7						
MAT	Matsushiro	34.73	14	eP	P	11 37 32.0	-1.5
	19nm,0.8s,mb4.7						
MAT	Matsushiro	34.73	14	P	P	11 37 31.8	-1.7
KLBR	Kellerberrin	35.72	196	⇑iP	P	11 37 41.6	-0.3
	66nm,0.5s,mb5.4						
XAN	Xi’an	36.14	332	P	P	11 37 42.5	-2.8
MUN	Mundaring	36.54	198	eP	P	11 37 48.6	-0.1
	6.6nm,0.5s,mb4.4						
STKA	Stephens Creek	36.60	161	eP	P	11 37 49.3	+0.1
	5.3nm,0.8s,mb4.1						
STKA	Stephens Creek	36.60	161	P	P	11 37 49.6	+0.4
	4.7nm,0.5s,mb4.3,baz=330,slow=8.4,SNR=19						
NWAO	Narrogin (SRO)	37.13	196	P	P	11 37 54.0	+0.4
	14nm,0.8s,mb4.5,baz=31,slow=9.0,SNR=17						
NWAO	Narrogin (SRO)	37.13	196	eP	P	11 37 53.7	+0.1
	6.7nm,0.7s,mb4.3						
BJI	Beijing	38.77	345	eP	P	11 38 06.9	-0.3
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.7						
BJI	Beijing	38.77	345	eP	P	11 38 06.9	-0.3
	comp=Z,16nm,0.7s,mb4.7						
LZH	Lanzhou	40.30	328	eP	P	11 38 21.0	+1.2
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.6						
HHC	Hu-ho-hao-te	40.91	340	eP	P	11 38 25.8	+1.0
HHC				AP	pP	11 39 13.6	+0.3
HHC				XP	sP	11 39 47.5	+7.6
HHC				PP	PP	11 40 06.0	+1.2
HHC				S	S	11 44 12.2	-6.5
HHC				XS		11 45 48.5	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
HHC				AMB	AMB		
	comp=Z,124nm,7.1s						
ASAJ	Asahikawa	42.97	15	P	P	11 38 42.5	+1.1
	comp=Z,7.3nm,0.7s,mb4.2,baz=194,slow=8.9,SNR=11						
GTA	Gaotai	44.90	328	eP	P	11 38 57.8	+0.9
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.2						
JIRN	Jiri	47.48	306	eP	P	11 39 17.8	+0.6
	comp=Z,45nm,0.5s,mb5.0						
GUN	Gumba	47.83	306	eP	P	11 39 20.3	+0.4
	comp=Z,43nm,0.6s,mb4.9						
PKI	Pulchoki	48.08	305	eP	P	11 39 21.6	-0.2
KKN	Kakani	48.27	305	eP	P	11 39 23.2	-0.1
	comp=Z,21nm,0.7s,mb4.6						
DMN	Daman	48.34	305	eP	P	11 39 24.0	+0.2
	comp=Z,22nm,0.7s,mb4.6						
ULN	Ulaanbaatar	48.62	341	eP	P	11 39 25.6	-0.1
	comp=Z,10nm,1.1s,mb4.1						
SONM	Songino Array	48.82	340	P	P	11 39 27.2	+0.1
	comp=Z,2.6nm,0.7s,mb3.6,baz=153,slow=7.7,SNR=24						
SONM				PcP	PcP	11 40 48.5	0.0
	comp=Z,1.0nm,0.8s,baz=165,slow=3.4,SNR=4.0						
GKN	Gorkha	48.88	305	eP	P	11 39 27.5	-0.4
	comp=Z,5.0nm,0.3s,mb4.3						
KOLN	Koldanda	49.64	305	eP	P	11 39 34.0	+0.3
	comp=Z,46nm,0.6s,mb5.0						
YAK	Yakutsk	59.11	1	eP	P	11 40 40.4	-1.1
	comp=Z,33nm,0.8s,mb5.0						
FX1	Attu Island--F	61.96	29	P	P	11 41 02.1	+1.3
	comp=Z,14nm,0.5s,mb4.8,baz=194,slow=4.2,SNR=12						
FX1	Attu Island--F	61.96	29	eP	P	11 41 01.8	+1.0
KURK	Kurchatov	63.57	327	eP	P	11 41 10.6	-0.9
	comp=Z,16nm,0.9s,mb4.7						
CHKZ	Chkalovo	69.31	327	eP	P	11 41 46.4	-1.0
	comp=Z,4.0nm,0.7s,mb4.2						
IMA	Indian Mountai	82.47	24	eP	P	11 43 03.2	+2.3
	comp=Z,34nm,0.9s,mb5.0						
ILAR	Eielson Array	85.13	25	P	P	11 43 14.1	-0.2
	comp=Z,0.4nm,0.4s,mb3.5,baz=253,slow=4.8,SNR=25						
ARCES	ARCESS Array B	91.99	340	P	P	11 43 46.1	-0.6
	comp=Z,4.0nm,0.7s,mb4.4,baz=85,slow=5.6,SNR=24						
SYO	Syowa Base	92.24	201	⇑P	P	11 43 48.0	+0.2
FINES	FINESS Array B	93.57	332	P	P	11 43 53.0	-1.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,0.6nm,0.5s,mb3.9,baz=67,slow=4.9,SNR=7.3						
YKA	**Yellowknife Ar**	**99.55**	**25**	P	**P**	**11 44 21.9**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.9,baz=297,slow=4.4,SNR=6.8						
YKA				PKiKP		11 48 49.6	
	comp=Z,0.1nm,0.4s,baz=301,slow=1.6,SNR=5.8						
YKA	**Yellowknife Ar**	**99.55**	**25**	P	**P**	**11 44 21.9**	**+0.7**
NOA	**NORSAR Array B**	**100.48**	**334**	P	P	11 44 24.4	-1.0
	comp=Z,0.9nm,0.7s,baz=44,slow=2.0,SNR=4.1						
TXAR	**Lajitas Array**	**120.64**	**53**	PKP	PKPdf	11 49 31.1	+2.8
	comp=Z,0.3nm,0.7s,baz=185,slow=0.7,SNR=4.3						
SCHQ	**Schefferville**	**121.17**	**10**	PKP	PKPdf	11 49 30.4	+1.8
	comp=Z,2.5nm,1.1s,baz=27,slow=4.5,SNR=4.2						
JTS	**JuntasAbangare**	**144.11**	**68**	PKP	PKPdf	11 50 14.7	+2.2
	comp=Z,3.4nm,0.4s,baz=242,slow=20,SNR=3.9						

*PNSN **06** 11:36:02.2, 48.01N×121.86W, h13km, MD2.7, Fault plane solution: NP1:φs175°, δ40°, NP2:φs330°, δ53°, Principal axes: T Plg76°, Azm188°; P Plg7°, Azm71°;*
*NEIC **06** 11:36:02.2, 48.01N×121.86W, h13km, MD2.7(SEA), After SEA.*
*PGC **06** 11:36:02.1, 48.00N×121.91W, h4km±6km, ML2.1/24, MD2.7(SEA), Near Port Townsend, Washington.*
ISC 06 11:36:01.3±0.5**, 48.00N**±0.03×**121.94W**±0.03**, h13**km±4km**, n43, σ0.77**/63**, 3C-8D, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCW	**Jim Creek**	**0.19**	**1**	⇑P	**Pg**	**11 36 06.0**	**+0.2**
HTW	**Haystack Looko**	**0.23**	**150**	⇓P	**Pg**	**11 36 06.7**	**+0.3**
BEVT	**Boeing Everett**	**0.24**	**251**	P	**Pg**	**11 36 08.2**	**+1.6**
TTW	**Tolt Reservoir**	**0.35**	**151**	P	**Pg**	**11 36 08.4**	**-0.2**
TTW				S	**Sg**	**11 36 13.3**	**-0.2**
CMW	**Cultus Mountai**	**0.44**	**344**	⇑P	**Pg**	**11 36 10.5**	**+0.1**
RPW	**Rockport**	**0.53**	**32**	⇓P	**Pb**	**11 36 11.3**	**-0.6**
KINR	**Kitsap County**	**0.54**	**243**	P	**Pb**	**11 36 12.9**	**+0.9**
BLN	**Blyn Mountain**	**0.70**	**271**	⇓P	**Pb**	**11 36 14.6**	**-0.2**
WRW	**Wenatchee Ridg**	**0.72**	**101**	⇓P	**Pb**	**11 36 14.4**	**-0.8**
GMW	**Gold Mountain**	**0.73**	**232**	⇓P	**Pb**	**11 36 15.4**	**+0.1**
SQM	**Sequim**	**0.75**	**276**	⇓P	**Pb**	**11 36 15.9**	**+0.2**
VGZ	**Gonzales**	**1.02**	**295**	⇑P	**Pb**	**11 36 19.6**	**-0.7**
VGZ				S	**Sb**	**11 36 33.1**	**-0.2**
VGZ				Trac		11 36 35.4	
	comp=Z,35nm,0.1s						
VDB	**Vedder Mountai**	**1.03**	**354**	⇓P	**Pb**	**11 36 20.5**	**-0.1**
VDB	**Vedder Mountai**	**1.03**	**354**	P	**Pb**	**11 36 20.2**	**-0.3**
VDB				S	**Sb**	**11 36 33.6**	**-0.2**
VDB				Trac		11 36 35.0	
	comp=Z,18nm,0.2s						
NLW	**Nelson Butte**	**1.07**	**85**	⇓P	**Pb**	**11 36 20.8**	**-0.5**
FMW	**Mount Fremont**	**1.08**	**170**	P	**Pb**	**11 36 20.8**	**-0.6**
SNB	**Saturna Island**	**1.13**	**314**	P	**Pb**	**11 36 22.2**	**0.0**
SNB				S	**Sb**	**11 36 36.8**	**+0.1**
SNB				Trac		11 36 38.7	
	comp=Z,22nm,0.1s						
PGC	**Sidney**	**1.20**	**303**	eP	**Pb**	**11 36 22.5**	**-0.9**
PGC	**Sidney**	**1.20**	**303**	P	**Pb**	**11 36 22.8**	**-0.6**
PGC				S	**Sb**	**11 36 38.4**	**-0.3**
PGC				Trac		11 36 39.3	
	comp=Z,38nm,0.1s						
CBSW	**Chelan Butte S**	**1.29**	**98**	P	**Pb**	**11 36 24.3**	**-0.6**
CPW	**Capitol Peak**	**1.31**	**219**	P	**Pb**	**11 36 24.9**	**-0.3**
HNB	**Haney**	**1.35**	**342**	P	**Pb**	**11 36 25.0**	**-0.8**
HNB				S	**Sb**	**11 36 42.2**	**-0.6**
HNB				Trac		11 36 43.0	
	comp=Z,59nm,0.2s						
WTV	**Waterville**	**1.37**	**102**	P	**Pn**	**11 36 25.4**	**-0.7**
LZB	**Mount Lazard**	**1.40**	**297**	P	**Pn**	**11 36 25.4**	**-1.2**
LZB				S	**Sb**	**11 36 43.8**	**-0.7**
LZB				Trac		11 36 45.5	
	comp=Z,6.0nm,0.1s						
GOBB	**Galiano Island**	**1.42**	**313**	P	**Pn**	**11 36 26.3**	**-0.6**
GOBB				S	**Sb**	**11 36 44.6**	**-0.3**
GOBB				Trac		11 36 47.2	
	comp=Z,18nm,0.2s						
HOPB	**Hope**	**1.43**	**14**	P	**Pn**	**11 36 27.1**	**+0.1**
HOPB				S	**Sb**	**11 36 44.8**	**-0.5**
HOPB				Trac		11 36 45.7	
	comp=Z,7.0nm,0.1s						
EBG	**Ellensburg**	**1.43**	**139**	P	**Pn**	**11 36 27.8**	**+0.7**
BIB	**Bowen Island**	**1.68**	**328**	P	**Pn**	**11 36 30.0**	**-0.5**
BIB				S	**Sn**	**11 36 51.5**	**-0.5**
BIB				Trac		11 36 53.9	
	comp=Z,8.0nm,0.1s						
PFB	**Port Renfrew**	**1.77**	**290**	P	**Pn**	**11 36 31.5**	**-0.4**
PFB				S	**Sn**	**11 36 53.4**	**-1.0**
PFB				Trac		11 36 56.5	
	comp=Z,8.0nm,0.1s						
PFB				Trac		11 36 58.9	
	comp=Z,8.0nm,0.2s						
NLLB	**Nanaimo Lost L**	**1.83**	**313**	P	**Pn**	**11 36 32.6**	**-0.2**
NLLB				S	**Sn**	**11 36 56.0**	**0.0**
NLLB				Trac		11 36 57.6	
	comp=Z,18nm,0.2s						
WPB	**Watts Point**	**1.86**	**334**	P	**Pn**	**11 36 32.6**	**-0.6**
WPB				S	**Sn**	**11 36 55.8**	**-0.9**
WPB				Trac		11 36 56.6	
	comp=Z,10.0nm,0.2s						
PNT	**Penticton**	**2.02**	**49**	P	**Pn**	**11 36 37.2**	**+1.7**
PNT				S	**Sn**	**11 37 02.9**	**+2.0**
PNT				Trac		11 37 07.3	
	comp=Z,17nm,0.3s						
SHB	**Sechelt**	**2.05**	**322**	P	**Pn**	**11 36 35.4**	**-0.6**
SHB				S	**Sn**	**11 37 00.9**	**-0.6**
SHB				Trac		11 37 03.5	
	comp=Z,42nm,0.3s						
MGB	**Mount Grey**	**2.09**	**300**	P	**Pn**	**11 36 36.8**	**+0.3**
MGB				S	**Sn**	**11 37 03.9**	**+1.4**
MGB				Trac		11 37 07.5	
	comp=Z,6.0nm,0.1s						
WSLR	**Whistler**	**2.23**	**343**	P	**Pn**	**11 36 39.1**	**+0.7**
WSLR				S	**Sn**	**11 37 07.4**	**+1.4**
WSLR				Trac		11 37 08.3	
	comp=Z,4.0nm,0.2s						
ALB	**Alberni**	**2.30**	**305**	P	**Pn**	**11 36 40.8**	**+1.2**
ALB				S	**Sn**	**11 37 08.9**	**+1.0**
ALB				Trac		11 37 13.8	
	comp=Z,5.0nm,0.2s						
TXB	**Texada**	**2.37**	**317**	P	**Pn**	**11 36 40.8**	**+0.3**
TXB				S	**Sn**	**11 37 11.1**	**+1.5**
TXB				Trac		11 37 14.5	
	comp=Z,6.0nm,0.2s						
LLLB	**Lillooet**	**2.61**	**1**	P	**Pn**	**11 36 44.2**	**+0.2**
LLLB				Sg	**Sg**	**11 37 20.9**	**-7.4**
LLLB				Trac		11 37 24.6	
	comp=Z,2.0nm,0.2s						
BTB	**Buttle Lake**	**2.79**	**303**	P	**Pn**	**11 36 48.4**	**+1.8**
BTB				Sg	**Sg**	**11 37 24.8**	**-10**
BTB				Trac		11 37 30.5	
	comp=Z,16nm,0.4s						
CBB	**Campbell River**	**3.04**	**313**	Trac		11 37 36.6	
	comp=Z,2.0nm,0.2s						
CBB	**Campbell River**	**3.04**	**313**	Sg	**Sg**	**11 37 29.7**	**-13**
GDR	**Gold River**	**3.24**	**305**	Sg	**Sg**	**11 37 39.1**	**-10**
GDR				Trac		11 37 42.8	
	comp=Z,3.0nm,0.3s						
NCRB	**Newcastle Ridg**	**3.62**	**313**	Sg	**Sg**	**11 37 48.0**	**-14**
NCRB				Trac		11 37 53.5	
	comp=Z,2.0nm,0.5s						

DJA 06 12:01:37.4±1.5**, 8.55S**×**116.51E, h33**km**, MD4.7**/4**, ML4.5**/3**, 2C-4D, Error ellipse: s-maj=46.1km s-min=28.8km az=135.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.39**	**279**	⇓iPn	Pn	12 01 45.0	-1.6
	5μm,0.2s						
RATI	**Rata**	**0.98**	**260**	⇓ePn	Pn	12 01 54.1	-0.9
	3μm,0.2s						
RATI	**Rata**	**0.98**	**260**	⇓iP	P	12 01 54.4	-0.4
RATI				⇑iSn	Sn	12 02 04.8	-2.9
KELI	**Kelakatan**	**2.02**	**279**	⇑iPn	Pn	12 02 09.0	-0.9
	98nm,0.3s						
SRDI	**Scrawed**	**2.34**	**272**	⇓iPn	Pn	12 02 13.6	-0.8
	172nm,0.2s						

DJA 06 12:05:26.3±1.3**, 9.39S**×**114.80E, h117**km±25km**, MD4.6**/4**, ML3.9**/2**, 2C-4D, Error ellipse: s-maj=66.0km s-min=13.8km az=18.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	**Rata**	**0.98**	**48**	⇓iPn	P	12 05 47.7	-0.5
	309nm,0.2s						
RATI				⇑iSn	S	12 06 03.3	-1.2
SRDI	**Scrawed**	**1.11**	**324**	⇓iPn	P	12 05 49.2	-0.3
	77nm,0.2s						
SRDI	**Scrawed**	**1.11**	**324**	⇑iP	P	12 05 49.5	0.0
KELI	**Kelakatan**	**1.20**	**345**	⇓iPn	P	12 05 50.2	-0.4
KELI				⇓iSn	S	12 06 07.7	-1.0

IDC 06 12:05:42.6±2.1**, 0.34N**×**121.86E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.6**/13**, mbtmp3.5**/3**, Error ellipse: s-maj=209.9km s-min=24.9km az=68.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.57**	**149**	P	P	12 10 55.9	0.0
	0.8nm,0.5s,baz=326,slow=11,SNR=9.7						
ASAR	**Alice Springs**	**26.57**	**155**	P	P	12 11 21.9	-2.5
	0.3nm,0.6s,baz=339,slow=9.4,SNR=7.4						
SONM	**Songino Array**	**49.18**	**346**	P	P	12 14 32.5	-1.9
	0.5nm,0.5s,baz=166,slow=9.5,SNR=7.6						

IDC 06 12:07:03.9±1.3**, 17.02S**×**69.14W, h177**km±13km**, mb3.3**/4**, mb1 3.6**/5**, mb1mx3.3**/16**, mbtmp3.9**/5**, Error ellipse: s-maj=31.6km s-min=25.7km az=67.0, Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.21**	**53**	P	P	12 07 33.7	+0.4
	4.1nm,0.3s,baz=217,slow=5.6,SNR=122						
LVC	**Limon Verde**	**5.57**	**178**	P	P	12 08 25.4	-0.5
	3.0nm,0.3s,baz=335,slow=11,SNR=3.3						
BDFB	**Brasilia**	**20.32**	**89**	P	P	12 11 26.3	-1.5
	3.8nm,0.9s,baz=118,slow=16,SNR=4.1						
TXAR	**Lajitas Array**	**56.88**	**324**	P	P	12 16 29.7	-2.8
	0.1nm,0.3s,baz=143,slow=9.0,SNR=4.6						
NVAR	**Mina Array Bea**	**71.86**	**321**	P	P	12 18 08.3	-1.0
	0.4nm,0.7s,baz=106,slow=6.6,SNR=3.8						
YKA	**Yellowknife Ar**	**86.91**	**341**	P	P	12 19 28.8	-0.5
	1.5nm,0.6s,baz=133,slow=4.8,SNR=78						
SONM	**Songino Array**	**149.05**	**6**	PKPbc	PKPdf	12 26 30.4	+3.9
	0.4nm,0.5s,baz=336,slow=0.9,SNR=6.7						

IDC 06 12:11:05.5±4.6**, 7.58S**×**104.62E, mb3.8**/3**, mb1 4.1**/3**, mb1mx3.8**/12**, mbtmp3.8**/3**, Error ellipse: s-maj=166.7km s-min=28.2km az=54.0, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.47**	**348**	P	P	12 16 44.0	-2.5
	4.0nm,1.0s,baz=184,slow=8.4,SNR=12						
WRA	**Warramunga Arr**	**31.30**	**116**	P	P	12 17 27.3	-2.6
	0.5nm,0.5s,baz=286,slow=12,SNR=9.3						
SONM	**Songino Array**	**55.19**	**1**	P	P	12 20 40.4	-2.0
	0.9nm,1.0s,baz=186,slow=8.7,SNR=6.1						
TXAR	**Lajitas Array**	**145.70**	**47**	PKPbc	PKPbc	12 30 47.4	0.0
	0.3nm,0.5s,baz=277,slow=1.2,SNR=4.2						

IDC 06 12:11:54.1±4.6**, 25.79S**×**69.41E, mb3.8**/4**, mb1 4.1**/4**, mb1mx3.8**/13**, mbtmp3.8**/4**, MS3.9**/5**, Ms1 3.9**/5**, ms1mx3.7**/9**, Error ellipse: s-maj=127.3km s-min=42.3km az=59.0, Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**42.02**	**184**	LR	LR	12 31 52.8	
	comp=Z,165nm,19.1s,baz=254,slow=28						
CMAR	**Chiang Mai Arr**	**52.53**	**36**	P	P	12 21 09.5	-2.1
	2.1nm,1.1s,baz=220,slow=6.0,SNR=4.1						
CMAR				LR	LR	12 39 50.8	
	comp=Z,63nm,18.2s,baz=245,slow=32						
ASAR	**Alice Springs**	**58.09**	**103**	P	P	12 21 49.7	-2.1
	0.8nm,0.8s,baz=252,slow=6.6,SNR=8.3						
ASAR				LR	LR	12 41 19.1	
	comp=Z,69nm,20.1s,baz=100,slow=30						
WRA	**Warramunga Arr**	**59.60**	**99**	P	P	12 22 00.0	-2.3
	3.7nm,1.3s,baz=253,slow=7.2,SNR=4.4						
STKA	**Stephens Creek**	**62.48**	**114**	LR	LR	12 47 13.9	
	comp=Z,104nm,19.6s,baz=206,slow=34						
DBIC	**Dimbokro**	**78.88**	**283**	LR	LR	12 58 24.1	
	comp=Z,94nm,19.5s,baz=89,slow=35						
SONM	**Songino Array**	**80.48**	**24**	P	P	12 24 07.6	-1.6
	0.7nm,0.9s,baz=198,slow=3.9,SNR=5.6						
YKA	**Yellowknife Ar**	**143.21**	**3**	PKP	PKPdf	12 31 29.5	-1.8
	0.2nm,0.8s,baz=347,slow=3.4,SNR=4.1						

IDC 06 12:14:56.6±7.8**, 15.84S**×**174.36W, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.6**/15**, mbtmp3.6**/3**, Error ellipse: s-maj=341.6km s-min=38.9km az=140.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.84**	**257**	P	P	12 23 45.1	-1.0
	0.1nm,0.3s,baz=91,slow=8.1,SNR=7.7						
ASAR	**Alice Springs**	**49.09**	**252**	P	P	12 23 45.3	-2.8
	1.4nm,0.5s,baz=88,slow=8.6,SNR=42						
ILAR	**Eielson Array**	**83.06**	**11**	P	P	12 27 23.6	-1.4
	0.4nm,1.0s,baz=190,slow=5.5,SNR=4.2						

*NEIC **06** 12:20:03.9±1.2, 18.34N×146.91E, h81km±9km, mb4.1/6, Error ellipse: s-maj=17.4km s-min=6.8km az=88.0*
*IDC **06** 12:20:07.0±11.0, 18.34N×146.91E, h109km±109km, mb3.8/11, mb1 3.9/11, mb1mx3.8/18, mbtmp4.1/11, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=30.8km s-min=18.0km az=78.0*
ISC 06 12:20:02.6±1.8**, 18.35N**±0.07×**146.9E**±0.2**, h87**km±14km**, n26, σ0.76**/25**, mb4.0**/15**, 2C, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**1.98**	**214**	⇑iP	**P**	**12 20 34.8**	**-0.1**
ANAT	**Anatahan**	**2.33**	**212**	⇑eP	**P**	**12 20 40.1**	**+0.2**
JOW	**Kunigami**	**19.16**	**299**	LR	LR	12 30 36.4	
	comp=Z,91nm,18.1s,baz=95,slow=33						
MAJO	**Matsushiro**	**19.69**	**339**	eP	**P**	**12 24 27.9**	**+0.5**
	3.6nm,0.4s						
MAT	**Matsushiro**	**19.69**	**339**	eP	**P**	**12 24 26.0**	**-1.3**
	7.5nm,0.7s						
MAT	**Matsushiro**	**19.69**	**339**	P	**P**	**12 24 25.7**	**-1.6**
PMG	**Port Moresby**	**27.58**	**180**	P	**P**	**12 25 43.5**	**-0.4**
	20nm,1.1s,mb4.6,baz=326,slow=7.6,SNR=3.1						
KKM	**Kota Kinabalu**	**32.35**	**252**	eP	**P**	**12 26 26.1**	**+0.1**
WRAB	**Tennant Creek**	**40.00**	**199**	eP	**P**	**12 27 30.9**	**+0.4**
	5.5nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**40.01**	**199**	P	**P**	**12 27 31.6**	**+0.9**
	2.1nm,0.4s,mb4.3,baz=30,slow=8.6,SNR=70						
ASAR	**Alice Springs**	**43.65**	**197**	P	**P**	**12 28 00.8**	**+0.3**
	2.0nm,0.4s,mb4.2,baz=20,slow=11,SNR=78						
ASPA	**Alice Springs**	**43.65**	**197**	eP	**P**	**12 28 00.5**	**-0.1**
ULN	**Ulaanbaatar**	**43.77**	**321**	eP	**P**	**12 28 02.1**	**+0.9**
SONM	**Songino Array**	**44.14**	**321**	P	**P**	**12 28 04.4**	**+0.2**
	1.3nm,0.7s,mb3.8,baz=138,slow=8.9,SNR=12						
SONM				PcP	PcP	12 29 48.5	+0.3
	0.5nm,0.6s,baz=154,slow=3.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**45.42**	**278**	P	**P**	**12 28 15.6**	**+0.8**
	0.3nm,0.5s,mb3.3,baz=82,slow=6.4,SNR=4.1						
MBWA	**Marble Bar**	**47.45**	**215**	eP	**P**	**12 28 29.3**	**-1.4**
	0.9nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**50.20**	**186**	eP	**P**	**12 28 51.6**	**-0.2**
	2.4nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**50.20**	**186**	P	**P**	**12 28 51.3**	**-0.5**
	6.2nm,1.2s,mb4.4,baz=350,slow=6.1,SNR=8.3						
ILAR	**Eielson Array**	**63.44**	**26**	P	**P**	**12 30 25.4**	**+0.1**
	0.6nm,1.0s,mb3.5,baz=243,slow=6.0,SNR=3.0						
CHKZ	**Chkalovo**	**67.34**	**321**	eP	**P**	**12 30 49.1**	**-1.2**
	0.6nm,0.3s,mb3.9						
BVAR	**Borovoye Array**	**67.48**	**321**	P	**P**	**12 30 51.1**	**-0.1**
	3.1nm,0.5s,mb4.4,baz=100,slow=7.9,SNR=29						
YKA	**Yellowknife Ar**	**77.75**	**28**	P	**P**	**12 31 52.0**	**+0.6**
	0.2nm,0.7s,mb2.9,baz=287,slow=5.3,SNR=4.6						
YKA	**Yellowknife Ar**	**77.75**	**28**	P	**P**	**12 31 52.0**	**+0.6**
ARCES	**ARCESS Array B**	**83.18**	**342**	P	**P**	**12 32 21.1**	**+1.1**
	5.0nm,0.9s,mb4.3,baz=12,slow=8.3,SNR=3.9						
JOF	**Joensuu**	**84.82**	**336**	ep	**P**	**12 32 24.7**	**-3.6**
	3.1nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**87.69**	**336**	P	**P**	**12 32 41.9**	**-0.5**
	1.3nm,0.7s,mb4.0,baz=69,slow=7.2,SNR=13						

*NEIC **06** 12:35:33.2, 17.49N×101.10W, h12km, MD4.0(MEX), After MEX.*
MEX 06 12:35:33.1±0.9**, 17.49N**×**101.09W, h11**km±14km**, MD4.1, 3C-2D, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.37**	**289**	⇓iP	Pg	12 35 39.9	-0.9
ZIIG				i S	Sg	12 35 46.2	+0.2
CAIG	**El Cayaco**	**0.90**	**119**	⇑eP	Pb	12 35 47.9	-2.4
CAIG				eS	Sb	12 35 59.0	-3.1
ACX	**Acapulco**	**1.28**	**118**	⇑eP	Pb	12 35 54.3	-2.5
PLIG	**Platanillo**	**1.76**	**59**	⇓eP	Pn	12 36 00.2	-3.7
PLIG				eS	Sn	12 36 21.6	-4.9
MOIG	**Morelia**	**2.18**	**358**	⇑eP	Pn	12 36 05.7	-4.2
YAIG	**Yautepec**	**2.36**	**54**	eP	Pn	12 36 09.8	-2.7
YAIG				eS	Sn	12 36 38.7	-3.1
UNM	**Universidad Na**	**2.58**	**44**	eP	Pn	12 36 22.5	+6.9
UNM				eS	Sn	12 36 48.0	+0.7
UNM	**Universidad Na**	**2.58**	**44**	eS	Sn	12 36 45.5	-1.8
PPM	**Popocatepetl**	**2.82**	**56**	eP	Pn	12 36 16.0	-3.0
PPM				eS	Sn	12 36 47.0	-6.4
PPM				eS	Sn	12 36 48.7	-4.7
PPM	**Popocatepetl**	**2.82**	**56**	eP	Pn	12 36 15.1	-3.9
PPM				eP		12 36 16.0	
PPM				eS	Sn	12 36 48.7	-4.7
PPM				eS	Sn	12 36 51.5	-1.9
IIB	**San Bernardino**	**3.00**	**60**	eP	Pn	12 36 16.0	-5.5
IIB				eS	Sn	12 36 57.0	-0.8
SFJM	**Santa Fe**	**3.51**	**329**	eP	Pn	12 36 37.0	+8.2
SFJM				eS	Sn	12 37 08.5	-2.2
SFJM	**Santa Fe**	**3.51**	**329**	eP	Pn	12 36 25.0	-3.8
SFJM				eS	Sn	12 37 06.0	-4.7
IISM	**Ciudad Serdan**	**3.84**	**66**	eP	Pn	12 36 32.5	-0.9
OXX	**Oaxaca**	**4.20**	**95**	eP	Pn	12 36 45.0	+6.5
OXX				eS	Sn	12 37 32.5	+4.4
CMIG	**Matias Romero**	**5.95**	**93**	eP	Pn	12 37 09.0	+5.7
CMIG				i S	Sn	12 38 04.1	-8.1
CMIG	**Matias Romero**	**5.95**	**93**	i S	Sn	12 38 07.8	-4.3

IDC 06 12:44:31.9±3.0**, 50.00S**×**113.58E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.9**/10**, mbtmp4.0**/3**, Error ellipse: s-maj=134.5km s-min=59.3km az=132.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.61**	**60**	P	P	12 50 20.1	-2.6
	1.8nm,0.8s,baz=176,slow=19,SNR=2.9						
ASAR	**Alice Springs**	**30.71**	**39**	P	P	12 50 48.8	-1.8
	1.5nm,0.7s,baz=211,slow=7.6,SNR=26						
WRA	**Warramunga Arr**	**34.24**	**36**	P	P	12 51 19.4	-2.0
	1.1nm,0.7s,baz=202,slow=10,SNR=12						
YKA	**Yellowknife Ar**	**151.21**	**46**	PKPbc	PKPdf	13 04 25.6	+4.1
	0.8nm,1.0s,baz=283,slow=2.0,SNR=12						

*CSEM **06** 12:45:13.9±0.5, 34.95N×2.69W, h15km, mb3.5/6, Error ellipse: s-maj=13.1km s-min=5.0km az=148.0*
*NEIC **06** 12:45:18.6, 35.03N×2.91W, h20km, MG3.5(MDD), After MDD.*
MDD 06 12:45:18.6±2.0**, 35.03N**×**2.91W, h20**km±5km**, mb3.5**/6**, Error ellipse: s-maj=17.6km s-min=14.9km az=135.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.15**	**113**	i P	Pb	12 45 17.0	-6.0
ZAI				i S	Sb	12 45 20.0	-6.0
EMLI	**Melilla**	**0.27**	**354**	P	Pb	12 45 24.6	-0.2
	SNR=7.9						
EMLI				S	Sb	12 45 28.4	-0.6
	SNR=7.9						
EMEL	**Melilla**	**0.27**	**353**	P	Pb	12 45 24.6	-0.2
	55nm,0.2s,SNR=7.9						
EMEL				S	Sb	12 45 28.4	-0.6
	341nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.87**	**1**	P	Pn	12 45 49.2	-0.7
	18nm,0.8s						
EBER				S	Sn	12 46 12.1	-1.1
	12nm,0.4s						
EBER	**Berja**	**1.87**	**1**	P	Pn	12 45 49.2	-0.8
	18nm,0.8s						
EBER				S	Sn	12 46 12.1	-1.1
	12nm,0.4s						
ESPR	**Espera**	**3.01**	**308**	P	Pn	12 46 05.3	-1.0
	1.3nm,0.2s						
ESPR	**Espera**	**3.01**	**308**	P	Pn	12 46 05.3	-1.0
	1.3nm,0.2s						
EMUR	**La Murta**	**3.12**	**25**	P	Pn	12 46 03.9	-3.9
	11nm,0.9s						
EMUR				S	Sn	12 46 41.5	-3.4
	0.1nm,0.2s						
EMUR	**La Murta**	**3.12**	**25**	P	Pn	12 46 03.9	-3.9
	11nm,0.9s						
EMUR				S	Sn	12 46 41.5	-3.4
	0.1nm,0.2s						
EADA	**Adamuz**	**3.41**	**337**	P	Pn	12 46 09.8	-2.1
	0.4nm,0.3s						
EADA				S	Sn	12 46 47.1	-5.1
	0.3nm,0.1s						
EADA	**Adamuz**	**3.41**	**337**	P	Pn	12 46 09.8	-2.1
	0.4nm,0.3s						
EADA				S	Sn	12 46 47.1	-5.1
	0.3nm,0.1s						
EMIN	**Mina Concepcio**	**4.08**	**313**	P	Pn	12 46 17.7	-3.8
	0.7nm,0.3s						
EMIN				S	Sn	12 47 02.7	-6.7
	0.3nm,0.1s						
EMIN	**Mina Concepcio**	**4.08**	**313**	P	Pn	12 46 17.7	-3.8
	0.7nm,0.3s						
EMIN				S	Sn	12 47 02.7	-6.6
	0.3nm,0.1s						
EBAD	**Badajoz**	**4.96**	**320**	P	Pn	12 46 30.3	-3.7
	1.3nm,0.2s						
EBAD				S	Sn	12 47 24.3	-7.3
	1.5nm,0.4s						
EBAD	**Badajoz**	**4.96**	**320**	P	Pn	12 46 30.3	-3.7
	1.3nm,0.2s						
EBAD				S	Sn	12 47 24.3	-7.3
	1.5nm,0.4s						

*IDC **06** 12:52:29.7±0.9, 85.20N×96.87E, mb3.6/8, mb1 3.8/9, mb1mx3.7/19, mbtmp3.6/9, ML3.3/1, MS3.1/2, Ms1 3.1/2, ms1mx2.9/18, Error ellipse: s-maj=31.1km s-min=16.6km az=145.0*
*NEIC **06** 12:52:31.2±0.7, 85.20N×97.11E, h10km, Error ellipse: s-maj=22.5km s-min=11.0km az=148.0*
ISC 06 12:52:29.4±0.8**, 85.2N**±0.2×**9 7E**± **, h10**km**, n12, σ0.61**/11**, mb3.4**/8**, MS2.8**/1**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.55**	**264**	P	**P**	**12 56 59.9**	**+0.3**
	0.1nm,0.3s,baz=20,slow=11,SNR=3.6						
ARCES				LR	LR	13 04 49.3	
	comp=Z,74nm,19.1s,baz=191,slow=38						
INK	**Inuvik**	**25.16**	**42**	P	**P**	**12 57 56.0**	**+0.4**
	5.0nm,1.1s,mb4.0,baz=356,slow=12,SNR=7.5						
INK	**Inuvik**	**25.16**	**42**	eP	**P**	**12 57 55.5**	**0.0**
	24nm,1.3s,mb4.6						
FINES	**FINESS Array B**	**27.47**	**259**	P	**P**	**12 58 17.2**	**+0.3**
	3.3nm,1.3s,mb3.7,baz=11,slow=7.1,SNR=2.8						
ILAR	**Eielson Array**	**27.83**	**55**	P	**P**	**12 58 21.6**	**+1.4**
	0.4nm,0.9s,mb3.0,baz=352,slow=6.3,SNR=5.6						
NOA	**NORSAR Array B**	**29.11**	**274**	LR	LR	13 09 58.9	
	comp=Z,26nm,20.5s,MS2.8,baz=310,slow=36						
YKA	**Yellowknife Ar**	**31.87**	**27**	P	**P**	**12 58 55.7**	**-0.4**
	0.3nm,0.8s,mb3.1,baz=353,slow=7.8,SNR=7.0						
YKA	**Yellowknife Ar**	**31.87**	**27**	P	**P**	**12 58 55.7**	**-0.4**
DLBC	**Dease Lake**	**35.19**	**42**	P	**P**	**12 59 24.0**	**-1.0**
	2.8nm,1.1s,mb4.1,baz=340,slow=15,SNR=2.8						
SONM	**Songino Array**	**37.62**	**169**	P	**P**	**12 59 45.3**	**-0.3**
	0.3nm,0.7s,mb3.1,baz=346,slow=5.9,SNR=3.5						
GERES	**GERESS Array B**	**40.99**	**268**	P	**P**	**13 00 13.2**	**-0.3**
	0.3nm,0.8s,mb3.0,baz=350,slow=6.0,SNR=3.0						
TXAR	**Lajitas Array**	**65.35**	**20**	P	**P**	**13 03 13.4**	**-0.1**
	0.1nm,0.5s,mb3.1,baz=45,slow=1.8,SNR=3.9						

*PGC **06** 13:01:28.9, 48.73N×129.07W, h10^{km}, MLSn4.6/1, Mw5.0/11, Mw5.2, MD3.2(SEA), West of Vancouver Island, British Columbia*
*NEIC **06** 13:01:29.0, 48.73N×129.07W, h10^{km}, mb4.8/29, MW4.9(PGC), After PGC.*
*BJI **06** 13:01:29.0, 48.70N×129.10W, h10^{km}, mB5.3, mb4.6, Ms4.9, Msz4.7*
*IDC **06** 13:01:35.3$\pm$2.7, 48.90N×128.72W, h31$^{km}\pm$20^{km}, mb3.9/11, mb1 4.2/20, mb1mx4.2/25, mbtmp4.2/20, ML4.2/10, MS4.2/16, Ms1 4.2/16, ms1mx4.0/20, Error ellipse: s-maj=18.8km s-min=8.3km az=62.0*
ISC 06 13:01:30.3$\pm$0.7**, 48.95N**$\pm$0.02×**128.74W**$\pm$0.03**, h5**$^{km}\pm$5^{km}**, n205,** σ1§**11**/235**, mb4.5**/33**, MS4.2**/12**, 1C, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.36	27	Pn	Pn	13 01 56.1	+0.1
BPBC				Sn	Sn	13 02 15.5	+0.8
	comp=Z,1μm,0.3s						
BPBC				Trac		13 02 16.3	
	comp=Z,1μm,0.3s						
EDB	Eliza Dome	1.40	48	Pn	Pn	13 01 56.5	-0.2
EDB				Sn	Sn	13 02 16.5	+0.8
EDB				Trac		13 02 17.1	
	comp=Z,938nm,0.3s						
ETB	Estevan Point	1.51	73	Pn	Pn	13 01 58.2	+0.1
ETB				Trac		13 02 22.7	
	comp=Z,413nm,0.3s						
HOLB	Holberg	1.74	13	Pn	Pn	13 02 00.2	-1.2
HOLB				Sn	Sn	13 02 23.8	-0.4
	comp=Z,296nm,0.2s						
HOLB				Trac		13 02 29.5	
	comp=Z,296nm,0.2s						
MAYB	Maynard	1.77	34	Pn	Pn	13 02 01.8	-0.2
MAYB				Sn	Sn	13 02 26.4	+1.3
	comp=Z,320nm,0.3s						
MAYB				Trac		13 02 32.4	
	comp=Z,320nm,0.3s						
WOSB	Woss	1.86	49	Pn	Pn	13 02 03.5	+0.4
WOSB				Sn	Sn	13 02 29.4	+2.0
	comp=Z,534nm,0.3s						
WOSB				Trac		13 02 31.1	
	comp=Z,534nm,0.3s						
PHC	Port Hardy	1.95	25	Pn	Pn	13 02 04.6	+0.2
PHC				Sn	Sn	13 02 30.0	+0.3
PHC				Trac		13 02 32.1	
	comp=Z,367nm,0.3s						
GDR	Gold River	1.96	64	Pn	Pn	13 02 04.4	-0.1
GDR				Sn	Sn	13 02 30.0	+0.2
	comp=Z,382nm,0.2s						
GDR				Trac		13 02 32.3	
	comp=Z,382nm,0.2s						
OZB	Mount Ozzard	2.14	89	⇑P	Pn	13 02 06.1	-1.1
OZB	Mount Ozzard	2.14	89	Pn	Pn	13 02 06.0	-1.1
OZB				Sn	Sn	13 02 33.5	-1.0
OZB				Trac		13 02 35.8	
	comp=Z,172nm,0.1s						
BTB	Buttle Lake	2.17	75	Pn	Pn	13 02 07.7	+0.1
BTB				Sn	Sn	13 02 35.8	+0.5
	comp=Z,1μm,0.3s						
BTB				Trac		13 02 37.6	
	comp=Z,1μm,0.3s						
NCRB	Newcastle Ridg	2.27	49	Pn	Pn	13 02 09.8	+0.8
NCRB				Sn	Sn	13 02 39.7	+2.0
	comp=Z,741nm,0.4s						
NCRB				Trac		13 02 41.3	
	comp=Z,741nm,0.4s						
CBB	Campbell River	2.45	63	Pn	Pn	13 02 11.9	+0.3
CBB				Sn	Sn	13 02 43.4	+1.0
CBB				Trac		13 02 46.2	
	comp=Z,955nm,0.5s						
ALB	Alberni	2.59	81	Pn	Pn	13 02 12.9	-0.7
ALB				Sn	Sn	13 02 44.7	-1.2
	comp=Z,91nm,0.2s						
ALB				Trac		13 02 48.8	
	comp=Z,91nm,0.2s						
MGB	Mount Grey	2.67	87	Pn	Pn	13 02 13.4	-1.3
MGB				Sn	Sn	13 02 47.0	-0.8
	comp=Z,196nm,0.2s						
MGB				Trac		13 02 50.4	
	comp=Z,196nm,0.2s						
PFB	Port Renfrew	2.87	96	Pn	Pn	13 02 16.3	-1.3
PFB				Sn	Sn	13 02 50.1	-2.9
PFB				Trac		13 02 54.6	
	comp=Z,42nm,0.3s						
TXB	Texada	2.91	74	Pn	Pn	13 02 18.9	+0.7
TXB				Sn	Sn	13 02 55.4	+1.3
	comp=Z,846nm,0.6s						
TXB				Trac		13 02 58.4	
	comp=Z,846nm,0.6s						
NLLB	Nanaimo Lost L	3.13	83	Pn	Pn	13 02 21.6	+0.2
NLLB				Sn	Sn	13 03 00.1	+0.4
NLLB				Trac		13 03 04.9	
	comp=Z,243nm,0.3s						
OBC	Olympics--Boni	3.23	105	P	Pn	13 02 22.4	-0.4
SHB	Sechelt	3.25	77	Pn	Pn	13 02 23.5	+0.5
SHB				Sn	Sn	13 03 03.4	+0.8
SHB				Trac		13 03 10.8	
	comp=Z,510nm,0.5s						
BBB	Bella Bella	3.26	7	Pn	Pn	13 02 22.7	-0.5
	403nm,0.3s,baz=199,slow=12,SNR=622						
BBB				Sn	Sn	13 03 02.2	-0.7
	109nm,0.3s,baz=278,slow=23,SNR=13						
BBB				LR	LR	13 03 50.0	
	comp=Z,3μm,19.2s,baz=203,slow=41						
BBB	Bella Bella	3.26	7	Pn	Pn	13 02 22.7	-0.5
BBB				Sn	Sn	13 03 02.2	-0.7
BBB				LR	LR	13 03 50.0	
BBB	Bella Bella	3.26	7	Pn	Pn	13 02 22.3	-0.9
BBB				Sn	Sn	13 03 02.3	-0.6
BBB				Trac		13 03 05.1	
	comp=Z,445nm,0.3s						
LZB	Mount Lazard	3.27	94	Pn	Pn	13 02 22.1	-1.2
LZB				Sn	Sn	13 03 01.6	-1.5
LZB				Trac		13 03 11.5	
	comp=Z,23nm,0.3s						
OOW	Octopus West	3.27	110	P	Pn	13 02 22.6	-0.7
OCWA	Octopus Mounta	3.27	110	*e*P	Pn	13 02 22.5	-0.8
OCWA				*e*S	Sn	13 03 01.7	-1.5
GOBB	Galiano Island	3.45	88	Pn	Pn	13 02 25.7	-0.1
GOBB				Trac		13 03 13.1	
	comp=Z,132nm,0.4s						
STW	Striped Peak	3.46	101	P	Pn	13 02 24.9	-1.1
PGC	Sidney	3.51	93	*e*P	Pn	13 02 25.4	-1.3
PGC	Sidney	3.51	93	Pn	Pn	13 02 25.5	-1.2
PGC				Sn	Sn	13 03 08.4	-0.8
PGC				Trac		13 03 13.4	
	comp=Z,49nm,0.3s						
OSD	Olympics--Snow	3.54	107	P	Pn	13 02 27.5	+0.3
BIB	Bowen Island	3.59	81	Pn	Pn	13 02 27.4	-0.5
BIB				Sn	Sn	13 03 12.0	+0.7
	comp=Z,99nm,0.3s						
BIB				Trac		13 03 16.3	
	comp=Z,99nm,0.3s						
VGZ	Gonzales	3.63	96	Pn	Pn	13 02 26.7	-1.7
VGZ				Sn	Sn	13 03 09.7	-2.5
VGZ				Trac		13 03 13.1	
	comp=Z,86nm,0.3s						
SNB	Saturna Island	3.68	91	Pn	Pn	13 02 28.9	-0.2
SNB				Sn	Sn	13 03 13.8	+0.3
SNB				Trac		13 03 18.1	
	comp=Z,76nm,0.5s						
WPB	Watts Point	3.69	77	Pn	Pn	13 02 29.8	+0.5
WPB				Sn	Sn	13 03 13.6	-0.1
	comp=Z,132nm,0.3s						
WPB				Trac		13 03 20.3	
	comp=Z,132nm,0.3s						
SQM	Sequim	3.88	101	P	Pn	13 02 31.8	-0.3
BLN	Blyn Mountain	3.95	102	P	Pn	13 02 32.4	-0.6
WSLR	Whistler	3.97	71	Pn	Pn	13 02 34.0	+0.8
WSLR				Sn	Sn	13 03 21.9	+1.1
WSLR				Trac		13 03 27.9	
	comp=Z,123nm,0.6s						
HNB	Haney	4.06	83	Pn	Pn	13 02 34.5	0.0
HNB				Sn	Sn	13 03 22.6	-0.5
HNB				Trac		13 03 31.7	
	comp=Z,131nm,0.3s						
BNB	Barry Inlet	4.10	333	Pn	Pn	13 02 29.9	-5.3
SBES	Silver Beach E	4.18	90	P	Pn	13 02 36.4	+0.1
CPW	Capitol Peak	4.25	116	P	Pn	13 02 36.3	-1.0
VDB	Vedder Mountai	4.37	87	P	Pn	13 02 38.2	-0.8
VDB	Vedder Mountai	4.37	87	Pn	Pn	13 02 38.1	-0.8
VDB				Sn	Sn	13 03 30.1	-0.8
	comp=Z,28nm,0.3s						
VDB				Trac		13 03 36.4	
	comp=Z,28nm,0.3s						
RRHS	Rochester High	4.40	117	P	Pn	13 02 38.8	-0.5
MEW	McNeil Island	4.44	111	P	Pn	13 02 40.4	+0.4
BMW	Boistfort Moun	4.47	122	P	Pn	13 02 39.2	-1.1
JCW	Jim Creek	4.58	97	P	Pn	13 02 41.3	-0.6
MOBC	Moresby Island	4.69	336	Pn	Pn	13 02 40.7	-2.8
BNAB	Bonilla	4.70	346	Pn	Pn	13 02 41.7	-2.0
LLLB	Lillooet	4.74	67	Pn	Pn	13 02 44.9	+0.7
LLLB				Sn	Sn	13 03 41.4	+1.0
LLLB				Trac		13 03 48.2	
	comp=Z,90nm,0.6s						
GHW	Garrison Hill	4.74	111	P	Pn	13 02 43.9	-0.4
RPW	Rockport	4.81	93	P	Pn	13 02 44.6	-0.6
HOPB	Hope	4.82	82	Pn	Pn	13 02 45.4	+0.1
HOPB				Sn	Sn	13 03 41.4	-1.0
HOPB				Trac		13 03 47.1	
	comp=Z,73nm,0.3s						
KOSW	Kosmos	5.07	117	P	Pn	13 02 48.9	0.0
RCS	Mount Rainier-	5.15	111	P	Pn	13 02 49.9	-0.1
LON	Longmire	5.16	113	P	Pn	13 02 49.9	-0.2
FMW	Mount Fremont	5.16	110	P	Pn	13 02 50.0	-0.1
RUBB	Prince Rupert	5.46	351	Pn	Pn	13 02 53.8	-0.6
RUBB				Trac		13 04 23.8	
	comp=Z,62nm,0.6s						
MASB	Masset	5.47	339	Pn	Pn	13 02 51.1	-3.3
TBM	Table Mountain	5.74	105	P	Pn	13 02 58.9	+0.6
COR	Corvallis	5.75	137	*e*P	Pn	13 02 57.6	-0.7
NAC	Naches	5.77	110	P	Pn	13 02 59.6	+0.9
ETW	Entiat	5.77	100	P	Pn	13 02 58.2	-0.5
PNT	Penticton	6.00	83	Pn	Pn	13 03 00.8	-1.1
VFP	Flag Point	6.15	123	P	Pn	13 03 04.2	+0.1
FSB	Fort Saint Jam	6.17	25	Pn	Pn	13 03 08.5	+4.0
FSB				Trac		13 04 53.9	
	comp=Z,54nm,0.9s						
DOWB	Downie Slide	7.04	65	Pn	Pn	13 03 16.9	+0.2
SLEB	Sale Mountain	7.18	68	Pn	Pn	13 03 19.4	+0.8
MNB	Mounoet Dainar	7.35	60	Pn	Pn	13 03 21.4	+0.5
HUMO	Hull Mountain	7.52	145	*e*P	Pn	13 03 23.8	+0.5
NEW	Newport	7.73	91	Pn	Pn	13 03 24.7	-1.7
	5.3nm,0.3s,baz=282,slow=9.4,SNR=40						
NEW				LR	LR	13 06 32.2	
	comp=Z,3μm,18.8s,baz=284,slow=38						
NEW	Newport	7.73	91	*e*P	Pn	13 03 24.4	-1.9
BMBC	Bull Mountain	8.17	27	Pn	P	13 03 33.4	+1.0
BMBC				Trac		13 05 55.9	
	comp=Z,18nm,0.8s						
YBH	Yreka Blue Hor	8.37	147	Pn	P	13 03 36.9	+1.6
	0.9nm,0.3s,baz=336,slow=13,SNR=41						
YBH	Yreka Blue Hor	8.37	147	*e*P	P	13 03 36.1	+0.9
KHMM	Horse Mountain	8.82	154	*e*P	P	13 03 41.4	-0.1
BMO	Blue Mountains	8.84	113	*e*P	P	13 03 40.8	-0.8
MOD	Modoc	9.21	137	*e*P	P	13 03 47.9	+1.1
WDC	Whiskeytown Da	9.46	150	*e*P	P	13 03 49.9	-0.3
DLBC	Dease Lake	9.54	356	Pn	P	13 03 52.5	+1.2
	0.6nm,0.3s,baz=180,slow=13,SNR=25						
DLBC				LR	LR	13 07 23.0	
	comp=Z,1μm,19.0s,baz=174,slow=36						
DLBC	Dease Lake	9.54	356	*e*P	P	13 03 51.9	+0.7
DLBC	Dease Lake	9.54	356	P	P	13 03 51.6	+0.4
WVOR	Wild Horse Val	9.61	129	*e*P	P	13 03 53.6	+1.4
WALA	Waterton Lakes	9.75	84	*e*P	P	13 03 53.8	-0.4
WALA	Waterton Lakes	9.75	84	P	P	13 03 54.0	-0.2
MSO	Missoula	10.17	96	*e*P	P	13 03 57.7	-2.2
FNBB	Fort Nelson	10.51	17	P	P	13 04 03.9	-0.7
FNBB				Trac		13 06 29.1	
	comp=Z,8.0nm,0.7s						
EDM	Edmonton	10.58	60	*e*P	P	13 04 05.0	-0.6
EDM	Edmonton	10.58	60	P	P	13 04 05.3	-0.2
CHMT	Chamberlain Mo	10.59	95	*e*P	P	13 04 03.6	-2.2
HOPS	Hopland	10.76	156	P	P	13 04 06.5	-1.5
OHCM	Honcut	10.93	149	*e*P	P	13 04 10.1	-0.3
HLID	Hailey	11.28	113	*e*P	P	13 04 14.2	-1.0
NSHM	Saint Helena R	11.33	155	P	P	13 04 14.7	-1.1
PAHR	Pah Rah Range	11.41	141	*e*P	P	13 04 20.0	+3.1
HRY	Holter Researc	11.59	95	P	P	13 04 17.8	-1.5
WCN	Washoe City	11.60	143	*e*P	P	13 04 21.1	+1.5
MCMT	McKenzie Canyo	11.63	105	*e*P	P	13 04 18.0	-1.8
BMN	Battle Mountai	11.81	132	*e*P	P	13 04 24.3	+2.0
BOZ	Bozeman (W)	12.08	99	*e*P	P	13 04 24.4	-1.6
WHY	Whitehorse	12.25	346	P	P	13 04 30.6	+2.3
CMB	Columbia Colle	12.47	148	P	P	13 04 31.1	-0.2
QLMT	Earthquake Lak	12.53	103	P	P	13 04 32.3	+0.2
ELK	Elko	12.60	126	Pn	P	13 04 34.0	+1.0
	0.1nm,0.3s,baz=300,slow=11,SNR=11						
ELK				LR	LR	13 09 37.1	
	comp=Z,552nm,18.2s,baz=310,slow=38						
ELK	Elko	12.60	126	*e*P	P	13 04 28.6	-4.4
YMR	Madison River	12.90	103	*e*P	P	13 04 37.0	0.0
HYT	Haines Junctio	12.91	340	P	P	13 04 38.9	+1.9
NVAR	Mina Array Bea	12.93	141	Pn	P	13 04 39.1	+1.7
	0.2nm,0.3s,baz=323,slow=12,SNR=32						
MNV	Mina	12.99	140	P	P	13 04 33.0	-5.2
YNR	Norris Junctio	13.07	102	*e*P	P	13 04 40.8	+1.5
YNR				*e*		13 04 53.0	
YFT	Old Faithful	13.08	103	P	P	13 04 40.8	+1.4
YFT				*e*		13 04 54.0	
HVU	Hansel Valley	13.30	117	*e*P	P	13 04 43.9	+1.5
LKWY	Lake	13.31	102	*e*P	P	13 04 44.3	+1.8
LKWY				*e*		13 04 56.5	
TPH	Tonopah	13.69	138	P	P	13 04 44.0	-3.4
BGU	Big Grassy Mou	13.70	120	*e*P	P	13 04 48.5	+0.9
LRV	Little Rabbit	13.74	153	P	P	13 04 48.5	+0.5
AHID	Auburn Hatcher	13.75	110	P	P	13 04 50.0	+1.8
AHID				*e*		13 04 59.7	
MTUM	Tungsten Hills	13.75	144	P	P	13 04 50.7	+2.4
SPUT	South Promonto	13.79	118	*e*P	P	13 04 48.9	+0.2
HWUT	Hardware Ranch	14.13	115	*e*P	P	13 04 54.7	+1.6
NOQ	North Oquirrh	14.40	119	*e*P	P	13 04 58.6	+1.8
NOQ				*e*		13 05 06.0	
TCUT	Toone Canyon	14.52	116	*e*P	P	13 05 00.5	+2.2
TCUT				*e*		13 05 08.4	
BW06	Boulder Array	14.71	108	*e*P	P	13 05 01.6	+0.9
	60nm,1.4s						
PDAR	Pinedale Array	14.71	108	Pn	P	13 05 03.6	+2.8
	0.2nm,0.3s,baz=310,slow=12,SNR=58						
PDAR				LR	LR	13 10 59.7	
	comp=Z,1μm,19.8s,baz=305,slow=38						
JLU	Jordanelle	14.82	118	*e*P	P	13 05 03.5	+1.2
JLU				*e*		13 05 10.4	
DAU	Daniels Canyon	15.06	118	*e*P	P	13 05 07.0	+1.7
DAU				*e*		13 05 13.7	
MPU	Maple Canyon	15.10	120	*e*P	P	13 05 07.3	+1.4
LAO	LASA Array	15.29	90	*e*P	P	13 05 08.7	+0.4
	76nm,1.2s						
YKA	Yellowknife Ar	15.68	25	Pn	P	13 05 12.3	-1.0
	0.5nm,0.3s,baz=217,slow=12,SNR=41						
YKA				LR	LR	13 11 31.9	
	comp=Z,495nm,19.3s,baz=230,slow=38						
ARUT	Antelope Range	15.72	130	*e*P	P	13 05 14.1	+0.1
YKW3	Yellowknife Ar	15.73	25	*e*P	P	13 05 12.6	-1.3
YKW3				*e*		13 05 18.9	
YKW3	Yellowknife Ar	15.73	25	P	P	13 05 12.9	-1.0
YKW3				P		13 05 13.7	
TMUT	Trail Mountain	15.83	121	*e*P	P	13 05 15.7	+0.3
MVU	Marysvale	15.83	125	*e*P	P	13 05 16.3	+0.9
	51nm,1.4s						
MSU	Marysvale	15.85	125	*e*P	P	13 05 17.4	+1.8
DGMT	Dagmar	16.19	82	*e*P	P	13 05 19.9	-0.1
	47nm,1.0s						
DAWY	Dawson	16.21	343	*e*P	P	13 05 18.4	-1.7
DAWY	Dawson	16.21	343	P	P	13 05 21.5	+1.4
MENT	Mentasta	16.27	335	*e*P	P	13 05 22.6	+1.8
SRU	San Rafael	16.34	120	*e*P	P	13 05 22.6	+0.7
MWC	Mount Wilson	16.72	148	P	P	13 05 26.6	-0.1
LDFC	Landfair	17.13	139	*e*P	P	13 05 30.7	-1.2
FFC	Flin Flon	17.45	61	Pn	P	13 05 34.2	-1.7
	2μm,0.8s						
PV10	Paradox Valley	17.69	119	*e*P	P	13 05 39.4	+0.4
PV01	Paradox Valley	18.13	119	*e*P	P	13 05 44.2	-0.2
WUAZ	Wupatki	18.53	130	*e*P	P	13 05 51.2	+1.8
ILAR	Eielson Array	18.58	335	P	P	13 05 48.8	-1.0
	0.1nm,0.3s,baz=147,slow=9.6,SNR=34						
ILAR				PcP	PcP	13 10 18.9	-0.9
	baz=180,slow=3.6,SNR=3.1						
ISCO	Idaho Springs	18.83	110	*e*P	P	13 05 53.1	0.0
	37nm,1.2s						
COLA	College	18.93	334	*e*P	P	13 05 54.4	+0.4
INK	Inuvik	19.56	355	P	P	13 06 00.8	-0.6
	0.2nm,0.3s,baz=167,slow=12,SNR=29						
INK				LR	LR	13 13 04.6	
	comp=Z,710nm,21.3s,baz=177,slow=35						
INK	Inuvik	19.56	355	*e*P	P	13 05 59.1	-2.3
	23nm,1.3s						
INK	Inuvik	19.56	355	P	P	13 06 00.9	-0.5
SDCO	Great Sand Dun	20.19	115	*e*P	P	13 06 08.3	-0.2
	19nm,1.0s						
ULM	Lac du Bonnet	21.25	74	P	P	13 06 19.0	-0.3
	36nm,0.8s,mb4.8,baz=283,slow=9.8,SNR=38						
ULM				LR	LR	13 14 48.6	
	comp=Z,1μm,18.1s,MS4.3,baz=277,slow=37						
ULM	Lac du Bonnet	21.25	74	*e*P	P	13 06 17.5	-1.9
	79nm,1.0s,mb5.0						
ULM	Lac du Bonnet	21.25	74	P	P	13 06 19.0	-0.4
TUC	Tucson	21.41	134	*e*P	P	13 06 19.7	-1.3
	10nm,1.1s,mb4.1						
IMA	Indian Mountai	21.51	332	*e*P	P	13 06 16.4	-5.4
ANMO	Albuquerque	21.58	122	P	P	13 06 23.9	+1.1
	11nm,0.9s,mb4.3,baz=322,slow=10,SNR=30						
ANMO				LR	LR	13 14 22.3	
	comp=Z,198nm,18.2s,MS3.5,slow=36						
ANMO	Albuquerque	21.58	122	*e*P	P	13 06 22.7	-0.1
	38nm,1.2s,mb4.7						
FCC	Fort Churchill	22.43	51	*e*P	P	13 06 31.3	+0.2
	34nm,0.8s,mb4.8						
FCC	Fort Churchill	22.43	51	P	P	13 06 32.3	+1.2
CBKS	Cedar Bluff	23.10	105	*e*P	P	13 06 38.1	+0.3
	62nm,1.2s,mb4.9						
AMTX	Amarillo	24.39	115	*e*P	P	13 06 50.6	+0.2
	22nm,1.0s,mb4.5						
EYMN	Ely	24.57	78	*e*P	P	13 06 53.1	+1.1
	55nm,0.8s,mb5.1						
MNTX	Cornudas Mount	24.62	126	*e*P	P	13 06 53.3	+0.6
	13nm,1.3s,mb4.3						
WMOK	Wichita Mounta	26.25	112	*e*P	P	13 07 07.4	-0.5
	19nm,1.3s,mb4.5						
JFWS	Jewell Farm	27.23	88	*e*P	P	13 07 18.9	+2.1
	39nm,0.8s,mb5.0						
TXAR	Lajitas Array	27.39	126	P	P	13 07 18.9	+0.5
	1.2nm,0.7s,mb3.5,baz=330,slow=7.6,SNR=13						
TXAR				PcP	PcP	13 10 35.3	-2.6
	0.3nm,0.7s,baz=297,slow=2.0,SNR=2.5						
TXAR				LR	LR	13 18 25.4	
	comp=Z,211nm,20.1s,MS3.7,baz=330,slow=37						
JCT	Junction City	28.65	119	*e*P	P	13 07 28.2	-1.6
	12nm,0.9s,mb4.6						
CCM	Cathedral Cave	29.02	98	*e*P	P	13 07 33.2	+0.2
	8.6nm,0.7s,mb4.6						
FVM	French Village	29.59	97	*e*P	P	13 07 39.0	+0.7
	16nm,0.7s,mb4.8						
FVM				*e*		13 07 48.7	
BLO	Bloomington	31.51	92	P	P	13 07 54.7	-0.5
	12nm,0.7s,mb4.8						
OXF	Oxford	32.31	102	*e*P	P	13 08 00.9	-1.4
	53nm,1.1s,mb5.3						
SADO	Sadowa	33.68	78	LR	LR	13 22 20.9	
	comp=Z,1μm,18.1s,MS4.6,baz=302,slow=37						
ALLY	Alegheny Colle	34.45	84	*e*P	P	13 08 19.3	-1.5
FX1	Attu Island--F	35.98	299	P	P	13 08 33.3	-0.3
	14nm,0.6s,mb5.1,baz=243,slow=14,SNR=3.6						
GOGA	Godfrey	36.86	98	P	P	13 08 38.7	-2.6
	34nm,0.2s						
SCHQ	Schefferville	37.54	57	P	P	13 08 47.4	+0.6
	5.2nm,0.9s,mb4.3,baz=286,slow=7.7,SNR=9.7						
SCHQ				LR	LR	13 24 35.3	
	comp=Z,1μm,18.1s,MS4.7,baz=328,slow=37						
SCHQ	Schefferville	37.54	57	*e*P	P	13 08 47.0	+0.2
	26nm,1.1s,mb4.9						
SUMG	Summit	44.27	26	*e*P	P	13 09 43.0	+1.1
	11nm,0.9s,mb4.6						
ARCES	ARCESS Array B	60.33	10	LR	LR	13 39 06.2	
	comp=Z,98nm,18.2s,MS4.0,baz=7.2,slow=37						
MDJ	Mudanjiang	64.46	309	P	P	13 12 10.1	+0.5
MDJ				S	S	13 20 45.5	-2.0
MDJ				SS	SS	13 24 59.4	+0.3
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,39nm,3.3s						
MDJ				LR	LR		
	comp=N,103nm,23.3s						
MDJ				LR	LR		
	comp=Z,63nm,21.3s,MS3.8						
NOA	NORSAR Array B	65.72	20	P	P	13 12 16.8	-0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=272,slow=4.3,SNR=2.8						
NOA	NORSAR Array B	65.72	20	P	P	13 12 16.8	-0.6
CN2	Changchun	67.13	311	*e*P	P	13 12 26.7	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
FINES	FINESS Array B	68.11	13	P	P	13 12 30.4	-2.2
	comp=Z,1.4nm,1.1s,mb3.9,baz=297,slow=3.1,SNR=3.4						
FINES				LR	LR	13 43 12.3	
	comp=Z,145nm,19.1s,MS4.2,baz=13,slow=37						
SONM	Songino Array	72.44	325	P	P	13 12 57.5	-1.6
	comp=Z,0.4nm,0.8s,baz=72,slow=4.6,SNR=3.6						
BRG	Berggiesshubel	75.55	23	*e*P	P	13 13 23.0	+6.0
	comp=Z,18nm,1.8s,mb4.7						
SSF	Saint Saulge	75.77	31	*e*P	P	13 13 22.6	+4.2
	comp=Z,35nm,1.4s,mb4.8						
CDF	Champ du Feu	75.83	29	*e*P	P	13 13 23.3	+4.6
AVF	Avril sur Loir	75.95	32	*e*P	P	13 13 21.8	+2.4
BGF	Bois d'Agland	75.98	32	*e*P	P	13 13 23.2	+3.6
	comp=Z,49nm,1.4s,mb5.0						
HHC	Hu-ho-hao-te	75.98	317	*e*P	P	13 13 15.1	-4.6
HHC				S	S	13 22 53.8	-8.2
RJF	Les Rejaudoux	76.58	34	*e*P	P	13 13 26.6	+3.6
	comp=Z,26nm,1.0s,mb4.8						
KHC	Kasperske Hory	77.04	24	*e*P	P	13 13 30.0	+4.6
GERES	GERESS Array B	77.33	24	P	P	13 13 26.3	-0.7
	comp=Z,0.5nm,0.8s,mb3.5,baz=333,slow=4.4,SNR=2.8						
LPG	La Plagne	78.24	30	*e*P	P	13 13 38.1	+6.0
	comp=Z,44nm,1.4s,mb4.9						
ESDC	Sonseca Array	79.17	40	P	P	13 13 37.2	-0.2
	comp=Z,0.8nm,0.8s,mb3.7,baz=338,slow=6.9,SNR=3.6						
NJ2	Nanjing	79.41	307	*e*P	P	13 13 38.1	-0.7
NJ2				AP	pP	13 13 42.8	+2.5
NJ2				XP	sP	13 13 45.1	+4.3
NJ2				PP	PP	13 16 39.1	-1.6
NJ2				S	S	13 23 36.0	-3.1
NJ2				XS		13 23 47.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,2μm,5.3s						
NJ2				LR	LR		
	comp=N,600nm,15.3s,MS5.2						
NJ2				LR	LR		
	comp=E,490nm,12.0s,MS5.2						
NJ2				LR	LR		
	comp=Z,890nm,12.6s,MS5.3						
WMQ	Urumqi	82.25	334	*e*P	P	13 13 55.5	+2.0
WMQ				AP	pP	13 14 00.0	+5.0
WMQ				PP	PP	13 17 06.0	+1.9
WMQ				S	S	13 24 09.0	+0.8
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,182nm,4.7s						
WMQ				LR	LR		
	comp=N,218nm,22.2s,MS4.6						
WMQ				LR	LR		
	comp=E,224nm,21.6s,MS4.6						
WMQ				LR	LR		
	comp=Z,196nm,20.8s,MS4.5						
LPAZ	La Paz	84.20	123	P	P	13 14 02.7	-1.3
	comp=Z,1.4nm,0.8s,mb4.2,baz=312,slow=4.3,SNR=4.1						
LPAZ				LR	LR	13 53 45.5	
	comp=Z,73nm,19.0s,MS4.1,baz=223,slow=37						
LPAZ	La Paz	84.20	123	P	P	13 14 02.7	-1.3
LPAZ				LR	LR	13 53 45.5	
BDFB	Brasilia	95.69	107	LR	LR	14 05 35.8	
	comp=Z,87nm,18.3s,MS4.3,baz=170,slow=40						

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*PNSN **06** 13:20:06.4, 48.02N×121.83W, h14^{km}, MD3.5, Fault plane solution: NP1:ϕ_s0°, δ65°, NP2:ϕ_s126°, δ38°, Principal axes: T Plg59°, Azm313°; P Plg15°, Azm69°;*
*NEIC **06** 13:20:06.4, 48.02N×121.83W, h14^{km}, MD3.5(SEA), After SEA.*
NEIC Felt [III] at Arlington, Bothell, Everett, Gold Bar, Granite Falls, Lake Stevens, Marysville, Monroe, Snohomish, Sultan and Woodinville; [II] at Duvall and Mukilteo. Also felt at Seattle.
*PGC **06** 13:20:06.5, 48.00N×121.89W, h3$^{km}\pm$6^{km}, ML3.3/28,*

MD3.5(SEA), Near Port Townsend, Washington.

ISC 06 13:20:05.3±0.7**, 48.02N**±0.01×**121.87W**±0.02**, h12**km±5km**, n119, σ0^{s}90**/157**, 10C-43D, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBPA	Monroe Substat	0.12	188	⇑P	Pb	13 20 09.4	+0.5
JCW	Jim Creek	0.18	346	⇑P	Pb	13 20 10.3	+0.3
HTW	Haystack Looko	0.22	163	⇓P	Pg	13 20 11.0	+0.7
ATES	Arlington Traf	0.26	330	⇑P	Pb	13 20 11.3	0.0
BEVT	Boeing Everett	0.29	251	⇓P	Pb	13 20 12.5	+0.6
EARN	East Ridge Ele	0.30	203	⇓P	Pb	13 20 12.8	+0.7
LEOT	Leota Junior H	0.30	214	⇓P	Pb	13 20 12.7	+0.7
TTW	Tolt Reservoir	0.34	160	⇑P	Pb	13 20 12.7	-0.1
TTW				S	Sb	13 20 17.6	-0.2
BRKS	Brookside Elem	0.39	228	⇓P	Pb	13 20 14.3	+0.8
FINN	Finn Hill Juni	0.39	220	⇓P	Pb	13 20 14.5	+1.0
ALCT	Alcott Element	0.39	197	⇓P	Pb	13 20 14.3	+0.8
CMW	Cultus Mountai	0.44	338	P	Pb	13 20 14.7	+0.2
PNLK	Pine Lake Midd	0.45	194	P	Pb	13 20 15.2	+0.6
RPW	Rockport	0.49	28	⇓P	Pb	13 20 15.6	+0.2
QAW	Queen Anne	0.51	221	P	Pb	13 20 16.8	+1.2
ELW	Echo Lake	0.52	180	P	Pb	13 20 15.8	0.0
KIMB	Kimball Elemen	0.53	214	⇓P	Pb	13 20 17.2	+1.2
HOLY	Holy Rosary Sc	0.57	218	⇓P	Pb	13 20 17.8	+1.1
KINR	Kitsap County	0.59	243	⇓P	Pb	13 20 17.2	+0.3
KITP	Kitsap County	0.62	237	⇓P	Pb	13 20 18.0	+0.5
ERW	Mount Erie	0.67	311	P	Pb	13 20 18.1	-0.3
ERW				S	Sb	13 20 27.5	+0.1
WRW	Wenatchee Ridg	0.68	103	⇓P	Pb	13 20 18.7	+0.1
BLN	Blyn Mountain	0.74	270	⇓P	Pb	13 20 18.9	-0.8
MBW	Mount Baker	0.77	358	⇓P	Pb	13 20 20.7	+0.6
GMW	Gold Mountain	0.78	233	⇓P	Pb	13 20 19.7	-0.6
GNW	Green Mountain	0.79	235	⇓P	Pb	13 20 19.7	-0.7
GNW	Green Mountain	0.79	235	⇓P	Pb	13 20 19.7	-0.7
GNW				S	Sb	13 20 30.2	-0.6
SQM	Sequim	0.80	275	⇓P	Pb	13 20 20.1	-0.4
KIMR	Kitsap County	0.80	230	P	Pb	13 20 20.2	-0.4
GSM	Grass Mountain	0.81	177	⇓P	Pb	13 20 20.7	-0.2
TBPA	Tacoma Substat	0.83	204	⇑P	Pb	13 20 21.4	+0.2
SBES	Silver Beach E	0.84	334	⇑P	Pb	13 20 21.6	+0.4
SLFW	Sugar Loaf	0.94	105	⇓P	Pb	13 20 23.1	+0.2
MEW	McNeil Island	0.97	213	⇓P	Pb	13 20 23.8	+0.2
GHW	Garrison Hill	1.01	196	⇓P	Pb	13 20 23.7	-0.6
VDB	Vedder Mountai	1.02	351	⇑P	Pb	13 20 24.5	0.0
VDB	Vedder Mountai	1.02	351	P	Pb	13 20 24.4	0.0
VDB				S	Sb	13 20 38.6	+1.0
VDB				Trac		13 20 39.3	
	comp=Z,203nm,0.2s						
NLW	Nelson Butte	1.03	86	⇓P	Pb	13 20 25.0	+0.5
VGZ	Gonzales	1.05	293	P	Pb	13 20 23.9	-1.1
VGZ				S	Sb	13 20 37.3	-1.1
VGZ				Trac		13 20 39.8	
	comp=Z,448nm,0.2s						
FMW	Mount Fremont	1.09	173	⇑P	Pb	13 20 25.1	-0.5
PCFR	Pierce County	1.10	201	⇓P	Pb	13 20 25.0	-0.7
TWW	Teanaway	1.11	142	⇓P	Pb	13 20 26.4	+0.5
LTY	Liberty	1.11	133	⇓P	Pb	13 20 25.7	-0.2
ETW	Entiat	1.11	111	⇓P	Pb	13 20 26.0	0.0
RCS	Mount Rainier-	1.15	175	P	Pb	13 20 26.3	-0.3
SNB	Saturna Island	1.16	312	⇑P	Pb	13 20 26.3	-0.4
SNB	Saturna Island	1.16	312	P	Pb	13 20 26.4	-0.3
SNB				S	Sb	13 20 41.5	+0.1
SNB				Trac		13 20 42.6	
	comp=Z,1μm,0.4s						
REMR	Mount Rainier-	1.20	179	P	Pb	13 20 26.8	-0.7
TBM	Table Mountain	1.21	134	⇓P	Pb	13 20 27.7	+0.2
STW	Striped Peak	1.22	277	⇓P	Pb	13 20 26.3	-1.4
PGC	Sidney	1.23	302	⇓*e*P	Pb	13 20 26.9	-1.1
PGC				*e*S	Sb	13 20 42.6	-1.1
PGC	Sidney	1.23	302	P	Pb	13 20 27.0	-1.0
PGC				S	Sb	13 20 42.7	-1.0
PGC				Trac		13 20 44.1	
	comp=Z,493nm,0.2s						
CBSW	Chelan Butte S	1.25	99	⇓P	Pb	13 20 28.4	+0.1
OSD	Olympics--Snow	1.25	262	⇓P	Pb	13 20 27.8	-0.5
LON	Longmire	1.27	178	⇓P	Pb	13 20 27.9	-0.7
WTV	Waterville	1.33	103	⇓P	Pb	13 20 29.7	+0.1
WPW	White Pass	1.34	171	⇓P	Pn	13 20 29.2	-0.6
HNB	Haney	1.34	340	⇑P	Pn	13 20 29.3	-0.6
HNB				S	Sb	13 20 46.6	-0.3
HNB				Trac		13 20 47.4	
	comp=Z,588nm,0.2s						
CPW	Capitol Peak	1.35	220	⇓P	Pn	13 20 28.9	-1.1
LMW	Ladd Mountain	1.38	192	P	Pn	13 20 29.9	-0.6
HOPB	Hope	1.40	12	P	Pn	13 20 30.7	-0.1
HOPB				S	Sb	13 20 49.0	+0.4
HOPB				Trac		13 20 50.0	
	comp=Z,192nm,0.2s						
DHW2	Dyer Hill 2	1.41	90	⇓P	Pn	13 20 31.0	+0.1
EBG	Ellensburg	1.41	141	⇓P	Pn	13 20 31.6	+0.7
LZB	Mount Lazard	1.44	295	P	Pn	13 20 29.6	-1.6
LZB				S	Sb	13 20 48.0	-1.5
LZB				Trac		13 20 49.5	
	comp=Z,83nm,0.1s						
GOBB	Galiano Island	1.44	311	P	Pn	13 20 30.4	-0.9
GOBB				S	Sb	13 20 49.6	-0.1
GOBB				Trac		13 20 51.2	
	comp=Z,238nm,0.2s						
RRHS	Rochester High	1.46	214	⇑P	Pn	13 20 31.0	-0.5
LCW	Lucas Creek	1.46	203	⇓P	Pn	13 20 31.0	-0.6
NAC	Naches	1.46	151	⇑P	Pn	13 20 32.6	+1.0
OBC	Olympics--Boni	1.48	272	P	Pn	13 20 31.2	-0.7
KOSW	Kosmos	1.57	188	P	Pn	13 20 33.1	-0.1
OCWA	Octopus Mounta	1.58	261	*e*Pn	Pn	13 20 33.5	+0.3
OOW	Octopus West	1.59	261	P	Pn	13 20 34.6	+1.2
BIB	Bowen Island	1.69	326	P	Pn	13 20 34.2	-0.7
BIB				S	Sn	13 20 55.8	-0.6
BIB				Trac		13 20 58.2	
	comp=Z,170nm,0.2s						
ERK	Elk Rock	1.74	191	P	Pn	13 20 35.7	+0.1
SOSW	Source of Smit	1.78	186	⇓P	Pn	13 20 36.5	+0.3
MXC	Moxie City	1.79	143	⇓P	Pn	13 20 36.8	+0.4
STD	Studebaker Rid	1.80	188	P	Pn	13 20 36.9	+0.5
BMW	Boistfort Moun	1.80	212	⇓P	Pn	13 20 36.1	-0.3
PFB	Port Renfrew	1.81	289	P	Pn	13 20 35.3	-1.2
PFB	Port Renfrew	1.81	289	P	Pn	13 20 35.3	-1.3
PFB				S	Sn	13 20 57.1	-2.4
PFB				Trac		13 21 00.7	
	comp=Z,199nm,0.4s						
NLLB	Nanaimo Lost L	1.86	312	P	Pn	13 20 36.8	-0.5
NLLB				S	Sn	13 21 00.2	-0.6
NLLB				Trac		13 21 01.9	
	comp=Z,382nm,0.3s						
WPB	Watts Point	1.87	332	P	Pn	13 20 36.8	-0.6
WPB				S	Sn	13 21 00.0	-1.0
WPB				Trac		13 21 00.9	
	comp=Z,155nm,0.2s						
ASR	Mount Adams--S	1.88	174	P	Pn	13 20 38.7	+1.2
JLK	June Lake	1.88	186	P	Pn	13 20 38.2	+0.6
FHE	Frenchman Hill	1.93	123	P	Pn	13 20 37.9	-0.4
RVW	Rose Valley	1.96	198	P	Pn	13 20 39.0	+0.2
PNT	Penticton	1.98	48	P	Pn	13 20 41.4	+2.4
PNT	Penticton	1.98	48	P	Pn	13 20 38.7	-0.3
PNT				P		13 20 41.4	
PNT				Pg	Pg	13 20 41.5	-3.4
PNT				S	Sn	13 21 06.8	+2.9
PNT				Trac		13 21 11.6	
	comp=Z,285nm,0.3s						
LVP	Lakeview Peak	1.98	191	P	Pn	13 20 39.7	+0.6
MDW	Midway	2.00	134	P	Pn	13 20 39.6	+0.2
SHB	Sechelt	2.07	321	P	Pn	13 20 39.6	-0.6
SHB				S	Sn	13 21 05.5	-0.6
SHB				Trac		13 21 07.8	
	comp=Z,446nm,0.2s						
MGB	Mount Grey	2.12	299	P	Pn	13 20 40.8	-0.2
MGB				S	Sn	13 21 08.1	+0.6
MGB				Trac		13 21 09.3	
	comp=Z,115nm,0.2s						
WSLR	Whistler	2.22	342	P	Pn	13 20 42.6	+0.1
WSLR				S	Sn	13 21 11.3	+1.2
WSLR				Trac		13 21 12.6	
	comp=Z,75nm,0.2s						
ALB	Alberni	2.33	304	P	Pn	13 20 44.1	0.0
ALB				S	Sn	13 21 12.8	-0.1
ALB				Trac		13 21 19.7	
	comp=Z,76nm,0.2s						
TXB	Texada	2.39	316	P	Pn	13 20 44.7	-0.2
TXB				S	Sn	13 21 15.4	+1.1
TXB				Trac		13 21 18.7	
	comp=Z,117nm,0.3s						
OZB	Mount Ozzard	2.59	293	P	Pn	13 20 50.3	+2.6
OZB				S	Sn	13 21 19.7	+0.3
OZB				Trac		13 21 23.8	
	comp=Z,214nm,0.6s						
LLLB	Lillooet	2.59	360	P	Pn	13 20 47.9	+0.1
LLLB				S	Sn	13 21 25.1	+5.5
LLLB				Trac		13 21 30.4	
	comp=Z,41nm,0.2s						
BTB	Buttle Lake	2.82	302	P	Pn	13 20 52.3	+1.2
BTB				S	Sn	13 21 27.8	+2.5
BTB				Trac		13 21 34.8	
	comp=Z,204nm,0.4s						
CBB	Campbell River	3.06	313	P	Pn	13 20 55.1	+0.6
CBB				S	Sn	13 21 34.1	+2.7
CBB				Trac		13 21 40.8	
	comp=Z,45nm,0.4s						
NEW	Newport	3.19	84	*e*Pn	Pn	13 20 54.7	-1.6
GDR	Gold River	3.27	304	P	Pn	13 20 58.2	+0.9
GDR				S	Sn	13 21 39.7	+3.2
GDR				Trac		13 21 47.0	
	comp=Z,47nm,0.3s						
COR	Corvallis	3.57	197	Pn	Pn	13 21 02.9	+1.2
COR				*e*Sn	Sn	13 21 52.5	+8.2
NCRB	Newcastle Ridg	3.64	313	P	Pn	13 21 04.6	+1.9
NCRB				Sg	Sg	13 21 53.0	-14
NCRB				Trac		13 22 00.8	
	comp=Z,59nm,0.6s						
WOSB	Woss	3.76	307	P	Pn	13 21 05.0	+0.5
WOSB				Sg	Sg	13 21 55.5	-15
WOSB				Trac		13 22 00.9	
	comp=Z,31nm,0.5s						
SLEB	Sale Mountain	3.98	36	P	Pn	13 21 06.3	-1.2
SLEB				Pg	Pg	13 21 17.7	-7.1
SLEB				Sg	Sg	13 22 09.1	-8.7
SLEB				Trac		13 22 13.0	
	comp=Z,39nm,0.6s						
DOWB	Downie Slide	4.12	31	Pg	Pg	13 21 22.1	-5.5
DOWB				Sg	Sg	13 22 13.9	-8.7
MAYB	Maynard	4.22	306	P	Pn	13 21 12.7	+1.8
MAYB				Sg	Sg	13 22 09.8	-16
MAYB				Trac		13 22 13.9	
	comp=Z,12nm,0.3s						
BMO	Blue Mountains	4.47	133	*e*Pn	Pn	13 21 12.7	-1.7
PHC	Port Hardy	4.53	309	P	Pn	13 21 16.4	+1.1
PHC				Sg	Sg	13 22 16.1	-20
PHC				Trac		13 22 27.0	
	comp=Z,27nm,0.8s						
MNB	Mounoet Dainar	4.75	27	Pg	Pg	13 21 32.5	-7.7
MNB				Sg	Sg	13 22 33.6	-10
HOLB	Holberg	4.87	305	P	Pn	13 21 20.8	+0.7
WALA	Waterton Lakes	5.39	76	*e*Pn	Pn	13 21 26.5	-0.9
WALA				*e*Sg	Sg	13 22 54.1	-11
WALA	Waterton Lakes	5.39	76	Pg	Pg	13 21 31.3	-22
WALA				Sg	Sg	13 22 54.0	-11
WALA				Trac		13 23 00.6	
	comp=Z,12nm,0.5s						
HUMO	Hull Mountain	5.46	188	Pn	Pn	13 21 27.4	-1.1
MSO	Missoula	5.51	100	Pn	Pn	13 21 24.7	-4.4
CHMT	Chamberlain Mo	5.94	97	P	Pn	13 21 32.5	-2.7
HLID	Hailey	6.85	128	P	Pn	13 21 44.8	-3.3
MCMT	McKenzie Canyo	7.00	114	P	Pn	13 21 48.3	-1.9
YMR	Madison River	8.25	110	P	P	13 22 08.2	+0.6

WEL 06 13:52:24.0±0.2**, 41.29S**×**172.52E, h213**km±1km**, ML3.7**/9**, 6C, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.46	1	⇑PN	P	13 52 52.2	-0.5
QRZ				SN	S	13 53 13.9	-1.2
DSZ	Denniston Nort	0.71	229	⇑PN	P	13 52 53.1	-0.6
DSZ				SN	S	13 53 15.1	-1.6
TUWZ	Tuamarina	1.08	98	PN	P	13 52 55.6	-0.2
TUWZ				SN	S	13 53 19.8	-0.7
BSWZ	Blackbirch Sta	1.10	113	⇑PN	P	13 52 55.9	-0.1
KHZ	Kahutara	1.36	146	PN	P	13 52 57.6	-0.4
KHZ				SN	S	13 53 23.6	-0.8
LTZ	Lake Taylor	1.50	187	⇑PN	P	13 52 58.8	-0.5
LTZ				SN	S	13 53 24.8	-1.7
MRW	Makara Radio	1.65	89	PN	P	13 52 59.7	-0.8
MRW				SN	S	13 53 26.7	-1.9
SNZO	South Karori	1.65	91	⇑PN	P	13 52 59.7	-0.8
WEL	Wellington	1.69	91	PN	P	13 53 00.2	-0.8
KIW	Kapiti Island	1.86	78	PN	P	13 53 01.6	-0.8
KIW				SN	S	13 53 30.0	-2.0
CAW	Cannon Point	1.93	85	PN	P	13 53 02.3	-0.8
MSWZ	Moikau Station	2.06	94	PN	P	13 53 03.6	-0.8
MSWZ				SN	S	13 53 34.1	-1.5
MTW	Mount Morrison	2.25	88	⇑PN	P	13 53 05.6	-0.9
MRZ	Mangatainoka R	2.40	76	PN	P	13 53 06.8	-1.2
MRZ				SN	S	13 53 39.6	-2.5
MQZ	McQueen's Vall	2.42	178	*e*PN	P	13 53 06.5	-1.8
MQZ				SN	S	13 53 39.4	-3.1
WAZ	Wanganui	2.42	52	*e*SN	S	13 53 41.4	-1.1
VRZ	Vera Road	2.76	39	SN	S	13 53 46.8	-2.3
LBZ	Lake Benmore	3.54	208	PN	P	13 53 19.0	-2.2
LBZ				SN	S	13 54 00.9	-4.6

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*IDC **06** 14:02:23.3±1.9, 13.42S×167.80E, mb4.0/5, mb1 4.2/5, mb1mx3.9/13, mbtmp4.0/5, MS3.3/1, Ms1 3.3/1, ms1mx2.2/21, Error ellipse: s-maj=44.3km s-min=35.6km az=68.0*

NEIC 06 14:02:48.0±1.4**, 13.66S**×**167.35E, h200**km**, mb4.4**/1**, Error ellipse: s-maj=29.2km s-min=27.3km az=115.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTAO	Charters Tower	21.16	250	*e*P	P	14 07 17.9	-0.6
	15nm,1.3s						
STKA	Stephens Creek	29.75	228	P	P	14 08 35.4	-2.7
	1.4nm,0.4s,baz=63,slow=8.1,SNR=7.0						
WRA	Warramunga Arr	32.17	254	P	P	14 08 57.9	-1.4
	0.5nm,0.6s,baz=85,slow=9.1,SNR=16						
ASAR	Alice Springs	33.14	248	P	P	14 09 05.8	-1.7
	1.0nm,0.5s,baz=79,slow=8.9,SNR=46						
ASAR				LR	LR	14 21 48.6	
	comp=Z,50nm,19.6s,baz=101,slow=35						
VNDA	Vanda	63.93	181	P	P	14 12 59.5	-1.9
	5.0nm,0.3s,baz=34,slow=4.7,SNR=47						
SONM	Songino Array	81.68	323	P	P	14 14 44.0	-1.3
	0.3nm,0.4s,baz=90,slow=2.9,SNR=5.8						

IDC 06 14:13:20.1±3.5**, 10.23N**×**92.36E, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.7**/15**, mbtmp3.7**/5**, ML4.1**/1**, MS2.9**/1**, Ms1 3.1**/1**, ms1mx2.4**/19**, Error ellipse: s-maj=96.7km s-min=28.0km az=81.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.37	37	Pn	P	14 15 51.2	-2.1
	0.5nm,0.3s,baz=230,slow=15,SNR=18						
CMAR				LR	LR	14 19 43.9	
	comp=Z,59nm,19.7s,baz=10.0,slow=37						
SONM	Songino Array	39.30	15	P	P	14 20 50.4	-2.1
	0.3nm,0.5s,baz=207,slow=9.9,SNR=3.7						
WRA	Warramunga Arr	51.06	126	P	P	14 22 24.0	-2.6
	0.4nm,0.6s,baz=308,slow=8.6,SNR=11						
ASAR	Alice Springs	52.77	130	P	P	14 22 37.1	-2.4
	0.7nm,0.7s,baz=305,slow=6.7,SNR=12						
STKA	Stephens Creek	63.00	134	P	P	14 23 50.1	-1.2
	1.3nm,0.7s,baz=306,slow=8.7,SNR=3.1						

IDC 06 14:26:14.0±1.2**, 22.00N**×**143.04E, mb4.1**/4**, mb1 4.3**/5**, mb1mx3.8**/19**, mbtmp4.2**/5**, ML4.4**/1**, MS2.7**/1**, Ms1 2.7**/1**, ms1mx2.0**/27**, Error ellipse: s-maj=69.3km s-min=24.5km az=94.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.13	351	Pn	Pn	14 27 31.2	-2.8
	31nm,0.3s,baz=315,slow=21,SNR=3.2						
PMG	Port Moresby	31.47	172	LR	LR	14 41 46.3	
	comp=Z,15nm,21.9s,baz=47,slow=30						
WRA	Warramunga Arr	42.54	192	P	P	14 34 11.5	-1.9
	0.3nm,0.3s,baz=16,slow=9.2,SNR=19						
YKA	Yellowknife Ar	76.25	28	P	P	14 38 04.6	-1.2
	0.3nm,0.4s,baz=291,slow=5.8,SNR=11						
ARCES	ARCESS Array B	78.60	341	P	P	14 38 18.1	-0.6
	12nm,1.2s,baz=70,slow=8.2,SNR=8.1						
FINES	FINESS Array B	82.85	334	P	P	14 38 39.3	-2.1
	0.5nm,0.4s,baz=80,slow=5.9,SNR=12						

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*IDC **06** 14:35:11.1±2.2, 10.99S×163.24E, mb3.8/5, mb1 4.0/6, mb1mx3.9/14, mbtmp3.8/6, ML3.8/1, MS3.4/2, Ms1 3.4/2, ms1mx2.7/20, Error ellipse: s-maj=76.7km s-min=25.2km az=127.0*

*NEIC **06** 14:35:13.2±1.6, 10.87S×163.14E, h10km, mb4.3/3, Error ellipse: s-maj=63.2km s-min=16.6km az=132.0*

ISC 06 14:35:14.9±1.5**, 11.0S**±0.3×**163.1E**±0.3**, h33**km**, n11, σ0^{s}95**/11**, mb3.9**/7**, MS3.3**/2**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	18.56	239	P	P	14 39 32.8	+1.4
	0.2nm,0.3s,baz=48,slow=12,SNR=3.8						
CTAO	Charters Tower	18.56	239	*e*P	P	14 39 33.3	+1.9
	3.8nm,0.6s						
STKA	Stephens Creek	28.75	220	P	P	14 41 12.4	+0.7
	2.0nm,0.9s,mb3.9,baz=53,slow=15,SNR=3.2						
STKA				LR	LR	14 51 38.1	
	comp=Z,96nm,19.2s,MS3.4,baz=206,slow=34						
WRAB	Tennant Creek	29.05	249	*e*P	P	14 41 13.8	-0.7
WRA	Warramunga Arr	29.06	249	P	P	14 41 13.8	-0.8
	1.3nm,1.0s,mb3.6,baz=79,slow=8.9,SNR=13						
ASAR	Alice Springs	30.50	242	P	P	14 41 26.4	-1.0
	1.3nm,0.8s,mb3.8,baz=62,slow=10,SNR=18						
ASAR				LR	LR	14 53 06.3	
	comp=Z,59nm,19.7s,MS3.2,baz=330,slow=35						
ASAR	Alice Springs	30.50	242	P	P	14 41 26.4	-1.0
ASAR				LR	LR	14 53 06.3	
FITZ	Fitzroy Crossi	36.88	254	*e*P	P	14 42 21.8	-0.6
	3.8nm,0.6s,mb4.4						
SONM	Songino Array	77.08	325	P	P	14 47 08.1	+1.4
	0.2nm,0.5s,mb3.3,baz=153,slow=6.4,SNR=3.0						
COLA	College	84.05	19	P	P	14 47 43.4	+0.2
	3.1nm,0.9s,mb4.4						
ILAR	Eielson Array	84.29	19	P	P	14 47 43.7	-0.7
	0.4nm,0.8s,mb3.6,baz=230,slow=6.0,SNR=6.0						

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*CASC **06** 14:49:57.4±2.2, 11.92N×88.00W, h18km±9km, MD4.8, ML3.9, mb4.8(NEIC)*

*NEIC **06** 14:49:58.7±0.4, 12.05N×87.78W, mb4.8/30, Error ellipse: s-maj=14.0km s-min=6.2km az=50.0*

*BJI **06** 14:49:58.7, 12.10N×87.80W, h28km, mB5.9, Ms5.2, Msz4.8*

*IDC **06** 14:50:01.3±2.1, 12.25N×87.56W, h47km±21km, mb4.0/15, mb1 4.2/18, mb1mx4.0/25, mbtmp4.2/18, ML3.4/3, MS4.3/10, Ms1 4.3/10, ms1mx3.9/24, Error ellipse: s-maj=34.1km s-min=11.0km az=54.0*

ISC 06 14:49:58.1±0.5**, 11.87N**±0.04×**88.01W**±0.03**, h44**km±4km**, h26**km±2.7km**:pP-P, n125, σ1^{s}15**/130**, mb4.5**/39**, MS4.4**/9**, 21C-12D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.22	63	⇑*e*P	P	14 50 18.6	-0.3
TELN	Telica	1.36	57	⇑*e*P	P	14 50 20.4	-0.7
MIRN	Miramar	1.39	66	⇑*e*P	P	14 50 22.1	+0.7
MIRN				*e*S	S	14 50 39.6	+0.8
CNCH	Conchagua	1.41	7	⇑*e*P	P	14 50 21.4	-0.4
COPN	Copaltepe	1.42	77	⇓*e*P	P	14 50 21.6	-0.3
CNGN	Cerro Negro	1.43	64	*e*P	P	14 50 21.4	-0.6
MOMJ	Momotombo	1.53	69	⇑*e*P	P	14 50 22.9	-0.6
MOMJ				*e*S	S	14 50 44.1	+1.7
VSM	San Miguel	1.57	350	⇑*e*P	P	14 50 23.8	-0.3
VSM				*e*S	S	14 50 45.2	+1.9
BLLM	Bellamira	1.58	352	⇑*e*P	P	14 50 23.5	-0.7
BLLM				*e*S	S	14 50 46.4	+2.8
APYN	Apoyeque	1.66	77	⇑*e*P	P	14 50 25.1	-0.2
XAVN	Gruta Xavier	1.67	80	⇑*e*P	P	14 50 24.8	-0.5
XAVN				*e*S	S	14 50 47.0	+1.3
MGAN	Managua	1.74	81	⇓*e*P	P	14 50 26.2	-0.3
MGAN				*e*		14 51 00.3	
	comp=N,2μm,0.7s						
TICN	Ticuantepe	1.74	84	⇓*e*P	P	14 50 26.5	0.0
WILN	Americas 2	1.80	80	⇑*e*P	P	14 50 26.9	-0.4
WILN				*e*S	S	14 50 49.5	+0.5
MASN	Masaya	1.82	86	*e*P	P	14 50 26.9	-0.6
MASN				⇑*e*P		14 50 27.2	
MASN				*e*P		14 50 27.4	
APON	Apoyo	1.90	88	⇓*e*P	P	14 50 28.1	-0.5
CAHU	Cacacuatique	1.90	354	⇓*e*P	P	14 50 28.8	+0.1
SNVI	San Vicente	1.92	335	⇑*e*P	P	14 50 28.0	-0.8
SNVI				*e*S	S	14 50 52.3	+0.5
LCBS	La Ceiba	2.02	332	⇑*e*P	P	14 50 28.9	-1.4
PYTN	Playitas	2.02	71	*e*P	P	14 50 29.8	-0.5
LFRS	El Faro	2.03	330	⇑*e*P	P	14 50 29.3	-1.1
LFRS				*e*S	S	14 50 57.2	+2.5
LBRS	Las Brisas	2.12	332	⇑*e*P	P	14 50 31.4	-0.3
LFU	La Fuente	2.16	330	⇑*e*P	P	14 50 31.7	-0.7
LFU				*e*S	S	14 50 58.5	+0.5
BOQS	Boqueron	2.23	326	⇓*e*P	P	14 50 32.8	-0.6
BOQS				*e*S	S	14 51 02.5	+2.5
CONN	Concepcion	2.35	97	*e*P	P	14 50 34.6	-0.5
SBLS	San Blas	2.52	321	⇑*e*P	P	14 50 36.3	-1.1
SBLS				*e*S	S	14 51 07.9	+0.8
SNJE	San Jose	2.53	322	⇑*e*P	P	14 50 36.4	-1.2
SNJE				*e*S	S	14 51 07.4	0.0
RTR	El Retiro	2.58	322	⇓*e*P	P	14 50 37.4	-0.9
RTR				*e*S	S	14 51 11.3	+2.8
RBDL	Robledal	2.77	324	⇓*e*P	P	14 50 40.6	-0.4
MTO2	Montecristo 2	2.84	332	⇓*e*P	P	14 50 41.8	-0.4
VCR	Vista de Mar	2.90	126	⇓*e*P	P	14 50 42.4	-0.5
IXG	Ixpaco	3.31	314	*e*P	P	14 50 47.1	-1.6
IXG				*e*S	S	14 51 26.8	-0.4
JTS	JuntasAbangare	3.38	117	Pn	P	14 50 50.0	+0.3
	comp=N,1μm,0.4s,SNR=36						
JTS	JuntasAbangare	3.38	117	P	P	14 50 49.5	-0.3
	comp=N,9.7nm,0.3s,baz=315,slow=18,SNR=31						
JTS				S	S	14 51 27.4	-1.6
	comp=N,42nm,0.3s,baz=299,slow=21,SNR=9.5						
JTS				LR	LR	14 52 23.1	
	comp=N,4μm,18.9s,baz=303,slow=44						
JTS	JuntasAbangare	3.38	117	*e*Pn	P	14 50 50.1	+0.4
CGA2	Cerro Gallo 2	3.93	118	*e*P	P	14 50 58.8	+1.2
CGA2				*e*S	S	14 51 42.2	-0.8
VPS2	Volcan Poas 2	4.06	114	*e*P	P	14 51 01.5	+2.2
PRS1	Puriscal	4.08	117	*e*P	P	14 51 01.3	+1.7
TP2	Tecpan 2	4.12	315	*e*P	P	14 51 01.0	+0.7
JAT	Jato	4.29	305	*e*P	P	14 51 02.7	0.0
LAJ	Bijagual	4.30	117	⇓*e*P	P	14 50 59.6	-3.2
SJS	Escuela Geolog	4.33	116	*e*P	P	14 51 03.5	+0.4
TRTC	Tortuguero	4.40	107	*e*P	P	14 51 03.6	-0.6
LCR2	La Lucha 2	4.46	118	*e*P	P	14 51 05.9	+0.9
ICR	Volcan Irazu	4.51	114	*e*P	P	14 51 07.8	+2.1
BUS	Buena Vista	4.76	118	⇓*e*P	P	14 51 10.1	+0.9
BUS				*e*S	S	14 52 05.3	+1.3
ACR	Cerro Adams	5.73	123	⇑*e*P	P	14 51 23.0	+0.2
TEIG	Tepich	8.32	358	*e*P	P	14 51 57.0	-1.8
	comp=N,15nm,0.9s						
ROSC	El Rosal	15.21	116	P	P	14 53 35.4	+3.8
	comp=N,1.3nm,0.3s,baz=112,slow=6.8,SNR=5.7						
ROSC				LR	LR	14 59 51.8	
	comp=N,390nm,19.1s,baz=160,slow=39						
SDV	Santo Domingo	17.34	98	P	P	14 53 58.4	-0.3
	comp=N,0.3nm,0.3s,baz=283,slow=6.8,SNR=8.9						
SDV	Santo Domingo	17.34	98	*e*P	P	14 53 56.6	-2.1
	comp=N,17nm,0.8s						
HKT	Hockley	19.41	339	⇑*e*P	P	14 54 21.8	-1.6
	comp=N,34nm,1.3s						
NATX	Nacogdoches	20.73	344	*e*P	P	14 54 36.4	-1.0
	comp=N,79nm,1.0s						
LRAL	Lakeview Retre	21.09	2	*e*P	P	14 54 40.3	-0.7
	comp=N,32nm,0.9s,mb4.7						
JCT	Junction City	21.51	331	*e*P	P	14 54 44.5	-0.7
	comp=N,44nm,0.8s,mb4.9						
GOGA	Godfrey	21.84	10	*e*P	P	14 54 48.5	0.0
	comp=N,62nm,1.1s,mb5.0						
OXF	Oxford	22.58	357	*e*P	P	14 54 55.0	-0.8
	comp=N,61nm,1.1s,mb5.0						
LTX	Lajitas	22.69	322	*e*P	P	14 54 58.1	+1.1
	comp=N,28nm,0.9s,mb4.7						
TXAR	Lajitas Array	22.69	322	P	P	14 54 58.4	+1.4
	comp=N,16nm,0.7s,mb4.5,baz=139,slow=9.8,SNR=103						
MIAR	Mount Ida	23.14	348	*e*P	P	14 55 01.1	-0.2
	comp=N,88nm,0.8s,mb5.2						
UALR	University of	23.14	351	*e*P	P	14 55 01.4	0.0

comp=N,45nm,0.9s,mb4.9
SWET Sewanee 23.32 4 eP P 14 55 02.8 -0.3
CPCT Cooper Cave 23.69 7 eP P 14 55 06.8 +0.2
WMOK Wichita Mounta 24.79 338 eP P 14 55 16.3 -1.1
comp=N,38nm,1.0s,mb4.9
MNTX Cornudas Mount 25.42 324 eP P 14 55 22.3 -1.1
comp=N,17nm,1.1s,mb4.5
AMTX Amarillo 26.07 334 eP P 14 55 29.7 +0.3
comp=N,63nm,1.1s,mb5.1
CCM Cathedral Cave 26.24 354 eP P 14 55 28.4 -2.6
comp=N,22nm,0.8s,mb4.8
WCI Wyandotte Cave 26.30 3 eP P 14 55 29.2 -2.2
comp=N,18nm,0.8s,mb4.7
ANMO Albuquerque 28.44 327 P P 14 55 52.1 +1.1
comp=N,1.4nm,0.9s,mb3.6,baz=157,slow=10,SNR=4.3
ANMO Albuquerque 28.44 327 P P 14 55 51.5 +0.5
comp=N,14nm,1.5s,mb4.4
TUC Tucson 29.20 318 P P 14 55 58.4 +0.7
comp=N,6.0nm,1.0s,mb4.3
SDCO Great Sand Dun 30.16 332 eP P 14 56 06.8 +0.5
comp=N,10nm,1.1s,mb4.5
WUAZ Wupatki 31.65 322 eP P 14 56 21.1 +1.6
comp=N,43nm,0.9s,mb5.3
WUAZ epP pP 14 56 30.6 -0.8
ISCO Idaho Springs 31.89 334 eP P 14 56 22.8 +1.3
comp=N,5.9nm,1.1s,mb4.3
ISCO epP pP 14 56 29.9 -3.5
PV01 Paradox Valley 31.96 328 eP P 14 56 22.7 +0.5
PV10 Paradox Valley 32.39 328 eP P 14 56 25.1 -0.7
LPAZ La Paz 34.19 144 P P 14 56 43.8 +2.1
comp=N,0.9nm,0.7s,mb3.8,baz=335,slow=11,SNR=3.3
LPAZ LR LR 15 11 26.2
comp=N,416nm,19.8s,MS4.2,baz=84,slow=38
TCUT Toone Canyon 35.65 329 eP P 14 56 55.9 +2.0
PDAR Pinedale Array 36.03 333 P P 14 56 57.0 -0.1
comp=N,1.8nm,0.8s,mb4.1,baz=125,slow=10,SNR=11
PDAR PcP PcP 14 59 23.6 +0.6
comp=N,1.0nm,0.8s,baz=133,slow=6.0,SNR=4.0
HWUT Hardware Ranch 36.09 329 eP P 14 56 57.6 0.0
comp=N,12nm,1.1s,mb4.7
MNV Mina 37.69 320 P P 14 57 11.2 +0.2
comp=N,6.1nm,1.2s,mb4.2
NVAR Mina Array Bea 37.79 320 P P 14 57 14.0 +2.2
comp=N,0.8nm,0.7s,mb3.6,baz=123,slow=8.8,SNR=7.1
NVAR PcP PcP 14 59 29.9 +1.4
comp=N,1.7nm,0.8s,baz=128,slow=4.2,SNR=4.4
NVAR Mina Array Bea 37.79 320 P P 14 57 14.0 +2.2
NVAR PcP PcP 14 59 29.9 +1.4
LKWY Lake 37.83 334 eP P 14 57 14.3 +2.2
comp=N,20nm,1.2s,mb4.7
YFT Old Faithful 37.93 333 eP P 14 57 22.8 +10
YMR Madison River 38.16 333 eP P 14 57 15.6 +0.7
QLMT Earthquake Lak 38.49 333 eP P 14 57 19.7 +2.0
QLMT epP pP 14 57 28.5 -1.3
ULM Lac du Bonnet 38.81 352 P P 14 57 17.6 -2.6
comp=N,16nm,0.9s,mb4.8,baz=170,slow=8.6,SNR=25
ULM LR LR 15 15 48.7
comp=N,243nm,19.5s,MS4.0,baz=46,slow=40
ULM Lac du Bonnet 38.81 352 eP P 14 57 17.3 -3.0
comp=N,23nm,0.9s,mb4.9
ULM epP pP 14 57 25.2 -7.2
DGMT Dagmar 38.91 343 eP P 14 57 21.0 -0.1
comp=N,42nm,0.8s,mb5.2
HLID Hailey 38.95 329 eP P 14 57 22.2 +0.7
comp=N,5.2nm,1.1s,mb4.2
MCMT McKenzie Canyo 39.13 332 eP P 14 57 24.4 +1.4
BOZ Bozeman (W) 39.22 334 eP P 14 57 23.7 +0.1
comp=N,9.0nm,0.9s,mb4.5
HRY Holter Researc 40.14 334 eP P 14 57 32.6 +1.3
CHMT Chamberlain Mo 40.91 333 eP P 14 57 39.5 +1.8
MSO Missoula 41.15 333 eP P 14 57 40.4 +0.7
comp=N,16nm,1.1s,mb4.5
NEW Newport 43.66 332 P P 14 57 59.2 -1.0
comp=N,0.6nm,0.4s,mb3.7,baz=45,slow=5.7,SNR=2.7
NEW Newport 43.66 332 P P 14 57 59.2 -1.0
RPN Rapa Nui 43.94 208 LR LR 15 12 05.7
comp=N,514nm,18.7s,MS4.5,baz=348,slow=30
EDM Edmonton 45.95 339 eP P 14 58 17.6 -0.8
SCHQ Schefferville 45.99 17 P P 14 58 15.3 -3.5
comp=N,9.5nm,0.8s,mb4.8,baz=208,slow=5.4,SNR=17
SCHQ LR LR 15 19 01.6
comp=N,924nm,18.3s,MS4.8,baz=323,slow=38
SCHQ Schefferville 45.99 17 eP P 14 58 15.7 -3.1
comp=N,30nm,1.1s,mb5.1
FCC Fort Churchill 47.03 356 eP P 14 58 24.1 -2.7
comp=N,21nm,1.1s,mb5.0
BDFB Brasilia 48.10 124 P P 14 58 35.5 -0.4
comp=N,5.5nm,0.7s,mb4.7,baz=303,slow=6.8,SNR=12
BDFB LR LR 15 20 44.7
comp=N,517nm,18.5s,MS4.5,baz=306,slow=38
BAO Brasilia Array 48.12 124 P P 14 58 35.1 -0.9
BBB Bella Bella 51.54 330 LR LR 15 24 07.8
comp=N,313nm,18.4s,MS4.4,baz=301,slow=40
YKA Yellowknife Ar 54.03 345 P P 14 59 18.5 -1.5
comp=N,3.4nm,0.8s,mb4.3,baz=139,slow=7.5,SNR=60
YKA PcP PcP 15 00 24.7 +0.1
comp=N,2.3nm,1.0s,baz=144,slow=4.4,SNR=6.2
YKA LR LR 15 28 31.5
comp=N,339nm,18.3s,MS4.4,baz=170,slow=43
YKA Yellowknife Ar 54.03 345 P P 14 59 18.6 -1.5
YKA PcP PcP 15 00 24.7 +0.1
YKA LR LR 15 28 31.5
YKW3 Yellowknife Ar 54.09 345 eP P 14 59 18.5 -2.0
PLCA Paso Flores 54.77 164 P P 14 59 26.5 +0.7
comp=N,1.6nm,0.8s,mb4.1,baz=298,slow=5.9,SNR=2.4
DLBC Dease Lake 56.20 335 P P 14 59 36.6 +0.8
comp=N,3.2nm,0.8s,mb4.4,baz=113,slow=4.1,SNR=5.8
DAWY Dawson 63.12 337 eP P 15 00 21.4 -2.0
INK Inuvik 63.60 343 P P 15 00 25.5 -0.9
comp=N,5.1nm,1.0s,mb4.5,baz=141,slow=8.6,SNR=11
ILAR Eielson Array 66.33 336 P P 15 00 43.4 -0.7
comp=N,2.3nm,1.1s,mb4.1,baz=113,slow=4.5,SNR=14
DBIC Dimbokro 81.98 85 P P 15 02 14.7 -0.9
comp=N,4.2nm,0.9s,mb4.3,baz=146,slow=3.6,SNR=3.7
NOA NORSAR Array B 84.14 29 LR LR 15 38 27.2
comp=N,85nm,19.4s,MS4.1,baz=290,slow=35
CN2 Changchun 116.77 333 ePKP PKPdf 15 08 39.5 +1.6
SONM Songino Array 119.20 349 PKP PKPdf 15 08 46.7 +4.1
comp=N,1.0nm,1.1s,slow=1.2,SNR=4.3
WMQ Urumqi 124.44 4 ePKP PKPdf 15 08 54.5 +1.7
WMQ XPKP 15 09 09.0
WMQ ePP PP 15 10 44.0 +0.3
WMQ PP PP
comp=Z,317nm,5.6s
WMQ LR LR
comp=N,236nm,18.4s,MS5.0
WMQ LR LR
comp=E,191nm,22.2s,MS5.0
WMQ LR LR
comp=Z,204nm,21.0s,MS4.8
HHC Hu-ho-hao-te 124.51 342 ePKP PKPdf 15 08 52.7 -0.3
TOO Toolangi 125.93 232 ⇑iP Pdif 15 05 39.4 +4.9
comp=Z,1.4nm,0.9s
NJ2 Nanjing 129.32 330 ePKP PKPdf 15 09 03.7 +1.2
HYB Hyderabad 148.02 25 i PKP PKPdf 15 09 40.0 +3.5
NANT Nan 148.34 344 P PKPdf 15 09 42.5 +5.5
CMAR Chiang Mai Arr 149.10 347 PKPbc PKPdf 15 09 44.3 +6.1
comp=Z,6.6nm,0.9s,baz=324,slow=3.4,SNR=7.1

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*BJI **06** 14:59:20.7, 11.07S×162.97E, h14^{km}, mB5.6, mb5.1, Ms5.5, Msz5.0*
*IDC **06** 14:59:21.6±0.7, 10.95S×162.88E, mb4.7/13, mb1 5.0/15, mb1mx5.0/17, mbtmp4.8/15, ML4.2/2, MS5.0/20, Ms1 5.0/20, ms1mx4.9/23, Error ellipse: s-maj=26.4km s-min=10.9km az=139.0*
*NEIC **06** 14:59:22.8±0.3, 11.05S×162.86E, h10^{km}, mb5.3/33, MS5.1/13, Error ellipse: s-maj=9.6km s-min=7.2km az=126.0*
*HRVD **06** 14:59:22.8±0.2, 11.06S×162.96E, h18^{km}, MW5.6/69, Centroid moment Tensor Solution. LP body waves: s58,c111;Mantle waves: s69,c154; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.40±.05; $M_{\theta\theta}$-0.55±.05; $M_{\phi\phi}$0.15±.05; $M_{r\theta}$0.28±.12; $M_{\theta\phi}$2.72±.05; $M_{\phi r}$-1.19±.14; Best double couple: $M_0$2.997×10^{17} NP1: ϕ_s266°, δ66°, λ2°. NP2: ϕ_s175°, δ89°, λ156°. Principal axes: T 2.774, Plg18°, Azm128°; N .445, Plg66°, Azm352°; P -3.22, Plg16°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **06** 14:59:25.7±1.4, 10.92S×162.65E, h33^{km}, mb5.2/12, MS5.1/6 Error ellipse: s-maj=11.4km s-min=10.6km az=46.8*

ISC 06 14:59:22.3±0.3, **11.16S**±0.05×**162.84E**±0.05, **h19**^{km}, **h19**^{km}±2.8^{km}**:pP-P, n136,** σ**1^{s}17**/129, **mb5.1**/62, **MS5.1**/53, **8C-4D, Bougainville - Solomon Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NOUC Port Laguerre 11.37 163 eP P 15 02 04.7 -2.4
DZM Mont Dzumac 11.38 163 eP P 15 02 04.9 -2.3
DZM eS S 15 04 05.7 -9.3
PMG Port Moresby 15.53 275 Pn P 15 03 07.5 +5.3
1.4nm,0.3s,baz=87,slow=8.4,SNR=28
PMG Sn S 15 06 00.5 +6.4
0.1nm,0.3s,baz=354,slow=18,SNR=1.4
PMG LR LR 15 07 07.7
comp=Z,5μm,18.2s,baz=111,slow=30
CTA Charters Tower 18.26 239 eP P 15 03 39.3 +2.6
62nm,0.8s
CTA Charters Tower 18.26 239 P P 15 03 39.8 +3.1
1.3nm,0.3s,baz=64,slow=13,SNR=42
CTA S S 15 07 06.3 +10
0.1nm,0.3s,baz=143,slow=20,SNR=1.8
CTAO Charters Tower 18.26 239 P P 15 03 39.9 +3.2
CTAO Sn S 15 07 09.3 +12
CTAO Charters Tower 18.26 239 eP P 15 03 39.4 +2.7
83nm,0.8s
STKA Stephens Creek 28.45 220 eP P 15 05 19.8 +1.4
28nm,0.9s,mb4.9
STKA eS S 15 10 08.4 +5.1
STKA Stephens Creek 28.45 220 P P 15 05 19.6 +1.2
30nm,0.8s,mb5.0,baz=29,slow=9.4,SNR=42
STKA LR LR 15 15 51.1
comp=Z,10μm,19.8s,MS5.4,baz=34,slow=34
WRAB Tennant Creek 28.76 249 P P 15 05 21.0 -0.2
127nm,0.8s,mb5.7,SNR=11
WRAB Tennant Creek 28.76 249 eP P 15 05 21.3 0.0
168nm,1.7s,mb5.5
WRAB LR LR
comp=Z,4μm,21.0s,MS5.0
WRA Warramunga Arr 28.77 249 P P 15 05 21.5 +0.1
comp=Z,13nm,0.7s,mb4.7,baz=80,slow=9.2,SNR=72
WRA PcP PcP 15 08 33.1 +1.6
comp=Z,1.9nm,0.7s,baz=74,slow=2.9,SNR=5.4
KAKA Kakadu 29.78 264 eP P 15 05 29.8 -0.6
comp=Z,16nm,0.6s,mb4.9
URZ Urewera 29.86 157 LR LR 15 15 47.7
comp=Z,4μm,19.0s,MS5.1,baz=237,slow=33
ASAR Alice Springs 30.21 242 P P 15 05 34.0 -0.1
comp=Z,10nm,0.7s,mb4.7,baz=71,slow=9.6,SNR=89
ASAR LR LR 15 17 24.2
comp=Z,6μm,18.1s,MS5.2,baz=65,slow=36
ASPA Alice Springs 30.21 242 eP P 15 05 33.5 -0.7
RPZ Rata Peaks 33.21 169 LR LR 15 16 09.0
comp=Z,2μm,20.8s,MS4.8,baz=341,slow=30
FITZ Fitzroy Crossi 36.60 255 ⇓iP P 15 06 29.8 +0.3
comp=Z,45nm,1.5s,mb5.1
RAR Rarotonga 37.18 110 LR LR 15 20 26.0
comp=Z,953nm,18.3s,MS4.6,baz=283,slow=34
FORT Forrest 37.66 233 ⇑iP P 15 06 39.9 +1.6
comp=Z,1μm,0.8s
MBWA Marble Bar 42.46 251 eP P 15 07 19.1 +0.9
comp=Z,47nm,1.0s,mb5.1
MBWA LR LR
comp=Z,4μm,20.0s,MS5.3
KLBR Kellerberrin 46.25 237 eP P 15 07 49.3 +0.8
comp=Z,180nm,0.7s,mb6.1
PPT Papeete 46.44 104 eLQ 15 19 06.9
PPT eLR LR 15 21 08.0
comp=Z,3μm,27.0s,baz=274
TBI Tubuai 46.94 112 eLQ 15 19 16.3
TBI eLR LR 15 21 29.8
comp=Z,3μm,30.8s,baz=281
NWAO Narrogin (SRO) 47.05 235 eP P 15 07 55.5 +0.6
comp=Z,43nm,1.3s,mb5.2
NWAO LR LR
comp=Z,5μm,21.0s,MS5.5
MUN Mundaring 47.62 237 eP P 15 07 59.8 +0.4
comp=Z,16nm,0.8s,mb5.1
PMOR Pomariorio Ree 48.06 100 eP P 15 08 02.2 -0.8
comp=Z,101nm,1.3s,mb5.7
JOW Kunigami 50.52 319 LR LR 15 26 44.8
comp=Z,1μm,20.8s,MS5.0,baz=330,slow=33
MAT Matsushiro 52.82 335 eP P 15 08 37.0 -2.0
comp=Z,49nm,1.4s,mb5.2
MAT eS S 15 16 13.0 +8.1
MAT LR LR
comp=Z,2μm,20.0s,MS5.2
MAT Matsushiro 52.82 335 P P 15 08 37.0 -2.0
MAT S S 15 16 12.0 +7.1
NACB Ninganchiao 53.44 311 P P 15 08 41.2 -2.6
YHNB Yeheng 53.90 312 eP P 15 08 47.2 +0.2
QZH Quanzhou 56.12 310 ⇑iP P 15 09 02.3 -0.9
QZH S S 15 16 50.0 +0.6
QZH AMB AMB
comp=Z,330nm,1.8s,mb6.1
QZH LR LR
comp=N,1μm,12.2s,MS5.2
QZH LR LR
comp=E,750nm,12.5s,MS5.2
QZH LR LR
comp=Z,2μm,24.8s
DRV Dumont d'Urvil 57.54 191 S S 15 17 05.0 -2.7
DRV L 15 23 00.0
SSE Sheshan 57.98 318 P P 15 09 14.8 -1.6
SSE AP pP 15 09 23.6 +1.4
SSE S S 15 17 13.6 -0.4
SSE XS 15 17 29.0
SSE SS SS 15 21 07.3 +0.5
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,69nm,5.9s
SSE LR LR
comp=N,743nm,18.6s,MS5.0
SSE LR LR
comp=E,787nm,18.6s,MS5.0
SSE LR LR
comp=Z,1μm,22.4s,MS4.9
SSE Sheshan 57.98 318 P P 15 09 14.8 -1.6
comp=Z,37nm,0.8s,mb5.5
SSE pP pP 15 09 23.6 +1.4
SSE S S 15 17 13.6 -0.4
SSE sS 15 17 29.0
SSE SS SS 15 21 07.3 +0.5
SSE LR LR
comp=Z,1μm,22.4s,MS4.9
ASAJ Asahikawa 58.01 343 P P 15 09 15.3 -1.1
comp=Z,34nm,1.0s,mb5.3,baz=236,slow=13,SNR=9.5
NJ2 Nanjing 60.13 317 eP P 15 09 30.6 -0.7
NJ2 AP pP 15 09 40.7 +3.5
NJ2 XP sP 15 09 44.6 +5.3
NJ2 PP PP 15 11 45.8 -0.1
NJ2 S S 15 17 41.0 -0.8
NJ2 XS 15 17 58.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,4.5s
NJ2 LR LR
comp=N,2μm,17.0s,MS5.5
NJ2 LR LR
comp=E,3μm,21.8s,MS5.5
NJ2 LR LR
comp=Z,2μm,14.8s
RKT Rikitea 60.22 110 eLQ 15 24 54.5
RKT eLR LR 15 27 35.5
comp=Z,3μm,28.2s,baz=274
QIZ Qiongzhong 60.24 300 P P 15 09 32.8 +0.7
QIZ S S 15 17 43.6 +0.3
QIZ LR LR
comp=E,816nm,22.6s
QIZ LR LR
comp=Z,1μm,26.0s,MS5.0
YSS Yuzh-Sakhalins 60.58 344 eP P 15 09 33.6 -0.5
YSS e 15 09 45.0
YSS e 15 10 11.6
YSS e 15 18 02.0
YSS MLR MLR
comp=Z,2μm,14.0s,MS5.3
YSS MLR MLR
comp=N,1μm,15.0s
YSS Yuzh-Sakhalins 60.58 344 eP P 15 09 34.0 -0.1
comp=N,40nm,1.3s,mb5.4
YSS LR LR
comp=Z,1μm,20.0s,MS5.1
VLA Vladivostok 60.97 334 eP P 15 09 49.0 +12
VLA ePPP PPP 15 13 25.0 +3.7
VLA eS S 15 17 51.0 -1.4
VLA i PS PS 15 18 20.0 +10
VLA pmax pmax
comp=Z,500nm,6.0s
VLA pmax pmax
comp=N,500nm,5.0s
VLA pmax pmax
comp=Z,500nm,5.0s
VLA pmax pmax
comp=N,500nm,4.0s
VLA pmax pmax
comp=E,500nm,4.0s
VLA smax
comp=N,500nm,12.0s
VLA smax
comp=E,500nm,10.0s
VLA MLR MLR
comp=N,1μm,14.0s,MS5.3
VLA MLR MLR
comp=Z,1μm,14.0s,MS5.2
VLA MLR MLR
comp=E,1μm,12.0s,MS5.3
WHN Wuhan 62.36 313 ⇓P P 15 09 46.0 -0.4
WHN S S 15 18 07.0 -3.2
WHN LR LR
comp=Z,3μm,22.0s,MS5.4
MDJ Mudanjiang 63.16 334 P P 15 09 51.2 -0.2
MDJ AP pP 15 09 55.4 -1.9
MDJ PP PP 15 12 09.8 -2.2
MDJ PCS 15 14 28.8
MDJ S S 15 18 23.6 +3.6
MDJ SS SS 15 22 31.0 +2.8
MDJ AMB AMB
comp=Z,29nm,1.0s,mb5.4
MDJ AMB AMB
comp=Z,139nm,3.2s
MDJ LR LR
comp=N,1μm,15.9s,MS5.3
MDJ LR LR
comp=E,1μm,19.3s,MS5.3
MDJ LR LR
comp=Z,1μm,19.8s,MS5.2
SNY Shenyang 63.89 328 ⇑P P 15 09 59.7 +3.4
SNY S S 15 18 34.3 +5.0
SNY AMB AMB
comp=Z,10.0nm,1.6s,mb4.6
SNY LR LR
comp=N,1μm,17.6s,MS5.2
SNY LR LR
comp=E,750nm,19.0s,MS5.2
SNY LR LR
comp=Z,1μm,17.7s,MS5.1
PET Petropavlovsk 64.03 357 eP P 15 09 59.3 +2.3
PET eS S 15 18 33.5 +2.8
PET ePS PS 15 18 51.2 -1.5
PET eSS SS 15 22 39.2 -2.0
PET eSSS SSS 15 25 27.4 -2.4
PET pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
PET pmax pmax
comp=Z,100nm,9.2s
PET smax
comp=E,400nm,13.9s
PET MLR MLR
comp=Z,1μm,19.0s,MS5.0
CN2 Changchun 64.41 331 eP P 15 09 59.5 -0.2
CN2 eXP sP 15 10 06.5 -1.2
CN2 eS S 15 18 36.8 +1.1
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
CN2 LR LR
comp=N,1μm,19.0s,MS5.3
CN2 LR LR
comp=E,1μm,19.0s,MS5.3
CN2 LR LR
comp=Z,1μm,21.0s,MS5.1
KLR Kul'dur 66.07 338 eP P 15 10 06.7 -3.5
KLR eS S 15 18 42.5 -13
GYA Guiyang 66.14 305 ⇑iP P 15 10 11.3 +0.2
GYA AP pP 15 10 15.9 -1.1
GYA XP sP 15 10 18.4 -0.7
GYA PP PP 15 12 39.7 +0.6
GYA S S 15 18 59.5 +2.3
GYA SS SS 15 23 15.2 +0.7
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,180nm,4.8s
GYA LR LR
comp=N,850nm,20.3s
GYA LR LR
comp=E,760nm,25.7s
GYA LR LR
comp=Z,770nm,23.7s,MS4.8
VNDA Vanda 66.35 180 P P 15 10 13.7 +2.1
comp=Z,5.2nm,0.8s,mb4.6,baz=2.9,slow=8.5,SNR=8.9
VNDA LR LR 15 33 12.9
comp=Z,1μm,21.0s,MS5.0,baz=0.4,slow=30
BJI Beijing 66.81 323 eP P 15 10 15.2 0.0
BJI S S 15 19 12.3 +7.3
BJI AMB AMB
comp=Z,19nm,1.1s,mb5.0
BJI LR LR
comp=N,2μm,17.9s,MS5.4
BJI LR LR
comp=E,1μm,20.7s,MS5.4
BJI LR LR
comp=Z,2μm,30.9s
BJI Beijing 66.81 323 eP P 15 10 15.2 0.0
comp=Z,19nm,1.1s,mb5.0
BJI S S 15 19 12.3 +7.3
BJI SS SS 15 23 54.8 +30
BJI LR LR
comp=Z,2μm,30.9s,MS5.1
NST Nakhon Sawan 67.55 292 P P 15 10 19.8 -0.4
XAN Xi'an 68.11 314 P P 15 10 20.6 -2.9
XAN AP pP 15 10 31.8 +2.4
XAN S S 15 19 15.4 -5.4
XAN AMB AMB
comp=Z,17nm,1.1s,mb5.0
XAN LR LR
comp=N,755nm,18.7s,MS5.1
XAN LR LR
comp=E,868nm,20.7s,MS5.1
XAN LR LR
comp=Z,1μm,20.7s,MS5.1
KMI Kunming 68.76 303 P P 15 10 28.8 +1.1
KMI AP pP 15 10 35.6 +2.1
KMI XP sP 15 10 38.4 +2.7
KMI PP PP 15 13 01.5 -0.3
KMI S S 15 19 31.6 +3.0
KMI SS SS 15 23 56.9 +1.5
KMI AMB AMB
comp=Z,28nm,1.7s,mb4.9
KMI LR LR
comp=N,767nm,23.6s,MS5.0
KMI LR LR
comp=E,692nm,21.7s,MS5.0
KMI LR LR
comp=Z,1μm,26.9s
KMI Kunming 68.76 303 P P 15 10 28.8 +1.1
KMI S S 15 19 31.6 +3.0
KMI Kunming 68.76 303 P P 15 10 28.8 +1.1
comp=Z,28nm,1.7s,mb4.9
KMI pP pP 15 10 35.6 +2.1
KMI sP sP 15 10 38.4 +2.7
KMI PP PP 15 13 01.5 -0.3
KMI S S 15 19 31.6 +3.0
KMI SS SS 15 23 56.9 +1.5
KMI LR LR
comp=Z,1μm,26.9s,MS5.0
CMAR Chiang Mai Arr 69.55 295 P P 15 10 33.0 +0.5
comp=Z,7.8nm,0.9s,mb4.6,baz=109,slow=3.4,SNR=15
CMAR LR LR 15 39 18.6
comp=Z,369nm,20.5s,MS4.6,baz=110,slow=34
HHC Hu-ho-hao-te 70.10 321 ⇓iP P 15 10 38.6 +3.1
HHC XP sP 15 10 44.3 +0.7
HHC PP PP 15 13 16.0 +3.4
HHC S S 15 19 47.3 +3.1
HHC SCS ScS 15 20 36.5 +3.1
HHC SS SS 15 24 18.3 +2.8
HHC AMB AMB
comp=Z,26nm,1.3s,mb5.0
HHC AMB AMB
comp=Z,302nm,8.0s

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HHC				LR	LR		
	comp=N,839nm,18.4s,MS5.2						
HHC				LR	LR		
	comp=E,1μm,21.4s,MS5.2						
HHC				LR	LR		
	comp=Z,1μm,38.6s						
CD2	Chengdu	70.42	308	P	P	15 10 38.0	+0.3
CD2				AMB	AMB		
	comp=Z,33nm,1.2s,mb5.1						
BTO	Baotou	70.92	320	eP	P	15 10 39.7	-0.9
MA2	Magadan	71.16	354	eP	P	15 10 41.7	0.0
MA2				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
MA2	Magadan	71.16	354	eP	P	15 10 40.6	-1.1
	comp=Z,71nm,1.8s,mb5.3						
MA2				LR	LR		
	comp=Z,922nm,21.0s,MS5.0						
LZH	Lanzhou	72.74	313	P	P	15 10 51.3	-0.3
LZH				AP	pP	15 10 55.6	-1.9
LZH				XP	sP	15 10 57.6	-2.0
LZH				S	S	15 20 18.0	+3.2
LZH				XS		15 20 26.0	
LZH				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.5						
LZH				AMB	AMB		
	comp=Z,440nm,5.9s						
LZH				LR	LR		
	comp=N,2μm,15.9s						
LZH				LR	LR		
	comp=Z,2μm,21.6s						
LZH	Lanzhou	72.74	313	P	P	15 10 51.3	-0.3
LZH				S	S	15 20 18.0	+3.2
LZH	Lanzhou	72.74	313	P	P	15 10 51.3	-0.3
	comp=Z,80nm,1.4s,mb5.5						
LZH				pP	pP	15 10 55.6	-1.9
LZH				sP	sP	15 10 57.6	-2.0
LZH				S	S	15 20 18.0	+3.2
LZH				sS		15 20 26.0	
LZH				PS	PS	15 20 53.0	+4.0
LZH				SS	SS	15 25 05.0	+8.0
LZH				LR	LR		
	comp=Z,2μm,21.6s,MS5.4						
SEY	Seymchan	74.31	355	eP	P	15 10 56.1	-4.0
SEY				e		15 15 28.9	
SEY				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.4						
SEY				pmax	pmax		
	comp=N,20nm,1.2s						
CLNS	Chul'man	74.65	339	eP	P	15 11 06.1	+3.9
CLNS				e		15 11 20.9	
CLNS				e		15 13 49.6	
CLNS				eS	S	15 20 37.9	+2.1
CLNS				pmax	pmax		
	comp=N,7.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,9.0nm,1.2s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.8s						
CLNS				smax			
	comp=E,158nm,11.8s						
CLNS				smax			
	comp=Z,244nm,17.8s						
CLNS				smax			
	comp=N,140nm,14.7s						
ULN	Ulaanbaatar	76.74	325	eP	P	15 11 14.4	+0.1
ULN	Ulaanbaatar	76.74	325	eP	P	15 11 13.5	-0.7
	comp=N,42nm,1.1s,mb5.3						
ULN				LR	LR		
	comp=Z,964nm,22.0s,MS5.1						
SONM	Songino Array	77.09	325	P	P	15 11 16.2	0.0
	comp=Z,18nm,0.9s,mb5.0,baz=135,slow=5.2,SNR=31						
GTA	Gaotai	77.10	315	P	P	15 11 18.0	+1.6
GTA				AP	pP	15 11 21.5	-0.9
GTA				XP	sP	15 11 24.0	-0.5
GTA				PP	PP	15 14 14.1	+2.4
GTA				S	S	15 21 06.6	+3.6
GTA				XS		15 21 16.5	
GTA				SKS	SKS	15 21 24.5	-5.0
GTA				SS	SS	15 26 07.0	+3.5
GTA				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.2						
GTA				AMB	AMB		
	comp=Z,236nm,4.9s						
GTA				LR	LR		
	comp=N,682nm,20.2s,MS5.1						
GTA				LR	LR		
	comp=E,791nm,23.2s,MS5.1						
GTA				LR	LR		
	comp=Z,1μm,22.8s,MS5.2						
YAK	Yakutsk	77.42	345	eP	P	15 11 17.2	-0.5
YAK				eS	S	15 21 12.1	+6.1
YAK				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.2s						
YAK				smax			
	comp=E,153nm,11.5s						
YAK				smax			
	comp=Z,102nm,18.4s						
YAK				smax			
	comp=N,139nm,13.0s						
YAK	Yakutsk	77.42	345	eP	P	15 11 17.1	-0.6
	comp=N,23nm,0.8s,mb5.2						
YAK				LR	LR		
	comp=Z,743nm,20.0s,MS5.0						
QSPA	South Pole Qui	78.84	180	⇑iP	P	15 11 28.9	+3.6
	comp=Z,18nm,1.0s,mb5.0						
SVW2	Sparrevohn	79.13	19	eP	P	15 11 28.6	+1.5
BOD	Bodaibo	79.44	336	eP	P	15 11 27.8	-1.1
BOD				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
LSA	Lhasa	80.01	303	P	P	15 11 32.7	+0.1
LSA				S	S	15 21 33.7	-0.5
LSA				LR	LR		
	comp=N,380nm,18.8s,MS5.0						
LSA				LR	LR		
	comp=E,670nm,21.5s,MS5.0						
LSA				LR	LR		
	comp=Z,750nm,25.1s,MS4.9						
ZAK	Zakamensk	80.18	326	eP	P	15 11 32.2	-0.8
ZAK				e		15 14 33.2	
ZAK				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.2						
IRK	Irkutsk	80.62	328	eP	P	15 11 37.2	+1.9
IRK				pmax	pmax		
	comp=Z,39nm,2.1s,mb5.0						
TLY	Talaya	80.65	327	P	P	15 11 36.6	+1.1
	comp=Z,77nm,1.1s,mb5.5,SNR=15						
TLY	Talaya	80.65	327	eP	P	15 11 35.4	-0.1
TLY				e		15 11 44.1	
TLY				e		15 14 36.2	
TLY				eS	S	15 21 45.1	+4.7
TLY				ePS	PS	15 22 31.5	+2.0
TLY				eSS	SS	15 26 58.4	+1.8
TLY				pmax	pmax		
	comp=Z,48nm,2.0s,mb5.1						
TLY	Talaya	80.65	327	eP	P	15 11 34.5	-0.9
	comp=Z,65nm,1.6s,mb5.3						
TLY				LR	LR		
	comp=Z,291nm,21.0s,MS4.6						
MOY	Mondy	82.07	326	eP	P	15 11 43.8	+0.9
MOY				pmax	pmax		
	comp=Z,30nm,2.2s,mb4.8						
IMA	Indian Mountai	83.40	16	eP	P	15 11 50.3	+0.8
MAW	Mawson	83.54	202	LR	LR	15 46 14.8	
	comp=Z,690nm,19.0s,MS5.0,baz=95,slow=34						
JIRN	Jiri	83.56	300	eP	P	15 11 50.6	-0.6
	comp=Z,86nm,1.4s,mb5.7						
GUN	Gumba	83.89	300	eP	P	15 11 52.0	-0.8
	comp=Z,117nm,1.3s,mb5.8						
PKI	Pulchoki	84.20	299	eP	P	15 11 53.7	-0.7
	comp=Z,135nm,1.4s,mb5.9						
KKN	Kakani	84.37	300	eP	P	15 11 54.4	-0.9
	comp=Z,46nm,0.9s,mb5.6						
DMN	Daman	84.47	299	eP	P	15 11 54.9	-0.9
	comp=Z,166nm,1.2s,mb6.0						
MENT	Mentasta	84.47	22	eP	P	15 11 56.3	+1.4
ILAR	Eielson Array	84.55	19	P	P	15 11 54.7	-0.5
	comp=Z,2.5nm,0.7s,mb4.5,baz=252,slow=6.1,SNR=13						
ILAR				LR	LR	15 44 07.7	
	comp=Z,946nm,19.9s,MS5.2,baz=248,slow=32						
GKN	Gorkha	84.97	300	eP	P	15 11 57.7	-0.6
	comp=Z,136nm,1.3s,mb5.9						
TIXI	Tiksi	85.68	350	⇑iP	P	15 12 00.9	+0.2
TIXI				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.9						
KOLN	Koldanda	85.80	299	eP	P	15 12 02.0	-0.4
	comp=Z,88nm,1.4s,mb5.8						
HUMO	Hull Mountain	86.13	45	eP	P	15 12 04.1	+0.5
	comp=Z,9.6nm,1.0s,mb5.0						
HUMO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
OHCM	Honcut	86.16	49	eP	P	15 12 04.4	+0.5
BBB	Bella Bella	86.30	35	LR	LR	15 45 37.6	
	comp=Z,516nm,18.9s,MS5.0,baz=72,slow=32						
DAWY	Dawson	86.71	22	eP	P	15 12 05.5	-0.5
WMQ	Urumqi	87.17	316	⇓iP	P	15 12 09.2	+0.5
WMQ				AP	pP	15 12 14.0	-0.8
WMQ				XP	sP	15 12 16.0	-0.7
WMQ				PP	PP	15 15 35.0	0.0
WMQ				SKS	SKS	15 22 34.0	-5.1
WMQ				S	S	15 22 46.0	+0.5
WMQ				SS	SS	15 28 31.5	-1.0
WMQ				AMB	AMB		
	comp=Z,20nm,1.5s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,322nm,5.4s						
WMQ				LR	LR		
	comp=N,2μm,20.6s,MS5.5						
WMQ				LR	LR		
	comp=E,2μm,24.2s,MS5.5						
WMQ				LR	LR		
	comp=Z,2μm,23.6s,MS5.5						
MOD	Modoc	87.79	47	P	P	15 12 12.2	+0.5
	comp=Z,15nm,1.1s,mb5.1						
MOD				LR	LR		
	comp=Z,1μm,22.0s,MS5.3						
DLBC	Dease Lake	87.88	29	P	P	15 12 12.0	+0.3
	comp=Z,6.6nm,1.3s,mb4.7,baz=187,slow=17,SNR=2.8						
DLBC				LR	LR	15 42 58.0	
	comp=Z,2μm,21.2s,MS5.4,baz=290,slow=30						
DLBC	Dease Lake	87.88	29	P	P	15 12 12.0	+0.3
DLBC				LR	LR	15 42 58.0	
NVAR	Mina Array Bea	88.28	50	P	P	15 12 14.8	+0.6
	comp=Z,2.9nm,1.0s,mb4.5,baz=229,slow=4.9,SNR=11						
NVAR				LR	LR	15 43 12.8	
	comp=Z,1μm,19.9s,MS5.3,baz=220,slow=30						
NVAR	Mina Array Bea	88.28	50	P	P	15 12 14.8	+0.6
NVAR				LR	LR	15 43 12.8	
BMO	Blue Mountains	90.70	44	eP	P	15 12 24.2	-1.2
	comp=Z,21nm,1.4s,mb5.3						
SYO	Syowa Base	90.83	198	⇑sP	sP	15 12 35.5	+2.1
DDI	Dehra Dun	91.12	301	e	P	15 12 27.1	-0.6
ELK	Elko	91.16	49	LR	LR	15 44 18.6	
	comp=Z,780nm,21.2s,MS5.1,baz=318,slow=30						
MKAR	Makanchi Array	91.66	317	i P	P	15 12 27.9	-1.9
MKAR				pmax	pmax		
	comp=Z,48nm,1.3s						
NEW	Newport	91.70	41	LR	LR	15 46 44.6	
	comp=Z,464nm,18.8s,MS5.0,baz=237,slow=31						
ARUT	Antelope Range	91.85	52	eP	P	15 12 33.0	+2.2
MSU	Marysvale	92.98	51	eP	P	15 12 39.1	+3.1
KSH	Kashi	94.61	309	eP	P	15 12 46.5	+3.0
KSH				eAP	pP	15 12 53.4	+3.8
KSH				eXP	sP	15 12 57.9	+6.4
KSH				eS	S	15 23 56.0	+3.7
KSH				XS		15 24 03.3	
KSH				AMB	AMB		
	comp=Z,350nm,4.0s						
KSH				LR	LR		
	comp=N,590nm,6.5s						
KSH				LR	LR		
	comp=E,720nm,7.4s						
KURK	Kurchatov	94.91	321	⇑iP	P	15 12 42.1	-2.5
KURK				pmax	pmax		
	comp=Z,16nm,2.1s,mb5.1						
KURK	Kurchatov	94.91	321	eP	P	15 12 44.7	+0.1
	comp=Z,19nm,1.5s,mb5.3						
KURK				LR	LR		
	comp=Z,350nm,21.0s,MS4.8						
PDAR	Pinedale Array	95.73	48	P	P	15 12 47.4	-1.2
	comp=Z,3.6nm,1.4s,mb4.6,baz=270,slow=0.9,SNR=2.8						
PDAR				LR	LR	15 50 12.9	
	comp=Z,551nm,18.2s,MS5.1,baz=264,slow=32						
AAK	Ala-Archa	96.25	312	⇑iP	P	15 12 51.2	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.6						
AAK				MLR	MLR		
	comp=Z,600nm,21.0s,MS5.0						
YKA	Yellowknife Ar	96.39	28	P	P	15 12 50.7	-0.4
	comp=Z,1.5nm,0.8s,mb4.5,baz=256,slow=4.6,SNR=21						
YKA				LR	LR	15 48 55.9	
	comp=Z,611nm,20.4s,MS5.1,baz=270,slow=31						
YKA	Yellowknife Ar	96.39	28	P	P	15 12 50.7	-0.4
YKA				LR	LR	15 48 55.9	
ANMO	Albuquerque	96.86	56	LR	LR	15 49 25.5	
	comp=Z,1μm,19.2s,MS5.3,slow=31						
TXAR	Lajitas Array	98.39	62	P	P	15 13 02.6	+1.7
	comp=Z,0.4nm,1.0s,baz=270,slow=5.4,SNR=2.6						
TXAR				LR	LR	15 47 56.6	
	comp=Z,888nm,21.9s,MS5.2,baz=250,slow=30						
CHKZ	Chkalovo	100.21	323	ePdif	P	15 13 08.9	+0.3
	comp=Z,4.3nm,1.3s						
SOC	Sochi	121.45	314	i PKIKP	PKPdf	15 18 13.0	-6.0
SOC				e		15 19 45.9	
SOC				ePS	PS	15 29 39.7	-0.1
SOC				eSSS	SSS	15 40 48.1	-4.7
SOC				pmax	pmax		
	comp=Z,44nm,1.2s						
SOC				pmax	pmax		
	comp=N,36nm,1.1s						
SOC				pmax	pmax		
	comp=E,27nm,0.9s						
SOC				MLR	MLR		
	comp=N,565nm,21.0s,MS5.3						
SOC				MLR	MLR		
	comp=Z,680nm,21.0s,MS5.3						
SOC				MLR	MLR		
	comp=E,289nm,18.0s,MS5.3						
SDV	Santo Domingo	127.35	87	eP	PKPdf	15 18 27.9	-3.2
LSZ	Lusaka	127.97	241	ePKIKP	PKPdf	15 18 31.7	-0.6
OKC	Ostrava-Krasne	131.69	330	AMS	AMS	16 17 30.0	
	comp=E,500nm,21.3s						
DPC	Dobruska-Polom	132.22	331	AMS	AMS	16 20 30.0	
	comp=E,500nm,23.4s						
PVCC	Panska Ves	132.90	333	AMS	AMS	16 18 50.0	
	comp=E,700nm,20.5s						
PRU	Pruhonice	133.30	332	AMS	AMS	16 19 30.0	
	comp=E,500nm,18.8s						
NKC	Novy Kostel	134.05	334	AMS	AMS	16 18 30.0	
	comp=E,700nm,21.3s						
KHC	Kasperske Hory	134.35	332	AMS	AMS	16 20 10.0	
	comp=E,500nm,19.9s						
GERES	GERESS Array B	134.50	332	PKP	PKPdf	15 18 40.6	-3.1
	comp=E,0.7nm,0.8s,baz=90,slow=2.0,SNR=5.0						
ESDC	Sonseca Array	149.28	340	PKPbc	PKPdf	15 19 12.8	+3.0
	comp=E,1.3nm,0.8s,baz=270,slow=1.3,SNR=3.7						

IDC 06 15:04:25.3±4.8, 1.77N×125.42E, mb4.1/4, mb1 4.3/4, mb1mx4.2/13, mbtmp4.1/4, MS4.6/1, Ms1 4.6/1, ms1mx3.4/18, Error ellipse: s-maj=164.4km s-min=73.4km az=55.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.29	158	P	P	15 09 34.8	-1.1
	4.8nm,0.7s,baz=336,slow=11,SNR=16						
ASAR	Alice Springs	26.60	162	P	P	15 10 05.6	-1.8
	1.3nm,0.5s,baz=346,slow=6.4,SNR=10						
STKA	Stephens Creek	36.82	157	P	P	15 11 35.1	-1.9
	1.8nm,0.4s,baz=344,slow=8.5,SNR=10						
ASAJ	Asahikawa	44.83	18	LR	LR	15 29 35.9	
	comp=Z,616nm,19.3s,baz=150,slow=34						
VNDA	Vanda	81.67	172	P	P	15 16 45.1	-1.3
	1.0nm,0.6s,baz=352,slow=6.5,SNR=5.2						

IDC 06 15:52:17.3±5.6, 5.88S×151.17E, h41km±50km, mb3.8/7, mb1 4.0/9, mb1mx3.9/13, mbtmp4.0/9, ML3.4/2, MS3.8/2, Ms1 3.8/2, ms1mx3.7/10, Error ellipse: s-maj=44.3km s-min=27.3km az=113.0

NEIC 06 15:52:19.0±2.9, 5.86S×151.11E, h57km±26km, mb4.2/2, Error ellipse: s-maj=30.0km s-min=18.7km az=112.0

ISC 06 15:52:18.0±3.6, 5.9S±0.2×151.0E±0.2, h61km±32km, n14, σ0s99/13, mb3.9/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.18	227	P	P	15 53 35.0	+0.1
	5.3nm,0.3s,baz=35,slow=12,SNR=19						
PMG				S	S	15 54 33.5	-0.6
	6.9nm,0.3s,baz=355,slow=22,SNR=6.6						
CTA	Charters Tower	14.88	198	P	P	15 55 47.0	+0.6
	0.1nm,0.3s,baz=27,slow=16,SNR=2.2						
WRAB	Tennant Creek	21.39	228	eP	P	15 57 02.6	0.0
	9.2nm,0.7s,mb4.2						
WRA	Warramunga Arr	21.41	228	P	P	15 57 02.9	+0.1
	1.9nm,0.5s,mb3.7,baz=51,slow=10,SNR=36						
ASAR	Alice Springs	24.17	221	P	P	15 57 31.6	+1.8
	1.7nm,0.5s,mb3.7,baz=58,slow=9.3,SNR=37						
ASAR				LR	LR	16 06 19.6	
	comp=Z,90nm,19.3s,baz=37,slow=35						
STKA	Stephens Creek	27.34	198	P	P	15 57 57.9	-1.7
	2.2nm,0.8s,mb3.7,baz=4.8,slow=12,SNR=2.4						
SONM	Songino Array	66.27	329	P	P	16 03 02.7	+0.6
	0.6nm,0.7s,mb3.8,baz=146,slow=4.8,SNR=5.6						
ILAR	Eielson Array	83.81	22	P	P	16 04 40.2	-1.6
	0.6nm,0.7s,mb3.8,baz=266,slow=5.0,SNR=12						
CHKZ	Chkalovo	89.00	324	eP	P	16 05 07.2	-0.2
	0.6nm,0.6s,mb4.1						
BBB	Bella Bella	89.02	37	LR	LR	16 42 12.5	
	comp=Z,106nm,19.4s,baz=353,slow=34						
NVAR	Mina Array Bea	94.15	52	P	P	16 05 33.1	+1.6
	1.5nm,0.7s,mb4.5,baz=249,slow=4.8,SNR=11						
YKA	Yellowknife Ar	97.19	28	P	P	16 05 44.2	-0.6
	0.1nm,0.6s,mb3.4,baz=267,slow=4.4,SNR=4.2						
YKA	Yellowknife Ar	97.19	28	P	P	16 05 44.2	-0.6
GERES	GERESS Array B	123.98	327	PKP	PKPdf	16 11 12.0	+2.3
	0.4nm,0.5s,baz=72,slow=1.6,SNR=17						

IDC 06 15:56:03.4±1.8, 2.90S×141.81E, mb3.6/3, mb1 4.0/4, mb1mx3.8/11, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=126.0km s-min=27.7km az=108.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.45	203	P	P	16 00 20.7	-1.8
	0.6nm,0.3s,baz=24,slow=12,SNR=26						
ASAR	Alice Springs	22.02	200	P	P	16 00 59.7	-1.6
	1.3nm,0.7s,baz=29,slow=9.3,SNR=11						
STKA	Stephens Creek	28.83	180	P	P	16 02 03.4	-2.2
	1.0nm,0.8s,baz=356,slow=14,SNR=2.2						
ILAR	Eielson Array	84.73	24	P	P	16 08 39.1	-1.2
	0.4nm,0.7s,baz=268,slow=4.0,SNR=6.2						

IDC 06 16:09:12.2±6.1, 4.99N×94.04E, mb3.6/3, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=183.5km s-min=28.1km az=73.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.21	19	P	P	16 12 36.7	-0.5
	0.2nm,0.3s,baz=190,slow=11,SNR=3.0						
SONM	Songino Array	43.98	12	P	P	16 17 20.9	-2.1
	1.1nm,1.1s,baz=191,slow=7.9,SNR=6.3						
WRA	Warramunga Arr	46.73	123	P	P	16 17 43.2	-2.0
	1.0nm,0.7s,baz=303,slow=9.2,SNR=12						
ASAR	Alice Springs	48.20	128	P	P	16 17 55.0	-1.7
	0.3nm,0.4s,baz=300,slow=7.9,SNR=14						

PGC 06 16:13:25.2, 48.81N×128.94W, h10km, MLSn3.2/1, Mw3.8, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.60	48	Pn	Pn	16 13 51.0	-2.7
EDB				Sn	Sn	16 14 10.2	-4.3
EDB				Trac		16 14 10.9	
	comp=Z,29nm,0.3s						
HOLB	Holberg	1.90	16	Pn	Pn	16 13 55.1	-3.0
HOLB				Sn	Sn	16 14 18.2	-4.1
	comp=Z,28nm,0.1s						
HOLB				Trac		16 14 21.8	
	comp=Z,28nm,0.1s						
MAYB	Maynard	1.96	35	Pn	Pn	16 13 56.7	-2.2
MAYB				Sn	Sn	16 14 19.4	-4.4
	comp=Z,7.0nm,0.1s						
MAYB				Trac		16 14 20.9	
	comp=Z,7.0nm,0.1s						
WOSB	Woss	2.05	48	Pn	Pn	16 13 58.4	-1.9
WOSB				Sn	Sn	16 14 22.9	-3.2
	comp=Z,16nm,0.3s						
WOSB				Trac		16 14 24.8	
	comp=Z,16nm,0.3s						
PHC	Port Hardy	2.13	27	Pn	Pn	16 13 59.5	-1.9
PHC				Sn	Sn	16 14 23.5	-4.7
PHC				Trac		16 14 25.8	
	comp=Z,21nm,0.3s						
GDR	Gold River	2.14	62	Pn	Pn	16 13 59.0	-2.5
GDR				Sn	Sn	16 14 25.0	-3.3
	comp=Z,6.0nm,0.2s						
GDR				Trac		16 14 25.8	
	comp=Z,6.0nm,0.2s						
OZB	Mount Ozzard	2.28	85	Pn	Pn	16 14 00.5	-3.0
OZB				Sn	Sn	16 14 27.3	-4.6
OZB				Trac		16 14 30.9	
	comp=Z,6.0nm,0.1s						
BTB	Buttle Lake	2.34	72	Pn	Pn	16 14 02.3	-2.1
BTB				Sn	Sn	16 14 30.2	-3.2
	comp=Z,18nm,0.2s						
BTB				Trac		16 14 33.4	
	comp=Z,18nm,0.2s						
NCRB	Newcastle Ridg	2.46	49	Pn	Pn	16 14 04.4	-1.6
NCRB				Sn	Sn	16 14 33.5	-3.0
	comp=Z,17nm,0.3s						
NCRB				Trac		16 14 35.2	
	comp=Z,17nm,0.3s						
CBB	Campbell River	2.63	61	Pn	Pn	16 14 06.7	-1.9
CBB				Sn	Sn	16 14 38.1	-2.7
CBB				Trac		16 14 40.1	
	comp=Z,27nm,0.6s						
ALB	Alberni	2.74	79	Pn	Pn	16 14 07.6	-2.5
ALB				Sn	Sn	16 14 39.7	-4.0
	comp=Z,1.0nm,0.1s						
ALB				Trac		16 14 41.0	
	comp=Z,1.0nm,0.1s						
MGB	Mount Grey	2.81	85	Pn	Pn	16 14 08.0	-3.0
MGB				Sn	Sn	16 14 40.9	-4.4
	comp=Z,4.0nm,0.2s						
MGB				Trac		16 14 43.0	
	comp=Z,4.0nm,0.2s						
PFB	Port Renfrew	2.99	93	Pn	Pn	16 14 11.6	-2.0
TXB	Texada	3.08	72	Pn	Pn	16 14 13.2	-1.8
TXB				Sn	Sn	16 14 49.8	-2.4
	comp=Z,6.0nm,0.2s						
TXB				Trac		16 14 52.6	
	comp=Z,6.0nm,0.2s						
NLLB	Nanaimo Lost L	3.29	81	Pn	Pn	16 14 16.8	-1.1
NLLB				Sn	Sn	16 14 54.2	-3.2
NLLB				Trac		16 14 58.8	
	comp=Z,9.0nm,0.5s						
LZB	Mount Lazard	3.40	91	Pn	Pn	16 14 16.4	-2.9
SHB	Sechelt	3.41	75	Pn	Pn	16 14 18.0	-1.7
SHB				Sn	Sn	16 14 58.3	-2.3
SHB				Trac		16 15 00.8	
	comp=Z,7.0nm,0.2s						
BBB	Bella Bella	3.42	9	Pn	Pn	16 14 17.3	-2.4
BBB				Sn	Sn	16 14 55.8	-4.9
BBB				Trac		16 14 57.9	
	comp=Z,23nm,0.3s						
GOBB	Galiano Island	3.59	86	Pn	Pn	16 14 20.2	-1.9
GOBB				Sn	Sn	16 15 02.1	-2.8
	comp=Z,2.0nm,0.2s						
GOBB				Trac		16 15 04.9	
	comp=Z,2.0nm,0.2s						
PGC	Sidney	3.64	91	Pn	Pn	16 14 20.6	-2.3
BIB	Bowen Island	3.75	79	Pn	Pn	16 14 22.3	-2.1
BIB				Sn	Sn	16 15 06.7	-2.5
	comp=Z,1.0nm,0.2s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BIB				Trac		16 15 10.3	
	comp=Z,1.0nm,0.2s						
SNB	Saturna Island	3.81	88	Pn	Pn	16 14 23.5	-1.9
WPB	Watts Point	3.85	75	Pn	Pn	16 14 24.3	-1.5
WPB				Sn	Sn	16 15 09.6	-2.0
	comp=Z,3.0nm,0.2s						
WPB				Trac		16 15 14.1	
	comp=Z,3.0nm,0.2s						
WSLR	Whistler	4.14	69	Pn	Pn	16 14 29.2	-0.7
WSLR				Sn	Sn	16 15 11.7	-7.3
WSLR				Trac		16 15 22.4	
	comp=Z,2.0nm,0.5s						
HNB	Haney	4.21	81	Pn	Pn	16 14 28.9	-2.1
LLLB	Lillooet	4.92	66	Pn	Pn	16 14 39.5	-1.5
LLLB				Trac		16 15 42.3	
	comp=Z,2.0nm,0.5s						

*CSEM **06** 17:01:12.5±0.2, 32.10N×55.46E, h14^{km}, ML3.2, Error ellipse: s-maj=7.0km s-min=2.5km az=63.0*
*THR **06** 17:01:13.4±0.3, 30.65N×54.05E, h16^{km}±12^{km}, ML3.0*
*TEH **06** 17:01:14.6, 32.05N×55.45E, h12^{km}, Mn3.2*
ISC 06 17:01:13.0±0.8**, 32.11N**±0.06×**55.44E**±0.09**, h12**^{km}**, n12, σ1^{s}27**/15**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBAF	Bafgh	0.53	168	Pg	Pg	17 01 23.1	-0.6
ICHK	Chekchek	0.89	279	Pg	Pg	17 01 31.0	+0.2
IMEH	Mehriz	1.01	225	Pn	Pn	17 01 34.1	+1.3
NASN	Na'in	2.33	288	*e*PN	Pn	17 01 54.2	+2.5
NASN				*e*SG	Sg	17 02 28.7	-1.9
NASN				AML	AML	17 02 33.5	
	comp=N,80nm,0.2s						
KRBR	Kerman	2.40	152	*e*PN	Pn	17 01 54.7	+1.9
KRBR				*e*SG	Sg	17 02 30.1	-3.0
KRBR				AML	AML	17 02 32.9	
	comp=N,109nm,0.3s						
ISFB	Sefidab	3.50	311	Pn	Pn	17 02 07.9	-0.5
IFIR	Firoozkooh	4.17	328	Pn	Pn	17 02 17.6	-0.4
IFIR				Sn	Sn	17 03 05.6	-1.6
IVRN	Varamin	4.23	314	Pn	Pn	17 02 19.0	+0.2
IDMV	Damavand	4.47	322	Pn	Pn	17 02 22.4	+0.2
IQOM	Qom	4.56	308	Pn	Pn	17 02 23.2	-0.2
IAFJ	Afjeh	4.85	321	Pn	Pn	17 02 28.4	+0.8
ASAO	Ashtian	5.14	300	*e*PN	Pn	17 02 32.4	+0.7
ASAO				AML	AML	17 04 10.1	
	comp=N,4.9nm,0.8s						

*IDC **06** 17:19:51.8±2.1, 4.96S×102.46E, mb4.2/6, mb1 4.4/6, mb1mx4.2/13, mbtmp4.2/6, MS3.2/1, Ms1 3.4/1, ms1mx2.9/24, Error ellipse: s-maj=91.8km s-min=19.2km az=53.0*
*NEIC **06** 17:19:56.9±5.7, 4.82S×102.71E, h28^{km}±38^{km}, mb4.7/7, Error ellipse: s-maj=36.9km s-min=7.7km az=50.0*
*BJI **06** 17:19:56.8, 4.80S×102.70E, h28^{km}, mB5.1, mb4.6*
ISC 06 17:19:55.3±1.1**, 4.9S**±0.2×**102.6E**±0.2**, h33**^{km}**, n21, σ0^{s}73**/18**, mb4.7**/17**, MS3.1**/1**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	23.53	351	*e*P	P	17 25 03.4	-0.1
	5.1nm,0.7s,mb4.1						
CMAR	Chiang Mai Arr	23.53	351	P	P	17 25 03.5	-0.1
	3.1nm,0.6s,mb3.9,baz=181,slow=9.2,SNR=24						
CMAR				LR	LR	17 34 37.8	
	comp=Z,63nm,20.9s,MS3.1,baz=188,slow=38						
WRA	Warramunga Arr	34.29	119	P	P	17 26 40.6	-0.2
	0.8nm,0.4s,mb4.0,baz=305,slow=9.1,SNR=28						
WRAB	Tennant Creek	34.29	119	*e*P	P	17 26 40.7	-0.2
	25nm,1.4s,mb5.0						
ASAR	Alice Springs	35.44	125	P	P	17 26 51.1	+0.5
	1.9nm,0.5s,mb4.3,baz=296,slow=7.5,SNR=45						
JIRN	Jiri	36.08	335	*e*P	P	17 26 56.6	+0.6
	37nm,0.8s,mb5.4						
GUN	Gumba	36.43	335	*e*P	P	17 26 59.5	+0.5
	34nm,0.5s,mb5.5						
KKN	Kakani	36.59	334	*e*P	P	17 27 00.7	+0.4
	18nm,0.7s,mb5.0						
GKN	Gorkha	37.05	333	*e*P	P	17 27 04.6	+0.4
	8.1nm,0.3s,mb5.0						
KOLN	Koldanda	37.34	332	*e*P	P	17 27 07.2	+0.6
	16nm,0.8s,mb4.9						
WMQ	Urumqi	50.37	346	P	P	17 28 51.7	+0.4
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,97nm,4.3s						
SONM	Songino Array	52.65	3	P	P	17 29 08.4	-0.1
	comp=Z,4.9nm,0.9s,mb4.5,baz=184,slow=7.7,SNR=40						
CN2	Changchun	52.71	21	*e*P	P	17 29 09.6	+0.6
ULN	Ulaanbaatar	52.72	4	*e*P	P	17 29 09.0	0.0
	comp=Z,1.4nm,0.8s,mb3.9						
KURK	Kurchatov	59.16	342	*e*P	P	17 29 53.8	-1.4
	comp=Z,9.7nm,1.1s,mb4.8						
KURK				*e*		17 30 06.1	
BVAR	Borovoye Array	63.83	339	P	P	17 30 25.1	-1.6
	comp=Z,3.8nm,0.7s,mb4.6,baz=144,slow=8.9,SNR=18						
CHKZ	Chkalovo	64.28	340	*e*P	P	17 30 28.0	-1.5
	comp=Z,31nm,0.7s,mb5.4						
FINES	FINESS Array B	87.91	332	P	P	17 32 43.6	+1.0
	comp=Z,1.8nm,1.1s,mb4.2,baz=124,slow=5.0,SNR=4.3						
LTX	Lajitas	145.26	43	*e*PKPdf	PKPdf	17 39 32.1	+1.7
TXAR	Lajitas Array	145.26	43	PKPbc	PKPbc	17 39 32.3	+1.6
	comp=Z,3.6nm,0.9s,baz=297,slow=1.3,SNR=28						
JCT	Junction City	146.96	37	*e*PKPbc	PKPbc	17 39 36.9	+2.1

*IDC **06** 17:22:30.6±1.4, 23.12S×169.20E, mb4.4/9, mb1 4.6/9, mb1mx4.5/15, mbtmp4.4/9, MS4.2/5, Ms1 4.2/5, ms1mx3.7/23, Error ellipse: s-maj=66.2km s-min=20.8km az=157.0*
*NEIC **06** 17:22:33.5±0.4, 22.84S×168.94E, h10^{km}, mb4.7/9, Error ellipse: s-maj=17.9km s-min=10.4km az=174.0*
*BJI **06** 17:22:33.5, 22.80S×168.90E, h10^{km}, mB5.5, mb4.7, Ms5.6, Msz4.9*
ISC 06 17:22:35.6±0.7**, 22.9S**±0.1×**168.92E**±0.10**, h33**^{km}**, n61, σ1^{s}17**/27**, mb4.5**/16**, MS4.4**/6**, 1C-1D, New Caledonia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.44	290	*e*P	P	17 23 12.2	-1.7
NOUC	Port Laguerre	2.55	288	*e*P	P	17 23 13.7	-1.9
CTA	Charters Tower	21.27	273	*e*P	P	17 27 23.7	+2.3
	13nm,1.4s,mb4.1						
CTA	Charters Tower	21.27	273	P	P	17 27 23.1	+1.7
	4.6nm,0.7s,mb4.0,baz=95,slow=10,SNR=8.1						
CTA				LR	LR	17 34 45.8	
	comp=Z,405nm,20.2s,MS3.8,baz=89,slow=34						
CTAO	Charters Tower	21.27	273	*e*P	P	17 27 23.5	+2.0
	50nm,1.4s,mb4.7						
STKA	Stephens Creek	25.80	244	*e*P	P	17 28 06.4	+0.9
	16nm,1.1s,mb4.5						
STKA	Stephens Creek	25.80	244	P	P	17 28 05.5	0.0
	7.0nm,0.8s,mb4.2,baz=76,slow=12,SNR=11						
STKA				LR	LR	17 37 14.8	
	comp=Z,530nm,20.0s,MS4.1,baz=71,slow=34						
ASAR	Alice Springs	32.13	262	P	P	17 29 01.8	-0.6
	16nm,1.2s,mb4.7,baz=86,slow=8.3,SNR=20						
ASAR				PcP	PcP	17 31 48.9	-2.2
	1.5nm,0.7s,baz=115,slow=2.9,SNR=7.1						
ASAR				LR	LR	17 41 22.1	
	comp=Z,284nm,19.1s,MS4.0,baz=258,slow=35						
ASAR	Alice Springs	32.13	262	P	P	17 29 01.8	-0.6
ASAR				PcP	PcP	17 31 48.9	-2.2
ASAR				LR	LR	17 41 22.1	
WRA	Warramunga Arr	32.28	269	P	P	17 29 01.7	-2.1
	2.1nm,0.8s,mb4.0,baz=100,slow=8.7,SNR=8.5						
WRA				PcP	PcP	17 31 49.5	-2.0
	1.5nm,0.7s,baz=98,slow=2.9,SNR=8.6						
FITZ	Fitzroy Crossi	40.72	269	*e*P	P	17 30 15.7	+0.7
	13nm,1.5s,mb4.3						
MBWA	Marble Bar	45.46	262	*e*P	P	17 30 53.2	-0.5
	11nm,0.7s,mb4.8						
QSPA	South Pole Qui	67.16	180	⇓*i*P	P	17 33 26.9	-0.8
	8.9nm,1.1s,mb4.7						
CN2	Changchun	77.44	329	*e*P	P	17 34 29.4	+0.1
NANT	Nan	78.46	296	P	P	17 34 36.0	+0.6
BJI	Beijing	79.61	322	*e*P	P	17 34 42.0	+0.8
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
BJI	Beijing	79.61	322	*e*P	P	17 34 42.0	+0.8
	comp=Z,9.0nm,1.0s,mb4.7						
CMAR	Chiang Mai Arr	79.76	295	P	P	17 34 43.3	+0.8
	comp=Z,0.4nm,0.4s,mb3.7,baz=132,slow=4.2,SNR=4.4						
CHG	Chiang Mai	79.92	295	⇑P	P	17 34 45.1	+1.7
	comp=Z,14nm,1.0s,mb4.9						
KMI	Kunming	79.97	303	P	P	17 34 45.0	+1.5
KMI				AP	pP	17 34 55.1	+1.2
KMI				XP	sP	17 34 59.3	+1.8
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
KMI				LR	LR		
	comp=N,1μm,14.7s,MS5.4						
KMI				LR	LR		
	comp=E,522nm,12.4s,MS5.4						
KMI				LR	LR		
	comp=Z,483nm,15.5s,MS5.0						
LZH	Lanzhou	84.97	312	*e*P	P	17 35 10.0	+1.0
LZH				AP	pP	17 35 14.5	-5.0
LZH				XP	sP	17 35 19.0	-4.0
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.2						
LZH	Lanzhou	84.97	312	*e*P	P	17 35 10.0	+1.0
	comp=Z,28nm,1.5s,mb5.2						
LZH				pP	pP	17 35 14.5	-5.0
LZH				sP	sP	17 35 19.0	-4.0
USHA	Ushuaia	88.40	151	LR	LR	18 06 18.7	
	comp=Z,180nm,19.8s,MS4.5,baz=127,slow=30						
ULN	Ulaanbaatar	89.63	324	*e*P	P	17 35 31.8	+0.6
SONM	Songino Array	89.97	323	P	P	17 35 33.2	+0.4
	comp=Z,2.2nm,0.9s,mb4.5,baz=140,slow=3.4,SNR=16						
YBH	Yreka Blue Hor	90.13	44	P	P	17 35 32.9	-0.9
	comp=Z,3.0nm,0.8s,mb4.7,baz=274,slow=2.0,SNR=6.3						
NVAR	Mina Array Bea	91.44	49	P	P	17 35 39.0	-0.9
	comp=Z,3.0nm,0.7s,mb4.7,baz=218,slow=7.8,SNR=20						
ILAR	Eielson Array	93.81	17	P	P	17 35 48.1	-2.0
	comp=Z,0.8nm,1.0s,mb4.1,baz=240,slow=5.2,SNR=4.5						
TXAR	Lajitas Array	98.76	62	LR	LR	18 10 11.2	
	comp=Z,235nm,20.0s,MS4.7,baz=165,slow=29						
OKC	Ostrava-Krasne	144.69	327	*e*PKP	PKPdf	17 42 09.7	+1.0
PSZ	Piszkesteto	144.91	323	*e*PKPdf	PKPdf	17 42 10.3	+1.1
KSP	Ksiaz	144.94	330	*e*P	PKPdf	17 42 09.6	+0.5
BSEG	Bad Segeberg	145.07	338	*e*PKPbc	PKPbc	17 42 10.4	+0.9
VYHS	Vyhne	145.15	325	*e*PKP	PKPdf	17 42 11.1	+1.5
DPC	Dobruska-Polom	145.25	329	*e*PKP	PKPdf	17 42 11.6	+1.9
UPC	Upice	145.29	329	*e*PKP	PKPdf	17 42 11.6	+1.8
SMOL	Smolenice	145.88	326	*e*PKP	PKPdf	17 42 13.8	+3.0
PVCC	Panska Ves	145.95	330	*e*PKP	PKPdf	17 42 11.9	+1.0
BRG	Berggiesshubel	145.98	331	*e*P	PKPdf	17 42 12.8	+1.9
CLL	Collm	146.07	333	*i* P	PKPdf	17 42 13.4	+2.3
CLL				*i*		17 42 16.6	
CLL				*i*		17 42 27.1	
CLL	Collm	146.07	333	*i* PKIKP	PKPdf	17 42 13.4	+2.3
	comp=Z,logA/T=1.3						
CLL				*e*		17 42 23.0	
CLL				*i*		17 42 27.1	
ZST	Bratislava	146.25	325	*e*PKP	PKPdf	17 42 13.2	+1.7
PRU	Pruhonice	146.34	330	*e*PKP	PKPdf	17 42 13.7	+2.1
PRU				*e*pP		17 42 21.0	
CLZ	Clausthal	146.72	336	*e*PKPbc	PKPbc	17 42 15.9	+2.3
NKC	Novy Kostel	147.10	332	*e*PKP	PKPdf	17 42 16.7	+3.9
MOX	Moxa	147.15	333	*e*P	PKPdf	17 42 16.5	+3.6
KHC	Kasperske Hory	147.38	329	*e*PKP	PKPdf	17 42 17.4	+4.1
KHC				*e*pPKP		17 42 25.5	
GEC2	GERESS Array S	147.53	329	*e*PKPbc	PKPdf	17 42 17.5	+3.9
GERES	GERESS Array B	147.53	329	PKPbc	PKPdf	17 42 18.1	+4.5
	comp=Z,3.7nm,0.8s,baz=45,slow=1.9,SNR=25						
WET	Wettzell	147.70	330	*e*PKPbc	PKPdf	17 42 17.8	+4.0
GRA1	Grafenberg Arr	148.04	332	*e*PKPbc	PKPdf	17 42 18.4	+4.0
GRF	Grafenberg Arr	148.04	332	*e*PKP	PKPdf	17 42 18.4	+4.0
GIVF	Givet	150.13	339	*e*PKP1	PKPdf	17 42 23.7	+6.0
	comp=Z,68nm,1.2s						
BFO	Black Forest	150.30	333	*e*PKPbc	PKPdf	17 42 23.7	+5.7
BAIF	Baives	150.37	340	*e*PKP1	PKPdf	17 42 24.3	+6.2
	comp=Z,42nm,1.4s						
CDF	Champ du Feu	150.66	335	*e*PKP1	PKPdf	17 42 24.8	+6.3
	comp=Z,20nm,1.2s						
HINF	Hinteralfeld	151.31	334	*e*PKP1	PKPdf	17 42 26.1	+6.6
HAU	Haudompre	151.35	335	*e*PKP1	PKPdf	17 42 26.3	+6.7
MEZF	Maizieres J'vi	151.42	337	*e*PKP1	PKPdf	17 42 26.9	+7.2
	comp=Z,31nm,0.9s						
LPG	La Plagne	153.19	331	*e*PKP1	PKPdf	17 42 30.9	+8.6
	comp=Z,9.3nm,0.9s						
SSF	Saint Saulge	153.20	338	*e*PKP1	PKPdf	17 42 30.5	+8.2
	comp=Z,27nm,1.3s						

*BJI **06** 17:37:20.3, 10.85S×163.37E, h13^{km}, mB5.5, mb4.9, Ms5.1, Msz4.8*
*NEIC **06** 17:37:22.4±0.3, 10.96S×162.98E, h10^{km}, mb5.0/25, MS4.7/1, Error ellipse: s-maj=14.2km s-min=7.3km az=139.0*
*HRVD **06** 17:37:22.4±0.3, 11.09S×163.07E, h17^{km}±1^{km}, MW5.2/61, Centroid moment Tensor Solution. LP body waves: s35,c53; Mantle waves: s61,c110; Half duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.87±.30; $M_{\theta\theta}$-5.61±.20; $M_{\phi\phi}$-0.25±.17; $M_{r\theta}$4.27±.49; $M_{\theta\phi}$1.20±.12; $M_{\phi r}$0.60±.50; Best double couple: $M_0$7.279×10^{16} NP1: ϕ_s293°, δ29°, λ110°. NP2: ϕ_s91°, δ63°, λ80°. Principal axes: T 7.402, Plg70°, Azm339°; N -.245, Plg9°, Azm95°; P -7.156, Plg18°, Azm188°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **06** 17:37:35.0±9.0, 11.20S×162.95E, h116^{km}±80^{km}, mb4.3/12, mb1 4.5/14, mb1mx4.4/18, mbtmp4.7/14, ML4.0/2, MS4.6/11, Ms1 4.6/11, ms1mx4.5/16 Error ellipse: s-maj=37.7km s-min=22.4km az=113.0*
ISC 06 17:37:24.7±0.4**, 11.04S**±0.08×**162.89E**±0.08**, h33**^{km}**, (h12**^{km}±8.9^{km}**:pP-P), n73, σ0^{s}88**/63**, mb4.9**/41**, MS4.7**/15**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	15.56	275	P	P	17 41 11.0	+7.5
	1.0nm,0.3s,baz=69,slow=5.0,SNR=15						
PMG				LR	LR	17 46 22.7	
	comp=Z,961nm,18.9s,baz=119,slow=34						
CTA	Charters Tower	18.36	239	*e*P	P	17 41 41.0	+2.3
	26nm,0.8s						
CTA	Charters Tower	18.36	239	P	P	17 41 41.1	+2.4
	0.8nm,0.3s,baz=74,slow=12,SNR=20						
CTA				LR	LR	17 47 54.7	
	comp=Z,867nm,20.5s,baz=59,slow=34						
CTAO	Charters Tower	18.36	239	*e*P	P	17 41 41.1	+2.4
	34nm,0.8s						
STKA	Stephens Creek	28.57	220	*e*P	P	17 43 19.7	-0.2
	20nm,0.9s,mb4.8						
STKA	Stephens Creek	28.57	220	P	P	17 43 19.9	-0.1
	21nm,0.8s,mb4.9,baz=34,slow=10,SNR=19						
STKA				LR	LR	17 54 04.8	
	comp=Z,2μm,19.5s,MS4.6,baz=34,slow=35						
WRAB	Tennant Creek	28.85	249	*e*P	P	17 43 20.9	-1.6
	36nm,1.4s,mb4.9						
WRA	Warramunga Arr	28.86	249	P	P	17 43 21.7	-0.9
	8.7nm,0.8s,mb4.5,baz=79,slow=9.2,SNR=42						
KAKA	Kakadu	29.84	264	*e*P	P	17 43 30.6	-0.7
	9.6nm,0.6s,mb4.7						
ASAR	Alice Springs	30.31	242	P	P	17 43 34.0	-1.4
	5.4nm,0.8s,mb4.3,baz=65,slow=9.7,SNR=42						
ASAR				LR	LR	17 55 45.3	
	comp=Z,880nm,18.1s,MS4.5,baz=68,slow=36						
ASPA	Alice Springs	30.31	242	*e*P	P	17 43 34.4	-1.1
RPZ	Rata Peaks	33.32	169	LR	LR	17 54 50.7	
	comp=Z,1μm,21.9s,MS4.6,baz=325,slow=31						
FITZ	Fitzroy Crossi	36.68	255	*e*P	P	17 44 30.0	-0.5
	23nm,0.7s,mb5.1						
FORT	Forrest	37.77	233	*e*P	P	17 44 39.3	-0.3
	1μm,0.8s						
MBWA	Marble Bar	42.55	251	*e*P	P	17 45 19.4	0.0
	31nm,1.2s,mb4.9						
CBIJ	Chichi jima	42.90	332	LR	LR	18 00 34.2	
	comp=Z,520nm,19.1s,MS4.4,baz=205,slow=32						
KLBR	Kellerberrin	46.35	237	*e*P	P	17 45 50.3	+0.6
	137nm,1.0s,mb5.8						
PPT	Papeete	46.42	104	*e*LQ		17 56 51.2	
PPT				*e*LR	LR	17 58 48.2	
	185nm,20.8s						
TBI	Tubuai	46.94	112	*e*LQ		17 57 01.4	
TBI				*e*LR	LR	17 58 59.1	
	434nm,33.5s						
NWAO	Narrogin (SRO)	47.15	235	P	P	17 45 56.9	+0.9
	13nm,0.9s,mb4.9,baz=63,slow=11,SNR=6.2						
NWAO	Narrogin (SRO)	47.15	235	*e*P	P	17 45 56.8	+0.8
	9.6nm,0.8s,mb4.8						
MUN	Mundaring	47.73	237	*e*P	P	17 46 01.0	+0.5
	11nm,0.8s,mb4.9						
ASAJ	Asahikawa	57.91	343	P	P	17 47 16.6	+0.7
	14nm,0.7s,mb5.1,baz=246,slow=6.5,SNR=4.5						
ASAJ				LR	LR	18 07 52.3	
	comp=Z,768nm,21.6s,MS4.8,baz=154,slow=31						
NJ2	Nanjing	60.08	317	*e*P	P	17 47 31.8	+0.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
RKT	Rikitea	60.22	110	*e*LQ		18 02 36.9	
RKT				*e*LR	LR	18 05 08.1	
	comp=Z,426nm,27.5s						
MDJ	Mudanjiang	63.07	334	P	P	17 47 50.6	-0.6
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,101nm,3.8s						
MDJ				LR	LR		
	comp=N,254nm,23.9s						
MDJ				LR	LR		
	comp=Z,293nm,21.7s,MS4.4						
CN2	Changchun	64.33	331	*e*P	P	17 47 59.3	-0.1
CN2				*e*AP	pP	17 48 05.0	-4.7
CN2				*e*S	S	17 56 36.3	+2.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,800nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=E,700nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=Z,800nm,19.0s,MS4.9						
VNDA	Vanda	66.47	180	P	P	17 48 12.9	+0.3
	comp=Z,16nm,1.4s,mb4.9,baz=5.3,slow=5.2,SNR=4.3						
VNDA	Vanda	66.47	180	*e*P	P	17 48 13.2	+0.5
BJI	Beijing	66.74	323	*e*P	P	17 48 14.8	-0.1
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
BJI	Beijing	66.74	323	*e*P	P	17 48 14.8	-0.1
	comp=Z,9.0nm,1.0s,mb4.8						
KMI	Kunming	68.74	302	P	P	17 48 28.3	+0.6
KMI				XP	sP	17 48 36.7	-5.0
KMI				PP	PP	17 51 02.2	+0.4
KMI				S	S	17 57 35.6	+8.3
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,69nm,3.3s						
KMI				LR	LR		
	comp=N,267nm,19.0s,MS4.7						
KMI				LR	LR		
	comp=E,282nm,18.4s,MS4.7						
KMI				LR	LR		
	comp=Z,367nm,18.2s,MS4.7						
KMI	Kunming	68.74	302	P	P	17 48 28.3	+0.6
	comp=Z,8.0nm,1.4s,mb4.5						
KMI				sP	sP	17 48 36.7	-5.0
KMI				PP	PP	17 51 02.2	+0.4
KMI				S	S	17 57 35.6	+8.3
KMI				LR	LR		
	comp=Z,370nm,18.2s,MS4.7						
CMAR	Chiang Mai Arr	69.55	294	LR	LR	18 20 40.2	
	comp=Z,231nm,18.2s,MS4.5,baz=100,slow=37						
HHC	Hu-ho-hao-te	70.03	321	*e*P	P	17 48 35.3	0.0
HHC				XP	sP	17 48 41.5	-7.8
HHC				PP	PP	17 51 13.2	+1.0
HHC				S	S	17 57 43.9	+1.6
HHC				SCS	ScS	17 58 37.2	+5.8
HHC				SS	SS	18 02 13.0	-0.5
HHC				AMB	AMB		
	comp=Z,21nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,348nm,14.9s						
HHC				LR	LR		
	comp=N,327nm,23.2s,MS4.7						
HHC				LR	LR		
	comp=E,460nm,24.4s,MS4.7						
HHC				LR	LR		
	comp=Z,270nm,23.2s,MS4.4						
CD2	Chengdu	70.39	308	P	P	17 48 37.5	-0.1
LZH	Lanzhou	72.69	313	P	P	17 48 52.5	+1.1
LZH				AP	pP	17 49 02.5	+0.8
LZH				AMB	AMB		
	comp=Z,56nm,1.5s,mb5.3						
LZH	Lanzhou	72.69	313	P	P	17 48 52.5	+1.1
	comp=Z,56nm,1.5s,mb5.3						
LZH				pP	pP	17 49 02.5	+0.8
LZH				sP	sP	17 49 07.5	+2.1
ULN	Ulaanbaatar	76.67	325	*e*P	P	17 49 14.9	+0.8
	comp=Z,15nm,0.8s,mb5.0						
SONM	Songino Array	77.02	325	P	P	17 49 17.0	+0.8
	comp=Z,8.6nm,1.1s,mb4.6,baz=135,slow=5.2,SNR=17						
GTA	Gaotai	77.05	315	*e*P	P	17 49 17.7	+1.2
GTA				AP	pP	17 49 21.0	-5.8
GTA				XP	sP	17 49 23.7	-6.8
GTA				PP	PP	17 52 14.3	+2.9
GTA				S	S	17 59 05.8	+4.4
GTA				XS		17 59 14.3	
GTA				SKS	SKS	17 59 24.9	+3.8
GTA				SS	SS	18 04 08.0	+6.3
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,114nm,5.7s						
GTA				LR	LR		
	comp=N,146nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=E,142nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=Z,267nm,20.2s,MS4.5						
YAK	Yakutsk	77.32	345	*e*P	P	17 49 16.8	-0.7
	comp=Z,13nm,0.8s,mb4.9						
QSPA	South Pole Qui	78.96	180	*e*P	P	17 49 27.0	+0.8
	comp=Z,18nm,1.2s,mb4.9						
LSA	Lhasa	79.99	303	P	P	17 49 32.3	-0.4
TLY	Talaya	80.58	327	*e*P	P	17 49 35.7	+0.3
	comp=Z,6.8nm,0.8s,mb4.6						
IMA	Indian Mountai	83.27	16	*e*P	P	17 49 49.1	+0.1
	comp=Z,68nm,1.4s,mb5.5						
JIRN	Jiri	83.54	300	*e*P	P	17 49 51.7	+0.4
	comp=Z,31nm,1.1s,mb5.3						
MAW	Mawson	83.67	202	LR	LR	18 19 33.9	
	comp=Z,319nm,21.5s,MS4.7,baz=81,slow=30						
GUN	Gumba	83.87	300	*e*P	P	17 49 52.8	-0.2
COLA	College	84.17	19	*e*P	P	17 49 52.6	-1.0
	comp=Z,9.8nm,0.8s,mb5.0						
PKI	Pulchoki	84.18	299	*e*P	P	17 49 54.6	+0.1
	comp=Z,24nm,0.8s,mb5.4						
KKN	Kakani	84.35	300	*e*P	P	17 49 55.5	+0.1
	comp=Z,23nm,0.8s,mb5.3						
ILAR	Eielson Array	84.42	19	P	P	17 49 53.5	-1.3
	comp=Z,2.1nm,1.0s,mb4.2,baz=236,slow=4.6,SNR=18						
DMN	Daman	84.45	299	*e*P	P	17 49 56.2	+0.3
	comp=Z,86nm,1.1s,mb5.8						
GKN	Gorkha	84.96	300	*e*P	P	17 49 57.9	-0.5
	comp=Z,37nm,1.0s,mb5.5						
KOLN	Koldanda	85.78	299	*e*P	P	17 50 01.9	-0.6
	comp=Z,21nm,1.0s,mb5.3						
YBH	Yreka Blue Hor	85.90	46	P	P	17 50 02.4	-0.3
	comp=Z,5.1nm,1.0s,mb4.7,baz=252,slow=6.4,SNR=5.8						
DAWY	Dawson	86.58	22	*e*P	P	17 50 06.2	+0.8
WMQ	Urumqi	87.11	316	*e*P	P	17 50 08.5	-0.1
WMQ				AP	pP	17 50 13.0	-6.1
WMQ				XP	sP	17 50 15.0	-7.6
WMQ				PP	PP	17 53 34.0	-0.8
WMQ				SKS	SKS	18 00 33.0	+2.3
WMQ				S	S	18 00 45.0	+1.2
WMQ				SS	SS	18 06 31.0	+0.4
WMQ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,200nm,4.8s						
WMQ				LR	LR		
	comp=N,369nm,20.3s,MS4.9						
WMQ				LR	LR		
	comp=E,305nm,22.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,381nm,20.1s,MS4.8						
MWC	Mount Wilson	87.25	55	P	P	17 50 08.8	-0.7
DLBC	Dease Lake	87.75	29	LR	LR	18 23 17.7	
	comp=Z,962nm,19.3s,MS5.2,baz=327,slow=31						
NVAR	Mina Array Bea	88.17	50	P	P	17 50 13.7	-0.1
	comp=Z,3.4nm,0.8s,mb4.6,baz=230,slow=6.1,SNR=13						
BMO	Blue Mountains	90.58	44	*e*P	P	17 50 24.0	-1.1
	comp=Z,20nm,1.8s,mb5.1						
SYO	Syowa Base	90.96	198	⇑P	P	17 50 29.5	+3.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HLID	Hailey	92.29	46	eP	P	17 50 33.0	+0.1
	comp=Z,9.2nm,1.5s,mb4.9						
MSU	Marysvale	92.86	51	eP	P	17 50 37.0	+1.3
KURK	Kurchatov	94.85	321	P	P	17 50 42.2	-2.3
PDAR	Pinedale Array	95.62	48	P	P	17 50 49.5	+1.4
	comp=Z,1.0nm,1.0s,mb4.2,baz=270,slow=2.7,SNR=4.5						
YKA	Yellowknife Ar	96.26	28	P	P	17 50 49.2	-1.3
	comp=Z,1.0nm,0.8s,mb4.3,baz=256,slow=4.5,SNR=16						
YKA				LR	LR	18 32 60.0	
	comp=Z,550nm,18.2s,MS5.1,baz=260,slow=34						
YKA	Yellowknife Ar	96.26	28	P	P	17 50 49.2	-1.3
YKA				LR	LR	18 32 60.0	
LPAZ	La Paz	122.69	117	PKP	PKPdf	17 56 19.5	+1.4
	comp=Z,0.8nm,0.6s,SNR=3.6						
SDV	Santo Domingo	127.30	87	ePKPdf	PKPdf	17 56 26.9	-0.3
GERES	GERESS Array B	134.41	332	PKP	PKPdf	17 56 40.0	+0.2
	comp=Z,1.0nm,1.0s,slow=4.9,SNR=3.4						

*NIED **06** 17:39:00,22.40N×123.90E,h5km,Mw5.2 Best double couple: M₀6.52×10¹⁶ NP1:φs235°,δ77°,λ-97°. NP2:φs85°,δ15°,λ-61°.*

*IDC **06** 17:39:17.7±0.7,22.37N×123.91E,mb4.3/11,mb1 4.4/11, mb1mx4.3/18,mbtmp4.3/11,ML5.3/1,MS4.1/3,Ms1 4.2/3, ms1mx3.5/24,Error ellipse: s-maj=28.7km s-min=16.4km az=72.0*

*NEIC **06** 17:39:19.3±0.4,22.31N×123.83E,h10km,mb4.7/23,Error ellipse: s-maj=8.2km s-min=7.8km az=132.0*

*BJI **06** 17:39:19.5,22.60N×123.71E,h5km,mB4.9,mb4.5,ML4.7, Ms4.5,Msz4.3*

*MOS **06** 17:39:20.8±1.5,22.30N×123.77E,h33km,mb4.7/13, MS4.3/8,Error ellipse: s-maj=12.4km s-min=7.7km az=104.3*

*JMA **06** 17:39:20.8±0.3,22.41N×123.91E,h37km,M4.8*

ISC 06 17:39:17.0±0.2**,22.32N**±0.02×**123.97E**±0.03**,h10km,n134,** σ**1§31**/166**,mb4.5**/40**,MS4.3**/12**,7C-7D,Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	Hateruma jima	1.73	355	P	Pn	17 39 48.4	+0.9
HATJ				S	Sn	17 40 08.3	-1.5
JKRS	Kuro-shima	1.91	1	P	Pn	17 39 50.8	+0.8
JKRS				S	Sn	17 40 13.9	-0.3
IRIF	Iriomote-Funau	2.02	354	P	Pn	17 39 52.6	+1.1
IRIF				S	Sn	17 40 14.8	-2.2
JIJ	Ishigaki jima	2.04	4	P	Pn	17 39 52.5	+0.6
JIJ				S	Sn	17 40 15.7	-1.9
YOJ	Yonaguni jima	2.31	338	P	Pn	17 39 56.3	+0.6
YOJ				S	Sn	17 40 21.9	-2.4
JTJ	Tarama	2.41	16	P	Pn	17 39 57.8	+0.7
JTJ				S	Sn	17 40 27.4	+0.5
JOGS	Gusukube	2.76	28	P	Pn	17 40 03.4	+1.2
JOGS				S	Sn	17 40 36.8	+0.8
JMJ	Miyako jima 2	2.77	26	P	Pn	17 40 03.6	+1.4
JMJ				S	Sn	17 40 36.1	+0.1
NACB	Ninganchiao	2.86	311⇓	iP	Pn	17 40 01.9	-1.6
NACB				eS	Sn	17 40 25.4	-13
YHNB	Yeheng	3.34	315	eP	Pn	17 40 10.1	-0.3
TATO	Taipei	3.49	320⇑	eP	Pn	17 40 13.2	+0.7
TATO				eS	Sn	17 40 39.8	-14
SGCP	Mt. Cagua	4.44	204	eP	Pn	17 40 24.9	-1.2
JKE	Kume jima 2	4.74	32	P	Pn	17 40 29.6	-0.7
JKE				S	Sn	17 41 22.9	-3.2
CVP	Callao Caves	5.02	204	eP	Pn	17 40 33.5	-0.7
APYP	Conner	5.12	210	eP	Pn	17 40 34.1	-1.6
JJT2	Tamagusuku 2	5.13	41	P	Pn	17 40 35.6	-0.2
JJT2				S	Sn	17 41 32.8	-3.1
NAH1	Naha	5.15	41	P	Pn	17 40 37.2	+1.2
NAH1				S	Sn	17 41 32.3	-3.9
JAGN	Aguni-jima	5.19	34	P	Pn	17 40 35.9	-0.8
JAGN				S	Sn	17 41 33.2	-4.2
PALP	Palanan	5.43	196	eP	Pn	17 40 39.0	-1.0
ABRA	Dolores	5.56	214	eP	Pn	17 40 40.4	-1.6
ABRA				eS	Sn	17 41 41.7	-5.0
QZH	Quanzhou	5.58	299	P	Pn	17 40 39.9	-2.2
QZH				S	Sn	17 41 35.7	-11
QZH				Smax			
	comp=N,1μm,0.8s						
QZH				Smax			
	comp=E,660nm,0.9s						
QZH				LR	LR		
	comp=N,5μm,16.4s						
QZH				LR	LR		
	comp=E,6μm,15.4s						
QZH				LR	LR		
	comp=Z,4μm,10.4s						
CAUP	Cauayan	5.72	201	eP	Pn	17 40 44.9	+0.8
JIH	Iheya	5.94	37	P	Pn	17 40 45.9	-1.3
JIH				S	Sn	17 41 51.3	-4.8
JOW	Kunigami	5.96	40	Pn	Pn	17 40 46.7	-0.8
	comp=Z,161nm,0.3s,baz=186,slow=13,SNR=360						
JOW				Sn	Sn	17 41 52.0	-4.7
	comp=Z,36nm,0.3s,baz=127,slow=27,SNR=9.6						
JOW				LR	LR	17 43 17.5	
	comp=Z,3μm,19.3s,baz=233,slow=40						
JOW	Kunigami	5.96	40	P	Pn	17 40 46.6	-0.9
JOW				S	Sn	17 41 52.6	-4.1
BCPH	Baguio City Da	6.72	209⇓	eP	Pn	17 40 57.7	-0.5
BCPH				eS	Sn	17 42 17.9	+2.3
BALP	Baler	6.92	199	eP	Pn	17 41 00.5	-0.5
JTK	Tokunoshima	7.07	39	P	Pn	17 41 00.6	-2.6
JTK				S	Sn	17 42 16.6	-7.8
PCPH	Palayan	7.25	202⇑	eP	Pn	17 41 06.6	+1.0
PCPH				eS	Sn	17 42 23.9	-5.0
JMZ	Minamidaito 2	7.49	61	P	Pn	17 41 07.0	-2.0
JMZ				S	Sn	17 42 25.0	-10
SCZP	Santa Cruz	7.55	211	eP	Pn	17 41 10.0	0.0
POLP	Polilio Island	7.79	195	eP	Pn	17 41 12.2	-1.1
JAM	Amami Oshima	7.92	39	P	Pn	17 41 12.2	-2.8
JAM				S	Sn	17 42 38.2	-7.5
JZK	Kikaishima	8.07	41	P	P	17 41 15.2	-1.9
JZK				S	Sn	17 42 41.4	-7.9
LQP	Lukban	8.48	196	eP	P	17 41 21.7	-1.1
GQP	Guinayangan	8.49	190⇓	eP	P	17 41 21.9	-1.1
GQP				eS	Sn	17 42 50.0	-10
TGY	Tagaytay City	8.67	200⇑	eP	P	17 41 25.1	-0.2
TGY				i S	Px	17 41 32.9	
PVCP	Virac	8.68	179	eP	P	17 41 24.2	-1.4
BOAC	Boac	9.04	193	eP	P	17 41 29.7	-0.9
SSE	Sheshan	9.09	345	P	P	17 41 26.5	-4.7
SSE				S	Sn	17 43 04.3	-10
SSE				XS		17 43 15.5	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s						
SSE				AMB	AMB		
	comp=Z,95nm,4.1s						
SSE				LR	LR		
	comp=N,875nm,16.5s						
SSE				LR	LR		
	comp=E,785nm,16.5s						
SSE				LR	LR		
	comp=Z,1μm,16.4s						
SSE	Sheshan	9.09	345	P	P	17 41 26.5	-4.7
	comp=Z,31nm,0.7s						
SSE				S	Sn	17 43 04.3	-10
SSE				sS		17 43 15.5	
NJ2	Nanjing	10.71	336	eP	P	17 41 51.8	-1.8
NJ2				AP		17 41 58.9	
NJ2				PP	PP	17 42 00.5	-1.2
NJ2				XP		17 42 03.7	
NJ2				S	S	17 43 47.0	-7.5
NJ2				XS		17 43 56.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,520nm,7.3s						
NJ2				LR	LR		
	comp=N,3μm,16.2s						
NJ2				LR	LR		
	comp=E,6μm,16.9s						
NJ2				LR	LR		
	comp=Z,3μm,12.0s						
WHN	Wuhan	11.88	316	eP	P	17 42 06.1	-3.5
WHN				S	S	17 44 12.3	-11
WHN				LR	LR		
	comp=N,310nm,9.9s						
WHN				LR	LR		
	comp=E,3μm,11.8s						
WHN				LR	LR		
	comp=Z,3μm,16.0s						
QIZ	Qiongzhong	13.62	259	eP	P	17 42 35.1	+2.3
INCN	Inchon	15.29	8	eP	P	17 42 56.4	+1.9
	comp=Z,58nm,0.5s						
KS15	Wonju Array Si	15.45	12⇑	eP	P	17 42 56.7	+0.1
GYA	Guiyang	16.29	288⇑	iP	P	17 43 07.4	-0.2
GYA				S	S	17 45 56.4	-12
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,170nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,14.1s						
GYA				LR	LR		
	comp=E,580nm,14.7s						
GYA				LR	LR		
	comp=Z,850nm,15.9s						
JWT	Wachi	16.33	35	P	P	17 43 15.4	+7.4
XAN	Xi’an	17.65	315	P	P	17 43 26.5	+1.9
XAN				AMB	AMB		
	comp=Z,7.0nm,1.5s						
XAN				LR	LR		
	comp=N,890nm,13.3s						
XAN				LR	LR		
	comp=E,807nm,13.3s						
XAN				LR	LR		
	comp=Z,1μm,17.4s						
JGF	Kuroka	17.65	38	P	P	17 43 30.2	+5.6
MAJO	Matsushiro	18.80	38	eP	P	17 43 41.3	+2.5
	comp=Z,54nm,0.8s						
MAT	Matsushiro	18.80	38	eP	P	17 43 42.0	+3.1
	comp=Z,50nm,1.0s						
MAT				eS	S	17 47 20.0	+15
MAT	Matsushiro	18.80	38	P	P	17 43 41.6	+2.7
MAT				S	S	17 47 19.0	+14
MAT	Matsushiro	18.80	38	P	P	17 43 41.5	+2.6
JRY	Ryogami san	18.84	40	P	P	17 43 44.5	+5.1
BJI	Beijing	18.87	341	eP	P	17 43 40.2	+0.6
BJI				S	S	17 47 12.0	+5.3
BJI				AMB	AMB		
	comp=Z,15nm,0.8s						
BJI				AMB	AMB		
	comp=Z,380nm,3.7s						
BJI				LR	LR		
	comp=N,516nm,10.9s						
BJI				LR	LR		
	comp=E,1μm,18.6s						
BJI				LR	LR		
	comp=Z,222nm,30.1s						
BJI	Beijing	18.87	341	eP	P	17 43 40.2	+0.6
	comp=Z,15nm,0.8s						
BJI				S	S	17 47 12.0	+5.3
SNY	Shenyang	19.45	359⇓	P	P	17 43 47.0	+0.5
SNY				AP		17 43 55.2	
SNY				XP		17 43 59.3	
SNY				PP	PP	17 44 04.1	-0.1
SNY				S	S	17 47 19.8	-0.2
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s						
SNY				AMB	AMB		
	comp=Z,310nm,13.8s						
SNY				LR	LR		
	comp=N,2μm,13.7s						
SNY				LR	LR		
	comp=E,420nm,11.3s						
SNY				LR	LR		
	comp=Z,2μm,13.5s						
KMI	Kunming	19.63	282	P	P	17 43 44.6	-4.1
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s						
KMI	Kunming	19.63	282	P	P	17 43 44.6	-4.1
	comp=Z,8.0nm,1.4s						
CD2	Chengdu	19.97	300	eP	P	17 43 51.4	-1.0
JMM	Marumori	21.21	39	P	P	17 44 07.3	+2.2
CN2	Changchun	21.46	3	eP	P	17 44 07.3	-0.3
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
BTO	Baotou	21.72	330	eP	P	17 44 10.2	-0.1
BTO				LR	LR		
	comp=N,242nm,4.3s						
BTO				LR	LR		
	comp=E,1μm,13.2s						
NANT	Nan	22.06	265	P	P	17 44 14.0	+0.2
LZH	Lanzhou	22.23	313	eP	P	17 44 21.6	+6.2
LZH				S	S	17 48 17.0	+2.0
LZH	Lanzhou	22.23	313	eP	P	17 44 21.6	+6.2
	comp=E,42nm,1.5s,mb4.7						
LZH				pP		17 44 26.8	
LZH				sP		17 44 29.7	
LZH				PP	PP	17 44 47.0	+4.9
LZH				S	S	17 48 17.0	+2.0
LZH				sS		17 48 32.0	
LZH				SS	SS	17 48 56.0	+1.3
LZH				LR	LR		
	comp=Z,2μm,16.2s,MS4.6						
JTM	Tenmabayashi	23.40	34	P	P	17 44 30.1	+3.2
NST	Nakhon Sawan	23.47	258	P	P	17 44 24.0	-3.8
CHG	Chiang Mai	23.68	266⇓	P	P	17 44 34.8	+5.0
	comp=Z,14nm,1.0s,mb4.4						
CM31	Chiang Mai Arr	23.76	265	eP	P	17 44 31.3	+0.7
	comp=Z,4.9nm,0.6s,mb4.1						
CMAR	Chiang Mai Arr	23.76	265	P	P	17 44 32.1	+1.5
	comp=Z,6.1nm,0.7s,mb4.1,baz=68,slow=8.2,SNR=32						
CMAR				PcP	PcP	17 48 16.0	-0.1
	comp=Z,1.5nm,0.8s,baz=80,slow=0.8,SNR=9.6						
CMAR				LR	LR	17 54 08.6	
	comp=Z,459nm,20.0s,MS4.0,baz=75,slow=38						
JEM	Erimo	25.38	35	P	P	17 44 49.6	+3.6
ASAJ	Asahikawa	26.63	31	P	P	17 45 01.1	+3.6
	comp=Z,12nm,0.4s,mb4.7,baz=246,slow=12,SNR=21						
GTA	Gaotai	26.71	315	eP	P	17 45 00.7	+2.4
GTA				AP	pP	17 45 05.4	+4.2
GTA				XP	sP	17 45 07.8	+5.3
GTA				PP	PP	17 45 45.6	+2.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
GTA				AMB	AMB		
	comp=Z,113nm,4.6s						
GTA				LR	LR		
	comp=N,530nm,18.2s,MS4.3						
GTA				LR	LR		
	comp=E,453nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=Z,595nm,14.1s,MS4.3						
KLR	Kul’dur	27.55	11	eP	P	17 45 04.0	-1.9
ULN	Ulaanbaatar	28.87	336	eP	P	17 45 17.9	+0.1
ULN	Ulaanbaatar	28.87	336	eP	P	17 45 17.5	-0.3
	comp=Z,5.8nm,0.7s,mb4.4						
YSS	Yuzh-Sakhalins	28.88	27⇑	eP	P	17 45 22.5	+4.6
YSS				e		17 45 30.8	
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.5						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.2						
YSS				MLR	MLR		
	comp=N,500nm,16.0s						
YSS	Yuzh-Sakhalins	28.88	27	P	P	17 45 18.3	+0.4
	comp=N,88nm,0.8s,mb5.5						
SONM	Songino Array	29.10	335	P	P	17 45 19.8	0.0
	comp=N,7.4nm,0.7s,mb4.5,baz=148,slow=8.9,SNR=67						
LSA	Lhasa	30.32	291	P	P	17 45 34.2	+3.2
ZAK	Zakamensk	32.36	335	eP	P	17 45 46.6	-2.1
ZAK				e		17 48 36.3	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
TLY	Talaya	33.27	337	eP	P	17 45 56.3	-0.3
TLY				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
TLY				MLR	MLR		
	comp=Z,260nm,13.0s,MS4.1						
TLY	Talaya	33.27	337	eP	P	17 45 56.5	-0.1
	comp=Z,11nm,0.8s,mb4.8						
MOY	Mondy	34.27	334	eP	P	17 46 05.0	-0.3
JIRN	Jiri	34.56	287	eP	P	17 46 08.2	+0.2
	comp=Z,22nm,0.7s,mb5.2						
GUN	Gumba	34.84	287	eP	P	17 46 11.0	+0.6
	comp=Z,24nm,0.8s,mb5.2						
KKN	Kakani	35.37	287	eP	P	17 46 14.5	-0.4
	comp=Z,17nm,0.8s,mb5.0						
DMN	Daman	35.52	287	eP	P	17 46 16.5	+0.3
GKN	Gorkha	35.94	287	eP	P	17 46 19.2	-0.5
	comp=Z,5.4nm,0.3s,mb4.9						
BOD	Bodaibo	36.19	351	eP	P	17 46 17.7	-3.9
WMQ	Urumqi	36.78	314	eP	P	17 46 29.1	+2.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.6						
KOLN	Koldanda	36.85	287	eP	P	17 46 27.4	-0.1
	comp=Z,25nm,0.8s,mb5.1						
YAK	Yakutsk	39.88	4	eP	P	17 46 52.5	+0.1
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,7.0nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
YAK				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,219nm,12.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,148nm,17.0s,MS4.2						
YAK	Yakutsk	39.88	4	eP	P	17 46 52.5	+0.1
	comp=E,16nm,0.8s,mb4.8						
PET	Petropavlovsk	40.46	32	eP	P	17 46 59.4	+2.1
PET				eS	S	17 53 06.3	+0.7
PET				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.1						
PET				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.4						
MKAR	Makanchi Array	41.45	316	i P	P	17 47 06.0	+0.6
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
DDI	Dehra Dun	41.69	291	e	P	17 47 10.0	+2.3
MA2	Magadan	41.78	20	eP	P	17 47 09.3	+1.3
MA2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
MA2				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.2						
WRAB	Tennant Creek	43.20	166	eP	P	17 47 20.1	0.0
	comp=Z,12nm,0.9s,mb4.6						
WRA	Warramunga Arr	43.21	166	P	P	17 47 19.9	-0.3
	comp=Z,5.5nm,0.8s,mb4.4,baz=347,slow=8.9,SNR=8.0						
KURK	Kurchatov	45.16	320⇑	iP	P	17 47 36.1	+0.6
KURK				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.3						
KURK	Kurchatov	45.16	320	eP	P	17 47 35.6	+0.1
	comp=Z,6.2nm,0.8s,mb4.5						
AAK	Ala-Archa	45.67	308⇓	iP	P	17 47 40.9	+1.2
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
AAK	Ala-Archa	45.67	308	eP	P	17 47 42.5	+2.9
	comp=Z,2.0nm,0.7s,mb4.2						
ASAR	Alice Springs	46.72	167	P	P	17 47 48.8	+0.5
	comp=Z,3.3nm,0.7s,mb4.4,baz=350,slow=7.0,SNR=12						
TIXI	Tiksi	49.43	2	eP	P	17 48 08.2	-0.5
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,552nm,13.0s,MS4.7						
BVA0	Borovoye Array	50.73	321	P	P	17 48 19.6	+0.7
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
BVAR	Borovoye Array	50.73	321	P	P	17 48 18.0	-0.8
	comp=Z,1.5nm,0.6s,mb4.1,baz=97,slow=7.0,SNR=10						
BVAR	Borovoye Array	50.73	321	P	P	17 48 18.0	-0.9
CHKZ	Chkalovo	50.78	322	i P	P	17 48 19.0	-0.3
CHKZ				pmax	pmax		
	comp=Z,12nm,2.0s,mb4.5						
CHKZ	Chkalovo	50.78	322	eP	P	17 48 18.7	-0.6
	comp=Z,33nm,0.6s,mb5.4						
STKA	Stephens Creek	56.47	162	P	P	17 49 02.8	+1.2
	comp=Z,2.4nm,0.9s,mb4.2,baz=342,slow=10,SNR=4.0						
GNI	Garni	67.96	306	LR	LR	18 20 09.5	
	comp=Z,97nm,20.4s,MS4.0,baz=256,slow=36						
KIV	Kislovodsk	68.74	310⇓	iP	P	17 50 24.2	+1.0
KIV				e		17 50 49.1	
KIV				e		17 52 54.3	
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
OBN	Obninsk	70.54	323	eP	P	17 50 31.1	-2.8
OBN				e		17 50 53.0	
OBN				eS	S	17 59 42.4	-3.5
OBN				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
SOC	Sochi	70.93	310	eP	P	17 50 34.5	-2.0
SOC				e		17 51 01.9	
SOC				e		17 53 12.2	
SOC				ePPP	PPP	17 54 54.4	-2.4
SOC				eS	S	17 59 46.9	-3.8
SOC				e		18 00 39.7	
SOC				eSS	SS	18 04 18.2	-7.2
SOC				eSSS	SSS	18 07 31.0	-0.4
SOC				pmax	pmax		
	comp=N,25nm,1.0s						
SOC				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.8						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,224nm,18.0s,MS4.5						
SOC				MLR	MLR		
	comp=N,312nm,19.0s,MS4.7						
SOC				MLR	MLR		
	comp=E,241nm,19.0s,MS4.7						
ANN	Anapa	72.24	312	eP	P	17 50 51.6	+7.3
MALT	Malatya	73.16	305	eP	P	17 50 50.6	+0.8
	comp=E,4.6nm,0.8s,mb4.5						
INK	Inuvik	73.98	22	eP	P	17 50 55.1	+1.1
	comp=E,2.0nm,0.6s,mb4.2						
FINES	FINESS Array B	74.33	330	i P	P	17 50 56.4	+0.2
FINES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
FINES	FINESS Array B	74.33	330	P	P	17 50 56.4	+0.2
	comp=Z,1.5nm,0.8s,mb4.0,baz=56,slow=6.9,SNR=7.1						
NB2	NORSAR Subarra	81.05	333	P	P	17 51 33.1	-0.2
	comp=Z,5.9nm,1.4s,mb4.3,baz=53,slow=6.2						
NOA	NORSAR Array B	81.05	333	P	P	17 51 33.4	0.0
	comp=Z,1.4nm,0.8s,mb3.9,baz=57,slow=5.3,SNR=4.5						
OJC	Ojcow	81.73	321	eP	P	17 51 43.0	+5.9
OKC	Ostrava-Krasne	82.86	321	AMS	AMS	18 22 20.0	
YKA	Yellowknife Ar	83.67	23	P	P	17 51 48.8	+2.0
	comp=Z,2.5nm,1.0s,mb4.3,baz=306,slow=5.0,SNR=14						
DPC	Dobruska-Polom	83.68	322	AMS	AMS	18 23 10.0	
PVCC	Panska Ves	84.58	323	AMS	AMS	18 22 20.0	
PRU	Pruhonice	84.86	322	AMS	AMS	18 24 00.0	
KHC	Kasperske Hory	85.83	322	AMS	AMS	18 24 50.0	
GERES	GERESS Array B	85.89	322	P	P	17 51 59.5	+1.2
	comp=Z,0.6nm,0.8s,mb3.9,baz=79,slow=6.8,SNR=3.8						
SDV	Santo Domingo	145.84	26	ePKPdf	PKPdf	17 58 58.8	-1.1

IDC 06 17:41:13.6±1.7**,16.66S**×**178.32W,mb4.1**/4**,mb1 4.3**/4**, mb1mx3.9**/15**,mbtmp4.1**/4**,MS4.6**/3**,Ms1 4.6**/3**, ms1mx3.9**/16**,Error ellipse: s-maj=167.2km s-min=29.6km az=155.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.31	240	P	P	17 48 44.9	-1.3
	4.9nm,1.1s,baz=95,slow=13,SNR=4.7						
WRA	Warramunga Arr	44.95	258	P	P	17 49 30.8	-1.8
	0.3nm,0.4s,baz=94,slow=7.6,SNR=5.1						
ASAR	Alice Springs	45.22	253	P	P	17 49 32.5	-2.1
	5.0nm,0.5s,baz=89,slow=7.9,SNR=44						
ELK	Elko	81.70	43	LR	LR	18 24 11.7	
	comp=Z,219nm,21.0s,baz=292,slow=32						
NEW	Newport	84.46	36	LR	LR	18 25 50.3	
	comp=Z,383nm,18.1s,baz=304,slow=32						
TXAR	Lajitas Array	85.26	58	P	P	17 53 52.8	-1.2
	0.7nm,0.8s,baz=214,slow=6.3,SNR=7.1						
ULM	Lac du Bonnet	97.91	40	LR	LR	18 38 06.4	
	comp=Z,303nm,18.4s,baz=264,slow=35						

WEL 06 17:53:34.4±0.1**,39.63S**×**176.24E,h46km**±2km**,ML3.5**/7**, 2C-1D,Error ellipse: s-maj=1.2km s-min=0.7km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	Moawhango	0.44	299	⇑PN	P	17 53 44.2	-0.5
MOVZ				SN	S	17 53 51.4	-0.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TSZ	Takapari Road	0.49	207	⇑PN	P	17 53 45.1	-0.2
TSZ				SN	S	17 53 53.4	+0.4
BKZ	Black Stump Fm	0.50	23	⇓PN	P	17 53 45.0	-0.5
BKZ				SN	S	17 53 53.5	+0.2
TUVZ	Tukino	0.58	308	PN	P	17 53 46.6	+0.1
TUVZ				SN	S	17 53 54.7	-0.5
WNVZ	Wahianoa	0.58	300	PN	P	17 53 46.6	+0.1
WNVZ				SN	S	17 53 56.0	+0.7
PWZ	Pawanui	0.62	131	PN	P	17 53 47.2	+0.1
OTVZ	Oturere	0.64	315	PN	P	17 53 47.3	0.0
FWVZ	Far West T-bar	0.65	304	PN	P	17 53 47.4	0.0
FWVZ				SN	S	17 53 56.4	-0.5
NGZ	Ngauruhoe	0.67	312	PN	P	17 53 47.6	0.0
NGZ				eSN	S	17 53 57.9	+0.5
CNZ	Chateau	0.69	308	PN	P	17 53 47.9	0.0
RITZ	Rihia Road	0.71	335	PN	P	17 53 48.3	0.0
WTVZ	West Tongariro	0.72	315	PN	P	17 53 48.2	-0.1
WTVZ				SN	S	17 53 57.9	-0.6
KATZ	Kakaramea	0.78	326	PN	P	17 53 49.0	-0.1
MGZ	Maungaku	0.83	318	PN	P	17 53 49.4	-0.4
TWVZ	Taurewa	0.83	311	PN	P	17 53 49.5	-0.5
RATZ	Rangitukua	0.84	334	PN	P	17 53 49.7	-0.3
WAZ	Wanganui	0.98	262	PN	P	17 53 52.9	+0.9
WATZ	Wairara	1.00	336	PN	P	17 53 51.5	-0.7
MRZ	Mangatainoka R	1.16	206	PN	P	17 53 53.3	-1.1
VRZ	Vera Road	1.25	293	PN	P	17 53 55.3	-0.6
RAEZ	Rainy Point	1.47	283	ePN	P	17 53 58.7	-0.3
URZ	Urewera	1.52	27	PN	P	17 53 59.0	-0.7
HIZ	Hauiti	1.55	315	PN	P	17 53 59.1	-1.0
KIW	Kapiti Island	1.60	219	PN	P	17 53 59.9	-1.0

IDC 06 17:53:47.8±2.5, 33.56S×56.36E, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, Error ellipse: s-maj=89.9km s-min=47.9km az=41.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	65.77	45	P	P	18 04 34.6	-2.4
	0.4nm,0.4s,baz=232,slow=5.6,SNR=4.6						
ASAR	Alice Springs	67.38	104	P	P	18 04 45.1	-2.1
	0.6nm,0.8s,baz=232,slow=6.1,SNR=5.0						
WRA	Warramunga Arr	69.51	101	P	P	18 04 58.8	-1.7
	0.7nm,0.9s,baz=238,slow=4.9,SNR=4.2						
YKA	Yellowknife Ar	150.48	351	PKPbc	PKPdf	18 13 40.3	+3.4
	1.1nm,1.0s,baz=14,slow=2.1,SNR=12						

GUC 06 17:56:55.0±0.7, 25.12S×69.19W, h116km±16km, ML4.1, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	1.21	294	⇑iP	P	17 57 20.2	+0.9
CPN1				iS	S	17 57 38.6	+1.2
CPN1				AMP		17 57 39.8	
	comp=E,7μm,0.3s						
ANCH	Antofagasta	1.81	322	⇑iP	P	17 57 27.1	+0.8
ANCH				iS	S	17 57 50.8	+0.8
SPCH	San Pedro de A	2.38	23	eP	P	17 57 34.4	+0.7
SPCH				iS	S	17 58 03.9	+1.0
SPCH				AMP		17 58 07.2	
	comp=N,710nm,0.5s						
CPCH	Copiapo	2.47	205	eP	P	17 57 34.9	-0.1
CPCH				iS	S	17 58 04.6	-0.5
LVC	Limon Verde	2.50	6	⇑iP	P	17 57 35.4	-0.1
LVC				iS	S	17 58 06.5	+0.5
LVC				AMP		17 58 11.1	
	comp=N,748nm,0.5s						

*NEIC **06** 18:12:57.9, 16.86N×100.41W, h11km, MD3.8(MEX), After MEX.*

MEX 06 18:12:58.0±0.5, 16.87N×100.41W, h11km±3km, MD3.9, 1C, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.22	36	⇑iP	Pg	18 13 02.1	-0.8
CAIG				iS	Sg	18 13 05.8	-0.3
ACX	Acapulco	0.47	90	iP	Pg	18 13 06.6	-0.9
ACX				iS	Sg	18 13 12.9	-1.1
ZIIG	Zihuatanejo	1.25	306	iP	Pb	18 13 17.8	-3.3
ZIIG				iS	Sb	18 13 33.2	-3.9
PLIG	Platanillo	1.75	29	eP	Pn	18 13 23.2	-5.3
PLIG				iS	Sn	18 13 45.8	-5.0
YAIG	Yautepec	2.36	33	iP	Pn	18 13 34.9	-2.4
YAIG				iS	Sn	18 14 00.8	-5.6
PPM	Popocatepetl	2.77	37	eP	Pn	18 13 40.6	-2.5
PPM				iS	Sn	18 14 18.1	+1.3
PPM	Popocatepetl	2.77	37	eP	Pn	18 13 39.9	-3.2
PPM				eP		18 13 40.6	
PPM				iS	Sn	18 14 12.4	-4.4
IIB	San Bernardino	2.86	43	eP	Pn	18 13 37.3	-7.2
IIB	San Bernardino	2.86	43	eP	Pn	18 13 41.5	-3.0
MOIG	Morelia	2.89	345	iP	Pn	18 13 41.3	-3.6
MOIG				iS	Sn	18 14 15.2	-4.8

*NEIC **06** 18:33:55.6±0.9, 17.47S×178.96W, h505km±11km, mb4.3/14, Error ellipse: s-maj=14.0km s-min=6.5km az=146.0*

*IDC **06** 18:33:57.8±2.1, 17.56S×179.00W, h530km±24km, mb3.8/14, mb1 4.0/14, mb1mx3.9/20, mbtmp4.7/14, Error ellipse: s-maj=18.5km s-min=11.0km az=145.0*

ISC 06 18:33:54.9±1.3, 17.5S±0.1×179.01W±0.09, h509km±16km, n50, σ0s94/38, mb4.2/23, 1C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.82	64	eP	P	18 35 50.4	-0.4
	74nm,0.6s						
URZ	Urewera	20.96	189	P	P	18 38 01.8	-0.8
	11nm,0.3s,baz=7.7,slow=0.6,SNR=16						
RPZ	Rata Peaks	27.46	196	P	P	18 38 58.9	-2.1
	60nm,1.3s,mb5.1,baz=279,slow=1.1,SNR=4.7						
CTA	Charters Tower	32.95	260	eP	P	18 39 49.1	+0.8
	7.2nm,1.0s,mb4.2						
CTA	Charters Tower	32.95	260	P	P	18 39 49.2	+0.9
	8.9nm,0.9s,mb4.3,baz=76,slow=7.8,SNR=6.4						
CTAO	Charters Tower	32.95	260	eP	P	18 39 48.9	+0.7
	8.4nm,0.8s,mb4.3						
CNB	Canberra Magne	33.23	232	⇓iP	P	18 39 52.1	+1.6
	210nm,0.5s						
TOO	Toolangi	36.99	230	eP	P	18 40 23.3	+1.6
	1.0nm,0.9s,mb3.4						
STKA	Stephens Creek	38.33	241	⇓iP	P	18 40 34.2	+1.5
	9.7nm,0.6s,mb4.5						
STKA	Stephens Creek	38.33	241	P	P	18 40 34.4	+1.8
	13nm,0.6s,mb4.6,baz=88,slow=9.3,SNR=49						
WRAB	Tennant Creek	44.13	259	eP	P	18 41 18.8	-0.5
	3.6nm,0.3s,mb4.4						
WRA	Warramunga Arr	44.15	259	P	P	18 41 18.9	-0.4
	1.8nm,0.3s,mb4.0,baz=94,slow=7.4,SNR=31						
WRA				PcP	PcP	18 42 53.5	-0.4
	0.9nm,0.6s,baz=87,slow=3.4,SNR=5.8						
WRA				S	S	18 47 09.8	-5.4
	0.4nm,0.7s,baz=90,slow=13,SNR=3.1						
ASAR	Alice Springs	44.35	254	P	P	18 41 21.4	+0.4
	33nm,0.7s,mb5.0,baz=89,slow=7.9,SNR=735						
ASAR				PcP	PcP	18 42 53.7	-0.8
	1.5nm,0.6s,baz=96,slow=4.2,SNR=5.9						
ASAR				ScP		18 45 57.1	
	0.6nm,0.6s,baz=97,slow=5.2,SNR=4.1						
ASAR				S	S	18 47 14.8	-3.3
	1.7nm,0.9s,baz=92,slow=17,SNR=8.7						
ASPA	Alice Springs	44.36	254	eP	P	18 41 20.8	-0.2
ASPA				eS	S	18 47 14.6	-3.6
KAKA	Kakadu	47.02	269	⇓iP	P	18 41 41.5	-0.1
	17nm,0.4s,mb4.9						
FORT	Forrest	49.67	244	eP	P	18 42 00.5	-0.9
	536nm,0.6s						
FITZ	Fitzroy Crossi	52.53	260	eP	P	18 42 22.4	-0.1
	6.3nm,0.4s,mb4.3						
MBWA	Marble Bar	57.62	256	eP	P	18 42 57.2	-0.7
	5.3nm,0.5s,mb4.0						
KLBR	Kellerberrin	58.50	243	eP	P	18 43 02.9	-0.8
	83nm,0.6s,mb5.1						
VNDA	Vanda	60.80	185	P	P	18 43 19.1	+0.7
	2.4nm,0.7s,mb3.7,baz=3.3,slow=8.8,SNR=6.1						
VNDA	Vanda	60.80	185	eP	P	18 43 18.6	+0.1
	2.4nm,0.7s,mb3.6						
ASAJ	Asahikawa	70.64	332	P	P	18 44 20.9	+0.7
	8.0nm,0.9s,mb4.2,baz=204,slow=10.0,SNR=4.6						
QSPA	South Pole Qui	72.56	180	⇓iP	P	18 44 31.5	+0.9
	15nm,0.5s,mb4.7						
NVAR	Mina Array Bea	79.53	44	P	P	18 45 10.1	+0.6
	3.4nm,0.7s,mb3.8,baz=216,slow=7.1,SNR=26						
BMO	Blue Mountains	83.58	39	eP	P	18 45 29.4	-0.7
	1.1nm,0.8s,mb3.4						
HLID	Hailey	84.70	41	eP	P	18 45 35.9	+0.3
	2.7nm,0.8s,mb3.8						
ILAR	Eielson Array	85.62	13	P	P	18 45 38.2	-1.3
	1.8nm,0.5s,mb4.0,baz=225,slow=5.3,SNR=43						
DLBC	Dease Lake	85.68	23	P	P	18 45 40.2	+0.3
	1.3nm,0.8s,mb3.6,baz=229,slow=12,SNR=3.2						
MNTX	Cornudas Mount	85.81	55	eP	P	18 45 41.2	0.0
TXAR	Lajitas Array	86.26	58	P	P	18 45 44.9	+1.5
	2.3nm,0.8s,mb3.8,baz=215,slow=6.2,SNR=22						
RRI2	Red Ridge	86.56	43	eP	P	18 45 40.1	-4.4
IMW	Indian Meadow	87.06	42	eP	P	18 45 42.7	-4.2
BW06	Boulder Array	87.45	44	eP	P	18 45 48.8	+0.1
	1.7nm,0.5s,mb3.9						
PDAR	Pinedale Array	87.45	44	P	P	18 45 48.8	+0.1
	2.4nm,0.7s,mb4.0,baz=223,slow=2.6,SNR=21						
YKA	Yellowknife Ar	94.20	25	P	P	18 46 18.6	-0.8
	1.3nm,0.6s,mb4.2,baz=245,slow=4.4,SNR=27						
KOLS	Kolonicke sedl	144.20	336	ePKP	PKPdf	18 52 33.2	+1.3
CLZ	Clausthal	144.94	350	ePKP	PKPdf	18 52 34.7	+1.5
UPC	Upice	144.94	343	ePKP	PKPdf	18 52 35.4	+2.2
CLL	Collm	144.94	347	⇑iPKIKP	PKPdf	18 52 34.3	+1.1
	logA/T=1.2						
DPC	Dobruska-Polom	144.99	343	ePKP	PKPdf	18 52 35.6	+2.3
BRG	Berggiesshubel	145.13	346	iP	PKPdf	18 52 35.7	+2.2
BRG				LR	LR		
	comp=Z,630nm,20.6s						
KECS	Kecovo	145.25	337	ePKP	PKPdf	18 52 32.4	-1.4
PVCC	Panska Ves	145.29	345	ePKP	PKPdf	18 52 34.9	+1.1
PRU	Pruhonice	145.80	344	ePKP	PKPdf	18 52 37.6	+2.9
VYHS	Vyhne	145.83	339	ePKP	PKPdf	18 52 37.6	+2.8
ZST	Bratislava	146.67	340	eP	PKPdf	18 52 34.0	-2.2
ZST	Bratislava	146.67	340	e	PKPdf	18 52 34.0	-2.2
TNS	Taunus Mts	146.81	351	ePKP	PKPdf	18 52 42.8	+6.5
KHC	Kasperske Hory	146.83	345	ePKP	PKPdf	18 52 43.9	+7.5
GERES	GERESS Array B	147.07	344	PKPbc	PKPdf	18 52 41.0	+4.2
	comp=Z,1.1nm,0.5s,baz=32,slow=3.7,SNR=14						

IDC 06 18:39:45.8±1.5, 12.78N×93.06E, mb3.5/3, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, ML3.5/1, MS2.5/1, Ms1 2.7/1, ms1mx2.6/15, Error ellipse: s-maj=51.3km s-min=30.3km az=45.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.00	44	Pn	P	18 41 43.8	-2.4
	0.2nm,0.3s,baz=238,slow=15,SNR=14						
CMAR				LR	LR	18 45 38.4	
	comp=Z,31nm,18.1s,baz=180,slow=44						
ASAR	Alice Springs	53.92	132	P	P	18 49 11.1	-2.5
	0.1nm,0.4s,baz=311,slow=6.8,SNR=4.8						
FINES	FINESS Array B	67.91	331	P	P	18 50 45.7	-2.5
	0.6nm,0.7s,baz=80,slow=8.5,SNR=4.0						
GERES	GERESS Array B	73.50	317	P	P	18 51 21.4	-0.9
	0.5nm,0.7s,baz=76,slow=5.5,SNR=5.0						

WEL 06 18:46:20.6±0.5, 38.66S×175.89E, h160km±3km, ML3.5/9, 1C, Error ellipse: s-maj=6.3km s-min=5.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	0.69	137	PN	P	18 46 44.8	+0.4
BKZ				SN	S	18 47 02.2	-0.5
BKZ				SN	S	18 47 02.3	-0.4
MOVZ	Moawhango	0.75	188	⇑PN	P	18 46 44.8	0.0
MOVZ				SN	S	18 47 02.0	-1.4
MOVZ				SN	S	18 47 02.3	-1.1
WAZ	Wanganui	1.30	213	PN	P	18 46 49.2	0.0
PUZ	Puketiti	1.95	73	PN	P	18 46 55.6	-0.5
PUZ				SN	S	18 47 21.2	-2.1
MRZ	Mangatainoka R	2.01	187	PN	P	18 46 56.2	-0.6
MRZ				SN	S	18 47 22.6	-2.0
BFZ	Birch Farm	2.03	172	PN	P	18 46 57.2	+0.2
KIW	Kapiti Island	2.32	199	PN	P	18 46 59.2	-1.4
MTW	Mount Morrison	2.51	187	PN	P	18 47 01.4	-1.4
PAWZ	Paruwai Farm	2.74	187	PN	P	18 47 04.0	-1.7
MSWZ	Moikau Station	2.79	190	PN	P	18 47 04.5	-1.9
SNZO	South Karori	2.80	199	PN	P	18 47 04.2	-2.2
QRZ	Quartz Range	3.38	229	PN	P	18 47 09.8	-4.1
THZ	Tophouse	3.85	216	PN	P	18 47 16.5	-3.5
KHZ	Kahutara	4.16	205	PN	P	18 47 21.0	-3.0

*IDC **06** 18:47:04.8±1.1, 19.24N×67.16W, mb3.6/4, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, ML3.5/1, Error ellipse: s-maj=35.6km s-min=17.9km az=40.0*

*RSPR **06** 18:47:05.4, 19.56N×67.23W, h27km±39km, MD4.2/14, MD4.2/14*

*NEIC **06** 18:47:05.4, 19.56N×67.23W, h27km, MD4.2(RSPR), After RSPR.*

ISC 06 18:47:03.5±1.9, 19.44N±0.04×67.06W±0.06, h2km±13km, n23, σ0s80/36, mb3.6/4, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	0.97	183	⇑eP	Pb	18 47 22.2	-0.5
AGPR				eS	Sb	18 47 36.7	+0.9
AOPR	Arecibo Observ	1.13	165	⇑eP	Pb	18 47 24.8	-0.6
AOPR				eS	Sb	18 47 42.1	+1.8
LRS	Lares	1.16	170	⇑eP	Pb	18 47 25.4	-0.5
LRS				eS	Sb	18 47 41.9	+0.6
MPR	Mayaguez	1.23	184	eS	Sb	18 47 43.2	0.0
LSP	Las Mesas	1.26	181	⇓eP	Pb	18 47 26.6	-1.0
LSP				eS	Sb	18 47 43.8	-0.3
CSB	Colonia Sabana	1.43	143	⇑eP	Pn	18 47 31.0	+0.5
CSB				eS	Sb	18 47 50.1	+1.1
MGP	Maguayo	1.43	181	⇓eP	Pn	18 47 29.7	-0.8
MGP				eS	Sb	18 47 48.6	-0.5
CELP	Cerrillos	1.43	162	⇑eP	Pn	18 47 29.9	-0.7
CELP				eS	Sb	18 47 49.3	+0.1
PORP	Portuguez	1.44	164	⇑eP	Pn	18 47 30.1	-0.5
PORP				eS	Sb	18 47 49.4	+0.1
OBIP	Obispado Ponce	1.46	163	⇑eP	Pn	18 47 30.2	-0.7
OBIP				eS	Sb	18 47 50.0	+0.2
SJG	San Juan	1.58	147	eS	Sb	18 47 53.1	-0.3
SJG	San Juan	1.58	147	⇑eP	Pn	18 47 31.8	-0.8
SJG				eS	Sb	18 47 52.7	-0.7
SJG	San Juan	1.58	147	Pn	Pn	18 47 32.9	+0.3
	12nm,0.3s,baz=323,slow=15,SNR=16						
SJG				Sn	Sn	18 47 52.4	-1.5
	43nm,0.3s,baz=25,slow=20,SNR=16						
SJG	San Juan	1.58	147	⇑eP	Pn	18 47 33.0	+0.4
SJG				eS	Sb	18 47 53.1	-0.3
CBYP	Canovanas	1.63	136	⇑eP	Pn	18 47 34.0	+0.7
HUMP	Col San Antoni	1.73	138	⇑eP	Pn	18 47 35.4	+0.7
HUMP				eS	Sn	18 47 56.5	-1.2
MTP	Monte Pirata	1.95	133	⇑eP	Pn	18 47 38.4	+0.4
SDV	Santo Domingo	11.05	199	Pn	P	18 49 47.4	+1.6
	0.3nm,0.3s,baz=28,slow=16,SNR=6.2						
TXAR	Lajitas Array	34.65	294	P	P	18 53 56.0	-0.5
	0.8nm,1.0s,mb3.6,baz=110,slow=9.9,SNR=5.1						
TXAR				PcP	PcP	18 56 30.7	-0.2
	0.3nm,0.7s,baz=130,slow=7.0,SNR=3.4						
TXAR	Lajitas Array	34.65	294	P	P	18 53 56.0	-0.5
TXAR				PcP	PcP	18 56 30.7	-0.2
ANMO	Albuquerque	38.03	302	P	P	18 54 25.7	+0.7
	0.4nm,0.6s,mb3.4,baz=67,slow=7.7,SNR=3.7						
YKA	Yellowknife Ar	53.93	335	P	P	18 56 29.7	-0.7
	0.1nm,0.4s,mb3.1,baz=111,slow=7.4,SNR=4.0						
ESDC	Sonseca Array	57.32	55	P	P	18 56 56.6	+1.2
	1.9nm,0.8s,mb4.2,baz=278,slow=6.8,SNR=11						

*IDC **06** 18:47:07.6±2.2, 42.30N×138.22E, mb3.4/3, mb1 3.6/4, mb1mx3.3/19, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=104.2km s-min=27.1km az=118.0*

*JMA **06** 18:47:10.9±0.1, 42.15N×139.00E, h27km±1km, M3.6*

ISC 06 18:47:10.4±1.3, 42.16N±0.05×139.02E±0.09, h30km±6km, n14, σ0s72/20, mb3.4/3, 9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOSM	Okushiri--Mats	0.35	102	⇓P	Pb	18 47 18.8	+0.3
JOSM				eS	Sb	18 47 24.2	+0.1
JSH	Shimam	0.91	57	⇓P	Pn	18 47 27.4	+0.1
JSH				eS	Sb	18 47 38.1	-1.1
JYM2	Yakumo 2	1.01	92	⇓P	Pn	18 47 29.6	+0.9
JYM2				eS	Sn	18 47 43.2	+1.2
JSR	Shiriuchi	1.22	120	⇓P	Pn	18 47 32.5	+0.7
JKB	Kayabe	1.53	99	⇓P	Pn	18 47 37.0	+0.8
JNB	Noboribetsu	1.53	78	⇓P	Pn	18 47 36.5	+0.3
JNB				eS	Sn	18 47 55.5	+0.2
JSK	Shakotan	1.61	41	⇓P	Pn	18 47 37.6	+0.3
JSK				eS	Sn	18 47 55.8	-1.4
JOT	Ohata	1.71	116	⇓P	Pn	18 47 38.9	+0.2
JOT				eS	Sn	18 47 58.9	-0.8
JIW	Iwasaki	1.73	154	⇓P	Pn	18 47 38.4	-0.7
JIW				eS	Sn	18 47 59.2	-1.2
ASAJ	Asahikawa	3.27	52	Pn	Pn	18 48 05.8	+4.7
	0.7nm,0.3s,baz=238,slow=19,SNR=5.0						
YKA	Yellowknife Ar	60.34	31	P	P	18 57 18.8	+0.3
	0.1nm,0.5s,mb3.1,baz=302,slow=6.6,SNR=2.2						
YKA				pP	pP	18 57 27.6	-0.1
	0.2nm,0.5s,baz=304,slow=5.8,SNR=4.3						
WRA	Warramunga Arr	61.93	185	P	P	18 57 29.5	-0.4
	0.3nm,0.7s,mb3.5,baz=2.3,slow=6.9,SNR=5.9						
WRA				pP	pP	18 57 38.0	-1.2
	0.5nm,0.7s,baz=2.9,slow=7.2,SNR=2.8						
ASAR	Alice Springs	65.66	185	P	P	18 57 54.5	+0.2
	0.5nm,0.7s,mb3.6,baz=356,slow=6.2,SNR=7.1						
PDAR	Pinedale Array	75.38	45	pP	pP	18 59 03.5	+1.4
	0.6nm,0.6s,baz=270,slow=3.0,SNR=4.2						

*IDC **06** 19:03:53.2±1.6, 43.48N×105.34W, mb4.1/2, mb1 3.8/8, mb1mx3.6/21, mbtmp3.5/8, ML3.6/6, Error ellipse: s-maj=43.3km s-min=7.3km az=151.0*

*NEIC **06** 19:03:55.5±0.6, 43.73N×105.29W, ML3.4, Error ellipse: s-maj=9.3km s-min=6.6km az=111.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 06 19:03:52.5±0.6, 43.85N±0.04×105.30W±0.07, n41, σ1s58/49, mb4.2/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.55	183	ePn	Pn	19 04 31.5	-4.3
PHWY				eS	Sn	19 05 03.1	-5.0
LAO	LASA Array	2.91	347	ePn	Pn	19 04 44.5	+3.6
BW06	Boulder Array	3.29	252	ePn	Pn	19 04 48.0	+1.7
BW06				eSn	Sn	19 05 28.7	+1.9
PDAR	Pinedale Array	3.29	252	Pn	Pn	19 04 48.1	+1.8
	5.6nm,0.3s,baz=70,slow=15,SNR=59						
PDAR				Pg	Pg	19 04 53.6	-4.6
	11nm,0.3s,baz=71,slow=19,SNR=58						
PDAR				Lg		19 05 32.3	
	17nm,0.3s,baz=77,slow=32,SNR=14						
LKWY	Lake	3.74	283	ePn	Pn	19 04 55.0	+2.3
LOHW	Long Hollow	3.85	268	ePn	Pn	19 04 51.5	-2.8
MOOW	Moose Ponds	3.95	270	ePn	Pn	19 04 53.5	-2.2
WUWY	Wally Ulrich	3.96	267	ePn	Pn	19 04 52.0	-3.8
SNOW	Snow King Moun	3.98	266	ePn	Pn	19 04 53.3	-2.8
YFT	Old Faithful	4.03	280	Pn	Pn	19 05 00.1	+3.3
ISCO	Idaho Springs	4.06	183	ePn	Pn	19 04 57.0	-0.2
ISCO				eSn	Sn	19 05 47.2	+1.0
IMW	Indian Meadow	4.08	273	ePn	Pn	19 04 53.6	-3.9
TPAW	Teton Pass	4.12	267	Pn	Pn	19 04 55.2	-2.9
YMR	Madison River	4.15	283	ePn	Pn	19 05 01.4	+2.9
AHID	Auburn Hatcher	4.37	258	ePn	Pn	19 05 03.4	+1.7
AHID				ePg	Pg	19 05 15.7	-4.1
RRI2	Red Ridge	4.40	265	ePn	Pn	19 04 59.3	-2.8
DGMT	Dagmar	4.68	9	ePn	Pn	19 05 10.6	+4.5
BOZ	Bozeman (W)	4.86	294	ePn	Pn	19 05 10.0	+1.4
HWUT	Hardware Ranch	5.13	246	ePn	Pn	19 05 12.6	+0.1
	10nm,0.4s						
TCUT	Toone Canyon	5.28	241	Pn	Pn	19 05 13.6	-0.9
HRY	Holter Researc	5.42	304	ePn	Pn	19 05 15.4	-1.2
JLU	Jordanelle	5.61	237	ePn	Pn	19 05 18.7	-0.4
SPUT	South Promonto	5.86	247	ePn	Pn	19 05 24.0	+1.3
RW3	Ridgway	5.88	199	ePn	Pn	19 05 23.9	+0.9
SDCO	Great Sand Dun	6.10	182	ePn	Pn	19 05 26.0	-0.2
	8.0nm,0.8s						
SRU	San Rafael	6.15	221	ePn	Pn	19 05 25.4	-1.4
SRU				eS	Sb	19 06 60.0	+4.5
PV10	Paradox Valley	6.16	209	ePn	Pn	19 05 27.0	+0.1
TMUT	Trail Mountain	6.35	226	ePn	Pn	19 05 29.5	-0.2
TMUT				S	Sb	19 07 04.1	+2.8
MSU	Marysvale	7.44	227	P	Pn	19 05 45.0	0.0
MVU	Marysvale	7.46	227	ePn	Pn	19 05 45.7	+0.4
	4.9nm,0.7s						
ELK	Elko	8.00	251	Pn	Pn	19 05 51.1	-1.6
	0.2nm,0.3s,baz=72,slow=6.4,SNR=5.1						
ULM	Lac du Bonnet	9.07	42	Pn	P	19 06 07.2	-0.4
ULM				Lg		19 08 42.8	
ULM	Lac du Bonnet	9.07	42	Pn	P	19 06 07.2	-0.4
	3.6nm,0.3s,baz=231,slow=14,SNR=21						
ULM				Lg		19 08 42.8	
	0.3nm,0.3s,baz=311,slow=19,SNR=3.4						
AMTX	Amarillo	9.38	161	Pn	P	19 06 03.8	-8.2
	9.8nm,0.6s						
AMTX				eS	Sb	19 08 40.3	+11
WUAZ	Wupatki	9.55	211	ePn	P	19 06 12.2	-2.0
	71nm,0.6s						
WMOK	Wichita Mounta	10.40	149	Pn	P	19 06 20.9	-5.0
	3.9nm,0.7s						
NVAR	Mina Array Bea	11.20	246	Pn	P	19 06 34.5	-2.4
	0.1nm,0.3s,baz=76,slow=15,SNR=3.1						
TXAR	Lajitas Array	14.55	174	Pn	P	19 07 26.8	+5.2
	0.0nm,0.3s,baz=5.7,slow=9.1,SNR=2.9						
YKA	Yellowknife Ar	19.45	347	P	P	19 08 23.7	+0.7
	0.1nm,0.3s,baz=157,slow=12,SNR=7.5						
ARCES	ARCESS Array B	61.31	18	P	P	19 14 11.7	+0.1
	3.9nm,1.0s,mb4.5,baz=329,slow=7.1,SNR=5.4						
FINES	FINESS Array B	67.93	23	P	P	19 14 55.9	+1.4
	0.5nm,0.7s,mb3.9,baz=329,slow=8.1,SNR=3.5						

*IDC **06** 19:16:35.8±0.4, 19.70N×120.57E, mb4.5/20, mb1 4.7/21, mb1mx4.7/24, mbtmp4.5/21, ML4.2/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=19.9km s-min=12.2km az=72.0*

*MAN **06** 19:16:38.3, 19.71N×120.52E, h14km, mb5.6, ML4.6, MS4.9*

*MOS **06** 19:16:40.5±0.9, 19.92N×120.56E, h33km, mb5.0/10, Error ellipse: s-maj=24.0km s-min=9.0km az=116.7*

*HRVD **06** 19:16:40.5±0.5, 19.81N×120.43E, h18km±1km, MW4.9/43, Centroid moment Tensor Solution. LP body waves: s15,c16;Mantle waves: s43,c76; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.64±.26; $M_{\theta\theta}$0.68±.14; $M_{\phi\phi}$1.96±.18; $M_{r\theta}$0.81±.37; $M_{\theta\phi}$0.84±.09; $M_{\phi r}$0.33±.38; Best double couple: $M_0$2.65×10^{16} NP1:ϕ_s17°,δ38°,λ-107°. NP2:ϕ_s218°,δ53°,λ-77°. Principal axes: T 2.467, Plg8°, Azm298°; N .367, Plg10°, Azm30°; P -2.833, Plg77°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **06** 19:16:40.5±0.2, 19.70N×120.56E, mb4.9/28 Error ellipse: s-maj=6.0km s-min=4.1km az=78.0*

*BJI **06** 19:16:43.6, 20.18N×120.20E, h31km, mB5.0, mb4.4, ML4.1, Ms4.5, Msz4.4*

ISC 06 19:16:39.0±0.2, 19.73N±0.02×120.52E±0.03, h31km, h31km±.5km:pP-P, n165, σ1s12/177, mb4.7/54, MS4.1/16, 16C-11D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBP	Basco	1.53	62	eP	Pn	19 17 04.9	+0.2
BBP				eS	Sn	19 17 23.6	-0.1
APYP	Conner	1.98	160	eP	Pn	19 17 10.9	-0.2
APYP				eS	Sn	19 17 37.0	+1.8
SGCP	Mt. Cagua	2.07	135	eP	Pn	19 17 12.1	-0.3
ABRA	Dolores	2.08	175	eP	Pn	19 17 11.3	-1.2
CVP	Callao Caves	2.37	148	iP	Pn	19 17 16.5	-0.2
CVP				iS	Sn	19 17 46.5	+1.5
CAUP	Cauayan	3.04	156	eP	Pn	19 17 27.9	+1.7
PALP	Palanan	3.21	145	eP	Pn	19 17 30.1	+1.4
PALP				eS	Sn	19 18 07.1	+0.7
BCPH	Baguio City Da	3.33	179	⇓eP	Pn	19 17 29.8	-0.6
BCPH				eS	Sn	19 18 08.4	-1.0
SCZP	Santa Cruz	3.98	188	eP	Pn	19 17 43.8	+4.3
BALP	Baler	4.10	166	eP	Pn	19 17 43.2	+2.0
PCPH	Palayan	4.18	172	⇓eP	Pn	19 17 43.2	+0.7
NACB	Ninganchiao	4.53	13	eP	Pn	19 17 46.4	-1.0
NACB				eS	Sn	19 18 38.0	-1.7
YHNB	Yeheng	4.98	9	eP	Pn	19 17 53.1	-0.6
YHNB				S	Sn	19 18 47.4	-3.6

QZH Quanzhou 5.48 341 P Pn 19 17 56.9 -3.9
QZH S Sn 19 18 54.6 -9.0
QZH Smax
comp=N,230nm,0.6s
QZH Smax
comp=E,290nm,0.5s
QZH LR LR
comp=N,2µm,13.9s
QZH LR LR
comp=E,2µm,9.4s
QZH LR LR
comp=Z,5µm,10.2s
PVCP Virac 7.03 150 eP Pn 19 18 30.9 +8.4
JOW Kunigami 10.04 44 Pn P 19 19 03.0 -1.4
comp=Z,5.0nm,0.3s,baz=222,slow=10,SNR=8.9
JOW LR LR 19 23 12.9
comp=Z,448nm,20.9s,baz=127,slow=40
SSE Sheshan 11.33 3 P P 19 19 18.9 -3.1
SSE XP 19 19 34.1
SSE S S 19 21 24.3 -4.3
SSE AMB AMB
comp=Z,32nm,0.7s
SSE AMB AMB
comp=Z,68nm,4.0s
SSE LR LR
comp=N,233nm,14.8s
SSE LR LR
comp=E,646nm,14.8s
SSE LR LR
comp=Z,483nm,13.5s
SSE Sheshan 11.33 3 P P 19 19 18.9 -3.1
comp=Z,32nm,0.7s
SSE sP 19 19 34.1
SSE S S 19 21 24.3 -4.3
WHN Wuhan 12.12 334 ⇓P P 19 19 27.7 -5.0
WHN AP 19 19 31.8
WHN LR LR
comp=N,570nm,10.7s
WHN LR LR
comp=E,2µm,9.9s
WHN LR LR
comp=Z,3µm,10.2s
NJ2 Nanjing 12.36 353 eP P 19 19 36.6 +0.7
NJ2 AP 19 19 44.8
NJ2 PP PP 19 19 47.6 +2.3
NJ2 S S 19 21 55.0 +1.5
NJ2 PCS 19 28 50.0
NJ2 AMB AMB
comp=Z,20nm,1.0s
NJ2 AMB AMB
comp=Z,520nm,3.9s
NJ2 LR LR
comp=N,2µm,14.6s
NJ2 LR LR
comp=E,1µm,17.0s
NJ2 LR LR
comp=Z,2µm,11.4s
KKM Kota Kinabalu 14.23 198 P P 19 20 00.2 -0.6
GYA Guiyang 14.39 300⇑iP P 19 19 58.8 -4.0
GYA AP 19 20 05.4
GYA XP 19 20 10.6
GYA AMB AMB
comp=Z,20nm,1.1s
GYA AMB AMB
comp=Z,90nm,3.3s
GYA LR LR
comp=N,780nm,12.9s
GYA LR LR
comp=E,1µm,9.9s
GYA LR LR
comp=Z,2µm,12.6s
KKTK Khon Kaen 17.16 261 P P 19 20 49.0 +11
KMI Kunming 17.28 291 P P 19 20 38.1 -1.7
KMI AMB AMB
comp=Z,11nm,1.9s
KMI AMB AMB
comp=Z,178nm,4.6s
KMI LR LR
comp=N,924nm,13.5s
KMI LR LR
comp=E,1µm,11.8s
KMI LR LR
comp=Z,839nm,14.3s
KMI Kunming 17.28 291 P P 19 20 38.1 -1.7
comp=Z,11nm,1.9s
KMI pP 19 20 40.9
KMI S S 19 23 59.7 +10
KMI SS 19 24 22.2
XAN Xi'an 17.59 326 P P 19 20 42.3 -1.2
XAN AP 19 20 52.9
XAN AMB AMB
comp=Z,16nm,1.8s
XAN LR LR
comp=N,533nm,11.8s
XAN LR LR
comp=E,700nm,12.3s
XAN LR LR
comp=Z,1µm,12.8s
NANT Nan 18.73 270 P P 19 20 58.0 +0.2
CD2 Chengdu 18.77 310 P P 19 20 56.4 -1.8
NST Nakhon Sawan 19.83 261 P P 19 21 10.0 -0.4
CHG Chiang Mai 20.39 271 ⇓P P 19 21 26.3 +10
comp=Z,29nm,0.9s
CM31 Chiang Mai Arr 20.43 270 eP P 19 21 15.6 -1.0
comp=Z,12nm,0.8s
CMAR Chiang Mai Arr 20.43 270 P P 19 21 16.3 -0.3
comp=Z,4.6nm,0.8s,baz=79,slow=8.6,SNR=20
CMAR PcP PcP 19 25 28.2 +0.3
comp=Z,1.8nm,0.6s,baz=60,slow=0.5,SNR=17
CMAR LR LR 19 28 36.9
comp=Z,179nm,21.5s,MS3.4,baz=90,slow=35
BJI Beijing 20.58 350 eP P 19 21 16.4 -1.6
BJI AMB AMB
comp=Z,25nm,1.0s
BJI LR LR
comp=N,483nm,15.1s,MS4.1
BJI LR LR
comp=E,379nm,12.7s,MS4.1
BJI LR LR
comp=Z,290nm,13.5s,MS3.8
BJI Beijing 20.58 350 eP P 19 21 16.4 -1.6
comp=Z,25nm,1.0s
BJI S S 19 25 14.2 +13
BJI LR LR
comp=Z,290nm,13.5s,MS3.8
KSM Kuching 20.71 210 eP P 19 21 21.0 +1.4
CBIJ Chichi jima 21.17 66 LR LR 19 27 46.6
comp=Z,25nm,21.1s,baz=236,slow=32
LZH Lanzhou 21.91 321 ⇑P P 19 21 32.5 +1.0
LZH AP 19 21 42.2
LZH XP 19 21 46.3
LZH AMB AMB
comp=Z,50nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,370nm,4.8s
LZH LR LR
comp=E,1µm,12.6s
LZH LR LR
comp=Z,2µm,13.2s,MS4.6
LZH Lanzhou 21.91 321 ⇑P P 19 21 32.5 +1.0
comp=Z,50nm,1.0s,mb4.9
LZH pP 19 21 42.2
LZH sP 19 21 46.3
LZH PP PP 19 22 03.0 +5.8
LZH S S 19 25 35.0 +8.3
LZH sS 19 25 52.0
LZH SS SS 19 26 22.0 +17
LZH LR LR
comp=Z,2µm,13.2s,MS4.6
SNY Shenyang 22.18 6 ⇑P P 19 21 35.6 +1.4
SNY S S 19 25 36.9 +5.3
SNY AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
SNY LR LR
comp=E,440nm,15.2s
SNY LR LR
comp=Z,430nm,11.2s,MS4.1
HHC Hu-ho-hao-te 22.39 342 eP P 19 21 37.2 +0.9
HHC AP 19 21 46.0
HHC XP 19 21 50.7
HHC PP PP 19 22 03.2 -0.7
HHC PCS 19 29 10.2
HHC AMB AMB
comp=Z,17nm,1.0s,mb4.4
HHC LR LR
comp=N,772nm,14.3s,MS4.4
HHC LR LR
comp=E,622nm,13.7s,MS4.4
HHC LR LR
comp=Z,686nm,13.1s,MS4.3
CN2 Changchun 24.35 9 eP P 19 21 55.6 +0.2
CN2 eXP 19 22 08.3
CN2 eS S 19 26 10.3 +0.6
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.3
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,500nm,14.0s,MS4.3
CN2 LR LR
comp=E,400nm,14.0s,MS4.3
CN2 LR LR
comp=Z,700nm,15.0s,MS4.3
MDJ Mudanjiang 25.94 15 P P 19 22 10.2 -0.2
MDJ AP pP 19 22 20.0 +0.6
MDJ XP sP 19 22 24.4 +0.8
MDJ PP PP 19 22 55.9 +4.4
MDJ S S 19 26 39.3 +3.0
MDJ AMB AMB
comp=Z,15nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,133nm,3.7s
MDJ LR LR
comp=E,346nm,19.6s
MDJ LR LR
comp=Z,127nm,24.9s
GTA Gaotai 26.51 322 eP P 19 22 17.7 +2.0
GTA AP pP 19 22 27.1 +2.4
GTA XP sP 19 22 31.3 +2.4
GTA S S 19 26 51.2 +5.4
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb3.9
GTA AMB AMB
comp=Z,174nm,4.9s
GTA LR LR
comp=N,439nm,12.2s,MS4.3
GTA LR LR
comp=E,363nm,11.0s,MS4.3
GTA LR LR
comp=Z,600nm,11.8s,MS4.4
LSA Lhasa 28.39 296 P P 19 22 33.0 +0.1
ULN Ulaanbaatar 30.12 342⇑iP P 19 22 48.6 +0.4
ULN Ulaanbaatar 30.12 342 eP P 19 22 48.4 +0.2
comp=Z,8.5nm,1.0s,mb4.4
ULN e pP 19 22 56.9 -0.4
SONM Songino Array 30.29 341 P P 19 22 49.5 -0.1
comp=Z,2.2nm,0.7s,mb4.0,baz=161,slow=9.3,SNR=21
JIRN Jiri 32.33 291 eP P 19 23 08.1 +0.3
comp=Z,74nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 32.67 29 eP P 19 23 10.0 -0.5
YSS e pP 19 23 20.0 +0.3
PKI Pulchoki 33.01 290 eP P 19 23 13.3 -0.4
comp=Z,40nm,1.1s,mb5.2
KKN Kakani 33.14 291 eP P 19 23 14.6 -0.3
comp=Z,56nm,1.0s,mb5.5
DMN Daman 33.28 290 eP P 19 23 15.4 -0.7
comp=Z,71nm,1.1s,mb5.5
ZAK Zakamensk 33.51 340 eP P 19 23 17.6 -0.2
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
GKN Gorkha 33.73 291 eP P 19 23 19.1 -0.9
comp=Z,77nm,1.1s,mb5.5
KAKA Kakadu 34.31 159 eP P 19 23 21.8 -3.3
comp=Z,4.7nm,0.6s,mb4.6
TLY Talaya 34.52 341 eP P 19 23 28.2 +1.6
TLY eS S 19 29 00.5 +8.2
TLY pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TLY MLR MLR
comp=Z,215nm,13.0s,MS4.1
KOLN Koldanda 34.62 290 eP P 19 23 26.8 -0.9
comp=Z,61nm,1.0s,mb5.5
MOY Mondy 35.36 339 eP P 19 23 34.2 +0.5
WMQ Urumqi 36.43 319 eP P 19 23 44.7 +1.9
WMQ AP pP 19 23 54.5 +2.4
WMQ XP sP 19 23 58.5 +2.5
WMQ PP PP 19 25 09.0 +2.1
WMQ PCP PcP 19 26 08.5 +1.6
WMQ S S 19 29 24.0 +2.2
WMQ XS 19 29 40.0
WMQ AMB AMB
comp=Z,6.0nm,1.4s,mb4.3
WMQ AMB AMB
comp=Z,178nm,5.6s
WMQ LR LR
comp=N,896nm,10.8s,MS5.0
WMQ LR LR
comp=E,902nm,11.2s,MS5.0
WMQ LR LR
comp=Z,1µm,14.3s,MS4.8
FITZ Fitzroy Crossi 37.93 172 eP P 19 23 53.7 -2.0
comp=Z,18nm,0.8s,mb4.9
BOD Bodaibo 38.34 354 eP P 19 23 57.2 -1.5
HYB Hyderabad 39.77 274 eP P 19 24 12.0 +0.9
HYB Hyderabad 39.77 274 i P P 19 24 12.0 +0.9
MBWA Marble Bar 40.65 181 eP P 19 24 15.9 -2.3
comp=Z,14nm,1.2s,mb4.5
MKAR Makanchi Array 41.21 320 i P P 19 24 23.4 +0.8
MKAR pmax pmax
comp=Z,36nm,1.0s
WRAB Tennant Creek 41.69 160 P P 19 24 25.0 -1.8
comp=Z,61nm,0.4s,mb5.6,SNR=22
WRAB Tennant Creek 41.69 160 eP P 19 24 25.0 -1.9
comp=Z,26nm,1.2s,mb4.7
WRA Warramunga Arr 41.69 160 P P 19 24 25.1 -1.8
comp=Z,4.0nm,0.4s,mb4.4,baz=348,slow=8.8,SNR=70
WRA PcP PcP 19 26 23.0 -0.8
comp=Z,5.2nm,0.6s,baz=344,slow=3.4,SNR=20
WRA S S 19 30 37.0 -4.4
comp=Z,2.3nm,0.8s,baz=346,slow=16,SNR=7.5
YAK Yakutsk 42.74 6⇑iP P 19 24 34.4 -0.5
YAK pmax pmax
comp=Z,14nm,0.8s,mb4.7
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.9
YAK Yakutsk 42.74 6 eP P 19 24 33.6 -1.3
comp=Z,12nm,0.8s,mb4.7
POO Poona 44.00 277 e P 19 24 45.0 -0.7
AAK Ala-Archa 44.83 311 eP P 19 24 51.3 -0.8
AAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
AAK MLR MLR
comp=Z,200nm,14.0s,MS4.2
ASPA Alice Springs 45.07 163⇓iP P 19 24 53.0 -1.3
ASPA eS S 19 31 32.9 +2.4
ASAR Alice Springs 45.07 163 P P 19 24 53.2 -1.1
comp=Z,33nm,1.1s,mb5.1,baz=342,slow=7.1,SNR=97
ASAR PcP PcP 19 26 34.1 -1.0
comp=Z,2.6nm,0.8s,baz=331,slow=2.3,SNR=4.3
ASAR S S 19 31 31.8 +1.3
comp=Z,0.8nm,0.7s,baz=356,slow=21,SNR=5.0
ASAR LR LR 19 45 36.0
comp=Z,83nm,18.7s,MS3.7,baz=6.6,slow=39
KURK Kurchatov 45.18 323 P P 19 24 55.9 +1.1
comp=Z,246nm,1.0s,SNR=16
KURK Kurchatov 45.18 323⇑iP P 19 24 55.7 +0.9
KURK Kurchatov 45.18 323 eP P 19 24 55.4 +0.6
comp=Z,47nm,1.0s,mb5.3
KURK e pP 19 25 04.2 +0.1
CTA Charters Tower 46.92 146 P P 19 25 08.3 -0.6
comp=Z,8.2nm,1.1s,mb4.6,baz=341,slow=8.9,SNR=4.3
CTA Charters Tower 46.92 146 P P 19 25 08.3 -0.7
CTAO Charters Tower 46.92 146 eP P 19 25 08.9 -0.1
comp=Z,12nm,1.0s,mb4.8
FORT Forrest 50.74 172 eP P 19 25 36.9 -1.4
comp=Z,467nm,0.7s
BVA0 Borovoye Array 50.78 323 P P 19 25 38.5 +0.2
BVA0 pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
BVAR Borovoye Array 50.78 323 P P 19 25 38.8 +0.5
comp=Z,2.8nm,0.6s,mb4.3,baz=117,slow=9.9,SNR=20
BVAR PcP PcP 19 26 54.0 -1.1
comp=Z,2.8nm,0.7s,baz=117,slow=3.3,SNR=6.6
CHKZ Chkalovo 50.90 324 i P P 19 25 39.0 -0.2
CHKZ pmax pmax
comp=Z,16nm,1.3s,mb4.8
CHKZ Chkalovo 50.90 324 eP P 19 25 39.0 -0.2
comp=Z,19nm,1.1s,mb4.9
CHKZ e pP 19 25 48.3 -0.4
KLBR Kellerberrin 51.10 183⇓iP P 19 25 39.1 -1.9
comp=Z,121nm,0.6s
TIXI Tiksi 52.15 3⇑iP P 19 25 46.9 -1.6
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.7
NWAO Narrogin (SRO) 52.45 183 P P 19 25 49.8 -1.5
comp=Z,13nm,0.8s,mb5.0,baz=349,slow=8.3,SNR=8.2
STKA Stephens Creek 55.15 158 eP P 19 26 09.7 -1.4
comp=Z,6.3nm,1.6s,mb4.4
STKA Stephens Creek 55.15 158 P P 19 26 09.7 -1.5
comp=Z,3.5nm,0.7s,mb4.5,baz=326,slow=7.5,SNR=8.1
STKA PcP PcP 19 27 10.9 -1.0
comp=Z,4.6nm,0.8s,baz=347,slow=10,SNR=3.9
CNB Canberra Magne 61.21 153 eP P 19 26 53.5 0.0
comp=Z,286nm,1.1s
KIV Kislovodsk 67.94 310d iP P 19 27 37.2 +0.1
KIV i pP 19 27 47.4 +0.6
KIV pmax pmax
comp=Z,57nm,0.8s,mb5.7
KIV MLR MLR
comp=Z,100nm,14.0s,MS4.2
KIV Kislovodsk 67.94 310 eP P 19 27 37.7 +0.6
comp=Z,29nm,0.8s,mb5.4
KIV e pP 19 27 46.8 0.0
RAYN Ar Rayn 69.10 288 P P 19 27 44.8 +0.2
comp=Z,52nm,0.9s,SNR=11
SOC Sochi 70.12 310 eP P 19 27 48.1 -2.4
SOC e 19 28 18.3
SOC e 19 30 23.0
SOC ePPP PPP 19 32 06.5 -1.1
SOC eS S 19 36 55.6 -2.5
SOC e 19 37 38.2
SOC eSS SS 19 41 32.5 +3.0
SOC pmax pmax
comp=Z,12nm,0.8s,mb4.9
SOC pmax pmax
comp=N,15nm,1.1s
SOC pmax pmax
comp=E,17nm,1.1s
IMA Indian Mountai 70.46 26 eP P 19 27 52.6 +0.4
comp=E,87nm,1.4s,mb5.5
IMA e pP 19 28 02.2 +0.3
OBN Obninsk 70.62 323 eP P 19 27 52.7 -0.7
OBN i pP 19 28 02.0 -1.1
OBN e 19 30 29.3
OBN i S S 19 37 04.9 +1.2
OBN pmax pmax
comp=Z,14nm,1.3s,mb4.7
MALT Malatya 71.99 305 eP P 19 28 02.0 +0.1
comp=Z,17nm,1.1s,mb4.9
MALT e pP 19 28 12.2 +0.6
COLA College 73.02 27 eP P 19 28 07.4 -0.1
comp=Z,5.2nm,0.7s,mb4.6
ARCES ARCESS Array B 73.43 339 P P 19 28 08.4 -1.3
comp=Z,3.4nm,0.9s,mb4.2,slow=4.9,SNR=7.3
ILAR Eielson Array 73.44 27 P P 19 28 08.6 -1.4
comp=Z,3.5nm,0.7s,mb4.4,baz=274,slow=5.4,SNR=22
ASF Jabal al Asfar 74.54 299 P P 19 28 17.6 +0.7
comp=Z,7.3nm,1.0s,mb4.5,baz=316,slow=1.0,SNR=5.9
FINES FINESS Array B 74.97 330 i P P 19 28 18.9 +0.1
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 74.97 330 P P 19 28 18.9 0.0
comp=Z,3.1nm,0.8s,mb4.3,baz=72,slow=6.0,SNR=10
FINES LR LR 20 03 53.4
comp=Z,76nm,19.8s,MS4.0,baz=283,slow=38
DAWY Dawson 76.77 26 eP P 19 28 29.5 +0.5
EIL Elat 76.78 297 P P 19 28 30.4 +0.6
comp=Z,6.4nm,1.0s,mb4.5,baz=357,slow=6.6,SNR=6.4
EIL Elat 76.78 297 eP P 19 28 29.9 +0.2
comp=Z,7.4nm,1.1s,mb4.5
EIL e pP 19 28 39.7 +0.2
INK Inuvik 77.57 21 P P 19 28 33.3 0.0
comp=Z,4.8nm,0.7s,mb4.5,baz=300,slow=6.9,SNR=21
INK Inuvik 77.57 21 eP P 19 28 33.0 -0.3
comp=Z,25nm,1.4s,mb4.9
INK e pP 19 28 42.0 -1.1
CFR Carcaliu 77.90 314 ⇑P P 19 28 35.5 -0.1
CFR Carcaliu 77.90 314 ⇑P P 19 28 35.5 0.0
ISP Isparta 78.17 306⇑iP P 19 28 37.0 -0.2
ISP Isparta 78.17 306 eP P 19 28 36.6 -0.6
comp=Z,9.3nm,0.8s,mb4.8
SUW Suwalki 78.47 323 eP P 19 28 38.7 +0.2
VRI Vrincioaia 78.66 315 ⇑P P 19 28 40.1 +0.4
VRI Vrincioaia 78.66 315 ⇑P P 19 28 40.1 +0.4
BURAR Bucovina Array 79.15 317 ⇑P P 19 28 42.9 +0.5
BURAR Bucovina Array 79.15 317 ⇑P P 19 28 42.9 +0.6
LVV L'vov 79.23 319 eP P 19 28 45.6 +2.8
MLR Muntele Rosu 79.30 314 ⇓P P 19 28 43.7 +0.5
MLR Muntele Rosu 79.30 314 ⇓P P 19 28 43.7 +0.5
KWP Kalwaria 80.11 319 eP P 19 28 48.2 +0.7
DAG Danmarks Havn 80.65 351 eP P 19 28 49.0 -0.9
DAG Danmarks Havn 80.65 351 i P P 19 28 49.0 -0.9
CRVS Cervenica-Dubn 81.12 319 eP P 19 28 54.6 +1.8
OJC Ojcow 81.68 320 eP P 19 28 56.3 +0.6
NB2 NORSAR Subarra 81.86 332 P P 19 28 55.9 -0.5
comp=Z,8.2nm,0.9s,mb4.7,baz=64,slow=5.0
NOA NORSAR Array B 81.86 332 P P 19 28 56.3 -0.1
comp=Z,7.5nm,0.9s,mb4.6,baz=65,slow=5.3,SNR=14
NOA LR LR 20 08 29.1
comp=Z,114nm,19.0s,MS4.3,baz=55,slow=38
OKC Ostrava-Krasne 82.81 320 eP P 19 29 01.8 +0.2
VYHS Vyhne 82.89 319 eP P 19 29 03.2 +1.2
DLBC Dease Lake 83.08 30 P P 19 29 04.7 +1.9
comp=Z,3.8nm,0.7s,mb4.5,baz=281,slow=10,SNR=7.9
DLBC Dease Lake 83.08 30 P P 19 29 04.7 +1.9
KSP Ksiaz 83.52 322⇓eP P 19 29 05.4 +0.2
KSP e*PP pP 19 29 15.6 +0.4
KSP Ksiaz 83.52 322⇓eP P 19 29 05.4 +0.2
KSP ePcP PcP 19 29 11.1 +1.3
KSP epP pP 19 29 15.6 +0.4
KSP Ksiaz 83.52 322 eP P 19 29 06.2 +1.0
DPC Dobruska-Polom 83.70 321 eP P 19 29 07.4 +1.3
DPC epP pP 19 29 16.9 +0.8
UPC Upice 83.82 322 eP P 19 29 07.6 +0.9
UPC epP pP 19 29 19.8 +3.1
KMBO Kilima Mbogo 84.03 267 i P P 19 29 09.1 +0.4
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 84.03 267 P P 19 29 09.1 +0.4
comp=Z,0.6nm,0.5s,mb4.0,baz=42,slow=14,SNR=5.4
KMBO Kilima Mbogo 84.03 267 P P 19 29 09.1 +0.4
PVCC Panska Ves 84.65 322 eP P 19 29 12.8 +1.9
PVCC epP pP 19 29 23.2 +2.3
BRG Berggiesshubel 84.87 322 eP P 19 29 13.0 +1.0
BRG e pP 19 29 22.9 +0.9
BRG pmax pmax
comp=Z,11nm,1.2s,mb4.9
BRG Berggiesshubel 84.87 322 eP P 19 29 13.0 +1.0
comp=Z,11nm,1.2s,mb4.9
BRG e pP 19 29 22.9 +0.9
PRU Pruhonice 84.89 321 eP P 19 29 13.2 +1.1
PRU epP pP 19 29 23.3 +1.2
CLL Collm 85.22 323 eP P 19 29 11.0 -2.7
CLL i 19 29 23.5
CLL Collm 85.22 323 eP P 19 29 11.0 -2.7
CLL i 19 29 14.3
CLL i 19 29 23.5
CLL Collm 85.22 323 ⇑P P 19 29 14.3 +0.6
comp=Z,logA/T=1.0,mb4.9
CLL i *PP pP 19 29 23.5 -0.2
CLL i 19 29 35.5
KHC Kasperske Hory 85.83 321 eP P 19 29 17.8 +1.0
KHC epP pP 19 29 27.1 +0.3
GERES GERESS Array B 85.87 321 P P 19 29 17.8 +0.8
comp=Z,2.1nm,0.8s,mb4.4,baz=56,slow=4.8,SNR=15
NKC Novy Kostel 86.01 322 eP P 19 29 19.0 +1.3
NKC epP pP 19 29 28.1 +0.5
MOX Moxa 86.30 323 eP pP 19 29 30.0 +0.9
YKW3 Yellowknife Ar 87.25 22 eP P 19 29 23.6 +0.2
YKW3 e pP 19 29 33.8 +0.3
YKA Yellowknife Ar 87.30 22 i P P 19 29 24.1 +0.4
YKA pmax pmax
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 87.30 22 P P 19 29 24.1 +0.5
comp=Z,7.0nm,0.8s,mb5.0,baz=312,slow=4.7,SNR=92
YKA PKKPbc 19 47 13.2
comp=Z,0.1nm,0.4s,baz=143,slow=2.6,SNR=4.0
YKA Yellowknife Ar 87.30 22 P P 19 29 24.1 +0.5
YKA PKKPbc 19 47 13.2
RAR Rarotonga 87.92 113 LR LR 20 04 57.1
comp=Z,59nm,18.1s,MS4.0,baz=292,slow=33
NEW Newport 95.00 35 P P 19 30 00.0 +0.1
comp=Z,3.2nm,1.0s,mb4.7,baz=309,slow=5.6,SNR=4.8
VNDA Vanda 100.00 172 eP P 19 30 22.7 +0.7
VNDA e 19 30 31.3
NVAR Mina Array Bea 100.10 43 P P 19 30 25.2 +2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.1nm,0.7s,baz=288,slow=7.3,SNR=7.2						
TXAR	**Lajitas Array**	**115.23**	**42**	PKP	PKPdf	19 35 19.9	-3.2
	comp=Z,0.6nm,0.5s,baz=228,slow=1.0,SNR=12						
SDV	**Santo Domingo**	**149.52**	**22**	*e*PKPdf	PKPdf	19 36 23.1	-3.8
SDV				*e*PKPbc	PKPdf	19 36 27.6	+0.7
ROSC	**El Rosal**	**151.53**	**32**	PKPbc	PKPdf	19 36 34.1	+4.2
	comp=Z,11nm,0.6s,baz=92,slow=7.5,SNR=11						
PLCA	**Paso Flores**	**157.03**	**158**	PKPab	PKPab	19 37 04.2	0.0
	comp=Z,5.4nm,1.1s,baz=197,slow=5.3,SNR=3.4						
PLCA	**Paso Flores**	**157.03**	**158**	PKPab	PKPab	19 37 04.2	0.0
LPAZ	**La Paz**	**171.09**	**69**	PKP	PKPdf	19 36 48.6	-1.3
	comp=Z,3.5nm,1.1s,baz=73,slow=2.4,SNR=7.3						

*NEIC **06** 19:52:55.7, 39.38S×175.26E, h118^{km}, MG4.2(WEL), After WEL.*
NEIC Felt at Marton and Ohakune.
*WEL **06** 19:52:55.8±0.2, 39.39S×175.26E, h116^{km}±1^{km}, ML4.2/19, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
WEL Felt from King Country to Manawatu, maximum reported intensity MM 4.
*IDC **06** 19:52:56.6±5.1, 39.16S×175.93E, h169^{km}±128^{km}, mb3.5/3, mb1 3.7/4, mb1mx3.5/12, mbtmp4.1/4, Error ellipse: s-maj=245.9km s-min=123.2km az=99.0*
ISC 06 19:52:54.1±0.4**, 39.43S**±0.03×**175.25E**±0.05**, h123**^{km}±3^{km}**, n94,** σ**0^{s}96**/117**, mb3.9**/3**, 1C-1D, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DRZ	**Dome Shelter**	**0.28**	**58**	P	**P**	**19 53 12.4**	**+1.0**
DRZ	**Dome Shelter**	**0.28**	**58**	PN	**P**	**19 53 12.4**	**+0.9**
WNVZ	**Wahianoa**	**0.28**	**70**	P	**P**	**19 53 12.3**	**+0.9**
WNVZ				S	**S**	**19 53 24.3**	**-0.3**
WNVZ	**Wahianoa**	**0.28**	**70**	PN	**P**	**19 53 12.3**	**+0.9**
WNVZ				SN	**S**	**19 53 24.5**	**-0.2**
FWVZ	**Far West T-bar**	**0.29**	**54**	P	**P**	**19 53 12.2**	**+0.8**
FWVZ				S	**S**	**19 53 23.8**	**-0.9**
FWVZ	**Far West T-bar**	**0.29**	**54**	PN	**P**	**19 53 12.2**	**+0.8**
FWVZ				SN	**S**	**19 53 24.0**	**-0.7**
WPVZ	**Whakapapa**	**0.32**	**46**	P	**P**	**19 53 12.2**	**+0.6**
WPVZ	**Whakapapa**	**0.32**	**46**	PN	**P**	**19 53 12.2**	**+0.6**
WPVZ				SN	**S**	**19 53 24.2**	**-0.7**
CNZ	**Chateau**	**0.32**	**45**	P	**P**	**19 53 12.2**	**+0.6**
CNZ	**Chateau**	**0.32**	**45**	⇑PN	**P**	**19 53 12.2**	**+0.6**
TUVZ	**Tukino**	**0.35**	**63**	P	**P**	**19 53 12.5**	**+0.8**
TUVZ	**Tukino**	**0.35**	**63**	PN	**P**	**19 53 12.6**	**+0.8**
TUVZ				SN	**S**	**19 53 24.6**	**-0.5**
NGZ	**Ngauruhoe**	**0.37**	**47**	P	**P**	**19 53 12.4**	**+0.6**
NGZ				S	**S**	**19 53 24.5**	**-0.8**
NGZ	**Ngauruhoe**	**0.37**	**47**	⇓PN	**P**	**19 53 12.4**	**+0.6**
NGZ				SN	**S**	**19 53 24.6**	**-0.7**
TWVZ	**Taurewa**	**0.38**	**22**	P	**P**	**19 53 12.2**	**+0.3**
TWVZ				S	**S**	**19 53 24.0**	**-1.4**
TWVZ	**Taurewa**	**0.38**	**22**	PN	**P**	**19 53 12.2**	**+0.3**
TWVZ				SN	**S**	**19 53 24.1**	**-1.3**
MOVZ	**Moawhango**	**0.39**	**87**	P	**P**	**19 53 12.4**	**+0.5**
MOVZ				S	**S**	**19 53 24.0**	**-1.4**
MOVZ	**Moawhango**	**0.39**	**87**	PN	**P**	**19 53 12.4**	**+0.5**
MOVZ				SN	**S**	**19 53 24.0**	**-1.4**
WAZ	**Wanganui**	**0.39**	**212**	PN	**P**	**19 53 13.2**	**+1.3**
WAZ				SN	**S**	**19 53 26.2**	**+0.8**
WTVZ	**West Tongariro**	**0.41**	**40**	P	**P**	**19 53 12.3**	**+0.3**
WTVZ	**West Tongariro**	**0.41**	**40**	PN	**P**	**19 53 12.3**	**+0.2**
MGZ	**Maungaku**	**0.48**	**28**	P	**P**	**19 53 12.9**	**+0.4**
MGZ	**Maungaku**	**0.48**	**28**	PN	**P**	**19 53 12.9**	**+0.4**
VRZ	**Vera Road**	**0.49**	**308**	P	**P**	**19 53 12.8**	**+0.3**
VRZ	**Vera Road**	**0.49**	**308**	PN	**P**	**19 53 12.8**	**+0.3**
VRZ				SN	**S**	**19 53 25.8**	**-0.6**
KATZ	**Kakaramea**	**0.57**	**37**	P	**P**	**19 53 13.2**	**+0.2**
KATZ	**Kakaramea**	**0.57**	**37**	PN	**P**	**19 53 13.2**	**+0.3**
KATZ				SN	**S**	**19 53 25.8**	**-1.5**
RITZ	**Rihia Road**	**0.65**	**47**	P	**P**	**19 53 14.1**	**+0.6**
RITZ	**Rihia Road**	**0.65**	**47**	PN	**P**	**19 53 14.1**	**+0.6**
RAEZ	**Rainy Point**	**0.68**	**282**	P	**P**	**19 53 14.8**	**+1.1**
RAEZ	**Rainy Point**	**0.68**	**282**	PN	**P**	**19 53 14.8**	**+1.1**
RATZ	**Rangitukua**	**0.69**	**36**	P	**P**	**19 53 14.0**	**+0.2**
RATZ	**Rangitukua**	**0.69**	**36**	PN	**P**	**19 53 14.0**	**+0.2**
WATZ	**Wairara**	**0.81**	**28**	P	**P**	**19 53 15.2**	**+0.4**
WATZ	**Wairara**	**0.81**	**28**	PN	**P**	**19 53 15.2**	**+0.4**
TSZ	**Takapari Road**	**0.83**	**139**	P	**P**	**19 53 16.6**	**+1.5**
TSZ	**Takapari Road**	**0.83**	**139**	PN	**P**	**19 53 16.7**	**+1.6**
TSZ				SN	**S**	**19 53 31.4**	**+0.5**
NEZ	**North Egmont**	**0.91**	**280**	P	**P**	**19 53 16.8**	**+1.0**
NEZ	**North Egmont**	**0.91**	**280**	PN	**P**	**19 53 16.8**	**+1.0**
BKZ	**Black Stump Fm**	**1.00**	**75**	P	**P**	**19 53 17.1**	**+0.4**
BKZ	**Black Stump Fm**	**1.00**	**75**	PN	**P**	**19 53 17.1**	**+0.4**
PKE	**Pukeiti**	**1.01**	**283**	P	**P**	**19 53 17.3**	**+0.5**
PKE	**Pukeiti**	**1.01**	**283**	PN	**P**	**19 53 17.3**	**+0.5**
PKE				SN	**S**	**19 53 33.8**	**0.0**
NRZ	**Ngariki Road**	**1.03**	**275**	P	**P**	**19 53 17.5**	**+0.5**
NRZ	**Ngariki Road**	**1.03**	**275**	PN	**P**	**19 53 17.5**	**+0.6**
NWEZ	**Newall Road**	**1.09**	**278**	P	**P**	**19 53 18.1**	**+0.5**
NWEZ	**Newall Road**	**1.09**	**278**	PN	**P**	**19 53 18.1**	**+0.5**
MRZ	**Mangatainoka R**	**1.26**	**169**	P	**P**	**19 53 20.6**	**+1.2**
MRZ	**Mangatainoka R**	**1.26**	**169**	PN	**P**	**19 53 20.6**	**+1.1**
MRZ				*e*SN	**S**	**19 53 37.5**	**-0.9**
PWZ	**Pawanui**	**1.38**	**116**	P	**P**	**19 53 22.0**	**+1.2**
PWZ	**Pawanui**	**1.38**	**116**	PN	**P**	**19 53 22.0**	**+1.2**
KIW	**Kapiti Island**	**1.46**	**190**	P	**P**	**19 53 22.5**	**+0.8**
KIW	**Kapiti Island**	**1.46**	**190**	PN	**P**	**19 53 22.5**	**+0.8**
KIW				SN	**S**	**19 53 41.6**	**-1.0**
BFZ	**Birch Farm**	**1.47**	**149**	P	**P**	**19 53 22.8**	**+1.0**
BFZ	**Birch Farm**	**1.47**	**149**	PN	**P**	**19 53 22.8**	**+1.1**
CAW	**Cannon Point**	**1.68**	**185**	P	**P**	**19 53 25.2**	**+0.9**
CAW	**Cannon Point**	**1.68**	**185**	PN	**P**	**19 53 25.2**	**+0.8**
MTW	**Mount Morrison**	**1.74**	**174**	P	**P**	**19 53 25.7**	**+0.7**
MTW	**Mount Morrison**	**1.74**	**174**	PN	**P**	**19 53 25.7**	**+0.7**
MRW	**Makara Radio**	**1.85**	**193**	P	**P**	**19 53 26.9**	**+0.6**
MRW	**Makara Radio**	**1.85**	**193**	PN	**P**	**19 53 26.9**	**+0.7**
URZ	**Urewera**	**1.86**	**52**	P	**P**	**19 53 25.6**	**-0.9**
	52nm,0.3s,baz=244,slow=6.8,SNR=6.0						
URZ				S	**S**	**19 53 48.0**	**-2.9**
	168nm,0.3s,baz=95,slow=20,SNR=12						
URZ	**Urewera**	**1.86**	**52**	P	**P**	**19 53 25.7**	**-0.7**
URZ	**Urewera**	**1.86**	**52**	PN	**P**	**19 53 25.7**	**-0.8**
URZ				SN	**S**	**19 53 47.7**	**-3.3**
WEL	**Wellington**	**1.89**	**191**	P	**P**	**19 53 27.4**	**+0.6**
WEL	**Wellington**	**1.89**	**191**	PN	**P**	**19 53 27.3**	**+0.5**
KNZ	**Kokohu**	**1.92**	**79**	P	**P**	**19 53 27.1**	**-0.1**
KNZ	**Kokohu**	**1.92**	**79**	PN	**P**	**19 53 27.1**	**-0.1**
SNZO	**South Karori**	**1.93**	**192**	P	**P**	**19 53 27.7**	**+0.5**
SNZO	**South Karori**	**1.93**	**192**	PN	**P**	**19 53 27.7**	**+0.5**
SNZO				PN	**P**	**19 53 27.7**	**+0.5**
PAWZ	**Paruwai Farm**	**1.96**	**176**	PN	**P**	**19 53 28.2**	**+0.6**
MSWZ	**Moikau Station**	**1.98**	**180**	P	**P**	**19 53 28.6**	**+0.6**
MSWZ	**Moikau Station**	**1.98**	**180**	PN	**P**	**19 53 28.6**	**+0.6**
BHW	**Baring Head**	**2.00**	**188**	P	**P**	**19 53 28.6**	**+0.5**
BHW	**Baring Head**	**2.00**	**188**	PN	**P**	**19 53 28.6**	**+0.5**
MWZ	**Matawai**	**2.08**	**59**	P	**P**	**19 53 28.7**	**-0.6**
MWZ	**Matawai**	**2.08**	**59**	PN	**P**	**19 53 28.7**	**-0.6**
NNZ	**Nelson**	**2.29**	**218**	P	**P**	**19 53 31.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**2.51**	**204**	P	**P**	**19 53 34.8**	**-0.1**
QRZ	**Quartz Range**	**2.51**	**235**	P	**P**	**19 53 34.3**	**-0.6**
PUZ	**Puketiti**	**2.71**	**61**	P	**P**	**19 53 36.3**	**-1.2**
MXZ	**Matakaoa Point**	**3.03**	**53**	P	**P**	**19 53 40.7**	**-1.1**
KHZ	**Kahutara**	**3.26**	**203**	P	**P**	**19 53 44.2**	**-0.6**
DSZ	**Denniston Nort**	**3.50**	**227**	P	**P**	**19 53 46.8**	**-1.3**
LTZ	**Lake Taylor**	**4.04**	**213**	*e*P	**P**	**19 53 53.4**	**-1.9**
CRLZ	**Canterbury Las**	**4.59**	**205**	P	**P**	**19 54 00.2**	**-2.5**
MQZ	**McQueen's Vall**	**4.70**	**204**	P	**P**	**19 54 01.1**	**-3.1**
RPZ	**Rata Peaks**	**5.32**	**215**	P	**P**	**19 54 10.8**	**-1.7**
	baz=27,slow=3.6						
RPZ				S	**S**	**19 55 07.2**	**-5.8**
	29nm,0.3s,baz=24,slow=17,SNR=24						
RPZ	**Rata Peaks**	**5.32**	**215**	P	**P**	**19 54 10.5**	**-2.0**
LBZ	**Lake Benmore**	**6.23**	**216**	*e*P	**P**	**19 54 22.7**	**-2.2**
ODZ	**Otahua Downs**	**6.57**	**210**	*e*P	**P**	**19 54 26.7**	**-2.8**
STKA	**Stephens Creek**	**28.25**	**275**	P	**P**	**19 58 38.4**	**+0.7**
	2.4nm,1.1s,mb3.6,baz=132,slow=15,SNR=2.3						
ASAR	**Alice Springs**	**38.23**	**282**	P	**P**	**20 00 03.9**	**+0.3**
	1.1nm,0.6s,mb3.9,baz=132,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**40.09**	**287**	P	**P**	**20 00 19.1**	**+0.1**
	1.1nm,0.4s,mb4.0,baz=125,slow=8.2,SNR=42						

*IDC **06** 19:56:36.9±2.0, 22.96S×168.96E, mb3.9/5, mb1 4.1/5, mb1mx4.0/13, mbtmp3.9/5, Error ellipse: s-maj=47.2km s-min=38.1km az=50.0*
ISC 06 19:56:32.5±2.4**, 22.1S**±0.4×**169.7E**±0.1**, h33**^{km}**, n8,** σ**0^{s}70**/9**, mb3.9**/5**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.02**	**270**	*e*P	**P**	**19 57 19.5**	**+0.5**
DZM				*e*S	**S**	**19 57 55.5**	**+1.1**
NOUC	**Port Laguerre**	**3.15**	**270**	*e*P	**P**	**19 57 21.3**	**+0.4**
NOUC				*e*S	**S**	**19 57 56.6**	**-1.1**
STKA	**Stephens Creek**	**26.80**	**243**	P	**P**	**20 02 10.8**	**-0.7**
	3.1nm,0.8s,mb3.9,baz=85,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**32.96**	**260**	P	**P**	**20 03 06.2**	**-0.3**
	0.9nm,0.8s,mb3.8,baz=83,slow=9.5,SNR=6.1						
WRA	**Warramunga Arr**	**33.03**	**267**	P	**P**	**20 03 06.7**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=100,slow=8.2,SNR=7.3						
VNDA	**Vanda**	**55.59**	**182**	P	**P**	**20 06 07.3**	**+0.6**
	2.0nm,0.9s,mb4.1,baz=358,slow=9.8,SNR=5.4						
CMAR	**Chiang Mai Arr**	**80.07**	**295**	P	**P**	**20 08 48.6**	**+7.6**
	0.8nm,0.5s,mb3.9,baz=129,slow=4.1,SNR=6.4						
GERES	**GERESS Array B**	**147.20**	**330**	PKPbc	PKPdf	20 16 21.7	+12
	0.4nm,0.8s,baz=288,slow=6.2,SNR=3.8						

IDC 06 20:16:04.5±1.1**, 22.87N**×**144.10E, mb3.6**/5**, mb1 3.9**/5**, mb1mx3.6**/17**, mbtmp3.6**/5**, Error ellipse: s-maj=84.2km s-min=23.1km az=106.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.60**	**193**	P	P	20 24 10.5	-2.0
	0.4nm,0.4s,baz=17,slow=9.1,SNR=10						
ASAR	**Alice Springs**	**47.31**	**193**	P	P	20 24 40.2	-1.8
	0.5nm,1.0s,baz=9.5,slow=6.0,SNR=4.1						
ILAR	**Eielson Array**	**60.61**	**27**	P	P	20 26 16.4	-2.7
	2.0nm,1.3s,baz=281,slow=4.6,SNR=4.9						
YKA	**Yellowknife Ar**	**75.03**	**28**	P	P	20 27 48.3	-1.0
	0.4nm,0.4s,baz=292,slow=6.0,SNR=5.7						
FINES	**FINESS Array B**	**82.49**	**335**	P	P	20 28 28.4	-1.6
	0.8nm,0.9s,baz=63,slow=3.1,SNR=3.9						

*IDC **06** 20:20:34.6±3.2, 12.77N×92.56E, mb3.4/3, mb1 3.5/4, mb1mx3.4/15, mbtmp3.3/4, ML3.3/1, Error ellipse: s-maj=83.4km s-min=29.0km az=81.0*
*NEIC **06** 20:20:40.5±1.2, 12.80N×92.84E, h30^{km}, mb3.7/2, Error ellipse: s-maj=26.7km s-min=13.5km az=52.0*
ISC 06 20:20:40.1±5.3**, 12.9N**±0.3×**93.0E**±0.2**, h42**^{km}±50^{km}**, n9,** σ**0^{s}99**/9**, mb3.3**/3**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.02**	**45**	Pn	**P**	**20 22 36.9**	**-0.1**
	0.1nm,0.3s,baz=237,slow=15,SNR=7.3						
JIRN	**Jiri**	**16.04**	**338**	*e*P	**P**	**20 24 29.7**	**+5.4**
DMN	**Daman**	**16.42**	**335**	*e*P	**P**	**20 24 34.0**	**+4.9**
KKN	**Kakani**	**16.51**	**335**	*e*P	**P**	**20 24 32.1**	**+1.9**
GKN	**Gorkha**	**16.96**	**334**	*e*P	**P**	**20 24 34.3**	**-1.6**
	5.1nm,0.3s						
KOLN	**Koldanda**	**17.23**	**331**	*e*P	**P**	**20 24 38.9**	**-0.4**
	3.4nm,0.4s						
SONM	**Songino Array**	**36.64**	**15**	P	**P**	**20 27 44.4**	**0.0**
	0.1nm,0.3s,mb3.1,baz=215,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**52.16**	**128**	P	**P**	**20 29 49.0**	**0.0**
	0.3nm,0.5s,mb3.5,baz=307,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**54.04**	**132**	P	**P**	**20 30 03.0**	**0.0**
	0.3nm,0.7s,mb3.3,baz=310,slow=6.9,SNR=5.0						

IDC 06 20:39:31.9±1.9**, 3.20N**×**92.76E, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.5**/15**, mbtmp3.3**/4**, ML3.7**/1**, Error ellipse: s-maj=59.7km s-min=33.5km az=59.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**16.33**	**21**	Pn	P	20 43 21.9	-2.5
	0.1nm,0.3s,baz=214,slow=13,SNR=3.0						
SONM	**Songino Array**	**45.99**	**13**	P	P	20 47 57.3	-1.4
	0.2nm,0.6s,baz=197,slow=8.9,SNR=2.8						
WRA	**Warramunga Arr**	**46.85**	**121**	P	P	20 48 04.0	-1.9
	0.3nm,0.5s,baz=297,slow=8.9,SNR=5.3						
GERES	**GERESS Array B**	**80.40**	**319**	P	P	20 51 45.5	-1.4
	0.1nm,0.3s,baz=108,slow=4.2,SNR=4.2						

*IDC **06** 20:55:26.6±4.7, 6.28S×149.40E, h19^{km}±27^{km}, mb3.9/6, mb1 4.3/9, mb1mx4.2/14, mbtmp4.2/9, ML4.2/3, MS3.8/6, Ms1 3.8/6, ms1mx3.4/23, Error ellipse: s-maj=34.4km s-min=18.8km az=105.0*
*NEIC **06** 20:55:29.6±1.9, 6.35S×149.27E, h42^{km}±16^{km}, mb4.6/6, Error ellipse: s-maj=15.6km s-min=13.4km az=150.0*
ISC 06 20:55:24.8±2.7**, 6.29S**±0.09×**149.3E**±0.1**, h19**^{km}±20^{km}**, n28,** σ**1^{s}02**/28**, mb4.2**/9**, MS3.9**/4**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**214**	Pn	**Pn**	**20 56 25.4**	**+2.5**
	97nm,0.3s,baz=31,slow=5.7,SNR=232						
PMG				Sn	**Sn**	**20 57 06.7**	**-0.1**
	38nm,0.3s,baz=59,slow=18,SNR=13						
PMG				LR	LR	20 58 05.6	
	comp=Z,1μm,20.8s,baz=20,slow=42						
PMG	**Port Moresby**	**3.73**	**214**	⇓*e*P	**Pn**	**20 56 25.0**	**+2.2**
PMG				*e*S	**Sn**	**20 57 06.0**	**-0.7**
PMG				LR	LR	20 58 05.6	
CTA	**Charters Tower**	**14.03**	**192**	Pn	**P**	**20 58 44.3**	**-0.7**
	0.2nm,0.3s,baz=17,slow=13,SNR=2.8						
CTA				LR	LR	21 03 52.1	
	comp=Z,316nm,19.8s,baz=37,slow=36						
CTAO	**Charters Tower**	**14.03**	**192**	*e*P	**P**	**20 58 45.0**	**0.0**
KAKA	**Kakadu**	**17.76**	**248**	*e*P	**P**	**20 59 34.2**	**+1.2**
	11nm,0.6s						
KAKA				*e*S	**S**	**21 02 47.4**	**-0.7**
WRAB	**Tennant Creek**	**19.84**	**225**	P	**P**	**20 59 57.0**	**-0.7**
	403nm,0.7s,SNR=19						
WRAB	**Tennant Creek**	**19.84**	**225**	*e*P	**P**	**20 59 56.7**	**-1.0**
	72nm,0.8s						
WB2	**Warramunga Arr**	**19.85**	**225**	*e*P	**P**	**20 59 56.5**	**-1.3**
WB2				*i*		21 00 09.0	
WRA	**Warramunga Arr**	**19.86**	**225**	P	**P**	**20 59 57.2**	**-0.7**
	2.2nm,0.3s,baz=50,slow=11,SNR=169						
WRA				S	**S**	**21 03 29.9**	**-5.0**
	0.1nm,0.3s,baz=49,slow=22,SNR=4.6						
WRA				ScP		21 07 49.1	
	0.0nm,0.3s,baz=35,slow=2.4,SNR=9.1						
ASAR	**Alice Springs**	**22.73**	**219**	P	**P**	**21 00 27.8**	**+0.6**
	6.0nm,0.6s,mb4.2,baz=53,slow=9.4,SNR=118						
ASAR				PcP	PcP	21 04 20.1	-0.2
	1.5nm,0.9s,baz=68,slow=4.9,SNR=5.8						
ASAR				S	**S**	**21 04 30.1**	**+0.1**
	1.0nm,0.7s,baz=70,slow=3.0,SNR=4.2						
ASAR				LR	LR	21 09 42.8	
	comp=Z,162nm,19.8s,MS3.5,baz=31,slow=38						
ASPA	**Alice Springs**	**22.73**	**219**	*e*P	**P**	**21 00 27.1**	**-0.1**
ASPA				*e*S	**S**	**21 04 32.7**	**+2.6**
FITZ	**Fitzroy Crossi**	**25.86**	**241**	*e*P	**P**	**21 00 58.0**	**+0.7**
	19nm,0.6s,mb4.8						
FITZ				*e*S	**S**	**21 05 27.2**	**+3.6**
STKA	**Stephens Creek**	**26.45**	**195**	*e*P	**P**	**21 01 02.7**	**+0.1**
	6.8nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**26.45**	**195**	P	**P**	**21 01 03.0**	**+0.4**
	4.2nm,0.7s,mb4.1,baz=26,slow=15,SNR=9.6						
MBWA	**Marble Bar**	**32.18**	**240**	*e*P	**P**	**21 01 51.9**	**-2.1**
	8.1nm,0.8s,mb4.6						
JHJ	**Hachijo jima 2**	**40.21**	**348**	LR	LR	21 17 24.2	
	comp=Z,186nm,19.4s,MS3.9,baz=246,slow=33						
URZ	**Urewera**	**40.63**	**146**	LR	LR	21 17 48.8	
	comp=Z,153nm,19.8s,MS3.9,baz=157,slow=33						
RPZ	**Rata Peaks**	**41.91**	**156**	LR	LR	21 17 30.8	
	comp=Z,298nm,21.6s,MS4.1,baz=182,slow=32						
CMAR	**Chiang Mai Arr**	**55.37**	**297**	P	**P**	**21 05 00.7**	**+0.3**
	0.3nm,0.6s,mb3.5,baz=125,slow=5.5,SNR=3.7						
SONM	**Songino Array**	**65.76**	**330**	P	**P**	**21 06 11.5**	**+0.7**
	0.6nm,0.7s,mb3.7,baz=135,slow=6.1,SNR=5.4						
QSPA	**South Pole Qui**	**83.68**	**180**	*e*P	**P**	**21 08 00.0**	**+6.9**
	5.1nm,0.9s,mb4.7						
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**21 07 58.8**	**-0.6**
	1.7nm,0.7s,mb4.3,baz=247,slow=5.1,SNR=14						
INK	**Inuvik**	**91.10**	**21**	P	**P**	**21 08 29.1**	**-0.1**
	1.5nm,0.9s,mb4.3,baz=252,slow=3.2,SNR=4.1						
INK	**Inuvik**	**91.10**	**21**	P	**P**	**21 08 29.3**	**+0.2**
GERES	**GERESS Array B**	**123.40**	**326**	PKP	PKPdf	21 14 22.0	-3.1
	0.7nm,0.6s,SNR=8.9						
LPAZ	**La Paz**	**136.74**	**122**	PKP	PKPdf	21 14 49.9	-1.3
	0.8nm,0.8s,baz=354,slow=2.7,SNR=4.9						
SDV	**Santo Domingo**	**140.39**	**84**	PKPdf	PKPdf	21 14 55.8	-2.2
BDFB	**Brasilia**	**152.30**	**142**	PKP	PKPdf	21 15 16.5	-1.1
	6.4nm,0.6s,baz=136,slow=3.7,SNR=4.3						
BDFB				PKPbc	PKPdf	21 15 21.9	+4.3
	7.0nm,0.7s,baz=220,slow=3.5,SNR=11						

*IDC **06** 21:24:19.3±1.6, 20.08S×67.32E, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, MS4.0/8, Ms1 4.0/8, ms1mx3.8/14, Error ellipse: s-maj=55.6km s-min=23.1km az=47.0*
*NEIC **06** 21:24:21.0±0.6, 20.11S×67.36E, h10^{km}, mb4.7/8, Error ellipse: s-maj=16.5km s-min=14.1km az=86.0*
ISC 06 21:24:19.1±0.7**, 20.1S**±0.1×**67.4E**±0.1**, h10**^{km}**, n27,** σ**1^{s}07**/18**, mb4.4**/15**, MS4.0**/8**, 1C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**13.54**	**22**	*e*P	**P**	**21 27 32.6**	**-1.4**
KMBO	**Kilima Mbogo**	**34.98**	**299**	LR	LR	21 42 09.1	
	comp=Z,129nm,19.2s,MS3.7,baz=85,slow=31						
LBTB	**Lobatse**	**38.79**	**255**	P	**P**	**21 31 46.6**	**+0.8**
MAW	**Mawson**	**47.57**	**182**	LR	LR	21 47 06.5	
	comp=Z,321nm,20.6s,MS4.3,baz=166,slow=29						
CMAR	**Chiang Mai Arr**	**49.26**	**41**	P	**P**	**21 33 10.8**	**+0.5**
	1.4nm,0.9s,mb4.0,baz=238,slow=8.1,SNR=12						
CMAR				LR	LR	21 49 56.5	
	comp=Z,132nm,19.4s,MS3.9,baz=215,slow=31						
KOLN	**Koldanda**	**50.11**	**19**	*e*P	**P**	**21 33 17.0**	**+0.3**
	26nm,1.1s,mb5.2						
DMN	**Daman**	**50.44**	**21**	*e*P	**P**	**21 33 20.6**	**+1.4**
	29nm,1.1s,mb5.2						
GKN	**Gorkha**	**50.65**	**20**	*e*P	**P**	**21 33 22.3**	**+1.5**
	18nm,1.0s,mb5.0						
KKN	**Kakani**	**50.66**	**21**	*e*P	**P**	**21 33 21.9**	**+1.0**
	12nm,0.9s,mb4.9						
JIRN	**Jiri**	**50.85**	**22**	*e*P	**P**	**21 33 23.5**	**+1.2**
	11nm,0.9s,mb4.8						
EIL	**Elat**	**58.53**	**327**	LR	LR	21 55 04.6	
	comp=Z,54nm,19.3s,MS3.7,baz=114,slow=32						
ASF	**Jabal al Asfar**	**59.62**	**330**	LR	LR	21 55 38.3	
	comp=Z,68nm,19.8s,MS3.8,baz=164,slow=32						
ASAR	**Alice Springs**	**61.33**	**107**	P	**P**	**21 34 39.3**	**+1.7**
	1.2nm,0.8s,mb4.1,baz=259,slow=6.3,SNR=11						
ASAR				LR	LR	21 56 58.2	
	comp=Z,165nm,18.2s,MS4.2,baz=231,slow=32						
WRA	**Warramunga Arr**	**62.48**	**103**	P	**P**	**21 34 44.4**	**-1.0**
	2.0nm,1.1s,mb4.2,baz=257,slow=6.2,SNR=8.7						
WRAB	**Tennant Creek**	**62.50**	**103**	*e*P	**P**	**21 34 44.8**	**-0.7**
	5.4nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**62.77**	**6**	*e*P	**P**	**21 34 46.8**	**-0.2**
	2.5nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**66.60**	**117**	P	**P**	**21 35 11.1**	**-0.9**
	1.3nm,0.8s,mb4.0,baz=199,slow=19,SNR=2.2						
STKA				LR	LR	22 00 04.6	
	comp=Z,146nm,18.2s,MS4.2,baz=206,slow=32						
BRTR	**Keskin Array B**	**67.35**	**332**	P	**P**	**21 35 15.6**	**-1.0**
	0.3nm,0.5s,mb3.6,baz=332,slow=24,SNR=2.2						
QSPA	**South Pole Qui**	**70.00**	**180**	⇑*i*P	**P**	**21 35 41.6**	**+9.2**
	8.7nm,1.0s,mb4.6						
BVAR	**Borovoye Array**	**72.87**	**2**	P	**P**	**21 35 48.8**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=153,slow=3.3,SNR=4.2						
CHKZ	**Chkalovo**	**73.53**	**2**	*e*P	**P**	**21 35 52.1**	**-1.7**
SONM	**Songino Array**	**76.14**	**26**	P	**P**	**21 36 08.9**	**-0.1**
	0.9nm,1.0s,mb3.7,baz=210,slow=3.9,SNR=7.3						
ARCES	**ARCESS Array B**	**94.23**	**346**	LR	LR	22 18 19.6	
	comp=Z,62nm,21.6s,MS4.0,baz=208,slow=34						
YKA	**Yellowknife Ar**	**137.63**	**1**	PKP	PKPdf	21 43 44.3	-1.9
	0.1nm,0.3s,baz=349,slow=2.4,SNR=2.7						
YKA	**Yellowknife Ar**	**137.63**	**1**	PKP	PKPdf	21 43 44.3	-1.9
ULM	**Lac du Bonnet**	**147.12**	**340**	PKPbc	PKPdf	21 44 05.1	+1.9
	0.9nm,0.6s,baz=211,slow=2.1,SNR=2.0						
ULM	**Lac du Bonnet**	**147.12**	**340**	PKPbc	PKPdf	21 44 05.1	+1.9

*LJU **06** 21:46:18.3, 45.60N×15.02E, h12^{km}, ML2.9*
*NEIC **06** 21:46:19.4±0.4, 45.62N×15.01E, h5^{km}, ML3.5(VIE), ML3.2(LDG), ML3.1(SZGRF), ML3.0(LJU), Error ellipse: s-maj=5.5km s-min=3.0km az=134.0*
NEIC Felt at Koprivnik.
*CSEM **06** 21:46:19.1±0.1, 45.62N×15.05E, h2^{km}, ML3.6/12, Error ellipse: s-maj=1.1km s-min=0.9km az=167.0*
*LDG **06** 21:46:20.5±0.2, 45.80N×15.08E, h10^{km}, Ml3.2/9, Error ellipse: s-maj=6.1km s-min=4.9km az=158.0*
ISC 06 21:46:18.5±0.3**, 45.63N**±0.02×**15.03E**±0.02**, h11**^{km}±2^{km}**, n133,** σ**1^{s}30**/216**, 21C-22D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.20**	**129**	⇑*i*Pg	**Pg**	**21 46 22.4**	**-0.7**
BOJS				*i* Sg	**Sg**	**21 46 25.1**	**-0.9**
	comp=Z,2μm,0.2s						
BOJS	**Bojanci**	**0.20**	**129**	⇑*i*Pg	**Pg**	**21 46 22.4**	**-0.6**
BOJS				*i* Sg	**Sg**	**21 46 25.1**	**-0.9**
	comp=Z,2μm,0.2s						
VISS	**Visnje**	**0.22**	**323**	⇓*i*Pg	**Pg**	**21 46 23.6**	**+0.3**
VISS				*i* Sg	**Sg**	**21 46 27.3**	**+0.8**
	comp=Z,2μm,0.1s						
VISS	**Visnje**	**0.22**	**323**	⇓*i*Pg	**Pg**	**21 46 23.6**	**+0.3**
VISS				*i* Sg	**Sg**	**21 46 27.3**	**+0.8**
	comp=Z,2μm,0.1s						
CRES	**Cresnjev**	**0.36**	**57**	*i* Pg	**Pg**	**21 46 25.8**	**-0.1**
CRES				*i* Sg	**Sg**	**21 46 31.6**	**+0.7**
	comp=Z,2μm,0.5s						
CRES	**Cresnjev**	**0.36**	**57**	*i* Pg	**Pg**	**21 46 25.8**	**-0.1**
CRES				*i* Sg	**Sg**	**21 46 31.6**	**+0.7**
	comp=Z,2μm,0.5s						
LEGS	**Legarje**	**0.38**	**32**	*i* Pg	**Pg**	**21 46 26.3**	**0.0**
LEGS				*i* Sg	**Sg**	**21 46 32.9**	**+1.4**
	comp=Z,1μm,0.2s						
LEGS	**Legarje**	**0.38**	**32**	*i* Pg	**Pg**	**21 46 26.3**	**0.0**
LEGS				*i* Sg	**Sg**	**21 46 32.9**	**+1.4**
	comp=Z,1μm,0.2s						
PDKS	**Podkum**	**0.43**	**357**	*i* Pg	**Pg**	**21 46 27.8**	**+0.4**
PDKS				*e*Sg	**Sg**	**21 46 34.2**	**+1.0**
	comp=Z,1μm,0.2s						
CEY	**Cerknica**	**0.43**	**285**	⇑*i*Pg	**Pg**	**21 46 27.8**	**+0.4**
	comp=Z,472nm,0.2s						
CEY	**Cerknica**	**0.43**	**285**	⇑*i*Pg	**Pg**	**21 46 27.8**	**+0.4**
	comp=Z,472nm,0.2s						
CESS	**Cesta pri Krsk**	**0.46**	**42**	*e*Pg	**Pg**	**21 46 27.8**	**0.0**
GCIS	**Gornji Cirnik**	**0.48**	**60**	⇓*i*Pg	**Pg**	**21 46 28.6**	**+0.2**
	comp=Z,284nm,0.2s						
LJU	**Ljubljana**	**0.54**	**320**	⇑*i*Pg	**Pg**	**21 46 30.0**	**+0.6**
LJU				*e*Sg	**Sg**	**21 46 37.0**	**+0.1**
GOLS	**Golise**	**0.56**	**48**	⇓*i*Pg	**Pg**	**21 46 30.2**	**+0.2**
	comp=Z,1μm,0.5s						
GOLS	**Golise**	**0.56**	**48**	⇓*i*Pg	**Pg**	**21 46 30.2**	**+0.3**
	comp=Z,1μm,0.5s						
DOBS	**Dobrina**	**0.60**	**31**	⇓*i*Pg	**Pg**	**21 46 30.8**	**+0.1**
JAVS	**Javornik**	**0.72**	**292**	*e*Pg	**Pg**	**21 46 32.6**	**-0.5**
VOY	**Vojsko**	**0.89**	**297**	*e*Sg	**Sg**	**21 46 48.5**	**+0.2**
TRI	**Trieste**	**0.89**	**275**	*e*Pn	**Pn**	**21 46 35.2**	**-1.5**
GROS	**Grobnik**	**0.89**	**22**	⇓*i*Pg	**Pg**	**21 46 36.3**	**-0.1**
	comp=Z,428nm,0.3s						
GROS	**Grobnik**	**0.89**	**22**	⇓*i*Pg	**Pg**	**21 46 36.3**	**-0.1**
	comp=Z,428nm,0.3s						
VOJS	**Vojsko**	**0.90**	**297**	⇑*i*Pg	**Pg**	**21 46 35.7**	**-0.8**
OBKA	**Obir**	**0.94**	**339**	⇓*i*PG	**Pg**	**21 46 37.6**	**+0.3**
OBKA				*i* SG	**Sg**	**21 46 50.1**	**+0.2**
	comp=Z,184nm,0.2s						
SISC	**Sisak**	**0.96**	**99**	*i* Pg	**Pg**	**21 46 38.8**	**+1.0**
SISC				*i* Sg	**Sg**	**21 46 51.1**	**+0.6**
SISC	**Sisak**	**0.96**	**99**	*i* Pg	**Pg**	**21 46 38.7**	**+1.0**
SISC				*i* Sg	**Sg**	**21 46 51.1**	**+0.5**
GORS	**Gorjuse**	**0.99**	**314**	*i* Pg	**Pg**	**21 46 37.8**	**-0.6**
GORS				*e*Sg	**Sg**	**21 46 52.3**	**+0.5**
	comp=Z,191nm,0.2s						
GORS	**Gorjuse**	**0.99**	**314**	*i* Pg	**Pg**	**21 46 37.8**	**-0.6**
GORS				*e*Sg	**Sg**	**21 46 52.3**	**+0.5**
	comp=Z,191nm,0.2s						
PERS	**Pernice**	**1.01**	**3**	*i* Pg	**Pg**	**21 46 38.3**	**-0.4**
	comp=Z,487nm,0.3s						
PERS	**Pernice**	**1.01**	**3**	*i* Pg	**Pg**	**21 46 38.3**	**-0.4**
	comp=Z,487nm,0.3s						
BISS	**Bistriski jare**	**1.02**	**4**	⇓*i*Pg	**Pg**	**21 46 38.9**	**-0.1**
CADS	**Cadrg**	**1.08**	**304**	⇓*i*Pg	**Pg**	**21 46 39.2**	**-1.0**
CADS				*i* Sg	**Sg**	**21 46 55.1**	**+0.5**
	comp=Z,299nm,0.2s						
CADS	**Cadrg**	**1.08**	**304**	⇓*i*Pg	**Pg**	**21 46 39.2**	**-1.0**
CADS				*i* Sg	**Sg**	**21 46 55.1**	**+0.5**
	comp=Z,299nm,0.2s						
DRE	**Drenchia**	**1.11**	**300**	⇓*e*Pg	**Pg**	**21 46 39.8**	**-0.9**
DRE				*e*Sg	**Sg**	**21 46 57.0**	**+1.5**
KOGS	**Kog**	**1.18**	**46**	⇓*i*Pg	**Pg**	**21 46 41.6**	**-0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KOGS				eSg	Sg	21 46 59.8	+1.8
ROBS	Robic	1.22	301	ePg	Pg	21 46 41.9	-1.1
ROBS				eSg	Sg	21 47 00.2	+0.8
	comp=Z,75nm,0.2s						
ROBS	Robic	1.22	301	ePg	Pg	21 46 41.9	-1.1
ROBS				eSg	Sg	21 47 00.2	+0.8
	comp=Z,75nm,0.2s						
COLI	Coloredo	1.26	294	⇑ePg	Pg	21 46 43.0	-0.7
COLI				eSg	Sg	21 47 01.5	+1.0
LSR	Lussari	1.34	310	⇓iPg	Pg	21 46 44.5	-0.9
LSR				eSg	Sg	21 47 03.7	+0.3
TLI	Talmassons	1.38	283	ePg	Pg	21 46 45.6	-0.4
BAD	Bernadia	1.39	297	⇑ePg	Pg	21 46 44.7	-1.5
BAD				eSg	Sg	21 47 06.4	+1.7
PTCC	Patocco-Chiusa	1.40	304	ePn	Pn	21 46 45.1	+1.1
PTCC	Patocco-Chiusa	1.40	304	ePn	Pn	21 46 45.1	+1.1
GMNA	Gemona	1.41	298	ePn	Pn	21 46 46.5	+2.4
GMNA	Gemona	1.41	298	ePn	Pn	21 46 46.5	+2.4
BUA	Buia	1.45	295	⇓iPg	Pg	21 46 46.8	-0.8
BUA				eSg	Sg	21 47 08.8	+1.8
BOO	Bordano	1.51	298	⇓iPg	Pg	21 46 47.8	-0.9
BOO				eSg	Sg	21 47 09.6	+0.7
MPRI	Monte Prat	1.55	294	ePg	Pg	21 46 48.0	-1.5
MPRI				eSg	Sg	21 47 11.2	+1.1
PLRO	Paularo	1.60	306	ePg	Pg	21 46 48.6	-1.9
PLRO				eSg	Sg	21 47 11.7	-0.2
ARSA	Arzberg	1.66	12	⇑iPN	Pn	21 46 48.2	+0.5
ARSA				i PG	Pg	21 46 50.9	-0.7
ARSA				i SN	Sn	21 47 10.6	+1.6
ARSA				i SG	Sg	21 47 13.5	-0.2
	comp=Z,98nm,0.5s						
ZOU	Zoufplan	1.70	304	⇓iPg	Pg	21 46 50.4	-2.2
ZOU				eSg	Sg	21 47 15.0	-0.3
MLNI	Malnisio	1.77	288	⇑iPn	Pn	21 46 51.3	+2.0
MLNI				i Sn	Sn	21 47 16.2	+4.4
FVI	Forni Avoltri	1.84	303	ePn	Pn	21 46 52.5	+2.2
FVI	Forni Avoltri	1.84	303	ePn	Pn	21 46 52.5	+2.2
CAE	Caneva	1.85	283	⇑iPn	Pn	21 46 52.3	+1.9
CAE				i Sn	Sn	21 47 18.2	+4.2
KBA	Koelnbreinsper	1.86	322	⇓iPG	Pg	21 46 54.6	-1.0
KBA				i SG	Sg	21 47 19.4	-1.1
	comp=Z,59nm,0.4s						
CSO	Casso	1.99	290	⇑iPn	Pn	21 46 54.0	+1.5
CSO				eSn	Sn	21 47 22.8	+5.2
AFL	Alpe Faloria	2.18	295	⇑iPn	Pn	21 46 57.6	+2.5
AFL				eSn	Sn	21 47 27.1	+4.8
RHK1	Bakonya	2.18	77	eP	Pn	21 46 55.3	+0.1
RHK1				eS	Sn	21 47 20.9	-1.4
FAU	Forcella Aurin	2.21	287	⇑iPn	Pn	21 46 57.3	+1.7
FAU				eSn	Sn	21 47 25.4	+2.3
RHK3	Tenkes	2.27	82	⇓eP	Pn	21 46 57.5	+1.0
RHK3				eS	Sn	21 47 24.9	+0.2
	comp=Z,0.9nm,0.4s						
MOA	Molln	2.28	347	⇑iPN	Pn	21 46 58.9	+2.3
MOA				i SN	Sn	21 47 28.5	+3.6
SOP	Sopron	2.31	27	⇓ePn	Pn	21 46 58.4	+1.4
SOP				eSn	Sn	21 47 28.3	+2.7
TEOL	Teolo	2.38	265	⇑ePn	Pn	21 46 58.9	+0.8
CTI	Castel Tesino	2.40	281	ePn	Pn	21 46 59.8	+1.5
CTI	Castel Tesino	2.40	281	ePn	Pn	21 46 59.8	+1.5
PKSM	Moragy	2.59	76	⇓eP	Pn	21 47 00.6	-0.4
VKA	Vienna	2.78	18	⇑iPG	Pg	21 47 05.9	-8.1
VKA				i SG	Sg	21 47 49.0	-2.1
SNTG	Esanatoglia	2.81	213	ePn	Pn	21 47 05.0	+0.9
SNTG	Esanatoglia	2.81	213	ePn	Pn	21 47 05.0	+0.8
SFI	Santa Sofia	2.85	234	ePn	Pn	21 47 05.4	+0.7
PKSG		2.91	52	eP	Pn	21 47 05.9	+0.2
WATA	Walderalm	2.93	307	⇑iPN	Pn	21 47 08.5	+2.6
WATA				i SN	Sn	21 47 45.9	+4.5
ZST	Bratislava	2.93	28	ePN	Pn	21 47 06.1	+0.1
ZST				eSG	Sg	21 47 54.7	-1.5
VMG	Vicchio	2.99	237	ePn	Pn	21 47 08.0	+1.2
SEI	Scarperia	3.05	240	ePn	Pn	21 47 08.9	+1.3
SEI	Scarperia	3.05	240	ePn	Pn	21 47 08.9	+1.3
SQTA	Sankt Quirin	3.08	302	⇑iPN	Pn	21 47 11.4	+3.3
SQTA				i SN	Sn	21 47 50.8	+5.5
NRCA	Norcia	3.12	207	ePn	Pn	21 47 09.2	+0.6
MOTA	Moosalm	3.21	304	⇑iPN	Pn	21 47 12.3	+2.5
MOTA				i SN	Sn	21 47 54.6	+6.2
SMOL	Smolenice	3.32	29	ePN	Pn	21 47 11.6	+0.2
SMOL				eSG	Sg	21 48 07.3	-1.7
GEC2	GERESS Array S	3.34	345	ePn	Pn	21 47 13.2	+1.5
GEC2				eSn	Sn	21 47 52.1	+0.3
GEC2	GERESS Array S	3.34	345	ePn	Pn	21 47 13.1	+1.4
GEC2				eSn	Sn	21 47 52.1	+0.3
KHC	Kasperske Hory	3.64	345	ePN	Pn	21 47 17.6	+1.7
KHC				ex	x	21 47 30.8	
KHC				eSN	Sn	21 47 58.5	-0.8
KHC				eSG	Sg	21 48 15.3	-4.3
MNS	Montasola	3.66	208	ePn	Pn	21 47 17.6	+1.4
MNS	Montasola	3.66	208	ePn	Pn	21 47 17.6	+1.3
PII	Pisa	3.74	241	ePn	Pn	21 47 16.7	-0.7
PII	Pisa	3.74	241	ePn	Pn	21 47 16.7	-0.7
WET	Wettzell	3.81	338	ePn	Pn	21 47 18.6	+0.3
WET				eSn	Sn	21 48 03.1	-0.5
VRAC	Vranov	3.83	16	ePn	Pn	21 47 19.1	+0.4
VYHS	Vyhne	3.87	41	ePN	Pn	21 47 20.0	+0.8
DAVA	Damuels	3.92	297	⇑iPN	Pn	21 47 22.3	+2.3
DAVA				i SN	Sn	21 48 13.9	+7.4
SDI	San Donato	4.02	193	ePn	Pn	21 47 23.0	+1.6
SDI	San Donato	4.02	193	ePn	Pn	21 47 23.0	+1.6
PSZ	Piszkesteto	4.05	54	ePn	Pn	21 47 18.8	-3.0
PRU	Pruhonice	4.37	356	ePN	Pn	21 47 26.4	0.0
PRU				ePG	Pg	21 47 40.5	-5.3
PRU				eSN	Sn	21 48 15.9	-2.0
PRU				eSG	Sg	21 48 39.8	-4.3
VAI	Varese	4.39	275	ePn	Pn	21 47 27.1	+0.5
MORC	Moravsky Berou	4.48	21	ePn	Pn	21 47 27.6	-0.4
MORC				eSn	Sn	21 48 19.4	-1.3
MORC	Moravsky Berou	4.48	21	ePn	Pn	21 47 27.5	-0.5
NOTT	Nottersdorf	4.62	336	ePn	Pn	21 47 29.5	-0.4
NOTT				eSn	Sn	21 48 20.5	-3.6
DPC	Dobruska-Polom	4.80	10	ePN	Pn	21 47 33.8	+1.3
DPC				ePG	Pg	21 47 46.8	-7.6
DPC				eSN	Sn	21 48 27.4	-1.4
DPC				eSG	Sg	21 48 52.4	-6.0
PVCC	Panska Ves	4.91	357	ePN	Pn	21 47 36.0	+2.0
NKC	Novy Kostel	4.92	340	ePN	Pn	21 47 36.5	+2.3
NKC				ex	x	21 47 51.8	
NKC				eSN	Sn	21 48 29.6	-2.1
NKC				eSG	Sg	21 48 57.0	-5.3
UPC	Upice	4.92	7	eSG	Sg	21 48 56.0	-6.4
TANN	Tannenbergstha	5.09	341	eSn	Sn	21 48 32.8	-3.1
BRG	Berggiesshubel	5.29	353	ePn	Pn	21 47 43.3	+3.8
BRG				e		21 47 58.4	
BRG				eSg	Sg	21 49 06.4	-8.4
BFO	Black Forest	5.32	303	Pn	Pn	21 47 40.1	+0.3
	comp=Z,49nm,0.4s,SNR=11						
PGF	Pioggiola	5.32	237	ePn	Pn	21 47 41.0	+1.1
MOX	Moxa	5.51	337	ePn	Pn	21 47 42.2	-0.3
MOX				eSn	Sn	21 48 42.3	-4.3
MOX				eSg	Sg	21 49 15.8	-6.2
MOX	Moxa	5.51	337	i P	Pn	21 47 42.2	-0.3
MOX				S	Sn	21 48 42.0	-4.6
MOX				Sg	Sg	21 49 16.0	-6.0
MOX	Moxa	5.51	337	ePn	Pn	21 47 41.9	-0.6
MOX				eSn	Sn	21 48 42.2	-4.4
SBF	Sospel	5.69	255	ePn	Pn	21 47 43.8	-1.2
SBF				eSn	Sn	21 48 46.5	-4.6
	comp=Z,19nm,0.6s						
LPG	La Plagne	5.81	272	ePn	Pn	21 47 45.8	-0.9
LPG				eSn	Sn	21 48 48.6	-5.6
	comp=Z,7.8nm,0.6s						
LPL	La Plagne	5.83	272	ePn	Pn	21 47 45.6	-1.3
LPL				eSn	Sn	21 48 48.6	-5.9
	comp=Z,6.0nm,0.5s						
CLL	Collm	5.84	347	ePn	Pn	21 47 48.0	+0.9
CLL				eSn	Sn	21 48 49.0	-5.8
CLL				eSg	Sg	21 49 27.0	-5.9
CLL	Collm	5.84	347	ePN	Pn	21 47 48.0	+0.9
CLL				e		21 48 06.0	
CLL				eSN	Sn	21 48 49.0	-5.8
CLL				e		21 49 13.0	
CLL				eSG	Sg	21 49 27.0	-5.9
MBDF	Montbardon	5.91	264	ePn	Pn	21 47 45.9	-2.2
MBDF				eSn	Sn	21 48 51.7	-4.8
	comp=Z,8.8nm,0.5s						
CDF	Champ du Feu	5.99	300	ePn	Pn	21 47 47.0	-2.2
CDF				eSn	Sn	21 48 50.3	-8.2
	comp=Z,1.8nm,0.3s						
HINF	Hinteralfeld	6.03	294	ePn	Pn	21 47 48.0	-1.8
HINF				eSn	Sn	21 48 51.7	-7.9
	comp=Z,8.0nm,0.4s						
CABF	La Chapelle	6.29	282	ePn	Pn	21 47 51.6	-1.9
HAU	Haudompre	6.41	295	ePn	Pn	21 47 54.2	-1.0
HAU				eSn	Sn	21 49 00.5	-8.6
	comp=Z,6.9nm,0.5s						
ORIF	Oris-en-Rattie	6.50	267	ePn	Pn	21 47 54.9	-1.5
ORIF				eSn	Sn	21 49 04.7	-6.5
	comp=Z,6.5nm,0.6s						
LMR	La Mourre	6.51	252	ePn	Pn	21 47 54.4	-2.2
LMR				eSn	Sn	21 49 05.7	-5.9
	comp=Z,3.2nm,0.3s						
SMRF	Simiane la Rot	6.92	260	ePn	Pn	21 48 00.6	-1.8
VIVF	Saint-Julien-l	7.35	268	ePn	Pn	21 48 05.6	-2.8
MEZF	Maizieres J'vi	7.39	296	ePn	Pn	21 48 05.6	-3.4
SMF	Signal de Mont	7.84	281	ePn	Pn	21 48 13.7	-1.5
LASF	Ste Croix	8.09	263	ePn	P	21 48 16.3	-2.4
SSF	Saint Saulge	8.10	284	ePn	P	21 48 16.6	-2.3
AVF	Avril sur Loir	8.18	282	ePn	P	21 48 18.5	-1.5
GIVF	Givet	8.19	307	ePn	P	21 48 17.6	-2.5
BGF	Bois d'Agland	8.52	281	ePn	P	21 48 23.0	-1.7
TCF	Toulx Ste Croi	8.96	279	ePn	P	21 48 29.3	-1.4

*IDC **06** 21:57:37.5±6.6, 61.97N×150.82W, h56km±67km, mb3.5/1, mb1 3.5/4, mb1mx3.3/17, mbtmp3.5/4, ML3.1/3, Error ellipse: s-maj=45.0km s-min=36.6km az=40.0*
*NEIC **06** 21:57:39.1, 61.92N×150.72W, h66km, ML3.1(PMR), ML3.0(AEIC), After AEIC.*
ISC 06 21:57:36.9±0.3**, 61.92N**±0.02×**150.63W**±0.06**, h88**km±5km**, n67, σ0.66**/78**, mb3.9**/1**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWA	Palmer West	0.45	127	P	P	21 57 50.9	-0.2
CUT	Chulitna	0.52	19	P	P	21 57 51.4	-0.3
STLK	Strandline Lak	0.71	234	P	P	21 57 52.9	-0.7
PMR	Palmer	0.79	114	eP	P	21 57 54.1	-0.2
GHO	Glory Hole Cre	0.82	100	P	P	21 57 55.1	+0.4
VOGL	Vogel Lake	0.93	174	P	P	21 57 57.4	+1.5
VOGL				S	S	21 58 10.0	-0.1
RC01	Rabbit Creek A	0.94	152	P	P	21 57 55.5	-0.4
RC01				S	S	21 58 09.6	-0.7
CRP	Crater Peak	0.98	229	P	P	21 57 56.2	-0.2
CRP				S	S	21 58 10.2	-0.9
SPU	Mount Spurr	1.01	223	P	P	21 57 56.5	-0.3
CKT	Bend	1.04	227	P	P	21 57 57.0	-0.2
BGL	Barrier Glacie	1.07	233	P	P	21 57 57.5	0.0
SML	Sawmill	1.09	95	P	P	21 57 58.4	+0.6
SML				S	S	21 58 13.9	+0.4
KNK	Knik Glacier	1.16	115	P	P	21 57 59.3	+0.7
HUR	Hurricane	1.16	23	P	P	21 57 59.2	+0.5
HUR				S	S	21 58 15.1	+0.2
NKA	Nikishka	1.22	194	P	P	21 58 01.6	+2.3
SLKM	Skilak Lake	1.43	172	P	P	21 58 02.5	+0.4
SLKM				S	S	21 58 20.3	-0.4
PWL	Port Wells	1.53	133	P	P	21 58 03.6	+0.1
TRF	Thorofare Moun	1.55	6	P	P	21 58 04.0	+0.4
TRF				S	S	21 58 23.0	-0.3
SCM	Sheep Creek Mo	1.57	92	P	P	21 58 04.7	+0.8
RDT	Redoubt	1.60	213	P	P	21 58 04.3	+0.1
KTH	Kantishna Hill	1.65	355	P	P	21 58 05.4	+0.5
KTH				S	S	21 58 25.5	0.0
DFR	Drift River	1.66	218	P	P	21 58 05.3	+0.3
RND	Reindeer	1.70	28	P	P	21 58 06.5	+0.9
RDN	Redoubt North	1.75	217	P	P	21 58 06.3	+0.2
NCT	North Crescent	1.76	220	P	P	21 58 06.7	+0.4
RSO	Redoubt South	1.79	216	P	P	21 58 07.4	+0.7
SEW	Seward	1.91	162	P	P	21 58 08.5	+0.2
SEW				S	S	21 58 30.4	-1.2
MCK	McKinley	1.98	22	P	P	21 58 10.1	+0.9
GLI	Glacier Island	2.00	120	P	P	21 58 09.1	-0.4
BRLK	Bradley Lake	2.17	183	P	P	21 58 11.9	+0.1
ILIM	Iliamna	2.17	213	P	P	21 58 11.8	0.0
VLZ	Valdez	2.21	109	P	P	21 58 12.1	-0.3
INE	Iliamna NE	2.21	214	P	P	21 58 12.5	+0.1
ILW	Iliamna West	2.23	214	P	P	21 58 13.3	+0.6
FID	Port Fidalgo	2.32	119	P	P	21 58 13.2	-0.8
LTI	Latouche	2.32	143	P	P	21 58 13.1	-0.9
BWN	Browne	2.32	13	P	P	21 58 14.6	+0.6
CNPM	China Poot	2.42	187	P	P	21 58 15.4	+0.1
DIV	Divide	2.46	107	P	P	21 58 15.6	-0.3
TZL	Tazlina	2.46	85	P	P	21 58 17.3	+1.4
SVW2	Sparrevohn	2.51	253	P	P	21 58 15.9	-0.7
HIN	Hinchinbrook I	2.52	126	P	P	21 58 16.2	-0.5
PAX	Paxson	2.62	64	P	P	21 58 19.3	+1.1
TT01	Tatalina	2.70	294	P	P	21 58 18.4	-0.9
THY	Trims Highway	2.71	54	P	P	21 58 20.6	+1.3
EYAK	Cordova Ski Ar	2.73	118	P	P	21 58 20.3	+0.6
HDA	Harding Lake	3.00	32	P	P	21 58 23.8	+0.3
CCB	Clear Creek Bu	3.02	24	P	P	21 58 23.6	-0.1
MLY	Manley	3.12	359	P	P	21 58 25.0	-0.2
COLA	College	3.22	22	P	P	21 58 26.4	-0.1
MDM	Murphy Dome	3.24	18	P	P	21 58 26.6	0.0
GLB	Gilahina Butte	3.29	95	P	P	21 58 27.4	0.0
ILAR	Eielson Array	3.32	29	P	P	21 58 27.7	-0.2
	4.8nm,0.3s,baz=215,slow=14,SNR=283						
ILAR				S	S	21 59 05.7	-0.7
	3.7nm,0.3s,baz=217,slow=24,SNR=9.8						
IL1	Eielson Array	3.32	29	P	P	21 58 27.4	-0.4
MENT	Mentasta	3.37	69	P	P	21 58 28.0	-0.6
DOT	Dot Lake	3.48	57	P	P	21 58 29.8	-0.3
BALM	Baldy	4.07	99	P	P	21 58 37.2	-1.0
BCA3	Beaver Creek A	4.26	70	P	P	21 58 39.5	-1.4
IM3	Indian Mountai	4.31	343	P	P	21 58 40.8	-0.7
IMA	Indian Mountai	4.38	343	eP	P	21 58 42.5	0.0
COLD	Coldfoot	5.33	2	P	P	21 58 54.4	-1.2
DAWY	Dawson	5.56	62	P	P	21 58 57.9	-0.6
BM3	Burnt Mountain	6.09	22	P	P	21 59 05.6	-0.4
INK	Inuvik	9.62	41	P	P	21 59 53.2	-0.7
	0.2nm,0.3s,baz=216,slow=13,SNR=7.7						
INK				S	S	22 01 40.3	-0.7
	0.1nm,0.3s,baz=220,slow=8.4,SNR=2.8						
YKA	Yellowknife Ar	16.68	72	P	P	22 01 26.7	+0.8
	0.0nm,0.3s,baz=283,slow=11,SNR=5.1						
YKA	Yellowknife Ar	16.68	72	P	P	22 01 26.7	+0.8
SONM	Songino Array	54.59	306	P	P	22 06 59.2	+1.4
	0.6nm,0.5s,mb3.9,baz=39,slow=7.2,SNR=8.1						

*NEIC **06** 22:00:56.1±0.8, 44.09N×105.46W, ML3.3, Error ellipse: s-maj=13.8km s-min=9.3km az=161.0, Suspected Mining explosion.*
NEIC 25 km [15 miles] S of Gillette.
*IDC **06** 22:00:59.9±1.0, 44.19N×105.72W, mb1 3.4/5, mb1mx3.3/21, mbtmp3.1/5, ML3.2/5, Error ellipse: s-maj=20.9km s-min=8.5km az=145.0*
ISC 06 22:00:58.8±1.1**, 44.05N**±0.07×**105.7W**±0.1**, n26, σ1.83**/28**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	Pilot Hill	2.75	177	eP	Pn	22 01 42.1	-2.8
PHWY				eS	Sn	22 02 17.3	-2.0
BW06	Boulder Array	3.12	247	eP	Pn	22 01 53.9	+3.7
PDAR	Pinedale Array	3.12	247	Pn	Pn	22 01 54.2	+4.1
	1.9nm,0.3s,baz=72,slow=17,SNR=32						
PDAR				Pg	Pg	22 01 59.2	-1.8
	2.8nm,0.3s,baz=72,slow=18,SNR=37						
PDAR				Lg		22 02 36.2	
	1.6nm,0.3s,baz=66,slow=22,SNR=5.7						
LKWY	Lake	3.44	280	P	Pn	22 01 56.9	+2.1
LOHW	Long Hollow	3.61	265	eP	Pn	22 01 57.3	+0.2
MOOW	Moose Ponds	3.69	267	eP	Pn	22 01 56.8	-1.5
WUWY	Wally Ulrich	3.72	264	eP	Pn	22 01 56.4	-2.3
SNOW	Snow King Moun	3.74	263	eP	Pn	22 01 57.1	-1.9
YFT	Old Faithful	3.74	278	P	Pn	22 01 59.2	+0.2
IMW	Indian Meadow	3.82	270	eP	Pn	22 01 58.1	-1.9
TPAW	Teton Pass	3.88	264	eP	Pn	22 02 00.6	-0.3
RRI2	Red Ridge	4.17	262	eP	Pn	22 02 03.3	-1.8
ISCO	Idaho Springs	4.25	180	eP	Pn	22 02 06.7	+0.5
DGMT	Dagmar	4.54	12	P	Pn	22 02 12.8	+2.5
BOZ	Bozeman (W)	4.54	293	eP	Pn	22 02 12.7	+2.4
HWUT	Hardware Ranch	4.98	243	eP	Pn	22 02 19.0	+2.3
	7.0nm,0.6s						
TCUT	Toone Canyon	5.16	237	eP	Pn	22 02 21.6	+2.5
JLU	Jordanelle	5.50	233	P	Pn	22 02 24.8	+0.8
SDCO	Great Sand Dun	6.30	179	eP	Pn	22 02 36.5	+1.2
NEW	Newport	9.00	302	Lg		22 05 39.1	
	0.1nm,0.3s,baz=138,slow=6.0,SNR=1.9						
ULM	Lac du Bonnet	9.10	44	eP	P	22 03 06.8	-7.5
ULM				Pn	P	22 03 08.6	-5.8
ULM				Lg		22 05 37.3	
ULM	Lac du Bonnet	9.10	44	Pn	P	22 03 08.6	-5.8
	0.6nm,0.3s,baz=226,slow=13,SNR=6.2						
ULM				Lg		22 05 37.3	
	0.3nm,0.3s,baz=132,slow=20,SNR=4.1						
NVAR	Mina Array Bea	11.05	244	Pn	P	22 03 43.8	+2.7
NVAR	Mina Array Bea	11.05	244	Pn	P	22 03 43.8	+2.7
	0.1nm,0.3s,baz=58,slow=14,SNR=3.5						
TXAR	Lajitas Array	14.77	173	Pn	P	22 04 33.1	+2.3
	0.0nm,0.3s,baz=352,slow=13,SNR=2.2						
TXAR				Lg		22 08 43.9	
	0.0nm,0.3s,baz=41,slow=13,SNR=3.6						
YKA	Yellowknife Ar	19.20	347	P	P	22 05 25.1	-1.3
	0.1nm,0.3s,baz=161,slow=13,SNR=3.4						

IGQ 06 22:25:37.1, 2.79S×78.08W, h12km±4km, mb4.1, 4C-1D, Error ellipse: s-maj=12.2km s-min=2.6km az=158.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.33	343	P	Pb	22 26 01.7	+0.2
ARRY				S	Sb	22 26 18.3	-0.1
ULBA	Ulba	1.37	346	⇑P	Pn	22 26 03.3	+1.1
ULBA				S	Sb	22 26 21.3	+1.7
RETU	Refugio	1.38	344	⇓P	Pn	22 26 03.5	+1.1
RETU				S	Sb	22 26 22.5	+2.6
CUSU	Cusua	1.40	343	P	Pn	22 26 03.1	+0.5
RUN2	Runtun	1.40	346	P	Pn	22 26 04.0	+1.4
RUN2				S	Sb	22 26 23.1	+2.7
IGUA	Igualata	1.41	336	P	Pn	22 26 04.8	+2.0
IGUA				S	Sb	22 26 24.5	+3.9
JUIV	Juive	1.41	344	⇑P	Pn	22 26 03.3	+0.6
JUIV				S	Sb	22 26 21.6	+0.8
PISA	Pisayambo	1.75	350	⇑P	Pn	22 26 09.6	+2.0
PISA				S	Sn	22 26 32.4	+2.5
TAMB	Tambo	2.10	352	P	Pn	22 26 15.4	+2.7
TAMB				S	Sn	22 26 43.2	+4.3
VC1	Cotopaxi 1	2.16	351	P	Pn	22 26 16.6	+3.1
NAS1	Nasa	2.18	349	P	Pn	22 26 17.3	+3.5
NAS1				S	Sn	22 26 46.7	+5.9
ANTI	Antisana	2.33	358	⇑P	Pn	22 26 18.1	+2.2
ANTI				S	Sn	22 26 48.3	+3.7
JUA2	San Juan 2	2.61	348	P	Pn	22 26 25.2	+5.2
TERV	Terraza Guagua	2.65	348	P	Pn	22 26 25.9	+5.4
PINO	Pino	2.67	348	P	Pn	22 26 25.8	+5.1
YANA	Yana	2.70	349	P	Pn	22 26 26.0	+4.8
YANA				S	Sn	22 27 02.0	+7.9
CONE	Cono NE Rev Vo	2.74	9	P	Pn	22 26 24.6	+2.9
ELAGU	Cayambe Volc	2.75	2	P	Pn	22 26 25.1	+3.2
CAYR	Refugio Cayamb	2.79	1	P	Pn	22 26 26.4	+4.0
JOR1	San Jorge 1	2.83	349	P	Pn	22 26 25.2	+2.2
CAYA	Cayambe	2.84	2	P	Pn	22 26 26.4	+3.1
HOJA	Cerro de Hojas	3.01	305	P	Pn	22 26 28.8	+3.2
COTA	Cotacachi	3.12	355	P	Pn	22 26 35.5	+8.4
ECEN	Cerro Negro	3.59	2	P	Pn	22 26 40.3	+6.5

*BJI **06** 22:32:47.5, 45.60N×26.50E, h146km, mB4.8, mb4.3*
*CSEM **06** 22:32:47.9±0.1, 45.64N×26.51E, h155km±1km, MD4.6/4, Error ellipse: s-maj=2.3km s-min=1.8km az=40.0*
*BUC **06** 22:32:48.0±0.5, 45.66N×26.51E, h160km±4km, MD4.5/4, Error ellipse: s-maj=3.3km s-min=2.9km az=8.0*
*MOS **06** 22:32:49.0±0.8, 45.78N×26.45E, h132km, mb4.0/1, Error ellipse: s-maj=10.5km s-min=5.5km az=125.5*
*NEIC **06** 22:32:49.1, 45.62N×26.50E, h146km, mb4.0/3, After BUC.*
*IDC **06** 22:32:49.0±0.5, 45.64N×26.28E, h147km±5km, mb3.3/6, mb1 3.5/11, mb1mx3.4/21, mbtmp3.8/11, Error ellipse: s-maj=18.9km s-min=15.6km az=11.0*
ISC 06 22:32:47.9±0.2**, 45.66N**±0.02×**26.51E**±0.03**, h154**km±2km**, n102, σ1.02**/134**, mb3.7**/7**, 15C-19D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.26	37	⇑iP	P	22 33 09.6	+0.4
VRI				i S	S	22 33 25.1	-0.4
MLR	Muntele Rosu	0.43	247	P	P	22 33 10.2	+0.4
	137nm,0.3s,baz=74,slow=2.0,SNR=1760						
MLR				S	S	22 33 25.6	-1.1
	702nm,0.3s,baz=235,slow=22,SNR=115						
MLR	Muntele Rosu	0.43	247	⇑iP	P	22 33 10.3	+0.4
MLR				i S	S	22 33 27.0	+0.3
ISR	Istrita	0.54	177	⇓iP	P	22 33 11.1	+0.7
SECR		0.70	207	⇓iP	P	22 33 12.0	+0.8
SECR				eS	S	22 33 29.0	-0.1
SNX	Sinaia	0.76	247	⇓iP	P	22 33 12.7	+1.1
SNX				i S	S	22 33 30.2	+0.4
FULR		0.78	184	⇓iP	P	22 33 12.5	+0.9
FULR				i S	S	22 33 30.8	+0.9
PGOR	Pogoanele	0.83	156	⇑iP	P	22 33 13.0	+1.0
PGOR	Pogoanele	0.83	156	S	S	22 33 31.9	+1.4
MTUR	Matau	1.11	247	⇑iP	P	22 33 15.0	+0.8
MTUR				i S	S	22 33 35.4	+0.9
MTUR	Matau	1.11	247	⇑iP	P	22 33 15.0	+0.8
MTUR				i S	S	22 33 35.3	+0.8
AMRR		1.20	151	⇓iP	P	22 33 15.9	+0.8
AMRR				i S	S	22 33 36.0	-0.1
CFR	Carcaliu	1.24	112	⇑iP	P	22 33 15.9	+0.4
CFR				i S	S	22 33 36.1	-0.7
BUC	Bucharest	1.28	193	⇓iP	P	22 33 17.2	+1.3
BUC				i S	S	22 33 38.1	+0.6
CIOR	Ciorogarla	1.29	200	⇑iP	P	22 33 16.4	+0.4
CIOR				i S	S	22 33 37.0	-0.7
BUC1	Bucharest	1.36	195	P	P	22 33 17.3	+0.7
BUC1	Bucharest	1.36	195	⇓iP	P	22 33 17.2	+0.6
BUC1				i S	S	22 33 38.1	-0.7
BUC1	Bucharest	1.36	195	⇓iP	P	22 33 17.2	+0.6
BUC1				S	S	22 33 38.2	-0.6
HARR	Harsova	1.40	134	⇓iP	P	22 33 17.6	+0.5
HARR				i S	S	22 33 38.1	-1.5
TLCR		1.69	106	⇓iP	P	22 33 20.6	+0.5
TLCR				i S	S	22 33 44.5	-0.5
TLCR		1.69	106	⇓iP	P	22 33 20.6	+0.5
TLCR				i S	S	22 33 44.5	-0.5
IAS	Iasi	1.70	25	⇑iP	P	22 33 20.6	+0.4
IAS				i S	S	22 33 43.7	-1.4
CVD	Cernavoda	1.73	141	⇓P	P	22 33 21.0	+0.5
CVD				S	S	22 33 45.2	-0.5
CVD	Cernavoda	1.73	141	⇓P	P	22 33 21.0	+0.5
CVD				S	S	22 33 45.2	-0.5
TIRR	Tirgusor	1.81	131	⇓iP	P	22 33 21.9	+0.5
TIRR				i S	S	22 33 45.8	-1.4
MSAB	Monastry St. A	1.83	149	⇓iP	P	22 33 22.3	+0.7
MSAB				i S	S	22 33 47.0	-0.6
KIS	Kishinev	2.08	49	αiP	P	22 33 24.0	-0.6
KIS				i S	S	22 33 50.0	-2.8
KIS				pmax	pmax		
	comp=Z,670nm,0.5s						
KIS				pmax	pmax		
	comp=Z,940nm,0.6s						
KIS				smax			
	comp=N,3µm,0.4s						
KIS				smax			
	comp=E,7µm,0.4s						
KIS				smax			
	comp=N,5µm,0.4s						
KIS				smax			
	comp=E,8µm,0.4s						
KIS	Kishinev	2.08	49	⇑iP	P	22 33 24.0	-0.6
	comp=E,670nm,0.5s						
KIS				i S	S	22 33 50.0	-2.8
	comp=E,3µm,0.4s						
BURAR	Bucovina Array	2.15	336	⇑iP	P	22 33 27.1	+1.8
BURAR				i S	S	22 33 56.0	+1.8
BURAR	Bucovina Array	2.15	336	⇑iP	P	22 33 27.1	+1.7
BURAR				i S	S	22 33 56.0	+1.8
ZIMR		2.17	203	⇓iP	P	22 33 25.8	+0.2
ZIMR				i S	S	22 33 52.7	-1.8
ZIMR		2.17	203	⇓iP	P	22 33 25.8	+0.2
ZIMR				i S	S	22 33 52.7	-1.9
PSN	Preselentsi	2.31	148	i Pg	P	22 33 28.0	+0.6
CRAR	CRAIOVA	2.34	236	⇓iP	P	22 33 27.7	-0.1
CRAR				S	S	22 33 56.3	-2.1
SZH	Strazhica	2.43	190	i Pg	P	22 33 28.5	-0.4
PRD	Provadia	2.54	165	i Pg	P	22 33 31.0	+0.7
PVL	Pavlikeni	2.59	199	i Pg	P	22 33 31.5	+0.7
JMB	Yambol	3.19	179	i P	P	22 33 38.0	-0.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BZS	Buzias	3.43	271⇑	iP	P	22 33 41.6	-0.1
BZS				iS	S	22 34 22.6	-0.3
PGB	Panagyurishte	3.54	209	eP	P	22 33 43.0	-0.1
PLD	Plovdiv	3.79	201	iP	P	22 33 45.0	-1.3
VTS	Vitosha	3.88	219	iP	P	22 33 47.0	-0.5
VTS	Vitosha	3.88	219	P	P	22 33 46.6	-0.9
RZN	Rozhen	4.18	199	iP	P	22 33 51.0	-0.4
KOLS	Kolonicke sedl	4.36	320	iPN	P	22 33 54.2	+0.4
LVV	L'vov	4.48	339	eP	P	22 33 53.4	-2.0
LVV				eS	S	22 34 44.2	-3.2
LVV				MLR	MLR		
	comp=Z,290nm,2.2s						
LVV				MLR	MLR		
	comp=N,350nm,2.1s						
LVV				MLR	MLR		
	comp=E,590nm,2.5s						
LVV	L'vov	4.48	339	eP	P	22 33 53.4	-2.0
	comp=E,290nm,2.2s						
LVV				eS	S	22 34 44.2	-3.2
	comp=E,350nm,2.1s						
KKB	Krupnik	4.53	214	iP	P	22 33 54.0	-2.1
MMB	Musomiste	4.54	207	iP	P	22 33 55.0	-1.2
CRVS	Cervenica-Dubn	4.72	315	ePN	P	22 33 59.0	+0.4
KWP	Kalwaria	4.73	328	ePn	P	22 33 59.5	+0.8
KECS	Kecovo	4.99	307	ePN	P	22 34 02.0	-0.1
PSZ	Piszkesteto	5.07	299	eP	P	22 34 02.4	-0.8
PSZ				pmax	pmax		
	comp=Z,16nm,0.9s						
PSZ	Piszkesteto	5.07	299	ePn	P	22 34 02.4	-0.8
	comp=Z,16nm,0.9s						
PSZ	Piszkesteto	5.07	299⇓	e	P	22 34 02.7	-0.5
PSZ	Piszkesteto	5.07	299	eP	P	22 34 02.4	-0.8
	comp=Z,16nm,0.9s						
PKSM	Moragy	5.52	279⇑	iP	P	22 34 09.8	+0.8
NIE	Niedzica	5.63	314	eP	P	22 34 09.7	-0.9
RHK1	Bakonya	5.91	277	eP	P	22 34 15.0	+0.8
VYHS	Vyhne	5.96	301	ePN	P	22 34 14.8	-0.1
SRO	Srobarova	6.03	294	iPN	P	22 34 17.3	+1.4
OJC	Ojcow	6.41	318	eP	P	22 34 20.6	-0.4
BALT	Daday	6.48	127	iP	P	22 34 21.1	-0.8
ZST	Bratislava	6.92	295	ePN	P	22 34 27.9	0.0
ESKT	Eskisehir	6.92	151	iP	P	22 34 28.1	+0.2
OKC	Ostrava-Krasne	7.01	310	ePN	P	22 34 28.0	-1.1
KOGS	Kog	7.18	280	eP	P	22 34 31.5	+0.2
MORC	Moravsky Berou	7.31	307	ePn	P	22 34 32.2	-0.9
VRAC	Vranov	7.64	302	P	P	22 34 37.5	0.0
VRAC	Vranov	7.64	302	P	P	22 34 37.0	-0.4
	comp=Z,0.2nm,0.3s,baz=110,slow=13,SNR=17						
VRAC	Vranov	7.64	302	ePn	P	22 34 37.3	-0.2
BOJS	Bojanci	7.90	273	eP	P	22 34 42.6	+1.7
PERS	Pernice	7.97	281	eP	P	22 34 43.0	+1.1
DPC	Dobruska-Polom	8.28	308	ePN	P	22 34 46.2	+0.2
KSP	Ksiaz	8.56	311	eP	P	22 34 48.8	-0.9
KSP	Ksiaz	8.56	311	eP	P	22 34 48.3	-1.4
PRU	Pruhonice	9.14	303	ePN	P	22 34 56.9	-0.4
GERES	GERESS Array B	9.27	295	P	P	22 34 59.5	+0.4
	comp=Z,0.3nm,0.3s,baz=108,slow=13,SNR=36						
KHC	Kasperske Hory	9.43	296	ePN	P	22 35 01.9	+0.8
NKC	Novy Kostel	10.48	301	ePN	P	22 35 15.5	+0.7
CLL	Collm	10.59	307	P	P	22 35 11.0	-5.3
CLL				e		22 35 26.0	
GRA1	Grafenberg Arr	11.06	297	eP	P	22 35 22.8	+0.3
GRF	Grafenberg Arr	11.06	297	eP	P	22 35 22.8	+0.3
MOX	Moxa	11.12	302	eP	P	22 35 21.0	-2.2
FINES	FINESS Array B	15.81	359	P	P	22 36 19.1	-3.8
	comp=Z,0.1nm,0.3s,baz=174,slow=13,SNR=5.6						
HFS	Hagfors	16.38	337	P	P	22 36 27.7	-2.2
	comp=Z,0.1nm,0.3s,baz=159,slow=13,SNR=10						
KAF	Kangasniemi	16.48	360	ep	P	22 36 26.3	-4.9
NAO01	NORSAR Array S	17.77	334	eP	P	22 36 45.3	-1.2
	comp=Z,7.0nm,0.9s						
NAO01	NORSAR Array S	17.77	334	eP	P	22 36 45.3	-1.2
	comp=Z,7.0nm,0.9s						
NB2	NORSAR Subarra	17.83	335	P	P	22 36 46.3	-0.9
	comp=Z,5.2nm,0.8s,baz=148,slow=11						
NB2	NORSAR Subarra	17.83	335	P	P	22 36 46.3	-0.9
NB2				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NOA	NORSAR Array B	17.83	335	P	P	22 36 44.4	-2.8
	comp=Z,0.5nm,0.3s,baz=149,slow=11,SNR=8.0						
EKA	Eskdalemuir Ar	21.06	308	P	P	22 37 20.4	-0.1
	comp=Z,4.3nm,0.9s,mb3.8,baz=98,slow=13,SNR=4.3						
ARCES	ARCESS Array B	23.94	359	P	P	22 37 48.8	+0.4
	comp=Z,3.1nm,0.9s,mb3.8,baz=180,slow=8.1,SNR=3.5						
BVAR	Borovoye Array	29.14	59	P	P	22 38 38.7	+2.6
	comp=Z,0.3nm,0.5s,mb3.3,baz=288,slow=9.1,SNR=2.9						
WMQ	Urumqi	42.56	70	eP	P	22 40 32.5	+2.9
DBIC	Dimbokro	47.38	225	P	P	22 41 07.2	-1.0
	comp=Z,6.4nm,0.3s,mb4.7,baz=13,slow=8.9,SNR=71						
SONM	Songino Array	52.43	57	P	P	22 41 47.4	+1.2
	comp=Z,0.7nm,0.5s,mb3.6,baz=292,slow=8.4,SNR=16						
HHC	Hu-ho-hao-te	59.31	62	eP	P	22 42 37.7	+2.2
HHC				AP	pP	22 43 11.5	-0.3
HHC				XP	sP	22 43 25.8	-2.9
HHC				AMB	AMB		
	comp=Z,12nm,0.5s						
CMAR	Chiang Mai Arr	64.83	89	P	P	22 43 12.7	+0.2
	comp=Z,1.2nm,0.8s,mb3.8,baz=304,slow=7.4,SNR=10						
CMAR	Chiang Mai Arr	64.83	89	P	P	22 43 12.6	+0.1
YKA	Yellowknife Ar	67.80	342	P	P	22 43 29.9	-0.6
	comp=Z,0.1nm,0.3s,mb3.0,baz=30,slow=5.7,SNR=4.1						

*NEIC **06** 22:34:57.9±0.8, 18.18S×69.60W, h117km±7km, mb4.5/3, Error ellipse: s-maj=14.2km s-min=8.8km az=70.0*
*BJI **06** 22:34:57.0, 18.20S×69.60W, h116km, mB5.6*
*IDC **06** 22:34:58.5±0.6, 18.25S×69.51W, h124km±5km, mb3.8/14, mb1 4.0/16, mb1mx3.9/21, mbtmp4.2/16, Error ellipse: s-maj=15.2km s-min=8.6km az=100.0*
ISC 06 22:34:57.0±0.6**, 18.25S**±0.05×**69.66W**±0.07**, h127**km±6km**, n32, σ1s21**/26**, mb4.0**/13**, 2C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.43	37	P	P	22 35 38.0	+1.0
	22nm,0.3s,baz=224,slow=7.0,SNR=588						
LPAZ				S	S	22 36 08.0	+0.8
	8.3nm,0.3s,baz=233,slow=23,SNR=7.2						
LPAZ	La Paz	2.43	37⇓	iPn	P	22 35 38.1	+1.2
ARE	Arequipa	2.49	315⇑	iP	P	22 35 38.1	+0.4
ARE				iS	S	22 36 08.1	-0.4
LVC	Limon Verde	4.40	171	P	P	22 36 03.9	+0.8
	7.5nm,0.3s,baz=352,slow=8.4,SNR=209						
LVC				S	S	22 36 52.0	-1.9
	10nm,0.3s,baz=357,slow=8.5,SNR=4.5						
LVC	Limon Verde	4.40	171	ePn	P	22 36 04.0	+0.9
NNA	Nana	9.32	311	ePn	P	22 37 07.4	-1.8
	8.3nm,0.3s						
TRQA	Tornquist	20.85	163	eP	P	22 39 30.1	-0.1
	3.6nm,0.6s						
BDFB	Brasilia	20.87	86	P	P	22 39 28.5	-2.0
	6.2nm,0.4s,baz=267,slow=9.0,SNR=14						
PLCA	Paso Flores	22.42	182	P	P	22 39 46.5	+0.9
	6.5nm,1.0s,mb3.9,baz=9.0,slow=14,SNR=7.1						
USHA	Ushuaia	36.53	179	P	P	22 41 53.5	+1.8
	6.1nm,0.9s,mb4.5,baz=306,slow=4.4,SNR=4.0						
TXAR	Lajitas Array	57.57	325	P	P	22 44 36.1	+0.3
	0.3nm,0.6s,mb3.5,baz=143,slow=8.0,SNR=5.4						
TXAR				PcP	PcP	22 45 28.7	+1.2
	0.7nm,0.5s,baz=151,slow=6.4,SNR=10						
SADO	Sadowa	63.30	352	P	P	22 45 12.7	-1.9
	3.1nm,0.6s,mb4.4,baz=232,slow=2.1,SNR=2.9						
ANMO	Albuquerque	63.41	327	PcP	PcP	22 45 51.9	+1.1
	0.5nm,0.3s,baz=127,slow=5.1,SNR=3.8						
DBIC	Dimbokro	68.53	75	P	P	22 45 46.8	-1.5
	4.0nm,0.5s,mb4.5,baz=240,slow=7.6,SNR=21						
DBIC	Dimbokro	68.53	75	eP	P	22 45 46.5	-1.9
	4.1nm,0.6s,mb4.4						
PDAR	Pinedale Array	70.95	330	P	P	22 46 03.1	+0.6
	0.3nm,0.7s,mb3.2,baz=180,slow=4.5,SNR=3.3						
PDAR				PcP	PcP	22 46 23.0	+0.7
	0.4nm,0.8s,baz=157,slow=6.9,SNR=3.9						
ULM	Lac du Bonnet	72.02	343	P	P	22 46 07.8	-0.9
	2.4nm,0.4s,mb4.3,baz=148,slow=3.8,SNR=5.9						
ELK	Elko	72.36	325	P	P	22 46 11.0	+0.1
	1.6nm,1.1s,mb3.8,baz=167,slow=23,SNR=3.6						
NVAR	Mina Array Bea	72.51	322	P	P	22 46 12.7	+0.8
	1.1nm,0.9s,mb3.7,baz=140,slow=8.0,SNR=5.1						
NVAR				PcP	PcP	22 46 29.6	+0.5
	0.8nm,0.6s,baz=149,slow=5.3,SNR=3.1						
SCHQ	Schefferville	72.82	2	P	P	22 46 12.4	-0.9
	0.4nm,0.5s,mb3.5,baz=222,slow=12,SNR=3.6						
SYO	Syowa Base	79.78	160	⇑pP	pP	22 47 25.0	+0.7
VNDA	Vanda	79.92	190	P	P	22 46 55.6	+3.0
	1.5nm,0.8s,mb3.9,baz=140,slow=3.8,SNR=2.7						
YKA	Yellowknife Ar	87.90	341	P	P	22 47 34.1	+1.1
	3.0nm,0.6s,mb4.5,baz=134,slow=4.8,SNR=62						
YKA				pP	pP	22 48 05.5	-0.4
	2.7nm,1.0s,baz=134,slow=4.9,SNR=5.5						
YKA				sP	sP	22 48 17.4	-2.4
	0.1nm,0.4s,baz=44,slow=28,SNR=3.1						
YKA	Yellowknife Ar	87.90	341	P	P	22 47 34.1	+1.2
YKA				pP	pP	22 48 05.5	-0.4
YKA				sP	sP	22 48 17.4	-2.4
DLBC	Dease Lake	91.00	333	P	P	22 47 48.4	+0.7
	3.3nm,1.0s,mb4.4,baz=349,slow=7.4,SNR=3.9						
ASAR	Alice Springs	132.41	210	PKP	PKPdf	22 53 59.7	+2.6
	0.5nm,0.5s,baz=129,slow=1.9,SNR=7.5						
BVAR	Borovoye Array	133.48	32	PKP	PKPdf	22 54 01.3	+3.1
	0.3nm,0.6s,baz=281,slow=3.0,SNR=3.4						
WRA	Warramunga Arr	135.34	213	PKP	PKPdf	22 54 05.3	+2.8
	1.2nm,0.7s,baz=144,slow=1.6,SNR=4.6						
WMQ	Urumqi	148.17	32	ePKP	PKPdf	22 54 24.5	+0.1
WMQ				LR	LR		
	comp=Z,84nm,24.2s						
SONM	Songino Array	150.31	5	PKPbc	PKPdf	22 54 36.3	+8.7
	comp=Z,2.5nm,0.5s,baz=306,slow=1.4,SNR=34						
SONM				pPKPbc		22 55 10.1	
	comp=Z,0.6nm,0.6s,baz=326,slow=2.3,SNR=2.7						
CN2	Changchun	151.52	337	ePKP	PKPdf	22 54 25.2	-4.4
HHC	Hu-ho-hao-te	157.45	358	ePKP	PKPdf	22 54 37.7	-0.1

*JMA **06** 22:39:52.4±0.5, 46.43N×144.76E, h402km, M3.3*
*IDC **06** 22:39:54.9±6.7, 46.51N×144.64E, h453km±340km, mb2.9/5, mb1 3.0/5, mb1mx2.8/19, mbtmp3.7/5, Error ellipse: s-maj=598.4km s-min=26.8km az=167.0*
ISC 06 22:39:50.4±0.6**, 46.5N**±0.1×**144.8E**±0.2**, h414**km±10km**, n18, σ0s98**/27**, mb3.4**/5**, Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JWK2	Keihoku	2.31	241	P	P	22 40 50.3	+0.3
JRA	Rausu	2.54	174	P	P	22 40 52.6	+1.0
JTKR	Abashiri--Toko	2.57	194	P	P	22 40 53.1	+1.3
JTKR				eS	S	22 41 40.3	+0.1
NEM2	Nemuro 2	3.18	167	P	P	22 40 56.1	-0.5
NEM2				eS	S	22 41 46.9	-1.8
JAR	Ashorobuto	3.25	193	P	P	22 40 58.6	+1.5
JAR				eS	S	22 41 49.5	-0.2
JCH	Churui	3.98	195	P	P	22 41 03.8	+0.1
JCH				eS	S	22 42 00.0	-1.3
JEW	Eniwo	4.33	214	P	P	22 41 08.3	+1.3
JNBK	Urakawa-nobuka	4.43	200	P	P	22 41 08.3	+0.3
JNBK				eS	S	22 42 07.4	-1.5
JKB	Kayabe	5.31	212	P	P	22 41 17.1	+0.3
JKB				eS	S	22 42 24.6	-0.1
JOT	Ohata	5.75	209	P	P	22 41 21.9	+0.5
JOT				eS	S	22 42 31.6	-1.4
JANG	Nango	6.53	202	P	P	22 41 29.7	-0.3
JANG				eS	S	22 42 48.1	-0.5
JOM	Ohasama	7.44	201	P	P	22 41 41.5	+1.3
JOM				eS	S	22 43 07.9	+1.1
MAT	Matsushiro	11.06	209	P	P	22 42 24.8	+3.2
SONM	Songino Array	25.95	287	P	P	22 44 48.6	-0.1
	1.4nm,0.8s,mb3.4,baz=77,slow=8.8,SNR=8.3						
ILAR	Eielson Array	40.34	38	P	P	22 46 51.1	+0.4
	0.4nm,0.6s,mb3.0,baz=276,slow=9.1,SNR=5.4						
FINES	FINESS Array B	61.68	331	P	P	22 49 26.5	-1.1
	0.6nm,0.6s,mb3.3,baz=45,slow=5.4,SNR=7.2						
NOA	NORSAR Array B	66.45	337	P	P	22 49 57.4	-0.6
	0.4nm,0.5s,mb3.3,baz=31,slow=6.5,SNR=2.5						
HFS	Hagfors	66.52	336	P	P	22 49 57.2	-1.3
	1.7nm,0.7s,mb3.8,baz=18,slow=4.6,SNR=4.8						

*IDC **06** 22:50:36.1±40.0, 41.29N×146.23E, mb3.8/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.8/4, Error ellipse: s-maj=960.1km s-min=70.3km az=164.0*
*JMA **06** 22:50:59.3±0.1, 42.92N×145.12E, h86km±1km, M3.3*
ISC 06 22:50:58.1±0.8**, 42.92N**±0.06×**145.13E**±0.07**, h93**km±4km**, n16, σ0s59**/28**, mb3.5**/4**, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAK	Akkeshi	0.33	284	P	P	22 51 12.4	+0.3
JAK				eS	S	22 51 22.3	-0.4
NEM2	Nemuro 2	0.63	45	P	P	22 51 14.7	+0.2
NEM2				eS	S	22 51 25.8	-0.9
JNK	Nakash	0.73	336	P	P	22 51 15.4	0.0
JNK				eS	S	22 51 27.5	-0.8
JOB	Onbets	0.95	270	P	P	22 51 18.2	+0.5
JOB				eS	S	22 51 32.3	-0.1
JRA	Rausu	1.02	360	P	P	22 51 19.2	+0.7
JRA				eS	S	22 51 33.9	+0.1
JAR	Ashorobuto	1.07	291	P	P	22 51 19.5	+0.5
JAR				eS	S	22 51 34.6	-0.2
JCH	Churui	1.34	258	P	P	22 51 22.7	+0.3
JCH				eS	S	22 51 39.5	-0.9
JTKR	Abashiri--Toko	1.38	320	P	P	22 51 23.7	+0.8
JTKR				eS	S	22 51 41.4	+0.1
JMP	Maruseppu	1.69	311	P	P	22 51 27.4	+0.6
JMP				eS	S	22 51 48.3	+0.3
JEM	Erimo	1.71	239	P	P	22 51 28.7	+1.5
JEM				eS	S	22 51 48.9	+0.3
JNBK	Urakawa-nobuka	1.87	251	P	P	22 51 28.8	-0.3
JNBK				eS	S	22 51 50.8	-1.3
JFR	Furan	1.88	278	P	P	22 51 29.6	+0.3
JFR				eS	S	22 51 52.3	0.0
SONM	Songino Array	27.45	294	P	P	22 56 36.9	-0.1
	0.5nm,0.6s,mb3.3,baz=87,slow=8.9,SNR=5.9						
BVAR	Borovoye Array	48.89	309	P	P	22 59 35.8	-0.2
	0.5nm,0.3s,mb3.9,baz=86,slow=9.1,SNR=9.2						
FINES	FINESS Array B	64.94	332	P	P	23 01 28.5	-0.9
	0.5nm,0.5s,mb3.6,baz=34,slow=6.9,SNR=6.3						
NOA	NORSAR Array B	69.84	338	P	P	23 01 59.6	-0.4
	0.4nm,0.7s,mb3.3,baz=49,slow=5.2,SNR=2.7						

*IDC **06** 22:58:10.6±6.4, 2.66S×138.20E, h128km±64km, mb3.5/4, mb1 3.7/6, mb1mx3.6/10, mbtmp4.0/6, MS3.2/1, Ms1 3.2/1, ms1mx2.3/13, Error ellipse: s-maj=38.4km s-min=19.5km az=80.0*
ISC 06 22:58:01.7±4.9**, 2.5S**±0.1×**138.3E**±0.2**, h51**km±49km**, n11, σ1s25**/10**, mb3.8**/4**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.70	210	eP	P	23 00 48.6	+0.1
	7.3nm,0.5s						
WRA	Warramunga Arr	17.76	192	P	P	23 02 07.6	+0.6
	0.6nm,0.3s,baz=15,slow=11,SNR=19						
CTA	Charters Tower	19.10	157	P	P	23 02 21.6	-1.5
	0.4nm,0.3s,baz=342,slow=11,SNR=6.9						
CTA				LR	LR	23 10 30.0	
	comp=Z,66nm,19.9s,baz=231,slow=39						
FITZ	Fitzroy Crossi	19.88	218	eP	P	23 02 31.8	+0.2
	11nm,1.5s						
ASAR	Alice Springs	21.46	191	P	P	23 02 48.8	+1.0
	3.7nm,0.6s,mb3.9,baz=25,slow=11,SNR=29						
ASPA	Alice Springs	21.46	191	eP	P	23 02 49.0	+1.2
STKA	Stephens Creek	29.37	174	P	P	23 03 59.5	-2.8
	1.2nm,0.5s,mb3.9,baz=359,slow=7.3,SNR=5.1						
CBIJ	Chichi jima	29.67	7	P	P	23 04 05.3	+0.3
	82nm,0.4s,baz=276,slow=20,SNR=2.9						
CMAR	Chiang Mai Arr	44.02	300	P	P	23 06 04.5	-2.0
	0.4nm,0.6s,mb3.3,baz=135,slow=6.4,SNR=4.4						
ILAR	Eielson Array	85.81	24	P	P	23 10 38.1	+1.5
	0.8nm,0.7s,mb4.1,baz=251,slow=5.5,SNR=6.0						
LPAZ	La Paz	147.86	126	PKPbc	PKPdf	23 17 41.0	+1.8
	1.0nm,0.7s,baz=253,slow=3.3,SNR=4.7						

MAN 06 23:17:26.8, 13.73N×120.26E, h128km, mb3.7, ML2.5, MS2.0, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.02	287⇓	eP	P	23 17 44.2	-0.1
LUBP	Lubang	0.02	287	eP	P	23 17 44.1	-0.1
TGY	Tagaytay City	0.75	60⇓	iP	P	23 17 45.9	-1.6
TGY				iS	S	23 17 55.9	-7.4
LQP	Lukban	1.30	73	eP	P	23 17 53.0	0.0
SJMP	San Jose	1.51	146	eP	P	23 17 55.8	+0.5
BOAC	Boac	1.56	100	eP	P	23 17 51.8	-4.1
BOAC				iS	S	23 18 08.1	-10

*NEIC **06** 23:35:59.5±0.6, 5.18N×94.06E, h30km, mb4.3/7, Error ellipse: s-maj=19.6km s-min=11.2km az=60.0*
*IDC **06** 23:36:09.9±6.2, 5.59N×94.55E, h111km±56km, mb3.5/10, mb1 3.7/11, mb1mx3.7/17, mbtmp3.9/11, Error ellipse: s-maj=28.2km s-min=16.8km az=47.0*
ISC 06 23:36:10.1±4.0**, 5.6N**±0.2×**94.6E**±0.2**, h130**km±35km**, n22, σ0s80**/21**, mb3.9**/17**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	13.50	18	eP	P	23 39 17.1	-0.2
CMAR	Chiang Mai Arr	13.50	18	P	P	23 39 18.1	+0.8
	0.1nm,0.3s,baz=210,slow=14,SNR=13						
JIRN	Jiri	23.36	341	eP	P	23 41 07.8	+0.1
	6.0nm,0.3s,mb4.6						
PKI	Pulchoki	23.54	339	eP	P	23 41 10.5	+1.0
	9.1nm,0.6s,mb4.5						
DMN	Daman	23.68	339	eP	P	23 41 12.1	+1.2
	8.2nm,0.4s,mb4.7						
KKN	Kakani	23.78	339	eP	P	23 41 11.3	-0.6
GKN	Gorkha	24.21	338	eP	P	23 41 14.6	-1.3
	6.6nm,0.3s,mb4.6						
KOLN	Koldanda	24.40	336	eP	P	23 41 16.9	-0.9
	4.2nm,0.4s,mb4.3						
SONM	Songino Array	43.31	12	P	P	23 44 00.3	-0.2
	0.7nm,0.8s,mb3.4,baz=184,slow=7.5,SNR=7.7						
SONM				PcP	PcP	23 45 49.0	+1.3
	0.4nm,0.6s,baz=178,slow=4.0,SNR=4.7						
WRA	Warramunga Arr	46.62	124	P	P	23 44 26.9	-0.4
	1.2nm,0.8s,mb3.6,baz=304,slow=9.0,SNR=5.9						
WRAB	Tennant Creek	46.63	124	eP	P	23 44 27.1	-0.2
KURK	Kurchatov	46.92	346	eP	P	23 44 28.7	-0.5
	2.5nm,0.6s,mb4.0						
ASAR	Alice Springs	48.15	129	P	P	23 44 39.2	0.0
	0.8nm,0.5s,mb3.6,baz=302,slow=7.8,SNR=14						
CHKZ	Chkalovo	51.77	342	eP	P	23 45 05.5	-0.8
	4.3nm,0.5s,mb4.3						
KMBO	Kilima Mbogo	57.61	265	P	P	23 45 49.8	+0.6
	0.2nm,0.4s,mb3.3,baz=65,slow=23,SNR=2.6						
BRTR	Keskin Array B	64.24	312	P	P	23 46 32.1	-1.6
	0.2nm,0.6s,mb3.1,baz=108,slow=4.6,SNR=2.5						
FINES	FINESS Array B	74.92	332	P	P	23 47 37.8	-0.4
	1.0nm,0.9s,mb3.5,baz=96,slow=6.1,SNR=6.4						
ARCES	ARCESS Array B	77.55	340	P	P	23 47 54.0	+1.2
	4.6nm,0.9s,mb4.1,baz=98,slow=6.4,SNR=3.2						
GERES	GERESS Array B	79.80	318	P	P	23 48 06.4	+0.9
	1.0nm,0.6s,mb3.6,baz=104,slow=5.5,SNR=13						
DAVOX	Davos	82.32	316	P	P	23 48 19.5	+0.8
	2.6nm,0.7s,mb4.0						
ILAR	Eielson Array	96.70	22	P	P	23 49 27.0	+0.6
	0.3nm,1.0s,mb3.6,baz=307,slow=4.7,SNR=4.9						
TXAR	Lajitas Array	141.12	26	PKP	PKPdf	23 55 28.1	+2.2
	0.2nm,0.6s,baz=225,slow=1.3,SNR=2.9						

*TAP **06** 23:42:47.8, 23.93N×122.45E, h11km±1km, ML2.8*
JMA 06 23:42:49.0±0.4**, 24.23N**×**122.36E, h38**km**, M1.9, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.64	69	P	P	23 43 01.5	0.0
YOJ				eS	S	23 43 10.4	-0.2
IRIF	Iriomote-Funau	1.25	85	P	P	23 43 10.1	-0.2
IRIF				eS	S	23 43 26.2	-0.1
HATJ	Hateruma jima	1.33	97	eS	S	23 43 28.4	+0.2
JKRS	Kuro-shima	1.51	89	P	P	23 43 15.0	+1.0
JKRS				eS	S	23 43 33.2	+0.6
JIJ	Ishigaki jima	1.63	85	eS	S	23 43 35.0	-0.8

IDC 07 00:26:49.1±4.3**, 20.49S**×**178.64W, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.8**/14**, mbtmp3.8**/3**, Error ellipse: s-maj=177.3km s-min=66.7km az=149.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.25	244	P	P	00 34 01.1	-3.2
	1.1nm,0.7s,baz=100,slow=11,SNR=3.2						
ASAR	Alice Springs	43.94	257	P	P	00 34 59.0	-0.6
	1.1nm,0.6s,baz=88,slow=8.1,SNR=18						
WRA	Warramunga Arr	44.01	262	P	P	00 34 58.3	-2.0
	0.5nm,0.3s,baz=97,slow=7.7,SNR=5.4						
FINES	FINESS Array B	135.59	343	PKP	PKPdf	00 46 10.4	-2.6
	1.7nm,1.0s,baz=27,slow=3.1,SNR=8.8						

MAN 07 00:33:40.8, 9.92N×125.90E, h47km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.43	251	eP	P	00 33 52.7	+1.7
SCPH				eS	S	00 33 56.5	-1.7
MSLP	Maasin	1.05	282	eP	P	00 34 00.9	+1.6
MSLP				eS	S	00 34 16.2	+3.2
PLP	Palo	1.53	324	eP	P	00 34 06.0	-0.2
PLP				eS	S	00 34 25.8	+0.7
BESP	Borongan	1.73	345	eP	P	00 34 09.2	+0.3
BESP				eS	S	00 34 30.6	+0.6
TBP	Tagbilaran	2.02	264	eP	P	00 34 13.4	+0.3
TBP				eS	S	00 34 37.5	+0.3

CASC 07 00:49:34.8±1.5**, 13.29N**×**90.44W, h21**km±6km**, MD3.8, 3C-3D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.88	359⇑	eP	Pb	00 49 50.9	-0.4
IXG				eS	Sb	00 50 04.6	+2.0
SBLS	San Blas	0.97	55	eP	Pb	00 49 52.5	-0.2
SBLS				eS	Sb	00 50 05.8	+0.6
RTR	El Retiro	0.98	52⇑	eP	Pb	00 49 53.2	+0.2
RTR				eS	Sb	00 50 06.1	+0.5
SNJE	San Jose	1.00	55⇓	eP	Pb	00 49 53.0	-0.3
RBDL	Robledal	1.10	42⇓	eP	Pb	00 49 55.1	+0.1
BOQS	Boqueron	1.22	68⇓	eP	Pn	00 49 56.2	-0.5
LFU	La Fuente	1.37	70	eP	Pn	00 49 58.2	-0.8
LFRS	El Faro	1.39	76⇑	eP	Pn	00 49 58.3	-0.9
LFRS				eS	Sn	00 50 17.6	+0.7
LCBS	La Ceiba	1.47	75	eP	Pn	00 50 00.4	0.0
TP2	Tecpan 2	1.59	339	eP	Pn	00 50 01.9	-0.2
TP2				eS	Sn	00 50 23.0	+0.9
SNVI	San Vicente	1.59	78	eP	Pn	00 50 03.1	+0.9
SNVI				eS	Sn	00 50 23.6	+1.3

TRN 07 01:22:07.8, 17.81N×61.55W, h35km, MD3.9, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STMA	St. Maarten, A	1.50	279	eP	P	01 22 33.3	+0.6
STMA				eS	S	01 22 52.6	+1.3
SABT	Saba	1.63	264	eP	P	01 22 36.7	+2.3
SABT				eS	S	01 22 58.6	+4.2

IDC 07 01:55:48.0±2.1**, 41.34N**×**126.90W, mb3.0**/3**, mb1 3.4**/6**, mb1mx3.3**/20**, mbtmp3.0**/6**, ML3.6**/3**, Error ellipse: s-maj=34.3km s-min=17.8km az=29.0, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YBH	Yreka Blue Hor	3.17	82	Pn	Pn	01 56 38.7	-1.4
	3.2nm,0.3s,baz=272,slow=8.6,SNR=43						
YBH				Sn	Sn	01 57 20.1	+1.0
	0.6nm,0.3s,baz=72,slow=18,SNR=2.4						
NVAR	Mina Array Bea	7.22	111	Pn	Pn	01 57 36.0	-1.3
	0.2nm,0.3s,baz=275,slow=15,SNR=4.5						
PDAR	Pinedale Array	12.97	78	Pn	P	01 58 57.5	+1.3
	0.0nm,0.3s,baz=276,slow=8.2,SNR=2.7						
TXAR	Lajitas Array	22.35	115	P	P	02 00 49.0	+0.1
	0.7nm,0.8s,baz=298,slow=7.6,SNR=8.3						
YKA	Yellowknife Ar	22.42	15	P	P	02 00 49.1	-0.3
	0.1nm,0.4s,baz=203,slow=9.4,SNR=3.1						
ILAR	Eielson Array	26.13	341	P	P	02 01 23.2	-1.7
	0.5nm,0.8s,baz=161,slow=7.8,SNR=5.1						

IDC 07 02:17:41.7±4.2**, 22.18S**×**148.21E, mb1 3.8**/4**,**

mb1mx3.7/10,**mbtmp3.6**/4,**ML3.7**/4,**Error ellipse: s-maj=42.6km s-min=19.8km az=82.0,Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.77**	**318**	Pn	Pn	02 18 28.9	+0.7
	6.1nm,0.3s,baz=134,slow=17,SNR=27						
CTA				Pg	Pg	02 18 33.0	-4.1
	17nm,0.3s,baz=132,slow=18,SNR=32						
CTA				Lg		02 19 10.4	
	34nm,0.3s,baz=79,slow=22,SNR=12						
STKA	**Stephens Creek**	**11.31**	**210**	Pn	P	02 20 22.8	-4.9
	0.7nm,0.3s,baz=38,slow=13,SNR=16						
STKA				Lg		02 23 43.1	
	0.2nm,0.3s,baz=310,slow=18,SNR=2.4						
WRA	**Warramunga Arr**	**13.14**	**277**	Pn	P	02 20 48.8	-3.5
	0.3nm,0.3s,baz=95,slow=12,SNR=8.0						
WRA				Lg		02 24 39.6	
	0.1nm,0.3s,baz=102,slow=28,SNR=5.3						
ASAR	**Alice Springs**	**13.27**	**261**	Pn	P	02 20 50.5	-3.5
	0.2nm,0.3s,baz=83,slow=14,SNR=6.8						
ASAR				Lg		02 24 39.5	
	0.1nm,0.3s,baz=81,slow=27,SNR=4.2						

IDC 07 02:22:16.4±7.1**,3.19N**×**127.95E,mb3.6**/3**,mb1 3.8**/3, **mb1mx3.5**/15**,mbtmp3.6**/3**,Error ellipse: s-maj=142.5km s-min=110.9km az=79.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.83**	**165**	P	P	02 27 31.4	-0.7
	1.5nm,0.7s,baz=345,slow=11,SNR=8.4						
ASAR	**Alice Springs**	**27.31**	**168**	P	P	02 28 03.8	-1.2
	0.2nm,0.3s,baz=351,slow=7.6,SNR=4.1						
STKA	**Stephens Creek**	**37.20**	**161**	P	P	02 29 28.6	-2.8
	1.7nm,0.8s,baz=333,slow=11,SNR=4.6						

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*MOS **07** 02:34:32.4±1.2, 42.52N×126.49W, h10km, mb5.1/14, MS4.7/8, Error ellipse: s-maj=10.4km s-min=6.6km az=133.1*

*IDC **07** 02:34:32.3±0.8, 42.55N×126.49W, mb4.3/12, mb1 4.5/20, mb1mx4.4/27, mbtmp4.4/20, ML3.8/6, MS4.6/17, Ms1 4.6/17, ms1mx4.3/33, Error ellipse: s-maj=17.5km s-min=9.0km az=38.0*

*NEIC **07** 02:34:33.9±0.3, 42.51N×126.58W, h10km, mb5.1/67, MS4.6/31, Error ellipse: s-maj=4.5km s-min=2.9km az=50.0*

*HRVD **07** 02:34:33.8±0.2, 42.51N×126.78W, h16km±1km, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s49,c86;Mantle waves: s67,c143; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.02; $M_{\theta\theta}$-0.85±.02; $M_{\phi\phi}$0.94±.02; $M_{r\theta}$0.27±.05; $M_{\theta\phi}$0.17±.02; $M_{\phi r}$0.10±.04; Best double couple: M_0.959×10^{17} NP1: ϕ_s322°,δ73°,λ-173°. NP2:ϕ_s229°,δ83°,λ-17°. Principal axes: T .973, Plg7°, Azm277°; N -.029, Plg72°, Azm28°; P -.945, Plg17°, Azm184°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 02:34:33.1, 42.50N×126.60W, h10km, mB5.3, mb4.9, Ms5.3, Msz4.9*

ISC 07 02:34:32.4±0.3**, 42.50N**±0.03×**126.52W**±0.03**, h10km, (h14km±.8km:pP-P), n285,** σ**1s00**/262**, mb4.9**/80**, MS4.6**/54**, 20C-3D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.65**	**76**	*e*P	**Pn**	**02 35 01.2**	**-0.5**
KBO	**Bosley Butte**	**1.72**	**99**	*e*P	**Pn**	**02 35 02.1**	**-0.6**
KSXB	**Camp Six Broad**	**2.08**	**108**	⇑P	**Pn**	**02 35 07.0**	**-0.8**
TAKO	**Tahkenitch**	**2.17**	**54**	⇑P	**Pn**	**02 35 08.7**	**-0.5**
DBO	**Dodson Butte**	**2.49**	**75**	⇑P	**Pn**	**02 35 13.7**	**+0.1**
HUMO	**Hull Mountain**	**2.63**	**87**	*e*P	**Pn**	**02 35 15.6**	**-0.2**
KHMM	**Horse Mountain**	**2.65**	**127**	*e*P	**Pn**	**02 35 15.0**	**-0.9**
HSO	**Harness Mounta**	**2.71**	**67**	⇑P	**Pn**	**02 35 16.8**	**-0.1**
BBOR	**Butler Butte**	**2.86**	**81**	⇓P	**Pn**	**02 35 19.4**	**+0.5**
YBH	**Yreka Blue Hor**	**2.94**	**104**	Pn	**Pn**	**02 35 20.2**	**+0.2**
	23nm,0.3s,baz=290,slow=12,SNR=350						
YBH				Sn	**Sn**	**02 35 57.1**	**+1.4**
	3.8nm,0.3s,baz=160,slow=22,SNR=3.7						
YBH	**Yreka Blue Hor**	**2.94**	**104**	⇑*i*P	**Pn**	**02 35 20.1**	**+0.1**
MPOR	**Mary's Peak**	**2.94**	**46**	P	**Pn**	**02 35 20.3**	**+0.2**
EUO	**Eugene**	**2.95**	**58**	⇑P	**Pn**	**02 35 20.2**	**0.0**
LAMM	**Antelope Mount**	**3.03**	**106**	⇑P	**Pn**	**02 35 21.6**	**+0.2**
COR	**Corvallis**	**3.13**	**47**	*e*P	**Pn**	**02 35 22.8**	**0.0**
BUOR	**Burton Butte**	**3.17**	**93**	⇓P	**Pn**	**02 35 24.2**	**+0.8**
LHEM	**Herd Peak**	**3.32**	**104**	⇑P	**Pn**	**02 35 25.8**	**+0.3**
HBO	**Huckleberry Mo**	**3.35**	**65**	⇑P	**Pn**	**02 35 26.4**	**+0.5**
BROR	**Big Rock Looko**	**3.45**	**58**	⇑P	**Pn**	**02 35 27.4**	**+0.1**
IRO	**Indian Ridge**	**3.46**	**63**	⇑P	**Pn**	**02 35 27.8**	**+0.4**
WDC	**Whiskeytown Da**	**3.55**	**121**	*e*P	**Pn**	**02 35 28.2**	**-0.6**
HOG	**Hogback Mounta**	**3.58**	**93**	P	**Pn**	**02 35 29.3**	**+0.1**
FRIS	**Frissel Point**	**3.65**	**61**	⇑P	**Pn**	**02 35 30.6**	**+0.5**
SSOR	**Sweet Springs**	**3.77**	**50**	P	**Pn**	**02 35 32.3**	**+0.5**
WIFE	**Three Sisters-**	**3.77**	**64**	⇑P	**Pn**	**02 35 32.4**	**+0.5**
HUOR	**Husband**	**3.77**	**63**	⇑P	**Pn**	**02 35 33.1**	**+1.2**
LASM	**Arnica Sink**	**3.79**	**102**	P	**Pn**	**02 35 32.0**	**-0.1**
KMOR	**Kings Mountain**	**3.82**	**34**	P	**Pn**	**02 35 32.6**	**+0.1**
BPO	**Bald Peter**	**4.12**	**57**	P	**Pn**	**02 35 37.5**	**+0.8**
NLO	**Nicolai Mounta**	**4.21**	**31**	P	**Pn**	**02 35 38.5**	**+0.4**
LBCM	**Butte Creek Ri**	**4.21**	**112**	P	**Pn**	**02 35 37.1**	**-1.1**
HOPS	**Hopland**	**4.38**	**142**	*e*P	**Pn**	**02 35 38.6**	**-1.8**
TDH	**Tom, Dick, Har**	**4.41**	**49**	⇑P	**Pn**	**02 35 41.3**	**+0.4**
VLMM	**Larch Mountain**	**4.43**	**45**	P	**Pn**	**02 35 42.3**	**+1.0**
RVW	**Rose Valley**	**4.54**	**35**	P	**Pn**	**02 35 43.6**	**+0.7**
VFP	**Flag Point**	**4.61**	**51**	P	**Pn**	**02 35 44.3**	**+0.5**
LVP	**Lakeview Peak**	**4.63**	**38**	P	**Pn**	**02 35 44.5**	**+0.4**
MOD	**Modoc**	**4.66**	**95**	*e*P	**Pn**	**02 35 43.5**	**-0.9**
CROR	**Criterion Ridg**	**4.71**	**56**	P	**Pn**	**02 35 45.1**	**-0.2**
VIPM	**Ingram Point**	**4.74**	**63**	P	**Pn**	**02 35 45.7**	**+0.1**
OHCM	**Honcut**	**4.96**	**128**	*e*P	**Pn**	**02 35 47.2**	**-1.4**
NSHM	**Saint Helena R**	**4.97**	**142**	*e*P	**Pn**	**02 35 48.3**	**-0.6**
CPW	**Capitol Peak**	**5.08**	**27**	P	**Pn**	**02 35 50.2**	**-0.2**
OCWA	**Octopus Mounta**	**5.50**	**17**	*e*P	**Pn**	**02 35 55.5**	**-0.9**
WVOR	**Wild Horse Val**	**5.83**	**88**	*e*P	**Pn**	**02 35 59.5**	**-1.5**
WCN	**Washoe City**	**6.04**	**120**	*e*P	**Pn**	**02 36 03.9**	**-0.1**
PAHR	**Pah Rah Range**	**6.07**	**115**	*e*P	**Pn**	**02 36 05.3**	**+0.9**
CMB	**Columbia Colle**	**6.47**	**132**	*e*P	**Pn**	**02 36 10.5**	**+0.4**
PGC	**Sidney**	**6.51**	**18**	*e*P	**Pn**	**02 36 08.9**	**-1.8**
SAO	**San Andreas Ge**	**6.94**	**144**	*e*P	**Pn**	**02 36 14.3**	**-2.4**
BMO	**Blue Mountains**	**7.08**	**68**	*e*P	**Pn**	**02 36 17.6**	**-1.1**
BMN	**Battle Mountai**	**7.28**	**103**	*e*P	**Pn**	**02 36 22.0**	**+0.5**
LRV	**Little Rabbit**	**7.41**	**143**	*e*P	**Pn**	**02 36 21.8**	**-1.5**
NVAR	**Mina Array Bea**	**7.47**	**120**	Pn	**Pn**	**02 36 23.8**	**-0.3**
	2.1nm,0.3s,baz=297,slow=14,SNR=59						
NVAR				LR	LR	02 39 30.4	
	comp=Z,7μm,18.2s,baz=295,slow=40						
NVAR	**Mina Array Bea**	**7.47**	**120**	Pn	**Pn**	**02 36 23.8**	**-0.3**
NVAR				LR	LR	02 39 30.4	
OMM	**Old Mammoth Mi**	**7.56**	**128**	*e*P	**Pn**	**02 36 26.2**	**+0.9**
MNV	**Mina**	**7.56**	**120**	*e*P	**Pn**	**02 36 24.4**	**-1.0**
MTUM	**Tungsten Hills**	**7.99**	**127**	*e*P	**Pn**	**02 36 32.0**	**+0.7**
TPH	**Tonopah**	**8.37**	**119**	*e*P	**P**	**02 36 37.3**	**+0.7**
ELK	**Elko**	**8.63**	**98**	Pn	**P**	**02 36 41.3**	**+1.0**
	0.2nm,0.3s,baz=283,slow=14,SNR=22						
ELK				LR	LR	02 40 20.8	
	comp=Z,7μm,19.4s,baz=296,slow=40						
ELK	**Elko**	**8.63**	**98**	*e*P	**P**	**02 36 40.1**	**-0.2**
NEW	**Newport**	**8.77**	**46**	*e*P	**P**	**02 36 40.4**	**-1.8**
NEW	**Newport**	**8.77**	**46**	Pn	**P**	**02 36 41.3**	**-0.9**
	0.6nm,0.3s,baz=212,slow=10,SNR=26						
HLID	**Hailey**	**8.93**	**79**	*e*P	**P**	**02 36 43.8**	**-0.7**
TRCR	**Troy Canyon**	**9.31**	**113**	*e*P	**P**	**02 36 49.1**	**-0.6**
BBB	**Bella Bella**	**9.75**	**354**	Pn	**P**	**02 36 57.0**	**+1.4**
	3.2nm,0.3s,baz=177,slow=15,SNR=13						
BBB				LR	LR	02 39 55.9	
	comp=Z,5μm,19.7s,baz=168,slow=33						
MSO	**Missoula**	**9.95**	**60**	*e*P	**P**	**02 36 57.1**	**-1.4**
MCMT	**McKenzie Canyo**	**10.18**	**72**	*e*P	**P**	**02 37 01.5**	**0.0**
BGU	**Big Grassy Mou**	**10.21**	**94**	*e*P	**P**	**02 37 01.8**	**-0.3**
HVU	**Hansel Valley**	**10.24**	**89**	*e*P	**P**	**02 37 02.0**	**-0.4**
CHMT	**Chamberlain Mo**	**10.42**	**60**	*e*P	**P**	**02 37 03.8**	**-1.1**
SPUT	**South Promonto**	**10.56**	**92**	*e*P	**P**	**02 37 06.0**	**-0.8**
MWC	**Mount Wilson**	**10.60**	**138**	*e*P	**P**	**02 37 05.5**	**-1.9**
NOQ	**North Oquirrh**	**10.95**	**95**	*e*P	**P**	**02 37 12.1**	**-0.1**
WALA	**Waterton Lakes**	**10.97**	**49**	*e*P	**P**	**02 37 10.9**	**-1.4**
ARUT	**Antelope Range**	**11.06**	**111**	*e*P	**P**	**02 37 14.3**	**+0.6**
HWUT	**Hardware Ranch**	**11.16**	**90**	*e*P	**P**	**02 37 15.1**	**0.0**
BOZ	**Bozeman (W)**	**11.16**	**69**	*e*P	**P**	**02 37 14.5**	**-0.5**
QLMT	**Earthquake Lak**	**11.18**	**73**	*e*P	**P**	**02 37 14.9**	**-0.4**
RRI2	**Red Ridge**	**11.18**	**81**	*e*P	**P**	**02 37 15.3**	**0.0**
HRY	**Holter Researc**	**11.28**	**63**	*e*P	**P**	**02 37 15.8**	**-0.9**
AHID	**Auburn Hatcher**	**11.37**	**83**	*e*P	**P**	**02 37 17.8**	**0.0**
TCUT	**Toone Canyon**	**11.37**	**92**	*e*P	**P**	**02 37 18.1**	**+0.3**
TPAW	**Teton Pass**	**11.45**	**80**	*e*P	**P**	**02 37 18.6**	**-0.3**
JLU	**Jordanelle**	**11.45**	**94**	*e*P	**P**	**02 37 19.0**	**0.0**
IMW	**Indian Meadow**	**11.46**	**78**	*e*P	**P**	**02 37 18.8**	**-0.3**
MPU	**Maple Canyon**	**11.48**	**98**	*e*P	**P**	**02 37 19.0**	**-0.3**
YMR	**Madison River**	**11.49**	**74**	*e*P	**P**	**02 37 19.5**	**0.0**
YFT	**Old Faithful**	**11.56**	**75**	P	**P**	**02 37 19.4**	**-1.1**
LDFC	**Landfair**	**11.58**	**126**	*e*P	**P**	**02 37 21.9**	**+1.1**
SNOW	**Snow King Moun**	**11.59**	**80**	*e*P	**P**	**02 37 21.8**	**+0.9**
MOOW	**Moose Ponds**	**11.60**	**78**	*e*P	**P**	**02 37 21.5**	**+0.5**
WUWY	**Wally Ulrich**	**11.60**	**80**	P	**P**	**02 37 20.2**	**-0.8**
MVU	**Marysvale**	**11.60**	**105**	*e*P	**P**	**02 37 21.9**	**+0.9**
MSU	**Marysvale**	**11.62**	**105**	*e*P	**P**	**02 37 21.9**	**+0.6**
DAU	**Daniels Canyon**	**11.64**	**95**	*e*P	**P**	**02 37 20.8**	**-0.8**
YNR	**Norris Junctio**	**11.70**	**74**	*e*P	**P**	**02 37 22.1**	**-0.2**
LOHW	**Long Hollow**	**11.70**	**79**	*e*P	**P**	**02 37 22.4**	**+0.1**
LKWY	**Lake**	**11.88**	**75**	*e*P	**P**	**02 37 25.7**	**+0.9**
TMUT	**Trail Mountain**	**12.02**	**100**	*e*P	**P**	**02 37 27.8**	**+1.1**
BW06	**Boulder Array**	**12.50**	**83**	*e*P	**P**	**02 37 33.4**	**+0.3**
PDAR	**Pinedale Array**	**12.50**	**83**	Pn	**P**	**02 37 33.6**	**+0.5**
	0.1nm,0.3s,baz=270,slow=12,SNR=43						
PDAR				LR	LR	02 42 38.7	
	comp=Z,5μm,20.0s,baz=271,slow=39						
GCMT	**Greycliff**	**12.54**	**69**	P	**P**	**02 37 33.6**	**-0.1**
SRU	**San Rafael**	**12.58**	**100**	*e*P	**P**	**02 37 35.4**	**+1.1**
WUAZ	**Wupatki**	**13.68**	**116**	*e*P	**P**	**02 37 50.6**	**+1.8**
EDM	**Edmonton**	**13.87**	**35**	*e*P	**P**	**02 37 49.3**	**-1.9**
PV10	**Paradox Valley**	**13.93**	**101**	*e*P	**P**	**02 37 53.3**	**+1.2**
PV01	**Paradox Valley**	**14.37**	**102**	*e*P	**P**	**02 37 58.4**	**+0.6**
LAO	**LASA Array**	**15.04**	**67**	*e*P	**P**	**02 38 06.5**	**-0.1**
	221nm,1.5s						
PHWY	**Pilot Hill**	**15.73**	**87**	*e*P	**P**	**02 38 14.6**	**-0.9**
ISCO	**Idaho Springs**	**15.97**	**93**	*e*P	**P**	**02 38 18.4**	**-0.3**
	74nm,1.0s						
TUC	**Tucson**	**16.09**	**124**	*e*P	**P**	**02 38 21.3**	**+1.0**
	97nm,1.8s						
DLBC	**Dease Lake**	**16.11**	**353**	Pn	**P**	**02 38 20.8**	**+0.6**
	0.1nm,0.3s,baz=173,slow=12,SNR=4.4						
DLBC	**Dease Lake**	**16.11**	**353**	*e*P	**P**	**02 38 21.5**	**+1.3**
DGMT	**Dagmar**	**16.73**	**61**	*e*P	**P**	**02 38 29.6**	**+1.4**
	422nm,1.3s						
SDCO	**Great Sand Dun**	**16.75**	**99**	*e*P	**P**	**02 38 29.6**	**+1.0**
	343nm,1.4s						
ANMO	**Albuquerque**	**17.35**	**109***c*	*i*P	**P**	**02 38 37.9**	**+1.8**
ANMO	**Albuquerque**	**17.35**	**109**	P	**P**	**02 38 37.7**	**+1.6**
	baz=309,slow=11,SNR=65						
ANMO				LR	LR	02 45 55.7	
	comp=Z,6μm,18.3s,slow=39						
ANMO	**Albuquerque**	**17.35**	**109**	*e*P	**P**	**02 38 37.1**	**+0.9**
	116nm,1.5s						
MNTX	**Cornudas Mount**	**19.96**	**116**	*e*P	**P**	**02 39 07.4**	**-0.1**
	60nm,1.2s						
FFC	**Flin Flon**	**20.19**	**44**	Pn	**P**	**02 39 09.3**	**-0.5**
	758nm,0.9s,SNR=94						
CBKS	**Cedar Bluff**	**20.62**	**91**	*e*P	**P**	**02 39 14.4**	**+0.1**
	493nm,1.5s						
CBKS				LR	LR		
	comp=Z,4μm,21.0s,MS4.7						
AMTX	**Amarillo**	**20.78**	**103**	*e*P	**P**	**02 39 16.8**	**+0.8**
	comp=Z,439nm,1.6s						
AMTX				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
YKA	**Yellowknife Ar**	**21.23**	**15**	P	**P**	**02 39 19.5**	**-0.9**
	comp=Z,21nm,0.8s,mb4.5,baz=204,slow=11,SNR=131						
YKA				PcP	PcP	02 43 23.8	-2.0
	comp=Z,0.7nm,1.0s,baz=180,slow=2.5,SNR=3.7						
YKA				LR	LR	02 47 26.1	
	comp=Z,1μm,19.1s,MS4.4,baz=205,slow=36						
YKA	**Yellowknife Ar**	**21.23**	**15**	P	**P**	**02 39 19.5**	**-0.9**
YKA				PcP	PcP	02 43 23.8	-2.0
YKA				LR	LR	02 47 26.1	
YKW3	**Yellowknife Ar**	**21.29**	**15**	*e*P	**P**	**02 39 19.5**	**-1.5**
DIV	**Divide**	**21.97**	**335**	*e*P	**P**	**02 39 28.3**	**+0.4**
	comp=Z,154nm,1.2s,mb5.3						
ULM	**Lac du Bonnet**	**22.40**	**59**	P	**P**	**02 39 32.4**	**+0.2**
	comp=Z,21nm,1.0s,mb4.5,baz=263,slow=11,SNR=19						
ULM				LR	LR	02 48 41.9	
	comp=Z,1μm,20.4s,MS4.4,baz=264,slow=38						
ULM	**Lac du Bonnet**	**22.40**	**59**	*e*P	**P**	**02 39 31.9**	**-0.3**
	comp=Z,122nm,1.5s,mb5.1						
ULM				LR	LR		
	comp=Z,3μm,20.0s,MS4.7						
KDAK	**Kodiak Island**	**22.44**	**322**	PFAKE		02 39 40.0	+7.4
KDAK				LR	LR		
	comp=Z,902nm,20.0s,MS4.2						
LTX	**Lajitas**	**22.61**	**118**	*e*P	**P**	**02 39 36.9**	**+2.5**
	comp=Z,61nm,1.2s,mb4.9						
LTX				LR	LR		
	comp=Z,456nm,21.0s,MS3.9						
TXAR	**Lajitas Array**	**22.61**	**118**	P	**P**	**02 39 36.5**	**+2.0**
	comp=Z,79nm,1.3s,mb5.0,baz=297,slow=5.6,SNR=86						
MENT	**Mentasta**	**22.82**	**340**	*e*P	**P**	**02 39 38.6**	**+2.4**
KSU1	**Kansas State U**	**22.84**	**88**	*e*P	**P**	**02 39 38.5**	**+1.8**
DAWY	**Dawson**	**22.84**	**345**	*e*P	**P**	**02 39 37.0**	**+0.6**
WMOK	**Wichita Mounta**	**22.95**	**101**	*e*P	**P**	**02 39 39.0**	**+1.3**
	comp=Z,55nm,1.2s,mb4.9						
WMOK				LR	LR		
	comp=Z,2μm,20.0s,MS4.6						
PMR	**Palmer**	**23.42**	**332**	*e*P	**P**	**02 39 43.1**	**+1.1**
	comp=Z,54nm,1.4s,mb4.8						
PWA	**Palmer West**	**23.71**	**332**	*e*P	**P**	**02 39 46.4**	**+1.5**
	comp=Z,8.7nm,0.6s,mb4.4						
JCT	**Junction City**	**24.50**	**111**	*e*P	**P**	**02 39 54.4**	**+1.6**
	comp=Z,29nm,1.1s,mb4.6						
JCT				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
MCK	**McKinley**	**24.90**	**336**	PFAKE		02 40 10.0	+14
MCK				LR	LR		
	comp=Z,442nm,19.0s,MS4.0						
EYMN	**Ely**	**25.12**	**65**	*e*P	**P**	**02 39 58.6**	**0.0**
	comp=Z,78nm,1.2s,mb5.1						
EYMN				LR	LR		
	comp=Z,2μm,20.0s,MS4.7						
ILAR	**Eielson Array**	**25.14**	**339**	P	**P**	**02 39 58.6**	**0.0**
	comp=Z,11nm,0.9s,mb4.4,baz=156,slow=7.6,SNR=66						
ILAR				PcP	PcP	02 43 32.0	-1.6
	comp=Z,1.1nm,0.9s,baz=172,slow=2.3,SNR=8.2						
ILAR				LR	LR	02 48 20.1	
	comp=Z,675nm,18.8s,MS4.2,baz=167,slow=33						
COLA	**College**	**25.47**	**339**	⇓*i*P	**P**	**02 40 02.0**	**+0.3**
COLA	**College**	**25.47**	**339**	*e*P	**P**	**02 40 01.5**	**-0.2**
	comp=Z,17nm,1.1s,mb4.5						
SVW2	**Sparrevohn**	**25.52**	**327**	*e*P	**P**	**02 40 02.0**	**-0.3**
FCC	**Fort Churchill**	**25.87**	**40**	*e*P	**P**	**02 40 05.5**	**0.0**
	comp=Z,74nm,1.4s,mb5.0						
INK	**Inuvik**	**26.13**	**354**	P	**P**	**02 40 07.3**	**-0.5**
	comp=Z,5.4nm,1.0s,mb4.0,baz=166,slow=8.5,SNR=12						
INK				LR	LR	02 49 39.2	
	comp=Z,1μm,19.8s,MS4.5,baz=167,slow=35						
INK	**Inuvik**	**26.13**	**354**	*e*P	**P**	**02 40 07.0**	**-0.9**
	comp=Z,41nm,1.4s,mb4.8						
JFWS	**Jewell Farm**	**26.53**	**77**	*e*P	**P**	**02 40 12.4**	**+0.6**
	comp=Z,193nm,1.8s,mb5.3						
JFWS				LR	LR		
	comp=Z,4μm,20.0s,MS4.9						
MIAR	**Mount Ida**	**26.84**	**96**	*e*P	**P**	**02 40 14.7**	**-0.1**
	comp=Z,110nm,1.7s,mb5.1						
MIAR				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
CCM	**Cathedral Cave**	**27.15**	**87**	*e*P	**P**	**02 40 17.3**	**-0.3**
	comp=Z,129nm,1.6s,mb5.2						
CCM				LR	LR		
	comp=Z,366nm,21.0s,MS3.9						
NATX	**Nacogdoches**	**27.42**	**102**	P	**P**	**02 40 20.5**	**+0.4**
	comp=Z,82nm,1.4s,mb5.1						
NATX				LR	LR		
	comp=Z,2μm,21.0s,MS4.7						
HKT	**Hockley**	**27.59**	**107**	*e*P	**P**	**02 40 21.4**	**-0.2**
	comp=Z,43nm,1.6s,mb4.8						
HKT				LR	LR		
	comp=Z,686nm,21.0s,MS4.2						
SLM	**Saint Louis**	**27.70**	**86**	*e*P	**P**	**02 40 23.0**	**+0.5**
	comp=Z,134nm,1.3s,mb5.4						
FVM	**French Village**	**27.78**	**87**	*e*P	**P**	**02 40 22.8**	**-0.5**
	comp=Z,83nm,1.5s,mb5.1						
IMA	**Indian Mountai**	**27.99**	**337**	*e*P	**P**	**02 40 24.3**	**-0.6**
	comp=Z,158nm,1.8s,mb5.3						
PVMO	**Portageville**	**28.91**	**90**	P	**P**	**02 40 33.1**	**-0.3**
OXF	**Oxford**	**29.93**	**93**	*e*P	**P**	**02 40 41.3**	**-1.4**
	comp=Z,57nm,1.2s,mb5.2						
OXF				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
BLO	**Bloomington**	**30.25**	**83**	*e*P	**P**	**02 40 45.0**	**-0.5**
	comp=Z,59nm,1.1s,mb5.2						
WCI	**Wyandotte Cave**	**30.74**	**84**	*e*P	**P**	**02 40 49.4**	**-0.4**
	comp=Z,80nm,1.5s,mb5.3						
WCI				LR	LR		
	comp=Z,995nm,20.0s,MS4.5						
AAM	**Ann Arbor**	**31.41**	**76**	*e*P	**P**	**02 40 55.8**	**+0.2**
AAM				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
SWET	**Sewanee**	**32.19**	**89**	*e*P	**P**	**02 41 01.8**	**-0.8**
LRAL	**Lakeview Retre**	**32.39**	**94**	*e*P	**P**	**02 41 02.8**	**-1.6**
	comp=Z,53nm,1.6s,mb5.1						
LRAL				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
ACSO	**Alum Creek Sta**	**32.49**	**79**	*e*P	**P**	**02 41 03.9**	**-1.2**
	comp=Z,66nm,1.5s,mb5.2						
ACSO				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
CPCT	**Cooper Cave**	**33.13**	**88**	*e*P	**P**	**02 41 08.6**	**-2.1**
ERPA	**Erie**	**34.08**	**75**	PFAKE		02 41 30.0	+11
ERPA				LR	LR		
	comp=Z,884nm,21.0s,MS4.5						
ALLY	**Alegheny Colle**	**34.10**	**75**	*e*P	**P**	**02 41 18.9**	**-0.2**
GOGA	**Godfrey**	**34.82**	**91**	*e*P	**P**	**02 41 25.0**	**-0.4**
	comp=Z,46nm,1.4s,mb5.2						
GOGA				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
MCWV	**Mont Chateau**	**34.96**	**79**	PFAKE		02 41 40.0	+14
MCWV				LR	LR		
	comp=Z,581nm,20.0s,MS4.3						
FWV	**Forest Hill**	**35.01**	**82**	*e*P	**P**	**02 41 24.9**	**-2.0**
ELN	**Prospectdale**	**35.19**	**83**	*e*P	**P**	**02 41 27.9**	**-0.5**
SSPA	**Standing Stone**	**36.04**	**76**	*e*P	**P**	**02 41 34.9**	**-0.8**
	comp=Z,106nm,2.1s,mb5.4						
SSPA				LR	LR		
	comp=Z,282nm,20.0s,MS4.0						
CBN	**Corbin**	**37.28**	**80**	*e*P	**P**	**02 41 46.2**	**+0.1**
	comp=Z,25nm,0.3s,mb5.5						
CBN				LR	LR		
	comp=Z,786nm,19.0s,MS4.5						
MVL	**Millersville**	**37.36**	**76**	*e*P	**P**	**02 41 46.4**	**-0.4**
NHSC	**New Hope**	**37.40**	**89**	PFAKE		02 42 00.0	+13
NHSC				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
TWB	**Tillmans-White**	**37.45**	**89**	*e*P	**P**	**02 41 45.7**	**-1.8**
NCB	**Newcomb**	**37.60**	**69**	PFAKE		02 42 00.0	+11
NCB				LR	LR		
	comp=Z,608nm,20.0s,MS4.4						
MIV	**Mineville/With**	**38.05**	**69**	*e*P	**P**	**02 41 53.1**	**+0.6**
FRB	**Frobisher Bay**	**38.98**	**37**	P	**P**	**02 42 01.1**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.3,baz=269,slow=9.4,SNR=8.4						
TEIG	**Tepich**	**39.03**	**113**	*e*P	**P**	**02 42 01.0**	**0.0**
	comp=Z,11nm,0.8s,mb4.6						
DWPF	**Disney**	**39.04**	**97**	PFAKE		02 42 10.0	+9.0
DWPF				LR	LR		
	comp=Z,449nm,20.0s,MS4.3						
SCHQ	**Schefferville**	**40.09**	**51**	P	**P**	**02 42 08.6**	**-0.8**
	comp=Z,2.6nm,1.0s,mb3.9,baz=348,slow=0.9,SNR=4.0						
SCHQ				LR	LR	02 59 00.5	
	comp=Z,916nm,18.1s,MS4.7,baz=90,slow=37						
FX1	**Attu Island--F**	**40.77**	**306**	LR	LR	02 55 51.5	
	comp=Z,16nm,18.7s,baz=234,slow=31						
BILL	**Bilibino**	**42.99**	**329**	*e*P	**P**	**02 42 32.3**	**-0.6**
BILL	**Bilibino**	**42.99**	**329**	*e*P	**P**	**02 42 32.3**	**-0.6**
	comp=Z,12nm,0.9s,mb4.6						
JTS	**JuntasAbangare**	**48.40**	**119**	LR	LR	03 06 36.1	
	comp=Z,326nm,19.7s,MS4.3,baz=315,slow=40						
PET	**Petropavlovsk**	**49.20**	**310**	*e*P	**P**	**02 43 31.5**	**+9.2**
PET				*e*S	**S**	**02 50 33.2**	**+6.4**
PET				pmax	pmax		
	comp=Z,100nm,8.4s						
PET				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
PET				smax			
	comp=E,400nm,19.6s						
SEY	**Seymchan**	**49.39**	**323**	*e*P	**P**	**02 43 22.7**	**-0.9**
SEY				*e*		02 50 43.0	
SEY				*e*		02 53 13.2	
SEY				pmax	pmax		
	comp=E,40nm,1.3s						
SEY				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.4						
SUMG	**Summit**	**49.51**	**23**	*e*P	**P**	**02 43 22.5**	**-2.0**
	comp=Z,29nm,1.2s,mb5.2						
MA2	**Magadan**	**51.16**	**320**	*e*P	**P**	**02 43 36.3**	**-0.9**
MA2				*e*S	**S**	**02 50 50.5**	**-3.3**
MA2				*i* PS	PS	02 50 58.5	-4.9
MA2				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
TAOE	**Nuku Hiva Isla**	**52.60**	**197**	*e*LR	LR	02 58 31.5	
DAG	**Danmarks Havn**	**52.93**	**16**	*e*P	**P**	**02 43 50.0**	**-0.3**
DAG	**Danmarks Havn**	**52.93**	**16**	*i* P	**P**	**02 43 50.0**	**-0.3**
TIXI	**Tiksi**	**54.59**	**338**	⇑*i*P	**P**	**02 44 00.8**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.4						
SJG	**San Juan**	**56.24**	**96**	LR	LR	03 11 35.2	
	comp=Z,465nm,20.0s,MS4.6,baz=289,slow=40						
SJG	**San Juan**	**56.24**	**96**	*e*P	**P**	**02 44 14.2**	**-1.0**
	comp=Z,18nm,0.9s,mb5.1						
SDV	**Santo Domingo**	**59.13**	**108**	LR	LR	03 13 07.3	
	comp=Z,171nm,21.2s,MS4.2,baz=28,slow=39						
SDV	**Santo Domingo**	**59.13**	**108**	*e*P	**P**	**02 44 36.0**	**+0.3**
	comp=Z,20nm,1.0s,mb5.1						
YAK	**Yakutsk**	**59.30**	**328**	⇑*i*P	**P**	**02 44 34.2**	**-2.0**
YAK				pmax	pmax		
	comp=Z,22nm,1.3s,mb5.0						
YAK				MLR	MLR		
	comp=Z,600nm,17.0s,MS4.8						
ROSC	**El Rosal**	**59.45**	**114**	P	**P**	**02 44 38.9**	**+1.1**
	comp=Z,2.8nm,0.6s,mb4.5,baz=258,slow=22,SNR=9.8						
ROSC				LR	LR	03 12 44.8	
	comp=Z,241nm,21.6s,MS4.3,baz=354,slow=39						
YSS	**Yuzh-Sakhalins**	**61.05**	**308**	*e*P	**P**	**02 44 51.0**	**+2.6**
YSS				*e*S	**S**	**02 53 09.0**	**+3.6**
YSS				MLR	MLR		
	comp=Z,300nm,17.0s,MS4.5						
PPT	**Papeete**	**63.44**	**205**	*e*LQ		03 00 45.3	
PPT				*e*LR	LR	03 03 24.6	
	comp=Z,1μm,26.0s,baz=17						
RKT	**Rikitea**	**65.76**	**189**	*e*LQ		03 01 53.5	
RKT				*e*LR	LR	03 04 38.3	
	comp=Z,1μm,27.2s,baz=3.4						
KLR	**Kul'dur**	**65.81**	**315**	*e*P	**P**	**02 45 13.9**	**-5.7**
BOD	**Bodaibo**	**68.05**	**330**	*e*P	**P**	**02 45 29.8**	**-3.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
TBI	**Tubuai**	**68.86**	**203**	*e*LQ		03 03 07.5	
TBI				*e*LR	LR	03 06 03.8	
	comp=Z,957nm,29.8s						
LVZ	**Lovozero**	**69.01**	**8**	*e*P	**P**	**02 45 39.7**	**+0.3**
LVZ				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
MDJ	**Mudanjiang**	**69.86**	**312**	P	**P**	**02 45 42.3**	**-2.7**
MDJ				PCP	PcP	02 46 05.0	-2.7
MDJ				S	S	02 54 52.0	-1.2
MDJ				SCS	ScS	02 55 43.3	-0.1
MDJ				AMB	AMB		
	comp=Z,15nm,2.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,59nm,3.3s						
MDJ				LR	LR		
	comp=N,208nm,32.1s,MS4.5						
MDJ				LR	LR		
	comp=E,404nm,33.9s,MS4.5						
MDJ				LR	LR		
	comp=Z,436nm,34.5s,MS4.5						
RAR	**Rarotonga**	**70.43**	**213**	LR	LR	03 07 25.2	
	comp=Z,391nm,21.7s,MS4.6,baz=263,slow=28						
NB2	**NORSAR Subarra**	**71.24**	**20**	P	**P**	**02 45 53.8**	**+0.7**
	comp=Z,19nm,1.2s,mb4.9,baz=328,slow=6.2						
NOA	**NORSAR Array B**	**71.24**	**20**	P	**P**	**02 45 53.2**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=330,slow=6.2,SNR=8.7						
CBIJ	**Chichi jima**	**73.14**	**291**	LR	LR	03 13 05.5	
	comp=Z,396nm,19.0s,MS4.7,baz=75,slow=32						
KAF	**Kangasniemi**	**73.46**	**13**	*e*p	**P**	**02 46 07.0**	**+0.9**
	comp=Z,2.5nm,0.8s,mb4.2						
KAF	**Kangasniemi**	**73.46**	**13**	*e*P	**P**	**02 46 07.0**	**+0.9**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**74.05**	**13**	*i* P	**P**	**02 46 17.6**	**+8.1**
FINES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
FINES	**FINESS Array B**	**74.05**	**13**	P	**P**	**02 46 09.5**	**0.0**
	comp=Z,2.4nm,0.8s,mb4.2,baz=297,slow=4.3,SNR=7.8						
TLY	**Talaya**	**76.60**	**331**	*e*P	**P**	**02 46 24.6**	**+0.3**
TLY				*e*S	S	02 56 12.8	+3.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TLY				eSS	SS	03 01 04.6	-2.8
TLY				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
TLY				MLR	MLR		
	comp=Z,322nm,17.0s,MS4.7						
ARE	**Arequipa**	**77.46**	**126**	eP	**P**	**02 46 32.0**	**+2.3**
GRR	**Gorron**	**77.62**	**34**	eP	**P**	**02 46 36.9**	**+6.9**
	comp=Z,211nm,1.8s,mb5.5						
LDF	**La Druitiere**	**77.76**	**33**	eP	**P**	**02 46 37.2**	**+6.4**
	comp=Z,37nm,1.3s,mb4.9						
ZAK	**Zakamensk**	**77.79**	**330**	eP	**P**	**02 46 30.7**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
BAIF	**Baives**	**78.25**	**30**	eP	**P**	**02 46 40.4**	**+7.0**
	comp=Z,46nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**78.35**	**326**	eP	**P**	**02 46 34.4**	**+0.4**
GIVF	**Givet**	**78.44**	**30**	eP	**P**	**02 46 41.2**	**+6.7**
	comp=Z,47nm,1.3s,mb5.0						
SONM	**Songino Array**	**78.64**	**327**	P	**P**	**02 46 35.0**	**-0.7**
	comp=Z,2.7nm,0.9s,mb4.2,baz=54,slow=0.5,SNR=18						
MFF	**Saint Martin d**	**79.33**	**34**	eP	**P**	**02 46 46.2**	**+6.8**
	comp=Z,21nm,1.1s,mb4.7						
LPAZ	**La Paz**	**79.36**	**124**	P	**P**	**02 46 40.9**	**+0.7**
	comp=Z,3.8nm,0.7s,mb4.4,baz=335,slow=4.9,SNR=29						
LPAZ	**La Paz**	**79.36**	**124**	eP	**P**	**02 46 39.7**	**-0.4**
	comp=Z,7.2nm,0.8s,mb4.7						
TNS	**Taunus Mts**	**79.62**	**28**	eP	**P**	**02 46 48.2**	**+7.3**
TNS				e*PP	pP	02 46 53.7	+10
TNS				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
TNS	**Taunus Mts**	**79.62**	**28**	eP	**P**	**02 46 48.2**	**+7.3**
	comp=Z,24nm,1.5s,mb4.9						
TNS				epP	pP	02 46 53.7	+10
CLL	**Collm**	**80.16**	**24**	eP	pP	02 46 56.0	+9.0
CLL	**Collm**	**80.16**	**24**	P	**P**	**02 46 46.0**	**+2.2**
CLL				e	pP	02 46 49.0	+2.0
CLL				e		02 46 56.0	
CLL				eSS	SS	03 01 32.0	-29
BJI	**Beijing**	**80.16**	**316**	eP	**P**	**02 46 42.3**	**-1.7**
BJI				S	S	02 56 52.0	+4.5
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=N,260nm,19.7s,MS4.8						
BJI				LR	LR		
	comp=E,306nm,20.9s,MS4.8						
BJI				LR	LR		
	comp=Z,307nm,27.7s						
BJI	**Beijing**	**80.16**	**316**	eP	**P**	**02 46 42.3**	**-1.7**
	comp=Z,4.0nm,0.8s,mb4.4						
BJI				S	S	02 56 52.0	+4.5
BJI				SS	SS	03 02 00.0	-1.1
BJI				LR	LR		
	comp=Z,310nm,27.7s,MS4.5						
MOX	**Moxa**	**80.30**	**26**	eP	**P**	**02 46 48.0**	**+3.4**
MOX				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.9						
MOX	**Moxa**	**80.30**	**26**	i P	**P**	**02 46 48.0**	**+3.4**
MOX				L		03 23 47.0	
SUW	**Suwalki**	**80.41**	**18**	P	**P**	**02 46 45.9**	**+0.8**
	comp=Z,40nm,1.0s,mb5.3						
SSF	**Saint Saulge**	**80.44**	**32**	eP	**P**	**02 46 51.9**	**+6.5**
AVF	**Avril sur Loir**	**80.60**	**32**	eP	**P**	**02 46 52.4**	**+6.2**
CDF	**Champ du Feu**	**80.74**	**29**	eP	**P**	**02 46 53.8**	**+6.9**
	comp=Z,31nm,1.2s,mb4.8						
BRG	**Berggiesshubel**	**80.83**	**24**	eP	**P**	**02 46 49.5**	**+2.2**
BRG				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
BRG	**Berggiesshubel**	**80.83**	**24**	eP	**P**	**02 46 49.5**	**+2.2**
	comp=Z,19nm,1.3s,mb4.9						
BRG				e		02 46 59.7	
NKC	**Novy Kostel**	**80.92**	**25**	eP	pP	02 47 00.3	+9.3
GRA1	**Grafenberg Arr**	**81.00**	**26**	eP	**P**	**02 46 56.3**	**+8.0**
	comp=Z,34nm,1.3s,mb5.1						
GRA1				epP	pP	02 47 00.9	+9.4
GRA1				LR	LR		
	comp=Z,500nm,21.6s,MS4.8						
GRF	**Grafenberg Arr**	**81.00**	**26**	eP	**P**	**02 46 56.3**	**+8.0**
GRF				e*PP	pP	02 47 00.9	+9.4
GRF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
GRF				MLR	MLR		
	comp=Z,500nm,21.6s,MS4.8						
GRF	**Grafenberg Arr**	**81.00**	**26**	eP	**P**	**02 46 56.3**	**+8.0**
	comp=Z,34nm,1.3s,mb5.1						
GRF				epP	pP	02 47 00.9	+9.4
GRF				LR	LR		
	comp=Z,500nm,21.6s,MS4.8						
HINF	**Hinteralfeld**	**81.08**	**30**	eP	**P**	**02 46 55.4**	**+6.7**
	comp=Z,25nm,1.4s,mb4.7						
BFO	**Black Forest**	**81.18**	**29**	eP	**P**	**02 46 56.9**	**+7.7**
BFO				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
BFO	**Black Forest**	**81.18**	**29**	eP	**P**	**02 46 56.9**	**+7.7**
	comp=Z,26nm,1.6s,mb4.9						
PVCC	**Panska Ves**	**81.32**	**24**	eP	**P**	**02 46 56.8**	**+6.9**
KSP	**Ksiaz**	**81.55**	**23**	eP	**P**	**02 46 56.7**	**+5.6**
KSP				e		02 58 05.1	
OBN	**Obninsk**	**81.70**	**10**	P	**P**	**02 46 53.0**	**+1.2**
OBN				e		02 57 02.0	
OBN				MLR	MLR		
	comp=Z,300nm,18.0s,MS4.7						
OBN	**Obninsk**	**81.70**	**10**	eP	**P**	**02 46 52.4**	**+0.6**
	comp=Z,23nm,1.3s,mb5.0						
PRU	**Pruhonice**	**81.79**	**24**	eP	pP	02 47 04.2	+8.6
EVO	**Evora**	**81.91**	**44**	eP	**P**	**02 46 59.9**	**+6.7**
	comp=Z,30nm,1.2s,mb4.8						
EVO				eR			
	comp=Z,342nm,20.5s						
DPC	**Dobruska-Polom**	**81.99**	**23**	eP	**P**	**02 46 59.3**	**+5.9**
WET	**Wettzell**	**82.01**	**26**	eP	**P**	**02 47 00.9**	**+7.4**
WET				e*PP	pP	02 47 06.0	+9.3
WET				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.5						
WET	**Wettzell**	**82.01**	**26**	eP	**P**	**02 47 00.9**	**+7.4**
	comp=Z,8.0nm,1.4s,mb4.5						
WET				epP	pP	02 47 06.0	+9.3
KHC	**Kasperske Hory**	**82.25**	**25**	i P	**P**	**02 46 56.8**	**+2.0**
KHC	**Kasperske Hory**	**82.25**	**25**	eP	**P**	**02 47 02.4**	**+7.6**
GERES	**GERESS Array B**	**82.54**	**25**	P	**P**	**02 46 57.0**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=14,slow=5.5,SNR=4.2						
LPL	**La Plagne**	**82.97**	**31**	eP	**P**	**02 47 04.7**	**+6.1**
OKC	**Ostrava-Krasne**	**82.97**	**22**	eP	**P**	**02 47 01.0**	**+2.5**
LPG	**La Plagne**	**82.99**	**31**	eP	**P**	**02 47 04.6**	**+5.9**
	comp=Z,48nm,1.5s,mb5.0						
CHKZ	**Chkalovo**	**83.07**	**350**	eP	**P**	**02 46 58.4**	**-0.5**
	comp=Z,16nm,1.4s,mb4.9						
SSE	**Sheshan**	**83.96**	**307**	P	**P**	**02 47 00.6**	**-3.3**
SSE				S	S	02 57 24.2	-2.2
SSE				AMB	AMB		
	comp=Z,16nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,36nm,4.8s						
SSE				LR	LR		
	comp=N,147nm,23.0s,MS4.5						
SSE				LR	LR		
	comp=E,144nm,22.8s,MS4.5						
SSE				LR	LR		
	comp=Z,94nm,24.4s,MS4.1						
SSE	**Sheshan**	**83.96**	**307**	P	**P**	**02 47 00.6**	**-3.3**
	comp=Z,16nm,0.7s,mb5.3						
SSE				PP	PP	02 50 13.0	-6.4
SSE				S	S	02 57 24.2	-2.2
SSE				sS		02 57 31.5	
SSE				SS	SS	03 02 51.1	-6.2
SSE				LR	LR		
	comp=Z,90nm,24.4s,MS4.1						
KURK	**Kurchatov**	**84.61**	**344**	eP	**P**	**02 47 06.7**	**0.0**
KURK	**Kurchatov**	**84.61**	**344**	eP	**P**	**02 47 06.9**	**+0.2**
	comp=Z,15nm,1.2s,mb5.0						
NJ2	**Nanjing**	**84.62**	**309**	eP	**P**	**02 47 05.1**	**-2.1**
NJ2				AP	pP	02 47 10.0	-0.4
NJ2				PP	PP	02 50 21.5	-3.2
NJ2				S	S	02 57 29.0	-3.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,290nm,7.9s						
NJ2				LR	LR		
	comp=N,470nm,23.5s,MS5.2						
NJ2				LR	LR		
	comp=E,1µm,27.4s,MS5.2						
NJ2				LR	LR		
	comp=Z,480nm,22.1s						
PERS	**Pernice**	**84.94**	**25**	eP	**P**	**02 47 16.2**	**+7.8**
PSZ	**Piszkesteto**	**85.20**	**22**	P	**P**	**02 47 12.3**	**+2.5**
	comp=Z,22nm,1.3s,mb5.1						
GTA	**Gaotai**	**88.28**	**326**	eP	**P**	**02 47 31.9**	**+6.9**
GTA				AP	pP	02 47 36.0	+7.8
GTA				XP	sP	02 47 38.2	+9.0
GTA				S	S	02 58 14.7	+6.9
GTA				SS	SS	03 04 06.0	+5.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.6						
GTA				AMB	AMB		
	comp=Z,63nm,5.3s						
GTA				LR	LR		
	comp=N,362nm,23.2s,MS5.0						
GTA				LR	LR		
	comp=E,514nm,22.4s,MS5.0						
GTA				LR	LR		
	comp=Z,679nm,18.6s,MS5.1						
WMQ	**Urumqi**	**88.75**	**336**	eP	**P**	**02 47 26.8**	**-0.3**
WMQ				XP	sP	02 47 33.0	+1.6
WMQ				PP	PP	02 50 57.0	-1.5
WMQ				SKS	SKS	02 57 53.0	-6.3
WMQ				S	S	02 58 11.0	-1.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,136nm,5.7s						
WMQ				LR	LR		
	comp=N,605nm,23.0s,MS5.2						
WMQ				LR	LR		
	comp=E,920nm,25.8s,MS5.2						
WMQ				LR	LR		
	comp=Z,578nm,26.0s,MS4.9						
LZH	**Lanzhou**	**89.28**	**321**	eP	**P**	**02 47 32.0**	**+2.2**
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.4						
LZH				LR	LR		
	comp=E,940nm,16.8s						
LZH				LR	LR		
	comp=Z,1µm,19.0s,MS5.4						
BDFB	**Brasilia**	**92.20**	**109**	LR	LR	03 34 02.7	
	comp=Z,296nm,18.6s,MS4.8,baz=314,slow=39						
AAK	**Ala-Archa**	**93.16**	**345**	eP	**P**	**02 47 48.3**	**+0.7**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.5						
AAK				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.8						
KMI	**Kunming**	**98.82**	**316**	P	**P**	**02 48 13.0**	**-0.7**
KMI				AP	pP	02 48 17.4	+0.4
KMI				S	S	02 59 36.6	-3.4
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb5.2						
KMI				LR	LR		
	comp=N,222nm,17.8s,MS4.9						
KMI				LR	LR		
	comp=E,243nm,17.8s,MS4.9						
KMI				LR	LR		
	comp=Z,232nm,35.4s						
KMI	**Kunming**	**98.82**	**316**	P	**P**	**02 48 13.0**	**-0.7**
	comp=Z,7.0nm,0.8s,mb5.2						
KMI				pP	pP	02 48 17.4	+0.4
KMI				S	S	02 59 36.6	-3.4
KMI				LR	LR		
	comp=Z,230nm,35.4s,MS4.4						
VNA3	**Neumayer Olymp**	**138.16**	**154**	⇑iS	SKS	03 01 08.0	-1.4
VNA2	**Neumayer--Watz**	**138.94**	**154**	⇑iS	SKS	03 01 08.3	-2.4
LSZ	**Lusaka**	**145.24**	**46**	ePKIKP	PKPdf	02 54 12.2	-1.4
MATP	**Matopo**	**149.57**	**51**	PKPbc	PKPdf	02 54 21.7	+1.1
	comp=Z,3.1nm,0.9s,baz=258,slow=3.6,SNR=3.4						
LBTB	**Lobatse**	**151.18**	**62**	ePKIKP	PKPdf	02 54 25.3	+2.4
LBTB	**Lobatse**	**151.18**	**62**	PKPbc	PKPdf	02 54 25.3	+2.4
	comp=Z,6.4nm,1.1s,baz=270,slow=5.1,SNR=3.4						

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*IDC **07** 02:41:32.9±3.2, 42.38N×126.52W, mb3.0/2, mb1 3.5/4, mb1mx3.3/20, mbtmp3.0/4, ML3.1/2, Error ellipse: s-maj=51.3km s-min=24.4km az=43.0*
*NEIC **07** 02:41:34.6±2.6, 42.41N×126.55W, h10km, mb3.5/2, Error ellipse: s-maj=36.6km s-min=16.2km az=65.0*
ISC 07 02:41:32.2±4.1**, 42.5N**±0.2×**126.6W**±0.2**, h4**km±31km**, n8,** σ**0^{s}88**/9**, mb3.1**/3**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUMO	**Hull Mountain**	**2.66**	**86**	eP	**Pn**	**02 42 16.7**	**0.0**
YBH	**Yreka Blue Hor**	**2.95**	**103**	Pn	**Pn**	**02 42 21.2**	**+0.5**
	1.3nm,0.3s,baz=281,slow=11,SNR=15						
YBH				Sn	**Sn**	**02 42 56.8**	**-0.3**
	0.2nm,0.3s,baz=36,slow=17,SNR=2.4						
BMO	**Blue Mountains**	**7.12**	**67**	eP	**Pn**	**02 43 20.0**	**+0.3**
NVAR	**Mina Array Bea**	**7.46**	**120**	Pn	**Pn**	**02 43 22.6**	**-2.0**
	0.1nm,0.3s,baz=298,slow=13,SNR=2.2						
SDCO	**Great Sand Dun**	**16.77**	**99**	eP	**P**	**02 45 30.1**	**+0.7**
	3.8nm,1.2s						
YKA	**Yellowknife Ar**	**21.28**	**15**	P	**P**	**02 46 21.0**	**-0.6**
	0.9nm,0.8s,mb3.1,baz=204,slow=11,SNR=6.5						
TXAR	**Lajitas Array**	**22.61**	**118**	P	**P**	**02 46 36.7**	**+1.5**
	0.3nm,0.7s,mb2.8,baz=302,slow=8.5,SNR=2.3						
WMOK	**Wichita Mounta**	**22.96**	**100**	P	**P**	**02 46 38.3**	**-0.3**
	1.7nm,1.0s,mb3.4						

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*THE **07** 02:45:01.4, 40.29N×20.51E, h3km, ML3.1*
*CSEM **07** 02:45:01.6±0.1, 40.27N×20.57E, h2km, ML3.1, Error ellipse: s-maj=3.6km s-min=1.9km az=156.0*
*ATH **07** 02:45:02.0, 40.15N×20.67E, h5km, MD3.1/5*
*NEIC **07** 02:45:02.0, 40.15N×20.67E, h5km, MD3.1(ATH), After ATH.*
ISC 07 02:45:01.6±0.4**, 40.18N**±0.03×**20.65E**±0.03**, h5**km**, n26,** σ**1^{s}20**/39**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.46**	**13**	i Pg	**Pg**	**02 45 10.5**	**-0.3**
TPE	**Tepelena**	**0.50**	**284**	i Pg	**Pg**	**02 45 10.0**	**-1.7**
TPE				i Sg	**Sg**	**02 45 18.6**	**+0.2**
TPE	**Tepelena**	**0.50**	**284**	ePg	**Pg**	**02 45 10.0**	**-1.7**
TPE				i Sg	**Sg**	**02 45 18.6**	**+0.2**
JAN	**Janina**	**0.55**	**163**	ePB	**Pb**	**02 45 12.2**	**-1.0**
SRN	**Sarande**	**0.58**	**239**	i Pg	**Pg**	**02 45 12.6**	**-0.6**
SRN				i Sg	**Sg**	**02 45 22.9**	**+1.9**
IGT	**Igoumenitsa**	**0.69**	**201**	ePg	**Pg**	**02 45 16.0**	**+0.6**
KEK	**Kerkira**	**0.80**	**235**	ePB	**Pb**	**02 45 17.5**	**-0.1**
FNA	**Florina**	**0.82**	**42**	ePg	**Pg**	**02 45 17.0**	**-1.1**
FNA				eSg	**Sg**	**02 45 29.1**	**+0.1**
KZN	**Kozani**	**0.87**	**81**	ePB	**Pb**	**02 45 18.8**	**0.0**
OHR	**Ohrid**	**0.94**	**7**	ePg	**Pg**	**02 45 19.0**	**-1.4**
OHR				i Sg	**Sg**	**02 45 33.9**	**+1.0**
BIA	**Bitola**	**0.98**	**31**	i Pg	**Pg**	**02 45 19.1**	**-2.2**
BIA				i		02 45 23.6	
BIA				i Sg	**Sg**	**02 45 34.3**	**-0.1**
BIA	**Bitola**	**0.98**	**31**	i Pg	**Pg**	**02 45 19.1**	**-2.2**
BIA				i Sg	**Sg**	**02 45 34.3**	**-0.1**
TIR	**Tirane**	**1.31**	**333**	i Pn	**Pn**	**02 45 32.0**	**+5.4**
LIT	**Litokhoron**	**1.41**	**93**	ePb	**Pb**	**02 45 28.3**	**+0.2**
LIT				eSb	**Sb**	**02 45 50.1**	**+3.7**
QSH	**Qafa e Shtames**	**1.46**	**337**	ePn	**Pn**	**02 45 35.0**	**+6.3**
QSH				i Sn	**Sn**	**02 45 55.0**	**+6.7**
GRG	**Griva**	**1.54**	**59**	ePb	**Pb**	**02 45 29.7**	**-0.7**
GRG				eSb	**Sb**	**02 45 51.7**	**+1.5**
EVR	**Evrytania**	**1.55**	**144**	ePG	**Pg**	**02 45 30.5**	**-2.0**
AGG	**Agios Georgios**	**1.74**	**131**	ePb	**Pb**	**02 45 33.7**	**0.0**
AGG				eSb	**Sb**	**02 45 58.9**	**+3.1**
THE	**Thessaloniki**	**1.83**	**75**	ePb	**Pb**	**02 45 33.6**	**-1.5**
SKO	**Skopje**	**1.89**	**18**	i Pn	**Pn**	**02 45 36.6**	**+1.7**
PUK	**Puka**	**1.95**	**343**	i Pn	**Pn**	**02 45 38.5**	**+2.8**
KNT	**Kendrikon**	**1.97**	**59**	ePn	**Pn**	**02 45 35.6**	**-0.4**
KNT				eSn	**Sn**	**02 46 01.9**	**+0.4**
XOR	**Xorichti**	**2.12**	**112**	ePn	**Pn**	**02 45 38.6**	**+0.4**
NEO	**Neokhori**	**2.17**	**113**	ePN	**Pn**	**02 45 41.5**	**+2.6**
SRS	**Serrai**	**2.43**	**66**	ePn	**Pn**	**02 45 42.0**	**-0.6**
SRS				eSn	**Sn**	**02 46 13.9**	**+0.9**
OUR	**Ouranopolis**	**2.56**	**85**	ePn	**Pn**	**02 45 44.1**	**-0.3**

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*NEIC **07** 02:45:08.6±1.2, 42.49N×126.49W, h10km, mb3.7/2, Error ellipse: s-maj=14.4km s-min=6.8km az=71.0*
*IDC **07** 02:45:10.1±2.6, 42.61N×126.00W, mb3.2/2, mb1 3.7/8, mb1mx3.5/24, mbtmp3.4/8, ML3.2/5, Error ellipse: s-maj=42.8km s-min=16.9km az=49.0*
ISC 07 02:45:07.9±1.2**, 42.45N**±0.06×**126.4W**±0.1**, h10**km**, n39,** σ**1^{s}14**/40**, mb3.3**/2**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.56**	**74**	eP	**Pn**	**02 45 35.8**	**-0.1**
DBO	**Dodson Butte**	**2.40**	**73**	P	**Pn**	**02 45 48.4**	**+0.5**
HUMO	**Hull Mountain**	**2.53**	**85**	P	**Pn**	**02 45 50.1**	**+0.3**
HSO	**Harness Mounta**	**2.64**	**65**	P	**Pn**	**02 45 51.5**	**+0.2**
BBOR	**Butler Butte**	**2.76**	**80**	P	**Pn**	**02 45 54.0**	**+1.0**
YBH	**Yreka Blue Hor**	**2.82**	**103**	Pn	**Pn**	**02 45 54.0**	**+0.2**
	2.2nm,0.3s,baz=305,slow=15,SNR=48						
YBH				Sn	**Sn**	**02 46 26.1**	**-2.2**
	0.4nm,0.3s,baz=167,slow=14,SNR=1.6						
YBH	**Yreka Blue Hor**	**2.82**	**103**	eP	**Pn**	**02 45 54.2**	**+0.3**
MPOR	**Mary's Peak**	**2.91**	**44**	P	**Pn**	**02 45 51.9**	**-3.3**
LAMM	**Antelope Mount**	**2.91**	**105**	P	**Pn**	**02 45 56.8**	**+1.5**
BUOR	**Burton Butte**	**3.06**	**92**	P	**Pn**	**02 45 59.0**	**+1.7**
COR	**Corvallis**	**3.09**	**45**	eP	**Pn**	**02 45 56.7**	**-1.0**
LHEM	**Herd Peak**	**3.20**	**103**	P	**Pn**	**02 46 00.2**	**+0.9**
HBO	**Huckleberry Mo**	**3.28**	**63**	P	**Pn**	**02 46 01.3**	**+0.9**
BROR	**Big Rock Looko**	**3.39**	**56**	P	**Pn**	**02 46 02.2**	**+0.2**
FRIS	**Frissel Point**	**3.58**	**59**	P	**Pn**	**02 46 05.2**	**+0.5**
GT2	**Goat Mountain**	**4.02**	**46**	P	**Pn**	**02 46 11.5**	**+0.6**
LBCM	**Butte Creek Ri**	**4.09**	**111**	P	**Pn**	**02 46 12.3**	**+0.3**
TDH	**Tom, Dick, Har**	**4.36**	**48**	P	**Pn**	**02 46 16.4**	**+0.6**
VLMM	**Larch Mountain**	**4.39**	**44**	P	**Pn**	**02 46 17.1**	**+0.9**
VLL	**Laurance Lake**	**4.53**	**47**	P	**Pn**	**02 46 19.6**	**+1.3**
MOD	**Modoc**	**4.54**	**95**	eP	**Pn**	**02 46 16.7**	**-1.7**
CROR	**Criterion Ridg**	**4.65**	**55**	P	**Pn**	**02 46 19.7**	**-0.3**
BMO	**Blue Mountains**	**7.00**	**67**	eP	**Pn**	**02 46 52.3**	**-0.7**
NVAR	**Mina Array Bea**	**7.34**	**120**	Pn	**Pn**	**02 46 56.6**	**-1.2**
	0.2nm,0.3s,baz=297,slow=13,SNR=7.4						
ELK	**Elko**	**8.51**	**98**	Pn	**P**	**02 47 14.3**	**+0.1**
	0.0nm,0.3s,baz=256,slow=6.3,SNR=4.6						
MSO	**Missoula**	**9.88**	**59**	eP	**P**	**02 47 31.7**	**-1.4**
ARUT	**Antelope Range**	**10.94**	**111**	P	**P**	**02 47 46.7**	**-0.8**
MSU	**Marysvale**	**11.50**	**105**	eP	**P**	**02 47 54.8**	**-0.5**
BW06	**Boulder Array**	**12.40**	**83**	P	**P**	**02 48 05.2**	**-2.0**
PDAR	**Pinedale Array**	**12.40**	**83**	Pn	**P**	**02 48 07.3**	**+0.1**
	0.0nm,0.3s,baz=270,slow=8.9,SNR=4.4						
DLBC	**Dease Lake**	**16.17**	**353**	Pn	**P**	**02 48 58.8**	**+2.2**
	0.1nm,0.3s,baz=191,slow=8.8,SNR=5.6						
SDCO	**Great Sand Dun**	**16.64**	**99**	eP	**P**	**02 49 02.7**	**0.0**
	13nm,1.3s						
ANMO	**Albuquerque**	**17.23**	**109**	P	**P**	**02 49 11.7**	**+1.6**
	baz=321,slow=13,SNR=3.9						
MNTX	**Cornudas Mount**	**19.84**	**116**	P	**P**	**02 49 41.3**	**-0.4**
	1.7nm,0.8s						
CBKS	**Cedar Bluff**	**20.50**	**91**	P	**P**	**02 49 47.9**	**-0.8**
YKA	**Yellowknife Ar**	**21.25**	**15**	P	**P**	**02 49 53.4**	**-2.8**
	1.8nm,0.8s,mb3.5,baz=204,slow=11,SNR=19						
TXAR	**Lajitas Array**	**22.49**	**118**	P	**P**	**02 50 11.1**	**+2.2**
	1.0nm,1.0s,mb3.2,baz=286,slow=7.9,SNR=6.1						
WMOK	**Wichita Mounta**	**22.83**	**101**	P	**P**	**02 50 11.9**	**-0.2**
DAWY	**Dawson**	**22.92**	**345**	eP	**P**	**02 50 11.2**	**-1.5**

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*MOS **07** 02:48:18.9±1.1, 42.55N×126.52W, h15km, mb4.9/8, Error ellipse: s-maj=7.4km s-min=6.3km az=42.0*
*IDC **07** 02:48:18.4±0.9, 42.56N×126.52W, mb4.2/14, mb1 4.4/21, mb1mx4.3/28, mbtmp4.3/21, ML3.9/6, MS4.6/18, Ms1 4.6/18, ms1mx4.3/32, Error ellipse: s-maj=18.3km s-min=9.1km az=38.0*
*BJI **07** 02:48:18.9, 42.54N×127.32W, h11km, mB5.3, mb5.0, Ms5.4, Msz4.8*
*NEIC **07** 02:48:20.5±0.3, 42.53N×126.53W, h10km, mb5.1/38, MS4.6/1, Error ellipse: s-maj=5.1km s-min=3.2km az=57.0*
*HRVD **07** 02:48:20.5±0.3, 42.49N×126.79W, h16km±1km, MW5.2/67, Centroid moment Tensor Solution. LP body waves: s17,c24;Mantle waves: s67,c138; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03±.03; $M_{\theta\theta}$-0.88±.03; $M_{\phi\phi}$0.84±.03; $M_{r\theta}$0.05±.09; $M_{\theta\phi}$0.11±.02; $M_{\phi r}$0.17±.08; Best double couple: M_0.885×10^{17} NP1: ϕ_s318°, δ80°, λ174°. NP2: ϕ_s49°, δ84°, λ10°. Principal axes: T .885, Plg11°, Azm274°; N .001, Plg78°, Azm81°; P -.885, Plg3°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 02:48:18.7±0.3**, 42.54N**±0.03×**126.54W**±0.04**, h10**km**, (h14**km±3.3km**:pP-P), n218,** σ**0^{s}99**/212**, mb4.7**/53**, MS4.6**/18**, 7C-5D, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.66**	**78**	⇑eP	**Pn**	**02 48 46.9**	**-1.2**
KBO	**Bosley Butte**	**1.74**	**100**	⇑ePn	**Pn**	**02 48 48.1**	**-1.2**
KSXB	**Camp Six Broad**	**2.10**	**109**	P	**Pn**	**02 48 52.9**	**-1.6**
TAKO	**Tahkenitch**	**2.17**	**55**	P	**Pn**	**02 48 55.2**	**-0.1**
DBO	**Dodson Butte**	**2.49**	**75**	P	**Pn**	**02 49 00.4**	**+0.3**
HUMO	**Hull Mountain**	**2.65**	**87**	ePn	**Pn**	**02 49 01.5**	**-0.7**
KHMM	**Horse Mountain**	**2.68**	**127**	ePn	**Pn**	**02 49 01.2**	**-1.5**
HSO	**Harness Mounta**	**2.71**	**67**	P	**Pn**	**02 49 02.8**	**-0.4**
BBOR	**Butler Butte**	**2.87**	**82**	P	**Pn**	**02 49 05.4**	**+0.1**
MPOR	**Mary's Peak**	**2.93**	**47**	P	**Pn**	**02 49 05.8**	**-0.5**
EUO	**Eugene**	**2.94**	**58**	P	**Pn**	**02 49 06.3**	**-0.1**
YBH	**Yreka Blue Hor**	**2.96**	**105**	eP	**Pn**	**02 49 05.8**	**-0.9**
YBH	**Yreka Blue Hor**	**2.96**	**105**	Pn	**Pn**	**02 49 06.7**	**0.0**
	31nm,0.3s,baz=282,slow=12,SNR=235						
YBH				Sn	**Sn**	**02 49 44.0**	**+1.4**
	7.7nm,0.3s,baz=16,slow=20,SNR=3.3						
LAMM	**Antelope Mount**	**3.06**	**106**	P	**Pn**	**02 49 08.5**	**+0.4**
COR	**Corvallis**	**3.12**	**48**	eP	**Pn**	**02 49 08.2**	**-0.7**
BUOR	**Burton Butte**	**3.19**	**93**	P	**Pn**	**02 49 10.6**	**+0.6**
LHEM	**Herd Peak**	**3.34**	**104**	P	**Pn**	**02 49 11.7**	**-0.4**
HBO	**Huckleberry Mo**	**3.35**	**66**	P	**Pn**	**02 49 12.5**	**+0.3**
BROR	**Big Rock Looko**	**3.44**	**58**	P	**Pn**	**02 49 13.3**	**-0.2**
IRO	**Indian Ridge**	**3.46**	**63**	P	**Pn**	**02 49 13.9**	**+0.2**
WDC	**Whiskeytown Da**	**3.58**	**122**	eP	**Pn**	**02 49 13.7**	**-1.8**
HOG	**Hogback Mounta**	**3.59**	**93**	P	**Pn**	**02 49 15.8**	**+0.1**
FRIS	**Frissel Point**	**3.64**	**61**	P	**Pn**	**02 49 16.5**	**+0.1**
SSOR	**Sweet Springs**	**3.76**	**51**	P	**Pn**	**02 49 18.6**	**+0.6**
HUOR	**Husband**	**3.77**	**64**	P	**Pn**	**02 49 19.1**	**+0.9**
KMOR	**Kings Mountain**	**3.80**	**34**	P	**Pn**	**02 49 18.6**	**+0.1**
LASM	**Arnica Sink**	**3.81**	**103**	P	**Pn**	**02 49 18.5**	**-0.2**
BKCOR	**Black Crater**	**3.94**	**62**	P	**Pn**	**02 49 20.8**	**+0.2**
LTIM	**Timbered Crate**	**4.01**	**108**	P	**Pn**	**02 49 21.2**	**-0.4**
GT2	**Goat Mountain**	**4.05**	**48**	P	**Pn**	**02 49 22.6**	**+0.4**
BPO	**Bald Peter**	**4.11**	**57**	P	**Pn**	**02 49 23.3**	**+0.3**
LBCM	**Butte Creek Ri**	**4.24**	**112**	P	**Pn**	**02 49 24.2**	**-0.6**
TDH	**Tom, Dick, Har**	**4.40**	**50**	P	**Pn**	**02 49 27.4**	**+0.3**
HOPS	**Hopland**	**4.41**	**142**	eP	**Pn**	**02 49 24.7**	**-2.6**
VLMM	**Larch Mountain**	**4.42**	**46**	P	**Pn**	**02 49 28.1**	**+0.6**
RVW	**Rose Valley**	**4.52**	**36**	P	**Pn**	**02 49 29.6**	**+0.7**
VLL	**Laurance Lake**	**4.56**	**49**	P	**Pn**	**02 49 30.0**	**+0.5**
VFP	**Flag Point**	**4.60**	**51**	P	**Pn**	**02 49 30.0**	**0.0**
MOD	**Modoc**	**4.67**	**96**	ePn	**Pn**	**02 49 30.1**	**-1.0**
CROR	**Criterion Ridg**	**4.70**	**57**	P	**Pn**	**02 49 31.0**	**-0.5**
ERK	**Elk Rock**	**4.82**	**37**	P	**Pn**	**02 49 33.2**	**+0.1**
OHCM	**Honcut**	**4.99**	**128**	ePn	**Pn**	**02 49 33.6**	**-1.9**
NSHM	**Saint Helena R**	**5.01**	**142**	ePn	**Pn**	**02 49 35.4**	**-0.4**
LMW	**Ladd Mountain**	**5.12**	**35**	P	**Pn**	**02 49 38.4**	**+1.0**
GLK	**Glacier Lake**	**5.35**	**39**	P	**Pn**	**02 49 40.8**	**+0.2**
LON	**Longmire**	**5.39**	**37**	P	**Pn**	**02 49 41.8**	**+0.6**
MEW	**McNeil Island**	**5.42**	**29**	P	**Pn**	**02 49 42.2**	**+0.6**
OOW	**Octopus West**	**5.46**	**17**	P	**Pn**	**02 49 41.6**	**-0.5**
OCWA	**Octopus Mounta**	**5.47**	**17**	eP	**Pn**	**02 49 41.6**	**-0.7**
WPW	**White Pass**	**5.48**	**39**	P	**Pn**	**02 49 42.2**	**-0.1**
GSM	**Grass Mountain**	**5.75**	**34**	P	**Pn**	**02 49 46.4**	**+0.1**
WVOR	**Wild Horse Val**	**5.84**	**88**	eP	**Pn**	**02 49 45.6**	**-1.9**
PATW	**Paterson**	**5.91**	**53**	P	**Pn**	**02 49 49.3**	**+0.9**
WCN	**Washoe City**	**6.07**	**120**	eP	**Pn**	**02 49 50.6**	**-0.1**
TBM	**Table Mountain**	**6.26**	**40**	P	**Pn**	**02 49 53.6**	**+0.1**
REDWA	**Red Mountain**	**6.32**	**51**	P	**Pn**	**02 49 53.6**	**-0.7**
H2OWA	**Water**	**6.39**	**50**	P	**Pn**	**02 49 54.5**	**-0.8**
GBB	**Gable Butte**	**6.40**	**48**	P	**Pn**	**02 49 54.9**	**-0.4**
PGC	**Sidney**	**6.48**	**18**	eP	**Pn**	**02 49 54.7**	**-1.9**
CMB	**Columbia Colle**	**6.51**	**132**	eP	**Pn**	**02 49 56.2**	**-0.7**
BMO	**Blue Mountains**	**7.08**	**68**	eP	**Pn**	**02 50 03.9**	**-1.1**
LRV	**Little Rabbit**	**7.45**	**143**	eP	**Pn**	**02 50 10.6**	**+0.5**
NVAR	**Mina Array Bea**	**7.50**	**120**	Pn	**Pn**	**02 50 10.4**	**-0.4**
	1.4nm,0.3s,baz=297,slow=14,SNR=39						
NVAR				LR	LR	02 53 07.2	
	comp=Z,4µm,21.4s,baz=280,slow=38						
OMM	**Old Mammoth Mi**	**7.59**	**128**	eP	**Pn**	**02 50 12.7**	**+0.6**
MNV	**Mina**	**7.59**	**120**	eP	**Pn**	**02 50 10.6**	**-1.5**
MTUM	**Tungsten Hills**	**8.02**	**128**	eP	**P**	**02 50 18.9**	**+0.8**
TPH	**Tonopah**	**8.40**	**119**	eP	**P**	**02 50 22.9**	**-0.5**
ELK	**Elko**	**8.65**	**98**	eP	**P**	**02 50 27.5**	**+0.6**
ELK	**Elko**	**8.65**	**98**	Pn	**P**	**02 50 27.4**	**+0.5**
	0.2nm,0.3s,baz=284,slow=15,SNR=17						
ELK				LR	LR	02 54 06.7	
	comp=Z,6µm,19.2s,baz=290,slow=40						

NEW Newport 8.75 46 *eP* **P 02 50 26.4 -1.9**
NEW Newport 8.75 46 Pn **P 02 50 27.9 -0.4**
0.8nm,0.3s,baz=212,slow=12,SNR=46
NEW LR LR 02 53 56.3
comp=Z,1μm,20.1s,baz=234,slow=39
HLID Hailey 8.94 79 *eP* **P 02 50 29.7 -1.1**
BBB Bella Bella 9.71 354 Pn **P 02 50 43.2 +1.7**
2.3nm,0.3s,baz=188,slow=17,SNR=8.6
BBB LR LR 02 53 41.7
comp=Z,5μm,19.9s,baz=170,slow=33
BBB Bella Bella 9.71 354 Pn **P 02 50 43.2 +1.7**
BBB LR LR 02 53 41.7
MSO Missoula 9.94 60 *eP* **P 02 50 43.1 -1.6**
MCMT McKenzie Canyo 10.18 72 *eP* **P 02 50 48.5 +0.6**
BGU Big Grassy Mou 10.23 95 *eP* **P 02 50 45.8 -2.8**
HVU Hansel Valley 10.25 90 *eP* **P 02 50 48.9 -0.1**
CHMT Chamberlain Mo 10.41 61 *eP* **P 02 50 49.7 -1.4**
SPUT South Promonto 10.57 92 *eP* **P 02 50 53.7 +0.4**
WALA Waterton Lakes 10.96 49 *eP* **P 02 50 57.5 -1.0**
NOQ North Oquirrh 10.96 95 *eP* **P 02 50 57.8 -0.9**
ARUT Antelope Range 11.09 111 *eP* **P 02 51 00.8 +0.4**
BOZ Bozeman (W) 11.16 69 *eP* **P 02 51 00.8 -0.6**
HWUT Hardware Ranch 11.17 90 *eP* **P 02 51 01.9 +0.4**
QLMT Earthquake Lak 11.18 73 *eP* **P 02 51 00.7 -1.0**
RRI2 Red Ridge 11.19 81 *eP* **P 02 51 01.8 0.0**
HRY Holter Researc 11.28 63 *eP* **P 02 51 01.2 -1.8**
AHID Auburn Hatcher 11.38 84 *eP* **P 02 51 04.6 +0.3**
TCUT Toone Canyon 11.38 92 *eP* **P 02 51 04.0 -0.4**
TPAW Teton Pass 11.46 80 *eP* **P 02 51 06.0 +0.7**
IMW Indian Meadow 11.47 78 *eP* **P 02 51 06.1 +0.5**
JLU Jordanelle 11.47 95 *eP* **P 02 51 05.5 -0.1**
YMR Madison River 11.49 74 *eP* **P 02 51 06.3 +0.4**
MPU Maple Canyon 11.50 98 *eP* **P 02 51 06.1 +0.1**
YFT Old Faithful 11.57 75 *eP* **P 02 51 08.6 +1.7**
SNOW Snow King Moun 11.60 80 *eP* **P 02 51 08.5 +1.2**
MOOW Moose Ponds 11.61 79 *eP* **P 02 51 06.8 -0.6**
WUWY Wally Ulrich 11.61 80 *eP* **P 02 51 08.2 +0.8**
LDFC Landfair 11.61 126 *eP* **P 02 51 09.7 +2.2**
MVU Marysvale 11.62 106 *eP* **P 02 51 08.6 +1.0**
MSU Marysvale 11.64 105 *eP* **P 02 51 09.1 +1.1**
DAU Daniels Canyon 11.66 95 *eP* **P 02 51 07.6 -0.6**
YNR Norris Junctio 11.70 74 *eP* **P 02 51 09.0 +0.3**
LOHW Long Hollow 11.71 79 *eP* **P 02 51 09.7 +0.9**
TMUT Trail Mountain 12.04 100 *eP* **P 02 51 13.9 +0.6**
BW06 Boulder Array 12.51 83 *eP* **P 02 51 19.7 +0.1**
PDAR Pinedale Array 12.51 83 Pn **P 02 51 20.4 +0.9**
0.1nm,0.3s,baz=277,slow=12,SNR=21
PDAR LR LR 02 56 24.7
comp=Z,4μm,20.1s,baz=271,slow=39
SRU San Rafael 12.60 100 *eP* **P 02 51 20.8 -0.1**
WUAZ Wupatki 13.71 116 *eP* **P 02 51 37.9 +2.5**
EDM Edmonton 13.85 35 *eP* **P 02 51 35.5 -1.7**
PV10 Paradox Valley 13.96 101 *eP* **P 02 51 39.6 +0.9**
PV01 Paradox Valley 14.39 102 *eP* **P 02 51 45.1 +0.7**
LAO LASA Array 15.04 67 *eP* **P 02 51 52.9 0.0**
297nm,1.6s
PHWY Pilot Hill 15.74 87 *eP* **P 02 52 01.2 -0.8**
ISCO Idaho Springs 15.99 93 *eP* **P 02 52 04.9 -0.4**
52nm,0.9s
DLBC Dease Lake 16.07 353 Pn **P 02 52 07.0 +0.9**
0.2nm,0.3s,baz=179,slow=16,SNR=4.3
DLBC LR LR 02 57 32.5
comp=Z,2μm,21.4s,baz=176,slow=34
DLBC Dease Lake 16.07 353 P **P 02 52 06.8 +0.7**
TUC Tucson 16.12 124 *eP* **P 02 52 07.8 +0.8**
76nm,1.8s
DGMT Dagmar 16.72 62 *eP* **P 02 52 15.4 +1.0**
701nm,1.6s
SDCO Great Sand Dun 16.77 100 *eP* **P 02 52 16.6 +1.4**
142nm,1.2s
ANMO Albuquerque 17.38 109 *i* P **P 02 52 22.6 -0.2**
ANMO Albuquerque 17.38 109 P **P 02 52 24.0 +1.2**
baz=307,slow=12,SNR=36
ANMO LR LR 02 59 32.6
comp=Z,4μm,19.4s,slow=39
ANMO Albuquerque 17.38 109 *eP* **P 02 52 23.8 +1.1**
65nm,1.4s
MNTX Cornudas Mount 19.99 116⇑*iP* **P 02 52 54.8 +0.7**
28nm,1.0s
FFC Flin Flon 20.18 44 Pn **P 02 52 55.5 -0.4**
971nm,1.2s
CBKS Cedar Bluff 20.63 91⇑*iP* **P 02 53 01.5 +0.7**
413nm,1.6s
AMTX Amarillo 20.80 103⇑*eP* **P 02 53 03.6 +1.0**
315nm,1.7s
YKA Yellowknife Ar 21.20 15 P **P 02 53 05.4 -1.0**
16nm,0.7s,mb4.5,baz=203,slow=11,SNR=136
YKA LR LR 03 01 11.6
comp=Z,1μm,19.2s,MS4.4,baz=205,slow=36
YKW3 Yellowknife Ar 21.26 15⇓*eP* **P 02 53 05.5 -1.5**
DIV Divide 21.93 335 *eP* **P 02 53 14.4 +0.6**
86nm,1.0s,mb5.1
ULM Lac du Bonnet 22.39 59 P **P 02 53 18.9 +0.4**
22nm,0.9s,mb4.6,baz=268,slow=11,SNR=26
ULM LR LR 03 02 06.9
comp=Z,1μm,18.1s,MS4.3,baz=257,slow=37
ULM Lac du Bonnet 22.39 59 *eP* **P 02 53 18.3 -0.1**
253nm,1.7s,mb5.4
LTX Lajitas 22.64 118 *eP* **P 02 53 23.1 +2.0**
79nm,1.6s,mb4.9
TXAR Lajitas Array 22.64 118 P **P 02 53 22.7 +1.6**
15nm,1.1s,mb4.3,baz=304,slow=4.5,SNR=61
TXAR Lajitas Array 22.64 118 P **P 02 53 22.7 +1.6**
MENT Mentasta 22.78 340 *eP* **P 02 53 25.4 +3.3**
DAWY Dawson 22.80 345 *eP* **P 02 53 24.2 +1.9**
KSU1 Kansas State U 22.85 89 *eP* **P 02 53 21.9 -1.2**
WMOK Wichita Mounta 22.97 101 *eP* **P 02 53 24.0 -0.3**
98nm,1.8s,mb4.9
JCT Junction City 24.52 111 *eP* **P 02 53 40.1 +0.7**
162nm,1.9s,mb5.2
MCK McKinley 24.86 336 *eP* **P 02 53 43.2 +0.8**
10nm,1.1s,mb4.3
ILAR Eielson Array 25.10 339 P **P 02 53 44.6 0.0**
7.5nm,0.9s,mb4.2,baz=154,slow=7.8,SNR=47
ILAR PcP PcP 02 57 17.4 -2.5
0.7nm,0.7s,baz=183,slow=1.5,SNR=6.2
ILAR LR LR 03 02 06.3
comp=Z,816nm,20.7s,MS4.2,baz=167,slow=33
EYMN Ely 25.11 65 *eP* **P 02 53 46.9 +2.0**
61nm,1.1s,mb5.0
COLA College 25.43 339⇓*iP* **P 02 53 48.0 +0.3**
COLA College 25.43 339 *eP* **P 02 53 47.1 -0.6**
9.9nm,0.9s,mb4.3
SVW2 Sparrevohn 25.49 327 *eP* **P 02 53 50.0 +1.7**
FCC Fort Churchill 25.85 40 *eP* **P 02 53 53.3 +1.6**
84nm,1.4s,mb5.1
INK Inuvik 26.09 354 *eP* **P 02 53 53.7 -0.2**
INK Inuvik 26.09 354 P **P 02 53 53.7 -0.1**
3.5nm,1.0s,mb3.9,baz=169,slow=10,SNR=8.0
INK LR LR 03 03 25.4
comp=Z,2μm,19.9s,MS4.5,baz=166,slow=35
INK Inuvik 26.09 354 P **P 02 53 53.7 -0.2**
INK LR LR 03 03 25.4
JFWS Jewell Farm 26.54 77 *eP* **P 02 53 58.9 +0.7**
24nm,0.9s,mb4.7
MIAR Mount Ida 26.86 96 *eP* **P 02 54 01.8 +0.5**
97nm,1.8s,mb5.0
CCM Cathedral Cave 27.16 88 *eP* **P 02 54 03.7 -0.3**
116nm,1.8s,mb5.1
HKT Hockley 27.61 107 *eP* **P 02 54 08.2 +0.1**
163nm,2.4s,mb5.2
FVM French Village 27.79 87 *eP* **P 02 54 09.8 +0.1**
52nm,1.4s,mb5.0
USIN University of 29.84 86 *eP* **P 02 54 27.0 -1.1**
30nm,0.8s,mb5.1
OXF Oxford 29.95 93 *eP* **P 02 54 29.0 -0.2**
102nm,1.5s,mb5.3
BLO Bloomington 30.26 83 *eP* **P 02 54 31.9 0.0**
45nm,1.1s,mb5.1
AAM Ann Arbor 31.41 76 *eP* **P 02 54 41.4 -0.5**
60nm,1.6s,mb5.2
SWET Sewanee 32.20 89 *eP* **P 02 54 48.2 -0.8**
ACSO Alum Creek Sta 32.50 79 *eP* **P 02 54 51.6 +0.1**
32nm,1.3s,mb5.0
ACSO *e* 02 54 58.8
CPCT Cooper Cave 33.15 88 *eP* **P 02 54 57.0 -0.2**
ALLY Alegheny Colle 34.11 75 *eP* **P 02 55 05.6 +0.1**
GOGA Godfrey 34.84 91 *eP* **P 02 55 11.9 +0.1**
23nm,1.2s,mb5.0
RES Resolute Bay 35.25 14 *eP* **P 02 55 14.7 -0.3**
4.0nm,0.5s,mb4.6
SCHQ Schefferville 40.08 51 P **P 02 55 54.5 -1.1**
1.0nm,1.0s,mb3.5,baz=179,slow=15,SNR=4.0
SCHQ LR LR 03 12 11.5
comp=Z,603nm,20.3s,MS4.4,baz=293,slow=36

BILL Bilibino 42.95 329⇓*iP* **P 02 56 18.7 -0.2**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
MA2 Magadan 51.12 320 *eP* **P 02 57 21.5 -1.7**
MA2 pmax pmax
comp=Z,5.0nm,1.8s,mb4.1
TIXI Tiksi 54.55 338⇓*iP* **P 02 57 47.3 -1.3**
TIXI pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SDV Santo Domingo 59.15 108 P **P 02 58 21.9 -0.2**
comp=Z,4.3nm,0.9s,mb4.5,baz=319,slow=6.2,SNR=3.0
SDV Santo Domingo 59.15 108 *eP* **P 02 58 22.1 0.0**
comp=Z,9.5nm,1.1s,mb4.7
YAK Yakutsk 59.27 328⇑*iP* **P 02 58 20.7 -1.6**
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
ROSC El Rosal 59.47 114 P **P 02 58 25.4 +1.0**
comp=Z,2.9nm,0.9s,mb4.3,baz=80,slow=23,SNR=8.1
ROSC LR LR 03 26 31.3
comp=Z,292nm,20.2s,MS4.4,baz=355,slow=38
ARCES ARCESS Array B 66.36 10 LR LR 03 28 01.5
comp=Z,664nm,20.1s,MS4.8,baz=17,slow=36
BOD Bodaibo 68.01 330 *eP* **P 02 59 17.0 -2.7**
TBI Tubuai 68.89 203 *e*LR LR 03 19 53.1
comp=Z,1μm,29.2s,baz=26
MDJ Mudanjiang 69.82 312 P **P 02 59 28.9 -2.2**
MDJ AP pP 02 59 32.1 -2.1
MDJ XP sP 02 59 33.5 -1.8
MDJ PCP PcP 02 59 51.8 -2.1
MDJ PP PP 03 02 02.4 -5.1
MDJ S S 03 08 37.0 -2.1
MDJ XS 03 08 41.3
MDJ SCS ScS 03 09 30.2 +0.7
MDJ SS SS 03 13 05.5 -3.8
MDJ AMB AMB
comp=Z,12nm,2.5s,mb4.4
MDJ AMB AMB
comp=Z,166nm,4.8s
MDJ LR LR
comp=N,166nm,40.6s
MDJ LR LR
comp=E,293nm,33.3s
MDJ LR LR
comp=Z,312nm,39.1s,MS4.3
NB2 NORSAR Subarra 71.21 20 P **P 02 59 38.7 -0.5**
comp=Z,0.8nm,0.6s,mb3.8,baz=326,slow=6.2
NOA NORSAR Array B 71.21 20 P **P 02 59 38.4 -0.9**
comp=Z,1.9nm,0.8s,mb4.0,baz=331,slow=5.8,SNR=4.8
NOA LR LR 03 34 34.7
comp=Z,186nm,18.6s,MS4.4,baz=345,slow=39
FINES FINESS Array B 74.02 13 P **P 02 59 55.6 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=18,slow=6.0,SNR=6.4
FINES LR LR 03 32 19.7
comp=Z,510nm,19.0s,MS4.8,baz=289,slow=36
TLY Talaya 76.56 331 *eP* **P 03 00 13.9 +3.5**
TLY *e* 03 03 06.4
TLY pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
ZAK Zakamensk 77.75 330 *eP* **P 03 00 17.0 0.0**
ZAK pmax pmax
comp=Z,2.0nm,2.1s,mb3.7
BAIF Baives 78.22 30 *eP* **P 03 00 26.6 +7.0**
comp=Z,81nm,1.7s,mb5.1
ULN Ulaanbaatar 78.31 326 *eP* **P 03 00 19.2 -0.9**
SONM Songino Array 78.60 327 P **P 03 00 21.3 -0.5**
comp=Z,1.5nm,1.0s,mb3.9,baz=34,slow=4.5,SNR=8.5
LPAZ La Paz 79.39 124 P **P 03 00 26.1 -0.6**
comp=Z,9.8nm,1.2s,mb4.6,baz=277,slow=8.1,SNR=4.1
BJI Beijing 80.12 316 *eP* **P 03 00 33.0 +2.8**
BJI LR LR
comp=N,283nm,15.4s,MS4.9
BJI LR LR
comp=E,346nm,18.2s,MS4.9
BJI LR LR
comp=Z,309nm,23.6s
CLL Collm 80.13 24 *eP* **P 03 00 32.0 +2.0**
CLL *e* 03 00 52.0
CLL Collm 80.13 24 P **P 03 00 32.0 +2.0**
CLL *e* 03 00 52.0
CLL *e* 03 01 09.0
CLL *e*S S 03 10 40.0 +6.8
MOX Moxa 80.28 26 *eP* **P 03 00 32.0 +1.2**
CDF Champ du Feu 80.71 29 *eP* **P 03 00 41.6 +8.5**
comp=Z,32nm,1.4s,mb4.8
BRG Berggiesshubel 80.80 24 *eP* **P 03 00 35.8 +2.3**
BRG *e* 03 00 46.4
BRG pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BRG Berggiesshubel 80.80 24 *eP* **P 03 00 35.8 +2.3**
comp=Z,8.2nm,1.2s,mb4.5
BRG *e* 03 00 46.4
GRA1 Grafenberg Arr 80.97 26 *eP* **P 03 00 35.4 +0.9**
comp=Z,14nm,1.6s,mb4.6
GRF Grafenberg Arr 80.97 26 *eP* **P 03 00 35.4 +0.9**
GRF pmax pmax
comp=Z,14nm,1.6s,mb4.6
GRF Grafenberg Arr 80.97 26 *eP* **P 03 00 35.4 +0.9**
comp=Z,14nm,1.6s,mb4.6
HINF Hinteralfeld 81.06 30 *eP* **P 03 00 43.0 +8.1**
KSP Ksiaz 81.52 23 *eP* **P 03 00 29.1 -8.2**
KSP *e**PP pP 03 00 38.7 -1.8
OBN Obninsk 81.66 10 P **P 03 00 39.0 +1.1**
OBN *e* 03 00 49.3
OBN pmax pmax
comp=Z,17nm,1.3s,mb4.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.6
HHC Hu-ho-hao-te 81.80 319 *eP* **P 03 00 38.1 -0.9**
HHC XP sP 03 00 42.7 -0.5
HHC PP PP 03 03 45.3 -3.0
HHC S S 03 10 46.2 -4.5
HHC SS SS 03 16 05.3 -6.7
HHC AMB AMB
comp=Z,12nm,0.5s,mb5.1
HHC LR LR
comp=N,325nm,23.8s,MS4.8
HHC LR LR
comp=E,386nm,22.6s,MS4.8
HHC LR LR
comp=Z,351nm,25.0s,MS4.6
EVO Evora 81.89 44 *eP* **P 03 00 43.0 +3.5**
comp=Z,35nm,1.2s,mb4.9
KHC Kasperske Hory 82.22 25 *eP* **P 03 00 40.1 -0.8**
GERES GERESS Array B 82.51 25 P **P 03 00 42.8 +0.3**
comp=Z,0.3nm,0.8s,mb3.4,baz=328,slow=9.3,SNR=2.8
BVAR Borovoye Array 83.70 350 P **P 03 00 48.6 +0.1**
comp=Z,1.7nm,0.8s,mb4.2,baz=27,slow=3.3,SNR=7.8
VYHS Vyhne 84.35 22 *eP* **P 03 00 53.0 +1.2**
KURK Kurchatov 84.57 344⇓*iP* **P 03 00 52.5 -0.3**
KURK Kurchatov 84.57 344 *eP* **P 03 00 52.5 -0.3**
comp=Z,5.9nm,0.9s,mb4.7
NJ2 Nanjing 84.58 309 *eP* **P 03 00 52.1 -1.3**
NJ2 AP pP 03 00 56.7 +0.1
NJ2 XP sP 03 00 59.0 +1.4
NJ2 PP PP 03 04 08.2 -2.6
NJ2 SKS SKS 03 11 11.0 -7.7
NJ2 S S 03 11 15.0 -3.9
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.4
NJ2 AMB AMB
comp=Z,250nm,5.6s
NJ2 LR LR
comp=N,1μm,21.5s,MS5.5
NJ2 LR LR
comp=E,2μm,26.4s,MS5.5
NJ2 LR LR
comp=Z,1μm,24.1s,MS5.3
WMQ Urumqi 88.71 336 *eP* **P 03 01 15.7 +2.4**
WMQ XP sP 03 01 22.0 +4.5
WMQ SKS SKS 03 11 42.0 -3.4
WMQ S S 03 12 00.0 +1.9
WMQ AMB AMB
comp=Z,6.0nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,122nm,5.2s
WMQ LR LR
comp=N,658nm,23.8s,MS5.2
WMQ LR LR
comp=E,974nm,26.2s,MS5.2
WMQ LR LR
comp=Z,541nm,22.2s,MS4.9
AAK Ala-Archa 93.13 345 *eP* **P 03 01 31.3 -2.5**
AAK pmax pmax
comp=Z,1.0nm,1.0s,mb4.2
PMG Port Moresby 93.57 261 LR LR 03 34 53.7
comp=Z,269nm,20.2s,MS4.7,baz=214,slow=30
PLCA Paso Flores 97.10 141 LR LR 03 35 40.1
comp=Z,155nm,19.4s,MS4.5,baz=351,slow=29
KMI Kunming 98.78 316 P **P 03 01 59.9 0.0**
KMI AP pP 03 02 03.7 +0.5
KMI S S 03 13 24.8 -1.2
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb5.4
KMI LR LR
comp=N,297nm,18.1s,MS4.9
KMI LR LR
comp=E,220nm,19.5s,MS4.9
KMI LR LR
comp=Z,232nm,21.7s,MS4.6
KMI Kunming 98.78 316 P **P 03 01 59.9 0.0**
comp=Z,8.0nm,0.6s,mb5.4
KMI pP pP 03 02 03.7 +0.5
KMI S S 03 13 24.8 -1.2
KMI LR LR
comp=Z,230nm,21.7s,MS4.6
LSZ Lusaka 145.22 46 *e*PKP PKPdf 03 07 57.2 -2.7
MATP Matopo 149.56 51 PKP PKPdf 03 08 04.7 -2.2
comp=Z,2.2nm,1.0s,baz=329,slow=5.9,SNR=3.3
MATP PKPbc PKPdf 03 08 09.0 +2.1
comp=Z,2.3nm,1.0s,baz=337,slow=7.7,SNR=3.3
SYO Syowa Base 152.49 169⇑pPKPdf 03 08 11.5

NEIC ***07*** *02:57:13.7±0.8, 17.35S×69.40W, h170km±9km, mb4.2/1, Error ellipse: s-maj=16.4km s-min=16.1km az=179.0*
IDC ***07*** *02:57:14.7±1.9, 17.37S×69.20W, h170km±8km, mb3.7/2, mb1 3.4/3, mb1mx3.1/16, mbtmp4.0/3, Error ellipse: s-maj=41.9km s-min=12.3km az=106.0*
ISC 07 02:57:12.7±0.8, 17.31S±0.07×69.43W±0.08, h178km±9km, n9, σ0s77/13, mb4.1/1, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.60**	**51**	P	**P**	**02 57 46.9**	**+1.1**
	98nm,0.3s,baz=249,slow=4.4,SNR=3275						
LPAZ				S	**S**	**02 58 10.6**	**-0.8**
	baz=41,slow=16						
LPAZ	**La Paz**	**1.60**	**51**	⇓*i*Pn	**P**	**02 57 46.9**	**+1.0**
LPAZ				S	**S**	**02 58 10.6**	**-0.8**
ARE	**Arequipa**	**2.15**	**293**	⇑*iP*	**P**	**02 57 52.3**	**+0.7**
ARE				*e*S	**S**	**02 58 21.0**	**-0.6**
LVC	**Limon Verde**	**5.30**	**175**	P	**P**	**02 58 32.7**	**+1.5**
	0.8nm,0.3s,baz=360,slow=12,SNR=7.9						
LVC				S	**S**	**02 59 31.6**	**-0.6**
	3.7nm,0.3s,baz=115,slow=22,SNR=14						
LVC	**Limon Verde**	**5.30**	**175**	*e*Pn	**P**	**02 58 31.2**	**-0.1**
LVC				*e*		02 59 30.6	
LVC				S	**S**	**02 59 31.6**	**-0.6**
BDFB	**Brasilia**	**20.60**	**88**	P	**P**	**03 01 39.7**	**+0.4**
	2.1nm,0.4s,baz=262,slow=7.6,SNR=8.3						
DBIC	**Dimbokro**	**68.08**	**75**	P	**P**	**03 07 54.9**	**-0.7**
	2.1nm,0.5s,mb4.1,baz=236,slow=7.7,SNR=9.3						
DBIC	**Dimbokro**	**68.08**	**75**	*e*P	**P**	**03 07 54.8**	**-0.8**
	2.5nm,0.6s,mb4.1						
SONM	**Songino Array**	**149.36**	**6**	PKPbc	PKPdf	03 16 43.4	+7.7
	0.3nm,0.5s,slow=1.4,SNR=4.7						

JMA ***07*** *03:05:53.7±0.1, 29.14N×130.13E, h61km±4km, M3.4*
NEIC ***07*** *03:06:00.9±2.5, 29.23N×129.96E, h97km±25km, mb3.8/1, Error ellipse: s-maj=31.6km s-min=18.1km az=66.0*
IDC ***07*** *03:06:01.3±3.6, 29.25N×130.04E, h100km±37km, mb3.3/5, mb1 3.5/6, mb1mx3.3/21, mbtmp3.7/6, MS2.8/1, Ms1 2.8/1, ms1mx2.4/13, Error ellipse: s-maj=37.9km s-min=22.1km az=76.0*
ISC 07 03:05:54.1±0.7, 29.16N±0.05×130.1E±0.2, h55km±7km, n14, σ0s36/17, mb3.7/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNN	**Nakanoshima**	**0.70**	**346**	P	**P**	**03 06 08.3**	**+0.2**
JZK	**Kikaishima**	**0.85**	**186**	P	**P**	**03 06 09.9**	**-0.2**
JAM	**Amami Oshima**	**0.85**	**209**	P	**P**	**03 06 09.9**	**-0.2**
JAM				*e*S	**S**	**03 06 22.0**	**-0.1**
JKC	**Kuchinoerabu**	**1.30**	**5**	P	**P**	**03 06 16.6**	**+0.2**
JKC				*e*S	**S**	**03 06 33.2**	**+0.3**
JTN	**Tanegashima 3**	**1.68**	**28**	P	**P**	**03 06 21.2**	**-0.6**
JTK	**Tokunoshima**	**1.69**	**216**	P	**P**	**03 06 22.2**	**+0.4**
JOW	**Kunigami**	**2.81**	**215**	P	**P**	**03 06 44.2**	**+6.5**
	8.0nm,0.3s,baz=115,slow=19,SNR=3.1						
JOW				S	**S**	**03 07 20.1**	**+9.5**
	2.2nm,0.3s,baz=143,slow=20,SNR=3.3						
JOW				LR	LR	03 07 57.8	
	comp=Z,160nm,18.2s,baz=210,slow=41						
SONM	**Songino Array**	**26.11**	**322**	P	**P**	**03 11 24.1**	**-0.4**
	0.6nm,0.6s,mb3.3,baz=137,slow=9.6,SNR=4.8						
CHKZ	**Chkalovo**	**49.15**	**317**	*e*P	**P**	**03 14 37.5**	**-0.6**
	0.7nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**49.23**	**316**	P	**P**	**03 14 39.1**	**+0.3**
	1.8nm,0.5s,mb4.3,baz=90,slow=8.6,SNR=19						
ASAR	**Alice Springs**	**52.65**	**176**	P	**P**	**03 15 05.6**	**+0.5**
	0.9nm,1.2s,mb3.6,baz=13,slow=13,SNR=4.3						
ILAR	**Eielson Array**	**61.09**	**29**	P	**P**	**03 16 04.1**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=290,slow=8.8,SNR=6.5						
YKA	**Yellowknife Ar**	**75.19**	**26**	P	**P**	**03 17 32.4**	**+0.5**
	0.3nm,0.7s,mb3.3,baz=303,slow=5.2,SNR=7.5						
YKA	**Yellowknife Ar**	**75.19**	**26**	P	**P**	**03 17 32.4**	**+0.5**

IDC 07 03:24:11.1±1.2, 11.63S×166.85E, mb3.9/6, mb1 4.2/6, mb1mx4.0/13, mbtmp3.9/6, Error ellipse: s-maj=92.2km s-min=21.8km az=144.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**30.79**	**225**	P	P	03 30 28.6	-2.2
	0.7nm,0.4s,baz=45,slow=9.7,SNR=3.1						
WRA	**Warramunga Arr**	**32.31**	**251**	P	P	03 30 42.3	-1.9
	0.2nm,0.6s,baz=84,slow=8.9,SNR=6.0						
ASAR	**Alice Springs**	**33.51**	**245**	P	P	03 30 52.5	-2.1
	1.1nm,0.7s,baz=72,slow=9.5,SNR=14						
ILAR	**Eielson Array**	**83.72**	**18**	P	P	03 36 41.5	-1.4
	1.3nm,0.6s,baz=238,slow=5.5,SNR=29						
NVAR	**Mina Array Bea**	**85.57**	**49**	P	P	03 36 52.3	-0.6
	0.6nm,0.2s,baz=258,slow=8.3,SNR=9.2						
TXAR	**Lajitas Array**	**95.16**	**61**	P	P	03 37 36.5	-1.7
	0.2nm,0.5s,baz=225,slow=6.4,SNR=4.5						

IDC ***07*** *03:24:46.4±10.0, 36.50N×71.32E, h161km±96km, mb3.3/7, mb1 3.4/8, mb1mx3.1/20, mbtmp3.7/8, Error ellipse: s-maj=58.6km s-min=26.9km az=48.0*
NEIC ***07*** *03:24:47.7±4.2, 36.47N×71.16E, h175km±33km, mb3.7/2, Error ellipse: s-maj=45.6km s-min=17.5km az=225.0*
ISC 07 03:24:51.8±4.2, 36.7N±0.3×71.3E±0.3, h222km±32km, n23, σ1s14/23, mb3.4/7, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.72**	**18**	P	**P**	**03 26 16.8**	**+0.4**
	SNR=72						
UCH	**Uchtor**	**6.04**	**23**	P	**P**	**03 26 20.8**	**+0.2**
	SNR=26						
KZA	**Kyzart**	**6.16**	**28**	P	**P**	**03 26 25.3**	**+3.1**
	SNR=6.5						
EKS2	**Erkin-Say**	**6.24**	**17**	P	**P**	**03 26 23.6**	**+0.5**
	SNR=11						
AAK	**Ala-Archa**	**6.40**	**22**	P	**P**	**03 26 25.9**	**+0.7**
	SNR=24						
AAK	**Ala-Archa**	**6.40**	**22**	Pn	**P**	**03 26 24.8**	**-0.4**
	130nm,0.7s,SNR=24						
AAK	**Ala-Archa**	**6.40**	**22**	*e*P	**P**	**03 26 24.1**	**-1.2**
	14nm,0.6s						
ULHL	**Ulahol**	**6.71**	**33**	P	**P**	**03 26 26.5**	**-2.7**
	SNR=6.4						
CHMS	**Chumysh**	**6.81**	**22**	P	**P**	**03 26 30.9**	**+0.5**
	SNR=11						
USP	**Ospenovka**	**6.99**	**20**	P	**P**	**03 26 32.4**	**-0.4**
	SNR=9.8						
TKM2	**Tokmak 2**	**7.02**	**27**	P	**P**	**03 26 34.0**	**+0.8**
	SNR=18						
BVAR	**Borovoye Array**	**16.32**	**358**	P	**P**	**03 28 28.6**	**-1.4**
	0.1nm,0.3s,baz=169,slow=15,SNR=4.9						
CHKZ	**Chkalovo**	**16.97**	**359**	*e*P	**P**	**03 28 35.5**	**-1.9**
	0.4nm,0.5s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**03 31 44.1**	**-0.9**
	1.0nm,0.8s,mb3.4,baz=112,slow=10,SNR=4.4						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**03 32 31.8**	**+0.9**
	1.3nm,0.4s,mb3.7,baz=106,slow=11,SNR=11						
NB2	**NORSAR Subarra**	**44.36**	**323**	P	**P**	**03 32 42.3**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.7nm,0.5s,mb3.2,baz=98,slow=7.4						
NOA	NORSAR Array B	44.36	323	P	P	03 32 41.2	-0.1
	0.8nm,0.5s,mb3.3,baz=100,slow=7.7,SNR=4.3						
INK	Inuvik	73.66	9	P	P	03 36 03.2	+1.2
	0.3nm,0.5s,mb3.2,baz=321,slow=8.3,SNR=4.8						
INK	Inuvik	73.66	9	P	P	03 36 04.5	+2.4
YKA	Yellowknife Ar	81.02	3	P	P	03 36 43.5	+0.9
	0.3nm,0.4s,mb3.3,baz=352,slow=5.0,SNR=7.4						
YKA	Yellowknife Ar	81.02	3	P	P	03 36 43.5	+0.9
WRA	Warramunga Arr	81.89	122	P	P	03 36 47.4	-0.5
	0.9nm,1.2s,mb3.3,baz=324,slow=4.9,SNR=5.4						
ASAR	Alice Springs	84.17	125	P	P	03 36 58.9	-0.6
	0.4nm,0.6s,mb3.3,baz=313,slow=3.8,SNR=5.4						

CASC 07 03:33:44.7±2.1, 13.56N×90.76W, h18^{km}±10^{km}, MD3.6, 6C-3D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.68	26	⇑eP	Pb	03 33 58.8	+1.0
IXG				eS	Sb	03 34 08.7	+1.9
RTR	El Retiro	1.14	72	⇑eP	Pb	03 34 05.5	0.0
RTR				eS	Sb	03 34 22.1	+2.3
SBLS	San Blas	1.14	76	⇑eP	Pb	03 34 05.2	-0.4
SBLS				eS	Sb	03 34 20.3	+0.3
SNJE	San Jose	1.17	74	⇑eP	Pb	03 34 05.7	-0.3
SNJE				eS	Sb	03 34 19.9	-0.8
RBDL	Robledal	1.18	62	⇓eP	Pb	03 34 06.1	-0.1
RBDL				eS	Sb	03 34 22.5	+1.3
TP2	Tecpan 2	1.25	348	⇑eP	Pb	03 34 06.9	-0.5
TP2				eS	Sb	03 34 23.8	+0.8
BOQS	Boqueron	1.45	83	eP	Pn	03 34 09.8	-0.5
BOQS				eS	Sn	03 34 30.2	+1.2
LFU	La Fuente	1.61	83	⇑eP	Pn	03 34 11.5	-1.1
LFRS	El Faro	1.65	87	⇓eP	Pn	03 34 12.8	-0.4
LFRS				eS	Sn	03 34 34.0	-0.1
LCBS	La Ceiba	1.74	87	eP	Pn	03 34 14.1	-0.3
SNVI	San Vicente	1.87	88	⇓eP	Pn	03 34 16.6	+0.3
SNVI				eS	Sn	03 34 40.7	+1.1

*NEIC **07** 03:37:57.8, 36.45N×10.82W, MG4.6(MDD), After MDD.*
*IGIL **07** 03:37:57.0, 36.33N×10.89W, h1^{km}, ML2.8*
*MDD **07** 03:37:58.0±1.7, 36.43N×10.78W, mb4.2/10, Error ellipse: s-maj=15.8km s-min=11.5km az=59.0, PRXIMO*
*CSEM **07** 03:37:58.9±0.3, 36.34N×10.67W, h2^{km}, ML3.4/10, Error ellipse: s-maj=5.5km s-min=4.5km az=49.0*
*INMG **07** 03:37:59.2±0.8, 36.38N×10.84W, h10^{km}, ML2.4, Error ellipse: s-maj=4.7km s-min=3.2km az=76.0*

ISC 07 03:37:57.9±1.0, 36.59N±0.05×10.59W±0.07, h1^{km}, n46, σ1^{s}39/86, 1C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.77	57	i Pn	Pn	03 38 32.0	+2.1
PTEO				eSn	Sn	03 38 56.7	+3.3
	12nm,0.1s						
PTEO	Sao Teotonio	1.77	57	⇑Pn	Pn	03 38 32.0	+2.1
PTEO				Sn	Sn	03 38 56.7	+3.3
	5.9nm,0.1s						
PLOU	Loures	2.56	26	ePn	Pn	03 38 42.7	+1.5
PLOU				eSn	Sn	03 39 15.0	+1.6
	14nm,0.2s						
PLOU	Loures	2.56	26	ePn	Pn	03 38 42.7	+1.5
PLOU				eSn	Sn	03 39 15.0	+1.6
	14nm,0.2s						
PBEJ	Beja	2.60	56	ePn	Pn	03 38 43.1	+1.3
PBEJ				eSn	Sn	03 39 16.2	+1.7
	5.0nm,0.1s						
PBEJ	Beja	2.60	56	ePn	Pn	03 38 43.1	+1.3
PBEJ				eSn	Sn	03 39 16.2	+1.7
	5.0nm,0.1s						
MOE	Montemor	2.63	42	ePn	Pn	03 38 43.7	+1.6
MOE				eSn	Sn	03 39 17.3	+2.2
PALC	Alcoutim	2.64	70	ePn	Pn	03 38 43.7	+1.4
PALC				eSn	Sn	03 39 16.6	+1.1
	7.8nm,0.1s						
PALC	Alcoutim	2.64	70	ePn	Pn	03 38 43.7	+1.4
PALC				eSn	Sn	03 39 16.6	+1.1
	7.8nm,0.1s						
ALMR	Almeirim	3.02	31	eP	Pn	03 38 48.8	+1.1
ALMR				eS	Sn	03 39 26.6	+1.6
ALMR				eS	Sn	03 39 26.6	+1.6
ALMR				AML	AML	03 39 28.9	
	comp=E,26nm,0.2s						
EMIN	Mina Concepcio	3.34	68	⇓Pn	Pn	03 38 52.9	+0.6
	comp=E,2.4nm,0.1s,SNR=18						
EMIN				Sn	Sn	03 39 33.7	+0.5
	comp=E,1.3nm,0.1s,SNR=5.0						
EMIN	Mina Concepcio	3.34	68	Pn	Pn	03 38 52.9	+0.6
	comp=E,2.9nm,0.1s,SNR=18						
EMIN				Sn	Sn	03 39 33.7	+0.5
	comp=E,1.3nm,0.1s,SNR=5.0						
EBAD	Badajoz	3.57	52	Pn	Pn	03 38 56.2	+0.7
	comp=E,5.9nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	03 39 40.2	+1.2
	comp=E,4.6nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.57	52	Pn	Pn	03 38 56.2	+0.7
	comp=E,7.8nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	03 39 40.2	+1.3
	comp=E,4.6nm,0.1s,SNR=7.9						
ESPR	Espera	3.81	84	Pn	Pn	03 38 59.1	+0.2
ESPR				Sn	Sn	03 39 43.7	-1.4
ESPR	Espera	3.81	84	Pn	Pn	03 38 59.1	+0.2
	comp=E,10nm,0.2s,SNR=33						
ESPR				Sn	Sn	03 39 43.7	-1.4
	comp=E,20nm,0.3s,SNR=5.0						
ESPR	Espera	3.81	84	Pn	Pn	03 38 59.1	+0.1
	comp=E,13nm,0.2s,SNR=33						
ESPR				Sn	Sn	03 39 43.7	-1.4
	comp=E,20nm,0.3s,SNR=5.0						
PCBR	Castelo Branco	4.07	36	ePn	Pn	03 39 03.4	+0.8
PCBR				eSn	Sn	03 39 51.4	-0.2
	comp=E,3.1nm,0.2s						
PCBR	Castelo Branco	4.07	36	ePn	Pn	03 39 03.4	+0.8
PCBR				eSn	Sn	03 39 51.4	-0.2
	comp=E,3.1nm,0.2s						
MTE	Manteigas	4.49	31	ePn	Pn	03 39 08.8	+0.1
MTE				eSn	Sn	03 40 01.8	-0.6
	comp=E,2.9nm,0.2s						
MTE	Manteigas	4.49	31	ePn	Pn	03 39 08.8	+0.1
MTE				eSn	Sn	03 40 01.8	-0.6
	comp=E,2.9nm,0.2s						
PVIS	Viseu	4.63	26	ePn	Pn	03 39 10.7	+0.1
PVIS				eSn	Sn	03 40 04.7	-1.1
	comp=E,7.6nm,0.1s						
PVIS	Viseu	4.63	26	Pn	Pn	03 39 10.7	+0.1
PVIS				Sn	Sn	03 40 04.7	-1.1
	comp=E,3.8nm,0.1s						
EMIJ	Mijas	4.68	89	Pn	Pn	03 39 10.4	-0.9
	comp=E,6.6nm,0.6s,SNR=7.9						
EMIJ				Sn	Sn	03 40 04.4	-2.7
	comp=E,6.0nm,0.6s,SNR=7.9						
EADA	Adamuz	5.04	70	Pn	Pn	03 39 16.5	+0.1
	comp=E,2.3nm,0.1s,SNR=40						
EADA				Sn	Sn	03 40 14.7	-1.4
	comp=E,1.6nm,0.2s,SNR=5.0						
EADA	Adamuz	5.04	70	Pn	Pn	03 39 16.5	+0.1
	comp=E,1.7nm,0.1s,SNR=40						
EADA				Sn	Sn	03 40 14.8	-1.4
PVRL	Vila Real	5.19	25	ePn	Pn	03 39 18.5	0.0
PVRL				eSn	Sn	03 40 17.3	-2.6
	comp=E,7.0nm,0.1s						
PVRL	Vila Real	5.19	25	Pn	Pn	03 39 18.5	0.0
PVRL				Sn	Sn	03 40 17.3	-2.6
	comp=E,3.5nm,0.1s						
ELOB	Lobios	5.63	20	Pn	Pn	03 39 24.4	-0.3
	comp=E,0.6nm,0.1s,SNR=9.8						
ELOB				Sn	Sn	03 40 27.1	-3.8
	comp=E,2.0nm,0.1s,SNR=9.1						
ELOB	Lobios	5.63	20	Pn	Pn	03 39 24.4	-0.3
	comp=E,0.6nm,0.1s,SNR=9.8						
PBRG	Braganca	6.01	29	eSn	Sn	03 40 37.6	-2.8
	comp=E,2.7nm,0.1s						
PBRG	Braganca	6.01	29	Sn	Sn	03 40 37.6	-2.8
	comp=E,1.4nm,0.1s						
ESLA	Sonseca Array	6.07	57	ePn	Pn	03 39 30.2	-0.6
ESLA				eSn	Sn	03 40 36.9	-5.0
ESLA	Sonseca Array	6.07	57	ePn	Pn	03 39 30.2	-0.7
EQES	Quesada	6.12	76	Pn	Pn	03 39 31.4	-0.2
EQES				Sn	Sn	03 40 40.3	-3.1
EQES	Quesada	6.12	76	Pn	Pn	03 39 30.7	-1.0
	comp=E,2.4nm,0.4s,SNR=11						
EQES				Sn	Sn	03 40 40.3	-3.1
	comp=E,0.7nm,0.1s,SNR=5.0						
EQES	Quesada	6.12	76	Pn	Pn	03 39 31.5	-0.2
EQES				Sn	Sn	03 40 40.3	-3.0
	comp=E,0.7nm,0.1s,SNR=5.0						
ECAL	Calabor	6.12	28	Pn	Pn	03 39 32.0	+0.3
	comp=E,2.4nm,0.4s,SNR=7.9						
ECAL				Sn	Sn	03 40 40.1	-3.3
	comp=E,2.2nm,0.3s,SNR=6.5						
ECAL	Calabor	6.12	28	Pn	Pn	03 39 32.0	+0.3
	comp=E,0.8nm,0.1s,SNR=7.9						
EBER	Berja	6.19	85	Pn	Pn	03 39 31.6	-1.0
	comp=E,4.9nm,0.7s,SNR=7.9						
EMAZ	Mazaricos	6.47	11	Pn	Pn	03 39 33.4	-3.3
	comp=E,3.6nm,0.4s,SNR=7.9						
EMAZ				Sn	Sn	03 40 45.1	-7.0
	comp=E,2.7nm,0.1s,SNR=4.5						
EINC	Incio	6.56	21	Pn	Pn	03 39 36.4	-1.4
EINC				Sn	Sn	03 40 50.2	-4.1
EINC	Incio	6.56	21	Pn	Pn	03 39 37.9	0.0
	comp=E,1.6nm,0.4s,SNR=7.9						
EINC				Sn	Sn	03 40 50.2	-4.1
	comp=E,3.7nm,0.5s,SNR=7.9						
EPON	Pontenova	7.23	20	Pn	Pn	03 39 45.9	-1.3
	comp=E,3.5nm,0.4s,SNR=7.9						
EPON				Sn	Sn	03 41 06.6	-4.5
	comp=E,7.1nm,0.6s,SNR=7.9						
ETOB	Tobarra	7.46	71	Pn	Pn	03 39 49.5	-1.0
	comp=E,0.9nm,0.2s,SNR=10						
ETOB				Sn	Sn	03 41 11.2	-5.7
	comp=E,6.2nm,1.1s,SNR=7.9						
ETOB	Tobarra	7.46	71	Pn	Pn	03 39 49.5	-1.1
	comp=E,0.1nm,0.1s,SNR=10						

*MOS **07** 03:44:27.7±1.0, 81.43N×120.34E, h10^{km}, mb5.3/78, MS4.6/31, Error ellipse: s-maj=24.1km s-min=4.8km az=91.5*
*IDC **07** 03:44:28.4±0.5, 81.58N×119.95E, mb4.6/29, mb1 4.7/29, mb1mx4.7/30, mbtmp4.6/29, MS4.5/22, Ms1 4.5/22, ms1mx4.4/26, Error ellipse: s-maj=15.8km s-min=9.0km az=168.0*
*NEIC **07** 03:44:29.8±0.1, 81.52N×120.15E, h10^{km}, mb5.2/119, MS4.6/12, MW5.3, Error ellipse: s-maj=4.1km s-min=2.5km az=168.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.04; $M_{\theta\theta}$0.35; $M_{\phi\phi}$0.69; $M_{r\theta}$0.00; $M_{\theta\phi}$-0.55; $M_{\phi r}$-0.02; Best double couple: $M_0$1.1×10^{17} NP1:ϕ_s143°, δ45°, λ-91°. NP2:ϕ_s324°, δ45°, λ-89°. Principal axes: T 1.1, Plg0°, Azm54°; N -.05, Plg1°, Azm144°; P -1.04, Plg89°, Azm292°;*
*HRVD **07** 03:44:29.8±0.1, 81.53N×120.40E, h12^{km}, MW5.3/70, Centroid moment Tensor Solution. LP body waves: s53,c93; Mantle waves: s70,c156; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.21±.02; $M_{\theta\theta}$0.03±.02; $M_{\phi\phi}$1.19±.02; $M_{r\theta}$-0.22±.05; $M_{\theta\phi}$-0.38±.02; $M_{\phi r}$0.11±.05; Best double couple: $M_0$1.283×10^{17} NP1: ϕ_s352°, δ42°, λ-77°. NP2:ϕ_s155°, δ49°, λ-101°. Principal axes: T 1.316, Plg4°, Azm253°; N -.061, Plg9°, Azm162°; P -1.249, Plg80°, Azm7°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **07** 03:44:29.8, 81.50N×120.20E, h10^{km}, mB5.3, mb4.8, Ms5.2, Msz4.9*

ISC 07 03:44:28.1±0.1, 81.54N±0.02×120.3E±0.1, h10^{km}, (h17^{km}±2.2^{km}:pP-P), n421, σ1^{s}07/457, mb5.0/161, MS4.6/61, 10C-15D, East of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	10.12	164	eP	P	03 46 52.8	-3.5
TIXI				pmax	pmax		
	comp=Z,20nm,1.0s						
KBS	Kingsbay	16.00	318	eP	P	03 48 10.6	-3.7
KBS				pmax	pmax		
	comp=Z,32nm,0.6s						
KBS	Kingsbay	16.00	318	eP	P	03 48 10.6	-3.7
	comp=Z,32nm,0.6s						
HOPEN	Hopen	16.64	305	eP	P	03 48 21.4	-1.0
HOPEN				eS	S	03 51 15.6	-11
BILL	Bilibino	17.24	114	eP	P	03 48 30.0	0.0
BILL				pmax	pmax		
	comp=Z,196nm,1.3s						
BILL	Bilibino	17.24	114	eP	P	03 48 30.0	0.0
	comp=Z,196nm,1.3s						
YAK	Yakutsk	19.77	167	eP	P	03 48 58.9	-1.8
YAK				eS	S	03 52 38.7	+1.2
YAK				pmax	pmax		
	comp=Z,22nm,0.9s						
YAK				pmax	pmax		
	comp=N,17nm,1.2s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				smax			
	comp=E,5.0nm,1.1s						
YAK				smax			
	comp=N,2.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,1µm,16.0s						
YAK				MLR	MLR		
	comp=N,862nm,17.0s						
YAK				MLR	MLR		
	comp=E,636nm,13.0s						
YAK	Yakutsk	19.77	167	eP	P	03 48 57.7	-3.0
	comp=E,44nm,0.8s						
DAG	Danmarks Havn	20.51	334	⇓iP	P	03 49 07.9	-0.5
DAG				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DAG	Danmarks Havn	20.51	334	⇓iP	P	03 49 07.9	-0.5
	comp=Z,10.0nm,0.9s						
DAG				i		03 49 17.8	
KEV	Kevo	22.46	295	ep	P	03 49 28.6	+0.4
	comp=Z,69nm,1.0s,mb5.0						
KEV	Kevo	22.46	295	eP	P	03 49 28.6	+0.4
KEV				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.0						
ARCES	ARCESS Array B	22.87	296	P	P	03 49 31.3	-0.7
	comp=Z,28nm,0.7s,mb4.8,baz=25,slow=6.6,SNR=36						
ARCES				S	S	03 53 40.4	+3.5
	comp=Z,11nm,0.9s,baz=30,slow=22,SNR=4.4						
ARCES				LR	LR	03 59 56.8	
	comp=Z,698nm,18.3s,MS4.1,baz=25,slow=41						
ARE0	ARCESS Array S	22.87	296	eP	P	03 49 31.1	-0.9
RES	Resolute Bay	22.89	23	eP	P	03 49 31.9	-0.3
RES				pmax	pmax		
	comp=Z,91nm,1.5s,mb5.0						
RES	Resolute Bay	22.89	23	eP	P	03 49 31.9	-0.3
	comp=Z,91nm,1.5s,mb5.0						
LVZ	Lovozero	23.13	286	P	P	03 49 34.0	-0.5
	comp=Z,634nm,0.7s,SNR=15						
LVZ	Lovozero	23.13	286	eP	P	03 49 35.6	+1.1
LVZ				eS	S	03 53 43.7	+2.3
LVZ				pmax	pmax		
	comp=N,37nm,0.6s						
LVZ				pmax	pmax		
	comp=Z,66nm,0.6s,mb5.2						
LVZ				pmax	pmax		
	comp=E,18nm,0.7s						
LVZ				pmax	pmax		
	comp=Z,285nm,1.6s,mb5.5						
LVZ				pmax	pmax		
	comp=N,75nm,0.9s						
LVZ				pmax	pmax		
	comp=E,26nm,0.9s						
LVZ				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.4						
LVZ				MLR	MLR		
	comp=N,1µm,15.0s						
LVZ				MLR	MLR		
	comp=E,860nm,14.0s						
TNA	Tin City	23.28	89	eP	P	03 49 37.5	+1.5
	comp=E,134nm,1.1s,mb5.3						
MA2	Magadan	23.61	140	d iP	P	03 49 39.3	0.0
MA2				e		03 50 12.4	
MA2				eS	S	03 53 48.9	-1.1
MA2				pmax	pmax		
	comp=Z,50nm,2.0s,mb4.6						
MA2				MLR	MLR		
	comp=Z,700nm,15.0s,MS4.2						
MA2	Magadan	23.61	140	eP	P	03 49 39.4	+0.1
	comp=Z,30nm,0.8s,mb4.8						
APA	Apatity	23.61	287	⇑iP	P	03 49 39.0	-0.2
APA				i S	S	03 53 57.0	+7.1
APA				pmax	pmax		
	comp=Z,230nm,2.0s,mb5.3						
APA				smax			
	comp=N,2µm,16.0s						
APA				smax			
	comp=E,3µm,16.0s						
TRO	Tromso	23.63	301	eP	P	03 49 40.0	+0.6
	comp=E,212nm,1.7s,mb5.3						
TRO	Tromso	23.63	301	eP	P	03 49 40.0	+0.6
TRO				AMb	AMB	03 49 55.2	
	comp=Z,212nm,1.7s,mb5.3						
KTK1	Kautokeino	23.66	297	eP	P	03 49 40.0	+0.4
	comp=Z,159nm,1.7s,mb5.2						
KTK1	Kautokeino	23.66	297	eP	P	03 49 40.0	+0.4
KTK1				AMb	AMB	03 49 52.3	
	comp=Z,159nm,1.7s,mb5.2						
BOD	Bodaibo	23.90	188	⇓iP	P	03 49 41.0	-1.1
BOD				pmax	pmax		
	comp=Z,45nm,1.3s,mb4.7						
CLNS	Chul'man	24.86	174	eP	P	03 49 51.5	+0.1
CLNS				e*PP		03 49 59.8	
CLNS				e		03 50 24.6	
CLNS				e		03 53 23.1	
CLNS				eS	S	03 54 14.8	+3.5
CLNS				eSS	SS	03 55 18.5	+9.5
CLNS				pmax	pmax		
	comp=Z,31nm,1.0s,mb4.8						
CLNS				pmax	pmax		
	comp=N,18nm,0.9s						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,24nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,23nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				smax			
	comp=N,7.0nm,0.8s						
CLNS				smax			
	comp=E,6.0nm,0.8s						
CLNS				smax			
	comp=Z,9.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,1µm,16.0s,MS4.6						
CLNS				MLR	MLR		
	comp=N,1µm,14.0s,MS4.5						
CLNS				MLR	MLR		
	comp=E,400nm,17.0s,MS4.5						
IMA	Indian Mountai	24.89	75	eP	P	03 49 52.5	+0.9
JMIC	Jan Mayen	25.32	323	LR	LR	03 58 16.8	
	comp=E,389nm,20.4s,MS3.9,baz=166,slow=33						
INK	Inuvik	25.48	56	P	P	03 49 58.0	+0.8
	comp=E,53nm,1.1s,mb5.0,baz=350,slow=9.9,SNR=58						
INK				PcP	PcP	03 53 28.2	-1.6
	comp=E,5.2nm,0.7s,baz=135,slow=2.9,SNR=4.1						
INK				S	S	03 54 36.5	+15
	comp=E,11nm,0.9s,baz=251,slow=22,SNR=5.6						
INK	Inuvik	25.48	56	eP	P	03 49 58.2	+1.0
	comp=E,146nm,0.6s,mb5.7						
SUMG	Summit	25.66	345	eP	P	03 49 60.0	+1.1
	comp=E,50nm,1.2s,mb4.9						
LOF	Lofoten	25.72	304	eP	P	03 50 04.7	+5.2
LOF				AMb	AMB	03 50 11.0	
	comp=Z,212nm,1.6s,mb5.4						
COLA	College	26.84	71	⇓iP	P	03 50 10.7	+0.9
COLA	College	26.84	71	eP	P	03 50 11.2	+1.4
ILAR	Eielson Array	27.07	70	P	P	03 50 13.0	+1.1
	comp=Z,23nm,0.9s,mb4.7,baz=339,slow=9.1,SNR=40						
ILAR				PcP	PcP	03 53 30.7	-2.7
	comp=Z,1.7nm,0.7s,baz=312,slow=2.9,SNR=4.2						
ILAR				LR	LR	04 00 11.8	
	comp=Z,1µm,21.4s,MS4.5,baz=1.2,slow=35						
MOR8	Moi Rana	27.48	302	eP	P	03 50 16.7	+1.1
SOKR	Solikamsk	27.77	258	⇓iP	P	03 50 19.8	+1.5
SOKR				i S	PcP	03 53 41.2	+6.0
SOKR				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.9						
SOKR				MLR	MLR		
	comp=Z,2µm,21.0s,MS4.8						
MCK	McKinley	27.77	73	eP	P	03 50 19.3	+1.0
MCK				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.9						
MCK	McKinley	27.77	73	eP	P	03 50 19.3	+0.9
	comp=Z,41nm,1.3s,mb4.9						
JOF	Joensuu	28.30	285	ep	P	03 50 21.8	-1.3
	comp=Z,14nm,0.8s,mb4.7						
DAWY	Dawson	28.77	64	eP	P	03 50 27.7	+0.4
MENT	Mentasta	29.26	69	eP	P	03 50 33.4	+1.6
PWA	Palmer West	29.63	75	eP	P	03 50 38.2	+3.1
SPU	Mount Spurr	29.76	77	eP	P	03 50 33.9	-2.4
KAF	Kangasniemi	29.78	289	ep	P	03 50 34.7	-1.7
	comp=Z,5.2nm,0.6s,mb4.4						
KAF	Kangasniemi	29.78	289	eP	P	03 50 34.7	-1.7
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
IRK	Irkutsk	29.84	200	eP	P	03 50 33.3	-3.7
IRK				pmax	pmax		
	comp=Z,37nm,2.3s,mb4.7						
SVE	Sverdlovsk	29.86	252	⇑iP	P	03 50 36.3	-0.9
SVE				ePPP	PPP	03 51 55.0	+6.7
SVE				e		03 53 48.0	
SVE				eS	S	03 55 38.0	+5.2
SVE				pmax	pmax		
	comp=Z,80nm,1.5s,mb5.2						
SVE				MLR	MLR		
	comp=N,1µm,18.0s,MS4.8						
SVE				MLR	MLR		
	comp=E,2µm,18.0s,MS4.8						
SVE				MLR	MLR		
	comp=Z,2µm,18.0s,MS4.8						
RSO	Redoubt South	30.35	78	P	P	03 50 42.7	+1.2
TLY	Talaya	30.43	201	eP	P	03 50 41.5	-0.8
TLY				eS	S	03 55 41.9	0.0
TLY				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
FINES	FINESS Array B	30.45	289	i P	P	03 50 41.8	-0.6
FINES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
FINES	FINESS Array B	30.45	289	P	P	03 50 41.1	-1.3
	comp=Z,5.4nm,0.9s,mb4.3,baz=25,slow=7.4,SNR=13						
FINES				LR	LR	04 04 01.4	
	comp=Z,507nm,20.4s,MS4.2,baz=32,slow=39						
MOY	Mondy	30.59	204	eP	P	03 50 44.8	+1.1
MOY				pmax	pmax		
	comp=Z,45nm,2.9s,mb4.8						
PET	Petropavlovsk	30.87	133	eP	P	03 50 45.8	-0.3
PET				e		03 51 47.9	
PET				eS	S	03 55 50.3	+1.5
PET				pmax	pmax		
	comp=Z,100nm,13.1s						
PET				pmax	pmax		
	comp=Z,200nm,12.9s						
PET				smax			
	comp=N,600nm,23.8s						
PET				MLR	MLR		
	comp=Z,1µm,15.0s,MS4.7						
CHKZ	Chkalovo	31.58	240	i P	P	03 50 51.4	-1.0
CHKZ				pmax	pmax		
	comp=Z,39nm,1.4s,mb5.0						
CHKZ	Chkalovo	31.58	240	eP	P	03 50 50.6	-1.8
	comp=Z,39nm,1.3s,mb5.1						
ZAK	Zakamensk	31.74	201	eP	P	03 50 51.5	-2.4
ZAK				e		03 53 43.7	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
BVA0	Borovoye Array	32.25	240	P	P	03 50 53.9	-4.3
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.4						
BVAR	Borovoye Array	32.25	240	P	P	03 50 57.7	-0.5
	comp=Z,6.8nm,1.0s,mb4.5,baz=14,slow=6.1,SNR=20						
HIA	Hailar	32.40	181	P	P	03 50 58.3	-1.3
HIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HIA				MLR	MLR		
	comp=Z,394nm,19.0s						
HIA	Hailar	32.40	181	P	P	03 50 58.3	-1.3
	comp=Z,10nm,1.1s,mb4.6						
HIA				LR	LR		
	comp=Z,394nm,19.0s,MS4.1						
KLR	Kul'dur	32.65	166	eP	P	03 50 57.7	-4.0
KLR				e		03 52 08.0	
KLR				eS	S	03 56 16.0	-0.6
KLR				MLR	MLR		
	comp=N,1µm,14.0s						
KLR				MLR	MLR		
	comp=Z,2µm,14.0s,MS5.0						

FX1 Attu Island--F 32.77 117 LR LR 04 05 26.5
comp=Z,60nm,19.3s,baz=360,slow=38
NB2 NORSAR Subarra 32.83 302 P P 03 51 02.2 -1.0
comp=Z,10nm,1.0s,mb4.7,baz=10.0,slow=8.6
NB2 NORSAR Subarra 32.83 302 P P 03 51 02.2 -1.0
NB2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 32.83 302 P P 03 51 02.2 -1.0
baz=10,slow=9.3
NOA NORSAR Array B 32.83 302 P P 03 51 02.3 -0.9
comp=Z,3.7nm,0.7s,mb4.4,baz=12,slow=8.7,SNR=8.9
NOA LR LR 04 05 44.1
comp=Z,522nm,19.2s,MS4.2,baz=10.0,slow=39
YKW3 Yellowknife Ar 33.17 44 eP P 03 51 04.9 -1.3
VSU Vasula 33.23 287 eP P 03 51 06.0 -0.7
YKA Yellowknife Ar 33.24 44 P P 03 51 05.7 -1.1
comp=Z,6.2nm,0.9s,mb4.5,baz=347,slow=8.7,SNR=34
YKA PcP PcP 03 53 47.0 -2.4
comp=Z,2.7nm,0.6s,baz=328,slow=3.8,SNR=7.7
YKA LR LR 04 03 38.0
comp=Z,1µm,22.0s,MS4.5,baz=345,slow=35
YKA Yellowknife Ar 33.24 44 P P 03 51 05.7 -1.1
YKA PcP PcP 03 53 47.0 -2.4
YKA LR LR 04 03 38.0
HFS Hagfors 33.39 299 P P 03 51 06.6 -1.5
comp=Z,3.4nm,0.7s,mb4.4,baz=45,slow=6.1,SNR=7.5
KURK Kurchatov 33.52 230 P P 03 51 09.3 0.0
comp=Z,42nm,1.6s,mb5.1,SNR=10
KURK Kurchatov 33.52 230⇓ iP P 03 51 06.6 -2.7
KURK i pP 03 51 08.3 -4.0
KURK pmax pmax
comp=Z,15nm,1.4s,mb4.7
KURK Kurchatov 33.52 230 eP P 03 51 06.8 -2.5
comp=Z,17nm,1.0s,mb4.9
ULN Ulaanbaatar 34.08 196⇓ iP P 03 51 14.2 0.0
ULN Ulaanbaatar 34.08 196 eP P 03 51 14.3 +0.1
comp=Z,5.0nm,0.8s,mb4.5
ULN LR LR
comp=Z,603nm,21.0s,MS4.3
SONM Songino Array 34.14 197 P P 03 51 14.5 -0.2
comp=Z,3.4nm,0.8s,mb4.3,baz=352,slow=8.5,SNR=25
SONM PcP PcP 03 53 50.2 -1.9
comp=Z,3.9nm,0.8s,baz=327,slow=2.4,SNR=8.1
MOS Moscow 34.28 275 eP P 03 51 15.4 -0.5
MOS e 03 52 24.4
MOS eS S 03 56 45.7 +3.8
OBN Obninsk 35.04 276κ iP P 03 51 22.2 -0.2
OBN 03 52 40.0
OBN e 03 53 54.7
OBN iS S 03 56 59.2 +5.5
OBN pmax pmax
comp=Z,64nm,1.6s,mb5.3
OBN MLR MLR
comp=Z,800nm,18.0s,MS4.5
OBN Obninsk 35.04 276 eP P 03 51 19.5 -2.9
comp=Z,71nm,1.4s,mb5.4
DLBC Dease Lake 35.42 59 P P 03 51 27.5 +1.9
comp=Z,6.0nm,0.9s,mb4.5,baz=350,slow=10,SNR=9.1
DLBC Dease Lake 35.42 59 eP P 03 51 27.5 +1.9
YSS Yuzh-Sakhalins 35.48 153⇓ eP P 03 51 25.5 -0.8
YSS e 03 51 34.3
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.5
YSS MLR MLR
comp=N,800nm,15.0s,MS4.8
YSS MLR MLR
comp=E,800nm,15.0s,MS4.8
YSS MLR MLR
comp=Z,1µm,15.0s,MS4.7
YSS Yuzh-Sakhalins 35.48 153 eP P 03 51 25.9 -0.4
comp=Z,74nm,1.0s,mb5.6
MNK Minsk 36.91 284 eP P 03 51 36.0 -2.2
MKAR Makanchi Array 36.99 225 iP P 03 51 37.3 -1.6
MKAR pmax pmax
comp=Z,8.0nm,0.7s
MDJ Mudanjiang 37.19 169 P P 03 51 39.2 -1.4
MDJ PP PP 03 53 04.1 -3.5
MDJ PCP PcP 03 53 59.6 -1.5
MDJ S S 03 57 26.0 -0.8
MDJ SCP 03 57 46.7
MDJ PCS 03 57 47.8
MDJ AMB AMB
comp=Z,26nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,235nm,5.4s
MDJ LR LR
comp=N,957nm,14.0s,MS4.8
MDJ LR LR
comp=E,761nm,14.9s,MS4.8
MDJ LR LR
comp=Z,1µm,15.9s,MS4.8
MDJ Mudanjiang 37.19 169 eP P 03 51 39.7 -0.9
comp=Z,141nm,1.7s,mb5.5
VOR Voronezh 37.94 272 P P 03 51 46.0 -0.9
VOR e*PP pP 03 51 52.0 +2.1
VOR pmax pmax
comp=Z,150nm,1.7s,mb5.5
VOR pmax pmax
comp=N,110nm,1.4s
SUW Suwalki 38.05 288 eP P 03 51 48.0 +0.3
SUW MLR MLR 04 05 52.3
comp=N,900nm,31.0s,MS4.4
ASAJ Asahikawa 38.30 154 LR LR 04 09 15.6
comp=N,858nm,18.8s,MS4.6,baz=235,slow=39
VRSR Storozhevoye 38.44 272 eP P 03 51 50.2 -0.9
VRSR e*PP pP 03 51 59.4 +5.3
VRSR e 03 53 20.2
VRSR eS S 03 57 44.2 -1.6
VRSR eSS SS 04 00 28.6 +3.2
VRSR pmax pmax
comp=Z,80nm,1.5s,mb5.2
VRSR pmax pmax
comp=N,90nm,1.6s
VRSR pmax pmax
comp=E,9.0nm,0.6s
VRSR smax
comp=N,430nm,5.4s
VRSR smax
comp=Z,70nm,4.0s
VRSR smax
comp=E,90nm,4.3s
VRSR MLR MLR
comp=E,430nm,17.0s,MS4.5
VRSR MLR MLR
comp=Z,710nm,17.0s,MS4.5
VRSR MLR MLR
comp=N,510nm,16.0s,MS4.5
FCC Fort Churchill 38.71 28 eP P 03 51 51.9 -1.4
FCC pmax pmax
comp=Z,29nm,1.1s,mb4.9
FCC Fort Churchill 38.71 28 eP P 03 51 51.9 -1.4
comp=Z,29nm,1.1s,mb4.9
WMQ Urumqi 39.40 218 eP P 03 52 01.4 +2.2
WMQ XP sP 03 52 07.8 +4.3
WMQ PP PP 03 53 35.0 +1.4
WMQ PCP PcP 03 54 10.0 +2.0
WMQ S S 03 58 03.0 +2.5
WMQ XS 03 58 09.0
WMQ SS SS 04 00 48.0 +1.3
WMQ AMB AMB
comp=Z,13nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,261nm,3.7s
WMQ LR LR
comp=N,3µm,18.2s,MS5.2
WMQ LR LR
comp=E,3µm,19.4s,MS5.2
WMQ LR LR
comp=Z,2µm,22.2s,MS4.9
GKP Gorka Klasztor 39.60 293 eP P 03 52 03.5 +2.8
GKP epP pP 03 52 10.3 +6.6
GKP eS S 03 57 57.1 -6.1
GKP MLR MLR 04 10 57.0
comp=Z,2µm,18.0s,MS5.0
BSEG Bad Segeberg 39.86 300 eP P 03 52 03.6 +0.7
WAR Warsaw 40.08 290 eP P 03 52 02.3 -2.4
WAR LR LR
comp=Z,1µm,41.5s,MS4.5
WAR Warsaw 40.08 290 eP P 03 52 02.3 -2.4
WAR MLR MLR 04 05 19.5
comp=Z,1µm,41.5s,MS4.5
EKA Eskdalemuir Ar 40.10 312 P P 03 52 05.1 +0.3
comp=Z,3.8nm,0.7s,mb4.2,baz=10,slow=7.4,SNR=3.2
HHC Hu-ho-hao-te 40.94 190 eP P 03 52 11.6 -0.3
HHC PP PP 03 53 47.5 -2.0
HHC PCP PcP 03 54 13.1 +0.2
HHC S S 03 58 20.9 -2.5
HHC XS 03 58 31.2
HHC SS SS 04 01 19.7 -0.6
HHC SCS ScS 04 02 15.9 +0.9
HHC AMB AMB
comp=Z,9.0nm,0.6s,mb4.6
HHC AMB AMB
comp=Z,354nm,9.5s
HHC LR LR
comp=N,413nm,23.8s,MS4.8
HHC LR LR
comp=E,2µm,22.0s,MS4.8
HHC LR LR
comp=Z,586nm,23.8s,MS4.4
USP Ospenovka 41.34 232 P P 03 52 15.3 +0.2
SNR=20
TKM2 Tokmak 2 41.55 231 P P 03 52 21.4 +4.7
SNR=12
BJI Beijing 41.66 185 eP P 03 52 18.7 +1.1
BJI S S 03 58 33.4 -0.5
BJI AMB AMB
comp=Z,10.0nm,1.4s,mb4.2
BJI AMB AMB
comp=Z,295nm,4.1s
BJI LR LR
comp=N,2µm,13.5s,MS5.1
BJI LR LR
comp=E,1µm,13.5s,MS5.1
BJI LR LR
comp=Z,363nm,28.8s
BJI Beijing 41.66 185 eP P 03 52 18.7 +1.1
comp=Z,10.0nm,1.4s,mb4.2
BJI S S 03 58 33.4 -0.5
BJI SS SS 04 01 46.9 +13
BJI LR LR
comp=Z,360nm,28.8s,MS4.1
BJT Baijiatuau 41.68 185 eP P 03 52 18.2 +0.4
BJT pmax pmax
comp=Z,51nm,1.0s
BJT Baijiatuau 41.68 185 eP P 03 52 18.1 +0.4
comp=Z,51nm,1.0s,mb5.1
FRU Bishkek 41.75 232 eP P 03 52 19.8 +1.4
FRU i 03 53 55.0
FRU pmax pmax
comp=Z,132nm,2.2s,mb5.2
BBB Bella Bella 41.78 59 LR LR 04 11 22.9
comp=Z,467nm,20.4s,MS4.3,baz=337,slow=39
CLZ Clausthal 41.90 299 eP P 03 52 20.8 +1.3
comp=Z,79nm,1.8s,mb5.0
AAK Ala-Archa 41.96 232 P P 03 52 24.8 +4.7
SNR=11
AAK Ala-Archa 41.96 232 P P 03 52 20.5 +0.4
comp=Z,61nm,1.4s,mb5.0,SNR=13
AAK Ala-Archa 41.96 232c iP P 03 52 19.1 -1.0
AAK pmax pmax
comp=Z,17nm,1.0s,mb4.6
AAK MLR MLR
comp=Z,700nm,14.0s,MS4.7
AAK Ala-Archa 41.96 232 eP P 03 52 19.0 -1.1
comp=Z,14nm,0.9s,mb4.6
LVV L'vov 42.02 286 eP P 03 52 22.9 +2.5
LVV MLR MLR
comp=Z,570nm,18.0s,MS4.5
CLL Collm 42.08 297 iP P 03 52 21.2 +0.2
CLL pmax pmax
comp=Z,41nm,1.8s,mb4.8
CLL Collm 42.08 297 iP P 03 52 21.2 +0.2
comp=Z,41nm,1.8s,mb4.8
CLL e 03 52 32.0
CLL i 03 52 37.6
CLL Collm 42.08 297 P P 03 52 21.2 +0.2
comp=Z,logA/T=1.4,mb4.8
CLL e*PP pP 03 52 32.0 +8.0
CLL i*SP sP 03 52 37.6 +12
CLL i 03 52 43.0
CLL ePP PP 03 54 04.0 +2.4
CLL iPCP PcP 03 54 14.4 -2.0
CLL eS S 03 58 42.0 +1.9
CLL eSS SS 04 01 44.0 +2.2
KSP Ksiaz 42.10 293 eP P 03 52 21.6 +0.5
KSP eS S 03 58 45.2 +4.9
KSP eSS SS 04 01 45.9 +3.8
KSP Ksiaz 42.10 293 eP P 03 52 21.6 +0.5
KSP e 03 52 32.5
KSP eS S 03 58 45.2 +4.9
KSP eSS SS 04 01 45.9 +3.8
KSP Ksiaz 42.10 293 eP P 03 52 21.2 +0.1
KSP epP pP 03 52 24.9 +0.8
KSP eS S 03 58 39.5 -0.8
KSP MLR MLR 04 12 33.1
comp=Z,2µm,18.3s,MS5.1
ULHL Ulahol 42.14 230 P P 03 52 25.5 +3.9
SNR=5.1
OJC Ojcow 42.22 290 eP P 03 52 23.1 +1.0
UCH Uchtor 42.36 232 P P 03 52 28.7 +5.3
SNR=8.4
BRG Berggiesshubel 42.38 296 eP P 03 52 24.1 +0.7
BRG iS S 03 58 47.0 +2.5
BRG pmax pmax
comp=Z,34nm,1.6s,mb4.7
BRG MLR MLR
comp=Z,980nm,17.9s,MS4.7
BRG Berggiesshubel 42.38 296 eP P 03 52 24.1 +0.7
comp=Z,34nm,1.6s,mb4.7
BRG i 03 52 41.3
BRG ePP PP 03 53 56.1 -8.5
BRG eScP 03 58 18.7
BRG iS S 03 58 47.0 +2.5
BRG eSS SS 04 01 29.0 -18
BRG LR LR
comp=Z,980nm,17.9s,MS4.7
KWP Kalwaria 42.39 287 eP P 03 52 24.8 +1.3
KWP ePP PP 03 54 01.1 -3.6
KWP MLR MLR 04 08 45.7
comp=Z,1µm,29.5s,MS4.6
KZA Kyzart 42.42 231 P P 03 52 26.4 +2.5
SNR=14
DLF Lyons Farm 42.47 315 eP P 03 52 24.5 +0.4
EDM Edmonton 42.49 46 eP P 03 52 24.5 +0.2
DCN Croghan 42.50 315 eP P 03 52 25.5 +1.1
AML Almayashu 42.55 233 P P 03 52 26.8 +1.8
SNR=15
DPC Dobruska-Polom 42.57 293 eP P 03 52 24.5 -0.5
DPC eS S 03 58 50.4 +3.1
DPC AMS AMS 04 12 40.0
comp=Z,1µm,16.8s
PVCC Panska Ves 42.64 295 eP P 03 52 29.3 +3.8
PVCC ex x 03 52 47.8
OKC Ostrava-Krasne 42.83 291 eP P 03 52 26.5 -0.6
OKC ePP PP 03 54 07.6 -1.5
OKC AMS AMS 04 12 10.0
comp=Z,1µm,16.1s
GTA Gaotai 42.87 204 eP P 03 52 31.7 +4.1
GTA AP pP 03 52 36.2 +5.6
GTA XP sP 03 52 38.7 +6.8
GTA PP PP 03 54 14.4 +4.7
GTA S S 03 58 56.9 +5.0
GTA XS 03 59 04.1
GTA SS SS 04 02 03.6 +6.7
GTA AMB AMB
comp=Z,6.0nm,1.7s,mb4.0
GTA AMB AMB
comp=Z,225nm,6.5s
GTA LR LR
comp=N,706nm,12.5s,MS5.0
GTA LR LR
comp=E,1µm,14.4s,MS5.0
GTA LR LR
comp=Z,1µm,12.9s,MS4.9
MOX Moxa 42.91 298 eP P 03 52 29.3 +1.5
MOX pmax pmax
comp=Z,42nm,1.6s,mb4.9
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.4
MOX Moxa 42.91 298 eP P 03 52 29.3 +1.5
comp=Z,42nm,1.6s,mb4.9
MOX LR LR
comp=Z,500nm,21.0s,MS4.4
MOX Moxa 42.91 298 iP P 03 52 29.3 +1.5
comp=Z,logA/T=1.4,mb4.9
MOX S S 03 58 58.0 +5.7
MOX L 04 11 23.0
NIE Niedzica 42.93 289 eP P 03 52 27.4 -0.6
MORC Moravsky Berou 42.97 292 eP P 03 52 27.5 -0.7
MORC pmax pmax
comp=Z,65nm,1.8s,mb5.1
MORC Moravsky Berou 42.97 292 eP P 03 52 27.5 -0.7
comp=Z,65nm,1.8s,mb5.1
KOLS Kolonicke sedl 43.13 287 eP P 03 52 30.1 +0.5
KOLS epP pP 03 52 33.3 +0.7
KOLS e 03 52 41.0
KOLS e 03 54 02.8
PRU Pruhonice 43.17 295 eP P 03 52 30.2 +0.3
PRU eS S 03 59 00.1 +4.1
PRU AMS AMS 04 13 10.0
comp=Z,1µm,19.7s
NKC Novy Kostel 43.21 297 eP P 03 52 30.9 +0.7
NKC AMS AMS 04 16 10.0
comp=Z,800nm,15.2s
CRVS Cervenica-Dubn 43.28 288 eP P 03 52 34.0 +3.2
CRVS e 03 52 41.3
VRAC Vranov 43.56 293 P P 03 52 33.6 +0.6
comp=Z,5.3nm,0.8s,mb4.3,baz=21,slow=12,SNR=6.7
TNS Taunus Mts 43.74 300 eP P 03 52 35.4 +0.9
TNS pmax pmax
comp=Z,13nm,1.4s,mb4.5
TNS Taunus Mts 43.74 300 eP P 03 52 35.4 +0.9
comp=Z,13nm,1.4s,mb4.5
SCHQ Schefferville 43.82 6 P P 03 52 34.4 -0.6
comp=Z,3.2nm,0.7s,mb4.1,baz=14,slow=8.6,SNR=10
SCHQ LR LR 04 10 00.9
comp=Z,410nm,20.0s,MS4.3,baz=333,slow=35
SCHQ Schefferville 43.82 6 P P 03 52 34.4 -0.6
SCHQ LR LR 04 10 00.9
GOF Gofitskoye 43.88 266⇑ iP P 03 52 36.9 +1.2
GOF iS PP 03 54 19.5 -0.2
GOF pmax pmax
comp=Z,230nm,2.2s,mb5.5
GRA1 Grafenberg Arr 43.90 298 eP P 03 52 37.0 +1.2
comp=Z,58nm,1.9s,mb5.0
GRA1 e 03 52 47.9
GRA1 e 03 52 53.8
GRA1 eS S 03 59 09.0 +2.4
GRA1 eSS SS 04 02 32.4 +17
GRA1 LR LR
comp=Z,600nm,21.7s,MS4.5
GRF Grafenberg Arr 43.90 298 eP P 03 52 37.0 +1.2
GRF eS S 03 59 09.0 +2.4
GRF eSS SS 04 02 32.4 +17
GRF pmax pmax
comp=Z,58nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,600nm,21.7s,MS4.5
GRF Grafenberg Arr 43.90 298 eP P 03 52 37.0 +1.2
GRF eS S 03 59 09.0 +2.4
GRF eSS SS 04 02 32.4 +17
GRF pmax pmax
comp=Z,58nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,600nm,21.7s,MS4.5
GRF Grafenberg Arr 43.90 298 eP P 03 52 37.0 +1.2
comp=Z,58nm,1.9s,mb5.0
GRF e 03 52 47.9
GRF e 03 52 53.8
GRF eS S 03 59 09.0 +2.4
GRF eSS SS 04 02 32.4 +17
GRF LR LR
comp=Z,600nm,21.7s,MS4.5
VYHS Vyhne 44.04 290 eP P 03 52 37.0 0.0
VYHS e 03 54 20.6
VYHS Vyhne 44.04 290 eP P 03 52 37.0 0.0
VYHS e 03 52 54.8
VYHS ePP PP 03 54 20.6 -0.7
KIS Kishinev 44.08 280 eP P 03 52 27.0 -10
KIS MLR MLR
comp=Z,900nm,15.0s,MS4.8
KHC Kasperske Hory 44.14 295 eP P 03 52 38.7 +1.0
KHC ex x 03 52 49.3
KHC AMS AMS 04 13 30.0
comp=Z,1µm,19.1s
WET Wettzell 44.22 296 eP P 03 52 39.6 +1.2
WET pmax pmax
comp=Z,20nm,1.7s,mb4.6
WET Wettzell 44.22 296 eP P 03 52 39.6 +1.2
comp=Z,20nm,1.7s,mb4.6
GEC2 GERESS Array S 44.40 295 eP P 03 52 41.0 +1.1
GEC2 pmax pmax
comp=Z,18nm,1.3s,mb4.6
GEC2 GERESS Array S 44.40 295 eP P 03 52 41.0 +1.1
comp=Z,18nm,1.3s,mb4.6
GERES GERESS Array B 44.40 295 P P 03 52 40.1 +0.2
comp=Z,2.0nm,0.7s,mb4.0,baz=22,slow=7.2,SNR=16
BAIF Baives 44.43 304 eP P 03 52 40.2 +0.1
PSZ Piszkesteto 44.46 289 eP P 03 52 40.6 +0.2
PSZ pmax pmax
comp=Z,55nm,1.4s,mb5.1
PSZ Piszkesteto 44.46 289 eP P 03 52 40.6 +0.2
comp=Z,55nm,1.4s,mb5.1
PSZ Piszkesteto 44.46 289⇑ eP P 03 52 42.5 +2.1
SRO Srobarova 44.78 291 eP P 03 52 43.5 +0.5
KSH Kashi 44.87 230 eP P 03 52 49.4 +5.6
KSH eAP pP 03 52 53.7 +6.9
KSH eXP sP 03 52 56.2 +8.2
KSH ePCP PcP 03 54 27.8 +1.9
KSH ePP PP 03 54 35.6 +5.9
KSH eSCP 03 58 20.2
KSH ePCS 03 58 21.3
KSH eS S 03 59 29.3 +8.5
KSH eXS 03 59 36.2
KSH eSCS ScS 04 02 41.6 +2.6
KSH AMB AMB
comp=Z,230nm,6.3s
KSH LR LR
comp=N,400nm,6.0s
KSH LR LR
comp=E,870nm,9.7s
KIV Kislovodsk 45.01 266α iP P 03 52 45.2 +0.3
KIV i pP 03 52 48.1 +0.2
KIV i 03 54 28.1
KIV i 03 54 38.2
KIV e 03 55 15.0
KIV iS S 03 59 30.0 +7.2
KIV pmax pmax
comp=Z,70nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,1µm,15.0s,MS4.9
KIV Kislovodsk 45.01 266 eP P 03 52 45.4 +0.6
comp=Z,57nm,1.0s,mb5.3
KIV LR LR
comp=Z,189nm,19.0s,MS4.0
MOA Molln 45.30 294⇑ iP P 03 52 47.6 +0.5
comp=Z,24nm,1.6s,mb4.8
MAT Matsushiro 45.59 160 P P 03 52 52.0 +2.5
MAT eS S 03 59 35.0 +3.9
MAT Matsushiro 45.59 160 P P 03 52 50.4 +0.9
MAT S S 03 59 35.0 +3.9
BFO Black Forest 45.61 300 eP P 03 52 50.3 +0.8
BFO pmax pmax
comp=Z,39nm,1.9s,mb5.0
BFO Black Forest 45.61 300 eP P 03 52 50.3 +0.8
comp=Z,39nm,1.9s,mb5.0
WLS Welschbruch 45.66 301 eP P 03 52 51.2 +1.3
CDF Champ du Feu 45.67 301 eP P 03 52 50.3 +0.3
comp=Z,24nm,0.8s,mb4.8
CDF Champ du Feu 45.67 301 eP P 03 52 50.3 +0.3
CDF pmax pmax
comp=Z,12nm,0.8s,mb4.9
SOC Sochi 45.82 269 eP P 03 52 49.7 -1.5
SOC e 03 54 31.8
SOC ePPP PPP 03 55 18.5 -3.3
SOC eS S 03 59 30.2 -4.1
SOC e 04 02 41.9
SOC eSSS SSS 04 03 49.4 -4.0
SOC pmax pmax
comp=Z,19nm,0.9s,mb5.0
SOC pmax pmax
comp=N,15nm,0.8s
SOC pmax pmax
comp=E,24nm,1.2s
SOC MLR MLR
comp=Z,3µm,17.0s,MS5.3
SOC MLR MLR
comp=N,2µm,19.0s,MS5.1
SOC MLR MLR
comp=E,505nm,19.0s,MS5.1
PGC Sidney 45.83 56 eP P 03 52 51.8 +0.5
comp=E,316nm,1.6s,mb6.0
MEZF Maizieres J'vi 45.86 303 eP P 03 52 51.8 +0.3

ECH Echery 45.87 301 *eP* **P** **03 52 52.3 +0.7**
LZH Lanzhou 45.97 199 *eP* **P** **03 52 53.1 +0.5**
LZH AP pP 03 52 58.3 +2.7
LZH XP sP 03 53 02.0 +5.2
LZH S **S** **03 59 37.1 +0.5**
LZH AMB AMB
comp=Z,40nm,1.5s,mb5.1
LZH LR LR
comp=E,2µm,15.8s
LZH LR LR
comp=Z,2µm,16.2s,MS5.0
LZH Lanzhou 45.97 199 *eP* **P** **03 52 53.1 +0.5**
LZH *PP pP 03 52 58.3 +2.7
LZH S **S** **03 59 37.1 +0.5**
LZH *SS 03 59 44.0
LZH SS SS 04 02 49.0 -4.6
LZH pmax pmax
comp=Z,40nm,1.5s,mb5.1
LZH MLR MLR
comp=Z,2µm,16.2s,MS5.0
LZH Lanzhou 45.97 199 *eP* **P** **03 52 53.1 +0.5**
comp=Z,40nm,1.5s,mb5.1
LZH pP pP 03 52 58.3 +2.7
LZH sP sP 03 53 02.0 +5.2
LZH S **S** **03 59 37.1 +0.5**
LZH sS 03 59 44.0
LZH SS SS 04 02 49.0 -4.6
LZH LR LR
comp=Z,2µm,16.2s,MS5.0
MLR Muntele Rosu 45.97 283 P **P** **03 52 52.7 +0.3**
comp=Z,42nm,1.4s,mb5.2,baz=346,slow=5.5,SNR=8.5
MLR LR LR 04 13 54.2
comp=Z,962nm,21.1s,MS4.7,baz=198,slow=38
ZEI Tsey 45.99 264 *i*P **P** **03 52 52.5 -0.1**
ZEI *i* 03 54 40.3
ZEI pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
THEF They Montfort 46.01 302 *eP* **P** **03 52 53.4 +0.7**
KBA Koelnbreinsper 46.18 295↓ *i*P **P** **03 52 55.9 +1.8**
comp=Z,35nm,1.1s,mb5.2
KBA Koelnbreinsper 46.18 295↓ *i*P **P** **03 52 55.9 +1.8**
KBA pmax pmax
comp=Z,35nm,1.1s,mb5.2
HAU Haudompre 46.18 302 *eP* **P** **03 52 54.1 0.0**
HAU *eR*
comp=Z,1µm,18.8s
MOF Molkenrain 46.23 301 *eP* **P** **03 52 54.7 +0.2**
ONI Oni 46.25 265 P **P** **03 52 52.4 -2.2**
ONI S PP 03 54 41.3 -2.1
FLN La Foliniere 46.27 308 *eP* **P** **03 52 53.8 -0.9**
comp=Z,32nm,1.0s,mb4.9
FLN *eR*
comp=Z,504nm,17.5s
FLN La Foliniere 46.27 308 *eP* **P** **03 52 53.8 -0.9**
FLN pmax pmax
comp=Z,16nm,1.0s,mb4.9
FLN MLR MLR
comp=Z,500nm,17.5s,MS4.5
HINF Hinteralfeld 46.30 301 *eP* **P** **03 52 54.8 -0.2**
comp=Z,3.8nm,0.6s,mb4.2
HINF Hinteralfeld 46.30 301 *eP* **P** **03 52 54.8 -0.2**
HINF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LDF La Druitiere 46.39 308 *eP* **P** **03 52 54.8 -0.9**
GROS Grobnik 46.49 293 *eP* **P** **03 52 59.0 +2.4**
GROS *e* 03 54 43.8
WALA Waterton Lakes 46.54 47 *eP* **P** **03 52 57.5 +0.7**
comp=Z,97nm,1.4s,mb5.5
GRR Gorron 46.68 308 *eP* **P** **03 52 57.0 -1.0**
LOMF Lomont 46.77 301 *eP* **P** **03 52 53.8 -4.9**
TI2 Plekhanov 46.88 263 *eP* **P** **03 53 01.2 +1.5**
TI2 MLR MLR
comp=Z,2µm,16.0s,MS5.2
DAVOX Davos 46.93 298 P **P** **03 53 00.8 +0.8**
baz=352,slow=11
NEW Newport 46.96 50 *eP* **P** **03 53 01.2 +1.0**
NEW pmax pmax
comp=Z,39nm,0.9s
NEW MLR MLR
comp=Z,647nm,19.0s
NEW Newport 46.96 50 P **P** **03 53 01.3 +1.1**
comp=Z,16nm,0.8s,mb5.0,baz=340,slow=6.7,SNR=30
NEW LR LR 04 13 47.4
comp=Z,702nm,19.1s,MS4.6,baz=355,slow=37
NEW Newport 46.96 50 *eP* **P** **03 53 01.2 +1.0**
comp=Z,39nm,0.9s,mb5.3
NEW *e* 03 53 11.8
NEW LR LR
comp=Z,647nm,19.0s,MS4.6
SGMF Saint Gilles 47.01 310 *eP* **P** **03 53 00.2 -0.4**
ULM Lac du Bonnet 47.04 31 P **P** **03 52 59.7 -1.1**
comp=Z,7.5nm,1.1s,mb4.5,baz=346,slow=5.4,SNR=6.6
ULM PcP PcP 03 54 30.7 -2.7
comp=Z,3.0nm,0.8s,baz=316,slow=4.6,SNR=3.4
ULM LR LR 04 13 07.3
comp=Z,400nm,19.1s,MS4.4,baz=217,slow=37
ULM Lac du Bonnet 47.04 31 *eP* **P** **03 52 59.2 -1.6**
comp=Z,23nm,1.0s,mb5.1
HYF Humbligny 47.37 305 *eP* **P** **03 53 03.2 -0.2**
QUIF Quistinic 47.41 310 *eP* **P** **03 53 03.1 -0.7**
comp=Z,36nm,1.0s,mb5.0
QUIF Quistinic 47.41 310 *eP* **P** **03 53 03.1 -0.7**
QUIF pmax pmax
comp=Z,18nm,1.0s,mb5.0
SSF Saint Saulge 47.47 304 *eP* **P** **03 53 03.6 -0.6**
SSF pmax pmax
comp=Z,13nm,0.8s,mb4.9
SSF Saint Saulge 47.47 304 *eP* **P** **03 53 03.6 -0.6**
comp=Z,13nm,0.8s,mb4.9
EPH Ephrata 47.57 53 P **P** **03 53 05.4 +0.4**
CABF La Chapelle 47.59 302 *eP* **P** **03 53 05.3 +0.1**
comp=Z,13nm,0.7s,mb4.8
CABF La Chapelle 47.59 302 *eP* **P** **03 53 05.3 +0.1**
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
TBM Table Mountain 47.63 54 P **P** **03 53 05.8 +0.2**
AVF Avril sur Loir 47.75 304 *eP* **P** **03 53 05.9 -0.6**
XAN Xi'an 47.81 193 P **P** **03 53 06.6 -0.5**
XAN AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
SMF Signal de Mont 47.83 304 *eP* **P** **03 53 06.4 -0.7**
LON Longmire 47.90 55 P **P** **03 53 08.6 +0.9**
BGF Bois d'Agland 48.04 305 *eP* **P** **03 53 08.3 -0.4**
comp=Z,52nm,1.0s,mb5.2
BGF Bois d'Agland 48.04 305 *eP* **P** **03 53 08.3 -0.4**
BGF pmax pmax
comp=Z,26nm,1.0s,mb5.2
DGMT Dagmar 48.10 39 *eP* **P** **03 53 09.5 +0.3**
comp=Z,194nm,1.6s,mb5.9
DGMT *e* 03 53 20.3
BOLS Boljevac 48.17 286↓ *i*P **P** **03 53 09.2 -0.6**
MXC Moxie City 48.25 54 P **P** **03 53 11.0 +0.6**
MFF Saint Martin d 48.36 307 *eP* **P** **03 53 10.6 -0.6**
TCF Toulx Ste Croi 48.38 305 *eP* **P** **03 53 10.8 -0.6**
GNI Garni 48.44 263*c i*P **P** **03 53 11.1 -0.8**
GNI pmax pmax
comp=Z,28nm,1.3s
GNI MLR MLR
comp=Z,2µm,16.0s
GNI Garni 48.44 263 P **P** **03 53 12.8 +0.9**
comp=Z,3.8nm,0.7s,mb4.5,baz=50,slow=9.6,SNR=4.9
GNI LR LR 04 17 13.9
comp=Z,2µm,18.8s,MS5.1,baz=6.4,slow=41
GNI Garni 48.44 263 *eP* **P** **03 53 10.7 -1.1**
comp=Z,50nm,1.4s,mb5.3
LPL La Plagne 48.58 301 *eP* **P** **03 53 13.4 +0.5**
LPG La Plagne 48.60 301 *eP* **P** **03 53 13.7 +0.7**
comp=Z,33nm,1.2s,mb4.9
LPG La Plagne 48.60 301 *eP* **P** **03 53 13.7 +0.7**
LPG pmax pmax
comp=Z,16nm,1.3s,mb4.9
MSO Missoula 48.73 48 *eP* **P** **03 53 13.5 -0.6**
comp=Z,38nm,1.3s,mb5.3
JHJ Hachijo jima 2 49.08 158 LR LR 04 13 14.0
comp=Z,433nm,19.1s,MS4.5,baz=78,slow=35
HRY Holter Researc 49.08 46 *eP* **P** **03 53 17.0 +0.3**
HRY *e* 03 53 27.8
ORIF Oris-en-Rattie 49.28 301 *eP* **P** **03 53 19.1 +0.8**
comp=Z,24nm,1.1s,mb4.8
ORIF *eR*
comp=Z,933nm,20.0s
MBDF Montbardon 49.35 301 *eP* **P** **03 53 19.6 +0.7**
comp=Z,13nm,0.8s,mb4.7
MBDF Montbardon 49.35 301 *eP* **P** **03 53 19.6 +0.7**
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
RJF Les Rejaudoux 49.44 306 *eP* **P** **03 53 18.9 -0.6**
RJF *eR*
comp=Z,955nm,18.8s
VIVF Saint-Julien-l 49.49 303 *eP* **P** **03 53 19.6 -0.3**
comp=Z,12nm,0.7s,mb4.7
VIVF Saint-Julien-l 49.49 303 *eP* **P** **03 53 19.6 -0.3**
VIVF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
NJ2 Nanjing 49.60 182 *eP* **P** **03 53 21.2 +0.2**
NJ2 AP pP 03 53 25.6 +1.5
NJ2 XP sP 03 53 28.3 +3.1
NJ2 PP PP 03 55 15.9 -0.2
NJ2 S **S** **04 00 27.0 -1.0**
NJ2 XS 04 00 36.0
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.6
NJ2 AMB AMB
comp=Z,390nm,7.9s
NJ2 LR LR
comp=N,470nm,21.5s
NJ2 LR LR
comp=E,1µm,27.4s
NJ2 LR LR
comp=Z,480nm,21.1s,MS4.5
LAO LASA Array 49.67 41 *eP* **P** **03 53 22.4 +1.0**
comp=Z,180nm,1.4s,mb5.9
LAO *e* 03 53 32.9
CROR Criterion Ridg 49.74 55 P **P** **03 53 22.5 +0.7**
SKO Skopje 50.07 286 *eP* **P** **03 53 25.5 +1.1**
BOZ Bozeman (W) 50.15 46 *eP* **P** **03 53 25.8 +0.8**
BOZ pmax pmax
comp=Z,92nm,1.4s,mb5.6
BOZ MLR MLR
comp=Z,1µm,22.0s,MS4.8
BOZ Bozeman (W) 50.15 46 *eP* **P** **03 53 25.8 +0.8**
comp=Z,92nm,1.4s,mb5.6
BOZ *e* 03 53 36.3
BOZ LR LR
comp=Z,1µm,22.0s,MS4.8
BMO Blue Mountains 50.30 51 *eP* **P** **03 53 27.0 +0.8**
comp=Z,95nm,1.3s,mb5.7
BMO *e* 03 53 37.9
LASF Ste Croix 50.36 303 *eP* **P** **03 53 26.4 -0.2**
comp=Z,97nm,1.3s,mb5.4
BRTR Keskin Array B 50.49 274 P **P** **03 53 28.1 +0.5**
comp=Z,4.8nm,0.7s,mb4.7,baz=0.4,slow=4.0,SNR=7.3
BRTR PP PP 03 55 23.8 -0.7
comp=Z,4.8nm,0.7s,baz=12,slow=7.6,SNR=7.1
SSE Sheshan 50.55 179 P **P** **03 53 23.8 -4.5**
comp=Z,31nm,0.6s,mb5.4
SSE pP pP 03 53 32.9 +1.6
SSE PP PP 03 55 18.5 -6.6
SSE S **S** **04 00 36.1 -5.1**
SSE sS 04 00 51.1
SSE ScS ScS 04 03 11.0 -5.4
SSE LR LR
comp=Z,280nm,16.7s,MS4.3
MCMT McKenzie Canyo 50.83 47 *eP* **P** **03 53 27.9 -2.2**
QLMT Earthquake Lak 50.98 46 *eP* **P** **03 53 32.2 +0.9**
CD2 Chengdu 51.13 198 P **P** **03 53 33.0 +0.4**
MALT Malatya 51.17 269 *eP* **P** **03 53 33.2 +0.4**
MALT pmax pmax
comp=Z,22nm,1.4s,mb4.9
MALT Malatya 51.17 269 *eP* **P** **03 53 33.1 +0.3**
comp=Z,22nm,1.4s,mb4.9
YNR Norris Junctio 51.17 45 *eP* **P** **03 53 34.2 +1.5**
YNR *e* 03 53 45.1
YMR Madison River 51.19 46 *eP* **P** **03 53 33.7 +0.8**
MTLF Montolieu 51.29 304 *eP* **P** **03 53 33.6 -0.1**
comp=Z,32nm,1.2s,mb4.8
MTLF Montolieu 51.29 304 *eP* **P** **03 53 33.6 -0.1**
MTLF pmax pmax
comp=Z,16nm,1.2s,mb4.8
LKWY Lake 51.35 45 *eP* **P** **03 53 35.9 +1.8**
LKWY pmax pmax
comp=Z,100nm,1.6s,mb5.5
LKWY Lake 51.35 45 *eP* **P** **03 53 35.9 +1.8**
comp=Z,100nm,1.6s,mb5.5
YFT Old Faithful 51.42 46 *eP* **P** **03 53 36.9 +2.3**
YFT *e* 03 53 48.1
ENH Enshi 51.54 192 P **P** **03 53 33.2 -2.5**
comp=Z,8.6nm,0.8s,mb4.7
BBOR Butler Butte 51.60 57 P **P** **03 53 35.7 -0.3**
EPF Esparros 51.82 306 *eP* **P** **03 53 36.8 -0.9**
comp=Z,38nm,1.0s,mb5.0
EPF Esparros 51.82 306 *eP* **P** **03 53 36.8 -0.9**
EPF pmax pmax
comp=Z,19nm,1.0s,mb5.0
HUMO Hull Mountain 51.84 57 *eP* **P** **03 53 38.4 +0.5**
comp=Z,43nm,1.4s,mb5.2
HLID Hailey 51.91 49 *eP* **P** **03 53 38.2 -0.2**
comp=Z,10.0nm,1.2s,mb4.6
IMW Indian Meadow 51.96 46 *eP* **P** **03 53 39.8 +1.1**
MOOW Moose Ponds 52.12 46 *eP* **P** **03 53 40.6 +0.6**
LOHW Long Hollow 52.27 45 *eP* **P** **03 53 41.9 +0.7**
comp=Z,50nm,1.5s,mb5.2
LOHW *e* 03 53 52.4
TPAW Teton Pass 52.36 46 *eP* **P** **03 53 42.9 +1.1**
SNOW Snow King Moun 52.41 46 *eP* **P** **03 53 43.4 +1.3**
RRI2 Red Ridge 52.46 46 *eP* **P** **03 53 43.3 +0.8**
WVOR Wild Horse Val 52.54 53 *eP* **P** **03 53 43.8 +0.7**
WVOR pmax pmax
comp=Z,59nm,1.3s,mb5.4
WVOR Wild Horse Val 52.54 53 *eP* **P** **03 53 43.8 +0.7**
comp=Z,59nm,1.3s,mb5.4
ISP Isparta 52.80 276↓ *i*P **P** **03 53 45.0 -0.2**
ISP Isparta 52.80 276 *eP* **P** **03 53 44.5 -0.6**
comp=Z,17nm,0.8s,mb5.0
MOD Modoc 52.86 55 *eP* **P** **03 53 46.3 +0.8**
comp=Z,80nm,1.4s,mb5.5
MOD *e* 03 53 57.4
PDAR Pinedale Array 53.22 45 P **P** **03 53 47.6 -0.5**
comp=Z,2.9nm,1.0s,mb4.2,baz=23,slow=3.1,SNR=17
PDAR LR LR 04 15 25.8
comp=Z,666nm,21.4s,MS4.7,baz=0.1,slow=35
DDI Dehra Dun 53.73 226 *e* **P** **03 54 02.0 +10**
LBCM Butte Creek Ri 53.78 56 P **P** **03 53 52.8 +0.4**
HVU Hansel Valley 53.85 48 *eP* **P** **03 53 52.6 -0.2**
WDC Whiskeytown Da 53.89 57 *eP* **P** **03 53 53.1 0.0**
WDC pmax pmax
comp=Z,53nm,1.3s,mb5.3
WDC Whiskeytown Da 53.89 57 *eP* **P** **03 53 53.1 0.0**
comp=Z,53nm,1.3s,mb5.3
HWUT Hardware Ranch 54.15 47 *eP* **P** **03 53 55.3 +0.3**
comp=Z,118nm,1.4s,mb5.6
APE Apeiranthos 54.29 281 *eP* **P** **03 53 53.6 -2.5**
SPUT South Promonto 54.35 48 *eP* **P** **03 53 56.5 +0.1**
SPUT *e* 03 54 07.2
MIV Mineville/With 54.42 12 *eP* **P** **03 53 56.5 -0.4**
NCB Newcomb 54.50 13 *eP* **P** **03 53 57.5 -0.1**
comp=Z,53nm,1.3s,mb5.4
NCB *e* 03 54 08.3
ELK Elko 54.60 50 *eP* **P** **03 53 58.9 +0.6**
ELK pmax pmax
comp=Z,24nm,1.1s
ELK Elko 54.60 50 *eP* **P** **03 53 58.9 +0.6**
comp=Z,24nm,1.1s,mb5.1
ELK *e* 03 54 10.0
TCUT Toone Canyon 54.65 47 *eP* **P** **03 53 58.6 -0.1**
BMN Battle Mountai 54.68 52 *eP* **P** **03 53 59.8 +0.9**
BMN pmax pmax
comp=Z,40nm,1.1s,mb5.4
BMN Battle Mountai 54.68 52 *eP* **P** **03 53 59.8 +0.8**
comp=Z,40nm,1.1s,mb5.4
BMN *e* 03 54 10.7
JOW Kunigami 54.89 171 LR LR 04 19 41.5
comp=Z,339nm,19.0s,MS4.4,baz=354,slow=38
NOQ North Oquirrh 55.04 47 *eP* **P** **03 54 01.2 -0.4**
PHWY Pilot Hill 55.08 41 *eP* **P** **03 54 01.4 -0.5**
JLU Jordanelle 55.16 47 *eP* **P** **03 54 02.0 -0.4**
OHCM Honcut 55.25 56 *eP* **P** **03 54 02.3 -0.8**
GKN Gorkha 55.37 219 *eP* **P** **03 54 03.2 -0.9**
comp=Z,41nm,0.8s,mb5.5
DAU Daniels Canyon 55.37 47 P **P** **03 54 04.5 +0.5**
GYA Guiyang 55.44 195↑ *i*P **P** **03 54 04.7 0.0**
GYA AP pP 03 54 08.9 +1.2
GYA XP sP 03 54 11.6 +2.7
GYA PP PP 03 56 13.8 +3.7
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,120nm,3.9s
GYA LR LR
comp=N,480nm,17.7s,MS5.2
GYA LR LR
comp=E,2µm,16.0s,MS5.2
GYA LR LR
comp=Z,390nm,16.2s,MS4.6
NDI New Delhi 55.44 227 *e* **P** **03 54 06.0 +1.3**
WCN Washoe City 55.49 55 *eP* **P** **03 54 04.7 -0.2**
WCN pmax pmax
comp=Z,60nm,1.3s,mb5.5
WCN Washoe City 55.49 55 *eP* **P** **03 54 04.7 -0.2**
comp=Z,60nm,1.3s,mb5.5
KKN Kakani 55.52 218 *eP* **P** **03 54 04.2 -1.0**
comp=Z,96nm,1.4s,mb5.6
KKN Kakani 55.52 218 *eP* **P** **03 54 04.2 -1.0**
KKN pmax pmax
comp=Z,48nm,1.4s,mb5.3
JIRN Jiri 55.56 217 *eP* **P** **03 54 04.9 -0.7**
comp=Z,49nm,0.9s,mb5.5
GENY Geneseo 55.57 16 *eP* **P** **03 54 04.7 -0.7**
ESDC Sonseca Array 55.64 309 P **P** **03 54 06.5 +0.6**
comp=Z,3.4nm,0.8s,mb4.4,baz=5.5,slow=6.7,SNR=10.0
KOLN Koldanda 55.70 220 *eP* **P** **03 54 04.9 -1.6**
comp=Z,60nm,1.1s,mb5.5
DMN Daman 55.71 218 *eP* **P** **03 54 06.2 -0.4**
comp=Z,152nm,1.4s,mb5.8
MPU Maple Canyon 55.72 47 *eP* **P** **03 54 06.7 +0.2**
PKI Pulchoki 55.72 218 *eP* **P** **03 54 06.0 -0.7**
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 55.72 218 *eP* **P** **03 54 06.0 -0.7**
PKI pmax pmax
comp=Z,13nm,0.8s,mb5.0
NSHM Saint Helena R 55.91 57 *eP* **P** **03 54 09.0 +1.1**
NSHM *e* 03 54 19.3
ERPA Erie 56.12 18 P **P** **03 54 09.1 -0.3**
comp=Z,26nm,0.6s,mb5.4
TMUT Trail Mountain 56.48 47 *eP* **P** **03 54 11.0 -1.0**
NVAR Mina Array Bea 56.53 54 P **P** **03 54 12.7 +0.4**
comp=Z,5.8nm,0.9s,mb4.6,baz=302,slow=6.3,SNR=19
NVAR PcP PcP 03 55 08.7 -0.2
comp=Z,2.8nm,0.7s,baz=25,slow=3.6,SNR=5.8
NVAR LR LR 04 17 20.2
comp=Z,154nm,21.6s,MS4.1,baz=40,slow=35
MNV Mina 56.54 53 *eP* **P** **03 54 12.8 +0.4**
MNV pmax pmax
comp=Z,63nm,1.6s,mb5.4
MNV Mina 56.54 53 *eP* **P** **03 54 12.8 +0.4**
comp=Z,63nm,1.6s,mb5.4
ISCO Idaho Springs 56.56 42 *eP* **P** **03 54 12.4 -0.1**
ISCO pmax pmax
comp=Z,41nm,1.4s,mb5.3
ISCO Idaho Springs 56.56 42 *eP* **P** **03 54 12.4 -0.1**
comp=Z,40nm,1.4s,mb5.3
ALLY Alegheny Colle 56.58 18 *eP* **P** **03 54 12.1 -0.5**
ALLY *e* 03 54 22.7
CMB Columbia Colle 56.66 56 *eP* **P** **03 54 12.8 -0.5**
CMB pmax pmax
comp=Z,46nm,1.8s,mb5.2
CMB Columbia Colle 56.66 56 *eP* **P** **03 54 12.8 -0.6**
comp=Z,46nm,1.8s,mb5.2
SRU San Rafael 56.73 46 *eP* **P** **03 54 13.0 -0.8**
TRCR Troy Canyon 56.92 51 *eP* **P** **03 54 15.6 +0.4**
KMI Kunming 56.93 199 P **P** **03 54 17.3 +1.9**
KMI XP sP 03 54 23.0 +3.3
KMI PCP PcP 03 55 11.8 +1.2
KMI PP PP 03 56 24.9 +1.3
KMI S **S** **04 02 08.6 +1.1**
KMI SCS ScS 04 04 03.6 +2.3
KMI SS SS 04 05 57.8 +0.7
KMI AMB AMB
comp=Z,8.0nm,1.6s,mb4.5
KMI AMB AMB
comp=Z,105nm,4.3s
KMI LR LR
comp=N,507nm,19.2s,MS5.0
KMI LR LR
comp=E,961nm,15.7s,MS5.0
KMI LR LR
comp=Z,530nm,17.3s,MS4.7
KMI Kunming 56.93 199 P **P** **03 54 17.3 +1.9**
KMI *SP sP 03 54 23.0 +3.3
KMI 03 55 11.8
KMI 03 56 24.9
KMI S **S** **04 02 08.6 +1.1**
KMI *SS 04 02 15.1
KMI 04 04 03.6
KMI SS SS 04 05 57.8 +0.7
KMI pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
KMI MLR MLR
comp=Z,530nm,17.3s,MS4.7
KMI Kunming 56.93 199 P **P** **03 54 17.3 +1.9**
comp=Z,8.0nm,1.6s,mb4.5
KMI sP sP 03 54 23.0 +3.3
KMI PcP PcP 03 55 11.8 +1.2
KMI PP PP 03 56 24.9 +1.3
KMI S **S** **04 02 08.6 +1.1**
KMI sS 04 02 15.1
KMI ScS ScS 04 04 03.6 +2.3
KMI SS SS 04 05 57.8 +0.7
KMI LR LR
comp=Z,530nm,17.3s,MS4.7
TPH Tonopah 57.01 53 *eP* **P** **03 54 16.1 +0.3**
TPH pmax pmax
comp=Z,39nm,1.4s,mb5.2
TPH Tonopah 57.01 53 *eP* **P** **03 54 16.1 +0.3**
comp=Z,39nm,1.4s,mb5.2
TPH *e* 03 54 27.1
MSU Marysvale 57.15 48 *eP* **P** **03 54 17.2 +0.4**
MVU Marysvale 57.15 48 *eP* **P** **03 54 16.9 +0.1**
comp=Z,38nm,1.2s,mb5.3
MVU *e* 03 54 28.3
OMM Old Mammoth Mi 57.24 54 *eP* **P** **03 54 18.5 +1.0**
OMM *e* 03 54 29.6
ASF Jabal al Asfar 57.42 269 P **P** **03 54 18.7 -0.1**
comp=Z,6.2nm,0.8s,mb4.7,baz=13,slow=2.1,SNR=9.6
PAL Palisades 57.47 13 *eP* **P** **03 54 18.3 -0.7**
PAL pmax pmax
comp=Z,30nm,0.9s,mb5.3
PAL Palisades 57.47 13 *eP* **P** **03 54 18.3 -0.7**
comp=Z,30nm,0.9s,mb5.3
MTUM Tungsten Hills 57.56 54 *eP* **P** **03 54 20.6 +0.9**
PV10 Paradox Valley 57.62 45 *eP* **P** **03 54 20.6 +0.5**
CPNY Central Park 57.69 13 P **P** **03 54 20.0 -0.5**
SSPA Standing Stone 57.69 16 *eP* **P** **03 54 18.8 -1.8**
comp=Z,77nm,1.6s,mb5.5
ARUT Antelope Range 57.72 49 *eP* **P** **03 54 20.9 +0.1**
ARUT *e* 03 54 31.4
ACSO Alum Creek Sta 57.86 21 *eP* **P** **03 54 19.9 -1.8**
comp=Z,111nm,1.5s,mb5.7
PV01 Paradox Valley 57.91 45 *eP* **P** **03 54 22.3 +0.2**
KSU1 Kansas State U 58.06 33 *eP* **P** **03 54 21.1 -2.0**
KSU1 *e* 03 54 30.8
CBKS Cedar Bluff 58.08 36 *eP* **P** **03 54 21.7 -1.6**
CBKS pmax pmax
comp=Z,37nm,1.0s,mb5.4
CBKS Cedar Bluff 58.08 36 *eP* **P** **03 54 21.7 -1.6**
comp=Z,37nm,1.0s,mb5.4
CBKS *e* 03 54 32.2
LRV Little Rabbit 58.18 56 *eP* **P** **03 54 24.8 +0.8**
MCWV Mont Chateau 58.58 18 *eP* **P** **03 54 25.9 -0.9**
comp=Z,128nm,1.6s,mb5.7
SDCO Great Sand Dun 58.60 42 *eP* **P** **03 54 26.6 -0.4**
comp=Z,104nm,1.6s,mb5.6
SDCO *e* 03 54 37.5
BLO Bloomington 58.71 24 *eP* **P** **03 54 24.3 -3.4**
BLO pmax pmax
comp=Z,52nm,1.7s,mb5.3
BLO Bloomington 58.71 24 *eP* **P** **03 54 24.3 -3.4**
comp=Z,52nm,1.7s,mb5.3
SDMD Soldier's Deli 58.96 15 *eP* **P** **03 54 28.5 -0.9**
CCM Cathedral Cave 59.51 29 *eP* **P** **03 54 30.6 -2.6**
CCM pmax pmax
comp=Z,21nm,1.0s,mb5.1
CCM MLR MLR
comp=Z,642nm,19.0s,MS4.8
CCM Cathedral Cave 59.51 29 *eP* **P** **03 54 30.6 -2.6**
comp=Z,21nm,1.0s,mb5.1
CCM *e* 03 54 41.4
CCM LR LR
comp=Z,642nm,19.0s,MS4.8
FVM French Village 59.64 28 *eP* **P** **03 54 31.6 -2.5**
FVM pmax pmax
comp=Z,38nm,1.5s,mb5.2
FVM French Village 59.64 28 *eP* **P** **03 54 31.6 -2.6**
comp=Z,38nm,1.5s,mb5.2
CBN Corbin 60.14 16 *eP* **P** **03 54 37.2 -0.4**

	comp=Z,40nm,0.9s,mb5.5						
EIL	Elat	60.17	270	P	P	03 54 37.2	-0.7
	comp=Z,3.9nm,0.7s,mb4.5,baz=13,slow=14,SNR=7.3						
EIL	Elat	60.17	270	P	P	03 54 36.1	-1.8
	comp=Z,31nm,1.4s,mb5.2						
WUAZ	Wupatki	60.20	48	eP	P	03 54 37.5	-0.5
LDFC	Landfair	60.21	51	eP	P	03 54 37.9	-0.2
FWV	Forest Hill	60.61	19	eP	P	03 54 39.6	-1.1
MWC	Mount Wilson	60.71	54	eP	P	03 54 41.6	+0.1
ELN	Prospectdale	60.96	19	P	P	03 54 42.5	-0.7
ANMO	Albuquerque	61.27	43	P	P	03 54 45.0	-0.3
ANMO	Albuquerque	61.27	43	eP	P	03 54 44.7	-0.6
ANMO				pmax	pmax		
	comp=Z,54nm,1.4s						
ANMO	Albuquerque	61.27	43	eP	P	03 54 44.6	-0.7
	comp=Z,54nm,1.4s,mb5.5						
ANMO				epP	pP	03 54 55.4	+7.0
AMTX	Amarillo	61.80	39	eP	P	03 54 47.0	-1.9
	comp=Z,74nm,1.6s,mb5.6						
WMOK	Wichita Mounta	62.21	36	eP	P	03 54 50.5	-1.1
WMOK				pmax	pmax		
	comp=Z,67nm,1.1s,mb5.7						
WMOK	Wichita Mounta	62.21	36	eP	P	03 54 50.5	-1.2
	comp=Z,67nm,1.1s,mb5.7						
WMOK				e		03 55 01.5	
BAR	Barrett	62.40	53	eP	P	03 54 52.8	-0.1
BAR				e		03 55 04.2	
SWET	Sewanee	62.68	24	eP	P	03 54 52.3	-2.4
UALR	University of	62.69	30	eP	P	03 54 52.9	-1.9
	comp=Z,30nm,1.0s,mb5.4						
UALR				e		03 55 04.1	
QIZ	Qiongzhong	62.72	191	eP	P	03 54 56.4	+1.2
QIZ				S	S	04 03 22.8	+0.7
QIZ				LR	LR		
	comp=E,723nm,15.9s						
MIAR	Mount Ida	62.83	31	eP	P	03 54 53.4	-2.3
MIAR				pmax	pmax		
	comp=Z,25nm,1.3s,mb5.2						
MIAR	Mount Ida	62.83	31	eP	P	03 54 53.4	-2.3
	comp=Z,25nm,1.3s,mb5.2						
OXF	Oxford	63.16	27	eP	P	03 54 56.6	-1.3
	comp=Z,141nm,1.0s,mb6.0						
TUC	Tucson	63.43	47	eP	P	03 54 59.1	-0.6
TUC				pmax	pmax		
	comp=Z,24nm,1.4s,mb5.1						
TUC	Tucson	63.43	47	eP	P	03 54 59.1	-0.6
	comp=Z,24nm,1.4s,mb5.1						
CMAR	Chiang Mai Arr	63.76	203	i P	P	03 55 01.4	-0.6
CMAR	Chiang Mai Arr	63.76	203	P	P	03 55 01.1	-0.9
	comp=Z,2.1nm,0.6s,mb4.3,baz=358,slow=7.1,SNR=9.8						
CMAR				LR	LR	04 23 13.9	
	comp=Z,357nm,18.4s,MS4.6,baz=15,slow=36						
MNTX	Cornudas Mount	64.60	42	eP	P	03 55 06.3	-1.0
	comp=Z,24nm,1.1s,mb5.2						
MNTX				e		03 55 17.1	
RAYN	Ar Rayn	64.65	259	P	P	03 55 07.7	-0.1
	comp=Z,89nm,1.0s,SNR=8.8						
LRAL	Lakeview Retre	64.79	25	eP	P	03 55 06.2	-2.3
	comp=Z,18nm,1.1s,mb5.0						
TWB	Tillmans-White	65.09	19	eP	P	03 55 09.5	-0.9
NHSC	New Hope	65.09	19	eP	P	03 55 09.4	-1.0
	comp=Z,207nm,1.4s,mb6.0						
NATX	Nacogdoches	65.51	32	eP	P	03 55 13.2	+0.1
	comp=Z,52nm,1.2s,mb5.4						
JCT	Junction City	66.34	37	eP	P	03 55 17.5	-1.0
JCT				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
JCT	Junction City	66.34	37	eP	P	03 55 17.5	-1.0
	comp=Z,38nm,0.9s,mb5.4						
JCT				e		03 55 28.5	
LTX	Lajitas	67.11	41	eP	P	03 55 22.7	-0.7
LTX				pmax	pmax		
	comp=Z,108nm,1.6s,mb5.6						
LTX	Lajitas	67.11	41	eP	P	03 55 22.7	-0.7
	comp=Z,108nm,1.6s,mb5.6						
LTX				e		03 55 33.3	
TXAR	Lajitas Array	67.11	41	P	P	03 55 22.7	-0.7
	comp=Z,13nm,0.8s,mb5.0,baz=352,slow=4.0,SNR=65						
TXAR				LR	LR	04 25 34.6	
	comp=Z,542nm,18.1s,MS4.8,baz=305,slow=37						
TXAR	Lajitas Array	67.11	41	P	P	03 55 22.7	-0.7
TXAR				LR	LR	04 25 34.6	
DBIC	Dimbokro	88.32	306	eP	P	03 57 20.8	+0.1
DBIC				pmax	pmax		
	comp=Z,54nm,1.5s						
DBIC	Dimbokro	88.32	306	P	P	03 57 21.1	+0.4
	comp=Z,7.2nm,0.7s,mb5.0,baz=336,slow=6.9,SNR=15						
DBIC				LR	LR	04 40 54.7	
	comp=Z,201nm,18.5s,MS4.6,baz=360,slow=38						
DBIC	Dimbokro	88.32	306	eP	P	03 57 20.8	+0.1
	comp=Z,54nm,1.5s,mb5.6						
DBIC				e		03 57 31.3	
SDV	Santo Domingo	89.54	11	P	P	03 57 27.2	+0.7
	comp=Z,5.1nm,0.8s,mb4.9,baz=35,slow=5.1,SNR=10						
SDV	Santo Domingo	89.54	11	eP	P	03 57 27.4	+0.9
	comp=Z,5.3nm,0.7s,mb5.0						
KMBO	Kilima Mbogo	90.08	263	LR	LR	04 41 33.9	
	comp=Z,322nm,21.5s,MS4.7,baz=90,slow=38						
ROSC	El Rosal	93.42	15	P	P	03 57 46.5	+2.1
	comp=Z,4.1nm,0.7s,mb5.0,baz=88,slow=16,SNR=9.5						
ROSC				LR	LR	04 40 19.8	
	comp=Z,99nm,19.0s,MS4.3,baz=179,slow=36						
TAOE	Nuku Hiva Isla	100.11	82	eSS	SS	04 16 46.8	+3.1
TAOE				eLR	LR	04 31 06.7	
PPT	Papeete	107.27	93	eSS	SS	04 18 31.4	+9.5
PPT				eLR	LR	04 34 12.5	
	comp=Z,735nm,25.5s						
TBI	Tubuai	112.97	93	ePS	PS	04 13 31.2	+2.6
TBI				eSS	SS	04 19 52.8	+14
TBI				eLR	LR	04 36 55.8	
	comp=Z,734nm,37.5s						
RKT	Rikitea	114.88	79	eSS	SS	04 20 20.3	+17
RKT				eLR	LR	04 37 45.1	
	comp=Z,417nm,36.0s						
PLCA	Paso Flores	138.89	13	PKP	PKPdf	04 03 54.4	-2.2
	comp=Z,3.4nm,0.7s,baz=57,slow=7.0,SNR=12						
USHA	Ushuaia	153.04	11	PKPbc	PKPdf	04 04 26.0	+6.6
	comp=Z,5.3nm,0.8s,slow=6.1,SNR=3.4						
USHA				PKPab	PKPab	04 04 36.5	-1.1
	comp=Z,5.2nm,0.9s,baz=11,slow=6.8,SNR=4.2						

IDC 07 04:00:15.1±16.0**, 27.49N×139.22E, h519**^{km}±173^{km}**, mb3.1**/5**, mb1 3.2**/5**, mb1mx2.8**/19**, mbtmp4.0**/5**, Error ellipse: s-maj=159.8km s-min=20.0km az=73.0, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SONM	Songino Array	32.62	317	P	P	04 06 03.1	-1.6
	0.4nm,0.5s,baz=131,slow=9.5,SNR=4.6						
WRA	Warramunga Arr	47.39	186	P	P	04 08 02.1	-1.6
	0.2nm,0.7s,baz=1.2,slow=7.6,SNR=6.5						
BVAR	Borovoye Array	55.96	317	P	P	04 09 04.2	-1.3
	3.0nm,0.4s,baz=84,slow=6.8,SNR=22						
ARCES	ARCESS Array B	72.29	340	P	P	04 10 47.5	-1.0
	6.2nm,0.9s,baz=58,slow=8.5,SNR=3.9						
FINES	FINESS Array B	76.41	333	P	P	04 11 10.3	-1.2
	1.2nm,0.3s,baz=71,slow=5.6,SNR=23						

*THR **07** 04:01:35.6±1.3, 31.81N×51.19E, h14^{km}±11^{km}, ML3.4*
*CSEM **07** 04:01:37.9±0.1, 31.80N×51.01E, h30^{km}, ML3.4, Error ellipse: s-maj=3.2km s-min=2.1km az=33.0*
*TEH **07** 04:01:40.5, 31.84N×51.09E, h21^{km}, Mn3.4*
ISC 07 04:01:36.5±0.6**, 31.80N**±0.05×**51.00E**±0.04**, h10**^{km}**, n28,** σ**1**^{s}**05**/31**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IBRJ	Borojen	0.23	98	Pg	Pg	04 01 38.5	-2.9
IBRJ	Borojen	0.23	98	Pg	Pg	04 01 38.5	-2.9
NASN	Na'in	1.83	56	ePG	Pg	04 02 06.2	-6.8
SHGR	Shooshtar-Gavs	1.89	280	ePG	Pg	04 02 12.2	-2.1
SHGR				eSG	Sg	04 02 40.1	+0.5
SHGR				AML	AML	04 02 58.7	
	comp=N,331nm,0.7s						
ISAD	Sadrabad	2.29	86	Pn	Pn	04 02 16.1	+1.2
IPAR	Pars	2.63	137	Pn	Pn	04 02 26.0	+6.3
IPAR	Pars	2.63	137	Pn	Pn	04 02 26.0	+6.3
ISFB	Sefidab	2.75	22	Pn	Pn	04 02 21.9	+0.4
ASAO	Ashtian	2.86	344	ePN	Pn	04 02 23.8	+0.7
ASAO				eSG	Sg	04 03 06.7	-5.1
ASAO				AML	AML	04 03 19.6	
	comp=N,147nm,0.8s						
ICHK	Chekchek	2.93	80	Pn	Pn	04 02 24.0	0.0
ISRV	Sarvestan	3.02	142	Pn	Pn	04 02 25.8	+0.5
IMEH	Mehriz	3.11	97	Pn	Pn	04 02 27.2	+0.6
IMOK	Mook	3.12	151	Pn	Pn	04 02 31.3	+4.6
IMOK	Mook	3.12	151	Pn	Pn	04 02 31.3	+4.6
IVRN	Varamin	3.25	11	Sn	Sn	04 03 05.3	-2.4
IVRN	Varamin	3.25	11	Sn	Sn	04 03 05.3	-2.4
IVRN	Varamin	3.25	11	Pn	Pn	04 02 29.1	+0.5
IVRN				Sn	Sn	04 03 05.3	-2.4
IRAZ	Razeghan	3.71	346	Pn	Pn	04 02 36.6	+1.5
IKOM	Komasi	3.77	310	Pn	Pn	04 02 37.4	+1.4
IDMV	Damavand	3.87	13	Pn	Pn	04 02 37.7	+0.3
IBAF	Bafgh	3.90	92	Pn	Pn	04 02 37.6	-0.2
GHIR	Ghir-Karzin	3.90	153	ePN	Pn	04 02 37.0	-0.9
GHIR				AML	AML	04 04 00.7	
	comp=N,44nm,0.5s						
DAMV	Damavand	3.91	12	ePN	Pn	04 02 37.4	-0.5
IAFJ	Afjeh	4.09	8	Pn	Pn	04 02 40.6	0.0
IFIR	Firoozkooh	4.10	20	Pn	Pn	04 02 40.7	0.0
IVIS	Veys	4.42	309	Pn	Pn	04 02 44.8	-0.3
SNGE	Sanandaj	4.49	318	ePN	Pn	04 02 46.6	+0.4
SNGE				AML	AML	04 04 24.0	
	comp=N,25nm,0.8s						
IDHR	Dehrash	4.83	308	Pn	Pn	04 02 49.6	-1.4

*ATH **07** 04:11:17.6, 35.28N×29.20E, h10^{km}, MD3.1/3*
*ISK **07** 04:11:25.8, 36.02N×29.02E, h24^{km}, MD3.3*
*CSEM **07** 04:11:27.1±0.3, 36.10N×29.08E, h40^{km}, MD3.3, Error ellipse: s-maj=8.4km s-min=4.0km az=169.0*
ISC 07 04:11:24.9±1.3**, 35.98N**±0.06×**29.08E**±0.07**, h12**^{km}±6^{km}**, n17,** σ**0**^{s}**73**/22**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	Kastellorizon	0.44	67	ePB	Pb	04 11 35.0	+0.8
FETY	Fethiye	0.66	0	i PG	Pg	04 11 38.2	0.0
FETY				i SG	Sg	04 11 48.2	+1.1
ARG	Arkhangelos	0.81	288	ePB	Pb	04 11 41.8	+1.4
DALT	Dalyan (Mudla)	0.87	336	PG	Pg	04 11 41.3	-1.1
DALT				SG	Sg	04 11 53.8	-0.3
ELL	Elmali	1.02	41	PG	Pg	04 11 45.0	-0.4
YER	Yerkesik	1.32	331	PN	Pn	04 11 49.2	-0.1
MLSB	Milas	1.69	322	PN	Pn	04 11 53.8	-0.7
DNZL	Cakiroluk	1.71	359	i P	Pn	04 11 54.8	-0.1
DNZL				i S	Sn	04 12 17.4	+0.6
DENT	Denizli	1.78	359	PN	Pn	04 11 55.5	-0.3
BODT	Bodrum	1.79	308	PN	Pn	04 11 55.1	-0.9
BCK	Bucak	1.92	39	ePN	Pn	04 11 57.2	-0.6
AYDN	Tasoluk	1.94	331	i P	Pn	04 11 59.4	+1.3
AYDN				i S	Sn	04 12 22.9	+0.3
ISP	Isparta	2.19	31	ePN	Pn	04 12 01.6	-0.1
KHL	Karahalli	2.37	8	ePN	Pn	04 12 03.8	-0.5
MANT	Manisa	2.55	351	i P	Pn	04 12 07.5	+0.8
MANT				i S	Sn	04 12 36.8	-1.2
IZM	Izmir	2.82	330	ePN	Pn	04 12 10.6	-0.1
NPS	Neapolis	2.91	257	ePN	Pn	04 12 06.5	-5.5

NEIC 07 04:12:47.5±1.8**, 42.41N×126.51W, h10**^{km}**, mb3.0**/1**, Error ellipse: s-maj=22.5km s-min=11.8km az=223.0, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRMB	Red Mountain	2.13	114	P	Pn	04 13 24.7	+1.1
DBO	Dodson Butte	2.51	72	P	Pn	04 13 27.8	-1.2
HUMO	Hull Mountain	2.63	84	P	Pn	04 13 29.7	-1.1
BBOR	Butler Butte	2.86	79	P	Pn	04 13 32.8	-1.3
YBH	Yreka Blue Hor	2.91	102	eP	Pn	04 13 33.1	-1.6
HBO	Huckleberry Mo	3.38	63	P	Pn	04 13 40.8	-0.7
BROR	Big Rock Looko	3.49	56	P	Pn	04 13 41.8	-1.3
FRIS	Frissel Point	3.69	59	P	Pn	04 13 44.7	-1.1
SSOR	Sweet Springs	3.82	49	P	Pn	04 13 46.9	-0.9
TDH	Tom, Dick, Har	4.46	48	P	Pn	04 13 55.7	-1.2
BMO	Blue Mountains	7.11	67	eP	Pn	04 14 31.6	-2.6
SDCO	Great Sand Dun	16.73	99	P	P	04 16 43.7	+0.3
	1.1nm,0.9s						
DAWY	Dawson	22.93	345	P	P	04 17 51.3	-1.1

*THR **07** 04:23:10.5±1.1, 31.79N×51.23E, h14^{km}±8^{km}, ML3.4*
*CSEM **07** 04:23:12.6±0.1, 31.73N×51.05E, h30^{km}, ML3.4, Error ellipse: s-maj=3.6km s-min=2.7km az=57.0*
*TEH **07** 04:23:14.7, 31.85N×50.93E, h5^{km}, Mn3.3*
ISC 07 04:23:10.7±0.7**, 31.75N**±0.05×**51.03E**±0.05**, h5**^{km}**, n18,** σ**1**^{s}**02**/21**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NASN	Na'in	1.83	55	ePG	Pg	04 23 41.4	-6.0
SHGO	Shushtar	1.93	281	ePG	Pg	04 23 47.9	-1.3
SHGO				AML	AML	04 24 33.6	
	comp=N,184nm,0.6s						
SHGR	Shooshtar-Gavs	1.93	281	ePG	Pg	04 23 47.9	-1.3
SHGR				eSG	Sg	04 24 16.6	+1.6
SHGR				AML	AML	04 24 39.7	
	comp=N,331nm,0.7s						
IPAR	Pars	2.58	137	Pn	Pn	04 23 58.5	+4.7
ASAO	Ashtian	2.92	343	ePN	Pn	04 23 59.3	+0.6
ASAO				eSG	Sg	04 24 42.0	-5.8
ASAO				AML	AML	04 24 54.0	
	comp=N,113nm,0.7s						
ISRV	Sarvestan	2.97	142	Pn	Pn	04 24 00.0	+0.6
IMOK	Mook	3.06	151	Pn	Pn	04 23 56.3	-4.4
IVRN	Varamin	3.29	10	Pn	Pn	04 24 04.3	+0.3
IRAZ	Razeghan	3.76	346	Pn	Pn	04 24 11.5	+0.8
IRAZ				Sn	Sn	04 24 53.1	-2.8
IKOM	Komasi	3.82	310	Pn	Pn	04 24 12.1	+0.6
GHIR	Ghir-Karzin	3.85	153	ePN	Pn	04 24 11.1	-0.8
IDMV	Damavand	3.91	12	Pn	Pn	04 24 13.8	+1.0
DAMV	Damavand	3.95	11	ePN	Pn	04 24 12.4	-0.9
IAFJ	Afjeh	4.13	8	Pn	Pn	04 24 16.5	+0.5
IFIR	Firoozkooh	4.14	20	Pn	Pn	04 24 16.1	0.0
IVIS	Veys	4.47	309	Pn	Pn	04 24 20.4	-0.3
SNGE	Sanandaj	4.54	318	ePN	Pn	04 24 22.6	+0.9
SNGE				AML	AML	04 25 58.6	
	comp=N,27nm,0.7s						
IDHR	Dehrash	4.88	308	Pn	Pn	04 24 26.0	-0.5

*BER **07** 04:49:35.2±4.2, 77.39N×29.98E, h2^{km}±24^{km}, ML2.7, ML2.4(NAO)*
*NEIC **07** 04:49:35.5, 77.37N×29.84E, h2^{km}, ML2.6(BER), ML2.4(NAO), After BER.*
*CSEM **07** 04:49:36.3±0.4, 77.44N×30.19E, h10^{km}, ML2.7, Error ellipse: s-maj=14.3km s-min=3.8km az=54.0*
*NAO **07** 04:49:39.0±6.4, 77.23N×28.59E, h19^{km}±50^{km}, ML2.4*
ISC 07 04:49:31.9±1.7**, 77.4N**±0.1×**29.6E**±0.5**, h2**^{km}**, n8,** σ**1**^{s}**71**/15**, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	Hopen	1.35	232	eP	Pb	04 50 00.9	+3.3
HOPEN				eS	Sb	04 50 19.1	+4.0
HOPEN				AML	AML	04 50 20.4	
	comp=Z,188nm,0.6s						
SPA0	Spitsbergen Ar	2.92	293	Pn	Pn	04 50 22.5	+2.2
	baz=106,slow=14						
SPA0				Sn	Sn	04 50 56.2	-0.2
	baz=110,slow=18						
SPA0				Lg		04 51 07.1	
	baz=82,slow=28						
HSP	Hornsund	3.14	270	eP	Pn	04 50 25.2	+1.8
HSP				eS	Sn	04 51 00.2	-1.7
KBS	Kingsbay	3.94	302	eP	Pn	04 50 35.8	+1.0
KBS				eS	Sn	04 51 20.0	-2.3
KBS				AML	AML	04 51 54.0	
	comp=Z,28nm,0.4s						
KBS	Kingsbay	3.94	302	eP	Pn	04 50 35.8	+1.0
	SNR=49						
KBS				eS	Sn	04 51 20.0	-2.3
	comp=Z,28nm,0.4s,SNR=49						
ARA0	ARCESS Array S	7.96	190	Pn	Pn	04 51 30.6	-0.9
	baz=2.6,slow=10						
ARA0				Sn	Sn	04 52 55.9	-7.2
	baz=22,slow=22						
ARA0	ARCESS Array S	7.96	190	Pn	Pn	04 51 30.5	-0.9
	SNR=3.3						
ARA0				Sn	Sn	04 52 55.9	-7.2
	SNR=50						
APA0	Apatity Array	9.87	172	Pn	P	04 51 56.3	-1.3
	baz=346,slow=7.4						

*IDC **07** 04:57:34.1±19.0, 42.82N×125.56W, mb3.0/2, mb1 3.5/3, mb1mx3.2/18, mbtmp3.0/3, ML2.6/1, Error ellipse: s-maj=410.6km s-min=26.6km az=66.0*
*NEIC **07** 04:57:37.4±1.0, 42.57N×125.69W, h10^{km}, mb3.2/1, Error ellipse: s-maj=11.9km s-min=7.2km az=71.0*
ISC 07 04:57:35.7±1.6**, 42.53N**±0.08×**125.8W**±0.2**, h10**^{km}**, n20,** σ**0**^{s}**73**/20**, mb2.9**/2**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.11	72	eP	Pb	04 57 56.9	+0.4
HUMO	Hull Mountain	2.08	87	eP	Pn	04 58 10.7	-0.3
HSO	Harness Mounta	2.20	62	P	Pn	04 58 12.8	+0.1
BBOR	Butler Butte	2.30	80	P	Pn	04 58 15.3	+1.0
YBH	Yreka Blue Hor	2.41	108	eP	Pn	04 58 15.6	-0.2
LAMM	Antelope Mount	2.51	110	P	Pn	04 58 18.3	+1.0
HBO	Huckleberry Mo	2.84	61	P	Pn	04 58 22.7	+0.8
IRO	Indian Ridge	2.96	59	P	Pn	04 58 23.8	+0.2
BROR	Big Rock Looko	2.97	53	P	Pn	04 58 23.3	-0.5
FRIS	Frissel Point	3.15	57	P	Pn	04 58 26.6	+0.2
SSOR	Sweet Springs	3.34	45	P	Pn	04 58 28.9	-0.1
TDH	Tom, Dick, Har	3.98	45	P	Pn	04 58 37.8	-0.4
MOD	Modoc	4.11	97	P	Pn	04 58 39.6	-0.4
BMO	Blue Mountains	6.56	66	eP	Pn	04 59 12.7	-1.9
NVAR	Mina Array Bea	7.01	123	Pn	Pn	04 59 19.6	-1.4
	0.1nm,0.3s,baz=298,slow=13,SNR=3.4						
SDCO	Great Sand Dun	16.21	100	eP	P	05 01 25.8	+0.9
	1.4nm,0.7s						
YKA	Yellowknife Ar	21.05	14	P	P	05 02 15.7	-6.2
	0.7nm,0.9s,mb3.0,baz=205,slow=11,SNR=7.6						
YKA	Yellowknife Ar	21.05	14	P	P	05 02 15.7	-6.2
TXAR	Lajitas Array	22.14	119	P	P	05 02 33.2	+0.2
	0.2nm,0.6s,mb2.7,baz=284,slow=7.4,SNR=4.0						
DAWY	Dawson	22.96	345	P	P	05 02 41.0	+0.3

*LDG **07** 04:59:36.5±0.1, 47.22N×0.56W, h4^{km}, Md2.9/1, Ml2.9/17, Error ellipse: s-maj=1.8km s-min=1.4km az=50.0*
*NEIC **07** 04:59:36.5, 47.22N×0.56W, h4^{km}, ML2.9(LDG), ML2.9(STR), After LDG.*
*CSEM **07** 04:59:36.4±0.1, 47.21N×0.56W, h5^{km}, ML2.9/11, Error ellipse: s-maj=1.3km s-min=0.9km az=49.0*
*STR **07** 04:59:42.5±1.1, 46.97N×0.71W, h5^{km}±1^{km}, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 07 04:59:34.1±0.3**, 47.23N**±0.02×**0.47W**±0.03**, h8**^{km}±3^{km}**, n32,** σ**1**^{s}**19**/79**, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCHF	La Chataignera	0.59	198	Pg	Pg	04 59 47.7	+1.7
LCHF				Sg	Sg	04 59 54.7	+0.8
LCHF	La Chataignera	0.59	198	Pg	Pg	04 59 47.7	+1.7
LCHF				Sg	Sg	04 59 54.6	+0.7
MFF	Saint Martin d	0.67	160	ePg	Pg	04 59 49.1	+1.6
MFF				eP		04 59 50.5	
MFF				eSg	Sg	04 59 57.6	+1.2
	25nm,0.2s						
LRYF	La Roche-sur-Y	0.98	229	Pg	Pg	04 59 54.4	+0.6
LRYF				Sg	Sg	05 00 06.8	-0.1
LRYF	La Roche-sur-Y	0.98	229	Pg	Pg	04 59 54.7	+0.9
LRYF				Sg	Sg	05 00 06.9	0.0
CHIF	Chize	1.10	178	Pg	Pg	04 59 57.7	+1.6
CHIF				Sg	Sg	05 00 10.9	+0.2
CHIF	Chize	1.10	178	Pg	Pg	04 59 58.0	+1.9
CHIF				Sg	Sg	05 00 11.0	+0.3
CHIF	Chize	1.10	178	Pg	Pg	04 59 57.7	+1.6
CHIF				Sg	Sg	05 00 11.0	+0.3
GRR	Gorron	1.19	347	ePn	Pn	04 59 57.9	+0.8
GRR				ePg	Pg	04 59 58.8	+0.9
GRR				eSn	Sn	05 00 13.5	0.0
GRR				eSg	Sg	05 00 14.6	+0.8
	41nm,0.2s						
LDF	La Druitiere	1.39	10	ePg	Pg	05 00 02.8	+1.0
LDF				eSn	Sn	05 00 18.9	+0.4
LDF				eSg	Sg	05 00 21.3	+1.0
	26nm,0.2s						
MATF	Mathat	1.40	175	Pg	Pg	05 00 03.6	+1.4
FLN	La Foliniere	1.54	360	ePg	Pg	05 00 04.6	-0.2
FLN				eSn	Sn	05 00 22.5	+0.2
FLN				eSg	Sg	05 00 25.5	+0.2
	32nm,0.2s						
SGMF	Saint Gilles	1.74	307	ePn	Pn	05 00 05.3	+0.3
SGMF				ePg	Pg	05 00 08.2	-0.7
SGMF				eSg	Sg	05 00 29.8	-2.3
	11nm,0.3s						
QUIF	Quistinic	1.95	292	ePn	Pn	05 00 07.3	-0.6
QUIF				ePg	Pg	05 00 11.7	-1.4
QUIF				eSn	Sn	05 00 30.5	-2.3
QUIF				eSg	Sg	05 00 35.4	-3.7
	26nm,0.2s						
TCF	Toulx Ste Croi	2.07	116	ePn	Pn	05 00 10.9	+1.2
TCF				ePg	Pg	05 00 15.9	+0.4
TCF				eSg	Sg	05 00 42.0	-1.1
	8.6nm,0.2s						
HYF	Humbligny	2.12	88	ePg	Pg	05 00 17.0	+0.5
HYF				eSg	Sg	05 00 44.5	-0.2
ROSF	Rostrenen	2.19	301	ePn	Pn	05 00 11.0	-0.4
ROSF				ePg	Pg	05 00 16.4	-1.5
ROSF				eSg	Sg	05 00 42.6	-4.5
	6.3nm,0.2s						
RJF	Les Rejaudoux	2.37	144	ePn	Pn	05 00 14.5	+0.6
RJF				ePg	Pg	05 00 20.4	-1.0
RJF				eSn	Sn	05 00 43.0	-0.5
RJF				eSg	Sg	05 00 49.0	-4.0
	12nm,0.2s						
BGF	Bois d'Agland	2.37	105	ePn	Pn	05 00 14.8	+0.8
BGF				ePg	Pg	05 00 22.4	+0.9
BGF				eSn	Sn	05 00 45.0	+1.4
BGF				eSg	Sg	05 00 50.7	-2.4
	24nm,0.3s						
LFF	La Frestale	2.44	159	ePn	Pn	05 00 16.1	+1.1
LFF				ePg	Pg	05 00 21.6	-1.3
LFF				eSn	Sn	05 00 44.5	-0.8
LFF				eSg	Sg	05 00 52.6	-2.8
	13nm,0.3s						
AVF	Avril sur Loir	2.65	98	ePn	Pn	05 00 19.4	+1.4
AVF				ePg	Pg	05 00 26.9	-0.2
AVF				eSn	Sn	05 00 50.5	-0.2
AVF				eSg	Sg	05 00 59.1	-3.4
	3.9nm,0.2s						
SSF	Saint Saulge	2.72	92	ePn	Pn	05 00 20.9	+1.9
SSF				ePg	Pg	05 00 28.3	-0.1
SSF				eSn	Sn	05 00 50.5	-1.9
SSF				eSg	Sg	05 01 02.1	-2.6
	9.7nm,0.4s						
SSF	Saint Saulge	2.72	92	ePg	Pg	05 00 28.3	-0.1
SSF				eSn	Sn	05 00 50.5	-1.9
SSF				eSg	Sg	05 01 02.1	-2.6
	4.8nm,0.4s						
AGO	Saint Agoulin	2.75	114	Pn	Pg	05 00 28.6	-0.4
PYM	Petit Puy Mans	2.82	120	Pn	Pg	05 00 27.1	-3.4
PYM	Petit Puy Mans	2.82	120	Pn	Pg	05 00 31.8	+1.3
SMF	Signal de Mont	3.01	100	ePn	Pn	05 00 24.7	+1.6
SMF				ePg	Pg	05 00 33.1	-1.2
SMF				eSg	Sg	05 01 09.6	-4.8
	5.5nm,0.2s						
SJPF	Ste Jean	4.15	188	ePn	Pn	05 00 38.0	-1.3
BAIF	Baives	4.20	46	ePn	Pn	05 00 39.7	-0.3
EPF	Esparros	4.24	172	ePn	Pn	05 00 39.5	-1.0
EPF				eSn	Sn	05 01 25.2	-5.6
EPF				eSg	Sg	05 01 50.8	-4.4
	3.6nm,0.4s						
VIVF	Saint-Julien-l	4.30	122	eSg	Sg	05 01 50.8	-6.4
	3.6nm,0.4s						
GIVF	Givet	4.54	49	ePn	Pn	05 00 44.9	+0.1
GIVF				eSg	Sg	05 01 59.5	-5.6
	2.9nm,0.3s						

*SOF **07** 05:07:04.2, 40.16N×23.92E, h2^{km}, MD3.3*
*ATH **07** 05:07:05.9, 40.14N×23.97E, h25^{km}±2^{km}, MD3.4/6*
*NEIC **07** 05:07:05.9, 40.13N×23.95E, h27^{km}, MD3.4(ATH), After ATH.*
*THE **07** 05:07:06.3, 40.13N×23.96E, h5^{km}, ML3.4*
*CSEM **07** 05:07:06.0±0.1, 40.13N×23.99E, h10^{km}, ML3.4, Error ellipse: s-maj=2.0km s-min=1.7km az=115.0*
ISC 07 05:07:04.9±0.5**, 40.13N**±0.02×**24.00E**±0.02**, h1**^{km}±4^{km}**,**

n38, σ1^{s}05/61, 4C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.21	357	ePg	Pg	05 07 10.8	+1.8
PLG	Polygyros	0.49	300	ePB	Pb	05 07 15.2	-0.7
SOH	Sokhos	0.85	325	ePg	Pg	05 07 21.9	0.0
SOH				eSg	Sg	05 07 33.4	+0.3
LOS	Limnos	0.86	103	ePg	Pg	05 07 23.4	+1.4
LOS				eSg	Sg	05 07 35.4	+2.0
THE	Thessaloniki	0.94	303	ePg	Pg	05 07 23.6	0.0
THE				eSg	Sg	05 07 36.6	+0.6
LIA	Limnos Island	0.94	104	ePN	Pn	05 07 25.0	0.0
XOR	Xorichti	0.98	219	ePg	Pg	05 07 24.6	+0.1
XOR				eSg	Sg	05 07 38.1	+0.5
NEO	Neokhori	1.01	216	⇑iPN	Pn	05 07 24.9	-1.2
SRS	Serrai	1.03	343	ePg	Pg	05 07 25.9	+0.3
SRS				eSg	Sg	05 07 40.0	+0.7
LIT	Litokhoron	1.16	269	ePg	Pg	05 07 27.2	-0.7
LIT				eSg	Sg	05 07 43.4	0.0
LIT	Litokhoron	1.16	269	ePg	Pg	05 07 27.2	-0.8
LIT				eSg	Sg	05 07 43.4	0.0
NVR	Nevrokopi	1.22	355	ePN	Pn	05 07 29.1	0.0
KNT	Kendrikon	1.33	321	ePb	Pb	05 07 30.5	+0.2
KNT				eSb	Sb	05 07 48.5	+0.9
GRG	Griva	1.47	305	ePb	Pb	05 07 33.0	+0.3
GRG				eSb	Sb	05 07 53.2	+1.4
MMB	Musomiste	1.47	352	i P	Pn	05 07 32.0	-0.6
MMB				i S	Sb	05 07 51.3	-0.6
RDO	Rodhopi	1.55	49	ePB	Pb	05 07 33.5	-0.6
VAY	Valandovo	1.61	318	i Pn	Pn	05 07 35.9	+1.3
VAY				i Sn	Sn	05 07 57.6	+1.4
VAY				i		05 07 58.8	
RZN	Rozhen	1.65	19	i P	Pn	05 07 35.0	-0.2
RZN				i Sg	Sg	05 08 00.0	+0.1
LKR	Lokris	1.67	208	ePB	Pb	05 07 34.7	-1.4
AGG	Agios Georgios	1.70	230	ePb	Pb	05 07 35.6	-1.0
AGG				eSb	Sb	05 07 57.1	-1.2
KZN	Kozani	1.71	277	ePN	Pn	05 07 36.7	+0.7
ALN	Alexandroupoli	1.74	63	ePb	Pb	05 07 36.0	-1.3
ALN				eSb	Sb	05 07 59.9	+0.3
KDZ	Kurdzhali	1.86	35	eP	Pn	05 07 40.0	+1.8
KDZ				i Sg	Sg	05 08 05.0	-1.9
KKB	Krupnik	1.87	339	i S	Sn	05 08 02.0	-0.8
PRK	Paraskevi	1.96	116	ePN	Pn	05 07 40.3	+0.7
PLD	Plovdiv	2.05	15	eP	Pn	05 07 44.5	+3.7
EVR	Evrytania	2.08	235	ePB	Pb	05 07 41.7	-1.4
FNA	Florina	2.10	289	ePn	Pn	05 07 41.8	+0.2
FNA				eSn	Sn	05 08 08.9	+0.2
DIM	Dimitrovgrad	2.24	31	eP	Pn	05 07 45.0	+1.4
DIM				ePg	Pg	05 07 49.5	-0.2
PGB	Panagyurishte	2.42	3	P	Pn	05 07 46.5	+0.3
PGB				Pg	Pg	05 07 50.0	-3.3
VTS	Vitosha	2.53	347	i P	Pn	05 07 48.0	+0.2
VTS				i S	Sn	05 08 19.0	-0.6
VTS				i Sg	Sg	05 08 26.5	-2.7
SKO	Skopje	2.67	314	⇑iPn	Pn	05 07 50.0	+0.3
JMB	Yambol	3.04	39	eP	Pn	05 07 54.0	-1.0
PVL	Pavlikeni	3.24	18	eP	Pn	05 07 56.3	-1.6
PVL				eSg	Sg	05 08 48.5	-4.4
SZH	Strazhica	3.46	24	eP	Pn	05 08 02.5	+1.6
SZH				eS	Sn	05 08 42.5	-0.5
SZH				eSg	Sg	05 08 58.0	-1.9
MLR	Muntele Rosu	5.55	14	⇓P	Pn	05 08 33.5	+2.9
VRI	Vrincioaia	6.07	18	⇑P	Pn	05 08 37.5	-0.5
VRI	Vrincioaia	6.07	18	⇑P	Pn	05 08 37.5	-0.5

IDC 07 05:07:31.9±3.7**, 49.16S×124.71E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.7**/10**, mbtmp3.6**/3**, MS3.5**/1**, Ms1 3.4**/1**, ms1mx2.1**/13**, Error ellipse: s-maj=118.7km s-min=66.5km az=108.0, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.43	43	P	P	05 12 21.3	-2.2
	3.1nm,1.1s,baz=228,slow=9.3,SNR=4.2						
STKA				LR	LR	05 18 47.8	
	comp=Z,118nm,19.4s,baz=203,slow=32						
ASAR	Alice Springs	26.46	19	P	P	05 13 09.9	-2.3
	0.9nm,0.8s,baz=191,slow=9.5,SNR=7.1						
WRA	Warramunga Arr	30.16	18	P	P	05 13 44.3	-1.5
	0.4nm,0.8s,baz=196,slow=8.2,SNR=2.8						
YKA	Yellowknife Ar	145.45	45	PKPbc	PKPbc	05 27 09.6	-1.4
	0.4nm,0.8s,baz=263,slow=2.9,SNR=8.2						

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*FUNV **07** 05:41:04.9, 6.63N×73.27W, h174^{km}, MW3.2*
*IDC **07** 05:41:07.4±0.7, 6.73N×72.88W, h165^{km}±8^{km}, mb3.5/3, mb1 3.6/5, mb1mx3.1/20, mbtmp4.0/5, MS4.2/1, Ms1 4.2/1, ms1mx2.7/22, Error ellipse: s-maj=30.7km s-min=7.8km az=131.0*
*NEIC **07** 05:41:08.1±0.8, 6.71N×72.89W, h172^{km}±8^{km}, mb3.7/1, Error ellipse: s-maj=30.3km s-min=13.1km az=130.0*
ISC 07 05:41:06.8±0.6**, 6.84N**±0.05×**72.97W**±0.06**, h177**^{km}±6^{km}**, n19, σ0^{s}81**/27**, mb3.7**/3**, 4C-3D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	33	⇑iP	P	05 41 36.4	+0.3
CAPV				eS	S	05 41 59.2	+0.4
ROSC	El Rosal	2.39	214	P	P	05 41 49.0	+0.5
	26nm,0.3s,baz=271,slow=23,SNR=223						
ROSC				S	S	05 42 19.5	-1.1
	154nm,0.3s,baz=97,slow=17,SNR=24						
SOCV	Socops	2.54	56	⇑iP	P	05 41 51.3	+0.9
SOCV				eS	S	05 42 24.6	+0.7
VIGV	El Vigia	2.55	39	⇑iP	P	05 41 50.9	+0.5
VIGV				eS	S	05 42 25.2	+1.3
SDV	Santo Domingo	3.08	49	P	P	05 41 57.8	+1.0
	8.3nm,0.3s,baz=216,slow=5.1,SNR=167						
SDV				S	S	05 42 34.8	-0.7
	8.3nm,0.3s,baz=69,slow=17,SNR=13						
SDV	Santo Domingo	3.08	49	ePn	P	05 41 57.6	+0.7
SDV				eS	S	05 42 34.5	-0.9
ELOV	Elorza	3.47	87	⇓iP	P	05 42 02.5	+0.7
ELOV				eS	S	05 42 44.1	0.0
VIRV	Villa del Rosa	3.68	9	⇓iP	P	05 42 03.3	-1.2
VIRV				eS	S	05 42 47.7	-1.2
CURV	Curarigua	4.34	43	⇑iP	P	05 42 13.1	+0.2
CURV				eS	S	05 43 03.6	-0.3
DABV	Dabajuro	4.67	29	eP	P	05 42 17.4	+0.3
DABV				eS	S	05 43 10.8	-0.7
BAUV	El Baul	5.31	67	⇓iP	P	05 42 24.6	-0.9
BAUV				eS	S	05 43 25.5	-1.1
CAOV	Caicara del Or	6.62	85	eP	P	05 42 41.9	-0.8
PLCA	Paso Flores	47.39	177	LR	LR	06 08 39.7	
	comp=Z,284nm,20.6s,baz=83,slow=35						
SCHQ	Schefferville	48.11	5	P	P	05 49 32.0	+1.6
	1.4nm,0.5s,mb3.9,baz=191,slow=11,SNR=9.8						
YKA	Yellowknife Ar	63.30	340	P	P	05 51 18.7	0.0
	0.5nm,0.6s,mb3.5,baz=132,slow=6.7,SNR=16						
DBIC	Dimbokro	67.59	86	P	P	05 51 46.4	-0.5
	2.8nm,1.0s,mb4.0,baz=225,slow=7.5,SNR=4.7						
DBIC	Dimbokro	67.59	86	eP	P	05 51 46.5	-0.4
	0.7nm,0.5s,mb3.6						
ASAR	Alice Springs	149.24	234	PKPbc	PKPdf	06 00 36.9	+6.2
	1.0nm,0.9s,baz=122,slow=3.9,SNR=6.2						
WRA	Warramunga Arr	150.47	241	PKPbc	PKPdf	06 00 40.0	+7.5
	0.6nm,0.4s,baz=106,slow=2.6,SNR=7.6						

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*IDC **07** 05:57:46.5±1.3, 3.46S×138.80E, mb3.8/5, mb1 4.2/7, mb1mx4.2/9, mbtmp4.0/7, ML4.5/2, Error ellipse: s-maj=51.8km s-min=22.5km az=85.0*
*NEIC **07** 05:57:52.7±4.1, 3.48S×138.56E, h37^{km}±39^{km}, mb4.1/4, Error ellipse: s-maj=30.7km s-min=19.1km az=59.0*
ISC 07 05:57:53.5±2.8**, 3.61S**±0.09×**138.4E**±0.2**, h63**^{km}±26^{km}**, n15, σ0^{s}91**/18**, mb3.6**/4**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.81	213	eP	P	06 00 27.2	-0.8
	12nm,0.3s						
WRAB	Tennant Creek	16.71	193	eP	P	06 01 44.3	-0.6
	7.6nm,0.6s						
WB2	Warramunga Arr	16.71	193	eP	P	06 01 44.4	-0.6
WRA	Warramunga Arr	16.72	194	Pn	P	06 01 44.5	-0.5
	1.0nm,0.3s,baz=18,slow=12,SNR=18						
WRA				Sn	S	06 04 38.9	-8.8
	0.7nm,0.3s,baz=12,slow=22,SNR=7.7						
CTA	Charters Tower	18.07	156	eP	P	06 02 05.5	+3.6
	11nm,0.6s						
CTA	Charters Tower	18.07	156	P	P	06 02 03.5	+1.6
	1.9nm,0.3s,baz=339,slow=10,SNR=17						
CTAO	Charters Tower	18.07	156	eP	P	06 02 03.4	+1.6
	17nm,0.7s						
FITZ	Fitzroy Crossi	19.09	220	eP	P	06 02 15.8	+1.9
	2.3nm,0.4s						
FITZ				eS	S	06 05 32.4	-8.6
ASAR	Alice Springs	20.41	192	P	P	06 02 28.4	+0.4
	6.9nm,0.6s,baz=20,slow=9.8,SNR=44						
ASAR				S	S	06 06 07.5	-0.6
	5.6nm,0.7s,baz=16,slow=24,SNR=8.2						
ASPA	Alice Springs	20.41	192	eP	P	06 02 28.5	+0.5
STKA	Stephens Creek	28.27	174	P	P	06 03 42.6	-0.6
	0.4nm,0.3s,mb3.5,baz=354,slow=9.7,SNR=5.3						
STKA	Stephens Creek	28.27	174	P	P	06 03 43.0	-0.3
CMAR	Chiang Mai Arr	44.65	301	P	P	06 06 02.4	+0.3
	1.2nm,0.8s,mb3.8,baz=111,slow=6.0,SNR=4.3						
SONM	Songino Array	58.41	335	P	P	06 07 45.3	+0.3
	0.2nm,0.5s,mb3.4,baz=135,slow=6.1,SNR=3.5						
ILAR	Eielson Array	86.76	24	P	P	06 10 30.5	-1.2
	0.5nm,0.8s,mb3.8,baz=270,slow=4.8,SNR=7.9						

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*NEIC **07** 06:21:10.9±0.9, 42.53N×126.44W, h10^{km}, mb3.8/4, Error ellipse: s-maj=11.0km s-min=5.6km az=59.0*
*IDC **07** 06:21:11.3±2.4, 42.75N×126.11W, mb3.4/3, mb1 3.9/8, mb1mx3.7/22, mbtmp3.5/8, ML3.1/5, MS3.2/5, Ms1 3.2/5, ms1mx2.9/19, Error ellipse: s-maj=48.5km s-min=16.7km az=48.0*
ISC 07 06:21:09.2±1.1**, 42.53N**±0.06×**126.5W**±0.1**, h10**^{km}**, n49, σ1^{s}08**/48**, mb3.4**/4**, MS3.1**/2**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.61	77	eP	Pn	06 21 37.6	-0.3
KBO	Bosley Butte	1.69	100	eP	Pn	06 21 38.5	-0.6
DBO	Dodson Butte	2.44	75	P	Pn	06 21 50.3	+0.4
HUMO	Hull Mountain	2.59	87	P	Pn	06 21 52.1	+0.1
HSO	Harness Mounta	2.67	67	P	Pn	06 21 53.4	+0.4
BBOR	Butler Butte	2.81	81	P	Pn	06 21 56.0	+0.9
MPOR	Mary's Peak	2.90	46	P	Pn	06 21 53.5	-2.8
YBH	Yreka Blue Hor	2.91	105	Pn	Pn	06 21 57.0	+0.6
	2.6nm,0.3s,baz=278,slow=12,SNR=52						
YBH				Sn	Sn	06 22 36.3	+4.5
	0.6nm,0.3s,baz=309,slow=21,SNR=5.9						
YBH	Yreka Blue Hor	2.91	105	eP	Pn	06 21 56.4	0.0
LAMM	Antelope Mount	3.00	107	P	Pn	06 21 59.2	+1.4
COR	Corvallis	3.08	47	eP	Pn	06 21 58.7	-0.3
BUOR	Burton Butte	3.14	93	P	Pn	06 22 00.9	+1.1
LHEM	Herd Peak	3.29	105	P	Pn	06 22 02.7	+0.8
HBO	Huckleberry Mo	3.30	65	P	Pn	06 22 02.9	+0.8
BROR	Big Rock Looko	3.40	58	P	Pn	06 22 03.9	+0.4
IRO	Indian Ridge	3.41	63	P	Pn	06 22 04.3	+0.7
FRIS	Frissel Point	3.60	61	P	Pn	06 22 07.1	+0.8
SSOR	Sweet Springs	3.72	50	P	Pn	06 22 09.0	+1.0
GT2	Goat Mountain	4.01	48	P	Pn	06 22 13.2	+1.1
BPO	Bald Peter	4.07	57	P	Pn	06 22 14.0	+1.1
TDH	Tom, Dick, Har	4.36	49	P	Pn	06 22 18.0	+0.9
MOD	Modoc	4.62	96	eP	Pn	06 22 19.5	-1.3
BMO	Blue Mountains	7.03	68	eP	Pn	06 22 53.9	-0.9
NVAR	Mina Array Bea	7.45	121	Pn	Pn	06 23 00.3	-0.3
	0.2nm,0.3s,baz=305,slow=12,SNR=5.4						
ELK	Elko	8.60	98	LR	LR	06 26 56.3	
	comp=Z,136nm,18.8s,baz=94,slow=41						
BGU	Big Grassy Mou	10.17	95	eP	P	06 23 37.5	-0.9
CHMT	Chamberlain Mo	10.37	61	eP	P	06 23 39.7	-1.4
ARUT	Antelope Range	11.04	111	eP	P	06 23 48.2	-2.0
BOZ	Bozeman (W)	11.12	69	eP	P	06 23 50.5	-0.8
MSU	Marysvale	11.59	105	eP	P	06 23 55.7	-2.0
PDAR	Pinedale Array	12.46	83	Pn	P	06 24 09.9	+0.6
	0.0nm,0.3s,baz=277,slow=12,SNR=5.0						
GCMT	Greycliff	12.50	69	P	P	06 24 07.6	-2.3
EDM	Edmonton	13.82	35	P	P	06 24 25.4	-2.0
PV01	Paradox Valley	14.34	102	eP	P	06 24 33.5	-0.7
ISCO	Idaho Springs	15.94	93	eP	P	06 24 54.5	-0.6
	11nm,1.5s						
DLBC	Dease Lake	16.08	353	Pn	P	06 25 02.4	+5.7
	0.0nm,0.3s,baz=154,slow=9.8,SNR=4.2						
DLBC				LR	LR	06 29 45.6	
	comp=Z,129nm,21.7s,baz=329,slow=32						
DLBC	Dease Lake	16.08	353	Pn	P	06 25 02.4	+5.7
DLBC				LR	LR	06 29 45.6	
SDCO	Great Sand Dun	16.72	100	eP	P	06 25 06.5	+1.5
	14nm,1.3s						
ANMO	Albuquerque	17.32	109	P	P	06 25 13.0	+0.4
	baz=311,slow=11,SNR=3.5						
ANMO				LR	LR	06 31 32.3	
	comp=Z,71nm,19.3s,slow=36						
MNTX	Cornudas Mount	19.94	116	eP	P	06 25 43.3	-0.9
	1.6nm,0.9s						
FFC	Flin Flon	20.14	44	Pn	P	06 25 46.3	+0.2
	65nm,0.7s,SNR=11						
YKA	Yellowknife Ar	21.19	15	P	P	06 25 55.8	-1.0
	1.7nm,0.8s,mb3.4,baz=204,slow=11,SNR=21						
YKA	Yellowknife Ar	21.19	15	P	P	06 25 55.8	-1.0
YKW3	Yellowknife Ar	21.25	15	eP	P	06 25 57.1	-0.3
ULM	Lac du Bonnet	22.35	59	LR	LR	06 34 59.1	
	comp=Z,64nm,19.6s,MS3.0,baz=350,slow=38						
TXAR	Lajitas Array	22.59	118	P	P	06 26 14.1	+2.9
	0.4nm,0.7s,mb3.0,baz=295,slow=9.5,SNR=5.8						
DAWY	Dawson	22.82	345	P	P	06 26 13.2	+0.2
WMOK	Wichita Mounta	22.91	101	eP	P	06 26 15.9	+1.7
	5.5nm,1.4s,mb3.8						
ILAR	Eielson Array	25.12	339	P	P	06 26 35.9	+0.6
	1.7nm,1.2s,mb3.5,baz=148,slow=7.9,SNR=6.4						
ILAR				LR	LR	06 35 44.8	
	comp=Z,70nm,21.9s,MS3.1,baz=355,slow=35						

JMA 07 06:25:54.2±0.1**, 29.39N**×**131.24E, h54**^{km}**, M3.5, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	1.27	291	P	P	06 26 16.0	-0.1
JNN				eS	S	06 26 32.2	-0.1
JTN	Tanegashima 3	1.28	350	P	P	06 26 16.1	-0.1
JTN				eS	S	06 26 32.0	-0.5
JKC	Kuchinoerabu	1.40	320	P	P	06 26 18.1	+0.1
JKC				eS	S	06 26 34.8	-0.7
JZK	Kikaishima	1.54	226	P	P	06 26 20.1	+0.2
JAM	Amami Oshima	1.73	236	P	P	06 26 22.0	-0.5
JAM				S	S	06 26 43.1	-0.4
JTSR	Tashiro 2	1.79	351	P	P	06 26 23.6	+0.3
JTSR				S	S	06 26 45.3	+0.3
JNAR	Kushima--Naru	2.13	1	P	P	06 26 28.4	+0.3
JSU	Suzuyama	2.21	342	P	P	06 26 29.4	+0.1
JSU				eS	S	06 26 55.5	0.0
JTZ	Takazaki	2.51	357	P	P	06 26 33.3	-0.2
JTK	Tokunoshima	2.57	232	P	P	06 26 34.3	-0.1
JTK				S	S	06 27 04.8	+0.2
JSJ	Shimokoshiki	2.63	330	P	P	06 26 35.1	-0.2
JSJ				eS	S	06 27 05.0	-1.1
JZO	Okuchi	2.80	349	P	P	06 26 37.9	+0.3
JTSN	Tsuno	2.85	5	P	P	06 26 38.2	-0.2
JIU2	Izumi 2	3.17	353	P	P	06 26 42.6	-0.2
JIU2				S	S	06 27 18.0	-1.6

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*SOF **07** 06:27:01.5, 41.19N×23.15E, h5^{km}, MD2.8*
*CSEM **07** 06:27:03.0±0.1, 41.27N×23.16E, h2^{km}, ML2.6, Error ellipse: s-maj=2.0km s-min=1.4km az=140.0*
THE 07 06:27:03.4, 41.20N×**23.16E, h10**^{km}**, ML2.6, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KNT	Kendrikon	0.20	260	ePg	Pg	06 27 07.3	-0.5
KNT				eSg	Sg	06 27 10.8	+0.1
SRS	Serrai	0.34	104	ePg	Pg	06 27 09.8	-0.5
SRS				eSg	Sg	06 27 15.0	+0.1
SOH	Sokhos	0.40	159	ePg	Pg	06 27 10.9	-0.7
MMB	Musomiste	0.58	47	i Pg	Pg	06 27 13.0	-2.0
MMB				i Sg	Sg	06 27 20.5	-2.3
THE	Thessaloniki	0.59	195	ePg	Pg	06 27 14.8	-0.4
THE				eSg	Sg	06 27 23.1	0.0
GRG	Griva	0.62	247	ePg	Pg	06 27 15.3	-0.7
GRG				eSg	Sg	06 27 24.2	-0.2
KKB	Krupnik	0.67	355	i Pg	Pg	06 27 14.5	-2.4
KKB				i Sg	Sg	06 27 22.5	-3.4
OUR	Ouranopolis	1.06	144	ePg	Pg	06 27 23.8	-0.9
LIT	Litokhoron	1.21	205	ePb	Pb	06 27 26.0	+0.1
LIT				eSb	Sb	06 27 44.0	+2.5
RZN	Rozhen	1.27	67	i P	Pb	06 27 27.0	+0.1
RZN				i Sg	Sg	06 27 46.0	+0.4
VTS	Vitosha	1.39	1	i P	Pn	06 27 29.5	+0.5
PGB	Panagyurishte	1.54	29	i P	Pn	06 27 31.0	-0.1
PGB				i Sg	Sg	06 27 52.0	-2.9

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*BJI **07** 07:17:19.4, 11.06N×86.84W, h71^{km}, mB5.3, Ms5.4, Msz5.0*
*GUC **07** 07:17:22.8±0.0, 11.34N×86.00W, h80^{km}, mb5.2(NEIC), MW5.6(NEIC), MW5.6(HRVD)*
*NEIC **07** 07:17:23.5±0.2, 11.37N×85.94W, mb5.1/106, MW5.6, Error ellipse: s-maj=5.7km s-min=4.0km az=211.0, Moment Tensor Solution. s7 Moment tensor: Scale 10^{17} Nm; M_{rr}1.21; $M_{\theta\theta}$-0.64; $M_{\phi\phi}$-0.57; $M_{r\theta}$1.65; $M_{\theta\phi}$0.52; $M_{\phi r}$-1.79; Best double couple: $M_0$2.7×10^{17} NP1:ϕ_s310°, δ13°, λ83°. NP2:ϕ_s137°, δ77°, λ92°. Principal axes: T 2.74, Plg58°, Azm49°; N -.09, Plg1°, Azm317°; P -2.65, Plg32°, Azm226°;*
NEIC Felt [V] at San Juan del Sur and [III] at Managua. Felt at Masaya. Also felt at Liberia, Costa Rica.
*HRVD **07** 07:17:23.5±0.1, 11.42N×86.17W, h91^{km}±1^{km}, MW5.6/69, Centroid moment Tensor Solution. LP body waves: s63,c109;Mantle waves: s69,c140; Half duration: 1^{s}5 Moment tensor: Scale 10^{17}Nm; M_{rr}0.12±.05; $M_{\theta\theta}$0.30±.04; $M_{\phi\phi}$-0.42±.05; $M_{r\theta}$1.33±.03; $M_{\theta\phi}$-0.84±.04; $M_{\phi r}$-2.19±.03; Best double couple: $M_0$2.676×10^{17} NP1:ϕ_s67°, δ17°, λ-177°. NP2:ϕ_s334°, δ89°, λ-73°. Principal axes: T 2.964, Plg41°, Azm48°; N -.575, Plg17°, Azm154°; P -2.389, Plg43°, Azm261°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **07** 07:17:24.3±0.8, 11.64N×85.78W, h95^{km}, mb4.9/6 Error ellipse: s-maj=17.2km s-min=7.0km az=109.2*
*IDC **07** 07:17:24.4±0.6, 11.67N×85.74W, h84^{km}±4^{km}, mb4.7/19, mb1 4.9/22, mb1mx4.8/24, mbtmp5.1/22, MS4.5/15, Ms1 4.5/15, ms1mx4.3/21, Error ellipse: s-maj=18.9km s-min=6.2km az=65.0*
*CASC **07** 07:17:25.1±2.4, 11.38N×86.16W, h81^{km}±12^{km}, MD5.0, ML5.2, mb5.1(NEIC)*
ISC 07 07:17:23.5±0.1**, 11.51N**±0.02×**85.97W**±0.02**, h88**^{km}**, h88**^{km}±1.9^{km}**:pP-P, n399, σ1^{s}34**/372**, mb5.1**/129**, 37C-35D, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	Concepcion	0.34	80	⇓eP	P	07 17 39.3	+2.4
APON	Apoyo	0.42	347	⇓iP	P	07 17 39.5	+2.0
MASN	Masaya	0.51	339	⇓eP	P	07 17 39.0	+0.8
MASN				eS	S	07 17 52.1	+2.8
TICN	Ticuantepe	0.58	334	⇓iP	P	07 17 40.8	+1.9
WILN	Americas 2	0.68	342	⇓iP	P	07 17 42.0	+2.1
MGAN	Managua	0.69	337	⇓eP	P	07 17 40.6	+0.7
MGAN				eS	S	07 17 54.6	+2.4
MGAN				i		07 17 58.7	
	comp=N,76µm,0.5s						
XAVN	Gruta Xavier	0.73	331	⇓iP	P	07 17 42.2	+1.9
PYTN	Playitas	1.03	355	⇓iP	P	07 17 46.6	+3.0
MOMJ	Momotombo	1.06	328	⇑eP	P	07 17 46.3	+2.4
MOMJ				eS	S	07 18 00.7	+1.3
MIRN	Miramar	1.18	322	eP	P	07 17 47.5	+2.0
CNGN	Cerro Negro	1.22	324	⇓eP	P	07 17 47.9	+1.9
CNGN				eS	S	07 18 05.8	+3.0
LEON	Leon	1.28	315	⇑eP	P	07 17 48.1	+1.4
TELN	Telica	1.38	322	⇑eP	P	07 17 49.9	+1.8
VCR	Vista de Mar	1.41	166	⇑iP	P	07 17 47.9	-0.5
VCR				eS	S	07 18 08.9	+1.9
JTS	JuntasAbangare	1.57	140	Pn	P	07 17 50.4	-0.1
	comp=N,46µm,0.8s						
JTS	JuntasAbangare	1.57	140	d iP	P	07 17 50.9	+0.4
JTS	JuntasAbangare	1.57	140	P	P	07 17 51.5	+1.0
	comp=N,784nm,0.3s,baz=310,slow=11,SNR=9472						
JTS				S	S	07 18 10.2	-0.2
	baz=241,slow=19						
JTS				LR	LR	07 18 19.5	
	comp=N,7µm,20.5s,baz=54,slow=35						
JTS	JuntasAbangare	1.57	140	⇓iPn	P	07 17 51.0	+0.6
JTS				eS	S	07 18 10.3	-0.1
FORC	Fortuna	1.64	129	⇓eP	P	07 17 53.0	+1.6
CGA2	Cerro Gallo 2	2.09	135	⇓eP	P	07 17 58.9	+1.5
VPS2	Volcan Poas 2	2.15	127	⇑eP	P	07 18 00.1	+2.0
PRS1	Puriscal	2.22	133	⇓eP	P	07 18 01.1	+1.9
TRTC	Tortuguero	2.40	113	⇑eP	P	07 18 03.4	+1.7
LAJ	Bijagual	2.44	132	⇑eP	P	07 18 00.8	-1.5
SJS	Escuela Geolog	2.44	129	⇑iP	P	07 18 04.3	+2.0
SJS				eS	S	07 18 33.8	+2.6
CNCH	Conchagua	2.53	314	⇑eP	P	07 18 04.1	+0.5
ICR	Volcan Irazu	2.59	126	⇓eP	P	07 18 06.3	+2.0
LCR2	La Lucha 2	2.61	132	⇓eP	P	07 18 06.0	+1.4
BUS	Buena Vista	2.91	132	⇓eP	P	07 18 10.6	+1.7
BLLM	Bellamira	2.94	311	⇓eP	P	07 18 09.7	+0.5
BLLM				eS	S	07 18 44.4	+1.0
VSM	San Miguel	2.95	311	eP	P	07 18 10.1	+0.7
VSM				eS	S	07 18 46.4	+2.5
CAHU	Cacacuatique	3.14	316	⇑eP	P	07 18 12.9	+0.9
LIO	Limon	3.25	117	⇓eP	P	07 18 15.2	+1.8
SNVI	San Vicente	3.50	307	⇑eP	P	07 18 17.5	+0.6
SNVI				eS	S	07 18 56.7	-0.7
LCBS	La Ceiba	3.63	306	eP	P	07 18 18.8	0.0
LFRS	El Faro	3.68	305	⇑eP	P	07 18 19.2	-0.2
LFRS				eS	S	07 18 58.9	-2.9
LBRS	Las Brisas	3.73	307	eP	P	07 18 21.0	+0.8
LBRS				eS	S	07 19 01.8	-1.3
LFU	La Fuente	3.79	306	⇓eP	P	07 18 22.5	+1.5
LFU				eS	S	07 19 06.3	+1.7
SNET	Serv Nac Est T	3.85	305	eP	P	07 18 22.2	+0.5
SNET				eS	S	07 19 05.2	-1.0
BOQS	Boqueron	3.92	305	⇑eP	P	07 18 23.3	+0.6
BOQS				eS	S	07 19 06.9	-0.8
ACR	Cerro Adams	3.96	136	eP	P	07 18 24.7	+1.5
CNI	Changuinola	3.98	121	⇑eP	P	07 18 27.1	+3.6
BRU2	Volcan	4.20	130	⇓eP	P	07 18 29.5	+2.9
SBLS	San Blas	4.25	303	⇑eP	P	07 18 28.1	+0.8
SBLS				eS	S	07 19 14.8	-1.3
SNJE	San Jose	4.26	304	eP	P	07 18 27.3	-0.1
SNJE				eS	S	07 19 14.2	-1.9
RTR	El Retiro	4.30	304	⇑eP	P	07 18 28.8	+0.8
RTR				eS	S	07 19 15.7	-1.6
MTO2	Montecristo 2	4.38	311	⇓eP	P	07 18 29.6	+0.5
RBDL	Robledal	4.46	306	⇑eP	P	07 18 30.3	+0.1
RBDL				eS	S	07 19 23.6	+2.5
DVD	David	4.62	131	⇑eP	P	07 18 35.0	+2.7
PTP1	Petroterminal	4.79	133	⇓iP	P	07 18 33.6	-1.0
IXG	Ixpaco	5.12	302	⇓eP	P	07 18 39.0	-0.2
JAT	Jato	6.19	297	⇑eP	P	07 18 54.6	+0.7
UPA	Univ. de Panam	6.81	111	⇓eP	P	07 19 05.0	+2.4
TEIG	Tepich	8.95	346	⇑eP	P	07 19 33.8	+2.1
	comp=N,139nm,1.2s						
TEIG				eS	S	07 21 15.2	+3.6
MCJ	Malvern	10.24	50	⇓iP	P	07 19 54.8	+5.6
CMIG	Matias Romero	10.27	304	i P	P	07 19 47.5	-2.1
CMIG				i S	S	07 21 38.0	-5.7
TUIG	Tuzandepetl	10.44	309	i P	P	07 19 53.6	+1.7
TUIG				i S	S	07 22 06.2	+19
CVJ	Coleyville	10.54	50	⇓eP	P	07 19 58.7	+5.4
HUIG	Huatulco	10.73	294	⇓iP	P	07 19 55.2	-0.6
STH	Stony Hill	11.00	53	⇓eP	P	07 20 05.7	+6.2
HOJ	Hope	11.01	53	⇓eP	P	07 20 05.8	+6.2
BNJ	Bonny Gate	11.03	51	⇓eP	P	07 20 06.8	+6.9
GWJ	Greenwich	11.06	53	⇓eP	P	07 20 06.6	+6.3
OXX	Oaxaca	11.80	299	i P	P	07 20 10.0	-0.2
PNIG	Pinotepa	12.76	294	⇑iP	P	07 20 24.3	+1.4
PAYG	Puerto Ayora	12.84	200	P	P	07 20 22.0	-2.0
	comp=N,272nm,1.1s						
LVIG	Laguna Verde	12.96	310	⇓iP	P	07 20 26.2	+0.7
ROSC	El Rosal	13.28	119	P	P	07 20 34.7	+5.1
	comp=N,0.4nm,0.3s,baz=345,slow=6.6,SNR=63						
ROSC				S	S	07 23 05.2	+10
	comp=N,0.3nm,0.3s,baz=110,slow=20,SNR=1.3						
IIB	San Bernardino	14.05	303	i P	P	07 20 40.0	+0.3
PPM	Popocatepetl	14.33	303	i P	P	07 20 44.0	+0.6
PPM				i P		07 20 45.2	
ACX	Acapulco	14.53	293	i P	P	07 20 46.0	0.0
YAIG	Yautepec	14.60	302	i P	P	07 20 47.6	+0.8
PLIG	Platanillo	14.76	299	i P	P	07 20 50.5	+1.6
CAIG	El Cayaco	14.91	293	i P	P	07 20 51.5	+0.6

SDV **Santo Domingo** 15.32 98 P P 07 20 58.3 +2.3
comp=N,2.1nm,0.3s,baz=283,slow=7.4,SNR=82
SDV S S 07 23 48.1 +4.7
comp=N,0.2nm,0.3s,baz=79,slow=19,SNR=2.2
SDV LR LR 07 27 02.7
comp=N,2µm,21.7s,baz=339,slow=38
SDV ScP 07 29 22.4
comp=N,0.2nm,0.3s,baz=332,slow=1.3,SNR=8.2
SDV **Santo Domingo** 15.32 98⇑ *e*P P 07 20 58.2 +2.2
comp=N,390nm,1.0s
ZIIG **Zihuatanejo** 16.18 294 *i* P P 07 21 07.5 +0.7
MOIG **Morelia** 16.75 301 *i* P P 07 21 16.6 +2.6
DWPF **Disney** 17.05 14 Pn P 07 21 21.7 +4.0
DWPF S S 07 24 40.9 +18
DWPF ScS tx 07 37 47.0
DWPF **Disney** 17.05 14 *e*P P 07 21 20.5 +2.8
comp=N,392nm,1.1s
COLM **Colima** 18.71 296 *i* P P 07 21 39.3 +1.8
CJM **Chamela** 20.01 296 *i* P P 07 21 52.8 +1.3
SJG **San Juan** 20.24 69 P P 07 21 55.6 +1.6
comp=N,11nm,0.3s,baz=280,slow=6.7,SNR=29
SJG S S 07 25 38.2 +7.1
comp=N,0.8nm,0.3s,baz=336,slow=19,SNR=3.9
SJG LR LR 07 28 48.7
comp=N,3µm,21.9s,baz=268,slow=34
SJG ScP 07 29 32.0
comp=N,1.5nm,0.3s,baz=337,slow=17,SNR=4.4
SJG **San Juan** 20.24 69 *e*P P 07 21 55.1 +1.1
comp=N,215nm,0.8s
HKT **Hockley** 20.52 335 *e*P P 07 21 56.8 +0.1
comp=N,436nm,1.7s
LRAL **Lakeview Retre** 21.45 358 *e*P P 07 22 08.5 +2.4
comp=N,297nm,0.9s,mb5.6
NATX **Nacogdoches** 21.69 340 *e*P P 07 22 09.8 +1.3
comp=N,242nm,0.8s,mb5.6
GOGA **Godfrey** 21.92 6 *e*P P 07 22 13.0 +2.3
comp=N,351nm,1.0s,mb5.7
HBF **Harts Bluff** 21.93 13 *e*P P 07 22 14.5 +3.6
HBF *e*pP 07 22 30.9
RGRS **Roger Stewart** 21.95 13 *e*P P 07 22 14.8 +3.5
CSU **Charleston Sou** 22.05 13 *e*P P 07 22 15.9 +3.8
CSU *e*pP 07 22 32.5
NHSC **New Hope** 22.14 13 *e*P P 07 22 15.7 +2.8
comp=N,605nm,1.0s,mb5.9
NHSC *e*pP 07 22 31.2
TWB **Tillmans-White** 22.17 13 *e*P P 07 22 16.1 +2.9
JCT **Junction City** 22.83 328 *e*P P 07 22 19.6 -0.1
comp=N,68nm,0.7s,mb5.1
OXF **Oxford** 23.11 353 *e*P P 07 22 23.1 +0.7
comp=N,595nm,1.0s,mb5.9
SWET **Sewanee** 23.60 0 *e*P P 07 22 28.9 +1.9
MET **Memphis--Engin** 23.78 352 *e*P P 07 22 28.6 -0.2
CPCT **Cooper Cave** 23.87 3 *e*P P 07 22 32.2 +2.6
UALR **University of** 23.88 347 *e*P P 07 22 30.1 +0.4
comp=N,179nm,0.8s,mb5.5
MIAR **Mount Ida** 23.96 344 *e*P P 07 22 30.9 +0.4
comp=N,120nm,0.8s,mb5.3
TPP **Pointe-a-Pierr** 24.10 90 *e*P P 07 22 31.8 -0.3
TRN **Trinidad (W)** 24.12 90 *e*P P 07 22 32.7 +0.4
BBL **Barber's Block** 24.14 78 *e*P P 07 22 36.5 +4.0
MDN **Morne-Daniel** 24.20 78 *e*P P 07 22 37.2 +4.2
TXAR **Lajitas Array** 24.22 320 P P 07 22 33.5 +0.4
comp=N,147nm,1.0s,mb5.3,baz=140,slow=8.2,SNR=287
TXAR PcP PcP 07 26 12.7 0.0
comp=N,9.7nm,0.8s,baz=145,slow=5.2,SNR=8.6
TXAR S S 07 26 51.6 +9.2
comp=N,0.7nm,0.7s,baz=96,slow=16,SNR=2.2
TXAR ScP 07 29 43.5
comp=N,4.6nm,0.7s,baz=149,slow=6.3,SNR=21
LTX **Lajitas** 24.22 320 *e*P P 07 22 33.5 +0.3
comp=N,226nm,1.2s,mb5.4
HBAR **Harrisburg** 24.32 351 *e*P P 07 22 34.4 +0.4
HALT **Halls** 24.49 353 *e*P P 07 22 35.8 +0.1
GNAR **Gosnell** 24.62 352 *e*P P 07 22 37.9 +0.9
GLAT **Glass** 24.84 354 *e*P P 07 22 39.4 +0.4
UTMT **University of** 24.86 354 *e*P P 07 22 39.0 -0.3
comp=N,341nm,0.8s,mb5.8
TZTN **Tazewell** 25.02 5 *e*P P 07 22 42.2 +1.4
NNA **Nana** 25.04 158 *e*P P 07 22 42.3 +1.2
comp=N,58nm,1.0s,mb5.0
NNA *es*P sP 07 23 13.3 +1.6
WMOK **Wichita Mounta** 25.90 335 *e*P P 07 22 48.2 -0.8
comp=N,163nm,0.9s,mb5.5
ELN **Prospectdale** 26.04 10 *e*P P 07 22 52.4 +2.1
FWV **Forest Hill** 26.37 9 *e*P P 07 22 54.7 +1.4
USIN **University of** 26.39 357 *e*P P 07 22 53.1 -0.4
comp=N,235nm,0.8s,mb5.7
WCI **Wyandotte Cave** 26.61 359 *e*P P 07 22 55.3 -0.2
comp=N,227nm,0.8s,mb5.8
FVM **French Village** 26.66 352 *e*P P 07 22 54.4 -1.6
comp=N,19nm,0.6s,mb4.8
CCM **Cathedral Cave** 26.86 351 *e*P P 07 22 56.8 -1.0
comp=N,109nm,0.8s,mb5.4
MNTX **Cornudas Mount** 26.92 321 *e*P P 07 22 57.1 -1.4
comp=N,26nm,0.8s,mb4.6
SLM **Saint Louis** 27.28 353 *e*P P 07 23 01.1 -0.6
comp=N,107nm,1.0s,mb5.3
AMTX **Amarillo** 27.31 331 *e*P P 07 23 00.4 -1.6
comp=N,45nm,0.7s,mb5.1
BLO **Bloomington** 27.55 359 *e*P P 07 23 03.9 -0.3
comp=N,227nm,0.8s,mb5.8
CBN **Corbin** 27.67 15 *e*P P 07 23 05.9 +0.7
comp=N,231nm,0.9s,mb5.7
BBSR **BB Station** 28.53 40 *e*P P 07 23 15.1 +2.1
comp=N,280nm,1.1s,mb5.8
MCWV **Mont Chateau** 28.56 10 *e*P P 07 23 13.9 +0.8
comp=N,169nm,0.9s,mb5.7
ACSO **Alum Creek Sta** 28.73 5 *e*P P 07 23 14.9 +0.3
comp=N,486nm,0.8s
SDMD **Soldier's Deli** 28.95 15 *e*P P 07 23 17.5 +0.9
KSU1 **Kansas State U** 29.07 343 *e*P P 07 23 16.1 -1.6
MVL **Millersville** 29.63 15 *e*P P 07 23 23.9 +1.3
ANMO **Albuquerque** 29.86 325 *i* P P 07 23 24.6 -0.2
ANMO **Albuquerque** 29.86 325 P P 07 23 24.6 -0.2
comp=N,13nm,0.8s,mb4.6,baz=138,slow=4.7,SNR=50
ANMO PcP PcP 07 26 25.8 -0.2
comp=N,22nm,1.3s,baz=208,slow=5.1,SNR=3.5
ANMO ScP 07 30 00.8
comp=N,5.4nm,0.9s,baz=166,slow=3.9,SNR=8.2
ANMO LR LR 07 37 05.1
comp=N,232nm,20.6s,slow=40
ANMO **Albuquerque** 29.86 325⇑ *e*P P 07 23 24.5 -0.3
comp=N,13nm,0.8s,mb4.6
ANMO *ep*P pP 07 23 46.8 +1.7
SSPA **Standing Stone** 29.88 12⇑ *i*P P 07 23 26.1 +1.2
comp=N,192nm,0.8s,mb5.8
ALLY **Alegheny Colle** 30.46 9 *e*P P 07 23 30.3 +0.3
AAM **Ann Arbor** 30.74 3 *e*P P 07 23 32.3 -0.2
AAM **Ann Arbor** 30.74 3 P P 07 23 32.3 -0.2
comp=N,89nm,0.7s,mb5.6
BRNJ **Basking Ridge** 30.75 17 *e*P P 07 23 34.1 +1.6
TUC **Tucson** 30.82 316 *e*P P 07 23 34.3 +1.0
comp=N,21nm,1.2s,mb4.8
ERPA **Erie** 30.94 9 *e*P P 07 23 34.6 +0.4
comp=N,588nm,0.9s
CPNY **Central Park** 31.03 18 *e*P P 07 23 36.6 +1.6
PAL **Palisades** 31.24 18 *e*P P 07 23 37.9 +1.0
comp=N,111nm,1.1s,mb5.5
ARE **Arequipa** 31.26 152 *e*P P 07 23 40.0 +2.7
SDCO **Great Sand Dun** 31.45 329 *e*P P 07 23 38.5 -0.2
comp=N,31nm,0.8s,mb5.1
JFWS **Jewell Farm** 31.51 354 *e*P P 07 23 38.2 -1.0
comp=N,212nm,0.9s,mb5.9
GENY **Geneseo** 31.94 11 *e*P P 07 23 43.7 +0.8
LPAZ **La Paz** 32.77 147 P P 07 23 51.0 +0.6
comp=N,6.7nm,0.6s,mb4.7,baz=332,slow=6.9,SNR=41
LPAZ PcP PcP 07 26 34.3 +0.5
comp=N,6.6nm,1.0s,baz=344,slow=3.9,SNR=3.9
LPAZ ScP 07 30 11.5
comp=N,2.6nm,0.9s,baz=34,slow=6.2,SNR=4.3
LPAZ LR LR 07 38 17.1
comp=N,424nm,20.0s,baz=184,slow=38
LPAZ **La Paz** 32.77 147⇑ *e*P P 07 23 51.1 +0.6
comp=N,12nm,0.9s,mb4.7
LPAZ *i* PcP PcP 07 26 35.0 +1.2
QUA2 **Belchertown** 32.88 19 *e*P P 07 23 52.4 +1.2
comp=N,78nm,1.0s,mb5.5
ISCO **Idaho Springs** 33.12 332 *e*P P 07 23 52.5 -0.7
comp=N,28nm,0.8s,mb5.1
WUAZ **Wupatki** 33.19 320 *e*P P 07 23 53.6 -0.3
comp=N,468nm,1.0s
WES **Weston** 33.31 20 *e*P P 07 23 54.1 -0.7
comp=N,67nm,1.0s,mb5.4
PV01 **Paradox Valley** 33.34 327 *e*P P 07 23 54.9 -0.2
HRV **Harvard--Oak R** 33.34 20 *e*P P 07 23 53.4 -1.7
comp=N,36nm,1.0s,mb5.2

ACCN **Adirondack Com** 33.50 16 *e*P P 07 23 57.1 +0.6
SADO **Sadowa** 33.66 9 P P 07 23 57.8 0.0
comp=N,301nm,0.9s,mb6.1,baz=209,slow=8.5,SNR=148
SADO ScP 07 30 11.3
comp=N,18nm,1.0s,baz=156,slow=4.5,SNR=5.6
SADO **Sadowa** 33.66 9 P P 07 23 57.8 0.0
SADO ScP 07 30 11.3
PV10 **Paradox Valley** 33.77 326 *e*P P 07 23 58.0 -0.8
NCB **Newcomb** 33.90 15 *e*P P 07 23 59.7 -0.1
comp=N,36nm,0.8s,mb5.3
FFD **Franklin Falls** 34.17 19 *e*P P 07 24 03.6 +1.3
comp=N,128nm,1.0s,mb5.7
MIV **Mineville/With** 34.18 16 *e*P P 07 24 02.1 -0.2
HNH **Hanover** 34.19 18 *e*P P 07 24 03.0 +0.6
comp=N,4.6nm,0.9s,mb4.3
PHWY **Pilot Hill** 34.26 333 *e*P P 07 24 02.2 -0.8
MSNY **Massena** 34.71 14 *e*P P 07 24 07.3 +0.6
SRU **San Rafael** 35.10 326 *e*P P 07 24 09.4 -0.8
LDFC **Landfair** 35.36 316 *e*P P 07 24 13.8 +1.4
PFO **Pinyon Flat Ob** 35.50 313 P P 07 24 15.0 +1.3
comp=N,131nm,1.2s,mb5.7,SNR=13
PFO **Pinyon Flat Ob** 35.50 313 *e*P P 07 24 15.5 +1.9
comp=N,31nm,1.1s,mb5.2
PFO *e*PcP PcP 07 26 41.3 -0.2
TMUT **Trail Mountain** 35.61 325 *e*P P 07 24 13.8 -0.8
MSU **Marysvale** 35.63 324 *e*P P 07 24 15.1 +0.4
MVU **Marysvale** 35.64 323 *e*P P 07 24 15.2 +0.4
comp=N,22nm,1.1s,mb5.0
WVL **Waterville** 35.80 20 *e*P P 07 24 17.3 +1.2
comp=N,282nm,1.2s,mb6.1
ARUT **Antelope Range** 35.91 321 *e*P P 07 24 17.8 +0.7
MPU **Maple Canyon** 36.35 326 *e*P P 07 24 20.8 +0.1
EYMN **Ely** 36.62 354 *e*P P 07 24 20.8 -2.1
comp=N,40nm,0.9s,mb5.3
JLU **Jordanelle** 36.66 327 *e*P P 07 24 23.4 0.0
TCUT **Toone Canyon** 37.00 327 *e*P P 07 24 26.4 +0.1
NOQ **North Oquirrh** 37.06 326 *e*P P 07 24 26.7 0.0
PDAR **Pinedale Array** 37.29 331 P P 07 24 27.9 -0.7
comp=N,8.0nm,0.7s,mb4.8,baz=127,slow=11,SNR=51
PDAR pP pP 07 24 48.5 -1.1
comp=N,9.0nm,1.0s,baz=135,slow=8.4,SNR=4.2
PDAR PcP PcP 07 26 45.8 -1.0
comp=N,1.3nm,0.5s,baz=141,slow=7.1,SNR=5.8
PDAR ScP 07 30 25.6
comp=N,11nm,1.1s,baz=131,slow=5.0,SNR=12
HWUT **Hardware Ranch** 37.44 328⇑ *i*P P 07 24 29.7 -0.1
comp=N,34nm,0.8s,mb5.3
HWUT *ep*P pP 07 24 47.5 -3.2
TRCR **Troy Canyon** 37.59 320 *e*P P 07 24 32.0 +0.9
SPUT **South Promonto** 37.69 327 *e*P P 07 24 32.0 0.0
BGU **Big Grassy Mou** 37.75 326 *e*P P 07 24 32.5 +0.1
LVC **Limon Verde** 37.80 154 P P 07 24 35.2 +2.1
comp=N,135nm,1.1s,mb5.7,baz=308,slow=6.6,SNR=95
LVC PcP PcP 07 26 49.1 +0.6
comp=N,4.3nm,0.7s,baz=336,slow=9.9,SNR=4.8
LVC ScP 07 30 30.1
comp=N,14nm,1.0s,baz=316,slow=4.9,SNR=12
LVC **Limon Verde** 37.80 154⇑ *e*P P 07 24 35.2 +2.1
comp=N,154nm,1.1s,mb5.8
AHID **Auburn Hatcher** 38.04 329 *e*P P 07 24 34.3 -0.5
comp=N,18nm,0.7s,mb5.0
HVU **Hansel Valley** 38.20 327 *e*P P 07 24 36.4 +0.2
SNOW **Snow King Moun** 38.39 331 *e*P P 07 24 37.8 +0.1
LOHW **Long Hollow** 38.43 331 *e*P P 07 24 37.0 -1.1
comp=N,16nm,0.8s,mb4.9
WUWY **Wally Ulrich** 38.44 331 *e*P P 07 24 38.4 +0.3
TPH **Tonopah** 38.46 319 *e*P P 07 24 38.9 +0.5
comp=N,11nm,0.9s,mb4.7
TPAW **Teton Pass** 38.51 330 *e*P P 07 24 38.4 -0.3
RRI2 **Red Ridge** 38.58 330 *e*P P 07 24 38.8 -0.5
MOOW **Moose Ponds** 38.60 331 *e*P P 07 24 38.9 -0.6
IMW **Indian Meadow** 38.80 331 *e*P P 07 24 40.7 -0.4
ELK **Elko** 38.88 324 *e*P P 07 24 42.3 +0.5
comp=N,15nm,0.8s,mb4.9
MTUM **Tungsten Hills** 38.94 317 P P 07 24 42.2 -0.1
LKWY **Lake** 39.06 332 *e*P P 07 24 44.2 +1.0
comp=N,33nm,1.3s,mb5.0
YFT **Old Faithful** 39.17 332 *e*P P 07 24 45.8 +1.6
MNV **Mina** 39.27 319 *e*P P 07 24 46.2 +1.2
comp=N,27nm,0.8s,mb5.1
MNV *e*PcP PcP 07 26 52.0 -1.0
MNV *e*ScP 07 30 33.3
NVAR **Mina Array Bea** 39.36 319 P P 07 24 47.2 +1.4
comp=N,19nm,0.6s,mb5.1,baz=122,slow=7.9,SNR=119
NVAR PcP PcP 07 26 53.6 +0.4
comp=N,14nm,0.7s,baz=164,slow=2.6,SNR=14
NVAR ScP 07 30 34.3
comp=N,5.0nm,0.9s,baz=123,slow=4.6,SNR=8.0
OMM **Old Mammoth Mi** 39.37 317 *e*P P 07 24 47.5 +1.6
OMM *e*PcP PcP 07 26 53.5 +0.2
YMR **Madison River** 39.40 332 *e*P P 07 24 46.6 +0.6
ULM **Lac du Bonnet** 39.48 350 P P 07 24 44.8 -1.9
comp=N,18nm,0.3s,mb5.3,baz=168,slow=8.8,SNR=40
ULM PcP PcP 07 26 51.8 -1.7
comp=N,9.8nm,0.8s,baz=209,slow=6.3,SNR=2.7
ULM ScP 07 30 31.6
comp=N,8.5nm,0.8s,baz=207,slow=4.4,SNR=7.6
ULM LR LR 07 42 32.2
comp=N,304nm,19.8s,baz=186,slow=38
ULM **Lac du Bonnet** 39.48 350⇑ *i*P P 07 24 44.6 -2.1
comp=N,25nm,0.4s,mb5.4
GCMT **Greyclift** 39.68 334 *e*P P 07 24 48.6 +0.1
QLMT **Earthquake Lak** 39.74 331 *e*P P 07 24 49.8 +0.9
BMN **Battle Mountai** 39.86 322 *e*P P 07 24 50.6 +0.7
BMN **Battle Mountai** 39.86 322⇑ *i*P P 07 24 50.6 +0.6
comp=N,44nm,1.1s,mb5.2
BMN *ep*P pP 07 25 11.2 +0.2
BMN *es*P sP 07 25 22.6 +1.2
DGMT **Dagmar** 39.87 341 *e*P P 07 24 49.3 -0.7
comp=N,126nm,0.8s,mb5.8
LRV **Little Rabbit** 40.15 314 *e*P P 07 24 49.8 -2.6
HLID **Hailey** 40.31 328 *e*P P 07 24 53.4 -0.2
comp=N,9.0nm,0.7s,mb4.7
MCMT **McKenzie Canyo** 40.41 330 *e*P P 07 24 55.1 +0.7
BOZ **Bozeman (W)** 40.45 332 *e*P P 07 24 54.5 -0.2
comp=N,20nm,0.8s,mb5.0
CMB **Columbia Colle** 40.53 317 *e*P P 07 24 55.3 -0.1
comp=N,26nm,1.4s,mb4.9
WCN **Washoe City** 40.79 319 *e*P P 07 24 58.7 +1.1
comp=N,44nm,1.6s,mb5.0
HRY **Holter Researc** 41.35 333 *e*P P 07 25 01.6 -0.5
WVOR **Wild Horse Val** 41.92 323 *e*P P 07 25 06.6 -0.3
comp=N,25nm,0.6s,mb5.1
OHCM **Honcut** 41.94 318 *e*P P 07 25 07.7 +0.6
CHMT **Chamberlain Mo** 42.14 332 *e*P P 07 25 08.3 -0.3
NSHM **Saint Helena R** 42.28 316 *e*P P 07 25 10.5 +0.6
MSO **Missoula** 42.40 331 *e*P P 07 25 09.9 -0.9
comp=N,22nm,1.1s,mb4.8
MOD **Modoc** 42.60 322 *e*P P 07 25 10.9 -1.6
comp=N,13nm,1.1s,mb4.6
MOD *ep*P pP 07 25 30.3 -3.3
BMO **Blue Mountains** 42.71 327 *e*P P 07 25 11.3 -2.0
comp=N,15nm,0.9s,mb4.7
LTIM **Timbered Crate** 42.93 320 P P 07 25 15.1 -0.1
YBH **Yreka Blue Hor** 44.00 320 *e*P P 07 25 21.9 -1.9
comp=N,16nm,1.2s,mb4.6
BUOR **Burton Butte** 44.01 321 P P 07 25 23.7 -0.2
WALA **Waterton Lakes** 44.04 334 *e*P P 07 25 22.9 -1.2
comp=N,41nm,1.3s,mb5.0
KHMM **Horse Mountain** 44.21 318 *e*P P 07 25 25.1 -0.4
BBOR **Butler Butte** 44.61 321 P P 07 25 27.5 -1.2
HUMO **Hull Mountain** 44.63 321 *e*P P 07 25 26.5 -2.4
comp=N,4.6nm,0.6s,mb4.4
HBO **Huckleberry Mo** 44.93 323 P P 07 25 30.8 -0.5
FFC **Flin Flon** 44.93 347 P P 07 25 30.1 -1.0
comp=N,167nm,0.5s,mb6.0,SNR=27
FFC **Flin Flon** 44.93 347 *e*P P 07 25 29.6 -1.5
comp=N,16nm,0.6s,mb4.9
MXC **Moxie City** 45.42 327 P P 07 25 35.2 +0.1
EPH **Ephrata** 45.55 328 P P 07 25 36.4 +0.3
SCHQ **Schefferville** 45.78 15 P P 07 25 37.2 -0.6
comp=N,88nm,0.6s,mb5.7,baz=215,slow=6.2,SNR=493
SCHQ ScP 07 30 58.4
comp=N,4.9nm,0.9s,baz=192,slow=2.8,SNR=3.5
SCHQ LR LR 07 45 30.9
comp=N,771nm,18.6s,baz=194,slow=37
SCHQ **Schefferville** 45.78 15⇑ *i*P P 07 25 37.1 -0.7
comp=N,104nm,0.6s,mb5.7
BDFB **Brasilia** 46.25 125 P P 07 25 40.7 -1.4
comp=N,33nm,0.6s,mb5.2,baz=297,slow=8.9,SNR=71
BDFB ScP 07 31 02.0
comp=N,4.8nm,0.8s,baz=202,slow=0.6,SNR=5.3
BDFB LR LR 07 45 16.2
comp=N,993nm,21.8s,baz=311,slow=36
BAO **Brasilia Array** 46.27 125 P P 07 25 39.6 -2.6

CLCH **Cerro Calan** 47.01 162⇑ *e*P P 07 25 48.2 +0.3
EDM **Edmonton** 47.02 338 *e*P P 07 25 45.5 -2.1
FCH **Farellones** 47.02 162⇑ *e*P P 07 25 49.2 +1.3
PGC **Sidney** 48.38 327 *e*P P 07 25 56.6 -1.7
comp=N,15nm,0.6s,mb5.0
PLCA **Paso Flores** 53.90 166 P P 07 26 39.8 -0.3
comp=N,82nm,1.0s,mb5.7,baz=339,slow=8.6,SNR=57
PLCA LR LR 07 44 44.9
comp=N,266nm,20.2s,baz=119,slow=30
PLCA **Paso Flores** 53.90 166⇑ *e*P P 07 26 39.6 -0.5
comp=N,107nm,1.1s,mb5.8
PLCA *ep*P pP 07 27 00.5 -1.4
TRQA **Tornquist** 54.18 157 *e*P P 07 26 40.8 -1.4
comp=N,34nm,0.9s,mb5.4
CAM4 **Nova Friburgo** 54.25 128⇓ *i*P P 07 26 40.8 -2.0
CAM4 *i* 07 26 43.4
CAM4 *i* pP 07 27 05.1 +0.4
CAM4 *i* 07 27 22.8
YKA **Yellowknife Ar** 54.90 344 P P 07 26 44.6 -2.5
comp=N,8.4nm,0.6s,mb5.0,baz=142,slow=7.2,SNR=155
YKA ScP 07 31 36.8
comp=N,1.7nm,0.7s,baz=141,slow=4.4,SNR=8.1
YKA LR LR 07 54 17.6
comp=N,385nm,21.1s,baz=130,slow=40
YKA PKPPKP 07 56 58.3
comp=N,0.2nm,0.8s,baz=335,slow=2.5,SNR=4.3
YKW3 **Yellowknife Ar** 54.96 344 *e*P P 07 26 44.8 -2.7
DLBC **Dease Lake** 57.38 334 *e*P P 07 27 03.5 -1.3
TAOE **Nuku Hiva Isla** 57.55 252 *e*S S 07 34 51.9 -3.7
TAOE *e*LR LR 07 43 33.5
COYC **Coyhaique** 58.18 169 *e*P P 07 27 10.2 -0.3
RKT **Rikitea** 59.03 234 *e*P P 07 27 16.1 -0.7
comp=N,162nm,1.0s,mb6.0
RKT **Rikitea** 59.03 234 *e*S S 07 35 14.3 -0.4
RKT *e*LR LR 07 44 49.8
comp=N,1µm,31.5s,baz=52
SFJD **Kangerlussuaq** 60.23 15 *i*P P 07 27 22.5 -1.9
comp=N,37nm,0.9s,mb5.4
RES **Resolute Bay** 63.36 357 *e*P P 07 27 42.6 -2.8
comp=N,43nm,1.3s,mb5.2
DAWY **Dawson** 64.22 337 *e*P P 07 27 48.2 -2.8
INK **Inuvik** 64.54 342 *e*P P 07 27 50.2 -2.8
comp=N,22nm,1.1s,mb4.9
MENT **Mentasta** 65.45 335 *e*P P 07 27 57.0 -2.0
PMOR **Pomariorio Ree** 66.75 248 *e*P P 07 28 07.4 -0.6
comp=N,61nm,1.1s,mb5.4
SUMG **Summit** 67.14 14 *e*P P 07 28 07.6 -1.9
comp=N,91nm,1.0s,mb5.6
ILAR **Eielson Array** 67.46 336 P P 07 28 09.5 -2.1
comp=N,10.0nm,0.7s,mb4.8,baz=127,slow=4.0,SNR=167
ILAR pP pP 07 28 32.8 -1.6
comp=N,2.8nm,0.8s,baz=149,slow=5.1,SNR=2.1
ILAR PP PP 07 30 38.8 -4.4
comp=N,2.2nm,0.9s,baz=108,slow=6.2,SNR=4.3
ILAR LR LR 08 00 01.5
comp=N,373nm,18.7s,baz=130,slow=38
USHA **Ushuaia** 67.72 169 P P 07 28 13.1 -0.3
comp=N,22nm,0.9s,mb5.0,baz=0.5,slow=2.0,SNR=6.6
COLA **College** 67.89 336 *e*P P 07 28 12.2 -2.0
MEH **Mehetia** 67.89 245 *e*P P 07 28 15.2 +0.1
comp=N,57nm,1.0s,mb5.3
TIAR **Tiarei** 68.93 246 *e*P P 07 28 21.5 0.0
comp=N,171nm,0.9s,mb5.9
PPT **Papeete** 69.14 246 *e*S S 07 37 17.3 -2.6
PPT *e*LR LR 07 48 59.6
comp=N,3µm,31.5s,baz=67
PAE **Paea** 69.17 246 *e*P P 07 28 23.1 +0.1
comp=N,145nm,1.0s,mb5.8
SVW2 **Sparrevohn** 70.18 331 *e*P P 07 28 26.1 -2.3
IMA **Indian Mountai** 70.57 336 *e*P P 07 28 28.8 -1.9
TBI **Tubuai** 71.10 240 *e*S S 07 37 42.7 +0.1
TBI *e*LR LR 07 50 09.5
comp=N,2µm,31.0s,baz=50
PTEO **Sao Teotonio** 73.00 54 *e*P P 07 28 45.1 -0.5
comp=N,93nm,1.4s,mb5.4
EVO **Evora** 73.54 53 *e*P P 07 28 46.5 -2.2
comp=N,37nm,1.0s,mb4.8
EVO *e*R
comp=N,1µm,22.5s
PVIS **Viseu** 73.57 51 *e*P P 07 28 48.4 -0.5
comp=N,32nm,1.2s,mb4.9
PBEJ **Beja** 73.67 54 *e*P P 07 28 49.1 -0.4
comp=N,8.4nm,1.1s,mb4.4
DAG **Danmarks Havn** 73.74 13⇑ *i*P P 07 28 46.8 -2.4
DAG pmax pmax
comp=Z,14nm,0.7s,mb4.8
DAG **Danmarks Havn** 73.74 13⇑ *i*P P 07 28 46.8 -2.4
comp=Z,14nm,0.7s,mb4.8
MTE **Manteigas** 73.85 51 *e*P P 07 28 50.2 -0.3
comp=Z,31nm,1.0s,mb5.0
PALC **Alcoutim** 74.00 54 *e*P P 07 28 51.1 -0.4
comp=Z,74nm,1.6s,mb5.4
DCN **Croghan** 74.11 38 *e*P P 07 28 50.5 -1.3
DCN **Croghan** 74.11 38 *e*P P 07 28 53.9 +2.1
DCN **Croghan** 74.11 38 *e*P pP 07 29 14.4 -0.6
DMUB **Kingscourt** 74.34 37 *e*P P 07 28 55.2 +2.1
PBRG **Braganca** 74.42 50 *e*P P 07 28 54.0 +0.2
comp=Z,22nm,1.6s,mb4.6
ESK **Eskdalemuir** 76.51 36 *e*P P 07 29 03.9 -1.6
comp=Z,17nm,0.8s,mb4.8
ESDC **Sonseca Array** 76.63 52 P P 07 29 04.9 -1.5
comp=Z,5.5nm,0.5s,mb4.5,baz=284,slow=5.6,SNR=25
ESDC pP pP 07 29 28.0 -1.7
comp=Z,8.8nm,0.9s,baz=285,slow=5.5,SNR=3.9
ESLA **Sonseca Array** 76.63 52 *e*P P 07 29 05.1 -1.4
comp=Z,5.7nm,1.0s,mb4.3
ROSF **Rostrenen** 76.66 43 *e*P P 07 29 04.5 -1.9
comp=Z,27nm,0.9s,mb4.7
QUIF **Quistinic** 76.75 43 *e*P P 07 29 05.8 -1.1
comp=Z,47nm,1.0s,mb4.9
SGMF **Saint Gilles** 77.14 43 *e*P P 07 29 07.1 -2.0
comp=Z,15nm,0.7s,mb4.5
GRR **Gorron** 78.26 43 *e*P P 07 29 13.7 -1.5
comp=Z,36nm,0.7s,mb4.9
SJPF **Ste Jean** 78.42 48 *e*P P 07 29 14.8 -1.4
comp=Z,107nm,1.3s,mb5.1
FLN **La Foliniere** 78.48 42 *e*P P 07 29 15.0 -1.4
comp=Z,13nm,0.5s,mb4.6
FLN *e*R
comp=Z,450nm,20.2s
LDF **La Druitiere** 78.73 42 *e*P P 07 29 16.2 -1.6
comp=Z,35nm,1.0s,mb4.8
MFF **Saint Martin d** 78.88 44 *e*P P 07 29 16.9 -1.8
comp=Z,52nm,1.1s,mb5.0
ETSF **Etsaut** 78.92 48 *e*P P 07 29 17.5 -1.5
RAR **Rarotonga** 79.41 246 LR LR 07 54 26.8
comp=Z,2µm,20.0s,baz=96,slow=28
EPF **Esparros** 79.57 48 *e*P P 07 29 20.9 -1.6
comp=Z,6.0nm,0.5s,mb4.4
LFF **La Frestale** 79.66 46 *e*P P 07 29 21.3 -1.6
DBIC **Dimbokro** 80.02 85 P P 07 29 23.8 -1.7
comp=Z,11nm,0.8s,mb4.7,baz=277,slow=4.3,SNR=10
DBIC LR LR 08 01 52.9
comp=Z,183nm,18.4s,baz=258,slow=33
DBIC **Dimbokro** 80.02 85 *e*P P 07 29 23.2 -2.3
comp=Z,22nm,1.1s,mb4.9
RJF **Les Rejaudoux** 80.17 46 *e*P P 07 29 24.1 -1.5
RJF *e*R
comp=Z,998nm,21.0s
TCF **Toulx Ste Croi** 80.54 45 *e*P P 07 29 25.8 -1.8
comp=Z,24nm,1.0s,mb4.7
CAF **Calviac** 80.59 46 *e*P P 07 29 26.3 -1.6
comp=Z,26nm,1.1s,mb4.7
MTLF **Montolieu** 80.90 48 *e*P P 07 29 27.6 -2.0
comp=Z,34nm,1.0s,mb4.8
BGF **Bois d'Agland** 80.94 44 *e*P P 07 29 28.1 -1.6
comp=Z,14nm,0.6s,mb4.6
AVF **Avril sur Loir** 81.26 44 *e*P P 07 29 29.6 -1.8
comp=Z,14nm,1.0s,mb4.5
SSF **Saint Saulge** 81.33 44 *e*P P 07 29 29.9 -1.8
comp=Z,17nm,1.1s,mb4.5
BAIF **Baives** 81.39 41 *e*P P 07 29 30.6 -1.4
SMF **Signal de Mont** 81.61 44 *e*P P 07 29 31.3 -1.9
comp=Z,13nm,1.0s,mb4.4
GIVF **Givet** 81.78 41 *e*P P 07 29 32.6 -1.4
VIVF **Saint-Julien-l** 82.44 46 *e*P P 07 29 35.5 -2.0
HAU **Haudompre** 83.09 43 *e*P P 07 29 39.0 -1.8
comp=Z,8.9nm,0.5s,mb4.5
HAU *e*R
comp=Z,731nm,20.2s
ORIF **Oris-en-Rattie** 83.28 46 *e*P P 07 29 40.3 -1.5
comp=Z,57nm,1.5s,mb4.9
ORIF *e*R
comp=Z,561nm,22.8s
HINF **Hinteralfeld** 83.46 43 *e*P P 07 29 40.9 -1.7
comp=Z,9.0nm,0.7s,mb4.4
NB2 **NORSAR Subarra** 83.48 29 P P 07 29 41.2 -1.3

comp=Z,2.2nm,0.8s,mb4.0,baz=281,slow=5.0
NOA NORSAR Array B 83.48 29 P **P 07 29 41.2 -1.2**
comp=Z,5.0nm,0.9s,mb4.3,baz=282,slow=5.2,SNR=7.4
NOA pP pP 07 30 04.2 -1.8
comp=Z,4.3nm,0.9s,baz=284,slow=5.1,SNR=3.5
NOA LR LR 08 02 09.9
comp=Z,361nm,21.1s,baz=280,slow=32
NOA NORSAR Array B 83.48 29 P **P 07 29 41.2 -1.2**
NOA pP pP 07 30 04.2 -1.8
NOA LR LR 08 02 09.9
CDF Champ du Feu 83.64 42 *e*P **P 07 29 41.0 -2.5**
LPL La Plagne 83.77 45 *e*P **P 07 29 43.0 -1.3**
comp=Z,8.3nm,0.7s,mb4.3
LPG La Plagne 83.79 45 *e*P **P 07 29 42.8 -1.5**
BILL Bilibino 85.92 339 *i* P **P 07 29 52.7 -1.7**
BILL pmax pmax
comp=Z,21nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,3μm,22.0s
GRA1 Grafenberg Arr 85.92 40 *e*P **P 07 29 53.9 -0.9**
comp=Z,18nm,1.3s,mb4.8
GRA1 *e*pP pP 07 30 17.5 -1.1
GRA1 *e*S S 07 40 19.4 0.0
GRA1 LR LR
comp=Z,700nm,21.7s
GRF Grafenberg Arr 85.92 40 *e*P **P 07 29 53.9 -0.9**
comp=Z,18nm,1.3s,mb4.8
GRF *e*pP pP 07 30 17.5 -1.1
GRF *e*S S 07 40 19.4 0.0
GRF LR LR
comp=Z,700nm,21.7s
MOX Moxa 85.96 39 *e*P **P 07 29 52.0 -3.0**
MOX pP pP 07 30 18.0 -0.7
MOX S S 07 40 11.0 -8.7
MOX L 08 03 26.0
NKC Novy Kostel 86.57 40 *e*P **P 07 29 56.9 -1.1**
NKC *e*pP pP 07 30 19.9 -1.9
ARCES ARCESS Array B 86.60 19 P **P 07 29 57.0 -0.7**
comp=Z,3.3nm,0.9s,mb4.3,baz=281,slow=5.0,SNR=14
ARCES PKKPbc 07 47 51.2
comp=Z,2.7nm,0.8s,baz=101,slow=3.6,SNR=4.8
ARCES LR LR 08 05 35.2
comp=Z,373nm,21.9s,baz=310,slow=34
ARCES ARCESS Array B 86.60 19 P **P 07 29 57.0 -0.7**
ARCES PKKPbc 07 47 51.2
ARCES LR LR 08 05 35.2
CLL Collm 86.65 38 *i* P **P 07 29 56.4 -1.9**
CLL pmax pmax
comp=Z,12nm,1.3s,mb4.7
CLL Collm 86.65 38 *i* P **P 07 29 56.4 -1.9**
comp=Z,12nm,1.3s,mb4.7
CLL *i* 07 30 00.0
CLL Collm 86.65 38 P **P 07 29 56.4 -1.9**
comp=Z,logA/T=1.0,mb4.7
CLL *i* 07 30 00.0
CLL *e**SP sP 07 30 22.0 -10
WET Wettzell 87.11 41 *e*P **P 07 29 59.2 -1.4**
WET pmax pmax
comp=Z,14nm,1.2s,mb4.8
WET Wettzell 87.11 41 *e*P **P 07 29 59.2 -1.4**
comp=Z,14nm,1.2s,mb4.8
BRG Berggiesshubel 87.34 39 *e*P **P 07 30 01.6 -0.1**
BRG *e* pP 07 30 26.0 +0.5
BRG *e* 07 33 27.7
BRG pmax pmax
comp=Z,12nm,1.4s,mb4.6
BRG Berggiesshubel 87.34 39 *e*P **P 07 30 01.6 -0.1**
comp=Z,12nm,1.4s,mb4.6
BRG *e* pP 07 30 26.0 +0.5
BRG *e* 07 33 27.7
KHC Kasperske Hory 87.55 40 *e*P **P 07 30 02.2 -0.6**
KHC *e*pP pP 07 30 24.6 -2.0
GERES GERESS Array B 87.70 41 P **P 07 30 03.7 +0.2**
comp=Z,1.0nm,0.5s,mb4.2,baz=288,slow=4.2,SNR=5.8
PVCC Panska Ves 87.81 39 *e*P **P 07 30 04.3 +0.3**
PVCC *e*pP pP 07 30 27.0 -0.8
DPC Dobruska-Polom 88.94 39 *e*P **P 07 30 07.2 -2.1**
DPC *e*pP pP 07 30 31.9 -1.3
FINES FINESS Array B 90.17 26 P **P 07 30 14.2 -0.6**
comp=Z,1.5nm,0.7s,mb4.2,baz=333,slow=4.3,SNR=7.6
FINES pP pP 07 30 35.4 -3.4
comp=Z,0.7nm,0.8s,baz=203,slow=39,SNR=2.5
FINES PP PP 07 33 50.3 -1.2
comp=Z,4.2nm,0.8s,baz=333,slow=8.5,SNR=7.7
FINES PKKPbc 07 47 44.1
comp=Z,1.9nm,0.9s,baz=117,slow=4.3,SNR=5.4
FINES LR LR 08 06 49.3
comp=Z,452nm,20.8s,baz=222,slow=33
FINES FINESS Array B 90.17 26 P **P 07 30 14.2 -0.6**
FINES pP pP 07 30 35.4 -3.4
FINES PP PP 07 33 50.3 -1.2
FINES PKKPbc 07 47 44.1
FINES LR LR 08 06 49.3
TIXI Tiksi 93.83 350 *e*P **P 07 30 30.0 -1.5**
TIXI *e* 07 34 19.7
TIXI *e*SS SS 07 47 51.5 -3.7
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,199nm,20.0s
MA2 Magadan 95.91 335 P **P 07 30 40.5 -0.7**
MA2 pmax pmax
comp=Z,3.0nm,1.0s,mb4.7
VNA3 Neumayer Olymp 96.46 162 ⇑*i*P **P 07 30 42.7 -0.7**
VNA3 *e* pP 07 31 11.3 +3.8
VNA2 Neumayer--Watz 97.09 161 ⇑*i*P **P 07 30 47.5 +1.2**
VNA2 *e* pP 07 31 14.1 +3.7
OBN Obninsk 98.08 29 P **P 07 30 53.0 +1.9**
OBN *e* 07 34 53.1
OBN *e* 07 41 12.7
OBN PS PS 07 43 52.0 +4.6
OBN MLR MLR
comp=Z,300nm,17.0s
SYO Syowa Base 112.97 161 ⇓X 07 35 13.8
MDJ Mudanjiang 115.52 333 PKP PKPdf 07 35 55.5 +0.1
MATP Matopo 116.71 107 PKP PKPdf 07 35 57.9 -0.3
comp=Z,2.0nm,0.7s,baz=106,slow=4.4,SNR=5.4
MATP SKP 07 39 27.1
comp=Z,1.2nm,0.7s,baz=307,slow=20,SNR=3.8
MATP Matopo 116.71 107 PKP PKPdf 07 35 57.9 -0.3
MATP SKP 07 39 27.1
CN2 Changchun 117.97 335 *e*PKP PKPdf 07 35 57.1 -2.9
CN2 *ex*PKP 07 36 29.4
CN2 *e*PP PP 07 37 17.0 -3.4
CN2 *e*SS SS 07 53 17.7 -5.4
CN2 LR LR
comp=N,700nm,21.0s
CN2 LR LR
comp=E,400nm,21.0s
CN2 LR LR
comp=Z,800nm,22.0s
ULN Ulaanbaatar 119.77 350 *i* PKIKP PKPdf 07 36 03.0 -0.5
SONM Songino Array 119.91 350 PKP PKPdf 07 36 03.5 -0.2
comp=Z,1.2nm,0.5s,baz=314,slow=1.2,SNR=13
SONM PP PP 07 37 30.1 -2.8
comp=Z,1.9nm,1.1s,baz=359,slow=5.3,SNR=5.1
SONM SKP 07 39 33.2
comp=Z,1.3nm,0.7s,baz=328,slow=1.6,SNR=7.0
SONM PKKPbc 07 46 13.9
comp=Z,1.8nm,0.6s,baz=162,slow=3.9,SNR=15
AAK Ala-Archa 123.22 17 *i* PKIKP PKPdf 07 36 10.0 -0.3
WMQ Urumqi 124.64 6 *e*PKP PKPdf 07 36 15.0 +2.0
WMQ *e*PP PP 07 38 08.0 +2.6
WMQ PKS PKS 07 39 50.0 +1.2
WMQ SKS SKS 07 43 15.0 +8.1
WMQ PP PP
comp=Z,290nm,4.7s
WMQ LR LR
comp=N,948nm,28.6s
WMQ LR LR
comp=E,722nm,28.7s
WMQ LR LR
comp=Z,1μm,26.8s
CNB Canberra Magne 124.75 235 *e*PKP PKPdf 07 36 15.0 +1.5
comp=Z,135nm,0.8s
HHC Hu-ho-hao-te 125.44 344 *e*PKP PKPdf 07 36 15.6 +0.9
HHC PP PP 07 38 12.4 +1.6
HHC PKS PKS 07 39 49.9 -0.5
HHC SKS SKS 07 43 15.1 +5.8
HHC SKKS 07 44 56.6
HHC SS SS 07 54 59.1 +0.3
HHC LR LR
comp=N,154nm,30.3s
HHC LR LR
comp=E,505nm,25.0s
HHC LR LR
comp=Z,260nm,36.3s
TOO Toolangi 127.27 231 *e*P PKPdf 07 36 20.2 +1.9
comp=Z,0.6nm,0.8s
GTA Gaotai 129.06 354 *e*PKP PKPdf 07 36 22.1 +0.4
GTA PP PP 07 38 36.9 +1.8
GTA PKS PKS 07 39 57.2 0.0
GTA SKS SKS 07 43 22.1 +2.5
GTA SKKS 07 45 16.6
GTA SS SS 07 55 46.2 +2.0
GTA PP PP
comp=Z,143nm,6.5s
GTA LR LR
comp=N,229nm,21.7s
GTA LR LR
comp=E,211nm,22.8s
GTA LR LR
comp=Z,350nm,20.9s
CTA Charters Tower 129.20 253 *e*PKP PKPdf 07 36 23.8 +1.4
comp=Z,15nm,1.0s
CTA *e*SKP 07 39 38.6
CTA Charters Tower 129.20 253 PKP PKPdf 07 36 22.9 +0.5
comp=Z,20nm,1.0s,baz=139,slow=1.1,SNR=8.4
CTA SKPbc 07 39 39.5
comp=Z,46nm,0.9s,baz=72,slow=3.7,SNR=24
JOW Kunigami 129.42 319 SKPbc 07 39 39.1
comp=Z,14nm,0.8s,baz=111,slow=29,SNR=4.9
SSE Sheshan 130.26 329 PKP PKPdf 07 36 22.1 -2.1
SSE PP PP 07 38 39.6 -3.2
SSE SS SS 07 55 53.6 -5.3
SSE PP PP
comp=Z,14nm,6.7s
SSE LR LR
comp=N,155nm,36.0s
SSE LR LR
comp=E,163nm,37.0s
SSE LR LR
comp=Z,84nm,26.9s
NJ2 Nanjing 130.60 332 *e*PKP PKPdf 07 36 22.9 -1.9
NJ2 PP PP 07 38 41.0 -4.1
NJ2 PKS PKS 07 39 58.0 -2.2
NJ2 SKS SKS 07 43 25.0 +1.1
NJ2 PP PP
comp=Z,170nm,11.7s
NJ2 LR LR
comp=N,660nm,31.5s
NJ2 LR LR
comp=E,1μm,33.3s
NJ2 LR LR
comp=Z,500nm,32.5s
STKA Stephens Creek 131.83 237 *e*PKP PKPdf 07 36 28.2 +1.1
comp=Z,14nm,0.7s
STKA *ep*PKP 07 36 53.3
STKA *e* 07 39 46.9
STKA Stephens Creek 131.83 237 PKP PKPdf 07 36 28.6 +1.5
comp=Z,15nm,0.7s,baz=68,slow=2.2,SNR=26
STKA SKPbc 07 39 47.3
comp=Z,12nm,0.9s,baz=84,slow=4.1,SNR=17
ENH Enshi 135.88 341 *e*PKPdf PKPdf 07 36 34.2 -0.5
KOLN Koldanda 139.67 14 *e*P PKPdf 07 36 41.5 -0.2
comp=Z,27nm,1.2s
GKN Gorkha 139.68 13 *e*P PKPdf 07 36 41.7 0.0
comp=Z,14nm,0.7s
GUN Gumba 140.03 11 *e*P PKPdf 07 36 42.8 +0.5
ASAR Alice Springs 140.25 247 PKhKP 07 36 36.6
comp=Z,2.9nm,0.4s,baz=116,slow=3.6,SNR=36
ASAR PKP PKPdf 07 36 44.4 +1.5
comp=Z,25nm,0.8s,baz=100,slow=2.4,SNR=74
ASAR SKPbc 07 40 12.9
comp=Z,20nm,1.1s,baz=107,slow=2.9,SNR=28
ASPA Alice Springs 140.25 247 *e*PKP PKPdf 07 36 36.8 -6.0
ASPA *e*SKP 07 40 12.6
PKI Pulchoki 140.26 12 *e*P PKPdf 07 36 42.4 -0.4
comp=Z,19nm,0.9s
GYA Guiyang 140.31 342 PKP PKPdf 07 36 37.1 -5.8
GYA XPKP 07 37 07.2
GYA PKS PKS 07 40 11.8 -6.0
GYA PP PP
comp=Z,160nm,9.2s
GYA LR LR
comp=N,240nm,20.4s
GYA LR LR
comp=E,310nm,22.6s
GYA LR LR
comp=Z,280nm,25.0s
JIRN Jiri 140.33 11 *e*P PKPdf 07 36 42.9 0.0
comp=Z,9.4nm,0.7s
WB2 Warramunga Arr 140.38 253 *e*PKP PKPdf 07 36 37.2 -5.9
WB2 *e*SKP 07 40 13.6
WRAB Tennant Creek 140.38 253 *e*PKPpre 07 36 37.9
WRAB *e*PKPdf PKPdf 07 36 44.6 +1.4
WRA Warramunga Arr 140.39 253 *e*PKHKP 07 36 38.2
WRA Warramunga Arr 140.39 253 PKHKP 07 36 38.2
comp=Z,7.3nm,0.6s,baz=93,slow=2.7,SNR=51
WRA PKP PKPdf 07 36 45.3 +2.2
comp=Z,38nm,0.9s,baz=92,slow=2.7,SNR=54
WRA SKPbc 07 40 13.8
comp=Z,6.2nm,0.7s,baz=94,slow=2.4,SNR=18
KAKA Kakadu 142.45 264 *e*PKP PKPdf 07 36 46.0 -1.0
comp=Z,40nm,0.9s
KAKA *e*SKP 07 40 17.3
KMI Kunming 142.62 347 PKP PKPdf 07 36 46.9 -0.1
KMI PP PP 07 40 01.9 +2.9
KMI SKKS 07 46 41.2
KMI PP PP
comp=Z,26nm,24.3s
KMI LR LR
comp=Z,274nm,37.9s
KMI Kunming 142.62 347 *e*PKIKP PKPdf 07 36 46.9 -0.1
FORT Forrest 143.14 233 *e*PKP PKPdf 07 36 46.7 -1.0
comp=Z,1μm,0.7s
FORT *e*SKP 07 40 20.0
QIZ Qiongzhong 145.89 333 PKP PKPdf 07 36 54.4 +1.6
QIZ Qiongzhong 145.89 333 *e*PKPdf PKPdf 07 36 54.2 +1.4
HYB Hyderabad 147.44 28 *e*P PKPdf 07 36 55.5 +0.1
HYB *e* 07 37 14.0
HYB Hyderabad 147.44 28 *i* PKP PKPdf 07 36 55.5 +0.1
HYB *e* 07 37 14.0
FITZ Fitzroy Crossi 148.78 254 *e*PKP PKPdf 07 36 59.2 +1.7
comp=Z,49nm,1.0s
CHG Chiang Mai 149.49 351 P PKPdf 07 37 03.2 +4.5
CMAR Chiang Mai Arr 149.83 351 *e*PKHKP 07 37 00.7
CMAR Chiang Mai Arr 149.83 351 PKP PKPdf 07 37 00.7 +1.4
comp=Z,11nm,1.0s,baz=315,slow=2.6,SNR=10
CMAR PKPbc PKPdf 07 37 04.6 +5.4
comp=Z,14nm,1.0s,baz=335,slow=3.1,SNR=19
CMAR SKPbc 07 40 34.0
comp=Z,1.1nm,0.3s,baz=333,slow=3.2,SNR=5.5
NWAO Narrogin (SRO) 149.87 221 *e*PKPdf PKPdf 07 37 00.5 +1.6
NWAO *e*PKPbc PKPdf 07 37 05.0 +6.1
KLBR Kellerberrin 150.35 224 *e*PKP PKPdf 07 37 06.0 +6.3
comp=Z,622nm,0.8s
KLBR *ep*PKP 07 37 30.3
KKTK Khon Kaen 151.00 342 P PKPdf 07 37 08.0 +7.0
comp=Z,494nm,1.0s
BDT Bhumibol Dam 151.01 350 P PKPdf 07 37 07.0 +6.0
MUN Mundaring 151.14 222 *e*PKP PKPdf 07 37 02.3 +1.4
comp=Z,86nm,0.9s
MUN *ep*PKP 07 37 32.7
MBWA Marble Bar 153.57 245 *e*PKPdf PKPdf 07 37 06.2 +1.6
MBWA *e*PKPbc PKPdf 07 37 13.4 +8.8

IDC 07 07:34:52.6±2.2, 7.18S×158.23E, mb3.8/4, mb1 4.1/4, mb1mx3.9/12, mbtmp3.8/4, Error ellipse: s-maj=145.3km s-min=26.9km az=134.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.41**	**239**	P	P	07 40 31.8	-1.1
	0.8nm,0.4s,baz=65,slow=9.1,SNR=10.0						
ASAR	**Alice Springs**	**28.53**	**232**	P	P	07 40 49.5	-2.6
	0.5nm,0.5s,baz=61,slow=9.9,SNR=2.6						
ILAR	**Eielson Array**	**82.39**	**21**	P	P	07 47 16.3	-1.3
	2.6nm,1.3s,baz=246,slow=4.8,SNR=5.2						
YKA	**Yellowknife Ar**	**95.00**	**28**	P	P	07 48 16.6	-1.4
	0.2nm,0.7s,baz=261,slow=4.1,SNR=3.7						

MOS ***07*** *07:44:55.2±1.7, 51.72N×101.29E, h9km, mb4.3/1, Error ellipse: s-maj=16.7km s-min=11.9km az=152.2*
BYKL 07 07:44:55.2±0.3, 51.67N×101.25E, h6km±6km, 7C-6D,

Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**0.16**	**269**	*e*PG	Pg	07 44 59.0	+0.4
MOY				*e*		07 45 02.1	
MOY				pmax	pmax		
	comp=Z,3μm,0.2s						
MOY				smax			
	comp=N,10μm,0.2s						
MOY	**Mondy**	**0.16**	**269**	⇓*i*Pg	Pg	07 44 59.0	+0.4
	comp=N,440nm,0.3s						
MOY				⇑*i*Pg	Pg	07 44 59.0	+0.4
	comp=N,1μm,0.3s						
MOY				⇓*i*Pg	Pg	07 44 59.0	+0.4
	comp=N,3μm,0.3s						
MOY				*i* Sg	Sg	07 45 02.0	+1.2
MOY				Pmax			
	comp=N,3μm,0.2s						
MOY				Smax			
	comp=N,10μm,0.3s						
ARS	**Arshan**	**0.77**	**71**	*e*PG	Pg	07 45 09.1	-1.5
ARS				*e*		07 45 19.7	
ARS				pmax	pmax		
	comp=Z,219nm,0.1s						
ARS				smax			
	comp=N,895nm,0.2s						
ARS	**Arshan**	**0.77**	**71**	⇓*i*Pg	Pg	07 45 09.1	-1.5
ARS				*e*Sg	Sg	07 45 19.8	-1.1
ARS				Pmax			
	comp=N,204nm,0.2s						
ARS				Smax			
	comp=N,1μm,0.6s						
ORL	**Orlik**	**1.24**	**315**	*e*PG	Pg	07 45 17.2	-2.8
ORL				*e*		07 45 33.6	
ORL				pmax	pmax		
	comp=Z,292nm,0.2s						
ORL				smax			
	comp=N,367nm,0.6s						
ORL	**Orlik**	**1.24**	**315**	⇑*i*Pg	Pg	07 45 17.3	-2.7
	comp=N,89nm,0.8s						
ORL				⇓*i*Pg	Pg	07 45 17.3	-2.7
	comp=N,118nm,0.8s						
ORL				⇑*i*Pg	Pg	07 45 17.3	-2.7
	comp=N,150nm,0.8s						
ORL				*e*Sg	Sg	07 45 33.6	-3.0
ORL				Pmax			
	comp=N,292nm,0.2s						
ORL				Smax			
	comp=N,409nm,0.7s						
TLY	**Talaya**	**1.49**	**89**	*e*PG	Pg	07 45 21.3	-3.7
TLY				*e*		07 45 41.1	
TLY				pmax	pmax		
	comp=Z,89nm,0.5s						
TLY				smax			
	comp=E,436nm,0.5s						
TLY	**Talaya**	**1.49**	**89**	⇓*i*Pg	Pg	07 45 21.1	-3.9
TLY				*e*Pb	Pb	07 45 22.2	-0.7
TLY				*e*Sg	Sg	07 45 41.1	-3.8
TLY				max			
	comp=E,88nm,0.5s						
TLY				Smax			
	comp=E,436nm,0.5s						
ZAK	**Zakamensk**	**1.82**	**134**	⇑*i*PN	Pn	07 45 27.7	+0.4
ZAK				*e*		07 45 53.0	
ZAK				pmax	pmax		
	comp=Z,85nm,0.3s						
ZAK				smax			
	comp=N,533nm,0.5s						
ZAK	**Zakamensk**	**1.82**	**134**	⇓*i*Pg	Pg	07 45 27.7	-3.8
	comp=N,49nm,0.7s						
ZAK				⇑*i*Pg	Pg	07 45 27.7	-3.8
	comp=N,64nm,0.7s						
ZAK				⇑*i*Pg	Pg	07 45 27.7	-3.8
	comp=N,57nm,0.7s						
ZAK				*e*Sg	Sg	07 45 53.1	-2.7
ZAK				Pmax			
	comp=N,91nm,0.5s						
ZAK				Smax			
	comp=N,533nm,0.7s						
LSTR	**Listvyanka**	**2.23**	**84**	⇑*i*PN	Pn	07 45 34.4	+1.1
LSTR				*e*		07 46 03.4	
LSTR				pmax	pmax		
	comp=Z,32nm,0.3s						
LSTR				smax			
	comp=N,166nm,0.6s						
LSTR	**Listvyanka**	**2.23**	**84**	*e*Pn	Pn	07 45 33.1	-0.2
LSTR				*e*Pg	Pg	07 45 34.4	-5.4
LSTR				*e*Sn	Sn	07 46 01.5	0.0
LSTR				*e*Sg	Sg	07 46 03.8	-5.8
LSTR				Pmax			
	comp=N,31nm,0.6s						
LSTR				Smax			
	comp=N,165nm,0.7s						
BLGM	**Bulgan**	**3.23**	**152**	*e*Pg	Pg	07 45 50.1	-10
BLGM				*i* Sg	Sg	07 46 35.1	-7.8
TRG	**Tyrgan**	**3.32**	**69**	*e*Pn	Pn	07 45 49.2	+0.4
TRG				*e*Pg	Pg	07 45 54.2	-7.3
TRG				*e*		07 46 28.9	
TRG				*e*Sg	Sg	07 46 36.3	-9.5
TRG				Pmax			
	comp=N,46nm,0.6s						
TRG				Smax			
	comp=N,108nm,0.6s						
KAB	**Kabansk**	**3.37**	**81**	*e*PN	Pn	07 45 53.9	+4.4
KAB				*e*		07 46 38.4	
KAB				pmax	pmax		
	comp=Z,204nm,0.3s						
KAB				smax			
	comp=E,351nm,0.6s						
KAB	**Kabansk**	**3.37**	**81**	*e*Sg	Sg	07 46 38.7	-8.8
KAB				Smax			
	comp=E,316nm,1.0s						
FFNB	**Fofonovo**	**3.44**	**82**	*e*Pn	Pn	07 45 50.2	-0.3
FFNB				*e*Pg	Pg	07 45 57.0	-6.9
FFNB				*e*		07 46 36.5	
FFNB				*e*Sg	Sg	07 46 40.3	-9.4
FFNB				Pmax			
	comp=E,27nm,0.1s						
FFNB				Smax			
	comp=E,319nm,0.6s						
TSC	**Tosontsengel**	**3.48**	**215**	*i* Pg	Pg	07 45 58.1	-6.7
TSC				*i* Sg	Sg	07 46 44.2	-7.0
HRMR	**Khuramsha**	**3.55**	**88**	*e*Pn	Pn	07 45 51.8	-0.3
HRMR				*e*Pg	Pg	07 45 58.3	-7.9
HRMR				*e*Sg	Sg	07 46 44.3	-9.2
HRMR				Pmax			
	comp=E,39nm,0.6s						
HRMR				Smax			
	comp=E,728nm,0.6s						
ZRHB	**Zarechye**	**3.75**	**74**	*e*Pn	Pn	07 45 53.5	-1.3
ZRHB				*e*Pg	Pg	07 46 02.0	-8.0
ZRHB				*e*Sg	Sg	07 46 52.1	-7.8
ZRHB				Pmax			
	comp=E,156nm,1.0s						
ZRHB				Smax			
	comp=E,412nm,1.0s						
TRTB	**Turuntaevo**	**3.99**	**79**	*e*Pn	Pn	07 45 59.3	+1.1
TRTB				*e*Pg	Pg	07 46 06.2	-8.6
TRTB				*e*Sg	Sg	07 46 57.7	-10
TRTB				Pmax			
	comp=E,25nm,0.7s						
TRTB				Smax			
	comp=E,68nm,1.3s						
TTS	**Tsetserleg**	**4.20**	**178**	*e*Pg	Pg	07 46 08.8	-10
TTS				*i* Sg	Sg	07 47 03.4	-12
OGRR	**Ongureny**	**4.34**	**60**	*e*PN	Pn	07 46 02.6	-0.6
OGRR				*e*		07 46 13.6	
OGRR				*e*S	Sn	07 46 53.0	-1.8
OGRR				*e*		07 47 08.9	
OGRR				pmax	pmax		
	comp=Z,30nm,0.5s						
OGRR				smax			
	comp=E,90nm,0.5s						
OGRR	**Ongureny**	**4.34**	**60**	*e*Pn	Pn	07 46 02.6	-0.6
OGRR				*e*Pg	Pg	07 46 12.6	-9.2
OGRR				*e*Sn	Sn	07 46 52.7	-2.1
OGRR				*e*Sg	Sg	07 47 08.5	-11
OGRR				Pmax			
	comp=E,29nm,0.3s						
OGRR				Smax			
	comp=E,91nm,0.4s						
ULN	**Ulaanbaatar**	**5.35**	**133**	*e*Pn	Pn	07 46 13.3	-4.3
ULN				*i* Pg	Pg	07 46 31.6	-10
ULN				*i* Sg	Sg	07 47 41.7	-12
SYVR	**Suvo**	**5.68**	**66**	*e*Pn	Pn	07 46 22.3	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SYVR				ePg	Pg	07 46 37.7	-11
SYVR				eSg	Sg	07 47 51.8	-13
SYVR				Pmax			
	comp=E,10.0nm,1.5s						
SYVR				Smax			
	comp=E,30nm,2.0s						
ULG	Ulaangom	6.07	257	eSg	Sg	07 48 02.5	-15
EBM	Esen Bulak	6.22	214	ePg	Pg	07 46 47.1	-12
EBM				eSg	Sg	07 48 08.4	-14
NIZ	Nizh Angarsk	6.41	47	ePN	Pn	07 46 31.3	-1.2
NIZ				e		07 46 50.8	
NIZ				eS	Sn	07 47 41.0	-5.9
NIZ	Nizh Angarsk	6.41	47	ePn	Pn	07 46 30.4	-2.1
NIZ				ePg	Pg	07 46 50.8	-12
NIZ				eSn	Sn	07 47 40.3	-6.6
NIZ				eSg	Sg	07 48 12.4	-16
NIZ				Pmax			
	comp=E,9.0nm,0.4s						
NIZ				Smax			
	comp=E,108nm,0.7s						
YLYR	Ulyunkhan	6.76	58	ePn	Pn	07 46 36.0	-1.4
YLYR				ePg	Pg	07 46 56.0	-14
YLYR				eSn	Sn	07 47 50.7	-4.8
YLYR				eSg	Sg	07 48 23.2	-17
YLYR				Pmax			
	comp=E,3.0nm,0.3s						
YLYR				Smax			
	comp=E,27nm,1.5s						
KMO	Kumora	7.25	50	ePG	Pg	07 47 06.3	-14
KMO	Kumora	7.25	50	ePg	Pg	07 47 07.3	-13
KMO				eSn	Sn	07 48 02.0	-5.9
KMO				eSg	Sg	07 48 40.3	-16
KMO				Pmax			
	comp=E,5.0nm,0.5s						
KMO				Smax			
	comp=E,40nm,1.6s						
KPC	Khapcheranga	7.34	101	e	Pn	07 46 50.2	+4.6
KPC				e		07 46 58.7	
KPC				ePg	Pg	07 47 06.5	-15
KPC				e		07 48 08.2	
KPC				eSg	Sg	07 48 43.4	-16
KPC				Smax			
	comp=E,46nm,1.6s						
UKT	Uakit	8.30	58	eSg	Sg	07 49 12.8	-19
UKT				Smax			
	comp=E,34nm,2.4s						
DZD	Dalandzadgad	8.38	164	eSg	Sg	07 49 17.2	-17

*IDC **07** 08:03:57.4±1.5, 18.24S×172.61W, mb4.2/4, mb1 4.5/4, mb1mx4.0/18, mbtmp4.3/4, Error ellipse: s-maj=55.5km s-min=29.3km az=137.0*
*NEIC **07** 08:03:58.1±1.1, 18.22S×172.55W, h10km, mb4.2/1, Error ellipse: s-maj=33.8km s-min=13.8km az=121.0*
ISC 07 08:03:59.6±1.2**, 18.2S**±0.2×**172.6W**±0.2**, h33km, n9, σ1^{s}07**/10**, mb4.3**/5**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.32	10	eP	P	08 05 03.8	-0.9
AFI				eS	S	08 05 34.7	-20
URZ	Urewera	21.93	202	P	P	08 08 50.7	-1.2
	24nm,0.3s,mb5.1,baz=144,slow=2.3,SNR=128						
WB2	Warramunga Arr	50.01	259	eP	P	08 12 52.9	-0.3
WRAB	Tennant Creek	50.01	259	eP	P	08 12 52.6	-0.6
	1.3nm,0.4s,mb4.3						
WRA	Warramunga Arr	50.02	259	P	P	08 12 52.4	-0.9
	0.6nm,0.6s,mb3.8,baz=92,slow=7.1,SNR=29						
ASAR	Alice Springs	50.05	254	P	P	08 12 54.7	+1.3
	2.8nm,0.5s,mb4.6,baz=88,slow=7.8,SNR=58						
ASAR				PcP	PcP	08 14 16.6	+3.5
	0.3nm,0.4s,baz=95,slow=3.9,SNR=4.4						
ASPA	Alice Springs	50.05	254	eP	P	08 12 55.0	+1.6
NVAR	Mina Array Bea	75.88	41	P	P	08 15 45.9	+1.2
	0.7nm,0.8s,mb3.6,baz=223,slow=11,SNR=4.2						
NVAR	Mina Array Bea	75.88	41	P	P	08 15 45.9	+1.2

*NEIC **07** 08:05:34.2±0.9, 42.55N×126.01W, h10km, mb3.8/4, Error ellipse: s-maj=13.5km s-min=6.3km az=55.0*
*IDC **07** 08:05:35.4±1.5, 42.84N×125.52W, mb3.5/5, mb1 3.8/12, mb1mx3.7/25, mbtmp3.6/12, ML3.3/5, MS3.3/3, Ms1 3.3/3, ms1mx2.9/21, Error ellipse: s-maj=29.0km s-min=12.6km az=57.0*
ISC 07 08:05:32.1±1.0**, 42.51N**±0.06×**126.1W**±0.1**, h10km, n47, σ1^{s}24**/47**, mb3.5**/6**, MS3.2**/1**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.35	74	eP	Pb	08 05 56.8	-0.3
KBO	Bosley Butte	1.42	102	eP	Pn	08 05 58.0	-0.1
DBO	Dodson Butte	2.19	73	P	Pn	08 06 09.9	+0.8
HUMO	Hull Mountain	2.33	87	P	Pn	08 06 11.7	+0.6
HSO	Harness Mounta	2.43	64	P	Pn	08 06 13.1	+0.5
BBOR	Butler Butte	2.55	80	P	Pn	08 06 15.6	+1.3
YBH	Yreka Blue Hor	2.64	106	Pn	Pn	08 06 16.3	+0.7
	3.2nm,0.3s,baz=284,slow=12,SNR=60						
YBH				Sn	Sn	08 06 50.4	+2.4
	0.6nm,0.3s,baz=166,slow=16,SNR=1.6						
YBH	Yreka Blue Hor	2.64	106	eP	Pn	08 06 15.8	+0.2
LAMM	Antelope Mount	2.74	108	P	Pn	08 06 18.2	+1.1
BUOR	Burton Butte	2.87	93	P	Pn	08 06 20.3	+1.5
HBO	Huckleberry Mo	3.07	63	P	Pn	08 06 22.9	+1.2
IRO	Indian Ridge	3.18	61	P	Pn	08 06 24.3	+1.0
BROR	Big Rock Looko	3.19	55	P	Pn	08 06 23.7	+0.3
FRIS	Frissel Point	3.38	58	P	Pn	08 06 26.9	+0.8
LBCM	Butte Creek Ri	3.93	114	P	Pn	08 06 33.9	0.0
MOD	Modoc	4.35	96	eP	Pn	08 06 38.3	-1.6
FMW	Mount Fremont	5.43	34	P	Pn	08 06 54.8	-0.3
WVOR	Wild Horse Val	5.52	88	eP	Pn	08 06 54.5	-2.0
BMO	Blue Mountains	6.79	67	eP	Pn	08 07 13.9	-0.4
NVAR	Mina Array Bea	7.21	122	Pn	Pn	08 07 19.7	-0.5
	0.2nm,0.3s,baz=298,slow=13,SNR=8.4						
NVAR	Mina Array Bea	7.21	122	Pn	Pn	08 07 19.7	-0.5
ELK	Elko	8.33	99	LR	LR	08 11 16.7	
	comp=Z,208nm,20.8s,baz=222,slow=43						
NEW	Newport	8.54	45	Pn	P	08 07 35.3	-3.5
	0.1nm,0.3s,baz=236,slow=18,SNR=2.5						
BBB	Bella Bella	9.77	353	Pn	P	08 07 54.0	-1.8
	0.6nm,0.3s,baz=167,slow=18,SNR=3.1						
BGU	Big Grassy Mou	9.90	95	eP	P	08 07 55.0	-2.6
CHMT	Chamberlain Mo	10.15	60	eP	P	08 08 00.3	-0.6
ARUT	Antelope Range	10.78	112	P	P	08 08 07.6	-1.9
MSU	Marysvale	11.33	106	P	P	08 08 16.5	-0.6
PDAR	Pinedale Array	12.19	83	Pn	P	08 08 27.4	-1.3
	baz=294,slow=11,SNR=3.6						
WUAZ	Wupatki	13.40	117	P	P	08 08 41.6	-3.3
PV10	Paradox Valley	13.63	102	eP	P	08 08 47.6	-0.3
PV01	Paradox Valley	14.07	102	eP	P	08 08 53.7	+0.1
PHWY	Pilot Hill	15.42	88	P	P	08 09 10.4	-0.9
ISCO	Idaho Springs	15.67	93	eP	P	08 09 15.0	+0.5
	4.3nm,1.0s						
DLBC	Dease Lake	16.13	353	Pn	P	08 09 20.6	+0.3
	0.0nm,0.3s,baz=164,slow=18,SNR=4.5						
SDCO	Great Sand Dun	16.45	100	eP	P	08 09 24.5	0.0
	33nm,1.6s						
ANMO	Albuquerque	17.06	110	Pn	P	08 09 33.4	+1.1
	baz=318,slow=12,SNR=4.6						
ANMO				LR	LR	08 16 42.7	
	comp=Z,129nm,22.0s,slow=40						
MNTX	Cornudas Mount	19.69	116	P	P	08 10 04.3	0.0
FFC	Flin Flon	19.97	44	eP	P	08 10 06.0	-1.2
	6.3nm,0.9s						
YKA	Yellowknife Ar	21.14	15	P	P	08 10 15.4	-3.8
	2.7nm,1.0s,mb3.5,baz=204,slow=11,SNR=26						
YKW3	Yellowknife Ar	21.20	15	eP	P	08 10 16.4	-3.4
ULM	Lac du Bonnet	22.13	59	P	P	08 10 30.3	+1.0
	2.4nm,0.8s,mb3.7,baz=262,slow=10.0,SNR=1.8						
ULM				LR	LR	08 19 46.5	
	comp=Z,99nm,19.9s,MS3.2,baz=1.4,slow=39						
TXAR	Lajitas Array	22.35	119	P	P	08 10 33.0	+1.4
	0.6nm,0.7s,mb3.1,baz=311,slow=12,SNR=7.2						
WMOK	Wichita Mounta	22.65	101	eP	P	08 10 32.6	-1.9
	2.6nm,0.9s,mb3.7						
DAWY	Dawson	22.91	345	P	P	08 10 39.0	+2.2
SONM	Songino Array	78.80	327	P	P	08 17 38.7	+2.5
	0.5nm,1.0s,mb3.4,baz=56,slow=5.2,SNR=3.1						
LPAZ	La Paz	79.11	124	P	P	08 17 43.3	+4.7
	0.5nm,0.7s,mb3.5,baz=60,slow=5.3,SNR=3.7						

*CSEM **07** 08:37:29.8±0.3, 67.16N×20.41E, h2km, ML3.1/3, Error ellipse: s-maj=6.8km s-min=6.0km az=73.0, Suspected Mining explosion.*
*NAO **07** 08:37:30.4±2.1, 67.17N×20.74E, ML2.2*
*HEL **07** 08:37:30.9±0.1, 67.18N×20.68E, ML2.0, ML2.6(UPP), ML2.1(BER), Explosion*
*UPP **07** 08:37:30.2, 67.18N×20.70E, h0km, ML2.6, Suspected Mining explosion.*
*BER **07** 08:37:32.9±3.4, 67.20N×20.74E, ML2.1, ML2.2(NAO), Suspected explosion*
ISC 07 08:37:29.7±0.5**, 67.24N**±0.03×**20.63E**±0.07**, n28, σ1^{s}38**/38**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.12	192	i P	Pg	08 37 31.9	-0.2
DUNU				i S	Sg	08 37 33.6	-0.2
MASU	Masugnsbyn	0.57	67	i P	Pg	08 37 41.1	+0.1
NIKU	Nikkaluokta	0.88	316	eP	Pg	08 37 47.6	+0.4
NIKU	Nikkaluokta	0.88	316	P	Pg	08 37 47.5	+0.3
ERTU	Ertsjaerv	0.92	138	i P	Pg	08 37 46.0	-2.1
LANU	Lannavaara	0.96	32	eP	Pg	08 37 48.7	-0.2
KIF	Kilpisjarvi	1.77	2	eP	Pn	08 38 03.5	+1.6
KIF	Kilpisjarvi	1.77	2	P	Pn	08 38 03.4	+1.6
SJUU	Sjulsmark	1.79	167	eP	Pn	08 38 01.4	-0.6
SJUU	Sjulsmark	1.79	167	P	Pn	08 38 01.3	-0.7
KTK1	Kautokeino	2.03	28	eP	Pn	08 38 07.3	+1.8
KTK1				eSG	Sg	08 38 35.2	-2.0
KTK1				AML	AML	08 38 39.4	
	comp=Z,17nm,0.7s						
KTK1	Kautokeino	2.03	28	P	Pn	08 38 07.3	+1.8
KTK1				Sg	Sg	08 38 35.2	-2.0
	comp=Z,17nm,0.7s						
SGF	Sodankyl	2.29	82	eP	Pn	08 38 10.5	+1.3
SGF				eS	Sn	08 38 39.8	+1.2
SGF				eSG	Sg	08 38 42.0	-4.0
SGF				MSG		08 38 42.5	
	comp=Z,7.2nm,0.3s						
TRO	Tromso	2.48	346	eSG	Sg	08 38 50.6	-1.8
MOR8	Moi Rana	2.69	249	eSG	Sn	08 38 49.7	+1.1
MOR8				AML	AML	08 38 53.5	
	comp=Z,26nm,0.4s						
MOR8	Moi Rana	2.69	249	Sg	Sn	08 38 49.6	+1.0
	comp=Z,26nm,0.4s						
LOF	Lofoten	2.85	292	e	Sg	08 39 06.5	+2.0
LOF	Lofoten	2.85	292	eSg	Sg	08 39 06.5	+2.0
ARA0	ARCESS Array S	2.93	36	Pn	Pn	08 38 18.7	+0.3
	baz=211,slow=14						
ARA0				Sn	Sn	08 38 53.3	-1.4
	baz=212,slow=28						
ARA0	ARCESS Array S	2.93	36	eP	Pn	08 38 18.7	+0.3
ARA0				eS	Sn	08 38 53.3	-1.4
STOK	Stokkvaagen	3.15	257	eSg	Sg	08 39 12.7	-1.9
KEV	Kevo	3.45	40	eP	Pn	08 38 26.2	+0.4
KEV				eS	Sn	08 39 03.1	-4.8
KU4	Liikasenvaara	3.65	100	eS	Sn	08 39 14.6	+1.6
NSS	Namsos	4.48	237	eSG	Sg	08 39 51.1	-7.6
FIA0	FINESS Array S	6.28	155	eS	Sn	08 40 13.8	-5.5
FIA0				eSG		08 40 44.1	
FIA0	FINESS Array S	6.28	155	Sn	Sn	08 40 13.8	-5.5
	baz=344,slow=28						
FIA0				Lg		08 40 44.1	
	baz=345,slow=28						
HFS	Hagfors	7.77	207	Pn	Pn	08 39 23.0	-3.7
	baz=30,slow=10						
HFS				Sn	Sn	08 40 48.8	-7.7
	baz=19,slow=22						
HFS				Lg		08 41 32.4	
	baz=20,slow=37						
HFS	Hagfors	7.77	207	eP	Pn	08 39 23.0	-3.7
HFS				eS	Sn	08 40 48.8	-7.7

*IDC **07** 08:42:27.8±8.0, 14.79N×93.34W, h54km±62km, mb3.4/5, mb1 3.7/6, mb1mx3.4/22, mbtmp3.6/6, ML3.4/1, Error ellipse: s-maj=115.5km s-min=23.6km az=37.0*
*NEIC **07** 08:42:31.6, 15.01N×93.99W, h36km, MD4.3(MEX), After MEX.*
*MEX **07** 08:42:32.6±0.4, 15.11N×94.01W, h34km±999km, MD4.3*
ISC 07 08:42:30.2±1.9**, 15.1N**±0.1×**94.01W**±0.06**, h47km**±13km**, n19, σ1^{s}13**/20**, mb3.6**/6**, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	2.08	39	i P	P	08 43 04.5	+1.1
CMIG	Matias Romero	2.13	337	i P	P	08 43 04.8	+0.7
CMIG				i S	S	08 43 28.8	-0.6
CCIG	Comitan	2.14	57	i P	P	08 43 03.8	-0.5
CCIG				i S	S	08 43 29.6	-0.1
OXX	Oaxaca	3.26	307	eP	P	08 43 20.0	-0.1
VHO	Vista Hermosa	3.26	307	eP	P	08 43 19.3	-0.8
TEIG	Tepich	7.46	46	eP	P	08 44 15.3	-3.8
TXAR	Lajitas Array	16.72	329	P	P	08 46 26.3	+3.6
	0.0nm,0.3s,baz=152,slow=13,SNR=10						
TXAR	Lajitas Array	16.72	329	P	P	08 46 26.3	+3.6
MNTX	Cornudas Mount	19.50	330	eP	P	08 46 56.4	+0.1
	1.5nm,0.7s						
WMOK	Wichita Mounta	20.00	348	P	P	08 47 00.9	-0.8
	2.0nm,1.0s						
ANMO	Albuquerque	22.70	333	P	P	08 47 29.9	+1.0
	0.7nm,0.7s,mb3.2,baz=157,slow=8.0,SNR=4.8						
ANMO	Albuquerque	22.70	333	eP	P	08 47 30.1	+1.2
	0.7nm,0.6s,mb3.3						
SDV	Santo Domingo	23.68	102	P	P	08 47 28.5	-10
	1.1nm,0.5s,mb3.5,baz=356,slow=11,SNR=4.8						
SDCO	Great Sand Dun	24.73	338	eP	P	08 47 50.3	+1.6
	1.7nm,1.0s,mb3.5						
NVAR	Mina Array Bea	31.59	322	P	P	08 48 52.2	+1.4
	1.2nm,0.7s,mb3.8,baz=135,slow=8.9,SNR=9.1						
YKA	Yellowknife Ar	49.51	348	P	P	08 51 16.5	-1.4
	1.5nm,0.8s,mb4.0,baz=154,slow=7.2,SNR=26						
YKA				PcP	PcP	08 52 35.2	-4.4
	0.2nm,0.7s,baz=147,slow=3.9,SNR=4.2						
YKA	Yellowknife Ar	49.51	348	P	P	08 51 16.5	-1.4
YKA				PcP	PcP	08 52 35.2	-4.4
ILAR	Eielson Array	61.05	337	P	P	08 52 39.4	-2.0
	0.6nm,0.8s,mb3.8,baz=117,slow=5.2,SNR=6.9						
CMAR	Chiang Mai Arr	144.28	339	PKP	PKPdf	09 01 58.5	-3.4
	0.7nm,0.3s,baz=343,slow=3.4,SNR=7.7						

*IDC **07** 08:51:42.8±3.3, 9.62S×113.38E, mb3.7/4, mb1 3.9/4, mb1mx3.8/12, mbtmp3.7/4, Error ellipse: s-maj=137.1km s-min=26.7km az=55.0*
*DJA **07** 08:51:52.8±1.0, 9.49S×114.01E, h15km, MD4.7/4, ML5.1/4, Error ellipse: s-maj=22.5km s-min=11.6km az=28.0*
*NEIC **07** 08:51:54.8±1.8, 9.16S×114.16E, h76km±16km, Error ellipse: s-maj=34.2km s-min=15.2km az=46.0*
ISC 07 08:51:52.7±2.2**, 9.4S**±0.2×**114.1E**±0.1**, h55km**±30km**, n10, σ0^{s}72**/13**, mb3.7**/4**, 1C-3D, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	Scrawed	0.94	3	⇓ePn	P	08 52 09.3	-0.7
	2μm,0.2s						
KELI	Kelakatan	1.26	18	⇓ePn	P	08 52 15.0	+0.5
	2μm,0.2s						
KELI				eSn	S	08 52 30.9	+0.2
RATI	Rata	1.58	64	⇑ePn	P	08 52 19.2	+0.2
	4μm,0.2s						
RATI				eSn	S	08 52 37.9	-0.6
KEDI	Kedomdong	2.20	65	⇓ePn	P	08 52 28.1	+0.4
	841nm,0.2s						
KEDI				eSn	S	08 52 53.6	-0.2
WRA	Warramunga Arr	22.18	120	P	P	08 56 46.1	+0.4
	0.4nm,0.3s,mb3.3,baz=293,slow=12,SNR=24						
WB2	Warramunga Arr	22.18	120	eP	P	08 56 46.7	+1.0
ASPA	Alice Springs	23.64	129	eP	P	08 57 00.0	0.0
ASAR	Alice Springs	23.64	129	P	P	08 57 00.4	+0.4
	1.4nm,0.6s,mb3.6,baz=302,slow=9.2,SNR=22						
STKA	Stephens Creek	33.89	135	P	P	08 58 30.6	-2.0
	2.0nm,0.5s,mb4.3,baz=311,slow=7.2,SNR=5.2						
SONM	Songino Array	57.41	354	P	P	09 01 33.8	-4.4
	0.4nm,0.5s,mb3.7,baz=179,slow=8.6,SNR=4.0						

WEL 07 09:04:48.5±0.3**, 44.99S**×**166.49E, h5km, ML3.5**/6**, Error ellipse: s-maj=3.0km s-min=1.3km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.68	137	P*	Pb	09 05 01.7	-0.7
DCZ				SG	Sg	09 05 10.9	-0.2
MSZ	Milford Sound	1.07	73	P*	Pb	09 05 08.8	-0.3
MSZ				S*	Sb	09 05 22.4	-0.9
MLZ	Mavora Lakes	1.24	107	P*	Pb	09 05 11.1	-1.0
MLZ				S*	Sb	09 05 28.2	0.0
WKZ	Wanaka	1.80	86	PN	Pn	09 05 20.6	+0.1
WKZ				SN	Sn	09 05 42.8	-1.2
JCZ	Jackson Bay	1.86	61	PN	Pn	09 05 18.6	-2.8
EAZ	Earnscleugh	2.01	98	PN	Pn	09 05 23.7	+0.2
EAZ				SN	Sn	09 05 49.5	+0.2
TUZ	Tuapeka	2.41	115	PN	Pn	09 05 28.7	-0.5
TUZ				SN	Sn	09 05 57.2	-2.3
FOZ	Fox Glacier	2.70	59	PN	Pn	09 05 30.7	-2.7
FOZ				SN	Sn	09 06 03.0	-3.9
LBZ	Lake Benmore	2.70	78	PN	Pn	09 05 31.8	-1.6
LBZ				SN	Sn	09 06 03.3	-3.5
ODZ	Otahua Downs	2.94	93	PN	Pn	09 05 35.3	-1.6
ODZ				SN	Sn	09 06 08.9	-4.2
LTZ	Lake Taylor	4.72	64	PN	Pn	09 05 56.6	-5.6

CASC 07 09:12:42.0±2.3**, 12.26N**×**87.68W, h29km**±31km**, MD3.8, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCBS	La Ceiba	1.88	318	eP	Pn	09 13 11.8	-1.0
LCBS				eS	Sn	09 13 36.7	+1.0
LFRS	El Faro	1.91	315	eP	Pn	09 13 12.3	-1.0
SBLS	San Blas	2.46	310	eP	Pn	09 13 20.6	-0.5
SBLS				eS	Sn	09 13 51.5	+1.0
RTR	El Retiro	2.52	311	eP	Pn	09 13 20.4	-1.5
RBDL	Robledal	2.69	314	eP	Pn	09 13 23.1	-1.3
PRS1	Puriscal	4.00	124	eP	Pn	09 13 44.4	+1.3
LCR2	La Lucha 2	4.39	124	eP	Pn	09 13 48.0	-0.6
BUS	Buena Vista	4.70	125	eP	Pn	09 13 52.4	-0.5
BUS				eS	Sn	09 14 45.0	-2.0

*NIED **07** 09:20:00, 42.00N×142.60E, h44km, Mw3.9 Best double couple: M0 7.48×10^{14} NP1: φs141°, δ69°, λ106°. NP2: φs282°, δ26°, λ54°.*
*MOS **07** 09:20:20.5±2.2, 42.00N×142.61E, h33km, mb3.8/1, Error ellipse: s-maj=30.6km s-min=9.7km az=73.5*
*JMA **07** 09:20:23.2±0.1, 42.03N×142.56E, h49km±2km, M4.1*
JMA Felt I J1.
*NEIC **07** 09:20:24.1±1.8, 42.11N×142.55E, h52km±19km, mb3.6/1, Error ellipse: s-maj=19.2km s-min=14.6km az=114.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.
*IDC **07** 09:20:24.4±3.1, 41.99N×142.51E, h61km±25km, mb3.5/10, mb1 3.7/11, mb1mx3.6/21, mbtmp3.7/11, ML4.0/1, Error ellipse: s-maj=25.3km s-min=20.0km az=118.0*
ISC 07 09:20:22.3±0.4**, 42.00N**±0.04×**142.56E**±0.04**, h55km**±3km**, n36, σ0^{s}92**/47**, mb3.8**/10**, 1C-8D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.32	27	⇓P	P	09 20 31.9	-0.2
JNBK				eS	S	09 20 39.0	-0.2
ERM	Erimo	0.45	88	Pn	P	09 20 33.5	+0.1
	32μm,0.4s						
JEM	Erimo	0.45	88	P	P	09 20 33.9	+0.5
JEM				eS	S	09 20 41.2	-0.2
JBT2	Biratori 2	0.79	350	⇓P	P	09 20 37.7	+0.1
JBT2				eS	S	09 20 48.9	+0.1
JCH	Churui	0.86	44	⇓P	P	09 20 38.7	+0.3
JCH				eS	S	09 20 49.7	-0.7
JKB	Kayabe	1.14	265	⇓P	P	09 20 42.5	+0.1
JKB				eS	S	09 20 57.0	-0.3
JFR	Furan	1.16	1	P	P	09 20 42.7	+0.1
JEW	Eniwo	1.17	316	P	P	09 20 43.0	+0.2
JNB	Noboribetsu	1.22	293	⇑P	P	09 20 43.0	-0.5
JNB				eS	S	09 20 58.3	-0.9
JOT	Ohata	1.29	242	⇓P	P	09 20 44.5	0.0
JOT				eS	S	09 21 00.5	-0.4
JOB	Onbets	1.31	46	⇓P	P	09 20 45.7	+0.9
JAB	Ashibetsu	1.52	351	P	P	09 20 48.4	+0.6
JAR	Ashorobuto	1.57	34	⇓P	P	09 20 48.4	-0.1
JAR				eS	S	09 21 08.0	+0.1
ASAJ	Asahikawa	2.12	1	P	P	09 20 56.0	-0.1
ASAJ				S	S	09 21 23.8	+2.6
ASAJ				pmax	pmax		
	comp=Z,31nm,0.3s						
ASAJ				smax			
	comp=N,13nm,0.3s						
ASAJ	Asahikawa	2.12	1	P	P	09 20 56.0	-0.1
	comp=N,30nm,0.3s,baz=230,slow=8.3,SNR=54						
ASAJ				S	S	09 21 23.8	+2.6
	comp=N,13nm,0.3s,baz=288,slow=20,SNR=9.7						
YUK	Yuzh-Kuril'sk	3.16	49	eP	P	09 21 09.9	-1.0
YUK				i S	S	09 21 47.4	-0.3
YUK				pmax	pmax		
	comp=Z,2μm,0.7s						
YUK				pmax	pmax		
	comp=Z,200nm,0.4s						
YUK				smax			
	comp=N,3μm,1.0s						
YUK				smax			
	comp=E,2μm,0.6s						
YUK				smax			
	comp=N,600nm,0.4s						
YUK				smax			
	comp=E,1μm,0.5s						
YSS	Yuzh-Sakhalins	4.96	2	eP	P	09 21 38.6	+2.5
KUR	Kuril'sk	5.03	48	⇓iP	P	09 21 36.0	-1.1
KUR				e		09 22 25.5	
KUR				pmax	pmax		
	comp=Z,30nm,0.5s						
KUR				pmax	pmax		
	comp=N,90nm,0.5s						
KUR				pmax	pmax		
	comp=E,110nm,0.5s						
MAJO	Matsushiro	6.41	213	eP	P	09 21 57.4	+1.0
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAJO	Matsushiro	6.41	213	eP	P	09 21 57.4	+1.0
	comp=Z,11nm,0.6s						
MAT	Matsushiro	6.41	213	eP	P	09 21 57.0	+0.6
MAT	Matsushiro	6.41	213	P	P	09 21 57.1	+0.7
MA2	Magadan	18.32	13	eP	P	09 24 31.5	-2.4
MA2				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MA2	Magadan	18.32	13	eP	P	09 24 31.5	-2.4
	comp=Z,3.2nm,0.7s						
SONM	Songino Array	26.09	295	P	P	09 25 53.8	+1.3
	comp=Z,0.3nm,0.5s,mb3.1,baz=85,slow=7.9,SNR=4.1						
ILAR	Eielson Array	44.88	35	P	P	09 28 31.9	-0.6
	comp=Z,1.2nm,0.8s,mb3.8,baz=259,slow=5.5,SNR=26						
YKA	Yellowknife Ar	59.10	32	P	P	09 30 18.3	-0.6
	comp=Z,0.2nm,0.5s,mb3.4,baz=308,slow=6.6,SNR=8.9						
WRA	Warramunga Arr	62.09	189	P	P	09 30 38.7	-1.1
	comp=Z,1.0nm,1.1s,mb3.9,baz=6.6,slow=7.0,SNR=13						
FINES	FINESS Array B	64.85	332	P	P	09 30 55.6	-1.7
	comp=Z,0.8nm,0.7s,mb3.9,baz=45,slow=8.1,SNR=7.0						
HFS	Hagfors	69.94	335	P	P	09 31 28.5	-0.7
	comp=Z,2.4nm,0.6s,mb4.3,baz=68,slow=7.8,SNR=6.3						
NOA	NORSAR Array B	69.96	337	P	P	09 31 28.5	-0.8
	comp=Z,1.0nm,0.8s,mb3.8,baz=44,slow=5.5,SNR=3.5						
NVAR	Mina Array Bea	71.36	55	P	P	09 31 39.3	+1.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=278,slow=8.6,SNR=4.3						
PDAR	Pinedale Array	73.59	47	P	P	09 31 50.9	-0.3
	comp=Z,1.1nm,1.1s,mb3.7,baz=304,slow=5.3,SNR=4.7						
PV10	Paradox Valley	76.87	50	eP	P	09 32 11.6	+1.6
TXAR	Lajitas Array	86.42	53	P	P	09 33 01.5	+1.6
	comp=Z,0.6nm,0.6s,mb4.0,baz=290,slow=3.2,SNR=13						
TXAR	Lajitas Array	86.42	53	P	P	09 33 01.5	+1.6

IDC 07 09:27:12.2±3.4**, 16.94S**×**175.36W, mb3.5**/4**, mb1 3.8**/4**, mb1mx3.6**/15**, mbtmp3.5**/4**, Error ellipse: s-maj=181.7km s-min=29.3km az=147.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	47.67	258	P	P	09 35 50.7	-1.9
	0.1nm,0.3s,baz=97,slow=6.9,SNR=11						
WRA				pP	pP	09 36 06.6	+14
	0.2nm,0.5s,baz=90,slow=7.2,SNR=7.9						
ASAR	Alice Springs	47.85	253	P	P	09 35 52.2	-1.8
	0.3nm,0.6s,baz=89,slow=8.1,SNR=7.5						
ASAR				pP	pP	09 36 09.0	+15
	3.2nm,0.6s,baz=87,slow=8.1,SNR=57						
ILAR	Eielson Array	84.32	12	P	P	09 39 45.0	-1.9
	1.2nm,1.2s,baz=217,slow=5.0,SNR=6.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR	Pinedale Array	84.66	42	P	P	09 39 48.9	-0.3
	2.2nm,1.4s,baz=153,slow=3.3,SNR=3.9						

PGC 07 09:31:10.8, 48.79N×129.03W, h10km, MLSn2.9/1, Mw3.5, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BPBC	Brooks Peninsu	1.59	31	Pn	Pn	09 31 36.8	-2.5
BPBC				Sn	Sn	09 31 55.7	-4.4
	comp=Z,89nm,0.4s						
BPBC				Trac		09 32 01.6	
	comp=Z,89nm,0.4s						
EDB	Eliza Dome	1.65	48	Pn	Pn	09 31 37.5	-2.7
EDB				Sn	Sn	09 31 56.6	-5.0
EDB				Trac		09 31 57.3	
	comp=Z,24nm,0.3s						
ETB	Estevan Point	1.74	69	Pn	Pn	09 31 39.6	-1.8
HOLB	Holberg	1.94	17	Pn	Pn	09 31 41.4	-2.8
HOLB				Sn	Sn	09 32 03.5	-5.3
	comp=Z,15nm,0.2s						
HOLB				Trac		09 32 07.9	
	comp=Z,15nm,0.2s						
MAYB	Maynard	2.02	36	Pn	Pn	09 31 43.2	-2.1
MAYB				Sn	Sn	09 32 07.2	-3.5
	comp=Z,15nm,0.3s						
MAYB				Trac		09 32 08.8	
	comp=Z,15nm,0.3s						
WOSB	Woss	2.11	49	Pn	Pn	09 31 44.6	-2.0
WOSB				Sn	Sn	09 32 10.4	-2.8
	comp=Z,13nm,0.2s						
WOSB				Trac		09 32 12.1	
	comp=Z,13nm,0.2s						
PHC	Port Hardy	2.18	28	Pn	Pn	09 31 45.6	-2.0
PHC				Sn	Sn	09 32 10.0	-4.9
PHC				Trac		09 32 12.3	
	comp=Z,13nm,0.2s						
GDR	Gold River	2.20	62	Pn	Pn	09 31 45.0	-2.9
GDR				Sn	Sn	09 32 10.8	-4.7
	comp=Z,9.0nm,0.3s						
GDR				Trac		09 32 11.5	
	comp=Z,9.0nm,0.3s						
OZB	Mount Ozzard	2.34	85	Pn	Pn	09 31 47.1	-2.9
OZB				Sn	Sn	09 32 14.3	-4.8
OZB				Trac		09 32 16.3	
	comp=Z,11nm,0.2s						
BTB	Buttle Lake	2.40	72	Pn	Pn	09 31 48.9	-2.0
BTB				Sn	Sn	09 32 16.7	-3.9
	comp=Z,33nm,0.3s						
BTB				Trac		09 32 19.3	
	comp=Z,33nm,0.3s						
NCRB	Newcastle Ridg	2.52	49	Pn	Pn	09 31 50.9	-1.6
NCRB				Sn	Sn	09 32 19.8	-3.8
	comp=Z,18nm,0.3s						
NCRB				Trac		09 32 22.3	
	comp=Z,18nm,0.3s						
CBB	Campbell River	2.70	61	Pn	Pn	09 31 53.3	-1.7
CBB				Sn	Sn	09 32 24.7	-3.4
CBB				Trac		09 32 26.4	
	comp=Z,22nm,0.4s						
ALB	Alberni	2.81	79	Pn	Pn	09 31 54.7	-1.9
ALB				Sn	Sn	09 32 25.2	-5.7
	comp=Z,4.0nm,0.2s						
ALB				Trac		09 32 28.5	
	comp=Z,4.0nm,0.2s						
MGB	Mount Grey	2.87	84	Pn	Pn	09 31 54.5	-3.0
MGB				Sn	Sn	09 32 27.5	-5.0
	comp=Z,4.0nm,0.1s						
MGB				Trac		09 32 30.1	
	comp=Z,4.0nm,0.1s						
PFB	Port Renfrew	3.05	92	Pn	Pn	09 31 58.1	-2.0
PFB				Sn	Sn	09 32 31.7	-5.4
PFB				Trac		09 32 36.7	
	comp=Z,3.0nm,0.4s						
TXB	Texada	3.15	72	Pn	Pn	09 31 59.6	-1.8
TXB				Sn	Sn	09 32 36.2	-3.3
	comp=Z,16nm,0.4s						
TXB				Trac		09 32 37.1	
	comp=Z,16nm,0.4s						
NLLB	Nanaimo Lost L	3.35	81	Pn	Pn	09 32 03.0	-1.4
NLLB				Sn	Sn	09 32 40.8	-3.8
NLLB				Trac		09 32 43.0	
	comp=Z,9.0nm,0.5s						
BBB	Bella Bella	3.45	9	Pn	Pn	09 32 03.5	-2.2
BBB				Sn	Sn	09 32 42.1	-5.0
BBB				Trac		09 32 44.1	
	comp=Z,12nm,0.2s						
LZB	Mount Lazard	3.46	91	Pn	Pn	09 32 02.8	-3.1
SHB	Sechelt	3.48	75	Pn	Pn	09 32 04.4	-1.7
SHB				Sn	Sn	09 32 45.3	-2.5
SHB				Trac		09 32 51.1	
	comp=Z,10.0nm,0.2s						
GOBB	Galiano Island	3.65	85	Pn	Pn	09 32 07.0	-1.6
GOBB				Sn	Sn	09 32 43.8	-8.4
	comp=Z,2.0nm,0.3s						
GOBB				Trac		09 32 50.5	
	comp=Z,2.0nm,0.3s						
PGC	Sidney	3.70	90	Pn	Pn	09 32 06.7	-2.6
PGC				Sn	Sn	09 32 50.0	-3.4
PGC				Trac		09 32 54.3	
	comp=Z,2.0nm,0.3s						
VGZ	Gonzales	3.81	94	Pn	Pn	09 32 08.6	-2.2
VGZ				Sn	Sn	09 32 50.2	-6.0
VGZ				Trac		09 32 53.0	
	comp=Z,2.0nm,0.2s						
BIB	Bowen Island	3.81	79	Pn	Pn	09 32 08.7	-2.2
BIB				Sn	Sn	09 32 52.6	-3.7
	comp=Z,2.0nm,0.2s						
BIB				Trac		09 32 54.7	
	comp=Z,2.0nm,0.2s						
WPB	Watts Point	3.91	75	Pn	Pn	09 32 10.7	-1.7
WPB				Sn	Sn	09 32 56.0	-2.9
	comp=Z,3.0nm,0.3s						
WPB				Trac		09 33 00.7	
	comp=Z,3.0nm,0.3s						
WSLR	Whistler	4.20	69	Pn	Pn	09 32 15.0	-1.5
WSLR				Sn	Sn	09 33 04.0	-2.2
WSLR				Trac		09 33 05.9	
	comp=Z,2.0nm,0.5s						
HNB	Haney	4.27	81	Pn	Pn	09 32 15.3	-2.1
HNB				Sn	Sn	09 33 04.3	-3.7
HNB				Trac		09 33 09.4	
	comp=Z,7.0nm,0.6s						
VDB	Vedder Mountai	4.58	84	Pn	Pn	09 32 20.0	-1.7
VDB				Trac		09 33 14.6	
	comp=Z,1.0nm,0.4s						
LLLB	Lillooet	4.98	66	Pn	Pn	09 32 25.9	-1.6
LLLB				Sn	Sn	09 33 22.3	-3.6
LLLB				Trac		09 33 28.0	
	comp=Z,3.0nm,0.4s						

KRSC 07 09:39:01.3±0.9, 56.33N×162.96E, h10km±1km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.14	213	iP	Pg	09 39 05.9	+1.2
KBTR				iS	Sg	09 39 08.4	+1.4
KBG	Krutoberegovo	0.16	242	iP	Pg	09 39 06.0	+1.0
KBG				iS	Sg	09 39 09.0	+1.6
KBG				Smax			
	24μm,0.4s						
KBG	Krutoberegovo	0.16	242	iP	Pg	09 39 06.0	+1.0
KBG				iS	Sg	09 39 08.8	+1.4
KBG				Smax			
	16μm,0.9s						
ZLN	Zelenaya	1.25	256	eP	Pb	09 39 24.7	+0.2
ZLN				eS	Sb	09 39 42.0	+1.6
KLY	Klyuchi	1.29	270	iP	Pb	09 39 23.2	-1.9
KLY				iS	Sb	09 39 39.4	-2.2
KRSR	Krestovskiy	1.34	266	iP	Pb	09 39 26.0	-0.1
KRSR				eS	Sb	09 39 43.9	+0.8
KPT	Kopyto	1.57	258	eP	Pn	09 39 30.7	+1.2
KPT				eS	Sb	09 39 51.8	+1.8
KMNR	Kamenistaya	1.63	250	eP	Pn	09 39 31.3	+1.0
KMNR				eS	Sn	09 39 53.3	+1.8
KOZ	Kozyrevsk	1.75	262	eP	Pn	09 39 33.1	+1.1
KOZ				eS	Sn	09 39 55.9	+1.5
SRDR	Sredinnyy	1.81	271	iP	Pn	09 39 33.5	+0.7
SRDR				eS	Sn	09 39 57.4	+1.5
TUMR	Tumrok	1.90	238	eP	Pn	09 39 34.9	+0.7
TUMR				eS	Sn	09 39 59.6	+1.2
BKI	Bering	2.04	122	eP	Pn	09 39 34.5	-1.7
BKI				eS	Sn	09 40 00.8	-1.1
ESO	Esso	2.42	262	eP	Pn	09 39 43.0	+1.4
ESO				eS	Sn	09 40 13.4	+1.9
ESO				Smax			
	60nm,0.7s						
OSSR	Ossora	2.93	1	eP	Pn	09 39 46.4	-2.5
OSSR				eS	Sn	09 40 22.4	-2.1
SPN	Mys Shipunski	3.66	209	iP	Pn	09 39 57.9	-1.3
SPN				eS	Sn	09 40 40.6	-2.3
NLC	Nalytchevo	3.80	215	iP	Pn	09 40 00.9	-0.3
NLC				eS	Sn	09 40 44.5	-1.9
GNL	Ganaly	3.91	230	eP	Pn	09 40 02.8	0.0
AVH	Avacha	3.92	220	eP	Pn	09 40 03.7	+0.7
AVH				eS	Sn	09 40 49.4	-0.2
UGLR	Uglovaya	3.94	219	eP	Pn	09 40 03.8	+0.6
KOK	Koryaka	3.94	221	eP	Pn	09 40 03.9	+0.7
RUS	Russkaya	4.69	215	eP	Pn	09 40 14.6	+0.7
RUS				eS	Sn	09 41 08.0	-1.0

IDC 07 09:42:31.9±2.0, 7.24N×94.48E, mb3.6/4, mb1 3.8/5, mb1mx3.6/17, mbtmp3.6/5, ML4.3/1, Error ellipse: s-maj=67.2km s-min=31.3km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.96	21	Pn	P	09 45 24.2	-2.6
	0.5nm,0.3s,baz=194,slow=13,SNR=1.6						
SONM	Songino Array	41.70	12	P	P	09 50 22.4	-1.7
	0.2nm,0.4s,baz=202,slow=4.7,SNR=3.2						
WRA	Warramunga Arr	47.62	125	P	P	09 51 10.0	-2.0
	0.8nm,1.2s,baz=304,slow=9.1,SNR=4.1						
BVAR	Borovoye Array	49.69	341	P	P	09 51 25.2	-2.4
	0.5nm,0.7s,baz=121,slow=10,SNR=3.1						
FINES	FINESS Array B	73.42	332	P	P	09 54 06.1	-1.5
	1.2nm,0.9s,baz=108,slow=4.4,SNR=1.7						

*BJI **07** 09:55:31.5, 42.50N×126.50W, h10km, mB5.1, mb4.6, Ms4.9, Msz4.8*

*IDC **07** 09:55:33.5±2.1, 42.52N×126.44W, mb3.5/4, mb1 3.9/12, mb1mx3.7/26, mbtmp3.7/12, ML3.4/6, MS3.5/5, Ms1 3.5/5, ms1mx3.2/23, Error ellipse: s-maj=30.1km s-min=13.5km az=51.0*

*NEIC **07** 09:55:34.6±0.9, 42.46N×126.51W, h10km, mb4.3/3, Error ellipse: s-maj=11.3km s-min=4.2km az=70.0*

ISC 07 09:55:31.2±2.5, 42.45N±0.04×126.62W±0.08, h4km±17km, n90, σ0:90/89, mb4.0/7, MS3.5/2, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.74	75	ePn	Pn	09 56 01.8	-0.5
KBO	Bosley Butte	1.79	97	ePn	Pn	09 56 02.7	-0.4
DBO	Dodson Butte	2.58	74	P	Pn	09 56 14.4	+0.1
KHMM	Horse Mountain	2.67	125	eP	Pn	09 56 12.8	-2.9
HUMO	Hull Mountain	2.71	85	P	Pn	09 56 16.2	-0.1
HSO	Harness Mounta	2.81	66	P	Pn	09 56 17.6	+0.1
BBOR	Butler Butte	2.94	80	P	Pn	09 56 20.1	+0.6
YBH	Yreka Blue Hor	3.00	102	Pn	Pn	09 56 20.8	+0.5
	12nm,0.3s,baz=282,slow=12,SNR=138						
YBH				Sn	Sn	09 56 57.8	+0.7
	1.9nm,0.3s,baz=198,slow=20,SNR=2.9						
EUO	Eugene	3.04	57	P	Pn	09 56 20.9	0.0
LAMM	Antelope Mount	3.09	104	P	Pn	09 56 22.6	+1.0
COR	Corvallis	3.23	47	eP	Pn	09 56 22.8	-0.7
BUOR	Burton Butte	3.25	91	P	Pn	09 56 24.9	+1.0
LHEM	Herd Peak	3.38	103	P	Pn	09 56 26.3	+0.6
HBO	Huckleberry Mo	3.44	65	P	Pn	09 56 27.2	+0.5
BROR	Big Rock Looko	3.54	58	P	Pn	09 56 28.2	+0.1
IRO	Indian Ridge	3.55	62	P	Pn	09 56 28.5	+0.3
WDC	Whiskeytown Da	3.59	120	eP	Pn	09 56 28.5	-0.2
HOG	Hogback Mounta	3.65	92	P	Pn	09 56 29.8	+0.3
FRIS	Frissel Point	3.74	60	P	Pn	09 56 31.4	+0.5
LASM	Arnica Sink	3.85	101	P	Pn	09 56 32.5	0.0
SSOR	Sweet Springs	3.86	50	P	Pn	09 56 33.3	+0.7
HUOR	Husband	3.87	63	P	Pn	09 56 33.5	+0.8
KMOR	Kings Mountain	3.91	34	P	Pn	09 56 33.2	0.0
GT2	Goat Mountain	4.15	48	P	Pn	09 56 37.5	+0.8
BPO	Bald Peter	4.21	57	P	Pn	09 56 38.0	+0.5
LBCM	Butte Creek Ri	4.26	110	P	Pn	09 56 38.9	+0.6
PINOR	Pine Mountain	4.42	70	P	Pn	09 56 40.9	+0.3
TDH	Tom, Dick, Har	4.50	49	P	Pn	09 56 42.1	+0.4
VLMM	Larch Mountain	4.53	45	P	Pn	09 56 43.0	+1.0
VLL	Laurance Lake	4.67	48	P	Pn	09 56 44.9	+0.8
MOD	Modoc	4.73	94	eP	Pn	09 56 43.3	-1.6
CROR	Criterion Ridg	4.81	56	P	Pn	09 56 45.6	-0.4
VIPM	Ingram Point	4.83	63	P	Pn	09 56 45.9	-0.4
OHCM	Honcut	4.98	127	eP	Pn	09 56 47.4	-1.0
GLK	Glacier Lake	5.46	39	P	Pn	09 56 55.8	+0.6
WVOR	Wild Horse Val	5.91	87	ePn	Pn	09 56 59.7	-1.9
WCN	Washoe City	6.08	119	ePn	Pn	09 57 04.4	+0.4
EBG	Ellensburg	6.21	42	P	Pn	09 57 06.5	+0.7
RSW	Rattlesnake Hi	6.40	49	P	Pn	09 57 08.2	-0.3
H2OWA	Water	6.49	50	P	Pn	09 57 09.4	-0.4
GBB	Gable Butte	6.50	48	P	Pn	09 57 10.0	0.0
YPT	Yellepit	6.57	54	P	Pn	09 57 10.1	-0.9
WIW	Wooded Island	6.59	50	P	Pn	09 57 10.9	-0.2
GBL	Gable Mountain	6.59	49	P	Pn	09 57 11.0	-0.2
PGC	Sidney	6.59	19	ePn	Pn	09 57 09.7	-1.5
JCW	Jim Creek	6.63	28	P	Pn	09 57 12.5	+0.8
LOCW	Locke Island	6.68	48	P	Pn	09 57 12.4	0.0
CRF	Corfu	6.77	47	P	Pn	09 57 13.5	-0.2
EPH	Ephrata	7.00	43	P	Pn	09 57 17.2	+0.3
BMO	Blue Mountains	7.17	67	ePn	Pn	09 57 18.7	-0.7
NVAR	Mina Array Bea	7.50	120	Pn	Pn	09 57 24.4	+0.4
	0.4nm,0.3s,baz=296,slow=14,SNR=15						
NVAR	Mina Array Bea	7.50	120	Pn	Pn	09 57 24.4	+0.4
ELK	Elko	8.70	97	Pn	P	09 57 42.2	+1.6
	0.1nm,0.3s,baz=284,slow=16,SNR=4.8						
ELK				LR	LR	10 01 10.1	
	comp=Z,276nm,21.1s,baz=291,slow=39						
ELK	Elko	8.70	97	Pn	P	09 57 41.5	+0.9
NEW	Newport	8.86	46	Pn	P	09 57 43.0	+0.1
	0.3nm,0.3s,baz=233,slow=8.1,SNR=4.8						
NEW	Newport	8.86	46	Pn	P	09 57 43.0	+0.1
HLID	Hailey	9.02	79	ePn	P	09 57 44.3	-0.8
BBB	Bella Bella	9.80	355	Pn	P	09 57 57.8	+2.1
	0.6nm,0.3s,baz=207,slow=4.5,SNR=3.3						
MSO	Missoula	10.04	60	eP	P	09 57 57.8	-1.3
BGU	Big Grassy Mou	10.28	94	eP	P	09 58 03.1	+0.7
CHMT	Chamberlain Mo	10.51	60	eP	P	09 58 03.2	-2.4
ARUT	Antelope Range	11.11	110	P	P	09 58 13.5	-0.3
BOZ	Bozeman (W)	11.26	68	eP	P	09 58 15.6	-0.1
QLMT	Earthquake Lak	11.27	73	eP	P	09 58 14.9	-1.0
JLU	Jordanelle	11.52	94	eP	P	09 58 18.1	-1.3
MSU	Marysvale	11.68	105	eP	P	09 58 19.6	-1.9
PDAR	Pinedale Array	12.58	83	Pn	P	09 58 34.7	+1.0
	0.0nm,0.3s,baz=282,slow=14,SNR=4.1						
WUAZ	Wupatki	13.72	115	P	P	09 58 48.5	-0.3
EDM	Edmonton	13.96	35	P	P	09 58 51.4	-0.4
PV10	Paradox Valley	14.00	101	eP	P	09 58 53.0	+0.7
PV01	Paradox Valley	14.43	101	eP	P	09 58 59.1	+1.0
PHWY	Pilot Hill	15.81	87	eP	P	09 59 15.6	-0.4
ISCO	Idaho Springs	16.05	92	eP	P	09 59 19.2	+0.1
	4.8nm,0.9s						
DLBC	Dease Lake	16.15	354	Pn	P	09 59 25.9	+5.6
	0.1nm,0.3s,baz=181,slow=18,SNR=7.1						
DLBC				LR	LR	10 04 10.1	
	comp=Z,98nm,18.0s,baz=296,slow=32						
SDCO	Great Sand Dun	16.82	99	eP	P	09 59 29.9	+1.0
	42nm,1.4s						
DGMT	Dagmar	16.82	61	eP	P	09 59 28.6	-0.2
	52nm,1.4s						
ANMO	Albuquerque	17.40	109	P	P	09 59 37.9	+1.6
	baz=312,slow=12,SNR=7.4						
ANMO				LR	LR	10 06 56.0	
	comp=Z,228nm,19.8s,slow=39						
FFC	Flin Flon	20.29	44	eP	P	10 00 08.4	-1.9
YKA	Yellowknife Ar	21.30	15	P	P	10 00 20.2	-0.5
	3.9nm,0.8s,mb3.8,baz=204,slow=11,SNR=39						
YKW3	Yellowknife Ar	21.36	15	eP	P	10 00 20.1	-1.2
ULM	Lac du Bonnet	22.49	59	P	P	10 00 32.2	-0.6
	2.3nm,0.8s,mb3.7,baz=260,slow=6.1,SNR=3.3						
ULM	Lac du Bonnet	22.49	59	P	P	10 00 32.2	-0.6
TXAR	Lajitas Array	22.65	118	P	P	10 00 38.4	+3.9
	1.0nm,0.7s,mb3.4,baz=293,slow=9.0,SNR=16						
ILAR	Eielson Array	25.16	340	P	P	10 01 00.7	+2.2
	0.6nm,0.7s,mb3.2,baz=142,slow=8.1,SNR=4.7						
INK	Inuvik	26.18	354	LR	LR	10 11 25.3	
	comp=Z,81nm,18.1s,MS3.3,baz=140,slow=36						
SADO	Sadowa	34.08	70	LR	LR	10 16 48.4	
	comp=Z,105nm,18.2s,MS3.6,baz=11,slow=38						
MDJ	Mudanjiang	69.84	312	P	P	10 06 40.8	-3.7
MDJ				AMB	AMB		
	comp=Z,13nm,2.3s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,116nm,3.0s						
CN2	Changchun	72.62	314	eP	P	10 06 59.9	-1.3
NJ2	Nanjing	84.59	309	eP	P	10 08 06.2	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
WMQ	Urumqi	88.77	336	eP	P	10 08 28.5	+1.6
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,62nm,3.9s						

NEIC 07 10:02:43.5±4.1, 42.51N×126.17W, h10km, mb3.3/2, Error ellipse: s-maj=46.2km s-min=13.6km az=70.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBO	Dodson Butte	2.24	73	P	Pn	10 03 20.2	-0.9
HUMO	Hull Mountain	2.38	87	P	Pn	10 03 22.1	-1.0
HSO	Harness Mounta	2.48	65	P	Pn	10 03 23.5	-1.1
BBOR	Butler Butte	2.60	81	P	Pn	10 03 25.8	-0.5
BUOR	Burton Butte	2.92	93	P	Pn	10 03 31.0	+0.1
IRO	Indian Ridge	3.23	61	P	Pn	10 03 34.0	-1.3
BROR	Big Rock Looko	3.23	56	P	Pn	10 03 34.1	-1.2
FRIS	Frissel Point	3.42	59	P	Pn	10 03 37.1	-0.8
SSOR	Sweet Springs	3.57	48	P	Pn	10 03 39.2	-0.9
TDH	Tom, Dick, Har	4.21	47	P	Pn	10 03 48.3	-0.9
BMO	Blue Mountains	6.84	67	eP	Pn	10 04 24.1	-2.3
SDCO	Great Sand Dun	16.50	100	eP	P	10 06 35.0	-1.5
	0.7nm,0.6s						
FFC	Flin Flon	20.00	44	eP	P	10 07 15.8	-3.1
	2.6nm,0.8s						

*BJI **07** 10:04:18.0, 9.80N×93.40E, h30km, mB4.9, mb4.6, Ms4.3, Msz3.9*

*MOS **07** 10:04:26.0±1.1, 10.68N×93.50E, h33km, mb4.8/14, Error ellipse: s-maj=12.8km s-min=6.7km az=113.8*

*NEIC **07** 10:04:27.3±0.3, 10.65N×93.49E, h30km, mb4.6/29, Error ellipse: s-maj=7.7km s-min=6.4km az=74.0*

*IDC **07** 10:04:30.8±4.5, 10.79N×93.61E, h60km±39km, mb4.1/13, mb1 4.2/14, mb1mx4.1/19, mbtmp4.3/14, ML4.4/1, MS3.7/10, Ms1 3.7/10, ms1mx3.6/20, Error ellipse: s-maj=24.9km s-min=15.1km az=54.0*

ISC 07 10:04:27.2±1.5, 10.67N±0.06×93.53E±0.06, h44km±13km, h41km±5.3km:pP-P, n118, σ0:96/119, mb4.5/42, MS3.8/14, 7C-2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	9.35	33	ePn	P	10 06 41.6	-0.7
CMAR	Chiang Mai Arr	9.35	33	P	P	10 06 41.8	-0.5
	1.0nm,0.3s,baz=222,slow=14,SNR=28						
CMAR				LR	LR	10 10 29.5	
	comp=Z,296nm,19.6s,baz=215,slow=39						
VIS	Vishakhapatnam	12.12	307	eP	P	10 07 16.4	-3.5
VIS				eS	S	10 09 22.5	-12
VIS				e		10 09 29.3	
	comp=N,34nm,0.4s						
VIS				e		10 09 29.4	
	comp=E,30nm,0.2s						
BWNR	Bhubaneshwar	12.12	323	eP	P	10 07 13.4	-6.6
BWNR				eS	S	10 09 19.3	-15
BWNR				e		10 09 32.7	
	comp=N,75nm,0.4s						
BWNR				e		10 09 32.7	
	comp=E,124nm,0.5s						
SHL	Shillong	14.90	354	e	P	10 07 56.0	-0.7
SHL				eS	S	10 10 35.0	-6.1
BOK	Bokaro	14.95	332	eP	P	10 07 51.7	-5.7
BOK				e		10 07 52.3	
	comp=Z,2.4nm,0.2s						
BOK				eS	S	10 10 36.9	-5.4
HYB	Hyderabad	15.99	296	eP	P	10 08 15.0	+4.2
HYB				eS	S	10 11 12.0	+5.5
HYB	Hyderabad	15.99	296	iP	P	10 08 15.0	+4.2
HYB				eS	S	10 11 12.0	+5.5
KMI	Kunming	16.83	30	P	P	10 08 22.9	+1.6
KMI				AP		10 08 32.6	
KMI				PP	PP	10 08 40.6	+5.0
KMI				S	S	10 11 27.9	+2.2
KMI				AMB	AMB		
	comp=Z,13nm,0.6s						
KMI				LR	LR		
	comp=N,331nm,13.2s						
KMI				LR	LR		
	comp=E,420nm,14.7s						
KMI				LR	LR		
	comp=Z,237nm,20.2s						
KMI	Kunming	16.83	30	P	P	10 08 22.9	+1.6
	comp=Z,13nm,0.6s						
KMI				pP		10 08 32.6	
KMI				PP	PP	10 08 40.6	+5.0
KMI				S	S	10 11 27.9	+2.2
JIRN	Jiri	18.26	339	eP	P	10 08 39.6	+0.5
	comp=Z,89nm,1.1s						
PKI	Pulchoki	18.47	337	eP	P	10 08 41.5	-0.2
	comp=Z,83nm,1.1s						
GUN	Gumba	18.60	338	eP	P	10 08 43.9	+0.6
	comp=Z,46nm,0.7s						
DMN	Daman	18.62	336	eP	P	10 08 43.2	-0.4
	comp=Z,47nm,0.9s						
KKN	Kakani	18.72	337	eP	P	10 08 44.9	+0.2
	comp=Z,75nm,1.1s						
LSA	Lhasa	19.07	354	eP	P	10 08 49.5	+0.7
LSA	Lhasa	19.07	354	eP	P	10 08 47.7	-1.1
	comp=Z,8.6nm,0.7s						
GKN	Gorkha	19.16	335	eP	P	10 08 49.5	-0.3
	comp=Z,58nm,0.9s						
KOLN	Koldanda	19.41	333	eP	P	10 08 51.9	-0.6
	comp=Z,44nm,0.8s						
BHPL	Bhopal	19.81	311	eP	P	10 08 53.0	-4.0
BHPL				e		10 08 53.9	
	comp=Z,6.1nm,0.2s						
BHPL				e		10 12 29.0	
KAD	Karad	19.89	292	eP	P	10 08 56.7	-1.1
KAD				e		10 09 00.9	
	comp=Z,13nm,0.8s						
KAD				eS	S	10 12 42.0	+7.8
GYA	Guiyang	20.02	37⇑	iP	P	10 08 59.6	+0.5
GYA				AP		10 09 08.4	
GYA				XP		10 09 11.2	
GYA				PP	PP	10 09 23.6	+4.5
GYA				S	S	10 12 49.7	+13
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				LR	LR		
	comp=N,270nm,14.4s,MS4.1						
GYA				LR	LR		
	comp=E,550nm,13.2s,MS4.1						
GYA				LR	LR		
	comp=Z,350nm,14.7s,MS3.8						
POO	Poona	20.57	295	eP	P	10 09 05.0	+0.1
CD2	Chengdu	22.27	24	P	P	10 09 25.0	+3.0
NDI	New Delhi	23.55	322	e	P	10 09 35.0	+0.5
NDI				e		10 09 35.0	
DDI	Dehra Dun	24.29	326	eP	P	10 09 43.4	+1.7
DDI				e		10 14 28.6	
ENH	Enshi	24.52	35	eP	P	10 09 43.2	-0.8
	comp=Z,15nm,0.9s,mb4.5						
LZH	Lanzhou	26.98	19	eP	P	10 10 16.6	+10
	comp=Z,30nm,1.0s,mb4.8						
LZH				pP	pP	10 10 24.7	+6.2
LZH				sP	sP	10 10 28.6	+4.8
GTA	Gaotai	29.17	10	eP	P	10 10 26.8	+0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
SSE	Sheshan	32.72	47	P	P	10 10 49.2	-8.8
	comp=Z,23nm,0.6s,mb5.3						
SSE				sP	sP	10 11 01.4	-14
SSE				PP	PP	10 12 02.4	-5.7
SSE				PcP	PcP	10 13 35.4	-7.5
SSE				S	S	10 16 02.7	-7.6
SSE				sS		10 16 17.6	
SSE				ScP		10 17 16.8	
SSE				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,90nm,17.4s,MS3.5						
WMQ	**Urumqi**	**33.42**	**352**	*e*P	**P**	**10 11 04.5**	**+0.6**
WMQ				AP	pP	10 11 14.0	-1.8
WMQ				PP	PP	10 12 17.0	+0.4
WMQ				S	**S**	**10 16 19.5**	**-1.5**
WMQ				XS		10 16 42.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,213nm,5.2s						
WMQ				LR	LR		
	comp=N,186nm,19.6s						
WMQ				LR	LR		
	comp=E,292nm,25.2s						
WMQ				LR	LR		
	comp=Z,147nm,20.6s,MS3.7						
HHC	**Hu-ho-hao-te**	**34.02**	**25**	*e*P	**P**	**10 11 08.4**	**-0.7**
HHC				AP	pP	10 11 23.5	+2.5
HHC				PP	PP	10 12 21.8	-2.1
HHC				XS		10 16 54.8	
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,143nm,7.1s						
HHC				LR	LR		
	comp=N,216nm,15.5s,MS4.1						
HHC				LR	LR		
	comp=E,200nm,17.2s,MS4.1						
HHC				LR	LR		
	comp=Z,131nm,20.8s,MS3.6						
KZA	**Kyzart**	**35.15**	**336**	P	**P**	**10 11 19.7**	**+0.9**
	SNR=5.7						
UCH	**Uchtor**	**35.57**	**335**	P	**P**	**10 11 23.3**	**+0.9**
	SNR=5.7						
AML	**Almayashu**	**35.84**	**334**	P	**P**	**10 11 25.2**	**+0.6**
	SNR=18						
AAK	**Ala-Archa**	**35.92**	**336**	P	**P**	**10 11 26.4**	**+1.1**
	SNR=8.3						
AAK	**Ala-Archa**	**35.92**	**336**	P	**P**	**10 11 25.5**	**+0.2**
	comp=Z,46nm,1.0s,mb5.4,SNR=13						
AAK	**Ala-Archa**	**35.92**	**336***c*	*i*P	**P**	**10 11 25.1**	**-0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**35.92**	**336**	*e*P	**P**	**10 11 24.6**	**-0.7**
	comp=Z,9.2nm,1.0s,mb4.7						
FRU	**Bishkek**	**36.04**	**336**	*e*P	**P**	**10 11 27.0**	**+0.7**
EKS2	**Erkin-Say**	**36.24**	**335**	P	**P**	**10 11 28.6**	**+0.7**
	SNR=12						
USP	**Ospenovka**	**36.45**	**336**	P	**P**	**10 11 30.2**	**+0.4**
	SNR=8.2						
SONM	**Songino Array**	**38.60**	**14**	P	**P**	**10 11 47.5**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.6,baz=201,slow=11,SNR=6.0						
SONM				PcP	PcP	10 14 00.0	0.0
	comp=Z,1.0nm,1.0s,baz=197,slow=3.6,SNR=3.5						
ULN	**Ulaanbaatar**	**38.79**	**15**	*i*P	**P**	**10 11 44.7**	**-4.5**
ZAK	**Zakamensk**	**40.41**	**10**	*e*P	**P**	**10 12 12.5**	**+10**
ZAK				*e*		10 14 04.5	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.9s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.6						
TLY	**Talaya**	**41.72**	**9**	*i*P	**P**	**10 12 14.3**	**+0.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.9						
KURK	**Kurchatov**	**41.77**	**346**	*i*P	**P**	**10 12 13.6**	**-0.3**
KURK	**Kurchatov**	**41.77**	**346**	*e*P	**P**	**10 12 13.0**	**-0.9**
	comp=Z,7.0nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**46.17**	**341**	P	**P**	**10 12 48.7**	**-0.6**
	comp=Z,3.7nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=16						
CHKZ	**Chkalovo**	**46.65**	**341**	*e*P	**P**	**10 12 52.2**	**-0.9**
RAYN	**Ar Rayn**	**47.44**	**292**	P	**P**	**10 13 01.3**	**+1.6**
	comp=Z,45nm,1.1s,SNR=9.1						
CBIJ	**Chichi jima**	**48.54**	**63**	LR	LR	10 33 50.4	
	comp=Z,108nm,20.5s,MS3.8,baz=271,slow=36						
WRA	**Warramunga Arr**	**50.39**	**127**	P	**P**	**10 13 21.7**	**-0.9**
	comp=Z,4.5nm,1.0s,mb4.5,baz=304,slow=8.9,SNR=9.1						
WRAB	**Tennant Creek**	**50.40**	**127**	P	**P**	**10 13 23.8**	**+1.2**
	comp=Z,7.8nm,0.9s,mb4.7						
GNI	**Garni**	**52.08**	**313**	*i*P	**P**	**10 13 35.8**	**+0.8**
GNI				pmax	pmax		
	comp=Z,30nm,1.7s						
GNI	**Garni**	**52.08**	**313**	LR	LR	10 39 10.6	
	comp=Z,49nm,20.7s,MS3.5,baz=281,slow=40						
ASAR	**Alice Springs**	**52.18**	**131**	P	**P**	**10 13 35.5**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.2,baz=308,slow=7.4,SNR=8.8						
TI2	**Plekhanov**	**52.64**	**315**	*e*P	**P**	**10 13 40.0**	**+0.8**
KIV	**Kislovodsk**	**54.87**	**317**	*e*P	**P**	**10 13 55.4**	**-0.2**
KIV				*e*	pP	10 14 07.9	-0.1
KIV				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.3						
KIV	**Kislovodsk**	**54.87**	**317**	*e*P	**P**	**10 13 54.8**	**-0.8**
	comp=Z,35nm,1.1s,mb5.3						
ASF	**Jabal al Asfar**	**56.22**	**302**	LR	LR	10 41 08.6	
	comp=Z,35nm,21.7s,MS3.4,baz=338,slow=39						
MALT	**Malatya**	**56.22**	**309**	*e*P	**P**	**10 14 04.7**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2						
SOC	**Sochi**	**56.76**	**315**	*e*P	**P**	**10 14 06.4**	**-2.8**
SOC				*e*		10 14 59.6	
SOC				*e*		10 16 14.7	
SOC				*e*PPP	PPP	10 17 34.3	-2.0
SOC				*e*S	**S**	**10 22 00.4**	**+3.2**
SOC				*e*		10 23 54.1	
SOC				*e*SS	SS	10 25 50.1	+3.7
SOC				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=N,6.0nm,0.5s						
SOC				pmax	pmax		
	comp=E,7.0nm,0.6s						
KMBO	**Kilima Mbogo**	**57.17**	**262**	*i*P	**P**	**10 14 14.8**	**+2.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.0s						
KMBO	**Kilima Mbogo**	**57.17**	**262**	P	**P**	**10 14 14.4**	**+1.8**
	comp=Z,2.6nm,0.9s,mb4.2,baz=51,slow=7.8,SNR=6.9						
KMBO				LR	LR	10 35 54.8	
	comp=Z,141nm,21.5s,MS4.0,baz=86,slow=33						
KMBO	**Kilima Mbogo**	**57.17**	**262**	*e*P	**P**	**10 14 14.4**	**+1.8**
	comp=Z,25nm,1.9s,mb4.9						
EIL	**Elat**	**57.55**	**298**	LR	LR	10 42 13.2	
	comp=Z,53nm,18.7s,MS3.7,baz=294,slow=39						
EIL	**Elat**	**57.55**	**298**	*e*P	**P**	**10 14 14.5**	**-0.5**
	comp=Z,4.9nm,0.9s,mb4.5						
YAK	**Yakutsk**	**57.57**	**19**	*i*P	**P**	**10 14 10.3**	**-4.4**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
VRSR	**Storozhevoye**	**59.77**	**324**	*e*P	**P**	**10 14 28.7**	**-1.4**
VRSR				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.0s						
VRSR				pmax	pmax		
	comp=E,20nm,0.8s						
STKA	**Stephens Creek**	**62.47**	**134**	P	**P**	**10 14 47.8**	**-0.8**
	comp=E,1.7nm,0.4s,mb4.5,baz=329,slow=9.9,SNR=2.9						
STKA				LR	LR	10 44 22.4	
	comp=E,66nm,20.3s,MS3.8,baz=26,slow=38						
OBN	**Obninsk**	**62.71**	**327**	*e*P	**P**	**10 14 48.6**	**-1.3**
OBN				*e*	pP	10 14 58.3	-4.3
OBN						10 15 28.0	
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.1						
TIXI	**Tiksi**	**64.64**	**12**	*i*P	**P**	**10 15 00.1**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
AKASG	**Malin Array Be**	**65.61**	**321**	*i*P	**P**	**10 15 06.8**	**-2.0**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.7s						
AKASG	**Malin Array Be**	**65.61**	**321**	P	**P**	**10 15 06.8**	**-2.0**
	comp=Z,3.2nm,0.7s,mb4.5,baz=88,slow=5.3,SNR=11						
VRI	**Vrincioaia**	**66.29**	**315**	⇑P	**P**	**10 15 13.1**	**-0.2**
VRI	**Vrincioaia**	**66.29**	**315**	⇑P	**P**	**10 15 13.1**	**-0.1**
MLR	**Muntele Rosu**	**66.77**	**315**	⇓P	**P**	**10 15 16.2**	**-0.1**
MLR	**Muntele Rosu**	**66.77**	**315**	⇓P	**P**	**10 15 16.2**	**-0.1**
BURAR	**Bucovina Array**	**67.59**	**317**	⇑P	**P**	**10 15 22.0**	**+0.6**
BURAR	**Bucovina Array**	**67.59**	**317**	⇑P	**P**	**10 15 22.0**	**+0.6**
JOF	**Joensuu**	**68.09**	**334**	*e*p	**P**	**10 15 23.3**	**-0.9**
	comp=Z,4.9nm,0.5s,mb4.8						
JOF	**Joensuu**	**68.09**	**334**	*e*P	**P**	**10 15 23.3**	**-0.9**
JOF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.8						
LSZ	**Lusaka**	**69.65**	**249**	*e*P	**P**	**10 15 35.4**	**+0.7**
	comp=Z,2.2nm,0.6s,mb4.3						
KOLS	**Kolonicke sedl**	**69.72**	**318**	*e*P	**P**	**10 15 35.9**	**+1.3**
FINES	**FINESS Array B**	**69.98**	**332**	*i*P	**P**	**10 15 34.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**69.98**	**332**	P	**P**	**10 15 34.8**	**-1.1**
	comp=Z,1.9nm,0.3s,mb4.5,baz=114,slow=8.0,SNR=48						
KAF	**Kangasniemi**	**70.05**	**333**	*e*p	**P**	**10 15 35.9**	**-0.4**
	comp=Z,2.7nm,0.6s,mb4.3						
KAF	**Kangasniemi**	**70.05**	**333**	*e*P	**P**	**10 15 35.9**	**-0.4**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
CRVS	**Cervenica-Dubn**	**70.25**	**318**	*i*P	**P**	**10 15 38.1**	**+0.3**
CRVS				*e*	pP	10 15 53.2	+2.6
MATP	**Matopo**	**71.01**	**244**	P	**P**	**10 15 43.8**	**+0.9**
	comp=Z,4.3nm,0.9s,mb4.4,baz=68,slow=9.0,SNR=4.2						
OJC	**Ojcow**	**71.47**	**319**	*e*P	**P**	**10 15 44.9**	**-0.2**
ARCES	**ARCESS Array B**	**72.45**	**340**	P	**P**	**10 15 50.4**	**-0.2**
	comp=Z,9.0nm,1.0s,mb4.7,baz=99,slow=6.5,SNR=17						
ARCES				LR	LR	10 50 44.7	
	comp=Z,110nm,20.7s,MS4.1,baz=182,slow=38						
MORC	**Moravsky Berou**	**72.88**	**319**	*e*P	**P**	**10 15 53.0**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.5						
DPC	**Dobruska-Polom**	**73.70**	**319**	*e*P	**P**	**10 15 58.5**	**+0.2**
BILL	**Bilibino**	**73.74**	**22**	*i*P	**P**	**10 15 53.8**	**-4.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s,MS4.5						
LBTB	**Lobatse**	**75.06**	**240**	*e*P	**P**	**10 16 07.4**	**+0.7**
	comp=Z,7.8nm,0.9s,mb4.6						
BRG	**Berggiesshubel**	**75.23**	**320**	*e*P	**P**	**10 16 07.2**	**+0.1**
BRG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BRG	**Berggiesshubel**	**75.23**	**320**	*e*P	**P**	**10 16 07.2**	**+0.1**
	comp=Z,7.3nm,0.8s,mb4.7						
GEC2	**GERESS Array S**	**75.36**	**318**	*e*P	**P**	**10 16 07.3**	**-0.6**
GERES	**GERESS Array B**	**75.36**	**318**	P	**P**	**10 16 07.7**	**-0.2**
	comp=Z,5.7nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=18						
KHC	**Kasperske Hory**	**75.44**	**318**	*e*P	**P**	**10 16 07.6**	**-0.7**
CLL	**Collm**	**75.83**	**320**	*e**SP	sP	10 16 25.0	-3.3
NB2	**NORSAR Subarra**	**77.02**	**330**	P	**P**	**10 16 16.1**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.0,baz=96,slow=4.8						
NOA	**NORSAR Array B**	**77.02**	**330**	P	**P**	**10 16 15.8**	**-1.2**
	comp=Z,2.5nm,0.9s,mb4.2,baz=91,slow=5.8,SNR=5.0						
NOA				LR	LR	10 51 57.1	
	comp=Z,27nm,21.5s,MS3.5,baz=225,slow=37						
NOA	**NORSAR Array B**	**77.02**	**330**	P	**P**	**10 16 15.8**	**-1.2**
NOA				LR	LR	10 51 57.1	
LPG	**La Plagne**	**80.23**	**315**⇑	*i*P	**P**	**10 16 35.3**	**+0.4**
	comp=Z,33nm,0.8s,mb5.0						
BNI	**Bardonecchia**	**80.33**	**314**	*e*P	**P**	**10 16 35.4**	**-0.1**
	comp=Z,7.4nm,0.6s,mb4.8						
INK	**Inuvik**	**94.49**	**16**	P	**P**	**10 17 44.3**	**+0.7**
	comp=Z,3.0nm,1.2s,mb4.6,baz=318,slow=3.7,SNR=5.7						
INK	**Inuvik**	**94.49**	**16**	*e*P	**P**	**10 17 45.4**	**+1.8**
	comp=Z,3.1nm,1.2s,mb4.6						
RES	**Resolute Bay**	**94.66**	**2**	*e*P	**P**	**10 17 44.9**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.7						
DBIC	**Dimbokro**	**96.96**	**278**	LR	LR	11 03 35.4	
	comp=Z,50nm,18.3s,MS4.0,baz=137,slow=36						
PDAR	**Pinedale Array**	**122.79**	**20**	PKP	PKPdf	10 23 20.0	+1.2
	comp=Z,0.6nm,0.8s,slow=1.5,SNR=5.4						
NVAR	**Mina Array Bea**	**122.83**	**30**	PKP	PKPdf	10 23 21.4	+2.4
	comp=Z,0.6nm,0.7s,baz=301,slow=0.8,SNR=5.1						
TXAR	**Lajitas Array**	**136.91**	**22**	PKP	PKPdf	10 23 48.1	+2.1
	comp=Z,0.4nm,0.8s,baz=95,slow=2.2,SNR=4.9						
JCT	**Junction City**	**137.13**	**17**	*e*PKIKP	PKPdf	10 23 49.6	+3.2
BDFB	**Brasilia**	**142.26**	**258**	PKP	PKPdf	10 23 57.3	+1.4
	comp=Z,2.6nm,0.6s,baz=126,slow=7.5,SNR=4.7						
PLCA	**Paso Flores**	**146.91**	**202**	PKPbc	PKPbc	10 24 07.0	+2.2
	comp=Z,4.1nm,0.8s,baz=148,slow=4.5,SNR=6.2						

IDC 07 10:07:56.5±1.7**, 0.06S**×**125.06E, mb4.4**/3**, mb1 4.7**/3**, mb1mx4.2**/12**, mbtmp4.5**/3**, 1C, Error ellipse: s-maj=173.4km s-min=26.3km az=70.0, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.75**	**156**	P	P	10 12 49.7	-2.0
	7.8nm,0.3s,baz=333,slow=11,SNR=193						
WB2	**Warramunga Arr**	**21.75**	**156**⇑	*i*P	P	10 12 49.8	-1.9
ASAR	**Alice Springs**	**24.99**	**161**	P	P	10 13 23.1	-0.4
	5.3nm,0.3s,baz=343,slow=11,SNR=101						
ASPA	**Alice Springs**	**24.99**	**161**	*e*P	P	10 13 23.3	-0.2
STKA	**Stephens Creek**	**35.30**	**155**	P	P	10 14 51.9	-3.5
	1.4nm,0.3s,baz=330,slow=15,SNR=3.3						
SONM	**Songino Array**	**50.39**	**344**	P	P	10 16 55.6	-2.0
	0.4nm,0.9s,baz=153,slow=7.2,SNR=3.4						

*STR **07** 10:23:58.5±0.3, 42.62N×0.83E, h5^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **07** 10:23:58.5±0.1, 42.62N×0.84E, h4^{km}, Md2.4/1, Ml2.4/5, Error ellipse: s-maj=1.1km s-min=0.8km az=36.0*
*MDD **07** 10:23:58.9±0.2, 42.61N×0.83E, mbLg1.9/16, Error ellipse: s-maj=1.9km s-min=1.3km az=26.0, PRXIMO*
*CSEM **07** 10:23:59.1±0.1, 42.65N×0.82E, h5^{km}, ML2.5/5, Error ellipse: s-maj=1.4km s-min=1.2km az=174.0*
ISC 07 10:23:57.4±0.3**, 42.60N**±0.02×**0.82E**±0.03**, h10^{km}, n40, σ0^{s}68**/47**, Pyrenees**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.27**	**350**	Pg	**Pg**	**10 24 04.1**	**+0.9**
MELF				Sg	**Sg**	**10 24 07.9**	**+0.9**
MELF	**Melles**	**0.27**	**350**	Pg	**Pg**	**10 24 04.2**	**+1.0**
MELF				Lg		10 24 08.0	
SALF	**Salau**	**0.31**	**60**	Pg	**Pg**	**10 24 04.6**	**+0.7**
SALF				Sg	**Sg**	**10 24 08.5**	**+0.2**
SALF	**Salau**	**0.31**	**60**	Pg	**Pg**	**10 24 04.6**	**+0.7**
SALF				Lg		10 24 08.6	
CSOR	**Sort**	**0.33**	**134**	Pg	**Pg**	**10 24 04.8**	**+0.6**
CSOR				Lg		10 24 09.3	
	32nm,0.1s						
MLS	**Moulis**	**0.41**	**30**	Pg	**Pg**	**10 24 06.3**	**+0.5**
MLS				Sg	**Sg**	**10 24 11.3**	**0.0**
MLS	**Moulis**	**0.41**	**30**	Pg	**Pg**	**10 24 06.4**	**+0.7**
MLS				Lg		10 24 11.3	
RESF	**Ens**	**0.41**	**300**	Pg	**Pg**	**10 24 06.3**	**+0.5**
RESF				Sg	**Sg**	**10 24 12.0**	**+0.6**
RESF	**Ens**	**0.41**	**300**	Pg	**Pg**	**10 24 06.6**	**+0.8**
RESF				Lg		10 24 12.1	
EBIE	**Bielsa**	**0.51**	**280**	Pg	**Pg**	**10 24 08.2**	**+0.5**
	3.6nm,0.1s,SNR=17						
EBIE				Lg		10 24 15.0	
	23nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.51**	**280**	Pg	**Pg**	**10 24 08.2**	**+0.5**
	3.6nm,0.1s,SNR=17						
CORG	**Organya**	**0.53**	**135**	Pg	**Pg**	**10 24 08.5**	**+0.4**
CORG				Lg		10 24 15.6	
	8.9nm,0.1s						
PAND	**Andorre**	**0.54**	**98**	Pg	**Pg**	**10 24 08.6**	**+0.1**
PAND				Lg		10 24 14.9	
EPF	**Esparros**	**0.55**	**320**	*e*Pg	**Pg**	**10 24 09.0**	**+0.4**
EPF				*e*Sg	**Sg**	**10 24 15.5**	**-0.6**
	16nm,0.2s						
GRBF	**Gourbit**	**0.58**	**66**	Pg	**Pg**	**10 24 09.5**	**+0.4**
GRBF				Lg		10 24 16.7	
VIEF	**Viey**	**0.65**	**296**	Pg	**Pg**	**10 24 10.8**	**+0.3**
VIEF				Lg		10 24 19.1	
LABF	**Labassere**	**0.71**	**309**	Pg	**Pg**	**10 24 12.1**	**+0.5**
LABF				Sg	**Sg**	**10 24 21.4**	**+0.3**
LABF	**Labassere**	**0.71**	**309**	Pg	**Pg**	**10 24 12.1**	**+0.5**
LABF				Lg		10 24 21.6	
CAVN	**Les Avellanes**	**0.72**	**184**	Pg	**Pg**	**10 24 12.6**	**+0.6**
CAVN				Lg		10 24 22.7	
	4.8nm,0.1s						
CLLI	**Llivia**	**0.86**	**98**	Pg	**Pg**	**10 24 14.3**	**-0.4**
EMIR	**Miracle**	**0.87**	**143**	Pg	**Pg**	**10 24 14.8**	**0.0**
	1.4nm,0.1s,SNR=7.9						
EMIR				Lg		10 24 27.3	
	9.2nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.87**	**143**	Pg	**Pg**	**10 24 14.8**	**0.0**
	1.4nm,0.1s,SNR=7.9						
CARF	**Carcanieres**	**0.95**	**83**	Lg		10 24 28.7	
ETSF	**Etsaut**	**1.06**	**287**	*e*Pg	**Pg**	**10 24 17.9**	**-0.7**
ETSF				*e*Sg	**Sg**	**10 24 32.2**	**-0.6**
	13nm,0.2s						
MTLF	**Montolieu**	**1.26**	**54**	*e*Pg	**Pg**	**10 24 21.9**	**-0.8**
MTLF				*e*Sg	**Sg**	**10 24 38.1**	**-1.5**
	5.2nm,0.2s						
EPOB	**Poblet**	**1.27**	**171**	Pg	**Pg**	**10 24 23.0**	**+0.3**
	1.8nm,0.1s,SNR=7.9						
EPOB				Lg		10 24 39.2	
	2.5nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**1.27**	**171**	Pg	**Pg**	**10 24 23.0**	**+0.2**
	1.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.30**	**228**	Pg	**Pg**	**10 24 23.9**	**+0.4**
	3.6nm,0.1s,SNR=7.9						
ESAC				Lg		10 24 41.4	
	6.0nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.30**	**228**	Pg	**Pg**	**10 24 23.9**	**+0.4**
	3.6nm,0.1s,SNR=7.9						
CFON	**Fontmartina**	**1.47**	**124**	Pg	**Pg**	**10 24 25.7**	**-1.1**
CFON				Lg		10 24 45.3	
	19nm,0.2s						
EJON	**La Jonquera**	**1.54**	**95**	Pg	**Pg**	**10 24 27.6**	**-0.5**
	1.5nm,0.1s,SNR=7.9						
EJON				Lg		10 24 47.8	
	2.4nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.54**	**95**	Pg	**Pg**	**10 24 27.9**	**-0.3**
	SNR=7.9						
SJPF	**Ste Jean**	**1.59**	**289**	*e*Pg	**Pg**	**10 24 28.4**	**-0.8**
SJPF				*e*Sg	**Sg**	**10 24 49.3**	**-1.1**
	9.3nm,0.3s						
ERTA	**Horta de San J**	**1.69**	**193**	Pg	**Pg**	**10 24 30.6**	**-0.6**
	1.3nm,0.2s,SNR=7.9						
ERTA				Lg		10 24 52.2	
	2.4nm,0.1s,SNR=7.9						
ERTA	**Horta de San J**	**1.69**	**193**	Pg	**Pg**	**10 24 31.0**	**-0.1**
	SNR=7.9						
EALK	**Alkurruntz**	**1.82**	**291**	Pg	**Pg**	**10 24 31.6**	**-2.2**
	3.6nm,0.4s,SNR=4.0						
EALK				Lg		10 24 56.5	
	13nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**1.82**	**291**	Pg	**Pg**	**10 24 33.6**	**-0.2**
	SNR=4.0						
EMOS	**Mosqueruela**	**2.44**	**204**	Lg		10 25 15.5	
	1.8nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.49**	**21**	*e*Sg	**Sg**	**10 25 15.9**	**-4.5**
	2.7nm,0.2s						
RJF	**Les Rejaudoux**	**2.75**	**10**	*e*Sg	**Sg**	**10 25 24.1**	**-4.8**
	1.4nm,0.2s						

*ATH **07** 10:30:40.3, 40.21N×20.72E, h5^{km}, MD3.2/4*
*NEIC **07** 10:30:40.3, 40.21N×20.73E, h5^{km}, MD3.2(ATH), After ATH.*
*THE **07** 10:30:40.2, 40.41N×20.47E, h8^{km}, ML3.0*
*CSEM **07** 10:30:40.1±0.4, 40.37N×20.44E, h12^{km}, MD3.2, Error ellipse: s-maj=12.5km s-min=3.8km az=130.0*
ISC 07 10:30:40.1±0.5**, 40.22N**±0.03×**20.67E**±0.05**, h5^{km}, n14, σ1^{s}29**/24**, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBN	**Korca**	**0.42**	**13**	*e*Pg	**Pg**	**10 30 46.1**	**-2.4**
KBN				*i* Sg	**Sg**	**10 30 55.5**	**+1.5**
JAN	**Janina**	**0.58**	**166**	*e*Pb	**Pb**	**10 30 50.2**	**-2.1**
JAN				*e*Sb	**Sb**	**10 30 59.0**	**-1.5**
JAN	**Janina**	**0.58**	**166**	*e*PB	**Pb**	**10 30 50.4**	**-1.9**
JAN				*e*SB	**Sb**	**10 30 59.0**	**-1.5**
SRN	**Sarande**	**0.61**	**237**	*i* Pg	**Pg**	**10 30 50.7**	**-1.7**
SRN				*i* Sg	**Sg**	**10 31 00.6**	**+0.1**
IGT	**Igoumenitsa**	**0.73**	**201**	*e*Pg	**Pg**	**10 30 56.9**	**+2.2**
FNA	**Florina**	**0.78**	**43**	*e*Pg	**Pg**	**10 30 54.7**	**-1.0**
FNA				*e*Sg	**Sg**	**10 31 06.7**	**+0.5**
KEK	**Kerkira**	**0.84**	**233**	*e*PG	**Pg**	**10 30 56.5**	**-0.3**
KEK				*e*SB	**Sb**	**10 31 10.0**	**+2.0**
KZN	**Kozani**	**0.85**	**84**	*e*PB	**Pb**	**10 30 56.0**	**-0.9**
BIA	**Bitola**	**0.94**	**32**	*e*Pg	**Pg**	**10 30 57.6**	**-1.4**
BIA				*i* Sg	**Sg**	**10 31 12.1**	**+0.5**
GRG	**Griva**	**1.51**	**60**	*e*Pb	**Pb**	**10 31 07.9**	**-0.4**
GRG				*e*Sb	**Sb**	**10 31 28.9**	**+1.2**
EVR	**Evrytania**	**1.57**	**145**	*e*PB	**Pb**	**10 31 10.5**	**+1.2**
AGG	**Agios Georgios**	**1.75**	**132**	*e*Pn	**Pn**	**10 31 13.1**	**+1.7**
AGG				*e*Sn	**Sn**	**10 31 39.7**	**+5.3**
KNT	**Kendrikon**	**1.94**	**60**	*e*Pn	**Pn**	**10 31 13.6**	**-0.5**
KNT				*e*Sn	**Sn**	**10 31 39.1**	**0.0**
XOR	**Xorichti**	**2.12**	**113**	*e*Pn	**Pn**	**10 31 17.9**	**+1.2**

*CASC **07** 10:48:50.6±1.6, 12.84N×88.61W, h57^{km}±27^{km}, MD4.5, ML4.5, mb4.3(NEIC)*
*IDC **07** 10:48:50.8±0.8, 13.05N×88.34W, h57^{km}±6^{km}, mb4.0/15, mb1 4.3/17, mb1mx4.0/27, mbtmp4.3/17, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=26.9km s-min=10.1km az=49.0*
*NEIC **07** 10:48:54.0±1.0, 12.85N×88.45W, h98^{km}±9^{km}, mb4.3/25, MD4.7(SNET), Error ellipse: s-maj=12.6km s-min=6.5km az=47.0*
NEIC Felt [II] at San Salvador.
*BJI **07** 10:48:54.0, 12.90N×88.50W, h98^{km}, mB5.0*
ISC 07 10:48:50.2±0.4**, 12.85N**±0.04×**88.60W**±0.03**, h71^{km}**±2^{km}**, h60^{km}**±2.2^{km}**: pP-P, n118, σ0^{s}89**/125**, mb4.3**/34**, 6C-16D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.66**	**29**⇓	*i*P	**P**	**10 49 04.9**	**+0.1**
BLLM	**Bellamira**	**0.69**	**31**⇓	*i*P	**P**	**10 49 04.8**	**-0.2**
BLLM				*e*S	**S**	**10 49 16.2**	**0.0**
SNVI	**San Vicente**	**0.79**	**343**⇓	*i*P	**P**	**10 49 06.2**	**-0.2**
SNVI				*e*S	**S**	**10 49 18.7**	**+0.3**
CNCH	**Conchagua**	**0.86**	**60**⇓	*e*P	**P**	**10 49 06.6**	**-0.5**
CNCH				*e*S	**S**	**10 49 20.3**	**+0.6**
LCBS	**La Ceiba**	**0.88**	**335**⇓	*i*P	**P**	**10 49 07.2**	**-0.2**
LFRS	**El Faro**	**0.89**	**330**⇓	*i*P	**P**	**10 49 07.1**	**-0.4**
LBRS	**Las Brisas**	**0.98**	**334**⇓	*e*P	**P**	**10 49 08.8**	**0.0**
LBRS				*e*S	**S**	**10 49 22.3**	**-0.3**
CAHU	**Cacacuatique**	**0.99**	**22**⇓	*e*P	**P**	**10 49 09.4**	**+0.6**
CAHU				*e*S	**S**	**10 49 23.9**	**+1.2**
LFU	**La Fuente**	**1.03**	**331**⇓	*i*P	**P**	**10 49 09.2**	**0.0**
SNET	**Serv Nac Est T**	**1.04**	**323**⇑	*e*P	**P**	**10 49 08.9**	**-0.5**
SNET				*e*S	**S**	**10 49 22.8**	**-0.9**
SNET				*e*		10 49 24.9	
	comp=Z,17μm,0.2s						
BOQS	**Boqueron**	**1.10**	**323**⇓	*i*P	**P**	**10 49 10.2**	**0.0**
SBLS	**San Blas**	**1.40**	**315**	*e*P	**P**	**10 49 14.3**	**-0.1**
SNJE	**San Jose**	**1.41**	**316**	*e*P	**P**	**10 49 14.1**	**-0.4**
SNJE				*e*S	**S**	**10 49 32.4**	**-0.1**
RTR	**El Retiro**	**1.46**	**316**	*e*P	**P**	**10 49 15.1**	**0.0**
RBDL	**Robledal**	**1.64**	**320**⇑	*e*P	**P**	**10 49 17.6**	**0.0**
MTO2	**Montecristo 2**	**1.71**	**334**⇓	*e*P	**P**	**10 49 18.9**	**+0.5**
LEON	**Leon**	**1.72**	**104**⇑	*e*P	**P**	**10 49 18.4**	**-0.2**
TELN	**Telica**	**1.74**	**98**	*e*S	**S**	**10 49 40.6**	**+0.5**
MIRN	**Miramar**	**1.88**	**102**⇓	*e*P	**P**	**10 49 20.9**	**0.0**
CNGN	**Cerro Negro**	**1.89**	**100**	*e*P	**P**	**10 49 19.6**	**-1.2**
CNGN				*e*S	**S**	**10 49 44.0**	**+0.6**
MOMJ	**Momotombo**	**2.06**	**102**⇓	*e*P	**P**	**10 49 23.0**	**-0.2**
IXG	**Ixpaco**	**2.24**	**306**⇓	*e*P	**P**	**10 49 25.2**	**-0.6**
XAVN	**Gruta Xavier**	**2.32**	**107**⇑	*e*P	**P**	**10 49 26.9**	**-0.1**
XAVN				*e*S	**S**	**10 49 54.0**	**-0.4**
MGAN	**Managua**	**2.40**	**107**⇓	*e*P	**P**	**10 49 27.5**	**-0.5**
MGAN				*e*S	**S**	**10 49 55.0**	**-1.3**
TICN	**Ticuantepe**	**2.45**	**109**	*e*P	**P**	**10 49 28.7**	**-0.1**
TICN				*e*S	**S**	**10 49 58.6**	**+1.1**
WILN	**Americas 2**	**2.45**	**106**	*e*P	**P**	**10 49 28.1**	**-0.6**
WILN				*e*S	**S**	**10 49 56.8**	**-0.8**
	comp=N,4μm,0.4s						
PYTN	**Playitas**	**2.50**	**97**⇑	*e*P	**P**	**10 49 29.5**	**+0.1**
MASN	**Masaya**	**2.54**	**109**	*e*P	**P**	**10 49 29.7**	**-0.3**
APON	**Apoyo**	**2.64**	**110**	*e*P	**P**	**10 49 31.2**	**-0.3**
JAT	**Jato**	**3.30**	**297**⇓	*e*P	**P**	**10 49 40.0**	**-0.7**
JAT				*e*S	**S**	**10 50 19.0**	**+0.2**
JTS	**JuntasAbangare**	**4.38**	**125**	Pn	**P**	**10 49 58.0**	**+2.2**
	comp=N,3μm,0.4s,SNR=35						
JTS	**JuntasAbangare**	**4.38**	**125**	P	**P**	**10 49 55.8**	**-0.1**
	comp=N,5.1nm,0.3s,baz=311,slow=18,SNR=20						
JTS				S	**S**	**10 50 43.3**	**-2.8**
	comp=N,9.8nm,0.3s,baz=307,slow=20,SNR=3.6						
JTS	**JuntasAbangare**	**4.38**	**125**	*e*Pn	**P**	**10 49 57.0**	**+1.1**
JTS				Sn	**S**	**10 50 54.4**	**+8.3**
PRS1	**Puriscal**	**5.08**	**124**	*e*P	**P**	**10 50 07.0**	**+1.6**
TRTC	**Tortuguero**	**5.29**	**115**	*e*P	**P**	**10 50 07.1**	**-1.2**
LAJ	**Bijagual**	**5.30**	**124**	*e*P	**P**	**10 50 05.4**	**-3.0**
LCR2	**La Lucha 2**	**5.46**	**124**⇑	*e*P	**P**	**10 50 11.8**	**+1.1**
ICR	**Volcan Irazu**	**5.47**	**121**	*e*P	**P**	**10 50 12.1**	**+1.2**
BUS	**Buena Vista**	**5.77**	**124**	*e*P	**P**	**10 50 16.5**	**+1.6**
BUS				*e*S	**S**	**10 51 21.7**	**+1.2**
ACR	**Cerro Adams**	**6.77**	**127**	*e*P	**P**	**10 50 30.0**	**+1.0**
TEIG	**Tepich**	**7.34**	**2**	*e*Pn	**P**	**10 50 36.6**	**-0.3**
	comp=N,29nm,0.8s						
ROSC	**El Rosal**	**16.17**	**118**	LR	LR	10 58 20.8	
	comp=N,68nm,21.9s,baz=350,slow=36						
SDV	**Santo Domingo**	**18.07**	**101**	P	**P**	**10 52 56.7**	**-1.4**
	comp=N,0.6nm,0.3s,baz=293,slow=7.4,SNR=15						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SDV	Santo Domingo	18.07	101	eP	P	10 52 57.0	-1.1
	comp=N,12nm,0.8s						
LRAL	Lakeview Retre	20.15	4	eP	P	10 53 22.4	+1.3
	comp=N,12nm,0.8s						
JCT	Junction City	20.38	331	eP	P	10 53 23.5	0.0
	comp=N,12nm,0.6s						
GOGA	Godfrey	21.00	12	eP	P	10 53 30.7	+0.9
	comp=N,9.0nm,0.5s						
GOGA				e		10 53 44.3	
TXAR	Lajitas Array	21.56	322	P	P	10 53 36.8	+1.3
	comp=N,3.8nm,0.5s,mb4.0,baz=145,slow=9.6,SNR=72						
TXAR				PcP	PcP	10 57 36.6	+0.5
	comp=N,0.5nm,0.6s,baz=154,slow=4.4,SNR=6.8						
MIAR	Mount Ida	22.07	349	eP	P	10 53 41.5	+1.1
	comp=N,10nm,0.7s,mb4.3						
MIAR				epP		10 53 54.3	
UALR	University of	22.09	352	eP	P	10 53 41.8	+1.1
	comp=N,9.5nm,0.6s,mb4.3						
SWET	Sewanee	22.40	6	P	P	10 53 44.3	+0.6
WMOK	Wichita Mounta	23.67	339	eP	P	10 53 56.8	+0.7
	comp=N,4.2nm,0.6s,mb4.0						
TZTN	Tazewell	24.03	10	eP	P	10 54 01.0	+1.6
MNTX	Cornudas Mount	24.29	323	eP	P	10 54 02.3	+0.1
	comp=N,2.3nm,0.7s,mb3.6						
CCM	Cathedral Cave	25.21	355	eP	P	10 54 10.4	-0.5
	comp=N,11nm,0.8s,mb4.3						
CCM				e	pP	10 54 26.2	-1.1
WCI	Wyandotte Cave	25.36	4	eP	P	10 54 11.3	-1.0
	comp=N,5.5nm,0.6s,mb4.2						
ANMO	Albuquerque	27.31	327	P	P	10 54 31.9	+1.6
	comp=N,1.3nm,0.5s,mb3.7,baz=143,slow=8.5,SNR=10.0						
ANMO				PcP	PcP	10 57 49.7	+1.2
	comp=N,1.1nm,0.7s,baz=98,slow=2.8,SNR=6.1						
ANMO				LR	LR	11 06 52.3	
	comp=N,64nm,21.7s,slow=40						
ANMO	Albuquerque	27.31	327	eP	P	10 54 31.0	+0.7
	comp=N,1.5nm,0.6s,mb3.7						
SDCO	Great Sand Dun	29.02	332	eP	P	10 54 46.3	+0.6
	comp=N,1.6nm,0.6s,mb3.8						
ISCO	Idaho Springs	30.76	334	eP	P	10 55 01.4	+0.4
	comp=N,3.4nm,0.8s,mb4.1						
PV01	Paradox Valley	30.83	328	eP	P	10 55 02.4	+0.7
PV10	Paradox Valley	31.25	328	eP	P	10 55 05.1	-0.3
SRU	San Rafael	32.57	327	eP	P	10 55 17.0	+0.1
SADO	Sadowa	32.82	12	P	P	10 55 17.4	-1.6
	comp=N,3.9nm,0.5s,mb4.5,baz=232,slow=6.3,SNR=7.4						
MSU	Marysvale	33.04	325	P	P	10 55 21.2	+0.2
MSU				ePcP	PcP	10 58 01.9	-1.5
TCUT	Toone Canyon	34.51	329	eP	P	10 55 34.2	+0.6
BW06	Boulder Array	34.90	333	eP	P	10 55 36.7	-0.2
	comp=N,2.3nm,0.6s,mb4.2						
PDAR	Pinedale Array	34.90	333	P	P	10 55 36.5	-0.3
	comp=N,2.1nm,0.5s,mb4.2,baz=124,slow=9.7,SNR=20						
PDAR				PcP	PcP	10 58 07.8	-0.8
	comp=N,0.9nm,0.5s,baz=137,slow=4.9,SNR=6.8						
HWUT	Hardware Ranch	34.96	329	eP	P	10 55 38.2	+0.9
	comp=N,3.2nm,0.6s,mb4.3						
LPAZ	La Paz	35.32	144	P	P	10 55 41.5	+0.8
	comp=N,1.2nm,0.5s,mb4.0,baz=5.6,slow=7.8,SNR=3.7						
SNOW	Snow King Moun	35.99	332	eP	P	10 55 47.0	+0.9
SNOW				epP	pP	10 56 02.1	-1.4
LOHW	Long Hollow	36.04	332	eP	P	10 55 46.9	+0.4
	comp=N,5.1nm,0.6s,mb4.6						
WUWY	Wally Ulrich	36.04	332	eP	P	10 55 47.4	+0.8
TPAW	Teton Pass	36.10	332	eP	P	10 55 47.7	+0.6
RRI2	Red Ridge	36.16	331	eP	P	10 55 48.0	+0.4
MOOW	Moose Ponds	36.21	332	eP	P	10 55 48.5	+0.5
ELK	Elko	36.29	325	LR	LR	11 12 50.5	
	comp=N,92nm,20.8s,baz=175,slow=40						
IMW	Indian Meadow	36.41	332	eP	P	10 55 50.4	+0.7
MNV	Mina	36.58	319	eP	P	10 55 52.0	+0.9
	comp=N,1.4nm,0.7s,mb4.0						
NVAR	Mina Array Bea	36.67	319	P	P	10 55 52.7	+0.8
	comp=N,1.6nm,0.7s,mb4.1,baz=119,slow=9.0,SNR=19						
NVAR				PcP	PcP	10 58 15.4	+1.6
	comp=N,4.4nm,0.9s,baz=116,slow=5.0,SNR=20						
NVAR				ScP		11 01 58.5	
	comp=N,0.6nm,0.9s,baz=117,slow=4.0,SNR=3.8						
NVAR	Mina Array Bea	36.67	319	P	P	10 55 52.7	+0.8
NVAR				PcP	PcP	10 58 15.4	+1.6
NVAR				ScP		11 01 58.5	
YFT	Old Faithful	36.80	333	eP	P	10 55 54.6	+1.6
YMR	Madison River	37.03	333	eP	P	10 55 55.6	+0.8
QLMT	Earthquake Lak	37.36	333	eP	P	10 55 57.4	-0.2
GCMT	Greycliff	37.38	336	eP	P	10 55 57.8	+0.1
ULM	Lac du Bonnet	37.77	352	P	P	10 55 59.3	-1.6
	comp=N,6.4nm,0.6s,mb4.6,baz=162,slow=9.4,SNR=14						
ULM	Lac du Bonnet	37.77	352	eP	P	10 55 58.9	-2.1
	comp=N,7.3nm,0.6s,mb4.7						
DGMT	Dagmar	37.81	343	eP	P	10 56 01.2	0.0
	comp=N,30nm,0.6s,mb5.3						
BOZ	Bozeman (W)	38.09	334	eP	P	10 56 03.8	+0.2
	comp=N,5.2nm,0.6s,mb4.5						
HRY	Holter Researc	39.01	334	eP	P	10 56 11.4	+0.1
WVOR	Wild Horse Val	39.32	324	eP	P	10 56 14.2	+0.2
	comp=N,2.0nm,0.7s,mb4.1						
CHMT	Chamberlain Mo	39.78	333	eP	P	10 56 17.7	0.0
BMO	Blue Mountains	40.20	328	eP	P	10 56 20.2	-1.0
	comp=N,13nm,1.9s,mb4.4						
YBH	Yreka Blue Hor	41.33	321	P	P	10 56 29.6	-0.9
	comp=N,1.4nm,1.0s,mb3.7,baz=169,slow=5.2,SNR=3.3						
YBH				PcP	PcP	10 58 28.3	-0.1
	comp=N,0.6nm,0.6s,baz=69,slow=4.4,SNR=3.6						
NEW	Newport	42.53	332	P	P	10 56 39.9	-0.4
	comp=N,0.9nm,0.4s,mb3.8,baz=114,slow=10.0,SNR=4.4						
NEW	Newport	42.53	332	P	P	10 56 39.9	-0.4
FFC	Flin Flon	43.08	349	P	P	10 56 44.9	+0.2
	comp=N,74nm,0.5s,SNR=9.5						
FFC	Flin Flon	43.08	349	eP	P	10 56 43.7	-1.1
	comp=N,5.5nm,0.5s,mb4.5						
EDM	Edmonton	44.84	339	eP	P	10 56 58.1	-0.8
SCHQ	Schefferville	45.23	18	P	P	10 56 60.0	-2.0
	comp=N,4.7nm,0.6s,mb4.4,baz=217,slow=5.8,SNR=24						
SCHQ				pP	pP	10 57 15.6	-4.1
	comp=N,3.0nm,0.9s,baz=247,slow=6.1,SNR=3.5						
FCC	Fort Churchill	46.01	356	eP	P	10 57 06.5	-1.7
	comp=N,8.7nm,0.5s,mb4.7						
BDFB	Brasilia	49.12	124	P	P	10 57 31.7	-1.3
	comp=N,2.6nm,0.4s,mb4.5,baz=297,slow=10,SNR=5.2						
BDFB				LR	LR	11 20 22.6	
	comp=N,79nm,18.0s,baz=101,slow=39						
YKA	Yellowknife Ar	52.94	345	P	P	10 57 59.8	-1.4
	comp=N,5.2nm,0.6s,mb4.8,baz=138,slow=8.0,SNR=183						
YKA				pP	pP	10 58 14.9	-4.4
	comp=N,1.8nm,0.8s,baz=156,slow=6.3,SNR=4.7						
YKA	Yellowknife Ar	52.94	345	P	P	10 57 59.9	-1.4
YKA				pP	pP	10 58 14.9	-4.4
YKW3	Yellowknife Ar	53.00	345	eP	P	10 57 59.7	-2.0
DLBC	Dease Lake	55.07	335	P	P	10 58 17.2	+0.2
	comp=N,7.3nm,0.6s,mb4.9,baz=153,slow=6.1,SNR=35						
DLBC	Dease Lake	55.07	335	P	P	10 58 17.2	+0.2
RES	Resolute Bay	61.92	358	eP	P	10 59 01.7	-2.8
	comp=N,2.6nm,0.6s,mb4.4						
INK	Inuvik	62.49	343	P	P	10 59 06.8	-1.5
	comp=N,6.9nm,0.7s,mb4.8,baz=129,slow=7.5,SNR=64						
INK	Inuvik	62.49	343	eP	P	10 59 06.2	-2.0
	comp=N,7.2nm,0.8s,mb4.8						
ILAR	Eielson Array	65.21	336	P	P	10 59 24.3	-1.7
	comp=N,3.2nm,0.7s,mb4.2,baz=167,slow=4.6,SNR=54						
CN2	Changchun	115.64	333	ePKP	PKPdf	11 07 23.6	-0.9
SONM	Songino Array	118.13	349	PKP	PKPdf	11 07 30.1	+0.9
	comp=N,0.6nm,0.6s,baz=342,slow=4.6,SNR=7.7						
HHC	Hu-ho-hao-te	123.41	342	ePKP	PKPdf	11 07 39.3	-0.3
HHC				PP	PP	11 09 22.7	-3.4
HHC				PKS	PKS	11 11 11.3	-4.2
HHC				SKS	SKS	11 14 40.3	+6.5
WMQ	Urumqi	123.50	3	ePKP	PKPdf	11 07 39.0	-0.7
WRA	Warramunga Arr	138.30	254	PKhKP		11 08 00.7	
	comp=N,0.3nm,0.6s,baz=96,slow=3.3,SNR=4.9						
WRA				PKP	PKPdf	11 08 10.9	+2.6
	comp=N,1.3nm,0.5s,baz=87,slow=1.8,SNR=16						
WRA				pPKP		11 08 27.4	
	comp=N,1.7nm,0.7s,baz=92,slow=2.0,SNR=7.4						
ASAR	Alice Springs	138.37	249	PKhKP		11 08 00.8	
	comp=N,0.4nm,0.9s,baz=111,slow=3.5,SNR=5.5						
ASAR				PKP	PKPdf	11 08 10.6	+2.2
	comp=N,0.8nm,0.8s,baz=103,slow=2.0,SNR=8.9						
ASAR				pPKP		11 08 27.5	
	comp=N,0.6nm,0.6s,baz=96,slow=2.2,SNR=3.9						
CMAR	Chiang Mai Arr	148.02	346	PKPbc	PKPdf	11 08 28.0	+2.8
	comp=N,2.7nm,0.8s,baz=335,slow=3.8,SNR=8.2						

IGQ 07 10:49:37.3, 0.84S×79.43W, h14km±4km, mb4.1, 11C-10D, Error ellipse: s-maj=1.9km s-min=1.3km az=164.7, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NAS1	Nasa	0.97	78	⇓P	Pb	10 49 57.2	+1.7
IGUA	Igualata	1.02	129	⇓P	Pb	10 49 57.4	+1.2
IGUA				S	Sb	10 50 10.7	+1.4
JUA2	San Juan 2	1.03	53	⇑P	Pb	10 49 57.6	+1.2
VC1	Cotopaxi 1	1.04	79	⇑P	Pb	10 49 58.4	+1.7
GGP	Refugio Guagua	1.06	52	⇑P	Pb	10 49 58.4	+1.4
PINO	Pino	1.06	51	⇑P	Pb	10 49 57.9	+0.9
PISA	Pisayambo	1.07	102	⇓P	Pb	10 49 58.4	+1.4
TAMB	Tambo	1.07	82	⇑P	Pb	10 49 58.6	+1.5
YANA	Yana	1.12	50	⇑P	Pb	10 49 58.5	+0.6
CUSU	Cusua	1.12	122	⇓P	Pb	10 49 59.0	+1.0
CUSU				S	Sb	10 50 13.7	+1.5
JUIV	Juive	1.13	121	⇓P	Pb	10 49 58.9	+0.8
JUIV				S	Sb	10 50 13.1	+0.7
HOJA	Cerro de Hojas	1.14	259	⇓P	Pb	10 49 57.1	-1.1
RETU	Refugio	1.16	122	⇓P	Pb	10 49 59.7	+1.1
RUN2	Runtun	1.17	120	⇓P	Pb	10 49 59.6	+0.8
RUN2				S	Sb	10 50 14.5	+0.9
ARRY	Arrayan	1.18	124	⇓P	Pb	10 49 59.6	+0.6
ARRY				S	Sb	10 50 14.5	+0.6
ULBA	Ulba	1.19	121	⇓P	Pb	10 49 59.9	+0.8
ULBA				S	Sb	10 50 15.0	+0.8
ANTI	Antisana	1.33	73	⇑P	Pb	10 50 02.5	+1.0
COTA	Cotacachi	1.60	43	⇑P	Pn	10 50 06.3	+0.9
COTA				S	Sn	10 50 28.3	+2.4
ELAGU	Cayambe Volc	1.65	61	P	Pn	10 50 08.3	+2.2
ELAGU				S	Sn	10 50 29.7	+2.4
CAYR	Refugio Cayamb	1.66	59	⇑P	Pn	10 50 08.7	+2.5
CAYR				S	Sn	10 50 30.0	+2.7
CAYA	Cayambe	1.70	58	⇑P	Pn	10 50 09.2	+2.4
CAYA				S	Sn	10 50 31.6	+3.1
CONE	Cono NE Rev Vo	1.94	67	P	Pn	10 50 13.9	+3.6
LORE	San Lorenzo	2.20	15	P	Pn	10 50 16.3	+2.3
ECEN	Cerro Negro	2.20	41	⇑P	Pn	10 50 16.6	+2.6
ECEN				S	Sn	10 50 44.6	+3.4

IDC 07 10:53:07.0±2.3, 11.02N×92.09E, mb3.7/4, mb1 4.0/5, mb1mx3.8/16, mbtmp3.7/5, ML4.0/1, MS2.6/1, Ms1 2.8/1, ms1mx2.5/19, 1C, Error ellipse: s-maj=75.4km s-min=27.0km az=79.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CMAR	Chiang Mai Arr	9.92	41	Pn	P	10 55 33.1	-0.9
	0.4nm,0.3s,baz=232,slow=15,SNR=4.2						
CMAR				LR	LR	10 59 18.8	
	comp=Z,31nm,19.4s,baz=215,slow=38						
SONM	Songino Array	38.62	15	P	P	11 00 31.3	-2.4
	0.2nm,0.3s,baz=203,slow=7.4,SNR=3.8						
WRA	Warramunga Arr	51.73	126	P	P	11 02 16.1	-2.5
	1.2nm,0.5s,baz=305,slow=8.6,SNR=53						
WRA				PcP	PcP	11 03 30.3	-1.9
	0.2nm,0.6s,baz=316,slow=2.8,SNR=4.6						
WB2	Warramunga Arr	51.74	126	⇑iP	P	11 02 16.0	-2.7
ASAR	Alice Springs	53.48	130	P	P	11 02 29.1	-2.5
	0.5nm,0.5s,baz=307,slow=6.7,SNR=16						
ASAR				PcP	PcP	11 03 37.9	-0.7
	0.4nm,0.7s,baz=310,slow=3.5,SNR=4.0						
ILAR	Eielson Array	92.59	22	P	P	11 06 19.4	-1.9
	0.4nm,0.7s,baz=296,slow=6.0,SNR=4.7						

*NEIC **07** 10:57:31.2, 35.09S×70.51W, h5km, ML3.0(GUC), After GUC.*

GUC 07 10:57:31.2±0.8, 35.09S×70.51W, h5km, MD3.9, ML3.0, 1C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NICH	Los Niches	0.59	278	eP	Pg	10 57 42.7	-0.4
NICH				i S	Sg	10 57 52.9	+1.8
SFDO	San Fernando	0.63	319	⇓iP	Pg	10 57 43.5	-0.2
SFDO				i S	Sg	10 57 52.5	+0.4
CACH	El Canelo	0.97	356	⇑iP	Pb	10 57 48.7	-1.4
CACH				i S	Sb	10 58 02.5	-0.5
CHCH	Chadas Angostu	1.16	354	⇓iP	Pb	10 57 52.2	-1.0
CHCH				i S	Sb	10 58 08.7	+0.3
LMEL	Las Melosas	1.26	12	eP	Pb	10 57 53.9	-1.2
LMEL				i S	Sb	10 58 11.9	+0.4
LMEL				AMP		10 58 13.9	
	comp=N,277nm,0.2s						
LNV	Longovilo	1.35	326	i P	Pb	10 57 55.5	-1.1
LNV				i S	Sb	10 58 13.9	-0.1
PCH	Pirque	1.46	360	eP	Pn	10 57 57.6	-0.7
TACH	Talagante	1.47	346	eP	Pn	10 57 57.5	-1.0
TACH				i S	Sb	10 58 17.4	-0.2
RCDM	Rinconada Maip	1.61	351	eP	Pn	10 57 59.8	-0.7
RCDM				i S	Sb	10 58 21.4	-0.3
RCDM				AMP		10 58 29.1	
	comp=E,493nm,0.1s						
CLCH	Cerro Calan	1.69	359	eP	Pn	10 58 01.4	-0.2
CLCH				i S	Sn	10 58 24.6	+0.8
CLCH				AMP		10 58 32.1	
	comp=E,353nm,0.9s						
FCH	Farellones	1.76	6	eP	Pn	10 58 02.8	+0.1
FCH				i S	Sn	10 58 27.0	+1.3
FCH				AMP		10 58 28.4	
	comp=E,228nm,0.2s						
LCCH	Las Cruces	1.83	331	eP	Pn	10 58 03.4	-0.2
LCCH				i S	Sn	10 58 27.3	-0.1
ROCH	El Roble	2.15	349	eP	Pn	10 58 09.0	+0.9
ROCH				i S	Sn	10 58 38.0	+2.4
JACH	Jahuel	2.40	358	eP	Pn	10 58 12.8	+1.0
JACH				i S	Sn	10 58 44.0	+2.2

*IDC **07** 11:03:34.1±0.8, 12.97N×124.42E, mb3.9/9, mb1 4.1/10, mb1mx4.0/19, mbtmp3.9/10, ML4.0/1, MS3.6/3, Ms1 3.6/3, ms1mx3.1/19, Error ellipse: s-maj=33.8km s-min=16.3km az=73.0*

*MAN **07** 11:03:36.6, 13.04N×124.38E, h16km, mb4.8, ML3.7, MS3.7*

MAN Lignon Hill Legaspi City Bulusan Irosin Sorosogon Intensity II.

*NEIC **07** 11:03:37.2±0.4, 12.99N×124.46E, h20km, mb4.4/6, Error ellipse: s-maj=17.2km s-min=7.1km az=76.0*

NEIC Felt [II PIVS] at Bulusan, Irosin and Legaspi, Luzon.

ISC 07 11:03:37.0±0.6, 13.05N±0.02×124.40E±0.04, h30km±5km, n55, σ1s15/63, mb4.1/14, MS3.7/3, 4C-2D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PVCP	Virac	0.59	336	eP	Pb	11 03 47.5	-1.4
PVCP				eS	Sb	11 03 55.8	-1.2
CNP	Catarman	0.60	155	eP	Pb	11 03 48.9	-0.1
CNP				eS	Sb	11 03 57.8	+0.7
MMPH	Masbate	1.02	228	⇑iP	Pn	11 03 56.0	+0.5
MMPH				i S	Sn	11 04 08.0	-1.0
AUQP	San Andres	1.70	279	eP	Pn	11 04 07.5	+2.3
BESP	Borongan	1.76	145	eP	Pn	11 04 06.8	+0.7
PLP	Palo	1.96	163	i P	Pn	11 04 09.0	+0.1
PLP				i S	Sn	11 04 33.9	+1.2
GQP	Guinayangan	2.08	294	⇓eP	Pn	11 04 11.9	+1.3
GQP				eS	Sn	11 04 40.4	+4.5
RCP	Roxas	2.19	228	⇑eP	Pn	11 04 12.9	+0.7
RCP				eS	Sn	11 04 40.2	+1.5
OTRP	Odiongan	2.42	254	eP	Pn	11 04 15.2	-0.3
KALP	Kalibo	2.44	236	eP	Pn	11 04 21.8	+6.1
BOAC	Boac	2.52	280	eP	Pn	11 04 17.2	+0.2
LLP	Lapu-Lapu	2.75	189	eP	Pn	11 04 19.6	-0.6
LLP				eS	Sn	11 04 51.8	-1.0
POLP	Polilio Island	2.91	305	eP	Pn	11 04 24.5	+1.9
MSLP	Maasin	2.94	171	eP	Pn	11 04 24.9	+2.1
LQP	Lukban	2.98	291	⇑eP	Pn	11 04 23.8	+0.3
GUIM	Jordan	2.99	217	eP	Pn	11 04 21.5	-2.2
SJMP	San Jose	3.25	260	eP	Pn	11 04 28.3	+0.9
TBP	Tagbilaran	3.38	189	eP	Pn	11 04 28.6	-0.6
TBP				eS	Sn	11 05 07.3	-1.4
SCPH	Surigao	3.42	162	eP	Pn	11 04 32.5	+2.7
SCPH				eS	Sn	11 04 46.3	-23
BALP	Baler	3.83	315	eP	Pn	11 04 35.6	+0.1
SNPH	Sibulan	3.86	197	eP	Pn	11 04 34.0	-1.9
CUYO	Cuyo Island	3.97	237	eP	Pn	11 04 37.2	-0.3
PCPH	Palayan	4.06	308	⇑eP	Pn	11 04 38.6	-0.2
PCPH				eS	Sn	11 05 25.6	-0.4
LUBP	Lubang	4.10	280	eP	Pn	11 04 44.4	+5.0
BUTP	Butuan	4.23	163	eP	Pn	11 04 45.0	+3.7
BUSP	Coron	4.23	256	eP	Pn	11 04 40.9	-0.4
PALP	Palanan	4.42	335	eP	Pn	11 04 45.3	+1.4
CAUP	Cauayan	4.60	328	eP	Pn	11 04 46.0	-0.5
BUKP	Musuan	5.18	173	eP	Pn	11 04 57.9	+3.3
ENPP	El Nido	5.20	250	eP	Pn	11 04 54.7	-0.2
CVP	Callao Caves	5.25	332	eP	Pn	11 04 57.0	+1.4
CVP				eS	Sn	11 05 54.0	-1.9
PAGZ	Pagadian	5.27	191	eP	Pn	11 04 56.5	+0.6
APYP	Conner	5.67	328	eP	Pn	11 05 01.5	0.0
JOW	Kunigami	14.18	14	Pn	P	11 06 56.5	-1.7
	1.3nm,0.3s,baz=181,slow=18,SNR=8.8						
JOW				LR	LR	11 10 51.3	
	comp=Z,78nm,21.6s,baz=169,slow=31						
CMAR	Chiang Mai Arr	25.07	286	P	P	11 09 00.5	-0.2
	1.5nm,0.7s,mb3.6,baz=104,slow=6.5,SNR=8.1						
BJI	Beijing	27.84	346	eP	P	11 09 32.5	+6.5
	8.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,80nm,25.3s,MS3.2						
WRAB	Tennant Creek	34.21	163	eP	P	11 10 20.3	-2.1
	comp=Z,2.5nm,0.6s,mb4.3						
WRA	Warramunga Arr	34.21	163	P	P	11 10 20.3	-2.1
	comp=Z,1.0nm,0.7s,mb3.9,baz=341,slow=8.2,SNR=31						
WB2	Warramunga Arr	34.22	163	eP	P	11 10 21.4	-1.1
ULN	Ulaanbaatar	37.60	341	eP	P	11 10 51.9	+1.0
	comp=Z,4.3nm,0.9s,mb4.2						
ASAR	Alice Springs	37.66	166	P	P	11 10 50.3	-1.2
	comp=Z,1.2nm,0.3s,mb4.0,baz=342,slow=6.9,SNR=43						
ASPA	Alice Springs	37.66	166	eP	P	11 10 51.1	-0.4
SONM	Songino Array	37.79	340	P	P	11 10 53.3	+0.9
	comp=Z,1.9nm,0.8s,mb3.9,baz=168,slow=8.4,SNR=9.0						
STKA	Stephens Creek	47.62	160	⇓iP	P	11 12 12.0	-0.5
	comp=Z,3.1nm,0.8s,mb4.4						
STKA	Stephens Creek	47.62	160	P	P	11 12 11.9	-0.6
	comp=Z,4.4nm,0.8s,mb4.5,baz=335,slow=8.4,SNR=7.5						
KURK	Kurchatov	52.75	325	P	P	11 12 51.4	-0.1
	comp=Z,57nm,0.8s,mb5.5,SNR=9.7						
KURK	Kurchatov	52.75	325	eP	P	11 12 51.7	+0.2
	comp=Z,15nm,1.1s,mb4.8						
BVAR	Borovoye Array	58.35	325	P	P	11 13 31.6	-0.2
	comp=Z,1.2nm,0.7s,mb4.0,SNR=6.4						
CHKZ	Chkalovo	58.47	326	eP	P	11 13 32.5	-0.1
	comp=Z,4.0nm,1.2s,mb4.3						
ILAR	Eielson Array	77.75	26	P	P	11 15 33.6	+1.0
	comp=Z,4.3nm,1.4s,mb4.2,baz=228,slow=7.4,SNR=4.1						
INK	Inuvik	82.39	22	P	P	11 15 56.9	-0.4
	comp=Z,0.9nm,0.9s,mb3.7,baz=243,slow=6.8,SNR=2.5						
FINES	FINESS Array B	82.59	331	LR	LR	11 56 25.4	
	comp=Z,59nm,18.9s,MS4.0,baz=55,slow=38						
NOA	NORSAR Array B	89.47	333	LR	LR	12 02 56.9	
	comp=Z,42nm,18.2s,MS3.9,baz=150,slow=40						
YKA	Yellowknife Ar	91.96	23	P	P	11 16 45.5	+1.7
	comp=Z,0.1nm,0.6s,mb3.3,baz=300,slow=4.2,SNR=3.3						
YKA	Yellowknife Ar	91.96	23	P	P	11 16 45.5	+1.7

*NIED **07** 11:39:00, 32.10N×137.80E, h380km, Mw4.4 Best double couple: $M_0$4.68×10^15 NP1:ϕ_s346°, δ89°, λ-73°. NP2:ϕ_s78°, δ17°, λ-178°.*

*MOS **07** 11:39:29.3±0.9, 32.04N×137.63E, h371km, mb4.6/26, Error ellipse: s-maj=10.1km s-min=7.6km az=86.3*

*BJI **07** 11:39:30.5, 32.04N×137.43E, h373km, mB4.8, mb4.6*

*JMA **07** 11:39:31.2±0.4, 32.14N×137.84E, h413km±4km, M4.4*

*NEIC **07** 11:39:32.5±0.4, 32.08N×137.58E, h389km±4km, mb4.5/51, MW4.4(NIED), Error ellipse: s-maj=4.5km s-min=3.0km az=142.0*

*IDC **07** 11:39:32.5±0.6, 32.08N×137.61E, h390km±6km, mb3.9/19, mb1 4.0/23, mb1mx4.0/25, mbtmp4.6/23, Error ellipse: s-maj=12.8km s-min=8.5km az=107.0*

ISC 07 11:39:31.9±0.3, 32.05N±0.04×137.59E±0.03, h396km±2km, n218, σ1s00/240, mb4.4/73, 19C-16D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TK01	Tokai 1	1.71	0	P	P	11 40 26.7	+0.5
TK01				S	S	11 41 11.1	+2.3
TK02	Tokai 2	1.90	4	⇓P	P	11 40 28.1	+0.8
JHJ	Hachijo jima 2	2.14	59	P	P	11 40 28.2	-0.6
	187nm,0.3s,baz=53,slow=1.5,SNR=45						
JHJ				S	S	11 41 13.7	+0.2
	134nm,0.3s,baz=58,slow=23,SNR=7.9						
JHJ2	Mitsune	2.16	60	⇓P	P	11 40 28.1	-0.9
JHJ2				S	S	11 41 13.5	-0.2
JWZ	Kozaga	2.16	314	⇑P	P	11 40 29.8	+0.8
JWZ				S	S	11 41 15.4	+1.6
TK04	Tokai 4	2.34	6	P	P	11 40 31.1	+0.9
JIE	Ise	2.45	343	⇑P	P	11 40 31.8	+0.8
JIE				S	S	11 41 18.0	+0.6
JWY	Kouya	2.74	323	P	P	11 40 34.6	+1.5
JIM2	Oshima 3	3.08	30	P	P	11 40 34.4	-1.4
JAI	Aioi	3.16	304	P	P	11 40 37.9	+1.3
JAI				S	S	11 41 29.5	+2.1
JOD2	Odawara 2	3.44	21	P	P	11 40 38.0	-1.1
JOD2				S	S	11 41 29.7	-2.2
JYN	Shimob	3.53	13	⇓P	P	11 40 39.7	-0.2
JMN	Monobe	3.54	299	⇑P	P	11 40 41.8	+1.9
JMN				S	S	11 41 36.4	+2.9
JGM	Miyama	3.71	349	P	P	11 40 42.7	+1.2
BSO1	Boso 1	3.85	47	P	P	11 40 39.2	-3.6
BSO1				S	S	11 41 32.6	-5.9
JRY	Ryogami san	4.11	15	⇓P	P	11 40 44.3	-1.0
JRY				S	S	11 41 40.6	-2.3
JTO	Tosashimizu	4.13	283	⇑P	P	11 40 47.2	+1.7
JTO				S	S	11 41 47.1	+3.9
MAJO	Matsushiro	4.51	6	ePn	P	11 40 48.3	-1.1
MAJO				eSn	S	11 41 49.8	-0.3
MAT	Matsushiro	4.51	6	eP	P	11 40 48.0	-1.4
MAT				eS	S	11 41 47.0	-3.1
MAT	Matsushiro	4.51	6	P	P	11 40 48.3	-1.1
MAT				S	S	11 41 47.3	-2.8
CBIJ	Chichi jima	6.35	140	P	P	11 41 05.7	-3.3
	32nm,0.3s,baz=299,slow=21,SNR=6.5						
CBIJ				S	S	11 42 18.3	-7.0
	146nm,0.3s,baz=221,slow=21,SNR=15						
CBIJ	Chichi jima	6.35	140	P	P	11 41 04.8	-4.1
JMK	Ichinoseki	7.50	22	P	P	11 41 19.1	-2.9
JMK				S	S	11 42 42.7	-6.0
KS15	Wonju Array Si	9.63	307	ePn	P	11 41 45.7	-0.8
JOW	Kunigami	9.64	240	P	P	11 41 48.2	+1.6
	7.5nm,0.3s,baz=70,slow=7.9,SNR=45						
INCN	Inchon	10.51	304	ePn	P	11 41 56.4	-0.5
	298nm,0.8s						
ASAJ	Asahikawa	12.68	17	P	P	11 42 19.7	-2.0
ASAJ				S	S	11 44 36.8	-0.2
ASAJ				pmax	pmax		
	comp=Z,7.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	12.68	17	P	P	11 42 19.6	-2.1
	comp=N,6.5nm,0.3s,baz=226,slow=14,SNR=29						
ASAJ				S	S	11 44 36.8	-0.2
	comp=N,1.2nm,0.3s,baz=276,slow=30,SNR=7.2						
MDJ	Mudanjiang	14.02	336	P	P	11 42 34.8	-1.6
MDJ				XP		11 44 03.2	
MDJ				S	S	11 45 06.6	+2.4
MDJ				PCP	PcP	11 47 25.8	-0.7
MDJ				SCP		11 50 22.5	
MDJ				PCS		11 51 00.8	
MDJ				SCS	ScS	11 54 00.0	+2.4
MDJ				AMB	AMB		
	comp=Z,18nm,2.8s						
MDJ				AMB	AMB		
	comp=Z,130nm,4.2s						
SNY	Shenyang	14.84	315	⇓P	P	11 42 44.1	-0.9
SNY				AMB	AMB		
	comp=Z,40nm,0.7s						
CN2	Changchun	15.13	324	eP	P	11 42 47.8	-0.2
CN2				eS	S	11 45 25.1	-0.6
CN2				PCP	PcP	11 47 24.7	-3.4
CN2				AMB	AMB		
	comp=Z,20nm,1.3s						
YSS	Yuzh-Sakhalins	15.41	13	⇑iP	P	11 42 49.0	-1.8
YSS				i S	S	11 45 37.3	+6.3
YSS				pmax	pmax		
	comp=N,50nm,0.7s						
YSS				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS				smax			
	comp=N,50nm,0.8s						
YSS	Yuzh-Sakhalins	15.41	13	eP	P	11 42 49.4	-1.4

comp=N,45nm,0.4s
YHNB Yeheng 16.04 247 *e*P **P 11 42 55.8 -1.5**
BJT Baijiatuau 19.03 301 *e*P **P 11 43 27.6 +0.3**
BJT pmax pmax
comp=Z,24nm,0.4s
BJT Baijiatuau 19.03 301 *e*P **P 11 43 27.6 +0.3**
comp=Z,24nm,0.4s
BJI Beijing 19.04 301 *e*P **P 11 43 26.8 -0.5**
BJI AMB AMB
comp=Z,40nm,0.9s
BJI Beijing 19.04 301 *e*P **P 11 43 26.8 -0.5**
comp=Z,40nm,0.9s
WHN Wuhan 19.91 272 ⇓P **P 11 43 37.5 +1.6**
WHN AMB AMB
comp=Z,108nm,1.3s
HIA Hailar 21.80 327 *e*P **P 11 43 53.6 -0.3**
HIA pmax pmax
comp=Z,3.0nm,0.4s
HIA Hailar 21.80 327 *e*P **P 11 43 53.6 -0.3**
comp=Z,2.8nm,0.4s,mb4.0
HHC Hu-ho-hao-te 22.64 300 *e*P **P 11 44 01.7 0.0**
HHC XP 11 45 51.1
HHC S **S 11 47 39.9 +0.9**
HHC PCP PcP 11 47 42.3 +0.9
HHC SCP 11 50 43.0
HHC PCS 11 51 19.7
HHC SCS ScS 11 54 24.6 -0.2
HHC AMB AMB
comp=Z,29nm,0.8s,mb4.8
SKR Severo-Kuril's 23.13 31 *e*P **P 11 44 01.6 -4.5**
BTO Baotou 23.72 299 *e*P **P 11 44 11.1 -0.5**
XAN Xi'an 24.08 283 P **P 11 44 14.3 -0.6**
XAN AMB AMB
comp=Z,62nm,0.9s,mb5.0
ENH Enshi 24.09 273 *e*P **P 11 44 13.9 -1.1**
comp=Z,32nm,0.9s,mb4.8
PET Petropavlovsk 25.91 30 *e*P **P 11 44 29.8 -1.4**
PET pmax pmax
comp=Z,13nm,0.7s,mb4.5
PET Petropavlovsk 25.91 30 *e*P **P 11 44 29.8 -1.4**
comp=Z,12nm,0.7s,mb4.5
GYA Guiyang 27.49 266⇑*i*P **P 11 44 44.6 -1.0**
GYA AP 11 45 52.8
GYA XP sP 11 46 37.6 -5.5
GYA S **S 11 48 51.0 -6.1**
GYA SCS ScS 11 54 46.8 +1.6
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.2
GYA AMB AMB
comp=Z,280nm,2.8s,mb5.2
ULN Ulaanbaatar 28.00 313⇓*i*P **P 11 44 50.0 +0.1**
ULN pmax pmax
comp=Z,13nm,0.6s,mb4.4
ULN Ulaanbaatar 28.00 313⇓*i*P **P 11 44 50.0 +0.1**
comp=Z,13nm,0.6s,mb4.4
LZH Lanzhou 28.16 288 P **P 11 44 50.0 -1.3**
LZH AMB AMB
comp=Z,40nm,1.2s,mb4.6
SONM Songino Array 28.40 313 P **P 11 44 53.4 +0.1**
comp=Z,5.2nm,0.5s,mb4.2,baz=126,slow=9.0,SNR=91
SONM ScP 11 50 56.7
comp=Z,0.6nm,0.5s,baz=144,slow=2.3,SNR=6.6
MA2 Magadan 28.91 14*c i*P **P 11 44 56.8 -0.9**
MA2 pmax pmax
comp=Z,20nm,0.7s,mb4.6
MA2 Magadan 28.91 14 *e*P **P 11 44 56.7 -1.0**
comp=Z,35nm,0.7s,mb4.8
ZAK Zakamensk 31.27 316 *e*P **P 11 45 18.0 -0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb3.7
KMI Kunming 31.27 266 P **P 11 45 20.2 +1.8**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.0
KMI Kunming 31.27 266 P **P 11 45 20.2 +1.8**
comp=Z,7.0nm,0.8s,mb4.0
GTA Gaotai 31.36 294 P **P 11 45 18.6 -0.4**
GTA AP pP 11 46 30.3 -2.5
GTA AMB AMB
comp=Z,25nm,0.8s,mb4.6
FX1 Attu Island--F 33.01 40 P **P 11 45 33.9 +0.9**
FX1 pmax pmax
comp=Z,44nm,0.8s
FX1 Attu Island--F 33.01 40 P **P 11 45 33.9 +1.0**
comp=Z,44nm,0.8s,mb4.8,baz=282,slow=9.3,SNR=8.4
FX1 Attu Island--F 33.01 40 *e*P **P 11 45 33.4 +0.5**
NANT Nan 35.65 257 P **P 11 45 51.5 -4.2**
CHG Chiang Mai 37.10 259 ⇓P **P 11 46 07.8 +0.1**
comp=Z,22nm,0.8s,mb4.5
CMAR Chiang Mai Arr 37.27 258 P **P 11 46 09.1 0.0**
comp=Z,5.2nm,0.8s,mb3.9,baz=49,slow=7.6,SNR=36
CMAR ScP 11 51 28.6
comp=Z,0.9nm,0.8s,baz=28,slow=3.8,SNR=5.7
BILL Bilibino 39.69 16⇑*i*P **P 11 46 28.1 -0.4**
BILL pmax pmax
comp=Z,35nm,0.8s,mb4.7
BILL Bilibino 39.69 16⇑*i*P **P 11 46 28.1 -0.4**
comp=Z,35nm,0.8s,mb4.7
LSA Lhasa 39.69 279 P **P 11 46 30.0 +1.1**
LSA Lhasa 39.69 279 *e*P **P 11 46 30.0 +1.1**
LSA pmax pmax
comp=Z,11nm,0.3s,mb4.7
LSA Lhasa 39.69 279 *e*P **P 11 46 30.0 +1.1**
comp=Z,12nm,0.3s,mb4.7
WMQ Urumqi 40.51 302⇑*i*P **P 11 46 36.1 +0.7**
WMQ AP pP 11 47 50.5 -1.9
WMQ XP sP 11 48 33.0 -3.0
WMQ S **S 11 52 17.0 +1.9**
WMQ XS 11 54 30.0
WMQ SS SS 11 55 26.0 +0.4
WMQ SCS ScS 11 55 58.0 +3.6
WMQ AMB AMB
comp=Z,21nm,1.1s,mb4.4
WMQ AMB AMB
comp=Z,148nm,4.2s
JIRN Jiri 44.45 278 *e*P **P 11 47 08.1 +1.0**
comp=Z,420nm,0.5s
GUN Gumba 44.64 279 *e*P **P 11 47 09.2 +0.6**
comp=Z,190nm,0.4s
KAKA Kakadu 44.77 187⇓*i*P **P 11 47 08.8 -1.0**
comp=Z,13nm,0.6s,mb4.4
PKI Pulchoki 45.14 278 *e*P **P 11 47 12.6 +0.1**
comp=Z,101nm,0.7s,mb5.3
PKI Pulchoki 45.14 278 *e*P **P 11 47 12.6 +0.1**
PKI pmax pmax
comp=Z,51nm,0.7s,mb5.0
KKN Kakani 45.18 279 *e*P **P 11 47 13.0 +0.2**
comp=Z,201nm,0.8s,mb5.5
KKN Kakani 45.18 279 *e*P **P 11 47 13.0 +0.2**
KKN pmax pmax
comp=Z,100nm,0.8s,mb5.2
DMN Daman 45.38 279 *e*P **P 11 47 14.5 +0.1**
comp=Z,78nm,0.5s,mb5.3
GKN Gorkha 45.65 279 *e*P **P 11 47 16.5 0.0**
comp=Z,158nm,0.7s,mb5.5
KOLN Koldanda 46.59 279 *e*P **P 11 47 24.0 +0.2**
comp=Z,116nm,0.8s,mb5.2
KURK Kurchatov 46.69 312 P **P 11 47 23.9 -0.3**
comp=Z,125nm,0.8s,mb5.3,SNR=18
KURK Kurchatov 46.69 312⇑*i*P **P 11 47 23.5 -0.7**
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.4
KURK Kurchatov 46.69 312⇑*i*P **P 11 47 23.4 -0.8**
comp=Z,15nm,0.8s,mb4.4
JOSI Joshimath 49.08 284 *e* **P 11 47 32.5 -10**
KLP Kalpa 49.86 286 *e*P **P 11 47 47.1 -1.5**
AAK Ala-Archa 50.21 301 P **P 11 47 50.9 -0.2**
SNR=10
AAK Ala-Archa 50.21 301 P **P 11 47 49.4 -1.6**
comp=Z,60nm,0.6s,mb5.1,SNR=12
AAK Ala-Archa 50.21 301⇓*i*P **P 11 47 49.4 -1.6**
AAK pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
AAK Ala-Archa 50.21 301⇓*i*P **P 11 47 49.4 -1.6**
comp=Z,4.5nm,0.6s,mb4.0
DDI Dehra Dun 50.39 285 *e*P **P 11 47 52.0 -0.5**
EKS2 Erkin-Say 50.73 301 P **P 11 47 54.5 -0.3**
SNR=5.8
AML Almayashu 50.88 301 P **P 11 47 56.8 +0.8**
SNR=32
ASOR Ausora 51.13 283 *e*P **P 11 47 58.0 0.0**
FITZ Fitzroy Crossi 51.16 195⇓*i*P **P 11 47 57.8 -0.5**
comp=Z,7.0nm,0.6s,mb4.1
CHKZ Chkalovo 51.53 316 *e*P **P 11 47 59.0 -1.6**
CHKZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.0
CHKZ Chkalovo 51.53 316 *e*P **P 11 47 59.0 -1.7**
comp=Z,5.7nm,0.6s,mb4.0
NDI New Delhi 51.61 283 *e*P **P 11 48 00.5 -1.1**
NDI *e*P 11 48 00.5
AYAN Aya Nagar 51.75 283 *e*P **P 11 48 01.6 -1.0**
AYAN *e* 11 48 04.0
comp=Z,14nm,0.7s
WRAB Tennant Creek 51.77 184 P **P 11 48 01.0 -1.9**
comp=Z,68nm,0.4s,mb5.2,SNR=35
WRAB Tennant Creek 51.77 184 *e*P **P 11 48 01.7 -1.2**
WRAB pmax pmax
comp=Z,7.0nm,0.3s,mb4.4
WRAB Tennant Creek 51.77 184 *e*P **P 11 48 01.7 -1.2**
comp=Z,6.8nm,0.3s,mb4.4
WRA Warramunga Arr 51.78 184 P **P 11 48 01.6 -1.4**
comp=Z,6.8nm,0.3s,mb4.3,baz=360,slow=7.6,SNR=184
WRA PcP PcP 11 49 10.1 +0.2
comp=Z,0.6nm,0.5s,baz=357,slow=4.0,SNR=2.9
SONA Sohna 51.87 283 *e*P **P 11 48 02.4 -1.0**
IMA Indian Mountai 52.57 29 *e*P **P 11 48 07.5 -0.6**
IMA *e* 11 49 12.6
IMA pmax pmax
comp=Z,23nm,0.8s,mb4.5
IMA Indian Mountai 52.57 29 *e*P **P 11 48 07.5 -0.6**
comp=Z,24nm,0.8s,mb4.5
IMA *e*PcP PcP 11 49 12.6 +0.3
KHET Khetri 52.98 283 *e*P **P 11 48 10.5 -1.1**
KHET *e* 11 48 11.8
comp=Z,59nm,0.3s
BHPL Bhopal 53.43 277 *e*P **P 11 48 13.8 -1.1**
BHPL *e* 11 48 15.1
comp=Z,27nm,0.6s
HYB Hyderabad 54.95 270 *e*P **P 11 48 25.5 -0.4**
HYB Hyderabad 54.95 270 *i*P **P 11 48 25.5 -0.4**
COLA College 54.97 30 *e*P **P 11 48 23.7 -1.7**
COLA pmax pmax
comp=Z,11nm,0.6s,mb4.3
COLA College 54.97 30 *e*P **P 11 48 23.7 -1.7**
comp=Z,11nm,0.6s,mb4.3
ILAR Eielson Array 55.39 30 P **P 11 48 26.2 -2.0**
comp=Z,6.9nm,0.7s,mb4.0,baz=279,slow=6.1,SNR=99
ASAR Alice Springs 55.51 184 P **P 11 48 28.6 -1.1**
comp=Z,3.7nm,0.6s,mb3.9,baz=12,slow=12,SNR=55
ASAR ScP 11 52 44.0
comp=Z,0.5nm,0.6s,baz=357,slow=3.9,SNR=5.0
ASPA Alice Springs 55.51 184 *e*P **P 11 48 28.8 -0.9**
MBWA Marble Bar 55.60 200 *e*P **P 11 48 29.2 -1.2**
comp=Z,14nm,0.5s,mb4.5
JASL Jaisalmer 57.46 283 *e*P **P 11 48 42.0 -1.1**
POO Poona 58.45 273 *e* **P 11 48 48.0 -1.9**
INK Inuvik 60.25 25⇑*e*P **P 11 49 00.1 -1.2**
INK pmax pmax
comp=Z,3.0nm,0.4s
INK Inuvik 60.25 25⇑*e*P **P 11 49 00.1 -1.2**
comp=Z,3.1nm,0.4s,mb4.1
FORT Forrest 63.13 189⇑*i*P **P 11 49 20.5 -0.3**
comp=Z,475nm,0.5s
STKA Stephens Creek 63.69 176⇓*i*P **P 11 49 24.1 -0.2**
comp=Z,3.7nm,0.6s,mb4.1
STKA Stephens Creek 63.69 176 P **P 11 49 24.4 +0.1**
comp=Z,4.7nm,0.7s,mb4.1,baz=316,slow=6.3,SNR=14
NWAO Narrogin (SRO) 67.42 198 P **P 11 49 47.5 -0.3**
comp=Z,111nm,0.6s,mb4.7,baz=19,slow=6.8,SNR=16
ARCES ARCESS Array B 67.54 339 P **P 11 49 47.7 -0.2**
comp=Z,6.3nm,0.8s,mb4.3,baz=60,slow=9.8,SNR=11
RES Resolute Bay 68.19 13 *e*P **P 11 49 51.0 -0.8**
RES pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
RES Resolute Bay 68.19 13 *e*P **P 11 49 51.0 -0.8**
comp=Z,7.5nm,0.6s,mb4.5
WBK Wadi Bani Khal 69.10 284 P **P 11 49 58.7 +0.4**
SNR=7.5
YKW3 Yellowknife Ar 69.65 28 *e*P **P 11 49 59.7 -1.2**
YKA Yellowknife Ar 69.69 28 P **P 11 50 00.3 -0.8**
comp=Z,7.6nm,0.8s,mb4.3,baz=299,slow=6.2,SNR=159
JMDO Jabal Madar 69.92 284 ⇓P **P 11 50 02.5 -0.7**
BSY Bisya 70.50 285 P **P 11 50 06.8 +0.3**
SNR=6.7
ARQ Araqi 70.78 286 P **P 11 50 08.9 +0.6**
SNR=13
GOF Gofitskoye 71.05 312⇓*i*P **P 11 50 08.5 -1.0**
GOF pmax pmax
comp=Z,21nm,1.3s,mb4.5
FINES FINESS Array B 71.73 332 P **P 11 50 12.7 -0.5**
comp=Z,1.4nm,0.4s,mb3.9,baz=79,slow=5.7,SNR=28
KIV Kislovodsk 71.77 311 *e*P **P 11 50 15.2 +1.5**
KIV pmax pmax
comp=Z,12nm,0.8s,mb4.5
TBM Table Mountain 74.49 44 P **P 11 50 29.8 +0.5**
EBG Ellensburg 74.64 44 P **P 11 50 30.7 +0.6**
TDH Tom, Dick, Har 74.72 46 P **P 11 50 31.2 +0.5**
VFP Flag Point 74.91 46 P **P 11 50 32.4 +0.7**
MXC Moxie City 74.97 44 P **P 11 50 32.7 +0.7**
EPH Ephrata 74.98 43 P **P 11 50 32.0 0.0**
HBO Huckleberry Mo 75.12 47 P **P 11 50 33.7 +0.8**
EDM Edmonton 75.22 36 *e*P **P 11 50 33.1 -0.2**
CROR Criterion Ridg 75.37 46 P **P 11 50 34.8 +0.5**
RBK Rabkut 75.45 282⇑P **P 11 50 34.5 -0.7**
GBL Gable Mountain 75.45 44 P **P 11 50 35.0 +0.3**
WHFO Wadi Hawf 75.61 282 P **P 11 50 35.3 -0.8**
SNR=18
SUMG Summit 75.63 359 *e*P **P 11 50 36.0 +0.8**
comp=Z,10nm,0.8s,mb4.5
NEW Newport 75.92 42 *e*P **P 11 50 37.3 0.0**
NEW pmax pmax
comp=Z,10.0nm,1.0s
NEW Newport 75.92 42 *e*P **P 11 50 37.3 0.0**
comp=Z,9.8nm,1.0s,mb4.4
BUOR Burton Butte 75.96 49 P **P 11 50 38.6 +1.0**
AKASG Malin Array Be 76.27 322 P **P 11 50 38.7 -0.5**
comp=Z,2.0nm,0.3s,mb4.2,baz=51,slow=5.9,SNR=17
AKASG Malin Array Be 76.27 322 P **P 11 50 38.7 -0.5**
ABTO Aybut 76.28 282 P **P 11 50 39.7 -0.2**
SNR=9.0
HOG Hogback Mounta 76.32 49 P **P 11 50 40.5 +0.9**
LASM Arnica Sink 76.73 49 P **P 11 50 42.7 +0.8**
LBCM Butte Creek Ri 77.27 50 P **P 11 50 45.5 +0.6**
MALT Malatya 77.31 307 *e*P **P 11 50 46.1 +0.9**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb3.8
MALT Malatya 77.31 307 *e*P **P 11 50 46.1 +0.9**
comp=Z,2.1nm,0.8s,mb3.8
MOD Modoc 77.39 48 *e*P **P 11 50 45.7 +0.2**
comp=Z,76nm,1.9s,mb5.0
NB2 NORSAR Subarra 77.52 336 P **P 11 50 45.2 -0.6**
comp=Z,1.1nm,0.6s,mb3.7,baz=44,slow=5.0
NB2 NORSAR Subarra 77.52 336 P **P 11 50 45.2 -0.6**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
NOA NORSAR Array B 77.52 336 P **P 11 50 45.3 -0.5**
comp=Z,1.1nm,0.5s,mb3.7,baz=45,slow=5.5,SNR=6.1
BMO Blue Mountains 77.66 45⇑*e*P **P 11 50 46.9 0.0**
comp=Z,5.0nm,0.7s,mb4.2
WVOR Wild Horse Val 78.16 47⇑*e*P **P 11 50 50.1 +0.5**
WVOR pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
WVOR Wild Horse Val 78.16 47⇑*e*P **P 11 50 50.1 +0.5**
comp=Z,8.5nm,0.6s,mb4.5
CMB Columbia Colle 79.38 52 *e*P **P 11 50 56.0 -0.2**
CMB pmax pmax
comp=Z,4.0nm,0.5s,mb4.3
CMB Columbia Colle 79.38 52 *e*P **P 11 50 56.0 -0.2**
comp=Z,4.3nm,0.5s,mb4.3
RAYN Ar Rayn 79.56 291 P **P 11 50 58.2 +0.8**
comp=Z,168nm,0.5s,SNR=21
FFC Flin Flon 79.60 31 P **P 11 50 56.6 -0.4**
comp=Z,77nm,0.5s,SNR=9.0
FFC Flin Flon 79.60 31 *e*P **P 11 50 56.4 -0.6**
FFC pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
FFC Flin Flon 79.60 31 *e*P **P 11 50 56.4 -0.6**
comp=Z,5.1nm,0.7s,mb4.3
HRY Holter Researc 79.76 41 *e*P **P 11 50 58.2 +0.1**
FCC Fort Churchill 79.85 25 *e*P **P 11 50 57.4 -0.8**
FCC pmax pmax
comp=Z,8.0nm,1.2s,mb4.2
FCC Fort Churchill 79.85 25 *e*P **P 11 50 57.4 -0.8**
comp=Z,7.6nm,1.2s,mb4.2
HLID Hailey 80.11 45 *e*P **P 11 51 00.7 +0.7**
comp=Z,5.2nm,0.8s,mb4.2
BOZ Bozeman (W) 80.51 42 *e*P **P 11 51 02.4 +0.4**
BOZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
BOZ Bozeman (W) 80.51 42 *e*P **P 11 51 02.4 +0.5**
comp=Z,10nm,1.0s,mb4.5
NVAR Mina Array Bea 80.55 51 P **P 11 51 03.0 +0.7**
comp=Z,4.6nm,0.8s,mb4.3,baz=306,slow=4.1,SNR=33
QLMT Earthquake Lak 81.11 42 *e*P **P 11 51 06.1 +1.0**
YMR Madison River 81.47 42 *e*P **P 11 51 07.9 +1.0**
LKWY Lake 81.85 42 *e*P **P 11 51 11.4 +2.5**
LKWY pmax pmax
comp=Z,17nm,0.9s,mb4.8
LKWY Lake 81.85 42 *e*P **P 11 51 11.4 +2.5**
comp=Z,17nm,0.9s,mb4.8
IMW Indian Meadow 81.95 43 *e*P **P 11 51 10.8 +1.4**
HVU Hansel Valley 82.12 45 *e*P **P 11 51 11.3 +0.9**
MOOW Moose Ponds 82.15 43 *e*P **P 11 51 11.3 +0.9**
TPAW Teton Pass 82.19 43 *e*P **P 11 51 12.1 +1.5**
LOHW Long Hollow 82.31 43 *e*P **P 11 51 12.0 +0.7**
SNOW Snow King Moun 82.31 43 *e*P **P 11 51 12.0 +0.7**
LAO LASA Array 82.82 39 *e*P **P 11 51 14.0 +0.2**
comp=Z,5.7nm,0.9s,mb4.3
HWUT Hardware Ranch 82.95 45 *e*P **P 11 51 15.4 +0.8**
comp=Z,21nm,1.2s,mb4.7
TCUT Toone Canyon 83.34 45 *e*P **P 11 51 17.3 +0.7**
BW06 Boulder Array 83.43 43 *e*P **P 11 51 17.2 +0.2**
comp=Z,5.3nm,0.9s,mb4.3
PDAR Pinedale Array 83.43 43 P **P 11 51 17.1 +0.2**
comp=Z,3.7nm,0.8s,mb4.2,baz=303,slow=2.4,SNR=32
JLU Jordanelle 83.63 46 *e*P **P 11 51 18.4 +0.4**
DAU Daniels Canyon 83.86 46 *e*P **P 11 51 20.1 +0.9**
MPU Maple Canyon 83.87 46 *e*P **P 11 51 20.0 +0.8**
ARUT Antelope Range 84.06 49 *e*P **P 11 51 21.2 +1.0**
MSU Marysvale 84.43 48 *e*P **P 11 51 22.8 +0.8**
PFO Pinyon Flat Ob 84.49 54 *e*P **P 11 51 22.4 0.0**
PFO pmax pmax
comp=Z,12nm,0.9s,mb4.6
PFO Pinyon Flat Ob 84.49 54 *e*P **P 11 51 22.4 0.0**
comp=Z,12nm,0.9s,mb4.6
SRU San Rafael 85.10 46 *e*P **P 11 51 26.1 +0.8**
GERES GERESS Array B 85.20 327 P **P 11 51 25.6 0.0**
comp=Z,2.0nm,0.3s,baz=51,slow=6.3,SNR=3.7
ULM Lac du Bonnet 85.40 31 P **P 11 51 27.5 +1.1**
comp=Z,0.9nm,0.5s,mb3.8,baz=301,slow=2.8,SNR=4.4
WUAZ Wupatki 86.75 50 *e*P **P 11 51 34.4 +1.1**
comp=Z,83nm,1.2s,mb5.3
PV01 Paradox Valley 86.91 46 *e*P **P 11 51 34.9 +0.9**
ISCO Idaho Springs 87.61 43 *e*P **P 11 51 38.3 +1.0**
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ISCO Idaho Springs 87.61 43 *e*P **P 11 51 38.3 +1.1**
comp=Z,2.9nm,1.0s,mb4.0
SDCO Great Sand Dun 89.02 45 *e*P **P 11 51 44.6 +0.7**
comp=Z,2.0nm,0.5s,mb4.1
ANMO Albuquerque 90.24 48 *e*P **P 11 51 50.5 +0.9**
ANMO pmax pmax
comp=Z,1.0nm,0.6s
ANMO Albuquerque 90.24 48 *e*P **P 11 51 50.5 +0.9**
comp=Z,1.1nm,0.6s,mb3.9
SCHQ Schefferville 90.96 14 P **P 11 51 52.6 +0.2**
comp=Z,2.0nm,1.0s,mb3.9,baz=342,slow=6.4,SNR=3.4
MNTX Cornudas Mount 93.03 49 *e*P **P 11 52 02.6 0.0**
comp=Z,1.7nm,0.9s,mb4.0
TXAR Lajitas Array 95.70 50 P **P 11 52 15.6 +0.7**
comp=Z,1.6nm,0.7s,mb4.3,baz=292,slow=3.0,SNR=26
TXAR Lajitas Array 95.70 50 P **P 11 52 15.6 +0.7**
LPAZ La Paz 151.88 62 *e*PKIKP PKPdf 11 58 43.2 +9.4
LPAZ La Paz 151.88 62 PKPbc PKPdf 11 58 43.1 +9.3
comp=Z,1.4nm,0.8s,baz=17,slow=5.7,SNR=7.0

IDC 07 12:16:28.7±1.2, 6.42S×151.04E, h30km±6km, mb3.5/4, mb1 3.7/5, mb1mx3.6/12, mbtmp3.6/5, ML2.4/1, Error ellipse: s-maj=56.0km s-min=19.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.86**	**232**	Pn	Pn	12 17 41.1	-0.7
	1.0nm,0.3s,baz=261,slow=12,SNR=2.2						
PMG				Sn	Sn	12 18 37.6	-0.1
	1.2nm,0.3s,baz=30,slow=18,SNR=5.6						
WRA	**Warramunga Arr**	**21.07**	**229**	P	P	12 21 10.2	-2.7
	0.9nm,0.5s,baz=55,slow=10.0,SNR=10.0						
WRA				sP		12 21 23.7	
	0.3nm,0.5s,baz=50,slow=10,SNR=2.2						
ASAR	**Alice Springs**	**23.78**	**222**	P	P	12 21 38.5	-1.3
	1.1nm,0.7s,baz=55,slow=9.1,SNR=20						
ASAR				pP		12 21 47.7	
	0.5nm,0.8s,baz=54,slow=9.1,SNR=3.6						
STKA	**Stephens Creek**	**26.82**	**198**	P	P	12 22 05.6	-2.9
	1.0nm,0.4s,baz=7.9,slow=11,SNR=4.4						
STKA				pP	pP	12 22 14.4	-2.9
	0.8nm,0.6s,baz=5.7,slow=10,SNR=2.2						
ILAR	**Eielson Array**	**84.31**	**22**	P	P	12 28 58.2	-0.5
	0.4nm,0.8s,baz=250,slow=4.9,SNR=4.9						
ILAR				pP	pP	12 29 07.2	-1.3
	0.1nm,1.0s,baz=242,slow=4.6,SNR=2.0						

*NEIC **07** 12:24:17.3±1.1, 20.95S×177.92W, h400km, mb4.1/2, Error ellipse: s-maj=26.6km s-min=22.0km az=86.0*
*IDC **07** 12:24:19.2±4.6, 21.13S×177.88W, h420km±48km, mb3.3/6, mb1 3.4/7, mb1mx3.2/17, mbtmp4.1/7, Error ellipse: s-maj=30.7km s-min=22.7km az=76.0*

ISC 07 12:24:13.6±5.5, 21.0S±0.1×178.0W±0.2, h363km±58km, n12, σ0=65/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**17.75**	**193**	P	P	**12 27 58.6**	**+0.1**
	3.0nm,0.3s,baz=17,slow=19,SNR=17						
URZ				S	**S**	**12 30 59.8**	**-0.2**
	0.2nm,0.3s,baz=317,slow=19,SNR=3.9						
RPZ	**Rata Peaks**	**24.46**	**199**	P	P	**12 29 01.4**	**-1.1**
	8.6nm,1.0s,mb4.0,baz=8.0,slow=19,SNR=1.8						
CTA	**Charters Tower**	**33.45**	**265**	P	P	**12 30 22.4**	**+0.8**
	6.9nm,1.1s,mb3.8,baz=93,slow=11,SNR=3.2						
STKA	**Stephens Creek**	**37.60**	**245**	P	P	**12 30 56.5**	**+0.3**
	1.1nm,0.5s,mb3.3,baz=90,slow=11,SNR=3.1						
STKA	**Stephens Creek**	**37.60**	**245**	P	P	**12 30 56.5**	**+0.3**
ASAR	**Alice Springs**	**44.42**	**257**	P	P	**12 31 51.7**	**+0.2**
	1.5nm,0.5s,mb3.3,baz=89,slow=8.4,SNR=28						
ASAR				PcP	PcP	12 33 27.6	-1.0
	0.4nm,0.6s,baz=100,slow=2.4,SNR=4.8						
ASAR	**Alice Springs**	**44.42**	**257**	P	P	**12 31 51.7**	**+0.2**
ASAR				PcP	PcP	12 33 27.6	-1.0
WRAB	**Tennant Creek**	**44.54**	**263**	*e*P	P	**12 31 52.1**	**-0.4**
	2.9nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**44.55**	**262**	P	P	**12 31 52.0**	**-0.5**
	0.6nm,0.4s,mb3.1,baz=95,slow=7.8,SNR=29						
QSPA	**South Pole Qui**	**69.11**	**180**	*e*P	P	**12 34 43.6**	**+1.3**
	2.5nm,0.5s,mb4.2						
ILAR	**Eielson Array**	**88.76**	**13**	P	P	**12 36 26.9**	**-0.5**
	0.4nm,0.9s,mb3.2,baz=213,slow=4.9,SNR=5.3						
AKASG	**Malin Array Be**	**143.42**	**331**	PKP	PKPdf	12 43 02.6	-2.3
	0.4nm,0.3s,baz=45,slow=4.5,SNR=5.6						

IDC 07 12:31:39.3±2.2, 5.41N×94.19E, mb3.5/4, mb1 3.6/5, mb1mx3.6/17, mbtmp3.5/5, Error ellipse: s-maj=82.2km s-min=23.4km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.77**	**19**	Pn	P	12 34 57.0	-1.5
	baz=205,slow=15,SNR=2.5						
SONM	**Songino Array**	**43.54**	**12**	P	P	12 39 44.5	-2.0
	0.2nm,0.4s,baz=191,slow=7.3,SNR=3.8						
WRA	**Warramunga Arr**	**46.83**	**124**	P	P	12 40 11.5	-1.6
	0.6nm,0.6s,baz=305,slow=9.2,SNR=9.6						
ASAR	**Alice Springs**	**48.33**	**128**	P	P	12 40 22.9	-2.0
	0.2nm,0.4s,baz=300,slow=8.1,SNR=11						
BVAR	**Borovoye Array**	**51.33**	**342**	P	P	12 40 45.4	-2.0
	0.7nm,0.3s,baz=145,slow=13,SNR=6.5						
TXAR	**Lajitas Array**	**141.43**	**25**	PKP	PKPdf	12 51 11.0	-4.0
	0.7nm,1.1s,baz=243,slow=4.0,SNR=2.8						

*IDC **07** 12:34:50.4±0.8, 15.01S×174.31W, mb4.3/11, mb1 4.5/11, mb1mx4.3/19, mbtmp4.3/11, Error ellipse: s-maj=35.9km s-min=16.5km az=134.0*
*NEIC **07** 12:35:09.4±1.1, 15.20S×174.42W, h158km±11km, mb4.4/5, Error ellipse: s-maj=17.7km s-min=8.9km az=141.0*

ISC 07 12:35:06.3±1.4, 15.2S±0.1×174.4W±0.1, h144km±16km, n26, σ0=91/23, mb4.1/15, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.87**	**64**	*e*Pn	P	**12 35 55.8**	**+3.3**
AFI				Sn	**S**	**12 36 27.1**	**-0.7**
URZ	**Urewera**	**24.16**	**196**	P	P	**12 40 10.5**	**+0.1**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	4.2nm,0.4s,mb4.4,baz=353,slow=14,SNR=11						
RPZ	**Rata Peaks**	**31.01**	**201**	P	**P**	**12 41 11.4**	**-1.0**
	6.2nm,0.6s,mb4.5,baz=45,slow=2.9,SNR=3.1						
CTA	**Charters Tower**	**37.72**	**257**	P	**P**	**12 42 09.9**	**+0.2**
	3.6nm,0.7s,mb4.1,baz=90,slow=12,SNR=3.4						
CTAO	**Charters Tower**	**37.72**	**257**	P	**P**	**12 42 10.3**	**+0.5**
	9.9nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**43.28**	**239**	*e*P	**P**	**12 42 57.2**	**+1.8**
	2.5nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**43.28**	**239**	P	**P**	**12 42 56.7**	**+1.3**
	2.2nm,0.6s,mb4.0,baz=88,slow=11,SNR=7.0						
STKA	**Stephens Creek**	**43.28**	**239**	P	**P**	**12 42 57.0**	**+1.6**
WRAB	**Tennant Creek**	**48.91**	**257**	*e*P	**P**	**12 43 39.4**	**-0.4**
	8.8nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**48.92**	**257**	P	**P**	**12 43 39.2**	**-0.7**
	4.4nm,0.7s,mb4.2,baz=88,slow=6.9,SNR=46						
WRA				PcP	PcP	12 45 02.7	+0.4
	1.8nm,0.7s,baz=88,slow=4.0,SNR=6.6						
ASAR	**Alice Springs**	**49.23**	**252**	P	**P**	**12 43 42.0**	**-0.2**
	22nm,0.8s,mb4.9,baz=86,slow=8.1,SNR=206						
ASAR				PcP	PcP	12 45 03.5	+0.2
	1.9nm,0.5s,baz=93,slow=4.1,SNR=6.8						
ASPA	**Alice Springs**	**49.23**	**252**	⇓*i*P	**P**	**12 43 41.9**	**-0.3**
KAKA	**Kakadu**	**51.52**	**266**	*e*P	**P**	**12 43 59.7**	**0.0**
	5.2nm,0.9s,mb4.2						
FORT	**Forrest**	**54.62**	**243**	*e*P	**P**	**12 44 21.5**	**-0.9**
	309nm,0.6s						
MBWA	**Marble Bar**	**62.46**	**254**	*e*P	**P**	**12 45 16.2**	**-0.7**
	3.2nm,0.5s,mb4.4						
NVAR	**Mina Array Bea**	**74.84**	**43**	P	**P**	**12 46 32.4**	**-0.4**
	0.8nm,0.8s,mb3.4,baz=219,slow=8.6,SNR=6.1						
NVAR	**Mina Array Bea**	**74.84**	**43**	P	**P**	**12 46 32.4**	**-0.4**
QSPA	**South Pole Qui**	**74.85**	**180**	*e*P	**P**	**12 46 33.1**	**+1.0**
	2.9nm,0.6s,mb4.1						
NEW	**Newport**	**81.10**	**35**	P	**P**	**12 47 07.7**	**+0.8**
	1.3nm,0.4s,mb3.9,baz=218,slow=15,SNR=4.7						
ILAR	**Eielson Array**	**82.44**	**12**	P	**P**	**12 47 12.9**	**-0.5**
	0.3nm,0.5s,mb3.2,baz=213,slow=5.1,SNR=12						
PDAR	**Pinedale Array**	**82.78**	**42**	P	**P**	**12 47 15.1**	**-0.6**
	0.4nm,0.5s,mb3.4,baz=206,slow=3.7,SNR=4.5						
CMAR	**Chiang Mai Arr**	**91.60**	**289**	P	**P**	**12 48 00.7**	**+1.9**
	1.7nm,0.8s,mb4.1,baz=98,slow=2.4,SNR=13						
KMBO	**Kilima Mbogo**	**144.72**	**245**	PKP	PKPdf	12 54 29.3	+2.4
	4.4nm,0.7s,baz=59,slow=4.3,SNR=16						
KMBO	**Kilima Mbogo**	**144.72**	**245**	PKP	PKPdf	12 54 29.3	+2.4
KHC	**Kasperske Hory**	**145.52**	**351**	*e*PKP	PKPdf	12 54 30.5	+3.3
GERES	**GERESS Array B**	**145.78**	**350**	PKPbc	PKPbc	12 54 30.6	+2.0
	0.4nm,0.3s,SNR=5.1						

*JMA **07** 12:37:56.8±0.4, 25.02N×121.92E, h29km, M2.6*
*TAP **07** 12:37:56.6, 24.66N×121.79E, h7km, ML3.0*
TAP Felt I J at Suao, I J at Ilan, I J at Neicheng, I J at Nioudou, II J at Nanau.
ISC 07 12:37:56.2±0.3**, 24.66N**±0.02×**121.83E**±0.02**, h6**km±3km**, n43, σ0s.99**/61**, 4C-7D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.05**	**165**	⇓*i*P	**Pg**	**12 37 58.5**	**+0.8**
TWC				S	**Sg**	**12 37 59.8**	**+1.1**
ILA	**Ilan**	**0.13**	**323**	⇓*i*P	**Pg**	**12 37 59.2**	**+0.2**
ILA				S	**Sg**	**12 38 01.4**	**+0.5**
TWE	**Neicheng**	**0.16**	**292**	⇓*i*P	**Pg**	**12 37 59.3**	**-0.3**
TWE				S	**Sg**	**12 38 01.4**	**-0.6**
EGS		**0.20**	**26**	⇑*i*P	**Pg**	**12 38 01.2**	**+0.8**
EGS				S	**Sg**	**12 38 04.1**	**+0.9**
ENTT	**Nioudou**	**0.24**	**265**	⇑*i*P	**Pg**	**12 38 00.7**	**-0.5**
ENTT				S	**Sg**	**12 38 03.5**	**-1.0**
ENA	**Nanau**	**0.25**	**200**	*e*P	**Pg**	**12 38 01.4**	**+0.2**
ENA				S	**Sg**	**12 38 04.5**	**-0.1**
TWB1	**Santiao Chiao**	**0.37**	**22**	⇑*i*P	**Pg**	**12 38 03.9**	**+0.2**
TWB1				S	**Sg**	**12 38 08.7**	**-0.1**
TWA	**Mucha**	**0.39**	**325**	⇓*i*P	**Pg**	**12 38 04.1**	**0.0**
TWA				S	**Sg**	**12 38 08.4**	**-0.9**
NWF	**Wu-fen Shan**	**0.41**	**353**	⇓*i*P	**Pg**	**12 38 04.8**	**+0.3**
NWF				S	**Sg**	**12 38 10.0**	**0.0**
NSK	**Sanguang**	**0.43**	**272**	⇓*i*P	**Pg**	**12 38 04.1**	**-0.8**
NSK				S	**Sg**	**12 38 08.8**	**-1.9**
TAP1	**Taipei**	**0.47**	**323**	P	**Pg**	**12 38 05.8**	**+0.1**
NNS	**Nan Shan**	**0.47**	**242**	⇑P	**Pg**	**12 38 04.8**	**-0.9**
TAP	**Taipei**	**0.48**	**322**	*e*P	**Pg**	**12 38 05.8**	**-0.1**
TWS1	**Kuangyinshan**	**0.58**	**319**	⇓*i*P	**Pg**	**12 38 08.3**	**+0.5**
TWD	**Chiawan**	**0.62**	**201**	*e*P	**Pg**	**12 38 07.9**	**-0.7**
TWD				S	**Sg**	**12 38 15.8**	**-1.0**
TWY	**Chenhua**	**0.65**	**341**	*e*P	**Pg**	**12 38 09.2**	**0.0**
NCU	**National Centr**	**0.66**	**298**	*e*P	**Pg**	**12 38 09.8**	**+0.4**
TWT	**Tachien**	**0.72**	**236**	*e*P	**Pg**	**12 38 09.4**	**-1.3**
NSTT	**Nanjuang**	**0.76**	**268**	*e*P	**Pb**	**12 38 10.7**	**-0.6**
ESL	**Shilin**	**0.92**	**204**	*e*P	**Pb**	**12 38 13.1**	**-1.0**
PCYT	**Pengchaiyu**	**0.99**	**13**	*e*P	**Pb**	**12 38 16.2**	**+0.9**
NSY	**Sanyi**	**1.01**	**256**	*e*P	**Pb**	**12 38 16.5**	**+0.9**
TWQ1	**Liyutan**	**1.01**	**252**	*e*P	**Pb**	**12 38 15.4**	**-0.3**
TWQ1				S	**Sb**	**12 38 28.7**	**-0.4**
YOJ	**Yonaguni jima**	**1.09**	**100**	P	**Pb**	**12 38 16.9**	**-0.1**
YOJ				*e*S	**Sb**	**12 38 31.9**	**+0.6**
SMLT	**Sun Moon Lake**	**1.15**	**228**	*e*P	**Pb**	**12 38 17.5**	**-0.6**
TYC	**Yuchr**	**1.17**	**230**	*e*P	**Pb**	**12 38 17.5**	**-0.9**
EHY	**Hungye**	**1.24**	**202**	*e*P	**Pb**	**12 38 18.2**	**-1.4**
TWF1	**Yuli**	**1.39**	**201**	*e*P	**Pn**	**12 38 21.8**	**-0.4**
YUS	**Yu-Shan**	**1.42**	**215**	*e*P	**Pn**	**12 38 22.1**	**-0.5**
ALS	**Alishan**	**1.48**	**220**	*e*P	**Pn**	**12 38 24.7**	**+1.2**
CHN5	**Tsauling**	**1.50**	**225**	*e*P	**Pn**	**12 38 24.8**	**+1.2**
CHN5				S	**Sb**	**12 38 45.9**	**+2.8**
ELDTW	**Lidau**	**1.65**	**207**	*e*P	**Pn**	**12 38 26.4**	**+0.6**
CHN4	**Tsaushan**	**1.73**	**221**	*e*P	**Pn**	**12 38 29.1**	**+2.0**
IRIF	**Iriomote-Funau**	**1.76**	**100**	P	**Pn**	**12 38 26.4**	**-1.0**
IRIF				*e*S	**Sn**	**12 38 47.1**	**-3.2**
STYT	**Tauyuan**	**1.79**	**214**	*e*P	**Pn**	**12 38 28.4**	**+0.6**
WTP	**Ta-pu**	**1.80**	**219**	*e*P	**Pn**	**12 38 29.8**	**+1.8**
TWK	**Hsinying**	**1.85**	**222**	*e*P	**Pn**	**12 38 29.9**	**+1.1**
CHN1	**Nanshi**	**1.89**	**219**	*e*P	**Pn**	**12 38 31.5**	**+2.1**
HATJ	**Hateruma jima**	**1.90**	**108**	P	**Pn**	**12 38 29.3**	**-0.1**
HATJ				*e*S	**Sn**	**12 38 52.7**	**-1.1**
SGST	**Jiashian**	**1.94**	**216**	*e*P	**Pn**	**12 38 32.2**	**+2.1**
JKRS	**Kuro-shima**	**2.03**	**102**	P	**Pn**	**12 38 30.9**	**-0.4**
JKRS				*e*S	**Sn**	**12 38 55.0**	**-2.2**
JIJ	**Ishigaki jima**	**2.12**	**98**	P	**Pn**	**12 38 32.0**	**-0.7**
JIJ				*e*S	**Sn**	**12 38 55.8**	**-3.8**
SSD	**Sandimen**	**2.20**	**210**	*e*P	**Pn**	**12 38 35.2**	**+1.5**

*ATH **07** 13:02:23.3, 38.54N×23.55E, h25km±1km, MD3.4/14, ML3.5*
*NEIC **07** 13:02:23.4, 38.54N×23.55E, h24km, ML3.5(ATH), After ATH.*
*THE **07** 13:02:23.4, 38.55N×23.58E, h3km, ML3.2*
*CSEM **07** 13:02:23.8±0.1, 38.55N×23.56E, h12km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.1km az=83.0*
ISC 07 13:02:22.4±0.6**, 38.55N**±0.02×**23.60E**±0.05**, h14**km±5km**, n35, σ1s.07**/46**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.41**	**165**	*e*PB	**Pb**	**13 02 32.2**	**+1.3**
LKR	**Lokris**	**0.48**	**282**	*e*PB	**Pb**	**13 02 31.9**	**-0.3**
LKR	**Lokris**	**0.48**	**282**	*e*Pb	**Pb**	**13 02 31.7**	**-0.5**
PTL	**Penteli**	**0.54**	**158**	*e*PN	**Pn**	**13 02 34.5**	**-0.9**
ATH	**Athens Observa**	**0.58**	**171**	*e*PN	**Pn**	**13 02 35.3**	**-0.7**
ATH				*e*SN	**Sn**	**13 02 44.0**	**-1.2**
ATH	**Athens Observa**	**0.58**	**171**	*e*Pn	**Pn**	**13 02 35.3**	**-0.7**
ATH				*e*Sn	**Sn**	**13 02 44.6**	**-0.6**
MGER	**Gerania Oros**	**0.62**	**206**	*e*PN	**Pn**	**13 02 35.0**	**-1.6**
NSAL	**Nisos Salamina**	**0.65**	**190**	*e*PN	**Pn**	**13 02 36.0**	**-0.9**
AOS	**Alonnisos**	**0.66**	**19**	*e*Pg	**Pg**	**13 02 36.2**	**+0.4**
AOS				*e*Sg	**Sg**	**13 02 45.0**	**+0.3**
NAIG	**Nisos Aigina**	**0.80**	**187**	*e*PN	**Pn**	**13 02 38.5**	**-0.5**
NEO	**Neokhori**	**0.81**	**339**	*e*PB	**Pb**	**13 02 38.6**	**+0.8**
NEO				*e*SN	**Sn**	**13 02 51.2**	**+0.2**
XOR	**Xorichti**	**0.88**	**339**	*e*Pg	**Pg**	**13 02 39.9**	**-0.2**
XOR				*e*Sg	**Sg**	**13 02 52.6**	**+0.7**
XOR	**Xorichti**	**0.88**	**339**	*e*Pg	**Pg**	**13 02 39.8**	**-0.3**
XOR				*e*Sg	**Sg**	**13 02 52.6**	**+0.7**
AGG	**Agios Georgios**	**1.10**	**296**	*e*Pg	**Pg**	**13 02 43.5**	**-1.0**
AGG				*e*Sg	**Sg**	**13 02 59.2**	**-0.1**
EVR	**Evrytania**	**1.45**	**285**	*e*PN	**Pn**	**13 02 50.5**	**+2.1**
OUR	**Ouranopolis**	**1.81**	**9**	*e*Pb	**Pb**	**13 02 54.4**	**-0.4**
PLG	**Polygyros**	**1.83**	**356**	*e*PB	**Pb**	**13 02 54.5**	**-0.6**
VLI	**Veliai**	**1.90**	**196**	*e*PB	**Pb**	**13 02 55.6**	**-0.8**
ITM	**Ithomi**	**1.91**	**225**	*e*PN	**Pn**	**13 02 56.0**	**+1.1**
ITM	**Ithomi**	**1.91**	**225**	*e*Pn	**Pn**	**13 02 57.0**	**+2.1**
APE	**Apeiranthos**	**2.12**	**133**	*e*PN	**Pn**	**13 02 59.5**	**+1.5**
KZN	**Kozani**	**2.26**	**322**	*e*PB	**Pb**	**13 03 01.5**	**-1.0**
SOH	**Sokhos**	**2.28**	**355**	*e*Pn	**Pn**	**13 03 01.4**	**+1.2**
KYTH	**Kithira**	**2.31**	**191**	*e*PN	**Pn**	**13 03 02.0**	**+1.3**
SRS	**Serrai**	**2.56**	**360**	*e*Pn	**Pn**	**13 03 05.2**	**+0.9**
GRG	**Griva**	**2.58**	**339**	*e*Pn	**Pn**	**13 03 05.0**	**+0.5**
KNT	**Kendrikon**	**2.67**	**348**	*e*Pn	**Pn**	**13 03 07.0**	**+1.3**
FNA	**Florina**	**2.82**	**323**	*e*Pn	**Pn**	**13 03 08.3**	**+0.4**
ALN	**Alexandroupoli**	**3.01**	**38**	*e*Pn	**Pn**	**13 03 11.1**	**+0.5**
MMB	**Musomiste**	**3.04**	**2**	*i* P	**Pn**	**13 03 11.8**	**+0.7**
MMB				*e*S	**Sn**	**13 03 51.3**	**+3.8**
RZN	**Rozhen**	**3.25**	**15**	*i* P	**Pn**	**13 03 14.5**	**+0.4**
RZN	**Rozhen**	**3.25**	**15**	*i* Pg	**Pg**	**13 03 26.0**	**-1.3**
RZN				*i* S	**Sn**	**13 03 50.5**	**-2.4**
KKB	**Krupnik**	**3.34**	**353**	*i* P	**Pn**	**13 03 15.5**	**+0.2**
KKB				*i* S	**Sn**	**13 03 53.5**	**-1.6**
VTS	**Vitosha**	**4.05**	**356**	*i* P	**Pn**	**13 03 26.5**	**+1.1**
VTS	**Vitosha**	**4.05**	**356**	*e*Pg	**Pg**	**13 03 41.0**	**-2.3**
VTS				*e*S	**Sn**	**13 04 12.0**	**-1.1**

*NEIC **07** 13:25:30.3, 37.86N×20.95E, h5km, ML3.6(ATH), After ATH.*
*CSEM **07** 13:25:30.3, 37.86N×20.95E, h5km, MD3.5/13, After ATH*
ATH 07 13:25:30.4, 37.88N×20.95E, h5km±3km**, MD3.5**/14**, ML3.6, Ionian Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.41**	**316**	*e*PB	Pb	13 25 38.7	-1.0
VLS				*e*SB	Sb	13 25 45.7	-0.3
RLS	**Riolos of Patr**	**0.45**	**66**	*e*PB	Pb	13 25 39.2	-1.1
RLS				*e*SB	Sb	13 25 47.1	+0.1
ITM	**Ithomi**	**1.04**	**132**	*e*PN	Pn	13 25 50.6	-1.0
EVR	**Evrytania**	**1.24**	**33**	*e*PG	Pg	13 25 53.7	-1.4
JAN	**Janina**	**1.78**	**358**	*e*PN	Pn	13 26 04.0	+2.0
LKR	**Lokris**	**1.79**	**64**	*e*PG	Pg	13 26 03.6	-2.5
MGER	**Gerania Oros**	**1.83**	**86**	*e*PN	Pn	13 26 05.5	+2.7
VLI	**Veliai**	**1.96**	**126**	*e*PN	Pn	13 26 07.7	+3.0
NSAL	**Nisos Salamina**	**1.99**	**88**	*e*PN	Pn	13 26 07.5	+2.4
NAIG	**Nisos Aigina**	**2.01**	**93**	*e*PN	Pn	13 26 08.5	+3.1
NAIG	**Nisos Aigina**	**2.01**	**93**	*e*Pn	Pn	13 26 09.0	+3.6
KEK	**Kerkira**	**2.04**	**334**	*e*PG	Pg	13 26 08.5	-2.6
KEK	**Kerkira**	**2.04**	**334**	*e*Pg	Pg	13 26 09.5	-1.6
ATH	**Athens Observa**	**2.19**	**87**	*e*PN	Pn	13 26 10.5	+2.5
ATH	**Athens Observa**	**2.19**	**87**	*e*Pb	Pb	13 26 07.5	-2.7
MPAR	**Parnis Oros**	**2.22**	**82**	*e*PN	Pn	13 26 10.5	+2.2
NEO	**Neokhori**	**2.28**	**51**	*e*PN	Pn	13 26 11.1	+1.8
KYTH	**Kithira**	**2.31**	**133**	*e*PN	Pn	13 26 11.5	+1.8
PTL	**Penteli**	**2.31**	**85**	*e*PN	Pn	13 26 11.5	+1.8
PTL	**Penteli**	**2.31**	**85**	*e*Pb	Pb	13 26 09.5	-2.7

*MOS **07** 13:39:55.4±1.4, 84.71N×100.26E, h10km, mb4.4/7, Error ellipse: s-maj=99.9km s-min=13.4km az=86.8*
*IDC **07** 13:39:55.6±0.7, 84.76N×100.40E, mb3.7/11, mb1 4.0/12, mb1mx3.9/20, mbtmp3.8/12, ML3.8/1, MS3.1/3, Ms1 3.1/3, ms1mx2.9/21, Error ellipse: s-maj=25.1km s-min=14.9km az=141.0*
*NEIC **07** 13:39:57.4±0.4, 84.81N×99.76E, h10km, mb4.3/8, Error ellipse: s-maj=14.1km s-min=7.9km az=140.0*
ISC 07 13:39:55.5±0.4**, 84.78N**±0.08×**100.2E**±0.8**, h10**km**, n33, σ1s.13**/32**, mb3.9**/19**, MS3.1**/2**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.83**	**269**	P	**P**	**13 44 27.9**	**-0.8**
	0.4nm,0.3s,baz=18,slow=12,SNR=7.7						
ARCES				LR	LR	13 53 58.7	
	comp=Z,53nm,19.1s,baz=15,slow=42						
BILL	**Bilibino**	**20.51**	**101**	*e*P	**P**	**13 44 36.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BILL	**Bilibino**	**20.51**	**101**	*e*P	**P**	**13 44 36.0**	**+0.2**
	comp=Z,9.8nm,1.1s						
INK	**Inuvik**	**25.28**	**45**	P	**P**	**13 45 24.0**	**+1.3**
	comp=Z,1.5nm,0.8s,mb3.6,baz=7.3,slow=14,SNR=8.9						
INK	**Inuvik**	**25.28**	**45**	*e*P	**P**	**13 45 24.4**	**+1.7**
IMA	**Indian Mountai**	**26.00**	**63**	P	**P**	**13 45 32.3**	**+2.8**
FINES	**FINESS Array B**	**27.70**	**264**	P	**P**	**13 45 45.6**	**+0.5**
	comp=Z,3.8nm,1.1s,mb3.9,baz=27,slow=8.5,SNR=4.1						
FINES				LR	LR	13 57 29.3	
	comp=Z,21nm,19.5s,MS2.7,baz=39,slow=38						
ILAR	**Eielson Array**	**27.82**	**58**	P	**P**	**13 45 46.2**	**+0.1**
	comp=Z,0.3nm,0.8s,mb3.0,baz=355,slow=9.7,SNR=5.4						
CHKZ	**Chkalovo**	**32.03**	**214**	*e*P	**P**	**13 46 23.3**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**32.03**	**214**	*e*P	**P**	**13 46 23.2**	**-0.4**
	comp=Z,4.2nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**32.11**	**30**	P	**P**	**13 46 22.8**	**-1.5**
YKA						13 49 11.4	
YKA	**Yellowknife Ar**	**32.11**	**30**	P	**P**	**13 46 22.8**	**-1.5**
	comp=Z,0.3nm,0.6s,mb3.3,baz=355,slow=9.6,SNR=8.4						
YKA				PcP	PcP	13 49 11.3	-2.3
	comp=Z,0.2nm,0.6s,baz=333,slow=3.0,SNR=4.4						
ZAK	**Zakamensk**	**34.56**	**177**	*e*P	**P**	**13 46 44.1**	**-1.6**
ZAK				*e*		13 47 59.6	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s,mb3.5						
KURK	**Kurchatov**	**34.63**	**204**	*e*P	**P**	**13 46 46.9**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**34.63**	**204**	*e*P	**P**	**13 46 46.9**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
SONM	**Songino Array**	**37.13**	**173**	P	**P**	**13 47 08.5**	**+1.0**
	comp=Z,1.7nm,0.7s,mb4.0,baz=347,slow=8.5,SNR=15						
AKASG	**Malin Array Be**	**38.05**	**257**	P	**P**	**13 47 14.7**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.1,baz=5.2,slow=8.6,SNR=4.7						
GERES	**GERESS Array B**	**41.30**	**272**	P	**P**	**13 47 42.9**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.4,baz=333,slow=2.2,SNR=3.8						
AAK	**Ala-Archa**	**42.87**	**208**	*e*P	**P**	**13 47 55.1**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
AAK	**Ala-Archa**	**42.87**	**208**	*e*P	**P**	**13 47 55.1**	**+0.3**
	comp=Z,1.9nm,0.7s,mb3.9						
KIV	**Kislovodsk**	**43.59**	**242**	P	**P**	**13 48 03.0**	**+2.3**
NEW	**Newport**	**46.20**	**34**	*e*P	**P**	**13 48 19.9**	**-1.6**
NEW				pmax	pmax		
	comp=Z,5.0nm,1.2s						
NEW	**Newport**	**46.20**	**34**	*e*P	**P**	**13 48 19.9**	**-1.7**
	comp=Z,4.7nm,1.2s,mb4.3						
GNI	**Garni**	**47.20**	**239**	LR	LR	14 10 00.0	
	comp=Z,47nm,21.6s,MS3.4,baz=2.7,slow=38						
BRTR	**Keskin Array B**	**48.55**	**251**	P	**P**	**13 48 40.0**	**-0.1**
	comp=Z,1.2nm,0.9s,mb3.9,baz=14,slow=5.9,SNR=4.5						
BOZ	**Bozeman (W)**	**49.08**	**29**	*e*P	**P**	**13 48 45.4**	**+1.3**
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
BOZ	**Bozeman (W)**	**49.08**	**29**	*e*P	**P**	**13 48 45.4**	**+1.4**
	comp=Z,1.6nm,0.5s,mb4.3						
PDAR	**Pinedale Array**	**52.04**	**28**	P	**P**	**13 49 06.2**	**-0.6**
	comp=Z,0.4nm,0.9s,mb3.3,baz=34,slow=6.5,SNR=3.0						
HWUT	**Hardware Ranch**	**53.11**	**30**	*e*P	**P**	**13 49 14.6**	**-0.1**
	comp=Z,12nm,1.4s,mb4.6						
ANMO	**Albuquerque**	**59.96**	**25**	*e*P	**P**	**13 50 02.6**	**-1.2**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.5s						
ANMO	**Albuquerque**	**59.96**	**25**	*e*P	**P**	**13 50 02.6**	**-1.2**
	comp=Z,6.1nm,1.5s,mb4.4						
TXAR	**Lajitas Array**	**65.66**	**23**	P	**P**	**13 50 42.0**	**+0.5**
	comp=Z,0.9nm,0.7s,mb3.9,baz=358,slow=2.5,SNR=5.2						
CMAR	**Chiang Mai Arr**	**66.40**	**181**	P	**P**	**13 50 44.3**	**-2.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=349,slow=7.1,SNR=5.1						

*MOS **07** 13:50:53.1±0.7, 8.28S×113.30E, h33km, mb5.3/19, Error ellipse: s-maj=16.7km s-min=8.4km az=127.8*
*DJA **07** 13:51:01.9±0.3, 8.39S×113.37E, h160km, mb5.7/1, MD4.8/5, ML5.6/3, Error ellipse: s-maj=32.9km s-min=4.8km az=11.0*
*NEIC **07** 13:51:03.6±0.4, 8.52S×113.30E, h117km±3km, mb5.1/40, Error ellipse: s-maj=7.3km s-min=4.0km az=214.0*
*BJI **07** 13:51:03.5, 8.50S×113.30E, h116km, mB5.2, mb5.1*
*IDC **07** 13:51:04.0±0.9, 8.53S×113.30E, h118km±8km, mb4.5/15, mb1 4.5/15, mb1mx4.5/18, mbtmp4.8/15, MS3.4/2, Ms1 3.5/2, ms1mx2.7/11, Error ellipse: s-maj=22.1km s-min=11.9km az=44.0*
ISC 07 13:51:02.9±0.5**, 8.52S**±0.05×**113.31E**±0.04**, h128**km±4km**, h116**km±5.1km**:pP-P, n155, σ0s.97**/153**, mb5.0**/74**, 10C-11D, Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**0.82**	**87**	⇓*e*Pg	**P**	**13 51 24.2**	**0.0**
	3μm,0.2s						
TRT	**Tretes**	**1.05**	**320**	*e*Pn	**P**	**13 51 30.0**	**+3.6**
KELI	**Kelakatan**	**1.20**	**76**	⇓*e*Pn	**P**	**13 51 28.7**	**+0.7**
	5μm,0.3s						
KELI				*e*Sn	**S**	**13 51 49.2**	**+2.3**
RATI	**Rata**	**2.20**	**95**	⇓*e*Pn	**P**	**13 51 40.1**	**+0.2**
	6μm,0.2s						
KEDI	**Kedomdong**	**2.77**	**90**	⇓*e*Pn	**P**	**13 51 46.5**	**-0.8**
	3μm,0.2s						
KEDI				*e*Sn	**S**	**13 52 18.7**	**-2.3**
PULI	**Pulasari**	**7.59**	**286**	⇑*e*P	**P**	**13 52 51.8**	**-0.3**
	1μm,0.3s						
PULI				*e*S	**S**	**13 54 17.2**	**+0.2**
PENI	**Pendagan**	**8.60**	**289**	⇓*e*P	**P**	**13 53 03.8**	**-1.8**
MBWA	**Marble Bar**	**14.01**	**154**	*e*Pn	**P**	**13 54 12.2**	**-4.7**
	120nm,0.5s						
MBWA				*e*Sn	**S**	**13 56 32.2**	**-17**
FITZ	**Fitzroy Crossi**	**15.31**	**130**	*e*P	**P**	**13 54 32.2**	**-1.2**
	63nm,0.6s						
FITZ				*e*S	**S**	**13 57 09.5**	**-10**
KAKA	**Kakadu**	**19.25**	**104**	⇓*i*P	**P**	**13 55 18.3**	**-1.6**
	72nm,0.5s						
WRA	**Warramunga Arr**	**23.30**	**121**	P	**P**	**13 56 00.6**	**+0.3**
	66nm,0.8s,mb5.0,baz=297,slow=12,SNR=508						
WRA				S	**S**	**14 00 15.5**	**+16**
	6.5nm,0.7s,baz=286,slow=24,SNR=5.3						
WRAB	**Tennant Creek**	**23.30**	**121**	P	**P**	**13 56 00.0**	**-0.4**
	453nm,0.5s,mb6.1,SNR=96						
WRAB	**Tennant Creek**	**23.30**	**121**	*d* *i*P	**P**	**13 56 00.6**	**+0.2**
WRAB	**Tennant Creek**	**23.30**	**121**	*e*P	**P**	**13 56 00.7**	**+0.3**
	63nm,0.6s,mb5.1						
WRAB				*e*S	**S**	**14 00 02.1**	**+2.4**
MUN	**Mundaring**	**23.50**	**174**	*e*P	**P**	**13 56 19.1**	**+17**
	11nm,0.6s,mb4.4						
NWAO	**Narrogin (SRO)**	**24.56**	**172**	*e*P	**P**	**13 56 31.5**	**+19**
	76nm,0.6s,mb5.3						
NWAO	**Narrogin (SRO)**	**24.56**	**172**	P	**P**	**13 56 31.2**	**+19**
	8.8nm,0.4s,mb4.5,baz=1.0,slow=11,SNR=10						
NWAO				S	S	14 00 44.1	+23
	7.0nm,0.7s,baz=62,slow=11,SNR=3.0						
ASPA	**Alice Springs**	**24.81**	**130**	⇓*i*P	**P**	**13 56 15.0**	**+0.3**
ASPA				*i*		13 56 41.2	
ASPA				*e*S	S	14 00 54.4	+29
ASAR	**Alice Springs**	**24.81**	**130**	P	**P**	**13 56 14.9**	**+0.1**
ASAR	**Alice Springs**	**24.81**	**130**	P	**P**	**13 56 14.9**	**+0.2**
	36nm,0.8s,mb4.8,baz=304,slow=8.7,SNR=313						
ASAR				pP		13 56 40.2	
	14nm,0.5s,baz=303,slow=9.0,SNR=6.0						
ASAR				S	S	14 00 52.5	+27
	16nm,0.9s,baz=304,slow=13,SNR=11						
FORT	**Forrest**	**26.08**	**150**	*e*P	**P**	**13 56 26.7**	**+0.2**
	483nm,0.7s,mb6.0						
FORT				*e*	pP	13 56 52.8	-0.7
NST	**Nakhon Sawan**	**27.35**	**331**	P	**P**	**13 56 39.0**	**+0.7**
BDT	**Bhumibol Dam**	**29.25**	**331**	P	**P**	**13 56 56.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**30.32**	**332**	*i* P	**P**	**13 57 05.5**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,28nm,1.0s						
CMAR	**Chiang Mai Arr**	**30.32**	**332**	P	**P**	**13 57 05.5**	**+0.7**
	comp=Z,28nm,1.0s,mb4.8,baz=164,slow=8.4,SNR=82						
CMAR				PcP	PcP	14 00 03.6	+1.7
	comp=Z,2.2nm,0.8s,baz=196,slow=2.8,SNR=7.3						
CMAR				ScP		14 03 34.0	
	comp=Z,2.1nm,0.8s,baz=185,slow=2.9,SNR=13						
CMAR				LR	LR	14 12 53.9	
	comp=Z,39nm,19.4s,baz=135,slow=43						
CHG	**Chiang Mai**	**30.64**	**333**	P	**P**	**13 57 09.2**	**+1.6**
PMG	**Port Moresby**	**33.44**	**94**	P	**P**	**13 57 31.0**	**-0.9**
	comp=Z,5.3nm,0.4s,mb4.7,baz=200,slow=16,SNR=8.6						
PMG	**Port Moresby**	**33.44**	**94**	*e*P	**P**	**13 57 31.6**	**-0.3**
	comp=Z,11nm,0.6s,mb4.9						
CTA	**Charters Tower**	**33.85**	**113**	*e*P	**P**	**13 57 36.4**	**+1.0**
	comp=Z,7.8nm,0.8s,mb4.6						
CTA	**Charters Tower**	**33.85**	**113**	P	**P**	**13 57 36.5**	**+1.1**
	comp=Z,11nm,0.8s,mb4.8,baz=276,slow=9.8,SNR=10						
CTA				pP	pP	13 58 02.9	-0.8
	comp=Z,8.5nm,0.8s,baz=288,slow=12,SNR=2.7						
CTAO	**Charters Tower**	**33.85**	**113**	*e*P	**P**	**13 57 35.7**	**+0.3**
	comp=Z,9.6nm,0.7s,mb4.7						
KMI	**Kunming**	**34.99**	**343**	P	**P**	**13 57 47.6**	**+2.6**
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.8						
KMI				AMB	AMB		
	comp=Z,241nm,5.4s						
KMI				LR	LR		
	comp=Z,38nm,30.4s						
KMI	**Kunming**	**34.99**	**343**	P	**P**	**13 57 47.6**	**+2.6**
	comp=Z,16nm,1.1s,mb4.8						
KMI				LR	LR		
	comp=Z,40nm,30.4s						
STKA	**Stephens Creek**	**35.08**	**135**	⇓*i*P	**P**	**13 57 46.2**	**+0.5**
	comp=Z,17nm,0.4s,mb5.2						
STKA				*i*	pP	13 58 12.7	-1.4
STKA	**Stephens Creek**	**35.08**	**135**	P	**P**	**13 57 46.3**	**+0.6**
	comp=Z,27nm,0.5s,mb5.3,baz=314,slow=8.5,SNR=121						
STKA				pP	pP	13 58 11.8	-2.3
	comp=Z,13nm,0.6s,baz=313,slow=9.1,SNR=6.4						
STKA				ScP		14 03 49.4	
	comp=Z,2.2nm,0.6s,baz=300,slow=8.1,SNR=3.3						
STKA				LR	LR	14 11 11.1	
	comp=Z,108nm,20.3s,baz=208,slow=34						
GYA	**Guiyang**	**35.36**	**350**	⇑*i*P	**P**	**13 57 49.5**	**+1.3**
GYA				S	**S**	**14 03 17.2**	**+4.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,4.2s						
JOW	**Kunigami**	**38.02**	**22**	P	**P**	**13 58 10.9**	**+0.5**
	comp=Z,5.9nm,0.6s,mb4.6,baz=193,slow=8.8,SNR=7.7						
ENH	**Enshi**	**38.74**	**355**	*e*P	**P**	**13 58 17.1**	**+0.7**
	comp=Z,30nm,0.6s,mb5.3						
VIS	**Vishakhapatnam**	**39.46**	**311**	*e*P	**P**	**13 58 19.1**	**-3.4**
TRD	**Trivandrum**	**39.98**	**294**	*e*P	**P**	**13 58 27.0**	**+0.2**
SSE	**Sheshan**	**40.10**	**11**	P	**P**	**13 58 26.0**	**-1.7**
SSE				AMB	AMB		
	comp=Z,49nm,0.6s,mb5.5						
SSE				AMB	AMB		
	comp=Z,52nm,4.8s						
SSE	**Sheshan**	**40.10**	**11**	P	**P**	**13 58 26.0**	**-1.7**
	comp=Z,49nm,0.6s,mb5.5						
CD2	**Chengdu**	**40.26**	**347**	P	**P**	**13 58 30.2**	**+1.3**
CD2				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.3						
NJ2	**Nanjing**	**40.69**	**7**	*e*P	**P**	**13 58 33.1**	**+0.7**
NJ2				PP	PP	14 00 13.3	+2.2
NJ2				S	**S**	**14 04 31.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,400nm,7.2s						
NJ2				LR	LR		
	comp=N,380nm,19.2s						
NJ2				LR	LR		
	comp=E,420nm,18.6s						
NJ2				LR	LR		
	comp=Z,460nm,18.0s						
XAN	**Xi'an**	**42.53**	**355**	P	**P**	**13 58 47.5**	**-0.1**
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
HYB	**Hyderabad**	**42.94**	**307**	*e*P	**P**	**13 58 50.5**	**-0.6**
HYB	**Hyderabad**	**42.94**	**307**	*i* P	**P**	**13 58 50.5**	**-0.6**
	comp=Z,69nm,0.8s,mb5.4						
LSA	**Lhasa**	**43.58**	**332**	*e*P	**P**	**13 58 57.8**	**+1.7**
	comp=Z,25nm,0.6s,mb5.1						
JIRN	**Jiri**	**44.53**	**325**	*e*P	**P**	**13 59 04.3**	**+0.5**
	comp=Z,108nm,0.7s,mb5.7						
GUN	**Gumba**	**44.90**	**325**	*e*P	**P**	**13 59 07.1**	**+0.4**
	comp=Z,93nm,0.5s,mb5.8						
PKI	**Pulchoki**	**44.91**	**324**	*e*P	**P**	**13 59 06.7**	**-0.1**
	comp=Z,41nm,0.8s,mb5.2						
DMN	**Daman**	**45.12**	**324**	*e*P	**P**	**13 59 08.6**	**+0.2**
	comp=Z,89nm,0.7s,mb5.6						
KKN	**Kakani**	**45.15**	**324**	*e*P	**P**	**13 59 08.6**	**-0.1**
	comp=Z,45nm,0.7s,mb5.3						
LZH	**Lanzhou**	**45.25**	**349**	⇑P	**P**	**13 59 10.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1						
LZH	**Lanzhou**	**45.25**	**349**	⇑P	**P**	**13 59 10.5**	**+1.1**
	comp=Z,38nm,1.0s,mb5.1						
LZH				pP	pP	13 59 32.0	-6.7
LZH				sP	sP	13 59 44.0	-9.3

GKN	**Gorkha**	**45.69**	**324**	*e*P	**P**	**13 59 12.8**	**-0.1**
	comp=Z,49nm,0.3s,mb5.8						
HNR	**Honiara**	**46.05**	**95**	*e*P	**P**	**13 59 15.7**	**-0.2**
	comp=Z,80nm,0.9s,mb5.5						
KOLN	**Koldanda**	**46.13**	**322**	*e*P	**P**	**13 59 16.2**	**-0.2**
	comp=Z,81nm,0.6s,mb5.7						
KAD	**Karad**	**46.41**	**304**	*e*P	**P**	**13 59 17.8**	**-1.0**
KAD				*e*		13 59 18.8	
	comp=Z,23nm,0.5s						
BHPL	**Bhopal**	**47.21**	**313**	*e*P	**P**	**13 59 24.0**	**-1.0**
POO	**Poona**	**47.31**	**305**	*e*P	**P**	**13 59 25.3**	**-0.5**
POO				*e*		13 59 25.8	
	comp=Z,65nm,0.5s						
BJT	**Baijiatuau**	**48.36**	**3**	*e*P	**P**	**13 59 33.4**	**-0.3**
	comp=Z,20nm,0.6s,mb5.1						
BJI	**Beijing**	**48.38**	**3**	*e*P	**P**	**13 59 33.8**	**-0.1**
BJI				AMB	AMB		
	comp=Z,21nm,0.5s,mb5.2						
BJI	**Beijing**	**48.38**	**3**	*e*P	**P**	**13 59 33.8**	**-0.1**
	comp=Z,21nm,0.5s,mb5.2						
HHC	**Hu-ho-hao-te**	**49.15**	**358**	*e*P	**P**	**13 59 41.6**	**+1.9**
HHC				PP	PP	14 01 37.4	+2.6
HHC				PCS		14 04 59.6	
HHC				S	**S**	**14 06 43.1**	**+9.3**
HHC				AMB	AMB		
	comp=Z,12nm,0.7s,mb4.9						
GTA	**Gaotai**	**49.30**	**346**	*e*P	**P**	**13 59 42.1**	**+1.2**
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7						
NDI	**New Delhi**	**50.80**	**318**	*e*P	**P**	**13 59 49.0**	**-3.5**
	comp=Z,97nm,0.7s,mb5.9						
CN2	**Changchun**	**53.23**	**11**	*e*P	**P**	**14 00 14.4**	**+4.0**
CN2				PCP	PcP	14 01 17.6	+1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,380nm,5.0s						
THN	**Thein Dam**	**54.25**	**321**	*e*P	**P**	**14 00 16.0**	**-2.1**
	comp=Z,33nm,0.6s,mb5.5						
MDJ	**Mudanjiang**	**54.90**	**14**	P	**P**	**14 00 21.9**	**-0.7**
MDJ				PCP	PcP	14 01 23.2	+0.4
MDJ				PP	PP	14 02 25.3	-2.9
MDJ				PCS		14 05 23.1	
MDJ				S	**S**	**14 07 59.0**	**+6.9**
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,128nm,5.0s						
MDJ				LR	LR		
	comp=N,17nm,39.6s						
MDJ				LR	LR		
	comp=E,24nm,27.8s						
MDJ				LR	LR		
	comp=Z,18nm,23.1s						
MDJ	**Mudanjiang**	**54.90**	**14**	*e*P	**P**	**14 00 21.8**	**-0.8**
	comp=Z,6.2nm,0.4s,mb5.0						
ULN	**Ulaanbaatar**	**56.41**	**355***c*	*i*P	**P**	**14 00 33.2**	**-0.2**
ULN	**Ulaanbaatar**	**56.41**	**355**	*e*P	**P**	**14 00 33.1**	**-0.3**
	comp=Z,9.3nm,0.7s,mb4.9						
SONM	**Songino Array**	**56.44**	**354**	P	**P**	**14 00 33.5**	**-0.1**
	comp=Z,12nm,0.6s,mb5.1,baz=173,slow=8.4,SNR=103						
SONM				PcP	PcP	14 01 29.1	+0.3
	comp=Z,2.8nm,0.6s,baz=188,slow=3.2,SNR=7.5						
SONM				ScP		14 05 16.8	
	comp=Z,0.8nm,0.8s,baz=146,slow=4.5,SNR=4.3						
WMQ	**Urumqi**	**57.04**	**338**⇓	*i*P	**P**	**14 00 38.3**	**+0.4**
WMQ				PP	PP	14 02 47.0	-0.5
WMQ				PCS		14 05 32.0	
WMQ				S	**S**	**14 08 26.0**	**+5.5**
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,191nm,5.7s						
WMQ				LR	LR		
	comp=N,226nm,22.6s						
WMQ				LR	LR		
	comp=E,305nm,21.6s						
WMQ				LR	LR		
	comp=Z,254nm,20.2s						
HIA	**Hailar**	**57.81**	**5**	*e*P	**P**	**14 00 42.3**	**-0.9**
HIA	**Hailar**	**57.81**	**5**	P	**P**	**14 00 42.2**	**-1.0**
	comp=Z,2.0nm,0.3s,mb4.6						
KSH	**Kashi**	**59.00**	**327**	*e*P	**P**	**14 00 51.6**	**-0.1**
KSH				PCP	PcP	14 01 39.0	+0.1
KSH				*e*PP	PP	14 03 04.6	-0.6
KSH				*e*SCP		14 05 33.0	
KSH				*e*PCS		14 05 42.2	
KSH				*e*S	**S**	**14 08 49.6**	**+3.5**
KSH				*e*SS	SS	14 12 46.8	+3.0
KSH				AMB	AMB		
	comp=Z,340nm,5.7s						
KSH				LR	LR		
	comp=N,350nm,4.6s						
KSH				LR	LR		
	comp=E,690nm,4.9s						
ZAK	**Zakamensk**	**59.30**	**353**	*e*P	**P**	**14 00 52.8**	**-0.8**
ZAK				*e*		14 01 40.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TLY	**Talaya**	**60.53**	**353***c*	*i*P	**P**	**14 01 01.9**	**0.0**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.5						
MOY	**Mondy**	**60.88**	**351**	*e*P	**P**	**14 01 04.6**	**+0.3**
MOY				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.8						
YSS	**Yuzh-Sakhalins**	**61.13**	**23**	*i* P	**P**	**14 01 04.4**	**-1.7**
YSS				pmax	pmax		
	comp=Z,71nm,1.5s,mb5.5						
YSS	**Yuzh-Sakhalins**	**61.13**	**23**	*e*P	**P**	**14 01 05.2**	**-0.8**
	comp=Z,93nm,1.4s,mb5.6						
WBK	**Wadi Bani Khal**	**61.54**	**301**	⇑P	**P**	**14 01 08.3**	**-0.9**
	SNR=6.0						
MKAR	**Makanchi Array**	**61.61**	**336**	*i* P	**P**	**14 01 08.4**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
AAK	**Ala-Archa**	**62.00**	**328**	P	**P**	**14 01 11.6**	**-0.4**
	comp=Z,89nm,0.8s,mb5.8,SNR=23						
AAK	**Ala-Archa**	**62.00**	**328**	*i* P	**P**	**14 01 10.9**	**-1.1**
AAK				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
AAK	**Ala-Archa**	**62.00**	**328**	*e*P	**P**	**14 01 10.6**	**-1.4**
	comp=Z,17nm,1.0s,mb5.0						
JMDO	**Jabal Madar**	**62.18**	**301**	P	**P**	**14 01 12.7**	**-0.8**
	SNR=24						
SMDO	**Samad**	**62.50**	**301**	⇓P	**P**	**14 01 15.1**	**-0.5**
BIDO	**Bidbid**	**62.62**	**302**	P	**P**	**14 01 16.0**	**-0.3**
	SNR=34						
BSY	**Bisya**	**63.09**	**301**	P	**P**	**14 01 18.9**	**-0.5**
	SNR=14						
RBK	**Rabkut**	**63.86**	**294**	P	**P**	**14 01 24.3**	**-0.4**
	SNR=6.4						
ARQ	**Araqi**	**63.90**	**301**	P	**P**	**14 01 24.1**	**-0.7**
	SNR=7.6						
WHFO	**Wadi Hawf**	**64.38**	**294**	P	**P**	**14 01 26.7**	**-1.3**
	SNR=19						
ABTO	**Aybut**	**64.63**	**294**	P	**P**	**14 01 29.1**	**-0.6**
	SNR=12						
ASHO	**Ashiyiah**	**64.81**	**302**	P	**P**	**14 01 30.3**	**-0.4**
	SNR=6.8						
BANOM	**Banah**	**65.10**	**304**	P	**P**	**14 01 32.2**	**-0.4**
	SNR=8.8						
BOD	**Bodaibo**	**66.11**	**0**	*e*P	**P**	**14 01 36.6**	**-1.9**
BOD				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**66.21**	**337**	*i* P	**P**	**14 01 38.4**	**-0.8**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**66.21**	**337**	*e*P	**P**	**14 01 38.1**	**-1.2**
	comp=Z,14nm,0.8s,mb4.8						
BVA0	**Borovoye Array**	**71.32**	**334**	*i* P	**P**	**14 02 09.8**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
YAK	**Yakutsk**	**71.48**	**8***c*	*i*P	**P**	**14 02 10.8**	**-0.5**
YAK				pmax	pmax		
	comp=Z,45nm,1.0s,mb5.2						
YAK	**Yakutsk**	**71.48**	**8**	*e*P	**P**	**14 02 10.4**	**-0.9**
	comp=Z,42nm,0.9s,mb5.3						
CHKZ	**Chkalovo**	**71.69**	**335**	*i* P	**P**	**14 02 12.4**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.5s,mb5.0						
CHKZ	**Chkalovo**	**71.69**	**335**	*e*P	**P**	**14 02 12.2**	**-0.4**
	comp=Z,27nm,0.7s,mb5.2						
RAYN	**Ar Rayn**	**73.47**	**298**	P	**P**	**14 02 23.1**	**-0.7**
	comp=Z,50nm,0.4s,SNR=11						
MA2	**Magadan**	**74.16**	**19***c*	*i*P	**P**	**14 02 27.1**	**+0.1**
MA2				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
MA2	**Magadan**	**74.16**	**19**	*e*P	**P**	**14 02 27.0**	**0.0**
	comp=Z,11nm,0.8s,mb4.6						
KMBO	**Kilima Mbogo**	**76.05**	**271**	*i* P	**P**	**14 02 40.4**	**+1.7**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**76.05**	**271**	P	**P**	**14 02 39.8**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.0,baz=225,slow=23,SNR=7.8						
KMBO	**Kilima Mbogo**	**76.05**	**271**	*e*P	**P**	**14 02 39.8**	**+1.1**
	comp=Z,2.1nm,0.8s,mb3.9						
SEY	**Seymchan**	**77.27**	**17**	*e*P	**P**	**14 02 47.3**	**+2.9**
SEY				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.0						
GNI	**Garni**	**79.48**	**313**	*i* P	**P**	**14 02 56.2**	**-0.8**
GNI				pmax	pmax		
	comp=Z,16nm,1.4s						
TI2	**Plekhanov**	**80.04**	**315**	*e*P	**P**	**14 03 01.0**	**+1.0**
TIXI	**Tiksi**	**80.66**	**5**⇑	*i*P	**P**	**14 03 02.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
ZEI	**Tsey**	**81.00**	**316**	*i* P	**P**	**14 03 06.1**	**+1.1**
ZEI				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.9						
KIV	**Kislovodsk**	**82.23**	**317**	*i* P	**P**	**14 03 11.6**	**+0.2**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**82.23**	**317**	*e*P	**P**	**14 03 11.7**	**+0.3**
	comp=Z,10nm,0.8s,mb4.7						
MATP	**Matopo**	**82.25**	**251**	P	**P**	**14 03 12.8**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.3,baz=92,slow=3.4,SNR=4.9						
MATP	**Matopo**	**82.25**	**251**	P	**P**	**14 03 12.8**	**+0.9**
MBAR	**Mbarara**	**82.57**	**271**	*e*P	**P**	**14 03 14.3**	**+0.6**
	comp=Z,4.8nm,1.0s,mb4.3						
LSZ	**Lusaka**	**83.13**	**256**	*e*P	**P**	**14 03 17.8**	**+1.3**
	comp=Z,5.1nm,0.5s,mb4.6						
MALT	**Malatya**	**83.57**	**310**	*e*P	**P**	**14 03 19.7**	**+1.4**
	comp=Z,15nm,0.9s,mb4.8						
SOC	**Sochi**	**84.15**	**316**	*e*P	**P**	**14 03 19.9**	**-1.2**
SOC				*e*		14 06 34.2	
SOC				*e*PPP	PPP	14 08 28.3	-6.3
SOC				*e*		14 13 40.5	
SOC				*e*SS	SS	14 19 04.7	-3.3
SOC				*e*SSS	SSS	14 22 36.8	+0.3
SOC				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.1						
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.5s						
EIL	**Elat**	**84.19**	**301**	*e*P	**P**	**14 03 22.6**	**+0.9**
	comp=E,19nm,1.1s,mb4.8						
LBTB	**Lobatse**	**84.40**	**246**	*e*P	**P**	**14 03 24.5**	**+1.7**
	comp=E,4.6nm,0.7s,mb4.4						
BILL	**Bilibino**	**84.97**	**18**	*i* P	**P**	**14 03 24.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
BILL				MLR	MLR		
	comp=Z,100nm,21.0s						
ANN	**Anapa**	**86.08**	**316**	*e*P	**P**	**14 03 23.8**	**-6.8**
ANN				pmax	pmax		
	comp=Z,113nm,1.7s,mb5.5						
CSS	**Prodhromos**	**86.71**	**306**	*e*P	**P**	**14 03 34.3**	**+0.3**
	comp=Z,27nm,1.0s,mb5.1						
VRSR	**Storozhevoye**	**86.80**	**323**	*e*P	**P**	**14 03 34.2**	**+0.2**
VRSR				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
VRSR				pmax	pmax		
	comp=N,10.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,40nm,0.7s						
BRTR	**Keskin Array B**	**87.53**	**311**	P	**P**	**14 03 38.6**	**+0.8**
	comp=E,12nm,0.9s,mb4.9,baz=128,slow=5.6,SNR=51						
OBN	**Obninsk**	**89.44**	**326**	*e*P	**P**	**14 03 47.2**	**+0.8**
OBN				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**92.80**	**321**	*i* P	**P**	**14 04 01.9**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**92.80**	**321**	P	**P**	**14 04 01.4**	**-0.7**
	comp=Z,1.1nm,0.3s,mb4.6,baz=80,slow=5.3,SNR=13						
KAF	**Kangasniemi**	**96.06**	**332**	*e*p	**P**	**14 04 17.2**	**+0.6**
	comp=Z,7.2nm,0.6s,mb5.3						
KAF	**Kangasniemi**	**96.06**	**332**	*e*P	**P**	**14 04 17.2**	**+0.6**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.3						
FINES	**FINESS Array B**	**96.09**	**331**	*i* P	**P**	**14 04 17.3**	**+0.5**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**96.09**	**331**	P	**P**	**14 04 17.1**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=13						
FINES				PKiKP		14 08 55.7	
	comp=Z,1.5nm,1.0s,baz=90,slow=1.9,SNR=4.2						
ARCES	**ARCESS Array B**	**97.15**	**339**	P	**P**	**14 04 20.8**	**-0.7**
	comp=Z,3.3nm,0.9s,mb4.7,baz=90,slow=7.3,SNR=7.0						
HFS	**Hagfors**	**102.13**	**330**	P	Pdif	14 04 44.3	+0.2
	comp=Z,1.8nm,0.6s,baz=79,slow=7.3,SNR=3.5						
YKA	**Yellowknife Ar**	**115.98**	**23**	PKP	PKPdf	14 09 32.1	+1.7
	comp=Z,0.6nm,0.4s,baz=320,slow=1.7,SNR=15						
DBIC	**Dimbokro**	**118.74**	**273**	PKP	PKPdf	14 09 38.9	+2.0
	comp=Z,1.7nm,0.5s,baz=96,slow=3.8,SNR=8.4						
NVAR	**Mina Array Bea**	**124.99**	**49**	PKP	PKPdf	14 09 51.8	+3.3
	comp=Z,0.5nm,0.7s,baz=225,slow=2.1,SNR=3.5						
ELK	**Elko**	**126.38**	**45**	PKP	PKPdf	14 09 54.9	+3.8
	comp=Z,0.3nm,0.4s,baz=300,slow=20,SNR=3.3						
ULM	**Lac du Bonnet**	**131.85**	**25**	SKPbc		14 13 17.4	
	comp=Z,4.6nm,0.7s,baz=303,slow=3.2,SNR=9.1						
SCHQ	**Schefferville**	**133.81**	**0**	PKP	PKPdf	14 10 07.7	+2.9
	comp=Z,1.3nm,0.5s,baz=323,slow=5.1,SNR=6.0						
SCHQ				SKPbc		14 13 24.6	
	comp=Z,5.1nm,0.8s,baz=345,slow=1.1,SNR=8.3						
SCHQ	**Schefferville**	**133.81**	**0**	PKP	PKPdf	14 10 07.7	+2.9
SCHQ				SKPbc		14 13 24.6	
TXAR	**Lajitas Array**	**139.61**	**54**	SKPbc		14 13 42.1	
	comp=Z,0.3nm,0.5s,baz=270,slow=1.8,SNR=3.3						
HKT	**Hockley**	**145.37**	**48**	*e*PKIKP	PKPdf	14 10 29.3	+3.0
WCI	**Wyandotte Cave**	**145.54**	**28**	*e*PKPbc	PKPbc	14 10 29.1	+2.0
SSPA	**Standing Stone**	**146.50**	**16**	*e*PKPbc	PKPbc	14 10 31.9	+2.6
TZTN	**Tazewell**	**148.16**	**26**	*e*PKPbc	PKPdf	14 10 36.1	+5.4
ELN	**Prospectdale**	**148.70**	**22**	*e*PKPbc	PKPdf	14 10 37.5	+6.0
LRAL	**Lakeview Retre**	**149.21**	**35**	*e*PKPbc	PKPdf	14 10 39.1	+6.7

GUC 07 13:59:35.2±0.5**,32.70S**×**71.63W,h29**km±5km**,MD3.7, ML2.4,1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.23**	**44**⇓	*i*P	Pb	13 59 41.8	+0.1
PACH				*i* S	Sb	13 59 46.5	+0.5
LCCH	**Las Cruces**	**0.77**	**177**	*e*P	Pb	13 59 49.8	-0.2
JACH	**Jahuel**	**0.87**	**89**	*i* P	Pn	13 59 51.1	-0.5
JACH				*i* S	Sb	14 00 03.5	+0.6
TACH	**Talagante**	**1.11**	**149**	*e*P	Pn	13 59 54.9	-0.1
TACH				*i* S	Sn	14 00 09.5	+0.1
FCH	**Farellones**	**1.28**	**119**	*e*P	Pn	13 59 57.9	+0.5
FCH				*i* S	Sn	14 00 15.6	+1.8
FCH				AMP		14 00 17.2	
	comp=E,103nm,0.2s						
PCH	**Pirque**	**1.31**	**135**	*e*P	Pn	13 59 58.0	+0.2
PCH				*i* S	Sn	14 00 15.2	+0.8
LMEL	**Las Melosas**	**1.65**	**134**	*e*P	Pn	14 00 03.8	+1.0
LMEL				*i* S	Sn	14 00 25.6	+2.4
LMEL				AMP		14 00 29.9	
	comp=N,79nm,0.3s						

BJI 07 14:16:50.0,20.80N×**101.73E,h32**km**,ML4.0,Ms4.0, Msz3.7,1D,Laos**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHRT	**Chiangrai**	**2.05**	**244** ⇓	PN	Pn	14 17 31.5	+8.5
CHRT				PG	Pn	14 17 36.0	+13
CHRT				SG	Sn	14 18 04.5	+17
NANT	**Nan**	**2.21**	**206**	PN	Pn	14 17 36.0	+11
NANT				PG	Pn	14 18 19.0	+54
NANT				SG	Sn	14 18 29.0	+37
CHG	**Chiang Mai**	**3.28**	**233**	PG	Pn	14 18 01.7	+21
CHG				SG	Sn	14 18 48.2	+29
BDT	**Bhumibol Dam**	**4.38**	**217**	P	Pn	14 18 08.0	+12
KMI	**Kunming**	**4.40**	**12**	PG	Pn	14 18 08.9	+12
KMI				SG	Sn	14 19 00.4	+13
KMI				Smax			
	comp=N,24nm,1.0s						
KMI				Smax			
	comp=E,25nm,1.3s						
KKTK	**Khon Kaen**	**4.56**	**167**	PN	Pn	14 18 31.0	+32
KKTK				SG	Sn	14 19 32.0	+41

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*THR **07** 14:35:12.2±0.8,30.77N×56.81E,h14km±8km,ML3.0*
*CSEM **07** 14:35:12.6±0.1,30.75N×56.81E,h16km,ML3.7/1,Error ellipse: s-maj=4.3km s-min=2.4km az=56.0*
*TEH **07** 14:35:14.0,30.40N×56.65E,h20km,Mn3.3*
ISC 07 14:35:12.5±0.8**,30.81N**±0.06×**56.8E**±0.1**,h14**km**,n15, σ1s22**/19**,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.83**	**183**	*i* PG	**Pg**	**14 35 27.5**	**-1.7**
KRBR				AML	AML	14 35 41.6	
	comp=N,688nm,0.2s						
IBAF	**Bafgh**	**1.32**	**306**	Pg	**Pg**	**14 35 36.3**	**-2.6**
IMEH	**Mehriz**	**1.97**	**288**	Pn	**Pn**	**14 35 47.5**	**+1.6**
ICHK	**Chekchek**	**2.50**	**305**	Pn	**Pn**	**14 35 54.5**	**+1.0**
ISAD	**Sadrabad**	**2.89**	**293**	Pn	**Pn**	**14 36 00.3**	**+1.3**
BNDS	**Bandar-Abbas**	**3.45**	**190**	*e*PN	**Pn**	**14 36 07.0**	**+0.1**
BNDS				AML	AML	14 37 12.0	
	comp=N,27nm,0.5s						
ISRV	**Sarvestan**	**3.51**	**247**	Pn	**Pn**	**14 36 03.3**	**-4.5**
ZHSF	**Zahedan**	**3.63**	**108**	*e*PN	**Pn**	**14 36 09.9**	**+0.4**
ZHSF				AML	AML	14 37 14.5	
	comp=N,22nm,0.6s						
NASN	**Na'in**	**3.94**	**301**	*e*PN	**Pn**	**14 36 15.4**	**+1.4**
NASN				*e*SG	**Sg**	**14 37 15.1**	**-8.7**
NASN				AML	AML	14 37 22.9	
	comp=N,34nm,0.6s						
NASN	**Na'in**	**3.94**	**301**	*e*Pn	**Pn**	**14 36 15.4**	**+1.4**
	SNR=52						
NASN				*e*Sg	**Sg**	**14 37 15.1**	**-8.7**
	comp=N,34nm,0.6s,SNR=90						
GHIR	**Ghir-Karzin**	**4.18**	**234**	*e*PN	**Pn**	**14 36 17.0**	**-0.3**
IFIR	**Firoozkooh**	**5.90**	**326**	Pn	**Pn**	**14 36 40.2**	**-1.4**
IFIR				Sn	**Sn**	**14 37 49.3**	**-0.4**
IDMV	**Damavand**	**6.21**	**321**	Pn	**Pn**	**14 36 47.1**	**+1.0**
IQOM	**Qom**	**6.29**	**311**	Pn	**Pn**	**14 36 47.0**	**-0.1**
IAFJ	**Afjeh**	**6.60**	**321**	Pn	**Pn**	**14 36 52.1**	**+0.6**
IAFJ				Sn	**Sn**	**14 38 05.2**	**-2.0**

IDC 07 14:45:13.1±1.9**,7.54N**×**94.30E,mb3.5**/4**,mb1 3.7**/5**, mb1mx3.6**/16**,mbtmp3.5**/5**,ML3.7**/1**,Error ellipse: s-maj=66.7km s-min=27.1km az=65.0,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.76**	**22**	Pn	P	14 48 00.3	-4.9
	0.1nm,0.3s,baz=206,slow=15,SNR=5.4						
SONM	**Songino Array**	**41.46**	**12**	P	P	14 53 03.0	-0.2
	0.4nm,0.8s,baz=180,slow=7.2,SNR=3.0						
WRA	**Warramunga Arr**	**47.93**	**125**	P	P	14 53 53.4	-2.2
	0.2nm,0.6s,baz=305,slow=8.7,SNR=2.6						
ASAR	**Alice Springs**	**49.58**	**130**	P	P	14 54 06.4	-1.8
	0.3nm,0.7s,baz=300,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**73.08**	**332**	P	P	14 56 44.5	-2.3
	2.1nm,1.1s,baz=90,slow=5.7,SNR=3.7						

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*JMA **07** 14:57:26.0±0.4,23.92N×121.78E,h26km,M2.6*
TAP 07 14:57:26.0,24.00N×**121.73E,h27**km**,ML3.5,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.26**	**68**	P	Pn	14 57 47.9	-0.2
YOJ				S	Sn	14 58 04.2	0.0
IRIF	**Iriomote-Funau**	**1.86**	**79**	P	Pn	14 57 56.4	-0.2
IRIF				S	Sn	14 58 18.7	-0.7
HATJ	**Hateruma jima**	**1.90**	**88**	P	Pn	14 57 57.2	0.0
HATJ				*e*S	Sn	14 58 19.5	-1.0
JKRS	**Kuro-shima**	**2.10**	**83**	P	Pn	14 58 00.2	+0.1
JKRS				S	Sn	14 58 25.6	+0.1
JIJ	**Ishigaki jima**	**2.23**	**80**	P	Pn	14 58 01.4	-0.6
JIJ				S	Sn	14 58 27.4	-1.6
JTJ	**Tarama**	**2.79**	**76**	P	Pn	14 58 09.6	-0.3
JTJ				S	Sn	14 58 41.9	-1.1
JOGS	**Gusukube**	**3.44**	**77**	*e*S	Sn	14 58 57.5	-2.0

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*IDC **07** 15:43:13.9±0.7,8.86N×126.53E,mb4.0/10,mb1 4.2/10, mb1mx4.1/17,mbtmp3.9/10,MS3.0/1,Ms1 3.2/1, ms1mx2.8/21,Error ellipse: s-maj=40.5km s-min=16.7km az=75.0*
*NEIC **07** 15:43:15.7±0.4,8.87N×126.56E,h10km,mb4.5/5,Error ellipse: s-maj=23.3km s-min=8.6km az=78.0*
*MAN **07** 15:43:19.4,8.83N×126.63E,h17km,mb4.8,ML3.7,MS3.7*
ISC 07 15:43:18.0±0.5**,8.81N**±0.03×**126.80E**±0.05**,h33**km**,n33, σ1s20**/40**,mb4.0**/15**,MS2.9**/1**,1C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.76**	**215**⇑	*i*P	**P**	**15 43 32.5**	**+0.3**
BIPH				*i* S	**S**	**15 43 41.5**	**-1.1**
BUTP	**Butuan**	**1.17**	**278**	*e*P	**P**	**15 43 37.2**	**-0.9**
BUTP				*e*S	**S**	**15 43 49.6**	**-3.6**
SCPH	**Surigao**	**1.61**	**307**	*e*P	**P**	**15 43 44.3**	**-0.2**
SCPH				*i* S	**S**	**15 44 04.8**	**+0.5**
MATI	**Mati**	**1.93**	**196**	*e*P	**P**	**15 43 51.8**	**+2.8**
BUKP	**Musuan**	**1.95**	**242**	*e*P	**P**	**15 43 50.2**	**+0.9**
MSLP	**Maasin**	**2.32**	**305**	*e*P	**P**	**15 43 56.0**	**+1.3**
KCP	**Kidapawan**	**2.46**	**223**⇓	*e*P	**P**	**15 43 57.6**	**+1.0**
KCP				*i* S	**S**	**15 44 26.6**	**+0.8**
PLP	**Palo**	**2.95**	**323**	*e*P	**P**	**15 44 04.6**	**+1.0**
PLP				*e*S	**S**	**15 44 38.9**	**+0.7**
TBP	**Tagbilaran**	**3.03**	**287**	*e*P	**P**	**15 44 04.8**	**+0.1**
TBP				*e*S	**S**	**15 44 34.7**	**-5.5**
BESP	**Borongan**	**3.08**	**334**	*e*P	**P**	**15 44 06.3**	**+0.9**
LLP	**Lapu-Lapu**	**3.17**	**298**	*e*P	**P**	**15 44 07.8**	**+1.1**
LLP				*e*S	**S**	**15 44 41.0**	**-2.9**
PAGZ	**Pagadian**	**3.51**	**254**	*e*P	**P**	**15 44 12.7**	**+1.1**
SNPH	**Sibulan**	**3.56**	**279**	*e*P	**P**	**15 44 13.0**	**+0.8**
GUIM	**Jordan**	**4.52**	**294**	*e*P	**P**	**15 44 25.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**26.76**	**182**	*e*P	**P**	**15 48 56.7**	**-0.3**
	4.6nm,0.3s,mb4.5						
CMAR	**Chiang Mai Arr**	**28.68**	**292**	P	**P**	**15 49 12.3**	**-2.1**
	1.3nm,1.0s,mb3.6,baz=90,slow=7.1,SNR=4.5						
CMAR				LR	LR	15 59 24.5	
	comp=Z,30nm,20.1s,MS2.9,baz=209,slow=34						
WRAB	**Tennant Creek**	**29.51**	**165**	*e*P	**P**	**15 49 20.9**	**-0.8**
	1.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**29.52**	**165**	P	**P**	**15 49 20.4**	**-1.4**
	0.7nm,0.6s,mb3.6,baz=347,slow=9.2,SNR=12						
ASAR	**Alice Springs**	**33.02**	**168**	P	**P**	**15 49 51.7**	**-0.9**
	0.9nm,0.6s,mb3.9,baz=350,slow=7.1,SNR=35						
ASPA	**Alice Springs**	**33.02**	**168**	*e*P	**P**	**15 49 52.6**	**0.0**
FORT	**Forrest**	**39.38**	**178**	*e*P	**P**	**15 50 47.1**	**+0.8**
	203nm,0.5s						
NWAO	**Narrogin (SRO)**	**42.49**	**192**	P	**P**	**15 51 11.5**	**-0.6**
	4.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**42.56**	**340**	P	**P**	**15 51 09.2**	**-3.3**
	0.2nm,0.5s,mb3.1,baz=157,slow=8.2,SNR=2.7						
STKA	**Stephens Creek**	**42.86**	**161**	*e*P	**P**	**15 51 15.5**	**+0.4**
	2.3nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**42.86**	**161**	P	**P**	**15 51 15.6**	**+0.5**
	3.1nm,0.5s,mb4.3,baz=346,slow=8.8,SNR=17						
STKA	**Stephens Creek**	**42.86**	**161**	*e*P	**P**	**15 51 15.3**	**+0.2**
YAK	**Yakutsk**	**53.16**	**2**	*e*P	**P**	**15 52 33.8**	**-1.1**
	5.3nm,0.6s,mb4.7						
KURK	**Kurchatov**	**57.56**	**326**	*e*P	**P**	**15 53 03.6**	**-3.2**
	5.3nm,1.1s,mb4.5						
ILAR	**Eielson Array**	**80.52**	**26**	P	**P**	**15 55 28.6**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=247,slow=4.8,SNR=7.6						
INK	**Inuvik**	**85.44**	**22**	P	**P**	**15 55 54.5**	**+1.3**
	1.0nm,1.1s,mb3.9,baz=205,slow=10,SNR=3.5						
FINES	**FINESS Array B**	**87.42**	**332**	P	**P**	**15 56 00.6**	**-2.4**
	0.8nm,0.5s,mb4.2,baz=84,slow=5.3,SNR=12						
VNDA	**Vanda**	**88.42**	**173**	P	**P**	**15 56 07.9**	**+0.4**
	3.7nm,1.2s,mb4.5,baz=298,slow=3.8,SNR=5.0						
YKA	**Yellowknife Ar**	**94.87**	**24**	P	**P**	**15 56 38.6**	**+1.0**
	0.4nm,0.8s,mb3.9,baz=299,slow=4.4,SNR=9.0						

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*IDC **07** 15:47:18.0±1.6,13.10N×125.19E,mb3.3/4,mb1 3.6/4, mb1mx3.4/16,mbtmp3.3/4,Error ellipse: s-maj=65.7km s-min=22.4km az=63.0*
*MAN **07** 15:47:19.4,13.15N×124.49E,h10km,mb4.7,ML3.6,*

MS3.6
ISC 07 15:47:19.9±1.0,**13.07N**±0.05×**124.44E**±0.07,**h9**km±8km,**n16**,σ**1s48**/20,**mb3.2**/4,**2D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.59**	**332**	*e*P	**Pg**	**15 47 30.6**	**-1.1**
PVCP				*e*S	**Sg**	**15 47 39.2**	**-0.5**
CNP	**Catarman**	**0.60**	**159**	*e*P	**Pg**	**15 47 32.5**	**+0.6**
MMPH	**Masbate**	**1.06**	**228**	*e*P	**Pb**	**15 47 39.0**	**-1.1**
MMPH				*i* S	**Sb**	**15 47 52.2**	**-1.7**
AUQP	**San Andres**	**1.74**	**278**	*e*P	**Pn**	**15 47 51.5**	**+1.0**
BESP	**Borongan**	**1.76**	**146**	*e*P	**Pn**	**15 47 50.1**	**-0.7**
PLP	**Palo**	**1.97**	**164**	*e*P	**Pn**	**15 47 56.6**	**+2.8**
PLP				*e*S	**Sn**	**15 48 16.5**	**-2.3**
GQP	**Guinayangan**	**2.11**	**293**⇓	*e*P	**Pn**	**15 47 54.9**	**-0.9**
GQP				*e*S	**Sn**	**15 48 23.4**	**+0.9**
RCP	**Roxas**	**2.23**	**228**	*e*P	**Pn**	**15 48 00.5**	**+2.8**
BOAC	**Boac**	**2.56**	**279**	*e*P	**Pn**	**15 48 01.4**	**-0.8**
MSLP	**Maasin**	**2.95**	**172**	*e*P	**Pn**	**15 48 09.9**	**+2.0**
LQP	**Lukban**	**3.00**	**290**⇓	*e*P	**Pn**	**15 48 11.4**	**+2.7**
GUIM	**Jordan**	**3.03**	**217**	*e*P	**Pn**	**15 48 09.9**	**+0.9**
CMAR	**Chiang Mai Arr**	**25.10**	**286**	P	**P**	**15 52 51.4**	**+4.7**
	0.5nm,0.7s,mb3.2,baz=100,slow=6.9,SNR=4.2						
WRA	**Warramunga Arr**	**34.22**	**163**	P	**P**	**15 54 04.6**	**-3.7**
	0.4nm,0.8s,mb3.4,baz=344,slow=9.4,SNR=4.0						
ASAR	**Alice Springs**	**37.67**	**166**	P	**P**	**15 54 33.4**	**-4.0**
	0.4nm,0.7s,mb3.3,baz=344,slow=7.4,SNR=6.8						
SONM	**Songino Array**	**37.79**	**340**	P	**P**	**15 54 37.7**	**-0.5**
	0.2nm,0.5s,mb3.1,baz=146,slow=10,SNR=2.3						

IDC 07 16:03:09.3±64.0,**15.31S**×**173.90W**,**mb4.1**/3,**mb1 4.3**/3,**mb1mx3.8**/15,**mbtmp4.1**/3,**Error ellipse: s-maj=1226.0km s-min=183.6km az=78.0**,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.66**	**240**	P	P	16 11 15.8	-1.8
	1.8nm,0.7s,baz=84,slow=9.2,SNR=5.5						
WRA	**Warramunga Arr**	**49.39**	**257**	P	P	16 12 01.1	-1.9
	0.4nm,0.4s,baz=90,slow=7.3,SNR=25						
ASAR	**Alice Springs**	**49.68**	**252**	P	P	16 12 03.2	-2.0
	5.4nm,0.7s,baz=89,slow=7.6,SNR=187						

*NEIC **07** 16:06:04.8,19.43N×67.35W,h15km,MD3.6(RSPR), After RSPR.*
RSPR 07 16:06:04.8,**19.43N**×**67.35W**,**h15**km±30km,**MD3.6**/13,**MD3.6**/13,**12C-1D**,**Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.98**	**167**⇑	*e*P	Pb	16 06 21.2	-1.7
AGPR				*e*S	Sb	16 06 33.2	-2.2
AOPR	**Arecibo Observ**	**1.21**	**152**⇑	*e*P	Pb	16 06 23.4	-3.5
LRS	**Lares**	**1.22**	**157**⇑	*e*P	Pb	16 06 23.7	-3.4
LRS				*e*S	Sb	16 06 38.6	-3.8
LSP	**Las Mesas**	**1.27**	**169**⇑	*e*P	Pb	16 06 25.6	-2.2
LSP				*e*S	Sb	16 06 41.8	-1.9
MGP	**Maguayo**	**1.43**	**170**⇓	*e*P	Pn	16 06 27.9	-2.5
MGP				*e*S	Sb	16 06 45.2	-3.3
PORP	**Portuguez**	**1.52**	**154**⇑	*e*P	Pn	16 06 28.2	-3.5
PORP				*e*S	Sb	16 06 47.5	-3.6
CELP	**Cerrillos**	**1.53**	**151**⇑	*e*P	Pn	16 06 28.6	-3.2
CELP				*e*S	Sb	16 06 47.1	-4.2
CSB	**Colonia Sabana**	**1.60**	**135**⇑	*e*P	Pn	16 06 29.6	-3.1
CSB				*e*S	Sn	16 06 49.2	-3.9
SJG	**San Juan**	**1.73**	**139**⇑	*e*P	Pn	16 06 32.4	-2.3
SJG				*e*S	Sn	16 06 52.7	-3.8
SJG	**San Juan**	**1.73**	**139**⇑	*e*P	Pn	16 06 32.2	-2.5
SJG				*e*S	Sn	16 06 53.0	-3.6
CBYP	**Canovanas**	**1.82**	**129**⇑	*e*P	Pn	16 06 32.5	-3.5
CBYP				*e*S	Sn	16 06 55.1	-3.7
HUMP	**Col San Antoni**	**1.91**	**132**⇑	*e*P	Pn	16 06 34.5	-2.7
MTP	**Monte Pirata**	**2.15**	**128**⇑	*e*P	Pn	16 06 37.5	-3.2
MTP				*e*S	Sn	16 07 02.7	-4.6

*NEIC **07** 16:21:16.6±0.8,20.46S×69.26W,h115km±15km,mb4.0/1, Error ellipse: s-maj=22.3km s-min=10.2km az=90.0*
*IDC **07** 16:21:17.1±2.0,20.48S×69.19W,h113km±18km,mb3.5/2, mb1 3.6/4,mb1mx3.3/15,mbtmp4.0/4,Error ellipse: s-maj=53.7km s-min=9.6km az=95.0*
ISC 07 16:21:15.3±0.8,**20.47S**±0.05×**69.4W**±0.1,**h129**km±12km,**n7**,σ**0s80**/9,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.18**	**167**	P	**P**	**16 21 52.2**	**+0.2**
	45nm,0.3s,baz=0.1,slow=12,SNR=203						
LVC				S	**S**	**16 22 19.6**	**-0.3**
	164nm,0.3s,baz=96,slow=20,SNR=33						
LPAZ	**La Paz**	**4.34**	**17**	P	**P**	**16 22 20.9**	**+0.2**
	3.2nm,0.3s,baz=201,slow=7.4,SNR=72						
LPAZ				S	**S**	**16 23 11.2**	**+0.4**
	0.5nm,0.3s,baz=320,slow=11,SNR=4.5						
ARE	**Arequipa**	**4.44**	**334**	*e*P	**P**	**16 22 23.0**	**+1.0**
ARE				*e*S	**S**	**16 23 12.0**	**-1.2**
TRQA	**Tornquist**	**18.68**	**161**	*e*P	**P**	**16 25 24.9**	**-1.0**
	6.1nm,0.7s						
PLCA	**Paso Flores**	**20.22**	**182**	P	**P**	**16 25 43.3**	**+1.3**
	2.7nm,0.7s,baz=9.6,slow=11,SNR=5.8						
BDFB	**Brasilia**	**20.91**	**80**	P	**P**	**16 25 48.6**	**-0.6**
	3.6nm,0.5s,baz=254,slow=8.1,SNR=3.9						
YKA	**Yellowknife Ar**	**90.06**	**341**	pP	pP	16 34 32.1	-2.6
	0.1nm,0.4s,baz=136,slow=4.4,SNR=2.5						

OTT 07 16:22:27.9±0.2,**52.91N**×**66.96W**,**MN2.7**/7,**Blast, Labrador City, Nl Mining explosion.**,**Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.93**	**2**	PN	Pn	16 23 01.5	-0.7
SCHQ				SN	Sn	16 23 26.9	-0.6
SCHQ				Trac		16 23 30.2	
	comp=Z,13nm,0.1s						
MNQ	**Manicouagan**	**2.63**	**206**	PN	Pn	16 23 11.4	-1.0
MNQ				SN	Sn	16 23 44.0	-1.4
MNQ				Trac		16 23 50.5	
	comp=Z,7.3nm,0.1s						
SMQ	**Clarke City**	**2.70**	**176**	PN	Pn	16 23 12.7	-0.5
SMQ				SN	Sn	16 23 46.5	-0.5
SMQ				Trac		16 23 53.1	
	comp=Z,11nm,0.1s						
ICQ	**Pointe Anglais**	**3.40**	**183**	PN	Pn	16 23 20.9	-2.3
ICQ				SN	Sn	16 24 01.9	-3.0
ICQ				Trac		16 24 16.1	
	comp=Z,3.1nm,0.1s						
CNQ	**Baie Comeau**	**3.68**	**191**	PN	Pn	16 23 25.9	-1.3
CNQ				SN	Sn	16 24 10.4	-1.6
CNQ				Trac		16 24 16.2	
	comp=Z,4.3nm,0.1s						
GSQ	**Grosses Roches**	**4.01**	**181**	PN	Pn	16 23 29.9	-1.9
GSQ				SN	Sn	16 24 18.2	-2.0
GSQ				SG	Sg	16 24 30.5	-11
GSQ				Trac		16 24 39.4	
	comp=Z,4.8nm,0.2s						
LG4Q	**La Grande 4**	**4.34**	**282**	PN	Pn	16 23 33.7	-3.0
LG4Q				SN	Sn	16 24 23.2	-5.6
LG4Q				SG	Sg	16 24 39.4	-13
LG4Q				Trac		16 24 44.9	
	comp=Z,2.0nm,0.2s						
LMQ	**La Malbaie**	**5.79**	**203**	PN	Pn	16 23 54.1	-2.9
DRLN	**Deer Lake**	**6.99**	**118**	PN	Pn	16 24 09.8	-4.2
DRLN				SN	Sn	16 25 21.4	-14
VLDQ	**Val d'Or**	**8.23**	**238**	PN	P	16 24 27.7	-3.6
VIMO	**Victor Mine**	**10.15**	**276**	PN	P	16 24 50.8	-7.0
SILO	**Sutton Inlier**	**10.76**	**286**	PN	P	16 25 01.2	-4.9

*AUST **07** 16:22:36.8,26.47S×151.48E,h5km,ML3.6*
*NEIC **07** 16:22:36.0,26.47S×151.48E,h5km,ML3.6(AUST),After AUST.*
*IDC **07** 16:22:39.9±15.0,26.67S×150.90E,mb1 3.6/3, mb1mx3.5/8,mbtmp3.4/3,ML3.2/3,Error ellipse: s-maj=181.7km s-min=61.7km az=100.0*
ISC 07 16:22:34.5±1.4,**26.53S**±0.05×**151.3E**±0.1,**h5**km,**n9**,σ**0s90**/15,**Queensland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**1.17**	**351**	*e*P	**Pb**	**16 22 56.4**	**-0.4**
EIDS				*e*S	**Sb**	**16 23 12.2**	**+0.1**
	2μm,0.5s						
RMQ	**Roma**	**2.27**	**270**	*e*P	**Pn**	**16 23 18.2**	**+4.9**
RMQ				*e*S	**Sn**	**16 23 50.0**	**+8.0**
	178nm,0.6s						
ARMA	**Armidale**	**3.89**	**176**	*e*P	**Pn**	**16 23 36.9**	**+0.6**
ARMA				*e*S	**Sn**	**16 24 37.5**	**+15**
CMSA	**Cobar Meteorol**	**7.00**	**223**	*e*P	**Pn**	**16 24 19.7**	**-0.5**
CMSA				*e*S	**Sn**	**16 25 41.6**	**+0.5**
	4.0nm,0.2s						
CMSA	**Cobar Meteorol**	**7.00**	**223**	*e*P	**Pn**	**16 24 19.7**	**-0.5**
	4.0nm,0.2s						
CMSA				*e*S	**Sn**	**16 25 41.6**	**+0.5**
STKA	**Stephens Creek**	**10.01**	**236**	*e*P	**P**	**16 25 00.9**	**-1.2**
STKA				*e*		16 26 48.3	
STKA	**Stephens Creek**	**10.01**	**236**	Pn	**P**	**16 24 59.8**	**-2.3**
	0.3nm,0.3s,baz=58,slow=13,SNR=7.5						
STKA				Sn	**S**	**16 26 50.2**	**-5.8**
	0.5nm,0.3s,baz=315,slow=20,SNR=6.0						
ASAR	**Alice Springs**	**16.01**	**276**	Pn	**P**	**16 26 21.8**	**-0.3**
	0.1nm,0.3s,baz=102,slow=14,SNR=11						
WRA	**Warramunga Arr**	**16.89**	**289**	Pn	**P**	**16 26 35.0**	**+1.6**
	0.1nm,0.3s,baz=114,slow=11,SNR=11						

*TAP **07** 16:24:59.1,24.82N×122.46E,h7km,ML2.6*
JMA 07 16:24:59.0±0.2,**24.87N**×**122.65E**,**h25**km,**M2.6**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**141**	P	Pb	16 25 09.4	-0.1
YOJ				S	Sb	16 25 16.6	-0.1
IRIF	**Iriomote-Funau**	**1.12**	**118**	P	Pn	16 25 18.7	-0.6
IRIF				*e*S	Sb	16 25 34.2	+0.5
HATJ	**Hateruma jima**	**1.33**	**127**	P	Pn	16 25 22.5	+0.3
HATJ				*e*S	Sn	16 25 38.9	-0.3
JKRS	**Kuro-shima**	**1.39**	**117**	P	Pn	16 25 23.2	+0.1
JKRS				*e*S	Sn	16 25 41.0	+0.2
JIJ	**Ishigaki jima**	**1.45**	**110**	P	Pn	16 25 24.4	+0.4
JIJ				*e*S	Sn	16 25 43.1	+0.8

DJA 07 16:31:33.3±0.9,**8.63S**×**116.22E**,**h112**km±5km,**MD4.9**/4,**ML3.2**/1,**3C-1D**,**Error ellipse: s-maj=39.9km s-min=14.6km az=0.0**,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.18**	**325**⇑	*e*Pn	P	16 31 48.8	-0.2
	66nm,0.2s						
KEDI				*e*Sn	S	16 32 00.0	-0.9
RATI	**Rata**	**0.68**	**262**⇑	*i*Pn	P	16 31 51.7	-0.1
	41nm,0.2s						
RATI				*e*Sn	S	16 32 05.2	-0.7
KELI	**Kelakatan**	**1.75**	**283**⇑	*i*Pn	P	16 32 03.6	-0.2
KELI				*e*Sn	S	16 32 25.5	-1.2
SRDI	**Scrawed**	**2.06**	**274**⇓	*e*Pn	P	16 32 07.0	-0.6
	15nm,0.1s						
SRDI				*e*Sn	S	16 32 31.9	-1.4

IDC 07 16:37:08.5±3.7,**11.94N**×**87.76W**,**h82**km±32km,**mb3.3**/3,**mb1 3.5**/4,**mb1mx3.2**/19,**mbtmp3.5**/4,**Error ellipse: s-maj=62.4km s-min=20.0km az=47.0**,**Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**3.21**	**120**	P	P	16 37 57.3	-0.5
	1.0nm,0.3s,baz=304,slow=15,SNR=3.1						
JTS				S	S	16 38 34.2	-0.8
	2.5nm,0.3s,baz=303,slow=18,SNR=4.0						
TXAR	**Lajitas Array**	**22.78**	**322**	P	P	16 42 04.2	-0.6
	0.9nm,0.5s,baz=139,slow=9.9,SNR=7.6						
SCHQ	**Schefferville**	**45.85**	**17**	P	P	16 45 22.5	-1.6
	1.8nm,0.9s,baz=214,slow=7.3,SNR=4.8						
BDFB	**Brasilia**	**47.94**	**124**	P	P	16 45 39.1	-1.8
	14nm,0.3s,baz=346,slow=8.3,SNR=26						
YKA	**Yellowknife Ar**	**54.02**	**345**	P	P	16 46 23.8	-2.5
	0.4nm,1.0s,baz=142,slow=7.2,SNR=6.3						

NEIC 07 16:39:20.1±5.3,**42.55N**×**126.16W**,**h10**km,**mb3.3**/2,**Error ellipse: s-maj=61.0km s-min=15.3km az=72.0**,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.47**	**102**	*e*P	Pn	16 39 44.7	-2.0
DBO	**Dodson Butte**	**2.22**	**74**	P	Pn	16 39 56.6	-0.9
HUMO	**Hull Mountain**	**2.37**	**87**	*e*P	Pn	16 39 57.8	-1.8
HSO	**Harness Mounta**	**2.45**	**65**	P	Pn	16 39 59.6	-1.2
BBOR	**Butler Butte**	**2.58**	**81**	P	Pn	16 40 02.2	-0.5
BUOR	**Burton Butte**	**2.91**	**94**	P	Pn	16 40 07.9	+0.6
HBO	**Huckleberry Mo**	**3.09**	**64**	P	Pn	16 40 09.4	-0.5
BROR	**Big Rock Looko**	**3.20**	**56**	P	Pn	16 40 10.2	-1.3
IRO	**Indian Ridge**	**3.20**	**62**	P	Pn	16 40 10.8	-0.7
FRIS	**Frissel Point**	**3.39**	**59**	P	Pn	16 40 13.4	-0.8
SSOR	**Sweet Springs**	**3.54**	**48**	P	Pn	16 40 15.5	-0.7
GT2	**Goat Mountain**	**3.83**	**46**	P	Pn	16 40 19.4	-1.0
TDH	**Tom, Dick, Har**	**4.18**	**48**	P	Pn	16 40 24.4	-1.1
SDCO	**Great Sand Dun**	**16.50**	**100**	P	P	16 43 13.8	+0.8
	0.9nm,0.7s						
FFC	**Flin Flon**	**19.98**	**44**	*e*P	P	16 43 51.5	-3.7
	2.3nm,0.7s						

MAN 07 16:42:28.8,**8.85N**×**126.49E**,**h3**km,**mb3.6**,**ML2.3**,**MS1.8**,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.67**	**191**	*e*P	Pg	16 42 41.5	-0.7
BIPH				*e*S	Sg	16 42 50.0	-1.1
BUTP	**Butuan**	**0.87**	**278**	*e*P	Pg	16 42 45.5	-0.6
BUTP				*e*S	Sg	16 42 59.1	+1.5
BUKP	**Musuan**	**1.71**	**236**	*e*P	Pn	16 42 59.9	+0.2
BUKP				*e*S	Sn	16 43 23.0	+0.7

IDC 07 16:52:42.8±4.8,**22.74N**×**11.38W**,**mb4.0**/3,**mb1 4.0**/4,**mb1mx3.5**/21,**mbtmp4.0**/4,**ML3.6**/1,**MS3.7**/1,**Ms1 3.7**/1,**ms1mx2.6**/29,**Error ellipse: s-maj=213.4km s-min=30.5km az=89.0**,**Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**17.17**	**158**	P	P	16 56 43.1	-2.7
	0.2nm,0.3s,baz=327,slow=13,SNR=5.9						
DBIC				S	S	16 59 48.0	-8.3
	0.1nm,0.3s,baz=61,slow=19,SNR=2.7						
GERES	**GERESS Array B**	**32.77**	**31**	P	P	16 59 17.7	-1.8
	2.0nm,1.1s,baz=236,slow=7.1,SNR=3.2						
HFS	**Hagfors**	**41.30**	**19**	P	P	17 00 29.1	-2.4
	1.6nm,0.5s,baz=207,slow=6.6,SNR=9.2						
FINES	**FINESS Array B**	**46.44**	**24**	P	P	17 01 11.1	-1.7
	0.8nm,0.5s,baz=236,slow=5.0,SNR=6.4						
FRB	**Frobisher Bay**	**55.47**	**333**	LR	LR	17 22 32.3	
	comp=Z,67nm,19.6s,baz=307,slow=32						
WRA	**Warramunga Arr**	**147.99**	**92**	PKPbc	PKPdf	17 12 31.1	+1.6
	0.6nm,0.7s,baz=295,slow=2.2,SNR=7.2						
ASAR	**Alice Springs**	**148.13**	**99**	PKPbc	PKPdf	17 12 30.4	+0.8
	0.7nm,0.7s,baz=278,slow=1.9,SNR=12						

IDC 07 16:59:23.5±3.0,**2.54N**×**98.05E**,**mb3.5**/4,**mb1 3.6**/4,**mb1mx3.5**/15,**mbtmp3.5**/4,**Error ellipse: s-maj=127.4km s-min=25.8km az=58.0**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.04**	**124**	P	P	17 07 17.4	-1.4
	0.3nm,0.5s,baz=304,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**43.54**	**129**	P	P	17 07 28.9	-2.2
	0.4nm,0.9s,baz=306,slow=8.9,SNR=2.8						
SONM	**Songino Array**	**45.69**	**8**	P	P	17 07 46.5	-1.5
	0.2nm,0.4s,baz=192,slow=9.4,SNR=5.7						
BVAR	**Borovoye Array**	**55.28**	**340**	P	P	17 08 58.3	-2.7
	0.8nm,0.6s,baz=143,slow=7.2,SNR=5.6						

*IDC **07** 17:19:33.8±1.0,5.89S×11.28W,mb4.2/9,mb1 4.3/10, mb1mx4.1/21,mbtmp4.3/10,ML3.2/1,MS3.9/17,Ms1 3.9/17, ms1mx3.8/24,Error ellipse: s-maj=31.4km s-min=20.9km az=145.0*
*NEIC **07** 17:19:35.8±0.6,5.80S×11.35W,h10km,mb4.2/2,Error ellipse: s-maj=15.2km s-min=13.8km az=130.0*
ISC 07 17:19:34.2±0.7,**5.7S**±0.1×**11.4W**±0.1,**h10**km,**n27**,σ**0s90**/14,**mb4.2**/11,**MS4.0**/16,**Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.91**	**28**	Pn	**P**	**17 22 53.6**	**-0.2**
	0.1nm,0.3s,baz=184,slow=12,SNR=9.7						
DBIC				LR	LR	17 27 13.4	
	comp=Z,454nm,20.7s,baz=181,slow=33						
DBIC	**Dimbokro**	**13.91**	**28**	*e*Pn	**P**	**17 22 53.9**	**0.0**
	27nm,1.2s						
TSUM	**Tsumeb**	**31.20**	**118**	LR	LR	17 36 03.9	
	comp=Z,634nm,21.9s,MS4.2,baz=247,slow=32						
BDFB	**Brasilia**	**37.29**	**252**	P	**P**	**17 26 48.9**	**+0.5**
	2.9nm,0.8s,mb4.2,baz=72,slow=12,SNR=4.1						
BDFB				LR	LR	17 39 16.4	
	comp=Z,297nm,18.8s,MS4.1,baz=90,slow=32						
LSZ	**Lusaka**	**39.96**	**107**	*e*P	**P**	**17 27 11.4**	**+0.6**
	2.7nm,1.0s,mb3.9						
LBTB	**Lobatse**	**40.26**	**122**	LR	LR	17 41 53.6	
	comp=Z,137nm,19.1s,MS3.8,baz=262,slow=33						
MATP	**Matopo**	**41.34**	**115**	P	**P**	**17 27 21.0**	**-1.0**
	3.0nm,0.7s,mb4.0,baz=297,slow=10,SNR=7.7						
MATP	**Matopo**	**41.34**	**115**	P	**P**	**17 27 21.0**	**-1.0**
BOSA	**Boshof**	**41.46**	**128**	P	**P**	**17 27 23.7**	**+0.8**
	14nm,1.3s,mb4.4						
KMBO	**Kilima Mbogo**	**48.72**	**86**	LR	LR	17 47 35.8	
	comp=Z,320nm,19.6s,MS4.3,baz=275,slow=35						
VAE	**Valguarnera**	**49.23**	**27**	LR	LR	17 48 02.9	
	comp=Z,185nm,21.2s,MS4.0,baz=126,slow=35						
LPAZ	**La Paz**	**56.55**	**254**	P	**P**	**17 29 18.2**	**-1.5**
	0.6nm,0.5s,mb3.9,baz=104,slow=4.2,SNR=3.5						
LPAZ				LR	LR	17 53 55.4	
	comp=Z,98nm,18.9s,MS3.9,baz=312,slow=36						
LVC	**Limon Verde**	**57.92**	**247**	LR	LR	17 54 50.6	
	comp=Z,73nm,20.8s,MS3.8,baz=28,slow=36						
GERES	**GERESS Array B**	**58.58**	**19**	P	**P**	**17 29 32.4**	**-1.2**
	1.5nm,0.8s,mb4.1,baz=196,slow=7.1,SNR=3.7						
SJG	**San Juan**	**59.00**	**295**	LR	LR	17 48 31.5	
	comp=Z,116nm,20.7s,MS4.0,baz=80,slow=29						
ASF	**Jabal al Asfar**	**59.37**	**47**	LR	LR	17 55 27.6	
	comp=Z,114nm,19.3s,MS4.0,baz=325,slow=36						
MLR	**Muntele Rosu**	**60.89**	**29**	P	**P**	**17 29 49.7**	**+0.2**
	6.1nm,1.1s,mb4.7,baz=288,slow=6.4,SNR=4.5						
PLCA	**Paso Flores**	**63.16**	**227**	LR	LR	17 52 21.3	
	comp=Z,108nm,20.7s,MS4.0,baz=178,slow=31						
ROSC	**El Rosal**	**63.76**	**278**	LR	LR	17 56 05.2	
	comp=Z,114nm,19.0s,MS4.1,baz=177,slow=34						
AKASG	**Malin Array Be**	**66.15**	**27**	P	**P**	**17 30 23.4**	**-0.6**
	1.9nm,0.7s,mb4.3,baz=226,slow=7.0,SNR=13						
HFS	**Hagfors**	**68.56**	**13**	P	**P**	**17 30 38.9**	**-0.1**
	1.2nm,0.8s,mb3.9,baz=315,slow=6.1,SNR=2.8						
NOA	**NORSAR Array B**	**68.85**	**12**	LR	LR	17 58 31.8	
	comp=Z,58nm,20.2s,MS3.8,baz=330,slow=34						
FINES	**FINESS Array B**	**72.97**	**18**	P	**P**	**17 31 06.3**	**+0.7**
	1.6nm,0.8s,mb4.0,baz=243,slow=8.5,SNR=4.0						
FINES				LR	LR	18 02 05.4	
	comp=Z,63nm,18.9s,MS3.9,baz=205,slow=35						
JTS	**JuntasAbangare**	**74.99**	**282**	LR	LR	18 04 51.2	
	comp=Z,57nm,19.1s,MS3.9,baz=182,slow=36						
SCHQ	**Schefferville**	**75.78**	**331**	P	**P**	**17 31 23.9**	**+1.9**
	10.0nm,1.5s,mb4.5,baz=141,slow=6.5,SNR=3.2						
ARCES	**ARCESS Array B**	**79.20**	**12**	LR	LR	18 04 42.9	
	comp=Z,70nm,20.6s,MS4.0,baz=173,slow=34						
TXAR	**Lajitas Array**	**94.78**	**299**	LR	LR	18 10 57.9	
	comp=Z,34nm,18.4s,MS3.9,baz=285,slow=32						

*BJI **07** 17:32:53.1,11.62N×92.92E,h26km,mb3.6*
*NEIC **07** 17:32:54.9±0.5,11.58N×92.74E,h30km,mb3.9/11,Error ellipse: s-maj=11.1km s-min=7.8km az=57.0*
*IDC **07** 17:32:56.7±3.4,11.62N×92.75E,h43km±25km,mb3.6/7, mb1 3.8/8,mb1mx3.6/17,mbtmp3.8/8,ML4.0/1,MS2.9/1, Ms1 3.1/1,ms1mx2.9/16,Error ellipse: s-maj=47.0km s-min=17.9km az=56.0*
ISC 07 17:32:51.5±3.7,**11.56N**±0.10×**92.74E**±0.07,**h20**km±26km,**n29**,σ**0s75**/30,**mb3.9**/12,**Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**9.10**	**40**	*e*Pn	**P**	**17 35 04.8**	**0.0**
	5.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**9.10**	**40**	P	**P**	**17 35 05.2**	**+0.4**
	0.5nm,0.3s,baz=236,slow=15,SNR=28						
CMAR				LR	LR	17 38 44.9	
	comp=Z,78nm,19.9s,baz=215,slow=38						
VIS	**Vishakhapatnam**	**10.97**	**305**	*e*P	**P**	**17 35 31.0**	**+0.3**
VIS				*e*S	**S**	**17 37 21.1**	**-13**
VIS				*e*		17 37 23.5	
	comp=E,11nm,1.1s						
VIS				*e*		17 37 23.7	
	comp=N,21nm,0.8s						
JIRN	**Jiri**	**17.15**	**340**	*e*P	**P**	**17 36 48.9**	**-2.9**
	comp=N,4.2nm,0.4s						
PKI	**Pulchoki**	**17.35**	**338**	*e*P	**P**	**17 36 54.9**	**+0.6**
	comp=N,4.9nm,0.5s						
DMN	**Daman**	**17.50**	**337**	*e*P	**P**	**17 36 58.2**	**+2.1**
	comp=N,15nm,0.8s						
KKN	**Kakani**	**17.59**	**338**	*e*P	**P**	**17 36 57.3**	**-0.1**
GKN	**Gorkha**	**18.03**	**336**	*e*P	**P**	**17 37 02.9**	**+0.1**
	comp=N,7.1nm,0.5s						
LSA	**Lhasa**	**18.11**	**356**	P	**P**	**17 37 04.2**	**+0.4**
LSA	**Lhasa**	**18.11**	**356**	*e*P	**P**	**17 37 04.1**	**+0.3**
	comp=N,2.2nm,0.6s						
KOLN	**Koldanda**	**18.26**	**333**	*e*P	**P**	**17 37 11.8**	**+6.1**
	comp=N,10nm,0.7s						
BHPL	**Bhopal**	**18.65**	**311**	*e*P	**P**	**17 37 08.7**	**-1.8**
KAD	**Karad**	**18.85**	**290**	*e*P	**P**	**17 37 12.5**	**-0.4**
POO	**Poona**	**19.50**	**293**	*e*P	**P**	**17 37 15.2**	**-5.3**
CD2	**Chengdu**	**21.79**	**26**	P	**P**	**17 37 43.6**	**-0.6**
ENH	**Enshi**	**24.26**	**37**	*e*P	**P**	**17 38 07.8**	**-0.7**
	comp=N,11nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**34.79**	**336**	*e*P	**P**	**17 39 43.5**	**+0.6**
	comp=N,0.9nm,0.6s,mb3.9						
SONM	**Songino Array**	**37.93**	**15**	P	**P**	**17 40 09.5**	**+0.2**
	comp=N,0.7nm,0.3s,mb3.8,baz=202,slow=8.1,SNR=21						
SONM				PcP	PcP	17 42 26.0	+0.3
	comp=N,0.4nm,0.8s,baz=207,slow=2.8,SNR=3.5						
KURK	**Kurchatov**	**40.72**	**346**	*e*P	**P**	**17 40 32.4**	**-0.1**
	comp=N,2.7nm,1.0s,mb3.8						
CN2	**Changchun**	**42.74**	**35**	*e*P	**P**	**17 40 49.1**	**-0.1**
BVAR	**Borovoye Array**	**45.07**	**341**	P	**P**	**17 41 07.4**	**-0.5**
	comp=N,1.0nm,0.7s,mb3.7,baz=141,slow=9.5,SNR=5.8						
CHKZ	**Chkalovo**	**45.56**	**342**	*e*P	**P**	**17 41 12.4**	**+0.6**
	comp=N,4.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**51.54**	**127**	P	**P**	**17 41 58.1**	**-0.5**
	comp=N,0.5nm,0.4s,mb3.8,baz=306,slow=8.4,SNR=19						
WRA				PcP	PcP	17 43 13.1	+0.4
	comp=N,0.4nm,0.6s,baz=318,slow=2.9,SNR=8.6						
WRA				ScP		17 47 05.5	
	comp=N,0.2nm,0.7s,baz=321,slow=3.7,SNR=4.8						
WRAB	**Tennant Creek**	**51.55**	**127**	*e*P	**P**	**17 41 58.6**	**-0.1**
	comp=N,2.1nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**53.35**	**131**	P	**P**	**17 42 12.6**	**+0.5**
	comp=N,0.3nm,0.6s,mb3.4,baz=311,slow=7.0,SNR=10						
ASAR				ScP		17 47 13.3	
	comp=N,0.5nm,0.8s,baz=304,slow=3.3,SNR=4.1						
FINES	**FINESS Array B**	**68.83**	**332**	P	**P**	**17 43 56.6**	**+0.2**
	comp=N,1.0nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=10.0						
LSZ	**Lusaka**	**69.25**	**249**	*e*P	**P**	**17 44 00.5**	**+0.7**
	comp=N,13nm,0.4s						
NOA	**NORSAR Array B**	**75.86**	**330**	P	**P**	**17 44 37.8**	**-0.3**
	comp=N,0.7nm,0.8s,mb3.6,baz=96,slow=5.5,SNR=2.7						
ILAR	**Eielson Array**	**91.86**	**22**	P	**P**	**17 45 59.2**	**0.0**
	comp=N,0.5nm,0.6s,mb4.0,baz=283,slow=4.4,SNR=6.2						

*CSEM **07** 17:42:21.5±0.1,37.10N×28.51E,h2km,MD3.0,Error ellipse: s-maj=1.8km s-min=1.4km az=34.0*
*ISK **07** 17:42:22.0,37.11N×28.49E,h8km,MD3.1*
*NEIC **07** 17:42:22.2,37.10N×28.48E,h11km,MD3.0(ISK),After ISK.*
*ATH **07** 17:42:26.0,36.93N×28.01E,h4km,MD3.1/3*
ISC 07 17:42:22.9±0.5,**37.03N**±0.03×**28.42E**±0.04,**h11**km±5km,**n24**,σ**1s03**/37,**Turkey**

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

YER	Yerkesik	0.16	314	*i* PG	Pg	17 42 25.9	-0.7
YER				*i* SG	Sg	17 42 29.0	0.0
YER	Yerkesik	0.16	314	Pg	Pg	17 42 26.0	-0.6
YER				Sg	Sg	17 42 30.0	+0.9
YER	Yerkesik	0.16	314	Pg	Pg	17 42 26.0	-0.6
YER				Sg	Sg	17 42 30.0	+1.0
DALT	Dalyan (Mudla)	0.31	146	*i* PG	Pg	17 42 29.3	-0.1
DALT				*i* SG	Sg	17 42 35.3	+1.6
DALT	Dalyan (Mudla)	0.31	146	Pg	Pg	17 42 29.5	+0.1
DALT				Sg	Sg	17 42 35.5	+1.8
DALT	Dalyan (Mudla)	0.31	146	Pg	Pg	17 42 29.5	+0.1
DALT				*i* Sg	Sg	17 42 35.3	+1.6
FETY	Fethiye	0.66	126	PG	Pg	17 42 34.8	-1.4
AYDN	Tasoluk	0.77	326	*i* P	Pb	17 42 37.5	-0.4
AYDN				*i* S	Sb	17 42 47.6	-0.4
BDRM	Kayabasi	0.78	273	*i* P	Pb	17 42 38.1	0.0
BDRM				*i* S	Sb	17 42 49.6	+1.1
DNZL	Cakiroluk	0.83	37	*i* P	Pb	17 42 39.4	+0.5
DNZL				*i* S	Sb	17 42 53.1	+3.4
ARG	Arkhangelos	0.84	197	*e*PG	Pg	17 42 39.5	-0.4
DENT	Denizli	0.87	34	*e*PG	Pg	17 42 37.5	-3.0
DENT	Denizli	0.87	34	Pg	Pg	17 42 37.6	-2.9
BODT	Bodrum	0.89	273	PG	Pg	17 42 41.1	+0.3
BODT				SG	Sg	17 42 53.5	+0.7
BODT	Bodrum	0.89	273	Pg	Pg	17 42 41.1	+0.3
BODT				Sg	Sg	17 42 53.1	+0.4
SMG	Samos	1.44	299	*e*PN	Pn	17 42 49.5	+0.5
SMG				*e*SB	Sb	17 43 05.0	-2.4
MANT	Manisa	1.47	4	*i* P	Pn	17 42 50.1	+0.6
MANT				*i* S	Sb	17 43 09.9	+1.6
IZM	Izmir	1.65	326	*e*PN	Pn	17 42 51.8	-0.3
IZM	Izmir	1.65	326	Pn	Pn	17 42 52.3	+0.2
IZM	Izmir	1.65	326	Pn	Pn	17 42 52.3	+0.2
BLCB	Balcova	1.74	322	*e*PN	Pn	17 42 52.9	-0.6
BCK	Bucak	1.78	75	Pn	Pn	17 42 53.2	-0.8
BCK	Bucak	1.78	75	Pn	Pn	17 42 53.2	-0.8
KARP	Karpathos	1.79	215	*e*PB	Pb	17 42 55.0	-0.4

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*IDC **07** 18:15:48.3±1.1, 5.72S×11.39W, mb4.2/7, mb1 4.4/8, mb1mx4.0/22, mbtmp4.3/8, ML3.1/1, MS3.9/8, Ms1 3.9/8, ms1mx3.5/19, Error ellipse: s-maj=28.7km s-min=25.4km az=79.0*

*NEIC **07** 18:15:50.0±0.7, 5.70S×11.42W, h10km, mb4.4/1, Error ellipse: s-maj=16.3km s-min=13.8km az=94.0*

ISC 07 18:15:48.3±0.9**, 5.6S**±0.1×**11.4W**±0.1**, h10km, n16, σ0s56**/10**, mb4.2**/8**, MS3.9**/7**, Ascension Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DBIC	Dimbokro	13.86	28	Pn	P	18 19 07.3	-0.1
	0.1nm,0.3s,baz=185,slow=15,SNR=3.4						
DBIC				LR	LR	18 23 28.4	
	comp=Z,262nm,18.6s,baz=146,slow=33						
TSUM	Tsumeb	31.31	118	LR	LR	18 32 49.3	
	comp=Z,192nm,19.2s,MS3.8,baz=279,slow=33						
BDFB	Brasilia	37.25	252	P	P	18 23 02.2	0.0
	3.0nm,0.7s,mb4.2,baz=87,slow=8.0,SNR=4.4						
BDFB				LR	LR	18 34 44.8	
	comp=Z,165nm,21.4s,MS3.8,baz=260,slow=30						
LSZ	Lusaka	40.05	107	*e*P	P	18 23 26.6	+1.0
	12nm,1.4s,mb4.4						
LBTB	Lobatse	40.37	122	P	P	18 23 27.8	-0.4
	1.8nm,0.6s,mb4.0,baz=298,slow=9.6,SNR=2.6						
LBTB	Lobatse	40.37	122	P	P	18 23 27.8	-0.4
MATP	Matopo	41.44	115	P	P	18 23 36.5	-0.5
	3.2nm,0.9s,mb4.0,baz=261,slow=8.4,SNR=6.7						
KMBO	Kilima Mbogo	48.78	87	LR	LR	18 44 01.2	
	comp=Z,224nm,19.8s,MS4.2,baz=73,slow=35						
LPAZ	La Paz	56.51	254	LR	LR	18 45 56.2	
	comp=Z,74nm,21.3s,MS3.8,baz=254,slow=32						
GERES	GERESS Array B	58.52	19	P	P	18 25 47.8	+0.6
	1.2nm,0.8s,mb4.0,baz=186,slow=8.9,SNR=4.3						
MLR	Muntele Rosu	60.85	29	P	P	18 26 03.5	+0.3
	5.5nm,1.0s,mb4.6,baz=256,slow=4.2,SNR=4.1						
PLCA	Paso Flores	63.16	227	LR	LR	18 49 58.6	
	comp=Z,85nm,18.2s,MS4.0,baz=4.3,slow=32						
ROSC	El Rosal	63.67	278	LR	LR	18 50 26.3	
	comp=Z,78nm,19.1s,MS3.9,baz=337,slow=33						
AKASG	Malin Array Be	66.11	27	P	P	18 26 36.8	-1.0
	2.3nm,0.8s,mb4.3,baz=229,slow=6.9,SNR=11						
FINES	FINESS Array B	72.90	18	P	P	18 27 19.4	+0.1
	2.4nm,0.9s,mb4.1,baz=220,slow=6.0,SNR=4.9						
PDAR	Pinedale Array	99.76	312	LR	LR	19 09 54.2	
	comp=Z,59nm,20.3s,MS4.1,baz=260,slow=32						

IDC 07 18:20:09.8±3.7**, 23.74S**×**67.47W, h232km**±48km**, mb1 3.1**/2**, mb1mx2.9**/14**, mbtmp3.6**/2**, Error ellipse: s-maj=115.9km s-min=21.5km az=99.0, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.74	310	P	P	18 20 47.4	-1.3
	6.9nm,0.3s,baz=135,slow=7.5,SNR=25						
LVC				S	S	18 21 19.6	+0.8
	27nm,0.3s,baz=248,slow=20,SNR=53						
LPAZ	La Paz	7.44	355	P	P	18 21 56.8	+0.1
	0.3nm,0.3s,baz=157,slow=11,SNR=8.1						
LPAZ				S	S	18 23 23.2	+3.0
	0.1nm,0.3s,baz=101,slow=19,SNR=2.3						
PLCA	Paso Flores	17.14	188	P	P	18 23 55.0	-1.8
	0.1nm,0.3s,slow=6.1,SNR=2.9						
WRA	Warramunga Arr	131.66	208	PKP	PKPdf	18 38 54.8	-1.1
	0.8nm,1.3s,baz=158,slow=1.7,SNR=5.3						

IDC 07 18:25:24.2±5.5**, 24.41N**×**93.34E, mb3.3**/2**, mb1 3.4**/3**, mb1mx3.2**/17**, mbtmp3.1**/3**, ML3.4**/1**, Error ellipse: s-maj=126.9km s-min=102.6km az=52.0, Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.89	138	Pn	Pn	18 27 20.3	-2.6
	0.1nm,0.3s,baz=312,slow=13,SNR=4.4						
WRA	Warramunga Arr	59.47	134	P	P	18 35 29.0	-2.5
	0.1nm,0.3s,baz=318,slow=7.7,SNR=7.6						
ASAR	Alice Springs	61.90	137	P	P	18 35 45.9	-2.2
	0.3nm,0.8s,baz=323,slow=7.0,SNR=6.9						

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*NIED **07** 18:45:00, 34.20N×132.80E, h14km, Mw3.6 Best double couple: M₀2.68×10^14 NP1:φs167°, δ51°, λ77°. NP2:φs7°, δ41°, λ105°.*

*IDC **07** 18:45:43.5±1.0, 34.23N×132.43E, mb3.5/6, mb1 3.7/6, mb1mx3.6/20, mbtmp3.5/6, Error ellipse: s-maj=41.1km s-min=22.3km az=84.0*

*NEIC **07** 18:45:46.4±0.7, 34.26N×132.43E, h20km, mb4.0/1, Error ellipse: s-maj=15.9km s-min=15.1km az=135.0*

NEIC Recorded [3 JMA] in Hiroshima and [1 JMA] in Okayama Prefectures. Also recorded [1 JMA] in Ehime, Kagawa and Kochi Prefectures, Shikoku.

*JMA **07** 18:45:46.3, 34.20N×132.83E, h17km, M3.9 Broadband fault plane solution: P waves. NP1:φs147°, δ47°, λ54°. NP2:φs14°, δ54°, λ122°. Principal axes: T Plg64°, Azm344°; N Plg26°, Azm174°; P Plg4°, Azm82°;*

JMA Felt III J1.

ISC 07 18:45:45.9±0.4**, 34.19N**±0.03×**132.82E**±0.04**, h27km**±4km**, n22, σ0s69**/32**, mb3.6**/7**, 4C-8D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHM	Kurahashi	0.25	259	⇓P	Pb	18 45 52.0	-0.4
JHM				S	Sb	18 45 56.0	-0.8
JET	Tanbara	0.45	155	⇑P	Pb	18 45 55.3	-0.1
JET				S	Sb	18 46 01.5	-0.3
JJG	Jouge	0.53	31	⇓P	Pb	18 45 56.4	-0.2
JJG				S	Sb	18 46 03.3	-0.6
JHT	Toyohira	0.58	325	⇓P	Pb	18 45 57.3	-0.1
JNA	Nagahama	0.69	205	⇓P	Pb	18 45 59.5	+0.2
JNA				S	Sb	18 46 08.4	-0.1
JKD	Kudamatsu	0.80	261	⇓P	Pb	18 46 01.3	+0.2
JKD				S	Sb	18 46 12.3	+0.8
JHIK	Hikimi	0.81	295	⇓P	Pb	18 46 01.7	+0.3
JHIK				S	Sb	18 46 12.7	+0.7
JHS	Saijyo	0.84	17	⇑P	Pb	18 46 01.8	0.0
JHS				S	Sb	18 46 12.9	+0.1
JKU	Kubokawa	0.90	167	⇑P	Pb	18 46 03.6	+0.8
JGT	Gotsu	0.93	334	⇑P	Pn	18 46 03.2	0.0
JGT				S	Sb	18 46 15.7	+0.4
JJS	Sakaide	0.94	78	⇓P	Pn	18 46 03.0	-0.3
JJS				S	Sb	18 46 15.3	-0.1
JMN	Monobe	0.99	117	⇓P	Pn	18 46 04.7	+0.6
MAT	Matsushiro	4.99	60	P	Pn	18 47 03.0	+2.0
MAT	Matsushiro	4.99	60	P	Pn	18 47 02.6	+1.6
MAT				*e*S	Sn	18 48 12.2	+14
SONM	Songino Array	24.01	313	P	P	18 50 57.2	-2.0
	0.7nm,0.7s,mb3.2,baz=126,slow=10.0,SNR=8.2						
CHKZ	Chkalovo	47.19	314	P	P	18 54 14.0	-3.8
	0.5nm,0.3s,mb3.9						
WRA	Warramunga Arr	53.85	178	P	P	18 55 08.3	-0.6
	0.4nm,0.6s,mb3.5,baz=355,slow=8.1,SNR=6.6						
ILAR	Eielson Array	55.58	31	P	P	18 55 21.3	+0.3
	0.3nm,0.8s,mb3.4,baz=275,slow=6.7,SNR=5.1						
ASAR	Alice Springs	57.54	179	P	P	18 55 35.5	0.0
	0.3nm,0.6s,mb3.5,baz=13,slow=12,SNR=5.6						
FINES	FINESS Array B	67.93	330	P	P	18 56 42.9	-1.0
	1.9nm,1.0s,mb4.1,baz=72,slow=6.0,SNR=5.1						
FINES	FINESS Array B	67.93	330	P	P	18 56 42.9	-1.0
YKA	Yellowknife Ar	69.66	27	P	P	18 56 55.1	+0.6
	0.6nm,1.0s,mb3.5,baz=304,slow=5.9,SNR=4.3						

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*IDC **07** 19:04:00.5±0.8, 6.50S×154.72E, mb4.0/9, mb1 4.3/11, mb1mx4.3/14, mbtmp4.1/11, ML3.7/2, MS3.4/4, Ms1 3.5/4, ms1mx3.0/17, Error ellipse: s-maj=29.0km s-min=18.8km az=124.0*

*NEIC **07** 19:04:01.8±0.4, 6.55S×154.72E, h10km, mb4.9/10, Error ellipse: s-maj=12.2km s-min=7.1km az=114.0*

ISC 07 19:04:00.1±4.9**, 6.5S**±0.1×**154.67E**±0.10**, h8km**±31km**, n27, σ0s50**/29**, mb4.5**/18**, MS3.5**/2**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.97	249	Pn	Pn	19 05 59.2	+0.2
	2.0nm,0.3s,baz=66,slow=2.3,SNR=8.8						
PMG				Sn	Sn	19 07 30.0	-0.3
	1.9nm,0.3s,baz=218,slow=13,SNR=3.3						
PMG				LR	LR	19 08 46.4	
	comp=Z,241nm,19.4s,baz=35,slow=36						
PMG	Port Moresby	7.97	249	*e*Pn	Pn	19 05 58.5	-0.6
PMG				Sn	Sn	19 07 30.0	-0.3
PMG				LR	LR	19 08 46.4	
CTA	Charters Tower	15.75	210	Pn	P	19 07 50.5	+6.3
	0.6nm,0.3s,baz=25,slow=13,SNR=12						
CTA				LR	LR	19 13 07.2	
	comp=Z,111nm,19.9s,baz=45,slow=35						
CTA	Charters Tower	15.75	210	Pn	P	19 07 50.5	+6.3
CTA				LR	LR	19 13 07.2	
CTAO	Charters Tower	15.75	210	P	P	19 07 44.1	0.0
	13nm,0.7s						
WRAB	Tennant Creek	23.80	234	*e*P	P	19 09 15.0	+0.5
	27nm,0.9s,mb4.7						
WRA	Warramunga Arr	23.82	234	P	P	19 09 15.2	+0.6
	9.2nm,0.6s,mb4.4,baz=55,slow=9.3,SNR=123						
WRA				PcP	PcP	19 12 59.7	0.0
	1.0nm,0.4s,baz=59,slow=2.5,SNR=17						
ASAR	Alice Springs	26.24	227	P	P	19 09 37.2	-0.4
	1.6nm,0.5s,mb3.8,baz=59,slow=8.9,SNR=36						
ASAR				PcP	PcP	19 13 05.2	+0.3
	0.7nm,0.6s,baz=58,slow=2.0,SNR=7.9						
ASAR				LR	LR	19 20 09.7	
	comp=Z,98nm,18.5s,MS3.4,baz=19,slow=37						
ASPA	Alice Springs	26.24	227	*e*P	P	19 09 37.3	-0.4
STKA	Stephens Creek	28.01	204	*e*P	P	19 09 53.3	-0.5
	1.9nm,0.5s,mb4.0						
STKA	Stephens Creek	28.01	204	P	P	19 09 53.2	-0.6
	3.1nm,0.8s,mb4.0,baz=43,slow=9.0,SNR=5.8						
STKA	Stephens Creek	28.01	204	*e*P	P	19 09 52.8	-1.0
ENH	Enshi	56.69	313	*e*P	P	19 13 46.0	-0.8
	5.5nm,0.8s,mb4.6						
CMAR	Chiang Mai Arr	60.30	295	P	P	19 14 12.5	+0.4
	1.0nm,0.6s,mb4.0,baz=119,slow=5.3,SNR=11						
CMAR				LR	LR	19 37 10.8	
	comp=Z,40nm,20.6s,MS3.5,baz=45,slow=33						
SONM	Songino Array	68.78	327	P	P	19 15 06.6	-0.3
	0.4nm,0.4s,mb3.7,baz=146,slow=4.3,SNR=8.6						
LSA	Lhasa	70.75	304	*e*P	P	19 15 20.0	+0.8
	6.1nm,0.8s,mb4.6						
VNDA	Vanda	71.04	178	P	P	19 15 21.0	+0.7
	0.8nm,0.7s,mb3.8,baz=359,slow=9.1,SNR=3.6						
JIRN	Jiri	74.27	301	*e*P	P	19 15 40.6	+0.4
	13nm,0.8s,mb4.9						
GUN	Gumba	74.61	301	*e*P	P	19 15 42.7	+0.6
PKI	Pulchoki	74.92	301	*e*P	P	19 15 43.8	-0.1
	27nm,1.1s,mb5.1						
KKN	Kakani	75.08	301	*e*P	P	19 15 45.0	+0.1
	22nm,0.8s,mb5.1						
DMN	Daman	75.18	301	*e*P	P	19 15 45.8	+0.3
	37nm,0.8s,mb5.3						
GKN	Gorkha	75.69	301	*e*P	P	19 15 48.2	-0.1
	33nm,0.9s,mb5.3						
KOLN	Koldanda	76.52	300	*e*P	P	19 15 52.9	-0.1
	23nm,0.7s,mb5.2						
ILAR	Eielson Array	83.07	22	P	P	19 16 26.2	-1.1
	0.3nm,0.5s,mb3.6,baz=243,slow=5.0,SNR=4.5						
NVAR	Mina Array Bea	91.69	52	P	P	19 17 09.7	0.0
	1.4nm,1.0s,mb4.3,baz=247,slow=6.9,SNR=5.6						
YKA	Yellowknife Ar	96.09	28	P	P	19 17 29.4	+0.1
	0.1nm,0.3s,mb3.7,baz=260,slow=4.5,SNR=3.7						

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*NIED **07** 19:26:00, 24.70N×121.80E, h5km, Mw4.0 Best double couple: M₀1.06×10^15 NP1:φs289°, δ76°, λ-25°. NP2:φs25°, δ66°, λ-165°.*

*NEIC **07** 19:26:25.4±1.4, 24.62N×121.87E, h2km±11km, ML4.4(TAP), Error ellipse: s-maj=13.2km s-min=10.1km az=85.0*

NEIC Recorded [4 TAP] in I-lan, [2 TAP] in Hua-lien and [1 TAP] in T'ai-pei and T'ao-yuan Counties.

*JMA **07** 19:26:25.3±0.3, 24.69N×121.80E, h41km, M3.9*

*TAP **07** 19:26:25.5, 24.65N×121.82E, h8km, ML4.3*

TAP Felt IV J at Suao, III J at Ilan, II J at Neicheng, I J, IV J at Nanau, II J at Nioudou, I J at Santiao Chiao, I J at Sanguang, I J at Nanshan, I J at Taipai.

*IDC **07** 19:26:30.8±4.2, 24.62N×121.97E, h45km±51km, mb3.4/4, mb1 3.6/5, mb1mx3.4/19, mbtmp3.7/5, MS3.0/1, Ms1 3.0/1, ms1mx2.3/13, Error ellipse: s-maj=35.0km s-min=22.7km az=53.0*

*BJI **07** 19:26:32.4, 25.21N×121.30E, h5km, mb4.1, ML4.2, Ms3.7, Msz3.5*

ISC 07 19:26:25.4±0.2**, 24.68N**±0.01×**121.91E**±0.01**, h8km, n86, σ1s17**/125**, mb3.7**/4**, 8C-13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TWC	Suao	0.09	215	⇓*i*P	Pg	19 26 27.3	-0.4
EGS		0.16	9	⇓*i*P	Pg	19 26 30.6	+1.6
EGS				S	Sg	19 26 33.4	+2.1
ILA	Ilan	0.17	300	⇓*i*P	Pg	19 26 28.8	-0.2
ILA				S	Sg	19 26 31.4	0.0
TWE	Neicheng	0.22	280	⇑*i*P	Pg	19 26 29.2	-0.8
TWE				S	Sg	19 26 31.8	-1.3
ENA	Nanau	0.29	210	⇓*i*P	Pg	19 26 30.8	-0.7
ENA				S	Sg	19 26 34.3	-1.2
ENTT	Nioudou	0.31	262	⇑*i*P	Pg	19 26 30.7	-1.0
TWB1	Santiao Chiao	0.33	13	⇓*i*P	Pg	19 26 32.5	+0.3
TWB1				S	Sg	19 26 37.0	+0.3
NWF	Wu-fen Shan	0.40	344	⇓*i*P	Pg	19 26 34.0	+0.4
NWF				S	Sg	19 26 39.1	+0.2
TWA	Mucha	0.41	315	⇓*i*P	Pg	19 26 33.7	-0.1
TWA				S	Sg	19 26 38.9	-0.5
TATO	Taipei	0.48	308	⇑*i*Pg	Pg	19 26 34.6	-0.4
YHNB	Yeheng	0.48	268	*e*Pg	Pg	19 26 33.6	-1.6
TAP1	Taipei	0.50	316	⇓*i*P	Pg	19 26 35.6	+0.3
TAP1				S	Sg	19 26 41.3	-0.8
NSK	Sanguang	0.50	269	⇑*i*P	Pg	19 26 34.2	-1.2
NSK				S	Sg	19 26 40.7	-1.5
TAP	Taipei	0.51	314	⇓*i*P	Pg	19 26 35.7	+0.1
TAP				S	Sg	19 26 42.3	-0.2
NNS	Nan Shan	0.54	244	⇑*i*P	Pg	19 26 34.8	-1.5
NNS				S	Sg	19 26 42.1	-1.5
NACB	Ninganchiao	0.58	209	*e*Pg	Pg	19 26 35.5	-1.6
NACB				*e*Sg	Sg	19 26 42.8	-2.1
TWS1	Kuangyinshan	0.61	313	⇓*i*P	Pg	19 26 38.0	+0.4
TWS1				S	Sg	19 26 45.7	-0.1
TWY	Chenhua	0.65	335	⇓*i*P	Pg	19 26 38.7	+0.2
TWD	Chiawan	0.66	205	⇓*i*P	Pg	19 26 37.5	-1.2
TWD				S	Sg	19 26 45.9	-1.8
NCU	National Centr	0.71	294	*e*P	Pb	19 26 40.0	+0.4
NCU				S	Sg	19 26 49.3	+0.1
HWA	Hwalien	0.76	201	*e*P	Pb	19 26 39.4	-0.9
HWA				S	Sb	19 26 49.4	-1.1
TWT	Tachien	0.79	237	⇑P	Pb	19 26 39.6	-1.3
TWT				S	Sb	19 26 50.8	-0.8
NSTT	Nanjuang	0.82	267	*e*P	Pb	19 26 40.9	-0.6
NSTT				S	Sb	19 26 51.8	-0.7
PCYT	Pengchaiyu	0.95	9	P	Pb	19 26 43.9	+0.1
PCYT				S	Sb	19 26 57.6	+1.3
ESL	Shilin	0.97	207	*e*P	Pb	19 26 42.8	-1.2
YOJ	Yonaguni jima	1.03	102	P	Pb	19 26 45.0	0.0
YOJ				*e*S	Sb	19 26 59.5	+1.0
NSY	Sanyi	1.07	256	*e*P	Pb	19 26 46.1	+0.3
TWQ1	Liyutan	1.08	252	*e*P	Pb	19 26 46.0	0.0
SMLT	Sun Moon Lake	1.22	229	⇑*i*P	Pb	19 26 47.5	-0.7
SMLT				S	Sb	19 27 03.6	-0.2
TYC	Yuchr	1.23	231	P	Pb	19 26 47.6	-0.9
TCU	Taichung	1.24	245	P	Pb	19 26 49.4	+0.7
TCU				S	Sb	19 27 06.2	+1.6
EHY	Hungye	1.29	205	P	Pb	19 26 48.9	-0.5
EHY				S	Sb	19 27 04.9	-1.1
WNT	Mingjian	1.37	235	*e*P	Pb	19 26 51.7	+0.8
TWF1	Yuli	1.44	203	*e*P	Pn	19 26 51.7	-0.1
TWF1				S	Sb	19 27 10.6	+0.3
YUS	Yu-Shan	1.47	216	*e*P	Pn	19 26 52.5	+0.1
YUS				S	Sb	19 27 11.9	+0.5
ALS	Alishan	1.54	221	*e*P	Pn	19 26 53.8	+0.4
CHN5	Tsauling	1.56	226	P	Pn	19 26 54.6	+1.0
CHN5				S	Sb	19 27 15.2	+1.4
WGK	Gukeng	1.58	231	*e*P	Pn	19 26 55.2	+1.4
CHKT	Chengkung	1.65	198	*e*P	Pn	19 26 54.0	-0.9
WTCT	Ta-ch'eng	1.69	242	*e*P	Pn	19 26 56.4	+0.9
ELDTW	Lidau	1.69	209	*e*P	Pn	19 26 56.2	+0.7
IRIF	Iriomote-Funau	1.70	101	P	Pn	19 26 54.4	-1.2
IRIF				*e*S	Sn	19 27 16.1	-1.5
CHN2	Minshiung	1.74	229	*e*P	Pn	19 26 57.7	+1.6
CHN4	Tsaushan	1.79	222	⇓P	Pn	19 26 58.9	+2.1
CHN4				S	Sn	19 27 22.9	+2.9
CHY	Chiayi	1.80	229	*e*P	Pn	19 26 57.8	+0.8
HATJ	Hateruma jima	1.84	109	P	Pn	19 26 56.9	-0.7
HATJ				*e*S	Sn	19 27 20.5	-0.8
STYT	Tauyuan	1.84	215	⇑P	Pn	19 26 59.0	+1.4
WTP	Ta-pu	1.85	220	*e*P	Pn	19 26 59.4	+1.6
WTP				S	Sn	19 27 24.5	+2.9
WSF	Szhu	1.86	236	*e*P	Pn	19 26 58.3	+0.5
TWK	Hsinying	1.92	223	*e*P	Pn	19 27 00.4	+1.7
TWK				S	Sn	19 27 26.8	+3.7
CHN1	Nanshi	1.95	220	*e*P	Pn	19 27 01.0	+1.8
CHN1				S	Sn	19 27 27.0	+2.9
JKRS	Kuro-shima	1.97	103	P	Pn	19 26 58.7	-0.7
JKRS				*e*S	Sn	19 27 23.5	-1.0
SGST	Jiashian	2.00	217	*e*P	Pn	19 27 01.5	+1.6
TWG	Pinlang	2.00	203	*e*P	Pn	19 27 01.0	+1.0
CHN8	Yiju	2.04	230	*e*P	Pn	19 27 00.9	+0.4
CHN8				S	Sn	19 27 29.2	+2.8
TTN	Taitung	2.04	200	*e*P	Pn	19 27 02.7	+2.2
JIJ	Ishigaki jima	2.06	98	P	Pn	19 26 59.5	-1.3
JIJ				*e*S	Sn	19 27 24.6	-2.3
CHN3	Shinhua	2.13	222	*e*P	Pn	19 27 03.7	+2.0
SCLT	Jiali	2.17	227	*e*P	Pn	19 27 02.5	+0.2
ECL	Taimali	2.25	203	*e*P	Pn	19 27 03.5	0.0
SSD	Sandimen	2.25	211	*e*P	Pn	19 27 04.5	+1.0
TWM1	Shoushan	2.30	217	*e*P	Pn	19 27 06.7	+2.6
PNG	Penghu	2.42	243	*e*P	Pn	19 27 03.7	-2.2
EAST	Anshuo	2.49	203	*e*P	Pn	19 27 08.3	+1.4
WDGT	Dungji	2.50	236	*e*P	Pn	19 27 05.9	-1.0
JTJ	Tarama	2.54	90	P	Pn	19 27 07.4	-0.3
JTJ				*e*S	Sn	19 27 38.7	-0.5
SCZT	Fangliau	2.59	207	*e*P	Pn	19 27 10.5	+2.3
TWP	Hsiaoliuchiu	2.72	212	*e*P	Pn	19 27 12.5	+2.3
HEN	Hengchun	2.87	202	*e*P	Pn	19 27 13.1	+0.8
QZH	Quanzhou	3.02	276	P	Pn	19 27 12.9	-1.6
QZH				S	Sn	19 27 46.1	-5.1
QZH				Smax			
	comp=N,820nm,1.1s						
QZH				Smax			
	comp=E,320nm,0.8s						
JMJ	Miyako jima 2	3.08	87	P	Pn	19 27 15.2	-0.1
JMJ				*e*S	Sn	19 27 52.9	+0.1
KNM	Kinmen	3.17	266	*e*P	Pn	19 27 16.1	-0.5
JOGS	Gusukube	3.19	88	P	Pn	19 27 17.0	+0.2
JKE	Kume jima 2	4.70	69	P	Pn	19 27 40.0	+1.6
JAGN	Aguni-jima	5.18	67	P	Pn	19 27 47.1	+2.0
JIH	Iheya	5.94	66	P	Pn	19 27 56.7	+0.9
JOW	Kunigami	6.13	68	P	Pn	19 27 58.4	-0.1
	baz=247,slow=13						
JOW				LR	LR	19 30 20.3	
	comp=E,111nm,18.0s,baz=95,slow=38						
JOW	Kunigami	6.13	68	P	Pn	19 27 58.5	0.0
JTK	Tokunoshima	7.04	62	P	Pn	19 28 07.2	-4.1
NJ2	Nanjing	7.82	341	*e*P	Pn	19 28 21.2	-1.0
NJ2				AP		19 28 23.8	
NJ2				XP		19 28 26.8	
NJ2				S	Sn	19 29 49.8	-2.0
NJ2				XS		19 29 54.6	
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				Smax			
	comp=N,120nm,0.8s						
NJ2				Smax			
	comp=E,180nm,1.1s						
NJ2				LR	LR		
	comp=N,460nm,13.4s						
NJ2				LR	LR		
	comp=E,710nm,16.2s						
NJ2				LR	LR		
	comp=Z,580nm,14.0s						
JAM	Amami Oshima	7.83	60	P	Pn	19 28 21.4	-1.0
JZK	Kikaishima	8.08	62	P	P	19 28 25.3	-0.6
CMAR	Chiang Mai Arr	22.22	258	P	P	19 31 24.1	0.0
	comp=Z,1.1nm,0.8s,mb3.4,baz=65,slow=8.1,SNR=8.9						
SONM	Songino Array	26.17	336	P	P	19 32 01.8	-0.2
	comp=Z,2.3nm,0.9s,mb3.7,baz=144,slow=7.8,SNR=17						
WRA	Warramunga Arr	45.98	164	P	P	19 34 48.6	-2.5
	comp=Z,2.6nm,1.1s,mb4.1,baz=346,slow=8.6,SNR=9.6						
ASAR	Alice Springs	49.45	165	P	P	19 35 16.3	-1.9
	comp=Z,0.4nm,0.7s,mb3.6,baz=340,slow=7.3,SNR=5.9						

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*IDC **07** 20:00:22.7±0.4, 16.17S×173.52W, mb5.0/23, mb1 5.2/24, mb1mx5.2/25, mbtmp5.0/24, ML5.6/1, MS4.6/20, Ms1 4.6/20, ms1mx4.6/22, Error ellipse: s-maj=16.9km s-min=10.5km az=131.0*

*NEIC **07** 20:00:24.3±0.1, 16.04S×173.59W, h10km, mb5.2/48, MS4.8/2, Error ellipse: s-maj=6.7km s-min=3.3km az=143.0*

*HRVD **07** 20:00:24.3±0.2, 16.03S×173.17W, h49km±1km, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s61,c109;Mantle waves: s67,c118; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr0.55±.03; Mθθ0.45±.03; Mφφ-0.99±.02; Mrθ-0.58±.03; Mθφ0.07±.02; Mφr0.86±.03; Best double couple: M₀1.342×10^17 NP1:φs212°, δ30°, λ150°. NP2:φs329°, δ75°, λ63°. Principal axes: T 1.253, Plg52°, Azm208°; N .177, Plg26°, Azm336°; P -1.43, Plg26°, Azm79°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **07** 20:00:24.2, 16.00S×173.60W, h10km, mB5.5, mb5.0, Ms5.0, Msz4.6*

*MOS **07** 20:00:27.5±1.3, 16.00S×173.65W, h33km, mb5.3/22, MS4.6/17, Error ellipse: s-maj=14.4km s-min=12.7km az=113.3*

ISC 07 20:00:23.6±0.2**, 16.06S**±0.05×**173.60W**±0.04**, h14km, h14km**±2.8km**:pP-P, n416, σ0s86**/174**, mb5.1**/80**, MS4.6**/38**, 77C-13D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	2.77	40	*e*P	Pn	20 01 05.4	-3.1
AFI				*e*S	Sn	20 01 32.1	-10
RAR	Rarotonga	14.07	113	Pn	P	20 03 40.8	-4.1
	26nm,0.3s,baz=268,slow=9.9,SNR=22						
RAR				Sn	S	20 06 05.6	-16
	2.3nm,0.3s,baz=86,slow=20,SNR=3.5						
RAR				LR	LR	20 07 50.6	
	comp=Z,2μm,21.9s,baz=296,slow=32						
RAR	Rarotonga	14.07	113	*e*P	P	20 03 38.8	-6.1
	257nm,1.0s						
DZM	Mont Dzumac	19.77	249	*e*P	P	20 04 54.1	-2.2

NOUC Port Laguerre 19.91 249 *e*P **P 20 04 58.2 +0.4**
PAE Paea 23.04 97 *e*P **P 20 05 29.6 0.0**
104nm,1.0s,mb5.2
PPT Papeete 23.05 97 *e*P **P 20 05 29.9 +0.2**
38nm,0.8s,mb4.9
PPT Papeete 23.05 97 *e*LQ 20 09 52.8
PPT *e*LR LR 20 10 35.8
4µm,26.8s
PPT Papeete 23.05 97 P **P 20 05 29.1 -0.6**
PPT pmax pmax
comp=Z,69nm,0.9s
PPT Papeete 23.05 97 P **P 20 05 29.1 -0.5**
comp=Z,68nm,0.9s,mb5.1,baz=354,slow=3.9,SNR=6.0
PUZ Puketiti 23.07 197 *e*P* **P 20 05 29.2 -0.5**
PUZ Puketiti 23.07 197 *e*P* **P 20 05 29.2 -0.5**
TIAR Tiarei 23.27 97 *e*P **P 20 05 32.1 +0.3**
comp=Z,142nm,0.9s,mb5.4
TVO Taravao 23.36 98 *e*P **P 20 05 33.1 +0.4**
comp=Z,109nm,0.7s,mb5.4
URZ Urewera 23.58 199 P **P 20 05 34.4 -0.3**
comp=Z,81nm,0.6s,mb5.3,baz=351,slow=3.5,SNR=37
URZ S **S 20 09 47.3 +2.6**
comp=Z,6.7nm,0.8s,baz=58,slow=19,SNR=2.8
URZ LR LR 20 14 10.0
comp=Z,1µm,18.7s,MS4.4,baz=213,slow=35
TBI Tubuai 23.83 112 *e*LQ 20 10 17.9
TBI *e*LR LR 20 11 04.5
comp=Z,5µm,27.5s
SNZO South Karori 27.11 200 *e*P **P 20 06 06.4 -1.6**
comp=Z,49nm,0.7s,mb5.2
THZ Tophouse 28.13 202 P* **P 20 06 16.2 -1.0**
THZ Tophouse 28.13 202 P* **P 20 06 16.2 -1.0**
RPZ Rata Peaks 30.50 202 P **P 20 06 36.3 -2.1**
comp=Z,16nm,0.6s,mb4.9,baz=341,slow=18,SNR=5.1
RPZ LR LR 20 17 25.7
comp=Z,1µm,20.8s,MS4.5,baz=36,slow=34
TAOE Nuku Hiva Isla 33.41 82 *e*LR LR 20 15 30.6
RKT Rikitea 36.98 107 *e*LR LR 20 17 05.4
comp=Z,3µm,28.2s
CNB Canberra Magne 38.19 233 *e*P **P 20 07 44.7 +0.1**
comp=Z,406nm,0.7s
CTA Charters Tower 38.31 258⇑*i*P **P 20 07 46.5 +0.8**
comp=Z,21nm,0.7s,mb5.0
CTA Charters Tower 38.31 258 P **P 20 07 45.4 -0.3**
CTA pmax pmax
comp=Z,23nm,0.7s
CTA MLR MLR
comp=Z,287nm,21.5s
CTA Charters Tower 38.31 258 P **P 20 07 45.4 -0.3**
comp=Z,23nm,0.7s,mb5.0,baz=93,slow=9.2,SNR=14
CTA LR LR 20 19 16.2
comp=Z,287nm,21.5s,MS4.0,baz=106,slow=30
CTAO Charters Tower 38.31 258 *e*P **P 20 07 46.4 +0.7**
comp=Z,25nm,0.8s,mb5.0
PMG Port Moresby 38.79 275 P **P 20 07 51.5 +1.7**
PMG pmax pmax
comp=Z,47nm,0.9s
PMG Port Moresby 38.79 275 P **P 20 07 51.5 +1.7**
comp=Z,46nm,0.9s,mb5.2,baz=10,slow=19,SNR=9.8
PMG Port Moresby 38.79 275 *e*P **P 20 07 49.4 -0.5**
comp=Z,31nm,0.7s,mb5.2
TOO Toolangi 41.90 231 *e*P **P 20 08 15.5 +0.2**
comp=Z,1.9nm,0.7s
STKA Stephens Creek 43.54 240⇑*i*P **P 20 08 29.1 +0.4**
comp=Z,65nm,0.6s,mb5.5
STKA Stephens Creek 43.54 240 P **P 20 08 29.1 +0.4**
comp=Z,82nm,0.7s,mb5.6,baz=90,slow=9.3,SNR=252
STKA LR LR 20 25 57.6
comp=Z,521nm,18.5s,MS4.5,baz=63,slow=35
WRAB Tennant Creek 49.50 257 P **P 20 09 15.0 -0.9**
comp=Z,195nm,0.7s,mb6.2,SNR=15
WRAB Tennant Creek 49.50 257⇑*i*P **P 20 09 14.5 -1.4**
comp=Z,31nm,0.7s,mb5.5
WRA Warramunga Arr 49.51 257 P **P 20 09 14.8 -1.2**
WRA 20 10 38.0
WRA pmax pmax
comp=Z,16nm,0.6s
WRA pmax pmax
comp=Z,5.0nm,0.5s
WRA Warramunga Arr 49.51 257 P **P 20 09 14.8 -1.2**
comp=Z,16nm,0.6s,mb5.2,baz=93,slow=6.6,SNR=307
WRA PcP PcP 20 10 38.0 -0.3
comp=Z,4.6nm,0.5s,baz=93,slow=3.5,SNR=2.6
ASAR Alice Springs 49.72 252 P **P 20 09 17.0 -0.6**
comp=Z,68nm,0.7s,mb5.8,baz=88,slow=7.9,SNR=869
ASAR LR LR 20 28 49.9
comp=Z,1µm,21.7s,MS4.9,baz=90,slow=34
ASPA Alice Springs 49.73 252⇑*i*P **P 20 09 16.9 -0.7**
FORT Forrest 54.95 243 *e*P **P 20 09 55.1 -1.5**
comp=Z,1µm,0.6s
FITZ Fitzroy Crossi 57.88 258⇑*i*P **P 20 10 17.4 -0.3**
comp=Z,25nm,0.6s,mb5.4
VNDA Vanda 62.70 186 P **P 20 10 50.3 +0.4**
VNDA pmax pmax
comp=Z,21nm,0.7s
VNDA MLR MLR
comp=Z,90nm,20.1s
VNDA Vanda 62.70 186 P **P 20 10 50.2 +0.3**
comp=Z,20nm,0.7s,mb5.3,baz=8.2,slow=6.6,SNR=60
VNDA LR LR 20 32 19.1
comp=Z,90nm,20.1s,MS3.9,baz=18,slow=31
VNDA Vanda 62.70 186 *e*P **P 20 10 50.8 +0.8**
comp=Z,19nm,0.9s,mb5.2
MBWA Marble Bar 62.99 254⇑*i*P **P 20 10 51.8 -0.7**
comp=Z,34nm,0.7s,mb5.6
KLBR Kellerberrin 63.76 242⇑*i*P **P 20 10 56.4 -1.2**
comp=Z,159nm,0.5s
NWAO Narrogin (SRO) 64.13 241 *e*P **P 20 10 59.5 -0.4**
comp=Z,10.0nm,0.7s,mb5.0
MUN Mundaring 65.05 242 *e*P **P 20 11 05.2 -0.8**
comp=Z,24nm,0.6s,mb5.4
LRV Little Rabbit 72.03 42 *e*P **P 20 11 49.1 -0.1**
MWC Mount Wilson 72.73 46 *e*P **P 20 11 52.4 -1.1**
PET Petropavlovsk 72.85 343 *e*P **P 20 11 56.1 +2.4**
PET *e* 20 12 15.5
PET *e*S S 20 21 14.8 -3.2
PET pmax pmax
comp=Z,200nm,9.5s
PET smax
comp=E,100nm,12.3s
PET MLR MLR
comp=Z,200nm,21.0s,MS4.4
CMB Columbia Colle 73.39 41 *e*P **P 20 11 56.7 -0.5**
comp=Z,17nm,1.0s,mb4.9
OHCM Honcut 73.49 40 P **P 20 11 58.0 +0.2**
WDC Whiskeytown Da 73.62 38 *e*P **P 20 11 58.2 -0.3**
comp=Z,77nm,1.8s,mb5.3
YSS Yuzh-Sakhalins 73.96 331 *i* P **P 20 11 59.4 -0.9**
YSS pmax pmax
comp=Z,82nm,2.3s,mb5.2
QSPA South Pole Qui 73.99 180 *e*P **P 20 12 01.5 +1.6**
comp=Z,65nm,0.8s,mb5.6
OMM Old Mammoth Mi 74.04 42 *e*P **P 20 12 01.0 0.0**
MTUM Tungsten Hills 74.16 43 *e*P **P 20 12 01.8 +0.1**
YBH Yreka Blue Hor 74.24 37 P **P 20 12 02.7 +0.6**
YBH pmax pmax
comp=Z,21nm,0.9s
YBH Yreka Blue Hor 74.24 37 P **P 20 12 02.7 +0.6**
comp=Z,21nm,0.9s,mb5.1,baz=242,slow=1.7,SNR=38
YBH Yreka Blue Hor 74.24 37 *e*P **P 20 12 02.4 +0.3**
comp=Z,22nm,1.0s,mb5.0
HUMO Hull Mountain 74.65 36 *e*P **P 20 12 04.6 +0.1**
comp=Z,20nm,1.1s,mb5.0
NVAR Mina Array Bea 74.95 42 P **P 20 12 06.3 0.0**
comp=Z,26nm,1.1s,mb5.1,baz=222,slow=8.8,SNR=54
NVAR LR LR 20 37 45.6
comp=Z,973nm,21.5s,MS5.1,baz=260,slow=30
MNV Mina 75.05 42 *e*P **P 20 12 06.4 -0.4**
comp=Z,95nm,1.9s,mb5.4
TPH Tonopah 75.45 43 *e*P **P 20 12 08.1 -1.0**
comp=Z,60nm,1.7s,mb5.2
MOD Modoc 75.76 38 *e*P **P 20 12 10.5 -0.3**
comp=Z,24nm,1.0s,mb5.1
BMN Battle Mountai 76.78 41 *e*P **P 20 12 16.8 +0.2**
comp=Z,57nm,1.7s,mb5.2
TUC Tucson 76.96 51 *e*P **P 20 12 17.2 -0.5**
comp=Z,5.6nm,0.6s,mb4.7
WVOR Wild Horse Val 77.07 38 *e*P **P 20 12 18.0 -0.1**
comp=Z,24nm,1.1s,mb5.0
ARUT Antelope Range 77.81 45 *e*P **P 20 12 22.3 0.0**
WUAZ Wupatki 78.09 48 *e*P **P 20 12 23.9 0.0**
comp=Z,218nm,1.1s,mb6.0
SSE Sheshan 78.20 307 P **P 20 12 23.8 -0.8**
SSE XP sP 20 12 37.0 +6.4
SSE PP PP 20 15 22.8 -0.6
SSE S S 20 22 16.8 -0.6
SSE AMB AMB
comp=Z,26nm,0.6s,mb5.3
SSE AMB AMB
comp=Z,92nm,7.1s
SSE LR LR
comp=N,104nm,30.8s,MS4.1
SSE LR LR
comp=E,108nm,31.2s,MS4.1
SSE LR LR
comp=Z,181nm,32.4s,MS4.2
SSE Sheshan 78.20 307 P **P 20 12 23.8 -0.8**
comp=Z,26nm,0.6s,mb5.3
SSE sP sP 20 12 37.0 +6.4
SSE PP PP 20 15 22.8 -0.6
SSE S S 20 22 16.8 -0.6
SSE sS 20 22 38.0
SSE SS SS 20 27 28.9 +6.4
SSE LR LR
comp=Z,180nm,32.4s,MS4.2
ELK Elko 78.21 41 *e*P **P 20 12 24.1 -0.3**
comp=Z,47nm,1.7s,mb5.1
SVW2 Sparrevohn 78.24 9 *e*P **P 20 12 22.6 -1.5**
BBB Bella Bella 78.56 27 LR LR 20 37 54.3
comp=Z,472nm,21.2s,MS4.8,baz=256,slow=29
MVU Marysvale 79.00 45 *e*P **P 20 12 29.4 +0.5**
comp=Z,17nm,1.1s,mb4.9
MSU Marysvale 79.03 45 *e*P **P 20 12 29.5 +0.5**
BMO Blue Mountains 79.27 37 *e*P **P 20 12 29.4 -0.7**
comp=Z,12nm,1.1s,mb4.7
MDJ Mudanjiang 79.43 323 P **P 20 12 31.4 +0.4**
MDJ AP pP 20 12 34.7 -0.8
MDJ PCP PcP 20 12 39.2 -0.4
MDJ PP PP 20 15 31.4 -1.6
MDJ S S 20 22 31.8 +1.6
MDJ XS 20 22 38.5
MDJ AMB AMB
comp=Z,11nm,1.4s,mb4.6
MDJ AMB AMB
comp=Z,168nm,5.0s
MDJ LR LR
comp=N,252nm,34.5s,MS4.4
MDJ LR LR
comp=E,170nm,35.9s,MS4.4
MDJ LR LR
comp=Z,196nm,35.9s,MS4.2
TMUT Trail Mountain 80.08 44 *e*P **P 20 12 35.2 +0.6**
HLID Hailey 80.26 39 *e*P **P 20 12 35.9 +0.4**
comp=Z,13nm,0.9s,mb4.8
HVU Hansel Valley 80.33 41 *e*P **P 20 12 35.5 -0.4**
NJ2 Nanjing 80.41 307 *e*P **P 20 12 38.5 +2.0**
NJ2 AP pP 20 12 43.3 +2.2
NJ2 XP sP 20 12 45.5 +2.9
NJ2 PP PP 20 15 44.4 +2.9
NJ2 S S 20 22 45.0 +4.3
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,260nm,4.2s
NJ2 LR LR
comp=N,480nm,25.0s,MS4.9
NJ2 LR LR
comp=E,370nm,23.6s,MS4.9
NJ2 LR LR
comp=Z,420nm,23.2s,MS4.7
SRU San Rafael 80.45 45 *e*P **P 20 12 35.7 -0.9**
MA2 Magadan 80.73 343 *e*P **P 20 12 37.0 -0.6**
MA2 *e*PPP PPP 20 17 35.7 +0.9
MA2 *e*S S 20 22 40.1 -3.4
MA2 *e*PS PS 20 23 31.6 -0.6
MA2 pmax pmax
comp=N,3.0nm,1.2s
MA2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
MA2 Magadan 80.73 343 *e*P **P 20 12 36.7 -0.9**
comp=Z,24nm,1.4s,mb4.9
MNTX Cornudas Mount 80.78 53 *e*P **P 20 12 38.2 -0.3**
comp=Z,16nm,1.3s,mb4.8
TCUT Toone Canyon 80.87 43 *e*P **P 20 12 38.5 -0.2**
HWUT Hardware Ranch 81.01 42 *e*P **P 20 12 38.6 -0.9**
comp=Z,17nm,1.4s,mb4.8
PV10 Paradox Valley 81.11 46 *e*P **P 20 12 39.9 -0.1**
TXAR Lajitas Array 81.14 56 P **P 20 12 40.4 -0.1**
comp=Z,4.6nm,1.0s,mb4.4,baz=220,slow=7.5,SNR=17
TXAR LR LR 20 40 27.1
comp=Z,458nm,20.5s,MS4.8,baz=315,slow=30
PV01 Paradox Valley 81.32 46 *e*P **P 20 12 41.2 0.0**
ANMO Albuquerque 81.37 50 *i*P **P 20 12 40.7 -0.8**
ANMO Albuquerque 81.37 50 P **P 20 12 41.8 +0.3**
comp=Z,5.3nm,0.7s,mb4.6,baz=222,slow=7.6,SNR=13
ANMO Albuquerque 81.37 50 *e*P **P 20 12 41.3 -0.2**
comp=Z,33nm,1.5s,mb5.0
CN2 Changchun 81.47 320 *e*P **P 20 12 41.5 -0.3**
CN2 *e*XP sP 20 12 50.7 +2.8
CN2 *e*S S 20 22 53.8 +2.4
CN2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,330nm,5.0s
CN2 LR LR
comp=N,210nm,18.0s,MS4.6
CN2 LR LR
comp=E,130nm,18.0s,MS4.6
CN2 LR LR
comp=Z,170nm,19.0s,MS4.4
SNY Shenyang 81.63 318⇑P **P 20 12 43.5 +0.8**
SNY AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
RW3 Ridgway 81.99 47 *e*P **P 20 12 45.1 +0.4**
RRI2 Red Ridge 82.06 41 *e*P **P 20 12 45.5 +0.6**
MENT Mentasta 82.14 13 *e*P **P 20 12 45.2 +0.3**
TPAW Teton Pass 82.36 41 *e*P **P 20 12 47.3 +0.8**
DLBC Dease Lake 82.39 21 LR LR 20 41 30.0
comp=Z,302nm,21.4s,MS4.6,baz=265,slow=30
SNOW Snow King Moun 82.47 41 *e*P **P 20 12 47.3 +0.3**
IMW Indian Meadow 82.58 40 *e*P **P 20 12 47.9 +0.3**
MOOW Moose Ponds 82.62 41 *e*P **P 20 12 48.2 +0.4**
LOHW Long Hollow 82.64 41 *e*P **P 20 12 48.0 0.0**
QLMT Earthquake Lak 82.75 39 *e*P **P 20 12 49.2 +0.7**
CHMT Chamberlain Mo 82.77 37 *e*P **P 20 12 47.2 -1.3**
BW06 Boulder Array 82.89 42 *e*P **P 20 12 48.8 -0.4**
comp=Z,16nm,1.0s,mb5.0
PDAR Pinedale Array 82.89 42 P **P 20 12 49.0 -0.3**
comp=Z,12nm,0.9s,mb4.9,baz=215,slow=2.8,SNR=58
PDAR LR LR 20 44 10.6
comp=Z,548nm,18.4s,MS5.0,baz=247,slow=32
YMR Madison River 82.95 40 *e*P **P 20 12 50.2 +0.7**
QIZ Qiongzhong 82.97 292 P **P 20 12 51.9 +1.8**
QIZ *e*S S 20 23 05.8 -1.4
QIZ LR LR
comp=Z,368nm,24.6s,MS4.7
COLA College 83.05 11 *e*P **P 20 12 48.6 -1.0**
comp=Z,31nm,1.0s,mb5.3
BOZ Bozeman (W) 83.05 39 *e*P **P 20 12 49.7 -0.3**
comp=Z,17nm,1.1s,mb5.0
SEY Seymchan 83.10 345 *e*P **P 20 12 51.2 +1.3**
SEY 20 16 05.3
SEY *e*PPP PPP 20 17 55.0 -1.2
SEY *e*S S 20 23 10.9 +3.2
SEY SS SS 20 28 38.8 +3.5
SEY pmax pmax
comp=N,20nm,1.2s
SEY pmax pmax
comp=Z,70nm,1.2s,mb5.6
SEY smax
comp=N,210nm,17.1s
SEY smax
comp=E,260nm,18.3s
SEY MLR MLR
comp=Z,470nm,21.0s,MS4.8
ILAR Eielson Array 83.13 11 P **P 20 12 49.2 -0.8**
ILAR pmax pmax
comp=Z,7.0nm,0.6s
ILAR pmax pmax
comp=Z,1.0nm,1.1s
ILAR MLR MLR
comp=Z,291nm,21.1s
ILAR Eielson Array 83.13 11 P **P 20 12 49.2 -0.8**
comp=Z,6.5nm,0.6s,mb4.8,baz=230,slow=6.2,SNR=125
ILAR PKKPbc 20 31 11.0
comp=Z,0.7nm,1.1s,baz=351,slow=3.1,SNR=6.3
ILAR LR LR 20 41 34.7
comp=Z,290nm,21.1s,MS4.6,baz=199,slow=30
IMA Indian Mountai 83.24 8 *e*P **P 20 12 50.4 -0.2**
LKWY Lake 83.25 40 *e*P **P 20 12 52.6 +1.6**
comp=Z,21nm,1.0s,mb5.1
SDCO Great Sand Dun 83.30 48 *e*P **P 20 12 51.6 +0.1**
comp=Z,12nm,1.0s,mb4.9
HRY Holter Researc 83.49 38 *e*P **P 20 12 52.0 -0.2**
DAWY Dawson 84.11 14 *e*P **P 20 12 54.9 -0.1**
ISCO Idaho Springs 84.13 46 *e*P **P 20 12 55.4 -0.3**
comp=Z,8.0nm,1.0s,mb4.8
BILL Bilibino 85.14 353⇓*i*P **P 20 13 00.3 +0.3**
BILL pmax pmax
comp=Z,18nm,1.2s,mb5.1
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.3
BILL Bilibino 85.14 353 *e*P **P 20 12 59.8 -0.2**
comp=Z,27nm,1.4s,mb5.2
BJT Baijiatuau 85.78 314 *e*P **P 20 13 04.2 +0.3**
comp=Z,7.7nm,0.8s,mb5.0
BJI Beijing 85.78 314 *e*P **P 20 13 04.5 +0.6**
BJI SKS SKS 20 23 20.8 -11
BJI S S 20 23 43.8 +9.1
BJI SS SS 20 29 09.5 -5.6
BJI AMB AMB
comp=Z,18nm,1.3s,mb5.1
BJI LR LR
comp=Z,170nm,25.5s,MS4.3
BJI Beijing 85.78 314 *e*P **P 20 13 04.5 +0.6**
comp=Z,18nm,1.3s,mb5.1
BJI PP PP 20 16 13.2 -12
BJI SKS SKS 20 23 20.8 -11
BJI S S 20 23 43.8 +9.1
BJI SS SS 20 29 09.5 -5.6
BJI LR LR
comp=Z,170nm,25.5s,MS4.3
EDM Edmonton 86.15 32 *e*P **P 20 13 05.2 -0.2**
ENH Enshi 87.11 302 *e*P **P 20 13 11.2 +0.6**
comp=Z,13nm,0.9s,mb5.2
MAW Mawson 87.11 199 P **P 20 13 11.5 +1.7**
MAW pmax pmax
comp=Z,20nm,0.7s
MAW MLR MLR
comp=Z,310nm,20.6s
MAW Mawson 87.11 199 P **P 20 13 11.5 +1.7**
comp=Z,20nm,0.7s,mb5.5,baz=157,slow=8.8,SNR=6.3
MAW LR LR 20 49 43.1
comp=Z,310nm,20.6s,MS4.7,baz=236,slow=34
MAW Mawson 87.11 199 P **P 20 13 11.5 +1.7**
MAW LR LR 20 49 43.1
HIA Hailar 87.60 323 *e*P **P 20 13 12.5 0.0**
comp=Z,21nm,1.3s,mb5.2
GYA Guiyang 88.18 298⇑*i*P **P 20 13 16.7 +0.8**
GYA AP pP 20 13 20.8 +0.3
GYA XP sP 20 13 23.9 +2.0
GYA PP PP 20 16 46.2 +0.7
GYA SKS SKS 20 23 43.3 -4.3
GYA S S 20 24 07.1 +9.3
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,180nm,3.3s
GYA LR LR
comp=N,180nm,21.4s,MS4.7
GYA LR LR
comp=E,270nm,20.6s,MS4.7
GYA LR LR
comp=Z,310nm,25.3s,MS4.6
CLNS Chul'man 88.72 331 *e*P **P 20 13 18.0 +0.3**
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.3
XAN Xi'an 88.86 306 P **P 20 13 19.5 +0.5**
XAN AMB AMB
comp=Z,10.0nm,1.6s,mb4.9
DGMT Dagmar 88.86 39 *e*P **P 20 13 17.8 -0.8**
comp=Z,22nm,0.9s,mb5.5
INK Inuvik 88.95 14 P **P 20 13 18.4 -0.2**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK MLR MLR
comp=Z,379nm,19.5s
INK Inuvik 88.95 14 P **P 20 13 18.4 -0.2**
comp=Z,2.5nm,0.6s,mb4.7,baz=232,slow=2.7,SNR=11
INK LR LR 20 45 54.0
comp=Z,379nm,19.4s,MS4.8,baz=268,slow=31
INK Inuvik 88.95 14 P **P 20 13 18.4 -0.2**
INK LR LR 20 45 54.0
PLCA Paso Flores 89.21 132 P **P 20 13 20.9 +0.4**
PLCA pmax pmax
comp=Z,6.0nm,1.2s
PLCA MLR MLR
comp=Z,304nm,19.9s
PLCA Paso Flores 89.21 132 P **P 20 13 20.9 +0.4**
comp=Z,5.6nm,1.2s,mb4.8,baz=243,slow=9.0,SNR=2.6
PLCA LR LR 20 44 31.3
comp=Z,304nm,19.9s,MS4.7,baz=185,slow=30
NATX Nacogdoches 89.25 57 P **P 20 13 21.5 +0.6**
HHC Hu-ho-hao-te 89.33 313 *e*P **P 20 13 22.5 +1.5**
HHC PP PP 20 16 56.3 +2.0
HHC S S 20 24 13.2 +5.1
HHC XS 20 24 17.6
HHC AMB AMB
comp=Z,25nm,0.8s,mb5.6
HHC LR LR
comp=N,147nm,19.0s,MS4.6
HHC LR LR
comp=E,153nm,20.2s,MS4.6
HHC LR LR
comp=Z,186nm,21.4s,MS4.5
YAK Yakutsk 89.64 337⇑*i*P **P 20 13 21.0 -1.0**
YAK pmax pmax
comp=Z,8.0nm,0.7s,mb5.2
YAK MLR MLR
comp=Z,100nm,18.0s,MS4.3
YAK Yakutsk 89.64 337 *e*P **P 20 13 20.2 -1.7**
comp=Z,7.0nm,0.8s,mb5.0
NST Nakhon Sawan 90.77 286 P **P 20 13 28.2 -0.1**
YKA Yellowknife Ar 90.78 23 P **P 20 13 26.9 -0.3**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA MLR MLR
comp=Z,444nm,18.3s
YKA Yellowknife Ar 90.78 23 P **P 20 13 26.9 -0.3**
comp=Z,3.2nm,0.9s,mb4.6,baz=237,slow=4.4,SNR=31
YKA LR LR 20 48 04.2
comp=Z,444nm,18.3s,MS4.9,baz=240,slow=32
YKA Yellowknife Ar 90.78 23 P **P 20 13 26.9 -0.3**
YKA LR LR 20 48 04.2
KMI Kunming 91.14 296 P **P 20 13 32.2 +2.4**
KMI PP PP 20 17 13.4 +4.3
KMI SKS SKS 20 24 04.5 -1.0
KMI S S 20 24 28.6 +3.9
KMI SS SS 20 30 36.1 +3.5
KMI AMB AMB
comp=Z,9.0nm,2.0s,mb4.8
KMI LR LR
comp=Z,222nm,26.9s,MS4.5
KMI Kunming 91.14 296 P **P 20 13 32.2 +2.4**
comp=Z,9.0nm,2.0s,mb4.8
KMI PP PP 20 17 13.4 +4.3
KMI SKS SKS 20 24 04.5 -1.0
KMI S S 20 24 28.6 +3.9
KMI SS SS 20 30 36.1 +3.5
KMI LR LR
comp=Z,220nm,26.9s,MS4.5
JTS JuntasAbangare 91.52 80 P **P 20 13 32.8 +1.0**
JTS pmax pmax
comp=Z,10.0nm,0.9s
JTS JuntasAbangare 91.52 80 P **P 20 13 32.8 +1.0**
comp=Z,10nm,0.9s,mb5.2,baz=333,slow=4.0,SNR=5.7
SYO Syowa Base 91.92 191⇑P **P 20 13 32.5 +0.2**
SYO Syowa Base 91.92 191⇑PcP PcP 20 13 36.6 +3.1
VNA3 Neumayer Olymp 92.22 175⇑*i* **P 20 13 35.4 +1.7**
VNA3 Neumayer Olymp 92.22 175 P **P 20 13 34.4 +0.7**
VNA3 ⇑*i*P 20 13 35.4
SNAA Sanae 92.26 177⇑*i* **P 20 13 37.7 +3.8**
SNAA Sanae 92.26 177 *i* P **P 20 13 35.9 +2.0**
SNAA Sanae 92.26 177⇑*i*P **P 20 13 34.9 +1.0**
SNAA ⇑*i*P pP 20 13 37.7 -0.7
CM31 Chiang Mai Arr 92.64 288 *e*P **P 20 13 37.9 +1.1**
comp=Z,5.5nm,0.6s,mb5.2
CMAR Chiang Mai Arr 92.64 288 P **P 20 13 38.2 +1.4**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CMAR MLR MLR
comp=Z,87nm,18.9s
CMAR Chiang Mai Arr 92.64 288 P **P 20 13 38.2 +1.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,4.3nm,0.7s,mb5.0,baz=88,slow=2.8,SNR=30						
CMAR				LR	LR	20 55 07.2	
	comp=Z,87nm,18.9s,MS4.2,baz=105,slow=35						
VNA2	**Neumayer--Watz**	**92.71**	**176**	⇑i	**P**	**20 13 37.9**	**+2.0**
VNA2	**Neumayer--Watz**	**92.71**	**176**	P	**P**	**20 13 36.7**	**+0.8**
VNA2				⇑iP		20 13 37.9	
CHG	**Chiang Mai**	**92.73**	**289**	P	**P**	**20 13 43.5**	**+6.3**
LZH	**Lanzhou**	**93.46**	**306**	eP	**P**	**20 13 41.0**	**+0.8**
LZH				AP	pP	20 13 49.0	+4.2
LZH				XP	sP	20 13 53.0	+6.7
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb5.4						
LZH	**Lanzhou**	**93.46**	**306**	eP	**P**	**20 13 41.0**	**+0.8**
	comp=Z,15nm,1.0s,mb5.4						
LZH				pP	pP	20 13 49.0	+4.2
LZH				sP	sP	20 13 53.0	+6.7
ULM	**Lac du Bonnet**	**94.57**	**39**	P	**P**	**20 13 44.0**	**-0.9**
	comp=Z,2.3nm,0.7s,mb4.7,baz=280,slow=6.8,SNR=4.3						
ULM				LR	LR	20 49 28.7	
	comp=Z,618nm,18.4s,MS5.1,baz=44,slow=31						
ULN	**Ulaanbaatar**	**94.79**	**318**	⇓iP	**P**	**20 13 46.1**	**+0.1**
ULN	**Ulaanbaatar**	**94.79**	**318**	P	**P**	**20 13 46.5**	**+0.4**
SONM	**Songino Array**	**95.20**	**318**	P	**P**	**20 13 47.9**	**0.0**
	comp=Z,0.6nm,0.6s,mb4.2,baz=111,slow=3.5,SNR=7.2						
TIXI	**Tiksi**	**95.58**	**344**	⇓iP	**P**	**20 13 48.8**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.9						
GTA	**Gaotai**	**97.44**	**309**	eP	**P**	**20 13 58.6**	**+0.3**
GTA				AP	pP	20 14 03.7	+0.8
GTA				XP	sP	20 14 06.0	+1.7
GTA				PP	PP	20 17 58.7	+0.5
GTA				SKS	SKS	20 24 33.8	-5.9
GTA				S	S	20 25 19.0	+0.4
GTA				SS	SS	20 32 00.5	-1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,1.3s,mb4.7						
GTA				AMB	AMB		
	comp=Z,146nm,4.6s						
GTA				LR	LR		
	comp=N,74nm,19.8s,MS4.5						
GTA				LR	LR		
	comp=E,153nm,20.5s,MS4.5						
GTA				LR	LR		
	comp=Z,235nm,24.3s,MS4.6						
ZAK	**Zakamensk**	**97.90**	**320**	eP	**P**	**20 13 58.7**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb4.2						
LPAZ	**La Paz**	**99.77**	**110**	LR	LR	20 49 39.9	
	comp=Z,210nm,20.0s,MS4.6,baz=245,slow=30						
KURK	**Kurchatov**	**113.51**	**319**	ePKP	PKPdf	20 19 01.8	-3.0
KSH	**Kashi**	**115.71**	**306**	ePKP	PKPdf	20 19 01.0	-8.4
KSH				eXPKP		20 19 15.2	
KSH				ePKS	PKS	20 22 37.2	-4.3
CHKZ	**Chkalovo**	**118.02**	**323**	ePKPdf	PKPdf	20 19 09.9	-3.6
SOKR	**Solikamsk**	**123.28**	**332**	⇓iPKIKP	PKPdf	20 19 19.7	-3.8
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARCES	**ARCESS Array B**	**125.23**	**352**	PKIKP	PKPdf	20 19 24.3	-2.8
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.6s						
ARCES	**ARCESS Array B**	**125.23**	**352**	PKP	PKPdf	20 19 24.3	-2.7
	comp=Z,8.9nm,0.6s,baz=23,slow=1.2,SNR=30						
ARE0	**ARCESS Array S**	**125.23**	**352**	ePKPdf	PKPdf	20 19 24.1	-3.0
APA	**Apatity**	**125.64**	**348**	⇑iPKIKP	PKPdf	20 19 25.0	-2.9
APA				pmax	pmax		
	comp=Z,11nm,0.7s						
SUR	**Sutherland**	**129.89**	**196**	ePKPdf	PKPdf	20 19 35.5	-1.5
FINES	**FINESS Array B**	**132.54**	**347**	PKIKP	PKPdf	20 19 37.9	-3.3
FINES				pmax	pmax		
	comp=Z,5.0nm,0.6s						
FINES	**FINESS Array B**	**132.54**	**347**	PKP	PKPdf	20 19 37.9	-3.3
	comp=Z,5.1nm,0.6s,baz=63,slow=4.3,SNR=18						
NOA	**NORSAR Array B**	**134.95**	**357**	PKIKP	PKPdf	20 19 43.1	-2.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**134.95**	**357**	PKP	PKPdf	20 19 43.1	-2.6
	comp=Z,1.3nm,0.6s,baz=13,slow=4.0,SNR=4.0						
VSU	**Vasula**	**135.06**	**345**	i PKHKP		20 19 36.0	
HFS	**Hagfors**	**135.67**	**355**	PKhKP		20 19 32.0	
	comp=Z,2.8nm,0.9s,baz=76,slow=6.1,SNR=8.3						
HFS				PKP	PKPdf	20 19 44.3	-2.7
	comp=Z,4.3nm,0.6s,baz=90,slow=1.5,SNR=9.2						
MATP	**Matopo**	**137.74**	**212**	PKhKP		20 19 39.9	
	comp=Z,1.0nm,0.5s,baz=173,slow=6.1,SNR=6.4						
MATP				PKP	PKPdf	20 19 49.5	-2.4
	comp=Z,5.2nm,0.7s,baz=213,slow=1.9,SNR=13						
KIV	**Kislovodsk**	**138.58**	**320**	i PKIKP	PKPdf	20 19 49.0	-3.8
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5						
GNI	**Garni**	**138.99**	**314**	i PKIKP	PKPdf	20 19 55.5	+1.8
GNI				MLR	MLR		
	comp=Z,100nm,21.0s						
EKA	**Eskdalemuir Ar**	**140.12**	**9**	PKIKP	PKPdf	20 19 53.3	-2.0
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**140.12**	**9**	PKP	PKPdf	20 19 53.3	-2.0
	comp=Z,1.2nm,0.6s,baz=18,slow=2.2,SNR=4.4						
AKASG	**Malin Array Be**	**140.87**	**337**	PKhKP		20 19 47.4	
	comp=Z,1.5nm,0.6s,baz=38,slow=4.1,SNR=4.9						
AKASG				PKP	PKPdf	20 19 53.8	-3.0
	comp=Z,5.2nm,0.8s,baz=33,slow=1.8,SNR=8.6						
AKASG	**Malin Array Be**	**140.87**	**337**	PKP	PKPdf	20 19 47.4	-9.3
AKASG				PKP	PKPdf	20 19 53.8	-3.0
LSZ	**Lusaka**	**142.15**	**216**	ePKP	PKPdf	20 19 52.5	-7.5
TSUM	**Tsumeb**	**143.27**	**198**	PKP	PKPdf	20 19 57.7	-4.1
	comp=Z,3.9nm,0.8s,baz=143,slow=4.4,SNR=7.0						
TSUM	**Tsumeb**	**143.27**	**198**	ePKPdf	PKPdf	20 19 57.3	-4.5
LVV	**L'vov**	**143.42**	**341**	ePKIKP	PKPdf	20 19 59.5	-1.6
KWP	**Kalwaria**	**143.99**	**342**	ePKIKP	PKPdf	20 19 57.9	-4.2
KWP				i		20 20 02.9	
KWP	**Kalwaria**	**143.99**	**342**	ePKPdf	PKPdf	20 20 02.9	+0.8
KWP	**Kalwaria**	**143.99**	**342**	ePKP	PKPdf	20 19 57.9	-4.2
KWP				ePKIKP	PKPdf	20 20 02.9	+0.8
CLZ	**Clausthal**	**144.17**	**356**	ePKPbc	PKPbc	20 19 58.9	+0.7
WTSB	**Winterswijk**	**144.18**	**360**	ePKP	PKPdf	20 19 59.7	-2.7
MALT	**Malatya**	**144.19**	**315**	PKIKP	PKPdf	20 20 00.5	-2.3
MALT	**Malatya**	**144.19**	**315**	ePKPdf	PKPdf	20 20 00.1	-2.7
OJC	**Ojcow**	**144.25**	**345**	ePKP	PKPdf	20 19 58.5	-4.1
KSP	**Ksiaz**	**144.40**	**349**	⇓ePKPdf	PKPdf	20 19 59.4	-3.4
KSP				ePKPdf	PKPdf	20 20 03.9	+1.1
KSP				ePP	PP	20 23 20.3	+1.5
KSP	**Ksiaz**	**144.40**	**349**	ePKP	PKPdf	20 19 59.6	-3.2
KSP				ePKIKP	PKPdf	20 20 03.5	+0.6
CLL	**Collm**	**144.44**	**353**	i PKIKP	PKPdf	20 19 58.9	-4.0
CLL				i		20 20 03.6	
CLL				pmax	pmax		
	comp=Z,11nm,0.9s						
CLL	**Collm**	**144.44**	**353**	i PKP	PKPdf	20 19 58.9	-4.0
CLL				i		20 20 03.6	
CLL				e		20 21 15.0	
CLL	**Collm**	**144.44**	**353**	⇓iPKIKP	PKPdf	20 19 58.9	-4.0
	comp=Z,logA/T=1.1						
CLL				i		20 20 03.6	
CLL				i		20 20 06.8	
CLL				e		20 21 15.0	
KOLS	**Kolonicke sedl**	**144.74**	**342**	ePKP	PKPdf	20 20 00.4	-3.1
RAC	**Raciborz**	**144.75**	**347**	ePKPdf	PKPdf	20 20 00.8	-2.7
BRG	**Berggiesshubel**	**144.75**	**352**	ePKIKP	PKPdf	20 20 00.3	-3.1
BRG				e		20 20 05.2	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.2s						
UPC	**Upice**	**144.78**	**349**	ePKP	PKPdf	20 20 00.6	-2.9
NIE	**Niedzica**	**144.85**	**344**	ePKP	PKPdf	20 19 59.4	-4.3
DPC	**Dobruska-Polom**	**144.87**	**349**	ePKIKP	PKPdf	20 20 01.0	-2.7
DPC				MLR	MLR		
	comp=Z,200nm,20.2s,MS4.9						
DPC	**Dobruska-Polom**	**144.87**	**349**	ePKP	PKPdf	20 20 01.0	-2.7
DPC				ex	x	20 20 02.9	
DPC				AMS	AMS	21 23 30.0	
	comp=Z,200nm,20.2s						
BURAR	**Bucovina Array**	**144.91**	**338**	P	PKPbc	20 20 01.0	+0.5
BURAR	**Bucovina Array**	**144.91**	**338**	⇑P	PKPbc	20 20 01.2	+0.8
OKC	**Ostrava-Krasne**	**144.99**	**347**	ePKP	PKPdf	20 20 01.3	-2.6
OKC				AMS	AMS	21 20 00.0	
PVCC	**Panska Ves**	**144.99**	**351**	ePKP	PKPdf	20 20 01.5	-2.4
PVCC				AMS	AMS	21 26 00.0	
CRVS	**Cervenica-Dubn**	**145.01**	**343**	ePKP	PKPdf	20 20 01.4	-2.6
CRVS				e		20 20 10.3	
CRVS				e		20 20 13.7	
KMBO	**Kilima Mbogo**	**145.07**	**244**	PKIKP	PKPdf	20 20 03.9	-1.3
KMBO				pmax	pmax		
	comp=Z,20nm,0.9s						
KMBO	**Kilima Mbogo**	**145.07**	**244**	PKPbc	PKPbc	20 20 03.9	+2.0
	comp=Z,20nm,0.9s,baz=67,slow=4.6,SNR=51						
KMBO	**Kilima Mbogo**	**145.07**	**244**	ePKPdf	PKPdf	20 20 03.4	-1.8
MORC	**Moravsky Berou**	**145.18**	**347**	PKIKP	PKPdf	20 20 01.9	-2.3
MORC	**Moravsky Berou**	**145.18**	**347**	ePKPdf	PKPdf	20 20 01.6	-2.7
MOX	**Moxa**	**145.25**	**354**	ePKIKP	PKPdf	20 20 01.5	-2.8
MOX				pmax	pmax		
	comp=Z,41nm,1.5s						
MOX	**Moxa**	**145.25**	**354**	i P	PKPbc	20 20 01.5	+0.3
	comp=Z,logA/T=1.4						
TLCR		**145.38**	**332**	⇓P	PKPbc	20 20 02.7	+1.0
HGN	**Heimansgroeve**	**145.38**	**1**	ePKP	PKPdf	20 20 02.1	-2.5
	comp=Z,44nm,1.5s						
PRU	**Pruhonice**	**145.52**	**351**	ePKIKP	PKPdf	20 20 02.8	-2.0
PRU				MLR	MLR		
	comp=Z,300nm,26.0s,MS5.0						
PRU	**Pruhonice**	**145.52**	**351**	ePKP	PKPdf	20 20 02.8	-2.0
PRU				AMS	AMS	21 26 10.0	
	comp=Z,300nm,26.0s						
NKC	**Novy Kostel**	**145.57**	**353**	ePKP2	PKPab	20 20 03.0	-0.9
NKC				MLR	MLR		
	comp=Z,200nm,14.9s,MS5.0						
NKC	**Novy Kostel**	**145.57**	**353**	ePKP	PKPdf	20 20 03.0	-1.9
NKC				AMS	AMS	21 22 10.0	
	comp=Z,200nm,14.9s						
KECS	**Kecovo**	**145.66**	**343**	ePKP	PKPdf	20 20 03.4	-1.7
KECS				e		20 20 11.0	
KECS				e		20 20 14.7	
CFR	**Carcaliu**	**145.69**	**332**	PKP2	PKPab	20 20 03.5	-1.0
VRI	**Vrincioaia**	**145.76**	**334**	PKP2	PKPab	20 20 03.8	-0.9
VRAC	**Vranov**	**145.82**	**348**	PKP2	PKPab	20 20 03.9	-0.9
VRAC				pmax	pmax		
	comp=Z,41nm,1.2s						
VRAC	**Vranov**	**145.82**	**348**	PKPbc	PKPbc	20 20 03.9	+1.2
	comp=Z,41nm,1.2s,baz=28,slow=5.8,SNR=22						
VRAC	**Vranov**	**145.82**	**348**	P	PKPbc	20 20 04.5	+1.8
BRD	**Bordesti**	**145.88**	**334**	⇑P	PKPbc	20 20 05.5	+2.5
BRD	**Bordesti**	**145.88**	**334**	⇑P	PKPbc	20 20 05.5	+2.5
TNS	**Taunus Mts**	**145.89**	**358**	ePKP2	PKPab	20 20 04.1	-1.0
GIVF	**Givet**	**146.02**	**2**	⇑iPKP1	PKPbc	20 20 04.0	+0.8
BAIF	**Baives**	**146.04**	**3**	⇑iPKP1	PKPbc	20 20 04.3	+1.1
	comp=Z,117nm,1.3s						
VYHS	**Vyhne**	**146.08**	**345**	ePKP	PKPdf	20 20 04.9	-0.9
VYHS				e		20 20 11.1	
VYHS				e		20 20 17.7	
TIRR	**Tirgusor**	**146.12**	**331**	PKP2	PKPab	20 20 05.4	-0.8
TIRR	**Tirgusor**	**146.12**	**331**	⇓P	PKPbc	20 20 05.3	+1.7
HARR	**Harsova**	**146.16**	**332**	PKP2	PKPab	20 20 05.5	-0.8
HARR	**Harsova**	**146.16**	**332**	⇓P	PKPbc	20 20 05.4	+1.7
GRA1	**Grafenberg Arr**	**146.23**	**354**	ePKPbc	PKPbc	20 20 05.6	+1.9
GRA1				e		20 20 20.2	
GRF	**Grafenberg Arr**	**146.23**	**354**	ePKP	PKPdf	20 20 05.6	-0.4
GRF				e		20 20 20.2	
ABH	**Alteburg**	**146.26**	**359**	PKP	PKPdf	20 20 05.1	-1.0
ABH	**Alteburg**	**146.26**	**359**	⇑eP	PKPbc	20 20 05.0	+1.3
PSZ	**Piszkesteto**	**146.34**	**344**	PKP2	PKPab	20 20 05.9	-1.0
PSZ	**Piszkesteto**	**146.34**	**344**	ePKPdf	PKPdf	20 20 04.2	-2.1
PSZ				ePKPbc	PKPbc	20 20 05.4	+1.4
PSZ	**Piszkesteto**	**146.34**	**344**	⇑ePKP/p		20 20 05.5	
MLR	**Muntele Rosu**	**146.38**	**335**	PKP2	PKPab	20 20 05.3	-1.9
MLR				pmax	pmax		
	comp=Z,25nm,0.8s						
MLR	**Muntele Rosu**	**146.38**	**335**	PKPbc	PKPbc	20 20 05.3	+1.1
	comp=Z,24nm,0.8s,baz=179,slow=3.7,SNR=25						
MLR	**Muntele Rosu**	**146.38**	**335**	P	PKPbc	20 20 05.8	+1.7
MLR	**Muntele Rosu**	**146.38**	**335**	⇓P	PKPbc	20 20 05.6	+1.4
RUP	**Ruppelstein**	**146.44**	**359**	PKP	PKPdf	20 20 05.7	-0.7
RUP	**Ruppelstein**	**146.44**	**359**	⇑eP	PKPbc	20 20 05.9	+1.8
WLF	**Walferdange**	**146.49**	**0**	ePKPbc	PKPbc	20 20 06.0	+1.7
TOD	**Tromm**	**146.49**	**357**	PKP	PKPdf	20 20 05.3	-1.2
TOD	**Tromm**	**146.49**	**357**	eP	PKPbc	20 20 05.6	+1.3
KHC	**Kasperske Hory**	**146.50**	**351**	ePKP2	PKPab	20 20 05.1	-2.4
KHC				MLR	MLR		
	comp=Z,200nm,20.7s,MS4.9						
KHC	**Kasperske Hory**	**146.50**	**351**	ePKP	PKPdf	20 20 05.1	-1.4
KHC				epPKP		20 20 07.5	
KHC				ex	x	20 20 14.2	
KHC				AMS	AMS	21 28 40.0	
	comp=Z,200nm,20.7s						
WET	**Wettzell**	**146.59**	**352**	ePKP2	PKPab	20 20 06.6	-1.2
SIND	**Sindeldorf**	**146.70**	**356**	eP	PKPbc	20 20 05.9	+1.2
GEC2	**GERESS Array S**	**146.76**	**351**	ePKP2	PKPab	20 20 06.8	-1.7
GERES	**GERESS Array B**	**146.76**	**351**	PKIKP	PKPdf	20 20 05.3	-1.7
GERES				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GERES	**GERESS Array B**	**146.76**	**351**	PKPbc	PKPbc	20 20 05.3	+0.4
	comp=Z,6.4nm,0.7s,baz=27,slow=3.0,SNR=27						
ZST	**Bratislava**	**146.77**	**347**	i PKP	PKPdf	20 20 07.5	+0.5
ROSF	**Rostrenen**	**146.85**	**12**	⇑iPKP1	PKPbc	20 20 06.2	+1.1
FLN	**La Foliniere**	**146.91**	**8**	⇑iPKP1	PKPbc	20 20 06.3	+1.1
	comp=Z,14nm,0.6s						
FLN				eR			
	comp=Z,167nm,21.5s						
SGMF	**Saint Gilles**	**147.06**	**11**	⇑iPKP1	PKPdf	20 20 06.7	-0.8
	comp=Z,40nm,1.1s						
LDF	**La Druitiere**	**147.12**	**8**	⇑iPKP1	PKPdf	20 20 06.7	-0.8
	comp=Z,11nm,0.6s						
GRR	**Gorron**	**147.22**	**9**	⇑iPKP1	PKPdf	20 20 07.2	-0.5
	comp=Z,44nm,0.8s						
QUIF	**Quistinic**	**147.27**	**12**	⇑iPKP1	PKPdf	20 20 07.6	-0.2
STU	**Stuttgart**	**147.30**	**357**	ePKPbc	PKPdf	20 20 07.5	-0.3
HDH	**Heidenheim**	**147.42**	**355**	⇑eP	PKPdf	20 20 08.6	+0.6
BUCH	**Bad Urach**	**147.61**	**356**	⇑eP	PKPdf	20 20 09.3	+1.0
MEZF	**Maizieres J'vi**	**147.63**	**2**	⇑iPKP1	PKPdf	20 20 08.9	+0.5
	comp=Z,87nm,1.2s						
MOA	**Molln**	**147.64**	**350**	⇑iP	PKPdf	20 20 09.5	+1.1
WLS	**Welschbruch**	**147.73**	**359**	PKP	PKPdf	20 20 09.4	+0.9
CDF	**Champ du Feu**	**147.73**	**359**	⇑iPKP1	PKPdf	20 20 09.1	+0.6
	comp=Z,109nm,1.3s						
FUR	**Furstenfeldbru**	**147.74**	**354**	ePKP2	PKPab	20 20 09.6	-2.7
BFO	**Black Forest**	**147.78**	**358**	ePKP2	PKPab	20 20 09.2	-3.3
BZS	**Buzias**	**147.89**	**340**	P	PKPdf	20 20 10.1	+1.2
BZS	**Buzias**	**147.89**	**340**	⇓P	PKPdf	20 20 09.9	+1.0
THEF	**They Montfort**	**147.92**	**1**	PKP	PKPdf	20 20 09.8	+1.0
ECH	**Echery**	**147.93**	**359**	PKP	PKPdf	20 20 09.4	+0.5
LIBD	**Limburg**	**147.99**	**358**	PKP	PKPdf	20 20 12.2	+3.3
LIBD	**Limburg**	**147.99**	**358**	eP	PKPdf	20 20 10.0	+1.1
SPAK	**Spaichingen**	**147.99**	**357**	PKP	PKPdf	20 20 09.8	+0.8
SPAK	**Spaichingen**	**147.99**	**357**	eP	PKPdf	20 20 10.2	+1.2
ARSA	**Arzberg**	**147.99**	**348**	⇑iP	PKPdf	20 20 09.9	+0.9
GUT	**Gutenstein**	**148.00**	**357**	eP	PKPdf	20 20 10.0	+1.0
ASF	**Jabal al Asfar**	**148.02**	**306**	PKPbc	PKPdf	20 20 11.4	+1.9
	comp=Z,9.5nm,0.7s,baz=320,slow=2.5,SNR=12						
HAU	**Haudompre**	**148.15**	**0**	⇑iPKP1	PKPdf	20 20 10.3	+1.1
	comp=Z,61nm,0.9s						
HAU				eR			
	comp=Z,172nm,19.8s						
KIZ	**Kirchzarten**	**148.17**	**358**	⇑eP	PKPdf	20 20 10.3	+1.1
SZH	**Strazhica**	**148.18**	**332**	eP	PKPdf	20 20 10.5	+1.1
FELD	**Feldberg**	**148.25**	**358**	⇑eP	PKPdf	20 20 10.7	+1.3
MOF	**Molkenrain**	**148.29**	**359**	PKP	PKPdf	20 20 10.7	+1.2
UBR	**Uberruh**	**148.32**	**355**	eP	PKPdf	20 20 10.7	+1.2
HINF	**Hinteralfeld**	**148.33**	**359**	⇑iPKP1	PKPdf	20 20 10.5	+1.0
	comp=Z,20nm,0.9s						
JMB	**Yambol**	**148.50**	**331**	eP	PKPdf	20 20 11.0	+1.0
WATA	**Walderalm**	**148.52**	**353**	⇑iP	PKPdf	20 20 11.4	+1.6
WATA	**Walderalm**	**148.52**	**353**	⇑iP	PKPdf	20 20 11.4	+1.6
KBA	**Koelnbreinsper**	**148.54**	**351**	⇑iP	PKPdf	20 20 11.0	+1.1
MOTA	**Moosalm**	**148.56**	**354**	⇑iP	PKPdf	20 20 11.5	+1.6
BBS	**Basel-Blauen**	**148.68**	**359**	PKP	PKPdf	20 20 11.8	+1.7
BBS	**Basel-Blauen**	**148.68**	**359**	⇑eP	PKPdf	20 20 11.9	+1.8
SQTA	**Sankt Quirin**	**148.68**	**354**	⇑iP	PKPdf	20 20 11.9	+1.8
HYF	**Humbligny**	**148.73**	**5**	ePKP1	PKPdf	20 20 11.9	+1.7
DAVA	**Damuels**	**148.73**	**355**	⇑iP	PKPdf	20 20 12.2	+2.0
LOMF	**Lomont**	**148.80**	**359**	PKP	PKPdf	20 20 12.2	+1.9
SSF	**Saint Saulge**	**149.00**	**4**	⇑iPKP1	PKPdf	20 20 12.6	+2.0
	comp=Z,94nm,1.1s						
MFF	**Saint Martin d**	**149.07**	**9**	⇑iPKP1	PKPdf	20 20 12.3	+1.6
	comp=Z,100nm,1.5s						
DAVOX	**Davos**	**149.24**	**355**	PKPbc	PKPdf	20 20 13.8	+2.8
	comp=Z,21nm,0.7s,baz=348,slow=1.8,SNR=19						
DAVOX	**Davos**	**149.24**	**355**	PKPbc	PKPdf	20 20 13.8	+2.8
AVF	**Avril sur Loir**	**149.26**	**4**	⇑iPKP1	PKPdf	20 20 12.9	+1.9
	comp=Z,105nm,1.4s						
DIM	**Dimitrovgrad**	**149.32**	**331**	eP	PKPdf	20 20 13.4	+2.1
LJU	**Ljubljana**	**149.34**	**349**	ePKPbc	PKPdf	20 20 13.2	+2.0
CSS	**Prodhromos**	**149.41**	**313**	ePKPbc	PKPdf	20 20 14.2	+2.5
SMF	**Signal de Mont**	**149.43**	**3**	⇑iPKP1	PKPdf	20 20 13.4	+2.1
	comp=Z,41nm,1.0s						
BGF	**Bois d'Agland**	**149.45**	**5**	⇑iPKP1	PKPdf	20 20 13.6	+2.2
	comp=Z,62nm,0.9s						
BRMO	**Bormio**	**149.50**	**355**	ePKP	PKPdf	20 20 13.3	+1.9
PGB	**Panagyurishte**	**149.52**	**334**	eP	PKPdf	20 20 13.5	+1.9
CABF	**La Chapelle**	**149.54**	**0**	⇑iPKP1	PKPdf	20 20 14.5	+3.0
	comp=Z,212nm,1.2s						
JAVS	**Javornik**	**149.57**	**349**	ePKPbc	PKPdf	20 20 13.4	+1.9
TCF	**Toulx Ste Croi**	**149.66**	**6**	⇑iPKP1	PKPdf	20 20 13.9	+2.2
	comp=Z,84nm,1.3s						
GRUS	**Gruza**	**149.71**	**339**	⇑iPKP	PKPdf	20 20 15.0	+3.1
BOJS	**Bojanci**	**149.72**	**348**	ePKPbc	PKPdf	20 20 14.7	+2.8
DIVS	**Divcibare**	**149.77**	**340**	⇓iPKP	PKPdf	20 20 14.7	+2.8
VTS	**Vitosha**	**149.89**	**335**	PKP2	PKPab	20 20 15.5	-5.8
VTS	**Vitosha**	**149.89**	**335**	i P	PKPdf	20 20 15.0	+2.8
AGO	**Saint Agoulin**	**149.98**	**5**	PKP	PKPdf	20 20 16.1	+3.9
RZN	**Rozhen**	**149.98**	**332**	eP	PKPdf	20 20 14.0	+1.6
PLDF	**La Plantade**	**150.09**	**4**	PKP	PKPdf	20 20 16.5	+4.1
OG05	**Jujurieux**	**150.10**	**1**	PKP	PKPdf	20 20 15.8	+3.4
VAI	**Varese**	**150.22**	**357**	ePKP	PKPdf	20 20 15.5	+2.9
BARS	**Barje**	**150.24**	**337**	⇓iPKP	PKPdf	20 20 15.6	+2.9
ORX	**Oropa**	**150.49**	**358**	P	PKPdf	20 20 15.9	+2.9
MMB	**Musomiste**	**150.50**	**333**	i P	PKPdf	20 20 16.0	+2.9
ORO	**Oropa**	**150.50**	**358**	ePKP	PKPdf	20 20 16.1	+3.1
EIL	**Elat**	**150.51**	**302**	PKPbc	PKPdf	20 20 17.4	+3.9
	comp=Z,16nm,0.8s,baz=75,slow=9.5,SNR=4.1						
EIL	**Elat**	**150.51**	**302**	ePKPbc	PKPdf	20 20 16.7	+3.1
KKB	**Krupnik**	**150.54**	**334**	i P	PKPdf	20 20 16.5	+3.3
RJF	**Les Rejaudoux**	**150.56**	**7**	⇑iPKP1	PKPdf	20 20 16.1	+3.0
	comp=Z,89nm,1.3s						
RJF				eR			
	comp=Z,428nm,22.2s						
TRAV		**150.62**	**358**	P	PKPdf	20 20 16.2	+3.0
LPL	**La Plagne**	**150.63**	**360**	⇑iPKP1	PKPdf	20 20 17.4	+4.2
	comp=Z,63nm,1.0s						
LPG	**La Plagne**	**150.65**	**359**	⇑iPKP1	PKPdf	20 20 17.9	+4.7
	comp=Z,69nm,0.9s						
LSD	**Ceresole Reale**	**150.69**	**359**	P	PKPdf	20 20 17.8	+4.5
LBL	**Lubilhac**	**150.80**	**5**	PKP	PKPdf	20 20 18.2	+4.7
MBAR	**Mbarara**	**150.82**	**238**	ePKPbc	PKPdf	20 20 17.7	+3.2
LFF	**La Frestale**	**150.82**	**8**	⇑iPKP1	PKPdf	20 20 16.8	+3.3
	comp=Z,67nm,1.0s						
RSP	**Reno Superiore**	**150.99**	**359**	P	PKPdf	20 20 17.9	+4.1
CAF	**Calviac**	**151.00**	**6**	⇑iPKP1	PKPdf	20 20 17.5	+3.7
	comp=Z,65nm,1.2s						
BNI	**Bardonecchia**	**151.10**	**360**	ePKPdf	PKPdf	20 20 12.8	-1.2
BNI				ePKPbc	PKPdf	20 20 18.7	+4.7
BNI				ePKPab	PKPab	20 20 26.1	-0.2
SKO	**Skopje**	**151.12**	**336**	⇑iPKP	PKPdf	20 20 17.8	+3.7
	comp=Z,0.0nm,0.8s						
FENE	**Fenestrelle**	**151.12**	**359**	P	PKPdf	20 20 18.0	+4.0
RRL	**Cesana Torines**	**151.23**	**359**	P	PKPdf	20 20 19.2	+5.1
ORIF	**Oris-en-Rattie**	**151.23**	**1**	⇑iPKP1	PKPdf	20 20 18.5	+4.4
	comp=Z,74nm,1.2s						
ORIF				eR			
	comp=Z,186nm,21.5s						
VIVF	**Saint-Julien-l**	**151.26**	**3**	⇑iPKP1	PKPdf	20 20 18.5	+4.3
	comp=Z,122nm,1.2s						
BHB	**Bricherasio**	**151.30**	**359**	P	PKPdf	20 20 17.7	+3.5
MBDF	**Montbardon**	**151.42**	**359**	⇑iPKP1	PKPdf	20 20 18.9	+4.5
	comp=Z,35nm,0.7s						
GRAM		**151.49**	**354**	P	PKPdf	20 20 18.3	+3.8
PCP	**Pian Castagno**	**151.55**	**357**	P	PKPdf	20 20 17.8	+3.2
CODM		**151.61**	**355**	P	PKPdf	20 20 18.4	+3.7
VALM		**151.62**	**354**	P	PKPdf	20 20 18.1	+3.4
PZZ	**Prazzo**	**151.64**	**359**	P	PKPdf	20 20 18.5	+3.7
GENL	**Genova Univers**	**151.66**	**356**	P	PKPdf	20 20 17.4	+2.6
BACM		**151.70**	**354**	P	PKPdf	20 20 18.2	+3.4
SARO	**Sassorosso**	**151.76**	**354**	P	PKPdf	20 20 18.2	+3.3
OG25	**Le Caire**	**151.78**	**0**	PKP	PKPdf	20 20 19.8	+4.8
ROB	**Roburent**	**151.83**	**358**	P	PKPdf	20 20 18.8	+3.7
VINC	**Vinca**	**151.83**	**354**	P	PKPdf	20 20 18.1	+3.1
STV2	**Anna di Valdie**	**151.90**	**359**	P	PKPdf	20 20 20.0	+4.8
STV	**Sta Anna Valdi**	**151.90**	**359**	P	PKPdf	20 20 18.9	+3.8
FIN	**Finale Ligure**	**151.90**	**357**	P	PKPdf	20 20 18.6	+3.4
ENR	**Entracque**	**151.91**	**358**	P	PKPdf	20 20 19.0	+3.8
PBRG	**Braganca**	**151.96**	**21**	ePKPbc	PKPdf	20 20 19.4	+4.1
LASF	**Ste Croix**	**151.99**	**4**	⇑iPKP1	PKPdf	20 20 20.2	+4.9
	comp=Z,58nm,0.9s						
MONE	**Monesi**	**152.05**	**358**	P	PKPdf	20 20 19.5	+4.1
PVRL	**Vila Real**	**152.07**	**23**	ePKPdf	PKPdf	20 20 11.6	-3.9
PVRL				ePKPbc	PKPdf	20 20 20.3	+4.8
TOUF	**Mont Tournerai**	**152.13**	**359**	PKP	PKPdf	20 20 22.2	+6.7
AUTN	**L'Aution**	**152.14**	**358**	PKP	PKPdf	20 20 20.1	+4.6
SMRF	**Simiane la Rot**	**152.17**	**1**	⇑iPKP1	PKPdf	20 20 20.9	+5.3
	comp=Z,99nm,1.0s						
IMI	**Imperia**	**152.21**	**358**	P	PKPdf	20 20 20.1	+4.5
SJPF	**Ste Jean**	**152.26**	**12**	⇑iPKP1	PKPdf	20 20 20.6	+4.9
SBF	**Sospel**	**152.28**	**358**	⇑iPKP1	PKPdf	20 20 20.1	+4.4
NEGI	**Negi**	**152.28**	**358**	P	PKPdf	20 20 19.8	+4.1
PVIS	**Viseu**	**152.48**	**24**	ePKPbc	PKPdf	20 20 21.2	+5.1
MTLF	**Montolieu**	**152.58**	**7**	⇑iPKP1	PKPdf	20 20 21.0	+4.8
FRF	**La Foret Royal**	**152.59**	**360**	⇑iPKP1	PKPdf	20 20 21.0	+4.8
ETSF	**Etsaut**	**152.60**	**11**	⇑iPKP1	PKPdf	20 20 21.3	+5.1
	comp=Z,22nm,0.7s						
EPF	**Esparros**	**152.63**	**10**	⇑iPKP1	PKPdf	20 20 21.1	+4.9
LMR	**La Mourre**	**152.82**	**360**	⇑iPKP1	PKPdf	20 20 21.4	+4.9
MTE	**Manteigas**	**152.89**	**24**	ePKPbc	PKPdf	20 20 21.6	+4.9
PCBR	**Castelo Branco**	**153.40**	**24**	ePKPbc	PKPdf	20 20 23.0	+5.6
PGF	**Pioggiola**	**153.51**	**356**	ePKP1	PKPdf	20 20 22.7	+5.2
	comp=Z,22nm,0.8s						
EVO	**Evora**	**154.28**	**27**	ePKIKP	PKPdf	20 20 15.8	-2.8
	comp=Z,6.6nm,0.8s						
EVO				eR			
	comp=Z,543nm,21.8s						
PBEJ	**Beja**	**154.76**	**27**	ePKPbc	PKPdf	20 20 26.4	+7.1
DBIC	**Dimbokro**	**165.56**	**129**	PKIKP	PKPdf	20 20 29.1	-3.0
DBIC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
DBIC	**Dimbokro**	**165.56**	**129**	PKP	PKPdf	20 20 29.1	-3.0
	comp=Z,6.6nm,1.1s,baz=184,slow=4.9,SNR=4.7						

*NIED **07** 20:12:00,22.10N×121.90E,h8km,Mw3.7 Best double couple: M₀3.87×10¹⁴ NP1:φs289°,δ70°,λ-87°. NP2: φs101°,δ20°,λ-98°.*

*TAP **07** 20:12:16.6,21.97N×121.62E,h9km,ML3.7*

JMA 07 20:12:16.8±0.5**,22.12N×121.89E,M3.6,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.55**	**24**	P	Pn	20 13 00.6	+0.5
YOJ				eS	Sn	20 13 31.9	-0.3
HATJ	**Hateruma jima**	**2.61**	**42**	P	Pn	20 13 01.2	+0.2
HATJ				eS	Sn	20 13 34.2	+0.3
IRIF	**Iriomote-Funau**	**2.78**	**37**	P	Pn	20 13 03.7	+0.3
IRIF				eS	Sn	20 13 38.8	+0.7
JKRS	**Kuro-shima**	**2.87**	**42**	P	Pn	20 13 05.2	+0.5
JKRS				eS	Sn	20 13 41.0	+0.6
JIJ	**Ishigaki jima**	**3.05**	**42**	P	Pn	20 13 06.9	-0.3
JIJ				eS	Sn	20 13 44.1	-0.8
JTJ	**Tarama**	**3.60**	**45**	P	Pn	20 13 15.1	+0.1
JTJ				eS	Sn	20 13 59.0	+0.1
JOGS	**Gusukube**	**4.16**	**50**	P	Pn	20 13 24.8	+1.8

*MOS **07** 20:14:38.8±1.5,36.18N×21.76E,h33km,mb4.7/9,Error ellipse: s-maj=7.3km s-min=4.4km az=97.3*

*BJI **07** 20:14:38.2,36.53N×22.18E,h15km,mB5.0,mb5.0,Ms4.6, Msz3.9*

*ATH **07** 20:14:40.0,36.11N×21.79E,h39km±12km,MD4.1/22, ML3.9*

*NEIC **07** 20:14:40.9,36.18N×21.85E,h36km,mb4.5/15, MD4.2(PDG),MD4.0(ATH),After ATH.*

*PDG **07** 20:14:41.2±0.1,36.22N×20.66E,h21km±1km*

*THE **07** 20:14:41.0,36.17N×21.90E,h25km,ML3.9*

*CSEM **07** 20:14:41.6±0.1,36.25N×21.93E,h65km,mb4.4/13,Error ellipse: s-maj=2.3km s-min=1.1km az=28.0*

*IDC **07** 20:14:42.8±1.3,36.28N×21.93E,h49km±14km,mb3.7/11, mb1 3.8/18,mb1mx3.7/28,mbtmp3.9/18,ML3.9/6,MS3.4/3, Ms1 3.5/3,ms1mx2.8/26,Error ellipse: s-maj=23.2km s-min=10.0km az=22.0*

ISC 07 20:14:41.3±0.5**,36.30N**±0.04×**21.77E**±0.03**,h66**km±4km**, n174,σ1§39**/201**,mb4.2**/25**,6C-17D,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.89**	**8**	⇓iPN	**P**	**20 14 59.7**	**+1.4**
ITM				eSN	**S**	**20 15 15.3**	**+4.3**
KYTH	**Kithira**	**1.03**	**91**	ePN	**P**	**20 15 00.0**	**-0.2**
VLI	**Veliai**	**1.03**	**66**	⇓iPB	**P**	**20 15 00.2**	**0.0**
RLS	**Riolos of Patr**	**1.77**	**352**	ePB	**P**	**20 15 13.3**	**+3.0**
NAIG	**Nisos Aigina**	**2.01**	**43**	ePN	**P**	**20 15 15.5**	**+2.0**
MGER	**Gerania Oros**	**2.06**	**35**	ePN	**P**	**20 15 15.5**	**+1.1**
VLS	**Valsamata**	**2.10**	**334**	ePN	**P**	**20 15 17.1**	**+2.3**
NSAL	**Nisos Salamina**	**2.10**	**40**	ePB	**P**	**20 15 18.0**	**+3.1**
VAM	**Vamos**	**2.17**	**113**	ePN	**P**	**20 15 14.8**	**-1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ATH	Athens Observa	2.29	42	ePN	P	20 15 18.6	+1.1
GVD	Gavdhos	2.39	127	ePb	P	20 15 20.0	+1.0
GVD	Gavdhos	2.39	127	ePN	P	20 15 17.0	-2.0
PTL	Penteli	2.42	43	ePN	P	20 15 19.8	+0.4
MPAR	Parnis Oros	2.43	40	ePN	P	20 15 21.0	+1.5
LKR	Lokris	2.54	22	ePn	P	20 15 21.7	+0.5
EVR	Evrytania	2.61	1	ePb	P	20 15 26.6	+4.4
EVR	Evrytania	2.61	1	ePN	P	20 15 25.0	+2.8
IDI	Anoyia	2.73	111	P	P	20 15 22.2	-1.7
	3.3nm,0.3s,baz=294,slow=18,SNR=20						
IDI				S	S	20 15 53.5	-2.3
	18nm,0.3s,baz=309,slow=17,SNR=6.3						
IDI	Anoyia	2.73	111	P	P	20 15 22.1	-1.7
IDI				S	S	20 15 53.5	-2.3
IDI	Anoyia	2.73	111	P	P	20 15 22.1	-1.7
IDI				S	S	20 15 53.5	-2.3
AGG	Agios Georgios	2.76	9	ePn	P	20 15 26.1	+2.0
THR3	Thira Island,	2.94	87	ePn	P	20 15 25.1	-1.6
SANT	Santorini	2.98	88	eP	P	20 15 25.4	-1.9
SANT	Santorini	2.98	88	eP	P	20 15 25.5	-1.9
THR1	Thera Island	2.98	88	ePn	P	20 15 25.6	-1.7
APE	Apeiranthos	3.12	75	ePN	P	20 15 28.9	-0.4
APE	Apeiranthos	3.12	75	ePn	P	20 15 28.0	-1.3
APE	Apeiranthos	3.12	75	i P	P	20 15 31.8	+2.5
NEO	Neokhori	3.22	21	ePN	P	20 15 32.0	+1.4
NEO	Neokhori	3.22	21	ePn	P	20 15 30.6	0.0
XOR	Xorichti	3.26	20	ePn	P	20 15 31.7	+0.4
NPS	Neapolis	3.29	107	ePN	P	20 15 30.5	-1.2
AOS	Alonnisos	3.32	30	ePn	P	20 15 31.9	-0.1
IGT	Igoumenitsa	3.42	341	ePn	P	20 15 34.8	+1.3
JAN	Janina	3.43	348	ePN	P	20 15 36.0	+2.4
XRY	Khrisi	3.50	113	ePN	P	20 15 32.5	-2.1
XRY	Khrisi	3.50	113	ePn	P	20 15 33.0	-1.6
KEK	Kerkira	3.75	336	ePN	P	20 15 39.4	+1.4
KEK	Kerkira	3.75	336	ePn	P	20 15 39.1	+1.1
KZN	Kozani	4.00	0	ePN	P	20 15 43.3	+1.7
PLG	Polygyros	4.28	17	ePN	P	20 15 47.3	+1.8
OUR	Ouranopolis	4.39	23	ePn	P	20 15 47.1	+0.1
THE	Thessaloniki	4.43	12	ePn	P	20 15 48.1	+0.5
KARP	Karpathos	4.44	98	ePN	P	20 15 46.0	-1.8
KARP	Karpathos	4.44	98	ePn	P	20 15 43.7	-4.1
FNA	Florina	4.49	356	ePn	P	20 15 49.6	+1.1
GRG	Griva	4.68	6	ePn	P	20 15 52.2	+1.1
SOH	Sokhos	4.69	15	ePn	P	20 15 52.9	+1.7
BIA	Bitola	4.73	356	⇑iPn	P	20 15 53.2	+1.5
SOI	Samo	4.89	293	ePn	P	20 15 54.7	+0.7
TIP	Timpagrande	4.90	307	eP	P	20 15 53.7	-0.5
TIP	Timpagrande	4.90	307	eP	P	20 15 53.7	-0.4
KNT	Kendrikon	4.94	10	ePn	P	20 15 56.1	+1.4
SRS	Serrai	5.02	16	ePn	P	20 15 56.3	+0.5
MTTG	Motta San Giov	5.14	291	ePn	P	20 15 58.6	+1.2
MTTG				eSn	S	20 16 53.9	-2.2
MTTG	Motta San Giov	5.14	291	ePn	P	20 15 58.6	+1.2
MTTG				eSn	S	20 16 53.9	-2.2
TIR	Tirane	5.26	344	ep	P	20 16 00.4	+1.4
QSH	Qafa e Shtames	5.41	345	i p	P	20 16 01.7	+0.5
MMB	Musomiste	5.50	16	i P	P	20 16 02.3	-0.1
ORI	Oriolo Calabro	5.63	314	ePn	P	20 16 05.2	+1.1
ORI				eSn	S	20 17 04.1	-4.1
ORI	Oriolo Calabro	5.63	314	ePn	P	20 16 05.2	+1.1
KKB	Krupnik	5.65	10	i P	P	20 16 05.0	+0.5
SKO	Skopje	5.67	358	i Pn	P	20 16 05.0	+0.2
LTRZ	Laterza	5.79	319	ePn	P	20 16 06.3	-0.1
LTRZ				eSn	S	20 17 10.3	-2.0
LTRZ	Laterza	5.79	319	ePn	P	20 16 06.3	-0.1
LTRZ				eSn	S	20 17 10.3	-2.0
RZN	Rozhen	5.85	22	i P	P	20 16 08.0	+0.7
ULC	Ulcinj	5.99	342	⇓iPn	P	20 16 08.5	-0.6
ULC				eSn	S	20 17 13.4	-3.7
VAE	Valguarnera	6.01	283	P	P	20 16 11.8	+2.3
	1.2nm,0.3s,baz=114,slow=12,SNR=2.1						
VAE				S	S	20 17 21.4	+3.7
	5.2nm,0.3s,baz=181,slow=14,SNR=4.0						
SG1	Sgolgore (BA)	6.04	320	⇓iPn	P	20 16 09.7	-0.1
MGR	Morigerati	6.21	310	ePn	P	20 16 13.4	+1.1
MGR	Morigerati	6.21	310	ePn	P	20 16 13.4	+1.1
VTS	Vitosha	6.38	10	i P	P	20 16 15.5	+0.8
BUM	Brajici-Budva	6.39	341	⇓iPn	P	20 16 13.6	-1.3
BUM				eSn	S	20 17 22.6	-4.6
CDT	Castel del Mon	6.42	320	⇓iPn	P	20 16 15.0	-0.3
TTG	Podgorica	6.42	343	⇓iPn	P	20 16 14.5	-0.8
TTG				eSn	S	20 17 24.6	-3.3
PVY	Plav	6.44	348	⇓iPn	P	20 16 15.9	+0.4
PVY				eSn	S	20 17 26.7	-1.6
SGO	Sicignano	6.62	312	ePn	P	20 16 19.3	+1.3
MRLC	Muro Lucano	6.63	314	ePn	P	20 16 19.3	+1.1
MRLC	Muro Lucano	6.63	314	ePn	P	20 16 19.3	+1.1
HCY	Herceg Novi	6.64	339	⇓iPn	P	20 16 16.4	-2.0
HCY				eSn	S	20 17 28.1	-5.3
IVA	Berane	6.72	348	⇓iPn	P	20 16 19.8	+0.3
IVA				eSn	S	20 17 33.3	-2.0
NKY	Niksic	6.85	343	⇓iPn	P	20 16 20.0	-1.2
NKY				eSn	S	20 17 34.5	-4.0
BRY	Bratogost	7.05	340	⇓iPn	P	20 16 22.6	-1.4
BRY				eSn	S	20 17 38.2	-5.1
RGNG	Rignano Grg	7.21	320	ePn	P	20 16 26.4	+0.2
RGNG				eSn	S	20 17 42.9	-4.5
RGNG	Rignano Grg	7.21	320	ePn	P	20 16 26.4	+0.2
UPM	Unac-Piva	7.24	343	⇓iPn	P	20 16 26.0	-0.7
UPM				eSn	S	20 17 44.0	-4.1
PLE	Pljevlja	7.26	346	⇓iPn	P	20 16 26.6	-0.3
PLE				eSn	S	20 17 45.1	-3.4
STON	Ston	7.28	336	i Pn	P	20 16 24.8	-2.3
STON				i Sn	S	20 17 41.2	-7.8
DIVS	Divcibare	7.91	351	⇓iPn	P	20 16 34.0	-1.8
MLR	Muntele Rosu	9.71	18	P	P	20 17 03.1	+2.7
	0.4nm,0.3s,baz=219,slow=6.5,SNR=5.4						
MLR	Muntele Rosu	9.71	18	P	P	20 17 03.2	+2.7
BRTR	Keskin Array B	9.97	66	P	P	20 17 03.4	-0.7
	baz=248,slow=13						
CRES	Cresnjev	10.64	335	i Pn	P	20 17 11.2	-1.9
CEY	Cerknica	10.93	332	ePn	P	20 17 15.8	-1.3
CEY				eSn	S	20 19 10.4	-8.1
VOY	Vojsko	11.38	331	eSn	S	20 19 22.1	-7.3
VOJS	Vojsko	11.39	331	ePn	P	20 17 21.5	-1.6
OBKA	Obir	11.54	334	⇑iPn	P	20 17 23.4	-1.9
OBKA				i Sn	S	20 19 24.4	-8.9
ARSA	Arzberg	11.89	339	⇑iPn	P	20 17 27.9	-2.0
ARSA				i Sn	S	20 19 32.9	-8.7
KBA	Koelnbreinsper	12.46	332	⇑iPn	P	20 17 36.2	-1.4
KBA				i Sn	S	20 19 47.4	-8.0
MOA	Molln	12.81	337	⇑iPn	P	20 17 41.3	-0.8
MOA				i Sn	S	20 19 55.4	-8.1
EIL	Elat	12.89	117	P	P	20 17 38.3	-4.9
	0.3nm,0.3s,baz=308,slow=18,SNR=4.9						
WATA	Walderalm	13.38	329	⇑iPn	P	20 17 48.5	-1.1
WATA				i Sn	S	20 20 08.5	-8.6
MALT	Malatya	13.42	76	eP	P	20 17 48.3	-1.8
MALT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MALT	Malatya	13.42	76	eP	P	20 17 48.3	-1.9
	comp=Z,3.9nm,1.0s						
MALT	Malatya	13.42	76	eP	P	20 17 48.3	-1.8
	comp=Z,3.9nm,1.0s						
SQTA	Sankt Quirin	13.45	328	⇓iPN	P	20 17 49.4	-1.0
SQTA				i		20 20 02.5	
MOTA	Moosalm	13.59	328	⇓iPN	P	20 17 51.4	-0.8
MOTA				i		20 20 00.9	
GERES	GERESS Array B	13.86	337	P	P	20 17 53.2	-2.7
	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=7.2						
KHC	Kasperske Hory	14.15	338	eP	P	20 18 00.0	+0.4
KHC				e		20 18 07.5	
KHC	Kasperske Hory	14.15	338	eP	P	20 18 00.0	+0.4
KHC				x	x	20 18 07.5	
AKASG	Malin Array Be	15.37	18	i P	P	20 18 18.5	+3.2
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKASG	Malin Array Be	15.37	18	P	P	20 18 13.4	-1.9
	comp=Z,0.7nm,0.3s,baz=207,slow=12,SNR=5.8						
SOC	Sochi	15.56	57	eP	P	20 18 15.2	-2.6
SOC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SOC				pmax	pmax		
	comp=N,13nm,1.1s						
SOC				pmax	pmax		
	comp=E,6.0nm,0.8s						
SOC	Sochi	15.56	57	eP	P	20 18 15.2	-2.6
	comp=E,13nm,1.1s						
KIV	Kislovodsk	17.70	58	eP	P	20 18 46.0	+1.3
KIV				pmax	pmax		
	comp=Z,13nm,1.1s						
KIV	Kislovodsk	17.70	58	eP	P	20 18 44.3	-0.5
	comp=Z,13nm,1.0s						
KIV	Kislovodsk	17.70	58	eP	P	20 18 44.3	-0.4
	comp=Z,13nm,1.0s						
SUW	Suwalki	17.74	3	eP	P	20 18 45.0	-0.1
SUW				pmax	pmax		
	comp=Z,27nm,0.5s						
SUW	Suwalki	17.74	3	eP	P	20 18 45.0	-0.2
	comp=Z,27nm,0.5s						
SUW	Suwalki	17.74	3	eP	P	20 18 45.0	-0.1
	comp=Z,27nm,0.5s						
ZEI	Tsey	18.23	62	eP	P	20 18 51.2	+0.1
GNI	Garni	18.45	71	eP	P	20 18 54.1	+0.4
GNI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
GNI	Garni	18.45	71	P	P	20 18 53.8	+0.1
	comp=Z,0.5nm,0.3s,baz=306,slow=2.7,SNR=3.1						
GNI				LR	LR	20 27 21.3	
	comp=Z,62nm,18.8s,baz=323,slow=41						
GNI	Garni	18.45	71	eP	P	20 18 54.1	+0.3
	comp=Z,4.7nm,0.6s						
GNI	Garni	18.45	71	eP	P	20 18 54.1	+0.4
	comp=Z,4.7nm,0.6s						
ESDC	Sonseca Array	20.54	287	P	P	20 19 23.1	+6.7
	comp=Z,0.5nm,0.5s,baz=82,slow=9.3,SNR=4.3						
OBN	Obninsk	21.39	24	ePKHKP	P	20 19 23.8	-1.2
OBN				e		20 19 43.7	
OBN				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.5						
OBN	Obninsk	21.39	24	eP	P	20 19 23.8	-1.2
OBN				eS	S	20 23 18.1	+4.7
OBN				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.5						
OBN	Obninsk	21.39	24	eP	P	20 19 23.8	-1.1
	comp=Z,17nm,0.6s,mb4.5						
OBN	Obninsk	21.39	24	eP	P	20 19 23.8	-1.2
	comp=Z,17nm,0.6s,mb4.5						
VSU	Vasula	22.42	7	i P	P	20 19 42.0	+6.9
HFS	Hagfors	24.41	350	P	P	20 19 56.6	+2.2
	comp=Z,2.4nm,0.4s,mb3.9,baz=160,slow=11,SNR=26						
FINES	FINESS Array B	25.32	5	P	P	20 20 04.1	+1.1
	comp=Z,1.3nm,0.5s,mb3.6,baz=177,slow=8.6,SNR=10						
FINES				LR	LR	20 29 39.0	
	comp=Z,29nm,19.5s,baz=178,slow=35						
FINES	FINESS Array B	25.32	5	P	P	20 20 04.1	+1.1
FINES				LR	LR	20 29 39.0	
EKA	Eskdalemuir Ar	25.54	326	P	P	20 20 07.4	+2.3
	comp=Z,1.1nm,0.5s,mb3.5,baz=128,slow=9.5,SNR=4.6						
NB2	NORSAR Subarra	25.66	348	P	P	20 20 07.4	+1.2
	comp=Z,1.5nm,0.7s,mb3.5,baz=160,slow=9.3						
NB2	NORSAR Subarra	25.66	348	P	P	20 20 07.4	+1.2
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
NOA	NORSAR Array B	25.66	348	P	P	20 20 08.2	+2.0
	comp=Z,1.1nm,0.6s,mb3.5,baz=160,slow=10,SNR=4.7						
ARCES	ARCESS Array B	33.36	2	P	P	20 21 16.0	+1.2
	comp=Z,3.0nm,0.5s,mb4.3,baz=188,slow=8.6,SNR=12						
CHKZ	Chkalovo	37.81	47	eP	P	20 21 52.6	-0.1
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
CHKZ	Chkalovo	37.81	47	eP	P	20 21 52.6	-0.1
	comp=Z,3.1nm,0.4s,mb4.5						
CHKZ	Chkalovo	37.81	47	eP	P	20 21 52.6	-0.1
	comp=Z,3.1nm,0.4s,mb4.5						
AAK	Ala-Archa	40.64	64	i P	P	20 22 16.6	+0.3
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
AAK	Ala-Archa	40.64	64	eP	P	20 22 16.2	-0.1
	comp=Z,1.7nm,0.7s,mb4.0						
AAK	Ala-Archa	40.64	64	eP	P	20 22 16.2	-0.1
	comp=Z,1.7nm,0.7s,mb4.0						
KOLN	Koldanda	52.34	81	eP	P	20 23 48.5	-0.1
	comp=Z,3.7nm,0.5s,mb4.6						
GKN	Gorkha	53.06	80	eP	P	20 23 53.7	-0.3
	comp=Z,11nm,0.6s,mb5.0						
DMN	Daman	53.60	80	eP	P	20 23 57.1	-0.9
	comp=Z,9.4nm,0.5s,mb5.0						
KKN	Kakani	53.66	80	eP	P	20 23 58.1	-0.4
	comp=Z,7.0nm,0.6s,mb4.8						
KKN	Kakani	53.66	80	eP	P	20 23 58.1	-0.4
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
PKI	Pulchoki	53.86	80	eP	P	20 23 59.2	-0.7
	comp=Z,16nm,1.0s,mb5.0						
PKI	Pulchoki	53.86	80	eP	P	20 23 59.2	-0.7
PKI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
LSA	Lhasa	57.45	75	eP	P	20 24 26.3	+0.6
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
LSA	Lhasa	57.45	75	eP	P	20 24 26.3	+0.6
	comp=Z,5.2nm,0.6s,mb4.7						
LSA	Lhasa	57.45	75	eP	P	20 24 26.3	+0.6
	comp=Z,5.2nm,0.6s,mb4.7						
ZAK	Zakamensk	58.06	48	eP	P	20 24 23.0	-6.6
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
SCHQ	Schefferville	60.52	318	P	P	20 24 48.5	+2.0
	comp=Z,1.0nm,0.8s,mb3.9,baz=33,slow=14,SNR=3.7						
SONM	Songino Array	60.89	50	P	P	20 24 49.6	+0.4
	comp=Z,0.9nm,0.7s,mb3.9,baz=280,slow=6.9,SNR=9.6						
TIXI	Tiksi	61.07	20	eP	P	20 24 50.9	+0.8
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TIXI	Tiksi	61.07	20	eP	P	20 24 50.9	+0.8
	comp=Z,2.0nm,0.8s,mb4.2						
ULN	Ulaanbaatar	61.29	50	eP	P	20 24 51.9	+0.1
ULN				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
ULN	Ulaanbaatar	61.29	50	eP	P	20 24 51.9	+0.1
	comp=Z,1.3nm,0.7s,mb4.1						
ULN	Ulaanbaatar	61.29	50	eP	P	20 24 51.9	+0.1
	comp=Z,1.3nm,0.7s,mb4.1						
YAK	Yakutsk	66.26	29	eP	P	20 25 23.9	-0.2
YAK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
YAK	Yakutsk	66.26	29	eP	P	20 25 23.9	-0.2
	comp=Z,5.6nm,0.8s,mb4.5						
YAK	Yakutsk	66.26	29	eP	P	20 25 23.9	-0.2
	comp=Z,5.6nm,0.8s,mb4.5						
HHC	Hu-ho-hao-te	67.28	55	eP	P	20 25 31.0	+0.1
HHC				AP	pP	20 25 40.4	-8.2
HHC				XP	sP	20 25 46.1	-10
HHC				PP	PP	20 27 58.1	-3.5
HHC				SCS	ScS	20 35 21.0	+1.9
HHC				SS	SS	20 38 40.4	-1.3
HHC				AMB	AMB		
	comp=Z,131nm,7.1s						
HHC				LR	LR		
	comp=N,147nm,19.6s						
HHC				LR	LR		
	comp=E,153nm,19.6s						
HHC				LR	LR		
	comp=Z,132nm,31.5s						
CMAR	Chiang Mai Arr	69.17	82	P	P	20 25 43.2	+0.3
	comp=Z,0.8nm,0.8s,mb3.6,baz=308,slow=6.7,SNR=5.9						
CN2	Changchun	74.45	47	eP	P	20 26 15.0	+1.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
YKA	Yellowknife Ar	75.49	341	P	P	20 26 22.2	+2.7
	comp=Z,0.3nm,0.5s,mb3.3,baz=34,slow=5.3,SNR=7.1						
NJ2	Nanjing	76.90	60	eP	P	20 26 31.2	+3.1
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
BDFB	Brasilia	83.62	245	P	P	20 27 07.3	+3.1
	comp=Z,2.9nm,0.5s,mb4.4,baz=196,slow=3.9,SNR=3.3						
BDFB				LR	LR	21 03 53.4	
	comp=Z,138nm,19.1s,baz=267,slow=35						
WRA	Warramunga Arr	119.44	94	PKP	PKPdf	20 33 26.7	+3.0
	comp=Z,0.2nm,0.4s,baz=317,slow=1.4,SNR=5.6						
ASAR	Alice Springs	120.96	98	PKP	PKPdf	20 33 29.8	+3.2
	comp=Z,0.5nm,0.9s,baz=293,slow=1.1,SNR=5.7						

NEIC 07 20:19:38.7, 36.16N×25.77E, h10km, MD3.1(ATH), After ATH.
CSEM 07 20:19:38.7±99.0, 36.16N×25.77E, h10km, MD3.1, After ATH
ATH 07 20:19:48.1, 35.44N×26.13E, h22km, MD3.1/4
ISC 07 20:19:40.0±1.3, 35.98N±0.08×25.52E±0.08, h10km, n6, σ1.30/7, Crete

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
NPS	Neapolis	0.71	174	ePB	Pb	20 19 57.0	+2.9
NPS				eSB	Sb	20 20 03.5	-0.2
XRY	Khrisi	1.11	173	ePN	Pn	20 20 01.7	+0.2
VAM	Vamos	1.22	243	ePN	Sb	20 20 17.0	-1.2
KARP	Karpathos	1.40	107	ePN	Pn	20 20 04.5	-1.2
KYTH	Kithira	2.03	279	ePB	Pb	20 20 18.5	+1.9
VLI	Veliai	2.21	290	ePB	Pb	20 20 19.0	-0.7

NNC 07 20:48:02.6±4.6, 41.35N×79.88E, h7km±23km, mpv3.3, Error ellipse: s-maj=37.8km s-min=18.2km az=143.0
BJI 07 20:47:58.3, 41.14N×80.07E, h13km, ML3.7, 5C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
KSH	Kashi	3.53	244	ePG	Pg	20 49 04.6	-4.1
KSH				eS	Sn	20 49 37.1	+1.1
KSH				Smax			
	comp=N,70nm,0.5s						
KSH				Smax			
	comp=E,100nm,0.7s						
AAK	Ala-Archa	4.42	292	⇑Pn	Pn	20 49 07.5	+0.8
	comp=E,1.7nm,0.6s						
AAK				⇑Pg	Pg	20 49 19.9	-6.7
	comp=E,7.2nm,0.5s						
AAK				⇑Lg		20 50 16.3	
	comp=E,51nm,1.2s						
MK31	Makanchi Array	5.88	15	⇑Pn	Pn	20 49 27.6	+0.4
	comp=E,0.7nm,0.3s,baz=203,slow=13,SNR=137						
MK31				Sn	Sn	20 50 35.2	0.0
	comp=E,6.6nm,0.7s,baz=191,slow=23,SNR=8.6						
WMQ	Urumqi	6.24	62	eP	Pn	20 49 31.6	-0.8
WMQ				S	Sn	20 50 41.2	-3.2
WMQ				Smax			
	comp=N,12nm,0.3s						
WMQ				Smax			
	comp=E,19nm,0.4s						
BVA0	Borovoye Array	13.58	334	P	P	20 51 10.5	-2.4
	comp=E,1.0nm,1.6s,baz=143,slow=13,SNR=6.0						
CHKZ	Chkalovo	14.06	336	⇑P	P	20 51 17.3	-1.9
	comp=E,3.8nm,1.4s						

CSEM 07 20:48:29.2±0.6, 45.63N×26.50E, h125km±6km, MD3.8/4, Error ellipse: s-maj=5.7km s-min=3.8km az=49.0, After BUC
BUC 07 20:48:29.2±0.6, 45.63N×26.50E, h125km±6km, MD3.8/4, 8C-2D, Error ellipse: s-maj=5.7km s-min=3.8km az=49.0, Romania

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
VRI	Vrincioaia	0.28	33	⇑iP	P	20 48 47.0	+0.2
VRI				i S	S	20 49 00.2	0.0
MLR	Muntele Rosu	0.42	251	⇑iP	P	20 48 47.7	+0.3
MLR				i S	S	20 49 01.3	+0.1
ISR	Istrita	0.51	177	⇓iP	P	20 48 48.8	+0.8
ISR				i S	S	20 49 02.5	+0.3
CFR	Carcaliu	1.24	111	⇓iP	P	20 48 54.3	-0.1
CFR				i S	S	20 49 12.3	-1.1
BUC	Bucharest	1.25	193	i S	S	20 49 14.9	+1.2
BUC1	Bucharest	1.32	195	⇑iP	P	20 48 55.5	+0.1
BUC1				i S	S	20 49 14.9	-0.5
HARR	Harsova	1.38	132	⇑iP	P	20 48 56.2	+0.2
HARR				i S	S	20 49 15.1	-1.4
TLCR		1.69	104	⇑iP	P	20 48 59.7	+0.1
TLCR				i S	S	20 49 21.9	-0.8
IAS	Iasi	1.73	25	⇑iP	P	20 48 59.4	-0.7
IAS				S	S	20 49 21.2	-2.3
TIRR	Tirgusor	1.79	130	⇑iP	P	20 49 00.9	+0.1
TIRR				S	S	20 49 23.1	-1.7
ZIMR		2.13	203	S	S	20 49 30.4	-1.9
BURAR	Bucovina Array	2.17	336	P	P	20 49 06.0	+0.4
BURAR				i S	S	20 49 33.8	+0.5
CRAR	CRAIOVA	2.32	237	S	S	20 49 33.1	-3.5
BZS	Buzias	3.43	272	⇑iP	P	20 49 20.7	-1.5
BZS				S	S	20 50 00.9	-1.8

NEIC 07 20:49:28.0, 19.55N×68.86W, h80km, MD3.5(RSPR), After RSPR.
RSPR 07 20:49:28.0, 19.55N×68.86W, h80km±33km, MD3.5/6, MD3.5/6, 6C-1D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
LSP	Las Mesas	2.17	129	⇑eP	P	20 50 00.6	-2.2
MGP	Maguayo	2.27	132	⇑eP	P	20 50 03.4	-0.9
MGP				eS	S	20 50 31.2	0.0
LRS	Lares	2.28	123	⇑eP	P	20 50 03.6	-0.8
AOPR	Arecibo Observ	2.33	121	⇑eP	P	20 50 04.3	-0.8
AOPR				eS	S	20 50 31.4	-1.2
PORP	Portuguez	2.58	125	⇑eP	P	20 50 06.8	-1.8
PORP				eS	S	20 50 37.0	-1.9
CELP	Cerrillos	2.61	124	⇑eP	P	20 50 08.3	-0.8
CELP				eS	S	20 50 38.6	-1.0
CBYP	Canovanas	3.11	114	eS	S	20 50 51.3	-1.0
HUMP	Col San Antoni	3.17	116	eS	S	20 50 51.9	-1.9
MTP	Monte Pirata	3.45	114	⇓eP	P	20 50 19.0	-1.6
MTP				eS	S	20 51 00.3	-0.2

STR 07 20:55:30.8±0.2, 44.33N×7.19E, h5km±1km, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
LDG 07 20:55:30.9±0.0, 44.34N×7.20E, h2km, Md1.9/2, Ml2.0/8, Error ellipse: s-maj=1.0km s-min=0.5km az=64.0
NEIC 07 20:55:30.8, 44.32N×7.17E, h5km, ML2.6(GEN), ML2.0(LDG), ML2.0(STR), After GEN.
ISC 07 20:55:30.1±0.2, 44.33N±0.01×7.16E±0.02, h12km±2km, n32, σ0.63/64, Northern Italy

Code	Station Name	Δ°	AZ°	Op	ISC	Time (h m s)	Res ISC
STV	Sta Anna Valdi	0.15	124	P	Pg	20 55 33.7	0.0
STV				S	Sg	20 55 35.6	-0.5
STV2	Anna di Valdie	0.15	123	P	Pg	20 55 33.7	0.0
STV2				S	Sg	20 55 35.5	-0.6
PZZ	Prazzo	0.18	348	P	Pg	20 55 34.9	+0.6
PZZ				S	Sg	20 55 37.6	+0.4
DOI	San Damiano	0.19	20	ePg	Pg	20 55 35.0	+0.6
DOI				eSg	Sg	20 55 37.6	+0.3
ENR	Entracque	0.21	117	P	Pg	20 55 34.9	+0.1
ENR				S	Sg	20 55 37.7	-0.4
SURF	Saint Ours	0.29	302	Pg	Pg	20 55 36.9	+0.6
SURF				Sg	Sg	20 55 42.4	+2.0
TOUF	Mont Tournerai	0.32	168	Pg	Pg	20 55 37.4	+0.6
TOUF				Sg	Sg	20 55 41.5	+0.2
AUTN	L'Aution	0.38	149	Pg	Pg	20 55 38.7	+0.6
AUTN				Sg	Sg	20 55 44.0	+0.6
MVIF	Mont Vial	0.43	180	Pg	Pg	20 55 38.5	-0.4
SAOF	Saorge	0.45	140	Pg	Pg	20 55 39.3	+0.1
SAOF				Sg	Sg	20 55 45.2	-0.1
MBDF	Montbardon	0.49	326	ePg	Pg	20 55 40.5	+0.4
MBDF				eSg	Sg	20 55 46.7	0.0
	8.6nm,0.2s						
MONE	Monesi	0.50	119	P	Pg	20 55 40.2	0.0
MONE				S	Sg	20 55 46.8	-0.2
SBF	Sospel	0.50	156	ePg	Pg	20 55 40.8	+0.4
SBF				eSg	Sg	20 55 47.2	-0.1
	10nm,0.2s						
ROB	Roburent	0.51	93	P	Pg	20 55 40.7	+0.1
ROB				S	Sg	20 55 47.4	-0.2
OG22	Abries	0.52	343	Pg	Pg	20 55 40.7	0.0
OG22				Sg	Sg	20 55 47.9	+0.1
BHB	Bricherasio	0.52	8	P	Pg	20 55 40.8	0.0
BHB				S	Sg	20 55 47.5	-0.3
NEGI	Negi	0.62	140	P	Pb	20 55 42.5	0.0
NEGI				S	Sb	20 55 50.5	-0.3
RRL	Cesana Torines	0.65	336	P	Pb	20 55 43.6	+0.6
RRL				S	Sb	20 55 52.3	+0.6
IMI	Imperia	0.67	128	P	Pb	20 55 43.6	+0.3
IMI				S	Sb	20 55 52.1	-0.2
FENE	Fenestrelle	0.71	355	P	Pb	20 55 44.4	+0.5
FENE				S	Sb	20 55 53.6	+0.3
FIN	Finale Ligure	0.77	98	P	Pb	20 55 45.2	+0.3
FIN				S	Sb	20 55 55.0	0.0
RSP	Reno Superiore	0.83	5	P	Pb	20 55 46.5	+0.5
FRF	La Foret Royal	0.85	206	ePg	Pg	20 55 47.3	+0.1
FRF				ePn	Pn	20 55 48.7	+1.0
FRF				eSg	Sg	20 55 58.6	0.0
	13nm,0.2s						
PCP	Pian Castagno	1.02	77	P	Pb	20 55 49.5	+0.3

ORIF Oris-en-Rattie 1.09 304 ePg Pg 20 55 51.6 -0.3
ORIF eSg Sg 20 56 05.8 -0.7
2.0nm,0.3s
LMR La Mourre 1.10 205 ePn Pn 20 55 51.8 +0.5
LMR ePg Pg 20 55 52.4 +0.3
LMR eSg Sg 20 56 06.4 -0.4
6.8nm,0.2s
LSD Ceresole Reale 1.13 0 P Pb 20 55 52.3 +1.1
SMRF Simiane la Rot 1.19 253 ePg Pg 20 55 54.0 0.0
SMRF eSg Sg 20 56 10.0 +0.1
3.3nm,0.2s
LPG La Plagne 1.21 346 ePg Pg 20 55 53.6 -0.7
LPG eSg Sg 20 56 09.1 -1.4
1.0nm,0.3s
LPL La Plagne 1.23 346 ePg Pg 20 55 54.1 -0.6
LPL eSg Sg 20 56 09.7 -1.5
1.0nm,0.2s
VIVF Saint-Julien-l 1.85 288 ePn Pn 20 56 02.3 +0.2
VIVF ePg Pg 20 56 05.8 -1.3
VIVF eSn Sn 20 56 25.2 -0.4
VIVF eSg Sg 20 56 29.9 -2.0
0.8nm,0.3s
PGF Pioggiola 2.23 142 ePn Pn 20 56 07.0 -0.5
PGF eSn Sn 20 56 33.4 -1.7
1.2nm,0.2s

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*NEIC **07** 20:57:40.2±5.1, 7.22S×129.10E, h79km±53km, mb3.8/2, Error ellipse: s-maj=100.9km s-min=26.1km az=60.0*
*IDC **07** 20:57:43.7±8.7, 7.38S×128.96E, h111km±89km, mb3.3/4, mb1 3.5/6, mb1mx3.4/11, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=83.8km s-min=28.6km az=58.0*
ISC 07 20:57:41.1±3.3**, 7.3S**±0.2×**129.1E**±0.5**, h107**km±34km**, n10,** σ**0.91**/13**, mb3.5**/6**, Banda Sea**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
WRAB Tennant Creek 13.56 159 eP P 21 00 49.0 -1.1
4.5nm,0.6s
WRA Warramunga Arr 13.56 159 P P 21 00 49.6 -0.5
0.6nm,0.3s,baz=342,slow=14,SNR=59
WRA S S 21 03 11.9 -6.6
2.1nm,0.3s,baz=338,slow=23,SNR=12
ASAR Alice Springs 16.92 165 P P 21 01 35.0 +2.4
0.1nm,0.3s,baz=332,slow=9.5,SNR=3.8
ASAR S S 21 04 35.8 0.0
0.5nm,0.3s,baz=350,slow=26,SNR=7.9
ASAR Alice Springs 16.92 165 P P 21 01 35.0 +2.4
ASAR S S 21 04 35.8 0.0
STKA Stephens Creek 27.09 156 P P 21 03 15.9 +0.1
1.0nm,0.7s,mb3.5,baz=353,slow=8.1,SNR=4.1
CMAR Chiang Mai Arr 39.26 311 P P 21 05 00.8 -0.1
0.4nm,0.7s,mb3.4,baz=133,slow=6.9,SNR=5.0
SONM Songino Array 58.44 342 P P 21 07 29.2 +1.2
0.3nm,0.7s,mb3.4,baz=164,slow=5.7,SNR=3.3
KURK Kurchatov 72.31 329 eP P 21 08 56.9 +0.1
1.5nm,0.7s,mb3.9
BVAR Borovoye Array 77.84 328 P P 21 09 27.7 -0.6
0.4nm,0.5s,mb3.5,baz=143,slow=7.2,SNR=3.9
CHKZ Chkalovo 78.05 329 P P 21 09 28.6 -0.8
0.5nm,0.6s,mb3.4

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*NIED **07** 21:21:00, 42.50N×143.10E, h59km, Mw4.2 Best double couple: Mo2.34×10^15 NP1:φs47°, δ90°, λ75°. NP2:φs316°, δ15°, λ179°.*
*MOS **07** 21:21:21.5±1.1, 42.56N×143.08E, h33km, mb4.5/15, Error ellipse: s-maj=11.7km s-min=8.6km az=101.4*
*BJI **07** 21:21:26.0, 42.45N×143.12E, h84km, mB5.0, mb4.8, Ms4.2, Msz3.7*
*NEIC **07** 21:21:27.0±0.8, 42.50N×142.98E, h69km±7km, mb4.6/17, MW4.2(NIED), Error ellipse: s-maj=8.4km s-min=5.7km az=126.0*
NEIC Recorded [2 JMA] in the Churui area and [1 JMA] in the Kushiro area and in south-central Hokkaido.
*JMA **07** 21:21:27.8±0.1, 42.50N×143.06E, h55km±1km, M4.4 Broadband fault plane solution: P waves. NP1:φs315°, δ5°, λ175°. NP2:φs45°, δ90°, λ90°. Principal axes: T Plg45°, Azm310°; N Plg5°, Azm45°; P Plg45°, Azm140°;*
JMA Felt II J1.
*IDC **07** 21:21:28.5±1.9, 42.51N×142.91E, h82km±15km, mb3.8/15, mb1 4.0/16, mb1mx3.9/22, mbtmp4.2/16 Error ellipse: s-maj=20.2km s-min=14.3km az=116.0*
ISC 07 21:21:25.6±0.3**, 42.46N**±0.03×**143.08E**±0.04**, h75**km±2km**, n98,** σ**1.08**/111**, mb4.4**/38**, 5C-9D, Hokkaido region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JCH Churui 0.26 53 P P 21 21 37.0 -0.2
JCH eS S 21 21 44.3 -1.4
JNBK Urakawa-nobuka 0.30 234 ⇓P P 21 21 37.5 0.0
JNBK eS S 21 21 45.5 -0.7
JEM Erimo 0.45 173 ⇑P P 21 21 39.4 +0.9
ERM Erimo 0.45 173 Pn P 21 21 39.6 +1.1
283μm,0.4s
JBT2 Biratori 2 0.62 301 ⇓P P 21 21 40.3 +0.1
JOB Onbets 0.71 51 ⇑P P 21 21 42.3 +1.1
JOB eS S 21 21 53.1 +0.3
JFR Furan 0.79 333 ⇓P P 21 21 41.4 -0.7
JAR Ashorobuto 0.98 31 ⇓P P 21 21 44.8 +0.4
JAR eS S 21 21 57.5 -0.9
JAB Ashibetsu 1.22 329 ⇓P P 21 21 48.3 +0.8
JEW Eniwo 1.26 288 ⇓P P 21 21 48.7 +0.6
JEW eS S 21 22 05.0 +0.2
JAK Akkeshi 1.31 65 ⇑P P 21 21 49.0 +0.3
JAK eS S 21 22 05.3 -0.5
JKK2 Kamakawa 2 1.44 350 ⇓P P 21 21 51.0 +0.6
JKK2 eS S 21 22 08.2 -0.6
ASAJ Asahikawa 1.70 348 P P 21 21 54.8 +0.9
78nm,0.3s,baz=210,slow=14,SNR=201
ASAJ S S 21 22 16.1 +1.4
93nm,0.3s,baz=257,slow=2.2,SNR=9.4
YUK Yuzh-Kuril'sk 2.57 51 ePN P 21 22 05.5 -0.5
YUK i 21 22 31.8
YUK pmax pmax
comp=Z,650nm,0.3s
YUK pmax pmax
comp=N,650nm,0.3s
YUK pmax pmax
comp=E,130nm,0.2s
YUK smax
comp=E,2μm,0.4s
YUK smax
comp=N,4μm,0.6s
YUK smax
comp=N,8μm,0.4s
YUK smax
comp=E,2μm,0.6s
YSS Yuzh-Sakhalins 4.50 357⇓ePN P 21 22 33.8 +0.8
YSS pmax pmax
comp=N,50nm,0.8s
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS Yuzh-Sakhalins 4.50 357 eP P 21 22 33.4 +0.4
MAJO Matsushiro 7.01 214 ePN P 21 23 05.9 -1.8
MAJO pmax pmax
comp=Z,43nm,0.8s
MAJO Matsushiro 7.01 214 eP P 21 23 05.9 -1.8
comp=Z,43nm,0.8s
MAT Matsushiro 7.01 214 ePN P 21 23 07.0 -0.7
MAT S S 21 24 30.0 +3.5
MAT pmax pmax
comp=Z,22nm,0.7s
MAT Matsushiro 7.01 214 eP P 21 23 07.0 -0.7
comp=Z,22nm,0.7s
MAT S S 21 24 30.0 +3.5
MAT Matsushiro 7.01 214 P P 21 23 06.5 -1.2
MAT eS S 21 24 29.7 +3.2
JHJ Hachijo jima 2 9.68 197 P P 21 23 40.9 -3.3
comp=Z,31nm,0.3s,baz=239,slow=20,SNR=7.6
MDJ Mudanjiang 10.03 287 P P 21 23 51.6 +2.7
MDJ AMB AMB
comp=Z,24nm,1.0s
MDJ AMB AMB
comp=Z,43nm,4.0s
MDJ Mudanjiang 10.03 287 P P 21 23 47.4 -1.5
comp=Z,21nm,0.9s
KLR Kul'dur 10.40 314 ePN P 21 23 54.8 +0.9
CN2 Changchun 12.96 282 eP P 21 24 29.4 +1.3
HIA Hailar 17.58 301 eP P 21 25 24.7 -2.3
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 17.58 301 eP P 21 25 24.7 -2.3
comp=Z,5.7nm,0.6s
MA2 Magadan 17.79 13 eP P 21 25 30.4 +1.0
MA2 eS S 21 28 40.0 -2.3
MA2 pmax pmax
comp=Z,6.0nm,1.3s
MA2 pmax pmax
comp=N,4.0nm,1.2s
MA2 Magadan 17.79 13 eP P 21 25 27.8 -1.7
comp=N,4.8nm,0.6s
BJI Beijing 20.35 272 eP P 21 25 57.3 -0.8
BJI AMB AMB
comp=Z,9.0nm,0.9s
BJI LR LR
comp=Z,76nm,28.4s
BJI Beijing 20.35 272 eP P 21 25 57.3 -0.8
comp=Z,9.0nm,0.9s
BJI LR LR
comp=Z,80nm,28.4s
BJT Baijiatuau 20.36 272 eP P 21 25 57.3 -0.9
BJT pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuau 20.36 272 eP P 21 25 57.3 -0.9
comp=Z,11nm,0.8s
SSE Sheshan 20.82 244 P P 21 26 03.0 0.0
SSE AMB AMB
comp=Z,33nm,0.6s
SSE Sheshan 20.82 244 P P 21 26 03.0 0.0
comp=Z,33nm,0.6s
YAK Yakutsk 21.17 342 i P P 21 26 03.9 -2.4
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.1
YAK MLR MLR
comp=Z,100nm,18.0s
SEY Seymchan 21.23 12 eP P 21 26 06.9 0.0
SEY e 21 26 21.5
SEY e 21 29 55.8
SEY pmax pmax
comp=Z,20nm,1.1s,mb4.4
NJ2 Nanjing 21.84 250 eP P 21 26 15.9 +2.8
NJ2 AP 21 26 36.5
NJ2 PP PP 21 26 46.0 +5.5
NJ2 S S 21 30 05.0 +0.3
NJ2 XS 21 30 39.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.6
NJ2 AMB AMB
comp=Z,340nm,5.8s
NJ2 LR LR
comp=N,370nm,24.4s
NJ2 LR LR
comp=E,460nm,20.4s
NJ2 LR LR
comp=Z,250nm,18.1s
HHC Hu-ho-hao-te 23.54 277 eP P 21 26 28.0 -1.6
HHC PP PP 21 27 02.0 -2.1
HHC AMB AMB
comp=Z,12nm,0.5s,mb4.5
HHC AMB AMB
comp=Z,169nm,6.4s
BOD Bodaibo 23.90 320 eP P 21 26 28.0 -4.8
ULN Ulaanbaatar 25.81 295 i P P 21 26 51.9 +0.7
ULN Ulaanbaatar 25.81 295 eP P 21 26 50.6 -0.6
comp=Z,80nm,0.6s,mb5.3
SONM Songino Array 26.26 295 P P 21 26 55.7 +0.3
comp=Z,8.4nm,0.9s,mb4.2,baz=84,slow=8.9,SNR=57
TLY Talaya 28.10 303 eP P 21 27 11.9 -0.2
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
TLY MLR MLR
comp=Z,185nm,15.0s
ZAK Zakamensk 28.28 300⇑iP P 21 27 13.5 -0.3
ZAK e 21 28 21.5
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.3
ZAK pmax pmax
comp=Z,3.0nm,1.6s,mb3.6
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
ENH Enshi 29.47 257 eP P 21 27 23.3 -1.3
MOY Mondy 29.75 303 eP P 21 27 27.2 +0.4
MOY pmax pmax
comp=Z,11nm,1.7s,mb4.2
GTA Gaotai 32.57 279 eP P 21 27 52.3 +0.6
GTA AMB AMB
comp=Z,11nm,0.9s,mb4.7
WMQ Urumqi 39.80 291⇓iP P 21 28 53.5 +0.8
WMQ AMB AMB
comp=Z,12nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,137nm,5.1s
WMQ LR LR
comp=N,364nm,24.6s
WMQ LR LR
comp=E,168nm,19.2s
WMQ LR LR
comp=Z,290nm,23.2s
LSA Lhasa 43.23 270 eP P 21 29 22.7 +1.6
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.2
LSA Lhasa 43.23 270 eP P 21 29 22.7 +1.7
comp=Z,3.3nm,0.6s,mb4.2
KURK Kurchatov 43.78 304 P P 21 29 25.9 +0.7
comp=Z,168nm,0.7s,SNR=20
KURK Kurchatov 43.78 304⇑iP P 21 29 25.1 -0.1
KURK Kurchatov 43.78 304 eP P 21 29 25.0 -0.2
comp=Z,18nm,0.6s,mb5.0
COLA College 43.86 35 i P P 21 29 27.7 +2.1
ILAR Eielson Array 44.28 35 P P 21 29 29.6 +0.7
comp=Z,1.3nm,0.5s,mb3.9,baz=259,slow=5.6,SNR=34
CMAR Chiang Mai Arr 44.30 251 i P P 21 29 32.5 +2.7
CMAR pmax pmax
comp=Z,1.0nm,0.6s
CMAR Chiang Mai Arr 44.30 251 P P 21 29 29.4 -0.4
comp=Z,0.6nm,0.6s,mb3.5,baz=43,slow=7.7,SNR=4.2
DAWY Dawson 47.60 36 P P 21 29 56.7 +1.4
CHKZ Chkalovo 47.68 310 eP P 21 29 55.2 -0.9
CHKZ pmax pmax
comp=Z,39nm,0.8s,mb5.3
CHKZ Chkalovo 47.68 310 eP P 21 29 55.2 -0.9
comp=Z,39nm,0.8s,mb5.3
JIRN Jiri 48.00 271 eP P 21 30 00.0 +1.1
comp=Z,12nm,0.5s,mb5.0
KKN Kakani 48.60 272 eP P 21 30 03.9 +0.3
comp=Z,16nm,0.8s,mb5.0
KKN Kakani 48.60 272 eP P 21 30 03.9 +0.3
KKN pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
PKI Pulchoki 48.63 272 eP P 21 30 03.6 -0.2
comp=Z,10nm,0.6s,mb5.0
PKI Pulchoki 48.63 272 eP P 21 30 03.6 -0.2
PKI pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
DMN Daman 48.83 272 eP P 21 30 05.8 +0.5
comp=Z,7.3nm,0.4s,mb4.9
GKN Gorkha 48.96 273 eP P 21 30 06.1 -0.2
comp=Z,12nm,0.4s,mb5.2
INK Inuvik 49.01 29 P P 21 30 06.4 +0.3
INK pmax pmax
comp=Z,2.0nm,0.4s
INK Inuvik 49.01 29 P P 21 30 06.3 +0.2
comp=Z,2.1nm,0.4s,mb4.5,baz=332,slow=3.2,SNR=13
INK Inuvik 49.01 29 eP P 21 30 05.9 -0.2
AAK Ala-Archa 49.21 295 eP P 21 30 06.6 -1.5
KOLN Koldanda 49.86 273 eP P 21 30 13.7 +0.5
comp=Z,14nm,0.5s,mb5.2
RES Resolute Bay 57.04 16 eP P 21 31 04.2 -1.3
RES pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
RES Resolute Bay 57.04 16 eP P 21 31 04.2 -1.3
comp=Z,4.7nm,0.6s,mb4.7
YKA Yellowknife Ar 58.51 32 P P 21 31 16.1 +0.2
comp=Z,0.5nm,0.5s,mb3.8,baz=310,slow=6.9,SNR=9.8
ARCES ARCESS Array B 59.40 339 P P 21 31 21.0 -1.0
comp=Z,5.5nm,1.0s,mb4.6,baz=34,slow=8.7,SNR=3.7
JOF Joensuu 61.81 331 ep P 21 31 37.7 -0.8
WRAB Tennant Creek 62.60 189 eP P 21 31 43.0 -1.3
WRA Warramunga Arr 62.61 189 P P 21 31 43.8 -0.6
comp=Z,3.0nm,1.1s,mb4.1,baz=7.0,slow=6.9,SNR=16
KAF Kangasniemi 64.10 332 ep P 21 31 52.3 -1.2
comp=Z,0.6nm,0.3s,mb3.9
KAF Kangasniemi 64.10 332 eP P 21 31 52.3 -1.2
KAF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
OBN Obninsk 64.56 322 P P 21 31 56.0 -0.6
FINES FINESS Array B 64.64 332 P P 21 31 56.3 -0.7
comp=Z,2.8nm,0.6s,mb4.3,baz=51,slow=7.6,SNR=36
ASAR Alice Springs 66.33 189 P P 21 32 08.9 +0.4
comp=Z,0.5nm,0.6s,mb3.6,baz=7.1,slow=6.1,SNR=7.6
KIV Kislovodsk 68.36 310 eP P 21 32 21.7 +0.9
KIV e 21 48 48.6
KIV pmax pmax
comp=Z,18nm,1.3s,mb4.7
KIV Kislovodsk 68.36 310 eP P 21 32 22.0 +1.1
comp=Z,20nm,1.0s,mb4.9
NB2 NORSAR Subarra 69.69 337 P P 21 32 28.3 -0.4
comp=Z,1.5nm,0.7s,mb3.9,baz=34,slow=6.2
NB2 NORSAR Subarra 69.69 337 P P 21 32 28.3 -0.4
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
NOA NORSAR Array B 69.69 337 P P 21 32 28.2 -0.5
comp=Z,2.3nm,0.7s,mb4.1,baz=35,slow=6.1,SNR=8.8
AKASG Malin Array Be 70.81 322 P P 21 32 35.1 -0.5
comp=Z,0.9nm,0.4s,mb4.0,baz=42,slow=5.9,SNR=11
FRB Frobisher Bay 71.21 14 P P 21 32 37.2 -0.6
comp=Z,0.7nm,0.3s,mb4.0,baz=339,slow=7.1,SNR=3.0
PDAR Pinedale Array 73.00 47 P P 21 32 51.4 +2.7
comp=Z,0.4nm,0.5s,mb3.5,baz=112,slow=1.4,SNR=5.1
ULM Lac du Bonnet 74.30 35 P P 21 32 55.9 -0.2
comp=Z,0.7nm,0.4s,mb3.8,baz=32,slow=4.4,SNR=3.0
CLL Collm 77.03 330 P P 21 33 13.8 +2.2
comp=Z,logA/T=0.8,mb4.3
TXAR Lajitas Array 85.83 54 P P 21 34 00.3 +2.3
comp=Z,0.6nm,0.7s,mb3.7,baz=288,slow=3.1,SNR=4.1
TXAR Lajitas Array 85.83 54 P P 21 34 00.3 +2.3

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*BJI **07** 21:21:29.6, 84.90N×99.60E, h10km, mb4.8, Ms4.6, Msz4.0*
*MOS **07** 21:21:30.9±0.8, 84.77N×99.97E, h10km, mb4.9/24, Error ellipse: s-maj=65.0km s-min=11.1km az=89.6*
*IDC **07** 21:21:31.1±0.7, 84.84N×99.44E, mb4.0/12, mb1 4.3/13, mb1mx4.1/19, mbtmp4.0/13, ML3.8/1, MS3.7/11, Ms1 3.7/11, ms1mx3.6/21, Error ellipse: s-maj=22.4km s-min=13.5km az=143.0*
*NEIC **07** 21:21:32.6±0.3, 84.88N×99.62E, h10km, mb4.7/25, Error ellipse: s-maj=7.4km s-min=4.3km az=157.0*
ISC 07 21:21:30.9±0.3**, 84.84N**±0.05×**100.0E**±0.4**, h10**km**, n101,** σ**0.85**/97**, mb4.5**/35**, MS3.8**/9**, 1C, North of Severnaya Zemlya**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBS Kingsbay 12.12 293 P P 21 24 22.2 -4.1
TIXI Tiksi 14.14 141 eP P 21 24 54.8 +2.0
TIXI pmax pmax
comp=Z,7.0nm,1.4s
DAG Danmarks Havn 16.44 314 eP P 21 25 20.0 -2.6
DAG Danmarks Havn 16.44 314 i P P 21 25 20.0 -2.6
ARCES ARCESS Array B 19.82 268 P P 21 26 02.7 -1.2
comp=Z,0.4nm,0.3s,baz=21,slow=10,SNR=5.9
ARCES LR LR 21 34 02.1
comp=Z,136nm,18.3s,baz=208,slow=38
ARCES ARCESS Array B 19.82 268 P P 21 26 02.7 -1.2
ARCES LR LR 21 34 02.1
RES Resolute Bay 20.47 11 eP P 21 26 07.6 -3.2
RES pmax pmax
comp=Z,11nm,1.4s
RES Resolute Bay 20.47 11 eP P 21 26 07.6 -3.2
comp=Z,11nm,1.4s
BILL Bilibino 20.54 101 eP P 21 26 11.3 -0.3
BILL pmax pmax
comp=Z,21nm,1.2s
BILL Bilibino 20.54 101 eP P 21 26 11.3 -0.2
comp=Z,21nm,1.2s
INK Inuvik 25.24 45 eP P 21 26 58.6 +0.9
INK pmax pmax
comp=Z,37nm,1.2s
INK Inuvik 25.24 45 P P 21 26 59.2 +1.5
comp=Z,12nm,1.2s,mb4.3,baz=1.8,slow=13,SNR=13
INK Inuvik 25.24 45 eP P 21 26 58.6 +0.9
comp=Z,37nm,1.2s,mb4.8
IMA Indian Mountai 25.99 63 eP P 21 27 06.1 +1.4
IMA e 21 27 16.4
FINES FINESS Array B 27.70 263 P P 21 27 19.7 -0.7
comp=Z,3.7nm,0.8s,mb4.0,baz=8.1,slow=14,SNR=8.4
FINES LR LR 21 38 59.8
comp=Z,97nm,18.0s,MS3.4,baz=207,slow=38
FINES FINESS Array B 27.70 263 P P 21 27 19.7 -0.7
FINES LR LR 21 38 59.8
ILAR Eielson Array 27.80 58 P P 21 27 22.5 +1.2
comp=Z,0.7nm,0.8s,baz=348,slow=8.3,SNR=9.8
ILAR LR LR 21 37 43.2
comp=Z,103nm,19.1s,baz=2.1,slow=35
NOA NORSAR Array B 29.43 278 P P 21 27 35.5 -0.6
comp=Z,1.4nm,0.8s,mb3.7,baz=12,slow=7.8,SNR=3.3
FRB Frobisher Bay 31.51 350 LR LR 21 38 40.6
comp=Z,127nm,21.4s,MS3.6,baz=314,slow=33
YKA Yellowknife Ar 32.06 30 P P 21 27 58.1 -1.2
comp=Z,0.8nm,0.7s,mb3.6,baz=352,slow=9.1,SNR=19
CHKZ Chkalovo 32.07 213 eP P 21 27 57.9 -1.6
CHKZ pmax pmax
comp=Z,12nm,1.3s,mb4.6
CHKZ Chkalovo 32.07 213 eP P 21 27 57.9 -1.6
comp=Z,12nm,1.3s,mb4.6
IRK Irkutsk 32.77 175 eP P 21 28 03.8 -1.7
IRK pmax pmax
comp=Z,16nm,1.6s,mb4.7
DLBC Dease Lake 35.27 44 LR LR 21 41 55.9
comp=Z,180nm,20.4s,MS3.8,baz=251,slow=35
BSEG Bad Segeberg 36.54 277 eP P 21 28 38.4 +0.6
ULN Ulaanbaatar 37.18 172 eP P 21 28 42.5 -0.8
comp=Z,171nm,1.1s
SONM Songino Array 37.20 173 P P 21 28 44.2 +0.7
comp=Z,4.0nm,0.9s,mb4.3,baz=344,slow=8.1,SNR=15
AKASG Malin Array Be 38.04 257 P P 21 28 49.8 -0.8
comp=Z,3.4nm,0.8s,mb4.1,baz=8.2,slow=8.7,SNR=13
CLZ Clausthal 38.61 276 eP P 21 28 56.0 +0.7
comp=Z,17nm,1.4s,mb4.6
CLL Collm 38.90 273 i P P 21 28 57.1 -0.6
CLL pmax pmax
comp=Z,17nm,1.5s,mb4.5
CLL Collm 38.90 273 i P P 21 28 57.1 -0.6
comp=Z,17nm,1.5s,mb4.5
CLL i 21 29 11.0
CLL Collm 38.90 273 P P 21 28 57.1 -0.6
comp=Z,logA/T=1.1,mb4.6
CLL i 21 29 11.0
BRG Berggiesshubel 39.25 272 eP P 21 29 00.7 +0.1
BRG e 21 29 09.5
BRG pmax pmax
comp=Z,11nm,1.4s,mb4.4
BRG Berggiesshubel 39.25 272 eP P 21 29 00.7 +0.1
comp=Z,11nm,1.4s,mb4.4
BRG e 21 29 09.5
BRG e 21 44 22.6
DPC Dobruska-Polom 39.55 270 eP P 21 29 03.3 +0.2
MOX Moxa 39.68 275 eP P 21 29 04.7 +0.5
MOX pmax pmax
comp=Z,22nm,1.4s,mb4.7
MOX Moxa 39.68 275 eP P 21 29 04.7 +0.5
comp=Z,22nm,1.4s,mb4.7
MOX Moxa 39.68 275 i P P 21 29 04.7 +0.5
comp=Z,logA/T=1.2,mb4.7
OKC Ostrava-Krasne 39.89 268 eP P 21 29 06.4 +0.4
NKC Novy Kostel 40.02 274 eP P 21 29 07.7 +0.7
PRU Pruhonice 40.07 272 eP P 21 29 08.2 +0.8
GRA1 Grafenberg Arr 40.66 275 eP P 21 29 13.0 +0.7
comp=Z,31nm,1.2s,mb4.8
GRF Grafenberg Arr 40.66 275 eP P 21 29 13.0 +0.7
GRF pmax pmax
comp=Z,31nm,1.2s,mb4.8
GRF Grafenberg Arr 40.66 275 eP P 21 29 13.0 +0.7
GRF pmax pmax
comp=Z,31nm,1.2s,mb4.8
GRF Grafenberg Arr 40.66 275 eP P 21 29 13.0 +0.7
comp=Z,31nm,1.2s,mb4.8
GIVF Givet 40.83 281 eP P 21 29 13.7 +0.1
BAIF Baives 40.93 282 eP P 21 29 14.9 +0.5
comp=Z,26nm,1.3s,mb4.4
BAIF Baives 40.93 282 eP P 21 29 14.9 +0.5
BAIF pmax pmax
comp=Z,13nm,1.3s,mb4.4
KHC Kasperske Hory 41.01 272 eP P 21 29 16.0 +0.9
GEC2 GERESS Array S 41.28 272 eP P 21 29 18.1 +0.8
GEC2 pmax pmax

comp=Z,22nm,1.8s,mb4.5
GEC2 GERESS Array S 41.28 272 *e*P **P** **21 29 18.1 +0.8**
comp=Z,22nm,1.8s,mb4.5
GERES **GERESS Array B 41.28 272** P **P** **21 29 17.7 +0.3**
comp=Z,1.6nm,0.9s,mb3.7,baz=18,slow=8.4,SNR=10
BBB Bella Bella 41.62 44 LR LR 21 44 57.7
comp=Z,187nm,19.5s,MS4.0,baz=189,slow=34
CDF Champ du Feu 42.29 278 *e*P **P** **21 29 26.2 +0.8**
comp=Z,30nm,1.3s,mb4.5
CDF Champ du Feu 42.29 278 *e*P **P** **21 29 26.2 +0.8**
CDF pmax pmax
comp=Z,15nm,1.3s,mb4.5
GOF Gofitskoye 42.48 242⇑ *i*P **P** **21 29 27.0 -0.1**
GOF pmax pmax
comp=Z,13nm,1.3s,mb4.4
FRU Bishkek 42.71 208 *e*P **P** **21 29 30.0 +1.0**
HAU Haudompre 42.77 279 *e*P **P** **21 29 30.0 +0.6**
comp=Z,19nm,0.9s,mb4.5
HINF Hinteralfeld 42.91 279 *e*P **P** **21 29 30.9 +0.3**
AAK Ala-Archa 42.92 208 *e*P **P** **21 29 30.4 -0.3**
AAK pmax pmax
comp=Z,11nm,1.4s,mb4.4
AAK Ala-Archa 42.92 208 *e*P **P** **21 29 30.4 -0.3**
comp=Z,11nm,1.4s,mb4.4
KIV Kislovodsk 43.60 242 *e*P **P** **21 29 35.7 -0.5**
KIV pmax pmax
comp=Z,13nm,1.1s,mb4.6
KIV Kislovodsk 43.60 242 *e*P **P** **21 29 35.7 -0.6**
comp=Z,13nm,1.1s,mb4.6
SSF Saint Saulge 43.96 282 *e*P **P** **21 29 39.0 -0.1**
SSF pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
SSF Saint Saulge 43.96 282 *e*P **P** **21 29 39.0 -0.1**
comp=Z,10nm,1.2s,mb4.4
CABF La Chapelle 44.18 279 *e*P **P** **21 29 41.4 +0.5**
AVF Avril sur Loir 44.24 282 *e*P **P** **21 29 41.6 +0.2**
comp=Z,44nm,1.5s,mb4.7
AVF Avril sur Loir 44.24 282 *e*P **P** **21 29 41.6 +0.2**
AVF pmax pmax
comp=Z,22nm,1.5s,mb4.7
HHC Hu-ho-hao-te 44.27 167 *e*P **P** **21 29 41.3 -0.4**
HHC XP sP 21 29 47.2 +1.3
HHC PP PP 21 31 27.2 +0.8
HHC S **S** **21 36 10.9 -3.9**
HHC SS SS 21 39 22.9 -2.1
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.0
HHC LR LR
comp=N,188nm,16.1s
HHC LR LR
comp=E,257nm,9.5s
HHC LR LR
comp=Z,128nm,14.9s,MS4.0
SMF Signal de Mont 44.34 281 *e*P **P** **21 29 41.8 -0.4**
comp=Z,47nm,1.5s,mb4.7
SMF Signal de Mont 44.34 281 *e*P **P** **21 29 41.8 -0.4**
SMF pmax pmax
comp=Z,23nm,1.5s,mb4.7
BGF Bois d'Agland 44.52 282 *e*P **P** **21 29 43.7 +0.1**
comp=Z,32nm,1.0s,mb4.8
BGF Bois d'Agland 44.52 282 *e*P **P** **21 29 43.7 +0.1**
BGF pmax pmax
comp=Z,16nm,1.0s,mb4.8
MFF Saint Martin d 44.74 285 *e*P **P** **21 29 45.5 +0.1**
comp=Z,52nm,1.6s,mb4.8
MFF Saint Martin d 44.74 285 *e*P **P** **21 29 45.5 +0.1**
MFF pmax pmax
comp=Z,26nm,1.6s,mb4.8
TCF Toulx Ste Croi 44.84 283 *e*P **P** **21 29 46.1 -0.1**
ULM Lac du Bonnet 44.95 14 LR LR 21 47 37.6
comp=Z,110nm,19.0s,MS3.8,baz=15,slow=35
LPL La Plagne 45.21 278 *e*P **P** **21 29 50.2 +1.1**
LPG La Plagne 45.22 278 *e*P **P** **21 29 50.6 +1.3**
RJF Les Rejaudoux 45.88 284 *e*P **P** **21 29 54.5 0.0**
NEW Newport 46.15 34 *e*P **P** **21 29 57.5 +0.9**
NEW pmax pmax
comp=Z,31nm,1.5s
NEW Newport 46.15 34 *e*P **P** **21 29 57.5 +1.0**
comp=Z,31nm,1.5s,mb5.0
SBF Sospel 46.78 277 *e*P **P** **21 30 01.3 -0.3**
comp=Z,73nm,1.2s,mb5.2
SBF Sospel 46.78 277 *e*P **P** **21 30 01.3 -0.3**
SBF pmax pmax
comp=Z,37nm,1.2s,mb5.2
GNI Garni 47.23 239 LR LR 21 49 28.6
comp=Z,80nm,21.2s,MS3.6,baz=334,slow=36
HRY Holter Researc 47.95 29 *e*P **P** **21 30 11.0 +0.2**
BOZ Bozeman (W) 49.02 29 *e*P **P** **21 30 19.6 +0.5**
BOZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BOZ Bozeman (W) 49.02 29 *e*P **P** **21 30 19.6 +0.5**
comp=Z,9.5nm,1.0s,mb4.8
BMO Blue Mountains 49.55 35 *e*P **P** **21 30 22.9 -0.2**
QLMT Earthquake Lak 49.85 29 *e*P **P** **21 30 25.5 +0.1**
IMW Indian Meadow 50.80 29 *e*P **P** **21 30 32.5 -0.2**
IMW *e* 21 30 40.9
BW06 Boulder Array 51.99 27 *e*P **P** **21 30 41.8 +0.1**
comp=Z,6.5nm,1.3s,mb4.4
PDAR Pinedale Array 51.99 27 P **P** **21 30 41.8 0.0**
comp=Z,1.0nm,0.9s,mb3.7,baz=14,slow=6.1,SNR=7.6
PDAR LR LR 21 54 48.8
comp=Z,64nm,19.5s,MS3.7,baz=193,slow=38
HWUT Hardware Ranch 53.06 29 *e*P **P** **21 30 49.5 -0.3**
comp=Z,20nm,1.4s,mb4.8
HWUT *e* 21 30 57.2
NVAR Mina Array Bea 55.90 36 P **P** **21 31 11.0 +0.4**
comp=Z,0.2nm,0.5s,baz=6.3,slow=8.2,SNR=2.7
NVAR LR LR 21 53 35.2
comp=Z,52nm,21.6s,slow=34
PV01 Paradox Valley 56.65 27 *e*P **P** **21 31 15.5 -0.5**
GYA Guiyang 58.54 173 P **P** **21 31 29.2 -0.2**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
WMOK Wichita Mounta 60.37 18 P **P** **21 31 40.1 -1.9**
MNTX Cornudas Mount 63.19 24 *e*P **P** **21 31 59.4 -1.5**
TXAR Lajitas Array 65.60 23 P **P** **21 32 15.8 -0.7**
comp=Z,1.7nm,0.8s,mb4.1,baz=339,slow=4.1,SNR=12
TXAR LR LR 22 01 15.0
comp=Z,121nm,18.6s,MS4.1,baz=290,slow=36
CMAR Chiang Mai Arr 66.47 181 P **P** **21 32 21.0 -1.2**
comp=Z,1.3nm,0.7s,mb4.1,baz=355,slow=8.0,SNR=10

*JMA **07** 21:24:41.8±0.3,33.85N×142.57E,h56km,M3.8*
*IDC **07** 21:24:45.5±1.5,33.01N×142.18E,mb3.8/3,mb1 4.2/3, mb1mx3.7/18,mbtmp3.8/3,Error ellipse: s-maj=36.8km s-min=26.7km az=180.0*
ISC 07 21:24:42.9±1.6,33.86N±0.07×142.5E±0.1,h47km±18km, n12,σ0s89/18,mb3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.48**	**303**	P	**P**	**21 25 07.4**	**-0.1**
BSO1				S	**S**	**21 25 27.3**	**+1.5**
BSO3	**Boso 3**	**1.88**	**300**	P	**P**	**21 25 13.7**	**+0.5**
BSO3				*e*S	**S**	**21 25 37.9**	**+2.1**
BSO4	**Boso 4**	**2.10**	**303**	P	**P**	**21 25 17.0**	**+0.7**
CHOJ	**Chosi**	**2.27**	**324**	P	**P**	**21 25 18.6**	**-0.2**
CHOJ				*e*S	**S**	**21 25 46.1**	**+0.4**
JHJ2	**Mitsune**	**2.35**	**252**	P	**P**	**21 25 20.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.37**	**253**	Pn	**P**	**21 25 19.9**	**-0.3**
	49nm,0.3s,baz=55,slow=22,SNR=8.3						
JHJ				Sn	**S**	**21 25 47.8**	**-0.5**
	76nm,0.3s,baz=55,slow=20,SNR=10						
JOD2	**Odawara 2**	**3.13**	**297**	P	**P**	**21 25 30.1**	**-0.9**
JOD2				*e*S	**S**	**21 26 06.7**	**-0.8**
JAG	**Ashikaga**	**3.56**	**317**	P	**P**	**21 25 36.4**	**-0.7**
JAG				*e*S	**S**	**21 26 16.3**	**-2.1**
JYN	**Shimob**	**3.63**	**298**	*e*S	**S**	**21 26 20.0**	**-0.2**
WRA	**Warramunga Arr**	**54.06**	**189**	P	**P**	**21 34 05.2**	**-0.1**
	1.3nm,0.5s,mb4.2,baz=6.5,slow=7.5,SNR=12						
ASAR	**Alice Springs**	**57.79**	**189**	P	**P**	**21 34 32.5**	**+0.6**
	0.6nm,0.8s,mb3.7,baz=21,slow=10.0,SNR=3.8						
NVAR	**Mina Array Bea**	**76.19**	**53**	P	**P**	**21 36 40.1**	**+12**
	0.6nm,0.8s,mb3.6,baz=270,slow=5.4,SNR=3.8						

*NEIC **07** 21:26:57.1,34.75N×26.44E,h5km,MD3.5(ATH),After ATH.*
*CSEM **07** 21:26:57.1,34.75N×26.44E,h5km,MD3.5/5,After ATH*
ATH 07 21:26:57.1,34.75N×26.44E,h5km,MD3.5/5,1C,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**0.63**	**282**	*e*PB	Pb	21 27 10.0	-0.1
XRY				*e*SB	Sb	21 27 18.0	-0.9
NPS	**Neapolis**	**0.85**	**307**⇑	*i*PG	Pg	21 27 12.8	-1.3
NPS				*e*SB	Sb	21 27 25.0	-0.4
KARP	**Karpathos**	**0.99**	**36**	*e*PG	Pg	21 27 15.5	-1.4
KARP				*e*SB	Sb	21 27 30.5	+1.0
SANT	**Santorini**	**1.80**	**334**	*e*P	Pn	21 27 28.5	-0.6
ARG	**Arkhangelos**	**2.01**	**43**	*e*PN	Pn	21 27 35.0	+2.9
APE	**Apeiranthos**	**2.43**	**343**	*e*PN	Pn	21 27 41.0	+2.9

*IDC **07** 21:32:27.5±0.6,9.31N×91.77E,mb4.4/16,mb1 4.4/17, mb1mx4.3/22,mbtmp4.3/17,ML4.4/1,MS4.1/5,Ms1 4.2/5, ms1mx3.9/15,Error ellipse: s-maj=19.8km s-min=14.3km az=54.0*
*MOS **07** 21:32:30.5±0.9,9.32N×91.84E,h33km,mb4.7/13,Error ellipse: s-maj=12.0km s-min=7.7km az=87.6*
*BJI **07** 21:32:30.2,9.37N×91.84E,h28km,mB5.0,mb4.9,Ms4.7, Msz4.3*
*NEIC **07** 21:32:32.6±1.4,9.31N×91.83E,h35km±12km,mb4.9/26, MS4.5/1,Error ellipse: s-maj=8.8km s-min=5.8km az=47.0*
*HRVD **07** 21:32:32.6±1.0,9.05N×91.31E,h29km±3km,MW4.8/27, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s27,c34; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.06±.26; $M_{\theta\theta}$0.06±.15; $M_{\phi\phi}$-1.12±.15; $M_{r\theta}$-0.14±.31; $M_{\theta\phi}$0.65±.10; $M_{\phi r}$-1.03±.27; Best double couple: $M_0$1.638×10^{16} NP1:φs312°,δ32°,λ49°. NP2:φs178°,δ67°,λ112°. Principal axes: T 1.568, Plg62°, Azm123°; N .135, Plg21°, Azm348°; P -1.707, Plg19°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 21:32:29.4±0.3,9.28N±0.04×91.81E±0.03,h28km, h28km±2.1km:pP-P,n123,σ1s10/144,mb4.7/49,MS4.3/18, 10C-3D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**8.45**	**66**	P	**P**	**21 34 33.0**	**-0.1**
NST	**Nakhon Sawan**	**10.31**	**51**	P	**P**	**21 34 59.5**	**+0.6**
CM31	**Chiang Mai Arr**	**11.45**	**36**	*e*P	**P**	**21 35 12.9**	**-1.5**
	5.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.45**	**36**	*i*P	**P**	**21 35 13.2**	**-1.2**
CMAR				pmax	pmax		
	comp=Z,12nm,0.9s						
CMAR	**Chiang Mai Arr**	**11.45**	**36**	Pn	**P**	**21 35 13.2**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=232,slow=14,SNR=39						
CMAR				Sn	**S**	**21 37 24.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=236,slow=24,SNR=3.2						
CMAR				LR	LR	21 39 18.6	
	comp=Z,535nm,21.9s,baz=220,slow=36						
CMAR				ScP		21 44 38.5	
	baz=236,slow=2.2,SNR=4.4						
CHG	**Chiang Mai**	**11.73**	**35**	P	**P**	**21 35 16.8**	**-1.4**
VIS	**Vishakhapatnam**	**11.76**	**316**	*e*P	**P**	**21 35 15.0**	**-3.6**
VIS				AMb	AMB	21 35 25.2	
	comp=Z,91nm,1.5s						
VIS				*e*S	**S**	**21 37 13.4**	**-17**
VIS				*e*T		21 46 49.7	
MDRS	**Chennai**	**11.95**	**289**	*e*P	**P**	**21 35 18.0**	**-3.2**
MDRS				*e*		21 35 29.0	
MDRS				*e*		21 37 11.0	
BWNR	**Bhubaneshwar**	**12.39**	**333**	*e*P	**P**	**21 35 21.5**	**-5.6**
BWNR				AMb	AMB	21 35 24.5	
	comp=Z,28nm,0.1s						
BWNR				*e*S	**S**	**21 37 28.4**	**-17**
NANT	**Nan**	**12.80**	**41**	⇑P	**P**	**21 35 30.0**	**-2.5**
	comp=Z,62nm,1.0s						
KKTK	**Khon Kaen**	**12.82**	**56**	P	**P**	**21 35 37.0**	**+4.2**
	comp=Z,556nm,0.9s						
CHRT	**Chiangrai**	**13.05**	**35**	⇑P	**P**	**21 35 36.0**	**+0.2**
HYB	**Hyderabad**	**15.22**	**303**⇑	*e*P	**P**	**21 36 10.0**	**+5.6**
	comp=Z,50nm,1.0s						
HYB				*e*S	**S**	**21 38 48.0**	**-4.6**
HYB	**Hyderabad**	**15.22**	**303**⇑	*i*P	**P**	**21 36 10.0**	**+5.6**
	comp=Z,50nm,1.0s						
HYB				*e*S	**S**	**21 38 48.0**	**-4.6**
BLSP	**Bilaspur**	**15.80**	**325**	*e*P	**P**	**21 36 09.2**	**-2.7**
BLSP				*e*		21 36 21.3	
	comp=Z,44nm,1.9s						
BLSP				*e*		21 38 53.1	
MNGI	**Mangalore**	**17.06**	**284**	*e*P	**P**	**21 36 27.3**	**-0.6**
	comp=Z,85nm,1.6s						
MNGI				*e*S	**S**	**21 39 35.2**	**-0.1**
LATR	**Latur**	**17.36**	**303**	*e*P	**P**	**21 36 31.5**	**-0.1**
KMI	**Kunming**	**18.88**	**32**	⇑P	**P**	**21 36 51.1**	**+0.8**
KMI				AP		21 37 00.6	
KMI				XP		21 37 04.3	
KMI				PP	PP	21 37 10.4	+3.8
KMI				S	**S**	**21 40 23.5**	**+7.1**
KMI				AMB	AMB		
	comp=Z,27nm,1.2s						
KMI				AMB	AMB		
	comp=Z,293nm,7.1s						
KMI				LR	LR		
	comp=N,1μm,16.6s						
KMI				LR	LR		
	comp=E,973nm,15.1s						
KMI				LR	LR		
	comp=Z,937nm,16.2s						
KMI	**Kunming**	**18.88**	**32**	P	**P**	**21 36 51.1**	**+0.8**
KMI				S	**S**	**21 40 23.5**	**+7.1**
KMI	**Kunming**	**18.88**	**32**	⇑P	**P**	**21 36 51.1**	**+0.8**
	comp=Z,27nm,1.2s						
KMI				pP		21 37 00.6	
KMI				sP		21 37 04.3	
KMI				PP	PP	21 37 10.4	+3.8
KMI				S	**S**	**21 40 23.5**	**+7.1**
KMI				sS		21 40 39.3	
KMI				SS	SS	21 40 49.8	+8.1
KAD	**Karad**	**18.91**	**297**	*e*P	**P**	**21 36 52.0**	**+1.4**
KAD				*e*		21 39 58.5	
JIRN	**Jiri**	**19.04**	**345**	*e*P	**P**	**21 36 52.0**	**-0.1**
	comp=Z,47nm,0.6s						
PKI	**Pulchoki**	**19.17**	**342**	*e*P	**P**	**21 36 54.1**	**+0.4**
	comp=Z,45nm,0.6s						
DMN	**Daman**	**19.30**	**342**	*e*P	**P**	**21 36 55.3**	**+0.1**
	comp=Z,68nm,0.8s						
KKN	**Kakani**	**19.42**	**342**	*e*P	**P**	**21 36 56.3**	**-0.2**
BHPL	**Bhopal**	**19.56**	**317**	*e*P	**P**	**21 36 57.8**	**-0.3**
BHPL				*e*		21 37 11.8	
	comp=Z,55nm,1.3s						
BHPL				*e*		21 40 22.9	
POO	**Poona**	**19.69**	**300**	*e*P	**P**	**21 36 59.6**	**-0.1**
POO				*e*		21 37 00.1	
	comp=Z,32nm,0.7s						
POO				*i*		21 40 11.0	
GKN	**Gorkha**	**19.82**	**341**	*e*P	**P**	**21 37 00.0**	**-1.0**
KOLN	**Koldanda**	**19.96**	**338**	*e*P	**P**	**21 37 01.6**	**-0.9**
	comp=Z,36nm,0.6s						
KSM	**Kuching**	**19.97**	**112**	*e*P	**P**	**21 37 01.6**	**-1.1**
QIZ	**Qiongzhong**	**19.97**	**59**	P	**P**	**21 37 02.0**	**-0.7**
QIZ				AMB	AMB		
	comp=Z,29nm,0.8s						
QIZ				AMB	AMB		
	comp=Z,287nm,6.7s						
QIZ				LR	LR		
	comp=N,1μm,15.2s						
QIZ				LR	LR		
	comp=Z,815nm,12.9s						
QIZ	**Qiongzhong**	**19.97**	**59**	*e*P	**P**	**21 37 01.2**	**-1.5**
	comp=Z,87nm,1.5s						
LSA	**Lhasa**	**20.33**	**358**	P	**P**	**21 37 02.4**	**-3.9**
LSA				AP		21 37 10.5	
LSA				XP		21 37 15.2	
LSA				S	**S**	**21 40 48.3**	**+0.7**
LSA				PCS		21 44 54.6	
LSA				SCS	ScS	21 48 32.1	-1.2
LSA				LR	LR		
	comp=E,1μm,15.3s						
LSA				LR	LR		
	comp=Z,560nm,17.6s,MS4.0						
LSA	**Lhasa**	**20.33**	**358**	*e*P	**P**	**21 37 06.3**	**0.0**
	comp=Z,40nm,0.8s						
BOM	**Bombay**	**20.74**	**299**	*e*P	**P**	**21 37 12.2**	**+1.6**
BOM				*e*		21 40 55.2	
GYA	**Guiyang**	**22.14**	**38**⇑	*i*P	**P**	**21 37 25.1**	**+0.4**
GYA				AP		21 37 34.2	
GYA				XP		21 37 38.6	
GYA				PP	PP	21 37 53.4	+2.2
GYA				S	**S**	**21 41 24.5**	**+2.5**
GYA				AMB	AMB		
	comp=Z,60nm,1.1s,mb4.9						
GYA				AMB	AMB		
	comp=Z,220nm,3.3s						
GYA				LR	LR		
	comp=N,910nm,13.4s,MS4.5						
GYA				LR	LR		
	comp=E,640nm,13.2s,MS4.5						
GYA				LR	LR		
	comp=Z,930nm,11.0s,MS4.5						
AJM	**Ajmer**	**23.60**	**319**	*i*P	**P**	**21 37 41.0**	**+1.9**
NDI	**New Delhi**	**23.68**	**327**	*e*P	**P**	**21 37 40.0**	**+0.2**
NDI				*e*		21 42 20.0	
CD2	**Chengdu**	**24.23**	**26**	P	**P**	**21 37 46.0**	**+0.8**
CD2				AMB	AMB		
	comp=Z,140nm,0.7s,mb5.5						
CD2				AMB	AMB		
	comp=Z,410nm,7.7s						
CD2				LR	LR		
	comp=N,2μm,13.8s						
CD2				LR	LR		
	comp=Z,670nm,13.2s,MS4.3						
DDI	**Dehra Dun**	**24.56**	**330**	*e*P	**P**	**21 37 49.5**	**+1.1**
DDI				*e*		21 42 25.0	
SMLA	**Simla**	**25.66**	**330**	*i*P	**P**	**21 37 58.4**	**-0.4**
ENH	**Enshi**	**26.62**	**36**	*e*P	**P**	**21 38 06.6**	**-1.1**
	comp=Z,72nm,1.2s,mb5.1						
LZH	**Lanzhou**	**28.85**	**20**	⇑P	**P**	**21 38 28.2**	**+0.4**
LZH				AP	pP	21 38 37.7	+1.8
LZH				XP	sP	21 38 42.1	+2.6
LZH				PP	PP	21 39 22.0	+0.7
LZH				S	**S**	**21 43 16.2**	**+1.5**
LZH				XS		21 43 31.0	
LZH				SS	SS	21 44 46.4	+3.3
LZH				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,210nm,4.6s						
LZH				LR	LR		
	comp=E,1μm,16.5s						
LZH				LR	LR		
	comp=Z,1μm,21.6s						
LZH	**Lanzhou**	**28.85**	**20**	P	**P**	**21 38 28.2**	**+0.4**
LZH				S	**S**	**21 43 16.2**	**+1.5**
LZH	**Lanzhou**	**28.85**	**20**	⇑P	**P**	**21 38 28.2**	**+0.4**
	comp=Z,70nm,1.1s,mb5.3						
LZH				pP	pP	21 38 37.7	+1.8
LZH				sP	sP	21 38 42.1	+2.6
LZH				PP	PP	21 39 22.0	+0.7
LZH				S	**S**	**21 43 16.2**	**+1.5**
LZH				sS		21 43 31.0	
LZH				SS	SS	21 44 46.4	+3.3
LZH				LR	LR		
	comp=Z,1μm,21.6s,MS4.5						
XAN	**Xi'an**	**29.23**	**30**	P	**P**	**21 38 29.2**	**-2.1**
XAN				AP	pP	21 38 36.0	-3.4
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
WHN	**Wuhan**	**29.83**	**42**	*e*P	**P**	**21 38 37.0**	**+0.3**
GTA	**Gaotai**	**30.85**	**12**	P	**P**	**21 38 46.2**	**+0.6**
GTA				AP	pP	21 38 56.8	+3.1
GTA				XP	sP	21 39 00.8	+3.5
GTA				PP	PP	21 39 49.3	+2.1
GTA				S	**S**	**21 43 48.5**	**+2.1**
GTA				XS		21 44 04.5	
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,71nm,4.2s						
GTA				LR	LR		
	comp=N,365nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,387nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,358nm,20.2s,MS4.0						
NJ2	**Nanjing**	**33.78**	**44**	*e*P	**P**	**21 39 12.2**	**+0.9**
NJ2				AP	pP	21 39 21.4	+1.9
NJ2				XP	sP	21 39 25.1	+2.1
NJ2				PP	PP	21 40 24.5	-0.2
NJ2				S	**S**	**21 44 29.0**	**-3.2**
NJ2				XS		21 44 46.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.7s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,230nm,9.4s						
NJ2				LR	LR		
	comp=N,1μm,23.6s,MS4.7						
NJ2				LR	LR		
	comp=E,1μm,20.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,1μm,19.8s,MS4.5						
WMQ	**Urumqi**	**34.60**	**355**⇓	*i*P	**P**	**21 39 19.4**	**+1.2**
WMQ				AP	pP	21 39 27.0	+0.6
WMQ				XP	sP	21 39 30.5	+0.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,208nm,5.0s						
WMQ				LR	LR		
	comp=N,479nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=E,932nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,344nm,23.3s,MS4.0						
SSE	**Sheshan**	**34.90**	**47**	P	**P**	**21 39 17.6**	**-3.3**
SSE				XP	sP	21 39 29.8	-2.8
SSE				PP	PP	21 40 37.1	-1.8
SSE				PCP	PcP	21 41 49.3	-4.2
SSE				S	**S**	**21 44 47.6**	**-1.8**
SSE				XS		21 45 02.5	
SSE				SCP		21 45 33.7	
SSE				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
SSE				AMB	AMB		
	comp=Z,82nm,6.7s						
SSE				LR	LR		
	comp=N,195nm,19.5s,MS4.0						
SSE				LR	LR		
	comp=E,147nm,19.9s,MS4.0						
SSE				LR	LR		
	comp=Z,130nm,14.0s						
SSE	**Sheshan**	**34.90**	**47**	P	**P**	**21 39 17.6**	**-3.3**
	comp=Z,15nm,0.8s,mb5.0						
SSE				sP	sP	21 39 29.8	-2.8
SSE				PP	PP	21 40 37.1	-1.8
SSE				PcP	PcP	21 41 49.3	-4.2
SSE				S	**S**	**21 44 47.6**	**-1.8**
SSE				sS		21 45 02.5	
SSE				ScP		21 45 33.7	
SSE				LR	LR		
	comp=Z,130nm,14.0s,MS3.8						
HHC	**Hu-ho-hao-te**	**35.99**	**26**	*e*P	**P**	**21 39 30.3**	**+0.2**
HHC				AP	pP	21 39 37.7	-0.6
HHC				XP	sP	21 39 40.8	-1.0
HHC				PP	PP	21 40 51.8	-0.3
HHC				S	**S**	**21 45 08.8**	**+2.5**
HHC				XS		21 45 20.6	
HHC				SCS	ScS	21 49 44.7	+1.0
HHC				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,113nm,6.5s						
HHC				LR	LR		
	comp=N,497nm,13.1s,MS4.6						
HHC				LR	LR		
	comp=E,472nm,14.9s,MS4.6						
HHC				LR	LR		
	comp=Z,448nm,14.9s,MS4.4						
AAK	**Ala-Archa**	**36.53**	**338**	*i*P	**P**	**21 39 34.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.0						
AAK	**Ala-Archa**	**36.53**	**338**	*e*P	**P**	**21 39 33.9**	**-0.7**
	comp=Z,18nm,1.4s,mb4.7						
FRU	**Bishkek**	**36.66**	**339**	*e*P	**P**	**21 39 48.5**	**+13**
BJT	**Baijiatuau**	**37.52**	**31**	*e*P	**P**	**21 39 43.5**	**+0.6**
	comp=Z,25nm,0.9s,mb5.0						
BJI	**Beijing**	**37.54**	**31**	*e*P	**P**	**21 39 43.7**	**+0.6**
BJI				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.1						
BJI				LR	LR		
	comp=N,384nm,20.8s,MS4.4						
BJI				LR	LR		
	comp=E,480nm,17.2s,MS4.4						
BJI				LR	LR		
	comp=Z,311nm,28.4s						
BJI	**Beijing**	**37.54**	**31**	*e*P	**P**	**21 39 43.7**	**+0.6**
	comp=Z,31nm,0.8s,mb5.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
BJI				S	S	21 45 39.2	+9.2
BJI				LR	LR		
	comp=Z,310nm,28.4s,MS4.0						
JOW	Kunigami	38.63	58	P	P	21 39 55.0	+2.6
	comp=Z,6.9nm,0.7s,mb4.5,baz=286,slow=7.7,SNR=3.5						
SONM	Songino Array	40.36	15	P	P	21 40 07.3	+0.8
	comp=Z,8.9nm,0.9s,mb4.5,baz=198,slow=8.7,SNR=72						
ULN	Ulaanbaatar	40.56	16	iP	P	21 40 08.6	+0.5
ULN	Ulaanbaatar	40.56	16	eP	P	21 40 08.2	0.0
	comp=Z,7.2nm,1.0s,mb4.3						
ZAK	Zakamensk	42.07	11	⇑iP	P	21 40 20.7	+0.2
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.9s						
KURK	Kurchatov	42.73	348	P	P	21 40 26.0	+0.1
	comp=Z,122nm,1.1s,mb5.5,SNR=12						
KURK	Kurchatov	42.73	348	iP	P	21 40 26.7	+0.8
KURK	Kurchatov	42.73	348	eP	P	21 40 25.6	-0.3
	comp=Z,35nm,1.3s,mb4.9						
SNY	Shenyang	42.81	35	⇓P	P	21 40 27.3	+0.6
SNY				S	S	21 46 52.0	+3.2
SNY				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
SNY				LR	LR		
	comp=E,580nm,16.1s						
SNY				LR	LR		
	comp=Z,380nm,17.1s,MS4.4						
CN2	Changchun	45.13	34	eP	P	21 40 45.8	+0.4
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
HIA	Hailar	46.19	25	eP	P	21 40 53.1	-0.5
	comp=Z,22nm,1.1s,mb5.0						
RAYN	Ar Rayn	46.41	294	P	P	21 40 57.9	+2.1
	comp=Z,66nm,0.7s,SNR=14						
BVAR	Borovoye Array	46.94	342	P	P	21 40 59.5	-0.1
	comp=Z,3.2nm,0.9s,mb4.2,baz=141,slow=9.5,SNR=14						
CHKZ	Chkalovo	47.45	343	eP	P	21 41 03.0	-0.6
	comp=Z,29nm,0.6s,mb5.4						
NWAO	Narrogin (SRO)	48.46	151	P	P	21 41 12.3	+0.6
	comp=Z,4.8nm,0.8s,mb4.6,baz=308,slow=12,SNR=3.9						
WRA	Warramunga Arr	50.95	125	iP	P	21 41 30.7	-0.2
WRA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	Warramunga Arr	50.95	125	P	P	21 41 30.7	-0.3
	comp=Z,4.1nm,0.7s,mb4.5,baz=305,slow=8.4,SNR=40						
WRAB	Tennant Creek	50.95	125	iP	P	21 41 31.2	+0.2
WRAB	Tennant Creek	50.95	125	eP	P	21 41 29.9	-1.0
	comp=Z,7.2nm,0.6s,mb4.8						
WB2	Warramunga Arr	50.96	125	eP	P	21 41 30.6	-0.4
BOD	Bodaibo	51.36	15	eP	P	21 41 33.2	-0.4
BOD				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
GNI	Garni	51.81	314	iP	P	21 41 38.4	+1.1
GNI				pmax	pmax		
	comp=Z,9.0nm,1.3s						
GNI	Garni	51.81	314	P	P	21 41 36.8	-0.4
	comp=Z,2.9nm,0.7s,mb4.3,baz=143,slow=4.7,SNR=5.3						
GNI	Garni	51.81	314	eP	P	21 41 36.7	-0.5
	comp=Z,16nm,1.1s,mb4.9						
KLR	Kul'dur	51.90	32	eP	P	21 41 34.4	-3.4
ASPA	Alice Springs	52.58	129	eP	P	21 41 43.1	-0.1
ASAR	Alice Springs	52.58	129	P	P	21 41 42.9	-0.4
	comp=Z,2.0nm,0.6s,mb4.2,baz=306,slow=7.0,SNR=24						
ASAR				PcP	PcP	21 42 54.2	+1.0
	comp=Z,1.5nm,0.9s,baz=312,slow=3.7,SNR=2.6						
ASAR				LR	LR	22 08 01.9	
	comp=Z,198nm,18.4s,MS4.2,baz=175,slow=41						
CLNS	Chul'man	53.96	22	eP	P	21 41 52.7	-0.2
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CLNS				pmax	pmax		
	comp=E,10.0nm,0.8s						
KIV	Kislovodsk	54.74	318	iP	P	21 41 58.9	0.0
KIV				e		21 42 56.2	
KIV				eS	S	21 49 36.2	+0.4
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.9						
KIV	Kislovodsk	54.74	318	eP	P	21 41 57.5	-1.3
	comp=Z,24nm,1.3s,mb5.1						
KMBO	Kilima Mbogo	55.31	262	iP	P	21 42 05.4	+2.0
KMBO				pmax	pmax		
	comp=Z,2.0nm,1.0s						
KMBO	Kilima Mbogo	55.31	262	P	P	21 42 04.7	+1.2
	comp=Z,2.2nm,1.0s,mb4.2,baz=50,slow=11,SNR=5.4						
KMBO				LR	LR	22 02 46.8	
	comp=Z,198nm,19.1s,MS4.2,baz=94,slow=33						
KMBO	Kilima Mbogo	55.31	262	eP	P	21 42 04.2	+0.8
	comp=Z,27nm,1.9s,mb5.0						
MALT	Malatya	55.80	310	eP	P	21 42 05.6	-1.0
	comp=Z,4.5nm,1.0s,mb4.5						
SOC	Sochi	56.58	317	eP	P	21 42 10.2	-2.0
SOC				e		21 43 06.2	
SOC				e		21 44 16.6	
SOC				ePPP	PPP	21 45 31.5	-6.3
SOC				eS	S	21 49 57.3	-3.1
SOC				e		21 51 56.1	
SOC				eSS	SS	21 53 49.1	+0.4
SOC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SOC				pmax	pmax		
	comp=N,19nm,1.4s						
SOC				pmax	pmax		
	comp=E,13nm,1.1s						
SOKR	Solikamsk	56.68	340	⇓iP	P	21 42 11.4	-1.2
SOKR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
SOKR				MLR	MLR		
	comp=Z,230nm,22.0s,MS4.2						
YAK	Yakutsk	59.43	20	eP	P	21 42 31.3	-0.6
YAK				e		21 43 17.1	
YAK				e		21 44 43.4	
YAK				ePPP	PPP	21 46 06.9	-3.1
YAK				eS	S	21 50 35.3	-2.1
YAK				e		21 52 11.8	
YAK				eSS	SS	21 54 33.3	-0.7
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
YAK				pmax	pmax		
	comp=N,1.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,1.0nm,1.5s						
YAK				smax			
	comp=N,10.0nm,1.5s						
YAK				smax			
	comp=E,36nm,2.2s						
YAK	Yakutsk	59.43	20	eP	P	21 42 30.7	-1.2
	comp=E,34nm,0.9s,mb5.4						
VRSR	Storozhevoye	59.91	325	eP	P	21 42 36.2	+0.9
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
VRSR				pmax	pmax		
	comp=N,20nm,2.8s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.9s						
STKA	Stephens Creek	62.74	133	eP	P	21 42 55.2	+0.5
	comp=E,6.7nm,0.8s,mb4.8						
STKA	Stephens Creek	62.74	133	P	P	21 42 55.1	+0.5
	comp=E,7.1nm,0.8s,mb4.8,baz=306,slow=7.2,SNR=13						
OBN	Obninsk	62.97	328	P	P	21 42 54.0	-1.9
OBN				eS	S	21 51 30.6	+8.0
OBN				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.7						
TIXI	Tiksi	66.33	12	iP	P	21 43 16.4	-1.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MA2	Magadan	66.61	28	eP	P	21 43 19.2	-0.2
MA2				eS	S	21 52 06.6	-0.7
MA2				ePS	PS	21 52 49.2	+16
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MA2				MLR	MLR		
	comp=E,300nm,24.0s						
MA2	Magadan	66.61	28	eP	P	21 43 18.6	-0.7
	comp=E,16nm,1.0s,mb5.0						
MA2				epP	pP	21 43 25.3	-2.7
LSZ	Lusaka	67.58	249	eP	P	21 43 26.5	+0.2
MATP	Matopo	68.88	244	P	P	21 43 35.3	+1.0
	comp=E,14nm,1.4s,mb4.7,baz=103,slow=14,SNR=3.2						
FINES	FINESS Array B	70.40	332	iP	P	21 43 41.8	-1.1
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	FINESS Array B	70.40	332	P	P	21 43 41.8	-1.1
	comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=7.8						
LBTB	Lobatse	72.91	240	eP	P	21 43 59.3	+0.7
ARCES	ARCESS Array B	73.17	340	P	P	21 43 59.1	-0.1
	comp=Z,6.3nm,0.9s,mb4.5,baz=72,slow=3.8,SNR=4.3						
ARCES				LR	LR	22 21 18.7	
	comp=Z,218nm,18.2s,MS4.5,baz=161,slow=40						
GERES	GERESS Array B	75.25	318	P	P	21 44 12.2	+0.6
	comp=Z,0.9nm,0.6s,mb3.9,baz=90,slow=5.3,SNR=7.7						
BILL	Bilibino	75.65	22	iP	P	21 44 14.1	+0.6
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BILL				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
GRA1	Grafenberg Arr	76.90	319	eP	P	21 44 25.4	+4.5
GRF	Grafenberg Arr	76.90	319	eP	P	21 44 25.4	+4.5
NOA	NORSAR Array B	77.38	331	P	P	21 44 23.3	0.0
	comp=Z,1.0nm,0.7s,mb3.9,baz=94,slow=5.7,SNR=4.0						
NOA				LR	LR	22 25 47.8	
	comp=Z,106nm,18.1s,MS4.2,baz=80,slow=41						
LPG	La Plagne	80.00	315	eP	P	21 44 46.0	+8.1
	comp=Z,34nm,1.3s,mb4.8						
IMA	Indian Mountai	91.19	22	eP	P	21 45 33.9	+1.0
ILAR	Eielson Array	94.31	22	P	P	21 45 47.5	+0.2
	comp=Z,1.0nm,0.9s,mb4.3,baz=296,slow=4.9,SNR=7.1						
INK	Inuvik	96.28	15	P	P	21 45 58.2	+2.0
	comp=Z,1.6nm,1.0s,mb4.4,baz=314,slow=7.9,SNR=4.1						
YKA	Yellowknife Ar	105.58	12	PP	PP	21 50 57.6	-5.4
	comp=Z,0.5nm,0.9s,baz=334,slow=7.9,SNR=6.0						
NVAR	Mina Array Bea	124.86	29	PKP	PKPdf	21 51 31.5	-0.8
	comp=Z,1.4nm,0.9s,baz=354,slow=1.0,SNR=5.0						
PLCA	Paso Flores	144.98	204	PKP	PKPdf	21 52 05.9	-3.4
	comp=Z,4.2nm,0.9s,baz=247,slow=2.8,SNR=4.0						
LPAZ	La Paz	159.25	248	PKPab	PKPab	21 53 07.2	+1.6
	comp=Z,1.2nm,1.0s,baz=174,slow=1.5,SNR=4.5						

JMA 07 21:35:01.4±0.4, 33.85N×142.54E, h25km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.52	302	P	Pn	21 35 27.5	+0.1
BSO1				eS	Sn	21 35 47.6	+1.0
BSO3	Boso 3	1.93	300	P	Pn	21 35 34.0	+0.8
BSO4	Boso 4	2.15	303	P	Pn	21 35 37.3	+0.9
CHOJ	Chosi	2.31	324	P	Pn	21 35 39.1	+0.4
JHJ2	Mitsune	2.39	253	P	Pn	21 35 40.1	+0.2
JHJ2				eS	Sn	21 36 07.8	-0.9
JOD2	Odawara 2	3.18	297	P	Pn	21 35 50.4	-0.7
JOD2				eS	Sn	21 36 28.5	-0.1
JAG	Ashikaga	3.60	316	P	Pn	21 35 56.4	-0.7
JYN	Shimob	3.68	298	P	Pn	21 35 58.2	0.0
JYN				eS	Sn	21 36 40.7	-0.6
JRY	Ryogami san	3.69	307	P	Pn	21 35 57.9	-0.4
JRY				eS	Sn	21 36 41.7	+0.2

LJU 07 21:43:02.0, 45.60N×15.02E, h2km, ML1.5, 1C-2D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	Bojanci	0.19	119	⇑iPg	Pg	21 43 05.7	-0.1
BOJS				iSg	Sg	21 43 08.5	+0.1
	comp=Z,43nm,0.1s						
VISS	Visnje	0.24	329	iPg	Pg	21 43 07.0	+0.2
VISS				iSg	Sg	21 43 10.7	+0.7
	comp=Z,57nm,0.1s						
CRES	Cresnjev	0.39	53	⇓iPg	Pg	21 43 09.7	0.0
CRES				iSg	Sg	21 43 15.2	+0.4
	comp=Z,30nm,0.2s						
LEGS	Legarje	0.41	31	ePg	Pg	21 43 09.8	-0.4
LEGS				eSg	Sg	21 43 15.9	+0.2
	comp=Z,15nm,0.1s						
CEY	Cerknica	0.44	289	iPg	Pg	21 43 11.1	+0.4
CEY				iSg	Sg	21 43 17.3	+0.8
PDKS	Podkum	0.46	359	iPg	Pg	21 43 11.6	+0.3
	comp=Z,32nm,0.2s						
CESS	Cesta pri Krsk	0.49	40	iPg	Pg	21 43 11.7	-0.1
GCIS	Gornji Cirnik	0.51	58	iPg	Pg	21 43 12.0	-0.1
	comp=Z,8.0nm,0.1s						
LJU	Ljubljana	0.56	323	iPg	Pg	21 43 13.4	+0.2
GOLS	Golise	0.59	46	ePg	Pg	21 43 14.1	+0.2
DOBS	Dobrina	0.64	30	iPg	Pg	21 43 14.4	-0.3
JAVS	Javornik	0.73	294	ePg	Pg	21 43 16.3	-0.3
VOY	Vojsko	0.90	299	eSg	Sg	21 43 32.0	+0.1
VOJS	Vojsko	0.90	299	ePg	Pg	21 43 19.4	-0.6
GROS	Grobnik	0.93	21	ePg	Pg	21 43 19.5	-1.1
OBKA	Obir	0.97	341	⇓iPG	Pg	21 43 21.0	-0.3
OBKA				iSG	Sg	21 43 34.4	+0.2
	comp=Z,4.3nm,0.2s						
GORS	Gorjuse	1.01	316	ePg	Pg	21 43 21.8	-0.4
GORS				eSg	Sg	21 43 35.7	-0.1
CADS	Cadrg	1.09	306	iPg	Pg	21 43 23.4	-0.4
CADS				iSg	Sg	21 43 38.4	0.0
	comp=Z,15nm,0.3s						

PRU 07 21:43:07.1, 50.25N×19.22E
WAR 07 21:43:07.4, 50.17N×19.30E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.33	81	ePG	Pg	21 43 14.0	+0.1
OJC				eSG	Sg	21 43 19.0	+0.8
OKC	Ostrava-Krasne	0.81	246	ePG	Pg	21 43 23.0	-0.7
OKC				eSG	Sg	21 43 34.7	+0.2
	16nm,0.3s						
NIE	Niedzica	1.00	138	ePG	Pg	21 43 25.0	-2.4
NIE				eSG	Sg	21 43 40.0	-0.7
VYHS	Vyhne	1.71	190	ePN	Pn	21 43 37.7	-0.8
VYHS				eSN	Sn	21 43 59.8	-1.5
CRVS	Cervenica-Dubn	1.90	131	ePN	Pn	21 43 43.3	+2.0
CRVS				eSN	Sn	21 44 09.2	+3.0
DPC	Dobruska-Polom	1.92	277	ePG	Pg	21 43 40.4	-5.3
DPC				eSG	Sg	21 44 06.0	-5.3
	11nm,0.4s						
KSP	Ksiaz	2.03	290	ePG	Pg	21 43 45.0	-3.0
KSP				eSN	Sn	21 44 12.0	+2.4
KSP	Ksiaz	2.03	290	ePn	Pn	21 43 44.8	+1.6
KSP				ePg	Pg	21 43 47.4	-0.6
KSP				eSn	Sn	21 44 11.7	+2.0
KSP				eSg	Sg	21 44 13.9	-1.2
KOLS	Kolonicke sedl	2.30	121	ePN	Pn	21 43 47.5	+0.5
KOLS				ePG	Pg	21 43 51.4	-1.9
KOLS				eSN	Sn	21 44 13.5	-2.9
PRU	Pruhonice	3.07	268	eSG	Sg	21 44 44.2	-5.4
PRU	Pruhonice	3.07	268	eSg	Sg	21 44 44.2	-5.4
BRG	Berggiesshubel	3.49	284	eSg	Sg	21 44 58.0	-5.6
KHC	Kasperske Hory	3.86	257	ePN	Pn	21 44 05.0	-4.3
KHC				ex	x	21 44 29.5	
KHC				ex	x	21 44 56.5	
KHC				eSG	Sg	21 45 10.1	-5.8
MOX	Moxa	4.94	278	eP	Pn	21 44 22.0	-2.5
MOX				pP		21 44 32.0	

MEX 07 22:35:29.4±0.5, 15.87N×95.50W, h16km±12km, MD3.7, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.59	260	iP	Pb	22 35 38.8	-2.1
HUIG				iS	Sb	22 35 46.8	-1.9
CMIG	Matias Romero	1.35	26	iP	Pn	22 35 50.3	-3.4
CMIG				iS	Sb	22 36 06.0	-4.8
OXX	Oaxaca	1.68	316	eP	Pn	22 35 55.0	-3.5
OXX				eS	Sn	22 36 14.5	-5.3
VHO	Vista Hermosa	1.68	316	eS	Sn	22 36 13.6	-6.2

NNC 07 23:24:30.1±8.2, 33.98N×75.58E, h189km±60km, mpv3.6, Error ellipse: s-maj=125.2km s-min=65.5km az=73.0
ISC 07 23:24:27.6±1.3, 34.86N±0.09×74.3E±0.2, h33km, n14, σ0.81/16, 1C-3D, Southwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	2.71	153	eP	P	23 25 10.9	+1.1
THN				eSB	Sb	23 26 06.8	+18
	72nm,0.5s						
PONG	Pong	3.23	153	eP	P	23 25 17.0	-0.2
PONG				eSB	Sb	23 26 21.0	+18
SDNR	Sundarnagar	4.06	145	e	P	23 25 28.9	0.0
SDNR				eS	S	23 26 24.5	+8.6
SMLA	Simla	4.46	146	iP	Px	23 25 32.4	
SMLA				iS	Sx	23 26 31.7	
AAK	Ala-Archa	7.76	1	⇓P	P	23 26 32.3	+11
	1.2nm,0.5s						
AAK				⇓S	S	23 28 10.2	+22
	3.0nm,1.3s						
KOLN	Koldanda	10.67	129	eP	P	23 26 59.4	-1.8
	3.4nm,0.3s						
GKN	Gorkha	11.20	125	eP	P	23 27 08.8	+0.4
	7.6nm,0.2s						
DMN	Daman	11.77	125	eP	P	23 27 15.5	-0.6
	4.7nm,0.2s						
KKN	Kakani	11.77	124	eP	P	23 27 16.7	+0.6
	17nm,0.6s						
PKI	Pulchoki	12.00	124	eP	P	23 27 18.3	-0.9
	6.3nm,0.3s						
JIRN	Jiri	12.48	122	eP	P	23 27 26.7	+1.0
	8.0nm,0.3s						
MK31	Makanchi Array	13.37	25	P	P	23 27 38.1	+0.6
	baz=189,slow=14,SNR=4.0						
BVA0	Borovoye Array	18.36	353	⇑P	P	23 28 41.5	+0.2
	0.6nm,1.3s,baz=165,slow=11,SNR=15						
CHKZ	Chkalovo	18.98	353	⇓P	P	23 28 48.0	-0.7
	2.8nm,1.6s						

TIR 07 23:35:56.1, 41.75N×19.53E, h32km, Ml3.0
NEIC 07 23:35:57.3, 41.73N×19.56E, h9km, ML3.1(PDG), After PDG.
CSEM 07 23:35:57.6±0.1, 41.77N×19.55E, h10km, ML3.1, Error ellipse: s-maj=1.6km s-min=1.5km az=175.0
PDG 07 23:35:57.3±0.1, 41.73N×19.56E, h9km
ISC 07 23:35:57.3±0.4, 41.73N±0.02×19.46E±0.02, h9km±3km, n56, σ1.24/82, 12C-4D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULC	Ulcinj	0.29	326	⇑iPg	Pg	23 36 04.0	+0.8
ULC				eSg	Sg	23 36 09.0	+1.7
PRZA	Preza	0.33	152	iPg	Pg	23 36 05.5	+1.3
PRZA				iSg	Sg	23 36 13.0	+4.3
QSH	Qafa e Shtames	0.39	121	iPg	Pg	23 36 05.0	-0.2
QSH				iSg	Sg	23 36 11.5	+1.0
PUK	Puka	0.45	45	iPg	Pg	23 36 05.5	-1.0
PUK				iSg	Sg	23 36 12.2	-0.4
TIR	Tirane	0.48	141	iPg	Pg	23 36 06.3	-0.8
TIR				iSg	Sg	23 36 14.0	+0.4
BUM	Brajici-Budva	0.71	324	⇓iPg	Pg	23 36 11.1	-0.5
BUM				eSg	Sg	23 36 23.4	+2.2
TTG	Podgorica	0.72	348	⇑iPg	Pg	23 36 11.0	-0.8
TTG				eSg	Sg	23 36 22.4	+1.0
BCI	Bajram Curri	0.78	35	iPg	Pg	23 36 12.3	-0.7
BCI				iSg	Sg	23 36 22.7	-0.8
PVY	Plav	0.95	23	⇓iPg	Pg	23 36 14.1	-2.2
PVY				eSg	Sg	23 36 28.7	-0.3
HCY	Herceg Novi	1.02	315	⇑iPg	Pg	23 36 16.1	-1.6
HCY				eSg	Sg	23 36 33.6	+2.2
NKY	Niksic	1.14	343	⇑iPg	Pg	23 36 18.7	-1.4
NKY				eSg	Sg	23 36 37.0	+1.6
OHR	Ohrid	1.18	121	iPn	Pn	23 36 18.2	-1.7
OHR				iSn	Sn	23 36 36.9	+0.8
IVA	Berane	1.19	16	⇑iPg	Pg	23 36 19.0	-2.1
IVA				eSg	Sg	23 36 37.2	+0.2
BRY	Bratogost	1.36	330	ePg	Pg	23 36 22.9	-1.5
BRY				eSg	Sg	23 36 44.8	+2.1
SKO	Skopje	1.50	80	iPn	Pn	23 36 24.8	+0.3
SKO				iSn	Sn	23 36 43.5	-0.8
SKO				Lg		23 36 48.0	
	comp=Z,0.1nm,0.5s						
UPM	Unac-Piva	1.53	345	⇑iPg	Pg	23 36 25.9	-2.1
UPM				eSg	Sg	23 36 48.9	+0.5
BIA	Bitola	1.57	116	iPn	Pn	23 36 24.8	-0.7
BIA				iSn	Sn	23 36 47.5	+1.4
PLE	Pljevlja	1.60	358	ePn	Pn	23 36 27.0	+1.0
PLE				eSn	Sn	23 36 50.2	+3.2
STON	Ston	1.74	312	iPn	Pn	23 36 28.2	+0.2
STON				iSn	Sn	23 36 52.7	+2.3
NVSS	Nova Varos 2	1.79	6	⇑iPn	Pn	23 36 29.0	+0.3
NVSS				Sn	Sn	23 36 54.7	+3.0
PE1	Pezze di Greco	1.79	240	ePn	Pn	23 36 32.2	+3.5
SG1	Sgolgore (BA)	2.28	248	ePn	Pn	23 36 33.5	-2.2
DIVS	Divcibare	2.40	9	⇑iPn	Pn	23 36 37.7	+0.3
DIVS				Sg	Sg	23 37 07.8	-10
CDT	Castel del Mon	2.48	256	ePn	Pn	23 36 38.3	-0.3
KKB	Krupnik	2.71	86	eP	Pn	23 36 43.0	+1.2
KKB				eS	Sn	23 37 17.0	+1.9
VTS	Vitosha	2.92	71	iP	Pn	23 36 45.5	+0.7
VTS				S	Sn	23 37 18.0	-2.3
MRLC	Muro Lucano	3.15	253	ePn	Pn	23 36 48.0	-0.1
MRLC	Muro Lucano	3.15	253	ePn	Pn	23 36 48.0	-0.1
MMB	Musomiste	3.20	91	eP	Pn	23 36 50.5	+1.7
SGO	Sicignano	3.35	251	ePn	Pn	23 36 50.6	-0.3
SGO	Sicignano	3.35	251	ePn	Pn	23 36 50.6	-0.3
CII	Carovilli	3.86	272	ePn	Pn	23 36 58.8	+0.6
CII	Carovilli	3.86	272	ePn	Pn	23 36 58.8	+0.6
RZN	Rozhen	3.93	89	iP	Pn	23 37 00.0	+0.8
BZS	Buzias	4.19	21	⇑P	Pn	23 37 02.1	-0.8
SDI	San Donato	4.23	272	ePn	Pn	23 37 04.5	+1.1
SDI	San Donato	4.23	272	ePn	Pn	23 37 04.5	+1.0
PTQR	Pietraquaria	4.54	276	ePn	Pn	23 37 08.5	+0.7
NRCA	Norcia	4.84	285	ePn	Pn	23 37 11.7	-0.4
NRCA	Norcia	4.84	285	ePn	Pn	23 37 11.6	-0.5
BOJS	Bojanci	4.86	322	iPn	Pn	23 37 12.1	-0.3
SNTG	Esanatoglia	5.06	290	ePn	Pn	23 37 14.1	-1.1
SNTG	Esanatoglia	5.06	290	ePn	Pn	23 37 14.1	-1.1
MNS	Montasola	5.09	280	ePn	Pn	23 37 16.7	+1.0
MNS	Montasola	5.09	280	ePn	Pn	23 37 16.7	+1.0
ARV	Arcevia	5.13	292	ePn	Pn	23 37 15.0	-1.2
ARV	Arcevia	5.13	292	ePn	Pn	23 37 15.0	-1.2
FSSB	Fossombrone	5.30	294	ePn	Pn	23 37 17.5	-1.2
FSSB	Fossombrone	5.30	294	ePn	Pn	23 37 17.5	-1.2
CEY	Cerknica	5.42	319	iPn	Pn	23 37 20.0	-0.4
CEY				iSn	Sn	23 38 22.4	-1.3
VOY	Vojsko	5.89	319	ePn	Pn	23 37 26.0	-1.0
VOY				eSn	Sn	23 38 32.8	-2.6
OBKA	Obir	5.95	325	⇑iPN	Pn	23 37 26.9	-0.8
OBKA				iSN	Sn	23 38 31.9	-4.9
MLR	Muntele Rosu	6.02	49	⇓P	Pn	23 37 29.6	+0.8
MLR	Muntele Rosu	6.02	49	⇓P	Pn	23 37 29.6	+0.8
VRI	Vrincioaia	6.69	49	⇑P	Pn	23 37 38.9	+0.7
VRI	Vrincioaia	6.69	49	⇑P	Pn	23 37 38.9	+0.7

IDC 07 23:38:27.9±0.9, 41.71N×81.66E, h16km±3km, mb3.9/7, mb1 4.0/9, mb1mx3.8/20, mbtmp3.9/9, ML3.5/2, Error ellipse: s-maj=33.2km s-min=15.3km az=49.0
MOS 07 23:38:28.6±1.3, 41.75N×81.65E, h33km, mb4.6/5, Error ellipse: s-maj=14.3km s-min=9.7km az=88.3
NEIC 07 23:38:28.0±0.5, 41.77N×81.74E, mb4.0/2, Error ellipse: s-maj=12.6km s-min=7.6km az=210.0
BJI 07 23:38:28.0, 41.60N×81.84E, h21km, mB4.6, mb4.8, ML4.1
NNC 07 23:38:33.5±2.8, 42.00N×81.43E, h14km±11km, mpv4.0, Error ellipse: s-maj=23.1km s-min=7.1km az=140.0
ISC 07 23:38:27.0±0.5, 41.82N±0.06×81.78E±0.06, h17km, h17km±9km:pP-P, n40, σ1.22/47, mb4.2/12, 11C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	4.79	63	eP	Pn	23 39 45.2	+5.0
WMQ				S	Sn	23 40 44.5	+8.6
WMQ				Smax			
	comp=N,118nm,1.0s						
WMQ				Smax			
	comp=E,154nm,0.9s						
KSH	Kashi	4.98	244	P	Pn	23 39 44.6	+1.6
KSH				PG	Pn	23 40 00.5	+18
KSH				S	Sn	23 40 42.9	+2.0
KSH				Smax			
	comp=N,120nm,0.7s						
KSH				Smax			
	comp=E,200nm,0.8s						
MK31	Makanchi Array	4.99	4	⇑Pn	Pn	23 39 45.7	+2.7
	comp=E,5.4nm,0.2s,baz=190,slow=12,SNR=241						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31				⇑Pg	Pn	23 40 00.8	+18
	comp=E,33nm,0.6s,baz=191,slow=16,SNR=15						
MK31				⇑Lg		23 41 07.1	
	comp=E,66nm,0.7s,baz=168,slow=30,SNR=3.6						
MKAR	Makanchi Array	4.99	4	i PN	Pn	23 39 45.7	+2.7
MKAR				pmax	pmax		
	comp=Z,33nm,0.6s						
FRU	Bishkek	5.41	283	ePN	Pn	23 40 06.8	+18
FRU				i		23 40 10.0	
FRU				pmax	pmax		
	comp=Z,129nm,1.5s						
AAK	Ala-Archa	5.47	281	⇑Pn	Pn	23 39 50.2	+0.3
	comp=Z,6.4nm,0.7s						
AAK				⇑Pg	Pn	23 40 09.2	+19
	comp=Z,32nm,0.7s						
AAK				⇑Lg		23 41 16.5	
	comp=Z,154nm,1.1s						
AAK	Ala-Archa	5.47	281	i PN	Pn	23 39 49.5	-0.4
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AAK				pmax	pmax		
	comp=Z,35nm,0.8s						
AAK	Ala-Archa	5.47	281	eP	Pn	23 39 48.9	-0.9
	comp=Z,30nm,0.6s						
KURK	Kurchatov	9.16	347	⇓Pn	P	23 40 42.4	+0.9
	comp=Z,1.6nm,0.8s						
KURK				⇑Lg		23 43 16.9	
	comp=Z,14nm,0.9s						
KURK	Kurchatov	9.16	347	i P	P	23 40 43.7	+2.2
KURK	Kurchatov	9.16	347	eP	P	23 40 41.2	-0.3
	comp=Z,16nm,0.7s						
BVA0	Borovoye Array	13.59	329	⇑Pn	P	23 41 42.1	+0.8
	comp=Z,2.3nm,2.4s,baz=132,slow=13,SNR=4.1						
BVA0				⇑Lg		23 45 37.5	
	comp=Z,2.5nm,1.4s,baz=136,slow=28,SNR=4.0						
BVAR	Borovoye Array	13.59	329	Pn	P	23 41 39.6	-1.6
	comp=Z,0.1nm,0.3s,baz=145,slow=18,SNR=3.2						
CHKZ	Chkalovo	14.02	332	⇑Pn	P	23 41 48.3	+1.4
	comp=Z,5.3nm,1.3s						
CHKZ				⇑Lg		23 45 50.6	
	comp=Z,14nm,1.8s						
CHKZ	Chkalovo	14.02	332	eP	P	23 41 45.3	-1.6
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHKZ	Chkalovo	14.02	332	eP	P	23 41 45.2	-1.7
	comp=Z,2.9nm,0.6s						
ZAK	Zakamensk	17.14	53	eP	P	23 42 30.6	+3.4
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
SONM	Songino Array	18.42	63	P	P	23 42 42.8	-0.5
	comp=Z,0.1nm,0.3s,baz=258,slow=11,SNR=13						
ULN	Ulaanbaatar	18.86	63	i P	P	23 42 49.3	+0.7
ULN	Ulaanbaatar	18.86	63	eP	P	23 42 48.7	+0.2
	comp=Z,2.8nm,0.8s						
HHC	Hu-ho-hao-te	22.34	82	eP	P	23 43 26.3	+1.0
HHC				AP		23 43 31.1	
HHC				XP		23 43 33.1	
HHC				PP	PP	23 43 51.0	-1.6
HHC				S	S	23 47 25.6	+0.4
HHC				XS		23 47 35.2	
HHC				SS	SS	23 48 05.7	-0.2
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.5						
HHC				AMB	AMB		
	comp=Z,155nm,5.1s						
BOD	Bodaibo	25.90	41	eP	P	23 43 59.2	-0.3
HIA	Hailar	27.38	61	P	P	23 44 11.9	-1.2
GNI	Garni	27.88	279	i P	P	23 44 17.8	0.0
GNI				pmax	pmax		
	comp=Z,9.0nm,1.6s						
SOC	Sochi	30.73	288	eP	P	23 44 40.6	-2.7
SOC				e		23 45 38.3	
SOC				e		23 47 37.4	
SOC				eS	S	23 49 41.4	-2.9
SOC				eSS	SS	23 51 23.4	-3.2
SOC				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
SOC				pmax	pmax		
	comp=N,7.0nm,0.8s						
SOC				pmax	pmax		
	comp=E,5.0nm,0.8s						
NJ2	Nanjing	30.99	96	eP	P	23 44 45.8	+0.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
TIXI	Tiksi	37.69	22	eP	P	23 45 42.2	-0.6
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
FINES	FINESS Array B	38.28	320	P	P	23 45 47.4	-0.5
	comp=Z,2.1nm,0.9s,mb3.9,baz=90,slow=9.5,SNR=3.7						
FINES				pP	pP	23 45 52.6	-0.3
	comp=Z,1.3nm,0.7s,baz=100,slow=12,SNR=3.0						
ARCES	ARCESS Array B	39.84	333	P	P	23 46 00.8	0.0
	comp=Z,17nm,1.3s,mb4.6,baz=90,slow=11,SNR=4.7						
ARCES				pP	pP	23 46 05.4	-0.4
	comp=Z,3.6nm,0.9s,baz=90,slow=9.7,SNR=1.8						
NB2	NORSAR Subarra	45.47	320	P	P	23 46 45.9	-0.6
	comp=Z,2.7nm,0.5s,mb4.3,baz=82,slow=7.9						
NOA	NORSAR Array B	45.47	320	P	P	23 46 45.4	-1.1
NOA				*SP	sP	23 46 52.3	-1.3
NOA	NORSAR Array B	45.47	320	P	P	23 46 45.4	-1.2
	comp=Z,1.1nm,0.9s,mb3.7,baz=86,slow=7.2,SNR=5.9						
NOA				pP	pP	23 46 50.3	-1.2
	comp=Z,2.6nm,0.5s,baz=82,slow=7.9,SNR=7.5						
NOA				sP	sP	23 46 52.3	-1.3
	comp=Z,1.4nm,0.8s,baz=86,slow=7.1,SNR=3.5						
ILAR	Eielson Array	67.13	20	P	P	23 49 20.9	-0.4
	comp=Z,1.0nm,0.7s,mb3.9,baz=311,slow=5.1,SNR=10						
ILAR				pP	pP	23 49 26.9	+0.4
	comp=Z,1.5nm,0.7s,baz=318,slow=4.3,SNR=11						
YKA	Yellowknife Ar	75.20	8	P	P	23 50 09.8	+0.1
YKA				*PP	pP	23 50 15.5	+0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	75.20	8	P	P	23 50 09.8	+0.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=340,slow=5.7,SNR=14						
YKA				pP	pP	23 50 15.5	+0.6
	comp=Z,0.9nm,0.6s,baz=341,slow=5.7,SNR=10						
WRAB	Tennant Creek	78.33	130	eP	P	23 50 26.8	-1.2
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
WRAB	Tennant Creek	78.33	130	eP	P	23 50 26.8	-1.3
	comp=Z,2.7nm,0.6s,mb4.3						
WRA	Warramunga Arr	78.33	130	i P	P	23 50 28.4	+0.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	78.33	130	P	P	23 50 27.4	-0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=326,slow=5.5,SNR=9.4						
ASAR	Alice Springs	81.05	133	P	P	23 50 42.8	+0.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=325,slow=5.1,SNR=12						
ASAR				pP	pP	23 50 47.0	-0.9
	comp=Z,1.0nm,0.6s,baz=321,slow=5.1,SNR=7.4						

*ISK **08** 00:01:11.8,37.03N×28.38E,h12^{km},MD3.0*
*NEIC **08** 00:01:11.9,37.03N×28.39E,h12^{km},MD2.8(ISK),After ISK.*
*CSEM **08** 00:01:11.6±0.1,37.03N×28.39E,h10^{km},MD3.0,Error ellipse: s-maj=2.6km s-min=1.2km az=41.0*
*ATH **08** 00:01:12.1,37.01N×28.33E,h14^{km}±3^{km}*
ISC 08 00:01:12.0±0.5**,37.01N**±0.03×**28.35E**±0.04**,h10**^{km}±4^{km}**, n35,σ0**^{s}**78**/44**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	336	i PG	Pg	00 01 15.1	-0.2
YER				SG	Sg	00 01 18.5	+1.1
YER	Yerkesik	0.14	336	Pg	Pg	00 01 15.1	-0.1
YER				Sg	Sg	00 01 18.1	+0.7
YER	Yerkesik	0.14	336	i Pg	Pg	00 01 15.1	-0.2
YER				Sg	Sg	00 01 18.1	+0.7
DALT	Dalyan (Mudla)	0.33	136	Pg	Pg	00 01 18.6	-0.3
DALT				Sg	Sg	00 01 24.6	+1.2
DALT	Dalyan (Mudla)	0.33	136	i Pg	Pg	00 01 18.5	-0.3
DALT				eSg	Sg	00 01 24.4	+1.0
MLSB	Milas	0.54	302	PG	Pg	00 01 23.1	+0.1
MLSB	Milas	0.54	302	Pg	Pg	00 01 23.6	+0.6
FETY	Fethiye	0.69	122	PG	Pg	00 01 25.1	-0.9
FETY	Fethiye	0.69	122	ePg	Pg	00 01 25.1	-0.9
FETY				eSg	Sg	00 01 35.7	+0.4
AYDN	Tasoluk	0.75	330	i P	Pb	00 01 26.5	-0.2
AYDN				i S	Sb	00 01 36.7	-0.1
ARG	Arkhangelos	0.81	193	ePB	Pb	00 01 27.5	-0.3
ARG	Arkhangelos	0.81	193	ePb	Pb	00 01 27.8	0.0
DNZL	Cakiroluk	0.88	39	i P	Pb	00 01 28.0	-0.8
DNZL				i S	Sb	00 01 40.2	-0.2
DENT	Denizli	0.92	36	ePG	Pg	00 01 29.2	-1.2
DENT	Denizli	0.92	36	Pg	Pg	00 01 29.2	-1.2
NISR	Nisiros	1.06	248	ePB	Pb	00 01 32.0	0.0
ELL	Elmali	1.27	101	ePN	Pn	00 01 36.0	+0.1
KSL	Kastellorizon	1.31	131	ePB	Pb	00 01 37.0	+0.7
SMG	Samos	1.40	300	ePB	Pb	00 01 38.0	+0.3
MANT	Manisa	1.49	6	i P	Pn	00 01 39.4	+0.4
MANT				i S	Sb	00 01 58.9	+0.8
IZM	Izmir	1.63	328	ePN	Pn	00 01 40.9	-0.2
IZM	Izmir	1.63	328	Pn	Pn	00 01 40.8	-0.2
BLCB	Balcova	1.72	323	ePN	Pn	00 01 42.6	+0.3
BLCB	Balcova	1.72	323	Pn	Pn	00 01 42.6	+0.3
KARP	Karpathos	1.75	214	ePN	Pn	00 01 43.7	+1.0
KARP	Karpathos	1.75	214	ePg	Pg	00 01 44.0	-2.9
BCK	Bucak	1.84	75	ePN	Pn	00 01 43.7	-0.3
BCK	Bucak	1.84	75	Pn	Pn	00 01 43.7	-0.3
PRK	Paraskevi	2.77	324	ePn	Pn	00 02 06.5	+9.2
NPS	Neapolis	2.82	233	ePn	Pn	00 02 02.0	+4.0
NPS	Neapolis	2.82	233	ePB	Pb	00 02 00.5	-1.6
XRY	Khrisi	3.03	226	ePn	Pn	00 02 05.0	+4.0
XRY	Khrisi	3.03	226	ePN	Pn	00 02 02.0	+1.0
KIZT	Kizilcal	3.36	55	ePN	Pn	00 02 05.6	0.0
KIZT	Kizilcal	3.36	55	Pn	Pn	00 02 05.7	0.0

*ATH **08** 00:01:58.7,37.10N×28.41E,h11^{km}±7^{km},MD3.3/4*
*ISK **08** 00:01:58.4,37.06N×28.43E,h15^{km},MD3.1*
*NEIC **08** 00:01:58.4,37.06N×28.43E,h15^{km},MD3.3(ATH), MD2.8(ISK),After ISK.*
*CSEM **08** 00:01:58.4±0.1,37.07N×28.43E,h15^{km},MD3.2/1,Error ellipse: s-maj=2.2km s-min=1.4km az=33.0*
ISC 08 00:01:58.9±0.5**,37.07N**±0.03×**28.43E**±0.04**,h11**^{km}±4^{km}**, n28,σ0**^{s}**89**/37**,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	300	i PG	Pg	00 02 02.1	-0.2
YER	Yerkesik	0.14	300	Pg	Pg	00 02 02.3	0.0
YER				Sg	Sg	00 02 05.3	+0.8
YER	Yerkesik	0.14	300	Pg	Pg	00 02 02.3	0.0
YER				i Sg	Sg	00 02 05.5	+1.0
DALT	Dalyan (Mudla)	0.34	151	i PG	Pg	00 02 05.2	-0.7
DALT	Dalyan (Mudla)	0.34	151	Pg	Pg	00 02 05.3	-0.6
DALT				Sg	Sg	00 02 11.3	+0.7
DALT	Dalyan (Mudla)	0.34	151	Pg	Pg	00 02 05.3	-0.6
DALT				i Sg	Sg	00 02 11.4	+0.8
MLSB	Milas	0.57	294	PG	Pg	00 02 10.0	-0.5
FETY	Fethiye	0.68	129	ePG	Pg	00 02 12.3	-0.2
AYDN	Tasoluk	0.74	324	i P	Pb	00 02 13.6	+0.2
AYDN				i S	Sb	00 02 24.1	+0.9
DNZL	Cakiroluk	0.79	38	i P	Pb	00 02 15.1	+0.9
DNZL				i S	Sb	00 02 30.6	+5.9
BDRM	Kayabasi	0.79	270	i P	Pb	00 02 13.1	-1.1
BDRM				i S	Sb	00 02 25.0	+0.3
DENT	Denizli	0.84	35	ePG	Pg	00 02 15.0	-0.7
ARG	Arkhangelos	0.88	196	ePB	Pb	00 02 15.0	-0.8
ARG				eSB	Sb	00 02 29.0	+1.6
ELL	Elmali	1.22	105	ePN	Pn	00 02 21.8	-0.2
ELL	Elmali	1.22	105	Pn	Pn	00 02 21.9	-0.2
ELL	Elmali	1.22	105	Pn	Pn	00 02 21.9	-0.1
KSL	Kastellorizon	1.30	134	ePB	Pb	00 02 24.0	+1.1
SMG	Samos	1.43	297	ePB	Pb	00 02 25.0	-0.1
BLCB	Balcova	1.72	320	ePN	Pn	00 02 28.9	-0.2
BLCB	Balcova	1.72	320	Pn	Pn	00 02 28.9	-0.1
BCK	Bucak	1.76	76	ePN	Pn	00 02 29.9	+0.2
BCK	Bucak	1.76	76	Pn	Pn	00 02 29.6	-0.1
BCK	Bucak	1.76	76	Pn	Pn	00 02 29.6	-0.1
KARP	Karpathos	1.83	215	ePN	Pn	00 02 32.5	+1.8
KARP	Karpathos	1.83	215	ePb	Pb	00 02 30.0	-2.0
KARP				eSb	Sb	00 02 54.0	-0.9
KIZT	Kizilcal	3.27	55	ePN	Pn	00 02 50.2	-1.0
KIZT	Kizilcal	3.27	55	Pn	Pn	00 02 50.3	-1.0
KIZT	Kizilcal	3.27	55	Pn	Pn	00 02 50.3	-0.9

*IDC **08** 00:19:11.0±3.4,17.86S×177.76W,h272^{km}±32^{km},mb3.6/7, mb1 3.8/7,mb1mx3.6/17,mbtmp4.2/7,Error ellipse: s-maj=34.3km s-min=19.4km az=153.0*
*NEIC **08** 00:19:17.6±1.4,18.04S×177.76W,h342^{km}±16^{km},mb3.8/3, Error ellipse: s-maj=25.7km s-min=11.9km az=154.0*
ISC 08 00:19:16.2±1.6**,18.1S**±0.2×**177.8W**±0.1**,h335**^{km}±20^{km}**, n16,σ0**^{s}**59**/13**,mb3.8**/9**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.13	56	eP	P	00 21 00.6	-0.1
URZ	Urewera	20.61	191	P	P	00 23 31.3	+0.1
	4.5nm,0.7s,baz=18,slow=6.4,SNR=3.7						
CTA	Charters Tower	33.96	261	P	P	00 25 30.2	-0.6
	5.7nm,0.7s,mb3.9,baz=100,slow=13,SNR=3.9						
STKA	Stephens Creek	39.04	241	eP	P	00 26 14.6	+1.6
	1.6nm,0.5s,mb3.5						
STKA	Stephens Creek	39.04	241	P	P	00 26 13.8	+0.8
	2.0nm,0.5s,mb3.6,baz=70,slow=4.4,SNR=5.6						
WRAB	Tennant Creek	45.13	260	P	P	00 27 01.5	-0.7
	3.9nm,0.8s,mb3.6						
WRA	Warramunga Arr	45.14	260	P	P	00 27 01.9	-0.4
	1.0nm,0.3s,mb3.4,baz=98,slow=7.1,SNR=16						
ASAR	Alice Springs	45.28	254	P	P	00 27 03.5	+0.2
	9.6nm,0.5s,mb4.2,baz=90,slow=8.3,SNR=145						
ASAR				ScP		00 32 04.5	
	0.7nm,0.7s,baz=106,slow=4.8,SNR=5.7						
ASPA	Alice Springs	45.28	254	eP	P	00 27 03.3	-0.1
FITZ	Fitzroy Crossi	53.54	261	eP	P	00 28 06.0	+0.4
	10nm,0.9s,mb4.2						
NVAR	Mina Array Bea	79.15	44	P	P	00 30 46.1	+0.3
	0.4nm,0.8s,mb3.2,baz=216,slow=7.8,SNR=3.4						
TXAR	Lajitas Array	85.61	57	P	P	00 31 19.5	+0.6
	1.0nm,1.0s,mb3.6,baz=225,slow=7.1,SNR=4.7						
LVC	Limon Verde	99.64	118	P	P	00 32 22.9	-1.0
	2.5nm,0.6s,mb4.8						
ASF	Jabal al Asfar	145.72	301	PKPbc	PKPbc	00 38 15.8	-0.6
	1.1nm,0.5s,baz=95,slow=1.0,SNR=3.4						
CLL	Collm	145.72	348	ePKP1	PKPbc	00 38 19.0	+3.2
GERES	GERESS Array B	147.89	346	PKPbc	PKPdf	00 38 21.9	+3.5
	1.5nm,1.1s,slow=2.0,SNR=5.0						

TRN 08 00:24:02.9,17.65N×**61.76W,h37**^{km}**,MD3.5,M3.4**(FDF)**, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STAT	Sint Eustatius	1.17	263	eP	P	00 24 24.8	+1.8
STAT				eS	S	00 24 39.4	+1.3

*NIED **08** 00:31:00,25.00N×122.50E,h95^{km},Mw3.7 Best double couple: $M_0$3.37×10^{14} NP1:ϕ_s60°,δ75°,λ-111°. NP2: ϕ_s297°,δ26°,λ-36°.*
*NEIC **08** 00:31:40.5±0.5,25.09N×122.51E,h150^{km}±4^{km},mb3.8/4, Error ellipse: s-maj=10.6km s-min=9.3km az=225.0*
*IDC **08** 00:31:41.3±4.0,25.17N×122.71E,h158^{km}±39^{km},mb3.4/7, mb1 3.6/8,mb1mx3.4/21,mbtmp3.9/8,Error ellipse: s-maj=35.9km s-min=19.2km az=65.0*
*TAP **08** 00:31:41.6,24.99N×122.55E,h146^{km}±1^{km},ML4.4*
*JMA **08** 00:31:42.0±0.2,25.02N×122.54E,h141^{km}±3^{km},M3.8*
ISC 08 00:31:39.4±0.4**,25.09N**±0.08×**122.52E**±0.04**,h154**^{km}±5^{km}**, n27,σ0**^{s}**78**/38**,mb3.6**/11**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.77	144	P	P	00 32 03.7	+0.5
YOJ				eS	S	00 32 20.6	-0.8
TATO	Taipei	0.94	263	ePn	P	00 32 04.6	+0.3
YHNB	Yeheng	1.12	248	ePn	P	00 32 06.8	+0.9
YHNB				eSn	S	00 32 25.4	-0.8
NACB	Ninganchiao	1.24	223	ePn	P	00 32 07.0	0.0
NACB				eSn	S	00 32 23.9	-4.3
IRIF	Iriomote-Funau	1.34	124	P	P	00 32 08.5	+0.5
IRIF				eS	S	00 32 29.0	-1.0
HATJ	Hateruma jima	1.56	131	P	P	00 32 11.2	+0.9
HATJ				eS	S	00 32 33.6	-0.5
JKRS	Kuro-shima	1.60	122	P	P	00 32 11.9	+1.2
JKRS				S	S	00 32 34.4	-0.5
JIJ	Ishigaki jima	1.65	116	P	P	00 32 11.9	+0.7
JIJ				S	S	00 32 34.1	-1.6
JTJ	Tarama	2.04	102	P	P	00 32 17.0	+1.5
JTJ				eS	S	00 32 42.9	-0.5
JMJ	Miyako jima 2	2.54	96	P	P	00 32 23.8	+2.0
JMJ				eS	S	00 32 54.2	0.0
JOGS	Gusukube	2.65	97	eS	S	00 32 57.2	+0.6
JOW	Kunigami	5.47	70	P	P	00 33 00.1	+0.1
	3.0nm,0.3s,baz=302,slow=9.5,SNR=13						
JOW				S	S	00 33 58.5	-3.9
JOW	Kunigami	5.47	70	P	P	00 33 00.0	+0.1
JOW				eS	S	00 34 01.1	-1.2
JTK	Tokunoshima	6.36	64	P	P	00 33 11.3	-0.6
ULN	Ulaanbaatar	25.81	336	P	P	00 36 58.3	+0.4
	1.1nm,0.5s,mb3.7						
SONM	Songino Array	26.04	335	P	P	00 37 00.4	+0.4
	1.8nm,0.8s,mb3.8,baz=147,slow=9.7,SNR=12						
KURK	Kurchatov	42.19	319	eP	P	00 39 18.0	-0.3
	2.0nm,0.4s,mb4.1						
WRAB	Tennant Creek	46.21	164	P	P	00 39 51.0	+0.2
	1.3nm,0.5s,mb3.8						
WRA	Warramunga Arr	46.22	165	P	P	00 39 50.7	-0.2
	0.3nm,0.3s,mb3.3,baz=347,slow=9.0,SNR=4.3						
BVAR	Borovoye Array	47.75	320	P	P	00 40 02.2	-0.3
	0.8nm,0.5s,mb3.6,baz=103,slow=8.7,SNR=8.8						
ARCES	ARCESS Array B	69.16	338	P	P	00 42 30.4	-0.1
	2.5nm,0.9s,mb4.0,baz=54,slow=7.8,SNR=3.1						
KAF	Kangasniemi	70.97	330	ep	P	00 42 40.7	-1.0
	0.3nm,0.3s,mb3.5						
FINES	FINESS Array B	71.28	330	P	P	00 42 42.9	-0.6
	1.7nm,0.7s,mb3.9,baz=59,slow=5.9,SNR=14						
NB2	NORSAR Subarra	77.99	332	P	P	00 43 21.1	-0.7
	0.4nm,0.4s,mb3.4,baz=53,slow=5.8						
NOA	NORSAR Array B	77.99	332	P	P	00 43 21.2	-0.5
	0.4nm,0.5s,mb3.3,baz=57,slow=5.4,SNR=2.6						
YKA	Yellowknife Ar	81.67	23	P	P	00 43 41.5	+0.1
	0.3nm,0.7s,mb3.0,baz=313,slow=5.1,SNR=7.6						
YKA	Yellowknife Ar	81.67	23	P	P	00 43 41.5	+0.1

*NEIC **08** 00:40:28.3±4.2,32.77S×178.58W,h36^{km}±35^{km},mb4.8/5, Error ellipse: s-maj=35.6km s-min=18.0km az=204.0*
*IDC **08** 00:40:33.6±6.5,33.15S×178.61W,h85^{km}±58^{km},mb4.3/4, mb1 4.5/5,mb1mx4.1/15,mbtmp4.6/5,ML4.5/1,Error ellipse: s-maj=50.4km s-min=29.7km az=6.0*
ISC 08 00:40:26.9±1.0**,32.88S**±0.06×**178.7W**±0.2**,h33**^{km}**,n37, σ1**^{s}**12**/32**,mb4.7**/8**,2C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.28	207	ePN	Pn	00 41 45.2	-0.5
MXZ				SN	Sn	00 42 47.1	+1.0
MXZ	Matakaoa Point	5.28	207	ePN	Pn	00 41 45.2	-0.5
MXZ				SN	Sn	00 42 47.1	+1.0
PUZ	Puketiti	5.75	205	ePN	Pn	00 41 51.6	-0.6
PUZ	Puketiti	5.75	205	ePN	Pn	00 41 51.6	-0.6
MWZ	Matawai	6.25	208	ePN	Pn	00 41 57.9	-1.5
MWZ				SN	Sn	00 43 12.2	+1.7
MWZ	Matawai	6.25	208	ePN	Pn	00 41 57.9	-1.5
MWZ				SN	Sn	00 43 12.2	+1.7
URZ	Urewera	6.36	211	P	P	00 42 00.5	-0.3
	11nm,0.3s,baz=30,slow=2.7,SNR=21						
URZ				S	S	00 43 13.4	+0.2
	7.6nm,0.3s,baz=204,slow=12,SNR=4.3						
KNZ	Kokohu	6.80	205	ePN	Pn	00 42 05.3	-1.8
KNZ	Kokohu	6.80	205	ePN	Pn	00 42 05.3	-1.8
OUZ	Omahuta	6.81	248	ePN	Pn	00 42 10.5	+3.1
OUZ	Omahuta	6.81	248	ePN	Pn	00 42 10.5	+3.1
BKZ	Black Stump Fm	7.39	211	ePN	Pn	00 42 12.7	-2.7
BKZ	Black Stump Fm	7.39	211	ePN	Pn	00 42 12.7	-2.7
CTA	Charters Tower	33.71	283	P	P	00 47 08.6	+1.3
	7.9nm,0.5s,mb4.9,baz=106,slow=11,SNR=17						
CTAO	Charters Tower	33.71	283	eP	P	00 47 08.3	+1.1
	8.7nm,0.6s,mb4.9						
ASAR	Alice Springs	42.45	270	P	P	00 48 20.9	+0.3
	7.8nm,0.7s,mb4.5,baz=109,slow=7.4,SNR=74						
ASPA	Alice Springs	42.46	270	eP	P	00 48 20.8	+0.2
WB2	Warramunga Arr	43.66	275	eP	P	00 48 29.9	-0.5
WRAB	Tennant Creek	43.66	275	P	P	00 48 30.0	-0.5
	95nm,0.6s,mb5.7,SNR=16						
WRAB	Tennant Creek	43.66	275	eP	P	00 48 30.3	-0.2
	16nm,0.6s,mb4.9						
WRA	Warramunga Arr	43.67	275	P	P	00 48 30.4	-0.1
	14nm,0.7s,mb4.8,baz=115,slow=7.7,SNR=50						
KAKA	Kakadu	48.84	282	eP	P	00 49 10.8	-0.6
	5.2nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	51.82	272	eP	P	00 49 33.5	-0.5
	6.1nm,0.6s,mb4.7						
QSPA	South Pole Qui	57.23	180	eP	P	00 50 14.9	+2.0
	4.2nm,0.7s,mb4.6						
VNA3	Neumayer Olymp	75.87	176	⇑i	P	00 52 19.9	+8.8
VNA2	Neumayer--Watz	76.30	177	⇑i	P	00 52 22.6	+9.1
NVAR	Mina Array Bea	90.45	43	P	P	00 53 27.4	+0.9
	0.4nm,0.8s,mb3.8,baz=229,slow=8.3,SNR=2.8						
ARCES	ARCESS Array B	140.88	347	PKhKP		00 59 48.5	
	7.0nm,0.9s,baz=45,slow=2.6,SNR=4.3						
JOF	Joensuu	144.49	337	ep	PKPbc	00 59 57.9	-0.8
	1.8nm,0.5s						
KAF	Kangasniemi	146.67	339	ep	PKPdf	01 00 03.6	+0.8
	8.9nm,0.6s						
FINES	FINESS Array B	147.25	338	PKPbc	PKPdf	01 00 06.4	+2.6
	14nm,0.6s,baz=52,slow=4.1,SNR=117						
ASF	Jabal al Asfar	150.07	278	PKPbc	PKPdf	01 00 14.3	+5.1
	1.2nm,0.5s,baz=304,slow=4.7,SNR=3.4						
NB2	NORSAR Subarra	151.10	350	PKPabc	PKPdf	01 00 16.3	+6.5
	1.6nm,0.6s,baz=17,slow=2.5						
NOA	NORSAR Array B	151.10	350	PKPbc	PKPdf	01 00 16.6	+6.8
	2.2nm,0.7s,baz=14,slow=4.1,SNR=9.7						
EIL	Elat	151.14	273	ePKPbc	PKPdf	01 00 17.6	+6.7
AKASG	Malin Array Be	152.86	319	PKPbc	PKPdf	01 00 20.3	+7.6
	5.3nm,0.9s,baz=52,slow=2.5,SNR=17						
BRTR	Keskin Array B	153.17	294	PKPbc	PKPdf	01 00 21.7	+8.2
	baz=90,slow=4.3						

DJA 08 00:42:11.2±0.9**,6.76S**×**105.07E,h33**^{km}**,MD4.1**/1**, ML4.6**/3**,1C-2D,Error ellipse: s-maj=25.2km s-min=10.1km az=49.0,Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PULI	Pulasari	0.99	66	⇓ePn	Pn	00 42 27.7	-1.3
	4μm,0.2s						
PULI	Pulasari	0.99	66	ePg	P	00 42 28.8	0.0
PULI				eSn	Sn	00 42 39.4	-2.6
PENI	Pendagan	1.19	5	⇓ePn	Pn	00 42 30.3	-1.5
	3μm,0.2s						
PENI				eSn	Sn	00 42 46.0	-0.9
SINI	Singah	2.43	96	⇑iPn	Pn	00 42 48.0	-1.6
	18nm,0.2s						

*CSEM **08** 00:56:10.4±0.3,37.97N×25.93W,h6^{km},ML2.5,Error ellipse: s-maj=19.1km s-min=5.0km az=32.0,After PDA*
*PDA **08** 00:56:10.4±1.1,37.97N×25.93W,h6^{km}±3^{km},MD2.4, ML2.5,Error ellipse: s-maj=6.1km s-min=1.3km az=33.0*
SVSA 08 00:56:10.4±1.1**,37.97N**×**25.93W,h6**^{km}±3^{km}**,MD2.4, ML2.5,Error ellipse: s-maj=6.1km s-min=1.3km az=33.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SET4	Mosteiros	0.14	133	i P	Pg	00 56 13.3	-0.2
SET4				i S	Sg	00 56 15.7	+0.2
SET2	Ginetes	0.16	142	i P	Pg	00 56 13.5	-0.3
SET2				i S	Sg	00 56 16.2	+0.1
PFET	Feteiras	0.19	144	i P	Pg	00 56 13.8	-0.6
PFET				i S	Sg	00 56 16.8	-0.2
PSAN	Santo Antonio	0.20	126	i P	Pg	00 56 14.1	-0.5
PSAN				i S	Sg	00 56 17.3	-0.1
PSET	Sete Cidades	0.22	132	i P	Pg	00 56 14.2	-0.8
PSET				eS	Sg	00 56 18.1	0.0
	844nm,0.2s						
FAC	Faja de Cima	0.30	132	i P	Pg	00 56 15.9	-0.6
FAC				i S	Sg	00 56 19.8	-0.7
CML	Cha da Macela	0.37	123	i P	Pg	00 56 16.6	-1.2
CML				i S	Sg	00 56 21.6	-1.1
PVER	Pico Vermelho	0.37	118	i P	Pg	00 56 16.7	-1.3
PVER				i S	Sg	00 56 21.8	-1.2
	84nm,0.2s						
PMAT	Coroa da Mata	0.40	113	i S	Sg	00 56 22.8	-0.9
	116nm,0.1s						
LFA	Lagoa do Fogo	0.41	119	i P	Pg	00 56 17.3	-1.3
MESC	Monte Escuro	0.42	115	i P	Pg	00 56 17.6	-1.3
MESC				i S	Sg	00 56 23.6	-1.1
PRCH	Ribeira Ch	0.43	124	i S	Sg	00 56 23.8	-1.1
	85nm,0.1s						
VIF	Vila Franca	0.45	120	i S	Sg	00 56 24.2	-1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	47nm,0.3s						
PCNG	Congro	0.47	116	eS	Sg	00 56 24.8	-1.4
	56nm,0.2s						
PFAD	Fenais da Ajud	0.50	105	i P	Pg	00 56 18.6	-1.8
PFAD				i S	Sg	00 56 25.3	-1.8
FRA1	Furnas	0.51	116	i S	Sg	00 56 25.8	-1.7
MIRA	Miradouro	0.55	110	i P	Pg	00 56 19.4	-2.0
MIRA				i S	Sg	00 56 26.8	-2.0
PFAV	Pico das Favas	1.17	310	i S	Sb	00 56 42.1	-5.7
	34nm,0.3s						
PSCM	Serra do Cume	1.18	308	eP	Pb	00 56 28.4	-4.4
PSCM				eS	Sb	00 56 42.4	-5.8
	77nm,0.2s						
RIB2	Ribeirinha	1.20	306	i S	Sb	00 56 42.8	-5.9
	53nm,0.2s						
ADH	Angra Heroismo	1.23	304	erx		00 56 41.7	
PVNV	Vila Nova	1.24	310	i S	Sb	00 56 43.9	-6.1
	29nm,0.2s						
PPAD	Pico dos Padre	1.29	305	i S	Sb	00 56 45.3	-6.0
	14nm,0.1s						
ASBA	Santa Barbara	1.33	305	eS	Sb	00 56 46.0	-6.4
	27nm,0.2s						
PSBA	Serra de Santa	1.35	306	eS	Sb	00 56 47.3	-5.8
	85nm,0.3s						
PMAN	Manadas	1.82	292	eS	Sn	00 56 57.3	-8.8
	26nm,0.3s						
ROSA	Rosais	1.96	293	erx		00 57 02.1	
PICO	Pico	2.03	286	eS	Sn	00 57 02.9	-8.6
CALA	Caldeira	2.26	286	eS	Sn	00 57 08.3	-9.1
PCED	Cedros	2.27	288	eS	Sn	00 57 09.0	-8.7
	38nm,0.3s						

IDC 08 00:57:19.2±16.0, 20.04S×176.05W, h252^{km}±162^{km}, mb3.4/6, mb1 3.7/6, mb1mx3.5/16, mbtmp4.0/6, Error ellipse: s-maj=131.9km s-min=37.1km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	35.36	263	P	P	01 03 52.0	-0.7
	4.3nm,0.8s,baz=92,slow=11,SNR=6.2						
ASAR	Alice Springs	46.40	256	P	P	01 05 21.1	-1.5
	2.3nm,0.9s,baz=88,slow=8.4,SNR=16						
WRA	Warramunga Arr	46.48	261	P	P	01 05 20.8	-2.4
	1.3nm,0.3s,baz=95,slow=7.5,SNR=29						
NVAR	Mina Array Bea	79.44	43	P	P	01 08 57.8	-1.3
	0.8nm,0.6s,baz=214,slow=7.6,SNR=6.7						
TXAR	Lajitas Array	85.27	57	P	P	01 09 28.3	-0.9
	0.4nm,0.7s,baz=210,slow=10,SNR=5.8						
ILAR	Eielson Array	87.47	12	P	P	01 09 37.5	-1.3
	0.3nm,0.6s,baz=257,slow=3.1,SNR=4.1						
GERES	GERESS Array B	150.21	347	PKPbc	PKPdf	01 16 40.5	+6.0
	0.2nm,0.6s,baz=63,slow=3.0,SNR=3.6						

DJA 08 01:03:21.1±0.9, 8.51S×117.69E, h213^{km}±9^{km}, MD4.6/4, ML4.7/4, 4D, Error ellipse: s-maj=88.9km s-min=22.0km az=4.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.56	271⇓	ePn	P	01 03 56.8	-0.1
	524nm,0.2s						
KEDI				eSn	S	01 04 24.1	-0.4
RATI	Rata	2.14	264⇓	ePn	P	01 04 02.7	+0.2
	1μm,0.2s						
RATI				eSn	S	01 04 33.9	-0.5
KELI	Kelakatan	3.18	275⇓	ePn	P	01 04 15.2	+1.2
	103nm,0.2s						
KELI				eSn	S	01 04 53.0	-2.0
SRDI	Scrawed	3.51	270⇓	ePn	P	01 04 18.4	+0.4
	358nm,0.2s						
SRDI				eSn	S	01 05 00.0	-2.0

MDD 08 01:31:54.6±0.9, 28.55N×15.27W, h10^{km}±6^{km}, mb3.6/4, mbLg1.8/5, Error ellipse: s-maj=4.1km s-min=1.4km az=152.0, PRXIMO TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EOSO	Osorio	0.54	208	P	Pg	01 32 03.7	-1.9
	SNR=12						
EOSO				S	Sg	01 32 11.8	-1.0
	14nm,0.1s,SNR=20						
CFTV	Fuerteventura	1.05	97	P	Pb	01 32 11.9	-2.6
	0.5nm,0.1s,SNR=4.0						
CFTV				S	Sb	01 32 24.3	-3.8
	4.2nm,0.1s,SNR=14						
CFUE	Fuerteventura	1.18	85	P	Pb	01 32 14.9	-1.7
	0.9nm,0.0s,SNR=7.9						
CFUE				S	Sb	01 32 31.3	-0.4
	3.1nm,0.1s,SNR=7.9						
CCAN	Las Canadas	1.22	255	P	Pb	01 32 14.8	-2.6
	0.7nm,0.1s,SNR=7.9						
CCAN				S	Sb	01 32 28.7	-4.3
	1.2nm,0.1s,SNR=9.8						
EGOM	La Gomera	1.75	258	P	Pn	01 32 21.8	-3.6
	0.5nm,0.1s,SNR=4.0						
EGOM				S	Sn	01 32 41.0	-7.0
	2.6nm,0.1s,SNR=4.0						

DJA 08 01:49:44.9±0.9, 8.34S×115.94E, h259^{km}±7^{km}, MD4.6/4, ML4.2/1, 1C-3D, Error ellipse: s-maj=65.9km s-min=15.5km az=6.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.23	131⇑	ePg	P	01 50 17.5	-1.0
	340nm,0.2s						
KEDI				eSg	S	01 50 43.2	-1.3
RATI	Rata	0.56	226⇓	ePg	P	01 50 19.3	+0.1
	813nm,0.2s						
RATI				eSg	S	01 50 44.7	-1.3
KELI	Kelakatan	1.44	275⇓	ePn	P	01 50 23.9	0.0
KELI	Kelakatan	1.44	275	ePg	P	01 50 24.7	+0.8
KELI				eSn	S	01 50 52.0	-2.2
SRDI	Scrawed	1.79	265⇓	ePn	P	01 50 26.5	0.0
	158nm,0.2s						
SRDI				eSn	S	01 50 56.0	-2.9

CASC 08 02:10:23.0±1.7, 12.05N×87.99W, h27^{km}±11^{km}, MD3.9, ML3.3
IDC 08 02:10:26.1±5.6, 12.53N×87.26W, h60^{km}±118^{km}, mb3.3/3, mb1 3.6/4, mb1mx3.2/20, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=198.9km s-min=32.3km az=36.0
ISC 08 02:10:21.0±1.5, 11.97N±0.05×88.02W±0.04, h18^{km}±17^{km}, n33, σ0^{s}73/47, mb3.5/3, 5C-7D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	Leon	1.19	68⇑	iP	Pn	02 10 42.8	-0.1
LEON				eS	Sn	02 10 59.1	+0.5
CRIN	San Cristobal	1.19	53⇑	eP	Pn	02 10 43.6	+0.7
CRIN				eS	Sn	02 10 58.7	0.0
CNCH	Conchagua	1.31	8⇑	eP	Pn	02 10 44.5	-0.1
CNCH				eS	Sn	02 11 02.1	+0.5
TELN	Telica	1.32	62⇓	eP	Pn	02 10 44.6	-0.1
MIRN	Miramar	1.36	70	eP	Pn	02 10 46.4	+1.1
CNGN	Cerro Negro	1.39	68	eP	Pn	02 10 44.6	-1.2
VSM	San Miguel	1.47	350	eP	Pn	02 10 46.9	+0.1
VSM				eS	Sn	02 11 05.8	+0.2
BLLM	Bellamira	1.48	352⇓	eP	Pn	02 10 46.9	-0.1
MOMJ	Momotombo	1.51	73⇓	eP	Pn	02 10 47.3	-0.2
XAVN	Gruta Xavier	1.67	84⇓	eP	Pn	02 10 49.5	-0.2
MGAN	Managua	1.74	84⇓	eP	Pn	02 10 50.5	-0.3
MGAN				eS	Sn	02 11 12.0	-0.7
MGAN				i		02 11 18.4	
	comp=E,319nm,0.7s						
TICN	Ticuantepe	1.75	88⇓	eP	Pn	02 10 51.0	0.0
TICN				eS	Sn	02 11 13.1	+0.2
CAHU	Cacacuatique	1.79	354	eP	Pn	02 10 51.9	+0.3
WILN	Americas 2	1.80	84	eP	Pn	02 10 50.9	-0.7
WILN				eS	Sn	02 11 13.7	-0.5
SNVI	San Vicente	1.81	334	eP	Pn	02 10 51.6	-0.2
APON	Apoyo	1.91	92	eP	Pn	02 10 54.9	+1.6
LCBS	La Ceiba	1.91	331⇑	eP	Pn	02 10 52.8	-0.5
LCBS				eS	Sn	02 11 16.9	-0.2
LFRS	El Faro	1.93	328⇑	eP	Pn	02 10 52.9	-0.5
LFRS				eS	Sn	02 11 17.0	-0.5
PYTN	Playitas	2.00	74	eP	Pn	02 10 54.1	-0.3
LBRS	Las Brisas	2.02	330	eP	Pn	02 10 54.9	+0.1
BOQS	Boqueron	2.14	325	eP	Pn	02 10 56.8	+0.3
BOQS				eS	Sn	02 11 23.2	+0.4
CONN	Concepcion	2.38	100	eP	Pn	02 10 58.5	-1.5
SBLS	San Blas	2.42	320⇓	eP	Pn	02 11 00.5	0.0
SBLS				eS	Sn	02 11 30.9	+0.8
SNJE	San Jose	2.44	321	eP	Pn	02 11 00.6	-0.1
RBDL	Robledal	2.67	323	eP	Pn	02 11 04.2	+0.1
RBDL				eS	Sn	02 11 35.8	-0.7
JTS	JuntasAbangare	3.44	119	P	Pn	02 11 14.3	-0.8
	comp=E,0.9nm,0.3s,baz=315,slow=18,SNR=2.7						
JTS				S	Sn	02 11 50.6	-5.2
	comp=E,3.0nm,0.3s,baz=281,slow=14,SNR=3.8						
PRS1	Puriscal	4.14	118	eP	Pn	02 11 27.2	+2.2
LAJ	Bijagual	4.37	118	eP	Pn	02 11 25.2	-2.9
LCR2	La Lucha 2	4.53	119	eP	Pn	02 11 31.7	+1.3
BUS	Buena Vista	4.83	119	eP	Pn	02 11 35.4	+0.7
BUS				eS	Sn	02 12 30.9	0.0
TXAR	Lajitas Array	22.60	322	P	P	02 15 22.0	-0.2
	comp=E,0.7nm,0.4s,mb3.4,baz=135,slow=12,SNR=20						
ULM	Lac du Bonnet	38.71	352	P	P	02 17 40.6	-5.0
	comp=E,1.6nm,0.7s,mb3.9,baz=169,slow=5.2,SNR=3.7						
YKA	Yellowknife Ar	53.92	345	P	P	02 19 40.6	-4.9
	comp=E,0.2nm,0.5s,mb3.3,baz=137,slow=7.8,SNR=5.4						

MAN 08 02:30:49.6, 18.06N×122.09E, h4^{km}, mb3.6, ML2.3, MS1.9, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.19	349	eP	Pg	02 30 53.8	+0.3
SGCP				eS	Sg	02 30 57.5	+1.6
CVP	Callao Caves	0.43	216	eP	Pg	02 30 59.5	+1.3
CVP				eS	Sg	02 31 08.0	+4.0
APYP	Conner	0.82	257	eP	Pg	02 31 06.8	+0.8
PALP	Palanan	1.04	162	eP	Pb	02 31 02.6	-7.1
CAUP	Cauayan	1.13	193	eP	Pb	02 31 11.9	+0.5
BALP	Baler	2.35	192	eP	Pn	02 31 29.5	-0.1

TIF 08 02:41:07.1, 40.36N×48.80E, h20^{km}
MOS 08 02:41:05.4±2.1, 40.67N×48.66E, h21^{km}, mb4.2/1, 2C, Error ellipse: s-maj=55.7km s-min=16.7km az=115.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSMR	Kasumkent	1.01	337	ePG	Pb	02 41 24.0	-0.1
KSMR				i S	Sb	02 41 37.5	+0.5
KSMR				pmax	pmax		
	comp=Z,2μm,0.3s						
AKT	Akhty	1.07	319⇑	iPG	Pb	02 41 22.5	-2.6
AKT				pmax	pmax		
	comp=Z,235nm,0.2s						
DRN	Derbent	1.38	350⇑	iPG	Pn	02 41 27.0	-2.8
DRN				pmax	pmax		
	comp=Z,288nm,0.2s						
URKR	Urkarakh	1.68	333	ePN	Pn	02 41 35.0	+0.9
URKR				eS	Sn	02 41 57.0	+1.9
MAK	Makhachkala	2.45	340	ePN	Pn	02 41 48.2	+3.2
MAK				i S	Sn	02 42 17.8	+3.2
MAK				pmax	pmax		
	comp=Z,396nm,1.2s						
MAK				smax			
	comp=N,330nm,1.0s						
MAK				smax			
	comp=E,495nm,1.0s						
TI2	Plekhanov	3.14	291	ePN	Pn	02 42 01.0	+6.2
ZEI	Tsey	4.13	302	ePN	Pn	02 42 16.8	+7.8
ZEI				i		02 42 29.0	
ONI	Oni	4.35	298	P	Pn	02 42 21.1	+9.1

IDC 08 03:10:24.9±14.0, 21.58N×143.07E, h331^{km}±149^{km}, mb3.1/4, mb1 3.2/4, mb1mx2.9/20, mbtmp3.7/4, Error ellipse: s-maj=53.5km s-min=25.1km az=71.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.14	192	P	P	03 17 45.7	-1.6
	0.2nm,0.8s,baz=16,slow=8.2,SNR=4.8						
BVAR	Borovoye Array	62.69	320	P	P	03 20 15.3	-1.5
	0.7nm,0.4s,baz=95,slow=8.2,SNR=10						
YKA	Yellowknife Ar	76.61	28	P	P	03 21 39.3	-1.3
	0.2nm,0.5s,baz=290,slow=5.7,SNR=7.5						
FINES	FINESS Array B	83.24	334	P	P	03 22 13.6	-1.8
	1.5nm,0.9s,baz=63,slow=4.3,SNR=4.8						
LPAZ	La Paz	150.05	85	PKPbc	PKPdf	03 29 38.0	+6.3
	0.3nm,0.5s,baz=333,slow=9.0,SNR=4.1						

IDC 08 03:43:06.8±52.0, 23.44S×176.42W, mb3.9/3, mb1 4.1/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=957.4km s-min=164.4km az=87.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.94	248	P	P	03 50 25.8	-2.0
	0.6nm,0.3s,baz=88,slow=12,SNR=4.2						
ASAR	Alice Springs	45.35	259	P	P	03 51 27.1	-1.7
	0.6nm,0.4s,baz=91,slow=7.6,SNR=15						
WRA	Warramunga Arr	45.72	265	P	P	03 51 30.1	-1.6
	0.6nm,0.3s,baz=104,slow=8.2,SNR=23						

WEL 08 03:46:14.7±0.6, 35.63S×178.29E, h12^{km}, ML4.6/5, Error ellipse: s-maj=4.9km s-min=3.7km az=90.0
IDC 08 03:46:17.7±1.7, 35.84S×177.70E, mb3.8/3, mb1 4.0/5, mb1mx3.9/14, mbtmp3.9/5, ML3.9/2, MS3.6/6, Ms1 3.6/6, ms1mx3.4/13, Error ellipse: s-maj=39.9km s-min=26.3km az=80.0
ISC 08 03:46:16.4±1.3, 35.93S±0.06×177.8E±0.1, h12^{km}, n29, σ1^{s}44/31, mb3.7/3, MS3.6/4, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.68	167	⇓P*	Pb	03 46 44.6	-2.2
MXZ				S*	Sb	03 47 07.5	-0.2
MXZ				S*	Sb	03 47 07.5	-0.1
MXZ				T		03 48 38.9	
KUZ	Kuaotunu	1.89	244	PN	Pn	03 46 52.9	+4.0
KUZ				SN	Sn	03 47 21.4	+8.6
PUZ	Puketiti	2.17	171	PN	Pn	03 46 54.4	+1.5
PUZ				SN	Sn	03 47 23.5	+3.7
URZ	Urewera	2.40	194	Pn	Pn	03 46 58.3	+2.2
	21nm,0.3s,baz=16,slow=3.4,SNR=120						
URZ				Sn	Sn	03 47 30.8	+5.1
	19nm,0.3s,baz=258,slow=23,SNR=3.2						
URZ				LR	LR	03 48 13.4	
	comp=Z,1μm,18.9s,baz=98,slow=47						
URZ	Urewera	2.40	194	P*	Pb	03 46 58.3	-0.8
URZ				S*	Sb	03 47 30.8	+2.1
MWZ	Matawai	2.42	186	P*	Pb	03 46 58.0	-1.4
MWZ				S*	Sb	03 47 30.8	+1.7
WCZ	Waipu Caves	2.83	269	ePN	Pn	03 47 03.5	+1.1
KNZ	Kokohu	3.09	182	ePN	Pn	03 47 07.2	+1.1
KNZ				SN	Sn	03 47 47.7	+4.4
BKZ	Black Stump Fm	3.41	198	eP*	Pb	03 47 11.0	-5.4
MGZ	Maungaku	3.57	210	P*	Pb	03 47 20.2	+1.0
KRVZ	Karewarewa	3.61	208	P*	Pb	03 47 20.0	+0.2
OTVZ	Oturere	3.66	207	eP*	Pb	03 47 19.4	-1.4
NGZ	Ngauruhoe	3.70	208	eP*	Pb	03 47 20.1	-1.2
CNZ	Chateau	3.74	208	P*	Pb	03 47 21.6	-0.4
TUVZ	Tukino	3.76	207	eP*	Pb	03 47 20.6	-1.8
WNVZ	Wahianoa	3.83	207	P*	Pb	03 47 22.0	-1.6
MOVZ	Moawhango	3.85	205	P*	Pb	03 47 20.6	-3.2
TSZ	Takapari Road	4.38	199	ePN	Pn	03 47 25.9	+1.5
THZ	Tophouse	6.98	212	ePN	Pn	03 47 59.6	-1.5
RPZ	Rata Peaks	9.36	212	Pn	P	03 48 32.8	-1.4
	1.3nm,0.3s,baz=22,slow=16,SNR=3.6						
RPZ				LR	LR	03 52 40.9	
	comp=Z,386nm,18.9s,baz=69,slow=41						
STKA	Stephens Creek	30.24	267	P	P	03 52 30.8	+1.6
	3.2nm,1.1s,mb4.0,baz=153,slow=6.8,SNR=3.2						
STKA				LR	LR	04 03 42.4	
	comp=Z,135nm,18.1s,MS3.6,baz=28,slow=35						
TBI	Tubuai	30.92	75	eLR	LR	03 59 54.4	
	160nm,32.0s						
CTA	Charters Tower	31.86	291	LR	LR	04 04 27.6	
	comp=Z,80nm,18.8s,MS3.4,baz=229,slow=34						
PPT	Papeete	34.15	66	eLR	LR	04 01 19.2	
	143nm,23.5s						
PMG	Port Moresby	38.41	306	LR	LR	04 05 56.8	
	comp=Z,80nm,20.3s,MS3.5,baz=251,slow=31						
ASAR	Alice Springs	39.73	276	P	P	03 53 51.2	+0.7
	0.9nm,0.7s,mb3.6,baz=115,slow=7.0,SNR=8.3						
ASAR				LR	LR	04 10 46.7	
	comp=Z,107nm,19.6s,MS3.7,baz=175,slow=37						
WRA	Warramunga Arr	41.24	281	P	P	03 54 02.4	-0.5
	0.9nm,0.7s,mb3.5,baz=121,slow=7.7,SNR=4.3						
FINES	FINESS Array B	148.86	334	PKPbc	PKPdf	04 06 04.3	+1.9
	1.6nm,1.0s,baz=63,slow=3.1,SNR=5.4						
DBIC	Dimbokro	150.78	175	PKPbc	PKPdf	04 06 13.7	+6.9
	4.5nm,1.1s,baz=179,slow=4.2,SNR=3.1						

CSEM 08 03:47:33.9±0.3, 35.13N×3.76W, h8^{km}, ML2.6/2, Error ellipse: s-maj=6.8km s-min=3.8km az=21.0
INMG 08 03:47:34.8±1.1, 34.94N×3.84W, h31^{km}, ML2.0, Error ellipse: s-maj=6.5km s-min=3.3km az=4.0
NEIC 08 03:47:34.2, 35.07N×3.88W, MG3.2(MDD), After MDD.
SFS 08 03:47:34.0, 35.00N×3.80W
CNRM 08 03:47:34.7, 35.04N×3.87W, h11^{km}, MD3.3
MDD 08 03:47:34.5±0.9, 35.05N×3.87W, h6^{km}±4^{km}, mb3.4/11, Error ellipse: s-maj=8.4km s-min=3.5km az=23.0, PRXIMO
ISC 08 03:47:33.5±0.8, 35.06N±0.05×3.93W±0.03, h18^{km}±5^{km}, n38, σ1^{s}07/70, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAL	Palemas	0.16	358	P	Pb	03 47 38.5	+0.5
MPAL				S	Sb	03 47 40.5	-0.5
MPAL	Palemas	0.16	358	i P	Pb	03 47 38.5	+0.5
EMEL	Melilla	0.83	73	⇑P	Pb	03 47 48.6	-0.6
	220nm,0.3s,SNR=18						
EMEL				S	Sb	03 48 00.0	+0.1
	353nm,0.2s						
EMLI	Melilla	0.84	73	P	Pb	03 47 48.6	-0.7
	97nm,0.2s,SNR=18						
EMLI				S	Sb	03 48 00.0	-0.1
	353nm,0.2s						
MELI	Melilla	0.85	74	P	Pb	03 47 49.2	-0.3
MELI				S	Sb	03 48 00.8	+0.4
MELI	Melilla	0.85	74	eP	Pb	03 47 49.2	-0.3
MELI				eS	Sb	03 48 00.8	+0.4
ZAI	Zaio	0.98	95	i P	Pb	03 47 51.0	-0.6
ZAI				i S	Sb	03 48 04.5	+0.4
EALB	Alboran	1.14	40	P	Pb	03 47 54.3	-0.1
EALB				S	Sb	03 48 08.6	-0.2
EALB	Alboran	1.14	40	P	Pb	03 47 54.3	-0.1
	11nm,0.3s,SNR=7.9						
EALB				S	Sb	03 48 09.0	+0.2
	28nm,0.2s,SNR=6.5						
EALB	Alboran	1.14	40	P	Pb	03 47 54.3	-0.1
	1.8nm,0.1s,SNR=7.9						
EALB				S	Sb	03 48 08.6	-0.2
	28nm,0.2s,SNR=6.5						
EMIJ	Mijas	1.65	336	P	Pn	03 48 02.4	+0.5
	1.9nm,0.3s,SNR=6.2						
EMIJ				S	Sn	03 48 22.2	-0.5
	3.9nm,0.2s,SNR=5.4						
ERON	Agron	1.95	3	S	Sn	03 48 31.8	+1.3
	3.3nm,0.2s,SNR=7.9						
EBER	Berja	2.02	25	P	Pn	03 48 06.6	-0.6
	1.1nm,0.3s,SNR=7.0						
EBER				S	Sn	03 48 33.4	+1.3
	7.1nm,0.3s,SNR=6.2						
EBER	Berja	2.02	25	P	Pn	03 48 06.6	-0.6
	1.1nm,0.2s,SNR=7.0						
EBER				S	Sn	03 48 33.4	+1.3
	7.1nm,0.3s,SNR=6.2						
ELOJ	Sierra Loja	2.09	355	P	Pn	03 48 08.7	+0.5
	2.8nm,0.3s,SNR=7.9						
ELOJ				S	Sn	03 48 34.3	+0.4
	1.2nm,0.2s,SNR=7.9						
ECOG	Cogollos-Vega	2.23	8	P	Pn	03 48 11.6	+1.4
	2.2nm,0.3s,SNR=7.9						
ECOG				S	Sn	03 48 38.9	+1.4
	2.7nm,0.4s,SNR=4.0						
ENIJ	Nijar	2.36	36	P	Pn	03 48 09.8	-2.3
	1.4nm,0.3s,SNR=4.0						
ENIJ				S	Sn	03 48 39.1	-1.8
	3.9nm,0.4s,SNR=7.9						
ESPR	Espera	2.38	320	P	Pn	03 48 14.1	+1.7
	1.2nm,0.3s,SNR=4.6						
ESPR				S	Sn	03 48 43.8	+2.4
	5.8nm,0.3s						
ESPR	Espera	2.38	320	P	Pn	03 48 14.1	+1.7
	1.0nm,0.2s,SNR=4.6						
ESPR				S	Sn	03 48 43.8	+2.4
	5.8nm,0.3s						
EQES	Quesada	2.82	14	P	Pn	03 48 20.3	+1.6
EQES				S	Sn	03 48 52.0	-0.6
EQES	Quesada	2.82	14	P	Pn	03 48 20.3	+1.7
	1.1nm,0.2s,SNR=12						
EQES				S	Sn	03 48 51.9	-0.6
	6.0nm,0.2s						
EQES	Quesada	2.82	14	P	Pn	03 48 20.3	+1.6
	1.5nm,0.2s,SNR=12						
EQES				S	Sn	03 48 52.0	-0.5
EADA	Adamuz	3.14	351	P	Pn	03 48 24.1	+0.9
	1.1nm,0.2s,SNR=7.1						
EADA				S	Sn	03 49 01.5	+0.9
	1.2nm,0.3s						
EADA	Adamuz	3.14	351	P	Pn	03 48 24.1	+0.9
	2.1nm,0.3s,SNR=7.1						
EADA				S	Sn	03 49 01.5	+0.9
	1.2nm,0.3s						
EMIN	Mina Concepcio	3.49	321	P	Pn	03 48 28.2	+0.1
	1.1nm,0.2s,SNR=13						
EMIN				S	Sn	03 49 08.2	-1.2
	1.1nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	3.49	321	P	Pn	03 48 28.2	+0.1
	0.8nm,0.1s,SNR=13						
EMIN				S	Sn	03 49 08.2	-1.2
	1.1nm,0.3s,SNR=7.9						
PALC	Alcoutim	3.73	311	ePn	Pn	03 48 31.9	+0.3
PALC				eSn	Sn	03 49 14.1	-1.5
	3.4nm,0.6s						
PALC	Alcoutim	3.73	311	ePn	Pn	03 48 31.9	+0.3
PALC				eSn	Sn	03 49 14.1	-1.5
	3.4nm,0.6s						
ETOB	Tobarra	4.05	27	P	Pn	03 48 36.9	+0.7
	1.0nm,0.3s,SNR=7.5						
ETOB				S	Sn	03 49 21.7	-2.1
	2.7nm,0.6s						
ETOB	Tobarra	4.05	27	P	Pn	03 48 36.9	+0.7
	0.7nm,0.3s,SNR=7.5						
ETOB				S	Sn	03 49 21.7	-2.0
	2.7nm,0.6s						
PBEJ	Beja	4.33	314	ePn	Pn	03 48 40.8	+0.7
PBEJ				eSn	Sn	03 49 28.5	-2.3
	1.6nm,0.4s						
PBEJ	Beja	4.33	314	ePn	Pn	03 48 40.8	+0.7
PBEJ				eSn	Sn	03 49 28.5	-2.3
	1.6nm,0.4s						
EBAD	Badajoz	4.43	327	P	Pn	03 48 41.6	0.0
	0.8nm,0.2s,SNR=7.9						
EBAD				S	Sn	03 49 31.2	-2.2
	2.5nm,0.3s,SNR=7.9						
EBAD	Badajoz	4.43	327	P	Pn	03 48 41.6	0.0
PTEO	Sao Teotonio	4.59	304	ePn	Pn	03 48 43.8	-0.1
ESDC	Sonseca Array	4.60	360	P	Pn	03 48 44.3	+0.3
	0.4nm,0.1s,baz=174,slow=12,SNR=4.8						
ESDC	Sonseca Array	4.60	360	P	Pn	03 48 44.3	+0.3
PCBR	Castelo Branco	5.54	330	ePn	Pn	03 48 57.0	-0.2
PCBR				eSn	Sn	03 49 57.6	-3.5

NEIC 08 03:51:51.3±5.7, 3.72N×97.04E, h118^{km}±46^{km}, mb4.6/2, Error ellipse: s-maj=70.1km s-min=14.3km az=61.0
IDC 08 03:51:58.2±8.8, 3.80N×97.08E, h185^{km}±82^{km}, mb3.5/6, mb1 3.6/7, mb1mx3.4/17, mbtmp4.0/7, Error ellipse: s-maj=65.6km s-min=14.6km az=61.0
ISC 08 03:51:48.7±5.9, 3.8N±0.2×97.0E±0.4, h112^{km}±48^{km}, n12, σ0^{s}56/12, mb4.1/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	3.95	68	ePn	P	03 52 48.5	0.0
CMAR	Chiang Mai Arr	14.69	7	P	P	03 55 17.1	+5.0
	baz=197,slow=11,SNR=16						
CMAR	Chiang Mai Arr	14.69	7	P	P	03 55 17.1	+5.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NWAO	Narrogin (SRO)	41.27	154	P	P	03 59 25.2	+0.8
	3.2nm,0.6s,mb4.3,baz=309,slow=6.5,SNR=3.8						
WRA	Warramunga Arr	43.63	124	P	P	03 59 43.9	-0.1
	4.3nm,0.7s,mb4.3,baz=304,slow=9.3,SNR=51						
WRAB	Tennant Creek	43.64	124	eP	P	03 59 43.8	-0.3
	7.2nm,0.5s,mb4.7						
SONM	Songino Array	44.61	9	P	P	03 59 52.5	+1.0
	0.7nm,0.5s,mb3.6,baz=191,slow=8.6,SNR=4.6						
ASAR	Alice Springs	45.17	129	P	P	03 59 55.7	-0.5
	0.6nm,0.5s,mb3.6,baz=300,slow=7.6,SNR=9.0						
BVAR	Borovoye Array	53.74	340	P	P	04 01 00.8	-0.6
	1.2nm,0.6s,mb4.1,baz=146,slow=11,SNR=9.0						
CHKZ	Chkalovo	54.21	341	eP	P	04 01 04.3	-0.6
	3.1nm,0.6s,mb4.5						
FINES	FINESS Array B	77.60	332	P	P	04 03 34.2	+0.3
	1.2nm,0.8s,mb3.6,baz=90,slow=4.2,SNR=2.8						
FINES	FINESS Array B	77.60	332	P	P	04 03 34.2	+0.3

*NEIC **08** 04:20:46.6±0.6, 51.56N×16.17E, h5km, ML2.9(VIE), ML2.8(SZGRF), ML2.5(CLL), ML2.1(BRG), Error ellipse: s-maj=6.9km s-min=5.0km az=208.0*
*CSEM **08** 04:20:47.2±0.1, 51.53N×16.14E, h0km, ML3.1/6, Error ellipse: s-maj=2.4km s-min=1.1km az=12.0*
*PRU **08** 04:20:48.3, 51.48N×16.13E*
*IPEC **08** 04:20:48.3±0.2, 51.50N×16.14E, h10km±1km, ML2.2/3, Error ellipse: s-maj=1.7km s-min=0.6km az=18.0*
*WAR **08** 04:20:48.0, 51.52N×16.11E, h1km, ML2.8, Mining Induced*
ISC 08 04:20:45.6±0.6**, 51.47N**±0.03×**16.12E**±0.03**, n36, σ1s33**/70**, 3C, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	170	ePg	Pg	04 21 00.6	+2.3
KSP				eSg	Sg	04 21 10.1	+3.4
KSP	Ksiaz	0.63	170	ePg	Pg	04 21 00.5	+2.2
KSP				eSg	Sg	04 21 09.7	+3.0
UPC	Upice	0.96	184	ePG	Pg	04 21 06.6	+1.7
UPC	Upice	0.96	184	ePg	Pg	04 21 06.7	+1.8
DPC	Dobruska-Polom	1.12	173	ePG	Pg	04 21 09.4	+1.3
DPC				eSG	Sg	04 21 25.0	+1.9
	43nm,0.4s						
PVCC	Panska Ves	1.36	227	ePg	Pg	04 21 13.7	+0.9
PVCC				eSg	Sg	04 21 32.2	+1.3
BRG	Berggiesshubel	1.50	247	ePn	Pn	04 21 14.9	+1.1
BRG				i Pg	Pg	04 21 15.9	+0.4
BRG				i Sg	Sg	04 21 36.5	+1.1
BRG	Berggiesshubel	1.50	247	i Pg	Pg	04 21 15.9	+0.4
BRG				eSg	Sg	04 21 36.0	+0.6
PRU	Pruhonice	1.79	215	ePG	Pg	04 21 21.3	-0.1
PRU				eSG	Sg	04 21 45.4	+0.2
PRU	Pruhonice	1.79	215	ePn	Pn	04 21 19.1	+1.1
PRU	Pruhonice	1.79	215	ePg	Pg	04 21 21.3	-0.1
PRU				Sg	Sg	04 21 45.4	+0.2
MORC	Moravsky Berou	1.92	151	ePn	Pn	04 21 20.8	+0.9
MORC				eS	Sn	04 21 49.5	+4.4
MORC	Moravsky Berou	1.92	151	ePn	Pn	04 21 20.8	+0.9
MORC				eSg	Sg	04 21 48.3	-1.2
	19nm,0.3s						
MORC				eS	Sn	04 21 49.5	+4.4
CLL	Collm	1.96	267	i Pn	Pn	04 21 20.3	-0.2
CLL				ePg	Pg	04 21 24.0	-0.8
CLL				i Sg	Sg	04 21 50.3	-0.6
CLL	Collm	1.96	267	i PN	Pn	04 21 20.3	-0.2
CLL				ePG	Pg	04 21 24.0	-0.8
CLL				i		04 21 27.9	
CLL				i SG	Sg	04 21 50.3	-0.6
CLL	Collm	1.96	267	ePg	Pg	04 21 24.0	-0.8
CLL				eSg	Sg	04 21 49.6	-1.3
OKC	Ostrava-Krasne	2.08	141	ePG	Pg	04 21 26.9	-0.2
OKC				eSG	Sg	04 21 54.0	-0.8
VRAC	Vranov	2.18	172	ePn	Pn	04 21 25.6	+2.0
VRAC				eSg	Sg	04 21 57.2	-1.1
	9.6nm,0.2s						
KRUC	Moravsky	2.41	176	ePn	Pn	04 21 28.8	+1.8
KRUC	Moravsky	2.41	176	ePg	Pg	04 21 33.1	-0.7
KRUC				eSg	Sg	04 22 04.9	-1.1
	9.4nm,0.3s						
NKC	Novy Kostel	2.64	244	ePN	Pn	04 21 31.3	+1.2
NKC				ePG	Pg	04 21 37.8	-0.5
NKC				eSG	Sg	04 22 13.0	-0.4
NKC	Novy Kostel	2.64	244	ePn	Pn	04 21 31.0	+0.9
NKC	Novy Kostel	2.64	244	ePg	Pg	04 21 37.8	-0.5
NKC				eSg	Sg	04 22 12.3	-1.1
OJC	Ojcow	2.64	117	ePG	Pg	04 21 37.0	-1.4
OJC				eSG	Sg	04 22 12.0	-1.6
KHC	Kasperske Hory	2.85	216	ePN	Pn	04 21 34.9	+1.7
KHC				ePG	Pg	04 21 40.2	-2.4
KHC				eSN	Sn	04 22 08.0	-0.8
KHC				eSG	Sg	04 22 19.0	-1.6
KHC	Kasperske Hory	2.85	216	ePn	Pn	04 21 34.7	+1.5
MOX	Moxa	2.96	256	ePg	Pg	04 21 43.7	-1.0
MOX				eSg	Sg	04 22 23.5	-0.7
MOX	Moxa	2.96	256	ePg	Pg	04 21 43.7	-1.0
MOX				eSg	Sg	04 22 22.2	-2.0
GEC2	GERESS Array S	3.05	212	ePn	Pn	04 21 37.7	+1.6
GEC2				eSg	Sg	04 22 26.0	-1.2
WET	Wettzell	3.12	223	ePn	Pn	04 21 37.6	+0.6
VYHS	Vyhne	3.45	148	eSG	Sg	04 22 35.7	-4.9
BSD	Bornholm Skovb	3.73	349	i P	Pn	04 21 43.4	-2.2
BSD				i S	Sn	04 22 26.5	-4.4
MOA	Molln	3.82	199⥣	i PN	Pn	04 21 48.0	+1.1
MOA				i SG	Sg	04 22 51.1	-1.6
	11nm,0.6s						
ARSA	Arzberg	4.24	186⥣	i PN	Pn	04 21 53.8	+0.9
ARSA				i SG	Sg	04 23 03.6	-3.1
	5.6nm,0.5s						
CRVS	Cervenica-Dubn	4.28	125	eSG	Sg	04 23 07.5	-0.8
KBA	Koelnbreinsper	4.75	204⥣	i PN	Pn	04 22 01.3	+1.1
KBA				i SG	Sg	04 23 21.7	-2.2
	5.8nm,0.7s						

*IDC **08** 04:37:53.4±0.8, 6.21S×133.53E, mb4.2/5, mb1 4.6/9, mb1mx4.5/13, mbtmp4.4/9, ML4.4/4, MS4.0/6, Ms1 4.0/6, ms1mx3.5/15, Error ellipse: s-maj=39.2km s-min=18.0km az=61.0*
*NEIC **08** 04:37:59.0±0.5, 6.33S×133.52E, h45km, mb4.4/6, Error ellipse: s-maj=14.3km s-min=8.5km az=76.0*
ISC 08 04:37:55.5±0.5**, 6.38S**±0.05×**133.52E**±0.09**, h33km, n29, σ1s34**/32**, mb4.2**/8**, MS4.1**/3**, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.38	190	eP	P	04 39 33.3	+3.7
	108nm,0.4s						
KAKA				eS	S	04 40 44.1	+1.9
WRAB	Tennant Creek	13.50	177	Pn	P	04 41 07.0	-0.1
	240nm,0.4s,SNR=25						
WRAB	Tennant Creek	13.50	177	eP	P	04 41 07.5	+0.4
WRAB				eS	S	04 43 29.8	-7.2
WRA	Warramunga Arr	13.51	177	Pn	P	04 41 07.7	+0.4
	4.1nm,0.3s,baz=3.7,slow=13,SNR=212						
WRA				Sn	S	04 43 31.1	-6.2
	11nm,0.3s,baz=355,slow=23,SNR=10						
WB2	Warramunga Arr	13.51	177	eP	P	04 41 07.1	-0.3
WB2				eS	S	04 43 29.9	-7.4
PMG	Port Moresby	13.84	103	Pn	P	04 41 11.1	-0.6
	1.5nm,0.3s,baz=324,slow=8.7,SNR=3.2						
PMG				LR	LR	04 47 31.6	
	comp=Z,362nm,18.6s,baz=228,slow=42						
FITZ	Fitzroy Crossi	13.96	213	eP	P	04 41 13.0	-0.3
	14nm,0.3s						
FITZ				eS	S	04 43 43.0	-5.1
ASAR	Alice Springs	17.19	179	P	P	04 41 56.1	+1.3
	3.6nm,0.3s,baz=1.1,slow=13,SNR=128						
ASAR				S	S	04 44 59.2	-4.2
	1.9nm,0.3s,baz=359,slow=27,SNR=6.8						
ASAR				LR	LR	04 49 03.6	
	comp=Z,456nm,18.5s,baz=355,slow=39						
ASPA	Alice Springs	17.19	179	eP	P	04 41 55.9	+1.1
ASPA				eS	S	04 44 58.8	-4.6
CTA	Charters Tower	18.40	139	eP	P	04 42 14.7	+4.7
	7.2nm,0.6s						
CTA	Charters Tower	18.40	139	P	P	04 42 11.1	+1.0
	1.0nm,0.3s,baz=320,slow=14,SNR=7.4						
CTA				LR	LR	04 49 51.0	
	comp=Z,436nm,18.4s,baz=21,slow=39						
CTA	Charters Tower	18.40	139	P	P	04 42 11.1	+1.0
CTA				eP		04 42 14.7	
CTAO	Charters Tower	18.40	139	eP	P	04 42 13.1	+3.1
	22nm,0.9s						
MBWA	Marble Bar	19.85	221	eP	P	04 42 26.7	+0.1
	11nm,0.7s						
KKM	Kota Kinabalu	21.23	305	eP	P	04 42 41.4	+0.5
FORT	Forrest	24.81	191	eP	P	04 43 19.8	+3.7
	998nm,0.8s						
STKA	Stephens Creek	26.47	164	eP	P	04 43 34.1	+2.4
	4.9nm,0.4s,mb4.4						
STKA	Stephens Creek	26.47	164	P	P	04 43 33.8	+2.1
	2.2nm,0.4s,mb4.0,baz=337,slow=7.7,SNR=6.6						
STKA				LR	LR	04 55 13.0	
	comp=Z,298nm,18.7s,MS3.9,baz=6.8,slow=39						
CMAR	Chiang Mai Arr	42.09	307	P	P	04 45 47.5	+1.0
	1.2nm,0.5s,mb3.8,baz=139,slow=8.6,SNR=5.4						
RPZ	Rata Peaks	49.65	145	LR	LR	05 09 45.6	
	comp=Z,202nm,18.2s,MS4.2,baz=311,slow=38						
ULN	Ulaanbaatar	58.83	339	eP	P	04 47 51.6	-1.6
	3.3nm,0.6s,mb4.5						
SONM	Songino Array	59.04	339	P	P	04 47 54.3	-0.3
	1.5nm,0.7s,mb4.1,baz=152,slow=7.3,SNR=9.1						
VNDA	Vanda	72.66	174	LR	LR	05 17 53.7	
	comp=Z,110nm,19.0s,MS4.2,baz=174,slow=33						
KURK	Kurchatov	73.85	327	P	P	04 49 28.4	-0.3
	5.2nm,0.9s,mb4.5						
BVAR	Borovoye Array	79.43	327	P	P	04 50 00.3	+0.2
	2.0nm,0.7s,mb4.2,baz=122,slow=8.5,SNR=11						
CHKZ	Chkalovo	79.59	327	eP	P	04 50 00.5	-0.4
	2.4nm,0.8s,mb4.2						
ILAR	Eielson Array	91.30	25	P	P	04 50 58.1	-0.6
	0.8nm,0.9s,mb4.0,baz=272,slow=4.9,SNR=5.0						
LPAZ	La Paz	148.92	137	PKPbc	PKPdf	04 57 45.5	+8.6
	1.6nm,0.7s,baz=14,slow=1.6,SNR=4.9						
ROSC	El Rosal	152.25	92	PKPbc	PKPdf	04 57 52.9	+11
	3.1nm,0.5s,baz=316,slow=17,SNR=5.3						
ROSC				PKPab	PKPab	04 58 03.6	+2.6
	3.2nm,0.5s,baz=80,slow=3.2,SNR=4.9						

JMA 08 04:39:22.4±0.3**, 43.92N×147.93E, h12km, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.68	251	P	Pn	04 39 52.2	+0.3
NEM2				eS	Sn	04 40 13.8	+0.3
JRA	Rausu	2.03	271	P	Pn	04 39 57.1	+0.2
JRA				eS	Sn	04 40 22.3	0.0
JNK	Nakash	2.35	263	P	Pn	04 40 01.8	+0.3
JNK				eS	Sn	04 40 30.6	+0.1
JAK	Akkeshi	2.53	250	P	Pn	04 40 04.4	+0.4
JCH	Churui	3.58	250	P	Pn	04 40 20.0	+1.0
JNBK	Urakawa-nobuka	4.13	248	P	Pn	04 40 27.3	+0.5

TAP 08 04:39:35.6, 24.91N×122.19E, h125km, ML3.5, Taiwan region

MEX 08 04:45:15.7±0.4**, 17.75N×94.69W, h137km**±11km**, MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.68	196	i P	P	04 45 35.3	-1.8
CMIG				i S	S	04 45 50.5	-3.0
OXX	Oaxaca	2.05	251	eP	P	04 45 49.0	-2.1
OXX				eS	S	04 46 16.0	-2.1
VHO	Vista Hermosa	2.06	251	i P	P	04 45 49.5	-1.7
VHO				i S	S	04 46 16.3	-2.0

*MOS **08** 04:45:38.4±0.9, 53.38N×161.89E, h17km, mb4.9/43, Error ellipse: s-maj=10.0km s-min=5.3km az=95.3*
*BJI **08** 04:45:40.4, 53.62N×161.46E, h32km, mB5.0, mb4.8, Ms4.7, Msz4.5*
*KRSC **08** 04:45:42.6±0.6, 53.47N×161.80E, h40km±22km, ML5.0*
*NEIC **08** 04:45:44.2±0.4, 53.43N×161.72E, mb4.7/50, Error ellipse: s-maj=9.5km s-min=5.1km az=159.0*
*IDC **08** 04:45:45.1±0.9, 53.74N×161.60E, h41km±5km, mb4.1/19, mb1 4.4/20, mb1mx4.3/26, mbtmp4.4/20, ML4.4/2, Error ellipse: s-maj=23.9km s-min=12.8km az=167.0*
ISC 08 04:45:42.3±0.2**, 53.47N**±0.02×**161.74E**±0.04**, h42km**±2.8km**: pP-P, n219, σ1s03**/261**, mb4.6**/79**, MS4.4**/7**, 14C-10D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.10	251	P	P	04 46 01.6	+0.2
SPN				S	S	04 46 16.2	+0.6
SPN	Mys Shipunski	1.10	251	i P	P	04 46 01.5	+0.1
SPN				i S	S	04 46 15.0	-0.6
NLC	Nalytchevo	1.47	259	P	P	04 46 06.9	+0.1
NLC				S	S	04 46 24.0	-1.0
NLC	Nalytchevo	1.47	259	i P	P	04 46 06.9	+0.1
NLC				i S	S	04 46 24.4	-0.6
KII	Karymskiy	1.47	293	P	P	04 46 06.6	-0.2
KII				S	S	04 46 23.5	-1.6
KII	Karymskiy	1.47	293	i P	P	04 46 06.6	-0.2
KII				eS	S	04 46 24.3	-0.8
UGLR	Uglovaya	1.77	263	i P	P	04 46 12.0	+1.0
AVH	Avacha	1.81	265	i P	P	04 46 12.3	+0.7
AVH				i S	S	04 46 33.8	+0.3
KOK	Koryaka	1.87	266	i P	P	04 46 13.2	+0.8
KOK				i S	S	04 46 35.5	+0.6
PET	Petropavlovsk	1.91	258	P	P	04 46 13.6	+0.6
PET				S	S	04 46 35.9	0.0
PET	Petropavlovsk	1.91	258α	i PN	P	04 46 13.5	+0.5
PET				i S	S	04 46 36.4	+0.5
PET				smax			
	comp=E,3µm,0.6s						
PET				smax			
	comp=N,2µm,0.5s						
PET	Petropavlovsk	1.91	258	ePn	P	04 46 13.3	+0.3
PET	Petropavlovsk	1.91	258	i P	P	04 46 13.4	+0.4
PET				eS	S	04 46 35.9	0.0
TUMR	Tumrok	2.04	333	i P	P	04 46 15.5	+0.7
TUMR				i S	S	04 46 39.2	0.0
RUS	Russkaya	2.21	243	i P	P	04 46 17.7	+0.4
RUS				eS	S	04 46 43.1	-0.5
KRMR	Karymshinskiy	2.27	255	i P	P	04 46 18.5	+0.4
KRMR				i S	S	04 46 44.6	-0.4
GNL	Ganaly	2.28	277	i P	P	04 46 19.3	+1.1
GNL				i S	S	04 46 46.0	+0.8
GRL	Gorelyy	2.40	249	i P	P	04 46 21.2	+1.2
GRL				eS	S	04 46 49.2	+0.8
KMNR	Kamenistaya	2.45	340	i P	P	04 46 21.6	+0.9
KMNR				i S	S	04 46 49.9	+0.3
ZLN	Zelenaya	2.61	348	eP	P	04 46 24.1	+1.2
ZLN				eS	S	04 46 54.3	+0.7
KPT	Kopyto	2.65	341	eP	P	04 46 22.5	-1.0
KPT				eS	S	04 46 53.4	-1.3
LGNR	Loginova	2.69	347	eP	P	04 46 23.1	-1.0
LGNR				eS	S	04 46 57.3	+1.7
CIRR	Tsirk	2.71	348	eP	P	04 46 25.1	+0.7
CIRR				eS	S	04 46 56.0	-0.2
KOZ	Kozyrevsk	2.81	338	P	P	04 46 26.6	+0.8
KOZ				S	S	04 46 58.9	+0.2
KOZ	Kozyrevsk	2.81	338	eP	P	04 46 26.6	+0.8
KOZ				eS	S	04 46 58.4	-0.3
KOZR	Kozyr	2.81	338	PN	P	04 46 26.6	+0.8
KOZR				S	S	04 46 58.9	+0.1
APC	Apacha	2.81	261	i P	P	04 46 27.5	+1.6
APC				i S	S	04 47 00.0	+1.2
APC				Smax			
	comp=N,690nm,0.8s						
KBTR	Krutoberegovo	2.81	12	P	P	04 46 28.0	+2.1
KBTR				S	S	04 47 01.9	+3.1
KBTR	Krutoberegovo	2.81	12	eP	P	04 46 25.2	-0.7
KBTR				eS	S	04 46 58.1	-0.7
KRSR	Krestovskiy	2.83	347	eP	P	04 46 27.9	+1.7
KRSR				eS	S	04 47 00.7	+1.3
KBG	Krutoberegovo	2.84	11	eP	P	04 46 26.0	-0.3
KBG				eS	S	04 46 57.0	-2.6
KBG				Smax			
	comp=N,6µm,1.3s						
KBG	Krutoberegovo	2.84	11	eP	P	04 46 26.4	+0.1
KBG				eS	S	04 46 58.2	-1.4
KLY	Klyuchi	2.92	348	P	P	04 46 27.5	+0.2
KLY				S	S	04 47 00.7	-0.7
KLY	Klyuchi	2.92	348	eP	P	04 46 27.5	+0.2
KLY				eS	S	04 47 00.0	-1.4
BKI	Bering	3.02	53	i P	P	04 46 26.4	-2.5
BKI				i S	S	04 46 58.7	-5.5
ESO	Esso	3.02	326	i P	P	04 46 29.3	+0.4
ESO				eS	S	04 47 03.4	-0.8
ESO				Smax			
	comp=N,580nm,0.9s						
SRDR	Sredinnyy	3.08	339	i P	P	04 46 29.8	+0.1
SRDR				eS	S	04 47 03.9	-1.8
PAU	Pauzhetka	3.62	238	eP	P	04 46 38.0	+0.6
PAU				eS	S	04 47 18.0	-1.4
PAU				Smax			
	comp=N,1µm,1.0s						
SKR	Severo-Kuril's	4.45	233	ePN	P	04 46 45.0	-4.1
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				MLR	MLR		
	comp=E,2µm,10.0s						
SKR				MLR	MLR		
	comp=Z,2µm,10.0s						
FX1	Attu Island--F	6.89	90	P	P	04 47 20.8	-2.6
	comp=Z,43nm,0.3s,baz=304,slow=5.4,SNR=84						
FX1				S	S	04 48 34.2	-7.2
	comp=Z,33nm,0.3s,baz=105,slow=20,SNR=9.0						
FX1	Attu Island--F	6.89	90	eP	P	04 47 20.7	-2.7
FX1				eS	S	04 48 33.6	-7.7
MA2	Magadan	8.61	320c	ePN	P	04 47 47.2	+0.1
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
MA2				pmax	pmax		
	comp=N,4.0nm,0.8s						
MA2				pmax	pmax		
	comp=E,9.0nm,0.9s						
MA2	Magadan	8.61	320	eP	P	04 47 47.0	-0.2
KAMR	Kamenskoye	9.31	13	i P	P	04 47 56.6	-0.3
BILL	Bilibino	14.78	7	eP	P	04 49 10.6	+0.9
BILL				pmax	pmax		
	comp=Z,6.0nm,0.4s						
BILL	Bilibino	14.78	7	eP	P	04 49 10.6	+0.8
	comp=Z,5.6nm,0.4s						
ASAJ	Asahikawa	15.66	241	P	P	04 49 21.7	+0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	15.66	241	P	P	04 49 21.6	+0.3
	comp=Z,1.4nm,0.3s,baz=76,slow=30,SNR=5.4						
YAK	Yakutsk	18.95	310	eP	P	04 49 57.4	-4.7
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.0s						
YAK	Yakutsk	18.95	310	eP	P	04 49 57.5	-4.6
	comp=E,40nm,0.5s						
KLR	Kul'dur	19.13	269	eP	P	04 50 00.0	-4.3
TNA	Tin City	19.33	39	eP	P	04 50 06.4	0.0
	comp=E,11nm,0.9s						
CLNS	Chul'man	21.15	294	eP	P	04 50 22.8	-2.8
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.5						
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
MDJ	Mudanjiang	22.69	260	P	P	04 50 37.8	-3.1
MDJ				AP		04 50 47.8	
MDJ				XP		04 50 53.1	
MDJ				S	S	04 54 42.0	+0.2
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,135nm,5.2s						
MDJ				LR	LR		
	comp=N,723nm,17.8s,MS4.2						
MDJ				LR	LR		
	comp=E,364nm,17.8s,MS4.2						
MDJ				LR	LR		
	comp=Z,757nm,16.4s,MS4.2						
TIXI	Tiksi	23.16	334	i P	P	04 50 44.2	-1.0
TIXI				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.2						
MAJO	Matsushiro	23.56	234	eP	P	04 50 51.0	+1.5
MAJO				pmax	pmax		
	comp=Z,30nm,0.7s,mb4.8						
MAJO	Matsushiro	23.56	234	eP	P	04 50 51.0	+1.5
	comp=Z,30nm,0.7s,mb4.8						
MAT	Matsushiro	23.56	234	eP	P	04 50 52.0	+2.5
MAT				pmax	pmax		
	comp=Z,22nm,0.8s,mb4.6						
MAT	Matsushiro	23.56	234	eP	P	04 50 52.0	+2.5
	comp=Z,22nm,0.8s,mb4.7						
MAT	Matsushiro	23.56	234	P	P	04 50 52.2	+2.7
IMA	Indian Mountai	25.09	42	eP	P	04 51 04.9	+0.9
IMA				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
IMA	Indian Mountai	25.09	42	eP	P	04 51 04.9	+0.9
	comp=Z,20nm,0.8s,mb4.7						
CN2	Changchun	25.61	263	eP	P	04 51 06.5	-2.6
CN2				eS	S	04 55 28.8	-3.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HIA	Hailar	26.27	278	eP	P	04 51 11.6	-3.6
HIA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
HIA	Hailar	26.27	278	eP	P	04 51 11.6	-3.5
	comp=Z,9.9nm,0.5s,mb4.6						
BOD	Bodaibo	26.83	299	eP	P	04 51 16.6	-3.6
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
SML	Sawmill	27.35	52	P	P	04 51 23.7	-1.2
ILAR	Eielson Array	27.84	46	P	P	04 51 28.5	-0.9
	comp=Z,2.3nm,0.8s,mb3.8,baz=266,slow=8.4,SNR=12						
INK	Inuvik	32.96	38	P	P	04 52 13.8	-0.8
	comp=Z,1.6nm,0.6s,mb4.2,baz=292,slow=6.5,SNR=18						
BJI	Beijing	33.39	265	P	P	04 52 17.8	-0.8
BJI				S	S	04 57 35.0	-0.7
BJI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
BJI				LR	LR		
	comp=N,323nm,18.1s,MS4.2						
BJI				LR	LR		
	comp=E,173nm,13.5s,MS4.2						
BJI				LR	LR		
	comp=Z,159nm,15.3s,MS3.9						
BJI	Beijing	33.39	265	P	P	04 52 17.8	-0.8
	comp=Z,4.0nm,0.7s,mb4.5						
BJI				pP	pP	04 52 31.1	+1.1
BJI				sP	sP	04 52 37.2	+1.9
BJI				S	S	04 57 35.0	-0.7
BJI				sS		04 58 00.5	
BJI				SS	SS	05 00 06.5	+26
BJI				ScS	ScS	05 02 38.1	-0.8
SONM	Songino Array	34.77	284	P	P	04 52 29.3	-1.1
	comp=Z,2.2nm,0.5s,mb4.3,baz=63,slow=8.1,SNR=18						
SONM				pP	pP	04 52 41.7	-0.2
	comp=Z,1.3nm,0.7s,baz=63,slow=8.1,SNR=4.4						
SONM				PcP	PcP	04 55 04.2	+0.7
	comp=Z,1.3nm,0.6s,baz=64,slow=2.2,SNR=6.0						
HHC	Hu-ho-hao-te	35.64	270	eP	P	04 52 37.5	-0.3
HHC				PP	PP	04 54 00.5	+1.4
HHC				S	S	04 58 09.6	-0.9
HHC				SS	SS	05 00 27.7	-4.0
HHC				SCS	ScS	05 02 49.7	-1.1
HHC				AMB	AMB		
	comp=Z,165nm,6.0s						
HHC				LR	LR		
	comp=N,465nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=E,408nm,19.0s,MS4.4						
HHC				LR	LR		
	comp=Z,555nm,17.2s,MS4.4						
DLBC	Dease Lake	37.02	54	PcP	PcP	04 55 10.5	+0.5
	comp=Z,0.5nm,0.4s,baz=201,slow=12,SNR=3.4						
NJ2	Nanjing	37.32	252	eP	P	04 52 50.1	-2.0
NJ2				AP	pP	04 52 56.1	-7.5
NJ2				S	S	04 58 33.0	-3.3
NJ2				XS		04 58 55.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,200nm,8.6s						
NJ2				LR	LR		

comp=N,1µm,19.6s
NJ2 LR LR
comp=E,940nm,14.2s
NJ2 LR LR
comp=Z,1µm,15.5s,MS4.8
YKA Yellowknife Ar 42.21 43 *i* P **P 04 53 31.7 -0.4**
YKA Yellowknife Ar 42.21 43 P **P 04 53 32.2 +0.1**
comp=Z,0.4nm,0.6s,baz=299,slow=7.9,SNR=9.7
YKA Yellowknife Ar 42.21 43 P **P 04 53 32.2 +0.1**
GTA Gaotai 43.55 277 *e*P **P 04 53 44.2 +0.8**
GTA AMB AMB
comp=Z,8.0nm,0.5s,mb4.7
ENH Enshi 44.05 260 *e*P **P 04 53 45.5 -2.2**
comp=Z,12nm,0.6s,mb4.8
WMQ Urumqi 47.77 290⇓*i*P **P 04 54 15.6 -1.3**
WMQ AP pP 04 54 28.0 -0.6
WMQ PCP PcP 04 55 44.0 -1.8
WMQ PCS 04 59 38.5
WMQ AMB AMB
comp=Z,11nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,204nm,4.5s
WMQ LR LR
comp=N,827nm,20.6s,MS4.9
WMQ LR LR
comp=E,954nm,16.4s,MS4.9
WMQ LR LR
comp=Z,678nm,16.8s,MS4.7
KURK Kurchatov 48.37 302 *e*P **P 04 54 17.6 -3.8**
KURK pmax pmax
comp=Z,11nm,0.4s,mb5.2
KURK Kurchatov 48.37 302 *e*P **P 04 54 17.6 -3.8**
comp=Z,10nm,0.4s,mb5.2
KURK *e* pP 04 54 31.5 -1.6
GYA Guiyang 48.55 259⇑*i*P **P 04 54 22.6 -0.5**
GYA AP pP 04 54 35.2 +0.4
GYA PP PP 04 56 14.7 -1.1
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,130nm,4.0s
GYA LR LR
comp=N,240nm,15.4s,MS4.5
GYA LR LR
comp=E,300nm,15.5s,MS4.5
GYA LR LR
comp=Z,430nm,15.8s,MS4.5
CHKZ Chkalovo 50.41 309 *e*P **P 04 54 33.4 -3.6**
CHKZ pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CHKZ Chkalovo 50.41 309 *e*P **P 04 54 33.4 -3.6**
comp=Z,6.7nm,0.6s,mb4.8
CHKZ *e* pP 04 54 47.0 -1.7
BVAR Borovoye Array 50.92 309 P **P 04 54 38.6 -2.4**
comp=Z,2.6nm,0.5s,mb4.5,baz=59,slow=8.3,SNR=20
BVAR PcP PcP 04 55 56.2 -0.9
comp=Z,1.6nm,0.7s,baz=45,slow=6.1,SNR=2.9
BVAR Borovoye Array 50.92 309 P **P 04 54 38.6 -2.4**
BVAR PcP PcP 04 55 56.2 -0.9
KMI Kunming 51.86 261 P **P 04 54 48.7 +0.3**
KMI AP pP 04 54 58.1 -2.1
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMI Kunming 51.86 261 P **P 04 54 48.7 +0.3**
comp=Z,9.0nm,0.9s,mb4.7
KMI pP pP 04 54 58.1 -2.1
ARCES ARCESS Array B 53.23 342 P **P 04 54 55.1 -2.9**
comp=Z,5.1nm,0.8s,mb4.5,baz=31,slow=7.1,SNR=6.1
SUMG Summit 53.46 7 *e*P **P 04 54 59.7 0.0**
comp=Z,12nm,0.9s,mb4.8
SUMG *e* pP 04 55 12.2 +0.6
NVAR Mina Array Bea 54.68 71 P **P 04 55 10.0 +0.8**
comp=Z,0.5nm,0.5s,mb3.8,baz=298,slow=6.6,SNR=6.0
AAK Ala-Archa 55.79 297 *i* P **P 04 55 14.2 -2.9**
AAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
AAK Ala-Archa 55.79 297 P **P 04 55 13.7 -3.4**
comp=Z,4.3nm,1.1s,mb4.4
HWUT Hardware Ranch 56.21 64 P **P 04 55 21.3 +1.2**
comp=Z,4.2nm,1.0s,mb4.4
PDAR Pinedale Array 56.47 62 P **P 04 55 22.0 0.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=350,slow=2.3,SNR=8.8
JOF Joensuu 57.63 336 *ep* **P 04 55 28.3 -1.6**
comp=Z,8.6nm,0.6s,mb5.0
CMAR Chiang Mai Arr 59.23 259 P **P 04 55 42.0 +0.3**
comp=Z,8.4nm,0.7s,mb4.9,baz=22,slow=7.0,SNR=36
CMAR pP pP 04 55 53.9 +0.2
comp=Z,13nm,0.8s,baz=26,slow=6.7,SNR=12
KAF Kangasniemi 59.52 337 *ep* **P 04 55 41.1 -2.0**
comp=Z,3.0nm,0.5s,mb4.6
KAF Kangasniemi 59.52 337 *e*P **P 04 55 41.1 -2.0**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
GUN Gumba 59.84 277 *e*P **P 04 55 45.0 -0.7**
JIRN Jiri 59.84 277 *e*P **P 04 55 45.4 -0.3**
comp=Z,6.1nm,0.4s,mb5.0
FINES FINESS Array B 60.16 337 P **P 04 55 46.5 -1.0**
comp=Z,4.6nm,0.5s,mb4.8,baz=41,slow=8.5,SNR=77
FINES pP pP 04 55 58.0 -1.5
comp=Z,6.0nm,0.7s,baz=37,slow=9.5,SNR=8.2
KKN Kakani 60.28 277 *e*P **P 04 55 48.2 -0.6**
comp=Z,21nm,0.5s,mb5.4
KKN Kakani 60.28 277 *e*P **P 04 55 48.2 -0.6**
KKN pmax pmax
comp=Z,11nm,0.5s,mb5.1
PKI Pulchoki 60.37 277 *e*P **P 04 55 48.3 -1.0**
comp=Z,13nm,0.5s,mb5.3
PKI Pulchoki 60.37 277 *e*P **P 04 55 48.3 -1.0**
PKI pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
GKN Gorkha 60.50 278 *e*P **P 04 55 49.5 -0.8**
comp=Z,14nm,0.4s,mb5.4
DMN Daman 60.52 277 *e*P **P 04 55 49.1 -1.3**
comp=Z,17nm,0.7s,mb5.3
KOLN Koldanda 61.29 279 *e*P **P 04 55 54.7 -0.9**
OBN Obninsk 62.72 328 *i* P **P 04 56 02.8 -2.0**
OBN *i* 05 04 27.2
OBN pmax pmax
comp=Z,13nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.0
NB2 NORSAR Subarra 63.45 344 P **P 04 56 08.2 -1.3**
comp=Z,5.4nm,0.6s,mb4.8,baz=20,slow=6.5
NB2 NORSAR Subarra 63.45 344 P **P 04 56 08.2 -1.3**
NB2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
NOA NORSAR Array B 63.45 344 P **P 04 56 08.3 -1.2**
comp=Z,4.7nm,0.6s,mb4.8,baz=21,slow=6.6,SNR=28
NOA pP pP 04 56 20.4 -1.3
comp=Z,6.5nm,0.7s,baz=20,slow=6.6,SNR=10
HFS Hagfors 63.89 343 P **P 04 56 10.9 -1.3**
comp=Z,3.0nm,0.5s,mb4.6,baz=45,slow=6.1,SNR=35
SCHQ Schefferville 64.85 29 P **P 04 56 17.4 -1.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=328,slow=3.1,SNR=3.8
GOF Gofitskoye 68.78 318⇓*i*P **P 04 56 42.0 -1.5**
GOF pmax pmax
comp=Z,26nm,0.8s,mb5.2
AKASG Malin Array Be 68.79 330 P **P 04 56 42.6 -0.9**
comp=Z,3.2nm,0.4s,mb4.6,baz=29,slow=6.4,SNR=18
AKASG pP pP 04 56 55.1 -0.7
comp=Z,2.3nm,0.5s,baz=27,slow=6.2,SNR=6.6
TXAR Lajitas Array 69.58 68 P **P 04 56 49.7 +1.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=298,slow=4.4,SNR=20
TXAR Lajitas Array 69.58 68 P **P 04 56 49.7 +1.0**
KIV Kislovodsk 69.83 318 *i* P **P 04 56 47.7 -2.3**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BSEG Bad Segeberg 70.36 343 *e*P **P 04 56 53.2 +0.2**
BSEG pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KWP Kalwaria 71.61 333 *e*P **P 04 57 00.5 -0.1**
KWP *e* pP 04 57 12.4 -0.5
KWP pmax pmax
comp=Z,21nm,0.7s,mb5.2
KWP Kalwaria 71.61 333 *e*P **P 04 57 00.5 -0.1**
comp=Z,21nm,0.7s,mb5.2
KWP *e*P pP 04 57 12.4 -0.5
KWP Kalwaria 71.61 333 *e*P **P 04 57 12.4 +12**
OJC Ojcow 71.82 335 *e*P **P 04 57 02.3 +0.4**
KSP Ksiaz 72.07 338 *e*P **P 04 57 03.2 -0.1**
KSP *e**PP pP 04 57 11.6 -4.0
GNI Garni 72.13 314 *i* P **P 04 57 03.0 -0.9**
GNI pmax pmax
comp=Z,6.0nm,0.9s
HYB Hyderabad 72.17 275 *e*P **P 04 57 04.0 -0.5**
HYB Hyderabad 72.17 275 *i* P **P 04 57 04.0 -0.5**
CLL Collm 72.34 340⇓*i*P **P 04 57 04.9 0.0**
CLL *i* *PP pP 04 57 12.7 -4.5
CLL *i* pP 04 57 16.7 -0.6
CLL pmax pmax
comp=Z,13nm,1.0s,mb4.8
CLL Collm 72.34 340⇓*i*P **P 04 57 04.9 0.0**
comp=Z,13nm,1.0s,mb4.8
CLL *i* pP pP 04 57 12.7 -4.5
CLL *i* pP 04 57 16.7 -0.6
CLL Collm 72.34 340 ⇓P **P 04 57 04.9 0.0**
comp=Z,logA/T=1.1,mb4.8
CLL *i* *PP pP 04 57 12.7 -4.5
CLL *i* *SP sP 04 57 16.7 -5.1
CLZ Clausthal 72.35 342 *e*P **P 04 57 05.7 +0.7**
comp=Z,10.0nm,0.9s,mb4.8
DPC Dobruska-Polom 72.53 338 *e*P **P 04 57 06.4 +0.5**
BRG Berggiesshubel 72.56 339 *e*P **P 04 57 06.4 +0.3**
BRG *e* 04 57 15.2
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BRG Berggiesshubel 72.56 339 *e*P **P 04 57 06.4 +0.3**
comp=Z,5.3nm,1.3s,mb4.3
BRG *e* 04 57 15.2
OKC Ostrava-Krasne 72.58 336 *e*P sP 04 57 28.5 +5.4
BURAR Bucovina Array 72.73 331⇑P **P 04 57 07.5 +0.3**
BURAR Bucovina Array 72.73 331⇑P **P 04 57 07.5 +0.3**
MORC Moravsky Berou 72.78 337 *e*P **P 04 57 06.8 -0.6**
MORC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MORC Moravsky Berou 72.78 337 *e*P **P 04 57 06.8 -0.6**
comp=Z,4.8nm,0.7s,mb4.5
MOX Moxa 73.25 341 *e*P **P 04 57 10.4 +0.2**
MOX pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MOX Moxa 73.25 341 *e*P **P 04 57 10.4 +0.2**
comp=Z,7.0nm,1.0s,mb4.5
MOX Moxa 73.25 341 *i* P **P 04 57 10.4 +0.2**
comp=Z,logA/T=0.8,mb4.5
PRU Pruhonice 73.27 339 *e*P **P 04 57 10.7 +0.4**
VRAC Vranov 73.44 337 P **P 04 57 11.8 +0.5**
comp=Z,5.5nm,0.7s,mb4.6,baz=39,slow=7.3,SNR=7.7
NKC Novy Kostel 73.48 340 *e*P **P 04 57 12.2 +0.7**
GRA1 Grafenberg Arr 74.24 341 *e*P **P 04 57 16.6 +0.6**
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 74.24 341 *e*P **P 04 57 16.6 +0.6**
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 74.24 341 *e*P **P 04 57 16.6 +0.6**
GRF pmax pmax
comp=Z,11nm,0.9s,mb4.8
GRF Grafenberg Arr 74.24 341 *e*P **P 04 57 16.6 +0.6**
comp=Z,11nm,0.9s,mb4.8
TNS Taunus Mts 74.25 343 *e*P **P 04 57 16.7 +0.7**
TNS pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TNS Taunus Mts 74.25 343 *e*P **P 04 57 16.7 +0.7**
comp=Z,5.0nm,0.6s,mb4.6
KHC Kasperske Hory 74.28 339 *e*P **P 04 57 16.8 +0.6**
WET Wettzell 74.42 339 *e*P **P 04 57 18.0 +1.0**
WET pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WET Wettzell 74.42 339 *e*P **P 04 57 18.0 +1.0**
comp=Z,5.0nm,1.0s,mb4.4
MLR Muntele Rosu 74.43 329 P **P 04 57 18.3 +1.1**
comp=Z,9.0nm,0.5s,mb5.0,baz=349,slow=5.2,SNR=43
MLR Muntele Rosu 74.43 329 ⇓P **P 04 57 18.5 +1.3**
GEC2 GERESS Array S 74.53 339 *e*P **P 04 57 18.3 +0.7**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 74.53 339 *e*P **P 04 57 18.3 +0.7**
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 74.53 339 P **P 04 57 18.3 +0.7**
comp=Z,2.8nm,0.6s,mb4.4,baz=32,slow=5.4,SNR=24
TIRR Tirgusor 74.59 327⇑P **P 04 57 19.1 +1.0**
MOA Molln 75.34 338⇓*i*P **P 04 57 23.3 +0.9**
comp=Z,4.2nm,0.9s,mb4.4
BZS Buzias 75.58 332⇑P **P 04 57 22.8 -1.0**
BFO Black Forest 76.10 342 *e*P **P 04 57 28.0 +1.4**
BFO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BFO Black Forest 76.10 342 *e*P **P 04 57 28.0 +1.4**
comp=Z,7.0nm,1.0s,mb4.5
CDF Champ du Feu 76.21 343 *e*P **P 04 57 27.8 +0.5**
comp=Z,6.5nm,0.6s,mb4.4
CDF Champ du Feu 76.21 343 *e*P **P 04 57 27.8 +0.5**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KBA Koelnbreinsper 76.28 338⇑*i*P **P 04 57 29.2 +1.5**
comp=Z,15nm,0.7s,mb5.0
KBA Koelnbreinsper 76.28 338⇑*i*P **P 04 57 29.2 +1.5**
KBA pmax pmax
comp=Z,15nm,0.7s,mb5.0
MALT Malatya 76.31 317 *e*P **P 04 57 28.0 -0.1**
MALT pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
MALT Malatya 76.31 317 *e*P **P 04 57 28.0 -0.1**
comp=Z,6.9nm,1.2s,mb4.6
MEZF Maizieres J'vi 76.50 344 *e*P **P 04 57 29.7 +0.8**
comp=Z,7.9nm,0.5s,mb4.6
MOTA Moosalm 76.50 340⇑*i*P **P 04 57 29.6 +0.6**
comp=Z,1.8nm,0.8s,mb4.0
MOTA Moosalm 76.50 340⇑*i*P **P 04 57 29.6 +0.6**
MOTA pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
OBKA Obir 76.54 337⇓*i*P **P 04 57 30.7 +1.5**
comp=Z,9.7nm,0.8s,mb4.8
SQTA Sankt Quirin 76.60 340⇑*i*P **P 04 57 30.4 +0.9**
comp=Z,5.6nm,0.8s,mb4.5
SQTA Sankt Quirin 76.60 340⇑*i*P **P 04 57 30.4 +0.9**
SQTA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
HAU Haudompre 76.76 343 *e*P **P 04 57 30.7 +0.3**
comp=Z,5.2nm,0.6s,mb4.4
HAU Haudompre 76.76 343 *e*P **P 04 57 30.7 +0.3**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
HINF Hinteralfeld 76.86 343 *e*P **P 04 57 31.6 +0.6**
BRTR Keskin Array B 76.95 321 P **P 04 57 32.2 +0.6**
comp=Z,1.8nm,0.6s,mb4.2,baz=22,slow=2.6,SNR=8.9
FLN La Foliniere 77.03 348 *e*P **P 04 57 32.7 +0.8**
LDF La Druitiere 77.15 348 *e*P **P 04 57 33.4 +0.8**
comp=Z,46nm,1.4s,mb4.9
LDF La Druitiere 77.15 348 *e*P **P 04 57 33.4 +0.8**
LDF pmax pmax
comp=Z,23nm,1.4s,mb4.9
GRR Gorron 77.45 348 *e*P **P 04 57 34.5 +0.2**
SGMF Saint Gilles 77.78 349 *e*P **P 04 57 36.0 -0.1**
comp=Z,64nm,1.4s,mb5.1
SGMF Saint Gilles 77.78 349 *e*P **P 04 57 36.0 -0.1**
SGMF pmax pmax
comp=Z,32nm,1.4s,mb5.1
SSF Saint Saulge 78.14 345 *e*P **P 04 57 38.7 +0.6**
CABF La Chapelle 78.16 343 *e*P **P 04 57 39.0 +0.8**
QUIF Quistinic 78.18 350 *e*P **P 04 57 39.1 +0.8**
AVF Avril sur Loir 78.43 345 *e*P **P 04 57 40.0 +0.3**
comp=Z,6.9nm,0.8s,mb4.4
AVF Avril sur Loir 78.43 345 *e*P **P 04 57 40.0 +0.3**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SMF Signal de Mont 78.50 345 *e*P **P 04 57 40.5 +0.5**
comp=Z,12nm,0.9s,mb4.5
SMF Signal de Mont 78.50 345 *e*P **P 04 57 40.5 +0.5**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BGF Bois d'Agland 78.73 345 *e*P **P 04 57 41.6 +0.2**
TCF Toulx Ste Croi 79.09 346 *e*P **P 04 57 43.9 +0.6**
comp=Z,6.4nm,0.9s,mb4.2
TCF Toulx Ste Croi 79.09 346 *e*P **P 04 57 43.9 +0.6**
TCF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
LPL La Plagne 79.10 342 *e*P **P 04 57 45.2 +1.8**
comp=Z,21nm,0.9s,mb4.7
LPL La Plagne 79.10 342 *e*P **P 04 57 45.2 +1.8**
LPL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MFF Saint Martin d 79.11 347 *e*P **P 04 57 44.2 +0.8**
comp=Z,13nm,1.0s,mb4.5
MFF Saint Martin d 79.11 347 *e*P **P 04 57 44.2 +0.8**
MFF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LPG La Plagne 79.11 342 *e*P **P 04 57 45.3 +1.8**
comp=Z,35nm,1.1s,mb4.9
LPG La Plagne 79.11 342 *e*P **P 04 57 45.3 +1.8**
LPG pmax pmax
comp=Z,18nm,1.1s,mb4.9
SMDO Samad 79.52 294 ⇓P **P 04 57 46.4 +0.3**
ORIF Oris-en-Rattie 79.83 343 *e*P **P 04 57 46.9 -0.5**
comp=Z,26nm,1.3s,mb4.7
ORIF Oris-en-Rattie 79.83 343 *e*P **P 04 57 46.9 -0.5**
ORIF pmax pmax
comp=Z,13nm,1.3s,mb4.7
MBDF Montbardon 79.86 342 *e*P **P 04 57 47.6 +0.1**
JMDO Jabal Madar 80.05 294 P **P 04 57 49.1 +0.1**
SNR=6.2
ARQ Araqi 80.12 296 ⇓P **P 04 57 48.9 -0.5**
BSY Bisya 80.23 295 P **P 04 57 50.1 +0.2**
SNR=6.4
CAF Calviac 80.45 346 *e*P **P 04 57 51.0 +0.4**
SBF Sospel 80.57 341 *e*P **P 04 57 51.9 +0.6**
LFF La Frestale 80.62 346 *e*P **P 04 57 52.1 +0.5**
PGF Pioggiola 81.52 340 *e*P **P 04 57 56.1 -0.2**
comp=Z,126nm,1.5s,mb5.3
PGF Pioggiola 81.52 340 *e*P **P 04 57 56.1 -0.2**
PGF pmax pmax
comp=Z,63nm,1.5s,mb5.3
WHFO Wadi Hawf 86.01 295 P **P 04 58 18.7 -0.7**
SNR=12

KRSC ***08*** *04:51:43.7±0.4,53.43N×161.88E,h11km±3km,ML5.3*
IDC ***08*** *04:51:44.1±0.7,53.76N×161.57E,mb4.5/23,mb1 4.7/25, mb1mx4.7/30,mbtmp4.6/25,ML4.5/2,MS4.1/8,Ms1 4.1/8, ms1mx3.6/20,Error ellipse: s-maj=21.5km s-min=10.4km az=4.0*
MOS ***08*** *04:51:45.9±0.9,53.39N×161.82E,h33km,mb5.1/57, MS4.5/19,Error ellipse: s-maj=8.4km s-min=4.5km az=96.0*
BJI ***08*** *04:51:45.3,53.88N×161.45E,h31km,mB4.9,mb5.0, Ms4.8,Msz4.6*
NEIC ***08*** *04:51:49.2±0.3,53.50N×161.58E,mb4.9/79,MS4.6/2, Error ellipse: s-maj=7.9km s-min=4.1km az=167.0*
HRVD ***08*** *04:51:49.2±1.1,53.50N×161.97E,h28km±2km,MW4.8/33, Centroid moment Tensor Solution. LP body waves: s15,c18;Mantle waves: s33,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.60±.21; $M_{\theta\theta}$-0.88±.14; $M_{\phi\phi}$-0.71±.13; $M_{r\theta}$0.81±.24; $M_{r\phi}$-0.82±.07; $M_{\theta\phi}$0.55±.17; Best double couple: $M_0$1.887×10^{16} NP1:$\phi_0$224°, δ30°,λ83°. NP2:$\phi_0$52°, δ61°,λ94°. Principal axes: T 1.878, Plg74°, Azm333°; N .022, Plg4°, Azm230°; P -1.896, Plg16°, Azm139°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 04:51:47.1±0.2,53.43N±0.02×161.80E±0.03,h42km, h42km±.9km:pP-P,n334,σ1°11/379,mb4.8/117,MS4.5/27, 23C-14D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.11**	**254**	P	**P**	**04 52 06.3**	**-0.1**
SPN				S	**S**	**04 52 22.6**	**+1.7**
SPN	**Mys Shipunski**	**1.11**	**254**	*i* P	**P**	**04 52 06.1**	**-0.3**
SPN				*e*S	**S**	**04 52 22.6**	**+1.7**
NLC	**Nalytchevo**	**1.49**	**261**	P	**P**	**04 52 11.4**	**-0.5**
NLC				S	**S**	**04 52 31.3**	**+0.9**
NLC	**Nalytchevo**	**1.49**	**261**	*i* P	**P**	**04 52 11.3**	**-0.6**
NLC				*i* S	**S**	**04 52 31.6**	**+1.2**
KII	**Karymskiy**	**1.52**	**295**	*i* P	**P**	**04 52 11.6**	**-0.7**
UGLR	**Uglovaya**	**1.80**	**264**	*i* P	**P**	**04 52 16.2**	**0.0**
AVH	**Avacha**	**1.84**	**266**	*i* P	**P**	**04 52 17.1**	**+0.3**
AVH				*i* S	**S**	**04 52 41.7**	**+2.7**
KOK	**Koryaka**	**1.90**	**267**	*i* P	**P**	**04 52 17.7**	**+0.1**
PET	**Petropavlovsk**	**1.93**	**259**	P	**P**	**04 52 18.4**	**+0.3**
PET				S	**S**	**04 52 43.8**	**+2.5**
PET	**Petropavlovsk**	**1.93**	**259**α	*i* PN	**P**	**04 52 17.8**	**-0.3**
PET				*i* S	**S**	**04 52 42.8**	**+1.5**
PET	comp=Z,601nm,0.5s			pmax	pmax		
PET	comp=N,328nm,0.5s			pmax	pmax		
PET	comp=E,367nm,0.4s			pmax	pmax		
PET	comp=E,5µm,0.6s			smax			
PET	comp=N,6µm,0.7s			smax			
PET	**Petropavlovsk**	**1.93**	**259**	*e*Pn	**P**	**04 52 17.9**	**-0.3**
PET	**Petropavlovsk**	**1.93**	**259**	*i* P	**P**	**04 52 18.1**	**0.0**
PET				*i* S	**S**	**04 52 43.3**	**+2.0**
TUMR	**Tumrok**	**2.10**	**333**	*i* P	**P**	**04 52 20.1**	**-0.4**
TUMR				*e*S	**S**	**04 52 46.9**	**+1.5**
RUS	**Russkaya**	**2.22**	**245**	P	**P**	**04 52 22.4**	**+0.1**
RUS				S	**S**	**04 52 49.6**	**+0.9**
RUS	**Russkaya**	**2.22**	**245**	*i* P	**P**	**04 52 22.1**	**-0.2**
RUS				*i* S	**S**	**04 52 50.2**	**+1.5**
KRMR	**Karymshinskiy**	**2.29**	**256**	*i* P	**P**	**04 52 23.6**	**+0.4**
KRMR				*i* S	**S**	**04 52 52.5**	**+2.2**
GNL	**Ganaly**	**2.31**	**278**	*i* P	**P**	**04 52 24.1**	**+0.5**
GNL				*e*S	**S**	**04 52 53.8**	**+2.8**
GRL	**Gorelyy**	**2.42**	**250**	*e*P	**P**	**04 52 25.9**	**+0.9**
GRL				*i* S	**S**	**04 52 56.9**	**+3.3**
KMNR	**Kamenistaya**	**2.50**	**339**	*i* P	**P**	**04 52 26.4**	**+0.1**
KMNR				*i* S	**S**	**04 52 57.5**	**+1.7**
ZLN	**Zelenaya**	**2.66**	**348**	*e*P	**P**	**04 52 29.3**	**+0.8**
ZLN				*e*S	**S**	**04 53 01.6**	**+1.8**
KPT	**Kopyto**	**2.70**	**341**	*e*P	**P**	**04 52 29.2**	**0.0**
KPT				*e*S	**S**	**04 53 02.6**	**+1.7**
LGNR	**Loginova**	**2.74**	**347**	*e*P	**P**	**04 52 28.0**	**-1.6**
LGNR				*e*S	**S**	**04 53 00.3**	**-1.5**
CIRR	**Tsirk**	**2.76**	**348**	*i* P	**P**	**04 52 28.1**	**-1.9**
CIRR				*e*S	**S**	**04 53 01.4**	**-1.0**
APC	**Apacha**	**2.84**	**262**	*i* P	**P**	**04 52 31.1**	**+0.1**
APC				*i* S	**S**	**04 53 05.8**	**+1.5**
APC	comp=N,2µm,1.0s			Smax			
KBTR	**Krutoberegovo**	**2.85**	**12**	P	**P**	**04 52 30.3**	**-0.9**
KBTR				S	**S**	**04 53 04.8**	**+0.2**
KBTR	**Krutoberegovo**	**2.85**	**12**	*e*P	**P**	**04 52 30.6**	**-0.6**
KBTR				*e*S	**S**	**04 53 04.8**	**+0.2**
KOZ	**Kozyrevsk**	**2.86**	**338**	P	**P**	**04 52 31.0**	**-0.4**
KOZ				S	**S**	**04 53 04.8**	**-0.1**
KOZ	**Kozyrevsk**	**2.86**	**338**	*e*P	**P**	**04 52 31.0**	**-0.4**
KOZ				*e*S	**S**	**04 53 05.6**	**+0.7**
KOZR	**Kozyr**	**2.87**	**338**	PN	**P**	**04 52 31.0**	**-0.5**
KOZR				S	**S**	**04 53 04.8**	**-0.2**
KBG	**Krutoberegovo**	**2.88**	**10**	*e*P	**P**	**04 52 30.6**	**-1.1**
KBG				*e*S	**S**	**04 53 04.3**	**-1.2**
KBG	comp=N,10µm,1.1s			Smax			
KBG	**Krutoberegovo**	**2.88**	**10**	*e*P	**P**	**04 52 30.7**	**-1.0**
KBG				*e*S	**S**	**04 53 05.5**	**0.0**
KBG	comp=N,12µm,1.1s			Smax			
KRSR	**Krestovskiy**	**2.88**	**346**	*e*P	**P**	**04 52 31.8**	**+0.1**
KRSR				*e*S	**S**	**04 53 07.2**	**+1.7**
KLY	**Klyuchi**	**2.97**	**348**	P	**P**	**04 52 32.7**	**-0.2**
KLY				S	**S**	**04 53 08.8**	**+1.2**
KLY	**Klyuchi**	**2.97**	**348**	*e*P	**P**	**04 52 32.1**	**-0.8**
KLY				*e*S	**S**	**04 53 07.5**	**-0.1**
BKI	**Bering**	**3.03**	**52**	*e*P	**P**	**04 52 31.7**	**-2.0**
BKI				*e*S	**S**	**04 53 04.4**	**-4.7**
ESO	**Esso**	**3.08**	**326**	*i* P	**P**	**04 52 33.9**	**-0.6**
ESO				*i* S	**S**	**04 53 10.6**	**+0.1**
ESO	comp=N,1µm,1.3s			Smax			
SRDR	**Sredinnyy**	**3.14**	**338**	*i* P	**P**	**04 52 34.5**	**-0.8**
SRDR				*i* S	**S**	**04 53 11.6**	**-0.3**
PAU	**Pauzhetka**	**3.63**	**239**	*i* P	**P**	**04 52 42.4**	**+0.2**
PAU				*e*S	**S**	**04 53 24.7**	**+0.4**
PAU	comp=N,3µm,0.9s			Smax			
SKR	**Severo-Kuril's**	**4.45**	**234**	*e*PN	**P**	**04 52 48.5**	**-5.4**
SKR				pmax	pmax		
SKR	comp=N,40nm,0.5s			pmax	pmax		
SKR	comp=E,50nm,0.5s			pmax	pmax		
SKR	comp=Z,50nm,0.5s			MLR	MLR		
SKR	comp=N,3µm,16.0s			MLR	MLR		
SKR	comp=E,3µm,16.0s			MLR	MLR		
SKR	comp=Z,3µm,16.0s			MLR	MLR		
FX1	**Attu Island--F**	**6.86**	**90**	Pn	**P**	**04 53 25.3**	**-2.4**
	comp=Z,41nm,0.3s,baz=294,slow=3.3,SNR=73						
FX1				Sn	**S**	**04 54 38.5**	**-6.9**
	comp=Z,79nm,0.3s,baz=111,slow=18,SNR=10						

FX1	Attu Island--F	6.86	90	eP	P	04 53 25.3	-2.5
FX1				eS	S	04 54 38.7	-6.7
MA2	Magadan	8.66	320	c ePN	P	04 53 51.7	-1.0
MA2				eSS	SS	04 55 36.7	-7.0
MA2				pmax	pmax		
	comp=Z,30nm,0.9s						
MA2				pmax	pmax		
	comp=N,20nm,1.0s						
MA2				pmax	pmax		
	comp=E,20nm,0.9s						
MA2				MLR	MLR		
	comp=Z,7μm,12.0s						
MA2	Magadan	8.66	320	eP	P	04 53 51.4	-1.3
KAMR	Kamenskoye	9.35	13	iP	P	04 54 01.0	-1.2
SEY	Seymchan	10.73	336	ePN	P	04 54 22.6	+1.6
SEY				pmax	pmax		
	comp=Z,20nm,1.0s						
SEY				MLR	MLR		
	comp=Z,4μm,10.0s						
SEY				MLR	MLR		
	comp=E,3μm,12.0s						
UGL	Uglegorsk	13.09	259	ePN	P	04 54 51.0	-1.7
UGL				pmax	pmax		
	comp=Z,56nm,1.0s						
UGL				pmax	pmax		
	comp=Z,900nm,4.0s						
UGL				MLR	MLR		
	comp=N,950nm,14.0s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
UGL				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	Yuzh-Sakhalins	13.79	250	P	P	04 55 01.0	-0.7
YSS				MLR	MLR		
	comp=N,1μm,14.0s						
YSS				MLR	MLR		
	comp=E,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
BILL	Bilibino	14.82	7	iP	P	04 55 14.1	-1.0
BILL				pmax	pmax		
	comp=Z,16nm,1.0s						
BILL				MLR	MLR		
	comp=Z,1μm,16.0s						
BILL	Bilibino	14.82	7	eP	P	04 55 13.7	-1.3
ASAJ	Asahikawa	15.67	241	P	P	04 55 25.6	-0.6
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,748nm,21.2s						
ASAJ	Asahikawa	15.67	241	Pn	P	04 55 25.6	-0.7
	comp=Z,2.2nm,0.3s,baz=71,slow=8.8,SNR=15						
ASAJ				LR	LR	05 01 10.6	
	comp=Z,748nm,21.2s,baz=345,slow=36						
YAK	Yakutsk	19.00	310	eP	P	04 56 02.0	-5.6
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,23nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,1μm,16.0s						
YAK				MLR	MLR		
	comp=N,181nm,13.0s						
YAK				MLR	MLR		
	comp=E,742nm,14.0s						
YAK	Yakutsk	19.00	310	eP	P	04 56 02.7	-4.8
	comp=E,66nm,0.6s						
KLR	Kul'dur	19.16	270	eP	P	04 56 05.0	-4.4
KLR				pmax	pmax		
	comp=Z,67nm,2.0s						
TNA	Tin City	19.34	39	eP	P	04 56 11.0	-0.3
	comp=Z,32nm,0.9s						
CLNS	Chul'man	21.20	294	eP	P	04 56 27.1	-3.8
CLNS				e		04 56 42.3	
CLNS				ePPP	PPP	04 56 51.1	-13
CLNS				eS	S	05 00 15.7	-3.5
CLNS				e		05 00 28.0	
CLNS				eSS	SS	05 00 49.6	-4.7
CLNS				pmax	pmax		
	comp=N,18nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,44nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=E,33nm,0.9s						
CLNS				smax			
	comp=N,7.0nm,0.8s						
CLNS				smax			
	comp=Z,5.0nm,0.8s						
CLNS				smax			
	comp=E,11nm,0.9s						
CLNS				MLR	MLR		
	comp=N,500nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,200nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.6						
MDJ	Mudanjiang	22.72	260	P	P	04 56 44.9	-1.0
MDJ				AP		04 56 54.7	
MDJ				XP		04 57 00.4	
MDJ				PCP	PcP	05 00 38.7	+0.2
MDJ				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,149nm,4.8s						
MDJ				LR	LR		
	comp=N,723nm,17.6s,MS4.2						
MDJ				LR	LR		
	comp=E,364nm,17.2s,MS4.2						
MDJ				LR	LR		
	comp=Z,757nm,16.5s,MS4.2						
MDJ	Mudanjiang	22.72	260	eP	P	04 56 44.7	-1.2
	comp=Z,16nm,0.8s,mb4.5						
TIXI	Tiksi	23.22	334	⇓iP	P	04 56 48.1	-2.4
TIXI				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
TIXI				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.5						
MAJO	Matsushiro	23.56	234	eP	P	04 56 55.3	+1.1
MAJO				pmax	pmax		
	comp=Z,96nm,0.8s,mb5.3						
MAJO	Matsushiro	23.56	234	eP	P	04 56 55.3	+1.1
	comp=Z,96nm,0.8s,mb5.3						
MAT	Matsushiro	23.56	234	eP	P	04 56 56.0	+1.8
MAT				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.2						
MAT	Matsushiro	23.56	234	P	P	04 56 55.6	+1.4
MAT				S	S	05 01 10.0	+8.0
IMA	Indian Mountai	25.11	42	eP	P	04 57 08.9	0.0
IMA				pmax	pmax		
	comp=Z,64nm,1.0s,mb5.1						
IMA	Indian Mountai	25.11	42	eP	P	04 57 08.9	0.0
	comp=Z,64nm,1.0s,mb5.1						
CN2	Changchun	25.63	263	eP	P	04 57 12.7	-1.4
CN2				eS	S	05 01 35.9	-1.0
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,2μm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,1μm,16.0s,MS4.6						
HIA	Hailar	26.31	278	eP	P	04 57 18.2	-2.1
HIA				pmax	pmax		
	comp=Z,25nm,0.6s						
HIA	Hailar	26.31	278	eP	P	04 57 18.2	-2.0
	comp=Z,25nm,0.6s,mb4.9						
BOD	Bodaibo	26.88	299	eP	P	04 57 31.6	+6.1
BOD				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.5						
MCK	McKinley	26.97	48	eP	P	04 57 25.6	-0.6
MCK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
MCK	McKinley	26.97	48	eP	P	04 57 25.6	-0.6
	comp=Z,8.4nm,1.0s,mb4.2						
COLA	College	27.44	46	eP	P	04 57 29.3	-1.2
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.3						
COLA	College	27.44	46	eP	P	04 57 29.3	-1.2
	comp=Z,9.4nm,0.9s,mb4.3						
ILAR	Eielson Array	27.85	46	P	P	04 57 33.5	-0.8
	comp=Z,5.6nm,0.9s,mb4.2,baz=270,slow=8.7,SNR=30						
INK	Inuvik	32.98	38	P	P	04 58 18.5	-1.0
	comp=Z,3.0nm,0.9s,mb4.2,baz=290,slow=6.1,SNR=15						
BJI	Beijing	33.41	265	P	P	04 58 22.4	-1.2
BJI				AP	pP	04 58 33.6	-1.5
BJI				XP	sP	04 58 38.5	-2.0
BJI				S	S	05 03 41.3	+0.5
BJI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
BJI				LR	LR		
	comp=N,979nm,17.4s,MS4.7						
BJI				LR	LR		
	comp=E,581nm,15.6s,MS4.7						
BJI				LR	LR		
	comp=Z,430nm,17.9s,MS4.2						
BJI	Beijing	33.41	265	P	P	04 58 22.4	-1.2
	comp=Z,4.0nm,0.7s,mb4.5						
BJI				pP	pP	04 58 33.6	-1.5
BJI				sP	sP	04 58 38.5	-2.0
BJI				S	S	05 03 41.3	+0.5
BJI				SS	SS	05 06 12.4	+27
BJI				LR	LR		
	comp=Z,430nm,17.9s,MS4.2						
ULN	Ulaanbaatar	34.42	283	iP	P	04 58 29.9	-2.2
ULN	Ulaanbaatar	34.42	283	eP	P	04 58 29.5	-2.7
	comp=Z,2.9nm,0.7s,mb4.3						
TLY	Talaya	34.56	291	eP	P	04 58 32.9	-0.4
TLY				eS	S	05 03 54.7	-3.7
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TLY				MLR	MLR		
	comp=Z,921nm,17.0s,MS4.6						
SONM	Songino Array	34.82	284	P	P	04 58 34.0	-1.6
	comp=Z,4.7nm,0.6s,mb4.6,baz=61,slow=7.9,SNR=27						
SONM				PcP	PcP	05 01 08.5	+0.1
	comp=Z,2.4nm,0.7s,baz=85,slow=0.9,SNR=6.7						
ZAK	Zakamensk	35.36	289	eP	P	04 58 38.4	-1.7
ZAK				e		05 01 09.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
MOY	Mondy	36.04	292	eP	P	04 58 45.3	-0.6
DLBC	Dease Lake	37.02	54	P	P	04 58 56.0	+1.9
	comp=Z,1.8nm,0.9s,mb3.9,baz=288,slow=15,SNR=2.8						
DLBC	Dease Lake	37.02	54	P	P	04 58 56.0	+1.9
NJ2	Nanjing	37.33	253	eP	P	04 58 58.0	+1.0
NJ2				AP	pP	04 59 10.0	+1.4
NJ2				S	S	05 04 42.1	+0.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,420nm,4.4s						
NJ2				LR	LR		
	comp=N,1μm,19.6s						
NJ2				LR	LR		
	comp=E,940nm,14.2s						
NJ2				LR	LR		
	comp=Z,1μm,15.5s,MS4.8						
WHN	Wuhan	41.04	255	eP	P	04 59 26.7	-1.1
XAN	Xi'an	41.73	264	P	P	04 59 31.1	-2.2
XAN				AP	pP	04 59 42.8	-2.3
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
YKA	Yellowknife Ar	42.22	43	P	P	04 59 37.3	+0.3
	comp=Z,1.2nm,0.8s,baz=300,slow=8.1,SNR=19						
ALE	Alert	42.45	8	P	P	04 59 38.0	-0.7
	comp=Z,68nm,0.7s,mb5.4,SNR=12						
LZH	Lanzhou	43.36	271	P	P	04 59 45.5	-1.2
LZH				AP	pP	04 59 57.5	-1.0
LZH				XP	sP	05 00 03.0	-0.6
LZH				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.9						
LZH				LR	LR		
	comp=N,1μm,14.2s						
LZH				LR	LR		
	comp=Z,880nm,19.0s,MS4.7						
LZH	Lanzhou	43.36	271	P	P	04 59 45.5	-1.2
LZH				*PP	pP	04 59 57.5	-1.0
LZH				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.9						
LZH				MLR	MLR		
	comp=Z,880nm,19.0s,MS4.7						
LZH	Lanzhou	43.36	271	P	P	04 59 45.5	-1.2
	comp=Z,26nm,1.0s,mb4.9						
LZH				pP	pP	04 59 57.5	-1.0
LZH				sP	sP	05 00 03.0	-0.6
LZH				LR	LR		
	comp=Z,880nm,19.0s,MS4.7						
GTA	Gaotai	43.58	277	eP	P	04 59 48.4	0.0
GTA				AP	pP	05 00 00.9	+0.7
GTA				PP	PP	05 01 31.8	-0.1
GTA				PCP	PcP	05 01 36.7	+0.7
GTA				S	S	05 06 12.5	-1.8
GTA				SS	SS	05 09 21.1	-1.3
GTA				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.6						
GTA				AMB	AMB		
	comp=Z,43nm,4.2s						
GTA				LR	LR		
	comp=N,600nm,15.2s,MS4.7						
GTA				LR	LR		
	comp=E,477nm,15.6s,MS4.7						
GTA				LR	LR		
	comp=Z,696nm,15.6s,MS4.7						
ENH	Enshi	44.08	260	eP	P	04 59 51.0	-1.6
	comp=Z,26nm,0.7s,mb5.1						
CD2	Chengdu	47.02	265	P	P	05 00 15.0	-0.9
EDM	Edmonton	47.75	54	P	P	05 00 21.5	+0.2
WMQ	Urumqi	47.82	290	⇓iP	P	05 00 20.8	-1.2
WMQ				AP	pP	05 00 33.2	-0.6
WMQ				PCP	PcP	05 01 49.2	-1.5
WMQ				PCS		05 05 43.7	
WMQ				S	S	05 07 13.2	-1.6
WMQ				SCS	ScS	05 10 07.2	-1.7
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,225nm,4.8s						
WMQ				LR	LR		
	comp=N,2μm,21.7s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,22.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,23.3s,MS4.8						
KURK	Kurchatov	48.42	302	P	P	05 00 23.8	-2.8
	comp=Z,90nm,0.5s,SNR=9.9						
KURK	Kurchatov	48.42	302	eP	P	05 00 23.5	-3.1
KURK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.1						
KURK	Kurchatov	48.42	302	eP	P	05 00 23.4	-3.1
	comp=Z,12nm,0.6s,mb5.1						
GYA	Guiyang	48.57	259	⇑iP	P	05 00 27.2	-0.8
GYA				AP	pP	05 00 39.6	-0.3
GYA				XP	sP	05 00 44.9	0.0
GYA				S	S	05 07 23.5	-2.0
GYA				SS	SS	05 10 53.3	+2.3
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,550nm,16.5s,MS4.7						
GYA				LR	LR		
	comp=E,390nm,15.3s,MS4.7						
GYA				LR	LR		
	comp=Z,730nm,15.3s,MS4.8						
NEW	Newport	48.85	61	P	P	05 00 29.1	-0.8
	comp=Z,1.2nm,0.5s,mb4.2,baz=308,slow=6.2,SNR=3.8						
MKAR	Makanchi Array	48.93	296	iP	P	05 00 26.9	-3.6
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
YBH	Yreka Blue Hor	49.95	71	P	P	05 00 40.3	+1.9
	comp=Z,4.3nm,1.1s,mb4.4,baz=166,slow=4.2,SNR=6.0						
DAG	Danmarks Havn	50.07	0	⇑iP	P	05 00 38.1	-0.9
DAG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
DAG	Danmarks Havn	50.07	0	⇑iP	P	05 00 38.1	-0.9
	comp=Z,3.0nm,0.8s,mb4.4						
BMO	Blue Mountains	50.91	65	eP	P	05 00 46.2	+0.5
	comp=Z,4.4nm,0.8s,mb4.4						
BVA0	Borovoye Array	50.98	309	P	P	05 00 43.5	-2.6
BVAR	Borovoye Array	50.98	309	P	P	05 00 43.0	-3.1
	comp=Z,4.1nm,0.5s,mb4.6,baz=59,slow=7.0,SNR=26						
MOD	Modoc	51.19	70	eP	P	05 00 49.1	+1.2
	comp=Z,10.0nm,0.8s,mb4.8						
KMI	Kunming	51.89	261	P	P	05 00 52.7	-0.6
KMI				AP	pP	05 01 03.0	-2.3
KMI				XP	sP	05 01 08.5	-1.8
KMI				PP	PP	05 02 54.3	+2.2
KMI				S	S	05 08 10.7	-0.8
KMI				SS	SS	05 11 44.8	-1.7
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
KMI				AMB	AMB		
	comp=Z,79nm,5.1s						
KMI				LR	LR		
	comp=N,402nm,22.7s						
KMI				LR	LR		
	comp=E,347nm,17.0s						
KMI				LR	LR		
	comp=Z,303nm,17.0s						
KMI	Kunming	51.89	261	P	P	05 00 52.7	-0.6
	comp=Z,13nm,1.3s,mb4.7						
KMI				pP	pP	05 01 03.0	-2.3
KMI				sP	sP	05 01 08.5	-1.8
KMI				PP	PP	05 02 54.3	+2.2
KMI				S	S	05 08 10.7	-0.8
KMI				SS	SS	05 11 44.8	-1.7
KMI				LR	LR		
	comp=Z,300nm,17.0s,MS4.4						
SOKR	Solikamsk	52.36	322	⇑iP	P	05 00 52.2	-4.2
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SOKR				MLR	MLR		
	comp=Z,960nm,19.0s,MS4.9						
ARCES	ARCESS Array B	53.28	342	P	P	05 01 00.2	-3.0
	comp=Z,15nm,0.9s,mb4.9,baz=30,slow=9.8,SNR=8.1						
ARCES				LR	LR	05 29 37.3	
	comp=Z,195nm,18.3s,MS4.2,baz=197,slow=43						
SUMG	Summit	53.50	7	eP	P	05 01 04.4	-0.4
	comp=Z,39nm,1.0s,mb5.3						
QLMT	Earthquake Lak	54.06	61	eP	P	05 01 10.6	+1.3
NVAR	Mina Array Bea	54.67	71	P	P	05 01 15.7	+2.0
	comp=Z,2.4nm,0.8s,mb4.3,baz=296,slow=6.4,SNR=17						
IMW	Indian Meadow	54.96	62	eP	P	05 01 17.3	+1.5
LOHW	Long Hollow	55.33	62	eP	P	05 01 19.5	+1.0
	comp=Z,9.8nm,1.0s,mb4.8						
LOHW				e	pP	05 01 34.1	+3.5
LAO	LASA Array	55.47	57	eP	P	05 01 19.6	+0.1
	comp=Z,12nm,1.0s,mb4.9						
AAK	Ala-Archa	55.84	297	P	P	05 01 19.0	-3.2
AAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
AAK	Ala-Archa	55.84	297	eP	P	05 01 17.8	-4.4
	comp=Z,3.6nm,0.7s,mb4.5						
HWUT	Hardware Ranch	56.20	64	eP	P	05 01 26.5	+1.7
	comp=Z,18nm,1.0s,mb5.1						
SCO	Scoresbysund	56.37	2	iP	P	05 01 25.9	+0.3
SCO				i	pP	05 01 37.2	-0.5
SCO				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
SCO	Scoresbysund	56.37	2	iP	P	05 01 25.9	+0.3
	comp=Z,2.2nm,0.9s,mb4.2						
SCO				i	pP	05 01 37.2	-0.5
PDAR	Pinedale Array	56.47	62	P	P	05 01 27.6	+0.9
	comp=Z,2.8nm,0.8s,mb4.3,baz=331,slow=3.3,SNR=21						
TPNV	Topopah Spring	56.87	71	eP	P	05 01 28.0	-1.6
	comp=Z,295nm,1.2s						
TPNV				e	pP	05 01 41.8	0.0
CHRT	Chiangrai	57.66	260	⇓P	P	05 01 35.0	-0.4
JOF	Joensuu	57.69	336	ep	P	05 01 32.2	-2.9
	comp=Z,17nm,0.7s,mb5.2						
ULM	Lac du Bonnet	57.84	48	LR	LR	05 28 05.9	
	comp=Z,99nm,18.9s,MS4.0,baz=25,slow=38						
TMUT	Trail Mountain	58.02	66	eP	P	05 01 40.1	+2.5
TMUT				e	pP	05 01 52.5	+2.7
SRU	San Rafael	58.52	66	eP	P	05 01 42.3	+1.1
SRU				e	pP	05 01 56.5	+3.1
CHG	Chiang Mai	58.97	260	⇑P	P	05 01 44.6	0.0
	comp=Z,44nm,0.8s,mb5.5						
CM31	Chiang Mai Arr	59.25	259	eP	P	05 01 46.8	+0.3
	comp=Z,42nm,0.9s,mb5.5						
CM31				e	pP	05 01 59.6	+0.9
CMAR	Chiang Mai Arr	59.25	259	P	P	05 01 47.0	+0.4
	comp=Z,18nm,0.7s,mb5.2,baz=22,slow=7.5,SNR=96						
CMAR				LR	LR	05 31 26.6	
	comp=Z,193nm,18.2s,MS4.3,baz=50,slow=40						
KAF	Kangasniemi	59.58	338	ep	P	05 01 45.9	-2.3
	comp=Z,12nm,0.7s,mb5.0						
KAF	Kangasniemi	59.58	338	eP	P	05 01 45.9	-2.3
KAF				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
PV10	Paradox Valley	59.86	65	eP	P	05 01 52.1	+1.6
PV10				e	pP	05 02 05.9	+3.3
GUN	Gumba	59.87	277	eP	P	05 01 49.8	-0.9
	comp=Z,22nm,0.7s,mb5.3						
JIRN	Jiri	59.87	277	eP	P	05 01 49.3	-1.4
	comp=Z,22nm,0.7s,mb5.3						
BDT	Bhumibol Dam	60.16	258	P	P	05 01 53.0	+0.2
FINES	FINESS Array B	60.22	337	P	P	05 01 51.3	-1.3
	comp=Z,11nm,0.8s,mb5.0,baz=38,slow=8.6,SNR=42						
FINES				LR	LR	05 33 19.8	
	comp=Z,226nm,18.8s,MS4.3,baz=22,slow=42						
KKN	Kakani	60.32	277	eP	P	05 01 52.6	-1.2
	comp=Z,28nm,0.6s,mb5.5						
KKN	Kakani	60.32	277	eP	P	05 01 52.6	-1.2
KKN				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
PKI	Pulchoki	60.40	277	eP	P	05 01 53.2	-1.2
	comp=Z,87nm,1.2s,mb5.7						
PKI	Pulchoki	60.40	277	eP	P	05 01 53.2	-1.2
PKI				pmax	pmax		
	comp=Z,43nm,1.2s,mb5.3						
GKN	Gorkha	60.54	278	eP	P	05 01 54.1	-1.2
	comp=Z,52nm,0.9s,mb5.7						
DMN	Daman	60.55	277	eP	P	05 01 54.0	-1.4
	comp=Z,43nm,0.9s,mb5.6						
WUAZ	Wupatki	60.64	69	P	P	05 01 55.6	-0.2
	comp=Z,113nm,1.0s						
KOLN	Koldanda	61.33	279	eP	P	05 01 58.9	-1.7
	comp=Z,34nm,0.8s,mb5.5						
MOS	Moscow	61.92	328	eP	P	05 02 02.5	-1.7
MOS				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.7						
SDCO	Great Sand Dun	62.23	64	eP	P	05 02 07.4	+0.9
	comp=Z,6.8nm,1.2s,mb4.7						
OBN	Obninsk	62.78	328	d iP	P	05 02 08.3	-1.6
OBN				i		05 02 15.1	
OBN				i		05 10 33.4	
OBN				i SS	SS	05 14 36.3	-5.1
OBN				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.5						
OBN				MLR	MLR		
	comp=Z,500nm,22.0s,MS4.6						
OBN	Obninsk	62.78	328	eP	P	05 02 08.0	-2.0
	comp=Z,28nm,0.7s,mb5.5						
NB2	NORSAR Subarra	63.50	345	P	P	05 02 12.8	-1.7
	comp=Z,9.6nm,0.7s,mb4.9,baz=21,slow=6.5						
NB2	NORSAR Subarra	63.50	345	P	P	05 02 12.8	-1.7
NB2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
NB2	NORSAR Subarra	63.50	345	P	P	05 02 12.8	-1.7
	comp=Z,9.6nm,0.7s,mb4.9						
NOA	NORSAR Array B	63.50	345	P	P	05 02 13.4	-1.1
	comp=Z,7.6nm,0.7s,mb4.9,baz=20,slow=6.6,SNR=41						
NOA				LR	LR	05 36 17.9	
	comp=Z,100nm,18.0s,MS4.0,baz=25,slow=42						
NAO01	NORSAR Array S	63.74	345	eP	P	05 02 12.9	-3.1
	comp=Z,12nm,0.7s,mb5.0						
NAO01				e	pP	05 02 25.8	-2.5
HFS	Hagfors	63.94	343	P	P	05 02 15.7	-1.6
	comp=Z,4.4nm,0.7s,mb4.6,baz=46,slow=4.4,SNR=22						
SCHQ	Schefferville	64.87	29	P	P	05 02 22.3	-1.1
	comp=Z,1.5nm,0.7s,mb4.1,baz=349,slow=8.7,SNR=4.2						
SCHQ				LR	LR	05 32 51.4	
	comp=Z,101nm,20.4s,MS4.0,baz=36,slow=38						
VRSR	Storozhevoye	65.16	324	eP	P	05 02 24.3	-1.1
VRSR				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.2						
VRSR				pmax	pmax		
	comp=N,20nm,0.8s						
VRSR				pmax	pmax		
	comp=E,7.0nm,0.6s						
MNTX	Cornudas Mount	66.81	68	eP	P	05 02 36.7	+0.5
	comp=E,5.4nm,0.9s,mb4.6						
SUW	Suwalki	67.56	335	eP	P	05 02 39.8	-0.7
SUW				MLR	MLR	05 38 19.6	
	comp=E,300nm,18.2s,MS4.5						
WMOK	Wichita Mounta	68.05	61	eP	P	05 02 43.9	-0.1
WMOK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
WMOK	Wichita Mounta	68.05	61	eP	P	05 02 43.9	0.0
	comp=Z,6.9nm,0.8s,mb4.7						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
AKASG	Malin Array Be	68.85	330	P	P	05 02 47.1	-1.5
	comp=Z,14nm,0.8s,mb5.0,baz=28,slow=6.0,SNR=40						
VIS	Vishakhapatnam	69.12	272	*e*	P	05 02 49.5	-1.3
TXAR	Lajitas Array	69.56	68	P	P	05 02 54.9	+1.5
	comp=Z,3.1nm,0.7s,mb4.3,baz=297,slow=4.2,SNR=39						
TXAR				LR	LR	05 33 58.5	
	comp=Z,103nm,20.2s,MS4.1,baz=355,slow=36						
KIV	Kislovodsk	69.89	318	*e*P	P	05 02 54.1	-1.0
KIV				*e*	pP	05 03 06.5	-1.0
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
KIV	Kislovodsk	69.89	318	*e*P	P	05 02 54.1	-1.0
	comp=Z,8.4nm,0.6s,mb4.8						
KIV				*e*	pP	05 03 06.5	-1.0
ZEI	Tsey	70.37	316	*e*P	P	05 02 56.9	-1.2
ZEI				*i* *PP	pP	05 03 07.9	-2.6
ZEI				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
BSEG	Bad Segeberg	70.42	343	*e*P	P	05 02 58.6	+0.5
BSEG				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
ONI	Oni	70.72	316	P	P	05 02 60.0	-0.2
TI2	Plekhanov	70.88	315	⇓*i*P	P	05 03 00.8	-0.3
LVV	L'vov	71.13	333	*e*P	P	05 03 02.4	-0.1
KWP	Kalwaria	71.66	333	*e*P	P	05 03 05.8	+0.1
KWP				*e*	pP	05 03 17.7	-0.4
KWP				MLR	MLR	05 38 11.0	
	comp=Z,300nm,18.2s,MS4.6						
OJC	Ojcow	71.88	335	*e*P	P	05 03 06.8	-0.1
KSP	Ksiaz	72.13	338	*e*P	P	05 03 08.3	-0.1
KSP				*e**PP	pP	05 03 20.5	-0.4
KSP	Ksiaz	72.13	338	*e*P	P	05 03 08.3	-0.1
KSP				*e*	pP	05 03 21.1	+0.2
KSP				MLR	MLR	05 40 14.1	
	comp=Z,700nm,18.1s,MS5.0						
GNI	Garni	72.19	314	*e*P	P	05 03 09.9	+0.9
GNI				pmax	pmax		
	comp=Z,17nm,0.8s						
GNI	Garni	72.19	314	*e*P	P	05 03 09.8	+0.9
	comp=Z,17nm,0.8s,mb5.0						
HYB	Hyderabad	72.21	275	*e*P	P	05 03 08.5	-0.9
HYB				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
HYB	Hyderabad	72.21	275	*e*P	P	05 03 08.5	-0.9
	comp=Z,30nm,1.0s,mb5.2						
HYB	Hyderabad	72.21	275	*i* P	P	05 03 08.5	-0.9
	comp=Z,30nm,1.0s,mb5.2						
HYB				*e*pP	pP	05 03 20.0	-1.9
KIS	Kishinev	72.25	328	*e*P	P	05 03 06.0	-3.2
KIS				*e*	pP	05 03 19.0	-2.7
KIS				*e*		05 12 26.0	
KIS				MLR	MLR		
	comp=Z,300nm,15.0s,MS4.7						
SIM	Simferopol'	72.28	324	P	P	05 02 58.5	-11
SIM				MLR	MLR		
	comp=Z,500nm,16.0s,MS4.9						
CLL	Collm	72.40	340	⇑*i*P	P	05 03 09.4	-0.6
CLL				*i*	pP	05 03 22.7	+0.2
CLL				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
CLL	Collm	72.40	340	⇑*i*P	P	05 03 09.4	-0.6
	comp=Z,21nm,0.9s,mb5.1						
CLL				*i*	pP	05 03 22.7	+0.2
CLL	Collm	72.40	340	⇑P	P	05 03 09.4	-0.6
	comp=Z,logA/T=1.4,mb5.1						
CLL				*i* *PP	pP	05 03 22.7	+0.2
CLZ	Clausthal	72.41	342	*e*P	P	05 03 10.2	+0.2
	comp=Z,28nm,1.0s,mb5.2						
KOLS	Kolonicke sedl	72.42	333	*e*P	P	05 03 10.1	-0.1
KOLS				*e*		05 03 15.7	
KOLS				*e*pP	pP	05 03 22.6	0.0
NIE	Niedzica	72.48	335	*e*P	P	05 03 09.4	-1.2
UPC	Upice	72.51	338	*e*P	P	05 03 11.0	+0.5
UPC				*e*pP	pP	05 03 23.5	+0.5
DPC	Dobruska-Polom	72.58	338	*e*P	P	05 03 11.6	+0.6
DPC				*e*pP	pP	05 03 23.8	+0.3
DPC				AMS	AMS	05 40 00.0	
	comp=Z,300nm,20.6s						
BRG	Berggiesshubel	72.61	339	*e*P	P	05 03 11.1	-0.1
BRG				*e*	pP	05 03 23.9	+0.2
BRG				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
BRG	Berggiesshubel	72.61	339	*e*P	P	05 03 11.1	-0.1
	comp=Z,14nm,1.3s,mb4.7						
BRG				*e*	pP	05 03 23.9	+0.2
OKC	Ostrava-Krasne	72.64	336	*e*P	P	05 03 11.3	0.0
OKC				*e*pP	pP	05 03 24.1	+0.3
OKC				AMS	AMS	05 39 40.0	
	comp=Z,500nm,19.6s						
CRVS	Cervenica-Dubn	72.66	334	*e*P	P	05 03 11.1	-0.4
CRVS				*e*pP	pP	05 03 24.0	0.0
BURAR	Bucovina Array	72.79	331	⇑P	P	05 03 12.1	-0.2
BURAR	Bucovina Array	72.79	331	⇑P	P	05 03 12.1	-0.2
PVCC	Panska Ves	72.81	339	*e*P	P	05 03 12.6	+0.3
PVCC				*e*pP	pP	05 03 23.0	-1.8
MORC	Moravsky Berou	72.84	337	*e*P	P	05 03 12.6	+0.1
MORC				*e**PP	pP	05 03 24.7	-0.3
MORC				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
MORC	Moravsky Berou	72.84	337	*e*P	P	05 03 12.6	0.0
	comp=Z,21nm,1.0s,mb5.0						
MORC				*e*pP	pP	05 03 24.7	-0.3
WTSB	Winterswijk	72.91	344	*e*P	P	05 03 12.0	-0.9
	comp=Z,30nm,2.9s,mb4.7						
DLF	Lyons Farm	73.20	353	*e*P	pP	05 03 27.3	+0.2
MOX	Moxa	73.31	341	*e*P	P	05 03 15.1	-0.2
MOX				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
MOX	Moxa	73.31	341	*e*P	P	05 03 15.1	-0.2
	comp=Z,15nm,1.0s,mb4.9						
MOX	Moxa	73.31	341	*i* P	P	05 03 15.1	-0.2
	comp=Z,logA/T=1.2,mb4.9						
PRU	Pruhonice	73.32	339	*e*P	P	05 03 15.3	-0.1
PRU				*e*pP	pP	05 03 28.3	+0.4
VRAC	Vranov	73.50	337	P	P	05 03 17.3	+0.9
NKC	Novy Kostel	73.53	340	*e*P	P	05 03 16.5	-0.1
NKC				*e*pP	pP	05 03 25.6	-3.5
VYHS	Vyhne	73.71	335	*e*P	P	05 03 17.9	+0.2
VYHS				*e*pP	pP	05 03 29.7	-0.5
SWET	Sewanee	74.08	52	*e*P	P	05 03 19.4	-0.7
CFR	Carcaliu	74.09	328	⇑P	P	05 03 20.7	+0.8
CFR	Carcaliu	74.09	328	⇑P	P	05 03 20.6	+0.7
POO	Poona	74.13	280	⇓*i*P	P	05 03 19.0	-1.7
HGN	Heimansgroeve	74.22	344	*e*P	P	05 03 19.3	-1.2
	comp=Z,19nm,1.1s,mb4.9						
GRA1	Grafenberg Arr	74.29	341	*e*P	P	05 03 21.7	+0.7
	comp=Z,22nm,1.0s,mb5.0						
GRF	Grafenberg Arr	74.29	341	*e*P	P	05 03 21.7	+0.7
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GRF	Grafenberg Arr	74.29	341	*e*P	P	05 03 21.7	+0.7
GRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
GRF	Grafenberg Arr	74.29	341	*e*P	P	05 03 21.7	+0.7
	comp=Z,22nm,1.0s,mb5.0						
TNS	Taunus Mts	74.31	343	*e*P	P	05 03 21.4	+0.3
TNS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
TNS	Taunus Mts	74.31	343	*e*P	P	05 03 21.4	+0.3
	comp=Z,9.0nm,0.8s,mb4.8						
KHC	Kasperske Hory	74.34	339	*e*P	P	05 03 21.5	+0.2
KHC				*e*pP	pP	05 03 34.7	+0.9
KHC				LR	LR		
	comp=Z,400nm,13.7s,MS4.9						
KHC	Kasperske Hory	74.34	339	*e*P	P	05 03 21.5	+0.2
KHC				*e*pP	pP	05 03 34.7	+0.9
KHC				AMS	AMS	05 41 20.0	
	comp=Z,400nm,13.7s						
ZST	Bratislava	74.42	336	*e*P	P	05 03 23.0	+1.2
ZST				*e*pP	pP	05 03 35.4	+1.1
WET	Wettzell	74.47	339	*e*P	P	05 03 22.8	+0.7
WET				*e**PP	pP	05 03 35.9	+1.3
WET				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
WET	Wettzell	74.47	339	*e*P	P	05 03 22.8	+0.7
	comp=Z,12nm,0.9s,mb4.8						
WET				*e*pP	pP	05 03 35.9	+1.3
MLR	Muntele Rosu	74.49	329	P	P	05 03 23.3	+1.0
	comp=Z,12nm,0.6s,mb5.0,baz=311,slow=2.3,SNR=48						
MLR	Muntele Rosu	74.49	329	⇑P	P	05 03 23.6	+1.3
GEC2	GERESS Array S	74.58	339	*e*P	P	05 03 22.8	+0.1
GEC2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
GEC2	GERESS Array S	74.58	339	*e*P	P	05 03 22.8	+0.1
	comp=Z,10.0nm,0.9s,mb4.8						
GERES	GERESS Array B	74.58	339	P	P	05 03 23.2	+0.5
	comp=Z,5.5nm,0.7s,mb4.6,baz=34,slow=4.7,SNR=40						
ISR	Istrita	74.64	329	P	P	05 03 29.1	+6.0
TIRR	Tirgusor	74.64	327	⇓P	P	05 03 23.8	+0.6
KAD	Karad	74.89	279	⇓*i*P	P	05 03 32.5	+7.4
MTUR	Matau	75.00	330	P	P	05 03 40.5	+15
GIVF	Givet	75.03	345	*e*P	P	05 03 25.3	0.0
BAIF	Baives	75.17	345	*e*P	P	05 03 26.2	+0.1
	comp=Z,18nm,0.9s,mb4.7						
BAIF	Baives	75.17	345	*e*P	P	05 03 26.2	+0.1
BAIF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MOA	Molln	75.40	338	⇑*i*P	P	05 03 27.9	+0.5
	comp=Z,8.5nm,1.1s,mb4.6						
BZS	Buzias	75.64	332	⇓P	P	05 03 28.8	0.0
ARSA	Arzberg	75.67	337	⇑*i*P	P	05 03 30.0	+1.0
	comp=Z,6.9nm,0.8s,mb4.6						
BFO	Black Forest	76.15	342	*e*P	P	05 03 32.5	+0.8
BFO				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
BFO	Black Forest	76.15	342	*e*P	P	05 03 32.5	+0.8
	comp=Z,19nm,1.4s,mb4.8						
WLS	Welschbruch	76.25	343	*e*P	P	05 03 33.0	+0.8
CDF	Champ du Feu	76.26	343	*e*P	P	05 03 32.8	+0.5
	comp=Z,27nm,1.0s,mb4.8						
CDF	Champ du Feu	76.26	343	*e*P	P	05 03 32.8	+0.5
CDF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
KBA	Koelnbreinsper	76.33	338	⇓*i*P	P	05 03 34.4	+1.6
	comp=Z,42nm,1.0s,mb5.3						
KBA				*i*	pP	05 03 47.4	+2.1
	comp=Z,41nm,1.0s						
KBA	Koelnbreinsper	76.33	338	⇓*i*P	P	05 03 34.4	+1.6
KBA				*i*	pP	05 03 47.4	+2.1
KBA				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.3						
MALT	Malatya	76.37	317	*e*P	P	05 03 33.2	0.0
MALT				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.1						
MALT	Malatya	76.37	317	*e*P	P	05 03 33.2	+0.1
	comp=Z,28nm,1.2s,mb5.1						
WATA	Walderalm	76.47	340	⇓*i*P	P	05 03 34.4	+0.9
	comp=Z,9.2nm,1.0s,mb4.7						
WATA	Walderalm	76.47	340	⇓*i*P	P	05 03 34.4	+0.9
WATA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ECH	Echery	76.47	343	*e*P	P	05 03 34.0	+0.5
MEZF	Maizieres J'vi	76.55	344	*e*P	P	05 03 34.4	+0.4
	comp=Z,15nm,0.7s,mb4.7						
MOTA	Moosalm	76.56	340	⇑*i*P	P	05 03 34.6	+0.6
	comp=Z,5.6nm,1.0s,mb4.5						
MOTA				*i*		05 03 41.3	
	comp=Z,5.7nm,1.0s						
MOTA	Moosalm	76.56	340	⇑*i*P	P	05 03 34.6	+0.6
MOTA				*i*		05 03 41.3	
MOTA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
OBKA	Obir	76.60	337	⇑*i*P	P	05 03 35.3	+1.0
	comp=Z,26nm,1.1s,mb5.1						
SQTA	Sankt Quirin	76.65	340	⇑*i*P	P	05 03 35.5	+0.9
	comp=Z,10nm,1.0s,mb4.7						
SQTA				*i*	pP	05 03 45.2	-1.9
	comp=Z,9.9nm,0.9s						
SQTA	Sankt Quirin	76.65	340	⇑*i*P	P	05 03 35.5	+0.9
SQTA				*i*	pP	05 03 45.2	-1.9
SQTA				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
THEF	They Montfort	76.66	344	*e*P	P	05 03 34.7	+0.1
WRAB	Tennant Creek	76.81	206	*i* P	P	05 03 33.9	-2.1
HAU	Haudompre	76.81	343	*e*P	P	05 03 35.7	+0.2
	comp=Z,22nm,1.0s,mb4.8						
HAU	Haudompre	76.81	343	*e*P	P	05 03 35.7	+0.2
HAU				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MOF	Molkenrain	76.83	343	*e*P	P	05 03 36.0	+0.5
HINF	Hinteralfeld	76.91	343	*e*P	P	05 03 36.0	0.0
PTCC	Patocco-Chiusa	76.97	338	*e*P	P	05 03 36.4	+0.1
FLN	La Foliniere	77.08	348	*e*P	P	05 03 36.9	-0.1
LDF	La Druitiere	77.21	348	*e*P	P	05 03 37.6	-0.1
	comp=Z,15nm,1.0s,mb4.6						
LDF	La Druitiere	77.21	348	*e*P	P	05 03 37.6	-0.1
LDF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
DIVS	Divcibare	77.48	333	⇓*i*P	P	05 03 39.0	-0.3
GRR	Gorron	77.50	348	*e*P	P	05 03 39.5	+0.2
	comp=Z,22nm,1.0s,mb4.8						
GRR	Gorron	77.50	348	*e*P	P	05 03 39.5	+0.2
GRR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
BRMO	Bormio	77.53	340	*e*P	P	05 03 40.9	+1.4
CTI	Castel Tesino	77.68	339	*e*P	P	05 03 40.5	+0.2
ROSF	Rostrenen	77.83	350	*e*P	P	05 03 41.1	0.0
SGMF	Saint Gilles	77.83	349	*e*P	P	05 03 41.4	+0.3
	comp=Z,21nm,1.0s,mb4.7						
SGMF	Saint Gilles	77.83	349	*e*P	P	05 03 41.4	+0.3
SGMF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
HYF	Humbligny	78.12	346	*e*P	P	05 03 43.4	+0.7
SSF	Saint Saulge	78.20	345	*e*P	P	05 03 43.5	+0.4
SSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
SSF	Saint Saulge	78.20	345	*e*P	P	05 03 43.5	+0.4
	comp=Z,4.1nm,0.9s,mb4.4						
CABF	La Chapelle	78.21	343	*e*P	P	05 03 44.0	+0.8
	comp=Z,36nm,1.2s,mb4.9						
CABF	La Chapelle	78.21	343	*e*P	P	05 03 44.0	+0.8
CABF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
QUIF	Quistinic	78.23	350	*e*P	P	05 03 43.1	-0.2
	comp=Z,17nm,1.0s,mb4.7						
QUIF	Quistinic	78.23	350	*e*P	P	05 03 43.1	-0.2
QUIF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
ULDT	Uludag	78.25	325	*i* P	P	05 03 44.4	+0.8
ULDT				*i* S	pP	05 03 55.6	-0.6
VAI	Varese	78.44	341	*e*P	P	05 03 44.9	+0.4
AVF	Avril sur Loir	78.48	345	*e*P	P	05 03 45.2	+0.5
	comp=Z,35nm,1.2s,mb4.9						
AVF	Avril sur Loir	78.48	345	*e*P	P	05 03 45.2	+0.5
AVF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
MCGN	Macugnaga	78.50	342	*e*P	P	05 03 46.0	+1.2
SMF	Signal de Mont	78.55	345	*e*P	P	05 03 45.5	+0.4
	comp=Z,23nm,1.1s,mb4.7						
SMF	Signal de Mont	78.55	345	*e*P	P	05 03 45.5	+0.4
SMF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
BTOK	Tokmak	78.97	325	*i* P	P	05 03 47.7	+0.1
BTOK				*i* S	pP	05 04 00.3	+0.2
TCF	Toulx Ste Croi	79.15	346	*e*P	P	05 03 48.9	+0.5
LPL	La Plagne	79.16	342	*e*P	P	05 03 50.1	+1.7
	comp=Z,46nm,1.0s,mb5.1						
LPL	La Plagne	79.16	342	*e*P	P	05 03 50.1	+1.7
LPL				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
MFF	Saint Martin d	79.17	347	*e*P	P	05 03 48.5	0.0
LPG	La Plagne	79.17	342	*e*P	P	05 03 50.3	+1.8
	comp=Z,41nm,0.8s,mb5.1						
LPG	La Plagne	79.17	342	*e*P	P	05 03 50.3	+1.8
LPG				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
AGO	Saint Agoulin	79.24	345	*e*P	P	05 03 50.8	+1.9
PLDF	La Plantade	79.24	345	*e*P	P	05 03 51.1	+2.2
BOB	Bobbio (Coli)	79.36	340	*e*P	P	05 03 51.7	+2.2
ZCCA	Zocca	79.44	339	*e*P	P	05 03 52.5	+2.5
GSCL	Gusciola	79.52	339	*e*P	P	05 03 52.2	+1.7
SFI	Santa Sofia	79.68	338	*e*P	P	05 03 53.0	+1.7
PGD	Poggio Sodo	79.73	338	*e*P	P	05 03 53.7	+2.1
BDI	Bagni Di Lucca	79.80	339	*e*P	P	05 03 53.6	+1.7
ORIF	Oris-en-Rattie	79.89	343	*e*P	P	05 03 53.3	+0.9
	comp=Z,30nm,1.1s,mb4.8						
ORIF	Oris-en-Rattie	79.89	343	*e*P	P	05 03 53.3	+0.9
ORIF				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
MBDF	Montbardon	79.91	342	*e*P	P	05 03 53.6	+1.1
	comp=Z,32nm,1.2s,mb4.8						
MBDF	Montbardon	79.91	342	*e*P	P	05 03 53.6	+1.1
MBDF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MANT	Manisa	79.93	325	*i* P	P	05 03 52.6	-0.1
MANT				*i* S	pP	05 04 05.3	0.0
JMDO	Jabal Madar	80.09	294	P	P	05 03 54.0	0.0
	SNR=10						
JMDO				P		05 03 54.0	
	SNR=10						
VIVF	Saint-Julien-l	80.15	344	*e*P	P	05 03 55.2	+1.4
RJF	Les Rejaudoux	80.21	346	*e*P	P	05 03 55.8	+1.7
	comp=Z,21nm,1.1s,mb4.7						
RJF	Les Rejaudoux	80.21	346	*e*P	P	05 03 55.8	+1.7
RJF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BSY	Bisya	80.28	295	P	P	05 03 54.9	-0.1
	SNR=15						
BSY				P		05 03 54.9	
	SNR=15						
NRCA	Norcia	80.41	337	*e*P	P	05 03 56.6	+1.4
IMI	Imperia	80.49	341	*e*P	P	05 03 56.2	+0.6
CAF	Calviac	80.50	346	*e*P	P	05 03 57.0	+1.3
SBF	Sospel	80.62	342	*e*P	P	05 03 56.1	-0.2
	comp=Z,44nm,1.0s,mb5.0						
SBF	Sospel	80.62	342	*e*P	P	05 03 56.1	-0.2
SBF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
LFF	La Frestale	80.68	346	*e*P	P	05 03 57.1	+0.5
FRF	La Foret Royal	81.06	342	*e*P	P	05 03 58.4	-0.3
PPT	Papeete	82.13	134	*e*LR	LR	05 29 15.1	
	comp=Z,176nm,28.0s,baz=343						
ASF	Jabal al Asfar	82.29	315	P	P	05 04 05.0	-0.3
	comp=Z,4.0nm,0.7s,mb4.5,baz=63,slow=2.3,SNR=7.2						
RAYN	Ar Rayn	85.72	304	P	P	05 04 22.6	0.0
	comp=Z,136nm,1.1s,SNR=9.7						
WHFO	Wadi Hawf	86.06	295	P	P	05 04 23.6	-0.7
	SNR=14						
WHFO				P		05 04 23.6	
	SNR=14						
ESDC	Sonseca Array	86.46	349	P	P	05 04 27.1	+1.2
	comp=Z,1.6nm,0.7s,mb4.4,baz=0.7,slow=5.1,SNR=6.9						
STKA	Stephens Creek	86.75	197	P	P	05 04 32.3	+4.8
	comp=Z,2.5nm,0.7s,mb4.6,baz=28,slow=14,SNR=3.5						
ABTO	Aybut	86.78	295	P	P	05 04 27.5	-0.4
	SNR=6.0						
ABTO				P		05 04 27.5	
	SNR=6.0						

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*NEIC **08** 04:54:22.6±3.0, 14.74S×122.01E, h10km, mb4.2/1, Error ellipse: s-maj=41.9km s-min=13.2km az=150.0*
*AUST **08** 04:54:25.9, 14.66S×122.17E, ML3.6*
*IDC **08** 04:54:30.3±6.6, 15.30S×122.54E, mb3.7/1, mb1 4.2/4, mb1mx3.9/11, mbtmp4.1/4, ML3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/16, Error ellipse: s-maj=94.3km s-min=42.1km az=168.0*
ISC 08 04:54:26.3±1.4**, 15.18S**±0.10×**122.48E**±0.06**, h10km, n19,** σ**1**§**50**/32**, mb3.5**/1**, MS3.1**/1**, Northwest of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	4.20	134	*e*P	Pn	04 55 36.7	+4.8
FITZ				*e*S	Sn	04 56 32.2	+11
	94nm,0.5s						
KNA	Kununurra	6.08	96	*e*P	Pn	04 55 59.7	+1.1
KNA				*e*S	Sn	04 57 08.8	-0.3
	13nm,0.4s						
KNA	Kununurra	6.08	96	*e*P	Pn	04 55 59.7	+1.1
	13nm,0.4s						
KNA				*e*S	Sn	04 57 08.8	-0.3
MBWA	Marble Bar	6.50	203	*e*P	Pn	04 55 59.0	-5.4
MBWA				*e*S	Sn	04 57 19.0	-0.4
KAKA	Kakadu	9.97	77	*e*P	P	04 56 50.4	-2.4
KAKA				*e*S	Sn	04 58 39.3	-6.6
	27nm,0.5s						
KAKA	Kakadu	9.97	77	*e*P	P	04 56 50.4	-2.4
	27nm,0.5s						
KAKA				*e*S	Sn	04 58 39.3	-6.6
MEEK	Meekatharra	11.96	197	*e*P	P	04 57 18.7	-1.3
MEEK				*e*S	S	04 59 27.3	-7.2
	127nm,0.5s						
MEEK	Meekatharra	11.96	197	*e*P	P	04 57 18.7	-1.3
	127nm,0.5s						
MEEK				*e*S	S	04 59 27.3	-7.2
WRA	Warramunga Arr	12.26	114	Pn	P	04 57 24.8	+0.8
	1.1nm,0.3s,baz=291,slow=13,SNR=66						
WRA				Sn	S	04 59 40.8	-0.9
	1.6nm,0.3s,baz=292,slow=26,SNR=6.1						
WRA	Warramunga Arr	12.26	114	Pn	P	04 57 24.8	+0.8
WRA				Sn	S	04 59 40.8	-0.9
WRAB	Tennant Creek	12.26	114	Pn	P	04 57 25.0	+1.0
	56nm,0.9s,SNR=26						
WRAB	Tennant Creek	12.26	114	*e*Pn	P	04 57 24.7	+0.7
WRAB				*e*Sn	S	04 59 38.9	-2.9
WB2	Warramunga Arr	12.27	114	*e*P	P	04 57 24.2	+0.1
WB2				*e*S	S	04 59 38.6	-3.4
ASPA	Alice Springs	13.68	130	*e*P	P	04 57 45.6	+2.7
ASPA				*e*S	S	05 00 17.8	+1.9
ASAR	Alice Springs	13.68	130	Pn	P	04 57 45.5	+2.6
	0.7nm,0.3s,baz=310,slow=13,SNR=56						
ASAR				Sn	S	05 00 14.8	-1.2
	0.8nm,0.3s,baz=308,slow=25,SNR=8.2						
NWAO	Narrogin (SRO)	18.30	194	P	P	04 58 43.1	+1.0
	1.7nm,0.3s,baz=22,slow=13,SNR=7.1						
NWAO	Narrogin (SRO)	18.30	194	*e*P	P	04 58 40.7	-1.5
	7.6nm,0.4s						
CTA	Charters Tower	23.16	106	LR	LR	05 09 20.3	
	comp=Z,72nm,19.1s,MS3.1,baz=51,slow=39						
STKA	Stephens Creek	24.09	137	P	P	04 59 46.9	+3.9
	1.3nm,0.6s,mb3.5,baz=329,slow=11,SNR=2.5						

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*NEIC **08** 05:00:12.0, 34.33S×148.43E, h2km, ML2.5(AUST), After AUST.*
AUST 08 05:00:12.4, 34.33S×148.43E, h2km, ML2.5, 1D, New South Wales

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YNG	Young	0.04	317	⇓*i*P	Pg	05 00 12.8	-0.4
YNG				*e*S	Sg	05 00 13.7	0.0
	780nm,0.4s						
CNB	Canberra Magne	1.25	142	*e*P	Pb	05 00 35.9	-0.5
CNB				*e*S	Sb	05 00 52.4	-0.4
MGCD	Mangrove Creek	2.50	64	*e*P	Pn	05 00 57.4	+2.7
MGCD				*e*S	Sn	05 01 31.2	+5.0
	42nm,1.1s						
MILA	Mila	2.79	168	*e*P	Pn	05 00 56.3	-2.5
MILA				*e*S	Sn	05 01 36.6	+3.1
CTAO	Charters Tower	14.31	352	P	P	05 03 35.3	-3.0

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*NEIC **08** 05:06:04.4, 18.86N×68.60W, h146km, MD3.8(RSPR), After RSPR.*
RSPR 08 05:06:04.4, 18.86N×68.60W, h146km±4km, MD3.8/14**, MD3.8**/14**, 13C-2D, Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGPR	Aguadilla, PR	1.47	105	⇓*e*P	P	05 06 33.4	-0.3
AGPR				*e*S	S	05 06 55.3	-0.9
LSP	Las Mesas	1.59	115	⇑*e*P	P	05 06 34.4	-0.6
LSP				*e*S	S	05 06 57.6	-0.9
MGP	Maguayo	1.67	120	⇓*e*P	P	05 06 33.8	-2.1
LRS	Lares	1.76	109	⇑*e*P	P	05 06 36.0	-0.8
LRS				*e*S	S	05 07 02.1	+0.4
AOPR	Arecibo Observ	1.83	106	⇑*e*P	P	05 06 36.9	-0.7
AOPR				*e*S	S	05 07 02.6	-0.5
PORP	Portuguez	2.03	113	⇑*e*P	P	05 06 39.3	-0.6
PORP				*e*S	S	05 07 07.7	+0.4
CELP	Cerrillos	2.07	112	⇑*e*P	P	05 06 39.6	-0.9
CELP				*e*S	S	05 07 07.9	-0.3
CSB	Colonia Sabana	2.39	103	⇑*e*P	P	05 06 44.8	+0.3
CSB				*e*S	S	05 07 15.3	+0.1
CSB	Colonia Sabana	2.39	103	⇑*e*P	P	05 06 44.8	+0.3
CSB				*e*S	S	05 07 05.3	-10
SJG	San Juan	2.44	107	⇑*e*P	P	05 06 45.2	+0.1
SJG	San Juan	2.44	107	⇑*e*P	P	05 06 45.1	-0.1
SJG				*e*S	S	05 07 16.6	+0.2
CBYP	Canovanas	2.67	102	⇑*e*P	P	05 06 47.5	-0.5
CBYP				*e*S	S	05 07 21.0	-0.5
CPD	Cerro la Pandu	2.68	107	⇑*e*P	P	05 06 48.1	-0.1
CPD				*e*S	S	05 07 21.2	-0.4
HUMP	Col San Antoni	2.71	105	⇑*e*P	P	05 06 47.7	-0.8
HUMP				*e*S	S	05 07 21.3	-1.0
MTP	Monte Pirata	2.99	104	⇑*e*P	P	05 06 51.3	-0.9

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*KRSC **08** 05:17:35.6±0.4, 53.47N×161.74E, h9km±5km, ML4.3*
*MOS **08** 05:17:35.8±2.1, 53.44N×161.79E, h15km, mb4.5/1, Error ellipse: s-maj=14.3km s-min=11.1km az=80.7*

*NEIC **08** 05:17:39.1±1.0,53.41N×161.84E,Error ellipse: s-maj=33.2km s-min=13.8km az=176.0*
*IDC **08** 05:17:40.0±1.0,53.66N×161.84E,h37km±7km,mb3.5/7, mb1 3.8/7,mb1mx3.5/18,mbtmp3.8/7,ML4.2/1,Error ellipse: s-maj=34.5km s-min=11.1km az=8.0*
ISC 08 05:17:37.2±0.7**,53.40N**±0.03×**161.94E**±0.06**,h43**km±8km**,** **h37**km±6.2km**:pP-P,n45,**σ**0.84**/72**,mb3.7**/7**,1D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.19	256	P	P	05 17 57.2	-0.4
SPN				S	S	05 18 12.9	+0.1
SPN	Mys Shipunski	1.19	256	i P	P	05 17 57.3	-0.3
SPN				eS	S	05 18 12.9	+0.1
NLC	Nalytchevo	1.57	263	P	P	05 18 02.5	-0.6
NLC				S	S	05 18 21.7	-0.7
NLC	Nalytchevo	1.57	263	i P	P	05 18 02.7	-0.4
NLC				i S	S	05 18 22.7	+0.3
KII	Karymskiy	1.61	294	P	P	05 18 02.2	-1.4
KII				S	S	05 18 21.0	-2.3
KII	Karymskiy	1.61	294	i P	P	05 18 02.4	-1.2
KII				i S	S	05 18 22.0	-1.3
UGLR	Uglovaya	1.88	265	i P	P	05 18 07.6	+0.2
AVH	Avacha	1.92	267	i P	P	05 18 08.2	+0.1
AVH				i S	S	05 18 31.7	+0.6
KOK	Koryaka	1.98	268	i P	P	05 18 08.9	0.0
PET	Petropavlovsk	2.01	260	P	P	05 18 08.9	-0.4
PET				S	S	05 18 33.8	+0.5
PET	Petropavlovsk	2.01	260	⇓i PN	P	05 18 09.2	-0.1
PET				i S	S	05 18 33.0	-0.3
PET				pmax	pmax		
	comp=Z,67nm,0.5s						
PET				pmax	pmax		
	comp=N,34nm,0.4s						
PET				pmax	pmax		
	comp=E,39nm,0.4s						
PET				smax			
	comp=N,382nm,0.6s						
PET				smax			
	comp=E,374nm,0.5s						
PET	Petropavlovsk	2.01	260	ePn	P	05 18 08.6	-0.7
PET	Petropavlovsk	2.01	260	i P	P	05 18 08.9	-0.4
PET				i S	S	05 18 33.0	-0.3
TUMR	Tumrok	2.16	332	i P	P	05 18 11.2	-0.2
TUMR				eS	S	05 18 37.2	+0.1
RUS	Russkaya	2.29	246	P	P	05 18 13.3	0.0
RUS				S	S	05 18 40.7	+0.3
RUS	Russkaya	2.29	246	eP	P	05 18 13.4	+0.1
RUS				eS	S	05 18 40.7	+0.3
KRMR	Karymshinskiy	2.36	257	eP	P	05 18 14.5	+0.1
KRMR				eS	S	05 18 42.8	+0.5
GNL	Ganaly	2.40	279	eP	P	05 18 15.1	+0.2
GNL				eS	S	05 18 43.7	+0.4
GRL	Gorelyy	2.49	251	eP	P	05 18 16.9	+0.8
GRL				eS	S	05 18 47.0	+1.6
KMNR	Kamenistaya	2.56	338	eP	P	05 18 17.6	+0.5
KMNR				eS	S	05 18 48.3	+1.0
KBTR	Krutoberegovo	2.86	10	P	P	05 18 22.7	+1.3
KBTR				S	S	05 18 55.7	+0.8
KBTR	Krutoberegovo	2.86	10	eP	P	05 18 22.7	+1.3
KBTR				eS	S	05 18 57.0	+2.1
KBG	Krutoberegovo	2.89	9	eP	P	05 18 22.3	+0.4
KBG				eS	S	05 18 56.3	+0.5
KBG				Smax			
	comp=E,900nm,1.0s						
KOZ	Kozyrevsk	2.92	337	P	P	05 18 22.6	+0.3
KOZ				S	S	05 18 56.6	+0.2
KOZ	Kozyrevsk	2.92	337	eP	P	05 18 22.3	0.0
KOZ				eS	S	05 18 56.5	+0.1
KOZR	Kozyr	2.92	337	PN	P	05 18 22.6	+0.3
KOZR				S	S	05 18 56.6	+0.1
KLY	Klyuchi	3.01	346	P	P	05 18 24.0	+0.4
KLY				S	S	05 18 59.8	+1.1
KLY	Klyuchi	3.01	346	eP	P	05 18 23.7	+0.1
KLY				eS	S	05 18 58.7	0.0
ESO	Esso	3.15	325	eP	P	05 18 24.6	-1.0
ESO				eS	S	05 19 00.7	-1.6
SRDR	Sredinnyy	3.19	337	i P	P	05 18 25.5	-0.6
SRDR				i S	S	05 19 02.0	-1.3
PAU	Pauzhetka	3.69	240	eP	P	05 18 32.8	-0.4
SKR	Severo-Kuril's	4.51	235	ePN	P	05 18 50.0	+5.2
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
FX1	Attu Island--F	6.78	90	Pn	P	05 19 16.1	-0.5
	comp=Z,14nm,0.3s,baz=256,slow=2.0,SNR=49						
FX1				Sn	S	05 20 29.6	-3.8
	comp=Z,10nm,0.3s,baz=105,slow=20,SNR=7.0						
FX1	Attu Island--F	6.78	90	eP	P	05 19 15.2	-1.5
ILAR	Eielson Array	27.81	46	pP	pP	05 23 32.4	-2.9
	comp=Z,0.6nm,0.9s,baz=257,slow=6.9,SNR=4.7						
SONM	Songino Array	34.90	284	P	P	05 24 25.8	-0.6
	comp=Z,0.2nm,0.4s,mb3.4,baz=53,slow=6.2,SNR=3.7						
CMAR	Chiang Mai Arr	59.33	259	P	P	05 27 37.8	+0.7
	comp=Z,0.8nm,0.4s,mb4.1,baz=26,slow=7.0,SNR=5.1						
CMAR				pP	pP	05 27 50.0	+0.7
	comp=Z,1.9nm,0.7s,baz=23,slow=7.1,SNR=2.6						
FINES	FINESS Array B	60.27	337	P	P	05 27 42.2	-0.8
	comp=Z,0.8nm,0.4s,mb4.1,baz=38,slow=7.4,SNR=14						
NB2	NORSAR Subarra	63.55	345	PKPabc	P	05 28 03.5	-1.3
	comp=Z,1.3nm,0.7s,mb4.1,baz=39,slow=3.1						
NB2	NORSAR Subarra	63.55	345	PKPab	P	05 28 03.5	-1.3
NOA	NORSAR Array B	63.55	345	P	P	05 28 03.9	-0.9
	comp=Z,0.7nm,0.5s,mb3.9,baz=20,slow=6.7,SNR=3.8						
NOA				pP	pP	05 28 16.6	-0.6
	comp=Z,0.8nm,0.6s,baz=18,slow=7.0,SNR=2.5						
NOA	NORSAR Array B	63.55	345	P	P	05 28 03.9	-0.9
NOA				pP	pP	05 28 16.6	-0.6
AKASG	Malin Array Be	68.91	330	P	P	05 28 38.2	-0.8
	comp=Z,0.4nm,0.3s,mb3.8,baz=31,slow=6.8,SNR=5.3						
TXAR	Lajitas Array	69.50	68	P	P	05 28 45.7	+2.7
	comp=Z,0.1nm,0.4s,mb3.1,baz=333,slow=4.0,SNR=2.6						
TXAR				pP	pP	05 28 53.9	-1.7
	comp=Z,0.3nm,0.6s,baz=300,slow=5.3,SNR=3.4						
GERES	GERESS Array B	74.64	339	P	P	05 29 13.8	+0.7
	comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=4.8,SNR=4.4						

*BJI **08** 05:34:44.8,39.64N×76.86E,h18km,ML3.8*
*NNC **08** 05:34:46.4±4.8,39.54N×76.78E,mpv3.7,Error ellipse: s-maj=43.1km s-min=39.2km az=170.0*
ISC 08 05:34:42.3±0.6**,39.24N**±0.05×**77.01E**±0.06**,h18**km**,n14,** σ**1.31**/18**,1C-4D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	0.84	289	PG	Pb	05 34 57.9	-0.3
KSH				SG	Sb	05 35 08.7	-0.3
KSH				Smax			
	comp=N,3μm,0.8s						
KSH				Smax			
	comp=E,3μm,0.4s						
AAK	Ala-Archa	3.88	332	⇑Pn	Pn	05 35 43.1	+0.5
	comp=E,30nm,0.5s						
AAK				⇓Lg		05 36 38.1	
	comp=E,38nm,0.5s						
KLP	Kalpa	7.76	172	eP	Pn	05 36 42.0	+4.8
KLP				e		05 37 55.5	
KLP				eS	Sn	05 38 02.9	-2.7
KLP				e		05 38 14.5	
KLP				AML	AML	05 38 19.2	
	comp=N,24nm,1.0s						
KLP				AML	AML	05 38 19.4	
	comp=E,22nm,0.8s						
MK31	Makanchi Array	8.48	25	⇓Pn	P	05 36 46.5	-0.7
	comp=E,0.8nm,0.6s,baz=205,slow=12,SNR=12						
MK31				⇓Lg		05 39 08.6	
	comp=E,11nm,1.2s,baz=213,slow=28,SNR=3.6						
JOSI	Joshimath	8.92	166	eP	P	05 36 53.9	+0.5
JOSI				eS	Sn	05 38 28.4	-5.9
JOSI				AML	AML	05 38 28.8	
	comp=N,45nm,0.6s						
JOSI				AML	AML	05 38 29.4	
	comp=E,27nm,0.3s						
WMQ	Urumqi	9.23	57	eP	P	05 36 59.8	+2.2
WMQ				S	Sn	05 38 40.4	-1.6
WMQ				Smax			
	comp=N,14nm,1.2s						
WMQ				Smax			
	comp=E,21nm,1.2s						
AYAN	Aya Nagar	10.73	179	eP	P	05 37 22.2	+3.9
AYAN				eS	S	05 39 09.8	-9.2
KURK	Kurchatov	11.53	5	⇓Lg		05 40 40.2	
	comp=E,4.8nm,1.3s						
KOLN	Koldanda	12.69	152	eP	P	05 37 45.2	+0.4
	comp=E,3.6nm,0.3s						
GKN	Gorkha	12.88	148	eP	P	05 37 51.2	+3.9
	comp=E,15nm,0.4s						
KKN	Kakani	13.34	146	eP	P	05 37 53.5	+0.1
	comp=E,7.2nm,0.5s						
GUN	Gumba	13.50	144	eP	P	05 38 00.2	+4.7
	comp=E,4.9nm,0.4s						
PKI	Pulchoki	13.58	146	eP	P	05 37 53.3	-3.3
	comp=E,5.2nm,0.4s						
JIRN	Jiri	13.85	144	eP	P	05 38 01.4	+1.2
	comp=E,8.3nm,0.3s						

*NIED **08** 05:43:00,37.20N×141.90E,h41km,Mw3.6 Best double couple: $M_0$3.06×10^{14} NP1:ϕ_s343°,δ84°,λ15°. NP2:ϕ_s251°, δ75°,λ174°.*
*JMA **08** 05:43:22.1±0.2,37.22N×141.90E,h40km±4km,M3.8*
*IDC **08** 05:43:24.6±4.1,37.11N×141.91E,h42km±42km,mb3.2/5, mb1 3.5/6,mb1mx3.3/21,mbtmp3.6/6,ML3.8/1,Error ellipse: s-maj=37.2km s-min=23.7km az=103.0*
ISC 08 05:43:21.9±1.2**,37.15N**±0.04×**141.91E**±0.09**,h36**km±12km**,** **n15,**σ**0.87**/22**,mb3.4**/5**,5D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	0.85	285	⇓P	P	05 43 37.6	+0.1
JFK				S	S	05 43 48.0	-1.0
ONAJ	Iwakimizuishiy	0.89	267	⇓P	P	05 43 38.3	+0.3
JMM	Marumori	1.14	309	⇓P	P	05 43 41.4	-0.1
JHO	Hitachi	1.20	244	P	P	05 43 42.9	+0.5
JHO				S	S	05 43 57.7	-0.1
JFT	Otama	1.31	287	⇓P	P	05 43 45.0	+1.0
JIO	Ouri	1.38	341	⇓P	P	05 43 44.3	-0.7
JIO				eS	S	05 43 59.5	-2.7
JOU	Okura	1.57	321	P	P	05 43 47.9	+0.2
JOU				eS	S	05 44 06.5	-0.5
JYS	Shirataka	1.81	307	P	P	05 43 52.0	+0.8
JYS				eS	S	05 44 15.0	+1.8
MAT	Matsushiro	3.03	260	P	P	05 44 08.9	+0.3
MAT				S	S	05 44 43.2	-0.9
JHJ	Hachijo jima 2	4.38	204	P	P	05 44 29.1	+1.3
	16nm,0.3s,baz=233,slow=22,SNR=5.8						
JHJ				S	S	05 45 16.8	-1.5
	30nm,0.3s,baz=86,slow=22,SNR=5.2						
SONM	Songino Array	28.05	304	P	P	05 49 12.6	+0.8
	0.6nm,0.9s,mb3.2,baz=105,slow=8.6,SNR=3.7						
ILAR	Eielson Array	49.19	32	P	P	05 52 08.0	+0.1
	0.5nm,0.9s,mb3.5,baz=261,slow=5.2,SNR=6.8						
WRA	Warramunga Arr	57.23	188	P	P	05 53 07.7	-0.4
	0.2nm,0.6s,mb3.3,baz=7.1,slow=7.5,SNR=3.0						
YKA	Yellowknife Ar	63.51	30	P	P	05 53 49.9	-0.3
	0.2nm,0.9s,mb3.2,baz=303,slow=6.2,SNR=3.6						
AKASG	Malin Array Be	74.45	322	P	P	05 54 57.8	0.0
	0.4nm,0.4s,mb3.7,baz=46,slow=6.4,SNR=5.9						

*NEIC **08** 05:55:31.5,44.43N×10.41E,h18km,MD2.5(ROM), ML2.6(LDG),ML2.3(GEN),After GEN.*
*CSEM **08** 05:55:31.2±0.1,44.41N×10.34E,h12km,ML2.5/4,Error ellipse: s-maj=1.6km s-min=1.3km az=24.0*
*GEN **08** 05:55:31.5,44.43N×10.41E,h18km,ML2.3*
*ROM **08** 05:55:32.0±0.5,44.38N×10.35E,h13km±3km,MD2.5/6, ML1.7/4,Error ellipse: s-maj=3.2km s-min=2.5km az=90.0*
*LDG **08** 05:55:33.0±0.6,44.33N×10.37E,h10km,Ml2.6/5,Error ellipse: s-maj=13.3km s-min=7.0km az=78.0*
ISC 08 05:55:32.0±0.3**,44.38N**±0.03×**10.32E**±0.03**,h21**km±2km**,** **n48,**σ**0.92**/75**,1C-7D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VALM		0.06	236	P	Pb	05 55 35.7	-0.1
VALM				S	Sb	05 55 38.8	+0.3
VALM		0.06	236	P	Pb	05 55 35.7	-0.2
VALM				S	Sb	05 55 38.8	+0.3
ERBM	Eremo	0.08	62	⇓iPG	Pb	05 55 34.9	-1.1
ERBM				SG	Sb	05 55 38.1	-0.5
ERBM	Eremo	0.08	62	⇓iPg	Pb	05 55 34.9	-1.1
ERBM				eSg	Sb	05 55 38.1	-0.5
GSCL	Gusciola	0.20	100	⇓iPG	Pb	05 55 35.9	-1.4
GSCL				SG	Sb	05 55 39.3	-1.5
	99nm,0.2s						
GSCL	Gusciola	0.20	100	⇓iPg	Pb	05 55 35.9	-1.4
GSCL				eSg	Sb	05 55 39.3	-1.5
GSCL	Gusciola	0.20	100	⇓iPg	Pb	05 55 35.9	-1.4
	99nm,0.2s						
GSCL				Sg	Sb	05 55 39.3	-1.5
BACM		0.20	239	P	Pb	05 55 37.7	+0.3
BACM				S	Sb	05 55 42.0	+1.0
BACM		0.20	239	P	Pb	05 55 37.7	+0.3
SARO	Sassorosso	0.21	163	P	Pb	05 55 37.0	-0.4
SARO				S	Sb	05 55 40.8	-0.3
SARO	Sassorosso	0.21	163	P	Pb	05 55 37.0	-0.4
SARO	Sassorosso	0.21	163	P	Pb	05 55 37.0	-0.4
GRAM		0.21	301	P	Pb	05 55 37.2	-0.3
GRAM				S	Sb	05 55 41.2	0.0
GRAM		0.21	301	P	Pb	05 55 37.2	-0.3
VLC	Villacollemand	0.23	168	ePg	Pb	05 55 37.3	-0.4
VLC	Villacollemand	0.23	168	ePg	Pb	05 55 37.3	-0.4
VINC	Vinca	0.27	206	P	Pb	05 55 38.7	+0.4
VINC				S	Sb	05 55 43.6	+1.0
VINC	Vinca	0.27	206	P	Pb	05 55 38.7	+0.4
VINC	Vinca	0.27	206	P	Pb	05 55 38.7	+0.4
CODM		0.34	271	P	Pb	05 55 39.7	+0.3
CODM				S	Sb	05 55 45.2	+0.9
CODM		0.34	271	P	Pb	05 55 39.7	+0.3
CODM				S	Sb	05 55 45.2	+0.9
BDI	Bagni Di Lucca	0.38	148	ePG	Pb	05 55 39.4	-0.7
BDI				SG	Sb	05 55 46.4	+0.9
	66nm,0.3s						
BDI	Bagni Di Lucca	0.38	148	ePg	Pb	05 55 39.4	-0.6
BDI				eSg	Sb	05 55 46.4	+0.9
BDI	Bagni Di Lucca	0.38	148	ePg	Pb	05 55 39.4	-0.7
	66nm,0.3s						
BDI				Sg	Sb	05 55 46.4	+0.9
ZCCA	Zocca	0.47	94	ePG	Pb	05 55 40.9	-0.7
	49nm,0.4s						
ZCCA	Zocca	0.47	94	ePg	Pb	05 55 40.9	-0.7
ZCCA	Zocca	0.47	94	ePg	Pb	05 55 40.9	-0.7
	49nm,0.4s						
PII	Pisa	0.68	167	ePG	Pb	05 55 45.5	+0.4
PII				SG	Sb	05 55 55.7	+1.7
	98nm,0.4s						
PII	Pisa	0.68	167	ePg	Pb	05 55 45.5	+0.4
PII				eSg	Sb	05 55 55.7	+1.7
PII	Pisa	0.68	167	ePg	Pb	05 55 45.5	+0.4
	98nm,0.4s						
PII				Sg	Sb	05 55 55.7	+1.7
SEI	Scarperia	0.82	113	ePG	Pb	05 55 48.8	+1.4
	59nm,0.4s						
SEI	Scarperia	0.82	113	ePg	Pb	05 55 48.8	+1.4
SEI	Scarperia	0.82	113	ePg	Pb	05 55 48.8	+1.4
	59nm,0.4s						
VMG	Vicchio	0.98	115	ePG	Pb	05 55 50.6	+0.4
SFI	Santa Sofia	1.20	113	ePN	Pn	05 55 54.6	+0.8
SFI	Santa Sofia	1.20	113	ePg	Pn	05 55 54.6	+0.8
PGF	Pioggiola	2.07	208	ePn	Pn	05 56 06.2	0.0
PGF				eSn	Sn	05 56 30.8	-0.8
	10nm,0.4s						
SBF	Sospel	2.14	257	ePn	Pn	05 56 07.0	-0.2
SBF				eSn	Sn	05 56 32.9	-0.5
	8.4nm,0.3s						
MBDF	Montbardon	2.56	279	ePn	Pn	05 56 14.2	+1.0
MBDF				eSn	Sn	05 56 44.2	+0.2
	9.5nm,0.6s						
LPG	La Plagne	2.77	295	ePn	Pn	05 56 16.6	+0.4
FRF	La Foret Royal	2.77	254	ePn	Pn	05 56 15.6	-0.7
FRF				eSn	Sn	05 56 45.5	-4.0
	8.8nm,0.5s						
LPL	La Plagne	2.79	295	ePn	Pn	05 56 17.3	+0.8
SQTA	Sankt Quirin	2.91	12	⇓iPN	Pn	05 56 18.6	+0.4
SQTA				i SN	Sn	05 56 54.8	+2.0
LMR	La Mourre	2.95	250	ePn	Pn	05 56 17.6	-1.2
LMR				eSn	Sn	05 56 51.8	-2.1
	2.1nm,0.3s						
MOTA	Moosalm	3.01	10	⇓iPN	Pn	05 56 17.0	-2.7
MOTA				i SN	Sn	05 56 51.6	-3.9
WATA	Walderalm	3.08	16	⇑iPN	Pn	05 56 20.7	+0.1
WATA				i SN	Sn	05 56 58.3	+1.0
ORIF	Oris-en-Rattie	3.21	281	ePn	Pn	05 56 22.2	-0.3
SMRF	Simiane la Rot	3.44	265	ePn	Pn	05 56 25.3	-0.4

IDC 08 05:59:27.4±4.4**,6.97N**×**77.56W,h50**km±43km**,mb3.3**/4**,** **mb1 3.7**/6**,mb1mx3.4**/21**,mbtmp3.7**/6**,ML2.1**/1**,Error ellipse: s-maj=34.4km s-min=19.9km az=63.0,Near west coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	3.84	123	P	P	06 00 24.5	-1.0
	2.8nm,0.3s,baz=89,slow=11,SNR=14						
SDV	Santo Domingo	7.12	74	P	P	06 01 09.4	-2.0
	2.9nm,0.3s,baz=348,slow=11,SNR=38						
SDV				S	S	06 02 31.1	-0.7
	5.5nm,0.3s,baz=2.8,slow=16,SNR=7.8						
LPAZ	La Paz	24.92	158	P	P	06 04 47.3	-0.3
	0.4nm,0.5s,baz=302,slow=15,SNR=3.1						
TXAR	Lajitas Array	33.16	315	P	P	06 05 58.7	-2.8
	0.1nm,0.8s,baz=323,slow=19,SNR=2.3						
BDFB	Brasilia	36.89	128	P	P	06 06 29.8	-3.6
	5.8nm,1.1s,baz=285,slow=6.5,SNR=6.0						
YKA	Yellowknife Ar	61.66	341	P	P	06 09 39.7	-2.6
	0.4nm,0.6s,baz=132,slow=6.9,SNR=13						
WRA	Warramunga Arr	146.49	244	PKPbc	PKPbc	06 19 05.1	+1.1
	0.9nm,0.8s,baz=98,slow=5.9,SNR=7.1						

*NNC **08** 06:16:30.7±1.2,37.61N×71.92E,h151km±7km,mpv3.9, Error ellipse: s-maj=12.9km s-min=8.8km az=16.0*
ISC 08 06:16:23.9±1.3**,37.08N**±0.07×**72.1E**±0.2**,h147**km±24km**,** **n21,**σ**1.08**/31**,2C-3D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THN	Thein Dam	5.53	146	eS	S	06 18 48.1	0.0
AAK	Ala-Archa	5.86	18	⇑P	P	06 17 49.4	-0.1
	5.1nm,0.3s						
AAK				⇓S	S	06 18 51.4	-4.6
	35nm,0.7s						
PONG	Pong	6.04	147	eP	P	06 17 53.0	+1.0
PONG				eS	S	06 19 00.0	-0.4
BHK	Bhakra	6.70	146	eS	S	06 19 15.1	-1.2
SMLA	Simla	7.29	143	eP	P	06 18 08.7	-0.2
SMLA				i P		06 18 08.7	
SMLA				i S	S	06 19 25.4	-5.1
SMLA				eS	S	06 19 25.4	-5.1
KLP	Kalpa	7.54	135	eP	P	06 18 14.2	+2.0
KLP				eS	S	06 19 33.2	-3.3
KLP				e		06 19 44.2	
	comp=N,909nm,0.8s						
KLP				e		06 19 44.3	
	comp=E,542nm,0.7s						
DDI	Dehra Dun	8.39	142	e	S	06 19 57.1	+0.3
JOSI	Joshimath	9.01	134	e	P	06 18 27.8	-4.0
JOSI				e	S	06 19 59.7	-12
NDI	New Delhi	9.43	151	eP	P	06 18 38.5	+1.3
NDI				eS	S	06 20 16.0	-5.5
KHET	Khetri	9.52	160	eP	P	06 18 38.1	-0.3
KHET				eS	S	06 20 17.9	-5.8
KHET				e		06 20 22.3	
	comp=E,18nm,0.2s						
KHET				e		06 20 22.3	
	comp=N,19nm,0.3s						
AYAN	Aya Nagar	9.57	152	eP	P	06 18 38.2	-0.9
AYAN				eS	S	06 20 20.6	-4.5
SONA	Sohna	9.77	153	eP	P	06 18 42.3	+0.6
SONA				eS	S	06 20 22.9	-6.7
SONA				e		06 20 28.0	
	comp=E,27nm,0.1s						
SONA				e		06 20 28.1	
	comp=N,11nm,0.2s						
MK31	Makanchi Array	12.33	35	⇑P	P	06 19 16.3	+1.1
	comp=N,1.7nm,0.7s,baz=208,slow=16,SNR=21						
GKN	Gorkha	13.93	127	eP	P	06 19 36.8	+0.9
KKN	Kakani	14.49	126	eP	P	06 19 42.8	-0.2
DMN	Daman	14.51	127	eP	P	06 19 44.1	+0.9
PKI	Pulchoki	14.73	126	eP	P	06 19 46.8	+0.9
GUN	Gumba	14.81	124	eP	P	06 19 46.0	-0.9
	comp=N,11nm,0.5s						
JIRN	Jiri	15.18	124	eP	P	06 19 51.6	0.0
	comp=N,11nm,0.4s						
BVA0	Borovoye Array	15.99	356	⇓P	P	06 20 00.4	-1.1
	comp=N,1.6nm,1.9s,baz=167,slow=12,SNR=14						
CHKZ	Chkalovo	16.63	357	⇓P	P	06 20 08.4	-1.1
	comp=N,3.7nm,1.6s						

*NEIC **08** 06:22:31.1±0.7,5.16N×94.24E,h30km,mb4.4/8,Error ellipse: s-maj=20.4km s-min=9.3km az=49.0*
*IDC **08** 06:22:38.8±10.0,5.37N×94.48E,h94km±90km,mb3.7/9, mb1 3.9/10,mb1mx3.8/18,mbtmp4.1/10,ML4.6/1,Error ellipse: s-maj=67.4km s-min=16.3km az=56.0*
ISC 08 06:22:35.7±3.8**,5.5N**±0.2×**94.7E**±0.2**,h77**km±32km**,n27,** σ**0.83**/27**,mb4.2**/20**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.90	92	ePn	P	06 24 01.9	-0.3
KULM				eS	S	06 25 08.8	-0.3
CMAR	Chiang Mai Arr	13.52	17	P	P	06 25 49.8	+4.2
	0.9nm,0.3s,baz=208,slow=14,SNR=6.3						
CMAR				LR	LR	06 30 28.7	
	comp=Z,22nm,21.6s,baz=25,slow=34						
JIRN	Jiri	23.49	341	eP	P	06 27 40.6	+1.2
	7.3nm,0.3s,mb4.5						
PKI	Pulchoki	23.68	339	eP	P	06 27 41.7	+0.5
DMN	Daman	23.82	338	eP	P	06 27 43.0	+0.5
	7.5nm,0.7s,mb4.1						
GUN	Gumba	23.82	340	eP	P	06 27 43.3	+0.7
	11nm,0.5s,mb4.5						
KKN	Kakani	23.92	339	eP	P	06 27 43.6	+0.1
	7.4nm,0.4s,mb4.4						
LSA	Lhasa	24.31	352	P	P	06 27 48.2	+0.9
	7.7nm,0.5s,mb4.3						
GKN	Gorkha	24.35	338	eP	P	06 27 47.0	-0.7
	7.5nm,0.3s,mb4.5						
KOLN	Koldanda	24.55	336	eP	P	06 27 48.4	-1.3
	15nm,0.5s,mb4.7						
AAK	Ala-Archa	41.10	337	eP	P	06 30 14.2	+0.7
	1.8nm,0.6s,mb4.1						
SONM	Songino Array	43.35	11	P	P	06 30 32.5	+0.5
	1.7nm,0.7s,mb3.9,baz=191,slow=8.2,SNR=15						
ULN	Ulaanbaatar	43.51	12	eP	P	06 30 32.0	-1.2
	1.7nm,0.5s,mb4.0						
WRA	Warramunga Arr	46.43	124	P	P	06 30 57.3	+0.4
	3.0nm,0.7s,mb4.1,baz=303,slow=9.4,SNR=22						
WRAB	Tennant Creek	46.44	124	eP	P	06 30 57.3	+0.3
	5.8nm,0.6s,mb4.5						
WB2	Warramunga Arr	46.44	124	eP	P	06 30 57.3	+0.3
KURK	Kurchatov	47.04	346	P	P	06 31 01.0	-0.3
	54nm,0.7s,SNR=8.8						
KURK	Kurchatov	47.04	346	eP	P	06 31 01.0	-0.3
	6.1nm,0.5s,mb4.6						
ASAR	Alice Springs	47.97	129	P	P	06 31 09.2	+0.3
	0.9nm,0.6s,mb3.8,baz=300,slow=7.9,SNR=8.9						
ZAL	Zalesovo	48.96	352	P	P	06 31 16.9	+0.7
	2.1nm,0.3s,mb4.5,baz=313,slow=6.1,SNR=14						
ZAL	Zalesovo	48.96	352	P	P	06 31 16.9	+0.7
BVAR	Borovoye Array	51.41	341	P	P	06 31 34.2	-0.7
	0.9nm,0.3s,mb4.2,baz=143,slow=7.4,SNR=12						
AKASG	Malin Array Be	70.37	322	P	P	06 33 40.9	-2.4
	0.5nm,0.4s,mb3.7,baz=86,slow=6.3,SNR=3.6						
FINES	FINESS Array B	75.07	332	P	P	06 34 09.3	-1.4
	2.3nm,1.1s,mb3.8,baz=117,slow=3.1,SNR=4.9						
ARCES	ARCESS Array B	77.69	340	P	P	06 34 25.4	+0.1
	6.1nm,0.9s,mb4.3,baz=90,slow=7.2,SNR=4.4						
GERES	GERESS Array B	79.98	318	P	P	06 34 38.7	+0.5
	1.2nm,0.7s,mb3.9,baz=112,slow=7.2,SNR=4.8						
TXAR	Lajitas Array	141.12	26	PKiKP		06 42 02.8	
	0.2nm,0.4s,baz=354,slow=1.5,SNR=7.2						

*NEIC **08** 06:26:11.5±2.8,4.15S×153.78E,h388km±27km,mb4.0/3, Error ellipse: s-maj=35.7km s-min=16.6km az=86.0*
*IDC **08** 06:26:11.2±2.3,4.21S×153.84E,h386km±22km,mb3.4/7, mb1 3.5/9,mb1mx3.4/15,mbtmp4.1/9,Error ellipse: s-maj=29.7km s-min=12.7km az=117.0*
ISC 08 06:26:09.6±1.8**,4.2S**±0.1×**153.9E**±0.2**,h382**km±17km**,n17,** σ**0.90**/16**,mb3.8**/9**,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	8.44	232	P	P	06 28 10.1	0.0
	2.6nm,0.3s,baz=33,slow=13,SNR=5.9						

CTA	Charters Tower	17.46	204	P	P	06 29 51.9	+1.4
	0.4nm,0.3s,baz=28,slow=10,SNR=4.9						
CTAO	Charters Tower	17.46	204	P	P	06 29 52.7	+2.2
	4.1nm,0.6s						
WRA	Warramunga Arr	24.64	229	S	S	06 34 52.7	+1.1
	0.2nm,0.6s,baz=53,slow=12,SNR=2.7						
ASAR	Alice Springs	27.32	223	P	P	06 31 22.0	-1.0
	1.8nm,0.3s,mb3.9,baz=53,slow=8.9,SNR=37						
ASAR				PcP	PcP	06 34 31.5	0.0
	0.3nm,0.6s,baz=51,slow=2.3,SNR=4.0						
ASAR				S	S	06 35 33.5	-0.6
	0.5nm,0.5s,baz=53,slow=14,SNR=9.9						
STKA	Stephens Creek	29.86	201	P	P	06 31 43.6	-1.5
	1.4nm,0.9s,mb3.3,baz=45,slow=10.0,SNR=3.2						
SONM	Songino Array	66.37	327	P	P	06 36 21.0	+0.6
	0.6nm,0.4s,mb3.5,baz=145,slow=6.0,SNR=5.8						
ILAR	Eielson Array	81.19	22	P	P	06 37 44.0	-0.7
	1.9nm,0.5s,mb4.1,baz=248,slow=4.7,SNR=26						
ZAL	Zalesovo	81.24	326	P	P	06 37 45.7	+0.7
	1.0nm,0.4s,mb3.9,baz=339,slow=4.4,SNR=5.5						
ZAL	Zalesovo	81.24	326	P	P	06 37 45.7	+0.7
AAK	Ala-Archa	85.01	313	P	P	06 38 03.4	-0.9
	1.6nm,0.7s,mb3.9						
QSPA	South Pole Qui	85.78	180	*e*P	P	06 38 07.8	+0.6
	3.0nm,0.6s,mb4.2						
BVAR	Borovoye Array	89.38	323	P	P	06 38 24.6	-0.2
	1.7nm,0.8s,mb3.8,baz=108,slow=4.7,SNR=8.6						
YKA	Yellowknife Ar	94.39	28	P	P	06 38 48.0	+0.5
	0.3nm,0.8s,mb3.4,baz=271,slow=4.9,SNR=5.9						
YKA	Yellowknife Ar	94.39	28	P	P	06 38 48.0	+0.4
LPAZ	La Paz	133.77	117	PKP	PKPdf	06 44 45.4	+2.7
	0.7nm,0.8s,baz=244,slow=6.2,SNR=6.1						
BDFB	Brasilia	150.73	133	PKPbc	PKPdf	06 45 19.6	+7.6
	3.4nm,0.4s,baz=226,slow=0.6,SNR=11						

KRSC 08 06:28:12.5±0.3**, 53.45N**×**161.83E, h13**^{km}±4^{km}**, ML3.9, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	1.14	253	*i* P	Pb	06 28 34.4	+0.8
SPN				*i* S	Sb	06 28 50.3	+2.2
NLC	Nalytchevo	1.52	260	*i* P	Pn	06 28 39.7	+0.2
NLC				*i* S	Sb	06 28 59.5	+0.5
KII	Karymskiy	1.53	294	*e*P	Pn	06 28 39.4	-0.3
KII				*e*S	Sb	06 28 59.4	0.0
UGLR	Uglovaya	1.82	264	*i* P	Pn	06 28 44.5	+0.7
AVH	Avacha	1.86	266	*i* P	Pn	06 28 45.1	+0.6
AVH				*i* S	Sn	06 29 08.7	+0.7
KOK	Koryaka	1.92	267	*i* P	Pn	06 28 45.8	+0.5
PET	Petropavlovsk	1.96	259	*e*P	Pn	06 28 46.1	+0.3
PET				*e*S	Sn	06 29 10.9	+0.5
TUMR	Tumrok	2.08	332	*e*P	Pn	06 28 48.3	+0.6
TUMR				*e*S	Sn	06 29 14.3	+0.7
RUS	Russkaya	2.25	244	*e*P	Pn	06 28 50.3	+0.3
RUS				*e*S	Sn	06 29 17.9	0.0
KRMR	Karymshinskiy	2.31	256	*e*P	Pn	06 28 51.2	+0.3
KRMR				*e*S	Sn	06 29 19.3	-0.2
GNL	Ganaly	2.33	278	*i* P	Pn	06 28 52.2	+1.0
GNL				*e*S	Sn	06 29 21.0	+1.1
GRL	Gorelyy	2.44	250	*i* P	Pn	06 28 53.6	+0.8
GRL				*e*S	Sn	06 29 23.9	+1.2
KMNR	Kamenistaya	2.49	339	*e*P	Pn	06 28 53.7	+0.2
KMNR				*e*S	Sn	06 29 24.2	+0.3
KBTR	Krutoberegovo	2.82	11	*e*P	Pn	06 28 59.6	+1.4
KBTR				*e*S	Sn	06 29 33.2	+0.8
KBG	Krutoberegovo	2.86	10	P	Pn	06 29 00.5	+1.8
KBG				*e*S	Sn	06 29 35.0	+1.8
KBG				Smax			
	280nm,1.0s						
KBG	Krutoberegovo	2.86	10	*e*S	Sn	06 29 32.5	-0.7
KBG				Smax			
	220nm,1.1s						
APC	Apacha	2.86	261	*e*P	Pn	06 29 00.4	+1.7
APC				*e*S	Sn	06 29 35.1	+1.8
APC				Smax			
	40nm,1.5s						
KLY	Klyuchi	2.95	347	*e*P	Pn	06 28 59.6	-0.4
KLY				*e*S	Sn	06 29 34.0	-1.6
BKI	Bering	3.00	52	*e*S	Sn	06 29 32.1	-4.6
ESO	Esso	3.07	325	*e*P	Pn	06 29 02.3	+0.5
ESO				*e*S	Sn	06 29 38.8	+0.1
ESO				Smax			
	30nm,1.4s						
SRDR	Sredinnyy	3.12	338	*e*P	Pn	06 29 02.4	-0.1

*NEIC **08** 06:33:41.2±0.8, 32.74S×178.65W, h10^{km}, mb4.9/5, Error ellipse: s-maj=20.2km s-min=18.7km az=141.0*

*IDC **08** 06:33:45.6±1.1, 32.96S×178.48W, h48^{km}±6^{km}, mb4.6/3, mb1 4.8/4, mb1mx4.1/15, mbtmp4.9/4, MS3.7/1, Ms1 3.9/1, ms1mx2.3/21, Error ellipse: s-maj=34.9km s-min=18.1km az=130.0*

ISC 08 06:33:40.9±1.7**, 32.97S**±0.06×**178.4W**±0.3**, h33**^{km}**, n44,** σ**0**^{s}**80**/37**, mb4.9**/7**, MS3.9**/1**, 3C-2D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.33	210	*e*PN	Pn	06 35 01.2	+0.8
MXZ				SN	Sn	06 36 01.1	-0.3
MXZ	Matakaoa Point	5.33	210	*e*PN	Pn	06 35 01.2	+0.8
MXZ				SN	Sn	06 36 01.1	-0.3
PUZ	Puketiti	5.79	207	*e*PN	Pn	06 35 07.7	+0.9
PUZ	Puketiti	5.79	207	*e*PN	Pn	06 35 07.7	+0.9
MWZ	Matawai	6.31	211	*e*PN	Pn	06 35 14.3	+0.1
MWZ	Matawai	6.31	211	*e*PN	Pn	06 35 14.3	+0.1
URZ	Urewera	6.44	214	P	P	06 35 16.1	+0.3
	9.3nm,0.3s,baz=45,slow=5.3,SNR=31						
URZ				S	S	06 36 30.0	+1.0
	15nm,0.3s,baz=122,slow=22,SNR=7.5						
URZ	Urewera	6.44	214	*e*PN	Pn	06 35 15.9	-0.1
URZ				SN	Sn	06 36 28.8	-0.2
URZ	Urewera	6.44	214	*e*PN	Pn	06 35 15.9	-0.1
URZ				SN	Sn	06 36 28.8	-0.2
WCZ	Waipu Caves	6.71	242	*e*PN	Pn	06 35 24.6	+4.8
	40nm,0.6s						
WCZ	Waipu Caves	6.71	242	*e*PN	Pn	06 35 24.6	+4.8
	comp=Z,40nm,0.6s						
KNZ	Kokohu	6.84	207	*e*PN	Pn	06 35 22.1	+0.5
KNZ				SN	Sn	06 36 38.1	-1.0
KNZ	Kokohu	6.84	207	*e*PN	Pn	06 35 22.1	+0.5
KNZ				SN	Sn	06 36 38.1	-1.0
OUZ	Omahuta	7.03	249	*e*PN	Pn	06 35 27.1	+2.7
OUZ	Omahuta	7.03	249	*e*PN	Pn	06 35 27.1	+2.7
BKZ	Black Stump Fm	7.45	212	*e*PN	Pn	06 35 29.4	-0.8
BKZ				SN	Sn	06 36 53.7	-0.8
BKZ	Black Stump Fm	7.45	212	*e*PN	Pn	06 35 29.4	-0.8
BKZ				SN	Sn	06 36 53.7	-0.8
CTA	Charters Tower	33.99	283	P	P	06 40 24.8	+1.1
	comp=Z,8.4nm,0.5s,mb5.0,baz=109,slow=9.8,SNR=18						
CTAO	Charters Tower	33.99	283	*e*P	P	06 40 24.7	+1.0
	comp=Z,11nm,0.6s,mb5.0						
ASAR	Alice Springs	42.72	270	P	P	06 41 37.0	+0.3
	comp=Z,11nm,0.6s,mb4.8,baz=109,slow=7.4,SNR=92						
ASPA	Alice Springs	42.73	270	*e*P	P	06 41 36.9	+0.2
WB2	Warramunga Arr	43.93	275	⇓*i*P	P	06 41 45.9	-0.7
WRAB	Tennant Creek	43.94	275	P	P	06 41 46.0	-0.6
	comp=Z,96nm,0.6s,mb5.7,SNR=12						
WRAB	Tennant Creek	43.94	275	*e*P	P	06 41 46.2	-0.4
	comp=Z,17nm,0.6s,mb5.0						
WRA	Warramunga Arr	43.94	275	P	P	06 41 46.7	0.0
	comp=Z,9.1nm,0.5s,mb4.7,baz=115,slow=7.8,SNR=126						
WRA				pP	pP	06 42 00.3	+3.8
	comp=Z,4.5nm,0.5s,baz=116,slow=7.6,SNR=7.1						
KAKA	Kakadu	49.12	282	*e*P	P	06 42 26.1	-1.4
	comp=Z,5.3nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	52.09	272	*e*P	P	06 42 49.3	-0.7
	comp=Z,7.1nm,0.6s,mb4.8						
QSPA	South Pole Qui	57.15	180	⇓*i*P	P	06 43 31.1	+4.9
	comp=Z,7.5nm,0.5s,mb5.0						
SNAA	Sanae	75.61	179	⇑*i*	pP	06 45 35.2	+1.4
VNA3	Neumayer Olymp	75.77	176	⇑*i*	pP	06 45 35.7	+1.0
VNA3	Neumayer Olymp	75.77	176	*e*	sP	06 45 44.4	+6.0
VNA2	Neumayer--Watz	76.20	177	⇑*i*	pP	06 45 37.0	-0.2
VNA2	Neumayer--Watz	76.20	177	*e*	sP	06 45 45.6	+4.7
CMAR	Chiang Mai Arr	93.95	289	LR	LR	07 28 02.9	
	comp=Z,36nm,19.2s,MS3.9,baz=325,slow=35						
BVAR	Borovoye Array	128.00	314	PKP	PKPdf	06 52 45.6	+2.4
	comp=Z,1.5nm,0.5s,baz=131,slow=0.9,SNR=13						
BVAR				pPKP		06 52 59.8	
	comp=Z,0.8nm,0.5s,baz=141,slow=1.6,SNR=4.6						
KEV	Kevo	140.54	346	*e*p	PKPdf	06 53 10.7	+4.7
ARCES	ARCESS Array B	141.02	347	PKhKP		06 53 05.2	
	comp=Z,12nm,1.1s,baz=315,slow=3.4,SNR=4.7						
JOF	Joensuu	144.67	337	*e*p	PKPbc	06 53 18.8	+5.6
	comp=Z,2.4nm,0.5s						
KAF	Kangasniemi	146.84	339	*e*p	PKPdf	06 53 19.7	+2.7
	comp=Z,9.4nm,0.5s						
FINES	FINESS Array B	147.43	338	PKPbc	PKPdf	06 53 22.6	+4.6
	comp=Z,14nm,0.6s,baz=53,slow=4.3,SNR=112						
FINES				pPKPbc		06 53 37.2	
	comp=Z,12nm,0.5s,baz=60,slow=4.6,SNR=8.7						
NB2	NORSAR Subarra	151.23	350	PKPabc	PKPdf	06 53 32.4	+8.4
	comp=Z,2.1nm,0.6s,baz=15,slow=2.5						
NOA	NORSAR Array B	151.23	350	PKPbc	PKPdf	06 53 32.8	+8.8
	comp=Z,1.8nm,0.6s,baz=14,slow=4.1,SNR=11						
NOA				pPKPbc		06 53 46.9	
	comp=Z,0.9nm,0.5s,baz=10,slow=4.0,SNR=2.9						
NOA	NORSAR Array B	151.23	350	PKPbc	PKPdf	06 53 32.8	+8.8
NOA				pPKPbc		06 53 46.9	
AKASG	Malin Array Be	153.09	319	PKPbc	PKPdf	06 53 36.6	+10
	comp=Z,2.5nm,0.6s,baz=60,slow=2.4,SNR=26						

IDC 08 06:33:56.9±1.7**, 6.47S**×**157.18E, mb3.9**/4**, mb1 4.2**/4**, mb1mx3.9**/13**, mbtmp3.9**/4**, Error ellipse: s-maj=115.1km s-min=31.1km az=139.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.91	237	P	P	06 39 30.5	-2.1
	0.8nm,0.9s,baz=64,slow=10,SNR=8.3						
ASAR	Alice Springs	28.16	230	P	P	06 39 51.6	-1.5
	1.3nm,0.8s,baz=63,slow=8.4,SNR=11						
STKA	Stephens Creek	29.17	208	P	P	06 40 00.0	-2.2
	1.2nm,0.7s,baz=35,slow=12,SNR=3.8						
NVAR	Mina Array Bea	89.69	51	P	P	06 46 57.5	-1.1
	1.1nm,0.8s,baz=217,slow=9.0,SNR=5.0						

*LDG **08** 06:38:24.3±0.2, 20.19S×169.02E, h10^{km}, Mb5.1/3, Ms3.9/1, Error ellipse: s-maj=16.1km s-min=4.1km az=131.0*

*MOS **08** 06:38:26.9±1.6, 20.35S×168.84E, h33^{km}, mb5.2/10, Error ellipse: s-maj=37.8km s-min=18.5km az=116.9*

*BJI **08** 06:38:26.9, 20.00S×168.98E, h21^{km}, mB5.4, mb5.1, Ms5.3, Msz4.9*

*BGS **08** 06:38:29.7±2.6, 20.54S×169.05E, h46^{km}*

*HRVD **08** 06:38:29.1±0.9, 20.47S×169.14E, h35^{km}±1^{km}, MW4.9/34, Centroid moment Tensor Solution. LP body waves: s22,c30;Mantle waves: s34,c40; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.45±.27; $M_{\theta\theta}$-1.39±.23; $M_{\phi\phi}$-1.05±.24; $M_{r\theta}$0.88±.18; $M_{\theta\phi}$-1.40±.10; $M_{\phi r}$-0.51±.18; Best double couple: $M_0$2.739×10^{16} NP1:ϕ_s210°,δ45°,λ61°. NP2:ϕ_s68°,δ52°,λ116°. Principal axes: T 2.826, Plg70°, Azm39°; N -.164, Plg20°, Azm231°; P -2.652, Plg4°, Azm140°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **08** 06:38:29.1±1.4, 20.54S×169.05E, h46^{km}±11^{km}, mb5.0/23 Error ellipse: s-maj=10.6km s-min=9.5km az=104.0*

*IDC **08** 06:38:32.2±5.8, 20.58S×169.09E, h70^{km}±50^{km}, mb4.4/15, mb1 4.5/16, mb1mx4.5/20, mbtmp4.7/16, ML3.9/1, MS4.2/10, Ms1 4.2/10, ms1mx4.0/21, Error ellipse: s-maj=22.5km s-min=19.2km az=163.0*

ISC 08 06:38:27.5±1.7**, 20.54S**±0.06×**168.95E**±0.08**, h42**^{km}±13^{km}**, h41**^{km}±3.6^{km}**:pP-P, n204,** σ**1**^{s}**02**/81**, mb4.9**/45**, MS4.5**/15**, 33C-7D, Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.79	236	*e*P	P	06 39 11.0	+0.1
DZM				*e*S	S	06 39 42.9	-0.8
DZM	Mont Dzumac	2.79	236	*e*P	P	06 39 11.0	+0.1
DZM				*e*S	S	06 39 42.9	-0.8
NOUC	Port Laguerre	2.92	237	*e*P	P	06 39 12.9	+0.3
NOUC				*e*S	S	06 39 46.0	-0.8
HNR	Honiara	14.05	320	*e*P	P	06 41 47.2	+1.2
URZ	Urewera	19.02	160	P	P	06 42 49.3	+0.7
	0.3nm,0.3s,baz=13,slow=4.6,SNR=5.3						
URZ				LR	LR	06 49 08.1	
	comp=Z,951nm,18.6s,baz=326,slow=34						
CTA	Charters Tower	21.29	267	*e*P	P	06 43 15.3	+2.6
	11nm,0.7s,mb4.3						
CTA	Charters Tower	21.29	267	P	P	06 43 15.1	+2.4
	12nm,0.9s,mb4.2,baz=88,slow=10.0,SNR=12						
CTAO	Charters Tower	21.29	267	*e*P	P	06 43 14.1	+1.4
	16nm,0.7s,mb4.5						
STKA	Stephens Creek	26.94	240	⇑*i*P	P	06 44 08.3	+1.2
	9.2nm,0.6s,mb4.5						
STKA	Stephens Creek	26.94	240	P	P	06 44 08.3	+1.2
	11nm,0.7s,mb4.5,baz=74,slow=8.9,SNR=25						
STKA				PcP	PcP	06 47 28.4	-0.2
	5.4nm,1.0s,baz=9.0,slow=6.8,SNR=4.7						
STKA				LR	LR	06 54 25.0	
	comp=Z,342nm,18.1s,MS4.0,baz=21,slow=35						
WB2	Warramunga Arr	32.44	265	*e*P	P	06 44 54.7	-1.4
WRAB	Tennant Creek	32.44	265	⇓*e*P	P	06 44 55.3	-0.8
WRAB	Tennant Creek	32.44	265	*e*P	P	06 44 55.0	-1.1
	6.9nm,0.6s,mb4.7						
WRA	Warramunga Arr	32.45	265	P	P	06 44 55.3	-0.9
	4.8nm,0.7s,mb4.5,baz=96,slow=8.4,SNR=24						
WRA				PcP	PcP	06 47 42.5	-0.3
	2.7nm,0.8s,baz=94,slow=2.7,SNR=8.8						
ASAR	Alice Springs	32.58	258	P	P	06 44 57.0	-0.3
	22nm,0.7s,mb5.2,baz=82,slow=9.0,SNR=89						
ASAR				PcP	PcP	06 47 42.2	-0.8
	4.9nm,0.9s,baz=98,slow=2.9,SNR=12						
ASPA	Alice Springs	32.58	258	⇑*i*P	P	06 44 56.9	-0.4
TBI	Tubuai	38.58	102	*e*LQ		06 54 40.0	
TBI				*e*LR	LR	06 56 17.4	
PPT	Papeete	39.24	93	*e*LQ		06 54 42.8	
PPT				*e*LR	LR	06 56 37.1	
	385nm,25.0s						
FITZ	Fitzroy Crossi	40.86	266	⇑*i*P	P	06 46 08.0	+0.8
	16nm,0.6s,mb4.8						
MBWA	Marble Bar	45.85	260	*e*P	P	06 46 48.0	+0.3
	20nm,0.8s,mb5.1						
KLBR	Kellerberrin	46.92	246	*e*P	P	06 46 55.2	-0.8
	184nm,0.6s						
NWAO	Narrogin (SRO)	47.39	244	P	P	06 46 59.7	0.0
	22nm,0.8s,mb5.1,baz=96,slow=7.5,SNR=12						
NWAO	Narrogin (SRO)	47.39	244	*e*P	P	06 46 59.1	-0.6
	21nm,0.8s,mb5.1						
MUN	Mundaring	48.24	245	*e*P	P	06 47 06.4	+0.1
	10nm,1.0s,mb4.8						
TAOE	Nuku Hiva Isla	50.40	84	*e*LR	LR	07 02 05.6	
RKT	Rikitea	51.85	104	*e*LR	LR	07 02 36.3	
	288nm,28.5s						
VNDA	Vanda	57.13	182	LR	LR	07 08 11.6	
	comp=Z,248nm,18.1s,MS4.3,baz=0.8,slow=31						
MAJO	Matsushiro	63.77	333	*e*P	P	06 48 55.8	-1.8
	20nm,0.9s,mb5.1						
MAT	Matsushiro	63.77	333	P	P	06 48 57.0	-0.6
	19nm,1.0s,mb5.1						
MAT	Matsushiro	63.77	333	P	P	06 48 56.7	-0.9
ASAJ	Asahikawa	68.72	340	P	P	06 49 29.8	+0.9
	25nm,0.8s,mb5.2,baz=122,slow=6.5,SNR=6.0						
SSE	Sheshan	68.83	317	P	P	06 49 27.7	-2.1
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,57nm,4.8s						
SSE	Sheshan	68.83	317	P	P	06 49 27.7	-2.1
	comp=Z,41nm,0.7s,mb5.5						
QSPA	South Pole Qui	69.52	180	⇑*i*P	P	06 49 33.4	+0.1
	comp=Z,28nm,1.0s,mb5.2						
QSPA				P	pP	06 49 47.5	+1.8
NJ2	Nanjing	70.95	316	*e*P	P	06 49 43.6	+0.8
NJ2				AP	pP	06 49 54.0	-1.2
NJ2				XP	sP	06 49 58.2	-1.6
NJ2				PCP	PcP	06 50 03.8	+0.6
NJ2				S	S	06 58 56.0	+2.0
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,250nm,5.4s						
NJ2				LR	LR		
	comp=N,1μm,29.6s						
NJ2				LR	LR		
	comp=E,940nm,24.2s						
NJ2				LR	LR		
	comp=Z,1μm,25.5s,MS5.1						
YSS	Yuzh-Sakhalins	71.22	341	⇓*i*P	P	06 49 44.7	+0.6
YSS				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
YSS	Yuzh-Sakhalins	71.22	341	*e*P	P	06 49 44.0	0.0
	comp=Z,47nm,0.9s,mb5.4						
WHN	Wuhan	73.02	313	*e*P	P	06 49 55.5	+0.4
MDJ	Mudanjiang	74.13	332	P	P	06 50 01.6	+0.3
MDJ				PP	PP	06 52 47.6	-1.2
MDJ				S	S	06 59 32.0	+2.0
MDJ				SCS	ScS	07 00 08.0	+3.3
MDJ				SS	SS	07 04 19.6	+1.7
MDJ				AMB	AMB		
	comp=Z,23nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,105nm,4.3s						
MDJ	Mudanjiang	74.13	332	*e*P	P	06 50 01.7	+0.4
	comp=Z,24nm,0.9s,mb5.1						
CN2	Changchun	75.42	329	*e*P	P	06 50 08.9	+0.1
CN2				*e*S	S	06 59 44.9	+0.5
CN2				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=E,300nm,14.0s,MS4.8						
CN2				LR	LR		
	comp=Z,300nm,15.0s,MS4.7						
ENH	Enshi	76.29	310	*e*P	P	06 50 13.6	-0.4
	comp=Z,12nm,0.8s,mb4.9						
KLR	Kul'dur	76.94	336	*e*P	P	06 50 14.5	-2.7
KLR				pmax	pmax		
	comp=Z,42nm,1.8s,mb5.1						
NANT	Nan	77.45	296	P	P	06 50 19.5	-1.2
BJI	Beijing	77.77	321	P	P	06 50 22.7	+0.6
BJI				S	S	07 00 15.6	+5.6
BJI				AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.5						
BJI				LR	LR		
	comp=N,176nm,15.3s,MS4.7						
BJI				LR	LR		
	comp=E,214nm,14.8s,MS4.7						
BJI				LR	LR		
	comp=Z,83nm,20.9s						
BJI	Beijing	77.77	321	P	P	06 50 22.7	+0.6
	comp=Z,8.0nm,1.3s,mb4.5						
BJI				PP	PP	06 53 28.6	+8.9
BJI				S	S	07 00 15.6	+5.6
BJI				SS	tx	07 06 01.5	
KMI	Kunming	78.73	302	P	P	06 50 29.9	+2.3
KMI				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
KMI	Kunming	78.73	302	P	P	06 50 29.9	+2.3
	comp=Z,14nm,1.4s,mb4.7						
CMAR	Chiang Mai Arr	78.79	295	P	P	06 50 30.0	+1.9
	comp=Z,10nm,0.8s,mb4.8,baz=131,slow=4.3,SNR=41						
CHG	Chiang Mai	78.95	295	⇑P	P	06 50 30.6	+1.7
	comp=Z,20nm,0.8s,mb5.1						
HIA	Hailar	82.09	330	*e*P	P	06 50 44.8	-0.2
	comp=Z,3.1nm,0.4s,mb4.6						
LZH	Lanzhou	83.40	312	⇑P	P	06 50 53.5	+1.6
LZH				AP	pP	06 50 58.5	-6.0
LZH				XP	sP	06 51 02.0	-7.1
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH	Lanzhou	83.40	312	⇑P	P	06 50 53.5	+1.6
	comp=Z,30nm,1.5s,mb5.1						
LZH				pP	pP	06 50 58.5	-6.0
LZH				sP	sP	06 51 02.0	-7.1
SYO	Syowa Base	83.62	196	⇓P	P	06 50 51.6	-0.7
SYO	Syowa Base	83.62	196	⇓PcP	PcP	06 50 57.0	+0.1
CLNS	Chul'man	85.48	337	*e*P	P	06 51 00.8	-1.0
CLNS				pmax	pmax		
	comp=Z,54nm,0.9s,mb5.7						
CLNS				pmax	pmax		
	comp=N,25nm,1.0s						
CLNS				pmax	pmax		
	comp=E,13nm,1.0s						
ULN	Ulaanbaatar	87.74	324*c*	*i*P	P	06 51 14.1	+1.0
ULN	Ulaanbaatar	87.74	324	*e*P	P	06 51 13.7	+0.6
	comp=E,8.4nm,0.9s,mb5.0						
GTA	Gaotai	87.82	314	P	P	06 51 15.1	+1.4
GTA				AP	pP	06 51 28.9	+2.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.7						
SNAA	Sanae	87.86	183	*e*	P	06 51 15.0	+1.9
SNAA	Sanae	87.86	183	*e*	pP	06 51 23.8	-2.1
SNAA	Sanae	87.86	183	*e*	sP	06 51 26.1	-4.2
SNAA	Sanae	87.86	183	P	P	06 51 12.1	-1.0
	comp=Z,3.5nm,0.9s,mb4.6,baz=226,slow=8.9,SNR=3.8						
SNAA				LR	LR	07 28 36.4	
	comp=Z,62nm,19.7s,MS4.0,baz=26,slow=34						
SNAA	Sanae	87.86	183	⇑*i*P	P	06 51 13.0	-0.1
SNAA				*e*		06 51 15.0	
SNAA				*e*	pP	06 51 23.8	-2.1
SNAA				*e*	pP	06 51 26.1	+0.2
YAK	Yakutsk	88.02	343	*e*P	P	06 51 13.7	-0.4
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,2.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
YAK	Yakutsk	88.02	343	*e*P	P	06 51 13.6	-0.4
	comp=E,24nm,0.9s,mb5.4						
SONM	Songino Array	88.09	323	P	P	06 51 15.9	+1.1
	comp=E,4.8nm,0.9s,mb4.7,baz=145,slow=4.8,SNR=29						
BILL	Bilibino	88.34	359	⇑*e*P	P	06 51 14.7	-0.8
BILL				*e*SS	SS	07 07 53.5	+4.5
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.3						
BILL	Bilibino	88.34	359	⇑*e*P	P	06 51 14.8	-0.7
YBH	Yreka Blue Hor	88.41	44	P	P	06 51 16.9	+0.5
	comp=Z,4.8nm,0.9s,mb4.7,baz=243,slow=2.7,SNR=9.0						
VNA3	Neumayer Olymp	88.46	180	*e*	P	06 51 17.2	+1.2
VNA3	Neumayer Olymp	88.46	180	*e*	pP	06 51 26.2	-2.6
VNA3	Neumayer Olymp	88.46	180	*e*	sP	06 51 29.1	-4.0
VNA3	Neumayer Olymp	88.46	180	P	P	06 51 15.8	-0.2
VNA3				*e*		06 51 17.2	
VNA3				*e*	pP	06 51 26.2	-2.6
VNA3				*e*	pP	06 51 29.1	+0.3
VNA2	Neumayer--Watz	88.75	181	*e*	P	06 51 19.3	+1.9
VNA2	Neumayer--Watz	88.75	181	*e*	pP	06 51 28.0	-2.2
VNA2	Neumayer--Watz	88.75	181	*e*	sP	06 51 30.9	-3.6
VNA2	Neumayer--Watz	88.75	181	⇑*i*P	P	06 51 17.7	+0.3
VNA2				*e*		06 51 19.3	
VNA2				*e*	pP	06 51 28.0	-2.2
VNA2				*e*	pP	06 51 30.9	+0.7
NVAR	Mina Array Bea	89.86	49	P	P	06 51 23.1	-0.3
	comp=Z,3.1nm,0.7s,mb4.7,baz=214,slow=6.0,SNR=22						
NVAR				LR	LR	07 24 46.0	
	comp=Z,127nm,21.2s,MS4.3,baz=320,slow=31						
BOD	Bodaibo	90.38	334	*e*P	P	06 51 24.2	-1.1
BOD				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.9						
BBB	Bella Bella	90.70	33	LR	LR	07 27 10.8	
	comp=Z,179nm,18.4s,MS4.5,baz=323,slow=32						
ZAK	Zakamensk	91.19	324	⇑*i*P	P	06 51 29.6	+0.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.7						
WVOR	Wild Horse Val	91.42	45	*e*P	P	06 51 29.9	-0.7
	comp=Z,7.2nm,1.0s,mb5.0						
ILAR	Eielson Array	91.54	17	P	P	06 51 28.8	-1.8
	comp=Z,1.0nm,0.7s,mb4.2,baz=239,slow=5.0,SNR=14						
ILAR				LR	LR	07 26 48.8	
	comp=Z,154nm,19.6s,MS4.5,baz=179,slow=32						
ELK	Elko	92.99	48	P	P	06 51 37.4	-0.4
	comp=Z,1.5nm,0.8s,mb4.5,baz=231,slow=5.5,SNR=6.9						
ELK	Elko	92.99	48	P	P	06 51 37.4	-0.4
HLID	Hailey	94.70	45	P	P	06 51 46.1	+0.6
	comp=Z,1.9nm,1.0s,mb4.5						
NEW	Newport	94.94	40	LR	LR	07 25 19.6	
	comp=Z,142nm,21.9s,MS4.4,baz=86,slow=30						
TIXI	Tiksi	95.95	348	⇓*e*P	P	06 51 49.4	-1.1
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.7						
TXAR	Lajitas Array	97.62	62	P	P	06 51 59.4	+0.2
	comp=Z,0.6nm,0.9s,mb4.1,baz=217,slow=6.3,SNR=5.2						
TXAR				LR	LR	07 28 23.4	
	comp=Z,117nm,19.7s,MS4.4,baz=205,slow=31						
PDAR	Pinedale Array	97.69	47	P	P	06 51 57.9	-1.3
	comp=Z,0.6nm,1.1s,mb4.0,baz=282,slow=8.3,SNR=2.9						
PDAR				LR	LR	07 28 25.4	
	comp=Z,80nm,19.0s,MS4.2,baz=158,slow=31						

WMQ	Urumqi	97.91	314	eP	P	06 52 00.0	-0.1
WMQ				PP	PP	06 56 02.0	+0.2
WMQ				SKS	SKS	07 02 31.0	-2.0
WMQ				S	S	07 03 17.0	-2.5
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,91nm,5.1s						
WMQ				LR	LR		
	comp=N,194nm,22.8s,MS4.7						
WMQ				LR	LR		
	comp=E,166nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,143nm,20.4s,MS4.5						
YKA	Yellowknife Ar	101.94	27	P	P	06 52 16.5	-1.3
	comp=Z,0.4nm,0.9s,baz=256,slow=4.7,SNR=5.4						
BVAR	Borovoye Array	111.24	320	PKiKP		06 56 56.9	
	comp=Z,0.4nm,0.6s,SNR=3.7						
SCHQ	Schefferville	126.11	36	PKP	PKPdf	06 57 24.2	-1.0
	comp=Z,1.3nm,0.9s,baz=42,slow=2.8,SNR=7.5						
ARCES	ARCESS Array B	126.25	345	PKP	PKPdf	06 57 24.5	-0.7
	comp=Z,5.3nm,0.8s,baz=65,slow=1.6,SNR=7.7						
SJG	San Juan	128.15	83	ePKP	PKPdf	06 57 29.1	-1.1
BDFB	Brasilia	128.90	132	PKP	PKPdf	06 57 32.4	+0.7
	comp=Z,2.5nm,0.7s,baz=153,slow=1.6,SNR=5.1						
MOS	Moscow	129.62	327	eP	Pdif	06 54 29.4	+10
MOS				pmax	pmax		
	comp=Z,51nm,1.0s						
OBN	Obninsk	130.42	326	ePKIKP	PKPdf	06 57 31.1	-2.4
OBN				e		06 59 50.9	
OBN				e		07 04 34.1	
OBN				i PS	PS	07 10 01.7	+2.5
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.6						
FINES	FINESS Array B	131.68	337	i PKIKP	PKPdf	06 57 37.1	+1.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	131.68	337	PKP	PKPdf	06 57 37.1	+1.3
	comp=Z,0.5nm,0.4s,baz=115,slow=2.8,SNR=5.5						
SOC	Sochi	132.10	311	i PKIKP	PKPdf	06 57 36.4	-0.6
SOC				ePPP	PPP	07 02 48.5	-6.0
SOC				ePS	PS	07 10 16.5	+2.9
SOC				eSS	SS	07 17 33.1	-1.6
SOC				eSSS	SSS	07 22 28.3	-1.0
SOC				pmax	pmax		
	comp=Z,48nm,1.2s						
SOC				pmax	pmax		
	comp=N,39nm,0.9s						
SOC				pmax	pmax		
	comp=E,20nm,0.8s						
ANN	Anapa	133.41	313	i PKIKP	PKPdf	06 57 38.4	-1.1
ANN				pmax	pmax		
	comp=Z,73nm,1.7s						
AKASG	Malin Array Be	136.38	323	i PKIKP	PKPdf	06 57 47.4	+2.6
AKASG	Malin Array Be	136.38	323	PKP	PKPdf	06 57 46.3	+1.6
	comp=Z,0.2nm,0.5s,baz=95,slow=1.8,SNR=4.7						
NOA	NORSAR Array B	136.62	344	PKP	PKPdf	06 57 46.1	+1.2
	comp=Z,4.1nm,1.1s,baz=36,slow=2.0,SNR=4.9						
BSEG	Bad Segeberg	142.88	339	ePKIKP	PKPdf	06 57 53.8	-2.4
KSP	Ksiaz	142.90	331	ePKP	PKPdf	06 57 54.2	-2.2
DPC	Dobruska-Polom	143.22	331	ePKP	PKPdf	06 57 55.4	-1.5
UPC	Upice	143.26	331	ePKP	PKPdf	06 57 55.3	-1.7
PVCC	Panska Ves	143.89	332	ePKP	PKPdf	06 57 58.3	+0.3
PVCC				epPKP		06 58 06.4	
BRG	Berggiesshubel	143.91	333	i PKIKP	PKPdf	06 57 57.4	-0.7
BRG				pmax	pmax		
	comp=Z,22nm,1.1s						
CLL	Collm	143.97	334	i PKIKP	PKPdf	06 57 57.2	-1.0
CLL				pmax	pmax		
	comp=Z,21nm,1.1s						
CLL	Collm	143.97	334	i PKIKP	PKPdf	06 57 57.2	-1.0
	comp=Z,logA/T=1.3						
PRU	Pruhonice	144.29	331	ePKP	PKPdf	06 57 58.7	-0.1
ZST	Bratislava	144.30	327	ePKP	PKPdf	06 57 59.8	+0.9
CLZ	Clausthal	144.57	337	ePKPbc	PKPbc	06 57 59.6	+0.6
BBH	Bruntsheil	144.92	352	⇑eP	PKPdf	06 57 59.4	-0.4
BWH	Wardlaw	144.97	353	⇑eP	PKPdf	06 57 59.4	-0.4
BHH	Howats Hill	144.99	352	⇑eP	PKPdf	06 57 59.6	-0.3
GMK	Mull of Kintyr	145.00	355	⇑eP	PKPdf	06 57 60.0	+0.1
NKC	Novy Kostel	145.02	333	ePKP	PKPdf	06 58 01.3	+1.2
NKC				epPKP		06 58 11.6	
NKC				ex	x	06 58 15.7	
MOX	Moxa	145.04	335	ePKIKP	PKPdf	06 58 01.0	+0.9
MOX				pmax	pmax		
	comp=Z,76nm,1.7s						
MOX	Moxa	145.04	335	i P	PKPdf	06 58 01.0	+0.9
	comp=Z,logA/T=1.6						
BTA	Talkin	145.11	352	⇑eP	PKPdf	06 58 00.5	+0.4
DIVS	Divcibare	145.13	319	⇑iPKP	PKPdf	06 58 01.5	+1.0
BDL	Dobcross Hall	145.24	352	⇑eP	PKPdf	06 58 00.8	+0.5
GCL	Cushendall	145.32	355	⇑eP	PKPdf	06 58 00.6	+0.2
KHC	Kasperske Hory	145.34	331	ePKP	PKPdf	06 58 02.1	+1.4
KHC				epPKP		06 58 12.0	
KHC				ex	x	06 58 16.5	
BBO1	Bothel	145.35	352	⇑eP	PKPdf	06 58 01.0	+0.5
GAL1	Galloway	145.39	354	⇑eP	PKPdf	06 58 00.9	+0.3
GEC2	GERESS Array S	145.50	331	ePKIKP	PKPdf	06 58 02.6	+1.7
GERES	GERESS Array B	145.50	331	PKPbc	PKPbc	06 58 02.6	+1.0
	comp=Z,13nm,0.7s,baz=27,slow=3.0,SNR=84						
WET	Wettzell	145.65	332	ePKIKP	PKPdf	06 58 03.1	+1.9
WTSB	Winterswijk	145.68	340	eP	PKPdf	06 58 02.5	+1.3
ARSA	Arzberg	145.73	327	⇑iP	PKPdf	06 58 03.3	+1.9
MOA	Molln	145.94	329	⇑iP	PKPdf	06 58 04.0	+2.3
GRA1	Grafenberg Arr	145.94	334	ePKP	PKPdf	06 58 04.1	+2.4
GRF	Grafenberg Arr	145.94	334	ePKP2	PKPab	06 58 04.1	-0.9
WIM	Isle of Man	146.10	353	⇑eP	PKPdf	06 58 03.3	+1.5
WIM				AMb	AMB	06 58 05.2	
	comp=Z,148nm,1.1s						
GMM	Mts of Mourne	146.13	355	⇑eP	PKPdf	06 58 02.9	+1.1
LHO	Holmfirth	146.30	350	i P	PKPdf	06 58 04.0	+1.8
PERS	Pernice	146.34	327	ePKPbc	PKPbc	06 58 05.0	+1.3
DMUB	Kingscourt	146.54	356	eP	PKPdf	06 58 05.0	+2.4
TNS	Taunus Mts	146.59	337	ePKP2	PKPab	06 58 05.9	-1.6
WME	Myndd Eilian	146.79	353	⇑eP	PKPdf	06 58 04.9	+1.9
WME				AMb	AMB	06 58 07.2	
	comp=Z,29nm,1.0s						
WCB1	Church Bay	146.84	353	⇑eP	PKPdf	06 58 05.5	+2.5
WCB1				AMb	AMB	06 58 06.6	
	comp=Z,76nm,1.1s						
KBA	Koelnbreinsper	146.93	329	⇓iP	PKPdf	06 58 06.1	+2.7
YRC	Rhoscolyn	146.97	353	⇑eP	PKPdf	06 58 05.6	+2.3
YRC				AMb	AMB	06 58 07.0	
	comp=Z,49nm,0.8s						
TOD	Tromm	146.97	336	PKP	PKPdf	06 58 06.7	+3.3
HGN	Heimansgroeve	147.00	340	eP	PKPdf	06 58 08.5	+5.0
	comp=Z,25nm,1.1s						
BOJS	Bojanci	147.02	325	ePKPbc	PKPdf	06 58 07.2	+3.6
YLL	Llanberis	147.03	352	⇑eP	PKPdf	06 58 05.9	+2.5
DCN	Croghan	147.12	356	eP	PKPdf	06 58 06.6	+3.0
ABH	Alteburg	147.20	338	PKP	PKPdf	06 58 07.4	+3.6
YRE	Yr Eifl	147.21	353	eP	PKPdf	06 58 06.4	+2.7
YRE				AMb	AMB	06 58 09.8	
	comp=Z,55nm,1.4s						
JAVS	Javornik	147.38	327	ePKPbc	PKPdf	06 58 07.8	+3.6
RUP	Ruppelstein	147.53	338	PKP	PKPdf	06 58 08.6	+4.3
MOTA	Moosalm	147.78	331	⇑iP	PKPdf	06 58 08.9	+4.1
SQTA	Sankt Quirin	147.83	331	⇓iP	PKPdf	06 58 09.1	+4.2
LANF	Langenberg	147.85	336	PKP	PKPdf	06 58 09.5	+4.6
GIVF	Givet	147.92	341	ePKP1	PKPdf	06 58 09.1	+4.2
	comp=Z,38nm,0.8s						
BAIF	Baives	148.15	341	ePKP1	PKPdf	06 58 09.8	+4.5
	comp=Z,70nm,1.1s						
BFO	Black Forest	148.18	335	ePKP2	PKPab	06 58 09.8	-4.0
DAVA	Damuels	148.37	332	⇑iP	PKPdf	06 58 10.4	+4.7
WLS	Welschbruch	148.49	336	PKP	PKPdf	06 58 10.7	+4.8
CDF	Champ du Feu	148.52	336	ePKP1	PKPdf	06 58 10.5	+4.6
	comp=Z,28nm,0.9s						
ECH	Echery	148.73	336	PKP	PKPdf	06 58 15.8	+10
THEF	They Montfort	149.15	338	PKP	PKPdf	06 58 12.1	+5.1
HINF	Hinteralfeld	149.18	336	ePKP1	PKPdf	06 58 12.1	+5.1
	comp=Z,19nm,1.0s						
HAU	Haudompre	149.21	337	ePKP1	PKPdf	06 58 12.2	+5.1
	comp=Z,28nm,0.9s						
MEZF	Maizieres J'vi	149.24	339	ePKP1	PKPdf	06 58 11.9	+4.8
LOMF	Lomont	149.57	336	PKP	PKPdf	06 58 13.5	+5.8
CABF	La Chapelle	150.47	336	ePKP1	PKPdf	06 58 15.8	+6.7
	comp=Z,28nm,0.8s						
FLN	La Foliniere	150.59	346	ePKP1	PKPdf	06 58 15.1	+5.9
	comp=Z,56nm,0.9s						
LDF	La Druitiere	150.66	345	ePKP1	PKPdf	06 58 15.2	+5.9
	comp=Z,27nm,1.0s						
SSF	Saint Saulge	151.01	339	ePKP1	PKPdf	06 58 16.7	+6.8
	comp=Z,61nm,1.2s						
GRR	Gorron	151.03	346	ePKP1	PKPdf	06 58 16.3	+6.4
	comp=Z,16nm,0.6s						
LPL	La Plagne	151.10	334	ePKP1	PKPdf	06 58 17.3	+7.2
	comp=Z,32nm,1.1s						
LPG	La Plagne	151.11	334	ePKP1	PKPdf	06 58 17.6	+7.5
	comp=Z,26nm,0.9s						
SMF	Signal de Mont	151.26	338	ePKP1	PKPdf	06 58 17.0	+6.7
AVF	Avril sur Loir	151.30	339	ePKP1	PKPdf	06 58 16.9	+6.6
BNI	Bardonecchia	151.50	333	ePKPbc	PKPdf	06 58 18.0	+7.3
SGMF	Saint Gilles	151.51	348	ePKP1	PKPdf	06 58 17.1	+6.5
	comp=Z,18nm,0.5s						
ROSF	Rostrenen	151.57	349	ePKP1	PKPdf	06 58 17.1	+6.4
	comp=Z,9.4nm,0.5s						
BGF	Bois d'Agland	151.67	340	ePKP1	PKPdf	06 58 18.0	+7.1
MBDF	Montbardon	151.72	333	ePKP1	PKPdf	06 58 18.3	+7.3
	comp=Z,16nm,0.8s						
PLDF	La Plantade	151.92	338	PKP	PKPab	06 58 30.7	+1.3
ORIF	Oris-en-Rattie	151.94	334	ePKP1	PKPdf	06 58 19.0	+7.7
	comp=Z,14nm,0.7s						
QUIF	Quistinic	151.95	349	ePKP1	PKPdf	06 58 18.1	+6.8
AGO	Saint Agoulin	152.02	339	PKP	PKPdf	06 58 20.7	+9.3
TCF	Toulx Ste Croi	152.11	340	ePKP1	PKPdf	06 58 19.0	+7.4
	comp=Z,17nm,0.9s						
PGF	Pioggiola	152.32	327	ePKP1	PKPdf	06 58 19.6	+7.6
	comp=Z,36nm,0.8s						
VIVF	Saint-Julien-l	152.48	335	ePKP1	PKPdf	06 58 20.0	+7.9
MFF	Saint Martin d	152.52	344	ePKP1	PKPdf	06 58 19.8	+7.7
LBL	Lubilhac	152.69	338	PKP	PKPdf	06 58 22.4	+10
LBL	Lubilhac	152.69	338	PKP	PKPab	06 58 34.0	+1.3
FRF	La Foret Royal	152.69	331	ePKP1	PKPdf	06 58 20.4	+7.9
LMR	La Mourre	152.93	331	ePKP1	PKPdf	06 58 20.6	+7.8
RJF	Les Rejaudoux	153.21	340	ePKP1	PKPdf	06 58 22.1	+9.0
LFF	La Frestale	153.78	341	ePKP1	PKPdf	06 58 23.4	+9.5
ESDC	Sonseca Array	159.98	344	PKPab	PKPab	06 59 03.0	-1.0
	comp=Z,1.5nm,0.6s,baz=30,slow=2.6,SNR=9.4						
DBIC	Dimbokro	164.97	204	PKPab	PKPab	06 59 26.3	-0.1
	comp=Z,7.2nm,1.0s,baz=142,slow=3.5,SNR=4.9						

IDC 08 06:43:15.5±6.1**, 20.94S**×**169.40E, mb3.6**/2**, mb1 3.9**/2**, mb1mx3.6**/13**, mbtmp3.6**/2**, Error ellipse: s-maj=250.6km s-min=56.2km az=150.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	Port Laguerre	3.11	248	eP	Pn	06 44 08.5	+1.7
NOUC				eS	Sn	06 44 40.1	-5.1
WRA	Warramunga Arr	32.83	265	P	P	06 49 50.4	-2.7
	0.2nm,0.4s,baz=100,slow=8.2,SNR=2.4						
ASAR	Alice Springs	32.90	259	P	P	06 49 52.1	-1.6
	1.4nm,0.8s,baz=83,slow=9.1,SNR=7.4						
GERES	GERESS Array B	146.05	331	PKPbc	PKPbc	07 02 56.7	-0.7
	0.9nm,0.6s,baz=53,slow=4.9,SNR=5.6						

*NEIC **08** 07:18:15.7, 33.57S×73.06W, h26^{km}, MD3.7(GUC), After GUC.*
GUC 08 07:18:15.7±0.5**, 33.57S**×**73.06W, h26**^{km}±3^{km}**, MD3.7, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	Las Cruces	1.25	86	eP	Pn	07 18 37.8	0.0
LCCH				i S	Sn	07 18 53.8	0.0
LNV	Longovilo	1.43	106	eP	Pn	07 18 40.3	0.0
LNV				i S	Sn	07 18 58.9	+0.6
TACH	Talagante	1.77	93	eP	Pn	07 18 45.7	+0.5
TACH				i S	Sn	07 19 08.0	+0.9
SFDO	San Fernando	1.99	122	eP	Pn	07 18 49.0	+0.7
SFDO				i S	Sn	07 19 14.6	+1.9
CHCH	Chadas Angostu	2.04	101	eP	Pn	07 18 49.5	+0.4
CHCH				i S	Sn	07 19 15.8	+1.9
CACH	El Canelo	2.12	106	eP	Pn	07 18 51.3	+1.1
CACH				i S	Sn	07 19 18.8	+2.9
JACH	Jahuel	2.25	68	i S	Sn	07 19 21.0	+1.7
FCH	Farellones	2.33	85	eP	Pn	07 18 54.5	+1.3

JMA 08 07:22:25.1±0.5**, 33.84N**×**142.56E, h66**^{km}**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.54	302	P	P	07 22 51.0	0.0
BSO1				eS	S	07 23 09.3	-0.9
BSO3	Boso 3	1.95	300	P	P	07 22 57.3	+0.7
BSO3				S	S	07 23 20.9	+1.1
BSO4	Boso 4	2.17	303	P	P	07 22 59.7	0.0
BSO4				eS	S	07 23 27.0	+1.7
JHJ2	Mitsune	2.41	253	eS	S	07 23 31.8	+0.5
JOD2	Odawara 2	3.20	297	eS	S	07 23 50.4	-0.9
JAG	Ashikaga	3.62	316	P	P	07 23 19.5	-0.7
JAG				eS	S	07 23 59.4	-2.6
JYN	Shimob	3.70	298	S	S	07 24 02.9	-1.0
JRY	Ryogami san	3.71	307	P	P	07 23 21.5	+0.2
JRY				eS	S	07 24 04.1	0.0
JMM	Marumori	4.27	341	P	P	07 23 27.1	-2.0
JMM				eS	S	07 24 12.6	-5.5

IDC 08 07:32:21.9±7.7**, 2.34N**×**125.80E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.5**/15**, mbtmp3.6**/3**, Error ellipse: s-maj=175.7km s-min=120.5km az=70.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.68	160	P	P	07 37 34.6	-1.6
	0.6nm,0.3s,baz=339,slow=10,SNR=23						
ASAR	Alice Springs	27.02	163	P	P	07 38 06.0	-1.8
	0.4nm,0.4s,baz=343,slow=7.0,SNR=8.4						
STKA	Stephens Creek	37.19	157	P	P	07 39 35.6	-1.1
	0.5nm,0.4s,baz=326,slow=11,SNR=3.0						

*NEIC **08** 07:44:11.6, 36.43S×177.41E, h283^{km}, MG4.1(WEL), After WEL.*
WEL 08 07:44:11.8±0.3**, 36.47S**×**177.38E, h284**^{km}±4^{km}**, ML4.0**/12**, 2C, Error ellipse: s-maj=6.0km s-min=5.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.32	146	P	P	07 44 52.2	-0.3
MXZ	Matakaoa Point	1.32	146	PN	P	07 44 52.2	-0.3
MXZ				SN	S	07 45 23.0	-1.2
PUZ	Puketiti	1.75	157	P	P	07 44 55.3	-0.1
PUZ	Puketiti	1.75	157	⇑PN	P	07 44 55.3	-0.1
PUZ				SN	S	07 45 28.6	-0.7
URZ	Urewera	1.80	187	P	P	07 44 55.4	-0.4
URZ	Urewera	1.80	187	PN	P	07 44 55.4	-0.4
URZ				SN	S	07 45 29.6	-0.5
MWZ	Matawai	1.87	177	P	P	07 44 56.4	+0.1
MWZ				S	S	07 45 30.9	-0.1
MWZ	Matawai	1.87	177	⇑PN	P	07 44 56.4	+0.1
MWZ				SN	S	07 45 30.9	0.0
KNZ	Kokohu	2.56	175	eP	P	07 45 02.1	-0.4
KNZ	Kokohu	2.56	175	PN	P	07 45 02.1	-0.4
KNZ				eSN	S	07 45 40.7	-1.2
BKZ	Black Stump Fm	2.78	194	ePN	P	07 45 03.8	-0.9
BKZ				SN	S	07 45 45.5	-0.3
MGZ	Maungaku	2.92	209	P	P	07 45 06.5	+0.5
MGZ	Maungaku	2.92	209	PN	P	07 45 06.3	+0.3
NGZ	Ngauruhoe	3.05	207	P	P	07 45 07.5	+0.2
NGZ	Ngauruhoe	3.05	207	PN	P	07 45 07.4	+0.1
CNZ	Chateau	3.09	208	P	P	07 45 07.7	-0.1
CNZ	Chateau	3.09	208	PN	P	07 45 07.7	-0.1
TUVZ	Tukino	3.11	206	P	P	07 45 07.8	-0.2
TUVZ	Tukino	3.11	206	PN	P	07 45 07.8	-0.2
PWZ	Pawanui	3.58	186	eP	P	07 45 12.0	-1.0
PWZ	Pawanui	3.58	186	PN	P	07 45 12.0	-1.1
PWZ				SN	S	07 45 59.9	-0.8
TSZ	Takapari Road	3.76	197	P	P	07 45 13.2	-1.8
TSZ	Takapari Road	3.76	197	PN	P	07 45 13.2	-1.8
TSZ				eSN	S	07 46 02.5	-1.6
MRZ	Mangatainoka R	4.42	198	ePN	P	07 45 20.4	-2.0
MRZ				SN	S	07 46 14.9	-2.8
KIW	Kapiti Island	4.79	203	P	P	07 45 24.3	-2.5
KIW	Kapiti Island	4.79	203	ePN	P	07 45 24.0	-2.8
KIW				eSN	S	07 46 22.7	-2.8
MTW	Mount Morrison	4.91	197	ePN	P	07 45 26.0	-2.1
CAW	Cannon Point	4.97	201	ePN	P	07 45 26.1	-2.8
MRW	Makara Radio	5.19	203	ePN	P	07 45 29.4	-2.1
TUWZ	Tuamarina	5.63	207	ePN	P	07 45 34.0	-2.8
TUWZ				eSN	S	07 46 40.2	-3.2
NNZ	Nelson	5.68	212	ePN	P	07 45 34.4	-3.0
NNZ				eSN	S	07 46 41.6	-2.8
QRZ	Quartz Range	5.78	220	ePN	P	07 45 35.9	-2.6
THZ	Tophouse	6.33	212	ePN	P	07 45 42.2	-3.1
THZ				eSN	S	07 46 55.2	-3.4
KHZ	Kahutara	6.64	205	PN	P	07 45 46.5	-2.6
KHZ				eSN	S	07 46 58.0	-7.5
LTZ	Lake Taylor	7.44	210	ePN	P	07 45 55.7	-3.3
LTZ				eSN	S	07 47 17.7	-5.4
MQZ	McQueen's Vall	8.09	205	eSN	S	07 47 31.7	-5.9

IDC 08 07:56:49.0±10.0**, 9.80N**×**92.46E, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.5**/17**, mbtmp3.5**/3**, ML4.3**/1**, MS2.7**/1**, Ms1 2.9**/1**, ms1mx2.8**/9**, Error ellipse: s-maj=237.8km s-min=46.5km az=96.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.66	35	Pn	P	07 59 23.2	-3.0
	0.6nm,0.3s,baz=227,slow=16,SNR=4.1						
CMAR				LR	LR	08 04 04.0	
	comp=Z,38nm,18.4s,baz=215,slow=41						
WRA	Warramunga Arr	50.73	126	P	P	08 05 50.7	-2.3
	0.3nm,0.3s,baz=300,slow=10,SNR=13						
ASAR	Alice Springs	52.42	130	P	P	08 06 03.8	-2.0
	0.7nm,0.8s,baz=307,slow=6.9,SNR=9.5						

*FUNV **08** 08:26:45.8, 10.88N×61.58W, h18^{km}, MW2.1*
*NEIC **08** 08:26:46.9, 10.74N×61.63W, h26^{km}, MD3.0(TRN), After TRN.*
*TRN **08** 08:26:46.9, 10.74N×61.63W, h26^{km}, MD3.0*
ISC 08 08:26:47.2±0.5**, 10.75N**±0.05×**61.63W**±0.03**, h29**^{km}±7^{km}**, n12, σ0^{s}83**/22**, 2C, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.25	114	⇑iP	Pb	08 26 53.6	-0.3
TRN				eS	Sb	08 26 58.1	-0.3
TPP	Pointe-a-Pierr	0.47	157	⇑iP	Pb	08 26 56.1	-0.9
TPP				eS	Sb	08 27 04.2	+0.5
GUIV	Guiria	0.59	260	eP	Pb	08 26 58.5	-0.4
GUIV				eS	Sb	08 27 07.4	+0.4
SIPA	Siparia	0.61	168	i P	Pb	08 26 59.5	+0.1
TBH	Brigand Hill	0.62	115	eP	Pb	08 26 58.7	-0.8
TBH				eS	Sb	08 27 08.3	+0.5
TPR	Prospect	0.95	63	eP	Pn	08 27 03.8	-0.9
TPR				eS	Sb	08 27 18.3	+1.1
BOT	Bacolet	0.99	65	eP	Pn	08 27 04.5	-0.8
BOT				eS	Sb	08 27 19.1	+0.7
GRW	Mount Saint Ca	1.40	359	eP	Pn	08 27 11.6	+0.4
GRW				eS	Sn	08 27 32.4	+3.5
GUNV	Guanoco	1.41	246	eP	Pn	08 27 11.8	+0.4
GUNV				eS	Sn	08 27 30.9	+1.8
GRHS	Sauteurs	1.47	360	eP	Pn	08 27 12.1	0.0
CRUV	Carupano	1.58	267	eP	Pn	08 27 12.7	-0.9
CRUV				eS	Sn	08 27 33.8	+0.6
ITEV	Isla Los Testi	1.59	292	eP	Pn	08 27 13.1	-0.7
ITEV				eS	Sn	08 27 32.5	-1.1

IDC 08 08:26:57.2±18.0**, 3.62N**×**95.62E, h113**^{km}±141^{km}**, mb3.2**/3**, mb1 3.5**/4**, mb1mx3.3**/17**, mbtmp3.6**/4**, ML4.1**/1**, Error ellipse: s-maj=182.0km s-min=28.2km az=62.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.10	12	P	P	08 30 24.8	-1.0
	0.2nm,0.3s,baz=204,slow=11,SNR=8.0						
WRA	Warramunga Arr	44.66	123	P	P	08 34 59.0	-1.7
	0.3nm,0.6s,baz=300,slow=9.2,SNR=4.8						
SONM	Songino Array	45.02	10	P	P	08 35 01.3	-1.9
	0.7nm,0.7s,baz=190,slow=7.5,SNR=5.6						
ZAL	Zalesovo	50.93	352	P	P	08 35 47.0	-2.0
	0.8nm,0.5s,baz=274,slow=6.9,SNR=3.6						

*NEIC **08** 08:28:02.5, 36.16N×10.62W, MG3.8(MDD), After MDD.*
*CSEM **08** 08:28:02.9±0.3, 36.07N×10.73W, h23^{km}±14^{km}, ML3.5/8, Error ellipse: s-maj=30.7km s-min=5.0km az=48.0*
MDD 08 08:28:02.5±2.5**, 36.09N**×**10.60W, h4**^{km}±83^{km}**, mb4.1**/7**, Error ellipse: s-maj=103.0km s-min=15.8km az=48.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.09	45	ePn	Pn	08 28 26.6	-12
PTEO				eSn	Sn	08 29 03.2	-2.5
	8.6nm,0.1s						
PTEO	Sao Teotonio	2.09	45	Pn	Pn	08 28 26.6	-12
PTEO				Sn	Sn	08 29 03.2	-2.5
	4.3nm,0.1s						
PALC	Alcoutim	2.86	60	eSn	Sn	08 29 19.8	-5.3
	9.9nm,0.1s						
PALC	Alcoutim	2.86	60	eSn	Sn	08 29 19.8	-5.3
	9.9nm,0.1s						
PBEJ	Beja	2.92	48	eSn	Sn	08 29 22.4	-4.2
	6.7nm,0.2s						
PBEJ	Beja	2.92	48	eSn	Sn	08 29 22.4	-4.2
	6.7nm,0.2s						
MOE	Montemor	3.02	36	eSn	Sn	08 29 25.8	-3.4
PLOU	Loures	3.02	22	eSn	Sn	08 29 25.6	-3.6
	21nm,0.3s						
PLOU	Loures	3.02	22	eSn	Sn	08 29 25.6	-3.6
	21nm,0.3s						
EMIN	Mina Concepcio	3.56	61	Pn	Pn	08 28 57.8	-2.0
	1.1nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 29 38.4	-4.6
	3.0nm,0.1s,SNR=7.9						
EMIN	Mina Concepcio	3.56	61	Pn	Pn	08 28 57.8	-2.0
	0.4nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	08 29 38.4	-4.6
	3.0nm,0.1s,SNR=7.9						
ESPR	Espera	3.90	77	Pn	Pn	08 29 02.3	-2.3
	6.0nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	08 29 46.1	-5.4
	18nm,0.2s,SNR=7.9						
ESPR	Espera	3.90	77	Pn	Pn	08 29 02.3	-2.3
	5.5nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	08 29 46.1	-5.4
	18nm,0.2s,SNR=7.9						
EBAD	Badajoz	3.90	46	Pn	Pn	08 29 01.9	-2.7
	0.7nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	08 29 46.1	-5.4
	3.1nm,0.1s,SNR=7.9						
EBAD	Badajoz	3.90	46	Pn	Pn	08 29 01.9	-2.7
	0.7nm,0.1s,SNR=7.9						
EBAD				Sn	Sn	08 29 46.1	-5.4
	3.1nm,0.1s,SNR=7.9						
PCBR	Castelo Branco	4.48	32	eSn	Sn	08 30 00.9	-5.4
	2.4nm,0.1s						
PCBR	Castelo Branco	4.48	32	eSn	Sn	08 30 00.9	-5.4
	2.4nm,0.1s						
ECAB	El Cabril	4.59	63	Pn	Pn	08 29 11.8	-2.6
	1.0nm,0.1s,SNR=7.9						
ECAB	El Cabril	4.59	63	Pn	Pn	08 29 11.8	-2.6
	1.3nm,0.1s,SNR=7.9						
EADA	Adamuz	5.24	65	Pn	Pn	08 29 20.5	-3.0
	2.0nm,0.1s,SNR=7.9						
EADA				Sn	Sn	08 30 18.1	-7.2
	1.8nm,0.1s,SNR=7.9						
EADA	Adamuz	5.24	65	Pn	Pn	08 29 20.5	-3.1
	1.7nm,0.1s,SNR=7.9						
EADA				Sn	Sn	08 30 18.1	-7.2
	1.8nm,0.1s,SNR=7.9						
PVRL	Vila Real	5.65	23	eSn	Sn	08 30 28.0	-7.6
ELOB	Lobios	6.10	18	Pn	Pn	08 29 32.0	-3.7
	1.8nm,0.3s,SNR=7.9						
ELOB				Sn	Sn	08 30 37.2	-10
	0.5nm,0.1s,SNR=7.9						
ELOB	Lobios	6.10	18	Pn	Pn	08 29 32.0	-3.7
	0.6nm,0.1s,SNR=7.9						
ELOB				Sn	Sn	08 30 37.2	-10
	0.5nm,0.1s,SNR=7.9						
EQES	Quesada	6.26	72	Sn	Sn	08 30 40.6	-10
	2.8nm,0.4s,SNR=7.9						
ESDC	Sonseca Array	6.35	54	Pn	Pn	08 29 36.0	-3.3
	2.3nm,0.2s,baz=239,slow=14,SNR=6.0						
ESDC	Sonseca Array	6.35	54	Pn	Pn	08 29 36.0	-3.3
	0.5nm,0.2s,SNR=6.0						

PBRG Braganca 6.45 27 eSn Sn 08 30 47.1 -8.6
1.9nm,0.1s
PBRG Braganca 6.45 27 Sn Sn 08 30 47.1 -8.6
0.9nm,0.1s
ECAL Calabor 6.57 26 Pn Pn 08 29 38.6 -3.7
1.5nm,0.3s,SNR=7.9
ECAL Sn Sn 08 30 49.7 -9.0
3.9nm,0.3s,SNR=7.9
ECAL Calabor 6.57 26 Sn Sn 08 30 50.9 -7.8
SNR=7.9
EHUE Huescar 6.64 73 Pn Pn 08 29 40.2 -3.1
0.8nm,0.2s,SNR=7.9
EHUE Sn Sn 08 30 51.2 -9.2
0.9nm,0.3s,SNR=7.9
ETOB Tobarra 7.64 68 Pn Pn 08 29 52.8 -4.6
1.3nm,0.3s,SNR=7.9
ETOB Sn Sn 08 31 14.8 -11
3.0nm,0.4s,SNR=7.9

NIED ***08*** *08:43:00,32.20N×131.30E,h59^{km},Mw3.9 Best double couple: $M_0$7.31×10^{14} NP1:ϕ_s197°,δ89°,λ-106°. NP2: ϕ_s105°,δ16°,λ-2°.*
MOS ***08*** *08:43:38.9±1.6,32.07N×131.15E,h33^{km},mb4.2/2,Error ellipse: s-maj=22.7km s-min=14.3km az=75.1*
JMA ***08*** *08:43:43.7,32.19N×131.31E,h64^{km}±1^{km},M3.5 Broadband fault plane solution: P waves. NP1:ϕ_s116°, δ14°,λ6°. NP2:ϕ_s20°,δ88°,λ104°. Principal axes: T Plg45°, Azm304°; N Plg14°, Azm200°; P Plg42°, Azm97°;*
JMA Felt II J1.
NEIC ***08*** *08:43:44.8±1.2,32.19N×131.28E,h70^{km}±13^{km},mb4.0/5 Error ellipse: s-maj=14.6km s-min=11.1km az=118.0*
IDC ***08*** *08:43:47.8±3.6,32.12N×130.97E,h98^{km}±35^{km},mb3.4/9, mb1 3.5/10,mb1mx3.4/24,mbtmp3.7/10,Error ellipse: s-maj=30.0km s-min=14.4km az=80.0*
ISC 08 08:43:42.9±0.4,**32.17N**±0.04×**131.30E**±0.05,**h70^{km}**±3^{km}, **n30,**σ**0^{s}95**/40,**mb3.7**/11,**2C-4D,Kyushu**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
JTSN Tsuno 0.19 67 ⇑P **P 08 43 53.3 -0.1**
JTSN S **S 08 44 00.6 -0.6**
JTZ Takazaki 0.32 214 ⇓P **P 08 43 54.5 +0.2**
JTZ S **S 08 44 02.4 -0.3**
JIU2 Izumi 2 0.55 312 ⇓P **P 08 43 56.6 +0.2**
JIU2 S **S 08 44 06.2 0.0**
JZO Okuchi 0.59 267 ⇓P **P 08 43 57.0 +0.2**
JZO S **S 08 44 06.8 -0.2**
JNAR Kushima--Naru 0.64 182 ⇑P **P 08 43 58.2 +0.9**
JNAR S **S 08 44 09.5 +1.5**
JSJ Shimokoshiki 1.43 250 ⇓P **P 08 44 07.3 -0.2**
JSJ S **S 08 44 25.3 -0.4**
JOW Kunigami 5.94 207 P **P 08 45 10.6 +0.6**
2.0nm,0.3s,baz=109,slow=21,SNR=6.9
JOW S **S 08 46 15.7 -1.8**
2.8nm,0.3s,baz=109,slow=25,SNR=4.5
MAJO Matsushiro 7.18 51 *e*P **P 08 45 26.3 -1.2**
MAT Matsushiro 7.18 51 *e*P **P 08 45 27.0 -0.5**
MAT *e*S **S 08 46 48.0 -0.3**
MAT pmax pmax
comp=Z,8.0nm,0.5s
MAT Matsushiro 7.18 51 *e*P **P 08 45 27.0 -0.5**
comp=Z,8.4nm,0.5s
MAT *e*S **S 08 46 48.0 -0.3**
MAT Matsushiro 7.18 51 P **P 08 45 26.6 -0.9**
MAT S **S 08 46 47.6 -0.7**
ENH Enshi 18.75 270 P **P 08 47 59.4 +0.7**
comp=Z,9.2nm,0.9s
HIA Hailar 19.15 336 *e*P **P 08 48 03.5 +0.4**
HIA pmax pmax
comp=Z,7.0nm,0.5s
HIA Hailar 19.15 336 *e*P **P 08 48 03.5 +0.4**
comp=Z,7.2nm,0.5s
ULN Ulaanbaatar 24.16 317 *e*P **P 08 48 54.1 +0.8**
ULN *e**PP 08 49 10.2
ULN pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
ULN Ulaanbaatar 24.16 317 *e*P **P 08 48 54.1 +0.8**
comp=Z,3.2nm,0.5s,mb3.9
ULN *e*pP 08 49 10.2
SONM Songino Array 24.52 317 P **P 08 48 57.6 +0.8**
comp=Z,2.0nm,0.5s,mb3.8,baz=135,slow=9.7,SNR=19
CHKZ Chkalovo 47.70 315 *e*P **P 08 52 11.4 -2.8**
CHKZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
CHKZ Chkalovo 47.70 315 *e*P **P 08 52 11.4 -2.8**
comp=Z,1.1nm,0.6s,mb3.9
BVAR Borovoye Array 47.83 315 P **P 08 52 14.9 -0.3**
comp=Z,1.8nm,0.8s,mb4.0,baz=99,slow=9.1,SNR=8.2
WRA Warramunga Arr 51.90 176 P **P 08 52 45.4 -1.3**
comp=Z,0.5nm,0.7s,mb3.6,baz=354,slow=8.3,SNR=6.2
ASAR Alice Springs 55.58 177 P **P 08 53 14.3 +0.6**
comp=Z,0.5nm,0.7s,mb3.7,baz=9.2,slow=14,SNR=7.1
ILAR Eielson Array 57.96 30 P **P 08 53 31.6 +1.6**
comp=Z,0.3nm,0.6s,mb3.5,baz=276,slow=6.4,SNR=10
INK Inuvik 62.39 25 P **P 08 54 01.4 +1.2**
comp=Z,0.2nm,0.4s,mb3.5,baz=241,slow=6.6,SNR=5.1
INK Inuvik 62.39 25 P **P 08 54 01.1 +0.9**
comp=Z,0.4nm,0.5s,mb3.7
STKA Stephens Creek 64.44 170 P **P 08 54 13.6 -0.7**
comp=Z,2.2nm,1.2s,mb3.9,baz=339,slow=14,SNR=2.3
FINES FINESS Array B 69.04 330 P **P 08 54 40.7 -2.0**
comp=Z,1.3nm,0.6s,mb4.0,baz=90,slow=6.9,SNR=13
YKA Yellowknife Ar 72.03 26 P **P 08 55 00.6 -0.1**
YKA Yellowknife Ar 72.03 26 P **P 08 55 00.5 -0.2**
comp=Z,0.2nm,0.6s,mb3.1,baz=305,slow=6.2,SNR=7.7
MSU Marysvale 88.20 45 *e*P **P 08 56 29.1 +1.7**

BJI ***08*** *09:06:14.3,53.86N×161.89E,h31^{km},mB4.9,mb4.6, Ms4.4,Msz4.2*
KRSC ***08*** *09:06:16.5±0.5,53.44N×161.84E,h19^{km}±3^{km},ML4.6*
MOS ***08*** *09:06:17.4±1.1,53.44N×161.93E,h40^{km},mb4.6/10,Error ellipse: s-maj=11.1km s-min=7.4km az=87.0*
NEIC ***08*** *09:06:18.0±3.1,53.55N×161.74E,h27^{km}±23^{km},mb4.5/9, Error ellipse: s-maj=14.2km s-min=8.9km az=173.0*
IDC ***08*** *09:06:19.9±0.5,53.63N×161.81E,h36^{km}±3^{km},mb3.7/15, mb1 3.9/16,mb1mx3.9/22,mbtmp3.9/16,ML4.2/2,MS3.5/2, Ms1 3.5/2,ms1mx2.7/35,Error ellipse: s-maj=15.1km s-min=8.8km az=3.0*
ISC 08 09:06:17.2±0.3,**53.42N**±0.02×**161.94E**±0.04,**h35^{km}**, **h35^{km}**±2.7^{km}**:pP-P,n92,**σ**1^{s}09**/129,**mb4.2**/27,**MS3.7**/6,**1D, Off east coast of Kamchatka Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPN Mys Shipunski 1.20 255 P **P 09 06 37.4 -0.3**
SPN S **S 09 06 52.8 -0.2**
SPN Mys Shipunski 1.20 255 *i* P **P 09 06 37.5 -0.2**
SPN *i* S **S 09 06 53.6 +0.6**
NLC Nalytchevo 1.58 262 *i* P **P 09 06 42.8 -0.4**
NLC *i* S **S 09 07 02.2 -0.4**
KII Karymskiy 1.61 294 P **P 09 06 42.4 -1.2**
KII S **S 09 07 00.6 -2.7**
KII Karymskiy 1.61 294 *i* P **P 09 06 42.5 -1.1**
KII *i* S **S 09 07 02.1 -1.2**
UGLR Uglovaya 1.88 265 *i* P **P 09 06 47.8 +0.3**
AVH Avacha 1.93 267 *i* P **P 09 06 48.5 +0.3**
AVH *i* S **S 09 07 11.9 +0.5**
KOK Koryaka 1.99 268 *i* P **P 09 06 49.0 0.0**
PET Petropavlovsk 2.02 260 P **P 09 06 49.6 +0.1**
PET S **S 09 07 13.4 -0.3**
PET Petropavlovsk 2.02 260 ⇓*i*PN **P 09 06 49.5 0.0**
PET *e*S **S 09 07 12.9 -0.8**
PET pmax pmax
comp=Z,156nm,0.4s
PET pmax pmax
comp=E,76nm,0.4s
PET pmax pmax
comp=N,87nm,0.4s
PET smax
comp=E,1μm,0.7s
PET smax
comp=N,601nm,0.6s
PET MLR MLR
comp=E,900nm,16.0s
PET MLR MLR
comp=Z,600nm,17.0s
PET MLR MLR
comp=N,900nm,19.0s
PET Petropavlovsk 2.02 260 *e*Pn **P 09 06 49.3 -0.1**
PET Petropavlovsk 2.02 260 *i* P **P 09 06 49.4 -0.1**
PET *e*S **S 09 07 13.4 -0.3**
TUMR Tumrok 2.15 331 *i* P **P 09 06 51.4 +0.1**
TUMR *i* S **S 09 07 16.9 0.0**
RUS Russkaya 2.30 246 P **P 09 06 53.5 0.0**
RUS S **S 09 07 20.7 -0.2**
RUS Russkaya 2.30 246 *i* P **P 09 06 53.7 +0.2**
RUS *e*S **S 09 07 20.7 -0.2**
KRMR Karymshinskiy 2.37 257 *i* P **P 09 06 54.8 +0.3**
KRMR *i* S **S 09 07 22.8 +0.1**
GNL Ganaly 2.40 278 *i* P **P 09 06 55.3 +0.3**
GNL *e*S **S 09 07 23.5 0.0**
GRL Gorelyy 2.50 251 *i* P **P 09 06 57.2 +0.9**
GRL *i* S **S 09 07 26.7 +0.9**
KMNR Kamenistaya 2.54 338 *i* P **P 09 06 57.8 +0.8**
KMNR *i* S **S 09 07 27.8 +0.7**
ZLN Zelenaya 2.69 346 *e*P **P 09 07 00.3 +1.3**
ZLN *e*S **S 09 07 32.3 +1.6**
KPT Kopyto 2.74 339 *e*P **P 09 07 00.1 +0.3**
KPT *e*S **S 09 07 32.0 -0.1**
KBTR Krutoberegovo 2.84 10 P **P 09 07 03.0 +1.7**
KBTR S **S 09 07 35.7 +1.1**
KBTR Krutoberegovo 2.84 10 *e*P **P 09 07 02.9 +1.6**
KBTR *e*S **S 09 07 36.6 +2.0**
KBG Krutoberegovo 2.88 8 *e*P **P 09 07 01.9 +0.1**
KBG *e*S **S 09 07 34.4 -1.1**
KBG Smax
comp=N,2μm,1.2s
KBG Krutoberegovo 2.88 8 *e*P **P 09 07 02.3 +0.5**
KBG *e*S **S 09 07 35.4 -0.1**
KBG Smax
comp=N,2μm,1.1s
KOZ Kozyrevsk 2.91 336 P **P 09 07 02.6 +0.4**
KOZ S **S 09 07 36.6 +0.3**
KOZ Kozyrevsk 2.91 336 *i* P **P 09 07 02.6 +0.4**
KOZ *i* S **S 09 07 36.1 -0.2**
KOZR Kozyr 2.91 337 PN **P 09 07 02.6 +0.4**
KOZR S **S 09 07 36.6 +0.3**
KRSR Krestovskiy 2.92 345 *e*P **P 09 07 03.7 +1.4**
KRSR *e*S **S 09 07 37.8 +1.3**
APC Apacha 2.92 262 *i* P **P 09 07 03.5 +1.1**
APC *i* S **S 09 07 37.8 +1.1**
APC Smax
comp=N,280nm,0.9s
BKI Bering 2.96 51 *e*P **P 09 07 02.7 -0.3**
BKI *e*S **S 09 07 34.6 -3.1**
KLY Klyuchi 3.00 346 P **P 09 07 03.8 +0.3**
KLY S **S 09 07 38.8 +0.2**
KLY Klyuchi 3.00 346 *e*P **P 09 07 03.7 +0.2**
KLY *e*S **S 09 07 37.9 -0.7**
ESO Esso 3.14 324 *i* P **P 09 07 05.3 -0.2**
ESO *i* S **S 09 07 40.7 -1.5**
ESO Smax
comp=N,210nm,1.2s
SRDR Sredinnyy 3.18 337 *i* P **P 09 07 05.7 -0.3**
SRDR *i* S **S 09 07 41.9 -1.3**
PAU Pauzhetka 3.70 240 *e*P **P 09 07 14.2 +0.8**
PAU *e*S **S 09 07 55.7 -0.7**
PAU Smax
comp=N,400nm,1.0s
SKR Severo-Kuril's 4.52 235 *e*PN **P 09 07 26.2 +1.1**
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,60nm,0.5s
FX1 Attu Island--F 6.77 90 Pn **P 09 07 56.5 -0.2**
comp=Z,38nm,0.3s,baz=285,slow=3.5,SNR=112
FX1 Sn **S 09 09 10.3 -3.3**
comp=Z,34nm,0.3s,baz=123,slow=22,SNR=9.2
FX1 Attu Island--F 6.77 90 *e*P **P 09 07 56.3 -0.5**
FX1 *e*S **S 09 09 07.7 -5.9**
SMY Shemya 7.36 90 *e*PN **P 09 08 03.9 -1.0**
MA2 Magadan 8.73 319 *e*PN **P 09 08 23.6 -0.3**
MA2 pmax pmax
comp=Z,7.0nm,0.9s
MA2 pmax pmax
comp=N,5.0nm,1.0s
MA2 pmax pmax
comp=E,4.0nm,1.0s
MA2 MLR MLR
comp=Z,700nm,12.0s
MA2 Magadan 8.73 319 *e*P **P 09 08 22.5 -1.4**
KAMR Kamenskoye 9.34 12 *i* P **P 09 08 32.6 +0.2**
BILL Bilibino 14.82 6 *e*P **P 09 09 46.7 +1.2**
BILL *i* S **S 09 12 29.8 +0.6**
BILL pmax pmax
comp=Z,2.0nm,0.9s
BILL MLR MLR
comp=Z,100nm,16.0s
ASAJ Asahikawa 15.74 242 P **P 09 09 56.8 -0.9**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ Asahikawa 15.74 242 Pn **P 09 09 56.8 -0.9**
comp=Z,0.5nm,0.3s,baz=47,slow=19,SNR=5.1
YAK Yakutsk 19.08 310 *i* P **P 09 10 40.2 +1.2**
YAK MLR MLR
comp=Z,100nm,7.0s
YAK Yakutsk 19.08 310 P **P 09 10 31.3 -7.8**
comp=Z,16nm,0.6s
CLNS Chul'man 21.28 294 *e*P **P 09 11 15.3 +13**
CLNS *e* 09 11 26.7
CLNS *e*PPP PPP 09 11 35.9 0.0
CLNS *e*S **S 09 14 58.6 +6.7**
CLNS *e*SS SS 09 15 28.8 +1.9
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.2
CLNS pmax pmax
comp=N,10.0nm,1.2s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb3.9
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,4.0nm,0.9s
CLNS smax
comp=Z,3.0nm,0.8s
CLNS smax
comp=E,5.0nm,0.9s
CLNS MLR MLR
comp=Z,100nm,14.0s,MS3.4
CLNS MLR MLR
comp=N,200nm,13.0s,MS3.7
CLNS MLR MLR
comp=E,100nm,13.0s,MS3.7
MDJ Mudanjiang 22.80 260 P **P 09 11 14.7 -2.8**
MDJ XP 09 11 32.7
MDJ PP PP 09 11 48.6 +1.6
MDJ S **S 09 15 21.5 +1.7**
MDJ AMB AMB
comp=Z,13nm,3.1s
MDJ AMB AMB
comp=Z,267nm,4.8s
TIXI Tiksi 23.26 334 *e*P **P 09 11 20.7 -1.1**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
TIXI MLR MLR
comp=Z,130nm,17.0s,MS3.5
MAJO Matsushiro 23.63 234 *e*P **P 09 11 26.5 +0.8**
MAJO pmax pmax
comp=Z,16nm,0.7s,mb4.6
MAJO Matsushiro 23.63 234 *e*P **P 09 11 26.5 +0.9**
comp=Z,16nm,0.7s,mb4.6
MAT Matsushiro 23.63 234 *e*P **P 09 11 28.0 +2.3**
MAT pmax pmax
comp=Z,13nm,0.8s,mb4.4
MAT Matsushiro 23.63 234 *e*P **P 09 11 28.0 +2.3**
comp=Z,13nm,0.8s,mb4.4
MAT Matsushiro 23.63 234 P **P 09 11 28.0 +2.3**
BOD Bodaibo 26.96 299 *e*P **P 09 11 51.6 -5.4**
ILAR Eielson Array 27.80 46 P **P 09 12 04.2 -0.3**
comp=Z,1.0nm,0.9s,mb3.4,baz=270,slow=11,SNR=5.1
INK Inuvik 32.93 38 *e*P **P 09 12 49.1 -0.8**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 32.93 38 *e*P **P 09 12 49.1 -0.8**
comp=Z,1.8nm,0.7s,mb4.1
SONM Songino Array 34.91 284 P **P 09 13 05.1 -2.0**
comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=7.7,SNR=9.7
HHC Hu-ho-hao-te 35.76 270 *e*P **P 09 13 12.8 -1.6**
HHC S **S 09 18 44.4 -4.0**
HHC XS 09 19 06.4
HHC SS SS 09 21 04.6 -5.5
HHC AMB AMB
comp=Z,19nm,0.5s,mb5.3
JOW Kunigami 36.41 237 LR LR 09 27 35.4
comp=Z,55nm,18.8s,MS3.4,baz=326,slow=35
SSE Sheshan 36.81 249 P **P 09 13 23.7 +0.3**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,48nm,5.1s
SSE Sheshan 36.81 249 P **P 09 13 23.7 +0.3**
comp=Z,30nm,0.7s,mb5.2
YKA Yellowknife Ar 42.17 43 P **P 09 14 08.2 +0.9**
comp=Z,0.2nm,0.6s,baz=300,slow=8.1,SNR=5.2
YKA pP pP 09 14 16.3 -1.4
comp=Z,0.4nm,0.8s,baz=299,slow=7.9,SNR=6.6
ZAL Zalesovo 43.55 303 LR LR 09 34 19.0
comp=Z,84nm,19.8s,MS3.6,baz=286,slow=39
WMQ Urumqi 47.91 290 *e*P **P 09 14 52.0 -1.5**
WMQ AP pP 09 15 04.0 +0.1
WMQ AMB AMB
comp=Z,6.0nm,0.7s,mb4.7
WMQ AMB AMB
comp=Z,131nm,5.6s
WMQ LR LR
comp=N,170nm,20.0s,MS4.1
WMQ LR LR
comp=E,96nm,18.6s,MS4.1
WMQ LR LR
comp=Z,162nm,16.9s,MS4.1
KURK Kurchatov 48.50 303 *e*P **P 09 14 53.9 -4.1**
KURK pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
KURK Kurchatov 48.50 303 *e*P **P 09 14 53.9 -4.1**
comp=Z,3.8nm,0.4s,mb4.8
CHKZ Chkalovo 50.53 310 *e*P **P 09 15 09.3 -4.3**
CHKZ pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CHKZ Chkalovo 50.53 310 *e*P **P 09 15 09.3 -4.3**
comp=Z,2.5nm,0.6s,mb4.3
BVAR Borovoye Array 51.05 309 P **P 09 15 14.9 -2.6**
comp=Z,0.9nm,0.4s,mb4.0,baz=54,slow=8.2,SNR=9.8
BVAR pP pP 09 15 27.3 -0.7
comp=Z,1.1nm,0.6s,baz=66,slow=8.9,SNR=5.3
BVAR sP sP 09 15 32.6 +0.3
comp=Z,0.5nm,0.4s,baz=71,slow=6.1,SNR=3.2
ARCES ARCESS Array B 53.32 342 P **P 09 15 34.3 0.0**
comp=Z,5.6nm,1.1s,mb4.4,baz=27,slow=10,SNR=2.9
NVAR Mina Array Bea 54.59 72 P **P 09 15 46.0 +2.0**
comp=Z,0.7nm,1.0s,mb3.7,baz=243,slow=8.1,SNR=2.7
NVAR pP pP 09 15 53.8 -0.9
comp=Z,0.9nm,0.8s,baz=299,slow=7.0,SNR=5.0
NVAR sP sP 09 15 58.5 -0.4
comp=Z,0.5nm,0.5s,baz=309,slow=8.3,SNR=5.1
NVAR Mina Array Bea 54.59 72 P **P 09 15 46.0 +2.0**
NVAR pP pP 09 15 53.8 -0.9
NVAR sP sP 09 15 58.5 -0.4
PDAR Pinedale Array 56.39 62 P **P 09 15 58.7 +1.7**
comp=Z,0.3nm,0.6s,mb3.5,baz=288,slow=5.7,SNR=3.3
PDAR pP pP 09 16 06.2 -1.5
comp=Z,0.3nm,0.6s,baz=270,slow=3.0,SNR=2.6
JOF Joensuu 57.73 336 *e*p **P 09 16 04.3 -1.9**
comp=Z,4.3nm,0.6s,mb4.7
CMAR Chiang Mai Arr 59.34 259 P **P 09 16 18.4 +0.4**
comp=Z,5.5nm,0.9s,mb4.6,baz=23,slow=7.1,SNR=14
CMAR pP pP 09 16 30.1 +1.4
comp=Z,4.3nm,0.6s,baz=31,slow=7.0,SNR=5.1
KAF Kangasniemi 59.62 338 *e*p **P 09 16 17.4 -2.0**
comp=Z,3.7nm,0.8s,mb4.5
KAF Kangasniemi 59.62 338 *e*P **P 09 16 17.4 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
FINES FINESS Array B 60.26 337 P **P 09 16 22.3 -1.4**
comp=Z,3.3nm,0.7s,mb4.5,baz=39,slow=8.4,SNR=20
FINES pP pP 09 16 34.5 0.0
comp=Z,3.3nm,0.7s,baz=37,slow=9.5,SNR=4.4
FINES sP sP 09 16 38.5 -0.1
comp=Z,1.2nm,0.6s,baz=37,slow=9.5,SNR=2.0
OBN Obninsk 62.83 328 *e*P **P 09 16 38.2 -3.0**
OBN *i* 09 17 20.8
OBN *e*SS SS 09 29 14.4 +0.8
OBN pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.1
NB2 NORSAR Subarra 63.53 345 P **P 09 16 44.1 -1.4**
comp=Z,1.5nm,0.5s,mb4.3,baz=21,slow=7.0
NB2 NORSAR Subarra 63.53 345 P **P 09 16 44.1 -1.4**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
NOA NORSAR Array B 63.53 345 P **P 09 16 44.4 -1.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=21,slow=6.6,SNR=8.7
NOA pP pP 09 16 56.0 -0.3
comp=Z,2.5nm,0.7s,baz=20,slow=6.5,SNR=5.1
AKASG Malin Array Be 68.90 330 P **P 09 17 18.6 -1.2**
comp=Z,0.9nm,0.4s,mb4.1,baz=27,slow=6.1,SNR=6.3
AKASG pP pP 09 17 29.8 -0.9
comp=Z,1.2nm,0.5s,baz=27,slow=6.2,SNR=3.9
TXAR Lajitas Array 69.49 68 P **P 09 17 25.6 +1.8**
comp=Z,0.5nm,0.7s,mb3.6,baz=297,slow=5.1,SNR=9.9
TXAR pP pP 09 17 34.8 +0.1
comp=Z,0.5nm,0.7s,baz=300,slow=4.1,SNR=4.7
CLL Collm 72.44 340 P **P 09 17 40.0 -1.1**
CLL *e**PP pP 09 17 49.0 -3.0
GERES GERESS Array B 74.62 339 P **P 09 17 54.2 +0.4**
comp=Z,1.0nm,0.6s,mb4.0,baz=45,slow=5.7,SNR=7.4
WRA Warramunga Arr 76.86 207 P **P 09 18 07.9 +0.7**
comp=Z,0.2nm,0.5s,mb3.3,baz=20,slow=6.0,SNR=7.5
WRA pP pP 09 18 20.4 +2.3
comp=Z,0.8nm,0.9s,baz=24,slow=6.1,SNR=4.6
ASAR Alice Springs 80.52 206 P **P 09 18 28.6 +1.5**
comp=Z,0.4nm,0.7s,mb3.5,baz=14,slow=5.7,SNR=5.6
ASAR pP pP 09 18 41.5 +3.4
comp=Z,0.4nm,0.6s,baz=16,slow=5.6,SNR=3.9

IDC ***08*** *09:13:18.6±4.6,35.14N×77.48E,mb3.7/2,mb1 3.8/4, mb1mx3.5/19,mbtmp3.7/4,ML3.6/2,Error ellipse: s-maj=88.8km s-min=54.5km az=24.0*
BJI ***08*** *09:13:35.5,36.46N×78.01E,h15^{km},ML4.1*
NNC ***08*** *09:13:44.5±3.0,37.16N×78.59E,Error ellipse: s-maj=1465.9km s-min=29.6km az=104.0*
ISC 08 09:13:32.5±0.6,**36.10N**±0.04×**78.3E**±0.1,**h33^{km},n15,** σ**1^{s}40**/22,**mb3.5**/2,**2C,Kashmir-Xinjiang border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KSH Kashi 3.87 332 *e*P **P 09 14 31.5 +0.4**
KSH S **S 09 15 16.3 +0.2**
KSH Smax
comp=N,80nm,0.3s
KSH Smax
comp=E,100nm,0.4s
DLH Dalhousie 4.04 209 *e*P **P 09 14 38.6 +5.1**
DLH *e*S **S 09 15 20.0 -0.3**
THN Thein Dam 4.23 211 *e*P **P 09 14 39.3 +3.0**
comp=E,4μm,0.1s
THN *e*S **S 09 15 24.4 -0.9**
PONG Pong 4.57 206 *e*P **P 09 14 44.0 +2.9**
PONG *e*S **S 09 15 34.0 +0.2**
SDNR Sundarnagar 4.72 194 *e*P **P 09 14 46.5 +3.3**
SDNR *e*S **S 09 15 35.9 -1.6**
BHK Bhakra 4.93 199 *e*S **S 09 15 41.4 -1.3**
SMLA Simla 5.05 191 *i* P Px 09 14 49.4
SMLA *i* S Sx 09 15 43.4
DDI Dehra Dun 5.77 182 *e*P **P 09 15 01.0 +3.1**
NDI New Delhi 7.45 187 *e*P **P 09 15 22.0 +0.5**
NDI *e*S **S 09 16 38.0 -7.8**
WMQ Urumqi 10.55 40 *e*P **P 09 16 08.5 +4.1**
WMQ S **S 09 17 59.7 -2.9**
MK31 Makanchi Array 11.09 14 ⇑Pn **P 09 16 12.1 +0.4**
comp=E,0.9nm,0.3s,baz=199,slow=13,SNR=41
MK31 ⇑Sn **S 09 18 08.9 -6.8**
comp=E,2.9nm,0.5s,baz=189,slow=17,SNR=20
BVAR Borovoye Array 17.81 344 P **P 09 17 37.5 -1.7**
comp=E,0.2nm,0.3s,baz=155,slow=13,SNR=7.7
ZAL Zalesovo 18.40 12 P **P 09 17 46.6 0.0**
comp=E,0.4nm,0.3s,baz=202,slow=8.7,SNR=2.4
SONM Songino Array 23.82 52 P **P 09 18 44.0 +0.9**
comp=E,1.6nm,0.8s,mb3.5,baz=247,slow=11,SNR=13
YKA Yellowknife Ar 81.20 6 P **P 09 25 40.8 -5.0**
comp=E,0.2nm,0.4s,mb3.4,baz=342,slow=5.5,SNR=11

*IDC **08** 09:44:10.6±1.3, 2.41N×95.76E, mb4.2/8, mb1 4.3/9, mb1mx4.2/17, mbtmp4.2/9, ML4.5/1, MS3.7/2, Ms1 3.8/2, ms1mx3.5/13, Error ellipse: s-maj=58.1km s-min=17.1km az=57.0*

*BJI **08** 09:44:11.8, 2.45N×95.87E, h23^{km}, mB5.2, mb4.8, Ms4.2, Msz4.0*

*MOS **08** 09:44:13.5±1.3, 2.43N×95.89E, h33^{km}, mb4.6/9, Error ellipse: s-maj=20.7km s-min=8.9km az=96.5*

*NEIC **08** 09:44:14.2±0.6, 2.42N×95.92E, mb4.7/19, Error ellipse: s-maj=14.8km s-min=8.8km az=49.0*

ISC 08 09:44:14.2±1.5, **2.47N**±0.07×**95.97E**±0.08, **h36**^{km}±12^{km}, **h24**^{km}±3.9^{km}**:pP-P, n60,** σ**1**^{s}**08**/67, **mb4.6**/39, **MS3.9**/13, **2C-3D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**59**	*e*P	**P**	**09 45 35.0**	**0.0**
SNG	**Songkhla**	**6.58**	**45**	P	**P**	**09 45 50.0**	**-1.1**
KKTK	**Khon Kaen**	**15.34**	**26**	P	**P**	**09 47 54.0**	**+4.1**
CM31	**Chiang Mai Arr**	**16.16**	**10**	P	**P**	**09 48 02.2**	**+1.8**
	12nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.16**	**10**	Pn	**P**	**09 48 01.9**	**+1.6**
	0.6nm,0.3s,baz=197,slow=11,SNR=17						
CMAR				LR	LR	09 54 00.6	
	comp=Z,142nm,19.8s,baz=196,slow=36						
KKM	**Kota Kinabalu**	**20.49**	**79**	P	**P**	**09 48 51.2**	**-0.7**
KMI	**Kunming**	**23.45**	**16**	P	**P**	**09 49 23.1**	**+1.7**
KMI				AP		09 49 30.9	
KMI				XP		09 49 33.7	
KMI				S	**S**	**09 53 38.1**	**+9.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				LR	LR		
	comp=N,205nm,15.6s,MS3.8						
KMI				LR	LR		
	comp=E,184nm,19.5s,MS3.8						
KMI				LR	LR		
	comp=Z,332nm,15.6s,MS3.9						
KMI	**Kunming**	**23.45**	**16**	P	**P**	**09 49 23.1**	**+1.7**
	comp=Z,10.0nm,0.8s,mb4.3						
KMI				pP		09 49 30.9	
KMI				sP		09 49 33.7	
KMI				S	**S**	**09 53 38.1**	**+9.4**
GYA	**Guiyang**	**25.97**	**22**⇓	*i*P	**P**	**09 49 44.8**	**-0.7**
GYA				AP	pP	09 49 51.9	-3.6
GYA				XP	sP	09 49 55.2	-4.7
GYA				PP	PP	09 50 29.8	+2.8
GYA				S	**S**	**09 54 10.3**	**-0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
GYA				LR	LR		
	comp=N,130nm,15.8s,MS3.9						
GYA				LR	LR		
	comp=E,280nm,16.0s,MS3.9						
GYA				LR	LR		
	comp=Z,310nm,15.4s,MS4.0						
JIRN	**Jiri**	**26.74**	**340**	*e*P	**P**	**09 49 52.9**	**+0.3**
	comp=Z,56nm,0.8s,mb5.2						
PKI	**Pulchoki**	**26.93**	**339**	*e*P	**P**	**09 49 54.3**	**-0.1**
	comp=Z,14nm,0.8s,mb4.6						
DMN	**Daman**	**27.07**	**338**	*e*P	**P**	**09 49 55.6**	**-0.1**
	comp=Z,19nm,0.8s,mb4.7						
GUN	**Gumba**	**27.08**	**340**	*e*P	**P**	**09 49 55.9**	**+0.2**
	comp=Z,39nm,0.8s,mb5.0						
KKN	**Kakani**	**27.18**	**339**	*e*P	**P**	**09 49 56.4**	**-0.2**
	comp=Z,38nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.47**	**351**	*e*P	**P**	**09 49 58.7**	**-0.5**
	comp=Z,11nm,0.7s,mb4.5						
GKN	**Gorkha**	**27.61**	**338**	*e*P	**P**	**09 50 00.5**	**0.0**
	comp=Z,42nm,0.9s,mb5.1						
KOLN	**Koldanda**	**27.80**	**336**	*e*P	**P**	**09 50 02.3**	**0.0**
	comp=Z,24nm,0.7s,mb4.9						
ENH	**Enshi**	**30.48**	**23**	*e*P	**P**	**09 50 22.9**	**-3.2**
	comp=Z,10nm,0.6s,mb4.7						
NJ2	**Nanjing**	**36.46**	**34**	*e*P	**P**	**09 51 19.5**	**+1.7**
NJ2				AP	pP	09 51 28.3	0.0
NJ2				XP	sP	09 51 32.6	-0.3
NJ2				PP	PP	09 52 37.0	-5.3
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,250nm,5.4s						
NJ2				LR	LR		
	comp=N,280nm,12.0s,MS4.4						
NJ2				LR	LR		
	comp=E,360nm,13.7s,MS4.4						
NJ2				LR	LR		
	comp=Z,380nm,19.2s						
GTA	**Gaotai**	**36.94**	**5**	P	**P**	**09 51 21.3**	**-0.4**
GTA				AP	pP	09 51 31.8	-0.4
GTA				XP	sP	09 51 36.1	-0.7
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.8						
SSE	**Sheshan**	**37.12**	**37**	P	**P**	**09 51 21.8**	**-1.6**
SSE				S	**S**	**09 57 00.2**	**-6.5**
SSE				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,91nm,4.9s						
SSE				LR	LR		
	comp=N,37nm,22.4s,MS3.4						
SSE				LR	LR		
	comp=E,68nm,22.4s,MS3.4						
SSE				LR	LR		
	comp=Z,66nm,21.4s,MS3.4						
SSE	**Sheshan**	**37.12**	**37**	P	**P**	**09 51 21.8**	**-1.6**
	comp=Z,19nm,0.7s,mb5.0						
SSE				S	**S**	**09 57 00.2**	**-6.5**
SSE				sS		09 57 15.2	
HHC	**Hu-ho-hao-te**	**40.72**	**18**	*e*P	**P**	**09 51 54.2**	**+1.0**
HHC				XP	sP	09 52 03.2	-5.1
HHC				PP	PP	09 53 30.6	+0.3
HHC				PCS		09 57 47.7	
HHC				S	**S**	**09 58 01.3**	**+0.4**
HHC				SCS	ScS	10 01 55.5	+2.1
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,64nm,4.0s						
HHC				LR	LR		
	comp=N,194nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=E,189nm,13.1s,MS4.3						
HHC				LR	LR		
	comp=Z,142nm,13.7s,MS4.0						
BJT	**Baijiatuau**	**41.63**	**24**	*e*P	**P**	**09 52 01.2**	**+0.4**
	comp=Z,45nm,0.9s,mb5.1						
BJT				*e*		09 52 08.4	
BJI	**Beijing**	**41.65**	**24**	P	**P**	**09 52 01.5**	**+0.6**
BJI				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.1						
BJI	**Beijing**	**41.65**	**24**	*e*P	**P**	**09 52 01.5**	**+0.6**
BJI	**Beijing**	**41.65**	**24**	P	**P**	**09 52 01.5**	**+0.6**
	comp=Z,40nm,0.8s,mb5.1						
WMQ	**Urumqi**	**41.83**	**351**	*e*P	**P**	**09 52 02.7**	**+0.4**
WMQ				AP	pP	09 52 10.0	-2.9
WMQ				PP	PP	09 53 43.0	+0.8
WMQ				PCS		09 57 49.5	
WMQ				S	**S**	**09 58 19.0**	**+1.7**
WMQ				XS		09 58 31.0	
WMQ				SS	SS	10 01 20.0	+1.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,155nm,5.6s						
WMQ				LR	LR		
	comp=N,226nm,19.9s,MS4.2						
WMQ				LR	LR		
	comp=E,245nm,18.7s,MS4.2						
WMQ				LR	LR		
	comp=Z,158nm,20.5s,MS3.9						
WRA	**Warramunga Arr**	**43.74**	**122**	P	**P**	**09 52 18.6**	**+0.3**
	comp=Z,2.1nm,0.7s,mb4.0,baz=299,slow=9.4,SNR=21						
WRAB	**Tennant Creek**	**43.75**	**122**	*e*P	**P**	**09 52 17.9**	**-0.4**
	comp=Z,4.9nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**44.36**	**337**⇑	*e*P	**P**	**09 52 24.0**	**+1.1**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb4.1						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
AAK	**Ala-Archa**	**44.36**	**337**	*e*P	**P**	**09 52 23.7**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**45.13**	**127**	P	**P**	**09 52 30.1**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=300,slow=7.4,SNR=13						
MKAR	**Makanchi Array**	**45.73**	**347**	*i* P	**P**	**09 52 32.8**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
SONM	**Songino Array**	**46.08**	**10**	P	**P**	**09 52 36.6**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.5,baz=188,slow=8.7,SNR=38						
SONM				PcP	PcP	09 54 13.7	+0.8
	comp=Z,0.8nm,0.7s,baz=185,slow=4.1,SNR=3.7						
ULN	**Ulaanbaatar**	**46.23**	**10***c*	*i*P	**P**	**09 52 37.6**	**-0.1**
ULN	**Ulaanbaatar**	**46.23**	**10**	*e*P	**P**	**09 52 36.8**	**-0.9**
	comp=Z,4.4nm,0.8s,mb4.4						
ULN				*e*		09 52 43.9	
ZAK	**Zakamensk**	**48.14**	**6**	*e*P	**P**	**09 52 50.2**	**-2.5**
CN2	**Changchun**	**48.76**	**28**	*e*P	**P**	**09 52 59.6**	**+2.1**
TLY	**Talaya**	**49.46**	**6**⇓	*e*P	**P**	**09 53 03.1**	**+0.2**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
TLY				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.8						
KURK	**Kurchatov**	**50.26**	**346**	P	**P**	**09 53 08.2**	**-0.8**
KURK				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6						
KURK	**Kurchatov**	**50.26**	**346**	*e*P	**P**	**09 53 08.3**	**-0.8**
	comp=Z,3.4nm,0.8s,mb4.4						
MDJ	**Mudanjiang**	**51.38**	**30**	P	**P**	**09 53 18.0**	**+0.4**
MDJ				AP	pP	09 53 24.2	-4.1
MDJ				XP	sP	09 53 27.0	-5.7
MDJ				PP	PP	09 55 16.2	+0.7
MDJ				PCS		09 58 29.4	
MDJ				S	**S**	**10 00 39.0**	**+5.9**
MDJ				XS		10 00 49.7	
MDJ				AMB	AMB		
	comp=Z,13nm,2.9s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,227nm,4.3s						
MDJ				LR	LR		
	comp=N,37nm,22.6s,MS3.6						
MDJ				LR	LR		
	comp=E,49nm,21.7s,MS3.6						
MDJ				LR	LR		
	comp=Z,49nm,22.0s,MS3.5						
ZAL	**Zalesovo**	**52.12**	**352**	*i* P	**P**	**09 53 22.9**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZAL	**Zalesovo**	**52.12**	**352**	P	**P**	**09 53 22.9**	**-0.1**
	comp=Z,2.4nm,0.5s,mb4.4,baz=313,slow=7.5,SNR=11						
BVAR	**Borovoye Array**	**54.66**	**341**	P	**P**	**09 53 40.7**	**-1.1**
	comp=Z,8.5nm,1.1s,mb4.7,baz=135,slow=8.4,SNR=19						
STKA	**Stephens Creek**	**55.11**	**132**	P	**P**	**09 53 46.5**	**+1.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=300,slow=9.3,SNR=5.5						
CHKZ	**Chkalovo**	**55.14**	**342**	P	**P**	**09 53 43.5**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**55.14**	**342**	*e*P	**P**	**09 53 43.8**	**-1.6**
	comp=Z,8.3nm,0.9s,mb4.8						
BOD	**Bodaibo**	**57.01**	**11**	*e*P	**P**	**09 53 57.2**	**-1.5**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
KMBO	**Kilima Mbogo**	**58.81**	**267**	LR	LR	10 17 10.0	
	comp=Z,103nm,18.9s,MS4.0,baz=84,slow=34						
SOC	**Sochi**	**64.36**	**318**	*e*P	**P**	**09 55 04.8**	**+16**
SOC				*e*S	**S**	**10 03 41.4**	**+18**
SOC				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.3						
SOC				pmax	pmax		
	comp=N,26nm,1.0s						
SOC				pmax	pmax		
	comp=E,37nm,0.8s						
YAK	**Yakutsk**	**64.56**	**17**⇓	*e*P	**P**	**09 54 48.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.2						
YAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
OBN	**Obninsk**	**70.90**	**328**	*e*P	**P**	**09 55 31.7**	**+2.2**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TIXI	**Tiksi**	**72.16**	**10**	*e*P	**P**	**09 55 35.0**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,49nm,16.0s,MS3.9						
FINES	**FINESS Array B**	**78.31**	**333**	*i* P	**P**	**09 56 12.4**	**+0.3**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**78.31**	**333**	P	**P**	**09 56 12.2**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=117,slow=8.5,SNR=5.4						
BILL	**Bilibino**	**80.43**	**21**	*e*P	**P**	**09 56 27.1**	**+3.6**
BILL				*e*S	S	10 06 22.9	-2.6
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
GERES	**GERESS Array B**	**83.06**	**319**	P	**P**	**09 56 37.6**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=135,slow=3.8,SNR=4.3						
TXAR	**Lajitas Array**	**143.21**	**29**	PKhKP		10 03 44.3	
	comp=Z,0.4nm,0.9s,baz=180,slow=0.9,SNR=3.8						

*IDC **08** 09:48:45.1±1.5, 6.06N×124.49E, mb3.9/5, mb1 4.1/5, mb1mx4.0/17, mbtmp3.9/5, Error ellipse: s-maj=108.4km s-min=21.4km az=77.0*

*MAN **08** 09:48:50.4, 6.00N×124.16E, h32^{km}, mb4.8, ML3.7, MS3.8*

ISC 08 09:48:49.6±1.3, **5.93N**±0.09×**124.19E**±0.05, **h48**^{km}±15^{km}, **n11,** σ**0**^{s}**66**/16, **mb3.8**/5, **1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.39**	**40**⇑	*i*P	**P**	**09 49 12.7**	**-0.5**
KCP				*i* S	**S**	**09 49 30.4**	**-0.2**
PAGZ	**Pagadian**	**2.06**	**337**	*e*P	**P**	**09 49 22.9**	**+0.3**
BUKP	**Musuan**	**2.12**	**24**	*e*P	**P**	**09 49 23.6**	**+0.2**
BUKP				*e*S	**S**	**09 49 49.0**	**+0.4**
ZMPH	**Zamboanga City**	**2.34**	**296**⇓	*i*P	**P**	**09 49 26.4**	**-0.1**
ZMPH				*i* S	**S**	**09 49 54.5**	**+0.3**
IPIL	**Ipil**	**2.44**	**319**	*e*P	**P**	**09 49 28.4**	**+0.3**
IPIL				*e*S	**S**	**09 49 55.8**	**-1.0**
CGP	**Cagayan de Oro**	**2.56**	**11**	*e*P	**P**	**09 49 29.8**	**+0.2**
CGP				*e*S	**S**	**09 50 04.6**	**+5.0**
WRA	**Warramunga Arr**	**27.58**	**159**	P	**P**	**09 54 34.3**	**-0.4**
	1.0nm,0.4s,mb3.8,baz=333,slow=11,SNR=18						
ASAR	**Alice Springs**	**30.91**	**162**	P	**P**	**09 55 04.0**	**-0.3**
	0.4nm,0.5s,mb3.5,baz=343,slow=8.0,SNR=7.0						
STKA	**Stephens Creek**	**41.10**	**157**	P	**P**	**09 56 31.5**	**+0.8**
	5.6nm,0.8s,mb4.2,baz=332,slow=15,SNR=8.7						
SONM	**Songino Array**	**44.44**	**343**	P	**P**	**09 56 59.0**	**+1.3**
	0.9nm,0.8s,mb3.5,baz=153,slow=8.3,SNR=4.8						
ILAR	**Eielson Array**	**84.22**	**26**	P	**P**	**10 01 15.6**	**-1.4**
	0.7nm,0.8s,mb3.9,baz=244,slow=5.4,SNR=8.5						

*IDC **08** 10:08:57.9±1.3, 10.96S×163.36E, mb3.8/7, mb1 4.1/7, mb1mx4.0/13, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx3.0/11, Error ellipse: s-maj=63.2km s-min=21.7km az=136.0*

*NEIC **08** 10:08:59.0±1.0, 10.96S×163.39E, h10^{km}, mb4.2/4, Error ellipse: s-maj=28.3km s-min=16.4km az=140.0*

ISC 08 10:09:01.8±4.0, **11.1S**±0.1×**163.3E**±0.2, **h40**^{km}±32^{km}, **n14,** σ**0**^{s}**95**/14, **mb3.8**/10, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.70**	**296**	*e*Pn	**P**	**10 09 57.6**	**-0.4**
HNR				*e*S	**S**	**10 10 41.4**	**+0.5**
CTA	**Charters Tower**	**18.68**	**239**	LR	LR	10 19 29.6	
	comp=Z,82nm,19.8s,baz=49,slow=34						
CTAO	**Charters Tower**	**18.68**	**239**	*e*P	**P**	**10 13 19.3**	**+0.1**
	14nm,0.9s						
STKA	**Stephens Creek**	**28.79**	**221**	P	**P**	**10 15 00.7**	**+2.4**
	3.1nm,1.1s,mb4.0,baz=90,slow=9.1,SNR=1.4						
WRAB	**Tennant Creek**	**29.21**	**249**	P	**P**	**10 15 02.1**	**0.0**
	3.6nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**29.22**	**249**	P	**P**	**10 15 01.8**	**-0.4**
	0.6nm,0.7s,mb3.5,baz=79,slow=8.9,SNR=8.7						
ASAR	**Alice Springs**	**30.64**	**242**	P	**P**	**10 15 13.9**	**-0.8**
	1.1nm,0.9s,mb3.7,baz=65,slow=9.9,SNR=6.8						
MBWA	**Marble Bar**	**42.91**	**251**	P	**P**	**10 16 58.0**	**-0.7**
	14nm,1.1s,mb4.6						
ULN	**Ulaanbaatar**	**76.96**	**325**	*e*P	**P**	**10 20 48.9**	**-3.1**
	1.4nm,0.7s,mb4.0						
SONM	**Songino Array**	**77.31**	**325**	P	**P**	**10 20 54.8**	**+0.8**
	0.7nm,0.8s,mb3.6,baz=135,slow=5.2,SNR=5.2						
ILAR	**Eielson Array**	**84.34**	**19**	P	**P**	**10 21 31.4**	**+0.7**
	0.3nm,0.9s,mb3.4,baz=233,slow=4.5,SNR=3.2						
NVAR	**Mina Array Bea**	**87.90**	**50**	P	**P**	**10 21 48.0**	**-0.7**
	0.4nm,0.7s,mb3.8,baz=246,slow=5.4,SNR=5.6						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**10 22 26.6**	**+0.4**
	0.2nm,0.7s,mb3.7,baz=252,slow=3.9,SNR=3.5						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**10 22 26.6**	**+0.4**

*KRSC **08** 10:56:57.5±0.4, 53.42N×161.89E, h19^{km}±3^{km}, ML4.2*

*MOS **08** 10:56:57.6±0.4, 53.45N×161.78E, h15^{km}, mb4.3/1, Error ellipse: s-maj=21.0km s-min=15.7km az=80.5*

ISC 08 10:56:58.5±1.1, **53.44N**±0.05×**161.85E**±0.09, **h22**^{km}±11^{km}, **n33,** σ**0**^{s}**71**/62, **1C, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.15**	**253**	P	**Pb**	**10 57 18.9**	**-0.7**
SPN				S	**Sb**	**10 57 34.9**	**+0.8**
SPN	**Mys Shipunski**	**1.15**	**253**	*i* P	**Pb**	**10 57 19.0**	**-0.6**
SPN				*e*S	**Sb**	**10 57 34.9**	**+0.8**
NLC	**Nalytchevo**	**1.53**	**261**	P	**Pn**	**10 57 24.3**	**-0.6**
NLC				S	**Sn**	**10 57 43.5**	**-0.8**
NLC	**Nalytchevo**	**1.53**	**261**	*i* P	**Pn**	**10 57 24.4**	**-0.5**
NLC				*i* S	**Sn**	**10 57 44.0**	**-0.3**
KII	**Karymskiy**	**1.55**	**294**	P	**Pn**	**10 57 23.9**	**-1.3**
KII				S	**Sn**	**10 57 42.9**	**-1.8**
KII	**Karymskiy**	**1.55**	**294**	*i* P	**Pn**	**10 57 23.6**	**-1.6**
KII				*e*S	**Sn**	**10 57 43.1**	**-1.6**
UGLR	**Uglovaya**	**1.83**	**264**	*i* P	**Pn**	**10 57 29.4**	**+0.2**
AVH	**Avacha**	**1.87**	**266**	*i* P	**Pn**	**10 57 29.6**	**-0.3**
AVH				*i* S	**Sn**	**10 57 53.1**	**0.0**
KOK	**Koryaka**	**1.93**	**267**	*i* P	**Pn**	**10 57 30.6**	**-0.1**
PET	**Petropavlovsk**	**1.97**	**259**	P	**Pn**	**10 57 31.2**	**0.0**
PET				S	**Sn**	**10 57 55.3**	**-0.1**
PET	**Petropavlovsk**	**1.97**	**259**⇑	*i*PN	**Pn**	**10 57 31.1**	**-0.1**
PET				*e*S	**Sn**	**10 57 54.8**	**-0.6**
PET				pmax	pmax		
	comp=Z,56nm,0.5s						
PET				smax			
	comp=E,356nm,0.7s						
PET				smax			
	comp=N,242nm,0.6s						
PET	**Petropavlovsk**	**1.97**	**259**	*i* P	**Pn**	**10 57 31.1**	**-0.1**
PET				*i* S	**Sn**	**10 57 55.8**	**+0.4**
TUMR	**Tumrok**	**2.10**	**332**	*e*P	**Pn**	**10 57 33.1**	**0.0**
TUMR				*e*S	**Sn**	**10 57 59.2**	**+0.4**
RUS	**Russkaya**	**2.26**	**245**	P	**Pn**	**10 57 35.1**	**-0.3**
RUS				S	**Sn**	**10 58 02.2**	**-0.7**
RUS	**Russkaya**	**2.26**	**245**	*i* P	**Pn**	**10 57 35.2**	**-0.2**
RUS				*i* S	**Sn**	**10 58 02.8**	**-0.1**
KRMR	**Karymshinskiy**	**2.32**	**256**	*i* P	**Pn**	**10 57 36.4**	**+0.1**
KRMR				*i* S	**Sn**	**10 58 04.7**	**+0.2**
GNL	**Ganaly**	**2.34**	**278**	*i* P	**Pn**	**10 57 36.7**	**+0.1**
GNL				*e*S	**Sn**	**10 58 05.2**	**+0.1**
GRL	**Gorelyy**	**2.45**	**250**	*e*P	**Pn**	**10 57 38.7**	**+0.6**
GRL				*e*S	**Sn**	**10 58 08.7**	**+1.0**
KMNR	**Kamenistaya**	**2.50**	**339**	*e*P	**Pn**	**10 57 39.2**	**+0.3**
KMNR				*e*S	**Sn**	**10 58 09.7**	**+0.7**
KPT	**Kopyto**	**2.70**	**340**	*e*P	**Pn**	**10 57 42.3**	**+0.6**
KBTR	**Krutoberegovo**	**2.83**	**11**	P	**Pn**	**10 57 44.4**	**+0.9**
KBTR				S	**Sn**	**10 58 19.1**	**+1.8**
KBTR	**Krutoberegovo**	**2.83**	**11**	*e*P	**Pn**	**10 57 44.2**	**+0.7**
KBTR				*e*S	**Sn**	**10 58 17.1**	**-0.2**
KOZ	**Kozyrevsk**	**2.86**	**337**	P	**Pn**	**10 57 44.4**	**+0.4**
KOZ				S	**Sn**	**10 58 18.8**	**+0.7**
KOZ	**Kozyrevsk**	**2.86**	**337**	*e*P	**Pn**	**10 57 44.3**	**+0.3**
KOZ				*e*S	**Sn**	**10 58 18.3**	**+0.2**
KBG	**Krutoberegovo**	**2.86**	**10**	*e*P	**Pn**	**10 57 44.5**	**+0.5**
KBG				*e*S	**Sn**	**10 58 18.3**	**+0.1**
KBG				Smax			
	comp=N,620nm,1.0s						
KBG	**Krutoberegovo**	**2.86**	**10**	*e*P	**Pn**	**10 57 43.9**	**-0.1**
KBG				*e*S	**Sn**	**10 58 18.1**	**-0.1**
KBG				Smax			
	comp=N,530nm,1.0s						
KOZR	**Kozyr**	**2.86**	**337**	PN	**Pn**	**10 57 44.4**	**+0.4**
KOZR				S	**Sn**	**10 58 18.8**	**+0.6**
APC	**Apacha**	**2.87**	**261**	*i* P	**Pn**	**10 57 44.8**	**+0.7**
APC				*i* S	**Sn**	**10 58 19.3**	**+0.9**
APC				Smax			
	comp=N,80nm,0.8s						
KLY	**Klyuchi**	**2.96**	**347**	P	**Pn**	**10 57 45.2**	**-0.2**
KLY				S	**Sn**	**10 58 20.0**	**-0.6**
KLY	**Klyuchi**	**2.96**	**347**	*e*P	**Pn**	**10 57 45.3**	**-0.1**
KLY				*e*S	**Sn**	**10 58 20.0**	**-0.6**
BKI	**Bering**	**2.99**	**52**	*e*P	**Pn**	**10 57 42.6**	**-3.2**
BKI				*e*S	**Sn**	**10 58 15.5**	**-5.9**
ESO	**Esso**	**3.09**	**325**	*e*P	**Pn**	**10 57 46.7**	**-0.5**
ESO				Smax			
	comp=N,70nm,0.9s						
SRDR	**Sredinnyy**	**3.13**	**338**	*e*P	**Pn**	**10 57 47.2**	**-0.6**
SRDR				*e*S	**Sn**	**10 58 23.7**	**-1.3**

*IDC **08** 11:17:41.5±1.8, 42.65N×126.45W, mb3.7/5, mb1 4.0/12, mb1mx3.8/26, mbtmp3.7/12, ML3.3/6, MS3.6/8, Ms1 3.6/8, ms1mx3.3/29, Error ellipse: s-maj=29.0km s-min=11.3km az=46.0*

*NEIC **08** 11:17:42.6±0.9, 42.52N×126.55W, h10^{km}, mb4.7/5, Error ellipse: s-maj=11.0km s-min=5.5km az=63.0*

*BJI **08** 11:17:42.5, 42.50N×126.50W, h10^{km}, mB5.3, mb4.7, Ms4.9, Msz4.4*

ISC 08 11:17:41.9±0.6, **42.54N**±0.05×**126.45W**±0.07, **h10**^{km}**, n72,** σ**1**^{s}**11**/73, **mb4.2**/8, **MS3.7**/6, **Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.59**	**77**	*e*Pn	**Pn**	**11 18 10.0**	**-0.4**
KBO	**Bosley Butte**	**1.68**	**100**	*e*Pn	**Pn**	**11 18 10.9**	**-0.7**
TAKO	**Tahkenitch**	**2.11**	**54**	P	**Pn**	**11 18 18.2**	**+0.5**
DBO	**Dodson Butte**	**2.43**	**75**	P	**Pn**	**11 18 22.5**	**+0.2**
HUMO	**Hull Mountain**	**2.58**	**87**	*e*Pn	**Pn**	**11 18 24.2**	**-0.3**
HSO	**Harness Mounta**	**2.65**	**67**	P	**Pn**	**11 18 25.6**	**+0.1**
BBOR	**Butler Butte**	**2.80**	**82**	P	**Pn**	**11 18 28.1**	**+0.5**
EUO	**Eugene**	**2.88**	**58**	P	**Pn**	**11 18 28.8**	**0.0**
YBH	**Yreka Blue Hor**	**2.90**	**105**	Pn	**Pn**	**11 18 29.2**	**+0.2**
	5.5nm,0.3s,baz=285,slow=11,SNR=99						
YBH				Sn	**Sn**	**11 19 07.2**	**+3.0**
	2.9nm,0.3s,baz=173,slow=17,SNR=7.6						
YBH	**Yreka Blue Hor**	**2.90**	**105**	*e*Pn	**Pn**	**11 18 29.2**	**+0.2**
LAMM	**Antelope Mount**	**2.99**	**107**	P	**Pn**	**11 18 31.0**	**+0.6**
COR	**Corvallis**	**3.07**	**47**	*e*Pn	**Pn**	**11 18 32.1**	**+0.6**
BUOR	**Burton Butte**	**3.12**	**93**	P	**Pn**	**11 18 33.1**	**+0.8**
HBO	**Huckleberry Mo**	**3.29**	**65**	P	**Pn**	**11 18 35.1**	**+0.5**
BROR	**Big Rock Looko**	**3.39**	**58**	P	**Pn**	**11 18 36.2**	**+0.2**
IRO	**Indian Ridge**	**3.40**	**63**	P	**Pn**	**11 18 36.6**	**+0.5**
WDC	**Whiskeytown Da**	**3.53**	**122**	*e*Pn	**Pn**	**11 18 37.2**	**-0.7**
FRIS	**Frissel Point**	**3.58**	**61**	P	**Pn**	**11 18 39.3**	**+0.6**
SSOR	**Sweet Springs**	**3.71**	**50**	P	**Pn**	**11 18 41.1**	**+0.6**
WIFE	**Three Sisters-**	**3.71**	**64**	P	**Pn**	**11 18 41.7**	**+1.2**
LASM	**Arnica Sink**	**3.75**	**103**	P	**Pn**	**11 18 41.5**	**+0.4**
BKCOR	**Black Crater**	**3.88**	**61**	P	**Pn**	**11 18 43.8**	**+0.8**
GT2	**Goat Mountain**	**4.00**	**48**	P	**Pn**	**11 18 45.5**	**+0.8**
TDH	**Tom, Dick, Har**	**4.35**	**49**	P	**Pn**	**11 18 50.4**	**+0.8**
VLMM	**Larch Mountain**	**4.37**	**45**	P	**Pn**	**11 18 51.1**	**+1.1**
VLL	**Laurance Lake**	**4.51**	**48**	P	**Pn**	**11 18 53.2**	**+1.2**
VFP	**Flag Point**	**4.55**	**51**	P	**Pn**	**11 18 53.2**	**+0.8**
MOD	**Modoc**	**4.61**	**96**	*e*Pn	**Pn**	**11 18 52.0**	**-1.3**
VIPM	**Ingram Point**	**4.67**	**63**	P	**Pn**	**11 18 54.4**	**+0.1**
JLK	**June Lake**	**4.74**	**39**	P	**Pn**	**11 18 48.9**	**-6.4**
OHCM	**Honcut**	**4.94**	**129**	*e*Pn	**Pn**	**11 18 57.9**	**-0.1**
WVOR	**Wild Horse Val**	**5.78**	**88**	*e*Pn	**Pn**	**11 19 07.8**	**-2.0**
BMO	**Blue Mountains**	**7.02**	**68**	*e*P	**Pn**	**11 19 26.9**	**-0.4**
NVAR	**Mina Array Bea**	**7.44**	**121**	Pn	**Pn**	**11 19 32.8**	**-0.4**
	0.2nm,0.3s,baz=296,slow=15,SNR=5.9						
ELK	**Elko**	**8.59**	**98**	Pn	**P**	**11 19 50.4**	**+1.2**
	0.1nm,0.3s,baz=271,slow=11,SNR=5.7						
ELK				LR	LR	11 23 28.9	
	comp=Z,374nm,18.0s,baz=287,slow=40						
NEW	**Newport**	**8.70**	**46**	Pn	**P**	**11 19 49.0**	**-1.9**
	0.2nm,0.3s,baz=224,slow=8.2,SNR=5.9						
NEW	**Newport**	**8.70**	**46**	Pn	**P**	**11 19 49.0**	**-1.9**
MSO	**Missoula**	**9.88**	**60**	*e*P	**P**	**11 20 05.5**	**-1.6**
BGU	**Big Grassy Mou**	**10.16**	**95**	*e*P	**P**	**11 20 09.6**	**-1.3**
ARUT	**Antelope Range**	**11.03**	**111**	*e*P	**P**	**11 20 20.7**	**-2.0**
BOZ	**Bozeman (W)**	**11.10**	**69**	*e*P	**P**	**11 20 23.7**	**-0.1**
HWUT	**Hardware Ranch**	**11.11**	**90**	*e*P	**P**	**11 20 22.2**	**-1.6**
QLMT	**Earthquake Lak**	**11.12**	**73**	*e*P	**P**	**11 20 22.4**	**-1.5**
HRY	**Holter Researc**	**11.22**	**63**	*e*P	**P**	**11 20 23.6**	**-1.8**
JLU	**Jordanelle**	**11.40**	**95**	*e*P	**P**	**11 20 26.8**	**-1.1**
MOOW	**Moose Ponds**	**11.54**	**79**	P	**P**	**11 20 26.8**	**-2.9**
MSU	**Marysvale**	**11.58**	**106**	P	**P**	**11 20 29.0**	**-1.3**

PDAR	Pinedale Array	12.44	83	Pn	P	11 20 43.2	+1.3
	0.1nm,0.3s,baz=277,slow=12,SNR=10						
PDAR				LR	LR	11 25 46.0	
	comp=Z,330nm,18.4s,baz=347,slow=39						
EDM	Edmonton	13.81	35	P	P	11 21 00.2	+0.2
PV01	Paradox Valley	14.33	102	eP	P	11 21 06.3	-0.5
DLBC	Dease Lake	16.07	353	Pn	P	11 21 27.8	-1.6
	0.0nm,0.3s,baz=180,slow=20,SNR=2.0						
DLBC				LR	LR	11 27 03.1	
	comp=Z,197nm,18.0s,baz=194,slow=35						
DGMT	Dagmar	16.66	62	eP	P	11 21 38.2	+1.2
	130nm,1.7s						
SDCO	Great Sand Dun	16.71	100	eP	P	11 21 39.6	+2.1
	39nm,1.3s						
ANMO	Albuquerque	17.31	109	P	P	11 21 46.7	+1.5
	baz=318,slow=9.6,SNR=7.5						
ANMO				LR	LR	11 28 54.4	
	comp=Z,302nm,18.1s,slow=39						
ANMO	Albuquerque	17.31	109	P	P	11 21 46.7	+1.5
ANMO				LR	LR	11 28 54.4	
FFC	Flin Flon	20.13	44	Pn	P	11 22 18.0	-0.6
	178nm,1.0s,SNR=34						
CBKS	Cedar Bluff	20.57	91	eP	P	11 22 24.1	+0.8
	74nm,1.4s						
YKA	Yellowknife Ar	21.18	15	P	P	11 22 28.2	-1.2
	4.7nm,0.9s,mb3.8,baz=204,slow=11,SNR=43						
YKA				LR	LR	11 30 12.2	
	comp=Z,145nm,21.0s,MS3.3,baz=220,slow=36						
YKA	Yellowknife Ar	21.18	15	P	P	11 22 28.2	-1.2
YKA				LR	LR	11 30 12.2	
YKW3	Yellowknife Ar	21.24	15	eP	P	11 22 28.8	-1.3
ULM	Lac du Bonnet	22.33	59	P	P	11 22 41.1	0.0
	2.8nm,0.6s,mb3.9,baz=258,slow=10,SNR=6.0						
ULM				LR	LR	11 31 51.0	
	comp=Z,124nm,20.3s,MS3.3,baz=226,slow=38						
TXAR	Lajitas Array	22.58	118	P	P	11 22 45.0	+1.3
	1.3nm,0.9s,mb3.3,baz=299,slow=8.1,SNR=9.7						
ILAR	Eielson Array	25.12	339	P	P	11 23 07.5	-0.4
	1.9nm,1.1s,mb3.6,baz=158,slow=7.5,SNR=8.8						
ILAR				LR	LR	11 31 03.3	
	comp=Z,152nm,21.6s,MS3.5,baz=356,slow=32						
INK	Inuvik	26.10	354	P	P	11 23 14.4	-2.7
	0.9nm,1.1s,baz=135,slow=5.7,SNR=2.3						
INK				LR	LR	11 33 09.6	
	comp=Z,133nm,18.4s,MS3.5,baz=84,slow=36						
MDJ	Mudanjiang	69.87	312	P	P	11 28 55.2	+0.6
MDJ				AMB	AMB		
	comp=Z,14nm,2.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,192nm,4.4s						
CN2	Changchun	72.64	314	eP	P	11 29 12.7	+1.5
BJI	Beijing	80.17	316	P	P	11 29 55.6	+2.0
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
BJI				LR	LR		
	comp=N,199nm,15.4s,MS4.7						
BJI				LR	LR		
	comp=E,141nm,15.4s,MS4.7						
BJI				LR	LR		
	comp=Z,72nm,35.3s						
BJI	Beijing	80.17	316	P	P	11 29 55.6	+2.0
	comp=Z,4.0nm,0.6s,mb4.5						
BJI				S	S	11 39 28.7	-28
BJI				LR	LR		
	comp=Z,70nm,35.3s,MS3.8						
HHC	Hu-ho-hao-te	81.84	319	eP	P	11 30 02.3	-0.1
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,116nm,7.1s						
WMQ	Urumqi	88.74	336	eP	P	11 30 40.5	+3.9
WMQ				XP	sP	11 30 47.0	+6.2
WMQ				PP	PP	11 34 11.0	+3.1
WMQ				SKS	SKS	11 41 07.0	-1.7
WMQ				S	S	11 41 25.0	+3.5
WMQ				SS	SS	11 47 17.0	+0.6
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,101nm,4.7s						
WMQ				LR	LR		
	comp=N,205nm,22.2s,MS4.6						
WMQ				LR	LR		
	comp=E,197nm,23.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,143nm,24.7s,MS4.3						
KMI	Kunming	98.83	316	P	P	11 31 27.9	+4.6
KMI				AMB	AMB		
	comp=Z,7.0nm,0.5s						
KMI	Kunming	98.83	316	P	P	11 31 27.9	+4.6
	comp=Z,7.0nm,0.5s						

*IDC **08** 11:18:42.7±0.9, 55.37S×27.58W, mb4.5/4, mb1 4.6/4, mb1mx4.0/14, mbtmp4.4/4, MS3.6/3, Ms1 3.6/3, ms1mx3.0/19, Error ellipse: s-maj=51.0km s-min=26.5km az=54.0*
*NEIC **08** 11:18:53.8±5.1, 55.50S×28.03W, h83^{km}±44^{km}, mb4.3/2, Error ellipse: s-maj=45.7km s-min=13.5km az=49.0*
ISC 08 11:18:54.3±5.0**, 55.5S**±0.3×**28.1W**±0.8**, h102**^{km}±45^{km}**, n22,** σ**0**^{s}**94**/13**, mb4.2**/6**, 3C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	Neumayer Olymp	17.66	160	e	P	11 22 59.1	+4.5
VNA3	Neumayer Olymp	17.66	160	⇑iP	P	11 22 56.4	+1.8
VNA3				e		11 22 59.1	
VNA2	Neumayer--Watz	17.87	158	e	P	11 22 57.8	+0.6
VNA2	Neumayer--Watz	17.87	158	⇑iP	P	11 22 55.2	-2.0
VNA2				e		11 22 57.8	
SNAA	Sanae	19.43	156	e	P	11 23 14.9	+0.4
SNAA	Sanae	19.43	156	⇑iP	P	11 23 11.7	-2.8
SNAA				e		11 23 14.9	
USHA	Ushuaia	22.80	255	LR	LR	11 30 40.5	
	comp=Z,178nm,19.1s,baz=42,slow=31						
TRQA	Tornquist	28.63	293	P	P	11 24 41.9	-1.0
	1.6nm,0.5s,mb3.9						
QSPA	South Pole Qui	34.72	180	eP	P	11 25 35.5	-0.1
	4.7nm,0.5s,mb4.6						
SUR	Sutherland	41.03	76	LR	LR	11 41 28.7	
	comp=Z,70nm,18.0s,baz=190,slow=34						
LVC	Limon Verde	44.58	301	P	P	11 26 58.2	+0.6
	1.2nm,0.4s,mb4.0,baz=108,slow=2.9,SNR=9.7						
VNDA	Vanda	47.06	183	P	P	11 27 16.9	+0.4
	4.3nm,0.9s,mb4.2,baz=215,slow=6.9,SNR=8.8						
VNDA	Vanda	47.06	183	P	P	11 27 16.9	+0.4
LPAZ	La Paz	49.65	306	P	P	11 27 37.8	+0.5
	2.3nm,0.5s,mb4.4,baz=146,slow=6.7,SNR=8.7						
TSUM	Tsumeb	49.90	62	LR	LR	11 45 40.0	
	comp=Z,43nm,18.6s,baz=142,slow=33						
ASAR	Alice Springs	99.64	163	P	P	11 32 27.0	-0.2
	0.6nm,0.8s,mb4.3,baz=186,slow=4.3,SNR=6.6						
FINES	FINESS Array B	124.17	28	PKP	PKPdf	11 37 40.7	+0.9
	0.7nm,0.5s,baz=180,slow=3.8,SNR=7.4						
YKA	Yellowknife Ar	135.43	319	PKP	PKPdf	11 38 02.5	+1.6
	0.4nm,0.6s,baz=129,slow=2.1,SNR=8.3						
YKA				SKPbc		11 41 31.9	
	0.3nm,0.8s,baz=134,slow=2.6,SNR=4.7						
YKA	Yellowknife Ar	135.43	319	PKP	PKPdf	11 38 02.5	+1.6
YKA				SKPbc		11 41 31.9	
INK	Inuvik	145.07	321	PKPbc	PKPbc	11 38 19.9	+1.8
	5.4nm,0.7s,baz=96,slow=3.5,SNR=24						
ILAR	Eielson Array	149.38	312	PKPbc	PKPdf	11 38 32.0	+7.0
	3.1nm,0.8s,baz=122,slow=2.8,SNR=16						
SONM	Songino Array	151.22	86	PKPbc	PKPdf	11 38 36.6	+8.3
	1.6nm,0.6s,baz=226,slow=3.0,SNR=10						

*CASC **08** 11:26:24.4±1.9, 11.89N×88.01W, h16^{km}±6^{km}, MD4.7, ML4.2, mb4.7(NEIC)*
*NEIC **08** 11:26:27.5±0.8, 12.03N×87.83W, h45^{km}±9^{km}, mb4.7/19, MD4.8(CASC), Error ellipse: s-maj=11.5km s-min=5.7km az=58.0*
*BJI **08** 11:26:27.4, 12.00N×87.80W, h45^{km}, mB5.3, Ms5.3, Msz4.6*
*IDC **08** 11:26:28.4±2.3, 12.14N×87.61W, h50^{km}±23^{km}, mb3.9/14, mb1 4.1/17, mb1mx3.9/26, mbtmp4.1/17, ML3.4/3, MS4.2/13, Ms1 4.2/13, ms1mx4.0/21, Error ellipse: s-maj=32.4km s-min=11.5km az=56.0*
ISC 08 11:26:25.3±0.5**, 11.84N**±0.04×**88.00W**±0.03**, h48**^{km}±4^{km}**, n127,** σ**1**^{s}**09**/122**, mb4.4**/28**, MS4.4**/14**, 15C-2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	Leon	1.23	62	⇑eP	P	11 26 46.1	-0.2
CRIN	San Cristobal	1.26	47	⇑eP	P	11 26 47.1	+0.2
TELN	Telica	1.37	56	⇑eP	P	11 26 48.6	0.0
CNGN	Cerro Negro	1.43	63	⇑eP	P	11 26 48.8	-0.6
CNGN				eS	S	11 27 09.2	+2.0
CNCH	Conchagua	1.44	7	eP	P	11 26 48.8	-0.6
CNCH				eS	S	11 27 07.4	+0.1
MOMJ	Momotombo	1.54	68	⇑eP	P	11 26 50.0	-0.8
VSM	San Miguel	1.60	350	eP	P	11 26 51.1	-0.6
VSM				eS	S	11 27 13.6	+2.3
BLLM	Bellamira	1.61	352	⇑eP	P	11 26 50.9	-1.0
XAVN	Gruta Xavier	1.67	79	⇑eP	P	11 26 52.3	-0.3
MGAN	Managua	1.74	80	⇑eP	P	11 26 53.0	-0.7
MGAN				⇑eP		11 26 53.2	
MGAN				eS	S	11 27 15.9	+1.1
TICN	Ticuantepe	1.74	83	eP	P	11 26 53.6	0.0
WILN	Americas 2	1.80	80	⇑eP	P	11 26 54.0	-0.6
WILN				eS	S	11 27 17.4	+1.1
MASN	Masaya	1.82	85	eP	P	11 26 55.4	+0.7
MASN				eS	S	11 27 20.8	+4.1
APON	Apoyo	1.90	87	⇑eP	P	11 26 55.0	-0.8
CAHU	Cacacuatique	1.93	354	eP	P	11 26 56.8	+0.5
SNVI	San Vicente	1.94	335	eP	P	11 26 56.2	-0.3
LCBS	La Ceiba	2.04	332	eP	P	11 26 56.5	-1.4
LCBS				eS	S	11 27 22.5	+0.3
LFRS	El Faro	2.05	330	eP	P	11 26 56.8	-1.3
LBRS	Las Brisas	2.14	332	eP	P	11 26 58.5	-0.8
BOQS	Boqueron	2.26	327	eP	P	11 27 00.3	-0.8
BOQS				eS	S	11 27 29.6	+1.9
CONN	Concepcion	2.34	96	eP	P	11 27 01.0	-1.2
CONN				eS	S	11 27 32.2	+2.3
CONN				i		11 27 36.6	
	comp=Z,2μm,0.3s						
SBLS	San Blas	2.54	322	⇓eP	P	11 27 04.3	-0.8
SBLS				eS	S	11 27 36.0	+1.2
SNJE	San Jose	2.55	322	eP	P	11 27 04.2	-1.0
SNJE				eS	S	11 27 36.7	+1.5
RTR	El Retiro	2.60	322	eP	P	11 27 05.0	-0.8
RTR				eS	S	11 27 37.5	+1.1
RBDL	Robledal	2.79	324	⇑eP	P	11 27 07.9	-0.7
MTO2	Montecristo 2	2.87	333	eP	P	11 27 10.4	+0.7
VCR	Vista de Mar	2.88	126	eP	P	11 27 08.5	-1.4
VCR	Vista de Mar	2.88	126	eP	P	11 27 08.5	-1.4
JTS	JuntasAbangare	3.37	117	Pn	P	11 27 16.1	-0.6
	comp=Z,642nm,0.5s,SNR=40						
JTS	JuntasAbangare	3.37	117	P	P	11 27 16.3	-0.4
	comp=Z,8.1nm,0.3s,baz=324,slow=10,SNR=33						
JTS				S	S	11 27 53.8	-2.0
	comp=Z,34nm,0.3s,baz=240,slow=21,SNR=6.1						
JTS	JuntasAbangare	3.37	117	ePn	P	11 27 15.9	-0.8
FORC	Fortuna	3.54	112	eP	P	11 27 19.3	+0.1
FORC	Fortuna	3.54	112	eP	P	11 27 19.4	+0.2
CGA2	Cerro Gallo 2	3.92	117	eP	P	11 27 25.6	+1.1
CGA2	Cerro Gallo 2	3.92	117	eP	P	11 27 25.1	+0.6
VPS2	Volcan Poas 2	4.04	114	eP	P	11 27 25.7	-0.6
VPS2	Volcan Poas 2	4.04	114	eP	P	11 27 26.6	+0.3
PRS1	Puriscal	4.07	117	eP	P	11 27 27.4	+0.7
LAJ	Bijagual	4.29	117	eP	P	11 27 25.6	-4.2
LAJ	Bijagual	4.29	117	eP	P	11 27 25.8	-4.0
SJS	Escuela Geolog	4.31	116	eP	P	11 27 32.2	+2.1
SJS				e		11 28 18.6	
SJS	Escuela Geolog	4.31	116	eP	P	11 27 30.6	+0.5
SJS				eS	S	11 28 20.0	+0.3
TRTC	Tortuguero	4.39	106	eP	P	11 27 29.5	-1.7
TRTC	Tortuguero	4.39	106	eP	P	11 27 29.6	-1.7
LCR2	La Lucha 2	4.45	118	eP	P	11 27 32.8	+0.7
LCR2	La Lucha 2	4.45	118	eP	P	11 27 32.7	+0.7
ICR	Volcan Irazu	4.49	114	eP	P	11 27 33.4	+0.8
ICR	Volcan Irazu	4.49	114	⇑eP	P	11 27 33.5	+0.9
BUS	Buena Vista	4.75	118	eP	P	11 27 36.9	+0.7
BUS	Buena Vista	4.75	118	⇓eP	P	11 27 36.9	+0.7
BUS				eS	S	11 28 32.5	+1.8
LIO	Limon	5.21	110	eP	P	11 27 41.3	-1.3
LIO	Limon	5.21	110	eP	P	11 27 41.0	-1.6
ACR	Cerro Adams	5.71	123	eP	P	11 27 50.1	+0.4
ACR	Cerro Adams	5.71	123	⇑eP	P	11 27 50.4	+0.7
PAYG	Puerto Ayora	12.64	190	P	P	11 29 26.7	+1.8
ROSC	El Rosal	15.20	116	P	P	11 29 57.9	-0.5
	comp=Z,1.1nm,0.3s,baz=99,slow=22,SNR=5.3						
ROSC				LR	LR	11 36 28.0	
	comp=Z,272nm,18.8s,baz=352,slow=40						
SDV	Santo Domingo	17.34	98	P	P	11 30 24.2	-1.4
	comp=Z,0.3nm,0.3s,baz=293,slow=6.7,SNR=8.2						
SDV	Santo Domingo	17.34	98	eP	P	11 30 24.8	-0.7
	comp=Z,46nm,1.2s						
JCT	Junction City	21.54	331	eP	P	11 31 11.9	-0.5
	comp=Z,32nm,0.8s,mb4.8						
OXF	Oxford	22.61	357	eP	P	11 31 21.6	-1.4
	comp=Z,50nm,1.0s,mb4.9						
LTX	Lajitas	22.71	322	eP	P	11 31 24.1	0.0
	comp=Z,27nm,0.9s,mb4.7						
TXAR	Lajitas Array	22.71	322	P	P	11 31 25.8	+1.7
	comp=Z,8.6nm,0.6s,mb4.4,baz=137,slow=9.3,SNR=94						
MIAR	Mount Ida	23.17	348	⇑eP	P	11 31 28.8	+0.3
	comp=Z,40nm,0.8s,mb4.9						
JSC	Jenkinsville	23.17	14	eP	P	11 31 29.4	+0.9
UALR	University of	23.17	351	eP	P	11 31 28.6	+0.1
	comp=Z,17nm,0.7s,mb4.6						
CPCT	Cooper Cave	23.72	7	eP	P	11 31 34.1	+0.3
WMOK	Wichita Mounta	24.81	338	eP	P	11 31 43.7	-0.8
	comp=Z,18nm,1.1s,mb4.5						
MNTX	Cornudas Mount	25.45	324	eP	P	11 31 50.2	-0.3
	comp=Z,40nm,1.5s,mb4.7						
AMTX	Amarillo	26.09	334	eP	P	11 31 57.6	+1.1
	comp=Z,46nm,1.1s,mb4.9						
CCM	Cathedral Cave	26.27	354	eP	P	11 31 56.1	-1.9
	comp=Z,8.7nm,0.7s,mb4.4						
KSU1	Kansas State U	28.21	346	eP	P	11 32 14.4	-1.3
ANMO	Albuquerque	28.47	327	P	P	11 32 20.5	+2.4
	comp=Z,1.5nm,0.8s,mb3.6,baz=149,slow=10.0,SNR=7.4						
PV10	Paradox Valley	32.41	328	eP	P	11 32 53.1	+0.2
SADO	Sadowa	33.68	11	P	P	11 33 01.3	-2.5
	comp=Z,2.8nm,0.4s,mb4.5,baz=196,slow=8.1,SNR=5.5						
LPAZ	La Paz	34.17	144	P	P	11 33 08.6	+0.3
	comp=Z,2.5nm,0.8s,mb4.2,baz=331,slow=7.5,SNR=11						
LPAZ	La Paz	34.17	144	eP	P	11 33 09.4	+1.1
	comp=Z,2.7nm,0.7s,mb4.3						
PDAR	Pinedale Array	36.06	333	P	P	11 33 23.6	-0.6
	comp=Z,0.8nm,0.8s,mb3.7,baz=119,slow=9.3,SNR=5.4						
PDAR				PcP	PcP	11 35 50.6	+0.7
	comp=Z,0.6nm,0.7s,baz=162,slow=2.9,SNR=3.6						
HWUT	Hardware Ranch	36.12	329	eP	P	11 33 25.4	+0.8
	comp=Z,10nm,0.9s,mb4.8						
SNOW	Snow King Moun	37.15	332	eP	P	11 33 33.8	+0.5
LOHW	Long Hollow	37.19	332	eP	P	11 33 33.8	+0.1
WUWY	Wally Ulrich	37.20	332	eP	P	11 33 32.5	-1.2
TPAW	Teton Pass	37.26	332	eP	P	11 33 35.0	+0.8
RRI2	Red Ridge	37.32	332	eP	P	11 33 35.7	+1.0
IMW	Indian Meadow	37.57	332	eP	P	11 33 38.0	+1.2
NVAR	Mina Array Bea	37.81	320	P	P	11 33 41.1	+2.3
	comp=Z,0.4nm,0.5s,mb3.4,baz=144,slow=7.8,SNR=4.3						
NVAR				PcP	PcP	11 35 57.6	+2.4
	comp=Z,1.0nm,0.7s,baz=121,slow=5.5,SNR=5.3						
QLMT	Earthquake Lak	38.52	333	eP	P	11 33 45.6	+0.9
GCMT	Greycliff	38.53	336	P	P	11 33 44.8	0.0
ULM	Lac du Bonnet	38.84	352	P	P	11 33 45.0	-2.3
	comp=Z,7.1nm,0.8s,mb4.4,baz=170,slow=9.3,SNR=10						
ULM				LR	LR	11 50 38.6	
	comp=Z,139nm,18.8s,MS3.8,baz=185,slow=38						
ULM	Lac du Bonnet	38.84	352	eP	P	11 33 44.4	-2.9
	comp=Z,10nm,0.6s,mb4.7						
DGMT	Dagmar	38.94	343	eP	P	11 33 48.1	-0.1
	comp=Z,15nm,0.6s,mb4.9						
LVC	Limon Verde	39.02	151	P	P	11 33 52.1	+3.1
	comp=Z,8.2nm,1.1s,mb4.4						
MCMT	McKenzie Canyo	39.16	332	eP	P	11 33 49.2	-0.9
BOZ	Bozeman (W)	39.24	334	eP	P	11 33 51.2	+0.5
	comp=Z,7.4nm,0.8s,mb4.5						
HRY	Holter Researc	40.17	334	eP	P	11 33 59.4	+1.1
EDM	Edmonton	45.98	339	eP	P	11 34 45.1	-0.4
SCHQ	Schefferville	46.02	17	P	P	11 34 43.5	-2.3
	comp=Z,3.7nm,0.7s,mb4.5,baz=215,slow=5.4,SNR=16						
SCHQ				LR	LR	11 55 28.3	
	comp=Z,696nm,18.2s,MS4.6,baz=303,slow=38						
SCHQ	Schefferville	46.02	17	eP	P	11 34 43.0	-2.8
	comp=Z,12nm,0.8s,mb4.9						
FCC	Fort Churchill	47.05	356	eP	P	11 34 51.8	-2.1
	comp=Z,5.2nm,0.9s,mb4.5						
BDFB	Brasilia	48.08	124	P	P	11 35 02.5	0.0
	comp=Z,10nm,0.8s,mb4.9,baz=296,slow=7.6,SNR=15						
BDFB				LR	LR	11 57 20.3	
	comp=Z,400nm,18.3s,MS4.4,baz=303,slow=39						
YKA	Yellowknife Ar	54.06	345	P	P	11 35 45.8	-1.3
	comp=Z,0.9nm,0.7s,mb3.8,baz=138,slow=7.6,SNR=28						
YKA				PcP	PcP	11 36 51.3	-0.1
	comp=Z,0.6nm,0.6s,baz=147,slow=3.8,SNR=6.6						
YKA				LR	LR	12 01 59.6	
	comp=Z,349nm,18.3s,MS4.5,baz=185,slow=40						
YKA	Yellowknife Ar	54.06	345	P	P	11 35 45.8	-1.3
YKA				PcP	PcP	11 36 51.4	-0.1
PLCA	Paso Flores	54.74	164	P	P	11 35 53.2	+0.8
	comp=Z,2.5nm,0.8s,mb4.3,baz=19,slow=19,SNR=4.0						
PLCA				LR	LR	11 54 03.2	
	comp=Z,108nm,18.4s,MS4.0,baz=110,slow=30						
PLCA	Paso Flores	54.74	164	P	P	11 35 51.1	-1.2
	comp=Z,3.4nm,0.9s,mb4.4						
DLBC	Dease Lake	56.23	335	P	P	11 36 03.2	+0.4
	comp=Z,3.1nm,0.8s,mb4.4,baz=54,slow=19,SNR=3.2						
DLBC	Dease Lake	56.23	335	P	P	11 36 03.2	+0.4
RKT	Rikitea	57.63	233	eLR	LR	11 53 18.8	
	comp=Z,195nm,27.8s						
INK	Inuvik	63.62	343	P	P	11 36 52.9	-0.4
	comp=Z,1.2nm,1.0s,mb3.9,baz=83,slow=14,SNR=3.3						
ILAR	Eielson Array	66.36	336	P	P	11 37 10.5	-0.5
	comp=Z,0.5nm,0.6s,mb3.7,baz=150,slow=4.7,SNR=5.5						
ILAR				LR	LR	12 11 52.9	
	comp=Z,174nm,18.3s,MS4.3,baz=134,slow=41						
PPT	Papeete	67.45	245	eS	S	11 46 08.2	-1.5
PPT				eLR	LR	11 57 24.0	
	comp=Z,221nm,25.2s						
TBI	Tubuai	69.54	240	eS	S	11 46 33.0	-1.4
TBI				eLR	LR	11 58 37.8	
	comp=Z,245nm,24.5s						
JMIC	Jan Mayen	75.45	19	LR	LR	12 09 47.9	
	comp=Z,197nm,20.9s,MS4.4,baz=258,slow=35						
DBIC	Dimbokro	81.98	85	LR	LR	12 11 29.3	
	comp=Z,103nm,19.0s,MS4.2,baz=195,slow=33						
NOA	NORSAR Array B	84.16	29	LR	LR	12 16 20.0	
	comp=Z,88nm,20.5s,MS4.1,baz=5.0,slow=36						
ARCES	ARCESS Array B	86.93	19	LR	LR	12 17 49.5	
	comp=Z,156nm,18.4s,MS4.5,baz=9.5,slow=36						
FINES	FINESS Array B	90.75	26	LR	LR	12 21 02.8	
	comp=Z,95nm,18.0s,MS4.3,baz=185,slow=36						
VAE	Valguarnera	92.52	51	LR	LR	12 14 01.9	
	comp=Z,292nm,19.5s,MS4.7,baz=136,slow=31						
MDJ	Mudanjiang	114.29	331	PKP	PKPdf	11 45 00.3	+0.4
MDJ				XPKP		11 45 17.7	
MDJ				PP	PP		
	comp=Z,11nm,22.6s						
CN2	Changchun	116.80	333	ePKP	PKPdf	11 45 07.5	+2.8
SONM	Songino Array	119.23	349	PKP	PKPdf	11 45 12.3	+2.9
	comp=Z,0.4nm,0.7s,baz=84,slow=1.2,SNR=4.4						
BJI	Beijing	123.71	338	PKP	PKPdf	11 45 22.0	+3.7
BJI				SS	SS	12 03 49.8	+2.7
BJI				LR	LR		
	comp=N,187nm,12.3s,MS5.1						
BJI				LR	LR		
	comp=E,161nm,12.7s,MS5.1						
BJI				LR	LR		
	comp=Z,131nm,28.3s						
NJ2	Nanjing	129.35	330	ePKP	PKPdf	11 45 30.8	+1.5
ASAR	Alice Springs	138.54	248	PKhKP		11 45 40.8	
	comp=Z,0.6nm,0.9s,baz=81,slow=3.3,SNR=4.5						
ASAR				PKP	PKPdf	11 45 49.8	+3.1
	comp=Z,0.9nm,0.8s,baz=84,slow=2.1,SNR=10						
ASAR	Alice Springs	138.54	248	PKP	PKPdf	11 45 49.8	+3.1
WRA	Warramunga Arr	138.58	253	PKP	PKPdf	11 45 50.0	+3.2
	comp=Z,1.0nm,0.6s,baz=92,slow=2.0,SNR=15						
KMI	Kunming	141.80	344	PKP	PKPdf	11 45 55.8	+3.3
KMI				LR	LR		
	comp=Z,102nm,23.5s,MS4.5						
FITZ	Fitzroy Crossi	146.95	255	eP	PKPdf	11 46 06.9	+5.4
	comp=Z,9.5nm,0.9s						
CMAR	Chiang Mai Arr	149.13	347	PKPbc	PKPdf	11 46 12.1	+7.1
	comp=Z,3.2nm,0.7s,baz=334,slow=3.8,SNR=17						

*TAP **08** 12:20:54.3, 24.34N×122.24E, h55^{km}±1^{km}, ML3.3*
JMA 08 12:20:54.5±0.2**, 24.62N**×**122.33E, h68**^{km}**, M2.4, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.64	104	P	P	12 21 08.6	-0.1
YOJ				S	S	12 21 19.1	-0.2
IRIF	Iriomote-Funau	1.31	102	P	P	12 21 16.8	-0.6
IRIF				S	S	12 21 33.6	-0.7
HATJ	Hateruma jima	1.46	112	P	P	12 21 19.2	-0.2
HATJ				eS	S	12 21 37.8	+0.1
JKRS	Kuro-shima	1.58	104	P	P	12 21 21.0	0.0
JKRS				eS	S	12 21 40.8	+0.3
JIJ	Ishigaki jima	1.67	98	P	P	12 21 22.0	-0.2
JIJ				eS	S	12 21 41.8	-0.9
JTJ	Tarama	2.16	89	P	P	12 21 29.8	+0.8
JTJ				eS	S	12 21 56.2	+1.7

MAN 08 12:32:58.3, 13.69N×120.46E, h41^{km}, mb3.6, ML2.4, MS1.9, 1C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.21	282	eP	P	12 32 40.8	-25
LUBP	Lubang	0.21	282	eP	P	12 33 07.2	+1.5
LUBP	Lubang	0.21	282	eP	P	12 33 07.2	+1.5
LUBP				eS	S	12 33 12.5	+1.6
TGY	Tagaytay City	0.62	49	⇓iP	P	12 33 12.0	+1.3
TGY				iS	S	12 33 21.8	+2.0
QVPH	Quezon City--P	1.12	31	⇑iP	P	12 33 25.3	+7.5
QVPH				iS	S	12 33 32.2	0.0
LQP	Lukban	1.13	68	⇓eP	P	12 33 18.4	+0.5
BOAC	Boac	1.37	99	eP	P	12 33 14.1	-7.3
SJMP	San Jose	1.38	152	iP	P	12 33 23.2	+1.7
BUSP	Coron	1.69	189	eP	P	12 33 26.5	+0.5
ENPP	El Nido	2.67	202	eP	P	12 33 39.4	-0.4

MAN 08 12:35:05.2, 13.75N×120.42E, h50^{km}, mb4.0, ML2.8, MS2.5, 2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.17	264	eP	P	12 35 14.6	+1.3
LUBP	Lubang	0.17	264	eP	P	12 35 14.8	+1.5
TGY	Tagaytay City	0.61	55	⇓iP	P	12 35 19.7	+1.8
TGY				iS	S	12 35 29.7	+2.5
LQP	Lukban	1.15	72	⇓eP	P	12 35 26.0	+0.8
BOAC	Boac	1.42	102	eP	P	12 35 28.9	-0.3
BOAC				eS	S	12 35 45.9	-0.9
SJMP	San Jose	1.46	152	eP	P	12 35 30.8	+1.1
BUSP	Coron	1.75	187	eP	P	12 35 33.9	+0.1
ENPP	El Nido	2.71	201	eP	P	12 35 47.0	-0.4

IGQ 08 12:41:59.0, 3.42S×80.54W, h12^{km}±32^{km}, mb4.2, 1C-2D, Error ellipse: s-maj=31.1km s-min=8.2km az=116.7, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	2.35	360	P	Pn	12 42 38.8	+0.8
IGUA	Igualata	2.69	45	P	Pn	12 42 43.6	+0.7
ARRY	Arrayan	2.82	48	P	Pn	12 42 45.6	+0.9
ARRY				S	Sn	12 43 18.9	0.0
RETU	Refugio	2.86	47	P	Pn	12 42 47.7	+2.4
ULBA	Ulba	2.89	48	P	Pn	12 42 47.5	+1.8
PISA	Pisayambo	3.18	43	P	Pn	12 42 52.6	+2.7
NAS1	Nasa	3.45	37	⇑P	Pn	12 42 56.5	+2.9
TAMB	Tambo	3.47	39	P	Pn	12 42 57.0	+3.1
VC1	Cotopaxi 1	3.48	38	P	Pn	12 42 56.8	+2.6
JUA2	San Juan 2	3.72	31	P	Pn	12 42 59.4	+1.9
TERV	Terraza Guagua	3.75	31	P	Pn	12 42 58.5	+0.4
TERV				S	Sn	12 43 43.7	+1.0
PINO	Pino	3.77	31	⇓P	Pn	12 42 59.9	+1.7
ANTI	Antisana	3.79	39	P	Pn	12 43 01.6	+3.1
YANA	Yana	3.82	31	⇓P	Pn	12 43 00.5	+1.6
JOR1	San Jorge 1	3.89	29	P	Pn	12 42 58.4	-1.5
CAYR	Refugio Cayamb	4.25	37	P	Pn	12 43 08.0	+3.0
CAYA	Cayambe	4.30	36	P	Pn	12 43 11.5	+5.7
COTA	Cotacachi	4.33	31	P	Pn	12 43 08.5	+2.3
ECEN	Cerro Negro	4.93	31	P	Pn	12 43 18.6	+3.8

*JMA **08** 12:47:01.7±0.3, 24.98N×121.75E, h29^{km}, M2.4*
*TAP **08** 12:47:02.2, 24.34N×121.72E, h4^{km}±1^{km}, ML3.0*

TAP Felt IV J at Nanau, I J at Nioudou.

ISC 08 12:47:01.5±0.5**, 24.32N**±0.02×**121.76E**±0.02**, h1**km±5km**,**
n43, σ0.79/68**, 5C-3D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.10**	**352**	⇑*i*P	**Pg**	**12 47 04.2**	**+0.6**
ENA				S	**Sg**	**12 47 05.7**	**+0.7**
TWD	**Chiawan**	**0.28**	**211**	⇑*i*P	**Pg**	**12 47 07.6**	**+0.4**
TWD				S	**Sg**	**12 47 11.6**	**+0.7**
TWC	**Suao**	**0.30**	**17**	⇑*i*P	**Pg**	**12 47 07.8**	**+0.4**
TWC				S	**Sg**	**12 47 11.8**	**+0.4**
ENTT	**Nioudou**	**0.36**	**331**	⇓*i*P	**Pg**	**12 47 08.8**	**+0.1**
ENTT				S	**Sg**	**12 47 13.4**	**-0.1**
NNS	**Nan Shan**	**0.37**	**288**	⇓*i*P	**Pg**	**12 47 08.8**	**-0.1**
NNS				S	**Sg**	**12 47 13.2**	**-0.6**
HWA	**Hwalien**	**0.37**	**202**	P	**Pg**	**12 47 09.7**	**+0.8**
TWE	**Neicheng**	**0.40**	**348**	⇑*i*P	**Pg**	**12 47 09.8**	**+0.2**
TWE				S	**Sg**	**12 47 14.8**	**-0.1**
ILA	**Ilan**	**0.44**	**359**	*i* P	**Pg**	**12 47 10.6**	**+0.3**
ILA				S	**Sg**	**12 47 16.6**	**+0.5**
NSK	**Sanguang**	**0.50**	**314**	⇓*i*P	**Pg**	**12 47 11.5**	**-0.1**
NSK				S	**Sg**	**12 47 17.5**	**-0.8**
TWT	**Tachien**	**0.53**	**263**	P	**Pg**	**12 47 12.6**	**+0.4**
TWT				S	**Sg**	**12 47 19.2**	**-0.1**
EGS		**0.54**	**17**	*e*P	**Pg**	**12 47 13.6**	**+1.3**
EGS				S	**Sg**	**12 47 21.4**	**+1.9**
ESL	**Shilin**	**0.59**	**210**	⇑*i*P	**Pg**	**12 47 12.9**	**-0.3**
ESL				S	**Sg**	**12 47 20.3**	**-0.7**
TWA	**Mucha**	**0.67**	**347**	*e*P	**Pg**	**12 47 15.4**	**+0.5**
TWA				S	**Sg**	**12 47 23.2**	**-0.6**
TWB1	**Santiao Chiao**	**0.71**	**17**	*e*P	**Pg**	**12 47 15.5**	**-0.2**
TWB1				S	**Sg**	**12 47 24.1**	**-1.1**
TAP1	**Taipei**	**0.74**	**343**	*e*P	**Pg**	**12 47 16.3**	**0.0**
NWF	**Wu-fen Shan**	**0.74**	**2**	*e*P	**Pg**	**12 47 16.4**	**0.0**
NWF				S	**Sg**	**12 47 25.4**	**-0.8**
NSTT	**Nanjuang**	**0.75**	**294**	*e*P	**Pg**	**12 47 16.0**	**-0.5**
NSTT				S	**Sg**	**12 47 26.1**	**-0.5**
TWS1	**Kuangyinshan**	**0.83**	**338**	*e*P	**Pg**	**12 47 18.1**	**0.0**
SMLT	**Sun Moon Lake**	**0.90**	**241**	*e*P	**Pg**	**12 47 19.0**	**-0.4**
SMLT				S	**Sg**	**12 47 30.1**	**-1.2**
TWQ1	**Liyutan**	**0.90**	**272**	*e*P	**Pg**	**12 47 19.1**	**-0.3**
TWQ1				S	**Sg**	**12 47 31.1**	**-0.2**
EHY	**Hungye**	**0.91**	**206**	*e*P	**Pb**	**12 47 18.8**	**-0.9**
TYC	**Yuchr**	**0.92**	**243**	*e*P	**Pb**	**12 47 19.3**	**-0.6**
TYC				S	**Sg**	**12 47 31.3**	**-0.9**
TWY	**Chenhua**	**0.96**	**351**	*e*P	**Pb**	**12 47 21.3**	**+0.7**
TWF1	**Yuli**	**1.05**	**204**	*e*P	**Pb**	**12 47 21.6**	**-0.6**
TWF1				S	**Sb**	**12 47 36.7**	**+0.4**
WNT	**Mingjian**	**1.08**	**246**	*e*P	**Pb**	**12 47 23.2**	**+0.6**
YUS	**Yu-Shan**	**1.11**	**222**	*e*P	**Pb**	**12 47 22.8**	**-0.4**
YOJ	**Yonaguni jima**	**1.15**	**83**	P	**Pb**	**12 47 23.7**	**-0.2**
YOJ				S	**Sb**	**12 47 39.7**	**+0.6**
ALS	**Alishan**	**1.19**	**227**	*e*P	**Pb**	**12 47 24.6**	**+0.1**
ALS				S	**Sb**	**12 47 42.2**	**+1.9**
CHN5	**Tsauling**	**1.22**	**234**	*e*P	**Pb**	**12 47 25.4**	**+0.3**
CHN5				S	**Sb**	**12 47 43.2**	**+2.0**
ELDTW	**Lidau**	**1.32**	**211**	*e*P	**Pb**	**12 47 26.0**	**-0.6**
PCYT	**Pengchaiyu**	**1.33**	**12**	*e*P	**Pb**	**12 47 26.6**	**-0.3**
CHN4	**Tsaushan**	**1.44**	**228**	*e*P	**Pn**	**12 47 29.9**	**+1.1**
STYT	**Tauyuan**	**1.48**	**219**	*e*P	**Pn**	**12 47 28.9**	**-0.3**
WTP	**Ta-pu**	**1.50**	**224**	*e*P	**Pn**	**12 47 29.8**	**+0.2**
TWK	**Hsinying**	**1.57**	**228**	*e*P	**Pn**	**12 47 30.7**	**+0.2**
CHN1	**Nanshi**	**1.60**	**225**	*e*P	**Pn**	**12 47 32.0**	**+1.0**
SGST	**Jiashian**	**1.64**	**221**	*e*P	**Pn**	**12 47 31.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.80**	**89**	P	**Pn**	**12 47 33.0**	**-0.9**
IRIF				S	**Sn**	**12 47 56.5**	**-1.2**
SSD	**Sandimen**	**1.88**	**214**	*e*P	**Pn**	**12 47 36.1**	**+1.1**
HATJ	**Hateruma jima**	**1.89**	**98**	*e*S	**Sn**	**12 48 01.5**	**+1.6**
JKRS	**Kuro-shima**	**2.06**	**92**	P	**Pn**	**12 47 37.4**	**-0.2**
JKRS				*e*S	**Sn**	**12 48 03.4**	**-0.8**
JIJ	**Ishigaki jima**	**2.18**	**88**	P	**Pn**	**12 47 38.8**	**-0.5**
JIJ				S	**Sn**	**12 48 05.0**	**-2.2**
WDGT	**Dungji**	**2.19**	**242**	*e*P	**Pn**	**12 47 36.5**	**-3.0**

IDC 08 12:48:15.7±4.8**, 7.85S**×**101.32E, mb3.8**/5**, mb1 4.0**/5**,**
mb1mx3.8/13**, mbtmp3.8**/5**, Error ellipse:**
s-maj=180.2km s-min=22.6km az=58.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**26.25**	**355**	P	P	12 53 53.0	-1.5
	0.6nm,0.5s,baz=184,slow=7.5,SNR=6.9						
WRA	**Warramunga Arr**	**34.16**	**114**	P	P	12 55 02.5	-2.3
	2.1nm,0.7s,baz=283,slow=12,SNR=22						
ASAR	**Alice Springs**	**34.96**	**120**	P	P	12 55 09.7	-2.1
	0.5nm,0.4s,baz=296,slow=8.0,SNR=6.7						
STKA	**Stephens Creek**	**44.41**	**128**	P	P	12 56 29.3	-0.8
	1.3nm,0.7s,baz=291,slow=12,SNR=3.2						
SONM	**Songino Array**	**55.62**	**4**	P	P	12 57 53.7	-2.0
	0.5nm,0.8s,baz=180,slow=7.4,SNR=3.9						
TXAR	**Lajitas Array**	**148.25**	**44**	PKPbc	PKPdf	13 08 03.1	+0.3
	0.1nm,0.4s,baz=90,slow=0.9,SNR=3.5						

IDC 08 13:03:13.6±9.6**, 6.59N**×**89.96E, mb3.2**/2**, mb1 3.7**/3**,**
mb1mx3.5/16**, mbtmp3.4**/3**, ML3.8**/1**, Error ellipse:**
s-maj=207.3km s-min=56.1km az=95.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.69**	**36**	Pn	P	13 06 43.0	-1.7
	0.1nm,0.3s,baz=230,slow=14,SNR=12						
WRA	**Warramunga Arr**	**50.99**	**122**	P	P	13 12 17.7	-1.9
	0.2nm,0.7s,baz=302,slow=9.9,SNR=3.9						
ASAR	**Alice Springs**	**52.38**	**127**	P	P	13 12 27.6	-2.4
	0.6nm,0.6s,baz=297,slow=7.5,SNR=4.6						
ASAR				pP	pP	13 12 35.5	+5.4
	0.5nm,0.6s,baz=294,slow=7.3,SNR=7.6						

*IDC **08** 13:59:22.0±1.4, 10.42N×126.22E, mb3.6/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=75.5km s-min=20.2km az=62.0*

*MAN **08** 13:59:29.1, 10.51N×126.20E, h14km, mb4.5, ML3.4, MS3.3*

ISC 08 13:59:26.2±1.2**, 10.52N**±0.05×**126.50E**±0.08**, h49**km±12km**,**
n19, σ1.16/26**, mb3.6**/6**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.24**	**234**	*e*P	**P**	**13 59 46.5**	**-0.9**
SCPH				*e*S	**S**	**13 59 55.5**	**-7.7**
BESP	**Borongan**	**1.50**	**316**	*e*P	**P**	**13 59 51.6**	**+0.5**
BESP				*e*S	**S**	**14 00 11.3**	**+1.7**
PLP	**Palo**	**1.62**	**293**	*e*P	**P**	**13 59 52.4**	**-0.5**
PLP				*e*S	**S**	**14 00 12.4**	**-0.4**
MSLP	**Maasin**	**1.66**	**257**	*e*P	**P**	**13 59 52.9**	**-0.5**
MSLP				*e*S	**S**	**14 00 14.4**	**+0.8**
BUTP	**Butuan**	**1.77**	**209**	*e*P	**P**	**13 59 53.8**	**-1.1**
LLP	**Lapu-Lapu**	**2.50**	**266**	*e*P	**P**	**14 00 05.0**	**-0.4**
LLP				*e*S	**S**	**14 00 30.6**	**-4.1**
CNP	**Catarman**	**2.67**	**318**	*e*P	**P**	**14 00 07.8**	**0.0**
TBP	**Tagbilaran**	**2.73**	**253**	*e*P	**P**	**14 00 09.6**	**+1.1**
TBP				*e*S	**S**	**14 00 39.0**	**-1.4**
BUKP	**Musuan**	**2.98**	**209**	*e*P	**P**	**14 00 12.8**	**+0.6**
DCPH	**Dipolog City**	**3.65**	**238**	*e*P	**P**	**14 00 23.3**	**+1.6**
DCPH				*e*S	**S**	**14 01 06.5**	**+2.6**
PVCP	**Virac**	**3.82**	**323**	*e*P	**P**	**14 00 22.1**	**-1.9**
GUIM	**Jordan**	**3.85**	**272**	*e*P	**P**	**14 00 24.5**	**+0.1**
PAGZ	**Pagadian**	**4.07**	**229**	*e*P	**P**	**14 00 31.6**	**+4.1**
CMAR	**Chiang Mai Arr**	**27.79**	**290**	P	**P**	**14 05 11.2**	**-1.8**
	0.7nm,0.8s,mb3.3,baz=83,slow=6.8,SNR=5.0						
WRA	**Warramunga Arr**	**31.24**	**166**	P	**P**	**14 05 42.8**	**-0.8**
	0.3nm,0.8s,mb3.2,baz=346,slow=9.8,SNR=2.8						
ASAR	**Alice Springs**	**34.74**	**168**	P	**P**	**14 06 13.2**	**-0.8**
	0.3nm,0.8s,mb3.3,baz=342,slow=6.4,SNR=3.2						
STKA	**Stephens Creek**	**44.57**	**162**	P	**P**	**14 07 37.5**	**+2.2**
	1.2nm,0.7s,mb3.9,baz=348,slow=9.3,SNR=3.0						
ZAL	**Zalesovo**	**54.52**	**331**	P	**P**	**14 08 51.8**	**+0.4**
	0.6nm,0.5s,mb3.9,baz=351,slow=7.5,SNR=5.5						
FINES	**FINESS Array B**	**85.78**	**332**	P	**P**	**14 12 02.0**	**+0.8**
	0.3nm,0.3s,mb3.9,baz=72,slow=4.4,SNR=5.7						

ISC 08 14:02:37.0±0.8**, 46.26N**±0.04×**14.60E**±0.08**, n6, σ0.49**/8**,**
1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.25**	**352**	⇓*i*PG	**Pg**	**14 02 41.4**	**-0.6**
OBKA				*i* SG	**Sg**	**14 02 46.3**	**+0.9**
	18nm,0.2s						
PDKS	**Podkum**	**0.34**	**125**	*e*Pg	**Pg**	**14 02 44.5**	**+0.6**
VISS	**Visnje**	**0.49**	**160**	*i* Pg	**Pg**	**14 02 46.8**	**+0.1**
PERS	**Pernice**	**0.52**	**43**	*i* Pg	**Pg**	**14 02 47.2**	**-0.2**
PERS				*i* Sg	**Sg**	**14 02 53.9**	**-0.4**
	comp=Z,9.0nm,0.2s						
JAVS	**Javornik**	**0.52**	**226**	*i* Pg	**Pg**	**14 02 47.3**	**-0.1**
	comp=Z,2.0nm,0.2s						
VOJS	**Vojsko**	**0.55**	**246**	*i* Pg	**Pg**	**14 02 47.7**	**-0.2**

IDC 08 14:17:56.8±10.0**, 11.07N**×**90.95E, mb3.6**/2**, mb1 3.7**/3**,**
mb1mx3.4/17**, mbtmp3.4**/3**, ML3.0**/1**, Error ellipse:**
s-maj=225.3km s-min=50.2km az=104.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.66**	**46**	Pn	P	14 20 30.9	-2.9
	0.0nm,0.3s,baz=237,slow=15,SNR=4.1						
WRA	**Warramunga Arr**	**52.67**	**126**	P	P	14 27 12.8	-2.6
	0.3nm,0.4s,baz=307,slow=8.5,SNR=18						
WRA				pP	pP	14 27 20.4	+4.9
	1.0nm,0.6s,baz=304,slow=8.7,SNR=15						
ASAR	**Alice Springs**	**54.37**	**130**	P	P	14 27 26.1	-1.8
	0.2nm,0.4s,baz=301,slow=6.7,SNR=6.2						
ASAR				pP	pP	14 27 33.2	+5.3
	0.7nm,0.6s,baz=306,slow=6.7,SNR=13						

MAN 08 14:27:53.3, 17.95N×**120.63E, h5**km**, mb3.8, ML2.6, MS2.1,**
Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.31**	**165**	*e*P	Pg	14 27 59.6	0.0
ABRA				*e*S	Sg	14 28 10.5	+6.8
APYP	**Conner**	**0.59**	**98**	*e*P	Pg	14 28 05.4	+0.3
APYP				*e*S	Sg	14 28 18.1	+5.0
CVP	**Callao Caves**	**1.16**	**102**	*e*P	Pb	14 28 15.0	-0.5
CVP				*e*S	Sb	14 28 35.0	+4.3
SGCP	**Mt. Cagua**	**1.38**	**78**	*e*P	Pb	14 28 17.6	-1.6
CAUP	**Cauayan**	**1.52**	**131**	*e*P	Pn	14 28 22.5	+1.3
BALP	**Baler**	**2.38**	**157**	*e*P	Pn	14 28 33.5	0.0

*NEIC **08** 14:38:42.5, 15.59N×61.41W, h7km, MD3.6(TRN), After TRN.*

TRN 08 14:38:43.4, 15.63N×**61.52W, h5**km**, MD3.6, M3.4**(FDF)**,**
1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.11**	**157**	⇑*i*P	Pg	14 38 45.7	-0.1
MDN	**Morne-Daniel**	**0.33**	**159**	*e*P	Pg	14 38 49.9	-0.1
MDN				*e*S	Sg	14 38 54.9	+0.4
DBCT	**Belle View Cho**	**0.39**	**155**	*e*P	Pg	14 38 51.0	-0.2
DSHT	**Scott's Head**	**0.43**	**162**	*e*P	Pg	14 38 52.0	-0.1
DSHT				*e*S	Sg	14 38 59.5	+1.6

MAN 08 14:54:46.7, 17.64N×**120.10E, h30**km**, mb3.9, ML2.7,**
MS2.3, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.59**	**89**	*e*P	Pb	14 54 58.8	+0.3
ABRA				*e*S	Sb	14 55 07.5	+0.9
APYP	**Conner**	**1.11**	**78**	*e*P	Pn	14 55 06.2	-0.3
APYP				*e*S	Sn	14 55 20.3	-0.6
BOLP	**Bolinao**	**1.26**	**188**	*e*P	Pn	14 55 08.0	-0.6
CVP	**Callao Caves**	**1.65**	**87**	*e*P	Pn	14 55 14.0	0.0
CAUP	**Cauayan**	**1.79**	**112**	*e*P	Pn	14 55 16.6	+0.6

*IDC **08** 15:05:41.2±1.0, 65.39S×179.75W, mb3.8/4, mb1 4.2/5, mb1mx4.0/10, mbtmp3.9/5, ML4.3/1, MS4.1/7, Ms1 4.1/7, ms1mx3.8/15, Error ellipse: s-maj=53.6km s-min=24.1km az=34.0*

*NEIC **08** 15:05:42.9±0.8, 65.37S×179.84W, h10km, mb4.7/5, Error ellipse: s-maj=22.4km s-min=15.6km az=83.0*

ISC 08 15:05:42.4±1.1**, 65.4S**±0.1×**179.5E**±0.5**, h10**km**, n19,**
σ1.13/12**, mb4.3**/7**, MS3.8**/7**, Balleny Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBA	**Scott Base**	**13.04**	**192**	*e*P	**P**	**15 08 48.9**	**-1.3**
VNDA	**Vanda**	**13.25**	**197**	Pn	**P**	**15 08 53.4**	**+0.3**
	1.5nm,0.3s,baz=44,slow=18,SNR=97						
VNDA				Sn	**S**	**15 11 15.5**	**-6.0**
	0.1nm,0.3s,baz=310,slow=17,SNR=3.1						
VNDA				LR	LR	15 12 56.9	
	comp=Z,842nm,21.1s,baz=84,slow=32						
RPZ	**Rata Peaks**	**22.27**	**344**	LR	LR	15 17 08.3	
	comp=Z,872nm,18.9s,MS4.2,baz=174,slow=31						
QSPA	**South Pole Qui**	**24.64**	**180**	*e*P	**P**	**15 11 05.3**	**+1.7**
	49nm,1.0s,mb5.0						
CASY	**Casey**	**26.93**	**236**	P	**P**	**15 11 25.6**	**+0.5**
	132nm,1.3s,mb5.3						
URZ	**Urewera**	**27.26**	**356**	LR	LR	15 19 52.7	
	comp=Z,771nm,21.1s,MS4.2,baz=116,slow=31						
MAW	**Mawson**	**39.88**	**212**	LR	LR	15 29 37.2	
	comp=Z,674nm,20.2s,MS4.5,baz=152,slow=36						
NWAO	**Narrogin (SRO)**	**49.07**	**280**	LR	LR	15 30 40.9	
	comp=Z,2.0nm,19.3s,MS2.1,baz=285,slow=30						
CTA	**Charters Tower**	**50.30**	**318**	LR	LR	15 33 01.2	
	comp=Z,132nm,19.3s,MS4.0,baz=41,slow=32						
ASAR	**Alice Springs**	**50.89**	**302**	P	**P**	**15 14 45.8**	**+0.4**
	0.6nm,0.6s,mb3.7,baz=154,slow=7.7,SNR=12						
ASAR				LR	LR	15 32 18.7	
	comp=Z,84nm,19.9s,MS3.8,baz=346,slow=31						
WRA	**Warramunga Arr**	**54.18**	**305**	P	**P**	**15 15 08.8**	**-1.1**
	0.5nm,0.7s,mb3.6,baz=158,slow=6.5,SNR=8.4						
WRAB	**Tennant Creek**	**54.18**	**305**	P	**P**	**15 15 10.4**	**+0.4**
	5.6nm,0.9s,mb4.5						
PLCA	**Paso Flores**	**61.18**	**125**	P	**P**	**15 15 54.5**	**-4.5**
	3.9nm,1.2s,mb4.4,baz=208,slow=15,SNR=3.0						
PLCA				LR	LR	15 38 38.7	
	comp=Z,79nm,19.8s,MS3.9,baz=204,slow=32						
PLCA	**Paso Flores**	**61.18**	**125**	*e*P	**P**	**15 15 53.7**	**-5.3**
	3.2nm,0.9s,mb4.5						
LPAZ	**La Paz**	**84.24**	**117**	P	**P**	**15 18 13.9**	**-1.2**
	0.6nm,0.7s,mb3.8,baz=207,slow=6.8,SNR=2.6						
LPAZ	**La Paz**	**84.24**	**117**	*e*P	**P**	**15 18 15.9**	**+0.8**
	0.6nm,0.7s,mb3.8						
ILAR	**Eielson Array**	**132.19**	**19**	PKP	PKPdf	15 24 56.6	-1.6
	0.6nm,0.7s,baz=242,slow=2.2,SNR=5.6						
CHKZ	**Chkalovo**	**144.16**	**286**	*e*PKP	PKPdf	15 25 15.9	-4.0
SCHQ	**Schefferville**	**146.94**	**76**	PKPbc	PKPbc	15 25 22.6	-0.5
	3.5nm,0.9s,baz=284,slow=1.3,SNR=5.9						

IDC 08 15:06:08.4±18.0**, 7.63S**×**118.84E, mb3.4**/2**, mb1 3.5**/3**,**
mb1mx3.3/14**, mbtmp3.3**/3**, ML3.3**/1**, Error ellipse:**
s-maj=316.2km s-min=195.2km az=179.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.37**	**131**	P	P	15 10 35.3	-3.3
	0.1nm,0.3s,baz=303,slow=12,SNR=14						
ASAR	**Alice Springs**	**21.52**	**139**	P	P	15 11 00.1	-1.1
	0.4nm,0.4s,baz=315,slow=8.8,SNR=28						
STKA	**Stephens Creek**	**32.11**	**142**	P	P	15 12 37.2	-2.5
	1.3nm,0.9s,baz=332,slow=13,SNR=3.7						

IDC 08 15:44:54.3±66.0**, 21.39S**×**179.65W, mb3.7**/3**, mb1 3.9**/3**,**
mb1mx3.7/14**, mbtmp3.7**/3**, Error ellipse:**
s-maj=1196.0km s-min=150.0km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.02**	**245**	P	P	15 51 56.2	-2.9
	1.2nm,0.9s,baz=66,slow=12,SNR=3.0						
ASAR	**Alice Springs**	**42.82**	**258**	P	P	15 52 54.0	-1.8
	0.5nm,0.5s,baz=92,slow=7.3,SNR=10						
WRA	**Warramunga Arr**	**42.96**	**263**	P	P	15 52 56.3	-0.7
	0.4nm,0.4s,baz=94,slow=8.5,SNR=25						

BJI 08 15:58:33.0, 39.14N×**75.41E, h8**km**, ML3.5, 1D, Southern**
Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.58**	**49**	⇓*i*PG	Pg	15 58 42.1	-2.5
KSH				SG	Sg	15 58 51.7	-0.6
KSH				Smax			
	comp=N,2μm,0.4s						
KSH				Smax			
	comp=E,3μm,0.4s						
WMQ	**Urumqi**	**10.33**	**59**	*e*P	P	16 01 02.9	-1.7
WMQ				S	S	16 02 54.1	-7.6

*MOS **08** 15:59:39.0±1.3, 4.48N×75.83W, h33km, mb5.0/5, Error ellipse: s-maj=13.8km s-min=8.6km az=111.5*

*NEIC **08** 15:59:43.9±0.2, 4.42N×75.95W, mb4.9/72, Error ellipse: s-maj=5.6km s-min=4.5km az=56.0*

NEIC Felt at Buenaventura, Cali, La Victoria, Medellin, Manizales, Pereira, Quibdo, Valle and Yumbo.

*IDC **08** 15:59:43.3±0.5, 4.38N×76.12W, h64km±3km, mb4.3/22, mb1 4.5/24, mb1mx4.4/27, mbtmp4.6/24, MS3.8/8, Ms1 3.9/8, ms1mx3.5/16, Error ellipse: s-maj=10.2km s-min=6.5km az=2.0*

*HRVD **08** 15:59:43.9±0.4, 4.50N×75.92W, h60km±4km, MW5.0/36, Centroid moment Tensor Solution. LP body waves: s19,c21;Mantle waves: s36,c52; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.31±.27; $M_{\theta\theta}$-0.93±.20; $M_{\phi\phi}$0.62±.22; $M_{r\theta}$-0.56±.13; $M_{\theta\phi}$3.16±.14; $M_{\phi r}$-1.32±.17; Best double couple: $M_0$3.561×10^{16} NP1:ϕ_s265°, δ70°, λ12°. NP2:ϕ_s171°, δ79°, λ159°. Principal axes: T 3.675, Plg22°, Azm127°; N -.227, Plg67°, Azm324°; P -3.448, Plg6°, Azm219°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **08** 15:59:43.8, 4.40N×75.90W, h65km, mB5.3, Ms5.2, Msz4.1*

ISC 08 15:59:42.6±0.2**, 4.47N**±0.03×**75.90W**±0.03**, h65**km**,**
h65km±1.2km**:pP-P, n223, σ1.07**/190**, mb4.9**/92**, 18C-13D,**
Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOBC	**El Hobo**	**0.26**	**244**	⇑P	**P**	**15 59 52.3**	**-0.7**
SEGC	**San Emigdio**	**0.96**	**198**	P	**P**	**16 00 01.4**	**+0.9**
HOQC	**Horqueta**	**1.23**	**216**	⇓P	**P**	**16 00 04.0**	**-0.2**
ROSC	**El Rosal**	**1.61**	**76**	P	**P**	**16 00 14.7**	**+5.3**
	7.0nm,0.3s,baz=307,slow=4.9,SNR=17						
ROSC				S	**S**	**16 00 37.2**	**+7.9**
	1μm,0.3s,baz=75,slow=23,SNR=22						
ROSC				LR	LR	16 01 08.7	
	comp=Z,4μm,20.1s,baz=192,slow=46						
SDV	**Santo Domingo**	**6.83**	**50**	P	**P**	**16 01 23.4**	**+1.1**
	104nm,0.3s,baz=251,slow=9.4,SNR=257						
SDV				S	**S**	**16 02 39.7**	**+0.5**
	74nm,0.3s,baz=351,slow=16,SNR=3.6						
SDV	**Santo Domingo**	**6.83**	**50**	*e*P	**P**	**16 01 23.1**	**+0.8**
ACR	**Cerro Adams**	**8.33**	**300**	⇑*e*P	**P**	**16 01 42.8**	**-0.2**
ACR				*e*S	**S**	**16 03 14.8**	**-1.7**
BUS	**Buena Vista**	**9.29**	**303**	⇓*e*P	**P**	**16 01 57.3**	**+1.2**
ICR	**Volcan Irazu**	**9.58**	**305**	*e*P	**P**	**16 02 01.9**	**+1.6**
LCR2	**La Lucha 2**	**9.59**	**304**	⇓*e*P	**P**	**16 02 01.7**	**+1.3**
TRTC	**Tortuguero**	**9.84**	**309**	*e*P	**P**	**16 02 04.7**	**+1.0**
PRS1	**Puriscal**	**9.98**	**304**	⇓*e*P	**P**	**16 02 07.1**	**+1.5**
VPS2	**Volcan Poas 2**	**10.03**	**305**	*e*P	**P**	**16 02 08.4**	**+2.0**
JTS	**JuntasAbangare**	**10.68**	**303**	Pn	**P**	**16 02 15.9**	**+0.8**
	237nm,0.8s,SNR=9.0						
JTS	**JuntasAbangare**	**10.68**	**303**	⇑*e*P	**P**	**16 02 16.3**	**+1.2**
JTS	**JuntasAbangare**	**10.68**	**303**	P	**P**	**16 02 15.5**	**+0.4**
	2.8nm,0.3s,baz=90,slow=8.5,SNR=23						
JTS				LR	LR	16 06 46.1	
	comp=Z,673nm,19.8s,baz=133,slow=40						
JTS	**JuntasAbangare**	**10.68**	**303**	*e*P	**P**	**16 02 15.2**	**+0.1**
VCR	**Vista de Mar**	**11.16**	**301**	*e*P	**P**	**16 02 22.7**	**+1.0**
GWJ	**Greenwich**	**13.54**	**357**	⇑*e*P	**P**	**16 02 55.2**	**+1.8**
STH	**Stony Hill**	**13.55**	**356**	⇑*i*P	**P**	**16 02 55.3**	**+1.8**
PAYG	**Puerto Ayora**	**15.25**	**251**	*e*P	**P**	**16 03 19.7**	**+4.1**
	53nm,0.8s						
NNA	**Nana**	**16.38**	**183**	*e*P	**P**	**16 03 31.1**	**+1.3**
	20nm,0.6s						
SJG	**San Juan**	**16.58**	**34**	P	**P**	**16 03 29.8**	**-2.5**
	12nm,0.3s,baz=223,slow=9.4,SNR=9.7						
SJG	**San Juan**	**16.58**	**34**	*e*P	**P**	**16 03 29.6**	**-2.7**
	64nm,0.5s						
ARE	**Arequipa**	**21.25**	**168**	*e*P	**P**	**16 04 27.0**	**+1.6**
LPAZ	**La Paz**	**22.01**	**160**	P	**P**	**16 04 31.4**	**-1.6**
	38nm,0.8s,mb4.9,baz=332,slow=9.7,SNR=208						
LPAZ				LR	LR	16 13 25.6	
	comp=Z,263nm,21.8s,baz=298,slow=37						
LPAZ	**La Paz**	**22.01**	**160**	⇑*e*P	**P**	**16 04 31.7**	**-1.3**
	46nm,0.8s,mb5.0						
LVC	**Limon Verde**	**27.77**	**166**	P	**P**	**16 05 27.4**	**-0.3**
	17nm,0.5s,mb4.9,baz=355,slow=7.0,SNR=10						
BDFB	**Brasilia**	**34.08**	**126**	P	**P**	**16 06 22.2**	**-0.9**
	18nm,0.8s,mb5.0,baz=298,slow=9.7,SNR=22						
BDFB				LR	LR	16 21 04.7	
	comp=Z,550nm,19.8s,baz=303,slow=38						
USIN	**University of**	**35.03**	**344**	P	**P**	**16 06 30.9**	**-0.2**
	67nm,0.7s,mb5.7						
BLO	**Bloomington**	**35.86**	**346**	P	**P**	**16 06 36.8**	**-1.4**
	24nm,0.6s,mb5.3						
FVM	**French Village**	**35.90**	**340**	*e*P	**P**	**16 06 36.1**	**-2.3**
	27nm,0.7s,mb5.3						
TXAR	**Lajitas Array**	**36.09**	**316**	P	**P**	**16 06 38.2**	**-2.0**
	1.8nm,0.7s,mb4.1,baz=153,slow=10,SNR=5.3						
TXAR				PcP	PcP	16 09 05.5	+0.1
	3.2nm,0.9s,baz=143,slow=6.3,SNR=4.1						
CCM	**Cathedral Cave**	**36.24**	**339**	*e*P	**P**	**16 06 37.6**	**-3.8**
	17nm,0.6s,mb5.2						
WMOK	**Wichita Mounta**	**36.83**	**328**	*e*P	**P**	**16 06 45.2**	**-1.1**
	12nm,0.8s,mb4.8						
WMOK				*e*	pP	16 07 00.9	-1.6
MNTX	**Cornudas Mount**	**38.71**	**318**	*e*P	**P**	**16 07 01.3**	**-0.8**
	16nm,0.9s,mb4.8						
KSU1	**Kansas State U**	**39.26**	**334**	P	**P**	**16 07 05.5**	**-1.1**
SADO	**Sadowa**	**40.24**	**356**	P	**P**	**16 07 14.8**	**+0.3**
	7.6nm,0.5s,mb4.7,baz=199,slow=8.6,SNR=8.3						
ANMO	**Albuquerque**	**41.46**	**321**	⇓*e*P	**P**	**16 07 26.3**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ANMO	**Albuquerque**	**41.46**	**321**	P	**P**	**16 07 24.8**	**0.0**
	comp=Z,6.8nm,1.0s,mb4.2,baz=151,slow=8.3,SNR=7.8						
ANMO	**Albuquerque**	**41.46**	**321**	*e*P	**P**	**16 07 25.3**	**+0.5**
	comp=Z,24nm,1.2s,mb4.7						
CAM4	**Nova Friburgo**	**42.11**	**131**	(P)	**P**	**16 07 32.4**	**+2.1**
SDCO	**Great Sand Dun**	**42.74**	**325**	*e*P	**P**	**16 07 35.5**	**+0.2**
	comp=Z,23nm,1.0s,mb4.9						
TUC	**Tucson**	**42.80**	**315**	*e*P	**P**	**16 07 36.3**	**+0.5**
	comp=Z,9.9nm,0.9s,mb4.5						
TUC				*e*	pP	16 07 52.9	+0.7
ISCO	**Idaho Springs**	**44.24**	**327**	*e*P	**P**	**16 07 48.0**	**+0.6**
	comp=Z,10nm,0.8s,mb4.6						
TRQA	**Tornquist**	**44.24**	**164**	*e*P	**P**	**16 07 45.9**	**-1.6**
	comp=Z,17nm,0.5s,mb5.0						
PV01	**Paradox Valley**	**44.81**	**323**	*e*P	**P**	**16 07 53.8**	**+1.8**
PHWY	**Pilot Hill**	**45.22**	**328**	P	**P**	**16 07 55.8**	**+0.6**
PV10	**Paradox Valley**	**45.25**	**323**	*e*P	**P**	**16 07 55.7**	**+0.3**
PLCA	**Paso Flores**	**45.25**	**174**	P	**P**	**16 07 55.0**	**-0.5**
	comp=Z,24nm,0.7s,mb5.1,baz=349,slow=9.0,SNR=54						
PLCA				PcP	PcP	16 09 33.1	-1.8
	comp=Z,5.3nm,0.7s,baz=354,slow=8.4,SNR=2.5						
PLCA	**Paso Flores**	**45.25**	**174**	*e*P	**P**	**16 07 54.9**	**-0.5**
	comp=Z,37nm,0.8s,mb5.3						
EYMN	**Ely**	**45.34**	**345**	*e*P	**P**	**16 07 54.2**	**-1.9**
	comp=Z,17nm,0.6s,mb5.0						
SRU	**San Rafael**	**46.61**	**323**	*e*P	**P**	**16 08 06.9**	**+0.7**
SRU				*e*pP	pP	16 08 22.7	0.0
MSU	**Marysvale**	**47.27**	**321**	*e*P	**P**	**16 08 12.7**	**+1.2**
MSU				*e*	pP	16 08 28.4	+0.5
MVU	**Marysvale**	**47.28**	**321**	*e*P	**P**	**16 08 14.0**	**+2.5**
	comp=Z,22nm,1.0s,mb5.0						
MVU				*e*	pP	16 08 28.6	+0.6
ARUT	**Antelope Range**	**47.66**	**319**	*e*P	**P**	**16 08 15.1**	**+0.6**
ARUT				*e*	pP	16 08 31.7	+0.7
MPU	**Maple Canyon**	**47.84**	**323**	*e*P	**P**	**16 08 18.1**	**+2.2**
MPU				*e*	pP	16 08 32.3	-0.1
TCUT	**Toone Canyon**	**48.40**	**324**	*e*P	**P**	**16 08 21.1**	**+0.9**
PDAR	**Pinedale Array**	**48.43**	**327**	P	**P**	**16 08 20.7**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.4,baz=130,slow=6.0,SNR=14						
PDAR				ScP		16 13 33.8	
	comp=Z,2.7nm,1.0s,baz=135,slow=4.2,SNR=7.6						
PDAR				LR	LR	16 33 14.3	
	comp=Z,64nm,19.3s,baz=131,slow=42						
ULM	**Lac du Bonnet**	**48.63**	**343**	P	**P**	**16 08 20.1**	**-1.8**
	comp=Z,3.3nm,0.5s,mb4.7,baz=146,slow=8.0,SNR=5.2						
ULM				LR	LR	16 29 20.5	

comp=Z,86nm,19.1s,baz=185,slow=36
ULM Lac du Bonnet 48.63 343 *e*P P **16 08 19.5 -2.3**
comp=Z,25nm,1.0s,mb5.2
HWUT Hardware Ranch 48.80 324 *e*P P **16 08 23.2 -0.1**
comp=Z,15nm,0.7s,mb5.1
TPNV Topopah Spring 49.08 317 *e*P P **16 08 22.3 -3.1**
comp=Z,212nm,0.8s
SNOW Snow King Moun 49.55 327 *e*P P **16 08 28.6 -0.4**
LOHW Long Hollow 49.57 327 *e*P P **16 08 29.7 +0.5**
comp=Z,14nm,0.8s,mb5.0
LOHW *e* pP 16 08 44.7 -1.1
WUWY Wally Ulrich 49.59 327 *e*P P **16 08 30.9 +1.5**
TPAW Teton Pass 49.67 327 *e*P P **16 08 30.5 +0.5**
MOOW Moose Ponds 49.73 327 *e*P P **16 08 29.7 -0.7**
RRI2 Red Ridge 49.78 326 *e*P P **16 08 30.4 -0.4**
IMW Indian Meadow 49.94 327 *e*P P **16 08 31.4 -0.6**
YMR Madison River 50.47 328 P P **16 08 36.5 +0.5**
GCMT Greycliff 50.56 330 P P **16 08 34.9 -1.9**
SCHQ Schefferville 50.74 7 P P **16 08 37.4 -0.6**
comp=Z,74nm,0.8s,mb4.7,baz=188,slow=7.0,SNR=24
SCHQ Schefferville 50.74 7 *e*P P **16 08 37.5 -0.5**
comp=Z,21nm,0.7s,mb5.2
QLMT Earthquake Lak 50.82 328 *e*P P **16 08 38.0 -0.7**
MNV Mina 51.13 317 *e*P P **16 08 40.8 -0.3**
comp=Z,15nm,0.9s,mb4.9
MNV *e* pP 16 08 57.8 0.0
NVAR Mina Array Bea 51.23 317 P P **16 08 41.9 -0.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=116,slow=6.6,SNR=17
NVAR LR LR 16 33 44.7
comp=Z,47nm,18.4s,baz=180,slow=40
BOZ Bozeman (W) 51.47 328 *e*P P **16 08 42.7 -0.9**
comp=Z,13nm,0.7s,mb5.0
HRY Holter Researc 52.29 329 P P **16 08 48.2 -1.5**
WVOR Wild Horse Val 53.55 321 *e*P P **16 08 58.5 -0.7**
comp=Z,30nm,0.9s,mb5.2
WVOR *e*pP pP 16 09 14.6 -1.4
OHCM Honcut 53.84 317 *e*P P **16 09 01.3 -0.1**
OHCM *e* pP 16 09 17.0 -1.2
BMO Blue Mountains 54.10 324 P P **16 09 01.8 -1.3**
comp=Z,14nm,1.4s,mb4.7
YBH Yreka Blue Hor 55.80 319 P P **16 09 12.9 -2.7**
comp=Z,2.0nm,0.7s,mb4.3,baz=109,slow=5.9,SNR=6.4
YBH pP pP 16 09 29.3 -3.1
comp=Z,4.4nm,0.7s,baz=73,slow=6.9,SNR=7.2
FCC Fort Churchill 55.96 349 *e*P P **16 09 14.0 -2.5**
comp=Z,30nm,1.1s,mb5.2
NEW Newport 56.03 328 P P **16 09 17.0 -0.1**
comp=Z,2.8nm,0.7s,mb4.4,baz=198,slow=6.4,SNR=2.7
USHA Ushuaia 59.42 175 P P **16 09 39.2 -1.6**
comp=Z,12nm,0.6s,mb5.1,baz=313,slow=7.3,SNR=7.0
YKA Yellowknife Ar 64.54 341 P P **16 10 12.5 -2.3**
comp=Z,4.1nm,0.5s,mb4.7,baz=134,slow=6.2,SNR=66
YKA pP pP 16 10 29.9 -2.3
comp=Z,5.4nm,0.6s,baz=132,slow=7.0,SNR=10
YKW3 Yellowknife Ar 64.60 341 *e*P P **16 10 13.2 -2.0**
YKW3 *e*pP pP 16 10 30.4 -2.2
YKW3 *e*sP sP 16 10 37.5 -2.3
DLBC Dease Lake 68.09 333 P P **16 10 36.3 -1.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=342,slow=5.5,SNR=4.2
DLBC pP pP 16 10 53.8 -1.2
comp=Z,7.5nm,0.6s,baz=118,slow=9.5,SNR=5.8
PTEO Sao Teotonio 70.25 52 *e*P P **16 10 44.3 -0.7**
comp=Z,67nm,1.2s,mb5.5
EVO Evora 69.98 51 *e*P P **16 10 48.9 -0.5**
comp=Z,20nm,0.8s,mb4.8
EVO *e*R
comp=Z,103nm,18.8s
PALC Alcoutim 70.21 52 *e*P P **16 10 50.6 -0.2**
comp=Z,25nm,1.1s,mb5.0
PVIS Viseu 70.48 48 *e*P P **16 10 52.4 0.0**
PCBR Castelo Branco 70.63 49 *e*P P **16 10 53.0 -0.3**
comp=Z,21nm,1.2s,mb5.0
MTE Manteigas 70.68 49 *e*P P **16 10 54.1 +0.5**
DBIC Dimbokro 70.69 85 P P **16 10 52.8 -1.4**
comp=Z,57nm,0.6s,mb5.7,baz=260,slow=6.5,SNR=160
DBIC LR LR 16 39 48.6
comp=Z,74nm,21.1s,baz=250,slow=34
DBIC Dimbokro 70.69 85 *e*P P **16 10 52.2 -1.9**
comp=Z,78nm,0.7s,mb5.8
PVRL Vila Real 70.72 48 *e*P P **16 10 53.9 +0.1**
comp=Z,23nm,1.8s,mb4.8
RES Resolute Bay 71.02 355 *e*P P **16 10 53.7 -1.5**
comp=Z,10nm,1.1s,mb4.7
ERUA La Rua 71.36 47 P P **16 10 57.5 -0.1**
comp=Z,2.4nm,0.2s,mb4.8
ESPR Espera 71.39 53 P P **16 10 59.1 +1.2**
comp=Z,107nm,1.5s,mb5.5
PBRG Braganca 71.54 47 *e*P P **16 10 58.9 +0.1**
comp=Z,21nm,2.1s,mb4.7
EJIF Jimena Fronter 71.64 53 P P **16 11 00.1 +0.7**
ELOJ Sierra Loja 72.78 53 P P **16 11 07.4 +1.2**
comp=Z,20nm,0.8s,mb5.1
EARI Arriondas 72.93 46 P P **16 11 08.7 +1.8**
comp=Z,105nm,2.0s,mb5.4
ERON Agron 73.04 53 P P **16 11 08.7 +1.0**
comp=Z,4.9nm,0.4s,mb4.8
ECOG Cogollos-Vega 73.26 53 P P **16 11 10.4 +1.3**
comp=Z,7.1nm,0.4s,mb5.0
GUD Guadarrama 73.27 49 P P **16 11 09.9 +0.9**
comp=Z,6.4nm,0.7s,mb4.7
ESDC Sonseca Array 73.27 50 P P **16 11 08.7 -0.3**
comp=Z,5.0nm,0.6s,mb4.6,baz=262,slow=5.8,SNR=14
ESDC sP sP 16 11 33.6 -0.1
comp=Z,4.1nm,0.8s,baz=259,slow=6.4,SNR=2.8
ESDC Sonseca Array 73.27 50 P P **16 11 09.2 +0.1**
comp=Z,5.2nm,0.6s,mb4.6
EQES Quesada 73.72 52 P P **16 11 12.3 +0.7**
comp=Z,34nm,1.0s,mb5.2
EBER Berja 73.75 53 P P **16 11 13.3 +1.4**
comp=Z,39nm,0.9s,mb5.3
EHUE Huescar 74.09 52 P P **16 11 14.7 +0.8**
comp=Z,4.5nm,0.4s,mb4.8
ELAN Lanestosa 74.19 46 P P **16 11 15.9 +1.5**
comp=Z,8.4nm,0.7s,mb4.8
ENIJ Nijar 74.30 53 P P **16 11 16.1 +0.9**
comp=Z,24nm,0.7s,mb5.2
INK Inuvik 74.31 341 *e*P P **16 11 13.2 -1.3**
comp=Z,12nm,0.9s,mb4.8
SCO Scoresbysund 74.33 16 *e*P P **16 11 13.4 -1.2**
SCO Scoresbysund 74.33 16 *i*P P **16 11 13.4 -1.2**
ETOB Tobarra 75.01 51 P P **16 11 23.4 +4.3**
comp=Z,13nm,0.7s,mb5.0
QUIF Quistinic 75.15 42 *e*P P **16 11 19.5 -0.2**
comp=Z,5.8nm,0.6s,mb4.4
ROSF Rostrenen 75.15 41 *e*P P **16 11 19.4 -0.3**
comp=Z,16nm,0.7s,mb4.8
SGMF Saint Gilles 75.61 41 *e*P P **16 11 21.3 -1.0**
comp=Z,28nm,0.9s,mb4.9
SJPF Ste Jean 75.78 47 *e*P P **16 11 23.7 +0.3**
comp=Z,22nm,0.6s,mb4.9
ETSF Etsaut 76.24 47 *e*P P **16 11 25.4 -0.6**
comp=Z,20nm,1.1s,mb4.6
GRR Gorron 76.75 41 *e*P P **16 11 27.5 -1.3**
comp=Z,16nm,0.5s,mb4.9
EPF Esparros 76.91 47 *e*P P **16 11 30.1 +0.3**
comp=Z,13nm,0.6s,mb4.7
MFF Saint Martin d 76.98 43 *e*P P **16 11 29.8 -0.4**
comp=Z,22nm,0.6s,mb4.9
FLN La Foliniere 77.05 41 *e*P P **16 11 30.1 -0.4**
comp=Z,11nm,0.5s,mb4.8
FLN *e*R
comp=Z,116nm,17.5s
LDF La Druitiere 77.26 41 *e*P P **16 11 31.4 -0.2**
comp=Z,14nm,0.7s,mb4.7
LFF La Frestale 77.40 45 *e*P P **16 11 32.0 -0.5**
ILAR Eielson Array 77.93 336 *e*P P **16 11 34.1 -0.9**
ILAR Eielson Array 77.93 336 P P **16 11 34.0 -0.9**
comp=Z,2.5nm,0.7s,mb4.3,baz=108,slow=4.5,SNR=22
ILAR pP pP 16 11 51.6 -1.2
comp=Z,5.0nm,0.8s,baz=124,slow=4.1,SNR=10
ILAR LR LR 16 45 55.0
comp=Z,89nm,21.5s,baz=349,slow=36
RJF Les Rejaudoux 77.99 45 *e*P P **16 11 35.4 -0.3**
comp=Z,20nm,0.8s,mb4.8
RJF *e*R
comp=Z,161nm,20.0s
MTLF Montolieu 78.30 47 *e*P P **16 11 37.2 -0.3**
comp=Z,33nm,1.1s,mb4.9
CAF Calviac 78.34 45 *e*P P **16 11 37.6 0.0**
COLA College 78.35 336 *i*P P **16 11 38.9 +1.6**
DAG Danmarks Havn 78.49 11 *i*P pP 16 11 50.0 -5.7
TCF Toulx Ste Croi 78.57 44 *e*P P **16 11 38.4 -0.5**
BGF Bois d'Agland 79.03 44 *e*P P **16 11 41.0 -0.4**
comp=Z,13nm,0.8s,mb4.6
AVF Avril sur Loir 79.40 43 *e*P P **16 11 42.7 -0.7**
SSF Saint Saulge 79.53 43 *e*P P **16 11 43.4 -0.7**
comp=Z,14nm,0.9s,mb4.6
LASF Ste Croix 79.55 46 *e*P P **16 11 44.5 +0.2**
SMF Signal de Mont 79.72 44 *e*P P **16 11 44.7 -0.5**
comp=Z,25nm,1.0s,mb4.8
VIVF Saint-Julien-l 80.18 45 *e*P P **16 11 47.3 -0.4**
BAIF Baives 80.24 40 *e*P P **16 11 47.6 -0.2**
GIVF Givet 80.64 40 *e*P P **16 11 49.6 -0.4**
MEZF Maizieres J'vi 80.67 42 *e*P P **16 11 49.7 -0.5**
IMA Indian Mountai 80.98 336 *e*P P **16 11 50.3 -1.1**
comp=Z,40nm,1.3s,mb5.2
IMA *e* pP 16 12 08.7 -0.6
ORIF Oris-en-Rattie 81.04 45 *e*P P **16 11 52.9 +0.7**
comp=Z,28nm,1.0s,mb4.8
ORIF *e*R
comp=Z,83nm,21.5s
CABF La Chapelle 81.26 44 *e*P P **16 11 53.1 -0.2**
comp=Z,2.7nm,0.4s,mb4.2
LMR La Mourre 81.43 47 *e*P P **16 11 54.2 -0.1**
HAU Haudompre 81.51 42 *e*P P **16 11 53.9 -0.7**
HAU *e*R
comp=Z,91nm,21.0s
FRF La Foret Royal 81.54 47 *e*P P **16 11 54.0 -0.8**
comp=Z,19nm,0.8s,mb4.8
LPL La Plagne 81.67 45 *e*P P **16 11 56.3 +0.8**
MBDF Montbardon 81.67 46 *e*P P **16 11 54.8 -0.7**
LPG La Plagne 81.68 45 *e*P P **16 11 55.1 -0.4**
HINF Hinteralfeld 81.84 42 *e*P P **16 11 55.7 -0.6**
CDF Champ du Feu 82.15 42 *e*P P **16 11 57.4 -0.5**
PGF Pioggiola 83.24 48 *e*P P **16 12 02.7 -0.9**
comp=Z,47nm,1.2s,mb5.1
DAVA Damuels 83.88 43⇑ *i*P P **16 12 07.4 +0.7**
comp=Z,11nm,1.1s,mb4.9
NB2 NORSAR Subarra 84.72 29 P P **16 12 11.1 +0.5**
comp=Z,3.3nm,0.7s,mb4.6,baz=269,slow=5.0
NOA NORSAR Array B 84.72 29 P P **16 12 10.9 +0.3**
comp=Z,5.0nm,0.9s,mb4.6,baz=269,slow=4.9,SNR=15
NOA pP pP 16 12 28.8 +0.1
comp=Z,5.1nm,1.0s,baz=268,slow=5.0,SNR=4.9
NOA NORSAR Array B 84.72 29 P P **16 12 10.9 +0.3**
NOA pP pP 16 12 28.8 +0.1
NKC Novy Kostel 85.54 40 *e*P pP 16 12 32.8 -0.2
CLL Collm 85.86 39 *e*P P **16 12 17.0 +0.6**
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
CLL Collm 85.86 39 *e*P P **16 12 17.0 +0.6**
comp=Z,8.0nm,1.0s,mb4.9
CLL Collm 85.86 39 P P **16 12 17.0 +0.6**
comp=Z,logA/T=0.9,mb4.9
KBA Koelnbreinsper 86.25 43⇑ *i*P P **16 12 20.0 +1.6**
comp=Z,9.6nm,1.2s,mb4.9
KHC Kasperske Hory 86.31 41 *e*P P **16 12 19.3 +0.6**
KHC *ex* x 16 12 24.5
KHC *e*pP pP 16 12 38.2 +1.4
GERES GERESS Array B 86.41 41 P P **16 12 19.7 +0.6**
comp=Z,3.9nm,1.0s,mb4.6,baz=266,slow=3.7,SNR=9.7
GERES pP pP 16 12 39.1 +1.8
comp=Z,2.7nm,0.8s,baz=270,slow=4.0,SNR=5.4
BRG Berggiesshubel 86.47 39 *e*P P **16 12 20.0 +0.6**
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.8
BRG Berggiesshubel 86.47 39 *e*P P **16 12 20.0 +0.6**
comp=Z,6.8nm,1.2s,mb4.8
VOY Vojsko 86.67 44 *e* P **16 12 23.7 +3.2**
VOY *e*PP pP 16 12 42.7 +4.0
VNA3 Neumayer Olymp 86.75 163⇓ *i* P **16 12 22.7 +2.4**
VNA3 Neumayer Olymp 86.75 163⇓ *i* pP 16 12 36.3 -2.2
VNA3 Neumayer Olymp 86.75 163⇑ *i*P P **16 12 20.3 0.0**
VNA3 ⇓ *i*P 16 12 22.7
VNA3 ⇓ *i*P pP 16 12 36.3 -2.2
MOA Molln 86.83 42⇑ *i*P P **16 12 22.3 +1.0**
comp=Z,9.9nm,1.0s,mb5.0
PRU Pruhonice 86.89 40 *e*P P **16 12 21.9 +0.4**
PRU *e*pP pP 16 12 41.7 +2.0
VNA2 Neumayer--Watz 87.31 162⇑ *i* pP 16 12 39.7 -1.6
VNA2 Neumayer--Watz 87.31 162⇑ *i*P P **16 12 22.1 -1.0**
VNA2 ⇑ *i*P pP 16 12 39.7 -1.6
VNA2 ⇓ *i*P pP 16 12 44.9 +3.6
ARSA Arzberg 87.72 43⇓ *i*P P **16 12 26.3 +0.7**
comp=Z,5.9nm,0.8s,mb4.9
UPC Upice 87.80 40 *e*P P **16 12 25.4 -0.5**
UPC *e*pP pP 16 12 46.0 +1.9
KSP Ksiaz 87.96 39⇓ *e*P P **16 12 27.7 +1.1**
DPC Dobruska-Polom 88.01 40 *e*P P **16 12 28.3 +1.4**
DPC *e*pP pP 16 12 46.7 +1.6
SNAA Sanae 88.94 162⇑ *i*P P **16 12 30.4 -0.4**
SNAA Sanae 88.94 162⇑ *e*P P **16 12 30.1 -0.7**
ARCES ARCESS Array B 89.82 20 P P **16 12 35.6 +0.6**
comp=Z,3.1nm,0.8s,mb4.7,baz=326,slow=4.4,SNR=4.1
FINES FINESS Array B 91.81 28 P P **16 12 43.6 -0.8**
comp=Z,2.4nm,0.7s,mb4.6,baz=225,slow=2.7,SNR=7.9
FINES pP pP 16 13 02.0 -0.7
comp=Z,2.4nm,0.9s,baz=180,slow=1.9,SNR=2.5
QSPA South Pole Qui 94.50 180⇑ *i*P P **16 12 57.2 +0.9**
comp=Z,20nm,1.1s,mb5.5
QSPA ⇓ *i*P pP 16 13 19.4 +4.7
BILL Bilibino 95.93 340 *i* P P **16 13 04.2 +1.1**
BILL *e* 16 16 57.1
BILL pmax pmax
comp=Z,6.0nm,1.9s,mb4.7
OBN Obninsk 98.95 33 *e*P P **16 13 19.9 +2.8**
OBN pmax pmax
comp=Z,6.0nm,1.5s,mb4.9
ZAL Zalesovo 119.60 13 PKP PKPdf 16 18 25.9 +0.7
comp=Z,0.7nm,0.8s,baz=196,slow=3.5,SNR=3.8
ZAL pPKP 16 18 43.8
comp=Z,1.0nm,0.9s,baz=199,slow=5.4,SNR=2.4
MDJ Mudanjiang 126.05 338 PKP PKPdf 16 18 36.8 -1.1
MDJ XPKP 16 19 01.1
MDJ PP PP 16 20 32.9 -3.8
MDJ SKS SKS 16 25 44.6 +9.0
MDJ PP PP
comp=Z,114nm,4.6s
MDJ LR LR
comp=N,22nm,35.7s
MDJ LR LR
comp=E,49nm,39.5s
MDJ LR LR
comp=Z,30nm,39.5s
ULN Ulaanbaatar 127.82 357 *i* PKIKP PKPdf 16 18 44.4 +3.2
SONM Songino Array 127.88 358 PKP PKPdf 16 18 41.7 +0.4
comp=Z,0.4nm,0.6s,baz=283,slow=0.9,SNR=7.0
CN2 Changchun 128.24 340 *e*PKP PKPdf 16 18 46.0 +3.9
WMQ Urumqi 129.71 15 *e*PKP PKPdf 16 18 40.0 -4.9
WMQ XPKP 16 19 14.0
WMQ PP PP
comp=Z,68nm,7.2s
WMQ LR LR
comp=N,95nm,31.2s
WMQ LR LR
comp=E,82nm,29.7s
WMQ LR LR
comp=Z,89nm,28.4s
BJI Beijing 134.34 347 PKP PKPdf 16 18 57.0 +3.2
BJI LR LR
comp=N,172nm,12.1s
BJI LR LR
comp=E,134nm,10.4s
BJI LR LR
comp=Z,47nm,31.9s
STKA Stephens Creek 135.53 228 PKP PKPdf 16 18 55.9 -0.3
comp=Z,1.5nm,0.7s,baz=22,slow=4.4,SNR=5.5
STKA Stephens Creek 135.53 228 PKP PKPdf 16 18 55.9 -0.3
NJ2 Nanjing 141.06 340 *e*PKP PKPdf 16 19 01.5 -4.8
KOLN Koldanda 142.34 31 *e*P PKPdf 16 19 06.2 -2.4
GKN Gorkha 142.66 29 *e*P PKPdf 16 19 07.3 -1.8
comp=Z,4.6nm,0.4s
KKN Kakani 143.15 28 *e*P PKPbc 16 19 06.7 -1.4
comp=Z,14nm,0.8s
DMN Daman 143.22 29 *e*P PKPbc 16 19 07.2 -1.2
comp=Z,12nm,0.4s
PKI Pulchoki 143.39 28 *e*P PKPbc 16 19 07.4 -1.5
comp=Z,15nm,0.6s
JIRN Jiri 143.68 27 *e*P PKPbc 16 19 08.3 -1.5
comp=Z,11nm,0.6s
LSA Lhasa 143.83 19 PKP PKPdf 16 19 09.0 -2.1
WHN Wuhan 143.83 345 *e*PKP PKPdf 16 19 15.0 +3.9
CD2 Chengdu 144.82 1 PKP PKPdf 16 19 11.6 -1.2
FORT Forrest 145.44 218 *e*P PKPdf 16 19 14.5 +0.6
comp=Z,510nm,0.7s
ASAR Alice Springs 145.50 234 PKPbc PKPbc 16 19 13.9 -1.0
comp=Z,12nm,0.8s,baz=117,slow=3.7,SNR=160
ASPA Alice Springs 145.50 234⇑ *i*P PKPdf 16 19 13.8 -0.4
HYB Hyderabad 146.70 49 *i* PKP PKPdf 16 19 19.0 +2.6
WRAB Tennant Creek 146.77 240⇑ *i*PKIKP PKPdf 16 19 17.0 +0.5
WRAB Tennant Creek 146.77 240 *e*PKP PKPdf 16 19 17.6 +1.1
WRA Warramunga Arr 146.78 240 PKPbc PKPbc 16 19 17.5 -0.5
comp=Z,4.8nm,0.8s,baz=107,slow=3.1,SNR=40
GYA Guiyang 149.16 356 *i* PKP PKPdf 16 19 24.9 +4.8
GYA PP PP
comp=Z,130nm,7.2s
KLBR Kellerberrin 150.13 204 *e*P PKPdf 16 19 26.7 +5.2
comp=Z,65nm,0.6s
MUN Mundaring 150.37 201 *e*P PKPdf 16 19 27.6 +5.7
comp=Z,14nm,1.0s
KMI Kunming 150.56 3 PKP PKPdf 16 19 26.2 +3.8
KMI APKP 16 19 41.4
KMI LR LR
comp=Z,34nm,28.0s
KAKA Kakadu 150.83 252 *e*P PKPdf 16 19 28.6 +5.6
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 156.66 12 PKP PKPdf 16 19 31.4 +0.4
comp=Z,1.3nm,1.1s,baz=307,slow=2.6,SNR=6.4

IDC 08 16:12:46.3±2.5, 8.47S×159.43E, mb3.7/4, mb1 3.9/4, mb1mx3.8/13, mbtmp3.7/4, Error ellipse: s-maj=87.1km s-min=28.3km az=127.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.81**	**242**	P	P	16 18 28.6	-1.7
	0.3nm,0.3s,baz=68,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**28.72**	**235**	P	P	16 18 45.0	-2.6
	0.2nm,0.4s,baz=62,slow=9.8,SNR=5.5						
SONM	**Songino Array**	**72.98**	**326**	P	P	16 24 18.9	-0.8
	1.7nm,1.0s,baz=142,slow=5.6,SNR=8.9						
ILAR	**Eielson Array**	**83.18**	**20**	P	P	16 25 13.2	-2.1
	0.7nm,1.1s,baz=234,slow=5.5,SNR=5.7						

IDC 08 16:38:06.5±12.0, 4.61S×125.51E, mb3.8/2, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, ML3.6/1, Error ellipse: s-maj=187.7km s-min=171.8km az=61.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.50**	**151**	P	P	16 42 13.0	-0.7
	0.2nm,0.3s,baz=324,slow=13,SNR=22						
ASAR	**Alice Springs**	**20.61**	**158**	P	P	16 42 47.5	-2.4
	1.7nm,0.3s,baz=335,slow=11,SNR=71						
STKA	**Stephens Creek**	**31.04**	**153**	P	P	16 44 25.7	-2.6
	0.9nm,0.9s,baz=345,slow=12,SNR=2.8						

*NEIC **08** 16:47:16.6±2.3,51.67N×16.24E,h5km,ML2.6(VIE), ML2.5(SZGRF),ML2.0(BRG), Error ellipse: s-maj=25.1km s-min=8.2km az=208.0*
*CSEM **08** 16:47:18.6±0.2,51.58N×16.06E,h2km±2km,ML2.7/2, Error ellipse: s-maj=3.4km s-min=1.6km az=30.0*
*IPEC **08** 16:47:18.0±0.3,51.60N×16.12E,h1km±1km,ML1.8/1, Error ellipse: s-maj=2.0km s-min=0.7km az=23.0*
*PRU **08** 16:47:19.4,51.52N×16.05E*
WAR 08 16:47:20.0, 51.54N×16.03E, h1km, ML2.4, 1C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**166**⇓	*i*Pg	Pg	16 47 33.1	-1.2
KSP				*e*Sg	Sg	16 47 42.7	-1.1
KSP				*e*		16 47 46.8	
KSP	**Ksiaz**	**0.71**	**166**	*e*PG	Pg	16 47 33.0	-1.3
KSP				*e*SG	Sg	16 47 43.0	-0.8
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	Pg	16 47 33.0	-1.3
KSP				*e*Sg	Sg	16 47 42.7	-1.1
UPC	**Upice**	**1.03**	**181**	*e*PG	Pg	16 47 38.9	-1.7
DPC	**Dobruska-Polom**	**1.20**	**171**	*e*PG	Pg	16 47 41.7	-2.3
DPC				*e*SG	Sg	16 47 56.5	-3.6
	13nm,0.2s						
DPC	**Dobruska-Polom**	**1.20**	**171**	*e*Pg	Pg	16 47 41.8	-2.2
DPC				*e*Sg	Sg	16 47 57.2	-2.9
PVCC	**Panska Ves**	**1.37**	**223**	*e*PG	Pg	16 47 42.0	-5.3
PVCC	**Panska Ves**	**1.37**	**223**	*e*Pn	Pn	16 47 45.3	-0.9
PVCC				*e*Sg	Sg	16 48 03.5	-2.0
BRG	**Berggiesshubel**	**1.47**	**244**	*i*Pg	Pg	16 47 47.1	-2.2
BRG				*i*Sg	Sg	16 48 07.1	-1.8
BRG	**Berggiesshubel**	**1.47**	**244**	*i*Pg	Pg	16 47 47.1	-2.2
BRG				*e*Sg	Sg	16 48 06.8	-2.1
PRU	**Pruhonice**	**1.81**	**212**	*e*PN	Pn	16 47 51.1	-1.5
PRU				*e*PG	Pg	16 47 52.8	-3.4
PRU				*ex*	x	16 48 09.8	
PRU				*e*SG	Sg	16 48 16.2	-4.2
	8.1nm,0.2s						
CLL	**Collm**	**1.91**	**264**	*i*Pn	Pn	16 47 51.8	-2.2
CLL				*i*Pg	Pg	16 47 54.7	-3.4
CLL				*i*Sg	Sg	16 48 20.7	-2.8
CLL	**Collm**	**1.91**	**264**	*i*PN	Pn	16 47 51.8	-2.2
CLL				*i*PG	Pg	16 47 54.7	-3.4
CLL				*i*		16 47 58.6	
CLL				*i*SG	Sg	16 48 20.7	-2.8
CLL	**Collm**	**1.91**	**264**	*e*Pn	Pn	16 47 51.8	-2.2
CLL	**Collm**	**1.91**	**264**	*i*Pg	Pg	16 47 54.7	-3.4
CLL				*e*Sg	Sg	16 48 20.2	-3.3
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	Pn	16 47 53.3	-2.1
MORC	**Moravsky Berou**	**2.01**	**151**	*e*Pn	Pn	16 47 53.3	-2.1
MORC				*e*Sg	Sg	16 48 21.4	-5.5
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*PG	Pg	16 47 56.5	-6.8
OKC				*e*SG	Sg	16 48 26.9	-5.4
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	Pn	16 47 57.8	-1.2
VRAC				*e*Sg	Sg	16 48 31.2	-4.1
	4.6nm,0.2s						
KRUC	**Moravsky**	**2.49**	**174**	*e*Sg	Sg	16 48 38.3	-4.6
NKC	**Novy Kostel**	**2.62**	**241**	*e*PN	Pn	16 48 02.6	-1.5
NKC				*e*PG	Pg	16 48 07.1	-5.1
NKC				*e*SG	Sg	16 48 42.2	-4.9
	8.5nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**241**	*e*Pg	Pg	16 48 07.1	-5.1
NKC				*e*Sg	Sg	16 48 41.7	-5.4
KHC	**Kasperske Hory**	**2.88**	**214**	*e*Pn	Pn	16 48 05.5	-2.3
KHC				*e*Pg	Pg	16 48 11.9	-5.5
KHC				*e*Sn	Sn	16 48 40.6	-2.9
KHC				*e*Sg	Sg	16 48 50.2	-5.5
KHC	**Kasperske Hory**	**2.88**	**214**	*e*Pg	Pg	16 48 11.9	-5.5
KHC				*e*Sn	Sn	16 48 40.6	-2.9
KHC				*e*Sg	Sg	16 48 50.2	-5.5
MOX	**Moxa**	**2.92**	**254**	*e*Pg	Pg	16 48 14.5	-3.8
MOX				*e*Sg	Sg	16 48 53.9	-3.4
MOX	**Moxa**	**2.92**	**254**	*e*Pg	Pg	16 48 14.5	-3.8
MOX				*e*Sg	Sg	16 48 52.4	-4.9
GEC2	**GERESS Array S**	**3.08**	**210**	*e*Pn	Pn	16 48 09.9	-0.8
GEC2				*e*Sg	Sg	16 48 56.1	-6.5
MOA	**Molln**	**3.86**	**198**⇑	*i*PN	Pn	16 48 20.0	-1.9
MOA				*i* SG	Sg	16 49 23.7	-4.9
	1.1nm,0.3s						

OTT 08 17:07:51.8±0.2, 52.81N×67.32W, MN2.8/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**2.04**	**8**	PN	Pn	17 08 27.8	-0.1
SCHQ				SG	Sg	17 08 55.1	-4.8
SCHQ				Trac		17 08 56.9	
	comp=Z,20nm,0.1s						
MNQ	**Manicouagan**	**2.46**	**202**	PN	Pn	17 08 32.7	-1.0
MNQ				SN	Sn	17 09 04.2	-0.8
MNQ				Trac		17 09 13.2	
	comp=Z,22nm,0.3s						
SMQ	**Clarke City**	**2.62**	**171**	PN	Pn	17 08 36.0	-0.2
SMQ				SG	Sg	17 09 12.4	-6.8
SMQ				Trac		17 09 14.2	
	comp=Z,11nm,0.2s						
ICQ	**Pointe Anglais**	**3.29**	**179**	PN	Pn	17 08 43.6	-2.1
ICQ				SN	Sn	17 09 22.7	-3.5
ICQ				Trac		17 09 33.5	
	comp=Z,4.7nm,0.1s						
CNQ	**Baie Comeau**	**3.55**	**188**	PN	Pn	17 08 47.8	-1.5
CNQ				SN	Sn	17 09 27.7	-4.9
CNQ				Trac		17 09 45.2	
	comp=Z,8.1nm,0.2s						
GSQ	**Grosses Roches**	**3.91**	**178**	PN	Pn	17 08 51.5	-2.9
GSQ				SN	Sn	17 09 40.3	-1.5
GSQ				Trac		17 10 00.3	
	comp=Z,5.2nm,0.2s						
LG4Q	**La Grande 4**	**4.15**	**284**	PN	Pn	17 08 55.9	-2.0
LG4Q				PG	Pg	17 09 04.6	-10
LG4Q				SN	Sn	17 09 45.7	-2.2
LG4Q				SG	Sg	17 10 00.5	-10

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LG4Q				Trac		17 10 04.2	
	comp=Z,7.4nm,0.2s						
LMQ	La Malbaie	5.61	201	PN	Pn	17 09 15.1	-3.4
DRLN	Deer Lake	7.14	116	PN	Pn	17 09 34.5	-5.6
DRLN				SN	Sn	17 10 46.4	-17
VLDQ	Val d'Or	7.99	238	PN	Pn	17 09 49.3	-2.7
MALO	McAlpine Lake	8.26	255	PN	P	17 09 52.7	-3.2
VIMO	Victor Mine	9.95	277	PN	P	17 10 13.4	-5.5
SILO	Sutton Inlier	10.58	286	PN	P	17 10 21.1	-6.6

*BJI **08** 17:26:15.2, 19.00N×155.40W, h18^{km}, mB5.0, mb4.6, Ms4.9, Msz4.6*
*NEIC **08** 17:26:16.7, 19.02N×155.36W, h19^{km}, mb4.2/2, After HVO.*
NEIC Felt [V] at Pahala; [IV] at Glenwood and Naalehu; [III] at Captain Cook, Hawi, Kamuela, Mauna Loa Estates, Papaaloa, Papaikou, Paukaa, Volcano and Waimea; [II] at Kailua and along South Point Road.
*IDC **08** 17:26:36.1±12.0, 21.78N×154.64W, mb3.7/6, mb1 4.1/6, mb1mx3.9/20, mbtmp3.7/6, Error ellipse: s-maj=240.3km s-min=42.5km az=34.0*
ISC 08 17:26:15.8±0.6**, 19.05N**±0.04×**155.36W**±0.03**, h26**^{km}±3^{km}**, n61, σ0^{s}73**/77**, mb4.0**/9**, 11C-26D, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPL	Puu Pili	0.14	317	i P	Pb	17 26 21.1	+0.2
HPO	Honuapo	0.19	281	ePg	Pb	17 26 21.4	-0.1
HPO				eSg	Sb	17 26 24.8	-0.4
WOH	Wood Valley	0.24	326⇑	iP	Pb	17 26 22.5	+0.4
HLP	Hilina Pali	0.25	11⇓	iP	Pb	17 26 22.9	+0.6
PWH	Poliokeawe Pal	0.26	29⇓	iP	Pb	17 26 22.9	+0.5
DES	Desert	0.28	355⇑	iP	Pb	17 26 23.0	+0.3
KNH	Kipuka Nene	0.29	13⇓	iP	Pb	17 26 23.2	+0.4
SPT	South Point	0.30	257	i P	Pb	17 26 22.6	-0.4
KHU	Kahuku	0.31	309	P	Pb	17 26 23.4	+0.3
KAE	Kaena	0.32	42⇓	iP	Pb	17 26 23.5	+0.3
AHA	Ahua	0.33	16⇑	iP	Pb	17 26 23.6	+0.3
AHA				eS	Sb	17 26 28.8	+0.2
AIN	Ainahou	0.34	344⇓	iP	Pb	17 26 24.1	+0.7
AIN				eS	Sb	17 26 29.3	+0.8
CPK	Cone Peak	0.34	5⇓	iP	Pb	17 26 23.7	+0.1
OUT	Outlet	0.34	12⇓	iP	Pb	17 26 23.7	+0.1
OUT				eS	Sb	17 26 28.8	0.0
PUH	Pauahi	0.35	22⇑	iP	Pb	17 26 23.7	+0.1
PUH				eS	Sb	17 26 28.9	-0.1
RIM	Rim	0.35	13⇓	iP	Pb	17 26 23.9	+0.1
NPH	North Pit	0.37	11⇓	iP	Pb	17 26 23.9	0.0
KNHH	Kane Nui o Ham	0.37	29⇓	iP	Pb	17 26 24.0	0.0
KNHH				eS	Sb	17 26 29.5	-0.1
UWE	Uwekahuna	0.38	10⇓	iP	Pb	17 26 24.2	+0.1
UWE				eS	Sb	17 26 29.7	+0.1
ESR	Escape Road	0.38	18⇓	iP	Pb	17 26 24.1	0.0
OVEH	Oceanview Est	0.40	285⇓	iP	Pb	17 26 24.2	-0.1
STCH	Steam Cracks	0.40	33⇓	iP	Pb	17 26 24.3	-0.1
RSD	Rainshed	0.42	11⇓	iP	Pb	17 26 24.6	-0.1
DAH	Dandelion	0.42	316⇓	iP	Pb	17 26 24.8	+0.1
RCO	Red Cone	0.43	324⇓	iP	Pb	17 26 24.9	0.0
MLH	Mauna Loa	0.44	357⇓	iP	Pb	17 26 25.5	+0.4
MLH				eS	Sb	17 26 31.9	+0.4
KLCH	Kalalua Cone	0.45	38⇓	iP	Pb	17 26 24.9	-0.3
SWH	Southwest Rift	0.46	330⇓	iP	Pb	17 26 25.3	-0.1
WIH	Wilkes Camp	0.47	333⇓	iP	Pb	17 26 25.6	+0.1
WIH				eS	Sb	17 26 32.2	+0.2
PLL	Puu Ulaula	0.49	349⇓	iP	Pb	17 26 26.1	+0.2
MWH	Mokuaweoweo	0.49	332⇓	iP	Pb	17 26 25.9	0.0
HUL	Heiheiahulu	0.51	44⇑	iP	Pb	17 26 25.8	-0.4
HUL				eS	Sb	17 26 32.6	-0.7
WOB	Weather Observ	0.53	337⇑	eP	Pb	17 26 26.5	0.0
HMH	Humuula	0.56	348⇑	iP	Pb	17 26 27.3	+0.2
PKL	Puu Kaliu	0.58	46⇑	iP	Pb	17 26 26.6	-0.7
KIH	Kanekii	0.59	320⇑	iP	Pb	17 26 27.6	0.0
KIH				eS	Sb	17 26 35.5	-0.1
NGH	National Guard	0.72	26⇓	iP	Pb	17 26 29.1	-0.6
NGH				eS	Sb	17 26 38.4	-0.8
POHA	Pohakuloa	0.72	347	ePg	Pb	17 26 33.2	+3.5
POHA				eSn	Sn	17 26 41.8	+1.2
HPU	Hale Pohaku	0.73	353⇑	iP	Pb	17 26 29.5	-0.4
HUH	Hualalai	0.78	325⇓	eP	Pb	17 26 30.2	-0.4
KKU	Keanakolu	0.83	1	P	Pb	17 26 27.6	-4.0
WKH	Waikii	0.85	341⇑	iP	Pb	17 26 31.0	-0.9
KKH	Kailua Kona	0.87	314	ePg	Pb	17 26 30.7	-1.4
KKH				eSg	Sb	17 26 39.2	-4.1
KOH	Kohala	1.14	340⇓	iP	Pn	17 26 34.6	-1.8
HKL	Haleakala	1.85	333	ePn	Pn	17 26 45.1	-1.4
HON	Honolulu	3.36	313	ePn	Pn	17 27 04.0	-3.9
HON				eSn	Sn	17 27 38.4	-9.0
KIP	Kipapa	3.43	314	ePn	Pn	17 27 05.2	-3.8
KIP				eSn	Sn	17 27 38.5	-11
NVAR	Mina Array Bea	37.47	51	P	P	17 33 32.0	+2.9
	0.4nm,0.6s,mb3.4,baz=243,slow=10,SNR=2.7						
WALA	Waterton Lakes	44.70	38	eP	P	17 34 23.8	-4.7
	3.9nm,1.0s,mb4.2						
MCK	McKinley	44.86	4	P	P	17 34 27.8	-1.9
MCK				e		17 34 43.6	
BW06	Boulder Array	45.16	48	eP	P	17 34 38.7	+6.5
PDAR	Pinedale Array	45.16	48	P	P	17 34 37.9	+5.7
	0.8nm,0.9s,mb3.5,baz=252,slow=9.4,SNR=6.2						
ILAR	Eielson Array	46.04	5	P	P	17 34 39.8	+0.9
	1.2nm,0.8s,mb3.9,baz=197,slow=7.3,SNR=13						
SDCO	Great Sand Dun	47.06	56	P	P	17 34 56.0	+8.6
TXAR	Lajitas Array	47.92	67	P	P	17 35 03.7	+9.4
	1.4nm,0.9s,mb4.0,baz=255,slow=10,SNR=6.3						
INK	Inuvik	51.12	10	P	P	17 35 18.2	0.0
	1.6nm,0.8s,mb4.0,baz=237,slow=10,SNR=6.2						
INK	Inuvik	51.12	10	eP	P	17 35 15.9	-2.4
	3.1nm,1.0s,mb4.2						
YKA	Yellowknife Ar	51.68	23	P	P	17 35 22.7	+0.2
	0.4nm,0.6s,mb3.5,baz=232,slow=7.4,SNR=12						
MDJ	Mudanjiang	66.33	311	P	P	17 37 05.5	+1.0
MDJ				PCP	PcP	17 37 34.9	+0.7
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.6s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,117nm,5.7s						
CN2	Changchun	69.38	311	eP	P	17 37 24.8	+1.3
BJI	Beijing	76.86	308	P	P	17 38 08.4	+0.9
BJI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.6						
BJI				LR	LR		
	comp=N,148nm,9.6s						
BJI				LR	LR		
	comp=E,167nm,11.4s						
BJI				LR	LR		
	comp=Z,65nm,23.3s						

*MOS **08** 17:30:43.1±1.2, 85.28N×92.78E, h10^{km}, mb4.5/12, Error ellipse: s-maj=99.9km s-min=12.8km az=87.8*
*IDC **08** 17:30:43.9±0.6, 85.32N×92.85E, mb4.0/12, mb1 4.2/13, mb1mx4.1/19, mbtmp4.0/13, ML3.7/1, MS3.5/11, Ms1 3.6/11, ms1mx3.4/22, Error ellipse: s-maj=22.9km s-min=13.6km az=136.0*
*NEIC **08** 17:30:45.0±0.4, 85.34N×92.46E, h10^{km}, mb4.5/12, Error ellipse: s-maj=10.9km s-min=8.2km az=148.0*
*BJI **08** 17:30:44.9, 85.30N×92.50E, h10^{km}, mB5.0, mb4.4, Ms4.3, Msz4.1*
ISC 08 17:30:43.0±2.0**, 85.32N**±0.06×**93.0E**±0.7**, h7**^{km}±12^{km}**, n52, σ1^{s}12**/55**, mb4.2**/28**, MS3.6**/16**, 2C-4D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	11.40	285	eP	P	17 33 24.2	-4.8
ARCES	ARCESS Array B	19.27	260	P	P	17 35 08.4	-1.8
	0.3nm,0.3s,baz=27,slow=11,SNR=6.1						
ARCES				LR	LR	17 42 41.3	
	comp=Z,134nm,18.2s,baz=197,slow=37						
JMIC	Jan Mayen	20.58	294	LR	LR	17 41 02.6	
	comp=Z,94nm,19.9s,MS3.2,baz=277,slow=30						
SUMG	Summit	20.95	321	P	P	17 35 32.8	+4.5
	11nm,1.0s						
BILL	Bilibino	21.20	95⇑	eP	P	17 35 32.3	+1.4
BILL				i		17 35 50.5	
BILL				eS	S	17 39 30.9	+9.0
BILL				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb3.9						
BILL	Bilibino	21.20	95	eP	P	17 35 31.9	+1.0
	comp=Z,10.0nm,1.0s,mb4.1						
YAK	Yakutsk	24.50	137	d iP	P	17 36 03.5	+0.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
YAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.3						
YAK	Yakutsk	24.50	137	eP	P	17 36 03.7	+0.5
	comp=Z,18nm,0.8s,mb4.6						
INK	Inuvik	25.29	39	eP	P	17 36 11.2	+0.5
INK				pmax	pmax		
	comp=Z,17nm,1.3s						
INK	Inuvik	25.29	39	P	P	17 36 11.4	+0.7
	comp=Z,9.6nm,1.2s,mb4.2,baz=346,slow=12,SNR=6.5						
INK	Inuvik	25.29	39	eP	P	17 36 11.2	+0.4
	comp=Z,17nm,1.3s,mb4.4						
IMA	Indian Mountai	26.28	58	P	P	17 36 18.9	-1.1
IMA				pmax	pmax		
	comp=Z,142nm,1.8s,mb5.2						
IMA	Indian Mountai	26.28	58	P	P	17 36 18.9	-1.1
	comp=Z,142nm,1.8s,mb5.2						
FINES	FINESS Array B	27.19	255	P	P	17 36 28.4	0.0
	comp=Z,3.8nm,0.6s,mb4.1,baz=28,slow=10,SNR=25						
FINES				PcP	PcP	17 39 48.1	-1.0
	comp=Z,2.1nm,0.8s,slow=1.9,SNR=4.1						
FINES				LR	LR	17 46 45.9	
	comp=Z,72nm,21.8s,MS3.2,baz=333,slow=35						
COLA	College	27.86	53	i P	P	17 36 43.2	+8.8
BOD	Bodaibo	28.00	156	eP	P	17 36 26.2	-10
ILAR	Eielson Array	28.02	52	P	P	17 36 37.5	+1.6
	comp=Z,1.5nm,1.0s,mb3.6,baz=345,slow=7.7,SNR=8.7						
ILAR				LR	LR	17 47 50.5	
	comp=Z,95nm,19.9s,MS3.4,baz=184,slow=37						
NOA	NORSAR Array B	28.80	270	P	P	17 36 43.9	+0.9
	comp=Z,1.0nm,0.8s,mb3.6,baz=15,slow=10,SNR=3.6						
NOA				LR	LR	17 48 15.3	
	comp=Z,40nm,19.2s,MS3.0,baz=15,slow=36						
MCK	McKinley	28.92	54	eP	P	17 36 42.2	-1.8
MCK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.4						
MCK	McKinley	28.92	54	eP	P	17 36 42.2	-1.8
	comp=Z,12nm,1.6s,mb4.4						
YKA	Yellowknife Ar	31.91	24	P	P	17 37 10.5	-0.1
	comp=Z,1.7nm,0.8s,mb3.9,baz=354,slow=8.3,SNR=38						
YKA				PcP	PcP	17 40 00.6	-0.5
	comp=Z,0.9nm,0.6s,baz=339,slow=3.2,SNR=15						
YKA				LR	LR	17 50 04.3	
	comp=Z,160nm,18.1s,MS3.7,baz=315,slow=36						
CHKZ	Chkalovo	32.19	205	eP	P	17 37 12.6	-0.5
CHKZ				e		17 37 19.7	
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ	Chkalovo	32.19	205	eP	P	17 37 12.6	-0.5
	comp=Z,5.0nm,0.7s,mb4.5						
CHKZ				e		17 37 19.7	
OBN	Obninsk	32.67	243⇑	eP	P	17 37 16.9	-0.3
OBN				e		17 38 19.2	
OBN				eS	S	17 42 30.8	-1.7
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.6						
KURK	Kurchatov	34.92	196	eP	P	17 37 34.2	-2.6
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	Kurchatov	34.92	196	eP	P	17 37 34.2	-2.5
	comp=Z,3.9nm,0.8s,mb4.4						
DLBC	Dease Lake	35.31	38	P	P	17 37 42.2	+2.2
AKASG	Malin Array Be	37.61	249	P	P	17 37 59.4	0.0
	comp=Z,1.7nm,0.6s,mb4.0,baz=5.6,slow=8.7,SNR=14						
AKASG				PcP	PcP	17 40 16.2	-1.4
	comp=Z,1.0nm,0.7s,baz=358,slow=3.2,SNR=4.4						
ULN	Ulaanbaatar	37.77	165	i P	P	17 37 59.3	-1.5
SONM	Songino Array	37.78	165	P	P	17 38 02.0	+1.1
	comp=Z,1.6nm,0.9s,mb3.8,baz=344,slow=8.0,SNR=11						
CLL	Collm	38.30	266	P	P	17 38 08.0	+2.7
GERES	GERESS Array B	40.69	265	P	P	17 38 26.1	+1.0
	comp=Z,1.0nm,0.8s,mb3.5,baz=9.5,slow=8.1,SNR=4.7						
WMQ	Urumqi	41.68	186	eP	P	17 38 34.0	+0.9
WMQ				XP	sP	17 38 41.0	+4.8
WMQ				PP	PP	17 40 13.0	+0.3
WMQ				SCP		17 44 20.0	
WMQ				eS	S	17 44 51.0	+1.2
WMQ				XS		17 44 58.0	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,110nm,4.8s						
WMQ				LR	LR		
	comp=N,240nm,20.2s,MS4.1						
WMQ				LR	LR		
	comp=E,157nm,22.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,302nm,20.6s,MS4.2						
MDJ	Mudanjiang	41.86	140	P	P	17 38 33.6	-1.0
MDJ				PCS		17 44 21.1	
MDJ				S	S	17 44 49.9	-2.6
MDJ				SS	SS	17 48 00.1	+6.9
MDJ				AMB	AMB		
	comp=Z,13nm,2.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,110nm,5.8s						
MDJ				LR	LR		
	comp=N,11nm,19.3s,MS3.2						
MDJ				LR	LR		
	comp=E,33nm,21.3s,MS3.2						
CN2	Changchun	42.47	145	eP	P	17 38 39.6	0.0
AAK	Ala-Archa	43.11	200⇓	eP	P	17 38 45.2	+0.4
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KIV	Kislovodsk	43.34	234⇓	eP	P	17 38 48.5	+1.8
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.8						
KIV	Kislovodsk	43.34	234	P	P	17 38 47.6	+0.9
	comp=Z,11nm,0.9s,mb4.6						
ULM	Lac du Bonnet	44.60	8	LR	LR	17 57 12.5	
	comp=Z,91nm,19.1s,MS3.7,baz=33,slow=36						
BJI	Beijing	45.84	155	P	P	17 39 06.4	-0.4
BJI				S	S	17 45 50.9	+0.6
BJI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.4						
BJI				LR	LR		
	comp=N,155nm,10.5s						
BJI				LR	LR		
	comp=E,191nm,9.7s						
BJI				LR	LR		
	comp=Z,65nm,22.7s						
BJI	Beijing	45.84	155	P	P	17 39 06.4	-0.4
	comp=Z,3.0nm,0.6s,mb4.4						
BJI				S	S	17 45 50.9	+0.6
GTA	Gaotai	46.10	173	eP	P	17 39 09.9	+1.1
GTA				AP	pP	17 39 14.4	+3.3
GTA				XP	sP	17 39 16.9	+4.9
GTA				PP	PP	17 40 58.2	+0.9
GTA				S	S	17 45 55.1	+1.1
GTA				XS		17 46 02.7	
GTA				SS	SS	17 49 12.1	+0.8
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,120nm,5.3s						
GTA				LR	LR		
	comp=N,159nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=E,122nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=Z,181nm,15.6s,MS4.1						
GNI	Garni	47.00	231	LR	LR	18 03 40.7	
	comp=Z,52nm,19.9s,MS3.5,baz=95,slow=42						
PDAR	Pinedale Array	51.80	21	P	P	17 39 52.9	0.0
	comp=Z,0.5nm,0.8s,mb3.5,baz=45,slow=2.1,SNR=3.5						
PDAR				LR	LR	18 00 50.9	
	comp=Z,32nm,18.6s,MS3.4,baz=189,slow=35						
SSPA	Standing Stone	54.22	351	eP	P	17 40 10.3	-0.5
	comp=Z,12nm,0.9s,mb4.8						
NVAR	Mina Array Bea	55.83	30	P	P	17 40 21.0	-1.6
	comp=Z,0.3nm,0.4s,mb3.6,baz=11,slow=7.8,SNR=4.3						
NVAR				LR	LR	18 05 27.9	
	comp=Z,102nm,20.4s,MS3.9,slow=37						
GYA	Guiyang	59.12	166⇓	iP	P	17 40 45.9	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
KMI	Kunming	60.38	170	P	P	17 40 54.4	-0.3
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.5						
KMI	Kunming	60.38	170	P	P	17 40 54.4	-0.3
	comp=Z,6.0nm,1.2s,mb4.5						
TXAR	Lajitas Array	65.36	16	P	P	17 41 27.1	-0.4
	comp=Z,0.9nm,0.6s,mb4.0,slow=4.5,SNR=4.7						
CMAR	Chiang Mai Arr	66.97	174	P	P	17 41 37.2	-0.8
	comp=Z,2.5nm,0.8s,mb4.3,baz=349,slow=7.6,SNR=15						
PMG	Port Moresby	96.56	126	LR	LR	18 23 13.0	
	comp=Z,47nm,20.5s,MS4.0,baz=190,slow=33						

*NEIC **08** 17:33:24.8±0.9, 5.05N×94.16E, mb4.3/7, Error ellipse: s-maj=21.3km s-min=11.5km az=47.0*
*IDC **08** 17:33:26.4±1.1, 5.44N×94.48E, h48^{km}±7^{km}, mb3.6/5, mb1 3.9/6, mb1mx3.7/16, mbtmp3.9/6, MS2.8/1, Ms1 3.0/1, ms1mx2.9/14, Error ellipse: s-maj=49.0km s-min=17.4km az=51.0*
ISC 08 17:33:24.3±0.9**, 5.3N**±0.1×**94.4E**±0.1**, h49**^{km}**, h49**^{km}±1.2^{km}**:pP-P, n21, σ0^{s}67**/21**, mb4.3**/14**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.23	90	eP	P	17 34 57.1	+1.1
SNG	Songkhla	6.47	73	P	P	17 34 59.0	-0.4
CM31	Chiang Mai Arr	13.84	18	ePn	P	17 36 44.5	+4.7
CM31				eS	rx	17 37 22.7	
CMAR	Chiang Mai Arr	13.84	18	P	P	17 36 44.0	+4.2
	1.0nm,0.3s,baz=220,slow=13,SNR=15						
CMAR				LR	LR	17 41 26.6	
	comp=Z,47nm,21.8s,baz=144,slow=35						
NANT	Nan	14.79	24	P	P	17 36 58.0	+5.8
CHRT	Chiangrai	15.43	19	PG	P	17 36 51.2	-9.3
CHRT				SG	rx	17 37 12.8	
KKM	Kota Kinabalu	21.73	87	eP	P	17 38 12.1	-1.3
JIRN	Jiri	23.59	342	eP	P	17 38 31.2	-0.5
	3.8nm,0.3s,mb4.3						
DMN	Daman	23.91	339	eP	P	17 38 34.5	-0.2
	7.1nm,0.7s,mb4.2						
KKN	Kakani	24.01	340	eP	P	17 38 35.5	-0.2
	9.5nm,0.8s,mb4.2						
GKN	Gorkha	24.43	339	eP	P	17 38 40.3	+0.4
	6.7nm,0.5s,mb4.4						
LSA	Lhasa	24.49	353	eP	P	17 38 41.5	+1.1
	5.2nm,0.4s,mb4.3						
KOLN	Koldanda	24.62	337	eP	P	17 38 42.1	+0.4
	11nm,0.8s,mb4.4						
SONM	Songino Array	43.64	12	P	P	17 41 25.3	-0.6
	1.2nm,0.8s,mb3.7,baz=196,slow=8.0,SNR=6.9						
SONM				pP	pP	17 41 37.7	-1.3
	1.0nm,0.8s,baz=192,slow=9.2,SNR=4.1						
WRA	Warramunga Arr	46.59	124	P	P	17 41 50.0	+0.2
	0.9nm,0.4s,mb4.0,baz=306,slow=8.4,SNR=18						
WRA				pP	pP	17 42 03.4	+0.5
	4.1nm,0.9s,baz=303,slow=9.2,SNR=11						
WRAB	Tennant Creek	46.59	124	eP	P	17 41 49.8	0.0
	6.3nm,0.7s,mb4.7						
KURK	Kurchatov	47.18	346	eP	P	17 41 54.1	+0.1
	3.3nm,0.4s,mb4.6						
ASAR	Alice Springs	48.09	128	P	P	17 42 01.6	+0.2
	0.4nm,0.4s,mb3.8,baz=302,slow=7.7,SNR=10.0						
CHKZ	Chkalovo	52.01	342	eP	P	17 42 30.6	-0.4
	30nm,0.6s,mb5.4						
CHKZ				e	pP	17 42 44.6	+0.4
FINES	FINESS Array B	75.12	332	P	P	17 45 02.0	-0.8
	0.9nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=5.5						
FINES				pP	pP	17 45 15.3	-1.5
	0.8nm,0.7s,baz=117,slow=8.5,SNR=1.8						
GERES	GERESS Array B	79.92	319	P	P	17 45 30.4	+0.5
	1.5nm,1.0s,mb3.9,baz=80,slow=6.0,SNR=5.2						
GERES				pP	pP	17 45 44.8	+0.9
	0.7nm,0.5s,baz=90,slow=4.0,SNR=4.2						

OTT 08 18:04:28.7±0.4**, 53.10N**×**66.94W, MN3.0**/5**, Blast, Labrador City, Nl Mining explosion., Labrador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	1.74	2	PN	Pn	18 05 00.5	+0.1
SCHQ				SN	Sn	18 05 23.3	-0.3
SCHQ				Trac		18 05 28.3	
MNQ	Manicouagan	2.81	205	PN	Pn	18 05 14.6	-1.0
MNQ				SN	Sn	18 05 45.5	-5.2
MNQ				Trac		18 05 59.1	
	comp=Z,8.1nm,0.1s						
SMQ	Clarke City	2.88	177	PN	Pn	18 05 17.4	+0.7
SMQ				SN	Sn	18 05 53.9	+1.2
SMQ				Trac		18 06 04.3	
	comp=Z,18nm,0.1s						
ICQ	Pointe Anglais	3.59	183	PN	Pn	18 05 24.5	-2.2
ICQ				Trac		18 06 10.6	
	comp=Z,8.4nm,0.1s						
CNQ	Baie Comeau	3.87	191	PN	Pn	18 05 29.2	-1.5
CNQ				SN	Sn	18 06 15.2	-2.3
CNQ				Trac		18 06 32.9	
	comp=Z,4.5nm,0.1s						
GSQ	Grosses Roches	4.19	182	PN	Pn	18 05 32.5	-2.8
LG4Q	La Grande 4	4.32	280	PN	Pn	18 05 34.4	-2.8
LG4Q				Trac		18 06 45.7	
	comp=Z,2.6nm,0.1s						
LMQ	La Malbaie	5.96	203	PN	Pn	18 05 56.3	-4.0
LMQ				SN	Sn	18 07 03.4	-7.0
DRLN	Deer Lake	7.07	119	PN	Pn	18 06 11.1	-4.8
DRLN				SN	Sn	18 07 24.0	-14
LMN	Caledonia Moun	7.38	168	PN	Pn	18 06 15.1	-5.3
VLDQ	Val d'Or	8.34	237	PN	P	18 06 29.7	-4.1
MALO	McAlpine Lake	8.56	254	PN	P	18 06 29.9	-6.9
VIMO	Victor Mine	10.15	275	PN	P	18 06 52.1	-6.5
SILO	Sutton Inlier	10.72	285	PN	P	18 06 59.8	-6.7

IDC 08 18:06:19.5±2.7**, 4.00N**×**123.34E, h601**^{km}±37^{km}**, mb2.7**/4**, mb1 2.9**/4**, mb1mx2.6**/16**, mbtmp3.8**/4**, Error ellipse: s-maj=60.6km s-min=14.5km az=71.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	26.13	156	P	P	18 11 07.8	-1.7
	0.8nm,0.3s,baz=334,slow=9.7,SNR=44						
WRA				PcP	PcP	18 14 14.5	-1.7
	0.2nm,0.4s,baz=338,slow=2.6,SNR=6.5						
WRA				S	S	18 14 57.6	-3.5
	0.2nm,0.4s,baz=339,slow=16,SNR=5.0						
ASAR	Alice Springs	29.36	160	P	P	18 11 36.5	-0.8
	0.7nm,0.5s,baz=337,slow=8.0,SNR=20						
ASAR				PcP	PcP	18 14 22.9	-1.3
	0.2nm,0.4s,baz=341,slow=2.2,SNR=5.9						
NWAO	Narrogin (SRO)	37.18	189	P	P	18 12 40.6	-1.9
	2.5nm,0.7s,baz=6.3,slow=9.2,SNR=6.1						
SONM	Songino Array	46.04	344	P	P	18 13 49.9	-2.4
	0.3nm,0.5s,baz=153,slow=6.4,SNR=3.5						

*JMA **08** 18:15:36.6±0.3, 24.91N×121.78E, h38^{km}, M3.1*
*TAP **08** 18:15:36.4, 24.65N×121.75E, h8^{km}, ML3.5*
TAP Felt I J at Suao, I J at Neicheng, II J at Ilan, II J at Nioudou, III J at Nanau.
ISC 08 18:15:36.8±0.2**, 24.67N**±0.01×**121.81E**±0.02**, h8**^{km}**, n56, σ1^{s}08**/88**, 9C-9D, Taiwan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.07	149⇓	iP	Pg	18 15 39.0	+0.3
TWC				S	Sg	18 15 40.4	+0.5
ILA	Ilan	0.12	330⇓	iP	Pg	18 15 39.3	-0.1
ILA				S	Sg	18 15 41.7	+0.5
TWE	Neicheng	0.14	293⇓	iP	Pg	18 15 39.3	-0.6
TWE				S	Sg	18 15 41.0	-1.0
EGS		0.21	31⇑	iP	Pg	18 15 42.5	+1.4
EGS				S	Sg	18 15 45.5	+1.4
ENTT	Nioudou	0.23	263⇑	iP	Pg	18 15 40.6	-0.9
ENTT				S	Sg	18 15 43.1	-1.5
ENA	Nanau	0.25	195⇓	iP	Pg	18 15 41.5	-0.4
ENA				S	Sg	18 15 44.8	-0.4
TWA	Mucha	0.38	326⇓	iP	Pg	18 15 44.2	-0.2
TWA				S	Sg	18 15 49.8	+0.3
TWB1	Santiao Chiao	0.38	25⇑	iP	Pg	18 15 44.4	-0.1
TWB1				S	Sg	18 15 49.5	0.0
NWF	Wu-fen Shan	0.40	356⇓	iP	Pg	18 15 45.0	+0.1
NWF				S	Sg	18 15 50.4	0.0
NSK	Sanguang	0.41	271⇑	iP	Pg	18 15 44.0	-1.1
NSK				S	Sg	18 15 48.5	-2.2
TAP1	Taipei	0.46	325⇓	iP	Pg	18 15 46.0	0.0
TAP1				S	Sg	18 15 52.0	0.0
NNS	Nan Shan	0.46	241⇑	iP	Pg	18 15 44.7	-1.3

NNS				S	Sg	18 15 50.6	-1.6
TAP	**Taipei**	**0.46**	**323**	P	**Pg**	**18 15 45.9**	**-0.3**
TAP				S	**Sg**	**18 15 52.1**	**-0.3**
TWS1	**Kuangyinshan**	**0.56**	**320**	⇓P	**Pg**	**18 15 48.4**	**+0.3**
TWS1				S	**Sg**	**18 15 56.1**	**+0.5**
TWD	**Chiawan**	**0.62**	**199**	⇑iP	**Pg**	**18 15 48.1**	**-1.0**
TWD				S	**Sg**	**18 15 55.8**	**-1.6**
TWY	**Chenhua**	**0.64**	**342**	⇓iP	**Pg**	**18 15 49.5**	**-0.1**
NCU	**National Centr**	**0.64**	**298**	eP	**Pg**	**18 15 49.6**	**-0.1**
NCU				S	**Sg**	**18 15 57.9**	**-0.4**
TWT	**Tachien**	**0.71**	**235**	⇑P	**Pb**	**18 15 49.4**	**-1.5**
TWT				S	**Sg**	**18 15 59.9**	**-0.6**
HWA	**Hwalien**	**0.71**	**195**	eP	**Pb**	**18 15 50.2**	**-0.8**
HWA				S	**Sg**	**18 15 58.6**	**-1.9**
NSTT	**Nanjuang**	**0.74**	**267**	⇑P	**Pb**	**18 15 50.6**	**-0.9**
NSTT				S	**Sg**	**18 16 00.1**	**-1.4**
ESL	**Shilin**	**0.92**	**202**	eP	**Pb**	**18 15 53.2**	**-1.3**
PCYT	**Pengchaiyu**	**0.99**	**14**	eP	**Pb**	**18 15 55.5**	**-0.2**
PCYT				S	**Sb**	**18 16 09.2**	**+0.5**
NSY	**Sanyi**	**0.99**	**256**	eP	**Pb**	**18 15 56.0**	**+0.2**
NSY				S	**Sb**	**18 16 09.4**	**+0.7**
TWQ1	**Liyutan**	**1.00**	**252**	⇑iP	**Pb**	**18 15 55.7**	**-0.2**
YOJ	**Yonaguni jima**	**1.11**	**100**	P	**Pb**	**18 15 57.5**	**-0.3**
YOJ				S	**Sb**	**18 16 12.8**	**+0.5**
SMLT	**Sun Moon Lake**	**1.14**	**227**	eP	**Pb**	**18 15 57.4**	**-0.9**
SMLT				S	**Sb**	**18 16 14.5**	**+1.3**
TYC	**Yuchr**	**1.16**	**229**	eP	**Pb**	**18 15 57.5**	**-1.1**
EHY	**Hungye**	**1.24**	**201**	eP	**Pb**	**18 15 59.3**	**-0.7**
EHY				S	**Sb**	**18 16 15.4**	**-0.6**
WNT	**Mingjian**	**1.29**	**233**	eP	**Pb**	**18 16 01.7**	**+0.7**
TWF1	**Yuli**	**1.39**	**200**	eP	**Pn**	**18 16 02.0**	**-0.6**
YUS	**Yu-Shan**	**1.41**	**214**	eP	**Pn**	**18 16 02.5**	**-0.4**
ALS	**Alishan**	**1.47**	**219**	eP	**Pn**	**18 16 03.9**	**+0.2**
CHN5	**Tsauling**	**1.48**	**224**	eP	**Pn**	**18 16 04.6**	**+0.6**
CHN5				S	**Sb**	**18 16 24.8**	**+1.6**
WGK	**Gukeng**	**1.50**	**230**	eP	**Pn**	**18 16 05.5**	**+1.4**
WGK				S	**Sb**	**18 16 25.6**	**+1.9**
WTCT	**Ta-ch'eng**	**1.61**	**241**	eP	**Pn**	**18 16 06.2**	**+0.5**
CHKT	**Chengkung**	**1.61**	**195**	eP	**Pn**	**18 16 06.9**	**+1.2**
ELDTW	**Lidau**	**1.64**	**206**	eP	**Pn**	**18 16 06.7**	**+0.6**
CHN2	**Minshiung**	**1.66**	**228**	eP	**Pn**	**18 16 08.1**	**+1.6**
CHN4	**Tsaushan**	**1.72**	**221**	eP	**Pn**	**18 16 09.3**	**+2.0**
CHN4				S	**Sn**	**18 16 32.4**	**+2.8**
WSF	**Szhu**	**1.78**	**235**	eP	**Pn**	**18 16 08.5**	**+0.4**
WSF				S	**Sn**	**18 16 30.3**	**-0.8**
IRIF	**Iriomote-Funau**	**1.78**	**100**	P	**Pn**	**18 16 06.8**	**-1.3**
IRIF				S	**Sn**	**18 16 29.6**	**-1.5**
STYT	**Tauyuan**	**1.78**	**213**	eP	**Pn**	**18 16 08.3**	**+0.2**
WTP	**Ta-pu**	**1.79**	**218**	eP	**Pn**	**18 16 09.2**	**+0.9**
TWK	**Hsinying**	**1.85**	**221**	eP	**Pn**	**18 16 10.8**	**+1.7**
CHN1	**Nanshi**	**1.89**	**219**	eP	**Pn**	**18 16 11.0**	**+1.3**
CHN1				S	**Sn**	**18 16 36.6**	**+2.7**
HATJ	**Hateruma jima**	**1.92**	**108**	eS	**Sn**	**18 16 33.8**	**-0.8**
SGST	**Jiashian**	**1.94**	**216**	eP	**Pn**	**18 16 12.2**	**+1.8**
TWG	**Pinlang**	**1.96**	**200**	eP	**Pn**	**18 16 11.3**	**+0.6**
CHN8	**Yiju**	**1.97**	**228**	eP	**Pn**	**18 16 11.6**	**+0.7**
JKRS	**Kuro-shima**	**2.05**	**102**	P	**Pn**	**18 16 11.3**	**-0.7**
JKRS				S	**Sn**	**18 16 36.4**	**-1.6**
JIJ	**Ishigaki jima**	**2.14**	**98**	P	**Pn**	**18 16 12.4**	**-1.0**
JIJ				eS	**Sn**	**18 16 37.3**	**-3.1**
SSD	**Sandimen**	**2.20**	**210**	eP	**Pn**	**18 16 15.8**	**+1.7**
ECL	**Taimali**	**2.21**	**201**	eP	**Pn**	**18 16 16.3**	**+2.1**
TWM1	**Shoushan**	**2.23**	**215**	eP	**Pn**	**18 16 16.8**	**+2.2**
WDGT	**Dungji**	**2.42**	**235**	eP	**Pn**	**18 16 16.6**	**-0.7**
EAST	**Anshuo**	**2.44**	**201**	eP	**Pn**	**18 16 18.9**	**+1.4**

*CSEM **08** 18:35:46.0±0.3, 35.02N×2.85W, h15km, MD3.5, Error ellipse: s-maj=6.6km s-min=4.9km az=133.0*
*MDD **08** 18:35:47.6±0.4, 35.01N×2.85W, h9km±2km, mb3.9/24, Error ellipse: s-maj=4.3km s-min=3.3km az=52.0, PRXIMO*
*CNRM **08** 18:35:47.1, 35.07N×2.78W, h11km, MD3.5*
*SFS **08** 18:35:48.0, 35.03N×2.89W*
*NEIC **08** 18:35:49.0, 35.05N×2.94W, h14km, MG3.8(MDD), After MDD.*
ISC 08 18:35:46.2±0.4**, 35.04N**±0.03×**2.86W**±0.03**, h10**km**, n61,** σ1§**35**/102**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.12**	**129**	P	**Pg**	**18 35 49.5**	**+0.3**
ZAI				S	**Sg**	**18 35 52.0**	**+0.9**
ZAI	**Zaio**	**0.12**	**129**	iP	**Pg**	**18 35 49.5**	**+0.3**
MELI	**Melilla**	**0.26**	**346**	P	**Pg**	**18 35 52.2**	**+0.5**
MELI				S	**Sg**	**18 35 57.4**	**+2.1**
MELI	**Melilla**	**0.26**	**346**	eP	**Pg**	**18 35 52.2**	**+0.5**
EMLI	**Melilla**	**0.27**	**343**	P	**Pg**	**18 35 53.7**	**+1.8**
	134nm,0.1s,SNR=7.9						
EMLI				S	**Sg**	**18 35 58.7**	**+3.1**
	702nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**0.27**	**342**	P	**Pg**	**18 35 53.7**	**+1.8**
	120nm,0.1s,SNR=7.9						
EMEL				S	**Sg**	**18 35 58.7**	**+3.0**
	702nm,0.1s,SNR=7.9						
TOU	**Touzarine**	**0.74**	**264**	iP	**Pb**	**18 36 02.0**	**+1.2**
TOU				iS	**Sb**	**18 36 12.0**	**+1.3**
EALB	**Alboran**	**0.91**	**351**	P	**Pb**	**18 36 05.0**	**+1.4**
	58nm,0.4s,SNR=10						
EALB				S	**Sb**	**18 36 17.0**	**+1.5**
	150nm,0.3s,SNR=6.3						
EALB	**Alboran**	**0.91**	**351**	P	**Pb**	**18 36 05.0**	**+1.4**
	9.0nm,0.1s,SNR=10						
EALB				S	**Sb**	**18 36 17.0**	**+1.5**
	150nm,0.3s,SNR=6.3						
MPAL	**Palemas**	**0.91**	**282**	iP	**Pb**	**18 36 04.0**	**+0.4**
MPAL				iS	**Sb**	**18 36 17.0**	**+1.5**
OLHC	**Oulhaca**	**1.20**	**80**	P	**Pb**	**18 36 10.0**	**+1.5**
ODZI	**Dziouia**	**1.35**	**79**	P	**Pb**	**18 36 12.0**	**+0.7**
EBER	**Berja**	**1.85**	**359**	P	**Pn**	**18 36 18.6**	**+0.2**
EBER				S	**Sn**	**18 36 40.3**	**-1.7**
EBER	**Berja**	**1.85**	**359**	P	**Pn**	**18 36 18.6**	**+0.2**
	3.0nm,0.3s,SNR=7.8						
EBER				S	**Sn**	**18 36 41.2**	**-0.8**
	99nm,0.8s,SNR=6.9						
EBER	**Berja**	**1.85**	**359**	P	**Pn**	**18 36 18.6**	**+0.2**
	1.1nm,0.2s,SNR=7.8						
EBER				S	**Sn**	**18 36 40.3**	**-1.7**
	99nm,0.8s,SNR=6.9						
ENIJ	**Nijar**	**2.00**	**15**	P	**Pn**	**18 36 20.5**	**0.0**
	12nm,0.3s,SNR=6.4						
ENIJ				S	**Sn**	**18 36 44.9**	**-0.8**
	23nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.12**	**339**	P	**Pn**	**18 36 21.4**	**-0.7**
	3.2nm,0.2s,SNR=5.9						
EMIJ	**Mijas**	**2.17**	**315**	P	**Pn**	**18 36 22.0**	**-1.0**
	6.5nm,0.1s,SNR=25						
EMIJ				S	**Sn**	**18 36 46.6**	**-3.7**
	16nm,0.4s,SNR=4.8						
ECOG	**Cogollos-Vega**	**2.30**	**346**	P	**Pn**	**18 36 25.4**	**+0.6**
	4.9nm,0.4s,SNR=7.9						
ECOG				S	**Sn**	**18 36 53.9**	**+0.4**
	6.3nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.35**	**334**	P	**Pn**	**18 36 27.2**	**+1.7**
ELOJ				S	**Sn**	**18 36 58.7**	**+4.1**
ELOJ	**Sierra Loja**	**2.35**	**334**	P	**Pn**	**18 36 26.0**	**+0.5**
	4.7nm,0.3s,SNR=4.0						
ELOJ				S	**Sn**	**18 36 54.2**	**-0.5**
	7.9nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.35**	**334**	P	**Pn**	**18 36 27.2**	**+1.7**
	9.7nm,0.5s,SNR=4.0						
ELOJ				S	**Sn**	**18 36 58.7**	**+4.0**
	7.9nm,0.4s,SNR=4.0						
EJIF	**Jimena Fronter**	**2.55**	**304**	P	**Pn**	**18 36 29.4**	**+1.0**
	11nm,0.4s,SNR=7.9						
EJIF				S	**Sn**	**18 36 59.5**	**-0.3**
	9.3nm,0.6s,SNR=7.9						
CZD	**Col de Zad**	**2.71**	**223**	eP	**Pn**	**18 36 30.0**	**-0.6**
CZD				eS	**Sn**	**18 37 01.5**	**-2.2**
EQES	**Quesada**	**2.76**	**356**	P	**Pn**	**18 36 33.5**	**+2.1**
	6.7nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**18 37 06.9**	**+1.8**
	26nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.76**	**356**	P	**Pn**	**18 36 33.5**	**+2.1**
	2.4nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**18 37 06.9**	**+1.8**
	26nm,0.4s,SNR=7.9						
LIJA	**Lijar**	**2.78**	**313**	iP	**Pn**	**18 36 32.5**	**+0.8**
LIJA				eS	**Sn**	**18 37 07.0**	**+1.4**
ESPR	**Espera**	**3.04**	**308**	P	**Pn**	**18 36 35.6**	**+0.2**
	2.1nm,0.3s,SNR=4.0						
ESPR				S	**Sn**	**18 37 09.7**	**-2.5**
	7.9nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.04**	**308**	P	**Pn**	**18 36 35.6**	**+0.2**
	2.2nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**3.08**	**25**	P	**Pn**	**18 36 35.9**	**0.0**
	4.9nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**18 37 10.8**	**-2.5**
	8.9nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**25**	P	**Pn**	**18 36 35.9**	**-0.1**
	7.3nm,0.2s,SNR=7.9						
EMUR				S	**Sn**	**18 37 10.8**	**-2.5**
	8.9nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**3.20**	**347**	P	**Pn**	**18 36 40.3**	**+2.6**
	1.3nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**18 37 15.6**	**-0.8**
	4.8nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.41**	**337**	P	**Pn**	**18 36 40.9**	**+0.2**
	3.7nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**18 37 19.2**	**-2.4**
	3.4nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.41**	**337**	P	**Pn**	**18 36 40.9**	**+0.2**
	7.8nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**18 37 19.2**	**-2.4**
	3.4nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.60**	**4**	P	**Pn**	**18 36 43.1**	**-0.2**
	0.8nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**18 37 24.8**	**-1.6**
	18nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**3.74**	**16**	P	**Pn**	**18 36 47.2**	**+1.8**
ETOB				S	**Sn**	**18 37 28.3**	**-1.7**
ETOB	**Tobarra**	**3.74**	**16**	P	**Pn**	**18 36 46.2**	**+0.8**
	2.8nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**18 37 28.3**	**-1.7**
	6.7nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.74**	**16**	P	**Pn**	**18 36 47.2**	**+1.8**
	2.8nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**18 37 28.3**	**-1.7**
	6.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**313**	P	**Pn**	**18 36 48.8**	**-1.7**
	1.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 37 34.2**	**-5.0**
	2.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.11**	**313**	P	**Pn**	**18 36 48.8**	**-1.7**
	1.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 37 34.2**	**-5.0**
	2.2nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**4.22**	**29**	P	**Pn**	**18 36 52.9**	**+0.8**
EBEN				S	**Sn**	**18 37 39.9**	**-2.2**
EBEN	**Beniarda**	**4.22**	**29**	P	**Pn**	**18 36 49.9**	**-2.2**
	0.3nm,0.1s,SNR=4.0						
EBEN				S	**Sn**	**18 37 38.1**	**-3.9**
	7.9nm,0.6s,SNR=4.0						
EBEN	**Beniarda**	**4.22**	**29**	P	**Pn**	**18 36 52.9**	**+0.8**
	0.3nm,0.1s,SNR=4.0						
EBEN				S	**Sn**	**18 37 39.8**	**-2.2**
	7.9nm,0.6s,SNR=4.0						
PALC	**Alcoutim**	**4.45**	**304**	ePn	**Pn**	**18 36 53.8**	**-1.6**
PALC				eSn	**Sn**	**18 37 42.8**	**-5.0**
	4.6nm,0.5s						
PALC	**Alcoutim**	**4.45**	**304**	ePn	**Pn**	**18 36 53.8**	**-1.6**
PALC				eSn	**Sn**	**18 37 42.8**	**-5.0**
	4.6nm,0.5s						
ESDC	**Sonseca Array**	**4.71**	**350**	P	**Pn**	**18 36 59.6**	**+0.5**
	2.0nm,0.1s,baz=173,slow=11,SNR=13						
ESDC	**Sonseca Array**	**4.71**	**350**	P	**Pn**	**18 36 59.6**	**+0.6**
	2.0nm,0.1s,SNR=13						
EBAD	**Badajoz**	**4.98**	**319**	P	**Pn**	**18 37 01.5**	**-1.5**
	1.8nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 37 55.9**	**-5.5**
	2.7nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.98**	**319**	P	**Pn**	**18 37 01.5**	**-1.5**
	1.8nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**5.01**	**308**	ePn	**Pn**	**18 37 01.9**	**-1.5**
EIBI	**Ibiza**	**5.21**	**39**	P	**Pn**	**18 37 05.9**	**-0.1**
	2.9nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.21**	**39**	P	**Pn**	**18 37 05.9**	**-0.2**
	2.9nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.64**	**19**	P	**Pn**	**18 37 11.1**	**-1.1**
	0.9nm,0.2s,SNR=4.0						
EMOS	**Mosqueruela**	**5.64**	**19**	P	**Pn**	**18 37 13.6**	**+1.4**
GUD	**Guadarrama**	**5.68**	**350**	P	**Pn**	**18 37 12.7**	**-0.1**
	1.3nm,0.2s,SNR=4.0						
PCBR	**Castelo Branco**	**6.04**	**324**	ePn	**Pn**	**18 37 16.1**	**-1.7**
ERTA	**Horta de San J**	**6.42**	**22**	P	**Pn**	**18 37 23.3**	**+0.1**
	4.8nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.53**	**337**	P	**Pn**	**18 37 37.4**	**-1.4**
	2.2nm,0.4s,SNR=7.9						
ECAL				S	**Sn**	**18 38 57.5**	**-7.6**
	3.6nm,0.4s,SNR=7.9						
ELOB	**Lobios**	**7.94**	**331**	P	**Pn**	**18 37 43.0**	**-1.6**
	2.0nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.23**	**7**	P	**P**	**18 37 47.5**	**-1.1**
	1.5nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**8.45**	**348**	P	**P**	**18 37 50.5**	**-1.1**
	4.4nm,0.7s,SNR=7.9						

*OMAN **08** 19:07:31.3, 29.30N×53.67E, Error ellipse: s-maj=734.0km s-min=73.1km az=335.0*
*IDC **08** 19:07:52.7±0.7, 27.84N×54.49E, mb4.3/19, mb1 4.4/22, mb1mx4.4/27, mbtmp4.3/22, ML4.3/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/21, Error ellipse: s-maj=15.5km s-min=13.7km az=150.0*
*BJI **08** 19:07:53.6, 27.80N×54.40E, h10km, mB5.2, mb4.6, Ms4.5, Msz4.2*
*MOS **08** 19:07:54.3±1.0, 27.63N×54.37E, h33km, mb4.6/13, Error ellipse: s-maj=12.4km s-min=7.4km az=103.6*
*NEIC **08** 19:07:54.4±0.9, 27.72N×54.46E, h16km±5km, mb4.4/46, ML4.5(THR), Error ellipse: s-maj=5.4km s-min=3.7km az=197.0*
*THR **08** 19:07:55.2±0.7, 28.00N×54.66E, h15km±13km, ML4.5*
*CSEM **08** 19:07:56.3±0.1, 27.79N×54.56E, h70km±2km, mb4.0/1, ML5.2/2, Error ellipse: s-maj=3.3km s-min=1.9km az=53.0*
*TEH **08** 19:08:06.8, 28.39N×54.10E, h25km, Mn4.3*
ISC 08 19:07:54.8±0.9**, 27.74N**±0.03×**54.39E**±0.03**, h29**km±7km**, n191,** σ1§**00**/204**, mb4.4**/72**, MS3.8**/6**, 7C-10D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.35**	**294**	ePg	**Pn**	**19 08 22.0**	**+4.0**
GHIR				eSg	**Sn**	**19 08 43.0**	**+7.9**
GHIR	**Ghir-Karzin**	**1.35**	**294**	ePG	**Pn**	**19 08 22.8**	**+4.8**
GHIR				eSG	**Sn**	**19 08 43.2**	**+8.1**
GHIR				AML	AML	19 08 48.1	
	comp=N,9µm,0.5s						
GHIR				AML	AML	19 08 48.3	
	comp=E,12µm,0.7s						
GHIR	**Ghir-Karzin**	**1.35**	**294**	ePg	**Pn**	**19 08 22.8**	**+4.8**
	SNR=92						
GHIR				eSg	**Sn**	**19 08 43.2**	**+8.1**
	comp=E,12µm,0.7s,SNR=92						
BNDS	**Bandar-Abbas**	**1.62**	**102**	ePg	**Pn**	**19 08 22.0**	**+0.2**
BNDS				eSg	**Sn**	**19 08 42.0**	**+0.1**
BNDS	**Bandar-Abbas**	**1.62**	**102**	ePG	**Pn**	**19 08 22.2**	**+0.4**
BNDS				eSG	**Sn**	**19 08 42.2**	**+0.3**
BNDS				AML	AML	19 08 53.3	
	comp=N,3µm,0.6s						
BNDS	**Bandar-Abbas**	**1.62**	**102**	ePg	**Pn**	**19 08 22.2**	**+0.4**
	SNR=92						
BNDS				eSg	**Sn**	**19 08 42.2**	**+0.3**
	comp=N,3µm,0.6s,SNR=92						
IMOK	**Mook**	**1.97**	**312**	Pn	**Pn**	**19 08 30.5**	**+3.7**
IPAR	**Pars**	**2.40**	**331**	Pn	**Pn**	**19 08 35.6**	**+2.6**
BANOM	**Banah**	**2.49**	**136**	⇑P	**Pn**	**19 08 35.3**	**+1.1**
	SNR=64						
ASHO	**Ashiyiah**	**3.39**	**153**	P	**Pn**	**19 08 48.8**	**+1.6**
	SNR=91						
IMEH	**Mehriz**	**3.64**	**3**	Pn	**Pn**	**19 08 51.4**	**+0.7**
IBAF	**Bafgh**	**3.97**	**15**	Pn	**Pn**	**19 08 55.4**	**+0.1**
ISAD	**Sadrabad**	**4.20**	**352**	Pn	**Pn**	**19 08 59.6**	**+0.9**
ICHK	**Chekchek**	**4.49**	**0**	Pn	**Pn**	**19 09 03.1**	**+0.4**
ARQ	**Araqi**	**4.79**	**156**	P	**Pn**	**19 09 07.8**	**+0.9**
	SNR=20						
IBRJ	**Borojen**	**4.84**	**327**	Pn	**Pn**	**19 09 10.9**	**+3.2**
HASS	**Wahat al Ahsa'**	**4.91**	**240**	P	**Pn**	**19 09 08.2**	**-0.5**
NASN	**Na'in**	**5.22**	**345**	ePn	**Pn**	**19 09 13.0**	**-0.1**
NASN	**Na'in**	**5.22**	**345**	ePN	**Pn**	**19 09 13.4**	**+0.3**
BIDO	**Bidbid**	**5.39**	**140**	⇓P	**Pn**	**19 09 14.9**	**-0.5**
	SNR=6.2						
BSY	**Bisya**	**5.59**	**152**	P	**Pn**	**19 09 18.9**	**+0.7**
	SNR=11						
BSYO	**Bisya**	**5.62**	**152**	P	**Pn**	**19 09 18.9**	**+0.3**
	SNR=11						
SMDO	**Samad**	**5.72**	**144**	⇑P	**Pn**	**19 09 20.6**	**+0.6**
	SNR=12						
JMDO	**Jabal Madar**	**6.32**	**147**	⇑P	**Pn**	**19 09 28.7**	**+0.1**
	SNR=8.3						
SHGO	**Shushtar**	**6.51**	**313**	ePN	**Pn**	**19 09 32.8**	**+1.5**
SHGR	**Shooshtar-Gavs**	**6.51**	**313**	ePn	**Pn**	**19 09 32.0**	**+0.7**
SHGR				Sn	**Sn**	**19 10 43.0**	**-2.4**
SHGR	**Shooshtar-Gavs**	**6.51**	**313**	ePN	**Pn**	**19 09 32.8**	**+1.5**
SHGR				SN	**Sn**	**19 10 43.8**	**-1.6**
WBK	**Wadi Bani Khal**	**6.58**	**140**	⇓P	**Pn**	**19 09 31.5**	**-0.7**
	SNR=11						
IVRN	**Varamin**	**7.58**	**343**	Pn	**Pn**	**19 09 38.5**	**-7.7**
IQOM	**Qom**	**7.63**	**339**	Pn	**Pn**	**19 09 45.5**	**-1.4**
IQOM				Sn	**Sn**	**19 10 59.4**	**-14**
ASAO	**Ashtian**	**7.75**	**332**	ePn	**Pn**	**19 09 47.0**	**-1.5**
ASAO	**Ashtian**	**7.75**	**332**	ePN	**Pn**	**19 09 47.8**	**-0.8**
IFIR	**Firoozkooh**	**8.00**	**350**	Pn	**Pn**	**19 09 51.0**	**-1.1**
IFIR				Sn	**Sn**	**19 11 08.4**	**-14**
IDMV	**Damavand**	**8.07**	**346**	Pn	**P**	**19 09 51.8**	**-1.2**
DAMV	**Damavand**	**8.13**	**346**	ePn	**P**	**19 09 52.0**	**-1.9**
DAMV	**Damavand**	**8.13**	**346**	ePN	**P**	**19 09 52.7**	**-1.2**
IAFJ	**Afjeh**	**8.40**	**345**	Pn	**P**	**19 09 57.4**	**-0.3**
IMHD	**Mahdasht**	**8.53**	**339**	Pn	**P**	**19 09 57.9**	**-1.5**
IRAZ	**Razeghan**	**8.53**	**335**	Pn	**P**	**19 09 58.0**	**-1.5**
MZLS	**Mizel**	**9.05**	**248**	P	**P**	**19 10 06.3**	**-0.4**
WHFO	**Wadi Hawf**	**9.79**	**183**	P	**P**	**19 10 15.3**	**-1.6**
	SNR=57						
RBK	**Rabkut**	**10.19**	**181**	⇑P	**P**	**19 10 20.9**	**-1.5**
	SNR=25						
ABTO	**Aybut**	**10.39**	**186**	P	**P**	**19 10 22.9**	**-2.2**
	SNR=67						
AFFS	**'Afif**	**10.94**	**252**	P	**P**	**19 10 31.3**	**-1.3**
HILS	**Ha'il**	**11.18**	**271**	P	**P**	**19 10 33.9**	**-2.0**
HILS				S	**S**	**19 12 34.9**	**-6.1**
KAMS	**Al Khamasin**	**11.62**	**233**	P	**P**	**19 10 38.6**	**-3.2**
GRMI	**Germi**	**12.30**	**335**	ePn	**P**	**19 10 50.0**	**-0.9**
GRMI	**Germi**	**12.30**	**335**	ePN	**P**	**19 10 50.9**	**0.0**
TATS	**Tathlith**	**12.90**	**233**	P	**P**	**19 10 55.7**	**-3.3**
KBRS	**Khaybar**	**13.65**	**265**	P	**P**	**19 11 09.2**	**+0.2**
BLJS	**Baljurashi**	**14.07**	**239**	P	**P**	**19 11 14.3**	**-0.2**
DJNS	**Zahran al Janu**	**14.13**	**227**	P	**P**	**19 11 12.4**	**-2.8**
GNI	**Garni**	**14.72**	**330**	⇑eP	**P**	**19 11 28.9**	**+6.0**
GNI				MLR	MLR		
	comp=Z,200nm,17.0s						
GNI	**Garni**	**14.72**	**330**	Pn	**P**	**19 11 23.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=22,slow=22,SNR=2.3						
GNI				LR	LR	19 17 32.4	
	comp=Z,203nm,20.7s,baz=141,slow=40						
GNI	**Garni**	**14.72**	**330**	eP	**P**	**19 11 24.2**	**+1.2**
	comp=Z,26nm,0.6s						
GNI				e		19 11 30.8	
YNBS	**Yanbu' al Bahr**	**15.12**	**261**	P	**P**	**19 11 29.1**	**+0.9**
UMJS	**Umm Lajj**	**15.49**	**265**	P	**P**	**19 11 34.1**	**+1.1**
TBKS	**Tabuk**	**15.77**	**276**	P	**P**	**19 11 36.3**	**-0.3**
ASF	**Jabal al Asfar**	**15.79**	**290**	Pn	**P**	**19 11 38.7**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=322,slow=6.9,SNR=6.6						
ASF				Sn	**S**	**19 14 20.9**	**-10**
	comp=Z,0.3nm,0.3s,baz=194,slow=22,SNR=3.7						
ASF				LR	LR	19 18 51.4	
	comp=Z,108nm,21.2s,baz=274,slow=42						
ERZM	**Erzurum**	**16.23**	**322**	iP	**P**	**19 11 43.5**	**+1.0**
JMQS	**Jabal Moqyreh**	**16.34**	**278**	P	**P**	**19 11 43.4**	**-0.5**
AYUS	**'Aynunah**	**16.90**	**276**	P	**P**	**19 11 51.1**	**+0.2**
MALT	**Malatya**	**17.01**	**312**	eP	**P**	**19 11 51.6**	**-0.7**
	comp=Z,13nm,0.8s						
JMOS	**Jabal al Moall**	**17.02**	**279**	P	**P**	**19 11 53.0**	**+0.6**
BDAS	**Al Bad'**	**17.04**	**277**	P	**P**	**19 11 53.2**	**+0.6**
GZT	**Gaziantep**	**17.10**	**308**	iP	**P**	**19 11 54.1**	**+0.7**
EIL	**Elat**	**17.16**	**281**	P	**P**	**19 11 56.6**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=16,slow=2.6,SNR=12						
EIL				S	**S**	**19 15 09.5**	**+7.0**
	comp=Z,0.4nm,0.3s,baz=337,slow=32,SNR=2.6						
EIL	**Elat**	**17.16**	**281**	eP	**P**	**19 11 56.2**	**+2.0**
	comp=Z,17nm,0.7s						
ZEI	**Tsey**	**17.25**	**333**	eP	**P**	**19 11 49.8**	**-5.4**
COBT	**Iskenderun**	**17.66**	**304**	iP	**P**	**19 12 04.2**	**+3.9**
KIV	**Kislovodsk**	**18.72**	**333**	d iP	**P**	**19 12 14.4**	**+1.0**
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s						
KIV	**Kislovodsk**	**18.72**	**333**	iPr		19 12 14.4	
	comp=Z,15nm,0.9s						
CSS	**Prodhromos**	**19.35**	**297**	eP	**P**	**19 12 22.2**	**+1.3**
	comp=Z,14nm,0.6s						
GOF	**Gofitskoye**	**19.52**	**335**	eP	**P**	**19 12 27.5**	**+4.9**
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
SOC	**Sochi**	**19.75**	**327**	eP	**P**	**19 12 23.8**	**-1.5**
SOC				pmax	pmax		
	comp=Z,23nm,1.2s						
SOC				pmax	pmax		
	comp=N,19nm,1.0s						
SOC				pmax	pmax		
	comp=E,20nm,1.2s						
SOC				MLR	MLR		
	comp=Z,84nm,8.0s						
SOC				MLR	MLR		
	comp=N,51nm,9.0s						
SOC				MLR	MLR		
	comp=E,71nm,9.0s						
CTKT	**Corum**	**20.63**	**314**	iP	**P**	**19 12 36.4**	**+1.9**
BOYT	**Boyabat**	**21.00**	**316**	iP	**P**	**19 12 38.6**	**+0.4**
KSH	**Kashi**	**21.41**	**51**	eP	**P**	**19 12 44.0**	**+1.6**
KSH				eAP		19 12 48.0	
KSH				eXP		19 12 51.0	
KSH				ePP	PP	19 13 08.1	+1.5
KSH				eS	**S**	**19 16 38.1**	**+4.6**
KSH				ePCP	PcP	19 16 46.1	+0.4
KSH				LR	LR		
	comp=N,240nm,5.1s						
KSH				LR	LR		
	comp=E,370nm,5.8s						
ELDT	**Eldivan**	**21.45**	**312**	iP	**P**	**19 12 44.0**	**+1.2**
ANN	**Anapa**	**21.76**	**326**	eP	**P**	**19 12 46.7**	**+0.8**
ANN				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
AAK	**Ala-Archa**	**22.07**	**42**	⇓eP	**P**	**19 12 49.0**	**-0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.5						
AAK	**Ala-Archa**	**22.07**	**42**	⇓eP	**P**	**19 12 49.0**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.0						
AAK				LR	LR		
	comp=Z,100nm,12.0s,MS3.5						
KOLN	**Koldanda**	**25.83**	**83**	eP	**P**	**19 13 25.2**	**-0.2**
	comp=Z,28nm,1.3s,mb4.6						
SANT	**Santorini**	**25.91**	**297**	eP	**P**	**19 13 27.6**	**+1.5**
	comp=Z,47nm,0.5s,mb5.3						
VRSR	**Storozhevoye**	**26.11**	**338**	d iP	**P**	**19 13 27.5**	**-0.3**
VRSR				e		19 14 12.7	
VRSR				pmax	pmax		
	comp=Z,40nm,0.7s,mb5.1						
VRSR				pmax	pmax		
	comp=N,40nm,0.7s						
VRSR				pmax	pmax		
	comp=E,30nm,1.0s						
IDI	**Anoyia**	**26.18**	**294**	P	**P**	**19 13 30.4**	**+1.7**
	comp=E,18nm,0.6s,mb4.8,baz=73,slow=12,SNR=22						
GKN	**Gorkha**	**26.71**	**82**	eP	**P**	**19 13 35.5**	**+1.9**
	comp=E,7.4nm,0.7s,mb4.3						
DMN	**Daman**	**27.17**	**83**	eP	**P**	**19 13 36.9**	**-0.9**
	comp=E,19nm,1.2s,mb4.5						
KKN	**Kakani**	**27.30**	**83**	eP	**P**	**19 13 38.6**	**-0.4**
	comp=E,8.5nm,0.6s,mb4.4						
PKI	**Pulchoki**	**27.44**	**83**	eP	**P**	**19 13 39.1**	**-1.2**
	comp=E,7.8nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**27.91**	**21**	P	**P**	**19 13 43.6**	**-0.7**
	comp=E,6.3nm,0.8s,mb4.3,baz=209,slow=7.0,SNR=21						
BVAR				PcP	PcP	19 16 59.4	-0.2
	comp=E,0.4nm,0.4s,baz=207,slow=3.2,SNR=4.3						
JIRN	**Jiri**	**28.12**	**83**	eP	**P**	**19 13 45.9**	**-0.5**
	comp=E,12nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**28.54**	**20**	eP	**P**	**19 13 50.2**	**+0.3**
MLR	**Muntele Rosu**	**28.68**	**316**	P	**P**	**19 13 52.6**	**+1.4**
	comp=E,4.4nm,0.9s,mb4.2,baz=190,slow=8.1,SNR=3.3						
KURK	**Kurchatov**	**29.40**	**32**	eP	**P**	**19 13 56.8**	**-0.9**
AKASG	**Malin Array Be**	**29.83**	**327**	iP	**P**	**19 14 00.5**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**29.83**	**327**	P	**P**	**19 14 00.3**	**-1.2**
	comp=Z,2.0nm,0.5s,mb4.2,baz=135,slow=8.3,SNR=36						
AKASG	**Malin Array Be**	**29.83**	**327**	iP	**P**	**19 14 00.5**	**-1.1**
	comp=Z,2.0nm,0.5s,mb4.1						
OBN	**Obninsk**	**30.26**	**340**	d iP	**P**	**19 14 05.3**	**+0.1**
OBN				e		19 17 01.1	

OBN eS S 19 19 09.0 +7.2
OBN eSS SS 19 20 49.3 +8.1
OBN pmax pmax
comp=Z,20nm,0.6s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.5
OBN Obninsk 30.26 340 *i* Pr 19 14 05.3
comp=Z,20nm,0.6s
OBN *e* 19 17 01.1
OBN eS S 19 19 09.0 +7.2
OBN eSS SS 19 20 49.3 +8.1
OBN LR LR
comp=Z,100nm,18.0s,MS3.5
WMQ Urumqi 31.17 50 *e*P P 19 14 14.0 +0.6
WMQ XP sP 19 14 21.0 -4.8
WMQ PP PP 19 15 17.0 +0.6
WMQ eS S 19 19 25.0 +8.7
WMQ XS 19 19 31.0
WMQ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
WMQ AMB AMB
comp=Z,101nm,4.4s
WMQ LR LR
comp=N,405nm,14.0s,MS4.3
WMQ LR LR
comp=E,236nm,16.2s,MS4.3
WMQ LR LR
comp=Z,280nm,15.5s,MS4.0
ZAL Zalesovo 34.37 32 P P 19 14 40.3 -0.9
comp=Z,4.2nm,0.5s,mb4.6,baz=232,slow=6.9,SNR=19
OJC Ojcow 34.55 320 *e*P P 19 14 43.8 +1.0
OKC Ostrava-Krasne 35.34 319 AMS AMS 19 29 50.0
MORC Moravsky Berou 35.67 318 *e*P P 19 14 51.7 -0.6
comp=Z,2.8nm,0.6s,mb4.4
DPC Dobruska-Polom 36.62 319 *e*P P 19 15 00.4 +0.1
DPC AMS AMS 19 32 00.0
PRU Pruhonice 37.54 317 AMS AMS 19 32 10.0
GERES GERESS Array B 37.66 315 P P 19 15 09.2 +0.2
comp=Z,0.5nm,0.5s,mb3.5,baz=97,slow=11,SNR=6.3
KHC Kasperske Hory 37.84 316 *e*P P 19 15 10.6 +0.1
KHC *e*pP pP 19 15 18.5 -0.7
KHC AMS AMS 19 30 40.0
JOF Joensuu 38.29 343 *e*p P 19 15 13.8 -0.4
comp=Z,3.1nm,0.4s,mb4.4
JOF Joensuu 38.29 343 *e*P P 19 15 13.8 -0.4
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.4
WATA Walderalm 38.59 312⇑ *i*P P 19 15 16.7 -0.1
comp=Z,3.1nm,1.0s,mb4.0
FINES FINESS Array B 38.65 339 *i* P P 19 15 17.3 +0.1
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES FINESS Array B 38.65 339 P P 19 15 17.1 -0.1
comp=Z,4.8nm,0.4s,mb4.5,baz=141,slow=10,SNR=71
FINES FINESS Array B 38.65 339 P P 19 15 17.1 -0.1
SQTA Sankt Quirin 38.80 312⇓ *i*P P 19 15 18.4 -0.2
comp=Z,1.7nm,0.6s,mb4.0
NKC Novy Kostel 38.89 317 *e*P P 19 15 15.0 -4.4
MOTA Moosalm 38.90 312⇓ *i*P P 19 15 19.5 0.0
comp=Z,1.4nm,1.1s,mb3.6
CLL Collm 38.94 319 *e*P P 19 15 20.0 +0.3
CLL Collm 38.94 319 P P 19 15 20.0 +0.3
KAF Kangasniemi 39.07 339 *e*p P 19 15 20.5 -0.3
comp=Z,1.8nm,0.4s,mb4.2
KAF Kangasniemi 39.07 339 *e*P P 19 15 20.5 -0.3
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
GTA Gaotai 39.22 61 *e*P P 19 15 22.7 +0.5
GTA AP pP 19 15 26.9 -4.1
GTA XP sP 19 15 29.2 -5.4
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
PGF Pioggiola 39.47 304 *e*P P 19 15 24.1 -0.2
comp=Z,22nm,0.9s,mb4.6
DAVA Damuels 39.69 312⇑ *i*P P 19 15 25.6 -0.5
comp=Z,12nm,0.5s,mb4.9
SBF Sospel 40.77 306 *e*P P 19 15 34.9 0.0
comp=Z,48nm,1.0s,mb4.8
FRF La Foret Royal 41.30 305 *e*P P 19 15 39.2 -0.1
MBDF Montbardon 41.35 307 *e*P P 19 15 39.9 +0.2
comp=Z,10nm,0.7s,mb4.3
LMR La Mourre 41.38 305 *e*P P 19 15 39.5 -0.4
LPG La Plagne 41.48 308 *e*P P 19 15 40.9 +0.2
comp=Z,8.3nm,0.8s,mb4.1
LPL La Plagne 41.49 308 *e*P P 19 15 41.1 +0.2
comp=Z,4.5nm,0.5s,mb4.0
CDF Champ du Feu 41.65 313 *e*P P 19 15 42.2 +0.1
CHG Chiang Mai 41.70 92 P P 19 15 44.9 +2.0
HINF Hinteralfeld 41.81 312 *e*P P 19 15 43.2 -0.2
CMAR Chiang Mai Arr 41.82 93 *i*P P 19 15 46.9 +3.0
CMAR pmax pmax
comp=Z,2.0nm,0.9s
CMAR Chiang Mai Arr 41.82 93 P P 19 15 44.3 +0.4
comp=Z,2.1nm,0.8s,mb3.8,baz=285,slow=8.7,SNR=13
CMAR Chiang Mai Arr 41.82 93 P P 19 15 44.3 +0.4
ORIF Oris-en-Rattie 42.01 307 *e*P P 19 15 44.6 -0.5
CABF La Chapelle 42.11 310 *e*P P 19 15 45.2 -0.7
comp=Z,9.3nm,0.7s,mb4.2
SMRF Simiane la Rot 42.12 306 *e*P P 19 15 45.8 -0.2
MOY Mondy 42.14 42 *e*P P 19 15 46.7 +0.6
MEZF Maizieres J'vi 43.12 312 *e*P P 19 15 54.2 +0.1
ZAK Zakamensk 43.22 45 *e*P P 19 15 55.1 +0.2
ZAK *e* 19 17 42.5
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb3.6
NANT Nan 43.26 92 P P 19 15 57.0 +1.4
SMF Signal de Mont 43.65 310 *e*P P 19 15 58.3 -0.1
comp=Z,5.3nm,0.6s,mb4.2
SSF Saint Saulge 43.93 310 *e*P P 19 16 00.1 -0.6
comp=Z,3.0nm,0.6s,mb3.9
BAIF Baives 43.96 315 *e*P P 19 16 00.7 -0.2
comp=Z,12nm,0.8s,mb4.4
NB2 NORSAR Subarra 44.02 331 P P 19 16 00.4 -0.8
comp=Z,1.6nm,0.5s,mb4.0,baz=120,slow=7.9
NOA NORSAR Array B 44.02 331 P P 19 16 00.5 -0.8
comp=Z,2.1nm,0.5s,mb4.1,baz=121,slow=8.1,SNR=14
NOA LR LR 19 36 21.2
comp=Z,55nm,19.4s,MS3.5,baz=250,slow=39
BGF Bois d'Agland 44.31 309 *e*P P 19 16 03.7 -0.1
comp=Z,7.5nm,0.7s,mb4.2
CAF Calviac 44.71 307 *e*P P 19 16 07.0 0.0
TCF Toulx Ste Croi 44.72 309 *e*P P 19 16 06.9 -0.2
comp=Z,11nm,0.7s,mb4.5
SONM Songino Array 44.78 49 P P 19 16 07.5 -0.1
comp=Z,1.4nm,0.8s,mb3.9,baz=267,slow=8.2,SNR=13
KEV Kevo 44.93 347 *e*p P 19 16 08.5 0.0
comp=Z,3.5nm,0.4s,mb4.5
KEV Kevo 44.93 347 *e*P P 19 16 08.5 0.0
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
ARCES ARCESS Array B 45.06 346 P P 19 16 09.3 -0.2
comp=Z,4.5nm,0.9s,mb4.3,baz=7.6,slow=18,SNR=16
RJF Les Rejaudoux 45.12 307 *e*P P 19 16 10.6 +0.3
comp=Z,6.4nm,0.5s,mb4.4
ULN Ulaanbaatar 45.23 49⇓ *e*P P 19 16 11.3 +0.2
ULN Ulaanbaatar 45.23 49 *e*P P 19 16 10.6 -0.5
comp=Z,2.5nm,0.6s,mb4.2
LFF La Frestale 45.65 307 *e*P P 19 16 14.6 +0.1
comp=Z,12nm,0.6s,mb4.7
MFF Saint Martin d 46.37 309 *e*P P 19 16 20.0 -0.2
comp=Z,2.3nm,0.4s,mb4.1
ETSF Etsaut 46.52 304 *e*P P 19 16 21.4 0.0
LDF La Druitiere 46.54 312 *e*P P 19 16 20.4 -1.1
comp=Z,9.0nm,0.6s,mb4.6
FLN La Foliniere 46.79 312 *e*P P 19 16 23.0 -0.5
comp=Z,10nm,0.7s,mb4.6
GRR Gorron 47.00 312 *e*P P 19 16 24.7 -0.5
SJPF Ste Jean 47.01 304 *e*P P 19 16 25.1 -0.2
comp=Z,6.7nm,0.6s,mb4.5
ENH Enshi 47.86 73 P P 19 16 30.7 -1.5
comp=Z,4.9nm,0.8s,mb4.6
SGMF Saint Gilles 48.12 311 *e*P P 19 16 33.3 -0.6
comp=Z,11nm,0.8s,mb4.6
HHC Hu-ho-hao-te 48.23 59 *e*P P 19 16 31.9 -3.0
HHC AMB AMB
comp=Z,21nm,0.6s,mb5.3
QUIF Quistinic 48.51 311 *e*P P 19 16 35.4 -1.5
comp=Z,6.2nm,0.7s,mb4.5
ROSF Rostrenen 48.61 311 *e*P P 19 16 37.2 -0.5
comp=Z,7.2nm,0.8s,mb4.5
ESDC Sonseca Array 49.20 300 P P 19 16 42.9 +0.5
comp=Z,0.6nm,0.4s,mb4.0,baz=74,slow=7.6,SNR=6.2
BOD Bodaibo 50.87 37 *e*P P 19 16 53.5 -1.4
BOD pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
EVO Evora 52.46 299 *e*P P 19 17 08.4 +1.2
comp=Z,7.1nm,0.7s,mb4.4
MATP Matopo 54.04 210 P P 19 17 19.9 +0.9
comp=Z,3.2nm,0.6s,mb4.4,baz=44,slow=7.3,SNR=12
SSE Sheshan 57.49 69 P P 19 17 39.0 -4.8
comp=Z,23nm,0.7s,mb5.3
CN2 Changchun 58.15 54 *e*P P 19 17 47.5 -0.7
TSUM Tsumeb 58.71 221 P P 19 17 52.8 +0.3
comp=Z,1.3nm,0.8s,mb4.0,baz=78,slow=11,SNR=2.4
YAK Yakutsk 59.04 32 *i*P P 19 17 52.1 -2.1
YAK pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
LBTB Lobatse 59.33 211 P P 19 17 57.8 +1.1
comp=Z,2.8nm,0.5s,mb4.5,baz=34,slow=7.9,SNR=8.8
DBIC Dimbokro 59.76 261 P P 19 18 00.1 +0.4
comp=Z,2.5nm,0.5s,mb4.5,baz=46,slow=8.1,SNR=11
DBIC LR LR 19 46 30.5
comp=Z,57nm,18.3s,MS3.7,baz=44,slow=39
MDJ Mudanjiang 60.94 52 P P 19 18 04.6 -2.8
MDJ AMB AMB
comp=Z,10.0nm,2.9s,mb4.4
MDJ AMB AMB
comp=Z,143nm,4.5s
BOSA Boshof 62.60 209 *e*P P 19 18 18.0 -0.8
comp=Z,3.8nm,0.6s,mb4.7
BILL Bilibino 72.26 21 *e*P P 19 19 18.7 -0.2
BILL *i* 19 19 32.3
BILL *e* 19 21 57.2
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
SCHQ Schefferville 83.58 330 P P 19 20 22.1 +0.9
comp=Z,2.0nm,0.7s,mb4.4,baz=34,slow=3.1,SNR=6.6
IMA Indian Mountai 84.05 11 *e*P P 19 20 25.5 +2.1
INK Inuvik 84.06 3 P P 19 20 24.5 +1.1
comp=Z,1.4nm,0.8s,mb4.1
ILAR Eielson Array 86.31 9 P P 19 20 34.8 +0.1
comp=Z,0.6nm,0.6s,mb4.0,baz=321,slow=3.9,SNR=6.8
YKA Yellowknife Ar 89.65 355 *i*P P 19 20 52.0 +1.3
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 89.65 355 P P 19 20 51.7 +0.9
comp=Z,1.2nm,0.6s,mb4.4,baz=6.1,slow=5.1,SNR=26
YKA Yellowknife Ar 89.65 355 P P 19 20 51.7 +0.9

MOS ***08*** *19:13:00.8±1.0,6.15S×130.10E,h129km,mb4.9/9, Error ellipse: s-maj=16.8km s-min=6.9km az=115.8*
BJI ***08*** *19:13:02.0,6.41S×130.55E,h174km,mB5.0,mb4.9*
NEIC ***08*** *19:13:04.1±1.3,6.13S×130.30E,h148km±13km,mb5.1/33, Error ellipse: s-maj=11.5km s-min=5.8km az=55.0*
HRVD ***08*** *19:13:04.1±0.6,6.19S×130.23E,h165km±11km, MW4.8/28,Centroid moment Tensor Solution. LP body waves: s2,c2;Mantle waves: s28,c44; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.73±.25; Mθθ-1.36±.24; Mϕϕ0.62±.30; Mrθ1.19±.16; Mθϕ0.40±.31; Mϕr1.36±.20; Best double couple: M₀2.155×10¹⁶ NP1: ϕs311°,δ34°,λ160°. NP2:ϕs58°,δ79°,λ58°. Principal axes: T 2.392, Plg46°, Azm295°; N -.472, Plg32°, Azm65°; P -1.919, Plg27°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***08*** *19:13:07.7±2.4,6.15S×130.40E,h183km±23km,mb4.4/11, mb1 4.5/14,mb1mx4.5/17,mbtmp5.1/14,MS3.4/1, Ms1 3.6/1,ms1mx3.1/14 Error ellipse: s-maj=18.9km s-min=9.1km az=72.0*
ISC 08 19:13:03.4±1.0,6.16S±0.04×130.27E±0.05,h159km±10km, h155km±6.4km:pP-P,n118,σ0s99/129,mb4.9/49,15C-9D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**6.85**	**162**	*e*P		P	19 14 43.0	+0.6
	228nm,0.2s							
KAKA				*e*S		S	19 15 48.3	-11
FITZ	**Fitzroy Crossi**	**12.70**	**200**	⇓*i*P		P	19 15 58.2	-1.0
	50nm,0.3s							
FITZ				*e*S		S	19 18 09.9	-7.6
KEDI	**Kedomdong**	**14.23**	**260**	⇓*e*P		P	19 16 20.1	+1.2
	115nm,0.2s							
WRAB	**Tennant Creek**	**14.25**	**164**	Pn		P	19 16 17.8	-1.3
	2μm,0.5s							
WRAB	**Tennant Creek**	**14.25**	**164**	*e*P		P	19 16 16.8	-2.3
	322nm,0.6s							
WRAB				*e*S		S	19 18 47.5	-5.9
WRA	**Warramunga Arr**	**14.26**	**164**	P		P	19 16 16.8	-2.4
	12nm,0.3s,baz=349,slow=13,SNR=312							
WRA				S		S	19 18 45.7	-7.8
	28nm,0.3s,baz=345,slow=22,SNR=17							
RATI	**Rata**	**14.83**	**259**	⇑*e*P		P	19 16 25.6	-0.9
	286nm,0.3s							
RATI				*e*S		S	19 18 59.1	-7.6
KELI	**Kelakatan**	**15.79**	**262**	⇓*e*P		P	19 16 40.6	+2.2
TSM	**Tawau**	**16.16**	**310**	P		P	19 16 47.5	+4.5
PMG	**Port Moresby**	**17.04**	**102**	P		P	19 16 54.8	+1.1
	0.5nm,0.3s,baz=271,slow=15,SNR=2.8							
PMG				S		S	19 19 57.1	+0.7
	0.8nm,0.3s,baz=185,slow=21,SNR=5.7							
PMG	**Port Moresby**	**17.04**	**102**	P		P	19 16 55.6	+1.9
	64nm,1.0s							
ASAR	**Alice Springs**	**17.75**	**169**	P		P	19 17 02.4	+0.4
	44nm,0.3s,baz=349,slow=9.2,SNR=1495							
ASAR				S		S	19 20 11.6	-0.4
	7.4nm,0.3s,baz=349,slow=25,SNR=6.3							
ASPA	**Alice Springs**	**17.75**	**169**	⇓*i*P		P	19 17 02.5	+0.5
ASPA				*e*S		S	19 20 11.5	-0.5
MBWA	**Marble Bar**	**18.07**	**213**	*e*P		P	19 17 05.3	-0.2
	24nm,0.6s							
MBWA				*e*S		S	19 20 13.7	-5.1
KKM	**Kota Kinabalu**	**18.54**	**311**	*e*P		P	19 17 10.8	+0.3
KKM	**Kota Kinabalu**	**18.54**	**311**	P		P	19 17 11.8	+1.3
CTA	**Charters Tower**	**20.80**	**133**	*e*P		P	19 17 34.9	+1.3
	29nm,0.8s							
CTA				*e*S		PcP	19 21 40.1	+3.0
CTA	**Charters Tower**	**20.80**	**133**	P		P	19 17 34.5	+0.9
	43nm,0.9s,baz=308,slow=12,SNR=32							
CTAO	**Charters Tower**	**20.80**	**133**	*e*P		P	19 17 35.3	+1.7
	51nm,0.8s							
KSM	**Kuching**	**21.32**	**290**	*e*P		P	19 17 39.8	+0.9
LUBP	**Lubang**	**22.13**	**333**	*e*P		P	19 17 49.0	+2.3
FORT	**Forrest**	**24.57**	**185**	⇓*i*P		P	19 18 10.8	+0.7
	2μm,0.6s							
FORT				*e*S		Sx	19 22 51.5	
STKA	**Stephens Creek**	**27.69**	**159**	⇓*i*P		P	19 18 38.7	-0.1
	14nm,0.5s,mb4.9							
STKA	**Stephens Creek**	**27.69**	**159**	P		P	19 18 38.8	0.0
	20nm,0.6s,mb5.0,baz=332,slow=8.9,SNR=82							
KLBR	**Kellerberrin**	**27.88**	**203**	⇓*i*P		P	19 18 40.6	+0.1
	206nm,0.4s							
MUN	**Mundaring**	**28.85**	**205**	⇓*i*P		P	19 18 49.1	-0.1
	7.0nm,0.6s,mb4.6							
MUN				*e*S			19 24 27.1	
NWAO	**Narrogin (SRO)**	**29.26**	**203**	P		P	19 18 53.1	+0.2
	12nm,0.5s,mb4.9,baz=30,slow=7.9,SNR=35							
IPM	**Ipoh**	**31.09**	**289**	P		P	19 19 07.8	-1.4
UBT	**Ubonrachathani**	**32.84**	**311**	⇓P		P	19 19 24.5	+0.2
JOW	**Kunigami**	**32.86**	**357**	P		P	19 19 24.2	-0.1
	27nm,0.8s,mb5.0,baz=170,slow=9.0,SNR=8.8							
CNB	**Canberra Magne**	**33.92**	**151**	*e*P		P	19 19 34.2	+0.9
	98nm,0.8s,mb5.6							
TOO	**Toolangi**	**34.20**	**158**	*e*P		P	19 19 37.5	+1.8
	0.8nm,0.5s							
CBIJ	**Chichi jima**	**35.02**	**19**	P		P	19 19 40.8	-1.9
	19nm,0.3s,mb5.2,baz=271,slow=20,SNR=6.6							
KKTK	**Khon Kaen**	**35.18**	**310**	P		P	19 19 44.0	-0.1
	617nm,0.6s							
SSE	**Sheshan**	**38.05**	**347**	P		P	19 20 09.5	+1.3
SSE				S		S	19 25 55.6	+7.2
SSE				XS			19 26 59.8	
SSE				AMB	AMB			
	comp=Z,32nm,0.8s,mb5.0							
SSE				AMB	AMB			
	comp=Z,42nm,5.6s							
SSE				LR	LR			
	comp=N,27nm,20.3s							
SSE				LR	LR			
	comp=E,26nm,20.3s							
SSE				LR	LR			
	comp=Z,35nm,17.4s							
SSE	**Sheshan**	**38.05**	**347**	P		P	19 20 09.5	+1.3
	comp=Z,32nm,0.8s,mb5.0							
SSE				S		S	19 25 55.6	+7.2
SSE				sS			19 26 59.8	
SSE				SS	SS		19 28 54.4	+19
NANT	**Nan**	**38.27**	**311**	⇑P		P	19 20 09.0	-1.1
NANT				SG			19 20 10.0	
BDT	**Bhumibol Dam**	**38.67**	**307**	P		P	19 20 14.0	+0.6
	comp=Z,22nm,0.9s,mb4.8							
CM31	**Chiang Mai Arr**	**39.41**	**309**	*e*P		P	19 20 20.0	+0.6
	comp=Z,21nm,0.7s,mb4.9							
CMAR	**Chiang Mai Arr**	**39.41**	**309**	*i*P		P	19 20 20.3	+0.8
CMAR				pmax	pmax			
	comp=Z,13nm,0.7s							
CMAR	**Chiang Mai Arr**	**39.41**	**309**	P		P	19 20 20.3	+0.8
	comp=Z,13nm,0.7s,mb4.7,baz=136,slow=7.5,SNR=106							
CMAR				PcP	PcP		19 22 25.2	+0.2
	comp=Z,2.8nm,0.8s,baz=156,slow=3.0,SNR=6.6							
CMAR				ScP			19 25 57.0	
	comp=Z,2.3nm,1.1s,baz=123,slow=2.7,SNR=8.8							
CMAR				LR	LR		19 37 00.9	
	comp=Z,53nm,18.6s,baz=295,slow=36							
CMAR	**Chiang Mai Arr**	**39.41**	**309**	P		P	19 20 20.3	+0.8
CMAR				PcP	PcP		19 22 25.2	+0.2
CMAR				ScP			19 25 57.0	
NJ2	**Nanjing**	**39.53**	**345**	*e*P		P	19 20 21.2	+0.8
NJ2				AP	pP		19 20 59.1	+3.9
NJ2				XP	sP		19 21 17.8	+3.8
NJ2				PP	PP		19 21 59.8	+3.0
NJ2				S	S		19 26 16.0	+5.5
NJ2				AMB	AMB			
	comp=Z,60nm,1.0s,mb5.2							
NJ2				AMB	AMB			
	comp=Z,250nm,5.4s							
NJ2				LR	LR			
	comp=N,460nm,11.8s							
NJ2				LR	LR			
	comp=E,210nm,24.0s							
NJ2				LR	LR			
	comp=Z,230nm,14.7s							
WHN	**Wuhan**	**39.56**	**338**	⇑P		P	19 20 21.5	+0.9
GYA	**Guiyang**	**39.69**	**326**	⇑*i*P		P	19 20 21.8	+0.1
GYA				PP	PP		19 21 59.6	+1.1
GYA				S	S		19 26 12.5	-0.5
GYA				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.7							
GYA				AMB	AMB			
	comp=Z,130nm,4.2s							
GYA				LR	LR			
	comp=N,140nm,15.2s							
GYA				LR	LR			
	comp=E,170nm,16.4s							
GYA				LR	LR			
	comp=Z,130nm,16.0s							
KMI	**Kunming**	**41.04**	**320**	P		P	19 20 34.1	+1.3
KMI				AMB	AMB			
	comp=Z,17nm,1.2s,mb4.5							
KMI				LR	LR			
	comp=Z,36nm,20.3s							
KMI	**Kunming**	**41.04**	**320**	P		P	19 20 34.1	+1.3
	comp=Z,17nm,1.2s,mb4.5							
ENH	**Enshi**	**41.35**	**332**	⇑*i*P		P	19 20 34.8	-0.4
	comp=Z,17nm,0.7s,mb4.8							
CD2	**Chengdu**	**44.75**	**327**	*e*P		P	19 21 02.0	-0.8
XAN	**Xi'an**	**44.80**	**335**	P		P	19 21 02.3	-0.9
XAN				AMB	AMB			
	comp=Z,37nm,1.0s,mb5.0							
BJT	**Baijiatuau**	**47.76**	**345**	*i*P		P	19 21 25.9	-0.4
BJT	**Baijiatuau**	**47.76**	**345**	⇑*i*P		P	19 21 25.9	-0.4
	comp=Z,42nm,0.8s,mb5.1							
BJI	**Beijing**	**47.78**	**345**	P		P	19 21 26.1	-0.4
BJI				AMB	AMB			
	comp=Z,41nm,0.8s,mb5.1							
BJI				LR	LR			
	comp=N,171nm,13.6s							
BJI				LR	LR			
	comp=E,206nm,9.2s							
BJI				LR	LR			
	comp=Z,56nm,31.8s							
BJI	**Beijing**	**47.78**	**345**	P		P	19 21 26.1	-0.4
	comp=Z,41nm,0.8s,mb5.1							
BJI				S			19 29 09.1	
LZH	**Lanzhou**	**48.80**	**331**	*e*P		P	19 21 34.5	+0.1
LZH				AMB	AMB			
	comp=Z,55nm,1.5s,mb5.0							
LZH	**Lanzhou**	**48.80**	**331**	*e*P		P	19 21 34.5	+0.1
	comp=Z,55nm,1.5s,mb5.0							
LZH				pP	pP		19 21 55.5	-15
LZH				sP	sP		19 22 01.5	-27
HHC	**Hu-ho-hao-te**	**49.84**	**341**	*e*P		P	19 21 42.6	+0.4
HHC				AP	pP		19 22 16.5	-1.8
HHC				PP	PP		19 23 43.4	+4.3
HHC				S	S		19 28 43.3	+5.1
HHC				AMB	AMB			
	comp=Z,28nm,0.9s,mb4.9							
CN2	**Changchun**	**49.92**	**355**	*e*P		P	19 21 41.5	-1.3
CN2				PCP	PcP		19 23 00.5	-0.5
CN2				*e*S	S		19 28 41.9	+2.6
CN2				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.4							
CN2				AMB	AMB			
	comp=Z,200nm,3.0s							
BTO	**Baotou**	**50.13**	**340**	*e*P		P	19 21 41.7	-2.7
MDJ	**Mudanjiang**	**50.55**	**359**	P		P	19 21 48.2	+0.6
MDJ				S	S		19 28 53.2	+5.2
MDJ				AMB	AMB			
	comp=Z,7.0nm,1.5s,mb4.1							
MDJ				AMB	AMB			
	comp=Z,137nm,4.1s							
MDJ				LR	LR			
	comp=N,54nm,20.6s							
MDJ				LR	LR			
	comp=E,21nm,22.0s							
MDJ				LR	LR			
	comp=Z,37nm,24.6s							
RPZ	**Rata Peaks**	**51.73**	**143**	P		P	19 21 56.6	0.0
	comp=Z,9.8nm,0.7s,mb4.5,baz=44,slow=17,SNR=4.2							
LSA	**Lhasa**	**51.79**	**316**	⇑*i*P		P	19 21 57.9	+0.8
	comp=Z,12nm,0.5s,mb4.8							
VIS	**Vishakhapatnam**	**52.06**	**298**	*e*P		P	19 21 59.2	-0.1
VIS				*e*			19 22 01.0	
	comp=Z,54nm,1.0s							
GTA	**Gaotai**	**53.38**	**331**	⇑P		P	19 22 09.1	+0.4
GTA				PCP	PcP		19 23 14.0	+0.1
GTA				PP	PP		19 24 12.8	+0.7
GTA				S	S		19 29 29.6	+3.1
GTA				SS	SS		19 33 10.5	+2.1
GTA				AMB	AMB			
	comp=Z,25nm,0.9s,mb4.9							
GTA				AMB	AMB			
	comp=Z,63nm,6.5s							
GTA				LR	LR			
	comp=N,98nm,14.1s							
GTA				LR	LR			
	comp=E,107nm,12.9s							
GTA				LR	LR			
	comp=Z,104nm,15.2s							
JIRN	**Jiri**	**54.24**	**311**	*e*P		P	19 22 15.1	-0.2
	comp=Z,65nm,0.6s,mb5.5							
PKI	**Pulchoki**	**54.79**	**310**	*e*P		P	19 22 18.6	-0.6
	comp=Z,34nm,0.7s,mb5.2							
BLSP	**Bilaspur**	**54.88**	**302**	*e*P		P	19 22 18.3	-1.7
BLSP				*e*			19 22 20.7	
	comp=Z,44nm,0.7s							
KKN	**Kakani**	**55.00**	**310**	*e*P		P	19 22 20.3	-0.5
	comp=Z,69nm,0.7s,mb5.5							
DMN	**Daman**	**55.04**	**310**	*e*P		P	19 22 20.7	-0.4
	comp=Z,116nm,1.0s,mb5.6							
GKN	**Gorkha**	**55.60**	**310**	*e*P		P	19 22 24.5	-0.6
	comp=Z,81nm,0.5s,mb5.8							
HYB	**Hyderabad**	**56.19**	**296**	*e*P		P	19 22 28.0	-1.4
HYB	**Hyderabad**	**56.19**	**296**	*i*P		P	19 22 28.0	-1.4
KOLN	**Koldanda**	**56.28**	**309**	*e*P		P	19 22 29.7	-0.2
	comp=Z,117nm,1.0s,mb5.7							
ULN	**Ulaanbaatar**	**57.56**	**342**	*c*P		P	19 22 39.0	+0.4
ULN	**Ulaanbaatar**	**57.56**	**342**	⇑*i*P		P	19 22 38.7	+0.1
	comp=Z,29nm,0.9s,mb5.1							
SONM	**Songino Array**	**57.74**	**341**	P		P	19 22 40.0	+0.2
	comp=Z,10nm,0.9s,mb4.7,baz=154,slow=5.8,SNR=70							
BHPL	**Bhopal**	**59.30**	**302**	*e*P		P	19 22 49.5	-1.6
BHPL				*e*			19 22 50.6	
	comp=Z,17nm,0.8s							
ZAK	**Zakamensk**	**60.97**	**341**	⇑*i*P		P	19 23 01.5	-0.5
ZAK				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.4							
NDI	**New Delhi**	**61.69**	**307**	*e*P		P	19 23 04.0	-3.2
TLY	**Talaya**	**61.97**	**342**	⇑*e*P		P	19 23 08.9	+0.2
TLY				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.6							

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOY	Mondy	62.82	340	eP	P	19 23 15.0	+0.6
MOY				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.9						
WMQ	Urumqi	62.84	327⇑	iP	P	19 23 14.7	+0.1
WMQ				PCP	PcP	19 23 52.0	+0.9
WMQ				PP	PP	19 25 36.0	-0.1
WMQ				PCS		19 27 54.0	
WMQ				S	S	19 31 31.0	+1.6
WMQ				SCS	ScS	19 32 50.5	+2.9
WMQ				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,228nm,4.8s						
BOD	Bodaibo	65.12	350	eP	P	19 23 28.7	-0.5
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
KSH	Kashi	67.59	317	eP	P	19 23 46.4	+1.3
KSH				eAP	pP	19 24 21.7	-1.5
KSH				ePP	PP	19 26 15.7	-1.6
KSH				ePCS		19 28 17.0	
KSH				eS	S	19 32 18.7	-8.7
KSH				AMB	AMB		
	comp=Z,220nm,4.8s						
KSH				LR	LR		
	comp=N,610nm,5.5s						
KSH				LR	LR		
	comp=E,520nm,6.2s						
MKAR	Makanchi Array	67.68	327	P	P	19 23 45.7	+0.2
MKAR				pmax	pmax		
	comp=Z,11nm,0.5s						
YAK	Yakutsk	67.99	360c	iP	P	19 23 46.6	-0.6
YAK				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.2						
YAK	Yakutsk	67.99	360	eP	P	19 23 46.1	-1.1
	comp=Z,32nm,0.8s,mb5.1						
AAK	Ala-Archa	70.08	320	P	P	19 24 00.6	+0.3
	comp=Z,151nm,1.2s,mb5.6,SNR=37						
AAK	Ala-Archa	70.08	320c	iP	P	19 24 00.1	-0.2
AAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.0						
AAK	Ala-Archa	70.08	320	eP	P	19 24 00.2	0.0
	comp=Z,13nm,0.5s,mb4.9						
KURK	Kurchatov	71.95	328	P	P	19 24 11.6	+0.4
	comp=Z,169nm,1.0s,mb5.7,SNR=9.0						
KURK	Kurchatov	71.95	328	iP	P	19 24 11.0	-0.2
KURK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.7						
KURK	Kurchatov	71.95	328	eP	P	19 24 11.1	-0.1
	comp=Z,27nm,0.8s,mb5.0						
KURK				e	pP	19 24 51.4	+1.6
VNDA	Vanda	73.24	173	P	P	19 24 18.3	-0.1
	comp=Z,3.9nm,0.6s,mb4.3,baz=323,slow=5.5,SNR=14						
VNDA	Vanda	73.24	173	eP	P	19 24 18.1	-0.3
	comp=Z,5.2nm,0.7s,mb4.4						
SMDO	Samad	76.22	295	P	P	19 24 37.2	+0.8
	SNR=9.9						
BIDO	Bidbid	76.26	296	P	P	19 24 37.7	+1.1
	SNR=9.4						
BVA0	Borovoye Array	77.50	328	iP	P	19 24 42.8	-0.1
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
BVAR	Borovoye Array	77.50	328	P	P	19 24 42.8	-0.1
	comp=Z,6.0nm,0.5s,mb4.5,baz=127,slow=7.4,SNR=58						
CHKZ	Chkalovo	77.69	328	P	P	19 24 43.5	-0.4
CHKZ				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
CHKZ	Chkalovo	77.69	328	eP	P	19 24 43.3	-0.6
	comp=Z,9.3nm,0.8s,mb4.5						
BILL	Bilibino	78.24	13	eP	P	19 24 44.7	-2.0
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
WHFO	Wadi Hawf	79.14	289	P	P	19 24 52.6	+0.2
	SNR=9.4						
ABTO	Aybut	79.49	289	P	P	19 24 54.8	+0.4
	SNR=11						
QSPA	South Pole Qui	83.81	180	P	P	19 25 16.0	+0.5
	comp=Z,7.3nm,0.9s,mb4.4						
SVE	Sverdlovsk	84.19	329	eP	P	19 25 18.1	+0.2
SVE				e		19 30 32.0	
SVE				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.0						
RAYN	Ar Rayn	87.66	294	P	P	19 25 36.1	+0.5
	comp=Z,117nm,0.9s,SNR=24						
ILAR	Eielson Array	92.48	25	P	P	19 25 55.3	-1.9
	comp=Z,1.3nm,0.8s,mb4.0,baz=289,slow=4.2,SNR=11						
KMBO	Kilima Mbogo	92.88	269	P	P	19 26 01.2	+1.0
	comp=Z,2.4nm,1.0s,mb4.3						
DAWY	Dawson	95.65	26	eP	P	19 26 09.7	-1.9
OBN	Obninsk	97.13	325	eP	P	19 26 17.3	-1.3
OBN				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
YKA	Yellowknife Ar	106.89	26	PKiKP		19 31 11.0	
	comp=Z,0.2nm,0.5s,baz=288,slow=2.0,SNR=3.7						
YKA	Yellowknife Ar	106.89	26	PKPdf		19 31 11.0	
DBIC	Dimbokro	135.42	273	PKP	PKPdf	19 32 06.9	+1.4
	comp=Z,3.0nm,0.9s,baz=50,slow=2.8,SNR=3.7						
LVC	Limon Verde	145.79	147	PKPbc	PKPbc	19 32 27.6	+2.9
	comp=Z,6.4nm,0.9s,baz=242,slow=4.5,SNR=7.1						
LVC	Limon Verde	145.79	147	ePKP	PKPdf	19 32 28.7	+4.9
LPAZ	La Paz	151.21	141	PKPbc	PKPdf	19 32 42.2	+10
	comp=Z,1.1nm,0.4s,baz=31,slow=2.4,SNR=6.0						
LPAZ	La Paz	151.21	141	ePKPbc	PKPdf	19 32 42.1	+10
LPAZ				ePKPab	PKPab	19 32 50.7	+1.2

CASC 08 19:30:22.1±1.6**, 13.99N×90.75W, h98**^{km}±9^{km}**, MD3.9, 6C-4D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.34	56⇓	eP	P	19 30 36.2	-0.5
IXG				eS	S	19 30 48.4	+0.6
TP2	Tecpan 2	0.84	341⇓	eP	P	19 30 41.8	+0.8
TP2				eS	S	19 30 57.1	+2.3
JAT	Jato	0.93	291⇑	eP	P	19 30 42.0	+0.1
JAT				eS	S	19 30 57.3	+0.7
RBDL	Robledal	1.04	83⇑	eP	P	19 30 43.0	-0.1
RBDL				eS	S	19 30 59.5	+0.6
RTR	El Retiro	1.07	95⇑	eP	P	19 30 43.4	-0.1
RTR				eS	S	19 31 01.6	+2.1
SBLS	San Blas	1.10	97⇑	eP	P	19 30 43.8	0.0
SBLS				eS	S	19 31 01.1	+1.0
SNJE	San Jose	1.11	96	eP	P	19 30 43.8	-0.3
SNJE				eS	S	19 31 01.9	+1.4
MTO2	Montecristo 2	1.40	73⇓	eP	P	19 30 47.3	-0.2
BOQS	Boqueron	1.45	100⇑	eP	P	19 30 47.8	-0.2
BOQS				eS	S	19 31 09.1	+1.9
LBRS	Las Brisas	1.67	98	eP	P	19 30 50.8	-0.1
LFRS	El Faro	1.68	102⇓	eP	P	19 30 50.9	0.0
LFRS				eS	S	19 31 13.2	+1.0
LCBS	La Ceiba	1.75	101⇑	eP	P	19 30 51.3	-0.5
LCBS				eS	S	19 31 16.2	+2.4

*NEIC **08** 19:33:08.0±1.4, 31.28S×177.70W, h10^{km}, mb4.4/1, Error ellipse: s-maj=36.9km s-min=12.2km az=106.0*
*IDC **08** 19:33:07.2±2.1, 31.29S×177.78W, mb4.1/3, mb1 4.3/5, mb1mx4.1/16, mbtmp4.2/5, ML4.0/2, MS4.9/1, Ms1 4.9/1, ms1mx2.9/19, Error ellipse: s-maj=55.2km s-min=29.9km az=122.0*
ISC 08 19:33:07.8±3.3**, 31.4S**±0.1×**177.5W**±0.5**, h33**^{km}**, n11, σ0ˢ58**/9**, mb4.2**/4**, MS5.0**/1**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.19	350	Pn	Pn	19 33 41.7	-0.9
RAO				eS	S	19 34 02.4	-6.2
URZ	Urewera	8.15	212	Pn	P	19 35 07.3	+0.6
	3.0nm,0.3s,baz=110,slow=2.6,SNR=9.9						
URZ				Sn	Sn	19 36 37.9	-1.0
	3.1nm,0.3s,baz=169,slow=21,SNR=8.2						
RPZ	Rata Peaks	15.27	213	Pn	P	19 36 42.3	-0.1
	0.5nm,0.3s,baz=17,slow=17,SNR=3.2						
STKA	Stephens Creek	34.70	258	P	P	19 39 57.2	+0.6
	0.9nm,0.4s,mb4.0,baz=95,slow=12,SNR=4.1						
ASAR	Alice Springs	43.51	268	P	P	19 41 10.5	+0.4
	1.9nm,0.6s,mb4.0,baz=105,slow=7.2,SNR=26						
WRAB	Tennant Creek	44.59	273	eP	P	19 41 19.0	+0.2
	3.8nm,0.6s,mb4.4						
WRA	Warramunga Arr	44.59	273	P	P	19 41 18.9	+0.1
	1.3nm,0.3s,mb4.2,baz=112,slow=8.0,SNR=44						
BBB	Bella Bella	93.77	28	LR	LR	20 22 39.2	
	comp=Z,508nm,18.2s,MS5.0,baz=308,slow=32						
FINES	FINESS Array B	146.25	340	PKPbc	PKPbc	19 52 46.2	+2.0
	0.4nm,0.5s,baz=56,slow=5.0,SNR=7.8						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NB2	NORSAR Subarra	149.81	352	PKPabc	PKPab	19 53 10.1	+8.9
	1.0nm,0.8s,baz=36,slow=2.6						
AKASG	Malin Array Be	152.37	322	PKPbc	PKPdf	19 53 05.1	+12
	0.1nm,0.3s,baz=42,slow=3.0,SNR=2.3						

*IDC **08** 19:37:03.5±0.8, 16.62S×167.57E, mb4.5/13, mb1 4.6/13, mb1mx4.6/17, mbtmp4.5/13, MS4.5/16, Ms1 4.5/16, ms1mx4.4/23, Error ellipse: s-maj=26.3km s-min=19.1km az=139.0*
*BJI **08** 19:37:04.3, 16.54S×167.78E, h13^{km}, mB5.3, mb5.0, Ms4.9, Msz4.7*
*LDG **08** 19:37:05.7±0.3, 16.57S×167.29E, h10^{km}, Mb4.8/2, Ms4.6/7, Error ellipse: s-maj=46.9km s-min=6.4km az=92.0*
*MOS **08** 19:37:06.1±1.0, 17.05S×167.73E, h33^{km}, mb5.1/6, MS4.6/5, Error ellipse: s-maj=15.9km s-min=11.9km az=176.0*
*HRVD **08** 19:37:06.2±0.2, 16.73S×167.53E, h19^{km}, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s44,c76;Mantle waves: s63,c118; Half duration: 1ˢ0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.45±.03; $M_{\theta\theta}$0.39±.02; $M_{\phi\phi}$-0.83±.02; $M_{r\theta}$0.39±.05; $M_{\theta\phi}$-0.28±.02; $M_{\phi r}$-0.22±.04; Best double couple: M_0.896×10^{17} NP1:ϕ_s48°,δ55°,λ148°. NP2:ϕ_s157°,δ65°,λ40°. Principal axes: T .881, Plg45°, Azm17°; N .03, Plg44°, Azm184°; P -.912, Plg6°, Azm280°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 19:37:06.2±0.3, 16.75S×167.48E, h10^{km}, mb5.1/21 Error ellipse: s-maj=12.0km s-min=9.4km az=126.0*
ISC 08 19:37:03.2±2.6**, 16.79S**±0.04×**167.52E**±0.08**, h5**^{km}±16^{km}**, h17**^{km}±4.5^{km}**:pP-P, n150, σ1ˢ02**/75**, mb4.8**/39**, MS4.6**/31**, 11C-4D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	Port Laguerre	5.41	192	eP	Pn	19 38 26.4	-0.1
NOUC				eS	Sn	19 39 29.6	-0.3
NOUC	Port Laguerre	5.41	192	eP	Pn	19 38 26.4	-0.1
NOUC				eS	Sn	19 39 29.6	-0.3
HNR	Honiara	10.39	314	eP	P	19 39 36.9	+0.9
HNR				eS	S	19 41 33.3	-0.7
CTA	Charters Tower	20.44	258	P	P	19 41 44.9	+0.6
CTA	Charters Tower	20.44	258	P	P	19 41 45.0	+0.7
	9.2nm,0.8s,baz=95,slow=11,SNR=6.7						
CTA				LR	LR	19 48 17.3	
	comp=Z,1μm,20.3s,MS4.2,baz=78,slow=33						
CTAO	Charters Tower	20.44	258	eP	P	19 41 44.9	+0.6
CTAO	Charters Tower	20.44	258	eP	P	19 41 45.0	+0.7
	44nm,1.2s						
PMG	Port Moresby	21.14	288	LR	LR	19 48 10.6	
	comp=Z,1μm,20.1s,MS4.3,baz=103,slow=32						
URZ	Urewera	22.99	160	P	P	19 42 13.0	+3.2
	17nm,1.1s,mb4.4,baz=27,slow=11,SNR=2.6						
URZ				LR	LR	19 49 48.0	
	comp=Z,2μm,18.3s,MS4.7,baz=354,slow=33						
CNB	Canberra Magne	24.55	218	eP	P	19 42 27.1	+2.0
	422nm,1.1s,mb5.9						
RPZ	Rata Peaks	27.01	174	LR	LR	19 51 49.8	
	comp=Z,1μm,20.4s,MS4.4,baz=11,slow=33						
STKA	Stephens Creek	27.89	233⇓	iP	P	19 42 56.7	+0.5
	16nm,1.0s,mb4.6						
STKA	Stephens Creek	27.89	233	P	P	19 42 56.1	-0.1
	8.7nm,0.8s,mb4.5,baz=75,slow=7.6,SNR=13						
RAR	Rarotonga	31.20	103	LR	LR	19 52 48.7	
	comp=Z,850nm,20.4s,MS4.4,baz=285,slow=30						
WRAB	Tennant Creek	31.61	259⇑	eP	P	19 43 30.0	+0.6
WRAB	Tennant Creek	31.61	259	eP	P	19 43 27.6	-1.8
	18nm,1.0s,mb4.8						
WRA	Warramunga Arr	31.62	259	P	P	19 43 28.3	-1.2
	3.2nm,0.7s,mb4.2,baz=88,slow=8.4,SNR=18						
WRA				PcP	PcP	19 46 21.7	-0.2
	1.5nm,0.8s,baz=89,slow=2.8,SNR=4.7						
ASAR	Alice Springs	32.22	252	P	P	19 43 34.0	-0.8
	24nm,0.6s,mb5.2,baz=78,slow=8.8,SNR=187						
ASAR				PcP	PcP	19 46 23.1	-0.4
	2.5nm,0.9s,baz=98,slow=3.2,SNR=4.1						
ASAR				LR	LR	19 55 38.9	
	comp=Z,860nm,19.0s,MS4.5,baz=73,slow=34						
ASPA	Alice Springs	32.23	252	eP	P	19 43 34.2	-0.6
FORT	Forrest	38.50	242	eP	P	19 44 28.9	+0.7
	402nm,0.7s						
FITZ	Fitzroy Crossi	39.92	262	eP	P	19 44 40.4	+0.2
	26nm,0.9s,mb5.0						
TBI	Tubuai	40.81	106	eLQ		19 54 41.2	
TBI				eLR	LR	19 56 21.7	
	1μm,30.5s						
PPT	Papeete	40.93	98	eLQ		19 54 21.7	
PPT				eLR	LR	19 56 26.4	
	1μm,25.2s						
MBWA	Marble Bar	45.28	257	eP	P	19 45 21.4	-2.5
	12nm,0.8s,mb4.8						
KLBR	Kellerberrin	47.34	242	eP	P	19 45 39.5	-0.6
	196nm,0.8s						
NWAO	Narrogin (SRO)	47.93	241	P	P	19 45 44.3	-0.4
	23nm,1.0s,mb5.2,baz=114,slow=4.2,SNR=16						
NWAO	Narrogin (SRO)	47.93	241	eP	P	19 45 44.1	-0.7
	28nm,0.8s,mb5.3						
MUN	Mundaring	48.69	242	eP	P	19 45 50.4	-0.2
	7.3nm,1.1s,mb4.6						
TAOE	Nuku Hiva Isla	51.51	88	eLR	LR	20 00 54.6	
RKT	Rikitea	54.13	107	eLR	LR	20 02 29.0	
	806nm,31.2s						
JOW	Kunigami	57.73	318	P	P	19 46 56.7	-0.9
	16nm,0.8s,mb5.1,baz=137,slow=9.4,SNR=5.4						
JOW				LR	LR	20 07 50.3	
	comp=Z,287nm,20.6s,MS4.4,baz=354,slow=32						
KSM	Kuching	59.26	282	eP	P	19 47 08.2	-0.3
KSM				e		19 47 17.0	
MAT	Matsushiro	59.84	333	eP	P	19 47 10.0	-2.2
	20nm,1.1s,mb5.1						
MAT				eS	S	19 55 24.0	+1.5
MAT	Matsushiro	59.84	333	P	P	19 47 09.5	-2.7
MAT				S	S	19 55 24.0	+1.5
VNDA	Vanda	60.82	181	LR	LR	20 09 24.2	
	comp=Z,272nm,19.0s,MS4.4,baz=24,slow=32						
YHNB	Yeheng	61.01	311	eP	P	19 47 20.0	-0.3
ASAJ	Asahikawa	64.75	340	LR	LR	20 12 04.8	
	comp=Z,582nm,20.1s,MS4.8,baz=165,slow=32						
QIZ	Qiongzhong	66.96	300	P	P	19 47 59.0	-0.4
QIZ				S	S	19 56 55.0	+3.3
QIZ				LR	LR		
	comp=Z,298nm,24.8s,MS4.4						
YSS	Yuzh-Sakhalins	67.25	342	P	P	19 48 00.0	-0.8
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
YSS	Yuzh-Sakhalins	67.25	342	eP	P	19 48 01.2	+0.3
	comp=Z,40nm,0.9s,mb5.5						
NJ2	Nanjing	67.32	316	eP	P	19 48 03.1	+1.6
NJ2				AP	pP	19 48 07.5	+4.4
NJ2				XP	sP	19 48 10.8	+7.1
NJ2				S	S	19 56 58.0	+2.1
NJ2				XS		19 57 06.0	
NJ2				AMB	AMB		
	comp=Z,430nm,4.6s						
NJ2				LR	LR		
	comp=N,760nm,14.6s						
NJ2				LR	LR		
	comp=E,830nm,19.9s						
NJ2				LR	LR		
	comp=Z,580nm,18.9s,MS4.8						
WHN	Wuhan	69.50	313	P	P	19 48 15.2	+0.1
MDJ	Mudanjiang	70.21	332	P	P	19 48 18.9	-0.2
MDJ				XP	sP	19 48 23.4	+2.1
MDJ				PP	PP	19 50 52.2	-4.2
MDJ				S	S	19 57 33.4	+3.5
MDJ				XS		19 57 38.9	
MDJ				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,205nm,5.5s						
MDJ				LR	LR		
	comp=N,232nm,28.4s,MS4.5						
MDJ				LR	LR		
	comp=E,306nm,28.4s,MS4.5						
MDJ				LR	LR		
	comp=Z,248nm,21.6s						
MDJ	Mudanjiang	70.21	332	eP	P	19 48 18.9	-0.2
	comp=Z,36nm,1.0s,mb5.3						
MDJ				e		19 48 23.5	
CN2	Changchun	71.53	329	eP	P	19 48 26.6	-0.6
CN2				eXP	sP	19 48 35.1	+5.8
CN2				eS	S	19 57 44.9	-0.4
CN2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,300nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.7						
CN2				LR	LR		
	comp=Z,300nm,21.0s,MS4.5						
ENH	Enshi	72.86	310	eP	P	19 48 34.9	-0.5
	comp=Z,54nm,1.2s,mb5.3						
ENH				e		19 48 44.1	
KLR	Kul'dur	72.98	336	eP	P	19 48 31.7	-4.0
GYA	Guiyang	73.09	305⇑	iP	P	19 48 37.4	+0.6
GYA				AP	pP	19 48 41.8	+3.4
GYA				XP	sP	19 48 45.2	+6.3
GYA				S	S	19 58 05.8	+2.3
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,80nm,4.1s						
GYA				LR	LR		
	comp=N,130nm,15.3s,MS4.5						
GYA				LR	LR		
	comp=E,180nm,16.8s,MS4.5						
GYA				LR	LR		
	comp=Z,140nm,16.2s,MS4.3						
QSPA	South Pole Qui	73.25	180	eP	P	19 48 37.5	+0.8
	comp=Z,64nm,1.1s,mb5.5						
QSPA				eP	pP	19 48 37.8	-0.5
QSPA				eP		19 48 43.6	
BJI	Beijing	74.02	321	P	P	19 48 42.1	+0.2
BJI				S	S	19 58 14.5	+0.9
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
BJI				LR	LR		
	comp=N,339nm,17.4s,MS4.7						
BJI				LR	LR		
	comp=E,229nm,22.1s,MS4.7						
BJI				LR	LR		
	comp=Z,310nm,30.5s						
BJI	Beijing	74.02	321	P	P	19 48 42.1	+0.2
	comp=Z,10.0nm,0.9s,mb4.8						
BJI				S	S	19 58 14.5	+0.9
XAN	Xi'an	75.26	313	P	P	19 48 49.5	+0.3
XAN				AP	pP	19 48 56.6	+5.8
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
KMI	Kunming	75.60	302⇑	P	P	19 48 52.5	+1.2
KMI				AP	pP	19 49 02.3	+9.4
KMI				XP	sP	19 49 05.1	+12
KMI				S	S	19 58 35.0	+3.5
KMI				SS	SS	20 03 20.7	-4.4
KMI				AMB	AMB		
	comp=Z,17nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,112nm,5.1s						
KMI				LR	LR		
	comp=N,138nm,22.6s						
KMI				LR	LR		
	comp=E,191nm,17.5s						
KMI				LR	LR		
	comp=Z,253nm,27.3s,MS4.4						
KMI	Kunming	75.60	302⇑	P	P	19 48 52.5	+1.2
	comp=Z,17nm,1.2s,mb4.8						
KMI				pP	pP	19 49 02.3	+9.4
KMI				sP	sP	19 49 05.1	+12
KMI				S	S	19 58 35.0	+3.5
KMI				sS		19 58 51.2	
KMI				SS	SS	20 03 20.7	-4.4
CM31	Chiang Mai Arr	76.01	294	eP	P	19 48 54.0	+0.2
	comp=Z,3.7nm,0.8s,mb4.4						
CMAR	Chiang Mai Arr	76.01	294	P	P	19 48 53.8	+0.1
	comp=Z,4.7nm,1.0s,mb4.4,baz=136,slow=3.7,SNR=20						
CMAR				LR	LR	20 19 37.2	
	comp=Z,136nm,20.9s,MS4.2,baz=120,slow=34						
HHC	Hu-ho-hao-te	77.31	320	eP	P	19 49 01.6	+1.0
HHC				XP	sP	19 49 09.3	+6.6
HHC				PP	PP	19 51 59.4	+3.0
HHC				S	S	19 58 53.7	+3.9
HHC				SCS	ScS	19 59 14.9	-0.7
HHC				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,189nm,5.1s						
HHC				LR	LR		
	comp=N,224nm,22.0s,MS4.7						
HHC				LR	LR		
	comp=E,317nm,20.8s,MS4.7						
HHC				LR	LR		
	comp=Z,378nm,19.0s,MS4.7						
CD2	Chengdu	77.46	308	P	P	19 49 02.7	+1.1
HIA	Hailar	78.19	330	eP	P	19 49 05.2	0.0
	comp=Z,19nm,1.2s,mb4.9						
LZH	Lanzhou	79.88	312⇑	P	P	19 49 16.7	+2.0
LZH				AP	pP	19 49 26.1	+10
LZH				PP	PP	19 52 22.0	+4.2
LZH				S	S	19 59 18.3	+1.0
LZH				SKS	SKS	19 59 27.0	-4.4
LZH				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,360nm,5.1s						
LZH				LR	LR		
	comp=N,400nm,14.0s						
LZH				LR	LR		
	comp=Z,470nm,17.0s,MS4.9						
LZH	Lanzhou	79.88	312	P	P	19 49 16.7	+2.0
LZH				S	S	19 59 18.3	+1.0
LZH	Lanzhou	79.88	312⇑	P	P	19 49 16.7	+2.0
	comp=Z,50nm,1.0s,mb5.4						
LZH				pP	pP	19 49 26.1	+10
LZH				sP	sP	19 49 30.7	+14
LZH				PP	PP	19 52 22.0	+4.2
LZH				S	S	19 59 18.3	+1.0
LZH				SKS	SKS	19 59 27.0	-4.4
LZH				PS	PS	20 00 09.0	+6.5
LZH				SS	SS	20 04 33.0	+3.5
MAW	Mawson	80.08	202	LR	LR	20 22 37.6	
	comp=Z,368nm,18.1s,MS4.8,baz=358,slow=34						
CLNS	Chul'man	81.52	338	eP	P	19 49 24.5	+1.6
CLNS				e		19 59 40.3	
CLNS				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CLNS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,300nm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.8						
ULN	Ulaanbaatar	83.94	324⇓	eP	P	19 49 36.7	+1.1
ULN	Ulaanbaatar	83.94	324	eP	P	19 49 36.0	+0.4
	comp=E,23nm,1.2s,mb5.2						
YAK	Yakutsk	84.06	343c	iP	P	19 49 35.3	-0.6
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
GTA	Gaotai	84.26	314	P	P	19 49 38.6	+1.1
GTA				AP	pP	19 49 42.3	+3.2
GTA				XP	sP	19 49 44.7	+5.1
GTA				SKS	SKS	19 59 58.7	-3.1
GTA				S	S	20 00 06.7	+4.6
GTA				XS		20 00 14.7	
GTA				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.1						
GTA				AMB	AMB		
	comp=Z,89nm,5.7s						
GTA				LR	LR		
	comp=N,179nm,17.9s,MS4.6						
GTA				LR	LR		
	comp=E,195nm,20.9s,MS4.6						
GTA				LR	LR		
	comp=Z,313nm,23.6s,MS4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	84.29	324	P	P	19 49 37.6	+0.2
	comp=Z,3.8nm,0.9s,mb4.5,baz=135,slow=3.5,SNR=23						
BILL	Bilibino	84.59	360	⇓eP	P	19 49 38.2	-0.2
BILL				i S	S	19 59 58.6	-6.0
BILL				pmax	pmax		
	comp=Z,19nm,1.7s,mb5.0						
BILL				MLR	MLR		
	comp=Z,300nm,23.0s,MS4.6						
BILL	Bilibino	84.59	360	eP	P	19 49 37.1	-1.3
	comp=Z,12nm,1.0s,mb5.0						
BOD	Bodaibo	86.43	334	eP	P	19 49 45.6	-2.2
LSA	Lhasa	86.86	302	eP	P	19 49 51.4	+0.8
	comp=Z,5.6nm,1.0s,mb4.8						
ZAK	Zakamensk	87.37	325	eP	P	19 49 52.2	-0.3
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.3						
TLY	Talaya	87.83	326	eP	P	19 49 55.5	+0.8
TLY				eS	S	20 00 32.7	-3.4
TLY				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,161nm,18.0s,MS4.5						
ILAR	Eielson Array	88.40	18	P	P	19 49 55.2	-1.9
	comp=Z,1.0nm,0.9s,mb4.0,baz=256,slow=5.3,SNR=5.1						
NVAR	Mina Array Bea	88.42	49	P	P	19 49 57.1	-0.8
	comp=Z,0.2nm,0.3s,baz=236,slow=3.7,SNR=5.0						
NVAR				LR	LR	20 23 25.7	
	comp=Z,486nm,18.4s,baz=180,slow=32						
ELK	Elko	91.48	48	LR	LR	20 27 21.3	
	comp=Z,340nm,18.6s,MS4.8,baz=73,slow=33						
SNAA	Sanae	91.52	183	P	P	19 50 08.9	-2.6
	comp=Z,2.8nm,1.2s,mb4.5,baz=199,slow=18,SNR=3.2						
WMQ	Urumqi	94.34	314	⇑iP	P	19 50 25.5	+0.3
WMQ				PP	PP	19 54 16.0	+1.0
WMQ				SKS	SKS	20 00 59.5	-3.8
WMQ				S	S	20 01 35.5	+1.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,125nm,5.3s						
WMQ				LR	LR		
	comp=N,349nm,18.2s,MS4.9						
WMQ				LR	LR		
	comp=E,198nm,22.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,299nm,22.8s,MS4.7						
PDAR	Pinedale Array	96.16	47	LR	LR	20 30 48.5	
	comp=Z,241nm,19.3s,MS4.7,baz=286,slow=34						
TXAR	Lajitas Array	97.04	62	LR	LR	20 28 46.0	
	comp=Z,111nm,18.3s,MS4.4,baz=225,slow=32						
YKA	Yellowknife Ar	99.25	27	P	P	19 50 46.9	-0.1
	comp=Z,0.2nm,0.5s,mb3.9,baz=249,slow=4.6,SNR=3.8						
YKA				LR	LR	20 30 34.9	
	comp=Z,250nm,19.9s,MS4.7,baz=240,slow=32						
ARCES	ARCESS Array B	122.30	345	PKP	PKPdf	19 55 57.0	-4.4
	comp=Z,1.4nm,0.6s,baz=90,slow=1.2,SNR=7.7						
OBN	Obninsk	126.56	327	ePKIKP	PKPdf	19 56 08.0	-1.9
OBN				e		20 03 06.8	
OBN				eSS	SS	20 15 35.4	+25
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.6						
FINES	FINESS Array B	127.72	338	PKP	PKPdf	19 56 09.0	-3.1
	comp=Z,4.9nm,1.1s,baz=207,slow=4.3,SNR=4.5						
AKASG	Malin Array Be	132.56	325	PKP	PKPdf	19 56 18.9	-2.8
	comp=Z,1.9nm,1.0s,baz=33,slow=2.2,SNR=5.0						
NOA	NORSAR Array B	132.67	345	PKP	PKPdf	19 56 19.9	-1.6
	comp=Z,0.1nm,0.5s,baz=50,slow=2.4,SNR=2.7						
KHC	Kasperske Hory	141.42	332	ePKPDF	PKPdf	19 56 34.0	-3.8
KHC				epPKP		19 56 42.0	
GERES	GERESS Array B	141.57	332	PKhKP		19 56 33.1	
	comp=Z,1.4nm,0.8s,baz=45,slow=1.9,SNR=7.5						
KBA	Koelnbreinsper	143.03	330	⇑iP	PKPbc	19 56 35.8	-0.3
FVI	Forni Avoltri	143.64	330	ePKP	PKPdf	19 56 38.4	-3.3
MOTA	Moosalm	143.85	333	⇑iP	PKPbc	19 56 38.9	+0.4
MOTA				i		19 56 43.9	
SQTA	Sankt Quirin	143.90	332	⇓iP	PKPbc	19 56 39.6	+0.9
SQTA				i		19 56 44.3	
DAVA	Damuels	144.43	334	⇑iP	PKPbc	19 56 41.1	+0.9
CDF	Champ du Feu	144.56	337	ePKP1	PKPbc	19 56 40.2	-0.3
	comp=Z,14nm,0.8s						
CTI	Castel Tesino	144.58	331	ePKP	PKPdf	19 56 42.8	-0.5
FELD	Feldberg	144.73	336	PKP	PKPdf	19 56 42.0	-1.5
ECH	Echery	144.77	337	PKP	PKPdf	19 56 41.5	-2.1
BRMO	Bormio	144.84	332	ePKP	PKPdf	19 56 42.7	-1.1
MOF	Molkenrain	145.08	337	PKP	PKPdf	19 56 42.5	-1.7
THEF	They Montfort	145.19	338	PKP	PKPdf	19 56 42.9	-1.4
HINF	Hinteralfeld	145.22	337	ePKP1	PKPbc	19 56 42.8	+0.5
	comp=Z,18nm,0.6s						
HAU	Haudompre	145.25	338	ePKP1	PKPbc	19 56 43.1	+0.7
	comp=Z,43nm,0.9s						
HAU				eR			
	comp=Z,201nm,22.8s						
MEZF	Maizieres J'vi	145.28	339	ePKP1	PKPbc	19 56 43.2	+0.8
	comp=Z,84nm,1.2s						
LOMF	Lomont	145.61	337	PKP	PKPdf	19 56 44.6	-0.5
ARV	Arcevia	145.74	326	ePKP	PKPdf	19 56 46.0	+0.6
SNTG	Esanatoglia	145.91	326	ePKP	PKPdf	19 56 46.1	+0.3
VAI	Varese	146.02	333	ePKP	PKPdf	19 56 45.6	-0.2
SFI	Santa Sofia	146.03	328	ePKP	PKPdf	19 56 45.1	-0.8
NRCA	Norcia	146.10	325	ePKP	PKPdf	19 56 46.3	+0.2
PGD	Poggio Sodo	146.12	328	ePKP	PKPdf	19 56 47.5	+1.4
TIP	Timpagrande	146.13	317	ePKPbc	PKPbc	19 56 43.9	-0.9
VMG	Vicchio	146.14	328	ePKP	PKPdf	19 56 48.7	+2.6
ZCCA	Zocca	146.15	329	ePKP	PKPdf	19 56 47.5	+1.4
AQU	L'Aquila	146.26	324	ePKP	PKPdf	19 56 48.3	+1.9
SGO	Sicignano	146.27	320	ePKP	PKPdf	19 56 46.7	+0.3
MCGN	Macugnaga	146.28	334	ePKP	PKPdf	19 56 47.5	+1.3
GSCL	Gusciola	146.34	330	ePKP	PKPdf	19 56 48.9	+2.5
ERBM	Eremo	146.37	330	ePKP	PKPdf	19 56 47.7	+1.3
SDI	San Donato	146.45	323	ePKP	PKPdf	19 56 47.7	+1.0
PTQR	Pietraquaria	146.48	324	ePKP	PKPdf	19 56 48.3	+1.5
CABF	La Chapelle	146.51	337	ePKP1	PKPbc	19 56 46.1	+0.6
	comp=Z,45nm,1.1s						
ORO	Oropa	146.55	334	ePKP	PKPdf	19 56 46.9	+0.1
GRI	Girifalco	146.55	317	ePKP	PKPdf	19 56 49.2	+2.3
BOB	Bobbio (Coli)	146.56	331	ePKP	PKPdf	19 56 48.9	+2.1
MNS	Montasola	146.64	325	ePKP	PKPdf	19 56 47.3	+0.3
FLN	La Foliniere	146.64	346	ePKP1	PKPbc	19 56 45.9	+0.2
	comp=Z,33nm,0.8s						
FLN				eR			
	comp=Z,316nm,22.2s						
LDF	La Druitiere	146.71	345	ePKP1	PKPbc	19 56 46.7	+0.8
	comp=Z,21nm,0.8s						
SSF	Saint Saulge	147.04	340	ePKP1	PKPdf	19 56 48.3	+0.8
	comp=Z,46nm,1.1s						
GRR	Gorron	147.08	346	ePKP1	PKPdf	19 56 47.9	+0.4
	comp=Z,60nm,1.1s						
LPL	La Plagne	147.16	335	ePKP1	PKPdf	19 56 48.1	+0.3
	comp=Z,29nm,1.1s						
LPG	La Plagne	147.16	335	ePKP1	PKPdf	19 56 48.4	+0.6
	comp=Z,46nm,1.2s						
SOI	Samo	147.19	316	ePKP	PKPdf	19 56 50.0	+1.9
SMF	Signal de Mont	147.29	339	ePKP1	PKPdf	19 56 48.9	+1.0
	comp=Z,64nm,1.4s						
AVF	Avril sur Loir	147.33	340	ePKP1	PKPdf	19 56 48.5	+0.5
	comp=Z,23nm,1.1s						
MTTG	Motta San Giov	147.47	316	ePKP	PKPdf	19 56 52.0	+3.5
BNI	Bardonecchia	147.56	334	ePKPbc	PKPdf	19 56 50.4	+2.0
SGMF	Saint Gilles	147.59	348	ePKP1	PKPdf	19 56 49.3	+1.0
	comp=Z,48nm,1.1s						
ROSF	Rostrenen	147.65	348	ePKP1	PKPdf	19 56 48.2	-0.2
	comp=Z,43nm,1.1s						
BGF	Bois d'Agland	147.70	340	ePKP1	PKPdf	19 56 49.9	+1.3
	comp=Z,34nm,1.1s						
MBDF	Montbardon	147.78	334	ePKP1	PKPdf	19 56 48.9	+0.1
	comp=Z,28nm,1.4s						
PLDF	La Plantade	147.96	339	PKP	PKPdf	19 56 54.9	+5.9
ORIF	Oris-en-Rattie	147.99	335	ePKP1	PKPdf	19 56 49.6	+0.5
	comp=Z,79nm,1.4s						
ORIF				eR			
	comp=Z,237nm,19.0s						
TCF	Toulx Ste Croi	148.15	341	ePKP1	PKPdf	19 56 50.0	+0.7
	comp=Z,29nm,1.1s						
SBF	Sospel	148.18	332	ePKP1	PKPdf	19 56 49.9	+0.5
	comp=Z,99nm,1.2s						
PGF	Pioggiola	148.45	329	ePKP1	PKPdf	19 56 49.4	-0.5
	comp=Z,76nm,1.1s						
VIVF	Saint-Julien-l	148.52	336	ePKP1	PKPdf	19 56 52.9	+2.9
MFF	Saint Martin d	148.56	344	ePKP1	PKPdf	19 56 52.0	+2.0
	comp=Z,38nm,1.1s						
LBL	Lubilhac	148.73	338	PKP	PKPdf	19 56 53.9	+3.6

*IDC **08** 19:58:01.2±4.5, 13.36N×92.99E, mb3.3/2, mb1 3.6/3, mb1mx3.4/16, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=92.8km s-min=43.7km az=98.0*

ISC 08 19:58:05.0±1.1**, 13.53N**±0.10×**93.29E**±0.09**, h33**km**, n8,** σ**1.01**/9**, mb3.3**/2**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.32	47	Pn	Pn	19 59 53.6	+1.2
	0.3nm,0.3s,baz=238,slow=15,SNR=21						
CMAR				Sn	Sn	20 01 14.6	-0.6
	baz=235,slow=26,SNR=2.7						
JIRN	Jiri	15.54	336	eP	P	20 01 45.2	+1.7
	2.7nm,0.3s						
GUN	Gumba	15.89	335	eP	P	20 01 46.5	-1.4
DMN	Daman	15.96	333	eP	P	20 01 48.6	-0.2
	7.1nm,0.7s						
GKN	Gorkha	16.51	332	eP	P	20 01 50.6	-5.1
	4.9nm,0.4s						
KOLN	Koldanda	16.81	329	eP	P	20 01 54.2	-5.3
	5.5nm,0.7s						
WRA	Warramunga Arr	52.32	129	P	P	20 07 15.8	-0.3
	0.2nm,0.6s,mb3.2,baz=301,slow=9.4,SNR=3.9						
ASAR	Alice Springs	54.25	133	P	P	20 07 30.4	0.0
	0.2nm,0.4s,mb3.4,baz=312,slow=6.9,SNR=5.0						

*IDC **08** 19:59:45.7±8.3, 32.39N×130.65E, h151km±66km, mb3.3/8, mb1 3.3/9, mb1mx3.2/23, mbtmp3.7/9, Error ellipse: s-maj=102.0km s-min=14.0km az=69.0*

*JMA **08** 19:59:46.8±0.1, 32.54N×131.07E, h146km±1km, M3.2*

ISC 08 19:59:44.2±0.5**, 32.48N**±0.07×**131.11E**±0.10**, h159**km±3km**, n19,** σ**0.85**/28**, mb3.5**/8**, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIU2	Izumi 2	0.25	285	P	P	20 00 06.8	+0.7
JIU2				S	S	20 00 22.0	-0.9
JKIT	Kitakata	0.33	64	P	P	20 00 07.3	+1.0
JKIT				S	S	20 00 22.3	-1.0
JTSN	Tsuno	0.41	125	P	P	20 00 07.8	+1.2
JTSN				S	S	20 00 24.1	+0.2
JZO	Okuchi	0.55	232	P	P	20 00 07.9	+0.7
JZO				S	S	20 00 23.8	-1.1
JTZ	Takazaki	0.58	181	P	P	20 00 08.2	+0.8
JTZ				S	S	20 00 24.4	-0.8
JNU	Nakatsue	0.67	343	P	P	20 00 08.5	+0.7
JTA	Tamana	0.68	315	P	P	20 00 08.5	+0.6
JTA				S	S	20 00 25.1	-1.1
JUS	Usuki	0.80	43	P	P	20 00 09.2	+0.6
JUS				S	S	20 00 26.5	-0.9
JHD	Hondo	0.82	269	P	P	20 00 09.8	+1.1
JHD				S	S	20 00 27.2	-0.4
JSJ	Shimokoshiki	1.43	236	P	P	20 00 15.4	+1.4
JOW	Kunigami	6.14	204	P	P	20 01 12.8	-0.9
	0.3nm,0.3s,baz=268,slow=18,SNR=5.7						
JOW				S	S	20 02 16.4	-6.9
	1.3nm,0.3s,baz=107,slow=26,SNR=7.4						
SONM	Songino Array	24.18	317	P	P	20 04 47.4	+0.5
	0.7nm,0.6s,mb3.3,baz=136,slow=10,SNR=7.7						
BVAR	Borovoye Array	47.50	314	P	P	20 08 05.3	+0.7
	0.2nm,0.4s,mb3.1,baz=119,slow=11,SNR=3.1						
BVAR				PcP	PcP	20 09 32.1	-0.4
	0.5nm,0.4s,baz=132,slow=3.4,SNR=7.1						
WRA	Warramunga Arr	52.22	176	P	P	20 08 40.9	-0.1
	0.4nm,0.4s,mb3.4,baz=354,slow=7.9,SNR=12						
ASAR	Alice Springs	55.89	177	P	P	20 09 08.2	+0.5
	0.4nm,0.4s,mb3.6,baz=0.2,slow=6.3,SNR=14						
STKA	Stephens Creek	64.77	170	P	P	20 10 06.5	-1.3
	1.1nm,0.7s,mb3.8,baz=350,slow=11,SNR=3.0						
FINES	FINESS Array B	68.69	330	P	P	20 10 31.1	-0.8
	0.6nm,0.4s,mb3.7,baz=75,slow=6.4,SNR=13						
AKASG	Malin Array Be	72.44	319	P	P	20 10 53.9	-0.7
	0.5nm,0.4s,mb3.6,baz=53,slow=6.4,SNR=4.6						
HFS	Hagfors	74.46	333	P	P	20 11 05.2	-0.9
	1.6nm,0.8s,mb3.8,baz=34,slow=5.2,SNR=3.6						

JMA 08 19:59:49.7, 32.55N×130.81E, h6km**, M-0.7, Kyushu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIU2	Izumi 2	0.01	141	P	Pg	19 59 50.7	-0.1
JIU2				S	Sg	19 59 51.5	0.0

*PRU **08** 20:14:59.1, 50.15N×18.35E*

WAR 08 20:14:58.1, 50.07N×18.46E, h0km**, ML2.4, 3D, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.17	275	⇓iPG	Pg	20 15 02.6	+1.1
RAC				⇓eSG	Sg	20 15 06.6	+2.8
RAC	Raciborz	0.17	275	⇓iPg	Pg	20 15 02.6	+1.1
RAC				eSg	Sg	20 15 05.9	+2.1
OKC	Ostrava-Krasne	0.31	221	ePG	Pg	20 15 04.8	+0.6
OKC				eSG	Sg	20 15 10.4	+2.1
OJC	Ojcow	0.88	80	ePg	Pg	20 15 14.9	-0.7
OJC				eSg	Sg	20 15 27.1	-0.1
NIE	Niedzica	1.37	118	ePG	Pg	20 15 23.0	-2.4
NIE				eSG	Sg	20 15 42.0	-1.6
DPC	Dobruska-Polom	1.40	282	ePG	Pg	20 15 24.4	-1.7
DPC				eSG	Sg	20 15 42.9	-1.9
	27nm,0.3s						
KOLL	Kolacno	1.49	181	eSN	Sn	20 15 46.0	-0.6
KSP	Ksiaz	1.59	300	ePG	Pg	20 15 26.0	-3.8
KSP				eSG	Sg	20 15 48.0	-2.9
VYHS	Vyhne	1.59	171	ePN	Pn	20 15 27.7	+0.1
VYHS				eSN	Sn	20 15 49.9	+0.7
UPC	Upice	1.63	287	ePG	Pg	20 15 28.3	-2.3
SMOL	Smolenice	1.70	204	ePN	Pn	20 15 28.5	-0.6
CRVS	Cervenica-Dubn	2.28	120	ePN	Pn	20 15 40.1	+2.7
CRVS				eSN	Sn	20 16 11.7	+5.1
PRU	Pruhonice	2.53	270	ePG	Pg	20 15 43.4	-5.2
PRU				eSG	Sg	20 16 16.2	-6.0
PVCC	Panska Ves	2.54	282	ePG	Pg	20 15 44.8	-3.9
KOLS	Kolonicke sedl	2.73	113	eSG	Sg	20 16 29.3	+0.2
KHC	Kasperske Hory	3.31	255	ePN	Pn	20 15 50.7	-1.5
KHC				ePG	Pg	20 15 58.0	-6.2
KHC				eSG	Sg	20 16 42.3	-6.0
MOA	Molln	3.54	233	i	Pn	20 16 03.0	+7.5
MOA	Molln	3.54	233	i SG	Sg	20 16 54.1	-2.0
	2.9nm,0.4s						
CLL	Collm	3.69	292	eSG	Sg	20 16 55.0	-5.8
NKC	Novy Kostel	3.87	275	eSG	Sg	20 16 59.9	-7.0

MAN 08 20:34:03.3, 18.28N×122.04E, h16km**, mb4.8, ML3.7, MS3.7, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.04	170	eP	Pb	20 34 06.7	+0.5
SGCP				eS	Sb	20 34 14.2	+6.0
CVP	Callao Caves	0.61	200	eP	Pb	20 34 17.0	+1.9
ABRA	Dolores	1.41	244	eP	Pn	20 34 27.4	-1.1
ABRA				eS	Sb	20 34 50.6	+4.2

*IDC **08** 21:24:11.4±5.4, 4.22S×102.49E, mb3.6/5, mb1 3.8/5, mb1mx3.7/13, mbtmp3.6/5, Error ellipse: s-maj=204.8km s-min=20.9km az=62.0*

*NEIC **08** 21:24:12.3±1.0, 4.65S×101.67E, h30km, mb4.3/3, Error ellipse: s-maj=44.1km s-min=10.6km az=55.0*

ISC 08 21:24:10.9±1.5**, 4.7S**±0.3×**101.7E**±0.4**, h33**km**, n9,** σ**0.78**/8**, mb3.9**/8**, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	23.13	353	P	P	21 29 16.3	+0.9
	0.4nm,0.7s,mb3.0,baz=183,slow=8.6,SNR=3.1						
WRA	Warramunga Arr	35.23	118	P	P	21 31 05.0	+0.4
	0.3nm,0.5s,mb3.5,baz=302,slow=9.3,SNR=7.8						
WRAB	Tennant Creek	35.24	118	P	P	21 31 04.8	+0.2
	11nm,1.1s,mb4.7						
ASAR	Alice Springs	36.36	124	P	P	21 31 13.7	-0.3
	0.4nm,0.7s,mb3.5,baz=297,slow=8.1,SNR=3.4						
STKA	Stephens Creek	46.15	131	P	P	21 32 34.1	-0.3
	1.5nm,0.5s,mb4.2,baz=325,slow=9.2,SNR=5.2						
SONM	Songino Array	52.44	4	P	P	21 33 22.0	-0.5
	1.7nm,0.6s,mb4.1,baz=185,slow=9.2,SNR=15						
CHKZ	Chkalovo	63.70	340	P	P	21 34 39.8	-1.6
	1.0nm,0.6s,mb4.0						
MORC	Moravsky Berou	89.74	320	P	P	21 37 08.2	+1.0
	1.6nm,0.9s,mb4.3						
TXAR	Lajitas Array	145.68	42	PKP	PKPdf	21 43 49.1	+2.5
	1.8nm,0.5s,baz=316,slow=1.1,SNR=16						

*JMA **08** 21:46:53.8±0.1, 37.26N×138.60E, h12km±2km, M3.5 Broadband fault plane solution: P waves. NP1:φs167°, δ55°, λ25°. NP2:φs63°, δ70°, λ143°. Principal axes: T Plg40°, Azm20°; N Plg49°, Azm218°; P Plg9°, Azm118°;*

JMA Felt III J1.

*NIED **08** 21:47:00, 37.30N×138.60E, h5km, Mw3.5 Best double couple: M0 2.15×10^14 NP1:φs38°, δ65°, λ99°. NP2:φs197°, δ27°, λ71°.*

*IDC **08** 21:47:39.1±11.0, 36.68N×136.23E, h424km±135km, mb2.9/5, mb1 3.1/5, mb1mx2.8/20, mbtmp3.6/5, Error ellipse: s-maj=59.5km s-min=19.5km az=75.0*

ISC 08 21:46:53.3±0.5**, 37.25N**±0.04×**138.61E**±0.04**, h28**km±5km**, n15,** σ**0.49**/23**, mb3.7**/4**, 1C-4D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIZZ	Izumozaki	0.29	16	⇑P	Pb	21 47 00.3	-0.1
JHK	Hiroka	0.33	91	⇓P	Pb	21 47 00.2	-0.7
JHK				S	Sb	21 47 05.2	-0.9
JJN	Nakama	0.39	247	⇓P	Pb	21 47 01.4	-0.4
JJN				S	Sb	21 47 07.6	-0.1
JGK	Kuni	0.69	178	⇓P	Pb	21 47 07.0	+0.2
JGK				S	Sb	21 47 16.8	+0.8
JKT	Katashina	0.71	133	⇓P	Pb	21 47 06.9	-0.1
JKT				S	Sb	21 47 16.5	+0.1
MAT	Matsushiro	0.78	205	P	Pb	21 47 08.0	-0.2
MAT				S	Sb	21 47 18.8	+0.3
MAT	Matsushiro	0.78	205	P	Pb	21 47 08.0	-0.2
MAT				eS	Sb	21 47 18.5	+0.1
JNS	Sasagawa	0.80	45	P	Pb	21 47 08.6	+0.1
JNS				S	Sb	21 47 19.6	+0.7
JFY	Yanaizu	0.89	80	P	Pb	21 47 10.0	0.0
JFY				S	Sb	21 47 22.2	+0.7
JSZ	Suzu	1.01	281	P	Pn	21 47 11.9	+0.1
JSZ				S	Sb	21 47 25.4	+0.3
SONM	Songino Array	25.81	304	P	P	21 52 23.4	-0.3
	0.6nm,0.8s,mb3.2,baz=90,slow=8.6,SNR=3.0						
WRA	Warramunga Arr	57.03	185	P	P	21 56 38.3	-1.0
	0.4nm,0.5s,mb3.7,baz=0.1,slow=7.5,SNR=9.2						
FINES	FINESS Array B	67.56	331	P	P	21 57 48.8	-0.1
	1.0nm,0.8s,mb3.9,baz=45,slow=7.9,SNR=3.9						
NOA	NORSAR Array B	73.10	336	P	P	21 58 23.1	+0.7
	1.2nm,0.8s,mb3.9,baz=40,slow=6.0,SNR=3.9						
NVAR	Mina Array Bea	76.63	52	P	PcP	21 58 55.2	+0.3
	0.6nm,0.6s,baz=284,slow=3.7,SNR=3.6						

IDC 08 21:53:59.7±1.7**, 7.20N×91.37E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.7**/15**, mbtmp3.8**/4**, Error ellipse: s-maj=66.4km s-min=30.8km az=50.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	42.46	15	P	P	22 01 56.8	-1.2
	0.6nm,0.8s,baz=194,slow=5.9,SNR=2.7						
WRA	Warramunga Arr	50.15	123	P	P	22 02 57.1	-2.1
	0.5nm,0.7s,baz=306,slow=8.2,SNR=7.0						
FINES	FINESS Array B	72.03	333	P	P	22 05 24.5	-2.7
	2.4nm,0.9s,baz=90,slow=4.2,SNR=4.7						
GERES	GERESS Array B	76.50	318	P	P	22 05 52.4	-0.9
	0.2nm,0.4s,baz=72,slow=3.1,SNR=3.6						

*MOS **08** 22:18:10.6±2.0, 51.63N×16.04E, h10km, mb4.0/1, Error ellipse: s-maj=10.5km s-min=4.6km az=80.7*

*NEIC **08** 22:18:11.2±0.3, 51.52N×16.16E, h5km, ML3.0(VIE), ML2.9(SZGRF), ML2.8(BRG), Error ellipse: s-maj=4.4km s-min=3.6km az=99.0*

*CSEM **08** 22:18:11.6±0.1, 51.49N×16.14E, h2km, ML3.2/11, Error ellipse: s-maj=1.4km s-min=1.1km az=85.0*

*PRU **08** 22:18:12.7, 51.45N×16.12E*

*IPEC **08** 22:18:12.3±0.2, 51.46N×16.14E, h8km±1km, ML2.3/3, Error ellipse: s-maj=1.5km s-min=0.6km az=39.0*

*IDC **08** 22:18:13.8±1.8, 51.46N×15.85E, h10km±14km, mb1 3.4/8, mb1mx3.3/22, mbtmp3.4/8, ML3.1/8, Error ellipse: s-maj=14.1km s-min=7.0km az=92.0*

*WAR **08** 22:18:13.2, 51.45N×16.08E, h1km, ML2.9, Mining Induced*

ISC 08 22:18:09.4±0.4**, 51.47N**±0.02×**16.15E**±0.03**, n77,** σ**1.43**/138**, 7C-3D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.63	172	⇓ePg	Pg	22 18 24.6	+2.6
KSP				eSg	Sg	22 18 33.1	+2.6
KSP	Ksiaz	0.63	172	⇓iPg	Pg	22 18 24.6	+2.6
KSP				eSg	Sg	22 18 33.0	+2.5
UPC	Upice	0.97	185	ePG	Pg	22 18 30.5	+1.8
UPC	Upice	0.97	185	ePg	Pg	22 18 30.4	+1.7
DPC	Dobruska-Polom	1.13	174	ePG	Pg	22 18 33.3	+1.5
DPC				eSG	Sg	22 18 47.8	+1.0
	38nm,0.2s						
PVCC	Panska Ves	1.37	227	ePG	Pg	22 18 37.7	+0.9
PVCC	Panska Ves	1.37	227	ePn	Pn	22 18 37.6	+1.8
PVCC	Panska Ves	1.37	227	Pg	Pg	22 18 37.7	+0.9
PVCC				eSg	Sg	22 18 55.4	+0.3
BRG	Berggiesshubel	1.51	248	eP	Pg	22 18 38.7	-0.8
BRG				i		22 19 00.1	
BRG	Berggiesshubel	1.51	248	ePg	Pg	22 18 38.7	-0.8
BRG				i Pg	Pg	22 18 40.1	+0.6
BRG				i Sg	Sg	22 19 00.1	+0.4
BRG	Berggiesshubel	1.51	248	ePn	Pn	22 18 38.8	+1.0
BRG	Berggiesshubel	1.51	248	i Pg	Pg	22 18 40.1	+0.6
BRG				eSg	Sg	22 18 58.5	-1.2
RUE	Ruedersdorf	1.78	306	Pn	Pn	22 18 42.6	+1.0
RUE				eS	Sn	22 19 10.1	+4.8
RUE	Ruedersdorf	1.78	306	Pn	Pn	22 18 42.6	+1.0
RUE				eSg	Sg	22 19 08.8	+0.1
RUE				eS	Sn	22 19 10.1	+4.8
PRU	Pruhonice	1.80	215	eP	Pn	22 18 43.3	+1.4
PRU				e		22 19 09.1	
PRU	Pruhonice	1.80	215	ePN	Pn	22 18 43.3	+1.4
PRU				ePG	Pg	22 18 45.3	0.0
PRU				ex	x	22 18 48.6	
PRU				ex	x	22 19 01.2	
PRU				eSG	Sg	22 19 09.1	-0.2
	20nm,0.2s						
PRU	Pruhonice	1.80	215	ePn	Pn	22 18 43.2	+1.3
RAC	Raciborz	1.90	136	eP	Pn	22 18 49.0	+5.7
RAC				eS	Sn	22 19 14.0	+5.7
MORC	Moravsky Berou	1.91	152	eP	Pn	22 18 45.2	+1.7
MORC				S	Sn	22 19 14.8	+6.2
MORC	Moravsky Berou	1.91	152	ePn	Pn	22 18 45.2	+1.7
MORC				eSg	Sg	22 19 12.0	-1.0
	20nm,0.3s						
MORC				S	Sn	22 19 14.8	+6.2
CLL	Collm	1.98	267	i P	Pn	22 18 45.3	+0.9
CLL				i		22 19 15.4	
CLL	Collm	1.98	267	i Pn	Pn	22 18 45.3	+0.9
CLL				i Pg	Pg	22 18 48.3	-0.5
CLL				i Sg	Sg	22 19 15.4	+0.2
CLL	Collm	1.98	267	i PN	Pn	22 18 45.3	+0.9
CLL				i PG	Pg	22 18 48.3	-0.5
CLL				i		22 18 52.6	
CLL				i SG	Sg	22 19 15.4	+0.2
CLL	Collm	1.98	267	ePn	Pn	22 18 45.2	+0.8
CLL	Collm	1.98	267	i Pg	Pg	22 18 48.3	-0.5
CLL				i S	Sg	22 19 15.4	+0.2
OKC	Ostrava-Krasne	2.07	141	ePG	Pg	22 18 50.4	-0.3
OKC				eSG	Sg	22 19 17.6	-0.7
VRAC	Vranov	2.18	172	Pn	Pn	22 18 49.2	+1.8
	1.8nm,0.3s,baz=344,slow=16,SNR=19						
VRAC				Sn	Sn	22 19 17.8	+2.3
	4.8nm,0.3s,baz=84,slow=19,SNR=7.8						
VRAC	Vranov	2.18	172	P	Pn	22 18 49.2	+1.8
VRAC				S	Sn	22 19 17.8	+2.3
VRAC				eSg	Sg	22 19 20.7	-1.3
	22nm,0.4s						
KRUC	Moravsky	2.42	176	ePn	Pn	22 18 52.5	+1.8
KRUC	Moravsky	2.42	176	ePg	Pg	22 18 56.2	-1.4
KRUC				eSg	Sg	22 19 27.6	-2.2
	12nm,0.3s						
OJC	Ojcow	2.63	117	ePN	Pn	22 18 53.0	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC				ePG	Pg	22 19 02.0	+0.1
OJC				eSG	Sg	22 19 39.0	+2.1
OJC	Ojcow	2.63	117	ePg	Pg	22 19 02.3	+0.4
OJC				eSg	Sg	22 19 39.1	+2.2
NKC	Novy Kostel	2.65	244	eP	Pn	22 18 55.4	+1.3
NKC				e		22 19 37.2	
NKC	Novy Kostel	2.65	244	ePN	Pn	22 18 55.4	+1.3
NKC				ePG	Pg	22 19 01.0	-1.3
NKC				eSG	Sg	22 19 37.2	-0.5
NKC	Novy Kostel	2.65	244	Pg	Pg	22 19 01.0	-1.3
NKC				eSg	Sg	22 19 36.2	-1.5
KHC	Kasperske Hory	2.86	216	eP	Pn	22 18 58.5	+1.4
KHC				e		22 19 31.1	
KHC	Kasperske Hory	2.86	216	ePN	Pn	22 18 58.5	+1.4
KHC				ePG	Pg	22 19 04.5	-2.0
KHC				eSN	Sn	22 19 31.1	-1.7
KHC				eSG	Sg	22 19 42.7	-2.0
	9.1nm,0.3s						
MOX	Moxa	2.98	256	ePn	Pn	22 18 59.7	+1.0
MOX				ePg	Pg	22 19 08.0	-0.8
MOX				eSg	Sg	22 19 47.6	-0.9
MOX	Moxa	2.98	256	i P	Pn	22 18 59.7	+1.0
MOX				Pg	Pg	22 19 08.0	-0.8
MOX				Sg	Sg	22 19 48.0	-0.5
MOX	Moxa	2.98	256	ePn	Pn	22 18 59.6	+0.9
MOX	Moxa	2.98	256	ePg	Pg	22 19 08.0	-0.8
MOX				eSg	Sg	22 19 45.5	-3.0
GEC2	GERESS Array S	3.06	212	eP	Pn	22 19 01.6	+1.7
GERES	GERESS Array B	3.06	212	P	Pn	22 19 01.7	+1.8
GERES						22 19 46.7	
GERES	GERESS Array B	3.06	212	Pn	Pn	22 19 01.7	+1.7
	1.0nm,0.3s,baz=26,slow=12,SNR=49						
GERES				Pg	Pg	22 19 07.5	-3.0
	4.5nm,0.3s,baz=24,slow=24,SNR=61						
GERES				Lg		22 19 46.7	
	8.0nm,0.3s,baz=29,slow=24,SNR=9.8						
GERES	GERESS Array B	3.06	212	Pg	Pg	22 19 07.5	-3.0
SMOL	Smolenice	3.07	164	eP	Pn	22 19 04.5	+4.4
SMOL				e		22 19 50.8	
SMOL	Smolenice	3.07	164	ePN	Pn	22 19 04.5	+4.4
SMOL				ePG	Pg	22 19 11.3	+0.6
SMOL				eSG	Sg	22 19 50.8	-0.8
SMOL	Smolenice	3.07	164	ePg	Pg	22 19 11.3	+0.6
SMOL				eSg	Sg	22 19 50.8	-0.8
WET	Wettzell	3.13	223	ePn	Pn	22 19 01.5	+0.6
VKA	Vienna	3.21	178	⇓iPG	Pg	22 19 11.6	-1.8
VKA				i SG	Sg	22 19 55.2	-1.0
NIE	Niedzica	3.36	126	eP	Pg	22 19 13.2	-3.2
NIE				eS	Sg	22 19 59.1	-2.1
GRA1	Grafenberg Arr	3.61	242	eP	Pn	22 19 09.0	+1.3
GRA1				eSg	Sg	22 20 06.0	-3.5
GRF	Grafenberg Arr	3.61	242	eP	Pn	22 19 09.0	+1.3
GRF				eSg	Sg	22 20 06.0	-3.5
CLZ	Clausthal	3.62	278	ePn	Pn	22 19 09.2	+1.4
BSD	Bornholm Skovb	3.73	349	i P	Pn	22 19 09.2	-0.2
BSD				i S	Sn	22 19 50.2	-4.4
BSD				i		22 19 52.8	
MOA	Molln	3.83	199	⇑iPN	Pn	22 19 11.9	+1.1
MOA				i SG	Sg	22 20 15.0	-1.7
	7.5nm,0.4s						
ARSA	Arzberg	4.24	186	⇑iPN	Pn	22 19 18.0	+1.3
ARSA				i SG	Sg	22 20 26.0	-4.6
	7.5nm,0.4s						
CRVS	Cervenica-Dubn	4.27	125	ePG	Pg	22 19 34.0	-0.6
KOLS	Kolonicke sedl	4.68	120	ePN	Pn	22 19 24.2	+1.3
KBA	Koelnbreinsper	4.76	204	⇑iPN	Pn	22 19 24.9	+0.8
KBA				i SG	Sg	22 20 45.0	-2.9
	6.1nm,0.7s						
MOTA	Moosalm	5.28	221	⇑iPN	Pn	22 19 31.8	+0.4
MOTA				i SG	Sg	22 21 01.6	-3.5
	1.3nm,0.4s						
MOTA	Moosalm	5.28	221	⇑iPn	Pn	22 19 31.8	+0.4
	1.3nm,0.4s						
MOTA				i Sg	Sg	22 21 01.6	-3.5
MOTA	Moosalm	5.28	221	i P	Pn	22 19 31.8	+0.4
	1.0nm,0.4s						
MOTA				i Sg	Sg	22 21 01.6	-3.5
	1.3nm,0.4s						
SQTA	Sankt Quirin	5.34	219	⇑iPN	Pn	22 19 32.3	+0.1
SQTA				i SG	Sg	22 21 03.0	-4.1
	2.7nm,0.3s						
SQTA	Sankt Quirin	5.34	219	⇑iPn	Pn	22 19 32.3	+0.1
	2.7nm,0.3s						
SQTA				i Sg	Sg	22 21 03.0	-4.1
SQTA	Sankt Quirin	5.34	219	i P	Pn	22 19 32.3	+0.1
	3.0nm,0.3s						
SQTA				i Sg	Sg	22 21 03.0	-4.1
	2.7nm,0.3s						
DAVOS	Davos	6.23	224	P	Pn	22 19 44.8	0.0
DAVOX	Davos	6.24	224	Pn	Pn	22 19 44.8	-0.1
	0.2nm,0.3s,baz=126,slow=18,SNR=5.5						
AKASG	Malin Array Be	8.27	90	Pn	P	22 20 12.1	-1.4
	0.7nm,0.3s,baz=213,slow=16,SNR=5.0						
AKASG	Malin Array Be	8.27	90	Pn	P	22 20 12.1	-1.4
HFS	Hagfors	8.79	352	Pn	P	22 20 18.6	-2.1
	0.0nm,0.3s,baz=174,slow=14,SNR=5.2						
HFS				Sn	Sn	22 21 51.8	-10
	0.1nm,0.3s,baz=128,slow=33,SNR=7.5						
IMI	Imperia	9.39	220	S	Sn	22 22 19.5	+3.1
NOA	NORSAR Array B	9.97	346	Pn	P	22 20 34.3	-2.6
	0.1nm,0.3s,baz=224,slow=26,SNR=2.5						
FINES	FINESS Array B	11.39	25	Pn	P	22 20 53.7	-2.5
	0.3nm,0.3s,baz=208,slow=11,SNR=15						
FINES				Sn	S	22 22 56.3	-9.2
	0.1nm,0.3s,baz=248,slow=15,SNR=3.5						
FINES	FINESS Array B	11.39	25	Pn	P	22 20 53.7	-2.6
FINES				Sn	S	22 22 56.3	-9.2
KAF	Kangasniemi	12.01	23	ep	P	22 21 01.8	-2.9
ARCES	ARCESS Array B	18.66	10	Pn	P	22 22 26.6	-3.8
	0.2nm,0.3s,baz=189,slow=12,SNR=6.6						

*IDC **08** 22:20:30.7±0.8, 3.89N×126.98E, mb4.4/9, mb1 4.5/9, mb1mx4.3/17, mbtmp4.4/9, MS3.2/2, Ms1 3.2/2, ms1mx2.7/17, Error ellipse: s-maj=53.1km s-min=14.9km az=70.0*

*NEIC **08** 22:20:32.6±10.0, 3.80N×126.69E, h16km±70km, mb4.5/9, Error ellipse: s-maj=34.1km s-min=10.8km az=76.0*

ISC 08 22:20:32.2±7.8**, 3.79N**±0.09×**126.7E**±0.2**, h25**km±58km**, n21,** σ1§**30**/21**, mb4.4**/16**, MS3.0**/2**, 1C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	17.36	161	eP	P	22 24 35.1	+0.3
	22nm,0.6s						
FITZ	Fitzroy Crossi	21.77	183	⇑iP	P	22 25 23.5	-0.8
	22nm,0.9s,mb4.6						
FITZ				e		22 25 26.7	
JOW	Kunigami	22.96	4	P	P	22 25 34.8	-1.3
	16nm,1.0s,mb4.4,baz=114,slow=18,SNR=4.4						
JOW				LR	LR	22 33 33.0	
	comp=Z,43nm,20.1s,MS2.9,baz=274,slow=34						
WRAB	Tennant Creek	24.75	163	P	P	22 25 54.0	+0.5
	84nm,0.6s,mb5.5,SNR=22						
WRAB	Tennant Creek	24.75	163	eP	P	22 25 54.1	+0.6
	22nm,0.8s,mb4.7						
WRA	Warramunga Arr	24.75	163	P	P	22 25 54.1	+0.6
	8.4nm,0.7s,mb4.4,baz=341,slow=10,SNR=45						
WB2	Warramunga Arr	24.76	163	eP	P	22 25 54.3	+0.7
MBWA	Marble Bar	25.71	195	eP	P	22 26 00.6	-2.0
	12nm,0.8s,mb4.5						
ASAR	Alice Springs	28.18	166	P	P	22 26 24.9	-0.2
	3.7nm,0.8s,mb4.1,baz=346,slow=7.6,SNR=47						
ASAR				LR	LR	22 38 27.0	
	comp=Z,52nm,18.0s,MS3.2,baz=306,slow=38						
ASPA	Alice Springs	28.18	166	eP	P	22 26 25.1	0.0
CM31	Chiang Mai Arr	30.80	300	P	P	22 26 51.5	+3.0
	3.1nm,0.7s,mb4.2						
CMAR	Chiang Mai Arr	30.80	300	P	P	22 26 50.9	+2.3
	2.1nm,0.8s,mb4.0,baz=111,slow=7.2,SNR=12						
KLBR	Kellerberrin	36.19	193	eP	P	22 27 33.0	-2.1
	12nm,0.3s,mb5.3						
STKA	Stephens Creek	38.20	159	eP	P	22 27 52.8	+0.9
	9.8nm,0.9s,mb4.5						
STKA	Stephens Creek	38.20	159	P	P	22 27 53.5	+1.6
	11nm,0.7s,mb4.7,baz=336,slow=8.1,SNR=28						
ULN	Ulaanbaatar	47.05	342	P	P	22 29 01.8	-1.9
	2.1nm,0.9s,mb4.1						
SONM	Songino Array	47.23	341	P	P	22 29 06.6	+1.5
	0.4nm,0.5s,mb3.6,baz=143,slow=7.2,SNR=3.2						
SONM				PcP	PcP	22 30 38.6	+2.0
	0.9nm,0.6s,baz=146,slow=2.8,SNR=3.6						
AAK	Ala-Archa	60.28	318	P	P	22 30 39.7	-1.5
	1.8nm,1.0s,mb4.1						
BVAR	Borovoye Array	67.24	327	P	P	22 31 26.1	-0.6
	0.6nm,0.5s,mb3.9,baz=149,slow=8.4,SNR=3.4						
VNDA	Vanda	83.49	173	P	P	22 32 59.1	+0.3
	4.3nm,1.3s,mb4.3,baz=343,slow=8.8,SNR=4.6						
ARCES	ARCESS Array B	90.38	340	P	P	22 33 33.5	+1.1
	5.9nm,0.9s,mb4.9,baz=72,slow=5.7,SNR=3.8						

*BJI **08** 22:20:57.4, 3.72N×96.23E, h30km, mB5.1, mb4.6*

*NEIC **08** 22:21:04.6±0.7, 4.65N×96.66E, h30km, mb4.5/7, Error ellipse: s-maj=17.5km s-min=12.2km az=220.0*

*IDC **08** 22:21:08.8±6.8, 4.86N×96.84E, h63km±62km, mb3.7/6, mb1 3.9/7, mb1mx3.7/16, mbtmp4.0/7, ML3.6/1, MS3.2/1, Ms1 3.4/1, ms1mx2.8/19, Error ellipse: s-maj=42.3km s-min=19.0km az=45.0*

ISC 08 22:21:05.1±3.1**, 4.6N**±0.1×**96.7E**±0.1**, h48**km±28km**, n22,** σ1§**24**/22**, mb4.2**/12**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	3.99	80	ePn	P	22 22 04.8	-0.5
CM31	Chiang Mai Arr	13.94	9	P	P	22 24 23.1	+1.2
CMAR	Chiang Mai Arr	13.94	9	P	P	22 24 21.7	-0.2
	0.1nm,0.3s,baz=197,slow=14,SNR=8.2						
CMAR				LR	LR	22 29 34.7	
	comp=Z,90nm,18.6s,baz=190,slow=37						
HYB	Hyderabad	21.87	307	eP	P	22 25 55.0	-0.6
HYB	Hyderabad	21.87	307	i P	P	22 25 55.0	-0.6
LSA	Lhasa	25.50	349	P	P	22 26 32.5	+1.6
LSA	Lhasa	25.50	349	eP	P	22 26 30.9	0.0
	10nm,0.8s,mb4.4						
BJI	Beijing	39.41	24	P	P	22 28 36.5	+4.5
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
BJI	Beijing	39.41	24	P	P	22 28 36.5	+4.5
	comp=Z,10.0nm,0.9s,mb4.5						
WRA	Warramunga Arr	44.31	125	P	P	22 29 12.4	-0.1
	comp=Z,3.7nm,0.6s,mb4.3,baz=301,slow=9.2,SNR=11						
WRA				PcP	PcP	22 30 57.5	+0.9
	comp=Z,0.6nm,0.5s,baz=313,slow=2.6,SNR=4.9						
WRAB	Tennant Creek	44.31	125	eP	P	22 29 12.0	-0.5
	comp=Z,7.1nm,0.5s,mb4.7						
ASAR	Alice Springs	45.88	129	P	P	22 29 25.4	+0.4
	comp=Z,1.7nm,0.6s,mb4.1,baz=312,slow=7.6,SNR=5.5						
CN2	Changchun	46.54	29	eP	P	22 29 33.2	+3.3
KURK	Kurchatov	48.39	345	P	P	22 29 42.3	-2.0
	comp=Z,3.3nm,1.2s,mb4.2						
BVAR	Borovoye Array	52.89	340	P	P	22 30 15.5	-3.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=135,slow=8.4,SNR=6.3						
CHKZ	Chkalovo	53.36	341	eP	P	22 30 18.6	-3.4
	comp=Z,2.0nm,0.7s,mb4.2						
KMBO	Kilima Mbogo	59.67	266	P	P	22 31 08.3	+0.9
	comp=Z,0.8nm,0.7s,mb3.9,baz=50,slow=7.9,SNR=3.1						
KMBO	Kilima Mbogo	59.67	266	P	P	22 31 08.3	+0.9
	comp=Z,3.5nm,1.1s,mb4.3						
BOSA	Boshof	76.07	239	eP	P	22 32 50.2	+0.4
	comp=Z,21nm,1.5s,mb4.8						
ARCES	ARCESS Array B	79.18	340	P	P	22 33 04.9	-1.4
	comp=Z,3.4nm,0.8s,mb4.3,baz=90,slow=5.4,SNR=3.8						
GERES	GERESS Array B	81.94	319	P	P	22 33 22.6	+1.3
	comp=Z,0.2nm,0.4s,mb3.4,baz=121,slow=5.7,SNR=3.9						
GERES	GERESS Array B	81.94	319	P	P	22 33 22.6	+1.2

*CSEM **08** 22:32:52.8, 31.68N×60.20E, h10km, ML3.8, After TEH*

TEH 08 22:32:52.8, 31.68N×60.20E, h10km**, Mn3.8, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	3.95	270	Pn	Pn	22 33 52.5	-2.4
IMYA	Miamay	4.65	359	Pn	Pn	22 34 02.5	-2.3
MHI	Mashhad	4.66	353	Pn	Pn	22 34 03.1	-1.8
IMEH	Mehriz	4.78	268	Pn	Pn	22 33 59.7	-6.9
IPAY	Payeh	4.86	348	Pn	Pn	22 34 05.2	-2.6
ICHK	Chekchek	4.95	278	Pn	Pn	22 34 07.1	-2.0
IKRD	Kardeh	5.27	345	Pn	Pn	22 34 08.4	-5.1
IPAR	Pars	6.42	255	Pn	Pn	22 34 37.6	+7.8
IDMV	Damavand	7.84	302	Pn	Pn	22 34 45.9	-3.8
IAFJ	Afjeh	8.20	303	Pn	P	22 34 50.8	-3.9
IRAZ	Razeghan	9.34	296	Lg		22 37 43.6	
IRAZ	Razeghan	9.34	296	Pn	P	22 35 06.3	-4.2

*BJI **08** 22:51:29.7, 18.11N×146.00E, h480km, mB5.0, mb4.4*

*NEIC **08** 22:51:36.1±0.9, 18.45N×145.42E, h480km±11km, mb4.2/15, Error ellipse: s-maj=12.2km s-min=7.0km az=85.0*

*IDC **08** 22:51:37.8±1.7, 18.47N×145.37E, h496km±18km, mb3.4/14, mb1 3.6/16, mb1mx3.5/21, mbtmp4.3/16, Error ellipse: s-maj=17.3km s-min=10.6km az=94.0*

ISC 08 22:51:35.9±1.0**, 18.41N**±0.05×**145.4E**±0.1**, h492**km±12km**, n49,** σ0§**97**/44**, mb4.0**/32**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	4.82	187	Pn	P	22 53 00.5	-1.2
CBIJ	Chichi jima	9.15	341	P	P	22 53 46.6	+1.1
	4.1nm,0.3s,baz=277,slow=19,SNR=3.4						
JOW	Kunigami	17.91	301	P	P	22 55 16.8	+1.2
	3.6nm,0.3s,baz=120,slow=13,SNR=10						
MAJO	Matsushiro	19.16	342	eP	P	22 55 27.1	-0.5
	11nm,0.5s						
MAT	Matsushiro	19.16	342	eP	P	22 55 28.0	+0.5
	17nm,1.0s						
MAT	Matsushiro	19.16	342	P	P	22 55 28.0	+0.5
NJ2	Nanjing	27.53	305	eP	P	22 56 45.1	+1.4
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
MDJ	Mudanjiang	29.30	337	P	P	22 56 57.9	-1.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,188nm,4.9s						
CN2	Changchun	30.40	331	eP	P	22 57 08.4	0.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
BJI	Beijing	33.17	317	P	P	22 57 31.7	-0.3
BJI				AMB	AMB		
	comp=Z,4.0nm,0.5s,mb4.1						
BJI	Beijing	33.17	317	P	P	22 57 31.7	-0.3
	comp=Z,4.0nm,0.5s,mb4.1						
HHC	Hu-ho-hao-te	36.63	315	eP	P	22 58 01.1	+0.3
HHC				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.3						
HIA	Hailar	37.10	332	eP	P	22 58 04.9	+0.3
	comp=Z,8.8nm,0.6s,mb4.4						
CTA	Charters Tower	38.26	179	P	P	22 58 15.2	+0.8
	comp=Z,3.3nm,0.7s,mb3.9,baz=17,slow=11,SNR=3.0						
WRAB	Tennant Creek	39.62	196	eP	P	22 58 25.7	+0.3
	comp=Z,2.3nm,0.7s,mb3.7						
WB2	Warramunga Arr	39.63	196	eP	P	22 58 25.9	+0.4
WRA	Warramunga Arr	39.64	196	P	P	22 58 26.0	+0.4
	comp=Z,0.5nm,0.3s,mb3.4,baz=13,slow=8.6,SNR=6.6						
WRA				PcP	PcP	23 00 21.1	-0.1
	comp=Z,0.8nm,0.6s,baz=14,slow=3.4,SNR=5.0						
WRA				ScP		23 03 22.1	
	comp=Z,1.0nm,0.6s,baz=11,slow=4.2,SNR=6.5						
FITZ	Fitzroy Crossi	41.17	209	eP	P	22 58 38.2	+0.3
	comp=Z,3.5nm,0.3s,mb4.3						
ULN	Ulaanbaatar	42.84	322	eP	P	22 58 50.0	-0.9
	comp=Z,3.0nm,0.8s,mb3.8						
SONM	Songino Array	43.22	322	P	P	22 58 54.3	+0.4
	comp=Z,1.6nm,0.7s,mb3.5,baz=136,slow=6.6,SNR=6.7						
SONM				PcP	PcP	23 00 32.8	-0.1
	comp=Z,0.8nm,0.7s,baz=63,slow=2.8,SNR=3.8						
ASAR	Alice Springs	43.30	196	P	P	22 58 55.0	0.0
	comp=Z,0.8nm,0.5s,mb3.4,baz=16,slow=7.0,SNR=12						
ASAR				PcP	PcP	23 00 33.5	-0.1
	comp=Z,1.0nm,1.0s,baz=15,slow=3.9,SNR=4.4						
ASAR				ScP		23 03 36.6	
	comp=Z,0.4nm,0.6s,baz=6.4,slow=3.1,SNR=4.9						
CMAR	Chiang Mai Arr	44.01	278	P	P	22 59 01.4	+0.9
	comp=Z,8.8nm,1.0s,mb4.1,baz=68,slow=6.7,SNR=26						
YAK	Yakutsk	44.96	350	P	P	22 59 05.3	-2.0
	comp=Z,29nm,0.7s,mb4.8						
MBWA	Marble Bar	46.69	214	P	P	22 59 19.8	-1.5
	comp=Z,4.3nm,0.7s,mb4.0						
STKA	Stephens Creek	50.13	184	P	P	22 59 46.2	-0.9
	comp=Z,1.3nm,0.6s,mb3.4,baz=11,slow=13,SNR=2.9						
STKA	Stephens Creek	50.13	184	P	P	22 59 46.2	-0.9
LSA	Lhasa	50.44	294	eP	P	22 59 51.3	+2.0
	comp=Z,2.1nm,0.6s,mb3.6						
WMQ	Urumqi	54.31	311	eP	P	23 00 16.5	-0.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.0						
WMQ				AMB	AMB		
	comp=Z,79nm,4.0s						
KURK	Kurchatov	61.32	318	eP	P	23 01 03.9	-0.6
	comp=Z,6.8nm,0.4s,mb4.4						
ILAR	Eielson Array	64.02	26	P	P	23 01 20.9	-0.9
	comp=Z,2.2nm,0.6s,mb3.9,baz=246,slow=6.1,SNR=26						
THY	Trims Highway	64.23	28	eP	P	23 01 23.5	+0.4
CHKZ	Chkalovo	66.41	321	eP	P	23 01 35.5	-1.3
	comp=Z,2.1nm,0.5s,mb4.0						
DAWY	Dawson	67.12	27	eP	P	23 01 41.5	+0.4
INK	Inuvik	69.74	23	eP	P	23 01 55.7	-1.0
	comp=Z,8.0nm,1.0s,mb4.2						
YKA	Yellowknife Ar	78.36	28	P	P	23 02 45.6	+0.2
	comp=Z,1.6nm,0.5s,mb3.7,baz=290,slow=5.3,SNR=26						
RES	Resolute Bay	79.77	14	eP	P	23 02 52.6	0.0
	comp=Z,4.2nm,0.6s,mb4.2						
ARCES	ARCESS Array B	82.69	342	P	P	23 03 07.7	+0.1
	comp=Z,3.4nm,0.6s,mb4.1,baz=65,slow=6.5,SNR=13						
ARCES	ARCESS Array B	82.69	342	P	P	23 03 07.7	+0.1
NVAR	Mina Array Bea	83.51	52	P	P	23 03 14.4	+2.0
	comp=Z,3.7nm,0.7s,mb4.1,baz=265,slow=5.0,SNR=30						
HLID	Hailey	84.61	46	eP	P	23 03 19.5	+1.8
	comp=Z,3.3nm,0.9s,mb4.0						
FINES	FINESS Array B	87.04	335	P	P	23 03 27.7	-1.2
	comp=Z,1.1nm,0.5s,mb3.9,baz=70,slow=5.2,SNR=13						
PDAR	Pinedale Array	88.21	45	P	P	23 03 36.0	+1.2
	comp=Z,0.5nm,0.7s,mb3.4,baz=270,slow=3.0,SNR=4.3						
HFS	Hagfors	92.56	338	P	P	23 03 53.7	-0.8
	comp=Z,5.6nm,1.1s,mb4.5,baz=63,slow=6.4,SNR=3.2						
NOA	NORSAR Array B	92.76	340	P	P	23 03 54.1	-1.3
	comp=Z,0.5nm,0.8s,mb3.6,baz=68,slow=5.8,SNR=2.8						
LVC	Limon Verde	147.60	103	PKPbc	PKPdf	23 10 28.3	+7.2
	comp=Z,4.8nm,0.7s,baz=325,slow=2.3,SNR=11						
LVC	Limon Verde	147.60	103	ePKPbc	PKPdf	23 10 28.0	+6.9
LPAZ	La Paz	147.91	91	PKP	PKPdf	23 10 25.5	+3.7
	comp=Z,3.6nm,0.6s,baz=282,slow=3.2,SNR=6.8						
LPAZ				PKPbc	PKPdf	23 10 29.4	+7.6
	comp=Z,3.8nm,0.7s,baz=6.2,slow=4.6,SNR=18						
LPAZ	La Paz	147.91	91	ePKPdf	PKPdf	23 10 25.0	+3.2
LPAZ				ePKPbc	PKPdf	23 10 29.4	+7.6
TRQA	Tornquist	149.09	135	ePKPbc	PKPdf	23 10 29.8	+6.7

*MOS **08** 23:07:46.1±2.3, 51.26N×99.59E, h8km, mb4.3/1, Error ellipse: s-maj=24.1km s-min=14.4km az=137.2*

BYKL 08 23:07:46.2±0.4**, 51.29N×99.58E, h11**km±18km**, 4C-4D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MOY	Mondy	0.96	66	ePG	Pg	23 08 04.3	-1.2
MOY				e		23 08 17.3	
MOY				pmax	pmax		
	comp=Z,53nm,0.5s						
MOY				smax			
	comp=E,650nm,0.5s						
MOY	Mondy	0.96	66	⇓iPg	Pg	23 08 04.3	-1.2
	comp=E,9.0nm,0.8s						
MOY				⇓iPg	Pg	23 08 04.3	-1.2
	comp=E,23nm,0.8s						
MOY				⇓iPg	Pg	23 08 04.3	-1.2
	comp=E,28nm,0.8s						
MOY				i Sg	Sg	23 08 17.2	-1.2
MOY				eSb	Sb	23 08 20.7	+3.8
MOY				Pmax			
	comp=E,53nm,0.6s						
MOY				Smax			
	comp=E,655nm,0.6s						
ORL	Orlik	1.26	6	ePG	Pg	23 08 09.8	-1.6
ORL				e		23 08 26.1	
ORL				pmax	pmax		
	comp=Z,91nm,0.3s						
ORL				smax			
	comp=E,421nm,0.9s						
ORL	Orlik	1.26	6	⇓iPg	Pg	23 08 09.8	-1.6
ORL				⇑iPb	Pb	23 08 11.7	+2.2
ORL				eSg	Sg	23 08 26.1	-2.1
ORL				eSb	Sb	23 08 29.7	+4.2
ORL				max			
	comp=E,86nm,0.4s						
ORL				max			
	comp=E,424nm,0.9s						
ARS	Arshan	1.88	69	ePN	Pn	23 08 19.6	+0.9
ARS				e		23 08 45.3	
ARS				pmax	pmax		
	comp=Z,42nm,0.3s						
ARS				smax			
	comp=E,464nm,0.5s						
ARS	Arshan	1.88	69	ePg	Pg	23 08 19.5	-4.3
ARS				eSg	Sg	23 08 45.1	-3.8
ARS				Pmax			
	comp=E,47nm,0.6s						
ARS				Smax			
	comp=E,460nm,0.5s						
TDJR	Todzha	2.43	299	ePg	Pg	23 08 29.9	-4.8
TDJR				eSg	Sg	23 09 02.3	-4.8
ZAK	Zakamensk	2.52	110	ePN	Pn	23 08 30.3	+2.5
ZAK				e		23 09 04.5	
ZAK				pmax	pmax		
	comp=Z,44nm,0.5s						
ZAK				smax			
	comp=N,252nm,0.6s						
ZAK	Zakamensk	2.52	110	ePn	Pn	23 08 27.8	0.0
ZAK				⇑iPg	Pg	23 08 31.2	-5.3
ZAK				e		23 08 33.1	
ZAK				eSg	Sg	23 09 04.9	-5.1
ZAK				Pmax			
	comp=N,43nm,0.5s						
ZAK				Smax			
	comp=N,271nm,1.0s						
TLY	Talaya	2.57	80	ePN	Pn	23 08 28.0	-0.5
TLY				e		23 08 32.0	
TLY				e		23 09 05.5	
TLY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
TLY				smax			
	comp=N,142nm,0.7s						
TLY	Talaya	2.57	80	⇑iPn	Pn	23 08 27.0	-1.5
TLY				ePg	Pg	23 08 32.0	-5.6
TLY				eSn	Sn	23 08 59.4	-0.7
TLY				eSg	Sg	23 09 05.4	-6.4
TLY				Pmax			
	comp=N,15nm,0.7s						
TLY				Smax			
	comp=N,141nm,0.7s						
TSC	Tosontsengel	2.67	199	ePg	Pg	23 08 33.8	-5.6
TSC				i Sg	Sg	23 09 09.0	-6.0
IRK	Irkutsk	3.07	70	ePN	Pn	23 08 40.6	+5.0
IRK				e		23 09 19.9	
IRK				pmax	pmax		
	comp=Z,138nm,0.1s						
IRK				smax			
	comp=N,404nm,0.4s						
IRK	Irkutsk	3.07	70	eSg	Sg	23 09 20.7	-7.7
IRK				Smax			
	comp=N,389nm,0.4s						
LSTR	Listvyanka	3.33	78	⇑iPn	Pn	23 08 39.3	0.0
LSTR				ePg	Pg	23 08 45.0	-7.7
LSTR				eSg	Sg	23 09 27.6	-9.4
LSTR				Pmax			
	comp=N,7.0nm,0.5s						
LSTR				Smax			
	comp=N,61nm,1.5s						
BLGM	Bulgan	3.57	133	eSg	Sg	23 09 36.3	-8.8
BLGM				Smax			
	comp=N,131nm,0.9s						
ARDR	Aradan	4.02	291	ePg	Pg	23 08 56.2	-10
ARDR				eSg	Sg	23 09 48.5	-12
TRG	Tyrgan	4.43	68	ePn	Pn	23 08 53.8	-1.2
TRG				ePg	Pg	23 09 05.9	-8.8
TRG				eSn	Sn	23 09 43.3	-3.9
TRG				eSg	Sg	23 10 01.3	-12
TRG				Pmax			
	comp=N,4.0nm,1.0s						
TRG				Smax			
	comp=N,78nm,1.7s						
HRMR	Khuramsha	4.62	83	ePn	Pn	23 08 57.1	-0.6
HRMR				ePg	Pg	23 09 08.7	-10
HRMR				eSn	Sn	23 09 46.4	-5.7
HRMR				eSg	Sg	23 10 07.8	-12
HRMR				Pmax			
	comp=N,15nm,0.4s						
HRMR				Smax			
	comp=N,276nm,0.7s						

ZRHB	**Zarechye**	**4.86**	**72**	*e*Pg	Pg	23 09 15.1	-8.0
ZRHB				*e*Sg	Sg	23 10 18.2	-10
ZRHB				Pmax			
	comp=N,44nm,0.6s						
ZRHB				Smax			
	comp=N,293nm,1.0s						
TRTB	**Turuntaevo**	**5.09**	**76**	*e*Pn	Pn	23 09 03.6	-0.7
TRTB				*e*Pg	Pg	23 09 17.5	-10
TRTB				*e*Sg	Sg	23 10 21.4	-14
TRTB				Pmax			
	comp=N,6.0nm,0.8s						
TRTB				Smax			
	comp=N,42nm,1.7s						
EBM	**Esen Bulak**	**5.37**	**205**	*e*Pg	Pg	23 09 22.9	-11
EBM				*e*Sg	Sg	23 10 34.5	-11
EBM				Smax			
	comp=N,37nm,0.6s						
OGRR	**Ongureny**	**5.44**	**61**	*e*PN	Pn	23 09 08.7	-0.5
OGRR				*e*		23 09 23.9	
OGRR	**Ongureny**	**5.44**	**61**	*e*Pn	Pn	23 09 08.6	-0.6
OGRR				*e*Pg	Pg	23 09 25.2	-10
OGRR				*e*Sg	Sg	23 10 33.3	-14
OGRR				Pmax			
	comp=N,9.0nm,0.6s						
OGRR				Smax			
	comp=N,68nm,1.0s						
ULN	**Ulaanbaatar**	**5.95**	**122**	*e*Pg	Pg	23 09 34.0	-11
SYVR	**Suvo**	**6.79**	**66**	*e*Pg	Pg	23 09 47.8	-14
SYVR				*e*Sg	Sg	23 11 14.4	-18
SYVR				Smax			
	comp=N,52nm,2.1s						
NIZ	**Nizh Angarsk**	**7.44**	**49**	*e*PG	Pg	23 10 01.0	-14
YLYR	**Ulyunkhan**	**7.84**	**58**	*e*Pn	Pn	23 09 39.7	-3.3
YLYR				*e*Pg	Pg	23 10 07.5	-15
YLYR				*e*Sg	Sg	23 11 47.8	-20
YLYR				Smax			
	comp=N,54nm,1.8s						
KMO	**Kumora**	**8.30**	**52**	*e*Sg	Sg	23 12 04.6	-18
KMO				Smax			
	comp=N,38nm,1.8s						
KPC	**Khapcheranga**	**8.32**	**96**	*e*Pg	P	23 10 16.1	+26
KPC				*e*Sg	Sg	23 12 04.5	-19
KPC				Smax			
	comp=N,33nm,1.6s						
UKT	**Uakit**	**9.38**	**58**	*e*Pg	P	23 10 36.6	+32
UKT				*e*Sg	Sg	23 12 38.0	-21
UKT				Smax			
	comp=N,22nm,2.8s						

*NEIC **08** 23:17:42.0±0.6,51.57N×16.04E,h5km,ML2.6(SZGRF), ML2.3(BRG),ML2.8(VIE),Error ellipse: s-maj=6.6km s-min=4.4km az=202.0*
*IPEC **08** 23:17:41.9±0.2,51.58N×16.11E,ML1.9/3,Error ellipse: s-maj=1.3km s-min=0.8km az=30.0*
*CSEM **08** 23:17:42.4±0.2,51.57N×16.03E,ML2.9/7,Error ellipse: s-maj=3.2km s-min=1.7km az=17.0*
*PRU **08** 23:17:43.7,51.50N×16.01E*
*WAR **08** 23:17:43.5,51.54N×16.02E,h1km,ML2.7,Mining Induced*

ISC 08 23:17:41.0±0.6,51.51N±0.03×16.00E±0.04,n29,σ1§35/60, 1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**164**	*e*Pg	**Pg**	**23 17 56.6**	**+1.8**
KSP				*e*		23 17 58.6	
KSP				*e*Sg	**Sg**	**23 18 06.2**	**+2.2**
KSP	**Ksiaz**	**0.69**	**164**	*e*PG	**Pg**	**23 17 57.0**	**+2.2**
KSP				*e*SG	**Sg**	**23 18 06.0**	**+2.0**
KSP	**Ksiaz**	**0.69**	**164**	*e*Pg	**Pg**	**23 17 56.6**	**+1.8**
KSP				*e*		23 17 58.7	
KSP				*e*Sg	**Sg**	**23 18 06.2**	**+2.2**
KSP	**Ksiaz**	**0.69**	**164**	*e*Pg	**Pg**	**23 17 56.6**	**+1.8**
KSP				*e*Sg	**Sg**	**23 18 06.1**	**+2.1**
UPC	**Upice**	**1.00**	**180**	*e*PG	**Pg**	**23 18 02.1**	**+1.1**
UPC	**Upice**	**1.00**	**180**	*e*Pg	**Pg**	**23 18 03.1**	**+2.1**
DPC	**Dobruska-Polom**	**1.18**	**170**	*e*PG	**Pg**	**23 18 05.3**	**+0.8**
DPC				*e*SG	**Sg**	**23 18 21.5**	**+1.3**
	14nm,0.2s						
PVCC	**Panska Ves**	**1.33**	**223**	*e*Pn	**Pn**	**23 18 09.0**	**+2.1**
PVCC	**Panska Ves**	**1.33**	**223**	*e*Pg	**Pg**	**23 18 09.1**	**+1.4**
PVCC				*e*Sg	**Sg**	**23 18 27.5**	**+2.0**
BRG	**Berggiesshubel**	**1.44**	**245**	*e*Pg	**Pg**	**23 18 10.5**	**+0.7**
BRG				*e*Sg	**Sg**	**23 18 30.3**	**+1.2**
BRG	**Berggiesshubel**	**1.44**	**245**	*e*Pg	**Pg**	**23 18 10.5**	**+0.7**
BRG				*e*Sg	**Sg**	**23 18 30.0**	**+0.9**
RUE	**Ruedersdorf**	**1.68**	**306**	*e*Pn	**Pn**	**23 18 11.8**	**-0.1**
PRU	**Pruhonice**	**1.78**	**212**	*e*PN	**Pn**	**23 18 14.4**	**+1.1**
PRU				*e*PG	**Pg**	**23 18 16.3**	**-0.3**
PRU				*ex*	x	23 18 18.4	
PRU				*ex*	x	23 18 33.2	
PRU				*e*SG	**Sg**	**23 18 40.1**	**-0.3**
	10nm,0.2s						
CLL	**Collm**	**1.89**	**265**	*e*PG	**Pg**	**23 18 18.0**	**-0.7**
CLL				*i* SG	**Sg**	**23 18 43.5**	**-0.4**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pn	**Pn**	**23 18 17.0**	**+0.7**
MORC				*e*S	**Sn**	**23 18 46.5**	**+4.1**
MORC	**Moravsky Berou**	**1.99**	**150**	*e*Pn	**Pn**	**23 18 17.0**	**+0.7**
MORC				*e*Sg	**Sg**	**23 18 45.2**	**-2.1**
	6.3nm,0.2s						
MORC				*e*S	**Sn**	**23 18 46.5**	**+4.2**
OKC	**Ostrava-Krasne**	**2.16**	**140**	*e*PG	**Pg**	**23 18 23.4**	**-0.7**
OKC				*e*SG	**Sg**	**23 18 52.3**	**-0.6**
VRAC	**Vranov**	**2.23**	**170**	*e*Pn	**Pn**	**23 18 21.5**	**+1.7**
VRAC				*e*Sg	**Sg**	**23 18 53.3**	**-2.1**
	6.0nm,0.3s						
KRUC	**Moravsky**	**2.46**	**174**	*e*Pn	**Pn**	**23 18 25.4**	**+2.4**
KRUC				*e*Sg	**Sg**	**23 19 01.4**	**-1.6**
	7.3nm,0.4s						
NKC	**Novy Kostel**	**2.59**	**242**	*e*PG	**Pg**	**23 18 31.7**	**-1.0**
NKC				*e*SG	**Sg**	**23 19 06.1**	**-1.1**
OJC	**Ojcow**	**2.73**	**117**	*e*PG	**Pg**	**23 18 34.0**	**-1.5**
OJC				*e*SG	**Sg**	**23 19 11.0**	**-0.9**
OJC	**Ojcow**	**2.73**	**117**	*e*Pg	**Pg**	**23 18 34.5**	**-1.0**
OJC				*e*Sg	**Sg**	**23 19 10.9**	**-1.0**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*Pn	**Pn**	**23 18 29.5**	**+1.0**
KHC				*e*Pg	**Pg**	**23 18 35.8**	**-2.0**
KHC				*e*Sn	**Sn**	**23 19 03.5**	**-0.4**
KHC				*e*Sg	**Sg**	**23 19 13.9**	**-1.7**
KHC	**Kasperske Hory**	**2.84**	**214**	*e*PN	**Pn**	**23 18 29.5**	**+1.0**
KHC				*e*PG	**Pg**	**23 18 35.8**	**-2.0**
KHC				*e*SN	**Sn**	**23 19 03.5**	**-0.4**
KHC				*e*SG	**Sg**	**23 19 13.9**	**-1.7**
	2.7nm,0.2s						
MOX	**Moxa**	**2.90**	**254**	*e*Pg	**Pg**	**23 18 37.8**	**-1.1**
MOX				*e*Sg	**Sg**	**23 19 17.0**	**-0.5**
MOX	**Moxa**	**2.90**	**254**	*e*Pg	**Pg**	**23 18 37.8**	**-1.1**
MOX				*e*Sg	**Sg**	**23 19 15.6**	**-1.9**
WET	**Wettzell**	**3.10**	**221**	*e*Pn	**Pn**	**23 18 33.3**	**+1.2**
WET				*e*Sg	**Sg**	**23 19 20.0**	**-4.2**
BSD	**Bornholm Skovb**	**3.67**	**350**	*i* P	**Pn**	**23 18 38.7**	**-1.6**
BSD				*i* S	**Sn**	**23 19 18.0**	**-6.9**
BSD				*i*		23 19 20.7	
MOA	**Molln**	**3.83**	**198**	⇑*i*PN	**Pn**	**23 18 42.9**	**+0.4**
MOA				*i* SG	**Sg**	**23 19 46.3**	**-2.3**
	4.8nm,0.5s						

PGC 08 23:20:52.5,48.29N×128.92W,h10km,Mw4.3,1D, Northern Juan de Fuca ridge.,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	**Eliza Dome**	**1.98**	**36**	Pn	Pn	23 21 24.2	-2.4
EDB				Sn	Sn	23 21 45.8	-5.8
EDB				Trac		23 21 46.6	
	comp=Z,25nm,0.3s						
BPBC	**Brooks Peninsu**	**2.02**	**22**	Pn	Pn	23 21 24.2	-2.8
OZB	**Mount Ozzard**	**2.37**	**72**	Pn	Pn	23 21 29.6	-2.5
OZB				Sn	Sn	23 21 56.2	-5.4
OZB				Trac		23 21 58.2	
	comp=Z,35nm,0.2s						
MAYB	**Maynard**	**2.41**	**28**	Pn	Pn	23 21 30.1	-2.6
MAYB				Sn	Sn	23 21 57.7	-4.8
	comp=Z,68nm,0.4s						
MAYB				Trac		23 21 59.7	
	comp=Z,68nm,0.4s						
HOLB	**Holberg**	**2.41**	**12**	Pn	Pn	23 21 31.1	-1.7
HOLB				Trac		23 22 03.6	
	comp=Z,24nm,0.3s						
GDR	**Gold River**	**2.42**	**51**	Pn	Pn	23 21 30.6	-2.2
GDR				Trac		23 21 58.6	
	comp=Z,13nm,0.3s						
WOSB	**Woss**	**2.43**	**39**	Pn	Pn	23 21 30.9	-2.1
WOSB				Sn	Sn	23 21 59.1	-3.9
	comp=Z,31nm,0.3s						
WOSB				Trac		23 21 59.3	
	comp=Z,31nm,0.3s						
BTB	**Buttle Lake**	**2.54**	**61**	Pn	Pn	23 21 32.5	-2.0
BTB				Sn	Sn	23 22 00.9	-4.8
	comp=Z,49nm,0.4s						
BTB				Trac		23 22 06.4	
	comp=Z,49nm,0.4s						
PHC	**Port Hardy**	**2.61**	**21**	Pn	Pn	23 21 32.7	-2.9
PHC				Trac		23 22 04.0	
	comp=Z,15nm,0.3s						
NCRB	**Newcastle Ridg**	**2.83**	**40**	Pn	Pn	23 21 36.6	-2.0
NCRB				Sn	Sn	23 22 09.4	-3.8
	comp=Z,40nm,0.4s						
NCRB				Trac		23 22 10.1	
	comp=Z,40nm,0.4s						
ALB	**Alberni**	**2.88**	**68**	Pn	Pn	23 21 36.7	-2.7
ALB				Sn	Sn	23 22 11.0	-3.4
	comp=Z,16nm,0.3s						
ALB				Trac		23 22 12.7	
	comp=Z,16nm,0.3s						
MGB	**Mount Grey**	**2.89**	**74**	Pn	Pn	23 21 36.6	-3.0
MGB				Sn	Sn	23 22 09.7	-5.1
	comp=Z,13nm,0.2s						
MGB				Trac		23 22 12.0	
	comp=Z,13nm,0.2s						
CBB	**Campbell River**	**2.92**	**52**	Pn	Pn	23 21 38.0	-2.0
CBB				Sn	Sn	23 22 11.3	-4.1
CBB				Trac		23 22 12.4	
	comp=Z,8.0nm,0.2s						
PFB	**Port Renfrew**	**3.00**	**83**	Pn	Pn	23 21 38.4	-2.7
PFB				Sn	Sn	23 22 12.5	-4.9
PFB				Trac		23 22 15.3	
	comp=Z,2.0nm,0.1s						
TXB	**Texada**	**3.27**	**63**	⇓Pn	Pn	23 21 43.1	-1.9
TXB				Sn	Sn	23 22 20.9	-3.5
	comp=Z,17nm,0.3s						
TXB				Trac		23 22 22.4	
	comp=Z,17nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.40**	**72**	Trac		23 22 27.8	
	comp=Z,15nm,0.4s						
NLLB	**Nanaimo Lost L**	**3.40**	**72**	Sn	Sn	23 22 24.9	-2.6
LZB	**Mount Lazard**	**3.41**	**83**	Pn	Pn	23 21 44.3	-2.6
LZB				Sn	Sn	23 22 23.6	-4.2
LZB				Trac		23 22 27.9	
	comp=Z,2.0nm,0.2s						
SHB	**Sechelt**	**3.58**	**67**	Pn	Pn	23 21 47.1	-2.2
SHB				Sn	Sn	23 22 28.7	-3.3
SHB				Trac		23 22 28.9	
	comp=Z,17nm,0.3s						
GOBB	**Galiano Island**	**3.65**	**78**	Pn	Pn	23 21 48.2	-2.2
GOBB				Sn	Sn	23 22 31.0	-3.0
	comp=Z,32nm,0.8s						
GOBB				Trac		23 22 35.6	
	comp=Z,32nm,0.8s						
PGC	**Sidney**	**3.66**	**82**	Pn	Pn	23 21 47.7	-2.7
PGC				Sn	Sn	23 22 29.5	-4.6
PGC				Trac		23 22 33.2	
	comp=Z,1.0nm,0.1s						
VGZ	**Gonzales**	**3.73**	**86**	Pn	Pn	23 21 48.8	-2.8
VGZ				Trac		23 22 36.9	
	comp=Z,10.0nm,0.3s						
SNB	**Saturna Island**	**3.85**	**81**	Pn	Pn	23 21 51.4	-1.8
SNB				Sn	Sn	23 22 35.7	-3.4
SNB				Trac		23 22 40.3	
	comp=Z,7.0nm,0.4s						
BIB	**Bowen Island**	**3.87**	**71**	Pn	Pn	23 21 50.7	-2.8
BIB				Sn	Sn	23 22 36.5	-3.1
	comp=Z,2.0nm,0.2s						
BIB				Trac		23 22 39.6	
	comp=Z,2.0nm,0.2s						
BBB	**Bella Bella**	**3.94**	**7**	Pn	Pn	23 21 51.9	-2.5
BBB				Sn	Sn	23 22 34.7	-6.5
BBB				Trac		23 22 37.9	
	comp=Z,44nm,0.5s						
WSLR	**Whistler**	**4.34**	**63**	Pn	Pn	23 21 58.6	-1.6
WSLR				Sn	Sn	23 22 48.9	-2.6
WSLR				Trac		23 22 53.1	
	comp=Z,5.0nm,0.4s						
VDB	**Vedder Mountai**	**4.58**	**78**	Pn	Pn	23 22 00.9	-2.7
HOPB	**Hope**	**5.08**	**75**	Pn	Pn	23 22 07.7	-2.8
LLLB	**Lillooet**	**5.15**	**61**	Pn	Pn	23 22 09.4	-2.2
DOWB	**Downie Slide**	**7.46**	**60**	Pn	Pn	23 22 41.3	-2.8
SLEB	**Sale Mountain**	**7.56**	**64**	Pn	Pn	23 22 42.8	-2.8
MNB	**Mounoet Dainar**	**7.81**	**56**	Pn	Pn	23 22 46.8	-2.2
FNBB	**Fort Nelson**	**11.18**	**16**	Pn	P	23 23 32.7	-2.7

*SKHL **08** 23:58:33.4±0.4,52.26N×141.79E,h13km±4km,mb5.4/6, Ms5.1/8,msh5.7/2*
SKHL Felt (V) at Lazarev; (IV-V) at Nikolaevsk-na-Amure, Puir, Susanino, Nignee Pronge. Felt (II-III) at Nogliki, Okha; (II) at Viahtu, Aleksandrovsk-Sakhalinskiy, Sabo.
*MOS **08** 23:58:37.2±0.8,52.26N×141.89E,h10km,mb5.2/78, MS4.6/27,Error ellipse: s-maj=8.8km s-min=4.3km az=104.1*
MOS Felt (V) at Lazarev; (IV-V) at Nikolaevsk-na-Amure, N.Pronge, Puir, Susanino; (III) at Tungor; (II-III) at Nogliki, Okha; (II) at Viakhtu, Alexandrovsk-Sakhalinskii, Sabo.
*IDC **08** 23:58:37.6±0.4,52.26N×141.79E,mb4.7/31,mb1 4.9/33, mb1mx4.9/35,mbtmp4.7/33,ML4.2/2,MS4.1/14,Ms1 4.1/14, ms1mx4.0/23,Error ellipse: s-maj=13.1km s-min=11.2km az=152.0*
*BJI **08** 23:58:37.7,52.41N×141.97E,h21km,mB5.1,mb4.6, Ms5.2,Msz4.8*
*NEIC **08** 23:58:38.7±0.3,52.34N×141.72E,h17km±1km,MW5.0/45, Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s45,c77; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr2.67±.23; Mθθ0.08±.15; Mφφ-2.75±.15; Mrθ-2.21±.49; Mθφ1.22±.10; Mφr-0.84±.37; Best double couple: M0 3.7×10^16^ NP1:φs311°,δ53°,λ47°. NP2:φs188°,δ54°,λ132°. Principal axes: T 4.196, Plg57°, Azm159°; N -.997, Plg33°, Azm340°; P -3.204, Plg0°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 08 23:58:36.9±0.1,52.16N±0.02×141.88E±0.03,h10km, (h18km±2.2km:pP-P),n406,σ1§01/440,mb4.9/146, MS4.5/52,32C-21D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**1.23**	**324**	⇓*i*Pg	**Pg**	**23 58 55.8**	**-5.7**
NKL				⇑*i*Pg	**Pg**	**23 58 55.8**	**-5.7**
NKL				AMB	AMB	23 58 57.0	
	3μm,0.5s						
NKL				AMB	AMB	23 58 57.0	
	2μm,0.5s						
NKL				AMB	AMB	23 58 57.0	
	4μm,0.5s						
NKL				pP		23 58 58.0	
NKL				*e*Sg	**Sg**	**23 59 12.0**	**-6.0**
NKL				A		23 59 16.0	
	110μm,2.0s						
NKL				A		23 59 16.0	
	115μm,2.0s						
NKL				AMS	AMS	00 00 55.0	
	15μm,4.0s						
NKL				AMS	AMS	00 00 55.0	
	9μm,4.0s						
NKL				AMS	AMS	00 00 55.0	
	17μm,4.0s						
TYV	**Tymovskoe**	**1.39**	**159**	*e*PN	**Pn**	**23 59 00.5**	**-2.0**
TYV				*e*		23 59 22.0	
TYV				pmax	pmax		
	comp=Z,30μm,4.0s						
TYV				pmax	pmax		
	comp=Z,1μm,0.5s						
TYV				smax			
	comp=N,122μm,4.0s						
TYV	**Tymovskoe**	**1.39**	**159**	*e*Pb	**Pn**	**23 59 00.5**	**-2.0**
TYV				*e*Pg	**Pg**	**23 59 02.8**	**-1.9**
TYV				AMB	AMB	23 59 05.0	
	comp=N,1μm,0.5s						
TYV				AMB	AMB	23 59 08.0	
	comp=N,16μm,4.0s						
TYV				*e*Sg	**Sg**	**23 59 23.0**	**-0.3**
TYV				A		23 59 36.0	
	comp=N,72μm,4.0s						
TYV				AMS	AMS	23 59 44.0	
	comp=N,69μm,8.0s						
TYV				AMS	AMS	23 59 44.0	
	comp=N,39μm,8.0s						
OKH	**Okha**	**1.53**	**24**	⇓*i*Pg	**Pg**	**23 59 03.2**	**-4.3**
OKH				⇓*i*Pg	**Pg**	**23 59 03.2**	**-4.3**
OKH				AMB	AMB	23 59 05.9	
	comp=N,10μm,1.0s						
OKH				AMB	AMB	23 59 06.2	
	comp=N,18μm,2.4s						
OKH				pP		23 59 07.6	
OKH				*i* Sg	**Sg**	**23 59 23.9**	**-4.0**
OKH				A		23 59 27.5	
	comp=N,11μm,0.7s						
OKH				A		23 59 32.0	
	comp=N,101μm,3.0s						
UGL	**Uglegorsk**	**3.09**	**178**	*c i*PN	**Pn**	**23 59 24.0**	**-2.8**
UGL				*i* S	**Sn**	**00 00 15.0**	**+11**
UGL				pmax	pmax		
	comp=N,2μm,4.0s						
UGL				pmax	pmax		
	comp=E,1μm,4.0s						
UGL				pmax	pmax		
	comp=Z,2μm,4.0s						
UGL				pmax	pmax		
	comp=Z,380nm,0.8s						
UGL				smax			
	comp=N,2μm,0.4s						
UGL				smax			
	comp=Z,2μm,0.4s						
UGL				smax			
	comp=E,3μm,0.5s						
UGL				smax			
	comp=N,12μm,2.0s						
UGL				smax			
	comp=E,10μm,2.0s						
UGL				smax			
	comp=Z,6μm,4.0s						
UGL				MLR	MLR		
	comp=N,15μm,10.0s						
UGL				MLR	MLR		
	comp=E,18μm,10.0s						
UGL				MLR	MLR		
	comp=Z,12μm,10.0s						
UGL	**Uglegorsk**	**3.09**	**178**	*e*Pn	**Pn**	**23 59 24.0**	**-2.8**
UGL				*i* Pn	**Pn**	**23 59 24.0**	**-2.8**
UGL				*e*Pb	**Pb**	**23 59 30.8**	**-0.9**
UGL				AMB	AMB	23 59 33.5	
	comp=Z,2μm,4.0s						
UGL				AMB	AMB	23 59 33.5	
	comp=Z,1μm,4.0s						
UGL				AMB	AMB	23 59 33.5	
	comp=Z,2μm,4.0s						
UGL				AMB	AMB	23 59 33.5	
	comp=Z,380nm,0.8s						
UGL				AMB	AMB	23 59 33.5	
	comp=Z,230nm,0.5s						
UGL				AMB	AMB	23 59 33.5	
	comp=Z,180nm,0.5s						
UGL				⇓*i*Pg	**Pg**	**23 59 35.8**	**-2.9**
UGL				AMB	AMB	23 59 36.4	
	comp=Z,539nm,0.5s						
UGL				AMB	AMB	23 59 36.4	
	comp=Z,616nm,0.5s						
UGL				AMB	AMB	23 59 36.4	
	comp=Z,547nm,0.5s						
UGL				pP		23 59 40.0	
UGL				⇑pP		23 59 40.0	
UGL				*i* Sb	**Sb**	**00 00 08.0**	**-1.6**
UGL				*i* Sg	**Sg**	**00 00 20.0**	**+0.1**
UGL				A		00 00 26.5	
	comp=Z,2μm,0.4s						
UGL				A		00 00 26.5	
	comp=Z,3μm,0.4s						
UGL				A		00 00 26.5	
	comp=Z,2μm,0.4s						
UGL				A		00 00 27.0	
	comp=Z,12μm,2.0s						
UGL				A		00 00 27.0	
	comp=Z,10μm,2.0s						
UGL				A		00 00 27.0	
	comp=Z,6μm,4.0s						
UGL				AMS	AMS	00 01 10.0	
	comp=Z,15μm,10.0s						
UGL				AMS	AMS	00 01 10.0	
	comp=Z,18μm,10.0s						
UGL				AMS	AMS	00 01 10.0	
	comp=Z,12μm,10.0s						
GRNR	**Gornyy**	**3.69**	**250**	*e*Pn	**Pn**	**23 59 34.0**	**-1.3**
GRNR				AMB	AMB	23 59 36.0	
	comp=Z,110nm,0.8s						
GRNR				AMB	AMB	23 59 36.0	
	comp=Z,170nm,0.8s						
GRNR				AMB	AMB	23 59 36.0	
	comp=Z,140nm,0.8s						
GRNR				*e*Pg	**Pg**	**23 59 46.0**	**-4.6**
GRNR				AMB	AMB	23 59 47.0	
	comp=Z,240nm,0.3s						
GRNR				AMB	AMB	23 59 47.0	
	comp=Z,520nm,0.3s						
GRNR				AMB	AMB	23 59 47.0	
	comp=Z,600nm,0.3s						
GRNR				*e*Sb	**Sb**	**00 00 19.0**	**-7.9**
GRNR				*e*Sg	**Sg**	**00 00 36.0**	**-3.7**
GRNR				A		00 00 37.0	
	comp=Z,5μm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.25**	**173**	*d i*PN	**Pn**	**23 59 59.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**5.25**	**173**	*e*Pn	**Pn**	**23 59 59.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**5.25**	**173**	⇓*i*rx	rx	23 59 58.8	
YSS				*ex*	rx	00 00 04.0	
YSS				⇓*i*Pb	**Pb**	**00 00 08.4**	**-0.1**
YSS				AMB	AMB	00 00 10.4	
	comp=Z,130nm,0.5s						
YSS				AMB	AMB	00 00 10.4	
	comp=Z,150nm,0.5s						
YSS				⇓*i*Pg	**Pg**	**00 00 20.2**	**-1.5**
YSS				AMB	AMB	00 00 22.0	
	comp=Z,149nm,1.0s						
YSS				AMB	AMB	00 00 22.0	
	comp=Z,186nm,1.0s						
YSS				*e*Sn	**Sn**	**00 00 57.2**	**-1.5**
YSS				A		00 00 59.0	
	comp=Z,180nm,1.2s						
YSS				*e*Sb	**Sb**	**00 01 08.2**	**-4.0**
YSS				A		00 01 11.0	
	comp=Z,180nm,0.9s						
YSS				*e*Sg	**Sg**	**00 01 35.0**	**+3.4**
YSS				A		00 01 43.5	
	comp=Z,720nm,1.3s						
YSS				A		00 01 44.0	
	comp=Z,2μm,3.0s						
YSS				A		00 01 44.0	
	comp=Z,2μm,4.0s						
YSS				AMS	AMS	00 02 36.0	
	comp=Z,5μm,13.0s						
YSS				AMS	AMS	00 02 36.0	
	comp=Z,5μm,13.0s						
YSS				AMS	AMS	00 02 36.0	
	comp=Z,4μm,13.0s						
EKMR	**Ekimchan**	**5.52**	**283**	⇓*i*Pn	**Pn**	**23 59 57.6**	**-3.6**
EKMR				⇑*i*Pb	**Pb**	**00 00 10.8**	**-2.3**
EKMR				⇑*i*Pg	**Pg**	**00 00 19.8**	**-7.3**
EKMR				AMB	AMB	00 00 22.0	
	comp=Z,180nm,0.5s						
EKMR				AMB	AMB	00 00 22.0	
	comp=Z,270nm,0.5s						
EKMR				AMB	AMB	00 00 22.0	
	comp=Z,340nm,0.5s						
EKMR				*i* Sb	**Sb**	**00 01 10.2**	**-10**
EKMR				*e*Sg	**Sg**	**00 01 34.5**	**-6.1**
KLR	**Kul'dur**	**7.07**	**249**	*e*PN	**Pn**	**00 00 20.2**	**-2.9**
KLR				MLR	MLR		
	comp=Z,15μm,7.0s						
KLR	**Kul'dur**	**7.07**	**249**	*e*Pn	**Pn**	**00 00 20.2**	**-2.9**
KLR				*ex*	rx	00 00 45.0	
KLR				*ex*	rx	00 01 33.5	
KLR				AMS	AMS	00 02 32.5	
	comp=Z,13μm,7.0s						

KLR AMS AMS 00 02 32.5
comp=Z,8μm,7.0s
KLR AMS AMS 00 02 58.5
comp=Z,10μm,7.0s
KLR AMS AMS 00 02 58.5
comp=Z,7μm,7.0s
KLR AMS AMS 00 02 58.5
comp=Z,15μm,7.0s
TEY Ternei 7.94 208 *e*P **Pn 00 00 34.0 -1.3**
TEY *e*rx rx 00 02 18.8
KUR Kuril'sk 7.98 148 *e*P **P 00 00 33.4 -2.5**
KUR *e*S **Sn 00 02 06.0 -1.1**
KUR AMS AMS 00 04 17.0
comp=Z,4μm,14.0s
KUR AMS AMS 00 04 17.0
comp=Z,5μm,14.0s
KUR AMS AMS 00 04 17.0
comp=Z,3μm,14.0s
ASAJ Asahikawa 8.07 176 Pn **P 00 00 38.8 +1.8**
comp=Z,3.3nm,0.3s,baz=350,slow=9.2,SNR=9.5
ASAJ LR LR 00 04 19.1
comp=Z,2μm,18.4s,baz=105,slow=42
BMKR Bomnak 8.19 293 *e*P **P 00 00 33.5 -5.3**
BMKR sP 00 00 39.5
BMKR AMB AMB 00 00 43.4
comp=Z,80nm,0.8s
BMKR *i* S **Sn 00 02 07.0 -5.4**
YASR Yasnyy 8.52 283⇑ *e*P **P 00 00 38.0 -5.2**
YASR AMB AMB 00 00 43.5
comp=Z,20nm,0.6s
YASR *i* S **Sn 00 02 14.5 -5.9**
MA2 Magadan 8.95 30 *e*PN **P 00 00 49.3 +0.1**
MA2 *e*S **Sn 00 02 31.7 +0.6**
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 MLR MLR
comp=Z,15μm,14.0s
MA2 Magadan 8.95 30 *e*P **P 00 00 48.7 -0.5**
ZEA Zeya 8.97 286 *e*P **P 00 00 48.2 -1.4**
ZEA *e*rx rx 00 00 56.2
ZEA AMB AMB 00 00 57.1
comp=Z,70nm,0.9s
ZEA *i* S **Sn 00 02 31.5 -0.3**
ZEA AMS AMS 00 04 01.0
comp=Z,6μm,7.0s
ZEA AMS AMS 00 04 01.0
comp=Z,5μm,7.0s
SKR Severo-Kuril's 9.02 94 *e*S **Sn 00 02 38.0 +5.0**
SKR AMS AMS 00 03 44.0
comp=Z,8μm,24.0s
SKR AMS AMS 00 03 44.0
comp=Z,8μm,24.0s
SKR AMS AMS 00 03 44.0
comp=Z,7μm,24.0s
SKR AMS AMS 00 03 44.0
comp=Z,4μm,24.0s
KROS Kirovskiy 9.21 290 *e*P **P 00 00 48.5 -4.4**
KROS ⇓pP 00 00 52.0
KROS AMB AMB 00 00 56.5
comp=Z,8.0nm,0.6s
KROS AMB AMB 00 00 56.5
comp=Z,36nm,0.6s
KROS AMB AMB 00 00 56.5
comp=Z,41nm,0.6s
KROS *i* S **Sn 00 02 37.5 -0.2**
PET Petropavlovsk 10.25 79 *e*PN **P 00 01 16.3 +9.3**
PET MLR MLR
comp=Z,1μm,13.0s
PET Petropavlovsk 10.25 79 *e*P **P 00 01 16.3 +9.3**
PET *e*S **S 00 03 18.4 +15**
PET AMS AMS 00 06 27.0
comp=Z,1μm,13.0s
CLNS Chul'man 10.92 302 *e*PN **P 00 01 17.0 +0.8**
CLNS pmax pmax
comp=Z,24nm,1.4s
CLNS pmax pmax
comp=N,18nm,1.2s
CLNS pmax pmax
comp=E,10.0nm,0.9s
CLNS MLR MLR
comp=N,600nm,11.0s
CLNS MLR MLR
comp=Z,500nm,11.0s
CLNS MLR MLR
comp=E,100nm,10.0s
MDJ Mudanjiang 11.11 232 P **P 00 01 22.3 +3.4**
VLA Vladivostok 11.27 221 *e*rx rx 00 03 52.0
VLA *i* rx rx 00 04 21.0
VLA *i* rx rx 00 04 31.0
VLA *i* rx rx 00 04 49.0
YAK Yakutsk 11.88 331 *e*PN **P 00 01 30.8 +1.5**
YAK *e*S **S 00 03 53.6 +11**
YAK pmax pmax
comp=Z,16nm,1.0s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,15nm,1.1s
YAK smax
comp=E,41nm,1.1s
YAK smax
comp=Z,15nm,0.7s
YAK smax
comp=N,16nm,0.9s
YAK MLR MLR
comp=Z,1μm,10.0s
YAK Yakutsk 11.88 331 P **P 00 01 27.0 -2.3**
SEY Seymchan 12.16 23 *e*PN **P 00 01 35.8 +2.8**
SEY *e*S **S 00 03 50.7 +1.0**
SEY pmax pmax
comp=E,40nm,0.9s
SEY pmax pmax
comp=Z,60nm,0.9s
SEY pmax pmax
comp=N,50nm,1.0s
CN2 Changchun 13.80 239 *e*P **P 00 01 55.2 +0.4**
HIA Hailar 14.31 267 *e*P **P 00 02 02.3 +0.9**
MAJO Matsushiro 15.83 191 P **P 00 02 22.5 +1.1**
MAJO pmax pmax
comp=Z,20nm,0.8s
MAJO Matsushiro 15.83 191 P **P 00 02 22.5 +1.1**
comp=Z,20nm,0.8s
MAT Matsushiro 15.83 191 S **S 00 05 21.0 +3.8**
SNY Shenyang 16.16 237 ⇑P **P 00 02 28.6 +3.0**
SNY AP 00 02 35.9
SNY XP 00 02 39.8
SNY AMB AMB
comp=Z,10.0nm,0.8s
SNY LR LR
comp=N,3μm,5.4s
SNY LR LR
comp=E,2μm,8.0s
SNY LR LR
comp=Z,3μm,8.1s
BOD Bodaibo 16.89 301 *e*P **P 00 02 34.4 -0.3**
BOD pmax pmax
comp=Z,12nm,1.2s
KS15 Wonju Array Si 17.71 219 P **P 00 02 42.5 -2.6**
FX1 Attu Island--F 18.98 75 P **P 00 03 01.8 +1.2**
comp=Z,2.7nm,0.3s,baz=180,slow=11,SNR=4.1
FX1 LR LR 00 10 27.5
comp=Z,17nm,22.0s,baz=123,slow=37
FX1 Attu Island--F 18.98 75 *e*P **P 00 02 57.9 -2.7**
JHJ Hachijo jima 2 19.09 185 LR LR 00 12 04.0
comp=Z,469nm,18.5s,baz=110,slow=42
DL2 Dalian 19.33 235 P **P 00 03 05.7 +0.9**
DL2 S **S 00 06 47.5 +11**
DL2 AMB AMB
comp=Z,30nm,1.0s
DL2 AMB AMB
comp=Z,330nm,5.9s
DL2 LR LR
comp=N,2μm,11.7s
DL2 LR LR
comp=E,2μm,13.3s
DL2 LR LR
comp=Z,2μm,8.0s
BILL Bilibino 19.79 27 *e*P **P 00 03 08.9 -1.0**
BILL pmax pmax
comp=Z,38nm,1.1s
BILL Bilibino 19.79 27 *e*P **P 00 03 08.9 -1.1**
comp=Z,38nm,1.1s
TIXI Tiksi 20.40 348⇑ *i*P **P 00 03 14.4 -1.9**
TIXI *e*S **S 00 07 07.5 +7.9**
TIXI pmax pmax
comp=Z,66nm,0.9s
TIXI MLR MLR
comp=Z,985nm,12.0s,MS4.4
BJI Beijing 21.43 246 P **P 00 03 27.3 +0.2**
BJI AP 00 03 31.9
BJI XP 00 03 34.8
BJI S **S 00 07 25.0 +5.2**
BJI AMB AMB
comp=Z,7.0nm,0.9s,mb4.0
BJI LR LR
comp=N,1μm,14.5s,MS4.5
BJI LR LR
comp=E,802nm,16.1s,MS4.5
BJI LR LR
comp=Z,597nm,31.7s
BJI Beijing 21.43 246 P **P 00 03 27.3 +0.2**
BJI *PP 00 03 31.9
BJI S **S 00 07 25.0 +5.2**
BJI pmax pmax
comp=Z,7.0nm,0.9s,mb4.0
BJI Beijing 21.43 246 P **P 00 03 27.3 +0.2**
comp=Z,7.0nm,0.9s,mb4.0
BJI pP 00 03 31.9
BJI sP 00 03 34.8
BJI S **S 00 07 25.0 +5.2**
BJI LR LR
comp=Z,600nm,31.7s,MS3.8
BJT Baijiatuan 21.45 246 *e*P **P 00 03 25.1 -2.1**
BJT pmax pmax
comp=Z,34nm,0.8s
BJT MLR MLR
comp=Z,847nm,22.0s
BJT Baijiatuan 21.45 246 *e*P **P 00 03 25.1 -2.2**
comp=Z,34nm,0.8s,mb4.7
BJT LR LR
comp=Z,847nm,22.0s,MS4.1
ULN Ulaanbaatar 22.65 273 *d i*P **P 00 03 40.8 +1.7**
ULN Ulaanbaatar 22.65 273 *e*P **P 00 03 38.5 -0.6**
comp=Z,16nm,0.9s,mb4.5
ULN LR LR
comp=Z,300nm,19.0s,MS3.8
IRK Irkutsk 22.88 285 *e*P **P 00 03 43.3 +1.9**
IRK pmax pmax
comp=Z,78nm,2.5s,mb4.7
SONM Songino Array 23.07 273 P **P 00 03 44.1 +1.0**
comp=Z,4.2nm,0.6s,mb4.0,baz=56,slow=8.9,SNR=14
SONM PcP PcP 00 07 33.2 -0.7
comp=Z,2.4nm,0.9s,SNR=4.9
TLY Talaya 23.41 284 *e*P **P 00 03 48.1 +1.6**
TLY *e*S **S 00 08 04.4 +8.8**
TLY *e*SS SS 00 08 52.0 +9.4
TLY pmax pmax
comp=Z,44nm,1.3s,mb4.7
TLY MLR MLR
comp=Z,1μm,13.0s,MS4.5
TLY Talaya 23.41 284 *e*P **P 00 03 48.2 +1.8**
comp=Z,54nm,1.3s
TLY LR LR
comp=Z,87nm,22.0s
HHC Hu-ho-hao-te 23.56 253 *e*P **P 00 03 48.7 +0.7**
HHC AP 00 03 54.8
HHC XP 00 03 57.7
HHC PP PP 00 04 16.6 -3.7
HHC S **S 00 07 59.4 +1.0**
HHC AMB AMB
comp=Z,19nm,0.6s,mb4.7
HHC AMB AMB
comp=Z,384nm,6.8s
HHC LR LR
comp=N,4μm,5.2s
HHC LR LR
comp=E,3μm,5.0s
HHC LR LR
comp=Z,3μm,8.9s
TIA Tai'an 23.69 237 *e*P **P 00 03 51.0 +1.6**
TIA *e*S **S 00 08 08.0 +7.3**
TIA LR LR
comp=N,2μm,13.0s
TIA LR LR
comp=E,1μm,7.0s
ZAK Zakamensk 24.03 281⇓ *i*P **P 00 03 54.0 +1.5**
ZAK pmax pmax
comp=Z,18nm,1.4s,mb4.3
BTO Baotou 24.62 255 *e*P **P 00 04 01.7 +3.3**
BTO S **S 00 08 15.8 -0.9**
BTO LR LR
comp=N,3μm,3.9s
BTO LR LR
comp=E,4μm,8.1s
CBIJ Chichi jima 25.04 179 LR LR 00 13 53.2
comp=E,221nm,19.6s,MS3.7,baz=42,slow=36
SSE Sheshan 25.95 224 P **P 00 04 11.1 +0.1**
SSE S **S 00 08 38.4 -0.6**
SSE XS 00 08 53.2
SSE AMB AMB
comp=Z,20nm,0.8s,mb4.7
SSE AMB AMB
comp=Z,184nm,4.8s
SSE LR LR
comp=N,612nm,24.6s,MS4.2
SSE LR LR
comp=E,490nm,24.6s,MS4.2
SSE LR LR
comp=Z,508nm,16.4s
SSE Sheshan 25.95 224 P **P 00 04 11.1 +0.1**
comp=Z,20nm,0.8s,mb4.7
SSE S **S 00 08 38.4 -0.6**
SSE sS 00 08 53.2
SSE LR LR
comp=Z,510nm,16.4s,MS4.1
NJ2 Nanjing 26.18 229 *e*P **P 00 04 15.8 +2.7**
NJ2 AP pP 00 04 20.4 +4.4
NJ2 XP sP 00 04 22.6 +5.2
NJ2 PP PP 00 04 57.8 +2.7
NJ2 S **S 00 08 43.0 +0.3**
NJ2 AMB AMB
comp=Z,930nm,4.0s
NJ2 LR LR
comp=N,3μm,20.4s,MS5.2
NJ2 LR LR
comp=E,6μm,15.8s,MS5.2
NJ2 LR LR
comp=Z,3μm,12.6s,MS5.0
TNA Tin City 28.31 42 *e*P **P 00 04 31.6 -0.6**
comp=Z,20nm,1.2s,mb4.6
TNA LR LR
comp=Z,353nm,19.0s,MS4.0
WHN Wuhan 29.59 234 *e*P **P 00 04 45.2 +1.1**
WHN S **S 00 09 43.0 +5.2**
WHN LR LR
comp=Z,2μm,8.8s
LZH Lanzhou 31.25 254 *e*P **P 00 05 00.7 +2.0**
LZH AP pP 00 05 10.4 +8.7
LZH XP sP 00 05 14.5 +12
LZH PP PP 00 06 04.0 +2.3
LZH *e*S **S 00 10 03.4 -0.5**
LZH XS 00 10 20.0
LZH *e*SS SS 00 11 50.0 +0.2
LZH AMB AMB
comp=Z,30nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,240nm,5.3s
LZH LR LR
comp=N,3μm,18.0s
LZH LR LR
comp=Z,3μm,21.2s,MS4.9
LZH Lanzhou 31.25 254 *e*P **P 00 05 00.7 +2.0**
LZH 00 06 04.0
LZH *e*S **S 00 10 03.4 -0.5**
LZH *e*SS SS 00 11 50.0 +0.2
LZH pmax pmax
comp=Z,30nm,1.1s,mb5.0
LZH MLR MLR
comp=Z,3μm,21.2s,MS4.9
LZH Lanzhou 31.25 254 *e*P **P 00 05 00.7 +2.0**
comp=Z,30nm,1.1s,mb5.0
LZH pP pP 00 05 10.4 +8.7
LZH sP sP 00 05 14.5 +12
LZH PP PP 00 06 04.0 +2.3
LZH *e*S **S 00 10 03.4 -0.5**
LZH sS 00 10 20.0
LZH *e*SS SS 00 11 50.0 +0.2
LZH LR LR
comp=Z,3μm,21.2s,MS4.9
TATO Taipei 31.26 218 PFAKE 00 05 10.0 +11
TATO LR LR
comp=Z,314nm,20.0s,MS4.0
GTA Gaotai 31.53 263 *e*P **P 00 05 05.5 +4.4**
GTA AP pP 00 05 10.1 +6.0
GTA XP sP 00 05 12.5 +7.1
GTA PCP PcP 00 07 54.2 +0.2
GTA S **S 00 10 15.7 +7.4**
GTA XS 00 10 23.0
GTA AMB AMB
comp=Z,8.0nm,1.2s,mb4.4
GTA AMB AMB
comp=Z,115nm,4.6s
GTA LR LR
comp=N,1μm,14.8s,MS4.8
GTA LR LR
comp=E,989nm,14.5s,MS4.8
GTA LR LR
comp=Z,972nm,14.1s,MS4.6
ENH Enshi 32.32 240 *e*P **P 00 05 07.0 -1.1**
comp=Z,9.5nm,0.7s,mb4.7
ENH LR LR
comp=Z,324nm,20.0s,MS4.0
IMA Indian Mountai 34.14 41 *e*P **P 00 05 22.7 -0.9**
IMA *e* 00 08 02.0
IMA pmax pmax
comp=Z,407nm,2.0s,mb6.0
IMA Indian Mountai 34.14 41 *e*P **P 00 05 22.7 -0.9**
comp=Z,407nm,2.0s,mb6.0
IMA *e*PcP PcP 00 08 02.0 +1.0
WMQ Urumqi 36.44 279 *e*P **P 00 05 45.0 +1.6**
WMQ XP sP 00 05 52.0 +4.3
WMQ PP PP 00 07 09.5 +2.3
WMQ PCP PcP 00 08 08.5 +0.6
WMQ S **S 00 11 25.5 +1.0**
WMQ XS 00 11 33.0
WMQ SS SS 00 13 50.0 +0.4
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,174nm,5.1s
WMQ LR LR
comp=N,2μm,11.8s,MS5.2
WMQ LR LR
comp=E,1μm,10.2s,MS5.2
WMQ LR LR
comp=Z,2μm,16.0s
MCK McKinley 36.60 44 *e*P **P 00 05 43.3 -1.2**
MCK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
MCK McKinley 36.60 44 *e*P **P 00 05 43.3 -1.2**
comp=Z,8.9nm,0.8s,mb4.7
COLA College 36.76 42 *c i*P **P 00 05 45.0 -0.9**
GYA Guiyang 36.85 240⇑ *i*P **P 00 05 47.1 +0.1**
GYA AP pP 00 05 51.2 +1.2
GYA XP sP 00 05 54.6 +3.3
GYA PP PP 00 07 11.8 -0.8
GYA S **S 00 11 28.9 -1.9**
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,790nm,13.2s,MS4.8
GYA LR LR
comp=E,750nm,14.2s,MS4.8
GYA LR LR
comp=Z,750nm,14.7s,MS4.6
ILAR Eielson Array 37.19 42 P **P 00 05 49.4 -0.1**
comp=Z,11nm,0.8s,mb4.7,baz=276,slow=8.2,SNR=51
ILAR PcP PcP 00 08 08.0 -1.9
comp=Z,2.2nm,0.8s,baz=299,slow=3.3,SNR=5.6
ILAR LR LR 00 21 44.8
comp=Z,239nm,18.9s,MS4.0,baz=330,slow=37
SML Sawmill 37.41 47 *e*P **P 00 05 50.5 -0.9**
THY Trims Highway 38.05 44 *e*P **P 00 05 56.1 -0.6**
MKAR Makanchi Array 38.13 286 *i* P **P 00 05 57.6 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
KURK Kurchatov 38.35 294 P **P 00 05 59.3 -0.1**
comp=Z,178nm,0.7s,mb5.9,SNR=27
KURK Kurchatov 38.35 294 *i* P **P 00 05 59.2 -0.2**
KURK pmax pmax
comp=Z,15nm,1.0s,mb4.7
KURK Kurchatov 38.35 294 PFAKE 00 06 10.0 +11
KURK LR LR
comp=Z,130nm,19.0s,MS3.8
KMI Kunming 40.03 243 P **P 00 06 13.5 -0.2**
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.5
KMI LR LR
comp=N,460nm,14.4s,MS4.7
KMI LR LR
comp=E,475nm,12.0s,MS4.7
KMI LR LR
comp=Z,497nm,12.5s,MS4.6
KMI Kunming 40.03 243 P **P 00 06 13.5 -0.2**
comp=Z,11nm,1.0s,mb4.5
KMI LR LR
comp=Z,500nm,12.5s,MS4.6
DAWY Dawson 40.50 42 *e*P **P 00 06 16.5 -0.6**
INK Inuvik 41.16 34 *e*P **P 00 06 22.5 0.0**
INK *e* 00 08 21.1
INK pmax pmax
comp=Z,36nm,1.0s
INK Inuvik 41.16 34 P **P 00 06 23.2 +0.7**
comp=Z,24nm,0.9s,mb4.8,baz=298,slow=7.3,SNR=63
INK PcP PcP 00 08 21.4 -1.1
comp=Z,8.1nm,0.9s,baz=293,slow=3.3,SNR=4.4
INK Inuvik 41.16 34 *e*P **P 00 06 22.5 0.0**
comp=Z,36nm,1.0s,mb5.0
INK *e*PcP PcP 00 08 21.1 -1.3
CHKZ Chkalovo 41.33 301 P **P 00 06 23.7 -0.3**
CHKZ pmax pmax
comp=Z,13nm,1.0s,mb4.5
BVA0 Borovoye Array 41.76 301 *i* P **P 00 06 27.6 +0.2**
BVA0 pmax pmax
comp=Z,2.0nm,1.0s
BVAR Borovoye Array 41.76 301 P **P 00 06 27.6 +0.1**
comp=Z,6.9nm,0.7s,mb4.4,baz=53,slow=7.4,SNR=50
BVAR PP PP 00 08 04.8 -2.5
comp=Z,4.6nm,1.0s,baz=34,slow=10,SNR=2.3
BVAR PcP PcP 00 08 24.0 -0.5
comp=Z,4.7nm,0.8s,SNR=5.8
LSA Lhasa 43.32 259 P **P 00 06 41.0 +0.5**
LSA LR LR
comp=N,320nm,11.5s,MS4.6
LSA LR LR
comp=E,300nm,11.1s,MS4.6
LSA LR LR
comp=Z,560nm,10.0s,MS4.8
LSA Lhasa 43.32 259 PFAKE 00 06 50.0 +10
LSA LR LR
comp=Z,298nm,20.0s,MS4.2
SVE Sverdlovsk 44.80 310⇑ *i*P **P 00 06 52.0 -0.1**
SVE *e* 00 08 42.0
SVE *e*PPP PPP 00 09 12.0 -5.5
SVE *e*S **S 00 13 30.0 +1.3**
SVE MLR MLR
comp=N,500nm,13.0s,MS4.8
SVE MLR MLR
comp=E,600nm,13.0s,MS4.8
SVE MLR MLR
comp=Z,1μm,13.0s,MS5.0
FRU Bishkek 44.87 286 *e*P **P 00 06 54.0 +1.1**
AAK Ala-Archa 45.06 286 P **P 00 06 54.0 -0.4**
comp=Z,86nm,0.7s,mb5.7,SNR=20
AAK Ala-Archa 45.06 286 *c i*P **P 00 06 53.9 -0.5**
AAK pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
AAK MLR MLR
comp=Z,300nm,9.0s
AAK Ala-Archa 45.06 286 PFAKE 00 07 10.0 +16
AAK LR LR
comp=Z,83nm,22.0s,MS3.6
KSH Kashi 46.07 281 *e*P **P 00 07 04.0 +1.6**
KSH *e*AP pP 00 07 08.0 +2.5
KSH *e*XP sP 00 07 11.1 +4.4
KSH *e*PCP PcP 00 08 40.0 +0.7
KSH *e*PP PP 00 08 52.5 +1.7
KSH *e*SCP 00 12 32.0
KSH *e*PCS 00 12 33.0
KSH S **S 00 13 49.3 +2.1**
KSH *e*XS 00 13 56.3
KSH *e*SCS ScS 00 16 56.1 +0.3
KSH *e*SS SS 00 17 06.3 +1.9
KSH LR LR

comp=N,1µm,6.9s
KSH LR LR

comp=E,2µm,12.1s
DLBC Dease Lake 47.10 46 P **P** **00 07 11.2 +1.0**
comp=E,8.6nm,1.1s,mb4.6,baz=273,slow=11,SNR=8.6
CMAR Chiang Mai Arr 47.47 241 P **P** **00 07 14.5 +0.7**
comp=E,4.4nm,1.0s,mb4.3,baz=18,slow=7.9,SNR=16
CMAR LR LR 00 26 34.2

comp=E,139nm,18.1s,MS4.0,baz=60,slow=35
JIRN Jiri 47.80 262 *eP* **P** **00 07 15.2 -1.1**
comp=E,24nm,0.9s,mb5.2
RES Resolute Bay 47.95 17 *eP* **P** **00 07 16.0 -0.9**
RES pmax pmax

comp=Z,11nm,0.9s,mb4.9
RES Resolute Bay 47.95 17 *eP* **P** **00 07 16.0 -0.9**
comp=Z,11nm,0.9s,mb4.9
KKN Kakani 48.26 262 *eP* **P** **00 07 19.7 -0.1**
comp=Z,25nm,0.8s,mb5.3
KKN Kakani 48.26 262 *eP* **P** **00 07 19.7 -0.1**
KKN pmax pmax

comp=Z,13nm,0.8s,mb5.0
PKI Pulchoki 48.34 262 *eP* **P** **00 07 19.8 -0.6**
comp=Z,10nm,0.7s,mb5.0
PKI Pulchoki 48.34 262 *eP* **P** **00 07 19.8 -0.6**
PKI pmax pmax

comp=Z,5.0nm,0.7s,mb4.7
GKN Gorkha 48.50 263 *eP* **P** **00 07 21.4 -0.3**
comp=Z,46nm,1.1s,mb5.4
KOLN Koldanda 49.30 264 *eP* **P** **00 07 27.4 -0.5**
comp=Z,28nm,1.1s,mb5.2
ARCES ARCESS Array B 50.12 336 P **P** **00 07 33.0 -0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=27,slow=8.1,SNR=4.1
YKW3 Yellowknife Ar 50.84 36 *eP* **P** **00 07 38.4 -0.8**
YKA Yellowknife Ar 50.89 36 P **P** **00 07 39.0 -0.5**
comp=Z,5.8nm,0.7s,mb4.6,baz=308,slow=7.2,SNR=114
YKA LR LR 00 31 37.7

comp=Z,220nm,20.1s,MS4.2,baz=310,slow=39
YKA Yellowknife Ar 50.89 36 P **P** **00 07 39.0 -0.5**
YKA LR LR 00 31 37.7
DDI Dehra Dun 50.90 271 *e* **P** **00 07 49.0 +9.0**
NDI New Delhi 52.57 270 *eP* **P** **00 07 51.0 -1.7**
JOF Joensuu 53.03 328 *ep* **P** **00 07 49.4 -6.3**
comp=Z,2.8nm,0.4s,mb4.5
KAF Kangasniemi 55.23 329 *ep* **P** **00 08 10.3 -1.5**
comp=Z,3.3nm,0.6s,mb4.5
KAF Kangasniemi 55.23 329 *eP* **P** **00 08 10.3 -1.5**
KAF pmax pmax

comp=Z,3.0nm,0.6s,mb4.5
JMIC Jan Mayen 55.34 349 LR LR 00 33 20.1

comp=Z,90nm,18.9s,MS3.9,baz=187,slow=38
SUMG Summit 55.56 0 *eP* **P** **00 08 13.9 -0.2**
comp=Z,12nm,1.0s,mb4.9
MOS Moscow 55.67 318 *eP* **P** **00 08 13.1 -2.0**
MOS pmax pmax

comp=Z,47nm,1.1s,mb5.4
FINES FINESS Array B 55.80 328 P **P** **00 08 15.2 -0.7**
comp=Z,5.9nm,0.6s,mb4.8,baz=53,slow=9.5,SNR=22
FINES PcP PcP 00 09 13.6 -1.3

comp=Z,2.1nm,0.6s,baz=71,slow=4.6,SNR=4.6
FINES LR LR 00 34 32.2

comp=Z,191nm,19.3s,MS4.2,baz=208,slow=39
OBN Obninsk 56.54 318⇓ *eP* **P** **00 08 20.4 -0.9**
OBN *e* 00 10 26.2
OBN *eS* **S** **00 16 08.4 -2.6**
OBN *e*SS SS 00 19 56.5 -2.7
OBN pmax pmax

comp=Z,20nm,0.7s,mb5.3
OBN MLR MLR

comp=Z,400nm,10.0s,MS4.8
JCW Jim Creek 57.25 52 P **P** **00 08 26.6 +0.2**
EDM Edmonton 57.66 43 *eP* **P** **00 08 28.1 -1.2**
NLW Nelson Butte 58.10 52 P **P** **00 08 32.6 +0.1**
VRSR Storozhevoye 58.17 314 *c iP* **P** **00 08 31.6 -1.3**
VRSR *e**PP pP 00 08 36.1 +0.1
VRSR *e* 00 09 23.2
VRSR *e* 00 10 41.5
VRSR pmax pmax

comp=N,40nm,0.9s
VRSR pmax pmax

comp=Z,30nm,0.9s,mb5.3
VRSR pmax pmax

comp=E,20nm,1.0s
VRSR MLR MLR

comp=Z,250nm,16.0s,MS4.4
VRSR MLR MLR

comp=N,250nm,19.0s,MS4.4
VRSR MLR MLR

comp=E,180nm,19.0s,MS4.4
TBM Table Mountain 58.61 52 P **P** **00 08 35.7 -0.3**
EBG Ellensburg 58.80 53 P **P** **00 08 37.6 +0.2**
EPH Ephrata 58.97 52 P **P** **00 08 38.1 -0.4**
GL2 New Goldendale 59.35 54 P **P** **00 08 41.7 +0.5**
CRF Corfu 59.44 52 P **P** **00 08 41.5 -0.2**
NEW Newport 59.50 50 P **P** **00 08 42.0 -0.1**
comp=E,6.9nm,1.1s,mb4.6,baz=308,slow=6.0,SNR=6.4
CROR Criterion Ridg 59.95 54 P **P** **00 08 45.9 +0.6**
WALA Waterton Lakes 60.41 47 *eP* **P** **00 08 45.4 -3.0**
comp=E,51nm,1.1s,mb5.5
NB2 NORSAR Subarra 60.48 335 P **P** **00 08 47.5 -1.2**
comp=E,17nm,0.8s,mb5.1,baz=32,slow=6.5
NB2 NORSAR Subarra 60.48 335 P **P** **00 08 47.5 -1.2**
NB2 pmax pmax

comp=Z,17nm,0.8s,mb5.1
NB2 NORSAR Subarra 60.48 335 P **P** **00 08 47.5 -1.2**
baz=32,slow=6.9
NOA NORSAR Array B 60.48 335 P **P** **00 08 48.0 -0.7**
comp=Z,10nm,0.8s,mb4.9,baz=34,slow=6.5,SNR=23
NOA PcP PcP 00 09 32.4 -0.8

comp=Z,3.1nm,0.8s,baz=30,slow=4.1,SNR=4.7
HFS Hagfors 60.57 333 P **P** **00 08 48.4 -1.0**
comp=Z,13nm,0.7s,mb5.1,baz=56,slow=5.3,SNR=14
BBOR Butler Butte 60.58 57 P **P** **00 08 50.7 +1.1**
GOF Gofitskoye 60.75 307⇓ *iP* **P** **00 08 51.0 +0.2**
GOF pmax pmax

comp=Z,55nm,1.3s,mb5.5
FFC Flin Flon 61.04 37 P **P** **00 08 51.9 -0.7**
comp=Z,151nm,1.3s,mb6.0,SNR=19
YBH Yreka Blue Hor 61.38 58 P **P** **00 08 55.9 +0.8**
comp=Z,7.6nm,1.0s,mb4.8,baz=11,slow=2.7,SNR=16
KIV Kislovodsk 61.72 306 *c iP* **P** **00 08 57.1 -0.3**
KIV pmax pmax

comp=Z,50nm,1.1s,mb5.6
KIV MLR MLR

comp=Z,800nm,17.0s,MS4.9
KIV Kislovodsk 61.72 306 *eP* **P** **00 08 56.4 -1.0**
comp=Z,36nm,0.9s,mb5.5
KIV LR LR

comp=Z,73nm,19.0s,MS3.9
FRB Frobisher Bay 62.01 15 P **P** **00 08 57.2 -1.9**
comp=Z,16nm,0.8s,mb5.2,baz=347,slow=7.9,SNR=29
MSO Missoula 62.02 49 *eP* **P** **00 08 59.2 -0.2**
comp=Z,12nm,0.9s,mb5.0
LASM Arnica Sink 62.07 57 P **P** **00 09 00.7 +0.9**
CHMT Chamberlain Mo 62.28 48 *eP* **P** **00 09 00.6 -0.5**
SUW Suwalki 62.53 324 *eP* **P** **00 09 01.5 -1.1**
SUW *ep*P pP 00 09 08.0 +2.2
SUW *eS* **S** **00 17 23.6 -4.8**
SUW MLR MLR 00 43 16.3

comp=Z,300nm,20.1s,MS4.5
LBCM Butte Creek Ri 62.74 58 P **P** **00 09 04.8 +0.6**
AKASG Malin Array Be 62.80 319 P **P** **00 09 03.0 -1.5**
comp=Z,7.6nm,0.6s,mb5.0,baz=38,slow=7.5,SNR=59
WVOR Wild Horse Val 62.97 55 *eP* **P** **00 09 05.4 -0.3**
WVOR pmax pmax

comp=Z,30nm,1.1s,mb5.3
WVOR Wild Horse Val 62.97 55 *eP* **P** **00 09 05.4 -0.3**
comp=Z,30nm,1.1s,mb5.3
GNI Garni 63.43 302⇓ *eP* **P** **00 09 09.9 +1.1**
GNI pmax pmax

comp=Z,18nm,1.2s
GNI MLR MLR

comp=Z,200nm,10.0s
GNI Garni 63.43 302 PFAKE 00 09 20.0 +11
GNI LR LR

comp=Z,306nm,22.0s,MS4.4
SOC Sochi 63.46 307 *eP* **P** **00 09 06.0 -2.9**
SOC *e*PPP PPP 00 12 58.2 -3.4
SOC *eS* **S** **00 17 38.8 -1.4**
SOC *e*SSS SSS 00 24 32.6 -2.6
SOC pmax pmax

comp=Z,31nm,1.0s,mb5.4
SOC pmax pmax

comp=N,22nm,1.4s
SOC pmax pmax

comp=E,22nm,1.1s
MCMT McKenzie Canyo 64.02 50 P **P** **00 09 12.4 -0.1**

HLID Hailey 64.22 52 *eP* **P** **00 09 14.1 +0.2**
comp=E,7.3nm,0.8s,mb4.8
HLID LR LR

comp=Z,533nm,19.0s,MS4.8
WCN Washoe City 64.70 58 *eP* **P** **00 09 17.1 +0.1**
WCN pmax pmax

comp=Z,34nm,1.4s,mb5.2
WCN Washoe City 64.70 58 *eP* **P** **00 09 17.1 +0.1**
comp=Z,34nm,1.4s,mb5.2
WAR Warsaw 64.73 324 *eP* **P** **00 09 17.9 +1.0**
WAR *e*PP PP 00 11 36.0 -5.4
WAR *eS* **S** **00 17 52.1 -3.6**
WAR MLR MLR 00 39 18.7

comp=Z,400nm,16.3s,MS4.7
KAKA Kakadu 65.12 190⇑ *iP* **P** **00 09 20.2 +0.1**
comp=Z,23nm,0.8s,mb5.3
GKP Gorka Klasztor 65.20 327 *eP* **P** **00 09 19.5 -0.5**
GKP *ep*P pP 00 09 27.1 +4.1
GKP *eS* S 00 18 00.5 -0.9
GKP MLR MLR 00 40 31.3

comp=Z,500nm,16.5s,MS4.8
YFT Old Faithful 65.25 49 *eP* **P** **00 09 22.0 +1.5**
CMB Columbia Colle 65.30 59 *eP* **P** **00 09 20.8 -0.1**
CMB pmax pmax

comp=Z,10.0nm,0.8s,mb4.9
CMB Columbia Colle 65.30 59 *eP* **P** **00 09 20.8 -0.1**
comp=Z,9.9nm,0.8s,mb4.9
LVV L'vov 65.56 321 *eP* **P** **00 09 20.7 -1.6**
MOOW Moose Ponds 65.83 49 P **P** **00 09 22.3 -1.8**
KIS Kishinev 65.85 316 *eP* **P** **00 09 22.0 -2.2**
KIS *e* 00 19 10.0
KIS MLR MLR

comp=Z,1µm,17.0s,MS5.1
RRI2 Red Ridge 65.86 50 *eP* **P** **00 09 24.5 +0.1**
TPAW Teton Pass 65.93 50 P **P** **00 09 22.8 -2.0**
ELK Elko 65.93 54 *eP* **P** **00 09 25.2 +0.3**
ELK pmax pmax

comp=Z,12nm,1.0s
ELK Elko 65.93 54 P **P** **00 09 26.2 +1.3**
comp=Z,8.8nm,0.9s,mb4.8,baz=310,slow=6.5,SNR=28
ELK Elko 65.93 54 *eP* **P** **00 09 25.1 +0.3**
comp=Z,12nm,1.0s,mb4.9
WUWY Wally Ulrich 65.99 49 *eP* **P** **00 09 26.0 +0.8**
NVAR Mina Aray Bea 66.10 58 P **P** **00 09 26.9 +0.9**
comp=Z,8.0nm,0.8s,mb4.8,baz=315,slow=4.3,SNR=48
KWP Kalwaria 66.22 322 *eP* **P** **00 09 26.5 0.0**
KWP *ep*P pP 00 09 32.1 +2.4
KWP MLR MLR 00 40 27.2

comp=Z,1µm,17.7s,MS5.1
IAS Iasi 66.23 317 P **P** **00 09 26.5 -0.1**
BSEG Bad Segeberg 66.82 331 *eP* **P** **00 09 30.3 0.0**
BSEG pmax pmax

comp=Z,20nm,1.1s,mb5.1
OJC Ojcow 66.83 324 *eP* **P** **00 09 29.9 -0.5**
BURAR Bucovina Array 66.86 319 P **P** **00 09 30.2 -0.4**
ULM Lac du Bonnet 66.86 36 P **P** **00 09 29.6 -1.1**
comp=Z,13nm,1.1s,mb4.8,baz=330,slow=7.8,SNR=6.4
ULM LR LR 00 39 44.5

comp=Z,112nm,18.9s,MS4.1,baz=310,slow=37
RUE Ruedersdorf 67.00 328 *eP* **P** **00 09 30.5 -1.0**
comp=Z,38nm,1.1s,mb5.3
HWUT Hardware Ranch 67.08 51 *eP* **P** **00 09 32.7 +0.5**
comp=Z,27nm,1.2s,mb5.2
PDAR Pinedale Array 67.14 49 P **P** **00 09 33.0 +0.5**
comp=Z,18nm,1.0s,mb5.1,baz=315,slow=2.1,SNR=18
PDAR LR LR 00 40 46.0

comp=Z,242nm,18.3s,MS4.5,baz=165,slow=38
NIE Niedzica 67.30 323 *eP* **P** **00 09 31.8 -1.6**
KSP Ksiaz 67.55 326⇑ *eP* **P** **00 09 34.7 -0.3**
KSP Ksiaz 67.55 326 *eP* **P** **00 09 34.7 -0.3**
KSP *ep*P pP 00 09 42.0 +3.9
KSP *eS* S 00 18 25.4 -4.6
KSP MLR MLR 00 41 47.6

comp=Z,500nm,16.0s,MS4.8
OKC Ostrava-Krasne 67.74 324 *eP* **P** **00 09 35.7 -0.5**
UPC Upice 67.93 326 *eP* **P** **00 09 36.9 -0.5**
DPC Dobruska-Polom 67.95 326 *eP* **P** **00 09 37.7 +0.2**
DPC AMS AMS 00 42 30.0

comp=Z,400nm,16.2s
MORC Moravsky Berou 68.00 325 *eP* **P** **00 09 37.8 -0.1**
MORC pmax pmax

comp=Z,14nm,0.8s,mb5.0
MORC Moravsky Berou 68.00 325 *eP* **P** **00 09 37.8 -0.1**
comp=Z,14nm,0.8s,mb5.1
MALT Malatya 68.06 304 P **P** **00 09 39.5 +1.1**
CLL Collm 68.25 328⇑ *iP* **P** **00 09 38.9 -0.5**
CLL *i* pP 00 09 42.4 -0.1
CLL pmax pmax

comp=Z,40nm,0.9s,mb5.5
CLL Collm 68.25 328⇑ *iP* **P** **00 09 38.9 -0.5**
comp=Z,40nm,0.9s,mb5.5
CLL *i* pP 00 09 42.4 -0.1
MLR Muntele Rosu 68.26 317 P **P** **00 09 39.4 -0.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=172,slow=4.9,SNR=6.7
MLR LR LR 00 42 25.1

comp=Z,170nm,18.9s,MS4.3,baz=227,slow=39
BRG Berggiesshubel 68.31 327 *eP* **P** **00 09 39.4 -0.4**
BRG pmax pmax

comp=Z,9.0nm,1.0s,mb4.8
BRG MLR MLR

comp=N,190nm,12.5s,MS4.7
BRG MLR MLR

comp=E,240nm,12.5s,MS4.7
BRG MLR MLR

comp=Z,300nm,12.5s,MS4.7
BRG Berggiesshubel 68.31 327 *eP* **P** **00 09 39.4 -0.4**
comp=Z,8.9nm,0.9s,mb4.8
BRG LR LR

comp=Z,300nm,12.5s,MS4.7
PVCC Panska Ves 68.40 327 *eP* **P** **00 09 39.7 -0.6**
CLZ Clausthal 68.62 330 *eP* **P** **00 09 41.8 +0.1**
comp=Z,31nm,1.1s,mb5.2
PSZ Piszkesteto 68.69 322 *eP* **P** **00 09 42.2 0.0**
PSZ pmax pmax

comp=Z,42nm,1.4s,mb5.2
PSZ Piszkesteto 68.69 322 *eP* **P** **00 09 42.2 0.0**
comp=Z,42nm,1.4s,mb5.2
PSZ Piszkesteto 68.69 322⇑ *eP* **P** **00 09 42.4 +0.2**
VRAC Vranov 68.73 325 P **P** **00 09 43.5 +1.1**
VRAC Vranov 68.73 325 P **P** **00 09 43.1 +0.7**
comp=Z,9.0nm,0.9s,mb4.7,baz=38,slow=6.5,SNR=12
PRU Pruhonice 68.87 327 *eP* **P** **00 09 43.5 +0.3**
PRU AMS AMS 00 42 40.0

comp=Z,500nm,15.6s
EKA Eskdalemuir Ar 69.02 339 P **P** **00 09 44.2 +0.1**
comp=Z,8.7nm,0.7s,mb4.8,baz=18,slow=5.1,SNR=18
TMUT Trail Mountain 69.03 53 *eP* **P** **00 09 44.8 +0.4**
MSU Marysvale 69.16 54 *eP* **P** **00 09 45.9 +0.7**
MOX Moxa 69.27 329 *eP* **P** **00 09 45.2 -0.5**
MOX pmax pmax

comp=Z,22nm,1.3s,mb4.9
MOX MLR MLR

comp=Z,300nm,15.0s,MS4.7
MOX Moxa 69.27 329 *eP* **P** **00 09 45.2 -0.5**
comp=Z,22nm,1.3s,mb4.9
MOX LR LR

comp=Z,300nm,15.0s,MS4.7
MOX Moxa 69.27 329 *i P* **P** **00 09 45.2 -0.5**
comp=Z,logA/T=1.2,mb4.9
MOX QM 00 37 37.0
MOX RM 00 45 39.0
NKC Novy Kostel 69.36 328 *eP* **P** **00 09 46.1 -0.1**
KHC Kasperske Hory 69.93 327 *eP* **P** **00 09 49.7 0.0**
KHC *e* 00 09 57.0
KHC MLR MLR

comp=Z,500nm,15.0s,MS4.9
KHC Kasperske Hory 69.93 327 *eP* **P** **00 09 49.7 0.0**
KHC x x 00 09 57.0
KHC AMS AMS 00 43 20.0

comp=Z,500nm,15.0s
GEC2 GERESS Array S 70.13 326 *eP* **P** **00 09 50.9 -0.1**
GEC2 pmax pmax

comp=Z,9.0nm,1.1s,mb4.6
GEC2 GERESS Array S 70.13 326 *eP* **P** **00 09 50.9 -0.1**
comp=Z,9.0nm,1.1s,mb4.6
GERES GERESS Array B 70.13 326 P **P** **00 09 51.2 +0.2**
comp=Z,2.3nm,0.7s,mb4.2,baz=34,slow=4.8,SNR=21
WET Wettzell 70.15 327 *eP* **P** **00 09 51.4 +0.3**
WET pmax pmax

comp=Z,17nm,1.0s,mb4.9
WET Wettzell 70.15 327 *eP* **P** **00 09 51.4 +0.3**
comp=Z,17nm,1.0s,mb4.9
GRA1 Grafenberg Arr 70.22 328 *eP* **P** **00 09 51.7 +0.2**
comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 70.22 328 *eP* **P** **00 09 51.7 +0.2**

GRF pmax pmax

comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 70.22 328 *eP* **P** **00 09 51.7 +0.2**
GRF pmax pmax

comp=Z,34nm,1.0s,mb5.2
GRF Grafenberg Arr 70.22 328 *eP* **P** **00 09 51.7 +0.2**
comp=Z,34nm,1.0s,mb5.2
TNS Taunus Mts 70.63 330 *eP* **P** **00 09 54.0 0.0**
TNS pmax pmax

comp=Z,16nm,1.2s,mb4.8
TNS Taunus Mts 70.63 330 *eP* **P** **00 09 54.0 0.0**
comp=Z,16nm,1.2s,mb4.8
SCHQ Schefferville 70.73 17 P **P** **00 09 54.1 -0.4**
comp=Z,2.5nm,0.5s,mb4.4,baz=333,slow=6.8,SNR=17
MOA Molln 70.79 326⇑ *iP* **P** **00 09 55.9 +0.9**
comp=Z,11nm,1.2s,mb4.7
PV10 Paradox Valley 70.81 52 *eP* **P** **00 09 55.8 +0.5**
ARSA Arzberg 70.86 324⇑ *iP* **P** **00 09 55.9 +0.5**
comp=Z,15nm,1.2s,mb4.8
TOD Tromm 71.06 330 *eP* **P** **00 09 56.6 0.0**
ABH Alteburg 71.20 331 *eP* **P** **00 09 57.1 -0.4**
PV01 Paradox Valley 71.22 52 P **P** **00 09 58.8 +1.0**
FITZ Fitzroy Crossi 71.38 196 *eP* **P** **00 09 59.7 +0.6**
comp=Z,20nm,1.1s,mb5.0
FUR Furstenfeldbru 71.53 328 *eP* **P** **00 10 00.0 +0.5**
FUR pmax pmax

comp=Z,29nm,1.2s,mb5.1
FUR Furstenfeldbru 71.53 328 *eP* **P** **00 10 00.0 +0.5**
comp=Z,29nm,1.2s,mb5.1
KBA Koelnbreinsper 71.77 326⇑ *iP* **P** **00 10 01.5 +0.6**
comp=Z,30nm,1.1s,mb5.1
KBA Koelnbreinsper 71.77 326⇑ *iP* **P** **00 10 01.5 +0.6**
KBA pmax pmax

comp=Z,30nm,1.1s,mb5.1
GIVF Givet 71.80 332 *eP* **P** **00 10 00.3 -0.8**
DIVS Divcibare 71.83 320 *eP* **P** **00 10 00.6 -0.7**
OBKA Obir 71.84 325⇓ *iP* **P** **00 10 01.9 +0.6**
comp=Z,18nm,1.4s,mb4.8
GOLS Golise 71.88 324 *eP* **P** **00 10 01.3 -0.3**
WUAZ Wupatki 71.89 55 *eP* **P** **00 10 02.5 +0.7**
comp=Z,641nm,1.5s
BAIF Baives 72.02 333 *eP* **P** **00 10 01.8 -0.5**
comp=Z,12nm,0.8s,mb4.6
BAIF Baives 72.02 333 *eP* **P** **00 10 01.8 -0.5**
BAIF pmax pmax

comp=Z,6.0nm,0.8s,mb4.6
LEGS Legarje 72.04 324 *eP* **P** **00 10 02.7 +0.1**
WRAB Tennant Creek 72.09 187⇑ *iP* **P** **00 10 03.5 +0.2**
WRAB Tennant Creek 72.09 187 *eP* **P** **00 10 03.4 +0.2**
comp=Z,58nm,1.2s,mb5.4
WB2 Warramunga Arr 72.10 187⇑ *iP* **P** **00 10 03.3 0.0**
WRA Warramunga Arr 72.10 187 P **P** **00 10 02.8 -0.5**
comp=Z,26nm,1.2s,mb5.0,baz=6.4,slow=6.5,SNR=33
WATA Walderalm 72.15 327⇑ *iP* **P** **00 10 04.0 +0.8**
comp=Z,16nm,1.1s,mb4.9
WATA Walderalm 72.15 327⇑ *iP* **P** **00 10 04.0 +0.8**
WATA pmax pmax

comp=Z,16nm,1.1s,mb4.9
MOTA Moosalm 72.30 327⇓ *iP* **P** **00 10 04.5 +0.4**
comp=Z,6.4nm,1.0s,mb4.5
MOTA Moosalm 72.30 327⇓ *iP* **P** **00 10 04.5 +0.4**
MOTA pmax pmax

comp=Z,6.0nm,1.0s,mb4.5
BFO Black Forest 72.33 329 *eP* **P** **00 10 04.0 -0.3**
BFO pmax pmax

comp=Z,15nm,1.1s,mb4.8
BFO Black Forest 72.33 329 *eP* **P** **00 10 04.0 -0.3**
comp=Z,15nm,1.1s,mb4.8
PTCC Patocco-Chiusa 72.35 325 *eP* **P** **00 10 04.2 -0.2**
SQTA Sankt Quirin 72.38 327⇓ *iP* **P** **00 10 05.2 +0.7**
comp=Z,17nm,1.0s,mb4.9
SQTA Sankt Quirin 72.38 327⇓ *iP* **P** **00 10 05.2 +0.7**
SQTA pmax pmax

comp=Z,17nm,1.0s,mb4.9
FVI Forni Avoltri 72.39 326 *eP* **P** **00 10 06.7 +2.1**
WLS Welschbruch 72.56 330 *eP* **P** **00 10 05.5 0.0**
WLS Welschbruch 72.56 330 *eP* **P** **00 10 05.5 0.0**
CDF Champ du Feu 72.59 330 *eP* **P** **00 10 05.3 -0.3**
comp=Z,33nm,0.9s,mb5.0
CDF Champ du Feu 72.59 330 *eP* **P** **00 10 05.3 -0.3**
CDF pmax pmax

comp=Z,17nm,0.9s,mb5.0
LIBD Limburg 72.72 330 *eP* **P** **00 10 06.4 0.0**
DAVA Damuels 72.76 328⇑ *iP* **P** **00 10 06.9 +0.2**
comp=Z,16nm,0.8s,mb5.0
ECH Echery 72.80 330 *eP* **P** **00 10 06.8 -0.1**
ECH Echery 72.80 330 *eP* **P** **00 10 06.8 -0.1**
FELD Feldberg 72.84 329 *eP* **P** **00 10 07.0 -0.1**
MOF Molkenrain 73.13 330 *eP* **P** **00 10 08.5 -0.3**
MOF Molkenrain 73.13 330 *eP* **P** **00 10 08.5 -0.3**
THEF They Montfort 73.14 331 *eP* **P** **00 10 08.8 -0.1**
THEF They Montfort 73.14 331 *eP* **P** **00 10 08.8 -0.1**
MEZF Maizieres J'vi 73.17 332 *eP* **P** **00 10 08.9 -0.2**
comp=Z,56nm,1.2s,mb5.1
DAVOX Davos 73.20 328 P **P** **00 10 10.1 +0.8**
comp=Z,9.0nm,0.7s,mb4.8,baz=13,slow=10
HAU Haudompre 73.23 331 *eP* **P** **00 10 08.9 -0.5**
comp=Z,16nm,1.0s,mb4.6
HAU *eR

comp=Z,214nm,17.2s
HAU Haudompre 73.23 331 *eP* **P** **00 10 08.9 -0.5**
HAU pmax pmax

comp=Z,8.0nm,1.0s,mb4.6
HAU MLR MLR

comp=Z,210nm,17.3s,MS4.5
HINF Hinteralfeld 73.25 330 *eP* **P** **00 10 08.8 -0.7**
comp=Z,9.4nm,0.7s,mb4.5
HINF Hinteralfeld 73.25 330 *eP* **P** **00 10 08.8 -0.7**
HINF pmax pmax

comp=Z,5.0nm,0.7s,mb4.5
BRMO Bormio 73.31 327 *eP* **P** **00 10 11.0 +1.1**
LOMF Lomont 73.67 330 *eP* **P** **00 10 11.9 -0.1**
LOMF Lomont 73.67 330 *eP* **P** **00 10 11.9 -0.1**
FLN La Foliniere 74.46 335 *eP* **P** **00 10 15.9 -0.6**
comp=Z,38nm,1.1s,mb5.0
FLN *eR

comp=Z,127nm,18.0s
FLN La Foliniere 74.46 335 *eP* **P** **00 10 15.9 -0.6**
FLN pmax pmax

comp=Z,19nm,1.1s,mb4.9
FLN MLR MLR

comp=Z,130nm,18.0s,MS4.3
LDF La Druitiere 74.53 335 *eP* **P** **00 10 16.2 -0.7**
comp=Z,29nm,1.1s,mb4.8
LDF La Druitiere 74.53 335 *eP* **P** **00 10 16.2 -0.7**
LDF pmax pmax

comp=Z,15nm,1.1s,mb4.8
MCGN Macugnaga 74.55 329 *eP* **P** **00 10 17.9 +0.9**
CABF La Chapelle 74.56 330 *eP* **P** **00 10 16.8 -0.3**
comp=Z,24nm,1.0s,mb4.8
CABF La Chapelle 74.56 330 *eP* **P** **00 10 16.8 -0.3**
CABF pmax pmax

comp=Z,12nm,1.0s,mb4.8
ANMO Albuquerque 74.78 52⇓ *eP* **P** **00 10 20.1 +1.4**
ANMO Albuquerque 74.78 52 P **P** **00 10 17.8 -0.9**
comp=Z,9.8nm,1.3s,mb4.6,baz=321,slow=10,SNR=5.6
FSSB Fossombrone 74.90 324 *eP* **P** **00 10 16.6 -2.6**
GRR Gorron 74.91 335 *eP* **P** **00 10 18.7 -0.4**
comp=Z,30nm,0.8s,mb5.0
GRR Gorron 74.91 335 *eP* **P** **00 10 18.7 -0.4**
GRR pmax pmax

comp=Z,15nm,0.8s,mb5.0
SSF Saint Saulge 74.92 332 *eP* **P** **00 10 18.5 -0.7**
SSF pmax pmax

comp=Z,6.0nm,0.7s,mb4.6
SSF Saint Saulge 74.92 332 *eP* **P** **00 10 18.5 -0.7**
comp=Z,6.1nm,0.7s,mb4.6
HYF Humbligny 74.98 333 *eP* **P** **00 10 19.3 -0.3**
ARV Arcevia 75.01 324 *eP* **P** **00 10 20.4 +0.6**
VMG Vicchio 75.11 325 *eP* **P** **00 10 21.9 +1.5**
PGD Poggio Sodo 75.12 325 *eP* **P** **00 10 22.2 +1.8**
SMF Signal de Mont 75.20 332 *eP* **P** **00 10 20.4 -0.5**
comp=Z,32nm,0.9s,mb5.0
SMF Signal de Mont 75.20 332 *eP* **P** **00 10 20.4 -0.5**
SMF pmax pmax

comp=Z,16nm,0.9s,mb5.0
AVF Avril sur Loir 75.21 332 *eP* **P** **00 10 20.4 -0.5**
comp=Z,24nm,0.9s,mb4.8
AVF Avril sur Loir 75.21 332 *eP* **P** **00 10 20.4 -0.5**
AVF pmax pmax

comp=Z,12nm,0.9s,mb4.8
LPL La Plagne 75.34 329 *eP* **P** **00 10 22.1 +0.5**
comp=Z,18nm,0.9s,mb4.7
LPL La Plagne 75.34 329 *eP* **P** **00 10 22.1 +0.5**
LPL pmax pmax

	comp=Z,9.0nm,0.9s,mb4.7						
LPG	La Plagne	75.35	329	eP	P	00 10 22.3	+0.6
	comp=Z,23nm,0.8s,mb4.9						
LPG	La Plagne	75.35	329	eP	P	00 10 22.3	+0.6
LPG				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
SGMF	Saint Gilles	75.46	336	eP	P	00 10 22.1	-0.2
	comp=Z,34nm,1.0s,mb4.9						
SGMF	Saint Gilles	75.46	336	eP	P	00 10 22.1	-0.2
SGMF				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
NRCA	Norcia	75.53	324	eP	P	00 10 23.5	+0.7
ROSF	Rostrenen	75.56	337	eP	P	00 10 22.8	0.0
	comp=Z,26nm,1.0s,mb4.8						
ROSF	Rostrenen	75.56	337	eP	P	00 10 22.8	0.0
ROSF				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.8						
BGF	Bois d'Agland	75.57	332	eP	P	00 10 22.5	-0.5
	comp=Z,20nm,0.9s,mb4.7						
BGF	Bois d'Agland	75.57	332	eP	P	00 10 22.5	-0.5
BGF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ASAR	Alice Springs	75.82	188	P	P	00 10 25.9	+1.0
	comp=Z,15nm,1.0s,mb4.9,baz=5.3,slow=5.3,SNR=81						
ASPA	Alice Springs	75.82	188	⇑iP	P	00 10 25.7	+0.8
PLDF	La Plantade	75.88	331	eP	P	00 10 25.9	+1.2
PLDF	La Plantade	75.88	331	eP	P	00 10 25.9	+1.2
QUIF	Quistinic	75.92	337	eP	P	00 10 24.7	-0.2
	comp=Z,16nm,0.7s,mb4.7						
QUIF	Quistinic	75.92	337	eP	P	00 10 24.7	-0.2
QUIF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
AGO	Saint Agoulin	75.95	332	eP	P	00 10 26.6	+1.5
AGO	Saint Agoulin	75.95	332	eP	P	00 10 26.6	+1.5
TCF	Toulx Ste Croi	76.00	332	eP	P	00 10 25.1	-0.3
	comp=Z,31nm,1.2s,mb4.8						
TCF	Toulx Ste Croi	76.00	332	eP	P	00 10 25.1	-0.3
TCF				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MBDF	Montbardon	76.03	329	eP	P	00 10 25.3	-0.3
	comp=Z,20nm,0.9s,mb4.8						
MBDF	Montbardon	76.03	329	eP	P	00 10 25.3	-0.3
MBDF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
ORIF	Oris-en-Rattie	76.14	329	eP	P	00 10 26.5	+0.3
	comp=Z,28nm,0.9s,mb4.9						
ORIF				eR			
	comp=Z,294nm,17.0s						
MFF	Saint Martin d	76.36	334	eP	P	00 10 27.5	+0.1
	comp=Z,27nm,0.9s,mb4.9						
MFF	Saint Martin d	76.36	334	eP	P	00 10 27.5	+0.1
MFF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
VIVF	Saint-Julien-l	76.57	330	eP	P	00 10 28.8	+0.2
	comp=Z,34nm,1.1s,mb4.9						
VIVF	Saint-Julien-l	76.57	330	eP	P	00 10 28.8	+0.2
VIVF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
SBF	Sospel	76.59	328	eP	P	00 10 28.0	-0.8
LBL	Lubilhac	76.66	331	eP	P	00 10 30.9	+1.8
LBL	Lubilhac	76.66	331	eP	P	00 10 30.9	+1.8
SGO	Sicignano	76.67	321	eP	P	00 10 28.2	-1.1
RJF	Les Rejaudoux	77.10	332	eP	P	00 10 31.5	0.0
	comp=Z,60nm,1.5s,mb5.0						
RJF				eR			
	comp=Z,246nm,21.4s						
RJF	Les Rejaudoux	77.10	332	eP	P	00 10 31.5	0.0
RJF				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.0						
RJF				MLR	MLR		
	comp=Z,250nm,21.4s,MS4.5						
CAF	Calviac	77.28	332	eP	P	00 10 33.1	+0.5
	comp=Z,72nm,1.6s,mb5.1						
CAF	Calviac	77.28	332	eP	P	00 10 33.1	+0.5
CAF				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
LASF	Ste Croix	77.53	330	eP	P	00 10 34.5	+0.6
LFF	La Frestale	77.65	333	eP	P	00 10 35.1	+0.5
	comp=Z,26nm,0.9s,mb4.9						
LFF	La Frestale	77.65	333	eP	P	00 10 35.1	+0.5
LFF				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
MNTX	Cornudas Mount	77.94	54	eP	P	00 10 37.0	+0.5
	comp=Z,26nm,1.2s,mb5.0						
WMOK	Wichita Mounta	78.56	47	eP	P	00 10 39.9	0.0
WMOK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
WMOK	Wichita Mounta	78.56	47	eP	P	00 10 39.9	0.0
	comp=Z,21nm,1.1s,mb5.0						
MTLF	Montolieu	78.69	331	eP	P	00 10 40.9	+0.6
	comp=Z,21nm,0.9s,mb4.7						
MTLF	Montolieu	78.69	331	eP	P	00 10 40.9	+0.6
MTLF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
EPF	Esparros	79.52	332	eP	P	00 10 44.7	-0.2
	comp=Z,16nm,1.0s,mb4.6						
EPF	Esparros	79.52	332	eP	P	00 10 44.7	-0.2
EPF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
SJPF	Ste Jean	79.88	333	eP	P	00 10 45.9	-0.9
ETSF	Etsaut	79.89	333	eP	P	00 10 47.7	+0.8
	comp=Z,39nm,1.2s,mb4.9						
ETSF	Etsaut	79.89	333	eP	P	00 10 47.7	+0.8
ETSF				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
EMIR	Miracle	80.20	331	P	P	00 10 50.4	+1.9
	comp=Z,569nm,2.7s,mb6.0						
ELAN	Lanestosa	80.36	335	P	P	00 10 50.4	+1.0
	comp=Z,86nm,1.8s,mb5.4						
LTX	Lajitas	80.72	54	eP	P	00 10 52.4	+0.8
LTX				pmax	pmax		
	comp=Z,53nm,1.5s,mb5.2						
LTX	Lajitas	80.72	54	eP	P	00 10 52.4	+0.9
	comp=Z,53nm,1.5s,mb5.2						
TXAR	Lajitas Array	80.72	54	P	P	00 10 53.0	+1.5
	comp=Z,10nm,0.8s,mb4.8,baz=288,slow=4.0,SNR=55						
TXAR				LR	LR	00 48 45.1	
	comp=Z,187nm,21.9s,MS4.4,baz=145,slow=37						
EARI	Arriondas	80.75	336	P	P	00 10 51.2	-0.2
	comp=Z,217nm,2.2s,mb5.7						
ESAC	San Caprasio	80.96	332	P	P	00 10 52.4	-0.1
	comp=Z,224nm,2.0s,mb5.8						
EPON	Pontenova	81.19	338	P	P	00 10 53.6	-0.2
	comp=Z,478nm,3.6s						
JCT	Junction City	81.64	50	eP	P	00 10 56.6	+0.2
JCT				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
JCT	Junction City	81.64	50	eP	P	00 10 56.6	+0.2
	comp=Z,28nm,1.4s,mb5.0						
ETOS	Mallorca	81.77	329	P	P	00 10 57.0	+0.1
	comp=Z,523nm,3.0s						
EMOS	Mosqueruela	82.21	332	P	P	00 10 59.9	+0.8
	comp=Z,149nm,2.0s,mb5.6						
ECAL	Calabor	82.40	337	P	P	00 10 59.5	-0.5
	comp=Z,201nm,2.5s,mb5.6						
ELOB	Lobios	82.79	338	P	P	00 11 01.7	-0.4
	comp=Z,158nm,2.2s,mb5.7						
FORT	Forrest	83.47	192	eP	P	00 11 07.1	+1.3
	comp=Z,592nm,1.0s						
STKA	Stephens Creek	83.68	180	⇑iP	P	00 11 08.1	+1.3
	comp=Z,5.8nm,1.2s,mb4.6						
STKA	Stephens Creek	83.68	180	P	P	00 11 08.3	+1.5
	comp=Z,5.8nm,1.0s,mb4.7,baz=35,slow=4.4,SNR=8.1						
STKA				LR	LR	00 48 43.4	
	comp=Z,115nm,19.2s,MS4.3,baz=205,slow=36						
ESDC	Sonseca Array	83.83	334	P	P	00 11 08.4	+1.0
	comp=Z,4.2nm,0.8s,mb4.6,baz=16,slow=4.3,SNR=14						
ESDC	Sonseca Array	83.83	334	P	P	00 11 08.0	+0.6
	comp=Z,6.4nm,0.8s,mb4.8						
ESLA	Sonseca Array	83.83	334	PFAKE		00 11 20.0	+13
ESLA				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
MTE	Manteigas	84.06	337	eP	P	00 11 09.8	+1.3
	comp=Z,31nm,2.2s,mb5.0						
ETOB	Tobarra	84.11	332	P	P	00 11 09.2	+0.4
	comp=Z,306nm,3.1s						
EVIA	Vianos	84.39	333	P	P	00 11 11.9	+1.6
EVIA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
EVIA	Vianos	84.39	333	P	P	00 11 11.9	+1.6
	comp=Z,6.7nm,0.7s,mb4.9						
PCBR	Castelo Branco	84.57	337	eP	P	00 11 12.4	+1.3
	comp=Z,26nm,1.5s,mb5.1						
EQES	Quesada	85.33	333	P	P	00 11 16.0	+1.1
	comp=Z,86nm,1.9s,mb5.5						
EADA	Adamuz	85.41	334	P	P	00 11 15.2	-0.1
	comp=Z,58nm,1.9s,mb5.4						
EBAD	Badajoz	85.48	336	P	P	00 11 15.1	-0.6
	comp=Z,138nm,3.0s						
EVO	Evora	85.94	337	eP	P	00 11 17.5	-0.5
	comp=Z,23nm,1.1s,mb5.0						
EVO				eR			
	comp=Z,236nm,17.8s						
PBEJ	Beja	86.39	337	eP	P	00 11 21.2	+1.0
	comp=Z,16nm,1.4s,mb5.0						
PTEO	Sao Teotonio	87.05	337	eP	P	00 11 25.0	+1.6
	comp=Z,28nm,1.9s,mb5.2						
KMBO	Kilima Mbogo	99.84	281	LR	LR	01 01 03.3	
	comp=Z,134nm,18.6s,MS4.5,baz=79,slow=38						
KMBO	Kilima Mbogo	99.84	281	PFAKE		00 12 40.0	+17
KMBO				LR	LR		
	comp=Z,131nm,20.0s,MS4.4						
SDV	Santo Domingo	113.11	35	PFAKE		00 17 30.0	+12
SDV				LR	LR		
	comp=Z,230nm,20.0s,MS4.8						
DBIC	Dimbokro	114.88	323	PFAKE		00 17 30.0	+9.0
DBIC				LR	LR		
	comp=Z,230nm,19.0s,MS4.8						
LSZ	Lusaka	116.43	279	PFAKE		00 17 30.0	+6.0
LSZ				LR	LR		
	comp=Z,147nm,21.0s,MS4.6						
VNDA	Vanda	130.01	174	PKP	PKPdf	00 17 47.3	-1.4
	comp=Z,1.8nm,0.9s,baz=338,slow=8.4,SNR=3.8						
LPAZ	La Paz	137.04	45	PKP	PKPdf	00 18 02.6	-0.6
	comp=Z,1.4nm,0.9s,baz=30,slow=9.0,SNR=5.7						
SYO	Syowa Base	141.45	214	⇑X		00 15 18.2	
BDFB	Brasilia	142.72	16	PKP	PKPdf	00 18 12.6	-0.8
	comp=Z,2.2nm,0.7s,baz=294,slow=2.6,SNR=4.5						
SNAA	Sanae	155.01	206	PKPab	PKPab	00 18 56.1	+1.2
	comp=Z,1.3nm,0.8s,baz=157,slow=2.9,SNR=5.9						
PLCA	Paso Flores	155.12	76	PKPbc	PKPdf	00 18 40.4	+8.2
	comp=Z,4.6nm,0.9s,baz=9.7,slow=1.2,SNR=7.6						
PLCA				PKPab	PKPab	00 18 56.7	+0.4
	comp=Z,2.3nm,0.9s,baz=253,slow=5.8,SNR=3.2						
PLCA	Paso Flores	155.12	76	PKPbc	PKPdf	00 18 40.4	+8.2
PLCA				PKPab	PKPab	00 18 56.7	+0.4
VNA2	Neumayer--Watz	156.64	205	⇑i	PKPab	00 19 02.6	+0.6

CASC 08 23:59:06.2±1.9, 13.59N×90.24W, h56^{km}±24^{km}, MD3.7, 5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IXG	Ixpaco	0.61	340	⇓eP	P	23 59 19.0	-0.2
IXG				eS	S	23 59 30.3	+1.4
SBLS	San Blas	0.65	68	⇓eP	P	23 59 19.6	0.0
SBLS				eS	S	23 59 30.3	+0.7
RTR	El Retiro	0.65	62	⇓eP	P	23 59 19.8	+0.2
RTR				eS	S	23 59 32.6	+2.9
SNJE	San Jose	0.68	66	⇓iP	P	23 59 20.1	+0.1
SNJE				eS	S	23 59 30.3	+0.1
RBDL	Robledal	0.75	46	eP	P	23 59 20.7	-0.2
RBDL				eS	S	23 59 32.0	+0.2
LFRS	El Faro	1.15	88	eP	P	23 59 26.1	-0.2
LFRS				eS	S	23 59 40.9	-0.4
LCBS	La Ceiba	1.23	87	eP	P	23 59 27.1	-0.4
LCBS				eS	S	23 59 44.5	+1.2
SNVI	San Vicente	1.36	89	eP	P	23 59 30.7	+1.2
SNVI				eS	S	23 59 47.3	+0.6
TP2	Tecpan 2	1.41	328	⇓eP	P	23 59 29.9	-0.1
TP2				eS	S	23 59 49.5	+1.8
JAT	Jato	1.54	298	eP	P	23 59 31.2	-0.6

*IDC **09** 00:02:34.1±1.9, 37.72N×22.09E, mb3.6/3, mb1 3.7/6, mb1mx3.5/22, mbtmp3.6/6, ML2.9/2, Error ellipse: s-maj=40.4km s-min=27.9km az=52.0*
*CSEM **09** 00:02:38.8±0.1, 37.39N×21.90E, h60^{km}, ML3.3, Error ellipse: s-maj=4.4km s-min=2.0km az=57.0*
*ATH **09** 00:02:39.9, 37.48N×21.96E, h41^{km}±1^{km}, MD3.5/18, ML3.3*
*NEIC **09** 00:02:39.9, 37.48N×21.95E, h41^{km}, MD3.5(ATH), After ATH.*
ISC 09 00:02:40.1±0.5, 37.50N±0.04×21.89E±0.05, h33^{km}, n48, σ1^{s}12/56, mb3.5/3, 3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	Ithomi	0.32	175	eP	P	00 02 48.3	+0.3
ITM				eS	S	00 02 55.4	+1.7
RLS	Riolos of Patr	0.66	329	⇓iP	P	00 02 54.2	+1.4
VLI	Veliai	1.14	133	⇓iP	P	00 03 00.5	+0.7
VLI				eS	S	00 03 16.4	+1.9
VLI	Veliai	1.14	133	⇓iP	P	00 03 00.5	+0.7
VLI				eS	S	00 03 15.4	+0.9
VLS	Valsamata	1.23	304	eP	P	00 03 02.5	+1.4
VLS				eS	S	00 03 20.6	+3.7
NAIG	Nisos Aigina	1.30	78	eP	P	00 03 02.5	+0.6
NSAL	Nisos Salamina	1.31	71	eP	P	00 03 02.6	+0.3
EVR	Evrytania	1.42	357	eP	P	00 03 06.1	+2.3
EVR	Evrytania	1.42	357	eP	P	00 03 06.5	+2.7
LKR	Lokris	1.45	37	eP	P	00 03 05.1	+0.9
KYTH	Kithira	1.52	142	eP	P	00 03 05.5	+0.3
ATH	Athens Observa	1.52	71	eP	P	00 03 05.5	+0.2
MPAR	Parnis Oros	1.60	65	eP	P	00 03 06.0	-0.4
PTL	Penteli	1.66	70	eP	P	00 03 06.5	-0.7
NEO	Neokhori	2.09	30	eP	P	00 03 14.4	+1.0
AOS	Alonnisos	2.29	42	eP	P	00 03 16.1	-0.1
JAN	Janina	2.31	340	eP	P	00 03 17.3	+0.8
IGT	Igoumenitsa	2.37	329	eP	P	00 03 16.6	-0.8
LIT	Litokhoron	2.64	10	eP	P	00 03 22.0	+0.7
KEK	Kerkira	2.75	324	eP	P	00 03 23.8	+0.9
KEK	Kerkira	2.75	324	eP	P	00 03 22.8	-0.1
VAM	Vamos	2.79	138	eP	P	00 03 23.0	-0.5
VAM	Vamos	2.79	138	eP	P	00 03 21.6	-1.9
PAIG	Paliouri	2.80	29	eP	P	00 03 23.4	-0.2
SRN	Sarande	2.80	329	i Pn	Pn	00 03 22.4	-1.4
SRN				i Sn	Sn	00 03 54.4	-2.4
LSK	Leskovik	2.84	340	i Pn	Pn	00 03 24.7	+0.5
APE	Apeiranthos	2.93	97	eP	P	00 03 24.8	-0.7
APE	Apeiranthos	2.93	97	eP	P	00 03 23.8	-1.7
THR1	Thera Island	3.07	110	eP	P	00 03 22.9	-4.5
THE	Thessaloniki	3.24	15	eP	P	00 03 30.2	+0.4
THE	Thessaloniki	3.24	15	eP	P	00 03 30.2	+0.4
OUR	Ouranopolis	3.27	29	eP	P	00 03 30.1	-0.1
OUR	Ouranopolis	3.27	29	eP	P	00 03 30.1	-0.1
IDI	Anoyia	3.27	131	Pn	Pn	00 03 27.1	-3.3
	0.9nm,0.3s,baz=303,slow=14,SNR=18						
IDI				Sn	Sn	00 04 01.4	-7.3
	16nm,0.3s,baz=294,slow=23,SNR=14						
FNA	Florina	3.31	353	eP	P	00 03 30.4	-0.3
SOH	Sokhos	3.51	18	eP	P	00 03 33.9	+0.2
NPS	Neapolis	3.74	125	eP	P	00 03 35.9	-1.0
NPS	Neapolis	3.74	125	eP	P	00 03 34.9	-2.0
KNT	Kendrikon	3.74	12	eP	P	00 03 37.2	+0.2
SRS	Serrai	3.85	20	eP	P	00 03 38.4	-0.1
SKO	Skopje	4.49	356	ePn	Pn	00 03 54.0	+6.4
ALN	Alexandroupoli	4.69	42	eP	P	00 03 48.8	-1.6
VAE	Valguarnera	5.95	272	Pn	Pn	00 04 06.7	-1.6
	0.3nm,0.3s,baz=300,slow=9.6,SNR=3.2						
VAE				Sn	Sn	00 05 08.2	-7.8
	1.8nm,0.3s,baz=264,slow=11,SNR=4.3						
STON	Ston	6.25	330	i Pn	Pn	00 04 07.2	-5.4
STON				i Sn	Sn	00 05 15.1	-8.6
DAVOX	Davos	12.85	320	Pn	P	00 05 36.4	-6.7
	baz=147,slow=17						
FINES	FINESS Array B	24.12	5	P	P	00 07 49.0	-4.4
	0.3nm,0.4s,mb3.0,baz=194,slow=12,SNR=3.9						
NOA	NORSAR Array B	24.51	347	P	P	00 07 53.3	-4.0
	0.9nm,0.9s,mb3.3,baz=164,slow=14,SNR=2.4						
ARCES	ARCESS Array B	32.16	2	P	P	00 09 01.2	-5.3
	2.4nm,0.9s,mb4.0,baz=190,slow=10,SNR=4.3						

*NIED **09** 00:11:00, 24.80N×124.70E, h8^{km}, Mw3.8 Best double couple: $M_0$5.46×10^{14} NP1:ϕ_s183°, δ61°, λ-41°. NP2: ϕ_s296°, δ55°, λ-144°.*
*JMA **09** 00:11:00.5±0.1, 24.76N×124.74E, h10^{km}±2^{km}, M3.7*
JMA Felt I J1.
*IDC **09** 00:11:08.5±1.2, 24.32N×130.67E, mb3.7/3, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=52.5km s-min=22.8km az=74.0*
ISC 09 00:10:59.3±0.5, 24.85N±0.04×124.73E±0.03, h10^{km}, n16, σ0^{s}84/27, mb3.7/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTJ	Tarama	0.21	186	P	Pg	00 11 03.4	-0.5
JTJ				S	Sg	00 11 06.0	-1.0
JMJ	Miyako jima 2	0.52	94	P	Pg	00 11 10.3	+0.5
JMJ				eS	Sg	00 11 17.5	+0.7
JOGS	Gusukube	0.63	98	P	Pb	00 11 12.0	+0.1
JOGS				eS	Sg	00 11 21.7	+1.3
JIJ	Ishigaki jima	0.72	227	P	Pb	00 11 13.1	-0.4
JIJ				S	Sb	00 11 22.6	-0.6
JKRS	Kuro-shima	0.90	227	P	Pb	00 11 16.5	0.0
JKRS				S	Sb	00 11 28.7	+0.5
IRIF	Iriomote-Funau	1.04	240	P	Pb	00 11 19.5	+0.5
IRIF				S	Sb	00 11 33.9	+1.4
HATJ	Hateruma jima	1.15	227	P	Pb	00 11 21.1	+0.2
HATJ				eS	Sb	00 11 36.7	+0.9
YOJ	Yonaguni jima	1.61	256	P	Pn	00 11 28.2	+0.2
YOJ				eS	Sn	00 11 48.5	-0.4
JAGN	Aguni-jima	2.85	52	P	Pn	00 11 46.4	+0.6
JAGN				S	Sn	00 12 20.4	-0.2
JIH	Iheya	3.64	53	P	Pn	00 11 57.8	+0.9
JIH				S	Sn	00 12 39.7	-0.7
JOW	Kunigami	3.76	58	Pn	Pn	00 12 02.0	+3.4
	6.5nm,0.3s,baz=130,slow=19,SNR=12						
JOW				Sn	Sn	00 12 42.0	-1.4
	6.4nm,0.3s,baz=127,slow=19,SNR=2.5						
JOW	Kunigami	3.76	58	P	Pn	00 12 01.9	+3.3
JTK	Tokunoshima	4.79	51	P	Pn	00 12 12.8	-0.4
WRA	Warramunga Arr	45.50	167	P	P	00 19 19.2	-1.7
	2.1nm,1.2s,mb3.9,baz=351,slow=8.2,SNR=5.1						
ASAR	Alice Springs	49.05	169	P	P	00 19 47.6	-1.1
	0.5nm,0.6s,mb3.7,baz=357,slow=7.8,SNR=5.9						
YKA	Yellowknife Ar	81.08	24	P	P	00 23 15.6	-0.1
	0.4nm,0.8s,mb3.4,baz=303,slow=5.4,SNR=8.9						

IGQ 09 00:47:15.4, 1.54S×81.58W, h7^{km}±8^{km}, mb4.4, 6C-4D, Error ellipse: s-maj=10.2km s-min=6.9km az=16.8, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	Cerro de Hojas	1.14	65	⇑P	Pb	00 47 36.7	-0.4
IGUA	Igualata	2.94	89	⇑P	Pn	00 48 04.2	+0.7
CUSU	Cusua	3.10	88	P	Pn	00 48 08.4	+2.7
JUIV	Juive	3.12	88	P	Pn	00 48 07.8	+1.8
ARRY	Arrayan	3.13	89	⇑P	Pn	00 48 06.7	+0.6
RETU	Refugio	3.14	88	⇓P	Pn	00 48 07.8	+1.5
RETU				S	Sn	00 48 44.9	+0.5
ULBA	Ulba	3.18	88	P	Pn	00 48 07.9	+1.1
NAS1	Nasa	3.23	74	P	Pn	00 48 09.9	+2.3
PISA	Pisayambo	3.23	82	⇓P	Pn	00 48 09.3	+1.7
JUA2	San Juan 2	3.25	66	P	Pn	00 48 08.9	+1.0
JUA2				S	Sn	00 48 46.1	-1.2
TERV	Terraza Guagua	3.27	66	P	Pn	00 48 09.1	+1.0
TERV				S	Sn	00 48 48.8	+1.0
PINO	Pino	3.27	65	⇓P	Pn	00 48 09.1	+0.9
VC1	Cotopaxi 1	3.30	74	P	Pn	00 48 11.3	+2.7
TAMB	Tambo	3.32	75	⇑P	Pn	00 48 11.1	+2.2
TAMB				S	Sn	00 48 51.5	+2.5
YANA	Yana	3.33	65	P	Pn	00 48 10.0	+1.1
ANTI	Antisana	3.59	73	P	Pn	00 48 15.2	+2.5
COTA	Cotacachi	3.74	60	⇓P	Pn	00 48 17.4	+2.6
CAYR	Refugio Cayamb	3.89	67	P	Pn	00 48 20.7	+3.7
ELAGU	Cayambe Volc	3.89	67	P	Pn	00 48 20.9	+3.9
LORE	San Lorenzo	3.92	44	P	Pn	00 48 23.8	+6.3
CAYA	Cayambe	3.93	66	⇑P	Pn	00 48 21.0	+3.5
CONE	Cono NE Rev Vo	4.20	70	P	Pn	00 48 27.2	+5.8
ECEN	Cerro Negro	4.31	57	⇑P	Pn	00 48 25.7	+2.9

*IDC **09** 00:53:48.2±1.5, 6.42S×75.77W, mb3.9/5, mb1 4.0/8, mb1mx3.8/21, mbtmp4.0/8, ML3.6/1, MS3.4/1, Ms1 3.3/1, ms1mx2.3/28, Error ellipse: s-maj=38.3km s-min=31.0km az=77.0*
*NEIC **09** 00:53:54.6±1.2, 6.23S×75.82W, h36^{km}±12^{km}, mb4.7/2, Error ellipse: s-maj=22.1km s-min=9.7km az=91.0*
NEIC Felt [III] at Yurimaguas.
ISC 09 00:53:52.4±0.7, 6.23S±0.07×75.8W±0.2, h33^{km}, n16, σ0^{s}72/13, mb4.0/6, MS3.3/1, Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	Nana	5.81	190	eP	P	00 55 17.7	-0.7
	42nm,0.6s						
ROSC	El Rosal	11.12	8	Pn	P	00 56 32.1	0.0
	0.5nm,0.3s,baz=88,slow=22,SNR=3.0						
ROSC				Lg		00 59 46.2	
	1.1nm,0.3s,baz=268,slow=24,SNR=3.1						
LPAZ	La Paz	12.51	144	Pn	P	00 56 51.8	+0.8
	0.1nm,0.3s,baz=312,slow=9.6,SNR=4.4						
LPAZ				Lg		01 00 21.7	
	1.0nm,0.3s,baz=202,slow=22,SNR=3.1						
LPAZ	La Paz	12.51	144	Pn	P	00 56 51.8	+0.8
LPAZ				Lg		01 00 21.7	
SDV	Santo Domingo	15.88	19	Pn	P	00 57 34.4	-0.8
	2.7nm,0.3s,baz=204,slow=12,SNR=15						
SDV				Lg		01 02 29.1	
	0.6nm,0.3s,baz=268,slow=23,SNR=2.7						
SJG	San Juan	26.00	21	P	P	00 59 25.5	+1.2
	14nm,0.3s,mb4.9,baz=189,slow=9.3,SNR=8.7						
SJG	San Juan	26.00	21	eP	P	00 59 25.1	+0.8
	16nm,0.5s,mb4.8						
PLCA	Paso Flores	34.67	173	LR	LR	01 13 47.9	
	comp=Z,59nm,20.9s,MS3.3,baz=107,slow=35						
TXAR	Lajitas Array	44.36	324	P	P	01 02 02.6	+1.0
	0.1nm,0.4s,mb2.9,baz=155,slow=10,SNR=4.2						
SCHQ	Schefferville	61.30	6	P	P	01 04 06.4	-0.5
	2.9nm,0.9s,mb4.4,baz=199,slow=9.1,SNR=3.6						
DBIC	Dimbokro	71.95	81	P	P	01 05 14.2	-0.8
	4.4nm,0.5s,mb4.6,baz=234,slow=8.7,SNR=6.8						
DBIC	Dimbokro	71.95	81	eP	P	01 05 14.6	-0.4
	3.7nm,0.5s,mb4.6						
YKA	Yellowknife Ar	74.68	342	P	P	01 05 29.4	-0.7
	0.1nm,0.5s,mb3.0,baz=139,slow=5.7,SNR=4.1						
INK	Inuvik	84.42	342	P	P	01 06 23.1	+0.6
	1.8nm,1.1s,mb4.1,baz=126,slow=11,SNR=2.4						
ASAR	Alice Springs	138.47	223	PKP	PKPdf	01 13 16.2	+0.6
	0.2nm,0.5s,baz=102,slow=2.8,SNR=4.0						
WRA	Warramunga Arr	140.55	228	PKP	PKPdf	01 13 22.4	+2.9
	0.4nm,0.6s,baz=122,slow=1.7,SNR=3.1						

*IDC **09** 00:58:36.4±0.8, 21.84S×68.34W, h118^{km}±12^{km}, mb3.5/8, mb1 3.7/9, mb1mx3.6/14, mbtmp3.9/9, Error ellipse: s-maj=27.0km s-min=24.5km az=154.0*
*GUC **09** 00:58:38.7±1.0, 21.99S×68.76W, h124^{km}±8^{km}, ML3.9*
*NEIC **09** 00:58:38.7, 21.99S×68.76W, h124^{km}, After GUC.*
ISC 09 00:58:36.8±0.7, 21.83S±0.06×68.7W±0.1, h132^{km}±6^{km}, n20, σ1^{s}15/23, mb3.5/7, 1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.81	196	⇓iP	P	00 58 58.5	+0.1
LVC				i S	S	00 59 14.4	-0.6
LVC				AMP		00 59 16.1	
	comp=E,3μm,0.4s						
LVC	Limon Verde	0.81	196	P	P	00 58 58.9	+0.5
	comp=E,105nm,0.3s,baz=15,slow=7.3,SNR=355						
LVC				S	S	00 59 14.7	-0.2
	comp=E,175nm,0.3s,baz=250,slow=20,SNR=178						
LVC	Limon Verde	0.81	196	eP	P	00 58 58.4	0.0
SPCH	San Pedro de A	1.16	158	i P	P	00 59 02.5	+0.7
SPCH				AMP		00 59 34.6	
	comp=N,1μm,0.8s						
ANCH	Antofagasta	2.44	221	i P	P	00 59 18.6	+1.5
ANCH				i S	S	00 59 46.6	-1.0
CPN1	Cerro Paranal	3.21	209	i P	P	00 59 27.7	+0.6
CPN1				i S	S	01 00 04.5	-0.9
CPN1				AMP		01 00 18.2	
	comp=E,641nm,0.6s						
LPAZ	La Paz	5.54	5	P	P	00 59 58.2	+0.1
	comp=E,2.1nm,0.3s,baz=187,slow=4.2,SNR=26						
LPAZ	La Paz	5.54	5	P	P	00 59 58.2	+0.1
ARE	Arequipa	5.96	333	eP	P	01 00 05.0	+1.1
ARE				eS	S	01 01 09.0	-2.5
BDFB	Brasilia	20.50	76	P	P	01 03 01.6	-4.6
	comp=E,1.1nm,0.4s,baz=254,slow=10,SNR=3.8						
TXAR	Lajitas Array	61.02	325	P	P	01 08 38.4	-0.4
	comp=E,0.1nm,0.4s,mb3.0,baz=139,slow=8.3,SNR=3.1						
DBIC	Dimbokro	68.62	73	P	P	01 09 25.8	-2.3
	comp=E,1.6nm,0.4s,mb4.1,baz=198,slow=11,SNR=3.9						
PDAR	Pinedale Array	74.50	330	P	P	01 10 03.8	+1.3
	comp=E,0.3nm,0.6s,mb3.1,baz=135,slow=4.2,SNR=3.5						
ULM	Lac du Bonnet	75.69	342	P	P	01 10 08.5	-0.6
	comp=E,0.7nm,0.4s,mb3.6,baz=159,slow=11,SNR=2.5						

NVAR	Mina Array Bea	75.89	322	P	P	01 10 12.4	+1.9
	comp=E,0.6nm,0.7s,mb3.3,baz=150,slow=7.3,SNR=2.3						
SCHQ	Schefferville	76.36	1	P	P	01 10 11.6	-1.2
	comp=E,1.7nm,0.9s,mb3.7,baz=93,slow=19,SNR=2.7						
SCHQ	Schefferville	76.36	1	P	P	01 10 11.6	-1.2
YKA	Yellowknife Ar	91.57	341	P	P	01 11 29.9	+0.6
	comp=E,0.8nm,0.5s,mb4.0,baz=133,slow=4.4,SNR=24						
WRA	Warramunga Arr	132.78	210	PKP	PKPdf	01 17 39.3	+2.4
	comp=E,0.8nm,0.8s,baz=150,slow=1.8,SNR=4.8						
WRA	Warramunga Arr	132.78	210	PKP	PKPdf	01 17 39.3	+2.4

IDC 09 01:01:58.1±7.6**, 2.70N**×**126.72E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/14**, mbtmp3.8**/3**, Error ellipse: s-maj=176.0km s-min=119.8km az=75.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.71	162	P	P	01 07 12.0	-0.7
	1.1nm,0.6s,baz=341,slow=10,SNR=9.8						
ASAR	Alice Springs	27.12	165	P	P	01 07 43.1	-1.9
	0.6nm,0.9s,baz=351,slow=7.2,SNR=7.1						
STKA	Stephens Creek	37.18	159	P	P	01 09 10.9	-1.9
	3.4nm,0.8s,baz=334,slow=8.2,SNR=7.1						

IDC 09 01:02:00.7±2.9**, 9.61N**×**91.93E, mb3.7**/3**, mb1 3.8**/4**, mb1mx3.6**/16**, mbtmp3.6**/4**, ML4.0**/1**, MS2.9**/1**, Ms1 3.1**/1**, ms1mx2.5**/24**, Error ellipse: s-maj=87.8km s-min=29.1km az=81.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.12	37	Pn	P	01 04 42.6	-1.6
	0.3nm,0.3s,baz=227,slow=14,SNR=7.0						
CMAR				LR	LR	01 09 25.0	
	comp=Z,60nm,20.4s,baz=220,slow=40						
VIS	Vishakhapatnam	11.61	315	eP	P	01 04 47.1	-3.8
VIS				eS	S	01 06 40.1	-22
SONM	Songino Array	40.02	15	P	P	01 09 36.8	-2.3
	2.1nm,1.1s,baz=196,slow=9.0,SNR=6.9						
WRA	Warramunga Arr	51.04	125	P	P	01 11 04.3	-2.8
	1.0nm,0.8s,baz=304,slow=8.6,SNR=4.6						
ASAR	Alice Springs	52.70	130	P	P	01 11 17.9	-1.7
	0.6nm,0.7s,baz=308,slow=7.9,SNR=4.2						
ASAR				PcP	PcP	01 12 27.7	-1.7
	0.3nm,0.7s,baz=284,slow=3.7,SNR=2.4						

*CSEM **09** 01:07:20.1±0.5, 37.95N×26.23W, h0^{km}, ML2.4, Error ellipse: s-maj=12.2km s-min=7.8km az=4.0, After PDA*
*PDA **09** 01:07:20.1±0.7, 37.95N×26.23W, h0^{km}±3^{km}, MD2.6, ML2.4, Error ellipse: s-maj=5.7km s-min=1.1km az=36.0*
SVSA 09 01:07:20.1±0.7**, 37.95N**×**26.23W, h0**^{km}±3^{km}**, MD2.6, ML2.4, Error ellipse: s-maj=5.7km s-min=1.1km az=36.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SET4	Mosteiros	0.35	101	iP	Pg	01 07 26.6	-0.5
SET4				iS	Sg	01 07 31.6	-0.2
SET2	Ginetes	0.35	107	iP	Pg	01 07 26.7	-0.4
SET2				iS	Sg	01 07 31.7	-0.2
PFET	Feteiras	0.38	110	iP	Pg	01 07 27.0	-0.6
PFET				iS	Sg	01 07 32.3	-0.3
PSAN	Santo Antonio	0.41	103	iS	Sg	01 07 33.6	-0.2
FAC	Faja de Cima	0.49	110	eP	Pg	01 07 29.1	-0.8
FAC				iS	Sg	01 07 35.9	-0.6
CML	Cha da Macela	0.57	107	iS	Sg	01 07 38.0	-1.1
PVER	Pico Vermelho	0.59	104	iS	Sg	01 07 38.2	-1.5
	83nm,0.2s						
PMAT	Coroa da Mata	0.62	102	eS	Sg	01 07 39.0	-1.7
	168nm,0.2s						
LFA	Lagoa do Fogo	0.62	106	eP	Pg	01 07 31.2	-1.3
LFA				iS	Sg	01 07 39.2	-1.5
PRCH	Ribeira Ch	0.64	110	eP	Pg	01 07 31.4	-1.4
PRCH				iS	Sg	01 07 39.7	-1.5
	312nm,0.3s						
MESC	Monte Escuro	0.64	103	iS	Sg	01 07 39.9	-1.6
VIF	Vila Franca	0.66	107	eS	Sg	01 07 40.0	-2.1
	59nm,0.2s						
PCNG	Congro	0.69	105	eS	Sg	01 07 41.0	-2.0
	87nm,0.2s						
FRA1	Furnas	0.72	106	eS	Sg	01 07 42.5	-1.7
PFAD	Fenais da Ajud	0.73	98	eS	Sg	01 07 42.3	-2.1
MIRA	Miradouro	0.77	102	iS	Sg	01 07 43.2	-2.6
PFAV	Pico das Favas	1.02	319	eS	Sg	01 07 49.2	-4.7
	28nm,0.4s						
RIB2	Ribeirinha	1.03	315	eS	Sb	01 07 49.2	-5.3
	28nm,0.2s						
PVNV	Vila Nova	1.09	319	eS	Sb	01 07 50.8	-5.3
	30nm,0.3s						
PPAD	Pico dos Padre	1.12	313	eS	Sb	01 07 51.7	-5.3
	11nm,0.2s						
PSMN	Pico do Norte,	1.32	135	iS	Sb	01 07 56.5	-6.4

*NIED **09** 01:25:00, 37.20N×140.80E, h80^{km}, Mw3.5 Best double couple: $M_0$2.17×10^{14} NP1:ϕ_s167°, δ85°, λ-119°. NP2: ϕ_s68°, δ29°, λ-11°.*
*JMA **09** 01:25:39.6±0.1, 37.16N×140.76E, h94^{km}±1^{km}, M3.6*
JMA Felt I J1.
ISC 09 01:25:39.1±1.1**, 37.17N**±0.05×**140.82E**±0.07**, h96**^{km}±7^{km}**, n14, σ0^{s}60**/28**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	Iwakimizuishiy	0.07	193	P	P	01 25 52.9	+0.4
ONAJ				S	S	01 26 02.8	+0.2
JFK	Kawauchi	0.20	13	P	P	01 25 53.2	+0.4
JFK				S	S	01 26 03.0	-0.1
JFT	Otama	0.52	313	P	P	01 25 54.8	+0.1
JFT				S	S	01 26 06.4	0.0
JMM	Marumori	0.70	358	P	P	01 25 56.4	+0.1
JMM				S	S	01 26 08.7	-0.4
JFY	Yanaizu	0.92	285	P	P	01 25 58.4	-0.1
JFY				eS	S	01 26 12.2	-0.8
JOU	Okura	1.20	354	P	P	01 26 02.2	+0.3
JOU				S	S	01 26 19.4	+0.5
JYS	Shirataka	1.21	331	P	P	01 26 02.1	+0.1
JYS				eS	S	01 26 19.4	+0.3
JKT	Katashina	1.32	253	P	P	01 26 03.6	+0.3
JKT				eS	S	01 26 23.8	+2.5
JAG	Ashikaga	1.32	236	P	P	01 26 03.1	-0.2
JAG				S	S	01 26 20.2	-1.1
JIO	Ouri	1.35	18	P	P	01 26 03.4	-0.3
JIO				S	S	01 26 20.7	-1.3
JNS	Sasagawa	1.36	299	P	P	01 26 03.2	-0.6
JNS				eS	S	01 26 21.8	-0.3
JHK	Hiroka	1.44	274	P	P	01 26 04.8	0.0
JHK				S	S	01 26 23.7	-0.1
JYK	Kaneyama	1.78	348	P	P	01 26 09.4	+0.3
JYK				eS	S	01 26 32.0	+0.7
MAT	Matsushiro	2.18	254	P	P	01 26 14.5	0.0
MAT				S	S	01 26 40.6	-0.2

MAN 09 02:01:44.7, 18.94N×**121.15E, h1**^{km}**, mb3.9, ML2.6, MS2.2, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	1.08	175	eP	Pb	02 02 05.8	-0.1
APYP				eS	Sb	02 02 19.5	-0.8
SGCP	Mt. Cagua	1.10	129	eP	Pb	02 02 05.8	-0.4
ABRA	Dolores	1.35	198	eP	Pb	02 02 09.9	-0.6
CVP	Callao Caves	1.39	152	eP	Pb	02 02 11.0	-0.2
BBP	Basco	1.68	27	eP	Pn	02 02 15.0	-0.4

*IDC **09** 02:02:22.2±17.0, 17.48S×166.41E, h287^{km}±139^{km}, mb3.7/5, mb1 3.8/6, mb1mx3.6/14, mbtmp4.4/6, MS3.8/3, Ms1 3.8/3, ms1mx3.5/14, Error ellipse: s-maj=113.1km s-min=41.1km az=98.0*
ISC 09 02:01:49.0±3.3**, 17.9S**±0.2×**167.9E**±0.4**, h57**^{km}±36^{km}**, n13, σ0^{s}76**/13**, mb4.4**/6**, MS3.7**/3**, 2C, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.38	198	eP	P	02 02 54.4	-0.4
DZM				eS	S	02 03 44.9	-0.2
NOUC	Port Laguerre	4.45	200	eP	P	02 02 56.3	+0.6
NOUC				eS	S	02 03 46.6	-0.2
CTA	Charters Tower	20.60	260	P	P	02 06 26.6	+0.6
	0.1nm,0.3s,baz=51,slow=12,SNR=2.6						
CTA				LR	LR	02 13 16.0	
	comp=Z,269nm,20.0s,MS3.6,baz=49,slow=34						
STKA	Stephens Creek	27.55	235	⇑iP	P	02 07 34.4	+1.7
	4.4nm,0.9s,mb4.1						
STKA	Stephens Creek	27.55	235	P	P	02 07 34.5	+1.8
	4.7nm,0.8s,mb4.2,baz=55,slow=9.2,SNR=8.2						
STKA				LR	LR	02 18 36.7	
	comp=Z,160nm,19.2s,MS3.6,baz=27,slow=37						
WRA	Warramunga Arr	31.80	261	P	P	02 08 09.5	-1.1
	2.2nm,0.8s,mb4.0,baz=88,slow=8.5,SNR=7.6						
ASAR	Alice Springs	32.27	254	P	P	02 08 13.7	-0.9
	3.8nm,0.7s,mb4.3,baz=80,slow=8.8,SNR=4.9						
ASAR				PcP	PcP	02 11 01.9	0.0
	1.0nm,0.9s,baz=78,slow=3.1,SNR=5.5						
ASAR				LR	LR	02 20 55.8	
	comp=Z,200nm,18.1s,MS3.9,baz=65,slow=36						
ASPA	Alice Springs	32.27	254	eP	P	02 08 13.8	-0.8
FITZ	Fitzroy Crossi	40.15	263	⇑iP	P	02 09 22.0	+0.8
	30nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	47.73	242	P	P	02 10 22.5	+0.2
	11nm,0.8s,mb4.9,baz=95,slow=7.6						
SONM	Songino Array	85.40	324	P	P	02 14 21.1	-0.3
	1.4nm,0.8s,mb4.1,baz=139,slow=4.0,SNR=8.6						
ARCES	ARCESS Array B	123.45	345	PKP	PKPdf	02 20 43.9	+4.3
	3.2nm,0.9s,baz=63,slow=4.0,SNR=3.5						
LPG	La Plagne	148.32	334	eP	PKPdf	02 21 30.5	+5.1
	14nm,1.0s						

*NEIC **09** 02:08:16.7±0.8, 4.07N×94.45E, h30^{km}, mb4.4/4, Error ellipse: s-maj=32.1km s-min=13.1km az=57.0*
*IDC **09** 02:08:31.3±11.0, 4.65N×95.20E, h145^{km}±94^{km}, mb3.5/6, mb1 3.7/7, mb1mx3.5/16, mbtmp3.9/7, MS2.6/1, Ms1 2.8/1, ms1mx2.6/13, Error ellipse: s-maj=81.9km s-min=18.4km az=57.0*
ISC 09 02:08:16.8±1.1**, 4.8N**±0.3×**95.2E**±0.3**, h30**^{km}**, n17, σ0^{s}98**/17**, mb4.2**/13**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.08	15	P	P	02 11 47.2	+11
	baz=207,slow=11,SNR=11						
CMAR				LR	LR	02 17 12.5	
	comp=Z,24nm,18.5s,baz=24,slow=37						
JIRN	Jiri	24.33	340	eP	P	02 13 31.3	-2.0
	4.7nm,0.3s,mb4.5						
PKI	Pulchoki	24.52	339	eP	P	02 13 33.7	-1.4
DMN	Daman	24.67	338	eP	P	02 13 35.4	-1.1
	4.4nm,0.2s,mb4.6						
GKN	Gorkha	25.20	338	eP	P	02 13 41.9	+0.3
	5.0nm,0.3s,mb4.5						
KOLN	Koldanda	25.40	335	eP	P	02 13 44.3	+0.8
	12nm,0.7s,mb4.5						
AAK	Ala-Archa	41.96	337	eP	P	02 16 08.0	+1.2
	1.5nm,0.6s,mb3.8						
SONM	Songino Array	43.97	11	P	P	02 16 24.4	+1.4
	0.3nm,0.4s,mb3.3,baz=194,slow=8.9,SNR=4.1						
SONM				PcP	PcP	02 18 08.9	-0.1
	0.4nm,0.4s,baz=198,slow=4.6,SNR=4.1						
WRA	Warramunga Arr	45.63	124	P	P	02 16 37.0	+0.3
	0.8nm,0.5s,mb3.9,baz=302,slow=9.2,SNR=7.6						
WRAB	Tennant Creek	45.63	124	eP	P	02 16 35.7	-1.0
ASAR	Alice Springs	47.14	129	P	P	02 16 48.6	0.0
	0.4nm,0.4s,mb3.7,baz=299,slow=8.0,SNR=6.8						
KURK	Kurchatov	47.86	346	eP	P	02 16 54.6	+0.7
	3.1nm,0.7s,mb4.5						
CHKZ	Chkalovo	52.73	342	eP	P	02 17 30.9	-0.1
	5.9nm,0.6s,mb4.7						
FINES	FINESS Array B	75.94	332	P	P	02 20 01.8	-0.5
	4.4nm,1.1s,mb4.3,baz=108,slow=6.0,SNR=7.2						
FINES	FINESS Array B	75.94	332	P	P	02 20 01.8	-0.5
ARCES	ARCESS Array B	78.53	340	P	P	02 20 16.9	+0.4
	3.4nm,0.8s,mb4.3,baz=100,slow=6.9,SNR=7.8						
GERES	GERESS Array B	80.84	319	P	P	02 20 30.5	+1.1
	0.2nm,0.4s,mb3.4,baz=100,slow=6.0,SNR=3.4						

*NIED **09** 02:49:00, 33.90N×142.60E, h5^{km}, Mw3.8 Best double couple: $M_0$5.43×10^{14} NP1:ϕ_s208°, δ64°, λ-86°. NP2:ϕ_s20°, δ26°, λ-97°.*
*IDC **09** 02:49:07.0±0.7, 33.83N×142.72E, mb3.7/10, mb1 4.0/12, mb1mx3.9/20, mbtmp3.8/12, ML3.8/2, Error ellipse: s-maj=24.0km s-min=17.5km az=118.0*
*MOS **09** 02:49:09.7±0.8, 33.86N×142.75E, h33^{km}, mb4.1/2, Error ellipse: s-maj=27.4km s-min=15.6km az=124.3*
*JMA **09** 02:49:09.7±0.3, 33.85N×142.58E, h70^{km}, M3.9*
*NEIC **09** 02:49:13.2±2.1, 33.88N×142.59E, h40^{km}±17^{km}, mb3.9/2, Error ellipse: s-maj=17.6km s-min=14.1km az=107.0*
ISC 09 02:49:08.8±1.7**, 33.90N**±0.05×**142.57E**±0.05**, h22**^{km}±13^{km}**, n34, σ1^{s}19**/47**, mb3.7**/12**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.52	300	P	Pn	02 49 35.6	+0.6
BSO1				eS	Sn	02 49 55.3	+1.1
BSO2	Boso 2	1.73	300	eS	Sn	02 50 00.7	+1.2
BSO3	Boso 3	1.93	299	P	Pn	02 49 41.9	+1.1
BSO3				eS	Sn	02 50 05.2	+0.6
BSO4	Boso 4	2.14	301	P	Pn	02 49 45.3	+1.4
BSO4				eS	Sn	02 50 11.7	+1.7
JHJ2	Mitsune	2.43	252	P	Pn	02 49 48.5	+0.5
JHJ	Hachijo jima 2	2.45	252	Pn	Pn	02 49 48.6	+0.3
	42nm,0.3s,baz=92,slow=22,SNR=5.6						
JHJ				Sn	Sn	02 50 16.2	-1.7
	106nm,0.3s,baz=64,slow=24,SNR=11						
JIM2	Oshima 3	2.72	288	P	Pn	02 49 51.9	-0.3
JIM2				eS	Sn	02 50 22.8	-2.0
JOD2	Odawara 2	3.18	296	P	Pn	02 49 58.4	-0.3
JOD2				eS	Sn	02 50 35.1	-1.2
JAG	Ashikaga	3.59	316	P	Pn	02 50 04.3	-0.2
JAG				eS	Sn	02 50 45.3	-1.4
JRY	Ryogami san	3.68	306	P	Pn	02 50 05.9	+0.1
JRY				eS	Sn	02 50 49.1	+0.1
JYN	Shimob	3.68	297	P	Pn	02 50 06.1	+0.3
JYN				eS	Sn	02 50 48.7	-0.3
JMM	Marumori	4.21	341	P	Pn	02 50 11.6	-1.8
JMM				eS	Sn	02 50 57.6	-5.0
MAJO	Matsushiro	4.44	308	P	Pn	02 50 19.0	+2.4
MAT	Matsushiro	4.44	308	eP	Pn	02 50 18.0	+1.4
MAT				eS	Sn	02 51 07.0	-1.3
MAT	Matsushiro	4.44	308	P	Pn	02 50 17.7	+1.1
MAT				S	Sn	02 51 06.5	-1.8
JNS	Sasagawa	4.72	327	P	Pn	02 50 20.7	+0.1
JMK	Ichinoseki	5.16	348	P	Pn	02 50 24.7	-2.1
JMK				S	Sn	02 51 19.3	-7.2
JYK	Kaneyama	5.32	341	P	Pn	02 50 27.5	-1.5
CBIJ	Chichi jima	6.79	183	Pn	Pn	02 50 46.2	-3.5
	5.2nm,0.3s,baz=257,slow=19,SNR=12						
CBIJ				Sn	Sn	02 51 58.6	-8.5
	13nm,0.3s,baz=276,slow=22,SNR=6.0						
SONM	Songino Array	30.39	308	P	P	02 55 22.1	+0.7
	1.3nm,0.9s,mb3.7,baz=108,slow=7.8,SNR=6.4						
CMAR	Chiang Mai Arr	41.74	260	P	P	02 56 59.6	+1.6
	0.7nm,0.4s,mb3.6,baz=63,slow=10,SNR=2.6						
KURK	Kurchatov	48.64	310	eP	P	02 57 53.1	+0.3
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	Kurchatov	48.64	310	eP	P	02 57 53.1	+0.3
	comp=Z,1.6nm,0.7s,mb4.2						
ILAR	Eielson Array	51.67	31	P	P	02 58 15.1	-0.6
	comp=Z,0.3nm,0.6s,mb3.4,baz=266,slow=6.2,SNR=5.1						
CHKZ	Chkalovo	53.17	315	P	P	02 58 25.8	-1.3
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
CHKZ	Chkalovo	53.17	315	P	P	02 58 25.8	-1.3
	comp=Z,0.6nm,0.8s,mb3.6						
WRA	Warramunga Arr	54.11	190	P	P	02 58 33.2	-1.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=6.8,slow=7.5,SNR=22						
ASAR	Alice Springs	57.83	189	P	P	02 59 00.6	-0.6
	comp=Z,0.5nm,0.7s,mb3.6,baz=17,slow=9.8,SNR=4.9						
YKA	Yellowknife Ar	66.05	30	P	P	02 59 54.6	-1.0
	comp=Z,0.1nm,0.5s,mb3.1,baz=298,slow=6.4,SNR=5.4						
FINES	FINESS Array B	72.03	333	P	P	03 00 32.9	+0.4
	comp=Z,1.3nm,0.9s,mb3.9,baz=72,slow=6.0,SNR=5.4						
NVAR	Mina Array Bea	76.12	53	P	P	03 00 58.3	+1.7
	comp=Z,0.6nm,0.9s,mb3.5,baz=267,slow=6.9,SNR=3.7						
NOA	NORSAR Array B	77.44	338	P	P	03 01 04.5	+1.0
	comp=Z,0.8nm,0.7s,mb3.8,baz=39,slow=5.8,SNR=3.6						
TXAR	Lajitas Array	91.27	53	P	P	03 02 15.6	+1.7
	comp=Z,0.2nm,0.5s,mb3.7,baz=304,slow=3.5,SNR=4.3						
LPAZ	La Paz	147.31	65	PKPbc	PKPdf	03 08 50.4	-2.7
	comp=Z,0.6nm,0.4s,baz=270,slow=4.0,SNR=5.9						

*IDC **09** 03:27:24.9±1.1, 0.26N×124.79E, mb4.1/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4.2/6, Error ellipse: s-maj=95.6km s-min=18.2km az=77.0*
*NEIC **09** 03:27:29.2±9.7, 0.41N×125.13E, h29^{km}±71^{km}, mb4.2/3, Error ellipse: s-maj=67.8km s-min=13.6km az=81.0*
ISC 09 03:27:26.8±7.8**, 0.4N**±0.1×**125.1E**±0.4**, h24**^{km}±58^{km}**, n13, σ0^{s}95**/13**, mb4.3**/8**, 2C, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	14.91	151	eP	P	03 30 58.1	-0.1
	4.8nm,0.6s						
FITZ	Fitzroy Crossi	18.38	178	eP	P	03 31 42.3	+0.2
	7.5nm,0.8s						
WRAB	Tennant Creek	22.13	156	eP	P	03 32 22.0	-0.7
	8.5nm,0.6s,mb4.3						
WRA	Warramunga Arr	22.14	156	P	P	03 32 21.6	-1.0
	5.1nm,0.5s,mb4.2,baz=336,slow=9.6,SNR=47						
WRA				PcP	PcP	03 36 18.9	-1.4
	0.2nm,0.5s,baz=321,slow=2.4,SNR=5.3						
WB2	Warramunga Arr	22.14	156	⇑iP	P	03 32 24.1	+1.4
ASAR	Alice Springs	25.39	161	P	P	03 32 54.3	0.0
	2.7nm,0.5s,mb4.0,baz=343,slow=7.6,SNR=47						
ASAR				PcP	PcP	03 36 26.1	-1.1
	0.8nm,0.4s,baz=348,slow=2.2,SNR=9.4						
ASPA	Alice Springs	25.39	161	eP	P	03 32 54.4	+0.1
JOW	Kunigami	26.48	6	P	P	03 33 06.0	+1.6
	13nm,0.8s,mb4.5,baz=253,slow=12,SNR=3.7						
STKA	Stephens Creek	35.69	156	⇑iP	P	03 34 25.4	-0.2
	3.4nm,1.1s,mb4.2						
STKA	Stephens Creek	35.69	156	P	P	03 34 25.4	-0.1
	1.6nm,0.4s,mb4.3,baz=337,slow=9.2,SNR=11						
INCN	Inchon	36.95	2	eP	P	03 34 32.9	-3.2
	84nm,0.8s,mb5.6						
SONM	Songino Array	49.98	344	P	P	03 36 20.9	-0.4
	0.4nm,0.7s,mb3.5,baz=157,slow=6.5,SNR=3.3						
VNDA	Vanda	80.34	172	P	P	03 39 37.8	+0.5
	0.8nm,0.6s,mb3.9,baz=344,slow=5.7,SNR=3.4						

*NAO **09** 03:51:20.7±5.1, 78.68N×7.99E, h22^{km}±53^{km}, ML2.2*
*BER **09** 03:51:23.2±4.5, 78.37N×8.61E, MD2.8, ML3.2, ML2.2(NAO)*
ISC 09 03:51:15.3±0.9**, 78.38N**±0.07×**7.2E**±0.3**, h10**^{km}**, n7, σ1^{s}60**/11**, 1C, Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.09	57	eP	Pb	03 51 37.7	+1.8
KBS				eSg	Sg	03 51 50.0	-1.8
KBS				AML	AML	03 51 54.1	
	comp=Z,1μm,0.6s						
SPA0	Spitsbergen Ar	1.89	92	Pn	Pn	03 51 50.5	+2.4
	baz=263,slow=14						
SPA0				Lg		03 52 12.9	
	baz=291,slow=28						
HSP	Hornsund	2.26	123	eP	Pn	03 51 55.0	+1.6
HSP				eS	Sn	03 52 19.9	-1.6
HOPEN	Hopen	4.31	107	eP	Pn	03 52 23.0	+0.5
HOPEN				eS	Sn	03 53 09.9	-3.5
HOPEN				AML	AML	03 53 12.0	
	comp=Z,119nm,0.5s						
DAG	Danmarks Havn	5.77	267	⇑iP	Pn	03 52 42.0	-1.1
	comp=Z,3.0nm,0.8s						
ARA0	ARCESS Array S	10.15	141	Pn	P	03 53 44.8	+0.9
	baz=340,slow=12						
ARA0				Sn	S	03 55 30.7	-8.1
	baz=349,slow=22						
SCO	Scoresbysund	10.95	239	iP	P	03 53 54.0	-0.8

IDC 09 04:15:16.0±5.1**, 66.29S**×**131.62E, mb3.9**/3**, mb1 4.1**/4**, mb1mx3.9**/12**, mbtmp3.9**/4**, ML4.0**/1**, Error ellipse: s-maj=232.4km s-min=40.4km az=76.0, Antarctica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	14.37	154	Pn	P	04 18 40.3	-2.0
	0.6nm,0.3s,baz=307,slow=13,SNR=30						
VNDA				Sn	S	04 21 12.2	-11
	0.2nm,0.3s,baz=225,slow=16,SNR=2.3						
STKA	Stephens Creek	34.97	15	P	P	04 22 09.6	-2.0
	1.7nm,0.7s,baz=149,slow=5.9,SNR=4.4						
ASAR	Alice Springs	42.65	3	P	P	04 23 14.3	-1.2
	1.6nm,1.0s,baz=175,slow=9.2,SNR=11						
WRA	Warramunga Arr	46.37	4	P	P	04 23 43.0	-2.4
	1.5nm,0.8s,baz=182,slow=6.7,SNR=14						

GUC 09 04:21:45.6±0.6**, 24.84S**×**68.92W, h105**^{km}±14^{km}**, ML3.5, 4C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	1.36	279	⇑iP	P	04 22 11.4	+0.5
CPN1				iS	S	04 22 31.4	+1.5
CPN1				AMP		04 22 38.2	
	comp=E,629nm,0.3s						
ANCH	Antofagasta	1.78	310	⇑iP	P	04 22 16.5	+0.5
ANCH				iS	S	04 22 39.1	+0.4
SPCH	San Pedro de A	2.03	19	⇑iP	P	04 22 20.1	+0.9
SPCH				iS	S	04 22 46.4	+2.0
SPCH				AMP		04 22 56.2	
	comp=E,655nm,0.5s						
LVC	Limon Verde	2.21	0	⇑iP	P	04 22 22.1	+0.4
LVC				iS	S	04 22 50.7	+1.9
LVC				AMP		04 22 54.8	
	comp=E,212nm,0.5s						
CPCH	Copiapo	2.82	207	eP	P	04 22 30.2	+0.2

IDC 09 05:00:00.3±3.6**, 30.20S**×**138.61E, mb1 3.1**/3**, mb1mx3.1**/9**, mbtmp2.9**/3**, ML2.7**/3**, Error ellipse: s-maj=95.7km s-min=16.8km az=45.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.06	124	Pn	Pn	05 00 49.3	-1.6
	0.5nm,0.3s,baz=306,slow=11,SNR=6.8						
STKA				Sn	Sn	05 01 27.9	-0.9
	1.6nm,0.3s,baz=276,slow=18,SNR=5.3						
STKA				Lg		05 01 38.5	
	2.7nm,0.3s,baz=21,slow=19,SNR=6.9						
ASAR	Alice Springs	7.74	326	Pn	Pn	05 01 54.8	-2.3
	0.1nm,0.3s,baz=146,slow=11,SNR=5.1						
ASAR				Sn	Sn	05 03 19.7	-6.8
	0.0nm,0.3s,baz=153,slow=22,SNR=3.0						
WRA	Warramunga Arr	10.92	338	Pn	P	05 02 37.8	-3.2
	0.1nm,0.3s,baz=157,slow=12,SNR=4.9						
WRA				Sn	S	05 04 42.6	-2.6
	0.2nm,0.3s,baz=160,slow=23,SNR=8.1						

*NIED **09** 05:11:00, 37.30N×138.90E, h5^{km}, Mw3.7 Best double couple: $M_0$3.42×10^{14} NP1:ϕ_s222°, δ63°, λ85°. NP2:ϕ_s53°, δ27°, λ100°.*
*IDC **09** 05:11:17.1±1.3, 37.14N×138.83E, mb3.7/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=43.4km s-min=32.5km az=66.0*
*JMA **09** 05:11:18.6, 37.27N×138.95E, h8^{km}±1^{km}, M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s62°, δ19°, λ102°. NP2:ϕ_s230°, δ71°, λ86°. Principal axes: T Plg64°, Azm133°; N Plg4°, Azm231°; P Plg26°, Azm323°;*
JMA Felt III J1.
ISC 09 05:11:17.9±0.5**, 37.26N**±0.03×**138.94E**±0.04**, h8**^{km}**, n13, σ0^{s}92**/18**, mb3.5**/4**, 1C-6D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	Hiroka	0.07	103	⇓P	Pg	05 11 20.4	+0.5
JHK				S	Sg	05 11 22.0	+0.8
JIZZ	Izumozaki	0.32	326	⇓P	Pg	05 11 25.5	+1.0
JIZZ				eS	Sg	05 11 31.3	+2.4
JKT	Katashina	0.56	153	⇓P	Pg	05 11 29.3	+0.2
JKT				S	Sg	05 11 36.9	+0.3
JFY	Yanaizu	0.63	77	⇑P	Pg	05 11 30.3	-0.3
JFY				S	Sg	05 11 38.6	-0.4
JNS	Sasagawa	0.63	29	⇓P	Pg	05 11 30.1	-0.5
JGK	Kuni	0.74	199	P	Pb	05 11 33.5	+0.9
MAT	Matsushiro	0.93	219	P	Pb	05 11 35.5	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAT				S	Sb	05 11 47.8	-0.2
JAG	Ashikaga	0.93	153	⇓P	Pb	05 11 36.4	+0.5
JSD	Sado	0.94	325	⇓P	Pb	05 11 35.0	-1.0
SONM	Songino Array	26.02	304	P	P	05 16 51.7	-1.2
	1.0nm,1.0s,mb3.3,baz=101,slow=6.3,SNR=3.8						
WRA	Warramunga Arr	57.06	185	P	P	05 21 04.1	-2.9
	0.9nm,0.8s,mb3.8,baz=360,slow=7.6,SNR=6.0						
AKASG	Malin Array Be	72.89	321	P	P	05 22 48.4	-0.6
	0.1nm,0.3s,mb3.2,baz=52,slow=5.8,SNR=4.6						
NVAR	Mina Array Bea	76.42	52	P	P	05 23 09.6	0.0
	0.7nm,0.8s,mb3.6,baz=308,slow=3.9,SNR=4.6						

*THE **09** 05:19:48.8, 40.01N×19.46E, h10^{km}, ML3.7*
*ATH **09** 05:19:50.3, 40.10N×19.69E, h13^{km}±2^{km}, MD3.6/9*
*NEIC **09** 05:19:50.3, 40.10N×19.69E, h13^{km}, MD3.6(ATH), MD3.0(PDG), ML3.0(CSEM), After ATH.*
*TIR **09** 05:19:51.7, 40.06N×19.92E, h11^{km}, Ml3.0*
*CSEM **09** 05:19:54.9±0.1, 39.86N×19.87E, h12^{km}, MD3.6, Error ellipse: s-maj=3.8km s-min=1.7km az=61.0*
*PDG **09** 05:19:58.1±0.2, 40.21N×19.76E, h19^{km}±22^{km}*
ISC 09 05:19:52.9±0.3**, 40.00N**±0.02×**19.87E**±0.03**, h12^{km}, n54, σ1^{s}38**/83**, 1D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRN	Sarande	0.16	140	*i* Pg	Pg	05 19 56.0	-0.7
SRN				*i* Sg	Sg	05 19 59.4	+0.1
KEK	Kerkira	0.29	190	*e*PB	Pb	05 19 58.3	-1.3
KEK				*e*SB	Sb	05 20 04.2	+0.2
TPE	Tepelena	0.31	20	*i* Pg	Pg	05 19 56.4	-3.1
TPE				*i* Sg	Sg	05 20 09.2	+5.3
LSK	Leskovik	0.58	75	*i* Pg	Pg	05 20 02.4	-2.3
LSK				*i* Sg	Sg	05 20 11.6	-1.0
IGT	Igoumenitsa	0.59	142	*e*Pg	Pg	05 20 04.3	-0.6
IGT				*e*Sg	Sg	05 20 15.9	+3.0
JAN	Janina	0.83	114	*e*PG	Pg	05 20 08.4	-1.2
JAN				*e*SB	Sb	05 20 22.4	+2.7
KBN	Korca	0.94	48	*i* Pg	Pg	05 20 09.7	-2.1
KBN				*i* Sg	Sg	05 20 23.1	-1.2
OHR	Ohrid	1.32	32	*i* Pn	Pn	05 20 16.2	-1.0
OHR				⇓*i*Sn	Sn	05 20 36.1	+1.4
TIR	Tirane	1.34	360	*i* Pg	Pg	05 20 18.0	-1.8
TIR				*i* Sg	Sg	05 20 35.0	-2.8
LCI	Lecce	1.39	284	*e*Pn	Pn	05 20 17.6	-0.5
LCI				*e*Sn	Sn	05 20 38.4	+1.9
LCI	Lecce	1.39	284	*e*Pn	Pn	05 20 17.6	-0.6
LCI				*e*Sn	Sn	05 20 38.4	+1.9
FNA	Florina	1.39	55	*e*Pb	Pb	05 20 18.0	-0.3
FNA				*e*Sb	Sb	05 20 41.4	+5.5
KZN	Kozani	1.49	78	*e*PB	Pb	05 20 20.7	+0.6
KZN				*e*SB	Sb	05 20 43.1	+4.3
BIA	Bitola	1.50	47	*i* Pn	Pn	05 20 19.3	-0.6
BIA				*i*		05 20 24.4	
BIA				*i*		05 20 27.2	
BIA				*i* Sg	Sg	05 20 43.4	+0.3
BIA	Bitola	1.50	47	*i* Pn	Pn	05 20 19.3	-0.6
BIA				*i* Sg	Sg	05 20 43.4	+0.3
QSH	Qafa e Shtames	1.52	1	*i* Pg	Pg	05 20 20.0	-3.3
EVR	Evrytania	1.85	125	*e*PN	Pn	05 20 26.9	+2.1
EVR				*e*SN	Sn	05 20 52.8	+4.5
VLS	Valsamata	1.91	163	*e*PN	Pn	05 20 26.4	+0.8
LIT	Litokhoron	2.02	86	*e*Pn	Pn	05 20 27.9	+0.8
LIT				*e*Sn	Sn	05 20 58.4	+5.9
ULC	Ulcinj	2.02	347	*e*Pn	Pn	05 20 29.2	+2.0
ULC				*e*Sn	Sn	05 20 53.6	+1.2
PUK	Puka	2.04	1	*i* Pg	Pg	05 20 27.4	-6.3
AGG	Agios Georgios	2.14	116	*e*Pn	Pn	05 20 29.4	+0.4
AGG				*e*Sn	Sn	05 21 00.8	+5.1
SKO	Skopje	2.30	31	*e*Pn	Pn	05 20 29.0	-2.3
SKO				*i*		05 20 33.1	
RLS	Riolos of Patr	2.31	147	*e*PB	Pb	05 20 32.2	-1.8
LTRZ	Laterza	2.41	285	*e*Pn	Pn	05 20 32.9	+0.1
LTRZ	Laterza	2.41	285	*e*Pn	Pn	05 20 32.9	+0.1
BUM	Brajici-Budva	2.41	343	*e*Pn	Pn	05 20 34.8	+2.0
BUM				*e*Sn	Sn	05 21 03.0	+0.5
TTG	Podgorica	2.47	350	*e*Pn	Pn	05 20 35.8	+2.1
TTG				*e*Sn	Sn	05 21 04.3	+0.4
SG1	Sgolgore (BA)	2.57	290	*e*Pn	Pn	05 20 33.4	-1.8
KNT	Kendrikon	2.58	62	*e*Pn	Pn	05 20 35.2	-0.1
PVY	Plav	2.59	2	*e*Pn	Pn	05 20 36.8	+1.4
PVY				*e*Sn	Sn	05 21 07.7	+0.6
ORI	Oriolo Calabro	2.62	272	*e*Pn	Pn	05 20 35.2	-0.7
ORI	Oriolo Calabro	2.62	272	*e*Pn	Pn	05 20 35.2	-0.7
HCY	Herceg Novi	2.65	338	*e*Pn	Pn	05 20 37.8	+1.5
HCY				*e*Sn	Sn	05 21 08.8	+0.1
PLG	Polygyros	2.77	81	*e*PN	Pn	05 20 38.5	+0.6
LKR	Lokris	2.78	118	*e*PN	Pn	05 20 38.9	+0.8
IVA	Berane	2.87	0	*e*Pn	Pn	05 20 41.3	+2.0
IVA				*e*Sn	Sn	05 21 14.2	+0.1
NKY	Niksic	2.88	347	*e*Pn	Pn	05 20 41.3	+1.7
NKY				*e*Sn	Sn	05 21 14.3	-0.2
CDT	Castel del Mon	2.94	293	*e*Pn	Pn	05 20 42.5	+2.1
SRS	Serrai	3.05	67	*e*Pn	Pn	05 20 41.9	0.0
KKB	Krupnik	3.07	52	*i* P	Pn	05 20 43.0	+0.8
ITM	Ithomi	3.25	150	*e*PN	Pn	05 20 45.0	+0.3
ITM	Ithomi	3.25	150	*e*Pb	Pb	05 20 48.6	-1.5
UPM	Unac-Piva	3.28	348	*e*Pn	Pn	05 20 46.4	+1.2
UPM				*e*Sn	Sn	05 21 23.7	-0.8
STON	Ston	3.30	331	*i* Pn	Pn	05 20 43.6	-1.9
STON				*i* Sn	Sn	05 21 18.9	-6.1
STON	Ston	3.30	331	*i* Pn	Pn	05 20 43.5	-2.0
MMB	Musomiste	3.33	60	P	Pn	05 20 46.3	+0.4
PLE	Pljevlja	3.34	354	*e*Pn	Pn	05 20 47.6	+1.5
PLE				*e*Sn	Sn	05 21 25.2	-0.9
SOI	Samo	3.54	238	*e*Pn	Pn	05 20 47.2	-1.7
SOI	Samo	3.54	238	*e*Pn	Pn	05 20 47.2	-1.7
VTS	Vitosha	3.61	43	P	Pn	05 20 55.5	+5.6
NRCA	Norcia	5.81	301	*e*Pn	Pn	05 21 18.9	-2.2
VOY	Vojsko	7.45	326	*e*Pn	Pn	05 21 41.3	-2.8
VOY				*e*Sn	Sn	05 23 02.8	-6.5
HSP	Hornsund	37.16	358	*e*P	P	05 26 58.8	-6.2

*IDC **09** 05:32:48.8±1.0, 45.27N×27.92W, mb3.7/10, mb1 3.9/11, mb1mx3.7/22, mbtmp3.7/11, ML4.4/1, MS3.9/11, Ms1 3.9/11, ms1mx3.5/31, Error ellipse: s-maj=35.3km s-min=17.9km az=19.0*
*NEIC **09** 05:32:50.3±0.6, 45.25N×27.94W, h10^{km}, mb4.3/1, Error ellipse: s-maj=22.2km s-min=10.4km az=201.0*
*CSEM **09** 05:32:51.5±0.1, 45.34N×27.92W, h33^{km}, mb4.3/1, Error ellipse: s-maj=6.1km s-min=2.9km az=26.0*
ISC 09 05:32:48.7±0.8**, 45.3N**±0.2×**28.0W**±0.1**, h10^{km}, n26, σ0^{s}54**/17**, mb3.7**/10**, MS3.9**/11**, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ESDC	Sonseca Array	18.54	99	P	P	05 37 07.0	-0.2
	0.3nm,0.3s,baz=297,slow=8.6,SNR=2.9						
SCHQ	Schefferville	26.42	305	P	P	05 38 26.9	0.0
	2.6nm,0.9s,mb3.8,baz=92,slow=9.2,SNR=2.6						
SCHQ				LR	LR	05 47 26.9	
	comp=Z,303nm,18.3s,MS3.9,baz=275,slow=33						
NOA	NORSAR Array B	27.76	41	LR	LR	05 48 05.8	
	comp=Z,48nm,18.5s,MS3.1,baz=250,slow=33						
GERES	GERESS Array B	28.36	68	P	P	05 38 45.7	+1.1
	0.3nm,0.5s,mb3.1,baz=231,slow=6.3,SNR=3.6						
FRB	Frobisher Bay	29.23	324	P	P	05 38 51.8	-0.6
	7.7nm,1.2s,mb4.3,baz=114,slow=8.8,SNR=6.2						
FINES	FINESS Array B	34.90	43	LR	LR	05 51 41.8	
	comp=Z,62nm,20.6s,MS3.3,baz=1.2,slow=32						
AKASG	Malin Array Be	37.84	61	P	P	05 40 06.2	-0.7
	0.4nm,0.4s,mb3.5,baz=280,slow=8.9,SNR=4.5						
AKASG	Malin Array Be	37.84	61	P	P	05 40 06.2	-0.7
DBIC	Dimbokro	43.37	145	P	P	05 40 53.2	+0.2
	2.9nm,0.8s,mb4.1,baz=319,slow=9.3,SNR=3.1						
DBIC				LR	LR	05 57 33.3	
	comp=Z,160nm,18.2s,MS4.0,baz=308,slow=34						
DBIC	Dimbokro	43.37	145	P	P	05 40 52.9	-0.1
	4.8nm,0.9s,mb4.2						
DBIC				LR	LR	05 57 33.3	
DBIC	Dimbokro	43.37	145	P	P	05 40 52.9	-0.1
ULM	Lac du Bonnet	44.49	302	LR	LR	05 58 06.5	
	comp=Z,243nm,20.8s,MS4.1,baz=342,slow=34						
YKA	Yellowknife Ar	49.74	323	P	P	05 41 43.1	+0.5
	0.3nm,0.8s,mb3.4,baz=72,slow=7.2,SNR=4.1						
YKA	Yellowknife Ar	49.74	323	P	P	05 41 43.2	+0.6
PDAR	Pinedale Array	56.29	299	P	P	05 42 32.2	+0.7
	0.5nm,0.9s,mb3.5,baz=27,slow=6.0,SNR=3.0						
PDAR				LR	LR	06 04 44.9	
	comp=Z,192nm,19.1s,MS4.2,baz=330,slow=34						
ROSC	El Rosal	56.96	239	LR	LR	06 02 57.5	
	comp=Z,92nm,19.1s,MS3.9,baz=351,slow=32						
TXAR	Lajitas Array	60.17	283	P	P	05 42 58.5	-0.5
	0.5nm,0.9s,mb3.6,baz=80,slow=6.9,SNR=3.7						
TXAR				LR	LR	06 07 43.9	
	comp=Z,259nm,18.8s,MS4.4,baz=340,slow=35						
TXAR	Lajitas Array	60.17	283	P	P	05 42 58.5	-0.5
TXAR				LR	LR	06 07 43.9	
ILAR	Eielson Array	60.44	334	P	P	05 43 00.2	0.0
	0.6nm,1.0s,mb3.6,baz=40,slow=6.1,SNR=5.3						
ILAR	Eielson Array	60.44	334	P	P	05 43 00.2	-0.1
BDFB	Brasilia	63.29	202	LR	LR	06 06 38.2	
	comp=Z,96nm,19.5s,MS4.0,baz=210,slow=32						
ZAL	Zalesovo	65.83	37	LR	LR	06 12 07.4	
	comp=Z,101nm,20.2s,MS4.0,baz=129,slow=36						
KMBO	Kilima Mbogo	73.61	109	LR	LR	06 15 29.5	
	comp=Z,66nm,18.1s,MS4.0,baz=87,slow=35						
SONM	Songino Array	79.02	29	P	P	05 44 53.6	-0.4
	0.5nm,0.6s,mb3.6,baz=307,slow=7.2,SNR=2.9						
WRA	Warramunga Arr	150.81	36	PKPbc	PKPdf	05 52 41.7	+3.0
	0.9nm,0.7s,baz=316,slow=2.3,SNR=7.5						
ASAR	Alice Springs	153.89	40	PKPbc	PKPdf	05 52 49.0	+5.9
	0.5nm,0.7s,baz=344,slow=1.5,SNR=6.1						
ASAR				PKPab	PKPab	05 53 03.0	-0.7
	0.7nm,0.7s,baz=336,slow=3.5,SNR=6.4						

*IDC **09** 05:55:20.2±1.1, 36.26N×69.14E, mb4.0/10, mb1 4.2/11, mb1mx4.0/19, mbtmp4.0/11, ML3.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/26, Error ellipse: s-maj=30.8km s-min=20.5km az=57.0*
*NEIC **09** 05:55:23.4±0.8, 36.63N×69.20E, h10^{km}, mb4.2/7, Error ellipse: s-maj=19.0km s-min=10.6km az=48.0*
*MOS **09** 05:55:25.0±1.5, 36.62N×69.24E, h33^{km}, mb4.3/4, Error ellipse: s-maj=20.3km s-min=10.6km az=89.8*
*NNC **09** 05:55:26.7±6.4, 37.23N×68.52E, mpv4.6, Error ellipse: s-maj=58.7km s-min=48.7km az=154.0*
*BJI **09** 05:55:26.4, 37.06N×69.09E, h23^{km}, mB4.6, mb4.2, ML4.1, Ms3.9, Msz3.5*
ISC 09 05:55:27.1±0.9**, 36.77N**±0.03×**69.21E**±0.09**, h45^{km}**±9^{km}**, n61, σ1^{s}34**/69**, mb3.9**/13**, MS3.9**/3**, 6C-2D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	3.68	142	⇑P	P	05 56 23.4	+0.5
THW	Thamme Wali	4.48	152	P	P	05 56 35.0	+0.7
CHCP	Chirah Chowk	4.55	132	P	P	05 56 36.7	+1.5
SBDP	Sheikh Budin	4.65	163	P	P	05 56 37.0	+0.3
DRP	Derazinda	5.08	170	⇑P	P	05 56 43.3	+0.6
KSH	Kashi	6.00	61	*e*P	P	05 56 57.4	+1.9
KSH				S	S	05 57 54.0	-10
KSH				Smax			
	comp=N,140nm,1.0s						
KSH				Smax			
	comp=E,120nm,1.0s						
AML	Almayashu	6.38	32	P	P	05 57 01.3	+0.4
	SNR=73						
UCH	Uchtor	6.82	35	P	P	05 57 07.7	+0.6
	SNR=22						
EKS2	Erkin-Say	6.86	29	P	P	05 57 08.1	+0.5
	SNR=10.0						
THN	Thein Dam	6.89	127	*e*P	P	05 57 06.6	-1.5
	comp=E,11nm,0.6s						
DLH	Dalhousie	6.99	125	*e*	S	05 58 30.0	+1.6
KZA	Kyzart	7.07	40	P	P	05 57 10.7	+0.2
	SNR=45						
AAK	Ala-Archa	7.13	33	P	P	05 57 11.4	-0.1
	SNR=44						
AAK	Ala-Archa	7.13	33	⇑P	P	05 57 11.5	+0.1
	comp=E,23nm,0.6s						
AAK				⇓S	S	05 58 34.6	+2.5
	comp=E,55nm,1.2s						
AAK	Ala-Archa	7.13	33	Pn	P	05 57 10.3	-1.1
	comp=E,266nm,0.9s,SNR=49						
AAK	Ala-Archa	7.13	33	*e*P	P	05 57 10.3	-1.1
AAK				pmax	pmax		
	comp=Z,36nm,0.6s						
AAK	Ala-Archa	7.13	33	*e*P	P	05 57 10.3	-1.2
	comp=Z,36nm,0.6s						
CHMS	Chumysh	7.54	33	P	P	05 57 17.1	+0.1
	SNR=30						
USP	Ospenovka	7.65	30	P	P	05 57 18.0	-0.7
	SNR=40						
ULHL	Ulahol	7.71	43	P	P	05 57 19.0	-0.4
	SNR=8.5						
TKM2	Tokmak 2	7.87	37	P	P	05 57 21.6	0.0
	SNR=20						
SDNR	Sundarnagar	8.31	127	*e*P	P	05 57 26.3	-1.4
SMLA	Simla	8.68	128	*i* P	P	05 57 30.0	-2.8
SMLA				*i*		05 59 08.3	
DDI	Dehra Dun	9.79	129	*e*P	P	05 57 47.1	-1.0
NDI	New Delhi	10.51	138	*e*P	P	05 57 52.0	-6.0
NDI				*e*S	S	05 59 41.0	-14
NDI				*e*S	S	05 59 45.0	-10
MK31	Makanchi Array	13.97	40	P	P	05 58 42.3	-1.7
	comp=Z,2.0nm,0.6s,baz=225,slow=13,SNR=26						
MK31				S	S	06 01 25.2	+6.7
	comp=Z,0.1nm,0.1s,baz=250,slow=45,SNR=2.6						
KOLN	Koldanda	15.11	122	*e*P	P	05 59 02.7	+3.6
	comp=Z,10nm,0.5s						
BHPL	Bhopal	15.24	150	*e*P	P	05 58 57.1	-3.6
BHPL				AMb	AMB	05 59 05.8	
	comp=Z,8.0nm,0.7s						
BHPL				*e*		05 59 50.2	
KURK	Kurchatov	15.49	23	P	P	05 59 07.9	+4.0
	comp=Z,11nm,0.8s,baz=216,slow=9.6,SNR=6.1						
KURK	Kurchatov	15.49	23	*e*P	P	05 59 01.8	-2.1
GKN	Gorkha	15.68	119	*e*P	P	05 59 09.3	+2.9
	comp=Z,46nm,1.0s						
WMQ	Urumqi	15.75	58	*e*P	P	05 59 07.6	+0.4
WMQ				AP		05 59 15.0	
WMQ				XP		05 59 18.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s						
WMQ				AMB	AMB		
	comp=Z,103nm,5.2s						
WMQ				LR	LR		
	comp=N,188nm,21.6s						
WMQ				LR	LR		
	comp=E,170nm,18.6s						
WMQ				LR	LR		
	comp=Z,192nm,19.8s						
KKN	Kakani	16.26	119	*e*P	P	05 59 14.6	+0.8
	comp=Z,17nm,0.4s						
BVA0	Borovoye Array	16.27	3	⇑P	P	05 59 10.4	-3.4
	comp=Z,1.3nm,1.6s,baz=226,slow=32,SNR=13						
BVA0				⇓S	S	06 02 07.1	-5.3
	comp=Z,0.5nm,0.7s						
BVAR	Borovoye Array	16.27	3	Pn	P	05 59 12.6	-1.2
	comp=Z,0.3nm,0.3s,baz=166,slow=12,SNR=9.6						
BVAR				Sn	S	06 02 10.4	-2.0
	comp=Z,0.2nm,0.3s,baz=180,slow=24,SNR=3.2						
BVAR				Lg		06 04 13.3	
	comp=Z,0.1nm,0.3s,baz=174,slow=30,SNR=2.2						
PKI	Pulchoki	16.48	119	*e*P	P	05 59 15.6	-1.0
	comp=Z,14nm,0.4s						
GUN	Gumba	16.61	117	*e*P	P	05 59 17.6	-0.6
	comp=Z,27nm,0.7s						
CHKZ	Chkalovo	16.93	3	⇑P	P	05 59 20.6	-1.4
	comp=Z,1.9nm,0.8s						
CHKZ				⇑S	S	06 02 23.6	-4.0
	comp=Z,7.2nm,1.6s						
CHKZ	Chkalovo	16.93	3	*e*P	P	05 59 20.8	-1.3
CHKZ				pmax	pmax		
	comp=Z,38nm,0.8s						
CHKZ	Chkalovo	16.93	3	*e*P	P	05 59 20.8	-1.3
	comp=Z,38nm,0.8s						
JIRN	Jiri	16.98	117	*e*P	P	05 59 19.7	-3.1
	comp=Z,23nm,0.5s						
LSA	Lhasa	19.64	105	*e*P	P	05 59 54.0	-0.7
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LSA	Lhasa	19.64	105	*e*P	P	05 59 54.0	-0.7
	comp=Z,4.2nm,0.5s						
SVE	Sverdlovsk	20.87	347	*e*P	P	06 00 10.0	+2.6
SVE				MLR	MLR		
	comp=N,500nm,11.0s,MS4.3						
SVE				MLR	MLR		
	comp=E,400nm,11.0s,MS4.3						
SVE				MLR	MLR		
	comp=Z,500nm,11.0s,MS4.2						
SHL	Shillong	22.33	114	*e*P	P	06 00 23.0	+0.8
GTA	Gaotai	24.18	74	*e*P	P	06 00 47.1	+7.0
GTA				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.0						
GTA				AMB	AMB		
	comp=Z,145nm,5.7s						
GTA				LR	LR		
	comp=N,267nm,17.5s,MS4.1						
GTA				LR	LR		
	comp=E,451nm,17.9s,MS4.1						
GTA				LR	LR		
	comp=Z,183nm,15.6s,MS3.7						
ZAK	Zakamensk	27.91	50	*e*P	P	06 01 20.0	+5.2
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.4						
SONM	Songino Array	29.38	56	P	P	06 01 28.5	+0.6
	comp=Z,1.9nm,0.9s,mb3.8,baz=272,slow=8.7,SNR=9.3						
AKASG	Malin Array Be	31.65	309	P	P	06 01 47.4	-0.6
	comp=Z,0.2nm,0.3s,mb3.4,baz=172,slow=1.9,SNR=3.1						
FINES	FINESS Array B	36.46	326	P	P	06 02 29.9	+0.7
	comp=Z,2.4nm,0.8s,mb4.2,baz=180,slow=3.8,SNR=4.8						
FINES				LR	LR	06 18 13.1	
	comp=Z,98nm,18.8s,MS3.6,baz=14,slow=37						
ARCES	ARCESS Array B	40.35	338	P	P	06 03 03.2	+1.7
	comp=Z,4.0nm,0.7s,mb4.3,baz=104,slow=5.0,SNR=6.4						
NB2	NORSAR Subarra	43.30	323	P	P	06 03 25.8	+0.1
	comp=Z,1.8nm,0.6s,mb4.0,baz=96,slow=7.9						
NB2	NORSAR Subarra	43.30	323	P	P	06 03 25.8	+0.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	43.30	323	P	P	06 03 26.4	+0.7
	comp=Z,2.2nm,0.7s,mb4.0,baz=98,slow=8.0,SNR=12						
TIXI	Tiksi	46.07	22	*e*P	P	06 03 48.8	+1.0
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
INK	Inuvik	73.86	9	P	P	06 06 59.5	+1.4
	comp=Z,1.7nm,0.7s,mb4.1,baz=25,slow=9.0,SNR=8.3						
ILAR	Eielson Array	74.91	15	P	P	06 07 05.2	+0.9
	comp=Z,1.4nm,0.9s,mb3.9,baz=326,slow=5.0,SNR=13						
YKA	Yellowknife Ar	81.03	2	P	P	06 07 39.1	+1.0
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	81.03	2	P	P	06 07 39.1	+1.0
	comp=Z,1.8nm,0.7s,mb4.1,baz=350,slow=5.4,SNR=51						
WRA	Warramunga Arr	83.36	121	P	P	06 07 48.3	-2.7
	comp=Z,0.4nm,0.7s,mb3.5,baz=327,slow=5.2,SNR=2.4						
ASAR	Alice Springs	85.60	124	P	P	06 07 59.2	-2.9
	comp=Z,0.2nm,0.5s,mb3.6,baz=323,slow=4.5,SNR=3.4						

CASC 09 06:04:40.7±1.7**, 13.82N**×**91.45W, h2^{km}**±10^{km}**, MD3.8, 4C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	Jato	0.53	340	⇓*e*P	Pg	06 04 51.5	+0.2
JAT				*e*S	Sg	06 05 01.2	+2.9
IXG	Ixpaco	1.02	70	⇑*e*P	Pb	06 05 00.8	-0.1
IXG				*e*S	Sb	06 05 17.3	+2.7
TP2	Tecpan 2	1.04	23	⇑*e*P	Pb	06 05 00.1	-1.0
TP2				*e*S	Sb	06 05 16.7	+1.5
RBDL	Robledal	1.73	80	⇑*e*P	Pn	06 05 12.1	+0.1
RTR	El Retiro	1.75	87	*e*P	Pn	06 05 12.4	+0.1
RTR				*e*S	Sn	06 05 36.5	+1.0
SBLS	San Blas	1.77	89	⇑*e*P	Pn	06 05 12.0	-0.6
SBLS				*e*S	Sn	06 05 37.5	+1.5
SNJE	San Jose	1.79	88	*e*P	Pn	06 05 12.2	-0.7
SNJE				*e*S	Sn	06 05 37.4	+0.9
LFU	La Fuente	2.27	91	*e*P	Pn	06 05 20.1	+0.4
LFRS	El Faro	2.32	94	⇓*e*P	Pn	06 05 20.2	-0.3
LFRS				*e*S	Sn	06 05 49.9	-0.2
LCBS	La Ceiba	2.40	94	*e*P	Pn	06 05 21.7	+0.1

SKHL 09 06:09:26.9±0.1**, 52.23N**×**141.61E, h10^{km}, mb3.7**/3**, Sakhalin Island**

*IDC **09** 06:19:46.3±0.9, 9.60N×93.79E, mb3.8/6, mb1 4.1/7, mb1mx3.8/17, mbtmp3.8/7, ML4.2/1, MS2.8/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=31.7km s-min=22.9km az=55.0*
*NEIC **09** 06:19:50.5±0.7, 9.66N×93.85E, h30^{km}, mb4.2/2, Error ellipse: s-maj=21.0km s-min=14.3km az=92.0*
ISC 09 06:19:49.7±0.8**, 9.5N**±0.1×**93.9E**±0.2**, h33^{km}, n13, σ0^{s}45**/10**, mb3.9**/8**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.14	29	Pn	P	06 22 11.5	-4.7
	0.6nm,0.3s,baz=222,slow=16,SNR=4.0						
CMAR				LR	LR	06 26 31.1	
	comp=Z,46nm,19.1s,baz=230,slow=40						
ENH	Enshi	25.26	33	P	P	06 25 14.7	0.0
	2.8nm,0.5s,mb4.0						
SONM	Songino Array	39.61	13	P	P	06 27 19.4	-0.3
	0.3nm,0.4s,mb3.3,baz=194,slow=5.9,SNR=3.2						
WRA	Warramunga Arr	49.46	127	P	P	06 28 39.5	+0.3
	0.6nm,0.4s,mb4.0,baz=307,slow=8.2,SNR=20						
WRAB	Tennant Creek	49.47	127	P	P	06 28 38.6	-0.5
	1.6nm,0.5s,mb4.3						
ASAR	Alice Springs	51.20	131	P	P	06 28 52.9	+0.5
	0.9nm,0.8s,mb3.8,baz=305,slow=7.1,SNR=7.1						
STKA	Stephens Creek	61.46	134	P	P	06 30 05.5	-0.1
	3.7nm,1.1s,mb4.4,baz=315,slow=13,SNR=3.1						
STKA	Stephens Creek	61.46	134	*e*P	P	06 30 05.4	-0.2
LBTB	Lobatse	74.80	241	P	P	06 31 28.5	-0.4
	3.2nm,0.8s,mb4.3,baz=90,slow=7.1,SNR=4.9						
GERES	GERESS Array B	76.41	318	P	P	06 31 38.2	+0.6
	0.2nm,0.5s,mb3.4,baz=84,slow=9.9,SNR=2.6						
TXAR	Lajitas Array	137.82	23	PKP	PKPdf	06 39 11.0	-0.6
	0.1nm,0.4s,baz=344,slow=1.7,SNR=6.5						
TXAR	Lajitas Array	137.82	23	PKP	PKPdf	06 39 11.0	-0.6
PLCA	Paso Flores	146.00	201	PKPbc	PKPbc	06 39 27.1	+0.5
	0.6nm,0.5s,baz=1.1,slow=4.2,SNR=3.5						

IDC 09 06:19:56.5±2.0**, 2.23N**×**131.32E, mb3.5**/4**, mb1 3.7**/4**, mb1mx3.6**/14**, mbtmp3.6**/4**, Error ellipse: s-maj=239.3km s-min=24.1km az=75.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.24	172	P	P	06 24 53.9	-2.6
	0.5nm,1.1s,baz=351,slow=11,SNR=3.5						
ASAR	Alice Springs	25.87	175	P	P	06 25 31.1	-0.6
	0.5nm,0.7s,baz=353,slow=11,SNR=6.8						
STKA	Stephens Creek	35.30	165	P	P	06 26 52.9	-2.5
	0.8nm,0.3s,baz=328,slow=19,SNR=2.1						
SONM	Songino Array	50.27	338	P	P	06 28 54.6	-2.0
	1.1nm,0.6s,baz=162,slow=9.1,SNR=7.2						

MAN 09 06:22:05.0, 14.28N×**120.11E, h63^{km}, mb4.3, ML3.2, MS2.9, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.56	166	*e*P	P	06 22 21.9	+3.9
LUBP				*e*S	S	06 22 32.9	+5.5
TGY	Tagaytay City	0.82	102	⇓*i*P	P	06 22 23.1	+2.0
TGY				*i* S	S	06 22 35.9	+2.8
QVPH	Quezon City--P	0.99	68	⇑*i*P	P	06 22 24.6	+1.3
QVPH				*i* S	S	06 22 37.8	+0.8
LQP	Lukban	1.40	97	*e*P	P	06 22 28.6	-0.5
PCPH	Palayan	1.59	37	⇓*e*P	P	06 22 32.0	+0.3
SJMP	San Jose	2.06	151	*e*P	P	06 22 38.7	+0.6
SJMP				*e*S	S	06 23 01.2	-1.2
BUSP	Coron	2.26	178	*e*P	P	06 22 26.0	-15
ENPP	El Nido	3.13	192	*e*P	P	06 22 39.9	-13

*IDC **09** 06:45:42.9±0.7, 25.45N×141.35E, mb3.9/10, mb1 4.2/10, mb1mx4.0/19, mbtmp3.9/10, MS2.9/1, Ms1 2.9/1, ms1mx2.1/20, Error ellipse: s-maj=31.5km s-min=16.7km az=101.0*
*BJI **09** 06:45:56.5, 24.86N×140.69E, h125^{km}, mB4.7, mb4.2*
*NEIC **09** 06:45:59.4±4.2, 25.40N×141.12E, h140^{km}±39^{km}, mb4.0/1, Error ellipse: s-maj=24.7km s-min=12.3km az=86.0*
ISC 09 06:45:44.2±5.4**, 25.44N**±0.08×**141.4E**±0.1**, h20^{km}**±39^{km}**, n22, σ0^{s}94**/21**, mb4.3**/16**, Volcano Islands region**

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

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CBIJ	**Chichi jima**	**1.79**	**23**	Pn	**Pn**	**06 46 14.7**	**+0.3**
	60nm,0.3s,baz=210,slow=5.5,SNR=38						
CBIJ				Sn	**Sn**	**06 46 36.2**	**-0.5**
	51nm,0.3s,baz=258,slow=22,SNR=18						
JHJ	**Hachijo jima 2**	**7.78**	**350**	LR	LR	06 50 21.6	
	comp=Z,85nm,20.6s,baz=173,slow=36						
KS15	**Wonju Array Si**	**16.61**	**319**	*e*P	**P**	**06 49 42.6**	**+5.1**
SONM	**Songino Array**	**35.45**	**318**	P	**P**	**06 52 40.9**	**-0.3**
	0.9nm,0.6s,mb3.9,baz=127,slow=6.2,SNR=5.0						
GTA	**Gaotai**	**37.45**	**302**	*e*P	**P**	**06 52 58.4**	**+0.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**45.63**	**189**	P	**P**	**06 54 05.1**	**-0.3**
	comp=Z,6.1nm,0.7s,mb4.7,baz=9.2,slow=8.6,SNR=54						
JIRN	**Jiri**	**49.10**	**285**	*e*P	**P**	**06 54 33.5**	**+1.0**
	comp=Z,25nm,0.8s,mb5.3						
GUN	**Gumba**	**49.33**	**286**	*e*P	**P**	**06 54 34.9**	**+0.7**
	comp=Z,15nm,0.8s,mb5.1						
ASAR	**Alice Springs**	**49.35**	**189**	P	**P**	**06 54 34.1**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=15,slow=12,SNR=6.1						
DMN	**Daman**	**50.06**	**286**	*e*P	**P**	**06 54 39.7**	**-0.1**
GKN	**Gorkha**	**50.39**	**286**	*e*P	**P**	**06 54 42.8**	**+0.5**
	comp=Z,18nm,0.8s,mb5.1						
KOLN	**Koldanda**	**51.34**	**286**	*e*P	**P**	**06 54 50.1**	**+0.6**
	comp=Z,11nm,0.8s,mb4.9						
KURK	**Kurchatov**	**53.66**	**315**	*e*P	**P**	**06 55 05.8**	**-0.7**
	comp=Z,2.1nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**56.99**	**180**	P	**P**	**06 55 29.9**	**-1.1**
	comp=Z,1.8nm,0.7s,mb4.2,baz=346,slow=4.3,SNR=4.0						
BVAR	**Borovoye Array**	**58.80**	**318**	P	**P**	**06 55 42.4**	**-1.0**
	comp=Z,1.3nm,0.6s,mb4.1,baz=94,slow=7.9,SNR=10.0						
ILAR	**Eielson Array**	**59.49**	**28**	P	**P**	**06 55 47.2**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=260,slow=6.0,SNR=10						
YKA	**Yellowknife Ar**	**73.92**	**28**	P	**P**	**06 57 19.7**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.9,baz=293,slow=5.9,SNR=25						
YKA	**Yellowknife Ar**	**73.92**	**28**	P	**P**	**06 57 19.7**	**+0.3**
FINES	**FINESS Array B**	**79.12**	**334**	P	**P**	**06 57 46.3**	**-2.3**
	comp=Z,0.8nm,0.6s,mb3.9,baz=76,slow=7.9,SNR=6.3						
NVAR	**Mina Array Bea**	**82.09**	**51**	P	**P**	**06 58 06.8**	**+2.0**
	comp=Z,0.3nm,0.6s,mb3.4,baz=268,slow=4.1,SNR=4.0						
PDAR	**Pinedale Array**	**85.87**	**44**	P	**P**	**06 58 25.4**	**+1.6**
	comp=Z,0.7nm,0.8s,mb3.9,baz=297,slow=3.3,SNR=3.9						
LPAZ	**La Paz**	**150.98**	**78**	PKPbc	PKPdf	07 05 39.0	+4.3
	comp=Z,0.8nm,0.9s,baz=262,slow=7.1,SNR=3.1						

*IDC **09** 07:05:55.5±3.3, 18.99N×108.37W, mb3.5/6, mb1 3.9/8, mb1mx3.7/20, mbtmp3.6/8, ML3.5/2, MS3.8/4, Ms1 3.9/4, ms1mx3.3/16, Error ellipse: s-maj=56.9km s-min=50.8km az=17.0*

*NEIC **09** 07:06:00.5±1.1, 19.32N×108.36W, h10km, mb4.0/7, Error ellipse: s-maj=15.2km s-min=12.5km az=207.0*

ISC 09 07:06:02.5±1.2**, 19.4N**±0.1×**108.3W**±0.1**, h33km, n32, σ1§03**/28**, mb3.6**/6**, MS3.9**/4**, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LTX	**Lajitas**	**10.73**	**22**	*e*P	**P**	**07 08 36.4**	**-0.6**
TXAR	**Lajitas Array**	**10.73**	**22**	Pn	**P**	**07 08 36.1**	**-0.8**
	0.1nm,0.3s,baz=208,slow=14,SNR=17						
TUC	**Tucson**	**13.04**	**351**	*e*P	**P**	**07 09 07.8**	**-0.3**
JCT	**Junction City**	**13.42**	**33**	P	**P**	**07 09 14.2**	**+1.1**
	32nm,1.7s						
HKT	**Hockley**	**15.41**	**45**	P	**P**	**07 09 39.1**	**+0.1**
	55nm,2.1s						
ANMO	**Albuquerque**	**15.56**	**6**	Pn	**P**	**07 09 42.3**	**+1.2**
	baz=354,slow=23,SNR=2.5						
ANMO				LR	LR	07 16 50.8	
	comp=Z,20nm,19.2s,slow=41						
WUAZ	**Wupatki**	**16.28**	**351**	*e*P	**P**	**07 09 51.6**	**+1.5**
	198nm,1.1s						
LDFC	**Landfair**	**16.74**	**340**	P	**P**	**07 09 50.7**	**-5.3**
WMOK	**Wichita Mounta**	**17.43**	**27**	*e*P	**P**	**07 10 04.3**	**-0.4**
	51nm,2.0s						
ARUT	**Antelope Range**	**18.86**	**347**	*e*P	**P**	**07 10 18.2**	**-4.1**
PV10	**Paradox Valley**	**18.91**	**358**	*e*P	**P**	**07 10 23.5**	**+0.5**
MVU	**Marysvale**	**19.33**	**351**	*e*P	**P**	**07 10 31.0**	**+3.2**
	3.9nm,1.2s						
SRU	**San Rafael**	**19.73**	**355**	P	**P**	**07 10 32.1**	**0.0**
MIAR	**Mount Ida**	**19.93**	**38**	*e*P	**P**	**07 10 32.5**	**-1.8**
	4.4nm,1.0s						
MNV	**Mina**	**20.81**	**338**	*e*P	**P**	**07 10 43.4**	**-0.1**
	11nm,1.1s						
NVAR	**Mina Array Bea**	**20.86**	**337**	P	**P**	**07 10 43.2**	**-0.8**
	2.7nm,1.0s,baz=156,slow=11,SNR=12						
JLU	**Jordanelle**	**21.30**	**353**	*e*P	**P**	**07 10 49.1**	**+0.7**
CMB	**Columbia Colle**	**21.35**	**333**	P	**P**	**07 10 48.0**	**-1.0**
	18nm,1.7s,mb4.1						
ELK	**Elko**	**22.09**	**346**	P	**P**	**07 10 57.3**	**+1.0**
	2.7nm,1.1s,mb3.6,baz=182,slow=11,SNR=5.0						
ELK	**Elko**	**22.09**	**346**	*e*P	**P**	**07 10 57.1**	**+0.8**
	5.1nm,1.2s,mb3.8						
PDAR	**Pinedale Array**	**23.31**	**358**	P	**P**	**07 11 10.1**	**+1.7**
	0.6nm,1.0s,mb3.0,baz=186,slow=9.1,SNR=4.1						
LOHW	**Long Hollow**	**24.21**	**356**	*e*P	**P**	**07 11 17.1**	**0.0**
CHMT	**Chamberlain Mo**	**27.73**	**353**	*e*P	**P**	**07 11 49.8**	**-0.2**
YKA	**Yellowknife Ar**	**43.27**	**356**	P	**P**	**07 14 00.8**	**-1.5**
	0.2nm,0.7s,mb2.9,baz=169,slow=7.9,SNR=7.9						
YKA				PcP	PcP	07 15 48.4	-3.2
	0.5nm,1.1s,baz=162,slow=2.4,SNR=3.8						
YKA	**Yellowknife Ar**	**43.27**	**356**	P	**P**	**07 14 00.8**	**-1.5**
YKA				PcP	PcP	07 15 48.4	-3.2
SCHQ	**Schefferville**	**47.24**	**31**	P	**P**	**07 14 34.0**	**-0.2**
	1.7nm,0.9s,mb4.0,baz=52,slow=18,SNR=2.6						
SCHQ				LR	LR	07 36 24.9	
	comp=Z,157nm,20.5s,MS4.0,baz=281,slow=38						
ILAR	**Eielson Array**	**52.08**	**340**	P	**P**	**07 15 09.3**	**-1.7**
	0.9nm,0.8s,mb3.8,baz=140,slow=6.2,SNR=7.0						
ILAR				LR	LR	07 37 23.2	
	comp=Z,178nm,20.8s,MS4.1,baz=329,slow=36						
LPAZ	**La Paz**	**53.06**	**129**	LR	LR	07 36 00.1	
	comp=Z,28nm,18.8s,MS3.3,baz=279,slow=34						
PPT	**Papeete**	**54.74**	**230**	*e*LR	LR	07 30 52.2	
	294nm,27.2s,baz=34						
LVC	**Limon Verde**	**56.76**	**136**	P	**P**	**07 15 47.0**	**+1.0**
TBI	**Tubuai**	**58.50**	**225**	*e*LR	LR	07 32 33.1	
	191nm,25.0s						
PLCA	**Paso Flores**	**69.35**	**150**	LR	LR	07 40 55.0	
	comp=Z,102nm,19.8s,MS4.1,baz=229,slow=30						

DJA 09 07:34:54.4±1.0**, 9.66S**×**112.56E, h33km, ML4.3**/3**, 6D, Error ellipse: s-maj=32.0km s-min=20.9km az=151.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.95**	**53**	⇓*e*Pn	Pn	07 35 23.6	-2.3
	163nm,0.2s						
SRDI	**Scrawed**	**1.95**	**53**	*e*Pg	P	07 35 24.9	-0.8
SRDI				⇓*e*Sn	Sn	07 35 44.6	-4.9
KELI	**Kelakatan**	**2.39**	**53**	⇓*e*Pn	Pn	07 35 31.0	-1.1
	112nm,0.2s						
KELI				⇓*e*Sn	Sn	07 35 57.3	-3.2
RATI	**Rata**	**3.08**	**73**	⇓*e*Pn	Pn	07 35 39.7	-2.3
	172nm,0.2s						
RATI				⇓*e*Sn	Sn	07 36 14.7	-3.4

*MOS **09** 07:48:20.2±0.9, 43.35N×145.73E, h79km, mb4.6/6, Error ellipse: s-maj=19.3km s-min=10.6km az=77.5*

MOS Felt (II) at Yuzhno-Kuril'sk.

*SKHL **09** 07:48:21.1±2.2, 43.12N×146.32E, h33km, mb5.3/2*

SKHL Felt (II) at Yushno-Kurilsk.

*JMA **09** 07:48:22.5±0.1, 43.21N×145.91E, h77km±1km, M4.0*

JMA Felt II J1.

*NEIC **09** 07:48:23.2±1.0, 43.29N×145.78E, h92km±9km, mb4.2/5, Error ellipse: s-maj=9.4km s-min=7.6km az=119.0*

NEIC Felt [II] at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in eastern Hokkaido.

*IDC **09** 07:48:24.3±1.9, 43.30N×145.84E, h100km±16km, mb3.8/21, mb1 4.0/22, mb1mx3.9/28, mbtmp4.2/22, Error ellipse: s-maj=15.7km s-min=12.8km az=144.0*

ISC 09 07:48:21.0±0.5**, 43.26N**±0.05×**145.94E**±0.05**, h88km**±3km**, n53, σ0§87**/66**, mb4.0**/27**, 3D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.18**	**305**	P	**P**	**07 48 34.0**	**+0.4**
NEM2				S	**S**	**07 48 42.3**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**0.77**	**356**	⇓*i*PN	**P**	**07 48 38.0**	**-0.3**
YUK				*i* S	**S**	**07 48 50.0**	**-1.1**
YUK				pmax	pmax		
	comp=Z,5µm,0.3s						
YUK				pmax	pmax		
	comp=N,1µm,0.2s						
YUK				pmax	pmax		
	comp=E,2µm,0.2s						
YUK				pmax	pmax		
	comp=Z,5µm,0.2s						
YUK				smax			
	comp=N,10µm,0.3s						
YUK				smax			
	comp=E,15µm,0.3s						
YUK				smax			
	comp=N,28µm,0.4s						
YUK				smax			
	comp=E,24µm,0.6s						
YUK	**Yuzh-Kuril'sk**	**0.77**	**356**	⇓*i*P	**P**	**07 48 38.0**	**-0.3**
YUK				AMB	AMB	07 48 38.4	
	comp=E,5µm,0.2s						
YUK				AMB	AMB	07 48 38.4	
	comp=E,1µm,0.2s						
YUK				AMB	AMB	07 48 38.4	
	comp=E,2µm,0.2s						
YUK				AMB	AMB	07 48 38.4	
	comp=E,5µm,0.2s						
YUK				*i* S	**S**	**07 48 50.0**	**-1.1**
YUK				A		07 48 52.8	
	comp=E,10µm,0.3s						
YUK				A		07 48 52.8	
	comp=E,15µm,0.3s						
YUK				A		07 48 55.0	
	comp=E,28µm,0.5s						
YUK				A		07 48 55.0	
	comp=E,24µm,0.5s						
JRA	**Rausu**	**0.90**	**319**	P	**P**	**07 48 40.5**	**+0.9**
JRA				*e*S	**S**	**07 48 54.1**	**+0.6**
JNK	**Nakash**	**0.95**	**290**	P	**P**	**07 48 40.4**	**+0.3**
JNK				S	**S**	**07 48 53.3**	**-1.2**
JAK	**Akkeshi**	**0.95**	**254**	P	**P**	**07 48 40.3**	**+0.2**
JAK				*e*S	**S**	**07 48 53.7**	**-0.8**
JOB	**Onbets**	**1.58**	**258**	P	**P**	**07 48 48.6**	**+0.4**
JOB				S	**S**	**07 49 08.4**	**+0.2**
JAR	**Ashorobuto**	**1.59**	**272**	P	**P**	**07 48 48.9**	**+0.7**
JAR				*e*S	**S**	**07 49 08.5**	**+0.2**
JTKR	**Abashiri--Toko**	**1.64**	**296**	P	**P**	**07 48 49.9**	**+1.1**
JTKR				S	**S**	**07 49 10.6**	**+1.2**
JCH	**Churui**	**2.00**	**252**	P	**P**	**07 48 53.6**	**0.0**
JCH				*e*S	**S**	**07 49 17.2**	**-0.5**
KUR	**Kuril'sk**	**2.41**	**34**	*e*PN	**P**	**07 48 58.0**	**-1.3**
KUR				*e*S	**S**	**07 49 27.5**	**-0.3**
KUR				pmax	pmax		
	comp=N,60nm,0.4s						
KUR				pmax	pmax		
	comp=E,110nm,0.4s						
KUR				pmax	pmax		
	comp=Z,160nm,0.4s						
KUR				smax			
	comp=N,460nm,0.4s						
KUR				smax			
	comp=E,170nm,0.4s						
KUR	**Kuril'sk**	**2.41**	**34**	*e*P	**P**	**07 48 58.0**	**-1.3**
KUR				AMB	AMB	07 49 08.0	
	comp=E,60nm,0.4s						
KUR				AMB	AMB	07 49 08.0	
	comp=E,110nm,0.4s						
KUR				AMB	AMB	07 49 08.0	
	comp=E,160nm,0.4s						
KUR				*e*S	**S**	**07 49 27.5**	**-0.3**
KUR				A		07 49 27.9	
	comp=E,460nm,0.4s						
KUR				A		07 49 27.9	
	comp=E,170nm,0.4s						
ASAJ	**Asahikawa**	**2.57**	**291**	P	**P**	**07 49 03.1**	**+1.6**
	comp=E,53nm,0.3s,baz=108,slow=9.1,SNR=121						
ASAJ				S	**S**	**07 49 33.6**	**+1.7**
	comp=E,14nm,0.3s,baz=251,slow=22,SNR=7.1						
YSS	**Yuzh-Sakhalins**	**4.33**	**330**	⇓*i*PN	**P**	**07 49 26.4**	**+0.6**
YSS				*i* S	**S**	**07 50 14.8**	**-0.6**
YSS				pmax	pmax		
	comp=Z,90nm,0.8s						
YSS				smax			
	comp=E,120nm,1.0s						
YSS	**Yuzh-Sakhalins**	**4.33**	**330**	*e*P	**P**	**07 49 25.9**	**+0.1**
MAJO	**Matsushiro**	**8.96**	**224**	PN	**P**	**07 50 28.1**	**-1.2**
MDJ	**Mudanjiang**	**11.87**	**282**	P	**P**	**07 51 07.9**	**-0.4**
FX1	**Attu Island--F**	**20.47**	**52**	P	**P**	**07 52 54.4**	**+1.0**
FX1				pmax	pmax		
	comp=Z,44nm,1.0s						
FX1	**Attu Island--F**	**20.47**	**52**	P	**P**	**07 52 54.4**	**+1.0**
	comp=Z,44nm,1.0s,baz=322,slow=2.4,SNR=3.6						
ULN	**Ulaanbaatar**	**27.41**	**293**	*e*P	**P**	**07 53 58.7**	**-1.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
ULN	**Ulaanbaatar**	**27.41**	**293**	*e*P	**P**	**07 53 58.7**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.2						
SONM	**Songino Array**	**27.85**	**293**	P	**P**	**07 54 04.1**	**+0.1**
	comp=Z,6.6nm,0.5s,mb4.4,baz=87,slow=8.4,SNR=51						
ZAK	**Zakamensk**	**29.71**	**299**	*e*P	**P**	**07 54 20.2**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
IMA	**Indian Mountai**	**39.58**	**34**	*e*P	**P**	**07 55 46.0**	**+1.4**
IMA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
IMA	**Indian Mountai**	**39.58**	**34**	*e*P	**P**	**07 55 46.0**	**+1.4**
	comp=Z,18nm,0.9s,mb4.9						
ILAR	**Eielson Array**	**42.40**	**36**	P	**P**	**07 56 07.8**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.6,baz=259,slow=5.8,SNR=13						
KURK	**Kurchatov**	**45.07**	**304**	*e*P	**P**	**07 56 28.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
KURK	**Kurchatov**	**45.07**	**304**	*e*P	**P**	**07 56 28.8**	**-0.7**
	comp=Z,6.1nm,0.7s,mb4.4						
INK	**Inuvik**	**47.27**	**30**	P	**P**	**07 56 46.8**	**+0.2**
	comp=Z,0.7nm,0.3s,mb3.8,baz=304,slow=7.8,SNR=19						
BVAR	**Borovoye Array**	**49.13**	**309**	P	**P**	**07 57 01.0**	**-0.2**
	comp=Z,0.8nm,0.3s,mb4.1,baz=80,slow=8.8,SNR=8.4						
DLBC	**Dease Lake**	**51.63**	**42**	P	**P**	**07 57 21.5**	**+1.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=120,slow=8.1,SNR=2.3						
DLBC	**Dease Lake**	**51.63**	**42**	P	**P**	**07 57 21.5**	**+1.4**
YKA	**Yellowknife Ar**	**56.70**	**33**	P	**P**	**07 57 56.6**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=301,slow=6.8,SNR=14						
KEV	**Kevo**	**58.86**	**339**	*e*p	**P**	**07 58 09.9**	**-2.2**
	comp=Z,0.3nm,0.3s,mb3.8						
ARCES	**ARCESS Array B**	**59.40**	**339**	P	**P**	**07 58 14.8**	**-1.1**
	comp=Z,6.8nm,0.9s,mb4.7,baz=51,slow=7.8,SNR=4.2						
JOF	**Joensuu**	**62.11**	**332**	*e*p	**P**	**07 58 33.3**	**-1.0**
	comp=Z,1.2nm,0.3s,mb4.4						
WRA	**Warramunga Arr**	**63.79**	**192**	P	**P**	**07 58 45.7**	**-0.3**
	comp=Z,1.2nm,0.9s,mb3.7,baz=9.3,slow=6.8,SNR=6.7						
YBH	**Yreka Blue Hor**	**63.90**	**56**	P	**P**	**07 58 47.3**	**+0.9**
	comp=Z,0.5nm,0.5s,mb3.6,baz=36,slow=5.3,SNR=3.1						
KAF	**Kangasniemi**	**64.35**	**333**	*e*p	**P**	**07 58 46.0**	**-3.0**
	comp=Z,0.8nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**64.35**	**333**	*e*P	**P**	**07 58 46.0**	**-3.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**64.91**	**333**	P	**P**	**07 58 52.2**	**-0.4**
	comp=Z,4.8nm,0.5s,mb4.6,baz=55,slow=8.1,SNR=53						
ASAR	**Alice Springs**	**67.51**	**192**	P	**P**	**07 59 09.6**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.8,baz=10.0,slow=5.5,SNR=17						
NVAR	**Mina Array Bea**	**68.58**	**57**	P	**P**	**07 59 17.1**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.0,baz=298,slow=6.4,SNR=14						
NB2	**NORSAR Subarra**	**69.74**	**338**	P	**P**	**07 59 22.5**	**-0.3**
	comp=Z,2.5nm,0.6s,mb4.2,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.74**	**338**	P	**P**	**07 59 22.7**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=34,slow=6.1,SNR=9.2						
HFS	**Hagfors**	**69.80**	**337**	P	**P**	**07 59 22.7**	**-0.5**
	comp=Z,2.6nm,0.5s,mb4.3,baz=45,slow=6.3,SNR=19						
PDAR	**Pinedale Array**	**70.89**	**49**	P	**P**	**07 59 30.7**	**+0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=270,slow=1.8,SNR=12						
AKASG	**Malin Array Be**	**71.45**	**323**	P	**P**	**07 59 32.8**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=40,slow=6.2,SNR=5.6						
EKA	**Eskdalemuir Ar**	**78.33**	**343**	P	**P**	**08 00 13.4**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=18,slow=5.3,SNR=3.8						
SCHQ	**Schefferville**	**78.37**	**19**	P	**P**	**08 00 12.9**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.7,baz=209,slow=18,SNR=3.4						
NWAO	**Narrogin (SRO)**	**80.24**	**204**	P	**P**	**08 00 23.9**	**+0.6**
	comp=Z,2.4nm,0.7s,mb4.2,baz=39,slow=19,SNR=3.4						
TXAR	**Lajitas Array**	**83.65**	**55**	P	**P**	**08 00 41.8**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.7,baz=291,slow=3.5,SNR=14						
BDFB	**Brasilia**	**150.00**	**28**	PKPbc	PKPdf	08 08 03.5	+7.2
	comp=Z,0.8nm,0.5s,baz=238,slow=16,SNR=2.5						

WEL 09 07:54:59.6±0.2**, 38.57S**×**175.91E, h161km**±1km**, ML3.7**/16**, 4C, Error ellipse: s-maj=1.7km s-min=1.5km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.51**	**214**	PN	P	07 55 22.3	-0.4
MGZ				SN	S	07 55 40.2	-0.2
WTVZ	**West Tongariro**	**0.60**	**204**	PN	P	07 55 22.6	-0.5
WTVZ				SN	S	07 55 40.6	-0.5
OTVZ	**Oturere**	**0.62**	**198**	PN	P	07 55 23.2	0.0
OTVZ				SN	S	07 55 41.2	-0.1
NGZ	**Ngauruhoe**	**0.65**	**201**	PN	P	07 55 23.1	-0.2
CNZ	**Chateau**	**0.69**	**204**	PN	P	07 55 23.2	-0.4
WPVZ	**Whakapapa**	**0.69**	**204**	PN	P	07 55 23.2	-0.4
TUVZ	**Tukino**	**0.72**	**196**	⇑PN	P	07 55 23.5	-0.2
TUVZ				SN	S	07 55 41.6	-0.7
BKZ	**Black Stump Fm**	**0.75**	**142**	PN	P	07 55 23.9	0.0
BKZ				SN	S	07 55 41.4	-1.1
WNVZ	**Wahianoa**	**0.79**	**198**	⇑PN	P	07 55 23.9	-0.2
WNVZ				SN	S	07 55 42.2	-0.9
MOVZ	**Moawhango**	**0.84**	**188**	⇑PN	P	07 55 23.9	-0.5
URZ	**Urewera**	**1.00**	**72**	PN	P	07 55 25.3	-0.2
URZ				SN	S	07 55 44.6	-0.9
MWZ	**Matawai**	**1.30**	**80**	PN	P	07 55 28.4	+0.1
WAZ	**Wanganui**	**1.38**	**211**	PN	P	07 55 28.3	-0.9
WAZ				SN	S	07 55 50.7	-1.2
KNZ	**Kokohu**	**1.45**	**108**	PN	P	07 55 31.6	+1.7
KNZ				SN	S	07 55 52.5	-0.7
TSZ	**Takapari Road**	**1.48**	**178**	PN	P	07 55 29.6	-0.6
TSZ				SN	S	07 55 53.0	-0.8
PWZ	**Pawanui**	**1.63**	**153**	PN	P	07 55 31.6	-0.1
PWZ				SN	S	07 55 55.1	-1.4
PUZ	**Puketiti**	**1.92**	**76**	PN	P	07 55 34.5	-0.3
PUZ				SN	S	07 56 00.5	-1.4
MRZ	**Mangatainoka R**	**2.10**	**187**	PN	P	07 55 35.3	-1.7
MRZ				SN	S	07 56 01.8	-3.9
BFZ	**Birch Farm**	**2.12**	**173**	PN	P	07 55 36.1	-1.1
BFZ				SN	S	07 56 02.8	-3.4
MXZ	**Matakaoa Point**	**2.15**	**63**	PN	P	07 55 37.3	-0.1
KIW	**Kapiti Island**	**2.41**	**198**	⇑PN	P	07 55 38.2	-2.5
MTW	**Mount Morrison**	**2.60**	**187**	PN	P	07 55 40.4	-2.7
MRW	**Makara Radio**	**2.81**	**199**	PN	P	07 55 42.7	-3.0
PAWZ	**Paruwai Farm**	**2.83**	**187**	PN	P	07 55 43.1	-2.8
MQZ	**McQueen's Vall**	**5.69**	**205**	PN	P	07 56 16.9	-6.2
MQZ				SN	S	07 57 16.2	-12

*IDC **09** 08:11:37.2±0.5, 35.49N×21.43E, mb4.3/18, mb1 4.4/28, mb1mx4.3/32, mbtmp4.3/28, ML4.2/9, MS4.2/7, Ms1 4.2/7, ms1mx3.5/35, Error ellipse: s-maj=13.6km s-min=11.9km az=58.0*

*ATH **09** 08:11:39.3, 35.26N×21.31E, h76km±5km, ML4.4*

*BJI **09** 08:11:39.2, 35.51N×21.29E, h35km, mB5.2, mb4.9, Ms5.3, Msz4.7*

*MOS **09** 08:11:40.2±1.2, 35.52N×21.39E, h33km, mb4.8/23, MS4.0/10, Error ellipse: s-maj=5.1km s-min=2.7km az=105.7*

*PDG **09** 08:11:40.0±0.2, 35.61N×20.52E, h11km±1km*

*CSEM **09** 08:11:41.2±0.1, 35.42N×21.44E, h60km, mb3.9/1, Ms3.7, Error ellipse: s-maj=2.0km s-min=1.2km az=16.0*

*NEIC **09** 08:11:42.1±1.3, 35.44N×21.38E, h34km±9km, mb4.5/47, MS3.9/1, ML4.4(ATH), Error ellipse: s-maj=6.2km s-min=3.1km az=189.0*

*ZUR_RM **09** 08:11:42, 35.44N×21.38E, h27km, Mw4.8/15, Moment Tensor Solution. s15 Moment tensor: Scale 10^{16}Nm; M_{rr}1.56; $M_{\theta\theta}$-1.40; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.22; $M_{\theta\phi}$0.83; $M_{\phi r}$-0.04; Best double couple: $M_0$1.71×10^{16} NP1:ϕ_s114°,δ49°,λ86°. NP2:ϕ_s300°,δ41°,λ94°. Principal axes: T 1.582, Plg85°, Azm347°; N .253, Plg3°, Azm116°; P -1.835, Plg4°, Azm207°;*

ISC 09 08:11:40.5±0.4**, 35.51N**±0.03×**21.35E**±0.02**, h40km**±3km**, h35km**±3.2km**: pP-P, n371, σ1§18**/425**, mb4.7**/58**, MS4.3**/16**, 21C-16D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.57**	**60**	*e*P	**P**	**08 12 08.5**	**+2.0**
ITM	**Ithomi**	**1.73**	**15**	*e*P	**P**	**08 12 12.9**	**+4.2**
VLI	**Veliai**	**1.76**	**46**	*e*P	**P**	**08 12 12.6**	**+3.4**
VAM	**Vamos**	**2.33**	**92**	*e*P	**P**	**08 12 17.6**	**+0.4**
RLS	**Riolos of Patr**	**2.55**	**2**	*e*P	**P**	**08 12 24.3**	**+3.9**
RLS	**Riolos of Patr**	**2.55**	**2**	*e*P	**P**	**08 12 24.5**	**+4.1**
VLS	**Valsamata**	**2.73**	**347**	*e*P	**P**	**08 12 25.8**	**+2.8**
VLS				*e*S	**S**	**08 12 59.7**	**+4.6**
VLS	**Valsamata**	**2.73**	**347**	*e*P	**P**	**08 12 25.3**	**+2.3**
VLS				*e*S	**S**	**08 12 58.7**	**+3.6**
NAIG	**Nisos Aigina**	**2.83**	**37**	*e*P	**P**	**08 12 26.5**	**+2.1**
NAIG	**Nisos Aigina**	**2.83**	**37**	*e*P	**P**	**08 12 25.5**	**+1.1**
IDI	**Anoyia**	**2.90**	**93**	Pn	**P**	**08 12 24.8**	**-0.6**
	20nm,0.3s,baz=264,slow=12,SNR=69						
IDI				Sn	**S**	**08 12 59.0**	**-0.4**
	80nm,0.3s,baz=336,slow=21,SNR=11						
NSAL	**Nisos Salamina**	**2.94**	**35**	*e*P	**P**	**08 12 28.5**	**+2.6**
ATH	**Athens Observa**	**3.11**	**37**	*e*P	**P**	**08 12 31.5**	**+3.1**
PTL	**Penteli**	**3.24**	**38**	*e*P	**P**	**08 12 32.0**	**+1.8**
MPAR	**Parnis Oros**	**3.26**	**35**	*e*P	**P**	**08 12 32.8**	**+2.3**
THR5	**Thira Island,**	**3.37**	**73**	*e*P	**P**	**08 12 33.0**	**+1.0**
LKR	**Lokris**	**3.40**	**22**	*e*P	**P**	**08 12 34.6**	**+2.1**
LKR	**Lokris**	**3.40**	**22**	*e*P	**P**	**08 12 34.1**	**+1.6**
THR3	**Thira Island,**	**3.41**	**74**	*e*P	**P**	**08 12 32.9**	**+0.3**
EVR	**Evrytania**	**3.42**	**6**	*e*P	**P**	**08 12 36.7**	**+3.9**
EVR	**Evrytania**	**3.42**	**6**	*e*P	**P**	**08 12 37.4**	**+4.6**
SANT	**Santorini**	**3.44**	**74**	*e*P	**P**	**08 12 32.3**	**-0.8**
NPS	**Neapolis**	**3.49**	**93**	*e*P	**P**	**08 12 33.6**	**-0.2**
AGG	**Agios Georgios**	**3.59**	**12**	*e*P	**P**	**08 12 37.9**	**+2.6**
APE	**Apeiranthos**	**3.72**	**64**	*i* P	**P**	**08 12 36.5**	**-0.5**
APE	**Apeiranthos**	**3.72**	**64**	*e*P	**P**	**08 12 38.0**	**+1.0**
APE	**Apeiranthos**	**3.72**	**64**	*e*P	**P**	**08 12 37.0**	**0.0**
NEO	**Neokhori**	**4.08**	**21**	*e*P	**P**	**08 12 44.2**	**+2.2**
NEO				*e*S	**S**	**08 13 32.7**	**+3.6**
NEO	**Neokhori**	**4.08**	**21**	*e*P	**P**	**08 12 43.8**	**+1.8**
NEO				*e*S	**S**	**08 13 32.7**	**+3.6**
IGT	**Igoumenitsa**	**4.10**	**349**	*e*P	**P**	**08 12 43.7**	**+1.3**
XOR	**Xorichti**	**4.12**	**20**	*e*P	**P**	**08 12 44.2**	**+1.5**
JAN	**Janina**	**4.16**	**355**	*e*P	**P**	**08 12 45.4**	**+2.1**
JAN				*e*S	**S**	**08 13 34.7**	**+3.4**
AOS	**Alonnisos**	**4.17**	**28**	*e*P	**P**	**08 12 44.9**	**+1.4**
KEK	**Kerkira**	**4.38**	**344**	*e*P	**P**	**08 12 48.1**	**+1.8**
KEK	**Kerkira**	**4.38**	**344**	*e*P	**P**	**08 12 47.3**	**+1.0**
SRN	**Sarande**	**4.49**	**347**	*i* Pn	**P**	**08 12 48.5**	**+0.5**
SRN				*i* Sn	**S**	**08 13 37.3**	**-2.4**
LIT	**Litokhoron**	**4.67**	**11**	*e*P	**P**	**08 12 51.5**	**+1.0**
PAIG	**Paliouri**	**4.78**	**22**	*e*P	**P**	**08 12 52.8**	**+0.7**
KZN	**Kozani**	**4.80**	**4**	*e*P	**P**	**08 12 54.9**	**+2.6**
KZN				*e*S	**S**	**08 13 50.5**	**+3.0**
KZN	**Kozani**	**4.80**	**4**	*e*P	**P**	**08 12 54.2**	**+1.9**
KZN				*e*S	**S**	**08 13 50.5**	**+3.0**
SMG	**Samos**	**4.93**	**62**	*e*P	**P**	**08 12 53.0**	**-1.1**
SOI	**Samo**	**4.96**	**303**	*e*P	**P**	**08 12 54.8**	**+0.2**
KBN	**Korca**	**5.13**	**355**	*i* Pn	**P**	**08 12 59.2**	**+2.3**
PLG	**Polygyros**	**5.13**	**18**	*e*P	**P**	**08 12 59.2**	**+2.2**
PLG	**Polygyros**	**5.13**	**18**	*e*P	**P**	**08 12 57.7**	**+0.7**
GRI	**Girifalco**	**5.14**	**311**	*e*P	**P**	**08 12 59.2**	**+2.1**
BDRM	**Kayabasi**	**5.16**	**71**	*i* P	**P**	**08 12 55.8**	**-1.6**
TIP	**Timpagrande**	**5.18**	**316**	*e*P	**P**	**08 12 56.9**	**-0.7**
TIP	**Timpagrande**	**5.18**	**316**	*e*P	**P**	**08 12 56.8**	**-0.8**
MTTG	**Motta San Giov**	**5.18**	**300**	*e*Pn	**P**	**08 12 58.1**	**+0.5**
MTTG				*e*Sn	**S**	**08 13 51.4**	**-5.6**
MTTG	**Motta San Giov**	**5.18**	**300**	*e*Pn	**P**	**08 12 58.1**	**+0.5**
MTTG				*e*Sn	**S**	**08 13 51.4**	**-5.5**
AGST	**Augusta-Monte**	**5.24**	**291**	*e*Pn	**P**	**08 12 56.7**	**-1.7**
AGST				*e*Sn	**S**	**08 13 55.5**	**-3.0**
AGST	**Augusta-Monte**	**5.24**	**291**	*e*Pn	**P**	**08 12 56.7**	**-1.8**
AGST				*e*Sn	**S**	**08 13 55.5**	**-2.9**
OUR	**Ouranopolis**	**5.25**	**23**	*e*P	**P**	**08 12 59.5**	**+0.9**
FNA	**Florina**	**5.27**	**0**	*e*P	**P**	**08 12 59.5**	**+0.7**
THE	**Thessaloniki**	**5.27**	**13**	*e*P	**P**	**08 12 59.6**	**+0.7**
SCLL	**Scilla**	**5.29**	**303**	*e*Pn	**P**	**08 12 59.2**	**+0.2**
SCLL	**Scilla**	**5.29**	**303**	*e*Pn	**P**	**08 12 59.2**	**+0.1**
PZI	**Palazzolo**	**5.40**	**289**	*e*Pn	**P**	**08 12 59.9**	**-0.8**
PZI				*e*Sn	**S**	**08 13 58.0**	**-4.5**
LCI	**Lecce**	**5.46**	**333**	*e*Pn	**P**	**08 13 02.7**	**+1.2**
LCI				*e*Sn	**S**	**08 13 59.5**	**-4.4**
LCI	**Lecce**	**5.46**	**333**	*e*P	**P**	**08 13 02.7**	**+1.2**
BIA	**Bitola**	**5.50**	**360**	*i* Pn	**P**	**08 13 02.4**	**+0.3**
BIA				*i* Pb	**P**	**08 13 13.7**	**+12**
BIA				*i* Pg	**P**	**08 13 21.8**	**+20**
BIA				*i* Sn	**S**	**08 14 03.3**	**-1.8**
GRG	**Griva**	**5.50**	**8**	*e*P	**P**	**08 13 02.9**	**+0.7**
SOH	**Sokhos**	**5.54**	**16**	*e*P	**P**	**08 13 03.5**	**+1.0**

ARG Arkhangelos 5.55 81 eP P 08 13 03.0 +0.2
ARG Arkhangelos 5.55 81 eP P 08 13 01.0 -1.8
KDAG Bornova 5.55 57 i P P 08 13 02.7 -0.1
OHR Ohrid 5.61 356⇑iSn S 08 14 08.6 +0.8
AYDN Tasoluk 5.68 66 i P P 08 13 04.5 -0.1
AYVA Ayvalik 5.70 47 i P P 08 13 04.9 +0.1
KNT Kendrikon 5.78 12 eP P 08 13 06.6 +0.7
SRS Serrai 5.87 17 eP P 08 13 07.6 +0.3
VAY Valandovo 5.88 9⇑iPn P 08 13 08.6 +1.2
VAY ⇓iSn S 08 14 14.0 -0.6
VAE Valguarnera 5.92 291 Pn P 08 13 08.7 +0.7
7.9nm,0.3s,baz=347,slow=5.2,SNR=2.9
VAE Sn S 08 14 19.1 +3.5
16nm,0.3s,baz=109,slow=17,SNR=4.2
VAE LR LR 08 15 34.8
comp=Z,410nm,20.8s,baz=319,slow=39
VAE Valguarnera 5.92 291 Pn P 08 13 08.7 +0.7
VAE Sn S 08 14 19.1 +3.5
VAE LR LR 08 15 34.8
TIR Tirane 5.95 349 i Pn P 08 13 09.5 +1.2
TIR i Sn S 08 14 15.5 -0.7
ORI Oriolo Calabro 5.98 321 ePn P 08 13 09.1 +0.3
ORI eSn S 08 14 09.9 -7.0
ORI Oriolo Calabro 5.98 321 ePn P 08 13 09.1 +0.3
QSH Qafa e Shtames 6.11 350 i Pn P 08 13 10.0 -0.7
QSH i Sn S 08 14 19.0 -1.3
PE1 Pezze di Greco 6.13 331 ePn P 08 13 10.5 -0.4
NVR Nevrokopi 6.16 18 eP P 08 13 11.5 +0.2
LTRZ Laterza 6.22 326 ePn P 08 13 11.6 -0.5
LTRZ eSn S 08 14 16.0 -6.9
LTRZ Laterza 6.22 326 ePn P 08 13 11.6 -0.6
MMB Musomiste 6.35 16 i P P 08 13 14.0 -0.1
MMB S S 08 14 29.5 +3.3
SKO Skopje 6.46 1⇑iP P 08 13 15.1 -0.4
SKO 08 14 29.0
SKO pmax pmax
comp=Z,280nm,0.7s
SKO Skopje 6.46 1⇑iPn P 08 13 15.1 -0.4
comp=Z,280nm,0.7s
SKO i Pb P 08 13 26.0 +10
SKO i Sn S 08 14 24.5 -4.3
SKO Lg 08 14 29.0
SKO Skopje 6.46 1⇑iPn P 08 13 15.1 -0.4
SKO i Pb P 08 13 26.0 +10
SKO i Sn S 08 14 24.5 -4.3
SKO Lg 08 14 29.0
comp=Z,0.3nm,0.7s
SKO Skopje 6.46 1 i P P 08 13 15.1 -0.4
comp=Z,280nm,0.7s
SG1 Sgolgore (BA) 6.47 327 ePn P 08 13 15.2 -0.5
MANT Manisa 6.49 61 i P P 08 13 16.0 0.0
KKB Krupnik 6.49 12 i P P 08 13 16.3 +0.2
MGR Morigerati 6.51 317 ePn P 08 13 16.1 -0.3
MGR Morigerati 6.51 317 ePn P 08 13 16.0 -0.3
ALN Alexandroupoli 6.53 33 eP P 08 13 17.0 +0.5
DNZL Cakiroluk 6.56 68 i P P 08 13 17.1 0.0
BAI Bari 6.60 329 ePn P 08 13 17.1 -0.5
ULC Ulcinj 6.65 346⇓iPn P 08 13 16.5 -1.8
ULC eSn S 08 14 28.4 -5.3
RZN Rozhen 6.71 22 i P P 08 13 18.5 -0.6
BTOK Tokmak 6.79 49 i P P 08 13 20.0 -0.3
CDT Castel del Mon 6.85 326 ePn P 08 13 20.4 -0.6
SGO Sicignano 6.94 318 ePn P 08 13 22.5 +0.2
MRLC Muro Lucano 6.98 320 ePn P 08 13 22.3 -0.6
MRLC Muro Lucano 6.98 320 ePn P 08 13 22.3 -0.7
BUM Brajici-Budva 7.05 345 ePn P 08 13 21.3 -2.5
BUM eSn S 08 14 38.2 -5.4
TTG Podgorica 7.10 347⇓iPn P 08 13 22.1 -2.5
TTG eSn S 08 14 39.6 -5.3
PVY Plav 7.16 352⇓iPn P 08 13 24.1 -1.2
PVY eSn S 08 14 42.1 -4.1
VTS Vitosha 7.22 11 i P P 08 13 26.3 +0.1
HCY Herceg Novi 7.28 343⇓iPn P 08 13 24.3 -2.7
HCY eSn S 08 14 42.4 -6.8
DIM Dimitrovgrad 7.30 25 P P 08 13 26.5 -0.9
BARS Barje 7.31 3⇑iPn P 08 13 26.3 -1.2
PGB Panagyurishte 7.37 16 P P 08 13 32.0 +3.8
IVA Berane 7.44 352⇓iPn P 08 13 27.8 -1.5
IVA eSn S 08 14 48.4 -4.9
MS1 Monte Sant'Ang 7.50 327 ePn P 08 13 30.4 +0.3
NKY Niksic 7.52 347⇓iPn P 08 13 28.9 -1.5
NKY eSn S 08 14 49.3 -6.0
RGNG Rignano Grg 7.63 325 ePn P 08 13 31.1 -0.8
RGNG Rignano Grg 7.63 325 ePn P 08 13 31.1 -0.8
STON Ston 7.88 340 i Pn P 08 13 34.0 -1.3
STON i Sn S 08 14 55.4 -8.8
UPM Unac-Piva 7.91 347 ePn P 08 13 34.4 -1.5
UPM eSn S 08 14 59.1 -6.0
PLE Pljevlja 7.96 350⇓iPn P 08 13 34.7 -1.8
PLE eSn S 08 15 00.7 -5.5
NVSS Nova Varos 2 8.09 351 i S 08 15 04.8 -4.7
GRUS Gruza 8.38 357⇑iPn P 08 13 40.3 -2.1
GRUS Sn S 08 15 11.6 -5.2
ESKT Eskisehir 8.54 59 i P P 08 13 44.6 0.0
DIVS Divcibare 8.64 353⇓iPn/P 08 13 43.3
DIVS S S 08 15 15.1 -8.2
HENT Hendek 9.20 52 i P P 08 13 49.6 -4.1
AQU L'Aquila 9.22 320 P P 08 13 49.2 -4.7
BEO Belgrade 9.33 356 i S 08 15 36.1 -4.1
NRCA Norcia 9.71 321 ePn P 08 14 01.5 +0.9
VSL Villasalto 10.31 296 eP P 08 14 08.2 -0.7
MLR Muntele Rosu 10.56 18 Pn P 08 14 11.9 -0.5
comp=Z,0.7nm,0.3s,baz=260,slow=9.5,SNR=9.6
MLR Sn S 08 16 11.0 +0.5
baz=194,slow=18,SNR=1.7
ELDT Eldivan 10.75 59 i P P 08 14 14.4 -0.5
BOJS Bojanci 11.01 337 ePn P 08 14 17.2 -1.2
PDKS Podkum 11.58 337 i Pn P 08 14 24.7 -1.5
GROS Grobnik 11.80 340 ePn P 08 14 26.5 -2.5
PGF Pioggiola 11.89 310 eP P 08 14 29.7 -0.7
VOY Vojsko 11.93 334 ePn P 08 14 31.1 +0.3
VOY eSn S 08 16 33.4 -10
OBKA Obir 12.12 337⇑iPn P 08 14 31.2 -2.3
OBKA i Sn S 08 16 37.7 -11
CADS Cadrg 12.15 334 ePn P 08 14 33.3 -0.5
PSZ Piszkesteto 12.45 355 eP P 08 14 36.0 -1.8
PSZ pmax pmax
comp=Z,21nm,1.0s
PSZ Piszkesteto 12.45 355 eP P 08 14 36.0 -1.9
comp=Z,21nm,1.0s
PSZ Piszkesteto 12.45 355⇑e P 08 14 36.1 -1.7
PSZ eSSS S 08 16 45.7 -10
ARSA Arzberg 12.52 341⇑iPn P 08 14 37.0 -1.7
ARSA i Sn S 08 16 48.4 -9.3
KIS Kishinev 12.77 24 eP P 08 14 50.0 +7.9
EIL Elat 12.86 113 Pn P 08 14 38.0 -5.3
comp=Z,0.9nm,0.3s,baz=296,slow=13,SNR=9.3
EIL Sn S 08 16 48.4 -18
comp=Z,2.7nm,0.3s,baz=308,slow=26,SNR=6.0
EIL Elat 12.86 113 eP P 08 14 37.5 -5.8
comp=Z,11nm,0.8s
KECS Kecovo 12.98 357 e S 08 16 59.7 -9.2
KBA Koelnbreinsper 13.02 335⇑iPn P 08 14 43.9 -1.6
KBA i Sn S 08 17 00.6 -9.3
VYHS Vyhne 13.11 353 eP P 08 14 44.2 -2.4
VYHS e 08 17 02.5
VYHS Vyhne 13.11 353 ePN P 08 14 44.2 -2.4
VYHS e 08 14 57.0
VYHS e 08 17 02.5
KOLL Kolacno 13.24 351 e S 08 17 09.4 -5.8
ASF Jabal al Asfar 13.35 100 Pn P 08 14 46.8 -3.0
comp=Z,0.5nm,0.3s,baz=322,slow=5.5,SNR=3.8
ASF Sn S 08 17 03.9 -14
comp=Z,1.4nm,0.3s,baz=258,slow=22,SNR=4.9
MOA Molln 13.41 339⇑iPn P 08 14 48.7 -1.8
MOA i Sn S 08 17 09.5 -10
MALT Malatya 13.95 73 eP P 08 14 56.7 -0.9
MALT pmax pmax
comp=Z,8.0nm,0.9s
MALT Malatya 13.95 73 eP P 08 14 56.7 -0.9
comp=Z,8.5nm,0.9s
MALT Malatya 13.95 73 eP P 08 14 56.7 -0.9
comp=Z,8.5nm,0.9s
MOTA Moosalm 14.09 330⇓iPn P 08 14 58.1 -1.3
MOTA i Sn S 08 17 26.3 -9.0
KWP Kalwaria 14.15 4 P P 08 15 01.5 +1.3
KWP pmax pmax
comp=Z,16nm,1.0s
KWP Kalwaria 14.15 4 P P 08 15 01.5 +1.4
comp=Z,16nm,1.0s
KWP Kalwaria 14.15 4 P P 08 15 01.5 +1.3
comp=Z,16nm,1.0s

DAVOX Davos 14.18 326 Pn P 08 15 01.1 +0.6
comp=Z,0.3nm,0.3s,baz=156,slow=18,SNR=3.4
DAVOX Sn S 08 17 30.3 -7.1
VRAC Vranov 14.23 347 Pn P 08 14 60.0 -1.2
comp=Z,0.5nm,0.3s,baz=160,slow=15,SNR=2.4
MBDF Montbardon 14.45 314 eP P 08 15 02.6 -1.5
comp=Z,74nm,1.2s
MBDF Montbardon 14.45 314 eP P 08 15 02.6 -1.5
MBDF pmax pmax
comp=Z,37nm,1.2s
GEC2 GERESS Array S 14.47 339 eP P 08 15 12.2 +7.8
GEC2 pmax pmax
comp=Z,7.0nm,0.7s
GEC2 GERESS Array S 14.47 339 eP P 08 15 12.2 +7.8
comp=Z,7.0nm,0.7s
GERES GERESS Array B 14.47 339 Pn P 08 15 03.4 -1.0
comp=Z,0.2nm,0.3s,baz=166,slow=11,SNR=8.7
GERES Sn S 08 17 35.1 -9.2
comp=Z,1.7nm,0.3s,baz=155,slow=23,SNR=9.2
OKC Ostrava-Krasne 14.51 352 eP P 08 15 07.1 +2.2
OKC ex x 08 15 13.2
OKC AMS AMS 08 22 20.0
comp=Z,900nm,15.2s
MORC Moravsky Berou 14.53 350 eP P 08 15 07.4 +2.3
MORC pmax pmax
comp=Z,7.0nm,0.6s
MORC Moravsky Berou 14.53 350 eP P 08 15 07.4 +2.3
comp=Z,6.8nm,0.6s
FUR Furstenfeldbru 14.69 332 eP P 08 15 15.1 +7.9
FUR pmax pmax
comp=Z,34nm,0.9s
FUR Furstenfeldbru 14.69 332 eP P 08 15 15.1 +7.9
comp=Z,34nm,0.9s
OJC Ojcow 14.75 356 eP P 08 15 14.9 +6.9
KHC Kasperske Hory 14.77 340 eP P 08 15 06.9 -1.3
KHC e 08 17 48.0
KHC Kasperske Hory 14.77 340 eP P 08 15 06.9 -1.3
KHC e 08 15 14.9
KHC e 08 15 34.5
KHC e 08 17 41.0
KHC e 08 17 48.0
KHC Kasperske Hory 14.77 340 eP P 08 15 06.9 -1.3
KHC ex x 08 15 14.9
KHC ex x 08 15 34.5
KHC ex x 08 17 41.0
KHC x x 08 17 48.0
KHC AMS AMS 08 22 30.0
comp=Z,2μm,15.2s
LPG La Plagne 14.91 316 eP P 08 15 09.2 -0.9
comp=Z,22nm,1.0s
LPG La Plagne 14.91 316 eP P 08 15 09.2 -0.9
LPG pmax pmax
comp=Z,11nm,1.0s
LPL La Plagne 14.93 316 eP P 08 15 09.5 -0.9
comp=Z,46nm,1.3s
LPL La Plagne 14.93 316 eP P 08 15 09.5 -0.9
LPL pmax pmax
comp=Z,23nm,1.3s
WET Wettzell 14.98 338 eP P 08 15 18.9 +7.9
WET pmax pmax
comp=Z,27nm,1.8s
WET Wettzell 14.98 338 eP P 08 15 18.9 +7.9
comp=Z,27nm,1.8s
ORIF Oris-en-Rattie 15.08 313 eP P 08 15 11.7 -0.6
comp=Z,32nm,1.2s
ORIF eR
comp=Z,821nm,22.5s
DPC Dobruska-Polom 15.28 348 eP P 08 15 15.1 +0.2
DPC ex x 08 15 21.5
DPC AMS AMS 08 23 00.0
comp=Z,2μm,14.9s
PRU Pruhonice 15.30 343 eP P 08 15 15.3 +0.1
PRU e 08 15 21.5
PRU Pruhonice 15.30 343 eP P 08 15 15.3 +0.1
PRU ex x 08 15 21.5
PRU AMS AMS 08 22 50.0
comp=Z,2μm,14.9s
ANN Anapa 15.38 48 eP P 08 15 15.2 -1.1
ANN eS S 08 18 04.2 -1.5
ANN pmax pmax
comp=Z,21nm,1.1s
ANN Anapa 15.38 48 eP P 08 15 15.2 -1.1
comp=Z,21nm,1.1s
UPC Upice 15.48 347 eP P 08 15 19.2 +1.7
UPC e 08 15 23.8
KSP Ksiaz 15.76 348 eP P 08 15 22.2 +1.2
KSP epP 08 15 26.9
VIVF Saint-Julien-l 15.77 311 eP P 08 15 20.6 -0.7
PVCC Panska Ves 15.80 344 eP P 08 15 22.5 +0.9
PVCC AMS AMS 08 23 10.0
comp=Z,2μm,13.4s
LASF Ste Croix 15.91 308 eP P 08 15 22.7 -0.4
comp=Z,89nm,1.5s
CABF La Chapelle 15.96 319 eP P 08 15 20.3 -3.3
comp=Z,30nm,1.2s
CABF La Chapelle 15.96 319 eP P 08 15 20.3 -3.3
CABF pmax pmax
comp=Z,15nm,1.2s
GRA1 Grafenberg Arr 15.99 336 eP P 08 15 29.7 +5.7
comp=Z,30nm,1.3s
GRF Grafenberg Arr 15.99 336 eP P 08 15 29.7 +5.7
GRF pmax pmax
comp=Z,30nm,1.3s
GRF MLR MLR
comp=Z,400nm,19.1s
GRF Grafenberg Arr 15.99 336 eP P 08 15 29.7 +5.7
GRF pmax pmax
comp=Z,30nm,1.3s
GRF Grafenberg Arr 15.99 336 eP P 08 15 29.7 +5.7
comp=Z,30nm,1.3s
BFO Black Forest 16.03 327 eP P 08 15 30.4 +5.8
BFO pmax pmax
comp=Z,24nm,1.4s
BFO Black Forest 16.03 327 eP P 08 15 30.4 +5.8
comp=Z,24nm,1.4s
NKC Novy Kostel 16.08 339 AMS AMS 08 23 10.0
comp=Z,2μm,15.4s
AKASG Malin Array Be 16.22 18 Pn P 08 15 24.1 -2.8
comp=Z,2.2nm,0.3s,baz=212,slow=10,SNR=9.8
AKASG Sn S 08 18 32.8 +7.6
baz=201,slow=23,SNR=9.0
AKASG Malin Array Be 16.22 18 Pn P 08 15 24.1 -2.8
BRG Berggiesshubel 16.27 343 eP P 08 15 28.3 +0.8
BRG pmax pmax
comp=Z,12nm,1.3s
BRG MLR MLR
comp=N,1μm,15.1s
BRG MLR MLR
comp=E,540nm,15.1s
BRG MLR MLR
comp=Z,2μm,15.1s
BRG Berggiesshubel 16.27 343 eP P 08 15 28.3 +0.8
comp=Z,12nm,1.3s
BRG i 08 15 32.8
BRG e 08 18 42.9
SOC Sochi 16.28 55 eP P 08 15 25.7 -2.0
SOC e 08 18 23.4
SOC pmax pmax
comp=Z,55nm,1.2s
SOC pmax pmax
comp=N,74nm,1.0s
SOC pmax pmax
comp=E,14nm,0.9s
SOC MLR MLR
comp=Z,85nm,6.0s
SOC MLR MLR
comp=E,69nm,7.0s
SOC Sochi 16.28 55 eP P 08 15 25.7 -2.0
comp=E,74nm,1.0s
HINF Hinteralfeld 16.35 323 eP P 08 15 28.3 -0.3
CDF Champ du Feu 16.57 325 eP P 08 15 31.2 -0.1
comp=E,82nm,1.3s
CDF Champ du Feu 16.57 325 eP P 08 15 31.2 -0.1
CDF pmax pmax
comp=Z,41nm,1.3s
MOX Moxa 16.69 338 eP P 08 15 33.8 +1.0
MOX MLR MLR
comp=Z,1μm,17.0s
MOX Moxa 16.69 338 i P P 08 15 33.8 +1.0
MOX L 08 23 56.0
MTLF Montolieu 16.70 304 eP P 08 15 33.0 0.0
HAU Haudompre 16.73 323 eP P 08 15 32.9 -0.4
comp=Z,33nm,1.1s
HAU eR
comp=Z,308nm,20.8s

CLL Collm 16.90 342⇓iP P 08 15 39.8 +4.4
CLL pmax pmax
comp=Z,66nm,1.8s
CLL Collm 16.90 342⇓iP P 08 15 39.8 +4.4
comp=Z,66nm,1.8s
CLL i 08 15 45.3
CLL Collm 16.90 342 P P 08 15 36.0 +0.6
CLL i 08 15 39.8
CLL i *PP 08 15 45.3
SMF Signal de Mont 17.22 316 eP P 08 15 37.5 -2.0
CAF Calviac 17.44 308 eP P 08 15 42.3 0.0
TNS Taunus Mts 17.45 331 eP P 08 15 45.6 +3.3
TNS pmax pmax
comp=Z,51nm,1.3s
TNS Taunus Mts 17.45 331 eP P 08 15 45.6 +3.3
comp=Z,51nm,1.3s
AVF Avril sur Loir 17.58 315 eP P 08 15 42.9 -1.2
comp=Z,12nm,0.9s
AVF Avril sur Loir 17.58 315 eP P 08 15 42.9 -1.2
AVF pmax pmax
comp=Z,6.0nm,0.9s
SSF Saint Saulge 17.65 316 eP P 08 15 43.5 -1.4
BGF Bois d'Agland 17.75 314 eP P 08 15 45.6 -0.5
EPF Esparros 17.89 301 eP P 08 15 48.0 +0.1
RJF Les Rejaudoux 17.96 309 eP P 08 15 50.2 +1.5
RJF eR
comp=Z,333nm,18.5s
WLF Walferdange 17.99 327 eP P 08 15 51.9 +2.9
WLF pmax pmax
comp=Z,73nm,1.2s
WLF Walferdange 17.99 327 eP P 08 15 51.9 +2.9
comp=Z,73nm,1.2s
WLF Walferdange 17.99 327 eP P 08 15 51.9 +2.9
comp=Z,73nm,1.2s
TCF Toulx Ste Croi 17.99 313 eP P 08 15 49.1 0.0
LFF La Frestale 18.30 307 eP P 08 15 54.0 +1.0
KIV Kislovodsk 18.41 56c iP P 08 15 53.3 -1.2
KIV pmax pmax
comp=Z,34nm,1.0s
KIV MLR MLR
comp=Z,200nm,24.0s
KIV Kislovodsk 18.41 56 eP P 08 15 53.5 -1.0
comp=Z,31nm,0.9s
KIV Kislovodsk 18.41 56 eP P 08 15 53.5 -1.0
comp=Z,31nm,0.9s
ETSF Etsaut 18.48 300 eP P 08 15 56.3 +1.0
comp=Z,18nm,0.7s
ETSF Etsaut 18.48 300 eP P 08 15 56.3 +1.0
ETSF pmax pmax
comp=Z,9.0nm,0.7s
SUW Suwalki 18.55 3 eP P 08 15 55.8 -0.2
SUW pmax pmax
comp=Z,207nm,0.9s
SUW Suwalki 18.55 3 eP P 08 15 55.8 -0.2
comp=Z,207nm,0.9s
SUW Suwalki 18.55 3 eP P 08 15 55.8 -0.2
comp=Z,207nm,0.9s
HGN Heimansgroeve 18.89 329 eP P 08 16 02.2 +2.1
comp=Z,37nm,2.2s
GIVF Givet 18.90 326 eP P 08 16 01.0 +0.7
comp=Z,21nm,0.6s
GIVF Givet 18.90 326 eP P 08 16 01.0 +0.7
GIVF pmax pmax
comp=Z,11nm,0.6s
DOU Dourbes 19.01 325 P P 08 16 03.4 +2.0
SJPF Ste Jean 19.01 300 eP P 08 16 01.8 +0.2
comp=Z,82nm,1.0s
SJPF Ste Jean 19.01 300 eP P 08 16 01.8 +0.2
SJPF pmax pmax
comp=Z,41nm,1.0s
GNI Garni 19.03 69d iP P 08 16 01.1 -0.7
GNI pmax pmax
comp=Z,56nm,1.7s
GNI MLR MLR
comp=Z,400nm,16.0s
GNI Garni 19.03 69 P P 08 16 00.9 -0.9
comp=Z,1.4nm,0.3s,baz=19,slow=14,SNR=4.4
GNI Garni 19.03 69 eP P 08 16 00.4 -1.4
BAIF Baives 19.16 325 eP P 08 16 02.9 -0.3
SNF Seneffe 19.44 326 P P 08 16 07.7 +1.5
WTSB Winterswijk 19.46 332 eP P 08 16 00.1 -6.5
MFF Saint Martin d 19.57 311 eP P 08 16 08.1 +0.3
comp=Z,12nm,0.5s
MFF Saint Martin d 19.57 311 eP P 08 16 08.1 +0.3
MFF pmax pmax
comp=Z,6.0nm,0.5s
BSEG Bad Segeberg 19.98 341 eP P 08 16 13.1 +1.0
BSEG pmax pmax
comp=Z,72nm,1.3s
BSEG Bad Segeberg 19.98 341 eP P 08 16 13.1 +1.0
comp=Z,72nm,1.3s
VRSR Storozhevoye 20.28 34 eP P 08 16 13.8 -1.5
VRSR e*SP 08 16 23.9
VRSR e 08 16 33.6
VRSR MLR MLR
comp=N,130nm,17.0s
VRSR MLR MLR
comp=Z,200nm,17.0s,MS3.5
VRSR MLR MLR
comp=E,180nm,23.0s
ESDC Sonseca Array 20.46 289 P P 08 16 17.5 +0.3
comp=E,5.0nm,0.6s,baz=86,slow=11,SNR=24
ESLA Sonseca Array 20.46 289 eP P 08 16 17.5 +0.3
comp=E,12nm,1.3s
ESLA Sonseca Array 20.46 289 eP P 08 16 17.5 +0.2
comp=E,12nm,1.3s
LDF La Druitiere 20.53 316 eP P 08 16 18.2 +0.3
comp=E,13nm,0.6s
LDF La Druitiere 20.53 316 eP P 08 16 18.2 +0.3
LDF pmax pmax
comp=Z,6.0nm,0.6s
FLN La Foliniere 20.82 316 eP P 08 16 21.2 +0.3
comp=Z,39nm,1.0s
FLN eR
comp=Z,420nm,18.0s
FLN La Foliniere 20.82 316 eP P 08 16 21.2 +0.3
FLN pmax pmax
comp=Z,20nm,1.0s
FLN MLR MLR
comp=Z,420nm,18.0s,MS3.9
GRR Gorron 20.85 315 eP P 08 16 21.7 +0.5
comp=Z,27nm,0.9s
GRR Gorron 20.85 315 eP P 08 16 21.7 +0.5
GRR pmax pmax
comp=Z,13nm,0.9s
SGMF Saint Gilles 21.78 313 eP P 08 16 31.2 +0.7
comp=Z,63nm,1.2s,mb4.6
SGMF Saint Gilles 21.78 313 eP P 08 16 31.2 +0.7
SGMF pmax pmax
comp=Z,32nm,1.2s,mb4.6
QUIF Quistinic 22.00 312 eP P 08 16 34.1 +1.4
comp=Z,22nm,0.8s,mb4.3
QUIF Quistinic 22.00 312 eP P 08 16 34.1 +1.4
QUIF pmax pmax
comp=Z,11nm,0.8s,mb4.3
OBN Obninsk 22.25 23 P P 08 16 35.1 0.0
comp=Z,465nm,1.0s,SNR=8.7
OBN Obninsk 22.25 23c iP P 08 16 34.0 -1.1
OBN e 08 16 55.8
OBN eS S 08 20 35.2 +2.7
OBN eSS SS 08 21 20.1 +6.2
OBN pmax pmax
comp=Z,166nm,1.7s,mb5.2
OBN MLR MLR
comp=Z,400nm,12.0s,MS4.1
OBN Obninsk 22.25 23 eP P 08 16 34.1 -1.0
comp=Z,64nm,0.8s,mb5.1
ROSF Rostrenen 22.25 313 eP P 08 16 36.5 +1.3
comp=Z,36nm,1.1s,mb4.4
ROSF Rostrenen 22.25 313 eP P 08 16 36.5 +1.3
ROSF pmax pmax
comp=Z,18nm,1.0s,mb4.5
MUD Monsted U'grnd 22.53 342 eP P 08 16 42.3 +4.5
MUD pmax pmax
comp=Z,25nm,1.0s,mb4.6
MUD MLR MLR
comp=Z,360nm,19.0s,MS3.8
MUD Monsted U'grnd 22.53 342 i P P 08 16 42.3 +4.5
comp=Z,25nm,1.0s,mb4.6
MUD i S 08 21 02.4
MUD i 08 22 08.1
comp=Z,350nm,19.0s
MOS Moscow 23.10 24 eP P 08 16 43.5 +0.1
MOS e 08 16 55.8
MOS ePPP PPP 08 17 18.4 -6.2
MOS eS S 08 20 52.1 +4.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MOS				eSS	SS	08 21 29.7	-4.7
MOS				pmax	pmax		
	comp=Z,300nm,1.4s,mb5.5						
MOS				pmax	pmax		
	comp=Z,154nm,1.3s,mb5.3						
MOS				pmax	pmax		
	comp=N,75nm,1.0s						
VSU	Vasula	23.24	7c	iP	P	08 16 44.7	-0.1
HFS	Hagfors	25.14	351	P	P	08 17 03.1	0.0
	comp=N,6.6nm,0.5s,mb4.4,baz=162,slow=9.4,SNR=26						
EKA	Eskdalemuir Ar	26.01	327	P	P	08 17 12.5	+1.2
	comp=N,9.6nm,0.8s,mb4.4,baz=135,slow=8.3,SNR=14						
FINES	FINESS Array B	26.13	5	P	P	08 17 13.1	+0.7
	comp=N,7.4nm,0.7s,mb4.3,baz=160,slow=12,SNR=22						
FINES				PcP	PcP	08 20 39.7	+0.1
	comp=N,0.9nm,0.5s,baz=180,slow=3.8,SNR=3.8						
NB2	NORSAR Subarra	26.36	349	P	P	08 17 14.6	+0.1
	comp=N,2.9nm,0.6s,mb4.0,baz=160,slow=9.3						
NB2	NORSAR Subarra	26.36	349	P	P	08 17 14.6	+0.1
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	26.36	349	P	P	08 17 15.3	+0.8
	comp=Z,3.2nm,0.7s,mb4.0,baz=158,slow=9.2,SNR=14						
KAF	Kangasniemi	26.81	5	ep	P	08 17 20.1	+1.5
	comp=Z,1.1nm,0.3s,mb3.9						
KAF	Kangasniemi	26.81	5	eP	P	08 17 20.1	+1.5
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
JOF	Joensuu	28.13	10	ep	P	08 17 28.9	-1.7
	comp=Z,4.5nm,0.6s,mb4.3						
ASHO	Ashiyiah	31.76	100	P	P	08 18 02.4	-0.9
	SNR=7.1						
ARQ	Araqi	32.78	102	P	P	08 18 11.5	-0.6
	SNR=9.7						
APA	Apatity	32.84	8⇑	iP	P	08 18 13.3	+1.0
APA				i		08 18 31.2	
APA				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
BSY	Bisya	33.62	102	P	P	08 18 18.7	-0.6
	SNR=7.8						
ABTO	Aybut	33.63	114	P	P	08 18 19.3	-0.3
	SNR=7.6						
BSYO	Bisya	33.65	102	P	P	08 18 18.7	-1.0
	SNR=7.8						
SVE	Sverdlovsk	33.88	39	eP	P	08 18 20.0	-1.3
SVE				e	pP	08 18 33.5	+1.1
SMDO	Samad	34.14	101	P	P	08 18 23.3	-0.6
	SNR=9.3						
ARCES	ARCESS Array B	34.16	3	P	P	08 18 23.4	-0.2
	comp=Z,5.9nm,0.8s,mb4.6,baz=184,slow=8.9,SNR=25						
ARCES				LR	LR	08 34 15.6	
	comp=Z,535nm,21.0s,MS4.2,baz=193,slow=40						
RBK	Rabkut	34.22	113	P	P	08 18 24.2	-0.3
	SNR=12						
JMDO	Jabal Madar	34.52	102	P	P	08 18 26.4	-0.7
	SNR=5.8						
WBK	Wadi Bani Khal	35.10	101	P	P	08 18 32.5	+0.4
	SNR=10						
DBIC	Dimbokro	37.45	226	P	P	08 18 51.3	-0.8
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
DBIC	Dimbokro	37.45	226	P	P	08 18 51.3	-0.8
	comp=Z,2.9nm,0.6s,mb4.3,baz=27,slow=9.6,SNR=5.1						
DBIC	Dimbokro	37.45	226	P	P	08 18 52.7	+0.6
BVA0	Borovoye Array	38.38	47	iP	P	08 18 58.7	-0.7
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.6s						
BVAR	Borovoye Array	38.38	47	P	P	08 18 59.3	-0.1
	comp=Z,1.6nm,0.5s,mb4.0,baz=263,slow=6.3,SNR=12						
CHKZ	Chkalovo	38.60	46	P	P	08 19 00.5	-0.7
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
KMBO	Kilima Mbogo	39.36	154	P	P	08 19 09.1	+1.2
	comp=Z,1.0nm,0.7s,mb3.7,baz=346,slow=9.6,SNR=4.3						
KMBO				LR	LR	08 37 19.1	
	comp=Z,236nm,18.1s,MS4.1,baz=301,slow=39						
AAK	Ala-Archa	41.29	63	eP	P	08 19 22.6	-1.0
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
AAK	Ala-Archa	41.29	63	eP	P	08 19 22.6	-1.1
	comp=Z,3.0nm,0.7s,mb4.0						
FRU	Bishkek	41.35	63	eP	P	08 19 25.0	+0.9
KURK	Kurchatov	43.38	51d	iP	P	08 19 40.4	-0.2
KURK	Kurchatov	43.38	51	eP	P	08 19 40.1	-0.5
	comp=Z,13nm,1.2s,mb4.5						
SDNR	Sundarnagar	46.04	78	eP	P	08 20 01.5	-0.6
MKAR	Makanchi Array	46.18	56	eP	P	08 20 02.6	-0.4
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
WMQ	Urumqi	50.51	59⇓	iP	P	08 20 37.7	+1.0
WMQ				AP	pP	08 20 48.1	0.0
WMQ				XP	sP	08 20 51.9	-1.0
WMQ				PCP	PcP	08 21 56.0	+1.5
WMQ				S	S	08 27 48.0	+1.5
WMQ				XS		08 28 04.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,136nm,4.8s						
WMQ				LR	LR		
	comp=N,324nm,23.4s,MS4.4						
WMQ				LR	LR		
	comp=E,219nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,175nm,22.2s,MS4.0						
KOLN	Koldanda	52.80	80	eP	P	08 20 53.6	-0.5
	comp=Z,108nm,1.4s,mb5.6						
GKN	Gorkha	53.53	79	eP	P	08 20 58.9	-0.7
	comp=Z,72nm,0.6s,mb5.8						
DMN	Daman	54.08	79	eP	P	08 21 03.2	-0.4
	comp=Z,125nm,0.8s						
KKN	Kakani	54.14	79	eP	P	08 21 03.6	-0.4
	comp=Z,46nm,0.7s,mb5.5						
KKN	Kakani	54.14	79	eP	P	08 21 03.6	-0.4
KKN				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.2						
PKI	Pulchoki	54.34	79	eP	P	08 21 04.9	-0.6
	comp=Z,89nm,0.9s,mb5.7						
PKI	Pulchoki	54.34	79	eP	P	08 21 04.9	-0.6
PKI				pmax	pmax		
	comp=Z,45nm,0.9s,mb5.4						
TSUM	Tsumeb	54.52	184	P	P	08 21 06.4	-0.6
	comp=Z,3.3nm,0.9s,mb4.3,baz=327,slow=11,SNR=3.0						
TSUM				LR	LR	08 47 16.8	
	comp=Z,354nm,20.1s,MS4.4,baz=142,slow=39						
GUN	Gumba	54.57	79	eP	P	08 21 06.7	-0.4
	comp=Z,75nm,0.7s,mb5.8						
JIRN	Jiri	54.92	79	eP	P	08 21 09.3	-0.4
	comp=Z,33nm,0.6s,mb5.5						
MOY	Mondy	57.06	47	eP	P	08 21 25.4	+0.6
LSA	Lhasa	57.98	74	P	P	08 21 32.0	+0.4
LSA				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb5.0						
LSA	Lhasa	57.98	74	P	P	08 21 32.0	+0.4
	comp=Z,7.3nm,0.4s,mb5.1						
TLY	Talaya	58.63	46	eP	P	08 21 35.2	-0.5
TLY				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.9						
TLY	Talaya	58.63	46	eP	P	08 21 36.4	+0.7
	comp=Z,10nm,1.1s,mb4.8						
ZAK	Zakamensk	58.84	48⇓	iP	P	08 21 37.0	-0.2
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
LBTB	Lobatse	60.33	176	P	P	08 21 48.3	+0.5
	comp=Z,1.6nm,0.6s,mb4.3,baz=19,slow=13,SNR=3.6						
LBTB				LR	LR	08 50 05.0	
	comp=Z,249nm,19.6s,MS4.4,baz=11,slow=38						
GTA	Gaotai	60.53	61	⇑P	P	08 21 49.0	0.0
GTA				AP	pP	08 21 59.1	-1.6
GTA				XP	sP	08 22 02.4	-2.9
GTA				PCP	PcP	08 22 34.5	+1.5
GTA				PP	PP	08 24 03.4	-1.2
GTA				SCP		08 26 32.7	
GTA				S	S	08 29 58.2	-1.9
GTA				XS		08 30 15.3	
GTA				SS	SS	08 33 57.3	-2.4
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,135nm,5.3s						
GTA				LR	LR		
	comp=N,235nm,18.2s,MS4.5						
GTA				LR	LR		
	comp=E,271nm,18.6s,MS4.5						
GTA				LR	LR		
	comp=Z,128nm,16.7s,MS4.1						
SCHQ	Schefferville	60.88	319	P	P	08 21 51.7	+0.5
	comp=Z,4.4nm,0.7s,mb4.7,baz=49,slow=7.8,SNR=15						
SONM	Songino Array	61.66	50	P	P	08 21 56.6	+0.1
	comp=Z,6.8nm,0.8s,mb4.8,baz=282,slow=8.5,SNR=32						
TIXI	Tiksi	61.92	20	iP	P	08 21 57.5	-0.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.4						
ULN	Ulaanbaatar	62.05	49	eP	P	08 21 59.0	-0.1
ULN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
ULN	Ulaanbaatar	62.05	49	eP	P	08 21 59.0	-0.2
	comp=Z,8.8nm,0.7s,mb5.0						
BOD	Bodaibo	62.08	37	eP	P	08 21 57.9	-1.3
BOD				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
LZH	Lanzhou	64.82	63	⇑P	P	08 22 17.5	0.0
LZH				AP	pP	08 22 26.5	-2.8
LZH				XP	sP	08 22 30.5	-3.3
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.1						
LZH	Lanzhou	64.82	63	⇑P	P	08 22 17.5	0.0
	comp=Z,30nm,1.5s,mb5.1						
LZH				pP	pP	08 22 26.5	-2.8
LZH				sP	sP	08 22 30.5	-3.3
CD2	Chengdu	67.16	68	P	P	08 22 33.0	+0.6
SUR	Sutherland	67.53	180	LR	LR	08 53 21.2	
	comp=Z,219nm,18.3s,MS4.4,baz=337,slow=37						
CLNS	Chul'man	67.79	35	eP	P	08 22 32.6	-3.3
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,2.0nm,0.7s						
HHC	Hu-ho-hao-te	68.01	55	eP	P	08 22 36.8	-0.8
HHC				AMB	AMB		
	comp=Z,28nm,0.6s,mb5.5						
HHC				AMB	AMB		
	comp=Z,117nm,6.8s						
HIA	Hailar	68.97	44	eP	P	08 22 44.3	+0.9
HIA				pmax	pmax		
	comp=Z,19nm,1.0s						
HIA	Hailar	68.97	44	eP	P	08 22 44.3	+0.9
	comp=Z,19nm,1.0s,mb5.0						
XAN	Xi'an	69.46	62	P	P	08 22 46.7	0.0
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
CMAR	Chiang Mai Arr	69.61	81	P	P	08 22 48.1	+0.2
	comp=Z,1.1nm,0.4s,mb4.2,baz=270,slow=2.9,SNR=11						
GYA	Guiyang	71.58	70⇑	iP	P	08 22 59.7	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
ENH	Enshi	71.76	66	eP	P	08 23 00.5	-0.2
	comp=Z,6.8nm,0.7s,mb4.7						
BILL	Bilibino	73.47	13⇑	iP	P	08 23 10.4	+0.4
BILL				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
CN2	Changchun	75.23	47	eP	P	08 23 21.2	+0.5
CN2				eAP	pP	08 23 32.1	-0.5
CN2				eS	S	08 32 54.8	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CN2				AMB	AMB		
	comp=Z,300nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=E,600nm,16.0s,MS5.1						
CN2				LR	LR		
	comp=Z,700nm,18.0s,MS5.0						
YKA	Yellowknife Ar	76.12	341	P	P	08 23 26.8	+1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=34,slow=5.4,SNR=16						
NJ2	Nanjing	77.59	60	eP	P	08 23 34.0	-0.3
NJ2				AP	pP	08 23 44.3	-1.9
NJ2				XP	sP	08 23 48.2	-2.4
NJ2				PP	PP	08 26 30.0	-1.2
NJ2				XS		08 33 38.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,26nm,4.2s						
NJ2				LR	LR		
	comp=N,420nm,14.2s,MS5.3						
NJ2				LR	LR		
	comp=E,1μm,16.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,466nm,17.2s,MS4.9						
ULM	Lac du Bonnet	78.25	324	P	P	08 23 39.0	+1.6
	comp=Z,6.2nm,1.1s,mb4.5,baz=42,slow=5.3,SNR=5.4						
IMA	Indian Mountai	78.68	358	eP	P	08 23 42.2	+2.7
IMA				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.3						
IMA	Indian Mountai	78.68	358	eP	P	08 23 42.2	+2.7
	comp=Z,43nm,1.1s,mb5.3						
COLA	College	79.59	355	eP	P	08 23 46.5	+2.0
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
COLA	College	79.59	355	eP	P	08 23 46.5	+2.0
	comp=Z,3.2nm,0.8s,mb4.3						
DAWY	Dawson	79.59	352	eP	P	08 23 46.9	+2.3
ILAR	Eielson Array	79.62	355	P	P	08 23 47.1	+2.5
	comp=Z,2.4nm,0.6s,mb4.3,baz=346,slow=3.7,SNR=28						
SSE	Sheshan	79.77	59	eP	P	08 23 46.0	-0.2
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,60nm,7.0s						
SSE	Sheshan	79.77	59	eP	P	08 23 46.0	-0.2
	comp=Z,19nm,0.8s,mb5.1						
BDFB	Brasilia	82.99	245	P	P	08 24 06.0	+2.8
	comp=Z,3.7nm,0.9s,mb4.4,baz=79,slow=0.9,SNR=4.9						
BDFB				LR	LR	09 01 04.0	
	comp=Z,247nm,18.6s,MS4.6,baz=55,slow=36						
EDM	Edmonton	83.29	335	eP	P	08 24 07.0	+3.0
PDAR	Pinedale Array	90.13	326	P	P	08 24 37.9	+0.4
	comp=Z,7.4nm,1.4s,mb4.8,baz=63,slow=4.2,SNR=4.9						
BMO	Blue Mountains	91.68	332	eP	P	08 24 45.5	+0.8
	comp=Z,4.6nm,1.3s,mb4.7						
TXAR	Lajitas Array	97.30	314	P	P	08 25 14.2	+3.5
	comp=Z,0.1nm,0.5s,baz=83,slow=7.3,SNR=2.9						
LPAZ	La Paz	98.86	256	PKiKP		08 29 51.4	
	comp=Z,0.4nm,0.5s,baz=13,slow=1.7,SNR=3.5						
WRA	Warramunga Arr	119.72	94	PKP	PKPdf	08 30 28.6	+1.7
	comp=Z,0.6nm,0.5s,baz=300,slow=2.0,SNR=4.1						
ASAR	Alice Springs	121.18	98	PKP	PKPdf	08 30 31.8	+2.2
	comp=Z,1.3nm,0.6s,baz=330,slow=1.6,SNR=5.0						

IDC 09 08:17:31.8±9.4**,30.07S**×**178.79W,h383**^{km}±97^{km}**, mb2.8**/2**,mb1 3.0**/3**,mb1mx2.9**/14**,mbtmp3.6**/3**,Error ellipse: s-maj=95.4km s-min=53.2km az=15.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.85	201	P	P	08 19 36.8	-0.4
	0.7nm,0.3s,baz=210,slow=23,SNR=14						
URZ				S	S	08 21 17.4	+1.1
	1.0nm,0.3s,baz=298,slow=23,SNR=13						
ASAR	Alice Springs	42.44	267	P	P	08 24 50.9	-1.4
	0.2nm,0.4s,baz=100,slow=8.0,SNR=4.3						
WRA	Warramunga Arr	43.40	272	P	P	08 24 58.5	-1.4
	0.6nm,0.4s,baz=111,slow=7.3,SNR=11						
FINES	FINESS Array B	144.60	340	PKP	PKPdf	08 36 21.9	-0.5
	0.9nm,0.8s,baz=108,slow=4.4,SNR=5.3						

*IDC **09** 08:18:48.0±0.9,35.32N×21.38E,mb3.9/9,mb1 4.0/14, mb1mx3.9/24,mbtmp3.9/14,ML4.1/5,Error ellipse: s-maj=21.8km s-min=17.6km az=37.0*
*CSEM **09** 08:18:48.8±0.1,35.16N×21.29E,h10^{km},mb4.1/4,Error ellipse: s-maj=2.2km s-min=1.5km az=15.0*
*ATH **09** 08:18:50.6,35.23N×21.35E,h38^{km},MD3.9/17,ML4.0*
*MOS **09** 08:18:51.3±1.3,35.40N×21.29E,h33^{km},mb4.1/8,Error ellipse: s-maj=12.0km s-min=5.6km az=94.2*
*NEIC **09** 08:18:52.6±0.8,35.34N×21.39E,h30^{km},ML4.0(ATH), Error ellipse: s-maj=10.5km s-min=4.8km az=212.0*
*PDG **09** 08:18:54.1±0.1,35.62N×19.81E,h11^{km}±1^{km}*
ISC 09 08:18:51.0±0.8**,35.36N**±0.05×**21.26E**±0.05**,h37**^{km}±6^{km}**, n112,**σ1^{s}**23**/124**,mb4.2**/15**,1C-7D,Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.71	57	ePB	P	08 19 20.4	+1.5
ITM	Ithomi	1.89	16	ePB	P	08 19 24.5	+3.0
VLI	Veliai	1.92	45	ePN	P	08 19 23.8	+1.9
VLI	Veliai	1.92	45	ePb	P	08 19 24.2	+2.3
GVD	Gavdhos	2.38	102	eP	P	08 19 27.6	-0.9
GVD	Gavdhos	2.38	102	eP	P	08 19 27.6	-0.8
VAM	Vamos	2.40	88	ePN	P	08 19 28.9	+0.1
VLS	Valsamata	2.86	349	ePN	P	08 19 38.4	+3.1
VLS	Valsamata	2.86	349	ePn	P	08 19 36.8	+1.5
IDI	Anoyia	2.97	90	Pn	P	08 19 36.8	-0.1
	25nm,0.3s,baz=279,slow=13,SNR=50						
IDI				Sn	S	08 20 11.1	-0.6
	36nm,0.3s,baz=338,slow=23,SNR=10						
NAIG	Nisos Aigina	2.99	36	ePN	P	08 19 38.5	+1.3
NSAL	Nisos Salamina	3.10	34	ePN	P	08 19 40.0	+1.3
ATH	Athens Observa	3.27	36	ePN	P	08 19 42.5	+1.3
PTL	Penteli	3.40	37	ePN	P	08 19 43.5	+0.5
MPAR	Parnis Oros	3.42	35	ePN	P	08 19 44.5	+1.2
THR3	Thira Island,	3.52	72	eP	P	08 19 44.0	-0.7
SANT	Santorini	3.56	72	eP	P	08 19 43.9	-1.3
SANT	Santorini	3.56	72	eP	P	08 19 43.9	-1.3
THR1	Thera Island	3.56	72	eP	P	08 19 44.8	-0.5
LKR	Lokris	3.56	22	ePN	P	08 19 46.2	+0.8
LKR	Lokris	3.56	22	ePn	P	08 19 45.8	+0.4
EVR	Evrytania	3.58	7	ePn	P	08 19 49.0	+3.5
EVR	Evrytania	3.58	7	ePN	P	08 19 48.2	+2.7
AGG	Agios Georgios	3.75	13	eP	P	08 19 50.1	+2.1
APE	Apeiranthos	3.85	63	ePN	P	08 19 49.0	-0.4
APE	Apeiranthos	3.85	63	ePn	P	08 19 49.5	+0.1
IGT	Igoumenitsa	4.23	350	eP	P	08 19 56.0	+1.3
NEO	Neokhori	4.24	21	ePN	P	08 19 56.0	+1.1
NEO	Neokhori	4.24	21	ePn	P	08 19 55.0	+0.1
AOS	Alonnisos	4.34	28	eP	P	08 19 56.1	-0.2
KEK	Kerkira	4.50	345	ePN	P	08 20 00.0	+1.4
KEK	Kerkira	4.50	345	ePn	P	08 19 58.9	+0.3
KARP	Karpathos	4.82	86	ePN	P	08 20 02.0	-1.2
KARP	Karpathos	4.82	86	ePn	P	08 20 00.5	-2.7
LIT	Litokhoron	4.83	11	eP	P	08 20 04.1	+0.8
PAIG	Paliouri	4.95	22	eP	P	08 20 04.9	0.0
KZN	Kozani	4.95	5	ePN	P	08 20 06.8	+1.8
KZN	Kozani	4.95	5	ePn	P	08 20 06.3	+1.3
PLG	Polygyros	5.29	18	ePN	P	08 20 10.5	+0.7
PLG	Polygyros	5.29	18	ePn	P	08 20 09.8	0.0
OUR	Ouranopolis	5.41	23	eP	P	08 20 11.2	-0.2
FNA	Florina	5.41	1	eP	P	08 20 11.9	+0.5
LOS	Limnos	5.48	32	eP	P	08 20 12.2	-0.1
LCI	Lecce	5.55	334	ePn	P	08 20 14.3	+0.9
ARG	Arkhangelos	5.65	79	ePn	P	08 20 13.0	-1.7
BIA	Bitola	5.65	1	i Sg	S	08 21 16.0	-3.3
GRG	Griva	5.66	9	eP	P	08 20 15.3	+0.4
SOH	Sokhos	5.70	16	eP	P	08 20 15.7	+0.3
OHR	Ohrid	5.75	357	i Sg	S	08 21 20.4	-1.5
KNT	Kendrikon	5.93	12	eP	P	08 20 19.0	+0.3
SRS	Serrai	6.03	17	eP	P	08 20 19.4	-0.7
ORI	Oriolo Calabro	6.05	322	ePn	P	08 20 21.6	+1.3
PE1	Pezze di Greco	6.22	332	ePn	P	08 20 21.9	-0.9
LTRZ	Laterza	6.30	327	ePn	P	08 20 24.0	+0.1
LTRZ	Laterza	6.30	327	ePn	P	08 20 24.0	+0.1
MGR	Morigerati	6.57	318	ePn	P	08 20 27.5	-0.2
MGR	Morigerati	6.57	318	ePn	P	08 20 27.5	-0.2
ALN	Alexandroupoli	6.69	33	eP	P	08 20 28.6	-0.8
ULC	Ulcinj	6.78	347⇓	iPn	P	08 20 29.0	-1.6
ULC				eSn	S	08 21 40.8	-6.6
CDT	Castel del Mon	6.93	327	ePn	P	08 20 32.1	-0.6
SGO	Sicignano	7.00	320	ePn	P	08 20 34.5	+0.7
BUM	Brajici-Budva	7.17	346⇓	iPn	P	08 20 34.3	-1.8
BUM				eSn	S	08 21 49.4	-7.8
TTG	Podgorica	7.23	348⇓	iPn	P	08 20 35.7	-1.2
TTG				eSn	S	08 21 52.0	-6.6
PVY	Plav	7.29	353⇓	iPn	P	08 20 37.7	-0.1
PVY				eSn	S	08 21 56.2	-4.1
HCY	Herceg Novi	7.39	344⇓	iPn	P	08 20 36.9	-2.4
HCY				eSn	S	08 21 53.8	-9.0
IVA	Berane	7.57	352	ePn	P	08 20 41.7	0.0
IVA				eSn	S	08 22 02.6	-4.6
NKY	Niksic	7.64	347⇓	iPn	P	08 20 41.1	-1.6
NKY				eSn	S	08 22 01.7	-7.4
STON	Ston	7.99	341	i Pn	P	08 20 44.9	-2.6
STON				i Sn	S	08 22 06.3	-11
UPM	Unac-Piva	8.04	348	ePn	P	08 20 46.8	-1.3
UPM				eSn	S	08 22 11.2	-7.6
PLE	Pljevlja	8.09	350	ePn	P	08 20 48.3	-0.5
PLE				eSn	S	08 22 13.5	-6.5
OBKA	Obir	12.23	338⇑	iPN	P	08 21 42.0	-3.5
OBKA	Obir	12.23	338	i SN	S	08 23 48.2	-13
EIL	Elat	12.87	112	Pn	P	08 21 50.6	-3.6
	0.9nm,0.3s,baz=312,slow=13,SNR=12						
EIL				Sn	S	08 24 02.5	-15
	2.1nm,0.3s,baz=103,slow=7.8,SNR=7.3						
ASF	Jabal al Asfar	13.39	99	Pn	P	08 21 56.2	-4.9
	0.4nm,0.3s,baz=195,slow=18,SNR=2.1						
ASF				Sn	S	08 24 17.4	-12
	0.6nm,0.3s,baz=98,slow=22,SNR=3.9						
MOA	Molln	13.52	339⇓	iPN	P	08 21 59.6	-3.0
MOA	Molln	13.52	339	i SN	S	08 24 19.5	-13
DAVOX	Davos	14.26	327	Sn	S	08 24 41.1	-8.9
	0.3nm,0.3s,baz=346,slow=20,SNR=2.1						
GERES	GERESS Array B	14.58	340	Pn	P	08 22 16.8	+0.3
	0.2nm,0.3s,baz=157,slow=13,SNR=3.6						
AKASG	Malin Array Be	16.38	18	P	P	08 22 41.3	+1.7
AKASG						08 25 41.7	
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKASG				smax			
	comp=N,1.0nm,0.3s						
AKASG	Malin Array Be	16.38	18	Pn	P	08 22 41.3	+1.7
	comp=N,5.3nm,0.3s,baz=206,slow=8.8,SNR=12						
AKASG				Sn	S	08 25 41.7	+2.0
	comp=N,0.5nm,0.3s,baz=201,slow=22,SNR=4.1						
ESDC	Sonseca Array	20.44	290	P	P	08 23 31.6	+3.8
	comp=N,1.4nm,0.7s,baz=76,slow=11,SNR=4.0						
HFS	Hagfors	25.27	351	P	P	08 24 15.6	+0.4
HFS				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	Hagfors	25.27	351	P	P	08 24 15.6	+0.4
	comp=Z,2.4nm,0.6s,mb3.9,baz=149,slow=8.6,SNR=7.1						
EKA	Eskdalemuir Ar	26.09	328	P	P	08 24 24.2	+1.3
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	Eskdalemuir Ar	26.09	328	P	P	08 24 24.1	+1.2
	comp=Z,1.3nm,0.6s,mb3.6,baz=141,slow=9.1,SNR=2.6						
FINES	FINESS Array B	26.28	5	P	P	08 24 24.8	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	26.28	5	P	P	08 24 24.8	+0.2
	comp=Z,0.7nm,0.3s,mb3.6,baz=168,slow=11,SNR=12						
NOA	NORSAR Array B	26.49	349	P	P	08 24 28.2	+1.7
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	NORSAR Array B	26.49	349	P	P	08 24 28.2	+1.6
	comp=Z,0.9nm,0.9s,mb3.3,baz=150,slow=10,SNR=3.0						
KAF	Kangasniemi	26.96	5	ep	P	08 24 30.0	-0.8
	comp=Z,0.6nm,0.3s,mb3.6						
KAF	Kangasniemi	26.96	5	eP	P	08 24 30.0	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
JOF	Joensuu	28.28	10	ep	P	08 24 41.4	-1.4
	comp=Z,0.5nm,0.3s,mb3.6						
JOF	Joensuu	28.28	10	eP	P	08 24 41.4	-1.4
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.9						
ARCES	ARCESS Array B	34.31	3	P	P	08 25 35.0	-0.7
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	ARCESS Array B	34.31	3	P	P	08 25 35.0	-0.7
	comp=Z,5.4nm,1.0s,mb4.4,baz=183,slow=10.0,SNR=9.6						
MBAR	Mbarara	36.86	164	P	P	08 25 56.5	-1.4
	comp=Z,96nm,0.4s,SNR=23						
DBIC	Dimbokro	37.30	226	P	P	08 26 01.9	+0.3
DBIC				pmax	pmax		
	comp=Z,3.0nm,1.0s						
DBIC	Dimbokro	37.30	226	P	P	08 26 01.9	+0.3
	comp=Z,2.9nm,1.0s,mb4.1,baz=125,slow=14,SNR=2.2						
KOLN	Koldanda	52.90	80	eP	P	08 28 05.3	-0.4
	comp=Z,12nm,0.5s,mb5.0						
GKN	Gorkha	53.63	79	eP	P	08 28 10.8	-0.4
	comp=Z,19nm,0.4s						
DMN	Daman	54.18	79	eP	P	08 28 15.2	+0.1
	comp=Z,21nm,0.4s						
PKI	Pulchoki	54.44	79	eP	P	08 28 17.1	+0.1
	comp=Z,16nm,0.5s,mb5.2						

GUN	**Gumba**	**54.67**	**79**	eP	**P**	**08 28 18.8**	**+0.1**
	comp=Z,12nm,0.3s						
JIRN	**Jiri**	**55.02**	**79**	eP	**P**	**08 28 21.6**	**+0.3**
	comp=Z,9.8nm,0.4s,mb5.2						
SCHQ	**Schefferville**	**60.94**	**319**	P	**P**	**08 29 03.7**	**+1.3**
	comp=Z,1.3nm,0.7s,mb4.2,baz=235,slow=14,SNR=5.6						
SONM	**Songino Array**	**61.81**	**50**	P	**P**	**08 29 08.4**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.4,baz=282,slow=7.9,SNR=9.2						
BOD	**Bodaibo**	**62.24**	**37**	eP	**P**	**08 29 10.2**	**-0.9**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
BOD	**Bodaibo**	**62.24**	**37**	eP	**P**	**08 29 10.2**	**-0.9**
	comp=Z,4.0nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**76.24**	**341**	P	**P**	**08 30 38.6**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=33,slow=5.0,SNR=3.2						
ILAR	**Eielson Array**	**79.76**	**355**	P	**P**	**08 30 58.1**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=352,slow=4.2,SNR=8.2						
WRA	**Warramunga Arr**	**119.79**	**94**	PKP	PKPdf	08 37 40.4	+2.5
	comp=Z,0.2nm,0.4s,baz=317,slow=1.8,SNR=5.1						
ASAR	**Alice Springs**	**121.23**	**98**	PKP	PKPdf	08 37 43.1	+2.6
	comp=Z,0.3nm,0.5s,baz=295,slow=0.4,SNR=4.8						

NEIC ***09*** *08:21:28.3±0.8, 18.10S×178.11W, h606^{km}±10^{km}, mb4.4/11, Error ellipse: s-maj=15.2km s-min=7.9km az=154.0*
IDC ***09*** *08:21:28.0±2.7, 18.10S×178.06W, h602^{km}±33^{km}, mb3.6/10, mb1 3.8/11, mb1mx3.5/19, mbtmp4.6/11, Error ellipse: s-maj=25.0km s-min=14.3km az=177.0*
ISC 09 08:21:27.3±1.1**, 18.2S**±0.1×**178.2W**±0.1**, h608**^{km}±18^{km}**, n38, σ0^{s}97**/29**, mb4.3**/16**, 5D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.45**	**56**	eP	**P**	**08 23 22.3**	**+0.2**
RAR	**Rarotonga**	**17.57**	**103**	P	**P**	**08 24 58.5**	**-1.0**
	1.1nm,0.3s,baz=175,slow=24,SNR=2.4						
RAR	**Rarotonga**	**17.57**	**103**	P	**P**	**08 24 58.5**	**-1.0**
URZ	**Urewera**	**20.44**	**191**	P	**P**	**08 25 25.8**	**-0.2**
	7.3nm,0.7s,baz=298,slow=6.1,SNR=12						
RPZ	**Rata Peaks**	**27.04**	**197**	P	**P**	**08 26 25.3**	**+0.7**
	5.9nm,0.5s,mb4.5,baz=63,slow=4.7,SNR=5.0						
CNB	**Canberra Magne**	**33.46**	**233**	⇓iP	**P**	**08 27 21.1**	**+2.0**
	137nm,0.5s						
CTA	**Charters Tower**	**33.65**	**261**	⇓iP	**P**	**08 27 21.2**	**+0.4**
	4.6nm,0.3s,mb4.6						
CTA	**Charters Tower**	**33.65**	**261**	P	**P**	**08 27 21.4**	**+0.6**
	7.7nm,0.6s,mb4.5,baz=90,slow=11,SNR=14						
CTAO	**Charters Tower**	**33.65**	**261**	eP	**P**	**08 27 21.1**	**+0.3**
	5.4nm,0.5s,mb4.4						
PMG	**Port Moresby**	**34.74**	**280**	P	**P**	**08 27 31.0**	**+1.0**
	19nm,0.8s,mb4.8,baz=117,slow=7.0,SNR=3.9						
STKA	**Stephens Creek**	**38.72**	**242**	⇓iP	**P**	**08 28 03.8**	**+1.5**
	6.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**38.72**	**242**	P	**P**	**08 28 03.9**	**+1.5**
	9.7nm,0.7s,mb4.5,baz=91,slow=8.2,SNR=17						
STKA				PcP	PcP	08 29 58.3	-0.2
	1.1nm,0.5s,baz=337,slow=12,SNR=2.9						
WRAB	**Tennant Creek**	**44.82**	**260**	P	**P**	**08 28 49.0**	**-1.6**
	99nm,0.4s,SNR=19						
WRAB	**Tennant Creek**	**44.82**	**260**	eP	**P**	**08 28 49.4**	**-1.2**
	8.3nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**44.83**	**260**	P	**P**	**08 28 50.1**	**-0.5**
	7.6nm,0.4s,mb4.6,baz=95,slow=6.9,SNR=204						
WRA				PcP	PcP	08 30 18.3	-1.0
	0.9nm,0.3s,baz=90,slow=4.8,SNR=4.5						
ASAR	**Alice Springs**	**44.96**	**254**	P	**P**	**08 28 51.6**	**0.0**
	33nm,0.9s,mb4.9,baz=89,slow=8.1,SNR=243						
ASAR				PcP	PcP	08 30 18.9	-0.8
	2.4nm,0.5s,baz=102,slow=4.0,SNR=6.9						
ASPA	**Alice Springs**	**44.96**	**254**	⇓iP	**P**	**08 28 51.5**	**-0.1**
KAKA	**Kakadu**	**47.82**	**269**	eP	**P**	**08 29 12.4**	**-1.0**
	11nm,0.2s,mb5.1						
FORT	**Forrest**	**50.12**	**245**	eP	**P**	**08 29 29.4**	**-0.8**
	262nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.23**	**261**	⇓iP	**P**	**08 29 52.1**	**-0.5**
	4.7nm,0.3s,mb4.3						
MBWA	**Marble Bar**	**58.25**	**256**	eP	**P**	**08 30 26.2**	**-0.9**
	5.5nm,0.5s,mb3.9						
KLBR	**Kellerberrin**	**58.93**	**244**	eP	**P**	**08 30 30.9**	**-0.7**
	74nm,0.6s,mb5.0						
NWAO	**Narrogin (SRO)**	**59.30**	**242**	eP	**P**	**08 30 30.4**	**-3.6**
	3.4nm,0.8s,mb3.5						
MUN	**Mundaring**	**60.22**	**243**	eP	**P**	**08 30 40.0**	**-0.1**
	4.7nm,0.7s,mb3.8						
ENH	**Enshi**	**84.62**	**304**	P	**P**	**08 32 60.0**	**+0.6**
	6.3nm,0.9s,mb4.2						
TXAR	**Lajitas Array**	**85.93**	**58**	P	**P**	**08 33 06.9**	**+1.3**
	0.4nm,0.6s,baz=224,slow=6.4,SNR=7.8						
ILAR	**Eielson Array**	**86.09**	**13**	P	**P**	**08 33 04.0**	**-1.5**
	0.5nm,0.5s,mb3.4,baz=220,slow=4.8,SNR=13						
PDAR	**Pinedale Array**	**87.37**	**43**	P	**P**	**08 33 12.8**	**+0.7**
	0.3nm,0.6s,baz=207,slow=6.0,SNR=3.2						
CMAR	**Chiang Mai Arr**	**89.20**	**290**	P	**P**	**08 33 22.4**	**+1.2**
	1.2nm,0.4s,mb4.1,baz=110,slow=3.3,SNR=7.5						
BVAR	**Borovoye Array**	**117.20**	**321**	PKP	PKPdf	08 39 04.3	+0.1
	0.8nm,0.3s,baz=168,slow=1.7,SNR=5.8						
ARCES	**ARCESS Array B**	**126.62**	**350**	PKP	PKPdf	08 39 22.1	+0.1
	0.9nm,0.5s,baz=315,slow=1.7,SNR=7.4						
FINES	**FINESS Array B**	**133.51**	**344**	PKP	PKPdf	08 39 35.8	+0.6
	0.4nm,0.6s,baz=63,slow=3.1,SNR=2.9						
AKASG	**Malin Array Be**	**140.91**	**332**	PKP	PKPdf	08 39 51.9	+3.0
	0.4nm,0.4s,baz=42,slow=3.4,SNR=3.7						
ASF	**Jabal al Asfar**	**145.52**	**301**	PKPbc	PKPbc	08 40 00.7	+2.0
	1.6nm,0.4s,baz=302,slow=3.7,SNR=2.6						
CLL	**Collm**	**145.77**	**348**	i PKP1	PKPbc	08 39 59.9	+1.2
MLR	**Muntele Rosu**	**146.19**	**329**	PKPbc	PKPbc	08 40 02.0	+2.0
	1.4nm,0.4s,baz=36,slow=18,SNR=3.0						
GERES	**GERESS Array B**	**147.93**	**345**	PKPbc	PKPdf	08 40 05.9	+5.0
	1.5nm,0.5s,baz=27,slow=3.0,SNR=11						
DAVOX	**Davos**	**150.71**	**349**	PKPbc	PKPdf	08 40 12.8	+7.6
	4.8nm,0.6s,baz=68,slow=2.7,SNR=5.8						

IDC 09 08:28:00.8±2.1**, 5.07S**×**68.50E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/16**, mbtmp3.8**/3**, Error ellipse: s-maj=80.7km s-min=37.8km az=55.0, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**57.89**	**1**	P	P	08 37 53.7	-3.1
	0.2nm,0.4s,baz=162,slow=4.7,SNR=3.8						
SONM	**Songino Array**	**62.30**	**28**	P	P	08 38 25.1	-2.1
	1.3nm,0.8s,baz=211,slow=7.2,SNR=6.5						
WRA	**Warramunga Arr**	**65.59**	**110**	P	P	08 38 47.0	-2.1
	1.3nm,0.8s,baz=282,slow=6.2,SNR=6.5						
YKA	**Yellowknife Ar**	**122.65**	**2**	PKP	PKPdf	08 46 56.7	-3.3
	0.2nm,0.8s,baz=344,slow=1.4,SNR=4.5						
NVAR	**Mina Array Bea**	**146.22**	**10**	PKPbc	PKPbc	08 47 44.5	+0.9
	1.1nm,0.8s,baz=31,slow=1.2,SNR=9.2						
TXAR	**Lajitas Array**	**154.75**	**344**	PKPab	PKPab	08 48 19.4	-2.3
	1.1nm,1.1s,baz=27,slow=5.6,SNR=5.6						

IDC 09 08:33:17.7±2.0**, 5.20S**×**68.36E, mb3.8**/5**, mb1 4.0**/5**, mb1mx3.8**/16**, mbtmp3.8**/5**, MS3.4**/1**, Ms1 3.6**/1**, ms1mx2.8**/23**, Error ellipse: s-maj=59.1km s-min=29.6km az=57.0, Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**38.24**	**51**	P	P	08 40 40.7	-0.8
	1.1nm,0.3s,baz=236,slow=9.8,SNR=3.5						
CMAR				LR	LR	08 54 58.5	
	comp=Z,52nm,21.6s,baz=184,slow=34						
BVAR	**Borovoye Array**	**58.03**	**1**	P	P	08 43 11.3	-3.4
	0.4nm,0.7s,baz=194,slow=5.9,SNR=3.0						
SONM	**Songino Array**	**62.49**	**28**	P	P	08 43 42.7	-2.7
	1.4nm,0.9s,baz=207,slow=5.5,SNR=8.6						
ASAR	**Alice Springs**	**65.55**	**114**	P	P	08 44 03.2	-2.5
	0.8nm,1.0s,baz=273,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**65.68**	**109**	P	P	08 44 04.4	-2.3
	0.9nm,0.8s,baz=282,slow=6.1,SNR=6.8						
NVAR	**Mina Array Bea**	**146.38**	**9**	PKPbc	PKPbc	08 53 02.2	+1.3
	1.6nm,1.0s,baz=40,slow=1.3,SNR=8.4						
TXAR	**Lajitas Array**	**154.84**	**343**	PKPab	PKPab	08 53 36.5	-2.6
	2.0nm,1.2s,baz=63,slow=2.8,SNR=4.5						

ATH ***09*** *08:34:47.2, 40.05N×19.45E, h5^{km}±3^{km}, MD3.6/4*
NEIC ***09*** *08:34:47.2, 40.05N×19.45E, h5^{km}, MD3.6(ATH), MD3.1(PDG), After ATH.*
THE ***09*** *08:34:49.5, 39.96N×19.56E, h10^{km}, ML3.4*
PDG ***09*** *08:34:50.8±0.3, 39.98N×20.08E, h17^{km}±1^{km}*
TIR ***09*** *08:34:50.6, 40.02N×19.84E, Ml3.6*
CSEM ***09*** *08:34:52.4±0.2, 39.92N×19.82E, h2^{km}, ML3.4, Error ellipse: s-maj=4.6km s-min=2.7km az=45.0*
ISC 09 08:34:50.3±0.4**, 39.94N**±0.02×**19.70E**±0.03**, h5**^{km}**, n44, σ1^{s}19**/66**, 4D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.24**	**105**	i Pg	**Pg**	**08 34 54.3**	**-1.0**
SRN				i Sg	**Sg**	**08 34 57.5**	**-1.1**
KEK	**Kerkira**	**0.24**	**161**	ePB	**Pb**	**08 34 55.5**	**-1.3**
KEK				eSB	**Sb**	**08 35 01.7**	**+0.6**
TPE	**Tepelena**	**0.43**	**34**	i Pg	**Pg**	**08 34 56.5**	**-2.4**
TPE				i Sg	**Sg**	**08 35 03.5**	**-1.1**
IGT	**Igoumenitsa**	**0.64**	**130**	ePg	**Pg**	**08 35 03.1**	**-0.1**
LSK	**Leskovik**	**0.72**	**73**	i Pg	**Pg**	**08 35 02.7**	**-2.1**
LSK				i Sg	**Sg**	**08 35 14.3**	**-0.2**
JAN	**Janina**	**0.94**	**107**	ePG	**Pg**	**08 35 08.3**	**-0.7**
JAN				eSB	**Sb**	**08 35 24.3**	**+3.2**
LCI	**Lecce**	**1.27**	**288**	ePn	**Pn**	**08 35 14.7**	**-0.1**
LCI	**Lecce**	**1.27**	**288**	ePn	**Pn**	**08 35 14.6**	**-0.2**
TIR	**Tirane**	**1.41**	**5**	i Pn	**Pn**	**08 35 17.0**	**+0.3**
TIR				i Sn	**Sn**	**08 35 39.0**	**+3.2**
OHR	**Ohrid**	**1.44**	**35**	⇓iSn	**Sn**	**08 35 37.6**	**+1.0**
FNA	**Florina**	**1.53**	**56**	ePb	**Pb**	**08 35 18.0**	**-0.8**
FNA				eSb	**Sb**	**08 35 41.1**	**+2.6**
QSH	**Qafa e Shtames**	**1.58**	**6**	i pn?	**Pn**	**08 35 18.0**	**-1.2**
KZN	**Kozani**	**1.63**	**76**	ePN	**Pn**	**08 35 21.3**	**+1.4**
BIA	**Bitola**	**1.64**	**49**	i Pn	**Pn**	**08 35 19.2**	**-0.9**
BIA				i		08 35 25.9	
BIA				i Sn	**Sn**	**08 35 42.6**	**+0.8**
BIA	**Bitola**	**1.64**	**49**	i Pn	**Pn**	**08 35 19.2**	**-0.9**
BIA				i Sn	**Sn**	**08 35 42.6**	**+0.8**
EVR	**Evrytania**	**1.93**	**121**	ePN	**Pn**	**08 35 25.8**	**+1.6**
PE1	**Pezze di Greco**	**1.94**	**297**	ePn	**Pn**	**08 35 25.9**	**+1.6**
ULC	**Ulcinj**	**2.05**	**351**	ePn	**Pn**	**08 35 26.7**	**+0.9**
ULC				eSn	**Sn**	**08 35 53.8**	**+1.8**
LIT	**Litokhoron**	**2.15**	**85**	ePn	**Pn**	**08 35 27.9**	**+0.6**
LIT				eSn	**Sn**	**08 35 57.1**	**+2.4**
AGG	**Agios Georgios**	**2.24**	**113**	ePn	**Pn**	**08 35 29.0**	**+0.4**
AGG				eSn	**Sn**	**08 35 58.8**	**+1.9**
LTRZ	**Laterza**	**2.30**	**288**	ePn	**Pn**	**08 35 32.9**	**+3.5**
LTRZ	**Laterza**	**2.30**	**288**	ePn	**Pn**	**08 35 32.9**	**+3.5**
GRG	**Griva**	**2.30**	**63**	ePn	**Pn**	**08 35 29.4**	**-0.1**
SKO	**Skopje**	**2.42**	**33**	ePn	**Pn**	**08 35 29.5**	**-1.7**
SKO				i		08 35 37.0	
SKO				i		08 36 10.0	
BUM	**Brajici-Budva**	**2.43**	**346**	⇓iPn	**Pn**	**08 35 31.4**	**0.0**
BUM				eSn	**Sn**	**08 36 02.7**	**+0.9**
SG1	**Sgolgore (BA)**	**2.47**	**292**	ePn	**Pn**	**08 35 34.9**	**+3.0**
TTG	**Podgorica**	**2.51**	**353**	⇓iPn	**Pn**	**08 35 32.9**	**+0.5**
TTG				eSn	**Sn**	**08 36 03.7**	**0.0**
PVY	**Plav**	**2.66**	**4**	⇓iPn	**Pn**	**08 35 33.4**	**-1.2**
PVY				eSn	**Sn**	**08 36 06.2**	**-1.3**
HCY	**Herceg Novi**	**2.66**	**341**	ePn	**Pn**	**08 35 34.5**	**-0.1**
HCY				eSn	**Sn**	**08 36 09.2**	**+1.6**
KNT	**Kendrikon**	**2.73**	**62**	ePn	**Pn**	**08 35 35.0**	**-0.5**
KNT	**Kendrikon**	**2.73**	**62**	ePn	**Pn**	**08 35 35.0**	**-0.6**
CDT	**Castel del Mon**	**2.84**	**295**	ePn	**Pn**	**08 35 41.8**	**+4.5**
NKY	**Niksic**	**2.92**	**350**	ePn	**Pn**	**08 35 38.1**	**-0.1**
NKY				eSn	**Sn**	**08 36 14.1**	**0.0**
IVA	**Berane**	**2.93**	**3**	ePn	**Pn**	**08 35 37.0**	**-1.4**
IVA				eSn	**Sn**	**08 36 13.4**	**-1.1**
PAIG	**Paliouri**	**3.06**	**89**	ePn	**Pn**	**08 35 40.6**	**+0.3**
BRY	**Bratogost**	**3.08**	**344**	ePn	**Pn**	**08 35 41.1**	**+0.5**
BRY				eSn	**Sn**	**08 36 19.1**	**+0.8**
MGR	**Morigerati**	**3.19**	**275**	ePn	**Pn**	**08 35 46.5**	**+4.5**
OUR	**Ouranopolis**	**3.31**	**82**	ePn	**Pn**	**08 35 43.2**	**-0.6**
UPM	**Unac-Piva**	**3.31**	**350**	ePn	**Pn**	**08 35 43.4**	**-0.5**
UPM				eSn	**Sn**	**08 36 23.7**	**-0.4**
UPM	**Unac-Piva**	**3.31**	**350**	ePn	**Pn**	**08 35 43.3**	**-0.6**
UPM				eSn	**Sn**	**08 36 23.7**	**-0.4**
PLE	**Pljevlja**	**3.39**	**356**	ePn	**Pn**	**08 35 44.6**	**-0.4**
PLE				eSn	**Sn**	**08 36 25.3**	**-0.8**
SOI	**Samo**	**3.40**	**238**	ePn	**Pn**	**08 35 43.8**	**-1.2**
SOI	**Samo**	**3.40**	**238**	ePn	**Pn**	**08 35 43.8**	**-1.3**
MTTG	**Motta San Giov**	**3.67**	**239**	ePn	**Pn**	**08 35 47.6**	**-1.4**

PRU ***09*** *08:42:55.8, 50.20N×18.70E*
WAR 09 08:42:54.1, 50.19N×**18.78E, h0**^{km}**, ML2.5, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.54**	**229**	ePG	Pg	08 43 05.8	+0.9
OJC	**Ojcow**	**0.66**	**87**	ePG	Pg	08 43 08.0	+0.8
OJC				eSG	Sg	08 43 17.0	+1.1
NIE	**Niedzica**	**1.26**	**127**	ePG	Pg	08 43 17.0	-2.2
NIE				eSG	Sg	08 43 35.0	-1.0
DPC	**Dobruska-Polom**	**1.58**	**277**	ePG	Pg	08 43 23.5	-2.2
DPC				eSG	Sg	08 43 45.0	-1.9
	10nm,0.3s						
VYHS	**Vyhne**	**1.70**	**179**	ePG	Pg	08 43 28.4	+0.4
VYHS				i SG	Sg	08 43 48.7	-1.9
KSP	**Ksiaz**	**1.72**	**293**	ePG	Pg	08 43 26.0	-2.4
KSP				eSG	Sg	08 43 50.0	-1.3
KSP	**Ksiaz**	**1.72**	**293**	ePn	Pn	08 43 26.2	+0.8
KSP				ePg	Pg	08 43 27.5	-0.8
KSP				eSn	Sn	08 43 49.8	+1.4
KSP				eSg	Sg	08 43 53.9	+2.6
UPC	**Upice**	**1.80**	**281**	eSG	Sn	08 43 51.8	+1.3
UPC	**Upice**	**1.80**	**281**	eSg	Sn	08 43 51.8	+1.3
CRVS	**Cervenica-Dubn**	**2.17**	**125**	ePN	Pn	08 43 35.1	+3.2
CRVS				eSG	Sg	08 44 07.5	+1.1
PRU	**Pruhonice**	**2.74**	**267**	eSG	Sb	08 44 21.0	+3.1
PRU	**Pruhonice**	**2.74**	**267**	eSg	Sb	08 44 21.0	+3.1
KHC	**Kasperske Hory**	**3.54**	**255**	ePG	Pg	08 44 00.0	-4.8
KHC				eSG	Sg	08 44 46.0	-6.0

NEIC ***09*** *08:44:41.1, 46.60N×7.30E, h18^{km}, ML2.6(VIE), ML2.3(LDG), ML2.2(STR), ML1.9(ZUR), After ZUR.*
ZUR ***09*** *08:44:41.5, 46.66N×7.27E, h5^{km}, ML1.8/9*
CSEM ***09*** *08:44:41.8±0.1, 46.65N×7.28E, h7^{km}±1^{km}, ML2.3/12, Error ellipse: s-maj=1.2km s-min=0.7km az=104.0*
LDG ***09*** *08:44:42.1±0.1, 46.67N×7.25E, h2^{km}, Md2.3/1, Ml2.3/14, Error ellipse: s-maj=1.4km s-min=0.9km az=102.0*
STR ***09*** *08:44:43.1±0.6, 46.73N×7.26E, h10^{km}±1^{km}, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 09 08:44:40.6±0.3**, 46.68N**±0.01×**7.14E**±0.03**, h10**^{km}±3^{km}**, n29, σ1^{s}05**/56**, 8C-1D, Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TORNY	**Torny**	**0.15**	**308**	⇓iPg	**Sg**	**08 44 46.8**	**+0.3**
SENIN	**Lac Senin**	**0.34**	**160**	⇑iPg	**Pg**	**08 44 47.4**	**-0.1**
SENIN				eSg	**Sg**	**08 44 52.1**	**0.0**
WIMIS	**Wimmis**	**0.34**	**92**	⇑iPg	**Pg**	**08 44 46.6**	**-0.9**
WIMIS				i Sg	**Sg**	**08 44 50.9**	**-1.2**
AIGLE	**Aigle**	**0.36**	**201**	⇑iPg	**Pg**	**08 44 49.0**	**+1.0**
AIGLE				i Sg	**Sg**	**08 44 54.7**	**+1.8**
GRYON	**Gryon**	**0.43**	**182**	⇑iPg	**Pg**	**08 44 49.8**	**+0.5**
GRYON				eSg	**Sg**	**08 44 56.2**	**+1.1**
BRANT	**Les Verrieres**	**0.53**	**300**	ePg	**Pg**	**08 44 53.9**	**+2.7**
SALAN	**Lac Salanfe**	**0.55**	**192**	⇑iPg	**Pg**	**08 44 52.2**	**+0.6**
EMV	**Vieux Emosson**	**0.64**	**195**	⇑iPg	**Pg**	**08 44 53.8**	**+0.4**
LOMF	**Lomont**	**0.70**	**343**	Pg	**Pg**	**08 44 56.7**	**+1.9**
CABF	**La Chapelle**	**0.73**	**265**	ePg	**Pg**	**08 44 57.6**	**+2.4**
CABF				eSg	**Sg**	**08 45 08.2**	**+3.3**
	8.6nm,0.2s						
BALST	**Balsthal**	**0.76**	**30**	⇑iPg	**Pg**	**08 44 56.1**	**+0.3**
BBS	**Basel-Blauen**	**0.83**	**18**	Pg	**Pg**	**08 44 57.7**	**+0.5**
BBS				Sg	**Sg**	**08 45 09.0**	**+0.8**
HINF	**Hinteralfeld**	**1.16**	**350**	ePg	**Pg**	**08 45 04.5**	**+0.8**
HINF				eSg	**Sg**	**08 45 19.4**	**+0.3**
	8.8nm,0.2s						
MOF	**Molkenrain**	**1.17**	**360**	Pg	**Pg**	**08 45 04.7**	**+0.6**
LPL	**La Plagne**	**1.20**	**194**	ePn	**Pn**	**08 45 04.4**	**+1.0**
LPL				eSg	**Sg**	**08 45 21.2**	**+0.7**
	5.0nm,0.2s						
LPG	**La Plagne**	**1.21**	**193**	ePn	**Pn**	**08 45 05.1**	**+1.5**
LPG				eSg	**Sg**	**08 45 21.3**	**+0.3**
	6.2nm,0.3s						
FELD	**Feldberg**	**1.34**	**26**	Pg	**Pg**	**08 45 06.6**	**-0.7**
FELD				Sg	**Sg**	**08 45 24.5**	**-0.6**
HAU	**Haudompre**	**1.43**	**338**	ePg	**Pg**	**08 45 09.3**	**+0.1**
HAU				eSn	**Sn**	**08 45 26.6**	**+0.9**
HAU				eSg	**Sg**	**08 45 28.6**	**+0.3**
	13nm,0.2s						
ECH	**Echery**	**1.54**	**1**	Pg	**Pg**	**08 45 11.1**	**-0.2**
ECH				Sg	**Sg**	**08 45 31.6**	**-0.3**
CDF	**Champ du Feu**	**1.74**	**3**	ePg	**Pg**	**08 45 14.8**	**-0.5**
CDF				eSg	**Sg**	**08 45 37.2**	**-1.3**
	4.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.97**	**207**	ePg	**Pg**	**08 45 19.5**	**-0.4**
ORIF				eSn	**Sn**	**08 45 39.6**	**+0.3**
ORIF				eSg	**Sg**	**08 45 45.2**	**-0.9**
	2.4nm,0.2s						
MBDF	**Montbardon**	**1.97**	**188**	ePg	**Pg**	**08 45 19.0**	**-0.9**
MBDF				eSn	**Sn**	**08 45 39.3**	**-0.1**
MBDF				eSg	**Sg**	**08 45 44.9**	**-1.3**
	0.9nm,0.2s						
DAVA	**Damuels**	**1.97**	**71**	⇑iPG	**Pg**	**08 45 17.5**	**-2.5**
DAVA				i SG	**Sg**	**08 45 40.7**	**-5.7**
	3.2nm,0.2s						
SFTF	**Sexfontaines**	**2.09**	**318**	eSg	**Sg**	**08 45 49.6**	**-0.6**
	5.7nm,0.3s						
SMF	**Signal de Mont**	**2.27**	**270**	ePg	**Pg**	**08 45 25.9**	**0.0**
SMF				eSg	**Sg**	**08 45 55.3**	**-0.9**
	4.2nm,0.2s						
VIVF	**Saint-Julien-l**	**2.51**	**224**	ePn	**Pn**	**08 45 23.0**	**+0.9**
VIVF				ePg	**Pg**	**08 45 29.3**	**-1.4**
VIVF				eSn	**Sn**	**08 45 52.2**	**-0.9**
VIVF				eSg	**Sg**	**08 46 02.5**	**-1.7**
	3.3nm,0.3s						
SSF	**Saint Saulge**	**2.52**	**280**	ePg	**Pg**	**08 45 30.4**	**-0.5**
SSF				eSg	**Sg**	**08 46 02.9**	**-1.6**
	1.7nm,0.2s						
AVF	**Avril sur Loir**	**2.60**	**274**	ePn	**Pn**	**08 45 24.6**	**+1.1**
AVF				ePg	**Pg**	**08 45 32.1**	**-0.5**
AVF				eSg	**Sg**	**08 46 05.5**	**-1.8**
	1.4nm,0.3s						
LASF	**Ste Croix**	**3.48**	**223**	ePn	**Pn**	**08 45 36.2**	**+0.2**
LASF				eSn	**Sn**	**08 46 15.9**	**-1.8**
	0.7nm,0.3s						

NEIC ***09*** *08:46:04.4±0.5, 25.14N×122.19E, h170^{km}±5^{km}, mb3.8/2, Error ellipse: s-maj=13.1km s-min=11.2km az=104.0*
IDC ***09*** *08:46:05.0±3.4, 25.27N×122.41E, h173^{km}±31^{km}, mb3.3/6, mb1 3.5/7, mb1mx3.3/21, mbtmp3.8/7, Error ellipse: s-maj=29.4km s-min=19.3km az=69.0*
TAP ***09*** *08:46:04.8, 25.11N×122.21E, h174^{km}, ML4.4*
JMA ***09*** *08:46:05.9±0.3, 25.11N×122.23E, h160^{km}, M4.0*
ISC 09 08:46:03.6±0.5**, 25.13N**±0.07×**122.21E**±0.05**, h176**^{km}±5^{km}**, n26, σ0^{s}87**/39**, mb3.5**/8**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.67**	**257**	eP	**P**	**08 46 28.8**	**-0.3**
YHNB	**Yeheng**	**0.88**	**239**	eP	**P**	**08 46 30.5**	**+0.2**
YOJ	**Yonaguni jima**	**0.99**	**132**	P	**P**	**08 46 31.4**	**+0.5**
YOJ				S	**S**	**08 46 51.4**	**-0.6**
NACB	**Ninganchiao**	**1.10**	**211**	eP	**P**	**08 46 31.6**	**-0.3**
NACB				eS	**S**	**08 46 48.9**	**-4.9**
IRIF	**Iriomote-Funau**	**1.59**	**119**	P	**P**	**08 46 36.7**	**+0.2**
IRIF				S	**S**	**08 47 00.8**	**-1.1**
HATJ	**Hateruma jima**	**1.80**	**126**	P	**P**	**08 46 39.6**	**+1.0**
HATJ				eS	**S**	**08 47 05.0**	**-0.6**
JKRS	**Kuro-shima**	**1.86**	**118**	P	**P**	**08 46 40.1**	**+0.9**
JKRS				S	**S**	**08 47 06.8**	**+0.1**
JIJ	**Ishigaki jima**	**1.92**	**113**	P	**P**	**08 46 40.1**	**+0.3**
JIJ				S	**S**	**08 47 05.9**	**-1.8**
JTJ	**Tarama**	**2.32**	**102**	P	**P**	**08 46 45.3**	**+0.9**
JTJ				S	**S**	**08 47 15.7**	**-0.1**
JMJ	**Miyako jima 2**	**2.82**	**96**	P	**P**	**08 46 52.0**	**+1.6**
JMJ				eS	**S**	**08 47 26.2**	**-0.2**
JOGS	**Gusukube**	**2.93**	**97**	P	**P**	**08 46 53.5**	**+1.8**
JOGS				eS	**S**	**08 47 28.4**	**-0.4**
JKE	**Kume jima 2**	**4.30**	**73**	P	**P**	**08 47 09.9**	**+0.8**
JKE				eS	**S**	**08 48 00.5**	**+0.8**
JAGN	**Aguni-jima**	**4.76**	**71**	P	**P**	**08 47 15.1**	**0.0**
JAGN				eS	**S**	**08 48 09.8**	**-0.7**
JOW	**Kunigami**	**5.72**	**71**	P	**P**	**08 47 27.0**	**-0.6**
	4.2nm,0.3s,baz=180,slow=13,SNR=11						
JOW				S	**S**	**08 48 28.0**	**-4.8**
	9.9nm,0.3s,baz=145,slow=28,SNR=12						
JOW	**Kunigami**	**5.72**	**71**	P	**P**	**08 47 26.9**	**-0.7**
JOW				eS	**S**	**08 48 28.9**	**-3.9**
JTK	**Tokunoshima**	**6.60**	**65**	P	**P**	**08 47 37.8**	**-1.4**
KS15	**Wonju Array Si**	**13.19**	**20**	eP	**P**	**08 49 06.9**	**+1.8**
SONM	**Songino Array**	**25.88**	**335**	P	**P**	**08 51 20.8**	**+0.1**
	1.0nm,0.4s,mb3.8,baz=152,slow=9.4,SNR=7.6						
WRAB	**Tennant Creek**	**46.32**	**164**	eP	**P**	**08 54 14.2**	**+0.5**
	8.6nm,1.2s,mb4.3						
WRA	**Warramunga Arr**	**46.33**	**164**	P	**P**	**08 54 14.2**	**+0.5**
	0.5nm,0.8s,mb3.2,baz=347,slow=8.5,SNR=8.5						
BVAR	**Borovoye Array**	**47.54**	**320**	P	**P**	**08 54 22.2**	**-0.5**
	0.6nm,0.4s,mb3.5,baz=108,slow=5.4,SNR=3.8						
CHKZ	**Chkalovo**	**47.59**	**321**	eP	**P**	**08 54 22.3**	**-0.8**
	0.7nm,0.6s,mb3.5						
ILAR	**Eielson Array**	**67.95**	**28**	P	**P**	**08 56 43.4**	**-1.6**
	0.3nm,0.6s,mb3.2,baz=284,slow=5.9,SNR=5.7						
ARCES	**ARCESS Array B**	**69.02**	**338**	P	**P**	**08 56 50.7**	**-0.8**
	1.1nm,0.7s,mb3.7,baz=68,slow=4.9,SNR=3.1						
YKA	**Yellowknife Ar**	**81.74**	**23**	P	**P**	**08 58 03.5**	**+0.1**
	0.5nm,0.7s,mb3.3,baz=314,slow=4.8,SNR=12						
YKA	**Yellowknife Ar**	**81.74**	**23**	P	**P**	**08 58 03.5**	**+0.1**

IDC ***09*** *08:50:16.7±1.9, 7.38N×92.96E, mb4.0/3, mb1 4.3/4, mb1mx3.8/16, mbtmp4.0/4, ML4.4/1, MS4.0/1, Ms1 4.0/1, ms1mx3.1/22, Error ellipse: s-maj=73.1km s-min=27.9km az=59.0*
ISC 09 08:50:20.8±1.1**, 7.5N**±0.1×**93.2E**±0.2**, h33**^{km}**, n11, σ0^{s}71**/9**, mb4.3**/8**, MS4.0**/1**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.27**	**26**	Pn	**P**	**08 53 15.9**	**-0.3**
	0.7nm,0.3s,baz=213,slow=14,SNR=6.0						
JIRN	**Jiri**	**21.18**	**342**	eP	**P**	**08 55 06.7**	**+1.0**
	7.9nm,0.3s,mb4.5						
GUN	**Gumba**	**21.51**	**342**	eP	**P**	**08 55 09.9**	**+0.9**
	15nm,0.7s,mb4.6						
KKN	**Kakani**	**21.59**	**341**	eP	**P**	**08 55 10.0**	**+0.2**
	10nm,0.4s,mb4.6						
GKN	**Gorkha**	**22.00**	**339**	eP	**P**	**08 55 14.1**	**+0.2**
	4.8nm,0.3s,mb4.4						
KOLN	**Koldanda**	**22.18**	**337**	eP	**P**	**08 55 14.5**	**-1.2**
	1.9nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**48.75**	**125**	P	**P**	**08 59 04.8**	**0.0**
	1.0nm,0.4s,mb4.2,baz=303,slow=9.0,SNR=50						
ASAR	**Alice Springs**	**50.34**	**129**	P	**P**	**08 59 17.2**	**+0.3**
	0.5nm,0.4s,mb3.9,baz=305,slow=8.0,SNR=10						
MATP	**Matopo**	**69.37**	**245**	LR	LR	09 28 30.4	
	comp=Z,86nm,18.5s,MS4.0,baz=114,slow=33						
ARCES	**ARCESS Array B**	**75.36**	**340**	P	**P**	**09 02 01.2**	**-1.1**
	6.1nm,1.1s,mb4.5,baz=81,slow=6.5,SNR=5.7						
TXAR	**Lajitas Array**	**139.97**	**23**	PKP	PKPdf	09 09 49.4	+2.8
	0.1nm,0.4s,baz=293,slow=1.8,SNR=3.5						

IDC ***09*** *09:00:30.7±2.9, 10.08N×78.23W, mb3.4/3, mb1 3.8/3, mb1mx3.4/19, mbtmp3.4/3, Error ellipse: s-maj=100.6km s-min=54.7km az=82.0*
CASC ***09*** *09:00:57.3±1.8, 10.14N×84.20W, h92^{km}±5^{km}, MD4.0, ML2.8*
NEIC ***09*** *09:00:58.4, 10.11N×84.17W, h84^{km}, MD4.2(CASC), After CASC.*
ISC 09 09:00:56.3±0.6**, 10.15N**±0.09×**84.23W**±0.10**, h104**^{km}±5^{km}**, n35, σ0^{s}83**/40**, mb3.4**/2**, 12C-11D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VPS2	**Volcan Poas 2**	**0.04**	**345**	⇑eP	**P**	**09 01 10.8**	**0.0**
VPS2	**Volcan Poas 2**	**0.04**	**345**	⇑eP	**P**	**09 01 11.0**	**+0.1**
VPS2				eS	**S**	**09 01 21.9**	**+0.2**
PRS1	**Puriscal**	**0.19**	**207**	⇑iP	**P**	**09 01 11.6**	**+0.5**
SJS	**Escuela Geolog**	**0.27**	**142**	⇓eP	**P**	**09 01 10.3**	**-1.1**
SJS				e		09 01 20.4	
SJS	**Escuela Geolog**	**0.27**	**142**	⇓eP	**P**	**09 01 10.2**	**-1.2**
SJS				eS	**S**	**09 01 20.3**	**-2.4**
CGA2	**Cerro Gallo 2**	**0.27**	**240**	⇓eP	**P**	**09 01 11.4**	**0.0**
CGA2	**Cerro Gallo 2**	**0.27**	**240**	⇓eP	**P**	**09 01 11.5**	**0.0**
LAJ	**Bijagual**	**0.31**	**160**	⇓eP	**P**	**09 01 13.9**	**+2.3**
LAJ	**Bijagual**	**0.31**	**160**	⇓eP	**P**	**09 01 13.8**	**+2.3**
ICR	**Volcan Irazu**	**0.42**	**114**	⇑eP	**P**	**09 01 12.7**	**+0.5**
ICR	**Volcan Irazu**	**0.42**	**114**	eP	**P**	**09 01 12.6**	**+0.4**
ICR				eS	**S**	**09 01 23.3**	**-0.8**
LCR2	**La Lucha 2**	**0.46**	**152**	⇑iP	**P**	**09 01 12.5**	**+0.1**
LCR2	**La Lucha 2**	**0.46**	**152**	⇑eP	**P**	**09 01 12.5**	**0.0**
LCR2				eS	**S**	**09 01 24.8**	**+0.2**

FORC	Fortuna	0.54	306	⇓iP	P	09 01 13.4	+0.4
FORC	Fortuna	0.54	306	⇓iP	P	09 01 13.3	+0.4
TRTC	Tortuguero	0.66	50	⇑iP	P	09 01 14.1	+0.2
TRTC	Tortuguero	0.66	50	⇑iP	P	09 01 14.1	+0.2
QCR	Quepos	0.73	175	⇑eP	P	09 01 14.8	+0.2
JTS	JuntasAbangare	0.73	281	Pn	P	09 01 13.3	-1.3
	7µm,0.4s						
JTS	JuntasAbangare	0.73	281	eP	P	09 01 13.7	-0.9
BUS	Buena Vista	0.75	142	⇑iP	P	09 01 15.3	+0.5
BUS				e		09 01 28.6	
BUS	Buena Vista	0.75	142	⇑iP	P	09 01 15.2	+0.4
BUS				eS	S	09 01 28.3	-0.3
ACR	Cerro Adams	1.82	145	eP	P	09 01 27.5	+0.3
ACR				e		09 01 49.2	
ACR	Cerro Adams	1.82	145	eP	P	09 01 27.4	+0.2
ACR				eS	S	09 01 48.9	-1.3
CONN	Concepcion	1.96	316	⇓eP	P	09 01 28.8	-0.2
BRU2	Volcan	2.03	132	eP	P	09 01 30.9	+1.0
BRU2				eS	S	09 01 56.1	+1.1
MGAN	Managua	2.80	315	eP	P	09 01 40.6	+0.1
MGAN				i		09 02 21.0	
	comp=E,51nm,0.5s						
PYTN	Playitas	2.97	323	eP	P	09 01 42.7	-0.1
CNGN	Cerro Negro	3.37	314	⇑eP	P	09 01 48.7	+0.6
LEON	Leon	3.45	311	⇓iP	P	09 01 49.8	+0.6
TEL3	Telica 3	3.52	313	⇓eP	P	09 01 50.9	+0.7
TXAR	Lajitas Array	26.36	319	P	pP	09 06 46.8	-0.6
	comp=E,0.5nm,0.9s,baz=138,slow=11,SNR=3.5						
YKA	Yellowknife Ar	56.67	344	P	P	09 10 29.6	-1.2
	comp=E,0.7nm,0.9s,mb3.7,baz=141,slow=6.9,SNR=8.8						
ILAR	Eielson Array	69.39	336	P	P	09 11 53.7	-0.9
	comp=E,0.2nm,0.5s,mb3.2,baz=118,slow=4.7,SNR=4.9						
ASAR	Alice Springs	141.26	245	PKPbc	PKPdf	09 20 14.5	-1.1
	comp=E,0.7nm,1.1s,baz=107,slow=3.5,SNR=5.5						

IDC 09 09:06:30.5±3.6**,19.70S**×**176.21E,mb3.6**/3**,mb1 4.0**/3**, mb1mx3.7**/14**,mbtmp3.6**/3**,Error ellipse: s-maj=249.3km s-min=33.6km az=157.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	39.32	262	P	P	09 14 01.8	-1.4
	0.2nm,0.3s,baz=95,slow=7.6,SNR=26						
ASAR	Alice Springs	39.41	256	P	P	09 14 02.0	-2.0
	0.7nm,0.6s,baz=98,slow=7.5,SNR=13						
NVAR	Mina Array Bea	84.28	46	P	P	09 19 04.7	-1.0
	0.3nm,0.7s,baz=270,slow=4.5,SNR=3.6						

*BJI **09** 09:08:05.6,30.70N×69.32E,h17km,mB5.0,mb4.9,Ms4.6, Msz4.3*
*NEIC **09** 09:08:07.5±6.5,30.49N×69.65E,h6km±41km,mb4.7/18, Error ellipse: s-maj=11.8km s-min=8.9km az=213.0*
*IDC **09** 09:08:12.7±5.8,30.55N×69.81E,h42km±54km,mb4.1/22, mb1 4.2/22,mb1mx4.2/27,mbtmp4.3/22,MS4.0/7, Ms1 4.0/7,ms1mx3.7/21,Error ellipse: s-maj=18.4km s-min=14.4km az=31.0*
*NNC **09** 09:08:13.6±15.0,30.76N×70.07E,h38km±132km,Error ellipse: s-maj=150.4km s-min=100.9km az=109.0*
*MOS **09** 09:08:16.2±2.9,31.01N×70.13E,h54km,mb4.8/24, MS4.0/13,Error ellipse: s-maj=8.3km s-min=6.2km az=106.0*
ISC 09 09:08:09.3±0.2**,30.41N**±0.03×**69.92E**±0.03**,h33km,n182, σ1.58**/203**,mb4.5**/62**,MS4.1**/21**,8C-7D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SARP	Sargodha	2.80	57	P	P	09 08 53.2	+0.5
SARP				S	S	09 09 36.0	+10
JASL	Jaisalmer	3.58	166	eP	P	09 09 05.8	+2.0
CEP	Cherat	3.80	26	⇑P	P	09 09 06.5	-0.5
CHCP	Chirah Chowk	4.31	40	⇑P	P	09 09 14.5	+0.3
JMU	Jammu	4.83	60	eS	S	09 10 20.0	+2.8
THN	Thein Dam	5.35	66	eP	P	09 09 29.0	+0.1
	43nm,0.6s						
THN				eSB	Sb	09 10 58.6	+12
PONG	Pong	5.39	72	eP	P	09 09 30.0	+0.5
PONG				eSB	Sb	09 10 59.0	+11
DLH	Dalhousie	5.59	66	eP	P	09 09 34.0	+1.8
DLH				e		09 10 10.0	
KHET	Khetri	5.65	113	eP	P	09 09 32.8	-0.2
SDNR	Sundarnagar	6.16	78	eP	P	09 09 39.9	-0.3
KUDL	Kundal	6.17	110	eP	P	09 09 39.4	-0.9
SMLA	Simla	6.28	82	i P	P	09 09 41.3	-0.6
SMLA				i S	S	09 10 54.6	+1.2
AYAN	Aya Nagar	6.57	105	eP	P	09 09 45.6	-0.4
NDI	New Delhi	6.59	103	eP	P	09 09 45.0	-1.3
NDI				e		09 10 17.0	
NDI				e		09 10 58.5	
NDI				eSB	Sb	09 11 37.0	+15
SONA	Sohna	6.62	107	eP	P	09 09 47.0	+0.3
DDI	Dehra Dun	7.03	89	eP	P	09 09 51.6	-0.9
DDI				e		09 11 34.7	
PTH	Pithoragarh	8.97	93	eP	P	09 10 20.0	+0.5
PTH				e		09 12 26.6	
JHNI	Jhansi	9.07	121	eP	P	09 10 22.0	+1.1
JHNI				e		09 12 08.0	
BHPL	Bhopal	9.79	135	eP	P	09 10 29.6	-1.2
BHPL				eS	S	09 12 18.3	-2.5
BHPL				e		09 13 23.9	
	comp=E,393nm,0.9s						
BHPL				e		09 13 24.2	
	comp=N,252nm,0.7s						
KSH	Kashi	10.35	27	eP	P	09 10 37.9	-0.6
KSH				AP		09 10 43.1	
KSH				ePP	PP	09 10 46.5	+0.3
KSH				XP		09 10 47.2	
KSH				eS	S	09 12 31.7	-2.8
KSH				eXS		09 12 40.6	
KSH				SS	SS	09 12 43.8	-4.3
KSH				AMB	AMB		
	comp=Z,200nm,2.0s						
KSH				LR	LR		
	comp=N,3µm,4.2s						
KSH				LR	LR		
	comp=E,5µm,4.6s						
ALBI	Allahabad	11.68	113	e	P	09 10 51.5	-5.1
ALBI				eS	S	09 13 04.0	-2.9
AML	Almayashu	12.09	14	P	P	09 10 58.8	-3.2
	SNR=18						
KOLN	Koldanda	12.25	99	eP	P	09 11 02.0	-2.3
	comp=E,118nm,0.6s						
KOLN				eS	S	09 13 17.3	-3.4
POO	Poona	12.35	162	eP	P	09 11 05.6	-0.1
POO				e		09 13 36.7	
UCH	Uchtor	12.36	16	P	P	09 11 01.5	-4.2
	SNR=51						
KZA	Kyzart	12.41	19	P	P	09 11 00.5	-5.9
	SNR=54						
WBK	Wadi Bani Khal	12.50	234	P	P	09 11 04.1	-3.6
	SNR=14						
BIDO	Bidbid	12.55	240	⇓P	P	09 11 06.3	-2.0
	SNR=8.3						
EKS2	Erkin-Say	12.62	13	P	P	09 11 05.9	-3.2
	SNR=20						
AAK	Ala-Archa	12.74	15	P	P	09 11 07.1	-3.7
	SNR=27						
AAK	Ala-Archa	12.74	15	⇓P	P	09 11 07.0	-3.9
	comp=E,42nm,1.0s						
AAK				S	S	09 13 24.4	-8.0
	comp=E,46nm,1.1s						
AAK	Ala-Archa	12.74	15	Pn	P	09 11 06.0	-4.8
	comp=E,152nm,0.5s,SNR=31						
AAK	Ala-Archa	12.74	15	i P	P	09 11 05.9	-4.9
AAK				pmax	pmax		
	comp=Z,20nm,0.8s						
AAK	Ala-Archa	12.74	15	eP	P	09 11 04.8	-6.0
	comp=Z,43nm,0.9s						
ULHL	Ulahol	12.86	22	P	P	09 11 11.1	-1.3
	SNR=12						
KBK	Karagaybulak	12.87	17	P	P	09 11 10.2	-2.4
	SNR=7.6						
SMDO	Samad	12.88	238	P	P	09 11 10.3	-2.5
	SNR=19						
FRU	Bishkek	12.96	16	eP	P	09 11 10.0	-3.7
FRU				e		09 13 36.0	
FRU				pmax	pmax		
	comp=Z,110nm,2.0s						
FRU				pmax	pmax		
	comp=E,110nm,1.9s						
FRU				MLR	MLR		
	comp=Z,2µm,16.0s						
GKN	Gorkha	13.08	97	eP	P	09 11 12.7	-2.7
	comp=Z,164nm,0.5s						
CHMS	Chumysh	13.15	16	P	P	09 11 12.1	-4.1
	SNR=13						
JMDO	Jabal Madar	13.27	236	P	P	09 11 15.2	-2.7
	SNR=39						
TKM2	Tokmak 2	13.29	18	P	P	09 11 14.3	-3.8
	SNR=27						
USP	Ospenovka	13.35	15	P	P	09 11 15.7	-3.1
	SNR=12						
LATR	Latur	13.38	152	e	P	09 11 24.0	+4.7
LATR				e		09 14 12.0	
ASHO	Ashiyiah	13.55	248	P	P	09 11 21.2	-0.3
	SNR=11						
DMN	Daman	13.58	98	eP	P	09 11 19.2	-2.8
	comp=Z,108nm,0.7s						
KAD	Karad	13.61	162	eP	P	09 11 22.0	-0.4
KAD				e		09 14 13.0	
KKN	Kakani	13.68	97	eP	P	09 11 20.7	-2.6
	comp=Z,118nm,0.5s						
KKN	Kakani	13.68	97	eP	P	09 11 20.7	-2.6
KKN				pmax	pmax		
	comp=Z,59nm,0.5s						
BSY	Bisya	13.69	239	P	P	09 11 22.7	-0.8
	SNR=37						
BLSP	Bilaspur	13.70	124	eP	P	09 11 25.0	+1.4
BLSP				i		09 13 50.2	
PKI	Pulchoki	13.85	98	eP	P	09 11 22.9	-2.6
	comp=Z,117nm,0.6s						
PKI				eS	S	09 13 53.9	-5.2
PKI	Pulchoki	13.85	98	eP	P	09 11 22.9	-2.6
PKI				eS	S	09 13 53.9	-5.2
PKI				pmax	pmax		
	comp=Z,59nm,0.6s						
ARQ	Araqi	13.87	243	P	P	09 11 24.8	-0.9
	SNR=32						
GUN	Gumba	14.17	96	eP	P	09 11 26.1	-3.6
	comp=Z,948nm,0.9s						
GUN				eS	S	09 13 59.7	-6.9
JIRN	Jiri	14.50	97	eP	P	09 11 31.0	-3.0
	comp=Z,158nm,0.5s						
HYB	Hyderabad	15.14	147	eP	P	09 11 42.5	+0.1
HYB				eS	S	09 14 54.0	+24
HYB	Hyderabad	15.14	147	i P	P	09 11 42.5	+0.1
HYB				esP		09 11 49.0	
HYB				eS	S	09 14 36.0	+6.4
HYB				eSS	SS	09 14 54.0	+6.6
BOK	Bokaro	15.66	111	i	P	09 11 43.9	-5.3
BOK				i		09 14 34.9	
BWNR	Bhubaneshwar	17.52	121	eP	P	09 12 12.6	0.0
BWNR				e		09 12 15.6	
	comp=Z,26nm,0.6s						
BWNR				eS	S	09 15 38.2	+14
VIS	Vishakhapatnam	17.57	133	eP	P	09 12 12.9	-0.3
VIS				e		09 12 29.4	
	comp=Z,70nm,1.4s						
VIS				eS	S	09 15 40.3	+15
LSA	Lhasa	18.40	87	P	P	09 12 26.7	+3.1
LSA				S	S	09 15 48.6	+4.3
LSA				LR	LR		
	comp=N,1µm,21.4s						
LSA	Lhasa	18.40	87	eP	P	09 12 26.2	+2.6
LSA				pmax	pmax		
	comp=Z,23nm,0.7s						
LSA	Lhasa	18.40	87	eP	P	09 12 26.1	+2.6
	comp=Z,24nm,0.7s						
MK31	Makanchi Array	18.96	27	⇑P	P	09 12 28.0	-2.3
	comp=Z,54nm,1.3s,baz=210,slow=11,SNR=88						
MKAR	Makanchi Array	18.96	27	i P	P	09 12 27.9	-2.4
MKAR				pmax	pmax		
	comp=Z,70nm,1.3s						
WMQ	Urumqi	19.45	42	eP	P	09 12 38.7	+3.0
WMQ				AP		09 12 45.0	
WMQ				XP		09 12 49.0	
WMQ				PP	PP	09 12 57.0	+3.5
WMQ				S	S	09 16 12.0	+4.1
WMQ				SS	SS	09 16 40.0	+5.6
WMQ				AMB	AMB		
	comp=Z,106nm,1.3s						
WMQ				AMB	AMB		
	comp=Z,579nm,3.6s						
WMQ				LR	LR		
	comp=N,2µm,17.6s						
WMQ				LR	LR		
	comp=E,1µm,14.2s						
WMQ				LR	LR		
	comp=Z,2µm,18.6s						
KURK	Kurchatov	21.31	15	⇑P	P	09 12 52.8	-2.4
	comp=Z,14nm,0.9s,mb4.3						
KURK	Kurchatov	21.31	15	P	P	09 12 53.7	-1.5
	comp=Z,188nm,1.0s,mb5.4,SNR=31						
KURK	Kurchatov	21.31	15	i P	P	09 12 53.3	-1.9
KURK	Kurchatov	21.31	15	eP	P	09 12 52.8	-2.4
	comp=Z,4.9nm,1.1s,mb3.8						
BVA0	Borovoye Array	22.60	1	⇑P	P	09 13 06.2	-1.8
	comp=Z,5.2nm,1.1s,mb3.9,baz=172,slow=9.0,SNR=82						
BVA0	Borovoye Array	22.60	1	i P	P	09 13 06.2	-1.8
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.9						
BVAR	Borovoye Array	22.60	1	P	P	09 13 06.9	-1.1
	comp=Z,21nm,0.9s,mb4.6,baz=172,slow=10,SNR=31						
GNI	Garni	22.67	302	d iP	P	09 13 11.8	+3.0
GNI				pmax	pmax		
	comp=Z,19nm,1.0s						
GNI				MLR	MLR		
	comp=Z,200nm,16.0s						
GNI	Garni	22.67	302	P	P	09 13 09.3	+0.4
	comp=Z,13nm,0.8s,mb4.4,baz=175,slow=18,SNR=4.5						
GNI				LR	LR	09 23 21.0	
	comp=Z,230nm,18.6s,MS3.6,baz=345,slow=40						
GNI	Garni	22.67	302	eP	P	09 13 06.1	-2.7
	comp=Z,50nm,1.0s,mb4.9						
GNI				LR	LR	09 23 21.0	
RAYN	Ar Rayn	22.79	258	P	P	09 13 11.7	+1.5
	comp=Z,139nm,0.7s,SNR=19						
CHKZ	Chkalovo	23.26	1	⇓P	P	09 13 14.2	-0.2
	comp=Z,14nm,1.0s,mb4.4						
CHKZ	Chkalovo	23.26	1	eP	P	09 13 14.4	0.0
ZEI	Tsey	24.16	308	eP	P	09 13 26.3	+3.0
ZEI				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.1						
KIV	Kislovodsk	25.43	310	c iP	P	09 13 40.2	+4.7
KIV				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6						
KIV				MLR	MLR		
	comp=Z,300nm,21.0s,MS3.8						
GTA	Gaotai	26.02	62	eP	P	09 13 45.2	+4.2
GTA				S	S	09 18 19.2	+12
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.3						
GTA				AMB	AMB		
	comp=Z,87nm,4.6s						
GTA				LR	LR		
	comp=N,1µm,19.0s,MS4.4						
GTA				LR	LR		
	comp=E,447nm,19.0s,MS4.4						
GTA				LR	LR		
	comp=Z,291nm,18.6s,MS3.8						
MALT	Malatya	27.07	295	P	P	09 13 50.4	-0.3
SOC	Sochi	27.31	307	eP	P	09 13 53.8	+1.0
SOC				e		09 14 36.9	
SOC				eS	S	09 18 29.4	+1.0
SOC				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.0						
SOC				pmax	pmax		
	comp=N,94nm,1.5s						
SOC				pmax	pmax		
	comp=E,46nm,1.5s						
SOC				MLR	MLR		
	comp=Z,378nm,19.0s,MS4.0						
SOC				MLR	MLR		
	comp=N,420nm,21.0s,MS4.1						
SOC				MLR	MLR		
	comp=E,330nm,19.0s,MS4.1						
ASF	Jabal al Asfar	28.21	282	LR	LR	09 27 05.4	
	comp=E,373nm,18.3s,MS4.0,baz=124,slow=40						
CHG	Chiang Mai	28.72	107	⇓P	P	09 14 06.8	+1.0
LZH	Lanzhou	28.84	70	eP	P	09 14 10.3	+3.6
LZH				AP	pP	09 14 19.0	+2.8
LZH				XP	sP	09 14 22.9	+2.4
LZH				AMB	AMB		
	comp=Z,70nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,160nm,5.8s						
LZH				LR	LR		
	comp=N,760nm,15.6s						
LZH				LR	LR		
	comp=Z,700nm,17.8s,MS4.3						
LZH	Lanzhou	28.84	70	eP	P	09 14 10.3	+3.6
LZH				*SP	sP	09 14 22.9	+2.4
LZH				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.2						
LZH				MLR	MLR		
	comp=Z,700nm,17.8s,MS4.3						
LZH	Lanzhou	28.84	70	eP	P	09 14 10.3	+3.6
	comp=Z,70nm,1.4s,mb5.2						
LZH				pP	pP	09 14 19.0	+2.8
LZH				sP	sP	09 14 22.9	+2.4
LZH				PP	PP	09 15 25.0	+25
LZH				eS	rx	09 19 34.0	
LZH				sS		09 19 50.0	
LZH				eSS	rx	09 21 46.0	
LZH				LR	LR		
	comp=Z,700nm,17.8s,MS4.3						
CMAR	Chiang Mai Arr	28.89	108	P	P	09 14 09.1	+1.7
	comp=Z,3.6nm,0.5s,mb4.3,baz=292,slow=10,SNR=11						
CMAR				LR	LR	09 28 24.1	
	comp=Z,140nm,18.4s,MS3.6,baz=285,slow=42						
ANN	Anapa	29.25	309	eP	P	09 14 01.7	-8.5
ANN				i		09 14 18.6	
ANN				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
ANN				MLR	MLR		
	comp=Z,335nm,13.0s,MS4.1						
ANN				MLR	MLR		
	comp=N,174nm,9.0s						
ANN				MLR	MLR		
	comp=E,138nm,12.0s						
KMI	Kunming	29.45	92	P	P	09 14 16.7	+4.4
KMI				S	S	09 19 09.5	+6.6
KMI				LR	LR		
	comp=N,457nm,20.7s,MS4.2						
KMI				LR	LR		
	comp=E,222nm,18.2s,MS4.2						
KMI				LR	LR		
	comp=Z,258nm,18.7s,MS3.9						
NANT	Nan	30.18	105	P	P	09 14 19.0	+0.2
EIL	Elat	30.21	278	LR	LR	09 28 30.1	
	comp=Z,478nm,18.6s,MS4.2,baz=90,slow=40						
VRSR	Storozhevoye	30.84	321	eP	P	09 14 22.4	-1.9
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
VRSR				pmax	pmax		
	comp=N,40nm,3.0s						
VRSR				pmax	pmax		
	comp=E,9.0nm,0.9s						
MOY	Mondy	31.26	38	eP	P	09 14 32.4	+4.4
MOY				pmax	pmax		
	comp=Z,21nm,2.5s,mb4.5						
ZAK	Zakamensk	31.92	42	eP	P	09 14 35.1	+1.3
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
GYA	Guiyang	32.46	88	⇑iP	P	09 14 42.3	+3.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
TLY	Talaya	32.71	40	eP	P	09 14 43.1	+2.4
TLY				e		09 14 57.3	
TLY				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.7						
TLY				MLR	MLR		
	comp=Z,562nm,18.0s,MS4.3						
TLY	Talaya	32.71	40	eP	P	09 14 42.2	+1.5
	comp=Z,20nm,1.5s,mb4.8						
SONM	Songino Array	32.84	48	P	P	09 14 43.5	+1.6
	comp=Z,4.5nm,0.9s,mb4.4,baz=252,slow=7.8,SNR=16						
ULN	Ulaanbaatar	33.27	48	i P	P	09 14 47.0	+1.4
ULN	Ulaanbaatar	33.27	48	eP	P	09 14 47.7	+2.1
	comp=Z,7.4nm,1.1s,mb4.5						
BTO	Baotou	33.94	61	eP	P	09 14 52.6	+1.2
ENH	Enshi	34.03	80	P	P	09 14 56.5	+4.1
OBN	Obninsk	34.23	326	⇓iP	P	09 14 55.0	+1.2
OBN				e		09 16 05.1	
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,700nm,19.0s,MS4.4						
HHC	Hu-ho-hao-te	35.13	61	eP	P	09 14 59.9	-1.8
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.3						
AKASG	Malin Array Be	36.37	316	P	P	09 15 10.3	-1.7
	comp=Z,1.8nm,0.5s,mb4.3,baz=102,slow=7.3,SNR=8.8						
AKASG	Malin Array Be	36.37	316	P	P	09 15 10.3	-1.7
MLR	Muntele Rosu	37.32	306	P	P	09 15 20.7	+0.7
	comp=Z,5.3nm,0.7s,mb4.5,baz=153,slow=3.4,SNR=6.2						
IDI	Anoyia	37.89	290	P	P	09 15 27.8	+2.8
	comp=Z,7.1nm,0.8s,mb4.5,baz=353,slow=21,SNR=2.2						
WHN	Wuhan	38.10	78	eP	P	09 15 29.0	+2.2
BOD	Bodaibo	40.75	35	eP	P	09 15 47.6	-0.9
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
JOF	Joensuu	40.82	334	ep	P	09 15 43.7	-5.3
	comp=Z,2.4nm,0.4s,mb4.2						
NJ2	Nanjing	41.59	75	eP	P	09 15 56.1	+0.4
NJ2				AP	pP	09 16 06.1	+0.5
NJ2				XP	sP	09 16 09.2	-0.5
NJ2				PP	PP	09 17 35.9	+1.0
NJ2				S	S	09 22 08.0	-1.5
NJ2				XS		09 22 24.0	
NJ2				AMB	AMB		
	comp=Z,560nm,4.8s						
NJ2				LR	LR		
	comp=N,2µm,22.8s,MS4.9						
NJ2				LR	LR		
	comp=E,590nm,25.5s,MS4.9						
NJ2				LR	LR		
	comp=Z,560nm,16.9s						
HIA	Hailar	41.79	49	eP	P	09 16 00.6	+3.5
FINES	FINESS Array B	42.18	330	i P	P	09 15 58.2	-1.9
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	42.18	330	P	P	09 15 58.6	-1.5
	comp=Z,1.6nm,0.5s,mb3.9,baz=117,slow=8.5,SNR=8.3						
KAF	Kangasniemi	42.39	331	ep	P	09 16 00.8	-1.1
	comp=Z,1.9nm,0.4s,mb4.1						
KAF	Kangasniemi	42.39	331	eP	P	09 16 00.8	-1.1
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
SSE	Sheshan	43.74	75	P	P	09 16 11.3	-2.0
SSE				S	S	09 22 40.4	-0.5
SSE				XS		09 22 58.6	
SSE				SS	SS	09 26 01.8	+13
SSE				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,41nm,5.3s						
SSE				LR	LR		
	comp=N,543nm,24.8s,MS4.4						
SSE				LR	LR		
	comp=E,147nm,24.8s,MS4.4						
SSE				LR	LR		
	comp=Z,122nm,19.2s						
SSE	Sheshan	43.74	75	P	P	09 16 11.3	-2.0
	comp=Z,18nm,0.7s,mb4.9						
SSE				S	S	09 22 40.4	-0.5
SSE				sS		09 22 58.6	
SSE				SS	SS	09 26 01.8	+13
SSE				LR	LR		
	comp=Z,120nm,19.2s,MS3.8						
KMBO	Kilima Mbogo	44.17	231	i P	P	09 16 25.1	+8.1
KMBO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KMBO	Kilima Mbogo	44.17	231	P	P	09 16 18.4	+1.5
	comp=Z,1.8nm,0.9s,mb3.8,baz=25,slow=17,SNR=2.9						
KMBO				LR	LR	09 34 07.6	
	comp=Z,119nm,21.1s,MS3.8,baz=92,slow=35						
CN2	Changchun	45.46	57	eP	P	09 16 30.0	+3.1
GERES	GERESS Array B	45.94	310	P	P	09 16 29.5	-1.2
	comp=Z,0.8nm,0.6s,mb3.8,baz=100,slow=8.1,SNR=7.0						
CLNS	Chul’man	46.11	39	eP	P	09 16 33.3	+1.4
CLNS				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
ARCES	ARCESS Array B	46.49	340	P	P	09 16 34.3	-0.3
	comp=E,2.5nm,0.5s,mb4.4,baz=112,slow=6.5,SNR=19						
HFS	Hagfors	47.44	326	P	P	09 16 41.1	-1.1
	comp=E,15nm,1.1s,mb4.8,baz=124,slow=5.3,SNR=5.2						
GRA1	Grafenberg Arr	47.59	311	eP	P	09 16 47.1	+3.5
	comp=E,5.0nm,0.9s,mb4.5						
GRF	Grafenberg Arr	47.59	311	eP	P	09 16 47.1	+3.5

GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 47.59 311 *e*P **P 09 16 47.1 +3.5**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GRF Grafenberg Arr 47.59 311 *e*P **P 09 16 47.1 +3.5**
comp=Z,5.0nm,0.9s,mb4.5
MDJ Mudanjiang 48.39 56 P **P 09 16 51.3 +1.4**
MDJ AMB AMB
comp=Z,5.0nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,60nm,4.2s
MDJ LR LR
comp=N,47nm,16.6s,MS4.0
MDJ LR LR
comp=E,138nm,17.5s,MS4.0
MDJ LR LR
comp=Z,175nm,17.5s,MS4.1
DAVOX Davos 48.52 307 P **P 09 16 49.6 -1.2**
comp=Z,1.7nm,0.5s,mb4.3,baz=314,slow=21,SNR=2.0
NB2 NORSAR Subarra 48.83 326 P **P 09 16 50.6 -2.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=101,slow=7.9
NB2 NORSAR Subarra 48.83 326 P **P 09 16 50.6 -2.4**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
NOA NORSAR Array B 48.83 326 P **P 09 16 51.0 -2.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=103,slow=7.8,SNR=4.4
YAK Yakutsk 49.52 32*d i*P **P 09 16 59.8 +1.5**
YAK pmax pmax
comp=Z,30nm,1.3s,mb5.2
YAK MLR MLR
comp=Z,100nm,15.0s,MS3.9
KLR Kul'dur 49.63 49 *e*P **P 09 16 56.8 -2.6**
SBF Sospel 50.47 304 *e*P **P 09 17 12.4 +6.5**
comp=Z,39nm,1.0s,mb5.1
LPG La Plagne 50.78 306 *e*P **P 09 17 11.5 +3.3**
MBDF Montbardon 50.85 305 *e*P **P 09 17 13.0 +4.3**
JOW Kunigami 50.87 79 LR LR 09 40 14.8
comp=Z,221nm,18.7s,MS4.2,baz=85,slow=38
CABF La Chapelle 51.13 307 *e*P **P 09 17 19.5 +8.6**
comp=Z,24nm,1.1s,mb4.8
TIXI Tiksi 51.77 20 *e*P **P 09 17 15.1 -0.2**
TIXI pmax pmax
comp=Z,13nm,1.2s,mb4.7
TIXI MLR MLR
comp=Z,124nm,16.0s,MS4.0
VIVF Saint-Julien-l 52.32 305 *e*P **P 09 17 27.7 +7.9**
comp=Z,12nm,0.8s,mb4.6
VIVF Saint-Julien-l 52.32 305 *e*P **P 09 17 27.7 +7.9**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMF Signal de Mont 52.67 308 *e*P **P 09 17 30.4 +8.0**
comp=Z,25nm,0.9s,mb4.8
SMF Signal de Mont 52.67 308 *e*P **P 09 17 30.4 +8.0**
SMF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SSF Saint Saulge 52.85 308 *e*P **P 09 17 31.7 +8.0**
SSF pmax pmax
comp=Z,13nm,1.0s,mb4.8
SSF Saint Saulge 52.85 308 *e*P **P 09 17 31.7 +8.0**
comp=Z,13nm,1.0s,mb4.8
AVF Avril sur Loir 52.99 308 *e*P **P 09 17 32.7 +7.9**
BGF Bois d'Agland 53.36 308 *e*P **P 09 17 35.4 +7.8**
TCF Toulx Ste Croi 53.84 307 *e*P **P 09 17 38.6 +7.5**
comp=Z,8.8nm,0.8s,mb4.4
TCF Toulx Ste Croi 53.84 307 *e*P **P 09 17 38.6 +7.5**
TCF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CAF Calviac 54.14 306 *e*P **P 09 17 41.5 +8.2**
RJF Les Rejaudoux 54.46 306 *e*P **P 09 17 43.3 +7.6**
RJF *e*R
comp=Z,150nm,22.0s
MFF Saint Martin d 55.40 308 *e*P **P 09 17 50.7 +8.3**
comp=Z,16nm,0.6s,mb4.9
EKA Eskdalemuir Ar 56.15 319 P **P 09 17 49.1 +1.4**
comp=Z,8.7nm,1.2s,mb4.7,baz=90,slow=6.7,SNR=3.5
ETSF Etsaut 56.38 304 *e*P **P 09 17 57.4 +7.9**
comp=Z,53nm,1.5s,mb5.0
SGMF Saint Gilles 56.74 310 *e*P **P 09 17 59.8 +7.8**
comp=Z,14nm,0.8s,mb4.7
ROSF Rostrenen 57.19 311 *e*P **P 09 18 03.4 +8.1**
comp=Z,39nm,1.3s,mb5.0
ESDC Sonseca Array 59.65 301 P **P 09 18 13.4 +0.9**
comp=Z,0.3nm,0.3s,mb3.8,baz=134,slow=51,SNR=3.0
MATP Matopo 64.35 223 P **P 09 18 44.8 +0.6**
comp=Z,5.1nm,0.8s,mb4.6,baz=42,slow=10,SNR=9.4
BILL Bilibino 64.49 24⇑*i*P **P 09 18 46.9 +2.5**
BILL *e*S **S 09 27 35.7 +16**
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
BILL MLR MLR
comp=Z,300nm,18.0s,MS4.5
SUMG Summit 66.54 342 *e*P **P 09 18 55.6 -1.8**
comp=Z,5.4nm,0.7s,mb4.7
LBTB Lobatse 69.57 223 *e*P **P 09 19 18.2 +1.1**
LBTB pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LBTB Lobatse 69.57 223 *e*P **P 09 19 18.1 +1.0**
comp=Z,7.0nm,0.9s,mb4.6
WRA Warramunga Arr 79.62 120 P **P 09 20 16.2 +1.0**
comp=Z,2.9nm,0.8s,mb4.3,baz=322,slow=5.0,SNR=18
WRAB Tennant Creek 79.62 120 *i* P **P 09 20 19.2 +4.0**
WRAB Tennant Creek 79.62 120 *e*P **P 09 20 15.7 +0.5**
comp=Z,16nm,0.9s,mb4.9
INK Inuvik 80.05 9 *e*P **P 09 20 17.1 +0.6**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 80.05 9 P **P 09 20 17.2 +0.7**
comp=Z,3.8nm,0.6s,mb4.5,baz=352,slow=6.4,SNR=24
INK Inuvik 80.05 9 *e*P **P 09 20 17.1 +0.6**
comp=Z,4.8nm,0.7s,mb4.5
ILAR Eielson Array 80.88 15 P **P 09 20 21.1 +0.1**
comp=Z,2.4nm,1.1s,mb4.1,baz=328,slow=4.5,SNR=11
ASAR Alice Springs 81.58 124 P **P 09 20 26.2 +0.7**
comp=Z,2.0nm,0.9s,mb4.0,baz=308,slow=5.2,SNR=11
ASAR LR LR 09 56 04.0
comp=Z,60nm,21.0s,MS3.9,baz=274,slow=35
DAWY Dawson 83.05 13 *e*P **P 09 20 32.3 +0.1**
YKA Yellowknife Ar 87.36 2 *i* P **P 09 20 54.6 +1.1**
YKA pmax pmax
comp=Z,4.0nm,1.0s
YKA Yellowknife Ar 87.36 2 P **P 09 20 54.6 +1.1**
comp=Z,3.5nm,0.9s,mb4.6,baz=348,slow=4.9,SNR=16
QSPA South Pole Qui 120.22 180 *e*PKPdf PKPdf 09 26 56.9 +0.7

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*NEIC **09** 09:18:29.0±0.5, 0.06S×123.08E, mb4.3/4, Error ellipse: s-maj=25.0km s-min=8.7km az=74.0*
*IDC **09** 09:18:30.3±2.4, 0.07S×123.06E, h159km±21km, mb3.7/9, mb1 3.9/9, mb1mx3.8/15, mbtmp4.1/9, MS3.6/1, Ms1 3.6/1, ms1mx2.9/18, Error ellipse: s-maj=36.2km s-min=13.4km az=69.0*
ISC 09 09:18:27.7±0.6**, 0.07S**±0.09×**123.0E**±0.2**, h150km, n18, σ0.69**/16**, mb3.9**/11**, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
FITZ Fitzroy Crossi 18.11 172 *e*P **P 09 22 30.6 -0.2**
8.5nm,0.5s
MBWA Marble Bar 21.20 188 *e*P **P 09 23 02.6 0.0**
WRAB Tennant Creek 22.67 151 *e*P **P 09 23 17.3 +0.2**
WRA Warramunga Arr 22.68 151 P **P 09 23 18.0 +0.9**
2.8nm,0.4s,mb4.0,baz=326,slow=11,SNR=31
WRA pP 09 23 45.7
1.7nm,0.7s,baz=325,slow=11,SNR=2.7
WRA ScP 09 30 28.0
0.7nm,0.8s,baz=324,slow=2.5,SNR=10
ASAR Alice Springs 25.75 156 P **P 09 23 46.2 0.0**
2.0nm,0.8s,mb3.8,baz=343,slow=13,SNR=12
ASAR pP pP 09 24 18.1 +1.0
1.6nm,0.8s,baz=353,slow=18,SNR=5.3
ASAR PcP PcP 09 27 12.0 -0.7
1.1nm,0.7s,baz=353,slow=2.0,SNR=12
ASAR ScP 09 30 36.6
0.4nm,0.6s,baz=341,slow=2.9,SNR=5.9
CMAR Chiang Mai Arr 29.93 309 P **P 09 24 24.9 +0.8**
1.8nm,0.6s,mb4.0,baz=136,slow=7.3,SNR=9.2
CTA Charters Tower 30.26 132 LR LR 09 37 13.1
comp=Z,106nm,18.1s,baz=49,slow=37
ENH Enshi 32.79 338 *e*P **P 09 24 50.1 +1.3**
6.1nm,0.6s,mb4.5
NWAO Narrogin (SRO) 33.12 189 P **P 09 24 50.7 -1.0**
2.7nm,0.5s,mb4.3,baz=30,slow=8.1,SNR=2.9
STKA Stephens Creek 36.21 153 *e*P **P 09 25 18.4 +0.6**
4.4nm,0.9s,mb4.1
STKA Stephens Creek 36.21 153 P **P 09 25 18.3 +0.5**

5.9nm,0.9s,mb4.2,baz=327,slow=6.6,SNR=9.0
SONM Songino Array 49.84 345 P **P 09 27 07.4 +0.1**
0.6nm,0.7s,mb3.4,baz=160,slow=10,SNR=2.7
KURK Kurchatov 63.02 330 *e*P **P 09 28 39.7 -1.2**
1.6nm,0.6s,mb4.0
VNDA Vanda 80.18 172 P **P 09 30 22.1 -0.1**
2.7nm,1.0s,mb3.8,baz=316,slow=8.8,SNR=7.3
ILAR Eielson Array 90.13 25 P **P 09 31 10.7 -0.8**
0.4nm,0.7s,mb3.5,baz=254,slow=4.7,SNR=6.4
INK Inuvik 95.05 21 P **P 09 31 33.7 -0.4**
0.6nm,0.8s,mb3.9,baz=311,slow=15,SNR=6.3
INK Inuvik 95.05 21 P **P 09 31 33.7 -0.4**
TXAR Lajitas Array 126.88 53 PKP PKPdf 09 37 17.5 +3.1
0.6nm,1.0s,baz=153,slow=2.8,SNR=3.9

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*CSEM **09** 09:37:26.7, 18.07S×177.05W, h33km, mb5.7*
*BJI **09** 09:38:22.1, 18.12S×178.46W, h550km, mB4.9, mb4.6*
*NEIC **09** 09:38:23.5±0.9, 18.16S×178.94W, h535km±10km, mb4.8/29, Error ellipse: s-maj=8.3km s-min=6.6km az=125.0*
*IDC **09** 09:38:26.1±0.5, 18.16S×179.02W, h563km±5km, mb4.0/23, mb1 4.2/24, mb1mx4.2/26, mbtmp4.9/24, Error ellipse: s-maj=12.6km s-min=7.6km az=152.0*
ISC 09 09:38:23.8±0.2**, 18.30S**±0.04×**178.99W**±0.04**, h552km**±4.4km**:pP-P, n224, σ1.09**/145**, mb4.6**/56**, 22C-8D, Fiji Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AFI Afiamalu 8.19 59 *e*P **P 09 40 20.9 -3.4**
122nm,0.6s
OUZ Omahuta 18.09 200 *e*P **P 09 42 07.0 +4.3**
OUZ Omahuta 18.09 200 PN **P 09 42 07.0 +4.2**
RAR Rarotonga 18.31 102 P **P 09 42 05.7 +0.7**
1.8nm,0.3s,baz=256,slow=5.2,SNR=11
WCZ Waipu Caves 18.53 197 *e*P **P 09 42 10.8 +3.9**
WCZ Waipu Caves 18.53 197 PN **P 09 42 10.9 +4.0**
KUZ Kuaotunu 18.96 193 *e*P **P 09 42 13.5 +2.6**
KUZ Kuaotunu 18.96 193 PN **P 09 42 13.5 +2.6**
MTAZ Motutapu 19.18 195 *e*P **P 09 42 16.3 +3.3**
MTAZ Motutapu 19.18 195 PN **P 09 42 16.7 +3.6**
OTAZ Otara 19.34 195 P **P 09 42 18.1 +3.6**
OTAZ Otara 19.34 195 PN **P 09 42 18.1 +3.6**
MKAZ Moumakai 19.43 194 P **P 09 42 18.2 +2.8**
MKAZ Moumakai 19.43 194 PN **P 09 42 18.2 +2.9**
PUZ Puketiti 19.84 186 *e*P **P 09 42 19.2 0.0**
PUZ Puketiti 19.84 186 PN **P 09 42 19.1 -0.1**
URZ Urewera 20.18 189 P **P 09 42 21.0 -1.3**
24nm,0.3s,baz=30,slow=2.5,SNR=78
URZ S **S 09 45 34.1 +0.1**
7.2nm,0.8s,baz=210,slow=22,SNR=2.9
URZ Urewera 20.18 189 *e*P **P 09 42 20.7 -1.6**
URZ Urewera 20.18 189 PN **P 09 42 20.7 -1.6**
MWZ Matawai 20.19 188 *e*P **P 09 42 21.7 -0.7**
MWZ Matawai 20.19 188 PN **P 09 42 21.1 -1.3**
BKZ Black Stump Fm 21.16 190 *e*P **P 09 42 28.0 -3.3**
BKZ Black Stump Fm 21.16 190 PN **P 09 42 29.6 -1.7**
TSZ Takapari Road 22.12 190 *e*P **P 09 42 39.9 -0.2**
TSZ Takapari Road 22.12 190 PN **P 09 42 39.2 -0.9**
HNR Honiara 22.25 291 *e*P **P 09 42 39.1 -2.4**
135nm,1.1s,mb5.5
BFZ Birch Farm 22.68 189 PN **P 09 42 43.7 -1.4**
MRZ Mangatainoka R 22.77 191 PN **P 09 42 44.1 -1.8**
CAW Cannon Point 23.30 191 PN **P 09 42 49.3 -1.4**
QRZ Quartz Range 23.60 196 *e*P **P 09 42 54.2 +0.8**
QRZ Quartz Range 23.60 196 PN **P 09 42 53.9 +0.4**
NNZ Nelson 23.76 194 *e*P **P 09 42 54.4 -0.4**
NNZ Nelson 23.76 194 PN **P 09 42 54.2 -0.6**
TUWZ Tuamarina 23.83 193 PN **P 09 42 54.5 -1.0**
THZ Tophouse 24.39 195 *e*P **P 09 42 59.6 -0.8**
THZ Tophouse 24.39 195 PN **P 09 42 59.4 -1.1**
DSZ Denniston Nort 24.66 197 *e*P **P 09 43 02.9 +0.1**
DSZ Denniston Nort 24.66 197 PN **P 09 43 02.7 -0.1**
KHZ Kahutara 24.86 193 *e*P **P 09 43 03.2 -1.5**
KHZ Kahutara 24.86 193 PN **P 09 43 03.3 -1.4**
LTZ Lake Taylor 25.51 195 *e*P **P 09 43 09.2 -1.1**
LTZ Lake Taylor 25.51 195 PN **P 09 43 09.5 -0.8**
WVZ Waitaha Valley 26.19 197 *e*P **P 09 43 15.7 -0.6**
RPZ Rata Peaks 26.69 196 P **P 09 43 20.7 0.0**
13nm,0.5s,mb4.8,baz=34,slow=5.8,SNR=15
FOZ Fox Glacier 26.94 198 PN **P 09 43 21.5 -1.4**
LBZ Lake Benmore 27.55 197 *e*P **P 09 43 26.9 -1.3**
LBZ Lake Benmore 27.55 197 PN **P 09 43 26.4 -1.8**
PAE Paea 27.96 93 *e*P **P 09 43 31.2 -0.9**
40nm,0.8s,mb5.1
TBI Tubuai 28.02 105 *e*P **P 09 43 32.6 0.0**
118nm,0.9s,mb5.5
TIAR Tiarei 28.20 93 *e*P **P 09 43 33.6 -0.5**
49nm,0.6s,mb5.3
TVO Taravao 28.26 94 *e*P **P 09 43 34.1 -0.6**
64nm,0.7s,mb5.3
WKZ Wanaka 28.29 198 *e*P **P 09 43 34.0 -0.7**
WKZ Wanaka 28.29 198 PN **P 09 43 33.7 -0.9**
MLZ Mavora Lakes 29.01 199 *e*P **P 09 43 41.7 +0.8**
MLZ Mavora Lakes 29.01 199 PN **P 09 43 41.7 +0.9**
TUZ Tuapeka 29.15 196 *e*P **P 09 43 42.3 +0.3**
TUZ Tuapeka 29.15 196 PN **P 09 43 42.3 +0.3**
ARMA Armidale 29.27 240⇑*i*P **P 09 43 45.1 +1.8**
ARMA *e*S **S 09 48 01.3 +2.8**
PMOR Pomariorio Ree 29.95 88 *e*P **P 09 43 48.2 -1.0**
32nm,0.6s,mb5.0
CNB Canberra Magne 32.75 232⇑*i*P **P 09 44 14.7 +1.9**
636nm,0.6s
CTA Charters Tower 32.84 261⇓*i*P **P 09 44 14.4 +0.7**
41nm,0.9s,mb5.0
CTA *e*S **S 09 48 53.1 -0.5**
CTA Charters Tower 32.84 261 P **P 09 44 14.5 +0.8**
50nm,0.8s,mb5.1,baz=94,slow=11,SNR=30
CTAO Charters Tower 32.84 261 *e*P **P 09 44 13.8 +0.2**
80nm,1.0s,mb5.2
PMG Port Moresby 33.99 280 P **P 09 44 24.4 +1.1**
156nm,0.9s,mb5.5,baz=88,slow=6.0,SNR=25
PMG Port Moresby 33.99 280 *e*P **P 09 44 23.9 +0.6**
228nm,1.0s,mb5.7
TOO Toolangi 36.50 231⇑*i*P **P 09 44 45.6 +1.7**
6.9nm,1.0s,mb4.1
TOO *i* S **S 09 49 48.9 +0.5**
STKA Stephens Creek 37.96 241⇑*i*P **P 09 44 57.7 +1.9**
19nm,0.6s,mb4.8
STKA *e*PCP PcP 09 46 58.0 +0.2
STKA Stephens Creek 37.96 241 P **P 09 44 57.7 +1.9**
31nm,0.7s,mb5.0,baz=88,slow=9.0,SNR=66
STKA PcP PcP 09 46 58.3 +0.5
7.8nm,0.7s,baz=83,slow=2.5,SNR=3.9
WRAB Tennant Creek 44.01 260 *e*P **P 09 45 43.5 -0.8**
16nm,0.8s,mb4.6
WRA Warramunga Arr 44.02 260 P **P 09 45 43.8 -0.6**
6.8nm,0.6s,mb4.3,baz=96,slow=6.8,SNR=173
WRA PcP PcP 09 47 17.7 -0.4
5.2nm,0.6s,baz=91,slow=3.7,SNR=8.7
WRA ScP 09 50 18.5
2.0nm,0.9s,baz=88,slow=3.7,SNR=4.7
WRA S **S 09 51 33.5 -3.6**
4.0nm,0.9s,baz=94,slow=14,SNR=8.4
ASAR Alice Springs 44.16 255 P **P 09 45 46.0 +0.5**
24nm,0.5s,mb5.0,baz=88,slow=8.3,SNR=372
ASAR PcP PcP 09 47 18.3 -0.3
7.8nm,0.6s,baz=109,slow=3.3,SNR=12
ASAR ScP 09 50 18.9
3.4nm,0.7s,baz=99,slow=4.6,SNR=7.1
ASAR S **S 09 51 37.3 -1.7**
11nm,0.8s,baz=90,slow=15,SNR=31
ASPA Alice Springs 44.16 255⇓*i*P **P 09 45 45.7 +0.3**
ASPA *i* S **S 09 51 36.6 -2.4**
ASPA *i* SCS ScS 09 54 43.0 +2.0
KAKA Kakadu 47.03 270⇓*i*P **P 09 46 07.2 -0.4**
70nm,0.6s,mb5.4
KAKA *e*S **S 09 52 17.9 -1.2**
FITZ Fitzroy Crossi 52.42 261 *e*P **P 09 46 47.7 +0.4**
7.4nm,0.8s,mb4.1
MBWA Marble Bar 57.45 256 *e*P **P 09 47 21.5 -0.8**
8.9nm,0.5s,mb4.2
KLBR Kellerberrin 58.16 244⇑*i*P **P 09 47 26.5 -0.5**
546nm,0.7s
NWAO Narrogin (SRO) 58.54 242 P **P 09 47 29.6 +0.1**
20nm,0.7s,mb4.5,baz=93,slow=5.3,SNR=23
NWAO Narrogin (SRO) 58.54 242 *e*P **P 09 47 28.4 -1.2**
20nm,0.8s,mb4.4
CBIJ Chichi jima 58.78 319 P **P 09 47 29.8 -1.5**
28nm,0.5s,mb4.8,baz=242,slow=22,SNR=3.9
MUN Mundaring 59.46 243⇓*i*P **P 09 47 35.8 +0.1**
24nm,0.9s,mb4.4
SBA Scott Base 59.99 183 *e*P **P 09 47 40.4 +1.8**

63nm,1.0s,mb4.9
VNDA Vanda 60.01 185 P **P 09 47 40.0 +1.3**
13nm,0.7s,mb4.4,baz=352,slow=7.4,SNR=59
MAJO Matsushiro 67.90 324 *e*P **P 09 48 27.8 -1.4**
27nm,0.5s,mb5.0
MAT Matsushiro 67.90 324 *e*P **P 09 48 28.0 -1.2**
24nm,0.8s,mb4.8
MAT Matsushiro 67.90 324 P **P 09 48 27.8 -1.4**
QSPA South Pole Qui 71.75 180⇑*i*P **P 09 48 52.7 +1.4**
111nm,0.8s,mb5.3
QZH Quanzhou 74.43 303⇓*i*P **P 09 49 07.4 0.0**
QZH AMB AMB
comp=Z,70nm,0.6s,mb5.3
NJ2 Nanjing 77.77 310 *e*P **P 09 49 26.2 +0.7**
NJ2 AP pP 09 51 21.4 -2.1
NJ2 XP sP 09 52 15.0 -3.9
NJ2 PP PP 09 52 32.1 +0.6
NJ2 S S 09 58 34.0 +1.0
NJ2 XS 10 01 57.5
NJ2 AMB AMB
comp=Z,430nm,4.6s
MDJ Mudanjiang 78.19 325 P **P 09 49 28.0 +0.5**
MDJ AMB AMB
comp=Z,40nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,154nm,4.0s
MDJ Mudanjiang 78.19 325 *e*P **P 09 49 28.2 +0.7**
comp=Z,40nm,0.9s,mb4.8
YBH Yreka Blue Hor 79.17 39 P **P 09 49 33.6 +0.9**
comp=Z,2.6nm,0.5s,mb3.8,baz=218,slow=1.6,SNR=8.3
YBH pP pP 09 51 31.7 +0.5
comp=Z,4.5nm,1.0s,baz=187,slow=7.4,SNR=5.3
OMM Old Mammoth Mi 79.19 44 *e*P **P 09 49 33.3 +0.4**
CN2 Changchun 80.00 323 *e*P **P 09 49 37.0 0.0**
CN2 *e*AP pP 09 51 31.6 -4.2
CN2 *e*XP sP 09 52 26.7 -4.4
CN2 *e*S S 09 58 59.3 +3.6
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.5
CN2 AMB AMB
comp=Z,200nm,5.0s
NVAR Mina Array Bea 80.09 44 P **P 09 49 38.1 +0.5**
comp=Z,4.7nm,0.8s,mb3.9,baz=218,slow=6.9,SNR=33
NVAR pP pP 09 51 37.2 +0.9
comp=Z,1.9nm,0.9s,baz=226,slow=6.7,SNR=4.8
MAW Mawson 83.31 200 P **P 09 49 54.8 +1.5**
comp=Z,21nm,0.7s,mb4.8,baz=230,slow=2.2,SNR=6.1
WUAZ Wupatki 83.42 49 *e*P **P 09 49 55.2 +0.7**
comp=Z,105nm,0.9s,mb5.4
BJT Baijiatuau 83.67 316 *e*P **P 09 49 55.5 -0.2**
comp=Z,21nm,0.9s,mb4.7
BJI Beijing 83.68 316 P **P 09 49 55.8 +0.1**
BJI AP pP 09 51 53.7 -2.1
BJI XP sP 09 52 47.6 -3.1
BJI S S 09 59 30.3 -1.8
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.0
BJI Beijing 83.68 316 P **P 09 49 55.8 +0.1**
comp=Z,4.0nm,0.9s,mb4.0
BJI pP pP 09 51 53.7 -2.1
BJI sP sP 09 52 47.6 -3.1
BJI S S 09 59 30.3 -1.8
TNA Tin City 84.03 5 *e*P **P 09 49 56.0 -0.8**
comp=Z,2.1nm,0.6s,mb3.8
ENH Enshi 84.04 304 *e*P **P 09 49 58.6 +0.9**
comp=Z,27nm,0.8s,mb4.8
MSU Marysvale 84.26 46 *e*P **P 09 49 59.4 +0.8**
GYA Guiyang 84.75 300⇑*i*P **P 09 50 02.4 +1.1**
GYA AP pP 09 51 58.6 -3.1
GYA XP sP 09 52 53.4 -3.1
GYA PP PP 09 53 31.8 +3.6
GYA S S 09 59 52.8 +10
GYA XS 10 03 13.7
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.3
GYA AMB AMB
comp=Z,90nm,3.8s
XAN Xi'an 86.06 308 P **P 09 50 08.0 +0.6**
XAN AMB AMB
comp=Z,19nm,1.1s,mb4.6
NEW Newport 86.15 36 P **P 09 50 07.0 -0.4**
comp=Z,2.5nm,0.6s,mb4.0,baz=207,slow=4.1,SNR=6.7
HIA Hailar 86.37 325 *e*P **P 09 50 08.4 -0.1**
comp=Z,5.7nm,0.8s,mb4.2
LPM Los Pinos Moun 86.37 52 *e*P **P 09 50 09.8 +0.9**
ILAR Eielson Array 86.39 13 P **P 09 50 06.5 -1.8**
comp=Z,2.9nm,0.5s,mb4.2,baz=223,slow=4.9,SNR=95
ILAR pP pP 09 52 09.4 +0.3
comp=Z,3.2nm,1.0s,baz=223,slow=6.2,SNR=7.7
PV01 Paradox Valley 86.61 48 *e*P **P 09 50 09.7 -0.2**
LTX Lajitas 86.67 58 *e*P **P 09 50 10.7 +0.3**
comp=Z,17nm,0.9s,mb4.7
LTX *e* 09 50 18.2
TXAR Lajitas Array 86.67 58 P **P 09 50 11.6 +1.2**
comp=Z,9.9nm,0.8s,mb4.5,baz=217,slow=5.9,SNR=122
TXAR pP pP 09 52 13.1 +1.8
comp=Z,2.2nm,1.2s,baz=236,slow=4.5,SNR=3.2
TXAR Lajitas Array 86.67 58 P **P 09 50 11.6 +1.2**
TXAR pP pP 09 52 13.1 +1.8
BILL Bilibino 86.77 354 *e*P **P 09 50 09.8 -0.1**
comp=Z,10nm,0.8s,mb4.5
ANMO Albuquerque 86.77 52 P **P 09 50 11.2 +0.5**
comp=Z,3.8nm,1.0s,mb4.0,baz=224,slow=5.1,SNR=14
ANMO pP pP 09 52 13.1 +1.4
comp=Z,3.3nm,1.1s,baz=236,slow=4.3,SNR=6.3
MCMT McKenzie Canyo 86.89 41 *e*P **P 09 50 07.6 -3.5**
RRI2 Red Ridge 87.14 43 *e*P **P 09 50 12.9 +0.6**
HHC Hu-ho-hao-te 87.16 315 *e*P **P 09 50 09.5 -2.9**
HHC AMB AMB
comp=Z,18nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,147nm,5.6s
KMI Kunming 87.52 297 P **P 09 50 18.3 +3.8**
comp=Z,10.0nm,1.2s,mb4.4
KMI LR LR
comp=Z,40nm,27.3s
QLMT Earthquake Lak 87.78 41 P **P 09 50 15.1 -0.2**
CPRX Cap Rock 87.96 54 *e*P **P 09 50 16.1 -0.3**
PDAR Pinedale Array 88.01 44 P **P 09 50 16.4 +0.1**
comp=Z,4.7nm,0.7s,mb4.3,baz=224,slow=3.0,SNR=42
PDAR pP pP 09 52 19.4 +1.7
comp=Z,0.1nm,0.5s,baz=202,slow=43,SNR=3.3
PDAR PKKPbc 10 07 57.7
comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=4.0
CMAR Chiang Mai Arr 88.50 290 P **P 09 50 20.2 +1.0**
comp=Z,1.6nm,0.5s,mb4.2,baz=119,slow=2.9,SNR=10
CMAR PP PP 09 53 57.3 -1.6
comp=Z,1.2nm,0.4s,baz=118,slow=4.9,SNR=4.9
CMAR PKKPbc 10 07 57.8
comp=Z,1.3nm,0.8s,baz=308,slow=3.7,SNR=4.9
SYO Syowa Base 88.65 193 ⇓P **P 09 50 18.5 -0.3**
SNAA Sanae 90.22 179⇑*i*P **P 09 50 26.1 +0.1**
SNAA *e* 09 54 13.5
VNA3 Neumayer Olymp 90.38 177⇑*i*P **P 09 50 27.2 +0.5**
VNA3 *e* 09 54 16.4
LZH Lanzhou 90.70 308 P **P 09 50 30.0 +1.0**
LZH XP sP 09 53 27.5 +2.0
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.1
LZH Lanzhou 90.70 308 P **P 09 50 30.0 +1.0**
comp=Z,26nm,1.0s,mb5.1
LZH pP pP 09 52 37.5 +6.5
LZH sP sP 09 53 27.5 +2.0
VNA2 Neumayer--Watz 90.81 177⇑*i*P **P 09 50 29.5 +0.8**
VNA2 *e* 09 54 17.5
VNA1 Neumayer--Stat 91.05 177⇑*i*P **P 09 50 30.8 +1.0**
VNA1 *e* 09 54 16.4
PLCA Paso Flores 91.46 134 P **P 09 50 34.0 +1.7**
comp=Z,7.5nm,1.1s,mb4.5,baz=254,slow=6.8,SNR=7.9
INK Inuvik 92.41 15 P **P 09 50 35.1 -0.9**
comp=Z,0.8nm,0.4s,mb4.1,baz=242,slow=6.8,SNR=23
INK PKKPbc 10 07 46.2
comp=Z,0.5nm,0.7s,baz=187,slow=20,SNR=4.4
INK Inuvik 92.41 15 P **P 09 50 35.1 -0.9**
INK PKKPbc 10 07 46.2
ULN Ulaanbaatar 93.10 320 *e*P **P 09 50 39.8 +0.1**
comp=Z,2.0nm,0.7s,mb4.3
SONM Songino Array 93.49 319 P **P 09 50 41.5 0.0**
comp=Z,0.6nm,0.6s,mb3.8,baz=117,slow=2.8,SNR=3.6
SONM pP pP 09 52 46.5 +2.8
comp=Z,0.4nm,0.6s,baz=100,slow=7.5,SNR=2.1
SONM PP PP 09 54 39.0 +1.7
comp=Z,1.1nm,0.9s,baz=121,slow=7.2,SNR=3.6
GTA Gaotai 94.86 310 *e*P **P 09 50 48.7 +0.8**
GTA AP pP 09 52 49.3 -0.9

GTA XP sP 09 53 40.8 -3.6
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.4
YKA Yellowknife Ar 94.92 25 P **P** **09 50 46.7 -0.8**
comp=Z,0.5nm,0.6s,mb3.8,baz=243,slow=4.4,SNR=16
YKA pP pP 09 52 51.7 +1.9
comp=Z,0.3nm,0.9s,baz=249,slow=4.9,SNR=5.0
YKA PKiKP 09 55 24.7
comp=Z,0.2nm,0.7s,baz=255,slow=1.6,SNR=5.6
YKA PKKPbc 10 07 38.5
comp=Z,0.3nm,0.6s,baz=39,slow=2.2,SNR=7.8
YKA Yellowknife Ar 94.92 25 P **P** **09 50 46.7 -0.8**
YKA pP pP 09 52 51.7 +1.9
KURK Kurchatov 111.75 318 *e*PKPdf PKPdf 09 55 55.2 -0.3
CHKZ Chkalovo 116.61 321 *e*PKPdf PKPdf 09 56 04.4 -0.5
BVAR Borovoye Array 116.80 321 PKKPbc 10 06 39.4
comp=Z,1.4nm,0.9s,baz=270,slow=1.4,SNR=5.0
SCHQ Schefferville 117.51 37 PKP PKPdf 09 56 06.1 -0.5
comp=Z,1.8nm,0.8s,baz=235,slow=18,SNR=5.8
SCHQ Schefferville 117.51 37 PKP PKPdf 09 56 06.1 -0.5
BDFB Brasilia 121.10 122 PKP PKPdf 09 56 14.1 -0.4
comp=Z,2.6nm,0.7s,baz=139,slow=4.7,SNR=4.7
KEV Kevo 126.15 349 *e*p PKPdf 09 56 21.7 -1.2
comp=Z,0.5nm,0.3s
ARCES ARCESS Array B 126.60 350 PKP PKPdf 09 56 24.1 +0.3
comp=Z,3.8nm,0.5s,baz=25,slow=1.6,SNR=24
LBTB Lobatse 130.74 210 PKP PKPdf 09 56 33.8 +0.8
comp=Z,3.7nm,0.6s,baz=138,slow=2.4,SNR=6.2
JOF Joensuu 130.77 342 *e*p PKPdf 09 56 27.5 -4.5
comp=Z,1.2nm,0.4s
KAF Kangasniemi 132.79 344 *e*p PKPdf 09 56 34.7 -1.0
comp=Z,0.8nm,0.4s
FINES FINESS Array B 133.41 344 PKhKP 09 56 32.0
comp=Z,2.1nm,0.8s,baz=180,slow=1.9,SNR=4.5
FINES PKP PKPdf 09 56 37.3 +0.4
comp=Z,2.4nm,0.6s,baz=63,slow=4.3,SNR=9.4
FINES SKPab 09 59 14.6
comp=Z,5.7nm,0.7s,baz=63,slow=3.1,SNR=10
FINES FINESS Array B 133.41 344 PKP PKPdf 09 56 37.3 +0.4
FINES SKPab 09 59 14.6
NB2 NORSAR Subarra136.70 353 PKPabc PKPdf 09 56 43.3 +0.4
comp=Z,0.9nm,0.6s,baz=16,slow=3.7
NOA NORSAR Array B 136.70 353 PKP PKPdf 09 56 44.4 +1.5
comp=Z,0.5nm,0.6s,baz=34,slow=2.4,SNR=3.2
NOA SKPab 09 59 32.8
comp=Z,4.0nm,0.9s,baz=16,slow=4.3,SNR=7.6
KMBO Kilima Mbogo 139.47 245 PKhKP 09 56 44.6
comp=Z,1.4nm,0.5s,baz=50,slow=22,SNR=4.5
KMBO PKP PKPdf 09 56 52.6 +3.3
comp=Z,4.5nm,0.9s,baz=94,slow=0.2,SNR=7.2
KMBO Kilima Mbogo 139.47 245 *e*PKPpre 09 56 44.7
KMBO PKP PKPdf 09 56 52.6 +3.3
AKASG Malin Array Be 140.65 332 PKhKP 09 56 44.1
comp=Z,0.6nm,0.3s,baz=42,slow=4.0,SNR=5.1
AKASG PKP PKPdf 09 56 53.2 +2.9
comp=Z,1.6nm,0.4s,baz=43,slow=2.8,SNR=10
AKASG SKPbc 09 59 35.5
comp=Z,4.4nm,0.6s,baz=38,slow=3.4,SNR=14
AKASG Malin Array Be 140.65 332 PKP PKPdf 09 56 53.2 +2.9
AKASG SKPbc 09 59 35.5
ASF Jabal al Asfar 144.90 300 PKP PKPdf 09 57 00.5 +2.3
comp=Z,8.7nm,0.8s,baz=307,slow=0.8,SNR=7.2
KOLS Kolonicke sedl 144.94 335 *e*P PKPdf 09 57 00.4 +2.6
KOLS *i* PKP PKPdf 09 57 01.8 +4.0
KOLS Kolonicke sedl 144.94 335 *i* PKP PKPdf 09 57 01.8 +4.0
MBAR Mbarara 145.26 240 *e*PKPdf PKPdf 09 57 01.9 +2.5
CRVS Cervenica-Dubn 145.28 336 *e*P PKPdf 09 57 01.6 +3.2
CRVS Cervenica-Dubn 145.28 336 *i* PKP PKPdf 09 57 01.6 +3.2
KSP Ksiaz 145.33 343 *e*PKP PKPdf 09 57 01.0 +2.6
OKC Ostrava-Krasne 145.66 340 *e*P PKPdf 09 57 01.7 +2.7
OKC Ostrava-Krasne 145.66 340⇑*e*PKPB 09 57 01.7
UPC Upice 145.71 343 *e*P PKPdf 09 57 02.3 +3.3
UPC Upice 145.71 343⇑*e*PKPB 09 57 02.3
CLL Collm 145.72 347⇑*i*PKP1 PKPbc 09 57 01.8 +1.3
CLL *i* 09 57 10.8
CLL *i* *PPKP 09 59 48.8
DPC Dobruska-Polom 145.76 343 *e*P PKPdf 09 57 02.5 +3.4
DPC Dobruska-Polom 145.76 343⇑*e*PKPB 09 57 02.5
MLR Muntele Rosu 145.88 328 PKPbc PKPbc 09 57 02.2 +1.2
comp=Z,2.9nm,0.4s,baz=332,slow=19,SNR=6.5
BRG Berggiesshubel 145.91 345 *e*PKP PKPdf 09 56 58.6 -0.8
BRG *i* 09 57 02.4
KECS Kecovo 145.99 337 *i* PKP PKPdf 09 57 03.1 +3.5
KECS *e* 09 57 10.9
KECS Kecovo 145.99 337 *e* PKPdf 09 57 10.9 +11
PVCC Panska Ves 146.07 344 *e*P PKPdf 09 57 03.4 +3.7
PVCC Panska Ves 146.07 344⇑*e*PKPB 09 57 03.4
PRU Pruhonice 146.58 344 *e*P PKPdf 09 57 04.5 +4.0
PRU Pruhonice 146.58 344⇑*e*PKPB 09 57 04.5
VYHS Vyhne 146.59 338 *e*P PKPdf 09 57 04.0 +3.4
VYHS *i* PKP PKPdf 09 57 04.9 +4.3
VYHS Vyhne 146.59 338 *i* PKP PKPdf 09 57 04.9 +4.3
MOX Moxa 146.64 348 *e*PKP PKPdf 09 57 04.3 +3.7
MOX Moxa 146.64 348 *i* P PKPdf 09 57 04.3 +3.7
NKC Novy Kostel 146.85 347 *e*P PKPdf 09 57 05.4 +4.5
NKC Novy Kostel 146.85 347⇑*e*PKPB 09 57 05.4
ZST Bratislava 147.43 340 *i* PKP PKPdf 09 57 07.8 +5.9
KHC Kasperske Hory 147.61 345 *e*PKPDF PKPdf 09 57 03.0 +0.8
KHC ⇑*e*PKPB 09 57 07.2
KHC *e*x x 09 59 17.5
GRF Grafenberg Arr 147.63 348 *e*PKP PKPdf 09 57 07.4 +5.2
GERES GERESS Array B 147.84 344 PKP PKPdf 09 57 03.8 +1.3
comp=Z,2.7nm,0.6s,SNR=4.1
GERES PKPbc PKPdf 09 57 07.7 +5.2
comp=Z,7.7nm,0.7s,baz=18,slow=3.1,SNR=43
GIVF Givet 148.13 355 *e*PKP1 PKPdf 09 57 08.3 +5.3
BAIF Baives 148.22 356 *e*PKP1 PKPdf 09 57 08.5 +5.4
comp=Z,21nm,0.6s
CDF Champ du Feu 149.54 352 *e*PKP1 PKPdf 09 57 11.8 +6.5
comp=Z,37nm,1.0s
KBA Koelnbreinsper 149.56 343⇑*i*P PKPdf 09 57 11.2 +5.8
FLN La Foliniere 149.59 2 *e*PKP1 PKPdf 09 57 11.4 +6.0
comp=Z,48nm,0.7s
MEZF Maizieres J'vi 149.70 355 *e*PKP1 PKPdf 09 57 12.4 +6.9
DIVS Divcibare 149.74 332⇓*i*PKP PKPdf 09 57 11.9 +6.2
LDF La Druitiere 149.77 2 *e*PKP1 PKPdf 09 57 11.7 +6.1
comp=Z,18nm,0.5s
ROSF Rostrenen 149.84 6 *e*PKP1 PKPdf 09 57 11.7 +5.9
comp=Z,38nm,1.1s
MOTA Moosalm 149.88 346⇑*i*P PKPdf 09 57 12.4 +6.6
GRR Gorron 149.95 2 *e*PKP1 PKPdf 09 57 12.4 +6.5
comp=Z,37nm,0.6s
SQTA Sankt Quirin 149.97 346⇑*i*P PKPdf 09 57 12.6 +6.6
SGMF Saint Gilles 149.99 5 *e*PKP1 PKPdf 09 57 12.2 +6.2
comp=Z,35nm,0.7s
PDKS Podkum 149.99 340 *e*P PKPdf 09 57 12.5 +6.4
CRES Cresnjev 150.05 340 *i* P PKPdf 09 57 12.7 +6.5
HAU Haudompre 150.06 353 *e*PKP1 PKPdf 09 57 12.8 +6.7
LJU Ljubljana 150.16 341 *i* P PKPdf 09 57 13.4 +7.1
HINF Hinteralfeld 150.18 352 *e*PKP1 PKPdf 09 57 13.0 +6.7
comp=Z,17nm,0.8s
DAVA Damuels 150.19 348⇓*i*P PKPdf 09 57 13.6 +7.3
QUIF Quistinic 150.27 6 *e*PKP1 PKPdf 09 57 13.0 +6.6
comp=Z,24nm,1.1s
HYF Humbligny 151.08 358 *e*PKP1 PKPdf 09 57 15.6 +7.9
SSF Saint Saulge 151.25 356 *e*PKP1 PKPdf 09 57 15.7 +7.8
comp=Z,37nm,1.0s
CABF La Chapelle 151.46 353 *e*PKP1 PKPdf 09 57 16.8 +8.6
comp=Z,36nm,1.0s
AVF Avril sur Loir 151.53 357 *e*PKP1 PKPdf 09 57 16.0 +7.7
SMF Signal de Mont 151.64 356 *e*PKP1 PKPdf 09 57 16.4 +7.9
MFF Saint Martin d 151.76 2 *e*PKP1 PKPdf 09 57 16.5 +7.9
comp=Z,42nm,0.9s
BGF Bois d'Agland 151.78 357 *e*PKP1 PKPdf 09 57 16.8 +8.1
comp=Z,20nm,0.8s
TCF Toulx Ste Croi 152.08 358 *e*PKP1 PKPdf 09 57 17.4 +8.3
comp=Z,26nm,1.0s
LPL La Plagne 152.45 351 *e*PKP1 PKPdf 09 57 19.1 +9.5
LPG La Plagne 152.47 351 *e*PKP1 PKPdf 09 57 19.3 +10
comp=Z,33nm,1.1s
RJF Les Rejaudoux 153.07 359 *e*PKP1 PKPdf 09 57 19.5 +9.0
comp=Z,18nm,0.9s
ORIF Oris-en-Rattie 153.15 352 *e*PKP1 PKPdf 09 57 20.1 +9.5
comp=Z,21nm,1.0s
MBDF Montbardon 153.22 351 *e*PKP1 PKPdf 09 57 20.2 +9.5
VIVF Saint-Julien-l 153.35 354 *e*PKP1 PKPdf 09 57 20.5 +10
comp=Z,16nm,0.8s
CAF Calviac 153.44 358 *e*PKP1 PKPdf 09 57 20.5 +9.5
DBIC Dimbokro 167.10 153 PKP PKPdf 09 57 27.2 +0.5
comp=Z,5.1nm,0.7s,baz=220,slow=4.3,SNR=7.0
DBIC PKPab PKPab 09 58 36.6 +0.1
comp=Z,18nm,1.2s,baz=169,slow=4.1,SNR=5.1

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*CSEM **09** 09:44:48.5, 35.91N×21.78E, h10km, MD3.6/3, After ATH*
ATH 09 09:44:51.2, 36.05N×21.94E, h10km, MD3.6/3, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.92**	**75**	*e*PG	Pg	09 45 08.5	-1.1
VLI	**Veliai**	**1.04**	**50**	*e*PN	Pn	09 45 11.5	-0.3
VLI	**Veliai**	**1.04**	**50**	*e*Pb	Pb	09 45 12.5	+1.6
ITM	**Ithomi**	**1.13**	**359**	*e*PN	Pn	09 45 12.5	-0.5

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*IDC **09** 09:51:23.3±1.0, 30.54S×71.39W, mb4.0/7, mb1 4.1/10, mb1mx4.0/18, mbtmp3.9/10, ML4.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.0/20, Error ellipse: s-maj=36.2km s-min=17.8km az=93.0*
*GUC **09** 09:51:25.2±0.6, 30.56S×71.39W, h20km±3km, ML4.6*
*NEIC **09** 09:51:25.0±1.3, 30.54S×71.44W, h12km±8km, mb4.6/1, ML4.6(GUC), Error ellipse: s-maj=16.4km s-min=4.5km az=91.0*
NEIC Felt [II] at Andacollo, Ovalle and Vicuna.
ISC 09 09:51:23.4±1.3**, 30.54S**±0.03×**71.54W**±0.07**, h8**km±7km**, n32, σ1ˢ00**/37**, mb3.9**/8**, 2C-3D, Near coast of central Chile**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
OVCH Ovalle 0.30 104⇑*i*P **Pg** **09 51 30.0 +0.4**
OVCH *i* S **Sg** **09 51 33.3 -0.5**
OVCH AMP 09 51 33.6
comp=N,242µm,0.2s
LSCH La Serena 0.68 23⇓*i*P **Pb** **09 51 37.7 +0.8**
LSCH *i* S **Sb** **09 51 46.8 +0.6**
LSCH AMP 09 51 47.5
comp=N,45µm,0.5s
TLL Tololo Astrono 0.74 60⇓*i*P **Pb** **09 51 38.1 +0.1**
TLL *i* S **Sb** **09 51 47.4 -0.5**
TLL AMP 09 51 50.7
comp=N,52µm,0.5s
ILCH Illapel 1.14 164⇑*i*P **Pb** **09 51 44.4 -0.5**
ILCH *i* S **Sb** **09 51 58.6 -1.2**
ILCH AMP 09 51 59.4
comp=E,27µm,0.5s
LCO Las Campanas 1.69 26⇓*i*P **Pn** **09 51 53.9 +0.5**
LCO *i* S **Sn** **09 52 15.5 +0.2**
LCO AMP 09 52 21.4
comp=E,8µm,0.6s
PACH Papudo 2.00 177 *e*P **Pn** **09 51 58.1 +0.3**
VACH Vallenar 2.07 19 *i* P **Pn** **09 51 59.5 +0.6**
JACH Jahuel 2.29 159 *e*P **Pn** **09 52 02.4 +0.4**
ROCH El Roble 2.47 170 *e*P **Pn** **09 52 05.4 +0.8**
ROCH *i* S **Sn** **09 52 35.8 +0.5**
ZON Zonda 2.66 113 *e*P **Pn** **09 52 09.0 +1.8**
ZON *e*S **Sn** **09 52 46.0 +6.0**
CLCH Cerro Calan 2.98 164 *e*P **Pn** **09 52 11.9 +0.1**
TACH Talagante 3.15 171 *e*P **Pn** **09 52 15.0 +0.8**
CPCH Copiapo 3.33 19 *e*P **Pn** **09 52 16.8 -0.1**
LMEL Las Melosas 3.49 161 *e*P **Pn** **09 52 21.1 +2.0**
LMEL *i* S **Sn** **09 53 02.0 +0.9**
LVC Limon Verde 8.23 17 Pn **P** **09 53 24.0 -1.9**
comp=E,0.7nm,0.3s,baz=213,slow=17,SNR=6.1
LVC Lg 09 55 36.9
comp=E,10.0nm,0.3s,baz=303,slow=18,SNR=9.3
LVC Limon Verde 8.23 17 *e*P **P** **09 53 24.0 -2.0**
comp=E,19nm,0.6s
PLCA Paso Flores 10.21 176 Pn **P** **09 53 50.6 -2.6**
comp=E,0.5nm,0.3s,baz=339,slow=13,SNR=13
PLCA Lg 09 56 48.2
comp=E,0.1nm,0.3s,baz=247,slow=10.0,SNR=2.8
PLCA LR LR 09 58 05.7
comp=E,118nm,21.8s,baz=356,slow=40
PLCA Paso Flores 10.21 176 Pn **P** **09 53 50.6 -2.6**
PLCA Lg 09 56 48.2
PLCA LR LR 09 58 05.7
TRQA Tornquist 10.90 136 *e*P **P** **09 53 59.8 -2.9**
comp=E,22nm,0.6s
LPAZ La Paz 14.52 13 Pn **P** **09 54 50.8 -0.5**
comp=E,0.2nm,0.3s,baz=210,slow=8.8,SNR=2.9
USHA Ushuaia 24.39 176 P **P** **09 56 42.7 -0.1**
comp=E,17nm,1.0s,mb4.4,baz=345,slow=15,SNR=2.7
BDFB Brasilia 26.16 61 P **P** **09 56 56.7 -3.3**
comp=E,2.8nm,0.5s,mb4.0,baz=252,slow=9.6,SNR=5.7
SNAA Sanae 54.64 159 P **P** **10 00 53.4 -1.0**
comp=E,0.7nm,0.7s,mb3.8,baz=321,slow=20,SNR=3.6
QSPA South Pole Qui 59.69 180 *e*P **P** **10 01 29.4 -0.7**
comp=E,3.9nm,0.8s,mb4.5
TXAR Lajitas Array 66.94 330 P **P** **10 02 18.9 +0.3**
comp=E,0.3nm,0.8s,mb3.4,baz=141,slow=8.8,SNR=3.6
DBIC Dimbokro 73.69 72 P **P** **10 03 00.4 +0.4**
comp=E,2.7nm,0.5s,mb4.4,baz=209,slow=7.6,SNR=6.9
NVAR Mina Array Bea 81.30 325 P **P** **10 03 46.0 +4.4**
comp=E,0.3nm,0.7s,mb3.4,baz=135,slow=6.4,SNR=3.3
YKA Yellowknife Ar 98.92 341 P **P** **10 05 04.4 -0.5**
comp=E,0.1nm,0.7s,mb3.5,baz=141,slow=4.6,SNR=5.1
YKA Yellowknife Ar 98.92 341 P **P** **10 05 04.4 -0.5**
WRA Warramunga Arr 123.98 210 PKP PKPdf 10 10 22.9 -2.7
comp=E,0.3nm,0.6s,baz=153,slow=1.7,SNR=6.2
BVAR Borovoye Array 144.41 40 PKP PKPdf 10 11 00.3 -2.2
comp=E,0.6nm,0.5s,baz=332,slow=2.7,SNR=4.7
SONM Songino Array 162.65 5 PKPab PKPab 10 12 20.1 +4.1
comp=E,0.6nm,0.8s,baz=315,slow=3.5,SNR=3.6

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*PRE **09** 10:15:31.7±3.0, 26.90S×26.75E, h2km, ML5.3*
*NEIC **09** 10:15:31.8±0.2, 26.91S×26.79E, h5km, mb5.0/53, MS4.3/8, Error ellipse: s-maj=7.3km s-min=4.2km az=100.0*
NEIC Two people killed, 58 injured and many buildings damaged in the Klerksdorp-Stilfontein area. Felt [V] at Klerksdorp and [III] at Johannesburg. Also felt at Pretoria and Westonaria. Felt [II] at Gaborone, Botswana.
*IDC **09** 10:15:31.4±0.5, 26.90S×26.67E, mb4.6/16, mb1 4.7/20, mb1mx4.6/25, mbtmp4.7/20, ML4.6/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/21, Error ellipse: s-maj=19.1km s-min=11.1km az=72.0*
*BJI **09** 10:15:31.4, 26.01S×25.93E, h7km, mB5.6, mb4.9, Ms5.5, Msz4.7*
*MOS **09** 10:15:34.6±1.0, 26.88S×26.71E, h33km, mb5.2/8, Error ellipse: s-maj=18.0km s-min=8.1km az=86.5*
ISC 09 10:15:29.7±0.2**, 26.87S**±0.03×**26.71E**±0.04**, h2**km**, n166, σ1ˢ01**/156**, mb4.8**/69**, MS4.3**/13**, 9C-1D, South Africa**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
KSR Koster 1.03 9 *e*P **Pb** **10 15 37.1 -13**
KSR *e*S **Sb** **10 15 44.0 -20**
SEK Senekal 1.66 151 *e*P **Pn** **10 16 01.5 +1.5**
SEK *e*S **Sb** **10 16 22.5 +0.5**
SEK *e* 10 16 26.1
comp=Z,11µm,0.7s
SLR Silverton 1.81 52 *e*P **Pn** **10 16 04.2 +2.0**
SLR *e*S **Sn** **10 16 25.9 0.0**
LBTB Lobatse 2.10 331 Pn **Pn** **10 16 08.1 +1.7**
comp=Z,500nm,0.3s,baz=164,slow=13,SNR=1646
LBTB Pg **Pg** **10 16 10.1 -1.6**
comp=Z,500nm,0.3s,baz=162,slow=18,SNR=1630
LBTB Lg 10 16 36.4
comp=Z,5µm,0.3s,baz=254,slow=15,SNR=50
LBTB Rg 10 16 44.0
comp=Z,16µm,1.0s,baz=89,slow=5.7,SNR=38
LBTB LR LR 10 17 12.0
comp=Z,435nm,20.0s,baz=208,slow=48
LBTB Lobatse 2.10 331 *e*Pn **Pn** **10 16 08.0 +1.7**
LBTB *e*S **Sn** **10 16 35.3 +1.9**
LBTB *e*Lg 10 16 45.7
BOSA Boshof 2.16 216 *e*Pn **Pn** **10 16 08.2 +1.0**
BOSA *e*Sn **Sn** **10 16 36.3 +1.4**
BOSA *e*Lg 10 16 46.6
BOSA Boshof 2.16 216 *e*P **Pn** **10 16 08.4 +1.2**
BOSA *e*S **Sn** **10 16 35.6 +0.6**
HVD Hendrik Verwoe 3.87 196 *e*S **Sn** **10 17 13.6 -4.6**
HVD *e* 10 17 37.6
comp=Z,790nm,0.5s
POG Pongola 4.40 98 *e*P **Pn** **10 16 39.0 0.0**
POG *e*S **Sn** **10 17 27.3 -4.3**
MSNA Messina 5.42 35 *e*P **Pn** **10 16 51.4 -2.2**
MSNA *e*S **Sb** **10 18 15.4 +4.2**
MSNA *e* 10 18 23.6
comp=Z,6µm,0.7s
MATP Matopo 6.62 15 Pn **Pn** **10 17 09.3 -1.2**
comp=Z,10.0nm,0.3s,baz=196,slow=13,SNR=163
MATP Sn **Sn** **10 18 22.5 -5.0**
comp=Z,47nm,0.3s,baz=162,slow=15,SNR=13
MATP Lg 10 18 52.2
comp=Z,295nm,0.3s,baz=109,slow=20,SNR=17
MATP LR LR 10 19 53.3
comp=Z,232nm,19.2s,baz=196,slow=39
SUR Sutherland 7.51 222 Pn **Pn** **10 17 21.7 -1.3**
comp=Z,244nm,0.5s,SNR=59
SUR Sutherland 7.51 222 Pn **Pn** **10 17 21.9 -1.1**
comp=Z,8.6nm,0.3s,baz=56,slow=14,SNR=77
SUR Sn **Sn** **10 18 44.6 -5.1**
comp=Z,21nm,0.3s,baz=347,slow=22,SNR=11
SUR Lg 10 19 13.3
comp=Z,29nm,0.3s,baz=136,slow=18,SNR=8.0
SUR LR LR 10 20 14.8
comp=Z,459nm,18.9s,baz=344,slow=38
SUR Sutherland 7.51 222 *e*Pn **Pn** **10 17 21.4 -1.6**
SUR *e*Sn **Sn** **10 18 31.6 -18**
SUR *e*Lg 10 19 12.8
CVNA Calvinia 7.61 231 *e*P **Pn** **10 17 22.3 -2.1**
CVNA *e*S **Sn** **10 18 43.3 -8.9**
CVNA *e* 10 18 47.0
comp=Z,1µm,0.2s
CER Ceres 9.11 223 *e*P **P** **10 17 42.5 -2.7**
CER *e*S **Sb** **10 20 05.4 +7.0**
TSUM Tsumeb 11.35 310 Pn **P** **10 18 13.5 -2.4**
comp=Z,5.2nm,0.3s,baz=130,slow=11,SNR=44
TSUM Sn **S** **10 20 15.9 -8.6**
comp=Z,7.1nm,0.3s,baz=246,slow=16,SNR=6.5
TSUM Lg 10 21 20.9
comp=Z,13nm,0.3s,baz=214,slow=21,SNR=6.4
TSUM LR LR 10 22 50.8
comp=Z,408nm,20.0s,baz=140,slow=39
TSUM Tsumeb 11.35 310 *e*P **P** **10 18 12.2 -3.8**
TSUM *e*S **S** **10 20 12.3 -12**
TSUM *e*Lg 10 21 19.7
LSZ Lusaka 11.62 7 *e*P **P** **10 18 15.7 -4.0**
comp=Z,93nm,0.8s
LSZ *e*S **S** **10 20 15.7 -16**
LSZ *e*Lg 10 21 27.6
MBAR Mbarara 26.40 9*d i*P **P** **10 21 10.0 +0.4**
MBAR Mbarara 26.40 9 P **P** **10 21 07.7 -1.9**
comp=Z,29nm,1.4s,mb4.6
KMBO Kilima Mbogo 27.53 23 *e*P **P** **10 21 20.5 +0.6**
KMBO Kilima Mbogo 27.53 23 P **P** **10 21 20.4 +0.5**
comp=Z,0.7nm,0.2s,mb3.9,baz=222,slow=18,SNR=3.5
KMBO Kilima Mbogo 27.53 23 P **P** **10 21 20.5 +0.5**
comp=Z,12nm,1.6s,mb4.3
SYO Syowa Base 42.85 173 ⇑P **P** **10 23 29.9 -0.6**
DBIC Dimbokro 45.24 313 P **P** **10 23 50.8 +0.2**
comp=Z,15nm,0.8s,mb4.9,baz=122,slow=11,SNR=22
DBIC Dimbokro 45.24 313 *e*P **P** **10 23 47.7 -2.8**
comp=Z,18nm,0.8s,mb5.0
DGAR Diego Garcia 47.48 75 *e*P **P** **10 24 05.7 -2.6**
comp=Z,71nm,0.8s,mb5.7
SNAA Sanae 47.75 192 *e* **P** **10 24 15.0 +5.3**
SNAA Sanae 47.75 192 *e* **P** **10 24 16.1 +6.4**
SNAA Sanae 47.75 192 *i* P **P** **10 24 07.5 -2.2**
SNAA Sanae 47.75 192 P **P** **10 24 09.4 -0.3**
comp=Z,4.2nm,1.1s,mb4.4,baz=351,slow=2.1,SNR=13
SNAA Sanae 47.75 192⇑*i*P **P** **10 24 09.6 -0.1**
SNAA *e* 10 24 15.0
SNAA *e* 10 24 16.1
VNA1 Neumayer--Stat 48.10 195 *e* **P** **10 24 18.2 +5.8**
VNA1 Neumayer--Stat 48.10 195 *e* **P** **10 24 19.3 +6.9**
VNA1 Neumayer--Stat 48.10 195⇑*i*P **P** **10 24 12.8 +0.4**
VNA1 *e* 10 24 18.2
VNA1 *e* 10 24 19.3
VNA2 Neumayer--Watz 48.11 194 *e* **P** **10 24 17.8 +5.4**
VNA2 Neumayer--Watz 48.11 194 *e* **P** **10 24 19.0 +6.6**
VNA2 Neumayer--Watz 48.11 194 *e*S **S** **10 31 10.4 -0.5**
VNA2 Neumayer--Watz 48.11 194⇑*i*P **P** **10 24 12.4 0.0**
VNA2 *e* 10 24 17.8
VNA2 *e* 10 24 19.0
VNA2 *e* 10 29 34.6
VNA2 *e*S **S** **10 31 10.4 -0.5**
VNA3 Neumayer Olymp 48.85 195 *e* **P** **10 24 23.2 +5.0**
VNA3 Neumayer Olymp 48.85 195 *e*S **S** **10 31 21.1 -0.3**
VNA3 Neumayer Olymp 48.85 195⇑*i*P **P** **10 24 17.6 -0.6**
VNA3 *e* 10 24 23.2
VNA3 *e* 10 29 39.5
VNA3 *e*S **S** **10 31 21.1 -0.3**
EIL Elat 56.77 9 *e*P **P** **10 25 16.9 -0.9**
comp=Z,6.6nm,0.8s,mb4.7
ASF Jabal al Asfar 59.51 10 P **P** **10 25 38.1 +1.2**
comp=Z,34nm,1.4s,mb5.2,baz=54,slow=5.1,SNR=5.4
CSS Prodhromos 61.81 6 *e*P **P** **10 25 48.7 -3.9**
comp=Z,24nm,1.0s,mb5.3
SANT Santorini 62.91 359 P **P** **10 25 59.8 0.0**
comp=Z,71nm,1.1s,mb5.7
QSPA South Pole Qui 63.32 180⇑*i*P **P** **10 26 01.2 -0.7**
comp=Z,37nm,1.5s,mb5.3
MALT Malatya 65.77 10 *e*P **P** **10 26 19.2 +0.9**
comp=Z,9.2nm,1.3s,mb4.7
PMSA Palmer Station 66.35 208 P **P** **10 26 21.9 +0.3**
VSL Villasalto 67.97 346 P **P** **10 26 33.5 +1.1**
comp=Z,12nm,0.8s,mb5.0
GNI Garni 68.76 15 *i* P **P** **10 26 36.1 -1.1**
GNI pmax pmax
comp=Z,33nm,1.7s
GNI Garni 68.76 15 P **P** **10 26 37.4 +0.1**
comp=Z,15nm,1.0s,mb4.9
BDFB Brasilia 69.68 262 P **P** **10 26 43.0 -0.2**
comp=Z,9.7nm,0.7s,mb4.9,baz=122,slow=6.0,SNR=16
BDFB LR LR 10 51 19.8
comp=Z,98nm,19.7s,MS4.0,baz=176,slow=31
AQU L'Aquila 69.97 350 P **P** **10 26 41.2 -3.4**
comp=Z,18nm,0.8s,mb5.0
PGF Pioggiola 70.98 346 *e*P **P** **10 26 49.7 -1.1**
comp=Z,93nm,1.4s,mb5.2
SOC Sochi 71.12 10 *e*P **P** **10 26 49.4 -2.2**
SOC *e* 10 27 09.0
SOC *e*PPP PPP 10 31 08.2 -4.2
SOC *e*S S 10 36 00.9 -6.9
SOC *e* 10 36 49.9
SOC *e*SS SS 10 40 39.2 -3.8
SOC pmax pmax
comp=Z,62nm,1.3s,mb5.4
SOC pmax pmax
comp=N,48nm,0.9s
SOC pmax pmax
comp=E,46nm,1.2s
KIV Kislovodsk 71.99 12 *i* P **P** **10 26 56.2 -0.6**
KIV pmax pmax
comp=Z,36nm,1.7s,mb5.0
KIV Kislovodsk 71.99 12 P **P** **10 26 57.8 +1.1**
comp=Z,17nm,1.0s,mb4.9
KIV LR LR
comp=Z,30nm,20.0s,MS3.6
ESDC Sonseca Array 72.12 336 P **P** **10 26 58.3 +0.7**
comp=Z,13nm,0.8s,mb4.9,baz=155,slow=5.9,SNR=20
ESLA Sonseca Array 72.12 336 *e*P **P** **10 26 57.3 -0.3**
comp=Z,1.5nm,0.6s,mb4.1
LMR La Mourre 72.28 345 *e*P **P** **10 26 58.3 -0.3**
FRF La Foret Royal 72.47 345 *e*P **P** **10 26 59.5 -0.1**
VNDA Vanda 72.48 171 P **P** **10 26 59.2 0.0**
comp=Z,1.6nm,0.7s,mb4.1,baz=267,slow=4.1,SNR=9.5
SBF Sospel 72.57 346 *e*P **P** **10 26 59.7 -0.6**
SBA Scott Base 72.88 172 *e*P **P** **10 27 02.6 +1.1**
comp=Z,40nm,1.4s,mb5.2
TRQA Tornquist 73.02 236 *e*P **P** **10 27 01.8 -1.1**
comp=Z,9.4nm,0.8s,mb4.8
SMRF Simiane la Rot 73.11 344 *e*P **P** **10 27 03.6 +0.2**
MTLF Montolieu 73.40 342 *e*P **P** **10 27 05.5 +0.4**
MBDF Montbardon 73.54 345 *e*P **P** **10 27 06.9 +1.0**
comp=Z,14nm,0.8s,mb4.7
LASF Ste Croix 73.64 343 *e*P **P** **10 27 06.8 +0.3**
comp=Z,14nm,0.7s,mb4.7
EPF Esparros 73.67 340 *e*P **P** **10 27 06.8 +0.1**
ETSF Etsaut 73.83 339 *e*P **P** **10 27 07.8 +0.2**
ORIF Oris-en-Rattie 73.93 345 *e*P **P** **10 27 09.0 +0.9**
comp=Z,9.8nm,0.7s,mb4.5
SJPF Ste Jean 74.23 339 *e*P **P** **10 27 10.0 +0.1**
comp=Z,11nm,0.7s,mb4.6
PSZ Piszkesteto 74.69 355 *e*P **P** **10 27 12.2 -0.3**
comp=Z,10nm,1.0s,mb4.7
CAF Calviac 74.91 342 *e*P **P** **10 27 14.1 +0.3**
comp=Z,23nm,0.9s,mb4.8
LFF La Frestale 75.29 341 *e*P **P** **10 27 16.1 +0.1**
RJF Les Rejaudoux 75.41 342 *e*P **P** **10 27 16.8 +0.1**
CABF La Chapelle 75.48 345 *e*P **P** **10 27 17.2 +0.1**
comp=Z,37nm,1.1s,mb4.9
CRVS Cervenica-Dubn 75.57 356 *e*P **P** **10 27 18.5 +1.0**
SMF Signal de Mont 76.04 344 *e*P **P** **10 27 20.3 +0.1**
comp=Z,25nm,0.8s,mb4.9
TCF Toulx Ste Croi 76.13 343 *e*P **P** **10 27 21.1 +0.4**

	comp=Z,14nm,0.9s,mb4.6						
BGF	**Bois d'Agland**	**76.21**	**343**	*e*P	**P**	**10 27 21.5**	**+0.3**
GERES	**GERESS Array B**	**76.26**	**351**	P	**P**	**10 27 22.6**	**+1.2**
	comp=Z,3.9nm,1.0s,mb4.3,baz=166,slow=5.5,SNR=13						
AVF	**Avril sur Loir**	**76.30**	**344**	*e*P	**P**	**10 27 21.9**	**+0.2**
	comp=Z,26nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**76.33**	**120**	P	**P**	**10 27 21.9**	**-0.3**
NWAO	**Narrogin (SRO)**	**76.33**	**120**	P	**P**	**10 27 21.9**	**-0.2**
	comp=Z,5.8nm,0.9s,mb4.5,baz=195,slow=13,SNR=3.8						
HINF	**Hinteralfeld**	**76.46**	**346**	*e*P	**P**	**10 27 22.4**	**-0.2**
	comp=Z,5.7nm,0.6s,mb4.4						
SSF	**Saint Saulge**	**76.51**	**344**	*e*P	**P**	**10 27 22.7**	**-0.2**
	comp=Z,10.0nm,0.7s,mb4.6						
KHC	**Kasperske Hory**	**76.56**	**351**	*i* P	**P**	**10 27 21.7**	**-1.4**
KHC	**Kasperske Hory**	**76.56**	**351**	*e*P	**P**	**10 27 21.5**	**-1.6**
MORC	**Moravsky Berou**	**76.74**	**354**	*e*P	**P**	**10 27 24.3**	**+0.2**
	comp=Z,4.8nm,0.9s,mb4.4						
HAU	**Haudompre**	**76.75**	**346**	*e*P	**P**	**10 27 24.1**	**-0.1**
	comp=Z,8.0nm,0.6s,mb4.5						
CDF	**Champ du Feu**	**76.94**	**347**	*e*P	**P**	**10 27 25.0**	**-0.2**
	comp=Z,11nm,0.8s,mb4.5						
KOLN	**Koldanda**	**77.06**	**50**	*e*P	**P**	**10 27 25.1**	**-1.2**
	comp=Z,76nm,1.5s,mb5.4						
MFF	**Saint Martin d**	**77.06**	**341**	*e*P	**P**	**10 27 26.3**	**+0.3**
	comp=Z,32nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**77.26**	**2**	P	**P**	**10 27 26.8**	**-0.2**
	comp=Z,5.0nm,0.6s,mb4.6,baz=186,slow=5.4,SNR=22						
GRA1	**Grafenberg Arr**	**77.46**	**350**	*e*P	**P**	**10 27 28.9**	**+0.9**
	comp=Z,12nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**77.46**	**350**	*e*P	**P**	**10 27 28.9**	**+0.9**
GRF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
GRF	**Grafenberg Arr**	**77.46**	**350**	*e*P	**P**	**10 27 28.9**	**+0.9**
	comp=Z,12nm,0.9s,mb4.8						
DMN	**Daman**	**77.99**	**51**	*e*P	**P**	**10 27 30.8**	**-0.6**
	comp=Z,16nm,0.6s,mb5.1						
PKI	**Pulchoki**	**78.17**	**51**	*e*P	**P**	**10 27 31.6**	**-0.8**
	comp=Z,8.8nm,0.7s,mb4.8						
KKN	**Kakani**	**78.22**	**51**	*e*P	**P**	**10 27 31.5**	**-1.2**
	comp=Z,8.5nm,0.5s,mb5.0						
MOX	**Moxa**	**78.32**	**350**	*e*P	**P**	**10 27 30.0**	**-2.8**
GUN	**Gumba**	**78.71**	**51**	*e*P	**P**	**10 27 34.7**	**-0.7**
	comp=Z,83nm,1.6s,mb5.4						
CLL	**Collm**	**78.77**	**351**	*e*P	**P**	**10 27 37.0**	**+1.8**
CLL	**Collm**	**78.77**	**351**	P	**P**	**10 27 37.0**	**+1.8**
JIRN	**Jiri**	**78.77**	**51**	*e*P	**P**	**10 27 35.1**	**-0.6**
	comp=Z,78nm,1.8s,mb5.3						
LDF	**La Druitiere**	**78.87**	**342**	*e*P	**P**	**10 27 35.7**	**-0.1**
GRR	**Gorron**	**78.89**	**342**	*e*P	**P**	**10 27 36.3**	**+0.4**
	comp=Z,31nm,0.9s,mb4.9						
FLN	**La Foliniere**	**79.12**	**342**	*e*P	**P**	**10 27 36.9**	**-0.3**
QUIF	**Quistinic**	**79.14**	**340**	*e*P	**P**	**10 27 37.3**	**0.0**
BAIF	**Baives**	**79.15**	**345**	*e*P	**P**	**10 27 37.8**	**+0.4**
	comp=Z,16nm,0.8s,mb4.7						
SGMF	**Saint Gilles**	**79.26**	**341**	*e*P	**P**	**10 27 37.7**	**-0.3**
ROSF	**Rostrenen**	**79.55**	**340**	*e*P	**P**	**10 27 39.3**	**-0.2**
	comp=Z,23nm,0.9s,mb4.8						
SUW	**Suwalki**	**80.60**	**358**	P	**P**	**10 27 46.0**	**+1.0**
	comp=Z,40nm,1.1s,mb5.3						
AAK	**Ala-Archa**	**81.98**	**34***c*	*i*P	**P**	**10 27 52.6**	**+0.1**
AAK				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
AAK	**Ala-Archa**	**81.98**	**34**	*e*P	**P**	**10 27 52.2**	**-0.3**
	comp=Z,6.7nm,1.2s,mb4.5						
AAK				LR	LR		
	comp=Z,20nm,19.0s,MS3.5						
OBN	**Obninsk**	**82.09**	**6***c*	*e*P	**P**	**10 27 51.8**	**-1.0**
OBN				pmax	pmax		
	comp=Z,31nm,2.5s,mb4.8						
MBWA	**Marble Bar**	**83.26**	**110**	*e*P	**P**	**10 27 59.5**	**-0.1**
	comp=Z,2.8nm,0.7s,mb4.4						
CMAR	**Chiang Mai Arr**	**83.27**	**66**	P	**P**	**10 27 59.9**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.1,baz=250,slow=5.1,SNR=7.0						
CMAR				LR	LR	10 59 53.7	
	comp=Z,44nm,19.3s,MS3.9,baz=140,slow=32						
LSA	**Lhasa**	**83.47**	**52**	P	**P**	**10 28 01.7**	**+1.3**
	comp=Z,11nm,0.7s,mb5.0						
LVC	**Limon Verde**	**84.78**	**247**	*e*P	**P**	**10 28 09.1**	**+1.9**
	comp=Z,21nm,1.3s,mb5.1						
ESK	**Eskdalemuir**	**85.77**	**343**	*e*P	**P**	**10 28 12.6**	**+1.2**
	comp=Z,32nm,1.3s,mb5.4						
LPAZ	**La Paz**	**86.97**	**253**	P	**P**	**10 28 19.1**	**+0.9**
	comp=Z,5.7nm,0.7s,mb4.9,baz=137,slow=2.9,SNR=22						
LPAZ	**La Paz**	**86.97**	**253**	*e*P	**P**	**10 28 18.4**	**+0.2**
	comp=Z,11nm,0.9s,mb5.1						
FINES	**FINESS Array B**	**88.00**	**360**	P	**P**	**10 28 23.0**	**+0.9**
	comp=Z,3.5nm,0.7s,mb4.7,baz=169,slow=7.1,SNR=10						
NOA	**NORSAR Array B**	**88.50**	**353**	P	**P**	**10 28 26.2**	**+1.7**
	comp=Z,0.5nm,0.8s,mb3.8,baz=162,slow=2.9,SNR=2.9						
CHKZ	**Chkalovo**	**88.77**	**24**	*e*P	**P**	**10 28 25.3**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.6						
KMI	**Kunming**	**89.68**	**62**	P	**P**	**10 28 34.7**	**+3.7**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.9						
KMI				LR	LR		
	comp=Z,32nm,23.4s,MS3.7						
KMI	**Kunming**	**89.68**	**62**	P	**P**	**10 28 34.7**	**+3.7**
	comp=Z,6.0nm,1.0s,mb4.9						
KMI				LR	LR		
	comp=Z,30nm,23.4s,MS3.6						
WMQ	**Urumqi**	**89.80**	**39**	*e*P	**P**	**10 28 32.7**	**+1.6**
WMQ				XP	sP	10 28 39.7	+7.7
WMQ				PP	PP	10 32 07.5	+1.7
WMQ				SKS	SKS	10 39 01.0	-3.0
WMQ				S	S	10 39 22.0	+0.2
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,234nm,10.4s						
WMQ				LR	LR		
	comp=N,312nm,28.0s,MS4.7						
WMQ				LR	LR		
	comp=E,224nm,24.3s,MS4.7						
WMQ				LR	LR		
	comp=Z,201nm,25.7s,MS4.4						
KURK	**Kurchatov**	**89.81**	**30**	*e*P	**P**	**10 28 29.8**	**-1.2**
	comp=Z,4.3nm,1.3s,mb4.6						
ASAR	**Alice Springs**	**93.59**	**119**	P	**P**	**10 28 50.1**	**+1.1**
	comp=Z,0.6nm,0.5s,mb4.3,baz=233,slow=4.2,SNR=13						
STKA	**Stephens Creek**	**94.79**	**129**	P	**P**	**10 28 54.2**	**-0.2**
	comp=Z,3.4nm,1.1s,mb4.7,baz=217,slow=5.2,SNR=3.4						
STKA	**Stephens Creek**	**94.79**	**129**	*e*P	**P**	**10 28 54.4**	**0.0**
SDV	**Santo Domingo**	**100.47**	**275**	PFAKE		10 29 30.0	+9.4
SDV				LR	LR		
	comp=Z,83nm,19.0s,MS4.3						
ULN	**Ulaanbaatar**	**103.38**	**43**	PFAKE		10 29 40.0	+7.3
ULN				LR	LR		
	comp=Z,116nm,21.0s,MS4.4						
NJ2	**Nanjing**	**105.42**	**62**	*e*PDIF	Pdif	10 29 46.7	+4.6
NJ2				SS	SS	10 49 09.0	+7.7
NJ2				PP	PP		
	comp=Z,1μm,6.4s						
NJ2				LR	LR		
	comp=N,712nm,21.0s,MS5.2						
NJ2				LR	LR		
	comp=E,412nm,24.2s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,24.0s,MS5.3						
JTS	**JuntasAbangare**	**113.84**	**270**	PFAKE		10 34 20.0	+7.1
JTS				LR	LR		
	comp=Z,57nm,20.0s,MS4.2						
CN2	**Changchun**	**114.10**	**52**	*e*PKP	PKPdf	10 34 14.7	+2.1
MDJ	**Mudanjiang**	**117.19**	**52**	PKP	PKPdf	10 34 18.5	-0.1
TIXI	**Tiksi**	**119.08**	**21**	*i* PKIKP	PKPdf	10 34 20.5	-1.2
YAK	**Yakutsk**	**119.41**	**32**	PFAKE		10 34 30.0	+7.6
YAK				LR	LR		
	comp=Z,82nm,19.0s,MS4.4						
MIAR	**Mount Ida**	**128.72**	**294**	PFAKE		10 34 50.0	+8.8
MIAR				LR	LR		
	comp=Z,577nm,20.0s,MS5.3						
BILL	**Bilibino**	**132.24**	**19**⇑	*i*PKIKP	PKPdf	10 34 46.4	-0.6
BILL				pmax	pmax		
	comp=Z,9.0nm,1.7s						
BILL	**Bilibino**	**132.24**	**19**	PFAKE		10 35 00.0	+13
BILL				LR	LR		
	comp=Z,157nm,20.0s,MS4.7						
YKA	**Yellowknife Ar**	**136.21**	**335**	PKIKP	PKPdf	10 34 52.8	-1.6
YKA	**Yellowknife Ar**	**136.21**	**335**	PKhKP		10 34 42.2	
	comp=Z,0.1nm,0.6s,baz=51,slow=3.7,SNR=3.7						
YKA				PKP	PKPdf	10 34 52.8	-1.6
	comp=Z,0.5nm,0.6s,baz=33,slow=1.9,SNR=3.6						
TXAR	**Lajitas Array**	**136.42**	**285**	PKhKP		10 34 50.4	
	comp=Z,0.2nm,0.6s,baz=76,slow=3.7,SNR=3.1						
TXAR				PKP	PKPdf	10 34 56.2	+0.5
	comp=Z,0.7nm,0.8s,baz=143,slow=4.5,SNR=7.2						
TXAR	**Lajitas Array**	**136.42**	**285**	PKP		10 34 50.4	
TXAR				PKP	PKPdf	10 34 56.2	+0.5
PDAR	**Pinedale Array**	**141.21**	**306**	PKhKP		10 34 58.2	
	comp=Z,0.8nm,0.8s,baz=108,slow=2.9,SNR=6.7						
PDAR				PKP	PKPdf	10 35 02.9	-1.2
	comp=Z,2.4nm,1.1s,baz=101,slow=4.6,SNR=6.6						
PDAR	**Pinedale Array**	**141.21**	**306**	PKP	PKPdf	10 35 02.9	-1.2
PV10	**Paradox Valley**	**141.34**	**299**	*e*PKPdf	PKPdf	10 34 58.1	-6.3
ILAR	**Eielson Array**	**141.87**	**356**	PKhKP		10 34 58.9	
	comp=Z,1.3nm,0.6s,baz=347,slow=3.7,SNR=17						
TCUT	**Toone Canyon**	**142.84**	**303**	*e*PKPdf	PKPdf	10 35 03.5	-3.4
WUAZ	**Wupatki**	**143.34**	**294**	*e*PKPdf	PKPdf	10 35 06.5	-1.5
MSU	**Marysvale**	**143.78**	**299**	*e*PKPdf	PKPdf	10 35 06.3	-2.3
ELK	**Elko**	**145.76**	**304**	*e*PKP2	PKPab	10 35 13.0	+0.2
BMO	**Blue Mountains**	**146.11**	**311**	*e*PKIKP	PKPdf	10 35 13.1	+0.7
SLKM	**Skilak Lake**	**146.31**	**357**	*e*PKPbc	PKPbc	10 35 12.7	+1.3
PFO	**Pinyon Flat Ob**	**147.60**	**291**	*e*PKP2	PKPab	10 35 18.6	-1.5
TPH	**Tonopah**	**147.77**	**299**	*e*PKP2	PKPab	10 35 18.9	-1.8
NVAR	**Mina Array Bea**	**148.54**	**300**	PKPbc	PKPdf	10 35 21.5	+4.8
	comp=Z,5.8nm,0.7s,baz=90,slow=3.6,SNR=27						
CMB	**Columbia Colle**	**150.23**	**300**	*e*PKIKP	PKPdf	10 35 24.5	+5.2

MAN 09 10:20:29.8, 12.43N×124.43E, h23km, mb4.4, ML3.2, MS3.0, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.24**	**72**	*e*P	Pb	10 20 37.4	+1.6
CNP				*e*S	Sb	10 20 44.8	+4.9
PVCP	**Virac**	**1.19**	**347**	*i* P	Pn	10 20 49.3	-2.0
PVCP				*e*S	Sb	10 21 07.3	+0.9
BESP	**Borongan**	**1.29**	**130**	*e*P	Pn	10 20 50.4	-2.3
BESP				*e*S	Sn	10 21 07.5	-1.8
PLP	**Palo**	**1.37**	**157**	*e*P	Pn	10 20 54.0	+0.1
PLP				*i* S	Sn	10 21 11.4	0.0

IDC 09 10:29:48.7±1.5, 18.15S×177.39W, mb3.8/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=49.7km s-min=31.6km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.61**	**192**	P	P	10 34 29.6	-2.6
	4.3nm,0.4s,baz=3.4,slow=17,SNR=11						
WRA	**Warramunga Arr**	**45.54**	**260**	P	P	10 38 10.6	-1.7
	0.3nm,0.3s,baz=97,slow=7.4,SNR=6.8						
ASAR	**Alice Springs**	**45.66**	**254**	P	P	10 38 11.3	-1.8
	1.6nm,0.7s,baz=86,slow=8.8,SNR=14						
TXAR	**Lajitas Array**	**85.31**	**57**	P	P	10 42 28.1	-1.2
	0.4nm,0.7s,baz=217,slow=6.8,SNR=6.2						

*IDC **09** 10:45:47.9±1.2, 9.14S×160.20E, mb3.9/7, mb1 4.2/8, mb1mx4.1/14, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=63.5km s-min=20.3km az=133.0*
*NEIC **09** 10:45:54.8±1.2, 9.18S×160.11E, h50km±11km, mb4.1/1, Error ellipse: s-maj=42.3km s-min=13.0km az=136.0*
ISC 09 10:45:54.4±1.3, **9.2S**±0.3×**160.0E**±0.3, **h59**km±13km, **n11, σ0^{s}74**/11, **mb3.7**/7, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.23**	**202**	*e*P	**P**	**10 46 03.9**	**-0.1**
CTA	**Charters Tower**	**17.15**	**229**	P	**P**	**10 49 52.4**	**+0.8**
	0.2nm,0.3s,baz=59,slow=10,SNR=5.6						
CTAO	**Charters Tower**	**17.15**	**229**	*e*P	**P**	**10 49 52.5**	**+0.9**
	17nm,1.0s						
WRAB	**Tennant Creek**	**27.00**	**244**	P	**P**	**10 51 32.1**	**-0.9**
WRA	**Warramunga Arr**	**27.02**	**244**	P	**P**	**10 51 31.8**	**-1.4**
	1.7nm,1.1s,mb3.5,baz=72,slow=9.2,SNR=5.0						
STKA	**Stephens Creek**	**28.31**	**215**	P	**P**	**10 51 44.6**	**-0.1**
	1.1nm,0.6s,mb3.7,baz=16,slow=15,SNR=4.2						
ASAR	**Alice Springs**	**28.82**	**237**	P	**P**	**10 51 50.6**	**+1.3**
	1.1nm,1.2s,mb3.5,baz=67,slow=6.9,SNR=2.8						
SONM	**Songino Array**	**73.93**	**326**	P	**P**	**10 57 25.7**	**+0.5**
	0.4nm,0.5s,mb3.6,baz=129,slow=9.2,SNR=2.4						
ILAR	**Eielson Array**	**83.66**	**20**	P	**P**	**10 58 17.8**	**+0.2**
	0.6nm,0.5s,mb4.0,baz=251,slow=4.9,SNR=14						
NVAR	**Mina Array Bea**	**89.20**	**51**	P	**P**	**10 58 45.2**	**0.0**
	0.4nm,0.6s,mb3.9,baz=230,slow=7.0,SNR=3.2						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**10 59 15.4**	**-0.3**
	0.3nm,0.6s,mb3.9,baz=260,slow=4.5,SNR=9.8						

*ISK **09** 10:55:35.5, 38.76N×39.90E, h4km, MD3.5*
*CSEM **09** 10:55:35.5, 38.76N×39.90E, h4km, MD3.5, After ISK*
*NEIC **09** 10:55:36.7, 38.70N×39.93E, h8km, MD3.5(ISK), After ISK.*
ISC 09 10:55:36.9±0.7, **38.71N**±0.04×**39.94E**±0.04, **h13**km±6km, **n21, σ0^{s}81**/28, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.46**	**69**	*i* PG	**Pg**	**10 55 45.0**	**-1.4**
BINT	**Bingol**	**0.46**	**69**	Pg	**Pg**	**10 55 46.1**	**-0.3**
BINT				Sg	**Sg**	**10 55 53.1**	**+0.4**
ELZG	**Elazig**	**0.78**	**254**	*i* P	**Pb**	**10 55 49.9**	**-1.8**
ELZG				*i* S	**Sb**	**10 56 05.8**	**+4.0**
DIY	**Diyarbakir**	**0.85**	**164**	PG	**Pg**	**10 55 53.6**	**-0.3**
DIY	**Diyarbakir**	**0.85**	**164**	Pg	**Pg**	**10 55 53.2**	**-0.7**
DIY	**Diyarbakir**	**0.85**	**164**	*e*Pg	**Pg**	**10 55 53.6**	**-0.3**
DIY				*e*Sg	**Sg**	**10 56 06.4**	**+1.0**
MYA	**Malataya**	**1.25**	**252**	PN	**Pn**	**10 55 59.6**	**-0.4**
MALT	**Malatya**	**1.25**	**252**	PN	**Pn**	**10 55 59.8**	**-0.2**
MALT	**Malatya**	**1.25**	**252**	Pn	**Pn**	**10 56 00.4**	**+0.4**
MALT				Sg	**Sg**	**10 56 18.4**	**-0.2**
VRT	**Varto**	**1.31**	**71**	*e*PN	**Pn**	**10 56 01.4**	**+0.5**
VRT	**Varto**	**1.31**	**71**	Pn	**Pn**	**10 56 01.7**	**+0.8**
BTMT	**Batman**	**1.33**	**113**	PN	**Pn**	**10 56 00.6**	**-0.5**
BEST	**Besiri**	**1.33**	**128**	*i* P	**Pb**	**10 56 00.1**	**-1.1**
BEST				*i* S	**Sb**	**10 56 17.8**	**-0.2**
URFA	**Urfa**	**1.54**	**215**	*e*PN	**Pn**	**10 56 05.0**	**+0.7**
EZM	**Erzurum**	**1.62**	**42**	*e*PN	**Pn**	**10 56 06.3**	**+0.9**
ERZM	**Erzurum**	**1.63**	**43**	*i* P	**Pn**	**10 56 05.9**	**+0.5**
ERZM				*i* S	**Sn**	**10 56 25.7**	**-0.6**
GUMT	**Gumushane**	**1.78**	**349**	*e*PN	**Pn**	**10 56 07.6**	**0.0**
GUMT	**Gumushane**	**1.78**	**349**	Pn	**Pn**	**10 56 08.9**	**+1.3**
GZT	**Gaziantep**	**2.31**	**235**	*i* P	**Pn**	**10 56 15.2**	**-0.1**
GZT				*i* S	**Sn**	**10 56 52.7**	**+9.0**
GAZ	**Gaziantep**	**2.65**	**235**	*e*PN	**Pn**	**10 56 20.9**	**+0.9**
GAZ	**Gaziantep**	**2.65**	**235**	Pn	**Pn**	**10 56 21.0**	**+1.0**

IDC 09 11:23:20.1±55.0, **18.34S**×**177.29W, mb3.9**/3, **mb1 4.1**/3, **mb1mx3.7**/15, **mbtmp3.9**/3, **Error ellipse: s-maj=1024.0km s-min=155.1km az=80.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.36**	**242**	P	P	11 30 51.5	-1.6
	2.7nm,1.1s,baz=104,slow=4.2,SNR=2.4						
WRA	**Warramunga Arr**	**45.60**	**260**	P	P	11 31 41.8	-2.4
	0.6nm,0.8s,baz=97,slow=7.2,SNR=20						
ASAR	**Alice Springs**	**45.70**	**255**	P	P	11 31 43.6	-1.3
	3.2nm,0.5s,baz=90,slow=8.0,SNR=74						

*IDC **09** 11:42:41.0±1.9, 5.78N×127.37E, mb3.8/5, mb1 3.9/5, mb1mx3.8/16, mbtmp3.8/5, Error ellipse: s-maj=81.2km s-min=30.1km az=96.0*
*MAN **09** 11:42:51.2, 5.57N×126.19E, h5km, mb4.5, ML3.3, MS3.2*
ISC 09 11:42:50.2±1.3, **5.5N**±0.1×**126.4E**±0.1, **h99**km±18km, **n11, σ0^{s}77**/14, **mb3.6**/5, **1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**1.48**	**355**	*e*P	**P**	**11 43 16.5**	**0.0**
MATI				*e*S	**S**	**11 43 35.4**	**-0.7**
KCP	**Kidapawan**	**2.00**	**320**⇑	*i*P	**P**	**11 43 23.0**	**-0.2**
KCP				*i* S	**S**	**11 43 47.2**	**-0.5**
BIPH	**Bislig**	**2.70**	**360**	*e*P	**P**	**11 43 32.0**	**-0.9**
BIPH				*e*S	**S**	**11 44 05.5**	**+0.7**
BUKP	**Musuan**	**2.74**	**331**	*e*P	**P**	**11 43 33.4**	**+0.1**
BUTP	**Butuan**	**3.56**	**348**	*e*P	**P**	**11 43 46.8**	**+2.1**
PAGZ	**Pagadian**	**3.81**	**309**	*e*P	**P**	**11 43 48.3**	**+0.3**
WRA	**Warramunga Arr**	**26.43**	**163**	P	**P**	**11 48 19.9**	**0.0**
	0.9nm,0.6s,mb3.4,baz=344,slow=10,SNR=11						
ASAR	**Alice Springs**	**29.87**	**166**	P	**P**	**11 48 50.6**	**-0.1**
	0.8nm,0.6s,mb3.5,baz=348,slow=7.1,SNR=7.5						
NWAO	**Narrogin (SRO)**	**39.16**	**192**	P	**P**	**11 50 15.3**	**+5.4**
	3.0nm,0.8s,mb4.2,baz=29,slow=19,SNR=3.8						
STKA	**Stephens Creek**	**39.86**	**160**	P	**P**	**11 50 16.3**	**+0.5**
	3.7nm,1.0s,mb4.2,baz=347,slow=8.7,SNR=5.8						
ILAR	**Eielson Array**	**83.70**	**25**	P	**P**	**11 55 07.8**	**-1.1**
	0.2nm,0.9s,mb3.0,baz=259,slow=4.6,SNR=4.3						

*IDC **09** 11:55:16.6±2.9, 7.56N×127.22E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=198.8km s-min=28.1km az=90.0*
*MAN **09** 11:55:24.2, 7.55N×126.53E, h1km, mb4.5, ML3.3, MS3.2*
ISC 09 11:55:21.9±1.7, **7.38N**±0.05×**126.9E**±0.1, **h49**km±19km, **n11, σ1^{s}08**/15, **mb3.4**/4, **2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.76**	**235**	*e*P	**P**	**11 55 36.4**	**0.0**
MATI				*e*S	**S**	**11 55 45.0**	**-2.1**
BIPH	**Bislig**	**0.95**	**327**⇓	*i*P	**P**	**11 55 38.5**	**-0.6**
BIPH				*i* S	**S**	**11 55 49.9**	**-2.0**
KCP	**Kidapawan**	**1.82**	**258**⇓	*i*P	**P**	**11 55 52.6**	**+1.2**
KCP				*i* S	**S**	**11 56 13.9**	**+0.6**
BUKP	**Musuan**	**1.88**	**285**	*e*P	**P**	**11 55 53.0**	**+0.8**
BUTP	**Butuan**	**2.02**	**322**	*e*P	**P**	**11 55 55.7**	**+1.5**
SCPH	**Surigao**	**2.76**	**330**	*e*P	**P**	**11 56 06.6**	**+1.9**
SCPH				*e*S	**S**	**11 56 36.4**	**-0.6**
PAGZ	**Pagadian**	**3.51**	**278**	*e*P	**P**	**11 56 15.4**	**+0.1**
WRA	**Warramunga Arr**	**28.12**	**165**	P	**P**	**12 01 11.2**	**-0.5**
	0.3nm,0.7s,mb3.0,baz=350,slow=10,SNR=33						
ASAR	**Alice Springs**	**31.61**	**168**	P	**P**	**12 01 42.5**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=347,slow=6.7,SNR=6.9						
ASAR				PcP	PcP	12 04 33.6	-0.5
	0.6nm,0.6s,baz=349,slow=2.8,SNR=8.0						
STKA	**Stephens Creek**	**41.49**	**161**	P	**P**	**12 03 06.3**	**+0.4**
	1.1nm,0.8s,mb3.5,baz=306,slow=8.7,SNR=2.9						
ILAR	**Eielson Array**	**81.76**	**26**	P	**P**	**12 07 35.7**	**-1.0**
	0.4nm,0.6s,mb3.5,baz=251,slow=5.2,SNR=7.9						

IGQ 09 12:00:08.3, 1.56S×81.31W, h12km±15km, mb4.0, 2C-1D, Error ellipse: s-maj=12.8km s-min=7.7km az=30.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.92**	**57**	⇑P	Pb	12 00 24.8	-0.9
HOJA				S	Sb	12 00 37.6	0.0
IGUA	**Igualata**	**2.67**	**89**	P	Pn	12 00 52.6	+0.6
ARRY	**Arrayan**	**2.86**	**89**	P	Pn	12 00 55.0	+0.4
ULBA	**Ulba**	**2.91**	**88**	P	Pn	12 00 57.2	+1.9
PISA	**Pisayambo**	**2.97**	**80**	P	Pn	12 00 58.3	+2.1
NAS1	**Nasa**	**2.98**	**72**	P	Pn	12 00 59.3	+3.0
JUA2	**San Juan 2**	**3.02**	**64**	P	Pn	12 00 57.8	+0.9
TERV	**Terraza Guagua**	**3.04**	**63**	P	Pn	12 00 59.4	+2.2
PINO	**Pino**	**3.04**	**63**	⇓P	Pn	12 00 58.4	+1.1
VC1	**Cotopaxi 1**	**3.05**	**73**	P	Pn	12 01 00.6	+3.3
TAMB	**Tambo**	**3.07**	**74**	P	Pn	12 01 00.3	+2.7
YANA	**Yana**	**3.09**	**62**	⇑P	Pn	12 00 58.6	+0.7
ANTI	**Antisana**	**3.34**	**71**	P	Pn	12 01 04.0	+2.5
COTA	**Cotacachi**	**3.52**	**58**	P	Pn	12 01 08.6	+4.6
CAYR	**Refugio Cayamb**	**3.66**	**65**	P	Pn	12 01 09.3	+3.3
ECEN	**Cerro Negro**	**4.09**	**55**	P	Pn	12 01 13.6	+1.4

JMA 09 12:06:52.3±0.1, **31.32N**×**130.29E, h180**km±1km, **M3.5, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.23**	**37**	P	P	12 07 16.4	-0.2
JTSR	**Tashiro 2**	**0.56**	**106**	P	P	12 07 17.6	-0.1
JTSR				S	S	12 07 36.2	-1.1
JSJ	**Shimokoshiki**	**0.61**	**306**	P	P	12 07 17.6	-0.3
JSJ				*e*S	S	12 07 37.2	-0.5
JTN	**Tanegashima 3**	**0.89**	**138**	P	P	12 07 19.4	0.0
JTZ	**Takazaki**	**0.89**	**49**	P	P	12 07 19.4	-0.1
JTZ				S	S	12 07 39.2	-1.2
JIU2	**Izumi 2**	**1.30**	**20**	P	P	12 07 22.7	-0.1
JNN	**Nakanoshima**	**1.52**	**194**	P	P	12 07 24.2	-0.6
JTO	**Tosashimizu**	**2.63**	**54**	P	P	12 07 35.2	-1.8

*NEIC **09** 12:10:31.4±4.5, 31.28S×179.91W, h460km±56km, mb3.9/1, Error ellipse: s-maj=76.2km s-min=34.4km az=191.0*
*IDC **09** 12:10:32.4±5.9, 31.35S×179.98W, h461km±71km, mb3.0/4, mb1 3.2/5, mb1mx3.2/15, mbtmp4.0/5, Error ellipse: s-maj=72.6km s-min=33.3km az=14.0*
ISC 09 12:10:29.4±2.3, **31.3S**±0.2×**179.7W**±0.4, **h465**km±34km, **n37, σ0^{s}67**/43, **mb3.5**/5, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.47**	**194**	*e*P	**P**	**12 12 11.5**	**+1.5**
MXZ	**Matakaoa Point**	**6.47**	**194**	PN	**P**	**12 12 09.2**	**-0.8**
MXZ	**Matakaoa Point**	**6.47**	**194**	PN	**P**	**12 12 09.2**	**-0.8**
PUZ	**Puketiti**	**6.97**	**193**	PN	**P**	**12 12 15.6**	**+0.4**
PUZ				SN	**S**	**12 13 38.2**	**-0.8**
PUZ	**Puketiti**	**6.97**	**193**	PN	**P**	**12 12 15.6**	**+0.4**
PUZ				SN	**S**	**12 13 38.2**	**-0.8**
MWZ	**Matawai**	**7.39**	**197**	*e*P	**P**	**12 12 19.5**	**-0.2**
MWZ	**Matawai**	**7.39**	**197**	PN	**P**	**12 12 19.4**	**-0.2**
MWZ				SN	**S**	**12 13 47.5**	**+0.5**
MWZ	**Matawai**	**7.39**	**197**	PN	**P**	**12 12 19.4**	**-0.2**
MWZ				SN	**S**	**12 13 47.5**	**+0.5**
URZ	**Urewera**	**7.43**	**200**	P	**P**	**12 12 21.1**	**+1.0**
	7.5nm,0.3s,baz=27,slow=5.0,SNR=93						
URZ				S	**S**	**12 13 47.7**	**-0.1**
	6.4nm,0.3s,baz=86,slow=22,SNR=18						
URZ	**Urewera**	**7.43**	**200**	*e*P	**P**	**12 12 19.2**	**-0.9**
URZ	**Urewera**	**7.43**	**200**	PN	**P**	**12 12 19.7**	**-0.4**
URZ				SN	**S**	**12 13 47.9**	**+0.1**
URZ	**Urewera**	**7.43**	**200**	PN	**P**	**12 12 19.7**	**-0.4**
URZ				SN	**S**	**12 13 47.9**	**+0.1**
KNZ	**Kokohu**	**8.01**	**195**	*e*P	**P**	**12 12 27.2**	**+0.9**
KNZ	**Kokohu**	**8.01**	**195**	PN	**P**	**12 12 26.6**	**+0.3**
KNZ	**Kokohu**	**8.01**	**195**	PN	**P**	**12 12 26.6**	**+0.3**
BKZ	**Black Stump Fm**	**8.45**	**200**	P	**P**	**12 12 30.3**	**-0.9**
BKZ	**Black Stump Fm**	**8.45**	**200**	PN	**P**	**12 12 31.0**	**-0.2**
BKZ	**Black Stump Fm**	**8.45**	**200**	PN	**P**	**12 12 31.0**	**-0.2**
PWZ	**Pawanui**	**9.15**	**197**	*e*P	**P**	**12 12 39.3**	**+0.4**
PWZ	**Pawanui**	**9.15**	**197**	PN	**P**	**12 12 39.4**	**+0.5**
PWZ	**Pawanui**	**9.15**	**197**	PN	**P**	**12 12 39.4**	**+0.5**
TSZ	**Takapari Road**	**9.43**	**201**	PN	**P**	**12 12 41.5**	**-0.3**
TSZ	**Takapari Road**	**9.43**	**201**	PN	**P**	**12 12 41.5**	**-0.3**
MRZ	**Mangatainoka R**	**10.10**	**201**	PN	**P**	**12 12 49.0**	**-0.1**
MRZ	**Mangatainoka R**	**10.10**	**201**	PN	**P**	**12 12 49.0**	**-0.1**
KIW	**Kapiti Island**	**10.49**	**203**	PN	**P**	**12 12 54.1**	**+0.8**
KIW	**Kapiti Island**	**10.49**	**203**	PN	**P**	**12 12 54.1**	**+0.8**
CAW	**Cannon Point**	**10.66**	**202**	PN	**P**	**12 12 55.0**	**-0.3**
CAW	**Cannon Point**	**10.66**	**202**	PN	**P**	**12 12 55.0**	**-0.3**
KHZ	**Kahutara**	**12.34**	**204**	PN	**P**	**12 13 13.0**	**-0.2**
KHZ	**Kahutara**	**12.34**	**204**	PN	**P**	**12 13 13.0**	**-0.2**
CTA	**Charters Tower**	**32.50**	**282**	P	**P**	**12 16 22.4**	**+0.7**
	1.7nm,0.4s,mb3.9,baz=122,slow=11,SNR=4.0						
STKA	**Stephens Creek**	**32.84**	**259**	P	**P**	**12 16 26.0**	**+1.6**
	1.0nm,0.7s,mb3.4,baz=86,slow=14,SNR=2.7						
ASAR	**Alice Springs**	**41.60**	**269**	P	**P**	**12 17 36.5**	**-0.3**
	0.2nm,0.4s,mb2.9,baz=105,slow=7.6,SNR=5.1						
WRAB	**Tennant Creek**	**42.66**	**274**	*e*P	**P**	**12 17 44.1**	**-1.1**
	2.4nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**42.67**	**274**	P	**P**	**12 17 44.5**	**-0.8**
	0.8nm,0.3s,mb3.6,baz=111,slow=8.1,SNR=55						
FINES	**FINESS Array B**	**145.44**	**338**	PKPbc	PKPbc	12 29 16.4	+2.8
	1.1nm,0.4s,baz=45,slow=3.9,SNR=14						

*NEIC **09** 12:23:30.8, 46.43N×2.68E, h16km, ML2.9(LDG), ML2.9(STR), After LDG.*
*LDG **09** 12:23:30.8±0.0, 46.43N×2.68E, h16km, Md3.3/3, Ml2.9/27, Error ellipse: s-maj=0.9km s-min=0.7km az=122.0*
*CSEM **09** 12:23:30.6±0.1, 46.43N×2.68E, h12km, ML3.0/28, Error ellipse: s-maj=1.1km s-min=0.9km az=121.0*
*STR **09** 12:23:32.6±0.1, 46.32N×2.70E, h10km±1km, Ml2.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 09 12:23:30.3±0.4, **46.47N**±0.02×**2.65E**±0.04, **h28**km±4km, **n44, σ1^{s}45**/121, **France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BGF	**Bois d'Agland**	**0.16**	**58**	*e*Pg	**Pb**	**12 23 35.6**	**-0.3**
BGF				*e*Sg	**Sb**	**12 23 38.2**	**-1.5**
	968nm,0.2s						

TCF Toulx Ste Croi 0.35 239 ePg Pb 12 23 38.3 0.0
TCF eSg Sb 12 23 42.8 -1.0
266nm,0.2s
AGO Saint Agoulin 0.54 141 Pg Pb 12 23 40.8 -0.4
AVF Avril sur Loir 0.58 57 ePn Pn 12 23 42.4 -0.2
AVF eSg Sb 12 23 50.1 +0.2
76nm,0.2s
AVF eSn Sn 12 23 51.6 +0.4
78nm,0.2s
HYF Humbligny 0.80 360 ePn Pn 12 23 46.7 +1.0
HYF ePg Pb 12 23 47.0 +1.5
HYF eSg Sb 12 23 57.2 +1.3
HYF Humbligny 0.80 360 ePg Pb 12 23 47.0 +1.5
HYF eSg Sb 12 23 57.2 +1.3
SSF Saint Saulge 0.83 45 ePg Pb 12 23 47.0 +0.9
SSF eSg Sb 12 23 57.8 +0.8
33nm,0.2s
SMF Signal de Mont 0.84 78 ePn Pn 12 23 46.3 0.0
SMF ePg Pb 12 23 46.9 +0.7
SMF eSn Sn 12 23 56.9 -0.9
97nm,0.2s
SMF Signal de Mont 0.84 78 ePg Pb 12 23 46.9 +0.7
SMF eSn Sn 12 23 56.9 -0.9
48nm,0.2s
PLDF La Plantade 0.84 126 Pg Pb 12 23 46.5 +0.3
PLDF Sg Sb 12 23 57.1 -0.1
FRNF Fournols 1.09 183 Pg Pb 12 23 50.7 +0.3
FRNF Sg Sb 12 24 03.8 -0.4
COLF Collangettes 1.20 142 Pg Pn 12 23 52.8 +1.3
COLF Sg Sb 12 24 07.7 +0.2
LBL Lubilhac 1.31 161 Pg Pn 12 23 54.5 +1.5
LBL Sg Sb 12 24 10.6 0.0
RJF Les Rejaudoux 1.41 214 ePn Pn 12 23 54.1 -0.4
RJF ePg Pn 12 23 56.4 +1.9
RJF eSn Sn 12 24 10.2 -2.0
RJF eSg Sn 12 24 13.7 +1.5
32nm,0.3s
CAF Calviac 1.60 195 ePn Pn 12 23 56.3 -0.9
CAF ePg Pn 12 23 59.9 +2.7
CAF eSn Sn 12 24 15.6 -1.5
CAF eSg Sn 12 24 19.7 +2.6
57nm,0.2s
MFF Saint Martin d 1.93 275 ePn Pn 12 24 02.0 +0.1
MFF ePg Pn 12 24 07.5 +5.6
MFF eSg Sn 12 24 30.3 +4.8
55nm,0.4s
LFF La Frestale 2.03 222 ePn Pn 12 24 02.8 -0.6
LFF ePg Pn 12 24 08.3 +4.9
LFF eSn Sn 12 24 24.7 -3.4
LFF eSg Sn 12 24 33.9 +5.8
27nm,0.3s
VIVF Saint-Julien-l 2.15 138 ePn Pn 12 24 04.4 -0.7
VIVF ePg Pn 12 24 11.4 +6.3
VIVF eSg Sn 12 24 36.0 +4.9
18nm,0.2s
SFTF Sexfontaines 2.38 42 ePn Pn 12 24 07.6 -0.7
SFTF ePg Pn 12 24 15.2 +6.9
baz=210
SFTF eSn Sn 12 24 34.8 -2.0
SFTF eSg Sn 12 24 45.1 +8.3
12nm,0.2s
CABF La Chapelle 2.38 85 ePn Pn 12 24 08.1 -0.2
CABF ePg Pn 12 24 14.4 +6.1
CABF eSn Sn 12 24 33.0 -3.8
CABF eSg Sn 12 24 44.8 +8.0
28nm,0.6s
LASF Ste Croix 2.54 160 ePn Pn 12 24 09.2 -1.5
LASF ePg Pn 12 24 16.9 +6.2
LASF eSg Sn 12 24 48.4 +7.4
7.2nm,0.3s
MEZF Maizieres J'vi 2.60 38 ePn Pn 12 24 11.2 -0.3
baz=218
MEZF ePg Pn 12 24 19.4 +7.9
baz=218
MEZF eSn Sn 12 24 40.2 -2.4
MEZF eSg Sn 12 24 52.8 +10
14nm,0.3s
ORIF Oris-en-Rattie 2.75 123 eP Pn 12 24 14.4 +0.8
ORIF eSg Sn 12 24 55.8 +10
4.6nm,0.4s
LDF La Druitiere 2.83 320 ePn Pn 12 24 14.4 -0.4
LDF ePg Pn 12 24 24.4 +10
LDF eSn Sn 12 24 46.5 -1.9
LDF eSg Sn 12 25 00.1 +12
9.0nm,0.4s
RFYF Reffroy 2.88 41 ePg Pn 12 24 24.4 +8.9
RFYF eSg Sn 12 25 01.9 +12
27nm,0.3s
HAU Haudompre 2.95 57 ePn Pn 12 24 15.1 -1.4
HAU ePg Pn 12 24 25.7 +9.2
HAU eSn Sn 12 24 47.8 -3.5
HAU eSg Sn 12 25 03.1 +12
6.3nm,0.2s
LPL La Plagne 3.00 107 ePn Pn 12 24 15.7 -1.5
GRR Gorron 3.06 310 ePn Pn 12 24 18.2 +0.3
GRR ePg Pn 12 24 28.5 +11
GRR eSn Sn 12 24 51.9 -2.1
GRR eSg Sn 12 25 07.1 +13
5.1nm,0.2s
FLN La Foliniere 3.12 318 ePn Pn 12 24 18.3 -0.5
FLN ePg Pn 12 24 29.7 +11
baz=136
FLN eSg Sn 12 25 09.6 +14
8.0nm,0.3s
MTLF Montolieu 3.15 186 ePn Pn 12 24 17.3 -1.9
MTLF ePg Pn 12 24 28.4 +9.2
MTLF eSn Sn 12 24 51.2 -5.1
MTLF eSg Sn 12 25 07.5 +11
7.4nm,0.2s
HINF Hinteralfeld 3.17 63 ePn Pn 12 24 18.5 -1.1
HINF ePg Pn 12 24 29.5 +10
HINF eSn Sn 12 24 52.0 -4.9
HINF eSg Sn 12 25 08.9 +12
5.2nm,0.2s
SMRF Simiane la Rot 3.24 139 ePn Pn 12 24 18.2 -2.4
CDF Champ du Feu 3.69 57 ePn Pn 12 24 25.5 -1.5
CDF ePg Pn 12 24 40.0 +13
CDF eSg Sn 12 25 26.7 +17
4.8nm,0.4s
BAIF Baives 3.74 16 ePn Pn 12 24 26.6 -1.0
BAIF eSg Sn 12 25 28.6 +17
2.8nm,0.2s
EPF Esparros 3.81 206 ePn Pn 12 24 26.7 -2.0
EPF eSn Sn 12 25 07.5 -5.7
EPF eSg Sn 12 25 29.9 +17
3.4nm,0.2s
EPF Esparros 3.81 206 ePn Pn 12 24 26.7 -2.0
EPF eSg Sn 12 25 29.9 +17
1.7nm,0.2s
GIVF Givet 3.91 21 ePn Pn 12 24 28.7 -1.4
GIVF eSg Sn 12 25 33.8 +18
4.6nm,0.3s
SGMF Saint Gilles 3.96 299 ePn Pn 12 24 29.7 -1.1
SGMF eSn Sn 12 25 13.5 -3.4
SGMF eSg Sn 12 25 36.7 +20
3.1nm,0.3s
FRF La Foret Royal 4.06 134 ePn Pn 12 24 29.9 -2.4
QUIF Quistinic 4.22 292 ePn Pn 12 24 33.9 -0.6
QUIF eSn Sn 12 25 19.7 -3.7
QUIF eSg Sn 12 25 44.2 +21
5.7nm,0.3s
ETSF Etsaut 4.24 214 ePn Pn 12 24 32.2 -2.6
ETSF ePg Pn 12 24 49.0 +14
ETSF eSn Sn 12 25 14.0 -10
ETSF eSg Sn 12 25 43.5 +19
5.8nm,0.5s
SJPF Ste Jean 4.34 221 ePn Pn 12 24 34.3 -2.0
SJPF eSn Sn 12 25 20.8 -5.8
SJPF eSg Sn 12 25 46.7 +20
2.2nm,0.3s
SJPF Ste Jean 4.34 221 ePn Pn 12 24 34.3 -2.0
SJPF eSg Sn 12 25 46.7 +20
1.1nm,0.3s
ROSF Rostrenen 4.43 297 ePn Pn 12 24 36.0 -1.5
ROSF eSn Sn 12 25 24.3 -4.5
ROSF eSg Sn 12 25 50.8 +22
7.1nm,0.6s

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*NIED **09** 12:57:00,28.70N×128.50E,h5km,Mw3.7 Best double couple: M₀4.53×10^{14} NP1:φs112°,δ78°,λ-48°. NP2: φs215°,δ43°,λ-163°.*
*JMA **09** 12:57:08.4±0.5,28.72N×128.46E,h2km±5km,M3.5*
*IDC **09** 12:57:14.5±4.8,28.40N×128.71E,h21km±30km,mb3.3/4, mb1 3.5/4,mb1mx3.4/19,mbtmp3.4/4,Error ellipse: s-maj=60.2km s-min=21.1km az=83.0*
ISC 09 12:57:08.3±2.0**,28.67N**±0.07×**128.44E**±0.06**,h2**km±13km**, n11,σ1**ˢ**04**/15**,mb3.2**/4**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.99**	**153**	P	**Pb**	**12 57 28.1**	**+0.2**
JTK				S	**Sg**	**12 57 42.4**	**+1.0**
JAM	**Amami Oshima**	**1.06**	**104**	P	**Pb**	**12 57 28.6**	**-0.4**
JAM				S	**Sb**	**12 57 42.2**	**-1.0**
JZK	**Kikaishima**	**1.40**	**104**	P	**Pb**	**12 57 34.9**	**+0.1**
JZK				S	**Sb**	**12 57 53.5**	**+0.5**
JIH	**Iheya**	**1.69**	**194**	P	**Pn**	**12 57 39.9**	**+1.0**
JNN	**Nakanoshima**	**1.71**	**47**	P	**Pn**	**12 57 38.5**	**-0.8**
JOW	**Kunigami**	**1.84**	**185**	Pn	**Pn**	**12 57 41.5**	**+0.3**
	24nm,0.3s,baz=25,slow=12,SNR=78						
JOW				Pg	**Pg**	**12 57 43.8**	**-1.3**
	26nm,0.3s,baz=67,slow=14,SNR=77						
JOW				Lg		12 58 06.1	
JTN	**Tanegashima 3**	**2.97**	**48**	P	**Pn**	**12 57 58.1**	**+0.9**
SONM	**Songino Array**	**25.64**	**324**	P	**P**	**13 02 45.9**	**+5.1**
	0.6nm,0.8s,mb3.1,baz=146,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**48.67**	**173**	P	**P**	**13 05 53.9**	**-2.0**
	0.3nm,0.5s,mb3.5,baz=353,slow=8.3,SNR=6.8						
ASAR	**Alice Springs**	**52.30**	**174**	P	**P**	**13 06 23.2**	**-0.5**
	0.2nm,0.5s,mb3.3,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**76.24**	**25**	P	**P**	**13 09 02.1**	**+2.5**
	0.1nm,0.6s,mb2.9,baz=300,slow=5.5,SNR=3.9						

IDC 09 13:00:24.4±13.0**,31.27S**×**178.80W,mb3.8**/3**,mb1 4.0**/4**, mb1mx3.8**/15**,mbtmp3.8**/4**,ML3.2**/1**,MS4.4**/1**,Ms1 4.4**/1**, ms1mx3.1**/12**,Error ellipse: s-maj=241.9km s-min=40.5km az=87.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.74**	**205**	Pn	Pn	13 02 18.7	-2.4
	0.4nm,0.3s,baz=321,slow=23,SNR=7.1						
URZ				Sn	Sn	13 03 46.4	-4.2
	2.4nm,0.3s,baz=56,slow=23,SNR=25						
STKA	**Stephens Creek**	**33.62**	**258**	P	P	13 07 06.4	-2.3
	1.7nm,0.9s,baz=106,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**42.38**	**268**	P	P	13 08 20.7	-1.6
	0.9nm,0.9s,baz=104,slow=7.5,SNR=12						
WRA	**Warramunga Arr**	**43.45**	**274**	P	P	13 08 29.4	-1.7
	0.8nm,0.4s,baz=111,slow=8.0,SNR=38						
PDAR	**Pinedale Array**	**97.24**	**44**	LR	LR	13 51 20.7	
	comp=Z,162nm,19.8s,baz=163,slow=31						

IDC 09 13:01:18.4±1.2**,13.86N**×**93.04E,mb3.9**/4**,mb1 4.1**/4**, mb1mx3.7**/15**,mbtmp3.9**/4**,ML5.4**/1**,Error ellipse: s-maj=38.3km s-min=23.6km az=48.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.28**	**50**	Pn	Pn	13 03 05.8	-2.9
	17nm,0.3s,baz=232,slow=15,SNR=4.2						
CMAR				Sn	Sn	13 04 30.9	-2.2
	17nm,0.3s,baz=239,slow=28,SNR=6.0						
WRA	**Warramunga Arr**	**52.72**	**129**	P	P	13 10 34.9	-2.5
	1.2nm,0.5s,baz=304,slow=9.3,SNR=11						
ASAR	**Alice Springs**	**54.66**	**133**	P	P	13 10 49.2	-2.4
	1.4nm,0.4s,baz=310,slow=7.0,SNR=18						
FINES	**FINESS Array B**	**66.96**	**331**	P	P	13 12 12.6	-2.1
	0.4nm,0.5s,baz=90,slow=5.6,SNR=3.6						
GERES	**GERESS Array B**	**72.69**	**317**	P	P	13 12 49.0	-1.0
	0.1nm,0.3s,baz=108,slow=6.2,SNR=3.8						

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*BJI **09** 13:02:03.7,20.68S×169.62E,h16km,mB5.3,mb4.7, Ms5.2,Msz4.8*
*NEIC **09** 13:02:05.8±0.4,20.73S×169.28E,h10km,mb4.9/18,Error ellipse: s-maj=13.1km s-min=7.9km az=146.0*
*HRVD **09** 13:02:05.8±0.5,20.66S×169.06E,h34km±1km,MW5.0/41, Centroid moment Tensor Solution. LP body waves: s28,c30;Mantle waves: s41,c51; Half duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr3.71±.26; Mθθ-0.40±.19; Mφφ-3.31±.18; Mrθ0.34±.32; Mθφ1.62±.13; Mφr-1.33±.22; Best double couple: M₀4.108×10^{16} NP1:φs332°,δ35°,λ84°. NP2:φs160°,δ55°,λ94°. Principal axes: T 3.954, Plg80°, Azm87°; N .309, Plg4°, Azm337°; P -4.262, Plg10°, Azm246°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **09** 13:02:06.4±0.3,20.33S×168.99E,h10km,Mb4.7/2 Error ellipse: s-maj=26.3km s-min=4.4km az=133.0*
*MOS **09** 13:02:08.8±1.4,20.54S×169.11E,h33km,mb5.1/7, MS4.6/4,Error ellipse: s-maj=16.2km s-min=13.4km az=1.8*
*BGS **09** 13:02:09.4±2.2,20.73S×169.28E,h33km*
*IDC **09** 13:02:10.2±3.2,20.42S×169.10E,h31km±22km,mb4.2/14, mb1 4.4/15,mb1mx4.3/19,mbtmp4.4/15,ML3.9/1,MS4.2/8, Ms1 4.2/8,ms1mx4.1/13,Error ellipse: s-maj=19.9km s-min=17.4km az=131.0*
ISC 09 13:02:08.6±0.4**,20.66S**±0.06×**169.05E**±0.06**,h33**km**,n123, σ1ˢ03**/59**,mb4.7**/35**,MS4.1**/8**,16C-7D,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.81**	**239**⇓	eP	**P**	**13 02 51.8**	**-0.3**
DZM				eS	**S**	**13 03 23.6**	**-1.6**
DZM	**Mont Dzumac**	**2.81**	**239**⇓	eP	**P**	**13 02 51.8**	**-0.4**
DZM				eS	**S**	**13 03 23.6**	**-1.6**
NOUC	**Port Laguerre**	**2.93**	**240**⇓	eP	**P**	**13 02 53.9**	**-0.1**
NOUC				eS	**S**	**13 03 28.1**	**-0.3**
NOUC	**Port Laguerre**	**2.93**	**240**⇓	eP	**P**	**13 02 53.9**	**-0.1**
NOUC				eS	**S**	**13 03 28.1**	**-0.3**
URZ	**Urewera**	**18.88**	**160**	P	**P**	**13 06 29.2**	**+0.4**
	0.4nm,0.3s,baz=8.9,slow=4.1,SNR=5.6						
URZ				LR	LR	13 12 23.4	
	comp=Z,831nm,19.4s,baz=353,slow=32						
CTA	**Charters Tower**	**21.38**	**268**	eP	**P**	**13 06 57.8**	**+2.3**
	12nm,0.9s,mb4.2						
CTA	**Charters Tower**	**21.38**	**268**	P	**P**	**13 06 56.5**	**+1.0**
	19nm,1.0s,mb4.4,baz=90,slow=14,SNR=4.0						
CTA				LR	LR	13 14 37.6	
	comp=Z,789nm,19.3s,MS4.1,baz=336,slow=35						
CTAO	**Charters Tower**	**21.38**	**268**	eP	**P**	**13 06 57.4**	**+1.8**
	40nm,1.2s,mb4.6						
CNB	**Canberra Magne**	**22.64**	**226**	eP	**P**	**13 07 09.1**	**+1.1**
	428nm,1.1s						
RPZ	**Rata Peaks**	**23.05**	**176**	P	**P**	**13 07 16.4**	**+4.4**
	18nm,1.0s,mb4.4,baz=344,slow=7.4,SNR=2.9						
RPZ				LR	LR	13 14 59.2	
	comp=Z,860nm,18.2s,MS4.2,baz=160,slow=33						
PMG	**Port Moresby**	**23.88**	**295**	LR	LR	13 15 08.3	
	comp=Z,352nm,18.8s,MS3.9,baz=129,slow=33						
TOO	**Toolangi**	**26.49**	**225**	eP	**P**	**13 07 52.9**	**+8.0**
	0.8nm,1.4s						
STKA	**Stephens Creek**	**26.96**	**240**	eP	**P**	**13 07 50.2**	**+0.9**
	9.6nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**26.96**	**240**	P	**P**	**13 07 49.8**	**+0.5**
	9.2nm,0.9s,mb4.3,baz=109,slow=9.2,SNR=5.4						
RAR	**Rarotonga**	**29.10**	**97**	LR	LR	13 16 37.2	
	comp=Z,420nm,19.2s,MS4.1,baz=255,slow=30						
WRAB	**Tennant Creek**	**32.52**	**265**	i P	**P**	**13 08 44.7**	**+5.9**
WRAB	**Tennant Creek**	**32.52**	**265**	eP	**P**	**13 08 36.2**	**-2.6**
	21nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**32.53**	**265**	P	**P**	**13 08 38.1**	**-0.9**
	6.2nm,1.1s,mb4.5,baz=91,slow=8.6,SNR=15						
WRA				ScP		13 15 06.3	
	0.6nm,0.8s,baz=85,slow=3.9,SNR=4.7						
WRA	**Warramunga Arr**	**32.53**	**265**	P	**P**	**13 08 38.1**	**-0.9**
WRA				ScP		13 15 06.3	
ASAR	**Alice Springs**	**32.64**	**258**	P	**P**	**13 08 39.1**	**-0.7**
	3.1nm,0.7s,mb4.4,baz=79,slow=9.4,SNR=21						
ASAR				PcP	PcP	13 11 24.2	-1.3
	2.0nm,0.9s,baz=91,slow=3.0,SNR=4.3						
ASAR				ScP		13 15 07.2	
	0.3nm,0.7s,baz=106,slow=4.7,SNR=4.0						
ASAR				LR	LR	13 22 23.5	
	comp=Z,481nm,18.1s,MS4.2,baz=88,slow=37						
ASPA	**Alice Springs**	**32.64**	**258**	eP	**P**	**13 08 40.1**	**+0.2**
ASPA				e		13 08 45.6	
TBI	**Tubuai**	**38.47**	**102**	eLQ		13 18 16.9	
TBI				eLR	LR	13 20 11.6	
	278nm,26.2s						
PPT	**Papeete**	**39.14**	**93**	eLQ		13 18 49.8	
PPT				eLR	LR	13 20 35.2	
	429nm,24.0s						
FITZ	**Fitzroy Crossi**	**40.94**	**266**⇑	iP	**P**	**13 09 51.3**	**+1.3**
	10nm,0.8s,mb4.5						
FITZ				e		13 09 57.2	
MBWA	**Marble Bar**	**45.92**	**260**	P	**P**	**13 10 30.8**	**+0.4**
	13nm,1.2s,mb4.7						
NWAO	**Narrogin (SRO)**	**47.42**	**244**	eP	**P**	**13 10 41.9**	**-0.1**
	11nm,1.0s,mb4.8						
RKT	**Rikitea**	**51.73**	**104**	eLR	LR	13 26 17.7	
	570nm,28.0s						
VNDA	**Vanda**	**57.01**	**182**	P	**P**	**13 11 55.8**	**+2.6**
	4.1nm,1.1s,mb4.3,baz=17,slow=10,SNR=3.3						
VNDA				LR	LR	13 31 33.7	
	comp=Z,93nm,18.2s,MS3.9,baz=182,slow=31						
MAJO	**Matsushiro**	**63.92**	**333**	eP	**P**	**13 12 39.8**	**-0.9**
	6.1nm,0.6s,mb4.8						
MAT	**Matsushiro**	**63.92**	**333**	eP	**P**	**13 12 40.0**	**-0.7**
	11nm,0.9s,mb4.9						
MAT	**Matsushiro**	**63.92**	**333**	P	**P**	**13 12 39.7**	**-1.0**
ASAJ	**Asahikawa**	**68.86**	**340**	P	**P**	**13 13 12.2**	**+0.2**
	19nm,1.0s,mb5.0,baz=164,slow=7.4,SNR=4.4						
QSPA	**South Pole Qui**	**69.40**	**180**⇑	iP	**P**	**13 13 14.1**	**-0.6**
	19nm,1.0s,mb5.0						
YSS	**Yuzh-Sakhalins**	**71.36**	**341**	eP	**P**	**13 13 26.3**	**-0.8**
YSS				e		13 13 32.5	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
MDJ	**Mudanjiang**	**74.28**	**332**	P	**P**	**13 13 44.5**	**+0.2**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,109nm,5.2s						
MDJ	**Mudanjiang**	**74.28**	**332**	eP	**P**	**13 13 44.3**	**-0.1**
	comp=Z,17nm,1.2s,mb4.9						
CN2	**Changchun**	**75.57**	**329**	eP	**P**	**13 13 52.3**	**+0.5**
CN2				eXP	sP	13 13 58.5	-7.3
CN2				eS	S	13 23 32.1	+3.0
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
ENH	**Enshi**	**76.44**	**310**	eP	**P**	**13 13 55.6**	**-1.4**
	comp=Z,13nm,1.3s,mb4.7						
KMI	**Kunming**	**78.87**	**302**	P	**P**	**13 14 11.5**	**+0.9**
	comp=Z,8.0nm,1.4s,mb4.5						
KMI				LR	LR		
	comp=Z,40nm,20.5s,MS3.7						
CM31	**Chiang Mai Arr**	**78.92**	**295**	eP	**P**	**13 14 12.4**	**+1.4**
	comp=Z,12nm,1.0s,mb4.8						
CMAR	**Chiang Mai Arr**	**78.92**	**295**	P	**P**	**13 14 12.4**	**+1.4**
	comp=Z,4.9nm,0.8s,mb4.5,baz=135,slow=4.4,SNR=27						
CLNS	**Chul'man**	**85.63**	**337**	eP	**P**	**13 14 41.0**	**-3.8**
CLNS				pmax	pmax		
	comp=N,12nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.4						
SNAA	**Sanae**	**87.74**	**183**		**P**	**13 14 53.2**	**-1.6**
SNAA	**Sanae**	**87.74**	**183**	P	**P**	**13 14 53.7**	**-1.0**
	comp=Z,2.8nm,1.1s,mb4.4,baz=201,slow=4.4,SNR=3.4						
ULN	**Ulaanbaatar**	**87.89**	**323**	eP	**P**	**13 14 57.0**	**+1.0**
	comp=Z,12nm,1.3s,mb5.0						
GTA	**Gaotai**	**87.97**	**314**	eP	**P**	**13 14 57.8**	**+1.2**
GTA				AP	pP	13 15 01.6	-5.6
GTA				XP	sP	13 15 04.3	-6.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.6						
YAK	**Yakutsk**	**88.17**	**343**	eP	**P**	**13 14 56.9**	**0.0**
	comp=Z,26nm,0.9s,mb5.5						
SONM	**Songino Array**	**88.24**	**323**	P	**P**	**13 14 58.3**	**+0.6**
	comp=Z,2.9nm,0.9s,mb4.5,baz=135,slow=5.2,SNR=15						
VNA3	**Neumayer Olymp**	**88.34**	**180**⇑	i	**P**	**13 14 57.1**	**-0.5**
VNA3	**Neumayer Olymp**	**88.34**	**180**⇑	i	Px	13 15 09.0	
VNA3	**Neumayer Olymp**	**88.34**	**180**⇓	i	Px	13 15 15.7	
YBH	**Yreka Blue Hor**	**88.44**	**44**	P	**P**	**13 14 58.9**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.6,baz=98,slow=1.7,SNR=5.3						
BILL	**Bilibino**	**88.46**	**359**⇓	iP	**P**	**13 14 58.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.7						
VNA2	**Neumayer--Watz**	**88.63**	**181**⇑	i	**P**	**13 14 58.9**	**-0.1**
VNA2	**Neumayer--Watz**	**88.63**	**181**⇑	i	Px	13 15 04.5	
NVAR	**Mina Array Bea**	**89.87**	**49**	P	**P**	**13 15 04.8**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.5,baz=215,slow=6.6,SNR=13						
NVAR	**Mina Array Bea**	**89.87**	**49**	P	**P**	**13 15 04.8**	**-0.9**
LSA	**Lhasa**	**90.12**	**302**	P	**P**	**13 15 09.2**	**+2.2**
	comp=Z,6.1nm,1.3s,mb4.8						
BOD	**Bodaibo**	**90.52**	**334**	eP	**P**	**13 15 07.5**	**-0.7**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.7						
ZAK	**Zakamensk**	**91.34**	**324**	eP	**P**	**13 15 11.6**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.4						
ILAR	**Eielson Array**	**91.63**	**17**	P	**P**	**13 15 10.7**	**-2.6**
	comp=Z,0.7nm,0.6s,mb4.2,baz=247,slow=4.7,SNR=18						
TXAR	**Lajitas Array**	**97.60**	**62**	P	**P**	**13 15 40.9**	**-0.4**
	comp=Z,0.5nm,0.9s,mb4.1,baz=243,slow=8.4,SNR=5.2						
TXAR				LR	LR	13 52 42.5	
	comp=Z,190nm,21.7s,MS4.5,baz=185,slow=31						
TXAR	**Lajitas Array**	**97.60**	**62**	P	**P**	**13 15 40.9**	**-0.4**
TXAR				LR	LR	13 52 42.5	
YKA	**Yellowknife Ar**	**102.00**	**27**	P	Pdif	13 16 00.9	+0.5
	comp=Z,0.1nm,0.5s,baz=256,slow=5.0,SNR=4.3						
SCHQ	**Schefferville**	**126.15**	**36**	PKP	PKPdf	13 21 07.7	+0.1
	comp=Z,1.4nm,0.6s,baz=266,slow=1.3,SNR=3.1						
ARCES	**ARCESS Array B**	**126.39**	**345**	PKP	PKPdf	13 21 07.5	-0.3
	comp=Z,1.5nm,0.6s,baz=90,slow=3.6,SNR=5.9						
KMBO	**Kilima Mbogo**	**128.11**	**251**	PKP	PKPdf	13 21 14.7	+2.1
	comp=Z,1.1nm,0.8s,baz=56,slow=22,SNR=3.1						
FINES	**FINESS Array B**	**131.82**	**337**	PKP	PKPdf	13 21 17.5	-0.8
	comp=Z,0.7nm,0.6s,baz=90,slow=1.9,SNR=5.3						
CRVS	**Cervenica-Dubn**	**141.74**	**325**	ePKP	PKPdf	13 21 37.2	+0.4
OKC	**Ostrava-Krasne**	**142.85**	**329**	AMS	AMS	14 16 50.0	
	comp=Z,200nm,18.6s						
BSEG	**Bad Segeberg**	**143.02**	**339**	ePKIKP	PKPdf	13 21 36.6	-2.2
VYHS	**Vyhne**	**143.37**	**326**	ePKP	PKPdf	13 21 38.0	-1.5
DPC	**Dobruska-Polom**	**143.38**	**331**	ePKP	PKPdf	13 21 38.0	-1.5
DPC				AMS	AMS	14 27 10.0	
	comp=Z,100nm,16.0s						
UPC	**Upice**	**143.41**	**331**	ePKP	PKPdf	13 21 38.1	-1.4
PVCC	**Panska Ves**	**144.04**	**332**	ePKP	PKPdf	13 21 39.9	-0.7
PVCC				AMS	AMS	14 20 00.0	
BRG	**Berggiesshubel**	**144.05**	**333**	ePKIKP	PKPdf	13 21 40.0	-0.6
BRG				pmax	pmax		
	comp=Z,22nm,1.1s						
CLL	**Collm**	**144.12**	**334**	i PKIKP	PKPdf	13 21 39.8	-0.9
CLL				i		13 21 46.7	
CLL				pmax	pmax		
	comp=Z,15nm,0.9s						
CLL	**Collm**	**144.12**	**334**	i PKIKP	PKPdf	13 21 39.8	-0.9
	comp=Z,logA/T=1.2						
CLL				i *PPKP		13 21 46.7	
PRU	**Pruhonice**	**144.44**	**331**	ePKP	PKPdf	13 21 40.9	-0.5
PRU				AMS	AMS	14 23 50.0	
	comp=Z,100nm,16.6s						
BWH	**Wardlaw**	**145.10**	**353**⇑	eP	PKPdf	13 21 42.0	-0.3
BWH				AMb	AMB	13 21 43.6	
	comp=Z,51nm,1.3s						
BHH	**Howats Hill**	**145.13**	**352**	eP	PKPdf	13 21 42.1	-0.3
GMK	**Mull of Kintyr**	**145.13**	**355**⇑	eP	PKPdf	13 21 42.4	0.0
GMK				AMb	AMB	13 21 43.0	
	comp=Z,149nm,0.6s						
NKC	**Novy Kostel**	**145.16**	**333**	ePKP	PKPdf	13 21 43.8	+1.2
NKC				AMS	AMS	14 28 30.0	
	comp=Z,100nm,22.1s						
MOX	**Moxa**	**145.19**	**335**	ePKIKP	PKPdf	13 21 43.5	+0.8
MOX				pmax	pmax		
	comp=Z,52nm,1.6s						
MOX	**Moxa**	**145.19**	**335**	i P	PKPdf	13 21 43.5	+0.8
	comp=Z,logA/T=1.5						
BTA	**Talkin**	**145.24**	**352**⇑	eP	PKPdf	13 21 42.8	+0.1
BTA				AMb	AMB	13 21 44.0	
	comp=Z,106nm,1.1s						
DIVS	**Divcibare**	**145.28**	**319**⇓	iP	PKPdf	13 21 44.0	+1.0
BDL	**Dobcross Hall**	**145.37**	**352**⇑	eP	PKPdf	13 21 43.5	+0.6
BDL				AMb	AMB	13 21 44.5	
	comp=Z,136nm,1.1s						
GCL	**Cushendall**	**145.44**	**355**⇑	eP	PKPdf	13 21 43.2	+0.2
BBO1	**Bothel**	**145.48**	**352**⇑	eP	PKPdf	13 21 43.4	+0.4
BBO1				AMb	AMB	13 21 44.7	
	comp=Z,83nm,1.0s						
KHC	**Kasperske Hory**	**145.49**	**331**	ePKP	PKPdf	13 21 44.9	+1.7
KHC				AMS	AMS	14 24 10.0	
	comp=Z,200nm,15.9s						
GAL1	**Galloway**	**145.52**	**354**⇑	eP	PKPdf	13 21 43.3	+0.2
GAL1				AMb	AMB	13 21 44.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	comp=Z,144nm,1.1s						
GEC2	**GERESS Array S**	**145.65**	**331**	ePKP2	PKPab	13 21 45.1	-1.1
GERES	**GERESS Array B**	**145.65**	**331**	PKPbc	PKPbc	13 21 44.8	+0.6
	comp=Z,6.4nm,0.7s,baz=45,slow=1.9,SNR=43						
WET	**Wettzell**	**145.80**	**332**	ePKP2	PKPab	13 21 45.6	-1.1
ARSA	**Arzberg**	**145.88**	**327**	⇑iP	PKPdf	13 21 47.2	+3.3
GRF	**Grafenberg Arr**	**146.09**	**334**	ePKP2	PKPab	13 21 46.3	-1.5
MOA	**Molln**	**146.09**	**329**	⇑iP	PKPdf	13 21 46.5	+2.2
TNS	**Taunus Mts**	**146.74**	**337**	ePKP2	PKPab	13 21 48.2	-2.1
PDKS	**Podkum**	**146.94**	**326**	eP	PKPdf	13 21 47.7	+1.9
KBA	**Koelnbreinsper**	**147.07**	**329**	⇑iP	PKPdf	13 21 48.7	+2.7
GIVF	**Givet**	**148.07**	**341**	ePKP1	PKPdf	13 21 51.0	+3.5
BAIF	**Baives**	**148.29**	**341**	ePKP1	PKPdf	13 21 51.6	+3.8
BFO	**Black Forest**	**148.33**	**335**	ePKP2	PKPab	13 21 52.1	-4.6
CDF	**Champ du Feu**	**148.67**	**336**	ePKP1	PKPdf	13 21 52.8	+4.3
	comp=Z,12nm,0.9s						
HINF	**Hinteralfeld**	**149.32**	**336**	ePKP1	PKPdf	13 21 54.3	+4.7
HAU	**Haudompre**	**149.35**	**337**	ePKP1	PKPdf	13 21 54.6	+5.0
	comp=Z,8.9nm,0.7s						
MEZF	**Maizieres J'vi**	**149.39**	**339**	ePKP1	PKPdf	13 21 54.7	+5.1
CABF	**La Chapelle**	**150.61**	**336**	ePKP1	PKPdf	13 21 57.9	+6.3
	comp=Z,9.9nm,0.7s						
FLN	**La Foliniere**	**150.73**	**346**	ePKP1	PKPdf	13 21 57.3	+5.6
	comp=Z,28nm,0.9s						
LDF	**La Druitiere**	**150.80**	**345**	ePKP1	PKPdf	13 21 57.4	+5.6
	comp=Z,15nm,0.7s						
SSF	**Saint Saulge**	**151.16**	**339**	ePKP1	PKPdf	13 21 58.8	+6.4
	comp=Z,13nm,0.9s						
GRR	**Gorron**	**151.17**	**346**	ePKP1	PKPdf	13 21 58.4	+6.0
	comp=Z,8.4nm,0.5s						
LPL	**La Plagne**	**151.25**	**334**	ePKP1	PKPdf	13 21 59.6	+7.0
LPG	**La Plagne**	**151.26**	**334**	ePKP1	PKPdf	13 21 59.7	+7.1
SGMF	**Saint Gilles**	**151.65**	**348**	ePKP1	PKPdf	13 21 59.3	+6.2
MBDF	**Montbardon**	**151.87**	**333**	ePKP1	PKPdf	13 22 01.2	+7.7
ORIF	**Oris-en-Rattie**	**152.09**	**334**	ePKP1	PKPdf	13 22 01.5	+7.6
	comp=Z,7.5nm,0.7s						
SBF	**Sospel**	**152.25**	**331**	ePKP1	PKPdf	13 22 01.8	+7.7
	comp=Z,80nm,1.1s						
TCF	**Toulx Ste Croi**	**152.26**	**340**	ePKP1	PKPdf	13 22 01.3	+7.2
MFF	**Saint Martin d**	**152.66**	**344**	ePKP1	PKPdf	13 22 01.7	+7.1
ESDC	**Sonseca Array**	**160.12**	**344**	PKPab	PKPab	13 22 45.7	-1.1
	comp=Z,1.3nm,0.7s,baz=20,slow=2.4,SNR=6.4						
DBIC	**Dimbokro**	**164.89**	**204**	PKPab	PKPab	13 23 08.3	0.0
	comp=Z,7.7nm,1.2s,baz=135,slow=15,SNR=2.7						

MAN 09 13:03:12.2, 11.38N×125.50E, h32^{km}, mb4.2, ML3.0, MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.23**	**345**	eP	Pb	13 03 20.3	+1.3
BESP				eS	Sb	13 03 25.9	+2.4
PLP	**Palo**	**0.55**	**248**	eP	Pb	13 03 24.1	+0.6
PLP				iS	Sb	13 03 33.2	+1.9
MSLP	**Maasin**	**1.39**	**207**	eP	Pn	13 03 37.0	+1.3
CNP	**Catarman**	**1.39**	**324**	eP	Pn	13 03 36.8	+1.1
SCPH	**Surigao**	**1.59**	**180**	eP	Pn	13 03 37.7	-0.8
SCPH				eS	Sn	13 03 50.7	-7.3
PVCP	**Virac**	**2.57**	**329**	eP	Pn	13 03 55.4	+2.9

IDC 09 13:11:00.2±5.4**, 2.77S×155.63E, mb3.5**/3**, mb1 3.9**/4**, mb1mx3.7**/13**, mbtmp3.8**/4**, ML3.3**/1**, Error ellipse: s-maj=155.5km s-min=30.2km az=107.0, North of Solomon Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.70**	**232**	Pn	P	13 13 35.4	-2.5
	1.2nm,0.3s,baz=45,slow=6.4,SNR=6.4						
WRA	**Warramunga Arr**	**26.90**	**229**	P	P	13 16 43.6	-1.5
	2.1nm,1.0s,baz=54,slow=9.7,SNR=17						
ASAR	**Alice Springs**	**29.55**	**223**	P	P	13 17 06.3	-2.7
	0.3nm,0.8s,baz=54,slow=9.2,SNR=7.2						
SONM	**Songino Array**	**66.18**	**326**	P	P	13 21 49.9	-2.0
	0.5nm,1.0s,baz=124,slow=5.2,SNR=2.4						

DJA 09 13:11:29.7±1.1**, 2.37S×119.67E, h100^{km}, ML4.5**/3**, 3C-3D, Error ellipse: s-maj=30.0km s-min=22.7km az=31.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**1.10**	**195**	⇓ePn	P	13 11 49.2	-2.4
	2μm,0.4s						
TANI				⇑eSn	S	13 11 58.8	-9.2
BUNI	**Buntu Taipa**	**1.44**	**153**	⇓ePn	P	13 11 55.0	-0.6
	243nm,0.2s						
BUNI				⇑eSn	S	13 12 11.1	-3.8
NINI	**Niniconang**	**2.04**	**178**	⇓ePn	P	13 12 05.3	+2.0
	202nm,0.3s						
NINI				⇑eSn	S	13 12 27.0	-1.3

*NEIC **09** 13:44:05.4, 35.72N×21.89E, h3^{km}, ML3.8(ATH), After ATH.*
*CSEM **09** 13:44:05.5±0.3, 35.64N×21.75E, h15^{km}, ML3.8, Error ellipse: s-maj=5.9km s-min=4.1km az=35.0*
*ATH **09** 13:44:09.5, 35.91N×22.09E, h24^{km}±2^{km}, MD3.8/12, ML3.7*
ISC 09 13:44:06.2±1.3**, 35.76N**±0.08×**21.86E**±0.09**, h10^{km}, n25,** σ1^{s}**18**/27**, 2D, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.09**	**61**	⇓iPN	**Pn**	**13 44 26.2**	**-1.2**
VLI	**Veliai**	**1.29**	**42**	⇓iPN	**Pn**	**13 44 29.7**	**-0.7**
ITM	**Ithomi**	**1.42**	**2**	ePN	**Pn**	**13 44 33.4**	**+1.2**
ITM				eSN	**Sn**	**13 44 51.0**	**0.0**
ITM	**Ithomi**	**1.42**	**2**	ePn	**Pn**	**13 44 32.9**	**+0.7**
ITM				eSb	**Sb**	**13 44 52.0**	**+1.6**
VAM	**Vamos**	**1.94**	**100**	ePN	**Pn**	**13 44 40.8**	**+1.2**
RLS	**Riolos of Patr**	**2.32**	**352**	ePB	**Pb**	**13 44 47.9**	**+0.2**
NAIG	**Nisos Aigina**	**2.38**	**33**	ePN	**Pn**	**13 44 46.0**	**0.0**
NAIG	**Nisos Aigina**	**2.38**	**33**	ePg	**Pg**	**13 44 50.0**	**-3.9**
NSAL	**Nisos Salamina**	**2.50**	**30**	ePn	**Pn**	**13 44 50.8**	**+3.1**
NSAL	**Nisos Salamina**	**2.50**	**30**	ePN	**Pn**	**13 44 47.8**	**+0.1**
VLS	**Valsamata**	**2.62**	**338**	ePN	**Pn**	**13 44 52.2**	**+2.8**
VLS	**Valsamata**	**2.62**	**338**	ePb	**Pb**	**13 44 51.1**	**-1.8**
ATH	**Athens Observa**	**2.66**	**33**	ePN	**Pn**	**13 44 50.0**	**0.0**
ATH	**Athens Observa**	**2.66**	**33**	ePg	**Pg**	**13 44 54.0**	**-5.4**
PTL	**Penteli**	**2.79**	**35**	ePN	**Pn**	**13 44 52.0**	**+0.1**
MPAR	**Parnis Oros**	**2.82**	**32**	ePN	**Pn**	**13 44 52.5**	**+0.2**
MPAR	**Parnis Oros**	**2.82**	**32**	ePb	**Pb**	**13 44 55.5**	**-0.8**
LKR	**Lokris**	**3.03**	**17**	ePN	**Pn**	**13 44 54.8**	**-0.4**
EVR	**Evrytania**	**3.15**	**359**	ePB	**Pb**	**13 44 59.4**	**-2.6**
EVR	**Evrytania**	**3.15**	**359**	ePb	**Pb**	**13 45 00.4**	**-1.6**
APE	**Apeiranthos**	**3.24**	**65**	ePN	**Pn**	**13 44 58.8**	**+0.6**
KEK	**Kerkira**	**4.27**	**338**	ePN	**Pn**	**13 45 14.8**	**+1.9**
KEK	**Kerkira**	**4.27**	**338**	ePn	**Pn**	**13 45 12.5**	**-0.4**
TIP	**Timpagrande**	**5.30**	**312**	eP	**Pn**	**13 45 26.6**	**-0.8**
TIP	**Timpagrande**	**5.30**	**312**	eP	**Pn**	**13 45 26.6**	**-0.9**

*HEL **09** 13:52:49.8±0.5, 59.59N×21.96E, ML1.9, ML2.2(UPP), ML2.5(NAO), Explosion*
*CSEM **09** 13:52:49.8±0.1, 59.82N×21.83E, h2^{km}, ML2.2, Mining explosion.*
*NEIC **09** 13:52:50.0, 59.69N×21.80E, h0^{km}, ML2.8(NAO), ML2.2(UPP), After UPP.*
*IDC **09** 13:52:50.4±2.5, 59.42N×22.39E, mb1 3.5/3, mb1mx3.3/17, mbtmp3.3/3, ML3.2/3, Error ellipse: s-maj=29.6km s-min=12.0km az=165.0*
*UPP **09** 13:52:50.0, 59.69N×21.80E, h0^{km}, ML2.2, Mining explosion.*
*NAO **09** 13:52:52.0±1.8, 59.56N×22.27E, ML2.8*
*BER **09** 13:52:54.7±4.3, 59.56N×22.22E, ML2.8(NAO), Suspected explosion*
ISC 09 13:52:48.8±0.4**, 59.68N**±0.04×**22.01E**±0.05**, n54,** σ1^{s}**35**/73**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.13**	**297**	eP	**Pb**	**13 53 09.6**	**-1.2**
NRTU	**Norrtaelje**	**1.71**	**271**	eP	**Pn**	**13 53 19.2**	**-0.9**
GRAU	**Graesoe**	**1.86**	**292**	eP	**Pn**	**13 53 20.8**	**-1.3**
PVF	**Pernaja**	**2.12**	**64**	eP	**Pn**	**13 53 26.5**	**+0.7**
PVF				eS	**Sn**	**13 53 50.0**	**-3.2**
PVF	**Pernaja**	**2.12**	**64**	S	**Sn**	**13 53 49.9**	**-3.3**
PVF	**Pernaja**	**2.12**	**64**	P	**Pn**	**13 53 26.4**	**+0.6**
FLYU	**Flymyra**	**2.12**	**284**	eP	**Pn**	**13 53 24.8**	**-1.1**
NYNU	**Nynaeshamn**	**2.16**	**253**	eP	**Pn**	**13 53 25.6**	**-0.9**
BACU	**Backbrunna**	**2.48**	**276**	eP	**Pn**	**13 53 32.3**	**+1.2**
OSTU	**Oestervaala**	**2.51**	**285**	eP	**Pn**	**13 53 30.9**	**-0.6**
IGGU	**Iggoen**	**2.62**	**299**	eP	**Pn**	**13 53 33.3**	**+0.3**
FIA0	**FINESS Array S**	**2.68**	**47**	eP	**Pn**	**13 53 35.5**	**+1.7**
FIA0				eS	**Sn**	**13 54 06.5**	**-0.9**
FIA0				eSB	**Sb**	**13 54 11.7**	**+0.9**
FIA0	**FINESS Array S**	**2.68**	**47**	Pn	**Pn**	**13 53 35.4**	**+1.5**
	baz=222,slow=16						
FIA0				Sn	**Sn**	**13 54 08.9**	**+1.5**
	baz=208,slow=28						
FIA0	**FINESS Array S**	**2.68**	**47**	S	**Sn**	**13 54 06.4**	**-1.0**
FIA0				Sn	**Sn**	**13 54 08.9**	**+1.5**
FINES	**FINESS Array B**	**2.68**	**47**	Pn	**Pn**	**13 53 36.0**	**+2.1**
	1.8nm,0.3s,baz=219,slow=14,SNR=39						
FINES				Sn	**Sn**	**13 54 10.8**	**+3.4**
	6.5nm,0.3s,baz=225,slow=28,SNR=18						
GOTU	**Gotland**	**2.69**	**223**	eP	**Pn**	**13 53 30.9**	**-3.1**
GOTU	**Gotland**	**2.69**	**223**	P	**Pn**	**13 53 30.8**	**-3.2**
VSU	**Vasula**	**2.73**	**115**	eP	**Pn**	**13 53 34.7**	**+0.1**
VSU				eS	**Sn**	**13 54 07.7**	**-1.2**
KEF	**Keuruu**	**2.86**	**28**	eP	**Pn**	**13 53 40.0**	**+3.5**
KEF				eSB	**Sb**	**13 54 17.9**	**+1.8**
VJF	**Virojoki**	**2.91**	**70**	eP	**Pn**	**13 53 36.8**	**-0.4**
VJF				eS	**Sn**	**13 54 08.8**	**-4.5**
VJF	**Virojoki**	**2.91**	**70**	P	**Pn**	**13 53 36.7**	**-0.4**
ARNU	**Arnoeviken**	**3.04**	**314**	eP	**Pn**	**13 53 38.0**	**-1.1**
FALU	**Falun**	**3.20**	**287**	eP	**Pn**	**13 53 39.8**	**-1.5**
KAF	**Kangasniemi**	**3.22**	**39**	eP	**Pn**	**13 53 44.0**	**+2.4**
KAF				eSB	**Sb**	**13 54 25.4**	**-1.2**
KAF				MSG		13 54 26.2	
	comp=Z,3.0nm,0.2s						
KAF	**Kangasniemi**	**3.22**	**39**	P	**Pn**	**13 53 43.9**	**+2.3**
VAF	**Ylistaro**	**3.39**	**5**	eP	**Pn**	**13 53 49.0**	**+5.0**
VAF				eS	**Sn**	**13 54 29.5**	**+4.1**
VAF	**Ylistaro**	**3.39**	**5**	S	**Sn**	**13 54 29.5**	**+4.1**
VSTU	**Vaestervik**	**3.50**	**237**	eP	**Pn**	**13 53 48.2**	**+2.6**
VSTU	**Vaestervik**	**3.50**	**237**	P	**Pn**	**13 53 48.1**	**+2.5**
ROTU	**Roteberg**	**3.52**	**302**	eP	**Pn**	**13 53 44.7**	**-1.1**
BYXU	**Byxelkrok**	**3.56**	**230**	eP	**Pn**	**13 53 48.6**	**+2.2**
BYXU	**Byxelkrok**	**3.56**	**230**	P	**Pn**	**13 53 48.5**	**+2.1**
HASU	**Hassela**	**3.62**	**316**	eP	**Pn**	**13 53 46.5**	**-0.7**
HASU	**Hassela**	**3.62**	**316**	P	**Pn**	**13 53 46.4**	**-0.8**
HFS	**Hagfors**	**4.21**	**280**	Pn	**Pn**	**13 53 59.5**	**+3.9**
	baz=76,slow=11						
HFS				Sn	**Sn**	**13 54 50.2**	**+3.9**
	baz=109,slow=37						
HFS				Lg		13 55 07.3	
	baz=81,slow=28						
HFS	**Hagfors**	**4.21**	**280**	ePB	**Pn**	**13 53 59.5**	**+3.9**
HFS	**Hagfors**	**4.21**	**280**	Sn	**Sn**	**13 54 49.5**	**+3.2**
	baz=165,slow=17,SNR=1.8						
HFS				Lg		13 55 08.4	
	comp=Z,0.5nm,0.3s,baz=101,slow=31,SNR=3.7						
KJN	**Kajaani**	**5.17**	**29**	eP	**Pn**	**13 54 11.9**	**+2.6**
KJN				eS	**Sn**	**13 55 09.6**	**-1.0**
NOA	**NORSAR Array B**	**5.53**	**289**	Pn	**Pn**	**13 54 15.7**	**+1.4**
	comp=Z,0.7nm,0.3s,baz=58,slow=6.4,SNR=3.6						
NOA				Sn	**Sn**	**13 55 19.9**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=68,slow=11,SNR=2.0						
NOA				Lg		13 55 46.2	
	comp=Z,0.9nm,0.3s,baz=40,slow=19,SNR=3.8						
NOA	**NORSAR Array B**	**5.53**	**289**	Pn	**Pn**	**13 54 15.7**	**+1.4**
NOA				Sn	**Sn**	**13 55 19.9**	**+0.4**
NOA				Lg		13 55 46.2	
JOF	**Joensuu**	**5.53**	**50**	eP	**Pn**	**13 54 13.4**	**-1.0**
JOF				eS	**Sn**	**13 55 13.4**	**-6.3**
NAO01	**NORSAR Array S**	**5.66**	**287**	eP	**Pn**	**13 54 18.8**	**+2.7**
ODD1	**Odda**	**7.76**	**278**	eP	**Pn**	**13 54 45.1**	**-0.6**
BLS5	**Blasjo**	**7.91**	**275**	eP	**Pn**	**13 54 48.9**	**+1.1**
BLS5	**Blasjo**	**7.91**	**275**	P	**Pn**	**13 54 48.8**	**+1.1**
ASK	**Askoy**	**8.44**	**283**	eP	**P**	**13 54 55.5**	**+0.2**
ASK	**Askoy**	**8.44**	**283**	P	**P**	**13 54 55.4**	**+0.2**
APA0	**Apatity Array**	**9.31**	**27**	Pn	**P**	**13 55 07.0**	**-0.3**
	baz=222,slow=11						
APA0				Sn	**Sn**	**13 56 49.8**	**-4.3**
	baz=209,slow=37						
APA0	**Apatity Array**	**9.31**	**27**	eP	**P**	**13 55 07.0**	**-0.3**
APA0				eS	**Sn**	**13 56 49.8**	**-4.3**
KTK1	**Kautokeino**	**9.38**	**3**	eP	**P**	**13 55 08.6**	**+0.3**
KTK1	**Kautokeino**	**9.38**	**3**	P	**P**	**13 55 08.5**	**+0.3**
ARA0	**ARCESS Array S**	**10.00**	**7**	Pn	**P**	**13 55 15.8**	**-0.8**
	baz=185,slow=14						
ARA0	**ARCESS Array S**	**10.00**	**7**	eP	**P**	**13 55 15.8**	**-0.8**
ARCES	**ARCESS Array B**	**10.00**	**7**	Pn	**P**	**13 55 15.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=186,slow=13,SNR=31						
ARCES				Sn	**S**	**13 57 04.5**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=24,SNR=3.4						

*CSEM **09** 13:59:16.7±0.1, 59.61N×22.27E, h2^{km}, ML2.4, Error ellipse: s-maj=3.5km s-min=1.8km az=149.0, Mining explosion.*
*NAO **09** 13:59:17.3±1.7, 59.60N×22.19E, ML2.5*
*IDC **09** 13:59:17.1±1.8, 59.54N×22.38E, mb1 3.1/4, mb1mx3.0/18, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=22.3km s-min=7.3km az=163.0*
*HEL **09** 13:59:17.1±0.2, 59.57N×22.32E, ML1.8, ML2.4(UPP), ML2.5(NAO), Explosion*
*BER **09** 13:59:19.2±3.3, 59.67N×22.13E, ML2.5(NAO), Suspected explosion*
*NEIC **09** 13:59:19.2, 59.67N×22.13E, ML2.5(NAO), ML2.4(UPP), After BER.*
*UPP **09** 13:59:19.0, 59.61N×21.99E, h0^{km}, ML2.4, Mining explosion.*
ISC 09 13:59:15.9±0.5**, 59.61N**±0.04×**22.32E**±0.05**, n52,** σ1^{s}**18**/79**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.30**	**297**	eP	**Pb**	**13 59 40.5**	**-0.6**
AAL				eS	**Sb**	**13 59 57.9**	**-0.3**
NRTU	**Norrtaelje**	**1.87**	**274**	eP	**Pn**	**13 59 50.1**	**+0.5**
NRTU	**Norrtaelje**	**1.87**	**274**	P	**Pn**	**13 59 50.0**	**+0.5**
PVF	**Pernaja**	**2.01**	**61**	eP	**Pn**	**13 59 52.0**	**+0.6**
PVF				eS	**Sn**	**14 00 16.6**	**-1.1**
PVF	**Pernaja**	**2.01**	**61**	P	**Pn**	**13 59 52.0**	**+0.5**
PVF				S	**Sn**	**14 00 16.5**	**-1.2**
GRAU	**Graesoe**	**2.04**	**293**	eP	**Pn**	**13 59 51.7**	**-0.2**
GRAU				eS	**Sn**	**14 00 18.7**	**+0.3**
GRAU	**Graesoe**	**2.04**	**293**	P	**Pn**	**13 59 51.7**	**-0.1**
GRAU				S	**Sn**	**14 00 18.6**	**+0.3**
NYNU	**Nynaeshamn**	**2.29**	**257**	eP	**Pn**	**13 59 56.2**	**+0.6**
FLYU	**Flymyra**	**2.30**	**285**	eP	**Pn**	**13 59 55.9**	**+0.3**
VSU	**Vasula**	**2.56**	**115**	eP	**Pn**	**13 59 54.4**	**-5.0**
VSU				eS	**Sn**	**14 00 21.7**	**-10**
VSU	**Vasula**	**2.56**	**115**	Pn	**Pn**	**14 00 00.7**	**+1.4**
VSU				Sn	**Sn**	**14 00 32.8**	**+1.2**
VSU	**Vasula**	**2.56**	**115**	P	**Pn**	**13 59 54.3**	**-5.0**
VSU	**Vasula**	**2.56**	**115**	Pn	**Pn**	**14 00 00.7**	**+1.4**
FIA0	**FINESS Array S**	**2.62**	**44**	Pn	**Pn**	**14 00 01.2**	**+1.0**
	baz=232,slow=14						
FIA0				Sn	**Sn**	**14 00 34.7**	**+1.6**
	baz=234,slow=28						
FIA0	**FINESS Array S**	**2.62**	**44**	eP	**Pn**	**14 00 01.3**	**+1.1**
FIA0				eS	**Sn**	**14 00 31.3**	**-1.8**
FIA0	**FINESS Array S**	**2.62**	**44**	P	**Pn**	**14 00 01.2**	**+1.0**
FIA0				S	**Sn**	**14 00 31.2**	**-1.9**
FINES	**FINESS Array B**	**2.62**	**44**	Pn	**Pn**	**14 00 01.4**	**+1.2**
	0.9nm,0.3s,baz=230,slow=13,SNR=20						
FINES				Sn	**Sn**	**14 00 35.0**	**+2.0**
	2.5nm,0.3s,baz=225,slow=24,SNR=24						
BACU	**Backbrunna**	**2.65**	**278**	eP	**Pn**	**14 00 01.1**	**+0.4**
BACU	**Backbrunna**	**2.65**	**278**	P	**Pn**	**14 00 01.0**	**+0.3**
OSTU	**Oestervaala**	**2.68**	**286**	eP	**Pn**	**14 00 01.6**	**+0.5**
GOTU	**Gotland**	**2.75**	**227**	eP	**Pn**	**14 00 02.1**	**+0.1**
VJF	**Virojoki**	**2.79**	**68**	eP	**Pn**	**14 00 00.6**	**-2.0**
VJF				eS	**Sn**	**14 00 32.4**	**-5.0**
VJF	**Virojoki**	**2.79**	**68**	P	**Pn**	**14 00 00.6**	**-2.0**
VJF				S	**Sn**	**14 00 32.3**	**-5.1**
KEF	**Keuruu**	**2.85**	**25**	eP	**Pn**	**14 00 06.0**	**+2.5**
KEF				eS	**Sn**	**14 00 40.5**	**+1.4**
ESKU	**Eskilstuna**	**3.05**	**265**	eP	**Pn**	**14 00 06.6**	**+0.2**
KAF	**Kangasniemi**	**3.18**	**36**	eP	**Pn**	**14 00 09.4**	**+1.2**
KAF				eS	**Sn**	**14 00 47.1**	**-0.4**
KAF				MSG		14 00 52.7	
	comp=Z,2.2nm,0.2s						
KAF	**Kangasniemi**	**3.18**	**36**	P	**Pn**	**14 00 09.4**	**+1.2**
KAF				S	**Sn**	**14 00 47.0**	**-0.4**
	comp=Z,2.2nm,0.2s						
ARNU	**Arnoeviken**	**3.21**	**313**	eP	**Pn**	**14 00 08.9**	**+0.3**
FALU	**Falun**	**3.37**	**288**	eP	**Pn**	**14 00 10.8**	**-0.2**
VAF	**Ylistaro**	**3.45**	**3**	eP	**Pn**	**14 00 13.5**	**+1.5**
VAF				eS	**Sn**	**14 00 56.2**	**+1.9**
VAF	**Ylistaro**	**3.45**	**3**	P	**Pn**	**14 00 13.4**	**+1.4**
VAF				S	**Sn**	**14 00 56.1**	**+1.9**
VSTU	**Vaestervik**	**3.60**	**240**	eP	**Pn**	**14 00 14.3**	**+0.1**
ROTU	**Roteberg**	**3.69**	**302**	eP	**Pn**	**14 00 15.7**	**+0.2**
HEMU	**Hemsoen**	**3.71**	**328**	eP	**Pn**	**14 00 16.5**	**+0.7**
HEMU	**Hemsoen**	**3.71**	**328**	P	**Pn**	**14 00 16.4**	**+0.6**
HASU	**Hassela**	**3.78**	**315**	eP	**Pn**	**14 00 17.2**	**+0.5**
LNKU	**Linkoeping**	**3.80**	**251**	eP	**Pn**	**14 00 17.2**	**+0.3**
LNKU	**Linkoeping**	**3.80**	**251**	P	**Pn**	**14 00 17.2**	**+0.2**
HFS	**Hagfors**	**4.38**	**281**	eP	**Pn**	**14 00 24.4**	**-0.8**
HFS				eSG	**Sg**	**14 01 31.6**	**-10**
HFS	**Hagfors**	**4.38**	**281**	Pn	**Pn**	**14 00 25.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=11						
HFS				Pg	**Pg**	**14 00 33.2**	**-10**
	comp=Z,0.3nm,0.3s,baz=96,slow=17,SNR=16						
HFS				Sn	**Sn**	**14 01 15.8**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=95,slow=31,SNR=5.4						
HFS				Lg		14 01 33.2	
	comp=Z,0.3nm,0.3s,baz=92,slow=30,SNR=11						
HFS	**Hagfors**	**4.38**	**281**	Pn	**Pn**	**14 00 24.4**	**-0.8**
	baz=102,slow=14						
HFS				Lg		14 01 31.6	
	baz=80,slow=28						
KJN	**Kajaani**	**5.17**	**27**	eP	**Pn**	**14 00 35.9**	**-0.5**
KJN				eS	**Sn**	**14 01 35.0**	**-2.6**
KJN				eSB	**Sb**	**14 01 53.8**	**+3.5**
KJN	**Kajaani**	**5.17**	**27**	P	**Pn**	**14 00 35.8**	**-0.6**
KJN				S	**Sn**	**14 01 35.0**	**-2.6**
JOF	**Joensuu**	**5.46**	**49**	eP	**Pn**	**14 00 38.6**	**-2.0**
JOF				eS	**Sn**	**14 01 39.6**	**-5.5**
JOF	**Joensuu**	**5.46**	**49**	P	**Pn**	**14 00 38.5**	**-2.1**
NOA	**NORSAR Array B**	**5.70**	**289**	Pn	**Pn**	**14 00 42.1**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=104,slow=7.1,SNR=2.3						
NOA				Sn	**Sn**	**14 01 46.8**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=14,slow=16,SNR=2.4						
NOA				Lg		14 02 17.0	
	comp=Z,0.3nm,0.3s,baz=331,slow=19,SNR=2.4						
APA0	**Apatity Array**	**9.31**	**26**	Pn	**P**	**14 01 31.9**	**-2.5**
	baz=220,slow=11						
APA0	**Apatity Array**	**9.31**	**26**	eP	**P**	**14 01 31.9**	**-2.5**
ARA0	**ARCESS Array S**	**10.06**	**6**	Pn	**P**	**14 01 40.2**	**-4.3**
	baz=184,slow=14						
ARA0	**ARCESS Array S**	**10.06**	**6**	eP	**P**	**14 01 40.2**	**-4.3**
ARA0	**ARCESS Array S**	**10.06**	**6**	Pn	**P**	**14 01 40.2**	**-4.4**
	SNR=6.1						
ARCES	**ARCESS Array B**	**10.06**	**6**	Pn	**P**	**14 01 40.1**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=186,slow=14,SNR=13						
ARCES				Sn	**S**	**14 03 30.9**	**-8.5**
	comp=Z,0.1nm,0.3s,baz=183,slow=23,SNR=3.4						

*IDC **09** 14:07:02.7±2.0, 59.58N×22.38E, mb1 2.9/4, mb1mx2.8/18, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=25.6km s-min=8.0km az=162.0*
*HEL **09** 14:07:02.1±0.2, 59.57N×22.36E, ML1.4, ML2.1(UPP), Explosion*
ISC 09 14:07:01.0±0.6**, 59.59N**±0.05×**22.33E**±0.06**, n23,** σ1^{s}**09**/39**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.32**	**298**	eP	**Pb**	**14 07 25.9**	**-0.5**
AAL				eS	**Sb**	**14 07 43.3**	**-0.4**
NRTU	**Norrtaelje**	**1.88**	**274**	eP	**Pn**	**14 07 35.4**	**+0.7**
PVF	**Pernaja**	**2.01**	**60**	eP	**Pn**	**14 07 37.5**	**+0.8**
PVF				eS	**Sn**	**14 08 02.1**	**-0.8**
GRAU	**Graesoe**	**2.05**	**293**	eP	**Pn**	**14 07 37.0**	**-0.1**
NYNU	**Nynaeshamn**	**2.30**	**257**	eP	**Pn**	**14 07 41.8**	**+1.1**
FLYU	**Flymyra**	**2.31**	**285**	eP	**Pn**	**14 07 41.3**	**+0.4**
FIA0	**FINESS Array S**	**2.62**	**43**	eP	**Pn**	**14 07 46.5**	**+1.1**
FIA0				eS	**Sn**	**14 08 18.1**	**-0.3**
FIA0				eSG	**Sg**	**14 08 22.8**	**-5.6**
FINES	**FINESS Array B**	**2.62**	**43**	Pn	**Pn**	**14 07 46.3**	**+0.9**
	0.5nm,0.3s,baz=225,slow=14,SNR=12						
FINES				Sn	**Sn**	**14 08 20.3**	**+1.9**
	1.0nm,0.3s,baz=222,slow=23,SNR=16						
BACU	**Backbrunna**	**2.66**	**278**	eP	**Pn**	**14 07 46.4**	**+0.5**
OSTU	**Oestervaala**	**2.70**	**286**	eP	**Pn**	**14 07 47.0**	**+0.6**
VJF	**Virojoki**	**2.79**	**68**	eP	**Pn**	**14 07 46.6**	**-1.0**
VJF				eSB	**Sb**	**14 08 25.0**	**-1.4**
KEF	**Keuruu**	**2.87**	**25**	eP	**Pn**	**14 07 51.0**	**+2.1**
KEF				eS	**Sn**	**14 08 23.7**	**-0.9**
ESKU	**Eskilstuna**	**3.06**	**266**	eP	**Pn**	**14 07 51.9**	**+0.3**
KAF	**Kangasniemi**	**3.19**	**36**	eP	**Pn**	**14 07 55.0**	**+1.6**
KAF				eS	**Sn**	**14 08 31.7**	**-1.1**
KAF				MSG		14 08 37.9	
	comp=Z,0.8nm,0.3s						
ARNU	**Arnoeviken**	**3.23**	**313**	eP	**Pn**	**14 07 54.0**	**+0.1**
VAF	**Ylistaro**	**3.47**	**3**	eP	**Pn**	**14 07 59.0**	**+1.7**
VAF				eS	**Sn**	**14 08 40.3**	**+0.5**
VSTU	**Vaestervik**	**3.59**	**240**	eP	**Pn**	**14 07 59.4**	**+0.2**
OSKU	**Oskarshamn**	**4.06**	**236**	eP	**Pn**	**14 08 05.6**	**-0.3**
HFS	**Hagfors**	**4.39**	**281**	Pn	**Pn**	**14 08 10.4**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=96,slow=13,SNR=5.7						
HFS				Pg	**Pg**	**14 08 19.5**	**-9.1**
	comp=Z,0.1nm,0.3s,baz=93,slow=17,SNR=6.1						
HFS				Sn	**Sn**	**14 09 00.7**	**-2.4**
	comp=Z,0.0nm,0.3s,baz=94,slow=22,SNR=2.3						
HFS				Lg		14 09 18.1	
	comp=Z,0.1nm,0.3s,baz=96,slow=30,SNR=5.9						
KJN	**Kajaani**	**5.18**	**27**	eP	**Pn**	**14 08 20.7**	**-1.0**
KJN				eS	**Sn**	**14 09 18.4**	**-4.6**
KJN				eSB	**Sb**	**14 09 37.0**	**+1.2**
JOF	**Joensuu**	**5.47**	**49**	eP	**Pn**	**14 08 25.2**	**-0.6**
JOF				eS	**Sn**	**14 09 25.0**	**-5.4**
NOA	**NORSAR Array B**	**5.71**	**290**	Pn	**Pn**	**14 08 27.1**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=235,slow=23,SNR=3.2						
NOA				Sn	**Sn**	**14 09 31.3**	**-5.1**
	comp=Z,0.1nm,0.3s,baz=169,slow=15,SNR=2.1						
ARCES	**ARCESS Array B**	**10.08**	**6**	Pn	**P**	**14 09 26.4**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=190,slow=15,SNR=8.1						
ARCES				Sn	**S**	**14 11 12.8**	**-12**
	comp=Z,0.1nm,0.3s,baz=189,slow=24,SNR=2.4						

IDC 09 14:08:17.4±2.1**, 9.97N×93.25E, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.6**/17**, mbtmp3.5**/5**, ML3.5**/1**, Error ellipse: s-maj=67.2km s-min=23.0km az=68.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.08**	**33**	Pn	P	14 10 44.2	-2.4
	0.1nm,0.3s,baz=222,slow=14,SNR=7.0						
SONM	**Songino Array**	**39.34**	**14**	P	P	14 15 47.9	-2.2
	0.5nm,0.9s,baz=202,slow=7.8,SNR=3.1						
BVAR	**Borovoye Array**	**46.74**	**341**	P	P	14 16 48.6	-1.4
	0.6nm,0.5s,baz=162,slow=9.1,SNR=4.6						
WRA	**Warramunga Arr**	**50.19**	**126**	P	P	14 17 15.2	-2.1
	0.6nm,0.5s,baz=307,slow=8.3,SNR=25						
ASAR	**Alice Springs**	**51.93**	**131**	P	P	14 17 28.4	-2.1
	0.8nm,0.7s,baz=302,slow=6.6,SNR=12						

KRSC 09 14:17:46.5±0.3**, 54.73N×157.46E, h414^{km}**±4^{km}**, ML4.4, Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GNL	**Ganaly**	**1.07**	**165**	iP	P	14 18 38.8	-0.8
ESO	**Esso**	**1.39**	**30**	iP	P	14 18 40.5	-0.4
ESO				iS	S	14 19 19.9	-3.8
KOK	**Koryaka**	**1.60**	**154**	iP	P	14 18 42.3	+0.3
KOK				iS	S	14 19 22.8	-2.7
TUMR	**Tumrok**	**1.64**	**69**	iP	P	14 18 42.8	+0.6
TUMR				eS	S	14 19 23.9	-2.0
AVH	**Avacha**	**1.65**	**152**	eP	P	14 18 42.6	+0.4
SDLR	**Sedlovina**	**1.68**	**149**	iP	P	14 18 42.5	+0.1
UGLR	**Uglovaya**	**1.72**	**152**	iP	P	14 18 43.2	+0.6
APC	**Apacha**	**1.82**	**186**	iP	P	14 18 42.8	-0.3
APC				iS	S	14 19 23.6	-4.0
PET	**Petropavlovsk**	**1.85**	**157**	iP	P	14 18 43.2	-0.1
PET				iS	S	14 19 24.4	-3.5
KMNR	**Kamenistaya**	**1.89**	**56**	eP	P	14 18 42.7	-0.8
KOZ	**Kozyrevsk**	**1.92**	**45**	eP	P	14 18 43.9	+0.2
NLC	**Nalytchevo**	**1.92**	**144**	iP	P	14 18 43.4	-0.3
NLC				iS	S	14 19 25.1	-3.5
KRMR	**Karymshinskiy**	**1.94**	**168**	iP	P	14 18 43.9	+0.1
SRDR	**Sredinnyy**	**2.04**	**38**	iP	P	14 18 44.7	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GRL	Gorelyy	2.21	170	iP	P	14 18 45.9	+0.4
SPN	Mys Shipunski	2.23	136	eP	P	14 18 44.7	-0.9
SPN				eS	S	14 19 27.3	-4.8
RUS	Russkaya	2.39	164	iP	P	14 18 46.9	+0.3
RUS				iS	S	14 19 31.2	-2.8
KBG	Krutoberegovo	3.35	61	eP	P	14 18 54.5	+0.4
KBG	Krutoberegovo	3.35	61	eS	S	14 19 43.5	-3.9
KBTR	Krutoberegovo	3.39	62	iP	P	14 18 54.0	-0.5
KBTR				eS	S	14 19 43.8	-4.2

*JMA **09** 14:35:43.7±0.5, 33.83N×142.59E, h73^{km}, M3.4*
*IDC **09** 14:35:46.6±6.7, 33.66N×142.54E, h29^{km}±48^{km}, mb3.3/4, mb1 3.7/8, mb1mx3.5/22, mbtmp3.9/8, ML3.6/4, Error ellipse: s-maj=32.5km s-min=19.1km az=85.0*
ISC 09 14:35:42.2±1.9**, 33.79N**±0.05×**142.56E**±0.06**, h18**^{km}±18^{km}**, n20,** σ0^{s}**97**/28**, mb3.4**/4**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.57	304	P	Pn	14 36 09.9	+0.4
BSO1				eS	Sn	14 36 30.0	+0.6
BSO3	Boso 3	1.98	301	P	Pn	14 36 16.1	+0.8
BSO3				eS	Sn	14 36 39.6	-0.1
BSO4	Boso 4	2.19	304	P	Pn	14 36 19.6	+1.2
JHJ2	Mitsune	2.39	254	P	Pn	14 36 22.2	+1.0
JHJ2				eS	Sn	14 36 50.4	+0.1
JHJ	Hachijo jima 2	2.41	255	Pn	Pn	14 36 21.9	+0.4
	52nm,0.3s,baz=239,slow=20,SNR=45						
JHJ				Sn	Sn	14 36 50.2	-0.6
	41nm,0.3s,baz=74,slow=23,SNR=9.5						
JIM2	Oshima 3	2.75	291	P	Pn	14 36 26.1	-0.3
JOD2	Odawara 2	3.22	298	P	Pn	14 36 32.4	-0.6
JOD2				S	Sn	14 37 10.7	-0.6
JAG	Ashikaga	3.66	317	P	Pn	14 36 38.6	-0.7
JYN	Shimob	3.72	298	P	Pn	14 36 40.3	+0.1
JYN				S	Sn	14 37 23.8	-0.2
JRY	Ryogami san	3.74	308	P	Pn	14 36 40.2	-0.2
JMM	Marumori	4.32	341	P	Pn	14 36 47.1	-1.5
MAT	Matsushiro	4.50	309	P	Pn	14 36 52.2	+1.0
MAT				eS	Sn	14 37 42.5	-1.2
JMK	Ichinoseki	5.27	349	P	Pn	14 37 00.0	-2.0
CBIJ	Chichi jima	6.68	183	Pn	Pn	14 37 19.8	-2.1
	2.7nm,0.3s,baz=262,slow=22,SNR=11						
CBIJ				Sn	Sn	14 38 33.1	-5.1
	2.7nm,0.3s,baz=270,slow=20,SNR=4.1						
ASAJ	Asahikawa	10.31	0	Pn	P	14 38 14.1	+1.7
	0.3nm,0.3s,baz=180,slow=20,SNR=3.2						
JOW	Kunigami	14.14	244	Pn	P	14 39 04.7	+0.8
	0.8nm,0.3s,baz=45,slow=13,SNR=4.8						
SONM	Songino Array	30.45	308	P	P	14 41 59.2	+3.4
	0.4nm,0.7s,mb3.3,baz=117,slow=9.7,SNR=3.0						
WRA	Warramunga Arr	54.00	190	P	P	14 45 07.3	-0.2
	0.3nm,0.5s,mb3.5,baz=6.4,slow=7.6,SNR=11						
ASAR	Alice Springs	57.73	189	P	P	14 45 34.3	-0.1
	0.3nm,0.7s,mb3.4,baz=1.4,slow=6.7,SNR=4.8						
NOA	NORSAR Array B	77.54	338	P	P	14 47 39.0	+1.0
	0.5nm,0.8s,mb3.5,baz=17,slow=5.8,SNR=2.8						

*LJU **09** 14:46:56.8, 45.26N×14.72E, h15^{km}, ML2.9*
*ROM **09** 14:46:58.9±1.0, 45.28N×14.56E, h5^{km}, MD3.1/5, ML2.6/4, Error ellipse: s-maj=9.0km s-min=4.0km az=90.0*
*CSEM **09** 14:46:58.4±0.1, 45.33N×14.71E, h15^{km}, ML3.9/12, Error ellipse: s-maj=2.9km s-min=2.1km az=140.0*
*NEIC **09** 14:46:58.9, 45.28N×14.56E, h5^{km}, MD3.1(ROM), ML3.4(VIE), ML2.9(LJU), After ROM.*
ISC 09 14:46:56.4±0.5**, 45.25N**±0.02×**14.72E**±0.02**, h2**^{km}±3^{km}**, n86,** σ1^{s}**03**/148**, 7C-21D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BOJS	Bojanci	0.45	55	⇑iPg	Pg	14 47 06.4	+0.9
BOJS				iSg	Sg	14 47 13.1	+1.6
	comp=Z,645nm,0.2s						
BOJS	Bojanci	0.45	55	Pg	Pg	14 47 06.4	+0.9
BOJS				iSg	Sg	14 47 13.1	+1.6
	comp=Z,645nm,0.2s						
CEY	Cerknica	0.54	337	⇓iPg	Pg	14 47 07.2	+0.1
CEY				iSg	Sg	14 47 15.5	+1.3
	comp=Z,309nm,0.1s						
CEY	Cerknica	0.54	337	⇓iPg	Pg	14 47 07.2	+0.1
CEY				iSg	Sg	14 47 15.5	+1.3
	comp=Z,309nm,0.1s						
VISS	Visnje	0.56	8	⇓iPg	Pg	14 47 07.9	+0.2
VISS				iSg	Sg	14 47 16.5	+1.3
	comp=Z,326nm,0.2s						
VISS	Visnje	0.56	8	⇓iPg	Pg	14 47 07.9	+0.2
VISS				iSg	Sg	14 47 16.5	+1.3
	comp=Z,326nm,0.2s						
CRES	Cresnjev	0.78	41	iPg	Pg	14 47 12.5	+0.6
CRES				iSg	Sg	14 47 23.2	+1.0
	comp=Z,348nm,0.3s						
CRES	Cresnjev	0.78	41	iPg	Pg	14 47 12.5	+0.6
CRES				iSg	Sg	14 47 23.2	+1.0
	comp=Z,348nm,0.3s						
JAVS	Javornik	0.80	325	iPg	Pg	14 47 11.4	-0.9
JAVS				iSg	Sg	14 47 23.8	+0.9
	comp=Z,158nm,0.1s						
JAVS	Javornik	0.80	325	iPg	Pg	14 47 11.4	-0.9
JAVS				iSg	Sg	14 47 23.8	+0.9
	comp=Z,158nm,0.1s						
LJU	Ljubljana	0.81	350	iPg	Pg	14 47 13.2	+0.6
LJU				eSg	Sg	14 47 24.6	+1.2
LEGS	Legarje	0.82	31	⇓iPg	Pg	14 47 13.3	+0.6
LEGS				iSg	Sg	14 47 24.1	+0.5
	comp=Z,209nm,0.2s						
LEGS	Legarje	0.82	31	⇓iPg	Pg	14 47 13.3	+0.6
LEGS				iSg	Sg	14 47 24.1	+0.5
	comp=Z,209nm,0.2s						
TRI	Trieste	0.82	305	ePG	Pg	14 47 12.0	-0.7
TRI				SG	Sg	14 47 24.5	+0.8
	comp=Z,252nm,0.4s						
TRI	Trieste	0.82	305	ePg	Pg	14 47 12.0	-0.8
TRI				eSg	Sg	14 47 24.5	+0.9
TRI	Trieste	0.82	305	ePg	Pg	14 47 12.0	-0.7
	comp=Z,252nm,0.4s						
TRI				Sg	Sg	14 47 24.5	+0.8
PDKS	Podkum	0.84	13	⇓iPg	Pg	14 47 13.4	+0.3
PDKS				iSg	Sg	14 47 24.9	+0.6
	comp=Z,179nm,0.2s						
GCIS	Gornji Cirnik	0.89	45	⇓iPg	Pg	14 47 14.7	+0.5
GCIS				iSg	Sg	14 47 26.4	+0.4
	comp=Z,189nm,0.2s						
CESS	Cesta pri Krsk	0.89	35	iPg	Pg	14 47 15.1	+0.8
CESS				iSg	Sg	14 47 26.7	+0.5
	comp=Z,256nm,0.2s						
CESS	Cesta pri Krsk	0.89	35	iPg	Pg	14 47 15.1	+0.8
CESS				iSg	Sg	14 47 26.7	+0.5
	comp=Z,256nm,0.2s						
VOJS	Vojsko	0.98	323	iPg	Pg	14 47 14.9	-1.1
VOJS				iSg	Sg	14 47 29.7	+0.6
GOLS	Golise	0.99	39	iPg	Pg	14 47 16.7	+0.5
GOLS				eSg	Sg	14 47 29.8	+0.3
	comp=Z,187nm,0.2s						
GOLS	Golise	0.99	39	iPg	Pg	14 47 16.7	+0.5
GOLS				eSg	Sg	14 47 29.8	+0.4
	comp=Z,187nm,0.2s						
DOBS	Dobrina	1.04	30	iPg	Pg	14 47 17.4	+0.1
SISC	Sisak	1.18	78	⇑iPg	Pg	14 47 20.0	-0.1
SISC				iSg	Sg	14 47 36.0	+0.2
GORS	Gorjuse	1.19	335	iPg	Pg	14 47 19.3	-0.7
GORS				eSg	Sg	14 47 36.1	+0.2
	comp=Z,59nm,0.1s						
GORS	Gorjuse	1.19	335	iPg	Pg	14 47 19.3	-0.8
GORS				eSg	Sg	14 47 36.1	+0.2
	comp=Z,59nm,0.1s						
DRE	Drenchia	1.20	321	⇓ePg	Pg	14 47 20.6	+0.3
DRE				eSg	Sg	14 47 36.7	+0.4
CADS	Cadrg	1.20	325	iPg	Pg	14 47 18.5	-1.9
CADS				iSg	Sg	14 47 37.5	+1.1
	comp=Z,177nm,0.2s						
CADS	Cadrg	1.20	325	iPg	Pg	14 47 18.5	-1.9
CADS				iSg	Sg	14 47 37.5	+1.1
	comp=Z,177nm,0.2s						
OBKA	Obir	1.27	355	⇑iPG	Pg	14 47 21.4	-0.3
OBKA				iSG	Sg	14 47 39.2	+0.5
	comp=Z,81nm,0.2s						
COLI	Coloredo	1.29	314	ePg	Pg	14 47 22.0	-0.3
COLI				eSg	Sg	14 47 40.3	+0.8
ROBS	Robic	1.31	320	iPg	Pg	14 47 21.1	-1.5
ROBS				iSg	Sg	14 47 41.6	+1.5
	comp=Z,61nm,0.2s						
ROBS	Robic	1.31	320	iPg	Pg	14 47 21.1	-1.5
ROBS				iSg	Sg	14 47 41.6	+1.5
	comp=Z,61nm,0.2s						
TLI	Talmassons	1.32	301	⇑iPg	Pg	14 47 22.6	-0.2
TLI				iSg	Sg	14 47 41.8	+1.3
GROS	Grobnik	1.33	24	iPg	Pg	14 47 22.4	-0.6
GROS				iSg	Sg	14 47 39.8	-0.9
	comp=Z,78nm,0.1s						
GROS	Grobnik	1.33	24	iPg	Pg	14 47 22.4	-0.6
GROS				iSg	Sg	14 47 39.8	-0.9
	comp=Z,78nm,0.1s						
PERS	Pernice	1.42	11	iPg	Pg	14 47 23.6	-1.1
PERS				eSg	Sg	14 47 42.5	-1.1
	comp=Z,160nm,0.2s						
PERS	Pernice	1.42	11	iPg	Pg	14 47 23.5	-1.2
PERS				eSg	Sg	14 47 42.5	-1.1
	comp=Z,160nm,0.2s						
BISS	Bistriski jare	1.43	11	iPg	Pg	14 47 23.8	-1.2
	comp=Z,71nm,0.1s						
BISS	Bistriski jare	1.43	11	iPg	Pg	14 47 23.8	-1.2
	comp=Z,71nm,0.1s						
BAD	Bernadia	1.43	314	⇓ePg	Pg	14 47 24.2	-0.8
BAD				iSg	Sg	14 47 44.6	+0.5
BUA	Buia	1.48	312	⇑iPg	Pg	14 47 25.4	-0.6
BUA				iSg	Sg	14 47 46.4	+0.6
LSR	Lussari	1.49	326	⇓iPg	Pg	14 47 25.3	-0.8
LSR				eSg	Sg	14 47 46.6	+0.7
MPRI	Monte Prat	1.57	310	⇓iPg	Pg	14 47 26.3	-1.4
MPRI				eSg	Sg	14 47 48.7	0.0
KOGS	Kog	1.61	41	iPg	Pg	14 47 28.8	+0.3
KOGS				iSg	Sg	14 47 49.8	-0.2
PLRO	Paularo	1.71	320	ePg	Pg	14 47 28.8	-1.7
PLRO				eSg	Sg	14 47 52.3	-0.9
PLRO	Paularo	1.71	320	ePg	Pg	14 47 32.9	+2.4
PLRO				iSg	Sg	14 47 50.5	-2.7
MLNI	Malnisio	1.73	302	⇓ePg	Pg	14 47 28.2	-2.9
MLNI				eSg	Sg	14 47 52.9	-1.3
CAE	Caneva	1.77	296	⇓ePn	Pn	14 47 29.2	+0.8
CAE				eSn	Sn	14 47 53.3	+1.4
ZOU	Zoufplan	1.79	318	⇓ePn	Pn	14 47 29.5	+0.9
ZOU				iSn	Sn	14 47 53.6	+1.3
BLY	Banja Luka	1.81	105	Pn	Pn	14 47 30.3	+1.3
BLY				Sg	Sg	14 47 56.4	-0.5
FVI	Forni Avoltri	1.91	316	ePN	Pn	14 47 31.0	+0.6
FVI	Forni Avoltri	1.91	316	ePg	Pg	14 47 31.0	-3.7
CSO	Casso	1.97	302	⇓iPn	Pn	14 47 31.3	+0.2
KBA	Koelnbreinsper	2.07	333	⇑iPG	Pg	14 47 35.5	-2.2
KBA				iSG	Sg	14 48 04.4	-0.9
	comp=Z,63nm,0.5s						
ARSA	Arzberg	2.08	15	⇓iPN	Pn	14 47 31.8	-1.0
ARSA				iPG	Pg	14 47 35.6	-2.3
ARSA				iSG	Sg	14 48 02.3	-3.4
	comp=Z,31nm,0.3s						
FSSB	Fossombrone	2.09	223	ePN	Pn	14 47 34.1	+1.2
	comp=Z,46nm,0.3s						
FSSB	Fossombrone	2.09	223	ePg	Pg	14 47 34.1	-3.9
FSSB	Fossombrone	2.09	223	ePn	Pn	14 47 34.1	+1.2
	comp=Z,46nm,0.3s						
CGRP	Cima Grappa	2.15	288	⇓ePn	Pn	14 47 34.3	+0.6
ARV	Arcevia	2.17	217	ePN	Pn	14 47 34.3	+0.3
	comp=Z,16nm,0.4s						
ARV	Arcevia	2.17	217	ePg	Pg	14 47 34.3	-5.3
ARV	Arcevia	2.17	217	ePn	Pn	14 47 34.3	+0.3
	comp=Z,16nm,0.4s						
SNTG	Esanatoglia	2.37	213	ePN	Pn	14 47 37.6	+0.7
	comp=Z,25nm,0.5s						
SNTG	Esanatoglia	2.37	213	ePn	Pn	14 47 37.6	+0.8
SNTG	Esanatoglia	2.37	213	ePn	Pn	14 47 37.6	+0.7
	comp=Z,25nm,0.5s						
SFI	Santa Sofia	2.45	238	ePN	Pn	14 47 37.9	-0.2
	comp=Z,22nm,0.5s						
SFI	Santa Sofia	2.45	238	ePn	Pn	14 47 37.9	-0.2
PGD	Poggio Sodo	2.55	238	ePN	Pn	14 47 39.9	+0.5
	comp=Z,20nm,0.5s						
PGD	Poggio Sodo	2.55	238	ePn	Pn	14 47 39.9	+0.4
PGD	Poggio Sodo	2.55	238	ePn	Pn	14 47 39.9	+0.5
	comp=Z,20nm,0.5s						
MOA	Molln	2.62	353	⇑iPN	Pn	14 47 38.8	-1.7
MOA				iSN	Sn	14 48 12.0	-1.4
MOA				iSG	Sg	14 48 23.4	-0.3
	comp=Z,10nm,0.5s						
BGLD	Berchtesgaden	2.68	334	⇓iPn	Pn	14 47 42.3	+0.9
SCE	Schlegeis	2.76	312	⇓iPn	Pn	14 47 43.4	+1.0
PKSM	Moragy	2.91	69	⇓iP	Pn	14 47 43.3	-1.3
PKSM				eS	Sn	14 48 16.1	-4.6
MABI	Malga Bissina	3.06	287	ePN	Pn	14 47 47.2	+0.4
MABI	Malga Bissina	3.06	287	ePn	Pn	14 47 47.2	+0.4
KHC	Kasperske Hory	3.96	349	ePN	Pn	14 47 59.3	-0.3
KHC				ex	x	14 48 09.5	
KHC				ex	x	14 48 33.5	
KHC				eSN	Sn	14 48 46.5	-0.9
KHC				eSG	Sg	14 49 03.7	-4.7
KHC	Kasperske Hory	3.96	349	Pn	Pn	14 47 59.3	-0.3
KHC				Sg	Sg	14 49 03.7	-4.7
PRU	Pruhonice	4.75	359	eSG	Sg	14 49 28.8	-5.6
DPC	Dobruska-Polom	5.22	11	eSG	Sg	14 49 42.7	-7.5
NKC	Novy Kostel	5.22	344	eSN	Sn	14 49 16.3	-2.8
NKC				eSG	Sg	14 49 43.9	-6.3
MOX	Moxa	5.79	340	ePn	Pn	14 48 23.5	-2.0
MOX				eSg	Sg	14 50 04.1	-5.1
MOX	Moxa	5.79	340	iP	Pn	14 48 23.5	-2.0
MOX				Pg	Sn	14 49 29.0	-4.4
MOX				Sg	Sg	14 50 04.0	-5.2
CLL	Collm	6.17	350	eSG	Sg	14 50 13.0	-8.9

*NEIC **09** 14:48:52.6, 30.56S×71.40W, h16^{km}, ML3.5(GUC), After GUC.*
GUC 09 14:48:52.6±0.9**, 30.56S**×**71.40W, h16**^{km}±9^{km}**, MD3.6, ML3.5, 3C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OVCH	Ovalle	0.18	107	⇑iP	Pb	14 48 57.2	+0.1
OVCH				iS	Sb	14 49 00.5	+0.4
OVCH				AMP		14 49 00.7	
	comp=N,13μm,0.2s						
TLL	Tololo Astrono	0.64	53	⇓iP	Pb	14 49 05.3	+0.3
TLL				iS	Sb	14 49 14.7	+1.3
TLL				AMP		14 49 16.9	
	comp=N,3μm,0.2s						
LSCH	La Serena	0.66	11	⇓iP	Pb	14 49 04.9	-0.3
LSCH				iS	Sb	14 49 13.9	0.0
LSCH				AMP		14 49 14.5	
	comp=N,5μm,0.2s						
ILCH	Illapel	1.09	170	⇓iP	Pb	14 49 11.7	-0.9
ILCH				iS	Sb	14 49 25.9	-0.6
ILCH				AMP		14 49 26.1	
	comp=E,2μm,0.2s						
LCO	Las Campanas	1.65	22	⇓iP	Pn	14 49 21.0	-0.3
LCO				iS	Sn	14 49 42.6	+0.4
LCO				AMP		14 49 48.1	
	comp=E,552nm,0.2s						
PACH	Papudo	1.98	181	eP	Pn	14 49 26.2	+0.3
VACH	Vallenar	2.05	16	⇑iP	Pn	14 49 27.2	+0.3
VACH				iS	Sn	14 49 53.3	+1.0
VACH				AMP		14 49 58.0	
	comp=N,2μm,0.3s						
JACH	Jahuel	2.23	162	eP	Pn	14 49 30.7	+1.3
JACH				iS	Sn	14 49 58.8	+1.9
ZON	Zonda	2.53	114	eP	Pn	14 49 38.0	+4.2
ZON				eS	Sn	14 50 14.0	+9.4
LCCH	Las Cruces	2.91	183	eP	Pn	14 49 38.9	-0.4
FCH	Farellones	2.92	162	eP	Pn	14 49 42.1	+2.7
FCH				iS	Sn	14 50 17.9	+3.5
FCH				AMP		14 50 21.6	
	comp=E,170nm,0.3s						
CLCH	Cerro Calan	2.92	166	⇑iP	Pn	14 49 43.1	+3.6
CLCH				iS	Sn	14 50 19.4	+4.9

*CSEM **09** 14:52:46.4±0.1, 30.79N×56.91E, h16^{km}, ML3.7/1, Error ellipse: s-maj=4.2km s-min=3.2km az=53.0*
*TEH **09** 14:52:47.7, 30.87N×56.90E, h10^{km}, Mn3.5*
THR 09 14:52:46.3±0.8**, 30.74N**×**56.92E, h14**^{km}±8^{km}**, ML3.2, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.77	190	iPG	Pg	14 53 01.0	-0.9
KRBR				AML	AML	14 53 18.8	
	comp=N,1000nm,0.2s						
IBAF	Bafgh	1.43	307	Pg	Pg	14 53 11.5	-3.5
IMEH	Mehriz	2.08	289	Pn	Pn	14 53 21.0	-0.2
ICHK	Chekchek	2.61	306	Pn	Pn	14 53 28.4	-0.5
BNDS	Bandar-Abbas	3.40	191	ePN	Pn	14 53 41.3	+1.3
BNDS				AML	AML	14 54 47.8	
	comp=N,67nm,0.6s						
IPAR	Pars	3.46	256	Pn	Pn	14 53 42.8	+1.8
ZHSF	Zahedan	3.53	108	ePN	Pn	14 53 43.0	+1.1
ZHSF				AML	AML	14 54 49.9	
	comp=N,30nm,0.6s						
IMOK	Mook	4.02	246	Pn	Pn	14 53 49.5	+0.6
NASN	Na'in	4.05	301	ePN	Pn	14 53 49.9	+0.6
NASN				eSG	Sg	14 54 52.6	-8.7
NASN				AML	AML	14 55 05.2	
	comp=N,38nm,0.6s						
NASN	Na'in	4.05	301	ePn	Pn	14 53 49.9	+0.5
	SNR=52						
NASN				eSg	Sg	14 54 52.6	-8.7
	comp=N,38nm,0.6s,SNR=90						
GHIR	Ghir-Karzin	4.21	235	ePN	Pn	14 53 52.5	+0.9
GHIR				AML	AML	14 55 21.5	
	comp=N,21nm,0.7s						
IANJ	Anjiloo	5.34	333	Pn	Pn	14 54 06.6	-1.0
ISFB	Sefidab	5.34	314	Lg		14 55 31.3	
ISFB	Sefidab	5.34	314	Pn	Pn	14 54 05.7	-1.9
IVRN	Varamin	6.08	316	Pn	Pn	14 54 18.4	+0.3
IMYA	Miamay	6.18	25	Pn	Pg	14 54 45.7	-4.1
IQOM	Qom	6.40	311	Pn	Pn	14 54 21.4	-1.1

*IDC **09** 14:53:09.9±2.5, 59.46N×22.40E, mb1 3.3/3, mb1mx3.2/17, mbtmp3.2/3, ML3.0/3, Error ellipse: s-maj=28.9km s-min=10.8km az=168.0*
*CSEM **09** 14:53:10.1±0.1, 59.66N×22.36E, h2^{km}, ML1.7, Error ellipse: s-maj=2.4km s-min=1.3km az=169.0, Mining explosion.*
*NAO **09** 14:53:11.3±1.7, 59.61N×22.27E, ML2.6*
*HEL **09** 14:53:11.0±0.2, 59.64N×22.31E, ML1.7, ML2.1(UPP), ML2.6(NAO), Explosion*
*BER **09** 14:53:14.4±4.0, 59.64N×22.22E, ML2.6(NAO), Suspected explosion*
*NEIC **09** 14:53:14.0, 59.69N×22.24E, ML2.6(NAO), After BER.*
*UPP **09** 14:53:16.9, 59.71N×21.45E, ML2.1, Mining explosion.*
ISC 09 14:53:09.7±0.5**, 59.70N**±0.04×**22.29E**±0.05**, n45,** σ1^{s}**21**/78**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	Aland	1.25	293	iP	Pb	14 53 33.5	-0.5
NRTU	Norrtaelje	1.86	271	eP	Pn	14 53 43.5	+0.4
PVF	Pernaja	1.98	63	eP	Pn	14 53 46.3	+1.4
PVF				eS	Sn	14 54 11.1	+0.5
PVF	Pernaja	1.98	63	P	Pn	14 53 46.2	+1.4
PVF				S	Sn	14 54 11.1	+0.4
GRAU	Graesoe	1.99	290	eP	Pn	14 53 44.5	-0.5
GRAU				eS	Sn	14 54 12.0	+1.1
GRAU	Graesoe	1.99	290	P	Pn	14 53 44.5	-0.5
GRAU				S	Sn	14 54 11.9	+1.0
FLYU	Flymyra	2.26	283	eP	Pn	14 53 49.8	+0.9
NYNU	Nynaeshamn	2.30	254	eP	Pn	14 53 50.6	+1.1
FIA0	FINESS Array S	2.56	45	Pn	Pn	14 53 54.4	+1.3
	baz=234,slow=14						
FIA0				Sn	Sn	14 54 28.4	+3.0
	baz=219,slow=28						
FIA0	FINESS Array S	2.56	45	eP	Pn	14 53 53.6	+0.5
FIA0				eS	Sn	14 54 25.4	0.0
FIA0	FINESS Array S	2.56	45	P	Pn	14 53 53.5	+0.4
FIA0	FINESS Array S	2.56	45	Pn	Pn	14 53 54.4	+1.3
	SNR=8.6						
FIA0				S	Sn	14 54 25.3	-0.1
FINES	FINESS Array B	2.56	45	Pn	Pn	14 53 55.2	+2.0
	0.7nm,0.3s,baz=229,slow=13,SNR=33						
FINES				Sn	Sn	14 54 28.9	+3.5
	4.5nm,0.3s,baz=226,slow=23,SNR=9.9						
VSU	Vasula	2.61	117	eP	Pn	14 53 53.3	-0.6
VSU				eS	Sn	14 54 25.7	-1.1
VSU	Vasula	2.61	117	Pn	Pn	14 53 53.1	-0.8
VSU				Sn	Sn	14 54 29.0	+2.2
VSU	Vasula	2.61	117	P	Pn	14 53 53.2	-0.7
VSU				S	Sn	14 54 25.6	-1.2
BACU	Backbrunna	2.62	276	eP	Pn	14 53 56.5	+2.4
BACU	Backbrunna	2.62	276	P	Pn	14 53 56.4	+2.3
OSTU	Oestervaala	2.65	284	eP	Pn	14 53 55.1	+0.7
VJF	Virojoki	2.77	70	eP	Pn	14 53 56.7	+0.6
VJF				eS	Sn	14 54 28.7	-2.0
VJF	Virojoki	2.77	70	P	Pn	14 53 56.6	+0.5
VJF				S	Sn	14 54 28.7	-2.0
KEF	Keuruu	2.77	26	eP	Pn	14 53 57.6	+1.4
KEF				eS	Sn	14 54 31.1	+0.2
KEF	Keuruu	2.77	26	P	Pn	14 53 57.5	+1.3
KEF				S	Sn	14 54 31.0	+0.1
KAF	Kangasniemi	3.11	37	eP	Pn	14 54 01.6	+0.5
KAF				eS	Sn	14 54 40.1	+0.6
KAF				eSB	Sb	14 54 45.8	+1.3
KAF				MSG		14 54 46.7	
	comp=Z,1.8nm,0.3s						
KAF	Kangasniemi	3.11	37	P	Pn	14 54 01.5	+0.5
KAF				S	Sn	14 54 40.0	+0.5
FALU	Falun	3.33	287	eP	Pn	14 54 04.7	+0.6
VAF	Ylistaro	3.35	3	eP	Pn	14 54 05.6	+1.1
VAF				eSB	Sb	14 54 52.1	+0.6
VAF	Ylistaro	3.35	3	P	Pn	14 54 05.5	+1.0
HFS	Hagfors	4.35	279	Pn	Pn	14 54 18.9	+0.2
	baz=86,slow=10						
HFS				Sn	Sn	14 55 10.2	-0.6
	baz=108,slow=22						
HFS				Lg		14 55 27.0	
	baz=96,slow=37						
HFS	Hagfors	4.35	279	eP	Pn	14 54 18.9	+0.2
HFS				eS	Sn	14 55 10.2	-0.6
HFS				eSG	Sg	14 55 27.0	-7.5
HFS	Hagfors	4.35	279	P	Pn	14 54 18.8	+0.2
HFS				S	Sn	14 55 10.1	-0.7
HFS				Sg	Sg	14 55 27.0	-7.5
KJN	Kajaani	5.09	28	eP	Pn	14 54 29.5	+0.4
KJN				eS	Sn	14 55 28.1	-1.4
KJN				eSG	Sg	14 55 48.5	-11
KJN	Kajaani	5.09	28	P	Pn	14 54 29.5	+0.4
KJN				S	Sn	14 55 28.0	-1.5
JOF	Joensuu	5.41	50	eP	Pn	14 54 33.4	-0.3
JOF				eS	Sn	14 55 35.4	-2.2
JOF	Joensuu	5.41	50	P	Pn	14 54 33.3	-0.3
JOF				S	Sn	14 55 35.3	-2.3
NOA	NORSAR Array B	5.66	288	Pn	Pn	14 54 35.3	-1.8
	comp=Z,0.4nm,0.3s,baz=91,slow=14,SNR=2.6						
NOA				Sn	Sn	14 55 41.0	-2.7
	comp=Z,0.3nm,0.3s,baz=121,slow=22,SNR=2.4						
NOA				Lg		14 56 08.6	
	comp=Z,0.5nm,0.3s,baz=131,slow=18,SNR=2.9						
MOR8	Moi Rana	7.41	335	eP	Pn	14 55 01.4	-0.3
ODD1	Odda	7.90	278	eP	Pn	14 55 06.5	-2.1
APA0	Apatity Array	9.23	26	Pn	P	14 55 26.1	-1.0
	baz=200,slow=14						
APA0	Apatity Array	9.23	26	eP	P	14 55 26.1	-1.0
KTK1	Kautokeino	9.36	2	eP	P	14 55 28.7	-0.2
ARA0	ARCESS Array S	9.97	7	Pn	P	14 55 33.5	-3.5
	baz=184,slow=14						
ARA0				Sn	Sn	14 57 23.6	-7.3
	baz=189,slow=28						
ARA0	ARCESS Array S	9.97	7	eP	P	14 55 33.5	-3.5
ARA0				eS	Sn	14 57 23.6	-7.3
ARA0	ARCESS Array S	9.97	7	Pn	P	14 55 33.5	-3.6
ARCES	ARCESS Array B	9.97	7	Pn	P	14 55 34.1	-3.0
	comp=Z,0.3nm,0.3s,baz=184,slow=13,SNR=20						
ARCES				Sn	Sn	14 57 24.9	-6.0
	comp=Z,0.2nm,0.3s,baz=186,slow=22,SNR=3.3						

*CSEM **09** 14:56:18.6±0.1, 59.65N×22.38E, h2^{km}, ML2.6, Error ellipse: s-maj=3.2km s-min=1.6km az=139.0, Mining explosion.*
*IDC **09** 14:56:19.5±2.5, 59.59N×22.33E, mb1 3.3/3, mb1mx3.1/17, mbtmp3.1/3, ML3.2/3, Error ellipse: s-maj=29.4km s-min=10.5km az=168.0*
*HEL **09** 14:56:19.7±0.2, 59.61N×22.31E, ML1.7, ML2.6(UPP), ML2.5(NAO), Explosion*
*NAO **09** 14:56:20.7±1.8, 59.76N×22.29E, ML2.5*
*UPP **09** 14:56:21.6, 59.66N×21.98E, h0^{km}, ML2.6, Mining explosion.*
*BER **09** 14:56:22.7±4.5, 59.53N×22.17E, MD3.9, ML2.5(NAO)*

*NEIC **09** 14:56:22.6, 59.81N×22.30E, h0km, ML2.6(UPP), ML2.5(NAO), After BER.*

ISC 09 14:56:18.6±0.4**, 59.72N**±0.04×**22.29E**±0.05**, n56,** σ**1.23**/84**, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAL	**Aland**	**1.24**	**293**	eP	**Pb**	**14 56 42.5**	**-0.2**
AAL				eS	**Sb**	**14 56 59.5**	**+0.4**
NRTU	**Norrtaelje**	**1.86**	**270**	eP	**Pn**	**14 56 52.5**	**+0.5**
NRTU	**Norrtaelje**	**1.86**	**270**	P	**Pn**	**14 56 52.4**	**+0.5**
PVF	**Pernaja**	**1.97**	**64**	eP	**Pn**	**14 56 54.4**	**+0.9**
PVF				eS	**Sn**	**14 57 19.1**	**-0.2**
PVF	**Pernaja**	**1.97**	**64**	P	**Pn**	**14 56 54.4**	**+0.9**
PVF				S	**Sn**	**14 57 19.0**	**-0.2**
GRAU	**Graesoe**	**1.98**	**290**	eP	**Pn**	**14 56 53.3**	**-0.4**
FLYU	**Flymyra**	**2.26**	**282**	eP	**Pn**	**14 56 58.7**	**+1.0**
FLYU	**Flymyra**	**2.26**	**282**	P	**Pn**	**14 56 58.6**	**+0.9**
NYNU	**Nynaeshamn**	**2.31**	**254**	eP	**Pn**	**14 56 59.1**	**+0.6**
NYNU	**Nynaeshamn**	**2.31**	**254**	P	**Pn**	**14 56 59.0**	**+0.6**
FIA0	**FINESS Array S**	**2.54**	**46**	eP	**Pn**	**14 57 03.9**	**+2.1**
FIA0				eS	**Sn**	**14 57 33.8**	**-0.1**
FIA0	**FINESS Array S**	**2.54**	**46**	Pn	**Pn**	**14 57 03.5**	**+1.7**
	baz=228,slow=14						
FIA0				S	**Sn**	**14 57 38.0**	**+4.1**
	baz=230,slow=28						
FIA0	**FINESS Array S**	**2.54**	**46**	P	**Pn**	**14 57 03.8**	**+2.0**
FIA0				S	**Sn**	**14 57 33.7**	**-0.2**
FINES	**FINESS Array B**	**2.54**	**46**	Pn	**Pn**	**14 57 03.5**	**+1.8**
	2.4nm,0.3s,baz=231,slow=13,SNR=20						
FINES				Sn	**Sn**	**14 57 38.1**	**+4.2**
	6.0nm,0.3s,baz=233,slow=24,SNR=19						
FINES	**FINESS Array B**	**2.54**	**46**	Pn	**Pn**	**14 57 03.5**	**+1.7**
VSU	**Vasula**	**2.62**	**117**	Pn	**Pn**	**14 57 03.5**	**+0.7**
VSU				Sn	**Sn**	**14 57 36.6**	**+0.8**
VSU	**Vasula**	**2.62**	**117**	eS	**Sn**	**14 57 26.3**	**-10**
BACU	**Backbrunna**	**2.62**	**275**	eP	**Pn**	**14 57 03.6**	**+0.7**
OSTU	**Oestervaala**	**2.64**	**283**	eP	**Pn**	**14 57 03.9**	**+0.7**
IGGU	**Iggoen**	**2.73**	**297**	eP	**Pn**	**14 57 05.3**	**+0.8**
IGGU	**Iggoen**	**2.73**	**297**	P	**Pn**	**14 57 05.2**	**+0.7**
KEF	**Keuruu**	**2.76**	**26**	eP	**Pn**	**14 57 07.9**	**+3.1**
KEF				eS	**Sn**	**14 57 41.5**	**+2.2**
VJF	**Virojoki**	**2.76**	**70**	eP	**Pn**	**14 57 03.2**	**-1.6**
VJF				eS	**Sn**	**14 57 37.2**	**-2.1**
VJF	**Virojoki**	**2.76**	**70**	P	**Pn**	**14 57 03.1**	**-1.7**
VJF				S	**Sn**	**14 57 37.1**	**-2.2**
GOTU	**Gotland**	**2.82**	**225**	eP	**Pn**	**14 57 05.2**	**-0.5**
ESKU	**Eskilstuna**	**3.05**	**263**	eP	**Pn**	**14 57 09.1**	**+0.1**
KAF	**Kangasniemi**	**3.10**	**38**	eP	**Pn**	**14 57 12.0**	**+2.3**
KAF				eS	**Sn**	**14 57 49.0**	**+1.0**
KAF				MSG		14 57 52.6	
	comp=Z,1.7nm,0.2s						
KAF	**Kangasniemi**	**3.10**	**38**	P	**Pn**	**14 57 11.9**	**+2.2**
KAF				S	**Sn**	**14 57 48.9**	**+1.0**
	comp=Z,1.7nm,0.2s						
ARNU	**Arnoeviken**	**3.12**	**311**	eP	**Pn**	**14 57 10.8**	**+0.8**
ARNU	**Arnoeviken**	**3.12**	**311**	P	**Pn**	**14 57 10.7**	**+0.7**
FALU	**Falun**	**3.33**	**286**	eP	**Pn**	**14 57 13.3**	**+0.4**
VAF	**Ylistaro**	**3.34**	**3**	eP	**Pn**	**14 57 16.0**	**+3.0**
VAF				eS	**Sn**	**14 57 59.2**	**+5.2**
HEMU	**Hemsoen**	**3.61**	**327**	eP	**Pn**	**14 57 18.3**	**+1.4**
ROTU	**Roteberg**	**3.62**	**301**	eP	**Pn**	**14 57 17.7**	**+0.6**
VSTU	**Vaestervik**	**3.65**	**238**	eP	**Pn**	**14 57 17.4**	**-0.1**
NRAU	**Nora**	**3.69**	**271**	eP	**Pn**	**14 57 17.3**	**-0.7**
HASU	**Hassela**	**3.69**	**314**	eP	**Pn**	**14 57 19.3**	**+1.2**
BYXU	**Byxelkrok**	**3.69**	**231**	eP	**Pn**	**14 57 17.6**	**-0.5**
HFS	**Hagfors**	**4.35**	**279**	Pn	**Pn**	**14 57 27.1**	**-0.3**
	baz=78,slow=11						
HFS				Sn	**Sn**	**14 58 17.1**	**-2.4**
	baz=92,slow=28						
HFS				Lg		14 58 35.8	
	baz=74,slow=37						
HFS	**Hagfors**	**4.35**	**279**	eP	**Pn**	**14 57 27.1**	**-0.3**
HFS				eS	**Sn**	**14 58 17.1**	**-2.4**
HFS				eSG	**Sg**	**14 58 35.8**	**-7.5**
HFS	**Hagfors**	**4.35**	**279**	P	**Pn**	**14 57 27.1**	**-0.3**
HFS				S	**Sn**	**14 58 17.1**	**-2.5**
HFS				Sg	**Sg**	**14 58 35.8**	**-7.5**
KJN	**Kajaani**	**5.07**	**28**	eP	**Pn**	**14 57 38.3**	**+0.6**
KJN				eS	**Sn**	**14 58 37.1**	**-0.7**
KJN	**Kajaani**	**5.07**	**28**	P	**Pn**	**14 57 38.2**	**+0.5**
KJN				S	**Sn**	**14 58 37.1**	**-0.8**
JOF	**Joensuu**	**5.40**	**50**	eP	**Pn**	**14 57 41.0**	**-1.3**
JOF				eS	**Sn**	**14 58 43.0**	**-3.1**
JOF	**Joensuu**	**5.40**	**50**	P	**Pn**	**14 57 40.9**	**-1.4**
JOF				S	**Sn**	**14 58 42.9**	**-3.2**
NOA	**NORSAR Array B**	**5.65**	**288**	Pn	**Pn**	**14 57 44.2**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=170,slow=8.1,SNR=3.1						
NOA				Sn	**Sn**	**14 58 48.6**	**-3.8**
	comp=Z,0.3nm,0.3s,baz=293,slow=17,SNR=2.2						
NOA				Lg		14 59 15.6	
	comp=Z,0.6nm,0.3s,baz=95,slow=5.8,SNR=3.3						
MOR8	**Moi Rana**	**7.39**	**334**	eP	**Pn**	**14 58 09.9**	**-0.5**
MOR8				eS	**Sn**	**14 59 34.3**	**-1.7**
ODD1	**Odda**	**7.90**	**278**	eP	**Pn**	**14 58 13.4**	**-4.1**
APA0	**Apatity Array**	**9.21**	**26**	Pn	**P**	**14 58 35.1**	**-0.6**
	baz=226,slow=14						
APA0	**Apatity Array**	**9.21**	**26**	eP	**P**	**14 58 35.1**	**-0.6**
KTK1	**Kautokeino**	**9.34**	**2**	eP	**P**	**14 58 36.4**	**-1.0**
ARA0	**ARCESS Array S**	**9.95**	**7**	Pn	**P**	**14 58 42.2**	**-3.4**
	baz=186,slow=14						
ARA0				Sn	**Sn**	**15 00 30.8**	**-8.5**
	baz=187,slow=28						
ARA0	**ARCESS Array S**	**9.95**	**7**	eP	**P**	**14 58 42.2**	**-3.4**
ARA0				eS	**Sn**	**15 00 30.8**	**-8.5**
ARCES	**ARCESS Array B**	**9.95**	**7**	Pn	**P**	**14 58 41.8**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=184,slow=13,SNR=18						
ARCES				Sn	**Sn**	**15 00 31.2**	**-8.0**
	comp=Z,0.2nm,0.3s,baz=189,slow=24,SNR=3.2						
SPA0	**Spitsbergen Ar**	**18.65**	**356**	P	**P**	**15 00 38.3**	**-1.0**
	baz=185,slow=8.6						
SPA0	**Spitsbergen Ar**	**18.65**	**356**	eP	**P**	**15 00 38.3**	**-1.0**

IDC 09 14:56:27.0±3.8**, 59.39N**×**22.51E, mb1 3.4**/3**, mb1mx3.2**/17**, mbtmp3.2**/3**, ML3.0**/3**, Error ellipse: s-maj=50.2km s-min=11.8km az=164.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.72**	**39**	Pn	Pn	14 57 12.7	0.0
	1.1nm,0.3s,baz=226,slow=14,SNR=5.7						
FINES				Sn	Sn	14 57 46.9	+0.2
	3.0nm,0.3s,baz=238,slow=25,SNR=6.9						
NOA	**NORSAR Array B**	**5.87**	**291**	Pn	Pn	14 57 53.2	-4.1
	0.2nm,0.3s,baz=92,slow=18,SNR=2.5						
NOA				Sn	Sn	14 58 58.5	-7.8
	0.3nm,0.3s,baz=226,slow=25,SNR=2.3						
ARCES	**ARCESS Array B**	**10.27**	**6**	Pn	P	14 58 51.9	-6.6
	0.3nm,0.3s,baz=186,slow=12,SNR=4.1						

IDC 09 14:56:37.1±2.4**, 59.44N**×**22.40E, mb1 3.1**/3**, mb1mx3.0**/18**, mbtmp2.9**/3**, ML2.8**/3**, Error ellipse: s-maj=28.1km s-min=11.2km az=162.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.71**	**41**	Pn	Pn	14 57 23.0	+0.3
	0.8nm,0.3s,baz=227,slow=14,SNR=4.2						
FINES				Sn	Sn	14 57 56.8	+0.1
	2.8nm,0.3s,baz=225,slow=28,SNR=5.6						
NOA	**NORSAR Array B**	**5.80**	**291**	Pn	Pn	14 58 02.4	-4.1
	0.2nm,0.3s,baz=108,slow=12,SNR=2.4						
NOA				Sn	Sn	14 59 07.3	-7.4
	0.5nm,0.3s,baz=190,slow=15,SNR=2.8						
ARCES	**ARCESS Array B**	**10.22**	**6**	Pn	P	14 59 01.2	-6.7
	0.2nm,0.3s,baz=190,slow=13,SNR=4.5						
ARCES				Sn	S	15 00 51.6	-13
	0.3nm,0.3s,baz=189,slow=23,SNR=3.6						

IDC 09 14:56:50.1±2.4**, 59.61N**×**22.33E, mb1 3.2**/3**, mb1mx3.1**/18**, mbtmp3.1**/3**, ML3.1**/3**, Error ellipse: s-maj=29.7km s-min=11.3km az=161.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**2.62**	**44**	Pn	Pn	14 57 34.3	0.0
	3.9nm,0.3s,baz=219,slow=13,SNR=17						
FINES				Sn	Sn	14 58 08.2	+1.0
	2.7nm,0.3s,baz=235,slow=23,SNR=4.4						
NOA	**NORSAR Array B**	**5.71**	**289**	Pn	Pn	14 58 13.6	-4.5
	0.2nm,0.3s,baz=101,slow=9.6,SNR=2.3						
NOA				Sn	Sn	14 59 18.7	-6.6
	0.8nm,0.3s,baz=45,slow=21,SNR=3.7						
ARCES	**ARCESS Array B**	**10.06**	**6**	Pn	P	14 59 13.1	-5.7
	0.2nm,0.3s,baz=188,slow=13,SNR=3.1						
ARCES				Sn	S	15 00 59.9	-14
	0.1nm,0.3s,baz=194,slow=22,SNR=2.3						

*IDC **09** 15:10:36.9±1.5, 5.11S×151.31E, h159km±12km, mb4.0/14, mb1 4.1/16, mb1mx4.1/20, mbtmp4.5/16, Error ellipse: s-maj=15.3km s-min=9.7km az=114.0*

*NEIC **09** 15:10:39.8±1.8, 5.13S×151.21E, h192km±16km, mb4.4/16, Error ellipse: s-maj=10.9km s-min=9.2km az=60.0*

ISC 09 15:10:39.3±1.9**, 5.17S**±0.08×**151.16E**±0.08**, h197**km±17km**, n55,** σ**0.79**/56**, mb4.4**/31**, 5C-1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**223**	P	**P**	**15 12 03.9**	**-0.6**
	37nm,0.3s,baz=46,slow=5.4,SNR=92						
PMG				S	**S**	**15 13 10.7**	**0.0**
	70nm,0.3s,baz=170,slow=23,SNR=18						
CTA	**Charters Tower**	**15.58**	**197**	eP	**P**	**15 14 12.6**	**+2.6**
	4.9nm,0.6s						
CTA	**Charters Tower**	**15.58**	**197**	P	**P**	**15 14 11.2**	**+1.2**
	0.3nm,0.3s,baz=18,slow=12,SNR=7.8						
KAKA	**Kakadu**	**19.94**	**247**	⇑iP	**P**	**15 14 57.8**	**-0.1**
	147nm,0.6s						
WRAB	**Tennant Creek**	**21.98**	**227**	P	**P**	**15 15 18.0**	**+0.1**
	390nm,0.5s						
WRAB	**Tennant Creek**	**21.98**	**227**	eP	**P**	**15 15 18.8**	**+0.9**
	45nm,0.4s,mb5.3						
WRA	**Warramunga Arr**	**21.99**	**227**	P	**P**	**15 15 19.0**	**+0.9**
	20nm,0.4s,mb5.0,baz=50,slow=10,SNR=213						
WRA				S	**S**	**15 19 12.4**	**+9.5**
	3.5nm,1.1s,baz=43,slow=18,SNR=4.2						
WRA				ScP		15 22 32.6	
	3.8nm,0.7s,baz=51,slow=2.6,SNR=16						
DZM	**Mont Dzumac**	**22.38**	**140**	eP	**P**	**15 15 21.6**	**-0.3**
DZM	**Mont Dzumac**	**22.38**	**140**	eP	**P**	**15 15 21.6**	**-0.3**
ASAR	**Alice Springs**	**24.79**	**220**	P	**P**	**15 15 45.2**	**+0.4**
	29nm,0.7s,mb5.0,baz=54,slow=8.9,SNR=778						
ASAR				S	**S**	**15 20 00.6**	**+10**
	0.8nm,0.8s,baz=55,slow=14,SNR=3.4						
ASAR				ScP		15 22 40.3	
	3.1nm,0.7s,baz=50,slow=2.6,SNR=16						
ASPA	**Alice Springs**	**24.80**	**220**	⇑iP	**P**	**15 15 45.2**	**+0.4**
STKA	**Stephens Creek**	**28.04**	**198**	P	**P**	**15 16 13.8**	**-0.6**
	1.7nm,0.6s,mb3.9,baz=28,slow=12,SNR=6.3						
FITZ	**Fitzroy Crossi**	**28.05**	**241**	⇑iP	**P**	**15 16 13.9**	**-0.8**
	22nm,0.4s,mb5.2						
FITZ				e	pP	15 16 56.7	+2.3
FORT	**Forrest**	**33.48**	**218**	⇑iP	**P**	**15 17 01.0**	**-0.9**
	771nm,0.6s						
MBWA	**Marble Bar**	**34.37**	**240**	eP	**P**	**15 17 08.8**	**-0.8**
	9.4nm,0.6s,mb4.5						
JOW	**Kunigami**	**38.77**	**326**	P	**P**	**15 17 46.5**	**0.0**
	6.0nm,0.6s,mb4.3,baz=163,slow=19,SNR=2.8						
URZ	**Urewera**	**40.51**	**148**	P	**P**	**15 18 00.4**	**-0.2**
	3.7nm,0.7s,mb4.0,baz=64,slow=3.0,SNR=7.2						
KLBR	**Kellerberrin**	**40.87**	**226**	⇑iP	**P**	**15 18 02.9**	**-0.7**
	85nm,0.4s,mb5.5						
NWAO	**Narrogin (SRO)**	**41.97**	**225**	P	**P**	**15 18 12.1**	**-0.6**
	5.2nm,0.6s,mb4.1,baz=77,slow=11,SNR=12						
MUN	**Mundaring**	**42.19**	**226**	⇓iP	**P**	**15 18 14.4**	**0.0**
	10nm,0.7s,mb4.4						
RPZ	**Rata Peaks**	**42.20**	**158**	P	**P**	**15 18 14.9**	**+0.5**
	8.5nm,0.6s,mb4.3,baz=30,slow=23,SNR=3.1						
ENH	**Enshi**	**53.23**	**314**	eP	**P**	**15 19 39.2**	**-0.5**
	10.0nm,1.1s,mb4.2						
NANT	**Nan**	**55.12**	**297**	P	**P**	**15 19 52.5**	**-1.0**
CM31	**Chiang Mai Arr**	**56.56**	**296**	eP	**P**	**15 20 04.6**	**+0.8**
	2.4nm,0.4s,mb4.2						
CMAR	**Chiang Mai Arr**	**56.56**	**296**	P	**P**	**15 20 04.8**	**+1.0**
	8.9nm,1.0s,mb4.3,baz=115,slow=5.6,SNR=29						
CMAR				PcP	PcP	15 21 00.9	+3.0
	0.4nm,0.4s,baz=127,slow=4.5,SNR=2.8						
CHG	**Chiang Mai**	**56.68**	**296**	P	**P**	**15 20 05.1**	**+0.4**
PPT	**Papeete**	**59.17**	**107**	eLR	LR	15 21 00.0	
	168nm,25.8s						
SONM	**Songino Array**	**65.78**	**329**	P	**P**	**15 21 05.0**	**-0.2**
	1.9nm,0.5s,mb4.0,baz=146,slow=5.0,SNR=18						
SONM				PcP	PcP	15 21 33.7	-1.0
	0.8nm,0.7s,baz=148,slow=2.7,SNR=3.0						
LSA	**Lhasa**	**67.11**	**305**	eP	**P**	**15 21 14.4**	**+0.4**
	5.3nm,0.8s,mb4.2						
JIRN	**Jiri**	**70.59**	**302**	eP	**P**	**15 21 35.4**	**+0.1**
	6.0nm,0.6s,mb4.4						
GUN	**Gumba**	**70.92**	**302**	eP	**P**	**15 21 37.1**	**-0.2**
	12nm,0.6s,mb4.7						
PKI	**Pulchoki**	**71.22**	**301**	eP	**P**	**15 21 38.7**	**-0.4**
	6.1nm,0.9s,mb4.2						
KKN	**Kakani**	**71.40**	**301**	eP	**P**	**15 21 39.5**	**-0.6**
	8.8nm,0.7s,mb4.5						
DMN	**Daman**	**71.49**	**301**	eP	**P**	**15 21 40.2**	**-0.5**
	6.2nm,0.4s,mb4.6						
GKN	**Gorkha**	**72.00**	**301**	eP	**P**	**15 21 43.4**	**-0.3**
	17nm,0.8s,mb4.7						
KOLN	**Koldanda**	**72.82**	**301**	eP	**P**	**15 21 47.4**	**-1.3**
	12nm,0.7s,mb4.7						
ULHL	**Ulahol**	**82.39**	**314**	P	**P**	**15 22 41.4**	**+0.7**
	SNR=5.3						
TKM2	**Tokmak 2**	**83.02**	**314**	P	**P**	**15 22 44.5**	**+0.5**
	SNR=8.2						
KZA	**Kyzart**	**83.07**	**313**	P	**P**	**15 22 45.8**	**+1.6**
	SNR=16						
ILAR	**Eielson Array**	**83.12**	**22**	P	**P**	**15 22 41.1**	**-2.9**
	0.4nm,0.5s,mb3.4,baz=266,slow=4.8,SNR=9.8						
UCH	**Uchtor**	**83.64**	**313**	P	**P**	**15 22 48.5**	**+1.4**
	SNR=7.1						
CHMS	**Chumysh**	**83.64**	**314**	P	**P**	**15 22 47.3**	**+0.2**
	SNR=5.7						
AAK	**Ala-Archa**	**83.74**	**314**	P	**P**	**15 22 48.1**	**+0.5**
	SNR=6.5						
AAK	**Ala-Archa**	**83.74**	**314**	eP	**P**	**15 22 47.0**	**-0.7**
	5.7nm,0.8s,mb4.3						
USP	**Ospenovka**	**83.88**	**314**	P	**P**	**15 22 48.6**	**+0.3**
	SNR=14						
AML	**Almayashu**	**84.21**	**313**	P	**P**	**15 22 50.9**	**+0.9**
	SNR=21						
EKS2	**Erkin-Say**	**84.26**	**314**	P	**P**	**15 22 51.1**	**+0.9**
	SNR=16						
CHKZ	**Chkalovo**	**88.55**	**324**	eP	**P**	**15 23 08.6**	**-2.0**
	68nm,1.2s,mb5.3						
INK	**Inuvik**	**89.39**	**21**	P	**P**	**15 23 14.0**	**-0.2**
	0.5nm,0.8s,mb3.4,baz=243,slow=4.5,SNR=3.5						
INK	**Inuvik**	**89.39**	**21**	P	**P**	**15 23 14.0**	**-0.2**
YBH	**Yreka Blue Hor**	**90.52**	**48**	P	**P**	**15 23 20.3**	**+0.1**
	0.8nm,0.6s,mb3.8,baz=128,slow=17,SNR=2.2						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	**P**	**15 23 34.7**	**+0.2**
	1.0nm,0.8s,mb3.9,baz=258,slow=4.6,SNR=5.5						
NVAR	**Mina Array Bea**	**93.60**	**52**	P	**P**	**15 23 34.7**	**+0.2**
NEW	**Newport**	**94.97**	**42**	P	**P**	**15 23 40.8**	**+0.3**
	1.0nm,0.5s,mb4.2,baz=259,slow=5.0,SNR=2.2						
GERES	**GERESS Array B**	**123.51**	**328**	PKP	PKPdf	15 29 14.3	+1.0
	0.7nm,0.5s,baz=90,slow=2.7,SNR=7.0						

*NEIC **09** 15:29:00.9, 46.30N×9.10E, ML2.6(LDG), ML2.5(STR), ML2.4(VIE), ML1.9(ZUR), After ZUR.*

*LDG **09** 15:29:00.9±0.2, 46.31N×9.08E, h20km, Ml2.6/9, Error ellipse: s-maj=4.4km s-min=3.6km az=105.0*

*CSEM **09** 15:29:01.4±0.1, 46.35N×9.04E, h25km, ML2.5/8, Error ellipse: s-maj=2.5km s-min=1.6km az=104.0*

*STR **09** 15:29:04.3±0.9, 46.28N×9.22E, h10km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ZUR 09 15:29:00.3, 46.30N×**9.11E, ML1.9**/9**, 8C, Suspected Mining explosion., Switzerland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VDL	**Val di Lei**	**0.31**	**52**	⇑iPg	Pg	15 29 08.3	+1.8
VDL				eSg	Sg	15 29 12.4	+1.7
FUSIO	**Fusio**	**0.35**	**297**	⇑iPg	Pg	15 29 09.2	+1.9
FUSIO				eSg	Sg	15 29 13.8	+1.8
MUGIO	**Muggio**	**0.38**	**188**	ePg	Pg	15 29 09.7	+1.9
VAI	**Varese**	**0.49**	**209**	ePg	Pg	15 29 12.5	+2.4
VAI				eSg	Sg	15 29 20.9	+4.2
VAI	**Varese**	**0.49**	**209**	ePg	Pg	15 29 12.5	+2.4
LLS	**Linth-Limmern**	**0.56**	**353**	⇑iPg	Pg	15 29 13.1	+1.7
LLS				eSg	Sg	15 29 20.2	+1.4
DAVOX	**Davos**	**0.72**	**47**	⇑iP*P		15 29 16.0	
DAVOX				eS*S		15 29 25.4	
BNALP	**Bannalp**	**0.75**	**321**	⇑iP*P		15 29 16.6	
BNALP				eS*S		15 29 26.4	
PLONS	**Plons**	**0.78**	**14**	⇑iP*P		15 29 17.2	
HASLI	**Hasliberg**	**0.81**	**305**	eP*P		15 29 17.7	
HASLI				eS*S		15 29 28.5	
MCGN	**Macugnaga**	**0.85**	**247**	ePg	Pg	15 29 18.7	+1.4
MCGN				eSg	Sg	15 29 30.1	+1.4
MCGN	**Macugnaga**	**0.85**	**247**	ePg	Pg	15 29 18.7	+1.4
MCGN				eSg	Sg	15 29 30.1	+1.4
FUORN	**Ofenpass**	**0.86**	**67**	eP*P		16 29 18.4	
ORO	**Oropa**	**1.03**	**230**	ePg	Pg	15 29 22.0	+1.0
ORO				eSg	Sg	15 29 35.8	+1.1
ORO	**Oropa**	**1.03**	**230**	ePg	Pg	15 29 22.0	+1.0
ORO				eSg	Sg	15 29 35.8	+1.0
DAVA	**Damuels**	**1.12**	**28**	⇑iPG	Pg	15 29 25.6	+2.9
DAVA				i SG	Sg	15 29 38.5	+0.8
	22nm,0.4s						
BBS	**Basel-Blauen**	**1.61**	**317**	P	Pn	15 29 33.7	+3.6
BBS				S	Sb	15 29 56.2	+4.9
SQTA	**Sankt Quirin**	**1.71**	**57**	⇑iPG	Pg	15 29 36.3	+1.8
SQTA				i SG	Sg	15 29 57.9	+0.6
	7.3nm,0.3s						
FELD	**Feldberg**	**1.75**	**335**	P	Pn	15 29 35.1	+2.9
FELD				S	Sn	15 29 59.9	+4.4
LPG	**La Plagne**	**1.83**	**245**	ePn	Pn	15 29 29.2	-4.1
LPG				eSg	Sg	15 29 58.7	-2.6
	2.4nm,0.3s						
LPL	**La Plagne**	**1.84**	**246**	ePn	Pn	15 29 29.2	-4.2
LPL				eSg	Sg	15 30 00.0	-1.4
	5.5nm,0.3s						
LOMF	**Lomont**	**1.89**	**305**	P	Pn	15 29 38.4	+4.2
LOMF				S	Sn	15 30 03.6	+4.6
CABF	**La Chapelle**	**2.12**	**280**	ePn	Pn	15 29 32.8	-4.6
CABF				ePg	Pg	15 29 40.3	-2.2
CABF				eSg	Sg	15 30 07.7	-3.0
	17nm,0.5s						
HINF	**Hinteralfeld**	**2.17**	**315**	ePn	Pn	15 29 33.3	-4.8
HINF				ePg	Pg	15 29 40.6	-3.0
HINF				eSn	Sn	15 29 57.4	-8.7
HINF				eSg	Sg	15 30 08.2	-4.3
	12nm,0.4s						
MBDF	**Montbardon**	**2.27**	**227**	ePn	Pn	15 29 35.5	-4.1
MBDF				ePg	Pg	15 29 44.0	-1.7
MBDF				eSg	Sg	15 30 13.3	-2.7
	2.5nm,0.3s						
ECH	**Echery**	**2.34**	**326**	P	Pn	15 29 42.7	+2.2
CDF	**Champ du Feu**	**2.46**	**330**	ePn	Pn	15 29 37.2	-5.1
CDF				ePg	Pg	15 29 45.6	-3.8
CDF				eSn	Sn	15 30 03.8	-10
CDF				eSg	Sg	15 30 16.3	-5.8
	11nm,0.4s						
HAU	**Haudompre**	**2.55**	**313**	ePn	Pn	15 29 38.4	-5.1
HAU				ePg	Pg	15 29 47.5	-3.6
HAU				eSn	Sn	15 30 05.8	-10
HAU				eSg	Sg	15 30 19.2	-5.9
	13nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.66**	**240**	ePn	Pn	15 29 40.5	-4.6
SSF	**Saint Saulge**	**3.94**	**283**	ePn	Pn	15 29 57.3	-6.0
SSF				eSg	Sg	15 31 05.1	-6.2
	2.2nm,0.5s						
AVF	**Avril sur Loir**	**4.01**	**279**	ePn	Pn	15 29 58.2	-6.1
TCF	**Toulx Ste Croi**	**4.79**	**272**	ePn	Pn	15 30 08.9	-6.5

IDC 09 15:48:55.1±13.0**, 13.26N**×**91.98E, mb3.6**/2**, mb1 3.7**/3**, mb1mx3.4**/16**, mbtmp3.4**/3**, ML3.2**/1**, Error ellipse: s-maj=272.0km s-min=50.3km az=110.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.46**	**51**	Pn	P	15 50 59.9	-2.0
	0.1nm,0.3s,baz=241,slow=14,SNR=4.1						
WRA	**Warramunga Arr**	**53.16**	**128**	P	P	15 58 14.7	-2.7
	0.4nm,0.4s,baz=309,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**55.02**	**132**	P	P	15 58 29.1	-2.0
	0.2nm,0.4s,baz=317,slow=7.0,SNR=8.4						

IDC 09 16:04:05.1±10.0**, 21.46S**×**178.78W, mb3.7**/3**, mb1 4.0**/3**, mb1mx3.7**/14**, mbtmp3.7**/3**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.8**/19**, Error ellipse: s-maj=338.4km s-min=89.2km az=138.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**23.75**	**199**	LR	LR	16 16 12.8	
	comp=Z,135nm,21.2s,baz=13,slow=31						
ASAR	**Alice Springs**	**43.60**	**258**	P	P	16 12 10.6	-2.5
	0.8nm,0.9s,baz=94,slow=6.8,SNR=12						
WRA	**Warramunga Arr**	**43.76**	**263**	P	P	16 12 13.3	-1.1
	0.7nm,0.8s,baz=97,slow=8.4,SNR=18						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	P	16 17 06.0	-1.3
	0.8nm,0.9s,baz=124,slow=3.3,SNR=5.9						

IDC 09 16:16:25.0±6.7**, 52.06S**×**136.63E, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.6**/9**, mbtmp3.5**/3**, Error ellipse: s-maj=159.4km s-min=106.4km az=98.0, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.49**	**12**	P	P	16 21 04.7	-2.4
	2.1nm,1.1s,baz=194,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**28.42**	**355**	P	P	16 22 21.1	-2.1
	0.5nm,0.6s,baz=169,slow=10.0,SNR=8.1						
WRA	**Warramunga Arr**	**32.10**	**356**	P	P	16 22 53.8	-2.2
	0.5nm,0.5s,baz=188,slow=8.3,SNR=8.5						
YKA	**Yellowknife Ar**	**142.08**	**46**	PKP	PKPdf	16 35 57.1	-2.4
	0.2nm,0.4s,baz=247,slow=3.6,SNR=5.4						

*IDC **09** 16:19:14.0±4.3, 27.80N×126.80E, h144km±68km, mb3.0/3, mb1 3.2/3, mb1mx3.0/19, mbtmp3.4/3, Error ellipse: s-maj=187.3km s-min=21.6km az=65.0*

*JMA **09** 16:19:15.2±0.2, 28.34N×127.67E, h149km, M3.6*

ISC 09 16:19:13.9±0.7**, 28.19N**±0.08×**127.8E**±0.1**, h176**km±7km**, n14,** σ**0.76**/24**, mb3.2**/3**, Northwest of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**1.07**	**112**	P	**P**	**16 19 42.2**	**+0.2**
JTK				S	**S**	**16 20 03.5**	**-0.3**
JIH	**Iheya**	**1.16**	**174**	P	**P**	**16 19 43.4**	**+0.6**
JIH				S	**S**	**16 20 04.5**	**-0.6**
JOW	**Kunigami**	**1.41**	**163**	P	**P**	**16 19 45.4**	**+0.3**
	117nm,0.3s,baz=339,slow=7.2,SNR=382						
JOW				S	**S**	**16 20 08.1**	**-1.1**
	52nm,0.3s,baz=129,slow=28,SNR=22						
JOW	**Kunigami**	**1.41**	**163**	P	**P**	**16 19 45.8**	**+0.7**
JOW				S	**S**	**16 20 08.1**	**-1.1**
JAM	**Amami Oshima**	**1.59**	**82**	P	**P**	**16 19 46.9**	**+0.1**
JAM				S	**S**	**16 20 10.6**	**-1.6**
JAGN	**Aguni-jima**	**1.68**	**198**	P	**P**	**16 19 47.9**	**+0.2**
JAGN				S	**S**	**16 20 13.0**	**-0.7**
JZK	**Kikaishima**	**1.90**	**86**	P	**P**	**16 19 51.4**	**+1.4**
JZK				S	**S**	**16 20 18.6**	**+0.8**
NAH1	**Naha**	**1.98**	**183**	P	**P**	**16 19 51.8**	**+0.9**
NAH1				S	**S**	**16 20 20.0**	**+0.6**
JJT2	**Tamagusuku 2**	**2.04**	**182**	P	**P**	**16 19 52.8**	**+1.2**
JKE	**Kume jima 2**	**2.07**	**207**	P	**P**	**16 19 51.8**	**-0.1**
JKE				S	**S**	**16 20 20.7**	**-0.5**
JNAR	**Kushima--Naru**	**4.47**	**41**	P	**P**	**16 20 21.7**	**0.0**
JNAR				eS	**S**	**16 21 13.8**	**-0.3**
SONM	**Songino Array**	**25.73**	**325**	P	**P**	**16 24 29.2**	**-0.3**
	0.6nm,0.7s,mb3.4,baz=136,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**48.26**	**172**	P	**P**	**16 27 37.7**	**-1.3**
	0.2nm,0.3s,mb3.2,baz=351,slow=8.3,SNR=9.0						
ASAR	**Alice Springs**	**51.89**	**173**	P	**P**	**16 28 06.6**	**+0.2**
	0.4nm,0.8s,mb3.1,baz=1.3,slow=14,SNR=11						

*IDC **09** 16:20:21.5±0.7, 16.71S×173.08W, mb4.3/13, mb1 4.5/14, mb1mx4.4/21, mbtmp4.3/14, ML4.5/1, Error ellipse: s-maj=40.6km s-min=15.9km az=133.0*

*NEIC **09** 16:20:23.6±0.6, 16.84S×173.06W, h15km, mb4.5/3, Error ellipse: s-maj=24.7km s-min=13.5km az=139.0*

ISC 09 16:20:21.8±0.5**, 16.8S**±0.1×**173.1W**±0.1**, h15**km**, n31,** σ**1.09**/20**, mb4.3**/16**, Tonga Islands**

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

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	3.14	24	eP	Pn	16 21 05.6	-6.2
RAR	Rarotonga	13.32	111	Pn	P	16 23 16.5	-16
	2.6nm,0.3s,baz=304,slow=12,SNR=3.6						
PPT	Papeete	22.46	95	eLQ		16 29 14.1	
PPT				eLR	LR	16 29 45.3	
	216nm,29.8s						
URZ	Urewera	23.05	200	P	P	16 25 28.1	+0.5
	13nm,0.6s,mb4.6,baz=23,slow=5.0,SNR=21						
TBI	Tubuai	23.10	110	eLR	LR	16 30 09.1	
	234nm,31.2s						
RPZ	Rata Peaks	30.01	203	P	P	16 26 33.9	+1.7
	10nm,0.7s,mb4.7,baz=313,slow=21,SNR=3.3						
CTAO	Charters Tower	38.66	259	P	P	16 27 46.0	-0.7
	8.6nm,1.0s,mb4.4						
STKA	Stephens Creek	43.62	241	P	P	16 28 27.8	+0.3
	3.0nm,0.8s,mb4.1,baz=74,slow=9.7,SNR=4.1						
STKA	Stephens Creek	43.62	241	eP	P	16 28 27.0	-0.5
WRAB	Tennant Creek	49.83	258	eP	P	16 29 15.9	-0.7
	4.5nm,0.8s,mb4.5						
WRA	Warramunga Arr	49.84	258	P	P	16 29 16.2	-0.4
	2.3nm,0.6s,mb4.4,baz=95,slow=7.1,SNR=38						
ASAR	Alice Springs	49.99	253	P	P	16 29 17.4	-0.4
	8.2nm,0.8s,mb4.8,baz=89,slow=8.5,SNR=95						
ASPA	Alice Springs	49.99	253	eP	P	16 29 17.2	-0.5
YBH	Yreka Blue Hor	74.53	37	P	P	16 32 02.9	+1.1
	2.6nm,1.1s,mb4.1,baz=352,slow=4.2,SNR=2.9						
NVAR	Mina Array Bea	75.16	42	P	P	16 32 05.5	-0.1
	0.2nm,0.4s,mb3.4,baz=233,slow=9.0,SNR=2.6						
TXAR	Lajitas Array	81.14	56	P	P	16 32 37.8	-0.6
	0.3nm,0.4s,mb3.5,baz=190,slow=7.6,SNR=4.8						
PDAR	Pinedale Array	83.10	42	P	P	16 32 47.2	-1.2
	0.9nm,0.9s,mb3.8,baz=243,slow=3.3,SNR=5.2						
ILAR	Eielson Array	83.76	11	P	P	16 32 50.7	-0.5
	10nm,1.5s,mb4.7,baz=221,slow=5.6,SNR=7.6						
ENH	Enshi	87.93	302	eP	P	16 33 15.0	+2.3
	3.1nm,0.7s,mb4.7						
PLCA	Paso Flores	88.34	132	P	P	16 33 12.8	-1.6
	2.7nm,1.1s,mb4.4,baz=239,slow=5.2,SNR=2.2						
YKA	Yellowknife Ar	91.26	23	P	P	16 33 29.4	+1.9
	0.9nm,1.1s,mb4.0,baz=233,slow=4.3,SNR=7.7						
CMAR	Chiang Mai Arr	93.35	288	P	P	16 33 42.1	+4.0
	1.1nm,0.8s,mb4.3,baz=100,slow=2.6,SNR=7.8						
MALT	Malatya	145.07	314	ePKPdf	PKPdf	16 40 02.3	-0.3
KMBO	Kilima Mbogo	145.18	242	PKPbc	PKPbc	16 40 03.5	+3.2
	6.3nm,1.0s,baz=56,slow=2.7,SNR=18						
KMBO	Kilima Mbogo	145.18	242	ePKPdf	PKPdf	16 40 03.2	-0.3
UPC	Upice	145.60	350	ePKP	PKPdf	16 40 03.6	+0.5
DPC	Dobruska-Polom	145.69	349	ePKP	PKPdf	16 40 03.0	-0.2
PVCC	Panska Ves	145.80	351	ePKP	PKPdf	16 40 06.3	+2.9
PRU	Pruhonice	146.34	351	ePKP	PKPdf	16 40 07.6	+3.3
KHC	Kasperske Hory	147.31	352	ePKP	PKPdf	16 40 08.7	+2.7
KHC				epPKP		16 40 16.5	
GERES	GERESS Array B	147.57	352	PKPbc	PKPdf	16 40 07.8	+1.4
	0.3nm,0.5s,slow=2.0,SNR=5.1						

*NEIC **09** 16:47:25.7±0.6, 26.93S×26.99E, h5km, mb4.4/5, Error ellipse: s-maj=19.7km s-min=11.2km az=119.0*
*IDC **09** 16:47:26.7±0.8, 26.83S×26.66E, mb4.2/9, mb1 4.3/13, mb1mx4.1/23, mbtmp4.3/13, ML4.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.1/20, Error ellipse: s-maj=25.5km s-min=13.7km az=77.0*
*PRE **09** 16:47:27.6±1.4, 26.89S×26.80E, h2km, ML4.5*
ISC 09 16:47:25.6±0.4**, 26.82S**±0.04×**26.64E**±0.05**, h10km, n34, σ1s44**/35**, mb4.3**/15**, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PRYS	Parys	0.65	99	eP	Pb	16 47 37.3	-1.3
PRYS				eS	Sg	16 47 42.9	-4.5
PRYS				e		16 47 44.1	
	comp=Z,12μm,0.2s						
SEK	Senekal	1.73	150	eP	Pn	16 47 57.3	+1.2
SEK				eS	Sn	16 48 17.7	-0.7
SEK				e		16 48 21.2	
	comp=Z,6μm,0.4s						
SLR	Silverton	1.83	54	eP	Pn	16 47 59.8	+2.4
SLR				eS	Sn	16 48 21.4	+0.7
SLR				e		16 48 24.9	
	comp=Z,16μm,0.3s						
LBTB	Lobatse	2.03	332	Pn	Pn	16 48 04.2	+4.0
	comp=Z,171nm,0.3s,baz=160,slow=17,SNR=735						
LBTB				Lg		16 48 31.7	
	comp=Z,1μm,0.3s,baz=67,slow=18,SNR=65						
LBTB				Rg		16 48 40.3	
	comp=Z,1μm,0.6s,baz=250,slow=14,SNR=23						
LBTB	Lobatse	2.03	332	eP	Pn	16 48 04.1	+3.8
BOSA	Boshof	2.17	214	eP	Pn	16 48 04.1	+1.9
MATP	Matopo	6.59	15	Pn	Pn	16 49 04.8	-0.1
	comp=Z,3.7nm,0.3s,baz=191,slow=13,SNR=45						
MATP				Sn	Sn	16 50 19.9	-1.0
	comp=Z,8.6nm,0.3s,baz=133,slow=11,SNR=5.1						
MATP				Lg		16 50 47.8	
	comp=Z,24nm,0.3s,baz=97,slow=20,SNR=9.8						
SUR	Sutherland	7.51	221	Pn	Pn	16 49 17.4	-0.5
	comp=Z,405nm,0.4s,SNR=50						
SUR	Sutherland	7.51	221	Pn	Pn	16 49 17.5	-0.4
	comp=Z,12nm,0.3s,baz=54,slow=15,SNR=70						
SUR				Sn	Sn	16 50 41.3	-2.6
	comp=Z,16nm,0.3s,baz=171,slow=22,SNR=4.4						
SUR				Lg		16 51 16.3	
	comp=Z,16nm,0.3s,baz=330,slow=22,SNR=12						
SUR	Sutherland	7.51	221	eP	Pn	16 49 17.2	-0.7
	comp=Z,31nm,0.4s						
CVNA	Calvinia	7.60	231	eP	Pn	16 49 17.2	-1.9
TSUM	Tsumeb	11.27	310	Pn	P	16 50 08.7	-1.1
	comp=Z,3.1nm,0.3s,baz=135,slow=11,SNR=21						
TSUM				Sn	S	16 52 09.7	-7.2
	comp=Z,1.9nm,0.3s,baz=262,slow=21,SNR=3.0						
TSUM				Lg		16 53 16.5	
	comp=Z,4.8nm,0.3s,baz=46,slow=21,SNR=5.8						
TSUM				LR	LR	16 54 35.3	
	comp=Z,136nm,18.2s,baz=318,slow=38						
TSUM	Tsumeb	11.27	310	eP	P	16 50 08.8	-1.0
	comp=Z,7.9nm,0.4s						
LSZ	Lusaka	11.58	7	eP	P	16 50 11.3	-2.7
	comp=Z,7.8nm,0.6s						
DBIC	Dimbokro	45.16	313	P	P	16 55 45.5	+0.9
	comp=Z,4.8nm,1.0s,mb4.3,baz=126,slow=9.6,SNR=4.7						
SNAA	Sanae	47.79	192	P	P	16 56 05.0	+0.4
	comp=Z,2.4nm,0.9s,mb4.2,baz=97,slow=23,SNR=8.8						
BDFB	Brasilia	69.63	262	P	P	16 58 38.5	+1.0
	comp=Z,4.8nm,0.9s,mb4.4,baz=249,slow=3.1,SNR=4.5						
ESDC	Sonseca Array	72.04	336	P	P	16 58 51.8	+0.1
	comp=Z,1.0nm,0.4s,mb4.1,baz=156,slow=6.4,SNR=5.9						
GERES	GERESS Array B	76.20	351	P	P	16 59 16.8	+1.1
	comp=Z,0.6nm,0.7s,mb3.6,baz=211,slow=7.8,SNR=3.7						
KOLN	Koldanda	77.07	50	eP	P	16 59 20.8	-0.1
	comp=Z,9.4nm,1.0s,mb4.7						
AKASG	Malin Array Be	77.21	2	P	P	16 59 21.4	+0.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=182,slow=4.8,SNR=9.0						
GKN	Gorkha	77.93	50	eP	P	16 59 25.0	-0.6
	comp=Z,17nm,1.3s,mb4.8						
DMN	Daman	78.00	51	eP	P	16 59 22.7	-3.4
	comp=Z,3.5nm,0.5s,mb4.6						
PKI	Pulchoki	78.19	51	eP	P	16 59 24.0	-3.1
	comp=Z,3.1nm,0.6s,mb4.4						
KKN	Kakani	78.23	51	eP	P	16 59 25.0	-2.3
	comp=Z,3.0nm,0.5s,mb4.5						
JIRN	Jiri	78.78	51	eP	P	16 59 30.8	+0.4
	comp=Z,2.0nm,0.4s,mb4.4						
LPAZ	La Paz	86.92	253	P	P	17 00 14.2	+1.6
	comp=Z,1.9nm,0.8s,mb4.4,baz=122,slow=4.4,SNR=7.8						
FINES	FINESS Array B	87.95	360	P	P	17 00 18.5	+2.1
	comp=Z,1.9nm,0.9s,mb4.3,baz=135,slow=8.1,SNR=4.6						
ASAR	Alice Springs	93.67	119	P	P	17 00 45.7	+1.7
	comp=Z,0.2nm,0.5s,mb3.8,baz=228,slow=4.7,SNR=15						
ALLY	Alegheny Colle	119.37	305	ePKPdf	PKPdf	17 06 16.4	-1.9
YKA	Yellowknife Ar	136.14	335	PKP	PKPdf	17 06 49.2	-0.5
	comp=Z,0.2nm,0.6s,baz=32,slow=1.9,SNR=5.1						
ILAR	Eielson Array	141.81	356	PKhKP		17 06 52.7	
	comp=Z,0.6nm,0.7s,baz=338,slow=3.7,SNR=10						
BMO	Blue Mountains	146.03	311	ePKPbc	PKPbc	17 07 08.6	+2.8
NVAR	Mina Array Bea	148.47	300	PKPbc	PKPdf	17 07 17.6	+5.6
	comp=Z,2.2nm,0.6s,baz=64,slow=5.5,SNR=18						

IDC 09 17:17:05.4±1.1**, 3.96N×127.26E, mb3.5**/5**, mb1 3.7**/5**, mb1mx3.6**/16**, mbtmp3.5**/5**, Error ellipse: s-maj=126.7km s-min=19.0km az=69.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.75	164	P	P	17 22 28.1	-2.1
	0.6nm,0.3s,baz=343,slow=10,SNR=16						
ASAR	Alice Springs	28.21	167	P	P	17 23 00.9	-1.3
	0.2nm,0.8s,baz=346,slow=7.4,SNR=6.4						
ASAR				PcP	PcP	17 26 13.4	-2.8
	0.3nm,0.6s,baz=357,slow=2.2,SNR=3.9						
STKA	Stephens Creek	38.16	160	P	P	17 24 26.8	-1.6
	1.5nm,0.8s,baz=336,slow=10.0,SNR=2.6						
SONM	Songino Array	47.25	341	P	P	17 25 39.9	-2.3
	0.7nm,0.6s,baz=153,slow=8.1,SNR=8.0						
BVAR	Borovoye Array	67.42	327	P	P	17 28 03.2	-1.6
	0.3nm,0.5s,baz=117,slow=6.4,SNR=3.3						

IDC 09 17:38:20.3±10.0**, 5.28S×153.83E, h129km**±64km**, mb3.3**/3**, mb1 3.5**/4**, mb1mx3.3**/13**, mbtmp3.7**/4**, Error ellipse: s-maj=102.2km s-min=73.4km az=177.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	7.79	238	P	P	17 40 11.1	-1.0
	1.5nm,0.3s,baz=36,slow=7.4,SNR=8.1						
PMG				S	S	17 41 38.1	-1.0
	4.4nm,0.3s,baz=160,slow=19,SNR=8.3						
WRA	Warramunga Arr	23.92	231	P	P	17 43 22.7	-0.8
	0.5nm,0.4s,baz=55,slow=9.9,SNR=12						
ASAR	Alice Springs	26.51	224	P	P	17 43 46.1	-1.7
	0.3nm,0.4s,baz=58,slow=9.2,SNR=15						
STKA	Stephens Creek	28.84	202	P	P	17 44 06.1	-2.6
	2.7nm,1.0s,baz=21,slow=12,SNR=4.5						

IDC 09 17:55:34.8±1.5**, 5.05N×82.38W, mb3.5**/3**, mb1 3.9**/5**, mb1mx3.6**/21**, mbtmp3.7**/5**, ML2.2**/1**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.0**/21**, Error ellipse: s-maj=61.8km s-min=23.2km az=50.0, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTS	JuntasAbangare	5.80	334	Pn	Pn	17 57 00.8	-3.3
	4.7nm,0.3s,baz=305,slow=20,SNR=23						
JTS				Sn	Sn	17 58 05.4	-6.9
	4.6nm,0.3s,baz=282,slow=21,SNR=12						
JTS				LR	LR	17 59 17.2	
	comp=Z,83nm,18.4s,baz=176,slow=38						
ROSC	El Rosal	8.02	91	Pn	P	17 57 33.4	-2.1
	0.6nm,0.3s,baz=270,slow=20,SNR=2.4						
LPAZ	La Paz	25.46	147	P	P	18 01 05.2	-1.1
	1.1nm,0.6s,baz=329,slow=9.1,SNR=5.2						
NVAR	Mina Array Bea	46.55	321	P	P	18 04 05.0	-1.2
	0.8nm,0.8s,baz=141,slow=9.5,SNR=4.3						
YKA	Yellowknife Ar	62.05	344	P	P	18 05 57.0	-2.3
	0.1nm,0.4s,baz=142,slow=6.5,SNR=2.9						

*NEIC **09** 17:58:43.3, 53.35N×163.55W, h23km, mb4.1/1, ML3.6(AEIC), After AEIC.*
*IDC **09** 17:58:47.7±3.4, 53.69N×163.64W, h48km±32km, mb3.6/12, mb1 3.7/14, mb1mx3.6/24, mbtmp3.8/14, ML3.6/2, Error ellipse: s-maj=38.9km s-min=17.4km az=179.0*
ISC 09 17:58:42.1±1.5**, 53.36N**±0.05×**163.55W**±0.06**, h29km**±12km**, n37, σ0s90**/43**, mb3.9**/12**, Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WESS	West Dahl Sout	1.32	329	P	Pn	17 59 04.8	0.0
WESS				S	Sn	17 59 21.2	-0.4
WESN	West Dahl Nort	1.36	334	P	Pn	17 59 05.5	+0.1
SSLS	Shishaldin Sou	1.38	349	P	Pn	17 59 05.8	+0.1
SSLS				S	Sn	17 59 23.7	+0.6
WFAR	Faris Peak	1.38	329	P	Pn	17 59 05.7	-0.1
SSLW	Shishaldin Wes	1.45	347	P	Pn	17 59 06.7	-0.1
SSLW				S	Sn	17 59 25.8	+0.8
FALS	False Pass	1.50	3	P	Pn	17 59 07.3	-0.2
FALS				S	Sn	17 59 26.2	0.0
AKUT	Akutan	1.53	301	P	Pn	17 59 07.8	-0.1
AKUT				S	Sn	17 59 26.6	-0.4
AHB	Akutan Harbor	1.54	300	P	Pn	17 59 08.2	+0.1
WTUG	Tugumak	1.57	342	P	Pn	17 59 08.7	+0.2
DRIA	Deer Island	1.78	25	P	Pn	17 59 11.1	-0.3
UNV	Unalaska Valle	1.83	287	P	Pn	17 59 11.6	-0.5
BALA	Baldy Mountain	1.89	13	P	Pn	17 59 14.2	+1.2
DTNA	Dutton South F	1.94	22	P	Pn	17 59 13.7	-0.1
MTBL	Makushin Table	1.96	289	P	Pn	17 59 13.4	-0.6
MSW	Makushin Switc	2.00	287	P	Pn	17 59 14.5	-0.2
HAG	Hague Volcano	2.18	25	P	Pn	17 59 17.8	+0.6
BLHA	Black Hill	2.50	20	P	Pn	17 59 22.1	+0.4
OKFG	Magazine Ridge	2.62	273	P	Pn	17 59 22.9	-0.5
SDPT	Sand Point	2.68	41	P	Pn	17 59 24.5	+0.2
NIKO	Nikolski	3.22	265	P	Pn	17 59 31.8	-0.2
FX1	Attu Island--F	13.98	277	P	P	18 02 01.6	+1.4
	1.1nm,0.3s,baz=40,slow=7.9,SNR=8.3						
FX1				S	S	18 04 37.6	+2.3
	0.8nm,0.3s,baz=256,slow=22,SNR=3.0						
ILAR	Eielson Array	14.23	30	P	P	18 02 01.3	-2.0
	0.1nm,0.3s,baz=219,slow=13,SNR=4.6						
INK	Inuvik	20.60	32	P	P	18 03 19.7	-1.4
	1.8nm,0.8s,baz=249,slow=7.9,SNR=3.3						
BBB	Bella Bella	21.34	79	P	P	18 03 30.1	+1.4
	11nm,0.8s,mb4.3,baz=201,slow=3.9,SNR=3.2						
YKA	Yellowknife Ar	26.91	51	P	P	18 04 22.3	+0.3
	0.4nm,0.8s,mb3.0,baz=269,slow=8.2,SNR=4.6						
NVAR	Mina Array Bea	34.22	97	P	P	18 05 29.2	+2.2
	0.4nm,0.6s,mb3.5,baz=311,slow=9.6,SNR=3.0						
PV10	Paradox Valley	39.79	90	P	P	18 06 13.0	-1.0
SCHQ	Schefferville	52.24	47	P	P	18 07 53.5	+1.3
	1.7nm,0.8s,mb4.0,baz=337,slow=13,SNR=1.9						
ULN	Ulaanbaatar	53.41	303	eP	P	18 07 59.7	-1.3
	1.6nm,0.6s,mb4.1						
SONM	Songino Array	53.77	303	P	P	18 08 03.2	-0.4
	1.1nm,0.8s,mb3.9,baz=40,slow=6.9,SNR=11						
ARCES	ARCESS Array B	57.24	356	P	P	18 08 27.5	-0.9
	5.0nm,1.0s,mb4.5,baz=5.7,slow=9.1,SNR=3.2						
FINES	FINESS Array B	65.29	355	P	P	18 09 20.7	-2.0
	1.2nm,0.8s,mb4.0,baz=18,slow=6.0,SNR=3.7						
FINES	FINESS Array B	65.29	355	P	P	18 09 20.7	-2.0
HFS	Hagfors	66.83	2	P	P	18 09 31.5	-1.0
	3.8nm,0.9s,mb4.4,baz=342,slow=4.6,SNR=3.6						
AKASG	Malin Array Be	75.75	352	P	P	18 10 25.1	-1.1
	0.2nm,0.3s,mb3.5,baz=9.4,slow=5.8,SNR=4.1						
GERES	GERESS Array B	78.14	2	P	P	18 10 40.4	+1.0
	0.7nm,0.8s,mb3.6,baz=323,slow=4.9,SNR=3.4						
CMAR	Chiang Mai Arr	79.77	287	P	P	18 10 49.7	+0.8
	0.3nm,0.5s,mb3.5,baz=11,slow=4.6,SNR=3.3						

IGQ 09 17:59:08.3, 3.08S×79.81W, h25km±15km**, mb4.1, 3D, Error ellipse: s-maj=15.9km s-min=2.8km az=101.3, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARRY	Arrayan	2.07	41	⇓P	Pn	17 59 43.6	+1.4
ARRY				S	Sn	18 00 09.5	+2.2
RETU	Refugio	2.12	40	P	Pn	17 59 44.8	+2.0
JUIV	Juive	2.12	39	P	Pn	17 59 44.7	+1.8
ULBA	Ulba	2.14	41	⇓P	Pn	17 59 45.2	+2.0
HOJA	Cerro de Hojas	2.14	340	P	Pn	17 59 44.5	+1.3
HOJA				S	Sn	18 00 09.7	+0.5
PISA	Pisayambo	2.46	35	⇓P	Pn	17 59 49.7	+2.0
NAS1	Nasa	2.77	29	P	Pn	17 59 54.4	+2.3
TAMB	Tambo	2.77	31	P	Pn	17 59 54.5	+2.4
VC1	Cotopaxi 1	2.80	30	P	Pn	17 59 54.6	+2.1
ANTI	Antisana	3.09	32	P	Pn	17 59 58.1	+1.4
TERV	Terraza Guagua	3.13	23	P	Pn	18 00 00.1	+2.9
PINO	Pino	3.14	23	P	Pn	17 59 59.6	+2.2
YANA	Yana	3.19	23	P	Pn	18 00 00.1	+2.0
ECEN	Cerro Negro	4.29	25	P	Pn	18 00 15.3	+1.6

MAN 09 18:00:07.2, 12.70N×123.27E, h15km, mb4.1, ML2.9, MS2.6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.49	135	eP	Pb	18 00 17.5	+0.6
AUQP	San Andres	0.84	317	eP	Pb	18 00 23.6	+0.6
AUQP				eS	Sb	18 00 35.8	+1.9
PVCP	Virac	1.24	44	eP	Pb	18 00 29.4	-0.3
PVCP				eS	Sb	18 00 46.7	+1.4
RCP	Roxas	1.25	204	⇑eP	Pb	18 00 29.0	-0.9
GQP	Guinayangan	1.44	326	⇑eP	Pn	18 00 32.2	-0.7
GQP				i S	Sb	18 00 51.6	+0.5
BOAC	Boac	1.58	299	eP	Pn	18 00 33.9	-1.0

*BJI **09** 18:23:38.5, 35.20N×5.60E, h10km, mB5.4, mb4.9, Ms5.4, Msz4.9*
*SFS **09** 18:23:40.0, 35.12N×6.03E, h29km*
*MDD **09** 18:23:41.6±1.0, 35.35N×5.73E, mb5.1/29, mbLg4.3/1, Error ellipse: s-maj=11.2km s-min=4.3km az=158.0, PRXIMO V BOUMAGUEUR SEFIANE DATOS DE INTENSIDAD: CRAAG*
MDD EMS: V GAOUS SLIMANE LEMCENE.
*CSEM **09** 18:23:41.3±0.1, 35.32N×5.70E, h12km, mb4.8/19, ML4.2/34, Ms3.9, Error ellipse: s-maj=1.9km s-min=1.1km az=2.0*
*NEIC **09** 18:23:42.5±0.3, 35.22N×5.62E, h10km, mb4.6/36, Error ellipse: s-maj=5.0km s-min=2.8km az=180.0*
*ZUR_RM **09** 18:23:42, 35.22N×5.62E, h12km, Mw5.0/27, Moment Tensor Solution. s27 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.26; $M_{\theta\theta}$-2.05; $M_{\phi\phi}$3.31; $M_{r\theta}$-0.84; $M_{\theta\phi}$-1.86; $M_{\phi r}$-1.49; Best double couple: $M_0$3.79×10^{16} NP1:ϕ_s22°, δ77°, λ-33°. NP2:ϕ_s121°, δ58°, λ-165°. Principal axes: T 4.154, Plg13°, Azm75°; N -.735, Plg55°, Azm184°; P -3.419, Plg32°, Azm337°;*
*MOS **09** 18:23:43.4±1.8, 35.40N×5.52E, h33km, mb5.0/21, MS4.1/9 Error ellipse: s-maj=4.7km s-min=2.2km az=77.6*
*CRAAG **09** 18:23:43.4, 35.62N×5.71E, Ml4.9*
*LDG **09** 18:23:44.1, 35.34N×5.42E, h30km*
*IDC **09** 18:23:46.4±3.9, 35.75N×5.85E, h27km±27km, mb4.4/25, mb1 4.5/32, mb1mx4.4/35, mbtmp4.5/32, ML4.3/7, MS4.3/15, Ms1 4.4/15, ms1mx4.1/29, Error ellipse: s-maj=15.6km s-min=11.8km az=162.0*
*STR **09** 18:23:56.4±1.2, 36.23N×5.23E, h10km±1km, Ml4.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
ISC 09 18:23:41.5±0.2**, 35.50N**±0.02×**5.57E**±0.01**, h10km, n547, σ1s63**/674**, mb4.6**/61**, MS4.3**/22**, 28C-10D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMER	Merouana	0.30	65	P	Pg	18 23 47.5	-0.2
CKHR	Kef el Ahmar	0.52	355	P	Pg	18 23 52.8	+0.8
SET	Setif	0.72	349	P	Pb	18 23 57.0	+1.4
CTEI	Djebel Teioual	0.89	50	P	Pb	18 23 58.1	-0.4
CASM	Ain Smara	1.07	44	P	Pb	18 24 03.0	+1.4
DFRA	Djebel Bou Aff	1.08	13	P	Pb	18 24 04.1	+2.3
CKFL	Kef-Lekhel	1.30	46	P	Pb	18 24 06.0	+0.4
CAEH	'Ain El Ouahch	1.65	39	P	Pn	18 24 10.0	-0.8
ADJB	Djebel Djouab	1.85	292	P	Pn	18 24 15.6	+2.0
ABMS	Boumerdes	2.10	307	P	Pn	18 24 18.9	+1.7
EMHD	Djebel Mahouad	2.24	289	P	Pn	18 24 23.0	+3.9
ABA	Alger-Bouzarea	2.43	303	P	Pn	18 24 23.3	+1.4
KRIT	Krib	2.97	73	⇓iP	Pn	18 24 29.0	-0.6
BLIT	Baltah	3.00	65	⇓iP	Pn	18 24 29.3	-0.7
TROT	Trozza	3.29	88	⇑iP	Pn	18 24 34.0	-0.2
EBNR	Beni Rached	3.37	285	P	Pn	18 24 37.0	+1.7
ECHA	Ech Chlef	3.47	282	P	Pn	18 24 38.0	+1.2
ETRT	Tiaret	3.48	270	P	Pn	18 24 37.0	+0.1
ECHF	Ech Chlef	3.50	282	P	Pn	18 24 38.0	+0.9
EANR	'Ain N'Sour	3.66	278	P	Pn	18 24 39.0	-0.4
ZGN	Zaghouan	3.78	75	⇑iP	Pn	18 24 40.5	-0.6
OJGS	Djebel Guires	3.93	272	P	Pn	18 24 41.0	-2.2
OJBR	Djebel Berber	4.26	273	P	Pn	18 24 44.0	-3.9
ETOS	Mallorca	4.79	334	Pn	Pn	18 24 56.0	+0.6
ETOS				Sn	Sn	18 25 53.9	+2.1
ETOS	Mallorca	4.79	334	P	Pn	18 24 56.0	+0.6
	291nm,0.5s,SNR=7.9						
ETOS				S	Sn	18 25 52.6	+0.9
	277nm,0.6s,SNR=7.9						
ETOS	Mallorca	4.79	334	Pn	Pn	18 24 56.0	+0.5
	9.4nm,0.4s,SNR=7.9						
EIBI	Ibiza	4.87	318	Pn	Pn	18 24 58.1	+1.5
EIBI				Sn	Sn	18 25 53.2	-0.6
EIBI	Ibiza	4.87	318	P	Pn	18 24 58.1	+1.5
	113nm,0.2s,SNR=50						
EIBI				S	Sn	18 25 53.8	-0.1
	252nm,0.5s,SNR=6.0						
EIBI	Ibiza	4.87	318	Pn	Pn	18 24 58.1	+1.4
	105nm,0.2s,SNR=50						
EIBI				Sn	Sn	18 25 53.2	-0.6
	36nm,0.3s,SNR=6.0						
USTO	Oran	4.99	274	P	Pn	18 25 05.0	+6.7
VSL	Villasalto	5.01	36	ePn	Pn	18 24 56.9	-1.7
VSL				eSn	Sn	18 25 54.2	-3.1
VSL	Villasalto	5.01	36	ePn	Pn	18 24 56.9	-1.7
VSL				eSn	Sn	18 25 54.2	-3.1
EBEN	Beniarda	5.63	306	P	Pn	18 25 09.1	+1.8
	48nm,0.4s,SNR=11						
EBEN				S	Sn	18 26 12.5	-0.2
	117nm,0.4s,SNR=7.9						
EBEN	Beniarda	5.63	306	Pn	Pn	18 25 09.1	+1.8
	8.1nm,0.5s,SNR=11						
EBEN				Sn	Sn	18 26 12.5	-0.3
	14nm,0.3s,SNR=7.9						
CART	Cartagena	5.68	293	ePn	Pn	18 25 06.7	-1.4
CART				eSn	Sn	18 26 14.0	-0.1
CART	Cartagena	5.68	293	P	Pn	18 25 08.0	0.0
CART	Cartagena	5.68	293	ePn	Pn	18 25 06.7	-1.4
CART	Cartagena	5.68	293	i P	Pn	18 25 08.0	-0.1
CART				eSn	Sn	18 26 14.0	-0.2
EMUR	La Murta	5.95	295	Pn	Pn	18 25 10.9	-0.9
EMUR				Sn	Sn	18 26 21.7	+0.9
EMUR	La Murta	5.95	295	P	Pn	18 25 10.9	-0.9
	54nm,0.4s,SNR=7.9						
EMUR				S	Sn	18 26 19.5	-1.4
	127nm,0.5s,SNR=7.9						
EMUR	La Murta	5.95	295	Pn	Pn	18 25 10.9	-0.9
	34nm,0.3s,SNR=7.9						
LVI	Isola Levanzo	5.98	63	eP	Pn	18 25 14.8	+2.6
ERC	Erice	6.18	64	eP	Pn	18 25 13.0	-2.1
ERC	Erice	6.18	64	eP	Pn	18 25 13.0	-2.1
ENIJ	Nijar	6.45	285	P	Pn	18 25 17.6	-1.3
	67nm,0.4s,SNR=7.9						
ENIJ				S	Sn	18 26 31.0	-2.4
	42nm,0.4s,SNR=7.9						
ETOB	Tobarra	6.50	301	Pn	Pn	18 25 21.3	+1.8
ETOB				Sn	Sn	18 26 37.5	+3.0
ETOB	Tobarra	6.50	301	P	Pn	18 25 20.8	+1.2
	23nm,0.3s,SNR=37						
ETOB				S	Sn	18 26 33.7	-0.8
	38nm,0.4s,SNR=7.9						
ETOB	Tobarra	6.50	301	Pn	Pn	18 25 21.3	+1.8
	27nm,0.3s,SNR=37						
EBR	Ebro Roquetas	6.65	325	ePN	Pn	18 25 24.0	+2.3
EBR				i SN	Sn	18 26 45.2	+6.9
EMOS	Mosqueruela	6.81	317	Pn	Pn	18 25 25.0	+1.1
EMOS				Sn	Sn	18 26 39.4	-2.9
EMOS	Mosqueruela	6.81	317	P	Pn	18 25 25.0	+1.1
	25nm,0.5s,SNR=30						
EMOS				S	Sn	18 26 40.2	-2.1
	90nm,0.4s,SNR=7.9						
EMOS	Mosqueruela	6.81	317	Pn	Pn	18 25 25.0	+1.1
	2.5nm,0.5s,SNR=30						
EMOS				Sn	Sn	18 26 39.4	-2.9
	13nm,0.3s,SNR=7.9						
ZAI	Zaio	6.82	268	P	Pn	18 25 24.0	-0.1
EPOB	Poblet	6.83	330	Pn	Pn	18 25 24.3	+0.2
EPOB				Sn	Sn	18 26 35.9	-6.8
EPOB	Poblet	6.83	330	P	Pn	18 25 24.3	+0.2
	18nm,0.3s,SNR=7.9						
EPOB				S	Sn	18 26 37.1	-5.6
	102nm,0.7s,SNR=7.9						
EPOB	Poblet	6.83	330	Pn	Pn	18 25 24.3	+0.1
	1.3nm,0.4s,SNR=7.9						
ERTA	Horta de San J	6.83	325	Pn	Pn	18 25 25.1	+0.8
ERTA				Sn	Sn	18 26 39.1	-3.7
ERTA	Horta de San J	6.83	325	P	Pn	18 25 25.1	+0.8
	5.2nm,0.3s,SNR=6.7						
ERTA				S	Sn	18 26 40.3	-2.5
	52nm,0.5s,SNR=7.9						
ERTA	Horta de San J	6.83	325	Pn	Pn	18 25 25.1	+0.8
	2.6nm,0.2s,SNR=6.7						
ERTA				Sn	Sn	18 26 39.1	-3.8
	0.3nm,0.6s,SNR=7.9						
USI	Ustica	6.88	60	eP	Pn	18 25 24.0	-0.9
USI	Ustica	6.88	60	eP	Pn	18 25 24.0	-0.9
EMEL	Melilla	6.96	271	P	Pn	18 25 24.9	-1.2
	48nm,0.2s,SNR=7.9						
EBER	Berja	6.98	284	Pn	Pn	18 25 24.9	-1.5
EBER				Sn	Sn	18 26 48.9	+2.3
EBER	Berja	6.98	284	P	Pn	18 25 24.9	-1.5
	32nm,0.3s,SNR=7.9						
EBER				S	Sn	18 26 42.5	-4.1

34nm,0.7s,SNR=7.9
EBER Berja 6.98 284 Pn **Pn** 18 25 24.9 -1.4
28nm,0.2s,SNR=7.9
EALB Alboran 7.01 276 P **Pn** 18 25 25.0 -1.8
42nm,0.5s,SNR=7.9
EMIR Miracle 7.14 335 P **Pn** 18 25 29.7 +1.0
173nm,0.4s,SNR=7.9
EMIR S **Sn** 18 26 47.7 -3.0
79nm,0.5s,SNR=7.9
EMIR Miracle 7.14 335 Pn **Pn** 18 25 29.7 +1.1
12nm,0.4s,SNR=7.9
EMIR Sn **Sn** 18 26 47.7 -3.0
44nm,0.3s,SNR=7.9
EVIA Vianos 7.17 298 Pn **Pn** 18 25 29.6 +0.6
EVIA Sn **Sn** 18 26 50.6 -0.8
EVIA Vianos 7.17 298 P **Pn** 18 25 29.6 +0.6
16nm,0.4s,SNR=13
EVIA S **Sn** 18 26 47.9 -3.5
40nm,0.5s,SNR=7.9
EVIA Vianos 7.17 298 Pn **Pn** 18 25 29.6 +0.6
3.2nm,0.4s,SNR=13
EVIA Sn **Sn** 18 26 50.6 -0.8
13nm,0.2s,SNR=7.9
GIB Gibilmanna 7.24 67 *e*P **Pn** 18 25 32.6 +2.7
CSLB Castelbuono 7.24 68 *e*P **Pn** 18 25 29.6 -0.4
EJON La Jonquera 7.25 344 Pn **Pn** 18 25 29.3 -0.8
EJON Sn **Sn** 18 26 51.9 -1.4
EJON La Jonquera 7.25 344 P **Pn** 18 25 29.3 -0.8
9.8nm,0.3s,SNR=7.9
EJON S **Sn** 18 26 49.5 -3.9
53nm,0.7s,SNR=7.9
EJON La Jonquera 7.25 344 Pn **Pn** 18 25 29.3 -0.8
10nm,0.2s,SNR=7.9
EJON Sn **Sn** 18 26 51.9 -1.4
9.6nm,0.3s,SNR=7.9
SJAF Saint Jean de 7.29 344 P **Pn** 18 25 28.8 -1.8
EQES Quesada 7.31 291 Pn **Pn** 18 25 31.5 +0.5
EQES Sn **Sn** 18 26 53.0 -1.9
EQES Quesada 7.31 291 P **Pn** 18 25 31.5 +0.5
28nm,0.3s,SNR=45
EQES S **Sn** 18 26 52.3 -2.6
56nm,0.6s,SNR=7.9
EQES Quesada 7.31 291 Pn **Pn** 18 25 31.5 +0.5
25nm,0.5s,SNR=45
EQES Sn **Sn** 18 26 53.0 -2.0
28nm,0.3s,SNR=7.9
VAE Valguarnera 7.40 72 Pn **Pn** 18 25 32.6 +0.5
3.4nm,0.3s,baz=72,slow=16,SNR=8.6
VALF Valcebollere 7.43 339 P **Pn** 18 25 33.7 +1.1
FILF Fillols 7.43 343 P **Pn** 18 25 32.5 -0.2
PGF Pioggiola 7.53 20 *e*Pn **Pn** 18 25 32.5 -1.6
PGF *e*Sn **Sn** 18 26 54.1 -6.3
143nm,0.6s
ECOG Cogollos-Vega 7.58 286 Pn **Pn** 18 25 34.5 -0.3
ECOG Sn **Sn** 18 26 58.9 -2.6
ECOG Cogollos-Vega 7.58 286 P **Pn** 18 25 35.1 +0.4
14nm,0.4s,SNR=24
ECOG S **Sn** 18 26 58.9 -2.6
19nm,0.5s,SNR=7.9
ECOG Cogollos-Vega 7.58 286 Pn **Pn** 18 25 34.5 -0.2
11nm,0.2s,SNR=24
ECOG Sn **Sn** 18 26 58.9 -2.6
3.2nm,0.2s,SNR=7.9
CARF Carcanieres 7.70 341 P **Pn** 18 25 36.6 +0.2
CARF S **Sn** 18 27 04.4 -0.1
ERON Agron 7.72 284 Pn **Pn** 18 25 37.1 +0.4
ERON Agron 7.72 284 P **Pn** 18 25 37.7 +1.0
9.3nm,0.3s,SNR=21
ERON S **Sn** 18 27 00.2 -4.9
SNR=7.9
ERON Agron 7.72 284 Pn **Pn** 18 25 37.1 +0.4
6.1nm,0.2s,SNR=21
MNO Monte Soro 7.72 69 *e*P **Pn** 18 25 38.4 +1.6
LRDF Laroque-de-Fa 7.79 343 P **Pn** 18 25 36.0 -1.7
ESAC San Caprasio 7.81 325 P **Pn** 18 25 39.1 +1.2
62nm,0.4s,SNR=13
ESAC S **Sn** 18 27 04.2 -3.1
193nm,0.5s,SNR=7.9
ESAC San Caprasio 7.81 325 Pn **Pn** 18 25 39.1 +1.2
53nm,0.3s,SNR=13
ESAC Sn **Sn** 18 27 04.2 -3.0
39nm,0.3s,SNR=7.9
LMR La Mourre 7.86 5 *e*Pn **Pn** 18 25 36.4 -2.3
LMR *e*Sn **Sn** 18 26 57.9 -11
554nm,0.9s
GELF Grande-Etoile 7.88 359 P **Pn** 18 25 43.2 +4.3
EBAN Banos Encina 7.96 292 Pn **Pn** 18 25 41.4 +1.4
EBAN Sn **Sn** 18 27 08.0 -3.1
EBAN Banos Encina 7.96 292 P **Pn** 18 25 41.1 +1.1
31nm,0.5s,SNR=34
EBAN S **Sn** 18 27 07.9 -3.1
12nm,0.4s,SNR=7.9
EBAN Banos Encina 7.96 292 P **Pn** 18 25 41.4 +1.4
EBAN Sn **Sn** 18 27 07.9 -3.1
3.4nm,0.3s,SNR=7.9
LPEF Le Peyrat 7.96 340 P **Pn** 18 25 41.0 +0.9
AGST Augusta-Monte 7.99 74 *e*P **Pn** 18 25 40.2 -0.2
AGST Augusta-Monte 7.99 74 *e*P **Pn** 18 25 40.2 -0.3
SALF Salau 8.01 336 P **Pn** 18 25 42.6 +1.8
ELOJ Sierra Loja 8.02 285 Pn **P** 18 25 41.5 +0.7
ELOJ Sn **Sn** 18 27 13.1 +0.6
ELOJ Sierra Loja 8.02 285 P **P** 18 25 41.5 +0.7
44nm,0.6s,SNR=34
ELOJ S **Sn** 18 27 07.3 -5.2
19nm,0.7s
PUYF Puyloubier 8.03 1 P **Pn** 18 25 43.5 +2.5
FRF La Foret Royal 8.10 6 *e*Pn **P** 18 25 40.5 -1.5
FRF *e*Sn **Sn** 18 27 04.5 -10
160nm,0.9s
TAVF Tavernes 8.12 3 P **P** 18 25 41.5 -0.8
TREF Trevaresse 8.12 359 P **P** 18 25 45.4 +3.1
ELUQ Luque 8.18 287 Pn **P** 18 25 43.0 -0.1
ELUQ Sn **Sn** 18 27 13.5 -3.0
ELUQ Luque 8.18 287 P **P** 18 25 43.0 -0.1
11nm,0.4s,SNR=7.9
ELUQ S **Sn** 18 27 12.7 -3.9
10nm,0.4s,SNR=7.9
ELUQ Luque 8.18 287 Pn **P** 18 25 43.0 -0.1
0.1nm,0.5s,SNR=7.9
ELUQ Sn **Sn** 18 27 13.5 -3.1
1.1nm,0.5s,SNR=7.9
MLS Moulis 8.22 336 P **P** 18 25 45.8 +2.1
MLS S **Sn** 18 27 14.4 -3.1
MTLF Montolieu 8.25 343 *e*Pn **P** 18 25 43.0 -1.1
MTLF *e*Sn **Sn** 18 27 06.8 -12
70nm,0.6s
MELF Melles 8.26 335 P **P** 18 25 47.0 +2.8
EBIE Bielsa 8.32 331 Pn **P** 18 25 46.5 +1.4
EBIE Sn **Sn** 18 27 17.1 -3.1
EBIE Bielsa 8.32 331 P **P** 18 25 46.1 +1.0
16nm,0.6s,SNR=17
EBIE S **Sn** 18 27 17.1 -3.1
42nm,0.9s,SNR=7.9
EBIE Bielsa 8.32 331 Pn **P** 18 25 46.5 +1.4
3.0nm,0.2s,SNR=17
RESF Ens 8.35 333 P **P** 18 25 47.3 +1.8
EMIJ Mijas 8.44 280 P **P** 18 25 46.7 -0.1
22nm,0.7s,SNR=5.3
EMIJ S **Sn** 18 27 16.7 -6.4
15nm,0.6s,SNR=7.9
SMRF Simiane la Rot 8.47 0 *e*Pn **P** 18 25 45.7 -1.5
SMRF *e*Sn **Sn** 18 27 15.5 -8.3
124nm,1.1s
MVIF Mont Vial 8.48 8 P **P** 18 25 49.8 +2.5
SBF Sospel 8.48 9 *e*Pn **P** 18 25 44.9 -2.4
SBF *e*Sn **Sn** 18 27 14.7 -9.4
207nm,0.7s
MTTG Motta San Giov 8.51 70 *e*P **P** 18 25 48.5 +0.8
MTTG Motta San Giov 8.51 70 *e*P **P** 18 25 48.5 +0.8
VIEF Viey 8.54 331 P **P** 18 25 49.6 +1.5
EPF Esparros 8.54 333 *e*P **P** 18 25 49.7 +1.5
EPF *e*Sn **Sn** 18 27 14.2 -11
104nm,0.7s
EADA Adamuz 8.56 291 Pn **P** 18 25 47.7 -0.6
EADA Sn **Sn** 18 27 28.8 +2.8
EADA Adamuz 8.56 291 P **P** 18 25 47.7 -0.6
16nm,0.5s,SNR=28
EADA S **Sn** 18 27 20.3 -5.7
13nm,0.7s,SNR=4.0
EADA Adamuz 8.56 291 Pn **P** 18 25 47.7 -0.7
3.4nm,0.3s,SNR=28
TOUF Mont Tournerai 8.61 8 P **P** 18 25 50.2 +1.2
AUTN L'Aution 8.61 9 P **P** 18 25 50.6 +1.5
SAOF Saorge 8.62 10 P **P** 18 25 52.1 +2.9
ESDC Sonseca Array 8.64 302 Pn **P** 18 25 49.5 0.0
3.0nm,0.3s,baz=118,slow=14,SNR=37
ESDC Sn **Sn** 18 27 33.1 +5.2
3.3nm,0.3s,baz=109,slow=24,SNR=3.0
ESDC Sonseca Array 8.64 302 Pn **P** 18 25 48.8 -0.7
ESDC Sn **Sn** 18 27 25.0 -3.0
ESDC Sonseca Array 8.64 302 P **P** 18 25 48.8 -0.7
14nm,0.5s,baz=114,slow=13,SNR=7.9
ESDC S **Sn** 18 27 24.5 -3.5
6.3nm,0.4s,baz=115,slow=24,SNR=7.9
ESDC Sonseca Array 8.64 302 Pn **P** 18 25 48.8 -0.7
1.1nm,0.4s,SNR=7.9
ESDC Sn **Sn** 18 27 25.0 -2.9
SNR=7.9
ESLA Sonseca Array 8.64 302 *e*Pn **P** 18 25 48.4 -1.1
ESLA Sonseca Array 8.64 302 *e*Pn **P** 18 25 48.4 -1.1
LABF Labassere 8.66 332 P **P** 18 25 51.5 +1.7
LASF Ste Croix 8.67 352 *e*Pn **P** 18 25 49.0 -0.9
LASF *e*Sn **Sn** 18 27 20.2 -8.6
121nm,0.8s
CEL Celeste 8.72 69 P **P** 18 25 53.5 +2.8
ETSF Etsaut 8.79 329 *e*P **P** 18 25 53.1 +1.6
ETSF *e*Sn **Sn** 18 27 19.8 -12
87nm,0.7s
SOI Samo 8.80 70 *e*P **P** 18 25 52.0 +0.3
MNS Montasola 8.83 37 *e*P **P** 18 25 53.1 +0.9
REYF Montagne du Re 8.86 330 P **P** 18 25 53.3 +0.7
REYF S **Sn** 18 27 26.4 -7.1
PTQR Pietraquaria 8.94 41 *e*P **P** 18 25 55.0 +1.4
PTQR Pietraquaria 8.94 41 *e*P **P** 18 25 55.0 +1.4
FIN Finale Ligure 8.94 12 *e*P **P** 18 25 59.9 +6.3
SDI San Donato 8.95 44 *e*P **P** 18 25 52.8 -1.0
EJIF Jimena Fronter 9.00 279 Pn **P** 18 25 55.3 +0.9
83nm,0.2s,SNR=7.9
LARF Larrau 9.08 328 P **P** 18 25 56.6 +1.0
DOI San Damiano 9.09 8 *e*P **P** 18 25 59.5 +3.8
CZD Col de Zad 9.12 257 *i* P **P** 18 25 56.0 -0.1
MGR Morigerati 9.16 57 *e*P **P** 18 25 53.4 -3.3
AQU L'Aquila 9.17 39 *e*P **P** 18 25 57.6 +0.7
ECAB El Cabril 9.18 290 S **Sn** 18 27 36.7 -4.7
7.7nm,0.6s,SNR=7.9
ECAB El Cabril 9.18 290 Sn **Sn** 18 27 36.7 -4.7
1.4nm,0.5s,SNR=7.9
ORDF Ordiarp 9.20 329 P **P** 18 25 58.7 +1.4
ORDF S **Sn** 18 27 39.7 -2.3
GUD Guadarrama 9.22 307 Pn **P** 18 25 59.3 +1.7
GUD Sn **Sn** 18 27 40.2 -2.3
GUD Guadarrama 9.22 307 P **P** 18 25 58.6 +1.0
4.2nm,0.4s,SNR=7.9
GUD S **Sn** 18 27 37.1 -5.4
10nm,0.6s,SNR=7.9
GUD Guadarrama 9.22 307 Pn **P** 18 25 59.3 +1.7
2.6nm,0.3s,SNR=7.9
GUD Sn **Sn** 18 27 40.2 -2.3
2.0nm,0.3s,SNR=7.9
SJPF Ste Jean 9.25 327 *e*P **P** 18 25 58.8 +0.9
SJPF *e*Sn **Sn** 18 27 29.8 -13
64nm,0.7s
MBDF Montbardon 9.27 5 *e*Pn **P** 18 25 57.0 -1.2
MBDF *e*Sn **Sn** 18 27 32.2 -11
136nm,0.8s
GRI Girifalco 9.28 66 *e*P **P** 18 25 59.2 +0.8
ESPR Espera 9.34 282 Pn **P** 18 26 04.0 +4.9
ESPR Espera 9.34 282 P **P** 18 25 59.3 +0.2
6.5nm,0.5s,SNR=7.2
VIVF Saint-Julien-l 9.38 356 *e*Pn **P** 18 25 57.3 -2.4
VIVF *e*Sn **Sn** 18 27 35.9 -10
146nm,0.8s
OSSF Osses 9.38 328 P **P** 18 26 00.6 +0.9
NRCA Norcia 9.38 36 *e*P **P** 18 26 01.4 +1.6
NRCA Norcia 9.38 36 *e*P **P** 18 26 01.4 +1.6
ORIF Oris-en-Rattie 9.41 1 *e*Pn **P** 18 25 57.9 -2.3
ORIF *e*Sn **Sn** 18 27 36.2 -11
109nm,0.8s
ORIF *e*R
2µm,24.5s
MRLC Muro Lucano 9.42 53 *e*P **P** 18 25 58.8 -1.5
MRLC Muro Lucano 9.42 53 *e*P **P** 18 25 58.8 -1.5
EALK Alkurruntz 9.46 327 Pn **P** 18 26 02.1 +1.3
EALK Sn **Sn** 18 27 43.5 -4.8
EALK Alkurruntz 9.46 327 P **P** 18 26 00.0 -0.8
22nm,0.5s,SNR=24
EALK S **Sn** 18 27 43.5 -4.8
40nm,0.4s,SNR=7.9
EALK Alkurruntz 9.46 327 Pn **P** 18 26 02.1 +1.3
0.3nm,0.5s,SNR=24
EALK Sn **Sn** 18 27 43.5 -4.8
21nm,0.9s,SNR=7.9
BNI Bardonecchia 9.58 5 *e*P **P** 18 25 59.9 -2.6
BNI pmax pmax
comp=Z,28nm,0.8s
BNI Bardonecchia 9.58 5 *e*P **P** 18 25 59.9 -2.6
comp=Z,28nm,0.8s
BNI Bardonecchia 9.58 5 *e*P **P** 18 25 59.9 -2.6
comp=Z,28nm,0.8s
VMG Vicchio 9.62 27 *e*P **P** 18 26 07.3 +4.2
TIP Timpagrande 9.64 64 *e*P **P** 18 26 03.1 -0.3
TIP Timpagrande 9.64 64 *e*P **P** 18 26 03.1 -0.2
SFI Santa Sofia 9.69 28 *e*P **P** 18 26 08.3 +4.3
CAF Calviac 9.79 345 *e*Pn **P** 18 26 03.5 -1.9
CAF *e*Sn **Sn** 18 27 46.0 -10
comp=Z,41nm,0.6s
ARV Arcevia 9.81 33 *e*P **P** 18 26 09.2 +3.6
ARV Arcevia 9.81 33 *e*P **P** 18 26 09.2 +3.5
LBL Lubilhac 9.88 350 P **P** 18 26 05.5 -1.2
LPG La Plagne 10.03 5 *e*Pn **P** 18 26 07.2 -1.5
LPG *e*Sn **Sn** 18 27 52.9 -10
comp=Z,79nm,0.9s
LPL La Plagne 10.05 5 *e*Pn **P** 18 26 07.6 -1.3
LPL *e*Sn **Sn** 18 27 50.8 -12
comp=Z,74nm,0.9s
EMIN Mina Concepcio 10.09 287 Pn **P** 18 26 07.7 -1.8
comp=Z,1.3nm,0.2s
EMIN Sn **Sn** 18 27 60.0 -3.9
EMIN Mina Concepcio 10.09 287 P **P** 18 26 07.7 -1.8
comp=Z,7.5nm,0.5s,SNR=17
EMIN S **Sn** 18 27 57.9 -6.1
comp=Z,2.2nm,0.4s,SNR=7.9
EMIN Mina Concepcio 10.09 287 Pn **P** 18 26 07.7 -1.9
comp=Z,1.3nm,0.2s,SNR=17
EMIN Sn **Sn** 18 28 00.0 -3.9
comp=Z,1.0nm,0.3s,SNR=7.9
LFF La Frestale 10.13 340 *e*Pn **P** 18 26 06.5 -3.5
LFF *e*Sn **Sn** 18 27 51.3 -13
comp=Z,41nm,0.6s
RJF Les Rejaudoux 10.27 344 *e*Pn **P** 18 26 09.3 -2.7
RJF *e*Sn **Sn** 18 27 55.5 -13
comp=Z,14nm,0.6s
RJF *e*R
comp=Z,2µm,21.2s
ELAN Lanestosa 10.40 321 P **P** 18 26 14.4 +0.7
comp=Z,47nm,0.9s,SNR=18
ELAN S **Sn** 18 28 05.2 -6.2
comp=Z,14nm,0.6s,SNR=7.9
ELAN Lanestosa 10.40 321 Pn **P** 18 26 14.4 +0.7
comp=Z,2.4nm,0.2s,SNR=18
ELAN Sn **Sn** 18 28 05.2 -6.2
comp=Z,1.3nm,0.6s,SNR=7.9
OG05 Jujurieux 10.54 360 P **P** 18 26 14.6 -1.0
EBAD Badajoz 10.56 292 Pn **P** 18 26 15.1 -0.9
comp=Z,1.2nm,0.3s
EBAD Sn **S** 18 28 10.0 -5.3
EBAD Badajoz 10.56 292 P **P** 18 26 15.1 -0.9
comp=Z,20nm,0.6s,SNR=7.9
EBAD S **S** 18 28 07.5 -7.7
comp=Z,3.8nm,0.4s,SNR=4.0
EBAD Badajoz 10.56 292 Pn **P** 18 26 15.1 -0.8
comp=Z,1.2nm,0.3s,SNR=7.9
EBAD Sn **S** 18 28 10.0 -5.3
comp=Z,1.2nm,0.2s,SNR=4.0
MCGN Macugnaga 10.61 9 *e*P **P** 18 26 22.5 +5.9
PALC Alcoutim 10.68 284 *e*P **P** 18 26 19.7 +2.0
comp=Z,48nm,0.8s
PALC Alcoutim 10.68 284 *e*P **P** 18 26 19.6 +1.9
PBEJ Beja 11.07 287 *e*P **P** 18 26 23.9 +1.0
PBEJ Beja 11.07 287 *e*P **P** 18 26 23.8 +0.9
TCF Toulx Ste Croi 11.07 348 *e*Pn **P** 18 26 23.1 +0.1
TCF *e*Sn **S** 18 28 16.9 -11
comp=Z,29nm,0.6s
CABF La Chapelle 11.11 2 *e*Pn **P** 18 26 21.1 -2.4
CABF *e*Sn **S** 18 28 19.1 -10
comp=Z,45nm,0.9s
PCBR Castelo Branco 11.21 297 *e*P **P** 18 26 28.2 +3.4
comp=Z,31nm,0.9s
SMF Signal de Mont 11.21 354 *e*Pn **P** 18 26 22.3 -2.6
SMF *e*Sn **S** 18 28 20.5 -11
comp=Z,31nm,0.8s
MATF Mathat 11.24 339 P **P** 18 26 27.1 +1.9
BGF Bois d'Agland 11.24 350 *e*Pn **P** 18 26 22.2 -3.0
BGF *e*Sn **S** 18 28 20.0 -12
comp=Z,38nm,0.7s
EVO Evora 11.27 290 *e*Pn **P** 18 26 20.3 -5.4
EVO *e*Sn **S** 18 28 23.7 -9.1
comp=Z,129nm,1.4s
EVO *e*R
comp=Z,2µm,23.8s
EARI Arriondas 11.40 316 Pn **P** 18 26 29.2 +1.7
comp=Z,2.7nm,0.3s
EARI Sn **S** 18 28 30.4 -5.6
EARI Arriondas 11.40 316 P **P** 18 26 27.9 +0.4
comp=Z,14nm,0.8s,SNR=9.1
EARI S **S** 18 28 30.4 -5.6
comp=Z,15nm,0.7s,SNR=7.9
EARI Arriondas 11.40 316 Pn **P** 18 26 29.2 +1.7
comp=Z,2.7nm,0.3s,SNR=9.1
EARI Sn **S** 18 28 30.4 -5.6
AVF Avril sur Loir 11.41 352 *e*Pn **P** 18 25 24.3 -3.2
AVF *e*Sn **S** 18 28 25.3 -11
comp=Z,17nm,0.8s
MTE Manteigas 11.45 299 *e*P **P** 18 26 30.5 +2.4
comp=Z,27nm,1.0s
MTE Manteigas 11.45 299 *e*P **P** 18 26 29.1 +1.0
comp=Z,26nm,0.9s
PBRG Braganca 11.49 307 *e*P **P** 18 26 30.9 +2.2
comp=Z,64nm,1.8s
PBRG Braganca 11.49 307 *e*P **P** 18 26 30.8 +2.1
CTI Castel Tesino 11.50 22 *e*P **P** 18 26 33.5 +4.7
MOE Montemor 11.53 289 *e*P **P** 18 26 30.3 +1.1
MOE Montemor 11.53 289 *e*P **P** 18 26 31.1 +1.9
BRMO Bormio 11.55 17 *e*P **P** 18 26 36.0 +6.6
ECAL Calabor 11.56 308 Pn **P** 18 26 30.8 +1.2
comp=Z,14nm,0.3s
ECAL Sn **S** 18 28 36.2 -3.6
ECAL Calabor 11.56 308 P **P** 18 26 29.9 +0.4
comp=Z,20nm,0.6s,SNR=16
ECAL S **S** 18 28 32.2 -7.5
comp=Z,11nm,0.5s,SNR=7.9
ECAL Calabor 11.56 308 Pn **P** 18 26 30.8 +1.2
comp=Z,14nm,0.3s
ECAL Sn **S** 18 28 36.2 -3.6
SSF Saint Saulge 11.66 353 *e*P **P** 18 26 30.3 -0.6
SSF *e*Sn **S** 18 28 33.3 -8.9
comp=Z,12nm,0.9s
PTEO Sao Teotonio 11.68 284 *e*P **P** 18 26 31.8 +0.6
comp=Z,46nm,1.1s
DAVOX Davos 11.73 15 Pn **P** 18 26 34.9 +3.0
comp=Z,0.2nm,0.3s,baz=155,slow=20,SNR=4.7
DAVOX Sn **S** 18 28 40.1 -3.8
comp=Z,0.2nm,0.3s,baz=140,slow=19,SNR=3.5
PVIS Viseu 11.81 300 *e*P **P** 18 26 35.8 +2.8
comp=Z,18nm,1.0s
PVIS Viseu 11.81 300 *e*P **P** 18 26 35.7 +2.7
MFF Saint Martin d 11.90 341 *e*Pn **P** 18 26 31.7 -2.5
PVRL Vila Real 11.91 303 *e*P **P** 18 26 36.6 +2.3
comp=Z,26nm,1.1s
PVRL Vila Real 11.91 303 *e*P **P** 18 26 36.5 +2.2
STON Ston 11.95 48 *i* P **P** 18 26 49.5 +15
HYF Humbligny 11.96 350 *e*Pn **P** 18 26 31.4 -3.7
ERUA La Rua 12.05 309 P **P** 18 26 37.8 +1.6
ERUA pmax pmax
comp=Z,2.0nm,0.2s
ERUA La Rua 12.05 309 Pn **P** 18 26 37.8 +1.7
comp=Z,1.6nm,0.2s
ERUA La Rua 12.05 309 P **P** 18 26 33.1 -3.0
comp=Z,6.2nm,0.5s,SNR=12
ERUA La Rua 12.05 309 P **P** 18 26 37.8 +1.6
comp=Z,2.0nm,0.2s
LCHF La Chataignera 12.13 339 P **P** 18 26 38.6 +1.3
PLOU Loures 12.21 290 *e*P **P** 18 26 40.7 +2.3
comp=Z,67nm,0.8s
DAVA Damuels 12.21 14⇑ *i*P **P** 18 26 45.3 +6.9
comp=Z,41nm,0.9s
VOY Vojsko 12.26 28 *e*Pn **P** 18 26 41.6 +2.5
VOY *e* 18 26 47.0
EINC Incio 12.32 309 Pn **P** 18 26 40.2 +0.4
comp=Z,1.3nm,0.2s
EINC Incio 12.32 309 Pn **P** 18 26 40.2 +0.4
comp=Z,1.3nm,0.2s
HINF Hinteralfeld 12.35 4 *e*Pn **P** 18 26 37.4 -2.8
HINF *e*Sn **S** 18 28 47.2 -12
comp=Z,27nm,1.0s
PTCC Patocco-Chiusa 12.38 26 *e*P **P** 18 26 43.1 +2.5
PTCC Patocco-Chiusa 12.38 26 *e*P **P** 18 26 43.1 +2.5
ELOB Lobios 12.40 305 Pn **P** 18 26 41.2 +0.3
comp=Z,0.3nm,0.5s
ELOB Sn **S** 18 28 53.9 -6.2
ELOB Lobios 12.40 305 P **P** 18 26 41.2 +0.3
comp=Z,8.0nm,0.7s,SNR=7.9
ELOB S **S** 18 28 52.1 -8.0
comp=Z,8.5nm,0.6s,SNR=7.9
ELOB Lobios 12.40 305 Pn **P** 18 26 41.2 +0.3
comp=Z,0.3nm,0.5s
ELOB Sn **S** 18 28 53.9 -6.2
BOJS Bojanci 12.41 33 *e*Pn **P** 18 26 42.9 +1.8
BOJS *e* 18 26 51.8
SQTA Sankt Quirin 12.45 18⇓ *i*P **P** 18 26 45.2 +3.6
comp=Z,13nm,1.0s
SQTA Sankt Quirin 12.45 18⇓ *i*P **P** 18 26 45.2 +3.6
SQTA pmax pmax
comp=Z,13nm,1.0s
FELD Feldberg 12.50 8 P **P** 18 26 46.2 +3.9
HAU Haudompre 12.51 2 *e*Pn **P** 18 26 40.9 -1.5
HAU *e*Sn **S** 18 28 51.0 -12
comp=Z,59nm,0.9s
HAU *e*R
comp=Z,2µm,17.8s
LJU Ljubljana 12.53 30 *e*Pn **P** 18 26 45.3 +2.7
MOTA Moosalm 12.54 18⇑ *i*P **P** 18 26 46.5 +3.7
comp=Z,6.0nm,1.0s
MOTA Moosalm 12.54 18⇑ *i*P **P** 18 26 46.5 +3.7
MOTA pmax pmax
comp=Z,6.0nm,1.0s
EPON Pontenova 12.55 312 P **P** 18 26 43.5 +0.5
comp=Z,8.4nm,0.5s,SNR=8.8
EPON S **S** 18 28 56.2 -7.7
comp=Z,7.9nm,0.4s,SNR=7.9
EPON Pontenova 12.55 312 Pn **P** 18 26 43.5 +0.5
comp=Z,2.3nm,0.2s
WATA Walderalm 12.65 19⇑ *i*P **P** 18 26 46.3 +2.0
comp=Z,21nm,1.2s
WATA Walderalm 12.65 19⇑ *i*P **P** 18 26 46.3 +2.0
WATA pmax pmax
comp=Z,21nm,1.2s
THEF They Montfort 12.73 1 P **P** 18 26 48.2 +2.9
PDKS Podkum 12.74 31 *e*Pn **P** 18 26 47.3 +1.9
KBA Koelnbreinsper 12.96 24⇑ *i*P **P** 18 26 50.7 +2.4
comp=Z,35nm,1.2s
KBA Koelnbreinsper 12.96 24⇑ *i*P **P** 18 26 50.7 +2.4
KBA pmax pmax
comp=Z,35nm,1.2s
CDF Champ du Feu 12.97 5 *e*Pn **P** 18 26 47.9 -0.6
CDF *e*Sn **S** 18 29 02.5 -11
comp=Z,28nm,0.9s
MEZF Maizieres J'vi 13.00 358 *e*Pn **P** 18 26 48.0 -0.9
MEZF *e*Sn **S** 18 29 02.7 -12
comp=Z,12nm,0.5s
OHR Ohrid 13.21 60 *i*P **P** 18 26 51.1 -0.6
FUR Furstenfeldbru 13.35 17 *e*P **P** 18 26 56.4 +2.9
FUR pmax pmax
comp=Z,30nm,1.0s
FUR Furstenfeldbru 13.35 17 *e*P **P** 18 26 56.4 +2.9
comp=Z,30nm,1.0s
STU Stuttgart 13.54 10 *e*P **P** 18 26 59.2 +3.3
STU pmax pmax
comp=Z,58nm,1.1s
STU Stuttgart 13.54 10 *e*P **P** 18 26 59.2 +3.3
comp=Z,58nm,1.1s
STU Stuttgart 13.54 10 *e*P **P** 18 26 59.2 +3.3
comp=Z,58nm,1.1s
GRR Gorron 13.73 342 *e*Pn **P** 18 26 56.0 -2.5
LDF La Druitiere 13.75 344 *e*Pn **P** 18 26 56.8 -1.9
ARSA Arzberg 13.91 29⇑ *i*P **P** 18 27 01.9 +1.1
comp=Z,11nm,0.7s
MOA Molln 13.94 25⇑ *i*P **P** 18 27 04.4 +3.2
comp=Z,63nm,1.0s
SKO Skopje 13.97 58 *i* P **P** 18 27 00.5 -1.2
FLN La Foliniere 13.99 343 *e*P **P** 18 27 04.5 +2.6
baz=166
FLN *e*R
comp=Z,1µm,21.5s
QUIF Quistinic 14.01 335 *e*P **P** 18 27 03.8 +1.7
SGMF Saint Gilles 14.10 337 *e*P **P** 18 27 05.0 +1.7

WLF **Walferdange** 14.17 2 eP P 18 27 06.9 +2.7
WLF pmax pmax
comp=Z,17nm,0.8s
WLF Walferdange 14.17 2 eP P 18 27 06.9 +2.7
comp=Z,17nm,0.8s
WLF Walferdange 14.17 2 eP P 18 27 06.9 +2.7
comp=Z,17nm,0.8s
TOD Tromm 14.30 9 P P 18 27 09.4 +3.4
ROSF Rostrenen 14.40 336 eP P 18 27 09.1 +1.7
PKSM Moragy 14.56 39 P P 18 27 10.4 +1.0
BAIF Baives 14.59 357 ePn P 18 27 09.8 0.0
GIVF Givet 14.61 358 ePn P 18 27 10.0 0.0
DOU Dourbes 14.61 358 P P 18 27 11.8 +1.8
GEC2 GERESS Array S 14.63 22 eP P 18 27 10.6 +0.3
GEC2 pmax pmax
comp=Z,27nm,0.9s
GEC2 GERESS Array S 14.63 22 eP P 18 27 10.6 +0.3
comp=Z,27nm,0.9s
GERES GERESS Array B 14.63 22 Pn P 18 27 11.8 +1.5
comp=Z,0.2nm,0.3s,baz=204,slow=13,SNR=27
BST Brest 14.65 334 P P 18 27 12.9 +2.3
WET Wettzell 14.66 19 eP P 18 27 11.8 +1.1
WET pmax pmax
comp=Z,40nm,1.5s
WET Wettzell 14.66 19 eP P 18 27 11.8 +1.1
comp=Z,40nm,1.5s
BEO Belgrade 14.69 46⇓ iP P 18 27 12.2 +1.0
BEO Belgrade 14.69 46 P P 18 27 12.1 +1.0
GRA1 Grafenberg Arr 14.78 15 eP P 18 27 14.9 +2.7
comp=Z,24nm,1.2s
GRF Grafenberg Arr 14.78 15 eP P 18 27 14.9 +2.7
GRF pmax pmax
comp=Z,24nm,1.2s
GRF Grafenberg Arr 14.78 15 eP P 18 27 14.9 +2.7
GRF pmax pmax
comp=Z,24nm,1.2s
GRF MLR MLR
comp=Z,600nm,19.5s
GRF Grafenberg Arr 14.78 15 eP P 18 27 14.9 +2.7
comp=Z,24nm,1.2s
KHC Kasperske Hory 14.85 21 eP P 18 27 14.4 +1.3
KHC e 18 27 19.3
KHC e 18 27 24.5
KHC Kasperske Hory 14.85 21 eP P 18 27 14.4 +1.3
KHC ex x 18 27 19.3
KHC x x 18 27 24.5
KHC AMS AMS 18 33 10.0
comp=Z,2μm,15.6s
TNS Taunus Mts 14.87 7 eP P 18 27 15.5 +2.1
TNS pmax pmax
comp=Z,20nm,0.8s
TNS Taunus Mts 14.87 7 eP P 18 27 15.5 +2.1
comp=Z,20nm,0.8s
BOLS Boljevac 15.10 52⇑ iP P 18 27 18.1 +1.6
MEM Membach 15.11 1 P P 18 27 20.5 +3.9
comp=Z,16nm,1.0s
HGN Heimansgroeve 15.26 1 eP P 18 27 24.1 +5.5
comp=Z,12nm,0.1s
HGN eP 18 30 02.0
comp=Z,13nm,1.3s
HGN eS S 18 30 04.8 -3.6
ZST Bratislava 15.30 30 i P P 18 27 24.0 +4.9
ZST eL 18 34 33.1
UCC Uccle 15.32 357 P P 18 27 23.1 +3.8
VTS Vitosha 15.42 57 P P 18 27 21.6 +1.0
VTS Vitosha 15.42 57 P P 18 27 21.5 +0.9
NKC Novy Kostel 15.56 17 eP P 18 27 26.2 +3.8
NKC ex x 18 27 29.5
NKC AMS AMS 18 32 40.0
comp=Z,1μm,19.4s
GUNZ Gunzen 15.65 16 eP P 18 27 23.9 +0.3
comp=Z,33nm,1.1s
SMOL Smolenice 15.69 30 i P P 18 27 29.2 +5.1
KRUC Moravsky 15.72 27 P P 18 27 26.9 +2.3
WERD Werda 15.73 16 eP P 18 27 25.1 +0.5
comp=Z,25nm,1.2s
MOX Moxa 15.77 14 eP P 18 27 27.9 +2.8
MOX pmax pmax
comp=Z,30nm,1.1s
MOX MLR MLR
comp=Z,1μm,17.0s
MOX Moxa 15.77 14 i P P 18 27 27.9 +2.8
comp=Z,logA/T=1.4
MOX L 18 33 48.0
MOX Moxa 15.77 14 eP P 18 27 27.9 +2.8
comp=Z,30nm,1.1s
IDI Anoyia 15.77 85 Pn P 18 27 24.2 -1.0
comp=Z,0.1nm,0.3s,baz=327,slow=17,SNR=3.4
IDI Anoyia 15.77 85 Pn P 18 27 24.1 -1.1
BZS Buzias 15.82 45 ⇑P P 18 27 25.2 -0.6
BZS Buzias 15.82 45 P P 18 27 26.0 +0.2
BZS Buzias 15.82 45 P P 18 27 26.0 +0.2
PRU Pruhonice 15.90 22 eP P 18 27 30.8 +4.0
PRU AMS AMS 18 34 30.0
comp=Z,2μm,13.6s
VRAC Vranov 16.00 27 P P 18 27 30.2 +2.1
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC Vranov 16.00 27 Pn P 18 27 30.2 +2.1
comp=Z,0.7nm,0.3s,baz=221,slow=9.9,SNR=21
VRAC Vranov 16.00 27 P P 18 27 32.5 +4.4
JAVC Velka Javorina 16.06 30 P P 18 27 31.6 +2.7
APE Apeiranthos 16.18 79 i P P 18 27 35.9 +5.4
VYHS Vyhne 16.28 33 i P P 18 27 34.9 +3.3
VYHS eS S 18 30 48.6 +17
VYHS eL 18 34 21.1
PSZ Piszkesteto 16.35 36 eP P 18 27 32.6 0.0
PSZ pmax pmax
comp=Z,29nm,0.9s
PSZ Piszkesteto 16.35 36 eP P 18 27 32.5 -0.1
comp=Z,29nm,0.9s
PSZ Piszkesteto 16.35 36 eP P 18 27 32.6 0.0
comp=Z,29nm,0.9s
PVCC Panska Ves 16.38 21 eP P 18 27 36.4 +3.4
PVCC AMS AMS 18 33 50.0
comp=Z,2μm,16.0s
WTSB Winterswijk 16.49 3⇑ iP P 18 27 37.8 +3.5
comp=Z,35nm,1.2s
BRG Berggiesshubel 16.52 19 eP P 18 27 38.7 +4.0
BRG pmax pmax
comp=Z,18nm,1.3s
BRG MLR MLR
comp=N,2μm,16.7s
BRG MLR MLR
comp=E,1μm,16.7s
BRG MLR MLR
comp=Z,2μm,16.7s
BRG Berggiesshubel 16.52 19 eP P 18 27 38.7 +4.0
comp=Z,18nm,1.3s
BRG e 18 27 42.9
RDO Rodhopi 16.65 64 P P 18 27 36.0 -0.4
CLL Collm 16.69 16 i P P 18 27 40.7 +3.9
CLL pmax pmax
comp=Z,24nm,1.2s
CLL Collm 16.69 16 i P P 18 27 40.7 +3.9
comp=Z,24nm,1.2s
CLL i 18 27 50.0
CLL Collm 16.69 16 P P 18 27 40.7 +3.9
comp=Z,logA/T=1.3
CLL i 18 27 50.0
CLL eS S 18 30 40.0 -1.5
CLZ Clausthal 16.70 10 eP P 18 27 37.0 0.0
comp=Z,30nm,1.3s
MORC Moravsky Berou 16.74 28 eP P 18 27 37.9 +0.4
MORC pmax pmax
comp=Z,53nm,1.1s
MORC Moravsky Berou 16.74 28 eP P 18 27 37.9 +0.4
comp=Z,53nm,1.1s
MORC Moravsky Berou 16.74 28 eP P 18 27 37.9 +0.4
comp=Z,53nm,1.1s
DPC Dobruska-Polom 16.78 24 eP P 18 27 40.3 +2.3
DPC ex x 18 27 43.8
DPC AMS AMS 18 34 30.0
comp=Z,3μm,15.4s
UPC Upice 16.81 24 eP P 18 27 41.0 +2.6
UPC ex x 18 27 45.6
OKC Ostrava-Krasne 17.02 29 eP P 18 27 43.2 +2.1
OKC AMS AMS 18 34 10.0
comp=Z,1μm,17.5s
KECS Kecovo 17.03 36 i P P 18 27 44.0 +2.8
KSP Ksiaz 17.19 24⇑ eP P 18 27 45.5 +2.3
KSP eS S 18 30 51.0 -2.0
KSP Ksiaz 17.19 24⇑ eP P 18 27 45.5 +2.3
KSP epP 18 27 48.4
KSP eS S 18 30 51.0 -2.0
KSP Ksiaz 17.19 24⇑ eP P 18 27 45.5 +2.3
KSP epP 18 27 48.4
NIE Niedzica 17.62 33 eP P 18 27 49.5 +1.0
MTUR Matau 17.72 51 P P 18 27 52.0 +2.2
CRVS Cervenica-Dubn 17.79 36 i P P 18 27 51.5 +0.9
CRVS i S S 18 31 18.3 +12
CRVS eL 18 35 08.5
RUE Ruedersdorf 17.96 16 eP P 18 27 54.6 +1.9
comp=Z,113nm,1.3s
OJC Ojcow 17.99 31 eP P 18 27 53.9 +0.7
OJC eS S 18 31 13.1 +1.8
OJC MLR MLR
comp=Z,1μm,18.8s
OJC Ojcow 17.99 31 eP P 18 27 53.9 +0.7
OJC ePP PP 18 28 09.0 +1.0
OJC eS S 18 31 13.1 +1.8
OJC MLR MLR 18 34 38.1
comp=Z,1μm,18.8s
OJC Ojcow 17.99 31 eP P 18 27 53.9 +0.7
OJC eS S 18 31 13.1 +1.8
comp=Z,1μm,18.8s
KOLS Kolonicke sedl 18.21 37 i P P 18 27 57.0 +1.1
ARG Arkhangelos 18.30 81 P P 18 27 56.4 -0.8
MLR Muntele Rosu 18.39 51 ⇑P P 18 27 59.3 +1.1
MLR Muntele Rosu 18.39 51 P P 18 27 58.3 0.0
comp=Z,0.8nm,0.3s,baz=129,slow=17,SNR=30
MLR LR LR 18 36 01.1
comp=Z,825nm,18.3s,baz=249,slow=41
MLR Muntele Rosu 18.39 51 P P 18 27 59.5 +1.3
MLR Muntele Rosu 18.39 51 P P 18 27 59.3 +1.1
MANT Manisa 18.60 74 i P P 18 28 06.3 +5.5
ISR Istrita 18.62 53 ⇑P P 18 28 02.6 +1.6
ISR Istrita 18.62 53 P P 18 28 02.7 +1.7
ISR Istrita 18.62 53 P P 18 28 02.6 +1.6
KWP Kalwaria 18.88 36 eP P 18 28 03.6 -0.5
KWP pmax pmax
comp=Z,51nm,1.1s
KWP Kalwaria 18.88 36 eP P 18 28 03.6 -0.5
comp=Z,51nm,1.1s
KWP Kalwaria 18.88 36 eP P 18 28 03.6 -0.5
comp=Z,51nm,1.1s
DNZL Cakiroluk 18.98 76 i P P 18 28 03.9 -1.5
BURAR Bucovina Array 18.99 44 P P 18 28 06.6 +1.2
VRI Vrincioaia 19.05 51 ⇑P P 18 28 06.1 -0.1
VRI Vrincioaia 19.05 51 P P 18 28 06.1 -0.1
ULDT Uludag 19.17 69 i P P 18 28 06.7 -1.0
HARR Harsova 19.37 55 ⇓P P 18 28 08.5 -1.4
HARR Harsova 19.37 55 P P 18 28 08.5 -1.4
DSB Dublin 19.64 338 P P 18 28 13.2 +0.2
comp=Z,18nm,1.1s
LVV L'vov 19.66 38 eP P 18 28 16.1 +2.9
LVV e 18 31 47.9
CFR Carcaliu 19.68 54 ⇑P P 18 28 11.3 -2.2
CFR Carcaliu 19.68 54 P P 18 28 11.3 -2.2
DLF Lyons Farm 19.73 338 eP P 18 28 20.7 +6.7
TLCR 20.13 54 ⇓P P 18 28 16.6 -1.8
TLCR 20.13 54 P P 18 28 16.6 -1.8
DMUB Kingscourt 20.37 338 eP P 18 28 24.2 +3.4
ESKT Eskisehir 20.43 71 i P P 18 28 20.7 -0.9
ESK Eskdalemuir 20.73 346 eP P 18 28 26.1 +1.6
ESK pmax pmax
comp=Z,27nm,0.9s
ESK Eskdalemuir 20.73 346 eP P 18 28 26.1 +1.6
comp=Z,27nm,0.9s
ESK Eskdalemuir 20.73 346 eP P 18 28 26.1 +1.6
comp=Z,27nm,0.9s
EKA Eskdalemuir Ar 20.73 346 P P 18 28 25.0 +0.5
comp=Z,35nm,1.1s,baz=157,slow=11,SNR=16
COP Copenhagen 20.74 11 eP P 18 28 31.7 +7.1
COP i S S 18 32 14.7 +3.6
COP pmax pmax
comp=Z,21nm,0.7s
COP MLR MLR
comp=Z,190nm,15.0s,MS3.6
COP Copenhagen 20.74 11 eP P 18 28 31.7 +7.1
comp=Z,21nm,0.7s
COP i S S 18 32 14.7 +3.6
COP LR LR
comp=Z,190nm,15.0s,MS3.6
COP Copenhagen 20.74 11 i P P 18 28 31.7 +7.1
comp=Z,21nm,0.7s
COP i S S 18 32 14.7 +3.6
comp=Z,190nm,15.0s
KIS Kishinev 20.84 49 eP P 18 28 24.0 -1.7
KIS e 18 29 01.0
KIS e 18 32 16.0
KIS MLR MLR
comp=Z,800nm,13.0s,MS4.3
KIS MLR MLR
comp=E,800nm,14.0s
KIS Kishinev 20.84 49 eP P 18 28 24.0 -1.7
KIS eS S 18 32 16.0 +2.8
MUD Monsted U'grnd 21.11 6 i P P 18 28 28.5 +0.1
MUD i S S 18 32 29.7 +11
MUD pmax pmax
comp=Z,21nm,0.6s,mb4.6
MUD MLR MLR
comp=Z,1μm,16.0s,MS4.3
MUD Monsted U'grnd 21.11 6 i P P 18 28 28.5 +0.1
comp=Z,21nm,0.6s,mb4.6
MUD i S S 18 32 29.7 +11
comp=Z,1μm,16.0s
MUD Monsted U'grnd 21.11 6 i PcP PcP 18 32 29.7 -5.1
comp=Z,1μm,16.0s
SGKT Sivrigoynuk 21.44 68 i P P 18 28 33.3 +1.5
SUW Suwalki 22.23 28 eP P 18 28 37.4 -2.3
SUW pmax pmax
comp=Z,92nm,1.0s,mb5.2
SUW Suwalki 22.23 28 eP P 18 28 37.4 -2.4
comp=Z,92nm,1.0s,mb5.2
SUW Suwalki 22.23 28 eP P 18 28 37.4 -2.3
comp=Z,92nm,1.0s,mb5.2
ELDT Eldivan 22.47 69 i P P 18 28 42.6 +0.5
BALT Daday 22.53 66 i P P 18 28 43.9 +1.2
CSS Prodhromos 22.66 83 eP P 18 28 44.8 +0.7
comp=Z,21nm,0.8s,mb4.6
AKASG Malin Array Be 22.87 41 P P 18 28 43.4 -2.5
comp=Z,73nm,0.8s,mb5.2,baz=239,slow=9.7,SNR=53
AKASG S S 18 32 49.7 -1.1
comp=Z,0.1nm,0.2s,baz=240,slow=19,SNR=3.1
AKASG Malin Array Be 22.87 41 P P 18 28 43.4 -2.5
AKASG S S 18 32 49.7 -1.1
MEST Erdemli 23.11 79 i P P 18 28 47.9 -0.5
AVNT Avonos 23.53 73 i P P 18 28 52.6 0.0
SIM Simferopol' 23.65 58 eP P 18 28 55.0 +1.4
SIM pmax pmax
comp=Z,25nm,0.8s,mb4.7
SIM MLR MLR
comp=Z,270nm,14.8s,MS3.8
SIM Simferopol' 23.65 58 eP P 18 28 55.0 +1.4
comp=Z,270nm,14.8s
MNK Minsk 24.50 32⇓ eP P 18 28 57.0 -4.7
HFS Hagfors 25.21 10 P P 18 29 07.2 -1.3
comp=Z,2.7nm,0.5s,mb4.1,baz=190,slow=9.0,SNR=15
EIL Elat 25.38 95 P P 18 29 09.4 -1.0
comp=Z,14nm,0.8s,mb4.6,baz=346,slow=5.2,SNR=6.4
EIL Elat 25.38 95 eP P 18 29 09.1 -1.3
comp=Z,18nm,0.9s,mb4.6
NAO01 NORSAR Array S 25.60 6 eP P 18 29 11.0 -1.1
comp=Z,13nm,0.7s,mb4.6
NB2 NORSAR Subarra 25.82 6 P P 18 29 12.6 -1.6
comp=Z,9.4nm,0.9s,mb4.3,baz=191,slow=9.3
NB2 NORSAR Subarra 25.82 6 P P 18 29 12.6 -1.6
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
NOA NORSAR Array B 25.82 6 P P 18 29 12.6 -1.6
comp=Z,5.4nm,0.7s,mb4.2,baz=192,slow=8.3,SNR=20
NOA LR LR 18 39 26.7
comp=Z,294nm,19.7s,MS3.8,baz=185,slow=37
ASF Jabal al Asfar 26.18 88 P P 18 29 19.7 +1.8
comp=Z,5.0nm,0.8s,mb4.1,baz=137,slow=5.1,SNR=6.2
MALT Malatya 26.35 74 eP P 18 29 16.8 -2.6
MALT pmax pmax
comp=Z,43nm,1.3s,mb4.8
MALT Malatya 26.35 74 eP P 18 29 16.8 -2.6
comp=Z,43nm,1.3s,mb4.8
MALT Malatya 26.35 74 eP P 18 29 16.8 -2.6
comp=Z,43nm,1.3s,mb4.8
ELZG Elazig 26.78 74 i P P 18 29 23.4 +0.1
VSU Vasula 26.91 25 i P P 18 29 24.4 +0.1
VSU Vasula 26.91 25 i P P 18 29 24.3 0.0
SOC Sochi 27.40 62 eP P 18 29 28.4 -0.5
SOC e 18 30 19.7
SOC pmax pmax
comp=Z,68nm,0.8s,mb5.2
SOC pmax pmax
comp=N,57nm,0.9s
SOC pmax pmax
comp=E,50nm,1.0s
SOC Sochi 27.40 62 eP P 18 29 28.4 -0.5
comp=E,57nm,0.9s,mb5.1
ERZM Erzurum 28.54 70 i P P 18 29 39.2 -0.1
VRSR Storozhevoye 28.75 46 eP P 18 29 38.4 -2.6
VRSR e 18 30 42.4
VRSR pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
VRSR pmax pmax
comp=N,10.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,0.7s
VRSR Storozhevoye 28.75 46 eP P 18 29 38.4 -2.6
comp=E,10.0nm,0.9s,mb4.5
OBN Obninsk 28.96 38⇑ iP P 18 29 40.7 -2.2
OBN e 18 30 42.5
OBN eSS SS 18 36 14.7 +14
OBN pmax pmax
comp=Z,35nm,1.0s,mb5.0
OBN MLR MLR
comp=Z,600nm,17.0s,MS4.3
OBN Obninsk 28.96 38 eP P 18 29 40.5 -2.4
comp=Z,26nm,0.8s,mb5.0
OBN Obninsk 28.96 38 i P P 18 29 40.7 -2.2
comp=Z,35nm,1.0s,mb5.0
FINES FINESS Array B 29.05 20 P P 18 29 41.5 -2.2
comp=Z,18nm,1.1s,mb4.7,baz=191,slow=7.8,SNR=17
FINES PcP PcP 18 32 50.6 -1.5
comp=Z,2.9nm,1.0s,baz=180,slow=1.9,SNR=3.6
FINES LR LR 18 42 21.5
comp=Z,545nm,18.3s,MS4.2,baz=25,slow=39
FINES FINESS Array B 29.05 20 PcP PcP 18 32 50.6 -1.5
KIV Kislovodsk 29.57 62 d iP P 18 29 49.8 +1.2
KIV pmax pmax
comp=Z,21nm,1.0s,mb4.8
KIV Kislovodsk 29.57 62 eP P 18 29 48.5 0.0
comp=Z,28nm,1.1s,mb4.9
KAF Kangasniemi 29.66 20 ep P 18 29 46.3 -2.8
comp=Z,0.7nm,0.5s,mb3.6
KAF Kangasniemi 29.66 20 eP P 18 29 46.3 -2.8
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
MOS Moscow 29.79 37 eP P 18 29 48.0 -2.4
MOS pmax pmax
comp=Z,95nm,0.9s,mb5.5
MOS Moscow 29.79 37 eP P 18 29 48.0 -2.4
comp=Z,95nm,0.9s,mb5.5
GOF Gofitskoye 29.91 60⇑ iP P 18 29 50.5 -1.1
GOF pmax pmax
comp=Z,61nm,1.0s,mb5.3
GOF Gofitskoye 29.91 60 i P P 18 29 50.5 -1.1
comp=Z,61nm,1.0s,mb5.3
DBIC Dimbokro 30.25 201 P P 18 29 53.0 -1.8
comp=Z,2.8nm,0.5s,mb4.2,baz=352,slow=11,SNR=6.5
DBIC LR LR 18 43 05.3
comp=Z,980nm,18.9s,MS4.5,baz=0.8,slow=38
ZEI Tsey 30.41 64 eP P 18 29 55.2 -0.8
ZEI i *PP pP 18 30 00.4 +1.5
ZEI i 18 30 55.2
ZEI eS S 18 34 45.4 -10
ZEI pmax pmax
comp=Z,12nm,1.0s,mb4.6
ZEI Tsey 30.41 64 eP P 18 29 55.2 -0.8
comp=Z,12nm,1.0s,mb4.6
GNI Garni 31.12 70 P P 18 30 01.7 -0.5
comp=Z,2.3nm,0.5s,mb4.3,baz=201,slow=13,SNR=3.4
JOF Joensuu 31.75 22 ep P 18 30 02.1 -5.5
comp=Z,2.1nm,0.5s,mb4.2
ARCES ARCESS Array B 35.82 12 P P 18 30 40.0 -2.6
comp=Z,3.6nm,0.5s,mb4.5,baz=202,slow=6.5,SNR=30
ARCES PcP PcP 18 33 09.4 -1.1
comp=Z,1.9nm,0.6s,baz=227,slow=3.1,SNR=11
ARCES LR LR 18 45 33.7
comp=Z,206nm,18.1s,MS3.9,baz=25,slow=37
ARCES ARCESS Array B 35.82 12 PcP PcP 18 33 09.4 -1.1
KEV Kevo 36.27 12 ep P 18 30 43.9 -2.5
comp=Z,0.8nm,0.4s,mb4.0
KEV Kevo 36.27 12 eP P 18 30 43.9 -2.5
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
SOKR Solikamsk 40.74 37⇑ iP P 18 31 21.6 -2.2
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
SOKR MLR MLR
comp=Z,480nm,19.0s,MS4.4
SOKR Solikamsk 40.74 37 i P P 18 31 21.6 -2.2
comp=Z,480nm,19.0s
MBAR Mbarara 42.91 141 eP P 18 31 39.5 -2.7
MBAR pmax pmax
comp=Z,9.0nm,1.6s,mb4.2
MBAR Mbarara 42.91 141 eP P 18 31 39.5 -2.7
comp=Z,8.7nm,1.6s,mb4.2
MBAR Mbarara 42.91 141 eP P 18 31 39.5 -2.7
comp=Z,9.0nm,1.6s,mb4.2
SUMG Summit 43.28 342 eP P 18 31 44.8 +0.3
comp=Z,16nm,1.1s,mb4.7
ARQ Araqi 45.56 91 ⇑P P 18 32 01.3 -2.1
SNR=17
BSY Bisya 46.39 91 P P 18 32 07.5 -2.4
SNR=12
BSYO Bisya 46.43 91 P P 18 32 07.5 -2.8
SNR=12
KMBO Kilima Mbogo 46.93 134 eP P 18 32 13.3 -1.0
KMBO pmax pmax
comp=Z,13nm,1.1s
KMBO Kilima Mbogo 46.93 134 P P 18 32 13.8 -0.6
comp=Z,8.5nm,1.0s,mb4.6,baz=323,slow=7.9,SNR=22
KMBO LR LR 18 53 11.4
comp=Z,477nm,18.8s,MS4.5,baz=97,slow=38
KMBO Kilima Mbogo 46.93 134 eP P 18 32 13.3 -1.0
comp=Z,13nm,1.1s,mb4.8
KMBO Kilima Mbogo 46.93 134 eP P 18 32 13.3 -1.0
comp=Z,13nm,1.1s,mb4.8
JMDO Jabal Madar 47.30 91 P P 18 32 14.7 -2.5
SNR=8.7
WBK Wadi Bani Khal 47.90 91 P P 18 32 20.1 -1.8
SNR=11
BVA0 Borovoye Array 47.91 47 i P P 18 32 19.2 -2.3
BVA0 pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
BVA0 Borovoye Array 47.91 47 i P P 18 32 19.2 -2.3
comp=Z,1.0nm,1.0s,mb3.8
BVAR Borovoye Array 47.91 47 P P 18 32 19.4 -2.2
comp=Z,12nm,1.1s,mb4.9,baz=270,slow=4.4,SNR=17
CHKZ Chkalovo 47.98 47 eP P 18 32 19.1 -3.0
CHKZ pmax pmax
comp=Z,18nm,1.0s,mb5.1
CHKZ Chkalovo 47.98 47 eP P 18 32 19.1 -3.0
comp=Z,18nm,1.0s,mb5.0
CHKZ Chkalovo 47.98 47 eP P 18 32 19.1 -3.0
comp=Z,18nm,1.0s,mb5.1
SCHQ Schefferville 52.10 316 P P 18 32 52.2 -1.4
comp=Z,20nm,0.7s,mb5.1,baz=76,slow=6.5,SNR=34
SCHQ LR LR 18 51 28.5
comp=Z,261nm,20.8s,MS4.2,baz=146,slow=32
SCHQ Schefferville 52.10 316 P P 18 32 52.2 -1.4
SCHQ LR LR 18 51 28.6
AAK Ala-Archa 52.66 60 i P P 18 32 53.4 -4.5
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
AAK Ala-Archa 52.66 60 eP P 18 32 54.1 -3.8
comp=Z,6.2nm,0.9s,mb4.5
FRU Bishkek 52.69 60 eP P 18 32 56.0 -2.1
FRU pmax pmax
comp=Z,40nm,1.9s,mb5.0
FRU Bishkek 52.69 60 eP P 18 32 56.0 -2.1
comp=Z,40nm,1.9s,mb5.0
KURK Kurchatov 53.32 49 P P 18 33 00.4 -2.3
comp=Z,147nm,0.7s,SNR=36
KURK Kurchatov 53.32 49 c iP P 18 32 59.3 -3.4
KURK Kurchatov 53.32 49 eP P 18 32 59.5 -3.2
comp=Z,22nm,0.9s,mb5.1
KURK Kurchatov 53.32 49 i P P 18 32 59.3 -3.4
KSH Kashi 54.69 63 eP P 18 33 14.1 +1.2
KSH eAP pP 18 33 18.5 +2.5
KSH eXP sP 18 33 21.0 +3.8
KSH AMB AMB
comp=Z,130nm,4.2s
KSH LR LR
comp=N,560nm,6.0s
KSH LR LR
comp=E,700nm,9.6s
LSZ Lusaka 54.86 153 eP P 18 33 12.2 -2.3
LSZ pmax pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,4.0nm,0.8s,mb4.5						
LSZ	**Lusaka**	**54.86**	**153**	*e*P	**P**	**18 33 12.2**	**-2.3**
	comp=Z,4.1nm,0.8s,mb4.5						
LSZ	**Lusaka**	**54.86**	**153**	*e*P	**P**	**18 33 12.2**	**-2.3**
	comp=Z,4.0nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**56.72**	**53**	*i* P	**P**	**18 33 24.4**	**-3.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WMQ	**Urumqi**	**61.33**	**55**	*e*P	**P**	**18 33 58.5**	**-1.0**
WMQ				XP	sP	18 34 05.0	+1.2
WMQ				PCP	PcP	18 34 41.0	-0.7
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,73nm,4.4s						
WMQ				LR	LR		
	comp=N,895nm,19.8s,MS5.0						
WMQ				LR	LR		
	comp=E,670nm,19.6s,MS5.0						
WMQ				LR	LR		
	comp=Z,447nm,20.6s,MS4.6						
SADO	**Sadowa**	**62.66**	**307**	P	**P**	**18 34 07.1**	**-1.3**
	comp=Z,18nm,1.1s,mb5.1,baz=45,slow=8.6,SNR=3.4						
TIXI	**Tiksi**	**66.02**	**17**	*e*P	**P**	**18 34 29.1**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.9						
TIXI	**Tiksi**	**66.02**	**17**	*e*P	**P**	**18 34 29.1**	**-0.7**
	comp=Z,1.0nm,0.9s,mb3.9						
TLY	**Talaya**	**67.61**	**42**	*i* P	**P**	**18 34 33.8**	**-6.4**
TLY				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
ZAK	**Zakamensk**	**68.04**	**43**	*e*P	**P**	**18 34 43.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
ZAK	**Zakamensk**	**68.04**	**43**	*e*P	**P**	**18 34 43.2**	**+0.3**
	comp=Z,2.0nm,1.4s,mb4.0						
BOD	**Bodaibo**	**69.50**	**33**	*e*P	**P**	**18 34 48.7**	**-3.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BOD	**Bodaibo**	**69.50**	**33**	*e*P	**P**	**18 34 48.7**	**-3.1**
	comp=Z,9.0nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**70.17**	**318**	P	**P**	**18 34 56.0**	**0.0**
	comp=Z,8.0nm,0.6s,mb4.8,baz=80,slow=6.4,SNR=18						
SONM	**Songino Array**	**71.11**	**44**	P	**P**	**18 34 59.7**	**-2.1**
	comp=Z,2.5nm,1.0s,mb4.1,baz=303,slow=6.2,SNR=16						
YKA	**Yellowknife Ar**	**71.24**	**335**	P	**P**	**18 35 00.8**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=50,slow=6.1,SNR=30						
YKA				LR	LR	19 02 17.0	
	comp=Z,335nm,21.4s,MS4.6,baz=45,slow=32						
BDFB	**Brasilia**	**71.83**	**235**	P	**P**	**18 35 09.2**	**+2.6**
	comp=Z,2.8nm,0.9s,mb4.2,baz=162,slow=5.6,SNR=4.3						
BDFB				LR	LR	19 03 59.2	
	comp=Z,369nm,21.6s,MS4.6,baz=53,slow=33						
YAK	**Yakutsk**	**72.90**	**24**	*e*P	**P**	**18 35 09.9**	**-2.2**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
YAK	**Yakutsk**	**72.90**	**24**	*e*P	**P**	**18 35 09.9**	**-2.2**
	comp=Z,13nm,0.8s,mb4.9						
YAK	**Yakutsk**	**72.90**	**24**	*e*P	**P**	**18 35 09.9**	**-2.2**
	comp=Z,13nm,0.8s,mb4.9						
SDV	**Santo Domingo**	**73.68**	**269**	P	**P**	**18 35 20.5**	**+3.0**
	comp=Z,7.4nm,0.8s,mb4.7,baz=38,slow=4.3,SNR=11						
SDV	**Santo Domingo**	**73.68**	**269**	*e*P	**P**	**18 35 17.1**	**-0.5**
	comp=Z,6.1nm,0.7s,mb4.6						
OXF	**Oxford**	**74.48**	**301**	*e*P	**P**	**18 35 19.7**	**-2.1**
OXF				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.5						
OXF	**Oxford**	**74.48**	**301**	*e*P	**P**	**18 35 19.7**	**-2.1**
	comp=Z,63nm,1.1s,mb5.5						
DAWY	**Dawson**	**76.97**	**345**	*e*P	**P**	**18 35 37.0**	**+1.7**
IMA	**Indian Mountai**	**77.50**	**351**	*e*P	**P**	**18 35 38.3**	**+0.1**
IMA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
IMA	**Indian Mountai**	**77.50**	**351**	*e*P	**P**	**18 35 38.3**	**+0.1**
	comp=Z,25nm,0.9s,mb5.1						
ILAR	**Eielson Array**	**77.75**	**348**	P	**P**	**18 35 41.0**	**+1.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=344,slow=4.1,SNR=13						
ILAR				LR	LR	19 10 42.1	
	comp=Z,200nm,20.7s,MS4.4,baz=152,slow=36						
ROSC	**El Rosal**	**78.97**	**268**	LR	LR	19 09 31.3	
	comp=Z,174nm,19.2s,MS4.4,baz=43,slow=35						
TNA	**Tin City**	**79.14**	**357**	*e*P	**P**	**18 35 45.1**	**-2.2**
	comp=Z,3.8nm,0.9s,mb4.3						
CMAR	**Chiang Mai Arr**	**82.17**	**73**	P	**P**	**18 36 01.8**	**-2.4**
	comp=Z,3.4nm,0.8s,mb4.3,baz=310,slow=7.8,SNR=5.9						
CMAR				LR	LR	19 21 01.3	
	comp=Z,84nm,18.5s,MS4.1,baz=295,slow=42						
PDAR	**Pinedale Array**	**82.19**	**318**	P	**P**	**18 36 04.4**	**+0.6**
	comp=Z,3.8nm,0.8s,mb4.4,baz=61,slow=5.2,SNR=12						
CN2	**Changchun**	**84.01**	**39**	*e*P	**P**	**18 36 11.9**	**-1.3**
CN2				*e*XP	sP	18 36 19.0	+1.6
CN2				*e*S	S	18 46 33.2	-2.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,700nm,17.0s,MS5.3						
CN2				LR	LR		
	comp=E,700nm,17.0s,MS5.3						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.8						
SNY	**Shenyang**	**84.40**	**42**	⇑P	**P**	**18 36 10.1**	**-5.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
PV10	**Paradox Valley**	**84.82**	**314**	*e*P	**P**	**18 36 19.1**	**+1.8**
CPRX	**Cap Rock**	**85.09**	**307**	*e*P	**P**	**18 36 22.9**	**+4.1**
SRU	**San Rafael**	**85.18**	**315**	*e*P	**P**	**18 36 19.8**	**+0.7**
TMUT	**Trail Mountain**	**85.45**	**316**	*e*P	**P**	**18 36 23.2**	**+2.7**
CLNB	**Carlsbad**	**85.59**	**307**	*e*P	**P**	**18 36 26.2**	**+4.9**
GDL2	**Guadalupe Moun**	**85.94**	**307**	*e*P	**P**	**18 36 25.2**	**+2.1**
LPM	**Los Pinos Moun**	**86.03**	**310**	P	**P**	**18 36 22.3**	**-1.2**
LPM				*e*		18 36 28.6	
LPAZ	**La Paz**	**86.62**	**247**	LR	LR	19 15 04.4	
	comp=Z,170nm,20.2s,MS4.4,baz=56,slow=35						
TXAR	**Lajitas Array**	**87.31**	**304**	P	**P**	**18 36 32.6**	**+2.7**
	comp=Z,1.8nm,0.8s,mb4.4,baz=85,slow=4.8,SNR=12						
TXAR				LR	LR	19 13 10.1	
	comp=Z,240nm,19.3s,MS4.6,baz=335,slow=34						
NJ2	**Nanjing**	**88.21**	**51**	*e*P	**P**	**18 36 35.2**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.2						
NVAR	**Mina Array Bea**	**89.96**	**319**	P	**P**	**18 36 43.6**	**+1.3**
	comp=Z,1.1nm,0.8s,mb4.2,baz=55,slow=5.2,SNR=5.4						
LVC	**Limon Verde**	**91.10**	**243**	P	**P**	**18 36 50.7**	**+2.9**
	comp=Z,2.1nm,0.8s,mb4.5,baz=167,slow=4.0,SNR=2.7						
ASAJ	**Asahikawa**	**91.67**	**29**	LR	LR	19 20 08.2	
	comp=Z,284nm,20.6s,MS4.7,baz=117,slow=37						
SYO	**Syowa Base**	**107.19**	**168**	⇓PP	PP	18 42 48.5	+19
WRA	**Warramunga Arr**	**132.59**	**85**	PKP	PKPdf	18 42 58.4	-1.7
	comp=Z,0.6nm,0.8s,baz=299,slow=2.4,SNR=4.9						
ASAR	**Alice Springs**	**134.01**	**90**	PKP	PKPdf	18 43 00.0	-2.5
	comp=Z,1.1nm,0.9s,baz=304,slow=1.8,SNR=6.4						
STKA	**Stephens Creek**	**143.46**	**97**	PKP	PKPdf	18 43 19.4	0.0
	comp=Z,1.7nm,0.7s,baz=158,slow=6.2,SNR=6.7						

MAN 09 18:25:56.9, 12.96N×123.20E, h12km, mb3.8, ML2.6, MS2.1, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUQP	**San Andres**	**0.63**	**306**	*e*P	Pb	18 26 08.8	-0.5
AUQP				*e*S	Sb	18 26 21.9	+4.1
MMPH	**Masbate**	**0.72**	**145**	*e*P	Pb	18 26 11.0	0.0
PVCP	**Virac**	**1.13**	**55**	*e*P	Pb	18 26 17.6	-0.2
GQP	**Guinayangan**	**1.20**	**322**	⇓*i*P	Pb	18 26 18.0	-1.0
GQP				*i* S	Sb	18 26 35.7	+1.4
BOAC	**Boac**	**1.41**	**291**	*e*P	Pn	18 26 18.6	-4.0
BOAC				*e*S	Sb	18 26 41.1	+0.5
RCP	**Roxas**	**1.46**	**198**	⇑*e*P	Pn	18 26 30.3	+7.1
CNP	**Catarman**	**1.49**	**107**	*e*P	Pn	18 26 21.0	-2.7
LQP	**Lukban**	**1.98**	**306**	⇑*e*P	Pn	18 26 30.8	0.0
POLP	**Polilio Island**	**2.15**	**325**	*e*P	Pn	18 26 33.7	+0.6

IDC ***09*** *18:27:29.6±0.4, 3.20N×93.54E, h14km±2km, mb4.7/27, mb1 4.7/28, mb1mx4.7/31, mbtmp4.8/28, ML4.3/1, Error ellipse: s-maj=16.6km s-min=9.7km az=46.0*
BJI ***09*** *18:27:29.6, 2.70N×93.35E, h51km, mB4.9, mb4.8, Ms4.7, Msz4.3*
MOS ***09*** *18:27:30.5±0.7, 3.30N×93.68E, h33km, mb5.4/17, Error ellipse: s-maj=15.4km s-min=7.2km az=117.8*
ORF ***09*** *18:27:32.6, 3.05N×93.34E, h30km, mb5.5*
HRVD ***09*** *18:27:32.2±0.3, 3.30N×93.38E, h16km±1km, MW5.1/55, Centroid moment Tensor Solution. LP body waves: s26,c40; Mantle waves: s55,c94; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-3.26±.22; Mθθ-0.21±.14; Mφφ3.48±.15; Mrθ2.11±.52; Mθφ-2.40±.12; Mφr-1.00±.41; Best double couple: Mo4.712×10^16 NP1:φs180°, δ39°, λ-48°. NP2:φs311°, δ62°, λ-118°. Principal axes: T 5.079, Plg13°, Azm61°; N -.725, Plg24°, Azm325°; P -4.345, Plg62°, Azm176°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***09*** *18:27:32.2±0.1, 3.20N×93.54E, mb5.1/82 Error ellipse: s-maj=4.7km s-min=3.3km az=219.0*
ISC 09 18:27:27.9±0.2, **3.17N**±0.03×**93.54E**±0.03, **h16**km±.7km**:pP-P, n317,** σ0.s**97**/305, **mb5.0**/121, **MS4.5**/11, **22C-17D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.39**	**73**	*e*P	**Pn**	**18 29 18.1**	**+0.1**
IPM	**Ipoh**	**7.59**	**79**	P	**Pn**	**18 29 21.3**	**+0.6**
SNG	**Songkhla**	**8.09**	**60**	P	**P**	**18 29 28.0**	**+0.3**
	654nm,0.9s						
NNT	**Nongplab**	**11.19**	**33**	P	**P**	**18 30 11.0**	**+0.5**
NST	**Nakhon Sawan**	**14.02**	**27**	P	**P**	**18 30 48.4**	**0.0**
BDT	**Bhumibol Dam**	**14.98**	**21**	P	**P**	**18 31 03.0**	**+2.0**
	13nm,0.9s						
KKTK	**Khon Kaen**	**15.96**	**34**	P	**P**	**18 31 14.0**	**+0.4**
CM31	**Chiang Mai Arr**	**16.09**	**19**	*e*P	**P**	**18 31 14.2**	**-1.2**
	16nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.09**	**19**	Pn	**P**	**18 31 14.6**	**-0.7**
	0.4nm,0.3s,baz=215,slow=13,SNR=62						
CMAR				ScP		18 39 45.5	
	0.1nm,0.3s,baz=231,slow=4.1,SNR=4.4						
CHG	**Chiang Mai**	**16.43**	**18**	PG	**P**	**18 31 18.2**	**-1.4**
	120nm,1.3s						
KSM	**Kuching**	**16.83**	**95**	*e*P	**P**	**18 31 23.2**	**-1.6**
NANT	**Nan**	**17.04**	**24**	⇑P	**P**	**18 31 26.0**	**-1.4**
	206nm,1.0s						
SALM	**Salem**	**17.38**	**300**	*e*	**P**	**18 31 39.0**	**+7.3**
SALM				*e*		18 34 28.0	
VIS	**Vishakhapatnam**	**17.60**	**326**	*e*P	**P**	**18 31 32.8**	**-1.6**
VIS				*e*		18 31 39.1	
	comp=Z,62nm,1.3s						
VIS				*e*		18 34 32.6	
CHRT	**Chiangrai**	**17.68**	**20**	⇑P	**P**	**18 31 34.5**	**-0.9**
	comp=Z,342nm,1.0s						
BWNR	**Bhubaneshwar**	**18.62**	**337**	*e*P	**P**	**18 31 46.7**	**-0.3**
BWNR				*e*		18 34 57.1	
HYB	**Hyderabad**	**20.42**	**315**	*e*P	**P**	**18 32 06.0**	**-1.3**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**18 35 53.0**	**+2.8**
HYB	**Hyderabad**	**20.42**	**315**	*i* P	**P**	**18 32 06.0**	**-1.3**
	comp=Z,70nm,1.0s						
HYB				*e*sP		18 32 20.5	
HYB				*e*S	**S**	**18 35 53.0**	**+2.8**
AGT	**Agartala**	**20.71**	**354**	*i* P	**P**	**18 32 13.0**	**+2.7**
AGT				*i*		18 33 53.0	
MNGI	**Mangalore**	**20.91**	**299**	*i* P	**P**	**18 32 13.9**	**+1.5**
MNGI				*i*		18 35 54.5	
BOK	**Bokaro**	**21.80**	**341**	*i* P	**P**	**18 32 22.8**	**+1.4**
BLSP	**Bilaspur**	**21.86**	**330**	*e*P	**P**	**18 32 25.1**	**+3.1**
BLSP				*e*		18 32 33.6	
	comp=Z,116nm,1.1s						
BLSP				*e*		18 36 14.4	
SHL	**Shillong**	**22.33**	**356**	*e*P	**P**	**18 32 21.5**	**-5.1**
SHL				*e*S	**S**	**18 36 26.0**	**-0.5**
QIZ	**Qiongzhong**	**22.42**	**44**	P	**P**	**18 32 26.8**	**-0.7**
QIZ				S	**S**	**18 36 29.2**	**+1.1**
QIZ				LR	LR		
	comp=N,2μm,15.6s						
QIZ				LR	LR		
	comp=Z,840nm,16.9s,MS4.2						
QIZ	**Qiongzhong**	**22.42**	**44**	P	**P**	**18 32 25.7**	**-1.8**
	comp=Z,5.3nm,0.8s,mb4.0						
LATR	**Latur**	**22.50**	**314**	*e*P	**P**	**18 32 31.0**	**+2.5**
KKM	**Kota Kinabalu**	**22.78**	**82**	*e*P	**P**	**18 32 32.7**	**+1.5**
KKM	**Kota Kinabalu**	**22.78**	**82**	P	**P**	**18 32 33.5**	**+2.3**
GOA	**Goa**	**22.96**	**303**	*e*	**P**	**18 32 30.1**	**-2.9**
GOA				*e*		18 36 11.9	
KMI	**Kunming**	**23.56**	**21**	P	**P**	**18 32 41.8**	**+3.1**
KMI				PP	PP	18 33 14.1	+3.0
KMI				S	**S**	**18 36 49.9**	**+1.5**
KMI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.4						
KMI				AMB	AMB		
	comp=Z,161nm,3.9s						
KMI				LR	LR		
	comp=N,760nm,12.1s,MS4.6						
KMI				LR	LR		
	comp=E,1μm,15.2s,MS4.6						
KMI				LR	LR		
	comp=Z,687nm,12.1s,MS4.3						
KMI	**Kunming**	**23.56**	**21**	P	**P**	**18 32 41.8**	**+3.1**
	comp=Z,18nm,1.2s,mb4.4						
KMI				sP		18 32 51.3	
KMI				PP	PP	18 33 14.1	+3.0
KMI				S	**S**	**18 36 49.9**	**+1.5**
KMI				sS		18 37 01.9	
KMI				SS	SS	18 37 37.3	+0.6
KAD	**Karad**	**23.63**	**308**	*e*P	**P**	**18 32 44.1**	**+4.5**
KAD				*e*		18 32 53.0	
	comp=Z,73nm,0.7s						
KAD				*i* S	**S**	**18 36 53.9**	**+4.1**
TSM	**Tawau**	**24.30**	**87**	P	**P**	**18 32 47.9**	**+1.8**
POO	**Poona**	**24.59**	**310**	*i* P	**P**	**18 32 51.6**	**+2.8**
POO				*e*		18 33 02.6	
	comp=Z,75nm,1.1s						
POO				*e*S	**S**	**18 37 08.3**	**+2.1**
BHPL	**Bhopal**	**25.33**	**323**	*i* P	**P**	**18 32 58.8**	**+3.0**
BHPL				*e*	pP	18 33 02.8	+2.4
	comp=Z,36nm,0.7s						
JIRN	**Jiri**	**25.35**	**345**	*e*P	**P**	**18 32 56.5**	**+0.5**
	comp=Z,549nm,1.3s,mb5.9						
PKI	**Pulchoki**	**25.48**	**343**	*e*P	**P**	**18 32 58.1**	**+0.9**
	comp=Z,371nm,1.4s,mb5.7						
DMN	**Daman**	**25.61**	**342**	*e*P	**P**	**18 32 59.4**	**+1.0**
	comp=Z,168nm,1.0s,mb5.5						
KKN	**Kakani**	**25.73**	**343**	*e*P	**P**	**18 32 59.9**	**+0.4**
	comp=Z,139nm,1.0s,mb5.4						
GKN	**Gorkha**	**26.12**	**342**	*e*P	**P**	**18 33 03.0**	**-0.2**
	comp=Z,331nm,1.1s,mb5.8						
KOLN	**Koldanda**	**26.25**	**340**	*e*P	**P**	**18 33 04.5**	**+0.2**
	comp=Z,298nm,1.2s,mb5.7						
GYA	**Guiyang**	**26.36**	**27**	⇑*i*P	**P**	**18 33 06.9**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,120nm,3.2s						
GYA				LR	LR		
	comp=N,700nm,16.5s,MS4.5						
GYA				LR	LR		
	comp=E,900nm,15.0s,MS4.5						
GYA				LR	LR		
	comp=Z,610nm,16.4s,MS4.2						
LSA	**Lhasa**	**26.49**	**355**	P	**P**	**18 33 08.0**	**+1.5**
LSA	**Lhasa**	**26.49**	**355**	*e*P	**P**	**18 33 08.3**	**+1.8**
	comp=Z,70nm,0.6s,mb5.4						
CD2	**Chengdu**	**29.23**	**18**	P	**P**	**18 33 32.0**	**+0.6**
NDI	**New Delhi**	**29.76**	**330**	*e*P	**P**	**18 33 36.0**	**-0.2**
DDI	**Dehra Dun**	**30.73**	**333**	*e*P	**P**	**18 33 42.2**	**-2.5**
DDI				*e*		18 34 40.9	
ENH	**Enshi**	**30.90**	**28**	*e*P	**P**	**18 33 45.3**	**-0.8**
	comp=Z,19nm,0.8s,mb5.0						
WHN	**Wuhan**	**33.59**	**34**	*e*P	**P**	**18 34 10.6**	**+0.9**
WHN				S	**S**	**18 39 39.4**	**+9.0**
WHN				LR	LR		
	comp=Z,2μm,13.1s,MS5.1						
XAN	**Xi'an**	**33.90**	**23**	P	**P**	**18 34 11.0**	**-1.4**
XAN				S	**S**	**18 39 28.0**	**-7.1**
XAN				AMB	AMB		
	comp=Z,25nm,0.5s,mb5.4						
XAN				LR	LR		
	comp=N,503nm,23.2s						
XAN				LR	LR		
	comp=E,784nm,16.1s						
XAN				LR	LR		
	comp=Z,562nm,15.5s						
LZH	**Lanzhou**	**34.11**	**15**	*e*P	**P**	**18 34 14.3**	**+0.1**
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
LZH				LR	LR		
	comp=N,620nm,15.0s						
LZH				LR	LR		
	comp=Z,760nm,17.5s,MS4.5						
LZH	**Lanzhou**	**34.11**	**15**	*e*P	**P**	**18 34 14.3**	**+0.1**
	comp=Z,20nm,1.2s,mb4.9						
LZH	**Lanzhou**	**34.11**	**15**	pP	pP	18 34 24.1	+5.2
LZH				sP	sP	18 34 29.5	+8.6
LZH				PP	PP	18 35 14.1	-15
MBWA	**Marble Bar**	**35.25**	**134**	*e*P	**P**	**18 34 24.0**	**0.0**
	comp=Z,61nm,1.3s,mb5.4						
GTA	**Gaotai**	**36.52**	**8**	*e*P	**P**	**18 34 35.1**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,94nm,5.7s						
GTA				LR	LR		
	comp=N,307nm,19.0s,MS4.2						
GTA				LR	LR		
	comp=E,246nm,16.7s,MS4.2						
GTA				LR	LR		
	comp=Z,269nm,21.3s,MS4.0						
FITZ	**Fitzroy Crossi**	**38.04**	**125**	⇓*i*P	**P**	**18 34 46.8**	**-0.8**
	comp=Z,19nm,0.7s,mb4.9						
SSE	**Sheshan**	**38.10**	**40**	P	**P**	**18 34 44.7**	**-3.3**
	comp=Z,36nm,0.7s,mb5.2						
SSE				S	**S**	**18 40 34.7**	**-5.0**
SSE				sS		18 40 49.9	
SSE				SS	SS	18 43 22.2	+4.8
JOW	**Kunigami**	**40.72**	**51**	P	**P**	**18 35 11.0**	**+1.2**
	comp=Z,9.9nm,0.9s,mb4.4,baz=319,slow=13,SNR=4.2						
WMQ	**Urumqi**	**40.81**	**354**	*e*P	**P**	**18 35 11.0**	**+0.6**
WMQ				PP	PP	18 36 51.0	+3.2
WMQ				*e*S	**S**	**18 41 24.0**	**+3.5**
WMQ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,393nm,3.7s						
WMQ				LR	LR		
	comp=N,455nm,23.0s,MS4.5						
WMQ				LR	LR		
	comp=E,774nm,26.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,401nm,23.2s,MS4.2						
HHC	**Hu-ho-hao-te**	**40.88**	**21**	*e*P	**P**	**18 35 14.6**	**+3.6**
HHC				XP	sP	18 35 27.0	+9.3
HHC				PP	PP	18 36 52.0	+3.5
HHC				S	**S**	**18 41 16.6**	**-4.9**
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.6						
HHC				LR	LR		
	comp=N,321nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,1μm,16.0s,MS4.8						
HHC				LR	LR		
	comp=Z,329nm,17.2s,MS4.3						
MUN	**Mundaring**	**41.05**	**150**	*e*P	**P**	**18 35 13.2**	**+0.8**
	comp=Z,12nm,0.7s,mb4.7						
KLBR	**Kellerberrin**	**41.53**	**148**	⇑*i*P	**P**	**18 35 17.3**	**+0.8**
	comp=Z,180nm,0.9s,mb5.7						
KAKA	**Kakadu**	**41.73**	**113**	⇓*i*P	**P**	**18 35 17.4**	**-0.9**
	comp=Z,19nm,0.8s,mb4.8						
BJT	**Baijiatuau**	**42.02**	**26**	*e*P	**P**	**18 35 22.0**	**+1.7**
	comp=Z,23nm,0.8s,mb4.8						
BJI	**Beijing**	**42.04**	**26**	P	**P**	**18 35 22.3**	**+1.8**
BJI				S	**S**	**18 41 46.7**	**+8.0**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,500nm,16.0s						
BJI				LR	LR		
	comp=E,350nm,24.8s						
BJI				LR	LR		
	comp=Z,246nm,23.6s						
BJI	**Beijing**	**42.04**	**26**	P	**P**	**18 35 22.3**	**+1.8**
	comp=Z,11nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**42.33**	**150**	P	**P**	**18 35 23.5**	**+0.5**
	comp=Z,14nm,0.7s,mb4.7,baz=320,slow=10,SNR=14						
NWAO	**Narrogin (SRO)**	**42.33**	**150**	*e*P	**P**	**18 35 23.0**	**0.0**
	comp=Z,14nm,0.8s,mb4.7						
UCH	**Uchtor**	**42.45**	**339**	P	**P**	**18 35 24.6**	**+0.7**
	SNR=8.7						
AML	**Almayashu**	**42.67**	**338**	P	**P**	**18 35 26.4**	**+0.8**
	SNR=12						
KBK	**Karagaybulak**	**42.68**	**340**	P	**P**	**18 35 26.6**	**+0.9**
	SNR=10						
AAK	**Ala-Archa**	**42.82**	**339**	*d i*P	**P**	**18 35 26.5**	**-0.4**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
AAK	**Ala-Archa**	**42.82**	**339**	*e*P	**P**	**18 35 26.1**	**-0.8**
	comp=Z,12nm,1.0s,mb4.6						
FRU	**Bishkek**	**42.95**	**340**	*e*P	**P**	**18 35 30.0**	**+2.1**
FRU				pmax	pmax		
	comp=Z,80nm,1.9s,mb5.1						
EKS2	**Erkin-Say**	**43.10**	**339**	P	**P**	**18 35 30.2**	**+1.0**
	SNR=7.9						
USP	**Ospenovka**	**43.37**	**340**	P	**P**	**18 35 31.7**	**+0.4**
	SNR=14						
MKAR	**Makanchi Array**	**44.55**	**349**	*i* P	**P**	**18 35 40.8**	**0.0**
MKAR				pmax	pmax		
	comp=Z,69nm,0.9s						
SONM	**Songino Array**	**45.86**	**12**	P	**P**	**18 35 51.4**	**+0.2**
	comp=Z,5.7nm,0.6s,mb4.7,baz=190,slow=8.4,SNR=22						
SONM				pP	pP	18 35 56.2	+0.1
	comp=Z,8.6nm,0.7s,baz=188,slow=8.5,SNR=14						
SONM				PcP	PcP	18 37 29.0	+0.1
	comp=Z,8.0nm,0.9s,baz=225,slow=3.5,SNR=5.1						
ULN	**Ulaanbaatar**	**46.03**	**13**	*i* P	**P**	**18 35 50.7**	**-1.9**
ULN	**Ulaanbaatar**	**46.03**	**13**	*e*P	**P**	**18 35 52.8**	**+0.2**
	comp=Z,4.7nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**46.17**	**122**	P	**P**	**18 35 54.1**	**0.0**
	comp=Z,86nm,0.8s,mb5.8,baz=298,slow=8.9,SNR=494						
WRAB	**Tennant Creek**	**46.17**	**122**	P	**P**	**18 35 54.0**	**-0.1**
	comp=Z,805nm,0.7s,SNR=41						
WRAB	**Tennant Creek**	**46.17**	**122**	*d i*P	**P**	**18 35 54.2**	**+0.1**
WRAB	**Tennant Creek**	**46.17**	**122**	*e*P	**P**	**18 35 54.0**	**-0.1**
	comp=Z,173nm,0.9s,mb6.0						
FORT	**Forrest**	**47.14**	**138**	*e*P	**P**	**18 36 02.2**	**+0.5**
	comp=Z,912nm,0.7s						
ASPA	**Alice Springs**	**47.49**	**126**	⇓*i*P	**P**	**18 36 04.4**	**-0.1**
ASAR	**Alice Springs**	**47.49**	**126**	P	**P**	**18 36 04.4**	**-0.1**
	comp=Z,36nm,0.9s,mb5.3,baz=304,slow=7.5,SNR=214						
ASAR				PcP	PcP	18 37 34.6	-0.5
	comp=Z,6.2nm,0.8s,baz=305,slow=3.5,SNR=6.2						
ZAK	**Zakamensk**	**47.77**	**8**	*e*P	**P**	**18 36 06.2**	**-0.1**
ZAK				*e*		18 37 33.7	
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
KURK	**Kurchatov**	**49.03**	**347**	P	**P**	**18 36 16.2**	**+0.2**
	comp=Z,406nm,1.1s,SNR=22						
KURK	**Kurchatov**	**49.03**	**347**	*d i*P	**P**	**18 36 15.6**	**-0.4**
KURK				pmax	pmax		
	comp=Z,34nm,0.9s,mb5.4						
KURK	**Kurchatov**	**49.03**	**347**	*e*P	**P**	**18 36 15.9**	**-0.1**
	comp=Z,25nm,0.9s,mb5.2						
TLY	**Talaya**	**49.08**	**8**	*i* P	**P**	**18 36 12.3**	**-4.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
TLY	**Talaya**	**49.08**	**8**	P	**P**	**18 36 17.2**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.7						
RAYN	**Ar Rayn**	**50.61**	**298**	P	**P**	**18 36 29.4**	**+0.8**
	comp=Z,348nm,0.8s,SNR=18						
HIA	**Hailar**	**51.07**	**22**	*e*P	**P**	**18 36 31.2**	**-0.5**
	comp=Z,18nm,0.9s,mb5.0						
HIA				*e*		18 36 48.6	
MDJ	**Mudanjiang**	**52.05**	**32**	P	**P**	**18 36 36.9**	**-2.2**
	comp=Z,19nm,1.2s,mb4.9						
BVA0	**Borovoye Array**	**53.25**	**343**	*i* P	**P**	**18 36 46.5**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**53.25**	**343**	P	**P**	**18 36 46.8**	**-1.2**
	comp=Z,9.4nm,0.7s,mb4.8,baz=149,slow=8.6,SNR=35						
BVAR				pP	pP	18 36 51.4	-1.4
	comp=Z,13nm,0.8s,baz=141,slow=9.5,SNR=26						
CHKZ	**Chkalovo**	**53.76**	**343**	P	**P**	**18 36 50.7**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,174nm,1.5s,mb5.8						
CHKZ	**Chkalovo**	**53.76**	**343**	*e*P	**P**	**18 36 50.4**	**-1.3**
	comp=Z,26nm,0.8s,mb5.2						
BHD	**Baghdad**	**54.76**	**309**	*e*P	**P**	**18 36 58.0**	**-1.4**
PMG	**Port Moresby**	**54.86**	**104**	P	**P**	**18 36 59.5**	**-0.9**
	comp=Z,13nm,0.7s,mb5.0,baz=297,slow=11,SNR=5.3						
KLR	**Kul'dur**	**56.24**	**29**	*e*P	**P**	**18 37 07.5**	**-2.3**
KLR				*e*S	**S**	**18 45 03.0**	**+6.0**
KLR				MLR	MLR		
	comp=N,900nm,15.0s,MS5.0						
KLR				MLR	MLR		
	comp=E,400nm,15.0s,MS5.0						
KMBO	**Kilima Mbogo**	**56.43**	**267**	*i* P	**P**	**18 37 12.1**	**+0.4**
KMBO				pmax	pmax		

comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 56.43 267 P **P** **18 37 12.1 +0.4**
comp=Z,2.9nm,0.9s,mb4.3,baz=68,slow=11,SNR=7.2
KMBO Kilima Mbogo 56.43 267 *eP* **P** **18 37 12.0 +0.3**
comp=Z,4.3nm,1.0s,mb4.4
CTA Charters Tower 56.64 116 P **P** **18 37 12.6 -0.5**
comp=Z,13nm,0.9s,mb5.0,baz=274,slow=8.3,SNR=5.5
CTAO Charters Tower 56.64 116 *eP* **P** **18 37 12.9 -0.2**
comp=Z,31nm,1.2s,mb5.2
BOD Bodaibo 56.84 13 *eP* **P** **18 37 13.4 -0.6**
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
BOD pmax pmax
comp=Z,43nm,0.9s,mb5.5
MSL Mosul 56.91 312 *eP* **P** **18 37 11.5 -3.3**
GNI Garni 57.36 317 *i* P **P** **18 37 18.4 +0.4**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 57.36 317 P **P** **18 37 18.5 +0.5**
comp=Z,15nm,0.8s,mb5.1,baz=28,slow=0.8,SNR=11
GNI Garni 57.36 317 P **P** **18 37 18.5 +0.5**
comp=Z,50nm,1.1s,mb5.5
STKA Stephens Creek 57.38 131 ⇓*i* P **P** **18 37 17.6 -0.6**
comp=Z,23nm,0.6s,mb5.4
STKA Stephens Creek 57.38 131 P **P** **18 37 17.8 -0.4**
comp=Z,22nm,0.6s,mb5.4,baz=311,slow=6.5,SNR=70
CLNS Chul'man 59.04 19 *eP* **P** **18 37 26.7 -2.7**
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=Z,25nm,0.9s,mb5.2
CLNS pmax pmax
comp=E,10.0nm,0.7s
ZEI Tsey 59.12 319 *eP* **P** **18 37 26.3 -3.9**
ZEI *i* *PP pP 18 37 39.6 +4.4
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ASAJ Asahikawa 59.38 39 P **P** **18 37 32.5 +0.5**
comp=Z,11nm,0.9s,mb4.9,baz=160,slow=20,SNR=4.6
ASF Jabal al Asfar 60.35 305 P **P** **18 37 39.8 +0.9**
comp=Z,13nm,0.9s,mb5.0,baz=338,slow=4.1,SNR=9.3
ASF pP pP 18 37 44.4 +0.6
comp=Z,11nm,0.8s,baz=348,slow=5.7,SNR=7.9
KIV Kislovodsk 60.45 320*c* *iP* **P** **18 37 42.6 +3.3**
KIV pmax pmax
comp=Z,30nm,1.2s,mb5.2
KIV Kislovodsk 60.45 320 *eP* **P** **18 37 37.8 -1.5**
comp=Z,19nm,1.0s,mb5.1
ELZG Elazig 60.77 313 *i* P **P** **18 37 41.6 0.0**
YSS Yuzh-Sakhalins 60.87 36 *eP* **P** **18 37 40.0 -2.1**
YSS *e* 18 37 50.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS pmax pmax
comp=Z,60nm,1.1s,mb5.6
MALT Malatya 61.11 313 ⇓P **P** **18 37 44.4 +0.5**
EIL Elat 61.32 302 P **P** **18 37 46.1 +0.6**
comp=Z,12nm,0.9s,mb5.0,baz=101,slow=14,SNR=6.4
EIL pP pP 18 37 50.9 +0.5
comp=Z,13nm,1.0s,baz=142,slow=3.8,SNR=7.3
EIL Elat 61.32 302 *eP* **P** **18 37 45.4 -0.1**
comp=Z,15nm,0.9s,mb5.1
EIL *ep*P pP 18 37 50.2 -0.2
GZT Gaziantep 61.43 311 *i* P **P** **18 37 46.0 0.0**
KAHT Ahir Dag 62.03 311 *i* P **P** **18 37 51.0 +0.8**
MBAR Mbarara 62.89 268 *eP* **P** **18 37 54.5 -1.6**
comp=Z,8.2nm,1.2s,mb4.7
TOO Toolangi 62.89 135⇑*i* P **P** **18 37 57.0 +1.2**
comp=Z,14nm,1.0s,mb4.0
SOKR Solikamsk 62.97 340 ⇓*i* P **P** **18 37 52.0 -4.0**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.2
YAK Yakutsk 64.62 18*d* *iP* **P** **18 38 05.4 -1.4**
YAK pmax pmax
comp=Z,42nm,1.0s,mb5.4
YAK Yakutsk 64.62 18 *eP* **P** **18 38 05.5 -1.3**
comp=Z,36nm,0.9s,mb5.4
VRSR Storozhevoye 65.88 326 *eP* **P** **18 38 13.1 -2.0**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=N,5.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,0.9s
SIM Simferopol' **66.47 318** *eP* **P** **18 38 19.0 +0.1**
SIM pmax pmax
comp=Z,68nm,0.8s,mb5.7
ESKT Eskisehir 67.10 312 *i* P **P** **18 38 21.6 -1.5**
LSZ Lusaka 67.20 252 *eP* **P** **18 38 23.3 -0.8**
comp=Z,9.9nm,1.1s,mb4.8
ULDT Uludag 68.54 312 *i* P **P** **18 38 29.9 -2.1**
MOS Moscow 68.80 330 *eP* pP 18 38 41.5 +3.1
MOS *e* 18 39 04.2
MOS pmax pmax
comp=Z,106nm,1.3s,mb5.6
OBN Obninsk 69.05 329*d* *iP* **P** **18 38 34.2 -0.8**
OBN pmax pmax
comp=Z,32nm,1.2s,mb5.1
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 69.05 329 P **P** **18 38 33.5 -1.5**
comp=Z,5.1nm,0.4s,mb4.8
CFR Carcaliu 70.57 317 ⇓P **P** **18 38 48.2 +3.8**
HARR Harsova 70.58 316 ⇓P **P** **18 38 44.2 -0.3**
IDI Anoyia 70.80 306 P **P** **18 38 45.0 -1.0**
comp=Z,16nm,0.6s,mb5.1,baz=55,slow=5.9,SNR=8.0
MA2 Magadan 71.20 27 *eP* **P** **18 38 47.5 -0.5**
MA2 *e* 18 48 04.7
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 Magadan 71.20 27 *eP* **P** **18 38 47.6 -0.3**
comp=Z,7.1nm,0.5s,mb4.8
AKASG Malin Array Be 71.49 323 P **P** **18 38 47.9 -1.9**
comp=Z,5.0nm,0.7s,mb4.5,baz=89,slow=5.4,SNR=18
AKASG pP pP 18 38 52.4 -2.5
comp=Z,5.9nm,0.6s,baz=85,slow=4.9,SNR=8.6
AKASG Malin Array Be 71.49 323 P **P** **18 38 47.9 -1.9**
AKASG pP pP 18 38 52.4 -2.5
LBTB Lobatse 71.51 242 *eP* **P** **18 38 49.9 -0.5**
comp=Z,23nm,1.0s,mb5.1
VRI Vrincioaia 71.70 317 ⇑P **P** **18 38 51.1 -0.2**
TIXI Tiksi 71.94 11 ⇓*iP* **P** **18 38 51.1 -1.1**
TIXI pmax pmax
comp=Z,31nm,0.9s,mb5.2
MLR Muntele Rosu 72.14 317 ⇑P **P** **18 38 53.9 0.0**
MLR Muntele Rosu 72.14 317 P **P** **18 38 54.0 +0.1**
comp=Z,14nm,0.7s,mb5.0,baz=85,slow=2.5,SNR=18
MLR pP pP 18 38 59.0 +0.2
comp=Z,14nm,0.6s,baz=167,slow=2.1,SNR=14
RZN Rozhen 72.15 313 *i* P **P** **18 38 53.0 -1.0**
BOSA Boshof 72.62 239 *eP* **P** **18 38 56.5 -0.6**
comp=Z,27nm,1.2s,mb5.0
MMB Musomiste 72.86 313 P **P** **18 39 00.0 +1.8**
BURAR Bucovina Array 73.15 319 ⇓P **P** **18 38 59.6 -0.2**
KKB Krupnik 73.39 313 *i* P **P** **18 39 00.0 -1.3**
VTS Vitosha 73.43 313 ⇑P **P** **18 39 01.1 -0.4**
VTS Vitosha 73.43 313 *i* P **P** **18 39 01.5 0.0**
LVV L'vov 74.45 321 *eP* **P** **18 39 05.5 -1.7**
LVV *e* 18 39 16.9
BOLS Boljevac 74.57 315⇑*iP* **P** **18 39 06.2 -1.8**
JOF Joensuu 74.83 335 *ep* **P** **18 39 07.9 -1.3**
comp=Z,9.9nm,0.6s,mb4.9
JOF Joensuu 74.83 335 *eP* **P** **18 39 07.9 -1.3**
JOF pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BZS Buzias 75.14 316 ⇑P **P** **18 39 10.5 -0.8**
KOLS Kolonicke sedl 75.36 320 *i* P **P** **18 39 13.0 +0.4**
KOLS Kolonicke sedl 75.36 320 *i* P **P** **18 39 13.0 +0.4**
KOLS *i* 18 39 17.6 0.0
KOLS *i* pP pP 18 39 23.4 +5.8
CRVS Cervenica-Dubn 75.88 320 *i* P **P** **18 39 16.4 +0.9**
SUW Suwalki 75.98 325 *eP* **P** **18 39 14.7 -1.2**
comp=Z,37nm,0.9s,mb5.3
KECS Kecovo 76.44 319 *e* **P** **18 39 23.5 +4.9**
KECS *i* pP pP 18 39 29.2 +5.6
FINES FINESS Array B 76.59 333 *i* P **P** **18 39 18.3 -0.9**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 76.59 333 P **P** **18 39 18.3 -0.9**
comp=Z,4.6nm,0.8s,mb4.5,baz=102,slow=5.7,SNR=14
FINES pP pP 18 39 22.9 -1.3
comp=Z,4.6nm,0.8s,baz=102,slow=6.1,SNR=7.7
KAF Kangasniemi 76.70 334 *ep* **P** **18 39 18.7 -1.1**
comp=Z,12nm,0.8s,mb4.9
KAF Kangasniemi 76.70 334 *eP* **P** **18 39 18.7 -1.1**
KAF pmax pmax
comp=Z,12nm,0.8s,mb4.9
PSZ Piszkesteto 76.72 318 ⇑P **P** **18 39 19.9 -0.3**
PSZ Piszkesteto 76.72 318 *eP* **P** **18 39 20.1 -0.1**
SUR Sutherland 77.20 236 P **P** **18 39 23.3 +0.1**
comp=Z,13nm,0.9s,mb4.8,baz=155,slow=6.3,SNR=4.5
SUR Sutherland 77.20 236 *eP* **P** **18 39 23.6 +0.4**
comp=Z,17nm,0.9s,mb5.0
PKSM Moragy 77.29 317 ⇓P **P** **18 39 22.4 -1.0**
VYHS Vyhne 77.52 319 *i* P **P** **18 39 24.9 +0.3**
VYHS Vyhne 77.52 319 *i* P **P** **18 39 24.9 +0.3**
VYHS *i* pP 18 39 29.2 -0.5
OKC Ostrava-Krasne 78.18 320 *eP* **P** **18 39 28.6 +0.4**
SMOL Smolenice 78.45 319 *eP* **P** **18 39 30.4 +0.7**
SMOL *i* pP 18 39 35.5 +0.7
MORC Moravsky Berou 78.56 320 ⇑P **P** **18 39 30.1 -0.2**
ZST Bratislava 78.62 318 *i* P **P** **18 39 30.6 -0.1**
ZST *i* pP 18 39 36.1 +0.4
KOGS Kog 78.96 317 *eP* **P** **18 39 32.8 +0.2**
VRAC Vranov 79.10 320 P **P** **18 39 33.1 -0.2**
comp=Z,3.1nm,0.9s,mb4.2,baz=90,slow=11,SNR=3.2
VRAC pP pP 18 39 39.0 +0.6
comp=Z,3.6nm,0.8s,baz=104,slow=8.9,SNR=1.8
DPC Dobruska-Polom 79.42 321 *eP* **P** **18 39 35.9 +0.9**
ARCES ARCESS Array B 79.47 341 P **P** **18 39 35.6 +0.7**
comp=Z,7.1nm,0.9s,mb4.6,baz=101,slow=6.2,SNR=7.4
KSP Ksiaz 79.51 321 *eP* **P** **18 39 35.5 0.0**
KSP *e* pP 18 39 40.6 +0.1
ARSA Arzberg 79.55 317⇑*iP* **P** **18 39 36.3 +0.5**
comp=Z,23nm,1.1s,mb5.0
UPC Upice 79.64 321 *eP* **P** **18 39 36.9 +0.7**
LJU Ljubljana 80.10 316 *eP* **P** **18 39 38.8 +0.1**
OBKA Obir 80.14 317⇑*iP* **P** **18 39 39.1 +0.2**
comp=Z,16nm,1.2s,mb4.8
MOA Molln 80.46 318⇑*iP* **P** **18 39 40.5 -0.1**
comp=Z,16nm,1.4s,mb4.8
PRU Pruhonice 80.51 320 *eP* **P** **18 39 41.7 +0.9**
PRU *ep*P pP 18 39 52.1 +6.2
VOY Vojsko 80.54 316 *eP* **P** **18 39 40.8 -0.3**
PVCC Panska Ves 80.56 321 *eP* **P** **18 39 42.0 +0.9**
PTQR Pietraquaria 80.56 312 *eP* **P** **18 39 41.5 +0.2**
AQU L'Aquila 80.59 312 *eP* **P** **18 39 42.0 +0.6**
comp=Z,7.6nm,0.5s,mb4.9
BILL Bilibino 80.66 21⇑*eP* **P** **18 39 40.8 -0.5**
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,200nm,15.0s,MS4.6
CADS Cadrg 80.67 316 *eP* **P** **18 39 41.0 -0.8**
SYO Syowa Base 80.76 197 ⇑P **P** **18 39 42.5 +0.7**
NRCA Norcia 80.83 313 *eP* **P** **18 39 42.0 -0.7**
GEC2 GERESS Array S 80.94 319 *eP* **P** **18 39 43.3 +0.2**
GEC2 pmax pmax
comp=Z,101nm,1.3s,mb5.6
GEC2 GERESS Array S 80.94 319 *eP* **P** **18 39 43.3 +0.2**
comp=Z,101nm,1.3s,mb5.6
GERES GERESS Array B 80.94 319 P **P** **18 39 43.6 +0.5**
comp=Z,8.3nm,0.7s,mb4.8,baz=104,slow=5.5,SNR=58
GERES pP pP 18 39 48.3 +0.1
comp=Z,8.7nm,0.7s,baz=117,slow=5.8,SNR=19
PTCC Patocco-Chiusa 80.95 316 *eP* **P** **18 39 43.2 0.0**
BRG Berggiesshubel 80.99 321 *eP* **P** **18 39 43.6 +0.3**
BRG pmax pmax
comp=Z,40nm,1.2s,mb5.2
BRG Berggiesshubel 80.99 321 *eP* **P** **18 39 43.6 +0.3**
comp=Z,40nm,1.1s,mb5.3
SNTG Esanatoglia 80.99 313 *eP* **P** **18 39 43.6 0.0**
ARV Arcevia 81.01 313 *eP* **P** **18 39 43.8 +0.1**
KBA Koelnbreinsper 81.01 317⇑*iP* **P** **18 39 43.6 0.0**
comp=Z,10nm,1.1s,mb4.7
GMNA Gemona 81.02 316 *eP* **P** **18 39 43.5 -0.1**
KHC Kasperske Hory 81.05 319 *eP* **P** **18 39 43.9 +0.2**
KHC *e* 18 40 25.0
FSSB Fossombrone 81.14 314 *eP* **P** **18 39 44.8 +0.5**
FX1 Attu Island--F 81.22 37 P **P** **18 39 44.4 -0.1**
RUE Ruedersdorf 81.26 322 *eP* **P** **18 39 44.6 -0.1**
comp=Z,16nm,0.7s,mb5.0
FVI Forni Avoltri 81.36 316 *eP* **P** **18 39 45.6 +0.3**
RSM Repubblica di 81.40 314 *eP* **P** **18 39 46.7 +1.1**
WET Wettzell 81.50 319 *eP* **P** **18 39 46.3 +0.2**
WET pmax pmax
comp=Z,40nm,1.2s,mb5.2
WET Wettzell 81.50 319 *eP* **P** **18 39 46.3 +0.2**
comp=Z,40nm,1.2s,mb5.2
CLL Collm 81.62 321 *i* P **P** **18 39 46.4 -0.2**
CLL Collm 81.62 321 P **P** **18 39 46.4 -0.2**
comp=Z,logA/T=1.0,mb4.7
CRE Caprese Michel 81.74 313 *eP* **P** **18 39 47.6 +0.2**
SFI Santa Sofia 81.83 314 *eP* **P** **18 39 49.4 +1.5**
NKC Novy Kostel 81.88 320 *eP* **P** **18 39 48.8 +0.8**
PGD Poggio Sodo 81.92 314 *eP* **P** **18 39 49.3 +0.9**
VMG Vicchio 82.05 314 *eP* **P** **18 39 51.1 +2.1**
CTI Castel Tesino 82.10 316 *eP* **P** **18 39 49.9 +0.6**
HFS Hagfors 82.21 330 P **P** **18 39 49.2 -0.2**
comp=Z,5.5nm,0.9s,mb4.5,baz=90,slow=5.9,SNR=5.0
HFS pP pP 18 39 54.4 -0.2
comp=Z,2.8nm,0.7s,baz=117,slow=3.3,SNR=2.4
WATA Walderalm 82.23 317⇓*iP* **P** **18 39 49.6 -0.3**
comp=Z,9.0nm,1.0s,mb4.7
MOX Moxa 82.44 321 *eP* **P** **18 39 50.2 -0.7**
MOX pmax pmax
comp=Z,45nm,1.6s,mb5.2
MOX Moxa 82.44 321 *eP* **P** **18 39 50.2 -0.7**
comp=Z,45nm,1.6s,mb5.2
MOX Moxa 82.44 321 *iP* **P** **18 39 50.2 -0.7**
SQTA Sankt Quirin 82.48 317⇑*iP* **P** **18 39 51.1 -0.1**
comp=Z,7.5nm,0.9s,mb4.6
MOTA Moosalm 82.56 317⇑*iP* **P** **18 39 51.2 -0.4**
comp=Z,6.6nm,1.1s,mb4.6
GRA1 Grafenberg Arr 82.63 320 *eP* **P** **18 39 52.3 +0.4**
comp=Z,57nm,1.1s,mb5.5
GRF Grafenberg Arr 82.63 320 *eP* **P** **18 39 52.3 +0.4**
GRF pmax pmax
comp=Z,57nm,1.1s,mb5.5
GRF Grafenberg Arr 82.63 320 *eP* **P** **18 39 52.3 +0.4**
comp=Z,57nm,1.1s,mb5.5
BRMO Bormio 83.01 316 *eP* **P** **18 39 54.7 +0.8**
RPZ Rata Peaks 83.18 135 P **P** **18 39 54.7 -0.2**
comp=Z,17nm,0.8s,mb5.1,baz=162,slow=18,SNR=5.4
RPZ pP pP 18 40 01.8 +1.8
comp=Z,9.6nm,0.8s,baz=208,slow=19,SNR=2.5
CLZ Clausthal 83.30 322 *eP* **P** **18 39 55.7 +0.4**
comp=Z,36nm,1.1s,mb5.3
DAVA Damuels 83.39 317⇑*iP* **P** **18 39 56.6 +0.8**
comp=Z,17nm,1.0s,mb5.0
DAVA *i* 18 40 06.8
comp=Z,76nm,1.1s
BSEG Bad Segeberg 83.46 324 *eP* **P** **18 39 56.0 -0.1**
BSEG pmax pmax
comp=Z,24nm,0.9s,mb5.2
NB2 NORSAR Subarra 83.52 331 P **P** **18 39 55.1 -1.1**
comp=Z,18nm,1.1s,mb5.1,baz=94,slow=5.6
NB2 NORSAR Subarra 83.52 331 P **P** **18 39 55.1 -1.1**
baz=94,slow=5.9
NOA NORSAR Array B 83.52 331 P **P** **18 39 55.6 -0.6**
comp=Z,3.9nm,0.9s,mb4.5,baz=93,slow=5.5,SNR=5.7
NOA pP pP 18 40 00.5 -0.8
comp=Z,2.8nm,0.9s,baz=94,slow=5.7,SNR=5.5
PGF Pioggiola 83.85 312 *eP* **P** **18 39 58.0 -0.4**
comp=Z,35nm,1.3s,mb5.0
TNS Taunus Mts 84.44 320 *eP* **P** **18 40 01.6 +0.5**
comp=Z,38nm,1.1s,mb5.4
BFO Black Forest 84.47 318 *eP* **P** **18 40 00.5 -0.8**
comp=Z,18nm,1.2s,mb5.1
SBF Sospel 85.02 314 *eP* **P** **18 40 03.9 -0.3**
CDF Champ du Feu 85.17 318 *eP* **P** **18 40 04.1 -0.7**
comp=Z,6.2nm,0.8s,mb4.5
MBDF Montbardon 85.50 314 *eP* **P** **18 40 05.8 -0.7**
comp=Z,9.3nm,0.9s,mb4.6
LPG La Plagne 85.51 315 *eP* **P** **18 40 06.6 0.0**
comp=Z,28nm,1.1s,mb5.1
LPL La Plagne 85.52 315 *eP* **P** **18 40 06.6 -0.1**
comp=Z,42nm,1.2s,mb5.2
FRF La Foret Royal 85.59 313 *eP* **P** **18 40 06.8 -0.2**
LMR La Mourre 85.69 313 *eP* **P** **18 40 07.3 -0.2**
HAU Haudompre 85.79 318 *eP* **P** **18 40 07.2 -0.7**
comp=Z,14nm,0.8s,mb4.9
CABF La Chapelle 85.97 316 *eP* **P** **18 40 08.8 -0.1**
ORIF Oris-en-Rattie 86.13 315 *eP* **P** **18 40 09.7 0.0**
SMRF Simiane la Rot 86.36 314 *eP* **P** **18 40 11.2 +0.3**
MEZF Maizieres J'vi 86.65 318 *eP* **P** **18 40 11.6 -0.6**
GIVF Givet 86.77 320 *eP* **P** **18 40 12.3 -0.4**
VIVF Saint-Julien-l 86.99 315 *eP* **P** **18 40 13.6 -0.3**
BAIF Baives 87.17 320 *eP* **P** **18 40 14.4 -0.2**
SMF Signal de Mont 87.52 316 *eP* **P** **18 40 15.8 -0.6**
comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 87.73 317 *eP* **P** **18 40 17.0 -0.4**
AVF Avril sur Loir 87.85 317 *eP* **P** **18 40 17.5 -0.5**
BGF Bois d'Agland 88.21 316 *eP* **P** **18 40 19.6 -0.1**
comp=Z,31nm,1.2s,mb5.1
HYF Humbligny 88.31 317 *eP* **P** **18 40 20.2 0.0**
VNDA Vanda 88.47 168 P **P** **18 40 21.8 +1.5**
comp=Z,4.8nm,0.9s,mb4.7,baz=291,slow=5.3,SNR=8.3
VNDA pP pP 18 40 25.9 +0.5
comp=Z,2.4nm,0.7s,baz=308,slow=6.0,SNR=4.3
VNDA Vanda 88.47 168 P **P** **18 40 21.8 +1.5**
VNDA pP pP 18 40 25.9 +0.5
MTLF Montolieu 88.82 313 *eP* **P** **18 40 22.8 +0.1**
CAF Calviac 88.84 315 *eP* **P** **18 40 22.9 +0.1**
RJF Les Rejaudoux 89.20 315 *eP* **P** **18 40 24.7 +0.2**
SBA Scott Base 89.57 168 *e*PKPdf **P** **18 40 27.5 +2.0**
comp=Z,15nm,0.9s,mb5.3
LFF La Frestale 89.78 315 *eP* **P** **18 40 27.5 +0.3**
LDF La Druitiere 90.08 319 *eP* **P** **18 40 28.2 -0.3**
comp=Z,9.9nm,0.9s,mb4.8
MFF Saint Martin d 90.26 317 *eP* **P** **18 40 29.1 -0.3**
comp=Z,14nm,1.1s,mb4.9
FLN La Foliniere 90.30 319 *eP* **P** **18 40 29.3 -0.2**
comp=Z,23nm,1.0s,mb5.2
GRR Gorron 90.58 318 *eP* **P** **18 40 30.7 -0.2**
comp=Z,32nm,1.3s,mb5.2
TNA Tin City 90.67 24 *eP* **P** **18 40 31.1 +0.2**
comp=Z,5.3nm,0.9s,mb4.9
ETSF Etsaut 90.88 313 *eP* **P** **18 40 32.8 +0.5**
comp=Z,18nm,1.2s,mb5.0
EKA Eskdalemuir Ar 91.24 325 P **P** **18 40 34.0 +0.3**
comp=Z,4.0nm,1.0s,mb4.7,baz=104,slow=3.4,SNR=4.8
EKA pP pP 18 40 38.5 -0.3
comp=Z,1.7nm,0.7s,baz=100,slow=5.1,SNR=3.2
SJPF Ste Jean 91.34 313 *eP* **P** **18 40 35.1 +0.6**
comp=Z,18nm,1.1s,mb5.0
SGMF Saint Gilles 91.73 318 *eP* **P** **18 40 35.9 -0.2**
QUIF Quistinic 92.17 318 *eP* **P** **18 40 37.8 -0.4**
ROSF Rostrenen 92.19 318 *eP* **P** **18 40 38.0 -0.2**
QSPA South Pole Qui 93.10 180 *eP* **P** **18 40 42.2 +0.5**
comp=Z,11nm,1.1s,mb5.2
ESDC Sonseca Array 93.77 310 P **P** **18 40 46.6 +0.9**
comp=Z,0.5nm,0.5s,mb4.2,baz=124,slow=5.3,SNR=4.5
ESDC pP pP 18 40 51.2 +0.3
comp=Z,0.2nm,0.4s,baz=100,slow=39,SNR=2.9
IMA Indian Mountai 96.18 22 *eP* **P** **18 40 57.5 +1.4**
YKA Yellowknife Ar 111.11 14 PKiKP 18 46 01.5
comp=Z,0.1nm,0.3s,baz=322,slow=2.4,SNR=4.5
YKA PP PP 18 46 39.3 -4.9
comp=Z,0.8nm,0.9s,baz=334,slow=7.5,SNR=6.1
YKA PKKPbc 18 56 58.2
comp=Z,0.3nm,0.4s,baz=147,slow=3.1,SNR=6.2
YKA PKKPab 18 57 08.4
comp=Z,0.8nm,0.8s,baz=148,slow=3.9,SNR=11
YKA PKKP PKKP 18 57 19.0 +7.8
comp=Z,0.8nm,0.8s,baz=147,slow=4.2,SNR=7.2
YKA Yellowknife Ar 111.11 14 PKPdf PKPdf 18 46 01.5 -2.6
YKA PP PP 18 46 39.3 -4.9
YKA PKKPbc 18 56 58.2
YKA PKKPab 18 57 08.4
YKA PKKP PKKP 18 57 19.0 +7.8
ULM Lac du Bonnet 126.18 7 PKP PKPdf 18 46 30.7 -3.0
comp=Z,3.6nm,0.8s,baz=3.6,slow=4.6,SNR=6.6
ULM pPKP 18 46 36.2
comp=Z,1.1nm,0.5s,baz=0.5,slow=4.2,SNR=1.8
ULM Lac du Bonnet 126.18 7 PKP PKPdf 18 46 30.7 -3.0
ULM pPKP 18 46 36.2
ELK Elko 129.00 28 PKP PKPdf 18 46 38.9 -0.6
comp=Z,2.5nm,0.9s
NVAR Mina Array Bea 129.21 32 PKP PKPdf 18 46 39.4 -0.5
comp=Z,1.2nm,0.7s,baz=328,slow=0.7,SNR=9.4
PDAR Pinedale Array 129.73 22 PKP PKPdf 18 46 39.0 -1.8
comp=Z,6.7nm,1.2s,slow=1.5,SNR=12
TCUT Toone Canyon 130.40 25 PKPdf PKPdf 18 46 34.3 -7.8
MSU Marysvale 132.20 27 PKPdf PKPdf 18 46 44.3 -1.3
PV10 Paradox Valley 133.69 25 PKPdf PKPdf 18 46 48.8 +0.5
ACSO Alum Creek Sta 136.70 356 *e*PKPdf PKPdf 18 46 53.4 -0.4
PLCA Paso Flores 139.94 199 PKP PKPdf 18 46 57.7 -2.0
comp=Z,1.8nm,0.9s,baz=177,slow=13,SNR=2.0
PLCA Paso Flores 139.94 199 PKP PKPdf 18 46 57.7 -2.0
BDFB Brasilia 140.19 249 PKP PKPdf 18 46 59.2 -1.6
comp=Z,1.1nm,0.4s,baz=131,slow=1.1,SNR=3.2
GDL2 Guadalupe Moun 140.94 24 PKPpre 18 46 53.5
MIAR Mount Ida 141.90 10 *e*PKPpre 18 46 58.2
LTX Lajitas 143.72 26 *e*PKPpre 18 47 02.5
TXAR Lajitas Array 143.72 26 PKP PKPdf 18 47 02.9 -3.8
comp=Z,5.3nm,0.9s,baz=270,slow=2.5,SNR=23
JCT Junction City 144.20 20 *e*PKPpre 18 47 03.0
HKT Hockley 145.87 15 *e*PKPdf PKPdf 18 47 09.3 -1.1
LVC Limon Verde 154.25 220 PKPbc PKPdf 18 47 28.4 +4.9
comp=Z,5.4nm,0.9s,baz=32,slow=1.3,SNR=4.6
LPAZ La Paz 157.76 233 PKP PKPdf 18 47 27.3 -1.0
comp=Z,2.6nm,0.8s,baz=43,slow=3.1,SNR=9.6
LPAZ PKPab PKPab 18 47 59.8 +0.2
comp=Z,2.2nm,0.7s,baz=161,slow=2.4,SNR=4.7
LPAZ La Paz 157.76 233 PKP PKPdf 18 47 27.3 -1.0
LPAZ PKPab PKPab 18 47 59.8 +0.2
SDV Santo Domingo 160.20 307 PKP PKPdf 18 47 29.0 -2.2
comp=Z,1.9nm,0.5s,baz=327,slow=10,SNR=4.6
SDV PKPab PKPab 18 48 10.0 -0.2
comp=Z,3.0nm,0.9s,baz=333,slow=13,SNR=2.0
ROSC El Rosal 165.50 303 PKP PKPdf 18 47 35.2 -1.3
comp=Z,3.4nm,0.3s,baz=104,slow=18,SNR=4.2

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*BJI **09** 18:27:38.0,3.20N×93.50E,h19km,mB5.9,mb5.0,Ms5.1, Msz5.0*
*NEIC **09** 18:27:41.1±0.2,3.20N×93.46E,mb5.3/26,MS4.8/43, Error ellipse: s-maj=6.7km s-min=6.1km az=132.0*
*IDC **09** 18:27:41.0±0.5,3.25N×93.52E,h17km±2km,mb4.9/24, mb1 5.0/25,mb1mx5.0/27,mbtmp5.0/25,ML5.0/1, Error ellipse: s-maj=16.3km s-min=12.0km az=47.0*
ISC 09 18:27:39.2±0.3,3.21N±0.05×93.53E±0.05,h19km, h19km±.8km:pP-P,n176,σ0s87/125,mb5.2/54,MS4.8/45, 1C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.39**	**74**	*eP*	**Pn**	**18 29 28.6**	**-0.2**
CM31	**Chiang Mai Arr** 115nm,0.9s	**16.05**	**19**	*eP*	**P**	**18 31 28.0**	**+2.3**
CMAR	**Chiang Mai Arr** 2.3nm,0.3s,baz=218,slow=12,SNR=27	**16.05**	**19**	Pn	**P**	**18 31 27.7**	**+2.0**
CMAR	baz=217,slow=18,SNR=2.6			Sn	**S**	**18 34 23.1**	**0.0**
CMAR	0.1nm,0.3s,baz=248,slow=2.4,SNR=3.6			ScP		18 39 55.8	
UBT	**Ubonrachathani**	**16.46**	**43**	P	**P**	**18 31 28.5**	**-2.5**
KSM	**Kuching**	**16.85**	**96**	*eP*	**P**	**18 31 30.1**	**-5.8**
KSM				*ep*P		18 31 39.5	
TRD	**Trivandrum**	**17.30**	**288**	*e*	**P**	**18 31 42.2**	**+0.6**
TRD				*i* S	**S**	**18 34 46.2**	**-5.7**
QIZ	**Qiongzhong**	**22.39**	**44**	PFAKE		18 32 50.0	+12
QIZ	comp=Z,538nm,20.0s,MS4.0			LR	LR		
DGAR	**Diego Garcia**	**23.54**	**243**	PFAKE		18 33 00.0	+11
DGAR	comp=Z,277nm,20.0s			LR	LR		
GYA	**Guiyang**	**26.32**	**27**	AP	**P**	**18 33 16.6**	**+0.8**
GYA				XP	pP	18 33 20.8	-0.7
LSA	**Lhasa**	**26.44**	**355**	*eP*	**P**	**18 33 19.0**	**+2.1**
LSA	comp=Z,193nm,0.7s,mb5.7			LR	LR		
GZH	**Guangzhou**	**27.53**	**42**	P	**P**	**18 33 25.0**	**-2.0**
GZH				S	**S**	**18 38 04.7**	**-0.7**
GZH	comp=Z,611nm,19.0s,MS4.2			LR	LR		
GZH	comp=N,2μm,17.7s,MS4.7			LR	LR		
GZH	comp=E,1μm,16.2s,MS4.7			LR	LR		
NDI	**New Delhi**	**29.71**	**330**	*e*	**P**	**18 33 46.0**	**-0.6**
ENH	**Enshi**	**30.86**	**28**	*eP*	**P**	**18 33 53.9**	**-2.7**
ENH	comp=Z,2μm,12.9s,MS4.9			LR	LR		
LZH	**Lanzhou**	**34.07**	**15**	AP	**P**	**18 34 24.1**	**-0.6**
LZH	comp=Z,2,383nm,19.0s,MS4.1			XP	pP	18 34 29.5	-0.9
TATO	**Taipei**	**34.53**	**49**	PFAKE		18 34 40.0	+11
TATO	comp=Z,541nm,21.0s,MS4.3			LR	LR		
MBWA	**Marble Bar**	**35.29**	**135**	PFAKE		18 34 50.0	+15
MBWA				LR	LR		

comp=Z,436nm,20.0s,MS4.2
NJ2 Nanjing 37.27 37 *e*P **P** **18 34 52.2 +0.4**
NJ2 AP pP 18 35 02.6 +5.0
NJ2 XP sP 18 35 06.6 +6.6
NJ2 PP PP 18 36 19.8 +0.5
NJ2 AMB AMB
comp=Z,830nm,4.2s
NJ2 LR LR
comp=N,2µm,17.0s
NJ2 LR LR
comp=E,2µm,22.2s
NJ2 LR LR
comp=Z,2µm,11.8s
BTO Baotou 40.09 20 *e*P **P** **18 35 14.1 -1.2**
WMQ Urumqi 40.77 354 AP **P** **18 35 22.0 +1.2**
ULHL Ulahol 41.83 341 P **P** **18 35 19.7 -10**
SNR=6.7
BJT Baijiatuau 41.98 26 *e*P **P** **18 35 32.1 +1.2**
comp=Z,63nm,0.9s,mb5.2
BJT LR LR
comp=Z,398nm,19.0s,MS4.3
BJI Beijing 42.00 26 pP pP 18 35 31.5 -5.3
BJI sP sP 18 35 36.9 -2.3
BJI S **S** **18 41 46.7 -1.9**
BJI SS SS 18 45 04.3 +14
BJI Beijing 42.00 26 AP **P** **18 35 31.5 +0.5**
BJI XP pP 18 35 36.9 +0.1
NWAO Narrogin (SRO) 42.37 150 PFAKE 18 35 50.0 +16
NWAO LR LR
comp=Z,492nm,19.0s,MS4.4
TKM2 Tokmak 2 42.64 340 P **P** **18 35 36.7 +0.5**
SNR=5.3
AAK Ala-Archa 42.77 339 *e*P **P** **18 35 37.9 +0.6**
comp=Z,16nm,0.9s
AAK LR LR
comp=Z,91nm,20.0s
INCN Inchon 45.64 37 PFAKE 18 36 10.0 +9.5
INCN LR LR
comp=Z,415nm,19.0s,MS4.4
SONM Songino Array 45.81 12 P **P** **18 36 02.0 +0.3**
comp=Z,26nm,0.8s,mb5.2,baz=191,slow=8.9,SNR=26
SONM pP pP 18 36 08.2 +0.7
comp=Z,5.4nm,0.4s,baz=191,slow=7.1,SNR=5.1
SONM PcP PcP 18 37 39.7 +0.1
comp=Z,7.7nm,0.7s,baz=194,slow=3.3,SNR=7.1
ULN Ulaanbaatar 45.98 13 *e*P **P** **18 36 03.2 +0.1**
comp=Z,15nm,0.8s,mb5.0
WRA Warramunga Arr 46.20 122 P **P** **18 36 05.6 +0.4**
comp=Z,24nm,0.8s,mb5.2,baz=300,slow=8.8,SNR=8.0
ASAR Alice Springs 47.53 126 P **P** **18 36 15.7 +0.1**
comp=Z,4.0nm,0.7s,mb4.6,baz=355,slow=35,SNR=6.7
ASAR PcP PcP 18 37 45.6 -0.3
comp=Z,4.8nm,0.8s,baz=308,slow=3.4,SNR=4.4
MOY Mondy 48.69 6 *e*P **P** **18 36 24.7 +0.5**
KURK Kurchatov 48.98 347 *e*P **P** **18 36 26.3 -0.2**
comp=Z,59nm,0.9s,mb5.6
KURK LR LR
comp=Z,112nm,20.0s,MS3.9
TLY Talaya 49.04 8 *e*P **P** **18 36 27.4 +0.5**
comp=Z,15nm,0.8s,mb5.1
TLY LR LR
comp=Z,66nm,20.0s
HIA Hailar 51.03 22 *e*P **P** **18 36 42.1 -0.1**
comp=Z,36nm,0.9s,mb5.3
HIA LR LR
comp=Z,409nm,19.0s,MS4.5
GUMO Guam 51.72 75 PFAKE 18 37 00.0 +12
GUMO LR LR
comp=Z,876nm,19.0s,MS4.8
MDJ Mudanjiang 52.02 32 P **P** **18 36 50.0 +0.3**
comp=Z,34nm,1.2s,mb5.2
MDJ LR LR
comp=Z,257nm,20.0s,MS4.3
MAJO Matsushiro 52.78 45 PFAKE 18 37 10.0 +14
MAJO LR LR
comp=Z,371nm,20.0s,MS4.4
BVAR Borovoye Array 53.20 343 P **P** **18 36 57.3 -1.2**
comp=Z,28nm,0.7s,mb5.3,baz=146,slow=8.1,SNR=36
BVAR pP pP 18 37 03.3 -1.1
comp=Z,5.3nm,0.6s,baz=350,slow=36,SNR=7.1
BVAR PcP PcP 18 38 06.4 +0.1
comp=Z,1.9nm,0.6s,baz=280,slow=18,SNR=1.8
CHKZ Chkalovo 53.71 343 *e*P **P** **18 37 01.1 -1.0**
comp=Z,60nm,0.8s,mb5.6
PMG Port Moresby 54.88 104 PcP PcP 18 38 14.0 +0.8
comp=Z,14nm,0.8s,baz=276,slow=14,SNR=7.9
KMBO Kilima Mbogo 56.42 267 P **P** **18 37 22.8 +0.4**
comp=Z,8.7nm,0.9s,mb4.8,baz=65,slow=9.8,SNR=14
KMBO PcP PcP 18 38 19.9 +0.7
comp=Z,4.7nm,1.1s,baz=58,slow=17,SNR=3.5
KMBO Kilima Mbogo 56.42 267 *e*P **P** **18 37 22.3 -0.2**
comp=Z,13nm,1.0s,mb4.9
KMBO PcP PcP 18 38 19.9 +0.7
KMBO LR LR
comp=Z,538nm,21.0s,MS4.6
BOD Bodaibo 56.79 13 *e* **P** **18 37 24.0 -0.5**
GNI Garni 57.32 317 P **P** **18 37 28.2 -0.2**
comp=Z,20nm,0.8s,mb5.2,baz=358,slow=7.3,SNR=8.2
GNI Garni 57.32 317 P **P** **18 37 28.2 -0.2**
GNI LR LR
comp=Z,226nm,20.0s,MS4.3
STKA Stephens Creek 57.42 131 P **P** **18 37 28.4 -0.9**
comp=Z,7.6nm,0.6s,mb4.9,baz=300,slow=14,SNR=5.3
STKA pP pP 18 37 34.9 -0.4
comp=Z,4.2nm,0.7s,baz=295,slow=18,SNR=2.0
ONI Oni 59.29 319 P **P** **18 37 40.5 -1.6**
ASAJ Asahikawa 59.35 39 P **P** **18 37 42.9 +0.3**
comp=Z,18nm,1.0s,mb5.1,baz=129,slow=6.8,SNR=4.2
ASAJ pP pP 18 37 48.2 -0.3
comp=Z,18nm,0.9s,baz=258,slow=30,SNR=3.2
ASF Jabal al Asfar 60.32 305 P **P** **18 37 50.1 +0.7**
comp=Z,38nm,0.9s,mb5.4,baz=348,slow=3.5,SNR=17
ASF pP pP 18 37 56.6 +1.1
comp=Z,13nm,0.8s,baz=299,slow=4.8,SNR=4.2
KIV Kislovodsk 60.41 320 *e*P **P** **18 37 48.5 -1.4**
comp=Z,58nm,1.0s,mb5.6
KIV LR LR
comp=Z,25nm,19.0s
EIL Elat 61.29 302 P **P** **18 37 56.1 0.0**
comp=Z,32nm,0.8s,baz=83,slow=3.3,SNR=18
EIL Elat 61.29 302 *e*P **P** **18 37 55.5 -0.5**
comp=Z,48nm,1.0s,mb5.6
MBAR Mbarara 62.88 268 *e*P **P** **18 38 05.3 -1.5**
comp=Z,12nm,1.1s,mb4.9
MBAR LR LR
comp=Z,71nm,19.0s,MS3.9
YAK Yakutsk 64.58 18 *e*P **P** **18 38 16.1 -1.2**
comp=Z,80nm,0.9s,mb5.8
LSZ Lusaka 67.21 252 *e*P **P** **18 38 34.3 -0.6**
comp=Z,14nm,1.0s,mb4.9
LSZ LR LR
comp=Z,755nm,20.0s,MS4.9
OBN Obninsk 69.00 329 *e*P **P** **18 38 43.5 -2.0**
comp=Z,28nm,0.9s,mb5.2
IDI Anoyia 70.76 306 P **P** **18 38 56.7 +0.1**
comp=Z,42nm,0.6s,mb5.6,baz=87,slow=7.0,SNR=9.3
MA2 Magadan 71.16 27 *e*P **P** **18 38 58.3 -0.2**
comp=Z,38nm,0.9s,mb5.3
MA2 LR LR
comp=Z,386nm,20.0s,MS4.7
AKASG Malin Array Be 71.44 323 P **P** **18 38 58.9 -1.5**
comp=Z,15nm,0.6s,mb5.1,baz=85,slow=5.1,SNR=19
AKASG pP pP 18 39 04.4 -2.1
comp=Z,6.1nm,0.6s,baz=88,slow=5.2,SNR=6.6
LBTB Lobatse 71.53 242 *e*P **P** **18 39 00.8 -0.6**
comp=Z,26nm,0.9s,mb5.2
LBTB LR LR
comp=Z,569nm,21.0s,MS4.8
TIXI Tiksi 71.89 11 PFAKE 18 39 10.0 +7.3
TIXI LR LR
comp=Z,327nm,21.0s,MS4.6
MLR Muntele Rosu 72.10 317 P **P** **18 39 04.7 +0.3**
comp=Z,51nm,0.8s,mb5.5,baz=128,slow=2.6,SNR=29
BOSA Boshof 72.64 239 *e*P **P** **18 39 07.4 -0.6**
comp=Z,20nm,1.0s,mb5.0
BOSA LR LR
comp=Z,711nm,21.0s,MS4.9
PUL Pulkovo 74.00 332⇓ *e*P **P** **18 39 13.8 -1.4**
PUL pmax pmax
comp=Z,60nm,0.5s,mb5.8
KOLS Kolonicke sedl 75.32 320 *i* *PP **P** **18 39 23.4 +0.3**
SUW Suwalki 75.93 325 *e*P **P** **18 39 25.1 -1.4**
comp=Z,164nm,1.0s,mb5.9
APA Apatity 75.98 340⇑ *i*P **P** **18 39 26.2 -0.3**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
APA MLR MLR

comp=Z,2µm,14.0s,MS5.5
FINES FINESS Array B 76.54 333 P **P** **18 39 28.9 -0.8**
comp=Z,8.3nm,0.6s,mb4.9,baz=100,slow=6.6,SNR=17
FINES pP pP 18 39 34.7 -1.1
comp=Z,6.5nm,0.8s,baz=101,slow=5.6,SNR=5.9
FINES FINESS Array B 76.54 333 P **P** **18 39 28.9 -0.8**
FINES pP pP 18 39 34.7 -1.1
SUR Sutherland 77.22 236 P **P** **18 39 34.3 +0.2**
comp=Z,14nm,1.0s,mb4.9,baz=72,slow=6.6,SNR=3.7
SUR pP pP 18 39 40.6 +0.4
comp=Z,10nm,0.9s,baz=93,slow=5.4,SNR=3.0
VYHS Vyhne 77.47 319 *i* pP **P** **18 39 35.4 +0.2**
VYHS Vyhne 77.47 319 *i* *PP **P** **18 39 35.4 +0.2**
TSUM Tsumeb 77.83 250 PFAKE 18 39 50.0 +12
TSUM LR LR
comp=Z,209nm,19.0s,MS4.5
OKC Ostrava-Krasne 78.14 320 *e*pP **P** **18 39 39.2 +0.4**
SMOL Smolenice 78.40 319 *i* pP **P** **18 39 40.6 +0.3**
ZST Bratislava 78.57 318 *i* pP **P** **18 39 41.4 +0.2**
KOGS Kog 78.92 317 *e* **P** **18 39 43.1 -0.1**
KEV Kevo 79.01 341 *e*p **P** **18 39 41.7 -1.5**
comp=Z,0.6nm,0.4s
KEV Kevo 79.01 341 *e*P **P** **18 39 41.7 -1.5**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
VRAC Vranov 79.06 320 P **P** **18 39 44.0 +0.1**
comp=Z,6.5nm,0.8s,mb4.6,baz=77,slow=8.4,SNR=6.7
DPC Dobruska-Polom 79.38 321 *e*pP **P** **18 39 46.4 +0.8**
ARCES ARCESS Array B 79.42 341 P **P** **18 39 45.3 -0.1**
comp=Z,9.5nm,0.7s,mb4.8,baz=89,slow=5.2,SNR=8.3
ARCES pP pP 18 39 52.3 +0.7
comp=Z,7.5nm,0.9s,baz=127,slow=6.1,SNR=3.6
KSP Ksiaz 79.46 321 *e*pP **P** **18 39 46.2 +0.2**
KSP Ksiaz 79.46 321 *e**PP **P** **18 39 46.2 +0.2**
ARSA Arzberg 79.51 317 *i* P **P** **18 39 46.7 +0.4**
ARSA Arzberg 79.51 317 *i* **P** **18 39 46.7 +0.4**
comp=Z,79nm,1.1s,mb5.6
UPC Upice 79.59 321 *e*pP **P** **18 39 47.4 +0.7**
LJU Ljubljana 80.06 316 *e* **P** **18 39 49.6 +0.2**
OBKA Obir 80.09 317 *i* P **P** **18 39 49.4 -0.1**
OBKA Obir 80.09 317 *i* **P** **18 39 49.4 -0.1**
comp=Z,59nm,1.2s,mb5.4
VOY Vojsko 80.50 316 *e* **P** **18 39 50.9 -0.8**
VOY *e* pP 18 39 57.8 0.0
PVCC Panska Ves 80.51 321 *e*pP **P** **18 39 52.3 +0.7**
AQU L'Aquila 80.55 312 *e*P **P** **18 39 52.6 +0.6**
BILL Bilibino 80.61 21 PFAKE 18 40 00.0 +8.2
BILL LR LR
comp=Z,343nm,19.0s,MS4.7
CADS Cadrg 80.63 316 *e* **P** **18 39 52.5 +0.2**
SYO Syowa Base 80.80 197 ⇓pP **P** **18 39 53.2 +0.4**
GERES GERESS Array B 80.89 319 P **P** **18 39 54.5 +0.9**
comp=Z,26nm,0.8s,mb5.2,baz=104,slow=5.5,SNR=35
GERES pP pP 18 40 00.4 +0.6
comp=Z,12nm,0.7s,baz=108,slow=4.2,SNR=6.8
BRG Berggiesshubel 80.94 321 *i* P **P** **18 39 54.3 +0.4**
BRG *i* pP 18 40 00.8 +0.7
BRG Berggiesshubel 80.94 321 *i* **P** **18 39 54.3 +0.4**
BRG *i* pP 18 40 00.8 +0.7
KBA Koelnbreinsper 80.97 317 *i* P **P** **18 39 53.8 -0.3**
KBA Koelnbreinsper 80.97 317 *i* **P** **18 39 53.8 -0.3**
comp=Z,21nm,1.1s,mb5.0
KHC Kasperske Hory 81.00 319 *e*pP **P** **18 39 54.7 +0.5**
FX1 Attu Island--F 81.19 37 *e*P **P** **18 39 56.0 +0.9**
RUE Ruedersdorf 81.22 322 *e*P **P** **18 39 55.2 -0.1**
comp=Z,60nm,1.0s,mb5.5
CLL Collm 81.58 321 *i* P **P** **18 39 57.1 -0.1**
CLL *i* pP 18 40 02.8 -0.6
CLL Collm 81.58 321 *i* **P** **18 39 57.1 -0.1**
CLL *i* pP 18 40 02.8 -0.6
CLL Collm 81.58 321 *i* *PP **P** **18 39 57.1 -0.1**
CLL *i* *SP pP 18 40 02.8 -0.6
NKC Novy Kostel 81.83 320 *e*pP **P** **18 39 59.1 +0.6**
HFS Hagfors 82.16 330 P **P** **18 40 00.1 0.0**
comp=Z,21nm,1.1s,mb5.0,baz=117,slow=6.6,SNR=6.0
WATA Walderalm 82.19 317 *i* P **P** **18 40 00.0 -0.5**
WATA Walderalm 82.19 317 *i* **P** **18 40 00.0 -0.5**
comp=Z,28nm,1.1s,mb5.1
MOX Moxa 82.40 321 *e*P **P** **18 40 01.6 +0.1**
MOX Moxa 82.40 321 pP **P** **18 40 02.0 +0.5**
MOX Moxa 82.40 321 *e* **P** **18 40 01.6 +0.1**
SQTA Sankt Quirin 82.44 317 *i* P **P** **18 40 01.7 0.0**
SQTA Sankt Quirin 82.44 317 *i* **P** **18 40 01.7 0.0**
comp=Z,30nm,1.0s,mb5.2
MOTA Moosalm 82.51 317 *i* P **P** **18 40 01.8 -0.3**
MOTA Moosalm 82.51 317 *i* **P** **18 40 01.8 -0.3**
comp=Z,15nm,1.0s,mb5.0
GRA1 Grafenberg Arr 82.58 320 *e*pP **P** **18 40 03.2 +0.8**
GRF Grafenberg Arr 82.58 320 *e*pP **P** **18 40 03.2 +0.8**
GRF Grafenberg Arr 82.58 320 *e**PP **P** **18 40 03.2 +0.8**
GSCL Gusciola 82.72 314 *e*P **P** **18 40 04.2 +0.9**
DAVA Damuels 83.34 317 *i* P **P** **18 40 06.8 +0.4**
NOA NORSAR Array B 83.48 331 P **P** **18 40 06.3 -0.5**
comp=Z,7.3nm,0.9s,mb4.7,baz=95,slow=5.5,SNR=11
NOA pP pP 18 40 12.3 -0.7
comp=Z,4.2nm,0.9s,baz=96,slow=5.2,SNR=3.9
FIN Finale Ligure 84.42 314 *e*P **P** **18 40 12.2 +0.2**
KBS Kingsbay 85.25 349 PFAKE 18 40 30.0 +15
KBS LR LR
comp=Z,218nm,20.0s,MS4.5
VNDA Vanda 88.52 168 P **P** **18 40 31.3 -0.1**
comp=Z,2.9nm,0.9s,mb4.6,baz=235,slow=9.1,SNR=3.1
VNDA Vanda 88.52 168 P **P** **18 40 31.3 -0.1**
SBA Scott Base 89.62 168 *e*PKPdf **P** **18 40 38.7 +2.1**
TNA Tin City 90.63 24 *e*P **P** **18 40 41.9 +0.4**
comp=Z,8.2nm,0.8s,mb5.1
EKA Eskdalemuir Ar 91.19 325 P **P** **18 40 44.8 +0.6**
comp=Z,3.5nm,0.6s,mb4.9,baz=99,slow=5.2,SNR=7.4
EKA PP PP 18 44 22.9 -0.9
comp=Z,3.7nm,1.1s,baz=94,slow=11,SNR=3.7
ESDC Sonseca Array 93.73 310 P **P** **18 40 57.2 +0.9**
comp=Z,2.1nm,0.6s,mb4.7,baz=72,slow=4.1,SNR=6.8
IMA Indian Mountai 96.14 22 *e*P **P** **18 41 08.3 +1.6**
comp=Z,17nm,1.0s,mb5.4
DBIC Dimbokro 97.95 277 PFAKE 18 41 30.0 +14
DBIC LR LR
comp=Z,228nm,19.0s,MS4.7
ILAR Eielson Array 99.26 22 P **P** **18 41 21.4 +0.6**
comp=Z,0.7nm,0.8s,mb4.2,baz=306,slow=4.3,SNR=6.7
ILAR pP pP 18 41 26.6 -0.5
comp=Z,0.5nm,0.8s,baz=301,slow=4.7,SNR=2.6
FIB Fire Island 99.54 26 PFAKE 18 41 30.0 +7.8
FIB LR LR
comp=Z,3µm,22.0s,MS5.8
RES Resolute Bay 102.05 2 *e*Pdif Pdif 18 41 35.0 +1.7
comp=Z,5.3nm,0.9s
YKA Yellowknife Ar 111.07 14 Pdiff Pdif 18 42 16.7 +3.5
comp=Z,0.1nm,0.3s,baz=328,slow=4.9,SNR=5.5
YKA pP pP 18 46 47.5 -7.1
comp=Z,0.5nm,0.6s,baz=337,slow=7.8,SNR=5.8
YKA Yellowknife Ar 111.07 14 Pdif Pdif 18 42 16.7 +3.5
YKA pP pP 18 46 47.5 -7.1
SCHQ Schefferville 119.91 347 PKP PKPdf 18 46 29.3 -3.2
comp=Z,3.1nm,0.9s,baz=349,slow=6.2,SNR=5.4
SCHQ pPKP 18 46 35.8
comp=Z,5.1nm,1.0s,baz=236,slow=6.0,SNR=4.4
BMO Blue Mountains 124.79 26 PFAKE 18 46 50.0 +7.7
BMO LR LR
comp=Z,491nm,21.0s,MS5.2
ULM Lac du Bonnet 126.13 7 PKP PKPdf 18 46 42.0 -2.8
comp=Z,2.1nm,0.5s,baz=8.7,slow=3.2,SNR=7.7
ULM pPKP 18 46 47.8
comp=Z,2.3nm,0.6s,baz=301,slow=1.8,SNR=2.7
BOZ Bozeman (W) 126.46 22 PFAKE 18 46 50.0 +4.6
BOZ LR LR
comp=Z,1µm,20.0s,MS5.5
HLID Hailey 127.08 25 PFAKE 18 47 00.0 +13
HLID LR LR
comp=Z,716nm,19.0s,MS5.4
PQI Presque Isle 127.72 344 PFAKE 18 47 00.0 +12
PQI LR LR
comp=Z,7µm,20.0s
ELK Elko 128.96 28 PKP PKPdf 18 46 49.4 -1.1
comp=Z,3.8nm,1.1s,baz=3.4,slow=3.1,SNR=3.8
NVAR Mina Array Bea 129.18 32 PKP PKPdf 18 46 50.1 -0.9
comp=Z,2.4nm,0.7s,baz=315,slow=9,SNR=9.4
MNV Mina 129.25 32 PFAKE 18 47 00.0 +8.9
MNV LR LR
comp=Z,338nm,20.0s,MS5.0
PDAR Pinedale Array 129.69 22 PKP PKPdf 18 46 50.1 -1.7
comp=Z,3.0nm,0.9s,slow=1.5,SNR=7.5
WVL Waterville 130.11 344 PFAKE 18 47 00.0 +7.5
WVL LR LR
comp=Z,11µm,19.0s
DAC Darwin (Calif) 131.13 34 PFAKE 18 47 00.0 +5.3
DAC LR LR
comp=Z,471nm,20.0s,MS5.2
NCB Newcomb 131.76 348 PFAKE 18 47 00.0 +4.3
NCB LR LR
comp=Z,1µm,22.0s,MS5.5
MSU Marysvale 132.16 27 *e*PKPdf PKPdf 18 46 55.6 -1.0
JFWS Jewell Farm 133.96 4 PFAKE 18 47 10.0 +10
JFWS LR LR
comp=Z,814nm,19.0s,MS5.5
ERPA Erie 134.50 353 PFAKE 18 47 10.0 +9.1
ERPA LR LR
comp=Z,788nm,19.0s,MS5.5
WUAZ Wupatki 134.96 29 PFAKE 18 47 10.0 +8.1
WUAZ LR LR
comp=Z,8µm,20.0s
SDCO Great Sand Dun 135.58 22 PFAKE 18 47 10.0 +7.0
SDCO LR LR
comp=Z,579nm,19.0s,MS5.3
ACSO Alum Creek Sta 136.65 356 PFAKE 18 47 10.0 +5.2
ACSO LR LR
comp=Z,2µm,21.0s,MS5.7
CBN Corbin 137.94 349 PFAKE 18 47 20.0 +13
CBN LR LR
comp=Z,674nm,21.0s,MS5.4
BDFB Brasilia 140.20 249 PKP PKPdf 18 47 10.5 -1.4
comp=Z,3.0nm,0.7s,baz=68,slow=14,SNR=2.9
MIAR Mount Ida 141.85 10 PFAKE 18 47 20.0 +5.6
MIAR LR LR
comp=Z,423nm,19.0s,MS5.2
OXF Oxford 142.37 4 PFAKE 18 47 20.0 +4.7
OXF LR LR
comp=Z,441nm,19.0s,MS5.2
GOGA Godfrey 143.46 356 PFAKE 18 47 30.0 +18
GOGA LR LR
comp=Z,551nm,20.0s,MS5.3
LTX Lajitas 143.68 26 PFAKE 18 47 30.0 +18
LTX LR LR
comp=Z,571nm,21.0s,MS5.3
TXAR Lajitas Array 143.68 26 PKP PKPdf 18 47 13.8 -3.9
comp=Z,8.9nm,1.0s,baz=217,slow=1.4,SNR=5.9
TXAR PP PP 18 50 22.9 -7.3
comp=Z,0.9nm,0.9s,baz=338,slow=6.7,SNR=3.4
TXAR Lajitas Array 143.68 26 PKP PKPdf 18 47 13.8 -3.9
TXAR PP PP 18 50 22.9 -7.3
HKT Hockley 145.83 15 *e*PKPdf PKPdf 18 47 19.9 -1.5
SJG San Juan 150.85 317 PFAKE 18 47 40.0 +10
SJG LR LR
comp=Z,151nm,19.0s,MS4.8
LVC Limon Verde 154.28 220 PKPab PKPab 18 47 56.2 +0.9
comp=Z,5.5nm,0.8s,baz=222,slow=1.8,SNR=3.7
LPAZ La Paz 157.78 233 PKP PKPdf 18 47 38.4 -1.0
comp=Z,2.6nm,0.5s,baz=90,slow=4.0,SNR=5.5
LPAZ PKPab PKPab 18 48 11.1 +0.7
comp=Z,2.5nm,0.7s,baz=152,slow=3.0,SNR=5.3
LPAZ La Paz 157.78 233 PKP PKPdf 18 47 38.4 -1.0
LPAZ PKPab PKPab 18 48 11.1 +0.7
LPAZ LR LR
comp=Z,164nm,19.0s,MS4.9
SDV Santo Domingo 160.16 307 PKP PKPdf 18 47 40.5 -1.7
comp=Z,1.3nm,0.3s,baz=302,slow=22,SNR=1.6
SDV PKPab PKPab 18 48 20.3 -0.4
comp=Z,7.4nm,0.8s,baz=86,slow=7.0,SNR=5.1
SDV pPKPab 18 48 26.6
comp=Z,2.7nm,0.6s,baz=218,slow=7.9,SNR=3.9
SDV Santo Domingo 160.16 307 PKP PKPdf 18 47 40.5 -1.7
SDV PKPab PKPab 18 48 20.3 -0.4
SDV pPKPab 18 48 26.6
SDV LR LR
comp=Z,113nm,22.0s
ROSC El Rosal 165.47 303 PKP PKPdf 18 47 45.5 -2.0
comp=Z,4.5nm,0.5s,baz=275,slow=22,SNR=3.3
JTS JuntasAbangare 166.50 354 PFAKE 18 48 00.0 +12
JTS LR LR
comp=Z,71nm,21.0s

*NEIC **09** 19:06:53.1±3.4, 18.56S×70.90W, h45km±29km, Error ellipse: s-maj=54.5km s-min=15.7km az=104.0*
NEIC Felt [III] at Arica and [II] at Camarones.
*IDC **09** 19:06:53.5±3.6, 18.49S×70.91W, h49km±32km, mb3.8/3, mb1 3.9/5, mb1mx3.6/16, mbtmp3.9/5, ML3.7/2, MS2.8/1, Ms1 2.8/1, ms1mx1.8/23, Error ellipse: s-maj=46.5km s-min=19.6km az=95.0*
ISC 09 19:06:44.9±2.5, 18.52S±0.08×71.7W±0.3, h33km, n9, σ0s70/10, mb4.0/3, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.05**	**4**	*e*P	**P**	**P**	**19 07 14.0**	**-3.6**
ARE				*i*			19 07 21.0	
ARE				*e*S		**S**	**19 07 42.0**	**-0.2**
LPAZ	**La Paz**	**4.03**	**57**	P	**P**	**P**	**19 07 46.0**	**+0.3**
	1.3nm,0.3s,baz=217,slow=8.1,SNR=39							
LPAZ	**La Paz**	**4.03**	**57**	*e*P	**P**	**P**	**19 07 46.0**	**+0.2**
LVC	**Limon Verde**	**4.82**	**148**	P	**P**	**P**	**19 07 57.9**	**+0.8**
	2.1nm,0.3s,baz=355,slow=10,SNR=28							
LVC				S		**S**	**19 08 51.7**	**-0.7**
	5.1nm,0.3s,baz=56,slow=23,SNR=8.5							
LVC				LR	LR		19 09 37.2	
	comp=Z,100nm,18.0s,baz=25,slow=36							
LVC	**Limon Verde**	**4.82**	**148**	*e*P	**P**	**P**	**19 07 57.1**	**+0.1**
PLCA	**Paso Flores**	**22.16**	**178**	P	**P**	**P**	**19 11 46.2**	**+6.7**
	2.3nm,0.9s,mb3.6,baz=354,slow=3.8,SNR=4.1							
DBIC	**Dimbokro**	**70.43**	**76**	P	**P**	**P**	**19 17 58.9**	**+0.5**
	2.1nm,0.7s,mb4.2,baz=224,slow=4.7,SNR=3.0							
YKA	**Yellowknife Ar**	**87.54**	**342**	P	**P**	**P**	**19 19 36.4**	**+6.1**
	0.9nm,0.5s,mb4.2,baz=135,slow=4.7,SNR=23							
YKA				pP	pP		19 19 49.1	+8.3
	0.5nm,0.6s,baz=134,slow=4.9,SNR=7.1							
YKA				sP	sP		19 19 55.6	+11
	0.4nm,0.5s,baz=136,slow=4.9,SNR=4.5							
WRA	**Warramunga Arr**	**134.06**	**215**	PKP	PKPdf		19 26 07.1	+7.1
	0.5nm,0.9s,baz=150,slow=2.0,SNR=6.6							

IDC 09 19:09:20.1±4.0, 29.64S×177.46W, mb3.8/4, mb1 4.0/4, mb1mx3.9/14, mbtmp3.8/4, Error ellipse: s-maj=139.1km s-min=67.4km az=163.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.15**	**278**	P	P	P	19 16 08.3	-0.7
	6.5nm,1.1s,baz=126,slow=4.8,SNR=3.1							
STKA	**Stephens Creek**	**35.11**	**256**	P	P	P	19 16 16.8	-0.5
	1.4nm,0.7s,baz=82,slow=16,SNR=4.8							
ASAR	**Alice Springs**	**43.62**	**266**	P	P	P	19 17 24.9	-3.2
	0.4nm,0.8s,baz=105,slow=7.2,SNR=4.9							
WRA	**Warramunga Arr**	**44.54**	**271**	P	P	P	19 17 32.6	-3.0
	0.4nm,0.3s,baz=110,slow=8.0,SNR=19							
FINES	**FINESS Array B**	**144.59**	**341**	PKP	PKPdf		19 28 57.8	-1.9
	1.1nm,0.8s,baz=69,slow=4.9,SNR=7.8							

*IDC **09** 19:09:19.4±0.7, 51.06N×178.21E, mb4.0/19, mb1 4.2/20, mb1mx4.2/25, mbtmp4.0/20, ML3.2/1, Error ellipse: s-maj=20.3km s-min=10.7km az=8.0*
*BJI **09** 19:09:21.3, 51.15N×178.19E, h44km, mB4.9, mb4.7, Ms5.0, Msz4.8*
*MOS **09** 19:09:23.2±0.8, 51.23N×178.01E, h36km, mb4.8/10, Error ellipse: s-maj=15.3km s-min=9.1km az=101.4*
*NEIC **09** 19:09:25.2±0.7, 51.30N×178.03E, h35km±5km, mb4.5/19, ML4.0(AEIC), Error ellipse: s-maj=10.2km s-min=4.3km az=184.0*
ISC 09 19:09:23.5±0.9, 51.17N±0.09×178.05E±0.05, h41km±7km, n81, σ0s85/83, mb4.4/43, MS4.5/2, 2C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**2.90**	**304**	P	**P**	**P**	**19 10 07.2**	**-1.2**
KIMD	**Kanaga Island**	**3.01**	**77**	P	**P**	**P**	**19 10 10.2**	**+0.2**
KIWB	**Kanaga Island**	**3.08**	**75**	*e*P	**P**	**P**	**19 10 10.4**	**-0.6**
KIRH	**Kanaga Island**	**3.12**	**74**	P	**P**	**P**	**19 10 12.2**	**+0.6**
ADAG	**Mount Adagdak**	**3.44**	**74**	P	**P**	**P**	**19 10 16.2**	**+0.2**
FX1	**Attu Island--F**	**3.47**	**302**	P	**P**	**P**	**19 10 16.0**	**-0.5**
FX1							19 10 58.2	
FX1				pmax	pmax			
	comp=Z,7.0nm,0.3s							
FX1				smax				
	comp=N,15nm,0.3s							
FX1	**Attu Island--F**	**3.47**	**302**	Pn	**P**	**P**	**19 10 16.0**	**-0.5**
	comp=N,7.3nm,0.3s,baz=214,slow=4.1,SNR=17							
FX1				Sn	**S**		**19 10 58.2**	**+1.4**
	comp=N,15nm,0.3s,baz=248,slow=19,SNR=2.6							

FX1				Lg		19 11 10.4	
	comp=N,32nm,0.3s,baz=119,slow=22,SNR=6.0						
FX1	Attu Island--F	3.47	302	eP	P	19 10 16.3	-0.2
GSSP	Great Sitkin S	3.72	73	P	P	19 10 20.5	+0.5
GSMY	Great Sitkin M	3.78	74	P	P	19 10 21.1	+0.2
ATKA	Atka Island	4.94	75	P	P	19 10 36.4	-0.9
MA2	Magadan	17.53	309	i P	P	19 13 29.7	+3.6
MA2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
BILL	Bilibino	17.88	346⇑	eP	P	19 13 33.5	+3.0
BILL				pmax	pmax		
	comp=Z,14nm,1.6s						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s						
BILL	Bilibino	17.88	346	eP	P	19 13 26.4	-4.0
	comp=Z,6.6nm,0.9s						
IMA	Indian Mountai	20.69	33	eP	P	19 14 00.2	-2.0
IMA				pmax	pmax		
	comp=Z,53nm,1.1s						
IMA	Indian Mountai	20.69	33	eP	P	19 14 00.2	-2.0
	comp=Z,53nm,1.1s						
SML	Sawmill	21.14	47	eP	P	19 14 03.4	-3.4
DIV	Divide	22.20	49	eP	P	19 14 16.3	-1.0
	comp=Z,46nm,0.8s,mb5.0						
COLA	College	22.31	39	i P	P	19 14 19.3	+0.8
ILAR	Eielson Array	22.66	40	P	P	19 14 21.6	-0.2
	comp=Z,1.8nm,0.7s,mb3.6,baz=241,slow=7.7,SNR=18						
DAWY	Dawson	25.62	43	eP	P	19 14 51.6	+1.3
YAK	Yakutsk	28.07	312	d iP	P	19 15 12.1	-0.8
YAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.7						
YAK	Yakutsk	28.07	312	eP	P	19 15 11.7	-1.2
	comp=Z,14nm,0.9s,mb4.6						
INK	Inuvik	28.77	35	P	P	19 15 19.6	+0.5
	comp=Z,7.4nm,1.3s,mb4.3,baz=318,slow=2.5,SNR=4.7						
TIXI	Tiksi	29.86	331	i P	P	19 15 29.5	+0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.8						
BOD	Bodaibo	36.51	306	eP	P	19 16 24.8	-1.6
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
YKA	Yellowknife Ar	36.81	46	P	P	19 16 28.2	-0.6
	comp=Z,0.6nm,0.5s,mb3.7,baz=282,slow=7.9,SNR=13						
NEW	Newport	40.81	68	P	P	19 17 02.5	+0.2
	comp=Z,2.0nm,0.5s,mb4.0,baz=14,slow=6.1,SNR=3.5						
ULN	Ulaanbaatar	44.57	295	i P	P	19 17 32.9	+0.1
ULN	Ulaanbaatar	44.57	295	eP	P	19 17 32.8	-0.1
	comp=Z,3.5nm,0.9s,mb4.2						
HLID	Hailey	44.90	72	eP	P	19 17 35.7	+0.1
	comp=Z,3.3nm,0.9s,mb4.2						
SONM	Songino Array	44.96	295	P	P	19 17 36.9	+1.0
	comp=Z,1.2nm,0.7s,mb3.8,baz=58,slow=8.5,SNR=12						
SONM				PcP	PcP	19 19 16.8	-0.4
	comp=Z,0.6nm,1.0s,baz=90,slow=2.8,SNR=3.5						
ZAK	Zakamensk	45.35	300	eP	P	19 17 39.8	+0.7
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.9						
NVAR	Mina Array Bea	45.54	80	P	P	19 17 41.0	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=310,slow=6.7,SNR=6.0						
HHC	Hu-ho-hao-te	45.83	284	eP	P	19 17 42.6	-0.4
HHC				AP	pP	19 17 49.1	-5.5
HHC				PP	PP	19 19 29.0	-1.9
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
HHC				AMB	AMB		
	comp=Z,129nm,8.0s						
FFC	Flin Flon	45.86	53	P	P	19 17 42.9	-0.2
SSE	Sheshan	46.01	267	eP	P	19 17 39.7	-4.9
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,62nm,6.2s						
ELK	Elko	46.03	76	eP	P	19 17 45.2	+0.6
ELK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELK	Elko	46.03	76	eP	P	19 17 45.2	+0.6
	comp=Z,3.9nm,0.9s,mb4.3						
NJ2	Nanjing	46.83	270	eP	P	19 17 49.1	-1.9
NJ2				PP	PP	19 19 41.6	+0.6
NJ2				S	S	19 24 35.0	-2.7
NJ2				AMB	AMB		
	comp=Z,430nm,5.2s						
NJ2				LR	LR		
	comp=N,2µm,29.3s,MS4.8						
NJ2				LR	LR		
	comp=E,380nm,26.1s,MS4.8						
NJ2				LR	LR		
	comp=Z,1µm,23.6s,MS4.8						
BW06	Boulder Array	48.25	70	eP	P	19 18 01.2	-0.8
	comp=Z,4.3nm,0.9s,mb4.5						
PDAR	Pinedale Array	48.25	70	P	P	19 18 01.7	-0.3
	comp=Z,2.6nm,0.8s,mb4.3,baz=306,slow=3.6,SNR=17						
PV10	Paradox Valley	51.27	74	eP	P	19 18 25.4	+0.2
ULM	Lac du Bonnet	51.44	55	P	P	19 18 25.6	-0.6
	comp=Z,0.5nm,0.3s,mb3.9,baz=328,slow=9.5,SNR=1.7						
RW3	Ridgway	52.16	74	eP	P	19 18 32.0	+0.1
SDCO	Great Sand Dun	53.81	73	eP	P	19 18 44.2	+0.1
	comp=Z,7.7nm,1.3s,mb4.5						
KURK	Kurchatov	57.72	312	P	P	19 19 12.1	+0.1
	comp=Z,41nm,1.1s,mb5.4,SNR=12						
KURK	Kurchatov	57.72	312	i P	P	19 19 11.3	-0.7
KURK	Kurchatov	57.72	312	eP	P	19 19 10.6	-1.5
	comp=Z,9.9nm,1.1s,mb4.8						
ARCES	ARCESS Array B	57.95	349	P	P	19 19 13.7	+0.3
	comp=Z,4.6nm,0.8s,mb4.5,baz=52,slow=10,SNR=3.1						
CHKZ	Chkalovo	59.19	319	eP	P	19 19 20.9	-1.4
CHKZ				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
CHKZ	Chkalovo	59.19	319	eP	P	19 19 20.9	-1.4
	comp=Z,34nm,0.6s,mb5.5						
BVAR	Borovoye Array	59.75	318	P	P	19 19 26.2	+0.1
	comp=Z,3.8nm,0.6s,mb4.6,baz=51,slow=7.3,SNR=29						
TXAR	Lajitas Array	60.64	79	P	P	19 19 33.1	+0.5
	comp=Z,1.0nm,0.7s,mb4.1,baz=301,slow=7.3,SNR=7.2						
JOF	Joensuu	63.27	344	ep	P	19 19 49.0	-0.7
	comp=Z,1.3nm,0.5s,mb4.3						
KAF	Kangasniemi	64.86	346	ep	P	19 19 59.1	-0.8
	comp=Z,1.3nm,0.5s,mb4.2						
KAF	Kangasniemi	64.86	346	eP	P	19 19 59.1	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
AAK	Ala-Archa	65.46	308	eP	P	19 20 03.2	-0.9
AAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
AAK	Ala-Archa	65.46	308	eP	P	19 20 03.2	-0.9
	comp=Z,7.8nm,1.4s,mb4.5						
FINES	FINESS Array B	65.53	346	P	P	19 20 03.5	-0.7
	comp=Z,1.8nm,0.6s,mb4.3,baz=27,slow=8.5,SNR=13						
NB2	NORSAR Subarra	67.65	353	P	P	19 20 17.6	0.0
	comp=Z,1.2nm,0.6s,mb4.1,baz=9.0,slow=6.2						
NB2	NORSAR Subarra	67.65	353	P	P	19 20 17.6	0.0
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	67.65	353	P	P	19 20 17.9	+0.3
	comp=Z,3.5nm,1.0s,mb4.3,baz=9.8,slow=6.4,SNR=7.7						
HFS	Hagfors	68.34	352	P	P	19 20 21.9	0.0
	comp=Z,1.4nm,0.5s,mb4.2,baz=104,slow=6.1,SNR=5.8						
CMAR	Chiang Mai Arr	69.06	274	P	P	19 20 27.2	+0.1
	comp=Z,1.8nm,0.9s,mb4.0,baz=23,slow=6.8,SNR=9.9						
OBN	Obninsk	69.34	338⇓	eP	P	19 20 28.2	0.0
OBN				e		19 22 59.0	
OBN				eS	S	19 29 28.4	-2.1
OBN				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
JIRN	Jiri	70.08	289	eP	P	19 20 34.0	+0.8
	comp=Z,11nm,0.8s,mb4.8						
KKN	Kakani	70.53	290	eP	P	19 20 36.2	+0.3
	comp=Z,12nm,0.9s,mb4.8						
KKN	Kakani	70.53	290	eP	P	19 20 36.2	+0.3
KKN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
PKI	Pulchoki	70.61	290	eP	P	19 20 37.3	+0.9
GKN	Gorkha	70.75	291	eP	P	19 20 37.7	+0.5
	comp=Z,14nm,1.0s,mb4.8						
DMN	Daman	70.76	290	eP	P	19 20 37.4	+0.1
	comp=Z,8.2nm,1.0s,mb4.6						
KOLN	Koldanda	71.53	291	eP	P	19 20 41.8	-0.1
	comp=Z,6.1nm,0.8s,mb4.6						
AKASG	Malin Array Be	75.11	340	P	P	19 21 02.9	+0.6
	comp=Z,3.8nm,0.8s,mb4.4,baz=22,slow=6.1,SNR=11						
GOF	Gofitskoye	76.56	329⇑	iP	P	19 21 12.0	+1.2
GOF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
OJC	Ojcow	77.31	346	eP	P	19 21 14.6	-0.2
KWP	Kalwaria	77.40	344	eP	P	19 21 16.7	+1.3
KWP				pmax	pmax		
	comp=Z,19nm,0.8s,mb5.1						
KWP	Kalwaria	77.40	344	eP	P	19 21 16.7	+1.3
	comp=Z,19nm,0.8s,mb5.1						
GERES	GERESS Array B	79.47	350	P	P	19 21 28.2	+1.5
	comp=Z,0.3nm,0.6s,mb3.4,baz=27,slow=6.0,SNR=4.4						
WRA	Warramunga Arr	80.52	221	P	P	19 21 33.3	+0.4
	comp=Z,0.4nm,0.9s,baz=32,slow=6.2,SNR=2.6						
ASAR	Alice Springs	84.02	220	P	P	19 21 51.3	+0.5
	comp=Z,0.3nm,0.8s,mb3.5,baz=8.9,slow=5.8,SNR=2.9						

IDC 09 19:26:52.8±10.0**, 17.40S**×**178.92W, h646**km±140km**, mb3.0**/6**, mb1 3.3**/6**, mb1mx3.0**/15**, mbtmp4.0**/6**, Error ellipse: s-maj=99.4km s-min=38.9km az=164.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.46	240	P	P	19 33 22.1	-1.6
	2.5nm,0.8s,baz=100,slow=12,SNR=9.4						
WRA	Warramunga Arr	44.25	259	P	P	19 34 07.9	-1.7
	1.1nm,0.3s,baz=94,slow=7.5,SNR=76						
ASAR	Alice Springs	44.47	254	P	P	19 34 09.7	-1.5
	7.3nm,0.7s,baz=86,slow=8.8,SNR=132						
ASPA	Alice Springs	44.47	254	eP	P	19 34 09.6	-1.6
NVAR	Mina Array Bea	79.39	44	P	P	19 37 54.4	-0.9
	0.1nm,0.3s,baz=234,slow=7.8,SNR=3.0						
ILAR	Eielson Array	85.50	13	P	P	19 38 23.8	-1.3
	0.3nm,0.5s,baz=222,slow=5.3,SNR=5.5						
TXAR	Lajitas Array	86.13	58	P	P	19 38 28.2	-0.8
	0.4nm,0.6s,baz=225,slow=5.3,SNR=3.4						
GERES	GERESS Array B	146.99	345	PKPbc	PKPbc	19 45 24.2	+0.5
	0.3nm,0.4s,baz=63,slow=3.0,SNR=3.6						

IDC 09 19:28:29.5±1.9**, 17.18S**×**177.82W, mb3.7**/5**, mb1 3.9**/5**, mb1mx3.7**/16**, mbtmp3.7**/5**, Error ellipse: s-maj=52.3km s-min=32.7km az=121.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	21.47	191	P	P	19 33 20.0	-1.7
	8.0nm,1.1s,slow=12,SNR=2.2						
STKA	Stephens Creek	39.48	241	P	P	19 36 01.9	-1.6
	0.9nm,0.6s,baz=68,slow=11,SNR=3.7						
WRA	Warramunga Arr	45.32	259	P	P	19 36 49.5	-1.9
	0.4nm,0.8s,baz=98,slow=6.9,SNR=5.4						
ASAR	Alice Springs	45.53	254	P	P	19 36 51.0	-2.0
	0.7nm,0.5s,baz=92,slow=7.4,SNR=11						
ILAR	Eielson Array	85.05	13	P	P	19 41 06.7	-1.3
	0.2nm,0.5s,baz=224,slow=4.2,SNR=4.7						

*NEIC **09** 20:13:08.8±1.4, 20.56S×177.60W, h500km±13km, mb4.2/5, Error ellipse: s-maj=42.2km s-min=9.9km az=153.0*
*IDC **09** 20:13:13.7±3.0, 20.31S×177.88W, h546km±34km, mb3.3/9, mb1 3.6/9, mb1mx3.4/15, mbtmp4.2/9, Error ellipse: s-maj=70.5km s-min=14.0km az=155.0*
ISC 09 20:13:11.9±3.4**, 20.7S**±0.4×**177.7W**±0.2**, h545**km±45km**, n27, σ0.81**/17**, mb3.8**/12**, 1C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	8.83	41	eP	P	20 15 11.8	-6.9
	30nm,0.6s						
CTA	Charters Tower	33.72	265	P	P	20 19 09.6	0.0
	4.1nm,0.5s,mb4.2,baz=90,slow=9.9,SNR=8.1						
CTA	Charters Tower	33.72	265	P	P	20 19 09.6	0.0
CTAO	Charters Tower	33.72	265	eP	P	20 19 09.4	-0.2
	4.4nm,0.6s,mb4.2						
STKA	Stephens Creek	37.92	244	P	P	20 19 44.9	+0.8
	2.1nm,0.9s,mb3.7,baz=80,slow=14,SNR=5.7						
ASAR	Alice Springs	44.72	257	P	P	20 20 38.3	-0.1
	3.3nm,0.5s,mb4.1,baz=96,slow=7.5,SNR=70						
ASAR				PcP	PcP	20 22 08.8	-0.5
	1.0nm,0.8s,baz=102,slow=3.6,SNR=5.1						
ASAR				S	S	20 26 35.0	-0.8
	0.9nm,0.9s,baz=101,slow=14,SNR=4.9						
WRAB	Tennant Creek	44.81	262	eP	P	20 20 38.5	-0.7
	2.4nm,0.4s,mb4.1						
WRA	Warramunga Arr	44.82	262	P	P	20 20 38.4	-0.8
	1.5nm,0.4s,mb3.9,baz=96,slow=7.7,SNR=85						
MDJ	Mudanjiang	80.83	325	P	P	20 24 30.8	+0.8
NVAR	Mina Array Bea	81.00	43	P	P	20 24 30.4	-0.6
	1.3nm,0.9s,mb3.4,baz=206,slow=7.2,SNR=4.7						
ENH	Enshi	86.36	304	eP	P	20 24 58.1	+0.4
	2.3nm,0.5s,mb4.1						
TXAR	Lajitas Array	86.96	57	P	P	20 25 00.9	+0.4
	0.4nm,0.9s,mb3.0,baz=225,slow=7.1,SNR=4.8						
ILAR	Eielson Array	88.46	13	P	P	20 25 04.8	-1.9
	0.8nm,0.5s,mb3.7,baz=214,slow=5.7,SNR=13						
PDAR	Pinedale Array	88.94	43	P	P	20 25 09.8	+0.3
	0.6nm,0.7s,mb3.5,baz=195,slow=2.7,SNR=5.1						
KMI	Kunming	89.67	297	P	P	20 25 14.7	+1.4
	5.0nm,0.9s,mb4.3						
CMAR	Chiang Mai Arr	90.42	289	P	P	20 25 17.2	+0.4
	1.3nm,0.8s,mb3.8,baz=129,slow=3.4,SNR=8.1						
CHKZ	Chkalovo	119.21	321	P	PKPdf	20 30 58.6	-0.2
FINES	FINESS Array B	136.04	344	PKP	PKPdf	20 31 29.5	-1.1
	0.3nm,0.4s,baz=135,slow=3.9,SNR=2.6						
AKASG	Malin Array Be	143.31	331	PKhKP		20 31 41.9	
	2.0nm,0.4s,baz=42,slow=4.2,SNR=20						
AKASG	Malin Array Be	143.31	331	PKP	PKPdf	20 31 41.9	-1.8
EKA	Eskdalemuir Ar	145.19	5	PKP	PKPdf	20 31 48.4	+1.5
	2.7nm,1.0s,baz=323,slow=2.6,SNR=4.3						
CLL	Collm	148.32	347⇓	iPKP1	PKPdf	20 31 57.5	+5.4
BRG	Berggiesshubel	148.52	346	i P	PKPdf	20 31 58.3	+5.9
BRG				i		20 32 02.6	
MLR	Muntele Rosu	148.53	327	PKPbc	PKPdf	20 31 58.8	+6.2
	1.8nm,0.8s,baz=170,slow=18,SNR=3.4						
KHC	Kasperske Hory	150.23	345⇑	ePKPB		20 32 02.0	
GERES	GERESS Array B	150.47	345	PKPbc	PKPdf	20 32 02.5	+6.9
	1.5nm,0.8s,slow=2.7,SNR=9.4						
GERES	GERESS Array B	150.47	345	PKPbc	PKPdf	20 32 02.5	+6.9

*NEIC **09** 20:28:11.8±0.7, 17.85S×178.30W, h586km±8km, mb4.5/14, Error ellipse: s-maj=12.3km s-min=6.6km az=158.0*
*BJI **09** 20:28:11.3, 17.35S×178.67W, h553km, mB4.9, mb4.5*
*IDC **09** 20:28:14.4±1.8, 17.95S×178.32W, h613km±21km, mb3.7/15, mb1 3.8/16, mb1mx3.8/19, mbtmp4.6/16, Error ellipse: s-maj=17.8km s-min=9.6km az=161.0*
ISC 09 20:28:11.2±1.0**, 17.9S**±0.1×**178.34W**±0.08**, h592**km±15km**, n128, σ0.94**/44**, mb4.4**/24**, 16C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.47	59	eP	P	20 30 04.4	-1.3
	106nm,0.8s						
RAR	Rarotonga	17.80	104	P	P	20 31 46.6	+0.4
	1.0nm,0.3s,baz=258,slow=12,SNR=3.5						
RAR	Rarotonga	17.80	104	P	P	20 31 46.6	+0.4
PPT	Papeete	27.39	94	P	P	20 33 11.9	-0.7
	29nm,0.5s,mb5.2,baz=22,slow=5.4,SNR=3.5						
CNB	Canberra Magne	33.47	232⇓	iP	P	20 34 05.2	+1.3
	151nm,0.6s						
CTA	Charters Tower	33.51	261	eP	P	20 34 04.8	+0.4
	8.2nm,0.7s,mb4.5						
CTAO	Charters Tower	33.51	261	eP	P	20 34 04.5	+0.2
	12nm,0.8s,mb4.6						
PMG	Port Moresby	34.52	280	P	P	20 34 14.7	+1.8
	28nm,0.9s,mb4.9,baz=60,slow=4.7,SNR=7.8						
TOO	Toolangi	37.21	231	eP	P	20 34 36.1	+1.3
	0.8nm,0.8s						
STKA	Stephens Creek	38.68	241⇓	iP	P	20 34 48.0	+1.2
	18nm,1.0s,mb4.5						
STKA	Stephens Creek	38.68	241	P	P	20 34 48.0	+1.2
	17nm,0.7s,mb4.7,baz=84,slow=8.7,SNR=41						
WRAB	Tennant Creek	44.68	260	P	P	20 35 34.0	-0.4
	121nm,0.6s,SNR=13						
WRAB	Tennant Creek	44.68	260	eP	P	20 35 33.5	-0.9
	18nm,0.7s,mb4.7						
WRA	Warramunga Arr	44.69	260	P	P	20 35 33.8	-0.7
	14nm,0.8s,mb4.5,baz=95,slow=7.2,SNR=331						
WRA				PcP	PcP	20 37 03.8	-0.4
	3.3nm,0.7s,baz=88,slow=3.6,SNR=8.7						
WRA				S	S	20 41 27.5	-1.8
	0.7nm,0.8s,baz=99,slow=13,SNR=4.2						
ASAR	Alice Springs	44.85	254	P	P	20 35 35.8	+0.1
	61nm,0.6s,mb5.3,baz=87,slow=8.6,SNR=750						
ASAR				PcP	PcP	20 37 04.2	-0.5
	4.4nm,0.6s,baz=102,slow=3.7,SNR=9.9						
ASAR				S	S	20 41 29.8	-1.6
	3.2nm,0.8s,baz=88,slow=16,SNR=13						
ASPA	Alice Springs	44.85	254⇓	iP	P	20 35 35.7	0.0
ASPA				eS	S	20 41 29.6	-1.8
KAKA	Kakadu	47.65	269⇓	iP	P	20 35 56.3	-0.7
	15nm,0.5s,mb4.8						
FORT	Forrest	50.06	245⇑	iP	P	20 36 13.9	-0.8
	689nm,0.6s						
FITZ	Fitzroy Crossi	53.09	261	eP	P	20 36 36.2	-0.4
	15nm,1.7s,mb4.0						
MBWA	Marble Bar	58.13	256	eP	P	20 37 10.2	-1.2
	8.5nm,0.8s,mb3.9						
KLBR	Kellerberrin	58.88	244	eP	P	20 37 15.3	-1.0
	145nm,0.7s,mb5.2						
CBIJ	Chichi jima	58.89	319	P	P	20 37 17.6	+1.2
	64nm,0.9s,mb4.8,baz=287,slow=13,SNR=3.4						
MUN	Mundaring	60.17	243	eP	P	20 37 24.4	-0.4
	8.2nm,0.7s,mb4.1						
VNDA	Vanda	60.44	185	P	P	20 37 26.4	+0.5
	0.7nm,0.6s,baz=28,slow=4.4,SNR=5.5						
MAT	Matsushiro	67.96	323	eP	P	20 38 13.0	-0.8
	3.7nm,0.8s,mb3.9						
MAT	Matsushiro	67.96	323	P	P	20 38 13.0	-0.8
MDJ	Mudanjiang	78.23	325	P	P	20 39 12.9	+1.1
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,123nm,4.2s						
MDJ	Mudanjiang	78.23	325	eP	P	20 39 12.9	+1.2
	comp=Z,4.2nm,0.5s,mb4.1						
NVAR	Mina Array Bea	79.39	44	P	P	20 39 17.3	-0.7
	comp=Z,0.9nm,0.7s,baz=224,slow=8.4,SNR=5.2						
CN2	Changchun	80.07	322	eP	P	20 39 21.2	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.0						
ENH	Enshi	84.33	304	eP	P	20 39 44.1	+0.9
	comp=Z,16nm,0.8s,mb4.6						
ILAR	Eielson Array	85.89	13	P	P	20 39 48.6	-1.2
	comp=Z,2.0nm,0.5s,mb4.0,baz=233,slow=4.8,SNR=36						
TXAR	Lajitas Array	85.95	58	P	P	20 39 52.0	+1.0
	comp=Z,0.3nm,0.4s,baz=225,slow=7.1,SNR=3.9						
PDAR	Pinedale Array	87.32	43	P	P	20 39 57.4	+0.2
	comp=Z,1.1nm,0.7s,mb3.7,baz=233,slow=2.2,SNR=8.4						
BTO	Baotou	88.28	314	eP	P	20 40 05.8	+4.1
CM31	Chiang Mai Arr	88.95	290	eP	P	20 40 06.8	+1.5
	comp=Z,9.2nm,1.0s,mb4.6						
CMAR	Chiang Mai Arr	88.95	290	P	P	20 40 06.0	+0.7
	comp=Z,3.4nm,0.9s,mb4.2,baz=110,slow=2.2,SNR=22						
SNAA	Sanae	90.58	179	P	P	20 40 11.7	+0.1
	comp=Z,1.3nm,0.9s,mb3.9,baz=27,slow=4.5,SNR=3.6						
SONM	Songino Array	93.60	319	P	P	20 40 26.2	+0.3
	comp=Z,0.3nm,0.5s,mb3.7,baz=102,slow=3.6,SNR=7.4						
YKA	Yellowknife Ar	94.32	25	P	P	20 40 28.3	-0.4
	comp=Z,0.6nm,0.6s,mb3.9,baz=245,slow=4.5,SNR=11						
YKA	Yellowknife Ar	94.32	25	P	P	20 40 28.3	-0.4
KURK	Kurchatov	111.88	318	ePKiKP		20 45 39.4	
CHKZ	Chkalovo	116.69	322	ePKiKP		20 45 48.5	
ARCES	ARCESS Array B	126.34	350	PKP	PKPdf	20 46 07.5	+0.7
	comp=Z,2.2nm,0.6s,baz=338,slow=1.5,SNR=9.7						
SUR	Sutherland	126.72	200	PKP	PKPdf	20 46 10.7	+2.0
	comp=Z,13nm,1.2s,baz=30,slow=5.5,SNR=2.7						
LBTB	Lobatse	131.37	209	PKP	PKPdf	20 46 18.7	+1.0
	comp=Z,1.3nm,0.9s,baz=142,slow=18,SNR=2.8						
FINES	FINESS Array B	133.22	344	PKP	PKPdf	20 46 19.6	-0.5
	comp=Z,3.4nm,1.1s,baz=117,slow=4.3,SNR=5.5						
MATP	Matopo	133.68	216	PKP	PKPdf	20 46 23.1	+1.0
	comp=Z,0.8nm,0.6s						
NOA	NORSAR Array B	136.40	353	PKP	PKPdf	20 46 27.6	+1.7
	comp=Z,0.5nm,0.7s,baz=46,slow=4.0,SNR=2.7						
HFS	Hagfors	136.96	351	PKhKP		20 46 18.4	
	comp=Z,2.1nm,0.9s,baz=63,slow=3.3,SNR=8.2						
HFS				PKP	PKPdf	20 46 29.2	+2.2
	comp=Z,2.3nm,0.9s,baz=101,slow=7.6,SNR=2.4						
TSUM	Tsumeb	139.93	204	PKhKP		20 46 28.3	
	comp=Z,1.2nm,0.4s,baz=162,slow=5.1,SNR=2.7						
KMBO	Kilima Mbogo	140.18	245	PKhKP		20 46 29.1	
	comp=Z,0.9nm,0.8s,baz=242,slow=23,SNR=3.5						
AKASG	Malin Array Be	140.60	332	PKhKP		20 46 29.7	
	comp=Z,0.5nm,0.3s,baz=44,slow=4.0,SNR=5.2						
AKASG				PKP	PKPdf	20 46 36.7	+3.0
	comp=Z,0.3nm,0.3s,baz=44,slow=2.8,SNR=4.8						
AKASG	Malin Array Be	140.60	332	PKP	PKPdf	20 46 29.7	-4.1
AKASG				PKP	PKPdf	20 46 36.7	+3.0
EKA	Eskdalemuir Ar	142.48	5	PKhKP		20 46 34.0	
	comp=Z,0.8nm,0.6s,baz=270,slow=2.5,SNR=3.7						
BSEG	Bad Segeberg	143.44	351	ePKPbc	PKPbc	20 46 38.5	+0.8
KWP	Kalwaria	144.11	337	ePKPdf	PKPdf	20 46 40.4	+0.5
TLCR		144.62	326	⇑P	PKPdf	20 46 42.7	+1.8
BURAR	Bucovina Array	144.66	332	⇑P	PKPdf	20 46 43.3	+2.4
KOLS	Kolonicke sedl	144.84	336	i PKP	PKPdf	20 46 43.5	+2.4
CFR	Carcaliu	144.98	327	⇓P	PKPdf	20 46 43.9	+2.4
KSP	Ksiaz	145.14	344	eP	PKPdf	20 46 44.4	+2.8
CRVS	Cervenica-Dubn	145.18	337	ePKP	PKPdf	20 46 43.9	+2.2
VRI	Vrincioaia	145.22	329	⇑P	PKPdf	20 46 44.6	+2.7
ASF	Jabal al Asfar	145.24	301	PKPbc	PKPbc	20 46 44.6	+1.2
	comp=Z,5.9nm,0.6s,baz=3.9,slow=3.8,SNR=8.4						
HARR	Harsova	145.42	326	⇓P	PKPdf	20 46 45.4	+3.1
CLZ	Clausthal	145.46	350	ePKPbc	PKPbc	20 46 45.2	+1.8
CLL	Collm	145.49	347⇓	iPKP1	PKPbc	20 46 45.0	+1.5
OKC	Ostrava-Krasne	145.51	341⇑	ePKPB		20 46 45.2	
UPC	Upice	145.52	344⇑	ePKPB		20 46 45.5	
UPC				ePKPAB	PKPab	20 46 47.6	-0.6
DPC	Dobruska-Polom	145.58	343⇑	ePKPB		20 46 45.9	
DPC				ePKPAB	PKPab	20 46 47.9	-0.6
BRG	Berggiesshubel	145.69	346	i P	PKPdf	20 46 46.0	+3.5
MORC	Moravsky Berou	145.75	342	ePKPdf	PKPdf	20 46 46.2	+3.6
PVCC	Panska Ves	145.87	345⇑	ePKPB		20 46 46.8	
MLR	Muntele Rosu	145.88	329	PKPbc	PKPbc	20 46 46.6	+2.0
	comp=Z,3.9nm,0.5s,slow=5.1,SNR=10.0						
MLR	Muntele Rosu	145.88	329	⇑P	PKPdf	20 46 47.4	+4.4
MLR	Muntele Rosu	145.88	329	⇑P	PKPdf	20 46 47.4	+4.4
PRU	Pruhonice	146.38	345⇑	ePKPB		20 46 47.9	
PRU				ePKPAB	PKPab	20 46 50.5	-1.0
MOX	Moxa	146.40	349	ePKP	PKPdf	20 46 47.7	+4.0
VRAC	Vranov	146.44	342	PKPbc	PKPbc	20 46 47.9	+2.1
	comp=Z,4.2nm,0.6s,baz=23,slow=3.3,SNR=6.6						
VYHS	Vyhne	146.45	339	ePKP	PKPdf	20 46 48.5	+4.6
NKC	Novy Kostel	146.62	347⇑	ePKPB		20 46 48.5	
NKC				ePKPAB	PKPab	20 46 51.0	-1.5
SMOL	Smolenice	146.90	341	i PKP	PKPdf	20 46 50.0	+5.4
TNS	Taunus Mts	147.32	352	ePKPbc	PKPdf	20 46 50.3	+5.0
GRA1	Grafenberg Arr	147.38	348	ePKPbc	PKPdf	20 46 50.5	+5.1
GRF	Grafenberg Arr	147.38	348	ePKP	PKPdf	20 46 50.5	+5.1
KHC	Kasperske Hory	147.41	345⇑	ePKPB		20 46 50.6	
KHC				ePKPAB	PKPab	20 46 55.1	-0.5
EIL	Elat	147.48	297	PKPbc	PKPdf	20 46 50.5	+4.2
	comp=Z,6.7nm,1.0s,baz=311,slow=7.7,SNR=4.1						
WET	Wettzell	147.56	346	ePKPbc	PKPdf	20 46 50.8	+5.1
GEC2	GERESS Array S	147.64	345	ePKPbc	PKPdf	20 46 51.1	+5.3
GERES	GERESS Array B	147.64	345	PKP	PKPdf	20 46 47.0	+1.1
	comp=Z,5.4nm,0.5s,baz=128,slow=37,SNR=14						
GERES				PKPbc	PKPdf	20 46 51.0	+5.1
	comp=Z,5.2nm,0.5s,baz=23,slow=3.1,SNR=61						
GIVF	Givet	147.80	356	ePKP1	PKPdf	20 46 51.1	+5.1
	comp=Z,21nm,0.7s						
BAIF	Baives	147.88	357	ePKP1	PKPdf	20 46 51.4	+5.2
	comp=Z,11nm,0.5s						
FUR	Furstenfeldbru	148.83	348	ePKPbc	PKPdf	20 46 54.3	+6.6
BFO	Black Forest	149.19	351	ePKPbc	PKPdf	20 46 54.5	+6.3
FLN	La Foliniere	149.19	3	ePKP1	PKPdf	20 46 54.2	+6.0
	comp=Z,12nm,0.5s						
CDF	Champ du Feu	149.25	353	ePKP1	PKPdf	20 46 54.8	+6.5
	comp=Z,10nm,0.5s						
KBA	Koelnbreinsper	149.37	344⇑	iP	PKPdf	20 46 54.8	+6.2
LDF	La Druitiere	149.37	2	ePKP1	PKPdf	20 46 54.5	+6.0
	comp=Z,5.9nm,0.4s						
MEZF	Maizieres J'vi	149.38	356	ePKP1	PKPdf	20 46 55.2	+6.7
	comp=Z,11nm,0.6s						
ROSF	Rostrenen	149.40	6	ePKP1	PKPdf	20 46 54.4	+5.8
	comp=Z,4.1nm,0.6s						
GRR	Gorron	149.54	3	ePKP1	PKPdf	20 46 55.2	+6.4
	comp=Z,10.0nm,0.4s						
SGMF	Saint Gilles	149.55	6	ePKP1	PKPdf	20 46 54.9	+6.1
	comp=Z,19nm,0.9s						
WATA	Walderalm	149.55	347⇓	iP	PKPdf	20 46 55.4	+6.5
MOTA	Moosalm	149.65	347⇑	iP	PKPdf	20 46 55.7	+6.7
SQTA	Sankt Quirin	149.74	347⇑	iP	PKPdf	20 46 56.2	+7.0
HAU	Haudompre	149.75	354	ePKP1	PKPdf	20 46 55.8	+6.6
	comp=Z,9.8nm,0.6s						
QUIF	Quistinic	149.83	6	ePKP1	PKPdf	20 46 55.4	+6.1
HINF	Hinteralfeld	149.88	353	ePKP1	PKPdf	20 46 55.9	+6.5
	comp=Z,13nm,0.9s						
DAVA	Damuels	149.94	349⇓	iP	PKPdf	20 46 56.6	+7.1
LJU	Ljubljana	149.99	342	i PKPbc	PKPdf	20 46 56.8	+7.2
BOJS	Bojanci	150.25	341	i PKPbc	PKPdf	20 46 57.8	+7.8
DAVOX	Davos	150.43	349	PKP	PKPdf	20 46 51.9	+1.6
	comp=Z,2.8nm,0.8s,baz=203,slow=1.9,SNR=3.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DAVOX				PKPbc	PKPdf	20 46 58.0	+7.8
	comp=Z,14nm,0.6s,baz=230,slow=1.3,SNR=28						
HYF	**Humbligny**	**150.72**	**359**	ePKP1	PKPdf	20 46 58.5	+7.8
SSF	**Saint Saulge**	**150.90**	**357**	ePKP1	PKPdf	20 46 58.6	+7.7
	comp=Z,10nm,0.6s						
CABF	**La Chapelle**	**151.16**	**354**	ePKP1	PKPdf	20 46 59.6	+8.3
	comp=Z,16nm,0.9s						
AVF	**Avril sur Loir**	**151.18**	**358**	ePKP1	PKPdf	20 46 58.8	+7.5
	comp=Z,3.4nm,0.6s						
SMF	**Signal de Mont**	**151.30**	**357**	ePKP1	PKPdf	20 46 59.5	+8.0
MFF	**Saint Martin d**	**151.36**	**3**	ePKP1	PKPdf	20 46 59.3	+7.7
	comp=Z,13nm,0.7s						
BGF	**Bois d'Agland**	**151.43**	**358**	ePKP1	PKPdf	20 46 59.7	+8.0
	comp=Z,17nm,0.8s						
TCF	**Toulx Ste Croi**	**151.71**	**359**	ePKP1	PKPdf	20 47 00.2	+8.1
	comp=Z,8.0nm,0.7s						
LPL	**La Plagne**	**152.16**	**352**	ePKP1	PKPdf	20 47 02.7	+10
	comp=Z,20nm,1.2s						
RJF	**Les Rejaudoux**	**152.70**	**0**	ePKP1	PKPdf	20 47 02.3	+8.8
ORIF	**Oris-en-Rattie**	**152.85**	**353**	ePKP1	PKPdf	20 47 03.7	+10
MBDF	**Montbardon**	**152.93**	**352**	ePKP1	PKPdf	20 47 03.9	+10
	comp=Z,7.2nm,0.7s						
LFF	**La Frestale**	**153.05**	**1**	ePKP1	PKPdf	20 47 03.0	+9.0
CAF	**Calviac**	**153.07**	**359**	ePKP1	PKPdf	20 47 03.5	+9.5
IDI	**Anoyia**	**153.08**	**315**	PKPbc	PKPdf	20 47 04.4	+10
	comp=Z,7.1nm,0.6s,baz=227,slow=18,SNR=3.8						

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*IDC **09** 20:42:11.1±3.2, 34.91N×20.88E, mb3.9/4, mb1 3.8/8, mb1mx3.6/24, mbtmp3.8/8, ML3.7/4, Error ellipse: s-maj=61.6km s-min=25.9km az=27.0*

*NEIC **09** 20:42:16.9±0.9, 35.12N×21.11E, h30km, mb4.5/5, Error ellipse: s-maj=12.3km s-min=7.5km az=220.0*

*CSEM **09** 20:42:16.4±0.4, 35.24N×21.29E, h127km±5km, ML4.0, Error ellipse: s-maj=8.1km s-min=3.0km az=41.0*

*ATH **09** 20:42:19.8, 35.35N×21.47E, h90km±14km*

*THE **09** 20:42:20.0, 35.37N×21.39E, h21km, ML4.0*

ISC 09 20:42:20.2±1.1**, 35.40N**±0.06×**21.43E**±0.07**, h52**km±8km**,**
n46, σ0s93/55**, mb4.3**/9**, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.58**	**56**	eP	**P**	**20 42 47.5**	**+1.2**
VLI	**Veliai**	**1.80**	**42**	eP	**P**	**20 42 51.1**	**+1.7**
ITM	**Ithomi**	**1.82**	**13**	eP	**P**	**20 42 50.7**	**+0.9**
VAM	**Vamos**	**2.27**	**89**	eP	**P**	**20 42 56.1**	**+0.1**
RLS	**Riolos of Patr**	**2.66**	**1**	eP	**P**	**20 43 03.5**	**+1.9**
IDI	**Anoyia**	**2.83**	**91**	Pn	**P**	**20 43 03.8**	**-0.3**
	4.5nm,0.3s,baz=253,slow=14,SNR=54						
IDI				Sn	**S**	**20 43 37.8**	**+0.6**
	9.7nm,0.3s,baz=335,slow=21,SNR=10						
VLS	**Valsamata**	**2.85**	**347**	eP	**P**	**20 43 05.2**	**+0.8**
VLS	**Valsamata**	**2.85**	**347**	eP	**P**	**20 43 04.5**	**+0.1**
PTL	**Penteli**	**3.29**	**36**	eP	**P**	**20 43 10.8**	**+0.2**
MPAR	**Parnis Oros**	**3.32**	**33**	eP	**P**	**20 43 11.0**	**+0.1**
THR3	**Thira Island,**	**3.38**	**71**	ePn	**P**	**20 43 11.0**	**-0.8**
THR3				eSn	**S**	**20 43 51.4**	**+0.4**
THR1	**Thera Island**	**3.42**	**72**	ePn	**P**	**20 43 10.8**	**-1.5**
THR1				eSn	**S**	**20 43 52.1**	**+0.1**
NPS	**Neapolis**	**3.43**	**91**	eP	**P**	**20 43 12.3**	**-0.2**
LKR	**Lokris**	**3.48**	**21**	eP	**P**	**20 43 14.0**	**+0.7**
LKR	**Lokris**	**3.48**	**21**	eP	**P**	**20 43 13.0**	**-0.3**
EVR	**Evrytania**	**3.53**	**5**	eP	**P**	**20 43 15.6**	**+1.7**
EVR	**Evrytania**	**3.53**	**5**	eP	**P**	**20 43 15.8**	**+1.9**
AGG	**Agios Georgios**	**3.69**	**11**	ePn	**P**	**20 43 17.3**	**+1.2**
AGG				eSn	**S**	**20 44 00.9**	**+2.1**
APE	**Apeiranthos**	**3.71**	**62**	eP	**P**	**20 43 16.1**	**-0.4**
NEO	**Neokhori**	**4.16**	**20**	eP	**P**	**20 43 23.0**	**+0.2**
NEO	**Neokhori**	**4.16**	**20**	eP	**P**	**20 43 22.0**	**-0.8**
IGT	**Igoumenitsa**	**4.22**	**348**	ePn	**P**	**20 43 23.1**	**-0.6**
AOS	**Alonnisos**	**4.25**	**27**	ePn	**P**	**20 43 23.7**	**-0.3**
LIT	**Litokhoron**	**4.77**	**10**	ePn	**P**	**20 43 31.0**	**-0.4**
LIT				eSn	**S**	**20 44 25.4**	**-0.7**
PAIG	**Paliouri**	**4.86**	**21**	ePn	**P**	**20 43 32.0**	**-0.6**
PAIG	**Paliouri**	**4.86**	**21**	ePn	**P**	**20 43 32.0**	**-0.7**
SMG	**Samos**	**4.93**	**61**	eP	**P**	**20 43 32.1**	**-1.5**
PLG	**Polygyros**	**5.22**	**17**	eP	**P**	**20 43 37.1**	**-0.5**
OUR	**Ouranopolis**	**5.33**	**22**	ePn	**P**	**20 43 38.3**	**-0.8**
FNA	**Florina**	**5.38**	**360**	ePn	**P**	**20 43 39.0**	**-0.8**
FNA				eSn	**S**	**20 44 39.1**	**-2.2**
GRG	**Griva**	**5.61**	**8**	ePn	**P**	**20 43 42.1**	**-0.9**
GRG				eSn	**S**	**20 44 46.2**	**-0.7**
SOH	**Sokhos**	**5.63**	**15**	ePn	**P**	**20 43 42.9**	**-0.4**
KNT	**Kendrikon**	**5.87**	**11**	ePn	**P**	**20 43 46.2**	**-0.5**
VAE	**Valguarnera**	**6.02**	**292**	Pn	**P**	**20 43 39.5**	**-9.3**
	1.7nm,0.3s,baz=102,slow=14,SNR=3.0						
EIL	**Elat**	**12.76**	**113**	Pn	**P**	**20 45 17.6**	**-3.5**
	0.2nm,0.3s,baz=301,slow=17,SNR=2.4						
EIL				Sn	**S**	**20 47 29.9**	**-12**
	0.4nm,0.3s,baz=164,slow=34,SNR=5.5						
EIL	**Elat**	**12.76**	**113**	Pn	**P**	**20 45 17.6**	**-3.5**
EIL				Sn	**S**	**20 47 29.9**	**-12**
AKASG	**Malin Array Be**	**16.31**	**18**	Pn	**P**	**20 46 08.7**	**+1.7**
	1.3nm,0.3s,baz=211,slow=10,SNR=5.5						
HFS	**Hagfors**	**25.26**	**351**	P	**P**	**20 47 42.7**	**0.0**
	1.9nm,0.9s,mb3.6,baz=180,slow=7.4,SNR=4.0						
FINES	**FINESS Array B**	**26.23**	**5**	P	**P**	**20 47 51.6**	**-0.2**
	0.6nm,0.4s,mb3.4,baz=171,slow=11,SNR=5.5						
ARCES	**ARCESS Array B**	**34.27**	**3**	P	**P**	**20 49 02.7**	**-0.3**
	2.6nm,0.9s,mb4.2,baz=190,slow=9.2,SNR=6.0						
GKN	**Gorkha**	**53.49**	**79**	eP	**P**	**20 51 38.1**	**+0.5**
	9.0nm,0.7s,mb4.8						
DMN	**Daman**	**54.04**	**79**	eP	**P**	**20 51 42.1**	**+0.5**
	7.7nm,0.6s,mb4.8						
KKN	**Kakani**	**54.10**	**79**	eP	**P**	**20 51 42.4**	**+0.3**
	3.6nm,0.6s,mb4.5						
PKI	**Pulchoki**	**54.30**	**79**	eP	**P**	**20 51 43.2**	**-0.3**
	6.8nm,0.6s,mb4.7						
JIRN	**Jiri**	**54.88**	**79**	eP	**P**	**20 51 47.9**	**+0.1**
	3.8nm,0.7s,mb4.6						
SONM	**Songino Array**	**61.68**	**50**	P	**P**	**20 52 35.5**	**+0.6**
	0.4nm,0.5s,mb3.8,baz=282,slow=5.8,SNR=7.2						

MAN 09 21:02:34.8, 13.41N×119.74E, h36km, mb3.8, ML2.5, MS2.1, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.59**	**56**	eP	P	21 02 48.2	+1.6
LUBP				eS	S	21 02 56.2	+1.1
BUSP	**Coron**	**1.46**	**162**	eP	P	21 02 58.7	-0.4
SJMP	**San Jose**	**1.64**	**125**	eP	P	21 03 03.0	+1.4
SJMP				eS	S	21 03 21.4	-0.3
ENPP	**El Nido**	**2.21**	**188**	eP	P	21 03 09.5	-0.2

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*LDG **09** 21:13:30.5±0.3, 41.47N×81.69E, h10km, Mb4.5/10, Ms2.7/1, Error ellipse: s-maj=13.0km s-min=3.4km az=158.0*

*IDC **09** 21:13:32.2±0.6, 41.76N×81.73E, mb4.2/17, mb1 4.3/19, mb1mx4.3/22, mbtmp4.2/19, ML4.1/2, MS3.9/2, Ms1 3.9/2, ms1mx3.3/21, Error ellipse: s-maj=20.5km s-min=12.7km az=44.0*

*NNC **09** 21:13:34.8±1.9, 41.93N×81.63E, mpv4.5, Error ellipse: s-maj=16.8km s-min=8.7km az=139.0*

*BJI **09** 21:13:34.8, 41.67N×81.79E, h22km, mB4.7, mb4.4, ML4.7, Ms4.3, Msz4.1*

*MOS **09** 21:13:35.8±0.9, 41.83N×81.74E, h33km, mb4.8/19, Error ellipse: s-maj=9.4km s-min=5.4km az=119.7*

*NEIC **09** 21:13:35.8±0.2, 41.79N×81.76E, mb4.7/22, Error ellipse: s-maj=7.1km s-min=3.9km az=216.0*

ISC 09 21:13:33.4±1.2**, 41.66N**±0.03×**81.73E**±0.04**, h20**km±9km**,**
h23km±2.8km**:pP-P, n162, σ1s15**/171**, mb4.4**/46**, MS4.0**/8**,**
16C-8D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAA	**Alma-Ata**	**3.89**	**296**	ePN	**Pn**	**21 14 35.0**	**+1.4**
AAA				e		21 15 32.5	
AAA				pmax	pmax		
	comp=Z,400nm,0.8s						
AAA				smax			
	comp=N,3µm,2.0s						
ULHL	**Ulahol**	**4.13**	**280**	P	**Pn**	**21 14 38.6**	**+1.6**
	SNR=22						
TKM2	**Tokmak 2**	**4.72**	**288**	P	**Pn**	**21 14 46.8**	**+1.4**
	SNR=65						
KZA	**Kyzart**	**4.85**	**277**	P	**Pn**	**21 14 49.0**	**+1.6**
	SNR=31						
KSH	**Kashi**	**4.87**	**246**	P	**Pn**	**21 14 50.9**	**+3.3**
KSH				S	**Sn**	**21 15 46.3**	**+2.2**
KSH				Smax			
	comp=N,730nm,0.8s						
KSH				Smax			
	comp=E,1µm,1.1s						
WMQ	**Urumqi**	**4.90**	**62**	eP	**Pn**	**21 14 50.9**	**+2.9**
WMQ				S	**Sn**	**21 15 50.3**	**+5.5**
WMQ				Smax			
	comp=N,393nm,0.6s						
WMQ				Smax			
	comp=E,548nm,0.6s						
WMQ				LR	LR		
	comp=N,2µm,4.0s						
WMQ				LR	LR		
	comp=E,2µm,3.9s						
WMQ				LR	LR		
	comp=Z,2µm,13.8s						
KBK	**Karagaybulak**	**5.14**	**283**	P	**Pn**	**21 14 52.5**	**+1.2**
	SNR=44						
MK31	**Makanchi Array**	**5.15**	**4**	Pn	**Pn**	**21 14 52.2**	**+0.7**
	comp=Z,26nm,0.4s,baz=186,slow=13,SNR=1101						
MK31				Sn	**Sn**	**21 15 52.9**	**+1.7**
	baz=184,slow=22						
MK31				⇑Lg		21 16 10.8	
	comp=Z,195nm,0.6s,baz=186,slow=35,SNR=5.2						
MKAR	**Makanchi Array**	**5.15**	**4**	ePN	**Pn**	**21 14 52.2**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,11nm,0.3s						
CHMS	**Chumysh**	**5.34**	**287**	P	**Pn**	**21 14 54.9**	**+0.7**
	SNR=7.0						
FRU	**Bishkek**	**5.41**	**285**	ePN	**Pn**	**21 15 11.5**	**+16**
FRU				i S	Sn	21 16 22.0	+24
FRU				pmax	pmax		
	comp=Z,630nm,2.0s						
FRU				smax			
	comp=N,3µm,2.0s						
UCH	**Uchtor**	**5.41**	**278**	P	**Pn**	**21 14 56.5**	**+1.4**
	SNR=9.4						
AAK	**Ala-Archa**	**5.46**	**283**	P	**Pn**	**21 14 56.7**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**5.46**	**283**	⇑Pn	**Pn**	**21 14 56.6**	**+0.7**
	comp=N,8.5nm,0.3s						
AAK				⇑Pg	**Pn**	**21 15 09.3**	**+13**
	comp=N,106nm,0.7s						
AAK				⇑Lg		21 16 25.0	
	comp=N,1µm,1.2s						
AAK	**Ala-Archa**	**5.46**	**283**	Pn	**Pn**	**21 14 55.7**	**-0.2**
	comp=N,253nm,0.4s,SNR=29						
AAK	**Ala-Archa**	**5.46**	**283**	PN	**Pn**	**21 14 57.1**	**+1.2**
AAK						21 15 14.1	
AAK						21 16 24.9	
AAK				pmax	pmax		
	comp=Z,186nm,1.1s						
AAK				pmax	pmax		
	comp=Z,1µm,1.2s						
AAK	**Ala-Archa**	**5.46**	**283**	eP	**Pn**	**21 14 55.4**	**-0.5**
	comp=Z,132nm,0.7s						
USP	**Ospenovka**	**5.58**	**289**	P	**Pn**	**21 14 57.8**	**+0.2**
	SNR=14						
EKS2	**Erkin-Say**	**5.99**	**282**	P	**Pn**	**21 15 03.9**	**+0.5**
	SNR=7.8						
KURK	**Kurchatov**	**9.31**	**348**	⇓Pn	**P**	**21 15 47.8**	**-1.9**
	comp=Z,5.7nm,0.8s						
KURK				⇑Pg	**P**	**21 16 03.7**	**+14**
	comp=Z,17nm,0.6s						
KURK				⇑Sn	**Sn**	**21 17 29.8**	**-5.2**
	comp=Z,36nm,0.8s						
KURK				⇓Lg		21 18 21.7	
	comp=Z,73nm,1.1s						
KURK	**Kurchatov**	**9.31**	**348**	P	**P**	**21 15 48.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KURK	**Kurchatov**	**9.31**	**348**	eP	**P**	**21 15 47.2**	**-2.5**
	comp=Z,43nm,0.6s						
DLH	**Dalhousie**	**10.19**	**209**	eP	**P**	**21 16 02.0**	**+0.2**
DLH				eS	**S**	**21 17 51.0**	**-5.5**
CHCP	**Chirah Chowk**	**10.42**	**223**	⇓P	**P**	**21 16 04.2**	**-0.7**
KLP	**Kalpa**	**10.48**	**197**	eP	**P**	**21 16 06.5**	**+0.8**
PONG	**Pong**	**10.73**	**207**	eP	**P**	**21 16 09.0**	**-0.2**
PONG				e		21 18 05.0	
SDNR	**Sundarnagar**	**10.83**	**202**	eP	**P**	**21 16 09.5**	**-1.0**
SDNR				e		21 18 07.5	
CEP	**Cherat**	**11.02**	**228**	⇑P	**P**	**21 16 11.6**	**-1.5**
CEP				S	**S**	**21 18 10.0**	**-6.8**
SMLA	**Simla**	**11.13**	**201**	⇑i	**P**	**21 16 11.1**	**-3.5**
SMLA				i S	**S**	**21 18 08.7**	**-11**
JOSI	**Joshimath**	**11.21**	**190**	e	**P**	**21 16 10.1**	**-5.6**
DDI	**Dehra Dun**	**11.69**	**196**	eP	**P**	**21 16 21.3**	**-1.0**
DDI				e		21 18 31.7	
THW	**Thamme Wali**	**11.89**	**225**	⇑P	**P**	**21 16 21.9**	**-3.0**
SARP	**Sargodha**	**12.12**	**220**	P	**P**	**21 16 24.7**	**-3.3**
SBDP	**Sheikh Budin**	**12.77**	**227**	P	**P**	**21 16 34.7**	**-2.0**
NDI	**New Delhi**	**13.45**	**197**	e	**P**	**21 16 41.0**	**-4.8**
NDI				e		21 19 06.0	
DRP	**Derazinda**	**13.53**	**227**	⇓P	**P**	**21 16 43.7**	**-3.0**
AYAN	**Aya Nagar**	**13.67**	**197**	eP	**P**	**21 16 48.8**	**+0.2**
AYAN				e		21 19 10.9	
BVA0	**Borovoye Array**	**13.71**	**330**	⇑Pn	**P**	**21 16 48.1**	**-0.8**
	comp=Z,1.4nm,0.9s,baz=121,slow=13,SNR=14						
BVA0				⇓Lg		21 20 39.7	
	comp=Z,8.9nm,1.3s,baz=134,slow=25,SNR=3.8						
BVA0	**Borovoye Array**	**13.71**	**330**	i P	**P**	**21 16 48.0**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BVAR	**Borovoye Array**	**13.71**	**330**	Pn	**P**	**21 16 46.1**	**-2.8**
	comp=Z,0.3nm,0.3s,baz=140,slow=12,SNR=9.5						
BVAR				Lg		21 20 38.5	
	comp=Z,0.4nm,0.3s,baz=122,slow=28,SNR=2.5						
SONA	**Sohna**	**13.90**	**197**	i	**P**	**21 16 48.2**	**-3.5**
SONA				e		21 16 49.7	
SONA				i		21 19 17.8	
GTA	**Gaotai**	**13.94**	**93**	eP	**P**	**21 16 50.4**	**-1.7**
GTA				AP		21 16 55.9	
GTA				XP		21 17 00.0	
GTA				S	**S**	**21 19 26.5**	**-0.8**
GTA				XS		21 19 34.8	
GTA				SS	SS	21 19 42.8	-0.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,97nm,4.9s						
GTA				LR	LR		
	comp=N,381nm,11.4s						
GTA				LR	LR		
	comp=E,633nm,11.8s						
GTA				LR	LR		
	comp=Z,826nm,12.2s						
CHKZ	**Chkalovo**	**14.14**	**332**	⇑Pn	**P**	**21 16 52.0**	**-2.6**
	comp=Z,6.0nm,0.5s						
CHKZ				⇑Lg		21 20 50.6	
	comp=Z,139nm,1.8s						
CHKZ	**Chkalovo**	**14.14**	**332**	eP	**P**	**21 16 51.4**	**-3.2**
KUDL	**Kundal**	**14.14**	**199**	e	**P**	**21 16 52.3**	**-2.5**
KUDL				e		21 16 53.1	
	comp=Z,12nm,0.4s						
KUDL				e		21 19 22.2	
LSA	**Lhasa**	**14.16**	**144**	P	**P**	**21 17 00.3**	**+5.2**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	**Lhasa**	**14.16**	**144**	P	**P**	**21 17 00.3**	**+5.2**
	comp=Z,4.8nm,0.6s						
KHET	**Khetri**	**14.39**	**202**	e	**P**	**21 16 55.2**	**-2.8**
KHET				e		21 16 58.0	
	comp=Z,11nm,0.3s						
KHET				e		21 19 27.8	
AGRA	**Agra**	**14.72**	**193**	eP	**P**	**21 17 02.8**	**+0.4**
AGRA				AMb	AMB	21 17 04.5	
	comp=Z,38nm,0.3s						
AGRA				e		21 19 36.9	
MOY	**Mondy**	**16.54**	**46**	eP	**P**	**21 17 30.5**	**+4.8**
MOY				pmax	pmax		
	comp=Z,29nm,3.0s						
JASL	**Jaisalmer**	**17.18**	**215**	eP	**P**	**21 17 36.2**	**+2.3**
ZAK	**Zakamensk**	**17.28**	**52**	eP	**P**	**21 17 33.2**	**-1.8**
ZAK				pmax	pmax		
	comp=Z,6.0nm,2.2s						
LZH	**Lanzhou**	**18.08**	**101**	eP	**P**	**21 17 45.8**	**+0.7**
LZH				AP		21 17 52.3	
LZH				XP		21 17 55.9	
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LZH				LR	LR		
	comp=N,890nm,13.1s						
LZH				LR	LR		
	comp=Z,690nm,14.2s						
LZH	**Lanzhou**	**18.08**	**101**	eP	**P**	**21 17 45.8**	**+0.7**
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
LZH	**Lanzhou**	**18.08**	**101**	eP	**P**	**21 17 45.8**	**+0.7**
	comp=Z,10.0nm,1.0s						
LZH				pP		21 17 52.3	
LZH				sP		21 17 55.9	
SONM	**Songino Array**	**18.54**	**62**	P	**P**	**21 17 50.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=258,slow=9.9,SNR=34						
BHPL	**Bhopal**	**18.71**	**192**	eP	**P**	**21 17 52.6**	**-0.3**
BHPL				e		21 17 55.9	
	comp=Z,6.5nm,0.3s						
BHPL				i		21 21 11.4	
ULN	**Ulaanbaatar**	**18.98**	**62**	i P	**P**	**21 17 55.9**	**-0.1**
HHC	**Hu-ho-hao-te**	**22.40**	**82**	eP	**P**	**21 18 33.6**	**+1.6**
HHC				AP		21 18 37.4	
HHC				XP		21 18 40.2	
HHC				PP	PP	21 19 00.1	+0.6
HHC				PCP	PcP	21 22 31.5	+3.8
HHC				S	**S**	**21 22 32.7**	**+0.5**
HHC				SS	SS	21 23 10.3	-3.1
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb4.7						
HHC				AMB	AMB		
	comp=Z,120nm,3.9s						
HHC				LR	LR		
	comp=N,263nm,13.7s,MS4.1						
HHC				LR	LR		
	comp=E,456nm,17.3s,MS4.1						
HHC				LR	LR		
	comp=Z,347nm,10.7s						
XAN	**Xi'an**	**22.72**	**101**	P	**P**	**21 18 36.0**	**+0.8**
XAN				AP		21 18 41.4	
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.0						
SOKR	**Solikamsk**	**23.67**	**328**	⇓iP	**P**	**21 18 44.3**	**+0.1**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
KMI	**Kunming**	**23.98**	**127**	P		21 18 54.8	
KMI				*SP		21 19 06.4	
KMI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
KMI				MLR	MLR		
	comp=Z,230nm,14.1s,MS3.8						
KMI	**Kunming**	**23.98**	**127**	P		21 18 54.8	
	comp=Z,7.0nm,0.6s						
KMI				sP		21 19 06.4	
KMI				S	**S**	**21 23 11.7**	**+12**
KMI				LR	LR		
	comp=Z,230nm,14.1s,MS3.8						
HYB	**Hyderabad**	**24.31**	**187**	eP	**P**	**21 18 52.0**	**+1.2**
HYB	**Hyderabad**	**24.31**	**187**	i P	**P**	**21 18 52.0**	**+1.2**
ENH	**Enshi**	**25.07**	**108**	P	**P**	**21 18 58.7**	**+0.7**
	comp=Z,11nm,0.6s,mb4.6						
KAD	**Karad**	**25.11**	**197**	eP	**P**	**21 19 00.7**	**+2.2**
KAD				e	pP	21 19 05.8	+1.6
	comp=Z,20nm,0.5s						
GYA	**Guiyang**	**25.50**	**119**	⇑iP	**P**	**21 19 04.5**	**+2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
BOD	**Bodaibo**	**26.05**	**41**	eP	**P**	**21 19 06.7**	**-0.2**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.0						
CMAR	**Chiang Mai Arr**	**27.40**	**142**	P	**P**	**21 19 20.8**	**+1.1**
	comp=Z,1.0nm,0.8s,mb3.4,baz=314,slow=9.5,SNR=7.1						
NJ2	**Nanjing**	**31.01**	**96**	eP	**P**	**21 19 57.3**	**+5.4**
NJ2				PP	PP	21 20 59.6	+5.4
NJ2				S	**S**	**21 24 50.0**	**-4.6**
NJ2				AMB	AMB		
	comp=Z,650nm,4.4s						
NJ2				LR	LR		
	comp=N,1µm,28.0s						
NJ2				LR	LR		
	comp=E,4µm,18.0s						
NJ2				LR	LR		
	comp=Z,1µm,17.2s						
OBN	**Obninsk**	**32.27**	**310**	⇓eP	**P**	**21 20 01.5**	**-1.1**
OBN				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.7						
RAYN	**Ar Rayn**	**35.15**	**250**	P	**P**	**21 20 27.3**	**-0.6**
	comp=Z,50nm,0.6s,SNR=15						
JOF	**Joensuu**	**36.17**	**323**	ep	**P**	**21 20 34.9**	**-1.2**
	comp=Z,1.6nm,0.4s,mb4.3						
AKASG	**Malin Array Be**	**36.76**	**303**	P	**P**	**21 20 40.5**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.1,baz=67,slow=8.5,SNR=7.8						
TIXI	**Tiksi**	**37.86**	**22**	eP	**P**	**21 20 49.6**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,242nm,12.0s,MS4.2						
KAF	**Kangasniemi**	**38.34**	**321**	ep	**P**	**21 20 53.4**	**-1.0**
	comp=Z,0.9nm,0.4s,mb3.9						
KAF	**Kangasniemi**	**38.34**	**321**	eP	**P**	**21 20 53.4**	**-1.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**38.38**	**320**	P	**P**	**21 20 54.2**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.8,baz=98,slow=14,SNR=6.4						
FINES				PcP	PcP	21 23 07.8	-0.9
	comp=Z,0.4nm,0.5s,baz=153,slow=4.3,SNR=3.5						
FINES				LR	LR	21 37 19.3	
	comp=Z,139nm,18.6s,MS3.8,baz=144,slow=37						
FINES	**FINESS Array B**	**38.38**	**320**	P	**P**	**21 20 54.2**	**-0.5**
FINES				PcP	PcP	21 23 07.8	-0.9
FINES				LR	LR	21 37 19.3	
KEV	**Kevo**	**39.52**	**333**	ep	**P**	**21 21 02.0**	**-2.2**
	comp=Z,1.5nm,0.4s,mb4.1						
KEV	**Kevo**	**39.52**	**333**	eP	**P**	**21 21 02.0**	**-2.2**
KEV				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
BURAR	**Bucovina Array**	**39.88**	**298**	⇑P	**P**	**21 21 07.9**	**+0.5**
BURAR	**Bucovina Array**	**39.88**	**298**	⇑P	**P**	**21 21 07.9**	**+0.5**
MLR	**Muntele Rosu**	**39.91**	**295**	⇑P	**P**	**21 21 08.4**	**+0.8**
ARCES	**ARCESS Array B**	**39.97**	**333**	P	**P**	**21 21 07.6**	**-0.3**
	comp=Z,5.5nm,0.7s,mb4.4,baz=93,slow=8.8,SNR=32						
ARE0	**ARCESS Array S**	**39.97**	**333**	P	**P**	**21 21 07.7**	**-0.2**
LVV	**L'vov**	**40.19**	**302**	eP	**P**	**21 21 07.3**	**-2.6**
KWP	**Kalwaria**	**41.07**	**302**	eP	**P**	**21 21 17.2**	**+0.1**
KWP				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.7						
KWP	**Kalwaria**	**41.07**	**302**	eP	**P**	**21 21 17.2**	**+0.1**
	comp=Z,22nm,1.1s,mb4.7						
OJC	**Ojcow**	**42.78**	**303**	eP	**P**	**21 21 30.9**	**-0.1**
VYHS	**Vyhne**	**43.82**	**301**	eP	**P**	**21 21 40.4**	**+0.9**
OKC	**Ostrava-Krasne**	**43.90**	**303**	eP	sP	21 21 51.8	+3.4
OKC				AMS	AMS	21 41 10.0	
	comp=Z,400nm,6.3s						
SRO	**Srobarova**	**44.34**	**300**	eP	**P**	**21 21 46.5**	**+2.8**
DPC	**Dobruska-Polom**	**44.91**	**304**	eP	**P**	**21 21 48.9**	**+0.6**
DPC				ex	x	21 21 54.6	
DPC				epP	pP	21 22 02.2	+8.1
DPC				AMS	AMS	21 41 00.0	
	comp=Z,200nm,10.1s						
UPC	**Upice**	**45.06**	**305**	eP	**P**	**21 21 50.0**	**+0.5**
NB2	**NORSAR Subarra**	**45.56**	**320**	P	**P**	**21 21 52.6**	**-0.7**
	comp=Z,8.7nm,0.5s,mb4.9,baz=82,slow=7.9						
NB2	**NORSAR Subarra**	**45.56**	**320**	P	**P**	**21 21 52.6**	**-0.7**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb5.0						
NOA	**NORSAR Array B**	**45.56**	**320**	P	**P**	**21 21 52.9**	**-0.4**
	comp=Z,8.2nm,0.5s,mb4.9,baz=81,slow=7.9,SNR=27						
NOA				LR	LR	21 41 31.4	
	comp=Z,139nm,18.4s,MS3.9,baz=130,slow=37						
PVCC	**Panska Ves**	**45.94**	**305**	eP	**P**	**21 21 57.0**	**+0.6**
PVCC				epP	pP	21 22 02.9	+0.6
PVCC				AMS	AMS	21 41 50.0	
	comp=Z,200nm,14.5s						
PRU	**Pruhonice**	**46.11**	**304**	eP	**P**	**21 21 58.8**	**+1.0**
PRU				e*PP	pP	21 22 07.5	+3.9
PRU	**Pruhonice**	**46.11**	**304**	eP	**P**	**21 21 58.8**	**+1.0**
PRU				ex	x	21 22 04.0	
PRU				epP	pP	21 22 07.5	+3.9
PRU				AMS	AMS	21 42 20.0	
	comp=Z,300nm,8.5s						
CLL	**Collm**	**46.67**	**306**	P	**P**	**21 22 03.0**	**+0.8**
CLL				e*PP	pP	21 22 08.0	-0.1
KHC	**Kasperske Hory**	**46.96**	**303**	eP	**P**	**21 22 05.5**	**+1.0**
KHC				epP	pP	21 22 15.6	+5.2
KHC				LR	LR		
	comp=Z,200nm,13.6s,MS4.2						
KHC	**Kasperske Hory**	**46.96**	**303**	eP	**P**	**21 22 05.5**	**+1.0**
KHC				epP	pP	21 22 15.6	+5.2
KHC				AMS	AMS	21 42 00.0	
	comp=Z,200nm,13.6s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	46.97	303	P	P	21 22 04.9	+0.3
	comp=Z,0.7nm,0.5s,mb3.9,baz=64,slow=8.3,SNR=13						
NKC	Novy Kostel	47.33	305	AMS	AMS	21 42 30.0	
	comp=Z,300nm,9.6s						
MOX	Moxa	47.71	306	eP	P	21 22 10.0	-0.4
MOX				pP	pP	21 22 20.0	+3.7
GRA1	Grafenberg Arr	48.25	305	eP	P	21 22 15.8	+1.2
GRA1				epP	pP	21 22 21.5	+1.0
GRF	Grafenberg Arr	48.25	305	eP	P	21 22 15.8	+1.2
GRF				e*PP	pP	21 22 21.5	+1.0
BILL	Bilibino	50.19	29	⇓eP	P	21 22 29.1	-0.2
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
BILL				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.0						
CDF	Champ du Feu	51.12	304	eP	P	21 22 36.6	-0.1
HINF	Hinteralfeld	51.61	304	eP	P	21 22 39.9	-0.5
HAU	Haudompre	51.85	304	eP	P	21 22 42.1	-0.1
BAIF	Baives	52.36	307	eP	P	21 22 45.6	-0.4
LPG	La Plagne	52.60	301	eP	P	21 22 47.7	-0.2
	comp=Z,23nm,1.0s,mb4.8						
LPG	La Plagne	52.60	301	eP	P	21 22 47.7	-0.2
LPG				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
LPL	La Plagne	52.61	301	eP	P	21 22 47.6	-0.3
	comp=Z,11nm,0.5s,mb4.7						
LPL	La Plagne	52.61	301	eP	P	21 22 47.6	-0.3
LPL				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
SBF	Sospel	52.84	299	eP	P	21 22 48.8	-0.9
MBDF	Montbardon	52.91	300	eP	P	21 22 50.0	-0.2
	comp=Z,5.8nm,0.5s,mb4.4						
MBDF	Montbardon	52.91	300	eP	P	21 22 50.0	-0.2
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
ORIF	Oris-en-Rattie	53.41	301	eP	P	21 22 54.0	+0.2
	comp=Z,14nm,0.8s,mb4.6						
ORIF	Oris-en-Rattie	53.41	301	eP	P	21 22 54.0	+0.2
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
SMF	Signal de Mont	53.97	304	eP	P	21 22 57.9	+0.1
SSF	Saint Saulge	54.00	304	eP	P	21 22 57.9	-0.2
AVF	Avril sur Loir	54.21	304	eP	P	21 22 58.6	-1.0
	comp=Z,8.4nm,0.8s,mb4.4						
AVF	Avril sur Loir	54.21	304	eP	P	21 22 58.6	-1.0
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VIVF	Saint-Julien-l	54.21	301	eP	P	21 22 59.3	-0.4
	comp=Z,8.7nm,0.6s,mb4.5						
VIVF	Saint-Julien-l	54.21	301	eP	P	21 22 59.3	-0.4
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LFF	La Frestale	56.67	303	eP	P	21 23 17.2	-0.3
	comp=Z,5.6nm,0.6s,mb4.5						
LFF	La Frestale	56.67	303	eP	P	21 23 17.2	-0.3
LFF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ROSF	Rostrenen	57.54	308	eP	P	21 23 21.9	-1.7
ETSF	Etsaut	58.47	301	eP	P	21 23 29.5	-0.7
	comp=Z,6.1nm,0.7s,mb4.4						
ETSF	Etsaut	58.47	301	eP	P	21 23 29.5	-0.7
ETSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
KMBO	Kilima Mbogo	58.55	235	P	P	21 23 31.5	+0.3
	comp=Z,0.5nm,0.5s,mb3.8,baz=41,slow=22,SNR=2.5						
FX1	Attu Island--F	58.98	45	P	P	21 23 31.8	-1.9
FX1				pmax	pmax		
	comp=Z,15nm,0.7s						
FX1	Attu Island--F	58.98	45	P	P	21 23 31.8	-1.9
	comp=Z,15nm,0.7s,mb5.1,baz=267,slow=14,SNR=3.1						
ESDC	Sonseca Array	62.32	300	P	P	21 23 55.5	-1.1
	comp=Z,1.1nm,0.6s,mb4.2,baz=54,slow=6.7,SNR=4.6						
IMA	Indian Mountai	64.47	22	eP	P	21 24 09.9	-0.3
IMA				e*PP	pP	21 24 15.7	-0.6
IMA				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
IMA	Indian Mountai	64.47	22	eP	P	21 24 09.9	-0.3
	comp=Z,23nm,0.6s,mb5.4						
IMA				epP	pP	21 24 15.7	-0.6
COLA	College	66.97	21	P	P	21 24 26.2	-0.1
COLA				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
COLA	College	66.97	21	P	P	21 24 26.2	-0.1
	comp=Z,5.4nm,0.6s,mb4.8						
INK	Inuvik	67.22	13	eP	P	21 24 27.2	-0.6
INK				pmax	pmax		
	comp=Z,47nm,1.9s						
INK	Inuvik	67.22	13	eP	P	21 24 27.2	-0.6
	comp=Z,47nm,1.9s,mb5.2						
ILAR	Eielson Array	67.30	20	P	P	21 24 27.2	-1.1
	comp=Z,2.7nm,0.9s,mb4.3,baz=319,slow=5.9,SNR=24						
MCK	McKinley	67.57	22	P	P	21 24 29.7	-0.4
KAKA	Kakadu	71.44	127	eP	P	21 24 55.0	+0.4
	comp=Z,5.3nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	72.00	136	eP	P	21 24 58.8	+0.9
	comp=Z,6.6nm,0.5s,mb4.8						
YKA	Yellowknife Ar	75.37	8	P	P	21 25 16.3	-0.3
	comp=Z,0.9nm,0.6s,mb3.9,baz=338,slow=5.6,SNR=22						
WRAB	Tennant Creek	78.25	130	eP	P	21 25 34.4	+0.8
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
WRAB	Tennant Creek	78.25	130	ePKPdf	P	21 25 34.4	+0.8
	comp=Z,6.3nm,0.6s,mb4.7						
WRA	Warramunga Arr	78.25	130	P	P	21 25 34.9	+1.3
	comp=Z,4.0nm,0.6s,mb4.5,baz=326,slow=5.5,SNR=92						
PMG	Port Moresby	78.47	114	P	P	21 25 36.3	+1.4
	comp=Z,7.1nm,0.7s,mb4.7,baz=202,slow=13,SNR=2.4						
SCHQ	Schefferville	80.20	342	P	P	21 25 43.2	-0.2
	comp=Z,1.3nm,0.8s,mb3.9,baz=223,slow=15,SNR=3.0						
ASPA	Alice Springs	80.96	133	eP	P	21 25 49.4	+1.3
ASAR	Alice Springs	80.97	133	P	P	21 25 49.2	+1.1
	comp=Z,2.9nm,0.6s,mb4.4,baz=324,slow=5.1,SNR=40						
NWAO	Narrogin (SRO)	81.09	150	P	P	21 25 49.3	+0.7
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
NWAO	Narrogin (SRO)	81.09	150	PKPdf	P	21 25 49.3	+0.7
	comp=Z,4.9nm,0.8s,mb4.5						
DBIC	Dimbokro	83.06	273	P	P	21 25 58.5	-0.7
	comp=Z,1.3nm,0.4s,mb4.3,baz=172,slow=7.7,SNR=5.6						
STKA	Stephens Creek	91.60	133	P	P	21 26 40.2	0.0
	comp=Z,1.1nm,0.6s,mb4.4,baz=203,slow=2.1,SNR=4.9						
STKA	Stephens Creek	91.60	133	P	P	21 26 40.2	0.0

*NIED **09** 21:19:00,33.90N×142.00E,h5^{km},Mw3.7 Best double couple: $M_0$3.7×10^{14} NP1:ϕ_s121°,δ60°,λ-107°. NP2: ϕ_s333°,δ34°,λ-63°.*
*JMA **09** 21:19:32.3±0.4,33.89N×142.01E,h23^{km},M3.7*
*IDC **09** 21:19:36.2±0.9,34.79N×138.82E,h63^{km}±8^{km},mb3.4/4, mb1 3.7/4,mb1mx3.3/19,mbtmp3.7/4,Error ellipse: s-maj=27.0km s-min=9.6km az=73.0*
*NEIC **09** 21:19:40.0±1.0,34.04N×141.80E,Error ellipse: s-maj=23.5km s-min=18.0km az=53.0*
ISC 09 21:19:36.9±0.7**,33.96N**±0.05×**141.74E**±0.07**,h62^{km}, h62^{km}**±2.6^{km}**:pP-P,n27,**σ**1^{s}02**/31**,mb3.6**/4**,Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	0.93	318	P	P	21 19 52.9	-1.5
BSO1				eS	S	21 20 07.2	-0.1
BSO2	Boso 2	1.13	314	eS	S	21 20 14.8	+2.8
BSO3	Boso 3	1.32	310	P	P	21 19 59.1	-0.6
BSO4	Boso 4	1.55	312	P	P	21 20 03.0	+0.2
KTR	Katsuura	1.67	316	P	P	21 20 04.5	0.0
JHJ2	Mitsune	1.81	243	P	P	21 20 06.0	-0.5
JHJ	Hachijo jima 2	1.83	243	P	P	21 20 05.9	-0.9
	248nm,0.3s,baz=72,slow=16,SNR=119						
JHJ				S	S	21 20 28.6	-0.2
	122nm,0.3s,baz=75,slow=23,SNR=9.5						
CHOJ	Chosi	1.88	338	P	P	21 20 05.8	-1.6
JIM2	Oshima 3	2.05	292	P	P	21 20 08.9	-0.9
JIZS	Izushimoda	2.48	289	P	P	21 20 15.6	-0.3
JIZS				S	S	21 20 45.7	+0.6
JOD2	Odawara 2	2.54	302	P	P	21 20 15.9	-0.9
JYN	Shimob	3.04	301	P	P	21 20 24.5	+0.6
JAG	Ashikaga	3.09	323	P	P	21 20 23.3	-1.2
JRY	Ryogami san	3.10	312	P	P	21 20 23.8	-0.9
MAJO	Matsushiro	3.87	313	eP	P	21 20 35.2	-0.3
MAT	Matsushiro	3.87	313	P	P	21 20 36.0	+0.6
MAT				eS	S	21 21 21.0	+1.0
MAT	Matsushiro	3.87	313	P	P	21 20 36.2	+0.8
MAT				S	S	21 21 21.1	+1.1
GUN	Gumba	47.80	279	eP	P	21 28 14.7	+4.6
KKN	Kakani	48.34	279	eP	P	21 28 17.2	+2.9
DMN	Daman	48.55	279	eP	P	21 28 18.9	+3.0
GKN	Gorkha	48.78	279	eP	P	21 28 18.3	+0.6
ILAR	Eielson Array	51.97	31	P	P	21 28 41.9	+0.5
	1.6nm,0.9s,mb3.9,baz=263,slow=5.3,SNR=8.2						
CTA	Charters Tower	53.92	175	pP	pP	21 29 17.9	+5.2
	10nm,1.0s,baz=343,slow=14,SNR=3.3						
WRA	Warramunga Arr	54.06	189	P	P	21 28 57.2	-0.4
	0.6nm,0.4s,mb3.9,baz=4.5,slow=7.5,SNR=16						
WRA				pP	pP	21 29 14.1	+0.2
	1.3nm,0.5s,baz=4.7,slow=7.6,SNR=6.4						
ASAR	Alice Springs	57.79	188	P	P	21 29 25.3	+1.0
	0.2nm,0.4s,mb3.5,baz=7.7,slow=8.3,SNR=4.4						
ASAR				pP	pP	21 29 42.1	+1.4
	0.5nm,0.5s,baz=4.9,slow=8.4,SNR=3.7						
YKA	Yellowknife Ar	66.34	30	P	P	21 30 21.4	+0.7
	0.1nm,0.4s,mb3.2,baz=297,slow=6.0,SNR=3.6						
YKA				pP	pP	21 30 37.2	-0.3
	0.2nm,0.5s,baz=297,slow=6.5,SNR=3.9						
YKA	Yellowknife Ar	66.34	30	P	P	21 30 21.4	+0.7
YKA				pP	pP	21 30 37.2	-0.3

*NEIC **09** 22:01:12.7±2.0,51.41N×16.32E,h5^{km},ML2.6(VIE),Error ellipse: s-maj=22.6km s-min=8.7km az=222.0*
*PRU **09** 22:01:13.5,51.40N×16.17E*
*WAR **09** 22:01:13.4,51.45N×16.17E,h1^{km},ML2.6,Mining Induced*
ISC 09 22:01:10.7±0.9**,51.44N**±0.05×**16.14E**±0.04**,n15,**σ**1^{s}16**/28**, 2C,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	171	ePG	Pg	22 01 24.0	+1.2
KSP				eSG	Sg	22 01 33.0	+2.1
UPC	Upice	0.94	185	ePG	Pg	22 01 30.7	+1.2
DPC	Dobruska-Polom	1.10	174	ePG	Pg	22 01 33.3	+0.7
DPC				eSG	Sg	22 01 46.9	-0.4
	6.5nm,0.2s						
PVCC	Panska Ves	1.35	228	ePG	Pg	22 01 38.9	+1.2
BRG	Berggiesshubel	1.50	249	ePg	Pg	22 01 41.4	+0.8
BRG				eSg	Sg	22 02 01.8	+1.2
PRU	Pruhonice	1.78	216	ePG	Pg	22 01 45.4	-0.8
PRU				ex	x	22 01 49.9	
PRU				ex	x	22 02 02.4	
PRU				eSG	Sg	22 02 09.4	-0.5
	4.1nm,0.2s						
MORC	Moravsky Berou	1.89	151	eP	Pn	22 01 44.5	0.0
CLL	Collm	1.97	267	ePG	Pg	22 01 49.0	-1.1
CLL				eSG	Sg	22 02 15.0	-1.4
OKC	Ostrava-Krasne	2.05	141	eSG	Sg	22 02 15.8	-3.2
OJC	Ojcow	2.62	116	ePg	Pg	22 02 02.8	-0.2
OJC				eSg	Sg	22 02 37.2	-0.7
NKC	Novy Kostel	2.64	244	ePn	Pn	22 01 56.4	+1.2
NKC				ePg	Pg	22 02 02.7	-0.6
NKC				eSg	Sg	22 02 39.4	+0.9
KHC	Kasperske Hory	2.84	216	ePN	Pn	22 01 59.1	+1.0
KHC				ePG	Pg	22 02 05.0	-2.4
KHC				eSN	Sn	22 02 34.1	+0.6
KHC				eSG	Sg	22 02 41.9	-3.3
MOX	Moxa	2.97	256	Pg	Pg	22 01 09.0	-61
MOX				Sg	Sg	22 02 49.0	-0.5
MOA	Molln	3.80	199	⇑iPN	Pn	22 02 11.6	-0.1
MOA				i SG	Sg	22 03 15.4	-1.7
	2.3nm,0.4s						
MOA	Molln	3.80	199	⇑iPn	Pn	22 02 11.6	-0.1
MOA				i Sg	Sg	22 03 15.4	-1.7

*LDG **09** 22:01:24.0±0.1,46.03N×6.93E,h2^{km},Md2.5/2,Ml2.3/7, Error ellipse: s-maj=3.0km s-min=1.2km az=94.0*
*ZUR **09** 22:01:24.7,46.09N×6.85E,ML1.8/1*
ISC 09 22:01:23.2±0.4**,46.07N**±0.02×**6.79E**±0.04**,h0^{km}**±8^{km}**,n17, **σ**0^{s}96**/28**,1C,Switzerland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EMV	Vieux Emosson	0.08	92	P	Pg	22 01 25.6	+0.9
SALAN	Lac Salanfe	0.15	59	eS	Sg	22 01 28.5	+0.3
GRYON	Gryon	0.29	50	eP	Pg	22 01 29.6	+0.6
AIGLE	Aigle	0.30	23	⇑P	Pg	22 01 30.0	+0.8
DIX	Grande Dixence	0.43	88	eP	Pg	22 01 32.6	+0.8
DIX				eS	Sg	22 01 37.8	+0.2
SENIN	Lac Senin	0.46	50	eP	Pg	22 01 32.8	+0.4
SENIN				eS	Sg	22 01 39.0	+0.4
LPL	La Plagne	0.55	184	ePg	Pg	22 01 34.1	-0.1
LPL				eSg	Sg	22 01 41.9	+0.4
	9.0nm,0.3s						
LPG	La Plagne	0.57	183	ePg	Pg	22 01 34.4	-0.2
LPG				eSg	Sg	22 01 41.9	-0.2
	13nm,0.5s						
LKBD	Leukerbad	0.67	61	P	Pg	22 01 36.5	0.0
CABF	La Chapelle	0.73	319	ePg	Pg	22 01 39.5	+1.7
CABF				ePn	Pn	22 01 41.3	+0.9
CABF				eSg	Sg	22 01 50.5	+3.0
CABF				eSn	Sn	22 01 53.3	+0.9
	26nm,0.5s						
ORIF	Oris-en-Rattie	1.31	209	eSg	Sg	22 02 06.9	0.0
	15nm,0.5s						
MBDF	Montbardon	1.34	181	eSg	Sg	22 02 05.8	-2.0
	9.1nm,0.6s						
HINF	Hinteralfeld	1.75	1	ePg	Pg	22 01 57.7	-0.5
HINF				eSg	Sg	22 02 20.2	-1.3
	9.0nm,0.6s						
VIVF	Saint-Julien-l	1.92	232	eSg	Sg	22 02 27.0	-0.1
	7.2nm,0.4s						
HAU	Haudompre	1.96	351	ePn	Pn	22 01 57.3	-0.8
HAU				eSg	Sg	22 02 27.5	-1.1
	5.3nm,0.3s						
SMF	Signal de Mont	2.12	287	eSg	Sg	22 02 33.7	-0.1
	3.6nm,0.5s						
CDF	Champ du Feu	2.37	8	ePn	Pn	22 02 02.9	-1.0
CDF				ePg	Pg	22 02 09.5	-1.0
CDF				eSg	Sg	22 02 39.8	-2.3
	2.0nm,0.4s						

MAN 09 22:01:25.5,6.27N×124.78E,h12^{km},mb4.1,ML2.9,MS2.7, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	0.80	23	⇓eP	Pb	22 01 40.4	-0.4
KCP				i S	Sb	22 01 53.4	+2.1
BUKP	Musuan	1.62	10	eP	Pn	22 01 53.5	-0.6
BUKP				eS	Sn	22 02 15.3	+0.2
PAGZ	Pagadian	2.09	319	eP	Pn	22 02 01.0	+0.2
IPIL	Ipil	2.66	305	eP	Pn	22 02 07.7	-1.3

*PRU **09** 22:09:51.7,50.07N×18.39E*
*WAR **09** 22:09:51.2,50.07N×18.42E,h0^{km},ML2.4,Mining Induced*
ISC 09 22:09:49.2±0.5**,50.04N**±0.03×**18.33E**±0.03**,n20,**σ**1^{s}27**/35**, 3C,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	Raciborz	0.10	297	⇑iPG	Pg	22 09 55.1	+4.0
RAC				⇑eSG	Sg	22 09 58.1	+5.7
RAC	Raciborz	0.10	297	⇑iPg	Pg	22 09 55.1	+4.0
RAC				eSg	Sg	22 09 57.9	+5.5
OKC	Ostrava-Krasne	0.23	210	ePG	Pg	22 09 57.4	+3.6
OKC				eSG	Sg	22 10 02.1	+5.1
	83nm,0.6s						
OJC	Ojcow	0.96	79	ePG	Pg	22 10 08.0	-0.4
OJC				eSG	Sg	22 10 21.0	-0.2
DPC	Dobruska-Polom	1.33	284	ePG	Pg	22 10 16.9	+1.3
DPC				eSG	Sg	22 10 35.0	+1.7
	24nm,0.3s						
NIE	Niedzica	1.43	115	ePG	Pg	22 10 16.0	-1.7
NIE				eSG	Sg	22 10 37.0	+0.2
KOLL	Kolacno	1.46	178	i PG	Pg	22 10 20.0	+1.6
KOLL				i SG	Sg	22 10 39.8	+1.9
KSP	Ksiaz	1.53	302	ePN	Pn	22 10 19.0	+1.2
KSP				ePG	Pg	22 10 21.0	+1.3
KSP				eSG	Sg	22 10 41.0	+0.9
UPC	Upice	1.56	288	ePG	Pg	22 10 21.1	+0.8
VYHS	Vyhne	1.58	168	i PG	Pg	22 10 21.0	+0.2
VYHS				i SG	Sg	22 10 42.0	+0.1
CRVS	Cervenica-Dubn	2.34	118	ePG	Pg	22 10 35.0	-0.9
CRVS				eSG	Sg	22 11 06.1	-1.0
PRU	Pruhonice	2.44	270	ePG	Pg	22 10 37.1	-0.8
PRU				eSG	Sg	22 11 09.4	-1.1
	7.6nm,0.3s						
KHC	Kasperske Hory	3.22	255	ePN	Pn	22 10 42.5	+0.5
KHC				ePG	Pg	22 10 51.5	-2.0
KHC				ex	x	22 11 18.0	
KHC				eSG	Sg	22 11 35.8	-0.6
	5.4nm,0.3s						
MOA	Molln	3.46	232	i	Pn	22 10 49.3	+3.9
MOA	Molln	3.46	232	i SG	Sg	22 11 42.8	-1.6
	4.6nm,0.5s						
MOA	Molln	3.46	232	i	Pn	22 10 49.3	+3.9
MOA				i Sg	Sg	22 11 42.8	-1.6
CLL	Collm	3.62	293	eSG	Sg	22 11 49.0	-0.6
NKC	Novy Kostel	3.79	275	eSG	Sg	22 11 52.4	-2.9
NKC	Novy Kostel	3.79	275	eSg	Sg	22 11 52.4	-2.9
MOX	Moxa	4.34	281	Sg	Sg	22 12 12.0	-1.7

*GUC **09** 22:46:06.0±0.9,32.68S×71.79W,h28^{km}±4^{km},MD4.4, ML4.1*
*NEIC **09** 22:46:06.0,32.68S×71.79W,h28^{km},mb4.2/3, ML4.1(GUC),After GUC.*
NEIC Felt [III] at Papudo and Vina del Mar; [II] at Quillota.
ISC 09 22:46:05.0±0.8**,32.67S**±0.03×**71.88W**±0.06**,h25^{km}**±5^{km}**, n38,**σ**0^{s}78**/48**,mb4.4**/2**,14C-6D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.39	71	⇓iP	Pb	22 46 13.9	+0.5
IHA	Instituto Hidr	0.41	151	⇓iP	Pb	22 46 13.9	+0.2
IHA				i S	Sb	22 46 19.8	+0.1
ROCH	El Roble	0.79	113	⇑iP	Pb	22 46 19.7	-0.3
LCCH	Las Cruces	0.85	162	⇑iP	Pb	22 46 20.8	-0.2
LCCH				i S	Sb	22 46 31.7	-0.2
JACH	Jahuel	1.08	91	⇑iP	Pn	22 46 24.0	-0.8
JACH				i S	Sb	22 46 37.3	-1.3
PEL	Peldehue	1.11	116	⇑iP	Pn	22 46 24.9	-0.2
ILCH	Illapel	1.19	30	eP	Pn	22 46 26.9	+0.6
ILCH				i S	Sn	22 46 42.0	+0.3
ILCH				AMP		22 46 44.6	
	comp=E,9μm,0.3s						
RCDM	Rinconada Maip	1.22	133	eP	Pn	22 46 26.2	-0.4
RCDM				i S	Sn	22 46 41.3	-1.1
RCDM				AMP		22 46 45.2	
	comp=E,5μm,0.4s						
TACH	Talagante	1.26	142	⇑iP	Pn	22 46 27.0	-0.3
STL	Santa Lucia	1.29	127	⇑iP	Pn	22 46 27.6	-0.1
STL				i S	Sn	22 46 43.6	-0.7
STL				AMP		22 46 49.4	
	comp=N,2μm,0.4s						
DSCH	Colegio Aleman	1.32	124	⇑iP	Pn	22 46 28.1	-0.1
DSCH				i S	Sn	22 46 44.5	-0.5
DSCH				AMP		22 46 49.5	
	comp=E,12μm,0.7s						
CLCH	Cerro Calan	1.34	123	⇓iP	Pn	22 46 28.3	-0.1
CLCH				i S	Sn	22 46 45.5	-0.1
CLCH				AMP		22 46 50.9	
	comp=E,9μm,0.7s						
CLCH				AMP		22 46 51.6	
	comp=E,10μm,0.8s						
LNV	Longovilo	1.34	163	i P	Pn	22 46 27.9	-0.5
LNV				i S	Sn	22 46 45.7	0.0
ANTU	Antumapu	1.38	131	⇓iP	Pn	22 46 28.9	0.0
ANTU				i S	Sn	22 46 46.1	-0.4
ANTU				AMP		22 46 49.2	
	comp=E,6μm,0.5s						
FSR	Penalolen	1.39	126	⇑iP	Pn	22 46 29.4	+0.2
FSR				i S	Sn	22 46 46.7	-0.2
FSR				AMP		22 46 55.8	
	comp=N,5μm,0.7s						
FCH	Farellones	1.49	117	⇓iP	Pn	22 46 30.7	+0.2
FCH				i S	Sn	22 46 49.4	+0.2
FCH				AMP		22 46 50.3	
	comp=N,5μm,0.3s						
PCH	Pirque	1.49	130	⇑iP	Pn	22 46 30.7	+0.2
SJCH	San Jose de Ma	1.60	128	⇑iP	Pn	22 46 32.3	+0.1
SJCH				i S	Sn	22 46 52.6	+0.3
SJCH				AMP		22 47 00.7	
	comp=N,2μm,0.9s						
CHCH	Chadas Angostu	1.63	141	eP	Pn	22 46 33.2	+0.7
CHCH				i S	Sn	22 46 53.7	+0.9
CACH	El Canelo	1.80	144	⇑iP	Pn	22 46 36.4	+1.4
CACH				i S	Sn	22 47 01.6	+4.4
LMEL	Las Melosas	1.83	131	eP	Pn	22 46 36.4	+1.0
LMEL				i S	Sn	22 46 59.7	+1.6
LMEL				AMP		22 47 09.1	
	comp=N,4μm,0.4s						
CICH	Cipreses	2.05	144	⇑iP	Pn	22 46 39.5	+0.9
SFDO	San Fernando	2.07	160	⇑iP	Pn	22 46 39.4	+0.5
NICH	Los Niches	2.39	167	⇑iP	Pn	22 46 44.1	+0.7
ZON	Zonda	2.93	68	eP	Pn	22 46 54.0	+2.8
ZON				eS	Sn	22 47 34.0	+8.0
PLCA	Paso Flores	8.12	173	eP	P	22 48 01.9	-2.5
	comp=N,3.3nm,0.5s						
TRQA	Tornquist	9.70	126	eP	P	22 48 25.4	-0.9
	comp=N,15nm,0.9s						
LVC	Limon Verde	10.35	15	eP	P	22 48 28.6	-6.6
	comp=N,6.4nm,0.5s						
LPAZ	La Paz	16.66	13	eP	P	22 49 58.6	0.0
	comp=N,4.1nm,0.8s						
SDV	Santo Domingo	41.34	2	eP	P	22 53 48.9	-1.7
	comp=N,3.9nm,0.8s,mb4.1						
QSPA	South Pole Qui	57.57	180	⇓iP	P	22 55 54.1	-0.4
	comp=N,9.0nm,1.0s,mb4.8						
EKS2	Erkin-Say	151.21	60	P	PKPdf	23 05 57.5	+3.0
	SNR=13						
AML	Almayashu	151.22	61	P	PKPdf	23 05 57.5	+2.9
	SNR=7.4						
USP	Ospenovka	151.63	58	P	PKPdf	23 05 58.2	+3.0
	SNR=10.0						
AAK	Ala-Archa	151.74	60	P	PKPdf	23 05 58.6	+3.3
	SNR=10						
UCH	Uchtor	151.81	61	P	PKPdf	23 05 59.3	+3.9
	SNR=13						
TKM2	Tokmak 2	152.48	59	P	PKPdf	23 06 00.0	+3.6
	SNR=5.7						
ULHL	Ulahol	153.08	60	P	PKPdf	23 06 01.9	+4.6
	SNR=5.4						

IDC 09 22:46:58.5±2.1**,48.31S**×**164.07E,mb4.2**/4**,mb1 4.4**/4**, mb1mx4.2**/8**,mbtmp4.2**/4**,Error ellipse: s-maj=309.4km s-min=47.4km az=38.0,Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	23.64	306	P	P	22 52 11.7	-0.4
	1.3nm,0.7s,baz=135,slow=13,SNR=3.0						
ASAR	Alice Springs	34.27	305	P	P	22 53 46.0	-2.3
	3.9nm,0.9s,baz=148,slow=9.1,SNR=24						
WRA	Warramunga Arr	37.08	309	P	P	22 54 10.1	-2.1
	5.5nm,0.9s,baz=145,slow=8.0,SNR=22						
CMAR	Chiang Mai Arr	88.16	300	P	P	22 59 52.0	-0.5
	2.1nm,0.9s,baz=162,slow=3.2,SNR=12						
AKASG	Malin Array Be	150.93	292	PKPbc	PKPdf	23 06 51.1	+2.9
	0.8nm,0.6s,baz=88,slow=3.4,SNR=4.8						
FINES	FINESS Array B	153.04	315	PKPbc	PKPdf	23 06 56.7	+5.8
	1.2nm,0.7s,baz=180,slow=3.8,SNR=4.5						
FINES				PKPab	PKPab	23 07 07.9	-2.3
	1.7nm,1.0s,baz=209,slow=20,SNR=2.5						

*NEIC **09** 23:00:10.5,38.61S×175.91E,h153^{km},MG3.8(WEL), After WEL.*
WEL 09 23:00:10.3±0.2**,38.62S**×**175.90E,h154^{km}**±1^{km}**,ML3.7**/11**, 2C-1D,Error ellipse: s-maj=2.1km s-min=2.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGZ	Maungaku	0.48	216	P	P	23 00 32.1	-0.4
MGZ	Maungaku	0.48	216	PN	P	23 00 32.1	-0.3
MGZ				SN	S	23 00 48.8	-0.6
WTVZ	West Tongariro	0.56	206	P	P	23 00 32.4	-0.4
WTVZ	West Tongariro	0.56	206	PN	P	23 00 32.4	-0.4
WTVZ				SN	S	23 00 49.4	-0.6
OTVZ	Oturere	0.58	198	PN	P	23 00 32.7	-0.3
TWVZ	Taurewa	0.58	218	P	P	23 00 32.4	-0.6
TWVZ	Taurewa	0.58	218	PN	P	23 00 32.4	-0.6
TWVZ				SN	S	23 00 49.5	-0.8
NGZ	Ngauruhoe	0.61	203	P	P	23 00 32.8	-0.3
NGZ	Ngauruhoe	0.61	203	PN	P	23 00 32.8	-0.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CNZ	**Chateau**	**0.65**	**205**	P	P	23 00 33.0	-0.3
CNZ	**Chateau**	**0.65**	**205**	PN	P	23 00 33.0	-0.3
TUVZ	**Tukino**	**0.68**	**196**	P	P	23 00 33.3	-0.2
TUVZ	**Tukino**	**0.68**	**196**	PN	P	23 00 33.3	-0.2
TUVZ				SN	S	23 00 50.6	-0.7
FWVZ	**Far West T-bar**	**0.69**	**203**	P	P	23 00 33.1	-0.5
FWVZ	**Far West T-bar**	**0.69**	**203**	PN	P	23 00 33.1	-0.4
BKZ	**Black Stump Fm**	**0.72**	**140**	P	P	23 00 33.8	+0.1
BKZ				S	S	23 00 51.0	-0.7
BKZ	**Black Stump Fm**	**0.72**	**140**	PN	P	23 00 33.8	+0.1
BKZ				SN	S	23 00 51.2	-0.4
WNVZ	**Wahianoa**	**0.75**	**198**	PN	P	23 00 33.7	-0.2
MOVZ	**Moawhango**	**0.80**	**188**	P	P	23 00 33.7	-0.5
MOVZ	**Moawhango**	**0.80**	**188**	PN	P	23 00 33.7	-0.5
MOVZ				SN	S	23 00 51.4	-1.2
URZ	**Urewera**	**1.01**	**70**	P	P	23 00 35.5	-0.2
URZ	**Urewera**	**1.01**	**70**	PN	P	23 00 35.5	-0.2
URZ				SN	S	23 00 54.4	-0.8
MWZ	**Matawai**	**1.31**	**78**	P	P	23 00 38.5	0.0
MWZ	**Matawai**	**1.31**	**78**	PN	P	23 00 38.5	-0.1
KNZ	**Kokohu**	**1.44**	**107**	SN	S	23 01 02.1	-0.7
TSZ	**Takapari Road**	**1.44**	**178**	P	P	23 00 39.3	-0.6
TSZ	**Takapari Road**	**1.44**	**178**	PN	P	23 00 39.3	-0.6
TSZ				SN	S	23 01 00.3	-2.5
PUZ	**Puketiti**	**1.93**	**74**	P	P	23 00 44.7	-0.5
PUZ	**Puketiti**	**1.93**	**74**	PN	P	23 00 44.7	-0.5
MRZ	**Mangatainoka R**	**2.06**	**187**	P	P	23 00 44.8	-1.9
MRZ	**Mangatainoka R**	**2.06**	**187**	PN	P	23 00 44.7	-2.1
BFZ	**Birch Farm**	**2.08**	**173**	P	P	23 00 45.6	-1.4
BFZ	**Birch Farm**	**2.08**	**173**	PN	P	23 00 45.6	-1.4
BFZ				SN	S	23 01 14.6	-0.5
MXZ	**Matakaoa Point**	**2.17**	**62**	P	P	23 00 47.6	-0.5
MXZ	**Matakaoa Point**	**2.17**	**62**	*e*PN	P	23 00 47.1	-0.9
KIW	**Kapiti Island**	**2.37**	**198**	PN	P	23 00 47.7	-2.9
MTW	**Mount Morrison**	**2.56**	**187**	P	P	23 00 50.0	-2.9
MTW	**Mount Morrison**	**2.56**	**187**	⇑PN	P	23 00 49.9	-3.0
CAW	**Cannon Point**	**2.57**	**194**	P	P	23 00 50.2	-2.9
CAW	**Cannon Point**	**2.57**	**194**	PN	P	23 00 50.2	-2.9
MSWZ	**Moikau Station**	**2.84**	**190**	P	P	23 00 53.1	-3.4
MSWZ	**Moikau Station**	**2.84**	**190**	⇑PN	P	23 00 53.0	-3.5
TUWZ	**Tuamarina**	**3.19**	**207**	*e*PN	P	23 00 56.5	-4.5
NNZ	**Nelson**	**3.24**	**216**	SN	S	23 01 35.5	-5.5
QRZ	**Quartz Range**	**3.41**	**229**	SN	S	23 01 37.9	-7.0
THZ	**Tophouse**	**3.89**	**215**	*e*PN	P	23 01 05.2	-4.9
KHZ	**Kahutara**	**4.20**	**205**	*e*P	P	23 01 09.7	-4.5
KHZ	**Kahutara**	**4.20**	**205**	⇓PN	P	23 01 09.7	-4.5
LTZ	**Lake Taylor**	**4.99**	**212**	SN	S	23 02 12.4	-10
MQZ	**McQueen's Vall**	**5.65**	**205**	SN	S	23 02 25.9	-12

CSEM ***09*** *23:15:23.9±0.1, 58.24N×11.23E, h2^{km}, ML1.4, Error ellipse: s-maj=2.4km s-min=1.7km az=4.0, Suspected Mining explosion.*
BER ***09*** *23:15:25.2±3.4, 58.23N×11.34E, MD2.6, ML1.4, ML2.5(NAO)*
UPP ***09*** *23:15:25.3, 58.20N×11.36E, h0^{km}, ML2.6, Suspected Mining explosion.*
NAO ***09*** *23:15:27.7±4.6, 58.40N×11.21E, h22^{km}±32^{km}, ML2.5*
ISC 09 23:15:23.4±0.5**, 58.26N**±0.04×**11.18E**±0.06**, n22, σ0^{s}98**/31**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KONO	**Kongsberg**	**1.61**	**330**	*e*P	**Pn**	**23 15 53.0**	**-0.3**
KONO				*e*S	**Sb**	**23 16 17.3**	**+2.6**
ASKU	**Askersund**	**2.02**	**70**	P	**Pn**	**23 15 59.0**	**0.0**
SNART	**Snartemo**	**2.10**	**274**	*e*S	**Sn**	**23 16 26.1**	**-1.2**
MUD	**Monsted U'grnd**	**2.11**	**212**	*i* P	**Pn**	**23 16 00.6**	**+0.2**
MUD				*i* S	**Sn**	**23 16 27.7**	**0.0**
MUD	**Monsted U'grnd**	**2.11**	**212**	*e*P	**Pn**	**23 16 00.6**	**+0.2**
MUD				*i* S	**Sn**	**23 16 27.7**	**0.0**
HFS	**Hagfors**	**2.28**	**34**	Pn	**Pn**	**23 16 02.8**	**0.0**
	baz=216,slow=16						
HFS				Sn	**Sn**	**23 16 28.8**	**-3.3**
	baz=203,slow=22						
HFS				Lg		23 16 35.9	
	baz=211,slow=37						
LNKU	**Linkoeping**	**2.29**	**89**	P	**Pn**	**23 16 03.2**	**+0.3**
EKSU	**Eksjoe**	**2.31**	**106**	P	**Pn**	**23 16 03.2**	**0.0**
EKSU				S	**Sn**	**23 16 33.6**	**+0.9**
NRAU	**Nora**	**2.40**	**55**	P	**Pn**	**23 16 06.2**	**+1.8**
NC6	**NORSAR Subarra**	**2.50**	**3**	Pn	**Pn**	**23 16 05.3**	**-0.6**
NC6				Lg		23 16 41.0	
NC6	**NORSAR Subarra**	**2.50**	**3**	Pn	**Pn**	**23 16 05.3**	**-0.6**
	SNR=50						
BLS5	**Blasjo**	**2.72**	**297**	*e*P	**Pn**	**23 16 10.0**	**+1.0**
BLS5				*e*S	**Sn**	**23 16 44.1**	**+1.0**
BLS5				AML	AML	23 16 52.8	
	comp=Z,1.9nm,0.2s						
BLS5	**Blasjo**	**2.72**	**297**	*e*P	**Pn**	**23 16 10.0**	**+1.0**
	SNR=50						
BLS5				*e*S	**Sn**	**23 16 44.1**	**+1.0**
	comp=Z,1.9nm,0.2s,SNR=50						
OSKU	**Oskarshamn**	**2.85**	**110**	P	**Pn**	**23 16 10.4**	**-0.5**
ODD1	**Odda**	**2.87**	**307**	*e*P	**Pn**	**23 16 10.7**	**-0.6**
ODD1				AML	AML	23 16 55.6	
	comp=Z,2.9nm,0.3s						
ESKU	**Eskilstuna**	**2.89**	**68**	P	**Pn**	**23 16 11.6**	**+0.1**
VSTU	**Vaestervik**	**2.92**	**100**	P	**Pn**	**23 16 11.6**	**-0.3**
KMY	**Karmoy**	**3.23**	**290**	*e*P	**Pn**	**23 16 15.7**	**-0.7**
KMY				AML	AML	23 17 10.7	
	comp=Z,3.6nm,0.8s						
BYXU	**Byxelkrok**	**3.27**	**105**	P	**Pn**	**23 16 16.7**	**-0.2**
BSD	**Bornholm Skovb**	**3.77**	**145**	*i* P	**Pn**	**23 16 30.1**	**+6.1**
BSD				*e*S	**Sn**	**23 17 18.7**	**+9.0**
FIA0	**FINESS Array S**	**8.15**	**61**	Pn	**P**	**23 17 22.0**	**-3.8**
	baz=253,slow=12						
FIA0				Sn	**Sn**	**23 18 50.0**	**-10**
	baz=259,slow=22						
KAF	**Kangasniemi**	**8.46**	**56**	*e*p	**P**	**23 17 24.6**	**-5.5**
	comp=Z,0.3nm,0.3s						

IDC ***09*** *23:39:12.4±1.3, 15.76S×173.27W, mb4.2/9, mb1 4.5/9, mb1mx4.3/17, mbtmp4.2/9, MS3.6/1, Ms1 3.6/1, ms1mx3.0/21, Error ellipse: s-maj=83.6km s-min=18.1km az=147.0*
NEIC ***09*** *23:39:13.7±0.9, 15.90S×173.21W, h10^{km}, mb4.1/1, Error ellipse: s-maj=62.5km s-min=12.5km az=147.0*
ISC 09 23:39:15.1±1.2**, 16.1S**±0.5×**173.2W**±0.3**, h33**^{km}**, n21, σ0^{s}70**/15**, mb4.1**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.54**	**32**	*e*P	**P**	**23 39 47.8**	**-7.0**
RAR	**Rarotonga**	**13.67**	**114**	LR	LR	23 45 59.1	
	comp=Z,287nm,21.9s,baz=266,slow=29						
PPT	**Papeete**	**22.62**	**97**	*e*LR	LR	23 49 05.8	
	242nm,24.8s						
TBI	**Tubuai**	**23.43**	**112**	*e*LR	LR	23 49 35.0	
	243nm,25.8s						
STKA	**Stephens Creek**	**43.90**	**241**	P	**P**	**23 47 21.3**	**+0.7**
	3.4nm,0.6s,mb4.2,baz=79,slow=8.1,SNR=8.3						
STKA	**Stephens Creek**	**43.90**	**241**	*e*P	**P**	**23 47 20.2**	**-0.4**
WRA	**Warramunga Arr**	**49.92**	**257**	P	**P**	**23 48 06.9**	**-1.2**
	1.8nm,0.3s,mb4.5,baz=91,slow=6.5,SNR=16						
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**23 48 09.2**	**-0.3**
	10nm,0.9s,mb4.9,baz=84,slow=8.3,SNR=64						
MBWA	**Marble Bar**	**63.40**	**254**	*e*P	**P**	**23 49 44.4**	**+0.3**
NVAR	**Mina Array Bea**	**74.68**	**42**	P	**P**	**23 50 53.3**	**0.0**
	1.7nm,0.6s,mb4.1,baz=220,slow=7.7,SNR=12						
MNV	**Mina**	**74.77**	**42**	*e*P	**P**	**23 50 53.8**	**-0.1**
ELK	**Elko**	**77.94**	**41**	*e*P	**P**	**23 51 11.6**	**-0.1**
	1.5nm,0.9s,mb3.9						
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**23 51 27.9**	**+0.5**
	0.5nm,0.5s,mb3.7,baz=207,slow=5.6,SNR=6.7						
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**23 51 27.9**	**+0.5**
PDAR	**Pinedale Array**	**82.61**	**42**	P	**P**	**23 51 36.4**	**-0.2**
	1.1nm,0.8s,mb3.9,baz=222,slow=2.5,SNR=9.9						
ILAR	**Eielson Array**	**83.07**	**11**	P	**P**	**23 51 38.1**	**-0.3**
	0.7nm,0.5s,mb4.0,baz=228,slow=5.6,SNR=15						
YKA	**Yellowknife Ar**	**90.63**	**23**	P	**P**	**23 52 14.6**	**-0.6**
	0.2nm,0.7s,mb3.6,baz=233,slow=4.7,SNR=5.8						
CMAR	**Chiang Mai Arr**	**93.05**	**288**	P	**P**	**23 52 29.4**	**+2.0**
	0.7nm,0.3s,mb4.5,baz=104,slow=3.7,SNR=3.8						
KMBO	**Kilima Mbogo**	**145.44**	**243**	PKPbc	PKPbc	23 58 55.5	+4.2
	0.8nm,0.7s,baz=84,slow=5.4,SNR=4.3						
KHC	**Kasperske Hory**	**146.59**	**352**	*e*PKP	PKPdf	23 58 56.0	+4.3
GERES	**GERESS Array B**	**146.85**	**352**	PKPbc	PKPbc	23 58 56.5	+2.9
	0.4nm,0.8s,baz=297,slow=4.4,SNR=3.6						

DJA 09 23:46:20.1±1.3**, 2.05S**×**118.14E, h134**^{km}±26^{km}**, ML4.3**/3**, 5C, Error ellipse: s-maj=45.5km s-min=38.6km az=51.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**1.85**	**138**	⇑*e*Pn	P	23 46 52.6	-0.3
	37nm,0.2s						
BUNI	**Buntu Taipa**	**2.70**	**126**	⇑*e*Pn	P	23 47 03.4	-0.3
	275nm,0.2s						
BUNI				⇑*e*Sn	S	23 47 34.9	-2.0
NINI	**Niniconang**	**2.85**	**146**	⇑*e*Pn	P	23 47 05.5	-0.2
	281nm,0.4s						
NINI				⇑*e*Sn	S	23 47 38.7	-1.7

NEIC ***09*** *23:47:32.7±1.8, 21.09S×178.61W, h438^{km}±21^{km}, mb4.1/5, Error ellipse: s-maj=17.8km s-min=11.5km az=176.0*
IDC ***09*** *23:47:33.2±3.0, 21.13S×178.60W, h441^{km}±34^{km}, mb3.6/7, mb1 3.7/9, mb1mx3.5/18, mbtmp4.4/9, Error ellipse: s-maj=26.4km s-min=17.1km az=175.0*
ISC 09 23:47:33.2±3.4**, 21.1S**±0.2×**178.7W**±0.1**, h454**^{km}±44^{km}**, n20, σ0^{s}77**/15**, mb3.9**/11**, 1C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.45**	**191**	P	**P**	**23 51 10.0**	**0.0**
	2.1nm,0.3s,baz=324,slow=7.3,SNR=9.7						
RAR	**Rarotonga**	**17.61**	**94**	P	**P**	**23 51 11.5**	**-0.2**
	1.1nm,0.3s,baz=185,slow=8.5,SNR=2.6						
RPZ	**Rata Peaks**	**24.09**	**198**	P	**P**	**23 52 13.1**	**+0.6**
	6.9nm,0.5s,mb4.4,baz=51,slow=6.5,SNR=3.1						
CTA	**Charters Tower**	**32.82**	**265**	P	**P**	**23 53 30.2**	**+1.3**
	2.8nm,0.5s,mb4.0,baz=129,slow=17,SNR=3.8						
STKA	**Stephens Creek**	**36.96**	**245**	⇓*i*P	**P**	**23 54 03.8**	**+0.4**
	3.4nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**36.96**	**245**	P	**P**	**23 54 03.8**	**+0.4**
	3.4nm,0.5s,mb4.0,baz=105,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**43.78**	**257**	P	**P**	**23 54 58.4**	**-0.3**
	5.6nm,0.7s,mb4.1,baz=94,slow=8.0,SNR=31						
ASAR				PcP	PcP	23 56 34.5	-1.7
	0.5nm,0.5s,baz=107,slow=4.0,SNR=4.5						
ASPA	**Alice Springs**	**43.78**	**257**	⇓*i*P	**P**	**23 54 58.8**	**+0.1**
WRAB	**Tennant Creek**	**43.90**	**263**	*e*P	**P**	**23 54 58.9**	**-0.8**
	4.0nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**23 54 59.3**	**-0.4**
	1.3nm,0.3s,mb3.8,baz=97,slow=7.8,SNR=8.8						
KAKA	**Kakadu**	**47.38**	**272**	*e*P	**P**	**23 55 26.2**	**-0.5**
	2.7nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**57.12**	**258**	*e*P	**P**	**23 56 35.6**	**-1.5**
	4.1nm,0.5s,mb4.0						
VNDA	**Vanda**	**57.22**	**185**	P	**P**	**23 56 36.6**	**-0.6**
	0.4nm,0.4s,mb3.1,baz=356,slow=7.3,SNR=7.6						
QSPA	**South Pole Qui**	**68.93**	**180**	⇑*i*P	**P**	**23 57 52.6**	**+0.3**
	6.1nm,0.8s,mb4.2						
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**	**23 59 45.0**	**+1.5**
	0.7nm,0.5s,mb3.8,baz=123,slow=3.4,SNR=4.2						
BVAR	**Borovoye Array**	**119.17**	**320**	PKP	PKPdf	00 05 29.9	+0.7
	0.3nm,0.3s,baz=112,slow=2.1,SNR=6.5						
ARCES	**ARCESS Array B**	**129.44**	**349**	PKP	PKPdf	00 05 49.3	+0.8
	12nm,1.2s,baz=38,slow=4.3,SNR=5.1						
AKASG	**Malin Array Be**	**143.27**	**330**	PKhKP		00 06 11.3	
	0.4nm,0.3s,baz=38,slow=3.5,SNR=4.6						
AKASG	**Malin Array Be**	**143.27**	**330**	PKP	PKPdf	00 06 11.3	-2.9
GERES	**GERESS Array B**	**150.64**	**343**	PKPbc	PKPdf	00 06 34.9	+8.6
	0.6nm,0.7s,baz=315,slow=2.8,SNR=3.8						

IDC 10 00:05:34.6±1.1**, 85.38N**×**92.13E, mb3.5**/5**, mb1 3.7**/6**, mb1mx3.5**/20**, mbtmp3.5**/6**, ML3.1**/1**, Error ellipse: s-maj=33.9km s-min=21.0km az=124.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.21**	**259**	P	P	00 09 59.9	-2.1
	0.1nm,0.3s,baz=8.7,slow=12,SNR=3.8						
INK	**Inuvik**	**25.29**	**38**	P	P	00 11 02.5	-0.8
	1.8nm,1.0s,baz=351,slow=14,SNR=3.1						
FINES	**FINESS Array B**	**27.14**	**254**	P	P	00 11 18.2	-2.3
	0.9nm,0.8s,baz=22,slow=10,SNR=4.6						
YKA	**Yellowknife Ar**	**31.89**	**23**	P	P	00 12 00.4	-2.5
	0.3nm,0.8s,baz=354,slow=8.3,SNR=7.1						
BVAR	**Borovoye Array**	**32.88**	**204**	P	P	00 12 09.9	-1.8
	0.2nm,0.3s,baz=18,slow=9.1,SNR=3.3						
SONM	**Songino Array**	**37.86**	**164**	P	P	00 12 52.4	-1.8
	0.2nm,0.7s,baz=346,slow=5.9,SNR=2.4						

IDC 10 00:11:23.5±1.4**, 85.31N**×**93.00E, mb3.4**/5**, mb1 3.7**/6**, mb1mx3.5**/20**, mbtmp3.5**/6**, ML3.0**/1**, MS3.0**/1**, Ms1 3.1**/1**, ms1mx2.8**/20**, Error ellipse: s-maj=54.6km s-min=19.8km az=133.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.26**	**260**	P	P	00 15 49.4	-2.3
	0.1nm,0.3s,baz=14,slow=11,SNR=3.7						
ARCES				LR	LR	00 23 30.5	
	comp=Z,47nm,19.0s,baz=189,slow=38						
INK	**Inuvik**	**25.29**	**39**	P	P	00 16 52.2	-0.1
	0.6nm,0.7s,baz=0.2,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**27.19**	**255**	P	P	00 17 08.4	-1.6
	0.5nm,0.6s,baz=29,slow=14,SNR=4.4						
YKA	**Yellowknife Ar**	**31.91**	**24**	P	P	00 17 49.4	-2.8
	0.6nm,1.0s,baz=352,slow=8.5,SNR=6.7						
BVAR	**Borovoye Array**	**32.85**	**205**	P	P	00 17 58.1	-2.3
	0.4nm,0.9s,slow=2.9,SNR=4.0						
TXAR	**Lajitas Array**	**65.36**	**16**	P	P	00 22 06.8	-2.4
	0.3nm,0.7s,slow=2.5,SNR=3.6						

BEO ***10*** *00:12:08.9±0.5, 42.44N×21.57E, h15^{km}±1^{km}*
THE ***10*** *00:12:10.2, 42.38N×21.67E, h10^{km}, ML3.5*
NEIC ***10*** *00:12:11.8, 42.55N×21.42E, h12^{km}, MD2.8(PDG), After PDG.*
SOF ***10*** *00:12:11.2, 42.40N×21.76E, h16^{km}, MD3.5*
PDG ***10*** *00:12:11.8±0.1, 42.55N×21.42E, h12^{km}*
CSEM ***10*** *00:12:12.0±0.2, 42.60N×21.76E, h35^{km}, MD3.5, Error ellipse: s-maj=5.7km s-min=3.1km az=32.0*
ISC 10 00:12:09.7±0.3**, 42.47N**±0.02×**21.66E**±0.02**, h15**^{km}**, n39, σ1^{s}18**/70**, 7C-9D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BARS	**Barje**	**0.37**	**20**	⇓*i*Pg	**Pg**	**00 12 17.5**	**-0.1**
BARS				Sg	**Sg**	**00 12 23.5**	**+0.7**
SKO	**Skopje**	**0.53**	**198**	⇑*i*Pg	**Pg**	**00 12 18.1**	**-2.4**
SKO				*i* Sg	**Sg**	**00 12 23.2**	**-4.6**
SKO				⇑*i*		00 12 24.5	
SKO				Smax		00 12 27.5	
	comp=Z,0.7nm,0.3s						
VTS	**Vitosha**	**1.15**	**84**	*i* P	**Pb**	**00 12 32.3**	**+1.4**
VTS				Sg	**Sg**	**00 12 48.5**	**+0.1**
KKB	**Krupnik**	**1.22**	**119**	*i* P	**Pb**	**00 12 33.3**	**+1.3**
KKB				Sg	**Sg**	**00 12 51.5**	**+0.9**
PVY	**Plav**	**1.25**	**276**	*e*Pg	**Pg**	**00 12 31.6**	**-3.2**
PVY				*e*Sg	**Sg**	**00 12 48.3**	**-3.3**
VAY	**Valandovo**	**1.34**	**149**	⇑*i*Pn	**Pn**	**00 12 33.8**	**-0.2**
VAY				*i* Sn	**Sn**	**00 12 52.2**	**+0.7**
IVA	**Berane**	**1.36**	**288**	⇑*i*Pg	**Pg**	**00 12 33.6**	**-3.4**
IVA				*e*Sg	**Sg**	**00 12 51.9**	**-3.2**
BOLS	**Boljevac**	**1.38**	**9**	⇓*i*Pg	**Pg**	**00 12 35.3**	**-2.0**
BOLS				Sg	**Sg**	**00 12 54.2**	**-1.6**
BIA	**Bitola**	**1.47**	**190**	*i* Pn	**Pn**	**00 12 34.7**	**-1.2**
BIA				*i* Sn	**Sn**	**00 12 53.7**	**-1.3**
OHR	**Ohrid**	**1.50**	**206**	*i* Pn	**Pn**	**00 12 35.3**	**-1.1**
OHR				⇓*i*Sn	**Sn**	**00 12 55.0**	**-0.8**
GRUS	**Gruza**	**1.57**	**334**	⇓*i*Pn	**Pn**	**00 12 37.5**	**+0.1**
GRUS				Sn	**Sn**	**00 12 59.6**	**+2.0**
KNT	**Kendrikon**	**1.60**	**144**	*e*Pb	**Pb**	**00 12 37.9**	**-0.8**
KNT				*e*Sb	**Sb**	**00 12 59.6**	**+1.1**
KNT	**Kendrikon**	**1.60**	**144**	*e*Pb	**Pb**	**00 12 37.8**	**-0.8**
KNT				*e*Sb	**Sb**	**00 12 59.6**	**+1.0**
GRG	**Griva**	**1.61**	**160**	*e*Pb	**Pb**	**00 12 38.2**	**-0.6**
GRG				*e*Sb	**Sb**	**00 12 58.9**	**+0.1**
FNA	**Florina**	**1.70**	**187**	*e*Pb	**Pb**	**00 12 39.3**	**-0.9**
FNA				*e*Sb	**Sb**	**00 13 02.1**	**+0.8**
TTG	**Podgorica**	**1.77**	**269**	⇓*i*Pn	**Pn**	**00 12 40.1**	**-0.2**
TTG				*e*Sn	**Sn**	**00 13 04.3**	**+1.7**
MMB	**Musomiste**	**1.78**	**119**	*i* P	**Pn**	**00 12 45.0**	**+4.7**
MMB	**Musomiste**	**1.78**	**119**	Sg	**Sg**	**00 13 08.5**	**-0.6**
PGB	**Panagyurishte**	**1.86**	**87**	*i* P	**Pn**	**00 12 43.5**	**+2.1**
ULC	**Ulcinj**	**1.86**	**255**	⇓*i*Pn	**Pn**	**00 12 42.7**	**+1.3**
ULC				*e*Sn	**Sn**	**00 13 06.7**	**+1.9**
PLE	**Pljevlja**	**1.87**	**298**	⇓*i*Pn	**Pn**	**00 12 42.2**	**+0.6**
PLE				*e*Sn	**Sn**	**00 13 06.0**	**+0.9**
PLE	**Pljevlja**	**1.87**	**298**	⇓*i*Pn	**Pn**	**00 12 42.2**	**+0.6**
PLE				*e*Sn	**Sn**	**00 13 06.0**	**+0.9**
SRS	**Serrai**	**1.98**	**132**	*e*Pb	**Pb**	**00 12 43.3**	**-1.8**
SRS				*e*Sb	**Sb**	**00 13 09.5**	**0.0**
NKY	**Niksic**	**1.99**	**281**	⇑*i*Pn	**Pn**	**00 12 43.8**	**+0.4**
NKY				*e*Sn	**Sn**	**00 13 09.2**	**+1.0**
DIVS	**Divcibare**	**2.03**	**324**	*e*Pn	**Pn**	**00 12 43.4**	**-0.5**
DIVS				Sg	**Sg**	**00 13 10.6**	**-6.8**
BUM	**Brajici-Budva**	**2.05**	**266**	*e*Pn	**Pn**	**00 12 45.0**	**+0.8**
BUM				*e*Sn	**Sn**	**00 13 11.1**	**+1.4**
SOH	**Sokhos**	**2.08**	**142**	*e*Pn	**Pn**	**00 12 44.6**	**-0.1**
SOH				*e*Sn	**Sn**	**00 13 11.4**	**+1.0**
UPM	**Unac-Piva**	**2.15**	**291**	*e*Pn	**Pn**	**00 12 45.8**	**+0.2**
UPM				*e*Sn	**Sn**	**00 13 12.8**	**+0.7**
BRY	**Bratogost**	**2.33**	**282**	*e*Pn	**Pn**	**00 12 48.7**	**+0.4**
BRY				*e*Sn	**Sn**	**00 13 17.4**	**+0.5**
HCY	**Herceg Novi**	**2.34**	**270**	*e*Pn	**Pn**	**00 12 48.6**	**+0.3**
HCY				*e*Sn	**Sn**	**00 13 17.6**	**+0.6**
RZN	**Rozhen**	**2.41**	**108**	*i* P	**Pn**	**00 12 50.3**	**+1.0**
RZN				Sg	**Sg**	**00 13 27.5**	**-2.5**
OUR	**Ouranopolis**	**2.76**	**140**	*e*Pn	**Pn**	**00 12 54.1**	**-0.2**
OUR				*e*Sn	**Sn**	**00 13 28.9**	**+1.2**
PVL	**Pavlikeni**	**2.80**	**73**	P	**Pn**	**00 13 00.5**	**+5.5**
PAIG	**Paliouri**	**2.96**	**148**	*e*Pn	**Pn**	**00 12 56.8**	**-0.5**
AGG	**Agios Georgios**	**3.48**	**171**	*e*Pn	**Pn**	**00 13 03.8**	**-0.8**
ALN	**Alexandroupoli**	**3.64**	**114**	*e*Pn	**Pn**	**00 13 07.5**	**+0.6**
PKSM	**Moragy**	**4.32**	**331**	⇑*e*P	**Pn**	**00 13 15.3**	**-1.2**
ARSA	**Arzberg**	**6.47**	**320**	⇓*i*PN	**Pn**	**00 13 46.0**	**-0.8**
ARSA				*i* SN	**Sn**	**00 14 52.4**	**-8.7**
OBKA	**Obir**	**6.49**	**311**	⇑*i*PN	**Pn**	**00 13 46.0**	**-1.2**
OBKA				*i* SN	**Sn**	**00 14 55.6**	**-6.1**

IDC ***10*** *00:18:05.0±0.9, 22.02N×144.91E, mb3.8/6, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, ML3.7/1, Error ellipse: s-maj=39.2km s-min=18.7km az=82.0*
NEIC ***10*** *00:18:06.3±0.6, 22.03N×144.83E, h10^{km}, mb4.4/2, Error ellipse: s-maj=24.4km s-min=10.4km az=87.0*
ISC 10 00:18:08.3±3.2**, 22.05N**±0.09×**144.9E**±0.3**, h40**^{km}±27^{km}**, n13, σ0^{s}73**/13**, mb4.0**/8**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.59**	**335**	Pn	**P**	**00 19 31.6**	**+0.5**
	5.9nm,0.3s,baz=307,slow=20,SNR=4.2						
CBIJ				Sn	**S**	**00 20 34.4**	**-0.6**
	6.2nm,0.3s,baz=96,slow=21,SNR=4.7						
SONM	**Songino Array**	**40.08**	**319**	P	**P**	**00 25 43.5**	**+2.0**
	0.2nm,0.5s,mb3.1,baz=127,slow=7.2,SNR=3.2						
WRAB	**Tennant Creek**	**42.97**	**195**	*e*P	**P**	**00 26 05.6**	**-0.1**
WRA	**Warramunga Arr**	**42.98**	**195**	P	**P**	**00 26 05.9**	**+0.1**
	1.1nm,0.5s,mb3.8,baz=20,slow=9.0,SNR=7.6						
FITZ	**Fitzroy Crossi**	**44.12**	**207**	*e*P	**P**	**00 26 14.9**	**-0.1**
	6.9nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**46.67**	**194**	P	**P**	**00 26 35.0**	**-0.3**
	1.3nm,0.6s,mb4.1,baz=15,slow=8.6,SNR=21						
ASPA	**Alice Springs**	**46.68**	**194**	*e*P	**P**	**00 26 35.1**	**-0.1**
KURK	**Kurchatov**	**58.29**	**317**	P	**P**	**00 28 00.1**	**-1.2**
	2.2nm,1.0s,mb4.1						
ILAR	**Eielson Array**	**61.01**	**27**	P	**P**	**00 28 19.5**	**-0.4**
	0.9nm,1.2s,mb3.8,baz=270,slow=4.6,SNR=5.7						
AAK	**Ala-Archa**	**61.20**	**308**	*e*P	**P**	**00 28 20.8**	**-0.7**
BVAR	**Borovoye Array**	**63.42**	**319**	P	**P**	**00 28 36.6**	**+0.4**
	1.0nm,0.5s,mb4.2,baz=92,slow=7.9,SNR=4.0						
FINES	**FINESS Array B**	**83.53**	**335**	P	**P**	**00 30 33.9**	**+0.8**
	0.6nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=6.2						
LPAZ	**La Paz**	**148.35**	**85**	PKPbc	PKPdf	00 37 55.5	+7.7
	1.4nm,0.5s,baz=270,slow=5.7,SNR=9.2						

MOS ***10*** *00:28:24.3±1.0, 85.21N×93.10E, h10^{km}, mb5.2/106, MS4.8/65, Error ellipse: s-maj=36.8km s-min=4.9km az=88.6*
IDC ***10*** *00:28:25.0±0.5, 85.27N×92.39E, mb4.6/28, mb1 4.7/29, mb1mx4.7/31, mbtmp4.6/29, ML4.3/1, MS4.8/21, Ms1 4.8/21, ms1mx4.7/26, Error ellipse: s-maj=16.8km s-min=9.2km az=134.0*
NEIC ***10*** *00:28:26.4±0.1, 85.25N×92.90E, h10^{km}, mb5.0/124, MS4.8/66, Error ellipse: s-maj=3.8km s-min=2.4km az=149.0*
HRVD ***10*** *00:28:26.4±0.1, 85.24N×93.00E, h12^{km}, MW5.5/73, Centroid moment Tensor Solution. LP body waves: s59,c94; Mantle waves: s73,c170; Half duration: 1^{s}3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.83±.03; $M_{\theta\theta}$1.33±.02; $M_{\phi\phi}$0.49±.03; $M_{r\theta}$-0.22±.07; $M_{\theta\phi}$-0.91±.02; $M_{\phi r}$-0.41±.09; Best double couple: $M_0$1.929×10^{17} NP1: ϕ_s109°, δ46°, λ-110°. NP2: ϕ_s316°, δ47°, λ-71°. Principal axes: T 1.914, Plg1°, Azm33°; N .026, Plg14°, Azm123°; P -1.945, Plg76°, Azm300°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***10*** *00:28:26.3, 85.20N×92.90E, h10^{km}, mB5.5, mb4.9, Ms5.3, Msz5.0*
ISC 10 00:28:23.2±0.7**, 85.24N**±0.02×**93.2E**±0.2**, h2**^{km}±4^{km}**, h14**^{km}±2.7^{km}**: pP-P, n506, σ1^{s}13**/551**, mb5.0**/172**, MS4.9**/115**, 8C-33D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**11.43**	**285**	*e*P	**P**	**00 31 05.8**	**-4.5**
HSP	**Hornsund**	**12.91**	**279**	*e*P	**P**	**00 31 25.1**	**-5.1**
TIXI	**Tiksi**	**14.83**	**134**	*e*P	**P**	**00 31 56.6**	**+1.3**
TIXI				*e*S	**S**	**00 34 42.3**	**+1.1**
TIXI				pmax	pmax		
	comp=Z,48nm,1.3s						
DAG	**Danmarks Havn**	**15.73**	**308**	⇓*e*P	**P**	**00 32 06.0**	**-0.9**
DAG				pmax	pmax		
	comp=Z,160nm,1.6s						
DAG				MLR	MLR		
	comp=Z,2μm,18.0s						
DAG				MLR	MLR		
	comp=N,2μm,17.0s						
DAG	**Danmarks Havn**	**15.73**	**308**	⇓*e*P	**P**	**00 32 06.0**	**-0.9**
	comp=N,157nm,1.6s						
DAG	**Danmarks Havn**	**15.73**	**308**	⇓*i*P	**P**	**00 32 06.0**	**-0.9**
	comp=N,156nm,1.6s						
	comp=Z,2μm,18.0s						
KEV	**Kevo**	**18.93**	**259**	*e*p	**P**	**00 32 44.1**	**-3.0**
ARCES	**ARCESS Array B**	**19.27**	**260**	P	**P**	**00 32 49.3**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=16,slow=7.7,SNR=24						
ARCES				LR	LR	00 40 41.9	
	comp=Z,4μm,18.3s,baz=8.3,slow=38						
ARE0	**ARCESS Array S**	**19.27**	**260**	*e*P	**P**	**00 32 50.1**	**-1.1**
TRO	**Tromso**	**19.72**	**267**	*e*P	**P**	**00 32 55.4**	**-0.8**
TRO				*e*S	**S**	**00 36 38.2**	**+4.9**
TRO				AMS	AMS	00 40 11.3	
	comp=Z,1μm,21.0s						
KTK1	**Kautokeino**	**19.97**	**262**	*e*P	**P**	**00 32 58.9**	**-0.1**
	comp=Z,326nm,1.7s						
KTK1	**Kautokeino**	**19.97**	**262**	*e*P	**P**	**00 32 58.9**	**-0.1**
KTK1				AMb	AMB	00 33 05.4	
	comp=Z,322nm,2.0s						
LVZ	**Lovozero**	**20.14**	**250***c*	*i*P	**P**	**00 33 01.0**	**+0.1**
LVZ				*e*S	**S**	**00 36 45.3**	**+3.1**
LVZ				pmax	pmax		
	comp=Z,3μm,5.3s						
LVZ				pmax	pmax		
	comp=N,2μm,4.8s						
LVZ				pmax	pmax		
	comp=E,945nm,5.8s						
LVZ				pmax	pmax		
	comp=Z,97nm,1.1s						
LVZ				pmax	pmax		
	comp=N,133nm,1.9s						
LVZ				pmax	pmax		
	comp=E,16nm,1.0s						
LVZ				smax			
	comp=Z,537nm,15.7s						
LVZ				smax			
	comp=N,954nm,11.1s						
LVZ				smax			
	comp=E,1μm,11.2s						
RES	**Resolute Bay**	**20.16**	**6**	*e*P	**P**	**00 32 59.0**	**-2.1**
RES				pmax	pmax		
	comp=Z,133nm,1.7s						
RES	**Resolute Bay**	**20.16**	**6**	*e*P	**P**	**00 32 59.0**	**-2.1**
	comp=Z,133nm,1.7s						
APA	**Apatity**	**20.56**	**251**	⇑*i*P	**P**	**00 33 04.0**	**-1.3**

APA *i* S **S** **00 36 53.0 +2.2**
APA pmax pmax
comp=Z,4µm,11.0s
APA smax
comp=N,3µm,10.0s
APA smax
comp=E,3µm,10.0s
APA MLR MLR
comp=Z,2µm,14.0s,MS4.7
JMIC Jan Mayen 20.62 294 LR LR 00 39 30.3
comp=Z,731nm,18.4s,MS4.1,baz=145,slow=32
JMIC Jan Mayen 20.62 294 *e*P **P** **00 33 10.6 +4.7**
JMIC *e*S **S** **00 37 05.4 +13**
JMIC AMS AMS 00 39 09.5
comp=Z,595nm,20.7s,MS3.9
SUMG Summit 21.01 321 *e*P **P** **00 33 10.6 +0.7**
comp=Z,471nm,1.7s,mb5.5
BILL Bilibino 21.18 95*d* *i*P **P** **00 33 13.1 +1.5**
BILL pmax pmax
comp=Z,119nm,1.5s,mb5.0
BILL MLR MLR
comp=Z,1µm,18.0s,MS4.3
BILL Bilibino 21.18 95 *e*P **P** **00 33 13.1 +1.5**
comp=Z,159nm,1.4s,mb5.2
BILL LR LR
comp=Z,1µm,21.0s,MS4.3
LOF Lofoten 21.64 272 *e*Pn **P** **00 33 20.4 +4.1**
SCO Scoresbysund 22.09 306 *i*P **P** **00 33 22.6 +1.8**
SCO pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
SCO Scoresbysund 22.09 306 *i*P **P** **00 33 22.6 +1.8**
comp=Z,10.0nm,1.0s,mb4.2
MOR8 Moi Rana 23.48 270 *e*P **P** **00 33 34.2 -0.1**
MOR8 AMb AMB 00 33 45.9
comp=Z,115nm,2.1s,mb4.9
YAK Yakutsk 24.43 137*d* *i*P **P** **00 33 44.2 +0.7**
YAK pmax pmax
comp=Z,72nm,0.7s,mb5.2
YAK MLR MLR
comp=Z,2µm,20.0s,MS4.6
YAK Yakutsk 24.43 137 *e*P **P** **00 33 43.0 -0.5**
comp=Z,100nm,0.9s,mb5.2
YAK LR LR
comp=Z,2µm,19.0s,MS4.6
SEY Seymchan 25.09 112 *e*P **P** **00 33 54.2 +4.4**
SEY *e* 00 34 38.9
SEY *e*S **S** **00 38 19.6 +7.3**
SEY *e*SS SS 00 39 12.2 +1.0
SEY pmax pmax
comp=Z,400nm,1.1s,mb5.9
SEY pmax pmax
comp=N,300nm,1.2s
SEY pmax pmax
comp=E,100nm,1.2s
SEY smax
comp=N,4µm,18.5s
SEY smax
comp=E,2µm,19.1s
SEY MLR MLR
comp=Z,1µm,14.0s,MS4.6
SEY MLR MLR
comp=N,700nm,11.0s,MS4.5
SEY MLR MLR
comp=E,500nm,10.0s,MS4.5
JOF Joensuu 25.31 251 *e*p **P** **00 33 50.5 -1.4**
comp=E,76nm,0.9s,mb5.2
JOF Joensuu 25.31 251 *e*P **P** **00 33 50.5 -1.4**
JOF pmax pmax
comp=Z,76nm,0.9s,mb5.2
INK Inuvik 25.34 39 P **P** **00 33 52.8 +0.6**
INK pmax pmax
comp=Z,88nm,1.3s
INK Inuvik 25.34 39 P **P** **00 33 52.8 +0.7**
comp=Z,88nm,1.3s,mb5.1,baz=355,slow=12,SNR=51
INK Inuvik 25.34 39 *e*P **P** **00 33 52.3 +0.1**
comp=Z,155nm,1.4s,mb5.3
TNA Tin City 25.73 71 *e*P **P** **00 33 56.9 +1.0**
comp=Z,40nm,1.4s,mb4.8
IMA Indian Mountai 26.30 58 *e*P **P** **00 34 04.3 +3.1**
IMA pmax pmax
comp=Z,21nm,1.1s,mb4.6
IMA Indian Mountai 26.30 58 *e*P **P** **00 34 04.3 +3.1**
comp=Z,21nm,1.1s,mb4.6
KAF Kangasniemi 26.51 256 *e*p **P** **00 33 53.6 -9.5**
comp=Z,23nm,1.4s,mb4.5
KAF Kangasniemi 26.51 256 *e*P **P** **00 33 53.6 -9.5**
KAF pmax pmax
comp=Z,23nm,1.4s,mb4.5
SOKR Solikamsk 26.88 222⇓ *i*P **P** **00 34 03.8 -2.7**
SOKR pmax pmax
comp=Z,50nm,1.3s,mb4.9
SOKR MLR MLR
comp=Z,3µm,18.0s,MS4.9
FINES FINESS Array B 27.19 256 *i*P **P** **00 34 08.7 -0.6**
FINES pmax pmax
comp=Z,12nm,0.6s
FINES FINESS Array B 27.19 256 P **P** **00 34 08.7 -0.6**
comp=Z,12nm,0.6s,mb4.6,baz=26,slow=10,SNR=90
FINES PcP PcP 00 37 28.6 -1.6
comp=Z,2.1nm,0.7s,baz=63,slow=4.3,SNR=4.6
FINES LR LR 00 45 31.1
comp=Z,2µm,19.6s,MS4.6,baz=12,slow=38
MOL Molde 27.61 275 *e*P **P** **00 34 12.9 -0.2**
comp=Z,129nm,1.7s,mb5.3
MOL Molde 27.61 275 *e*P **P** **00 34 12.9 -0.2**
MOL AMb AMB 00 34 16.5
comp=Z,130nm,1.3s,mb5.4
COLA College 27.89 53*d* *i*P **P** **00 34 17.6 +1.9**
COLA College 27.89 53 *e*P **P** **00 34 17.5 +1.8**
comp=Z,42nm,1.1s,mb5.0
BOD Bodaibo 27.93 156 *e*P **P** **00 34 13.2 -2.9**
BOD pmax pmax
comp=Z,26nm,1.7s,mb4.6
ILAR Eielson Array 28.05 52 P **P** **00 34 18.8 +1.6**
comp=Z,8.4nm,1.0s,mb4.3,baz=350,slow=7.8,SNR=62
ILAR LR LR 00 44 55.0
comp=Z,2µm,18.5s,MS4.7,baz=20,slow=35
MA2 Magadan 28.29 115*d* *i*P **P** **00 34 20.4 +1.1**
MA2 pmax pmax
comp=Z,34nm,1.6s,mb4.7
MA2 MLR MLR
comp=Z,400nm,13.0s,MS4.2
MA2 Magadan 28.29 115 *e*P **P** **00 34 20.2 +0.9**
comp=Z,46nm,1.2s,mb5.0
MA2 LR LR
comp=Z,820nm,19.0s,MS4.3
PUL Pulkovo 28.51 251 *e*P **P** **00 34 20.1 -1.2**
PUL *e*S **S** **00 39 07.2 -1.2**
PUL pmax pmax
comp=Z,38nm,0.5s,mb5.4
PUL pmax pmax
comp=N,52nm,0.6s
PUL pmax pmax
comp=E,42nm,0.6s
PUL smax
comp=N,1µm,16.2s
PUL smax
comp=Z,298nm,12.1s
PUL smax
comp=E,796nm,19.1s
PUL MLR MLR
comp=Z,2µm,16.0s,MS4.7
PUL MLR MLR
comp=E,915nm,17.0s
NB2 NORSAR Subarra 28.82 271 P **P** **00 34 23.1 -0.9**
comp=E,37nm,1.4s,mb4.9,baz=10.0,slow=8.6
NB2 NORSAR Subarra 28.82 271 P **P** **00 34 23.1 -0.9**
NB2 pmax pmax
comp=Z,37nm,1.4s,mb4.9
NB2 NORSAR Subarra 28.82 271 P **P** **00 34 23.1 -0.9**
baz=9.7,slow=9.3
NOA NORSAR Array B 28.82 271 P **P** **00 34 24.4 +0.4**
comp=Z,2.9nm,0.7s,mb4.1,baz=352,slow=8.4,SNR=9.8
NOA LR LR 00 45 34.2
comp=Z,850nm,20.4s,MS4.3,baz=15,slow=36
MCK McKinley 28.95 54 *e*P **P** **00 34 25.9 +0.7**
MCK pmax pmax
comp=Z,48nm,1.8s,mb4.9
MCK MLR MLR
comp=Z,1µm,19.0s,MS4.6
MCK McKinley 28.95 54 *e*P **P** **00 34 25.9 +0.7**
comp=Z,48nm,1.8s,mb4.9
MCK LR LR
comp=Z,1µm,19.0s,MS4.6
NAO01 NORSAR Array S 29.04 271 P **P** **00 34 26.3 +0.3**
comp=Z,14nm,1.0s,mb4.7
NAO01 LR LR
comp=Z,1µm,19.0s,MS4.6
DAWY Dawson 29.23 46 *e*P **P** **00 34 27.9 +0.2**
CLNS Chul'man 29.36 144 *e*P **P** **00 34 28.0 -1.0**
CLNS *e**PP pP 00 34 34.2 +4.6
CLNS *e*PPP PPP 00 35 26.4 -11
CLNS *e* 00 37 32.8
CLNS *e*S **S** **00 39 19.7 -2.4**
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb4.8
CLNS pmax pmax
comp=E,3.0nm,0.9s
CLNS smax
comp=N,450nm,13.7s
CLNS smax
comp=Z,299nm,12.1s
CLNS smax
comp=E,107nm,11.6s
CLNS MLR MLR
comp=N,1µm,14.0s,MS4.7
CLNS MLR MLR
comp=Z,1µm,14.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,12.0s,MS4.7
SVE Sverdlovsk 29.41 217⇑ *i*P **P** **00 34 29.0 -0.5**
SVE *e* 00 37 40.0
SVE *e*S **S** **00 39 24.0 +1.1**
SVE pmax pmax
comp=Z,120nm,2.0s,mb5.3
SVE MLR MLR
comp=N,4µm,18.0s,MS5.1
SVE MLR MLR
comp=E,2µm,18.0s,MS5.1
SVE MLR MLR
comp=Z,5µm,18.0s,MS5.2
THY Trims Highway 29.47 52 *e*P **P** **00 34 29.4 -0.5**
HFS Hagfors 29.50 268 P **P** **00 34 29.3 -1.0**
comp=Z,2.7nm,0.6s,mb4.2,baz=27,slow=6.6,SNR=11
MENT Mentasta 30.08 50 *e*P **P** **00 34 37.5 +2.1**
VSU Vasula 30.09 254 *i*P **P** **00 34 33.1 -2.4**
KONO Kongsberg 30.32 272 *i*P **P** **00 34 36.6 -1.0**
KONO Kongsberg 30.32 272 P **P** **00 34 36.5 -1.1**
comp=Z,25nm,1.3s,mb4.8
KONO LR LR
comp=Z,955nm,21.0s,MS4.4
KONO Kongsberg 30.32 272 *e*P **P** **00 34 40.2 +2.7**
PECR Pechory 30.91 235 *e*P **P** **00 34 41.6 -1.2**
PECR *e*S **S** **00 39 51.0 +4.3**
PECR pmax pmax
comp=Z,750nm,2.0s
PECR MLR MLR
comp=Z,6µm,20.0s,MS5.2
PECR MLR MLR
comp=N,3µm,19.0s,MS5.2
PECR MLR MLR
comp=E,3µm,15.0s,MS5.2
PWA Palmer West 30.95 56 *e*P **P** **00 34 44.5 +1.4**
PWA pmax pmax
comp=Z,33nm,1.0s,mb5.1
PWA Palmer West 30.95 56 *e*P **P** **00 34 44.5 +1.4**
comp=Z,33nm,1.0s,mb5.1
FRB Frobisher Bay 30.99 344 P **P** **00 34 41.9 -1.5**
comp=Z,8.5nm,1.2s,mb4.5,baz=19,slow=12,SNR=6.4
FRB PcP PcP 00 37 38.4 -1.3
comp=Z,4.6nm,0.9s,baz=339,slow=3.5,SNR=6.1
FRB LR LR 00 45 56.3
comp=Z,1µm,20.5s,MS4.5,baz=356,slow=34
YKW3 Yellowknife Ar 31.91 24 *e*P **P** **00 34 49.7 -1.8**
YKW3 *e*PcP PcP 00 37 40.1 -2.0
RSO Redoubt South 31.93 59 *e*P **P** **00 34 50.1 -1.6**
MOS Moscow 31.95 242 *e*P **P** **00 34 51.4 -0.5**
MOS *e* 00 35 59.0
MOS *e* 00 36 14.7
MOS *e* 00 37 39.1
MOS *e*S **S** **00 40 05.0 +2.1**
MOS *e*SS SS 00 42 00.8 +6.8
MOS pmax pmax
comp=Z,51nm,1.0s,mb5.3
YKA Yellowknife Ar 31.97 24 *i*P **P** **00 34 51.2 -0.9**
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 31.97 24 P **P** **00 34 51.2 -0.9**
comp=Z,3.7nm,0.7s,mb4.3,baz=355,slow=8.2,SNR=75
YKA PcP PcP 00 37 41.2 -1.1
comp=Z,5.4nm,1.0s,baz=346,slow=3.1,SNR=10
YKA LR LR 00 47 38.5
comp=Z,5µm,20.0s,MS5.2,baz=350,slow=36
YKA Yellowknife Ar 31.97 24 P **P** **00 34 51.2 -0.9**
YKA PcP PcP 00 37 41.2 -1.1
YKA LR LR 00 47 38.5
CHKZ Chkalovo 32.13 205 P **P** **00 34 52.6 -0.9**
CHKZ pmax pmax
comp=Z,221nm,2.2s,mb5.6
OBN Obninsk 32.65 243*d* *i*P **P** **00 34 57.2 -0.8**
OBN *i* 00 37 42.7
OBN *i*S **S** **00 40 18.6 +4.8**
OBN *e*SS SS 00 42 06.4 -3.7
OBN pmax pmax
comp=Z,76nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,2µm,23.0s,MS4.8
OBN Obninsk 32.65 243 *e*P **P** **00 34 56.4 -1.6**
comp=Z,113nm,1.6s,mb5.5
OBN *e*PcP PcP 00 37 42.3 -1.9
OBN LR LR
comp=Z,455nm,22.0s,MS4.1
BVA0 Borovoye Array 32.79 206 *i*P **P** **00 34 59.0 -0.3**
BVA0 pmax pmax
comp=Z,41nm,2.2s,mb5.0
BVAR Borovoye Array 32.79 206 P **P** **00 34 59.1 -0.2**
comp=Z,39nm,1.1s,mb5.2,baz=11,slow=7.6,SNR=44
BVAR PcP PcP 00 37 43.6 -1.0
comp=Z,6.5nm,1.1s,baz=344,slow=2.6,SNR=5.1
IRK Irkutsk 33.26 168 *e*P **P** **00 35 01.5 -1.8**
IRK pmax pmax
comp=Z,140nm,1.2s,mb5.8
MUD Monsted U'grnd 33.52 271 *i*P **P** **00 35 06.8 +1.2**
MUD *e*S **S** **00 40 33.7 +6.3**
MUD pmax pmax
comp=Z,27nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,950nm,21.0s,MS4.5
MUD Monsted U'grnd 33.52 271 *i*P **P** **00 35 06.8 +1.2**
comp=Z,27nm,1.0s,mb5.1
MUD *e*S **S** **00 40 33.7 +6.3**
comp=Z,940nm,21.0s
MOY Mondy 33.78 171 *e*P **P** **00 35 08.4 +0.5**
MOY pmax pmax
comp=Z,96nm,1.7s,mb5.5
TLY Talaya 33.81 168 *e*P **P** **00 35 15.2 +7.1**
TLY *e* 00 36 25.1
TLY *e*PPP PPP 00 36 34.6 -4.1
TLY *e*S **S** **00 40 33.7 +1.9**
TLY MLR MLR
comp=Z,2µm,16.0s,MS4.9
TLY Talaya 33.81 168 *e*P **P** **00 35 06.5 -1.6**
comp=Z,36nm,1.5s,mb5.1
TLY LR LR
comp=Z,428nm,19.0s,MS4.2
MNK Minsk 33.93 252 *e*P **P** **00 35 07.0 -2.2**
COP Copenhagen 34.02 268 *i*P **P** **00 35 12.9 +3.0**
COP *i* 00 36 20.9
COP *i*S **S** **00 40 38.6 +3.6**
COP pmax pmax
comp=Z,25nm,1.0s,mb5.1
COP MLR MLR
comp=Z,440nm,18.0s,MS4.2
COP Copenhagen 34.02 268 *i*P **P** **00 35 12.9 +3.0**
comp=Z,25nm,1.0s,mb5.1
COP *i* 00 36 20.9
COP *i*S **S** **00 40 38.6 +3.6**
comp=Z,430nm,18.0s
BSD Bornholm Skovb 34.38 265 *i*P **P** **00 35 14.9 +1.9**
BSD *i*S **S** **00 40 42.4 +1.8**
BSD pmax pmax
comp=Z,54nm,1.1s,mb5.4
BSD MLR MLR
comp=Z,840nm,17.0s,MS4.5
BSD Bornholm Skovb 34.38 265 *i*P **P** **00 35 14.9 +1.9**
comp=Z,54nm,1.1s,mb5.4
BSD *i*S **S** **00 40 42.4 +1.8**
comp=Z,840nm,17.0s
SUW Suwalki 34.79 256 *e*P **P** **00 35 15.3 -1.3**
SUW *e**PP pP 00 35 23.5 +6.4
SUW *e*S **S** **00 40 36.1 -11**
SUW pmax pmax
comp=Z,100nm,1.7s,mb5.5
SUW MLR MLR
comp=Z,3µm,22.1s,MS5.0
SUW Suwalki 34.79 256 *e*P **P** **00 35 15.3 -1.3**
comp=Z,100nm,1.7s,mb5.5
SUW *e*pP pP 00 35 23.5 +6.4
SUW *e*S **S** **00 40 36.1 -11**
SUW MLR MLR 00 49 11.0
comp=Z,3µm,22.1s,MS5.0
KURK Kurchatov 34.86 196 P **P** **00 35 16.2 -1.0**
comp=Z,153nm,1.0s,mb5.9,SNR=16
KURK Kurchatov 34.86 196 *e*P **P** **00 35 16.1 -1.1**
KURK pmax pmax
comp=Z,39nm,1.1s,mb5.2
KURK MLR MLR
comp=Z,1µm,21.0s,MS4.7
KURK Kurchatov 34.86 196 *e*P **P** **00 35 16.1 -1.1**
comp=Z,39nm,1.1s,mb5.2
KURK LR LR
comp=Z,1µm,21.0s,MS4.7
ZAK Zakamensk 35.10 169 *e*P **P** **00 35 19.1 -0.2**
DLBC Dease Lake 35.36 38 P **P** **00 35 22.1 +0.7**
comp=Z,12nm,1.0s,mb4.8,baz=324,slow=6.3,SNR=12
DLBC LR LR 00 50 03.4
comp=Z,3µm,21.4s,MS5.0,baz=15,slow=37
DLBC Dease Lake 35.36 38 *e*P **P** **00 35 22.9 +1.5**
PET Petropavlovsk 35.40 108 *e*P **P** **00 35 29.4 +7.6**
PET *e*PPP PPP 00 36 54.5 -5.5
PET *e* 00 37 56.7
PET *e*S **S** **00 41 01.3 +4.7**
PET *e*SS SS 00 43 20.8 +7.3
PET pmax pmax
comp=Z,100nm,17.7s
PET smax
comp=N,300nm,16.9s
PET MLR MLR
comp=Z,1µm,19.0s,MS4.7
ESK Eskdalemuir 35.68 283 *e*P **P** **00 35 23.2 -0.9**
comp=Z,20nm,1.3s,mb4.9
ESK LR LR
comp=Z,189nm,19.0s,MS3.9
VOR Voronezh 35.82 239 *e*P **P** **00 35 24.0 -1.4**
VOR *e* 00 36 51.0
VOR S **S** **00 40 59.0 -4.0**
VOR pmax pmax
comp=Z,110nm,2.0s,mb5.4
VOR pmax pmax
comp=N,110nm,1.7s
VOR smax
comp=E,70nm,1.9s
BSEG Bad Segeberg 35.93 269 *e*P **P** **00 35 26.4 +0.1**
BSEG pmax pmax
comp=Z,30nm,1.1s,mb5.1
GKP Gorka Klasztor 36.01 262 *e*P **P** **00 35 26.5 -0.5**
GKP MLR MLR 00 49 43.5
comp=Z,2µm,22.7s,MS4.9
FCC Fort Churchill 36.16 6 *e*P **P** **00 35 27.3 -0.9**
FCC pmax pmax
comp=Z,24nm,1.3s,mb5.0
FCC Fort Churchill 36.16 6 *e*P **P** **00 35 27.2 -1.0**
comp=Z,24nm,1.3s,mb5.0
HIA Hailar 36.69 151 P **P** **00 35 32.7 0.0**
HIA *e* 00 35 41.7
HIA pmax pmax
comp=Z,31nm,1.4s
HIA MLR MLR
comp=Z,2µm,20.0s
HIA Hailar 36.69 151 P **P** **00 35 32.7 0.0**
comp=Z,31nm,1.4s,mb5.0
HIA *e* 00 35 41.6
HIA LR LR
comp=Z,2µm,20.0s,MS4.8
WAR Warsaw 36.72 258 *e*P **P** **00 35 34.0 +1.1**
WAR *e*pP pP 00 35 38.8 +5.3
WAR MLR MLR 00 49 53.6
comp=Z,3µm,23.5s,MS4.9
KLR Kul'dur 37.31 138 *e*P **P** **00 35 35.7 -2.3**
KLR *e*S **S** **00 41 28.5 +2.5**
KLR smax
comp=N,1µm,14.0s
KLR smax
comp=E,600nm,14.0s
KLR MLR MLR
comp=E,800nm,14.0s
DMUB Kingscourt 37.38 286 *e*P **P** **00 35 38.6 +0.1**
AKASG Malin Array Be 37.59 250 P **P** **00 35 39.5 -0.8**
comp=E,6.7nm,0.6s,mb4.6,baz=4.8,slow=8.5,SNR=33
AKASG PcP PcP 00 37 56.8 -1.9
comp=E,1.7nm,0.7s,baz=12,slow=2.4,SNR=5.6
ULN Ulaanbaatar 37.69 165 *e*P **P** **00 35 41.7 +0.5**
ULN *e* 00 35 50.1
ULN pmax pmax
comp=Z,79nm,1.6s,mb5.2
ULN MLR MLR
comp=Z,1µm,19.0s,MS4.7
ULN Ulaanbaatar 37.69 165 *e*P **P** **00 35 41.7 +0.5**
comp=Z,79nm,1.6s,mb5.2
ULN *e* 00 35 50.1
ULN LR LR
comp=Z,1µm,19.0s,MS4.7
SONM Songino Array 37.71 165 P **P** **00 35 42.3 +1.0**
comp=Z,11nm,0.8s,mb4.7,baz=343,slow=8.0,SNR=54
DLF Lyons Farm 37.95 286 *e*P **P** **00 35 43.1 -0.2**
DCN Croghan 37.96 287 *e*P **P** **00 35 43.5 +0.1**
CLZ Clausthal 38.00 269 *e*P **P** **00 35 44.4 +0.7**
comp=Z,29nm,1.2s,mb4.9
WTSB Winterswijk 38.17 272 *e*P **P** **00 35 44.0 -1.2**
comp=Z,38nm,2.6s,mb4.7
CLL Collm 38.31 266⇓ *i*P **P** **00 35 45.8 -0.5**
CLL *i* 00 35 54.6
CLL *e*S **S** **00 41 39.0 -2.1**
CLL pmax pmax
comp=Z,15nm,1.3s,mb4.6
CLL MLR MLR
comp=Z,1µm,20.0s,MS4.7
CLL Collm 38.31 266⇓ *i*P **P** **00 35 45.8 -0.5**
comp=Z,15nm,1.3s,mb4.6
CLL *i* 00 35 54.6
CLL *e*S **S** **00 41 39.0 -2.1**
CLL LR LR
comp=Z,1µm,20.0s,MS4.7
CLL Collm 38.31 266 ⇓P **P** **00 35 45.8 -0.5**
comp=Z,logA/T=1.1,mb4.6
CLL *i**SP sP 00 35 54.6 +7.5
CLL *i* 00 36 12.9
CLL *e*PP PP 00 37 12.0 -5.1
CLL *e* 00 37 44.0
CLL *e*PCP PcP 00 37 59.0 -1.9
CLL *e*S **S** **00 41 39.0 -2.1**
CLL *e*SS SS 00 44 18.0 -1.1
KSP Ksiaz 38.50 263 *e*P **P** **00 35 47.1 -0.8**
KSP *e**PP pP 00 35 53.9 +5.4
KSP *e* 00 37 18.0
KSP *e*S **S** **00 41 41.0 -2.9**
KSP *e*SS SS 00 44 27.0 +3.8
KSP MLR MLR
comp=Z,3µm,24.3s,MS5.0
KSP Ksiaz 38.50 263 *e*P **P** **00 35 47.8 -0.1**
KSP *e*pP pP 00 35 54.5 +6.0
KSP *e*S **S** **00 41 45.3 +1.4**
KSP MLR MLR 00 50 55.0
comp=Z,3µm,24.3s,MS5.0
MKAR Makanchi Array 38.71 192 *i*P **P** **00 35 48.8 -0.9**
MKAR pmax pmax
comp=Z,79nm,1.1s
OJC Ojcow 38.83 259 *e*P **P** **00 35 49.8 -0.9**
OJC *e*PP PP 00 37 23.8 +0.5
OJC *e*S **S** **00 41 47.0 -1.9**
OJC MLR MLR 00 51 41.6
comp=Z,2µm,22.3s,MS4.9
UPC Upice 38.85 263 *e*P **P** **00 35 56.4 +5.5**
LVV L'vov 38.88 255 *e*P **P** **00 35 51.3 +0.2**
LVV *e*S **S** **00 41 47.1 -2.6**
LVV MLR MLR
comp=E,600nm,18.0s,MS4.7
LVV MLR MLR
comp=N,900nm,17.0s,MS4.7
LVV MLR MLR
comp=Z,1µm,17.0s,MS4.7
PVCC Panska Ves 38.95 264 *e*P **P** **00 35 52.9 +1.2**
PVCC *ex* x 00 35 59.7
PVCC AMS AMS 00 51 40.0
comp=Z,1µm,21.1s

DPC Dobruska-Polom 38.99 263 eP P 00 35 52.0 0.0
DPC ex x 00 36 00.8
DPC ePP PP 00 37 25.5 +0.3
DPC eS S 00 41 51.8 +0.5
DPC AMS AMS 00 58 00.0
comp=Z,1μm,14.3s
MOX Moxa 39.09 267 eP P 00 35 53.0 +0.2
MOX pmax pmax
comp=Z,28nm,1.1s,mb4.9
MOX MLR MLR
comp=Z,500nm,18.0s,MS4.4
MOX Moxa 39.09 267 eP P 00 35 53.0 +0.2
comp=Z,28nm,1.1s,mb4.9
MOX LR LR
comp=Z,500nm,18.0s,MS4.4
MOX Moxa 39.09 267 i P P 00 35 53.0 +0.2
comp=Z,logA/T=1.4,mb4.9
MOX L 00 56 47.0
KWP Kalwaria 39.18 256 eP P 00 35 53.8 +0.2
comp=Z,100nm,2.1s,mb5.2
KWP epP pP 00 36 02.5 +8.3
KWP eS S 00 41 52.1 +2.0
KWP MLR MLR 00 50 45.5
comp=Z,2μm,25.9s,MS4.9
OKC Ostrava-Krasne 39.34 261 eP P 00 35 55.2 +0.2
OKC ex x 00 36 03.1
OKC eS S 00 41 57.3 +0.6
OKC AMS AMS 00 53 00.0
comp=Z,2μm,18.3s
NKC Novy Kostel 39.42 266 eP P 00 35 55.9 +0.3
NKC MLR MLR
comp=Z,1μm,15.0s,MS4.8
NKC Novy Kostel 39.42 266 eP P 00 35 55.9 +0.3
NKC ex x 00 36 05.5
NKC AMS AMS 00 58 40.0
comp=Z,1μm,15.0s
HGN Heimansgroeve 39.44 273 eP P 00 35 55.4 -0.4
comp=Z,35nm,1.5s,mb4.8
HGN ePP PP 00 37 16.1 -14
HGN eS S 00 42 03.1 +5.0
HGN ex x 00 45 01.6
HGN ex x 00 47 24.7
MORC Moravsky Berou 39.45 261 eP P 00 35 55.5 -0.4
MORC e 00 37 23.7
MORC pmax pmax
comp=Z,65nm,1.5s,mb5.1
MORC Moravsky Berou 39.45 261 eP P 00 35 55.5 -0.4
comp=Z,65nm,1.5s,mb5.1
MORC ePP PP 00 37 23.7 -6.6
PRU Pruhonice 39.49 264 eP P 00 35 56.8 +0.6
PRU ex x 00 36 04.4
PRU ePP PP 00 37 28.1 -2.7
PRU eS S 00 41 56.1 -2.9
PRU AMS AMS 00 58 50.0
comp=Z,1μm,13.3s
NIE Niedzica 39.58 258 eP P 00 35 55.7 -1.3
TNS Taunus Mts 39.77 270 eP P 00 35 59.1 +0.6
TNS pmax pmax
comp=Z,18nm,1.3s,mb4.6
TNS Taunus Mts 39.77 270 eP P 00 35 59.1 +0.6
comp=Z,18nm,1.3s,mb4.6
SCHQ Schefferville 39.88 342 P P 00 35 59.3 -0.1
comp=Z,2.0nm,0.6s,mb4.0,baz=344,slow=7.0,SNR=6.4
SCHQ LR LR 00 51 21.3
comp=Z,765nm,20.1s,MS4.5,baz=185,slow=35
SCHQ Schefferville 39.88 342 eP P 00 35 59.7 +0.3
comp=Z,83nm,1.8s,mb5.2
SCHQ LR LR
comp=Z,2μm,22.0s,MS4.8
KOLS Kolonicke sedl 39.91 256 i P P 00 36 01.2 +1.6
VRAC Vranov 40.00 262 ⇑P P 00 36 00.9 +0.5
VRAC Vranov 40.00 262 P P 00 36 01.2 +0.8
CRVS Cervenica-Dubn 40.00 257 i P P 00 36 01.2 +0.8
CRVS i PP PP 00 37 32.2 -4.2
CRVS i S S 00 42 07.8 +1.2
CRVS eSS SS 00 45 09.0 +13
CRVS eL 00 49 53.0
GRA1 Grafenberg Arr 40.06 268 eP P 00 36 01.6 +0.7
comp=Z,43nm,1.4s,mb5.0
GRA1 ePP PP 00 37 29.1 -7.9
GRA1 ePcP PcP 00 38 06.0 -0.4
GRA1 eS S 00 42 15.0 +7.4
GRA1 LR LR
comp=Z,1μm,26.8s,MS4.7
GRF Grafenberg Arr 40.06 268 eP P 00 36 01.6 +0.7
GRF e 00 38 06.0
GRF eS S 00 42 15.0 +7.4
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.0
GRF Grafenberg Arr 40.06 268 eP P 00 36 01.6 +0.7
GRF e 00 38 06.0
GRF eS S 00 42 15.0 +7.4
GRF pmax pmax
comp=Z,43nm,1.4s,mb5.0
GRF MLR MLR
comp=Z,1μm,26.8s,MS4.7
GRF Grafenberg Arr 40.06 268 eP P 00 36 01.6 +0.7
comp=Z,43nm,1.4s,mb5.0
GRF ePP PP 00 37 29.1 -7.9
GRF ePcP PcP 00 38 06.0 -0.4
GRF eS S 00 42 15.0 +7.4
GRF LR LR
comp=Z,1μm,26.8s,MS4.7
GRFO Grafenberg 40.06 268 eP P 00 36 01.7 +0.7
comp=Z,878nm,1.5s
GRFO ePcP PcP 00 38 06.0 -0.4
ABH Alteburg 40.18 271 eP P 00 36 02.9 +1.0
GIVF Givet 40.19 274 eP P 00 36 01.2 -0.8
YSS Yuzh-Sakhalins 40.27 126d iP P 00 36 03.2 +0.6
YSS pmax pmax
comp=Z,90nm,1.7s,mb5.2
YSS MLR MLR
comp=Z,700nm,17.0s,MS4.6
YSS Yuzh-Sakhalins 40.27 126 eP P 00 36 03.5 +0.9
comp=Z,54nm,1.0s,mb5.2
YSS LR LR
comp=Z,1μm,19.0s,MS4.8
BAIF Baives 40.28 275 eP P 00 36 02.3 -0.4
comp=Z,76nm,1.2s,mb5.0
BAIF Baives 40.28 275 eP P 00 36 02.3 -0.4
BAIF pmax pmax
comp=Z,38nm,1.2s,mb5.0
TOD Tromm 40.35 270 eP P 00 36 04.2 +0.9
RUP Ruppelstein 40.40 272 eP P 00 36 04.8 +1.1
KHC Kasperske Hory 40.42 265 eP P 00 36 05.0 +1.1
KHC ex x 00 36 12.1
KHC ePP PP 00 37 37.7 -2.9
KHC eS S 00 42 13.1 +0.2
KHC AMS AMS 00 59 10.0
comp=Z,1μm,14.7s
WET Wettzell 40.47 266 eP P 00 36 05.1 +0.8
WET pmax pmax
comp=Z,20nm,1.6s,mb4.6
WET Wettzell 40.47 266 eP P 00 36 05.1 +0.8
comp=Z,20nm,1.6s,mb4.6
WLF Walferdange 40.51 273 eP P 00 36 04.8 +0.2
WLF pmax pmax
comp=Z,26nm,1.2s,mb4.7
WLF Walferdange 40.51 273 eP P 00 36 04.8 +0.1
comp=Z,26nm,1.2s,mb4.7
VYHS Vyhne 40.62 260 i P P 00 36 06.1 +0.6
VYHS i PP PP 00 37 42.3 -0.3
VYHS eS S 00 42 16.0 +0.1
VYHS e 00 52 54.4
KTD Kalmit 40.69 271 eP P 00 36 07.9 +1.8
GEC2 GERESS Array S 40.70 265 eP P 00 36 06.9 +0.7
GEC2 pmax pmax
comp=Z,18nm,1.4s,mb4.5
GEC2 GERESS Array S 40.70 265 eP P 00 36 06.9 +0.7
comp=Z,18nm,1.4s,mb4.5
GERES GERESS Array B 40.70 265 P P 00 36 06.5 +0.4
comp=Z,7.5nm,1.1s,mb4.2,baz=18,slow=8.4,SNR=20
GERES PP PP 00 37 42.6 -0.8
comp=Z,2.5nm,1.0s,baz=21,slow=11,SNR=4.2
BURAR Bucovina Array 40.98 P P 00 36 09.2 +0.8
ZST Bratislava 41.06 261 eP P 00 36 10.9 +1.8
ZST eS S 00 42 26.7 +4.3
ZST e 00 53 20.6
PSZ Piszkesteto 41.11 259 eP P 00 36 10.0 +0.5
PSZ e 00 36 19.2
PSZ pmax pmax
comp=Z,117nm,1.5s,mb5.3
PSZ Piszkesteto 41.11 259 eP P 00 36 10.0 +0.5
comp=Z,117nm,1.5s,mb5.3
PSZ e 00 36 19.2
PSZ Piszkesteto 41.11 259⇓eP P 00 36 10.4 +0.9
STU Stuttgart 41.15 269 eP P 00 36 10.7 +0.9
STU pmax pmax
comp=Z,48nm,1.5s,mb4.9
STU Stuttgart 41.15 269 eP P 00 36 10.7 +0.8
comp=Z,48nm,1.5s,mb4.9
EDM Edmonton 41.30 24 eP P 00 36 10.3 -0.7
KIS Kishinev 41.31 249 eP P 00 36 08.0 -3.2
KIS e 00 37 45.0
KIS e 00 38 05.0
KIS eS S 00 42 20.0 -6.1
KIS MLR MLR
comp=N,2μm,16.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,16.0s,MS5.1
KIS MLR MLR
comp=E,2μm,15.0s,MS5.2
FUR Furstenfeldbru 41.57 267 eP P 00 36 14.1 +0.9
FUR pmax pmax
comp=Z,17nm,1.2s,mb4.5
FUR Furstenfeldbru 41.57 267 eP P 00 36 14.1 +0.9
comp=Z,17nm,1.2s,mb4.5
WMQ Urumqi 41.61 186⇓iP P 00 36 14.7 +1.2
WMQ XP sP 00 36 21.5 +7.2
WMQ PP PP 00 37 54.0 +1.1
WMQ SCP 00 42 01.0
WMQ S S 00 42 31.0 +0.6
WMQ XS 00 42 39.0
WMQ SS SS 00 45 32.0 +2.3
WMQ AMB AMB
comp=Z,29nm,1.7s,mb4.6
WMQ AMB AMB
comp=Z,659nm,6.2s
WMQ LR LR
comp=N,3μm,20.8s,MS5.2
WMQ LR LR
comp=E,2μm,22.9s,MS5.2
WMQ LR LR
comp=Z,3μm,22.0s,MS5.1
MOA Molln 41.64 264⇓iP P 00 36 14.1 +0.4
comp=Z,22nm,1.5s,mb4.6
WLS Welschbruch 41.66 271 eP P 00 36 15.2 +1.4
BFO Black Forest 41.66 270 eP P 00 36 14.7 +0.9
BFO pmax pmax
comp=Z,38nm,2.1s,mb4.7
BFO Black Forest 41.66 270 eP P 00 36 14.7 +0.9
comp=Z,38nm,2.1s,mb4.7
CDF Champ du Feu 41.66 271 eP P 00 36 13.9 0.0
comp=Z,97nm,1.4s,mb4.9
CDF Champ du Feu 41.66 271 eP P 00 36 13.9 0.0
CDF pmax pmax
comp=Z,48nm,1.4s,mb4.9
MEZF Maizieres J'vi 41.76 274 eP P 00 36 14.7 0.0
MDJ Mudanjiang 41.80 141 P P 00 36 14.6 -0.4
MDJ XP sP 00 36 21.5 +5.6
MDJ PP PP 00 37 54.6 -0.4
MDJ PCP PcP 00 38 10.5 -1.4
MDJ S S 00 42 31.9 -1.3
MDJ SS SS 00 45 29.8 -3.5
MDJ AMB AMB
comp=Z,17nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,206nm,3.9s
MDJ LR LR
comp=E,784nm,18.7s
MDJ LR LR
comp=Z,932nm,15.1s,MS4.8
MDJ Mudanjiang 41.80 141 eP P 00 36 14.6 -0.4
comp=Z,81nm,1.5s,mb5.1
MDJ LR LR
comp=Z,501nm,19.0s,MS4.4
ECH Echery 41.87 271 eP P 00 36 16.9 +1.3
LIBD Limburg 41.90 271 eP P 00 36 17.4 +1.6
THEF They Montfort 41.95 273 eP P 00 36 17.8 +1.5
FLN La Foliniere 41.96 279 eP P 00 36 15.1 -1.2
comp=Z,46nm,1.2s,mb4.7
FLN eR
comp=Z,581nm,20.5s
FLN La Foliniere 41.96 279 eP P 00 36 15.1 -1.2
FLN pmax pmax
comp=Z,23nm,1.3s,mb4.7
FLN MLR MLR
comp=Z,580nm,20.5s,MS4.5
LDF La Druitiere 42.10 279 eP P 00 36 16.4 -1.1
comp=Z,76nm,1.4s,mb4.8
LDF La Druitiere 42.10 279 eP P 00 36 16.4 -1.1
LDF pmax pmax
comp=Z,38nm,1.4s,mb4.8
ARSA Arzberg 42.13 263⇑iP P 00 36 19.5 +1.8
comp=Z,12nm,1.6s,mb4.3
FELD Feldberg 42.13 270 eP P 00 36 18.9 +1.1
HAU Haudompre 42.14 272 eP P 00 36 17.8 0.0
comp=Z,38nm,1.0s,mb4.7
HAU eR
comp=Z,870nm,17.5s
HAU Haudompre 42.14 272 eP P 00 36 17.8 0.0
HAU pmax pmax
comp=Z,19nm,1.0s,mb4.7
HAU MLR MLR
comp=Z,870nm,17.5s,MS4.7
GOF Gofitskoye 42.19 234⇓iP P 00 36 17.5 -0.8
GOF pmax pmax
comp=Z,49nm,1.3s,mb5.0
MOF Molkenrain 42.23 271 eP P 00 36 19.8 +1.2
HINF Hinteralfeld 42.29 272 eP P 00 36 18.6 -0.4
AAA Alma-Ata 42.34 198 P P 00 36 25.0 +5.5
AAA e 00 37 56.0
AAA S S 00 42 40.0 -1.2
AAA pmax pmax
comp=Z,500nm,5.0s
AAA pmax pmax
comp=Z,1μm,9.0s
AAA smax
comp=N,600nm,11.0s
AAA MLR MLR
comp=Z,3μm,16.0s,MS5.2
GRR Gorron 42.36 279 eP P 00 36 18.4 -1.2
comp=Z,51nm,1.1s,mb4.8
GRR Gorron 42.36 279 eP P 00 36 18.4 -1.2
GRR pmax pmax
comp=Z,25nm,1.1s,mb4.8
CN2 Changchun 42.40 145 ⇑P P 00 36 20.4 +0.4
CN2 eXP sP 00 36 26.9 +6.1
CN2 eS S 00 42 40.5 -1.6
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,300nm,4.0s
CN2 LR LR
comp=N,2μm,14.0s,MS5.2
CN2 LR LR
comp=E,900nm,14.0s,MS5.2
CN2 LR LR
comp=Z,2μm,16.0s,MS5.1
USP Ospenovka 42.41 200 P P 00 36 21.0 +0.8
SNR=22
KBA Koelnbreinsper 42.48 265⇓iP P 00 36 21.6 +1.0
comp=Z,23nm,1.9s,mb4.5
KBA Koelnbreinsper 42.48 265⇓iP P 00 36 21.6 +1.0
KBA pmax pmax
comp=Z,23nm,1.9s,mb4.5
DAVA Damuels 42.56 268⇓iP P 00 36 21.9 +0.6
comp=Z,20nm,1.5s,mb4.6
ROSF Rostrenen 42.61 282 eP P 00 36 20.7 -1.0
comp=Z,41nm,1.3s,mb4.7
ROSF Rostrenen 42.61 282 eP P 00 36 20.7 -1.0
ROSF pmax pmax
comp=Z,21nm,1.3s,mb4.7
SGMF Saint Gilles 42.63 281 eP P 00 36 21.2 -0.7
comp=Z,48nm,0.9s,mb4.9
SGMF Saint Gilles 42.63 281 eP P 00 36 21.2 -0.7
SGMF pmax pmax
comp=Z,24nm,0.9s,mb4.9
TKM2 Tokmak 2 42.73 199 P P 00 36 24.1 +1.4
SNR=9.6
LOMF Lomont 42.76 272 eP P 00 36 23.9 +1.0
FRU Bishkek 42.84 200 eP P 00 36 25.0 +1.4
FRU e 00 38 04.0
FRU eS S 00 42 53.0 +4.4
FRU MLR MLR
comp=Z,9μm,18.0s,MS5.7
ANN Anapa 42.84 240 eP P 00 36 21.6 -2.0
ANN e 00 38 05.9
ANN eS S 00 42 48.5 -0.1
ANN eSS SS 00 45 54.0 +0.9
ANN pmax pmax
comp=Z,132nm,1.8s,mb5.4
ANN MLR MLR
comp=N,2μm,19.0s,MS5.1
ANN MLR MLR
comp=E,1μm,19.0s,MS5.1
ANN MLR MLR
comp=Z,2μm,19.0s,MS5.0
KOGS Kog 42.87 262 eP P 00 36 24.9 +1.1
SIM Simferopol' 42.94 243 eP P 00 36 26.5 +2.1
SIM eS S 00 42 54.0 +4.0
SIM pmax pmax
comp=Z,80nm,7.0s
OBKA Obir 42.95 264⇓iP P 00 36 25.7 +1.3
comp=Z,17nm,1.3s,mb4.6
FVI Forni Avoltri 43.01 265 eP P 00 36 26.2 +1.3
QUIF Quistinic 43.02 282 eP P 00 36 24.5 -0.5
comp=Z,65nm,1.1s,mb5.0
QUIF Quistinic 43.02 282 eP P 00 36 24.5 -0.5
QUIF pmax pmax
comp=Z,32nm,1.1s,mb5.0
MLR Muntele Rosu 43.03 252 ⇑P P 00 36 26.3 +1.2
MLR Muntele Rosu 43.03 252 P P 00 36 26.1 +0.9
comp=Z,6.6nm,0.6s,mb4.5,baz=311,slow=3.2,SNR=19
MLR Muntele Rosu 43.03 252 P P 00 36 27.4 +2.3
AAK Ala-Archa 43.05 200 P P 00 36 25.9 +0.6
SNR=15
AAK Ala-Archa 43.05 200 P P 00 36 25.4 +0.1
comp=Z,160nm,1.5s,mb5.5,SNR=17
AAK Ala-Archa 43.05 200d iP P 00 36 25.4 +0.1
AAK pmax pmax
comp=Z,37nm,2.1s,mb4.8
AAK MLR MLR
comp=Z,8μm,18.0s,MS5.6
AAK Ala-Archa 43.05 200 eP P 00 36 25.4 +0.1
comp=Z,217nm,1.8s,mb5.6
AAK e 00 36 34.9
AAK LR LR
comp=Z,2μm,19.0s,MS5.0
DAVOX Davos 43.07 268 P P 00 36 27.3 +1.9
comp=Z,4.5nm,0.8s,mb4.3,baz=356,slow=13,SNR=6.5
PTCC Patocco-Chiusa 43.15 265 eP P 00 36 27.2 +1.1
CFR Carcaliu 43.17 250 ⇑P P 00 36 26.0 -0.3
CFR Carcaliu 43.17 250 P P 00 36 26.3 0.0
HYF Humbligny 43.19 276 eP P 00 36 25.9 -0.5
SNX Sinaia 43.20 252 P P 00 36 29.1 +2.6
BZS Buzias 43.25 256 ⇓P P 00 36 27.9 +1.0
BZS Buzias 43.25 256 P P 00 36 27.5 +0.6
KIV Kislovodsk 43.31 234 eP P 00 36 27.7 +0.2
KIV pmax pmax
comp=Z,88nm,1.2s,mb5.4
KIV Kislovodsk 43.31 234 eP P 00 36 27.7 +0.2
comp=Z,88nm,1.2s,mb5.4
KIV ePP PP 00 38 00.2 -10
KIV LR LR
comp=Z,487nm,21.0s,MS4.4
SSF Saint Saulge 43.32 275 eP P 00 36 26.6 -0.8
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SSF Saint Saulge 43.32 275 eP P 00 36 26.6 -0.8
comp=Z,8.2nm,0.8s,mb4.5
BRMO Bormio 43.33 268 eP P 00 36 29.6 +2.1
ULHL Ulahol 43.38 198 P P 00 36 29.0 +0.9
SNR=5.5
LJU Ljubljana 43.41 264 i P P 00 36 29.1 +0.9
LJU e 00 38 09.3
UCH Uchtor 43.45 200 P P 00 36 30.4 +1.9
SNR=10
CABF La Chapelle 43.55 272 eP P 00 36 29.1 -0.2
AML Almayashu 43.57 201 P P 00 36 31.7 +2.1
SNR=14
KZA Kyzart 43.58 199 P P 00 36 31.2 +1.6
SNR=12
AVF Avril sur Loir 43.60 275 eP P 00 36 29.0 -0.7
comp=Z,76nm,1.3s,mb5.0
AVF Avril sur Loir 43.60 275 eP P 00 36 29.0 -0.7
AVF pmax pmax
comp=Z,38nm,1.3s,mb5.0
HARR Harsova 43.67 250 P P 00 36 30.7 +0.4
SMF Signal de Mont 43.70 274 eP P 00 36 29.6 -1.0
comp=Z,60nm,1.4s,mb4.8
SMF Signal de Mont 43.70 274 eP P 00 36 29.6 -1.0
SMF pmax pmax
comp=Z,30nm,1.4s,mb4.8
CEY Cerknica 43.72 264 eP P 00 36 31.4 +0.7
CEY ePP PP 00 38 19.0 +4.6
BGF Bois d'Agland 43.87 275 eP P 00 36 31.2 -0.8
comp=Z,32nm,0.7s,mb4.8
BGF Bois d'Agland 43.87 275 eP P 00 36 31.2 -0.8
BGF pmax pmax
comp=Z,16nm,0.7s,mb4.9
SOC Sochi 43.89 237 eP P 00 36 32.4 +0.3
SOC e 00 38 11.6
SOC ePPP PPP 00 38 48.3 -4.6
SOC eS S 00 43 01.7 -2.1
SOC pmax pmax
comp=E,64nm,1.1s
SOC pmax pmax
comp=Z,56nm,1.1s,mb5.2
SOC pmax pmax
comp=N,57nm,1.0s
SOC MLR MLR
comp=Z,3μm,16.0s,MS5.3
SOC MLR MLR
comp=N,2μm,17.0s,MS5.1
SOC MLR MLR
comp=E,1μm,17.0s,MS5.1
MAK Makhachkala 43.99 229 eP P 00 36 34.0 +1.1
MAK i 00 38 18.0
MAK eS S 00 43 08.0 +2.7
MAK eSS SS 00 46 16.0 +2.1
MAK eSSS SSS 00 47 14.0 +7.1
MAK pmax pmax
comp=Z,1μm,5.0s
MAK pmax pmax
comp=N,1μm,7.0s
MAK pmax pmax
comp=Z,2μm,7.0s
MAK smax
comp=N,2μm,13.0s
MAK smax
comp=E,1μm,13.0s
MCGN Macugnaga 44.04 270 eP P 00 36 35.3 +2.0
VAI Varese 44.07 269 eP P 00 36 34.8 +1.3
MFF Saint Martin d 44.08 278 eP P 00 36 32.9 -0.7
comp=E,57nm,1.3s,mb4.8
MFF Saint Martin d 44.08 278 eP P 00 36 32.9 -0.7
MFF pmax pmax
comp=Z,29nm,1.3s,mb4.8
TCF Toulx Ste Croi 44.19 276 eP P 00 36 33.7 -0.9
comp=Z,33nm,1.0s,mb4.7
TCF Toulx Ste Croi 44.19 276 eP P 00 36 33.7 -0.9
TCF pmax pmax
comp=Z,16nm,1.0s,mb4.7
AGO Saint Agoulin 44.35 275 eP P 00 36 37.6 +1.7
LPL La Plagne 44.58 271 eP P 00 36 37.9 +0.2
comp=Z,33nm,1.3s,mb4.7
LPL La Plagne 44.58 271 eP P 00 36 37.9 +0.2
LPL pmax pmax
comp=Z,17nm,1.3s,mb4.7
LPG La Plagne 44.60 271 eP P 00 36 38.2 +0.3
ULM Lac du Bonnet 44.67 8 P P 00 36 37.2 -1.2
comp=Z,4.3nm,0.8s,mb4.3,baz=351,slow=6.9,SNR=7.3
ULM PcP PcP 00 38 20.6 -0.8
comp=Z,5.9nm,1.0s,baz=359,slow=5.3,SNR=3.4
ULM LR LR 00 55 33.6
comp=Z,2μm,19.1s,MS5.1,baz=170,slow=36
HHC Hu-ho-hao-te 44.82 160 eP P 00 36 40.6 +0.9
HHC XP sP 00 36 47.5 +7.0
HHC PP PP 00 38 25.6 +0.2
HHC PCS 00 42 16.1
HHC S S 00 43 15.8 -1.5
HHC SCS ScS 00 46 35.8 -0.2
HHC AMB AMB
comp=Z,9.0nm,0.7s,mb4.7
HHC AMB AMB
comp=Z,307nm,6.1s
HHC LR LR
comp=N,2μm,18.4s,MS5.1
HHC LR LR
comp=E,887nm,13.7s,MS5.1
HHC LR LR
comp=Z,2μm,17.2s,MS5.2
BOLS Boljevac 45.00 256⇓iP P 00 36 40.2 -0.9

RJF Les Rejaudoux 45.23 276 *e*P **P 00 36 42.2 -0.7**
comp=Z,28nm,0.9s,mb4.8
RJF *e*R
comp=Z,792nm,20.5s
RJF Les Rejaudoux 45.23 276 *e*P **P 00 36 42.2 -0.7**
RJF pmax pmax
comp=Z,14nm,0.9s,mb4.8
RJF MLR MLR
comp=Z,790nm,20.5s,MS4.6
ORIF Oris-en-Rattie 45.25 272 *e*P **P 00 36 42.9 -0.2**
comp=Z,27nm,1.0s,mb4.8
ORIF *e*R
comp=Z,642nm,20.2s
MBDF Montbardon 45.37 271 *e*P **P 00 36 44.3 +0.3**
comp=Z,54nm,1.3s,mb4.9
MBDF Montbardon 45.37 271 *e*P **P 00 36 44.3 +0.3**
MBDF pmax pmax
comp=Z,27nm,1.3s,mb4.9
TI2 Plekhanov 45.39 232 *e*P **P 00 36 45.6 +1.4**
TI2 *i* 00 38 33.2
VIVF Saint-Julien-I 45.41 273 *e*P **P 00 36 43.8 -0.6**
WALA Waterton Lakes 45.44 25 *e*P **P 00 36 45.4 +0.9**
comp=Z,74nm,1.6s,mb5.3
CAF Calviac 45.56 276 *e*P **P 00 36 45.0 -0.5**
LFF La Frestale 45.66 277 *e*P **P 00 36 45.8 -0.5**
comp=Z,38nm,1.2s,mb4.9
LFF La Frestale 45.66 277 *e*P **P 00 36 45.8 -0.5**
LFF pmax pmax
comp=Z,19nm,1.2s,mb4.9
VMG Vicchio 45.73 266 *e*P **P 00 36 48.5 +1.7**
SFI Santa Sofia 45.76 266 *e*P **P 00 36 47.1 0.0**
BJI Beijing 45.77 155 P **P 00 36 48.6 +1.3**
BJI *PP pP 00 36 51.7 +3.9
BJI *SP sP 00 36 53.0 +4.9
BJI 00 38 36.4
BJI S **S 00 43 31.4 +0.4**
BJI pmax pmax
comp=Z,20nm,1.7s,mb4.8
BJI MLR MLR
comp=Z,2μm,21.9s,MS5.0
BJI Beijing 45.77 155 P **P 00 36 48.6 +1.3**
comp=Z,20nm,1.7s,mb4.8
BJI pP pP 00 36 51.7 +3.9
BJI sP sP 00 36 53.0 +4.9
BJI PP PP 00 38 36.4 +1.4
BJI S **S 00 43 31.4 +0.4**
BJI SS SS 00 47 00.8 +14
BJI LR LR
comp=Z,2μm,21.9s,MS5.0
BJT Baijiatuau 45.79 155 *e*P **P 00 36 48.2 +0.8**
BJT pmax pmax
comp=Z,70nm,1.4s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 45.79 155 *e*P **P 00 36 48.2 +0.8**
comp=Z,70nm,1.4s,mb5.4
BJT LR LR
comp=Z,2μm,20.0s,MS5.2
PGD Poggio Sodo 45.80 266 *e*P **P 00 36 49.5 +2.1**
FSSB Fossombrone 45.89 265 *e*P **P 00 36 48.9 +0.7**
GTA Gaotai 46.02 173 ||P **P 00 36 49.9 +0.6**
GTA AP pP 00 36 54.4 +4.6
GTA XP sP 00 36 57.0 +6.9
GTA PP PP 00 38 38.6 +1.1
GTA S **S 00 43 34.8 +0.2**
GTA SS SS 00 46 52.2 +0.7
GTA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,589nm,5.3s
GTA LR LR
comp=N,3μm,19.8s,MS5.3
GTA LR LR
comp=E,2μm,19.4s,MS5.3
GTA LR LR
comp=Z,4μm,19.8s,MS5.3
ARV Arcevia 46.07 265 *e*P **P 00 36 50.2 +0.6**
NEW Newport 46.11 28 *e*P **P 00 36 50.9 +1.1**
NEW pmax pmax
comp=Z,55nm,1.3s
NEW MLR MLR
comp=Z,3μm,19.0s
NEW Newport 46.11 28 P **P 00 36 51.5 +1.7**
comp=Z,20nm,1.1s,mb5.0,baz=360,slow=8.2,SNR=16
NEW Newport 46.11 28 *e*P **P 00 36 50.9 +1.0**
comp=Z,54nm,1.3s,mb5.3
NEW LR LR
comp=Z,3μm,19.0s,MS5.3
KSH Kashi 46.12 199 *e*P **P 00 36 56.9 +6.9**
KSH *e*AP pP 00 36 59.5 +8.9
KSH *e*XP sP 00 37 03.0 +12
KSH *e*PCP PcP 00 38 29.3 +2.6
KSH *e*PP PP 00 38 45.5 +7.1
KSH *e*SCP 00 42 21.3
KSH *e*PCS 00 42 24.3
KSH *e*S **S 00 43 45.1 +9.2**
KSH *e*XS 00 43 52.5
KSH *e*SCS ScS 00 46 47.7 +3.4
KSH AMB AMB
comp=Z,1μm,7.3s
KSH LR LR
comp=N,7μm,15.0s,MS5.8
KSH LR LR
comp=E,3μm,12.9s,MS5.8
SBF Sospel 46.17 270 *e*P **P 00 36 49.5 -0.8**
comp=E,26nm,0.9s,mb4.9
SBF Sospel 46.17 270 *e*P **P 00 36 49.5 -0.8**
SBF pmax pmax
comp=Z,13nm,0.9s,mb4.9
LASF Ste Croix 46.25 274 *e*P **P 00 36 51.1 +0.1**
comp=Z,74nm,1.2s,mb5.2
SNTG Esanatoglia 46.31 265 *e*P **P 00 36 52.3 +0.8**
BALT Daday 46.39 244 *i*P **P 00 36 54.2 +2.1**
FRF La Foret Royal 46.53 271 *e*P **P 00 36 52.5 -0.7**
comp=Z,54nm,1.2s,mb5.1
FRF La Foret Royal 46.53 271 *e*P **P 00 36 52.5 -0.7**
FRF pmax pmax
comp=Z,27nm,1.2s,mb5.0
LMR La Mourre 46.77 271 *e*P **P 00 36 54.1 -1.0**
SKO Skopje 46.89 256 *i*P **P 00 36 56.0 -0.1**
SKO *i* 00 37 05.0
GNI Garni 46.97 232 *d i*P **P 00 36 56.3 -0.4**
GNI pmax pmax
comp=Z,22nm,1.3s
GNI MLR MLR
comp=Z,1μm,19.0s
GNI Garni 46.97 232 P **P 00 36 57.4 +0.7**
comp=Z,18nm,1.2s,mb4.9,baz=274,slow=7.8,SNR=4.8
GNI Garni 46.97 232 *e*P **P 00 36 54.9 -1.8**
comp=Z,80nm,1.7s,mb5.4
GNI LR LR
comp=Z,1μm,20.0s,MS4.8
EYMN Ely 47.02 4 *e*P **P 00 36 56.9 -0.2**
comp=Z,10nm,0.7s,mb4.9
MTLF Montolieu 47.12 275 *e*P **P 00 36 57.4 -0.5**
AQU L'Aquila 47.17 264 P **P 00 36 57.8 -0.5**
AQU pmax pmax
comp=Z,65nm,1.3s,mb5.4
AQU L'Aquila 47.17 264 P **P 00 36 57.8 -0.4**
comp=Z,66nm,1.3s,mb5.4
CTKT Corum 47.19 242 *i*P **P 00 36 51.9 -6.6**
HENT Hendek 47.28 246 *i*P **P 00 36 59.1 -0.1**
PGF Pioggiola 47.34 269 *e*P **P 00 36 58.8 -0.9**
ELDT Eldivan 47.42 243 *i*P **P 00 37 01.2 +0.9**
ERZM Erzurum 47.44 235 *i*P **P 00 37 02.4 +1.9**
PTQR Pietraquaria 47.50 264 *e*P **P 00 37 02.1 +1.2**
EPF Esparros 47.58 277 *e*P **P 00 37 00.1 -1.5**
comp=Z,36nm,1.2s,mb5.0
EPF Esparros 47.58 277 *e*P **P 00 37 00.1 -1.5**
EPF pmax pmax
comp=Z,18nm,1.2s,mb5.0

CHMT Chamberlain Mo 47.60 24 *e*P **P 00 37 02.5 +0.9**
SJPF Ste Jean 47.63 279 *e*P **P 00 37 00.7 -1.2**
comp=Z,40nm,1.3s,mb5.0
SJPF Ste Jean 47.63 279 *e*P **P 00 37 00.7 -1.2**
SJPF pmax pmax
comp=Z,20nm,1.3s,mb5.0
MSO Missoula 47.66 25 *e*P **P 00 37 01.7 -0.4**
comp=Z,55nm,1.6s,mb5.3
SDI San Donato 47.77 264 *e*P **P 00 37 03.3 +0.2**
ETSF Etsaut 47.79 278 *e*P **P 00 37 02.6 -0.6**
comp=Z,21nm,1.2s,mb4.8
ETSF Etsaut 47.79 278 *e*P **P 00 37 02.6 -0.6**
ETSF pmax pmax
comp=Z,11nm,1.2s,mb4.8
HRY Holter Researc 47.85 23 P **P 00 37 04.2 +0.5**
ULDT Uludag 48.09 248 *i*P **P 00 37 05.7 +0.1**
ESKT Eskisehir 48.58 246 *i*P **P 00 37 08.5 -0.8**
BOZ Bozeman (W) 48.92 23 *e*P **P 00 37 12.5 +0.6**
BOZ pmax pmax
comp=Z,43nm,1.4s,mb5.3
BOZ MLR MLR
comp=Z,3μm,22.0s,MS5.2
BOZ Bozeman (W) 48.92 23 *e*P **P 00 37 12.5 +0.6**
comp=Z,43nm,1.4s,mb5.3
BOZ LR LR
comp=Z,3μm,22.0s,MS5.2
MALT Malatya 49.22 238 *e*P **P 00 37 15.2 +0.9**
MALT pmax pmax
comp=Z,57nm,1.8s,mb5.3
MALT Malatya 49.22 238 *e*P **P 00 37 15.2 +0.8**
comp=Z,57nm,1.8s,mb5.3
LZH Lanzhou 49.40 169 *e*P **P 00 37 16.6 +0.9**
LZH AP pP 00 37 25.0 +8.7
LZH XP sP 00 37 29.6 +13
LZH PP PP 00 39 09.4 -0.9
LZH S **S 00 44 23.0 +0.7**
LZH XS 00 44 39.0
LZH SS SS 00 47 51.4 +1.5
LZH AMB AMB
comp=Z,140nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,710nm,5.5s
LZH LR LR
comp=N,3μm,13.9s
LZH LR LR
comp=Z,3μm,15.9s,MS5.4
LZH Lanzhou 49.40 169 *e*P **P 00 37 16.6 +0.9**
LZH *PP pP 00 37 25.0 +8.7
LZH 00 39 09.4
LZH S **S 00 44 23.0 +0.7**
LZH *SS 00 44 39.0
LZH SS SS 00 47 51.4 +1.5
LZH pmax pmax
comp=Z,140nm,1.5s,mb5.8
LZH MLR MLR
comp=Z,3μm,15.9s,MS5.4
LZH Lanzhou 49.40 169 *e*P **P 00 37 16.6 +0.9**
comp=Z,140nm,1.5s,mb5.8
LZH pP pP 00 37 25.0 +8.7
LZH sP sP 00 37 29.6 +13
LZH PP PP 00 39 09.4 -0.9
LZH S **S 00 44 23.0 +0.7**
LZH sS 00 44 39.0
LZH SS SS 00 47 51.4 +1.5
LZH LR LR
comp=Z,3μm,15.9s,MS5.4
BMO Blue Mountains 49.51 28 *e*P **P 00 37 17.4 +1.0**
comp=Z,22nm,1.3s,mb5.0
BMO *e* 00 37 31.1
TIA Tai'an 49.62 154 ||P **P 00 37 17.3 -0.1**
TIA AMB AMB
comp=Z,33nm,1.0s,mb5.3
MCMT McKenzie Canyo 49.70 24 *e*P **P 00 37 20.2 +2.3**
QLMT Earthquake Lak 49.75 23 *e*P **P 00 37 18.6 +0.4**
MANT Manisa 49.78 248 *i*P **P 00 37 17.9 -0.7**
YMR Madison River 49.92 22 *e*P **P 00 37 21.6 +1.9**
TIP Timpagrande 50.04 260 *e*P **P 00 37 20.4 -0.2**
GZT Gaziantep 50.24 239 *i*P **P 00 37 22.4 +0.3**
MAJO Matsushiro 50.34 132 P **P 00 37 30.0 +7.1**
MAJO MLR MLR
comp=Z,561nm,20.0s,MS4.6
MAJO Matsushiro 50.34 132 PFAKE 00 37 30.0 +7.1
MAJO LR LR
comp=Z,561nm,20.0s,MS4.6
MAT Matsushiro 50.34 132 *e*P **P 00 37 20.0 -2.9**
MAT *e*S **S 00 44 38.0 +2.7**
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.34 132 P **P 00 37 20.3 -2.6**
MAT S **S 00 44 38.0 +2.7**
IMW Indian Meadow 50.70 22 *e*P **P 00 37 27.3 +1.8**
MOOW Moose Ponds 50.85 22 *e*P **P 00 37 27.5 +0.8**
HLID Hailey 50.91 26 *e*P **P 00 37 27.9 +0.8**
comp=Z,17nm,1.5s,mb4.8
HLID LR LR
comp=Z,3μm,19.0s,MS5.3
MSL Mosul 50.91 233 *e*P **P 00 37 26.5 -0.8**
WUWY Wally Ulrich 51.06 22 P **P 00 37 28.1 -0.1**
RRI2 Red Ridge 51.23 23 *e*P **P 00 37 31.2 +1.6**
ESDC Sonseca Array 51.27 281 P **P 00 37 28.9 -1.1**
comp=Z,1.3nm,0.5s,mb4.1,baz=4.4,slow=7.4,SNR=9.3
ESLA Sonseca Array 51.27 281 *e*P **P 00 37 27.1 -2.8**
comp=Z,1.5nm,1.0s,mb3.9
ESLA LR LR
comp=Z,4μm,20.0s,MS5.4
BW06 Boulder Array 51.87 21 *e*P **P 00 37 33.5 -1.0**
comp=Z,19nm,1.4s,mb4.8
BW06 LR LR
comp=Z,3μm,20.0s,MS5.4
PDAR Pinedale Array 51.87 21 P **P 00 37 33.7 -0.7**
comp=Z,1.0nm,0.8s,baz=56,slow=5.3,SNR=5.1
PDAR LR 01 00 07.6
comp=Z,3μm,19.6s,baz=6.3,slow=37
MOD Modoc 52.33 31 *e*P **P 00 37 38.3 +0.4**
comp=Z,12nm,0.9s,mb4.8
YBH Yreka Blue Hor 52.39 34 P **P 00 37 37.6 -0.9**
comp=Z,1.7nm,0.8s,mb4.1,baz=19,slow=5.0,SNR=3.7
KRMB Red Mountain 52.55 35 P **P 00 37 40.2 +0.7**
CSS Prodhromos 52.92 243 *e*P **P 00 37 40.7 -1.8**
comp=Z,15nm,0.9s,mb4.9
HWUT Hardware Ranch 52.96 23 *e*P **P 00 37 42.4 -0.2**
comp=Z,31nm,1.1s,mb5.2
HWUT LR LR
comp=Z,2μm,20.0s,MS5.3
ELK Elko 53.69 27 P **P 00 37 49.2 +1.2**
comp=Z,1.3nm,0.8s,mb3.9,baz=2.4,slow=9.4,SNR=5.4
NJ2 Nanjing 53.83 153 *e*P **P 00 37 48.1 -1.1**
NJ2 AP pP 00 37 52.9 +3.2
NJ2 XP sP 00 37 55.5 +5.5
NJ2 PP PP 00 39 51.0 -0.9
NJ2 S **S 00 45 19.0 -4.3**
NJ2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
NJ2 AMB AMB
comp=Z,250nm,8.5s
NJ2 LR LR
comp=N,810nm,21.0s,MS5.2
NJ2 LR LR
comp=E,2μm,21.9s,MS5.2
NJ2 LR LR
comp=Z,7μm,23.0s,MS5.6
BHD Baghdad 53.83 231 *e*P **P 00 37 44.0 -5.2**
KLP Kalpa 54.02 196 *e*P **P 00 37 50.1 -0.4**
KLP *e* 00 37 55.4
comp=Z,28nm,1.1s
DAU Daniels Canyon 54.16 23 P **P 00 37 46.5 -5.0**
MPU Maple Canyon 54.55 23 *e*P **P 00 37 53.9 -0.4**
CD2 Chengdu 54.56 169 P **P 00 37 54.4 -0.1**
ACSO Alum Creek Sta 54.74 356 *e*P **P 00 37 54.6 -1.1**
comp=Z,42nm,1.3s,mb5.3
ACSO LR LR
comp=Z,3μm,19.0s,MS5.3
SSE Sheshan 54.88 151 P **P 00 37 55.9 -1.0**
SSE PP PP 00 39 58.5 -2.8
SSE SS SS 00 49 20.4 +0.2
SSE AMB AMB
comp=Z,31nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,147nm,5.7s
SSE LR LR
comp=N,128nm,24.7s,MS4.6
SSE LR LR
comp=E,645nm,24.7s,MS4.6
SSE LR LR

comp=Z,425nm,18.6s
SSE Sheshan 54.88 151 P **P 00 37 55.9 -1.0**
comp=Z,31nm,0.8s,mb5.4
SSE pP pP 00 37 59.1 +1.7
SSE sP sP 00 38 00.2 +2.5
SSE PP PP 00 39 58.5 -2.8
SSE S **S 00 45 36.1 -1.2**
SSE sS 00 45 40.4
SSE SS SS 00 49 20.4 +0.2
SSE LR LR
comp=Z,430nm,18.6s,MS4.5
ISCO Idaho Springs 54.94 18 *e*P **P 00 37 56.8 -0.4**
ISCO pmax pmax
comp=Z,18nm,1.4s,mb4.9
ISCO MLR MLR
comp=Z,3μm,20.0s,MS5.4
ISCO Idaho Springs 54.94 18 *e*P **P 00 37 56.8 -0.4**
comp=Z,18nm,1.4s,mb4.9
ISCO LR LR
comp=Z,3μm,20.0s,MS5.4
WHN Wuhan 55.18 158 *e*P **P 00 37 58.0 -1.1**
WHN S **S 00 45 44.3 +3.0**
WHN LR LR
comp=Z,3μm,19.3s,MS5.4
TMUT Trail Mountain 55.28 23 *e*P **P 00 38 00.3 +0.6**
ENH Enshi 55.31 163 *e*P **P 00 37 59.7 -0.4**
comp=Z,50nm,1.0s,mb5.5
ENH LR LR
comp=Z,1μm,21.0s,MS4.9
LSA Lhasa 55.68 182 P **P 00 38 03.8 +1.1**
LSA AP pP 00 38 16.9 +14
LSA PCP PcP 00 39 01.7 -0.4
LSA PP PP 00 40 11.5 +3.0
LSA S **S 00 45 45.4 -2.7**
LSA SCS ScS 00 47 51.7 +2.2
LSA AMB AMB
comp=Z,10.0nm,1.5s,mb4.6
LSA LR LR
comp=N,590nm,22.1s,MS4.8
LSA LR LR
comp=E,690nm,26.1s,MS4.8
LSA LR LR
comp=Z,1μm,31.4s
LSA Lhasa 55.68 182 *e*P **P 00 38 03.5 +0.8**
LSA pmax pmax
comp=Z,39nm,1.4s,mb5.2
LSA MLR MLR
comp=Z,1μm,20.0s,MS4.9
LSA Lhasa 55.68 182 *e*P **P 00 38 03.5 +0.7**
comp=Z,39nm,1.4s,mb5.2
LSA LR LR
comp=Z,1μm,20.0s,MS4.9
KSU1 Kansas State U 55.81 9 *e*P **P 00 38 01.3 -2.2**
NVAR Mina Array Bea 55.88 30 P **P 00 38 04.7 +0.7**
comp=Z,2.9nm,0.9s,mb4.3,baz=18,slow=6.1,SNR=9.8
NVAR PcP PcP 00 39 03.6 +0.9
comp=Z,2.2nm,0.8s,baz=26,slow=4.3,SNR=4.4
NVAR LR LR 01 02 51.1
comp=Z,2μm,18.1s,MS5.2,slow=37
MSU Marysvale 56.03 24 *e*P **P 00 38 06.0 +0.9**
MVU Marysvale 56.04 24 *e*P **P 00 37 59.1 -6.1**
comp=Z,17nm,1.0s,mb5.0
CMB Columbia Colle 56.19 32 *e*P **P 00 38 05.8 -0.4**
CMB pmax pmax
comp=Z,34nm,1.9s,mb5.0
CMB Columbia Colle 56.19 32 *e*P **P 00 38 05.8 -0.5**
comp=Z,34nm,1.9s,mb5.0
PV10 Paradox Valley 56.26 21 *e*P **P 00 38 07.9 +1.1**
TPH Tonopah 56.28 29 P **P 00 38 13.8 +6.9**
TPH pmax pmax
comp=Z,12nm,1.1s,mb4.8
TPH MLR MLR
comp=Z,2μm,19.0s,MS5.3
TPH Tonopah 56.28 29 P **P 00 38 13.8 +6.9**
comp=Z,12nm,1.1s,mb4.8
TPH LR LR
comp=Z,2μm,19.0s,MS5.3
RW3 Ridgway 56.43 20 *e*P **P 00 38 07.6 -0.4**
PV01 Paradox Valley 56.52 21 *e*P **P 00 38 09.0 +0.4**
ARUT Antelope Range 56.71 25 *e*P **P 00 38 10.2 +0.2**
NDI New Delhi 56.88 197 *e*P **P 00 38 09.0 -2.4**
NDI *e*S **S 00 46 04.0 -0.1**
CCM Cathedral Cave 56.91 4 *e*P **P 00 38 09.2 -2.2**
CCM pmax pmax
comp=Z,29nm,1.3s,mb5.2
CCM Cathedral Cave 56.91 4 *e*P **P 00 38 09.2 -2.3**
comp=Z,29nm,1.3s,mb5.1
MTUM Tungsten Hills 56.94 30 P **P 00 38 12.2 +0.5**
MTUM *e* 00 38 21.7
SDCO Great Sand Dun 56.99 18 *e*P **P 00 38 12.3 +0.2**
comp=Z,10nm,1.3s,mb4.7
SDCO LR LR
comp=Z,4μm,19.0s,MS5.5
AYAN Aya Nagar 57.09 197 *e*P **P 00 38 11.5 -1.4**
AYAN *e* pP 00 38 13.7 +0.3
comp=Z,2.1nm,0.4s
SONA Sohna 57.32 197 *e*P **P 00 38 10.7 -3.8**
SONA *e* pP 00 38 11.0 -4.1
comp=Z,2.9nm,0.3s
GKN Gorkha 57.42 189 *e*P **P 00 38 13.9 -1.3**
TPNV Topopah Spring 57.44 28 PFAKE 00 38 30.0 +15
TPNV LR LR
comp=Z,43μm,19.0s
KHET Khetri 57.53 198 *e*P **P 00 38 15.4 -0.6**
KHET *e* 00 38 20.3
comp=Z,26nm,1.6s
KKN Kakani 57.63 188 *e*P **P 00 38 15.6 -1.1**
comp=Z,128nm,1.3s,mb5.8
KKN Kakani 57.63 188 *e*P **P 00 38 15.6 -1.1**
KKN pmax pmax
comp=Z,64nm,1.3s,mb5.5
KOLN Koldanda 57.67 190 *e*P **P 00 38 15.3 -1.7**
BLA Blacksburg 57.73 354 *e*P **P 00 38 15.8 -1.5**
BLA pmax pmax
comp=Z,27nm,1.0s,mb5.2
BLA Blacksburg 57.73 354 *e*P **P 00 38 15.8 -1.5**
comp=Z,27nm,1.0s,mb5.2
JIRN Jiri 57.75 187 *e*P **P 00 38 16.9 -0.6**
comp=Z,34nm,1.1s,mb5.3
DMN Daman 57.81 188 *e*P **P 00 38 17.2 -0.7**
comp=Z,144nm,1.3s,mb5.8
PKI Pulchoki 57.84 188 *e*P **P 00 38 17.1 -1.1**
EIL Elat 58.06 241 *e*P **P 00 38 19.0 -0.7**
comp=Z,16nm,0.9s,mb5.0
TZTN Tazewell 58.42 357 *e*P **P 00 38 20.7 -1.4**
JASL Jaisalmer 58.82 203 *e*P **P 00 38 23.4 -1.6**
JASL *e* pP 00 38 23.4 -2.1
WUAZ Wupatki 59.04 23 *e*P **P 00 38 26.2 -0.2**
comp=Z,266nm,1.2s
GYA Guiyang 59.05 166 ||*i*P **P 00 38 26.6 0.0**
GYA AP pP 00 38 31.2 +4.1
GYA XP sP 00 38 33.8 +6.4
GYA PP PP 00 40 38.6 -0.3
GYA S **S 00 46 31.7 -0.8**
GYA AMB AMB
comp=Z,50nm,0.9s,mb5.5
GYA AMB AMB
comp=Z,370nm,6.3s
GYA LR LR
comp=N,420nm,14.6s,MS4.8
GYA LR LR
comp=E,490nm,18.2s,MS4.8
GYA LR LR
comp=Z,700nm,14.6s,MS4.9
JOW Kunigami 59.44 143 LR LR 01 06 41.5
comp=Z,567nm,18.7s,MS4.7,baz=119,slow=39
SWET Sewanee 59.75 359 *e*P **P 00 38 29.7 -1.6**
ANMO Albuquerque 59.76 19 *e*P **P 00 38 30.9 -0.5**
ANMO pmax pmax
comp=Z,16nm,1.2s
ANMO Albuquerque 59.76 19 P **P 00 38 31.0 -0.4**
comp=Z,5.3nm,0.9s,mb4.6,baz=5.0,slow=6.2,SNR=10
ANMO Albuquerque 59.76 19 *e*P **P 00 38 30.9 -0.4**
comp=Z,16nm,1.2s,mb4.9
MWC Mount Wilson 60.08 30 *e*P **P 00 38 34.4 +0.8**
WMOK Wichita Mounta 60.13 11 *e*P **P 00 38 33.1 -0.8**
WMOK pmax pmax
comp=Z,20nm,1.2s,mb5.0
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.3
WMOK Wichita Mounta 60.13 11 *e*P **P 00 38 33.1 -0.8**
comp=Z,20nm,1.2s,mb5.0
WMOK LR LR
comp=Z,2μm,21.0s,MS5.3
UALR University of 60.17 5 *e*P **P 00 38 33.3 -0.9**
comp=Z,13nm,0.7s,mb5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KMI	Kunming	60.31	170	⇓P	P	00 38 34.9	-0.4
KMI				PCP	PcP	00 39 21.6	+1.3
KMI				PP	PP	00 40 48.6	-1.6
KMI				S	S	00 46 47.0	-1.8
KMI				SCS	ScS	00 48 25.4	+2.1
KMI				SS	SS	00 50 47.1	-0.1
KMI				AMB	AMB		
	comp=Z,26nm,1.5s,mb5.0						
KMI				AMB	AMB		
	comp=Z,262nm,5.1s						
KMI				LR	LR		
	comp=N,1µm,18.5s,MS5.2						
KMI				LR	LR		
	comp=E,1µm,21.0s,MS5.2						
KMI				LR	LR		
	comp=Z,1µm,17.3s,MS5.2						
KMI	Kunming	60.31	170	⇓P	P	00 38 34.9	-0.4
KMI				*PP	pP	00 38 38.1	+2.3
KMI				*SP	sP	00 38 39.1	+3.0
KMI						00 39 21.6	
KMI						00 40 48.6	
KMI				S	S	00 46 47.0	-1.8
KMI						00 48 25.4	
KMI				SS	SS	00 50 47.1	-0.1
KMI				pmax	pmax		
	comp=Z,26nm,1.5s,mb5.0						
KMI				MLR	MLR		
	comp=Z,1µm,17.3s,MS5.2						
KMI	Kunming	60.31	170	⇓P	P	00 38 34.9	-0.4
	comp=Z,26nm,1.5s,mb5.0						
KMI				pP	pP	00 38 38.1	+2.3
KMI				sP	sP	00 38 39.1	+3.0
KMI				PcP	PcP	00 39 21.6	+1.3
KMI				PP	PP	00 40 48.6	-1.6
KMI				S	S	00 46 47.0	-1.8
KMI				sS		00 46 51.9	
KMI				ScS	ScS	00 48 25.4	+2.1
KMI				SS	SS	00 50 47.1	-0.1
KMI				LR	LR		
	comp=Z,1µm,17.3s,MS5.2						
LPM	Los Pinos Moun	60.39	19	eP	P	00 38 35.4	-0.3
MIAR	Mount Ida	60.39	6	eP	P	00 38 34.6	-1.1
MIAR				pmax	pmax		
	comp=Z,29nm,1.2s,mb5.2						
MIAR				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.2						
MIAR	Mount Ida	60.39	6	eP	P	00 38 34.6	-1.1
	comp=Z,29nm,1.2s,mb5.2						
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.2						
OXF	Oxford	60.45	2	eP	P	00 38 35.6	-0.5
OXF				pmax	pmax		
	comp=Z,229nm,1.5s,mb6.0						
OXF				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
OXF	Oxford	60.45	2	eP	P	00 38 35.6	-0.5
	comp=Z,228nm,1.5s,mb6.0						
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
JSC	Jenkinsville	60.66	355	eP	P	00 38 36.2	-1.4
GOGA	Godfrey	61.55	357	eP	P	00 38 42.5	-1.1
GOGA				pmax	pmax		
	comp=Z,35nm,1.1s,mb5.4						
GOGA	Godfrey	61.55	357	eP	P	00 38 42.5	-1.1
	comp=Z,35nm,1.1s,mb5.4						
NHSC	New Hope	61.83	354	eP	P	00 38 44.5	-1.0
	comp=Z,210nm,1.7s,mb6.0						
LRAL	Lakeview Retre	61.93	0	eP	P	00 38 44.6	-1.6
	comp=Z,17nm,0.9s,mb5.2						
BHPL	Bhopal	62.30	196	eP	P	00 38 50.6	+1.8
CLNB	Carlsbad	62.50	16	eP	P	00 38 49.5	-0.5
GDL2	Guadalupe Moun	62.55	17	eP	P	00 38 48.9	-1.5
NATX	Nacogdoches	63.16	8	P	P	00 38 54.0	-0.3
	comp=Z,20nm,0.7s,mb5.4						
BLSP	Bilaspur	63.31	191	e	P	00 39 02.3	+6.8
JCT	Junction City	64.36	12	eP	P	00 39 01.5	-0.6
JCT				pmax	pmax		
	comp=Z,42nm,1.3s,mb5.3						
JCT	Junction City	64.36	12	eP	P	00 39 01.4	-0.7
	comp=Z,42nm,1.3s,mb5.3						
LTX	Lajitas	65.42	16	eP	P	00 39 08.1	-0.9
LTX				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LTX				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.3						
LTX	Lajitas	65.42	16	eP	P	00 39 08.1	-0.9
	comp=Z,42nm,1.5s,mb5.2						
LTX				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
TXAR	Lajitas Array	65.42	16	P	P	00 39 08.8	-0.2
	comp=Z,3.8nm,0.5s,mb4.7,baz=8.2,slow=3.6,SNR=51						
TXAR				LR	LR	01 08 20.8	
	comp=Z,2µm,18.6s,MS5.3,baz=5.0,slow=37						
TXAR	Lajitas Array	65.42	16	P	P	00 39 08.8	-0.2
TXAR				LR	LR	01 08 20.8	
CHRT	Chiangrai	65.50	173	⇓P	P	00 39 08.0	-1.6
QIZ	Qiongzhong	66.51	163	P	P	00 39 18.3	+2.2
QIZ				S	S	00 48 08.5	+2.3
QIZ				LR	LR		
	comp=E,729nm,19.8s						
QIZ				LR	LR		
	comp=Z,887nm,17.4s,MS5.0						
CHG	Chiang Mai	66.54	174	⇓P	P	00 39 15.1	-1.2
	comp=Z,18nm,1.4s,mb4.9						
CM31	Chiang Mai Arr	66.89	174	eP	P	00 39 18.0	-0.6
CM31				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
CMAR	Chiang Mai Arr	66.89	174	i P	P	00 39 17.9	-0.7
CMAR				pmax	pmax		
	comp=Z,11nm,0.9s						
CMAR	Chiang Mai Arr	66.89	174	P	P	00 39 17.9	-0.7
	comp=Z,11nm,0.9s,mb4.9,baz=350,slow=7.4,SNR=42						
CMAR				LR	LR	01 10 57.6	
	comp=Z,911nm,18.9s,MS5.0,baz=15,slow=38						
HYB	Hyderabad	68.06	195	eP	P	00 39 23.0	-3.0
HYB	Hyderabad	68.06	195	i P	P	00 39 23.0	-3.0
KAD	Karad	68.28	200	eP	P	00 39 25.3	-2.0
TEIG	Tepich	74.69	1	P	P	00 40 04.8	-0.7
	comp=Z,27nm,1.2s,mb5.0						
TEIG				LR	LR		
	comp=Z,1µm,20.0s,MS5.2						
SJG	San Juan	76.49	340	PFAKE		00 40 30.0	+14
SJG				LR	LR		
	comp=Z,538nm,20.0s,MS4.9						
KKM	Kota Kinabalu	79.59	157	eP	P	00 40 33.2	+0.3
KULM	Kulim	80.00	172	eP	P	00 40 32.0	-3.2
KULM				e		00 40 44.0	
DBIC	Dimbokro	84.07	279	eP	P	00 40 55.9	-0.3
DBIC				pmax	pmax		
	comp=Z,36nm,1.5s						
DBIC				MLR	MLR		
	comp=Z,259nm,22.0s						
DBIC	Dimbokro	84.07	279	P	P	00 40 56.4	+0.2
	comp=Z,3.6nm,0.8s,mb4.6,baz=44,slow=9.9,SNR=4.6						
DBIC				LR	LR	01 19 37.1	
	comp=Z,152nm,20.2s,MS4.4,baz=356,slow=37						
DBIC	Dimbokro	84.07	279	eP	P	00 40 55.9	-0.3
	comp=Z,36nm,1.5s,mb5.3						
DBIC				LR	LR		
	comp=Z,259nm,22.0s,MS4.6						
JTS	JuntasAbangare	84.56	358	LR	LR	01 17 42.8	
	comp=Z,794nm,19.6s,MS5.1,baz=355,slow=35						
JTS	JuntasAbangare	84.56	358	PFAKE		00 41 10.0	+11
JTS				LR	LR		
	comp=Z,272nm,22.0s,MS4.6						
SDV	Santo Domingo	85.77	344	P	P	00 41 05.9	+1.2
	comp=Z,11nm,1.1s,mb5.0,baz=17,slow=2.9,SNR=9.4						
SDV				LR	LR	01 20 12.2	
	comp=Z,575nm,20.1s,MS5.0,baz=214,slow=36						
SDV	Santo Domingo	85.77	344	eP	P	00 41 06.6	+1.8
	comp=Z,24nm,1.2s,mb5.3						
SDV				LR	LR		
	comp=Z,569nm,19.0s,MS5.0						
MBAR	Mbarara	88.38	242	P	P	00 41 17.2	-0.2
MBAR				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.5						
MBAR				MLR	MLR		
	comp=Z,69nm,20.0s,MS4.1						
MBAR	Mbarara	88.38	242	P	P	00 41 17.2	-0.2
	comp=Z,4.1nm,1.2s,mb4.5						
MBAR				LR	LR		
	comp=Z,69nm,20.0s,MS4.1						
KMBO	Kilima Mbogo	88.44	236	LR	LR	01 27 36.7	
	comp=Z,338nm,19.7s,MS4.8,baz=94,slow=40						
KMBO	Kilima Mbogo	88.44	236	PFAKE		00 41 30.0	+12
KMBO				LR	LR		
	comp=Z,355nm,20.0s,MS4.8						
ROSC	El Rosal	89.85	348	LR	LR	01 24 04.4	
	comp=Z,271nm,18.9s,MS4.7,baz=185,slow=37						
DGAR	Diego Garcia	92.88	201	PFAKE		00 41 50.0	+12
DGAR				LR	LR		
	comp=Z,384nm,20.0s,MS4.8						
PAYG	Puerto Ayora	95.45	3	PFAKE		00 42 00.0	+10
PAYG				LR	LR		
	comp=Z,626nm,21.0s,MS5.1						
PMG	Port Moresby	96.51	127	LR	LR	01 24 24.4	
	comp=Z,163nm,21.4s,MS4.5,baz=216,slow=35						
RCBR	Riachuelo	98.79	309	PFAKE		00 42 20.0	+15
RCBR				LR	LR		
	comp=Z,328nm,19.0s,MS4.8						
LSZ	Lusaka	103.11	244	PFAKE		00 42 40.0	+15
LSZ				LR	LR		
	comp=Z,366nm,21.0s,MS4.9						
WRAB	Tennant Creek	106.18	140	PFAKE		00 47 00.0	
WRAB				LR	LR		
	comp=Z,115nm,20.0s,MS4.4						
WRA	Warramunga Arr	106.18	140	PKKPbc		00 58 10.6	
	comp=Z,0.8nm,0.6s,baz=186,slow=2.8,SNR=6.7						
NNA	Nana	106.62	350	PFAKE		00 47 00.0	
NNA				LR	LR		
	comp=Z,97nm,19.0s,MS4.4						
TSUM	Tsumeb	107.83	254	PFAKE		00 47 00.0	
TSUM				LR	LR		
	comp=Z,536nm,19.0s,MS5.1						
PPT	Papeete	109.60	64	ePS	PS	00 56 48.4	-3.8
PPT				eSS	SS	01 03 02.8	+12
PPT				eLR	LR	01 19 15.6	
	comp=Z,1µm,24.0s,baz=354						
ASAR	Alice Springs	109.86	141	PKKPbc		00 57 59.1	
	comp=Z,0.7nm,0.8s,baz=153,slow=3.2,SNR=4.6						
LPAZ	La Paz	110.71	341	PFAKE		00 47 10.0	+11
LPAZ				LR	LR		
	comp=Z,427nm,21.0s,MS5.0						
LBTB	Lobatse	112.97	246	PFAKE		00 47 10.0	+6.8
LBTB				LR	LR		
	comp=Z,380nm,19.0s,MS5.0						
TBI	Tubuai	115.34	65	ePS	PS	00 57 46.3	-0.9
TBI				eSS	SS	01 04 21.4	+15
TBI				eLR	LR	01 21 26.7	
	comp=Z,1µm,27.0s,baz=348						
RKT	Rikitea	116.12	50	eSS	SS	01 04 47.6	+31
RKT				eLR	LR	01 22 04.1	
	comp=Z,803nm,32.8s,baz=349						
BOSA	Boshof	116.56	246	PFAKE		00 47 20.0	+10
BOSA				LR	LR		
	comp=Z,475nm,19.0s,MS5.1						
LVC	Limon Verde	117.02	341	PFAKE		00 47 20.0	+8.9
LVC				LR	LR		
	comp=Z,543nm,19.0s,MS5.2						
NWAO	Narrogin (SRO)	118.36	157	PFAKE		00 47 20.0	+6.5
NWAO				LR	LR		
	comp=Z,255nm,19.0s,MS4.9						
TRQA	Tornquist	132.19	333	PFAKE		00 47 50.0	+10
TRQA				LR	LR		
	comp=Z,284nm,20.0s,MS5.0						
PLCA	Paso Flores	135.12	342	PKP	PKPdf	00 47 45.8	+0.5
	comp=Z,3.2nm,0.7s,baz=335,slow=1.0,SNR=6.1						

GUC 10 00:28:53.6±0.9, 31.63S×71.70W, h27^{km}±6^{km}, MD3.6, ML2.3, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILCH	Illapel	0.45	91	eP	Pb	00 29 03.2	+0.1
ILCH				i S	Sb	00 29 10.1	+0.5
ILCH				AMP		00 29 10.7	
	comp=N,363nm,0.2s						
PACH	Papudo	0.93	166	eP	Pn	00 29 10.0	-1.0
PACH				i S	Sb	00 29 23.1	0.0
JACH	Jahuel	1.41	139	eP	Pn	00 29 18.6	+0.8
JACH				i S	Sn	00 29 36.8	+1.2
ROCH	El Roble	1.46	157	i S	Sn	00 29 39.0	+2.1
RCDM	Rinconada Maip	2.00	158	eP	Pn	00 29 27.2	+0.9
RCDM				i S	Sn	00 29 51.8	+1.1
FCH	Farellones	2.07	145	eP	Pn	00 29 28.8	+1.5
FCH				i S	Sn	00 29 54.0	+1.5
FCH				AMP		00 30 03.3	
	comp=E,36nm,0.4s						

*TIR **10** 00:57:01.9, 41.47N×19.38E, h23^{km}, Ml2.9*
*PDG **10** 00:57:02.5±0.1, 41.43N×19.39E, h4^{km}*
*ATH **10** 00:57:03.9, 41.44N×19.19E, h36^{km}, MD3.6/4*
*CSEM **10** 00:57:03.4±0.1, 41.51N×19.36E, h20^{km}, MD3.6, Error ellipse: s-maj=1.7km s-min=1.2km az=40.0*
*NEIC **10** 00:57:03.9, 41.44N×19.19E, h36^{km}, MD3.6(ATH), After ATH.*
ISC 10 00:57:01.9±0.3, 41.41N±0.02×19.22E±0.03, h10^{km}, n65, σ1^{s}30/92, 11C-8D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TIR	Tirane	0.49	97	i Pg	Pg	00 57 10.5	-1.5
TIR				i Sg	Sg	00 57 19.0	+0.3
QSH	Qafa e Shtames	0.53	78	i pg?	Pg	00 57 16.0	+3.3
QSH				i Sg	Sg	00 57 20.5	+0.7
ULC	Ulcinj	0.55	3	⇑iPg	Pg	00 57 12.8	-0.3
ULC				eSg	Sg	00 57 21.2	+0.7
PUK	Puka	0.81	39	i Pg	Pg	00 57 16.4	-1.8
PUK				i Sg	Sg	00 57 30.4	+1.4
BUM	Brajici-Budva	0.92	345	⇑iPg	Pg	00 57 19.9	-0.5
BUM				eSg	Sg	00 57 34.9	+2.2
TTG	Podgorica	1.02	2	⇓iPg	Pg	00 57 21.4	-0.9
TTG				eSg	Sg	00 57 36.8	+0.9
BCI	Bajram Curri	1.15	33	i Pn	Pn	00 57 22.5	-1.5
BCI				i Sn	Sn	00 57 41.8	+2.0
BCI	Bajram Curri	1.15	33	ePn	Pn	00 57 22.5	-1.5
BCI				i Sn	Sn	00 57 41.8	+2.0
HCY	Herceg Novi	1.16	333	⇑iPg	Pg	00 57 24.8	-0.4
HCY				eSg	Sg	00 57 43.7	+2.9
OHR	Ohrid	1.23	104	i Pn	Pn	00 57 23.1	-2.1
OHR				⇑iSn	Sn	00 57 40.7	-1.3
PVY	Plav	1.31	25	⇑iPg	Pg	00 57 25.3	-2.9
PVY				eSg	Sg	00 57 45.0	-0.6
NKY	Niksic	1.41	354	⇑iPg	Pg	00 57 28.3	-1.8
NKY				eSg	Sg	00 57 50.5	+1.5
PE1	Pezze di Greco	1.48	246	ePn	Pn	00 57 28.9	+0.1
IVA	Berane	1.54	19	⇓iPg	Pg	00 57 29.9	-3.0
IVA				eSg	Sg	00 57 53.2	-0.2
BRY	Bratogost	1.57	342	⇓iPn	Pn	00 57 31.8	+1.7
BRY				eSn	Sn	00 57 56.4	+5.9
BIA	Bitola	1.64	103	i Pn	Pn	00 57 31.0	-0.1
BIA				i Sn	Sn	00 57 48.5	-3.8
BIA				i		00 57 52.0	
LSK	Leskovik	1.64	140	i Pn	Pn	00 57 31.4	+0.3
LSK				i Sn	Sn	00 57 55.4	+3.0
LSK	Leskovik	1.64	140	ePn	Pn	00 57 31.4	+0.3
LSK				i Sn	Sn	00 57 55.4	+3.0
SRN	Sarande	1.64	158	i Pn	Pn	00 57 31.1	0.0
SRN	Sarande	1.64	158	ePn	Pn	00 57 31.1	0.0
KEK	Kerkira	1.75	165	ePN	Pn	00 57 34.0	+1.3
SKO	Skopje	1.76	71	i Pn	Pn	00 57 32.6	-0.2
SKO				i		00 57 39.3	
SKO				i Sn	Sn	00 57 55.3	0.0
SKO				Lg		00 58 00.0	
	comp=Z,0.1nm,0.3s						
SKO	Skopje	1.76	71	i Pn	Pn	00 57 32.6	-0.2
SKO				i Sn	Sn	00 57 55.3	0.0
UPM	Unac-Piva	1.80	353	⇑iPn	Pn	00 57 35.4	+2.0
UPM				eSn	Sn	00 58 01.4	+4.8
STON	Ston	1.84	323	i Pn	Pn	00 57 34.3	+0.4
STON				i Pg	Pg	00 57 36.9	-1.9
STON				i Sn	Sn	00 57 59.1	+1.6
STON				i Sg	Sg	00 58 01.9	-1.5
PLE	Pljevlja	1.92	4	⇓iPn	Pn	00 57 36.9	+1.8
PLE				eSn	Sn	00 58 03.5	+4.0
SG1	Sgolgore (BA)	2.00	254	ePn	Pn	00 57 41.0	+4.8
JAN	Janina	2.15	144	ePB	Pb	00 57 40.5	-0.1
KZN	Kozani	2.23	119	ePN	Pn	00 57 41.0	+1.5
GRUS	Gruza	2.71	24	⇑iPn	Pn	00 57 51.6	+5.2
MRLC	Muro Lucano	2.89	258	ePn	Pn	00 57 51.0	+2.0
MRLC	Muro Lucano	2.89	258	ePn	Pn	00 57 51.0	+2.0
KKB	Krupnik	2.94	80	i P	Pn	00 57 50.0	+0.4
SGO	Sicignano	3.08	255	ePn	Pn	00 57 52.0	+0.4
SGO	Sicignano	3.08	255	ePn	Pn	00 57 52.0	+0.4
EVR	Evrytania	3.19	141	ePN	Pn	00 57 53.6	+0.4
VTS	Vitosha	3.20	67	⇑P	Pn	00 57 53.0	-0.3
VTS	Vitosha	3.20	67	i P	Pn	00 57 53.0	-0.4
MMB	Musomiste	3.39	86	P	Pn	00 57 55.5	-0.6
CII	Carovilli	3.70	276	ePn	Pn	00 58 00.4	0.0
CII	Carovilli	3.70	276	ePn	Pn	00 58 00.4	0.0
RFI	Roccamonfina	3.94	270	ePn	Pn	00 58 04.8	+1.0
RFI	Roccamonfina	3.94	270	ePn	Pn	00 58 04.8	+1.0
SDI	San Donato	4.07	276	ePn	Pn	00 58 06.6	+0.9
SDI	San Donato	4.07	276	ePn	Pn	00 58 06.6	+0.9
RZN	Rozhen	4.14	84	P	Pn	00 58 06.0	-0.7
BZS	Buzias	4.55	22	⇓P	Pn	00 58 10.2	-2.4
BZS	Buzias	4.55	22	⇓P	Pn	00 58 10.2	-2.3
NRCA	Norcia	4.75	289	ePn	Pn	00 58 15.4	0.0
NRCA	Norcia	4.75	289	ePn	Pn	00 58 15.4	0.0
MNS	Montasola	4.97	283	ePn	Pn	00 58 19.1	+0.5
MNS	Montasola	4.97	283	ePn	Pn	00 58 19.1	+0.6
SNTG	Esanatoglia	5.00	294	ePn	Pn	00 58 17.9	-1.0
SNTG	Esanatoglia	5.00	294	ePn	Pn	00 58 17.9	-1.0
BOJS	Bojanci	5.00	326	ePn	Pn	00 58 18.0	-0.9
BOJS				eSn	Sn	00 59 13.3	-4.3
ARV	Arcevia	5.09	296	ePn	Pn	00 58 18.9	-1.2
ARV	Arcevia	5.09	296	ePn	Pn	00 58 18.9	-1.2
FSSB	Fossombrone	5.27	298	ePn	Pn	00 58 21.7	-1.0
FSSB	Fossombrone	5.27	298	ePn	Pn	00 58 21.7	-1.0
VISS	Visnje	5.42	326	ePn	Pn	00 58 25.3	+0.5
VISS				eSn	Sn	00 59 25.4	-2.6
VOY	Vojsko	6.01	322	ePn	Pn	00 58 32.6	-0.6
VOY				eSn	Sn	00 59 40.8	-2.1
MLR	Muntele Rosu	6.37	48	⇓P	Pn	00 58 38.3	+0.1
MLR	Muntele Rosu	6.37	48	⇓P	Pn	00 58 38.3	+0.1
VRI	Vrincioaia	7.04	48	⇑P	Pn	00 58 49.3	+1.7
VRI	Vrincioaia	7.04	48	⇑P	Pn	00 58 49.3	+1.7

*IDC **10** 01:02:02.9±7.3, 6.01S×147.27E, h105^{km}±75^{km}, mb3.2/2, mb1 3.4/4, mb1mx3.3/12, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=86.7km s-min=33.9km az=135.0*
ISC 10 01:01:58.8±4.1, 5.8S±0.2×147.0E±0.2, h74^{km}±39^{km}, n6, σ0^{s}34/7, mb3.7/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.56	177	P	P	01 02 53.1	0.0
	8.2nm,0.3s,baz=57,slow=17,SNR=16						
PMG				S	S	01 03 34.2	+0.1
	4.4nm,0.3s,baz=127,slow=20,SNR=4.0						
KAKA	Kakadu	15.91	243	eP	P	01 05 39.7	+0.1
	6.7nm,0.6s						
WRA	Warramunga Arr	18.66	220	P	P	01 06 13.0	-0.5
	0.4nm,0.3s,baz=47,slow=12,SNR=8.5						
ASAR	Alice Springs	21.76	214	P	P	01 06 46.0	+0.1
	0.4nm,0.3s,mb3.2,baz=54,slow=8.6,SNR=7.5						
FITZ	Fitzroy Crossi	24.16	238	eP	P	01 07 09.6	+0.3
	6.8nm,0.6s,mb4.2						
ILAR	Eielson Array	85.32	23	P	P	01 14 28.6	0.0
	0.6nm,0.6s,mb3.7,baz=252,slow=5.0,SNR=11						

*IDC **10** 01:04:21.5±0.9, 85.33N×91.30E, mb3.7/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.8/7, ML3.2/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/25, Error ellipse: s-maj=34.9km s-min=18.5km az=122.0*
ISC 10 01:04:21.0±0.8, 85.4N±0.1×9 0E± , h10^{km}, n7, σ0^{s}51/7, mb3.7/6, MS3.7/2, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	19.07	257	P	P	01 08 44.7	-0.7
	0.1nm,0.3s,baz=17,slow=9.4,SNR=3.5						
INK	Inuvik	25.39	37	P	P	01 09 49.5	+0.3
	10nm,1.4s,mb4.2,baz=334,slow=12,SNR=4.5						
FINES	FINESS Array B	27.00	253	P	P	01 10 05.2	+1.0
	1.1nm,0.7s,mb3.5,baz=22,slow=10,SNR=4.8						
FINES				LR	LR	01 20 31.8	
	comp=Z,211nm,20.6s,MS3.7,baz=339,slow=36						
YKA	Yellowknife Ar	31.95	22	P	P	01 10 48.2	-0.3
	0.6nm,0.8s,mb3.5,baz=356,slow=8.2,SNR=11						
YKA				PcP	PcP	01 13 38.1	-0.6
	0.6nm,0.9s,baz=341,slow=3.0,SNR=9.7						
YKA				LR	LR	01 23 23.1	
	comp=Z,182nm,19.4s,MS3.8,baz=10.0,slow=36						
BVAR	Borovoye Array	32.80	202	P	P	01 10 56.0	0.0
	2.8nm,1.0s,mb4.2,baz=11,slow=7.6,SNR=10						
SONM	Songino Array	37.88	162	P	P	01 11 39.2	-0.2
	0.5nm,0.8s,mb3.3,baz=346,slow=7.5,SNR=4.2						
TXAR	Lajitas Array	65.37	14	P	P	01 15 05.1	-0.1
	0.6nm,0.9s,mb3.6,baz=1.2,slow=2.6,SNR=5.1						

*NEIC **10** 01:20:44.8±1.8, 28.35N×140.09E, h337^{km}±19^{km}, mb4.0/6, Error ellipse: s-maj=27.2km s-min=11.2km az=75.0*
*IDC **10** 01:20:49.9±0.7, 28.33N×140.02E, h392^{km}±10^{km}, mb3.3/10, mb1 3.4/12, mb1mx3.3/22, mbtmp4.1/12, Error ellipse: s-maj=32.0km s-min=9.9km az=75.0*
*JMA **10** 01:20:50.6±0.3, 28.46N×140.56E, h415^{km}±4^{km}, M3.9*
ISC 10 01:20:49.7±0.4, 28.35N±0.05×140.2E±0.1, h410^{km}±5^{km}, n37, σ1^{s}06/48, mb3.8/15, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.19	124	P	P	01 21 48.1	0.0
	141nm,0.3s,baz=45,slow=2.8,SNR=90						
CBIJ				S	S	01 22 33.2	-0.9
	118nm,0.3s,baz=282,slow=24,SNR=22						
CBIJ	Chichi jima	2.19	124	P	P	01 21 48.0	-0.1
CBIJ				S	S	01 22 33.2	-0.9
JHHJ	Haha-jima-NKT	2.48	133	P	P	01 21 50.2	+0.1
JHHJ				S	S	01 22 37.8	+0.1
JHJ2	Mitsune	4.76	357	P	P	01 22 11.0	+0.7
JHJ2				eS	S	01 23 13.5	-0.1
JHJ	Hachijo jima 2	4.77	356	P	P	01 22 11.1	+0.6
	28nm,0.3s,baz=250,slow=21,SNR=11						
JHJ				S	S	01 23 11.8	-1.9
	36nm,0.3s,baz=95,slow=22,SNR=6.2						
TK02	Tokai 2	5.95	340	P	P	01 22 24.6	+1.9
BSO1	Boso 1	6.33	6	P	P	01 22 27.5	+0.7
BSO1				eS	S	01 23 43.5	+0.1
JIM2	Oshima 3	6.38	355	P	P	01 22 27.6	+0.2
JIE	Ise	6.71	335	P	P	01 22 33.0	+1.9
JIE				eS	S	01 23 52.4	+1.3
JHMK	Hamakita	6.77	343	P	P	01 22 32.6	+0.9
JOD2	Odawara 2	6.96	353	P	P	01 22 34.0	+0.1
JOD2				S	S	01 23 55.3	-0.8
JNY	Yasuok	7.26	345	P	P	01 22 38.2	+0.9
JYN	Shimob	7.26	350	P	P	01 22 37.8	+0.5
JRY	Ryogami san	7.72	352	P	P	01 22 42.3	-0.2
JRY				S	S	01 24 10.0	-1.5
JAG	Ashikaga	8.08	356	P	P	01 22 45.1	-1.5
JAG				eS	S	01 24 16.4	-2.4
JNG	Nsakai	8.22	348	P	P	01 22 48.2	0.0
MAJO	Matsushiro	8.34	349	P	P	01 22 41.7	-7.8
JMM	Marumori	9.51	3	P	P	01 23 03.5	+0.5
JMM				eS	S	01 24 48.3	-0.2
ENH	Enshi	26.78	282	P	P	01 25 54.4	-1.6
	6.3nm,0.8s,mb4.1						
ULN	Ulaanbaatar	32.18	316	eP	P	01 26 43.3	+0.5
	4.6nm,0.7s,mb3.9						
SONM	Songino Array	32.57	316	P	P	01 26 46.5	+0.4
	1.7nm,0.4s,mb3.7,baz=123,slow=8.2,SNR=27						
TLY	Talaya	35.84	321	eP	P	01 27 13.8	+0.1
	4.7nm,0.7s,mb3.9						
PMG	Port Moresby	38.14	169	P	P	01 27 34.9	+1.9
	12nm,0.9s,mb4.2						
WRAB	Tennant Creek	48.32	187	eP	P	01 28 51.9	-1.9
	4.3nm,0.9s,mb3.8						
WRA	Warramunga Arr	48.33	187	P	P	01 28 53.4	-0.4
	1.0nm,0.4s,mb3.5,baz=3.4,slow=7.6,SNR=8.4						
KURK	Kurchatov	50.83	314	eP	P	01 29 10.2	-1.9
	7.9nm,1.0s,mb3.9						
ASAR	Alice Springs	52.06	187	P	P	01 29 20.9	-0.7
	0.6nm,0.4s,mb3.2,baz=5.0,slow=6.8,SNR=12						
BVAR	Borovoye Array	55.91	317	P	P	01 29 48.1	-0.6
	3.0nm,0.5s,mb3.9,baz=92,slow=7.0,SNR=34						
STKA	Stephens Creek	59.91	179	P	P	01 30 15.8	-0.4
	0.8nm,0.5s,mb3.4,baz=330,slow=16,SNR=3.1						
ARCES	ARCESS Array B	71.77	340	P	P	01 31 31.1	+1.2
	1.9nm,0.8s,mb3.7,baz=77,slow=7.8,SNR=6.3						
YKA	Yellowknife Ar	71.89	28	P	P	01 31 32.6	+1.9
	0.1nm,0.6s,baz=293,slow=6.0,SNR=4.3						
KAF	Kangasniemi	75.56	334	ep	P	01 31 48.9	-2.6
FINES	FINESS Array B	76.03	333	P	P	01 31 54.5	+0.4
	1.0nm,0.3s,mb3.9,baz=71,slow=5.3,SNR=22						
HFS	Hagfors	81.56	336	P	P	01 32 23.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	3.4nm,0.9s,mb4.1,baz=90,slow=3.0,SNR=9.7						
NB2	NORSAR Subarra	81.78	338	P	P	01 32 25.0	+0.4
	0.4nm,0.5s,mb3.4,baz=56,slow=4.8						
NOA	NORSAR Array B	81.78	338	P	P	01 32 24.9	+0.2
	0.7nm,0.7s,mb3.5,baz=45,slow=4.8,SNR=3.4						
RAYN	Ar Rayn	83.00	293	P	P	01 32 32.1	+0.4
	64nm,0.6s,SNR=13						

KRSC 10 01:21:26.9±0.2, 50.09N×159.01E, h40km±16km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	Pauzhetka	1.96	315	eP	P	01 21 58.5	+0.1
PAU				eS	S	01 22 21.2	-0.7
PAU				Smax			
	360nm,0.8s						
ALID	Alaid	2.34	291	eP	P	01 22 03.9	+0.1
RUS	Russkaya	2.37	353	i P	P	01 22 03.8	-0.4
RUS				i S	S	01 22 30.8	-1.4
GRL	Gorelyy	2.54	347	eP	P	01 22 07.4	+0.9
GRL				eS	S	01 22 36.8	+0.4
PET	Petropavlovsk	2.95	356	eP	P	01 22 13.1	+0.7
PET				eS	S	01 22 46.7	-0.2
APC	Apacha	3.07	339	i P	P	01 22 14.4	+0.3
APC				i S	S	01 22 49.1	-0.8
SPN	Mys Shipunski	3.08	11	eP	P	01 22 14.2	-0.1
SPN				eS	S	01 22 48.8	-1.4
NLC	Nalytchevo	3.09	4	eP	P	01 22 13.9	-0.6
NLC				eS	S	01 22 48.4	-2.2
UGLR	Uglovaya	3.13	358	eP	P	01 22 14.9	-0.1
AVH	Avacha	3.18	357	eP	P	01 22 15.4	-0.4
AVH				eS	S	01 22 50.6	-2.4
KOK	Koryaka	3.21	356	eP	P	01 22 16.5	+0.3
GNL	Ganaly	3.67	350	eP	P	01 22 23.4	+0.7
KII	Karymskiy	3.96	4	eP	P	01 22 26.7	-0.1
TUMR	Tumrok	5.25	7	eP	P	01 22 46.0	+1.1
ESO	Esso	5.85	358	eP	P	01 22 53.3	0.0
KBTR	Krutoberegovo	6.54	19	eP	P	01 23 02.2	-0.9

IDC 10 01:30:15.4±8.2, 36.05S×179.52E, h57km±76km, mb3.3/2, mb1 3.7/3, mb1mx3.5/13, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=73.8km s-min=52.0km az=157.0
WEL 10 01:30:15.3±0.9, 35.97S×179.38E, h33km, ML4.0/12, Error ellipse: s-maj=11.2km s-min=7.4km az=90.0
NEIC 10 01:30:18.1±3.2, 36.37S×179.43E, h87km±21km, Error ellipse: s-maj=41.9km s-min=16.2km az=61.0
ISC 10 01:30:19.5±2.1, 36.43S±0.08×179.1E±0.2, h87km, n36, σ1^{s}19/42, mb3.5/2, 1D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.31	209	P	P	01 30 43.3	+0.2
MXZ	Matakaoa Point	1.31	209	P*	P	01 30 43.1	0.0
MXZ				S*	S	01 31 06.6	+5.9
MXZ				S*	S	01 31 06.8	+6.1
PUZ	Puketiti	1.78	202	P	P	01 30 50.5	+1.3
PUZ	Puketiti	1.78	202	⇓PN	P	01 30 50.5	+1.3
PUZ				SN	S	01 31 16.8	+5.8
MWZ	Matawai	2.29	213	P	P	01 30 57.8	+1.7
MWZ	Matawai	2.29	213	P*	P	01 30 57.7	+1.5
URZ	Urewera	2.43	220	P	P	01 30 59.6	+1.5
	17nm,0.3s,baz=38,slow=8.8,SNR=53						
URZ				S	S	01 31 33.7	+6.9
	13nm,0.3s,baz=279,slow=20,SNR=7.8						
URZ	Urewera	2.43	220	P	P	01 30 59.5	+1.4
URZ	Urewera	2.43	220	P*	P	01 30 59.4	+1.3
URZ				S*	S	01 31 33.5	+6.7
KUZ	Kuaotunu	2.75	262	P	P	01 31 03.6	+1.0
KUZ	Kuaotunu	2.75	262	PN	P	01 31 02.5	-0.1
KNZ	Kokohu	2.83	203	eP	P	01 31 03.3	-0.4
KNZ	Kokohu	2.83	203	PN	P	01 31 03.2	-0.5
BKZ	Black Stump Fm	3.44	216	eP*	P	01 31 12.0	0.0
MGZ	Maungaku	3.83	227	P	P	01 31 19.1	+1.7
MGZ	Maungaku	3.83	227	eP*	P	01 31 18.9	+1.4
NGZ	Ngauruhoe	3.91	224	P	P	01 31 19.6	+1.0
NGZ	Ngauruhoe	3.91	224	eP*	P	01 31 19.5	+0.9
TUVZ	Tukino	3.94	223	eP*	P	01 31 19.7	+0.7
CNZ	Chateau	3.95	224	P	P	01 31 20.5	+1.3
CNZ	Chateau	3.95	224	eP*	P	01 31 19.7	+0.5
MOVZ	Moawhango	3.99	221	P	P	01 31 19.1	-0.6
MOVZ	Moawhango	3.99	221	eP*	P	01 31 18.9	-0.8
OUZ	Omahuta	4.64	283	eP	P	01 31 28.1	-0.6
OUZ	Omahuta	4.64	283	PN	P	01 31 27.9	-0.8
MRZ	Mangatainoka R	5.06	212	eP	P	01 31 32.2	-2.2
MRZ	Mangatainoka R	5.06	212	ePN	P	01 31 31.8	-2.6
MRZ				SN	S	01 32 30.9	-1.1
KIW	Kapiti Island	5.52	215	P	P	01 31 38.2	-2.4
KIW	Kapiti Island	5.52	215	ePN	P	01 31 38.1	-2.6
THZ	Tophouse	7.19	220	ePN	P	01 32 00.2	-3.6
KHZ	Kahutara	7.38	214	eP	P	01 32 05.1	-1.2
KHZ	Kahutara	7.38	214	ePN	P	01 32 04.9	-1.4
KHZ				SN	S	01 33 24.7	-4.4
MQZ	McQueen's Vall	8.80	212	SN	S	01 33 56.0	-8.0
ASAR	Alice Springs	40.80	275	P	P	01 37 53.8	-0.1
	0.7nm,0.7s,mb3.6,baz=120,slow=7.5,SNR=7.6						
WRA	Warramunga Arr	42.35	280	P	P	01 38 05.8	-0.7
	0.3nm,0.4s,mb3.4,baz=121,slow=7.2,SNR=3.3						
FINES	FINESS Array B	149.76	334	PKPbc	PKPdf	01 49 57.0	+3.6
	0.8nm,0.6s,baz=32,slow=4.4,SNR=11						

NEIC 10 01:36:18.2, 19.52N×68.94W, h119km, MD4.2(RSPR), After RSPR.
RSPR 10 01:36:18.2, 19.52N×68.94W, h119km±17km, MD4.2/12, MD4.2/12, 12C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.20	127	⇑eP	P	01 36 53.7	-1.1
LSP				eS	S	01 37 22.7	+0.3
MGP	Maguayo	2.31	130	⇑eP	P	01 36 54.6	-1.6
MGP				eS	S	01 37 23.8	-1.0
LRS	Lares	2.33	121	⇑eP	P	01 36 55.1	-1.3
LRS				eS	S	01 37 25.3	+0.1
AOPR	Arecibo Observ	2.38	119	⇑eP	P	01 36 56.5	-0.6
AOPR				eS	S	01 37 25.6	-0.8
PORP	Portuguez	2.62	124	⇑eP	P	01 36 59.5	-0.9
PORP				eS	S	01 37 31.6	-0.6
CELP	Cerrillos	2.66	122	⇑eP	P	01 37 00.1	-0.8
CELP				eS	S	01 37 33.1	+0.1
CSB	Colonia Sabana	2.90	115	⇑eP	P	01 37 03.2	-0.9
CSB				eS	S	01 37 38.0	-0.8
SJG	San Juan	2.99	118	⇑eP	P	01 37 05.0	-0.3
SJG	San Juan	2.99	118	⇑eP	P	01 37 04.9	-0.4
SJG				eS	S	01 37 39.6	-1.3
CBYP	Canovanas	3.17	113	⇑eP	P	01 37 06.8	-0.9
CBYP				eS	S	01 37 44.2	-1.0
CPD	Cerro la Pandu	3.22	117	eS	S	01 37 46.3	-0.1
HUMP	Col San Antoni	3.23	115	⇑eP	P	01 37 07.8	-0.7
HUMP				eS	S	01 37 45.4	-1.3
MTP	Monte Pirata	3.50	113	⇑eP	P	01 37 11.2	-0.9
MTP				eS	S	01 37 53.5	+0.4

IDC 10 01:44:20.3±1.2, 36.46N×141.09E, mb3.6/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=43.0km s-min=26.1km az=112.0
NEIC 10 01:44:25.6±0.7, 36.45N×141.13E, h35km, mb4.0/2, Error ellipse: s-maj=19.4km s-min=10.7km az=164.0
NEIC Recorded [2 JMA] in Ibaraki and [1 JMA] in Fukushima and Tochigi Prefectures.
JMA 10 01:44:26.6±0.1, 36.64N×140.91E, h50km±1km, M4.0
JMA Felt II J1.
ISC 10 01:44:25.5±1.0, 36.60N±0.06×141.02E±0.09, h44km±7km, n20, σ0^{s}89/29, mb3.7/6, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	Hitachi	0.36	272	⇑P	P	01 44 35.6	+0.9
JHO				S	S	01 44 41.5	+0.3
ONAJ	Iwakimizuishiy	0.53	341	⇓P	P	01 44 37.2	+0.5
ONAJ				S	S	01 44 44.5	-0.3
JYT	Yasato	0.76	241	P	P	01 44 40.3	+0.4
JYT				S	S	01 44 49.9	-0.5
JFK	Kawauchi	0.77	352	⇓P	P	01 44 40.2	+0.2
JFK				S	S	01 44 49.8	-0.9
JFT	Otama	1.06	329	⇓P	P	01 44 44.8	+0.7
JFT				S	S	01 44 57.6	-0.4
JAG	Ashikaga	1.27	263	⇓P	P	01 44 47.0	-0.1
JAG				S	S	01 45 01.6	-1.7
JMM	Marumori	1.27	352	P	P	01 44 47.3	+0.1
JFY	Yanaizu	1.32	308	⇓P	P	01 44 47.7	-0.2
JKT	Katashina	1.43	277	P	P	01 44 49.5	+0.1
JKT				S	S	01 45 06.1	-1.2
MAJO	Matsushiro	2.26	269	ePn	P	01 45 01.5	+0.3
MAT	Matsushiro	2.26	269	eP	P	01 45 02.0	+0.8
MAT				eS	S	01 45 30.0	+1.9
MAT	Matsushiro	2.26	269	P	P	01 45 01.5	+0.3
MAT				S	S	01 45 29.5	+1.4
SONM	Songino Array	27.77	305	P	P	01 50 12.1	0.0
	0.2nm,0.4s,mb3.1,baz=106,slow=8.2,SNR=3.9						
ILAR	Eielson Array	50.03	32	P	P	01 53 16.9	-0.3
	0.8nm,0.6s,mb3.9,baz=270,slow=5.9,SNR=14						
AAK	Ala-Archa	50.42	299	P	P	01 53 21.6	+1.1
	1.0nm,0.8s,mb3.9						
INK	Inuvik	54.92	27	P	P	01 53 53.1	-0.5
	0.6nm,0.5s,mb3.9,baz=263,slow=5.9,SNR=6.6						
INK	Inuvik	54.92	27	eP	P	01 53 53.0	-0.6
	2.1nm,0.8s,mb4.2						
WRA	Warramunga Arr	56.59	188	P	P	01 54 03.9	-2.4
	0.5nm,0.6s,mb3.7,baz=4.8,slow=7.5,SNR=4.2						
YKA	Yellowknife Ar	64.34	30	P	P	01 54 57.8	-0.6
	0.2nm,0.5s,mb3.4,baz=303,slow=6.9,SNR=4.3						
MOX	Moxa	82.38	330	eP	P	01 56 46.0	+2.1

IDC 10 01:50:06.4±19.0, 20.97S×178.75W, h654km±223km, mb2.9/5, mb1 3.0/5, mb1mx2.9/15, mbtmp4.0/5, Error ellipse: s-maj=199.0km s-min=47.8km az=44.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.75	265	P	P	01 55 49.2	-0.9
	3.8nm,0.6s,baz=92,slow=11,SNR=3.8						
STKA	Stephens Creek	36.96	245	P	P	01 56 22.4	-2.3
	0.4nm,0.4s,baz=86,slow=13,SNR=3.0						
ASAR	Alice Springs	43.73	257	P	P	01 57 17.3	-1.4
	1.5nm,0.5s,baz=96,slow=7.9,SNR=22						
WRA	Warramunga Arr	43.84	263	P	P	01 57 17.8	-1.8
	1.0nm,0.3s,baz=95,slow=7.7,SNR=12						
VNDA	Vanda	57.39	185	P	P	01 58 54.5	-2.1
	0.4nm,0.6s,baz=4.4,slow=5.8,SNR=2.3						

PRU 10 01:59:45.4, 50.08N×19.06E
WAR 10 01:59:45.1, 50.08N×19.13E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.46	71	ePG	Pg	01 59 54.0	-0.2
OJC				eSG	Sg	02 00 01.0	+0.7
OKC	Ostrava-Krasne	0.68	250	ePG	Pg	01 59 58.2	-0.4
OKC				eSG	Sg	02 00 07.0	-0.6
	14nm,0.2s						
NIE	Niedzica	1.01	130	ePG	Pg	02 00 03.0	-2.3
NIE				eSG	Sg	02 00 19.0	+0.2
VYHS	Vyhne	1.59	187	i PG	Pg	02 00 14.1	-2.8
VYHS				eSG	Sg	02 00 35.0	-3.2
DPC	Dobruska-Polom	1.82	280	ePG	Pg	02 00 17.3	-4.2
DPC				eSG	Sg	02 00 40.8	-5.0
	18nm,0.3s						
CRVS	Cervenica-Dubn	1.92	127	i PG	Pg	02 00 21.1	-2.4
CRVS				i SG	Sg	02 00 48.0	-1.1
KSP	Ksiaz	1.97	294	ePN	Pn	02 00 20.0	0.0
KSP				ePG	Pg	02 00 22.0	-2.4
KSP				eSG	Sg	02 00 47.0	-3.6
UPC	Upice	2.04	283	eSG	Sg	02 00 48.4	-4.7
KOLS	Kolonicke sedl	2.35	118	ePG	Pg	02 00 30.1	-1.9
PRU	Pruhonice	2.96	270	eSG	Sg	02 01 16.1	-7.5
KHC	Kasperske Hory	3.73	257	ePG	Pg	02 00 55.0	-4.6
KHC				eSN	Sn	02 01 27.0	-3.4
KHC				eSG	Sg	02 01 42.2	-7.1
MOA	Molln	3.90	237	i	Pn	02 00 52.4	+4.9
MOA	Molln	3.90	237	i SG	Sg	02 01 47.5	-7.5
	1.5nm,0.3s						
CLL	Collm	4.08	290	eSG	Sg	02 01 57.0	-4.1

IDC 10 02:15:32.8±7.0, 12.39S×167.02E, h187km±62km, mb3.8/11, mb1 4.1/12, mb1mx4.0/15, mbtmp4.3/12, Error ellipse: s-maj=26.6km s-min=21.3km az=85.0
NEIC 10 02:15:36.7±3.9, 12.41S×166.89E, h230km±33km, mb4.4/12, Error ellipse: s-maj=19.9km s-min=14.1km az=104.0
ISC 10 02:15:32.5±8.6, 12.4S±0.1×166.9E±0.2, h199km±79km, n68, σ0^{s}96/30, mb4.1/21, 1C, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	19.59	277	P	P	02 19 49.3	+2.0
	0.6nm,0.3s,baz=99,slow=4.0,SNR=4.4						
PMG	Port Moresby	19.59	277	eP	P	02 19 46.4	-0.9
	30nm,1.1s						
CTA	Charters Tower	21.23	246	P	P	02 20 05.6	+2.0
	14nm,0.7s,mb4.6,baz=65,slow=13,SNR=14						
CTAO	Charters Tower	21.23	246	eP	P	02 20 05.1	+1.5
	14nm,0.8s,mb4.5						
STKA	Stephens Creek	30.29	226	P	P	02 21 28.6	+1.3
	3.3nm,0.8s,mb4.0,baz=34,slow=8.3,SNR=8.3						
STKA	Stephens Creek	30.29	226	eP	P	02 21 26.8	-0.5
WRAB	Tennant Creek	32.10	252	eP	P	02 21 41.7	-1.4
	13nm,1.1s,mb4.4						
WRA	Warramunga Arr	32.11	252	P	P	02 21 42.5	-0.7
	1.8nm,0.4s,mb3.9,baz=87,slow=8.9,SNR=18						
ASAR	Alice Springs	33.23	246	P	P	02 21 51.9	-0.9
	2.0nm,0.5s,mb4.0,baz=73,slow=9.2,SNR=22						
ASPA	Alice Springs	33.23	246	eP	P	02 21 51.9	-1.0
KAKA	Kakadu	33.61	266	eP	P	02 21 56.0	-0.1
	3.4nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	40.14	257	eP	P	02 22 51.7	+1.0
	9.1nm,1.5s,mb4.0						
MBWA	Marble Bar	45.85	253	P	P	02 23 36.4	-0.3
NWAO	Narrogin (SRO)	49.67	237	P	P	02 24 01.1	-5.0
MAJO	Matsushiro	55.65	332	P	P	02 24 48.0	-2.1
	5.6nm,0.7s,mb4.2						
VNDA	Vanda	65.20	181	P	P	02 25 53.6	-0.4
	1.5nm,0.7s,mb3.7,baz=346,slow=8.2,SNR=8.9						
ENH	Enshi	69.59	309	eP	P	02 26 22.1	0.0
	6.0nm,0.7s,mb4.3						
CMAR	Chiang Mai Arr	73.66	294	P	P	02 26 48.0	+1.4
	3.2nm,0.8s,mb4.0,baz=124,slow=4.3,SNR=11						
HIA	Hailar	74.06	330	P	P	02 26 49.0	+0.7
QSPA	South Pole Qui	77.65	180	⇑iP	P	02 27 08.2	+0.4
	5.7nm,0.8s,mb4.2						
ULN	Ulaanbaatar	80.02	324	eP	P	02 27 22.0	+0.9
	3.6nm,0.9s,mb4.0						
BILL	Bilibino	80.19	360	eP	P	02 27 21.7	+0.1
	21nm,1.0s,mb4.7						
SONM	Songino Array	80.38	324	P	P	02 27 23.9	+0.9
	0.5nm,0.4s,mb3.5,baz=137,slow=6.1,SNR=9.8						
MCK	McKinley	83.04	18	P	P	02 27 36.1	-0.4
	2.5nm,0.7s,mb4.0						
COLA	College	84.19	18	eP	P	02 27 41.0	-1.2
	14nm,0.8s,mb4.7						
ILAR	Eielson Array	84.41	18	P	P	02 27 43.1	-0.2
	1.7nm,0.5s,mb4.0,baz=248,slow=5.2,SNR=93						
NVAR	Mina Array Bea	86.02	49	P	P	02 27 53.0	+1.1
	1.0nm,0.8s,mb3.6,baz=228,slow=5.8,SNR=5.5						
NVAR	Mina Array Bea	86.02	49	P	P	02 27 53.0	+1.1
TXAR	Lajitas Array	95.48	61	P	P	02 28 36.6	+0.5
	0.4nm,0.7s,mb3.7,baz=219,slow=5.2,SNR=5.7						
YKA	Yellowknife Ar	95.63	27	P	P	02 28 35.1	-0.8
	0.8nm,0.5s,mb4.2,baz=257,slow=4.7,SNR=22						
ARCES	ARCESS Array B	117.88	346	PKP	PKPdf	02 33 55.9	+1.1
	2.0nm,0.3s,baz=74,slow=1.9,SNR=51						
SCHQ	Schefferville	120.54	33	PKP	PKPdf	02 34 00.8	+0.5
	2.9nm,1.1s,baz=248,slow=5.4,SNR=6.4						
FINES	FINESS Array B	123.40	339	PKP	PKPdf	02 34 06.5	+0.8
	1.1nm,0.6s,baz=72,slow=2.6,SNR=8.9						
NB2	NORSAR Subarra	128.26	345	PKPdf	PKPdf	02 34 16.1	+1.1
	2.2nm,1.0s,baz=31,slow=1.9						
NOA	NORSAR Array B	128.26	345	PKP	PKPdf	02 34 16.5	+1.5
	1.6nm,0.9s,baz=30,slow=2.1,SNR=4.2						
AKASG	Malin Array Be	128.57	327	PKP	PKPdf	02 34 18.9	+3.1
	0.3nm,0.3s,baz=38,slow=5.9,SNR=4.2						
GIVF	Givet	139.59	342	ePKP1	PKPdf	02 34 36.7	+0.3
FLN	La Foliniere	142.23	346	ePKP1	PKPdf	02 34 39.3	-1.6
LDF	La Druitiere	142.30	346	ePKP1	PKPdf	02 34 40.1	-1.0
GRR	Gorron	142.66	347	ePKP1	PKPdf	02 34 41.1	-0.6
	5.5nm,0.6s						
SSF	Saint Saulge	142.69	341	ePKP1	PKPdf	02 34 42.3	+0.5
	4.3nm,0.7s						
LPL	La Plagne	142.89	337	ePKP1	PKPdf	02 34 41.5	-0.7
	8.6nm,1.0s						
LPG	La Plagne	142.90	337	ePKP1	PKPdf	02 34 42.3	+0.1
	11nm,0.9s						
SMF	Signal de Mont	142.95	341	ePKP1	PKPdf	02 34 42.3	+0.1
	8.0nm,0.8s						
AVF	Avril sur Loir	142.98	341	ePKP1	PKPdf	02 34 42.1	-0.2
SGMF	Saint Gilles	143.15	348	ePKP1	PKPbc	02 34 42.6	+1.7
	9.5nm,0.6s						
ROSF	Rostrenen	143.21	349	ePKP1	PKPbc	02 34 42.3	+1.2
BGF	Bois d'Agland	143.35	341	ePKP1	PKPbc	02 34 42.5	+1.0
	12nm,0.8s						
MBDF	Montbardon	143.53	336	ePKP1	PKPbc	02 34 43.6	+1.4
	9.0nm,0.9s						
QUIF	Quistinic	143.60	349	ePKP1	PKPbc	02 34 43.4	+1.2
ORIF	Oris-en-Rattie	143.72	337	ePKP1	PKPbc	02 34 44.1	+1.4
	30nm,0.7s						
TCF	Toulx Ste Croi	143.78	342	ePKP1	PKPbc	02 34 44.0	+1.1
	10.0nm,0.8s						
SBF	Sospel	143.97	334	ePKP1	PKPbc	02 34 44.2	+0.7
	50nm,0.7s						
MFF	Saint Martin d	144.16	345	ePKP1	PKPbc	02 34 45.1	+1.2
	34nm,0.9s						
VIVF	Saint-Julien-l	144.22	338	ePKP1	PKPbc	02 34 45.7	+1.5
	42nm,1.1s						
PGF	Pioggiola	144.32	332	ePKP1	PKPbc	02 34 45.6	+1.1
	47nm,0.8s						
FRF	La Foret Royal	144.55	335	ePKP1	PKPbc	02 34 46.2	+1.1
	81nm,1.1s						
SMRF	Simiane la Rot	144.63	336	ePKP1	PKPbc	02 34 47.1	+1.7
	62nm,1.1s						
LMR	La Mourre	144.79	335	ePKP1	PKPbc	02 34 47.1	+1.3
	60nm,1.1s						
RJF	Les Rejaudoux	144.88	342	ePKP1	PKPbc	02 34 47.7	+1.7
	31nm,1.1s						
CAF	Calviac	145.05	341	ePKP1	PKPbc	02 34 48.4	+1.9
	12nm,1.0s						
LASF	Ste Croix	145.19	338	ePKP1	PKPbc	02 34 48.8	+1.9
LFF	La Frestale	145.44	343	ePKP1	PKPbc	02 34 49.3	+1.8
	17nm,0.6s						
MTLF	Montolieu	146.41	340	ePKP1	PKPbc	02 34 52.3	+2.5
	14nm,0.6s						
EPF	Esparros	147.30	342	ePKP1	PKPdf	02 34 54.5	+4.7
	7.9nm,0.8s						
SJPF	Ste Jean	147.68	344	ePKP1	PKPdf	02 34 55.6	+5.2
	32nm,1.3s						
ETSF	Etsaut	147.69	343	ePKP1	PKPdf	02 34 56.2	+5.8
	5.1nm,0.6s						
ESDC	Sonseca Array	151.62	345	PKPbc	PKPdf	02 35 05.3	+8.6
	3.1nm,0.7s,baz=15,slow=3.5,SNR=13						
ESDC				PKPab	PKPab	02 35 15.3	+0.4
	1.9nm,0.5s,baz=13,slow=4.1,SNR=13						

BER 10 02:21:27.6±4.6, 71.58N×14.51E, h21km±30km, MD3.1, ML2.0, ML2.2(NAO)
HEL 10 02:21:28.8±0.5, 71.31N×14.83E, h10km, ML2.7, ML2.2(UPP), ML2.0(BER)
CSEM 10 02:21:28.5±0.5, 71.10N×14.62E, h2km, ML2.7, Error ellipse: s-maj=10.4km s-min=6.0km az=165.0, Suspected Mining explosion.
NAO 10 02:21:29.4±5.6, 71.69N×15.58E, h19km±47km, ML2.2
UPP 10 02:21:31.2, 71.15N×15.19E, ML2.2, Suspected Mining explosion.
ISC 10 02:21:25.7±1.2, 71.26N±0.08×14.9E±0.2, n45, σ1^{s}38/71, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRO	Tromso	2.12	139	eP	Pn	02 22 03.3	+0.5
TRO				eS	Sn	02 22 30.6	+0.3
TRO	Tromso	2.12	139	eP	Pn	02 22 03.2	+0.3
TRO				eS	Sn	02 22 31.0	+0.8
TRO				AML	AML	02 22 32.4	
	comp=Z,22nm,0.1s						
TRO	Tromso	2.12	139	P	Pn	02 22 03.3	+0.5
TRO				S	Sn	02 22 30.5	+0.3
KIF	Kilpisjarvi	3.03	136	eP	Pn	02 22 17.6	+1.8
KIF				eS	Sn	02 22 54.7	+1.4
LOF	Lofoten	3.18	189	eP	Pn	02 22 17.9	-0.1
LOF				eS	Sn	02 22 55.9	-1.4
LOF	Lofoten	3.18	189	eP	Pn	02 22 17.9	-0.1
LOF				eS	Sn	02 22 56.7	-0.6
LOF	Lofoten	3.18	189	P	Pn	02 22 17.8	-0.2
LOF				S	Sn	02 22 55.8	-1.4
KTK1	Kautokeino	3.62	125	eP	Pn	02 22 27.4	+3.1
KTK1				eS	Sn	02 23 11.7	+3.3
KTK1	Kautokeino	3.62	125	eP	Pn	02 22 27.5	+3.2
KTK1				eS	Sn	02 23 09.6	+1.1
KTK1				AML	AML	02 23 13.4	
	comp=Z,8.1nm,0.2s						
NIKU	Nikkaluokta	3.70	155	eP	Pn	02 22 27.1	+1.7
NIKU				eS	Sn	02 23 10.5	+0.1
NIKU	Nikkaluokta	3.70	155	P	Pn	02 22 27.0	+1.6
NIKU				S	Sn	02 23 10.5	+0.1
KUA	Kurravaara	3.82	148	eP	Pn	02 22 28.9	+1.8
ARA0	ARCESS Array S	3.96	111	Pn	Pn	02 22 29.6	+0.5
	baz=307,slow=12						
ARA0				Sn	Sn	02 23 15.7	-1.3
	baz=299,slow=22						
ARA0	ARCESS Array S	3.96	111	eP	Pn	02 22 29.6	+0.5
ARA0				eS	Sn	02 23 15.4	-1.5
LANU	Lannavaara	4.06	139	eP	Pn	02 22 32.0	+1.5
KEV	Kevo	4.32	105	eP	Pn	02 22 34.1	0.0
KEV				eS	Sn	02 23 22.9	-3.1
KEV				MSN		02 23 26.5	
	comp=Z,5.8nm,0.2s						
MASU	Masugnsbyn	4.56	143	eP	Pn	02 22 39.2	+1.5
MASU	Masugnsbyn	4.56	143	P	Pn	02 22 39.1	+1.4
DUNU	Dundret	4.62	151	eP	Pn	02 22 39.8	+1.4
STOK	Stokkvaagen	5.00	189	eP	Pn	02 22 42.0	-1.9
STOK				eS	Sn	02 23 37.2	-6.1
STOK	Stokkvaagen	5.00	189	P	Pn	02 22 41.9	-1.9
MOR8	Moi Rana	5.12	182	eP	Pn	02 22 46.0	+0.5
MOR8				eS	Sn	02 23 40.2	-6.0
MOR8				AML	AML	02 23 45.5	
	comp=Z,4.0nm,0.1s						
PAJU	Pajala	5.16	142	eP	Pn	02 22 47.2	+1.1
ERTU	Ertsjaerv	5.40	148	eP	Pn	02 22 50.6	+1.1
SGF	Sodankyl	5.61	127	eP	Pn	02 22 53.6	+1.2
SGF				eS	Sn	02 23 55.9	-2.7
SGF				MSN		02 23 59.2	
	comp=Z,2.3nm,0.2s						
HOPEN	Hopen	5.96	23	eP	Pn	02 22 49.8	-7.7
HOPEN				eS	Sn	02 23 49.8	-18
LILU	Lilltraesk	6.27	161	eP	Pn	02 23 01.2	-0.6
SJUU	Sjulsmark	6.28	154	eP	Pn	02 23 01.9	0.0
NSS	Namsos	6.85	191	eP	Pn	02 23 08.8	-1.2
NSS				eS	Sn	02 24 24.7	-5.0
SPA0	Spitsbergen Ar	6.97	2	Pn	Pn	02 23 02.7	-8.9
	baz=182,slow=14						
SPA0				Sn	Sn	02 24 12.7	-20
	baz=162,slow=18						
SPA0	Spitsbergen Ar	6.97	2	e	Pn	02 23 02.7	-8.9
SPA0				e		02 24 12.7	
SVAU	Svanoeiden	7.02	163	eP	Pn	02 23 12.0	-0.3
KU4	Liikasenvaara	7.22	126	eP	Pn	02 23 15.9	+0.8
APA0	Apatity Array	7.32	111	Pn	Pn	02 23 14.4	-2.2
	baz=322,slow=14						
APA0				Sn	Sn	02 24 33.9	-7.6
	baz=314,slow=28						
APA0	Apatity Array	7.32	111	eP	Pn	02 23 14.4	-2.2
APA0				eS	Sn	02 24 33.9	-7.6
OUL	Oulu	7.41	141	eS	Sn	02 24 38.6	-5.0
MSF	Maaselka	7.43	129	eP	Pn	02 23 17.9	-0.2
MSF				eS	Sn	02 24 38.8	-5.3
MSF				MSN		02 24 42.1	
	comp=Z,1.4nm,0.2s						
KJN	Kajaani	8.67	140	eP	P	02 23 34.6	-0.7
KJN				eS	Sn	02 25 07.8	-7.2
KJN				MSN		02 25 10.9	
	comp=Z,2.2nm,0.2s						
VAF	Ylistaro	8.78	156	eP	P	02 23 35.0	-1.9
VAF				eS	Sn	02 25 09.5	-8.2
VAF				MSN		02 25 13.8	
	comp=Z,1.3nm,0.2s						
MOL	Molde	9.19	202	eS	Sn	02 25 15.0	-13
KEF	Keuruu	9.92	152	eP	P	02 23 50.4	-2.1
KEF				eS	Sn	02 25 36.2	-10
KEF				MSN		02 25 41.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,0.6nm,0.3s						
KAF	Kangasniemi	10.21	148	eS	S	02 25 44.0	-8.8
KAF				MSN		02 25 45.8	
	comp=Z,0.6nm,0.3s						
JOF	Joensuu	10.48	135	eS	S	02 25 50.4	-9.1
FIA0	FINESS Array S	10.80	150	eS	S	02 25 59.6	-7.7
FIA0	FINESS Array S	10.80	150	Sn	S	02 25 59.6	-7.7
	baz=352,slow=22						

WEL 10 02:50:10.9±0.2, 38.61S×174.17E, h18km±1km, ML3.9/13, 2C-2D, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	Hauiti	0.54	80	⇓P*	Pb	02 50 21.4	-0.2
HIZ				S*	Sb	02 50 29.7	+0.9
PKE	Pukeiti	0.60	194	P*	Pb	02 50 22.2	-0.3
PKE				S*	Sb	02 50 30.4	0.0
NEZ	North Egmont	0.66	185	P*	Pb	02 50 23.5	0.0
VRZ	Vera Road	0.69	138	P*	Pb	02 50 23.3	-0.8
VRZ				S*	Sb	02 50 33.4	+0.4
RAEZ	Rainy Point	0.70	166	⇑P*	Pb	02 50 24.3	+0.2
NWEZ	Newall Road	0.70	200	⇑P*	Pb	02 50 24.3	0.0
DFE	Dawson Falls	0.71	184	P*	Pb	02 50 24.7	+0.2
NRZ	Ngariki Road	0.75	194	⇓P*	Pb	02 50 25.0	-0.1
TWVZ	Taurewa	1.09	115	P*	Pb	02 50 30.0	-0.9
TWVZ				S*	Sb	02 50 44.8	+0.2
MGZ	Maungaku	1.14	110	PN	Pn	02 50 31.0	-1.0
WTVZ	West Tongariro	1.22	115	PN	Pn	02 50 32.0	-1.1
WTVZ				SN	Sn	02 50 48.3	-0.8
CNZ	Chateau	1.22	119	PN	Pn	02 50 32.4	-0.8
WPVZ	Whakapapa	1.22	119	PN	Pn	02 50 32.5	-0.7
WATZ	Wairara	1.23	95	PN	Pn	02 50 32.8	-0.5
WATZ				SN	Sn	02 50 49.5	0.0
KATZ	Kakaramea	1.24	107	PN	Pn	02 50 32.7	-0.8
KATZ				SN	Sn	02 50 49.5	-0.4
NGZ	Ngauruhoe	1.25	117	PN	Pn	02 50 32.9	-0.7
NGZ				SN	Sn	02 50 49.2	-0.8
FWVZ	Far West T-bar	1.25	121	PN	Pn	02 50 32.9	-0.8
FWVZ				SN	Sn	02 50 50.6	+0.5
DRZ	Dome Shelter	1.27	122	SN	Sn	02 50 51.2	+0.6
RATZ	Rangitukua	1.27	102	PN	Pn	02 50 33.4	-0.6
RATZ				SN	Sn	02 50 50.4	-0.4
OTVZ	Oturere	1.29	116	PN	Pn	02 50 33.4	-0.8
OTVZ				SN	Sn	02 50 49.9	-1.2
WAZ	Wanganui	1.30	151	PN	Pn	02 50 33.6	-0.8
TUVZ	Tukino	1.33	120	PN	Pn	02 50 34.1	-0.6
TUVZ				SN	Sn	02 50 52.1	+0.1
TOZ	Tahuroa Road	1.37	50	PN	Pn	02 50 34.5	-0.9
MOVZ	Moawhango	1.46	123	PN	Pn	02 50 35.6	-1.1
BKZ	Black Stump Fm	1.89	108	ePN	Pn	02 50 42.3	-0.5
KUZ	Kuaotunu	2.23	34	ePN	Pn	02 50 45.3	-2.4
KIW	Kapiti Island	2.32	166	ePN	Pn	02 50 48.3	-0.6
QRZ	Quartz Range	2.55	209	ePN	Pn	02 50 49.7	-2.5
WCZ	Waipu Caves	2.67	3	ePN	Pn	02 50 51.7	-2.2
NNZ	Nelson	2.67	193	ePN	Pn	02 50 52.0	-2.0
MTW	Mount Morrison	2.74	159	ePN	Pn	02 50 55.4	+0.5
THZ	Tophouse	3.29	197	ePN	Pn	02 51 01.0	-1.8
OUZ	Omahuta	3.42	352	ePN	Pn	02 51 02.2	-2.4

IDC 10 03:10:52.6±6.7, 84.36N×99.45E, mb3.5/3, mb1 3.8/4, mb1mx3.4/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=226.1km s-min=26.2km az=150.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	19.76	269	P	P	03 15 22.2	-4.1
	0.1nm,0.3s,baz=32,slow=11,SNR=4.0						
FINES	FINESS Array B	27.59	264	P	P	03 16 41.4	-1.2
	1.1nm,0.8s,baz=22,slow=10,SNR=4.8						
YKA	Yellowknife Ar	32.51	29	P	P	03 17 23.7	-2.7
	0.4nm,0.8s,baz=354,slow=8.3,SNR=10						
TXAR	Lajitas Array	66.07	22	P	P	03 21 41.5	-1.4
	0.2nm,0.5s,baz=6.7,slow=4.4,SNR=4.4						

IGQ 10 03:21:20.3, 0.23S×81.17W, h12km±10km, mb4.5, 12C-3D, Error ellipse: s-maj=10.7km s-min=6.6km az=15.2, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGD	Magdalena	1.40	83	⇑P	Pn	03 21 47.9	+2.1
PINO	Pino	2.56	88	⇑P	Pn	03 22 03.1	+0.7
JUA2	San Juan 2	2.56	90	⇑P	Pn	03 22 03.4	+1.0
TERV	Terraza Guagua	2.56	89	⇑P	Pn	03 22 03.2	+0.8
YANA	Yana	2.60	87	⇑P	Pn	03 22 03.6	+0.7
NAS1	Nasa	2.72	98	⇓P	Pn	03 22 06.7	+2.0
LORE	San Lorenzo	2.77	57	P	Pn	03 22 08.6	+3.1
VC1	Cotopaxi 1	2.79	98	⇑P	Pn	03 22 07.9	+2.2
VC1				S	Sn	03 22 40.6	+1.0
IGUA	Igualata	2.82	116	⇓P	Pn	03 22 07.7	+1.6
IGUA				S	Sn	03 22 40.7	+0.4
TAMB	Tambo	2.84	99	⇑P	Pn	03 22 08.4	+2.1
COTA	Cotacachi	2.89	79	⇓P	Pn	03 22 08.5	+1.5
PISA	Pisayambo	2.90	106	P	Pn	03 22 09.2	+1.9
RETU	Refugio	2.98	114	P	Pn	03 22 11.2	+2.9
ARRY	Arrayan	2.99	115	⇑P	Pn	03 22 10.2	+1.7
ARRY				S	Sn	03 22 44.6	0.0
ULBA	Ulba	3.01	114	P	Pn	03 22 11.2	+2.4
ULBA				S	Sn	03 22 47.6	+2.4
ANTI	Antisana	3.01	94	⇑P	Pn	03 22 11.1	+2.2
ANTI				S	Sn	03 22 45.9	+0.7
CAYR	Refugio Cayamb	3.17	86	⇑P	Pn	03 22 13.9	+2.9
CAYR				S	Sn	03 22 50.5	+1.3
ELAGU	Cayambe Volc	3.18	86	P	Pn	03 22 13.8	+2.5
CAYA	Cayambe	3.19	85	⇑P	Pn	03 22 14.0	+2.6
CAYA				S	Sn	03 22 50.4	+0.7
ECEN	Cerro Negro	3.36	72	⇑P	Pn	03 22 15.7	+1.9

*MOS **10** 03:23:01.2±1.0, 85.32N×93.38E, h10km, mb5.0/51, MS4.1/14, Error ellipse: s-maj=54.2km s-min=6.8km az=88.9*

*IDC **10** 03:23:01.4±0.6, 85.24N×93.46E, mb4.0/19, mb1 4.3/20, mb1mx4.2/25, mbtmp4.0/20, ML3.7/1, MS4.0/16, Ms1 4.0/16, ms1mx3.9/27, Error ellipse: s-maj=19.4km s-min=11.1km az=136.0*

*NEIC **10** 03:23:02.9±0.2, 85.30N×93.71E, h10km, mb4.8/61, MS4.0/3, Error ellipse: s-maj=5.1km s-min=3.3km az=144.0*

*BJI **10** 03:23:02.0, 85.30N×93.70E, h10km, mB5.1, mb4.8, Ms4.7, Msz4.6*

ISC 10 03:23:01.5±1.3, 85.31N±0.03×93.8E±0.4, h13km±7km, h19km±2.6km:pP-P, n211, σ1§11/222, mb4.6/90, MS4.1/36, 4C-6D, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	Tiksi	14.85	135	eP	P	03 26 34.0	+1.6
TIXI				eS	S	03 29 13.7	-3.9
TIXI				pmax	pmax		
	comp=Z,27nm,1.5s						
DAG	Danmarks Havn	15.72	308	⇓eP	P	03 26 42.2	-1.6
DAG				pmax	pmax		
	comp=Z,46nm,1.7s						
DAG	Danmarks Havn	15.72	308	⇓eP	P	03 26 42.2	-1.6
	comp=Z,46nm,1.7s						
DAG	Danmarks Havn	15.72	308	⇓iP	P	03 26 42.2	-1.6
	comp=Z,46nm,1.7s						
KEV	Kevo	18.99	259	ep	P	03 27 24.3	-0.4
ARCES	ARCESS Array B	19.33	261	P	P	03 27 26.5	-2.2
	comp=Z,0.3nm,0.3s,baz=17,slow=8.2,SNR=11						
ARCES				LR	LR	03 35 18.5	
	comp=Z,824nm,18.2s,baz=11,slow=38						
ARE0	ARCESS Array S	19.33	261	eP	P	03 27 28.4	-0.3
RES	Resolute Bay	20.09	7	eP	P	03 27 36.2	-0.9
RES				pmax	pmax		
	comp=Z,19nm,1.5s						
RES	Resolute Bay	20.09	7	eP	P	03 27 36.2	-0.9
	comp=Z,19nm,1.5s						
APA	Apatity	20.63	251	⇑iP	P	03 27 40.0	-2.8
APA				e		03 28 04.0	
APA				iS	S	03 31 35.0	+7.0
APA				pmax	pmax		
	comp=Z,900nm,7.0s						
APA				pmax	pmax		
	comp=Z,200nm,2.0s						
APA				MLR	MLR		
	comp=Z,800nm,14.0s,MS4.2						
JMIC	Jan Mayen	20.64	295	LR	LR	03 34 18.4	
	comp=Z,134nm,19.8s,MS3.3,baz=269,slow=33						
SUMG	Summit	20.99	322	eP	P	03 27 47.2	+0.8
	comp=Z,75nm,1.5s						
BILL	Bilibino	21.13	96c	iP	P	03 27 49.5	+1.6
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb3.7						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.2						
BILL	Bilibino	21.13	96	eP	P	03 27 49.1	+1.2
	comp=Z,37nm,1.2s,mb4.6						
SCO	Scoresbysund	22.09	306	eP	P	03 27 59.6	+2.1
SCO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
SCO	Scoresbysund	22.09	306	eP	P	03 27 59.6	+2.1
	comp=Z,4.2nm,1.0s,mb3.8						
SCO	Scoresbysund	22.09	306	i P	P	03 27 59.6	+2.1
	comp=Z,4.2nm,1.0s,mb3.8						
SEY	Seymchan	25.06	113	eP	P	03 28 28.3	+2.0
SEY				pmax	pmax		
	comp=N,40nm,1.4s						
SEY				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.1						
SEY				pmax	pmax		
	comp=E,20nm,1.2s						
INK	Inuvik	25.25	40	eP	P	03 28 28.2	+0.1
INK				pmax	pmax		
	comp=Z,52nm,1.3s						
INK	Inuvik	25.25	40	P	P	03 28 28.6	+0.5
	comp=Z,2.6nm,0.8s,mb3.8,baz=350,slow=13,SNR=4.9						
INK				LR	LR	03 37 58.8	
	comp=Z,174nm,20.0s,MS3.6,baz=16,slow=35						
INK	Inuvik	25.25	40	eP	P	03 28 28.2	+0.1
	comp=Z,52nm,1.3s,mb4.9						
JOF	Joensuu	25.38	251	ep	P	03 28 28.2	-1.1
	comp=Z,43nm,1.4s,mb4.8						
JOF	Joensuu	25.38	251	eP	P	03 28 28.2	-1.1
JOF				pmax	pmax		
	comp=Z,43nm,1.4s,mb4.8						
IMA	Indian Mountai	26.22	59	eP	P	03 28 41.0	+3.8
IMA				pmax	pmax		
	comp=Z,87nm,1.4s,mb5.1						
IMA	Indian Mountai	26.22	59	eP	P	03 28 41.0	+3.8
	comp=Z,87nm,1.4s,mb5.1						
KAF	Kangasniemi	26.57	256	ep	P	03 28 38.6	-1.8
	comp=Z,8.4nm,1.1s,mb4.2						
KAF	Kangasniemi	26.57	256	eP	P	03 28 38.6	-1.8
KAF				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2						
SOKR	Solikamsk	26.97	223	⇑iP	P	03 28 42.3	-1.7
SOKR				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
SOKR				MLR	MLR		
	comp=Z,570nm,18.0s,MS4.2						
FINES	FINESS Array B	27.25	256	P	P	03 28 45.7	-1.0
	comp=Z,3.1nm,0.6s,mb4.0,baz=24,slow=9.2,SNR=19						
FINES				LR	LR	03 40 07.8	
	comp=Z,332nm,18.5s,MS3.9,baz=192,slow=38						
FINES	FINESS Array B	27.25	256	P	P	03 28 45.7	-1.0
FINES				LR	LR	03 40 07.8	
COLA	College	27.81	54	eP	P	03 28 53.0	+1.4
COLA				e		03 29 01.1	
COLA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.3						
COLA	College	27.81	54	eP	P	03 28 53.0	+1.3
	comp=Z,9.3nm,1.0s,mb4.4						
COLA				e		03 29 01.1	
BOD	Bodaibo	27.97	157	eP	P	03 28 49.1	-4.1
BOD				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.1						
ILAR	Eielson Array	27.97	53	P	P	03 28 54.2	+1.1
	comp=Z,1.7nm,1.0s,mb3.6,baz=346,slow=8.4,SNR=9.0						
ILAR				LR	LR	03 39 19.3	
	comp=Z,276nm,18.9s,MS3.9,baz=9.1,slow=35						
NB2	NORSAR Subarra	28.86	271	P	P	03 28 59.7	-1.5
	comp=Z,35nm,1.7s,mb4.8,baz=10.0,slow=8.6						
NB2	NORSAR Subarra	28.86	271	P	P	03 28 59.7	-1.5
NB2				pmax	pmax		
	comp=Z,35nm,1.7s,mb4.8						
NB2	NORSAR Subarra	28.86	271	P	P	03 28 59.7	-1.5
	baz=9.7,slow=9.3						
NOA	NORSAR Array B	28.86	271	P	P	03 28 59.9	-1.3
	comp=Z,1.1nm,0.9s,mb3.6,baz=343,slow=4.0,SNR=3.1						
NOA				LR	LR	03 40 00.5	
	comp=Z,158nm,19.8s,MS3.6,baz=5.0,slow=35						
SVE	Sverdlovsk	29.50	218	eP	P	03 29 06.0	-1.0
SVE				ePPP	PPP	03 30 15.0	-1.3
SVE				eS	S	03 34 04.0	+4.2
SVE				MLR	MLR		
	comp=N,600nm,18.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,500nm,19.8s,MS4.4						
FRB	Frobisher Bay	30.93	345	LR	LR	03 42 28.3	
	comp=E,160nm,19.1s,MS3.7,baz=321,slow=38						
YKW3	Yellowknife Ar	31.82	25	eP	P	03 29 26.7	-0.7
YKA	Yellowknife Ar	31.89	25	P	P	03 29 27.3	-0.7
	comp=E,2.2nm,0.9s,mb4.0,baz=354,slow=8.3,SNR=28						
YKA				PcP	PcP	03 32 17.3	-1.4
	comp=E,1.6nm,1.1s,baz=349,slow=2.8,SNR=5.7						
YKA				LR	LR	03 42 22.7	
	comp=E,720nm,18.2s,MS4.4,baz=335,slow=36						
CHKZ	Chkalovo	32.22	206	eP	P	03 29 29.8	-1.2
CHKZ				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8						
CHKZ	Chkalovo	32.22	206	eP	P	03 29 29.8	-1.2
	comp=Z,20nm,1.3s,mb4.8						
OBN	Obninsk	32.73	243	⇓iP	P	03 29 37.4	+2.0
OBN				eS	S	03 34 53.3	+2.9
OBN				pmax	pmax		
	comp=Z,38nm,1.7s,mb5.0						
OBN				MLR	MLR		
	comp=Z,300nm,19.0s,MS4.0						
BVAR	Borovoye Array	32.88	206	P	P	03 29 36.2	-0.6
	comp=Z,6.8nm,1.1s,mb4.5,baz=11,slow=7.6,SNR=18						
MOY	Mondy	33.84	172	eP	P	03 29 55.1	+10
TLY	Talaya	33.87	169	eP	P	03 29 59.0	+14
TLY				eS	S	03 35 11.7	+3.5
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TLY				MLR	MLR		
	comp=Z,239nm,17.0s,MS4.0						
MNK	Minsk	34.00	252	eP	P	03 29 44.0	-2.5
KURK	Kurchatov	34.94	197	eP	P	03 29 51.8	-2.8
KURK				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
KURK	Kurchatov	34.94	197	eP	P	03 29 51.8	-2.8
	comp=Z,12nm,1.4s,mb4.6						
ZAK	Zakamensk	35.16	169	eP	P	03 29 57.9	+1.4
DLBC	Dease Lake	35.27	39	P	P	03 29 57.7	+0.3
DLBC				e		03 30 05.6	
DLBC				e		03 30 09.6	
EKA	Eskdalemuir Ar	35.69	284	P	P	03 30 01.2	+0.3
	comp=Z,1.4nm,0.9s,mb3.9,slow=5.0,SNR=4.4						
VOR	Voronezh	35.90	240	P	P	03 29 56.0	-6.7
VOR				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.2						
FCC	Fort Churchill	36.09	7	eP	P	03 30 01.9	-2.3
FCC				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
FCC	Fort Churchill	36.09	7	eP	P	03 30 01.9	-2.3
	comp=Z,12nm,1.1s,mb4.7						
VRSR	Storozhevoye	36.41	240	eP	P	03 30 05.5	-1.6
VRSR				pmax	pmax		
	comp=N,20nm,1.0s						
VRSR				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
VRSR				pmax	pmax		
	comp=E,10.0nm,3.1s						
AKASG	Malin Array Be	37.67	250	P	P	03 30 16.3	-1.3
	comp=E,2.6nm,0.7s,mb4.1,baz=6.2,slow=8.6,SNR=10						
ULN	Ulaanbaatar	37.75	165	eP	P	03 30 18.5	+0.2
ULN				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.3						
ULN	Ulaanbaatar	37.75	165	eP	P	03 30 18.4	+0.2
	comp=Z,7.9nm,1.4s,mb4.2						
SONM	Songino Array	37.76	166	P	P	03 30 18.5	0.0
	comp=Z,4.3nm,1.1s,mb4.1,baz=346,slow=7.1,SNR=13						
CLL	Collm	38.37	267	eP	P	03 30 23.0	-0.5
CLL				i		03 30 29.7	
CLL	Collm	38.37	267	P	P	03 30 23.0	-0.5
CLL				i *SP	sP	03 30 29.7	+0.9
CLL				ePP	PP	03 31 57.0	+2.3
KSP	Ksiaz	38.56	263	eP	P	03 30 24.2	-0.9
KSP				e*PP	pP	03 30 31.0	+2.1
KSP				eS	S	03 36 22.0	+1.7
KSP				MLR	MLR		
	comp=Z,500nm,22.4s,MS4.3						
BRG	Berggiesshubel	38.72	266	eP	P	03 30 26.9	+0.5
BRG				e		03 30 34.1	
BRG				e		03 30 34.2	
BRG				pmax	pmax		
	comp=Z,15nm,1.9s,mb4.4						
BRG				MLR	MLR		
	comp=N,260nm,25.6s,MS4.1						
BRG				MLR	MLR		
	comp=E,240nm,25.6s,MS4.1						
BRG				MLR	MLR		
	comp=Z,270nm,25.6s,MS4.0						
BRG	Berggiesshubel	38.72	266	eP	P	03 30 26.9	+0.5
	comp=Z,14nm,1.9s,mb4.4						
BRG				e		03 30 34.1	
BRG				e		03 30 34.2	
BRG				LR	LR		
	comp=Z,270nm,25.6s,MS4.0						
OJC	Ojcow	38.89	260	eP	P	03 30 27.9	0.0
DPC	Dobruska-Polom	39.05	263	eP	P	03 30 28.4	-0.8
MOX	Moxa	39.14	268	eP	P	03 30 30.3	+0.4
MOX				pmax	pmax		
	comp=Z,44nm,1.9s,mb4.9						
MOX	Moxa	39.14	268	eP	P	03 30 30.3	+0.4
	comp=Z,44nm,1.9s,mb4.9						
MOX	Moxa	39.14	268	i P	P	03 30 30.3	+0.4
	comp=Z,logA/T=1.4,mb4.9						
KWP	Kalwaria	39.24	257	eP	P	03 30 31.0	+0.2
KWP				MLR	MLR	03 46 49.8	
	comp=Z,500nm,20.7s,MS4.3						
OKC	Ostrava-Krasne	39.41	261	eP	P	03 30 32.2	0.0
OKC				ex	x	03 30 38.8	
NKC	Novy Kostel	39.48	267	eP	P	03 30 33.2	+0.4
NKC				ex	x	03 30 39.9	
MORC	Moravsky Berou	39.52	262	eP	P	03 30 32.9	-0.2
MORC				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.7						
MORC	Moravsky Berou	39.52	262	eP	P	03 30 32.9	-0.2
	comp=Z,22nm,1.4s,mb4.7						
PRU	Pruhonice	39.55	265	eP	P	03 30 35.9	+2.5
SCHQ	Schefferville	39.83	343	LR	LR	03 44 44.0	
	comp=Z,125nm,18.2s,MS3.8,baz=22,slow=33						
KOLS	Kolonicke sedl	39.97	257	eP	P	03 30 42.9	+6.0
KOLS	Kolonicke sedl	39.97	257	esP	sP	03 30 42.9	+0.7
VRAC	Vranov	40.06	263	P	P	03 30 37.5	-0.1
	comp=Z,2.6nm,0.7s,mb4.1,baz=18,slow=11,SNR=3.5						
CRVS	Cervenica-Dubn	40.07	258	eP	P	03 30 46.2	+8.6
CRVS	Cervenica-Dubn	40.07	258	e	P	03 30 46.2	+8.6
GRA1	Grafenberg Arr	40.12	268	eP	P	03 30 38.2	+0.2
	comp=Z,30nm,1.6s,mb4.8						
GRA1				epP	pP	03 30 45.4	+3.6
GRF	Grafenberg Arr	40.12	268	eP	P	03 30 38.2	+0.2
GRF				e*PP	pP	03 30 45.4	+3.6
GRF				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.8						
GRF	Grafenberg Arr	40.12	268	eP	P	03 30 38.2	+0.2
GRF				e*PP	pP	03 30 45.4	+3.6
GRF				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.8						
GRF	Grafenberg Arr	40.12	268	eP	P	03 30 38.2	+0.2
	comp=Z,30nm,1.6s,mb4.8						
GRF				epP	pP	03 30 45.4	+3.6
BAIF	Baives	40.33	275	eP	P	03 30 40.3	+0.5
	comp=Z,83nm,1.6s,mb4.9						
BAIF	Baives	40.33	275	eP	P	03 30 40.3	+0.5
BAIF				pmax	pmax		
	comp=Z,41nm,1.6s,mb4.9						
KHC	Kasperske Hory	40.48	266	eP	P	03 30 40.5	-0.5
KHC				ex	x	03 30 48.1	
VYHS	Vyhne	40.68	260	eP	P	03 30 43.1	+0.4
VYHS				e		03 30 49.6	
GERES	GERESS Array B	40.75	265	P	P	03 30 43.9	+0.7
	comp=Z,1.2nm,0.9s,mb3.5,baz=9.5,slow=8.1,SNR=7.2						
ZST	Bratislava	41.12	262	eP	P	03 30 47.6	+1.3
PSZ	Piszkesteto	41.17	259	eP	P	03 30 46.7	0.0
PSZ				e		03 30 53.7	
PSZ				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.6						
PSZ	Piszkesteto	41.17	259	eP	P	03 30 46.7	0.0
	comp=Z,21nm,1.3s,mb4.6						
PSZ				e		03 30 53.7	
EDM	Edmonton	41.21	25	eP	P	03 30 47.7	+0.7
EDM				e		03 30 54.4	
WMQ	Urumqi	41.68	187	⇓iP	P	03 30 52.4	+1.6
WMQ				XP	sP	03 30 59.0	+2.8
WMQ				PCP	PcP	03 32 50.0	+1.8
WMQ				PCS		03 36 39.0	
WMQ				S	S	03 37 09.0	+2.1
WMQ				XS		03 37 17.0	
WMQ				AMB	AMB		
	comp=Z,13nm,1.4s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,186nm,4.0s						
WMQ				LR	LR		
	comp=N,1μm,22.5s,MS4.7						
WMQ				LR	LR		
	comp=E,619nm,24.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,1μm,20.8s,MS4.8						
CDF	Champ du Feu	41.71	272	eP	P	03 30 51.6	+0.6
	comp=Z,44nm,1.5s,mb4.6						
CDF	Champ du Feu	41.71	272	eP	P	03 30 51.6	+0.6
CDF				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.6						
MDJ	Mudanjiang	41.82	141	P	P	03 30 49.3	-2.6
MDJ				S	S	03 37 07.2	-1.8
MDJ				SS	SS	03 40 09.7	-0.1
MDJ				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,83nm,3.1s						
MDJ				LR	LR		
	comp=N,35nm,25.4s,MS3.6						
MDJ				LR	LR		
	comp=E,84nm,23.5s,MS3.6						
MDJ				LR	LR		
	comp=Z,57nm,15.6s						
FLN	La Foliniere	42.00	280	eP	P	03 30 53.8	+0.5
FLN				eR			
	comp=Z,136nm,17.0s						
LDF	La Druitiere	42.14	279	eP	P	03 30 55.2	+0.8
HAU	Haudompre	42.19	273	eP	P	03 30 55.6	+0.7
	comp=Z,47nm,1.4s,mb4.6						
HAU				eR			
	comp=Z,169nm,20.0s						
HAU	Haudompre	42.19	273	eP	P	03 30 55.6	+0.7
HAU				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.6						
HAU				MLR	MLR		
	comp=Z,170nm,20.0s,MS3.9						
GOF	Gofitskoye	42.28	235	⇓iP	P	03 30 55.0	-0.6
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.6						
HINF	Hinteralfeld	42.34	272	eP	P	03 30 56.2	+0.1
GRR	Gorron	42.40	280	eP	P	03 30 57.6	+1.0
	comp=Z,58nm,1.5s,mb4.7						
GRR	Gorron	42.40	280	eP	P	03 30 57.6	+1.0
GRR				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.7						
CN2	Changchun	42.43	146	eP	P	03 30 56.8	-0.1
ROSF	Rostrenen	42.65	282	eP	P	03 30 59.2	+0.6
SGMF	Saint Gilles	42.67	281	eP	P	03 30 59.5	+0.7
	comp=Z,14nm,0.8s,mb4.4						
SGMF	Saint Gilles	42.67	281	eP	P	03 30 59.5	+0.7
SGMF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
FRU	Bishkek	42.92	201	eP	P	03 31 03.3	+2.3
FRU				pmax	pmax		
	comp=Z,70nm,2.1s,mb5.0						
FRU				MLR	MLR		
	comp=Z,2μm,18.0s,MS4.9						
QUIF	Quistinic	43.06	282	eP	P	03 31 03.1	+1.1
DAVOX	Davos	43.12	269	P	P	03 31 03.9	+1.4
	comp=Z,0.8nm,0.5s,mb3.8,baz=28,slow=15,SNR=2.4						
AAK	Ala-Archa	43.13	201	P	P	03 31 02.6	0.0
AAK				pmax	pmax		
	comp=Z,37nm,1.8s,mb4.8						
AAK	Ala-Archa	43.13	201	P	P	03 31 02.6	-0.1
	comp=Z,37nm,1.8s,mb4.8						
SSF	Saint Saulge	43.36	275	eP	P	03 31 04.1	-0.4

SSF pmax pmax
comp=Z,17nm,1.4s,mb4.6
SSF Saint Saulge 43.36 275 *eP* **P 03 31 04.1 -0.4**
comp=Z,17nm,1.4s,mb4.6
KIV Kislovodsk 43.40 235 *eP* **P 03 31 04.6 -0.2**
KIV pmax pmax
comp=Z,15nm,0.9s,mb4.7
KIV Kislovodsk 43.40 235 *eP* **P 03 31 04.6 -0.2**
comp=Z,15nm,0.9s,mb4.7
CABF La Chapelle 43.60 273 *eP* **P 03 31 06.6 +0.2**
comp=Z,76nm,1.7s,mb4.9
CABF La Chapelle 43.60 273 *eP* **P 03 31 06.6 +0.2**
CABF pmax pmax
comp=Z,38nm,1.7s,mb4.8
AVF Avril sur Loir 43.65 275 *eP* **P 03 31 06.5 -0.3**
comp=Z,50nm,1.5s,mb4.7
AVF Avril sur Loir 43.65 275 *eP* **P 03 31 06.5 -0.3**
AVF pmax pmax
comp=Z,25nm,1.5s,mb4.7
SMF Signal de Mont 43.75 275 *eP* **P 03 31 08.1 +0.5**
BGF Bois d'Agland 43.92 276 *eP* **P 03 31 08.8 -0.2**
comp=Z,54nm,1.3s,mb4.8
BGF Bois d'Agland 43.92 276 *eP* **P 03 31 08.8 -0.2**
BGF pmax pmax
comp=Z,27nm,1.3s,mb4.8
MFF Saint Martin d 44.12 279 *eP* **P 03 31 10.7 +0.1**
comp=Z,57nm,1.7s,mb4.7
MFF Saint Martin d 44.12 279 *eP* **P 03 31 10.7 +0.1**
MFF pmax pmax
comp=Z,28nm,1.7s,mb4.7
TCF Toulx Ste Croi 44.24 276 *eP* **P 03 31 11.8 +0.2**
comp=Z,22nm,1.3s,mb4.4
TCF Toulx Ste Croi 44.24 276 *eP* **P 03 31 11.8 +0.2**
TCF pmax pmax
comp=Z,11nm,1.3s,mb4.4
ZEI Tsey 44.50 233 *eP* **P 03 31 05.8 -7.9**
ZEI *e* 03 32 54.6
ZEI pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
ULM Lac du Bonnet 44.60 9 P **P 03 31 16.1 +1.7**
comp=Z,0.7nm,0.4s,mb3.9,baz=344,slow=7.4,SNR=2.5
ULM LR LR 03 50 09.1
comp=Z,383nm,18.6s,MS4.3,baz=328,slow=36
LPL La Plagne 44.63 272 *eP* **P 03 31 15.8 +1.0**
comp=Z,23nm,1.4s,mb4.5
LPL La Plagne 44.63 272 *eP* **P 03 31 15.8 +1.0**
LPL pmax pmax
comp=Z,12nm,1.4s,mb4.5
LPG La Plagne 44.65 272 *eP* **P 03 31 16.1 +1.2**
comp=Z,75nm,1.8s,mb4.9
LPG La Plagne 44.65 272 *eP* **P 03 31 16.1 +1.2**
LPG pmax pmax
comp=Z,38nm,1.8s,mb4.9
HHC Hu-ho-hao-te 44.87 161 *eP* **P 03 31 18.2 +1.5**
HHC XP sP 03 31 25.6 +3.5
HHC PP PP 03 33 05.0 +2.4
HHC S **S 03 37 54.8 +1.4**
HHC SCS ScS 03 41 14.4 +2.8
HHC AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
HHC AMB AMB
comp=Z,118nm,5.1s
HHC LR LR
comp=N,332nm,17.8s,MS4.6
HHC LR LR
comp=E,515nm,18.4s,MS4.6
HHC LR LR
comp=Z,342nm,19.0s,MS4.3
RJF Les Rejaudoux 45.27 277 *eP* **P 03 31 20.1 +0.2**
comp=Z,20nm,1.0s,mb4.6
RJF *eR*
comp=Z,177nm,19.8s
RJF Les Rejaudoux 45.27 277 *eP* **P 03 31 20.1 +0.2**
RJF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
RJF MLR MLR
comp=Z,180nm,19.8s,MS4.0
ORIF Oris-en-Rattie 45.30 273 *eP* **P 03 31 21.1 +1.0**
ORIF *eR*
comp=Z,109nm,18.8s
WALA Waterton Lakes 45.35 25 *eP* **P 03 31 21.0 +0.5**
comp=Z,18nm,1.4s,mb4.7
MBDF Montbardon 45.41 272 *eP* **P 03 31 21.8 +0.8**
VIVF Saint-Julien-l 45.46 274 *eP* **P 03 31 21.9 +0.5**
CAF Calviac 45.60 276 *eP* **P 03 31 23.1 +0.6**
BJI Beijing 45.81 156 P **P 03 31 25.3 +1.1**
BJI S **S 03 38 05.8 -1.2**
BJI AMB AMB
comp=Z,9.0nm,1.4s,mb4.5
BJI LR LR
comp=N,320nm,17.8s,MS4.4
BJI LR LR
comp=E,169nm,17.8s,MS4.4
BJI LR LR
comp=Z,237nm,20.6s,MS4.1
BJI Beijing 45.81 156 P **P 03 31 25.3 +1.1**
comp=Z,9.0nm,1.4s,mb4.5
BJI S **S 03 38 05.8 -1.2**
BJI LR LR
comp=Z,240nm,20.6s,MS4.1
BJT Baijiatuan 45.83 156 *eP* **P 03 31 24.9 +0.5**
NEW Newport 46.03 29 *eP* **P 03 31 27.0 +1.2**
NEW pmax pmax
comp=Z,34nm,1.4s
NEW Newport 46.03 29 P **P 03 31 27.8 +2.0**
comp=Z,7.1nm,1.1s,mb4.5,baz=322,slow=4.3,SNR=6.5
NEW Newport 46.03 29 *eP* **P 03 31 27.0 +1.2**
comp=Z,34nm,1.4s,mb5.1
GTA Gaotai 46.09 174 *eP* **P 03 31 26.1 -0.3**
GTA PP PP 03 33 15.3 +0.4
GTA S **S 03 38 11.1 +0.2**
GTA SS SS 03 41 29.6 +1.3
GTA AMB AMB
comp=Z,2.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,99nm,4.6s
GTA LR LR
comp=N,424nm,20.1s,MS4.5
GTA LR LR
comp=E,281nm,19.0s,MS4.5
GTA LR LR
comp=Z,580nm,19.4s,MS4.5
AQU L'Aquila 47.23 265 P **P 03 31 36.9 +1.5**
AQU pmax pmax
comp=Z,45nm,1.5s,mb5.2
AQU L'Aquila 47.23 265 P **P 03 31 36.9 +1.5**
comp=Z,45nm,1.5s,mb5.2
CHMT Chamberlain Mo 47.52 25 *eP* **P 03 31 36.5 -1.2**
MSO Missoula 47.58 26 *eP* **P 03 31 38.2 +0.1**
comp=Z,7.9nm,1.1s,mb4.7
HRY Holter Researc 47.77 24 P **P 03 31 40.6 +1.0**
HRY *e* pP 03 31 46.4 +2.9
BOZ Bozeman (W) 48.84 24 *eP* **P 03 31 48.1 +0.2**
BOZ pmax pmax
comp=Z,18nm,1.4s,mb4.9
BOZ Bozeman (W) 48.84 24 *eP* **P 03 31 48.1 +0.2**
comp=Z,18nm,1.4s,mb4.9
MALT Malatya 49.30 239 *eP* **P 03 31 52.0 +0.4**
MALT pmax pmax
comp=Z,12nm,1.4s,mb4.7
MALT Malatya 49.30 239 *eP* **P 03 31 52.0 +0.4**
comp=Z,12nm,1.4s,mb4.7
BMO Blue Mountains 49.43 29 *eP* **P 03 31 53.4 +1.0**
comp=Z,19nm,1.6s,mb4.9
LZH Lanzhou 49.46 169 *eP* **P 03 31 54.0 +1.2**
LZH AP pP 03 31 58.5 +1.8
LZH XP sP 03 32 01.5 +3.3
LZH PP PP 03 33 48.0 +0.4
LZH S **S 03 38 56.0 -2.5**
LZH AMB AMB
comp=Z,30nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,170nm,4.2s
LZH LR LR
comp=N,580nm,15.4s
LZH LR LR
comp=Z,470nm,15.5s,MS4.6
LZH Lanzhou 49.46 169 *eP* **P 03 31 54.0 +1.2**
comp=Z,30nm,1.0s,mb5.3
LZH pP pP 03 31 58.5 +1.8
LZH sP sP 03 32 01.5 +3.3
LZH PP PP 03 33 48.0 +0.4
LZH S **S 03 38 56.0 -2.5**
LZH sS 03 39 04.0
LZH SS SS 03 42 22.0 -4.6
LZH LR LR
comp=Z,470nm,15.5s,MS4.6
QLMT Earthquake Lak 49.66 23 *eP* **P 03 31 55.3 +1.0**
TIP Timpagrande 50.11 261 *eP* **P 03 31 57.8 +0.1**
BW06 Boulder Array 51.78 22 P **P 03 32 10.1 -0.4**
comp=Z,7.4nm,1.3s,mb4.5
PDAR Pinedale Array 51.78 22 P **P 03 32 11.0 +0.6**
comp=Z,0.3nm,0.7s,mb3.4,baz=323,slow=4.5,SNR=3.4
EVO Evora 52.77 285 *eP* **P 03 32 16.9 -1.0**
comp=Z,6.4nm,0.8s,mb4.3
EVO *eR*
comp=Z,112nm,19.0s
HWUT Hardware Ranch 52.88 24 *eP* **P 03 32 18.3 -0.4**
comp=Z,20nm,1.3s,mb4.9
NJ2 Nanjing 53.87 154 *eP* **P 03 32 25.6 -0.5**
NJ2 AP pP 03 32 30.3 +0.3
NJ2 XP sP 03 32 33.1 +1.7
NJ2 PP PP 03 34 27.5 -1.4
NJ2 S **S 03 39 57.0 -2.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
NJ2 AMB AMB
comp=Z,108nm,6.4s
NJ2 LR LR
comp=N,410nm,19.7s,MS4.6
NJ2 LR LR
comp=E,280nm,21.5s,MS4.6
NJ2 LR LR
comp=Z,8µm,25.4s,MS5.6
ACSO Alum Creek Sta 54.67 357 P **P 03 32 30.7 -1.1**
comp=Z,19nm,1.3s,mb5.0
ISCO Idaho Springs 54.86 18 *eP* **P 03 32 31.9 -1.3**
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ISCO Idaho Springs 54.86 18 *eP* **P 03 32 31.9 -1.4**
comp=Z,3.2nm,1.0s,mb4.3
SSE Sheshan 54.91 151 P **P 03 32 31.6 -2.2**
SSE S **S 03 40 11.7 -1.5**
SSE SS SS 03 43 55.3 -1.2
SSE AMB AMB
comp=Z,18nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,89nm,5.8s
SSE LR LR
comp=N,127nm,22.6s,MS4.0
SSE LR LR
comp=E,63nm,22.6s,MS4.0
SSE LR LR
comp=Z,66nm,16.2s
SSE Sheshan 54.91 151 P **P 03 32 31.6 -2.2**
comp=Z,18nm,0.7s,mb5.2
SSE sP sP 03 32 36.4 -2.7
SSE S **S 03 40 11.7 -1.5**
SSE sS 03 40 17.3
SSE SS SS 03 43 55.3 -1.2
SSE LR LR
comp=Z,70nm,16.2s,MS3.8
ENH Enshi 55.36 163 *eP* **P 03 32 36.3 -0.7**
comp=Z,41nm,1.7s,mb5.2
ASF Jabal al Asfar 55.52 240 LR LR 04 01 24.5
comp=Z,151nm,18.6s,MS4.1,baz=295,slow=42
KSU1 Kansas State U 55.73 10 *eP* **P 03 32 38.2 -1.3**
NVAR Mina Array Bea 55.80 30 P **P 03 32 41.2 +1.2**
comp=Z,1.0nm,1.0s,mb3.8,slow=5.4,SNR=4.0
MSU Marysvale 55.94 25 *eP* **P 03 32 41.4 +0.3**
CMB Columbia Colle 56.10 32 P **P 03 32 41.3 -0.9**
PV10 Paradox Valley 56.18 22 *eP* **P 03 32 41.9 -0.9**
PV01 Paradox Valley 56.44 21 *eP* **P 03 32 45.2 +0.6**
SDCO Great Sand Dun 56.91 18 *eP* **P 03 32 48.5 +0.4**
comp=Z,5.4nm,1.4s,mb4.4
EIL Elat 58.14 241 *eP* **P 03 32 51.2 -5.6**
comp=Z,13nm,1.1s,mb4.9
TZTN Tazewell 58.35 358 *eP* **P 03 32 56.8 -1.5**
GYA Guiyang 59.10 167 ⇑*iP* **P 03 33 03.3 -0.3**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
ANMO Albuquerque 59.67 19 *eP* **P 03 33 06.6 -0.8**
ANMO *e* 03 33 14.4
ANMO pmax pmax
comp=Z,17nm,1.6s
ANMO Albuquerque 59.67 19 P **P 03 33 06.6 -0.8**
comp=Z,2.2nm,1.1s,mb4.1,baz=353,slow=4.9,SNR=3.3
ANMO Albuquerque 59.67 19 *eP* **P 03 33 06.6 -0.8**
comp=Z,17nm,1.6s,mb4.8
ANMO *e* 03 33 14.3
SWET Sewanee 59.68 360 *eP* **P 03 33 05.2 -2.2**
WMOK Wichita Mounta 60.05 12 *eP* **P 03 33 08.9 -1.1**
WMOK pmax pmax
comp=Z,20nm,1.4s,mb5.0
WMOK Wichita Mounta 60.05 12 *eP* **P 03 33 08.9 -1.1**
comp=Z,20nm,1.4s,mb5.0
MIAR Mount Ida 60.32 7 *eP* **P 03 33 10.5 -1.3**
MIAR pmax pmax
comp=Z,36nm,1.6s,mb5.2
MIAR Mount Ida 60.32 7 *eP* **P 03 33 10.4 -1.4**
comp=Z,36nm,1.6s,mb5.2
KMI Kunming 60.37 171 P **P 03 33 13.6 +1.3**
KMI AP pP 03 33 16.1 -0.1
KMI PP PP 03 35 30.8 +3.3
KMI S **S 03 41 25.2 +0.3**
KMI SS SS 03 45 27.0 +3.1
KMI AMB AMB
comp=Z,12nm,1.0s,mb4.9
KMI AMB AMB
comp=Z,57nm,3.1s
KMI LR LR
comp=N,284nm,15.2s,MS4.7
KMI LR LR
comp=E,402nm,19.6s,MS4.7
KMI LR LR
comp=Z,178nm,17.2s,MS4.3
KMI Kunming 60.37 171 P **P 03 33 13.6 +1.3**
comp=Z,12nm,1.0s,mb4.9
KMI pP pP 03 33 16.1 -0.1
KMI PP PP 03 35 30.8 +3.3
KMI S **S 03 41 25.2 +0.3**
KMI sS 03 41 29.5
KMI SS SS 03 45 27.0 +3.1
KMI LR LR
comp=Z,180nm,17.2s,MS4.3
OXF Oxford 60.38 3 *eP* **P 03 33 11.3 -0.9**
OXF pmax pmax
comp=Z,75nm,1.4s,mb5.5
OXF Oxford 60.38 3 *eP* **P 03 33 11.3 -0.9**
comp=Z,75nm,1.4s,mb5.5
LTX Lajitas 65.34 17 *eP* **P 03 33 44.5 -0.6**
LTX *e* 03 33 51.7
LTX pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
LTX Lajitas 65.34 17 *eP* **P 03 33 44.5 -0.6**
comp=Z,9.2nm,1.1s,mb4.7
LTX *e* 03 33 51.7
TXAR Lajitas Array 65.34 17 P **P 03 33 44.5 -0.6**
comp=Z,0.6nm,0.5s,mb3.9,baz=5.3,slow=3.1,SNR=15
TXAR LR LR 04 00 53.8
comp=Z,354nm,20.5s,MS4.5,baz=5.0,slow=35
CM31 Chiang Mai Arr 66.96 175 *eP* **P 03 33 52.9 -2.7**
comp=Z,14nm,1.4s,mb4.8
CMAR Chiang Mai Arr 66.96 175 P **P 03 33 54.4 -1.2**
comp=Z,1.5nm,0.4s,mb4.4,baz=349,slow=7.6,SNR=10
CMAR LR LR 04 04 46.5
comp=Z,125nm,19.9s,MS4.1,baz=355,slow=38
SJG San Juan 76.44 340 LR LR 04 04 37.1
comp=Z,109nm,21.1s,MS4.1,baz=335,slow=33
DBIC Dimbokro 84.11 279 LR LR 04 11 15.4
comp=Z,62nm,19.5s,MS4.0,baz=48,slow=34
SDV Santo Domingo 85.72 345 *eP* **P 03 35 41.3 +0.3**
comp=Z,9.4nm,1.2s,mb4.9
ROSC El Rosal 89.79 348 LR LR 04 12 45.7
comp=Z,44nm,18.7s,MS3.9,baz=360,slow=33

*IDC **10** 03:37:00.1±7.6,2.37N×126.04E,mb4.1/3,mb1 4.3/3, mb1mx3.9/14,mbtmp4.1/3,Error ellipse: s-maj=173.3km s-min=119.2km az=72.0*

ISC 10 03:37:09.4±6.5,2.7N±0.7×127.0E±0.6,h100km,n7, σ0§66/8,mb4.0/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**16.28**	**161**	*eP*	**P**	**03 40 53.3**	**-0.1**
	5.7nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.75**	**184**	*eP*	**P**	**03 41 44.4**	**+0.3**
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**23.67**	**163**	P	**P**	**03 42 13.3**	**+0.6**
	2.3nm,0.4s,mb3.9,baz=339,slow=10,SNR=22						
WB2	**Warramunga Arr**	**23.67**	**163**	*eP*	**P**	**03 42 13.4**	**+0.7**
WB2				*eS*	**S**	**03 46 04.7**	**-12**
ASAR	**Alice Springs**	**27.09**	**166**	P	**P**	**03 42 44.0**	**-1.0**
	0.6nm,0.3s,mb3.6,baz=344,slow=11,SNR=8.1						
ASPA	**Alice Springs**	**27.09**	**166**	*eP*	**P**	**03 42 43.9**	**-1.0**
STKA	**Stephens Creek**	**37.12**	**159**	P	**P**	**03 44 12.5**	**+0.4**
	2.6nm,0.5s,mb4.4,baz=332,slow=7.8,SNR=9.2						

*IDC **10** 03:37:50.5±0.8,7.81N×93.85E,mb4.0/11,mb1 4.2/12, mb1mx4.1/18,mbtmp4.0/12,ML4.3/1,MS3.6/3,Ms1 3.7/3, ms1mx3.1/18,Error ellipse: s-maj=42.7km s-min=16.8km az=56.0*

*NEIC **10** 03:37:55.0±0.5,7.78N×93.96E,h30km,mb4.6/12,Error ellipse: s-maj=14.9km s-min=7.0km az=53.0*

*BJI **10** 03:38:00.8,8.61N×93.14E,h30km,mb4.7,Ms4.3,Msz3.8*

ISC 10 03:37:53.4±0.6,7.72N±0.08×93.96E±0.09,h33km,n34, σ0§96/35,mb4.3/24,MS3.9/3,1C,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.07**	**110**	*eP*n	**Pn**	**03 39 35.5**	**-1.9**
KULM				*eS*n	**Sn**	**03 40 46.1**	**-11**
CMAR	**Chiang Mai Arr**	**11.72**	**24**	Pn	**P**	**03 40 40.0**	**-1.4**
	0.6nm,0.3s,baz=207,slow=15,SNR=24						
CMAR				LR	LR	03 44 31.4	
	comp=Z,160nm,21.2s,baz=230,slow=34						
CHG	**Chiang Mai**	**12.04**	**23**	P	**P**	**03 40 46.5**	**+0.8**
NANT	**Nan**	**12.81**	**30**	P	**P**	**03 40 58.0**	**+2.0**
JIRN	**Jiri**	**21.15**	**341**	*eP*	**P**	**03 42 38.4**	**+0.4**
	66nm,1.0s,mb4.9						
PKI	**Pulchoki**	**21.34**	**339**	*eP*	**P**	**03 42 40.2**	**+0.3**
	68nm,1.0s,mb4.9						
DMN	**Daman**	**21.48**	**338**	*eP*	**P**	**03 42 42.2**	**+0.9**
	48nm,0.9s,mb4.8						
KKN	**Kakani**	**21.58**	**339**	*eP*	**P**	**03 42 42.3**	**0.0**
	68nm,1.3s,mb4.9						
GKN	**Gorkha**	**22.01**	**338**	*eP*	**P**	**03 42 46.3**	**-0.3**
	28nm,0.6s,mb4.8						
LSA	**Lhasa**	**22.02**	**353**	P	**P**	**03 42 45.2**	**-1.5**
LSA	**Lhasa**	**22.02**	**353**	*eP*	**P**	**03 42 45.9**	**-0.8**
	25nm,0.8s,mb4.7						
GYA	**Guiyang**	**22.20**	**31**	⇑*iP*	**P**	**03 42 54.1**	**+5.6**
GYA				AP		03 43 03.2	
GYA				XP		03 43 04.8	
GYA				PP	PP	03 43 23.1	+7.6
GYA				S	**S**	**03 46 53.1**	**+7.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,90nm,2.8s,mb4.7						
GYA				LR	LR		
	comp=N,300nm,15.9s,MS4.2						
GYA				LR	LR		
	comp=E,540nm,13.2s,MS4.2						
GYA				LR	LR		
	comp=Z,240nm,12.9s,MS3.8						
KOLN	**Koldanda**	**22.22**	**335**	*eP*	**P**	**03 42 48.9**	**+0.2**
	comp=Z,93nm,1.3s,mb5.0						
NDI	**New Delhi**	**26.16**	**325**	*eP*	**P**	**03 43 28.5**	**+1.8**
ENH	**Enshi**	**26.74**	**31**	P	**P**	**03 43 33.0**	**+1.0**
	comp=Z,9.1nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**38.77**	**337**	*eP*	**P**	**03 45 15.1**	**-1.4**
	comp=Z,5.8nm,1.3s,mb4.2						
SONM	**Songino Array**	**41.35**	**13**	P	**P**	**03 45 37.7**	**-0.1**
	comp=Z,2.6nm,0.9s,mb3.9,baz=202,slow=6.7,SNR=11						
ULN	**Ulaanbaatar**	**41.52**	**13**	*eP*	**P**	**03 45 39.6**	**+0.3**
	comp=Z,2.1nm,0.8s,mb3.8						
KURK	**Kurchatov**	**44.71**	**346**	*eP*	**P**	**03 46 04.2**	**-1.0**
	comp=Z,10.0nm,1.3s,mb4.5						
WRA	**Warramunga Arr**	**48.32**	**125**	P	**P**	**03 46 33.9**	**-0.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=304,slow=8.7,SNR=4.5						
BVAR	**Borovoye Array**	**49.07**	**341**	P	**P**	**03 46 38.3**	**-1.1**
	comp=Z,0.5nm,0.7s,mb3.7,baz=135,slow=6.3,SNR=4.1						
CHKZ	**Chkalovo**	**49.56**	**342**	*eP*	**P**	**03 46 42.3**	**-0.8**
	comp=Z,3.1nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**49.95**	**130**	P	**P**	**03 46 47.6**	**+1.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=303,slow=7.0,SNR=4.9						
ASAR				PcP	PcP	03 48 08.3	+1.7
	comp=Z,0.8nm,0.8s,baz=311,slow=2.3,SNR=4.4						
KMBO	**Kilima Mbogo**	**57.23**	**264**	P	**P**	**03 47 44.5**	**+4.1**
	comp=Z,2.1nm,0.7s,mb4.3,baz=58,slow=10,SNR=8.4						
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**03 48 01.5**	**+1.2**
	comp=Z,1.7nm,0.8s,mb4.1,baz=345,slow=12,SNR=2.7						
STKA				LR	LR	04 12 25.9	
	comp=Z,94nm,21.3s,MS3.9,baz=207,slow=34						
STKA	**Stephens Creek**	**60.13**	**134**	P	**P**	**03 48 01.5**	**+1.2**
STKA				LR	LR	04 12 25.9	
FINES	**FINESS Array B**	**72.76**	**332**	P	**P**	**03 49 19.9**	**-0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=117,slow=8.5,SNR=6.9						
FINES				LR	LR	04 28 06.9	
	comp=Z,49nm,19.1s,MS3.8,baz=106,slow=42						
ARCES	**ARCESS Array B**	**75.35**	**340**	P	**P**	**03 49 34.0**	**-0.9**
	comp=Z,3.6nm,0.9s,mb4.3,baz=90,slow=4.5,SNR=3.3						
GERES	**GERESS Array B**	**77.82**	**318**	P	**P**	**03 49 49.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=90,slow=2.7,SNR=6.9						
HFS	**Hagfors**	**78.50**	**330**	P	**P**	**03 49 52.8**	**+0.1**
	comp=Z,1.7nm,0.5s,mb4.3,baz=108,slow=4.7,SNR=12						
NB2	**NORSAR Subarra**	**79.77**	**331**	P	**P**	**03 49 59.5**	**-0.1**
	comp=Z,1.7nm,0.7s,mb4.1,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**03 49 59.7**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=92,slow=5.8,SNR=4.8						
NOA	**NORSAR Array B**	**79.77**	**331**	P	**P**	**03 49 59.7**	**+0.1**
PLCA	**Paso Flores**	**144.35**	**200**	PKP	PKPdf	03 57 29.6	+3.1
	comp=Z,3.3nm,0.9s,baz=179,slow=4.3,SNR=6.0						

*IGQ **10** 03:39:59.3,0.26S×81.07W,h12km±28km,mb4.4,Error ellipse: s-maj=24.6km s-min=5.9km az=1.3*

*NEIC **10** 03:40:04.1±1.0,0.66S×81.25W,h10km,mb4.1/2, MD4.4(IGQ),Error ellipse: s-maj=21.5km s-min=16.4km az=100.0*

NEIC Felt at Portoviejo.

*IDC **10** 03:40:19.0±9.5,0.35S×80.40W,h149km±98km,mb3.3/3, mb1 3.6/6,mb1mx3.2/21,mbtmp3.9/6,MS3.3/1,Ms1 3.3/1, ms1mx2.2/17,Error ellipse: s-maj=102.1km s-min=19.8km az=73.0*

ISC 10 03:40:01.4±2.2,0.34S±0.09×80.99W±0.06,h5km±15km, n30,σ0§84/32,mb3.8/4,14C,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUA2	**San Juan 2**	**2.39**	**87**	⇑P	**Pn**	**03 40 41.0**	**-0.9**
PINO	**Pino**	**2.39**	**86**	P	**Pn**	**03 40 40.8**	**-1.1**
TERV	**Terraza Guagua**	**2.39**	**86**	⇑P	**Pn**	**03 40 40.9**	**-1.1**
YANA	**Yana**	**2.43**	**85**	⇑P	**Pn**	**03 40 41.2**	**-1.2**
NAS1	**Nasa**	**2.53**	**97**	⇑P	**Pn**	**03 40 44.3**	**+0.4**
VC1	**Cotopaxi 1**	**2.61**	**97**	⇑P	**Pn**	**03 40 45.4**	**+0.5**
IGUA	**Igualata**	**2.62**	**116**	⇑P	**Pn**	**03 40 45.3**	**+0.2**
TAMB	**Tambo**	**2.65**	**98**	⇑P	**Pn**	**03 40 46.1**	**+0.5**
LORE	**San Lorenzo**	**2.69**	**53**	P	**Pn**	**03 40 45.8**	**-0.3**
PISA	**Pisayambo**	**2.70**	**105**	⇑P	**Pn**	**03 40 46.7**	**+0.4**
COTA	**Cotacachi**	**2.74**	**76**	⇑P	**Pn**	**03 40 45.9**	**-0.9**
RETU	**Refugio**	**2.78**	**113**	P	**Pn**	**03 40 49.1**	**+1.8**
ARRY	**Arrayan**	**2.79**	**115**	⇑P	**Pn**	**03 40 47.8**	**+0.2**
ULBA	**Ulba**	**2.81**	**113**	P	**Pn**	**03 40 48.0**	**+0.1**
ANTI	**Antisana**	**2.83**	**92**	⇑P	**Pn**	**03 40 48.7**	**+0.5**
ANTI				S	**Sn**	**03 41 23.2**	**0.0**
CAYR	**Refugio Cayamb**	**3.01**	**83**	⇑P	**Pn**	**03 40 51.5**	**+0.8**
CAYR				S	**Sn**	**03 41 27.8**	**+0.3**
ELAGU	**Cayambe Volc**	**3.02**	**84**	P	**Pn**	**03 40 51.7**	**+0.9**
CAYA	**Cayambe**	**3.03**	**82**	⇑P	**Pn**	**03 40 51.6**	**+0.6**
ECEN	**Cerro Negro**	**3.23**	**69**	⇑P	**Pn**	**03 40 53.3**	**-0.6**
ROSC	**El Rosal**	**8.42**	**52**	P	**P**	**03 42 12.5**	**+5.5**
	1.1nm,0.3s,baz=269,slow=14,SNR=5.0						
SDV	**Santo Domingo**	**13.80**	**48**	P	**P**	**03 43 28.0**	**+7.7**
	1.4nm,0.3s,baz=233,slow=8.2,SNR=21						
SDV				LR	LR	03 49 14.5	
	comp=Z,125nm,19.0s,baz=234,slow=40						
SDV	**Santo Domingo**	**13.80**	**48**	*eP*	**P**	**03 43 25.9**	**+5.5**
	11nm,0.8s						
LPAZ	**La Paz**	**20.30**	**142**	P	**P**	**03 44 39.9**	**-1.3**
	0.1nm,0.3s,baz=317,slow=11,SNR=12						
LPAZ	**La Paz**	**20.30**	**142**	*eP*	**P**	**03 44 39.3**	**-1.8**
	2.7nm,0.8s						
SJG	**San Juan**	**23.43**	**38**	P	**P**	**03 45 12.9**	**+0.2**
	13nm,1.0s,mb4.3						
PLCA	**Paso Flores**	**41.31**	**168**	P	**P**	**03 47 48.9**	**-0.8**
	1.5nm,0.9s,mb3.6,baz=354,slow=9.2,SNR=2.9						
PLCA	**Paso Flores**	**41.31**	**168**	P	**P**	**03 47 48.9**	**-0.8**
NVAR	**Mina Array Bea**	**51.61**	**323**	P	**P**	**03 49 13.1**	**+1.9**
	0.7nm,0.8s,mb3.7,baz=127,slow=9.0,SNR=5.4						
YKA	**Yellowknife Ar**	**67.58**	**344**	P	**P**	**03 51 00.3**	**-0.7**
	0.7nm,1.0s,mb3.7,baz=138,slow=6.0,SNR=7.7						
YKA	**Yellowknife Ar**	**67.58**	**344**	P	**P**	**03 51 00.3**	**-0.7**

*IDC **10** 03:42:01.5±0.8, 85.34N×89.65E, mb3.7/8, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, ML3.1/1, MS3.5/6, Ms1 3.5/6, ms1mx3.3/24, Error ellipse: s-maj=32.2km s-min=16.2km az=131.0*
*MOS **10** 03:42:02.6±1.9, 85.71N×87.38E, h10km, mb4.4/4, Error ellipse: s-maj=99.9km s-min=18.4km az=87.6*
*NEIC **10** 03:42:03.0±0.5, 85.29N×90.83E, h10km, mb4.1/7, Error ellipse: s-maj=13.6km s-min=9.0km az=124.0*
ISC 10 03:42:01.2±0.5**, 85.30N**±0.08×**9 1E**± **, h10km, n26, σ1s09**/24**, mb3.8**/13**, MS3.5**/5**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.08**	**258**	P	**P**	**03 46 25.1**	**-0.7**
	0.1nm,0.3s,baz=15,slow=10,SNR=4.5						
ARCES				LR	LR	03 54 06.5	
	comp=Z,90nm,19.4s,baz=14,slow=38						
RES	**Resolute Bay**	**20.13**	**4**	P	**P**	**03 46 32.5**	**-5.1**
RES				pmax	pmax		
	comp=Z,13nm,1.5s						
RES	**Resolute Bay**	**20.13**	**4**	P	**P**	**03 46 32.5**	**-5.1**
	comp=Z,13nm,1.5s						
SUMG	**Summit**	**20.84**	**319**	*e*P	**P**	**03 46 45.8**	**+0.8**
	comp=Z,8.4nm,1.0s						
INK	**Inuvik**	**25.42**	**37**	P	**P**	**03 47 30.2**	**+0.4**
	comp=Z,4.0nm,0.9s,mb3.9,baz=2.5,slow=11,SNR=7.0						
FINES	**FINESS Array B**	**27.00**	**253**	P	**P**	**03 47 44.4**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.5,baz=37,slow=9.5,SNR=5.8						
FINES				LR	LR	03 59 29.1	
	comp=Z,46nm,18.1s,MS3.1,baz=137,slow=39						
ILAR	**Eielson Array**	**28.18**	**50**	P	**P**	**03 47 56.2**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.2,baz=349,slow=8.9,SNR=5.9						
ILAR				LR	LR	03 58 00.7	
	comp=Z,119nm,18.8s,MS3.5,baz=231,slow=34						
NOA	**NORSAR Array B**	**28.61**	**268**	LR	LR	03 58 56.1	
	comp=Z,30nm,19.7s,MS2.9,baz=65,slow=36						
YKA	**Yellowknife Ar**	**32.00**	**22**	P	**P**	**03 48 27.4**	**-1.7**
YKA						03 51 18.6	
YKA	**Yellowknife Ar**	**32.00**	**22**	P	**P**	**03 48 27.4**	**-1.7**
	comp=Z,0.8nm,0.8s,mb3.6,baz=353,slow=8.6,SNR=12						
YKA				PcP	PcP	03 51 18.5	-0.6
	comp=Z,0.4nm,0.7s,baz=339,slow=2.9,SNR=7.9						
CHKZ	**Chkalovo**	**32.10**	**203**	*e*P	**P**	**03 48 26.7**	**-3.3**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
CHKZ	**Chkalovo**	**32.10**	**203**	*e*P	**P**	**03 48 26.6**	**-3.4**
	comp=Z,5.7nm,1.2s,mb4.3						
BVAR	**Borovoye Array**	**32.76**	**203**	P	**P**	**03 48 36.3**	**+0.5**
	comp=Z,0.9nm,0.8s,mb3.8,baz=346,slow=6.1,SNR=4.1						
DLBC	**Dease Lake**	**35.44**	**36**	P	**P**	**03 48 58.6**	**-0.2**
FCC	**Fort Churchill**	**36.13**	**4**	P	**P**	**03 49 03.8**	**-0.9**
FCC				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
FCC	**Fort Churchill**	**36.13**	**4**	P	**P**	**03 49 03.8**	**-0.9**
	comp=Z,2.7nm,1.2s,mb4.0						
AKASG	**Malin Array Be**	**37.42**	**247**	P	**P**	**03 49 13.7**	**-2.0**
	comp=Z,2.5nm,0.9s,mb4.0,baz=8.1,slow=8.6,SNR=4.9						
ULN	**Ulaanbaatar**	**37.80**	**162**	P	**P**	**03 49 18.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.2						
ULN	**Ulaanbaatar**	**37.80**	**162**	P	**P**	**03 49 18.7**	**-0.2**
	comp=Z,7.2nm,1.5s,mb4.2						
SONM	**Songino Array**	**37.82**	**163**	P	**P**	**03 49 19.1**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.5,baz=342,slow=3.9,SNR=4.8						
PSZ	**Piszkesteto**	**40.92**	**256**	P	**P**	**03 49 46.4**	**+1.7**
PSZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
PSZ	**Piszkesteto**	**40.92**	**256**	P	**P**	**03 49 46.4**	**+1.7**
	comp=Z,4.3nm,1.0s,mb4.0						
AAK	**Ala-Archa**	**43.03**	**198**	P	**P**	**03 50 02.3**	**+0.4**
LPG	**La Plagne**	**44.40**	**269**	*e*P	**P**	**03 50 16.1**	**+3.1**
	comp=Z,15nm,1.1s,mb4.3						
ULM	**Lac du Bonnet**	**44.65**	**6**	LR	LR	04 08 27.4	
	comp=Z,117nm,21.6s,MS3.8,baz=28,slow=36						
TXAR	**Lajitas Array**	**65.42**	**14**	P	**P**	**03 52 46.1**	**+0.4**
	comp=Z,0.4nm,0.9s,mb3.5,baz=350,slow=2.3,SNR=3.9						
TXAR				LR	LR	04 21 26.6	
	comp=Z,151nm,18.2s,MS4.2,baz=130,slow=36						

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*IDC **10** 04:02:42.5±1.4, 55.71N×165.93E, mb3.5/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.6/7, ML3.3/1, Error ellipse: s-maj=33.7km s-min=15.3km az=37.0*
*KRSC **10** 04:02:43.1±0.6, 55.59N×166.11E, h38km±12km, ML4.1*
ISC 10 04:02:44.5±0.4**, 55.49N**±0.04×**165.89E**±0.04**, h38km, n27, σ1s12**/43**, mb3.4**/6**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.29**	**170**	*i* P	**P**	**04 02 51.8**	**-0.8**
BKI				*i* S	**S**	**04 02 57.7**	**-0.5**
KBTR	**Krutoberegovo**	**1.87**	**294**	*e*P	**P**	**04 03 12.4**	**-2.3**
KBTR				*e*S	**S**	**04 03 35.9**	**-1.4**
KBG	**Krutoberegovo**	**1.95**	**294**	*i* S	**S**	**04 03 36.0**	**-3.2**
KBG				Smax			
	580nm,0.7s						
KBG	**Krutoberegovo**	**1.95**	**294**	*e*P	**P**	**04 03 15.3**	**-0.5**
KBG				*e*S	**S**	**04 03 38.9**	**-0.3**
KBG				Smax			
	450nm,0.6s						
KLY	**Klyuchi**	**3.06**	**288**	*e*P	**P**	**04 03 29.8**	**-1.9**
KLY				*e*S	**S**	**04 04 04.4**	**-3.0**
KMNR	**Kamenistaya**	**3.21**	**277**	*e*P	**P**	**04 03 34.3**	**+0.5**
KMNR				*e*S	**S**	**04 04 12.2**	**+0.8**
TUMR	**Tumrok**	**3.28**	**269**	*e*P	**P**	**04 03 35.4**	**+0.6**
TUMR				*e*S	**S**	**04 04 14.2**	**+1.1**
KOZ	**Kozyrevsk**	**3.44**	**282**	*e*P	**P**	**04 03 38.5**	**+1.4**
KOZ				*e*S	**S**	**04 04 19.5**	**+2.3**
SRDR	**Sredinnyy**	**3.57**	**286**	*e*P	**P**	**04 03 38.5**	**-0.4**
SRDR				*e*S	**S**	**04 04 19.7**	**-0.7**
SPN	**Mys Shipunski**	**4.19**	**237**	*e*P	**P**	**04 03 47.9**	**+0.2**
SPN				*e*S	**S**	**04 04 35.6**	**-0.4**
NLC	**Nalytchevo**	**4.48**	**241**	*e*P	**P**	**04 03 52.2**	**+0.4**
NLC				*e*S	**S**	**04 04 42.6**	**-0.8**
UGLR	**Uglovaya**	**4.72**	**244**	*e*P	**P**	**04 03 55.7**	**+0.5**
AVH	**Avacha**	**4.74**	**245**	*e*P	**P**	**04 03 55.9**	**+0.5**
AVH				*e*S	**S**	**04 04 48.7**	**-1.1**
KOK	**Koryaka**	**4.78**	**246**	*e*P	**P**	**04 03 56.6**	**+0.6**
PET	**Petropavlovsk**	**4.91**	**243**	*e*P	**P**	**04 03 59.1**	**+1.3**
PET				*e*S	**S**	**04 04 54.6**	**+0.4**
GNL	**Ganaly**	**4.96**	**252**	*e*P	**P**	**04 03 59.7**	**+1.2**
GNL				*e*S	**S**	**04 04 55.3**	**-0.1**
FX1	**Attu Island--F**	**5.01**	**118**	Pn	**P**	**04 03 58.4**	**-0.9**
	4.0nm,0.3s,baz=324,slow=14,SNR=5.7						
FX1				Sn	**S**	**04 04 55.0**	**-1.7**
	2.8nm,0.3s,baz=66,slow=19,SNR=3.2						
KRMR	**Karymshinskiy**	**5.28**	**243**	*e*S	**S**	**04 05 01.5**	**-2.0**
RUS	**Russkaya**	**5.32**	**238**	*e*P	**P**	**04 04 04.5**	**+0.9**
RUS				*e*S	**S**	**04 05 03.9**	**-0.7**
GRL	**Gorelyy**	**5.46**	**241**	*e*P	**P**	**04 04 07.3**	**+1.7**
GRL				*e*S	**S**	**04 05 08.0**	**-0.2**
KAMR	**Kamenskoye**	**6.99**	**1**	*i* P	**P**	**04 04 25.1**	**-2.0**
ILAR	**Eielson Array**	**24.70**	**49**	P	**P**	**04 08 02.7**	**-0.1**
	1.4nm,1.0s,mb3.5,baz=254,slow=8.9,SNR=8.2						
SONM	**Songino Array**	**36.65**	**283**	P	**P**	**04 09 50.1**	**+1.1**
	0.3nm,0.7s,mb3.3,baz=56,slow=9.1,SNR=4.9						
YKA	**Yellowknife Ar**	**39.07**	**46**	P	**P**	**04 10 09.5**	**+0.6**
	0.2nm,0.8s,mb2.9,baz=297,slow=7.7,SNR=4.1						
NVAR	**Mina Array Bea**	**51.79**	**76**	P	**P**	**04 11 51.8**	**+1.5**
	0.6nm,0.6s,mb3.7,baz=308,slow=7.5,SNR=5.0						
PDAR	**Pinedale Array**	**53.41**	**66**	P	**P**	**04 12 03.3**	**+0.9**
	0.5nm,0.8s,mb3.5,baz=90,slow=1.5,SNR=3.6						
TXAR	**Lajitas Array**	**66.62**	**72**	P	**P**	**04 13 34.0**	**+1.0**
	0.4nm,0.5s,mb3.7,baz=303,slow=4.7,SNR=9.5						

CASC 10 04:13:46.7±1.8**, 15.41N×91.91W, h25km**±324km**, MD3.9, 1C, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.11**	**166**	⇑*e*P	Pn	04 14 06.2	-0.7
JAT				*e*S	Sb	04 14 22.2	+0.9
IXG	**Ixpaco**	**1.87**	**131**	*e*P	Pn	04 14 17.3	-0.3
IXG				*e*S	Sn	04 14 41.1	+0.5
RBDL	**Robledal**	**2.51**	**121**	*e*P	Pn	04 14 27.8	+1.0
SNJE	**San Jose**	**2.70**	**124**	*e*P	Pn	04 14 28.6	-1.0
SNJE				*e*S	Sn	04 15 02.1	+0.1
SBLS	**San Blas**	**2.71**	**125**	*e*P	Pn	04 14 28.3	-1.4
SBLS				*e*S	Sn	04 15 01.2	-0.8

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*ISK **10** 04:31:28.3, 37.02N×28.40E, h3km, MD3.2*
*NEIC **10** 04:31:28.7, 37.02N×28.40E, h8km, MD3.2(ISK), MD3.2(ATH), After ISK.*
*CSEM **10** 04:31:28.6±0.1, 37.02N×28.40E, h5km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.3km az=33.0*
*ATH **10** 04:31:29.1, 36.98N×28.30E, h10km, MD3.2/3*
ISC 10 04:31:29.0±0.5**, 37.02N**±0.03×**28.37E**±0.04**, h10km**±4km**, n41, σ0s73**/49**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**328**	Pg	**Pg**	**04 31 31.7**	**-0.6**
YER				Sg	**Sg**	**04 31 35.7**	**+1.3**
YER	**Yerkesik**	**0.14**	**328**	*i* Pg	**Pg**	**04 31 31.8**	**-0.4**
YER				*e*Sg	**Sg**	**04 31 35.6**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.32**	**139**	*i* PG	**Pg**	**04 31 35.2**	**-0.4**
DALT	**Dalyan (Mudla)**	**0.32**	**139**	Pg	**Pg**	**04 31 35.4**	**-0.3**
DALT				Sg	**Sg**	**04 31 41.4**	**+1.2**
DALT	**Dalyan (Mudla)**	**0.32**	**139**	Pg	**Pg**	**04 31 35.3**	**-0.3**
DALT				*e*Sg	**Sg**	**04 31 41.0**	**+0.9**
MLSB	**Milas**	**0.55**	**300**	PG	**Pg**	**04 31 39.7**	**-0.4**
MLSB	**Milas**	**0.55**	**300**	Pg	**Pg**	**04 31 40.3**	**+0.2**
MLSB	**Milas**	**0.55**	**300**	Pg	**Pg**	**04 31 40.3**	**+0.2**
FETY	**Fethiye**	**0.68**	**124**	PG	**Pg**	**04 31 41.6**	**-1.1**
FETY	**Fethiye**	**0.68**	**124**	*e*Pg	**Pg**	**04 31 41.6**	**-1.1**
FETY				*e*Sg	**Sg**	**04 31 51.8**	**-0.1**
BDRM	**Kayabasi**	**0.75**	**274**	*i* P	**Pb**	**04 31 42.8**	**-0.8**
BDRM				*i* S	**Sb**	**04 31 54.0**	**+0.4**
AYDN	**Tasoluk**	**0.76**	**329**	*i* P	**Pb**	**04 31 43.5**	**-0.2**
AYDN				*i* S	**Sb**	**04 31 54.5**	**+0.7**
ARG	**Arkhangelos**	**0.82**	**194**	*e*PB	**Pb**	**04 31 44.0**	**-0.9**
BODT	**Bodrum**	**0.85**	**273**	*e*PG	**Pg**	**04 31 46.1**	**0.0**
BODT	**Bodrum**	**0.85**	**273**	Pg	**Pg**	**04 31 45.8**	**-0.2**
BODT	**Bodrum**	**0.85**	**273**	Pg	**Pg**	**04 31 45.8**	**-0.3**
DNZL	**Cakiroluk**	**0.86**	**38**	*i* P	**Pb**	**04 31 44.8**	**-0.8**
DENT	**Denizli**	**0.90**	**35**	PG	**Pg**	**04 31 45.9**	**-1.2**
DENT	**Denizli**	**0.90**	**35**	Pg	**Pg**	**04 31 46.2**	**-0.8**
DENT	**Denizli**	**0.90**	**35**	Pg	**Pg**	**04 31 46.2**	**-0.9**
ELL	**Elmali**	**1.26**	**102**	*e*PN	**Pn**	**04 31 52.7**	**0.0**
ELL	**Elmali**	**1.26**	**102**	Pn	**Pn**	**04 31 52.7**	**+0.1**
KSL	**Kastellorizon**	**1.30**	**131**	*e*PB	**Pb**	**04 31 54.0**	**+0.9**
SMG	**Samos**	**1.41**	**300**	*e*PB	**Pb**	**04 31 55.0**	**+0.1**
MANT	**Manisa**	**1.48**	**6**	*i* P	**Pn**	**04 31 56.0**	**+0.2**
MANT				*i* S	**Sb**	**04 32 14.1**	**-0.8**
KHL	**Karahalli**	**1.59**	**35**	*e*PN	**Pn**	**04 31 58.5**	**+1.1**
IZM	**Izmir**	**1.64**	**328**	*e*PN	**Pn**	**04 31 59.4**	**+1.3**
IZM	**Izmir**	**1.64**	**328**	Pn	**Pn**	**04 31 57.7**	**-0.4**
BLCB	**Balcova**	**1.73**	**323**	*e*PN	**Pn**	**04 32 00.0**	**+0.6**
BCK	**Bucak**	**1.82**	**75**	*e*PN	**Pn**	**04 32 01.7**	**+1.0**
BCK	**Bucak**	**1.82**	**75**	Pn	**Pn**	**04 32 01.3**	**+0.6**
BCK	**Bucak**	**1.82**	**75**	Pn	**Pn**	**04 32 01.3**	**+0.6**
ALT	**Altintas**	**2.45**	**33**	*e*PN	**Pn**	**04 32 10.4**	**+0.6**
ALT	**Altintas**	**2.45**	**33**	Pn	**Pn**	**04 32 10.3**	**+0.5**
AYVA	**Ayvalik**	**2.65**	**330**	*i* P	**Pn**	**04 32 21.0**	**+8.4**
BTOK	**Tokmak**	**2.75**	**354**	*i* P	**Pn**	**04 32 12.9**	**-1.2**
ULDT	**Uludag**	**3.18**	**11**	*i* P	**Pn**	**04 32 19.9**	**-0.2**
KIZT	**Kizilcal**	**3.34**	**55**	*e*PN	**Pn**	**04 32 22.9**	**+0.5**
KIZT	**Kizilcal**	**3.34**	**55**	Pn	**Pn**	**04 32 23.4**	**+1.0**
BNT	**Bandirma**	**3.35**	**354**	Pn	**Pn**	**04 32 22.1**	**-0.5**
BNT	**Bandirma**	**3.35**	**354**	Pn	**Pn**	**04 32 22.0**	**-0.6**

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*WAR **10** 04:53:37.9, 51.45N×16.17E, h1km, ML2.6, Mining Induced*
*PRU **10** 04:53:38.6, 51.38N×16.15E*
*CSEM **10** 04:53:38.1±0.2, 51.44N×16.14E, h1km±1km, ML2.8/2, Error ellipse: s-maj=5.2km s-min=1.7km az=5.0*
*NEIC **10** 04:53:43.1±1.1, 51.11N×15.85E, h5km, ML2.9(VIE), Error ellipse: s-maj=13.8km s-min=6.7km az=196.0*
ISC 10 04:53:36.0±0.8**, 51.40N**±0.04×**16.12E**±0.04**, n17, σ1s15**/36**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.57**	**169**	*e*PG	**Pg**	**04 53 49.0**	**+1.6**
KSP				*e*SG	**Sg**	**04 53 57.0**	**+1.9**
UPC	**Upice**	**0.90**	**184**	*e*PG	**Pg**	**04 53 55.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.06**	**173**	*e*PG	**Pg**	**04 53 58.1**	**+0.9**
DPC				*e*SG	**Sg**	**04 54 12.6**	**+1.2**
	27nm,0.6s						
PVCC	**Panska Ves**	**1.31**	**229**	*e*PG	**Pg**	**04 54 03.7**	**+1.5**
BRG	**Berggiesshubel**	**1.47**	**250**	*i* Pg	**Pg**	**04 54 05.9**	**+0.6**
BRG				*i* Sg	**Sg**	**04 54 26.1**	**+1.2**
PRU	**Pruhonice**	**1.73**	**216**	*e*PG	**Pg**	**04 54 10.0**	**-0.6**
PRU				*e*SG	**Sg**	**04 54 33.9**	**+0.1**
MORC	**Moravsky Berou**	**1.87**	**150**	*e*Pn	**Pn**	**04 54 09.7**	**+0.2**
MORC				*e*Sn	**Sn**	**04 54 33.3**	**-0.8**
MORC	**Moravsky Berou**	**1.87**	**150**	*e*Pn	**Pn**	**04 54 09.7**	**+0.2**
MORC				*e*Sn	**Sn**	**04 54 33.3**	**-0.8**
MORC				*e*Sg	**Sg**	**04 54 33.9**	**-4.2**
CLL	**Collm**	**1.95**	**268**	*e*PG	**Pg**	**04 54 15.0**	**0.0**
CLL				*e*SG	**Sg**	**04 54 41.0**	**-0.1**
OKC	**Ostrava-Krasne**	**2.03**	**140**	*e*PG	**Pg**	**04 54 16.5**	**-0.1**
OKC				*e*SG	**Sg**	**04 54 41.9**	**-1.8**
NKC	**Novy Kostel**	**2.60**	**245**	*e*PN	**Pn**	**04 54 21.0**	**+0.9**
NKC				*e*PG	**Pg**	**04 54 28.8**	**+0.8**
NKC				*e*SG	**Sg**	**04 55 01.3**	**-1.4**
NKC	**Novy Kostel**	**2.60**	**245**	Pg	**Pg**	**04 54 28.8**	**+0.8**
NKC				Sg	**Sg**	**04 55 01.3**	**-1.4**
OJC	**Ojcow**	**2.62**	**115**	*e*Pg	**Pg**	**04 54 27.6**	**-0.7**
OJC				*e*Sg	**Sg**	**04 55 02.1**	**-1.1**
KHC	**Kasperske Hory**	**2.80**	**217**	*e*PN	**Pn**	**04 54 24.5**	**+1.7**
KHC				*e*PG	**Pg**	**04 54 29.7**	**-2.2**
KHC				*e*SN	**Sn**	**04 54 58.0**	**+0.2**
KHC				*e*SG	**Sg**	**04 55 06.9**	**-2.3**
MOX	**Moxa**	**2.94**	**257**	Pg	**Pg**	**04 54 34.0**	**-0.7**
MOX				Sg	**Sg**	**04 55 12.0**	**-1.9**
MOX	**Moxa**	**2.94**	**257**	*e*Pg	**Pg**	**04 54 33.7**	**-1.0**
MOX				*e*Sg	**Sg**	**04 55 12.4**	**-1.5**
MOA	**Molln**	**3.76**	**199**	⇑*i*PN	**Pn**	**04 54 36.7**	**+0.3**
MOA				*i* SG	**Sg**	**04 55 40.2**	**-0.8**
	5.1nm,0.5s						

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*IDC **10** 04:57:14.0±1.0, 85.36N×91.89E, mb3.7/8, mb1 4.0/9, mb1mx3.8/19, mbtmp3.8/9, ML3.1/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/22, Error ellipse: s-maj=33.8km s-min=16.5km az=141.0*
ISC 10 04:57:13.7±0.8**, 85.4N**±0.2×**9 1E**± **, h10km, n10, σ0s81**/9**, mb3.5**/8**, MS3.3**/4**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.15**	**258**	P	**P**	**05 01 38.2**	**-0.9**
	0.1nm,0.3s,baz=35,slow=11,SNR=3.5						
ARCES				LR	LR	05 09 09.1	
	comp=Z,66nm,18.4s,baz=22,slow=37						
INK	**Inuvik**	**25.33**	**38**	P	**P**	**05 02 41.9**	**+0.5**
	2.9nm,1.1s,mb3.7,baz=346,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**27.08**	**254**	P	**P**	**05 02 57.5**	**-0.1**
	1.7nm,0.6s,mb3.8,baz=22,slow=10,SNR=9.5						
FINES				LR	LR	05 14 19.0	
	comp=Z,31nm,18.2s,MS2.9,baz=11,slow=38						
ILAR	**Eielson Array**	**28.09**	**51**	P	**P**	**05 03 07.2**	**+0.4**
	0.6nm,0.9s,mb3.2,baz=359,slow=8.5,SNR=5.2						
ILAR				LR	LR	05 12 48.5	
	comp=Z,75nm,20.6s,MS3.3,baz=359,slow=33						
YKA	**Yellowknife Ar**	**31.91**	**23**	P	**P**	**05 03 40.1**	**-0.7**
	0.9nm,0.9s,mb3.6,baz=355,slow=8.3,SNR=18						
YKA				LR	LR	05 16 07.9	
	comp=Z,82nm,20.9s,MS3.4,baz=200,slow=36						
AKASG	**Malin Array Be**	**37.50**	**248**	P	**P**	**05 04 28.8**	**-0.1**
	1.4nm,0.7s,mb3.8,baz=5.2,slow=8.9,SNR=5.9						
SONM	**Songino Array**	**37.87**	**164**	P	**P**	**05 04 31.6**	**-0.3**
	0.5nm,0.7s,mb3.3,baz=344,slow=7.8,SNR=4.3						
GERES	**GERESS Array B**	**40.56**	**263**	P	**P**	**05 04 56.4**	**+2.0**
	0.3nm,0.5s,mb3.1,baz=326,slow=7.1,SNR=3.1						
TXAR	**Lajitas Array**	**65.34**	**14**	P	**P**	**05 07 57.1**	**-0.6**
	0.2nm,0.5s,mb3.4,baz=13,slow=2.9,SNR=6.4						
CMAR	**Chiang Mai Arr**	**67.04**	**172**	LR	LR	05 41 28.1	
	comp=Z,53nm,18.5s,MS3.8,baz=331,slow=40						

IDC 10 05:07:09.1±2.9**, 30.69S×177.44W, mb4.2**/3**, mb1 4.3**/4**, mb1mx4.0**/15**, mbtmp4.1**/4**, ML3.6**/1**, Error ellipse: s-maj=67.9km s-min=34.9km az=119.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.79**	**209**	Pn	P	05 09 16.5	-3.8
	0.6nm,0.3s,baz=15,slow=9.7,SNR=4.3						
URZ				Sn	Sn	05 10 56.3	-4.9
	1.8nm,0.3s,baz=242,slow=23,SNR=9.8						
STKA	**Stephens Creek**	**34.88**	**257**	P	P	05 14 03.7	-0.5
	7.9nm,0.9s,baz=98,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**43.57**	**267**	P	P	05 15 14.8	-1.8
	0.5nm,0.4s,baz=110,slow=7.4,SNR=5.2						
WRA	**Warramunga Arr**	**44.59**	**272**	P	P	05 15 22.1	-2.8
	2.0nm,0.6s,baz=111,slow=7.8,SNR=11						
KAF	**Kangasniemi**	**144.98**	**341**	*e*p	PKPbc	05 26 43.7	-3.9
FINES	**FINESS Array B**	**145.58**	**340**	PKPbc	PKPbc	05 26 47.9	-1.3
	2.5nm,0.5s,baz=59,slow=4.5,SNR=26						

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*WAR **10** 05:09:35.1, 50.06N×18.42E, h0km, ML2.4, Mining Induced*
*PRU **10** 05:09:36.3, 50.06N×18.37E*
ISC 10 05:09:33.6±0.5**, 50.12N**±0.04×**18.41E**±0.04**, n16, σ1s19**/25**, 3D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.15**	**254**	⇓*i*PG	**Pg**	**05 09 38.8**	**+2.3**
RAC				⇓*e*SG	**Sg**	**05 09 42.8**	**+4.3**
RAC	**Raciborz**	**0.15**	**254**	⇓*i*Pg	**Pg**	**05 09 38.8**	**+2.3**
RAC				*e*Sg	**Sg**	**05 09 41.9**	**+3.4**
OKC	**Ostrava-Krasne**	**0.33**	**211**	*e*PG	**Pg**	**05 09 41.1**	**+0.8**
OKC				*e*SG	**Sg**	**05 09 45.4**	**+0.7**
	122nm,0.7s						
OJC	**Ojcow**	**0.90**	**83**	*e*PG	**Pg**	**05 09 52.0**	**+0.5**
OJC				*e*SG	**Sg**	**05 10 05.0**	**+1.6**
DPC	**Dobruska-Polom**	**1.36**	**280**	*e*PG	**Pg**	**05 10 00.6**	**-0.2**
DPC				*e*SG	**Sg**	**05 10 18.9**	**0.0**
	44nm,0.5s						
NIE	**Niedzica**	**1.42**	**119**	*e*PG	**Pg**	**05 10 00.0**	**-1.9**
NIE				*e*SG	**Sg**	**05 10 19.0**	**-1.9**
KSP	**Ksiaz**	**1.53**	**299**	*e*PG	**Pg**	**05 10 03.0**	**-1.2**
KSP				*e*SG	**Sg**	**05 10 26.0**	**+1.4**
UPC	**Upice**	**1.59**	**285**	*e*SG	**Sg**	**05 10 26.2**	**-0.2**
VYHS	**Vyhne**	**1.66**	**170**	*e*PN	**Pn**	**05 10 04.7**	**+0.7**
VYHS				*e*SN	**Sn**	**05 10 26.1**	**-0.2**
CRVS	**Cervenica-Dubn**	**2.33**	**120**	*e*SG	**Sg**	**05 10 52.0**	**+0.7**
PRU	**Pruhonice**	**2.50**	**268**	*e*SG	**Sg**	**05 10 53.0**	**-3.8**
KOLS	**Kolonicke sedl**	**2.78**	**114**	*e*PG	**Pg**	**05 10 28.8**	**-0.3**
KHC	**Kasperske Hory**	**3.30**	**254**	*e*PG	**Pg**	**05 10 37.5**	**-1.9**
KHC				*e*SG	**Sg**	**05 11 18.5**	**-4.8**
MOA	**Molln**	**3.56**	**232**	*i*	**Pn**	**05 10 39.9**	**+8.7**
MOA	**Molln**	**3.56**	**232**	*i* SG	**Sg**	**05 11 25.8**	**-6.1**
	5.8nm,0.6s						
CLL	**Collm**	**3.64**	**291**	*e*SG	**Sg**	**05 11 34.0**	**-0.7**

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*NEIC **10** 05:16:36.4±4.1, 19.28S×177.51W, h538km±46km, mb4.3/5, Error ellipse: s-maj=25.7km s-min=17.1km az=188.0*
*IDC **10** 05:16:38.7±4.6, 19.48S×177.47W, h568km±54km, mb3.2/7, mb1 3.5/8, mb1mx3.3/16, mbtmp4.2/8, Error ellipse: s-maj=38.0km s-min=20.2km az=165.0*
ISC 10 05:16:32.7±0.7**, 19.2S**±0.2×**177.6W**±0.1**, h500km, n25, σ0s65**/17**, mb4.0**/11**, 3C-2D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.52**	**193**	P	**P**	**05 20 26.6**	**-0.8**
	1.9nm,0.3s,baz=91,slow=4.6,SNR=5.6						
STKA	**Stephens Creek**	**38.72**	**243**	P	**P**	**05 23 15.6**	**+1.3**
	2.7nm,0.7s,mb3.8,baz=87,slow=8.6,SNR=6.7						
WB2	**Warramunga Arr**	**45.18**	**261**	⇑*i*P	**P**	**05 24 06.1**	**+0.2**
WRAB	**Tennant Creek**	**45.18**	**261**	*e*P	**P**	**05 24 05.7**	**-0.2**
	11nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**45.19**	**261**	P	**P**	**05 24 05.8**	**-0.2**
	1.5nm,0.3s,mb3.8,baz=96,slow=8.2,SNR=24						
WRA				PcP	PcP	05 25 33.9	-2.3
	0.9nm,0.6s,baz=91,slow=3.9,SNR=5.6						
ASAR	**Alice Springs**	**45.22**	**255**	P	**P**	**05 24 06.2**	**+0.1**
	3.9nm,0.5s,mb4.1,baz=87,slow=8.6,SNR=46						
ASAR				PcP	PcP	05 25 33.9	-2.3
	1.8nm,0.6s,baz=105,slow=3.7,SNR=9.4						
ASPA	**Alice Springs**	**45.22**	**255**	*e*P	**P**	**05 24 06.5**	**+0.4**
KAKA	**Kakadu**	**48.37**	**270**	⇑*i*P	**P**	**05 24 30.3**	**+0.1**
	4.8nm,0.5s,mb4.1						
FORT	**Forrest**	**50.18**	**246**	*e*P	**P**	**05 24 43.1**	**-0.5**
	237nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.61**	**261**	*e*P	**P**	**05 25 08.5**	**-0.1**
	6.7nm,0.5s,mb4.2						
MBWA	**Marble Bar**	**58.53**	**257**	*e*P	**P**	**05 25 41.4**	**-1.2**
	7.2nm,0.6s,mb4.2						
QSPA	**South Pole Qui**	**70.84**	**180**	⇓*i*P	**P**	**05 26 59.8**	**+0.5**
	13nm,1.3s,mb4.3						
NVAR	**Mina Array Bea**	**79.83**	**43**	P	**P**	**05 27 49.8**	**+0.1**
	0.2nm,0.5s,baz=243,slow=8.1,SNR=2.2						
ENH	**Enshi**	**85.66**	**304**	P	**P**	**05 28 12.4**	**-6.8**
TXAR	**Lajitas Array**	**86.03**	**57**	P	**P**	**05 28 21.7**	**+0.7**
	0.6nm,0.7s,mb3.4,baz=220,slow=6.6,SNR=9.5						
ILAR	**Eielson Array**	**86.99**	**13**	P	**P**	**05 28 23.4**	**-1.2**
	0.3nm,0.4s,mb3.4,baz=236,slow=5.0,SNR=12						
CMAR	**Chiang Mai Arr**	**90.07**	**289**	P	**P**	**05 28 40.6**	**+0.6**
	1.0nm,0.4s,mb4.0,baz=119,slow=2.9,SNR=9.1						
BVAR	**Borovoye Array**	**118.36**	**320**	PKP	PKPdf	05 34 21.4	-1.1
	1.1nm,0.3s,baz=113,slow=2.9,SNR=9.0						
ARCES	**ARCESS Array B**	**127.75**	**350**	PKP	PKPdf	05 34 39.5	-0.6
	0.9nm,0.4s,baz=9.0,slow=1.7,SNR=14						
ARCES	**ARCESS Array B**	**127.75**	**350**	PKP	PKPdf	05 34 39.5	-0.7
FINES	**FINESS Array B**	**134.67**	**344**	PKP	PKPdf	05 34 53.5	+0.2
	0.7nm,0.8s,baz=45,slow=2.7,SNR=3.4						
AKASG	**Malin Array Be**	**142.09**	**332**	PKhKP		05 35 02.4	
	0.7nm,0.3s,baz=43,slow=4.2,SNR=5.3						
CLL	**Collm**	**146.91**	**348**	⇓*i*PKP1	PKPbc	05 35 18.2	+0.8
KHC	**Kasperske Hory**	**148.84**	**346**	⇑*e*PKPB		05 35 23.0	
GERES	**GERESS Array B**	**149.08**	**345**	PKPbc	PKPdf	05 35 23.3	+4.6
	2.4nm,0.8s,baz=27,slow=3.0,SNR=13						

IDC 10 05:16:48.8±1.8**, 5.22N×94.91E, mb3.8**/4**, mb1 4.0**/5**, mb1mx3.7**/16**, mbtmp3.8**/5**, Error ellipse: s-maj=78.0km s-min=31.6km az=51.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.74**	**16**	Pn	P	05 20 16.1	+8.6
	baz=214,slow=11,SNR=5.6						
SONM	**Songino Array**	**43.59**	**11**	P	P	05 24 54.8	-1.6
	0.4nm,0.7s,baz=192,slow=8.5,SNR=3.9						
WRA	**Warramunga Arr**	**46.13**	**124**	P	P	05 25 15.3	-1.8
	1.1nm,0.6s,baz=303,slow=9.2,SNR=6.1						
ARCES	**ARCESS Array B**	**78.01**	**340**	P	P	05 28 48.8	-1.6
	2.1nm,1.0s,baz=95,slow=6.9,SNR=5.2						
GERES	**GERESS Array B**	**80.31**	**319**	P	P	05 29 02.1	-1.2
	0.3nm,0.7s,baz=100,slow=8.1,SNR=4.2						

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*NEIC **10** 05:20:47.4±0.4, 23.51S×174.17W, h10km, mb4.9/12, Error ellipse: s-maj=25.0km s-min=8.6km az=165.0*
*IDC **10** 05:20:48.3±1.7, 22.55S×174.54W, mb4.3/10, mb1 4.6/11, mb1mx4.4/17, mbtmp4.3/11, ML4.8/1, MS3.8/2, Ms1 3.8/2, ms1mx3.4/16, Error ellipse: s-maj=101.4km s-min=18.4km az=154.0*
ISC 10 05:20:49.1±0.5**, 23.6S**±0.2×**174.19W**±0.09**, h33km, n39, σ1s25**/33**, mb4.6**/21**, MS3.6**/1**, 1C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.86**	**14**	*e*Pn	**P**	**05 22 55.8**	**-16**
AFI				*e*Sn	Sn	05 24 25.9	-37
RAR	**Rarotonga**	**13.54**	**83**	Pn	**P**	**05 23 58.9**	**-2.4**
	4.2nm,0.3s,baz=251,slow=7.9,SNR=52						
RAR				Sn	**S**	**05 26 16.4**	**-15**
	3.5nm,0.3s,baz=82,slow=20,SNR=6.8						
RAR				LR	LR	05 28 05.9	
	comp=Z,488nm,19.9s,baz=283,slow=32						
RAR	**Rarotonga**	**13.54**	**83**	*e*P	**P**	**05 23 59.1**	**-2.2**
RAR				*e*S	**S**	**05 26 17.5**	**-14**
TBI	**Tubuai**	**22.68**	**94**	*e*LR	LR	05 30 41.8	
	250nm,26.5s						
PPT	**Papeete**	**23.79**	**80**	*e*LR	LR	05 31 12.3	
	191nm,23.8s						
CTA	**Charters Tower**	**36.81**	**268**	P	**P**	**05 27 55.5**	**-0.4**
	4.9nm,0.6s,mb4.5,baz=83,slow=12,SNR=8.3						
CTAO	**Charters Tower**	**36.81**	**268**	*e*P	**P**	**05 27 55.7**	**-0.2**
	5.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**39.79**	**248**	P	**P**	**05 28 25.2**	**+4.5**
	1.6nm,0.6s,mb4.0,baz=62,slow=8.5,SNR=4.8						
STKA	**Stephens Creek**	**39.79**	**248**	*e*P	**P**	**05 28 22.7**	**+2.0**
ASAR	**Alice Springs**	**47.34**	**259**	P	**P**	**05 29 22.8**	**+0.9**
	7.4nm,0.8s,mb4.7,baz=91,slow=8.3,SNR=61						
ASAR				LR	LR	05 46 59.7	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,73nm,20.4s,MS3.6,baz=283,slow=33						
ASPA	**Alice Springs**	**47.34**	**259**	*e*P	**P**	**05 29 22.8**	**+0.9**
WB2	**Warramunga Arr**	**47.73**	**264**	*e*P	**P**	**05 29 24.6**	**-0.4**
WRAB	**Tennant Creek**	**47.73**	**264**	*e*P	**P**	**05 29 24.1**	**-0.9**
	16nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**47.74**	**264**	P	**P**	**05 29 24.0**	**-1.1**
	8.2nm,0.8s,mb4.8,baz=96,slow=8.2,SNR=34						
KAKA	**Kakadu**	**51.60**	**272**	*e*P	**P**	**05 29 52.9**	**-1.8**
	8.6nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**56.16**	**263**	*e*P	**P**	**05 30 28.1**	**-0.1**
	10nm,1.3s,mb4.7						
MBWA	**Marble Bar**	**60.67**	**258**	P	**P**	**05 30 59.5**	**-0.1**
	36nm,1.4s,mb5.3						
MAJO	**Matsushiro**	**74.77**	**322**	P	**P**	**05 32 23.9**	**-3.9**
	9.6nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**80.89**	**41**	P	**P**	**05 33 02.0**	**+0.5**
	0.9nm,0.7s,mb3.8,baz=219,slow=8.4,SNR=5.8						
PLCA	**Paso Flores**	**84.61**	**132**	P	**P**	**05 33 20.3**	**-0.3**
	29nm,1.8s,mb5.1						
MSU	**Marysvale**	**84.75**	**44**	P	**P**	**05 33 23.7**	**+2.3**
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**05 33 27.9**	**+1.3**
	1.4nm,0.9s,mb4.2,baz=211,slow=7.0,SNR=10						
TXAR	**Lajitas Array**	**85.78**	**56**	P	**P**	**05 33 27.9**	**+1.3**
ANMO	**Albuquerque**	**86.61**	**50**	*e*P	**P**	**05 33 32.7**	**+2.1**
	3.9nm,1.1s,mb4.5						
GDL2	**Guadalupe Moun**	**86.70**	**53**	*e*P	**P**	**05 33 32.6**	**+1.6**
PDAR	**Pinedale Array**	**88.81**	**42**	P	**P**	**05 33 41.0**	**0.0**
	0.7nm,0.9s,mb4.0,baz=288,slow=4.7,SNR=4.4						
WALA	**Waterton Lakes**	**90.00**	**35**	P	**P**	**05 33 46.6**	**+0.2**
	4.2nm,1.0s,mb4.7						
ILAR	**Eielson Array**	**90.55**	**11**	P	**P**	**05 33 47.7**	**-0.9**
	1.2nm,0.9s,mb4.2,baz=211,slow=5.4,SNR=7.8						
ENH	**Enshi**	**90.67**	**303**	*e*P	**P**	**05 33 50.6**	**+0.6**
	28nm,1.5s,mb5.4						
TRQA	**Tornquist**	**91.71**	**133**	P	**P**	**05 33 54.6**	**0.0**
	22nm,1.5s,mb5.3						
CMAR	**Chiang Mai Arr**	**94.44**	**288**	P	**P**	**05 34 09.8**	**+2.2**
	1.2nm,0.6s,mb4.5,baz=121,slow=2.0,SNR=7.2						
INK	**Inuvik**	**96.32**	**14**	P	**P**	**05 34 13.9**	**-1.0**
	2.2nm,1.0s,mb4.5						
YKA	**Yellowknife Ar**	**97.83**	**24**	P	**P**	**05 34 21.0**	**-0.9**
	0.2nm,0.5s,mb3.9,baz=236,slow=4.1,SNR=8.2						
ARCES	**ARCESS Array B**	**132.52**	**351**	PKP	PKPdf	05 40 03.1	+3.3
	4.8nm,1.0s,baz=37,slow=6.1,SNR=5.0						
AKASG	**Malin Array Be**	**147.37**	**332**	PKPbc	PKPdf	05 40 30.2	+3.5
	1.9nm,0.5s,baz=40,slow=4.2,SNR=5.2						
AKASG	**Malin Array Be**	**147.37**	**332**	PKPbc	PKPdf	05 40 30.2	+3.5
CLL	**Collm**	**151.74**	**350**	*i* PKP1	PKPdf	05 40 43.1	+10
CLL				*i* PKP2	PKPab	05 40 58.5	+7.4
KHC	**Kasperske Hory**	**153.75**	**348**	⇑*e*PKPB	PKPdf	05 40 47.0	+11
KHC				*e*PKPAB	PKPdf	05 40 53.0	+17
GERES	**GERESS Array B**	**154.00**	**348**	PKPbc	PKPdf	05 40 47.8	+11
	0.3nm,0.6s,slow=2.0,SNR=3.8						

WEL 10 05:21:01.9±0.3,36.04S×178.19E,h191km±4km,ML3.5/3, Error ellipse: s-maj=5.7km s-min=4.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.52**	**176**	PN	P	05 21 35.2	-0.2
MXZ				SN	S	05 22 00.3	-0.8
PUZ	**Puketiti**	**2.03**	**178**	*e*PN	P	05 21 40.2	-0.2
PUZ				SN	S	05 22 09.4	-0.6
URZ	**Urewera**	**2.37**	**201**	PN	P	05 21 44.0	-0.3
URZ				SN	S	05 22 16.4	-0.5
KNZ	**Kokohu**	**3.00**	**188**	PN	P	05 21 51.1	-0.5

GUC 10 05:23:47.5±0.6,32.70S×71.74W,h25km±8km,MD3.6, ML2.4,1C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.30**	**57**	⇓*i*P	Pb	05 23 54.6	+0.1
PACH				*i* S	Sb	05 24 00.0	+0.8
ROCH	**El Roble**	**0.67**	**114**	⇑*i*P	Pb	05 24 00.5	0.0
ROCH				*i* S	Sb	05 24 10.3	+1.0
LCCH	**Las Cruces**	**0.79**	**170**	*i* S	Sb	05 24 12.4	-0.3
JACH	**Jahuel**	**0.97**	**89**	⇓*i*P	Pb	05 24 04.7	-0.7
JACH				*i* S	Sb	05 24 18.1	+0.3
RCDM	**Rinconada Maip**	**1.11**	**135**	*e*P	Pn	05 24 06.8	-0.8
RCDM				*i* S	Sb	05 24 21.8	-0.2
RCDM				AMP		05 24 25.9	
	comp=E,110nm,0.2s						
TACH	**Talagante**	**1.16**	**145**	*e*P	Pn	05 24 07.7	-0.7
DSCH	**Colegio Aleman**	**1.20**	**126**	*e*P	Pn	05 24 08.6	-0.4
DSCH				*i* S	Sn	05 24 24.7	+0.1
DSCH				AMP		05 24 26.4	
	comp=E,170nm,0.3s						
CLCH	**Cerro Calan**	**1.23**	**125**	*e*P	Pn	05 24 09.1	-0.2
CLCH				*i* S	Sn	05 24 25.3	+0.1
CLCH				AMP		05 24 29.8	
	comp=N,123nm,0.5s						
FCH	**Farellones**	**1.37**	**118**	⇓*i*P	Pn	05 24 11.5	+0.2
FCH				*i* S	Sn	05 24 30.0	+1.2
FCH				AMP		05 24 30.7	
	comp=E,155nm,0.1s						
PCH	**Pirque**	**1.38**	**132**	⇓*i*P	Pn	05 24 11.6	+0.2
LMEL	**Las Melosas**	**1.72**	**132**	⇓*i*P	Pn	05 24 17.6	+1.2
LMEL				*i* S	Sn	05 24 39.6	+1.8
LMEL				AMP		05 24 44.1	
	comp=N,106nm,0.2s						

DJA 10 05:25:54.4±1.2,6.00S×103.88E,h33km,ML4.5/2,1C-3D, Error ellipse: s-maj=29.5km s-min=25.8km az=111.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PENI	**Pendagan**	**1.36**	**72**	⇓*e*Pn	Pn	05 26 15.9	-1.5
	622nm,0.2s						
PENI				⇓*e*Sn	Sn	05 26 32.3	-2.1
PULI	**Pulasari**	**2.11**	**99**	⇑*e*Pn	Pn	05 26 25.5	-2.7
	238nm,0.3s						
PULI				⇓*e*Sn	Sn	05 26 50.3	-3.3
PACI	**Pancar Gunung**	**3.07**	**101**	*e*Pn	Pn	05 26 42.0	+0.2

DJA 10 05:33:44.9±0.9,9.00S×117.93E,h215km±10km,ML4.5/3, 8D,Error ellipse: s-maj=94.7km s-min=22.8km az=5.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.86**	**286**	⇓*e*Pn	P	05 34 23.8	+0.2
	198nm,0.2s						
KEDI				⇓*e*Sn	S	05 34 52.5	-0.9
RATI	**Rata**	**2.38**	**276**	⇓*e*Pn	P	05 34 29.3	+0.4
	448nm,0.2s						
RATI				⇓*e*Sn	S	05 35 02.4	-0.6
KELI	**Kelakatan**	**3.49**	**283**	⇓*e*Pn	P	05 34 42.7	+1.1
KELI				⇓*e*Sn	S	05 35 24.4	-1.1
SRDI	**Scrawed**	**3.78**	**278**	⇓*e*Pn	P	05 34 45.5	+0.4
	82nm,0.2s						
SRDI				⇓*e*Sn	S	05 35 29.4	-2.3

IGQ 10 05:36:31.8,0.24S×80.98W,h32km±38km,mb4.1,3C-5D, Error ellipse: s-maj=26.9km s-min=8.4km az=7.2,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAGD	**Magdalena**	**1.22**	**82**	P	Pn	05 36 57.6	+4.7
PINO	**Pino**	**2.38**	**88**	P	Pn	05 37 12.5	+3.0
JUA2	**San Juan 2**	**2.38**	**89**	⇑P	Pn	05 37 12.7	+3.2
JUA2				S	Sn	05 37 42.3	+4.5
TERV	**Terraza Guagua**	**2.38**	**88**	P	Pn	05 37 15.0	+5.6
YANA	**Yana**	**2.42**	**87**	⇓P	Pn	05 37 13.1	+3.2
NAS1	**Nasa**	**2.54**	**99**	⇓P	Pn	05 37 16.1	+4.4
NAS1				S	Sn	05 37 47.6	+5.8
VC1	**Cotopaxi 1**	**2.61**	**99**	⇑P	Pn	05 37 17.3	+4.6
IGUA	**Igualata**	**2.65**	**118**	P	Pn	05 37 17.8	+4.5
TAMB	**Tambo**	**2.65**	**100**	⇓P	Pn	05 37 18.3	+4.9
ARRY	**Arrayan**	**2.82**	**116**	P	Pn	05 37 20.1	+4.3
ARRY				S	Sn	05 37 54.0	+4.9
ANTI	**Antisana**	**2.83**	**94**	⇓P	Pn	05 37 20.5	+4.7
CAYR	**Refugio Cayamb**	**2.99**	**85**	⇑P	Pn	05 37 23.7	+5.6
CAYR				S	Sn	05 38 00.1	+6.9
CAYA	**Cayambe**	**3.01**	**84**	P	Pn	05 37 23.5	+5.1
ECEN	**Cerro Negro**	**3.19**	**71**	⇓P	Pn	05 37 25.3	+4.3

NEIC ***10*** *05:40:23.6,19.22N×105.06W,h15km,MD4.0(MEX),After MEX.*

MEX 10 05:40:23.6±1.0,19.22N×105.06W,h15km,MD4.0,1C, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.27**	**4**	⇑*i*P	Pb	05 40 28.5	-1.1
CJM				*i* S	Sb	05 40 32.8	-0.9
COLM	**Colima**	**1.30**	**92**	*i* P	Pb	05 40 43.2	-4.0
COLM				*i* S	Sb	05 40 58.9	-4.6
CGX	**Ciudad Guzman**	**1.54**	**72**	*i* P	Pn	05 40 48.0	-2.7
CGX				*i* S	Sn	05 41 04.5	-6.0
SFJM	**Santa Fe**	**2.28**	**56**	*i* P	Pn	05 40 59.0	-2.3
SFJM				*i* S	Sn	05 41 25.0	-4.4
PLIG	**Platanillo**	**5.33**	**98**	*i* S	Sn	05 42 41.5	-5.0

NEIC ***10*** *06:11:40.7,33.00S×72.11W,h15km,ML2.9(GUC),After GUC.*

GUC 10 06:11:40.7±0.8,33.00S×72.11W,h15km±2km,MD3.6, ML2.9,8C-10D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.39**	**94**	⇓*i*P	Pb	06 11 48.6	-0.2
IHA				*i* S	Sb	06 11 54.2	0.0
LCCH	**Las Cruces**	**0.65**	**137**	⇑*i*P	Pb	06 11 52.6	-0.6
PACH	**Papudo**	**0.73**	**51**	⇑*i*P	Pb	06 11 54.4	-0.1
PACH				*e*S	Sb	06 12 04.2	+0.2
ROCH	**El Roble**	**0.92**	**89**	*i* P	Pb	06 11 57.2	-0.6
ROCH				*i* S	Sb	06 12 09.7	+0.1
LNV	**Longovilo**	**1.12**	**149**	⇓*i*P	Pb	06 12 00.1	-1.1
LNV				*i* S	Sb	06 12 14.6	-0.8
TACH	**Talagante**	**1.18**	**124**	⇓*i*P	Pb	06 12 01.2	-1.0
TACH				*i* S	Sb	06 12 16.7	-0.3
RCDM	**Rinconada Maip**	**1.19**	**115**	⇑*i*P	Pb	06 12 01.1	-1.4
RCDM				*i* S	Sb	06 12 16.9	-0.7
RCDM				AMP		06 12 22.6	
	comp=E,314nm,0.1s						
PEL	**Peldehue**	**1.20**	**97**	⇓*i*P	Pb	06 12 02.3	-0.3
PEL				*i* S	Sb	06 12 18.3	+0.6
STL	**Santa Lucia**	**1.30**	**110**	*e*P	Pb	06 12 03.3	-1.1
STL				*i* S	Sb	06 12 20.5	-0.2
STL				AMP		06 12 27.9	
	comp=E,125nm,0.3s						
JACH	**Jahuel**	**1.31**	**76**	⇓*i*P	Pb	06 12 03.4	-1.2
JACH				*i* S	Sb	06 12 20.6	-0.4
DSCH	**Colegio Aleman**	**1.35**	**108**	⇑*i*P	Pn	06 12 04.3	-0.8
DSCH				*i* S	Sb	06 12 22.0	-0.1
DSCH				AMP		06 12 26.0	
	comp=N,625nm,0.3s						
ANTU	**Antumapu**	**1.36**	**115**	⇓*i*P	Pn	06 12 04.7	-0.5
ANTU				*i* S	Sb	06 12 21.8	-0.5
CLCH	**Cerro Calan**	**1.37**	**107**	⇓*i*P	Pn	06 12 04.7	-0.8
CLCH				*i* S	Sb	06 12 23.2	+0.5
CLCH				AMP		06 12 27.4	
	comp=E,511nm,0.4s						
FSR	**Penalolen**	**1.41**	**110**	⇑*i*P	Pn	06 12 05.2	-0.7
FSR				*i* S	Sb	06 12 24.0	+0.3
FSR				AMP		06 12 28.2	
	comp=N,454nm,0.4s						
PCH	**Pirque**	**1.47**	**115**	⇓*i*P	Pn	06 12 06.2	-0.7
PCH				*e*S	Sb	06 12 25.5	-0.1
CHCH	**Chadas Angostu**	**1.53**	**128**	⇓*i*P	Pn	06 12 07.0	-0.7
CHCH				*i* S	Sb	06 12 26.8	-0.6
FCH	**Farellones**	**1.56**	**103**	*e*P	Pn	06 12 07.6	-0.5
FCH				AMP		06 12 34.5	
	comp=E,270nm,0.4s						
SJCH	**San Jose de Ma**	**1.60**	**114**	⇑*i*P	Pn	06 12 07.9	-0.7
SJCH				*i* S	Sn	06 12 28.5	-0.6
SJCH				AMP		06 12 32.3	
	comp=N,233nm,0.6s						
CACH	**El Canelo**	**1.68**	**132**	⇑*i*P	Pn	06 12 10.3	+0.5
CACH				*i* S	Sn	06 12 32.6	+1.5
LMEL	**Las Melosas**	**1.80**	**119**	⇑*i*P	Pn	06 12 11.5	-0.1
LMEL				*i* S	Sn	06 12 34.7	+0.5
LMEL				AMP		06 12 39.7	
	comp=N,360nm,0.1s						
SFDO	**San Fernando**	**1.85**	**151**	⇓*i*P	Pn	06 12 11.9	-0.4

IDC 10 06:16:23.5±2.8,4.25N×91.68E,mb3.7/3,mb1 4.0/3, mb1mx3.6/15,mbtmp3.7/3,MS2.9/1,Ms1 3.1/1, ms1mx2.7/15,Error ellipse: s-maj=109.9km s-min=33.1km az=56.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.80**	**26**	LR	LR	06 27 10.9	
	comp=Z,39nm,19.8s,baz=220,slow=41						
SONM	**Songino Array**	**45.23**	**14**	P	P	06 24 43.2	-1.1
	0.4nm,0.7s,baz=207,slow=9.7,SNR=3.2						
WRA	**Warramunga Arr**	**48.32**	**121**	P	P	06 25 07.1	-2.0
	0.9nm,0.5s,baz=302,slow=9.1,SNR=10.0						
ARCES	**ARCESS Array B**	**77.84**	**341**	P	P	06 28 22.3	-1.9
	2.3nm,0.8s,baz=100,slow=7.4,SNR=5.2						

IDC 10 06:29:19.6±3.4,85.68N×91.65E,mb3.5/3,mb1 3.8/4, mb1mx3.4/19,mbtmp3.6/4,ML3.2/1,Error ellipse: s-maj=120.7km s-min=29.6km az=151.0,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.23**	**258**	P	P	06 33 44.9	-2.5
	0.1nm,0.3s,baz=8.7,slow=12,SNR=3.3						
INK	**Inuvik**	**25.07**	**38**	P	P	06 34 45.5	-0.9
	1.6nm,1.0s,baz=354,slow=14,SNR=6.2						
ILAR	**Eielson Array**	**27.88**	**51**	P	P	06 35 10.3	-2.0
	0.4nm,1.0s,baz=4.5,slow=8.7,SNR=5.2						
YKA	**Yellowknife Ar**	**31.62**	**23**	P	P	06 35 43.3	-2.3
	0.4nm,0.8s,baz=356,slow=8.1,SNR=14						

IDC ***10*** *06:52:52.5±1.9,53.63N×159.82E,mb3.6/8,mb1 4.0/9, mb1mx3.8/19,mbtmp3.7/9,ML3.8/1,Error ellipse: s-maj=54.4km s-min=16.8km az=10.0*

KRSC ***10*** *06:52:56.4±0.3,52.92N×160.03E,h42km±3km,ML4.3*

MOS ***10*** *06:52:56.6±2.2,52.90N×160.02E,h44km,mb3.9/5,Error ellipse: s-maj=18.3km s-min=9.4km az=86.4*

ISC 10 06:52:56.2±0.6,52.89N±0.03×160.08E±0.06,h51km±5km, n51,σ1§04/79,mb3.6/10,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.21**	**350**	P	**P**	**06 53 04.4**	**-0.2**
SPN				S	**S**	**06 53 09.9**	**-0.8**
SPN	**Mys Shipunski**	**0.21**	**350**	*i* P	**P**	**06 53 04.4**	**-0.2**
SPN				*i* S	**S**	**06 53 10.0**	**-0.7**
NLC	**Nalytchevo**	**0.53**	**302**	P	**P**	**06 53 07.3**	**-0.5**
NLC				S	**S**	**06 53 15.0**	**-1.2**
NLC	**Nalytchevo**	**0.53**	**302**	*i* P	**P**	**06 53 07.3**	**-0.5**
NLC				*i* S	**S**	**06 53 15.1**	**-1.1**
SDLR	**Sedlovina**	**0.82**	**299**	*e*P	**P**	**06 53 11.3**	**-0.3**
UGLR	**Uglovaya**	**0.82**	**293**	*i* P	**P**	**06 53 11.5**	**-0.1**
PET	**Petropavlovsk**	**0.87**	**279**	P	**P**	**06 53 12.1**	**-0.2**
PET				S	**S**	**06 53 23.2**	**-1.2**
PET	**Petropavlovsk**	**0.87**	**279**	*i* P	**P**	**06 53 12.0**	**-0.3**
PET				*i* S	**S**	**06 53 23.5**	**-0.9**
AVH	**Avacha**	**0.89**	**295**	*i* P	**P**	**06 53 12.6**	**0.0**
AVH				*i* S	**S**	**06 53 24.6**	**-0.2**
KOK	**Koryaka**	**0.96**	**295**	*i* P	**P**	**06 53 13.3**	**-0.2**
RUS	**Russkaya**	**1.06**	**245**	P	**P**	**06 53 15.1**	**+0.1**
RUS				S	**S**	**06 53 28.6**	**-0.3**
RUS	**Russkaya**	**1.06**	**245**	*i* P	**P**	**06 53 15.2**	**+0.2**
RUS				*i* S	**S**	**06 53 28.9**	**0.0**
KRMR	**Karymshinskiy**	**1.19**	**268**	*i* P	**P**	**06 53 16.6**	**0.0**
KRMR				*i* S	**S**	**06 53 31.4**	**-0.5**
KII	**Karymskiy**	**1.21**	**342**	*i* P	**P**	**06 53 16.5**	**-0.5**
KII				*e*S	**S**	**06 53 31.2**	**-1.3**
GRL	**Gorelyy**	**1.27**	**255**	*i* P	**P**	**06 53 18.7**	**+0.8**
GRL				*e*S	**S**	**06 53 34.7**	**+0.6**
GNL	**Ganaly**	**1.52**	**303**	*i* P	**P**	**06 53 21.4**	**0.0**
GNL				*i* S	**S**	**06 53 39.9**	**-0.3**
APC	**Apacha**	**1.77**	**272**	*i* P	**P**	**06 53 25.9**	**+0.9**
APC				*i* S	**S**	**06 53 47.7**	**+1.3**
APC				Smax			
	810nm,1.2s						
TUMR	**Tumrok**	**2.40**	**1**	*i* P	**P**	**06 53 34.3**	**+0.4**
TUMR				*i* S	**S**	**06 54 01.9**	**-0.2**
PAU	**Pauzhetka**	**2.47**	**236**	*e*P	**P**	**06 53 36.7**	**+1.8**
PAU				*e*S	**S**	**06 54 06.2**	**+2.3**
PAU				Smax			
	520nm,0.7s						
KMNR	**Kamenistaya**	**2.87**	**2**	*e*P	**P**	**06 53 42.0**	**+1.4**
KMNR				*e*S	**S**	**06 54 15.8**	**+1.6**
ESO	**Esso**	**3.15**	**346**	*i* P	**P**	**06 53 44.2**	**-0.3**
ESO				*e*S	**S**	**06 54 19.3**	**-1.8**
ESO				Smax			
	60nm,1.1s						
ZLN	**Zelenaya**	**3.16**	**7**	*e*P	**P**	**06 53 46.1**	**+1.4**
KOZ	**Kozyrevsk**	**3.18**	**358**	P	**P**	**06 53 46.3**	**+1.4**
KOZ				S	**S**	**06 54 23.3**	**+1.5**
KOZ	**Kozyrevsk**	**3.18**	**358**	*e*P	**P**	**06 53 46.3**	**+1.4**
KOZ				*e*S	**S**	**06 54 23.0**	**+1.2**
KOZR	**Kozyr**	**3.18**	**358**	PN	**P**	**06 53 46.3**	**+1.3**
KOZR				S	**S**	**06 54 23.3**	**+1.3**
SKR	**Severo-Kuril's**	**3.31**	**230**	*e*PN	**P**	**06 53 54.9**	**+8.1**
SKR				*e*S	**S**	**06 54 23.0**	**-2.2**
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,180nm,0.5s						
SKR				smax			
	comp=E,90nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.5s						
SRDR	**Sredinnyy**	**3.44**	**357**	*e*P	**P**	**06 53 48.4**	**-0.2**
KLY	**Klyuchi**	**3.44**	**5**	P	**P**	**06 53 49.2**	**+0.5**
KLY				S	**S**	**06 54 27.6**	**-1.0**
KLY	**Klyuchi**	**3.44**	**5**	*e*P	**P**	**06 53 49.4**	**+0.7**
KLY				*e*S	**S**	**06 54 28.3**	**-0.3**
KBTR	**Krutoberegovo**	**3.69**	**25**	P	**P**	**06 53 53.2**	**+1.1**
KBTR				S	**S**	**06 54 35.2**	**+0.5**
KBTR	**Krutoberegovo**	**3.69**	**25**	*e*P	**P**	**06 53 53.3**	**+1.2**
KBTR				*e*S	**S**	**06 54 35.2**	**+0.5**
KBG	**Krutoberegovo**	**3.70**	**23**	*e*P	**P**	**06 53 52.0**	**-0.3**
KBG				*e*S	**S**	**06 54 31.5**	**-3.6**
KBG				Smax			
	comp=Z,480nm,0.9s						
KBG	**Krutoberegovo**	**3.70**	**23**	*e*S	**S**	**06 54 33.8**	**-1.3**
KBG				Smax			
	comp=Z,330nm,1.0s						
BKI	**Bering**	**4.17**	**54**	*e*S	**S**	**06 54 42.3**	**-4.7**
FX1	**Attu Island--F**	**7.92**	**85**	Pn	**P**	**06 54 50.0**	**-1.2**
	comp=Z,4.7nm,0.3s,baz=283,slow=5.8,SNR=5.7						
FX1				Sn	**S**	**06 56 12.5**	**-7.8**
	comp=Z,4.8nm,0.3s,baz=328,slow=17,SNR=4.1						
TIXI	**Tiksi**	**23.26**	**335**	*e*P	**P**	**06 57 52.7**	**-6.5**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.3						
ILAR	**Eielson Array**	**28.96**	**45**	P	**P**	**06 58 48.6**	**-3.7**
	comp=Z,0.3nm,0.6s,mb3.2,baz=276,slow=8.8,SNR=4.1						
ULN	**Ulaanbaatar**	**33.54**	**283**	*e*P	**P**	**06 59 33.9**	**+1.2**
TLY	**Talaya**	**33.79**	**291**	*e*P	**P**	**06 59 42.4**	**+7.5**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
SONM	**Songino Array**	**33.94**	**283**	P	**P**	**06 59 34.8**	**-1.4**
	comp=Z,0.5nm,0.9s,mb3.4,baz=39,slow=9.2,SNR=3.4						
YKA	**Yellowknife Ar**	**43.32**	**42**	P	**P**	**07 00 53.5**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**43.32**	**42**	P	**P**	**07 00 53.5**	**-0.5**
	comp=Z,0.5nm,0.7s,mb3.3,baz=299,slow=8.0,SNR=5.7						
PDAR	**Pinedale Array**	**57.63**	**61**	P	**P**	**07 02 42.5**	**-0.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=45,slow=2.1,SNR=3.7						
FINES	**FINESS Array B**	**60.30**	**337**	P	**P**	**07 02 57.3**	**-4.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**60.30**	**337**	P	**P**	**07 02 57.3**	**-4.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=72,slow=6.0,SNR=5.0						
NB2	**NORSAR Subarra**	**63.73**	**344**	P	**P**	**07 03 20.8**	**-3.3**
	comp=Z,0.6nm,0.4s,mb4.0,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**63.73**	**344**	P	**P**	**07 03 19.7**	**-4.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**63.73**	**344**	P	**P**	**07 03 19.7**	**-4.3**
	comp=Z,1.0nm,0.6s,mb4.0,baz=20,slow=6.6,SNR=4.2						
TXAR	**Lajitas Array**	**70.72**	**67**	P	**P**	**07 04 08.3**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=298,slow=5.5,SNR=9.4						
GERES	**GERESS Array B**	**74.70**	**338**	P	**P**	**07 04 29.7**	**-1.7**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**74.70**	**338**	P	**P**	**07 04 29.7**	**-1.7**
	comp=Z,0.5nm,0.5s,mb3.7,baz=14,slow=5.5,SNR=6.5						

IDC ***10*** *07:02:29.0±3.5,21.46N×144.03E,h43km±31km,mb3.9/12, mb1 4.1/13,mb1mx4.0/22,mbtmp4.1/13,ML3.7/1,MS3.3/4, Ms1 3.4/4,ms1mx3.2/29,Error ellipse: s-maj=29.3km s-min=13.9km az=96.0*

NEIC ***10*** *07:02:31.7±2.4,21.44N×144.04E,h65km±21km,mb4.5/15, Error ellipse: s-maj=13.0km s-min=6.1km az=95.0*

ISC 10 07:02:27.1±2.3,21.44N±0.06×144.0E±0.1,h37km±20km, n43,σ1§02/38,mb4.3/26,MS3.6/4,Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.86**	**344**	P	**P**	**07 03 53.9**	**+0.1**
	5.0nm,0.3s,baz=267,slow=20,SNR=3.3						
CBIJ				S	**S**	**07 04 59.5**	**-1.2**
	8.1nm,0.3s,baz=130,slow=23,SNR=4.7						
JOW	**Kunigami**	**15.30**	**294**	LR	LR	07 10 37.9	
	comp=Z,103nm,21.1s,baz=122,slow=32						
MAJO	**Matsushiro**	**15.86**	**343**	P	**P**	**07 06 11.1**	**+1.8**
	13nm,0.9s						
MA2	**Magadan**	**38.41**	**6**	P	**P**	**07 09 47.2**	**+0.7**
	7.9nm,0.9s,mb4.4						
FX1	**Attu Island--F**	**38.56**	**28**	LR	LR	07 26 03.1	
	comp=Z,14nm,18.6s,MS2.8,baz=303,slow=37						
ULN	**Ulaanbaatar**	**39.63**	**321**	*e*P	**P**	**07 09 58.6**	**+1.8**
	2.5nm,0.6s,mb4.1						
SONM	**Songino Array**	**40.00**	**320**	P	**P**	**07 10 00.3**	**+0.4**
	1.0nm,0.7s,mb3.6,baz=132,slow=7.0,SNR=6.9						
CTAO	**Charters Tower**	**41.33**	**177**	*e*P	**P**	**07 10 11.5**	**+0.3**
	15nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**42.18**	**194**	*e*P	**P**	**07 10 18.2**	**0.0**
	17nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**42.19**	**194**	*e*P	**P**	**07 10 18.3**	**0.0**
WRA	**Warramunga Arr**	**42.19**	**194**	P	**P**	**07 10 18.2**	**-0.2**
	7.4nm,1.0s,mb4.2,baz=16,slow=8.9,SNR=21						
CMAR	**Chiang Mai Arr**	**42.32**	**274**	LR	LR	07 29 09.7	
	comp=Z,34nm,18.3s,MS3.3,baz=288,slow=38						
FITZ	**Fitzroy Crossi**	**43.21**	**206**	*e*P	**P**	**07 10 27.6**	**+1.0**
	11nm,1.9s,mb4.3						
ASAR	**Alice Springs**	**45.89**	**193**	P	**P**	**07 10 47.8**	**-0.4**
	2.6nm,0.7s,mb4.3,baz=12,slow=8.4,SNR=31						
ASPA	**Alice Springs**	**45.90**	**193**	*e*P	**P**	**07 10 48.2**	**0.0**
BILL	**Bilibino**	**48.63**	**11**	P	**P**	**07 11 09.1**	**+0.1**
	6.2nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**53.06**	**183**	P	**P**	**07 11 41.2**	**-1.9**
	2.5nm,0.8s,mb4.2,baz=319,slow=11,SNR=4.8						
KURK	**Kurchatov**	**58.16**	**317**	*e*P	**P**	**07 12 18.2**	**-1.4**
	3.3nm,0.7s,mb4.5						
MCK	**McKinley**	**60.87**	**28**	*e*P	**P**	**07 12 41.0**	**+3.0**
	4.6nm,1.1s,mb4.5						
AAK	**Ala-Archa**	**60.90**	**308**	*e*P	**P**	**07 12 38.2**	**-0.3**
	2.1nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**61.93**	**27**	P	**P**	**07 12 43.4**	**-1.8**
	1.2nm,0.8s,mb4.1,baz=254,slow=6.4,SNR=11						
BVAR	**Borovoye Array**	**63.34**	**320**	P	**P**	**07 12 54.2**	**-0.5**
	3.0nm,0.6s,mb4.6,baz=90,slow=7.4,SNR=14						
INK	**Inuvik**	**67.51**	**24**	P	**P**	**07 13 20.2**	**-1.0**
	1.2nm,0.7s,mb4.0,baz=262,slow=14,SNR=8.5						
INK	**Inuvik**	**67.51**	**24**	P	**P**	**07 13 20.2**	**-1.0**
DLBC	**Dease Lake**	**69.93**	**34**	LR	LR	07 40 27.0	
	comp=Z,475nm,21.3s,MS4.7,baz=41,slow=33						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**07 14 13.5**	**-0.3**
	0.8nm,0.6s,mb3.8,baz=292,slow=5.5,SNR=14						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**07 14 13.5**	**-0.3**
RES	**Resolute Bay**	**77.15**	**13**	*e*P	**P**	**07 14 17.3**	**-0.9**
	3.1nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**79.40**	**342**	P	**P**	**07 14 30.2**	**-0.4**
	7.3nm,1.1s,mb4.5,baz=56,slow=8.7,SNR=4.4						
ARCES	**ARCESS Array B**	**79.40**	**342**	P	**P**	**07 14 30.2**	**-0.4**
BMO	**Blue Mountains**	**81.09**	**45**	*e*P	**P**	**07 14 39.9**	**-0.1**
	3.3nm,1.0s,mb4.2						
NVAR	**Mina Array Bea**	**82.73**	**52**	P	**P**	**07 14 48.3**	**-0.4**
	1.3nm,0.7s,mb4.0,baz=270,slow=5.4,SNR=8.3						
KIV	**Kislovodsk**	**83.12**	**314**	*e*P	**P**	**07 14 52.7**	**+2.2**
	32nm,1.1s,mb5.3						
FINES	**FINESS Array B**	**83.73**	**335**	P	**P**	**07 14 52.0**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	0.6nm,0.6s,mb3.9,baz=72,slow=6.0,SNR=5.4						
HRY	Holter Researc	83.89	42	P	P	07 14 48.1	-6.3
QLMT	Earthquake Lak	84.94	44	eP	P	07 15 00.7	+1.1
HWUT	Hardware Ranch	86.22	47	eP	P	07 15 05.5	-0.5
	6.3nm,1.0s,mb4.8						
FCC	Fort Churchill	86.95	26	eP	P	07 15 08.4	-0.7
	2.5nm,0.9s,mb4.4						
PDAR	Pinedale Array	87.06	45	P	P	07 15 11.2	+1.1
	0.3nm,0.5s,mb3.8,baz=236,slow=6.5,SNR=3.0						
PV10	Paradox Valley	89.39	49	eP	P	07 15 21.8	+0.4
NOA	NORSAR Array B	89.45	339	LR	LR	07 57 35.1	
	comp=Z,31nm,18.2s,MS3.8,baz=260,slow=37						
RW3	Ridgway	90.39	48	eP	P	07 15 27.6	+1.5
LPAZ	La Paz	149.23	86	ePKPbc	PKPdf	07 22 14.8	+6.5

NEIC 10 07:08:38.6, 51.31N×178.20E, h16km, ML3.5(AEIC), After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.89	79	P	Pn	07 09 22.4	-2.5
SMY	Shemya	2.90	301	P	Pn	07 09 23.0	-2.1
SMY				S	Sn	07 09 56.6	-3.4
KIKV	Kanaga Island	2.94	77	P	Pn	07 09 23.5	-2.2
KIWB	Kanaga Island	2.95	78	P	Pn	07 09 23.7	-2.1
KIRH	Kanaga Island	3.00	77	P	Pn	07 09 24.2	-2.2
FX1	Attu Island--F	3.48	299	P	Pn	07 09 30.8	-2.5
GSSP	Great Sitkin S	3.59	75	P	Pn	07 09 32.4	-2.4
GSMY	Great Sitkin M	3.65	76	P	Pn	07 09 33.0	-2.8
ATKA	Atka Island	4.81	76	P	Pn	07 09 48.9	-3.3

WEL 10 07:16:46.8±1.0, 41.58S×178.06E, h33km, ML3.7/16, Error ellipse: s-maj=6.5km s-min=6.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BFZ	Birch Farm	1.64	303	SN	Sn	07 17 33.5	-0.5
MTW	Mount Morrison	1.97	282	ePN	Pn	07 17 15.8	-2.8
MTW				SN	Sn	07 17 38.8	-3.6
MTW				SN	Sn	07 17 39.0	-3.5
MSWZ	Moikau Station	2.12	274	SN	Sn	07 17 42.6	-3.6
TSZ	Takapari Road	2.20	313	PN	Pn	07 17 20.8	-1.1
TSZ				SN	Sn	07 17 46.9	-1.4
CAW	Cannon Point	2.30	281	SN	Sn	07 17 46.6	-4.2
CAW				SN	Sn	07 17 46.7	-4.2
KIW	Kapiti Island	2.48	286	ePN	Pn	07 17 24.0	-1.9
KIW				SN	Sn	07 17 51.7	-3.7
MRW	Makara Radio	2.55	277	SN	Sn	07 17 52.7	-4.5
KNZ	Kokohu	2.58	353	PN	Pn	07 17 24.1	-3.1
KNZ				SN	Sn	07 17 52.7	-5.0
BKZ	Black Stump Fm	2.69	333	PN	Pn	07 17 27.3	-1.6
BKZ				SN	Sn	07 17 57.4	-3.4
BKZ				SN	Sn	07 17 57.5	-3.3
MOVZ	Moawhango	2.80	320	PN	Pn	07 17 29.9	-0.5
WNVZ	Wahianoa	2.93	319	ePN	Pn	07 17 32.4	+0.1
TUVZ	Tukino	2.95	321	PN	Pn	07 17 32.5	-0.1
WAZ	Wanganui	2.97	307	ePN	Pn	07 17 33.2	+0.4
FWVZ	Far West T-bar	3.01	320	ePN	Pn	07 17 33.1	-0.3
NGZ	Ngauruhoe	3.05	321	PN	Pn	07 17 33.6	-0.4
CNZ	Chateau	3.06	320	ePN	Pn	07 17 34.1	+0.1
WTVZ	West Tongariro	3.10	322	PN	Pn	07 17 34.5	-0.2
MWZ	Matawai	3.27	353	ePN	Pn	07 17 33.4	-3.7
MWZ				SN	Sn	07 18 10.6	-4.7
URZ	Urewera	3.40	347	PN	Pn	07 17 36.1	-2.8
KHZ	Kahutara	3.47	255	PN	Pn	07 17 34.6	-5.4
KHZ				SN	Sn	07 18 14.0	-6.4
PUZ	Puketiti	3.51	2	PN	Pn	07 17 35.9	-4.5
NNZ	Nelson	3.54	274	ePN	Pn	07 17 38.2	-2.7
THZ	Tophouse	3.87	266	PN	Pn	07 17 40.9	-4.7
QRZ	Quartz Range	4.24	278	ePN	Pn	07 17 49.0	-1.9
LTZ	Lake Taylor	4.47	253	ePN	Pn	07 17 48.1	-6.0
LTZ				SN	Sn	07 18 38.2	-7.4
MQZ	McQueen's Vall	4.52	240	SN	Sn	07 18 36.5	-10

IDC 10 07:29:09.6±2.5, 34.36N×139.44E, mb3.7/4, mb1 3.9/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=119.8km s-min=24.7km az=73.0
JMA 10 07:29:51.6±0.4, 33.89N×137.11E, h360km±4km, M3.1
ISC 10 07:29:50.8±0.6, 33.8N±0.1×137.20E±0.08, h359km±6km, n18, σ0^{s}76/23, mb3.1/4, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIE	Ise	0.73	326	P	P	07 30 37.5	+0.6
JIE				S	S	07 31 12.5	-0.5
TK04	Tokai 4	0.82	43	P	P	07 30 38.3	+1.2
JWZ	Kozaga	1.26	259	P	P	07 30 39.0	0.0
JGM	Miyama	1.95	349	P	P	07 30 43.2	+0.2
JYN	Shimob	2.04	33	P	P	07 30 44.5	+0.9
JIM2	Oshima 3	2.07	63	P	P	07 30 44.5	+0.7
JWT	Wachi	2.10	316	P	P	07 30 43.9	-0.2
JWT				eS	S	07 31 23.4	-2.4
JOD2	Odawara 2	2.15	46	P	P	07 30 44.9	+0.5
JOD2				eS	S	07 31 26.8	+0.4
JAI	Aioi	2.29	271	P	P	07 30 45.5	+0.1
JRY	Ryogami san	2.63	32	P	P	07 30 48.7	+0.6
JRY				eS	S	07 31 33.2	+0.1
JMN	Monobe	2.76	270	P	P	07 30 49.5	+0.3
MAT	Matsushiro	2.87	16	P	P	07 30 49.9	-0.2
BSO1	Boso 1	3.25	73	P	P	07 30 52.3	-1.2
BSO1				eS	S	07 31 41.5	-1.3
JHS	Saijyo	3.58	291	P	P	07 30 56.8	+0.1
SONM	Songino Array	27.00	311	P	P	07 35 03.3	+0.6
	0.3nm,0.4s,mb2.8,baz=120,slow=10.0,SNR=5.4						
WRA	Warramunga Arr	53.49	183	P	P	07 38 37.7	+0.2
	0.6nm,0.3s,mb3.4,baz=359,slow=7.7,SNR=12						
ASAR	Alice Springs	57.22	184	P	P	07 39 02.8	-0.9
	0.3nm,0.7s,mb2.8,baz=350,slow=5.5,SNR=4.9						
FINES	FINESS Array B	70.05	332	P	P	07 40 25.0	-0.6
	0.7nm,0.6s,mb3.6,baz=68,slow=7.5,SNR=7.9						

GUC 10 07:31:43.0±0.9, 26.86S×69.91W, h112km±12km, ML3.7, 3C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	0.64	218⇑	iP	P	07 32 01.4	+0.3
CPCH				iS	S	07 32 14.8	0.0
CPCH				AMP		07 32 15.9	
	comp=E,17μm,0.1s						
VACH	Vallenar	1.87	204⇑	iP	P	07 32 15.1	+0.2
VACH				iS	S	07 32 39.3	+0.6
VACH				AMP		07 32 41.0	
	comp=E,1μm,0.2s						
LCO	Las Campanas	2.26	198⇑	iP	P	07 32 19.9	0.0
LCO				iS	S	07 32 48.4	+0.7
LCO				AMP		07 32 49.3	
	comp=E,188nm,0.4s						
CPN1	Cerro Paranal	2.27	349⇓	iP	P	07 32 20.8	+0.7
CPN1				iS	S	07 32 48.9	+0.9
CPN1				AMP		07 32 49.7	
	comp=N,92nm,0.1s						

MOS 10 07:38:53.6±0.9, 85.20N×93.32E, h10km, mb4.5/16, Error ellipse: s-maj=99.9km s-min=9.1km az=88.4
IDC 10 07:38:54.0±0.6, 85.21N×93.77E, mb4.0/15, mb1 4.3/16, mb1mx4.1/23, mbtmp4.0/16, ML4.1/1, MS3.7/12, Ms1 3.7/12, ms1mx3.5/29, Error ellipse: s-maj=21.4km s-min=12.4km az=137.0
BJI 10 07:38:53.7, 85.20N×93.50E, h10km, mB5.0, mb4.8, Ms4.6, Msz3.6
NEIC 10 07:38:55.7±0.3, 85.22N×93.48E, h10km, mb4.5/14, Error ellipse: s-maj=8.5km s-min=5.1km az=134.0
ISC 10 07:38:53.9±0.3, 85.23N±0.05×93.2E±0.7, h10km, n69, σ1^{s}00/68, mb4.2/33, MS3.8/13, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	11.44	285	eP	P	07 41 34.9	-5.2
KBS				pmax	pmax		
	comp=Z,7.0nm,0.3s						
KBS	Kingsbay	11.44	285	eP	P	07 41 34.9	-5.2
	comp=Z,7.1nm,0.3s						
KBS				eS	S	07 43 34.9	-14
HSP	Hornsund	12.92	279	eP	P	07 41 54.8	-5.3
ARCES	ARCESS Array B	19.27	260	P	P	07 43 19.5	-1.2
	comp=Z,0.7nm,0.3s,baz=17,slow=11,SNR=19						
ARCES				S	S	07 46 46.0	-6.3
	comp=Z,0.1nm,0.3s,baz=22,slow=21,SNR=3.0						
ARCES				LR	LR	07 51 19.2	
	comp=Z,56nm,18.6s,baz=16,slow=39						
RES	Resolute Bay	20.17	6	P	P	07 43 30.4	-0.4
RES				pmax	pmax		
	comp=Z,8.0nm,1.2s						
RES	Resolute Bay	20.17	6	P	P	07 43 30.4	-0.4
	comp=Z,8.1nm,1.2s						
BILL	Bilibino	21.17	95	eP	P	07 43 42.1	+1.0
BILL				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.4						
BILL	Bilibino	21.17	95	eP	P	07 43 42.1	+1.0
	comp=Z,23nm,1.2s,mb4.4						
YAK	Yakutsk	24.42	137	P	P	07 44 12.8	-0.2
INK	Inuvik	25.34	39	eP	P	07 44 21.5	-0.2
INK				e		07 44 29.7	
INK				pmax	pmax		
	comp=Z,24nm,1.1s						
INK	Inuvik	25.34	39	P	P	07 44 21.7	0.0
	comp=Z,5.8nm,1.1s,mb4.0,baz=356,slow=12,SNR=16						
INK				LR	LR	07 53 40.4	
	comp=Z,163nm,20.2s,MS3.5,baz=16,slow=35						
INK	Inuvik	25.34	39	eP	P	07 44 21.5	-0.2
	comp=Z,24nm,1.1s,mb4.6						
INK				e		07 44 29.7	
IMA	Indian Mountai	26.31	58	eP	P	07 44 33.8	+3.1
IMA				pmax	pmax		
	comp=Z,98nm,1.7s,mb5.1						
IMA	Indian Mountai	26.31	58	eP	P	07 44 33.8	+3.1
	comp=Z,98nm,1.7s,mb5.1						
FINES	FINESS Array B	27.19	256	P	P	07 44 38.3	-0.5
	comp=Z,3.9nm,0.7s,mb4.1,baz=31,slow=11,SNR=12						
FINES				LR	LR	07 54 53.5	
	comp=Z,31nm,20.5s,MS2.9,baz=18,slow=35						
COLA	College	27.89	53	P	P	07 44 45.7	+0.5
COLA				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
COLA	College	27.89	53	P	P	07 44 45.6	+0.5
	comp=Z,5.4nm,0.9s,mb4.2						
BOD	Bodaibo	27.91	156	eP	P	07 44 43.8	-1.7
BOD				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.8						
ILAR	Eielson Array	28.06	52	P	P	07 44 47.2	+0.5
	comp=Z,1.4nm,0.9s,mb3.6,baz=353,slow=7.4,SNR=0.5						
ILAR				LR	LR	07 55 22.9	
	comp=Z,115nm,18.9s,MS3.5,baz=357,slow=35						
NOA	NORSAR Array B	28.82	271	P	P	07 44 55.0	+1.4
	comp=Z,1.6nm,0.8s,mb3.8,baz=9.7,slow=11,SNR=3.9						
SVE	Sverdlovsk	29.41	217	eP	P	07 45 00.0	+1.1
FRB	Frobisher Bay	31.00	344	LR	LR	07 55 40.3	
	comp=Z,178nm,19.8s,MS3.7,baz=340,slow=32						
YKW3	Yellowknife Ar	31.91	24	P	P	07 45 20.1	-1.0
YKA	Yellowknife Ar	31.98	24	P	P	07 45 20.1	-1.5
YKA						07 48 09.5	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,197nm,19.6s						
YKA	Yellowknife Ar	31.98	24	P	P	07 45 20.1	-1.5
	comp=Z,2.0nm,0.8s,mb4.0,baz=353,slow=8.4,SNR=42						
YKA				PcP	PcP	07 48 09.5	-2.2
	comp=Z,0.6nm,0.8s,baz=344,slow=3.1,SNR=6.9						
YKA				LR	LR	07 57 56.6	
	comp=Z,197nm,19.6s,MS3.8,baz=15,slow=36						
YKA	Yellowknife Ar	31.98	24	P	P	07 45 20.1	-1.5
YKA				PcP	PcP	07 48 09.5	-2.2
YKA				LR	LR	07 57 56.6	
CHKZ	Chkalovo	32.12	205	P	P	07 45 22.6	-0.3
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
BVA0	Borovoye Array	32.78	206	P	P	07 45 28.8	+0.1
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	Borovoye Array	32.78	206	P	P	07 45 28.7	0.0
	comp=Z,5.2nm,1.1s,mb4.4,baz=11,slow=7.6,SNR=12						
KURK	Kurchatov	34.85	196	eP	P	07 45 46.0	-0.6
KURK				e		07 47 08.1	
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
KURK	Kurchatov	34.85	196	eP	P	07 45 46.0	-0.6
	comp=Z,2.5nm,0.7s,mb4.2						
KURK				ePP	PP	07 47 08.1	+4.0
ZAK	Zakamensk	35.09	169	eP	P	07 45 49.8	+1.1
ZAK				e		07 47 11.7	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.7s,mb3.8						
DLBC	Dease Lake	35.37	39	LR	LR	07 58 42.7	
	comp=Z,208nm,21.0s,MS3.9,baz=67,slow=34						
EKA	Eskdalemuir Ar	35.66	283	P	P	07 45 53.9	+0.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=10.0,slow=12,SNR=3.5						
AKASG	Malin Array Be	37.59	250	P	P	07 46 09.4	-0.3
	comp=Z,1.8nm,0.6s,mb4.0,baz=3.3,slow=8.7,SNR=6.6						
SONM	Songino Array	37.70	165	P	P	07 46 10.4	-0.3
	comp=Z,2.2nm,1.1s,mb3.8,baz=349,slow=6.3,SNR=6.7						
MKAR	Makanchi Array	38.70	192	iP	P	07 46 17.3	-1.8
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MORC	Moravsky Berou	39.46	261	eP	P	07 46 21.7	-3.7
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.2						
MORC	Moravsky Berou	39.46	261	eP	P	07 46 21.7	-3.6
	comp=Z,4.5nm,1.1s,mb4.1						
GERES	GERESS Array B	40.70	265	P	P	07 46 35.4	-0.2
	comp=Z,3.4nm,1.2s,mb3.9,baz=31,slow=7.8,SNR=5.6						
PSZ	Piszkesteto	41.11	259	P	P	07 46 39.6	+0.6
PSZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
PSZ	Piszkesteto	41.11	259	P	P	07 46 39.6	+0.6
	comp=Z,11nm,1.1s,mb4.4						
WMQ	Urumqi	41.60	186	eP	P	07 46 44.0	+1.1
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.1						
FRU	Bishkek	42.83	200	eP	P	07 47 02.0	+9.0
FRU				e		07 48 38.0	
FRU				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.3						
MLR	Muntele Rosu	43.03	252	P	P	07 46 55.5	+0.9
	comp=Z,2.9nm,0.7s,mb4.1,baz=89,slow=4.8,SNR=5.5						
AAK	Ala-Archa	43.04	200	P	P	07 46 54.9	+0.2
AAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
AAK	Ala-Archa	43.04	200	P	P	07 46 54.9	+0.2
	comp=Z,10nm,1.4s,mb4.4						
KIV	Kislovodsk	43.31	234	eP	P	07 46 57.8	+0.9
KIV				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6						
KIV	Kislovodsk	43.31	234	eP	P	07 46 57.8	+0.9
	comp=Z,17nm,1.3s,mb4.6						
ULM	Lac du Bonnet	44.68	8	LR	LR	08 06 36.8	
	comp=Z,163nm,18.2s,MS4.0,baz=27,slow=37						
HHC	Hu-ho-hao-te	44.80	160	eP	P	07 47 10.0	+1.0
HHC				XP	sP	07 47 15.5	+2.2
HHC				PP	PP	07 48 54.2	-0.6
HHC				PCS		07 52 44.8	
HHC				S	S	07 53 43.4	-2.2
HHC				SCS	ScS	07 57 06.0	+1.6
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,163nm,6.5s						
HHC				LR	LR		
	comp=N,244nm,26.2s,MS4.4						
HHC				LR	LR		
	comp=E,538nm,24.4s,MS4.4						
HHC				LR	LR		
	comp=Z,100nm,26.2s,MS3.6						
NEW	Newport	46.12	28	P	P	07 47 20.6	+1.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=2.9,slow=7.7,SNR=5.6						
GNI	Garni	46.96	232	LR	LR	08 09 57.3	
	comp=Z,58nm,18.5s,MS3.6,baz=154,slow=40						
CHMT	Chamberlain Mo	47.61	24	P	P	07 47 32.6	+1.5
BOZ	Bozeman (W)	48.93	23	eP	P	07 47 41.0	-0.4
BOZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
BOZ	Bozeman (W)	48.93	23	eP	P	07 47 41.0	-0.4
	comp=Z,7.7nm,1.3s,mb4.6						
MALT	Malatya	49.22	238	P	P	07 47 44.6	+0.9
MALT				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MALT	Malatya	49.22	238	P	P	07 47 44.6	+0.9
	comp=Z,5.4nm,1.1s,mb4.5						
BMO	Blue Mountains	49.52	28	P	P	07 47 45.6	-0.4
	comp=Z,7.7nm,1.4s,mb4.5						
PDAR	Pinedale Array	51.88	21	P	P	07 48 03.9	-0.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=333,slow=2.0,SNR=3.2						
PDAR				LR	LR	08 11 02.8	
	comp=Z,122nm,18.7s,MS4.0,baz=73,slow=37						
BRNJ	Basking Ridge	54.21	349	eP	P	07 48 22.4	+1.2
PV10	Paradox Valley	56.27	21	eP	P	07 48 34.7	-1.6
PV01	Paradox Valley	56.53	21	P	P	07 48 38.2	+0.1
EIL	Elat	58.06	241	P	P	07 48 48.7	-0.3
WMOK	Wichita Mounta	60.14	11	eP	P	07 49 02.3	-1.1
WMOK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
WMOK	Wichita Mounta	60.14	11	eP	P	07 49 02.3	-1.2
	comp=Z,5.9nm,1.2s,mb4.5						
TXAR	Lajitas Array	65.43	16	P	P	07 49 37.8	-0.7
	comp=Z,0.7nm,0.7s,mb3.8,baz=3.0,slow=3.3,SNR=10						
TXAR				LR	LR	08 17 37.4	
	comp=Z,112nm,21.7s,MS4.0,baz=10.0,slow=36						
CMAR	Chiang Mai Arr	66.88	174	P	P	07 49 46.7	-1.2
	comp=Z,1.7nm,0.6s,mb4.2,baz=350,slow=7.7,SNR=9.2						
CMAR				LR	LR	08 20 36.7	
	comp=Z,54nm,19.7s,MS3.8,baz=140,slow=37						
CMAR	Chiang Mai Arr	66.88	174	P	P	07 49 46.7	-1.2
CMAR				LR	LR	08 20 36.7	

IDC 10 07:40:07.1±0.9, 16.74S×173.21W, mb3.9/8, mb1 4.2/9, mb1mx4.1/18, mbtmp4.0/9, ML4.7/1, MS3.9/3, Ms1 3.9/3, ms1mx3.4/23, Error ellipse: s-maj=38.4km s-min=18.7km az=140.0
ISC 10 07:40:05.5±0.7, 16.8S±0.1×173.2W±0.1, n11, σ0^{s}57/9, mb3.9/8, MS4.0/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.42	111	Pn	P	07 43 19.1	-0.7
	3.6nm,0.3s,baz=257,slow=9.6,SNR=8.4						
URZ	Urewera	23.02	200	P	P	07 45 14.4	+1.1
	2.7nm,0.3s,mb4.3,baz=47,slow=10,SNR=11						
STKA	Stephens Creek	43.54	241	P	P	07 48 12.3	-0.6
	2.0nm,1.1s,mb3.8,baz=45,slow=14,SNR=1.9						
WRA	Warramunga Arr	49.75	258	P	P	07 49 01.3	-0.6
	0.4nm,0.5s,mb3.6,baz=95,slow=7.5,SNR=7.4						
ASAR	Alice Springs	49.90	253	P	P	07 49 03.1	0.0
	2.7nm,0.7s,mb4.3,baz=88,slow=8.3,SNR=38						
CBIJ	Chichi jima	61.47	315	LR	LR	08 13 21.9	
	comp=Z,67nm,20.1s,MS3.8,baz=87,slow=32						
NVAR	Mina Array Bea	75.22	42	P	P	07 51 52.5	+0.5
	0.9nm,0.8s,mb3.9,baz=233,slow=13,SNR=5.1						
PDAR	Pinedale Array	83.16	42	P	P	07 52 35.2	+0.3
	0.7nm,0.6s,mb4.0,baz=208,slow=3.6,SNR=6.7						
ILAR	Eielson Array	83.76	11	P	P	07 52 37.1	-0.3
	0.4nm,0.6s,mb3.8,baz=234,slow=6.2,SNR=9.6						
ILAR				LR	LR	08 27 42.2	
	comp=Z,71nm,19.1s,MS4.1,baz=353,slow=34						
YKA	Yellowknife Ar	91.28	23	P	P	07 53 14.1	+0.3
	0.2nm,0.7s,mb3.6,baz=235,slow=4.7,SNR=6.6						
SNAA	Sanae	91.51	177	LR	LR	08 26 58.4	
	comp=Z,59nm,19.7s,MS4.0,baz=46,slow=31						

CSEM 10 07:57:36.5, 13.06N×43.93E, h11km, ML3.9, 4C-4D, After DHMR, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	0.24	46⇑	iP	Pg	07 57 41.7	-0.1
TRBA				iS	Sg	07 57 45.4	+0.1
TRBA				AML	AML	07 57 46.9	
	comp=E,8μm,0.3s						
TRBA	At Turbah	0.24	46⇑	iP	Pg	07 57 41.7	-0.1
TRBA				iS	Sg	07 57 45.4	+0.1
	comp=E,4μm,0.3s						
UDYN	Al 'Udayn	0.90	2⇑	iP	Pb	07 57 53.3	-0.3
UDYN				iS	Sb	07 58 05.6	+0.1
ADEN	Aden	1.06	105⇓	iP	Pb	07 57 56.0	-0.4
ADEN				iS	Sb	07 58 11.0	+0.9
ADEN				AML	AML	07 58 12.6	
	comp=N,4μm,0.5s						
ADEN	Aden	1.06	105⇓	iP	Pb	07 57 56.0	-0.4
ADEN				iS	Sb	07 58 11.0	+0.9
	comp=N,2μm,0.5s						
DHBB	Dhamar BB	1.56	16⇑	iP	Pn	07 58 05.0	+0.6
DHBB				iS	Sb	07 58 27.4	+2.6
BDHA	Al Bayda'	1.83	60	iP	Pn	07 58 08.4	+0.2
BDHA				iS	Sn	07 58 34.6	+3.0
BDHA				AML	AML	07 58 36.6	
	comp=E,2μm,0.3s						
BDHA	Al Bayda'	1.83	60	iP	Pn	07 58 08.4	+0.2
BDHA				iS	Sn	07 58 34.6	+3.0
	comp=E,1μm,0.3s						
SANA	San'a	2.33	6	iP	Pn	07 58 17.4	+2.0
SANA				iS	Sn	07 58 48.8	+4.6
HAJJ	Hajjah	2.64	353⇓	iP	Pn	07 58 21.7	+1.9
HAJJ				iS	Sn	07 58 57.1	+4.9
HAJJ				AML	AML	07 59 05.4	
	comp=E,709nm,0.8s						
HAJJ	Hajjah	2.64	353⇓	iP	Pn	07 58 21.7	+1.8
HAJJ				iS	Sn	07 58 57.1	+4.9
	comp=E,355nm,0.8s						

CSEM 10 07:59:16.0, 13.07N×43.91E, h22km, ML3.1, After DHMR
DHMR 10 07:59:17.4±0.7, 13.08N×43.99E, h13km±2km, ML3.0
ISC 10 07:59:15.9±2.2, 13.03N±0.07×43.92E±0.08, h5km±9km, n11, σ0^{s}72/22, 3C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TRBA	At Turbah	0.28	44⇓	iP	Pg	07 59 21.8	+0.3
TRBA				iS	Sg	07 59 25.1	-0.2
TRBA				AML	AML	07 59 26.9	
	comp=N,1μm,0.6s						
TRBA	At Turbah	0.28	44⇓	iP	Pg	07 59 21.8	+0.3
TRBA				iS	Sg	07 59 25.1	-0.2
	comp=N,630nm,0.6s						
TRBA	At Turbah	0.28	44⇓	iP	Pg	07 59 21.8	+0.3
TRBA				iS	Sg	07 59 25.8	+0.5
	comp=N,630nm,0.6s						
UDYN	Al 'Udayn	0.94	3	iP	Pb	07 59 33.7	-0.5
UDYN				iS	Sb	07 59 45.9	-0.8
UDYN				AML	AML	07 59 51.4	
	comp=N,718nm,0.5s						
UDYN	Al 'Udayn	0.94	3	iP	Pb	07 59 33.7	-0.5
UDYN				iS	Sb	07 59 45.9	-0.8
	comp=N,359nm,0.5s						
UDYN	Al 'Udayn	0.94	3	iP	Pb	07 59 33.7	-0.5
UDYN				iS	Sb	07 59 45.9	-0.8
	comp=N,359nm,0.5s						
ADEN	Aden	1.07	103	iP	Pb	07 59 36.1	-0.4
ADEN				iS	Sb	07 59 50.4	-0.3
BDHA	Al Bayda'	1.86	59	iP	Pn	07 59 48.8	+0.1
BDHA				iS	Sn	08 00 13.5	+0.6
HAJJ	Hajjah	2.67	353⇑	iP	Pn	08 00 02.5	+2.1
HAJJ				iS	Sn	08 00 37.9	+4.3
HAJJ	Hajjah	2.67	353⇑	iP	Pn	08 00 02.5	+2.1
HAJJ				iS	Sn	08 00 37.8	+4.2
HAJJ	Hajjah	2.67	353⇑	iP	Pn	07 59 59.5	-0.9
HAJJ				iS	Sn	08 00 33.9	+0.3

IDC 10 08:05:07.9±8.6, 15.02S×177.72W, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=386.7km s-min=36.9km az=140.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.88	257	P	P	08 13 32.0	-2.2
	0.1nm,0.4s,baz=92,slow=7.1,SNR=8.3						
ASAR	Alice Springs	46.27	252	P	P	08 13 35.8	-1.5
	3.9nm,0.4s,baz=84,slow=8.4,SNR=85						
ILAR	Eielson Array	82.94	13	P	P	08 17 34.4	-1.4
	0.5nm,1.0s,baz=225,slow=5.1,SNR=4.5						

IDC 10 08:09:54.5±0.8, 17.22S×173.70W, mb4.0/9, mb1 4.4/10, mb1mx4.2/17, mbtmp4.1/10, ML4.6/1, Error ellipse: s-maj=38.4km s-min=18.9km az=133.0
NEIC 10 08:09:55.8±0.5, 17.12S×173.80W, h10km, mb4.8/11, Error ellipse: s-maj=19.4km s-min=11.3km az=123.0
ISC 10 08:09:57.8±0.4, 17.23S±0.10×173.8W±0.1, h33km, n36, σ0^{s}96/27, mb4.4/20, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.84	31	*e*Pn	Pn	08 10 51.6	-4.6
RAR	Rarotonga	13.85	109	Pn	P	08 13 03.9	-10
	2.8nm,0.3s,baz=240,slow=14,SNR=4.2						
URZ	Urewera	22.41	199	P	P	08 14 54.4	-0.4
	4.1nm,0.4s,mb4.2,baz=288,slow=9.6,SNR=7.4						
PMG	Port Moresby	38.70	276	*e*P	P	08 17 17.9	-2.6
	15nm,0.9s,mb4.7						
TAU	Tasmania Unive	41.71	224	*e*P	P	08 17 40.0	-5.3
	64nm,1.4s,mb5.1						
WRAB	Tennant Creek	49.05	258	*e*P	P	08 18 45.4	+1.5
	8.9nm,1.1s,mb4.7						
WRA	Warramunga Arr	49.05	258	P	P	08 18 44.0	0.0
	0.8nm,0.6s,mb3.9,baz=97,slow=7.0,SNR=16						
ASAR	Alice Springs	49.18	253	P	P	08 18 45.6	+0.7
	6.1nm,0.6s,mb4.8,baz=90,slow=8.5,SNR=55						
SBA	Scott Base	61.41	185	P	P	08 20 12.7	0.0
	18nm,1.3s,mb5.0						
VNDA	Vanda	61.53	186	P	P	08 20 13.6	+0.2
	1.0nm,1.0s,mb3.9,baz=31,slow=4.7,SNR=4.0						
QSPA	South Pole Qui	72.83	180	*e*P	P	08 21 24.3	0.0
	7.5nm,1.0s,mb4.6						
NVAR	Mina Array Bea	75.95	42	P	P	08 21 42.9	-0.4
	1.0nm,0.9s,mb3.8,baz=216,slow=6.5,SNR=5.6						
TXAR	Lajitas Array	81.96	56	P	P	08 22 16.0	-0.1
	1.1nm,1.1s,mb3.7,baz=225,slow=3.5,SNR=8.0						
TXAR	Lajitas Array	81.96	56	P	P	08 22 16.0	-0.1
GDL2	Guadalupe Moun	82.64	53	*e*P	P	08 22 19.1	-0.4
GDL2				*e*		08 22 32.6	
MCK	McKinley	82.98	11	*e*P	P	08 22 20.8	+0.2
	1.9nm,0.8s,mb4.2						
PDAR	Pinedale Array	83.89	42	P	P	08 22 25.9	+0.2
	0.7nm,1.0s,mb3.7,baz=207,slow=3.3,SNR=4.8						
COLA	College	84.22	11	*e*P	P	08 22 25.9	-0.9
	4.7nm,0.8s,mb4.7						
ILAR	Eielson Array	84.31	11	P	P	08 22 27.9	+0.7
	0.6nm,0.6s,mb3.9,baz=217,slow=5.2,SNR=14						
WALA	Waterton Lakes	84.64	35	P	P	08 22 22.1	-7.2
	3.5nm,1.0s,mb4.4						
BILL	Bilibino	86.26	353	*e*P	P	08 22 38.6	+1.8
BJT	Baijiatuau	86.42	314	P	P	08 22 36.8	-1.5
	10nm,0.7s,mb5.2						
INK	Inuvik	90.13	14	*e*P	P	08 22 55.7	+0.3
	4.7nm,1.3s,mb4.7						
SNAA	Sanae	91.11	177	P	P	08 22 58.8	-1.1
	8.3nm,0.9s,mb5.1						
YKA	Yellowknife Ar	91.93	24	P	P	08 23 03.4	-0.4
	0.2nm,0.9s,mb3.5,baz=226,slow=4.6,SNR=5.3						
YKA	Yellowknife Ar	91.93	24	P	P	08 23 03.4	-0.4
TRQA	Tornquist	95.74	133	P	P	08 23 24.7	+2.9
CLL	Collm	145.57	352	⇓*i*PKP1	PKPbc	08 29 35.6	+2.5
GERES	GERESS Array B	147.87	351	PKPbc	PKPdf	08 29 42.4	+6.0
	1.0nm,0.7s,baz=27,slow=3.0,SNR=5.9						
FLN	La Foliniere	148.08	8	*e*PKP1	PKPdf	08 29 42.3	+5.6
	6.1nm,0.5s						
SGMF	Saint Gilles	148.24	11	*e*PKP1	PKPdf	08 29 42.6	+5.6
LDF	La Druitiere	148.30	8	*e*PKP1	PKPdf	08 29 43.0	+5.9
GRR	Gorron	148.39	9	*e*PKP1	PKPdf	08 29 43.1	+5.9
	10nm,0.7s						
QUIF	Quistinic	148.45	12	*e*PKP1	PKPdf	08 29 43.8	+6.5
SSF	Saint Saulge	150.17	4	*e*PKP1	PKPdf	08 29 48.3	+8.2
	8.5nm,0.8s						
BGF	Bois d'Agland	150.62	5	*e*PKP1	PKPdf	08 29 49.4	+8.6
	6.9nm,0.6s						

*BJI **10** 08:21:25.8, 5.87S×154.50E, h169km, mB5.2, mb4.8*
*NEIC **10** 08:21:27.8±1.5, 5.49S×154.20E, h140km±13km, mb4.7/31, Error ellipse: s-maj=7.8km s-min=6.1km az=65.0*
*IDC **10** 08:21:28.4±3.9, 5.51S×154.23E, h141km±35km, mb4.5/13, mb1 4.6/15, mb1mx4.5/18, mbtmp4.9/15, MS3.5/2, Ms1 3.6/2, ms1mx2.9/18, Error ellipse: s-maj=23.3km s-min=12.7km az=83.0*
ISC 10 08:21:27.0±2.0**, 5.51S**±0.06×**154.22E**±0.07**, h147**km±17km**, n66,** σ**0.88**/66**, mb4.8**/44**, 9C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.00	241	P	P	08 23 21.8	+0.3
	37nm,0.3s,baz=53,slow=5.9,SNR=125						
PMG				S	S	08 24 51.5	+0.8
	3.8nm,0.3s,baz=7.8,slow=4.0,SNR=2.8						
PMG				LR	LR	08 25 30.6	
	comp=Z,125nm,18.6s,baz=235,slow=30						
PMG	Port Moresby	8.00	241	*e*Pn	P	08 23 21.4	0.0
	513nm,0.7s						
PMG				*e*Sn	S	08 24 42.6	-8.1
CTA	Charters Tower	16.43	207	*e*P	P	08 25 13.6	+3.1
	9.3nm,0.6s						
CTA	Charters Tower	16.43	207	P	P	08 25 12.0	+1.4
	1.2nm,0.3s,baz=30,slow=11,SNR=17						
CTAO	Charters Tower	16.43	207	*e*P	P	08 25 11.1	+0.6
	13nm,0.7s						
NOUC	Port Laguerre	20.22	146	*e*P	P	08 25 51.0	-1.3
NOUC	Port Laguerre	20.22	146	*e*P	P	08 25 51.0	-1.3
DZM	Mont Dzumac	20.27	145	*e*P	P	08 25 52.4	-0.5
DZM	Mont Dzumac	20.27	145	*e*P	P	08 25 52.4	-0.5
KAKA	Kakadu	22.65	250	⇑*i*P	P	08 26 16.3	-0.2
	48nm,0.7s,mb5.0						
WRAB	Tennant Creek	24.06	232	P	P	08 26 30.0	-0.1
	791nm,0.7s,SNR=57						
WRAB	Tennant Creek	24.06	232	*e*P	P	08 26 30.5	+0.4
	160nm,0.7s,mb5.7						
WB2	Warramunga Arr	24.07	232	⇑*i*P	P	08 26 30.9	+0.8
WRA	Warramunga Arr	24.08	232	P	P	08 26 30.7	+0.5
	76nm,0.8s,mb5.3,baz=54,slow=9.6,SNR=321						
ARMA	Armidale	24.90	185	⇑*i*P	P	08 26 38.7	+0.8
ASAR	Alice Springs	26.62	225	P	P	08 26 53.5	-0.3
	11nm,0.6s,mb4.7,baz=55,slow=9.3,SNR=128						
ASPA	Alice Springs	26.62	225	⇑*i*P	P	08 26 53.4	-0.5
STKA	Stephens Creek	28.77	203	⇑*i*P	P	08 27 12.2	-1.0
	8.3nm,0.4s,mb4.8						
STKA	Stephens Creek	28.77	203	P	P	08 27 12.3	-0.9
	9.2nm,0.4s,mb4.8,baz=9.5,slow=8.5,SNR=48						
FITZ	Fitzroy Crossi	30.59	243	⇑*i*P	P	08 27 28.1	-1.3
	84nm,0.6s,mb5.7						
FORT	Forrest	35.16	221	⇑*i*P	P	08 28 08.1	-0.6
	2μm,0.7s						
MBWA	Marble Bar	36.87	242	*e*P	P	08 28 22.2	-0.8
	65nm,1.3s,mb5.1						
TAU	Tasmania Unive	37.75	188	*e*P	P	08 28 30.9	+0.7
	93nm,1.6s,mb5.2						
JOW	Kunigami	40.80	323	P	P	08 28 55.8	+0.2
	15nm,0.8s,mb4.7,baz=128,slow=16,SNR=3.4						
RPZ	Rata Peaks	40.84	161	P	P	08 28 56.3	+0.6
	30nm,0.6s,mb5.1,baz=16,slow=8.6,SNR=11						
KLBR	Kellerberrin	42.87	228	⇑*i*P	P	08 29 11.4	-1.2
	116nm,0.4s,mb5.9						
NWAO	Narrogin (SRO)	43.92	227	P	P	08 29 19.4	-1.6
	7.2nm,0.7s,mb4.4						
MUN	Mundaring	44.21	229	*e*P	P	08 29 22.8	-0.5
	10nm,0.6s,mb4.6						
KSM	Kuching	44.40	278	*e*P	P	08 29 25.0	-0.1
ASAJ	Asahikawa	50.49	349	P	P	08 30 12.9	+0.9
	12nm,0.7s,mb4.7,baz=220,slow=16,SNR=8.6						
ENH	Enshi	55.67	312	*e*P	P	08 30 49.3	-1.1
	16nm,0.9s,mb4.9						
CMAR	Chiang Mai Arr	59.45	295	P	P	08 31 17.5	+0.4
	6.7nm,0.8s,mb4.5,baz=109,slow=5.2,SNR=20						
HHC	Hu-ho-hao-te	60.45	324	*e*P	P	08 31 25.3	+1.8
HHC				PP	PP	08 33 40.3	-0.1
HHC				S	S	08 39 25.9	+0.8
HHC				SS	SS	08 43 29.5	+3.0
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,127nm,4.8s						
HIA	Hailar	62.26	335	P	P	08 31 34.7	-0.8
	comp=Z,4.8nm,0.7s,mb4.4						
MA2	Magadan	64.93	358	*e*P	P	08 31 51.5	-1.4
	comp=Z,9.5nm,0.8s,mb4.7						
GTA	Gaotai	67.13	317	P	P	08 32 07.9	+0.7
GTA				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
ULN	Ulaanbaatar	67.34	328	*e*P	P	08 32 07.9	-0.5
	comp=Z,6.6nm,0.8s,mb4.5						
SONM	Songino Array	67.67	327	P	P	08 32 10.3	-0.1
	comp=Z,3.1nm,0.5s,mb4.3,baz=143,slow=6.6,SNR=12						
LSA	Lhasa	69.80	304	P	P	08 32 24.6	+0.8
	comp=Z,9.6nm,0.8s,mb4.6						
TLY	Talaya	71.40	330	*e*P	P	08 32 33.9	+1.0
	comp=Z,5.1nm,0.8s,mb4.3						
VNDA	Vanda	72.08	178	P	P	08 32 37.4	+0.8
	comp=Z,9.2nm,0.7s,mb4.6,baz=329,slow=6.6,SNR=56						
SBA	Scott Base	72.60	177	*e*P	P	08 32 40.7	+1.1
	comp=Z,15nm,1.1s,mb4.6						
JIRN	Jiri	73.36	301	*e*P	P	08 32 45.4	+0.4
	comp=Z,12nm,0.6s,mb4.8						
VIS	Vishakhapatnam	73.63	290	*e*	P	08 32 50.1	+3.4
GUN	Gumba	73.69	301	*e*P	P	08 32 47.4	+0.5
	comp=Z,29nm,0.8s,mb5.1						
PKI	Pulchoki	74.01	301	*e*P	P	08 32 48.6	-0.1
	comp=Z,20nm,0.8s,mb4.9						
KKN	Kakani	74.17	301	*e*P	P	08 32 50.0	+0.3
	comp=Z,16nm,0.6s,mb5.0						
DMN	Daman	74.28	301	*e*P	P	08 32 50.9	+0.6
	comp=Z,45nm,0.8s,mb5.2						
GKN	Gorkha	74.78	301	*e*P	P	08 32 53.3	+0.2
	comp=Z,12nm,0.4s,mb4.9						
KOLN	Koldanda	75.61	300	*e*P	P	08 32 58.0	+0.2
	comp=Z,30nm,0.8s,mb5.0						
HYB	Hyderabad	78.06	289	*e*P	P	08 33 11.5	-0.1
HYB	Hyderabad	78.06	289	*i*P	P	08 33 11.5	-0.1
MCK	McKinley	80.97	22	*e*P	P	08 33 25.8	-0.5
	comp=Z,3.3nm,0.7s,mb4.1						
DGAR	Diego Garcia	81.17	263	P	P	08 33 27.2	-1.1
	comp=Z,86nm,0.8s,mb5.4						
COLA	College	81.98	21	*e*P	P	08 33 30.8	-0.8
	comp=Z,8.8nm,0.8s,mb4.4						
ILAR	Eielson Array	82.28	22	P	P	08 33 32.4	-0.7
	comp=Z,3.1nm,0.6s,mb4.1,baz=245,slow=5.4,SNR=50						
ILAR				LR	LR	09 04 23.5	
	comp=Z,61nm,20.0s,baz=354,slow=31						
QSPA	South Pole Qui	84.46	180	⇑*i*P	P	08 33 44.9	+1.2
	comp=Z,17nm,0.6s,mb5.0						
KURK	Kurchatov	85.19	322	P	P	08 33 47.1	-0.9
	comp=Z,2.4nm,0.4s,mb4.3						
MAW	Mawson	85.47	203	P	P	08 33 49.6	+0.6
	comp=Z,17nm,0.6s,mb5.0,baz=97,slow=20,SNR=11						
AAK	Ala-Archa	86.17	313	P	P	08 33 52.7	-0.3
	comp=Z,1.6nm,0.8s,mb3.8						
INK	Inuvik	88.61	21	P	P	08 34 04.5	+0.5
	comp=Z,1.2nm,0.5s,mb4.1,baz=296,slow=4.8,SNR=14						
CHKZ	Chkalovo	90.61	324	*e*P	P	08 34 11.9	-1.9
	comp=Z,2.1nm,0.6s,mb4.3						
NVAR	Mina Array Bea	91.41	52	P	P	08 34 19.8	+1.9
	comp=Z,0.9nm,0.7s,mb3.9,baz=251,slow=4.2,SNR=8.4						
TXAR	Lajitas Array	103.23	61	Pdiff	Pdif	08 35 12.8	+1.3
	comp=Z,0.1nm,0.6s,baz=259,slow=6.4,SNR=2.3						
GERES	GERESS Array B	125.39	329	PKP	PKPdf	08 40 12.5	+1.9
	comp=Z,1.0nm,0.6s,baz=45,slow=1.9,SNR=8.5						
BDFB	Brasilia	149.56	134	PKPbc	PKPdf	08 41 02.1	+6.9
	comp=Z,2.5nm,0.6s,baz=346,slow=1.6,SNR=5.7						

*IDC **10** 08:26:40.5±0.9, 55.57N×162.49E, mb3.8/8, mb1 4.1/9, mb1mx3.9/21, mbtmp3.9/9, ML3.4/1, MS3.1/1, Ms1 3.1/1, ms1mx2.2/33, Error ellipse: s-maj=20.4km s-min=18.6km az=171.0*
*MOS **10** 08:26:43.0±1.5, 55.49N×163.08E, h20km, mb4.2/2, Error ellipse: s-maj=17.7km s-min=10.5km az=76.1*
*KRSC **10** 08:26:44.5±0.5, 55.51N×163.07E, h52km±9km, ML4.6*
ISC 10 08:26:45.2±0.4**, 55.47N**±0.02×**163.05E**±0.04**, h46**km±6km**, n51,** σ**0.96**/85**, mb3.8**/9**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	Krutoberegovo	0.76	350	P	P	08 26 59.5	-0.1
KBTR				S	S	08 27 10.6	+0.4
KBTR	Krutoberegovo	0.76	350	*i* P	P	08 26 59.4	-0.2
KBTR				*i* S	S	08 27 10.5	+0.3
KBG	Krutoberegovo	0.82	346	*i* P	P	08 26 59.3	-1.2
KBG				*e*S	S	08 27 10.3	-1.3
KBG				Smax			
	18μm,0.7s						
KBG	Krutoberegovo	0.82	346	*i* P	P	08 27 00.2	-0.3
KBG				*i* S	S	08 27 11.6	0.0
KBG				Smax			
	11μm,0.8s						
ZLN	Zelenaya	1.39	294	*e*P	P	08 27 08.4	-0.2
ZLN				*e*S	S	08 27 25.9	-0.1
CIRR	Tsirk	1.46	298	*e*P	P	08 27 10.1	+0.5
CIRR				*e*S	S	08 27 28.6	+0.9
LGNR	Loginova	1.47	296	*e*P	P	08 27 09.8	0.0
LGNR				*e*S	S	08 27 28.3	+0.2
KRSR	Krestovskiy	1.59	299	*i* P	P	08 27 10.5	-1.0
KRSR				*i* S	S	08 27 29.4	-1.6
KLY	Klyuchi	1.60	303	P	P	08 27 09.5	-2.1
KLY				S	S	08 27 27.5	-3.6
KLY	Klyuchi	1.60	303	*i* P	P	08 27 09.3	-2.3
KLY				*i* S	S	08 27 27.5	-3.6
KMNR	Kamenistaya	1.62	282	*i* P	P	08 27 12.0	+0.1
KMNR				*e*S	S	08 27 32.3	+0.5
TUMR	Tumrok	1.67	265	*i* P	P	08 27 12.9	+0.3
TUMR				*i* S	S	08 27 33.2	+0.3
KPT	Kopyto	1.68	289	*e*P	P	08 27 12.8	+0.1
KPT				*i* S	S	08 27 33.3	+0.2
BKI	Bering	1.69	98	*i* P	P	08 27 12.6	-0.3
BKI				*i* S	S	08 27 33.7	+0.3
KOZR	Kozyr	1.88	290	PN	P	08 27 16.8	+1.2
KOZR				S	S	08 27 39.4	+1.2
KOZ	Kozyrevsk	1.89	290	P	P	08 27 16.8	+1.1
KOZ				S	S	08 27 39.4	+1.0
KOZ	Kozyrevsk	1.89	290	*e*P	P	08 27 16.1	+0.4
KOZ				*i* S	S	08 27 39.4	+1.0
SRDR	Sredinnyy	2.06	296	*e*P	P	08 27 18.2	+0.1
SRDR				*i* S	S	08 27 43.0	+0.3
ESO	Esso	2.51	282	*e*P	P	08 27 24.1	-0.4
ESO				*e*S	S	08 27 52.5	-1.5
ESO				Smax			
	290nm,0.8s						
KII	Karymskiy	2.53	237	P	P	08 27 25.8	+0.9
KII				S	S	08 27 56.4	+1.8
KII	Karymskiy	2.53	237	*i* P	P	08 27 25.4	+0.5
KII				*e*S	S	08 27 55.1	+0.5
SPN	Mys Shipunski	2.96	218	P	P	08 27 29.6	-1.4
SPN				S	S	08 28 01.8	-3.8
SPN	Mys Shipunski	2.96	218	*e*P	P	08 27 30.2	-0.8
SPN				*e*S	S	08 28 03.7	-1.9
NLC	Nalytchevo	3.16	225	P	P	08 27 34.1	+0.3
NLC				S	S	08 28 09.0	-1.6
NLC	Nalytchevo	3.16	225	*e*P	P	08 27 34.4	+0.6
NLC				*e*S	S	08 28 10.1	-0.5
AVH	Avacha	3.35	231	*e*P	P	08 27 37.3	+0.8
AVH				*e*S	S	08 28 15.6	+0.2
UGLR	Uglovaya	3.35	229	*e*P	P	08 27 36.8	+0.3
KOK	Koryaka	3.38	232	*e*P	P	08 27 37.5	+0.7
GNL	Ganaly	3.46	241	*e*P	P	08 27 38.2	+0.2
PET	Petropavlovsk	3.56	228	P	P	08 27 39.5	+0.1
PET				S	S	08 28 18.7	-1.9
PET	Petropavlovsk	3.56	228	*e*PN	P	08 27 39.6	+0.2
PET				pmax	pmax		
	comp=Z,81nm,0.5s						
PET	Petropavlovsk	3.56	228	*e*P	P	08 27 39.5	+0.1
PET				*e*S	S	08 28 18.9	-1.7
OSSR	Ossora	3.80	0	*i* P	P	08 27 39.0	-3.7
KRMR	Karymshinskiy	3.92	230	*e*P	P	08 27 45.5	+1.0
KRMR				*e*S	S	08 28 29.5	-0.2
RUS	Russkaya	4.05	223	P	P	08 27 46.6	+0.2
RUS				S	S	08 28 31.2	-1.9
RUS	Russkaya	4.05	223	*e*P	P	08 27 46.7	+0.3
RUS				*e*S	S	08 28 31.5	-1.6
GRL	Gorelyy	4.14	227	*e*P	P	08 27 48.4	+0.8
GRL				*e*S	S	08 28 34.9	-0.5
APC	Apacha	4.30	236	*e*P	P	08 27 51.5	+1.7
APC				*e*S	S	08 28 39.5	+0.2
APC				Smax			
	comp=Z,40nm,0.6s						
FX1	Attu Island--F	6.48	109	Pn	P	08 28 21.4	+1.0
	comp=Z,2.7nm,0.3s,baz=224,slow=19,SNR=12						
FX1				Sn	S	08 29 32.0	-1.8
	comp=Z,5.6nm,0.3s,baz=158,slow=19,SNR=7.1						
KAMR	Kamenskoye	7.20	12	*i* P	P	08 28 30.6	+0.1
KAMR				*i* S	S	08 29 48.0	-3.8
KAMR				Smax			
	comp=Z,10.0nm,1.3s						
ASAJ	Asahikawa	17.34	238	LR	LR	08 36 49.4	
	comp=Z,71nm,19.9s,baz=166,slow=36						
ILAR	Eielson Array	25.93	49	P	P	08 32 15.2	+0.8
	comp=Z,1.1nm,0.9s,mb3.4,baz=277,slow=10,SNR=10						
BOD	Bodaibo	26.60	295	*e*P	P	08 32 19.5	-1.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.7						
INK	Inuvik	30.93	40	P	P	08 32 59.8	+0.4
	comp=Z,0.4nm,0.5s,mb3.5,baz=270,slow=8.1,SNR=6.0						
YKA	Yellowknife Ar	40.25	45	P	P	08 34 19.7	+1.1
	comp=Z,0.4nm,0.7s,mb3.3,baz=299,slow=8.0,SNR=7.1						
FINES	FINESS Array B	58.61	337	P	P	08 36 37.7	-1.5
	comp=Z,0.4nm,0.4s,mb3.8,baz=34,slow=6.9,SNR=6.9						
SCHQ	Schefferville	62.73	30	P	P	08 37 06.3	-1.0
	comp=Z,1.4nm,0.8s,mb4.1,baz=297,slow=9.0,SNR=3.6						
TXAR	Lajitas Array	68.15	70	P	P	08 37 44.2	+1.9
	comp=Z,1.0nm,0.5s,mb4.1,baz=296,slow=5.2,SNR=23						
WRA	Warramunga Arr	78.98	207	P	P	08 38 45.0	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	78.98	207	P	P	08 38 45.0	-0.6
	comp=Z,1.3nm,0.8s,mb3.9,baz=16,slow=6.0,SNR=9.9						
ASAR	Alice Springs	82.65	207	P	P	08 39 05.7	+0.7
	comp=Z,1.6nm,0.7s,mb4.2,baz=17,slow=5.5,SNR=22						

SKHL 10 08:59:40.1±0.1**, 54.58N**×**134.00E, h7**km±2km**, mb3.7**/4**, 1C, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.64	203	*e*Pg	Pg	09 00 09.8	-3.0
EKMR				AMB	AMB	09 00 10.5	
	16nm,0.2s						
EKMR				AMB	AMB	09 00 10.5	
	23nm,0.2s						
EKMR				pPg		09 00 11.5	
EKMR				*e*Sg	Sg	09 00 31.4	-3.2
EKMR				A		09 00 34.4	
	58nm,0.4s						
EKMR				A		09 00 34.4	
	70nm,0.4s						
EKMR				A		09 00 34.4	
	47nm,0.4s						
BMKR	Bomnak	3.00	275	*e*Pn	Pn	09 00 29.0	0.0
BMKR				⇑*i*Pg	Pg	09 00 34.1	-5.9
BMKR				AMB	AMB	09 00 35.3	
	13nm,0.5s						
BMKR				pPg		09 00 36.3	
BMKR				*e*Sg	Sg	09 01 13.7	-6.3
BMKR				A		09 01 16.0	
	25nm,0.5s						
BMKR				A		09 01 16.0	
	38nm,0.5s						
YASR	Yasnyy	3.79	252	*e*Pn	Pn	09 00 39.8	-0.4
YASR				*e*Pg	Pg	09 00 48.5	-7.2
YASR				AMB	AMB	09 00 51.1	
	1.0nm,0.5s						
YASR				AMB	AMB	09 00 51.1	
	3.0nm,0.5s						
YASR				AMB	AMB	09 00 51.1	
	5.0nm,0.5s						
YASR				*e*Sg	Sg	09 01 38.3	-7.8
YASR				A		09 01 47.6	
	18nm,0.7s						
YASR				A		09 01 47.6	
	8.0nm,0.7s						
ZEA	Zeya	4.06	261	*e*Pg	Pg	09 00 52.6	-8.5
ZEA				sPg		09 00 56.1	
ZEA				*e*Sg	Sg	09 01 46.1	-9.1
ZEA				A		09 01 51.0	
	72nm,1.1s						
ZEA				A		09 01 51.0	
	35nm,1.1s						
GRNR	Gornyy	4.09	158	*e*Sg	Sg	09 01 51.0	-5.3
KROS	Kirovskiy	4.10	271	*e*Pn	Pn	09 00 43.9	-0.7
KROS				*e*Pg	Pg	09 00 53.7	-8.3
KROS				AMB	AMB	09 00 55.2	
	11nm,0.4s						
KROS				pPg		09 00 56.5	
KROS				*e*Sn	Sn	09 01 31.6	-1.9
KROS				*e*Sg	Sg	09 01 48.0	-8.6
KROS				A		09 01 52.4	
	24nm,0.6s						
KROS				A		09 01 52.4	
	9.0nm,0.6s						
KROS				A		09 01 52.4	
	14nm,0.6s						
NKL	Nikolayevsk	4.21	107	*e*rx	rx	09 01 53.2	
NKL				A		09 01 54.0	
	22nm,1.0s						

SKHL 10 09:01:41.6±0.3**, 54.54N**×**133.96E, h10**km±3km**, mb4.0**/6**, 2D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.59	203	⇓*i*Pg	Pg	09 02 10.5	-2.9
EKMR				AMB	AMB	09 02 11.8	
	36nm,0.6s						
EKMR				AMB	AMB	09 02 11.8	
	21nm,0.6s						
EKMR				AMB	AMB	09 02 11.8	
	39nm,0.6s						
EKMR				*e*Sg	Sg	09 02 31.5	-3.1
EKMR				A		09 02 35.0	
	290nm,0.7s						
EKMR				A		09 02 35.0	
	430nm,0.7s						
EKMR				A		09 02 35.0	
	170nm,0.7s						
BMKR	Bomnak	2.98	275	*e*Pn	Pn	09 02 29.9	0.0
BMKR				⇓*i*Pg	Pg	09 02 35.0	-6.1
BMKR				AMB	AMB	09 02 35.9	
	30nm,0.6s						
BMKR				AMB	AMB	09 02 35.9	
	280nm,0.6s						
BMKR				AMB	AMB	09 02 35.9	
	34nm,0.6s						
BMKR				pPg		09 02 37.0	
BMKR				sPg		09 02 38.7	
BMKR				*i* Sg	Sg	09 03 14.6	-6.3
BMKR				A		09 03 25.5	
	105nm,0.5s						
BMKR				A		09 03 25.5	
	100nm,0.5s						
YASR	Yasnyy	3.75	253	*e*Pg	Pg	09 02 49.3	-7.2
YASR				AMB	AMB	09 02 51.9	
	3.0nm,0.6s						
YASR				AMB	AMB	09 02 51.9	
	10.0nm,0.6s						
YASR				AMB	AMB	09 02 51.9	
	15nm,0.6s						
YASR				*e*Sg	Sg	09 03 38.6	-7.9
YASR				A		09 03 49.1	
	100nm,0.7s						
YASR				A		09 03 49.1	
	22nm,0.7s						
YASR				A		09 03 49.1	
	80nm,0.7s						
ZEA	Zeya	4.03	261	*e*Pg	Pg	09 02 53.4	-8.6
ZEA				AMB	AMB	09 02 56.3	
	34nm,0.6s						
ZEA				sPg		09 02 58.2	
ZEA				*e*Sn	Sn	09 03 28.6	-4.0
ZEA				*e*Sg	Sg	09 03 46.1	-10
ZEA				A		09 03 51.0	
	400nm,1.0s						
ZEA				A		09 03 51.0	
	200nm,1.0s						
ZEA				A		09 03 52.1	
	220nm,1.0s						
ZEA				A		09 03 52.1	
	110nm,1.0s						
GRNR	Gornyy	4.06	157	*e*Sg	Sg	09 03 49.5	-7.4
GRNR				A		09 03 55.4	
	96nm,0.7s						
KROS	Kirovskiy	4.08	271	*e*Pn	Pn	09 02 45.0	-0.5
KROS				*e*Pg	Pg	09 02 55.0	-8.0
KROS				AMB	AMB	09 02 56.0	
	5.0nm,0.6s						
KROS				AMB	AMB	09 02 56.0	
	29nm,0.6s						
KROS				AMB	AMB	09 02 56.0	
	36nm,0.6s						
KROS				sPg		09 02 59.4	
KROS				*i* Sn	Sn	09 03 32.0	-1.8
KROS				*e*Sg	Sg	09 03 49.5	-7.9
KROS				A		09 03 53.4	
	97nm,0.6s						
KROS				A		09 03 53.4	
	57nm,0.6s						
NKL	Nikolayevsk	4.22	107	*e*rx	rx	09 02 43.0	
NKL				*e*Sg	Sg	09 03 52.0	-10
NKL				A		09 03 55.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	86nm,1.0s						
OKH	**Okha**	**5.38**	**97**	eSg	Sg	09 04 30.0	-11
KLR	**Kul'dur**	**5.49**	**195**	erx	rx	09 04 38.8	
TYV	**Tymovskoe**	**6.44**	**121**	erx	rx	09 04 49.0	
TYV				eSg	Sg	09 05 04.0	-12
TYV				A		09 05 16.0	
	18nm,1.0s						
TYV				A		09 05 16.0	
	22nm,1.0s						
TUP	**Tupik**	**8.16**	**275**	ePn	P	09 03 43.1	+0.1
TUP				ePg	P	09 04 10.7	+28
TUP				AMB	AMB	09 04 15.9	
	9.0nm,0.5s						
TUP				eSg	Sg	09 05 57.0	-16
TUP				A		09 06 06.2	
	37nm,0.7s						

IDC 10 09:04:21.6±7.2**, 5.05S**×**153.60E, h185**^{km}±58^{km}**, mb3.2**/3**, mb1 3.6**/4**, mb1mx3.3**/14**, mbtmp3.9**/4**, Error ellipse: s-maj=144.3km s-min=29.4km az=125.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.72**	**236**	P	P	09 06 10.9	-1.1
	4.0nm,0.3s,baz=79,slow=5.2,SNR=16						
PMG				S	S	09 07 39.5	+1.2
	0.9nm,0.3s,baz=265,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**23.89**	**230**	P	P	09 09 19.0	-0.7
	4.6nm,0.9s,baz=55,slow=9.6,SNR=47						
ASAR	**Alice Springs**	**26.52**	**224**	P	P	09 09 41.5	-2.5
	0.3nm,0.4s,baz=56,slow=9.3,SNR=5.7						
ILAR	**Eielson Array**	**82.09**	**22**	P	P	09 16 21.1	-1.2
	0.3nm,0.8s,baz=255,slow=5.3,SNR=5.8						

DJA 10 09:16:01.8±1.0**, 9.52S**×**115.17E, h33**^{km}**, MD5.2**/3**, ML3.8**/4**, 8D, Error ellipse: s-maj=25.1km s-min=7.8km az=175.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.87**	**25**	⇓iPn	Pn	09 16 16.2	-1.6
	227nm,0.2s						
RATI	**Rata**	**0.87**	**25**	⇓iP	P	09 16 16.8	-0.8
RATI				⇓iSn	Sn	09 16 27.8	-1.6
KEDI	**Kedomdong**	**1.39**	**42**	⇓iPn	Pn	09 16 24.7	-0.5
	45nm,0.2s						
KEDI				⇓eSn	Sn	09 16 39.6	-3.0
SRDI	**Scrawed**	**1.45**	**316**	⇓iPn	Pn	09 16 24.5	-1.6
	156nm,0.2s						
SRDI				⇓iSn	Sn	09 16 41.7	-2.4
KELI	**Kelakatan**	**1.46**	**333**	⇓iPn	Pn	09 16 25.3	-0.9
	106nm,0.2s						

IDC 10 09:21:05.5±6.5**, 6.63N**×**92.26E, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.6**/17**, mbtmp3.6**/3**, ML4.3**/1**, Error ellipse: s-maj=159.7km s-min=48.9km az=87.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.44**	**28**	Pn	P	09 24 17.8	-2.4
	0.5nm,0.3s,baz=228,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**49.10**	**123**	P	P	09 29 54.9	-2.1
	0.6nm,0.6s,baz=302,slow=8.8,SNR=10						
ASAR	**Alice Springs**	**50.59**	**128**	P	P	09 30 06.7	-1.8
	0.4nm,0.5s,baz=298,slow=7.0,SNR=5.0						
TXAR	**Lajitas Array**	**141.10**	**22**	PKP	PKPdf	09 40 38.0	-2.6
	0.2nm,0.6s,baz=330,slow=1.1,SNR=4.2						

DJA 10 09:21:33.8±1.0**, 8.33S**×**116.59E, h33**^{km}**, MD5.0**/4**, ML4.3**/3**, 3C-5D, Error ellipse: s-maj=27.8km s-min=21.1km az=166.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.50**	**251**	⇓ePn	Pn	09 21 43.2	-1.3
	3µm,0.3s						
KEDI				⇑iSn	Sn	09 21 51.6	-0.4
RATI	**Rata**	**1.12**	**249**	⇓iPn	Pn	09 21 52.3	-1.1
	2µm,0.3s						
RATI				⇑iSn	Sn	09 22 05.9	-1.8
KELI	**Kelakatan**	**2.08**	**273**	⇓iPn	Pn	09 22 06.0	-1.2
	57nm,0.3s						
KELI				⇓iSn	Sn	09 22 28.0	-4.2
SRDI	**Scrawed**	**2.43**	**266**	⇑ePn	Pn	09 22 10.8	-1.3
	116nm,0.2s						
SRDI				⇓iSn	Sn	09 22 33.1	-7.9

*ATH **10** 09:30:32.3, 37.35N×20.14E, h4^{km}±1^{km}, MD3.6/6*
*NEIC **10** 09:30:34.0, 37.44N×20.16E, h26^{km}, MD3.6(ATH), After ATH.*
*CSEM **10** 09:30:34.0±0.6, 37.41N×20.10E, h19^{km}±2^{km}, MD3.6, Error ellipse: s-maj=11.9km s-min=5.2km az=58.0*
ISC 10 09:30:32.2±2.3**, 37.40N**±0.07×**20.0E**±0.1**, h5**^{km}±13^{km}**, n13, σ0^{s}80**/15**, 2C-1D, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.89**	**29**	ePG	**Pg**	**09 30 49.5**	**-0.5**
VLS				eSG	**Sg**	**09 31 02.5**	**+0.7**
RLS	**Riolos of Patr**	**1.31**	**59**	⇑iPB	**Pb**	**09 30 56.2**	**-0.6**
RLS				eSB	**Sb**	**09 31 13.7**	**-0.1**
ITM	**Ithomi**	**1.52**	**98**	⇑iPB	**Pb**	**09 30 59.4**	**-1.1**
EVR	**Evrytania**	**2.06**	**42**	⇓iPN	**Pn**	**09 31 09.6**	**+1.8**
VLI	**Veliai**	**2.42**	**105**	ePN	**Pn**	**09 31 13.8**	**+0.9**
AGG	**Agios Georgios**	**2.42**	**47**	eP	**Pn**	**09 31 13.9**	**+0.9**
LKR	**Lokris**	**2.65**	**61**	ePn	**Pn**	**09 31 15.6**	**-0.7**
KYTH	**Kithira**	**2.65**	**114**	ePN	**Pn**	**09 31 17.0**	**+0.7**
LIT	**Litokhoron**	**3.31**	**35**	eP	**Pn**	**09 31 25.4**	**-0.3**
FNA	**Florina**	**3.54**	**17**	eP	**Pn**	**09 31 29.4**	**+0.5**
GRG	**Griva**	**4.00**	**27**	eP	**Pn**	**09 31 34.7**	**-0.8**
SOH	**Sokhos**	**4.28**	**36**	eP	**Pn**	**09 31 39.2**	**-0.2**
KNT	**Kendrikon**	**4.36**	**30**	eP	**Pn**	**09 31 39.6**	**-1.1**

*IDC **10** 09:40:14.6±3.1, 6.32N×126.66E, mb3.7/4, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, Error ellipse: s-maj=163.6km s-min=31.0km az=90.0*
ISC 10 09:40:29.4±1.2**, 6.0N**±0.2×**126.1E**±0.4**, h147**^{km}±17^{km}**, n6, σ0^{s}78**/6**, mb3.5**/4**, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.91**	**9**	eP	**P**	**09 40 53.4**	**0.0**
BUKP	**Musuan**	**2.11**	**330**	eP	**P**	**09 41 06.1**	**+0.1**
WRA	**Warramunga Arr**	**27.05**	**163**	P	**P**	**09 45 59.9**	**-0.3**
	0.5nm,0.3s,mb3.5,baz=345,slow=11,SNR=9.9						
ASAR	**Alice Springs**	**30.48**	**166**	P	**P**	**09 46 30.4**	**-0.5**
	0.7nm,0.4s,mb3.7,baz=344,slow=7.3,SNR=12						
STKA	**Stephens Creek**	**40.49**	**160**	P	**P**	**09 47 56.3**	**+0.9**
	1.9nm,0.7s,mb3.8,baz=331,slow=12,SNR=4.6						
ILAR	**Eielson Array**	**83.30**	**26**	P	**P**	**09 52 40.5**	**-0.1**
	0.3nm,0.9s,mb3.0,baz=251,slow=3.4,SNR=4.5						

IDC 10 10:09:07.7±2.9**, 84.82N**×**95.91E, mb3.7**/4**, mb1 3.9**/5**, mb1mx3.6**/19**, mbtmp3.8**/5**, ML3.4**/1**, Error ellipse: s-maj=112.7km s-min=21.9km az=153.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.45**	**264**	P	P	10 13 34.7	-3.3
	0.2nm,0.3s,baz=7.1,slow=9.8,SNR=5.4						
INK	**Inuvik**	**25.51**	**41**	P	P	10 14 37.5	-1.1
	4.0nm,1.2s,baz=351,slow=9.5,SNR=6.8						
FINES	**FINESS Array B**	**27.32**	**259**	P	P	10 14 53.8	-1.5
	0.5nm,0.3s,slow=9.7,SNR=4.3						
ILAR	**Eielson Array**	**28.12**	**54**	P	P	10 15 01.6	-1.0
	0.3nm,0.8s,baz=352,slow=13,SNR=4.4						
YKA	**Yellowknife Ar**	**32.26**	**26**	P	P	10 15 36.3	-3.0
	0.6nm,0.9s,baz=352,slow=8.4,SNR=12						

IDC 10 10:18:32.5±7.4**, 84.41N**×**99.13E, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, ML3.4**/1**, Error ellipse: s-maj=253.8km s-min=25.3km az=150.0, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.73**	**269**	P	P	10 23 03.1	-2.8
	0.1nm,0.3s,baz=17,slow=9.4,SNR=4.3						
FINES	**FINESS Array B**	**27.56**	**263**	P	P	10 24 20.5	-1.9
	0.8nm,0.7s,baz=16,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**32.48**	**29**	P	P	10 25 03.8	-2.4
	0.1nm,0.5s,baz=355,slow=8.3,SNR=6.9						
TXAR	**Lajitas Array**	**66.04**	**22**	P	P	10 29 20.8	-1.8
	0.2nm,0.6s,slow=3.6,SNR=3.5						

*IDC **10** 10:47:13.1±1.0, 4.74N×95.09E, mb4.1/10, mb1 4.3/11, mb1mx4.2/19, mbtmp4.2/11, ML4.7/1, Error ellipse: s-maj=56.7km s-min=17.9km az=49.0*
*NEIC **10** 10:47:17.5±0.5, 4.57N×94.97E, h30^{km}, mb4.7/6, Error ellipse: s-maj=15.5km s-min=7.6km az=223.0*
ISC 10 10:47:16.2±0.6**, 4.5N**±0.1×**94.98E**±0.09**, h33**^{km}**, n31, σ0^{s}94**/31**, mb4.3**/16**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.71**	**82**	ePn	**Pn**	**10 48 40.8**	**-0.1**
SNG	**Songkhla**	**6.21**	**64**	P	**P**	**10 48 49.0**	**+1.1**
CM31	**Chiang Mai Arr**	**14.41**	**15**	eP	**P**	**10 50 45.8**	**+5.8**
	15nm,0.4s						
CMAR	**Chiang Mai Arr**	**14.41**	**15**	Pn	**P**	**10 50 45.6**	**+5.7**
	1.1nm,0.3s,baz=210,slow=11,SNR=35						
CHG	**Chiang Mai**	**14.75**	**15**	P	**P**	**10 50 49.2**	**+4.8**
NANT	**Nan**	**15.28**	**21**	P	**P**	**10 50 55.5**	**+4.2**
BJT	**Baijiatuau**	**40.21**	**25**	eP	**P**	**10 54 51.1**	**-0.2**
	11nm,0.7s,mb4.7						
BJI	**Beijing**	**40.23**	**25**	P	**P**	**10 54 51.6**	**+0.1**
	13nm,0.8s,mb4.7						
ULHL	**Ulahol**	**41.14**	**339**	P	**P**	**10 54 59.5**	**+0.5**
	SNR=6.2						
UCH	**Uchtor**	**41.77**	**337**	P	**P**	**10 55 05.4**	**+1.1**
	SNR=12						
AML	**Almayashu**	**42.01**	**336**	P	**P**	**10 55 07.1**	**+0.9**
	SNR=15						
AAK	**Ala-Archa**	**42.12**	**337**	P	**P**	**10 55 08.4**	**+1.3**
	SNR=6.2						
AAK	**Ala-Archa**	**42.12**	**337**	eP	**P**	**10 55 07.0**	**-0.1**
	4.9nm,0.7s,mb4.2						
EKS2	**Erkin-Say**	**42.42**	**337**	P	**P**	**10 55 10.2**	**+0.6**
	SNR=7.0						
USP	**Ospenovka**	**42.66**	**338**	P	**P**	**10 55 11.9**	**+0.4**
	SNR=13						
SONM	**Songino Array**	**44.28**	**11**	P	**P**	**10 55 22.4**	**-2.2**
	0.3nm,0.4s,mb3.4,baz=203,slow=7.8,SNR=4.0						
SONM				PcP	PcP	10 57 08.3	-0.8
	0.8nm,0.5s,baz=200,slow=3.0,SNR=6.3						
WRA	**Warramunga Arr**	**45.67**	**123**	P	**P**	**10 55 36.2**	**+0.1**
	5.3nm,0.7s,mb4.6,baz=302,slow=9.1,SNR=48						
WRAB	**Tennant Creek**	**45.67**	**123**	eP	**P**	**10 55 36.4**	**+0.3**
	16nm,0.9s,mb5.0						
WB2	**Warramunga Arr**	**45.68**	**123**	⇑iP	**P**	**10 55 36.3**	**+0.1**
ASAR	**Alice Springs**	**47.15**	**128**	P	**P**	**10 55 47.9**	**+0.2**
	1.1nm,0.6s,mb4.0,baz=297,slow=7.8,SNR=15						
ASAR				PcP	PcP	10 57 19.6	+0.1
	0.7nm,0.9s,baz=309,slow=3.1,SNR=4.2						
TLY	**Talaya**	**47.58**	**7**	P	**P**	**10 55 49.9**	**-0.8**
KURK	**Kurchatov**	**48.07**	**346**	eP	**P**	**10 55 53.7**	**-0.8**
	2.9nm,0.6s,mb4.5						
ZAL	**Zalesovo**	**49.99**	**352**	P	**P**	**10 56 07.7**	**-1.6**
	1.7nm,0.5s,mb4.3						
PMG	**Port Moresby**	**53.80**	**105**	eP	**P**	**10 56 37.5**	**-0.9**
	21nm,1.2s,mb4.9						
AKASG	**Malin Array Be**	**71.31**	**322**	P	**P**	**10 58 33.0**	**-1.5**
	1.6nm,0.5s,mb4.2,baz=89,slow=5.5,SNR=9.5						
FINES	**FINESS Array B**	**76.07**	**332**	P	**P**	**10 59 01.3**	**-0.7**
	1.0nm,0.3s,mb4.2,baz=103,slow=6.2,SNR=24						
KAF	**Kangasniemi**	**76.16**	**333**	ep	**P**	**10 58 54.4**	**-8.1**
ARCES	**ARCESS Array B**	**78.71**	**340**	P	**P**	**10 59 15.9**	**-0.6**
	1.3nm,0.5s,mb4.2,baz=91,slow=5.7,SNR=17						
GERES	**GERESS Array B**	**80.89**	**319**	P	**P**	**10 59 29.6**	**+0.9**
	0.3nm,0.4s,mb3.6,baz=108,slow=4.2,SNR=5.1						
HFS	**Hagfors**	**81.78**	**330**	P	**P**	**10 59 32.9**	**-0.2**
	5.6nm,1.1s,mb4.4,baz=104,slow=6.1,SNR=5.7						
DAVOX	**Davos**	**83.39**	**316**	P	**P**	**10 59 43.0**	**+1.4**
	2.6nm,0.5s,mb4.5,baz=142,slow=7.0,SNR=6.4						

*IDC **10** 10:59:58.7±12.0, 17.12S×179.11W, h480^{km}±156^{km}, mb3.1/7, mb1 3.5/7, mb1mx3.3/14, mbtmp4.0/7, Error ellipse: s-maj=95.3km s-min=38.3km az=163.0*
ISC 10 10:59:50.8±1.3**, 16.9S**±0.6×**179.1W**±0.4**, h400**^{km}**, n9, σ0^{s}30**/8**, mb3.5**/7**, 1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.52**	**240**	P	**P**	**11 06 38.0**	**0.0**
	2.7nm,0.6s,mb3.8,baz=82,slow=10,SNR=6.2						
WRA	**Warramunga Arr**	**44.16**	**259**	P	**P**	**11 07 24.0**	**+0.3**
	0.7nm,0.6s,mb3.2,baz=92,slow=7.0,SNR=11						
ASAR	**Alice Springs**	**44.42**	**253**	P	**P**	**11 07 25.6**	**-0.1**
	7.1nm,0.5s,mb4.2,baz=89,slow=8.2,SNR=153						
ASPA	**Alice Springs**	**44.42**	**253**	⇓iP	**P**	**11 07 25.5**	**-0.2**
NVAR	**Mina Array Bea**	**79.19**	**44**	P	**P**	**11 11 14.5**	**+0.5**
	0.5nm,0.7s,mb3.3,baz=212,slow=6.5,SNR=4.3						
ILAR	**Eielson Array**	**85.09**	**13**	P	**P**	**11 11 43.4**	**-0.1**
	0.3nm,0.4s,mb3.4,baz=226,slow=5.4,SNR=9.7						
TXAR	**Lajitas Array**	**86.05**	**58**	P	**P**	**11 11 49.0**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=217,slow=6.8,SNR=5.6						
PDAR	**Pinedale Array**	**87.11**	**44**	P	**P**	**11 11 53.1**	**-0.5**
	0.3nm,0.5s,mb3.3,baz=223,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**146.50**	**345**	PKPbc	PKPbc	11 18 45.5	+0.3
	0.7nm,0.5s,slow=2.0,SNR=4.9						

*NEIC **10** 11:35:14.4, 42.55N×1.88W, h3^{km}, ML2.6(STR), ML2.5(LDG), After LDG.*
*LDG **10** 11:35:14.4±0.4, 42.55N×1.88W, h3^{km}, Md2.4/1, Ml2.5/4, Error ellipse: s-maj=6.3km s-min=4.8km az=19.0*
*CSEM **10** 11:35:14.9±0.3, 42.57N×1.84W, h2^{km}, ML2.6/5, Error ellipse: s-maj=5.5km s-min=4.3km az=8.0*
*STR **10** 11:35:16.1±0.9, 42.62N×1.79W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
MDD 10 11:35:18.4±0.6**, 42.64N**×**1.69W, mbLg2.0**/10**, Error ellipse: s-maj=4.4km s-min=3.0km az=76.0, PRXIMO, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	**Ste Jean**	**0.58**	**36**	ePg	Pg	11 35 28.6	-1.5
SJPF				eSg	Sg	11 35 36.4	-1.4
	65nm,0.4s						
EALK	**Alkurruntz**	**0.59**	**13**	Pg	Pg	11 35 29.1	-1.2
	20nm,0.5s,SNR=12						
EALK				Lg		11 35 38.2	
	215nm,0.5s,SNR=26						
LARF	**Larrau**	**0.65**	**52**	Pg	Pg	11 35 29.4	-2.0
LARF				Sg	Sg	11 35 39.4	-0.7
OSSF	**Osses**	**0.69**	**27**	Pg	Pg	11 35 30.6	-1.6
OSSF				Sg	Sg	11 35 40.8	-0.6
ETSF	**Etsaut**	**0.87**	**73**	ePg	Pg	11 35 33.8	-2.0
ETSF				eSg	Sg	11 35 47.3	-0.2
	14nm,0.4s						
VIEF	**Viey**	**1.29**	**79**	Lg		11 36 00.4	
ESAC	**San Caprasio**	**1.29**	**135**	Pg	Pg	11 35 42.5	-1.7
	16nm,0.1s,SNR=19						
ESAC				Lg		11 36 01.0	
	120nm,0.3s,SNR=7.9						
EBIE	**Bielsa**	**1.35**	**88**	Pg	Pg	11 35 43.8	-1.6
	2.2nm,0.2s,SNR=14						
EBIE				Lg		11 36 02.8	
	13nm,0.4s,SNR=12						
LABF	**Labassere**	**1.36**	**72**	Pg	Pg	11 35 43.1	-2.5
LABF				Sg	Sg	11 36 03.6	-0.1
ELAN	**Lanestosa**	**1.41**	**295**	Pg	Pg	11 35 44.6	-1.9
	3.7nm,0.3s,SNR=7.6						
ELAN				Lg		11 36 03.7	
	12nm,0.5s,SNR=7.9						
RESF	**Ens**	**1.51**	**83**	Lg		11 36 08.1	
EPF	**Esparros**	**1.54**	**75**	ePg	Pg	11 35 46.0	-3.3
EPF				eSg	Sg	11 36 08.3	-1.6
	28nm,0.4s						
MELF	**Melles**	**1.82**	**82**	Lg		11 36 15.8	
SALF	**Salau**	**2.13**	**86**	Lg		11 36 26.0	
ERTA	**Horta de San J**	**2.27**	**137**	Pn	Pn	11 35 55.8	-1.8
	1.2nm,0.2s,SNR=7.9						
ERTA				Pg	Pg	11 36 00.3	-3.3
	1.8nm,0.3s,SNR=7.9						
ERTA				Lg		11 36 29.5	
	4.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**2.44**	**121**	Pg	Pg	11 36 02.7	-4.3
	1.4nm,0.2s,SNR=7.9						
EPOB				Lg		11 36 34.5	
	4.6nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**158**	Pg	Pg	11 36 03.5	-3.9
	1.1nm,0.4s,SNR=7.9						
EMOS				Lg		11 36 36.2	
	5.1nm,0.5s,SNR=7.9						
LFF	**La Frestale**	**2.90**	**37**	ePn	Pn	11 36 01.5	-5.1
MTLF	**Montolieu**	**2.95**	**75**	ePg	Pg	11 36 11.9	-5.5
RJF	**Les Rejaudoux**	**3.53**	**40**	ePn	Pn	11 36 10.2	-5.4
RJF				eSn	Sn	11 36 52.1	-6.6
	4.6nm,0.4s						
CAF	**Calviac**	**3.55**	**49**	ePn	Pn	11 36 10.8	-5.1
CAF				eSn	Sn	11 36 52.6	-6.7
	3.6nm,0.4s						

*TIF **10** 11:52:21.3, 43.37N×44.70E, h10^{km}±3^{km}*
*MOS **10** 11:52:21.8±1.5, 43.23N×44.66E, h11^{km}, mb4.3/1, Error ellipse: s-maj=11.8km s-min=9.2km az=42.3*
ISC 10 11:52:23.2±0.6**, 43.25N**±0.08×**44.61E**±0.06**, h11**^{km}**, n10, σ1^{s}53**/18**, 1C, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEI	**Tsey**	**0.71**	**228**	ePG	**Pg**	**11 52 36.8**	**-0.6**
ZEI				e		11 52 50.8	
ZEI				pmax	pmax		
	comp=Z,42nm,0.1s						
ZEI				smax			
	comp=E,228nm,0.2s						
KUBR	**Kubataba**	**1.03**	**303**	i PG	**Pg**	**11 52 42.5**	**-1.4**
KUBR				i S	**Sb**	**11 52 58.1**	**+2.2**
ONI	**Oni**	**1.08**	**232**	P	**Pb**	**11 52 44.2**	**+0.8**
ONI				S	**Sb**	**11 53 02.9**	**+5.5**
BTLR	**Botlikh**	**1.32**	**116**	⇑iPG	**Pg**	**11 52 43.9**	**-5.7**
BTLR				i S	**Sb**	**11 53 03.2**	**-1.1**
BTLR				pmax	pmax		
	comp=Z,135nm,0.4s						
PYA	**Pyatigorsk**	**1.37**	**305**	i PG	**Pg**	**11 52 45.7**	**-4.9**
PYA				i S	**Sb**	**11 53 04.3**	**-1.5**
SHAR	**Shatzhatmas**	**1.50**	**290**	i PG	**Pg**	**11 52 49.4**	**-3.7**
SHAR				i S	**Sb**	**11 53 10.8**	**+1.4**
TI2	**Plekhanov**	**1.52**	**176**	ePG	**Pg**	**11 52 46.4**	**-7.1**
TI2				i		11 53 14.4	
TI2				pmax	pmax		
	comp=E,50nm,0.8s						
KIV	**Kislovodsk**	**1.56**	**297**	i PG	**Pg**	**11 52 50.4**	**-4.1**
KIV				i S	**Sb**	**11 53 12.3**	**+0.9**
DBC	**Dubki**	**1.64**	**97**	i PG	**Pg**	**11 52 51.0**	**-5.0**
DBC				i S	**Sn**	**11 53 14.0**	**+0.6**
DBC				pmax	pmax		
	comp=Z,87nm,0.2s						
UNCR	**Uncukul**	**1.69**	**108**	i PN	**Pn**	**11 52 53.5**	**+0.6**
UNCR				i S	**Sn**	**11 53 17.0**	**+2.3**
UNCR				pmax	pmax		
	comp=Z,43nm,0.3s						

*ISK **10** 11:58:17.6, 40.35N×27.12E, h11^{km}, MD2.9*
*CSEM **10** 11:58:17.5±0.1, 40.36N×27.13E, h8^{km}, MD2.9, Error ellipse: s-maj=3.8km s-min=2.4km az=162.0*
*ATH **10** 11:58:24.6, 40.19N×26.22E, h10^{km}, MD3.0/3*
ISC 10 11:58:17.8±0.6**, 40.35N**±0.03×**27.10E**±0.04**, h0**^{km}±7^{km}**, n20, σ0^{s}84**/26**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.26**	**276**	i PG	**Pg**	**11 58 23.7**	**+0.7**
SART	**Tekirdag**	**0.35**	**10**	i P	**Pg**	**11 58 25.0**	**+0.2**
SART				i S	**Sg**	**11 58 30.0**	**+0.6**
MRMT	**Marmara Adasi**	**0.46**	**56**	PG	**Pg**	**11 58 26.2**	**-0.7**
MRMT	**Marmara Adasi**	**0.46**	**56**	ePg	**Pg**	**11 58 26.2**	**-0.7**
MRMT				eSg	**Sg**	**11 58 33.2**	**+0.2**
MFT	**Murefte**	**0.46**	**17**	PG	**Pg**	**11 58 27.3**	**+0.3**
BNT	**Bandirma**	**0.63**	**89**	PG	**Pg**	**11 58 29.6**	**-0.7**
EZN	**Ezine**	**0.79**	**229**	PG	**Pg**	**11 58 33.5**	**0.0**
BTOK	**Tokmak**	**0.92**	**129**	i P	**Pg**	**11 58 35.7**	**-0.5**
BTOK				i S	**Sg**	**11 58 49.1**	**+0.7**
BALB	**Balikesir**	**0.93**	**139**	ePG	**Pg**	**11 58 35.1**	**-1.1**
KCT	**Karacabey**	**0.96**	**94**	PG	**Pg**	**11 58 36.8**	**-0.2**
ALN	**Alexandroupoli**	**0.97**	**305**	eP	**Pb**	**11 58 37.0**	**-0.2**
ALN				eS	**Sg**	**11 58 51.0**	**+0.9**
AYVA	**Ayvalik**	**1.08**	**197**	i P	**Pb**	**11 58 39.8**	**+0.8**
AYVA				i S	**Sb**	**11 58 54.1**	**+0.6**
PRK	**Paraskevi**	**1.27**	**210**	ePB	**Pb**	**11 58 42.5**	**+0.3**
CTT	**Catalca**	**1.29**	**51**	PN	**Pn**	**11 58 41.7**	**-1.3**
DST	**Dursunbey**	**1.39**	**122**	ePN	**Pn**	**11 58 43.7**	**-0.7**
RDO	**Rodhopi**	**1.43**	**305**	⇑iPB	**Pb**	**11 58 45.1**	**+0.1**
EDRB	**Edirne**	**1.52**	**350**	ePN	**Pn**	**11 58 46.0**	**-0.4**
ULDT	**Uludag**	**1.57**	**97**	i P	**Pn**	**11 58 47.9**	**+0.9**
ULDT				i S	**Sb**	**11 59 10.3**	**+2.6**
LOS	**Limnos**	**1.60**	**256**	eP	**Pn**	**11 58 47.0**	**-0.4**
PLG	**Polygyros**	**2.79**	**272**	ePN	**Pn**	**11 59 02.0**	**-2.5**

*IDC **10** 12:27:51.2±1.5, 30.58S×177.52W, mb4.4/4, mb1 4.5/5, mb1mx4.1/16, mbtmp4.3/5, ML3.4/1, MS3.7/3, Ms1 3.6/3, ms1mx3.1/20, Error ellipse: s-maj=47.6km s-min=25.9km az=141.0*
*NEIC **10** 12:27:53.8±0.8, 30.32S×177.76W, h10^{km}, mb4.9/5, Error ellipse: s-maj=20.6km s-min=13.5km az=102.0*
ISC 10 12:27:57.0±1.4**, 30.34S**±0.09×**178.0W**±0.2**, h33**^{km}**, n20, σ1^{s}02**/15**, mb4.6**/7**, MS3.6**/3**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**4**	ePg	**P**	**12 28 15.5**	**-0.4**
RAO				eSg	**S**	**12 28 30.0**	**+0.1**
URZ	**Urewera**	**8.87**	**206**	Pn	**P**	**12 29 59.9**	**-5.9**
	0.4nm,0.3s,baz=146,slow=16,SNR=9.0						
URZ				Sn	**Sn**	**12 31 40.8**	**-5.1**
	2.5nm,0.3s,baz=166,slow=17,SNR=9.6						
TAU	**Tasmania Unive**	**30.31**	**236**	P	**P**	**12 34 01.2**	**-6.2**
	37nm,1.2s,mb5.0						
CTA	**Charters Tower**	**33.78**	**279**	P	**P**	**12 34 39.1**	**+1.1**
	5.2nm,0.5s,mb4.8,baz=86,slow=11,SNR=8.4						
CTA				LR	LR	12 46 59.6	
	comp=Z,92nm,19.6s,MS3.5,baz=46,slow=34						
CTAO	**Charters Tower**	**33.78**	**279**	eP	**P**	**12 34 36.4**	**-1.6**
	12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**34.49**	**257**	eP	**P**	**12 34 45.8**	**+1.8**
	7.7nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**34.49**	**257**	P	**P**	**12 34 46.0**	**+2.0**
	9.6nm,0.8s,mb4.8,baz=89,slow=9.5,SNR=21						
STKA				LR	LR	12 47 41.5	
	comp=Z,103nm,19.7s,MS3.6,baz=54,slow=34						
ASAR	**Alice Springs**	**43.11**	**267**	P	**P**	**12 35 55.9**	**-0.1**
	1.4nm,0.7s,mb3.8,baz=105,slow=7.4,SNR=24						
ASAR				LR	LR	12 52 53.8	
	comp=Z,96nm,19.1s,MS3.7,baz=1.5,slow=34						
WB2	**Warramunga Arr**	**44.08**	**272**	eP	**P**	**12 36 03.7**	**-0.2**
WRAB	**Tennant Creek**	**44.08**	**272**	eP	**P**	**12 36 03.1**	**-0.8**
	15nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**44.09**	**272**	P	**P**	**12 36 03.7**	**-0.3**
	1.6nm,0.3s,mb4.2,baz=110,slow=8.1,SNR=79						
QSPA	**South Pole Qui**	**59.77**	**180**	eP	**P**	**12 38 00.6**	**0.0**
	16nm,1.0s,mb5.0						
QSPA				e		12 38 06.5	
KS15	**Wonju Array Si**	**84.31**	**320**	P	**P**	**12 40 30.2**	**+3.4**
BVAR	**Borovoye Array**	**126.36**	**316**	PKP	PKPdf	12 46 56.2	-0.1
	0.9nm,0.5s,baz=130,slow=3.2,SNR=8.3						
FINES	**FINESS Array B**	**145.09**	**340**	PKPbc	PKPbc	12 47 29.6	-0.9
	12nm,1.1s,baz=63,slow=4.3,SNR=19						
NB2	**NORSAR Subarra**	**148.69**	**351**	PKPabc	PKPdf	12 47 40.5	+4.3
	1.4nm,0.8s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**148.69**	**351**	PKPbc	PKPdf	12 47 40.4	+4.2
	1.1nm,0.7s,baz=12,slow=4.1,SNR=3.9						
HFS	**Hagfors**	**149.18**	**349**	PKPbc	PKPdf	12 47 41.3	+4.3
	3.0nm,0.8s,baz=135,slow=6.3,SNR=3.8						
AKASG	**Malin Array Be**	**151.25**	**323**	PKPbc	PKPdf	12 47 46.7	+6.2
	3.5nm,0.7s,baz=47,slow=3.0,SNR=4.2						
AKASG	**Malin Array Be**	**151.25**	**323**	PKPbc	PKPdf	12 47 46.7	+6.2

*ATH **10** 13:24:29.3, 39.34N×20.54E, h6^{km}±3^{km}, MD3.3/7*
*NEIC **10** 13:24:29.3, 39.34N×20.54E, h6^{km}, MD3.7(ATH), After ATH.*
*THE **10** 13:24:29.1, 39.27N×20.52E, h10^{km}, ML3.3*

CSEM ***10*** *13:24:29.5±0.1, 39.36N×20.54E, h2km, ML3.3, Error ellipse: s-maj=3.2km s-min=2.5km az=49.0*

ISC 10 13:24:28.4±0.6**, 39.31N**±0.03×**20.49E**±0.04**, h2**km**, n18, σ1**s**14**/28**, 2C-1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.26	332	ePg	Pg	13 24 34.7	+1.2
IGT				eSg	Sg	13 24 39.7	+2.7
JAN	Janina	0.45	39	⇓iPB	Pb	13 24 36.2	-2.4
JAN				eSB	Sb	13 24 42.6	-2.9
KEK	Kerkira	0.67	308	⇑iPB	Pb	13 24 42.4	0.0
SRN	Sarande	0.69	327	i Pg	Pg	13 24 42.1	0.0
SRN				i Sg	Sg	13 24 49.9	-1.3
LSK	Leskovik	0.85	6	i Pg	Pg	13 24 43.9	-1.4
LSK				i Sg	Sg	13 24 57.7	+1.1
EVR	Evrytania	1.10	110	ePG	Pg	13 24 49.4	-0.9
VLS	Valsamata	1.13	176	⇑iPB	Pb	13 24 51.6	+1.3
KZN	Kozani	1.41	44	ePB	Pb	13 24 55.6	+0.6
KZN				eSB	Sb	13 25 13.8	+0.5
KZN	Kozani	1.41	44	ePn	Pn	13 24 53.6	-1.4
KZN				eSb	Sb	13 25 13.8	+0.5
AGG	Agios Georgios	1.46	101	ePb	Pb	13 24 56.0	+0.1
AGG				eSb	Sb	13 25 16.2	+1.3
RLS	Riolos of Patr	1.46	148	ePG	Pg	13 24 56.8	-0.7
FNA	Florina	1.63	24	ePb	Pb	13 24 58.3	-0.5
LIT	Litokhoron	1.74	62	ePb	Pb	13 24 59.8	-0.8
LIT				eSb	Sb	13 25 23.5	+0.6
NEO	Neokhori	2.12	89	ePN	Pn	13 25 06.9	+1.6
GRG	Griva	2.21	41	ePn	Pn	13 25 06.8	+0.3
GRG				eSn	Sn	13 25 35.8	+1.0
PAIG	Paliouri	2.54	75	ePn	Pn	13 25 10.0	-1.3
SOH	Sokhos	2.67	55	ePn	Pn	13 25 13.2	+0.1
SOH				eSn	Sn	13 25 47.1	+0.6
OUR	Ouranopolis	2.88	68	ePn	Pn	13 25 15.5	-0.7

NEIC ***10*** *13:37:48.8±0.2, 12.93N×88.42W, mb5.1/81, MD5.7(SNET), Error ellipse: s-maj=4.9km s-min=2.9km az=212.0*

NEIC Felt [IV] at San Salvador. Felt in much of central and eastern El Salvador.

IDC ***10*** *13:37:48.1±0.5, 13.18N×88.09W, h57km±3km, mb4.6/22, mb1 4.7/25, mb1mx4.6/28, mbtmp4.9/25, MS4.1/20, Ms1 4.1/20, ms1mx4.0/25, Error ellipse: s-maj=19.2km s-min=10.0km az=63.0*

HRVD ***10*** *13:37:48.8±0.3, 12.77N×88.73W, h67km±1km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s52,c73;Mantle waves: s54,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.44±.17; $M_{\theta\theta}$-4.19±.13; $M_{\phi\phi}$-0.24±.17; $M_{r\theta}$0.92±.11; $M_{\theta\phi}$2.40±.14; $M_{\phi r}$-0.92±.14; Best double couple: $M_0$5.059×10^{16} NP1:ϕ_s288°,δ38°,λ79°. NP2:ϕ_s122°,δ52°,λ98°. Principal axes: T 4.643, Plg80°, Azm69°; N .841, Plg7°, Azm297°; P -5.476, Plg7°, Azm206°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***10*** *13:37:48.7, 12.90N×88.40W, h68km, mB5.4, Ms5.2, Msz4.7*

MOS ***10*** *13:37:49.5±0.8, 12.76N×88.52W, h103km, mb4.9/5, Error ellipse: s-maj=14.1km s-min=6.5km az=116.0*

CASC ***10*** *13:37:49.1±2.7, 12.98N×88.59W, h60km±17km, MD4.6, ML5.3, mb5.1(NEIC)*

ISC 10 13:37:48.2±0.2**, 13.02N**±0.03×**88.52W**±0.02**, h69**km**, h69**km±1.1km**:pP-P, n359, σ1**s**19**/317**, mb5.0**/94**, 12C-30D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VSM	San Miguel	0.47	30	⇓iP	P	13 38 02.5	+1.7
BLLM	Bellamira	0.51	33	⇓iP	P	13 38 02.6	+1.5
SNVI	San Vicente	0.67	332	⇓iP	P	13 38 03.8	+0.9
CNCH	Conchagua	0.72	69	⇓eP	P	13 38 04.3	+1.0
LCBS	La Ceiba	0.78	325	⇓iP	P	13 38 04.7	+0.6
LFRS	El Faro	0.80	319	⇓iP	P	13 38 04.8	+0.4
CAHU	Cacacuatique	0.81	22	⇓iP	P	13 38 06.9	+2.4
LBRS	Las Brisas	0.88	325	⇓iP	P	13 38 06.2	+0.8
LFU	La Fuente	0.93	322	⇓iP	P	13 38 06.8	+0.8
SNET	Serv Nac Est T	0.96	314	eP	P	13 38 06.6	+0.2
SNET				eS	S	13 38 20.0	0.0
SNET	Serv Nac Est T	0.96	314	⇓eP	P	13 38 06.5	+0.1
SNET				eS	S	13 38 20.0	0.0
SNET				e		13 38 24.2	
	comp=Z,195μm,0.4s						
BOQS	Boqueron	1.03	314	⇑iP	P	13 38 07.8	+0.5
SBLS	San Blas	1.35	307	eP	P	13 38 11.9	+0.2
SBLS	San Blas	1.35	307	⇓eP	P	13 38 11.9	+0.2
SNJE	San Jose	1.36	309	⇓eP	P	13 38 11.9	+0.2
RTR	El Retiro	1.41	309	⇓eP	P	13 38 12.9	+0.5
CRIN	San Cristobal	1.47	102	⇓iP	P	13 38 15.0	+1.8
CRIN				eS	S	13 38 35.0	+3.3
CHIN	Chinandega	1.50	104	⇓iP	P	13 38 01.1	-13
CHIN				eS	S	13 38 12.2	-20
RBDL	Robledal	1.58	314	⇑eP	P	13 38 15.2	+0.5
MTO2	Montecristo 2	1.60	329	⇓iP	P	13 38 16.4	+1.3
TEL3	Telica 3	1.69	105	⇓eP	P	13 38 17.1	+0.9
LEON	Leon	1.69	110	⇓eP	P	13 38 16.2	-0.1
TELN	Telica	1.69	104	⇓eP	P	13 38 17.3	+1.0
TELN				eS	S	13 38 37.4	+0.3
CNGN	Cerro Negro	1.85	106	⇓eP	P	13 38 19.2	+0.8
CNGN				eS	S	13 38 40.5	-0.1
MOMJ	Momotombo	2.02	107	⇓eP	P	13 38 21.4	+0.7
COPN	Copaltepe	2.06	114	⇑eP	P	13 38 21.4	+0.2
IXG	Ixpaco	2.21	302	⇑eP	P	13 38 23.1	-0.3
IXG				eS	S	13 38 48.4	-1.1
XAVN	Gruta Xavier	2.31	112	⇑eP	P	13 38 25.4	+0.6
MGAN	Managua	2.38	111	⇓eP	P	13 38 25.0	-0.8
MGAN				i		13 38 55.9	
	comp=N,5μm,0.8s						
WILN	Americas 2	2.43	110	⇑eP	P	13 38 26.9	+0.4
TICN	Ticuantepe	2.44	113	⇑eP	P	13 38 27.3	+0.6
PYTN	Playitas	2.45	101	⇓eP	P	13 38 27.3	+0.5
PYTN				eS	S	13 38 57.4	+1.9
PCG	Pacaya	2.45	304	eP	P	13 38 27.6	+0.7
GCG	Guatemala City	2.50	309	eP	P	13 38 28.3	+0.7
MASN	Masaya	2.53	114	eP	P	13 38 28.7	+0.8
MASN				i		13 39 02.8	
	comp=N,13μm,0.8s						
APON	Apoyo	2.63	114	⇑eP	P	13 38 31.3	+1.9
FUG	Fuego 3	2.67	303	eP	P	13 38 30.0	+0.1
CONN	Concepcion	3.17	117	eP	P	13 38 37.7	+0.7
JAT	Jato	3.30	293	eP	P	13 38 37.6	-1.1
JAT				eS	S	13 39 14.2	-2.8
VCR	Vista de Mar	4.03	135	eP	P	13 38 52.6	+3.6
VCR				e		13 39 43.8	
VCR	Vista de Mar	4.03	135	⇑eP	P	13 38 49.5	+0.6
JTS	JuntasAbangare	4.42	127	Pn	P	13 38 55.0	+0.6
	comp=N,15μm,0.5s						
JTS	JuntasAbangare	4.42	127	eP	P	13 38 54.9	+0.5
JTS	JuntasAbangare	4.42	127	P	P	13 38 54.4	0.0
	comp=N,16nm,0.3s,baz=304,slow=23,SNR=30						
JTS				Pg	P	13 39 01.6	+7.2
	comp=N,246nm,0.3s,baz=301,slow=5.4,SNR=225						
JTS				Lg		13 39 57.1	
	comp=N,50nm,0.3s,baz=293,slow=23,SNR=16						
JTS	JuntasAbangare	4.42	127	ePn	P	13 38 52.4	-2.0
JTS				ePg	P	13 39 01.6	+7.2
JTS				eSn	S	13 39 49.6	+4.6
JTS				eSg	S	13 39 59.3	+14
CCIG	Comitan	4.78	313	i P	P	13 39 00.3	+1.0
CCIG				i S	S	13 39 58.8	+4.9
CGA2	Cerro Gallo 2	4.96	126	eP	P	13 39 04.2	+2.2
CGA2	Cerro Gallo 2	4.96	126	eP	P	13 39 04.2	+2.3
VPS2	Volcan Poas 2	5.05	123	eP	P	13 39 07.3	+4.2
VPS2	Volcan Poas 2	5.05	123	eP	P	13 39 06.2	+3.0
PRS1	Puriscal	5.11	126	eP	P	13 39 06.4	+2.5
PRS1	Puriscal	5.11	126	eP	P	13 39 06.4	+2.5
TRTC	Tortuguero	5.29	117	eP	P	13 39 07.2	+0.7
TRTC	Tortuguero	5.29	117	eP	P	13 39 06.7	+0.2
LAJ	Bijagual	5.33	126	eP	P	13 39 05.4	-1.6
LAJ	Bijagual	5.33	126	eP	P	13 39 05.2	-1.8
SJS	Escuela Geolog	5.34	124	eP	P	13 39 10.0	+2.9
SJS				e		13 40 11.8	
SJS	Escuela Geolog	5.34	124	eP	P	13 39 09.3	+2.2
SJS				eS	S	13 40 08.0	+0.1
SJS				i		13 40 26.3	
	comp=N,1μm,0.7s						
LCR2	La Lucha 2	5.49	126	eP	P	13 39 10.6	+1.4
LCR2	La Lucha 2	5.49	126	eP	P	13 39 11.4	+2.1
ICR	Volcan Irazu	5.50	123	eP	P	13 39 12.5	+3.3
ICR	Volcan Irazu	5.50	123	eP	P	13 39 11.7	+2.4
BUS	Buena Vista	5.80	126	eP	P	13 39 15.9	+2.5
BUS	Buena Vista	5.80	126	⇓eP	P	13 39 15.8	+2.3
ACR	Cerro Adams	6.81	129	eP	P	13 39 29.0	+1.4
ACR	Cerro Adams	6.81	129	eP	P	13 39 29.1	+1.5
TEIG	Tepich	7.17	2	ePn	P	13 39 34.4	+1.8
CMIG	Matias Romero	7.36	304	i P	P	13 39 34.8	-0.5
CMIG				i S	S	13 40 50.5	-7.6
HUIG	Huatulco	7.85	291	eP	P	13 39 42.6	+0.7
HUIG				i S	S	13 41 20.8	+11
OXX	Oaxaca	8.90	298	eP	P	13 39 58.0	+1.7
VHO	Vista Hermosa	8.90	298	eP	P	13 39 56.9	+0.6
VHO				i S	S	13 41 22.3	-14
IISM	Ciudad Serdan	10.38	306	eP	P	13 40 20.0	+3.4
IIB	San Bernardino	11.14	303	eP	P	13 40 17.0	-10
PPM	Popocatepetl	11.43	303	eP	P	13 40 32.0	+1.3
PPM				i S	S	13 43 00.3	+23
ACX	Acapulco	11.66	291	eP	P	13 40 33.0	-0.8
YAIG	Yautepec	11.69	301	eP	P	13 40 35.0	+0.8
PLIG	Platanillo	11.85	298	eP	P	13 40 37.8	+1.4
PLIG				i S	S	13 42 40.9	-6.7
CAIG	El Cayaco	12.04	291	eP	P	13 40 38.9	0.0
PAYG	Puerto Ayora	13.71	187	eP	P	13 41 00.7	-0.4
	comp=N,107nm,0.8s						
PAYG				e		13 41 05.3	
MOIG	Morelia	13.84	300	eP	P	13 41 04.6	+1.9
SFJM	Santa Fe	15.76	300	eP	P	13 41 31.0	+3.6
ROSC	El Rosal	16.18	119	P	P	13 41 33.2	+0.4
	comp=N,2.5nm,0.3s,baz=291,slow=20,SNR=8.8						
ROSC				LR	LR	13 48 22.8	
	comp=N,174nm,21.1s,baz=5.6,slow=40						
DWPF	Disney	16.41	23	eP	P	13 41 38.5	+2.9
	comp=N,175nm,0.8s						
SDV	Santo Domingo	18.03	101	P	P	13 41 54.9	-0.9
	comp=N,2.1nm,0.3s,baz=290,slow=5.2,SNR=95						
SDV				PcP	PcP	13 46 28.2	+0.1
	comp=N,0.6nm,0.3s,baz=254,slow=2.2,SNR=7.3						
SDV				pPcP		13 46 44.7	
	comp=N,0.2nm,0.3s,baz=36,slow=1.1,SNR=5.8						
SDV	Santo Domingo	18.03	101	eP	P	13 41 54.8	-1.0
	comp=N,68nm,0.7s						
HKT	Hockley	18.16	339	eP	P	13 41 57.8	+0.5
	comp=N,84nm,1.4s						
NATX	Nacogdoches	19.49	344	eP	P	13 42 13.9	+1.5
	comp=N,578nm,1.2s						
NATX				e		13 42 23.9	
JCT	Junction City	20.27	331	eP	P	13 42 20.8	+0.2
	comp=N,125nm,0.8s						
GOGA	Godfrey	20.82	12	eP	P	13 42 27.7	+1.5
	comp=N,138nm,0.8s						
GOGA				epP		13 42 41.9	
RGRS	Roger Stewart	21.21	20	eP	P	13 42 33.0	+2.8
RGRS				epP		13 42 44.9	
OXF	Oxford	21.42	358	eP	P	13 42 33.4	+1.1
	comp=N,154nm,0.8s,mb5.4						
LTX	Lajitas	21.48	321	eP	P	13 42 34.1	+1.2
	comp=N,91nm,0.8s,mb5.2						
LTX				epP		13 42 48.4	
TXAR	Lajitas Array	21.48	321	P	P	13 42 34.0	+1.1
	comp=N,58nm,0.7s,mb5.0,baz=149,slow=7.3,SNR=205						
TXAR				pP		13 42 48.4	
	comp=N,32nm,0.8s,baz=144,slow=11,SNR=7.0						
TXAR				PcP	PcP	13 46 34.5	+0.2
	comp=N,5.3nm,0.7s,baz=152,slow=4.5,SNR=9.5						
TXAR				pPcP		13 46 51.8	
	comp=N,3.8nm,0.7s,baz=162,slow=4.0,SNR=4.4						
TXAR				ScP		13 50 07.0	
	comp=N,0.7nm,0.6s,baz=156,slow=5.9,SNR=3.8						
TXAR				LR	LR	13 52 02.1	
	comp=N,153nm,20.6s,baz=145,slow=40						
TXAR	Lajitas Array	21.48	321	P	P	13 42 34.0	+1.1
TXAR				pP		13 42 48.4	
TXAR				PcP	PcP	13 46 34.5	+0.2
TXAR				pPcP		13 46 51.8	
TXAR				ScP		13 50 07.0	
TXAR				LR	LR	13 52 02.1	
COW	Cow Castle Cre	21.49	18	eP	P	13 42 36.5	+3.5
COW				epP		13 42 51.2	
MIAR	Mount Ida	21.92	349	eP	P	13 42 38.7	+1.4
	comp=N,142nm,0.9s,mb5.3						
MIAR				epP		13 42 53.9	
UALR	University of	21.94	352	eP	P	13 42 38.9	+1.5
	comp=N,97nm,0.7s,mb5.2						
SJG	San Juan	22.13	74	P	P	13 42 39.4	+0.1
	comp=N,13nm,0.3s,mb4.7,baz=288,slow=16,SNR=6.9						
SJG	San Juan	22.13	74	P	P	13 42 38.6	-0.8
	comp=N,32nm,0.3s,mb5.1						
SJG				epP		13 42 55.7	
JSC	Jenkinsville	22.18	16	eP	P	13 42 42.4	+2.6
JSC				epP		13 42 57.2	
SWET	Sewanee	22.23	6	eP	P	13 42 41.6	+1.4
SWET				epP		13 42 57.6	
HBAR	Harrisburg	22.52	355	eP	P	13 42 45.7	+2.5
HBAR				epP		13 43 01.1	
CPCT	Cooper Cave	22.63	9	eP	P	13 42 46.0	+1.8
CPCT				epP		13 43 00.9	
HALT	Halls	22.81	358	P	P	13 42 45.8	-0.2
HALT				epP		13 42 59.9	
GNAR	Gosnell	22.89	357	eP	P	13 42 48.1	+1.4
GNAR				epP		13 43 04.7	
GLAT	Glass	23.16	358	eP	P	13 42 50.0	+0.5
GLAT				epP		13 43 06.3	
UTMT	University of	23.23	359	eP	P	13 42 50.7	+0.7
	comp=N,696nm,1.4s,mb5.8						
UTMT				epP		13 43 06.6	
UTMT				esP		13 43 13.8	
WMOK	Wichita Mounta	23.54	338	eP	P	13 42 53.8	+0.7
	comp=N,36nm,0.6s,mb4.9						
WMOK				epP		13 43 07.3	
CLNB	Carlsbad	23.78	326	eP	P	13 42 56.0	+0.6
CLNB				epP		13 43 12.7	
TZTN	Tazewell	23.85	10	eP	P	13 42 57.4	+1.4
TZTN				epP		13 43 13.9	
GDL2	Guadalupe Moun	24.00	325	eP	P	13 42 58.2	+0.7
GDL2				epP		13 43 16.0	
CPRX	Cap Rock	24.36	327	eP	P	13 43 02.0	+0.9
AMTX	Amarillo	24.82	334	eP	P	13 43 05.7	+0.2
	comp=N,182nm,0.7s,mb5.6						
AMTX				epP		13 43 21.7	
AMTX				ePcP	PcP	13 46 40.5	-0.7
AMTX				epPcP		13 46 58.2	
AMTX				eScP		13 50 15.5	
USIN	University of	24.86	2	eP	P	13 43 05.8	0.0
	comp=N,43nm,0.6s,mb5.0						
USIN				epP		13 43 25.4	
FVM	French Village	24.92	356	eP	P	13 43 05.0	-1.5
	comp=N,25nm,0.7s,mb4.8						
CCM	Cathedral Cave	25.06	355	eP	P	13 43 07.2	-0.5
	comp=N,122nm,0.8s,mb5.4						
CCM				epP	pP	13 43 23.8	+0.1
CCM				ePcP	PcP	13 46 39.4	-2.2
ELN	Prospectdale	25.09	15	eP	P	13 43 08.9	+0.9
ELN				ePcP	pP	13 43 25.8	+1.7
ELN				esP	sP	13 43 33.7	+1.1
BLA	Blacksburg	25.16	15	eP	P	13 43 09.4	+0.7
	comp=N,159nm,1.0s,mb5.4						
BLA				epP	pP	13 43 25.4	+0.6
BLA				esP	sP	13 43 33.0	-0.2
FWV	Forest Hill	25.41	14	eP	P	13 43 11.2	+0.1
SLM	Saint Louis	25.56	357	P	P	13 43 11.3	-1.1
	comp=N,62nm,0.8s,mb5.1						
BLO	Bloomington	26.11	4	eP	P	13 43 16.7	-0.9
	comp=N,51nm,0.9s,mb5.0						
LPM	Los Pinos Moun	26.83	325	eP	P	13 43 24.4	+0.2
LPM				epP	pP	13 43 41.2	+0.8
LPM				ePcP	PcP	13 46 46.0	+0.3
LPM				epPcP		13 47 03.1	
LENM	Lemitar	26.92	325	eP	P	13 43 26.2	+1.2
LENM				ePcP	PcP	13 46 46.2	+0.3
LENM				epPcP		13 47 03.6	
KSU1	Kansas State U	26.95	346	eP	P	13 43 24.4	-0.9
KSU1				epP	pP	13 43 40.3	-1.2
CBN	Corbin	26.98	20	eP	P	13 43 26.5	+0.9
	comp=N,99nm,0.7s,mb5.5						
CBN				epP	pP	13 43 44.0	+2.2
CBN				esP	sP	13 43 49.4	-0.6
LAZ	Ladron	27.18	325	eP	P	13 43 28.1	+0.7
LAZ				ePcP	PcP	13 46 44.3	-2.2
LAZ				epPcP		13 47 04.3	
ANMO	Albuquerque	27.21	326	⇓iP	P	13 43 28.4	+0.7
ANMO	Albuquerque	27.21	326	P	P	13 43 28.4	+0.6
	comp=N,12nm,0.7s,mb4.5,baz=146,slow=9.2,SNR=26						
ANMO				PcP	PcP	13 46 46.8	+0.2
	comp=N,11nm,0.8s,baz=98,slow=4.3,SNR=9.3						
ANMO				pPcP		13 47 04.0	
	comp=N,7.3nm,0.9s,baz=117,slow=3.6,SNR=4.2						
ANMO				LR	LR	13 56 19.7	
	comp=N,139nm,20.7s,slow=41						
ANMO	Albuquerque	27.21	326	eP	P	13 43 28.6	+0.9
	comp=N,15nm,0.8s,mb4.6						
ANMO				ePcP	PcP	13 46 46.0	-0.6
ANMO				epPcP		13 47 03.3	
ACSO	Alum Creek Sta	27.55	9	eP	P	13 43 29.7	-1.0
	comp=N,62nm,0.8s,mb5.2						
CBKS	Cedar Bluff	27.56	341	eP	P	13 43 30.5	-0.3
	comp=N,51nm,0.7s,mb5.2						
CBKS				epP	pP	13 43 45.7	-1.4
CBKS				ePcP	PcP	13 46 44.6	-2.8
TUC	Tucson	28.02	317	eP	P	13 43 35.0	0.0
	comp=N,13nm,1.0s,mb4.4						
TUC				epP	pP	13 43 51.9	+0.5
TUC				ePcP	PcP	13 46 48.3	-0.2
TUC				epPcP		13 47 05.0	
SDMD	Soldier's Deli	28.25	19	eP	P	13 43 36.0	-1.0
SDMD				epP	pP	13 43 52.4	-0.9
SDCO	Great Sand Dun	28.91	331	eP	P	13 43 43.4	+0.4
	comp=N,38nm,1.0s,mb5.0						
SDCO				epP	pP	13 43 58.6	-0.8
SDCO				ePP	PP	13 44 52.4	+14
SDCO				ePcP	PcP	13 46 50.5	-0.2
MVL	Millersville	28.94	20	eP	P	13 43 43.4	+0.3
MVL				epP	pP	13 44 01.2	+1.6
SSPA	Standing Stone	29.05	17	eP	P	13 43 43.7	-0.5
	comp=N,23nm,0.9s,mb4.8						
SSPA				epP	pP	13 44 00.2	-0.4
SSPA				esP	sP	13 44 06.8	-2.0
BBSR	BB Station	29.11	45	eP	P	13 43 43.5	-1.3
	comp=N,61nm,0.9s,mb5.2						
ALLY	Alegheny Colle	29.45	13	eP	P	13 43 47.2	-0.5
ALLY				epP	pP	13 44 03.3	-0.9
AAM	Ann Arbor	29.48	7	eP	P	13 43 46.2	-1.8
	comp=N,39nm,0.6s,mb5.2						
ERPA	Erie	29.93	13	eP	P	13 43 50.5	-1.4
	comp=N,42nm,0.7s,mb5.2						
ERPA				epP	pP	13 44 09.5	+1.0
BRNJ	Basking Ridge	30.16	21	eP	P	13 43 53.9	-0.1
BRNJ				epP	pP	13 44 12.2	+1.7
BRNJ				esP	sP	13 44 17.8	-0.9
WUAZ	Wupatki	30.45	321	eP	P	13 43 56.2	-0.4
	comp=N,383nm,0.9s,mb6.0						
ISCO	Idaho Springs	30.64	334	eP	P	13 43 58.5	+0.2
	comp=N,37nm,0.9s,mb5.1						
ISCO				ePcP	PcP	13 46 50.0	-5.1
PAL	Palisades	30.68	22	eP	P	13 43 58.1	-0.5
	comp=N,49nm,0.8s,mb5.3						
PAL				esP	sP	13 44 21.2	-2.2
PV01	Paradox Valley	30.73	328	eP	P	13 43 59.7	+0.6
PV01				ePcP	PcP	13 46 55.3	-0.1
GENY	Geneseo	31.06	15	eP	P	13 44 01.0	-0.9
GENY				epP	pP	13 44 19.5	+1.0
PV10	Paradox Valley	31.15	328	eP	P	13 44 02.3	-0.5
PV10				ePcP	PcP	13 46 55.9	-0.6
PV10				epPcP		13 47 12.7	
PHWY	Pilot Hill	31.83	335	eP	P	13 44 08.9	+0.3
PHWY				ePcP	PcP	13 46 56.4	-1.9
SRU	San Rafael	32.48	327	eP	P	13 44 14.5	+0.1
SRU				epP	pP	13 44 31.9	+0.8
SRU				ePcP	PcP	13 46 58.3	-1.7
LDFC	Landfair	32.56	317	eP	P	13 44 16.5	+1.4
LDFC				ePcP	PcP	13 47 00.3	0.0
LDFC				epPcP		13 47 17.9	
SADO	Sadowa	32.65	12	P	P	13 44 14.3	-1.5
	comp=N,27nm,0.6s,mb5.3,baz=213,slow=8.3,SNR=32						
SADO	Sadowa	32.65	12	P	P	13 44 14.3	-1.5
MSU	Marysvale	32.95	325	eP	P	13 44 18.8	+0.4
MSU				ePcP	PcP	13 47 01.4	0.0
MSU				epPcP		13 47 19.0	
MSU				eScP		13 50 42.3	
MVU	Marysvale	32.97	325	eP	P	13 44 18.9	+0.3
	comp=N,9.2nm,0.8s,mb4.7						
MVU				ePcP	PcP	13 47 01.5	+0.1
MVU				epPcP		13 47 18.4	
MVU				eScP		13 50 40.9	
TMUT	Trail Mountain	32.98	327	eP	P	13 44 19.2	+0.6
TMUT				ePcP	PcP	13 47 01.4	-0.1
TMUT				epPcP		13 47 18.8	
TMUT				eScP		13 50 40.8	
ARUT	Antelope Range	33.19	322	eP	P	13 44 21.4	+0.8
ARUT				ePcP	PcP	13 47 02.7	+0.6
MIV	Mineville/With	33.52	20	eP	P	13 44 22.1	-1.1
MIV				epP	pP	13 44 40.2	+0.1
MIV				ePcP	PcP	13 47 01.2	-1.6
FFD	Franklin Falls	33.65	22	eP	P	13 44 25.1	+0.7
	comp=N,44nm,1.0s,mb5.2						
MPU	Maple Canyon	33.72	327	eP	P	13 44 25.5	+0.4
MPU				ePcP	PcP	13 47 03.8	+0.3
DAU	Daniels Canyon	33.81	328	eP	P	13 44 26.8	+0.9
DAU				ePcP	PcP	13 47 04.2	+0.5
DAU				eScP		13 50 41.0	
NLU	North Lily Min	33.91	327	eP	P	13 44 27.0	+0.2
NLU				ePcP	PcP	13 47 03.3	-0.7
NLU				epPcP		13 47 20.7	
JLU	Jordanelle	34.05	328	eP	P	13 44 28.2	+0.3
JLU				ePcP	PcP	13 47 04.3	-0.2
JLU				eScP		13 50 45.2	
MWC	Mount Wilson	34.12	313	eP	P	13 44 28.0	-0.6
MWC				epP	pP	13 44 43.2	-2.2
TCUT	Toone Canyon	34.41	329	eP	P	13 44 31.9	+0.9
TCUT				ePcP	PcP	13 47 04.7	-0.8
NOQ	North Oquirrh	34.44	327	eP	P	13 44 31.6	+0.4
PDAR	Pinedale Array	34.79	332	P	P	13 44 34.0	-0.2
	comp=N,16nm,0.6s,mb5.0,baz=128,slow=10,SNR=158						
PDAR				PcP	PcP	13 47 04.7	-1.8
	comp=N,5.4nm,0.6s,baz=140,slow=5.4,SNR=10						
PDAR				pPcP		13 47 22.9	
	comp=N,3.7nm,0.7s,baz=162,slow=4.7,SNR=4.4						
PDAR				ScP		13 50 45.4	
	comp=N,1.5nm,0.9s,baz=124,slow=5.3,SNR=4.8						
PDAR				PKiKP		13 54 27.1	
	comp=N,1.0nm,0.7s,baz=110,slow=3.2,SNR=8.3						
PDAR				pPKiKP		13 54 44.4	
	comp=N,0.8nm,0.6s,baz=94,slow=2.7,SNR=5.3						
HWUT	Hardware Ranch	34.85	329	eP	P	13 44 34.7	0.0
	comp=N,42nm,0.8s,mb5.3						
HWUT				ePcP	PcP	13 47 05.9	-0.9
HWUT				epPcP		13 47 23.2	
HWUT				eScP		13 50 46.0	
EYMN	Ely	34.91	357	eP	P	13 44 33.0	-2.2
	comp=N,48nm,0.6s,mb5.5						
EYMN				ePcP	PcP	13 47 04.5	-2.3
SPUT	South Promonto	35.09	328	eP	P	13 44 37.1	+0.4
SPUT				ePcP	PcP	13 47 06.5	-0.9
SPUT				epPcP		13 47 25.0	
LPAZ	La Paz	35.41	145	P	P	13 44 39.7	-0.1
	comp=N,7.5nm,0.7s,mb4.7,baz=333,slow=8.4,SNR=38						
LPAZ				PcP	PcP	13 47 08.7	+0.1
	comp=N,2.2nm,0.5s,baz=24,slow=10.0,SNR=4.3						
LPAZ				LR	LR	13 59 49.6	
	comp=N,222nm,21.0s,baz=307,slow=37						
LPAZ	La Paz	35.41	145	eP	P	13 44 39.6	-0.1
	comp=N,5.6nm,0.6s,mb4.6						
LPAZ				epP	pP	13 44 56.7	0.0
LPAZ				ePcP	PcP	13 47 08.5	-0.1
AHID	Auburn Hatcher	35.50	331	eP	P	13 44 40.6	+0.3
	comp=N,56nm,0.6s,mb5.7						
AHID				ePcP	PcP	13 47 07.6	-1.0
HVU	Hansel Valley	35.60	328	eP	P	13 44 41.1	0.0
HVU				ePcP	PcP	13 47 08.0	-0.9
TPH	Tonopah	35.70	319	eP	P	13 44 42.4	+0.4
	comp=N,11nm,0.8s,mb4.8						
TPH				e		13 44 51.4	
TPH				ePcP	PcP	13 47 09.1	-0.2
TPH				epPcP		13 47 26.5	
SNOW	Snow King Moun	35.88	332	eP	P	13 44 44.1	+0.6
LOHW	Long Hollow	35.93	332	eP	P	13 44 44.2	+0.3
	comp=N,63nm,0.7s,mb5.7						
LOHW				epP	pP	13 45 03.1	+2.3
LOHW				ePcP	PcP	13 47 08.2	-1.6
WUWY	Wally Ulrich	35.93	332	eP	P	13 44 44.4	+0.4
TPAW	Teton Pass	35.99	332	eP	P	13 44 45.0	+0.6
RRI2	Red Ridge	36.05	331	eP	P	13 44 45.4	+0.4
RRI2				ePcP	PcP	13 47 09.7	-0.5
MOOW	Moose Ponds	36.10	332	eP	P	13 44 45.5	+0.2
MOOW				ePcP	PcP	13 47 09.4	-1.0
MOOW				epPcP		13 47 27.0	

ELK Elko 36.20 325 eP P 13 44 46.9 +0.6
comp=N,19nm,0.8s,mb5.1
ELK epP pP 13 45 03.1 -0.1
ELK ePcP PcP 13 47 10.3 -0.4
ELK epPcP 13 47 27.7
IMW Indian Meadow 36.30 332 eP P 13 44 47.2 +0.2
IMW ePcP PcP 13 47 10.5 -0.4
IMW epPcP 13 47 27.8
IMW eScP 13 50 51.1
MNV Mina 36.50 319 eP P 13 44 49.8 +1.0
comp=N,12nm,0.7s,mb4.9
MNV epP pP 13 45 06.1 +0.3
MNV ePcP PcP 13 47 11.5 -0.2
MNV epPcP 13 47 28.7
OMM Old Mammoth Mi 36.58 317 eP P 13 44 50.4 +1.0
OMM epP pP 13 45 07.7 +1.2
OMM ePcP PcP 13 47 12.2 +0.4
OMM epPcP 13 47 29.8
LKWY Lake 36.59 333 eP P 13 44 50.8 +1.4
comp=N,50nm,0.8s,mb5.5
LKWY epP pP 13 45 09.9 +3.5
NVAR Mina Array Bea 36.59 319 P P 13 44 51.0 +1.4
comp=N,16nm,0.7s,mb5.1,baz=120,slow=8.8,SNR=124
NVAR PcP PcP 13 47 12.3 +0.4
comp=N,26nm,0.6s,baz=157,slow=2.3,SNR=48
NVAR pPcP 13 47 29.0
comp=N,12nm,0.7s,baz=126,slow=5.1,SNR=8.5
NVAR ScP 13 50 53.7
comp=N,2.4nm,0.7s,baz=116,slow=5.1,SNR=8.3
NVAR PKiKP 13 54 30.7
comp=N,0.6nm,0.7s,baz=214,slow=4.9,SNR=4.7
NVAR LR LR 14 01 55.1
comp=N,316nm,21.5s,baz=145,slow=39
NVAR Mina Array Bea 36.59 319 P P 13 44 51.0 +1.4
NVAR PcP PcP 13 47 12.3 +0.4
NVAR pPcP 13 47 29.0
NVAR ScP 13 50 53.7
YFT Old Faithful 36.69 333 eP P 13 44 52.4 +2.1
LAO LASA Array 36.73 340 eP P 13 44 50.6 +0.1
comp=N,60nm,0.7s,mb5.6
YNR Norris Junctio 36.83 333 eP P 13 44 52.1 +0.7
YMR Madison River 36.91 333 eP P 13 44 53.0 +0.9
YMR ePcP PcP 13 47 13.0 +0.2
BMN Battle Mountai 37.15 323 eP P 13 44 54.1 -0.1
comp=N,24nm,0.8s,mb5.2
BMN ePcP PcP 13 47 12.9 -0.6
QLMT Earthquake Lak 37.25 333 eP P 13 44 56.2 +1.3
QLMT ePcP PcP 13 47 14.5 +0.6
QLMT epPcP 13 47 32.6
LRV Little Rabbit 37.32 314 eP P 13 44 53.9 -1.8
ULM Lac du Bonnet 37.62 352 P P 13 44 56.5 -1.4
comp=N,50nm,0.7s,mb5.5,baz=168,slow=8.7,SNR=120
ULM LR LR 14 01 26.6
comp=N,552nm,20.9s,baz=334,slow=38
HLID Hailey 37.72 329 eP P 13 44 59.1 +0.2
comp=N,13nm,0.7s,mb4.9
HLID ePcP PcP 13 47 15.6 +0.3
HLID epPcP 13 47 32.4
HLID eScP 13 50 57.6
CMB Columbia Colle 37.73 317 eP P 13 44 58.7 -0.3
comp=N,5.5nm,0.8s,mb4.4
CMB ePcP PcP 13 47 14.8 -0.5
MCMT McKenzie Canyo 37.89 331 eP P 13 45 01.9 +1.6
MCMT epP pP 13 45 16.5 -0.8
BOZ Bozeman (W) 37.97 333 eP P 13 45 01.3 +0.3
comp=N,81nm,0.7s,mb5.7
HRY Holter Researc 38.90 334 eP P 13 45 09.2 +0.6
WVOR Wild Horse Val 39.23 324 eP P 13 45 11.4 -0.1
comp=N,26nm,0.8s,mb5.1
WVOR ePcP PcP 13 47 19.8 -0.2
WVOR epPcP 13 47 36.8
CHMT Chamberlain Mo 39.67 333 eP P 13 45 15.4 +0.4
MOD Modoc 39.88 322 eP P 13 45 16.4 -0.4
comp=N,6.3nm,0.6s,mb4.6
MOD ePcP PcP 13 47 21.9 -0.2
MSO Missoula 39.91 333 eP P 13 45 16.9 -0.1
comp=N,66nm,1.2s,mb5.3
MSO ePcP PcP 13 47 21.6 -0.6
MSO epPcP 13 47 38.2
BMO Blue Mountains 40.10 328 eP P 13 45 17.5 -1.2
comp=N,11nm,0.8s,mb4.7
BMO ePcP PcP 13 47 21.3 -1.5
LVC Limon Verde 40.28 151 P P 13 45 21.3 +0.9
comp=N,8.7nm,0.8s,mb4.6,baz=308,slow=5.6,SNR=9.3
LVC PcP PcP 13 47 23.6 0.0
comp=N,3.3nm,0.7s,baz=315,slow=2.9,SNR=3.4
LVC Limon Verde 40.28 151 eP P 13 45 21.3 +0.9
comp=N,34nm,1.3s,mb5.0
LASM Arnica Sink 40.48 321 P P 13 45 22.2 +0.4
BUOR Burton Butte 41.27 321 P P 13 45 28.6 +0.3
KHMM Horse Mountain 41.43 319 eP P 13 45 30.0 +0.3
KHMM ePcP PcP 13 47 26.9 -0.2
WALA Waterton Lakes 41.61 335 eP P 13 45 31.6 +0.6
comp=N,71nm,1.0s,mb5.3
WALA ePcP PcP 13 47 24.7 -2.9
VIPM Ingram Point 41.66 325 P P 13 45 31.4 -0.2
HBO Huckleberry Mo 42.23 323 P P 13 45 36.1 0.0
FRIS Frissel Point 42.32 324 P P 13 45 37.0 +0.1
NEW Newport 42.42 332 eP P 13 45 36.7 -0.9
comp=N,9.1nm,0.6s,mb4.7
NEW ePcP PcP 13 47 28.4 -1.9
KBO Bosley Butte 42.46 320 eP P 13 45 38.0 -0.1
BROR Big Rock Looko 42.56 324 P P 13 45 38.4 -0.5
OD2 Odessa Site #2 42.56 330 P P 13 45 39.0 +0.1
VFP Flag Point 42.64 325 P P 13 45 40.3 +0.8
FFC Flin Flon 42.94 349 P P 13 45 41.5 -0.3
comp=N,497nm,0.5s,SNR=66
TBM Table Mountain 43.36 328 P P 13 45 45.6 +0.2
WRW Wenatchee Ridg 43.96 329 P P 13 45 50.4 +0.1
EDM Edmonton 44.71 339 eP P 13 45 55.3 -0.9
SCHQ Schefferville 45.05 18 P P 13 45 57.3 -1.5
comp=N,46nm,0.7s,mb5.3,baz=216,slow=6.3,SNR=119
SCHQ PcP PcP 13 47 37.2 -1.9
comp=N,2.8nm,0.3s,baz=250,slow=4.1,SNR=3.9
SCHQ LR LR 14 05 51.1
comp=N,364nm,18.6s,baz=342,slow=38
PGC Sidney 45.78 328 eP P 13 46 04.1 -0.7
comp=N,65nm,0.8s,mb5.4
FCC Fort Churchill 45.85 356 eP P 13 46 03.7 -1.5
comp=N,64nm,0.6s,mb5.5
BDFB Brasilia 49.15 124 P P 13 46 28.4 -3.1
comp=N,22nm,0.8s,mb5.1,baz=293,slow=9.0,SNR=26
BDFB PcP PcP 13 47 53.8 -0.4
comp=N,13nm,1.0s,baz=249,slow=3.9,SNR=4.7
BDFB LR LR 14 07 04.3
comp=N,153nm,20.9s,baz=309,slow=36
BAO Brasilia Array 49.17 124 P P 13 46 27.6 -4.0
BBB Bella Bella 50.30 329 LR LR 14 13 07.0
comp=N,229nm,18.9s,baz=245,slow=42
FRB Frobisher Bay 52.57 11 LR LR 14 10 51.6
comp=N,215nm,19.2s,baz=131,slow=38
YKA Yellowknife Ar 52.80 345 P P 13 46 57.0 -1.5
comp=N,68nm,0.8s,mb5.7,baz=141,slow=7.6,SNR=974
YKA PcP PcP 13 48 05.2 -1.9
comp=N,7.2nm,0.6s,baz=146,slow=3.7,SNR=8.2
YKA PKiKP 13 54 42.8
comp=N,0.3nm,0.6s,baz=157,slow=0.9,SNR=3.9
YKA LR LR 14 11 08.4
comp=N,380nm,21.4s,baz=145,slow=38
YKA Yellowknife Ar 52.80 345 P P 13 46 57.0 -1.5
YKA PcP PcP 13 48 05.2 -1.8
YKW3 Yellowknife Ar 52.86 345 eP P 13 46 57.3 -1.6
YKW3 ePcP PcP 13 48 04.6 -2.6
DLBC Dease Lake 54.95 335 LR LR 14 15 13.8
comp=N,340nm,20.2s,baz=256,slow=41
DLBC Dease Lake 54.95 335 eP P 13 47 14.1 -0.2
RCBR Riachuelo 55.52 106 eP P 13 47 14.6 -4.4
comp=N,18nm,1.1s,mb5.0
TAOE Nuku Hiva Isla 55.69 250 eLR LR 14 03 08.7
PLCA Paso Flores 56.01 164 P P 13 47 20.9 -1.4
comp=N,8.4nm,0.8s,mb4.8,baz=339,slow=8.7,SNR=12
PLCA sP sP 13 47 41.9 -6.0
comp=N,8.9nm,1.0s,baz=339,slow=8.8,SNR=4.9
PLCA LR LR 14 07 56.5
comp=N,134nm,18.1s,baz=180,slow=32
TRQA Tornquist 56.57 155 eP P 13 47 23.3 -2.9
comp=N,43nm,1.4s,mb5.3
CAM4 Nova Friburgo 57.13 128 eP P 13 47 28.2 -2.3
CAM4 i 13 47 31.3
CAM4 i pP 13 47 44.3 -4.1
RKT Rikitea 57.94 232 eS S 13 55 31.9 +2.8
RKT eLR LR 14 04 21.5
comp=N,433nm,26.5s
RES Resolute Bay 61.76 358 eP P 13 47 59.1 -2.5
comp=N,22nm,0.6s,mb5.4
RES epP pP 13 48 20.0 +0.3
INK Inuvik 62.36 343 LR LR 14 17 38.5
comp=N,288nm,20.4s,baz=278,slow=38
INK Inuvik 62.36 343 eP P 13 48 03.9 -1.8
comp=N,56nm,0.7s,mb5.7
MENT Mentasta 63.04 335 eP P 13 48 09.3 -1.0
THY Trims Highway 64.08 335 eP P 13 48 15.5 -1.5
PMR Palmer 64.83 333 eP P 13 48 20.5 -1.4
comp=N,22nm,0.6s,mb5.2
ILAR Eielson Array 65.09 336 P P 13 48 21.6 -1.9
comp=N,30nm,0.7s,mb5.2,baz=167,slow=4.8,SNR=245
ILAR LR LR 14 24 00.9
comp=N,109nm,19.6s,baz=156,slow=43
COLA College 65.51 336 eP P 13 48 24.2 -2.0
COLA College 65.51 336 eP P 13 48 24.6 -1.6
comp=N,36nm,0.7s,mb5.3
MCK McKinley 65.51 335 eP P 13 48 24.2 -2.0
comp=N,31nm,1.0s,mb5.1
SPU Mount Spurr 66.03 332 eP P 13 48 27.9 -1.7
RSO Redoubt South 66.15 331 eP P 13 48 28.3 -2.1
SUMG Summit 66.31 15 eP P 13 48 29.6 -1.6
comp=N,22nm,0.9s,mb5.0
SUMG epP pP 13 48 47.0 -2.5
PPT Papeete 67.49 245 eLR LR 14 08 41.8
comp=N,760nm,26.2s
IMA Indian Mountai 68.20 337 eP P 13 48 42.3 -0.8
comp=N,3.9nm,0.8s,mb4.3
BORG Borgarnes 68.64 25 LR LR 14 22 34.7
comp=N,126nm,18.6s,baz=192,slow=39
TBI Tubuai 69.70 239 eLR LR 14 09 44.9
comp=N,475nm,28.0s
ALE Alert 70.32 4 P P 13 48 53.0 -3.0
comp=N,67nm,0.9s,mb5.5,SNR=12
DAG Danmarks Havn 72.84 13⇓eP P 13 49 08.7 -2.2
DAG pmax pmax
comp=Z,10.0nm,0.4s,mb5.0
DAG Danmarks Havn 72.84 13⇓eP P 13 49 08.7 -2.2
comp=Z,10nm,0.4s,mb5.0
DAG Danmarks Havn 72.84 13⇓iP P 13 49 08.7 -2.2
comp=Z,10nm,0.4s,mb5.0
TNA Tin City 73.86 335 eP P 13 49 16.3 -0.8
comp=Z,15nm,0.8s,mb4.8
EVO Evora 74.64 53 eP P 13 49 19.7 -2.4
comp=Z,16nm,0.8s,mb4.5
EVO eR
comp=Z,158nm,21.8s
EKA Eskdalemuir Ar 76.78 36 P P 13 49 30.1 -3.8
comp=Z,3.5nm,0.7s,mb4.2,baz=266,slow=5.8,SNR=12
QUIF Quistinic 77.37 43 eP P 13 49 35.9 -1.5
comp=Z,11nm,0.8s,mb4.4
ESDC Sonseca Array 77.66 52 P P 13 49 36.2 -3.0
comp=Z,2.7nm,0.6s,mb4.1,baz=291,slow=5.8,SNR=11
ESDC pP pP 13 49 54.9 -3.1
comp=Z,3.8nm,0.8s,baz=284,slow=5.3,SNR=4.4
ESLA Sonseca Array 77.66 52 eP P 13 49 36.5 -2.7
comp=Z,1.9nm,0.9s
GRR Gorron 78.85 43 eP P 13 49 44.0 -1.5
comp=Z,14nm,0.7s,mb4.6
FLN La Foliniere 79.06 42 eP P 13 49 45.1 -1.5
FLN eR
comp=Z,220nm,20.8s
SJPF Ste Jean 79.28 48 eP P 13 49 46.3 -1.6
LDF La Druitiere 79.31 42 eP P 13 49 46.5 -1.5
comp=Z,15nm,1.0s,mb4.5
MFF Saint Martin d 79.56 44 eP P 13 49 47.9 -1.5
comp=Z,5.0nm,0.5s,mb4.3
EPF Esparros 80.42 48 eP P 13 49 52.4 -1.7
TCF Toulx Ste Croi 81.22 45 eP P 13 49 56.6 -1.6
CAF Calviac 81.35 46 eP P 13 49 57.6 -1.3
BGF Bois d'Agland 81.61 44 eP P 13 49 58.6 -1.6
AVF Avril sur Loir 81.91 44 eP P 13 50 00.7 -1.1
DBIC Dimbokro 82.37 85 P P 13 50 03.8 -1.0
comp=Z,3.2nm,0.7s,mb4.3,baz=226,slow=3.4,SNR=5.1
DBIC LR LR 14 23 36.9
comp=Z,125nm,20.2s,baz=272,slow=34
DBIC Dimbokro 82.37 85 eP P 13 50 01.9 -2.9
comp=Z,4.0nm,0.7s,mb4.4
NB2 NORSAR Subarra 83.38 29 P P 13 50 05.7 -3.3
comp=Z,4.0nm,0.9s,mb4.2,baz=285,slow=4.8
NOA NORSAR Array B 83.38 29 P P 13 50 05.8 -3.2
comp=Z,2.1nm,0.8s,mb4.0,baz=286,slow=4.9,SNR=6.5
NOA pP pP 13 50 24.3 -3.6
comp=Z,0.4nm,0.4s,baz=271,slow=3.4,SNR=1.8
NOA sP sP 13 50 30.2 -5.3
comp=Z,3.4nm,0.8s,baz=287,slow=5.0,SNR=5.6
NOA LR LR 14 23 19.3
comp=Z,121nm,21.0s,baz=270,slow=33
NOA NORSAR Array B 83.38 29 P P 13 50 05.8 -3.2
NOA pP pP 13 50 24.3 -3.6
NOA sP sP 13 50 30.2 -5.3
NOA LR LR 14 23 19.3
BILL Bilibino 83.62 339⇑iP P 13 50 09.2 -0.8
BILL pmax pmax
comp=Z,43nm,1.7s,mb5.0
BILL MLR MLR
comp=Z,100nm,21.0s
BILL Bilibino 83.62 339 eP P 13 50 08.8 -1.2
comp=Z,21nm,0.8s,mb5.0
BILL epP pP 13 50 25.6 -3.4
CDF Champ du Feu 84.19 42 eP P 13 50 12.2 -1.1
comp=Z,4.2nm,0.7s,mb4.1
HFS Hagfors 84.81 29 P P 13 50 13.3 -2.8
comp=Z,1.8nm,0.6s,mb4.2,baz=270,slow=5.8,SNR=5.0
FRF La Foret Royal 84.84 47 eP P 13 50 15.8 -0.9
SBF Sospel 85.33 46 eP P 13 50 18.2 -0.9
ARCES ARCESS Array B 85.99 19 P P 13 50 20.0 -1.7
comp=Z,3.9nm,0.9s,mb4.3,baz=284,slow=6.0,SNR=8.8
ARCES LR LR 14 28 11.7
comp=Z,75nm,21.3s,baz=17,slow=35
ARCES ARCESS Array B 85.99 19 P P 13 50 20.0 -1.7
ARCES LR LR 14 28 11.7
GRA1 Grafenberg Arr 86.38 40 eP P 13 50 22.6 -1.5
comp=Z,9.0nm,1.5s,mb4.5
GRA1 epP pP 13 50 40.8 -2.4
GRA1 LR LR
comp=Z,200nm,21.8s
GRF Grafenberg Arr 86.38 40 eP P 13 50 22.6 -1.5
GRF pmax pmax
comp=Z,9.0nm,1.5s,mb4.5
GRF Grafenberg Arr 86.38 40 eP P 13 50 22.6 -1.5
comp=Z,9.0nm,1.5s,mb4.5
GRF epP pP 13 50 40.8 -2.4
GRF LR LR
comp=Z,200nm,21.8s
CLL Collm 87.02 38 eP P 13 50 25.0 -2.2
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CLL Collm 87.02 38 eP P 13 50 25.0 -2.2
comp=Z,7.0nm,0.9s,mb4.6
CLL i pP 13 50 43.8 -2.6
CLL Collm 87.02 38 P P 13 50 25.0 -2.2
comp=Z,logA/T=0.9,mb4.6
CLL i *PP pP 13 50 43.8 -2.6
CLL e*SP sP 13 50 53.0 -0.6
BRG Berggiesshubel 87.72 38 eP P 13 50 30.0 -0.6
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG Berggiesshubel 87.72 38 eP P 13 50 30.0 -0.6
comp=Z,3.8nm,0.9s,mb4.4
KHC Kasperske Hory 88.02 40 eP P 13 50 30.0 -2.1
KHC e pP 13 50 48.0 -3.3
KHC Kasperske Hory 88.02 40 eP P 13 50 30.0 -2.1
KHC x x 13 50 48.0
GERES GERESS Array B 88.18 40 eP P 13 50 30.7 -2.1
GERES GERESS Array B 88.18 40 P P 13 50 30.7 -2.2
comp=Z,1.1nm,0.7s,mb4.0,baz=270,slow=2.7,SNR=7.2
GERES pP pP 13 50 49.0 -3.0
comp=Z,1.0nm,0.6s,baz=270,slow=4.0,SNR=6.1
FINES FINESS Array B 89.92 26 eP P 13 50 38.6 -2.1
FINES FINESS Array B 89.92 26 P P 13 50 38.6 -2.1
comp=Z,0.9nm,0.7s,mb4.0,baz=292,slow=7.5,SNR=3.4
FINES LR LR 14 28 37.9
comp=Z,86nm,18.6s,baz=330,slow=34
TIXI Tiksi 91.89 349⇓iP P 13 50 47.7 -2.0
TIXI pmax pmax
comp=Z,11nm,0.8s,mb5.1
TIXI MLR MLR
comp=Z,100nm,18.0s
YAK Yakutsk 99.43 343 eP P 13 51 21.7 -2.5
YAK pmax pmax
comp=Z,7.0nm,0.7s,mb5.3
YAK MLR MLR
comp=Z,200nm,20.0s
MDJ Mudanjiang 113.02 331 PDIF Pdif 13 52 24.7 0.0
MDJ S 14 04 41.3
MDJ SS SS 14 12 44.9 -2.9
MDJ LR LR
comp=E,66nm,23.4s
MDJ LR LR
comp=Z,87nm,20.4s
CN2 Changchun 115.53 333 ePKP PKPdf 13 56 27.5 +4.9
CN2 eXPKP 13 56 46.0
CN2 PP PP 13 57 34.0 +3.8
CN2 SS SS 14 13 26.5 +6.3
CN2 LR LR
comp=N,1µm,19.0s
CN2 LR LR
comp=E,1µm,19.0s
CN2 LR LR
comp=Z,1µm,21.0s
ZAK Zakamensk 116.03 352 ePKIKP PKPdf 13 56 19.4 -4.0
ZAK e 13 57 32.8
ZAK pmax pmax
comp=Z,1.0nm,1.0s
ZAK pmax pmax
comp=Z,1.0nm,1.2s
LBTB Lobatse 117.09 112 ePKPdf PKPdf 13 56 27.4 +1.4
LBTB epPKPdf 13 56 43.3
ULN Ulaanbaatar 117.83 348 ePKPdf PKPdf 13 56 26.5 -0.4
SONM Songino Array 117.98 349 PKP PKPdf 13 56 27.4 +0.3
comp=Z,6.0nm,0.9s,baz=335,slow=1.3,SNR=35
SONM PKKPbc 14 06 47.9
comp=Z,1.5nm,0.7s,baz=198,slow=3.5,SNR=12
MBAR Mbarara 118.60 84 ePKPdf PKPdf 13 56 29.7 +0.5
LSZ Lusaka 118.77 100 ePKPdf PKPdf 13 56 30.9 +1.4
LSZ epPKPdf 13 56 48.3
LSZ esPKPdf 13 56 59.8
BJI Beijing 122.44 338 PKP PKPdf 13 56 36.9 +0.8
BJI PP PP 13 58 19.7 +2.0
BJI LR LR
comp=Z,199nm,24.5s
BJI Beijing 122.44 338 PKP PKPdf 13 56 36.9 +0.8
BJI PP PP 13 58 19.7 +2.0
BJI SS tx 14 16 26.6
BJI LR LR
comp=Z,200nm,24.5s
HHC Hu-ho-hao-te 123.27 342 ePKP PKPdf 13 56 39.3 +1.6
HHC PP PP 13 58 24.9 +1.4
HHC PKS PKS 14 00 12.2 -1.3
HHC SKS SKS 14 03 40.0 +8.1
HHC SKKS 14 05 07.0
HHC SS SS 14 14 57.5 -3.0
HHC PP PP
comp=Z,78nm,13.1s
HHC LR LR
comp=N,171nm,35.1s
HHC LR LR
comp=Z,195nm,34.5s
WMQ Urumqi 123.34 3 ePKP PKPdf 13 56 36.0 -1.7
WMQ XPKP 13 57 10.0
WMQ ePP PP 13 58 23.0 -0.8
WMQ PKS PKS 14 00 11.0 -2.6
WMQ SKKS 14 05 04.0
WMQ PP PP
comp=Z,151nm,4.6s
WMQ LR LR
comp=N,498nm,28.5s
WMQ LR LR
comp=E,254nm,28.5s
WMQ LR LR
comp=Z,496nm,27.1s
TOO Toolangi 126.22 233 ePKP PKPdf 13 56 45.3 +1.8
comp=Z,0.4nm,0.5s
TOO i pPKP 13 57 02.6
GTA Gaotai 127.27 352 ePKP PKPdf 13 56 46.3 +0.9
GTA XPKP 13 57 10.1
GTA PP PP 13 58 46.5 -3.1
GTA PKS PKS 14 00 21.6 +0.5
GTA SKS SKS 14 03 52.6 +8.7
GTA SKKS 14 05 34.9
GTA SS SS 14 15 47.1 -3.5
GTA PP PP
comp=Z,116nm,6.1s
GTA LR LR
comp=N,112nm,20.1s
GTA LR LR
comp=E,76nm,20.5s
GTA LR LR
comp=Z,123nm,19.8s
SSE Sheshan 127.68 328 PKP PKPdf 13 56 42.9 -3.6
SSE PP PP
comp=Z,41nm,5.0s
SSE LR LR
comp=N,64nm,25.4s
SSE LR LR
comp=E,26nm,25.4s
SSE LR LR
comp=Z,69nm,22.5s
NJ2 Nanjing 128.08 330 ePKP PKPdf 13 56 48.2 +1.0
NJ2 PP PP 13 58 56.0 +0.6
NJ2 PKS PKS 14 00 24.0 +1.1
NJ2 SKS SKS 14 03 48.0 +1.6
NJ2 SKKS 14 05 37.0
NJ2 PP PP
comp=Z,1µm,8.6s
NJ2 LR LR
comp=N,1µm,24.0s
NJ2 LR LR
comp=E,742nm,23.0s
LZH Lanzhou 129.79 347 PKP PKPdf 13 56 52.5 +2.1
LZH XPKP 13 57 17.0
LZH LR LR
comp=E,380nm,18.0s
LZH LR LR
comp=Z,430nm,21.0s
LZH Lanzhou 129.79 347 PKP PKPdf 13 56 52.5 +2.1
LZH pPKP 13 57 09.5
LZH sPKP 13 57 17.0
LZH LR LR
comp=Z,430nm,21.0s
XAN Xi'an 130.35 341 PKP PKPdf 13 56 51.4 -0.1
STKA Stephens Creek 130.49 239 ePKP PKPdf 13 56 53.2 +1.4
comp=Z,6.6nm,1.2s
STKA i pPKP 13 57 10.8
STKA Stephens Creek 130.49 239 PKP PKPdf 13 56 53.0 +1.2
comp=Z,3.5nm,0.5s,baz=85,slow=2.2,SNR=5.6
STKA pPKP 13 57 10.4
comp=Z,22nm,1.2s,baz=103,slow=5.3,SNR=5.8
WHN Wuhan 131.42 333 ePKP PKPdf 13 56 54.0 +0.4
ENH Enshi 133.60 338 ePKPdf PKPdf 13 56 58.0 +0.3
LSA Lhasa 137.53 0 ePKIKP PKPdf 13 57 05.8 +0.8
WB2 Warramunga Arr 138.41 255 i PKP PKPdf 13 57 08.5 +1.7
WB2 i pPKP 13 57 26.1
WB2 Warramunga Arr 138.41 255 ePKP 13 56 58.8
WB2 i PKP PKPdf 13 57 08.5 +1.7
WB2 i pPKP 13 57 26.1
WRAB Tennant Creek 138.41 255 ePKPdf PKPdf 13 57 08.2 +1.4
WRAB epPKPdf 13 57 25.9
WRA Warramunga Arr 138.42 255 PKhKP 13 56 58.7
comp=Z,2.1nm,0.8s,baz=88,slow=3.5,SNR=13
WRA PKP PKPdf 13 57 08.8 +2.0
comp=Z,12nm,0.7s,baz=88,slow=1.7,SNR=43
WRA pPKP 13 57 25.9
comp=Z,13nm,0.7s,baz=80,slow=1.6,SNR=9.3
ASAR Alice Springs 138.50 249 ePKHKP 13 56 58.3
ASAR Alice Springs 138.50 249 PKhKP 13 56 58.2
comp=Z,2.7nm,0.6s,baz=108,slow=2.8,SNR=15
ASAR PKP PKPdf 13 57 08.4 +1.5
comp=Z,6.8nm,0.7s,baz=98,slow=1.9,SNR=17
ASAR pPKP 13 57 25.8
comp=Z,6.0nm,0.7s,baz=116,slow=2.0,SNR=6.1
ASPA Alice Springs 138.51 249 ePKP PKPdf 13 57 08.6 +1.7
ASPA epPKP 13 57 25.9
ASPA ePKS PKS 14 00 59.7 +18
ASPA Alice Springs 138.51 249 ePKP 13 56 58.4
ASPA ePKP PKPdf 13 57 08.6 +1.7
ASPA epPKP 13 57 25.9
ASPA ePKS PKS 14 00 59.7 +18
GKN Gorkha 138.69 9 eP 13 56 58.2
comp=Z,12nm,0.4s
KOLN Koldanda 138.75 11 eP 13 56 57.8
comp=Z,5.8nm,0.4s
GUN Gumba 138.96 8 eP 13 56 59.9
comp=Z,17nm,0.5s
KKN Kakani 139.00 8 eP 13 56 58.8
comp=Z,19nm,0.5s
PKI Pulchoki 139.23 8 eP 13 56 59.3
comp=Z,17nm,0.5s
JIRN Jiri 139.24 7 eP 13 56 59.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,9.7nm,0.4s						
KMI	**Kunming**	**140.54**	**344**	PKP	PKPdf	13 57 11.5	+0.9
KMI				XPKP		13 57 39.4	
KMI				SS	SS	14 18 33.7	+2.9
KMI				LR	LR		
	comp=Z,125nm,26.5s						
KAD	**Karad**	**145.37**	**30**	eP	PKPdf	13 57 17.0	-2.1
CHRT	**Chiangrai**	**146.32**	**346**	⇑P	PKPdf	13 57 21.0	+0.3
	comp=Z,105nm,1.0s						
FITZ	**Fitzroy Crossi**	**146.74**	**257**	ePKP	PKPdf	13 57 23.4	+1.9
	comp=Z,46nm,0.6s						
FITZ				i pPKP		13 57 42.2	
NANT	**Nan**	**147.11**	**344**	⇑P	PKPdf	13 57 21.0	-1.1
	comp=Z,282nm,0.6s						
CHG	**Chiang Mai**	**147.53**	**347**	⇓P	PKPdf	13 57 23.6	+0.9
	comp=Z,16nm,0.8s						
CM31	**Chiang Mai Arr**	**147.87**	**347**	ePKPdf	PKPdf	13 57 24.5	+1.2
CMAR	**Chiang Mai Arr**	**147.87**	**347**	ePKP2	PKPdf	13 57 24.6	+1.3
CMAR	**Chiang Mai Arr**	**147.87**	**347**	PKPbc	PKPdf	13 57 24.6	+1.3
	comp=Z,14nm,0.7s,baz=321,slow=2.6,SNR=58						
CMAR				pPKPbc		13 57 43.0	
	comp=Z,7.7nm,0.8s,baz=336,slow=2.9,SNR=3.9						
BDT	**Bhumibol Dam**	**149.03**	**346**	P	PKPdf	13 57 28.0	+2.8
KLBR	**Kellerberrin**	**149.59**	**228**	ePKP	PKPdf	13 57 31.6	+5.9
	comp=Z,1μm,1.7s						
KLBR				i pPKP		13 57 48.9	
NST	**Nakhon Sawan**	**150.24**	**343**	P	PKPdf	13 57 33.0	+5.9
MUN	**Mundaring**	**150.49**	**226**	ePKP	PKPdf	13 57 34.0	+6.9
	comp=Z,44nm,0.7s						
MUN				epPKP		13 57 51.5	
KSM	**Kuching**	**156.42**	**306**	ePKPdf	PKPdf	13 57 37.2	+1.4
KSM				ePKPbc	PKPdf	13 57 47.0	+11
KSM				epPKPdf		13 57 55.3	
KSM				ePKPab	PKPab	13 58 05.2	-2.0
KSM				epPKPab		13 58 23.3	

*IDC **10** 13:44:05.1±7.2, 7.09S×129.15E, h177km±59km, mb3.8/2, mb1 4.1/4, mb1mx3.7/11, mbtmp4.5/4, Error ellipse: s-maj=99.3km s-min=51.5km az=71.0*
*NEIC **10** 13:44:17.0±6.2, 8.11S×129.15E, h229km±29km, mb4.5/4, Error ellipse: s-maj=74.2km s-min=24.1km az=168.0*
ISC 10 13:44:06.4±2.2**, 7.4S**±0.1×**129.0E**±0.1**, h185**km±18km**, n13, σ1s05**/19**, mb4.0**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.31**	**147**	eP	**P**	**13 45 39.6**	**+1.3**
	28nm,0.4s						
KAKA				eS	**S**	**13 46 48.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**11.14**	**197**	eP	**P**	**13 46 42.6**	**+1.1**
	5.1nm,0.2s						
FITZ				eS	**S**	**13 48 42.5**	**-0.7**
WRAB	**Tennant Creek**	**13.53**	**158**	Pn	**P**	**13 47 12.4**	**+0.4**
	276nm,0.7s,SNR=11						
WRAB	**Tennant Creek**	**13.53**	**158**	eP	**P**	**13 47 10.8**	**-1.3**
	86nm,1.0s						
WRA	**Warramunga Arr**	**13.54**	**158**	P	**P**	**13 47 10.9**	**-1.2**
	0.9nm,0.3s,baz=337,slow=12,SNR=52						
WRA				S	**S**	**13 49 39.5**	**+1.0**
	1.6nm,0.3s,baz=336,slow=22,SNR=7.4						
WB2	**Warramunga Arr**	**13.54**	**158**	eP	**P**	**13 47 10.8**	**-1.4**
WB2				i		13 47 16.9	
WB2				eS	**S**	**13 49 39.3**	**+0.7**
ASAR	**Alice Springs**	**16.88**	**164**	P	**P**	**13 47 54.4**	**+1.0**
	6.9nm,0.3s,baz=337,slow=9.5,SNR=355						
ASAR				S	**S**	**13 51 02.0**	**+8.3**
	0.4nm,0.3s,baz=355,slow=25,SNR=6.7						
ASPA	**Alice Springs**	**16.88**	**164**	eP	**P**	**13 47 54.4**	**+1.1**
ASPA				eS	**S**	**13 50 59.8**	**+6.1**
CTAO	**Charters Tower**	**20.99**	**129**	eP	**P**	**13 48 36.9**	**+0.5**
	6.3nm,0.7s						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**13 49 33.4**	**-0.4**
	7.2nm,1.0s,mb4.3,baz=335,slow=8.5,SNR=8.4						
STKA	**Stephens Creek**	**27.07**	**156**	P	**P**	**13 49 33.4**	**-0.4**
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**13 55 11.3**	**-1.1**
	2.2nm,1.1s,mb3.8,baz=320,slow=7.9,SNR=5.2						
VNDA	**Vanda**	**72.20**	**173**	P	**P**	**13 55 11.3**	**-1.1**

DJA 10 13:57:12.5±1.0**, 3.69S**×**120.02E, h160**km±7km**, MD4.3**/3**, 6C, Error ellipse: s-maj=22.0km s-min=20.2km az=57.0, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**0.31**	**83**	⇑iPn	P	13 57 33.8	-0.9
	40nm,0.4s						
BUNI				⇑iSn	S	13 57 50.7	-1.0
TANI	**Tanete Lipujan**	**0.68**	**292**	⇑iPn	P	13 57 35.9	-0.4
	129nm,0.6s						
TANI				⇑iSn	S	13 57 52.8	-1.9
NINI	**Niniconang**	**0.77**	**200**	⇑iPn	P	13 57 36.9	+0.1
	388nm,0.8s						
NINI				⇑iSn	S	13 57 53.6	-2.0

*IDC **10** 14:13:35.9±5.9, 60.03N×152.88W, h90km±59km, mb3.8/1, mb1 3.6/5, mb1mx3.3/21, mbtmp3.7/5, ML3.7/4, MS3.5/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=47.1km s-min=27.1km az=41.0*
*NEIC **10** 14:13:36.8, 59.96N×152.87W, h92km, MG3.3(AEIC), After AEIC.*
ISC 10 14:13:34.4±0.3**, 59.97N**±0.02×**152.84W**±0.06**, h106**km±3km**, n67, σ0s69**/85**, mb4.3**/1**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.12**	**332**	P	**P**	**14 13 49.3**	**0.0**
ILIM				S	**S**	**14 14 00.1**	**-0.3**
INE	**Iliamna NE**	**0.14**	**309**	P	**P**	**14 13 49.5**	**+0.1**
ILW	**Iliamna West**	**0.17**	**301**	P	**P**	**14 13 49.5**	**+0.1**
OPT	**Oil Point**	**0.38**	**212**	P	**P**	**14 13 50.5**	**+0.2**
RSO	**Redoubt South**	**0.49**	**5**	eP	**P**	**14 13 51.5**	**+0.5**
RDN	**Redoubt North**	**0.55**	**4**	P	**P**	**14 13 51.8**	**+0.5**
RDN				S	**S**	**14 14 04.0**	**-0.1**
NCT	**North Crescent**	**0.59**	**356**	P	**P**	**14 13 52.1**	**+0.4**
NCT				S	**S**	**14 14 04.6**	**-0.2**
DFR	**Drift River**	**0.63**	**7**	P	**P**	**14 13 52.5**	**+0.5**
DFR				S	**S**	**14 14 05.0**	**-0.2**
AUE	**Augustine Isla**	**0.67**	**204**	P	**P**	**14 13 52.8**	**+0.5**
AUE				S	**S**	**14 14 04.3**	**-1.5**
AUW	**Augustine West**	**0.68**	**208**	P	**P**	**14 13 52.8**	**+0.4**
HOM	**Homer**	**0.68**	**117**	P	**P**	**14 13 53.2**	**+0.8**
AUI	**Augustine Isla**	**0.70**	**205**	P	**P**	**14 13 52.8**	**+0.2**
AUI				S	**S**	**14 14 05.4**	**-0.9**
XLV	**Seldovia**	**0.77**	**132**	P	**P**	**14 13 53.7**	**+0.4**
XLV				S	**S**	**14 14 07.3**	**-0.1**
NNL	**Ninilchik**	**0.78**	**84**	P	**P**	**14 13 54.9**	**+1.5**
BRLK	**Bradley Lake**	**1.01**	**101**	P	**P**	**14 13 56.1**	**+0.5**
BRLK				S	**S**	**14 14 11.8**	**+0.1**
MCNL	**McNeil River**	**1.10**	**225**	P	**P**	**14 13 56.6**	**-0.1**
NKA	**Nikishka**	**1.11**	**45**	P	**P**	**14 13 59.1**	**+2.2**
CKT	**Bend**	**1.27**	**14**	P	**P**	**14 13 59.3**	**+0.6**
SPU	**Mount Spurr**	**1.28**	**17**	P	**P**	**14 13 59.2**	**+0.5**
SPU				S	**S**	**14 14 16.5**	**-0.6**
SYI	**Shuyak Island**	**1.39**	**170**	P	**P**	**14 14 00.4**	**+0.3**
SYI				S	**S**	**14 14 18.4**	**-1.0**
SLKM	**Skilak Lake**	**1.41**	**66**	P	**P**	**14 14 01.1**	**+0.7**
SLKM				S	**S**	**14 14 19.9**	**0.0**
KAPH	**Katmai Pasha**	**1.58**	**210**	P	**P**	**14 14 02.8**	**+0.4**
KAPH				S	**S**	**14 14 23.3**	**-0.1**
STLK	**Strandline Lak**	**1.61**	**17**	P	**P**	**14 14 03.6**	**+0.8**
KAHC	**Katmai Hardscr**	**1.73**	**221**	P	**P**	**14 14 04.5**	**+0.2**
KAHC				S	**S**	**14 14 26.4**	**-0.1**
SVW2	**Sparrevohn**	**1.76**	**311**	P	**P**	**14 14 04.6**	**-0.1**
KAWH	**Katmai**	**1.88**	**213**	P	**P**	**14 14 06.4**	**+0.2**
RC01	**Rabbit Creek A**	**1.90**	**53**	P	**P**	**14 14 07.1**	**+0.6**
RC01				S	**S**	**14 14 30.2**	**-0.1**
KDAK	**Kodiak Island**	**2.20**	**176**	Pn	**P**	**14 14 09.0**	**-1.4**
	1μm,0.4s						
KDAK	**Kodiak Island**	**2.20**	**176**	P	**P**	**14 14 09.3**	**-1.1**
PWA	**Palmer West**	**2.23**	**39**	P	**P**	**14 14 11.7**	**+0.9**
CNTC	**Contact Creek**	**2.32**	**224**	P	**P**	**14 14 12.3**	**+0.2**
PMR	**Palmer**	**2.44**	**47**	P	**P**	**14 14 13.7**	**0.0**
GHO	**Glory Hole Cre**	**2.63**	**45**	P	**P**	**14 14 16.3**	**0.0**
SML	**Sawmill**	**2.87**	**48**	P	**P**	**14 14 19.3**	**-0.3**
SCM	**Sheep Creek Mo**	**3.28**	**53**	P	**P**	**14 14 24.9**	**-0.2**
TT01	**Tatalina**	**3.32**	**334**	P	**P**	**14 14 25.2**	**-0.4**
VLZ	**Valdez**	**3.42**	**67**	P	**P**	**14 14 26.1**	**-0.9**
EYAK	**Cordova Ski Ar**	**3.58**	**78**	P	**P**	**14 14 28.6**	**-0.6**
DIV	**Divide**	**3.68**	**69**	P	**P**	**14 14 29.9**	**-0.7**
TRF	**Thorofare Moun**	**3.70**	**18**	P	**P**	**14 14 31.0**	**+0.2**
KTH	**Kantishna Hill**	**3.71**	**13**	P	**P**	**14 14 30.9**	**-0.1**
MCK	**McKinley**	**4.20**	**24**	P	**P**	**14 14 37.8**	**+0.1**
PAX	**Paxson**	**4.64**	**46**	P	**P**	**14 14 43.8**	**+0.2**
THY	**Trims Highway**	**4.83**	**41**	P	**P**	**14 14 47.2**	**+0.9**
GCSA	**Galena City Sc**	**5.15**	**340**	P	**P**	**14 14 50.1**	**-0.4**
CCB	**Clear Creek Bu**	**5.25**	**24**	P	**P**	**14 14 51.2**	**-0.6**
COLA	**College**	**5.44**	**23**	P	**P**	**14 14 53.8**	**-0.7**
MDM	**Murphy Dome**	**5.44**	**21**	P	**P**	**14 14 54.0**	**-0.5**
IL1	**Eielson Array**	**5.56**	**27**	P	**P**	**14 14 55.1**	**-0.9**
ILAR	**Eielson Array**	**5.56**	**27**	P	**P**	**14 14 55.1**	**-0.9**
	1.9nm,0.3s,baz=216,slow=14,SNR=130						
ILAR				S	**S**	**14 15 57.5**	**-1.6**
	2.2nm,0.3s,baz=311,slow=33,SNR=9.5						
YAH	**Yahtse**	**5.56**	**81**	P	**P**	**14 14 56.6**	**+0.6**
IM3	**Indian Mountai**	**6.05**	**356**	P	**P**	**14 15 03.0**	**+0.2**
BCA3	**Beaver Creek A**	**6.13**	**55**	P	**P**	**14 15 03.1**	**-0.8**
IMA	**Indian Mountai**	**6.13**	**357**	eP	**P**	**14 15 04.8**	**+0.9**
PNL	**Peninsula**	**6.79**	**87**	P	**P**	**14 15 12.5**	**-0.5**
COLD	**Coldfoot**	**7.38**	**8**	P	**P**	**14 15 21.0**	**-0.1**
DAWY	**Dawson**	**7.54**	**51**	P	**P**	**14 15 22.7**	**-0.4**
BM3	**Burnt Mountain**	**8.31**	**22**	P	**P**	**14 15 31.6**	**-2.1**
TNA	**Tin City**	**8.88**	**316**	P	**P**	**14 15 41.7**	**+0.4**
SIT	**Sitka**	**9.61**	**100**	P	**P**	**14 15 50.2**	**-0.8**
DLBC	**Dease Lake**	**11.78**	**88**	P	**P**	**14 16 22.4**	**+2.6**
	0.9nm,0.3s,baz=244,slow=11,SNR=29						
DLBC				S	**S**	**14 18 29.6**	**+0.1**
	0.3nm,0.3s,baz=86,slow=19,SNR=5.3						
DLBC	**Dease Lake**	**11.78**	**88**	P	**P**	**14 16 22.4**	**+2.6**
DLBC				S	**S**	**14 18 29.6**	**+0.1**
INK	**Inuvik**	**11.81**	**37**	P	**P**	**14 16 20.4**	**+0.1**
	0.1nm,0.3s,baz=218,slow=13,SNR=8.2						
INK				S	**S**	**14 18 25.6**	**-4.8**
	0.1nm,0.3s,baz=347,slow=14,SNR=2.5						
INK	**Inuvik**	**11.81**	**37**	P	**P**	**14 16 20.4**	**+0.1**
INK				S	**S**	**14 18 25.6**	**-4.8**
YKA	**Yellowknife Ar**	**18.39**	**66**	P	**P**	**14 17 43.1**	**0.0**
	0.1nm,0.3s,baz=274,slow=10,SNR=4.1						
ARCES	**ARCESS Array B**	**50.78**	**1**	LR	LR	14 43 18.0	
	comp=Z,53nm,19.5s,baz=19,slow=35						
SONM	**Songino Array**	**54.87**	**306**	P	**P**	**14 22 56.3**	**+0.8**
	1.6nm,0.5s,mb4.3,baz=47,slow=6.5,SNR=18						

*PLV **10** 14:56:31.9±1.4, 22.43N×110.36E, h10km±9km, MD3.7*
BJI 10 14:56:25.2, 22.26N×**110.83E, h31**km**, ML4.0, Southeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**3.34**	**196**	PG	Pn	14 57 24.0	+7.3
QIZ				SG	Sn	14 58 06.9	+11
QIZ				Smax			
	comp=E,151nm,0.6s						
YTV	**Yen Tu**	**3.98**	**255**	ePn	Pn	14 57 28.0	+2.2
YTV				ePg	Pn	14 57 40.7	+15
YTV				eSg	Sn	14 58 29.0	+17
PLV	**Phu-Lien**	**4.17**	**250**	ePn	Pn	14 57 31.5	+3.0
PLV				ePg	Pn	14 57 44.9	+16
PLV				eSg	Sn	14 58 35.7	+19
MTZV	**Met**	**4.23**	**261**	ePn	Pn	14 57 30.9	+1.6
MTZV				ePg	Pn	14 57 46.0	+17
MTZV				eSg	Sn	14 58 35.1	+17
HNV	**Hanoi**	**4.83**	**256**	ePn	Pn	14 57 40.4	+2.6
HNV				ePg	Pn	14 57 59.8	+22
HNV				eSg	Sn	14 58 59.5	+26
BVV	**Ba Vi**	**5.21**	**258**	ePn	Pn	14 57 45.8	+2.7
BVV				ePg	Pn	14 58 05.4	+22
BVV				eSg	Sn	14 59 07.9	+25

MAN 10 14:57:01.2, 17.55N×**119.78E, h9**km**, mb4.3, ML3.2, MS3.0, 1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.90**	**83**	eP	Pb	14 57 18.3	-0.2
ABRA				eS	Sb	14 57 29.3	-1.0
BOLP	**Bolinao**	**1.17**	**174**	eP	Pb	14 57 22.5	-0.6
BCPH	**Baguio City Da**	**1.39**	**146**	⇓eP	Pn	14 57 24.6	-2.3
BCPH				eS	Sb	14 57 40.1	-4.5
APYP	**Conner**	**1.43**	**77**	eP	Pn	14 57 26.6	-0.9
CAUP	**Cauayan**	**2.04**	**107**	eP	Pn	14 57 36.4	+0.2
BALP	**Baler**	**2.49**	**136**	eP	Pn	14 57 41.6	-1.0

*IDC **10** 14:58:28.5±10.0, 30.89S×178.18W, h53km±97km, mb3.9/3, mb1 4.1/4, mb1mx3.7/15, mbtmp4.1/4, ML3.0/1, Error ellipse: s-maj=76.1km s-min=51.9km az=164.0*
ISC 10 14:58:50.3±5.6**, 32.0S**±0.3×**178.4W**±0.9**, h276**km±40km**, n10, σ1s10**/11**, mb3.6**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**6.65**	**203**	SN	**S**	**15 01 42.9**	**-1.0**
URZ	**Urewera**	**7.25**	**209**	P	**P**	**15 00 27.4**	**-7.6**
	0.2nm,0.3s,baz=347,slow=18,SNR=4.4						
URZ				S	**S**	**15 01 57.5**	**+0.3**
	2.3nm,0.3s,baz=213,slow=21,SNR=23						
KNZ	**Kokohu**	**7.70**	**203**	SN	**S**	**15 02 09.0**	**+1.6**
MRZ	**Mangatainoka R**	**9.91**	**208**	SN	**S**	**15 02 55.8**	**-1.1**
NNZ	**Nelson**	**11.32**	**213**	SN	**S**	**15 03 28.8**	**+0.2**
NNZ				SN	**S**	**15 03 28.9**	**+0.3**
MQZ	**McQueen's Vall**	**13.65**	**209**	SN	**S**	**15 04 20.1**	**-0.1**
STKA	**Stephens Creek**	**33.82**	**259**	P	**P**	**15 05 10.7**	**+2.2**
	3.7nm,0.6s,mb4.1,baz=84,slow=10,SNR=16						
ASAR	**Alice Springs**	**42.71**	**269**	P	**P**	**15 06 21.9**	**-0.2**
	1.1nm,0.9s,mb3.1,baz=101,slow=7.1,SNR=18						
WRA	**Warramunga Arr**	**43.84**	**274**	P	**P**	**15 06 29.8**	**-1.4**
	1.3nm,0.3s,mb3.6,baz=111,slow=8.1,SNR=56						
FINES	**FINESS Array B**	**146.52**	**339**	PKPbc	PKPbc	15 17 59.2	+1.4
	0.7nm,0.3s,baz=67,slow=4.4,SNR=15						

MAN 10 15:20:32.9, 12.86N×**120.72E, h7**km**, mb3.9, ML2.6, MS2.2, 1D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJMP	**San Jose**	**0.55**	**136**	eP	Pg	15 20 44.5	+0.5
LUBP	**Lubang**	**0.98**	**332**	eP	Pb	15 20 50.7	-1.1
LUBP				eS	Sb	15 21 03.7	-1.1
BUSP	**Coron**	**0.99**	**211**	eP	Pb	15 20 52.3	+0.2
BOAC	**Boac**	**1.24**	**61**	eP	Pb	15 20 54.2	-2.1
TGY	**Tagaytay City**	**1.25**	**10**	⇓iP	Pb	15 20 56.7	+0.3
TGY				i S	Sb	15 21 14.9	+2.3
OTRP	**Odiongan**	**1.36**	**111**	eP	Pb	15 20 56.9	-1.4
CUYO	**Cuyo Island**	**2.02**	**172**	eP	Pn	15 21 07.8	0.0
ENPP	**El Nido**	**2.08**	**218**	eP	Pn	15 21 08.1	-0.6

*IDC **10** 15:21:55.1±2.8, 51.12N×178.62E, mb3.5/6, mb1 3.8/7, mb1mx3.6/23, mbtmp3.6/7, ML2.7/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/26, Error ellipse: s-maj=66.4km s-min=16.6km az=1.0*
*NEIC **10** 15:22:02.0±1.7, 51.17N×178.59E, h56km±10km, mb3.9/2, ML3.5(AEIC), Error ellipse: s-maj=41.5km s-min=9.4km az=185.0*
ISC 10 15:21:58.7±2.1**, 51.1N**±0.3×**178.4E**±0.1**, h47**km±13km**, n15, σ0s98**/15**, mb3.6**/8**, MS3.6**/1**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.84**	**75**	P	**P**	**15 22 42.0**	**-0.7**
KIMD				S	**S**	**15 23 17.7**	**+1.9**
KIKV	**Kanaga Island**	**2.90**	**73**	P	**P**	**15 22 43.6**	**0.0**
KIWB	**Kanaga Island**	**2.91**	**74**	eP	**P**	**15 22 43.6**	**-0.1**
FX1	**Attu Island--F**	**3.66**	**301**	Pn	**P**	**15 22 54.1**	**-0.2**
	2.1nm,0.3s,baz=139,slow=19,SNR=4.3						
FX1	**Attu Island--F**	**3.66**	**301**	P	**P**	**15 22 58.2**	**+3.9**
ATKA	**Atka Island**	**4.76**	**74**	P	**P**	**15 23 08.8**	**-1.1**
ILAR	**Eielson Array**	**22.58**	**40**	P	**P**	**15 26 54.8**	**-0.8**
	0.5nm,0.6s,mb3.1,baz=236,slow=9.4,SNR=9.5						
INK	**Inuvik**	**28.70**	**35**	P	**P**	**15 27 52.2**	**-0.7**
	0.5nm,0.6s,mb3.4,baz=172,slow=7.1,SNR=2.5						
DLBC	**Dease Lake**	**29.99**	**56**	LR	LR	15 39 07.7	
	comp=Z,132nm,20.6s,MS3.6,baz=190,slow=35						
YKA	**Yellowknife Ar**	**36.70**	**46**	P	**P**	**15 29 04.1**	**+1.6**
	0.2nm,0.5s,mb3.2,baz=283,slow=7.7,SNR=3.4						
SONM	**Songino Array**	**45.16**	**295**	P	**P**	**15 30 13.4**	**+1.3**
	0.3nm,0.7s,mb3.2,baz=56,slow=10,SNR=3.0						
BW06	**Boulder Array**	**48.09**	**70**	eP	**P**	**15 30 34.6**	**-0.7**
	1.0nm,0.6s,mb4.0						
PDAR	**Pinedale Array**	**48.09**	**70**	P	**P**	**15 30 35.5**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=320,slow=3.7,SNR=9.5						
ARCES	**ARCESS Array B**	**58.03**	**349**	P	**P**	**15 31 47.9**	**-0.6**
	2.1nm,0.9s,mb4.2,baz=18,slow=8.6,SNR=3.6						
CHKZ	**Chkalovo**	**59.35**	**319**	P	**P**	**15 31 57.4**	**-0.4**
	0.5nm,0.6s,mb3.7						

*IDC **10** 15:25:08.6±1.2, 15.11S×74.16W, h94km±5km, mb3.6/7, mb1 3.9/9, mb1mx3.8/18, mbtmp4.0/9, MS3.4/1, Ms1 3.3/1, ms1mx2.1/18, Error ellipse: s-maj=44.8km s-min=16.5km az=37.0*
*NEIC **10** 15:25:12.1±2.3, 15.43S×73.96W, h150km±24km, mb4.4/4, Error ellipse: s-maj=28.0km s-min=16.6km az=67.0*
ISC 10 15:25:06.0±0.6**, 15.4S**±0.1×**74.2W**±0.2**, h100**km**, n19, σ1s10**/21**, mb3.9**/10**, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.81**	**113**	eP	**P**	**15 25 38.0**	**-12**
ARE				i		15 25 40.4	
ARE				i		15 26 03.5	
ARE				eS	**S**	**15 26 12.0**	**-11**
LPAZ	**La Paz**	**5.90**	**100**	P	**P**	**15 26 35.8**	**+3.5**
	4.9nm,0.3s,baz=292,slow=9.5,SNR=87						
LPAZ	**La Paz**	**5.90**	**100**	ePn	**P**	**15 26 35.3**	**+3.0**
LVC	**Limon Verde**	**8.76**	**146**	P	**P**	**15 27 14.1**	**+2.8**
	5.2nm,0.3s,baz=329,slow=9.0,SNR=44						
LVC				S	**S**	**15 28 48.4**	**-0.7**
	12nm,0.3s,baz=72,slow=19,SNR=14						
LVC	**Limon Verde**	**8.76**	**146**	ePn	**P**	**15 27 13.5**	**+2.2**
LVC				eSn	**S**	**15 28 49.1**	**0.0**
SDV	**Santo Domingo**	**24.36**	**9**	P	**P**	**15 30 15.6**	**-0.4**
	3.2nm,0.5s,mb3.9,baz=209,slow=8.6,SNR=6.8						
SDV	**Santo Domingo**	**24.36**	**9**	eP	**P**	**15 30 15.1**	**-1.0**
	6.2nm,0.8s,mb4.0						
BDFB	**Brasilia**	**25.22**	**94**	P	**P**	**15 30 24.7**	**+0.4**
	1.6nm,0.5s,mb3.7,baz=278,slow=21,SNR=4.1						
BDFB				pP	pP	15 30 48.0	+1.9
	1.5nm,0.4s,baz=236,slow=15,SNR=2.3						
BDFB				LR	LR	15 40 37.5	
	comp=Z,78nm,20.4s,baz=301,slow=37						
PLCA	**Paso Flores**	**25.46**	**174**	P	**P**	**15 30 25.3**	**-1.0**
	4.3nm,1.0s,mb3.8						
JTS	**JuntasAbangare**	**27.64**	**337**	P	**P**	**15 30 47.0**	**+0.4**
	39nm,1.8s,mb4.6						
TXAR	**Lajitas Array**	**52.78**	**327**	P	**P**	**15 34 13.0**	**-0.3**
	0.4nm,0.5s,mb3.7,baz=146,slow=9.0,SNR=5.1						
TXAR				pP	pP	15 34 34.9	-2.7
	0.2nm,0.4s,baz=140,slow=7.0,SNR=2.3						
TXAR				sP	sP	15 34 45.6	-3.1
	0.2nm,0.4s,baz=146,slow=6.5,SNR=2.1						
ARUT	**Antelope Range**	**64.47**	**326**	eP	**P**	**15 35 35.1**	**+0.9**
PDAR	**Pinedale Array**	**66.36**	**332**	P	**P**	**15 35 46.0**	**-0.3**
	0.5nm,1.0s,mb3.3,baz=135,slow=3.8,SNR=3.6						
NVAR	**Mina Array Bea**	**67.61**	**324**	P	**P**	**15 35 55.6**	**+1.4**
	0.5nm,0.5s,mb3.6,baz=150,slow=7.3,SNR=3.6						
ULM	**Lac du Bonnet**	**68.07**	**345**	P	**P**	**15 35 55.3**	**-1.5**
	0.9nm,0.4s,mb4.0,baz=151,slow=4.0,SNR=4.3						
YKA	**Yellowknife Ar**	**83.82**	**342**	P	**P**	**15 37 25.6**	**+0.4**
	0.5nm,0.6s,mb3.5,baz=139,slow=5.4,SNR=14						
YKA				sP	sP	15 37 59.9	-2.6
	0.8nm,0.9s,baz=138,slow=5.5,SNR=4.4						
YKA	**Yellowknife Ar**	**83.82**	**342**	P	**P**	**15 37 25.6**	**+0.4**
YKA				sP	sP	15 37 59.9	-2.6
TSUM	**Tsumeb**	**86.68**	**109**	eP	**P**	**15 37 36.5**	**-3.8**
	8.3nm,1.0s,mb4.6						
SONM	**Songino Array**	**147.63**	**359**	PKPbc	PKPdf	15 44 41.8	+5.9
	0.5nm,0.6s,baz=344,slow=2.1,SNR=4.8						
SONM				pPKPbc		15 45 07.9	
	0.4nm,0.6s,baz=336,slow=2.9,SNR=4.1						

IDC 10 15:44:27.9±6.0**, 25.66N**×**110.16W, mb3.3**/1**, mb1 3.6**/4**, mb1mx3.4**/21**, mbtmp3.1**/4**, ML3.1**/3**, Error ellipse: s-maj=96.7km s-min=28.2km az=167.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**6.83**	**56**	Pn	Pn	15 46 09.1	-2.7
	0.0nm,0.3s,baz=237,slow=15,SNR=3.3						
TXAR				Lg		15 48 04.5	
	0.3nm,0.3s,baz=245,slow=28,SNR=3.8						
NVAR	**Mina Array Bea**	**14.48**	**334**	Pn	P	15 47 51.1	-5.1
	0.1nm,0.3s,baz=158,slow=17,SNR=3.1						
PDAR	**Pinedale Array**	**17.07**	**1**	Pn	P	15 48 29.9	+0.3
	0.0nm,0.3s,baz=135,slow=6.3,SNR=3.7						
ILAR	**Eielson Array**	**45.65**	**339**	P	P	15 52 50.5	-1.2
	0.4nm,0.8s,baz=144,slow=7.0,SNR=4.3						

*IDC **10** 15:45:52.1±3.8, 33.38N×133.05E, mb3.7/3, mb1 3.9/3, mb1mx3.4/21, mbtmp3.7/3, Error ellipse: s-maj=316.2km s-min=29.0km az=76.0*
*JMA **10** 15:46:23.4±0.1, 33.80N×136.93E, h377km, M2.7*
ISC 10 15:46:23.9±0.8**, 33.8N**±0.2×**137.0E**±0.1**, h366**km±9km**, n8, σ1s03**/11**, mb3.2**/3**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JIE	**Ise**	**0.69**	**337**	P	**P**	**15 47 11.2**	**+0.6**
JWZ	**Kozaga**	**1.12**	**259**	P	**P**	**15 47 12.2**	**+0.1**
JWT	**Wachi**	**2.03**	**319**	P	**P**	**15 47 17.2**	**-0.1**
JWT				eS	**S**	**15 47 58.1**	**-1.0**
JRY	**Ryogami san**	**2.72**	**34**	P	**P**	**15 47 23.7**	**+1.2**
JRY				eS	**S**	**15 48 09.5**	**+1.0**
BSO1	**Boso 1**	**3.39**	**74**	P	**P**	**15 47 28.7**	**+0.3**
BSO1				eS	**S**	**15 48 17.1**	**-1.9**
WRA	**Warramunga Arr**	**53.46**	**183**	P	**P**	**15 55 09.1**	**-0.7**
	0.2nm,0.3s,mb2.9,baz=0.3,slow=7.7,SNR=10.0						
ASAR	**Alice Springs**	**57.19**	**183**	P	**P**	**15 55 39.1**	**+3.2**
	0.5nm,0.4s,mb3.2,baz=340,slow=6.7,SNR=16						
FINES	**FINESS Array B**	**70.01**	**331**	P	**P**	**15 56 57.2**	**-0.7**
	0.7nm,0.5s,mb3.7,baz=45,slow=8.1,SNR=5.8						

MAN 10 15:48:19.1, 13.93N×**124.08E, h17**km**, mb4.3, ML3.1, MS2.9, 3D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.34**	**167**	eP	Pb	15 48 27.0	+0.6
PVCP				eS	Sb	15 48 32.1	+0.8
AUQP	**San Andres**	**1.49**	**246**	eP	Pn	15 48 47.2	+1.8
CNP	**Catarman**	**1.52**	**158**	eP	Pn	15 48 45.6	-0.3
GQP	**Guinayangan**	**1.58**	**269**	⇓eP	Pn	15 48 46.2	-0.5
GQP				eS	Sn	15 49 06.1	-0.8
MMPH	**Masbate**	**1.62**	**196**	⇓eP	Pn	15 48 49.8	+2.5
MMPH				eS	Sn	15 49 09.0	+1.0
POLP	**Polilio Island**	**2.22**	**291**	eP	Pn	15 48 56.9	+1.0
POLP				eS	Sn	15 49 26.5	+3.5
BOAC	**Boac**	**2.22**	**258**	eP	Pn	15 48 55.4	-0.4
LQP	**Lukban**	**2.47**	**274**	⇓eP	Pn	15 48 59.1	-0.4
PLP	**Palo**	**2.89**	**162**	eP	Pn	15 49 05.4	0.0
PLP				eS	Sn	15 49 40.1	+0.1
CAUP	**Cauayan**	**3.70**	**324**	eP	Pn	15 49 15.8	-1.2

*NEIC **10** 16:09:24.3, 16.71N×94.04W, h132km, mb4.6/1, MD3.9(MEX), After MEX.*
MEX 10 16:09:24.3±1.2**, 16.71N**×**94.04W, h132**km±14km**, MD3.9, 2C, Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.89**	**295**	i P	P	16 09 45.2	-1.3
CMIG				i S	S	16 10 01.9	-1.7
TUIG	**Tuzandepetl**	**1.37**	**344**	i P	P	16 09 49.6	-1.8
TUIG				i S	S	16 10 09.2	-3.0
CCIG	**Comitan**	**1.87**	**103**	i P	P	16 09 56.3	-0.9
CCIG				i S	S	16 10 20.2	-2.1
EVV	**El Vigia**	**2.14**	**324**	eP	P	16 10 04.0	+3.4
HUIG	**Huatulco**	**2.20**	**245**	⇑iP	P	16 09 57.6	-3.7
HUIG				i S	S	16 10 27.1	-2.4
OXX	**Oaxaca**	**2.60**	**279**	i P	P	16 10 06.0	-0.5
OXX				i S	S	16 10 38.0	-0.6
OXX	**Oaxaca**	**2.60**	**279**	i P	P	16 10 06.0	-0.5
OXX				i S	S	16 10 37.0	-1.6
VHO	**Vista Hermosa**	**2.60**	**278**	⇑iP	P	16 10 05.5	-1.1
VHO				i S	S	16 10 36.4	-2.4
PPM	**Popocatepetl**	**4.96**	**299**	i P	P	16 10 38.4	+0.5
PPM				i S	S	16 11 29.5	-5.2
PPM	**Popocatepetl**	**4.96**	**299**	i P	P	16 10 36.9	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPM				*i* S	S	16 11 33.2	-1.4
GOGA	Godfrey	19.17	28	P	P	16 13 34.1	-5.8
	24nm,0.8s						

*NNC **10** 16:15:27.7±3.7, 50.19N×87.36E, h42km±36km, mpv3.8, Error ellipse: s-maj=42.1km s-min=31.3km az=49.0*
MOS 10 16:15:22.9±3.2**, 50.22N×87.83E, h15km, mb4.3**/1**, 6C-4D, Error ellipse: s-maj=19.0km s-min=12.0km az=110.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAR	Aktash	0.17	307	*i* PG	Pg	16 15 25.8	-1.4
UKR	Ust'-Kan	2.08	291	*i* PN	Pn	16 15 59.9	+2.2
UKR				*i* S	Sn	16 16 28.9	+5.4
TASR	Tashtagol	2.54	1	*e*PN	Pn	16 16 08.6	+4.2
TASR				*e*S	Sn	16 16 43.3	+8.0
ELT	Yel'tsovka	3.20	343	*e*PN	Pn	16 16 16.0	+2.2
ELT				*e*		16 16 21.9	
ELT				*e*		16 16 51.4	
ELT				*e*S	Sn	16 17 00.2	+8.2
CERR	Cheremushki	3.46	39	*e*PN	Pn	16 16 19.5	+2.1
CERR				*e*		16 16 26.5	
CERR				*e*S	Sn	16 17 10.9	+12
MK31	Makanchi Array	5.03	229	⇑Pn	Pn	16 16 39.4	-0.3
	9.0nm,0.5s,baz=56,slow=13,SNR=269						
MK31				⇑Sn	Sn	16 17 36.1	-2.1
	13nm,0.4s,baz=90,slow=42,SNR=4.2						
MK31				⇑Lg		16 18 00.6	
	36nm,0.5s,baz=53,slow=33,SNR=8.8						
MKAR	Makanchi Array	5.03	229	PN	Pn	16 16 39.4	-0.3
MKAR						16 17 55.6	
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.2s						
NVS	Novosibirsk	5.41	331	*e*PN	Pn	16 16 43.0	-2.1
NVS				*i*		16 17 02.5	
NVS				*e*		16 17 46.3	
KURK	Kurchatov	5.90	278	⇓Pn	Pn	16 16 50.6	-1.4
	comp=Z,4.1nm,0.4s						
KURK				⇓Lg		16 18 24.1	
	comp=Z,56nm,0.6s						
KURK	Kurchatov	5.90	278	PN	Pn	16 16 50.1	-1.9
KURK						16 18 24.1	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
CHKZ	Chkalovo	11.17	295	⇑Pn	P	16 18 00.0	-5.0
	comp=Z,1.2nm,0.6s						
CHKZ				⇓Sn	S	16 20 00.9	-10
	comp=Z,3.8nm,0.6s						
BVA0	Borovoye Array	11.20	291	⇓Pn	P	16 17 59.9	-5.5
	comp=Z,0.4nm,0.7s,baz=110,slow=14,SNR=18						
BVA0				Sn	S	16 20 02.9	-8.4
	comp=Z,1.0nm,0.6s,baz=99,slow=21,SNR=12						
BVA0	Borovoye Array	11.20	291	P	P	16 17 59.9	-5.5
BVA0				*i*		16 20 02.9	
AAK	Ala-Archa	11.91	236	⇑Pn	P	16 18 10.4	-4.8
	comp=Z,0.9nm,0.5s						
AAK				⇑Sn	S	16 20 20.4	-8.3
	comp=Z,3.3nm,0.8s						

MAN 10 16:15:28.8, 18.84N×120.96E, h17km, mb3.9, ML2.6, MS2.2, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	1.01	165	*e*P	Pb	16 15 47.3	0.0
APYP				*e*S	Sb	16 16 02.3	+2.2
SGCP	Mt. Cagua	1.19	120	*e*P	Pb	16 15 49.3	-1.1
ABRA	Dolores	1.21	191	*e*P	Pb	16 15 49.0	-1.7
CAUP	Cauayan	2.05	156	*e*P	Pn	16 16 04.7	+1.6

*CSEM **10** 16:55:33.1±0.1, 49.88N×18.50E, h2km, ML3.1/6, Error ellipse: s-maj=1.9km s-min=1.5km az=7.0*
*IPEC **10** 16:55:33.2±0.1, 49.90N×18.47E, ML1.9/3, Error ellipse: s-maj=2.2km s-min=0.7km az=162.0*
*NEIC **10** 16:55:35.1±0.9, 49.76N×18.22E, h5km, ML2.7(VIE), Error ellipse: s-maj=12.4km s-min=6.4km az=47.0*
PRU 10 16:55:33.7, 49.85N×18.44E, 1C, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	Ostrava-Krasne	0.19	266	*e*PG	Pg	16 55 38.2	+0.7
OKC				*e*SG	Sg	16 55 41.6	+1.6
	220nm,0.4s						
OKC	Ostrava-Krasne	0.19	266	*e*Pg	Pg	16 55 37.8	+0.3
OKC				Sg	Sg	16 55 41.6	+1.6
	220nm,0.4s						
MORC	Moravsky Berou	0.59	263	*e*Pg	Pg	16 55 45.0	-0.4
MORC				*e*Sg	Sg	16 55 53.3	+0.1
MORC	Moravsky Berou	0.59	263	*e*Pg	Pg	16 55 45.0	-0.4
MORC				*e*Sg	Sg	16 55 53.1	-0.1
	27nm,0.2s						
LIKS	Likavka	0.91	151	*e*SG	Sg	16 56 05.0	+1.0
OJC	Ojcow	0.95	67	*e*Pg	Pg	16 55 50.3	-2.4
OJC				*e*Sg	Sg	16 56 03.3	-2.1
OJC	Ojcow	0.95	67	*e*Pg	Pg	16 55 50.3	-2.4
OJC				*e*Sg	Sg	16 56 02.4	-3.0
KOLL	Kolacno	1.27	181	*i* PG	Pg	16 55 57.7	-1.4
KOLL				*i* SG	Sg	16 56 15.2	-0.9
NIE	Niedzica	1.29	109	*e*Pg	Pg	16 55 55.5	-4.0
NIE				*e*Sg	Sg	16 56 13.8	-2.9
VRAC	Vranov	1.32	246	*e*Pg	Pg	16 55 58.6	-1.4
VRAC				*e*Sg	Sg	16 56 15.9	-1.7
	19nm,0.2s						
VYHS	Vyhne	1.38	169	*i* PG	Pg	16 55 59.0	-2.3
VYHS				*i* SG	Sg	16 56 17.5	-2.2
DPC	Dobruska-Polom	1.45	291	*e*PG	Pg	16 56 00.7	-2.0
DPC				*e*SG	Sg	16 56 20.6	-1.5
	11nm,0.2s						
SMOL	Smolenice	1.49	207	*i* PG	Pg	16 56 00.8	-2.7
SMOL				*i* SG	Sg	16 56 21.3	-2.1
KRUC	Moravsky	1.55	240	*e*Pn	Pn	16 56 02.2	-0.5
KRUC				*e*Sg	Sg	16 56 22.8	-2.5
	13nm,0.2s						
UPC	Upice	1.69	294	*e*PG	Pg	16 56 04.9	-2.6
ZST	Bratislava	1.88	209	*i* PG	Pg	16 56 06.5	-4.6
ZST				*i* SG	Sg	16 56 30.5	-5.6
KECS	Kecovo	1.92	135	*e*SG	Sg	16 56 35.5	-2.0
CRVS	Cervenica-Dubn	2.19	115	*e*PN	Pn	16 56 13.7	+1.9
PRU	Pruhonice	2.52	275	*e*PG	Pg	16 56 19.3	-4.8
PRU				*e*SG	Sg	16 56 54.2	-3.5
	5.4nm,0.2s						
KOLS	Kolonicke sedl	2.67	109	*i* PG	Pg	16 56 24.8	-2.1
KHC	Kasperske Hory	3.25	259	*e*PG	Pg	16 56 32.3	-6.3
KHC				*e*x	x	16 56 52.5	
KHC				*e*SG	Sg	16 57 16.6	-5.3
	5.3nm,0.3s						
KHC	Kasperske Hory	3.25	259	Pg	Pg	16 56 32.3	-6.3
KHC				Sg	Sg	16 57 16.6	-5.3
	5.3nm,0.3s						
MOA	Molln	3.41	236	⇑*i*PN	Pn	16 56 27.5	-1.7
MOA				*i* SG	Sg	16 57 22.4	-4.7
	3.3nm,0.4s						
CLL	Collm	3.76	295	P	Sn	16 57 04.6	-15
CLL	Collm	3.76	295	*e*SG	Sg	16 57 34.0	-4.9
NKC	Novy Kostel	3.88	278	*e*SG	Sg	16 57 37.3	-5.6
	4.8nm,0.3s						

*STR **10** 16:58:08.8±0.2, 42.83N×1.35W, h5km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **10** 16:58:08.8, 42.83N×1.35W, h5km, ML2.5(LDG), ML2.3(STR), After STR.*
*LDG **10** 16:58:08.1±0.2, 42.79N×1.38W, h2km, Md2.1/2, Ml2.5/1, Error ellipse: s-maj=4.1km s-min=1.7km az=44.0*
*CSEM **10** 16:58:09.0±0.3, 42.83N×1.34W, h10km, ML2.5/1, Error ellipse: s-maj=4.8km s-min=2.0km az=44.0*
ISC 10 16:58:08.0±1.9**, 42.81N**±0.07×**1.35W**±0.09**, h10km, n7, σ0.56**/13**, Pyrenees**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJPF	Ste Jean	0.32	16	*e*Pg	Pg	16 58 15.0	+0.5
SJPF				*e*Sg	Sg	16 58 18.3	-0.6
	57nm,0.3s						
LARF	Larrau	0.35	49	Pg	Pg	16 58 15.4	+0.2
LARF				Sg	Sg	16 58 20.6	+0.6
OSSF	Osses	0.45	8	Pg	Pg	16 58 17.4	+0.3
OSSF				Sg	Sg	16 58 23.2	-0.1
ORDF	Ordiarp	0.50	37	Pg	Pg	16 58 18.3	+0.1
FDAF	Les Forges d'A	0.57	89	Pg	Pg	16 58 19.7	+0.1
FDAF				Sg	Sg	16 58 27.9	+0.6
ETSF	Etsaut	0.59	81	*e*Pg	Pg	16 58 19.7	-0.1
ETSF				*e*Sg	Sg	16 58 28.2	+0.5
	14nm,0.2s						
EPF	Esparros	1.26	79	*e*Pg	Pg	16 58 32.1	-1.1
EPF				*e*Sg	Sg	16 58 48.9	-1.1
	11nm,0.3s						

*CSEM **10** 17:05:52.8±0.3, 36.99N×28.32E, h15km, MD2.7, Error ellipse: s-maj=12.0km s-min=5.8km az=45.0*
*ISK **10** 17:05:53.1, 36.95N×28.31E, h6km, MD2.7*
ISC 10 17:05:54.1±0.7**, 36.99N**±0.05×**28.36E**±0.05**, h8km**±7km**, n6, σ0.99**/11**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.16	337	*i* PG	Pg	17 05 57.4	-0.2
YER				SG	Sg	17 06 00.4	+0.5
DALT	Dalyan (Mudla)	0.31	134	PG	Pg	17 06 00.7	+0.3
DALT				SG	Sg	17 06 04.3	-0.3
BDRM	Kayabasi	0.74	276	*i* P	Pb	17 06 10.3	+1.5
BDRM				*i* S	Sg	17 06 19.9	+1.0
AYDN	Tasoluk	0.78	330	*i* P	Pb	17 06 08.8	-0.6
AYDN				*i* S	Sb	17 06 18.9	-1.0
BODT	Bodrum	0.85	275	*e*PG	Pg	17 06 09.0	-2.0
DNZL	Cakiroluk	0.89	38	*i* P	Pb	17 06 10.7	-0.7
DNZL				*i* S	Sb	17 06 24.4	+1.2

JMA 10 17:12:20.4±0.5**, 22.30N×125.70E, h12km, M3.9, Southeast of Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	Gusukube	2.46	354	P	Pn	17 13 01.1	0.0
JOGS				*e*S	Sn	17 13 32.7	+1.3
HATJ	Hateruma jima	2.47	315	*e*S	Sn	17 13 31.3	-0.2
JKRS	Kuro-shima	2.48	321	P	Pn	17 13 02.1	+0.8
JKRS				*e*S	Sn	17 13 32.5	+0.8
JIJ	Ishigaki jima	2.50	325	P	Pn	17 13 01.8	+0.1
JIJ				*e*S	Sn	17 13 31.5	-0.9
JTJ	Tarama	2.50	339	P	Pn	17 13 02.1	+0.4
JTJ				S	Sn	17 13 32.7	+0.3
JMJ	Miyako jima 2	2.53	352	P	Pn	17 13 02.3	+0.3
JMJ				*e*S	Sn	17 13 34.4	+1.3
IRIF	Iriomote-Funau	2.72	319	P	Pn	17 13 05.3	+0.6
IRIF				*e*S	Sn	17 13 37.4	-0.4
YOJ	Yonaguni jima	3.28	312	P	Pn	17 13 13.2	+0.5
YOJ				*e*S	Sn	17 13 50.2	-1.7
JKE	Kume jima 2	4.13	14	P	Pn	17 13 22.6	-2.2
JKE				*e*S	Sn	17 14 09.1	-4.4
JAGN	Aguni-jima	4.50	18	P	Pn	17 13 27.6	-2.4
JAGN				*e*S	Sn	17 14 18.9	-3.9
JOW	Kunigami	5.08	27	P	Pn	17 13 34.8	-3.5
JOW				*e*S	Sn	17 14 33.2	-4.5
JIH	Iheya	5.14	23	*e*S	Sn	17 14 33.2	-6.0

*IDC **10** 17:29:53.8±1.2, 7.58N×94.54E, mb3.5/5, mb1 3.7/6, mb1mx3.6/17, mbtmp3.5/6, ML3.9/1, Error ellipse: s-maj=48.6km s-min=22.4km az=56.0*
*NEIC **10** 17:29:54.6±0.9, 7.61N×94.02E, h30km, mb4.0/8, Error ellipse: s-maj=20.0km s-min=8.8km az=51.0*
ISC 10 17:29:53.2±1.0**, 7.7N**±0.1×**94.2E**±0.1**, h30km, n16, σ1.02**/17**, mb3.9**/13**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.80	110	*e*Pn	Pn	17 31 34.0	+0.3
KULM				*e*Sn	Sn	17 32 49.5	-1.3
CM31	Chiang Mai Arr	11.65	23	P	P	17 32 41.5	+0.8
	5.3nm,1.0s						
CMAR	Chiang Mai Arr	11.65	23	Pn	P	17 32 40.9	+0.2
	0.2nm,0.3s,baz=205,slow=15,SNR=10						
JIRN	Jiri	21.29	340	*e*P	P	17 34 38.7	-1.0
	14nm,1.0s,mb4.2						
PKI	Pulchoki	21.48	338	*e*P	P	17 34 42.3	+0.7
	5.8nm,0.5s,mb4.1						
DMN	Daman	21.63	338	*e*P	P	17 34 43.8	+0.7
	8.3nm,0.7s,mb4.3						
KKN	Kakani	21.73	338	*e*P	P	17 34 42.8	-1.3
	7.5nm,0.6s,mb4.3						
LSA	Lhasa	22.10	353	*e*P	P	17 34 48.9	+1.1
	4.6nm,0.7s,mb4.0						
GKN	Gorkha	22.16	337	*e*P	P	17 34 46.8	-1.6
	7.8nm,0.5s,mb4.4						
KOLN	Koldanda	22.38	335	*e*P	P	17 34 49.9	-0.7
	7.9nm,0.7s,mb4.3						
SONM	Songino Array	41.33	12	P	P	17 37 41.6	+3.6
	0.4nm,0.9s,mb3.0,baz=207,slow=6.4,SNR=3.6						
KURK	Kurchatov	44.82	346	P	P	17 38 02.1	-4.2
	2.8nm,1.2s,mb4.0						
WRA	Warramunga Arr	48.07	125	P	P	17 38 33.1	+0.7
	0.3nm,0.5s,mb3.6,baz=305,slow=8.4,SNR=10						
ASAR	Alice Springs	49.72	130	P	P	17 38 46.0	+0.9
	0.7nm,1.1s,mb3.6,baz=301,slow=7.9,SNR=5.7						
FINES	FINESS Array B	72.93	332	P	P	17 41 26.9	+5.5
	0.9nm,0.7s,mb3.8,baz=117,slow=3.1,SNR=2.7						
GERES	GERESS Array B	78.03	318	P	P	17 41 55.5	+4.8
	0.5nm,0.8s,mb3.5,baz=90,slow=6.9,SNR=3.3						

*IDC **10** 17:33:38.5±2.5, 22.27S×170.47E, mb3.9/6, mb1 4.1/6, mb1mx4.0/13, mbtmp3.9/6, MS3.5/3, Ms1 3.5/3, ms1mx3.0/25, Error ellipse: s-maj=101.3km s-min=28.4km az=147.0*
*NEIC **10** 17:33:39.9±0.6, 22.35S×170.48E, h10km, mb4.5/4, Error ellipse: s-maj=20.8km s-min=12.0km az=170.0*
ISC 10 17:33:42.3±0.8**, 22.4S**±0.2×**170.31E**±0.07**, h33km, n32, σ0.87**/16**, mb4.1**/10**, MS3.6**/2**, 1D, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.60	274	*e*P	P	17 34 37.5	+0.4
DZM				*e*S	S	17 35 18.9	-0.2
DZM	Mont Dzumac	3.60	274	*e*P	P	17 34 37.5	+0.4
DZM				*e*S	S	17 35 18.9	-0.2
NOUC	Port Laguerre	3.73	274	*e*P	P	17 34 39.1	+0.2
NOUC				*e*S	S	17 35 21.5	-0.8
URZ	Urewera	16.86	161	LR	LR	17 43 10.5	
	comp=Z,122nm,20.2s,baz=183,slow=34						
PMG	Port Moresby	25.69	296	P	P	17 39 12.2	+0.9
	8.7nm,1.0s,mb4.2						
STKA	Stephens Creek	27.18	244	P	P	17 39 26.4	+1.5
	2.3nm,0.8s,mb3.8,baz=101,slow=11,SNR=4.5						
ASAR	Alice Springs	33.48	261	P	P	17 40 20.4	-0.3
	0.7nm,0.5s,mb3.8,baz=80,slow=9.2,SNR=19						
ASAR				LR	LR	17 53 32.9	
	comp=Z,14nm,21.7s,MS2.6,baz=343,slow=36						
WRAB	Tennant Creek	33.58	267	*e*P	P	17 40 21.9	+0.2
	9.5nm,1.2s,mb4.6						
WRA	Warramunga Arr	33.59	267	P	P	17 40 20.8	-0.9
	0.3nm,0.4s,mb3.5,baz=96,slow=8.6,SNR=14						
JHJ	Hachijo jima 2	62.42	331	LR	LR	18 05 40.8	
	comp=Z,401nm,21.8s,MS4.5,baz=71,slow=31						
QSPA	South Pole Qui	67.68	180	*e*P	P	17 44 36.8	-0.9
	2.9nm,1.0s,mb4.3						
ENH	Enshi	78.45	310	P	P	17 45 41.2	-0.6
	8.2nm,1.0s,mb4.6						
CMAR	Chiang Mai Arr	80.71	294	P	P	17 45 56.1	+1.9
	1.4nm,0.7s,mb4.0,baz=128,slow=4.6,SNR=5.9						
SONM	Songino Array	90.33	323	P	P	17 46 41.3	+0.1
	1.1nm,0.9s,mb4.2,baz=137,slow=5.6,SNR=6.8						
ILAR	Eielson Array	92.93	17	P	P	17 46 51.8	-1.1
	0.4nm,0.7s,mb3.9,baz=225,slow=5.1,SNR=4.4						
ARCES	ARCESS Array B	128.36	345	PKP	PKPdf	17 52 45.5	+0.3
	3.4nm,0.9s,baz=51,slow=2.6,SNR=8.6						
KSP	Ksiaz	145.12	331	*e*P	PKPdf	17 53 16.7	+0.5
DPC	Dobruska-Polom	145.46	330	*e*PKP	PKPdf	17 53 18.4	+1.6
VYHS	Vyhne	145.46	326	*i* PKP	PKPdf	17 53 18.2	+1.4
UPC	Upice	145.49	331	*e*PKP	PKPdf	17 53 18.3	+1.5
PVCC	Panska Ves	146.11	332	*e*PKP	PKPdf	17 53 20.4	+2.5
BRG	Berggiesshubel	146.13	333	*i* P	PKPdf	17 53 20.2	+2.3
CLL	Collm	146.19	334	⇓*i*PKP1	PKPbc	17 53 20.1	+1.0
CLL				*i* *PPKP		17 53 23.4	
PRU	Pruhonice	146.52	331	*e*PKP	PKPdf	17 53 21.9	+3.3
NKC	Novy Kostel	147.24	333	*e*PKP	PKPdf	17 53 25.1	+5.3
KHC	Kasperske Hory	147.57	331	*e*PKP	PKPdf	17 53 24.8	+4.5
GERES	GERESS Array B	147.73	331	PKPbc	PKPdf	17 53 24.3	+3.7
	1.4nm,0.6s,baz=27,slow=3.0,SNR=11						
GIVF	Givet	150.08	341	*e*PKP1	PKPdf	17 53 30.4	+6.1
CDF	Champ du Feu	150.72	337	*e*PKP1	PKPdf	17 53 31.9	+6.6
	3.5nm,0.5s						
HINF	Hinteralfeld	151.38	336	*e*PKP1	PKPdf	17 53 33.2	+6.9
HAU	Haudompre	151.40	337	*e*PKP1	PKPdf	17 53 33.4	+7.0
CABF	La Chapelle	152.67	336	*e*PKP1	PKPdf	17 53 36.4	+8.1

*TEH **10** 17:39:23.9, 30.70N×56.70E, h10km, Mn3.3*
*THR **10** 17:39:23.8±0.9, 30.78N×56.70E, h14km±9km, ML3.0*
*CSEM **10** 17:39:23.3±0.1, 30.83N×56.63E, h14km, ML3.0, Error ellipse: s-maj=5.2km s-min=2.4km az=40.0*
ISC 10 17:39:23.4±0.9**, 30.90N**±0.08×**56.7E**±0.1**, h14km, n14, σ1.26**/14**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.92	177	*i* PG	Pg	17 39 39.0	-2.9
KRBR				AML	AML	17 39 59.5	
	comp=N,547nm,0.3s						
IBAF	Bafgh	1.20	305	Pn	Pn	17 39 45.2	-0.5
IMEH	Mehriz	1.86	286	Pn	Pn	17 39 56.6	+1.3
ICHK	Chekchek	2.38	305	Pn	Pn	17 40 03.8	+1.1
ISAD	Sadrabad	2.77	292	Pn	Pn	17 40 07.5	-0.8
IPAR	Pars	3.33	252	Pn	Pn	17 40 20.5	+4.2
BNDS	Bandar-Abbas	3.52	188	*e*PN	Pn	17 40 18.5	-0.4
BNDS				AML	AML	17 41 14.7	
	comp=N,28nm,0.6s						
ZHSF	Zahedan	3.75	109	*e*PN	Pn	17 40 23.2	+1.1
NASN	Na'in	3.82	301	*e*PN	Pn	17 40 24.8	+1.6
NASN				*e*SG	Sg	17 41 24.6	-6.1
NASN				AML	AML	17 41 31.9	
	comp=N,28nm,0.1s						
GHIR	Ghir-Karzin	4.16	232	*e*PN	Pn	17 40 28.2	+0.3
GHIR				AML	AML	17 41 45.2	
	comp=N,19nm,0.8s						
IFIR	Firoozkooh	5.77	326	Pn	Pn	17 40 47.8	-3.0
IDMV	Damavand	6.09	321	Pn	Pn	17 40 55.3	0.0
IAFJ	Afjeh	6.47	321	Pn	Pn	17 40 59.4	-1.3
IRAZ	Razeghan	7.24	310	Lg		17 43 13.3	

*IDC **10** 17:50:43.3±0.8, 17.22S×172.63W, mb4.3/11, mb1 4.5/12, mb1mx4.4/20, mbtmp4.3/12, ML4.5/1, MS4.0/9, Ms1 4.1/9, ms1mx3.7/27, Error ellipse: s-maj=41.1km s-min=16.8km az=144.0*
*NEIC **10** 17:50:47.9±0.7, 16.45S×173.24W, h15km, mb4.6/6, Error ellipse: s-maj=37.3km s-min=10.8km az=146.0*
ISC 10 17:50:44.5±0.6**, 16.9S**±0.1×**172.9W**±0.1**, h15km, n43, σ1.07**/28**, mb4.4**/13**, MS4.1**/7**, 1C, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.14	21	*e*Pn	Pn	17 51 33.1	-1.4
AFI				*e*Sn	Sn	17 52 11.6	-0.5
RAR	Rarotonga	13.17	111	Pn	P	17 53 38.0	-16
	2.6nm,0.3s,baz=299,slow=14,SNR=3.7						
URZ	Urewera	23.04	200	P	P	17 55 48.0	-2.2
	40nm,0.6s,mb5.0,baz=4.2,slow=6.4,SNR=15						
CTA	Charters Tower	38.78	259	P	P	17 58 11.1	+0.6
	12nm,1.0s,mb4.6,baz=102,slow=11,SNR=6.5						
CTA				LR	LR	18 12 31.2	
	comp=Z,234nm,20.2s,MS4.0,baz=90,slow=34						
CTAO	Charters Tower	38.78	259	*e*P	P	17 58 10.9	+0.4
	11nm,1.0s,mb4.5						
PMG	Port Moresby	39.51	276	P	P	17 58 20.5	+3.9
	9.4nm,0.8s,mb4.5,baz=71,slow=8.6,SNR=5.6						
PMG	Port Moresby	39.51	276	*e*P	P	17 58 20.1	+3.5
	16nm,1.1s,mb4.7						
STKA	Stephens Creek	43.72	241	*e*P	P	17 58 50.3	-0.7
	4.1nm,0.8s,mb4.2						
STKA	Stephens Creek	43.72	241	P	P	17 58 50.4	-0.5
	4.4nm,0.7s,mb4.3,baz=96,slow=11,SNR=9.8						
STKA				LR	LR	18 16 28.2	
	comp=Z,172nm,18.3s,MS4.0,baz=28,slow=35						
WB2	Warramunga Arr	49.96	258	*e*P	P	17 59 40.1	-0.1
WRAB	Tennant Creek	49.96	258	*e*P	P	17 59 39.7	-0.5
	22nm,1.0s,mb5.1						
WRA	Warramunga Arr	49.97	258	P	P	17 59 40.2	-0.1
	5.9nm,0.6s,mb4.8,baz=93,slow=7.6,SNR=26						
ASAR	Alice Springs	50.10	253	P	P	17 59 41.5	+0.2
	41nm,0.6s,baz=86,slow=8.5,SNR=160						
ASAR				LR	LR	18 18 55.1	
	comp=Z,75nm,19.3s,baz=218,slow=34						
ASPA	Alice Springs	50.11	253	⇑*i*P	P	17 59 41.5	+0.2
GUMO	Guam	51.51	303	P	P	17 59 49.1	-3.0
	312nm,1.3s						
RPN	Rapa Nui	59.31	112	LR	LR	18 18 31.9	
	comp=Z,238nm,19.3s,MS4.3,baz=150,slow=28						
NVAR	Mina Array Bea	75.11	42	P	P	18 02 28.0	+0.1
	0.8nm,0.7s,mb3.7,baz=229,slow=8.3,SNR=4.0						
NVAR	Mina Array Bea	75.11	42	P	P	18 02 28.0	+0.1
KSM	Kuching	77.77	275	*e*P	P	18 02 46.4	+3.0
WUAZ	Wupatki	78.15	47	*e*P	P	18 02 51.7	+6.7
TXAR	Lajitas Array	81.05	56	P	P	18 03 00.7	0.0
	0.2nm,0.5s,baz=202,slow=6.7,SNR=4.0						
TXAR				LR	LR	18 33 19.6	
	comp=Z,102nm,20.4s,baz=305,slow=32						
ANMO	Albuquerque	81.39	50	P	P	18 03 03.8	+1.3
	1.7nm,0.7s,mb4.1						
MCK	McKinley	82.47	11	P	P	18 03 07.7	+0.3
	11nm,1.3s,mb4.6						
PDAR	Pinedale Array	83.05	42	P	P	18 03 10.7	-0.2
	0.6nm,0.7s,mb3.8,baz=218,slow=1.9,SNR=4.6						
PDAR				LR	LR	18 33 11.3	
	comp=Z,47nm,18.8s,MS3.9,baz=219,slow=31						
ILAR	Eielson Array	83.79	11	LR	LR	18 34 42.5	
	comp=Z,89nm,20.8s,MS4.1,baz=358,slow=31						
PLCA	Paso Flores	88.20	132	LR	LR	18 32 37.2	
	comp=Z,199nm,21.6s,MS4.5,baz=182,slow=29						
INK	Inuvik	89.58	14	P	P	18 03 42.9	+0.6
	1.1nm,0.6s,mb4.4,baz=235,slow=4.1,SNR=6.6						
INK	Inuvik	89.58	14	P	P	18 03 42.9	+0.6
YKA	Yellowknife Ar	91.26	23	P	P	18 03 51.3	+1.2
	0.1nm,0.4s,mb3.5,baz=232,slow=4.9,SNR=4.5						
CMAR	Chiang Mai Arr	93.50	288	P	P	18 04 07.7	+6.1
	0.6nm,0.5s,mb4.3,baz=108,slow=2.4,SNR=5.3						
CMAR				LR	LR	18 39 47.0	
	comp=Z,62nm,20.2s,MS4.1,baz=200,slow=31						
BVAR	Borovoye Array	119.31	322	PKP	PKPdf	18 09 34.9	-1.9
	0.6nm,0.7s,baz=18,slow=4.7,SNR=5.4						
KMBO	Kilima Mbogo	145.28	242	PKPbc	PKPbc	18 10 25.3	+2.1
	5.0nm,0.9s,baz=58,slow=3.1,SNR=16						
KMBO	Kilima Mbogo	145.28	242	*e*P	PKPbc	18 10 24.7	+1.4
KHC	Kasperske Hory	147.39	352	*e*P	PKPdf	18 10 29.5	+0.7
ROSF	Rostrenen	147.49	13	*e*PKP1	PKPdf	18 10 29.8	+0.8
FLN	La Foliniere	147.60	9	*e*PKP1	PKPdf	18 10 30.5	+1.3
	14nm,0.7s						
GERES	GERESS Array B	147.65	352	PKPbc	PKPdf	18 10 31.1	+1.8
	0.7nm,0.6s,baz=27,slow=3.0,SNR=6.4						
SGMF	Saint Gilles	147.72	12	*e*PKP1	PKPdf	18 10 30.7	+1.3
	5.9nm,0.7s						
LDF	La Druitiere	147.82	9	*e*PKP1	PKPdf	18 10 30.5	+1.0
GRR	Gorron	147.90	10	*e*PKP1	PKPdf	18 10 30.9	+1.2
	9.4nm,0.6s						
SSF	Saint Saulge	149.75	5	*e*PKP1	PKPdf	18 10 36.7	+4.0
MFF	Saint Martin d	149.75	10	*e*PKP1	PKPdf	18 10 36.1	+3.4
AVF	Avril sur Loir	150.00	5	*e*PKP1	PKPdf	18 10 36.7	+3.6

*IDC **10** 18:04:52.4±1.0, 17.04S×172.79W, mb4.2/9, mb1 4.4/9, mb1mx4.2/19, mbtmp4.2/9, Error ellipse: s-maj=51.7km s-min=18.8km az=135.0*
*NEIC **10** 18:04:53.7±0.7, 16.86S×172.89W, h10km, mb4.7/1, Error ellipse: s-maj=31.1km s-min=11.1km az=131.0*
ISC 10 18:04:56.8±1.1**, 16.5S**±0.2×**173.2W**±0.2**, h33km, n18, σ0.85**/15**, mb4.2**/10**, 2C, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.95	28	*e*Pn	Pn	18 05 40.6	-2.0
AFI				*e*Sn	Sn	18 06 17.4	+0.2
URZ	Urewera	23.26	200	P	P	18 09 57.4	-4.9
	19nm,0.6s,mb4.7,baz=343,slow=6.3,SNR=9.4						
STKA	Stephens Creek	43.64	241	P	P	18 12 58.9	-1.3
	3.3nm,1.1s,mb4.0,baz=80,slow=12,SNR=4.3						
WB2	Warramunga Arr	49.76	258	*e*P	P	18 13 48.1	-0.4
WRAB	Tennant Creek	49.76	258	*e*P	P	18 13 48.5	0.0
	6.7nm,0.7s,mb4.8						
WRA	Warramunga Arr	49.77	258	P	P	18 13 48.9	+0.3
	4.1nm,0.7s,mb4.6,baz=95,slow=7.6,SNR=66						
ASAR	Alice Springs	49.94	253	P	P	18 13 50.1	+0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	21nm,0.7s,mb5.3,baz=89,slow=8.7,SNR=289						
ASPA	Alice Springs	49.95	253	⇑iP	P	18 13 50.1	+0.2
NVAR	Mina Array Bea	75.04	42	P	P	18 16 36.4	-0.7
	0.6nm,0.7s,mb3.6,baz=221,slow=8.4,SNR=4.3						
NVAR	Mina Array Bea	75.04	42	P	P	18 16 36.4	-0.7
PDAR	Pinedale Array	82.98	42	P	P	18 17 20.5	+0.4
	0.3nm,0.7s,mb3.4,baz=216,slow=7.8,SNR=3.2						
ILAR	Eielson Array	83.51	11	P	P	18 17 23.8	+1.5
	1.1nm,0.9s,mb4.0,baz=236,slow=6.1,SNR=9.9						
INK	Inuvik	89.31	14	P	P	18 17 51.4	+0.8
	1.5nm,0.8s,mb4.4,baz=280,slow=3.9,SNR=4.5						
YKA	Yellowknife Ar	91.06	23	P	P	18 17 59.4	+0.5
	0.2nm,0.7s,mb3.6,baz=229,slow=4.4,SNR=4.1						
CLL	Collm	144.95	353	⇑iPKIKP	PKPdf	18 24 32.9	+2.4
	logA/T=1.0						
KMBO	Kilima Mbogo	145.19	243	PKPbc	PKPbc	18 24 34.3	+1.9
	6.4nm,1.0s,baz=62,slow=3.7,SNR=16						
KMBO	Kilima Mbogo	145.19	243	ePKPdf	PKPdf	18 24 34.3	+2.2
KMBO				e		18 24 45.1	
GERES	GERESS Array B	147.28	352	PKPbc	PKPdf	18 24 39.6	+5.1
	0.8nm,0.7s,baz=14,slow=5.5,SNR=6.2						

*IDC **10** 18:08:15.9±1.2, 9.37N×93.03E, mb4.0/8, mb1 4.2/9, mb1mx3.9/19, mbtmp3.9/9, ML4.1/1, Error ellipse: s-maj=58.9km s-min=19.1km az=58.0*

*NEIC **10** 18:08:19.1±0.9, 9.07N×92.71E, h30^{km}, mb4.0/8, Error ellipse: s-maj=23.7km s-min=14.3km az=62.0*

ISC 10 18:08:18.2±0.8**, 9.13N**±0.10×**92.9E**±0.1**, h33^{km}, n22,** σ**1^{s}07**/22**, mb4.0**/13**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	10.98	32	P	P	18 10 57.7	+1.5
	3.2nm,0.6s						
CMAR	Chiang Mai Arr	10.98	32	Pn	P	18 10 57.0	+0.8
	0.4nm,0.3s,baz=226,slow=15,SNR=15						
JIRN	Jiri	19.48	342	eP	P	18 12 46.1	+0.9
	4.3nm,0.4s						
PKI	Pulchoki	19.64	340	eP	P	18 12 47.6	+0.5
	2.1nm,0.3s						
DMN	Daman	19.78	339	eP	P	18 12 49.0	+0.4
	11nm,1.0s						
KKN	Kakani	19.89	340	eP	P	18 12 50.5	+0.8
	13nm,1.0s						
GKN	Gorkha	20.31	339	eP	P	18 12 54.3	+0.1
	3.8nm,0.3s						
KOLN	Koldanda	20.50	336	eP	P	18 12 56.8	+0.7
	1.8nm,0.2s						
LSA	Lhasa	20.52	356	eP	P	18 12 53.3	-3.0
	3.8nm,0.5s						
ENH	Enshi	26.14	34	P	P	18 13 47.2	-4.2
	2.0nm,0.4s,mb4.0						
AAK	Ala-Archa	37.06	337	eP	P	18 15 27.2	+0.2
	2.8nm,0.8s,mb4.1						
SONM	Songino Array	40.23	14	P	P	18 15 52.4	-1.1
	1.4nm,0.8s,mb3.7,baz=197,slow=6.9,SNR=12						
SONM				PcP	PcP	18 17 58.0	+0.4
	0.4nm,0.5s,baz=218,slow=3.8,SNR=3.6						
ULN	Ulaanbaatar	40.42	15	eP	P	18 15 52.8	-2.2
	2.1nm,0.9s,mb3.9						
KURK	Kurchatov	43.10	347	P	P	18 16 14.4	-2.6
	1.4nm,0.9s,mb3.7						
BVAR	Borovoye Array	47.40	342	P	P	18 16 50.5	-0.7
	0.4nm,0.5s,mb3.6,baz=157,slow=11,SNR=4.8						
WRA	Warramunga Arr	50.01	126	P	P	18 17 12.4	+0.5
	1.0nm,0.5s,mb4.1,baz=304,slow=8.6,SNR=18						
WRA				PcP	PcP	18 18 32.8	+1.1
	0.4nm,0.6s,baz=319,slow=2.7,SNR=6.5						
WRAB	Tennant Creek	50.02	126	P	P	18 17 11.8	-0.2
	17nm,1.4s,mb4.9						
ASAR	Alice Springs	51.68	130	P	P	18 17 24.7	+0.2
	0.6nm,0.5s,mb3.8,baz=304,slow=7.2,SNR=14						
ASAR				PcP	PcP	18 18 39.4	+1.5
	0.4nm,0.5s,baz=309,slow=3.2,SNR=6.5						
ARCES	ARCESS Array B	73.66	340	P	P	18 19 50.3	+0.3
	2.6nm,0.8s,mb4.2,baz=106,slow=6.6,SNR=2.8						
GERES	GERESS Array B	76.05	318	P	P	18 20 04.7	+0.6
	0.7nm,0.8s,mb3.6,baz=90,slow=8.0,SNR=4.8						
ILAR	Eielson Array	94.05	22	P	P	18 21 33.8	-0.3
	0.5nm,0.6s,mb4.1,baz=278,slow=4.0,SNR=5.6						
INK	Inuvik	96.13	16	P	P	18 21 43.8	+0.3
	0.7nm,0.5s,mb4.4,baz=342,slow=4.9,SNR=4.1						

CASC 10 18:16:57.5±1.1**, 11.28N**×**87.58W, h34^{km}**±30^{km}**, MD4.0, 1C-3D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	Leon	1.31	31	⇑iP	P	18 17 19.4	-0.3
COPN	Copaltepe	1.31	47	⇓eP	P	18 17 19.3	-0.4
COPN				eS	S	18 17 36.9	+0.6
MIRN	Miramar	1.43	36	eP	P	18 17 20.6	-0.8
TEL3	Telica 3	1.47	29	eP	P	18 17 21.5	-0.4
CNGN	Cerro Negro	1.49	35	⇓eP	P	18 17 21.3	-0.8
CRIN	San Cristobal	1.50	20	⇓eP	P	18 17 22.5	+0.1
MOMJ	Momotombo	1.51	42	eP	P	18 17 22.7	+0.2
APON	Apoyo	1.61	67	eP	P	18 17 23.4	-0.5
PYTN	Playitas	1.94	50	eP	P	18 17 28.1	-0.6
LCBS	La Ceiba	2.73	330	eP	P	18 17 40.1	+0.2
LCBS				eS	S	18 18 11.3	-0.9

IDC 10 18:21:29.0±6.5**, 5.23S**×**154.12E, h152^{km}**±56^{km}**, mb3.4**/4**, mb1 3.7**/5**, mb1mx3.5**/14**, mbtmp4.0**/5**, Error ellipse: s-maj=77.8km s-min=28.1km az=119.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.06	239	P	P	18 23 23.1	-1.1
	5.1nm,0.3s,baz=46,slow=9.9,SNR=33						
PMG				S	S	18 24 54.1	+0.1
	1.3nm,0.3s,baz=18,slow=14,SNR=3.7						
WB2	Warramunga Arr	24.16	231	eP	P	18 26 31.8	-0.8
WRA	Warramunga Arr	24.18	231	P	P	18 26 32.1	-0.5
	6.8nm,1.0s,baz=54,slow=9.6,SNR=61						
ASAR	Alice Springs	26.75	225	P	P	18 26 54.5	-2.0
	0.4nm,0.4s,baz=54,slow=9.3,SNR=16						
STKA	Stephens Creek	28.99	202	P	P	18 27 13.6	-3.0
	1.1nm,0.6s,baz=27,slow=15,SNR=4.3						
FITZ	Fitzroy Crossi	30.62	243	eP	P	18 27 29.2	-2.1
	6.0nm,0.6s						
ILAR	Eielson Array	82.06	22	P	P	18 33 32.1	-1.3
	0.3nm,0.7s,baz=253,slow=5.7,SNR=5.6						

*IDC **10** 18:23:01.7±1.0, 31.83S×177.67W, mb4.7/7, mb1 4.8/10, mb1mx4.6/18, mbtmp4.6/10, ML4.1/3, MS3.7/2, Ms1 3.7/2, ms1mx3.1/19, Error ellipse: s-maj=44.7km s-min=19.3km az=155.0*

*NEIC **10** 18:23:03.1±0.3, 31.71S×177.75W, h10^{km}, mb5.0/9, Error ellipse: s-maj=10.6km s-min=7.4km az=125.0*

*BJI **10** 18:23:05.6, 31.81S×177.86W, h31^{km}, mB5.8, mb4.9*

*MOS **10** 18:23:08.2±2.4, 31.29S×178.13W, h33^{km}, mb5.1/2, Error ellipse: s-maj=17.3km s-min=14.5km az=81.7*

ISC 10 18:23:05.8±0.5**, 31.87S**±0.09×**177.9W**±0.1**, h33^{km}, n85,** σ**0^{s}93**/36**, mb4.8**/13**, MS3.7**/1**, 9C-2D, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.61	360	eP	P	18 23 42.1	-4.4
URZ	Urewera	7.58	211	Pn	Pn	18 24 54.8	-2.0
	1.5nm,0.3s,baz=321,slow=6.9,SNR=7.5						
URZ				Sn	Sn	18 26 19.6	-2.8
	11nm,0.3s,baz=166,slow=15,SNR=11						
URZ				LR	LR	18 27 31.8	
	comp=Z,415nm,21.5s,baz=46,slow=35						
RPZ	Rata Peaks	14.69	213	Pn	P	18 26 32.7	-0.2
	1.0nm,0.3s,baz=79,slow=17,SNR=3.4						
AFI	Afiamalu	18.73	19	eP	P	18 27 18.9	-5.4
	90nm,1.0s						
RAR	Rarotonga	19.35	61	eP	P	18 27 23.5	-7.9
RAR	Rarotonga	19.35	61	P	P	18 27 23.5	-7.9
	0.8nm,0.3s,baz=173,slow=8.4,SNR=3.7						
ARMA	Armidale	26.08	265	eP	P	18 28 42.2	+4.0
CTA	Charters Tower	34.14	281	eP	P	18 29 51.5	+1.6
	18nm,0.9s,mb5.0						
CTA	Charters Tower	34.14	281	P	P	18 29 51.2	+1.3
	23nm,0.8s,mb5.1,baz=118,slow=8.8,SNR=13						
CTA				LR	LR	18 41 43.6	
	comp=Z,140nm,20.4s,MS3.7,baz=49,slow=33						
CTAO	Charters Tower	34.14	281	eP	P	18 29 50.8	+0.9
	52nm,1.1s,mb5.4						
STKA	Stephens Creek	34.26	259	eP	P	18 29 52.0	+1.2
	8.6nm,0.7s,mb4.8						
STKA	Stephens Creek	34.26	259	P	P	18 29 52.5	+1.8
	8.6nm,0.8s,mb4.7,baz=106,slow=9.9,SNR=15						
PMG	Port Moresby	39.33	297	eP	P	18 30 41.7	+8.1
ASAR	Alice Springs	43.13	268	P	P	18 31 04.8	-0.2
	14nm,1.0s,mb4.6,baz=106,slow=7.2,SNR=50						
ASAR				ScP		18 36 48.3	
	0.9nm,0.8s,baz=101,slow=4.6,SNR=5.0						
ASPA	Alice Springs	43.14	268	eP	P	18 31 05.0	0.0
WB2	Warramunga Arr	44.24	274	eP	P	18 31 13.7	-0.3
WRAB	Tennant Creek	44.25	274	P	P	18 31 13.6	-0.4
	107nm,1.1s,mb5.5,SNR=20						
WRAB	Tennant Creek	44.25	274	eP	P	18 31 13.6	-0.4
WRAB	Tennant Creek	44.25	274	eP	P	18 31 13.2	-0.8
	38nm,0.9s,mb5.1						
WRA	Warramunga Arr	44.26	274	eP	P	18 31 13.6	-0.5
WRA	Warramunga Arr	44.26	274	P	P	18 31 13.6	-0.5
	7.8nm,0.7s,mb4.5,baz=112,slow=8.1,SNR=46						
VNDA	Vanda	46.65	186	eP	P	18 31 43.2	+11
KAKA	Kakadu	49.28	281	eP	P	18 31 53.2	-0.5
	7.7nm,0.6s,mb4.9						
FITZ	Fitzroy Crossi	52.45	271	⇓iP	P	18 32 17.2	-0.5
	19nm,0.9s,mb5.0						
QSPA	South Pole Qui	58.25	180	eP	P	18 32 59.2	+0.4
	27nm,0.9s,mb5.3						
SNAA	Sanae	76.69	178	⇑i	P	18 34 55.2	+0.6
SNAA	Sanae	76.69	178	⇑i	PcP	18 35 16.1	+10
VNA3	Neumayer Olymp	76.84	176	⇑i	P	18 34 55.9	+0.5
VNA2	Neumayer--Watz	77.28	177	⇑i	P	18 34 58.8	+0.9
NVAR	Mina Array Bea	89.25	43	P	P	18 35 59.5	-0.2
	2.8nm,0.9s,mb4.6,baz=212,slow=6.0,SNR=13						
MDJ	Mudanjiang	89.88	325	P	P	18 36 04.2	+1.7
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,156nm,3.4s						
WUAZ	Wupatki	91.57	48	eP	P	18 36 10.8	+0.2
	comp=Z,136nm,1.1s						
ELK	Elko	92.56	43	P	P	18 36 14.5	-0.6
	comp=Z,1.0nm,0.9s,mb4.3,baz=266,slow=4.4,SNR=4.4						
TXAR	Lajitas Array	93.11	57	P	P	18 36 17.0	-0.8
	comp=Z,1.4nm,1.1s,mb4.3,baz=207,slow=5.6,SNR=7.0						
TXAR	Lajitas Array	93.11	57	P	P	18 36 17.0	-0.8
CMAR	Chiang Mai Arr	93.96	289	PP	PP	18 40 09.3	-1.6
	comp=Z,1.3nm,1.1s,baz=129,slow=5.8,SNR=4.5						
HLID	Hailey	94.86	41	eP	P	18 36 24.9	-0.5
	comp=Z,3.2nm,1.0s,mb4.7						
SWET	Sewanee	109.00	60	eP		18 41 31.1	
KURK	Kurchatov	122.12	313	⇑iPKIKP	PKPdf	18 41 56.6	-0.3
AAK	Ala-Archa	122.99	303	⇓iPKIKP	PKPdf	18 41 57.7	-1.2
BVAR	Borovoye Array	127.50	315	PKP	PKPdf	18 42 07.6	+0.3
	comp=Z,1.1nm,0.7s,baz=90,slow=1.5,SNR=11						
KMBO	Kilima Mbogo	133.26	232	SKPab		18 45 53.3	
	comp=Z,3.2nm,1.1s,baz=115,slow=1.6,SNR=7.7						
JOF	Joensuu	143.81	338	ep	PKPbc	18 42 34.8	-0.8
TI2	Plekhanov	144.77	298	ePKIKP	PKPdf	18 42 40.2	+1.1
GNI	Garni	144.80	296	i PKIKP	PKPdf	18 42 39.4	+0.2
GNI	Garni	144.80	296	eP	PKPbc	18 42 39.9	+0.7
ZEI	Tsey	145.34	300	i PKIKP	PKPdf	18 42 42.1	+2.1
ZEI				e		18 42 50.0	
MOS	Moscow	145.58	324	ePKIKP	PKPdf	18 42 41.0	+1.0
MOS				pmax	pmax		
	comp=Z,103nm,1.0s						
ONI	Oni	145.69	300	P	PKPdf	18 42 42.9	+2.3
GOF	Gofitskoye	145.71	304	⇑iPKIKP	PKPdf	18 42 42.2	+1.6
GOF				i		18 42 51.5	
GOF				pmax	pmax		
	comp=Z,90nm,1.3s						
TVAN	Van	145.81	293	i P	PKPdf	18 42 44.8	+3.8
MSL	Mosul	145.94	289	ePKP	PKPdf	18 42 43.5	+2.2
KAF	Kangasniemi	145.95	340	ep	PKPdf	18 42 40.6	+0.1
	comp=Z,8.8nm,0.8s						
KAF	Kangasniemi	145.95	340	ePKP2	PKPab	18 42 40.6	-3.2
KAF				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIV	Kislovodsk	146.10	303c	iPKP2	PKPab	18 42 44.3	-0.6
KIV	Kislovodsk	146.10	303	eP	PKPdf	18 42 42.5	+1.2
OBN	Obninsk	146.41	324	⇑iPKP2	PKPab	18 42 44.0	-1.8
OBN				pmax	pmax		
	comp=Z,35nm,1.0s						
FINES	FINESS Array B	146.54	339	PKPbc	PKPbc	18 42 43.5	+0.7
	comp=Z,8.0nm,0.8s,baz=72,slow=6.0,SNR=27						
VRSR	Storozhevoye	146.65	316	ePKP2	PKPab	18 42 44.7	-2.1
VRSR				pmax	pmax		
	comp=Z,30nm,1.2s						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,10.0nm,1.1s						
ERZM	Erzurum	147.40	295	i P	PKPdf	18 42 48.9	+5.3
BEST	Besiri	147.48	292	i P	PKPdf	18 42 48.7	+4.9
VSU	Vasula	148.59	335	⇑iPKP2	PKPab	18 42 49.7	-4.6
ELZG	Elazig	149.28	293	i P	PKPdf	18 42 53.9	+7.2
MALT	Malatya	149.72	292	ePKP2	PKPab	18 42 54.3	-5.3
NB2	NORSAR Subarra	150.21	351	PKPabc	PKPdf	18 42 59.4	+12
	comp=E,9.4nm,1.1s,baz=21,slow=4.0						
NOA	NORSAR Array B	150.21	351	PKPbc	PKPdf	18 42 53.4	+6.0
	comp=E,1.8nm,0.9s,baz=223,slow=22,SNR=3.3						
GZT	Gaziantep	150.42	291	i P	PKPdf	18 42 55.5	+7.0
COBT	Iskenderun	151.46	289	i P	PKPab	18 43 08.1	+1.1
EIL	Elat	151.74	274	ePKPdf	PKPdf	18 42 50.7	0.0
EIL				ePKPab	PKPab	18 43 07.6	-0.7
BOYT	Boyabat	152.15	299	i P	PKPab	18 43 09.0	-0.6
AKASG	Malin Array Be	152.50	321	PKPbc	PKPdf	18 42 58.7	+7.6
	comp=E,6.6nm,1.1s,baz=43,slow=2.3,SNR=13						
SUW	Suwalki	153.21	332	ePKIKP	PKPdf	18 43 00.9	+8.9
BALT	Daday	153.25	300	i P	PKPab	18 43 20.7	+6.4
KSP	Ksiaz	158.32	335	ePKP2	PKPab	18 43 34.6	-1.0
UPC	Upice	158.70	335	ePKPAB	PKPab	18 43 36.3	-0.9
DPC	Dobruska-Polom	158.72	334	ePKPAB	PKPab	18 43 36.7	-0.6
CLL	Collm	158.98	341	ePKP2	PKPab	18 43 37.0	-1.4
CLL				pmax	pmax		
	comp=Z,9.0nm,1.3s						
CLL	Collm	158.98	341	ePKP2	PKPab	18 43 37.0	-1.4
CLL				e*PPKP2		18 43 48.0	
CLL				e		18 44 09.0	
BRG	Berggiesshubel	159.08	339	ePKP2	PKPab	18 43 31.9	-7.0
BRG				pmax	pmax		
	comp=Z,7.0nm,0.5s						
PVCC	Panska Ves	159.18	337	ePKPAB	PKPab	18 43 39.0	-0.3
PRU	Pruhonice	159.65	336	eP	PKPab	18 43 39.4	-1.9
NKC	Novy Kostel	160.10	340	ePKPAB	PKPab	18 43 42.4	-0.8
KHC	Kasperske Hory	160.71	337	ePKPAB	PKPab	18 43 40.9	-5.0
KHC				epPKP		18 43 45.0	
KHC				x	x	18 44 10.0	
GERES	GERESS Array B	160.91	336	PKPab	PKPab	18 43 45.9	-0.9
	comp=Z,0.8nm,0.8s,baz=90,slow=2.7,SNR=6.8						
GRF	Grafenberg Arr	160.93	342	ePKP2	PKPab	18 43 46.0	-0.8

*IDC **10** 18:37:22.5±0.9, 3.67S×153.96E, h409^{km}±9^{km}, mb3.4/10, mb1 3.7/12, mb1mx3.6/16, mbtmp4.3/12, Error ellipse: s-maj=23.6km s-min=11.5km az=108.0*

*NEIC **10** 18:37:24.6±1.1, 3.75S×153.96E, h436^{km}±12^{km}, mb4.2/18, Error ellipse: s-maj=9.7km s-min=9.0km az=108.0*

ISC 10 18:37:21.4±0.4**, 3.72S**±0.06×**153.85E**±0.08**, h410^{km}**±.9^{km}**:pP-P, n48,** σ**0^{s}93**/50**, mb4.0**/29**, 1D, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	8.30	133	ePn	P	18 39 22.1	+1.2
	84nm,0.7s						
PMG	Port Moresby	8.72	229	P	P	18 39 30.0	+4.3
	8.1nm,0.3s,baz=35,slow=4.8,SNR=36						
PMG				S	S	18 41 11.2	+7.4
	1.2nm,0.3s,baz=27,slow=17,SNR=3.0						
PMG	Port Moresby	8.72	229	ePn	P	18 39 29.9	+4.2
	61nm,0.6s						
CTA	Charters Tower	17.87	204	eP	P	18 41 07.3	+2.4
	10nm,0.9s						
CTA	Charters Tower	17.87	204	P	P	18 41 07.4	+2.5
	1.2nm,0.3s,baz=30,slow=12,SNR=12						
CTAO	Charters Tower	17.87	204	eP	P	18 41 06.2	+1.3
	15nm,0.8s						
NOUC	Port Laguerre	21.90	148	eP	P	18 41 41.7	-2.2
DZM	Mont Dzumac	21.95	147	eP	P	18 41 43.9	-0.4
DZM	Mont Dzumac	21.95	147	eP	P	18 41 43.9	-0.4
WRAB	Tennant Creek	24.92	228	eP	P	18 42 11.6	+0.2
	5.6nm,0.9s,mb4.0						
WB2	Warramunga Arr	24.93	228	eP	P	18 42 11.9	+0.4
WB2				eS	S	18 46 02.4	-2.0
WRA	Warramunga Arr	24.94	228	P	P	18 42 11.8	+0.3
	0.9nm,0.4s,mb3.5,baz=47,slow=8.3,SNR=37						
WRA				PcP	PcP	18 45 33.8	-0.9
	1.3nm,0.5s,baz=51,slow=2.7,SNR=5.9						
WRA				S	S	18 46 02.8	-1.7
	2.8nm,1.1s,baz=58,slow=15,SNR=5.5						
ASAR	Alice Springs	27.64	222	P	P	18 42 35.8	+0.1
	2.0nm,0.4s,mb3.8,baz=54,slow=9.1,SNR=93						
ASAR				PcP	PcP	18 45 40.4	-0.6
	1.7nm,0.7s,baz=44,slow=2.5,SNR=7.9						
ASAR				S	S	18 46 45.1	-2.3
	4.2nm,0.9s,baz=51,slow=14,SNR=12						
ASPA	Alice Springs	27.65	222	eP	P	18 42 35.8	+0.1
ASPA				eS	S	18 46 44.9	-2.6
ASPA				e		18 48 07.7	
STKA	Stephens Creek	30.28	201	P	P	18 42 58.0	-0.6
	0.8nm,0.5s,mb3.4,baz=51,slow=16,SNR=6.6						
STKA				PcP	PcP	18 45 47.1	-0.6
	1.5nm,0.6s,baz=63,slow=6.8,SNR=3.3						
STKA	Stephens Creek	30.28	201	P	P	18 42 58.0	-0.6
STKA				PcP	PcP	18 45 47.1	-0.6
FITZ	Fitzroy Crossi	31.09	241	eP	P	18 43 05.5	-0.2
	3.2nm,0.3s,mb4.1						
FORT	Forrest	36.28	219	eP	P	18 43 49.5	0.0
	336nm,0.6s						
MBWA	Marble Bar	37.41	240	P	P	18 43 54.4	-4.5
	36nm,1.4s,mb4.5						
TAU	Tasmania Unive	39.45	188	P	P	18 44 16.6	+1.2
	18nm,1.1s,mb4.3						
HIA	Hailar	60.49	335	P	P	18 46 51.5	-0.2
	2.8nm,0.8s,mb3.7						
MA2	Magadan	63.15	358	eP	P	18 47 08.0	-1.0
	6.7nm,0.7s,mb4.3						
ULN	Ulaanbaatar	65.65	327	P	P	18 47 25.7	+0.5
	2.8nm,0.9s,mb3.9						
SONM	Songino Array	65.99	327	P	P	18 47 28.0	+0.8
	1.5nm,0.5s,mb3.9,baz=139,slow=5.3,SNR=45						
LSA	Lhasa	68.50	304	P	P	18 47 44.5	+1.4
	2.6nm,1.1s,mb3.8						
BILL	Bilibino	72.13	5	eP	P	18 48 03.4	-0.7
	4.1nm,0.7s,mb4.1						
JIRN	Jiri	72.14	300	eP	P	18 48 05.4	+0.6
	7.0nm,0.6s,mb4.4						
PKI	Pulchoki	72.79	300	eP	P	18 48 09.3	+0.7
	8.2nm,0.9s,mb4.3						
KKN	Kakani	72.96	300	eP	P	18 48 09.9	+0.3
	8.1nm,0.6s,mb4.5						
DMN	Daman	73.06	300	eP	P	18 48 11.1	+0.9
	15nm,1.0s,mb4.5						
GKN	Gorkha	73.56	300	eP	P	18 48 13.5	+0.5
	9.2nm,0.7s,mb4.5						
VNDA	Vanda	73.86	178	P	P	18 48 14.2	+0.4
	4.0nm,0.5s,mb4.3,baz=328,slow=6.9,SNR=38						
VNDA	Vanda	73.86	178	eP	P	18 48 13.9	+0.1
	4.1nm,0.6s,mb4.2						
KOLN	Koldanda	74.40	300	eP	P	18 48 18.0	+0.2
	9.7nm,0.9s,mb4.4						
ILAR	Eielson Array	80.78	22	P	P	18 48 50.1	-1.4
	1.3nm,0.6s,mb3.8,baz=242,slow=5.8,SNR=21						
ILAR				pP	pP	18 50 22.8	-1.6
	0.4nm,0.6s,baz=244,slow=5.8,SNR=2.6						
ZAL	Zalesovo	80.86	326	P	P	18 48 52.0	-0.2
	0.8nm,0.4s,mb3.8,baz=26,slow=10,SNR=4.1						
ZAL	Zalesovo	80.86	326	P	P	18 48 52.0	-0.2
KURK	Kurchatov	83.57	322	eP	P	18 49 05.4	-0.7
	2.0nm,0.8s,mb3.9						
AAK	Ala-Archa	84.69	313	eP	P	18 49 11.7	-0.1
	1.4nm,0.7s,mb3.8						
QSPA	South Pole Qui	86.23	180	⇓iP	P	18 49 19.2	+0.8
	13nm,0.8s,mb4.7						
CHKZ	Chkalovo	88.96	324	eP	P	18 49 30.1	-1.7
	2.2nm,0.7s,mb4.0						
BVAR	Borovoye Array	89.01	323	P	P	18 49 31.5	-0.6
	1.7nm,0.6s,mb3.9,baz=108,slow=4.7,SNR=16						
BVAR				pP	pP	18 51 06.1	-0.7
	0.4nm,0.6s,baz=112,slow=7.8,SNR=3.1						
NVAR	Mina Array Bea	90.60	52	P	P	18 49 40.2	+0.4
	0.3nm,0.4s,mb3.4,baz=273,slow=4.9,SNR=4.0						
YKA	Yellowknife Ar	93.99	28	P	P	18 49 54.5	-0.2
	0.8nm,0.9s,mb3.7,baz=268,slow=4.7,SNR=10						
YKA				pP	pP	18 51 30.0	+0.1
	0.3nm,0.6s,baz=271,slow=5.5,SNR=3.0						
YKA	Yellowknife Ar	93.99	28	P	P	18 49 54.5	-0.2
YKA				pP	pP	18 51 30.1	+0.1
GERES	GERESS Array B	123.68	329	PKP	PKPdf	18 55 32.3	+1.0
	0.5nm,0.7s,baz=90,slow=1.3,SNR=4.9						
LPAZ	La Paz	133.98	117	PKP	PKPdf	18 55 54.3	+2.5
	1.5nm,0.9s,baz=153,slow=4.6,SNR=4.7						
BDFB	Brasilia	151.04	132	PKPbc	PKPdf	18 56 28.5	+7.2
	2.6nm,0.4s,baz=223,slow=2.6,SNR=5.9						

MAN 10 18:43:15.4, 14.23N×**124.12E, h3^{km}, mb3.7, ML2.5, MS2.0, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.63	177	eP	Pg	18 43 28.0	-0.1
PVCP				eS	Sg	18 43 38.0	+1.5
AUQP	San Andres	1.67	237	eP	Pn	18 44 06.2	+20
CNP	Catarman	1.79	163	eP	Pn	18 43 47.2	-0.3
POLP	Polilio Island	2.17	283	eP	Pn	18 43 53.0	+0.1
BOAC	Boac	2.34	251	eP	Pn	18 43 55.7	+0.3

*IDC **10** 18:44:29.2±6.1, 5.38S×154.07E, h154^{km}±54^{km}, mb3.5/5, mb1 3.8/6, mb1mx3.6/13, mbtmp4.1/6, Error ellipse: s-maj=58.4km s-min=27.5km az=113.0*

ISC 10 18:44:27.7±4.7**, 5.5S**±0.2×**154.2E**±0.3**, h156^{km}**±40^{km}**, n8,** σ**0^{s}70**/9**, mb3.8**/6**, 1C, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.99	241	P	P	18 46 21.7	-0.2
	3.9nm,0.3s,baz=65,slow=6.4,SNR=23						
PMG				S	S	18 47 51.4	+0.3
	0.7nm,0.3s,baz=251,slow=20,SNR=2.5						
WB2	Warramunga Arr	24.06	232	⇑iP	P	18 49 30.7	+0.8
WRA	Warramunga Arr	24.07	232	P	P	18 49 30.9	+0.8
	8.0nm,1.0s,mb4.2,baz=54,slow=9.6,SNR=40						
ASAR	Alice Springs	26.62	225	P	P	18 49 53.5	-0.2
	0.6nm,0.4s,mb3.6,baz=54,slow=9.2,SNR=10						
STKA	Stephens Creek	28.77	203	P	P	18 50 12.2	-0.9
	1.0nm,0.6s,mb3.8,baz=44,slow=14,SNR=4.2						
FITZ	Fitzroy Crossi	30.58	243	eP	P	18 50 27.8	-1.4
	5.3nm,0.6s,mb4.5						
VNDA	Vanda	72.09	178	P	P	18 55 36.9	+0.6
	1.6nm,0.8s,mb3.8,baz=0.6,slow=5.4,SNR=5.7						
ILAR	Eielson Array	82.28	22	P	P	18 56 33.0	+0.2
	0.7nm,1.0s,mb3.2,baz=246,slow=5.4,SNR=5.6						

IDC 10 19:46:21.5±9.6**, 6.27S**×**154.58E, h76^{km}**±68^{km}**, mb3.1**/3**, mb1 3.6**/4**, mb1mx3.4**/14**, mbtmp3.6**/4**, ML3.6**/1**, Error ellipse: s-maj=70.3km s-min=47.6km az=90.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.99	247	P	P	19 48 15.2	-1.7
	4.5nm,0.3s,baz=53,slow=10,SNR=26						
PMG				S	S	19 49 44.3	-2.2
	1.0nm,0.3s,baz=358,slow=20,SNR=4.4						
WRA	Warramunga Arr	23.90	233	P	P	19 51 28.6	-0.7
	0.4nm,0.5s,baz=60,slow=9.8,SNR=6.6						
ASAR	Alice Springs	26.36	227	P	P	19 51 50.8	-1.9
	0.3nm,0.6s,baz=56,slow=9.8,SNR=4.5						
ASAR				PcP	PcP	19 55 14.8	-2.4
	0.5nm,0.5s,baz=56,slow=2.2,SNR=5.6						
CMAR	Chiang Mai Arr	60.10	295	P	P	19 56 21.4	-2.3
	0.5nm,0.8s,baz=126,slow=4.9,SNR=4.2						

*IDC **10** 19:50:34.5±4.3, 9.64N×94.03E, mb3.5/3, mb1 3.6/4, mb1mx3.5/17, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=122.2km s-min=30.1km az=79.0*

*NEIC **10** 19:50:40.9±1.0, 9.89N×94.57E, h30^{km}, mb4.0/3, Error ellipse: s-maj=29.2km s-min=11.6km az=57.0*

ISC 10 19:50:39.4±6.9**, 9.8N**±0.2×**94.3E**±0.3**, h43^{km}**±62^{km}**, n13,** σ**1^{s}00**/13**, mb3.6**/4**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	9.76	27	P	P	19 52 55.6	-4.7
CMAR	Chiang Mai Arr	9.76	27	Pn	P	19 53 00.1	-0.1

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.1nm,0.3s,baz=219,slow=15,SNR=5.2						
PKI	**Pulchoki**	**19.61**	**336**	*e*P	**P**	**19 55 09.2**	**+2.2**
DMN	**Daman**	**19.77**	**335**	*e*P	**P**	**19 55 09.9**	**+1.2**
KKN	**Kakani**	**19.86**	**336**	*e*P	**P**	**19 55 09.7**	**0.0**
LSA	**Lhasa**	**20.07**	**352**	P	**P**	**19 55 11.6**	**-0.3**
GKN	**Gorkha**	**20.31**	**335**	*e*P	**P**	**19 55 12.9**	**-1.6**
	14nm,0.7s						
KOLN	**Koldanda**	**20.57**	**332**	*e*P	**P**	**19 55 15.8**	**-1.4**
	10nm,0.7s						
AAK	**Ala-Archa**	**37.07**	**335**	P	**P**	**19 57 52.0**	**+4.7**
	1.2nm,0.8s,mb3.8						
SONM	**Songino Array**	**39.31**	**13**	P	**P**	**19 58 06.1**	**+0.2**
	0.9nm,1.1s,mb3.4,baz=191,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**49.23**	**127**	P	**P**	**19 59 25.5**	**-0.5**
	0.4nm,0.8s,mb3.5,baz=304,slow=9.1,SNR=3.8						
WRAB	**Tennant Creek**	**49.24**	**127**	P	**P**	**19 59 25.8**	**-0.3**
ASAR	**Alice Springs**	**51.01**	**131**	P	**P**	**19 59 40.4**	**+0.9**
	0.6nm,0.6s,mb3.7,baz=300,slow=7.3,SNR=3.5						

*IDC **10** 19:52:40.4±1.0, 51.46N×173.24E, mb3.8/12, mb1 4.1/12, mb1mx3.9/23, mbtmp3.8/12, MS3.7/2, Ms1 3.7/2, ms1mx3.1/29, Error ellipse: s-maj=19.8km s-min=14.9km az=74.0*

*MOS **10** 19:52:43.1±0.7, 51.48N×173.23E, h32km, mb4.7/3, Error ellipse: s-maj=34.4km s-min=13.2km az=83.1*

*NEIC **10** 19:52:44.5±0.6, 51.59N×173.27E, h25km, mb4.5/3, Error ellipse: s-maj=14.2km s-min=8.3km az=186.0*

ISC 10 19:52:41.1±4.1**, 51.49N**±0.09×**173.2E**±0.1**, h18**km±27km**, n26, σ0s70**/27**, mb3.9**/15**, MS3.6**/2**, Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.35**	**23**	*e*P	**Pn**	**19 53 05.9**	**+0.6**
FX1	**Attu Island--F**	**1.40**	**358**	P	**Pn**	**19 53 07.2**	**+1.2**
FX1						19 53 23.3	
FX1				pmax	pmax		
	comp=Z,26nm,0.3s						
FX1				smax			
	comp=N,204nm,0.3s						
FX1	**Attu Island--F**	**1.40**	**358**	Pn	**Pn**	**19 53 07.2**	**+1.2**
	comp=N,26nm,0.3s,baz=83,slow=6.4,SNR=238						
FX1				Sn	**Sn**	**19 53 23.3**	**-0.7**
	comp=N,204nm,0.3s,baz=111,slow=24,SNR=79						
FX1	**Attu Island--F**	**1.40**	**358**	*e*P	**Pn**	**19 53 06.9**	**+0.9**
KIWB	**Kanaga Island**	**5.99**	**83**	P	**Pn**	**19 54 09.6**	**-1.7**
ILAR	**Eielson Array**	**24.39**	**42**	P	**P**	**19 57 58.8**	**-0.2**
	comp=N,0.8nm,0.5s,mb3.4,baz=248,slow=7.2,SNR=15						
ILAR				LR	LR	20 08 06.5	
	comp=N,128nm,19.4s,MS3.4,baz=190,slow=38						
YAK	**Yakutsk**	**25.59**	**311**	*e*P	**P**	**19 58 10.2**	**-0.3**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
YAK	**Yakutsk**	**25.59**	**311**	*e*P	**P**	**19 58 10.2**	**-0.3**
	comp=Z,14nm,0.8s,mb4.5						
INK	**Inuvik**	**30.28**	**36**	P	**P**	**19 58 53.0**	**+0.1**
	comp=Z,0.4nm,0.3s,mb3.6,baz=260,slow=12,SNR=3.3						
YKA	**Yellowknife Ar**	**38.72**	**45**	P	**P**	**20 00 06.1**	**+0.6**
	comp=Z,1.6nm,0.6s,mb3.9,baz=288,slow=8.0,SNR=24						
YKA				LR	LR	20 17 21.1	
	comp=Z,112nm,18.4s,MS3.7,baz=260,slow=38						
YKA	**Yellowknife Ar**	**38.72**	**45**	P	**P**	**20 00 06.1**	**+0.6**
YKA				LR	LR	20 17 21.1	
NVAR	**Mina Array Bea**	**48.44**	**78**	P	**P**	**20 01 24.9**	**+0.8**
	comp=Z,0.9nm,0.8s,mb3.9,baz=306,slow=5.1,SNR=5.1						
FCC	**Fort Churchill**	**49.39**	**43**	*e*P	**P**	**20 01 30.7**	**-0.5**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
FCC	**Fort Churchill**	**49.39**	**43**	*e*P	**P**	**20 01 30.7**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.2						
BW06	**Boulder Array**	**50.95**	**68**	P	**P**	**20 01 43.8**	**+0.5**
PDAR	**Pinedale Array**	**50.95**	**68**	P	**P**	**20 01 43.7**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=295,slow=2.4,SNR=4.5						
KURK	**Kurchatov**	**55.22**	**310**	*e*P	**P**	**20 02 14.1**	**-0.8**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.6						
KURK	**Kurchatov**	**55.22**	**310**	*e*P	**P**	**20 02 14.1**	**-0.8**
	comp=Z,9.4nm,1.4s,mb4.6						
BVAR	**Borovoye Array**	**57.45**	**316**	P	**P**	**20 02 30.6**	**-0.3**
	comp=Z,5.2nm,1.1s,mb4.5,baz=54,slow=7.5,SNR=17						
SCHQ	**Schefferville**	**62.87**	**34**	P	**P**	**20 03 07.8**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.4,baz=325,slow=4.6,SNR=3.6						
SCHQ	**Schefferville**	**62.87**	**34**	P	**P**	**20 03 07.8**	**0.0**
TXAR	**Lajitas Array**	**63.51**	**76**	P	**P**	**20 03 12.4**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=304,slow=4.5,SNR=5.3						
FINES	**FINESS Array B**	**64.40**	**343**	P	**P**	**20 03 18.1**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=53,slow=9.5,SNR=4.0						
CMAR	**Chiang Mai Arr**	**66.03**	**270**	P	**P**	**20 03 29.1**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.7,baz=21,slow=7.7,SNR=4.7						
AKASG	**Malin Array Be**	**73.70**	**337**	P	**P**	**20 04 13.9**	**-1.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=24,slow=6.6,SNR=4.5						
GERES	**GERESS Array B**	**78.52**	**346**	P	**P**	**20 04 43.3**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.2,baz=297,slow=6.0,SNR=3.9						

*JMA **10** 19:54:23.5±0.3, 28.70N×128.47E, M3.4*

*IDC **10** 19:54:26.1±1.3, 28.38N×128.99E, mb3.5/3, mb1 3.8/3, mb1mx3.5/20, mbtmp3.5/3, Error ellipse: s-maj=48.7km s-min=23.1km az=92.0*

ISC 10 19:54:26.1±0.8**, 28.63N**±0.06×**128.51E**±0.05**, h10**km**, n13, σ1s14**/16**, mb3.4**/3**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.92**	**155**	P	**Pb**	**19 54 43.1**	**-0.7**
JTK				S	**Sb**	**19 54 57.2**	**+1.3**
JAM	**Amami Oshima**	**0.99**	**102**	P	**Pb**	**19 54 43.5**	**-1.4**
JAM				*e*S	**Sb**	**19 54 57.5**	**-0.2**
JZK	**Kikaishima**	**1.32**	**103**	P	**Pb**	**19 54 50.2**	**-0.4**
JZK				*e*S	**Sb**	**19 55 08.4**	**+0.9**
JIH	**Iheya**	**1.66**	**197**	P	**Pn**	**19 54 54.6**	**-0.9**
JNN	**Nakanoshima**	**1.70**	**44**	P	**Pn**	**19 54 55.6**	**-0.5**
JOW	**Kunigami**	**1.80**	**187**	Pn	**Pn**	**19 54 56.6**	**-0.9**
	40nm,0.3s,baz=16,slow=16,SNR=26						
JOW	**Kunigami**	**1.80**	**187**	P	**Pn**	**19 54 56.3**	**-1.2**
JAGN	**Aguni-jima**	**2.32**	**209**	P	**Pn**	**19 55 06.6**	**+1.6**
JKE	**Kume jima 2**	**2.76**	**214**	P	**Pn**	**19 55 12.0**	**+0.8**
JTN	**Tanegashima 3**	**2.95**	**46**	P	**Pn**	**19 55 15.7**	**+1.7**
SONM	**Songino Array**	**25.72**	**324**	P	**P**	**20 00 02.3**	**+4.1**
	0.8nm,0.9s,mb3.2,baz=135,slow=5.2,SNR=5.0						
WRA	**Warramunga Arr**	**48.61**	**173**	P	**P**	**20 03 09.2**	**-3.0**
	0.6nm,0.6s,mb3.8,baz=353,slow=8.3,SNR=6.9						
YKA	**Yellowknife Ar**	**76.26**	**25**	P	**P**	**20 06 16.4**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=295,slow=5.7,SNR=4.6						

WEL 10 19:57:53.7±0.1**, 37.86S×176.37E, h209**km±1km**, ML3.5**/10**, Error ellipse: s-maj=2.4km s-min=2.2km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.71**	**125**	PN	P	19 58 22.6	-0.4
URZ				SN	S	19 58 45.0	-0.7
URZ				SN	S	19 58 45.0	-0.7
MWZ	**Matawai**	**1.03**	**118**	PN	P	19 58 24.8	0.0
MWZ				SN	S	19 58 48.6	-0.4
BKZ	**Black Stump Fm**	**1.31**	**176**	PN	P	19 58 26.7	-0.3
BKZ				SN	S	19 58 52.3	-0.4
MGZ	**Maungaku**	**1.32**	**209**	PN	P	19 58 26.9	-0.1
NGZ	**Ngauruhoe**	**1.45**	**204**	PN	P	19 58 27.9	-0.2
PUZ	**Puketiti**	**1.51**	**99**	PN	P	19 58 28.3	-0.4
PUZ				SN	S	19 58 54.7	-0.9
TUVZ	**Tukino**	**1.52**	**201**	PN	P	19 58 28.6	-0.2
WNVZ	**Wahianoa**	**1.59**	**202**	PN	P	19 58 29.0	-0.4
MOVZ	**Moawhango**	**1.62**	**197**	PN	P	19 58 29.0	-0.7
TSZ	**Takapari Road**	**2.22**	**188**	PN	P	19 58 34.6	-1.0
BFZ	**Birch Farm**	**2.82**	**182**	PN	P	19 58 40.7	-1.5
MRZ	**Mangatainoka R**	**2.87**	**192**	PN	P	19 58 40.8	-1.9
MRZ				SN	S	19 59 18.3	-2.4
KIW	**Kapiti Island**	**3.21**	**200**	PN	P	19 58 43.9	-2.8
KIW				SN	S	19 59 24.6	-3.1
MTW	**Mount Morrison**	**3.37**	**191**	PN	P	19 58 45.8	-2.8
CAW	**Cannon Point**	**3.40**	**197**	PN	P	19 58 46.4	-2.6
MRW	**Makara Radio**	**3.61**	**200**	SN	S	19 59 32.4	-3.9
NNZ	**Nelson**	**4.08**	**214**	SN	S	19 59 42.4	-4.2
QRZ	**Quartz Range**	**4.20**	**224**	SN	S	19 59 44.1	-5.3
THZ	**Tophouse**	**4.73**	**213**	*e*PN	P	19 59 01.6	-3.8
THZ				SN	S	19 59 56.5	-4.7
KHZ	**Kahutara**	**5.04**	**205**	PN	P	19 59 05.9	-3.6
MQZ	**McQueen's Vall**	**6.49**	**205**	SN	S	20 00 32.6	-9.1

*NEIC **10** 20:01:32.2±0.7, 7.52S×127.88E, h150km, mb4.2/4, Error ellipse: s-maj=31.7km s-min=12.1km az=53.0*

*IDC **10** 20:01:40.5±8.9, 7.53S×127.99E, h231km±105km, mb3.2/3, mb1 3.7/6, mb1mx3.5/12, mbtmp4.2/6, Error ellipse: s-maj=31.6km s-min=26.5km az=75.0*

ISC 10 20:01:33.1±2.8**, 7.5S**±0.1×**128.0E**±0.2**, h181**km±30km**, n18, σ1s18**/21**, mb4.1**/12**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**13.80**	**154**	*e*P	**P**	**20 04 41.7**	**-0.6**
	35nm,1.0s						
WRAB				*e*S	**S**	**20 07 00.2**	**-11**
WRA	**Warramunga Arr**	**13.80**	**154**	P	**P**	**20 04 41.4**	**-0.9**
	2.4nm,0.3s,baz=327,slow=13,SNR=89						
WRA				S	**S**	**20 07 08.6**	**-2.9**
	2.8nm,0.3s,baz=331,slow=22,SNR=9.7						
ASAR	**Alice Springs**	**17.03**	**161**	P	**P**	**20 05 23.9**	**+1.8**
	1.7nm,0.3s,baz=335,slow=9.7,SNR=144						
ASAR				S	**S**	**20 08 24.7**	**+0.7**
	0.2nm,0.3s,baz=337,slow=17,SNR=2.9						
PMG	**Port Moresby**	**19.07**	**97**	P	**P**	**20 05 45.9**	**+1.9**
	1.4nm,0.3s,baz=274,slow=10,SNR=10						
KSM	**Kuching**	**19.76**	**296**	*e*P	**P**	**20 05 51.8**	**+0.7**
STKA	**Stephens Creek**	**27.35**	**154**	P	**P**	**20 07 04.5**	**+1.0**
	0.7nm,0.5s,mb3.6,baz=326,slow=7.9,SNR=3.6						
CMAR	**Chiang Mai Arr**	**38.56**	**312**	P	**P**	**20 08 41.5**	**+1.4**
	1.0nm,0.7s,mb3.6,baz=141,slow=7.3,SNR=8.1						
ENH	**Enshi**	**41.56**	**336**	*e*P	**P**	**20 09 03.0**	**-1.7**
	2.3nm,0.6s,mb4.0						
JIRN	**Jiri**	**53.44**	**313**	*e*P	**P**	**20 10 37.4**	**+0.7**
	4.5nm,0.6s,mb4.4						
PKI	**Pulchoki**	**53.96**	**312**	*e*P	**P**	**20 10 40.7**	**+0.1**
	7.4nm,0.5s,mb4.6						
KKN	**Kakani**	**54.17**	**312**	*e*P	**P**	**20 10 42.2**	**+0.1**
	5.9nm,0.8s,mb4.4						
DMN	**Daman**	**54.20**	**312**	*e*P	**P**	**20 10 42.3**	**0.0**
	4.8nm,0.7s,mb4.3						
GKN	**Gorkha**	**54.77**	**312**	*e*P	**P**	**20 10 46.5**	**+0.1**
	5.5nm,0.4s,mb4.7						
KOLN	**Koldanda**	**55.41**	**311**	*e*P	**P**	**20 10 51.3**	**+0.3**
	3.6nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**58.17**	**344**	*e*P	**P**	**20 11 10.0**	**-0.2**
SONM	**Songino Array**	**58.33**	**343**	P	**P**	**20 11 11.5**	**+0.2**
	0.6nm,0.7s,mb3.5,baz=166,slow=7.1,SNR=7.7						
AAK	**Ala-Archa**	**69.66**	**321**	P	**P**	**20 12 23.3**	**-1.7**
	4.6nm,1.4s,mb4.0						
KURK	**Kurchatov**	**71.93**	**330**	*e*P	**P**	**20 12 35.6**	**-2.8**
	5.6nm,1.2s,mb4.2						

*IDC **10** 20:41:52.9±1.1, 3.43N×128.39E, mb4.3/7, mb1 4.4/7, mb1mx4.2/16, mbtmp4.3/7, MS3.6/3, Ms1 3.7/3, ms1mx3.1/22, Error ellipse: s-maj=88.0km s-min=18.0km az=73.0*

*BJI **10** 20:42:05.0, 3.14N×129.10E, h120km, mB5.3, mb4.9*

*NEIC **10** 20:42:06.8±3.8, 3.13N×128.48E, h99km±37km, mb4.5/16, Error ellipse: s-maj=23.4km s-min=8.5km az=59.0*

ISC 10 20:41:59.0±3.2**, 3.23N**±0.08×**128.6E**±0.1**, h39**km±29km**, n36, σ1s21**/34**, mb4.6**/22**, MS3.5**/3**, North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.30**	**166**	*e*P	**P**	**20 45 49.8**	**+3.0**
	28nm,1.0s						
KSM	**Kuching**	**18.33**	**265**	*e*P	**P**	**20 46 11.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**21.40**	**188**	*e*P	**P**	**20 46 44.5**	**-1.1**
	6.8nm,0.6s,mb4.2						
PMG	**Port Moresby**	**22.38**	**124**	LR	LR	20 54 19.7	
	comp=Z,67nm,21.4s,MS3.0,baz=104,slow=33						
WRAB	**Tennant Creek**	**23.71**	**166**	P	**P**	**20 47 09.0**	**+0.5**
	246nm,0.9s,mb5.6,SNR=11						
WRAB	**Tennant Creek**	**23.71**	**166**	*e*P	**P**	**20 47 09.6**	**+1.1**
	52nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**23.72**	**166**	P	**P**	**20 47 08.5**	**-0.1**
	25nm,0.9s,mb4.6,baz=340,slow=9.4,SNR=50						
WB2	**Warramunga Arr**	**23.72**	**166**	*e*P	**P**	**20 47 08.8**	**+0.2**
WB2				*e*S	**S**	**20 51 19.1**	**+1.2**
ASAR	**Alice Springs**	**27.24**	**169**	P	**P**	**20 47 40.6**	**-1.2**
	1.6nm,0.5s,mb3.8,baz=348,slow=6.9,SNR=23						
ASAR				PcP	PcP	20 51 00.2	-1.1
	0.7nm,0.4s,baz=352,slow=2.4,SNR=7.5						
ASPA	**Alice Springs**	**27.24**	**169**	*e*P	**P**	**20 47 42.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**32.71**	**300**	ScP		20 54 55.2	
	0.8nm,0.9s,baz=152,slow=1.5,SNR=4.2						
CMAR				LR	LR	21 01 22.9	
	comp=Z,64nm,19.0s,MS3.4,baz=145,slow=36						
XAN	**Xi'an**	**35.70**	**331**	P	**P**	**20 48 54.7**	**-1.3**
XAN				AMB	AMB		
	comp=Z,42nm,1.1s,mb5.3						
STKA	**Stephens Creek**	**37.05**	**161**	*e*P	**P**	**20 49 05.8**	**-1.5**
	comp=Z,19nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**37.05**	**161**	P	**P**	**20 49 06.2**	**-1.1**
	comp=Z,2.8nm,0.4s,mb4.4,baz=344,slow=9.3,SNR=20						
STKA				PcP	PcP	20 51 27.7	-0.2
	comp=Z,2.2nm,0.8s,baz=302,slow=21,SNR=3.3						
NWAO	**Narrogin (SRO)**	**37.53**	**196**	P	**P**	**20 49 10.4**	**-0.9**
	comp=Z,4.4nm,0.5s,mb4.4,baz=37,slow=10,SNR=4.7						
LZH	**Lanzhou**	**39.87**	**328**	*e*P	**P**	**20 49 32.0**	**+1.2**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH	**Lanzhou**	**39.87**	**328**	*e*P	**P**	**20 49 32.0**	**+1.2**
	comp=Z,20nm,1.0s,mb4.8						
LZH				pP	pP	20 49 46.0	+4.2
LZH				sP	sP	20 49 53.5	+6.9
LSA	**Lhasa**	**44.15**	**311**	P	**P**	**20 50 08.2**	**+2.2**
LSA	**Lhasa**	**44.15**	**311**	*e*P	**P**	**20 50 07.3**	**+1.4**
	comp=Z,4.6nm,0.9s,mb4.2						
GTA	**Gaotai**	**44.48**	**328**	*e*P	**P**	**20 50 09.2**	**+0.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.1						
JIRN	**Jiri**	**47.15**	**305**	*e*P	**P**	**20 50 31.4**	**+1.6**
	comp=Z,10nm,0.9s,mb4.8						
PKI	**Pulchoki**	**47.75**	**305**	*e*P	**P**	**20 50 34.9**	**+0.3**
KKN	**Kakani**	**47.94**	**305**	*e*P	**P**	**20 50 36.9**	**+0.8**
	comp=Z,9.0nm,1.0s,mb4.8						
DMN	**Daman**	**48.02**	**305**	*e*P	**P**	**20 50 37.5**	**+0.9**
	comp=Z,8.2nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**48.17**	**341**	*e*P	**P**	**20 50 35.7**	**-1.9**
	comp=Z,1.8nm,0.9s,mb4.1						
SONM	**Songino Array**	**48.37**	**340**	P	**P**	**20 50 35.0**	**-4.0**
	comp=Z,0.1nm,0.4s,baz=127,slow=44,SNR=2.6						
GKN	**Gorkha**	**48.55**	**305**	*e*P	**P**	**20 50 40.7**	**0.0**
	comp=Z,4.2nm,0.7s,mb4.6						
KOLN	**Koldanda**	**49.31**	**304**	*e*P	**P**	**20 50 45.9**	**-0.7**
	comp=Z,15nm,0.8s,mb5.1						
MA2	**Magadan**	**58.75**	**13**	P	**P**	**20 51 55.7**	**+0.3**
	comp=Z,12nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**60.31**	**146**	LR	LR	21 18 44.5	
	comp=Z,161nm,19.1s,MS4.2,baz=61,slow=36						
ZAL	**Zalesovo**	**61.87**	**332**	P	**P**	**20 52 11.6**	**-5.1**
	comp=Z,0.6nm,0.3s,mb4.2,baz=144,slow=12,SNR=2.0						
AAK	**Ala-Archa**	**61.96**	**317**	*e*P	**P**	**20 52 19.1**	**+1.6**
	comp=Z,2.4nm,1.0s,mb4.3						
KURK	**Kurchatov**	**63.15**	**327**	*e*P	**P**	**20 52 23.0**	**-2.3**
	comp=Z,4.8nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**68.74**	**327**	P	**P**	**20 52 56.3**	**-4.6**
	comp=Z,0.3nm,0.7s,baz=94,slow=19,SNR=2.7						
CHKZ	**Chkalovo**	**68.89**	**327**	*e*P	**P**	**20 53 00.7**	**-1.1**
	comp=Z,18nm,0.6s,mb5.2						
VNDA	**Vanda**	**82.71**	**173**	P	**P**	**20 54 19.1**	**-0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=322,slow=4.8,SNR=5.4						

*JMA **10** 20:50:43.7±0.2, 24.96N×122.17E, h106km, M2.2*

TAP 10 20:50:43.6, 24.86N×122.07E, h109km**, ML3.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.94**	**115**	P	P	20 51 03.8	-0.6
YOJ				S	S	20 51 19.1	-0.9
IRIF	**Iriomote-Funau**	**1.60**	**109**	P	P	20 51 11.2	-0.8
IRIF				S	S	20 51 31.6	-1.7
JKRS	**Kuro-shima**	**1.87**	**109**	P	P	20 51 14.9	-0.5
JKRS				S	S	20 51 37.9	-1.2
JIJ	**Ishigaki jima**	**1.95**	**104**	P	P	20 51 15.5	-0.9
JIJ				S	S	20 51 38.8	-2.1
JTJ	**Tarama**	**2.40**	**95**	*e*S	S	20 51 50.5	-1.1

IDC 10 21:03:31.0±59.0**, 16.28S×175.24E, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/14**, mbtmp4.0**/3**, Error ellipse: s-maj=1026.0km s-min=144.0km az=73.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.25**	**237**	P	P	21 10 20.1	-0.7
	2.6nm,1.0s,baz=81,slow=9.3,SNR=3.9						
WRA	**Warramunga Arr**	**38.98**	**258**	P	P	21 10 58.8	-2.2
	0.2nm,0.3s,baz=95,slow=8.3,SNR=5.8						
ASAR	**Alice Springs**	**39.43**	**252**	P	P	21 11 02.5	-2.1
	2.4nm,0.4s,baz=82,slow=8.6,SNR=44						

MAN 10 21:09:07.4, 10.27N×122.59E, h73km**, mb3.8, ML2.5, MS2.0, 2C, Panay**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.35**	**360**	*e*P	P	21 09 21.4	+2.0
GUIM				*e*S	S	21 09 31.1	+2.8
RCP	**Roxas**	**1.29**	**7**	⇑*e*P	P	21 09 30.4	+0.3
RCP				*e*S	S	21 09 48.6	+1.5
CUYO	**Cuyo Island**	**1.65**	**291**	*e*P	P	21 09 35.9	+0.9
DCPH	**Dipolog City**	**1.84**	**156**	⇑*i*P	P	21 09 38.1	+0.6
DCPH				*i* S	S	21 10 00.6	+0.9
OTRP	**Odiongan**	**2.15**	**345**	*e*P	P	21 09 41.2	-0.7
SJMP	**San Jose**	**2.61**	**327**	*e*P	P	21 09 48.3	-0.1
BUSP	**Coron**	**2.91**	**307**	*e*P	P	21 09 52.5	-0.1
ENPP	**El Nido**	**3.25**	**287**	*e*P	P	21 09 57.4	+0.1
LUBP	**Lubang**	**4.14**	**327**	*e*P	P	21 10 10.3	+0.7

*ISK **10** 21:51:31.5, 35.14N×28.87E, h33km, MD3.7, ML3.8*

*CSEM **10** 21:51:31.4±0.1, 35.13N×28.92E, h40km, Mw3.5, Error ellipse: s-maj=3.7km s-min=1.6km az=40.0*

*ATH **10** 21:51:32.1, 35.26N×28.86E, h36km±27km, MD3.4/7*

*NEIC **10** 21:51:32.5, 35.24N×28.89E, h52km, MD3.2(ATH), After ATH.*

*NIC **10** 21:51:36.9±0.3, 35.38N×29.23E, h25km, ML3.4, MW3.3*

ISC 10 21:51:30.9±0.4**, 35.10N**±0.03×**28.99E**±0.03**, h33**km**, n42, σ1s38**/55**, 5C-1D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.16**	**24**	*e*PN	**Pn**	**21 51 52.1**	**+1.0**
ARG	**Arkhangelos**	**1.32**	**328**	⇓*i*PN	**Pn**	**21 51 53.6**	**+0.2**
ARG				*e*SN	**Sn**	**21 52 08.8**	**-1.2**
FETY	**Fethiye**	**1.54**	**3**	PN	**Pn**	**21 51 56.6**	**+0.1**
FETY	**Fethiye**	**1.54**	**3**	*e*Pn	**Pn**	**21 51 56.6**	**+0.1**
FETY				*e*Sn	**Sn**	**21 52 14.5**	**-1.0**
KARP	**Karpathos**	**1.56**	**287**	⇑*i*PB	**Pb**	**21 51 56.6**	**-2.6**
KARP				*e*SN	**Sn**	**21 52 15.5**	**-0.7**
DALT	**Dalyan (Mudla)**	**1.69**	**350**	*e*PN	**Pn**	**21 51 58.7**	**-0.1**
ELL	**Elmali**	**1.81**	**24**	*e*PN	**Pn**	**21 52 01.5**	**+1.1**
YER	**Yerkesik**	**2.12**	**344**	PN	**Pn**	**21 52 05.3**	**+0.5**
BDRM	**Kayabasi**	**2.33**	**328**	*i* P	**P**	**21 52 07.9**	**+0.2**
BDRM				*i* S	**S**	**21 52 31.8**	**-3.7**
BODT	**Bodrum**	**2.39**	**326**	PN	**Pn**	**21 52 07.9**	**-0.8**
DNZL	**Cakiroluk**	**2.59**	**1**	*i* P	**P**	**21 52 12.0**	**+0.6**
DNZL				*i* S	**S**	**21 52 40.4**	**-1.6**
DENT	**Denizli**	**2.65**	**1**	PN	**Pn**	**21 52 12.7**	**+0.2**
BCK	**Bucak**	**2.69**	**28**	*e*PN	**Pn**	**21 52 14.7**	**+1.7**
AYDN	**Tasoluk**	**2.71**	**341**	*i* P	**P**	**21 52 13.9**	**+0.7**
AYDN				*i* S	**S**	**21 52 42.7**	**-2.5**
XRY	**Khrisi**	**2.72**	**266**	*e*PN	**Pn**	**21 52 14.5**	**+1.1**
PPCY	**Paphos**	**2.76**	**93**	P	**P**	**21 52 16.1**	**+2.3**
NPS	**Neapolis**	**2.77**	**274**	⇑*i*PN	**Pn**	**21 52 15.0**	**+0.8**
NPS	**Neapolis**	**2.77**	**274**	⇑*i*P	**P**	**21 52 15.6**	**+1.6**
ALFC	**Alevga**	**2.96**	**88**	⇑*e*P	**P**	**21 52 18.5**	**+1.9**
	6.8nm,0.2s						
ALFC				S	**S**	**21 52 50.9**	**-0.5**
SMG	**Samos**	**3.13**	**327**	*e*PN	**Pn**	**21 52 18.6**	**-0.7**
LEF	**Lefka**	**3.20**	**88**	*e*PN	**Pn**	**21 52 21.1**	**+0.9**
SZAC	**Souni-Zanaja**	**3.21**	**95**	⇑*e*P	**P**	**21 52 22.3**	**+2.0**
	7.4nm,0.1s						
SZAC				S	**S**	**21 52 58.4**	**+0.5**
HDMB	**Hadim**	**3.39**	**56**	*e*PN	**Pn**	**21 52 25.2**	**+2.3**
MANT	**Manisa**	**3.41**	**354**	*i* P	**P**	**21 52 22.5**	**-0.5**
MANT				*i* S	**S**	**21 52 59.0**	**-3.9**
APE	**Apeiranthos**	**3.43**	**306**	*e*PN	**Pn**	**21 52 22.0**	**-1.4**
MAMC	**Mammari**	**3.46**	**88**	P	**P**	**21 52 25.6**	**+1.8**
CSS	**Prodhromos**	**3.56**	**91**	P	**P**	**21 52 26.4**	**+1.2**
	1.6nm,0.3s						
CSS				S	**S**	**21 53 05.8**	**-1.0**
BLCB	**Balcova**	**3.64**	**335**	*e*PN	**Pn**	**21 52 25.4**	**-1.0**
KONT	**Konya--Tatoy**	**3.93**	**43**	*e*PN	**Pn**	**21 52 31.2**	**+0.6**
VAM	**Vamos**	**3.93**	**276**	*e*PN	**Pn**	**21 52 31.0**	**+0.4**
KIZT	**Kizilcal**	**4.43**	**31**	*e*PN	**Pn**	**21 52 38.5**	**+0.8**
HNTI	**Hanita**	**5.51**	**110**	Sn	**Sn**	**21 53 54.0**	**-1.9**
SLTI	**Sal'it**	**5.79**	**118**	Sn	**Sn**	**21 54 00.0**	**-3.0**
KSDI	**Kefar Szold**	**5.84**	**107**	Pn	**Pn**	**21 53 00.0**	**+2.3**
KSDI				Sn	**Sn**	**21 54 02.8**	**-1.5**
MMLI	**Mount Malkishu**	**5.97**	**115**	Sn	**Sn**	**21 54 04.6**	**-2.9**
KSHT	**Keshet**	**6.04**	**108**	Sn	**Sn**	**21 54 08.1**	**-1.1**
KZIT	**Kziot**	**6.17**	**131**	Sn	**Sn**	**21 54 08.1**	**-4.3**
RTMM	**Retamin**	**6.25**	**129**	Sn	**Sn**	**21 54 10.7**	**-3.8**
DRGI	**Dragot**	**6.39**	**121**	Sn	**Sn**	**21 54 14.7**	**-3.3**
HRFI	**Mount Harif**	**7.17**	**133**	Pn	**Pn**	**21 53 16.6**	**+0.3**
HRFI				Sn	**Sn**	**21 54 32.6**	**-4.9**
MBH	**Mount Berech**	**7.28**	**135**	Sn	**Sn**	**21 54 35.8**	**-4.4**
EIL	**Elat**	**7.39**	**135**	Pn	**Pn**	**21 53 19.9**	**+0.5**
EIL				Sn	**Sn**	**21 54 38.1**	**-4.9**

*DJA **10** 22:10:26.2±1.7, 0.76S×119.63E, h26km±4km, MD4.6/3, ML5.1/3, Error ellipse: s-maj=43.3km s-min=28.3km az=39.0*

*IDC **10** 22:10:28.5±3.0, 0.41S×121.60E, mb3.4/3, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, Error ellipse: s-maj=316.1km s-min=26.3km az=68.0*

*NEIC **10** 22:10:34.0±2.3, 1.37S×119.82E, h76km±29km, mb4.4/4, Error ellipse: s-maj=54.6km s-min=14.1km az=60.0*

ISC 10 22:10:31.3±2.3**, 1.1S**±0.1×**119.8E**±0.2**, h57**km±25km**, n14, σ1s14**/19**, mb4.0**/7**, 9C-1D, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TANI	**Tanete Lipujan**	**2.32**	**191**	⇑*e*Pn	**P**	**22 11 06.2**	**-1.8**
TANI				⇑*i*P		22 11 08.1	
TANI				*i* Sn	**S**	**22 11 35.5**	**+0.1**
TANI	**Tanete Lipujan**	**2.32**	**191**	⇑*e*Pn	**P**	**22 11 06.2**	**-1.8**
	713nm,0.5s						
TANI	**Tanete Lipujan**	**2.32**	**191**	⇑*i*P	**P**	**22 11 08.1**	**+0.1**
TANI				⇑*i*Sn	**S**	**22 11 35.5**	**+0.1**
BUNI	**Buntu Taipa**	**2.54**	**169**	*e*Pn	**P**	**22 11 09.8**	**-1.4**
BUNI				⇑*i*P		22 11 13.1	
BUNI				*e*Sn	**S**	**22 11 42.9**	**+1.9**
BUNI	**Buntu Taipa**	**2.54**	**169**	*e*Pn	**P**	**22 11 09.8**	**-1.4**
	567nm,0.3s						
BUNI	**Buntu Taipa**	**2.54**	**169**	⇑*i*P	**P**	**22 11 13.1**	**+1.9**
BUNI				⇑*e*Sn	**S**	**22 11 42.9**	**+1.9**
NINI	**Niniconang**	**3.26**	**181**	⇓*e*Pn	**P**	**22 11 21.2**	**-0.1**
	809nm,0.4s						
NINI				⇑*i*Sn	**S**	**22 12 09.3**	**+10**
WRAB	**Tennant Creek**	**23.46**	**144**	P	**P**	**22 15 35.1**	**-1.5**
	21nm,1.4s,mb4.4						
WRA	**Warramunga Arr**	**23.46**	**144**	P	**P**	**22 15 35.4**	**-1.3**
	1.3nm,0.7s,mb3.5,baz=323,slow=10,SNR=6.2						
ASAR	**Alice Springs**	**26.22**	**150**	P	**P**	**22 16 04.1**	**+1.2**
	0.6nm,0.8s,mb3.2,baz=342,slow=14,SNR=4.7						
BJT	**Baijiatuau**	**41.10**	**356**	P	**P**	**22 18 12.8**	**+1.5**
	18nm,1.7s,mb4.4						
ULN	**Ulaanbaatar**	**50.07**	**349**	*e*P	**P**	**22 19 22.4**	**-0.1**
	2.6nm,1.2s,mb4.1						
SONM	**Songino Array**	**50.17**	**348**	P	**P**	**22 19 23.5**	**+0.2**
	0.5nm,0.7s,mb3.7,baz=168,slow=8.1,SNR=5.9						
KURK	**Kurchatov**	**62.43**	**332**	P	**P**	**22 20 50.5**	**-0.3**
	3.2nm,0.8s,mb4.5						

*IDC **10** 22:17:32.4±4.8, 1.55S×126.76E, h31km±34km, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=60.7km s-min=19.9km az=69.0*

*NEIC **10** 22:17:33.2±0.4, 1.60S×126.79E, h35km, mb4.6/12, Error ellipse: s-maj=21.7km s-min=5.8km az=56.0*

ISC 10 22:17:30.1±5.3**, 1.6S**±0.1×**126.8E**±0.2**, h27**km±39km**, n19, σ1s02**/21**, mb4.6**/13**, 1D, Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**19.63**	**158**	*e*P	**P**	**22 21 58.4**	**-1.4**
	5.8nm,0.6s						
WRA	**Warramunga Arr**	**19.63**	**158**	P	**P**	**22 21 58.8**	**-1.1**
	0.8nm,0.3s,baz=339,slow=12,SNR=12						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
WRA				S	**S**	**22 25 33.7**	**-0.4**
	0.1nm,0.3s,baz=336,slow=20,SNR=3.7						
WB2	**Warramunga Arr**	**19.64**	**158**	⇓*i*P	**P**	**22 21 58.8**	**-1.1**
PMG	**Port Moresby**	**21.67**	**112**	P	**P**	**22 22 22.3**	**+1.3**
	11nm,1.0s,mb4.2,baz=270,slow=12,SNR=2.9						
PMG	**Port Moresby**	**21.67**	**112**	*e*P	**P**	**22 22 22.1**	**+1.1**
	17nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**22.96**	**163**	P	**P**	**22 22 35.6**	**+1.9**
	7.8nm,0.7s,mb4.3,baz=350,slow=12,SNR=66						
ASAR				S	**S**	**22 26 45.5**	**+7.7**
	2.8nm,1.1s,baz=332,slow=15,SNR=4.0						
ASPA	**Alice Springs**	**22.96**	**163**	*e*P	**P**	**22 22 35.6**	**+1.9**
STKA	**Stephens Creek**	**33.16**	**157**	*e*P	**P**	**22 24 07.0**	**+0.3**
	2.0nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**33.16**	**157**	P	**P**	**22 24 06.9**	**+0.2**
	1.2nm,0.5s,mb4.1,baz=343,slow=9.4,SNR=5.6						
LSA	**Lhasa**	**46.15**	**315**	*e*P	**P**	**22 25 54.9**	**+0.4**
	3.9nm,0.6s,mb4.5						
JIRN	**Jiri**	**48.70**	**310**	*e*P	**P**	**22 26 15.0**	**+0.5**
	17nm,0.7s,mb5.2						
PKI	**Pulchoki**	**49.26**	**309**	*e*P	**P**	**22 26 19.0**	**+0.2**
	6.1nm,0.6s,mb4.8						
KKN	**Kakani**	**49.46**	**309**	*e*P	**P**	**22 26 20.4**	**0.0**
	24nm,1.1s,mb5.2						
DMN	**Daman**	**49.51**	**309**	*e*P	**P**	**22 26 21.3**	**+0.5**
	24nm,1.0s,mb5.2						
GKN	**Gorkha**	**50.06**	**309**	*e*P	**P**	**22 26 25.0**	**0.0**
	10nm,0.8s,mb4.9						
KOLN	**Koldanda**	**50.76**	**308**	*e*P	**P**	**22 26 30.7**	**+0.4**
	22nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**52.22**	**343**	P	**P**	**22 26 36.8**	**-4.3**
	2.3nm,1.2s,mb4.0						
SONM	**Songino Array**	**52.39**	**343**	P	**P**	**22 26 41.1**	**-1.3**
	0.7nm,0.9s,mb3.6,baz=151,slow=7.4,SNR=15						
KURK	**Kurchatov**	**66.31**	**329**	P	**P**	**22 28 16.9**	**-1.6**
	4.2nm,1.0s,mb4.4						

*JMA **10** 22:21:59.7±0.1,24.76N×122.36E,h103km±2km,M2.2*
TAP 10 22:21:59.3,24.78N×122.31E,h105km±1km**,ML3.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.71**	**116**	P	P	22 22 17.2	-0.2
YOJ				*e*S	S	22 22 30.2	-0.9
IRIF	**Iriomote-Funau**	**1.37**	**109**	P	P	22 22 24.0	-0.6
IRIF				*e*S	S	22 22 42.6	-1.0
HATJ	**Hateruma jima**	**1.54**	**118**	*e*S	S	22 22 46.3	-1.0
JKRS	**Kuro-shima**	**1.64**	**109**	P	P	22 22 27.7	-0.3
JKRS				*e*S	S	22 22 48.6	-0.8
JIJ	**Ishigaki jima**	**1.72**	**104**	P	P	22 22 28.3	-0.6
JIJ				*e*S	S	22 22 49.6	-1.5
JTJ	**Tarama**	**2.18**	**93**	P	P	22 22 34.8	-0.2
JTJ				*e*S	S	22 23 01.1	-0.5

WEL 10 22:31:40.3±0.5**,39.26S**×**174.99E,h223**km±4km**,ML3.5**/11**, Error ellipse: s-maj=5.3km s-min=2.5km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.39**	**61**	PN	P	22 32 09.2	-0.8
WNVZ	**Wahianoa**	**0.47**	**98**	PN	P	22 32 10.2	-0.1
WNVZ				SN	S	22 32 32.1	-1.3
WAZ	**Wanganui**	**0.49**	**181**	PN	P	22 32 10.3	0.0
WAZ				SN	S	22 32 33.2	-0.3
MOVZ	**Moawhango**	**0.61**	**104**	PN	P	22 32 10.2	-0.5
MOVZ				SN	S	22 32 32.2	-2.0
BKZ	**Black Stump Fm**	**1.17**	**86**	PN	P	22 32 13.4	-0.4
BKZ				SN	S	22 32 38.3	-1.4
MRZ	**Mangatainoka R**	**1.47**	**162**	PN	P	22 32 15.9	-0.3
MRZ				SN	S	22 32 43.3	-0.6
KIW	**Kapiti Island**	**1.60**	**182**	PN	P	22 32 16.6	-0.6
KIW				SN	S	22 32 44.1	-1.7
BFZ	**Birch Farm**	**1.71**	**146**	PN	P	22 32 18.4	+0.1
BFZ				SN	S	22 32 47.1	-0.4
DUWZ	**D'Urville Isla**	**1.75**	**208**	PN	P	22 32 17.4	-1.1
CAW	**Cannon Point**	**1.84**	**178**	PN	P	22 32 18.9	-0.5
CAW				SN	S	22 32 48.5	-1.0
URZ	**Urewera**	**1.93**	**60**	PN	P	22 32 18.2	-2.1
URZ				SN	S	22 32 48.3	-2.7
MTW	**Mount Morrison**	**1.94**	**169**	PN	P	22 32 19.7	-0.6
MRW	**Makara Radio**	**1.98**	**186**	PN	P	22 32 19.8	-0.8
MRW				SN	S	22 32 50.3	-1.5
KNZ	**Kokohu**	**2.10**	**84**	PN	P	22 32 21.4	-0.5
PAWZ	**Paruwai Farm**	**2.14**	**171**	PN	P	22 32 21.8	-0.5
PAWZ				SN	S	22 32 53.8	-0.9
MSWZ	**Moikau Station**	**2.16**	**175**	PN	P	22 32 21.7	-0.8
MSWZ				SN	S	22 32 53.7	-1.4
MWZ	**Matawai**	**2.19**	**66**	PN	P	22 32 21.2	-1.5
TUWZ	**Tuamarina**	**2.31**	**200**	PN	P	22 32 23.0	-1.1
NNZ	**Nelson**	**2.31**	**212**	PN	P	22 32 22.3	-1.8
NNZ				SN	S	22 32 54.9	-3.1
QRZ	**Quartz Range**	**2.45**	**230**	PN	P	22 32 22.5	-3.1
BSWZ	**Blackbirch Sta**	**2.59**	**199**	PN	P	22 32 25.9	-1.2
PUZ	**Puketiti**	**2.82**	**66**	PN	P	22 32 27.4	-2.1
THZ	**Tophouse**	**2.96**	**212**	PN	P	22 32 28.9	-2.3
THZ				SN	S	22 33 07.0	-3.6
DSZ	**Denniston Nort**	**3.47**	**223**	*e*PN	P	22 32 33.5	-3.6
LTZ	**Lake Taylor**	**4.08**	**209**	PN	P	22 32 41.5	-2.9
LTZ				SN	S	22 33 28.9	-5.2
MQZ	**McQueen's Vall**	**4.78**	**201**	*e*PN	P	22 32 49.5	-3.6
MQZ				SN	S	22 33 44.1	-5.6

*IDC **10** 22:47:12.5±1.5,6.83S×156.58E,mb4.1/6,mb1 4.3/6, mb1mx4.1/12,mbtmp4.0/6,Error ellipse: s-maj=63.1km s-min=22.0km az=120.0*
*NEIC **10** 22:47:13.5±0.6,7.00S×156.64E,h10km,mb4.8/7,Error ellipse: s-maj=13.4km s-min=10.8km az=170.0*
ISC 10 22:47:11.9±0.6**,7.01S**±0.10×**156.63E**±0.08**,h10**km**,n19,** σ**1.15**/20**,mb4.3**/12**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.07**	**127**	*e*Pn	**Pn**	**22 48 15.3**	**-0.4**
HNR				*e*Sn	**Sn**	**22 48 55.3**	**-8.6**
PMG	**Port Moresby**	**9.68**	**255**	*e*Pn	**P**	**22 49 32.2**	**-2.2**
CTAO	**Charters Tower**	**16.45**	**217**	P	**P**	**22 51 02.6**	**-2.0**
	66nm,1.6s						
KAKA	**Kakadu**	**24.49**	**255**	*e*P	**P**	**22 52 33.4**	**+0.7**
	16nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**25.15**	**237**	P	**P**	**22 52 41.0**	**+2.0**
	139nm,0.5s,mb5.7,SNR=9.0						
WRAB	**Tennant Creek**	**25.15**	**237**	*e*P	**P**	**22 52 40.0**	**+1.1**
	18nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**25.15**	**237**	*e*P	**P**	**22 52 40.6**	**+1.6**
WRA	**Warramunga Arr**	**25.16**	**237**	P	**P**	**22 52 41.0**	**+1.9**
	11nm,0.4s,mb4.7,baz=61,slow=9.9,SNR=42						
ASAR	**Alice Springs**	**27.40**	**230**	P	**P**	**22 52 59.7**	**-0.1**
	0.8nm,0.7s,mb3.4,baz=64,slow=8.5,SNR=11						
STKA	**Stephens Creek**	**28.45**	**208**	P	**P**	**22 53 10.5**	**+1.4**
	1.6nm,0.5s,mb4.0,baz=39,slow=12,SNR=8.8						
STKA	**Stephens Creek**	**28.45**	**208**	P	**P**	**22 53 10.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**32.14**	**247**	*e*P	**P**	**22 53 41.6**	**-0.5**
	9.7nm,0.6s,mb4.8						
RAO	**Raoul Island**	**32.63**	**136**	P	**P**	**22 53 45.9**	**-0.3**
TAU	**Tasmania Unive**	**36.69**	**191**	*e*P	**P**	**22 54 20.4**	**-0.5**
	77nm,1.5s,mb5.3						
MBWA	**Marble Bar**	**38.34**	**245**	*e*P	**P**	**22 54 33.7**	**-1.2**
	20nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	**69.89**	**327**	*e*P	**P**	**22 58 24.6**	**-0.5**
	1.0nm,0.7s,mb3.9						
SONM	**Songino Array**	**70.23**	**327**	P	**P**	**22 58 26.6**	**-0.6**
	0.8nm,0.8s,mb3.7,baz=141,slow=6.9,SNR=6.7						
ILAR	**Eielson Array**	**82.79**	**21**	P	**P**	**22 59 37.0**	**-0.3**
	1.3nm,1.1s,mb3.9,baz=244,slow=5.8,SNR=6.7						
YKA	**Yellowknife Ar**	**95.59**	**28**	P	**P**	**23 00 39.6**	**+1.2**
	0.2nm,0.7s,mb3.7,baz=262,slow=4.6,SNR=4.2						

*TAP **11** 00:10:24.4,24.29N×122.75E,h8km,ML3.3*
JMA 11 00:10:24.1±0.1**,24.38N**×**122.99E,h48**km±1km**,M2.8, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.08**	**13**	P	P	00 10 31.6	+0.1
YOJ				S	S	00 10 36.9	-0.1
IRIF	**Iriomote-Funau**	**0.68**	**94**	P	P	00 10 37.4	-0.1
IRIF				*e*S	S	00 10 47.3	0.0
HATJ	**Hateruma jima**	**0.81**	**113**	P	P	00 10 39.2	-0.1
HATJ				*e*S	S	00 10 51.0	+0.5
JKRS	**Kuro-shima**	**0.94**	**98**	P	P	00 10 41.6	+0.5
JKRS				*e*S	S	00 10 54.4	+0.7
JIJ	**Ishigaki jima**	**1.05**	**91**	P	P	00 10 42.5	-0.2
JIJ				*e*S	S	00 10 55.6	-0.9
JTJ	**Tarama**	**1.58**	**80**	P	P	00 10 50.5	+0.3
JTJ				*e*S	S	00 11 09.7	+0.1

IGQ 11 00:19:52.5,0.61N×**79.22W,h12**km±3km**,mb4.0,4C-8D, Error ellipse: s-maj=2.7km s-min=1.3km az=0.0,Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LORE	**San Lorenzo**	**0.78**	**28**	⇓P	Pb	00 20 07.5	0.0
LORE				S	Sb	00 20 19.0	+1.2
COTA	**Cotacachi**	**0.92**	**107**	⇓P	Pb	00 20 10.5	+0.7
YANA	**Yana**	**0.97**	**138**	⇓P	Pb	00 20 11.3	+0.6
YANA				S	Sb	00 20 25.1	+1.9
PINO	**Pino**	**0.97**	**141**	⇓P	Pb	00 20 11.4	+0.7
TERV	**Terraza Guagua**	**0.99**	**142**	⇓P	Pb	00 20 11.6	+0.5
GGP	**Refugio Guagua**	**0.99**	**141**	P	Pb	00 20 12.1	+0.9
JUA2	**San Juan 2**	**1.02**	**143**	⇓P	Pb	00 20 12.1	+0.5
JUA2				S	Sb	00 20 26.6	+1.9
ECEN	**Cerro Negro**	**1.26**	**80**	⇑P	Pb	00 20 15.5	-0.2
CAYA	**Cayambe**	**1.33**	**113**	⇓P	Pb	00 20 18.0	+1.0
CAYR	**Refugio Cayamb**	**1.34**	**116**	⇓P	Pb	00 20 18.5	+1.3
CAYR				S	Sb	00 20 37.5	+3.3
ELAGU	**Cayambe Volc**	**1.38**	**117**	⇑P	Pn	00 20 19.1	+1.5
ELAGU				S	Sb	00 20 38.4	+3.3
NAS1	**Nasa**	**1.44**	**149**	P	Pn	00 20 19.7	+1.2
VC1	**Cotopaxi 1**	**1.48**	**147**	P	Pn	00 20 20.8	+1.6
ANTI	**Antisana**	**1.49**	**135**	⇑P	Pn	00 20 20.6	+1.4
ANTI				S	Sb	00 20 41.5	+3.2
TAMB	**Tambo**	**1.54**	**147**	⇑P	Pn	00 20 21.8	+1.8
TAMB				S	Sb	00 20 44.1	+4.1
PISA	**Pisayambo**	**1.85**	**153**	P	Pn	00 20 26.1	+1.7
IGUA	**Igualata**	**2.16**	**165**	P	Pn	00 20 31.4	+2.6
ULBA	**Ulba**	**2.20**	**158**	P	Pn	00 20 31.7	+2.4
ULBA				S	Sn	00 21 02.0	+5.3
ARRY	**Arrayan**	**2.23**	**160**	P	Pn	00 20 31.8	+1.9
ARRY				S	Sn	00 21 01.1	+3.6

*ATH **11** 00:46:06.9,38.79N×23.24E,h42km±2km,MD2.9/8,ML2.8*
*NEIC **11** 00:46:07.3,38.79N×23.30E,h36km,MD2.9(ATH),After ATH.*
*CSEM **11** 00:46:08.2±0.1,38.77N×23.43E,h12km,ML2.8,Error ellipse: s-maj=2.0km s-min=1.4km az=82.0*
*THE **11** 00:46:09.3,38.92N×23.38E,h3km*
ISC 11 00:46:07.4±0.6**,38.81N**±0.03×**23.43E**±0.05**,h10**km±6km**, n15,**σ**0.77**/20**,1C-1D,Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LKR	**Lokris**	**0.37**	**246**	⇓*i*P	**Pg**	**00 46 15.5**	**+0.5**
LKR				*e*S	**Sg**	**00 46 21.0**	**+0.9**
AOS	**Alonnisos**	**0.51**	**44**	*e*Pg	**Pg**	**00 46 18.1**	**+0.5**
AOS				*e*Sg	**Sg**	**00 46 25.1**	**+0.6**
NEO	**Neokhori**	**0.53**	**342**	⇑*i*P	**Pb**	**00 46 18.6**	**+0.3**
NEO				*e*S	**Sb**	**00 46 26.9**	**+1.2**
XOR	**Xorichti**	**0.59**	**342**	*e*Pg	**Pg**	**00 46 18.2**	**-1.1**
MPAR	**Parnis Oros**	**0.69**	**160**	*e*P	**Pb**	**00 46 22.0**	**+0.8**
PTL	**Penteli**	**0.83**	**156**	*e*P	**Pb**	**00 46 23.6**	**+0.2**
MGER	**Gerania Oros**	**0.83**	**189**	*e*P	**Pb**	**00 46 23.0**	**-0.5**
ATH	**Athens Observa**	**0.86**	**165**	*e*P	**Pb**	**00 46 24.2**	**+0.2**
AGG	**Agios Georgios**	**0.89**	**284**	*e*Pg	**Pg**	**00 46 25.1**	**-0.1**
AGG				*e*Sg	**Sg**	**00 46 36.4**	**-0.7**
NSAL	**Nisos Salamina**	**0.90**	**178**	*e*P	**Pb**	**00 46 25.0**	**+0.4**
NAIG	**Nisos Aigina**	**1.05**	**178**	*e*P	**Pb**	**00 46 25.5**	**-1.7**
PAIG	**Paliouri**	**1.14**	**10**	*e*Pg	**Pg**	**00 46 29.0**	**-1.1**
LIT	**Litokhoron**	**1.48**	**331**	*e*Pb	**Pb**	**00 46 34.3**	**-0.4**
LIT				*e*Sb	**Sb**	**00 46 53.8**	**+0.3**
OUR	**Ouranopolis**	**1.58**	**15**	*e*Pb	**Pb**	**00 46 35.6**	**-0.8**
FNA	**Florina**	**2.53**	**322**	*e*Pn	**Pn**	**00 46 49.5**	**+0.1**

*IDC **11** 01:19:57.7±1.1,28.45N×43.69W,mb3.9/11,mb1 4.2/11, mb1mx3.9/23,mbtmp3.9/11,MS3.8/13,Ms1 3.8/13, ms1mx3.6/27,Error ellipse: s-maj=30.9km s-min=19.6km az=162.0*
ISC 11 01:19:57.4±0.9**,28.5N**±0.2×**43.7W**±0.1**,h10**km**,n20,** σ**1.04**/11**,mb4.0**/11**,MS3.8**/13**,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**23.04**	**248**	LR	LR	01 31 09.0	
	comp=Z,122nm,21.8s,MS3.3,baz=97,slow=29						
SCHQ	**Schefferville**	**31.20**	**334**	LR	LR	01 36 18.1	
	comp=Z,112nm,19.6s,MS3.5,baz=292,slow=31						
SADO	**Sadowa**	**32.45**	**310**	LR	LR	01 36 29.8	
	comp=Z,204nm,19.5s,MS3.8,baz=82,slow=30						
DBIC	**Dimbokro**	**42.62**	**113**	LR	LR	01 42 39.9	
	comp=Z,179nm,19.4s,MS4.0,baz=338,slow=32						
JTS	**JuntasAbangare**	**42.66**	**253**	LR	LR	01 42 44.3	
	comp=Z,36nm,19.7s,MS3.3,baz=135,slow=32						
BDFB	**Brasilia**	**44.08**	**186**	LR	LR	01 45 27.9	
	comp=Z,79nm,21.1s,MS3.6,baz=158,slow=35						
ULM	**Lac du Bonnet**	**44.74**	**314**	P	**P**	**01 28 13.7**	**+1.1**
	0.7nm,0.4s,mb3.8,baz=108,slow=9.3,SNR=2.0						
GERES	**GERESS Array B**	**47.96**	**49**	P	**P**	**01 28 38.9**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=270,slow=5.9,SNR=3.3						
NOA	**NORSAR Array B**	**48.63**	**32**	LR	LR	01 47 46.7	
	comp=Z,18nm,18.2s,MS3.1,baz=70,slow=34						
LPAZ	**La Paz**	**50.41**	**211**	P	**P**	**01 28 57.2**	**-0.2**
	1.4nm,0.6s,mb4.1,baz=27,slow=6.6,SNR=8.6						
TXAR	**Lajitas Array**	**51.99**	**286**	P	**P**	**01 29 08.4**	**-0.7**
	1.8nm,0.8s,mb4.0,baz=82,slow=5.8,SNR=8.9						
TXAR				LR	LR	01 48 54.4	
	comp=Z,110nm,19.0s,MS3.9,baz=70,slow=33						
PDAR	**Pinedale Array**	**54.12**	**304**	P	**P**	**01 29 24.0**	**-0.8**
	2.3nm,0.7s,mb4.2,baz=83,slow=7.3,SNR=19						
PDAR				LR	LR	01 50 10.9	
	comp=Z,173nm,18.6s,MS4.2,baz=94,slow=34						
FINES	**FINESS Array B**	**55.77**	**33**	P	**P**	**01 29 35.3**	**-1.2**
	2.0nm,1.0s,mb4.1,baz=270,slow=6.9,SNR=4.3						
YKA	**Yellowknife Ar**	**56.36**	**328**	P	**P**	**01 29 39.8**	**-1.0**
	0.9nm,0.8s,mb3.8,baz=89,slow=7.4,SNR=11						
YKA				LR	LR	01 53 33.0	
	comp=Z,157nm,20.4s,MS4.1,baz=75,slow=36						
MLR	**Muntele Rosu**	**56.44**	**52**	P	**P**	**01 29 42.9**	**+1.3**
	6.0nm,1.0s,mb4.6,baz=150,slow=18,SNR=3.8						
AKASG	**Malin Array Be**	**57.94**	**46**	P	**P**	**01 29 50.9**	**-1.2**
	1.7nm,0.7s,mb4.2,baz=276,slow=7.3,SNR=5.4						
NVAR	**Mina Array Bea**	**61.50**	**300**	P	**P**	**01 30 18.6**	**+1.8**
	0.4nm,0.6s,mb3.8,baz=58,slow=8.5,SNR=3.3						
NVAR				LR	LR	01 56 05.0	
	comp=Z,143nm,18.4s,MS4.2,slow=35						
DLBC	**Dease Lake**	**64.33**	**324**	LR	LR	01 57 22.4	
	comp=Z,250nm,19.2s,MS4.4,baz=98,slow=35						
ILAR	**Eielson Array**	**69.96**	**334**	P	**P**	**01 31 10.6**	**0.0**
	1.3nm,0.9s,mb3.9,baz=45,slow=10,SNR=7.1						
KMBO	**Kilima Mbogo**	**82.57**	**95**	LR	LR	02 08 05.0	
	comp=Z,113nm,18.1s,MS4.3,baz=88,slow=35						

*IDC **11** 01:25:16.8±1.1,7.34S×129.47E,mb3.9/4,mb1 4.2/6, mb1mx4.1/11,mbtmp4.1/6,ML4.4/2,Error ellipse: s-maj=100.1km s-min=21.4km az=68.0*
*NEIC **11** 01:25:19.1±0.6,7.21S×129.97E,h20km,mb4.0/3,Error ellipse: s-maj=21.1km s-min=7.7km az=75.0*
ISC 11 01:25:18.7±0.7**,7.26S**±0.07×**130.0E**±0.2**,h33**km**,n15,** σ**0.78**/20**,mb3.9**/6**,1D,Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.93**	**156**	*e*P	**P**	**01 26 51.7**	**+5.2**
	28nm,0.4s						
KAKA				*e*S	**S**	**01 27 53.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.58**	**201**	*e*P	**P**	**01 28 04.2**	**-0.6**
	34nm,0.3s						
FITZ				*e*S	Sx	01 30 01.7	
WRAB	**Tennant Creek**	**13.29**	**162**	Pn	**P**	**01 28 27.0**	**-0.7**
	94nm,0.4s,SNR=32						
WRAB	**Tennant Creek**	**13.29**	**162**	*e*Pn	**P**	**01 28 27.3**	**-0.4**
	11nm,0.4s						
WRA	**Warramunga Arr**	**13.30**	**162**	Pn	**P**	**01 28 27.4**	**-0.3**
	3.1nm,0.3s,baz=339,slow=13,SNR=72						
WRA				Sn	**S**	**01 30 46.8**	**-8.6**
	2.6nm,0.3s,baz=339,slow=22,SNR=9.5						
WB2	**Warramunga Arr**	**13.30**	**162**	⇓*i*P	**P**	**01 28 27.3**	**-0.5**
WB2				*e*S	**S**	**01 30 46.1**	**-9.4**
ASAR	**Alice Springs**	**16.74**	**167**	Pn	**P**	**01 29 12.8**	**+0.4**
	1.2nm,0.3s,baz=335,slow=9.8,SNR=42						
ASAR				Sn	**S**	**01 32 09.8**	**-6.5**
	0.8nm,0.3s,baz=348,slow=26,SNR=5.8						
ASPA	**Alice Springs**	**16.74**	**167**	*e*P	**P**	**01 29 12.7**	**+0.3**
ASPA				*e*S	**S**	**01 32 07.3**	**-9.0**
MBWA	**Marble Bar**	**17.01**	**215**	*e*P	**P**	**01 29 16.5**	**+0.7**
	6.5nm,0.5s						
STKA	**Stephens Creek**	**26.78**	**158**	P	**P**	**01 31 00.1**	**+2.3**
	0.5nm,0.4s,mb3.4,baz=340,slow=14,SNR=2.8						
SONM	**Songino Array**	**58.68**	**342**	P	**P**	**01 35 16.2**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=160,slow=6.8,SNR=4.5						
ZAL	**Zalesovo**	**71.81**	**334**	P	**P**	**01 36 40.0**	**+0.1**
	1.5nm,0.3s,mb4.4,baz=331,slow=4.3,SNR=3.7						
KURK	**Kurchatov**	**72.73**	**329**	*e*P	**P**	**01 36 44.7**	**-0.7**
	1.7nm,0.8s,mb4.0						
BVAR	**Borovoye Array**	**78.28**	**328**	P	**P**	**01 37 17.0**	**0.0**
	2.5nm,1.1s,mb4.0,baz=135,slow=6.3,SNR=5.8						
CHKZ	**Chkalovo**	**78.47**	**328**	*e*P	**P**	**01 37 17.0**	**-1.1**
	1.2nm,0.8s,mb3.9						

*OMAN **11** 01:31:42.5,27.83N×52.94E,h50km,Error ellipse: s-maj=115.1km s-min=6.2km az=312.0*
*THR **11** 01:31:53.4±0.6,26.66N×53.96E,h18km±6km,ML3.7*
*IDC **11** 01:31:54.1±1.0,26.81N×53.97E,mb4.0/12,mb1 4.2/14, mb1mx4.0/24,mbtmp4.1/14,ML2.6/2,MS3.7/1,Ms1 3.9/1, ms1mx2.9/16,Error ellipse: s-maj=27.8km s-min=18.0km az=127.0*
*CSEM **11** 01:31:56.0±0.1,26.75N×53.96E,h32km,mb4.2/5,ML4.5/1, Error ellipse: s-maj=2.7km s-min=2.4km az=170.0*
*TEH **11** 01:31:58.1,26.82N×53.98E,h10km,Mn3.8*
*NEIC **11** 01:31:59.9±0.9,26.85N×53.97E,h42km±7km,mb4.6/5, Error ellipse: s-maj=9.4km s-min=6.1km az=186.0*
ISC 11 01:31:58.4±0.5**,26.85N**±0.04×**53.90E**±0.05**,h44**km±6km**, n58,**σ**0.91**/65**,mb4.2**/18**,MS3.7**/1**,3C-1D,Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.64**	**331**	*e*Pg	**P**	**01 32 26.0**	**+0.7**
GHIR				*e*Sg	**S**	**01 32 51.0**	**+5.6**
GHIR	**Ghir-Karzin**	**1.64**	**331**	*e*PG	**P**	**01 32 26.9**	**+1.5**
GHIR				*e*SG	**S**	**01 32 51.6**	**+6.2**
GHIR				AML	AML	01 32 53.1	
	comp=E,1µm,0.5s						
GHIR	**Ghir-Karzin**	**1.64**	**331**	*e*Pg	**P**	**01 32 26.9**	**+1.6**
	SNR=91						
GHIR				*e*Sg	**S**	**01 32 51.0**	**+5.6**
BNDS	**Bandar-Abbas**	**2.10**	**74**	*e*Pg	**P**	**01 32 32.0**	**+0.1**
BNDS				*e*Sg	**S**	**01 32 59.0**	**+2.1**
BNDS	**Bandar-Abbas**	**2.10**	**74**	*e*PG	**P**	**01 32 32.0**	**+0.2**
BNDS				*e*SG	**S**	**01 32 59.6**	**+2.8**
BNDS				AML	AML	01 33 16.6	
	comp=N,370nm,0.4s						
BNDS	**Bandar-Abbas**	**2.10**	**74**	*e*Pg	**P**	**01 32 32.0**	**+0.1**
	SNR=91						
BNDS				*e*Sg	**S**	**01 32 59.6**	**+2.7**
	comp=N,370nm,0.4s,SNR=91						
BANOM	**Banah**	**2.35**	**113**	P	**P**	**01 32 35.1**	**-0.2**
	SNR=68						
IMOK	**Mook**	**2.42**	**335**	Pn	**P**	**01 32 38.3**	**+1.8**
ASHO	**Ashiyiah**	**2.91**	**137**	P	**P**	**01 32 44.2**	**+0.9**
	SNR=52						
IPAR	**Pars**	**3.07**	**346**	Pn	**P**	**01 32 47.1**	**+1.4**
KRBR	**Kerman**	**4.01**	**38**	*e*Pn	**P**	**01 32 57.0**	**-2.0**
KRBR	**Kerman**	**4.01**	**38**	*e*PN	**P**	**01 32 57.8**	**-1.2**
KRBR				AML	AML	01 34 04.9	
	comp=N,80nm,0.4s						
ARQ	**Araqi**	**4.23**	**145**	P	**P**	**01 33 02.3**	**+0.2**
	SNR=15						
IBAF	**Bafgh**	**4.94**	**17**	Pn	**P**	**01 33 11.7**	**-0.4**
BIDO	**Bidbid**	**5.07**	**130**	P	**P**	**01 33 14.2**	**+0.3**
	SNR=8.5						
BSY	**Bisya**	**5.07**	**143**	P	**P**	**01 33 13.9**	**0.0**
	SNR=34						
BSYO	**Bisya**	**5.11**	**143**	P	**P**	**01 33 13.9**	**-0.5**
	SNR=34						
SMDO	**Samad**	**5.33**	**134**	P	**P**	**01 33 17.4**	**-0.2**
	SNR=18						
ICHK	**Chekchek**	**5.39**	**5**	Pn	**P**	**01 33 18.1**	**-0.3**
IBRJ	**Borojen**	**5.41**	**335**	Pn	**P**	**01 33 20.9**	**+2.3**
WBK	**Wadi Bani Khal**	**6.25**	**131**	P	**P**	**01 33 29.4**	**-1.1**
	SNR=9.9						
NAY	**Al-Naaiem**	**6.35**	**294**	*e*P	**P**	**01 33 31.3**	**-0.5**
RST	**Umm Al-Ruwaisa**	**6.63**	**295**	*e*P	**P**	**01 33 35.1**	**-0.8**
IQOM	**Qom**	**8.33**	**344**	Pn	**P**	**01 33 58.0**	**-1.3**
IQOM				Sn	**S**	**01 35 27.7**	**-5.4**
ASAO	**Ashtian**	**8.36**	**337**	*e*PN	**P**	**01 33 59.1**	**-0.7**
ASAO	**Ashtian**	**8.36**	**337**	*e*Pn	**P**	**01 33 59.0**	**-0.8**
IDMV	**Damavand**	**8.84**	**350**	Pn	**P**	**01 34 05.2**	**-1.3**
IAFJ	**Afjeh**	**9.17**	**349**	Pn	**P**	**01 34 09.6**	**-1.4**
IRAZ	**Razeghan**	**9.18**	**339**	Pn	**P**	**01 34 09.7**	**-1.4**
IRAZ				Sn	**S**	**01 35 47.9**	**-6.2**
IMHD	**Mahdasht**	**9.23**	**343**	Sn	**S**	**01 35 48.7**	**-6.7**
GNI	**Garni**	**15.29**	**332**	Pn	**P**	**01 35 38.5**	**+5.7**
	comp=N,1.1nm,0.3s,baz=339,slow=2.1,SNR=9.7						
GNI	**Garni**	**15.29**	**332**	*e*Pn	**P**	**01 35 33.0**	**+0.2**
GNI				*e*pPn		01 35 39.1	
GNI	**Garni**	**15.29**	**332**	*e*Pn	**P**	**01 35 33.0**	**+0.2**
ASF	**Jabal al Asfar**	**15.71**	**294**	Pn	**P**	**01 35 39.2**	**+0.9**
	comp=N,0.1nm,0.3s,baz=112,slow=11,SNR=3.0						
AAK	**Ala-Archa**	**23.03**	**42**	*e*P	**P**	**01 37 00.6**	**+0.2**
	comp=N,1.0nm,0.7s,mb3.4						
AAK				*e*pP		01 37 09.2	
AAK	**Ala-Archa**	**23.03**	**42**	*e*P	**P**	**01 37 00.6**	**+0.2**
	comp=N,1.0nm,0.7s,mb3.4						
AAK				*e*pP		01 37 09.2	
IDI	**Anoyia**	**26.16**	**296**	P	**P**	**01 37 31.7**	**+1.2**
	comp=N,5.2nm,0.5s,mb4.3,baz=119,slow=16,SNR=5.5						
BVAR	**Borovoye Array**	**28.90**	**21**	P	**P**	**01 37 55.0**	**-0.1**
	comp=N,2.6nm,0.9s,mb4.0,baz=207,slow=7.4,SNR=8.0						
ZAL	**Zalesovo**	**35.36**	**32**	P	**P**	**01 38 51.0**	**-0.6**
	comp=N,2.0nm,0.5s,mb4.3,baz=132,slow=7.7,SNR=5.7						
WATA	**Walderalm**	**38.86**	**313**	⇑*i*P	**P**	**01 39 21.2**	**+0.2**
	comp=N,1.2nm,0.2s,mb4.3						
SQTA	**Sankt Quirin**	**39.07**	**313**	⇑*i*P	**P**	**01 39 23.0**	**+0.3**
	comp=N,5.3nm,0.3s,mb4.8						
MOTA	**Moosalm**	**39.17**	**313**	⇓*i*P	**P**	**01 39 23.5**	**-0.1**
	comp=N,0.7nm,0.2s,mb4.0						
FINES	**FINESS Array B**	**39.31**	**339**	P	**P**	**01 39 24.6**	**0.0**
	comp=N,0.6nm,0.3s,mb3.7,baz=139,slow=9.4,SNR=12						
FINES	**FINESS Array B**	**39.31**	**339**	P	**P**	**01 39 24.5**	**-0.1**
DAVA	**Damuels**	**39.96**	**313**	⇑*i*P	**P**	**01 39 30.3**	**+0.2**
	comp=N,13nm,0.4s,mb5.0						
CMAR	**Chiang Mai Arr**	**42.23**	**92**	LR	LR	01 58 03.2	
	comp=N,116nm,21.8s,MS3.7,baz=247,slow=37						
NOA	**NORSAR Array B**	**44.59**	**332**	P	**P**	**01 40 07.3**	**-0.5**
	comp=N,1.1nm,0.8s,mb3.7,baz=174,slow=18,SNR=3.4						
SONM	**Songino Array**	**45.70**	**48**	P	**P**	**01 40 16.6**	**-0.2**
	comp=N,1.2nm,1.1s,mb3.7,baz=267,slow=8.2,SNR=6.1						
ARCES	**ARCESS Array B**	**45.81**	**347**	P	**P**	**01 40 17.8**	**+0.3**
	comp=N,0.9nm,0.5s,mb4.0,baz=150,slow=9.0,SNR=11						
ESDC	**Sonseca Array**	**49.27**	**300**	P	**P**	**01 40 44.4**	**-0.3**
	comp=N,0.9nm,0.6s,mb4.0,baz=62,slow=7.2,SNR=5.3						
MATP	**Matopo**	**53.05**	**210**	P	**P**	**01 41 13.7**	**+0.1**
	comp=N,1.4nm,0.6s,mb4.0,baz=45,slow=7.4,SNR=4.5						
LBTB	**Lobatse**	**58.35**	**210**	P	**P**	**01 41 50.5**	**-1.1**
	comp=N,4.9nm,0.9s,mb4.5,baz=145,slow=6.5,SNR=3.7						
LBTB	**Lobatse**	**58.35**	**210**	P	**P**	**01 41 50.5**	**-1.2**
DBIC	**Dimbokro**	**59.19**	**261**	P	**P**	**01 41 57.7**	**0.0**
	comp=N,3.9nm,0.6s,mb4.6,baz=38,slow=10,SNR=9.0						
DBIC	**Dimbokro**	**59.19**	**261**	P	**P**	**01 41 57.7**	**0.0**
FITZ	**Fitzroy Crossi**	**82.68**	**114**	*e*P	**P**	**01 44 19.5**	**+0.3**
	comp=N,6.4nm,1.1s,mb4.6						
YKA	**Yellowknife Ar**	**90.49**	**355**	P	**P**	**01 44 58.0**	**+1.7**
	comp=N,0.4nm,0.6s,mb4.0,baz=4.0,slow=4.9,SNR=13						
YKA	**Yellowknife Ar**	**90.49**	**355**	P	**P**	**01 44 58.0**	**+1.7**

WEL 11 01:56:10.7±0.8**,35.71S**×**177.92E,h33**km**,ML3.7**/4**,Error ellipse: s-maj=10.1km s-min=5.0km az=90.0,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.38**	**174**	PN	Pn	01 56 46.7	-1.6
PUZ				SN	Sn	01 57 12.9	-3.7
PUZ				SN	Sn	01 57 14.0	-2.6
URZ	**Urewera**	**2.63**	**194**	P*	Pb	01 56 51.4	-5.6
URZ				*e*S*	Sb	01 57 21.5	-7.6
MWZ	**Matawai**	**2.64**	**187**	P*	Pb	01 56 51.5	-5.7
MWZ				*e*S*	Sb	01 57 21.5	-8.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
MWZ				eS*	Sb	01 57 22.2	-7.3
BKZ	Black Stump Fm	3.64	198	P*	Pb	01 57 04.3	-10
BKZ				S*	Sb	01 57 47.6	-11
KIW	Kapiti Island	5.67	204	PN	Pn	01 57 27.9	-7.0

*KISR **11** 02:10:16.7, 29.01N×53.37E, h42km, ML3.2*
*CSEM **11** 02:10:19.9±0.4, 24.25N×49.29E, h53km±13km, ML3.7, Error ellipse: s-maj=12.8km s-min=9.2km az=100.0*
*SNSN **11** 02:10:21.5, 24.31N×49.30E, h50km, ML3.7*
ISC 11 02:10:18.5±1.3**, 24.28N**±0.07×**49.2E**±0.1**, h10km, n9, σ0^{s}64**/10**, Eastern Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASS	Wahat al Ahsa'	1.02	27	P	Pb	02 10 38.5	+0.6
RYDS	Riyadh	2.32	268	P	Pn	02 10 58.5	+1.1
MZLS	Mizel	3.64	267	P	Pn	02 11 16.4	+0.2
RDF	Al-Radifah	4.86	343	eP	Pn	02 11 33.9	+0.4
NAY	Al-Naaiem	5.25	341	eP	Pn	02 11 38.0	-1.0
NAY				eS	Sn	02 12 39.8	-0.5
AFFS	'Afif	5.66	268	P	Pn	02 11 44.8	+0.1
KAMS	Al Khamasin	5.81	228	P	Pn	02 11 47.0	+0.1
TATS	Tathlith	7.09	229	P	Pn	02 12 04.9	0.0
DJNS	Zahran al Janu	8.39	220	P	P	02 12 22.1	-1.0

*NEIC **11** 02:59:04.5, 41.07S×174.31E, h72km, ML4.2(WEL), After WEL.*
WEL 11 02:59:04.7±0.1**, 41.07S**×**174.33E, h71km**±**1km, ML4.1**/16**, Error ellipse: s-maj=0.7km s-min=0.7km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRW	Makara Radio	0.33	120	P	P	02 59 15.8	-0.4
MRW				S	S	02 59 23.9	-0.9
MRW	Makara Radio	0.33	120	PN	P	02 59 15.8	-0.4
MRW				SN	S	02 59 23.8	-0.9
MRW				SN	S	02 59 23.9	-0.8
SNZO	South Karori	0.38	130	P	P	02 59 16.1	-0.5
SNZO				S	S	02 59 24.5	-0.9
SNZO	South Karori	0.38	130	PN	P	02 59 16.1	-0.5
SNZO				PN	P	02 59 16.1	-0.5
SNZO				SN	S	02 59 24.3	-1.1
SNZO				SN	S	02 59 24.5	-0.9
SNZO				SN	S	02 59 24.6	-0.8
WEL	Wellington	0.40	123	P	P	02 59 16.3	-0.4
WEL	Wellington	0.40	123	PN	P	02 59 16.3	-0.4
WEL				SN	S	02 59 24.9	-0.8
DUWZ	D'Urville Isla	0.40	310	PN	P	02 59 16.3	-0.5
DUWZ				SN	S	02 59 25.2	-0.6
TUWZ	Tuamarina	0.47	218	PN	P	02 59 16.8	-0.5
TUWZ				SN	S	02 59 25.8	-0.8
KIW	Kapiti Island	0.49	65	PN	P	02 59 17.2	-0.3
KIW				SN	S	02 59 26.5	-0.6
BHW	Baring Head	0.54	130	P	P	02 59 17.3	-0.8
BHW	Baring Head	0.54	130	PN	P	02 59 17.3	-0.7
BHW				SN	S	02 59 27.3	-0.5
CAW	Cannon Point	0.56	95	P	P	02 59 17.6	-0.8
CAW	Cannon Point	0.56	95	PN	P	02 59 17.6	-0.7
CAW				SN	S	02 59 27.5	-0.9
CMWZ	Cape Campbell	0.69	187	P	P	02 59 19.8	+0.2
CMWZ	Cape Campbell	0.69	187	PN	P	02 59 19.8	+0.2
CMWZ				SN	S	02 59 31.7	+0.9
NNZ	Nelson	0.73	258	P	P	02 59 19.4	-0.7
NNZ	Nelson	0.73	258	PN	P	02 59 19.4	-0.8
NNZ				SN	S	02 59 30.7	-0.9
BSWZ	Blackbirch Sta	0.73	207	P	P	02 59 19.5	-0.6
BSWZ	Blackbirch Sta	0.73	207	PN	P	02 59 19.5	-0.6
BSWZ				SN	S	02 59 31.6	-0.1
MSWZ	Moikau Station	0.78	117	P	P	02 59 20.0	-0.7
MSWZ	Moikau Station	0.78	117	PN	P	02 59 20.0	-0.7
MSWZ				SN	S	02 59 31.0	-1.6
PAWZ	Paruwai Farm	0.89	111	PN	P	02 59 21.1	-0.9
PAWZ				SN	S	02 59 32.8	-2.1
MTW	Mount Morrison	0.89	96	P	P	02 59 21.1	-1.0
MTW	Mount Morrison	0.89	96	PN	P	02 59 21.1	-1.0
MTW				SN	S	02 59 33.4	-1.6
MRZ	Mangatainoka R	1.03	67	P	P	02 59 22.7	-1.2
MRZ	Mangatainoka R	1.03	67	PN	P	02 59 22.7	-1.2
MRZ				SN	S	02 59 37.0	-1.2
THZ	Tophouse	1.28	236	P	P	02 59 25.8	-1.3
THZ	Tophouse	1.28	236	PN	P	02 59 25.8	-1.3
THZ				SN	S	02 59 43.4	-0.4
QRZ	Quartz Range	1.38	279	P	P	02 59 27.1	-1.5
QRZ	Quartz Range	1.38	279	PN	P	02 59 27.1	-1.5
QRZ				SN	S	02 59 44.5	-1.9
WAZ	Wanganui	1.40	21	P	P	02 59 28.4	-0.5
WAZ	Wanganui	1.40	21	PN	P	02 59 28.4	-0.5
WAZ				SN	S	02 59 47.4	+0.6
KHZ	Kahutara	1.47	203	P	P	02 59 28.6	-1.2
KHZ	Kahutara	1.47	203	PN	P	02 59 28.6	-1.2
KHZ				SN	S	02 59 47.0	-1.4
BFZ	Birch Farm	1.51	76	P	P	02 59 28.2	-2.1
BFZ	Birch Farm	1.51	76	PN	P	02 59 28.2	-2.0
BFZ				SN	S	02 59 47.1	-2.1
TSZ	Takapari Road	1.60	52	P	P	02 59 29.5	-2.0
TSZ	Takapari Road	1.60	52	PN	P	02 59 29.5	-2.0
TSZ				SN	S	02 59 49.7	-1.7
DFE	Dawson Falls	1.75	354	PN	P	02 59 33.4	-0.1
NRZ	Ngariki Road	1.75	350	P	P	02 59 33.2	-0.4
NRZ	Ngariki Road	1.75	350	PN	P	02 59 33.2	-0.4
RAEZ	Rainy Point	1.78	2	PN	P	02 59 33.3	-0.6
NEZ	North Egmont	1.80	354	P	P	02 59 33.7	-0.5
NEZ	North Egmont	1.80	354	PN	P	02 59 33.7	-0.5
NWEZ	Newall Road	1.82	349	P	P	02 59 34.1	-0.4
NWEZ	Newall Road	1.82	349	PN	P	02 59 34.0	-0.5
PKE	Pukeiti	1.89	352	P	P	02 59 34.8	-0.6
PKE	Pukeiti	1.89	352	PN	P	02 59 34.8	-0.6
PKE				SN	S	02 59 57.7	-0.3
VRZ	Vera Road	1.97	10	P	P	02 59 36.0	-0.5
VRZ	Vera Road	1.97	10	PN	P	02 59 36.0	-0.5
VRZ				SN	S	03 00 00.0	0.0
MOVZ	Moawhango	1.98	34	P	P	02 59 34.8	-1.9
MOVZ	Moawhango	1.98	34	PN	P	02 59 34.8	-1.9
MOVZ				SN	S	02 59 59.4	-1.0
WNVZ	Wahianoa	1.99	30	P	P	02 59 35.7	-1.1
WNVZ	Wahianoa	1.99	30	PN	P	02 59 35.7	-1.1
WNVZ				SN	S	03 00 00.6	0.0
DSZ	Denniston Nort	2.02	249	P	P	02 59 35.2	-2.0
DSZ	Denniston Nort	2.02	249	PN	P	02 59 35.2	-1.9
DSZ				SN	S	02 59 59.2	-1.9
DRZ	Dome Shelter	2.02	28	P	P	02 59 36.5	-0.8
FWVZ	Far West T-bar	2.04	28	P	P	02 59 36.5	-1.0
FWVZ	Far West T-bar	2.04	28	PN	P	02 59 36.5	-0.9
FWVZ				SN	S	03 00 02.0	+0.3
TUVZ	Tukino	2.06	30	P	P	02 59 36.7	-1.1
TUVZ	Tukino	2.06	30	PN	P	02 59 36.8	-1.1
TUVZ				SN	S	03 00 02.6	+0.2
WPVZ	Whakapapa	2.08	27	P	P	02 59 37.0	-1.1
WPVZ	Whakapapa	2.08	27	PN	P	02 59 37.0	-1.0
WPVZ				SN	S	03 00 02.9	+0.1
CNZ	Chateau	2.09	27	P	P	02 59 37.1	-1.1
CNZ	Chateau	2.09	27	PN	P	02 59 37.1	-1.1
NGZ	Ngauruhoe	2.13	28	P	P	02 59 37.5	-1.2
NGZ	Ngauruhoe	2.13	28	PN	P	02 59 37.5	-1.3
NGZ				SN	S	03 00 03.4	-0.5
OTVZ	Oturere	2.16	29	PN	P	02 59 38.1	-1.1
OTVZ				SN	S	03 00 03.8	-1.0
TWVZ	Taurewa	2.17	24	P	P	02 59 37.7	-1.6
TWVZ	Taurewa	2.17	24	PN	P	02 59 37.7	-1.6
WTVZ	West Tongariro	2.17	27	P	P	02 59 38.1	-1.3
WTVZ	West Tongariro	2.17	27	PN	P	02 59 38.1	-1.3
WTVZ				SN	S	03 00 04.0	-1.2
MGZ	Maungaku	2.26	25	P	P	02 59 39.2	-1.5
MGZ	Maungaku	2.26	25	PN	P	02 59 39.2	-1.4
LTZ	Lake Taylor	2.30	221	P	P	02 59 38.9	-2.3
LTZ	Lake Taylor	2.30	221	PN	P	02 59 38.9	-2.3
LTZ				SN	S	03 00 05.2	-3.2
KATZ	Kakaramea	2.34	27	P	P	02 59 40.1	-1.6
KATZ	Kakaramea	2.34	27	PN	P	02 59 40.2	-1.6
RATZ	Rangitukua	2.46	27	P	P	02 59 42.7	-0.8
RATZ	Rangitukua	2.46	27	PN	P	02 59 42.3	-1.2
BKZ	Black Stump Fm	2.52	42	P	P	02 59 41.4	-2.9
BKZ	Black Stump Fm	2.52	42	PN	P	02 59 41.3	-3.0
HIZ	Hauiti	2.58	9	P	P	02 59 43.9	-1.3
HIZ	Hauiti	2.58	9	PN	P	02 59 43.9	-1.2
WATZ	Wairara	2.59	25	PN	P	02 59 43.8	-1.5
CRLZ	Canterbury Las	2.81	206	PN	P	02 59 44.6	-3.8
MQZ	McQueen's Vall	2.92	205	eP	P	02 59 45.6	-4.3
MQZ	McQueen's Vall	2.92	205	PN	P	02 59 45.6	-4.3
URZ	Urewera	3.53	38	eP	P	02 59 53.5	-5.0
MWZ	Matawai	3.68	43	eP	P	02 59 55.6	-4.9
KUZ	Kuaotunu	4.45	15	eP	P	03 00 08.0	-3.2
MXZ	Matakaoa Point	4.67	43	eP	P	03 00 08.8	-5.5
ODZ	Otahua Downs	4.80	213	eP	P	03 00 11.3	-4.9
JCZ	Jackson Bay	5.09	232	eP	P	03 00 15.5	-4.7
TUZ	Tuapeka	5.96	213	eP	P	03 00 28.0	-4.1

*JMA **11** 03:46:08.1±0.1, 29.17N×139.89E, h537km, M3.8*
*NEIC **11** 03:46:13.4±1.3, 29.25N×139.02E, h448km±15km, mb3.7/7, Error ellipse: s-maj=13.9km s-min=9.6km az=101.0*
*IDC **11** 03:46:13.8±0.9, 29.25N×139.14E, h451km±11km, mb3.0/12, mb1 3.3/14, mb1mx3.2/21, mbtmp3.9/14, Error ellipse: s-maj=16.8km s-min=13.1km az=98.0*
ISC 11 03:46:12.7±0.4**, 29.30N**±0.04×**139.10E**±0.09**, h455km**±**5km, n33, σ1^{s}13**/38**, mb3.4**/18**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	3.49	128	P	P	03 47 24.7	+0.2
	4.4nm,0.3s,baz=117,slow=20,SNR=5.7						
CBIJ				S	S	03 48 21.4	+0.1
	15nm,0.3s,baz=288,slow=21,SNR=10.0						
CBIJ	Chichi jima	3.49	128	eS	S	03 48 21.2	-0.1
JHHJ	Haha-jima-NKT	3.80	134	P	P	03 47 23.6	-3.5
JHHJ				eS	S	03 48 25.9	+0.1
JIE	Ise	5.47	339	P	P	03 47 46.0	+3.2
BSO1	Boso 1	5.57	16	eS	S	03 48 57.4	+1.8
BSO3	Boso 3	5.62	12	eS	S	03 48 57.2	+0.8
JHU	Hanno	6.54	1	P	P	03 47 53.4	-0.3
JHU				S	S	03 49 10.9	-2.7
JRY	Ryogami san	6.70	359	P	P	03 47 56.1	+0.7
JRY				eS	S	03 49 15.9	-0.8
JAG	Ashikaga	7.11	2	P	P	03 47 59.3	-0.5
JAG				eS	S	03 49 21.2	-3.4
MAJO	Matsushiro	7.26	354	ePn	P	03 48 01.1	-0.3
	4.1nm,0.6s						
MAT	Matsushiro	7.26	354	P	P	03 48 01.7	+0.3
JHO	Hitachi	7.40	9	eS	S	03 49 28.5	-1.6
JSJ	Shimokoshiki	8.44	289	P	P	03 48 15.7	+1.4
JOW	Kunigami	9.88	258	P	P	03 48 31.4	+1.3
	3.9nm,0.3s,baz=320,slow=10,SNR=7.6						
ENH	Enshi	25.69	280	eP	P	03 51 05.3	-1.1
	14nm,0.8s,mb4.4						
SONM	Songino Array	31.25	315	P	P	03 51 55.0	+0.3
	0.5nm,0.8s,mb3.0,baz=132,slow=8.4,SNR=5.1						
CMAR	Chiang Mai Arr	38.11	263	P	P	03 52 52.6	+0.3
	0.9nm,0.5s,mb3.5,baz=86,slow=5.2,SNR=4.9						
BILL	Bilibino	41.98	15	eP	P	03 53 24.0	+0.8
	3.9nm,0.7s,mb4.0						
WRAB	Tennant Creek	49.16	186	P	P	03 54 18.7	-0.7
	1.8nm,0.5s,mb3.7						
WRA	Warramunga Arr	49.17	186	P	P	03 54 18.9	-0.6
	0.8nm,0.5s,mb3.4,baz=2.3,slow=7.8,SNR=12						
KURK	Kurchatov	49.51	313	eP	P	03 54 20.3	-1.3
	0.9nm,0.5s,mb3.4						
ASAR	Alice Springs	52.89	186	P	P	03 54 46.6	-0.3
	0.8nm,1.2s,mb2.9,baz=14,slow=11,SNR=5.6						
CHKZ	Chkalovo	54.42	317	P	P	03 54 55.9	-1.4
	0.6nm,0.6s,mb3.1						
ILAR	Eielson Array	57.11	29	P	P	03 55 15.7	-0.3
	1.2nm,1.0s,mb3.2,baz=276,slow=6.0,SNR=6.0						
STKA	Stephens Creek	60.88	178	P	P	03 55 39.6	-2.0
	0.7nm,0.4s,mb3.4,baz=338,slow=11,SNR=3.0						
INK	Inuvik	62.17	25	eP	P	03 55 49.8	+0.1
	1.0nm,0.8s,mb3.3						
ARCES	ARCESS Array B	70.56	340	P	P	03 56 43.6	+2.1
	3.0nm,0.8s,mb3.9,baz=67,slow=9.2,SNR=6.4						
YKA	Yellowknife Ar	71.50	28	P	P	03 56 47.3	+0.3
	0.4nm,0.7s,mb3.0,baz=293,slow=6.0,SNR=8.7						
FINES	FINESS Array B	74.77	333	P	P	03 57 05.7	-0.1
	0.3nm,0.4s,mb3.2,baz=51,slow=8.9,SNR=3.9						
NOA	NORSAR Array B	80.55	337	P	P	03 57 37.1	+0.2
	1.6nm,1.1s,mb3.5,baz=56,slow=4.1,SNR=2.7						
NVAR	Mina Array Bea	81.27	51	P	P	03 57 43.4	+2.3
	0.6nm,0.7s,mb3.2,baz=288,slow=5.3,SNR=5.4						
NVAR	Mina Array Bea	81.27	51	P	P	03 57 43.4	+2.3
PDAR	Pinedale Array	84.53	44	P	P	03 57 58.2	+0.9
	0.7nm,1.1s,mb3.2,baz=117,slow=3.3,SNR=3.8						

CASC 11 04:16:28.3±1.4**, 12.12N**×**88.42W, h36km**±999km**, MD3.7, 2C-1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.29	26	eP	P	04 16 50.1	0.0
CNCH				eS	S	04 17 06.5	+0.1
CRIN	San Cristobal	1.46	66	eP	P	04 16 53.1	+0.5
LEON	Leon	1.53	79	⇑eP	P	04 16 53.2	-0.3
TEL3	Telica 3	1.61	73	eP	P	04 16 54.2	-0.5
LFRS	El Faro	1.62	338	eP	P	04 16 54.8	-0.1
LFRS				eS	S	04 17 15.0	+0.1
LCBS	La Ceiba	1.62	341	⇓eP	P	04 16 54.6	-0.3
CNGN	Cerro Negro	1.73	77	eP	P	04 16 56.3	-0.1
MOMJ	Momotombo	1.86	81	eP	P	04 16 58.1	-0.2
SBLS	San Blas	2.08	326	eP	P	04 17 00.7	-0.6
SBLS				eS	S	04 17 27.4	+1.2
MGAN	Managua	2.13	89	eS	S	04 17 27.4	-0.2
RTR	El Retiro	2.13	326	⇑eP	P	04 17 02.2	0.0
RTR				eS	S	04 17 27.6	-0.2
TICN	Ticuantepe	2.15	92	eP	P	04 17 00.1	-2.3

DJA 11 04:20:13.6±0.8**, 9.09S**×**116.41E, h240km, MD4.7**/4**, ML4.0**/3**, 6C-2D, Error ellipse: s-maj=58.4km s-min=21.8km az=3.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.67	334	⇑iPn	P	04 20 47.2	+1.0
	176nm,0.2s						
KEDI				⇓iSn	S	04 21 08.1	-3.4
RATI	Rata	0.94	293	⇑iPn	P	04 20 46.4	-1.0
	174nm,0.2s						
RATI				⇑iSn	S	04 21 11.9	-1.8
KELI	Kelakatan	2.08	294	⇓iPn	P	04 21 00.2	+3.9
	150nm,0.2s						
KELI				⇑iSn	S	04 21 28.4	-1.0
SRDI	Scrawed	2.32	285	⇑iPn	P	04 20 59.5	+0.8
	82nm,0.2s						
SRDI				⇑iSn	S	04 21 28.5	-5.2

*BJI **11** 04:52:05.6, 7.20S×129.00E, h75km, mb4.9*
*NEIC **11** 04:52:06.6±1.5, 7.24S×129.04E, h77km±15km, mb4.8/13, Error ellipse: s-maj=13.1km s-min=7.5km az=45.0*
*IDC **11** 04:52:07.6±5.3, 7.27S×129.10E, h87km±52km, mb4.1/6, mb1 4.3/9, mb1mx4.2/13, mbtmp4.5/9, ML4.5/3, Error ellipse: s-maj=34.8km s-min=19.0km az=66.0*
ISC 11 04:52:10.0±1.5**, 7.49S**±0.07×**128.8E**±0.1**, h122km**±16km**, n43, σ0^{s}95**/48**, mb4.8**/19**, 1C-1D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.30	146	eP	P	04 53 44.2	+2.5
	300nm,0.5s						
KAKA				eS	S	04 54 51.7	-1.1
FITZ	Fitzroy Crossi	11.00	196	⇓iP	P	04 54 43.8	-1.0
	111nm,0.3s						
FITZ				eS	S	04 56 41.5	-4.4
WRAB	Tennant Creek	13.49	157	Pn	P	04 55 17.3	-0.1
	242nm,0.7s,SNR=96						
WRAB	Tennant Creek	13.49	157	ePn	P	04 55 17.2	-0.2
	47nm,0.8s						
WRAB				eSn	S	04 57 37.1	-7.5
WRA	Warramunga Arr	13.49	157	P	P	04 55 16.8	-0.6
	7.3nm,0.3s,baz=342,slow=12,SNR=274						
WRA				S	S	04 57 37.4	-7.4
	10nm,0.3s,baz=336,slow=22,SNR=12						
WB2	Warramunga Arr	13.50	157	eP	P	04 55 17.0	-0.5
WB2				eS	S	04 57 39.2	-5.6
MBWA	Marble Bar	16.18	212	ePn	P	04 55 52.2	+0.6
	10nm,0.4s						
ASPA	Alice Springs	16.81	164	eP	P	04 56 01.0	+1.6
ASPA				eS	S	04 59 00.6	-0.4
ASAR	Alice Springs	16.81	164	P	P	04 56 00.3	+0.9
	2.2nm,0.3s,baz=349,slow=7.6,SNR=73						
ASAR				S	S	04 58 59.5	-1.5
	3.8nm,0.3s,baz=353,slow=27,SNR=7.6						
PMG	Port Moresby	18.25	97	P	P	04 56 10.0	-6.5
	1.1nm,0.3s,baz=279,slow=13,SNR=2.6						
KSM	Kuching	20.50	295	eP	P	04 56 41.0	+0.7
STKA	Stephens Creek	27.03	156	P	P	04 57 43.1	+0.3
	2.4nm,0.6s,mb3.9,baz=333,slow=8.8,SNR=8.2						
NWAO	Narrogin (SRO)	27.50	201	P	P	04 57 48.0	+0.9
	15nm,1.2s,mb4.4,baz=25,slow=10,SNR=6.1						
KULM	Kulim	30.84	294	eP	P	04 58 16.1	-0.8
CMAR	Chiang Mai Arr	39.16	312	P	P	04 59 27.6	0.0
	2.6nm,0.5s,mb4.3,baz=141,slow=7.1,SNR=15						
ENH	Enshi	41.88	335	P	P	04 59 48.7	-1.1
	4.9nm,0.4s,mb4.6						
LSA	Lhasa	51.75	317	eP	P	05 01 07.8	+0.6
	6.9nm,0.5s,mb4.9						
GTA	Gaotai	53.84	332	⇑P	P	05 01 22.6	0.0
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
JIRN	Jiri	54.03	312	eP	P	05 01 23.4	-0.7
	comp=Z,14nm,0.6s,mb5.2						
GUN	Gumba	54.40	312	eP	P	05 01 26.2	-0.6
	comp=Z,40nm,0.6s,mb5.6						
PKI	Pulchoki	54.55	312	eP	P	05 01 27.1	-0.9
	comp=Z,13nm,0.6s,mb5.1						
KKN	Kakani	54.77	312	eP	P	05 01 28.8	-0.7
	comp=Z,15nm,0.5s,mb5.2						
DMN	Daman	54.80	311	eP	P	05 01 28.8	-1.0
	comp=Z,14nm,0.7s,mb5.1						
GKN	Gorkha	55.36	312	eP	P	05 01 32.9	-0.9
	comp=Z,27nm,0.5s,mb5.6						
KOLN	Koldanda	56.01	311	eP	P	05 01 37.7	-0.8
	comp=Z,28nm,0.7s,mb5.4						
SONM	Songino Array	58.54	342	P	P	05 01 55.0	-1.0
	comp=Z,1.3nm,0.8s,mb4.0,baz=160,slow=8.3,SNR=14						
KZA	Kyzart	69.39	320	P	P	05 03 07.8	+1.1
	SNR=6.5						
TKM2	Tokmak 2	69.61	321	P	P	05 03 08.5	+0.5
	SNR=7.8						
UCH	Uchtor	69.93	320	P	P	05 03 11.5	+1.5
	SNR=9.9						
AAK	Ala-Archa	70.16	320	P	P	05 03 12.5	+1.2
	SNR=8.1						
AAK	Ala-Archa	70.16	320	P	P	05 03 11.8	+0.4
	comp=Z,63nm,0.7s,mb5.5,SNR=9.3						
AAK	Ala-Archa	70.16	320	eP	P	05 03 10.8	-0.5
	comp=Z,9.3nm,0.9s,mb4.6						
AML	Almayashu	70.41	320	P	P	05 03 14.0	+1.1
	SNR=16						
USP	Ospenovka	70.48	321	P	P	05 03 13.7	+0.4
	SNR=11						
EKS2	Erkin-Say	70.62	320	P	P	05 03 15.1	+1.0
	SNR=10						
ZAL	Zalesovo	71.50	334	P	P	05 03 18.4	-0.8
	comp=Z,3.8nm,0.5s,mb4.5,baz=354,slow=4.2,SNR=13						
ZAL	Zalesovo	71.50	334	P	P	05 03 18.4	-0.8
KURK	Kurchatov	72.32	329	P	P	05 03 24.8	+0.7
	comp=Z,92nm,0.5s,mb5.9,SNR=21						
KURK	Kurchatov	72.32	329	eP	P	05 03 23.5	-0.6
	comp=Z,9.4nm,0.6s,mb4.8						
BVAR	Borovoye Array	77.85	328	P	P	05 03 55.1	-0.4
	comp=Z,2.4nm,0.6s,mb4.1,baz=135,slow=6.3,SNR=17						
QSPA	South Pole Qui	82.49	180	eP	P	05 04 22.1	+2.3
	comp=Z,2.1nm,0.3s,mb4.5						
ARCES	ARCESS Array B	101.62	340	P	P	05 05 48.6	-0.7
	comp=Z,2.6nm,0.8s,baz=79,slow=4.6,SNR=3.2						
LPAZ	La Paz	151.03	145	PKPbc	PKPdf	05 11 52.3	+8.9
	comp=Z,0.8nm,0.8s,baz=101,slow=3.4,SNR=3.8						

*NIED **11** 04:59:00, 31.00N×138.90E, h8km, Mw3.7 Best double couple: $M_0$3.39×10^{14} NP1:ϕ_s340°, δ82°, λ112°. NP2:ϕ_s89°, δ23°, λ20°.*
JMA 11 04:59:51.5±0.2**, 31.05N**×**138.89E, M3.6, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK03	Tokai 3	3.20	346	eS	Sn	05 01 25.2	+1.7
TK04	Tokai 4	3.43	346	eS	Sn	05 01 30.8	+1.4
JWZ	Kozaga	3.65	313	P	Pn	05 00 50.9	+0.4
JWZ				S	Sn	05 01 34.3	-0.6
JIE	Ise	3.81	332	P	Pn	05 00 53.2	+0.5
JIE				eS	Sn	05 01 40.2	+1.4
HMMJ	Hamamatsu 2	3.92	346	eS	Sn	05 01 40.8	-0.9
JWM	Minabe	4.09	314	P	Pn	05 00 57.4	+0.7
JWM				eS	Sn	05 01 45.3	-0.7
JNY	Yasuok	4.38	349	S	Sn	05 01 53.7	+0.3
JAO	Obara	4.42	342	S	Sn	05 01 54.5	+0.1

*LDG **11** 05:08:30.9±0.5, 27.27N×90.52E, h10km, Mb4.6/11, Ms2.8/1, Error ellipse: s-maj=24.7km s-min=9.0km az=164.0*
*IDC **11** 05:08:32.6±0.9, 27.38N×90.42E, mb4.2/13, mb1 4.3/14, mb1mx4.1/21, mbtmp4.1/14, ML4.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/26, Error ellipse: s-maj=33.3km s-min=19.1km az=49.0*
*BJI **11** 05:08:34.1, 27.05N×90.09E, h52km, mB4.4, mb4.1, ML4.2*
*DMN **11** 05:08:35.6±0.7, 27.73N×90.27E, h10km, Ml4.8/7, Error ellipse: s-maj=93.7km s-min=12.7km az=2.0*
*NEIC **11** 05:08:39.2±0.5, 27.34N×90.49E, h53km±4km, mb4.4/13, Error ellipse: s-maj=7.9km s-min=5.0km az=183.0*
ISC 11 05:08:36.8±0.4**, 27.57N**±0.05×**90.49E**±0.03**, h33km, n63, σ1^{s}27**/77**, mb4.3**/25**, MS3.2**/1**, Bhutan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	Gangtok	1.68	262	e	Px	05 09 15.0	
SLGI	Shiliguri	2.04	245	eP	P	05 09 12.4	+3.0
SLGI				eSB	Sb	05 09 37.7	-0.6
LSA	Lhasa	2.20	15	P	P	05 09 17.5	+5.8
LSA				S	S	05 09 45.6	+7.6
LSA				Smax			
	comp=N,1μm,0.6s						
LSA				Smax			
	comp=E,810nm,0.7s						
LSA	Lhasa	2.20	15	ePn	Pn	05 09 17.4	+5.5
LSA				eSn	Sn	05 09 45.4	+7.2
SHL	Shillong	2.35	148	eP	P	05 09 17.0	+3.1
SHL				eSB	Sb	05 09 52.0	+4.7
AGT	Agartala	3.74	169	i PG	P	05 09 47.0	+13
AGT				i SG	S	05 10 38.0	+21
JIRN	Jiri	3.82	272	ePn	Pn	05 09 36.8	+1.9
JIRN				eSn	Sn	05 10 21.9	+2.8
	comp=E,552nm,0.3s						
GUN	Gumba	4.10	276	ePn	Pn	05 09 40.0	+1.1
GUN				eSn	Sn	05 10 27.5	+1.1
	comp=E,500nm,0.3s						
IMP	Imphal	4.16	131	eP	P	05 09 44.0	+4.4
PKI	Pulchoki	4.51	271	ePn	Pn	05 09 45.6	+0.9
PKI				eSn	Sn	05 10 37.9	+1.2
	comp=E,377nm,0.5s						
KKN	Kakani	4.62	274	ePn	Pn	05 09 47.2	+0.8
KKN				eSn	Sn	05 10 41.0	+1.4
	comp=E,276nm,0.3s						
DMN	Daman	4.78	272	ePn	Pn	05 09 49.3	+0.8
DMN				eSn	Sn	05 10 45.1	+1.6
	comp=E,254nm,0.4s						
GKN	Gorkha	5.20	276	ePn	Pn	05 09 55.2	+0.7
GKN				eSn	Sn	05 10 54.7	+0.6
	comp=E,631nm,0.4s						
GKN	Gorkha	5.20	276	ePn	Pn	05 09 55.2	+0.7
	comp=E,316nm,0.4s						
GKN				eSn	Sn	05 10 54.7	+0.6
BOK	Bokaro	5.60	229	eP	P	05 09 59.6	-0.3
BOK				e		05 11 09.4	
BOK				e		05 11 34.9	
	comp=E,437nm,0.7s						
BOK				e		05 11 35.2	
	comp=N,372nm,0.6s						
KOLN	Koldanda	6.11	273	ePn	Pn	05 10 06.2	-1.1
KOLN				eSn	Sn	05 11 15.8	-1.1
	comp=N,214nm,0.4s						
KOLN	Koldanda	6.11	273	ePn	Pn	05 10 06.2	-1.1
	comp=N,107nm,0.4s						
KOLN				eSn	Sn	05 11 15.8	-1.1
BWNR	Bhubaneshwar	8.41	212	i P	P	05 10 40.2	+0.9
BWNR				eS	S	05 12 05.1	-9.0
BWNR				e		05 13 04.7	
	comp=E,138nm,0.5s						
BWNR				e		05 13 04.8	
	comp=N,109nm,0.5s						
BLSP	Bilaspur	9.32	236	eP	P	05 10 49.8	-2.1
BLSP				e		05 10 50.1	
	comp=Z,6.7nm,0.3s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLSP				e		05 12 33.2	
BLSP				e		05 13 36.8	
	comp=E,106nm,0.9s						
BLSP				e		05 13 36.8	
	comp=N,161nm,0.6s						
DDI	Dehra Dun	11.23	287	e	S	05 13 21.9	-1.6
NDI	New Delhi	11.77	278	e	P	05 11 20.0	-5.4
NDI				eS	S	05 13 25.0	-12
VIS	Vishakhapatnam	11.82	215	iP	P	05 11 23.1	-3.0
VIS				iS	S	05 13 24.3	-14
VIS				e		05 14 43.0	
	comp=E,43nm,0.6s						
VIS				e		05 14 46.9	
	comp=N,30nm,0.5s						
CMAR	Chiang Mai Arr	11.95	138	Pn	P	05 11 23.1	-4.7
	comp=N,0.3nm,0.3s,baz=318,slow=12,SNR=2.7						
GYA	Guiyang	14.46	91	P	P	05 12 02.5	+1.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
GYA				AMB	AMB		
	comp=Z,30nm,3.2s						
HYB	Hyderabad	14.95	230	eP	P	05 12 09.0	+1.5
HYB				eS	S	05 15 15.0	+22
HYB	Hyderabad	14.95	230	iP	P	05 12 09.0	+1.5
HYB				eS	S	05 15 15.0	+22
WMQ	Urumqi	16.37	353	eP	P	05 12 29.0	+3.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s						
ENH	Enshi	16.85	76	eP	P	05 12 32.7	+1.0
	comp=Z,9.1nm,0.8s						
XAN	Xi'an	17.09	63	P	P	05 12 37.0	+2.3
XAN				AMB	AMB		
	comp=Z,11nm,1.2s						
POO	Poona	17.75	243	e	S	05 15 41.0	-16
POO				i		05 17 45.0	
SONM	Songino Array	23.73	27	P	P	05 13 48.8	+2.1
	comp=Z,3.3nm,0.6s,mb4.0,baz=211,slow=10,SNR=39						
ULN	Ulaanbaatar	24.03	28	eP	P	05 13 50.8	+1.2
	comp=Z,7.6nm,0.8s,mb4.2						
KURK	Kurchatov	24.82	342	P	P	05 13 57.0	-0.2
	comp=Z,64nm,0.7s,mb5.3,SNR=11						
KURK	Kurchatov	24.82	342	eP	P	05 13 57.3	+0.1
	comp=Z,12nm,0.9s,mb4.4						
ZAL	Zalesovo	26.67	352	P	P	05 14 15.3	+0.8
	comp=Z,0.9nm,0.5s,mb3.6,baz=347,slow=4.1,SNR=4.6						
ZAL				LR	LR	05 27 12.3	
	comp=Z,70nm,19.8s,MS3.2,baz=357,slow=42						
BVAR	Borovoye Array	29.49	335	P	P	05 14 40.2	+0.4
	comp=Z,0.7nm,0.5s,mb3.6,baz=149,slow=8.6,SNR=3.6						
CN2	Changchun	32.40	51	eP	P	05 15 07.1	+1.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
AKASG	Malin Array Be	51.19	314	P	P	05 17 37.1	-1.8
	comp=Z,1.0nm,0.4s,mb4.1,baz=78,slow=6.8,SNR=4.9						
MLR	Muntele Rosu	53.44	308	P	P	05 17 55.4	-0.3
	comp=Z,2.3nm,0.5s,mb4.4,baz=132,slow=21,SNR=3.1						
FINES	FINESS Array B	53.98	328	P	P	05 17 58.8	-0.8
	comp=Z,3.1nm,0.6s,mb4.5,baz=103,slow=8.9,SNR=17						
ARCES	ARCESS Array B	55.74	337	P	P	05 18 11.8	-0.3
	comp=Z,3.0nm,0.7s,mb4.4,baz=105,slow=6.7,SNR=14						
HFS	Hagfors	59.99	326	P	P	05 18 41.2	-1.0
	comp=Z,3.0nm,0.5s,mb4.5,baz=112,slow=8.0,SNR=12						
NB2	NORSAR Subarra	61.15	327	P	P	05 18 48.8	-1.3
	comp=Z,1.1nm,0.6s,mb4.2,baz=84,slow=6.5						
NOA	NORSAR Array B	61.15	327	P	P	05 18 48.6	-1.4
	comp=Z,1.4nm,0.6s,mb4.2,baz=86,slow=6.7,SNR=4.9						
GERES	GERESS Array B	61.34	313	P	P	05 18 50.8	-0.7
	comp=Z,2.3nm,0.6s,mb4.5,baz=76,slow=6.1,SNR=16						
WRA	Warramunga Arr	63.50	133	P	P	05 19 04.2	-2.2
	comp=Z,0.4nm,0.3s,mb3.9,baz=326,slow=6.5,SNR=2.8						
PGF	Pioggiola	65.97	307	eP	P	05 19 20.4	-1.5
HINF	Hinteralfeld	66.02	313	eP	P	05 19 20.8	-1.4
HAU	Haudompre	66.30	313	eP	P	05 19 22.7	-1.2
LPG	La Plagne	66.71	310	eP	P	05 19 26.1	-0.5
	comp=Z,7.8nm,0.9s,mb4.5						
LPL	La Plagne	66.72	310	eP	P	05 19 26.0	-0.6
	comp=Z,8.9nm,0.9s,mb4.5						
SMF	Signal de Mont	68.32	312	eP	P	05 19 35.5	-1.1
	comp=Z,10nm,0.9s,mb4.5						
SSF	Saint Saulge	68.41	313	eP	P	05 19 36.2	-1.0
	comp=Z,5.5nm,0.9s,mb4.3						
AVF	Avril sur Loir	68.59	313	eP	P	05 19 37.2	-1.2
	comp=Z,7.0nm,0.9s,mb4.3						
TCF	Toulx Ste Croi	69.50	312	eP	P	05 19 43.4	-0.5
	comp=Z,19nm,1.2s,mb4.6						
CAF	Calviac	70.04	311	eP	P	05 19 46.7	-0.5
	comp=Z,4.9nm,0.7s,mb4.2						
LDF	La Druitiere	70.25	315	eP	P	05 19 47.3	-1.1
RJF	Les Rejaudoux	70.28	311	eP	P	05 19 48.4	-0.3
GRR	Gorron	70.78	315	eP	P	05 19 50.5	-1.2
	comp=Z,9.0nm,0.7s,mb4.5						
ETSF	Etsaut	72.52	310	eP	P	05 20 01.8	-0.4
	comp=Z,18nm,1.1s,mb4.6						
YKA	Yellowknife Ar	88.02	11	P	P	05 21 24.5	+0.1
	comp=Z,0.5nm,0.5s,mb4.0,baz=333,slow=4.8,SNR=14						
DBIC	Dimbokro	91.66	278	P	P	05 21 43.1	+0.5
	comp=Z,2.5nm,0.8s,mb4.6,baz=58,slow=9.5,SNR=3.3						
ROSC	El Rosal	144.59	333	PKP	PKPdf	05 28 12.5	+1.7
	comp=Z,11nm,0.8s,baz=93,slow=8.0,SNR=7.3						

*IDC **11** 05:09:44.6±1.0, 8.71S×115.51E, mb4.2/5, mb1 4.4/5, mb1mx4.2/13, mbtmp4.3/5, Error ellipse: s-maj=41.8km s-min=17.9km az=52.0*
*NEIC **11** 05:09:57.7±0.5, 9.10S×115.68E, h87^{km}±8^{km}, mb4.4/3, Error ellipse: s-maj=10.8km s-min=8.5km az=196.0*
NEIC Felt [II] at Karangasem.
*DJA **11** 05:10:00.7±0.3, 8.60S×115.65E, h80^{km}, MD4.7/4, ML5.4/2, Error ellipse: s-maj=18.9km s-min=6.2km az=165.0*
ISC 11 05:09:56.8±0.5**, 9.1S**±0.1×**115.68E**±0.07**, h96**^{km}±10^{km}**, n23, σ0^{s}94**/27**, mb4.3**/7**, 4C-4D, South of Bali**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RATI	Rata	0.35	335	⇑iPn	P	05 10 12.2	+0.9
	6μm,0.2s						
KEDI	Kedomdong	0.70	38	⇓iPn	P	05 10 13.9	-0.2
	6μm,0.2s						
KELI	Kelakatan	1.44	305	⇑iPn	P	05 10 22.2	-0.3
	3μm,0.2s						
KELI				⇑iSn	S	05 10 34.0	-7.5
SRDI	Scrawed	1.62	290	⇑iPn	P	05 10 25.2	+0.4
	5μm,0.3s						
SRDI				⇓iSn	S	05 10 45.0	-0.5
NINI	Niniconang	6.12	42	⇓iP	P	05 11 26.1	-0.1
BUNI	Buntu Taipa	7.07	41	⇓iP	P	05 11 39.7	+0.4
MBWA	Marble Bar	12.66	162	ePn	P	05 12 52.2	-2.4
	12nm,0.6s						
FITZ	Fitzroy Crossi	13.21	134	eP	P	05 13 02.5	+0.7
	5.4nm,0.3s						
FITZ				eS	S	05 15 20.3	-6.5
KAKA	Kakadu	16.85	104	eP	P	05 13 47.8	-0.4
	32nm,1.5s						
WRA	Warramunga Arr	21.04	123	P	P	05 14 33.6	-1.2
	3.1nm,0.3s,mb4.1,baz=294,slow=12,SNR=49						
WRA				S	S	05 18 21.3	+2.9
	1.5nm,0.8s,baz=294,slow=22,SNR=4.9						
WRAB	Tennant Creek	21.04	123	P	P	05 14 34.0	-0.8
	78nm,0.5s,mb5.3,SNR=25						
WRAB	Tennant Creek	21.04	123	eP	P	05 14 33.9	-1.0
	10nm,0.6s,mb4.3						
WB2	Warramunga Arr	21.05	123	eP	P	05 14 34.5	-0.4
WB2				eS	S	05 18 22.8	+4.3
ASPA	Alice Springs	22.70	132	eP	P	05 14 51.9	+0.8
ASPA				eS	S	05 19 11.5	+23
ASAR	Alice Springs	22.70	132	P	P	05 14 52.0	+0.8
	5.0nm,0.5s,mb4.1,baz=306,slow=9.3,SNR=111						
ASAR				PcP	PcP	05 18 40.1	-1.9
	0.5nm,0.5s,baz=315,slow=1.7,SNR=4.2						
ASAR				S	S	05 19 05.8	+18
	1.4nm,0.8s,baz=297,slow=22,SNR=4.3						
NWAO	Narrogin (SRO)	23.81	177	P	P	05 15 02.9	+1.2
	5.5nm,0.6s,mb4.1,baz=355,slow=10,SNR=8.1						
NWAO	Narrogin (SRO)	23.81	177	eP	P	05 15 04.1	+2.3
STKA	Stephens Creek	33.08	137	P	P	05 16 25.1	-0.5
	4.2nm,0.3s,mb4.7,baz=323,slow=7.1,SNR=34						
SONM	Songino Array	57.23	353	P	P	05 19 31.8	-4.7
	0.7nm,0.4s,mb4.1,baz=175,slow=8.7,SNR=9.9						
URZ	Urewera	62.08	129	P	P	05 20 09.0	-0.9
QSPA	South Pole Qui	80.95	180	eP	P	05 22 02.3	+0.6
	1.8nm,0.3s,mb4.4						
BDFB	Brasilia	150.63	213	PKPbc	PKPdf	05 29 40.2	+7.3
	2.6nm,0.4s,baz=122,slow=2.2,SNR=9.4						
LPAZ	La Paz	154.55	171	PKPab	PKPab	05 30 04.6	+0.2
	0.6nm,0.6s,baz=100,slow=4.7,SNR=4.5						

*MOS **11** 05:12:09.6±0.4, 51.59N×16.35E, h10^{km}, mb3.5/1, Error ellipse: s-maj=16.3km s-min=6.1km az=74.6*
*NEIC **11** 05:12:11.6±0.6, 51.50N×16.25E, h5^{km}, ML3.2(VIE), ML3.0(SZGRF), ML3.0(FUR), Error ellipse: s-maj=6.9km s-min=4.6km az=43.0*
*IDC **11** 05:12:12.1±0.8, 51.45N×16.18E, mb1 3.5/6, mb1mx3.4/21, mbtmp3.4/6, ML3.2/6, Error ellipse: s-maj=15.3km s-min=6.6km az=104.0*
*IPEC **11** 05:12:12.9±0.2, 51.42N×16.21E, h5^{km}±1^{km}, ML2.3/3, Error ellipse: s-maj=1.5km s-min=0.6km az=36.0*
*PRU **11** 05:12:13.4, 51.41N×16.18E, Felt In Harrachov*
*CSEM **11** 05:12:13.2±0.2, 51.41N×16.17E, h4^{km}, ML3.3/4, Error ellipse: s-maj=3.4km s-min=1.8km az=27.0*
*BGR **11** 05:12:13.1±0.6, 51.35N×16.21E, h1^{km}, ML3.0/10, Error ellipse: s-maj=7.8km s-min=5.6km az=166.0*
WAR 11 05:12:13.3, 51.45N×16.19E, h1^{km}, ML2.9, 3C-1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61	174	⇓iPg	Pg	05 12 24.4	-1.0
KSP				eSg	Sg	05 12 31.7	-1.8
KSP	Ksiaz	0.61	174	iPG	Pg	05 12 24.4	-1.0
KSP				eSG	Sg	05 12 32.4	-1.1
KSP	Ksiaz	0.61	174	ePg	Pg	05 12 24.4	-1.1
KSP				eSg	Sg	05 12 33.1	-0.4
KSP	Ksiaz	0.61	174	ePg	Pg	05 12 24.3	-1.1
KSP				eSg	Sg	05 12 31.3	-2.2
UPC	Upice	0.95	187	ePG	Pg	05 12 30.5	-1.7
DPC	Dobruska-Polom	1.10	176	ePG	Pg	05 12 33.2	-2.1
DPC				eSG	Sg	05 12 47.7	-2.2
	93nm,0.6s						
DPC	Dobruska-Polom	1.10	176	ePg	Pg	05 12 33.2	-2.1
DPC				eSg	Sg	05 12 47.0	-2.9
DPC				eS	Sb	05 12 47.7	-1.8
PVCC	Panska Ves	1.38	229	ePG	Pg	05 12 38.3	-2.5
PVCC	Panska Ves	1.38	229	ePn	Pn	05 12 38.6	-1.1
BRG	Berggiesshubel	1.53	249	ePg	Pg	05 12 39.8	-4.0
BRG				eSg	Sg	05 12 59.5	-4.6
BRG	Berggiesshubel	1.53	249	eP	Pn	05 12 39.7	-2.1
BRG				i		05 13 01.8	
BRG	Berggiesshubel	1.53	249	ePn	Pn	05 12 39.7	-2.1
BRG				iPg	Pg	05 12 41.4	-2.4
BRG				iSg	Sg	05 13 01.8	-2.3
BRG	Berggiesshubel	1.53	249	iPg	Pg	05 12 41.4	-2.4
BRG				eSg	Sg	05 13 00.8	-3.3
BRG				iS	Sb	05 13 01.8	-0.1
PRU	Pruhonice	1.80	216	eP	Pn	05 12 43.7	-2.0
PRU				e		05 13 09.5	
PRU	Pruhonice	1.80	216	ePN	Pn	05 12 43.7	-2.0
PRU				ePG	Pg	05 12 45.7	-3.5
PRU				eSG	Sg	05 13 09.5	-3.6
PRU	Pruhonice	1.80	216	Pg	Pg	05 12 45.7	-3.5
PRU				eSg	Sg	05 13 09.1	-4.0
RUE	Ruedersdorf	1.81	306	eSg	Sg	05 13 10.9	-2.8
RAC	Raciborz	1.87	136	eP	Pn	05 12 48.0	+1.3
RAC				eS	Sn	05 13 13.0	+1.8
MORC	Moravsky Berou	1.88	152	ePn	Pn	05 12 43.9	-3.0
MORC				eSn	Sn	05 13 07.1	-4.5
MORC	Moravsky Berou	1.88	152	ePn	Pn	05 12 43.9	-3.0
MORC				eSn	Sn	05 13 07.1	-4.5
MORC				eSg	Sg	05 13 10.5	-5.4
	19nm,0.4s						
CLL	Collm	2.00	267	ePn	Pn	05 12 46.6	-2.0
CLL				eSg	Sg	05 13 15.9	-4.0
CLL	Collm	2.00	267	eP	Pn	05 12 46.0	-2.6
CLL				e		05 13 17.0	
CLL	Collm	2.00	267	ePN	Pn	05 12 46.0	-2.6
CLL				iPG	Pg	05 12 49.8	-3.5
CLL				eSG	Sg	05 13 17.0	-2.9
CLL	Collm	2.00	267	Pn	Pn	05 12 46.6	-2.0
CLL	Collm	2.00	267	iPg	Pg	05 12 49.8	-3.5
CLL				eSg	Sg	05 13 15.9	-4.0
OKC	Ostrava-Krasne	2.04	141	ePG	Pg	05 12 50.5	-3.5
OKC				eSG	Sg	05 13 15.6	-5.5
VRAC	Vranov	2.16	173	Pn	Pn	05 12 49.6	-1.2
	3.2nm,0.3s,baz=338,slow=14,SNR=14						
VRAC				Sn	Sn	05 13 16.9	-1.7
	2.8nm,0.3s,baz=84,slow=17,SNR=3.4						
VRAC				Lg		05 13 20.5	
	6.1nm,0.3s,baz=88,slow=20,SNR=7.1						
VRAC	Vranov	2.16	173	ePn	Pn	05 12 49.1	-1.7
VRAC	Vranov	2.16	173	P	Pn	05 12 49.6	-1.2
VRAC				S	Sn	05 13 16.9	-1.7
VRAC				eSg	Sg	05 13 18.6	-6.5
	23nm,0.5s						
KRUC	Moravsky	2.39	177	eSg	Sg	05 13 28.6	-4.3
	16nm,0.5s						
TANN	Tannenbergstha	2.57	248	ePn	Pn	05 12 55.7	-1.2
TANN				eSg	Sg	05 13 34.0	-5.0
OJC	Ojcow	2.60	117	ePg	Pg	05 13 02.6	-2.5
OJC				eSg	Sg	05 13 37.0	-2.8
WERD	Werda	2.65	249	ePn	Pn	05 12 56.1	-1.8
WERD				eSg	Sg	05 13 36.7	-4.9
NKC	Novy Kostel	2.66	244	eP	Pn	05 12 56.4	-1.7
NKC				e		05 13 37.6	
NKC	Novy Kostel	2.66	244	ePN	Pn	05 12 56.4	-1.7
NKC				ePG	Pg	05 13 02.8	-3.7
NKC				eSG	Sg	05 13 37.6	-4.4
	33nm,0.3s						
GUNZ	Gunzen	2.67	248	ePn	Pn	05 12 56.9	-1.3
GUNZ				eSg	Sg	05 13 36.5	-5.8
NEUB	Neuenburg	2.78	267	ePg	Pg	05 13 04.8	-4.0
NEUB				eSg	Sg	05 13 42.3	-3.5
KHC	Kasperske Hory	2.86	217	eP	Pn	05 12 59.1	-1.8
KHC				e		05 13 34.0	
KHC	Kasperske Hory	2.86	217	ePN	Pn	05 12 59.1	-1.8
KHC				ePG	Pg	05 13 05.0	-5.4
KHC				eSN	Sn	05 13 34.0	-2.4
KHC				eSG	Sg	05 13 42.7	-5.8
KHC	Kasperske Hory	2.86	217	ePg	Pg	05 13 05.0	-5.4
KHC				eS	Sn	05 13 34.0	-2.4
KHC				Sn	Sn	05 13 34.0	-2.4
KHC				Sg	Sg	05 13 42.7	-5.8
MOX	Moxa	3.00	256	ePn	Pn	05 13 00.8	-2.0
MOX				eSg	Sg	05 13 49.4	-3.7
MOX	Moxa	3.00	256	ePg	Pg	05 13 09.2	-3.9
MOX				eSg	Sg	05 13 49.1	-3.9
SMOL	Smolenice	3.04	164	eSG	Sg	05 13 48.6	-6.0
GEC2	GERESS Array S	3.06	213	ePn	Pn	05 13 02.4	-1.3
GEC2				eSg	Sg	05 13 47.1	-7.9
GEC2	GERESS Array S	3.06	213	ePn	Pn	05 13 02.4	-1.3
GEC2				eSg	Sg	05 13 47.1	-7.9
GERES	GERESS Array B	3.06	213	P	Pn	05 13 01.6	-2.1
GERES						05 13 39.2	
GERES	GERESS Array B	3.06	213	P	Pn	05 13 08.1	+4.4
GERES						05 13 39.2	
GERES				pmax	pmax		
	comp=Z,6.0nm,0.3s						
GERES				smax			
	comp=N,2.0nm,0.3s						
GERES	GERESS Array B	3.06	213	Pn	Pn	05 13 01.6	-2.1
	comp=N,1.0nm,0.3s,baz=32,slow=13,SNR=29						
GERES				Pg	Pg	05 13 08.1	-6.2
	comp=N,6.4nm,0.3s,baz=35,slow=17,SNR=60						
GERES				Sn	Sn	05 13 39.2	-2.3
	comp=N,2.0nm,0.3s,baz=32,slow=20,SNR=6.2						
GERES				Lg		05 13 47.0	
	comp=N,5.4nm,0.3s,baz=27,slow=28,SNR=7.8						
GERES	GERESS Array B	3.06	213	Pg	Pg	05 13 08.1	-6.2
GERES				S	Sn	05 13 39.2	-2.2
NOTT	Nottersdorf	3.06	239	ePn	Pn	05 13 02.0	-1.8
NOTT				eSg	Sg	05 13 48.6	-6.7
WET	Wettzell	3.13	224	ePn	Pn	05 13 02.6	-2.1
WET				eSg	Sg	05 13 51.0	-6.6
WET	Wettzell	3.13	224	ePn	Pn	05 13 02.6	-2.2
WET				eSg	Sg	05 13 51.0	-6.6
WET	Wettzell	3.13	224	ePn	Pn	05 13 02.5	-2.3
WET				Sg	Sg	05 13 51.0	-6.6
ZST	Bratislava	3.31	169	eSG	Sg	05 13 58.3	-5.1
NIE	Niedzica	3.33	126	eP	Pg	05 13 15.3	-4.4
NIE				eS	Sg	05 13 59.3	-4.8
VYHS	Vyhne	3.41	149	eSG	Sg	05 14 04.0	-2.9
GRA1	Grafenberg Arr	3.62	243	ePn	Pn	05 13 09.7	-2.0
GRA1				eSg	Sg	05 14 07.9	-5.9
GRA1	Grafenberg Arr	3.62	243	Pn	Pn	05 13 09.7	-2.0
GRA1				Sg	Sg	05 14 07.9	-5.9
GRF	Grafenberg Arr	3.62	243	ePn	Pn	05 13 09.7	-2.0
GRF				eSg	Sg	05 14 07.9	-6.0
MOA	Molln	3.81	200	⇑iPN	Pn	05 13 12.2	-2.2
MOA				iSG	Sg	05 14 15.0	-5.2
	comp=N,13nm,0.5s						
ARSA	Arzberg	4.22	186	⇑iPN	Pn	05 13 17.9	-2.3
ARSA				iSG	Sg	05 14 26.6	-7.3
	comp=N,16nm,0.8s						
CRVS	Cervenica-Dubn	4.24	125	eSG	Sg	05 14 27.9	-6.5
KBA	Koelnbreinsper	4.75	204	⇑iPN	Pn	05 13 25.2	-2.6
KBA				iSG	Sg	05 14 45.0	-6.5
	comp=N,9.8nm,0.5s						
DAVOX	Davos	6.24	224	Pn	Pn	05 13 45.4	-3.3
	comp=N,0.3nm,0.3s,baz=57,slow=17,SNR=3.3						
HFS	Hagfors	8.82	352	Pn	P	05 14 19.1	-5.8
	comp=N,0.0nm,0.3s,baz=168,slow=13,SNR=3.6						
FINES	FINESS Array B	11.40	25	P	P	05 14 49.4	-11
FINES						05 16 54.7	
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	FINESS Array B	11.40	25	Pn	P	05 14 49.4	-11
	comp=Z,1.8nm,0.3s,baz=221,slow=15,SNR=37						
FINES				Sn	S	05 16 54.7	-15
	comp=Z,0.1nm,0.3s,baz=202,slow=30,SNR=2.3						
ARCES	ARCESS Array B	18.68	10	Pn	P	05 16 26.9	-7.5
	comp=Z,0.2nm,0.3s,baz=197,slow=13,SNR=7.4						

*ATH **11** 06:08:11.6, 39.36N×21.92E, h5^{km}, MD3.1/4*
*THE **11** 06:08:12.9, 39.34N×21.95E, h9^{km}, ML3.2*
*CSEM **11** 06:08:12.4±0.2, 39.31N×21.92E, h8^{km}, ML3.2, Error ellipse: s-maj=6.7km s-min=4.1km az=85.0*
ISC 11 06:08:11.7±1.0**, 39.34N**±0.03×**21.93E**±0.07**, h7**^{km}±9^{km}**, n12, σ1^{s}14**/18**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.43	192	ePB	Pb	06 08 20.2	-1.0
EVR				eSB	Sb	06 08 27.0	-0.5
AGG	Agios Georgios	0.44	135	ePg	Pg	06 08 20.9	+0.2
AGG				eSg	Sg	06 08 28.0	+1.3
LIT	Litokhoron	0.88	29	ePg	Pg	06 08 28.6	-0.7
LIT				eSg	Sg	06 08 42.5	+1.4
LIT	Litokhoron	0.88	29	ePg	Pg	06 08 28.6	-0.7
LIT				eSg	Sg	06 08 42.5	+1.4
KZN	Kozani	0.98	353	ePB	Pb	06 08 30.0	-0.5
KZN	Kozani	0.98	353	ePb	Pb	06 08 30.5	0.0
XOR	Xorichti	0.98	88	ePg	Pg	06 08 30.8	-0.6
NEO	Neokhori	1.01	91	ePG	Pg	06 08 30.7	-1.2
NEO				eSB	Sb	06 08 45.7	+1.4
FNA	Florina	1.51	344	ePb	Pb	06 08 39.8	+0.2
FNA				eSb	Sb	06 08 59.8	+1.0
VLS	Valsamata	1.56	222	ePB	Pb	06 08 42.5	+2.0
SOH	Sokhos	1.84	36	ePb	Pb	06 08 44.1	-1.2
OUR	Ouranopolis	1.87	57	ePb	Pb	06 08 43.7	-2.1

*CSEM **11** 06:28:28.8±0.2, 35.71N×0.19W, h10^{km}, ML2.9/4, Error ellipse: s-maj=4.4km s-min=2.4km az=141.0*
*NEIC **11** 06:28:29.5, 35.80N×0.23W, MG3.5(MDD), After MDD.*
*MDD **11** 06:28:29.4±2.4, 35.80N×0.20W, mb3.5/6, Error ellipse: s-maj=22.7km s-min=14.6km az=151.0, PRXIMO*
ISC 11 06:28:29.4±1.3**, 35.88N**±0.06×**0.23W**±0.08**, h10**^{km}**, n19, σ1^{s}18**/33**, Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USTO	Oran	0.30	240	P	Pg	06 28 36.0	+0.3
ENIJ	Nijar	1.93	305	Pn	Pn	06 29 02.4	-0.3
ENIJ				Sn	Sn	06 29 23.9	-3.3
ENIJ	Nijar	1.93	305	P	Pn	06 29 02.4	-0.3
	3.3nm,0.2s,SNR=4.0						
ENIJ				S	Sn	06 29 23.9	-3.3
	6.0nm,0.2s,SNR=4.0						
EMUR	La Murta	2.12	338	S	Sn	06 29 32.7	+0.7
	5.0nm,0.3s,SNR=4.0						
EMUR	La Murta	2.12	338	Sn	Sn	06 29 32.7	+0.7
	8.6nm,0.5s,SNR=4.0						
EALB	Alboran	2.28	272	S	Sn	06 29 32.3	-3.7
	2.7nm,0.2s,SNR=4.0						
EALB	Alboran	2.28	272	Sn	Sn	06 29 32.3	-3.7
	7.9nm,0.2s,SNR=4.0						
EBER	Berja	2.37	296	Pn	Pn	06 29 08.1	-1.0
EBER				Sn	Sn	06 29 37.9	-0.6
EBER	Berja	2.37	296	P	Pn	06 29 08.4	-0.6
	1.0nm,0.1s,SNR=5.7						
EBER				S	Sn	06 29 38.5	0.0
	3.6nm,0.2s						
EBER	Berja	2.37	296	Pn	Pn	06 29 08.1	-0.9
	0.9nm,0.1s,SNR=5.7						
EBER				Sn	Sn	06 29 37.9	-0.6
	3.9nm,0.2s						
ETOB	Tobarra	2.95	340	P	Pn	06 29 18.2	+0.9
	1.3nm,0.4s,SNR=7.9						
ETOB				S	Sn	06 29 52.9	-0.3
	2.3nm,0.2s,SNR=7.9						
ETOB	Tobarra	2.95	340	Pn	Pn	06 29 18.2	+0.9
	1.0nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	06 29 52.9	-0.2
	2.3nm,0.2s,SNR=7.9						
EQES	Quesada	2.98	311	Pn	Pn	06 29 19.2	+1.5
EQES				Sn	Sn	06 29 55.8	+2.0
EQES	Quesada	2.98	311	P	Pn	06 29 18.9	+1.3
	2.2nm,0.2s,SNR=8.9						
EQES				S	Sn	06 29 54.2	+0.3
	1.8nm,0.2s						
EQES	Quesada	2.98	311	Pn	Pn	06 29 19.2	+1.5
	2.0nm,0.2s,SNR=8.9						
EQES				Sn	Sn	06 29 55.8	+2.0
EVIA	Vianos	3.29	327	P	Pn	06 29 24.8	+2.6
	0.6nm,0.2s,SNR=7.9						
EVIA				S	Sn	06 30 01.5	-0.3
	2.6nm,0.3s,SNR=4.0						
EIBI	Ibiza	3.38	21	P	Pn	06 29 22.6	-0.8
	3.8nm,0.3s,SNR=7.8						
EIBI				S	Sn	06 30 03.1	-0.9
	2.5nm,0.4s,SNR=4.0						
EIBI	Ibiza	3.38	21	Pn	Pn	06 29 22.6	-0.8
EIBI				Sn	Sn	06 30 03.0	-1.0
EMIJ	Mijas	3.74	282	P	Pn	06 29 28.1	-0.4
	2.7nm,0.3s,SNR=7.9						
EMIJ				S	Sn	06 30 06.2	-6.8
	2.3nm,0.4s,SNR=7.9						

*IDC **11** 06:58:14.2±4.1, 4.73S×153.22E, h33^{km}±29^{km}, mb4.0/8, mb1 4.2/9, mb1mx4.1/13, mbtmp4.2/9, ML3.3/1, MS3.8/7, Ms1 3.8/7, ms1mx3.7/12, Error ellipse: s-maj=26.5km s-min=18.4km az=105.0*
*NEIC **11** 06:58:17.3±1.9, 4.75S×153.14E, h62^{km}±16^{km}, mb4.6/10, Error ellipse: s-maj=11.7km s-min=9.0km az=218.0*
ISC 11 06:58:14.1±3.3**, 4.7S**±0.1×**153.15E**±0.09**, h45**^{km}±29^{km}**, n31, σ0^{s}86**/25**, mb4.4**/17**, MS3.8**/6**, 1C, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.57	231	Pn	P	07 00 04.2	-0.2
	2.6nm,0.3s,baz=25,slow=12,SNR=4.0						
PMG				Sn	S	07 01 29.8	0.0
	7.6nm,0.3s,baz=126,slow=23,SNR=11						
CTA	Charters Tower	16.71	203	LR	LR	07 07 41.1	
	comp=Z,270nm,21.2s,baz=47,slow=34						
CTAO	Charters Tower	16.71	203	eP	P	07 02 07.5	+1.0
	44nm,1.7s						
NOUC	Port Laguerre	21.48	145	eP	P	07 02 59.8	-1.1
DZM	Mont Dzumac	21.54	144	eP	P	07 03 02.0	+0.5
DZM	Mont Dzumac	21.54	144	eP	P	07 03 02.0	+0.5
KAKA	Kakadu	21.95	247	eP	P	07 03 05.7	+0.1
	56nm,0.6s,mb5.2						
WRAB	Tennant Creek	23.76	229	eP	P	07 03 24.1	+0.7
	27nm,0.8s,mb4.7						
WB2	Warramunga Arr	23.77	229	eP	P	07 03 24.3	+0.9
WRA	Warramunga Arr	23.78	229	P	P	07 03 24.1	+0.5
	13nm,0.8s,mb4.4,baz=52,slow=10.0,SNR=46						
WRA				ScP		07 10 43.5	
	0.8nm,0.9s,baz=50,slow=3.3,SNR=6.1						
ASAR	Alice Springs	26.46	223	P	P	07 03 48.8	-0.3
	2.5nm,0.6s,mb3.9,baz=52,slow=9.1,SNR=14						
ASAR				LR	LR	07 14 02.4	
	comp=Z,93nm,18.5s,MS3.4,baz=35,slow=36						
ASPA	Alice Springs	26.46	223	eP	P	07 03 53.1	+4.0
STKA	Stephens Creek	29.13	200	P	P	07 04 12.2	-0.8
	1.7nm,0.7s,mb3.9,baz=29,slow=12,SNR=7.3						
STKA				LR	LR	07 15 19.7	

comp=Z,188nm,18.0s,MS3.8,baz=28,slow=35
FITZ Fitzroy Crossi 30.02 241 ⇑iP P 07 04 20.1 -1.0
19nm,0.6s,mb5.0
MBWA Marble Bar 36.33 240 eP P 07 05 15.4 -0.3
7.5nm,0.7s,mb4.7
RPZ Rata Peaks 41.95 161 P P 07 06 01.1 -1.1
10nm,0.6s,mb4.7,baz=318,slow=2.4,SNR=7.7
ASAJ Asahikawa 49.51 350 LR LR 07 25 30.3
comp=Z,63nm,21.4s,MS3.6,baz=2.8,slow=33
CMAR Chiang Mai Arr 58.15 295 P P 07 08 04.5 -1.5
1.2nm,0.6s,mb4.1,baz=125,slow=5.7,SNR=6.4
ULN Ulaanbaatar 66.09 328 eP P 07 08 59.6 +0.9
3.2nm,0.7s,mb4.5
SONM Songino Array 66.43 328 P P 07 09 01.1 +0.3
2.7nm,0.7s,mb4.4,baz=148,slow=6.2,SNR=16
ZAL Zalesovo 81.27 326 LR LR 07 46 32.3
comp=Z,37nm,18.6s,MS3.8,baz=99,slow=36
ILAR Eielson Array 81.93 22 P P 07 10 29.9 -0.3
0.7nm,0.9s,mb3.6,baz=252,slow=5.3,SNR=9.5
KURK Kurchatov 83.91 322 eP P 07 10 40.3 -0.2
3.1nm,1.0s,mb4.4
AAK Ala-Archa 84.85 313 eP P 07 10 45.4 -0.1
3.9nm,0.8s,mb4.6
QSPA South Pole Qui 85.26 180 eP P 07 10 47.8 +1.1
6.4nm,0.7s,mb4.9
CHKZ Chkalovo 89.33 324 eP P 07 11 05.8 -1.0
1.3nm,0.5s,mb4.5
NVAR Mina Array Bea 91.75 52 LR LR 07 46 16.1
comp=Z,90nm,21.5s,MS4.2,baz=115,slow=31
YKA Yellowknife Ar 95.17 28 P P 07 11 35.6 +2.0
0.3nm,0.7s,mb3.8,baz=272,slow=4.7,SNR=9.5
PDAR Pinedale Array 98.52 48 LR LR 07 52 10.3
comp=Z,113nm,18.5s,MS4.4,baz=333,slow=33
PLCA Paso Flores 119.65 143 PKP PKPdf 07 17 01.1 +1.6
1.0nm,0.8s,baz=229,slow=2.1,SNR=3.2
BDFB Brasilia 150.89 134 PKPbc PKPdf 07 18 03.3 +6.4
3.1nm,0.6s,baz=322,slow=2.7,SNR=6.5

IDC 11 07:10:52.2±1.2**,51.70N**×**178.47W,mb3.5**/8**,mb1 3.9**/8**, mb1mx3.7**/22**,mbtmp3.5**/8**,Error ellipse: s-maj=55.8km s-min=22.4km az=139.0,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILAR	Eielson Array	20.87	39	P	P	07 15 34.5	-3.5
	0.4nm,0.9s,baz=233,slow=9.0,SNR=4.6						
INK	Inuvik	27.08	35	P	P	07 16 36.9	-1.0
	2.0nm,0.9s,baz=271,slow=8.5,SNR=4.7						
YKA	Yellowknife Ar	34.86	47	P	P	07 17 44.3	-2.3
	0.2nm,0.6s,baz=281,slow=8.2,SNR=4.2						
NVAR	Mina Array Bea	43.31	83	P	P	07 18 55.6	-1.5
	0.5nm,0.7s,baz=289,slow=10,SNR=4.2						
PDAR	Pinedale Array	46.02	73	P	P	07 19 17.4	-1.5
	0.3nm,0.5s,baz=308,slow=3.3,SNR=4.0						
TXAR	Lajitas Array	58.41	82	P	P	07 20 49.6	-2.1
	0.6nm,0.7s,baz=294,slow=2.8,SNR=7.2						
TXAR				PcP	PcP	07 21 40.4	-2.0
	1.2nm,1.1s,baz=243,slow=0.7,SNR=3.8						
WRA	Warramunga Arr	82.39	224	P	P	07 23 15.4	-1.9
	1.0nm,1.1s,baz=33,slow=5.5,SNR=4.6						
ASAR	Alice Springs	85.86	223	P	P	07 23 34.0	-0.8
	0.3nm,0.7s,baz=26,slow=6.1,SNR=4.1						

NEIC 11 07:55:29.7,16.63N×94.54W,h100km,MD3.8(MEX),After MEX.
MEX 11 07:55:29.7±1.1**,16.63N**×**94.54W,h100**km±14km**,MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.56	324	i P	P	07 55 44.5	-1.6
CMIG				i S	S	07 55 56.5	-1.9
HUIG	Huatulco	1.73	241	i P	P	07 55 56.8	-2.5
HUIG				i S	S	07 56 20.1	-1.1
OXX	Oaxaca	2.14	282	i P	P	07 56 04.0	-0.6
OXX				i S	S	07 56 28.0	-2.6
VHO	Vista Hermosa	2.15	282	i P	P	07 56 03.5	-1.3
VHO				i S	S	07 56 29.2	-1.6
CCIG	Comitan	2.33	98	i P	P	07 56 06.6	-0.7
CCIG				i S	S	07 56 33.5	-1.9

IDC 11 07:56:11.3±1.2,8.44S×156.71E,mb4.0/7,mb1 4.2/7, mb1mx4.2/12,mbtmp3.9/7,MS3.3/4,Ms1 3.3/4, ms1mx3.1/18,Error ellipse: s-maj=58.2km s-min=22.1km az=128.0
NEIC 11 07:56:13.5±8.0,9.18S×157.33E,h19km±51km,mb4.6/3, Error ellipse: s-maj=27.8km s-min=11.4km az=153.0
ISC 11 07:56:12.4±0.7**,9.1S**±0.1×**157.24E**±0.10**,h19**km**,n14, σ1**s**02**/13**,mb3.9**/10**,MS3.4**/2**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.70	98	ePn	Pn	07 56 54.4	-1.3
HNR				eSn	Sn	07 57 33.1	+5.0
PMG	Port Moresby	9.96	267	LR	LR	08 01 00.2	
	comp=Z,60nm,18.5s,baz=229,slow=30						
CTA	Charters Tower	15.27	223	LR	LR	08 04 56.7	
	comp=Z,200nm,19.9s,baz=49,slow=34						
WRAB	Tennant Creek	24.63	241	eP	P	08 01 32.8	-0.4
	15nm,1.2s,mb4.4						
WRA	Warramunga Arr	24.64	241	P	P	08 01 32.8	-0.5
	1.6nm,0.6s,mb3.7,baz=67,slow=9.6,SNR=12						
ASAR	Alice Springs	26.63	234	P	P	08 01 51.8	-0.1
	0.8nm,0.9s,mb3.2,baz=68,slow=7.7,SNR=4.7						
ASAR				LR	LR	08 10 33.1	
	comp=Z,113nm,19.4s,MS3.4,baz=246,slow=32						
STKA	Stephens Creek	26.96	210	P	P	08 01 56.6	+1.7
	4.6nm,0.7s,mb4.1,baz=24,slow=13,SNR=9.4						
STKA				LR	LR	08 11 11.0	
	comp=Z,86nm,21.8s,MS3.3,baz=24,slow=33						
STKA	Stephens Creek	26.96	210	P	P	08 01 56.6	+1.7
STKA				LR	LR	08 11 11.0	
ULN	Ulaanbaatar	71.92	327	eP	P	08 07 36.9	+0.4
	3.7nm,0.6s,mb4.5						
SONM	Songino Array	72.26	327	P	P	08 07 33.1	-5.3
	0.2nm,0.3s,mb3.5,baz=135,slow=6.1,SNR=3.4						
QSPA	South Pole Qui	80.94	180	eP	P	08 08 25.5	-1.0
	12nm,1.3s,mb4.7						
ILAR	Eielson Array	84.47	21	P	P	08 08 44.2	-0.7
	0.6nm,0.9s,mb3.7,baz=261,slow=4.9,SNR=3.8						
NVAR	Mina Array Bea	91.25	51	P	P	08 09 18.8	+0.8
	1.1nm,1.0s,mb4.2,baz=253,slow=6.1,SNR=6.0						
YKA	Yellowknife Ar	97.10	28	P	P	08 09 44.6	+0.4
	0.1nm,0.6s,mb3.4,baz=263,slow=4.9,SNR=3.8						

IDC 11 08:00:45.9±0.5,2.33N×95.02E,mb4.6/19,mb1 4.8/20, mb1mx4.7/24,mbtmp4.6/20,ML4.5/1,MS4.2/11,Ms1 4.2/11, ms1mx4.0/22,Error ellipse: s-maj=22.3km s-min=13.8km az=42.0
BJI 11 08:00:47.0,1.92N×95.18E,h38km,mB5.2,mb5.0,Ms4.9, Msz4.5
MOS 11 08:00:49.2±0.9,2.28N×95.05E,h33km,mb5.3/24, MS4.7/4,Error ellipse: s-maj=13.5km s-min=7.6km az=102.7
NEIC 11 08:00:50.3±0.2,2.29N×95.07E,mb5.1/25,Error ellipse: s-maj=6.8km s-min=4.3km az=224.0
HRVD 11 08:00:50.3±1.2,2.26N×95.12E,h16km±2km,MW4.8/33, Centroid moment Tensor Solution. LP body waves: s10,c11;Mantle waves: s33,c48; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.71±.22; $M_{\theta\theta}$-1.69±.17; $M_{\phi\phi}$0.97±.18; $M_{r\theta}$0.68±.43; $M_{\theta\phi}$1.04±.13; $M_{\phi r}$0.52±.51; Best double couple: $M_0$1.977×10^{16} NP1:ϕ_s330°,δ59°, λ161°. NP2:ϕ_s70°,δ74°,λ33°. Principal axes: T 1.822, Plg34°, Azm294°; N .311, Plg54°, Azm93°; P -2.132, Plg10°, Azm197°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
ISC 11 08:00:48.7±0.3**,2.29N**±0.05×**95.09E**±0.04**,h30**km**, h30**km±.7km**:pP-P,n123,σ1**s**01**/122**,mb4.9**/61**,MS4.4**/25**, 2C-6D,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.29	62	ePn	Pn	08 02 21.5	-0.6
IPM	Ipoh	6.34	69	P	Pn	08 02 22.0	-0.8
SNG	Songkhla	7.34	48	P	Pn	08 02 35.0	-1.8
	172nm,0.8s						
KSM	Kuching	15.23	93	eP	P	08 04 23.8	+0.1
KSM				e		08 04 30.2	
KKTK	Khon Kaen	15.90	28	P	P	08 04 34.0	+1.7
CMAR	Chiang Mai Arr	16.51	13	Pn	P	08 04 39.2	-0.7
	0.7nm,0.3s,baz=206,slow=11,SNR=59						
CMAR				LR	LR	08 11 33.2	
	comp=Z,1μm,18.2s,baz=195,slow=39						
CHG	Chiang Mai	16.85	13	⇑P	P	08 04 43.2	-1.1
	18nm,0.9s						
VIS	Vishakhapatnam	19.20	324	e	P	08 05 10.9	-2.3
KKM	Kota Kinabalu	21.39	79	P	P	08 05 37.4	+1.1
QIZ	Qiongzhong	22.03	40	P	P	08 05 42.5	-0.2
QIZ				LR	LR		
	comp=N,911nm,14.8s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,14.8s,MS4.6						
QIZ				LR	LR		
	comp=Z,673nm,18.4s,MS4.1						
HYB	Hyderabad	22.14	314	eP	P	08 05 44.0	+0.2
HYB	Hyderabad	22.14	314	i P	P	08 05 44.0	+0.2
TSM	Tawau	22.83	84	P	P	08 05 52.6	+1.8
KMI	Kunming	23.87	17	P	P	08 06 03.3	+2.5
KMI				AP		08 06 10.9	
KMI				XP		08 06 14.7	
KMI				PP	PP	08 06 39.6	+5.0
KMI				S	S	08 10 19.7	+7.9
KMI				XS		08 10 32.8	
KMI				AMB	AMB		
	comp=Z,61nm,1.2s,mb4.9						
KMI				AMB	AMB		
	comp=Z,583nm,3.2s						
KMI				LR	LR		
	comp=N,841nm,17.4s,MS4.5						
KMI				LR	LR		
	comp=E,926nm,14.3s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,16.7s,MS4.4						
KMI	Kunming	23.87	17	P	P	08 06 03.3	+2.5
	comp=Z,61nm,1.2s,mb4.9						
KMI				pP		08 06 10.9	
KMI				sP		08 06 14.7	
KMI				PP	PP	08 06 39.6	+5.0
KMI				S	S	08 10 19.7	+7.9
KMI				sS		08 10 32.8	
KMI				SS	SS	08 11 15.8	+13
KMI				SSS	SSS	08 11 32.1	+13
KMI				LR	LR		
	comp=Z,1μm,16.7s,MS4.4						
GYA	Guiyang	26.48	24	P	P	08 06 25.5	0.0
GYA				AP	pP	08 06 34.9	+0.8
GYA				XP	sP	08 06 38.6	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,5.5s						
GYA				LR	LR		
	comp=N,1μm,16.7s,MS4.6						
GYA				LR	LR		
	comp=E,810nm,13.3s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,16.8s,MS4.5						
JIRN	Jiri	26.63	342	eP	P	08 06 27.3	+0.5
	comp=Z,177nm,0.8s,mb5.6						
PKI	Pulchoki	26.79	341	eP	P	08 06 28.7	+0.3
	comp=Z,128nm,1.2s,mb5.3						
PKI	Pulchoki	26.79	341	eP	P	08 06 28.7	+0.3
PKI				pmax	pmax		
	comp=Z,64nm,1.2s,mb5.0						
DMN	Daman	26.93	340	eP	P	08 06 29.8	+0.2
	comp=Z,96nm,0.9s,mb5.3						
GUN	Gumba	26.96	342	eP	P	08 06 30.1	+0.2
	comp=Z,126nm,0.8s,mb5.5						
KKN	Kakani	27.04	341	eP	P	08 06 30.5	-0.1
	comp=Z,112nm,0.9s,mb5.4						
KKN	Kakani	27.04	341	eP	P	08 06 30.5	-0.1
KKN				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.1						
GKN	Gorkha	27.45	340	eP	P	08 06 34.3	-0.1
	comp=Z,163nm,1.0s,mb5.5						
LSA	Lhasa	27.52	353	eP	P	08 06 35.5	+0.6
LSA				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.1						
LSA	Lhasa	27.52	353	eP	P	08 06 35.5	+0.5
	comp=Z,54nm,1.0s,mb5.1						
KOLN	Koldanda	27.62	338	eP	P	08 06 35.5	-0.4
	comp=Z,100nm,0.8s,mb5.5						
CD2	Chengdu	29.62	15	P	P	08 06 52.8	-1.1
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
XAN	Xi'an	34.13	21	P	P	08 07 32.3	-1.0
XAN				AMB	AMB		
	comp=Z,116nm,5.2s						
XAN				LR	LR		
	comp=N,477nm,15.7s,MS4.5						
XAN				LR	LR		
	comp=E,283nm,11.0s,MS4.5						
XAN				LR	LR		
	comp=Z,858nm,17.4s						
FITZ	Fitzroy Crossi	36.27	125	⇓iP	P	08 07 51.4	-0.3
	comp=Z,25nm,0.8s,mb5.2						
FITZ				i	pP	08 08 00.0	-0.5
NJ2	Nanjing	37.11	35	eP	P	08 07 59.7	+1.1
NJ2				AP	pP	08 08 09.4	+2.0
NJ2				XP	sP	08 08 13.4	+2.2
NJ2				PP	PP	08 09 27.6	+2.0
NJ2				S	S	08 13 45.0	+2.7
NJ2				XS		08 14 01.0	
NJ2				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,390nm,3.8s						
NJ2				LR	LR		
	comp=N,3μm,19.0s,MS5.3						
NJ2				LR	LR		
	comp=E,4μm,19.6s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,24.1s,MS4.8						
GTA	Gaotai	37.20	6	eP	P	08 07 59.3	0.0
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,78nm,4.6s						
GTA				LR	LR		
	comp=N,278nm,18.6s,MS4.2						
GTA				LR	LR		
	comp=E,267nm,17.5s,MS4.2						
GTA				LR	LR		
	comp=Z,575nm,15.2s,MS4.5						
SSE	Sheshan	37.80	38	P	P	08 08 02.8	-1.6
SSE				XP	sP	08 08 15.5	-1.5
SSE				S	S	08 13 52.4	-0.5
SSE				XS		08 14 08.0	
SSE				AMB	AMB		
	comp=Z,56nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,205nm,3.5s						
SSE				LR	LR		
	comp=N,242nm,17.0s,MS4.2						
SSE				LR	LR		
	comp=E,251nm,17.0s,MS4.2						
SSE				LR	LR		
	comp=Z,276nm,21.0s,MS4.0						
SSE	Sheshan	37.80	38	P	P	08 08 02.8	-1.6
	comp=Z,56nm,0.8s,mb5.3						
SSE				sP	sP	08 08 15.5	-1.5
SSE				S	S	08 13 52.4	-0.5
SSE				sS		08 14 08.0	
SSE				SS	SS	08 16 39.4	+10
SSE				LR	LR		
	comp=Z,280nm,21.0s,MS4.0						
KAKA	Kakadu	39.96	113	⇓iP	P	08 08 22.0	-0.6
	comp=Z,27nm,0.6s,mb5.2						
JOW	Kunigami	40.09	49	LR	LR	08 25 35.8	
	comp=Z,75nm,19.4s,MS3.5,baz=276,slow=37						
BTO	Baotou	40.47	18	eP	P	08 08 26.3	-0.2
HHC	Hu-ho-hao-te	41.17	19	eP	P	08 08 35.5	+3.2
HHC				AP	pP	08 08 45.2	+4.0
HHC				XP	sP	08 08 48.4	+3.5
HHC				PP	PP	08 10 12.6	+2.3
HHC				PCP	PcP	08 10 34.0	+2.2
HHC				S	S	08 14 45.5	+2.0
HHC				SS	SS	08 17 47.7	+5.4
HHC				SCS	ScS	08 18 35.2	+3.0
HHC				AMB	AMB		
	comp=Z,27nm,0.9s,mb4.9						
HHC				LR	LR		
	comp=N,1μm,17.8s,MS4.9						
HHC				LR	LR		
	comp=E,726nm,14.3s,MS4.9						
HHC				LR	LR		
	comp=Z,1μm,16.1s,MS4.8						
WMQ	Urumqi	41.88	352	⇓iP	P	08 08 39.3	+1.3
WMQ				AP	pP	08 08 48.0	+1.1
WMQ				XP	sP	08 08 53.0	+2.4
WMQ				PCP	PcP	08 10 35.0	+0.9
WMQ				PPP	PPP	08 10 51.0	+1.3
WMQ				S	S	08 14 55.0	+1.1
WMQ				XS		08 15 11.0	
WMQ				AMB	AMB		
	comp=Z,32nm,1.5s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,185nm,4.7s						
WMQ				LR	LR		
	comp=N,648nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,903nm,20.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,747nm,22.0s,MS4.5						
BJT	Baijiatuau	42.15	24	eP	P	08 08 41.1	+0.8
BJT				e*PP	pP	08 08 49.8	+0.6
BJT				pmax	pmax		
	comp=Z,57nm,1.3s						
BJT	Baijiatuau	42.15	24	eP	P	08 08 41.1	+0.8
	comp=Z,57nm,1.3s,mb5.0						
BJT				epP	pP	08 08 49.8	+0.5
BJI	Beijing	42.17	24	P	P	08 08 41.3	+0.8
BJI				S	S	08 15 06.3	+8.0
BJI				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.8						
BJI				AMB	AMB		
	comp=Z,138nm,3.4s						
BJI				LR	LR		
	comp=N,404nm,15.0s,MS4.6						
BJI				LR	LR		
	comp=E,421nm,14.2s,MS4.6						
BJI				LR	LR		
	comp=Z,244nm,24.3s						
BJI	Beijing	42.17	24	P	P	08 08 41.3	+0.8
	comp=Z,23nm,1.0s,mb4.8						
BJI				S	S	08 15 06.3	+8.0
BJI				LR	LR		
	comp=Z,240nm,24.3s,MS4.0						
ULHL	Ulahol	43.22	339	P	P	08 08 49.6	+0.6
	SNR=17						
KZA	Kyzart	43.43	338	P	P	08 08 51.9	+1.1
	SNR=6.0						
UCH	Uchtor	43.84	338	P	P	08 08 55.0	+0.9
	SNR=14						
AML	Almayashu	44.07	337	P	P	08 08 56.8	+0.8
	SNR=15						
FRU	Bishkek	44.32	338	eP	P	08 09 07.0	+9.0
FRU				pmax	pmax		
	comp=Z,90nm,2.2s,mb5.1						
WRA	Warramunga Arr	44.39	122	P	P	08 08 59.1	+0.2
	comp=Z,21nm,0.9s,mb4.8,baz=298,slow=9.6,SNR=58						
WRAB	Tennant Creek	44.40	122	P	P	08 08 58.0	-0.9
	comp=Z,174nm,0.9s,mb5.8,SNR=9.7						
WRAB	Tennant Creek	44.40	122	eP	P	08 08 58.9	0.0
WRAB				e*PP	pP	08 09 07.9	+0.1
WRAB				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.2						
WRAB	Tennant Creek	44.40	122	eP	P	08 08 58.9	0.0
	comp=Z,43nm,0.9s,mb5.2						
WRAB				epP	pP	08 09 07.9	0.0
WB2	Warramunga Arr	44.40	122	⇓iP	P	08 08 59.3	+0.3
WB2				i	pP	08 09 07.8	-0.1
EKS2	Erkin-Say	44.49	338	P	P	08 09 00.1	+0.8
	SNR=7.3						
USP	Ospenovka	44.74	339	P	P	08 09 01.8	+0.4
	SNR=21						
MKAR	Makanchi Array	45.71	348	i P	P	08 09 09.1	+0.1
MKAR				pmax	pmax		
	comp=Z,17nm,0.8s						
ASPA	Alice Springs	45.73	127	eP	P	08 09 09.9	+0.5
ASAR	Alice Springs	45.73	127	P	P	08 09 09.7	+0.2
	comp=Z,4.3nm,0.7s,mb4.5,baz=297,slow=7.7,SNR=39						
ASAR				PcP	PcP	08 10 47.6	+0.2
	comp=Z,3.5nm,1.1s,baz=292,slow=4.1,SNR=4.7						
ASAR				LR	LR	08 28 28.3	
	comp=Z,88nm,20.8s,MS3.7,baz=304,slow=36						
ASAR	Alice Springs	45.73	127	P	P	08 09 09.7	+0.2
ASAR				PcP	PcP	08 10 47.6	+0.2
ASAR				LR	LR	08 28 28.3	
SONM	Songino Array	46.41	11	P	P	08 09 14.7	+0.2
	comp=Z,15nm,0.9s,mb4.9,baz=180,slow=6.2,SNR=4.0						
SNY	Shenyang	46.94	29	⇓P	P	08 09 15.7	-3.1
SNY				AMB	AMB		
	comp=Z,20nm,2.5s,mb4.6						
SNY				AMB	AMB		
	comp=Z,240nm,4.3s						
SNY				LR	LR		
	comp=N,740nm,15.7s						
SNY				LR	LR		
	comp=Z,500nm,16.7s,MS4.5						
CN2	Changchun	49.33	29	eP	P	08 09 37.1	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
MOY	Mondy	49.45	5	eP	P	08 09 47.2	+9.0
TLY	Talaya	49.74	7	eP	P	08 09 40.8	+0.4
TLY				e*PP	pP	08 09 49.0	-0.5
TLY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
TLY	Talaya	49.74	7	eP	P	08 09 40.8	+0.3
	comp=Z,10nm,0.7s,mb5.0						
TLY				epP	pP	08 09 49.0	-0.4
KURK	Kurchatov	50.23	346	P	P	08 09 44.4	+0.3
	comp=Z,138nm,1.1s,mb5.9,SNR=9.4						
KURK	Kurchatov	50.23	346	eP	P	08 09 43.7	-0.4
KURK				e*PP	pP	08 09 53.0	-0.2
KURK				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.4						
KURK	Kurchatov	50.23	346	eP	P	08 09 43.7	-0.4
	comp=Z,48nm,1.3s,mb5.4						
KURK				epP	pP	08 09 53.0	-0.2
IRK	Irkutsk	50.37	7	eP	P	08 09 45.6	+0.4
IRK				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.4						
HIA	Hailar	51.33	20	eP	P	08 09 52.5	0.0
HIA				e*PP	pP	08 10 01.0	-0.6
HIA				pmax	pmax		
	comp=Z,15nm,0.8s						
HIA	Hailar	51.33	20	eP	P	08 09 52.5	0.0
	comp=Z,15nm,0.8s,mb5.0						
HIA				epP	pP	08 10 01.0	-0.6
JHJ	Hachijo jima 2	51.85	49	LR	LR	08 33 01.6	
	comp=Z,1μm,19.9s,MS4.8,baz=11,slow=37						
ZAL	Zalesovo	52.17	352	P	P	08 09 59.1	+0.3
	comp=Z,9.0nm,0.5s,mb5.0,baz=302,slow=6.0,SNR=34						
PMG	Port Moresby	53.15	103	P	P	08 10 06.6	-0.1
	comp=Z,20nm,0.8s,mb5.1,baz=270,slow=5.8,SNR=3.9						
PMG	Port Moresby	53.15	103	eP	P	08 10 06.5	-0.2
	comp=Z,19nm,0.8s,mb5.1						
NVS	Novosibirsk	53.27	351	⇑iP	P	08 10 05.3	-1.7
NVS				e		08 11 15.0	
NVS				pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1						
NVS				pmax	pmax		
	comp=N,31nm,1.4s						
NVS				pmax	pmax		
	comp=E,16nm,1.1s						
BVAR	Borovoye Array	54.55	342	P	P	08 10 15.0	-1.4
	comp=E,4.3nm,0.6s,mb4.6,baz=143,slow=7.4,SNR=31						
CTA	Charters Tower	54.87	116	eP	P	08 10 19.5	+0.3
	comp=E,8.6nm,0.9s,mb4.8						
CTA				i	pP	08 10 28.1	-0.2
CTA	Charters Tower	54.87	116	eP	P	08 10 19.5	+0.3
CTA				i	pP	08 10 28.1	-0.2
CTA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CTA	Charters Tower	54.87	116	P	P	08 10 19.4	+0.1
	comp=Z,6.5nm,0.9s,mb4.6,baz=284,slow=11,SNR=5.2						
CHKZ	Chkalovo	55.05	342	eP	P	08 10 18.9	-1.1
CHKZ				e*PP	pP	08 10 28.6	-0.5
CHKZ				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.4						
CHKZ	Chkalovo	55.05	342	eP	P	08 10 18.9	-1.1
	comp=Z,48nm,1.3s,mb5.4						
CHKZ				epP	pP	08 10 28.6	-0.5
STKA	Stephens Creek	55.65	132	P	P	08 10 24.4	-0.3
	comp=Z,11nm,0.6s,mb5.1,baz=307,slow=7.3,SNR=3.5						
STKA				LR	LR	08 35 21.6	
	comp=Z,149nm,19.6s,MS4.1,baz=25,slow=37						
STKA	Stephens Creek	55.65	132	P	P	08 10 24.4	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA				LR	LR	08 35 21.6	
KLR	Kul'dur	56.26	28	eP	P	08 10 26.0	-2.8
KLR				MLR	MLR		
	comp=N,1μm,15.0s						
BOD	Bodaibo	57.36	12	eP	P	08 10 34.7	-1.9
BOD				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.9						
KMBO	Kilima Mbogo	57.93	267	eP	P	08 10 40.0	-1.1
KMBO				e*PP	pP	08 10 49.8	-0.5
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KMBO	Kilima Mbogo	57.93	267	P	P	08 10 39.8	-1.3
	comp=Z,1.1nm,0.8s,mb4.0,baz=49,slow=16,SNR=3.8						
KMBO				LR	LR	08 30 28.6	
	comp=Z,131nm,20.8s,MS4.0,baz=89,slow=31						
KMBO	Kilima Mbogo	57.93	267	eP	P	08 10 40.0	-1.1
	comp=Z,2.6nm,0.8s,mb4.3						
KMBO				epP	pP	08 10 49.8	-0.5
ASAJ	Asahikawa	59.09	38	LR	LR	08 36 38.3	
	comp=Z,202nm,20.5s,MS4.2,baz=348,slow=36						
YSS	Yuzh-Sakhalins	60.67	36	eP	P	08 11 02.9	+3.3
YSS				e		08 11 08.2	
YSS				MLR	MLR		
	comp=Z,600nm,21.0s,MS4.7						
ZEI	Tsey	60.80	319	eP	P	08 10 55.0	-5.5
ZEI				i *PP	pP	08 11 04.7	-5.1
ZEI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
SVE	Sverdlovsk	60.92	339	eP	P	08 11 03.1	+2.0
SVE				pmax	pmax		
	comp=Z,20nm,2.3s,mb4.8						
KIV	Kislovodsk	62.12	320	eP	P	08 11 09.8	+0.3
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
MALT	Malatya	62.84	312	eP	P	08 11 14.5	+0.2
MALT				e*PP	pP	08 11 22.3	-1.3
MALT				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.9						
MALT	Malatya	62.84	312	eP	P	08 11 14.5	+0.2
	comp=Z,12nm,1.3s,mb4.9						
MALT				epP	pP	08 11 22.3	-1.3
SOC	Sochi	63.91	318	eP	P	08 11 17.7	-3.6
SOC				e		08 11 51.5	
SOC				e		08 13 36.8	
SOC				ePPP	PPP	08 15 08.7	-6.8
SOC				eS	S	08 19 50.2	-3.1
SOC				e		08 21 06.0	
SOC				pmax	pmax		
	comp=Z,92nm,1.4s,mb5.6						
SOC				pmax	pmax		
	comp=N,86nm,1.1s						
SOC				pmax	pmax		
	comp=E,50nm,1.0s						
YAK	Yakutsk	64.99	17	i P	P	08 11 27.1	-0.9
YAK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
MATP	Matopo	68.99	247	P	P	08 11 54.1	+0.2
	comp=Z,3.2nm,1.0s,mb4.2,baz=98,slow=7.1,SNR=3.5						
OBN	Obninsk	70.60	329	eP	P	08 12 06.1	+2.9
OBN				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.0						
MA2	Magadan	71.28	26	eP	P	08 12 07.3	0.0
MA2				eS	S	08 21 21.0	-0.5
MA2				ePS	PS	08 21 44.2	-10
MA2				e		08 22 02.7	
MA2				eSS	SS	08 26 02.8	+5.1
MA2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
MA2				pmax	pmax		
	comp=N,2.0nm,0.7s						
MA2				MLR	MLR		
	comp=Z,500nm,24.0s,MS4.7						
MA2	Magadan	71.28	26	eP	P	08 12 06.4	-0.9
	comp=Z,8.0nm,0.8s,mb4.7						
MA2				epP	pP	08 12 15.7	-0.8
LBTB	Lobatse	72.49	243	P	P	08 12 15.7	+0.6
	comp=Z,10nm,1.2s,mb4.6,baz=151,slow=8.0,SNR=3.8						
TIXI	Tiksi	72.50	11	⇓iP	P	08 12 13.6	-0.7
TIXI				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
TIXI				MLR	MLR		
	comp=Z,469nm,17.0s,MS4.8						
IDI	Anoyia	72.56	306	P	P	08 12 15.1	-0.3
	comp=Z,6.1nm,0.5s,mb4.8,baz=122,slow=12,SNR=5.2						
AKASG	Malin Array Be	73.12	323	P	P	08 12 16.1	-2.2
	comp=Z,1.7nm,0.7s,mb4.1,baz=91,slow=5.0,SNR=4.7						
MAW	Mawson	73.30	192	LR	LR	08 40 30.6	
	comp=Z,131nm,19.1s,MS4.2,baz=74,slow=32						
MLR	Muntele Rosu	73.84	317	P	P	08 12 22.5	-0.1
	comp=Z,4.0nm,0.8s,mb4.4,baz=196,slow=10,SNR=5.3						
FINES	FINESS Array B	78.07	333	P	P	08 12 45.1	-1.1
	comp=Z,1.4nm,0.6s,mb4.1,baz=124,slow=6.9,SNR=8.1						
ARCES	ARCESS Array B	80.81	340	P	P	08 13 01.1	+0.3
	comp=Z,6.7nm,1.1s,mb4.5,baz=76,slow=5.0,SNR=9.4						
ARCES				LR	LR	08 52 29.5	
	comp=Z,156nm,18.9s,MS4.4,baz=197,slow=38						
BILL	Bilibino	80.91	21	eP	P	08 13 01.3	-0.1
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
BILL				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.9						
GERES	GERESS Array B	82.61	319	P	P	08 13 10.8	+0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=117,slow=6.0,SNR=8.6						
DAVOX	Davos	85.06	317	P	P	08 13 23.5	+0.5
	comp=Z,6.6nm,0.7s,mb4.9,baz=109,slow=7.6,SNR=7.1						
LPG	La Plagne	87.22	315	eP	P	08 13 34.3	+0.5
	comp=Z,20nm,1.2s,mb4.9						
LPG	La Plagne	87.22	315	eP	P	08 13 34.3	+0.5
LPG				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.9						
VNDA	Vanda	87.30	168	LR	LR	08 52 00.0	
	comp=Z,124nm,18.1s,MS4.4,baz=319,slow=35						
ILAR	Eielson Array	99.52	23	P	P	08 14 29.8	-0.2
	comp=Z,0.4nm,0.9s,mb3.8,baz=307,slow=4.5,SNR=3.5						
ILAR				LR	LR	09 04 52.4	
	comp=Z,170nm,18.2s,MS4.6,baz=180,slow=39						
YKA	Yellowknife Ar	111.58	14	PP	PP	08 20 02.8	-3.4
	comp=Z,0.3nm,0.9s,baz=333,slow=7.7,SNR=4.1						
ULM	Lac du Bonnet	126.83	9	PKP	PKPdf	08 19 50.2	-4.7
	comp=Z,1.1nm,0.5s,baz=310,slow=0.7,SNR=4.2						
ULM	Lac du Bonnet	126.83	9	PKP	PKPdf	08 19 50.2	-4.7
NVAR	Mina Array Bea	129.10	34	PKP	PKPdf	08 19 56.5	-3.2
	comp=Z,1.3nm,0.8s,baz=256,slow=1.8,SNR=11						
PDAR	Pinedale Array	129.94	24	PKP	PKPdf	08 19 58.0	-3.2
	comp=Z,0.4nm,0.6s,baz=180,slow=1.5,SNR=4.7						
TXAR	Lajitas Array	143.79	28	PKP	PKPdf	08 20 22.2	-4.5
	comp=Z,1.5nm,0.9s,baz=247,slow=1.1,SNR=9.9						

DJA 11 08:08:29.4±0.9**,8.53S×117.41E,h132^{km}**±8^{km}**,MD4.8**/3**, ML4.7**/4**,1C-9D,Error ellipse: s-maj=55.1km s-min=18.6km az=3.0,Sumbawa region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.28	272	⇑ePn	P	08 08 55.8	+0.2
	671nm,0.2s						
KEDI	Kedomdong	1.28	272	⇓iP	P	08 08 56.3	+0.7
KEDI				⇓iSn	S	08 09 14.8	-0.8
RATI	Rata	1.86	264	⇓ePn	P	08 09 02.1	-0.2
	1μm,0.2s						
RATI	Rata	1.86	264	⇓iP	P	08 09 03.0	+0.7
RATI				⇓iSn	S	08 09 25.9	-1.4
KELI	Kelakatan	2.90	276	⇓ePn	P	08 09 15.6	0.0
	78nm,0.2s						
KELI				⇓iSn	S	08 09 49.0	-1.8
SRDI	Scrawed	3.23	271	⇓ePn	P	08 09 19.2	-0.8
	393nm,0.2s						
SRDI				⇓iSn	S	08 09 56.4	-2.1

KRSC 11 08:12:27.3±0.6**,54.35N×160.61E,h101^{km}**±3^{km}**,ML4.2, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KII	Karymskiy	0.75	246	i P	P	08 12 45.2	-0.3
KII				i S	S	08 12 58.7	-0.3
TUMR	Tumrok	0.97	344	i P	P	08 12 47.8	0.0
TUMR				i S	S	08 13 02.3	-0.8
SPN	Mys Shipunski	1.30	196	i P	P	08 12 51.4	-0.2
SPN				i S	S	08 13 08.7	-1.1
NLC	Nalytchevo	1.40	213	i P	P	08 12 53.0	+0.2
NLC				i S	S	08 13 11.6	-0.2
KMNR	Kamenistaya	1.43	351	eP	P	08 12 54.1	+1.0
KMNR				eS	S	08 13 13.9	+1.5
SDLR	Sedlovina	1.48	224	eP	P	08 12 54.7	+0.9
SDLR				eS	S	08 13 15.3	+1.7
AVH	Avacha	1.55	226	i P	P	08 12 55.7	+1.0
AVH				eS	S	08 13 16.9	+1.8
UGLR	Uglovaya	1.56	224	eP	P	08 12 55.5	+0.7
UGLR				eS	S	08 13 16.3	+1.1
KOK	Koryaka	1.58	229	eP	P	08 12 55.9	+0.9
KOK				eS	S	08 13 17.0	+1.4
GNL	Ganaly	1.71	248	i P	P	08 12 57.5	+0.9
GNL				i S	S	08 13 19.8	+1.4
KOZ	Kozyrevsk	1.76	346	eP	P	08 12 58.1	+0.8
PET	Petropavlovsk	1.77	222	eP	P	08 12 58.0	+0.6
PET				eS	S	08 13 20.9	+1.2
ESO	Esso	1.92	326	eP	P	08 12 59.6	+0.2
ESO				eS	S	08 13 23.4	+0.2
ESO				Smax			
	140nm,0.6s						
KLY	Klyuchi	1.97	1	eP	P	08 13 01.3	+1.3
KLY				eS	S	08 13 26.6	+2.4
SRDR	Sredinnyy	2.04	346	eP	P	08 13 01.1	+0.2
SRDR				eS	S	08 13 26.6	+0.8
KRMR	Karymshinskiy	2.12	225	eP	P	08 13 04.1	+2.0
KRMR				eS	S	08 13 30.8	+2.9
KBTR	Krutoberegovo	2.25	33	eP	P	08 13 05.1	+1.3
KBTR				eS	S	08 13 32.9	+1.9
KBG	Krutoberegovo	2.25	31	eP	P	08 13 05.0	+1.1
KBG				eS	S	08 13 32.0	+0.9
KBG				Smax			
	680nm,0.7s						
KBG	Krutoberegovo	2.25	31	eP	P	08 13 05.9	+2.0
KBG				eS	S	08 13 33.6	+2.5
KBG				Smax			
	470nm,0.8s						
RUS	Russkaya	2.29	214	eP	P	08 13 04.6	+0.2
RUS				eS	S	08 13 31.9	-0.2
GRL	Gorelyy	2.35	221	eP	P	08 13 06.7	+1.5
GRL				eS	S	08 13 35.6	+2.0
APC	Apacha	2.50	237	eP	P	08 13 09.3	+2.0
APC				eS	S	08 13 40.2	+3.0
BKI	Bering	3.22	72	eP	P	08 13 16.7	-0.4
BKI				eS	S	08 13 52.4	-2.3
BKI				Smax			
	30nm,0.5s						
PAU	Pauzhetka	3.69	220	P	P	08 13 24.0	+0.5
PAU				eS	S	08 14 08.0	+1.8

IDC 11 08:45:18.3±20.0**,19.12S×174.07W,mb4.2**/4**,mb1 4.3**/4**, mb1mx3.9**/17**,mbtmp4.2**/4**,Error ellipse: s-maj=389.2km s-min=52.2km az=59.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	Rata Peaks	27.52	204	P	P	08 51 06.5	-2.0
	3.8nm,0.5s,baz=69,slow=13,SNR=14						
STKA	Stephens Creek	41.72	243	P	P	08 53 09.2	-1.6
	0.6nm,0.4s,baz=85,slow=12,SNR=4.6						
ASAR	Alice Springs	48.45	255	P	P	08 54 02.8	-1.9
	3.1nm,0.6s,baz=92,slow=7.6,SNR=58						
ASPA	Alice Springs	48.45	255	eP	P	08 54 02.8	-1.9
WB2	Warramunga Arr	48.46	260	eP	P	08 54 02.8	-2.1
WRA	Warramunga Arr	48.48	260	P	P	08 54 03.1	-1.9
	0.8nm,0.3s,baz=97,slow=7.4,SNR=48						

*NEIC **11** 08:49:26.3,37.76S×176.52E,h236^{km},MG4.3(WEL), After WEL.*

WEL 11 08:49:25.8±0.2**,37.74S×176.56E,h240^{km}**±2^{km}**,ML4.1**/17**, Error ellipse: s-maj=4.0km s-min=3.8km az=0.0,North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWZ	Matawai	0.97	128	P	P	08 49 59.9	+0.2
MWZ				S	S	08 50 25.5	-0.6
MWZ	Matawai	0.97	128	PN	P	08 49 59.9	+0.3
MWZ				SN	S	08 50 25.5	-0.6
PUZ	Puketiti	1.39	105	eP	P	08 50 02.3	-0.3
PUZ	Puketiti	1.39	105	PN	P	08 50 02.3	-0.3
PUZ				SN	S	08 50 30.2	-0.9
MXZ	Matakaoa Point	1.40	83	eP	P	08 50 02.3	-0.4
MXZ	Matakaoa Point	1.40	83	PN	P	08 50 02.3	-0.3
MXZ				SN	S	08 50 30.4	-0.9
BKZ	Black Stump Fm	1.43	182	P	P	08 50 02.6	-0.3
BKZ				S	S	08 50 30.9	-0.8
BKZ	Black Stump Fm	1.43	182	PN	P	08 50 02.6	-0.3
BKZ				SN	S	08 50 31.0	-0.7
MGZ	Maungaku	1.50	212	P	P	08 50 03.2	-0.2
MGZ	Maungaku	1.50	212	PN	P	08 50 03.2	-0.2
WTVZ	West Tongariro	1.57	209	P	P	08 50 03.7	-0.3
WTVZ	West Tongariro	1.57	209	PN	P	08 50 03.7	-0.3
OTVZ	Oturere	1.59	206	PN	P	08 50 04.1	-0.1
OTVZ				SN	S	08 50 34.0	+0.1
OTVZ				SN	S	08 50 34.2	+0.4
TWVZ	Taurewa	1.60	213	P	P	08 50 03.7	-0.5
TWVZ	Taurewa	1.60	213	PN	P	08 50 03.7	-0.5
NGZ	Ngauruhoe	1.62	207	P	P	08 50 04.6	+0.2
NGZ	Ngauruhoe	1.62	207	PN	P	08 50 04.0	-0.4
CNZ	Chateau	1.66	208	P	P	08 50 04.5	-0.2
CNZ	Chateau	1.66	208	PN	P	08 50 04.5	-0.2
WPVZ	Whakapapa	1.67	208	P	P	08 50 04.5	-0.3
WPVZ	Whakapapa	1.67	208	PN	P	08 50 04.5	-0.3
TUVZ	Tukino	1.69	205	P	P	08 50 04.7	-0.2
TUVZ	Tukino	1.69	205	PN	P	08 50 04.7	-0.2
TUVZ				SN	S	08 50 35.4	+0.1
WNVZ	Wahianoa	1.76	205	P	P	08 50 05.2	-0.3
WNVZ	Wahianoa	1.76	205	PN	P	08 50 05.2	-0.3
MOVZ	Moawhango	1.78	200	P	P	08 50 05.2	-0.6
MOVZ	Moawhango	1.78	200	PN	P	08 50 05.2	-0.5
MOVZ				SN	S	08 50 36.1	-0.6
VRZ	Vera Road	1.98	225	eP	P	08 50 07.4	-0.1
VRZ	Vera Road	1.98	225	PN	P	08 50 07.4	-0.1
VRZ				SN	S	08 50 40.7	+0.9
PWZ	Pawanui	2.30	174	P	P	08 50 10.9	+0.2
PWZ	Pawanui	2.30	174	PN	P	08 50 10.9	+0.3
PWZ				SN	S	08 50 46.1	+0.7
WAZ	Wanganui	2.36	211	eP	P	08 50 10.6	-0.7
WAZ	Wanganui	2.36	211	PN	P	08 50 10.6	-0.7
WAZ				SN	S	08 50 46.9	+0.4
TSZ	Takapari Road	2.37	191	P	P	08 50 10.9	-0.4
TSZ	Takapari Road	2.37	191	PN	P	08 50 10.9	-0.4
TSZ				SN	S	08 50 46.4	-0.2
BFZ	Birch Farm	2.95	185	eP	P	08 50 16.8	-0.7
BFZ	Birch Farm	2.95	185	PN	P	08 50 16.8	-0.6
BFZ				SN	S	08 50 57.0	-0.6
MRZ	Mangatainoka R	3.02	194	P	P	08 50 17.0	-1.2
MRZ	Mangatainoka R	3.02	194	PN	P	08 50 17.0	-1.2
KIW	Kapiti Island	3.37	202	P	P	08 50 20.2	-2.1
KIW	Kapiti Island	3.37	202	PN	P	08 50 20.2	-2.1
MTW	Mount Morrison	3.51	193	P	P	08 50 22.1	-1.8
MTW	Mount Morrison	3.51	193	PN	P	08 50 22.1	-1.8
CAW	Cannon Point	3.56	198	P	P	08 50 22.7	-1.8
CAW	Cannon Point	3.56	198	PN	P	08 50 22.7	-1.8
DUWZ	D'Urville Isla	3.68	213	PN	P	08 50 23.1	-2.8
PAWZ	Paruwai Farm	3.74	193	PN	P	08 50 24.7	-1.9
MRW	Makara Radio	3.77	202	P	P	08 50 24.8	-2.2
MRW	Makara Radio	3.77	202	PN	P	08 50 24.8	-2.2
WEL	Wellington	3.81	201	PN	P	08 50 25.4	-1.9
MSWZ	Moikau Station	3.81	195	P	P	08 50 25.3	-2.1
MSWZ	Moikau Station	3.81	195	PN	P	08 50 25.3	-2.1
SNZO	South Karori	3.84	201	P	P	08 50 25.4	-2.4
SNZO	South Karori	3.84	201	PN	P	08 50 25.4	-2.4
BHW	Baring Head	3.89	199	P	P	08 50 26.1	-2.3
BHW	Baring Head	3.89	199	PN	P	08 50 26.1	-2.3
TUWZ	Tuamarina	4.21	208	PN	P	08 50 29.2	-2.9
NNZ	Nelson	4.26	214	P	P	08 50 29.6	-3.1
NNZ	Nelson	4.26	214	PN	P	08 50 29.6	-3.1
QRZ	Quartz Range	4.39	224	P	P	08 50 30.3	-4.1
QRZ	Quartz Range	4.39	224	PN	P	08 50 30.3	-4.0
BSWZ	Blackbirch Sta	4.48	207	P	P	08 50 32.8	-2.6
BSWZ	Blackbirch Sta	4.48	207	PN	P	08 50 32.8	-2.6
THZ	Tophouse	4.91	214	eP	P	08 50 36.9	-3.8
THZ	Tophouse	4.91	214	PN	P	08 50 36.9	-3.7
KHZ	Kahutara	5.22	205	P	P	08 50 41.9	-2.6
KHZ	Kahutara	5.22	205	PN	P	08 50 41.9	-2.6
DSZ	Denniston Nort	5.43	221	eP	P	08 50 42.4	-4.7
DSZ	Denniston Nort	5.43	221	PN	P	08 50 42.4	-4.7
LTZ	Lake Taylor	6.01	212	eP	P	08 50 50.4	-4.1
LTZ	Lake Taylor	6.01	212	PN	P	08 50 50.4	-4.1
MQZ	McQueen's Vall	6.66	205	PN	P	08 50 58.6	-4.1
FOZ	Fox Glacier	7.82	220	PN	P	08 51 11.4	-6.0
ODZ	Otahua Downs	8.54	209	eP	P	08 51 23.2	-3.5
ODZ	Otahua Downs	8.54	209	PN	P	08 51 23.2	-3.6
JCZ	Jackson Bay	8.65	221	eP	P	08 51 22.8	-5.3
JCZ	Jackson Bay	8.65	221	PN	P	08 51 22.8	-5.3

IDC 11 09:39:38.6±15.0**,18.33S×176.34W,mb3.9**/3**,mb1 4.2**/3**, mb1mx3.7**/15**,mbtmp3.9**/3**,MS4.5**/2**,Ms1 4.5**/2**, ms1mx3.3**/24**,Error ellipse: s-maj=384.8km s-min=46.6km az=37.0,Low confidence,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.50	260	P	P	09 48 07.5	-2.2
	0.6nm,0.6s,baz=97,slow=7.1,SNR=7.7						
ASAR	Alice Springs	46.58	255	P	P	09 48 08.8	-1.4
	2.8nm,0.7s,baz=88,slow=8.7,SNR=35						
VNDA	Vanda	60.20	185	P	P	09 49 47.9	-2.4
	1.2nm,0.8s,baz=350,slow=11,SNR=5.0						
VNDA				LR	LR	10 11 03.9	
	comp=Z,269nm,18.0s,baz=328,slow=31						
CBIJ	Chichi jima	60.48	317	LR	LR	10 12 53.6	
	comp=Z,413nm,18.4s,baz=116,slow=33						

*BJI **11** 09:51:35.3,4.15N×94.41E,h30^{km},mB5.0,mb4.8,Ms4.5, Msz4.3*

*IDC **11** 09:51:40.6±0.8,5.16N×94.74E,mb4.5/14,mb1 4.6/15, mb1mx4.5/21,mbtmp4.5/15,ML4.7/1,MS3.6/3,Ms1 3.6/3, ms1mx3.0/27,Error ellipse: s-maj=41.5km s-min=16.0km az=50.0*

*NEIC **11** 09:51:44.9±0.5,5.06N×94.56E,h30^{km},mb4.6/13,Error ellipse: s-maj=16.2km s-min=6.6km az=49.0*

ISC 11 09:51:43.6±0.5**,4.96N**±0.07**×94.55E**±0.07**,h33^{km}, (h37^{km}**±4.9^{km}**:pP-P),n52,**σ**1^{s}02**/51**,mb4.6**/32**,MS4.3**/5**,3C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.08	87	ePn	Pn	09 53 14.3	+0.6
SNG	Songkhla	6.42	70	P	P	09 53 19.0	+0.7
	244nm,0.8s						
KKTK	Khon Kaen	13.92	35	P	P	09 55 08.0	+7.1
CMAR	Chiang Mai Arr	14.09	17	Pn	P	09 55 05.8	+2.7
	1.1nm,0.3s,baz=207,slow=12,SNR=33						
CMAR				LR	LR	10 01 05.9	
	comp=Z,32nm,18.9s,baz=211,slow=41						
CHG	Chiang Mai	14.42	17	⇑P	P	09 55 12.7	+5.2
	12nm,0.8s						
NANT	Nan	15.01	23	⇑P	P	09 55 15.0	-0.2
KMI	Kunming	21.54	21	P	P	09 56 36.2	+4.1
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.4						
KMI	Kunming	21.54	21	P	P	09 56 36.2	+4.1
	comp=Z,11nm,0.7s,mb4.4						
JIRN	Jiri	23.94	341	eP	P	09 56 56.3	+0.5
	comp=Z,9.5nm,0.3s,mb4.7						
PKI	Pulchoki	24.11	340	eP	P	09 56 57.8	+0.3
	comp=Z,9.6nm,0.5s,mb4.5						
DMN	Daman	24.25	339	eP	P	09 56 59.7	+0.8
	comp=Z,7.7nm,0.3s,mb4.6						
GUN	Gumba	24.27	341	eP	P	09 56 56.9	-2.1
GYA	Guiyang	24.32	27	P	P	09 56 58.7	-0.8
GYA				AP		09 57 07.2	
GYA				XP		09 57 11.4	
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,100nm,3.4s						
GYA				LR	LR		
	comp=N,540nm,20.3s,MS4.2						
GYA				LR	LR		
	comp=E,600nm,20.9s,MS4.2						
GYA				LR	LR		
	comp=Z,820nm,24.8s,MS4.1						
KKN	Kakani	24.36	340	eP	P	09 56 58.5	-1.4
	comp=Z,9.2nm,0.5s,mb4.5						
GKN	Gorkha	24.78	339	eP	P	09 57 03.9	-0.1
	comp=Z,14nm,0.3s,mb5.0						
LSA	Lhasa	24.82	353	eP	P	09 57 04.8	+0.4
	comp=Z,15nm,0.6s,mb4.7						
XAN	Xi'an	31.87	23	P	P	09 58 04.8	-3.3
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
GTA	Gaotai	34.63	7	eP	P	09 58 29.8	-2.1
GTA				AP	pP	09 58 42.7	+1.1
GTA				XP	sP	09 58 48.3	+2.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.8						
HHC	Hu-ho-hao-te	38.86	21	eP	P	09 59 09.9	+2.4
HHC				AP	pP	09 59 19.5	+2.2
HHC				XP	sP	09 59 23.1	+1.6
HHC				PP	PP	10 00 42.8	+2.1
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,127nm,10.7s						
HHC				LR	LR		
	comp=N,320nm,19.0s,MS4.4						
HHC				LR	LR		
	comp=E,443nm,22.0s,MS4.4						
HHC				LR	LR		
	comp=Z,349nm,16.6s						
WMQ	Urumqi	39.17	352	P	P	09 59 10.6	+0.5
WMQ				AP	pP	09 59 20.0	+0.2
WMQ				XP	sP	09 59 24.0	-0.1
WMQ				PP	PP	10 00 45.0	+1.0
WMQ				S	S	10 05 08.5	+0.8
WMQ				XS		10 05 25.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,171nm,6.2s						
WMQ				LR	LR		
	comp=N,1μm,16.7s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,17.2s,MS5.0						
WMQ				LR	LR		
	comp=Z,997nm,17.6s,MS4.7						
BJT	Baijiatuau	39.98	26	eP	P	09 59 16.7	0.0
	comp=Z,7.3nm,0.4s,mb4.8						
BJI	Beijing	40.00	26	P	P	09 59 15.8	-1.1
BJI				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
BJI	Beijing	40.00	26	P	P	09 59 15.8	-1.1
	comp=Z,18nm,0.7s,mb4.9						
ULHL	Ulahol	40.55	339	P	P	09 59 21.6	+0.1
	SNR=13						
UCH	Uchtor	41.18	337	P	P	09 59 27.6	+0.9
	SNR=7.2						
KBK	Karagaybulak	41.38	338	P	P	09 59 29.6	+1.2
	SNR=9.6						
AML	Almayashu	41.42	336	P	P	09 59 29.7	+1.0
	SNR=18						
AAK	Ala-Archa	41.53	338	eP	P	09 59 29.7	+0.1
	comp=Z,3.2nm,0.5s,mb4.2						
EKS2	Erkin-Say	41.83	337	P	P	09 59 32.9	+0.8
	SNR=6.3						
SONM	Songino Array	43.91	12	P	P	09 59 46.9	-2.1
	comp=Z,3.8nm,0.7s,mb4.2,baz=192,slow=8.3,SNR=38						
SONM				PcP	PcP	10 01 34.3	-0.9
	comp=Z,1.0nm,0.5s,baz=195,slow=3.6,SNR=11						
WRA	Warramunga Arr	46.28	124	P	P	10 00 08.1	-0.1
	comp=Z,10.0nm,0.7s,mb4.9,baz=304,slow=9.1,SNR=87						
WRAB	Tennant Creek	46.29	124	eP	P	10 00 08.5	+0.2
	comp=Z,13nm,0.6s,mb5.0						
WB2	Warramunga Arr	46.29	124	⇑iP	P	10 00 08.6	+0.3
KURK	Kurchatov	47.52	346	P	P	10 00 17.9	+0.3
	comp=Z,115nm,0.6s,SNR=19						
KURK	Kurchatov	47.52	346	eP	P	10 00 16.9	-0.7
	comp=Z,7.2nm,0.5s,mb5.0						
ASPA	Alice Springs	47.77	128	eP	P	10 00 20.3	+0.4
ASAR	Alice Springs	47.77	128	P	P	10 00 20.3	+0.4
	comp=Z,3.2nm,0.7s,mb4.5,baz=300,slow=7.6,SNR=33						
ASAR				LR	LR	10 20 40.1	
	comp=Z,170nm,19.9s,MS4.0,baz=343,slow=36						
ZAL	Zalesovo	49.47	352	P	P	10 00 31.9	-0.8
	comp=Z,9.9nm,0.4s,mb5.2,baz=306,slow=5.3,SNR=35						
BVAR	Borovoye Array	51.87	342	P	P	10 00 49.9	-0.9
	comp=Z,4.0nm,0.6s,mb4.5,baz=143,slow=7.4,SNR=20						
CHKZ	Chkalovo	52.35	342	eP	P	10 00 53.4	-1.0
	comp=Z,8.4nm,0.5s,mb4.9						
STKA	Stephens Creek	57.83	133	P	P	10 01 33.1	-1.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=253,slow=1.8,SNR=4.2						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
STKA				LR	LR	10 26 20.8	
	comp=Z,139nm,18.5s,MS4.1,baz=196,slow=36						
IDI	**Anoyia**	**70.57**	**306**	P	**P**	**10 02 58.7**	**+1.0**
	comp=Z,8.1nm,0.7s,mb4.8,baz=29,slow=13,SNR=4.2						
FINES	**FINESS Array B**	**75.47**	**332**	P	**P**	**10 03 25.5**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=184,slow=31,SNR=6.0						
ARCES	**ARCESS Array B**	**78.13**	**340**	P	**P**	**10 03 40.6**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.4,baz=98,slow=6.9,SNR=7.5						
GERES	**GERESS Array B**	**80.26**	**319**	P	**P**	**10 03 53.8**	**+1.1**
	comp=Z,3.1nm,0.7s,mb4.3,baz=100,slow=5.6,SNR=16						
NOA	**NORSAR Array B**	**82.46**	**331**	P	**P**	**10 04 03.0**	**-0.9**
	comp=Z,1.6nm,0.9s,mb3.9,baz=296,slow=11,SNR=2.7						
DAVOX	**Davos**	**82.76**	**316**	P	**P**	**10 04 06.8**	**+1.1**
	comp=Z,6.6nm,0.5s,mb5.0,baz=66,slow=3.2,SNR=13						
DAVOX	**Davos**	**82.76**	**316**	P	**P**	**10 04 06.8**	**+1.0**
ILAR	**Eielson Array**	**97.27**	**22**	P	**P**	**10 05 13.3**	**-0.8**
	comp=Z,0.3nm,0.6s,mb3.9,baz=301,slow=4.2,SNR=5.4						
INK	**Inuvik**	**99.66**	**16**	P	**P**	**10 05 24.6**	**-0.3**
	comp=Z,0.7nm,0.6s,mb4.3,baz=319,slow=6.6,SNR=5.7						
NVAR	**Mina Array Bea**	**127.17**	**32**	PKP	PKPdf	10 10 47.8	+2.5
	comp=Z,0.6nm,0.7s,baz=331,slow=1.9,SNR=4.7						
PDAR	**Pinedale Array**	**127.71**	**22**	PKP	PKPdf	10 10 47.4	+1.2
	comp=Z,0.4nm,0.5s,baz=113,slow=3.2,SNR=4.8						

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*IDC **11** 09:58:18.2±0.5, 9.16N×126.48E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, mbtmp4.5/19, MS4.2/11, Ms1 4.2/11, ms1mx3.9/25, Error ellipse: s-maj=25.8km s-min=11.8km az=70.0*

*MAN **11** 09:58:21.1, 9.21N×126.69E, h7km, mb5.4, ML4.4, MS4.7*

*BJI **11** 09:58:22.9, 9.10N×126.40E, h55km, mB5.2, mb5.0, Ms4.6, Msz4.4*

*MOS **11** 09:58:23.0±1.1, 9.12N×126.47E, h50km, mb5.1/25, MS4.2/6, Error ellipse: s-maj=17.3km s-min=7.4km az=106.5*

*NEIC **11** 09:58:25.5±0.3, 9.20N×126.56E, h55km, mb4.8/27, Error ellipse: s-maj=11.2km s-min=6.0km az=75.0*

ISC 11 09:58:24.3±0.6**, 9.19N**±0.03×**126.60E**±0.05**, h60**km±5km**, n136, σ1**s**19**/144**, mb4.7**/58**, 7C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.99**	**257**	eP	**P**	**09 58 41.1**	**-1.3**
BIPH	**Bislig**	**1.03**	**193**	⇑iP	**P**	**09 58 40.8**	**-2.1**
BIPH				i S	**S**	**09 58 53.6**	**-3.1**
SCPH	**Surigao**	**1.24**	**298**	eP	**P**	**09 58 44.9**	**-1.0**
SCPH				eS	**S**	**09 59 01.1**	**-0.9**
MSLP	**Maasin**	**1.96**	**299**	eP	**P**	**09 58 57.1**	**+1.4**
BUKP	**Musuan**	**2.00**	**230**	eP	**P**	**09 58 57.7**	**+1.3**
CGP	**Cagayan de Oro**	**2.02**	**249**	⇓iP	**P**	**09 58 57.1**	**+0.4**
CGP				eS	**S**	**09 59 23.7**	**+3.1**
MATI	**Mati**	**2.25**	**189**	eP	**P**	**09 58 59.3**	**-0.7**
DAV	**Davao City (W)**	**2.34**	**206**	⇓eP	**P**	**09 59 03.5**	**+2.3**
PLP	**Palo**	**2.53**	**321**	eP	**P**	**09 59 03.6**	**-0.3**
PLP				eS	**S**	**09 59 32.2**	**-1.4**
KCP	**Kidapawan**	**2.63**	**215**	⇑eP	**P**	**09 59 06.4**	**+1.0**
KCP				i S	**S**	**09 59 41.2**	**+5.0**
BESP	**Borongan**	**2.65**	**335**	eP	**P**	**09 59 05.6**	**-0.1**
TBP	**Tagbilaran**	**2.75**	**281**	⇓eP	**P**	**09 59 07.2**	**+0.2**
TBP				i S	**S**	**09 59 43.3**	**+4.3**
LLP	**Lapu-Lapu**	**2.83**	**294**	⇑eP	**P**	**09 59 09.1**	**+1.0**
LLP				eS	**S**	**09 59 41.5**	**+0.3**
DCPH	**Dipolog City**	**3.27**	**260**	eP	**P**	**09 59 14.9**	**+0.6**
DCPH				eS	**S**	**09 59 48.8**	**-3.3**
SNPH	**Sibulan**	**3.32**	**273**	eP	**P**	**09 59 16.0**	**+0.9**
PAGZ	**Pagadian**	**3.45**	**248**	eP	**P**	**09 59 18.3**	**+1.4**
CNP	**Catarman**	**3.81**	**330**	eP	**P**	**09 59 21.6**	**-0.3**
GUIM	**Jordan**	**4.20**	**290**	eP	**P**	**09 59 19.8**	**-7.6**
MMPH	**Masbate**	**4.30**	**317**	eP	**P**	**09 59 36.0**	**+7.2**
RCP	**Roxas**	**4.46**	**302**	⇓eP	**P**	**09 59 32.2**	**+1.1**
PVCP	**Virac**	**4.99**	**332**	eP	**P**	**09 59 39.0**	**+0.5**
SJMP	**San Jose**	**6.29**	**302**	eP	**P**	**09 59 59.5**	**+3.0**
ENPP	**El Nido**	**7.34**	**286**	eP	**P**	**10 00 11.7**	**+0.5**
LUBP	**Lubang**	**7.69**	**307**	eP	**P**	**10 00 18.2**	**+2.2**
BALP	**Baler**	**8.15**	**324**	eP	**P**	**10 00 20.4**	**-2.0**
CAUP	**Cauayan**	**9.00**	**329**	eP	**P**	**10 00 32.9**	**-1.0**
KSM	**Kuching**	**17.93**	**246**	eP	**P**	**10 02 35.1**	**+3.9**
QIZ	**Qiongzhong**	**18.95**	**303**	P	**P**	**10 02 40.8**	**-2.5**
QIZ				LR	LR		
	comp=N,421nm,14.5s						
QIZ				LR	LR		
	comp=E,694nm,14.5s						
QIZ				LR	LR		
	comp=Z,1µm,15.3s						
SSE	**Sheshan**	**22.37**	**348**	P	**P**	**10 03 17.2**	**-1.3**
SSE				S	**S**	**10 07 17.2**	**+1.7**
SSE				AMB	AMB		
	comp=Z,61nm,0.9s,mb5.0						
SSE				AMB	AMB		
	comp=Z,83nm,3.7s						
SSE				LR	LR		
	comp=N,201nm,18.5s						
SSE				LR	LR		
	comp=E,175nm,18.5s						
SSE				LR	LR		
	comp=Z,269nm,20.7s						
SSE	**Sheshan**	**22.37**	**348**	P	**P**	**10 03 17.2**	**-1.3**
	comp=Z,61nm,0.9s,mb5.0						
SSE				pP		10 03 25.1	
SSE				sP		10 03 29.2	
SSE				S	**S**	**10 07 17.2**	**+1.7**
SSE				sS		10 07 30.7	
SSE				LR	LR		
	comp=Z,270nm,20.7s						
KAKA	**Kakadu**	**22.52**	**165**	eP	**P**	**10 03 21.1**	**+0.9**
	comp=Z,27nm,0.7s,mb4.8						
NJ2	**Nanjing**	**23.86**	**344**	eP	**P**	**10 03 34.2**	**+1.2**
NJ2				AP		10 03 43.5	
NJ2				XP		10 03 47.5	
NJ2				PP	PP	10 04 08.3	+0.1
NJ2				S	**S**	**10 07 44.0**	**+2.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1µm,4.8s						
NJ2				LR	LR		
	comp=N,850nm,21.6s						
NJ2				LR	LR		
	comp=E,900nm,25.7s						
NJ2				LR	LR		
	comp=Z,870nm,15.7s						
KULM	**Kulim**	**26.03**	**263**	eP	**P**	**10 03 54.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.13**	**182**	eP	**P**	**10 04 03.1**	**-0.9**
	comp=Z,39nm,0.9s,mb4.9						
PMG	**Port Moresby**	**27.57**	**132**	eP	**P**	**10 04 10.5**	**+2.4**
PMG				pmax	pmax		
	comp=Z,12nm,0.8s						
PMG	**Port Moresby**	**27.57**	**132**	P	**P**	**10 04 08.2**	**+0.2**
	comp=Z,7.0nm,0.9s,mb4.3,baz=318,slow=9.9,SNR=3.3						
PMG	**Port Moresby**	**27.57**	**132**	eP	**P**	**10 04 10.5**	**+2.4**
	comp=Z,12nm,0.8s,mb4.6						
CMAR	**Chiang Mai Arr**	**28.35**	**292**	P	**P**	**10 04 14.9**	**-0.1**
	comp=Z,2.6nm,0.5s,mb4.1,baz=108,slow=7.5,SNR=25						
CMAR				PcP	PcP	10 07 26.6	-0.1
	comp=Z,1.1nm,0.4s,baz=93,slow=0.5,SNR=5.5						
CMAR				LR	LR	10 16 09.3	
	comp=Z,401nm,18.0s,baz=105,slow=38						
MAT	**Matsushiro**	**29.20**	**19**	P	**P**	**10 04 21.0**	**-1.4**
MAT				eS	**S**	**10 09 09.8**	**+0.6**
WRAB	**Tennant Creek**	**29.93**	**165**	eP	**P**	**10 04 27.2**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.0						
WRAB	**Tennant Creek**	**29.93**	**165**	eP	**P**	**10 04 27.2**	**-1.9**
	comp=Z,48nm,1.4s,mb5.0						
WRA	**Warramunga Arr**	**29.93**	**165**	P	**P**	**10 04 27.2**	**-1.9**
	comp=Z,1.8nm,0.4s,mb4.1,baz=350,slow=11,SNR=18						
WB2	**Warramunga Arr**	**29.94**	**165**	eP	**P**	**10 04 27.1**	**-2.0**
MBWA	**Marble Bar**	**30.91**	**193**	eP	**P**	**10 04 38.6**	**+0.9**
	comp=Z,3.0nm,0.5s,mb4.4						
BJT	**Baijiatuau**	**32.08**	**345**	eP	**P**	**10 04 47.0**	**-0.7**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**32.08**	**345**	eP	**P**	**10 04 47.0**	**-0.7**
	comp=Z,7.3nm,0.6s,mb4.7						
BJI	**Beijing**	**32.10**	**345**	P	**P**	**10 04 47.1**	**-0.8**
BJI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.9						
BJI				AMB	AMB		
	comp=Z,133nm,3.5s						
BJI				LR	LR		
	comp=N,234nm,17.4s						
BJI				LR	LR		
	comp=E,245nm,17.5s						
BJI				LR	LR		
	comp=Z,284nm,19.7s						
SNY	**Shenyang**	**32.62**	**356**	⇑P	**P**	**10 04 52.8**	**+0.4**
SNY				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4						
ASAR	**Alice Springs**	**33.43**	**168**	P	**P**	**10 04 58.4**	**-1.3**
	comp=Z,1.5nm,0.4s,mb4.2,baz=351,slow=6.9,SNR=55						
ASAR				LR	LR	10 18 20.5	
	comp=Z,162nm,19.7s,baz=349,slow=36						
ASPA	**Alice Springs**	**33.43**	**168**	eP	**P**	**10 04 58.4**	**-1.2**
HHC	**Hu-ho-hao-te**	**34.23**	**340**	eP	**P**	**10 05 02.1**	**-4.3**
HHC				AP	pP	10 05 22.6	+1.0
HHC				PP	PP	10 06 19.7	-3.0
HHC				S	**S**	**10 10 20.0**	**-7.9**
HHC				SS	SS	10 12 34.6	-5.6
HHC				AMB	AMB		
	comp=Z,15nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,122nm,5.1s						
HHC				LR	LR		
	comp=N,320nm,19.0s						
HHC				LR	LR		
	comp=E,366nm,26.8s						
HHC				LR	LR		
	comp=Z,349nm,17.3s						
CN2	**Changchun**	**34.49**	**359**	⇓P	**P**	**10 05 08.9**	**+0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CTA	**Charters Tower**	**34.94**	**146**	P	**P**	**10 05 11.8**	**-0.8**
	comp=Z,9.2nm,1.1s,mb4.6,baz=337,slow=14,SNR=3.5						
MDJ	**Mudanjiang**	**35.39**	**4**	P	**P**	**10 05 16.8**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.0						
MDJ				LR	LR		
	comp=N,109nm,25.4s						
MDJ				LR	LR		
	comp=E,100nm,20.2s						
MDJ				LR	LR		
	comp=Z,136nm,23.9s						
MDJ	**Mudanjiang**	**35.39**	**4**	eP	**P**	**10 05 16.9**	**+0.7**
	comp=Z,38nm,1.1s,mb5.2						
ASAJ	**Asahikawa**	**37.47**	**19**	P	**P**	**10 05 35.9**	**+2.2**
	comp=Z,6.2nm,0.6s,mb4.6,baz=216,slow=19,SNR=3.2						
ASAJ				LR	LR	10 21 29.4	
	comp=Z,282nm,18.2s,baz=33,slow=37						
GTA	**Gaotai**	**38.45**	**326**	eP	**P**	**10 05 40.2**	**-1.7**
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb3.9						
GTA				AMB	AMB		
	comp=Z,78nm,3.8s						
GTA				LR	LR		
	comp=N,563nm,17.5s						
GTA				LR	LR		
	comp=E,450nm,16.0s						
GTA				LR	LR		
	comp=Z,851nm,17.5s						
FORT	**Forrest**	**39.76**	**178**	eP	**P**	**10 05 53.0**	**+0.1**
	comp=Z,672nm,0.7s						
YSS	**Yuzh-Sakhalins**	**40.07**	**17**	eP	**P**	**10 05 56.4**	**+1.1**
HIA	**Hailar**	**40.36**	**353**	eP	**P**	**10 05 57.9**	**+0.3**
HIA				pmax	pmax		
	comp=Z,21nm,1.1s						
HIA	**Hailar**	**40.36**	**353**	eP	**P**	**10 05 57.9**	**+0.2**
	comp=Z,21nm,1.1s,mb4.8						
KLBR	**Kellerberrin**	**41.42**	**191**	eP	**P**	**10 06 06.9**	**+0.3**
	comp=Z,451nm,1.0s						
ULN	**Ulaanbaatar**	**41.94**	**340**	eP	**P**	**10 06 10.4**	**-0.3**
ULN				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**41.94**	**340**	eP	**P**	**10 06 10.4**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.3						
SONM	**Songino Array**	**42.14**	**340**	P	**P**	**10 06 11.8**	**-0.5**
	comp=Z,1.6nm,0.7s,mb3.8,baz=154,slow=9.0,SNR=13						
JIRN	**Jiri**	**42.26**	**301**	eP	**P**	**10 06 13.4**	**-0.2**
	comp=Z,40nm,0.7s,mb5.2						
NWAO	**Narrogin (SRO)**	**42.82**	**192**	eP	**P**	**10 06 18.6**	**+0.5**
NWAO				pmax	pmax		
	comp=Z,58nm,1.4s						
NWAO	**Narrogin (SRO)**	**42.82**	**192**	P	**P**	**10 06 18.8**	**+0.6**
	comp=Z,34nm,0.9s,mb5.1,baz=4.1,slow=7.3,SNR=13						
NWAO	**Narrogin (SRO)**	**42.82**	**192**	eP	**P**	**10 06 18.6**	**+0.4**
	comp=Z,58nm,1.4s,mb5.1						
PKI	**Pulchoki**	**42.89**	**301**	eP	**P**	**10 06 17.8**	**-1.0**
	comp=Z,19nm,0.8s,mb4.9						
PKI	**Pulchoki**	**42.89**	**301**	eP	**P**	**10 06 17.8**	**-1.0**
PKI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
KKN	**Kakani**	**43.07**	**301**	eP	**P**	**10 06 19.5**	**-0.7**
	comp=Z,30nm,0.9s,mb5.0						
KKN	**Kakani**	**43.07**	**301**	eP	**P**	**10 06 19.5**	**-0.7**
KKN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
DMN	**Daman**	**43.16**	**301**	eP	**P**	**10 06 20.1**	**-0.9**
	comp=Z,11nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**43.28**	**161**	P	**P**	**10 06 21.5**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.2,baz=356,slow=7.6,SNR=10						
STKA	**Stephens Creek**	**43.28**	**161**	P	**P**	**10 06 21.5**	**-0.4**
KOLN	**Koldanda**	**44.49**	**300**	eP	**P**	**10 06 31.2**	**-0.5**
	comp=Z,57nm,0.6s,mb5.5						
ZAK	**Zakamensk**	**45.38**	**339**	eP	**P**	**10 06 38.1**	**-0.4**
ZAK				e		10 08 18.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
MOY	**Mondy**	**47.26**	**339**	eP	**P**	**10 06 53.8**	**+0.5**
CLNS	**Chul'man**	**47.55**	**359**	eP	**P**	**10 06 56.3**	**+0.8**
CLNS				e		10 08 29.1	
CLNS				e		10 08 43.4	
CLNS				eS	**S**	**10 13 41.9**	**-3.2**
CLNS				eSS	SS	10 17 03.3	-4.3
CLNS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CLNS				pmax	pmax		
	comp=N,13nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,1.1s						
CLNS				smax			
	comp=N,3.0nm,1.0s						
CLNS				smax			
	comp=E,3.0nm,1.0s						
CLNS				smax			
	comp=Z,2.0nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,200nm,16.0s						
CLNS				MLR	MLR		
	comp=N,100nm,14.0s						
CLNS				MLR	MLR		
	comp=E,100nm,15.0s						
WMQ	**Urumqi**	**48.27**	**322**	P	**P**	**10 06 58.8**	**-2.5**
WMQ				PCP	PcP	10 08 26.0	-1.8
WMQ				S	**S**	**10 13 48.0**	**-7.4**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,117nm,4.0s						
WMQ				LR	LR		
	comp=N,802nm,17.4s						
WMQ				LR	LR		
	comp=E,674nm,18.0s						
WMQ				LR	LR		
	comp=Z,810nm,17.8s						
BOD	**Bodaibo**	**49.48**	**351**	eP	**P**	**10 07 10.7**	**+0.3**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
PET	**Petropavlovsk**	**50.81**	**24**	eP	**P**	**10 07 33.7**	**+13**
PET				eS	**S**	**10 14 47.3**	**+17**
PET				pmax	pmax		
	comp=Z,100nm,12.9s						
YAK	**Yakutsk**	**52.79**	**2**	⇑iP	**P**	**10 07 35.4**	**0.0**
YAK				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.3						
YAK				MLR	MLR		
	comp=Z,200nm,19.0s						
MA2	**Magadan**	**53.48**	**15**	eP	**P**	**10 07 41.3**	**+0.7**
MA2				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
MA2	**Magadan**	**53.48**	**15**	eP	**P**	**10 07 41.3**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8						
ULHL	**Ulahol**	**54.97**	**316**	P	**P**	**10 07 51.3**	**-0.4**
	SNR=17						
KZA	**Kyzart**	**55.60**	**315**	P	**P**	**10 07 56.8**	**+0.6**
	SNR=12						
TKM2	**Tokmak 2**	**55.66**	**316**	P	**P**	**10 07 56.4**	**-0.3**
	SNR=6.4						
ZAL	**Zalesovo**	**55.73**	**332**	P	**P**	**10 07 55.4**	**-1.6**
	comp=Z,2.0nm,0.8s,mb4.2,baz=346,slow=6.7,SNR=14						
ZAL				LR	LR	10 34 52.0	
	comp=Z,263nm,18.3s,baz=345,slow=39						
UCH	**Uchtor**	**56.16**	**315**	P	**P**	**10 08 00.2**	**0.0**
	SNR=31						
CHMS	**Chumysh**	**56.27**	**316**	P	**P**	**10 07 60.0**	**-1.1**
	SNR=6.4						
AAK	**Ala-Archa**	**56.32**	**316**	i P	**P**	**10 07 59.8**	**-1.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
AAK				MLR	MLR		
	comp=Z,400nm,21.0s						
AAK	**Ala-Archa**	**56.32**	**316**	eP	**P**	**10 07 59.4**	**-2.0**
	comp=Z,3.2nm,0.9s,mb4.3						
USP	**Ospenovka**	**56.54**	**316**	P	**P**	**10 08 02.3**	**-0.6**
	SNR=6.1						
AML	**Almayashu**	**56.70**	**315**	P	**P**	**10 08 04.4**	**+0.2**
	SNR=21						
EKS2	**Erkin-Say**	**56.82**	**315**	P	**P**	**10 08 04.5**	**-0.5**
	SNR=17						
NVS	**Novosibirsk**	**57.00**	**332**	eP	**P**	**10 08 02.3**	**-3.8**
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,5.0nm,1.1s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
KURK	**Kurchatov**	**57.14**	**326**	P	**P**	**10 08 05.0**	**-2.1**
	comp=E,186nm,1.0s,SNR=11						
KURK	**Kurchatov**	**57.14**	**326**	eP	**P**	**10 08 05.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
KURK	**Kurchatov**	**57.14**	**326**	eP	**P**	**10 08 05.5**	**-1.6**
	comp=Z,32nm,0.9s,mb5.3						
TIXI	**Tiksi**	**62.42**	**1**	eP	**P**	**10 08 42.3**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,152nm,17.0s						
BVAR	**Borovoye Array**	**62.73**	**326**	P	**P**	**10 08 44.5**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0,baz=112,slow=8.0,SNR=45						
CHKZ	**Chkalovo**	**62.86**	**326**	eP	**P**	**10 08 44.5**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
CHKZ	**Chkalovo**	**62.86**	**326**	eP	**P**	**10 08 44.5**	**-1.7**
	comp=Z,14nm,1.3s,mb4.9						
BILL	**Bilibino**	**64.35**	**15**	eP	**P**	**10 08 56.0**	**+0.3**
BILL				e		10 09 28.5	
BILL				pmax	pmax		
	comp=Z,17nm,1.9s,mb4.8						
BILL	**Bilibino**	**64.35**	**15**	eP	**P**	**10 08 55.9**	**+0.2**
	comp=Z,13nm,1.1s,mb4.9						
URZ	**Urewera**	**66.64**	**139**	LR	LR	10 34 51.2	
	comp=Z,192nm,20.1s,baz=342,slow=33						
SVE	**Sverdlovsk**	**69.29**	**328**	⇑eP	**P**	**10 09 21.0**	**-6.0**
SVE				e		10 09 48.5	
SVE				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.2						
SVE				MLR	MLR		
	comp=N,100nm,16.0s						
SVE				MLR	MLR		
	comp=E,200nm,16.0s						
SVE				MLR	MLR		
	comp=Z,500nm,16.0s						
KIV	**Kislovodsk**	**79.32**	**313**	i P	**P**	**10 10 26.4**	**+1.2**
KIV				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
KIV				MLR	MLR		
	comp=Z,200nm,16.0s						
KIV	**Kislovodsk**	**79.32**	**313**	eP	**P**	**10 10 25.7**	**+0.5**
	comp=Z,14nm,0.9s,mb4.9						
MCK	**McKinley**	**79.37**	**27**	eP	**P**	**10 10 26.7**	**+1.6**
MCK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
MCK	**McKinley**	**79.37**	**27**	eP	**P**	**10 10 26.7**	**+1.6**
	comp=Z,12nm,1.2s,mb4.7						
ILAR	**Eielson Array**	**80.27**	**26**	P	**P**	**10 10 31.1**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=244,slow=5.0,SNR=10						
OBN	**Obninsk**	**82.56**	**325**	i P	**P**	**10 10 41.7**	**-0.3**
OBN				e		10 10 53.6	
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,20.0s						
APA	**Apatity**	**82.80**	**337**	⇑iP	**P**	**10 10 43.8**	**+0.8**
APA				i		10 10 55.1	
APA				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.1						
MALT	**Malatya**	**82.95**	**308**	eP	**P**	**10 10 45.6**	**+1.2**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	**82.95**	**308**	eP	**P**	**10 10 45.6**	**+1.2**
	comp=Z,4.5nm,0.9s,mb4.5						
DAWY	**Dawson**	**83.56**	**26**	eP	**P**	**10 10 49.3**	**+2.5**
ASF	**Jabal al Asfar**	**84.93**	**302**	LR	LR	10 53 32.1	
	comp=Z,101nm,18.8s,baz=143,slow=39						
INK	**Inuvik**	**85.16**	**22**	eP	**P**	**10 10 57.0**	**+2.2**
INK				pmax	pmax		
	comp=Z,18nm,1.1s						
INK	**Inuvik**	**85.16**	**22**	eP	**P**	**10 10 57.0**	**+2.1**
	comp=Z,18nm,1.1s,mb5.1						
ARCES	**ARCESS Array B**	**85.31**	**340**	P	**P**	**10 10 56.4**	**+0.9**
	comp=Z,4.3nm,0.8s,mb4.7,baz=78,slow=5.1,SNR=12						
ARCES				LR	LR	10 54 03.9	
	comp=Z,145nm,18.1s,baz=207,slow=39						
PPT	**Papeete**	**86.92**	**108**	eLR	LR	10 39 01.2	
	comp=Z,205nm,21.8s						
FINES	**FINESS Array B**	**86.99**	**332**	P	**P**	**10 11 04.7**	**+0.8**
	comp=Z,5.7nm,1.0s,mb4.7,baz=72,slow=6.0,SNR=6.8						
FINES				LR	LR	10 53 48.9	
	comp=Z,165nm,18.8s,baz=27,slow=38						
AKASG	**Malin Array Be**	**87.60**	**321**	P	**P**	**10 11 06.6**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.4,baz=64,slow=4.7,SNR=6.6						
TBI	**Tubuai**	**88.09**	**114**	eLR	LR	10 39 32.6	
	comp=Z,199nm,22.8s						
VNDA	**Vanda**	**88.82**	**173**	P	**P**	**10 11 13.7**	**+1.3**
	comp=Z,3.7nm,1.2s,mb4.6,baz=23,slow=13,SNR=2.9						
VNDA				LR	LR	10 47 42.2	
	comp=Z,126nm,19.3s,baz=317,slow=33						
KMBO	**Kilima Mbogo**	**89.53**	**269**	P	**P**	**10 11 18.3**	**+1.1**
	comp=Z,0.8nm,0.3s,mb4.5,baz=30,slow=8.7,SNR=7.2						
KMBO				LR	LR	10 51 11.8	
	comp=Z,103nm,18.0s,baz=86,slow=36						
KMBO	**Kilima Mbogo**	**89.53**	**269**	eP	**P**	**10 11 18.2**	**+1.0**
	comp=Z,1.6nm,0.8s,mb4.4						
HFS	**Hagfors**	**93.15**	**332**	P	**P**	**10 11 33.5**	**+0.7**
	comp=Z,3.2nm,0.9s,mb4.7,baz=100,slow=8.8,SNR=2.7						
NOA	**NORSAR Array B**	**93.86**	**334**	LR	LR	11 00 19.3	
	comp=Z,81nm,18.3s,baz=255,slow=40						
YKA	**Yellowknife Ar**	**94.61**	**24**	P	**P**	**10 11 41.6**	**+2.3**
	comp=Z,3.0nm,0.9s,mb4.7,baz=299,slow=4.6,SNR=37						
RKT	**Rikitea**	**101.25**	**112**	eLR	LR	10 45 39.3	
	comp=Z,118nm,26.5s						
PLCA	**Paso Flores**	**145.09**	**157**	PKPbc	PKPbc	10 17 58.0	+2.4
	comp=Z,3.6nm,0.9s,baz=159,slow=4.4,SNR=6.0						
PLCA	**Paso Flores**	**145.09**	**157**	ePKPdf	PKPdf	10 17 57.9	+2.7

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*HEL **11** 09:59:01.5±0.2, 64.70N×30.67E, ML2.0, ML2.3(NAO), Explosion*

*NAO **11** 09:59:02.6±1.7, 64.80N×30.24E, ML2.3*

*BER **11** 09:59:04.4±3.3, 64.76N×30.23E, ML2.3(NAO), Suspected explosion*

*IDC **11** 09:59:09.3±2.1, 65.01N×29.57E, mb1 3.2/4, mb1mx3.1/19, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=32.9km s-min=8.6km az=96.0*

ISC 11 09:58:59.8±0.6**, 64.70N**±0.03×**30.7E**±0.1**, n18, σ1**s**03**/31**,**
Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSF	**Maaselka**	**1.39**	**332**	eP	**Pb**	**09 59 26.7**	**+0.3**
MSF				eS	**Sb**	**09 59 44.7**	**+0.1**
KJN	**Kajaani**	**1.42**	**246**	eP	**Pb**	**09 59 27.0**	**+0.1**
KJN				eS	**Sb**	**09 59 45.2**	**-0.1**
KU4	**Liikasenvaara**	**1.73**	**346**	eP	**Pn**	**09 59 32.3**	**+0.9**
KU4				eS	**Sb**	**09 59 54.8**	**+0.3**
JOF	**Joensuu**	**1.81**	**170**	eP	**Pn**	**09 59 33.0**	**+0.4**
JOF				eS	**Sn**	**09 59 56.7**	**+0.2**
OUL	**Oulu**	**2.06**	**283**	eP	**Pn**	**09 59 37.1**	**+1.0**
OUL				eS	**Sn**	**10 00 03.8**	**+0.9**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OUL				MSG		10 00 06.1	
	comp=Z,14nm,0.2s						
APA0	**Apatity Array**	**3.07**	**17**	Pn	**Pn**	**09 59 51.2**	**+0.7**
	baz=196,slow=14						
APA0				Sn	**Sn**	**10 00 29.4**	**+0.9**
	baz=207,slow=18						
APA0				Lg		10 00 38.8	
	baz=200,slow=28						
APA0	**Apatity Array**	**3.07**	**17**	*e*P	**Pn**	**09 59 51.2**	**+0.7**
APA0				*e*S	**Sn**	**10 00 29.4**	**+0.9**
APA0				*e*SG	**Sg**	**10 00 38.8**	**-3.2**
SGF	**Sodankyl**	**3.23**	**330**	MSG		10 00 43.7	
	comp=Z,2.8nm,0.2s						
FIA0	**FINESS Array S**	**3.87**	**215**	*e*P	**Pn**	**10 00 02.7**	**+0.8**
FIA0				*e*SG	**Sg**	**10 01 04.2**	**-4.6**
FIA0				*e*RG		10 01 24.6	
FIA0	**FINESS Array S**	**3.87**	**215**	Pn	**Pn**	**10 00 02.7**	**+0.8**
	baz=36,slow=12						
FIA0				Lg		10 01 04.2	
	baz=40,slow=28						
FIA0				Rg		10 01 24.6	
	baz=37,slow=37						
FINES	**FINESS Array B**	**3.87**	**215**	Pn	**Pn**	**10 00 11.5**	**+10**
	comp=Z,0.3nm,0.3s,baz=24,slow=17,SNR=9.2						
FINES				Sn	**Sn**	**10 00 56.8**	**+8.0**
	comp=Z,0.5nm,0.3s,baz=36,slow=26,SNR=4.0						
ARA0	**ARCESS Array S**	**5.25**	**340**	Pn	**Pn**	**10 00 20.4**	**-1.2**
	baz=155,slow=14						
ARA0				Sn	**Sn**	**10 01 18.2**	**-5.5**
	baz=154,slow=28						
ARA0				Lg		10 01 40.9	
	baz=154,slow=37						
ARA0	**ARCESS Array S**	**5.25**	**340**	*e*P	**Pn**	**10 00 20.4**	**-1.2**
ARA0				*e*S	**Sn**	**10 01 18.2**	**-5.5**
ARA0				*e*SG	**Sg**	**10 01 40.9**	**-14**
ARCES	**ARCESS Array B**	**5.25**	**340**	Pn	**Pn**	**10 00 20.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=158,slow=15,SNR=18						
ARCES				Sn	**Sn**	**10 01 16.9**	**-6.8**
	comp=Z,0.1nm,0.3s,baz=157,slow=21,SNR=2.4						
ARCES				Lg		10 01 41.6	
	comp=Z,0.6nm,0.3s,baz=160,slow=29,SNR=4.3						
HFS	**Hagfors**	**9.09**	**248**	Pn	**P**	**10 01 13.3**	**-1.9**
	baz=37,slow=14						
HFS	**Hagfors**	**9.09**	**248**	*e*P	**P**	**10 01 13.3**	**-1.9**
HFS	**Hagfors**	**9.09**	**248**	Pn	**P**	**10 01 14.5**	**-0.7**
	comp=Z,0.0nm,0.3s,baz=60,slow=12,SNR=4.3						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**P**	**10 01 19.3**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=236,slow=18,SNR=2.5						

*NEIC **11** 10:32:11.0±1.0, 18.40S×167.85E, h10km, mb4.2/1, Error ellipse: s-maj=22.9km s-min=16.1km az=119.0*

*IDC **11** 10:32:36.5±16.0, 18.04S×167.05E, h223km±151km, mb3.3/5, mb1 3.6/6, mb1mx3.5/14, mbtmp3.9/6, MS3.5/3, Ms1 3.5/3, ms1mx3.1/10, Error ellipse: s-maj=90.7km s-min=46.5km az=131.0*

ISC 11 10:32:14.9±3.2**, 18.6S**±0.2×**167.7E**±0.2**, h52**km±31km**, n14, σ0§99**/16**, mb3.7**/5**, MS3.4**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.67**	**199**	*e*P	**P**	**10 33 10.8**	**+0.1**
DZM				*e*S	**S**	**10 33 52.3**	**-0.8**
DZM	**Mont Dzumac**	**3.67**	**199**	*e*P	**P**	**10 33 10.8**	**+0.1**
DZM				*e*S	**S**	**10 33 52.3**	**-0.8**
NOUC	**Port Laguerre**	**3.74**	**200**	*e*P	**P**	**10 33 11.8**	**+0.1**
NOUC				*e*S	**S**	**10 33 55.3**	**+0.3**
NOUC	**Port Laguerre**	**3.74**	**200**	*e*P	**P**	**10 33 11.8**	**+0.1**
NOUC				*e*S	**S**	**10 33 55.3**	**+0.3**
CTA	**Charters Tower**	**20.30**	**262**	P	**P**	**10 36 50.0**	**+0.8**
	0.3nm,0.3s,baz=96,slow=11,SNR=6.3						
CTA				LR	LR	10 43 02.9	
	comp=Z,122nm,20.6s,MS3.2,baz=47,slow=32						
CTAO	**Charters Tower**	**20.30**	**262**	P	**P**	**10 36 50.1**	**+0.9**
	13nm,1.0s						
STKA	**Stephens Creek**	**27.00**	**236**	P	**P**	**10 37 56.4**	**+2.3**
	2.0nm,0.7s,mb3.8,baz=49,slow=7.8,SNR=3.9						
STKA				LR	LR	10 48 13.7	
	comp=Z,118nm,21.9s,MS3.4,baz=28,slow=35						
WRA	**Warramunga Arr**	**31.51**	**262**	P	**P**	**10 38 33.2**	**-1.2**
	0.3nm,0.5s,mb3.4,baz=93,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**31.89**	**255**	P	**P**	**10 38 36.8**	**-0.9**
	1.9nm,0.9s,mb3.9,baz=82,slow=8.6,SNR=23						
ASAR				LR	LR	10 50 08.5	
	comp=Z,78nm,18.3s,MS3.4,baz=193,slow=34						
NVAR	**Mina Array Bea**	**89.46**	**49**	P	**P**	**10 45 08.6**	**+0.8**
	0.3nm,0.6s,mb3.8,baz=239,slow=5.3,SNR=4.3						
NVAR	**Mina Array Bea**	**89.46**	**49**	P	**P**	**10 45 08.6**	**+0.8**
ILAR	**Eielson Array**	**90.04**	**18**	P	**P**	**10 45 08.8**	**-1.0**
	0.3nm,0.6s,mb3.8,baz=230,slow=5.6,SNR=5.6						
YKA	**Yellowknife Ar**	**100.75**	**27**	P	P	10 45 59.0	+0.2
	0.1nm,0.5s,baz=256,slow=4.9,SNR=8.2						
YKA	**Yellowknife Ar**	**100.75**	**27**	P	P	10 45 59.0	+0.2

IDC 11 10:34:16.5±6.2**, 4.23N**×**92.79E, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.7**/17**, mbtmp3.7**/4**, ML4.1**/1**, Error ellipse: s-maj=183.1km s-min=29.6km az=73.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.37**	**23**	Pn	P	10 37 56.2	-0.3
	0.3nm,0.3s,baz=210,slow=10,SNR=12						
SONM	**Songino Array**	**44.99**	**13**	P	P	10 42 33.3	-2.1
	0.5nm,0.7s,baz=202,slow=6.7,SNR=5.9						
WRA	**Warramunga Arr**	**47.37**	**122**	P	P	10 42 52.0	-2.5
	1.3nm,0.7s,baz=299,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**48.73**	**127**	P	P	10 43 03.9	-1.2
	0.3nm,0.6s,baz=302,slow=7.9,SNR=7.2						

*IDC **11** 10:40:55.6±2.0, 2.33N×95.31E, mb3.9/6, mb1 4.1/7, mb1mx4.0/17, mbtmp3.9/7, ML4.4/1, MS3.8/2, Ms1 3.9/2, ms1mx3.1/25, Error ellipse: s-maj=81.9km s-min=20.4km az=62.0*

*NEIC **11** 10:40:58.9±0.7, 2.26N×95.16E, mb4.6/5, Error ellipse: s-maj=17.1km s-min=9.3km az=53.0*

ISC 11 10:40:57.8±0.8**, 2.25N**±0.09×**95.2E**±0.1**, h33**km**, (h25**km±2.4km**:pP-P), n19, σ1§00**/17**, mb4.2**/11**, MS4.2**/1**, 1C-1D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.22**	**61**	*e*Pn	**Pn**	**10 42 29.0**	**-0.9**
SNG	**Songkhla**	**7.29**	**48**	P	**P**	**10 42 44.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.52**	**13**	Pn	**P**	**10 44 49.8**	**+1.0**
	0.5nm,0.3s,baz=206,slow=12,SNR=20						
CMAR				LR	LR	10 52 26.6	
	comp=Z,156nm,18.9s,baz=180,slow=42						
CHG	**Chiang Mai**	**16.86**	**12**	⇑P	**P**	**10 45 00.6**	**+7.5**
	12nm,0.8s						
NANT	**Nan**	**17.31**	**18**	P	**P**	**10 45 01.0**	**+2.3**
KKM	**Kota Kinabalu**	**21.30**	**79**	P	**P**	**10 45 43.9**	**-0.2**
LSA	**Lhasa**	**27.57**	**352**	*e*P	**P**	**10 46 44.9**	**+0.8**
	22nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**44.26**	**338**	*e*P	**P**	**10 49 05.5**	**-0.7**
	2.4nm,1.0s,mb3.9						
WRA	**Warramunga Arr**	**44.29**	**122**	P	**P**	**10 49 06.8**	**+0.2**
	0.6nm,0.5s,mb3.6,baz=297,slow=7.8,SNR=8.8						
WRAB	**Tennant Creek**	**44.29**	**122**	*e*P	**P**	**10 49 06.8**	**+0.1**
	18nm,1.0s,mb4.8						
WRAB				*e*pP	pP	10 49 15.6	-1.0
WB2	**Warramunga Arr**	**44.30**	**122**	⇓*i*P	pP	10 49 15.7	-0.9
ASAR	**Alice Springs**	**45.62**	**127**	P	**P**	**10 49 17.6**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=294,slow=7.8,SNR=5.3						
SONM	**Songino Array**	**46.43**	**10**	P	**P**	**10 49 22.7**	**-0.6**
	1.5nm,0.6s,mb4.1,baz=193,slow=8.5,SNR=13						
KURK	**Kurchatov**	**50.28**	**346**	*e*P	**P**	**10 49 51.9**	**-1.3**
	4.2nm,0.8s,mb4.5						
KURK				*e*pP	pP	10 50 00.3	-2.8
ZAL	**Zalesovo**	**52.22**	**352**	P	**P**	**10 50 07.6**	**-0.1**
	5.0nm,0.7s,mb4.6,baz=304,slow=7.1,SNR=5.8						
CHKZ	**Chkalovo**	**55.11**	**342**	*e*P	**P**	**10 50 27.0**	**-2.0**
	4.2nm,0.7s,mb4.6						
CHKZ				*e*pP	pP	10 50 34.6	-4.5
STKA	**Stephens Creek**	**55.55**	**132**	P	**P**	**10 50 32.9**	**+0.3**
	1.3nm,0.8s,mb4.0,baz=248,slow=6.9,SNR=3.3						
MAW	**Mawson**	**73.29**	**192**	LR	LR	11 18 19.8	
	comp=Z,121nm,18.1s,MS4.2,baz=66,slow=31						
ARCES	**ARCESS Array B**	**80.88**	**340**	P	**P**	**10 53 11.4**	**+1.6**
	1.8nm,0.8s,mb4.0,baz=111,slow=7.7,SNR=2.7						

TAP 11 10:54:22.1, 21.70N×122.22E, h20km, ML3.5, Taiwan region

*MAN **11** 10:57:42.4, 9.21N×126.55E, h7km, mb4.6, ML3.5, MS3.4*

*IDC **11** 10:57:48.2±3.1, 8.16N×128.03E, mb3.7/4, mb1 3.9/4, mb1mx3.7/17, mbtmp3.6/4, Error ellipse: s-maj=189.8km s-min=32.7km az=90.0*

ISC 11 10:57:38.6±3.5**, 9.27N**±0.07×**127.02E**±0.09**, h24**km±29km**, n11, σ1§18**/14**, mb3.6**/4**, 1C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.25**	**211**	⇑*i*P	**Pn**	**10 58 00.1**	**-0.8**
BIPH				*i* S	x	10 58 51.6	
BUTP	**Butuan**	**1.41**	**258**	*e*P	**Pn**	**10 58 00.6**	**-2.5**
SCPH	**Surigao**	**1.59**	**289**	*e*P	**Pn**	**10 58 04.2**	**-1.6**
SCPH				*e*S	**Sn**	**10 58 21.4**	**-4.3**
MSLP	**Maasin**	**2.30**	**292**	*e*P	**Pn**	**10 58 16.7**	**+0.8**
BUKP	**Musuan**	**2.37**	**235**	*e*P	**Pn**	**10 58 17.5**	**+0.6**
BUKP				*e*S	**Sn**	**10 58 46.2**	**+0.6**
MATI	**Mati**	**2.42**	**198**	*e*P	**Pn**	**10 58 20.9**	**+3.2**
PLP	**Palo**	**2.75**	**313**	*e*P	**Pn**	**10 58 23.6**	**+1.2**
PLP				*e*S	**Sn**	**10 58 55.4**	**+0.1**
WRA	**Warramunga Arr**	**29.90**	**166**	P	**P**	**11 03 46.5**	**-0.7**
	0.4nm,0.5s,mb3.4,baz=349,slow=9.6,SNR=6.4						
ASAR	**Alice Springs**	**33.41**	**168**	P	**P**	**11 04 17.6**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=351,slow=7.3,SNR=14						
STKA	**Stephens Creek**	**43.22**	**162**	P	**P**	**11 05 40.4**	**+0.5**
	1.6nm,1.0s,mb3.7,baz=342,slow=19,SNR=2.7						
YKA	**Yellowknife Ar**	**94.37**	**24**	P	**P**	**11 11 12.2**	**+15**
	0.3nm,0.7s,mb3.8,baz=299,slow=4.6,SNR=8.0						

*BEO **11** 11:05:21.8±0.5, 42.39N×19.87E, h12km*

*MOS **11** 11:05:21.3±1.1, 42.41N×19.83E, h10km, mb4.1/5, Error ellipse: s-maj=4.9km s-min=3.3km az=122.9*

*IDC **11** 11:05:21.2±0.8, 42.37N×19.76E, mb4.1/12, mb1 4.2/20, mb1mx4.1/27, mbtmp4.0/20, ML4.0/8, MS3.2/3, Ms1 3.3/3, ms1mx2.8/25, Error ellipse: s-maj=16.2km s-min=11.0km az=30.0*

*CSEM **11** 11:05:21.9, 42.41N×19.91E, h15km, ML4.5*

*TIR **11** 11:05:21.6, 42.39N×19.79E, h5km, Ml4.4*

*LDG **11** 11:05:22.0±0.4, 42.46N×20.29E, h10km, Ml4.3/15, Error ellipse: s-maj=9.2km s-min=4.6km az=84.0*

*PDG **11** 11:05:22.0±0.8, 42.38N×19.86E, h4km±1km*

*NEIC **11** 11:05:23.2±0.4, 42.39N×19.91E, h10km, ML4.5(CSEM), ML4.4(TIR), ML3.9(PDG), Error ellipse: s-maj=4.5km s-min=3.8km az=88.0*

*ZUR_RM **11** 11:05:23, 42.39N×19.91E, h9km, Mw4.3/29, Moment Tensor Solution. s29 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.64; $M_{\theta\theta}$1.19; $M_{\phi\phi}$1.45; $M_{r\theta}$1.42; $M_{\theta\phi}$-0.90; $M_{\phi r}$-0.94; Best double couple: $M_0$2.97×10^{15} NP1:ϕ_s311°,δ62°,λ-96°. NP2:ϕ_s145°,δ28°,λ-78°. Principal axes: T 2.734, Plg17°, Azm46°; N .462, Plg6°, Azm314°; P -3.196, Plg72°, Azm206°;*

*IPEC **11** 11:05:25.2±0.4, 42.48N×20.01E, h14km±3km, ML2.8/1 Error ellipse: s-maj=3.1km s-min=1.9km az=23.0*

*THE **11** 11:05:26.1, 42.45N×20.24E, h10km, ML4.2*

ISC 11 11:05:21.9±0.2**, 42.43N**±0.01×**19.82E**±0.01**, h8**km±1km**, n233, σ1§21**/321**, mb4.0**/12**, MS3.4**/1**, 20C-13D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.19**	**109**	*e*Pg	**Pg**	**11 05 25.5**	**-0.6**
BCI				*e*Sg	**Sg**	**11 05 28.9**	**+0.1**
BCI	**Bajram Curri**	**0.19**	**109**	⇑*i*Pg	**Pg**	**11 05 25.7**	**-0.4**
BCI				*i* Sg	**Sg**	**11 05 28.9**	**+0.1**
BCI	**Bajram Curri**	**0.19**	**109**	*e*Pg	**Pg**	**11 05 25.5**	**-0.6**
BCI				*i* Sg	**Sg**	**11 05 28.9**	**+0.1**
PVY	**Plav**	**0.20**	**34**	⇑*i*Pg	**Pg**	**11 05 26.5**	**+0.3**
PVY				*e*Sg	**Sg**	**11 05 29.9**	**+0.8**
PUK	**Puka**	**0.39**	**172**	*e*Pg	**Pg**	**11 05 28.9**	**-1.0**
PUK				*e*Sg	**Sg**	**11 05 34.4**	**-0.8**
PUK	**Puka**	**0.39**	**172**	*i* Pg	**Pg**	**11 05 28.9**	**-1.0**
PUK				*i* Sg	**Sg**	**11 05 34.4**	**-0.8**
TTG	**Podgorica**	**0.42**	**270**	⇑*i*Pg	**Pg**	**11 05 29.4**	**-1.0**
TTG				*e*Sg	**Sg**	**11 05 37.1**	**+1.1**
IVA	**Berane**	**0.45**	**7**	⇑*i*Pg	**Pg**	**11 05 31.3**	**+0.4**
IVA				*e*Sg	**Sg**	**11 05 38.7**	**+1.7**
ULC	**Ulcinj**	**0.63**	**223**	⇑*i*Pg	**Pg**	**11 05 33.4**	**-1.2**
ULC				*e*Sg	**Sg**	**11 05 43.2**	**+0.1**
BUM	**Brajici-Budva**	**0.70**	**260**	⇑*i*Pg	**Pg**	**11 05 34.2**	**-1.7**
BUM				*e*Sg	**Sg**	**11 05 46.0**	**+0.7**
NKY	**Niksic**	**0.72**	**302**	⇑*i*Pg	**Pg**	**11 05 35.4**	**-1.0**
NKY				*e*Sg	**Sg**	**11 05 47.6**	**+1.6**
PHP	**Peshkopia**	**0.88**	**148**	*e*Pg	**Pg**	**11 05 37.5**	**-2.0**
PHP				*e*Sg	**Sg**	**11 05 48.4**	**-2.8**
PHP	**Peshkopia**	**0.88**	**148**	*i* Pg	**Pg**	**11 05 37.5**	**-2.0**
PHP				*i* Sg	**Sg**	**11 05 48.4**	**-2.8**
QSH	**Qafa e Shtames**	**0.91**	**176**	*e*Pn	**Pg**	**11 05 39.0**	**-1.2**
QSH	**Qafa e Shtames**	**0.91**	**176**	*i* Pg	**Pg**	**11 05 39.0**	**-1.2**
QSH				*i* Sg	**Sg**	**11 05 51.4**	**-0.9**
PLE	**Pljevlja**	**0.95**	**341**	*e*Pg	**Pg**	**11 05 40.3**	**-0.8**
PLE				*e*Sg	**Sg**	**11 05 56.2**	**+2.4**
HCY	**Herceg Novi**	**0.98**	**271**	⇓*i*Pg	**Pg**	**11 05 39.8**	**-1.7**
HCY				*e*Sg	**Sg**	**11 05 56.6**	**+1.9**
PRZA	**Preza**	**1.00**	**187**	*i* Pg	**Pg**	**11 05 42.0**	**-0.1**
PRZA				*i* Sg	**Sg**	**11 05 57.8**	**+2.3**
UPM	**Unac-Piva**	**1.02**	**319**	*e*Pg	**Pg**	**11 05 41.8**	**-0.6**
UPM				*e*Sg	**Sg**	**11 05 58.8**	**+2.6**
BRY	**Bratogost**	**1.05**	**297**	⇓*i*Pg	**Pg**	**11 05 40.9**	**-2.1**
BRY				*e*Sg	**Sg**	**11 05 59.5**	**+2.3**
NVSS	**Nova Varos 2**	**1.08**	**355**	⇓*i*Pg	**Pg**	**11 05 42.4**	**-1.2**
NVSS				Sg	**Sg**	**11 05 56.8**	**-1.3**
TIR	**Tirane**	**1.08**	**178**	*e*Pn	**Pn**	**11 05 38.5**	**-4.7**
TIR				*e*Sn	**Sg**	**11 05 57.0**	**-1.0**
TIR	**Tirane**	**1.08**	**178**	*i* Pg	**Pn**	**11 05 38.5**	**-4.7**
TIR				*i* Sg	**Sg**	**11 05 57.0**	**-1.0**
SKO	**Skopje**	**1.28**	**110**	⇓*i*Pn	**Pn**	**11 05 45.7**	**-0.5**
SKO				*i*		11 05 50.0	
	comp=Z,0.7nm,0.7s						
SKO				⇑*i*Sn	**Sn**	**11 06 06.0**	**+2.4**
SKO				Lg		11 06 10.0	
	comp=Z,0.9nm,0.7s						
SKO	**Skopje**	**1.28**	**110**	⇓*i*Pn	**Pn**	**11 05 45.7**	**-0.5**
SKO				⇑*i*Sn	**Sn**	**11 06 06.0**	**+2.4**
BBLS	**Bajina Basta -**	**1.47**	**348**	⇓*i*Pn	**Pn**	**11 05 49.4**	**+0.6**
BBLS				Sg	**Sg**	**11 06 12.5**	**+1.6**
OHR	**Ohrid**	**1.51**	**151**	*i* Pn	**Pn**	**11 05 48.5**	**-0.8**
OHR				*i*		11 05 50.8	
OHR				*i*		11 05 54.8	
OHR				*i* Sn	**Sn**	**11 06 10.2**	**+1.0**
OHR				*i*		11 06 11.2	
OHR	**Ohrid**	**1.51**	**151**	*i* Pn	**Pn**	**11 05 48.5**	**-0.8**
OHR				*i* Sn	**Sn**	**11 06 10.2**	**+1.0**
BARS	**Barje**	**1.53**	**75**	⇑*i*Pn	**Pn**	**11 05 50.0**	**+0.4**
BARS				Sn	**Sn**	**11 06 12.3**	**+2.5**
GRUS	**Gruza**	**1.60**	**24**	⇓*i*Pn	**Pn**	**11 05 51.4**	**+0.8**
GRUS				Sn	**Sn**	**11 06 12.6**	**+1.0**
STON	**Ston**	**1.63**	**286**	*i* Pn	**Pn**	**11 05 51.6**	**+0.6**
STON				*i* Sn	**Sn**	**11 06 14.2**	**+1.9**
STON				*i* Sg	**Sg**	**11 06 15.4**	**-0.8**
DIVS	**Divcibare**	**1.67**	**4**	⇑*i*Pn	**Pn**	**11 05 52.6**	**+0.9**
DIVS				Sg	**Sg**	**11 06 14.1**	**-3.6**
BIA	**Bitola**	**1.80**	**141**	*i* Pn	**Pn**	**11 05 54.6**	**+1.1**
BIA				*i*		11 05 58.3	
BIA				*i*		11 06 05.0	
BIA				*e*Sn	**Sn**	**11 06 17.7**	**+0.9**
BIA				*i*		11 06 22.5	
KBN	**Korca**	**1.94**	**158**	*i* pg?	**Pg**	**11 05 59.5**	**-1.3**
FNA	**Florina**	**2.02**	**144**	*e*Pb	**Pb**	**11 05 58.1**	**-0.2**
BOLS	**Boljevac**	**2.10**	**47**	⇓*i*Pn	**Pn**	**11 05 58.2**	**+0.4**
BOLS				Sn	**Sn**	**11 06 25.5**	**+1.2**
SVIS	**Svilajnac**	**2.13**	**28**	⇑*i*Pn	**Pn**	**11 05 57.6**	**-0.6**
SVIS				Sn	**Sn**	**11 06 24.4**	**-0.6**
LSK	**Leskovik**	**2.35**	**165**	*i* Pn	**Pn**	**11 06 04.8**	**+3.4**
LSK				*i* Sn	**Sn**	**11 06 37.5**	**+6.8**
PE1	**Pezze di Greco**	**2.42**	**229**	*e*Pn	**Pn**	**11 06 02.9**	**+0.5**
GRG	**Griva**	**2.43**	**126**	*e*Pn	**Pn**	**11 06 03.3**	**+0.8**
BEO	**Belgrade**	**2.44**	**11**	⇓*i*Pn	**Pn**	**11 06 08.6**	**+6.0**
BEO				Sg	**Sg**	**11 06 43.1**	**+0.1**
LCI	**Lecce**	**2.46**	**212**	*e*Pn	**Pn**	**11 06 02.6**	**-0.3**
KKB	**Krupnik**	**2.49**	**102**	*i* P	**Pn**	**11 06 04.0**	**+0.6**
KKB	**Krupnik**	**2.49**	**102**	Pg	**Pg**	**11 06 10.0**	**-1.6**
VTS	**Vitosha**	**2.51**	**85**	P	**Pn**	**11 06 04.2**	**+0.5**
VTS	**Vitosha**	**2.51**	**85**	*i* P	**Pn**	**11 06 04.5**	**+0.8**
VTS				*i* S	**Sn**	**11 06 36.0**	**+1.3**
SRN	**Sarande**	**2.55**	**177**	*i* pn?	**Pn**	**11 06 10.1**	**+5.8**
BAI	**Bari**	**2.57**	**240**	*e*Pn	**Pn**	**11 06 04.3**	**-0.2**
KNT	**Kendrikon**	**2.62**	**118**	*e*Pn	**Pn**	**11 06 05.5**	**+0.2**
SG1	**Sgolgore (BA)**	**2.84**	**237**	*e*Pn	**Pn**	**11 06 08.3**	**-0.1**
LTRZ	**Laterza**	**2.90**	**232**	*e*Pn	**Pn**	**11 06 11.1**	**+1.8**
LTRZ	**Laterza**	**2.90**	**232**	*e*Pn	**Pn**	**11 06 11.1**	**+1.8**
FGMS	**Monte Sant'Ang**	**2.97**	**257**	*e*Pn	**Pn**	**11 06 10.8**	**+0.5**
FGMS	**Monte Sant'Ang**	**2.97**	**257**	*e*Pn	**Pn**	**11 06 10.8**	**+0.6**
CDT	**Castel del Mon**	**2.98**	**244**	*e*Pn	**Pn**	**11 06 10.1**	**-0.2**
MS1	**Monte Sant'Ang**	**2.98**	**257**	*e*Pn	**Pn**	**11 06 10.7**	**+0.3**
MMB	**Musomiste**	**3.03**	**105**	P	**Pn**	**11 06 12.0**	**+0.9**
MMB				Sg	**Sg**	**11 06 57.0**	**-5.8**
LIT	**Litokhoron**	**3.08**	**138**	*e*Pn	**Pn**	**11 06 12.7**	**+0.9**
LIT				*e*Sn	**Sn**	**11 06 49.5**	**+0.4**
SOH	**Sokhos**	**3.10**	**120**	*e*Pn	**Pn**	**11 06 12.5**	**+0.4**
SRS	**Serrai**	**3.11**	**114**	*e*Pn	**Pn**	**11 06 12.4**	**+0.2**
SRS				*e*Sn	**Sn**	**11 06 47.8**	**-2.1**
PGB	**Panagyurishte**	**3.21**	**86**	P	**Pn**	**11 06 14.0**	**+0.3**
RGNG	**Rignano Grg**	**3.24**	**258**	*e*Pn	**Pn**	**11 06 14.3**	**+0.2**
RGNG	**Rignano Grg**	**3.24**	**258**	*e*Pn	**Pn**	**11 06 14.3**	**+0.2**
FG4	**Candela**	**3.47**	**250**	*e*Pn	**Pn**	**11 06 18.6**	**+1.2**
ORI	**Oriolo Calabro**	**3.47**	**228**	*e*Pn	**Pn**	**11 06 18.0**	**+0.6**
FG5	**Orsara di Pugl**	**3.59**	**253**	P	**Pn**	**11 06 21.0**	**+1.9**
RHK3	**Tenkes**	**3.64**	**342**	⇓*e*P	**Pn**	**11 06 19.7**	**0.0**
RHK3				*e*S	**Sn**	**11 07 02.7**	**-0.6**
	comp=Z,1.9nm,0.5s						
MRLC	**Muro Lucano**	**3.66**	**244**	*e*Pn	**Pn**	**11 06 19.5**	**-0.4**
MRLC	**Muro Lucano**	**3.66**	**244**	*e*Pn	**Pn**	**11 06 19.5**	**-0.5**
RZN	**Rozhen**	**3.72**	**100**	*i* P	**Pn**	**11 06 22.0**	**+1.1**
CIGN	**Sant'Elia a Pi**	**3.74**	**260**	P	**Pn**	**11 06 22.5**	**+1.3**
OUR	**Ouranopolis**	**3.76**	**122**	*e*Pn	**Pn**	**11 06 22.0**	**+0.5**
OUR				*e*Sn	**Sn**	**11 07 05.3**	**-1.2**
PAIG	**Paliouri**	**3.84**	**129**	*e*Pn	**Pn**	**11 06 22.7**	**+0.1**
MRB1	**Monte Rocchett**	**3.85**	**252**	P	**Pn**	**11 06 25.1**	**+2.3**
SGO	**Sicignano**	**3.87**	**243**	*e*Pn	**Pn**	**11 06 22.8**	**-0.2**
PKSM	**Moragy**	**3.88**	**348**	P	**Pn**	**11 06 22.6**	**-0.5**
PKSM				*e*S	**Sn**	**11 07 06.4**	**-2.9**
CUC	**Castrocucco**	**3.88**	**232**	P	**Pn**	**11 06 24.1**	**+0.9**
AGG	**Agios Georgios**	**3.90**	**150**	*e*Pn	**Pn**	**11 06 25.5**	**+2.0**
AGG				*e*Sn	**Sn**	**11 07 11.7**	**+1.8**
CSSN	**Cassano Irpino**	**3.92**	**248**	*e*Pn	**Pn**	**11 06 24.1**	**+0.3**
CSSN	**Cassano Irpino**	**3.92**	**248**	*e*Pn	**Pn**	**11 06 24.0**	**+0.2**
PSB1	**Pescosannita**	**3.93**	**254**	P	**Pn**	**11 06 25.8**	**+1.9**
TIP	**Timpagrande**	**3.99**	**217**	*e*Pn	**Pn**	**11 06 23.4**	**-1.3**
TIP	**Timpagrande**	**3.99**	**217**	*e*Pn	**Pn**	**11 06 23.5**	**-1.3**
CII	**Carovilli**	**4.17**	**262**	*e*Pn	**Pn**	**11 06 28.5**	**+1.2**
CII	**Carovilli**	**4.17**	**262**	*e*Pn	**Pn**	**11 06 28.5**	**+1.2**
MIDA	**Miranda**	**4.22**	**261**	P	**Pn**	**11 06 29.0**	**+1.0**
RNI2	**Rionero Sannit**	**4.28**	**262**	P	**Pn**	**11 06 30.5**	**+1.6**
INTR	**Introdacqua**	**4.42**	**267**	P	**Pn**	**11 06 31.5**	**+0.7**
GRI	**Girifalco**	**4.44**	**217**	P	**Pn**	**11 06 29.8**	**-1.3**
RDO	**Rodhopi**	**4.46**	**105**	*e*Pn	**Pn**	**11 06 30.8**	**-0.6**
BOJS	**Bojanci**	**4.51**	**315**	*i* Pn	**Pn**	**11 06 33.9**	**+1.8**
SDI	**San Donato**	**4.53**	**263**	*e*Pn	**Pn**	**11 06 33.2**	**+0.7**
TERO	**Teramo**	**4.60**	**274**	P	**Pn**	**11 06 34.2**	**+0.8**
CRES	**Cresnjev**	**4.63**	**319**	*e*Pn	**Pn**	**11 06 34.6**	**+0.8**
VVLD	**Villa Vallelon**	**4.64**	**265**	P	**Pn**	**11 06 34.5**	**+0.5**
AOI	**Ancona**	**4.70**	**286**	P	**Pn**	**11 06 36.1**	**+1.3**
AOI				S	**Sn**	**11 07 29.8**	**-0.4**
AQU	**L'Aquila**	**4.76**	**271**	*e*Pn	**Pn**	**11 06 37.0**	**+1.4**
AQU				*e*Sn	**Sn**	**11 07 31.9**	**+0.3**
AQU	**L'Aquila**	**4.76**	**271**	*e*Pn	**Pn**	**11 06 37.0**	**+1.4**
AQU				*e*Sn	**Sn**	**11 07 31.9**	**+0.3**
KOGS	**Kog**	**4.76**	**329**	*e*Pn	**Pn**	**11 06 35.6**	**-0.1**
PTQR	**Pietraquaria**	**4.79**	**267**	*e*Pn	**Pn**	**11 06 38.0**	**+1.9**
PTQR				*e*Sn	**Sn**	**11 07 28.3**	**-4.1**
ALN	**Alexandroupoli**	**4.91**	**106**	*e*Pn	**Pn**	**11 06 37.3**	**-0.4**
VISS	**Visnje**	**4.92**	**315**	*e*Pn	**Pn**	**11 06 39.1**	**+1.1**
CING	**Cingoli**	**4.96**	**283**	P	**Pn**	**11 06 39.5**	**+1.0**
CING				S	**Sn**	**11 07 36.3**	**-0.5**
NRCA	**Norcia**	**4.97**	**277**	*e*Pn	**Pn**	**11 06 39.0**	**+0.4**
NRCA				*e*Sn	**Sn**	**11 07 33.2**	**-3.7**
NRCA	**Norcia**	**4.97**	**277**	*e*Pn	**Pn**	**11 06 39.0**	**+0.4**
NRCA				*e*Sn	**Sn**	**11 07 33.2**	**-3.7**
FIAM	**Fiamignano**	**4.97**	**270**	P	**Pn**	**11 06 39.7**	**+1.0**
PKSG		**5.07**	**349**	⇑*e*P	**Pn**	**11 06 39.7**	**-0.3**
PKSG				*e*S	**Sn**	**11 07 40.6**	**+1.2**
	comp=Z,1.3nm,0.6s						
VENT	**Ventotene**	**5.07**	**253**	P	**Pn**	**11 06 39.1**	**-0.9**
BUD	**Budapest**	**5.09**	**354**	⇑*e*Pn	**Pn**	**11 06 39.9**	**-0.4**
BUD	**Budapest**	**5.09**	**354**	P	**Pn**	**11 06 40.1**	**-0.2**
CEY	**Cerknica**	**5.10**	**312**	*e*Pn	**Pn**	**11 06 42.9**	**+2.4**
CEY	**Cerknica**	**5.10**	**312**	*e*Pn	**Pn**	**11 06 42.8**	**+2.3**
SNTG	**Esanatoglia**	**5.13**	**282**	*e*Pn	**Pn**	**11 06 39.9**	**-0.9**
SNTG	**Esanatoglia**	**5.13**	**282**	*e*Pn	**Pn**	**11 06 39.9**	**-1.0**
CEL	**Celeste**	**5.13**	**217**	P	**Pn**	**11 06 40.1**	**-0.8**
CEL				S	**Sn**	**11 07 38.2**	**-2.9**
ARV	**Arcevia**	**5.16**	**284**	*e*Pn	**Pn**	**11 06 41.8**	**+0.4**
ARV	**Arcevia**	**5.16**	**284**	*e*Pn	**Pn**	**11 06 41.8**	**+0.5**
SCLL	**Scilla**	**5.22**	**218**	P	**Pn**	**11 06 42.0**	**-0.1**
SOI	**Samo**	**5.22**	**215**	*e*Pn	**Pn**	**11 06 40.7**	**-1.5**
LJU	**Ljubljana**	**5.25**	**315**	*e*Pn	**Pn**	**11 06 46.0**	**+3.5**
LJU				*e*Sn	**Sn**	**11 07 52.0**	**+8.0**
MNS	**Montasola**	**5.29**	**272**	*e*Pn	**Pn**	**11 06 43.6**	**+0.5**
FSSB	**Fossombrone**	**5.31**	**286**	*e*Pn	**Pn**	**11 06 43.4**	**0.0**
FSSB	**Fossombrone**	**5.31**	**286**	*e*Pn	**Pn**	**11 06 43.4**	**-0.1**
MLR	**Muntele Rosu**	**5.38**	**53**	Pn	**Pn**	**11 06 45.4**	**+1.0**
	comp=Z,2.0nm,0.3s,baz=156,slow=20,SNR=13						
MLR				LR	LR	11 08 11.7	
	comp=Z,131nm,21.5s,baz=358,slow=31						
MLR				Lg		11 08 15.0	
	comp=Z,1.5nm,0.3s,baz=245,slow=21,SNR=3.1						
PERS	**Pernice**	**5.38**	**323**	*e*Pn	**Pn**	**11 06 44.8**	**+0.3**
PERS				*e*Sn	**Sn**	**11 07 44.9**	**-2.5**
JAVS	**Javornik**	**5.40**	**312**	*e*Pn	**Pn**	**11 06 46.0**	**+1.3**
SRO2	**Moca**	**5.43**	**350**	*e*PN	**Pn**	**11 06 44.3**	**-0.8**
MURB	**Monte Urbino**	**5.43**	**281**	P	**Pn**	**11 06 46.6**	**+1.5**
MTTG	**Motta San Giov**	**5.43**	**217**	P	**Pn**	**11 06 44.8**	**-0.4**
TRI	**Trieste**	**5.46**	**309**	P	**Pn**	**11 06 46.7**	**+1.2**
PSZ	**Piszkesteto**	**5.49**	**1**	⇑*i*Pn	**Pn**	**11 06 45.1**	**-0.9**
PSZ				*e*Sn	**Sn**	**11 07 46.8**	**-3.3**
PSZ	**Piszkesteto**	**5.49**	**1**	*e*P	**Pn**	**11 06 44.9**	**-1.1**
PSZ				*e*S	**Sn**	**11 07 46.8**	**-3.3**
OBKA	**Obir**	**5.56**	**319**	⇑*i*PN	**Pn**	**11 06 47.0**	**+0.1**
OBKA				*i* SN	**Sn**	**11 07 51.2**	**-0.5**
VOY	**Vojsko**	**5.58**	**312**	*e*Pn	**Pn**	**11 06 48.2**	**+1.0**
VOY				*e*Sn	**Sn**	**11 07 53.3**	**+1.0**
RSM	**Repubblica di**	**5.60**	**288**	P	**Pn**	**11 06 49.4**	**+1.9**
PRD	**Provadia**	**5.63**	**80**	*i* P	**Pn**	**11 06 48.0**	**+0.1**
ARSA	**Arzberg**	**5.71**	**329**	⇑*i*PN	**Pn**	**11 06 48.8**	**-0.2**
ARSA				*i* SN	**Sn**	**11 07 55.8**	**+0.3**
TOLF	**Tolfa**	**5.82**	**269**	P	**Pn**	**11 06 50.9**	**+0.3**
CRE	**Caprese Michel**	**5.89**	**284**	P	**Pn**	**11 06 53.0**	**+1.4**
ROBS	**Robic**	**5.92**	**312**	*e*Pn	**Pn**	**11 06 52.8**	**+0.7**
MNO	**Monte Soro**	**5.96**	**223**	*e*Pn	**Pn**	**11 06 52.9**	**+0.2**
SFI	**Santa Sofia**	**6.02**	**287**	P	**Pn**	**11 06 55.0**	**+1.6**
KECS	**Kecovo**	**6.07**	**4**	*e*PN	**Pn**	**11 06 50.1**	**-4.1**
GMNA	**Gemona**	**6.09**	**311**	P	**Pn**	**11 06 56.3**	**+1.9**
PGD	**Poggio Sodo**	**6.10**	**286**	*e*Pn	**Pn**	**11 06 56.5**	**+1.9**
PTCC	**Patocco-Chiusa**	**6.10**	**313**	*e*Pn	**Pn**	**11 06 55.5**	**+0.9**
VYHS	**Vyhne**	**6.11**	**354**	*e*PN	**Pn**	**11 06 54.1**	**-0.5**
VYHS				*e*SN	**Sn**	**11 08 03.7**	**-1.8**
VMG	**Vicchio**	**6.24**	**287**	*e*Pn	**Pn**	**11 06 58.0**	**+1.4**
GIB	**Gibilmanna**	**6.27**	**227**	P	**Pn**	**11 06 55.1**	**-1.9**
FVI	**Forni Avoltri**	**6.53**	**312**	*e*P	**Pn**	**11 07 02.1**	**+1.4**
KBA	**Koelnbreinsper**	**6.55**	**317**	⇓*i*PN	**Pn**	**11 07 01.5**	**+0.6**
KBA				*i* SN	**Sn**	**11 08 16.3**	**-0.2**
CRVS	**Cervenica-Dubn**	**6.57**	**9**	*e*PN	**Pn**	**11 07 00.7**	**-0.6**
MOA	**Molln**	**6.69**	**326**	⇑*i*PN	**Pn**	**11 07 02.3**	**-0.6**
MOA				*i* SN	**Sn**	**11 08 19.9**	**-0.3**
KOLS	**Kolonicke sedl**	**6.73**	**14**	*e*PN	**Pn**	**11 06 58.8**	**-4.6**
CTI	**Castel Tesino**	**6.89**	**304**	*e*Pn	**Pn**	**11 07 04.4**	**-1.4**
PII	**Pisa**	**6.93**	**284**	P	**Pn**	**11 07 07.2**	**+0.9**
BDI	**Bagni Di Lucca**	**6.93**	**287**	P	**Pn**	**11 07 06.0**	**-0.3**
GSCL	**Gusciola**	**7.00**	**289**	*e*Pn	**Pn**	**11 07 07.7**	**+0.5**
VLC	**Villacollemand**	**7.10**	**287**	*e*Pn	**Pn**	**11 07 08.6**	**-0.1**
VLC	**Villacollemand**	**7.10**	**287**	*e*Pn	**Pn**	**11 07 08.6**	**-0.1**
ERBM	**Eremo**	**7.13**	**289**	P	**Pn**	**11 07 11.8**	**+2.7**
BRES	**Bressanone**	**7.18**	**309**	P	**Pn**	**11 07 10.6**	**+0.8**
VRAC	**Vranov**	**7.24**	**343**	Pn	**Pn**	**11 07 09.1**	**-1.5**
	comp=Z,0.6nm,0.3s,baz=124,slow=11,SNR=2.8						
APPI	**Appiano**	**7.36**	**306**	P	**Pn**	**11 07 11.7**	**-0.6**
MORC	**Moravsky Berou**	**7.52**	**349**	*e*P	**Pn**	**11 07 13.6**	**-0.9**
MABI	**Malga Bissina**	**7.60**	**302**	P	**Pn**	**11 07 15.1**	**-0.6**
WATA	**Walderalm**	**7.64**	**313**	⇑*i*PN	**Pn**	**11 07 15.7**	**-0.5**
WATA				*i* SN	**Sn**	**11 08 43.8**	**0.0**
GERES	**GERESS Array B**	**7.71**	**328**	Pn	**Pn**	**11 07 17.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=156,slow=13,SNR=8.9						

GERES				Sn	Sn	11 08 43.6	-2.2
	comp=Z,0.5nm,0.3s,baz=148,slow=21,SNR=2.6						
SQTA	Sankt Quirin	7.77	311⇓	iPN	Pn	11 07 17.2	-0.9
SQTA				iSN	Sn	11 08 46.6	-0.6
OJC	Ojcow	7.79	360	eP	Pn	11 07 17.9	-0.5
BRMO	Bormio	7.88	304	ePn	Pn	11 07 20.1	+0.6
BRMO	Bormio	7.88	304	ePn	Pn	11 07 20.1	+0.6
BOB	Bobbio (Coli)	7.88	291	eP	Pn	11 07 19.6	0.0
MOTA	Moosalm	7.90	311⇑	iPN	Pn	11 07 19.5	-0.4
MOTA				iSN	Sn	11 08 50.3	-0.1
KHC	Kasperske Hory	8.00	329	ePn	Pn	11 07 21.4	+0.2
KHC				e		11 07 30.5	
KHC				eSn	Sn	11 08 51.0	-1.7
KHC	Kasperske Hory	8.00	329	ePN	Pn	11 07 21.4	+0.2
KHC				x	x	11 07 30.5	
KHC				eSN	Sn	11 08 51.0	-1.7
KHC	Kasperske Hory	8.00	329	eP	Pn	11 07 21.4	+0.2
KHC				eS	Sn	11 08 51.0	-1.7
PGF	Pioggiola	8.00	274	ePn	Pn	11 07 20.7	-0.6
IDI	Anoyia	8.15	149	Pn	P	11 07 22.1	-1.3
	comp=Z,1.1nm,0.3s,baz=335,slow=14,SNR=4.3						
IDI				Sn	Sn	11 08 52.3	-4.3
	comp=Z,2.8nm,0.3s,baz=314,slow=22,SNR=6.2						
DAVOX	Davos	8.32	305	Pn	P	11 07 24.8	-1.0
	comp=Z,2.8nm,0.3s,baz=108,slow=15,SNR=16						
DAVOX				Sn	Sn	11 08 59.9	-0.9
	comp=Z,1.1nm,0.3s,baz=164,slow=21,SNR=3.5						
TUE	Stuetta	8.51	302	P	P	11 07 29.4	+1.0
DAVA	Damuels	8.57	308⇓	iPN	P	11 07 28.1	-1.1
DAVA				iSN	Sn	11 09 05.4	-1.6
VAI	Varese	8.66	297	P	P	11 07 29.0	-1.4
SBF	Sospel	9.17	283	ePn	P	11 07 34.9	-2.6
SBF				eSn	Sn	11 09 16.4	-5.6
	comp=Z,34nm,0.7s						
MCGN	Macugnaga	9.20	297	P	P	11 07 39.6	+1.6
DOI	San Damiano	9.38	287	P	P	11 07 40.5	+0.1
GRA1	Grafenberg Arr	9.40	324	eP	P	11 07 41.4	+0.7
GRF	Grafenberg Arr	9.40	324	eP	P	11 07 41.4	+0.7
FRF	La Foret Royal	9.72	281	ePn	P	11 07 43.0	-2.1
FRF				eSn	Sn	11 09 28.9	-6.6
	comp=Z,11nm,0.8s						
MBDF	Montbardon	9.75	288	ePn	P	11 07 42.0	-3.4
MBDF				eSn	Sn	11 09 27.5	-8.7
	comp=Z,19nm,0.7s						
LMR	La Mourre	9.82	280	ePn	P	11 07 44.0	-2.4
BNI	Bardonecchia	9.87	290	eP	P	11 07 44.4	-2.7
LPG	La Plagne	9.91	292	ePn	P	11 07 47.3	-0.4
LPG				eSn	Sn	11 09 30.4	-10
	comp=Z,36nm,0.7s						
LPL	La Plagne	9.93	293	ePn	P	11 07 46.9	-1.0
LPL				eSn	Sn	11 09 29.7	-11
	comp=Z,44nm,0.8s						
MOX	Moxa	9.97	328	iP	P	11 07 47.9	-0.5
MOX	Moxa	9.97	328	eP	P	11 07 47.9	-0.5
ORIF	Oris-en-Rattie	10.40	289	ePn	P	11 07 52.1	-2.3
ORIF				eSn	S	11 09 45.5	-6.8
	comp=Z,21nm,0.6s						
SMRF	Simiane la Rot	10.52	283	ePn	P	11 07 56.6	+0.6
HINF	Hinteralfeld	10.63	305	ePn	P	11 07 56.4	-1.0
HINF				eSn	S	11 09 49.0	-8.7
	comp=Z,17nm,0.6s						
CDF	Champ du Feu	10.65	308	ePn	P	11 07 55.7	-2.1
CDF				eSn	S	11 09 51.3	-7.0
	comp=Z,17nm,0.9s						
CABF	La Chapelle	10.66	298	ePn	P	11 07 56.0	-1.9
CABF				eSn	S	11 09 50.6	-7.9
	comp=Z,37nm,1.0s						
HAU	Haudompre	11.01	305	ePn	P	11 08 00.6	-2.1
HAU				eSn	S	11 09 58.4	-8.8
	comp=Z,30nm,0.9s						
VIVF	Saint-Julien-l	11.24	288	ePn	P	11 08 03.1	-2.8
VIVF				eSn	S	11 10 05.2	-7.6
	comp=Z,4.7nm,0.6s						
SMF	Signal de Mont	12.16	296	ePn	P	11 08 15.1	-3.1
SMF				eSn	S	11 10 25.9	-9.1
	comp=Z,8.9nm,0.5s						
SSF	Saint Saulge	12.49	297	ePn	P	11 08 18.7	-4.0
SSF				eSn	S	11 10 34.9	-8.1
	comp=Z,6.9nm,0.6s						
AVF	Avril sur Loir	12.52	296	ePn	P	11 08 18.8	-4.3
AVF				eSn	S	11 10 35.4	-8.4
	comp=Z,11nm,0.8s						
BGF	Bois d'Agland	12.80	295	ePn	P	11 08 24.1	-2.8
BGF				eSn	S	11 10 42.4	-8.2
	comp=Z,16nm,0.6s						
TCF	Toulx Ste Croi	13.18	293	ePn	P	11 08 31.9	0.0
OBN	Obninsk	16.76	35	P	P	11 09 17.0	-1.3
NB2	NORSAR Subarra	19.35	347	P	P	11 09 49.4	-0.8
	comp=Z,2.6nm,0.6s,baz=153,slow=10						
NOA	NORSAR Array B	19.35	347	P	P	11 09 49.1	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
NOA	NORSAR Array B	19.35	347	P	P	11 09 49.0	-1.2
	comp=Z,0.7nm,0.3s,baz=155,slow=10,SNR=7.9						
FINES	FINESS Array B	19.41	9	P	P	11 09 50.5	-0.4
	comp=Z,0.2nm,0.3s,baz=158,slow=10,SNR=6.9						
FINES				LR	LR	11 18 18.6	
	comp=Z,89nm,20.6s,baz=211,slow=40						
EKA	Eskdalemuir Ar	19.76	319	P	P	11 09 53.0	-1.9
	comp=Z,0.4nm,0.3s,baz=110,slow=9.2,SNR=6.6						
ARCES	ARCESS Array B	27.33	4	P	P	11 11 07.3	-1.4
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES				MLR	MLR		
	comp=Z,96nm,18.2s						
ARCES	ARCESS Array B	27.33	4	P	P	11 11 07.3	-1.4
	comp=Z,2.1nm,0.8s,mb3.7,baz=180,slow=9.0,SNR=3.3						
ARCES				LR	LR	11 20 57.3	
	comp=Z,96nm,18.2s,MS3.4,baz=190,slow=34						
BVAR	Borovoye Array	34.94	55	P	P	11 12 16.6	+0.7
	comp=Z,2.5nm,0.8s,mb4.2,baz=270,slow=5.9,SNR=9.8						
NVS	Novosibirsk	42.27	50	eP	P	11 13 19.1	+2.2
ZAL	Zalesovo	43.34	51	P	P	11 13 28.2	+2.5
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	Zalesovo	43.34	51	P	P	11 13 28.1	+2.4
	comp=Z,1.3nm,0.7s,mb3.8,slow=3.0						
SCHQ	Schefferville	55.02	315	P	P	11 14 54.0	-1.8
	comp=Z,2.1nm,0.6s,mb4.3,baz=69,slow=4.5,SNR=9.1						
SONM	Songino Array	58.23	52	P	P	11 15 18.9	+0.2
	comp=Z,1.0nm,0.8s,mb3.9,baz=293,slow=8.4,SNR=7.7						
YKA	Yellowknife Ar	69.22	339	P	P	11 16 29.3	-1.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	69.22	339	P	P	11 16 29.3	-1.3
	comp=Z,1.0nm,0.6s,mb3.9,baz=38,slow=5.5,SNR=29						
CMAR	Chiang Mai Arr	69.87	83	P	P	11 16 33.7	-1.6
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
CMAR	Chiang Mai Arr	69.87	83	P	P	11 16 33.7	-1.6
	comp=Z,0.6nm,0.6s,mb3.7,baz=306,slow=8.5,SNR=4.3						
ULM	Lac du Bonnet	71.98	323	P	P	11 16 44.9	-2.7
	comp=Z,8.8nm,1.2s,mb4.5,baz=36,slow=3.1,SNR=5.7						
ILAR	Eielson Array	72.63	354	P	P	11 16 50.1	-0.9
ILAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ILAR	Eielson Array	72.63	354	P	P	11 16 50.0	-1.0
	comp=Z,0.9nm,1.0s,mb3.7,baz=2.3,slow=5.0,SNR=12						
PDAR	Pinedale Array	83.75	325	P	P	11 17 52.5	+0.1
	comp=Z,1.2nm,0.8s,mb4.1,baz=64,slow=4.8,SNR=10.0						
SDV	Santo Domingo	84.42	277	P	P	11 17 57.1	+0.7
	comp=Z,2.7nm,0.7s,mb4.5,baz=24,slow=5.0,SNR=4.8						
TXAR	Lajitas Array	91.67	313	P	P	11 18 31.3	+0.4
	comp=Z,0.8nm,0.6s,mb4.2,baz=12,slow=12,SNR=3.5						
ASAR	Alice Springs	123.04	93	PKP	PKPdf	11 24 18.6	-3.3
	comp=Z,0.7nm,0.6s,baz=314,slow=1.6,SNR=13						

*HEL **11** 11:05:50.9±0.1, 60.94N×29.08E, ML1.4, Explosion*
*IDC **11** 11:05:52.9±2.1, 60.94N×28.91E, mb1 3.3/2, mb1mx3.1/17, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=20.3km s-min=13.5km az=173.0*
ISC 11 11:05:48.4±1.5**, 60.94N**±0.07×**29.1E**±0.1**, n9,** σ**0ˢ91**/11**,**
Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VJF	Virojoki	0.86	243	eP	Pg	11 06 06.3	+0.6
VJF				eS	Sg	11 06 17.0	-0.1
FIA0	FINESS Array S	1.56	290	eP	Pn	11 06 18.4	+0.9
FIA0				eS	Sb	11 06 38.3	+0.3
FINES	FINESS Array B	1.56	290	Pg	Pg	11 06 18.4	-1.1
	1.0nm,0.3s,baz=114,slow=18,SNR=46						
FINES				Lg		11 06 38.7	
	4.4nm,0.3s,baz=107,slow=28,SNR=11						
PVF	Pernaja	1.65	258	eP	Pn	11 06 19.6	+0.9
PVF				eS	Sb	11 06 40.7	+0.2
KAF	Kangasniemi	1.79	313	eS	Sn	11 06 45.0	+0.4
JOF	Joensuu	2.25	27	eSB	Sb	11 06 58.7	+0.7
JOF				MSG		11 07 02.0	
	comp=Z,1.6nm,0.1s						
KEF	Keuruu	2.38	303	MSG		11 07 05.5	
	comp=Z,1.1nm,0.1s						
NOA	NORSAR Array B	8.70	279	Pn	P	11 07 56.5	-2.0
	comp=Z,0.1nm,0.3s,baz=327,slow=21,SNR=3.1						
ARCES	ARCESS Array B	8.77	352	Pn	P	11 07 58.1	-1.3
	comp=Z,0.1nm,0.3s,baz=165,slow=12,SNR=5.3						

MEX 11 11:08:23.4±0.3**, 17.16N**×**99.67W, h53**km±7km**, MD3.5, 1C, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACX	Acapulco	0.37	219	iP	P	11 08 32.0	-1.5
ACX				iS	S	11 08 39.0	-1.9
CAIG	El Cayaco	0.58	259⇑	iP	P	11 08 34.5	-1.3
CAIG				iS	S	11 08 42.8	-2.1
YAIG	Yautepec	1.79	19	eP	P	11 08 50.5	-2.0
YAIG				iS	S	11 09 11.8	-2.3

*IDC **11** 11:11:25.8±0.8, 38.04N×23.83E, mb3.8/8, mb1 4.0/12, mb1mx3.9/24, mbtmp3.9/12, ML4.1/4, Error ellipse: s-maj=21.6km s-min=11.6km az=79.0*
*ATH **11** 11:11:26.3, 38.13N×23.94E, h17km±1km, MD3.8/17, ML3.5*
*MOS **11** 11:11:26.9±1.0, 38.12N×23.90E, h10km, mb4.0/1, Error ellipse: s-maj=12.1km s-min=7.2km az=109.4*
*NEIC **11** 11:11:26.3, 38.12N×23.92E, h17km, MD3.8(ATH), After ATH.*
NEIC Felt at Attiki.
*CSEM **11** 11:11:30.4±0.1, 38.18N×23.98E, h41km±1km, ML3.5, Error ellipse: s-maj=2.6km s-min=2.0km az=69.0*
*THE **11** 11:11:32.2, 38.28N×23.96E, h21km, ML4.0*
ISC 11 11:11:26.4±0.6**, 38.12N**±0.02×**23.91E**±0.03**, h9**km±4km**, n98,** σ**1ˢ17**/120**, mb3.9**/8**, 4C-7D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTL	Penteli	0.07	207⇓	iPB	Pb	11 11 29.2	-0.4
MPAR	Parnis Oros	0.14	284⇓	iPB	Pb	11 11 30.6	-0.1
ATH	Athens Observa	0.21	226⇑	iPb	Pb	11 11 31.3	-0.6
ATH				eSb	Sb	11 11 33.9	-1.6
NSAL	Nisos Salamina	0.41	239⇓	iPB	Pb	11 11 35.0	-0.3
NAIG	Nisos Aigina	0.49	223⇓	iPN	Pn	11 11 36.2	-2.9
LKR	Lokris	0.89	307⇑	iPn	Pn	11 11 43.8	-1.1
LKR				eSn	Sn	11 11 57.2	-0.8
LKR	Lokris	0.89	307⇑	iPN	Pn	11 11 43.8	-1.1
LKR				eSN	Sn	11 11 57.0	-1.0
AOS	Alonnisos	1.05	359	ePg	Pg	11 11 47.6	+0.2
AOS				eSg	Sg	11 12 00.8	-0.7
NEO	Neokhori	1.30	336	ePN	Pn	11 11 51.7	+0.9
NEO				eSN	Sn	11 12 08.2	-0.2
NEO	Neokhori	1.30	336	ePn	Pn	11 11 51.7	+0.9
NEO				eSn	Sn	11 12 08.0	-0.4
XOR	Xorichti	1.37	336	ePb	Pb	11 11 49.0	-2.7
AGG	Agios Georgios	1.53	307	ePb	Pb	11 11 55.4	+0.9
AGG				eSb	Sb	11 12 15.2	+1.3
VLI	Veliai	1.59	209⇓	iPN	Pn	11 11 55.2	+0.2
VLI	Veliai	1.59	209⇓	iPb	Pb	11 11 54.7	-0.9
APE	Apeiranthos	1.66	129	PN	Pn	11 11 55.8	-0.1
APE	Apeiranthos	1.66	129	ePn	Pn	11 11 56.4	+0.5
PAIG	Paliouri	1.82	354	ePb	Pb	11 11 58.5	-0.9
PAIG				eSb	Sn	11 12 17.3	-4.2
ITM	Ithomi	1.83	240⇓	iPN	Pn	11 11 59.2	+0.9
EVR	Evrytania	1.83	297	ePN	Pn	11 12 00.0	+1.7
RLS	Riolos of Patr	1.93	269	ePN	Pn	11 12 00.7	+1.0
KYTH	Kithira	1.96	201	ePN	Pn	11 12 01.0	+0.8
KYTH	Kithira	1.96	201	ePb	Pb	11 12 00.0	-1.8
LOS	Limnos	2.03	26	ePb	Pb	11 12 02.6	-0.5
THR4	Thira Island,	2.04	144	ePn	Pg	11 12 06.9	-0.2
LIA	Limnos Island	2.04	29	ePB	Pb	11 12 01.2	-2.0
THR5	Thira Island,	2.05	145	ePn	Pb	11 12 05.0	+1.7
THR3	Thira Island,	2.08	145	ePn	Pb	11 12 06.0	+2.1
THR3	Thira Island,	2.08	145	ePn	Pb	11 12 05.9	+2.0
SANT	Santorini	2.14	144	ePg	Pg	11 12 07.4	-1.7
PRK	Paraskevi	2.17	58	ePN	Pn	11 12 03.6	+0.5
PRK	Paraskevi	2.17	58	ePn	Pn	11 12 04.6	+1.5
OUR	Ouranopolis	2.22	1	ePn	Pn	11 12 04.5	+0.6
LIT	Litokhoron	2.27	331	ePn	Pn	11 12 05.1	+0.5
PLG	Polygyros	2.28	351⇑	iPB	Pb	11 12 05.2	-2.2
PLG				eSN	Sn	11 12 32.5	-0.8
SMG	Samos	2.35	99	ePN	Pn	11 12 06.4	+0.6
AYVA	Ayvalik	2.48	60	iP	Pg	11 12 14.8	-1.1
AYVA				iS	Sg	11 12 49.3	+0.3
BLCB	Balcova	2.48	83	ePN	Pn	11 12 02.4	-5.3
EZN	Ezine	2.54	47	ePN	Pn	11 12 11.6	+3.1
THE	Thessaloniki	2.62	344	ePn	Pn	11 12 10.3	+0.7
VLS	Valsamata	2.62	272	ePB	Pb	11 12 11.4	-1.7
IZM	Izmir	2.66	83	ePN	Pn	11 12 06.0	-4.2
KDAG	Bornova	2.66	83	iP	Pn	11 12 11.7	+1.5
KDAG				iS	Sg	11 12 53.4	-1.5
VAM	Vamos	2.71	175	ePN	Pn	11 12 11.9	+0.9
KZN	Kozani	2.75	323	ePN	Pn	11 12 12.3	+0.9
JAN	Janina	2.84	304	ePN	Pn	11 12 13.5	+0.8
BODT	Bodrum	2.90	110	ePN	Pn	11 12 07.6	-6.0
IDI	Anoyia	2.93	164	Pn	Pn	11 12 13.9	-0.2
	20nm,0.3s,baz=47,slow=21,SNR=31						
IDI				Sn	Sn	11 12 48.3	-1.4
	26nm,0.3s,baz=290,slow=20,SNR=6.5						
IDI				Lg		11 12 56.6	
	56nm,0.3s,baz=276,slow=19,SNR=5.8						
BDRM	Kayabasi	3.00	109	iP	Pn	11 12 15.9	+0.9
BDRM				iS	Sg	11 13 04.2	-2.0
SRS	Serrai	3.01	355	ePn	Pn	11 12 15.4	+0.2
GRG	Griva	3.07	338	ePn	Pn	11 12 16.4	+0.4
GRG				eSn	Sn	11 12 51.8	-1.4
NPS	Neapolis	3.16	154	ePN	Pn	11 12 18.2	+0.9
AYDN	Tasoluk	3.17	97	iP	Pn	11 12 17.0	-0.5
AYDN				iS	Sg	11 13 12.2	+0.1
NVR	Nevrokopi	3.23	359	ePN	Pn	11 12 18.1	-0.2
ALN	Alexandroupoli	3.23	30	ePn	Pn	11 12 18.1	-0.2
ALN	Alexandroupoli	3.23	30	ePn	Pn	11 12 18.1	-0.2
RDO	Rodhopi	3.28	22	ePN	Pn	11 12 19.1	+0.1
FNA	Florina	3.31	324	ePn	Pn	11 12 20.8	+1.4
FNA				eSn	Sn	11 12 58.8	-0.4
MMB	Musomiste	3.47	358	iP	Pn	11 12 21.5	-0.2
MMB				eS	Sn	11 13 02.0	-1.4
KEK	Kerkira	3.58	298	ePN	Pn	11 12 24.8	+1.5
RZN	Rozhen	3.62	10	iP	Pn	11 12 24.5	+0.6
KARP	Karpathos	3.66	134	ePN	Pn	11 12 25.5	+1.1
MANT	Manisa	3.68	83	iP	Pn	11 12 28.3	+3.7
MANT				iS	Sn	11 13 04.1	-4.5
KKB	Krupnik	3.80	351	P	Pn	11 12 26.3	-0.1
KKB				iS	Sn	11 13 10.0	-1.7
DNZL	Cakiroluk	4.09	94	iP	Pn	11 12 32.2	+1.7
DIM	Dimitrovgrad	4.12	17	P	Pn	11 12 31.0	0.0
SKO	Skopje	4.29	335	ePn	Pn	11 12 34.5	+1.1
SKO				e		11 12 37.0	
PGB	Panagyurishte	4.43	2	P	Pn	11 12 37.0	+1.6
TIR	Tirane	4.49	317	ePn	Pn	11 12 38.0	+1.8
VTS	Vitosha	4.50	353	P	Pn	11 12 37.0	+0.6
ULDT	Uludag	4.54	62	iP	Pn	11 12 40.4	+3.5
ULDT				iS	Sg	11 13 52.7	-4.9
QSH	Qafa e Shtames	4.59	319	iPn	Pn	11 12 44.0	+6.4
QSH				iSn	Sn	11 13 36.0	+4.3
PVL	Pavlikeni	5.21	12	P	Pn	11 12 44.5	-1.9
SZH	Strazhica	5.37	16	eP	Pn	11 12 51.0	+2.4
ESKT	Eskisehir	5.60	73	eP	Pn	11 12 44.4	-7.5
ESKT	Eskisehir	5.60	73	iP	Pn	11 12 53.9	+2.1
ESKT				iS	Sn	11 14 03.8	+6.6
TIP	Timpagrande	5.70	283	ePn	Pn	11 12 49.9	-3.4
TIP				eSn	Sn	11 13 55.0	-4.6
TIP	Timpagrande	5.70	283	eSn	Sn	11 13 55.0	-4.6
BBLS	Bajina Basta -	6.68	331	ePn	Pn	11 13 07.2	+0.1
MRLC	Muro Lucano	7.03	295	ePn	Pn	11 13 12.7	+0.6
MRLC	Muro Lucano	7.03	295	ePn	Pn	11 13 12.7	+0.7
SGO	Sicignano	7.10	293	ePn	Pn	11 13 14.0	+1.0
MLR	Muntele Rosu	7.52	11	Pn	Pn	11 13 18.9	-0.1
	1.7nm,0.3s,baz=195,slow=12,SNR=11						
MLR				Sn	Sn	11 14 44.8	-0.5
	0.5nm,0.3s,baz=342,slow=19,SNR=1.8						
SDI	San Donato	8.55	298	eP	P	11 13 35.2	+2.0
NRCA	Norcia	9.48	303	ePn	P	11 13 46.0	-0.1
NRCA	Norcia	9.48	303	ePn	P	11 13 46.0	-0.1
EIL	Elat	12.45	129	Pn	P	11 14 25.7	-0.9
	0.9nm,0.3s,baz=319,slow=9.3,SNR=4.3						
GERES	GERESS Array B	13.02	329	Pn	P	11 14 33.8	-0.4
	0.2nm,0.3s,baz=157,slow=13,SNR=1.8						
ESDC	Sonseca Array	21.72	283	P	P	11 16 17.6	-2.1
	2.9nm,0.8s,mb3.8,baz=76,slow=10.0,SNR=4.7						
FINES	FINESS Array B	23.39	3	P	P	11 16 37.1	+1.2
	4.1nm,1.1s,mb3.8,baz=159,slow=12,SNR=3.6						
NOA	NORSAR Array B	24.29	345	P	P	11 16 45.1	+0.4
	0.8nm,0.5s,mb3.4,baz=148,slow=9.6,SNR=2.5						
EKA	Eskdalemuir Ar	25.07	322	P	P	11 16 52.5	+0.2
	7.4nm,1.1s,mb4.1,baz=114,slow=9.4,SNR=4.0						
DBIC	Dimbokro	40.73	227	P	P	11 19 08.0	-1.3
	4.3nm,0.9s,mb4.1,baz=11,slow=10,SNR=7.3						
SONM	Songino Array	58.42	52	P	P	11 21 23.9	-0.6
	0.5nm,0.6s,mb3.7,baz=292,slow=8.3,SNR=5.0						
SCHQ	Schefferville	60.30	318	P	P	11 21 35.9	-1.5
	2.4nm,0.8s,mb4.2,baz=110,slow=6.2,SNR=7.8						
SCHQ	Schefferville	60.30	318	P	P	11 21 35.8	-1.6
YKA	Yellowknife Ar	74.33	341	P	P	11 23 04.6	-0.7
	0.5nm,0.5s,mb3.7,baz=32,slow=5.4,SNR=10						
WRA	Warramunga Arr	117.87	94	PKP	PKPdf	11 30 14.8	-1.7
	0.5nm,0.9s,baz=307,slow=1.6,SNR=4.8						
ASAR	Alice Springs	119.52	98	PKP	PKPdf	11 30 16.1	-3.5
	0.2nm,0.5s,baz=317,slow=1.5,SNR=6.7						

IDC 11 11:24:28.7±7.0**, 19.31S**×**177.59W, mb3.9**/3**, mb1 4.3**/3**, mb1mx3.8**/15**, mbtmp3.9**/3**, MS4.3**/1**, Ms1 4.3**/1**, ms1mx3.3**/20**, Error ellipse: s-maj=302.1km s-min=39.3km az=144.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	45.16	261	P	P	11 32 47.7	-1.6
	0.4nm,0.3s,baz=96,slow=7.7,SNR=33						
ASAR	Alice Springs	45.18	256	P	P	11 32 47.4	-2.0
	1.3nm,0.6s,baz=98,slow=7.6,SNR=21						
ILAR	Eielson Array	87.07	13	P	P	11 37 15.8	-1.3
	0.4nm,1.0s,baz=213,slow=5.3,SNR=4.1						
PLCA	Paso Flores	89.81	133	LR	LR	12 12 42.4	
	comp=Z,153nm,18.9s,baz=268,slow=32						

*NEIC **11** 11:37:23.9, 19.49N×67.22W, h35km, MD3.9(RSPR), After RSPR.*
RSPR 11 11:37:23.9, 19.49N×**67.22W, h35**km±27km**, MD3.9**/12**, MD3.9**/12**, 13C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	1.22	159⇑	eP	P	11 37 42.4	-2.3
AOPR				eS	S	11 37 58.4	-1.8
LRS	Lares	1.24	163⇑	eP	P	11 37 42.7	-2.3
LSP	Las Mesas	1.31	175⇑	eP	P	11 37 44.3	-1.8
LSP				eS	S	11 38 01.0	-1.5
CRPR	Cabo Rojo, PR	1.48	176⇑	eP	P	11 37 46.3	-2.1
CRPR				eS	S	11 38 05.2	-1.5
MGP	Maguayo	1.48	175⇑	eP	P	11 37 46.7	-1.8
MGP				eS	S	11 38 05.1	-1.6
PORP	Portuguez	1.53	159⇑	eP	P	11 37 47.4	-1.8
PORP				eS	S	11 38 05.3	-2.8
CELP	Cerrillos	1.53	157⇑	eP	P	11 37 47.7	-1.5
CELP				eS	S	11 38 06.1	-2.0
CSB	Colonia Sabana	1.56	140⇑	eP	P	11 37 48.5	-1.1
SJG	San Juan	1.70	143⇑	eP	P	11 37 50.2	-1.4
SJG				eS	S	11 38 10.4	-2.0
SJG	San Juan	1.70	143⇑	eP	P	11 37 50.4	-1.2
SJG				eS	S	11 38 10.6	-1.9
CBYP	Canovanas	1.77	133⇑	eP	P	11 37 51.4	-1.2
HUMP	Col San Antoni	1.86	136	eS	S	11 38 13.8	-2.6
CPD	Cerro la Pandu	1.90	139⇑	eP	P	11 37 53.0	-1.5
MTP	Monte Pirata	2.10	131⇑	eP	P	11 37 55.7	-1.6

*IDC **11** 12:00:44.9±2.2, 24.10S×67.15W, h185km±65km, mb1 3.7/4, mb1mx3.3/16, mbtmp4.2/4, Error ellipse: s-maj=73.5km s-min=25.5km az=107.0*
ISC 11 12:00:43.9±1.6**, 24.2S**±0.1×**67.3W**±0.4**, h208**km±33km**, n6,** σ**1ˢ10**/8**, 2C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.17	316	P	P	12 01 25.7	+0.6
	22nm,0.3s,baz=139,slow=5.4,SNR=71						
LVC				S	S	12 01 55.8	-1.0
	61nm,0.3s,baz=12,slow=22,SNR=13						
LPAZ	La Paz	7.90	354	P	P	12 02 37.3	+0.6
	4.4nm,0.3s,baz=150,slow=6.0,SNR=51						
LPAZ				S	S	12 04 05.1	+0.3
	baz=332,slow=21,SNR=1.9						
PLCA	Paso Flores	16.72	189	P	P	12 04 28.6	+1.0
	0.1nm,0.3s,baz=11,slow=13,SNR=3.2						
BDFB	Brasilia	20.00	68	P	P	12 05 01.8	-0.4
	1.0nm,0.3s,baz=251,slow=11,SNR=7.7						
VNA3	Neumayer Olymp	57.06	161⇑	i	P	12 10 08.8	-1.1
VNA2	Neumayer--Watz	57.63	160⇑	i	P	12 10 21.4	+7.5

IDC 11 12:12:46.4±1.8**, 12.61N**×**92.97E, mb3.8**/4**, mb1 3.9**/5**, mb1mx3.7**/18**, mbtmp3.6**/5**, ML3.1**/1**, MS2.9**/1**, Ms1 3.1**/1**, ms1mx2.6**/23**, Error ellipse: s-maj=59.3km s-min=22.9km az=67.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.18	44	Pn	P	12 14 44.5	-4.8
	0.1nm,0.3s,baz=230,slow=14,SNR=2.5						
CMAR				LR	LR	12 18 06.8	
	comp=Z,74nm,19.7s,baz=140,slow=39						
SONM	Songino Array	36.87	15	P	P	12 19 57.4	-1.0
	0.5nm,0.6s,baz=194,slow=5.9,SNR=5.2						
BVAR	Borovoye Array	44.17	341	P	P	12 20 56.4	-2.1
	0.4nm,0.5s,baz=135,slow=10,SNR=3.2						
WRA	Warramunga Arr	52.00	128	P	P	12 21 57.8	-2.2
	0.8nm,0.5s,baz=300,slow=10,SNR=14						
ASAR	Alice Springs	53.87	132	P	P	12 22 11.8	-2.1
	1.2nm,0.4s,baz=308,slow=6.9,SNR=47						

*IDC **11** 12:13:06.8±1.9, 49.25S×164.48E, mb3.9/2, mb1 4.2/4, mb1mx3.9/12, mbtmp4.1/4, ML3.8/2, MS3.5/4, Ms1 3.5/4, ms1mx3.0/19, Error ellipse: s-maj=53.1km s-min=28.2km az=160.0*
ISC 11 12:13:09.7±1.1**, 49.4S**±0.1×**164.6E**±0.1**, h33**km**, n26,** σ**1ˢ17**/34**, mb3.9**/2**, MS3.4**/3**, Auckland Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	4.17	34	PN	Pn	12 14 13.4	+0.6
WHZ				SN	Sn	12 15 00.4	-0.6
DCZ	Deep Cove	4.28	25	PN	Pn	12 14 15.0	+0.6
MLZ	Mavora Lakes	4.72	33	PN	Pn	12 14 21.6	+1.0
MLZ				SN	Sn	12 15 14.3	-0.6
TUZ	Tuapeka	4.84	47	PN	Pn	12 14 23.6	+1.3
TUZ				SN	Sn	12 15 18.1	+0.2
MSZ	Milford Sound	5.24	27	PN	Pn	12 14 29.9	+2.0
MSZ				SN	Sn	12 15 27.7	-0.3
EAZ	Earnscleugh	5.25	40	PN	Pn	12 14 28.6	+0.5
EAZ				SN	Sn	12 15 28.3	0.0
WKZ	Wanaka	5.47	35	PN	Pn	12 14 32.6	+1.4
WKZ				SN	Sn	12 15 34.2	+0.4
ODZ	Otahua Downs	5.99	46	PN	Pn	12 14 38.4	-0.1
ODZ				SN	Sn	12 15 46.4	-0.4
JCZ	Jackson Bay	6.04	30	PN	Pn	12 14 40.8	+1.6
JCZ				SN	Sn	12 15 49.0	+1.1
LBZ	Lake Benmore	6.30	40	PN	Pn	12 14 41.4	-1.5
LBZ				SN	Sn	12 15 53.3	-1.3
FOZ	Fox Glacier	6.81	33	PN	Pn	12 14 51.6	+1.6
FOZ				SN	Sn	12 16 07.5	+0.4
RPZ	Rata Peaks	7.21	41	Pn	Pn	12 14 53.1	-2.6
	3.5nm,0.3s,baz=203,slow=4.1,SNR=19						
RPZ				Sn	Sn	12 16 14.8	-2.6
	11nm,0.3s,baz=24,slow=20,SNR=14						
RPZ	Rata Peaks	7.21	41	PN	Pn	12 14 53.2	-2.5
RPZ				SN	Sn	12 16 14.5	-2.8
MQZ	McQueen's Vall	7.95	47	PN	Pn	12 15 06.1	+0.1
CRLZ	Canterbury Las	8.03	47	PN	P	12 15 07.5	+0.6
CRLZ				eSN	Sn	12 16 33.2	-4.6
THZ	Tophouse	9.60	41	PN	P	12 15 29.0	+0.6
QRZ	Quartz Range	10.23	36	PN	P	12 15 35.4	-1.8
URZ	Urewera	14.31	44	Pn	P	12 16 30.1	-1.8
	0.2nm,0.3s,baz=214,slow=7.3,SNR=2.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ				Sn	S	12 19 00.8	-9.5
	baz=164,slow=23,SNR=2.5						
URZ				LR	LR	12 22 22.2	
	comp=Z,244nm,20.1s,baz=296,slow=39						
STKA	Stephens Creek	24.54	307	LR	LR	12 26 06.8	
	comp=Z,120nm,19.8s,MS3.4,baz=206,slow=32						
VNDA	Vanda	28.26	181	LR	LR	12 28 39.5	
	comp=Z,102nm,19.4s,MS3.4,baz=72,slow=33						
CTA	Charters Tower	32.70	327	LR	LR	12 30 47.4	
	comp=Z,70nm,18.3s,MS3.4,baz=46,slow=33						
ASAR	Alice Springs	35.16	306	P	P	12 20 01.1	-1.3
	0.6nm,0.4s,mb3.8,baz=136,slow=9.9,SNR=29						
WRA	Warramunga Arr	38.02	310	P	P	12 20 25.6	-0.9
	1.4nm,0.4s,mb4.0,baz=140,slow=8.9,SNR=43						
AKASG	Malin Array Be	151.62	290	PKPbc	PKPdf	12 33 01.2	+8.0
	1.2nm,0.6s,baz=89,slow=2.4,SNR=4.2						
ARCES	ARCESS Array B	151.91	331	PKPbc	PKPdf	12 33 01.9	+8.8
	2.0nm,0.7s,baz=63,slow=2.0,SNR=7.2						
FINES	FINESS Array B	154.02	313	PKPbc	PKPdf	12 33 06.9	+11
	0.4nm,0.6s,baz=90,slow=2.8,SNR=3.5						

*NEIC **11** 12:20:33.6, 45.07S×167.61E, h116km, MG3.7(WEL), After WEL.*

WEL 11 12:20:33.2±0.4**, 45.08S×167.54E, h115**km±2km**, ML3.7**/11**, Error ellipse: s-maj=3.0km s-min=2.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.48	214	PN	P	12 20 49.5	-1.1
DCZ				SN	S	12 21 02.3	-1.4
MSZ	Milford Sound	0.49	34	PN	P	12 20 50.6	-0.1
MSZ				SN	S	12 21 03.6	-0.3
MLZ	Mavora Lakes	0.52	121	P	P	12 20 50.6	-0.3
MLZ				S	S	12 21 04.1	-0.1
MLZ	Mavora Lakes	0.52	121	PN	P	12 20 50.4	-0.5
MLZ				SN	S	12 21 04.0	-0.2
WKZ	Wanaka	1.08	77	P	P	12 20 55.9	0.0
WKZ				S	S	12 21 12.3	-0.7
WKZ	Wanaka	1.08	77	PN	P	12 20 55.7	-0.2
WKZ				SN	S	12 21 12.0	-1.0
EAZ	Earnscleugh	1.26	97	P	P	12 20 57.6	-0.4
EAZ				S	S	12 21 14.7	-1.8
EAZ	Earnscleugh	1.26	97	PN	P	12 20 57.6	-0.4
EAZ				SN	S	12 21 14.8	-1.7
JCZ	Jackson Bay	1.33	41	PN	P	12 20 58.1	-0.7
JCZ				SN	S	12 21 16.7	-1.4
TUZ	Tuapeka	1.71	121	P	P	12 21 02.8	-0.5
TUZ				S	S	12 21 23.4	-2.5
TUZ	Tuapeka	1.71	121	PN	P	12 21 02.8	-0.5
TUZ				SN	S	12 21 23.3	-2.6
LBZ	Lake Benmore	2.01	71	PN	P	12 21 05.4	-1.6
LBZ				SN	S	12 21 29.1	-3.3
FOZ	Fox Glacier	2.16	46	PN	P	12 21 07.9	-1.2
ODZ	Otahua Downs	2.20	90	PN	P	12 21 08.0	-1.5
ODZ				SN	S	12 21 33.3	-3.6
RPZ	Rata Peaks	2.87	63	eP	P	12 21 15.5	-3.0
RPZ	Rata Peaks	2.87	63	PN	P	12 21 15.4	-3.1
RPZ				SN	S	12 21 48.3	-4.3
WVZ	Waitaha Valley	3.05	50	eP	P	12 21 17.7	-3.3
DSZ	Denniston Nort	4.56	44	PN	P	12 21 37.5	-3.8
THZ	Tophouse	5.12	52	PN	P	12 21 44.9	-4.0
QRZ	Quartz Range	5.61	42	PN	P	12 21 53.2	-2.3

*IDC **11** 12:28:50.8±1.7, 40.48N×126.91W, mb3.3/4, mb1 3.6/7, mb1mx3.5/22, mbtmp3.3/7, ML3.6/3, MS3.5/4, Ms1 3.4/4, ms1mx3.2/14, Error ellipse: s-maj=28.7km s-min=18.0km az=18.0*

*NEIC **11** 12:28:53.0±1.6, 40.35N×126.83W, h10km, mb3.9/2, Error ellipse: s-maj=20.3km s-min=7.1km az=79.0*

ISC 11 12:28:50.2±2.6**, 40.35N**±0.05×**126.9W**±0.1**, h4**km±18km**, n42, σ1§13**/41**, mb3.5**/6**, MS3.4**/3**, Off coast of northern California**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	2.44	77	eP	Pn	12 29 31.4	-0.2
HOPS	Hopland	3.23	114	eP	Pn	12 29 42.2	-0.5
YBH	Yreka Blue Hor	3.43	65	Pn	Pn	12 29 45.7	+0.1
	6.2nm,0.3s,baz=249,slow=14,SNR=102						
YBH				Sn	Sn	12 30 26.3	-1.1
	baz=157,slow=20,SNR=3.1						
LAMM	Antelope Mount	3.45	67	P	Pn	12 29 46.7	+0.9
HUMO	Hull Mountain	3.70	51	P	Pn	12 29 48.9	-0.6
LHEM	Herd Peak	3.74	69	P	Pn	12 29 51.1	+1.1
NSHM	Saint Helena R	3.77	118	eP	Pn	12 29 50.7	+0.3
BUOR	Burton Butte	3.98	60	P	Pn	12 29 54.8	+1.4
BBOR	Butler Butte	4.04	50	P	Pn	12 29 54.0	-0.2
LASM	Arnica Sink	4.19	71	P	Pn	12 29 57.4	+1.0
LBCM	Butte Creek Ri	4.23	82	P	Pn	12 29 58.2	+1.3
HOG	Hogback Mounta	4.32	62	P	Pn	12 29 58.8	+0.6
SAC	San Andreas	4.43	127	eP	Pn	12 29 58.4	-1.4
MOD	Modoc	5.19	70	eP	Pn	12 30 09.9	-0.7
FRIS	Frissel Point	5.23	41	P	Pn	12 30 10.7	-0.5
BKCOR	Black Crater	5.50	42	P	Pn	12 30 14.3	-0.7
CMB	Columbia Colle	5.54	113	eP	Pn	12 30 15.7	+0.2
SAO	San Andreas Ge	5.55	128	eP	Pn	12 30 13.2	-2.4
	31nm,0.5s						
SSOR	Sweet Springs	5.55	34	P	Pn	12 30 15.3	-0.4
WCN	Washoe City	5.57	99	eP	Pn	12 30 15.2	-0.7
LRV	Little Rabbit	6.04	129	eP	Pn	12 30 20.8	-1.7
WVOR	Wild Horse Val	6.53	69	eP	Pn	12 30 27.2	-2.2
OMM	Old Mammoth Mi	6.71	111	eP	Pn	12 30 33.8	+1.8
NVAR	Mina Array Bea	6.90	103	Pn	Pn	12 30 35.1	+0.4
	0.3nm,0.3s,baz=282,slow=14,SNR=15						
MTUM	Tungsten Hills	7.13	112	eP	Pn	12 30 39.6	+1.6
BMO	Blue Mountains	8.36	54	eP	P	12 30 53.4	-1.8
NEW	Newport	10.55	38	LR	LR	12 35 24.2	
	comp=Z,155nm,18.1s,baz=50,slow=38						
MCMT	McKenzie Canyo	11.26	62	eP	P	12 31 35.0	+0.1
CHMT	Chamberlain Mo	11.84	52	eP	P	12 31 41.9	-1.0
BOZ	Bozeman (W)	12.34	60	eP	P	12 31 48.5	-1.2
BW06	Boulder Array	13.19	74	P	P	12 32 00.1	-0.7
PDAR	Pinedale Array	13.19	74	Pn	P	12 32 02.6	+1.7
	0.0nm,0.3s,baz=225,slow=3.8,SNR=2.8						
EDM	Edmonton	15.82	31	eP	P	12 32 37.0	+1.8
SDCO	Great Sand Dun	16.80	92	eP	P	12 32 47.8	0.0
TXAR	Lajitas Array	21.92	113	P	P	12 33 48.1	+1.7
	0.7nm,0.5s,mb3.3,baz=319,slow=8.3,SNR=5.1						
FFC	Flin Flon	21.95	41	eP	P	12 33 45.5	-1.0
	5.5nm,1.2s,mb3.9						
WMOK	Wichita Mounta	22.91	95	P	P	12 33 56.4	+0.3
YKA	Yellowknife Ar	23.38	14	P	P	12 34 00.5	+0.2
	0.2nm,0.9s,mb2.5,baz=200,slow=12,SNR=4.1						
YKA				LR	LR	12 42 30.5	
	comp=Z,96nm,19.1s,MS3.3,baz=165,slow=35						
ULM	Lac du Bonnet	23.79	55	P	P	12 34 06.0	+1.6
	3.5nm,1.0s,mb3.7,baz=249,slow=9.0,SNR=3.1						
ULM				LR	LR	12 42 51.5	
	comp=Z,78nm,19.7s,MS3.2,baz=304,slow=35						
FCC	Fort Churchill	27.71	37	eP	P	12 34 43.2	+2.0
	1.9nm,0.9s,mb3.7						
ROSC	El Rosal	58.84	112	LR	LR	13 07 43.4	
	comp=Z,71nm,20.1s,MS3.8,baz=181,slow=40						
SONM	Songino Array	80.30	327	P	P	12 41 02.2	-1.3
	0.7nm,1.1s,mb3.5,baz=34,slow=5.2,SNR=3.3						

IDC 11 12:30:10.2±4.0**, 11.62S×166.24E, mb3.6**/3**, mb1 3.9**/3**, mb1mx3.7**/14**, mbtmp3.6**/3**, MS3.3**/1**, Ms1 3.3**/1**, ms1mx2.5**/23**, Error ellipse: s-maj=199.5km s-min=32.9km az=139.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	18.89	275	LR	LR	12 40 52.3	
	comp=Z,103nm,21.3s,baz=330,slow=34						
WRA	Warramunga Arr	31.75	251	P	P	12 36 36.0	-2.5
	0.8nm,0.6s,baz=82,slow=8.6,SNR=6.3						
ASAR	Alice Springs	32.97	244	P	P	12 36 47.4	-1.7
	1.3nm,1.0s,baz=73,slow=9.1,SNR=8.0						
ILAR	Eielson Array	83.90	18	P	P	12 42 41.7	-1.2
	0.2nm,0.6s,baz=238,slow=5.1,SNR=6.4						

IDC 11 12:33:37.9±9.0**, 1.16N×124.27E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/15**, mbtmp3.9**/3**, Error ellipse: s-maj=176.8km s-min=138.2km az=61.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.18	155	P	P	12 38 46.6	-0.9
	2.2nm,0.3s,baz=333,slow=11,SNR=65						
WB2	Warramunga Arr	23.19	155	eP	P	12 38 47.0	-0.5
ASAR	Alice Springs	26.40	160	P	P	12 39 16.6	-1.5
	0.7nm,0.5s,baz=342,slow=7.0,SNR=14						
STKA	Stephens Creek	36.73	155	P	P	12 40 46.6	-2.3
	0.6nm,0.3s,baz=327,slow=11,SNR=3.6						

*NIED **11** 12:44:00, 28.70N×128.40E, h5km, Mw4.8 Best double couple: M0 1.69×10^16 NP1:φs107°, δ69°, λ-76°. NP2: φs253°, δ25°, λ-121°.*

*IDC **11** 12:44:40.8±0.5, 28.83N×128.30E, mb4.4/18, mb1 4.5/19, mb1mx4.4/26, mbtmp4.4/19, ML3.5/1, MS4.1/9, Ms1 4.1/9, ms1mx3.9/27, Error ellipse: s-maj=21.2km s-min=11.2km az=86.0*

*JMA **11** 12:44:41.0±0.2, 28.75N×128.43E, M4.3*

*MOS **11** 12:44:44.9±2.1, 28.75N×128.56E, h33km, mb4.8/5, MS4.1/7, Error ellipse: s-maj=26.6km s-min=10.8km az=106.5*

*NEIC **11** 12:44:46.4±0.2, 28.74N×128.52E, mb4.8/44, MS4.2/2, MW4.8(NIED), Error ellipse: s-maj=6.4km s-min=5.3km az=51.0*

*BJI **11** 12:44:50.1, 28.86N×128.23E, h60km, mB5.0, mb4.6, Ms4.5, Msz4.2*

ISC 11 12:44:44.5±1.0**, 28.74N**±0.03×**128.53E**±0.03**, h29**km±7km**, n133, σ1§22**/141**, mb4.7**/56**, MS4.2**/18**, 6C-4D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAM	Amami Oshima	1.00	109	P	Pn	12 45 02.1	-0.7
JAM				eS	Sb	12 45 16.7	+0.6
JTK	Tokunoshima	1.02	158	P	Pn	12 45 01.4	-1.6
JTK				S	Sn	12 45 16.3	0.0
JZK	Kikaishima	1.34	108	P	Pn	12 45 08.5	+0.9
JNN	Nakanoshima	1.61	47	P	Pn	12 45 11.7	+0.2
JIH	Iheya	1.77	196	P	Pn	12 45 13.4	-0.2
JOW	Kunigami	1.91	187	Pn	Pn	12 45 15.0	-0.7
	99nm,0.3s,baz=17,slow=12,SNR=63						
JOW				Sn	Sn	12 45 41.6	+2.7
	119nm,0.3s,baz=26,slow=21,SNR=3.7						
JOW				LR	LR	12 45 57.1	
	comp=Z,2μm,19.8s,baz=57,slow=38						
JAGN	Aguni-jima	2.42	208	P	Pn	12 45 22.9	-0.2
JJT2	Tamagusuku 2	2.68	195	P	Pn	12 45 27.4	+0.7
JTN	Tanegashima 3	2.87	48	P	Pn	12 45 29.7	+0.3
JSJ	Shimokoshiki	3.11	19	P	Pn	12 45 32.7	-0.1
SSE	Sheshan	6.79	292	ePn	Pn	12 46 22.6	-2.3
	27nm,0.8s						
SSE				Sn	Sn	12 47 45.4	+3.4
YHNB	Yeheng	7.57	239	ePn	Pn	12 46 39.4	+3.6
NJ2	Nanjing	8.98	294	eP	P	12 46 52.7	-2.7
NJ2				XP		12 47 18.7	
NJ2				S	Sn	12 48 33.7	-2.9
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,1μm,3.8s						
NJ2				LR	LR		
	comp=N,4μm,11.6s						
NJ2				LR	LR		
	comp=E,2μm,10.0s						
NJ2				LR	LR		
	comp=Z,2μm,11.3s						
NJ2	Nanjing	8.98	294	eP	P	12 46 52.7	-2.7
	comp=Z,20nm,0.6s						
NJ2				sP		12 47 18.7	
NJ2				S	Sn	12 48 33.7	-2.9
JHJ	Hachijo jima 2	10.61	63	LR	LR	12 50 50.0	
	comp=Z,109nm,19.6s,baz=57,slow=34						
BJT	Baijiatuau	15.17	321	eP	P	12 48 19.9	+1.4
	comp=Z,50nm,0.9s						
BJI	Beijing	15.18	321	P	P	12 48 20.6	+1.9
BJI				S	S	12 50 56.3	-10
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s						
BJI				AMB	AMB		
	comp=Z,289nm,5.7s						
BJI				LR	LR		
	comp=N,986nm,18.4s						
BJI				LR	LR		
	comp=E,713nm,17.6s						
BJI				LR	LR		
	comp=Z,561nm,17.6s						
BJI	Beijing	15.18	321	P	P	12 48 20.6	+1.9
	comp=Z,10.0nm,1.1s						
BJI				S	S	12 50 56.3	-10
CN2	Changchun	15.24	351	eP	P	12 48 24.8	+5.5
MDJ	Mudanjiang	15.87	3	eP	P	12 48 35.4	+7.9
	comp=Z,118nm,1.5s						
ENH	Enshi	16.65	280	eP	P	12 48 40.4	+2.9
	comp=Z,58nm,1.3s						
XAN	Xi'an	17.55	292	P	P	12 48 47.9	-0.8
XAN				AMB	AMB		
	comp=Z,32nm,1.6s						
XAN				AMB	AMB		
	comp=Z,188nm,7.6s						
XAN				LR	LR		
	comp=N,1μm,11.2s						
XAN				LR	LR		
	comp=E,528nm,12.1s						
XAN				LR	LR		
	comp=Z,629nm,10.8s						
XAN	Xi'an	17.55	292	P	P	12 48 47.9	-0.8
	comp=Z,32nm,1.6s						
HHC	Hu-ho-hao-te	18.40	315	eP	P	12 49 01.6	+2.3
HHC				S	S	12 52 21.5	+1.2
HHC				XS		12 52 38.8	
HHC				SS	SS	12 52 44.1	-0.3
HHC				AMB	AMB		
	comp=Z,32nm,1.2s						
HHC				AMB	AMB		
	comp=Z,340nm,4.0s						
HHC				LR	LR		
	comp=N,859nm,19.6s						
HHC				LR	LR		
	comp=E,867nm,20.2s						
HHC				LR	LR		
	comp=Z,554nm,17.2s						
HHC	Hu-ho-hao-te	18.40	315	eP	P	12 49 01.6	+2.3
	comp=Z,32nm,1.2s						
HHC				S	S	12 52 21.5	+1.2
HHC				sS		12 52 38.8	
HHC				SS	SS	12 52 44.1	-0.3
ASAJ	Asahikawa	19.03	32	P	P	12 49 04.1	-2.7
	comp=Z,0.3nm,0.3s,baz=250,slow=8.5,SNR=4.2						
ASAJ				LR	LR	12 56 06.2	
	comp=Z,402nm,18.6s,baz=147,slow=36						
BTO	Baotou	19.24	313	eP	P	12 49 08.7	-0.6
BTO				AMB	AMB		
	comp=Z,26nm,0.9s						
BTO				LR	LR		
	comp=N,203nm,4.7s						
BTO				LR	LR		
	comp=E,583nm,11.0s						
BTO	Baotou	19.24	313	eP	P	12 49 08.7	-0.6
	comp=E,26nm,0.9s						
GYA	Guiyang	19.51	268	⇓iP	P	12 49 11.2	-1.2
GYA				AP		12 49 20.2	
GYA				AMB	AMB		
	comp=Z,40nm,1.1s						
GYA				AMB	AMB		
	comp=Z,350nm,3.6s						
GYA				LR	LR		
	comp=N,630nm,9.9s						
GYA				LR	LR		
	comp=E,680nm,11.7s						
GYA				LR	LR		
	comp=Z,770nm,13.2s						
GYA	Guiyang	19.51	268	⇓iP	P	12 49 11.2	-1.2
	comp=Z,40nm,1.1s						
GYA				pP		12 49 20.2	
KLR	Kul'dur	20.61	6	eP	P	12 49 20.3	-3.7
KLR				eS	S	12 53 13.0	+5.1
KLR				MLR	MLR		
	comp=N,500nm,11.0s						
KLR				MLR	MLR		
	comp=Z,900nm,11.0s,MS4.4						
YSS	Yuzh-Sakhalins	21.32	28	P	P	12 49 34.8	+3.7
YSS				e		12 53 48.0	
YSS				MLR	MLR		
	comp=Z,500nm,15.0s,MS4.0						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
HIA	Hailar	21.58	344	P	P	12 49 35.1	+1.3
	comp=E,17nm,1.3s,mb4.3						
CD2	Chengdu	21.59	282	P	P	12 49 33.3	-0.7
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.8						
CD2	Chengdu	21.59	282	P	P	12 49 33.3	-0.7
	comp=Z,20nm,0.5s,mb4.8						
LZH	Lanzhou	22.05	296	eP	P	12 49 39.0	+0.4
LZH				AP		12 49 47.5	
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb4.7						
LZH				AMB	AMB		
	comp=Z,144nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,12.9s						
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.6						
LZH	Lanzhou	22.05	296	eP	P	12 49 39.0	+0.4
	comp=Z,42nm,1.5s,mb4.7						
LZH				pP		12 49 47.5	
LZH				LR	LR		
	comp=Z,2μm,14.0s,MS4.6						
KMI	Kunming	23.25	267	P	P	12 49 52.9	+2.4
KMI				AP		12 50 00.2	
KMI				XS		12 54 17.4	
KMI				AMB	AMB		
	comp=Z,36nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,202nm,4.9s						
KMI				LR	LR		
	comp=N,560nm,14.9s,MS4.3						
KMI				LR	LR		
	comp=E,375nm,12.6s,MS4.3						
KMI				LR	LR		
	comp=Z,361nm,11.7s,MS4.1						
KMI	Kunming	23.25	267	P	P	12 49 52.9	+2.4
	comp=Z,36nm,1.0s,mb4.8						
KMI				pP		12 50 00.2	
KMI				sS		12 54 17.4	
KMI				LR	LR		
	comp=Z,360nm,11.7s,MS4.1						
ULN	Ulaanbaatar	25.32	325	⇑iP	P	12 50 11.1	+0.9
ULN	Ulaanbaatar	25.32	325	eP	P	12 50 10.8	+0.5
	comp=Z,91nm,1.9s,mb5.0						
SONM	Songino Array	25.64	324	P	P	12 50 10.3	-2.9
	comp=Z,2.1nm,0.8s,mb3.7,baz=124,slow=5.2,SNR=20						
SONM				PcP	PcP	12 53 40.5	-3.6
	comp=Z,0.6nm,1.0s,baz=135,slow=4.1,SNR=2.4						
GTA	Gaotai	25.96	302	eP	P	12 50 16.3	+0.1
GTA				AMB	AMB		
	comp=Z,35nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,124nm,4.6s						
GTA				LR	LR		
	comp=N,2μm,16.0s,MS4.7						
GTA				LR	LR		
	comp=E,648nm,14.8s,MS4.7						
GTA				LR	LR		
	comp=Z,731nm,11.8s,MS4.4						
GTA	Gaotai	25.96	302	eP	P	12 50 16.3	+0.1
	comp=Z,35nm,0.9s,mb4.9						
GTA				LR	LR		
	comp=Z,730nm,11.8s,MS4.4						
ZAK	Zakamensk	28.84	326	eP	P	12 50 41.8	-0.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.8						
ZAK	Zakamensk	28.84	326	eP	P	12 50 41.8	-0.5
	comp=Z,2.0nm,1.1s,mb3.8						
CMAR	Chiang Mai Arr	28.90	256	P	P	12 50 40.8	-2.4
	comp=Z,1.2nm,0.9s,mb3.6,baz=47,slow=8.5,SNR=6.4						
TLY	Talaya	29.51	328	eP	P	12 50 48.6	+0.3
TLY				eSS	SS	12 57 34.9	+22
TLY				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.6						
TLY				MLR	MLR		
	comp=Z,374nm,19.0s,MS4.0						
MOY	Mondy	30.77	326	eP	P	12 51 03.4	+3.9
BOD	Bodaibo	30.80	345	eP	P	12 50 57.7	-2.0
LSA	Lhasa	32.55	281	P	P	12 51 15.8	+0.5
	comp=Z,8.1nm,0.8s,mb4.7						
YAK	Yakutsk	33.31	1	⇑iP	P	12 51 20.2	-1.4
YAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
YAK				MLR	MLR		
	comp=Z,200nm,17.0s,MS3.9						
YAK	Yakutsk	33.31	1	⇑iP	P	12 51 20.2	-1.4
	comp=Z,17nm,0.8s,mb5.0						
YAK				LR	LR		
	comp=Z,200nm,17.0s,MS3.9						
WMQ	Urumqi	35.81	306	⇓iP	P	12 51 44.6	+1.4
WMQ				AP	pP	12 52 03.0	+11
WMQ				PCP	PcP	12 54 12.0	+1.3
WMQ				S	S	12 57 08.0	-10
WMQ				XS		12 57 38.0	
WMQ				SS	SS	12 59 37.0	-2.7
WMQ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,129nm,4.4s						
WMQ				LR	LR		
	comp=N,670nm,13.7s,MS4.7						
WMQ				LR	LR		
	comp=E,745nm,16.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,512nm,20.0s,MS4.3						
WMQ	Urumqi	35.81	306	⇓iP	P	12 51 44.6	+1.4
	comp=Z,13nm,1.1s,mb4.8						
WMQ				pP	pP	12 52 03.0	+11
WMQ				PcP	PcP	12 54 12.0	+1.3
WMQ				S	S	12 57 08.0	-10
WMQ				sS		12 57 38.0	
WMQ				SS	SS	12 59 37.0	-2.7
WMQ				LR	LR		
	comp=Z,510nm,20.0s,MS4.3						
JIRN	Jiri	37.19	279	eP	P	12 51 57.6	+2.6
	comp=Z,20nm,1.0s,mb4.9						
PKI	Pulchoki	37.88	279	eP	P	12 52 00.8	0.0
	comp=Z,55nm,1.1s,mb5.2						
KKN	Kakani	37.95	279	eP	P	12 52 01.9	+0.5
	comp=Z,57nm,0.9s,mb5.3						
DMN	Daman	38.14	279	eP	P	12 52 03.1	+0.1
	comp=Z,83nm,1.3s,mb5.3						
GKN	Gorkha	38.46	280	eP	P	12 52 05.9	+0.2
	comp=Z,55nm,0.8s,mb5.3						
KOLN	Koldanda	39.41	280	eP	P	12 52 10.0	-3.6
ZAL	Zalesovo	40.45	321	P	P	12 52 19.4	-2.5
	comp=Z,3.1nm,0.6s,mb4.2,baz=2.3,slow=9.1,SNR=22						
ZAL				PcP	PcP	12 54 22.1	-2.9
	comp=Z,0.9nm,0.9s,baz=352,slow=4.3,SNR=3.6						
ZAL				LR	LR	13 08 45.1	
	comp=Z,152nm,18.8s,MS3.9,baz=170,slow=36						
NVS	Novosibirsk	41.62	322	eP	P	12 52 30.7	-0.8
NVS				e		12 54 09.8	
NVS				pmax	pmax		
	comp=Z,30nm,2.3s,mb4.5						
NVS				pmax	pmax		
	comp=E,18nm,1.7s						
NVS	Novosibirsk	41.62	322	eP	P	12 52 30.7	-0.8
	comp=E,30nm,2.3s,mb4.5						
NVS				e		12 54 09.8	
PMG	Port Moresby	41.97	152	P	P	12 52 35.3	+0.5
	comp=E,12nm,0.8s,mb4.5,baz=346,slow=14,SNR=4.9						
TIXI	Tiksi	42.96	0	eP	P	12 52 41.4	-0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb3.7						
TIXI				MLR	MLR		
	comp=Z,210nm,17.0s,MS4.1						
TIXI	Tiksi	42.96	0	eP	P	12 52 41.4	-0.8
	comp=Z,3.0nm,1.8s,mb3.7						
TIXI				LR	LR		
	comp=Z,210nm,17.0s,MS4.1						
KURK	Kurchatov	43.22	315	P	P	12 52 44.3	-0.3
	comp=Z,85nm,1.0s,mb5.4,SNR=10						
KURK	Kurchatov	43.22	315	⇑iP	P	12 52 44.6	0.0
ULHL	Ulahol	44.01	302	P	P	12 52 52.0	+0.9
	SNR=6.2						
TKM2	Tokmak 2	44.49	303	P	P	12 52 55.7	+0.7
	SNR=11						
KBK	Karagaybulak	44.96	303	P	P	12 52 59.6	+0.8
	SNR=6.6						
CHMS	Chumysh	45.11	303	P	P	12 53 00.6	+0.7
	SNR=6.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BILL	Bilibino	45.22	19	eP	P	12 52 59.8	-0.7
BILL				eS	S	12 59 34.9	-3.0
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
BILL	Bilibino	45.22	19	eP	P	12 52 59.8	-0.7
	comp=Z,8.0nm,1.1s,mb4.5						
BILL				eS	S	12 59 34.9	-3.0
UCH	Uchtor	45.29	302	P	P	12 53 02.9	+1.5
	SNR=31						
USP	Ospenovka	45.29	304	P	P	12 53 01.9	+0.5
	SNR=6.1						
AAK	Ala-Archa	45.30	303	⇑iP	P	12 53 01.4	-0.1
AAK				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.3						
AAK				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.2						
AAK	Ala-Archa	45.30	303	⇑iP	P	12 53 01.4	-0.1
	comp=Z,8.0nm,1.6s,mb4.3						
AAK				LR	LR		
	comp=Z,200nm,15.0s,MS4.2						
AML	Almayashu	45.90	302	P	P	12 53 07.7	+1.5
	SNR=7.0						
FITZ	Fitzroy Crossi	46.65	184	eP	P	12 53 12.4	0.0
	comp=Z,26nm,0.8s,mb5.2						
CHKZ	Chkalovo	48.55	318	eP	P	12 53 26.0	-0.8
	comp=Z,18nm,1.3s,mb4.9						
WRAB	Tennant Creek	48.71	173	i P	P	12 53 28.5	0.0
WRAB	Tennant Creek	48.71	173	eP	P	12 53 28.0	-0.5
	comp=Z,22nm,0.8s,mb5.2						
WRA	Warramunga Arr	48.72	173	P	P	12 53 27.7	-0.9
	comp=Z,13nm,0.7s,mb5.1,baz=354,slow=8.3,SNR=59						
WB2	Warramunga Arr	48.72	173	eP	P	12 53 27.9	-0.7
CTA	Charters Tower	51.47	159	P	P	12 53 49.7	+0.1
	comp=Z,7.0nm,0.7s,mb4.7,baz=275,slow=8.0,SNR=5.9						
CTA	Charters Tower	51.47	159	P	P	12 53 49.7	+0.1
CTAO	Charters Tower	51.47	159	eP	P	12 53 49.7	+0.1
	comp=Z,5.0nm,0.7s,mb4.5						
ASAR	Alice Springs	52.35	174	P	P	12 53 55.9	-0.4
	comp=Z,2.1nm,0.6s,mb4.2,baz=3.5,slow=13,SNR=32						
ASAR				PcP	PcP	12 55 05.9	-1.1
	comp=Z,1.0nm,0.6s,baz=349,slow=3.4,SNR=4.3						
ASPA	Alice Springs	52.35	174	eP	P	12 53 55.9	-0.4
SVE	Sverdlovsk	54.46	321	eP	P	12 54 11.0	-0.3
SVE				MLR	MLR		
	comp=N,100nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=E,400nm,13.0s,MS4.7						
SVE				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.8						
IMA	Indian Mountai	59.18	28	eP	P	12 54 44.6	-0.1
	comp=Z,26nm,1.0s,mb5.2						
RSO	Redoubt South	59.96	34	eP	P	12 54 51.1	+0.9
MCK	McKinley	61.38	30	eP	P	12 54 58.9	-1.0
	comp=Z,4.6nm,0.9s,mb4.6						
STKA	Stephens Creek	61.55	167	P	P	12 55 00.6	-0.8
	comp=Z,2.8nm,0.6s,mb4.6,baz=343,slow=3.2,SNR=7.5						
COLA	College	61.70	29	eP	P	12 55 01.7	-0.3
	comp=Z,3.2nm,0.7s,mb4.6						
ILAR	Eielson Array	62.12	29	P	P	12 55 03.2	-1.6
	comp=Z,2.1nm,0.7s,mb4.3,baz=278,slow=5.1,SNR=27						
ILAR				LR	LR	13 25 19.1	
	comp=Z,131nm,18.3s,MS4.1,baz=178,slow=39						
NWAO	Narrogin (SRO)	62.25	191	P	P	12 55 05.5	-0.7
	comp=Z,13nm,0.9s,mb5.0,baz=82,slow=7.1,SNR=3.0						
INK	Inuvik	66.50	24	P	P	12 55 32.4	-0.8
	comp=Z,4.5nm,0.9s,mb4.5,baz=288,slow=7.3,SNR=14						
INK				LR	LR	13 24 41.5	
	comp=Z,202nm,21.3s,MS4.3,baz=276,slow=36						
INK	Inuvik	66.50	24	eP	P	12 55 32.5	-0.7
	comp=Z,7.8nm,1.0s,mb4.7						
KIV	Kislovodsk	67.86	309	P	P	12 55 50.3	+8.1
KIV				S	S	13 04 34.0	-3.1
KIV				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
KIV	Kislovodsk	67.86	309	P	P	12 55 50.3	+8.1
	comp=Z,11nm,1.0s,mb4.8						
KIV				S	S	13 04 34.0	-3.1
KIV				LR	LR		
	comp=Z,100nm,18.0s,MS4.1						
SOC	Sochi	70.01	309	eP	P	12 55 53.2	-2.2
SOC				e		12 56 17.7	
SOC				e		12 58 28.4	
SOC				ePPP	PPP	13 00 15.1	+3.0
SOC				eS	S	13 04 58.3	-4.2
SOC				e		13 05 39.7	
SOC				eSS	SS	13 09 31.6	-1.9
SOC				pmax	pmax		
	comp=N,23nm,0.8s						
SOC				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
SOC				pmax	pmax		
	comp=E,12nm,0.6s						
SOC	Sochi	70.01	309	eP	P	12 55 53.2	-2.2
	comp=E,28nm,0.8s,mb5.2						
SOC				e		12 56 17.7	
SOC				e		12 58 28.4	
SOC				ePPP	PPP	13 00 15.1	+3.0
SOC				eS	S	13 04 58.3	-4.2
SOC				e		13 05 39.7	
SOC				eSS	SS	13 09 31.6	-1.9
FINES	FINESS Array B	70.82	330	P	P	12 55 58.1	-2.0
	comp=E,1.2nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=10						
DLBC	Dease Lake	71.63	33	LR	LR	13 27 50.8	
	comp=E,192nm,20.1s,MS4.4,baz=83,slow=36						
RES	Resolute Bay	73.05	11	eP	P	12 56 11.7	-1.3
	comp=E,6.5nm,1.0s,mb4.5						
YKW3	Yellowknife Ar	76.11	25	eP	P	12 56 30.6	-0.2
YKA	Yellowknife Ar	76.15	25	P	P	12 56 31.0	0.0
	comp=E,5.2nm,0.9s,mb4.5,baz=298,slow=5.7,SNR=61						
YKA				LR	LR	13 34 55.8	
	comp=E,130nm,18.9s,MS4.3,baz=25,slow=40						
ASF	Jabal al Asfar	76.57	299	LR	LR	13 37 32.6	
	comp=E,278nm,20.1s,MS4.6,baz=130,slow=42						
NOA	NORSAR Array B	77.19	334	P	P	12 56 34.8	-2.1
	comp=E,1.2nm,0.8s,mb3.9,baz=52,slow=5.1,SNR=3.5						
RPZ	Rata Peaks	81.96	150	P	P	12 57 02.4	-0.5
	comp=E,11nm,0.8s,mb4.8,slow=8.1,SNR=3.0						
EDM	Edmonton	82.34	32	eP	P	12 57 04.2	-0.5
EDM				e	pP	12 57 12.6	-1.4
BMO	Blue Mountains	85.39	41	eP	P	12 57 21.1	+0.8
	comp=E,10nm,1.5s,mb4.8						
FCC	Fort Churchill	85.91	21	eP	P	12 57 22.2	-0.3
	comp=E,7.8nm,1.1s,mb4.8						
WVOR	Wild Horse Val	86.03	43	eP	P	12 57 24.7	+1.2
	comp=E,1.7nm,0.6s,mb4.5						
FFC	Flin Flon	86.24	27	P	P	12 57 24.9	+0.6
	comp=E,63nm,1.1s,mb5.8,SNR=11						
FFC	Flin Flon	86.24	27	eP	P	12 57 24.4	+0.1
	comp=E,12nm,1.0s,mb5.1						
HRY	Holter Researc	87.24	37	eP	P	12 57 30.5	+1.2
HLID	Hailey	87.82	40	eP	P	12 57 33.8	+1.6
	comp=E,6.7nm,1.1s,mb4.8						
NVAR	Mina Array Bea	88.59	46	P	P	12 57 37.2	+1.2
	comp=E,1.0nm,0.6s,mb4.3,baz=282,slow=5.8,SNR=9.7						
TPAW	Teton Pass	89.81	39	eP	P	12 57 43.5	+1.8
	comp=E,7.0nm,1.2s,mb4.9						
HWUT	Hardware Ranch	90.69	41	eP	P	12 57 47.1	+1.3
	comp=E,10nm,1.3s,mb5.0						
BW06	Boulder Array	91.05	39	eP	P	12 57 48.0	+0.7
	comp=E,11nm,1.6s,mb4.9						
PDAR	Pinedale Array	91.05	39	P	P	12 57 47.2	-0.1
	comp=E,1.1nm,0.8s,mb4.2,baz=270,slow=1.5,SNR=10						
ULM	Lac du Bonnet	92.07	27	P	P	12 57 51.0	-0.9
	comp=E,2.3nm,0.6s,mb4.7,baz=340,slow=6.2,SNR=5.0						
MSU	Marysvale	92.32	43	eP	P	12 57 55.4	+2.1
PV10	Paradox Valley	94.27	42	eP	P	12 58 04.1	+1.8
SDV	Santo Domingo	138.28	29	ePKPdf	PKPdf	13 04 09.0	-3.8
NNA	Nana	151.06	60	ePKPbc	PKPdf	13 04 36.7	+2.2
LPAZ	La Paz	160.28	55	PKP	PKPdf	13 04 44.5	-2.0
	comp=E,0.4nm,0.2s,baz=35,slow=6.1,SNR=3.7						
LPAZ				PKPab	PKPab	13 05 24.2	-0.2
	comp=E,1.7nm,0.8s,baz=351,slow=4.6,SNR=5.6						
LPAZ	La Paz	160.28	55	PKP	PKPdf	13 04 44.5	-2.0
LPAZ				PKPab	PKPab	13 05 24.2	-0.2

*IDC **11** 12:46:26.7±2.9, 8.36S×106.28E, mb3.7/7, mb1 3.9/7, mb1mx3.9/15, mbtmp3.7/7, MS4.5/2, Ms1 4.5/2, ms1mx3.3/20, Error ellipse: s-maj=137.1km s-min=18.7km az=52.0*

*NEIC **11** 12:46:32.0±0.9, 8.38S×106.16E, h40km, mb4.2/2, Error ellipse: s-maj=20.7km s-min=7.6km az=221.0*

ISC 11 12:46:30.8±2.1**, 8.3S**±0.2×**106.3E**±0.1**, h44**km±17km**, n17, σ0§87**/19**, mb3.8**/9**, MS4.6**/1**, 3C-2D, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PULI	Pulasari	1.99	351	⇑iPn	P	12 47 03.5	+0.8
PENI	Pendagan	2.96	338	⇑iPn	P	12 47 15.2	-1.3
PENI				eSn	S	12 47 45.2	-5.8
SRDI	Scrawed	7.77	92	⇓eP	P	12 48 24.6	+0.5
SRDI				eS	S	12 49 52.1	+0.4
KELI	Kelakatan	8.12	90	⇓eP	P	12 48 31.1	+2.2
RATI	Rata	9.15	93	⇑eP	P	12 48 43.1	0.0
RATI				eS	S	12 50 24.9	-1.0
KEDI	Kedomdong	9.72	92	eP	P	12 48 49.8	-1.3
CMAR	Chiang Mai Arr	27.58	345	P	P	12 52 15.9	-0.3
	1.2nm,0.7s,mb3.6,baz=179,slow=8.6,SNR=6.9						
WRA	Warramunga Arr	29.50	116	P	P	12 52 33.3	-0.1
	0.9nm,0.5s,mb3.7,baz=287,slow=11,SNR=11						
WRA	Warramunga Arr	29.50	116	P	P	12 52 33.3	-0.1
WRAB	Tennant Creek	29.50	116	eP	P	12 52 33.9	+0.5
	3.6nm,0.7s,mb4.2						
ASAR	Alice Springs	30.53	123	P	P	12 52 41.0	-1.5
	0.3nm,0.4s,mb3.4,baz=288,slow=8.6,SNR=5.3						
STKA	Stephens Creek	40.30	131	P	P	12 54 06.2	+0.5
	1.2nm,0.8s,mb3.7,baz=333,slow=9.4,SNR=3.2						
SONM	Songino Array	55.91	0	P	P	12 56 06.9	+0.2
	0.2nm,0.4s,mb3.5,baz=184,slow=7.4,SNR=4.4						
ZAL	Zalesovo	64.63	346	P	P	12 57 06.0	-0.2
	0.8nm,0.4s,mb4.1,baz=316,slow=4.9,SNR=5.2						
BVAR	Borovoye Array	68.31	338	P	P	12 57 30.0	+0.5
	0.5nm,0.4s,mb3.9,baz=150,slow=11,SNR=5.0						
CHKZ	Chkalovo	68.74	338	eP	P	12 57 32.4	+0.3
	0.8nm,0.4s,mb4.0						
FINES	FINESS Array B	92.60	332	LR	LR	13 50 30.9	
	comp=Z,196nm,18.4s,MS4.6,baz=75,slow=42						

OTT 11 12:54:16.3±0.2**, 52.73N**×**67.21W, MN2.7**/5**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.12	6	PN	Pn	12 54 52.9	-0.6
SCHQ				SN	Sn	12 55 18.1	-2.7
SCHQ				Trac		12 55 23.4	
	comp=Z,6.4nm,0.1s						
MNQ	Manicouagan	2.40	205	PN	Pn	12 54 56.4	-1.1
MNQ				Trac		12 55 32.0	
	comp=Z,11nm,0.2s						
SMQ	Clarke City	2.53	173	PN	Pn	12 54 58.1	-1.2
SMQ				Trac		12 55 36.8	
	comp=Z,7.7nm,0.1s						
ICQ	Pointe Anglais	3.21	181	PN	Pn	12 55 07.1	-1.9
ICQ				SN	Sn	12 55 47.9	-0.6
CNQ	Baie Comeau	3.47	189	PN	Pn	12 55 12.1	-0.6
CNQ				SN	Sn	12 55 54.5	-0.6
GSQ	Grosses Roches	3.82	179	PN	Pn	12 55 16.6	-1.1
GSQ				Trac		12 56 20.0	
	comp=Z,4.0nm,0.2s						
LG4Q	La Grande 4	4.24	285	PN	Pn	12 55 21.2	-2.5
LG4Q				SN	Sn	12 56 03.9	-11
LG4Q				Trac		12 56 29.9	
	comp=Z,3.3nm,0.2s						
LMQ	La Malbaie	5.56	202	PN	Pn	12 55 39.6	-2.6
DRLN	Deer Lake	7.04	116	PN	Pn	12 55 58.4	-4.8
VIMO	Victor Mine	10.03	277	PN	P	12 56 38.0	-6.5
VIMO				SN	S	12 58 24.2	-15

*IDC **11** 12:59:48.8±0.5, 7.41N×94.27E, mb4.9/20, mb1 5.0/21, mb1mx5.0/22, mbtmp4.8/21, ML4.8/1, MS4.5/15, Ms1 4.5/15, ms1mx4.4/24, Error ellipse: s-maj=24.9km s-min=11.9km az=52.0*

*MOS **11** 12:59:52.5±1.1, 7.41N×94.27E, h33km, mb5.5/38, MS4.6/12, Error ellipse: s-maj=9.5km s-min=5.3km az=111.0*

*BJI **11** 12:59:52.8, 7.14N×94.07E, h47km, mB5.3, mb4.9, Ms5.1, Msz4.7*

*NEIC **11** 12:59:53.9±0.2, 7.41N×94.28E, h30km, mb5.2/85, Error ellipse: s-maj=5.4km s-min=3.8km az=218.0*

*HRVD **11** 12:59:53.9±0.3, 7.47N×94.38E, h13km±1km, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s24,c36; Mantle waves: s60,c108; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.13±.20; $M_{\theta\theta}$-3.60±.15; $M_{\phi\phi}$5.73±.20; $M_{r\theta}$-0.95±.45; $M_{\theta\phi}$1.07±.13; $M_{\phi r}$-2.37±.55; Best double couple: $M_0$5.309×10^{16} NP1: ϕ_s141°, δ59°, λ-172°. NP2: ϕ_s47°, δ83°, λ-31°. Principal axes: T 6.553, Plg16°, Azm98°; N -2.488, Plg58°, Azm215°; P -4.065, Plg27°, Azm359°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 11 12:59:51.2±0.2**, 7.39N**±0.03×**94.33E**±0.03**, h23**km**,**
h23km±1.1km**: pP-P, n342, σ1§09**/334**, mb5.2**/121**, MS4.6**/38**, 15C-16D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNG	Songkhla	6.24	92	P	Pn	13 01 23.0	-1.4
	880nm,1.0s						
KULM	Kulim	6.62	108	eP	Pn	13 01 27.5	-2.2
IPM	Ipoh	7.22	112	P	Pn	13 01 36.1	-2.1
NNT	Nongplab	7.42	45	P	Pn	13 01 40.2	-0.7
NST	Nakhon Sawan	10.00	34	P	P	13 02 15.6	-1.2
KGM	Kluang	10.43	120	P	P	13 02 20.9	-1.8
BDT	Bhumibol Dam	10.80	25	P	P	13 02 26.0	-1.8
CM31	Chiang Mai Arr	11.88	22	eP	P	13 02 41.3	-1.2
	73nm,0.9s						
CMAR	Chiang Mai Arr	11.88	22	Pn	P	13 02 41.8	-0.6
	1.8nm,0.3s,baz=208,slow=13,SNR=37						
CMAR				LR	LR	13 07 23.2	
	comp=Z,1µm,18.4s,baz=200,slow=38						
CHG	Chiang Mai	12.21	21	⇓P	P	13 02 47.0	+0.1
	20nm,0.8s						
NANT	Nan	12.92	28	⇓P	P	13 02 56.0	-0.4
	500nm,1.0s						
UBT	Ubonrachathani	13.06	52	P	P	13 03 05.5	+7.3
CHRT	Chiangrai	13.49	23	⇑P	P	13 03 04.5	+0.7
	237nm,1.0s						
VIS	Vishakhapatnam	14.85	315	eP	P	13 03 19.9	-1.9
VIS				e		13 03 24.2	
	comp=Z,154nm,0.9s						
VIS				e		13 05 51.9	
BWNR	Bhubaneshwar	15.26	328	eP	P	13 03 25.8	-1.3
BWNR				e		13 03 33.2	
	comp=Z,135nm,0.9s						
BWNR				e		13 06 00.3	
SALM	Salem	16.46	286	e	P	13 03 49.0	+6.4
AGT	Agartala	16.66	350	i P	P	13 03 47.0	+1.9
AGT				i		13 05 02.0	
KSM	Kuching	16.97	110	eP	P	13 03 50.4	+1.3
TRD	Trivandrum	17.24	275	e	P	13 03 42.2	-10
TRD				i		13 06 56.2	
IMP	Imphal	17.30	359	i P	P	13 03 53.0	-0.1
SHL	Shillong	18.22	353	eP	P	13 04 02.5	-2.2
SHL				e		13 07 09.5	
HYB	Hyderabad	18.33	304	⇑eP	P	13 04 05.5	-0.6
HYB				pmax	pmax		
	comp=Z,107nm,1.2s						
HYB	Hyderabad	18.33	304	⇑eP	P	13 04 05.5	-0.6
	comp=Z,107nm,1.2s						
HYB				eS	S	13 07 36.0	+9.3
HYB	Hyderabad	18.33	304	⇑iP	P	13 04 05.5	-0.6
	comp=Z,107nm,1.2s						
HYB				eS	S	13 07 36.0	+9.3
BLSP	Bilaspur	18.79	323	eP	P	13 04 11.7	+0.2
BLSP				e		13 04 13.7	
	comp=Z,125nm,1.0s						
BLSP				e		13 07 25.6	
QIZ	Qiongzhong	19.00	51	P	P	13 04 16.8	+2.7
QIZ				S	S	13 07 43.1	+1.2
QIZ				LR	LR		
	comp=N,7µm,13.5s						
QIZ				LR	LR		
	comp=E,3µm,14.4s						
QIZ				LR	LR		
	comp=Z,2µm,11.6s						
QIZ	Qiongzhong	19.00	51	eP	P	13 04 15.8	+1.7
	comp=Z,54nm,1.1s						
KMI	Kunming	19.38	24	⇓P	P	13 04 22.1	+3.6
KMI				AP		13 04 28.9	
KMI				XP		13 04 34.0	
KMI				PP	PP	13 04 40.5	+4.6
KMI				S	S	13 07 55.4	+5.1
KMI				SS	SS	13 08 23.4	+6.7
KMI				AMB	AMB		
	comp=Z,58nm,1.2s						
KMI				AMB	AMB		
	comp=Z,267nm,3.1s						
KMI				LR	LR		
	comp=N,1µm,15.8s						
KMI				LR	LR		
	comp=E,2µm,15.8s						
KMI				LR	LR		
	comp=Z,2µm,15.8s						
KMI	Kunming	19.38	24	⇓P	P	13 04 22.1	+3.6
KMI				S	S	13 07 55.4	+5.1
KMI				pmax	pmax		
	comp=Z,58nm,1.2s						
KMI	Kunming	19.38	24	⇓P	P	13 04 22.1	+3.6
	comp=Z,58nm,1.2s						
KMI				pP		13 04 28.9	
KMI				sP		13 04 34.0	
KMI				PP	PP	13 04 40.5	+4.6
KMI				S	S	13 07 55.4	+5.1
KMI				sS		13 08 06.2	
KMI				SS	SS	13 08 23.4	+6.7
GTK	Gangtok	20.56	345	e	P	13 04 21.0	-10
ALBI	Allahabad	21.46	328	eP	P	13 04 39.0	-1.3
JIRN	Jiri	21.58	340	eP	P	13 04 40.5	-1.0
	comp=Z,472nm,1.0s,mb5.9						
GOA	Goa	21.63	294	e	P	13 04 38.2	-3.9
GOA				eS	S	13 08 38.1	+2.6
KKM	Kota Kinabalu	21.77	92	eP	P	13 04 45.9	+2.3
KKM	Kota Kinabalu	21.77	92	P	P	13 04 45.5	+2.0
PKI	Pulchoki	21.78	338	eP	P	13 04 42.6	-0.9
	comp=Z,351nm,1.1s,mb5.7						
PKI	Pulchoki	21.78	338	eP	P	13 04 42.6	-0.9
PKI				pmax	pmax		
	comp=Z,175nm,1.1s,mb5.4						
DMN	Daman	21.93	338	eP	P	13 04 44.1	-0.9
	comp=Z,543nm,1.0s,mb6.0						
KAD	Karad	21.99	298	i P	P	13 04 46.5	+0.9
KAD				e		13 04 51.5	
	comp=Z,127nm,1.0s						
KAD				eS	S	13 08 45.9	+3.8
KKN	Kakani	22.02	338	eP	P	13 04 44.7	-1.3
	comp=Z,862nm,1.2s,mb6.0						
KKN	Kakani	22.02	338	eP	P	13 04 44.7	-1.3
KKN				pmax	pmax		
	comp=Z,431nm,1.2s,mb5.8						
GYA	Guiyang	22.30	30	⇑iP	P	13 04 50.7	+2.0
GYA				AP		13 04 59.6	
GYA				XP		13 05 03.4	
GYA				S	S	13 08 57.3	+10
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,170nm,5.3s						
GYA				LR	LR		
	comp=N,2µm,15.9s,MS5.0						
GYA				LR	LR		
	comp=E,4µm,15.0s,MS5.0						
GYA				LR	LR		
	comp=Z,2µm,13.5s,MS4.6						
LSA	Lhasa	22.39	353	P	P	13 04 50.0	+0.4
LSA				AP		13 04 59.5	
LSA				XP		13 05 12.5	
LSA				PP	PP	13 05 18.3	+1.2
LSA				S	S	13 08 50.7	+1.3
LSA				SS	SS	13 09 33.4	+2.8
LSA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.5						
LSA	Lhasa	22.39	353	eP	P	13 04 48.9	-0.7
LSA				pmax	pmax		
	comp=Z,117nm,0.8s,mb5.4						
LSA	Lhasa	22.39	353	eP	P	13 04 48.9	-0.7
	comp=Z,117nm,0.8s,mb5.4						
GKN	Gorkha	22.46	337	eP	P	13 04 49.7	-0.6
	comp=Z,617nm,1.1s,mb6.0						
BHPL	Bhopal	22.63	316	eP	P	13 04 53.8	+1.7
BHPL				e		13 05 03.3	
	comp=Z,238nm,1.4s						
BHPL				e		13 08 53.7	
KOLN	Koldanda	22.67	335	eP	P	13 04 52.0	-0.5
	comp=Z,586nm,1.2s,mb5.9						
POO	Poona	22.79	301	eP	P	13 04 54.3	+0.6
POO				e		13 05 02.8	
	comp=Z,71nm,1.1s						
TSM	Tawau	23.62	96	P	P	13 05 04.5	+2.7
CD2	Chengdu	25.01	19	P	P	13 05 15.9	+0.8
CD2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
LGTI	Lohaghat	25.64	331	eP	P	13 05 21.7	+0.7
PTH	Pithoragarh	25.73	331	eP	P	13 05 21.0	-0.9
PTH				e		13 07 24.0	
NDI	New Delhi	26.64	325	eP	P	13 05 28.5	-1.7
AJM	Ajmer	26.66	318	eP	P	13 05 31.0	+0.5
ENH	Enshi	26.84	30	eP	P	13 05 32.2	+0.1
	comp=Z,92nm,1.1s,mb5.2						
DDI	Dehra Dun	27.45	328	eP	P	13 05 36.2	-1.5
SDNR	Sundarnagar	28.95	328	eP	P	13 05 50.8	-0.4
WHN	Wuhan	29.71	37	⇓P	P	13 05 59.0	+1.0
XAN	Xi'an	29.75	25	P	P	13 05 57.9	-0.4
XAN				S	S	13 11 01.3	+9.4
XAN				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.0						
XAN				LR	LR		
	comp=N,2µm,14.8s,MS5.0						
XAN				LR	LR		
	comp=E,2µm,15.0s,MS5.0						
XAN				LR	LR		
	comp=Z,2µm,14.8s,MS4.8						
LZH	Lanzhou	29.86	16	eP	P	13 06 00.9	+1.6
LZH				AP	pP	13 06 13.8	+7.7
LZH				XP	sP	13 06 19.6	+10
LZH				AMB	AMB		
	comp=Z,65nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,202nm,4.2s						
LZH				LR	LR		
	comp=E,1µm,12.3s						
LZH				LR	LR		
	comp=Z,2µm,13.8s,MS4.8						
LZH	Lanzhou	29.86	16	eP	P	13 06 00.9	+1.6
LZH				*PP	pP	13 06 13.8	+7.7
LZH				pmax	pmax		
	comp=Z,65nm,1.8s,mb5.1						
LZH				MLR	MLR		
	comp=Z,2µm,13.8s,MS4.8						
LZH	Lanzhou	29.86	16	eP	P	13 06 00.9	+1.6
	comp=Z,65nm,1.8s,mb5.1						
LZH				pP	pP	13 06 13.8	+7.7
LZH				sP	sP	13 06 19.6	+10
LZH				LR	LR		
	comp=Z,2µm,13.8s,MS4.8						
GTA	Gaotai	32.26	8	eP	P	13 06 20.6	+0.2
GTA				AP	pP	13 06 29.8	+2.6
GTA				PP	PP	13 07 29.5	+1.6
GTA				S	S	13 11 32.8	+1.5
GTA				SS	SS	13 13 29.6	+3.5
GTA				AMB	AMB		
	comp=Z,16nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,184nm,4.2s						
GTA				LR	LR		
	comp=N,478nm,19.0s						
GTA				LR	LR		
	comp=E,513nm,11.4s						
GTA				LR	LR		
	comp=Z,450nm,18.6s,MS4.2						
NJ2	Nanjing	33.52	40	eP	P	13 06 33.1	+1.7
NJ2				AP	pP	13 06 42.8	+4.5
NJ2				XP	sP	13 06 46.7	+5.5
NJ2				PP	PP	13 07 46.4	+2.5
NJ2				S	S	13 11 52.0	+1.1
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1µm,5.1s						
NJ2				LR	LR		
	comp=N,7µm,18.1s,MS5.5						
NJ2				LR	LR		
	comp=E,2µm,15.0s,MS5.5						
NJ2				LR	LR		
	comp=Z,2µm,11.6s,MS5.2						
SSE	Sheshan	34.44	43	P	P	13 06 38.1	-1.3
SSE				S	S	13 12 05.2	0.0
SSE				AMB	AMB		

comp=Z,56nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,241nm,4.3s
SSE LR LR
comp=N,943nm,23.0s,MS4.5
SSE LR LR
comp=E,647nm,23.0s,MS4.5
SSE LR LR
comp=Z,475nm,16.1s
SSE Sheshan 34.44 43 P **P** **13 06 38.1 -1.3**
comp=Z,56nm,0.7s,mb5.6
SSE pP pP 13 06 46.9 +0.6
SSE sP sP 13 06 50.6 +1.4
SSE S **S** **13 12 05.2 0.0**
SSE sS 13 12 20.1
SSE SS SS 13 14 35.9 +20
SSE LR LR
comp=Z,480nm,16.1s,MS4.3
BTO Baotou 35.92 21 *eP* **P** **13 06 54.4 +2.5**
KSH Kashi 35.99 336 *eP* **P** **13 06 53.0 +0.5**
KSH eAP pP 13 07 01.3 +1.9
KSH *e*XP sP 13 07 04.9 +2.6
KSH *e*S **S** **13 12 20.8 -8.3**
KSH AMB AMB
comp=Z,290nm,1.7s,mb5.9
KSH LR LR
comp=N,730nm,12.8s
KSH LR LR
comp=E,830nm,6.9s
HHC Hu-ho-hao-te 36.69 22 *eP* **P** **13 07 00.8 +2.4**
HHC AP pP 13 07 10.0 +4.7
HHC XP sP 13 07 14.5 +6.3
HHC S **S** **13 12 42.8 +3.0**
HHC XS 13 12 59.7
HHC SS SS 13 15 06.9 -0.5
HHC SCS ScS 13 17 10.0 -0.7
HHC AMB AMB
comp=Z,48nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,189nm,4.1s
HHC LR LR
comp=N,699nm,14.9s,MS5.0
HHC LR LR
comp=E,2μm,14.3s,MS5.0
HHC LR LR
comp=Z,823nm,18.4s,MS4.5
WMQ Urumqi 36.75 352 ⇓*iP* **P** **13 06 59.1 +0.3**
WMQ AP pP 13 07 09.0 +3.3
WMQ XP sP 13 07 13.0 +4.4
WMQ PP PP 13 08 25.0 +0.7
WMQ PCP PcP 13 09 21.0 -0.4
WMQ S **S** **13 12 40.0 -0.7**
WMQ XS 13 12 57.0
WMQ PCS 13 13 08.0
WMQ SS SS 13 15 09.0 +0.4
WMQ AMB AMB
comp=Z,55nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,217nm,3.8s
WMQ LR LR
comp=N,2μm,17.3s,MS5.2
WMQ LR LR
comp=E,3μm,19.8s,MS5.2
WMQ LR LR
comp=Z,1μm,21.8s,MS4.7
WBK Wadi Bani Khal 37.23 298 ⇑P **P** **13 07 06.0 +2.9**
SNR=13
MBWA Marble Bar 37.78 139 *eP* **P** **13 07 07.2 -0.5**
comp=Z,94nm,1.5s,mb5.3
JMDO Jabal Madar 37.91 297 ⇑P **P** **13 07 11.5 +2.7**
SNR=12
BJT Baijiatuau 37.92 28 *eP* **P** **13 07 11.1 +2.4**
BJT pmax pmax
comp=Z,89nm,1.3s
BJT Baijiatuau 37.92 28 *eP* **P** **13 07 11.1 +2.4**
comp=Z,89nm,1.3s,mb5.3
BJI Beijing 37.94 28 P **P** **13 07 11.4 +2.5**
BJI XP sP 13 07 23.7 +5.0
BJI PP PP 13 08 43.7 +4.8
BJI AMB AMB
comp=Z,19nm,0.9s,mb4.8
BJI AMB AMB
comp=Z,263nm,5.1s
BJI LR LR
comp=N,769nm,16.2s,MS4.8
BJI LR LR
comp=E,828nm,16.2s,MS4.8
BJI LR LR
comp=Z,394nm,17.6s,MS4.3
BJI Beijing 37.94 28 P **P** **13 07 11.4 +2.5**
comp=Z,19nm,0.9s,mb4.8
BJI sP sP 13 07 23.7 +5.0
BJI PP PP 13 08 43.7 +4.8
BJI S **S** **13 13 10.2 +11**
BJI SS SS 13 16 04.3 +28
BJI LR LR
comp=Z,390nm,17.6s,MS4.3
SMDO Samad 38.17 298 ⇑P **P** **13 07 13.7 +2.7**
SNR=14
ULHL Ulahol 38.22 338 P **P** **13 07 11.2 0.0**
SNR=12
BIDO Bidbid 38.25 299 ⇓P **P** **13 07 14.3 +2.6**
SNR=15
UCH Uchtor 38.87 336 P **P** **13 07 17.3 +0.7**
SNR=18
TKM2 Tokmak 2 39.04 338 P **P** **13 07 17.8 -0.3**
SNR=11
KBK Karagaybulak 39.06 337 P **P** **13 07 19.1 +0.8**
SNR=21
AML Almayashu 39.12 335 P **P** **13 07 19.2 +0.4**
SNR=44
AAK Ala-Archa 39.22 337 P **P** **13 07 20.2 +0.7**
SNR=15
AAK Ala-Archa 39.22 337 P **P** **13 07 19.8 +0.2**
comp=Z,271nm,1.0s,mb5.9,SNR=41
AAK Ala-Archa 39.22 337 P **P** **13 07 19.8 +0.2**
AAK 13 08 51.9
AAK pmax pmax
comp=Z,132nm,1.5s,mb5.4
AAK Ala-Archa 39.22 337 *eP* **P** **13 07 18.5 -1.1**
comp=Z,148nm,1.4s,mb5.5
FRU Bishkek 39.34 337 *eP* **P** **13 07 20.8 +0.2**
FRU *i* pP 13 07 27.0 -0.5
FRU *i* 13 08 58.0
FRU pmax pmax
comp=Z,90nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,1μm,18.0s,MS4.7
CHMS Chumysh 39.43 337 P **P** **13 07 21.2 -0.1**
SNR=7.5
EKS2 Erkin-Say 39.53 336 P **P** **13 07 22.5 +0.3**
SNR=18
ARQ Araqi 39.59 298 ⇓P **P** **13 07 25.4 +2.5**
USP Ospenovka 39.75 337 P **P** **13 07 23.6 -0.4**
SNR=28
DL2 Dalian 39.86 34 P **P** **13 07 30.4 +5.5**
DL2 S **S** **13 13 37.7 +10**
DL2 AMB AMB
comp=Z,30nm,1.1s,mb4.9
DL2 LR LR
comp=N,420nm,12.4s,MS4.7
DL2 LR LR
comp=E,520nm,12.9s,MS4.7
DL2 LR LR
comp=Z,550nm,15.1s,MS4.5
FITZ Fitzroy Crossi 39.96 130 *eP* **P** **13 07 25.4 -0.5**
comp=Z,12nm,0.6s,mb4.8
RBK Rabkut 40.37 288 ⇑P **P** **13 07 31.8 +2.5**
MKAR Makanchi Array 40.60 347 *i* P **P** **13 07 30.3 -0.6**
WHFO Wadi Hawf 40.84 289 P **P** **13 07 35.4 +2.2**
SNR=56
ABTO Aybut 41.20 288 P **P** **13 07 38.7 +2.5**
SNR=14
SONM Songino Array 41.59 12 P **P** **13 07 38.7 -0.4**
comp=Z,8.4nm,0.9s,mb4.4,baz=195,slow=5.8,SNR=41
SONM PcP PcP 13 09 35.6 -1.0
comp=Z,3.4nm,0.8s,baz=202,slow=3.8,SNR=4.7
ULN Ulaanbaatar 41.76 13 *eP* **P** **13 07 39.3 -1.1**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.5
ULN Ulaanbaatar 41.76 13 *eP* **P** **13 07 39.3 -1.1**
comp=Z,12nm,0.9s,mb4.5
KS15 Wonju Array Si 42.67 40 P **P** **13 07 48.6 +0.5**
ZAK Zakamensk 43.50 8 ⇑*eP* **P** **13 07 54.6 0.0**
ZAK *e* 13 09 42.5
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,5.0nm,1.6s
ZAK pmax pmax
comp=Z,2.0nm,1.3s
MOY Mondy 44.48 6 *eP* **P** **13 08 02.9 +0.4**
KLBR Kellerberrin 44.77 151 *eP* **P** **13 08 05.7 +0.6**
comp=Z,337nm,0.9s,mb6.2
TLY Talaya 44.82 8 *eP* **P** **13 08 05.9 +0.7**
TLY *e* 13 09 41.5
TLY *e*S **S** **13 14 52.6 +12**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,265nm,20.0s,MS4.2
TLY Talaya 44.82 8 *eP* **P** **13 08 04.3 -1.0**
comp=Z,11nm,0.9s,mb4.7
KURK Kurchatov 45.12 346 P **P** **13 08 07.5 -0.2**
comp=Z,695nm,1.2s,SNR=88
KURK Kurchatov 45.12 346 ⇑*iP* **P** **13 08 07.2 -0.5**
KURK Kurchatov 45.12 346 *eP* **P** **13 08 07.0 -0.7**
comp=Z,346nm,1.5s,mb6.0
CN2 Changchun 45.34 32 *eP* **P** **13 08 10.2 +0.7**
CN2 *e*S **S** **13 14 48.4 +0.2**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,700nm,12.0s,MS5.0
CN2 LR LR
comp=E,900nm,12.0s,MS5.0
CN2 LR LR
comp=Z,1μm,14.0s,MS4.9
NWAO Narrogin (SRO) 45.63 153 *eP* **P** **13 08 12.4 +0.4**
NWAO pmax pmax
comp=Z,122nm,1.4s
NWAO Narrogin (SRO) 45.63 153 P **P** **13 08 12.2 +0.2**
comp=Z,33nm,0.8s,mb5.3,baz=320,slow=9.8,SNR=12
NWAO Narrogin (SRO) 45.63 153 *eP* **P** **13 08 12.3 +0.4**
comp=Z,122nm,1.4s,mb5.6
HIA Hailar 46.89 23 *eP* **P** **13 08 21.8 +0.1**
HIA pmax pmax
comp=Z,63nm,1.2s
HIA Hailar 46.89 23 *eP* **P** **13 08 21.8 +0.1**
comp=Z,63nm,1.2s,mb5.4
ZAL Zalesovo 47.05 352 P **P** **13 08 22.1 -0.7**
comp=Z,9.4nm,0.6s,mb4.9,baz=294,slow=7.0,SNR=55
ZAL LR LR 13 33 21.0
comp=Z,440nm,19.8s,MS4.4,baz=291,slow=43
WRA Warramunga Arr 47.83 125 P **P** **13 08 28.4 -1.1**
comp=Z,8.7nm,0.6s,mb5.0,baz=305,slow=8.4,SNR=102
WRA PcP PcP 13 09 57.8 -0.7
comp=Z,5.9nm,0.8s,baz=312,slow=2.7,SNR=6.5
WRAB Tennant Creek 47.83 125 *i* P **P** **13 08 30.1 +0.6**
WRAB Tennant Creek 47.83 125 *eP* **P** **13 08 27.9 -1.7**
comp=Z,133nm,1.5s,mb5.8
WB2 Warramunga Arr 47.84 125 *eP* **P** **13 08 28.6 -1.0**
MDJ Mudanjiang 48.10 34 P **P** **13 08 31.4 +0.1**
MDJ PCP PcP 13 09 57.4 -1.7
MDJ PP PP 13 10 24.3 +1.4
MDJ SCP 13 13 50.1
MDJ PCS 13 13 53.8
MDJ S **S** **13 15 29.7 +2.2**
MDJ SCS ScS 13 18 20.3 +0.1
MDJ AMB AMB
comp=Z,14nm,2.2s,mb4.6
MDJ AMB AMB
comp=Z,118nm,6.1s
MDJ LR LR
comp=N,226nm,28.3s,MS4.1
MDJ LR LR
comp=E,209nm,27.4s,MS4.1
MDJ LR LR
comp=Z,388nm,17.4s
MDJ Mudanjiang 48.10 34 *eP* **P** **13 08 32.6 +1.3**
comp=Z,104nm,1.3s,mb5.7
NVS Novosibirsk 48.15 351 ⇑*iP* **P** **13 08 29.8 -1.7**
NVS *e*S **S** **13 15 26.0 -2.0**
NVS pmax pmax
comp=Z,72nm,1.2s,mb5.6
NVS pmax pmax
comp=N,65nm,1.5s
NVS pmax pmax
comp=E,45nm,1.5s
NVS smax
comp=E,20nm,1.6s
MAJO Matsushiro 49.34 47 *eP* **P** **13 08 42.3 +1.3**
MAJO pmax pmax
comp=Z,45nm,1.4s,mb5.3
MAJO Matsushiro 49.34 47 *eP* **P** **13 08 42.3 +1.4**
comp=Z,46nm,1.4s,mb5.3
MAT Matsushiro 49.34 47 *eP* **P** **13 08 42.0 +1.0**
MAT Matsushiro 49.34 47 P **P** **13 08 41.9 +0.9**
MAT S **S** **13 15 48.0 +3.0**
ASPA Alice Springs 49.46 130 *eP* **P** **13 08 41.2 -0.8**
ASAR Alice Springs 49.46 130 P **P** **13 08 41.1 -1.0**
comp=Z,14nm,0.9s,mb5.0,baz=300,slow=8.0,SNR=62
ASAR PcP PcP 13 10 04.2 -0.2
comp=Z,11nm,0.8s,baz=308,slow=3.3,SNR=11
ASAR LR LR 13 31 42.8
comp=Z,318nm,19.7s,MS4.3,baz=296,slow=39
BVA0 Borovoye Array 49.50 341 P **P** **13 08 40.4 -1.6**
BVA0 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
FORT Forrest 49.85 141 *eP* **P** **13 08 45.6 +0.7**
comp=Z,3μm,0.9s
CHKZ Chkalovo 49.99 342 *eP* **P** **13 08 44.8 -0.9**
CHKZ pmax pmax
comp=Z,119nm,1.0s,mb5.9
CHKZ Chkalovo 49.99 342 *eP* **P** **13 08 44.8 -0.8**
comp=Z,118nm,1.0s,mb5.9
KLR Kul'dur 52.20 30 *eP* **P** **13 09 00.0 -2.5**
KLR *e* 13 11 02.9
KLR MLR MLR
comp=E,800nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s,MS5.1
CLNS Chul'man 54.82 20 *eP* **P** **13 09 22.5 +0.7**
CLNS pmax pmax
comp=Z,25nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,17nm,1.0s
GNI Garni 54.91 314 P **P** **13 09 20.3 -2.3**
GNI pmax pmax
comp=Z,38nm,1.1s
GNI Garni 54.91 314 P **P** **13 09 20.3 -2.3**
comp=Z,38nm,1.1s,mb5.3
PMG Port Moresby 55.21 107 *eP* **P** **13 09 24.5 -0.7**
PMG pmax pmax
comp=Z,20nm,0.8s
PMG Port Moresby 55.21 107 P **P** **13 09 24.7 -0.5**
comp=Z,18nm,0.8s,mb5.2,baz=240,slow=4.4,SNR=9.8
PMG Port Moresby 55.21 107 *eP* **P** **13 09 24.5 -0.7**
comp=Z,20nm,0.8s,mb5.2
TI2 Plekhanov 55.52 316 *eP* **P** **13 09 21.8 -5.3**
SVE Sverdlovsk 55.92 338 ⇓*iP* **P** **13 09 29.0 -0.7**
SVE *e* 13 10 34.0
SVE *e* 13 11 38.0
SVE pmax pmax
comp=Z,140nm,1.5s,mb5.8
ONI Oni 56.75 317 P **P** **13 09 38.1 +2.2**
YSS Yuzh-Sakhalins 57.05 38 *eP* **P** **13 09 40.0 +2.1**
YSS pmax pmax
comp=Z,60nm,1.2s,mb5.5
YSS MLR MLR
comp=N,500nm,14.0s
YSS MLR MLR
comp=Z,500nm,14.0s,MS4.8
YSS Yuzh-Sakhalins 57.05 38 *eP* **P** **13 09 37.3 -0.7**
comp=Z,59nm,1.2s,mb5.5
KMBO Kilima Mbogo 57.56 264 *eP* **P** **13 09 43.9 +1.9**
KMBO *e* pP 13 09 50.5 +1.4
KMBO pmax pmax
comp=Z,58nm,1.0s
KMBO Kilima Mbogo 57.56 264 P **P** **13 09 43.4 +1.4**
comp=Z,21nm,0.9s,mb5.2,baz=58,slow=10,SNR=53
KMBO LR LR 13 29 59.0
comp=Z,570nm,21.9s,MS4.6,baz=278,slow=32
KMBO Kilima Mbogo 57.56 264 *eP* **P** **13 09 43.9 +1.9**
comp=Z,58nm,1.0s,mb5.6
KMBO *e* pP 13 09 50.5 +1.4
KIV Kislovodsk 57.80 318ĸ *iP* **P** **13 09 42.0 -1.2**
KIV *i* pP 13 09 48.9 -1.5
KIV *e* 13 09 54.4
KIV *e* 13 19 27.6
KIV pmax pmax
comp=Z,26nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.0
KIV Kislovodsk 57.80 318 *eP* **P** **13 09 41.8 -1.5**
comp=Z,37nm,0.9s,mb5.4
CTA Charters Tower 57.91 119 LR LR 13 36 41.8
comp=Z,380nm,20.4s,MS4.5,baz=155,slow=38
CTAO Charters Tower 57.91 119 P **P** **13 09 44.0 -0.3**
CTAO pmax pmax
comp=Z,23nm,1.1s,mb5.1
CTAO Charters Tower 57.91 119 P **P** **13 09 44.0 -0.4**
comp=Z,23nm,1.1s,mb5.1
ASF Jabal al Asfar 58.64 303 P **P** **13 09 49.1 -0.2**
comp=Z,7.3nm,1.0s,mb4.7,baz=339,slow=4.5,SNR=8.2
ASF LR LR 13 37 32.7
comp=Z,278nm,20.1s,MS4.4,baz=130,slow=39
MALT Malatya 58.92 310 *eP* **P** **13 09 48.7 -2.4**
MALT pmax pmax
comp=Z,15nm,1.1s,mb4.9
MALT Malatya 58.92 310 *eP* **P** **13 09 48.7 -2.5**
comp=Z,15nm,1.1s,mb4.9
STKA Stephens Creek 59.64 134 P **P** **13 09 54.5 -1.7**
comp=Z,8.5nm,0.9s,mb4.8,baz=315,slow=6.7,SNR=18
STKA LR LR 13 40 41.4
comp=Z,431nm,18.2s,MS4.6,baz=160,slow=41
STKA Stephens Creek 59.64 134 *eP* **P** **13 09 54.9 -1.3**
SOC Sochi 59.66 317 *eP* **P** **13 09 52.6 -3.6**
SOC *e* 13 10 38.8
SOC *e* 13 12 04.1
SOC *e*S **S** **13 18 00.2 -3.3**
SOC *e* 13 19 36.0
SOC pmax pmax
comp=Z,32nm,0.7s,mb5.5
SOC pmax pmax
comp=N,56nm,1.1s
SOC pmax pmax
comp=E,18nm,0.6s
SOC MLR MLR
comp=Z,396nm,18.0s,MS4.6
SOC MLR MLR
comp=N,209nm,19.0s,MS4.5
SOC MLR MLR
comp=E,241nm,19.0s,MS4.5
EIL Elat 59.83 300 LR LR 13 37 23.8
comp=E,420nm,18.9s,MS4.6,baz=109,slow=38
EIL Elat 59.83 300 *eP* **P** **13 09 57.1 -0.4**
comp=E,18nm,0.8s,mb5.2
YAK Yakutsk 60.39 18 *eP* **P** **13 09 59.5 -1.4**
YAK *e**PP pP 13 10 06.2 -2.0
YAK *e* 13 10 47.6
YAK *e*S **S** **13 18 11.0 -1.7**
YAK *e* 13 19 44.6
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK pmax pmax
comp=N,11nm,1.0s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK smax
comp=N,4.0nm,1.1s
YAK smax
comp=E,2.0nm,1.2s
YAK MLR MLR
comp=Z,180nm,12.0s,MS4.4
YAK MLR MLR
comp=N,160nm,15.0s,MS4.6
YAK MLR MLR
comp=E,325nm,17.0s,MS4.6
YAK Yakutsk 60.39 18 *eP* **P** **13 09 59.7 -1.2**
comp=E,77nm,0.8s,mb5.8
VOR Voronezh 63.08 325 P **P** **13 10 19.0 -0.1**
VOR *e* pP 13 10 28.0 +1.7
VOR pmax pmax
comp=E,130nm,1.2s
VOR pmax pmax
comp=Z,130nm,1.2s,mb5.9
MBAR Mbarara 63.91 266 *eP* **P** **13 10 25.2 -0.1**
comp=Z,31nm,1.2s,mb5.2
TOO Toolangi 65.38 137 *eP* **P** **13 10 35.6 +1.2**
comp=Z,0.9nm,1.0s
TOO Toolangi 65.38 137 *eP* **P** **13 10 35.6 +1.2**
TOO pmax pmax
comp=Z,1.0nm,1.0s
MOS Moscow 65.59 329 *eP* **P** **13 10 34.1 -1.3**
MOS *e* pP 13 10 40.3 -2.3
MOS *e* 13 11 04.8
MOS pmax pmax
comp=Z,84nm,1.0s,mb5.7
MOS MLR MLR
comp=Z,600nm,20.0s,MS4.8
OBN Obninsk 65.89 328 ⇓*iP* **P** **13 10 36.0 -1.3**
OBN *i* pP 13 10 42.4 -2.1
OBN *e* 13 10 53.2
OBN *e* 13 13 00.4
OBN *e* 13 14 42.2
OBN pmax pmax
comp=Z,83nm,1.4s,mb5.6
OBN Obninsk 65.89 328 *eP* **P** **13 10 34.0 -3.3**
comp=Z,119nm,1.1s,mb5.8
MA2 Magadan 67.10 27 *eP* **P** **13 10 44.1 -0.9**
MA2 pmax pmax
comp=Z,28nm,1.1s,mb5.2
MA2 Magadan 67.10 27 *eP* **P** **13 10 44.1 -0.9**
comp=Z,28nm,1.1s,mb5.2
TIXI Tiksi 67.67 11 *eP* **P** **13 10 46.8 -1.6**
TIXI pmax pmax
comp=Z,112nm,1.4s,mb5.7
TIXI MLR MLR
comp=Z,308nm,17.0s,MS4.6
TIXI Tiksi 67.67 11 *i* P **P** **13 10 47.3 -1.1**
AKASG Malin Array Be 68.65 322 P **P** **13 10 52.0 -2.8**
comp=Z,6.1nm,0.8s,mb4.6,baz=88,slow=5.1,SNR=17
AKASG PP PP 13 13 31.3 +2.7
comp=Z,3.1nm,0.8s,baz=89,slow=6.9,SNR=5.8
LSZ Lusaka 69.29 251 *eP* **P** **13 11 00.1 +0.8**
LSZ pmax pmax
comp=Z,23nm,1.0s,mb5.1
LSZ Lusaka 69.29 251 *eP* **P** **13 11 00.1 +0.7**
comp=Z,23nm,1.0s,mb5.1
MLR Muntele Rosu 69.64 316 P **P** **13 11 00.1 -0.9**
comp=Z,18nm,0.9s,mb5.0,baz=122,slow=3.1,SNR=19
JOF Joensuu 71.36 335 *ep* **P** **13 11 10.4 -0.7**
comp=Z,13nm,0.6s,mb5.0
APA Apatity 72.36 339 ⇓*iP* **P** **13 11 16.7 -0.3**
APA *i* 13 11 37.3
APA pmax pmax
comp=Z,29nm,1.0s,mb5.2
APA MLR MLR
comp=Z,1μm,20.0s,MS5.1
SKO Skopje 72.38 312 *eP* **P** **13 11 15.0 -2.6**
KWP Kalwaria 72.52 320 *eP* **P** **13 11 17.9 -0.3**
KWP *e* pP 13 11 25.0 -0.5
KOLS Kolonicke sedl 72.69 319 *eP* **P** **13 11 19.0 -0.3**
KOLS *e*sP sP 13 11 30.1 +1.0
KOLS *e* 13 11 35.4
SUW Suwalki 73.00 324 *eP* **P** **13 11 19.8 -1.2**
SUW *e* pP 13 11 27.1 -1.2
CRVS Cervenica-Dubn 73.21 319 *eP* **P** **13 11 25.1 +2.7**
CRVS Cervenica-Dubn 73.21 319 *e* **P** **13 11 25.1 +2.7**
FINES FINESS Array B 73.22 332 P **P** **13 11 21.4 -0.7**
comp=Z,14nm,0.6s,mb5.0,baz=104,slow=7.9,SNR=55
FINES LR LR 13 50 30.9
comp=Z,195nm,18.4s,MS4.4,baz=96,slow=42
KAF Kangasniemi 73.30 333 *ep* **P** **13 11 21.6 -1.0**
comp=Z,10.0nm,0.7s,mb4.8
KAF Kangasniemi 73.30 333 *eP* **P** **13 11 21.6 -1.0**
KAF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KECS Kecovo 73.80 318 *eP* **P** **13 11 25.3 -0.5**
KECS *e* pP 13 11 31.9 -1.1
KECS *e* 13 11 36.8
NIE Niedzica 74.03 319 *eP* **P** **13 11 26.1 -1.0**
PSZ Piszkesteto 74.72 318 *eP* **P** **13 11 26.1 -1.5**
comp=Z,16nm,1.0s,mb4.9
OJC Ojcow 74.46 320 *eP* **P** **13 11 28.8 -0.8**
VYHS Vyhne 74.89 318 *eP* **P** **13 11 31.0 -1.1**
VYHS *e* pP 13 11 38.6 -0.8
KEV Kevo 75.35 341 *ep* **P** **13 11 34.1 -0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
OKC	**Ostrava-Krasne**	**75.48**	**319**	*e*P	**P**	**13 11 35.4**	**0.0**
OKC				*e*pP	pP	13 11 40.7	-2.0
BOSA	**Boshof**	**75.49**	**238**	*e*P	**P**	**13 11 36.6**	**+0.7**
BOSA				*e*	pP	13 11 43.4	+0.2
BOSA				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
BOSA	**Boshof**	**75.49**	**238**	*e*P	**P**	**13 11 36.6**	**+0.7**
	comp=Z,39nm,1.0s,mb5.3						
BOSA				*e*	pP	13 11 43.4	+0.1
ARCES	**ARCESS Array B**	**75.78**	**340**	P	**P**	**13 11 36.6**	**-0.2**
	comp=Z,6.0nm,0.7s,mb4.6,baz=91,slow=4.5,SNR=13						
ARCES				LR	LR	13 47 46.8	
	comp=Z,536nm,20.3s,MS4.8,baz=15,slow=38						
SMOL	**Smolenice**	**75.82**	**318**	*e*P	**P**	**13 11 44.3**	**+6.9**
SMOL	**Smolenice**	**75.82**	**318**	*e*	**P**	**13 11 44.3**	**+6.9**
MORC	**Moravsky Berou**	**75.86**	**319**	*e*P	**P**	**13 11 37.4**	**-0.2**
	comp=Z,24nm,1.1s,mb5.0						
MORC				*e*		13 11 42.6	
BILL	**Bilibino**	**76.46**	**22**	*e*P	**P**	**13 11 40.7**	**+0.1**
BILL				*e*		13 11 54.0	
BILL				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.6						
BILL				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.4						
BILL	**Bilibino**	**76.46**	**22**	P	**P**	**13 11 37.9**	**-2.7**
	comp=Z,9.7nm,0.9s,mb4.7						
DPC	**Dobruska-Polom**	**76.69**	**320**	*e*P	**P**	**13 11 42.3**	**0.0**
DPC				*e*pP	pP	13 11 47.8	-1.8
KSP	**Ksiaz**	**76.75**	**320**	*e*P	**P**	**13 11 42.5**	**-0.1**
KSP				*e**PP	pP	13 11 47.4	-2.5
KSP	**Ksiaz**	**76.75**	**320**	*e*P	**P**	**13 11 42.6**	**0.0**
KSP				*e*		13 11 47.6	
UPC	**Upice**	**76.90**	**320**	*e*P	**P**	**13 11 43.5**	**+0.1**
BOJS	**Bojanci**	**77.11**	**315**	⇓*e*P	**P**	**13 11 44.3**	**-0.4**
BOJS				*e*		13 11 48.8	
PDKS	**Podkum**	**77.32**	**315**	*i* P	**P**	**13 11 45.9**	**+0.1**
PRU	**Pruhonice**	**77.81**	**319**	*e*P	**P**	**13 11 48.5**	**+0.1**
PVCC	**Panska Ves**	**77.83**	**320**	*e*P	**P**	**13 11 49.2**	**+0.7**
VOY	**Vojsko**	**78.08**	**315**	*e*P	**P**	**13 11 49.4**	**-0.6**
VOY				*e*	pP	13 11 55.3	-2.0
MAW	**Mawson**	**78.10**	**192**	LR	LR	13 41 06.6	
	comp=Z,233nm,19.4s,MS4.5,baz=64,slow=32						
CADS	**Cadrg**	**78.20**	**316**	*e*P	**P**	**13 11 50.2**	**-0.4**
BRG	**Berggiesshubel**	**78.24**	**320**	*e*P	**P**	**13 11 51.0**	**+0.2**
BRG				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.8						
BRG	**Berggiesshubel**	**78.24**	**320**	*e*P	**P**	**13 11 51.0**	**+0.2**
	comp=Z,18nm,1.5s,mb4.8						
GEC2	**GERESS Array S**	**78.31**	**318**	*e*P	**P**	**13 11 51.3**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0						
GEC2	**GERESS Array S**	**78.31**	**318**	*e*P	**P**	**13 11 51.3**	**+0.1**
	comp=Z,21nm,1.0s,mb5.0						
GERES	**GERESS Array B**	**78.31**	**318**	P	**P**	**13 11 50.7**	**-0.5**
	comp=Z,10nm,0.9s,mb4.8,baz=90,slow=5.3,SNR=25						
KHC	**Kasperske Hory**	**78.40**	**319**	*e*P	**P**	**13 11 51.2**	**-0.5**
KHC				*e*pP	pP	13 11 57.2	-1.8
RUE	**Ruedersdorf**	**78.42**	**322**	*e*P	**P**	**13 11 51.0**	**-0.7**
	comp=Z,19nm,0.4s,mb5.4						
PTCC	**Patocco-Chiusa**	**78.47**	**316**	*e*P	**P**	**13 11 51.5**	**-0.6**
SNTG	**Esanatoglia**	**78.71**	**313**	*e*P	**P**	**13 11 53.8**	**+0.2**
ARV	**Arcevia**	**78.71**	**313**	*e*P	**P**	**13 11 53.5**	**0.0**
CLL	**Collm**	**78.85**	**321**	⇑*i*P	**P**	**13 11 53.5**	**-0.6**
CLL				*i*	pP	13 12 01.0	-0.5
CLL				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
CLL	**Collm**	**78.85**	**321**	⇑*i*P	**P**	**13 11 53.5**	**-0.6**
	comp=Z,24nm,1.5s,mb4.9						
CLL				*i*	pP	13 12 01.0	-0.5
CLL	**Collm**	**78.85**	**321**	⇑P	**P**	**13 11 53.5**	**-0.6**
	comp=Z,logA/T=1.2,mb4.9						
CLL				*i* *PP	pP	13 12 01.0	-0.5
WET	**Wettzell**	**78.86**	**319**	*e*P	**P**	**13 11 54.3**	**+0.1**
WET				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
WET	**Wettzell**	**78.86**	**319**	*e*P	**P**	**13 11 54.3**	**+0.1**
	comp=Z,15nm,1.1s,mb4.8						
FVI	**Forni Avoltri**	**78.87**	**316**	*e*P	**P**	**13 11 54.0**	**-0.4**
CRE	**Caprese Michel**	**79.43**	**313**	*e*P	**P**	**13 11 57.2**	**-0.2**
SFI	**Santa Sofia**	**79.51**	**313**	*e*P	**P**	**13 11 58.8**	**+0.9**
PGD	**Poggio Sodo**	**79.60**	**313**	*e*P	**P**	**13 11 59.5**	**+1.1**
CTI	**Castel Tesino**	**79.65**	**315**	*e*P	**P**	**13 11 58.5**	**0.0**
MOX	**Moxa**	**79.71**	**320**	*e*P	**P**	**13 11 58.8**	**0.0**
MOX				pmax	pmax		
	comp=Z,42nm,1.9s,mb5.0						
MOX				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
MOX	**Moxa**	**79.71**	**320**	*e*P	**P**	**13 11 58.8**	**0.0**
	comp=Z,42nm,1.9s,mb5.0						
MOX				LR	LR		
	comp=Z,200nm,18.0s,MS4.5						
MOX	**Moxa**	**79.71**	**320**	*i* P	**P**	**13 11 58.8**	**0.0**
	comp=Z,logA/T=1.3,mb5.0						
MOX				QM		13 31 50.0	
MOX				RM		13 38 41.0	
VMG	**Vicchio**	**79.73**	**313**	*e*P	**P**	**13 12 00.3**	**+1.3**
GRA1	**Grafenberg Arr**	**79.95**	**319**	*e*P	**P**	**13 12 00.5**	**+0.4**
	comp=Z,36nm,1.0s,mb5.3						
GRF	**Grafenberg Arr**	**79.95**	**319**	*e*P	**P**	**13 12 00.5**	**+0.4**
GRF				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.3						
GRF	**Grafenberg Arr**	**79.95**	**319**	*e*P	**P**	**13 12 00.5**	**+0.4**
	comp=Z,36nm,1.0s,mb5.3						
TSUM	**Tsumeb**	**80.03**	**249**	*e*P	**P**	**13 12 02.1**	**+1.0**
	comp=Z,13nm,1.0s,mb4.8						
ZCCA	**Zocca**	**80.13**	**314**	*e*P	**P**	**13 12 02.8**	**+1.6**
SUR	**Sutherland**	**80.21**	**235**	*e*P	**P**	**13 12 04.3**	**+2.4**
	comp=Z,30nm,0.9s,mb5.2						
SUR				*e*	pP	13 12 10.8	+1.5
NB2	**NORSAR Subarra**	**80.24**	**331**	P	**P**	**13 12 00.5**	**-0.9**
	comp=Z,9.0nm,0.7s,mb4.8,baz=96,slow=5.0						
NB2	**NORSAR Subarra**	**80.24**	**331**	P	**P**	**13 12 00.5**	**-0.9**
	baz=96,slow=5.1						
NOA	**NORSAR Array B**	**80.24**	**331**	P	**P**	**13 12 00.4**	**-1.0**
	comp=Z,6.9nm,0.7s,mb4.7,baz=94,slow=5.3,SNR=19						
NOA				LR	LR	13 51 19.8	
	comp=Z,195nm,19.1s,MS4.5,baz=65,slow=38						
NAO01	**NORSAR Array S**	**80.39**	**330**	*e*P	**P**	**13 12 01.7**	**-0.5**
	comp=Z,15nm,0.9s,mb4.9						
GSCL	**Gusciola**	**80.41**	**314**	*e*P	**P**	**13 12 03.3**	**+0.6**
CLZ	**Clausthal**	**80.50**	**321**	*e*P	**P**	**13 12 03.4**	**+0.4**
	comp=Z,14nm,1.0s,mb4.8						
BRMO	**Bormio**	**80.53**	**316**	*e*P	**P**	**13 12 03.5**	**+0.2**
BSEG	**Bad Segeberg**	**80.55**	**323**	*e*P	**P**	**13 12 03.6**	**+0.4**
BSEG				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.3						
PGF	**Pioggiola**	**81.62**	**312**	*e*P	**P**	**13 12 08.7**	**-0.3**
	comp=Z,22nm,0.9s,mb4.8						
VAI	**Varese**	**81.66**	**315**	*e*P	**P**	**13 12 09.1**	**-0.1**
TNS	**Taunus Mts**	**81.74**	**320**	*e*P	**P**	**13 12 10.5**	**+1.0**
TNS				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
TNS	**Taunus Mts**	**81.74**	**320**	*e*P	**P**	**13 12 10.5**	**+1.0**
	comp=Z,19nm,1.3s,mb4.9						
BFO	**Black Forest**	**81.88**	**318**	*e*P	**P**	**13 12 10.2**	**0.0**
BFO				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
BFO	**Black Forest**	**81.88**	**318**	*e*P	**P**	**13 12 10.2**	**0.0**
	comp=Z,11nm,0.9s,mb4.8						
FIN	**Finale Ligure**	**82.12**	**314**	*e*P	**P**	**13 12 11.4**	**-0.2**
CDF	**Champ du Feu**	**82.57**	**318**	*e*P	**P**	**13 12 13.4**	**-0.5**
	comp=Z,17nm,0.9s,mb4.8						
SBF	**Sospel**	**82.70**	**313**	*e*P	**P**	**13 12 14.4**	**-0.2**
	comp=Z,49nm,0.9s,mb5.3						
LPG	**La Plagne**	**83.09**	**315**	*e*P	**P**	**13 12 16.9**	**+0.3**
	comp=Z,44nm,0.8s,mb5.2						
LPL	**La Plagne**	**83.10**	**315**	*e*P	**P**	**13 12 16.9**	**+0.2**
	comp=Z,38nm,0.8s,mb5.2						
MBDF	**Montbardon**	**83.12**	**314**	*e*P	**P**	**13 12 16.1**	**-0.7**
	comp=Z,28nm,1.1s,mb4.9						
BNI	**Bardonecchia**	**83.17**	**314**	*e*P	**P**	**13 12 16.0**	**-1.0**
	comp=Z,18nm,0.9s,mb5.1						
HAU	**Haudompre**	**83.22**	**317**	*e*P	**P**	**13 12 16.8**	**-0.4**
	comp=Z,45nm,0.9s,mb5.2						
HAU				*e*R			
	comp=Z,156nm,23.0s						
FRF	**La Foret Royal**	**83.29**	**313**	*e*P	**P**	**13 12 17.6**	**-0.1**
LMR	**La Mourre**	**83.40**	**313**	*e*P	**P**	**13 12 18.1**	**-0.1**
	comp=Z,37nm,1.2s,mb5.0						
CABF	**La Chapelle**	**83.48**	**316**	*e*P	**P**	**13 12 18.7**	**+0.1**
	comp=Z,30nm,1.0s,mb5.0						
ORIF	**Oris-en-Rattie**	**83.74**	**314**	*e*P	**P**	**13 12 20.1**	**+0.1**
	comp=Z,23nm,0.9s,mb5.0						
ORIF				*e*R			
	comp=Z,222nm,21.8s						
SMRF	**Simiane la Rot**	**84.03**	**313**	*e*P	**P**	**13 12 21.9**	**+0.4**
BAIF	**Baives**	**84.47**	**320**	*e*P	**P**	**13 12 23.6**	**+0.1**
VIVF	**Saint-Julien-l**	**84.60**	**314**	*e*P	**P**	**13 12 24.2**	**-0.1**
	comp=Z,20nm,0.8s,mb5.0						
SYO	**Syowa Base**	**85.00**	**197**	⇓P	**P**	**13 12 24.5**	**-1.2**
SMF	**Signal de Mont**	**85.02**	**316**	*e*P	**P**	**13 12 26.0**	**-0.3**
	comp=Z,26nm,0.8s,mb5.1						
SSF	**Saint Saulge**	**85.21**	**317**	*e*P	**P**	**13 12 27.3**	**0.0**
LASF	**Ste Croix**	**85.26**	**314**	*e*P	**P**	**13 12 27.9**	**+0.3**
	comp=Z,50nm,1.3s,mb5.2						
AVF	**Avril sur Loir**	**85.34**	**316**	*e*P	**P**	**13 12 27.5**	**-0.4**
	comp=Z,49nm,1.4s,mb5.2						
BGF	**Bois d'Agland**	**85.71**	**316**	*e*P	**P**	**13 12 30.0**	**+0.2**
	comp=Z,25nm,1.0s,mb5.1						
TCF	**Toulx Ste Croi**	**86.18**	**316**	*e*P	**P**	**13 12 32.2**	**+0.1**
CAF	**Calviac**	**86.44**	**315**	*e*P	**P**	**13 12 33.7**	**+0.3**
MTLF	**Montolieu**	**86.52**	**313**	*e*P	**P**	**13 12 34.0**	**+0.1**
	comp=Z,26nm,1.0s,mb5.1						
TNA	**Tin City**	**86.53**	**24**	*e*P	**P**	**13 12 33.6**	**+0.3**
	comp=Z,14nm,0.8s,mb5.2						
RJF	**Les Rejaudoux**	**86.78**	**315**	*e*P	**P**	**13 12 35.5**	**+0.4**
RJF				*e*R			
	comp=Z,193nm,22.0s						
LFF	**La Frestale**	**87.37**	**315**	*e*P	**P**	**13 12 38.4**	**+0.4**
LDF	**La Druitiere**	**87.45**	**319**	*e*P	**P**	**13 12 38.2**	**-0.1**
FLN	**La Foliniere**	**87.66**	**319**	*e*P	**P**	**13 12 39.3**	**0.0**
	comp=Z,64nm,1.3s,mb5.4						
FLN				*e*R			
	comp=Z,131nm,22.0s						
MFF	**Saint Martin d**	**87.75**	**317**	*e*P	**P**	**13 12 39.7**	**0.0**
	comp=Z,27nm,1.0s,mb5.1						
GRR	**Gorron**	**87.97**	**318**	*e*P	**P**	**13 12 41.0**	**+0.3**
ETSF	**Etsaut**	**88.59**	**313**	*e*P	**P**	**13 12 44.5**	**+0.6**
	comp=Z,23nm,1.1s,mb5.1						
SJPF	**Ste Jean**	**89.04**	**313**	*e*P	**P**	**13 12 46.7**	**+0.7**
	comp=Z,14nm,0.9s,mb5.0						
RAO	**Raoul Island**	**91.61**	**119**	P	**P**	**13 12 56.9**	**-1.4**
	comp=Z,428nm,0.6s						
ESDC	**Sonseca Array**	**91.67**	**310**	P	**P**	**13 12 58.8**	**+0.5**
	comp=Z,2.4nm,0.5s,mb4.8,baz=65,slow=4.1,SNR=12						
IMA	**Indian Mountai**	**92.00**	**22**	*e*P	**P**	**13 13 01.0**	**+1.8**
	comp=Z,84nm,0.6s,mb6.2						
VNDA	**Vanda**	**92.42**	**168**	P	**P**	**13 13 01.8**	**+0.9**
	comp=Z,2.8nm,0.9s,mb4.6,baz=343,slow=4.9,SNR=5.9						
VNDA				LR	LR	13 48 26.3	
	comp=Z,202nm,18.1s,MS4.6,baz=320,slow=32						
SVW2	**Sparrevohn**	**93.08**	**27**	*e*P	**P**	**13 13 06.5**	**+2.3**
MCK	**McKinley**	**94.82**	**24**	*e*P	**P**	**13 13 12.7**	**+0.5**
	comp=Z,37nm,1.6s,mb5.6						
ILAR	**Eielson Array**	**95.12**	**22**	P	**P**	**13 13 13.4**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.6,baz=290,slow=4.2,SNR=17						
ILAR				PP	PP	13 16 58.9	-6.5
	comp=Z,0.8nm,0.9s,baz=312,slow=6.7,SNR=4.1						
ILAR				LR	LR	14 00 49.8	
	comp=Z,145nm,19.4s,MS4.5,baz=152,slow=38						
PWA	**Palmer West**	**95.38**	**26**	*e*P	**P**	**13 13 15.8**	**+1.0**
	comp=Z,42nm,0.8s,mb5.9						
SML	**Sawmill**	**95.96**	**25**	*e*P	**P**	**13 13 18.7**	**+1.3**
INK	**Inuvik**	**97.40**	**16**	P	**P**	**13 13 23.8**	**0.0**
	comp=Z,5.5nm,1.0s,mb4.9,baz=302,slow=6.0,SNR=9.7						
INK	**Inuvik**	**97.40**	**16**	P	**P**	**13 13 23.8**	**0.0**
RES	**Resolute Bay**	**97.87**	**2**	*e*P	**P**	**13 13 26.6**	**+0.8**
	comp=Z,10nm,1.0s,mb5.3						
DBIC	**Dimbokro**	**98.19**	**278**	P	**P**	**13 13 28.2**	**-0.5**
	comp=Z,4.6nm,1.0s,mb5.0,baz=284,slow=2.0,SNR=4.7						
DBIC				LR	LR	13 57 38.7	
	comp=Z,413nm,18.9s,MS5.0,baz=62,slow=35						
DBIC	**Dimbokro**	**98.19**	**278**	P	**P**	**13 13 28.2**	**-0.5**
DBIC				LR	LR	13 57 38.7	
YKA	**Yellowknife Ar**	**106.85**	**14**	PKiKP		13 18 17.7	
	comp=Z,0.4nm,0.9s,baz=320,slow=1.7,SNR=4.5						
YKA				PP	PP	13 18 32.9	-2.4
	comp=Z,1.0nm,0.9s,baz=333,slow=7.8,SNR=7.8						
YKA				PKKPbc		13 29 33.8	
	comp=Z,0.3nm,0.6s,baz=150,slow=3.2,SNR=6.0						
YKA				PKKP	PKKP	13 29 49.2	+8.9
	comp=Z,0.9nm,0.9s,baz=145,slow=4.4,SNR=7.8						
YKA	**Yellowknife Ar**	**106.85**	**14**	PKPdf		13 18 17.8	
YKA				PP	PP	13 18 32.9	-2.4
YKA				PKKPbc		13 29 33.9	
YKA				PKKP	PKKP	13 29 49.2	+8.8
SCHQ	**Schefferville**	**116.03**	**348**	PKP	PKPdf	13 18 32.5	-4.4
	comp=Z,7.5nm,1.3s,baz=109,slow=15,SNR=4.8						
TBI	**Tubuai**	**116.93**	**112**	*e*LR	LR	13 54 09.9	
	comp=Z,186nm,25.0s						
PPT	**Papeete**	**117.03**	**106**	*e*LR	LR	13 54 14.2	
	comp=Z,136nm,21.8s						
MSO	**Missoula**	**120.45**	**22**	*e*PKPdf	PKPdf	13 18 42.4	-3.3
MOD	**Modoc**	**121.61**	**30**	*e*PKPdf	PKPdf	13 18 45.6	-2.4
ULM	**Lac du Bonnet**	**121.92**	**8**	PKP	PKPdf	13 18 44.4	-4.0
	comp=Z,3.9nm,0.9s,baz=22,slow=2.9,SNR=5.9						
WVOR	**Wild Horse Val**	**122.01**	**28**	*e*PKPdf	PKPdf	13 18 46.5	-2.2
BOZ	**Bozeman (W)**	**122.31**	**21**	*e*PKPdf	PKPdf	13 18 46.6	-2.6
MCMT	**McKenzie Canyo**	**122.55**	**23**	*e*PKPdf	PKPdf	13 18 48.6	-1.1
HLID	**Hailey**	**122.98**	**25**	*e*PKPdf	PKPdf	13 18 48.4	-2.1
LKWY	**Lake**	**123.68**	**21**	*e*PKPdf	PKPdf	13 18 50.7	-1.3
EYMN	**Ely**	**124.66**	**5**	*e*PKPdf	PKPdf	13 18 50.4	-3.4
NVAR	**Mina Array Bea**	**125.23**	**31**	PKP	PKPdf	13 18 53.0	-2.1
	comp=Z,3.4nm,0.8s,baz=308,slow=0.7,SNR=22						
PDAR	**Pinedale Array**	**125.55**	**22**	PKP	PKPdf	13 18 52.0	-3.6
	comp=Z,3.8nm,0.9s,baz=314,slow=1.0,SNR=22						
PDAR				PKKPbc		13 28 28.5	
	comp=Z,0.4nm,0.6s,baz=135,slow=4.2,SNR=3.8						
TAOE	**Nuku Hiva Isla**	**126.09**	**96**	*e*LR	LR	13 58 29.4	
TPNV	**Topopah Spring**	**127.41**	**31**	*e*PKPdf	PKPdf	13 18 54.8	-4.6
SADO	**Sadowa**	**127.75**	**354**	PKP	PKPdf	13 18 56.2	-3.6
	comp=Z,1.9nm,0.5s,baz=334,slow=5.9,SNR=3.4						
MSU	**Marysvale**	**128.10**	**26**	*e*PKPdf	PKPdf	13 18 58.0	-2.7
PV10	**Paradox Valley**	**129.54**	**24**	*e*PKPdf	PKPdf	13 19 01.4	-2.0
RKT	**Rikitea**	**130.19**	**114**	*e*LR	LR	14 00 17.8	
	comp=Z,157nm,26.5s						
GDL2	**Guadalupe Moun**	**136.78**	**23**	*e*PKPdf	PKPdf	13 19 14.1	-2.9
TXAR	**Lajitas Array**	**139.59**	**25**	PKhKP		13 19 15.3	
	comp=Z,0.5nm,0.7s,baz=270,slow=7.2,SNR=3.0						
JCT	**Junction City**	**139.98**	**19**	*e*PKPdf	PKPdf	13 19 19.8	-3.2
BDFB	**Brasilia**	**142.25**	**254**	PKhKP		13 19 20.4	
	comp=Z,7.1nm,0.9s,baz=161,slow=6.1,SNR=4.9						
PLCA	**Paso Flores**	**144.16**	**200**	PKP	PKPdf	13 19 26.1	-3.8
	comp=Z,11nm,0.8s,baz=157,slow=6.2,SNR=16						
PLCA	**Paso Flores**	**144.16**	**200**	*e*PKPdf	PKPdf	13 19 25.9	-4.1
SJG	**San Juan**	**148.16**	**323**	PKPbc	PKPdf	13 19 35.9	-1.5
	comp=Z,6.7nm,0.3s,baz=270,slow=13,SNR=2.4						
SJG	**San Juan**	**148.16**	**323**	*e*PKPdf	PKPdf	13 19 35.6	-1.7
LPAZ	**La Paz**	**160.71**	**241**	PKP	PKPdf	13 19 52.7	-1.8
	comp=Z,1.4nm,0.8s,baz=7.4,slow=7.2,SNR=4.7						
LPAZ				PKPab	PKPab	13 20 34.6	+0.2
	comp=Z,1.9nm,0.8s,baz=303,slow=3.4,SNR=5.6						
LPAZ	**La Paz**	**160.71**	**241**	PKP	PKPdf	13 19 52.7	-1.8
LPAZ				PKPab	PKPab	13 20 34.6	+0.2

*NEIC **11** 13:58:18.9, 61.88N×151.88W, h116km, mb4.1/1, After AEIC.*

*IDC **11** 13:58:19.9±2.5, 62.11N×151.93W, h130km±20km, mb3.6/12, mb1 3.7/16, mb1mx3.7/21, mbtmp4.0/16, Error ellipse: s-maj=25.6km s-min=12.4km az=40.0*

ISC 11 13:58:16.8±0.2**, 61.90N**±0.02×**151.92W**±0.06**, h125**km±3km**, n101, σ0.82**/111**, mb3.9**/13**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.41**	**174**	P	**P**	**13 58 35.3**	**+0.4**
CRP	**Crater Peak**	**0.65**	**190**	P	**P**	**13 58 36.9**	**+0.6**
CRP				S	**S**	**13 58 51.1**	**-0.2**
CKN	**Chakachatna No**	**0.69**	**191**	P	**P**	**13 58 37.2**	**+0.5**
CUT	**Chulitna**	**0.93**	**56**	P	**P**	**13 58 39.6**	**+0.8**
PWA	**Palmer West**	**1.00**	**104**	P	**P**	**13 58 40.1**	**+0.6**
FIB	**Fire Island**	**1.11**	**131**	P	**P**	**13 58 42.1**	**+1.4**
FIB				S	**S**	**13 59 00.7**	**+2.1**
VOGL	**Vogel Lake**	**1.16**	**141**	P	**P**	**13 58 42.8**	**+1.7**
VOGL				S	**S**	**13 59 02.0**	**+2.6**
NKA	**Nikishka**	**1.21**	**164**	P	**P**	**13 58 43.4**	**+1.7**
RC01	**Rabbit Creek A**	**1.33**	**127**	P	**P**	**13 58 43.1**	**+0.1**
RC01				S	**S**	**13 59 02.0**	**-1.0**
PMR	**Palmer**	**1.36**	**102**	P	**P**	**13 58 42.9**	**-0.5**
PMR				S	**S**	**13 59 02.7**	**-1.0**
DFR	**Drift River**	**1.36**	**196**	P	**P**	**13 58 43.7**	**+0.3**
GHO	**Glory Hole Cre**	**1.43**	**94**	P	**P**	**13 58 44.1**	**-0.1**
NCT	**North Crescent**	**1.43**	**200**	P	**P**	**13 58 44.6**	**+0.4**
RDN	**Redoubt North**	**1.45**	**197**	P	**P**	**13 58 44.7**	**+0.3**
HUR	**Hurricane**	**1.52**	**43**	P	**P**	**13 58 45.9**	**+0.7**
HUR				S	**S**	**13 59 06.7**	**0.0**
SLKM	**Skilak Lake**	**1.62**	**149**	P	**P**	**13 58 46.3**	**-0.1**
SML	**Sawmill**	**1.70**	**92**	P	**P**	**13 58 47.2**	**-0.2**
SML				S	**S**	**13 59 10.2**	**-0.2**
KTH	**Kantishna Hill**	**1.72**	**15**	P	**P**	**13 58 48.1**	**+0.6**
KTH				S	**S**	**13 59 10.2**	**-0.7**
KNK	**Knik Glacier**	**1.72**	**105**	P	**P**	**13 58 47.4**	**-0.1**
TRF	**Thorofare Moun**	**1.73**	**25**	P	**P**	**13 58 48.5**	**+0.9**
TRF				S	**S**	**13 59 11.7**	**+0.7**
MPA	**Moose Pass**	**1.88**	**138**	P	**P**	**13 58 49.8**	**+0.3**
ILIM	**Iliamna**	**1.90**	**196**	P	**P**	**13 58 49.4**	**-0.2**
INE	**Iliamna NE**	**1.93**	**197**	P	**P**	**13 58 49.9**	**-0.1**
SVW2	**Sparrevohn**	**1.93**	**247**	P	**P**	**13 58 49.9**	**-0.1**
ILW	**Iliamna West**	**1.94**	**198**	P	**P**	**13 58 50.2**	**+0.1**
RND	**Reindeer**	**2.07**	**42**	P	**P**	**13 58 52.5**	**+0.6**
TT01	**Tatalina**	**2.16**	**300**	P	**P**	**13 58 52.8**	**-0.2**
SCM	**Sheep Creek Mo**	**2.18**	**90**	P	**P**	**13 58 53.2**	**0.0**
BRLK	**Bradley Lake**	**2.20**	**166**	P	**P**	**13 58 52.9**	**-0.7**
HOM	**Homer**	**2.25**	**176**	P	**P**	**13 58 54.1**	**-0.1**
MCK	**McKinley**	**2.29**	**35**	P	**P**	**13 58 55.3**	**+0.6**
MCK				S	**S**	**13 59 22.4**	**-1.1**
OPT	**Oil Point**	**2.34**	**196**	P	**P**	**13 58 55.4**	**0.0**
CNPM	**China Poot**	**2.41**	**172**	P	**P**	**13 58 55.2**	**-1.0**
XLV	**Seldovia**	**2.46**	**178**	P	**P**	**13 58 56.3**	**-0.6**
GLI	**Glacier Island**	**2.54**	**112**	P	**P**	**13 58 56.6**	**-1.4**
BWN	**Browne**	**2.54**	**25**	P	**P**	**13 58 58.6**	**+0.7**
AUE	**Augustine Isla**	**2.65**	**196**	P	**P**	**13 58 59.1**	**-0.3**
AUW	**Augustine West**	**2.65**	**197**	P	**P**	**13 58 59.4**	**-0.1**
AUI	**Augustine Isla**	**2.68**	**197**	P	**P**	**13 59 00.1**	**+0.2**
JPK	**Jack Peak**	**2.69**	**106**	P	**P**	**13 58 59.1**	**-0.9**
LTI	**Latouche**	**2.72**	**131**	P	**P**	**13 58 59.0**	**-1.4**
VLZ	**Valdez**	**2.79**	**104**	P	**P**	**13 59 00.1**	**-1.2**
FID	**Port Fidalgo**	**2.87**	**111**	P	**P**	**13 59 00.7**	**-1.6**
MCNL	**McNeil River**	**2.97**	**205**	P	**P**	**13 59 03.6**	**-0.2**
NEA	**Nenana**	**2.98**	**24**	P	**P**	**13 59 03.7**	**-0.2**
HIN	**Hinchinbrook I**	**3.03**	**117**	P	**P**	**13 59 03.5**	**-0.9**
DIV	**Divide**	**3.05**	**102**	P	**P**	**13 59 03.8**	**-1.0**
PAX	**Paxson**	**3.19**	**67**	P	**P**	**13 59 07.0**	**+0.5**
MLY	**Manley**	**3.19**	**9**	P	**P**	**13 59 06.7**	**+0.1**
THY	**Trims Highway**	**3.23**	**59**	P	**P**	**13 59 08.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**3.28**	**112**	P	**P**	**13 59 06.5**	**-1.3**
SYI	**Shuyak Island**	**3.31**	**184**	P	**P**	**13 59 07.8**	**-0.5**
CCB	**Clear Creek Bu**	**3.33**	**32**	P	**P**	**13 59 08.3**	**-0.2**
HDA	**Harding Lake**	**3.38**	**40**	P	**P**	**13 59 09.0**	**-0.1**
MDM	**Murphy Dome**	**3.49**	**27**	P	**P**	**13 59 10.5**	**-0.1**
COLA	**College**	**3.50**	**30**	P	**P**	**13 59 10.5**	**-0.3**
KAPH	**Katmai Pasha**	**3.53**	**201**	P	**P**	**13 59 10.9**	**-0.3**
KAHC	**Katmai Hardscr**	**3.61**	**207**	P	**P**	**13 59 11.8**	**-0.4**
GCSA	**Galena City Sc**	**3.63**	**324**	P	**P**	**13 59 12.4**	**-0.1**
IL1	**Eielson Array**	**3.67**	**36**	P	**P**	**13 59 12.7**	**-0.4**
ILAR	**Eielson Array**	**3.67**	**36**	P	**P**	**13 59 12.6**	**-0.4**
	14nm,0.3s,baz=224,slow=14,SNR=275						
ILAR				S	**S**	**13 59 45.2**	**-11**
	7.0nm,0.3s,baz=225,slow=16,SNR=7.0						
MID	**Middleton Isla**	**3.70**	**130**	*e*P	**P**	**13 59 13.0**	**-0.5**
GLM	**Gilmore Dome**	**3.71**	**31**	P	**P**	**13 59 13.8**	**+0.2**
KAWH	**Katmai**	**3.81**	**203**	P	**P**	**13 59 14.4**	**-0.5**
GLB	**Gilahina Butte**	**3.89**	**93**	P	**P**	**13 59 15.9**	**-0.2**
MENT	**Mentasta**	**3.95**	**71**	*e*P	**P**	**13 59 16.7**	**-0.1**
DOT	**Dot Lake**	**4.01**	**61**	P	**P**	**13 59 17.6**	**0.0**
KDAK	**Kodiak Island**	**4.14**	**185**	Pn	**P**	**13 59 17.0**	**-2.4**
	424nm,0.5s						
KDAK	**Kodiak Island**	**4.14**	**185**	P	**P**	**13 59 17.6**	**-1.8**
IM3	**Indian Mountai**	**4.18**	**350**	P	**P**	**13 59 19.8**	**-0.1**
IMA	**Indian Mountai**	**4.26**	**350**	*e*P	**P**	**13 59 21.2**	**+0.3**
BALM	**Baldy**	**4.67**	**96**	P	**P**	**13 59 26.4**	**-0.1**
BCA3	**Beaver Creek A**	**4.84**	**72**	P	**P**	**13 59 28.7**	**-0.1**
COLD	**Coldfoot**	**5.40**	**7**	P	**P**	**13 59 36.0**	**-0.2**
DAWY	**Dawson**	**6.11**	**64**	P	**P**	**13 59 45.7**	**-0.1**
BM3	**Burnt Mountain**	**6.36**	**26**	P	**P**	**13 59 48.5**	**-0.8**
PNL	**Peninsula**	**6.53**	**104**	P	**P**	**13 59 50.7**	**-0.8**
TNA	**Tin City**	**7.98**	**304**	P	**P**	**14 00 11.7**	**+0.4**
INK	**Inuvik**	**10.04**	**42**	P	**P**	**14 00 37.5**	**-0.9**
	0.9nm,0.3s,baz=233,slow=16,SNR=53						
INK	**Inuvik**	**10.04**	**42**	*e*P	**P**	**14 00 37.8**	**-0.7**
DLBC	**Dease Lake**	**11.42**	**98**	P	**P**	**14 01 00.5**	**+3.7**
	0.1nm,0.3s,baz=269,slow=15,SNR=6.5						
DLBC	**Dease Lake**	**11.42**	**98**	P	**P**	**14 01 00.5**	**+3.6**
YKA	**Yellowknife Ar**	**17.26**	**72**	P	**P**	**14 02 11.6**	**+0.6**
	0.1nm,0.3s,baz=281,slow=11,SNR=8.1						
YKA				PcP	PcP	14 06 45.9	-1.9
	0.1nm,0.3s,baz=290,slow=1.4,SNR=11						
YKA				ScP		14 10 09.4	
	0.0nm,0.3s,baz=295,slow=2.3,SNR=5.7						
YKA	**Yellowknife Ar**	**17.26**	**72**	P	**P**	**14 02 11.6**	**+0.6**
YKA				PcP	PcP	14 06 45.9	-1.9
YKA				ScP		14 10 09.4	
YBH	**Yreka Blue Hor**	**26.69**	**126**	P	**P**	**14 03 46.9**	**+1.3**
	1.5nm,0.8s,mb3.6,baz=39,slow=6.5,SNR=2.6						
FCC	**Fort Churchill**	**27.98**	**70**	*e*P	**P**	**14 03 57.5**	**+0.3**
	2.5nm,0.6s,mb3.9						
HLID	**Hailey**	**28.61**	**112**	P	**P**	**14 04 03.8**	**+0.8**
NVAR	**Mina Array Bea**	**31.25**	**123**	P	**P**	**14 04 28.6**	**+2.2**
	1.2nm,0.7s,mb3.7,baz=331,slow=8.8,SNR=11						
BW06	**Boulder Array**	**31.40**	**108**	P	**P**	**14 04 28.7**	**+1.0**
PDAR	**Pinedale Array**	**31.40**	**108**	P	**P**	**14 04 29.6**	**+1.9**
	0.3nm,0.4s,mb3.3,baz=311,slow=6.1,SNR=4.0						
ULM	**Lac du Bonnet**	**32.32**	**85**	P	**P**	**14 04 36.0**	**+0.5**
	1.0nm,0.5s,mb3.8,baz=288,slow=13,SNR=5.0						
SCHQ	**Schefferville**	**42.11**	**59**	P	**P**	**14 05 57.6**	**+0.3**
	2.8nm,1.1s,mb3.9,baz=301,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**45.20**	**113**	P	**P**	**14 06 24.7**	**+2.1**
	0.9nm,0.7s,mb3.6,baz=308,slow=4.3,SNR=4.5						
TXAR	**Lajitas Array**	**45.20**	**113**	P	**P**	**14 06 24.7**	**+2.1**
ARCES	**ARCESS Array B**	**48.84**	**1**	P	**P**	**14 06 49.5**	**-1.0**
	4.6nm,0.9s,mb4.4,baz=350,slow=5.5,SNR=3.2						
SONM	**Songino Array**	**54.11**	**305**	P	**P**	**14 07 30.7**	**+0.4**
	2.4nm,0.7s,mb4.3,baz=37,slow=7.5,SNR=22						
SONM				pP	pP	14 08 00.7	+0.9
	1.4nm,0.8s,baz=27,slow=7.6,SNR=5.9						
ZAL	**Zalesovo**	**56.17**	**323**	P	**P**	**14 07 44.6**	**-0.6**
	1.1nm,0.4s,mb4.2,baz=108,slow=9.6,SNR=5.2						
FINES	**FINESS Array B**	**56.97**	**1**	P	**P**	**14 07 49.5**	**-1.1**
	1.6nm,0.9s,mb4.0,slow=9.7,SNR=3.0						
AKASG	**Malin Array Be**	**67.75**	**359**	P	**P**	**14 09 00.9**	**-1.3**
	0.4nm,0.3s,mb3.7,baz=4.9,slow=6.4,SNR=3.7						
CMAR	**Chiang Mai Arr**	**82.54**	**295**	P	**P**	**14 10 26.4**	**-0.3**
	1.0nm,0.7s,mb3.8,baz=9.9,slow=6.7,SNR=7.2						
QSPA	**South Pole Qui**	**151.71**	**180**	*e*P	PKPdf	14 17 55.8	+8.2

*IDC **11** 14:16:56.8±3.9, 35.49N×71.26E, mb3.9/6, mb1 4.1/7, mb1mx3.7/20, mbtmp3.9/7, ML4.2/1, MS4.0/2, Ms1 4.2/2, ms1mx3.0/27, Error ellipse: s-maj=78.7km s-min=47.2km az=172.0*

*MOS **11** 14:17:13.2±0.9, 36.28N×71.17E, h109km, mb4.1/1, Error ellipse: s-maj=22.3km s-min=11.2km az=94.9*

*NEIC **11** 14:17:13.8±1.9, 36.21N×71.14E, h100km±18km, mb3.9/8, Error ellipse: s-maj=23.3km s-min=6.0km az=63.0*

*NNC **11** 14:17:21.6±9.2, 36.65N×71.51E, h150km±89km, mpv4.8, Error ellipse: s-maj=126.1km s-min=75.9km az=99.0*

ISC 11 14:17:15.9±1.5**, 36.37N**±0.06×**71.4E**±0.2**, h131**km±14km**, n45, σ0.69**/46**, mb3.5**/5**, 2C-3D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.31**	**136**	*e*P	**P**	**14 18 33.6**	**-0.6**
	20nm,0.4s						
THN				*e*S	**S**	**14 19 34.1**	**-0.6**
DLH	**Dalhousie**	**5.37**	**134**	*e*	Px	14 18 57.0	
DLH				*e*S	Sx	14 19 35.0	
PONG	**Pong**	**5.80**	**138**	*e*P	**P**	**14 18 42.0**	**+1.2**
PONG				*e*S	**S**	**14 19 47.0**	**+0.4**
AML	**Almayashu**	**6.03**	**17**	P	**P**	**14 18 43.9**	**0.0**
	SNR=230						
UCH	**Uchtor**	**6.33**	**22**	P	**P**	**14 18 48.5**	**+0.5**
	SNR=100						
KZA	**Kyzart**	**6.44**	**27**	P	**P**	**14 18 49.9**	**+0.4**
	SNR=22						
EKS2	**Erkin-Say**	**6.55**	**16**	P	**P**	**14 18 50.9**	**-0.1**
	SNR=78						
AAK	**Ala-Archa**	**6.70**	**20**	P	**P**	**14 18 53.4**	**+0.3**
	SNR=93						
AAK	**Ala-Archa**	**6.70**	**20**	⇑P	**P**	**14 18 53.7**	**+0.6**
	40nm,0.5s						
AAK				⇑S	**S**	**14 20 06.4**	**-2.1**
	39nm,0.6s						
AAK	**Ala-Archa**	**6.70**	**20**	Pn	**P**	**14 18 52.5**	**-0.6**
	868nm,0.4s,SNR=100						
AAK	**Ala-Archa**	**6.70**	**20**	*e*PN	**P**	**14 18 52.3**	**-0.8**
AAK				pmax	pmax		
	comp=Z,65nm,0.4s						
AAK	**Ala-Archa**	**6.70**	**20**	*e*Pn	**P**	**14 18 52.3**	**-0.8**
	comp=Z,65nm,0.4s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AAK				eSn	S	14 20 03.6	-4.8
SDNR	Sundarnagar	6.71	135	e	Px	14 19 26.8	
SDNR				eS	Sx	14 20 02.8	
KBK	Karagaybulak	6.86	23	P	P	14 18 55.8	+0.6
	SNR=29						
ULHL	Ulahol	6.97	31	P	P	14 18 57.1	+0.4
	SNR=27						
CHMS	Chumysh	7.11	20	P	P	14 18 58.4	-0.2
	SNR=29						
USP	Ospenovka	7.30	18	P	P	14 19 01.0	-0.1
	SNR=88						
TKM2	Tokmak 2	7.31	25	P	P	14 19 01.4	+0.2
	SNR=39						
MK31	Makanchi Array	13.22	35	⇓P	P	14 20 19.2	-0.2
	comp=Z,0.9nm,0.5s,baz=210,slow=13,SNR=15						
GKN	Gorkha	13.96	123	eP	P	14 20 28.8	-0.2
	comp=Z,5.3nm,0.2s						
DMN	Daman	14.54	123	eP	P	14 20 36.4	+0.1
	comp=Z,5.5nm,0.3s						
KKN	Kakani	14.54	122	eP	P	14 20 35.8	-0.5
	comp=Z,8.1nm,0.5s						
KKN	Kakani	14.54	122	eP	P	14 20 35.8	-0.5
KKN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
PKI	Pulchoki	14.77	122	eP	P	14 20 39.1	-0.1
	comp=Z,3.7nm,0.2s						
PKI	Pulchoki	14.77	122	eP	P	14 20 39.1	-0.1
PKI				pmax	pmax		
	comp=Z,2.0nm,0.2s						
JIRN	Jiri	15.25	121	eP	P	14 20 44.6	-0.7
	comp=Z,15nm,0.4s						
KURK	Kurchatov	15.26	18	⇓P	P	14 20 47.6	+2.4
	comp=Z,2.2nm,0.8s						
KURK	Kurchatov	15.26	18	eP	P	14 20 47.5	+2.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KURK	Kurchatov	15.26	18	eP	P	14 20 47.5	+2.2
	comp=Z,4.8nm,0.8s						
BVA0	Borovoye Array	16.67	358	P	P	14 21 02.7	-0.2
	comp=Z,1.4nm,2.1s,baz=161,slow=12,SNR=16						
BVAR	Borovoye Array	16.67	358	P	P	14 21 02.8	0.0
	comp=Z,0.8nm,0.3s,baz=167,slow=10,SNR=16						
CHKZ	Chkalovo	17.32	358	⇓P	P	14 21 09.0	-1.8
	comp=Z,0.6nm,0.5s						
CHKZ	Chkalovo	17.32	358	eP	P	14 21 09.7	-1.1
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CHKZ	Chkalovo	17.32	358	eP	P	14 21 09.7	-1.1
	comp=Z,1.7nm,0.6s						
ZAL	Zalesovo	19.89	24	P	P	14 21 39.1	+0.2
	comp=Z,4.9nm,0.3s,baz=256,slow=6.1,SNR=19						
NVS	Novosibirsk	20.20	20	eP	P	14 21 41.3	-0.7
CMAR	Chiang Mai Arr	30.11	119	LR	LR	14 36 34.3	
	comp=Z,164nm,18.8s,baz=110,slow=40						
FINES	FINESS Array B	37.77	326	P	P	14 24 20.1	-0.3
	comp=Z,0.3nm,0.3s,mb3.4,baz=122,slow=10,SNR=6.5						
ARCES	ARCESS Array B	41.39	338	P	P	14 24 49.8	-0.5
	comp=Z,1.7nm,0.8s,mb3.7,baz=110,slow=6.8,SNR=11						
NB2	NORSAR Subarra	44.68	323	P	P	14 25 16.5	-0.3
	comp=Z,0.9nm,0.4s,mb3.8,baz=97,slow=7.4						
NB2	NORSAR Subarra	44.68	323	P	P	14 25 16.5	-0.3
NB2				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
NOA	NORSAR Array B	44.68	323	P	P	14 25 16.5	-0.3
	comp=Z,0.9nm,0.5s,mb3.7,baz=96,slow=7.8,SNR=5.0						
INK	Inuvik	73.99	9	P	P	14 28 38.9	+0.9
	comp=Z,0.7nm,0.6s,mb3.6,baz=319,slow=7.4,SNR=7.1						
YKA	Yellowknife Ar	81.37	3	P	P	14 29 19.7	+1.0
YKA	Yellowknife Ar	81.37	3	P	P	14 29 19.6	+0.9
	comp=Z,0.2nm,0.4s,mb3.1,baz=350,slow=5.1,SNR=6.9						

*MAN **11** 14:19:36.1, 8.60N×126.17E, h15km, mb5.5, ML4.5, MS4.7*
MAN Intensity IV San Francisco Agusan del Sur Intensity III Bislig Surigao del Sur.
*IDC **11** 14:19:37.9±3.9, 8.56N×126.08E, h30km±27km, mb4.3/21, mb1 4.4/21, mb1mx4.3/25, mbtmp4.5/21, MS4.1/12, Ms1 4.1/12, ms1mx3.8/21, Error ellipse: s-maj=22.9km s-min=11.1km az=68.0*
*NEIC **11** 14:19:42.4±1.7, 8.57N×126.12E, h69km±15km, mb4.8/20, Error ellipse: s-maj=11.3km s-min=5.0km az=61.0*
NEIC Felt [IV PIVS] at San Francisco and [III PIVS] at Bislig.
*BJI **11** 14:19:42.4, 8.60N×126.10E, h65km, mB5.1, mb4.8, Ms4.6, Msz4.2*
ISC 11 14:19:36.2±0.6**, 8.60N**±0.03×**126.24E**±0.03**, h29**km±4km**, h58**km±5.9km**: pP-P, n117,** σ1§09/117**, mb4.6**/41**, MS4.2**/17**, 4C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.43	163	⇑iP	Pb	14 19 45.1	-0.2
BIPH				i S	Sb	14 19 51.6	0.0
BUTP	Butuan	0.71	301	eP	Pb	14 19 48.5	-1.4
BUTP				eS	Sb	14 19 59.3	-0.1
BUKP	Musuan	1.36	239	eP	Pn	14 19 59.0	-0.6
BUKP				eS	Sn	14 20 17.9	+1.0
SCPH	Surigao	1.39	328	eP	Pn	14 19 59.6	-0.4
SCPH				eS	Sn	14 20 18.7	+1.2
CGP	Cagayan de Oro	1.53	265	⇓eP	Pn	14 20 01.9	-0.1
CGP				eS	Sn	14 20 20.7	-0.5
MATI	Mati	1.64	179	eP	Pn	14 20 03.2	-0.4
DAV	Davao City (W)	1.65	203	⇑eP	Pn	14 20 05.5	+1.8
KCP	Kidapawan	1.94	216	⇑eP	Pn	14 20 08.3	+0.4
KCP				i S	Sn	14 20 33.1	+1.5
MSLP	Maasin	2.05	318	eP	Pn	14 20 09.5	+0.1
TBP	Tagbilaran	2.58	295	⇓eP	Pn	14 20 17.1	0.0
TBP				eS	Sn	14 20 49.4	+1.5
LLP	Lapu-Lapu	2.82	308	⇓eP	Pn	14 20 20.6	+0.2
LLP				eS	Sn	14 20 48.7	-5.1
PLP	Palo	2.84	334	eP	Pn	14 20 22.6	+1.9
PLP				eS	Sn	14 21 02.0	+7.8
DCPH	Dipolog City	2.85	270	⇓eP	Pn	14 20 20.6	-0.3
DCPH				i S	Sn	14 20 54.7	+0.1
PAGZ	Pagadian	2.92	255	eP	Pn	14 20 22.1	+0.2
BESP	Borongan	3.09	345	eP	Pn	14 20 27.6	+3.4
BESP				eS	Sn	14 21 11.6	+11
IPIL	Ipil	3.72	258	eP	Pn	14 20 35.0	+1.8
GUIM	Jordan	4.12	300	eP	Pn	14 20 38.7	-0.2
CNP	Catarman	4.19	338	eP	Pn	14 20 42.7	+2.8
RCP	Roxas	4.53	311	⇑eP	Pn	14 20 45.2	+0.5
MMPH	Masbate	4.54	326	eP	Pn	14 20 53.0	+8.2
KALP	Kalibo	4.91	309	eP	Pn	14 20 50.0	-0.1
PVCP	Virac	5.37	338	eP	Pn	14 20 59.4	+2.8
CUYO	Cuyo Island	5.61	294	eP	Pn	14 20 58.9	-1.1
SJMP	San Jose	6.33	308	eP	Pn	14 21 10.4	+0.3
BUSP	Coron	6.84	300	eP	Pn	14 21 16.3	-0.9
ENPP	El Nido	7.19	292	eP	Pn	14 21 19.2	-3.0
POLP	Polilio Island	7.41	326	eP	Pn	14 21 30.0	+4.8
CAUP	Cauayan	9.35	333	eP	P	14 21 51.8	-0.3
KKM	Kota Kinabalu	10.26	256	ePn	P	14 22 06.0	+1.2
KSM	Kuching	17.36	247	eP	P	14 23 43.6	+5.2
JOW	Kunigami	18.24	6	LR	LR	14 30 14.9	
	comp=Z,320nm,18.8s,baz=128,slow=35						
QIZ	Qiongzhong	18.98	305	P	P	14 23 56.7	-1.5
QIZ				eS	S	14 27 21.0	-4.3
QIZ				AMB	AMB		
	comp=Z,415nm,8.0s						
QIZ				LR	LR		
	comp=N,723nm,16.0s						
QIZ				LR	LR		
	comp=Z,612nm,18.6s						
KAKA	Kakadu	22.05	164	eP	P	14 24 31.4	+0.9
	comp=Z,49nm,0.6s,mb5.1						
CBIJ	Chichi jima	23.80	37	LR	LR	14 32 16.3	
	comp=Z,437nm,18.3s,MS4.0,baz=98,slow=32						
KULM	Kulim	25.61	264	eP	P	14 25 04.0	-1.1
GYA	Guiyang	25.70	316	eP	P	14 25 08.4	+2.6
GYA				LR	LR		
	comp=N,480nm,17.7s,MS4.2						
GYA				LR	LR		
	comp=E,410nm,17.7s,MS4.2						
GYA				LR	LR		
	comp=Z,490nm,18.3s,MS4.1						
FITZ	Fitzroy Crossi	26.53	181	eP	P	14 25 12.9	-0.7
	comp=Z,66nm,0.9s,mb5.2						
PMG	Port Moresby	27.46	130	P	P	14 25 22.0	-0.1
	comp=Z,8.1nm,0.8s,mb4.3,baz=299,slow=13,SNR=3.1						
PMG	Port Moresby	27.46	130	eP	P	14 25 22.3	+0.2
	comp=Z,18nm,0.9s,mb4.6						
KMI	Kunming	27.77	309	P	P	14 25 25.0	+0.1
KMI				S	S	14 29 58.3	-5.8
KMI				LR	LR		
	comp=N,248nm,16.1s,MS4.2						
KMI				LR	LR		
	comp=E,422nm,13.3s,MS4.2						
KMI				LR	LR		
	comp=Z,417nm,14.7s,MS4.2						
CM31	Chiang Mai Arr	28.25	293	eP	P	14 25 29.1	-0.1
	comp=Z,5.1nm,0.7s,mb4.3						
CMAR	Chiang Mai Arr	28.25	293	P	P	14 25 29.1	-0.1
	comp=Z,3.2nm,0.9s,mb4.0,baz=117,slow=7.0,SNR=18						
CMAR				PcP	PcP	14 28 42.4	0.0
	comp=Z,1.7nm,0.9s,baz=115,slow=1.6,SNR=5.4						
CMAR				LR	LR	14 36 50.3	
	comp=Z,320nm,18.8s,MS3.9,baz=110,slow=37						
WRAB	Tennant Creek	29.45	164	eP	P	14 25 40.3	+0.3
	comp=Z,11nm,0.8s,mb4.6						
WRA	Warramunga Arr	29.46	164	P	P	14 25 37.6	-2.5
	comp=Z,1.3nm,0.6s,mb3.9,baz=343,slow=8.7,SNR=17						
WRA				PcP	PcP	14 28 44.7	-0.7
	comp=Z,2.2nm,0.6s,baz=337,slow=2.9,SNR=6.1						
WB2	Warramunga Arr	29.46	164	eP	P	14 25 40.1	0.0
ASAR	Alice Springs	32.93	167	P	P	14 26 09.2	-1.3
	comp=Z,2.8nm,0.6s,mb4.4,baz=342,slow=6.7,SNR=37						
ASAR				PcP	PcP	14 28 53.8	-0.8
	comp=Z,3.0nm,0.6s,baz=343,slow=2.6,SNR=13						
ASAR				ScP		14 32 35.1	
	comp=Z,0.8nm,0.6s,baz=349,slow=2.8,SNR=5.3						
ASPA	Alice Springs	32.93	167	eP	P	14 26 10.7	+0.2
LZH	Lanzhou	34.14	327	eP	P	14 26 20.5	-0.4
LZH				AP	pP	14 26 38.0	+8.6
LZH				XP	sP	14 26 45.5	+12
LZH				AMB	AMB		
	comp=Z,46nm,1.8s,mb5.1						
LZH				AMB	AMB		
	comp=Z,121nm,4.0s						
LZH				LR	LR		
	comp=N,945nm,14.0s						
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS4.7						
LZH	Lanzhou	34.14	327	eP	P	14 26 20.5	-0.4
	comp=Z,46nm,1.8s,mb5.1						
LZH				pP	pP	14 26 38.0	+8.6
LZH				sP	sP	14 26 45.5	+12
LZH				LR	LR		
	comp=Z,1μm,15.3s,MS4.7						
CTA	Charters Tower	34.65	146	P	P	14 26 26.3	+0.8
	comp=Z,10nm,1.1s,mb4.7,baz=311,slow=11,SNR=3.6						
CTAO	Charters Tower	34.65	146	P	P	14 26 26.3	+0.8
	comp=Z,32nm,1.3s,mb5.1						
HHC	Hu-ho-hao-te	34.67	340	eP	P	14 26 29.7	+4.3
HHC				AP	pP	14 26 46.2	+12
HHC				XP	sP	14 26 54.5	+17
HHC				PP	PP	14 27 48.6	+6.1
HHC				PCP	PcP	14 29 02.9	+3.6
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,108nm,5.2s						
HHC				LR	LR		
	comp=N,236nm,19.6s,MS4.1						
HHC				LR	LR		
	comp=E,305nm,23.2s,MS4.1						
HHC				LR	LR		
	comp=Z,231nm,22.0s,MS3.9						
MDJ	Mudanjiang	36.00	4	P	P	14 26 38.2	+1.5
MDJ				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,82nm,4.3s						
MDJ	Mudanjiang	36.00	4	eP	P	14 26 37.9	+1.2
	comp=Z,36nm,1.2s,mb5.2						
ASAJ	Asahikawa	38.15	19	P	P	14 26 55.9	+1.1
	comp=Z,12nm,0.7s,mb4.7,baz=291,slow=16,SNR=6.7						
ASAJ				LR	LR	14 43 28.9	
	comp=Z,233nm,18.8s,MS4.0,baz=160,slow=37						
GTA	Gaotai	38.74	327	eP	P	14 26 59.5	-0.3
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
GTA				AMB	AMB		
	comp=Z,121nm,5.7s						
GTA				LR	LR		
	comp=N,547nm,24.3s,MS4.4						
GTA				LR	LR		
	comp=E,411nm,21.7s,MS4.4						
GTA				LR	LR		
	comp=Z,303nm,22.4s,MS4.1						
LSA	Lhasa	38.99	307	P	P	14 27 04.0	+2.0
LSA	Lhasa	38.99	307	eP	P	14 27 03.2	+1.2
	comp=Z,14nm,1.0s,mb4.6						
FORT	Forrest	39.19	178	eP	P	14 27 03.8	+0.2
	comp=Z,910nm,0.7s						
BWNR	Bhubaneshwar	40.73	291	eP	P	14 27 16.6	+0.2
BWNR				AMb	AMB	14 27 19.9	
	comp=Z,26nm,0.9s,mb4.9						
NWAO	Narrogin (SRO)	42.17	191	P	P	14 27 27.3	-0.9
	comp=Z,10nm,0.7s,mb4.6,baz=77,slow=6.0,SNR=8.7						
NWAO	Narrogin (SRO)	42.17	191	eP	P	14 27 27.3	-0.9
	comp=Z,64nm,1.4s,mb5.1						
ULN	Ulaanbaatar	42.38	341	P	P	14 27 29.3	-0.4
	comp=Z,3.4nm,0.8s,mb4.0						
SONM	Songino Array	42.57	340	P	P	14 27 29.6	-1.6
	comp=Z,1.4nm,0.9s,mb3.7,baz=148,slow=8.3,SNR=9.5						
STKA	Stephens Creek	42.84	161	P	P	14 27 32.9	-0.8
	comp=Z,11nm,0.9s,mb4.6,baz=336,slow=7.7,SNR=10						
STKA				LR	LR	14 45 20.9	
	comp=Z,233nm,21.5s,MS4.0,baz=7.5,slow=36						
STKA	Stephens Creek	42.84	161	eP	P	14 27 34.0	+0.3
BLSP	Bilaspur	44.44	293	eP	P	14 27 47.0	+0.2
BLSP				e		14 27 48.5	
	comp=Z,54nm,0.9s						
TLY	Talaya	46.79	341	eP	P	14 28 04.5	-0.6
	comp=Z,3.3nm,0.9s,mb4.3						
HYB	Hyderabad	47.17	286	eP	P	14 28 09.0	+0.5
HYB	Hyderabad	47.17	286	i P	P	14 28 09.0	+0.5
WMQ	Urumqi	48.52	323	P	P	14 28 19.0	+0.3
WMQ				AP	pP	14 28 37.0	+10
WMQ				XP	sP	14 28 46.0	+15
WMQ				PPP	PPP	14 31 06.0	+2.4
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,157nm,4.7s						
WMQ				LR	LR		
	comp=N,976nm,15.7s,MS5.0						
WMQ				LR	LR		
	comp=E,700nm,18.0s,MS5.0						
WMQ				LR	LR		
	comp=Z,484nm,16.8s,MS4.6						
BHPL	Bhopal	48.91	293	eP	P	14 28 21.7	-0.3
BHPL				e		14 28 23.2	
	comp=Z,40nm,0.7s						
DDI	Dehra Dun	49.85	303	eP	P	14 28 27.1	-2.0
NDI	New Delhi	50.15	300	eP	P	14 28 28.4	-3.1
KAD	Karad	51.33	285	i P	P	14 28 37.7	-2.8
KAD				AMb	AMB	14 28 40.2	
	comp=Z,24nm,1.8s,mb4.8						
YAK	Yakutsk	53.39	2	eP	P	14 28 53.8	-1.5
	comp=Z,18nm,1.0s,mb5.0						
ULHL	Ulahol	55.15	316	P	P	14 29 08.1	-0.4
	SNR=9.3						
ZAL	Zalesovo	56.08	332	P	P	14 29 13.1	-1.9
	comp=Z,1.2nm,0.6s,mb4.1,baz=353,slow=9.4,SNR=6.9						
ZAL				LR	LR	14 58 42.8	
	comp=Z,124nm,18.2s,MS4.0,baz=340,slow=42						
ZAL	Zalesovo	56.08	332	P	P	14 29 13.1	-1.9
ZAL				LR	LR	14 58 42.8	
UCH	Uchtor	56.33	316	P	P	14 29 17.5	+0.5
	SNR=12						
AAK	Ala-Archa	56.49	316	eP	P	14 29 16.8	-1.3
USP	Ospenovka	56.72	317	P	P	14 29 19.1	-0.7
	SNR=9.3						
AML	Almayashu	56.87	315	P	P	14 29 21.2	+0.3
	SNR=9.0						
EKS2	Erkin-Say	56.99	316	P	P	14 29 21.1	-0.7
	SNR=9.4						
KURK	Kurchatov	57.42	326	P	P	14 29 23.6	-1.1
	comp=Z,83nm,0.9s,SNR=19						
KURK	Kurchatov	57.42	326	eP	P	14 29 22.6	-2.1
	comp=Z,11nm,0.8s,mb5.0						
CHKZ	Chkalovo	63.16	327	eP	P	14 30 01.9	-1.9
	comp=Z,6.6nm,1.2s,mb4.6						
RPZ	Rata Peaks	66.02	146	P	P	14 30 22.5	0.0
	comp=Z,26nm,0.7s,mb5.4,baz=304,slow=2.0,SNR=16						
URZ	Urewera	66.44	138	P	P	14 30 25.9	+0.6
	comp=Z,4.8nm,0.7s,mb4.7,baz=246,slow=10,SNR=3.4						
GNI	Garni	78.03	309	LR	LR	15 11 36.5	
	comp=Z,83nm,18.7s,MS4.1,baz=47,slow=40						
IMA	Indian Mountai	78.17	24	eP	P	14 31 36.2	+2.0
	comp=Z,21nm,0.9s,mb5.1						
MCK	McKinley	80.06	27	eP	P	14 31 45.0	+0.5
	comp=Z,6.5nm,0.9s,mb4.6						
ILAR	Eielson Array	80.95	26	P	P	14 31 49.8	+0.5
	comp=Z,1.9nm,0.7s,mb4.1,baz=246,slow=5.7,SNR=11						
ILAR				LR	LR	15 04 20.8	
	comp=Z,151nm,19.6s,MS4.3,baz=353,slow=33						
MALT	Malatya	83.03	308	eP	P	14 32 01.2	+0.7
	comp=Z,5.4nm,0.8s,mb4.6						
DAWY	Dawson	84.25	26	eP	P	14 32 08.1	+1.9
ASF	Jabal al Asfar	84.93	302	P	P	14 32 08.7	-1.6
	comp=Z,1.2nm,0.4s,mb4.4,baz=141,slow=6.5,SNR=2.9						
ARCES	ARCESS Array B	85.74	340	P	P	14 32 13.1	-0.5
	comp=Z,3.0nm,0.8s,mb4.6,baz=68,slow=6.5,SNR=4.7						
ARCES	ARCESS Array B	85.74	340	P	P	14 32 13.1	-0.5
INK	Inuvik	85.84	22	P	P	14 32 14.7	+0.6
	comp=Z,4.5nm,0.9s,mb4.7,baz=314,slow=5.1,SNR=10.0						
INK	Inuvik	85.84	22	eP	P	14 32 15.3	+1.2
	comp=Z,8.9nm,1.1s,mb4.9						
PPT	Papeete	87.08	108	eLR	LR	15 00 10.2	
	comp=Z,105nm,21.2s						
FINES	FINESS Array B	87.34	332	P	P	14 32 20.3	-1.2
	comp=Z,1.2nm,0.5s,mb4.4,baz=91,slow=6.1,SNR=15						
FINES				LR	LR	15 13 32.1	
	comp=Z,80nm,18.6s,MS4.2,baz=84,slow=37						
MAW	Mawson	88.12	200	LR	LR	15 07 54.4	
	comp=Z,149nm,18.4s,MS4.4,baz=246,slow=33						
TBI	Tubuai	88.18	114	eLR	LR	15 00 40.6	
	comp=Z,80nm,22.5s						
VNDA	Vanda	88.28	173	P	P	14 32 26.1	+0.4
	comp=Z,1.1nm,0.6s,mb4.3,baz=333,slow=5.1,SNR=7.6						
VNDA				LR	LR	15 12 21.2	
	comp=Z,102nm,18.3s,MS4.3,baz=332,slow=36						
KMBO	Kilima Mbogo	89.16	269	P	P	14 32 31.3	-0.1
	comp=Z,4.9nm,1.2s,mb4.7,baz=36,slow=18,SNR=4.7						
KMBO	Kilima Mbogo	89.16	269	eP	P	14 32 31.1	-0.3
	comp=Z,6.2nm,1.3s,mb4.8						
NOA	NORSAR Array B	94.24	334	LR	LR	15 17 34.6	
	comp=Z,84nm,19.4s,MS4.2,baz=105,slow=37						
YKA	Yellowknife Ar	95.29	24	P	P	14 32 59.0	+0.6
	comp=Z,2.1nm,0.9s,mb4.6,baz=299,slow=4.5,SNR=18						
YKA	Yellowknife Ar	95.29	24	P	P	14 32 59.0	+0.6
GERES	GERESS Array B	97.98	322	P	P	14 33 11.9	+1.0
	comp=Z,0.3nm,0.5s,mb4.1,baz=76,slow=4.0,SNR=2.2						
NVAR	Mina Array Bea	104.00	47	PP	PP	14 38 02.8	+4.5
	comp=Z,0.2nm,0.4s,baz=315,slow=2.6,SNR=2.6						
TXAR	Lajitas Array	118.93	50	PKP	PKPdf	14 38 24.1	-3.6
	comp=Z,0.4nm,0.8s,slow=5.4,SNR=3.0						
PLCA	Paso Flores	144.69	158	PKP	PKPdf	14 39 12.1	-3.4
	comp=Z,10nm,1.0s,baz=204,slow=4.0,SNR=10						
PLCA	Paso Flores	144.69	158	ePKPdf	PKPdf	14 39 12.0	-3.5
TRQA	Tornquist	149.75	167	ePKPbc	PKPdf	14 39 25.6	+1.7
NNA	Nana	157.05	100	ePKPdf	PKPdf	14 39 31.5	-3.4

*IDC **11** 14:28:23.5±0.6, 53.98N×109.28E, mb4.1/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.1/17, ML3.8/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/27, Error ellipse: s-maj=15.9km s-min=13.0km az=87.0*
*NEIC **11** 14:28:24.8±0.4, 53.93N×109.00E, h10km, mb4.4/6, Error ellipse: s-maj=8.1km s-min=7.5km az=89.0*
NEIC Felt [III] at Barguzin, Suvo and Ust'-Barguzin; [II] at Onguren.
*MOS **11** 14:28:25.4±2.2, 53.94N×108.83E, h12km, mb4.4/6, Error ellipse: s-maj=8.1km s-min=5.3km az=65.6*
MOS Felt (II-III) at Suvo, Ust'-Barguzin, Barguzin; (II) at Onguryeny.
*BYKL **11** 14:28:25.8±0.2, 53.99N×108.80E, h16km±15km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 43.00 24.00 -88.00 23 0 IEC + 221.00 66.00 -91.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 312.00 21.00 222.00 1.00 129.00 69.00 IEC + 2.52 0.00 3.06 0.58 7.02 0.00 FELT I=IV MSK at Suvo, Ust-Barguzin, Barguzin)*
*BJI **11** 14:28:25.1, 53.75N×109.18E, h9km, mB5.0, mb4.4, Ms4.3, Msz4.0*
ISC 11 14:28:25.2±0.2**, 54.01N**±0.03×**108.84E**±0.04**, h16**km**, n101,** σ1§52/189**, mb4.2**/23**, MS4.0**/1**, 26C-23D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXMB	Maximikha	0.75	184	⇓iPg	Pb	14 28 40.0	+0.5
	1μm,0.5s						
MXMB				⇓iPg	Pb	14 28 40.0	+0.5
	614nm,0.5s						
MXMB				⇑iPg	Pb	14 28 40.0	+0.5
	4μm,0.5s						
MXMB				Pmax		14 28 40.2	
	4μm,0.3s						
MXMB				ePb	Pb	14 28 42.4	+2.9
MXMB				eSg	Sb	14 28 49.9	+0.6
MXMB				Smax		14 28 51.1	
	34μm,0.9s						
MXMB				eSb	Sb	14 28 54.3	+5.0
SYVR	Suvo	0.78	117	ePG	Pb	14 28 39.9	+0.1
SYVR				e		14 28 47.6	
SYVR				pmax	pmax		
	comp=Z,11μm,0.1s						
SYVR				smax			
	comp=N,6μm,0.1s						
SYVR	Suvo	0.78	117	⇓iPg	Pb	14 28 39.9	+0.1
	comp=N,2μm,0.7s						
SYVR				⇑iPg	Pb	14 28 39.9	+0.1
	comp=N,8μm,0.7s						
SYVR				⇑iPg	Pb	14 28 39.9	+0.1
	comp=N,11μm,0.7s						
SYVR				Pmax		14 28 40.3	
	comp=N,13μm,0.5s						
SYVR				eSg	Sb	14 28 50.1	+0.2
SYVR				Smax		14 28 50.8	
	comp=N,9μm,0.6s						
OGRR	Ongureny	0.82	244	ePG	Pb	14 28 40.6	-0.1
OGRR				e		14 28 51.2	
OGRR				pmax	pmax		
	comp=Z,695nm,0.6s						
OGRR				smax			
	comp=N,10μm,0.5s						
OGRR	Ongureny	0.82	244	⇑iPg	Pb	14 28 40.6	-0.1
OGRR				ePb	Pb	14 28 44.6	+3.9
OGRR				max		14 28 47.1	
	comp=N,842nm,0.2s						
OGRR				eSg	Sb	14 28 51.5	+0.2
OGRR				Smax		14 28 52.9	
	comp=N,9μm,0.4s						
YLYR	Ulyunkhan	1.61	57	⇓iPN	Pn	14 28 54.7	+1.5
YLYR				e		14 29 16.7	
YLYR				pmax	pmax		
	comp=Z,1μm,0.3s						
YLYR				smax			
	comp=N,10μm,0.6s						
YLYR	Ulyunkhan	1.61	57	⇓iPg	Pn	14 28 54.7	+1.5
	comp=N,73nm,0.6s						
YLYR				⇓iPg	Pn	14 28 54.7	+1.5
	comp=N,128nm,0.6s						
YLYR				⇓iPg	Pn	14 28 54.7	+1.5
	comp=N,238nm,0.6s						
YLYR				e		14 28 59.8	
YLYR				max		14 29 00.1	
	comp=N,1μm,0.3s						
YLYR				eSg	Sn	14 29 16.7	+3.0
YLYR				Smax		14 29 18.0	
	comp=N,9μm,0.7s						
ZRHB	Zarechye	1.78	215	⇓iPn	Pn	14 28 55.9	+0.3
ZRHB				⇓iPg	Pn	14 28 57.8	+2.2
ZRHB				Pmax		14 29 05.7	
	comp=N,3μm,0.8s						
ZRHB				eSg	Sn	14 29 21.2	+3.2
ZRHB				Smax		14 29 29.7	
	comp=N,12μm,0.6s						
NIZ	Nizh Angarsk	1.81	13	ePN	Pn	14 28 58.6	+2.5
NIZ				e		14 29 23.1	
NIZ				pmax	pmax		
	comp=Z,802nm,0.3s						
NIZ				smax			
	comp=N,2μm,0.8s						
NIZ	Nizh Angarsk	1.81	13	ePg	Pn	14 28 58.1	+2.0
NIZ				e		14 29 03.8	
NIZ				max		14 29 05.4	
	comp=N,849nm,0.4s						
NIZ				eSg	Sn	14 29 23.1	+4.2
NIZ				Smax		14 29 33.8	
	comp=N,3μm,1.0s						

TRTB Turuntaevo 1.93 203 ⇑*i*Pn **Pn 14 28 58.0 +0.2**
comp=N,184nm,0.7s
TRTB ⇑*i*Pn **Pn 14 28 58.0 +0.2**
comp=N,92nm,0.7s
TRTB ⇓*i*Pn **Pn 14 28 58.0 +0.2**
comp=N,207nm,0.7s
TRTB *e*Pg **Pn 14 29 00.6 +2.8**
TRTB *e* 14 29 03.1
TRTB max 14 29 06.6
comp=N,984nm,0.8s
TRTB *e*Sn **Sn 14 29 21.9 0.0**
TRTB *e*Sg **Sn 14 29 24.9 +3.0**
TRTB Smax 14 29 26.5
comp=N,5μm,0.6s
TRG Tyrgan 1.95 231 *e*PN **Pn 14 28 59.2 +1.1**
TRG *e* 14 29 00.7
TRG *e*S **Sn 14 29 23.6 +1.2**
TRG *e* 14 29 24.8
TRG pmax pmax
comp=Z,881nm,0.3s
TRG smax
comp=E,7μm,0.3s
TRG Tyrgan 1.95 231 *e*Pg **Pn 14 28 59.3 +1.2**
TRG *e* 14 29 04.9
TRG max 14 29 06.7
comp=E,873nm,0.3s
TRG *e*Sg **Sn 14 29 24.8 +2.4**
TRG Smax 14 29 27.5
comp=E,7μm,0.4s
KMO Kumora 2.32 35 *e*PN **Pn 14 29 04.8 +1.4**
KMO *e* 14 29 07.8
KMO *e*S **Sn 14 29 34.9 +3.1**
KMO *e* 14 29 39.8
KMO pmax pmax
comp=Z,2μm,0.5s
KMO smax
comp=N,3μm,0.8s
KMO Kumora 2.32 35 ⇓*i*Pn **Pn 14 29 04.7 +1.3**
KMO ⇑*i*Pg **Pn 14 29 07.9 +4.5**
KMO *e* 14 29 11.9
KMO max 14 29 14.0
comp=N,2μm,0.7s
KMO *e* 14 29 36.0
KMO *e*Sg **Sn 14 29 39.0 +7.2**
KMO Smax 14 29 58.8
comp=N,3μm,1.4s
FFNB Fofonovo 2.33 213 *e*Pn **Pn 14 29 03.8 +0.2**
FFNB *e*Pg **Pn 14 29 07.7 +4.1**
FFNB Pmax 14 29 12.8
comp=N,1μm,0.2s
FFNB *e* 14 29 14.4
FFNB *e*Sn **Sn 14 29 32.4 +0.2**
FFNB *e*Sg **Sn 14 29 37.6 +5.4**
FFNB Smax 14 29 38.2
comp=N,8μm,0.5s
KAB Kabansk 2.37 215 *e*Pn **Pn 14 29 04.1 0.0**
KAB *e*Pg **Pn 14 29 07.6 +3.5**
KAB *e* 14 29 12.2
KAB max 14 29 13.3
comp=N,1μm,1.0s
KAB *e*Sn **Sn 14 29 34.8 +1.8**
KAB *e*Sg **Sn 14 29 38.9 +5.9**
KAB Smax 14 29 56.8
comp=N,10μm,1.0s
STDB Stepnoy Dvoret 2.37 220 ⇓*i*Pn **Pn 14 29 05.1 +0.9**
STDB *e*Pg **Pn 14 29 08.6 +4.4**
STDB Pmax 14 29 22.9
comp=N,947nm,0.6s
STDB *e* 14 29 35.5
STDB *e*Sg **Sn 14 29 40.0 +6.8**
STDB Smax 14 29 44.3
comp=N,12μm,0.7s
HRMR Khuramsha 2.65 206 ⇑*i*Pn **Pn 14 29 08.2 +0.1**
comp=N,104nm,0.8s
HRMR ⇑*i*Pn **Pn 14 29 08.2 +0.1**
comp=N,46nm,0.8s
HRMR ⇓*i*Pn **Pn 14 29 08.2 +0.1**
comp=N,182nm,0.8s
HRMR *e*Pg **Pn 14 29 14.1 +6.0**
HRMR Pmax 14 29 30.2
comp=N,1μm,0.5s
HRMR *e*Sn **Sn 14 29 40.6 +0.5**
HRMR *e*Sg **Sn 14 29 47.1 +7.0**
HRMR Smax 14 29 53.4
comp=N,10μm,0.5s
YOA Uoyan 2.70 37 ⇑*i*Pn **Pn 14 29 10.7 +1.9**
YOA *e* 14 29 15.5
YOA *e* 14 29 52.1
YOA pmax pmax
comp=Z,1μm,0.4s
YOA smax
comp=N,6μm,0.5s
YOA Uoyan 2.70 37 ⇑*i*Pn **Pn 14 29 10.7 +1.9**
YOA *e*Pg **Pn 14 29 15.3 +6.5**
YOA Pmax 14 29 25.1
comp=N,1μm,0.4s
YOA *e*Sg **Sn 14 29 52.8 +11**
YOA Smax 14 30 00.9
comp=N,7μm,0.8s
UKT Uakit 3.15 60 *e*PN **Pn 14 29 21.4 +6.2**
UKT *e* 14 30 03.5
UKT pmax pmax
comp=Z,250nm,0.4s
UKT smax
comp=N,2μm,0.4s
UKT Uakit 3.15 60 ⇓*i*Pn **Pn 14 29 15.9 +0.7**
UKT ⇓*i*Pg **Pn 14 29 21.4 +6.2**
UKT Pmax 14 29 25.1
comp=N,306nm,0.7s
UKT *e*Sn **Sn 14 29 51.2 -1.5**
UKT *e*Sg **Sn 14 30 03.5 +11**
UKT Smax 14 30 12.9
comp=N,2μm,1.3s
LSTR Listvyanka 3.24 230 ⇑*i*PN **Pn 14 29 16.1 -0.4**
LSTR *e* 14 29 21.8
LSTR *e* 14 30 02.7
LSTR pmax pmax
comp=Z,75nm,0.2s
LSTR smax
comp=N,3μm,0.8s
LSTR Listvyanka 3.24 230 ⇑*i*Pn **Pn 14 29 16.3 -0.2**
comp=N,184nm,0.7s
LSTR ⇑*i*Pn **Pn 14 29 16.3 -0.2**
comp=N,92nm,0.7s
LSTR ⇓*i*Pn **Pn 14 29 16.3 -0.2**
comp=N,207nm,0.7s
LSTR *e*Pg **Pn 14 29 21.9 +5.4**
LSTR Pmax 14 29 28.4
comp=N,207nm,0.6s
LSTR *e*Sn **Sn 14 29 52.9 -2.2**
LSTR *e*Sg **Sn 14 30 03.7 +8.6**
LSTR Smax 14 30 07.3
comp=N,3μm,1.1s
IRK Irkutsk 3.27 239 *e*PN **Pn 14 29 23.6 +6.6**
IRK *e* 14 30 05.4
IRK pmax pmax
comp=Z,642nm,0.5s
IRK smax
comp=N,7μm,0.4s
IRK Irkutsk 3.27 239 *e*Pg **Pn 14 29 22.9 +5.9**
IRK Pmax 14 29 33.4
comp=N,641nm,0.5s
IRK *e*Sn **Sn 14 29 54.5 -1.4**
IRK *e*Sg **Sn 14 30 04.5 +8.6**
IRK Smax 14 30 12.3
comp=N,7μm,0.6s
SVKR Severomuysk 3.44 50 *e*PN **Pn 14 29 20.4 +1.1**
SVKR *e*S **Sn 14 30 12.9 +13**
SVKR smax
comp=N,4μm,1.0s
SVKR Severomuysk 3.44 50 ⇑*i*Pn **Pn 14 29 20.6 +1.3**
SVKR *e*Pg **Pn 14 29 29.0 +10**
SVKR Pmax 14 29 36.1
comp=N,761nm,0.7s
SVKR *e*Sg **Sn 14 30 13.5 +13**
SVKR Smax 14 30 25.6
comp=N,5μm,0.7s
CIT Chita 3.48 123 *e*PN **Pn 14 29 18.8 -1.1**
CIT *e* 14 29 25.3
CIT *e* 14 30 11.5
CIT pmax pmax
comp=Z,1μm,0.6s
CIT smax
comp=E,4μm,0.5s
CIT Chita 3.48 123 ⇑*i*Pn **Pn 14 29 18.6 -1.3**
CIT ⇑*i*Pg **Pn 14 29 28.0 +8.1**
CIT Pmax 14 29 28.7
comp=E,1μm,0.6s
CIT *e*Sn **Sn 14 30 01.7 +0.6**
CIT *e*Sg **Sn 14 30 12.8 +12**
CIT Smax 14 30 17.5
comp=E,4μm,0.6s
TLY Talaya 3.92 236 *e*Pn **Pn 14 29 25.4 -0.8**
TLY *e*Pb **Pb 14 29 36.1 +2.6**
TLY *e*Pg **Pn 14 29 39.4 +13**
TLY *e*Sn **Sn 14 30 17.4 +5.1**
TLY Talaya 3.92 236 ⇓*i*Pn **Pn 14 29 25.5 -0.7**
TLY *e*Pg **Pn 14 29 35.4 +9.2**
TLY *e* 14 29 40.3
TLY max 14 29 40.4
comp=E,336nm,0.8s
TLY *e*Sn **Sn 14 30 10.8 -1.5**
TLY *e*Sg **Sn 14 30 23.5 +11**
TLY Smax 14 30 30.8
comp=E,2μm,0.7s
ARS Arshan 4.41 244 *e*PN **Pn 14 29 32.4 -0.7**
ARS *e* 14 29 44.0
ARS *e* 14 30 39.9
ARS pmax pmax
comp=Z,452nm,0.6s
ARS smax
comp=E,8μm,0.9s
ARS Arshan 4.41 244 *e*Pn **Pn 14 29 32.5 -0.6**
ARS *e*Pg **Pn 14 29 44.8 +12**
ARS Pmax 14 29 49.6
comp=E,452nm,0.7s
ARS *e*Sn **Sn 14 30 21.8 -2.9**
ARS *e*Sg **Sn 14 30 40.3 +16**
ARS Smax 14 30 44.0
comp=E,8μm,0.8s
NLYR Nelyaty 4.65 55 *e*PN **Pn 14 29 36.0 -0.5**
NLYR *e* 14 29 48.1
NLYR *e* 14 30 50.8
NLYR pmax pmax
comp=Z,100nm,0.5s
NLYR smax
comp=N,2μm,1.1s
NLYR Nelyaty 4.65 55 ⇓*i*Pn **Pn 14 29 36.0 -0.5**
NLYR *e* 14 29 43.2
NLYR *e*Pg **Pn 14 29 50.5 +14**
NLYR *e* 14 30 02.3
NLYR max 14 30 02.8
comp=N,234nm,0.7s
NLYR *e*Sg **Sn 14 30 51.2 +20**
NLYR Smax 14 31 01.5
comp=N,2μm,1.3s
BOD Bodaibo 4.79 35 *e*PN **Pn 14 29 37.6 -1.0**
BOD *e* 14 29 53.8
BOD *e* 14 30 55.2
BOD pmax pmax
comp=Z,75nm,0.5s
BOD smax
comp=E,550nm,1.1s
BOD Bodaibo 4.79 35 ⇓*i*Pn **Pn 14 29 38.2 -0.4**
comp=E,21nm,0.6s
BOD ⇓*i*Pn **Pn 14 29 38.2 -0.4**
comp=E,14nm,0.6s
BOD ⇓*i*Pn **Pn 14 29 38.2 -0.4**
comp=E,17nm,0.6s
BOD *e* 14 29 43.6
BOD *e*Pg **Pn 14 29 53.4 +15**
BOD Pmax 14 30 20.3
comp=E,92nm,0.7s
BOD *e*Sn **Sn 14 30 33.0 -1.4**
BOD *e*Sg **Sn 14 30 55.8 +21**
BOD Smax 14 31 16.3
comp=E,555nm,0.9s
KPC Khapcheranga 4.84 152 *e*PN **Pn 14 29 36.7 -2.6**
KPC *e* 14 29 53.2
KPC *e* 14 30 55.0
KPC pmax pmax
comp=Z,203nm,1.1s
KPC smax
comp=E,2μm,1.0s
KPC Khapcheranga 4.84 152 ⇑*i*Pn **Pn 14 29 36.8 -2.5**
KPC ⇑*i*Pg **Pn 14 29 53.2 +14**
KPC Pmax 14 29 56.0
comp=E,316nm,1.3s
KPC *e*Sg **Sn 14 30 54.7 +19**
KPC Smax 14 30 56.5
comp=E,3μm,1.1s
ZAK Zakamensk 4.99 225 *e*PN **Pn 14 29 40.7 -0.6**
ZAK *e* 14 29 55.6
ZAK *e* 14 31 00.4
ZAK pmax pmax
comp=Z,59nm,0.5s
ZAK smax
comp=E,615nm,1.4s
ZAK Zakamensk 4.99 225 ⇑*i*Pn **Pn 14 29 40.9 -0.4**
ZAK *e*Pg **Pn 14 29 54.1 +13**
ZAK Pmax 14 30 07.3
comp=E,58nm,0.6s
ZAK *e*Sg **Sn 14 30 59.8 +20**
ZAK Smax 14 31 03.5
comp=E,611nm,1.3s
MOY Mondy 5.30 247 *e*PN **Pn 14 29 46.0 +0.2**
MOY *e* 14 30 01.5
MOY *e* 14 31 08.1
MOY pmax pmax
comp=Z,229nm,0.9s
MOY smax
comp=E,4μm,1.5s
MOY Mondy 5.30 247 ⇑*i*Pn **Pn 14 29 46.4 +0.6**
MOY *e*Pg **Pn 14 30 01.5 +16**
MOY Pmax 14 30 03.6
comp=E,228nm,1.0s
MOY *i* 14 30 45.4
MOY *e*Sg Sn 14 31 08.3 +21
MOY Smax 14 31 18.9
comp=E,4μm,1.7s
ORL Orlik 5.61 258 *e*PN **Pn 14 29 49.9 -0.2**
ORL *e* 14 30 06.1
ORL *e*S **Sn 14 30 52.8 -2.2**
ORL *e* 14 31 18.2
ORL pmax pmax
comp=Z,170nm,0.6s
ORL smax
comp=N,956nm,1.5s
ORL Orlik 5.61 258 ⇑*i*Pn **Pn 14 29 50.8 +0.7**
comp=N,43nm,1.4s
ORL ⇑*i*Pn **Pn 14 29 50.8 +0.7**
comp=N,80nm,1.4s
ORL ⇓*i*Pn **Pn 14 29 50.8 +0.7**
comp=N,72nm,1.4s
ORL ⇓*i* 14 29 55.7
ORL *e*Pg **Pn 14 30 07.4 +17**
ORL Pmax 14 30 14.9
comp=N,176nm,0.8s
ORL *e*Sn **Sn 14 30 52.9 -2.1**
ORL *e*Sg Sn 14 31 18.5 +23
ORL Smax 14 31 25.5
comp=N,968nm,1.4s
CRS Chara 6.09 58 *e*PN **Pn 14 29 56.4 -0.5**
CRS *e*S Sn 14 31 36.2 +29
CRS smax
comp=E,851nm,1.3s
CRS Chara 6.09 58 ⇑*i*Pn **Pn 14 29 56.4 -0.5**
CRS ⇑*i*Pg **Pn 14 30 16.8 +20**
CRS Pmax 14 30 29.7
comp=E,169nm,0.9s
CRS *e*Sg Sn 14 31 35.1 +28
CRS Smax 14 31 46.7
comp=E,849nm,1.3s
ULN Ulaanbaatar 6.26 191 *i*PN **Pn 14 29 57.5 -1.7**
ULN Ulaanbaatar 6.26 191 *e*Pn **Pn 14 29 54.1 -5.1**
comp=E,44nm,0.4s
SONM Songino Array 6.38 195 Pn **Pn 14 29 59.5 -1.4**
comp=E,7.6nm,0.3s,baz=8.2,slow=13,SNR=246
SONM Pg **Pn 14 30 21.1 +20**
comp=E,13nm,0.3s,baz=11,slow=16,SNR=12
SONM Lg 14 31 45.2
comp=E,40nm,0.3s,baz=359,slow=29,SNR=10.0
TUP Tupik 6.54 82 *e*PN **Pn 14 30 01.3 -1.8**
TUP *e* 14 30 22.4
TUP *e* 14 31 48.0
TUP pmax pmax
comp=Z,56nm,0.5s
TUP smax
comp=N,2μm,0.8s
TUP Tupik 6.54 82 ⇑*i*Pn **Pn 14 30 01.4 -1.7**
TUP *e*Pg **Pn 14 30 22.9 +20**
TUP Pmax 14 30 28.0
comp=N,75nm,0.8s
TUP *e* 14 31 11.4
TUP *e*Sg Sn 14 31 48.1 +30
TUP Smax 14 31 52.7
comp=N,2μm,1.0s
HIA Hailar 8.28 121 *e*PN **P 14 30 22.6 -4.9**
HIA pmax pmax
comp=Z,16nm,0.4s
HIA Hailar 8.28 121 *e*Pn **P 14 30 22.6 -5.0**
comp=Z,16nm,0.4s
HIA *e*Sg **Sb 14 32 38.9 +12**
HHC Hu-ho-hao-te 13.30 171 *e*P **P 14 31 32.8 -3.0**
HHC XP 14 31 36.9
HHC PP PP 14 31 43.5 -2.8
HHC S **S 14 34 00.2 -4.1**
HHC XS 14 34 07.4
HHC SS SS 14 34 16.9 -3.1
HHC AMB AMB
comp=Z,11nm,0.5s
HHC AMB AMB
comp=Z,150nm,6.8s
HHC LR LR
comp=N,298nm,10.1s
HHC LR LR
comp=E,738nm,11.3s
HHC LR LR
comp=Z,499nm,13.7s
ZAL Zalesovo 14.13 279 Pn **P 14 31 46.4 -0.2**
comp=Z,0.4nm,0.3s,baz=32,slow=12,SNR=12
ZAL Lg 14 35 43.1
comp=Z,0.4nm,0.3s,baz=253,slow=11,SNR=5.4
ZAL LR LR 14 38 06.1
comp=Z,214nm,18.2s,baz=264,slow=40
BJI Beijing 14.83 157 P **P 14 31 53.9 -2.0**
BJI AMB AMB
comp=Z,8.0nm,0.5s
BJI LR LR
comp=N,449nm,9.6s
BJI LR LR
comp=E,284nm,9.6s
BJI LR LR
comp=Z,196nm,14.3s
BJI Beijing 14.83 157 P **P 14 31 53.9 -2.0**
comp=Z,8.0nm,0.5s
NVS Novosibirsk 14.90 284 *e*P **P 14 32 06.4 +10**
NVS pmax pmax
comp=Z,16nm,0.6s
NVS pmax pmax
comp=E,24nm,1.1s
GTA Gaotai 15.84 206 *e*P **P 14 32 10.6 +1.6**
GTA AP 14 32 13.7
GTA XP 14 32 16.4
GTA PP PP 14 32 19.5 -2.4
GTA AMB AMB
comp=Z,4.0nm,0.6s
GTA LR LR
comp=N,123nm,8.8s
GTA LR LR
comp=E,244nm,11.0s
GTA LR LR
comp=Z,272nm,12.2s
WMQ Urumqi 17.17 242 *e*P **P 14 32 25.4 -0.4**
WMQ XP 14 32 32.0
WMQ PP PP 14 32 39.0 -1.3
WMQ PPP PPP 14 32 48.0 -0.4
WMQ *e*S **S 14 35 35.0 +0.1**
WMQ SS SS 14 35 58.0 +1.6
WMQ AMB AMB
comp=Z,13nm,0.7s
WMQ AMB AMB
comp=Z,183nm,4.8s
WMQ LR LR
comp=N,1μm,14.2s
WMQ LR LR
comp=E,660nm,15.0s
WMQ LR LR
comp=Z,588nm,18.0s
KURK Kurchatov 18.67 272 *i*P **P 14 32 42.0 -2.4**
KURK Kurchatov 18.67 272 *e*P **P 14 32 42.9 -1.6**
TIXI Tiksi 19.72 19 *e*P **P 14 32 54.5 -2.0**
TIXI pmax pmax
comp=Z,8.0nm,0.6s
XAN Xi'an 19.97 180 P **P 14 32 58.4 -1.1**
XAN AMB AMB
comp=Z,9.0nm,1.4s
CHKZ Chkalovo 22.38 285 *e*P **P 14 33 23.4 -0.4**
CHKZ pmax pmax
comp=Z,25nm,0.5s,mb4.9
CHKZ Chkalovo 22.38 285 *e*P **P 14 33 23.4 -0.5**
comp=Z,25nm,0.5s,mb4.9
BVAR Borovoye Array 22.70 283 P **P 14 33 27.4 +0.5**
comp=Z,16nm,0.5s,mb4.7,baz=65,slow=12,SNR=98
NJ2 Nanjing 23.09 158 *e*P **P 14 33 29.8 -1.2**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb4.6
MA2 Magadan 23.31 59 *i*P **P 14 33 33.4 +0.6**
MA2 pmax pmax
comp=Z,9.0nm,1.5s,mb4.0
AAK Ala-Archa 25.26 257 *e*P **P 14 33 50.7 -1.1**
AAK pmax pmax
comp=Z,3.0nm,1.1s,mb3.7
AAK pmax pmax
comp=Z,400nm,24.0s
AAK Ala-Archa 25.26 257 *e*P **P 14 33 51.4 -0.4**
comp=Z,3.7nm,0.9s,mb3.9
BILL Bilibino 29.83 40 *e*P **P 14 34 32.7 -0.6**
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
JOW Kunigami 30.71 144 LR LR 14 46 24.7
comp=Z,326nm,18.6s,MS4.0,baz=292,slow=35
CMAR Chiang Mai Arr 35.30 196 P **P 14 35 28.8 -1.1**
comp=Z,1.6nm,1.1s,mb3.9,baz=354,slow=9.0,SNR=5.4
ARCES ARCESS Array B 38.76 326 P **P 14 35 48.9 -1.1**
comp=Z,4.7nm,0.9s,mb4.2,baz=66,slow=11,SNR=3.7
ARCES PcP PcP 14 38 01.7 -0.3
comp=Z,4.2nm,1.0s,baz=56,slow=4.4,SNR=3.9
FINES FINESS Array B 41.95 315 P **P 14 36 15.7 -0.5**
comp=Z,1.5nm,0.3s,mb4.0,baz=76,slow=7.9,SNR=10
SOC Sochi 44.97 286 *e*P **P 14 36 38.8 -2.2**
SOC *e*S S **14 43 15.8 -2.2**
SOC *e*SS SS 14 46 38.6 +7.2
AKASG Malin Array Be 46.32 300 P **P 14 36 53.4 +1.8**
comp=Z,1.8nm,0.4s,mb4.3,baz=47,slow=8.6,SNR=13
COLA College 47.78 34 *e*P **P 14 37 02.4 -0.5**
COLA pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
COLA College 47.78 34 *e*P **P 14 37 02.4 -0.5**
comp=Z,6.4nm,1.1s,mb4.6
MCK McKinley 48.14 36 *e*P **P 14 37 05.1 -0.6**
MCK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
MCK McKinley 48.14 36 *e*P **P 14 37 05.1 -0.6**
comp=Z,2.7nm,1.1s,mb4.2
NB2 NORSAR Subarra 48.16 320 P **P 14 37 09.2 +3.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=51,slow=7.4
NB2 NORSAR Subarra 48.16 320 P **P 14 37 09.2 +3.3**
NB2 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
NOA NORSAR Array B 48.16 320 P **P 14 37 05.0 -0.8**
comp=Z,0.9nm,0.8s,mb3.9,baz=61,slow=7.9,SNR=2.5
ILAR Eielson Array 48.16 34 P **P 14 37 05.3 -0.5**
comp=Z,4.5nm,0.6s,mb4.7,baz=297,slow=6.5,SNR=64
INK Inuvik 49.64 26 P **P 14 37 15.8 -1.5**
comp=Z,0.9nm,0.8s,mb3.9,baz=353,slow=2.4,SNR=4.9
DAWY Dawson 51.04 32 *e*P **P 14 37 26.8 -1.1**
MLR Muntele Rosu 51.31 297 P **P 14 37 31.4 +1.2**
comp=Z,1.0nm,0.5s,mb4.0,baz=82,slow=7.1,SNR=2.2
EKA Eskdalemuir Ar 57.58 321 P **P 14 38 17.6 +1.7**
comp=Z,2.6nm,0.8s,mb4.3,baz=52,slow=6.2,SNR=6.6
YKA Yellowknife Ar 58.94 22 P **P 14 38 23.0 -2.3**
comp=Z,0.9nm,0.8s,mb3.9,baz=332,slow=6.8,SNR=11
FCC Fort Churchill 66.07 13 P **P 14 39 10.9 -1.8**
FCC pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
FCC Fort Churchill 66.07 13 P **P 14 39 10.9 -1.8**
comp=Z,2.8nm,0.9s,mb4.3
SCHQ Schefferville 71.46 357 P **P 14 39 44.1 -2.1**
comp=Z,1.3nm,0.6s,mb4.1,baz=78,slow=8.0,SNR=5.5
WRA Warramunga Arr 76.85 155 P **P 14 40 16.3 -1.7**
comp=Z,2.4nm,0.8s,mb4.2,baz=349,slow=6.2,SNR=24
PDAR Pinedale Array 78.14 28 P **P 14 40 23.9 -0.6**
comp=Z,0.4nm,0.8s,mb3.4,baz=7.1,slow=7.3,SNR=3.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	80.33	157	P	P	14 40 35.9	-1.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=353,slow=5.0,SNR=21						
SNAA	Sanae	146.59	212	PKPbc	PKPbc	14 48 03.6	-0.5
	comp=Z,1.3nm,0.9s,baz=31,slow=5.9,SNR=3.9						

DJA 11 14:31:45.7±0.8, 9.61S×116.61E, h33km, MD4.8/4, ML4.6/4, 2C-2D, Error ellipse: s-maj=18.0km s-min=16.2km az=160.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.22	336	⇓*e*Pn	Pn	14 32 05.9	-0.8
	435nm,0.2s						
KEDI				*e*Sn	Sn	14 32 20.0	-2.2
RATI	Rata	1.38	310	⇑*e*Pn	Pn	14 32 07.5	-1.5
	825nm,0.2s						
RATI				*e*Sn	Sn	14 32 23.8	-2.5
KELI	Kelakatan	2.51	303	⇑*i*Pn	Pn	14 32 24.1	-1.1
	206nm,0.2s						
KELI	Kelakatan	2.51	303	*e*P	P	14 32 24.7	-0.3
KELI				*e*Sn	Sn	14 32 51.8	-3.1
SRDI	Scrawed	2.68	295	⇓*i*Pn	Pn	14 32 26.1	-1.5
	400nm,0.2s						
SRDI				*e*Sn	Sn	14 32 55.6	-3.7

MAN 11 14:38:46.2, 8.63N×126.39E, h33km, mb3.8, ML2.5, MS2.0, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.45	183	⇓*i*P	P	14 38 57.5	+1.5
BIPH				*i* S	S	14 39 04.0	+1.2
BUTP	Butuan	0.83	294	*e*P	P	14 39 01.4	0.0
SCPH	Surigao	1.45	322	*e*P	P	14 39 09.2	-1.1
SCPH				*e*S	S	14 39 28.6	+0.4
BUKP	Musuan	1.51	240	*e*P	P	14 39 11.7	+0.5

*BJI **11** 14:43:27.6, 4.52N×94.41E, h30km, mb4.7*
*IDC **11** 14:43:29.4±0.9, 5.08N×94.05E, mb4.1/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, ML4.7/1, Error ellipse: s-maj=45.9km s-min=16.8km az=53.0*
*NEIC **11** 14:43:34.1±0.4, 5.08N×94.10E, h30km, mb4.5/12, Error ellipse: s-maj=11.7km s-min=5.5km az=51.0*
NEIC Felt [III] at Banda Aceh.
ISC 11 14:43:32.9±0.6, 5.06N±0.07×94.12E±0.08, h33km, n40, σ0s89/39, mb4.5/25, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.50	88	*e*Pn	Pn	14 45 08.8	-0.2
SNG	Songkhla	6.79	72	P	P	14 45 14.0	+1.2
CM31	Chiang Mai Arr	14.12	19	*e*Pn	P	14 46 52.7	-0.1
	5.2nm,0.4s						
CMAR	Chiang Mai Arr	14.12	19	Pn	P	14 46 52.5	-0.3
	1.1nm,0.3s,baz=210,slow=14,SNR=40						
CHG	Chiang Mai	14.45	19	⇑P	P	14 47 02.9	+5.7
	14nm,0.8s						
NANT	Nan	15.09	25	P	P	14 47 09.0	+3.5
KSM	Kuching	16.54	102	*e*P	P	14 47 24.8	+0.6
JIRN	Jiri	23.71	342	*e*P	P	14 48 43.9	+1.0
	16nm,0.9s,mb4.4						
PKI	Pulchoki	23.87	341	*e*P	P	14 48 44.5	0.0
	10.0nm,0.8s,mb4.3						
KKN	Kakani	24.12	341	*e*P	P	14 48 47.5	+0.6
	6.0nm,0.5s,mb4.3						
GYA	Guiyang	24.42	28	⇓*i*P	P	14 48 49.9	+0.1
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
GKN	Gorkha	24.53	339	*e*P	P	14 48 51.7	+0.8
	comp=Z,16nm,0.4s,mb4.9						
LSA	Lhasa	24.66	354	P	P	14 48 54.0	+1.8
LSA	Lhasa	24.66	354	*e*P	P	14 48 52.9	+0.7
	comp=Z,6.6nm,0.5s,mb4.4						
KOLN	Koldanda	24.70	337	*e*P	P	14 48 53.9	+1.3
	comp=Z,21nm,0.6s,mb4.8						
ENH	Enshi	28.96	28	*e*P	P	14 49 28.8	-2.8
	comp=Z,9.0nm,0.8s,mb4.5						
XAN	Xi'an	31.94	24	P	P	14 49 55.5	-2.5
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
GTA	Gaotai	34.58	8	*e*P	P	14 50 19.9	-0.9
GTA				AP	pP	14 50 30.1	-0.4
GTA				XP	sP	14 50 33.2	-1.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
FITZ	Fitzroy Crossi	38.68	127	*e*P	P	14 50 55.4	-0.2
	comp=Z,6.5nm,0.6s,mb4.5						
AAK	Ala-Archa	41.27	338	*e*P	P	14 51 16.6	-0.2
	comp=Z,2.0nm,0.9s,mb3.8						
SONM	Songino Array	43.89	12	P	P	14 51 37.0	-1.1
	comp=Z,2.6nm,0.7s,mb4.1,baz=193,slow=8.0,SNR=31						
SONM				PcP	PcP	14 53 24.1	-0.4
	comp=Z,0.9nm,0.7s,baz=193,slow=3.2,SNR=5.0						
WRA	Warramunga Arr	46.69	123	P	P	14 52 00.5	-0.3
	comp=Z,5.3nm,0.6s,mb4.6,baz=302,slow=9.3,SNR=53						
WRAB	Tennant Creek	46.70	123	*e*P	P	14 52 00.9	+0.1
	comp=Z,9.1nm,0.6s,mb4.9						
WB2	Warramunga Arr	46.70	123	*e*P	P	14 52 01.0	+0.1
KURK	Kurchatov	47.32	347	P	P	14 52 05.9	+0.6
	comp=Z,44nm,0.4s,mb5.7,SNR=8.3						
KURK	Kurchatov	47.32	347	*e*P	P	14 52 05.2	-0.1
	comp=Z,3.4nm,0.5s,mb4.5						
ASPA	Alice Springs	48.17	128	*e*P	P	14 52 12.5	+0.1
ASAR	Alice Springs	48.17	128	P	P	14 52 12.4	+0.1
	comp=Z,2.4nm,0.8s,mb4.3,baz=298,slow=7.7,SNR=27						
ZAL	Zalesovo	49.31	353	P	P	14 52 20.7	-0.1
	comp=Z,3.6nm,0.9s,mb4.4,baz=287,slow=5.2,SNR=12						
ZAL	Zalesovo	49.31	353	P	P	14 52 20.7	-0.1
CHKZ	Chkalovo	52.13	343	*e*P	P	14 52 41.6	-0.5
	comp=Z,38nm,0.8s,mb5.4						
STKA	Stephens Creek	58.21	132	P	P	14 53 26.6	+0.1
	comp=Z,0.7nm,0.6s,mb3.9,baz=277,slow=18,SNR=4.7						
AKASG	Malin Array Be	70.34	322	P	P	14 54 43.9	-1.4
	comp=Z,1.0nm,0.5s,mb4.0,baz=89,slow=5.4,SNR=4.8						
AKASG	Malin Array Be	70.34	322	P	P	14 54 43.9	-1.4
FINES	FINESS Array B	75.18	333	P	P	14 55 13.5	-0.1
	comp=Z,1.7nm,0.4s,mb4.3,baz=98,slow=7.1,SNR=20						
FINES	FINESS Array B	75.18	333	P	P	14 55 13.5	-0.1
ARCES	ARCESS Array B	77.89	340	P	P	14 55 28.7	-0.1
	comp=Z,2.6nm,0.9s,mb4.2,baz=108,slow=7.3,SNR=5.7						
GERES	GERESS Array B	79.90	319	P	P	14 55 41.3	+1.1
	comp=Z,2.0nm,1.0s,mb4.0,slow=1.3,SNR=5.0						
NOA	NORSAR Array B	82.16	331	P	P	14 55 50.7	-1.0
	comp=Z,1.5nm,0.9s,mb3.9,baz=100,slow=5.6,SNR=2.8						
YKA	Yellowknife Ar	109.14	14	PP	PP	15 02 25.4	-7.4
	comp=Z,0.1nm,0.6s,baz=338,slow=7.8,SNR=4.2						

*IDC **11** 15:01:53.3±46.0, 13.00S×179.00E, mb3.8/3, mb1 4.0/3, mb1mx3.7/15, mbtmp3.8/3, MS4.4/1, Ms1 4.4/1, ms1mx3.2/25, Error ellipse: s-maj=842.5km s-min=151.4km az=71.0*
ISC 11 15:03:41.0±5.8, 18.4S±0.2×167.3E±0.7, h33km, n4, σ1s32/5, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.70	192	*e*P	P	15 04 36.9	-0.3
DZM				*e*S	S	15 05 20.1	-0.1
STKA	Stephens Creek	26.73	235	P	P	15 09 21.2	+1.8
	2.5nm,1.0s,mb3.7,baz=62,slow=6.9,SNR=4.3						
WRA	Warramunga Arr	31.10	262	P	P	15 09 57.6	-1.2
	0.3nm,0.4s,mb3.5,baz=85,slow=8.4,SNR=13						
ASAR	Alice Springs	31.51	255	P	P	15 10 02.3	-0.1
	0.8nm,0.4s,mb3.9,baz=82,slow=8.4,SNR=25						

*NEIC **11** 15:08:25.7±2.3, 6.27S×130.27E, h130km±23km, mb3.8/2, Error ellipse: s-maj=18.7km s-min=14.1km az=45.0*
*IDC **11** 15:08:38.3±6.8, 6.51S×130.45E, h265km±74km, mb3.3/5, mb1 3.4/8, mb1mx3.4/14, mbtmp4.1/8, MS2.5/1, Ms1 2.5/1, ms1mx2.4/9, Error ellipse: s-maj=47.0km s-min=18.2km az=78.0*
ISC 11 15:08:24.0±1.9, 6.41S±0.07×130.2E±0.1, h134km±19km, n16, σ1s23/21, mb3.7/6, Banda Sea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.66	160	*e*P	P	15 10 02.2	+1.7
	16nm,0.2s						
KAKA				*e*S	S	15 11 13.8	-1.7
FITZ	Fitzroy Crossi	12.43	200	*e*P	P	15 11 20.7	+3.4
FITZ				*e*S	S	15 13 30.2	-3.0
WRAB	Tennant Creek	14.05	164	*e*Pn	P	15 11 38.7	+0.4
WRA	Warramunga Arr	14.05	164	P	P	15 11 36.0	-2.3
	0.8nm,0.3s,baz=337,slow=13,SNR=27						
WRA				S	S	15 14 06.0	-5.2
	2.3nm,0.3s,baz=336,slow=21,SNR=9.8						
WB2	Warramunga Arr	14.06	164	*e*P	P	15 11 37.4	-1.0
WB2				*e*S	S	15 14 06.2	-5.1
PMG	Port Moresby	17.11	101	P	P	15 12 15.9	-0.6
	0.6nm,0.3s,baz=294,slow=10.0,SNR=3.8						
ASAR	Alice Springs	17.53	169	P	P	15 12 23.0	+1.4
	1.8nm,0.3s,baz=347,slow=9.6,SNR=105						
ASAR				S	S	15 15 29.6	-0.5
	0.4nm,0.3s,baz=346,slow=26,SNR=5.7						
ASPA	Alice Springs	17.53	169	*e*P	P	15 12 24.1	+2.4
ASPA				*e*S	S	15 15 31.2	+1.1
CTA	Charters Tower	20.72	133	P	P	15 12 56.3	+0.7
	3.4nm,0.7s,baz=304,slow=11,SNR=3.0						
STKA	Stephens Creek	27.50	159	P	P	15 13 59.9	-0.2
	1.2nm,0.4s,mb4.0,baz=338,slow=8.6,SNR=5.2						
JNU	Nakatsue	39.32	1	LR	LR	15 30 21.5	
	comp=Z,7.4nm,21.5s,baz=165,slow=33						
SONM	Songino Array	57.93	341	P	P	15 18 04.5	0.0
	0.9nm,0.7s,mb3.7,baz=167,slow=7.6,SNR=9.8						
ZAL	Zalesovo	71.12	334	P	P	15 19 29.0	-0.8
	0.6nm,0.3s,mb3.8,baz=37,slow=12,SNR=4.3						
KURK	Kurchatov	72.09	328	*e*P	P	15 19 35.2	-0.3
	1.7nm,0.7s,mb3.9						
BVAR	Borovoye Array	77.65	328	P	P	15 20 06.9	-0.3
	0.7nm,0.7s,mb3.4,baz=121,slow=8.4,SNR=5.6						
CHKZ	Chkalovo	77.84	328	*e*P	P	15 20 08.4	+0.2
	1.4nm,0.8s,mb3.6						

*NEIC **11** 15:28:22.0, 50.31N×128.72W, h26km, mb4.7/19, MW4.8(PGC), After PGC.*
NEIC Felt [II] at Port Alice.
*BJI **11** 15:28:22.0, 50.30N×128.70W, h24km, mB5.2, mb4.8, Ms4.7, Msz4.2*
*IDC **11** 15:28:26.3±1.6, 50.29N×128.43W, h39km±12km, mb3.9/10, mb1 4.1/17, mb1mx4.0/25, mbtmp4.1/17, ML3.7/8, MS3.8/9, Ms1 3.8/9, ms1mx3.5/30, Error ellipse: s-maj=23.9km s-min=8.7km az=65.0*
PGC 11 15:28:21.8, 50.31N×128.72W, h26km±18km, Mw4.8/6, Mw4.8, MD2.2(SEA), 6C-4D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOLB	Holberg	0.50	49	P	Pb	15 28 31.5	-0.6
HOLB				S	Sb	15 28 38.3	-0.8
	comp=Z,9µm,0.2s						
HOLB				Trac		15 28 40.5	
	comp=Z,9µm,0.2s						
BPBC	Brooks Peninsu	0.63	104	⇑P	Pb	15 28 33.4	-0.8
BPBC				S	Sb	15 28 41.7	-0.9
	comp=Z,27µm,0.3s						
BPBC				Trac		15 28 45.0	
	comp=Z,27µm,0.3s						
PHC	Port Hardy	0.91	64	P	Pb	15 28 38.0	-0.9
PHC				S	Sb	15 28 49.2	-1.5
PHC				Trac		15 28 52.1	
	comp=Z,3µm,0.2s						
MAYB	Maynard	1.00	84	⇑P	Pn	15 28 39.0	-1.2
MAYB				S	Sb	15 28 52.5	-0.6
	comp=Z,2µm,0.3s						
MAYB				Trac		15 28 54.7	
	comp=Z,2µm,0.3s						
EDB	Eliza Dome	1.12	112	P	Pn	15 28 40.2	-1.8
EDB				S	Sb	15 28 57.1	+0.4
EDB				Trac		15 28 59.1	
	comp=Z,24µm,0.8s						
WOSB	Woss	1.39	95	⇑P	Pn	15 28 45.0	-0.9
WOSB				Sg	Sn	15 29 03.1	-0.4
WOSB				Trac		15 29 07.3	
	comp=Z,2µm,0.3s						
ETB	Estevan Point	1.69	123	P	Pn	15 28 48.8	-1.4
ETB				Sg	Sn	15 29 17.7	+6.5
ETB				Trac		15 29 32.7	
	comp=Z,3µm,0.7s						
NCRB	Newcastle Ridg	1.71	86	P	Pn	15 28 50.0	-0.4
NCRB				Sg	Sn	15 29 12.8	+1.1
NCRB				Trac		15 29 15.5	
	comp=Z,5µm,0.6s						
GDR	Gold River	1.81	106	⇑P	Pn	15 28 50.6	-1.4
GDR				Pg	Pn	15 28 53.9	+1.9
GDR				Sg	Sn	15 29 17.7	+3.5
GDR				Trac		15 29 20.6	
	comp=Z,9µm,0.8s						
BBB	Bella Bella	1.92	11	Pn	Pn	15 28 53.9	+0.5
	86nm,0.3s,baz=199,slow=12,SNR=392						
BBB				Sn	Sn	15 29 16.3	-0.5
	320nm,0.3s,baz=180,slow=16,SNR=12						
BBB				LR	LR	15 29 41.1	
	comp=Z,383nm,20.6s,baz=171,slow=39						
BBB	Bella Bella	1.92	11	⇓P	Pn	15 28 53.9	+0.5
BBB				Pg	Pn	15 28 59.7	+6.3
BBB				Sg	Sn	15 29 16.4	-0.4
BBB				Trac		15 29 18.6	
	comp=Z,1µm,0.3s						
CBB	Campbell River	2.18	96	⇑P	Pn	15 28 56.4	-0.7
CBB				Pg	Pn	15 28 59.1	+2.0
CBB				Sg	Sn	15 29 27.3	+3.8
CBB				Trac		15 29 30.1	
	comp=Z,4µm,0.6s						
BTB	Buttle Lake	2.23	111	⇑P	Pn	15 28 56.8	-1.2
BTB				Sg	Sn	15 29 31.6	+6.6
BTB				Trac		15 29 39.4	
	comp=Z,4µm,0.6s						
ALB	Alberni	2.73	111	P	Pn	15 29 03.6	-1.4
ALB				Pg	Pn	15 29 09.2	+4.2
ALB				Sg	Sn	15 29 47.0	+9.5
ALB				Trac		15 29 57.9	
	comp=Z,2µm,0.9s						
TXB	Texada	2.83	101	P	Pn	15 29 05.3	-1.2
TXB				Pg	Pn	15 29 10.7	+4.2
TXB				Sg	Sn	15 29 46.6	+6.5
TXB				Trac		15 29 49.6	
	comp=Z,3µm,0.8s						
MGB	Mount Grey	2.93	115	P	Pn	15 29 06.6	-1.2
MGB				Pg	Pn	15 29 14.7	+6.8
MGB				Sg	Sn	15 29 52.3	+10
MGB				Trac		15 30 03.6	
	comp=Z,2µm,1.0s						
BNB	Barry Inlet	2.96	321	P	Pn	15 29 08.0	-0.3
BNB				Sg	Sn	15 29 48.6	+5.3
BNB				Trac		15 29 49.1	
	comp=Z,92nm,0.4s						
SHB	Sechelt	3.21	101	P	Pn	15 29 10.8	-1.1
SHB				Sg	Sn	15 29 58.6	+8.9
SHB				Trac		15 30 01.2	
	comp=Z,3µm,0.8s						
NLLB	Nanaimo Lost L	3.25	108	P	Pn	15 29 12.6	+0.2
NLLB				Sg	Sn	15 29 58.3	+7.5
NLLB				Trac		15 30 06.0	
	comp=Z,1µm,0.7s						
PFB	Port Renfrew	3.29	120	P	Pn	15 29 11.1	-1.9
PFB				Pg	Pn	15 29 21.6	+8.6
PFB				Sg	Sn	15 30 05.9	+14
PFB				Trac		15 30 10.9	
	comp=Z,592nm,0.8s						
BNAB	Bonilla	3.40	340	P	Pn	15 29 14.3	-0.3
WPB	Watts Point	3.62	98	P	Pn	15 29 16.9	-0.7
WPB				Sg	Sn	15 30 08.2	+8.2
WPB				Trac		15 30 14.1	
	comp=Z,2µm,0.8s						
BIB	Bowen Island	3.62	102	P	Pn	15 29 16.8	-0.9
BIB				Pg	Pn	15 29 22.8	+5.1
BIB				Sg	Sn	15 30 08.5	+8.5
BIB				Trac		15 30 17.9	
	comp=Z,842nm,0.7s						
LZB	Mount Lazard	3.62	116	P	Pn	15 29 16.2	-1.4
LZB				Pg	Pn	15 29 26.1	+8.4
LZB				Sg	Sn	15 30 13.6	+14
LZB				Trac		15 30 22.2	
	comp=Z,257nm,0.8s						
GOBB	Galiano Island	3.65	110	P	Pn	15 29 19.1	+1.0
GOBB				Pg	Pn	15 29 24.8	+6.7
GOBB				Sg	Sn	15 30 13.3	+12
GOBB				Trac		15 30 17.8	
	comp=Z,1µm,0.9s						
WSLR	Whistler	3.73	91	P	Pn	15 29 18.4	-0.9
WSLR				Pg	Pn	15 29 24.6	+5.3
WSLR				Sg	Sn	15 30 13.7	+11
WSLR				Trac		15 30 20.9	
	comp=Z,1µm,0.9s						
VIB	Van Inlet	3.78	323	P	Pn	15 29 19.6	-0.4
PGC	Sidney	3.82	114	*e*Pn	Pn	15 29 20.2	-0.2
PGC	Sidney	3.82	114	P	Pn	15 29 20.5	0.0
PGC				Pg	Pn	15 29 28.1	+7.7
PGC				Sg	Sn	15 30 15.1	+10
PGC				Trac		15 30 29.3	
	comp=Z,645nm,0.8s						
SNB	Saturna Island	3.93	111	P	Pn	15 29 22.8	+0.8
SNB				Sg	Sn	15 30 23.4	+16
SNB				Trac		15 30 36.9	
	comp=Z,825nm,0.9s						
VGZ	Gonzales	4.01	116	P	Pn	15 29 23.2	+0.1
VGZ				Sg	Sn	15 30 27.4	+18
VGZ				Trac		15 30 32.9	
	comp=Z,548nm,0.8s						
HNB	Haney	4.11	102	P	Pn	15 29 24.8	+0.1
HNB				Sg	Sn	15 30 25.8	+13
HNB				Trac		15 30 40.5	
	comp=Z,660nm,1.0s						
RUBB	Prince Rupert	4.13	347	P	Pn	15 29 25.1	+0.2
RUBB				Trac		15 31 01.4	
	comp=Z,472nm,0.8s						
LLLB	Lillooet	4.38	83	⇑P	Pn	15 29 27.4	-1.0
LLLB				Pg	Pn	15 29 38.2	+10
LLLB				Sg	Sn	15 30 32.3	+13
LLLB				Trac		15 30 38.2	
	comp=Z,627nm,1.1s						
NDB	Naden	4.48	326	P	Pn	15 29 29.0	-0.9
VDB	Vedder Mountai	4.49	104	P	Pn	15 29 29.7	-0.3
VDB				Sg	Sn	15 30 35.8	+14
VDB				Trac		15 30 43.4	
	comp=Z,735nm,1.1s						
CMW	Cultus Mountai	4.71	111	P	Pn	15 29 33.6	+0.5
HOPB	Hope	4.81	98	P	Pn	15 29 34.5	-0.2
HOPB				Sg	Sn	15 30 47.6	+17
HOPB				Trac		15 30 50.3	
	comp=Z,779nm,0.9s						
JCW	Jim Creek	4.93	113	P	Pn	15 29 35.7	-0.5
FSB	Fort Saint Jam	4.96	31	P	Pn	15 29 40.6	+3.9
FSB				Sg	Sn	15 30 59.0	+25
FSB				Trac		15 31 06.8	
	comp=Z,1µm,1.2s						
BMW	Boistfort Moun	5.30	134	P	Pn	15 29 40.9	-0.6
NLO	Nicolai Mounta	5.50	138	P	Pn	15 29 45.0	+0.7
FMW	Mount Fremont	5.77	123	P	Pn	15 29 48.1	+0.1
RVW	Rose Valley	5.77	134	P	Pn	15 29 49.0	+0.9
RCS	Mount Rainier-	5.78	124	P	Pn	15 29 48.7	+0.6
LON	Longmire	5.81	125	P	Pn	15 29 48.7	+0.1
ERK	Elk Rock	5.84	131	P	Pn	15 29 49.5	+0.4
KMOR	Kings Mountain	5.85	141	P	Pn	15 29 48.8	-0.4
PNT	Penticton	5.98	96	P	Pn	15 29 49.8	-1.2
PNT				Pg	Pn	15 30 06.7	+16
PNT				Sg	Sn	15 31 25.0	+26
PNT				Trac		15 31 29.6	
	comp=Z,460nm,1.1s						
WPW	White Pass	5.98	124	P	Pn	15 29 51.8	+0.7
LVP	Lakeview Peak	5.99	133	P	Pn	15 29 51.5	+0.4
TBM	Table Mountain	6.22	117	P	Pn	15 29 54.3	-0.2
ASR	Mount Adams--S	6.32	128	P	Pn	15 29 56.5	+0.6
PGO	Gresham	6.42	137	P	Pn	15 29 58.9	+1.6
GULW	Guler Mountain	6.48	130	P	Pn	15 29 59.1	+1.0
VLMM	Larch Mountain	6.55	134	P	Pn	15 30 00.3	+1.2
DOWB	Downie Slide	6.57	75	P	Pn	15 29 58.4	-1.0
DOWB				Pg	Pn	15 30 22.5	+23
DOWB				Sg	Sn	15 31 43.3	+29
GT2	Goat Mountain	6.75	137	P	Pn	15 30 02.9	+1.0
SLEB	Sale Mountain	6.78	79	P	Pn	15 30 01.3	-1.0
SLEB				Pg	Pn	15 30 22.2	+20
SLEB				Sg	Sn	15 31 50.7	+31
SLEB				Trac		15 31 58.6	
	comp=Z,340nm,1.2s						
COR	Corvallis	6.80	145	*e*Pn	Pn	15 30 03.4	+0.7
TDH	Tom, Dick, Har	6.86	134	P	Pn	15 30 04.8	+1.4
BMBC	Bull Mountain	6.97	32	P	Pn	15 30 05.8	+0.7
BMBC				Sg	Sn	15 32 02.1	+38
BMBC				Trac		15 32 08.7	
	comp=Z,391nm,1.2s						
NEW	Newport	7.86	101	*e*Pn	Pn	15 30 14.4	-3.0
DLBC	Dease Lake	8.18	355	Pn	P	15 30 23.6	+1.7
	0.6nm,0.3s,baz=184,slow=12,SNR=9.4						
DLBC				Sn	Sn	15 31 55.6	+1.2
	0.9nm,0.3s,baz=320,slow=24,SNR=6.6						
DLBC	Dease Lake	8.18	355	*e*Pn	P	15 30 23.3	+1.5
DLBC	Dease Lake	8.18	355	P	P	15 30 23.4	+1.5
DLBC				Trac		15 33 01.0	
	comp=Z,51nm,1.1s						
HUMO	Hull Mountain	8.67	151	*e*Pn	P	15 30 31.2	+2.5
FNBB	Fort Nelson	9.21	19	P	P	15 30 35.4	-0.8
FNBB				Sg	Sn	15 33 11.6	+52
FNBB				Trac		15 33 39.0	
	comp=Z,62nm,1.0s						
BMO	Blue Mountains	9.45	121	*e*Pn	P	15 30 37.2	-2.3
YBH	Yreka Blue Hor	9.54	152	Pn	P	15 30 43.4	+2.8
	1.2nm,0.3s,baz=339,slow=14,SNR=36						
YBH	Yreka Blue Hor	9.54	152	*e*Pn	P	15 30 43.7	+3.0
WALA	Waterton Lakes	9.69	92	*e*Pn	P	15 30 40.1	-2.5
EDM	Edmonton	9.96	67	*e*Pn	P	15 30 43.3	-3.1
EDM	Edmonton	9.96	67	Trac		15 33 46.0	
	comp=Z,33nm,0.8s						
KHMM	Horse Mountain	10.06	158	*e*Pn	P	15 30 50.2	+2.4
MOD	Modoc	10.23	142	*e*Pn	P	15 30 52.4	+2.3
MSO	Missoula	10.40	104	*e*Pn	P	15 30 50.3	-2.0
WVOR	Wild Horse Val	10.51	135	*e*Pn	P	15 30 55.4	+1.5
CHMT	Chamberlain Mo	10.79	102	*e*Pn	P	15 30 56.2	-1.6
WHY	Whitehorse	10.94	344	P	P	15 31 02.2	+2.5
WHY				Trac		15 34 35.1	
	comp=Z,10.0nm,1.2s						
HRY	Holter Researc	11.77	101	*e*P	P	15 31 08.7	-2.4
HLID	Hailey	11.87	119	*e*P	P	15 31 10.6	-1.8
HOPS	Hopland	12.00	158	P	P	15 31 11.8	-2.4
MCMT	McKenzie Canyo	12.04	111	*e*P	P	15 31 11.8	-2.8
NSHM	Saint Helena R	12.57	157	*e*P	P	15 31 20.9	-0.8
WCN	Washoe City	12.70	147	P	P	15 31 22.9	-0.7
BMN	Battle Mountai	12.75	136	*e*P	P	15 31 25.2	+1.0
QLMT	Earthquake Lak	12.89	109	*e*P	P	15 31 23.0	-3.0
YMR	Madison River	13.26	108	*e*P	P	15 31 29.5	-1.4
YNR	Norris Junctio	13.41	108	*e*P	P	15 31 33.0	+0.1
ELK	Elko	13.43	130	Pn	P	15 31 34.6	+1.4
	0.1nm,0.3s,baz=313,slow=12,SNR=20						
ELK				LR	LR	15 37 24.1	
	comp=Z,436nm,20.2s,baz=321,slow=40						
ELK	Elko	13.43	130	*e*P	P	15 31 35.3	+2.1
YFT	Old Faithful	13.45	109	*e*P	P	15 31 32.4	-1.0
CMB	Columbia Colle	13.64	151	*e*P	P	15 31 36.6	+0.7
LKWY	Lake	13.65	108	*e*P	P	15 31 37.0	+0.9
IMW	Indian Meadow	13.69	111	*e*P	P	15 31 37.0	+0.5
RRI2	Red Ridge	13.78	114	*e*P	P	15 31 38.1	+0.4
MOOW	Moose Ponds	13.89	111	*e*P	P	15 31 38.8	-0.3
TPAW	Teton Pass	13.92	113	*e*P	P	15 31 39.7	+0.2
HVU	Hansel Valley	13.96	122	*e*P	P	15 31 40.8	+0.7
NVAR	Mina Array Bea	14.00	144	Pn	P	15 31 43.5	+2.8
	0.2nm,0.3s,baz=328,slow=11,SNR=43						
NVAR	Mina Array Bea	14.00	144	Pn	P	15 31 43.5	+2.8
WUWY	Wally Ulrich	14.01	112	*e*P	P	15 31 44.0	+3.2
SNOW	Snow King Moun	14.05	112	P	P	15 31 43.1	+1.9
LOHW	Long Hollow	14.05	112	*e*P	P	15 31 42.6	+1.4
MNV	Mina	14.06	144	P	P	15 31 41.4	0.0
AHID	Auburn Hatcher	14.26	115	P	P	15 31 45.2	+1.2
BGU	Big Grassy Mou	14.42	125	*e*P	P	15 31 47.9	+1.8
YKA	Yellowknife Ar	14.45	27	Pn	P	15 31 44.1	-2.2
	0.3nm,0.3s,baz=213,slow=12,SNR=45						
YKA				LR	LR	15 37 45.6	
	comp=Z,853nm,18.9s,baz=210,slow=39						
SPUT	South Promonto	14.46	122	*e*P	P	15 31 46.8	+0.2
OMM	Old Mammoth Mi	14.48	148	*e*P	P	15 31 46.3	-0.5
YKW3	Yellowknife Ar	14.50	27	*e*P	P	15 31 44.1	-2.8
YKW3	Yellowknife Ar	14.50	27	P	P	15 31 44.8	-2.2
YKW3				P		15 31 45.0	
YKW3				Sg		15 35 59.5	
YKW3				Sg		15 36 00.3	
YKW3				Trac		15 36 10.9	
	comp=Z,326nm,2.0s						
YKW3				Trac		15 36 17.4	
	comp=Z,17nm,1.1s						
TPH	Tonopah	14.73	142	*e*P	P	15 31 50.1	0.0
	28nm,1.0s						
HWUT	Hardware Ranch	14.74	120	*e*P	P	15 31 51.9	+1.6
	129nm,1.4s						
MTUM	Tungsten Hills	14.86	147	*e*P	P	15 31 54.2	+2.3

DAWY	**Dawson**	**14.92**	**342**	P	P	15 31 56.1	+3.6
DAWY	**Dawson**	**14.92**	**342**	P	P	15 32 06.2	+14
DAWY				Sg		15 36 30.4	
DAWY				Trac		15 37 23.5	
	comp=Z,7.0nm,1.2s						
NOQ	**North Oquirrh**	**15.10**	**123**	*e*P	P	15 31 57.1	+2.1
TCUT	**Toone Canyon**	**15.16**	**121**	*e*P	P	15 31 57.6	+1.8
PDAR	**Pinedale Array**	**15.17**	**112**	Pn	P	15 31 57.5	+1.6
	0.1nm,0.3s,baz=316,slow=11,SNR=36						
TRCR	**Troy Canyon**	**15.18**	**137**	*e*P	P	15 31 57.4	+1.3
JLU	**Jordanelle**	**15.49**	**122**	*e*P	P	15 32 01.0	+0.8
NLU	**North Lily Min**	**15.62**	**125**	*e*P	P	15 32 03.0	+1.2
DAU	**Daniels Canyon**	**15.73**	**122**	*e*P	P	15 32 04.0	+0.8
THY	**Trims Highway**	**16.02**	**331**	*e*P	P	15 32 09.9	+3.2
TMUT	**Trail Mountain**	**16.56**	**125**	*e*P	P	15 32 14.1	+0.3
ARUT	**Antelope Range**	**16.61**	**133**	*e*P	P	15 32 15.8	+1.4
MVU	**Marysvale**	**16.64**	**129**	*e*P	P	15 32 16.5	+1.7
	54nm,1.0s						
MSU	**Marysvale**	**16.65**	**129**	*e*P	P	15 32 17.2	+2.2
FFC	**Flin Flon**	**16.82**	**64**	Pn	P	15 32 15.3	-1.6
	324nm,0.8s,SNR=16						
FFC	**Flin Flon**	**16.82**	**64**	*e*P	P	15 32 14.0	-2.9
	56nm,0.9s						
SRU	**San Rafael**	**17.06**	**124**	*e*P	P	15 32 21.0	+0.9
ILAR	**Eielson Array**	**17.36**	**333**	Pn	P	15 32 27.9	+4.2
	0.0nm,0.3s,baz=152,slow=10,SNR=14						
ILAR				LR	LR	15 38 58.2	
	comp=Z,341nm,21.4s,baz=158,slow=36						
INK	**Inuvik**	**18.21**	**354**	P	P	15 32 37.2	+3.0
	0.0nm,0.3s,baz=161,slow=10,SNR=3.0						
INK				LR	LR	15 39 23.0	
	comp=Z,198nm,20.4s,baz=178,slow=36						
INK	**Inuvik**	**18.21**	**354**	*e*P	P	15 32 37.8	+3.6
	15nm,1.3s						
INK	**Inuvik**	**18.21**	**354**	P	P	15 32 42.4	+8.2
PV10	**Paradox Valley**	**18.39**	**123**	*e*P	P	15 32 38.8	+2.2
PHWY	**Pilot Hill**	**18.49**	**110**	*e*P	P	15 32 37.2	-0.6
PV01	**Paradox Valley**	**18.82**	**123**	*e*P	P	15 32 41.8	0.0
PFO	**Pinyon Flat Ob**	**18.98**	**147**	P	P	15 32 46.0	+2.3
	137nm,1.1s,SNR=8.4						
PFO	**Pinyon Flat Ob**	**18.98**	**147**	*e*P	P	15 32 44.1	+0.4
	34nm,1.1s						
RW3	**Ridgway**	**19.21**	**121**	*e*P	P	15 32 46.5	0.0
ISCO	**Idaho Springs**	**19.34**	**114**	*e*P	P	15 32 47.7	-0.2
	30nm,1.4s						
BAR	**Barrett**	**19.75**	**149**	*e*P	P	15 32 52.1	-0.4
IMA	**Indian Mountai**	**20.32**	**330**	*e*P	P	15 33 02.1	+3.8
SDCO	**Great Sand Dun**	**20.79**	**118**	*e*P	P	15 33 03.2	-0.2
	34nm,0.9s						
ULM	**Lac du Bonnet**	**20.90**	**77**	P	P	15 33 02.5	-2.0
	40nm,0.9s,baz=287,slow=10.0,SNR=56						
ULM				LR	LR	15 40 56.0	
	comp=Z,186nm,19.1s,baz=8.5,slow=36						
ULM	**Lac du Bonnet**	**20.90**	**77**	*e*P	P	15 33 02.4	-2.1
	71nm,1.0s						
ULM	**Lac du Bonnet**	**20.90**	**77**	P	P	15 33 03.2	-1.2
FCC	**Fort Churchill**	**21.58**	**54**	*e*P	P	15 33 10.4	-0.9
	19nm,0.9s						
FCC	**Fort Churchill**	**21.58**	**54**	P	P	15 33 11.2	-0.1
FCC				Sg		15 39 32.3	
FCC				Trac		15 39 51.4	
	comp=Z,13nm,1.3s						
ANMO	**Albuquerque**	**22.32**	**125**	*e*P	P	15 33 20.0	+1.2
	27nm,1.2s						
TUC	**Tucson**	**22.37**	**137**	*e*P	P	15 33 21.1	+1.7
	20nm,1.1s						
LAZ	**Ladron**	**22.40**	**127**	*e*P	P	15 33 21.1	+1.6
LENM	**Lemitar**	**22.67**	**127**	*e*P	P	15 33 23.0	+0.8
LPM	**Los Pinos Moun**	**22.73**	**126**	*e*P	P	15 33 23.7	+0.9
EYMN	**Ely**	**24.31**	**81**	*e*P	P	15 33 37.7	-0.3
	22nm,0.8s						
AMTX	**Amarillo**	**24.99**	**118**	*e*P	P	15 33 46.0	+1.3
	16nm,0.9s						
CPRX	**Cap Rock**	**25.17**	**124**	*e*P	P	15 33 48.2	+1.7
KSU1	**Kansas State U**	**25.23**	**104**	*e*P	P	15 33 48.2	+1.2
GDL2	**Guadalupe Moun**	**25.56**	**126**	*e*P	P	15 33 51.1	+1.0
CLNB	**Carlsbad**	**25.76**	**125**	*e*P	P	15 33 52.7	+0.8
WMOK	**Wichita Mounta**	**26.77**	**114**	*e*P	P	15 34 01.7	+0.5
	3.8nm,0.4s						
RES	**Resolute Bay**	**28.19**	**18**	P	P	15 34 13.0	-0.8
LTX	**Lajitas**	**28.21**	**129**	*e*P	P	15 34 15.5	+1.1
	14nm,1.1s						
TXAR	**Lajitas Array**	**28.21**	**129**	P	P	15 34 15.8	+1.4
	4.8nm,0.7s,baz=328,slow=7.6,SNR=35						
TXAR				LR	LR	15 46 22.4	
	comp=Z,207nm,20.1s,baz=330,slow=38						
JCT	**Junction City**	**29.33**	**122**	*e*P	P	15 34 24.4	-0.1
	9.4nm,0.6s						
ACSO	**Alum Creek Sta**	**33.25**	**90**	*e*P	P	15 34 58.4	-0.4
	22nm,0.9s						
FRB	**Frobisher Bay**	**33.99**	**44**	P	P	15 35 05.0	0.0
	2.4nm,0.8s,baz=285,slow=10.0,SNR=2.3						
FRB	**Frobisher Bay**	**33.99**	**44**	P	P	15 35 05.0	0.0
SCHQ	**Schefferville**	**36.80**	**58**	P	P	15 35 28.4	-0.5
	4.5nm,1.1s,baz=279,slow=7.8,SNR=3.3						
SCHQ				LR	LR	15 50 55.7	
	comp=Z,524nm,19.1s,baz=299,slow=37						
SCHQ	**Schefferville**	**36.80**	**58**	P	P	15 35 28.4	-0.6
SCHQ				LR	LR	15 50 55.7	
GOGA	**Godfrey**	**37.05**	**100**	*e*P	P	15 35 31.5	+0.2
	22nm,1.0s						
MDJ	**Mudanjiang**	**63.62**	**309**	P	P	15 38 54.7	+2.4
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.9s						
MDJ				AMB	AMB		
	comp=Z,41nm,3.1s						
NOA	**NORSAR Array B**	**64.44**	**20**	P	P	15 38 58.6	+1.2
	comp=Z,2.2nm,1.0s,baz=328,slow=8.5,SNR=3.3						
CN2	**Changchun**	**66.26**	**310**	*e*P	P	15 39 13.7	+4.3
FINES	**FINESS Array B**	**66.78**	**13**	P	P	15 39 11.4	-1.0
	comp=Z,1.0nm,0.8s,baz=270,slow=5.6,SNR=2.9						
ULN	**Ulaanbaatar**	**71.06**	**324**	*e*P	P	15 39 41.0	+1.8
SONM	**Songino Array**	**71.34**	**324**	P	P	15 39 42.2	+1.4
	comp=Z,0.5nm,0.9s,baz=41,slow=6.2,SNR=3.4						
ZAL	**Zalesovo**	**72.37**	**340**	P	P	15 39 47.7	+0.8
	comp=Z,0.6nm,0.4s,baz=335,slow=14,SNR=3.4						
ZAL				LR	LR	16 14 59.0	
	comp=Z,83nm,19.3s,baz=0.5,slow=38						
BRG	**Berggiesshubel**	**74.29**	**24**	*e*P	P	15 40 00.8	+2.8
	comp=Z,26nm,1.6s						
HHC	**Hu-ho-hao-te**	**75.00**	**317**	*e*P	P	15 40 00.0	-2.3
HHC				S	S	15 49 34.1	-2.9
HHC				SKS	SKS	15 50 00.9	-11
HHC				AMB	AMB		
	comp=Z,8.0nm,0.4s						
HHC				AMB	AMB		
	comp=Z,160nm,8.9s						
RAR	**Rarotonga**	**76.32**	**210**	LR	LR	16 08 55.1	
	comp=Z,21nm,19.5s,baz=284,slow=32						
ESDC	**Sonseca Array**	**78.12**	**40**	P	P	15 40 19.9	+0.1
	comp=Z,0.2nm,0.3s,baz=315,slow=7.3,SNR=4.8						
WMQ	**Urumqi**	**81.02**	**334**	*e*P	P	15 40 41.5	+6.2
WMQ				XP	sP	15 40 48.5	+2.1
WMQ				PP	PP	15 43 48.0	+5.5
WMQ				S	S	15 50 49.0	+7.6
WMQ				PS	PS	15 51 37.0	+4.6
WMQ				AMB	AMB		
	comp=Z,55nm,1.3s						
WMQ				AMB	AMB		
	comp=Z,217nm,3.8s						
WMQ				LR	LR		
	comp=N,157nm,18.6s						
WMQ				LR	LR		
	comp=E,132nm,16.8s						
WMQ				LR	LR		
	comp=Z,66nm,15.9s						
LZH	**Lanzhou**	**82.28**	**320**	*e*P	P	15 40 45.0	+3.0
LZH				AP	pP	15 40 48.2	-2.2
LZH				AMB	AMB		
	comp=Z,15nm,1.5s						
LZH	**Lanzhou**	**82.28**	**320**	*e*P	P	15 40 45.0	+3.0
	comp=Z,15nm,1.5s						
LZH				pP	pP	15 40 48.2	-2.2
LZH				sP	sP	15 40 49.9	-3.2
LPAZ	**La Paz**	**84.92**	**123**	P	P	15 40 57.0	+1.2
	comp=Z,0.6nm,0.3s,baz=9.4,slow=6.5,SNR=4.6						
VNA3	**Neumayer Olymp**	**145.78**	**150**	⇑*i*	PKPbc	15 48 06.5	+9.2
VNA3	**Neumayer Olymp**	**145.78**	**150**	⇑*i*	PKPbc	15 48 08.9	+12
VNA3	**Neumayer Olymp**	**145.78**	**150**	⇓*i*PKPdf	PKPdf	15 48 02.2	+1.0
VNA3				⇑*i*P		15 48 06.5	
VNA3				⇑*i*P		15 48 08.9	
VNA2	**Neumayer--Watz**	**146.55**	**149**	⇓*i*	PKPbc	15 48 07.6	+8.5
VNA2	**Neumayer--Watz**	**146.55**	**149**	PKPdf	PKPdf	15 48 03.2	+0.7
VNA2				⇓*i*P		15 48 07.6	
SNAA	**Sanae**	**147.87**	**151**	P	PKPdf	15 48 11.2	+6.5

IDC 11 15:29:47.3±5.3**,15.26S**×**173.39W,mb3.7**/4**,mb1 4.0**/4**, mb1mx3.8**/17**,mbtmp3.7**/4**,MS2.4**/1**,Ms1 2.4**/1**, ms1mx2.3**/27**,Error ellipse: s-maj=263.2km s-min=30.1km az=142.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.89**	**257**	P	P	15 38 43.3	-1.6
	0.4nm,0.8s,baz=92,slow=7.0,SNR=6.0						
ASAR	**Alice Springs**	**50.17**	**252**	P	P	15 38 44.8	-2.2
	1.9nm,0.8s,baz=88,slow=8.5,SNR=23						
NWAO	**Narrogin (SRO)**	**64.70**	**241**	LR	LR	16 08 50.9	
	comp=Z,2.5nm,19.2s,baz=239,slow=36						
ILAR	**Eielson Array**	**82.30**	**11**	P	P	15 42 10.4	-1.4
	0.5nm,0.7s,baz=225,slow=7.7,SNR=5.8						
YKA	**Yellowknife Ar**	**89.96**	**23**	P	P	15 42 48.2	-1.4
	0.4nm,0.7s,baz=232,slow=4.7,SNR=6.0						

TAP ***11*** *15:30:09.4,24.62N×122.35E,h3km,ML3.0*
JMA 11 15:30:06.6±0.2**,24.74N**×**122.39E,h21**km**,M2.5,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**116**	P	Pb	15 30 18.7	-0.1
YOJ				S	Sb	15 30 27.0	-0.1
IRIF	**Iriomote-Funau**	**1.28**	**108**	P	Pn	15 30 29.1	-0.5
IRIF				S	Sb	15 30 46.8	+0.7
HATJ	**Hateruma jima**	**1.46**	**118**	*e*S	Sn	15 30 51.3	+0.6
JKRS	**Kuro-shima**	**1.56**	**108**	P	Pn	15 30 33.5	0.0
JIJ	**Ishigaki jima**	**1.64**	**103**	P	Pn	15 30 34.7	+0.1
JIJ				*e*S	Sn	15 30 55.9	+0.6

IDC ***11*** *15:41:18.8±0.5,20.99S×66.22W,h253km±4km,mb4.3/16, mb1 4.5/19,mb1mx4.4/23,mbtmp5.0/19,Error ellipse: s-maj=10.4km s-min=7.2km az=89.0*
NEIC ***11*** *15:41:19.1±0.2,20.93S×66.14W,mb4.7/29,Error ellipse: s-maj=8.4km s-min=4.8km az=64.0*
BJI ***11*** *15:41:19.1,20.90S×66.10W,h250km,mB5.2*
ISC 11 15:41:16.9±0.7**,20.93S**±0.05×**66.14W**±0.06**,h246**km±6km**, h258**km±4.1km**:pP-P,n150,**σ**1**§**09**/125**,mb4.6**/37**,9C-7D, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**2.75**	**224**	⇑*i*P	**P**	**15 42 10.1**	**+3.3**
LVC	**Limon Verde**	**3.07**	**236**	P	**P**	**15 42 12.4**	**+2.0**
	90nm,0.3s,baz=49,slow=10,SNR=808						
LVC				S	**S**	**15 42 52.5**	**+0.6**
	160nm,0.3s,baz=241,slow=21,SNR=36						
LVC	**Limon Verde**	**3.07**	**236**	*e*Pn	**P**	**15 42 12.2**	**+1.9**
ANCH	**Antofagasta**	**4.81**	**234**	*e*P	**P**	**15 42 30.9**	**+0.2**
ANCH				*i* S	**S**	**15 43 24.9**	**-3.4**
LPAZ	**La Paz**	**4.99**	**337**	P	**P**	**15 42 36.6**	**+3.7**
	25nm,0.3s,baz=155,slow=7.2,SNR=358						
LPAZ				S	**S**	**15 43 35.1**	**+2.9**
	10nm,0.3s,baz=286,slow=20,SNR=12						
LPAZ	**La Paz**	**4.99**	**337**	⇑*i*Pn	**P**	**15 42 36.7**	**+3.8**
LPAZ				*e*Sn	**S**	**15 43 36.3**	**+4.1**
CPN1	**Cerro Paranal**	**5.39**	**226**	⇑*i*P	**P**	**15 42 37.9**	**0.0**
CPN1				*i* S	**S**	**15 43 38.1**	**-3.0**
ARE	**Arequipa**	**6.74**	**310**	⇑*i*P	**P**	**15 42 40.4**	**-14**
ARE				*e*S	**S**	**15 43 53.0**	**-19**
LCO	**Las Campanas**	**9.05**	**206**	*e*P	**P**	**15 43 22.4**	**-1.8**
LCO				*i* S	**S**	**15 44 59.1**	**-4.9**
NNA	**Nana**	**13.57**	**309**	*e*Pn	**P**	**15 44 20.7**	**-0.4**
	27nm,0.7s						
TRQA	**Tornquist**	**17.45**	**169**	*e*P	**P**	**15 45 02.7**	**-3.4**
	13nm,0.8s						
BDFB	**Brasilia**	**17.99**	**76**	P	**P**	**15 45 12.6**	**+0.7**
	24nm,0.3s,baz=249,slow=11,SNR=76						
BAO	**Brasilia Array**	**18.02**	**76**	P	**P**	**15 45 12.3**	**+0.2**
PLCA	**Paso Flores**	**20.10**	**190**	P	**P**	**15 45 32.4**	**-0.6**
	34nm,0.7s,baz=9.5,slow=10,SNR=65						
PLCA	**Paso Flores**	**20.10**	**190**	*e*P	**P**	**15 45 32.4**	**-0.6**
	43nm,0.8s						
CAM4	**Nova Friburgo**	**21.96**	**98**	⇑*i*P	**P**	**15 45 51.8**	**+0.5**
CAM4				*i*		15 45 53.0	
SDV	**Santo Domingo**	**29.95**	**351**	P	**P**	**15 47 02.8**	**-1.9**
	4.3nm,0.4s,mb4.5,baz=311,slow=8.2,SNR=5.6						
SDV				S	**S**	**15 51 49.2**	**+6.3**
	2.1nm,0.5s,baz=118,slow=19,SNR=3.7						
SDV	**Santo Domingo**	**29.95**	**351**	*e*P	**P**	**15 47 02.8**	**-1.9**
	8.7nm,0.8s,mb4.4						
RCBR	**Riachuelo**	**32.93**	**67**	*e*P	**P**	**15 47 29.9**	**-0.5**
	102nm,0.9s,mb5.3						
USHA	**Ushuaia**	**33.90**	**182**	P	**P**	**15 47 37.5**	**-0.8**
	12nm,0.5s,mb4.7,baz=356,slow=5.9,SNR=17						
JTS	**JuntasAbangare**	**36.12**	**327**	P	**P**	**15 47 58.6**	**+1.2**
	17nm,0.9s,mb4.6,baz=119,slow=4.6,SNR=8.4						
JTS	**JuntasAbangare**	**36.12**	**327**	*e*P	**P**	**15 47 58.8**	**+1.4**
	34nm,1.1s,mb4.8						
SJG	**San Juan**	**38.80**	**360**	*e*P	**P**	**15 48 17.1**	**-2.5**
	19nm,0.8s,mb4.7						
TEIG	**Tepich**	**46.28**	**331**	*e*P	**P**	**15 49 18.7**	**-1.1**
	34nm,1.2s,mb4.6						
LRAL	**Lakeview Retre**	**57.24**	**339**	*e*P	**P**	**15 50 38.7**	**-2.0**
	5.0nm,0.8s,mb4.2						
HKT	**Hockley**	**58.10**	**330**	*e*P	**P**	**15 50 46.0**	**-0.7**
	9.2nm,0.9s,mb4.4						
CPCT	**Cooper Cave**	**58.72**	**342**	*e*P	**P**	**15 50 49.4**	**-1.5**
SWET	**Sewanee**	**58.91**	**341**	*e*P	**P**	**15 50 50.2**	**-2.1**
ELN	**Prospectdale**	**59.46**	**346**	*e*P	**P**	**15 50 55.4**	**-0.6**
TZTN	**Tazewell**	**59.48**	**344**	*e*P	**P**	**15 50 54.5**	**-1.7**
VNA3	**Neumayer Olymp**	**59.80**	**162**	⇓*i*	**P**	**15 50 58.5**	**+0.6**
VNA3	**Neumayer Olymp**	**59.80**	**162**	⇑*i*	**P**	**15 51 00.4**	**+2.5**
VNA3	**Neumayer Olymp**	**59.80**	**162**	⇑*i*	**P**	**15 51 07.3**	**+9.4**
VNA1	**Neumayer--Stat**	**59.97**	**161**	⇓*i*	**P**	**15 51 00.5**	**+1.5**
VNA2	**Neumayer--Watz**	**60.34**	**161**	⇓*i*	**P**	**15 51 02.3**	**+0.8**
VNA2	**Neumayer--Watz**	**60.34**	**161**		**P**	**15 51 04.7**	**+3.2**
VNA2	**Neumayer--Watz**	**60.34**	**161**	⇑*i*	**P**	**15 51 11.1**	**+10**
JCT	**Junction City**	**60.49**	**327**	*e*P	**P**	**15 51 01.9**	**-1.2**
	13nm,0.8s,mb4.6						
TXAR	**Lajitas Array**	**61.69**	**323**	P	**P**	**15 51 10.2**	**-0.9**
	1.8nm,0.5s,mb4.0,baz=154,slow=8.0,SNR=21						
SNAA	**Sanae**	**61.98**	**161**	⇓*i*	**P**	**15 51 11.8**	**-0.7**
SNAA	**Sanae**	**61.98**	**161**	⇑*i*	**P**	**15 51 14.4**	**+1.9**
SNAA	**Sanae**	**61.98**	**161**		**P**	**15 51 21.6**	**+9.1**
SNAA	**Sanae**	**61.98**	**161**	P	**P**	**15 51 11.7**	**-0.7**
	4.3nm,0.7s,mb4.2,baz=280,slow=6.4,SNR=17						
FVM	**French Village**	**62.89**	**339**	*e*P	**P**	**15 51 16.9**	**-2.0**
	11nm,0.4s,mb4.8						
WMOK	**Wichita Mounta**	**63.46**	**330**	*e*P	**P**	**15 51 21.0**	**-1.6**
	5.5nm,0.9s,mb4.2						
CLNB	**Carlsbad**	**64.04**	**325**	*e*P	**P**	**15 51 25.9**	**-0.7**
GDL2	**Guadalupe Moun**	**64.26**	**324**	*e*P	**P**	**15 51 27.4**	**-0.5**
CPRX	**Cap Rock**	**64.63**	**325**	*e*P	**P**	**15 51 29.4**	**-0.8**
AMTX	**Amarillo**	**64.96**	**328**	*e*P	**P**	**15 51 30.9**	**-1.4**
	6.8nm,0.4s,mb4.6						
DBIC	**Dimbokro**	**66.10**	**72**	P	**P**	**15 51 38.3**	**-1.6**
	52nm,1.1s,mb5.1,baz=216,slow=7.4,SNR=44						
DBIC				pP	pP	15 52 39.1	+2.2
	12nm,0.9s,baz=232,slow=5.3,SNR=3.8						
DBIC	**Dimbokro**	**66.10**	**72**	*e*P	**P**	**15 51 38.6**	**-1.3**
	25nm,0.7s,mb5.0						
KSU1	**Kansas State U**	**66.18**	**334**	*e*P	**P**	**15 51 38.4**	**-1.6**
MAIT	**Maitri**	**66.42**	**159**	*e*P	**P**	**15 51 41.8**	**+0.8**
LPM	**Los Pinos Moun**	**67.09**	**324**	*e*P	**P**	**15 51 45.6**	**-0.2**
CBKS	**Cedar Bluff**	**67.25**	**332**	*e*P	**P**	**15 51 46.0**	**-0.7**
	54nm,1.1s,mb5.1						
SDCO	**Great Sand Dun**	**69.11**	**327**	*e*P	**P**	**15 51 58.3**	**+0.1**
	23nm,0.9s,mb4.8						
QSPA	**South Pole Qui**	**69.26**	**180**	⇓*i*P	**P**	**15 51 59.3**	**+0.9**
	38nm,0.5s,mb5.3						
RW3	**Ridgway**	**70.61**	**326**	*e*P	**P**	**15 52 07.6**	**+0.3**
PV01	**Paradox Valley**	**70.99**	**326**	*e*P	**P**	**15 52 10.2**	**+0.7**
PV10	**Paradox Valley**	**71.42**	**326**	*e*P	**P**	**15 52 11.9**	**-0.2**
EYMN	**Ely**	**72.24**	**342**	*e*P	**P**	**15 52 14.8**	**-2.0**
	25nm,1.5s,mb4.6						
SRU	**San Rafael**	**72.74**	**325**	*e*P	**P**	**15 52 20.2**	**+0.2**
MSU	**Marysvale**	**73.21**	**324**	*e*P	**P**	**15 52 23.4**	**+0.7**
MVU	**Marysvale**	**73.22**	**324**	*e*P	**P**	**15 52 23.8**	**+1.0**
	22nm,1.0s,mb4.7						
TMUT	**Trail Mountain**	**73.24**	**325**	*e*P	**P**	**15 52 23.4**	**+0.5**
ARUT	**Antelope Range**	**73.40**	**323**	*e*P	**P**	**15 52 24.9**	**+1.0**
MPU	**Maple Canyon**	**73.99**	**325**	*e*P	**P**	**15 52 27.9**	**+0.7**
DAU	**Daniels Canyon**	**74.07**	**326**	*e*P	**P**	**15 52 28.2**	**+0.5**
JLU	**Jordanelle**	**74.31**	**326**	*e*P	**P**	**15 52 29.8**	**+0.7**
PDAR	**Pinedale Array**	**74.94**	**328**	P	**P**	**15 52 32.5**	**-0.1**
	4.5nm,0.8s,mb4.2,baz=126,slow=7.8,SNR=36						
TRCR	**Troy Canyon**	**75.02**	**322**	*e*P	**P**	**15 52 33.4**	**+0.3**
HWUT	**Hardware Ranch**	**75.10**	**326**	*e*P	**P**	**15 52 33.5**	**0.0**
	9.1nm,0.9s,mb4.4						
SPUT	**South Promonto**	**75.35**	**326**	*e*P	**P**	**15 52 35.1**	**+0.2**
SCHQ	**Schefferville**	**75.45**	**360**	P	**P**	**15 52 34.2**	**-1.0**
	5.5nm,0.6s,mb4.3,baz=169,slow=3.8,SNR=21						
SCHQ	**Schefferville**	**75.45**	**360**	P	**P**	**15 52 34.2**	**-1.0**
ULM	**Lac du Bonnet**	**75.59**	**341**	P	**P**	**15 52 34.8**	**-1.3**
	14nm,0.7s,mb4.7,baz=147,slow=6.4,SNR=32						
ULM	**Lac du Bonnet**	**75.59**	**341**	*e*P	**P**	**15 52 34.5**	**-1.6**
	20nm,0.8s,mb4.8						
HVU	**Hansel Valley**	**75.85**	**326**	*e*P	**P**	**15 52 38.1**	**+0.3**
SNOW	**Snow King Moun**	**76.05**	**328**	*e*P	**P**	**15 52 39.4**	**+0.6**
WUWY	**Wally Ulrich**	**76.10**	**328**	*e*P	**P**	**15 52 39.3**	**+0.2**
SYO	**Syowa Base**	**76.12**	**159**	⇓P	**P**	**15 52 37.2**	**-1.5**
SYO	**Syowa Base**	**76.12**	**159**	⇓X		15 52 43.4	
TPAW	**Teton Pass**	**76.16**	**328**	*e*P	**P**	**15 52 39.8**	**+0.4**
RRI2	**Red Ridge**	**76.24**	**328**	*e*P	**P**	**15 52 40.3**	**+0.4**
MOOW	**Moose Ponds**	**76.25**	**328**	*e*P	**P**	**15 52 40.1**	**+0.2**
IMW	**Indian Meadow**	**76.46**	**328**	*e*P	**P**	**15 52 41.6**	**+0.6**
NVAR	**Mina Array Bea**	**76.67**	**320**	P	**P**	**15 52 43.1**	**+0.8**
	7.5nm,1.0s,mb4.3,baz=137,slow=7.3,SNR=31						
LKWY	**Lake**	**76.69**	**329**	*e*P	**P**	**15 52 43.9**	**+1.6**
	8.9nm,0.8s,mb4.5						
YFT	**Old Faithful**	**76.81**	**329**	*e*P	**P**	**15 52 45.0**	**+2.0**
YMR	**Madison River**	**77.04**	**329**	*e*P	**P**	**15 52 45.5**	**+1.3**
QLMT	**Earthquake Lak**	**77.38**	**329**	*e*P	**P**	**15 52 47.2**	**+1.1**
TSUM	**Tsumeb**	**77.72**	**106**	*e*P	**P**	**15 52 47.8**	**-0.6**
	5.6nm,0.6s,mb4.4						
VNDA	**Vanda**	**77.85**	**190**	P	**P**	**15 52 48.7**	**+0.6**
	3.5nm,0.8s,mb4.1,baz=134,slow=4.4,SNR=12						
VNDA	**Vanda**	**77.85**	**190**	P	**P**	**15 52 48.7**	**+0.6**
HLID	**Hailey**	**77.97**	**326**	*e*P	**P**	**15 52 50.2**	**+0.9**
	22nm,0.9s,mb4.8						
MCMT	**McKenzie Canyo**	**78.07**	**328**	*e*P	**P**	**15 52 50.7**	**+0.8**
HRY	**Holter Researc**	**78.95**	**330**	*e*P	**P**	**15 52 54.8**	**+0.3**
CHMT	**Chamberlain Mo**	**79.77**	**329**	*e*P	**P**	**15 52 59.3**	**+0.4**
BMO	**Blue Mountains**	**80.36**	**326**	*e*P	**P**	**15 53 02.2**	**+0.2**
	26nm,1.1s,mb4.8						
BSMT	**Bassoo Peak**	**81.17**	**329**	P	**P**	**15 53 07.2**	**+1.0**
BOSA	**Boshof**	**81.42**	**117**	*e*P	**P**	**15 53 07.8**	**-0.2**
	4.0nm,0.6s,mb4.2						
BBOR	**Butler Butte**	**82.06**	**322**	P	**P**	**15 53 10.8**	**-0.1**
CROR	**Criterion Ridg**	**82.43**	**324**	P	**P**	**15 53 14.2**	**+1.5**
PRW	**Prosser**	**82.52**	**326**	P	**P**	**15 53 14.6**	**+1.4**
RSW	**Rattlesnake Hi**	**82.59**	**326**	P	**P**	**15 53 14.7**	**+1.2**
GBL	**Gable Mountain**	**82.65**	**326**	P	**P**	**15 53 14.8**	**+0.9**
FCC	**Fort Churchill**	**82.69**	**346**	*e*P	**P**	**15 53 13.4**	**-0.4**
	19nm,0.8s,mb4.9						
EBG	**Ellensburg**	**83.43**	**326**	P	**P**	**15 53 19.1**	**+1.2**
TBM	**Table Mountain**	**83.62**	**326**	P	**P**	**15 53 19.9**	**+1.2**
MAW	**Mawson**	**84.12**	**163**	P	**P**	**15 53 20.4**	**-0.4**
	15nm,0.6s,mb4.9,baz=219,slow=6.5,SNR=5.5						
EDM	**Edmonton**	**84.37**	**334**	*e*P	**P**	**15 53 21.1**	**-1.3**
RAR	**Rarotonga**	**85.84**	**249**	P	**P**	**15 53 31.3**	**+0.8**
	13nm,0.6s,mb4.9,baz=90,slow=2.0,SNR=3.1						
PGC	**Sidney**	**86.04**	**326**	*e*P	**P**	**15 53 30.9**	**+0.2**
	47nm,1.0s,mb5.2						
MATP	**Matopo**	**87.00**	**111**	P	**P**	**15 53 36.9**	**+0.9**
	7.3nm,0.5s,mb4.7,baz=255,slow=3.8,SNR=29						
MATP				pP	pP	15 54 39.3	+3.6
	5.4nm,0.8s,baz=220,slow=6.6,SNR=3.9						
MATP	**Matopo**	**87.00**	**111**	P	**P**	**15 53 36.9**	**+0.9**
MATP				pP	pP	15 54 39.3	+3.6
YKA	**Yellowknife Ar**	**91.53**	**340**	P	**P**	**15 53 56.2**	**0.0**
	16nm,0.9s,mb5.0,baz=129,slow=4.4,SNR=271						
YKA				pP	pP	15 54 57.3	+1.0
	2.0nm,0.9s,baz=128,slow=4.5,SNR=2.8						
YKA	**Yellowknife Ar**	**91.53**	**340**	P	**P**	**15 53 56.2**	**0.0**
YKA				pP	pP	15 54 57.3	+1.0
YKW3	**Yellowknife Ar**	**91.58**	**340**	*e*P	**P**	**15 53 56.2**	**-0.2**
INK	**Inuvik**	**101.30**	**340**	PKKPbc		16 10 48.9	
	1.4nm,0.9s,baz=59,slow=3.5,SNR=4.6						
ILAR	**Eielson Array**	**104.86**	**334**	PKKPbc		16 10 36.5	
	0.4nm,0.8s,baz=307,slow=3.8,SNR=4.5						
ARCES	**ARCESS Array B**	**109.99**	**22**	PKKPbc		16 10 22.1	
	1.6nm,0.8s,SNR=4.5						
STKA	**Stephens Creek**	**121.15**	**208**	PKP	PKPdf	15 59 41.0	+0.3
	2.3nm,0.7s,baz=76,slow=4.7,SNR=5.2						
NWAO	**Narrogin (SRO)**	**126.35**	**184**	PKP	PKPdf	15 59 51.2	+0.5
NWAO	**Narrogin (SRO)**	**126.35**	**184**	PKP	PKPdf	15 59 51.2	+0.5
CTA	**Charters Tower**	**128.37**	**220**	PKP	PKPdf	15 59 55.6	+0.6
ASAR	**Alice Springs**	**131.57**	**205**	PKhKP		15 59 39.5	
	0.2nm,0.5s,baz=148,slow=3.1,SNR=8.9						
ASAR				PKP	PKPdf	16 00 01.4	+0.4
	3.3nm,0.4s,baz=134,slow=1.9,SNR=52						
ASAR				SKPbc		16 03 01.7	
	3.7nm,1.0s,baz=150,slow=4.5,SNR=11						
ASAR	**Alice Springs**	**131.57**	**205**	PKP	PKPdf	16 00 01.4	+0.4
ASAR				SKPbc		16 03 01.7	
ASPA	**Alice Springs**	**131.57**	**205**	*e*P	PKPdf	16 00 01.5	+0.5
CHKZ	**Chkalovo**	**133.67**	**34**	*e*PKPdf	PKPdf	16 00 05.3	+1.3
BVAR	**Borovoye Array**	**133.85**	**35**	PKP	PKPdf	16 00 05.9	+1.6
	1.2nm,0.6s,baz=270,slow=8.6,SNR=8.0						
BVAR				SKPbc		16 03 10.6	
	0.6nm,0.7s,baz=333,slow=6.4,SNR=2.7						
BVAR				PKKPbc		16 08 54.0	
	0.5nm,0.4s,baz=218,slow=6.7,SNR=4.7						
WRA	**Warramunga Arr**	**134.71**	**208**	PKhKP		15 59 49.6	
	0.3nm,0.4s,baz=154,slow=2.4,SNR=12						
WRA				PKP	PKPdf	16 00 07.8	+1.0
	4.8nm,0.4s,baz=152,slow=1.9,SNR=71						
WRA				SKPbc		16 03 12.9	
	4.6nm,0.9s,baz=152,slow=2.8,SNR=13						
WRA	**Warramunga Arr**	**134.71**	**208**	PKP	PKPdf	16 00 07.8	+1.0
WRA				SKPbc		16 03 12.9	
WRAB	**Tennant Creek**	**134.71**	**208**	*e*PKPdf	PKPdf	16 00 08.1	+1.3
ZAL	**Zalesovo**	**140.31**	**27**	PKhKP		16 00 12.8	
ZAL				PKP	PKPdf	16 00 18.5	+2.4
	4.3nm,0.5s,baz=144,slow=0.4						
ZAL				pPKP		16 01 21.9	
	0.7nm,0.4s,baz=148,slow=1.6,SNR=1.4						
ZAL				SKPbc		16 03 30.1	
	1.0nm,0.9s,baz=169,slow=7.7,SNR=4.6						
ZAL	**Zalesovo**	**140.31**	**27**	PKP	PKPdf	16 00 12.8	-3.3
ZAL				PKP	PKPdf	16 00 18.5	+2.4
ZAL				pPKP		16 01 21.9	
ZAL				SKPbc		16 03 30.1	
AAK	**Ala-Archa**	**140.62**	**48**	*e*PKPdf	PKPdf	16 00 18.8	+1.8
NDI	**New Delhi**	**145.96**	**70**	*e*P	PKPdf	16 00 27.5	+0.9
HYB	**Hyderabad**	**146.51**	**90**	*e*P	PKPdf	16 00 31.0	+3.0
HYB	**Hyderabad**	**146.51**	**90**	*i* PKP	PKPdf	16 00 31.0	+3.0
TLY	**Talaya**	**148.29**	**12**	*e*PKPbc	PKPdf	16 00 35.6	+5.8
WMQ	**Urumqi**	**148.47**	**38**	*e*PKP	PKPdf	16 00 35.8	+5.5
WMQ				PKS	PKS	16 04 09.5	+5.9
WMQ				*e*PP	PP	16 04 14.0	+5.2
WMQ				PP	PP		
	comp=Z,212nm,4.5s						
HIA	**Hailar**	**151.34**	**352**	*e*PKPbc	PKPdf	16 00 42.2	+7.7
HIA				*e*PKPab	PKPab	16 00 51.2	-1.1
SONM	**Songino Array**	**152.49**	**11**	PKP	PKPdf	16 00 38.5	+2.2
	comp=Z,3.9nm,0.9s,baz=300,slow=1.3,SNR=30						
SONM				PKPbc	PKPdf	16 00 45.2	+8.9
	comp=Z,4.5nm,0.4s,baz=297,slow=1.4,SNR=61						
SONM				PKPab	PKPab	16 00 54.5	-2.7
	comp=Z,2.9nm,0.6s,baz=297,slow=2.8,SNR=8.7						
SONM				pPKPbc		16 01 50.6	
	comp=Z,5.7nm,0.9s,baz=310,slow=1.6,SNR=5.3						
SONM	**Songino Array**	**152.49**	**11**	PKP	PKPdf	16 00 38.5	+2.2
SONM				PKPbc	PKPdf	16 00 45.2	+8.9
SONM				PKPab	PKPab	16 00 54.5	-2.7
SONM				pPKPbc		16 01 50.6	
ULN	**Ulaanbaatar**	**152.57**	**10**	*e*PKPdf	PKPdf	16 00 38.5	+2.1
ULN				*e*PKPbc	PKPdf	16 00 45.5	+9.1
MAT	**Matsushiro**	**153.69**	**311**	*e*PKP	PKPdf	16 00 48.0	+10
MAT	**Matsushiro**	**153.69**	**311**	PKP	PKPdf	16 00 47.5	+9.2
CN2	**Changchun**	**155.23**	**340**	*e*PKP	PKPdf	16 00 42.8	+2.7
GTA	**Gaotai**	**157.99**	**30**	*e*PKP	PKPdf	16 00 44.7	+0.8
CMAR	**Chiang Mai Arr**	**165.74**	**97**	PKP	PKPdf	16 00 54.0	+1.6
	comp=Z,1.2nm,0.9s,baz=299,slow=1.8,SNR=4.8						
CMAR				PKPab	PKPab	16 01 55.0	0.0
	comp=Z,0.9nm,0.6s,baz=256,slow=6.5,SNR=6.7						

TAP ***11*** *16:09:36.6,24.62N×122.42E,h10km,ML2.8*
JMA 11 16:09:35.1±0.1**,24.85N**×**122.47E,h17**km**,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**128**	P	Pb	16 09 47.0	-0.2
YOJ				S	Sb	16 09 55.4	0.0
IRIF	**Iriomote-Funau**	**1.26**	**114**	P	Pb	16 09 57.6	-0.4
IRIF				S	Sb	16 10 14.9	+1.2
HATJ	**Hateruma jima**	**1.45**	**123**	*e*S	Sb	16 10 19.6	+0.3
JKRS	**Kuro-shima**	**1.53**	**113**	P	Pn	16 10 01.9	0.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JKRS				eS	Sn	16 10 20.8	-0.7
JIJ	**Ishigaki jima**	**1.60**	**107**	P	Pn	16 10 03.0	+0.1
JIJ				eS	Sn	16 10 23.0	-0.2

*NEIC **11** 16:25:18.0, 50.33N×128.69W, h30^{km}, mb3.9/2, ML3.5(PGC), After PGC.*
PGC 11 16:25:18.1, 50.33N×128.69W, h30^{km}±12^{km}, ML3.5/36, 1C-1D, West of Vancouver Island, British Columbia, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	**Holberg**	**0.48**	**48**	⇓P	Pb	16 25 27.6	-0.6
HOLB				S	Sb	16 25 34.4	-0.7
HOLB				Trac		16 25 35.9	
	comp=Z,6μm,0.2s						
BPBC	**Brooks Peninsu**	**0.62**	**105**	⇑P	Pb	16 25 29.5	-0.8
BPBC				S	Sb	16 25 38.0	-0.8
BPBC				Trac		16 25 39.3	
	comp=Z,6μm,0.2s						
PHC	**Port Hardy**	**0.89**	**64**	P	Pn	16 25 33.9	-0.8
PHC				S	Sb	16 25 45.1	-1.4
PHC				Trac		16 25 46.5	
	comp=Z,3μm,0.3s						
MAYB	**Maynard**	**0.98**	**85**	P	Pn	16 25 35.2	-0.7
MAYB				S	Sn	16 25 48.1	-0.7
MAYB				Trac		16 25 51.0	
	comp=Z,872nm,0.3s						
EDB	**Eliza Dome**	**1.11**	**113**	P	Pn	16 25 36.4	-1.4
EDB				S	Sn	16 25 52.4	+0.3
EDB				Trac		16 25 55.5	
	comp=Z,721nm,0.3s						
WOSB	**Woss**	**1.37**	**96**	⇑P	Pn	16 25 41.1	-0.4
WOSB				Sg	Sn	16 25 59.7	+0.9
WOSB				Trac		16 26 01.5	
	comp=Z,415nm,0.2s						
ETB	**Estevan Point**	**1.69**	**123**	P	Pn	16 25 45.0	-1.0
ETB				Pg	Pn	16 25 49.9	+3.8
ETB				Trac		16 26 14.5	
	comp=Z,94nm,0.3s						
NCRB	**Newcastle Ridg**	**1.69**	**86**	P	Pn	16 25 46.3	+0.2
NCRB				Sg	Sn	16 26 09.8	+2.9
NCRB				Trac		16 26 12.2	
	comp=Z,628nm,0.3s						
GDR	**Gold River**	**1.80**	**107**	P	Pn	16 25 46.7	-0.9
GDR				Pg	Pn	16 25 49.4	+1.7
GDR				Sg	Sn	16 26 11.9	+2.2
GDR				Trac		16 26 18.8	
	comp=Z,429nm,0.5s						
BBB	**Bella Bella**	**1.90**	**11**	Pg	Pn	16 25 50.1	+1.1
BBB				Sg	Sn	16 26 12.7	+0.6
BBB				Trac		16 26 14.8	
	comp=Z,291nm,0.2s						
CBB	**Campbell River**	**2.16**	**97**	P	Pn	16 25 52.6	-0.2
CBB				Pg	Pn	16 25 55.0	+2.2
CBB				Sg	Sn	16 26 22.8	+4.0
CBB				Trac		16 26 26.1	
	comp=Z,265nm,0.3s						
BTB	**Buttle Lake**	**2.22**	**111**	P	Pn	16 25 52.9	-0.8
BTB				Pg	Pn	16 25 57.7	+4.0
BTB				Sg	Sn	16 26 27.8	+7.4
BTB				Trac		16 26 35.4	
	comp=Z,374nm,0.4s						
ALB	**Alberni**	**2.72**	**111**	P	Pn	16 26 04.7	+4.0
ALB				Pg	Pn	16 26 10.4	+10
ALB				Sg	Sn	16 26 41.9	+8.9
ALB				Trac		16 26 44.9	
	comp=Z,47nm,0.3s						
TXB	**Texada**	**2.82**	**101**	P	Pn	16 26 01.5	-0.7
TXB				Pg	Pn	16 26 06.0	+3.9
TXB				Sg	Sn	16 26 44.2	+8.7
TXB				Trac		16 26 45.9	
	comp=Z,329nm,0.7s						
MGB	**Mount Grey**	**2.92**	**115**	P	Pn	16 26 04.5	+0.9
MGB				Pg	Pn	16 26 11.6	+8.0
MGB				Trac		16 26 59.5	
	comp=Z,57nm,0.4s						
BNB	**Barry Inlet**	**2.96**	**321**	P	Pn	16 26 04.7	+0.6
BNB				Sg	Sn	16 26 43.0	+4.1
BNB				Trac		16 26 47.2	
	comp=Z,48nm,0.5s						
SHB	**Sechelt**	**3.20**	**101**	P	Pn	16 26 07.1	-0.5
SHB				Pg	Pn	16 26 14.0	+6.5
SHB				Sg	Sn	16 26 53.4	+8.4
SHB				Trac		16 27 00.2	
	comp=Z,184nm,0.3s						
NLLB	**Nanaimo Lost L**	**3.24**	**108**	Pg	Pn	16 26 14.6	+6.4
NLLB				Sg	Sn	16 26 56.2	+10
NLLB				Trac		16 27 01.7	
	comp=Z,90nm,0.5s						
PFB	**Port Renfrew**	**3.28**	**121**	P	Pn	16 26 08.1	-0.7
PFB				Pg	Pn	16 26 17.5	+8.7
PFB				Sg	Sn	16 26 60.0	+13
PFB				Trac		16 27 06.7	
	comp=Z,20nm,0.4s						
BNAB	**Bonilla**	**3.39**	**340**	P	Pn	16 26 10.4	0.0
BNAB				S	Sn	16 26 50.0	-0.1
BNAB				Trac		16 26 53.7	
	comp=Z,12nm,0.3s						
WPB	**Watts Point**	**3.60**	**99**	Sg	Sn	16 27 06.8	+11
WPB				Trac		16 27 10.7	
	comp=Z,47nm,0.5s						
BIB	**Bowen Island**	**3.60**	**103**	P	Pn	16 26 12.5	-0.8
BIB				Sg	Sn	16 27 07.9	+13
BIB				Trac		16 27 11.4	
	comp=Z,48nm,0.4s						
LZB	**Mount Lazard**	**3.61**	**116**	P	Pn	16 26 14.3	+0.9
LZB				Pg	Pn	16 26 21.5	+8.1
LZB				Trac		16 27 27.4	
	comp=Z,20nm,0.6s						
GOBB	**Galiano Island**	**3.64**	**110**	P	Pn	16 26 15.2	+1.4
GOBB				Sg	Sn	16 27 11.4	+15
GOBB				Trac		16 27 23.4	
	comp=Z,79nm,0.7s						
WSLR	**Whistler**	**3.71**	**91**	P	Pn	16 26 15.0	+0.1
WSLR				Pg	Pn	16 26 19.8	+4.9
WSLR				Sg	Sn	16 27 08.5	+10
WSLR				Trac		16 27 14.7	
	comp=Z,44nm,0.5s						
VIB	**Van Inlet**	**3.78**	**322**	P	Pn	16 26 16.3	+0.4
VIB				Sg	Sn	16 27 04.2	+4.3
VIB				Trac		16 27 06.5	
	comp=Z,43nm,0.5s						
PGC	**Sidney**	**3.81**	**114**	eP	Pn	16 26 14.3	-1.9
PGC	**Sidney**	**3.81**	**114**	P	Pn	16 26 16.5	+0.3
PGC				Pg	Pn	16 26 24.9	+8.8
PGC				Sg	Sn	16 27 11.6	+11
PGC				Trac		16 27 26.4	
	comp=Z,51nm,0.6s						
SNB	**Saturna Island**	**3.92**	**111**	P	Pn	16 26 19.1	+1.3
SNB				Pg	Pn	16 26 24.7	+6.9
SNB				Sg	Sn	16 27 15.4	+12
SNB				Trac		16 27 22.9	
	comp=Z,29nm,0.6s						
VGZ	**Gonzales**	**4.00**	**117**	Trac		16 27 27.7	
	comp=Z,22nm,0.4s						
HNB	**Haney**	**4.10**	**103**	P	Pn	16 26 21.0	+0.6
HNB				Sg	Sn	16 27 20.2	+12
HNB				Trac		16 27 24.6	
	comp=Z,37nm,0.5s						
RUBB	**Prince Rupert**	**4.12**	**347**	P	Pn	16 26 21.2	+0.5
RUBB				S	Sn	16 27 09.8	+1.4
RUBB				Trac		16 27 42.2	
	comp=Z,114nm,0.6s						
LLLB	**Lillooet**	**4.36**	**84**	P	Pn	16 26 23.6	-0.4
LLLB				Sg	Sn	16 27 28.5	+14
LLLB				Trac		16 27 40.3	
	comp=Z,41nm,0.6s						
VDB	**Vedder Mountai**	**4.47**	**104**	Sg	Sn	16 27 33.3	+16
VDB				Trac		16 27 38.6	
	comp=Z,7.1nm,0.3s						
NDB	**Naden**	**4.48**	**326**	Trac		16 27 21.9	
	comp=Z,18nm,0.4s						
CMW	**Cultus Mountai**	**4.70**	**111**	P	Pn	16 26 30.0	+1.1
HOPB	**Hope**	**4.80**	**98**	Pg	Pn	16 26 42.2	+12
HOPB				Sg	Sn	16 27 42.7	+17
HOPB				Trac		16 27 52.7	
	comp=Z,24nm,0.5s						
JCW	**Jim Creek**	**4.92**	**113**	P	Pn	16 26 32.9	+1.0
FSB	**Fort Saint Jam**	**4.94**	**31**	P	Pn	16 26 37.4	+5.1
FSB				Sg	Sn	16 27 53.6	+24
FSB				Trac		16 28 09.6	
	comp=Z,52nm,0.9s						
FMW	**Mount Fremont**	**5.76**	**123**	P	Pn	16 26 44.6	+0.7
LON	**Longmire**	**5.80**	**125**	P	Pn	16 26 45.3	+0.9
PNT	**Penticton**	**5.96**	**96**	Pg	Pn	16 27 03.5	+17
PNT				Sg	Sn	16 28 19.4	+25
PNT				Trac		16 28 25.7	
	comp=Z,30nm,0.8s						
TBM	**Table Mountain**	**6.21**	**117**	P	Pn	16 26 51.4	+1.2
WTV	**Waterville**	**6.32**	**111**	P	Pn	16 26 51.8	+0.1
DOWB	**Downie Slide**	**6.55**	**76**	Pg	Pn	16 27 15.7	+21
DOWB				Sg	Sn	16 28 41.2	+32
GT2	**Goat Mountain**	**6.74**	**138**	P	Pn	16 26 59.1	+1.4
SLEB	**Sale Mountain**	**6.76**	**79**	Trac		16 28 57.0	
	comp=Z,47nm,1.4s						
SLEB	**Sale Mountain**	**6.76**	**79**	Sg	Sn	16 28 48.1	+33
VLL	**Laurance Lake**	**6.77**	**133**	P	Pn	16 26 59.7	+1.6
TDH	**Tom, Dick, Har**	**6.85**	**135**	P	Pn	16 27 01.0	+1.8
BMBC	**Bull Mountain**	**6.95**	**32**	P	Pn	16 27 02.2	+1.5
BMBC				S	Sn	16 28 20.1	+0.6
BMBC				Sg	Sn	16 28 55.9	+36
BMBC				Trac		16 29 05.1	
	comp=Z,47nm,0.9s						
VFP	**Flag Point**	**6.98**	**133**	P	Pn	16 27 02.5	+1.5
BROR	**Big Rock Looko**	**7.40**	**143**	P	Pn	16 27 08.6	+1.7
FRIS	**Frissel Point**	**7.58**	**141**	P	Pn	16 27 11.5	+2.1
IRO	**Indian Ridge**	**7.69**	**143**	P	Pn	16 27 12.9	+2.0
YKW3	**Yellowknife Ar**	**14.48**	**27**	P	P	16 28 41.1	-1.4
YKW3				Sg		16 32 49.4	
YKW3				Trac		16 33 03.9	
	comp=Z,1.0nm,0.6s						
MSU	**Marysvale**	**16.65**	**129**	P	P	16 29 12.3	+1.6
FFC	**Flin Flon**	**16.79**	**65**	P	P	16 29 11.2	-1.2
	5.0nm,0.9s						
PV10	**Paradox Valley**	**18.38**	**123**	eP	P	16 29 33.0	+0.7
SDCO	**Great Sand Dun**	**20.78**	**118**	eP	P	16 29 58.7	-0.3
	15nm,1.9s						

*NEIC **11** 16:39:33.4±0.6, 24.55N×94.61E, mb3.7/2, Error ellipse: s-maj=35.6km s-min=7.7km az=59.0*
*IDC **11** 16:39:33.5±6.7, 24.49N×94.42E, h91^{km}±42^{km}, mb3.3/3, mb1 3.5/4, mb1mx3.3/18, mbtmp3.6/4, Error ellipse: s-maj=116.6km s-min=26.8km az=83.0*
ISC 11 16:39:32.1±1.4, **24.5N**±0.2×**94.6E**±0.3, **h88**^{km}±18^{km}, **n8**, σ**0ˢ61**/9, **mb3.7**/5, **Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.02**	**330**	ePn	**P**	**16 40 59.5**	**-0.7**
	11nm,0.4s						
LSA				eSn	**S**	**16 41 59.6**	**-8.9**
CM31	**Chiang Mai Arr**	**7.25**	**145**	ePn	**P**	**16 41 17.0**	**-0.2**
	1.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**7.25**	**145**	P	**P**	**16 41 17.9**	**+0.7**
	0.3nm,0.3s,baz=319,slow=13,SNR=14						
CMAR				S	S	16 43 13.9	+35
	0.2nm,0.3s,baz=307,slow=21,SNR=4.4						
AAK	**Ala-Archa**	**24.54**	**322**	eP	**P**	**16 44 45.9**	**+1.1**
	1.9nm,0.9s,mb3.5						
SONM	**Songino Array**	**25.10**	**19**	P	**P**	**16 44 50.4**	**+0.4**
	0.3nm,0.6s,mb2.9,baz=209,slow=9.5,SNR=4.0						
CHKZ	**Chkalovo**	**34.24**	**335**	eP	**P**	**16 46 11.0**	**-0.3**
	0.6nm,0.3s,mb3.9						
WRA	**Warramunga Arr**	**58.72**	**135**	P	**P**	**16 49 22.8**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=322,slow=7.4,SNR=26						
WRA				pP	pP	16 49 42.8	-2.7
	0.6nm,0.8s,baz=323,slow=7.4,SNR=2.7						
ASAR	**Alice Springs**	**61.20**	**138**	P	**P**	**16 49 39.7**	**-0.5**
	0.7nm,0.5s,mb4.0,baz=320,slow=6.8,SNR=37						
ASAR				pP	pP	16 50 00.7	-1.9
	0.8nm,0.7s,baz=323,slow=7.3,SNR=4.6						

*IDC **11** 16:51:16.5±1.1, 11.34S×162.84E, mb4.1/6, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, ML2.9/1, Error ellipse: s-maj=37.2km s-min=24.8km az=153.0*
*NEIC **11** 16:51:18.1±0.9, 11.39S×162.92E, h10^{km}, Error ellipse: s-maj=22.9km s-min=16.4km az=190.0*
ISC 11 16:51:19.8±0.9, **11.4S**±0.1×**162.9E**±0.1, **h33**^{km}, **n9**, σ**1ˢ06**/10, **mb3.9**/6, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.49**	**304**	ePn	**Pn**	**16 52 12.3**	**-0.9**
HNR				eSn	**Sn**	**16 53 01.2**	**+7.4**
PMG	**Port Moresby**	**15.58**	**276**	Pn	**P**	**16 55 00.3**	**+1.6**
	0.2nm,0.3s,baz=30,slow=4.8,SNR=3.4						
STKA	**Stephens Creek**	**28.26**	**221**	P	**P**	**16 57 12.8**	**+0.6**
	2.0nm,0.9s,mb3.8,baz=56,slow=11,SNR=4.4						
STKA	**Stephens Creek**	**28.26**	**221**	P	**P**	**16 57 12.8**	**+0.6**
WRA	**Warramunga Arr**	**28.70**	**249**	P	**P**	**16 57 15.5**	**-0.8**
	0.3nm,0.4s,mb3.4,baz=79,slow=8.9,SNR=6.0						
ASAR	**Alice Springs**	**30.10**	**242**	P	**P**	**16 57 27.4**	**-1.3**
	0.9nm,0.6s,mb3.7,baz=62,slow=10,SNR=15						
RAR	**Rarotonga**	**37.07**	**110**	P	**P**	**16 58 29.1**	**+0.3**
	9.2nm,0.4s,mb5.0,baz=343,slow=22,SNR=3.7						
SONM	**Songino Array**	**77.33**	**325**	P	**P**	**17 03 14.3**	**+1.4**
	0.7nm,1.0s,mb3.6,baz=149,slow=7.2,SNR=3.6						
SONM				pP	pP	17 03 27.0	+3.8
	0.7nm,0.7s,baz=160,slow=4.8,SNR=3.6						
ILAR	**Eielson Array**	**84.79**	**19**	P	**P**	**17 03 50.9**	**-0.9**
	0.9nm,1.1s,mb3.8,baz=257,slow=5.5,SNR=4.3						

*DJA **11** 17:01:06.7±1.8, 1.99N×126.08E, h2^{km}, mb5.6/5, Error ellipse: s-maj=52.5km s-min=24.1km az=9.0*
*BJI **11** 17:01:07.3, 0.86N×126.23E, h24^{km}, mB5.2, mb5.0, Ms4.5, Msz4.2*
*IDC **11** 17:01:08.1±0.4, 1.12N×126.25E, mb4.8/20, mb1 4.8/20, mb1mx4.8/21, mbtmp4.8/20, MS4.1/9, Ms1 4.1/9, ms1mx3.8/24, Error ellipse: s-maj=22.5km s-min=11.8km az=72.0*
*NEIC **11** 17:01:09.3±0.2, 1.09N×126.10E, h10^{km}, mb5.1/35, Error ellipse: s-maj=8.7km s-min=4.6km az=69.0*
NEIC Felt [III] at Bitung and Manado, Indonesia.
*HRVD **11** 17:01:09.3±0.6, 1.00N×126.37E, h12^{km}, MW5.1/38, Centroid moment Tensor Solution. LP body waves: s22,c28; Mantle waves: s38,c47; Half duration: 1ˢ0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.21±.22; $M_{\theta\theta}$0.19±.13; $M_{\phi\phi}$-1.40±.16; $M_{r\theta}$-3.71±.43; $M_{\theta\phi}$-0.86±.12; $M_{\phi r}$-4.36±.41; Best double couple: $M_0$5.928×10^{16} NP1:ϕ_s358°, δ9°, λ48°. NP2:ϕ_s220°, δ83°, λ96°. Principal axes: T 5.736, Plg51°, Azm137°; N .388, Plg6°, Azm40°; P -6.12, Plg38°, Azm305°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **11** 17:01:10.8±1.2, 1.29N×126.44E, h33^{km}, mb5.2/13 Error ellipse: s-maj=39.9km s-min=11.8km az=110.7*
ISC 11 17:01:07.2±1.4, **1.17N**±0.03×**126.28E**±0.06, **h7**^{km}±8^{km}, **h27**^{km}±3.2^{km}**:pP-P**, **n148**, σ**1ˢ07**/150, **mb5.0**/65, **MS4.1**/19, **13C-2D**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNI	**Manado**	**1.46**	**281**	ePn	**Pn**	**17 01 30.0**	**-4.1**
MNI				eSn	**Sn**	**17 01 47.5**	**-6.1**
BUNI	**Buntu Taipa**	**7.64**	**231**	⇑iP	**Pn**	**17 03 02.5**	**+0.9**
	412nm,0.3s						
TANI	**Tanete Lipujan**	**8.27**	**236**	⇑iP	**P**	**17 03 14.2**	**+3.8**
	142nm,0.5s						
NINI	**Niniconang**	**8.56**	**230**	⇑iP	**P**	**17 03 19.4**	**+5.0**
	430nm,0.4s						
TSM	**Tawau**	**8.95**	**290**	P	**P**	**17 03 21.3**	**+1.5**
KKM	**Kota Kinabalu**	**11.15**	**296**	ePn	**P**	**17 03 53.7**	**+3.5**
KKM	**Kota Kinabalu**	**11.15**	**296**	P	**P**	**17 03 52.6**	**+2.5**
KEDI	**Kedomdong**	**13.95**	**226**	⇑iP	**P**	**17 04 35.2**	**+7.4**
	112nm,0.6s						
RATI	**Rata**	**14.53**	**227**	⇓iP	**P**	**17 04 41.2**	**+5.8**
KAKA	**Kakadu**	**15.08**	**156**	eP	**P**	**17 04 41.1**	**-1.5**
	619nm,1.5s						
SRDI	**Scrawed**	**15.43**	**231**	⇑iP	**P**	**17 04 55.6**	**+8.4**
	108nm,1.0s						
KSM	**Kuching**	**15.97**	**271**	eP	**P**	**17 04 58.9**	**+4.7**
FITZ	**Fitzroy Crossi**	**19.16**	**182**	eP	**P**	**17 05 32.5**	**-1.3**
	24nm,0.6s						
WRAB	**Tennant Creek**	**22.41**	**160**	P	**P**	**17 06 07.0**	**-1.0**
	639nm,0.8s,mb6.1,SNR=74						
WRAB	**Tennant Creek**	**22.41**	**160**	i P	**P**	**17 06 08.1**	**+0.1**
WRAB	**Tennant Creek**	**22.41**	**160**	eP	**P**	**17 06 07.7**	**-0.2**
	191nm,1.0s,mb5.5						
WRA	**Warramunga Arr**	**22.42**	**160**	P	**P**	**17 06 07.6**	**-0.4**
	34nm,0.5s,mb5.0,baz=338,slow=11,SNR=203						
WRA				PcP	PcP	17 10 02.3	-1.6
	1.3nm,0.5s,baz=328,slow=2.2,SNR=4.7						
WRA				S	**S**	**17 10 11.0**	**+1.6**
	8.1nm,1.1s,baz=343,slow=21,SNR=10						
WB2	**Warramunga Arr**	**22.42**	**160**	eP	**P**	**17 06 07.6**	**-0.4**
WB2				eS	**S**	**17 10 10.6**	**+1.1**
KGM	**Kluang**	**22.97**	**272**	P	**P**	**17 06 15.7**	**+2.1**
MBWA	**Marble Bar**	**23.09**	**196**	eP	**P**	**17 06 14.1**	**-0.7**
	31nm,0.9s,mb4.7						
PMG	**Port Moresby**	**23.30**	**117**	P	**P**	**17 06 18.2**	**+1.4**
	6.6nm,0.5s,mb4.3,baz=340,slow=3.3,SNR=8.4						
PMG	**Port Moresby**	**23.30**	**117**	eP	**P**	**17 06 18.8**	**+2.0**
	8.1nm,0.5s,mb4.4						
QIZ	**Qiongzhong**	**23.97**	**319**	P	**P**	**17 06 24.6**	**+1.3**
QIZ				LR	LR		
	comp=N,293nm,18.4s						
QIZ				LR	LR		
	comp=Z,485nm,22.9s,MS3.9						
IPM	**Ipoh**	**25.45**	**278**	P	**P**	**17 06 36.9**	**-0.6**
JOW	**Kunigami**	**25.59**	**4**	P	**P**	**17 06 40.6**	**+1.9**
	comp=Z,81nm,1.0s,mb5.2,baz=182,slow=7.0,SNR=8.9						
ASPA	**Alice Springs**	**25.77**	**164**	eP	**P**	**17 06 40.1**	**-0.4**
ASPA				eS	**S**	**17 11 11.1**	**+3.7**
ASAR	**Alice Springs**	**25.77**	**164**	P	**P**	**17 06 40.2**	**-0.3**
	comp=Z,6.6nm,0.5s,mb4.5,baz=351,slow=7.2,SNR=148						
ASAR				PcP	PcP	17 10 10.4	-0.6
	comp=Z,2.5nm,0.5s,baz=351,slow=2.3,SNR=7.2						
ASAR				S	**S**	**17 11 08.9**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=330,slow=12,SNR=2.7						
KULM	**Kulim**	**25.91**	**280**	eP	**P**	**17 06 41.0**	**-0.9**
CBIJ	**Chichi jima**	**29.96**	**29**	P	**P**	**17 07 16.6**	**-1.9**
	comp=Z,81nm,0.7s,mb5.5,baz=264,slow=18,SNR=3.2						
SSE	**Sheshan**	**30.15**	**351**	P	**P**	**17 07 19.4**	**-0.8**
SSE				AP	pP	17 07 28.2	+5.9
SSE				XP	sP	17 07 32.0	+8.7
SSE				S	**S**	**17 12 17.2**	**-0.9**
SSE				XS		17 12 31.4	
SSE				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,130nm,4.1s						
SSE				LR	LR		
	comp=Z,151nm,28.1s,MS3.5						
SSE	**Sheshan**	**30.15**	**351**	P	**P**	**17 07 19.4**	**-0.8**
	comp=Z,31nm,0.8s,mb5.1						
SSE				pP	pP	17 07 28.2	+5.9
SSE				sP	sP	17 07 32.0	+8.7
SSE				S	**S**	**17 12 17.2**	**-0.9**
SSE				sS		17 12 31.4	
SSE				SS	SS	17 14 27.3	+32
SSE				LR	LR		
	comp=Z,150nm,28.1s,MS3.5						
GYA	**Guiyang**	**31.44**	**325**	⇑iP	**P**	**17 07 31.6**	**+0.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2	**Nanjing**	**31.51**	**348**	eP	**P**	**17 07 32.5**	**+0.4**
NJ2				AP	pP	17 07 42.0	+7.7
NJ2				XP	sP	17 07 46.0	+11
NJ2				PP	PP	17 08 37.4	+1.3
NJ2				S	**S**	**17 12 38.0**	**-1.4**
NJ2				XS		17 12 54.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,7.4s						
NJ2				LR	LR		
	comp=N,720nm,25.8s,MS4.4						
NJ2				LR	LR		
	comp=E,640nm,25.7s,MS4.4						
NJ2				LR	LR		
	comp=Z,510nm,19.7s						
FORT	**Forrest**	**31.81**	**177**	eP	**P**	**17 07 34.3**	**-0.5**
	comp=Z,2μm,0.6s						
CM31	**Chiang Mai Arr**	**31.85**	**304**	eP	**P**	**17 07 35.1**	**-0.1**
	comp=Z,14nm,1.1s,mb4.7						
CMAR	**Chiang Mai Arr**	**31.85**	**304**	P	**P**	**17 07 34.9**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.0,baz=134,slow=7.9,SNR=17						
CMAR				PcP	PcP	17 10 27.1	+0.9
	comp=Z,1.3nm,0.8s,baz=135,slow=2.0,SNR=8.0						
CMAR				LR	LR	17 19 51.2	
	comp=Z,134nm,19.9s,MS3.6,baz=95,slow=35						
KMI	**Kunming**	**32.92**	**318**	⇑P	**P**	**17 07 45.4**	**+0.9**
KMI				AP	pP	17 07 51.8	+5.1
KMI				S	**S**	**17 13 02.8**	**+1.3**
KMI				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.5						
KMI				AMB	AMB		
	comp=Z,99nm,4.3s						
KMI				LR	LR		
	comp=N,289nm,17.0s,MS4.2						
KMI				LR	LR		
	comp=E,323nm,14.8s,MS4.2						
KMI				LR	LR		
	comp=Z,376nm,23.1s						
KMI	**Kunming**	**32.92**	**318**	⇑P	**P**	**17 07 45.4**	**+0.9**
	comp=Z,11nm,1.6s,mb4.5						
KMI				pP	pP	17 07 51.8	+5.1
KMI				S	**S**	**17 13 02.8**	**+1.3**
KMI				LR	LR		
	comp=Z,380nm,23.1s,MS4.0						
ENH	**Enshi**	**33.05**	**333**	eP	**P**	**17 07 44.6**	**-0.9**
	comp=Z,19nm,0.8s,mb5.1						
KLBR	**Kellerberrin**	**33.57**	**193**	eP	**P**	**17 07 49.3**	**-0.8**
	comp=Z,191nm,0.5s						
NWAO	**Narrogin (SRO)**	**34.97**	**193**	P	**P**	**17 08 01.9**	**-0.3**
	comp=Z,14nm,0.5s,mb5.1,baz=22,slow=8.2,SNR=27						
NWAO	**Narrogin (SRO)**	**34.97**	**193**	eP	**P**	**17 08 01.3**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**35.93**	**157**	P	**P**	**17 08 09.9**	**-0.4**
	comp=Z,26nm,0.8s,mb5.2,baz=331,slow=7.7,SNR=56						
STKA				LR	LR	17 23 10.2	
	comp=Z,234nm,21.1s,MS3.9,baz=126,slow=37						
STKA	**Stephens Creek**	**35.93**	**157**	eP	**P**	**17 08 09.7**	**-0.5**
KS15	**Wonju Array Si**	**36.13**	**2**	eP	**P**	**17 08 13.3**	**+1.4**
CD2	**Chengdu**	**36.47**	**326**	P	**P**	**17 08 14.4**	**-0.5**
XAN	**Xi'an**	**36.52**	**335**	P	**P**	**17 08 14.1**	**-1.1**
XAN				AP	pP	17 08 25.9	+8.5
XAN				AMB	AMB		
	comp=Z,14nm,1.6s,mb4.5						
MAT	**Matsushiro**	**36.89**	**16**	eP	**P**	**17 08 18.0**	**-0.3**
MAT	**Matsushiro**	**36.89**	**16**	P	**P**	**17 08 18.3**	**0.0**
BJI	**Beijing**	**39.77**	**348**	P	**P**	**17 08 42.0**	**-0.4**
BJI				S	**S**	**17 14 45.9**	**-0.5**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=Z,152nm,28.4s,MS3.7						
BJI	**Beijing**	**39.77**	**348**	P	**P**	**17 08 42.0**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.5						
BJI				S	**S**	**17 14 45.9**	**-0.5**
BJI				LR	LR		
	comp=Z,150nm,28.4s,MS3.7						
LZH	**Lanzhou**	**40.50**	**332**	⇑iP	**P**	**17 08 49.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,65nm,1.7s,mb5.1						
LZH				AMB	AMB		
	comp=Z,243nm,4.0s						
LZH				LR	LR		
	comp=E,356nm,13.7s						
LZH				LR	LR		
	comp=Z,491nm,15.0s,MS4.5						
LZH	**Lanzhou**	**40.50**	**332**	⇑iP	**P**	**17 08 49.5**	**+1.1**
	comp=Z,65nm,1.7s,mb5.1						
LZH				pP	pP	17 09 14.4	+24
LZH				sP	sP	17 09 27.0	+35
LZH				LR	LR		
	comp=Z,490nm,15.0s,MS4.5						
SNY	**Shenyang**	**40.55**	**357**	⇑P	**P**	**17 08 49.6**	**+0.8**
SNY				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
HHC	**Hu-ho-hao-te**	**41.69**	**343**	eP	**P**	**17 09 01.6**	**+3.4**
HHC				PP	PP	17 10 43.1	+5.2
HHC				S	**S**	**17 15 14.9**	**-0.1**
HHC				SS	SS	17 18 14.7	-0.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
HHC				AMB	AMB		
	comp=Z,100nm,9.5s						
HHC				LR	LR		
	comp=N,227nm,23.8s,MS4.1						
HHC				LR	LR		
	comp=E,288nm,28.0s,MS4.1						
HHC				LR	LR		
	comp=Z,224nm,25.6s,MS3.9						
MDJ	**Mudanjiang**	**43.36**	**3**	P	**P**	**17 09 13.3**	**+1.5**

MDJ				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,132nm,3.0s						
MDJ	Mudanjiang	43.36	3	eP	P	17 09 13.0	+1.2
	comp=Z,29nm,1.0s,mb5.0						
LSA	Lhasa	43.83	314	P	P	17 09 16.4	+0.6
LSA	Lhasa	43.83	314	eP	P	17 09 16.4	+0.6
	comp=Z,18nm,0.9s,mb4.8						
GTA	Gaotai	45.08	331	eP	P	17 09 25.5	-0.2
GTA				AP	pP	17 09 31.5	+3.5
GTA				XP	sP	17 09 34.0	+5.1
GTA				PCP	PcP	17 11 08.6	+1.6
GTA				PP	PP	17 11 12.2	+0.2
GTA				SCP		17 15 00.0	
GTA				S	S	17 16 00.8	-3.6
GTA				SCS	ScS	17 19 20.8	-0.1
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
GTA				AMB	AMB		
	comp=Z,93nm,4.6s						
GTA				LR	LR		
	comp=N,149nm,21.3s,MS4.1						
GTA				LR	LR		
	comp=E,145nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=Z,229nm,18.6s,MS4.1						
ASAJ	Asahikawa	45.16	17	P	P	17 09 28.1	+1.7
	comp=Z,3.9nm,0.4s,mb4.6,baz=194,slow=31,SNR=6.0						
JIRN	Jiri	46.54	308	eP	P	17 09 36.8	-0.7
	comp=Z,27nm,0.5s,mb5.5						
PKI	Pulchoki	47.12	308	eP	P	17 09 40.6	-1.5
	comp=Z,11nm,0.3s,mb5.2						
KKN	Kakani	47.32	308	eP	P	17 09 42.3	-1.4
	comp=Z,15nm,0.4s,mb5.3						
DMN	Daman	47.38	307	eP	P	17 09 43.2	-0.9
	comp=Z,51nm,1.0s,mb5.4						
YSS	Yuzh-Sakhalins	47.82	15	eP	P	17 09 48.5	+1.2
	comp=Z,6.0nm,0.4s,mb5.0						
GKN	Gorkha	47.92	308	eP	P	17 09 47.0	-1.4
	comp=Z,44nm,0.9s,mb5.5						
KLR	Kul'dur	48.11	5	eP	P	17 09 47.0	-2.6
HIA	Hailar	48.24	354	eP	P	17 09 51.5	+0.9
	comp=Z,20nm,1.0s,mb5.1						
KOLN	Koldanda	48.65	307	eP	P	17 09 52.9	-1.1
	comp=Z,134nm,1.0s,mb5.9						
ULN	Ulaanbaatar	49.41	343	iP	P	17 10 00.1	+0.5
ULN	Ulaanbaatar	49.41	343	eP	P	17 09 59.8	+0.2
	comp=Z,11nm,0.8s,mb4.9						
SONM	Songino Array	49.58	342	P	P	17 10 00.3	-0.6
	comp=Z,9.4nm,0.9s,mb4.8,baz=158,slow=8.1,SNR=23						
HYB	Hyderabad	49.60	292	eP	P	17 10 01.0	-0.5
	comp=Z,50nm,1.0s,mb5.5						
HYB	Hyderabad	49.60	292	iP	P	17 10 01.0	-0.5
	comp=Z,50nm,1.0s,mb5.5						
ZAK	Zakamensk	52.79	342	⇑eP	P	17 10 25.0	-0.2
ZAK				e		17 11 33.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
TLY	Talaya	53.82	343	eP	P	17 10 31.6	-1.1
TLY				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TLY				MLR	MLR		
	comp=Z,114nm,23.0s,MS3.9						
WMQ	Urumqi	54.57	326	⇑iP	P	17 10 37.9	-0.5
WMQ				PP	PP	17 12 42.5	+0.1
WMQ				SCS	ScS	17 20 17.0	-7.8
WMQ				SS	SS	17 21 54.0	-4.7
WMQ				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,239nm,5.4s						
WMQ				LR	LR		
	comp=N,808nm,25.5s,MS4.9						
WMQ				LR	LR		
	comp=E,924nm,24.8s,MS4.9						
WMQ				LR	LR		
	comp=Z,660nm,22.2s,MS4.7						
MOY	Mondy	54.63	341	eP	P	17 10 38.9	+0.2
MOY				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
BOD	Bodaibo	57.32	352	eP	P	17 10 57.9	-0.1
BOD				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
KSH	Kashi	59.55	316	P	P	17 11 14.0	+0.2
KSH				eAP	pP	17 11 20.6	+4.5
KSH				eXP	sP	17 11 24.0	+7.0
KSH				AMB	AMB		
	comp=Z,330nm,4.1s						
ULHL	Ulahol	60.63	319	P	P	17 11 17.0	-4.3
	SNR=13						
YAK	Yakutsk	60.77	2	eP	P	17 11 20.8	-1.0
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,15nm,0.9s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK	Yakutsk	60.77	2	eP	P	17 11 21.9	+0.1
	comp=N,29nm,0.9s,mb5.4						
KZA	Kyzart	61.21	319	P	P	17 11 25.4	+0.3
	SNR=15						
MA2	Magadan	61.28	14	iP	P	17 11 25.4	0.0
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.0						
MA2	Magadan	61.28	14	eP	P	17 11 26.5	+1.2
	comp=Z,9.9nm,0.8s,mb5.0						
TKM2	Tokmak 2	61.38	320	P	P	17 11 25.2	-1.0
	SNR=14						
KBK	Karagaybulak	61.67	319	P	P	17 11 28.6	+0.3
	SNR=12						
UCH	Uchtor	61.76	319	P	P	17 11 28.9	0.0
	SNR=28						
AAK	Ala-Archa	61.96	319	P	P	17 11 29.7	-0.5
	SNR=13						
AAK	Ala-Archa	61.96	319	P	P	17 11 28.0	-2.2
	comp=Z,64nm,1.1s,mb5.7,SNR=15						
AAK	Ala-Archa	61.96	319	iP	P	17 11 29.0	-1.2
AAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
AAK	Ala-Archa	61.96	319	eP	P	17 11 28.5	-1.7
	comp=Z,19nm,1.3s,mb5.1						
USP	Ospenovka	62.25	320	P	P	17 11 31.3	-0.8
	SNR=21						
AML	Almayashu	62.27	318	P	P	17 11 31.9	-0.4
	SNR=37						
EKS2	Erkin-Say	62.45	319	P	P	17 11 29.1	-4.3
	SNR=9.8						
ZAL	Zalesovo	62.66	334	P	P	17 11 33.8	-0.9
	comp=Z,4.5nm,0.4s,mb5.0,baz=2.0,slow=4.6,SNR=16						
ZAL				LR	LR	17 40 20.2	
	comp=Z,105nm,19.4s,MS4.0,baz=332,slow=38						
KURK	Kurchatov	63.66	328	P	P	17 11 40.9	-0.4
	comp=Z,378nm,0.5s,SNR=56						
KURK	Kurchatov	63.66	328	iP	P	17 11 40.2	-1.1
KURK	Kurchatov	63.66	328	eP	P	17 11 39.8	-1.6
	comp=Z,34nm,0.6s,mb5.5						
NVS	Novosibirsk	63.95	334	eP	P	17 11 40.1	-3.1
NVS				eS	S	17 20 14.2	-3.5
NVS				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.0						
NVS				pmax	pmax		
	comp=N,24nm,1.5s						
NVS				smax			
	comp=N,15nm,2.1s						
CHKZ	Chkalovo	69.40	328	eP	P	17 12 16.5	-1.2
	comp=N,11nm,0.9s,mb4.8						
SOKR	Solikamsk	78.71	331	⇓iP	P	17 13 09.9	-1.7
SOKR				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
VNDA	Vanda	80.96	173	P	P	17 13 23.3	-0.1
	comp=Z,4.6nm,0.9s,mb4.4,baz=337,slow=4.8,SNR=14						
VNDA	Vanda	80.96	173	eP	P	17 13 23.0	-0.3
	comp=Z,8.3nm,1.2s,mb4.5						
MAW	Mawson	81.21	200	P	P	17 13 25.2	+0.4
	comp=Z,15nm,0.9s,mb4.9,baz=86,slow=13,SNR=3.0						
MAW				LR	LR	17 46 20.7	
	comp=Z,143nm,19.1s,MS4.3,baz=246,slow=33						
GNI	Garni	82.77	310	iP	P	17 13 34.7	+1.2
GNI				pmax	pmax		
	comp=Z,31nm,2.2s						
GNI	Garni	82.77	310	P	P	17 13 36.5	+3.0
	comp=Z,1.7nm,0.4s,mb4.4,baz=274,slow=19,SNR=4.7						
GNI	Garni	82.77	310	eP	P	17 13 34.8	+1.3
	comp=Z,17nm,1.3s,mb4.9						
ZEI	Tsey	83.61	313	eP	P	17 13 38.0	+0.2
ZEI				pmax	pmax		
	comp=Z,13nm,1.0s,mb5.0						
KIV	Kislovodsk	84.57	314	iP	P	17 13 44.4	+1.8
KIV				e		17 13 50.0	
KIV				e		17 13 58.5	
KIV				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.1						
KIV	Kislovodsk	84.57	314	eP	P	17 13 43.4	+0.8
	comp=Z,11nm,0.8s,mb5.0						
IMA	Indian Mountai	84.89	24	eP	P	17 13 45.5	+1.8
	comp=Z,32nm,1.2s,mb5.3						
BEST	Besiri	85.34	308	iP	P	17 13 47.2	+0.6
ERZM	Erzurum	85.35	310	iP	P	17 13 47.7	+1.1
SLKM	Skilak Lake	85.78	30	eP	P	17 13 49.2	+1.0
ELZG	Elazig	87.16	308	iP	P	17 13 57.2	+1.6
MALT	Malatya	87.59	308	eP	P	17 13 58.4	+0.7
	comp=Z,23nm,1.4s,mb5.2						
ILAR	Eielson Array	87.60	25	P	P	17 13 56.9	-0.1
	comp=Z,0.8nm,0.6s,mb4.1,baz=271,slow=4.3,SNR=12						
GZT	Gaziantep	88.28	307	iP	P	17 14 01.7	+0.8
MOS	Moscow	88.28	326	eP	P	17 13 51.7	-8.8
ANN	Anapa	88.36	315	eP	P	17 14 01.4	+0.2
ANN				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.7						
ASF	Jabal al Asfar	88.86	302	P	P	17 14 05.6	+1.7
	comp=Z,24nm,1.0s,mb5.5,baz=349,slow=3.8,SNR=14						
OBN	Obninsk	88.89	325	iP	P	17 14 03.4	0.0
OBN				e		17 14 14.1	
OBN				e		17 14 20.3	
OBN				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.4						
KMBO	Kilima Mbogo	89.05	269	P	P	17 14 07.2	+2.0
	comp=Z,2.0nm,0.5s,mb4.7,baz=60,slow=8.9,SNR=11						
KMBO				LR	LR	17 48 11.3	
	comp=Z,76nm,20.2s,MS4.1,baz=93,slow=32						
AVNT	Avonos	90.39	309	iP	P	17 14 10.8	0.0
JOF	Joensuu	91.24	333	ep	P	17 14 13.3	-0.9
KEV	Kevo	92.13	340	ep	P	17 14 19.2	+1.1
ARCES	ARCESS Array B	92.68	340	P	P	17 14 20.9	+0.2
	comp=Z,2.5nm,0.7s,mb4.8,baz=89,slow=5.6,SNR=18						
ARCES				LR	LR	17 58 10.7	
	comp=Z,97nm,18.1s,MS4.3,baz=15,slow=37						
INK	Inuvik	92.70	21	LR	LR	17 54 36.8	
	comp=Z,99nm,19.8s,MS4.3,baz=334,slow=35						
AKASG	Malin Array Be	93.58	321	P	P	17 14 25.8	+0.5
	comp=Z,1.6nm,0.5s,mb4.7,baz=74,slow=3.9,SNR=7.7						
KAF	Kangasniemi	93.64	332	ep	P	17 14 24.2	-1.0
	comp=Z,2.9nm,0.5s,mb5.0						
KAF	Kangasniemi	93.64	332	eP	P	17 14 24.2	-1.0
KAF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb5.0						
FINES	FINESS Array B	93.86	332	P	P	17 14 26.2	-0.1
	comp=Z,2.0nm,0.6s,mb4.8,baz=45,slow=5.4,SNR=11						
FINES				LR	LR	17 57 46.5	
	comp=Z,95nm,21.8s,MS4.2,baz=22,slow=36						
FINES	FINESS Array B	93.86	332	P	P	17 14 26.2	-0.1
FINES				LR	LR	17 57 46.5	
DLBC	Dease Lake	96.16	31	LR	LR	18 02 52.2	
	comp=Z,128nm,18.1s,MS4.4,baz=282,slow=38						
YKA	Yellowknife Ar	102.00	25	P	P	17 15 05.0	+1.9
	comp=Z,0.3nm,0.5s,baz=299,slow=4.3,SNR=5.1						
SCHQ	Schefferville	123.15	9	PKP	PKPdf	17 20 05.5	-1.9
	comp=Z,3.0nm,0.9s,baz=218,slow=7.0,SNR=5.7						
TXAR	Lajitas Array	123.50	53	PKP	PKPdf	17 20 08.8	+0.1
	comp=Z,0.3nm,0.4s,baz=333,slow=2.8,SNR=3.7						
TXAR	Lajitas Array	123.50	53	PKP	PKPdf	17 20 08.8	+0.1
DBIC	Dimbokro	130.62	280	PKP	PKPdf	17 20 22.4	-0.5
	comp=Z,1.7nm,0.6s,baz=238,slow=9.2,SNR=4.1						
PLCA	Paso Flores	137.76	161	PKP	PKPdf	17 20 36.0	+0.5
	comp=Z,0.9nm,0.6s,baz=313,slow=15,SNR=4.0						
PLCA	Paso Flores	137.76	161	PKP	PKPdf	17 20 36.0	+0.5
JTS	JuntasAbangare	146.90	69	PKPbc	PKPbc	17 20 53.8	+2.7
	comp=Z,3.3nm,0.4s,baz=104,slow=20,SNR=5.5						
JTS	JuntasAbangare	146.90	69	PKPbc	PKPbc	17 20 53.8	+2.7
LPAZ	La Paz	159.33	137	PKP	PKPdf	17 21 11.0	+1.2
	comp=Z,0.8nm,0.7s,baz=333,slow=7.2,SNR=3.9						
LPAZ				PKPab	PKPab	17 21 48.7	+1.8
	comp=Z,1.1nm,0.6s,baz=183,slow=1.8,SNR=3.8						
SDV	Santo Domingo	160.41	59	PKP	PKPdf	17 21 10.0	-1.1
	comp=Z,0.8nm,0.4s,baz=27,slow=5.2,SNR=4.5						
SDV				PKPab	PKPab	17 21 52.5	+0.8
	comp=Z,2.5nm,0.5s,baz=334,slow=3.2,SNR=5.6						

*KNET **11** 17:32:02.3±0.4, 42.28N×76.24E, h14^{km}±2^{km}, ml2.4, Error ellipse: s-maj=3.3km s-min=1.9km az=101.0*
*NNC **11** 17:32:09.2±172.0, 42.77N×76.43E, mpv2.7, Error ellipse: s-maj=1493.1km s-min=815.7km az=44.0*
ISC 11 17:32:01.9±1.2**, 42.24N**±0.07×**76.39E**±0.07**, h14**^{km}±5^{km}**, n9, σ0^{s}51**/17**, 11C-7D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	0.11	274	⇑P	Pg	17 32 05.1	-0.1
	773nm,0.2s,SNR=4434						
ULHL				⇓S	Sg	17 32 07.8	+0.4
	1µm,0.2s						
KZA	Kyzart	0.86	260	⇑P	Pb	17 32 17.8	-0.4
	44nm,0.3s,SNR=65						
KZA				⇑S	Sb	17 32 29.4	0.0
	194nm,0.3s						
TKM2	Tokmak 2	0.90	320	⇓P	Pb	17 32 17.9	-0.9
	22nm,0.1s,SNR=186						
TKM2				⇓S	Sb	17 32 29.9	-0.6
	128nm,0.1s						
KBK	Karagaybulak	1.15	292	⇑P	Pb	17 32 22.7	-0.3
	14nm,0.1s,SNR=26						
KBK				⇑S	Sb	17 32 37.9	+0.3
	215nm,0.3s						
UCH	Uchtor	1.40	270	⇑P	Pn	17 32 26.7	-0.4
	6.3nm,0.2s,SNR=26						
UCH				⇑S	Sb	17 32 45.3	+0.5
	28nm,0.3s						
CHMS	Chumysh	1.43	303	⇓P	Pn	17 32 27.0	-0.6
	6.4nm,0.1s,SNR=17						
CHMS				⇑S	Sb	17 32 45.7	-0.1
	57nm,0.2s						
AAK	Ala-Archa	1.46	286	⇓P	Pn	17 32 27.8	-0.2
	5.1nm,0.1s,SNR=29						
AAK				⇓S	Sb	17 32 46.9	+0.3
	28nm,0.2s						
USP	Ospenovka	1.73	307	⇓P	Pn	17 32 32.2	+0.3
	20nm,0.3s,SNR=50						
USP				⇑S	Sn	17 32 54.9	+0.9
	71nm,0.3s						
MK31	Makanchi Array	6.21	41	⇑Pn	Pn	17 33 36.4	+1.0
	0.5nm,0.6s,baz=221,slow=15,SNR=4.5						
MK31				⇑Lg		17 35 13.2	
	0.6nm,0.5s,baz=230,slow=30,SNR=4.4						

IDC 11 17:34:07.2±6.5**, 3.01N**×**93.27E, mb3.3**/3**, mb1 3.7**/4**, mb1mx3.5**/17**, mbtmp3.4**/4**, ML3.7**/1**, Error ellipse: s-maj=188.3km s-min=32.4km az=73.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.33	19	Pn	P	17 37 58.9	-0.8
	0.1nm,0.3s,baz=212,slow=11,SNR=16						
SONM	Songino Array	46.07	12	P	P	17 42 32.8	-1.9
	0.2nm,0.6s,baz=243,slow=3.2,SNR=2.3						
WRA	Warramunga Arr	46.32	121	P	P	17 42 34.6	-2.4
	0.5nm,0.9s,baz=301,slow=8.7,SNR=2.7						
ASAR	Alice Springs	47.62	126	P	P	17 42 45.8	-1.5
	0.3nm,0.5s,baz=297,slow=7.7,SNR=4.3						

*IDC **11** 17:39:48.3±0.5, 13.92N×145.26E, mb4.5/17, mb1 4.7/17, mb1mx4.6/23, mbtmp4.5/17, Error ellipse: s-maj=23.1km s-min=15.0km az=110.0*
*BJI **11** 17:39:53.2, 13.24N×145.97E, h120^{km}, mB5.1, mb4.8*
*NEIC **11** 17:40:02.7±0.6, 13.80N×145.02E, h120^{km}±4^{km}, mb4.7/20, Error ellipse: s-maj=8.4km s-min=6.8km az=137.0*
ISC 11 17:40:01.4±0.5**, 13.76N**±0.07×**144.95E**±0.06**, h119**^{km}±4^{km}**, n63, σ0^{s}89**/63**, mb4.6**/39**, 2D, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.19	204	ePn	P	17 40 18.6	+0.7
GUMO				eSn	S	17 40 29.4	-1.0
ANAT	Anatahan	2.66	15	⇓iP	P	17 40 44.8	+0.8
SARN	Sarigan	3.02	15	⇓eP	P	17 40 49.4	+0.6
JOW	Kunigami	20.30	312	P	P	17 44 24.4	-5.5
	26nm,0.9s,baz=95,slow=19,SNR=2.4						
KAKA	Kakadu	29.08	206	eP	P	17 45 47.5	-5.5
	30nm,1.5s,mb4.7						
WRAB	Tennant Creek	35.07	198	eP	P	17 46 44.2	-0.7
	11nm,0.6s,mb4.9						
WRA	Warramunga Arr	35.08	198	P	P	17 46 45.1	+0.1
	4.2nm,0.6s,mb4.4,baz=22,slow=9.1,SNR=40						
WRA				PcP	PcP	17 49 15.4	+0.8
	1.3nm,0.7s,baz=14,slow=3.4,SNR=6.2						
ENH	Enshi	36.56	303	eP	P	17 46 57.0	-0.4
	5.3nm,0.8s,mb4.5						
GYA	Guiyang	37.96	295	eP	P	17 47 11.8	+2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ASAR	Alice Springs	38.74	196	P	P	17 47 16.4	+0.7
	comp=Z,1.3nm,0.5s,mb4.0,baz=19,slow=12,SNR=7.8						
ASAR				PP	PP	17 48 48.8	-0.8
	comp=Z,1.1nm,0.8s,baz=14,slow=12,SNR=4.2						
ASAR				PcP	PcP	17 49 26.3	+0.7
	comp=Z,0.6nm,0.8s,baz=26,slow=3.7,SNR=4.2						
HHC	Hu-ho-hao-te	39.69	319	eP	P	17 47 23.3	-0.1
HHC				AP	pP	17 47 49.7	-0.8
HHC				XP	sP	17 48 04.0	-0.6
HHC				PP	PP	17 49 00.5	+0.5
HHC				S	S	17 53 19.8	+2.2
HHC				XS		17 54 12.1	
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,137nm,6.5s						
CMAR	Chiang Mai Arr	44.36	282	P	P	17 48 03.5	+1.8
	comp=Z,0.7nm,0.6s,mb3.6,baz=82,slow=7.3,SNR=6.8						
CMAR				PcP	PcP	17 49 45.9	+1.6
	comp=Z,6.4nm,0.9s,baz=100,slow=1.8,SNR=28						
STKA	Stephens Creek	45.49	184	P	P	17 48 10.5	-0.2
	comp=Z,4.3nm,0.4s,mb4.5,baz=0.4,slow=7.5,SNR=24						
SONM	Songino Array	46.63	325	P	P	17 48 19.7	+0.3
	comp=Z,1.9nm,0.7s,mb3.9,baz=147,slow=8.5,SNR=16						
SONM				PcP	PcP	17 49 51.2	-0.6
	comp=Z,1.0nm,0.4s,baz=154,slow=3.3,SNR=11						
GTA	Gaotai	47.12	311	eP	P	17 48 24.4	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
YAK	Yakutsk	49.43	351	eP	P	17 48 38.6	-2.2
	comp=Z,11nm,0.6s,mb5.0						
LSA	Lhasa	51.99	297	eP	P	17 49 01.4	+0.7
	comp=Z,9.3nm,0.6s,mb5.0						
JIRN	Jiri	56.21	294	eP	P	17 49 32.0	+0.4
	comp=Z,13nm,0.6s,mb5.1						
PKI	Pulchoki	56.90	294	eP	P	17 49 36.3	-0.2
	comp=Z,7.5nm,0.5s,mb5.0						
KKN	Kakani	57.02	294	eP	P	17 49 37.1	-0.2
	comp=Z,3.3nm,0.3s,mb4.9						
WMQ	Urumqi	57.07	314	P	P	17 49 37.0	-0.4
WMQ				AP	pP	17 50 06.0	-0.1
WMQ				PCP	PcP	17 50 30.0	-0.8
WMQ				PP	PP	17 51 47.0	0.0
WMQ				SCP		17 54 16.0	
WMQ				S	S	17 57 20.0	-0.9
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,93nm,3.9s						
DMN	Daman	57.17	294	eP	P	17 49 38.4	+0.1
	comp=Z,12nm,0.6s,mb5.1						
GKN	Gorkha	57.59	295	eP	P	17 49 41.3	0.0
	comp=Z,18nm,0.5s,mb5.3						
KOLN	Koldanda	58.51	294	eP	P	17 49 46.8	-0.9
	comp=Z,14nm,0.6s,mb5.2						
ZAL	Zalesovo	61.54	324	P	P	17 50 08.3	+0.3
	comp=Z,0.9nm,0.5s,mb4.1,baz=20,slow=6.8,SNR=4.6						
ZAL	Zalesovo	61.54	324	P	P	17 50 08.3	+0.3
KURK	Kurchatov	64.50	320	P	P	17 50 26.4	-1.2
	comp=Z,69nm,0.5s,mb5.7,SNR=17						
KURK	Kurchatov	64.50	320	eP	P	17 50 26.3	-1.3
	comp=Z,7.0nm,0.7s,mb4.6						
SLKM	Skilak Lake	65.80	29	eP	P	17 50 33.3	-2.5
ILAR	Eielson Array	68.38	25	P	P	17 50 48.3	-3.5
	comp=Z,3.4nm,0.6s,mb4.4,baz=250,slow=5.8,SNR=95						
CHKZ	Chkalovo	69.75	322	eP	P	17 50 59.1	-1.3
	comp=Z,3.2nm,0.6s,mb4.3						
INK	Inuvik	74.18	22	P	P	17 51 23.9	-2.4
	comp=Z,3.0nm,0.8s,mb4.1,baz=281,slow=4.1,SNR=11						
SSOR	Sweet Springs	82.25	46	P	P	17 52 11.2	+0.4
FMW	Mount Fremont	82.36	44	P	P	17 52 11.6	+0.2
FRIS	Frissel Point	82.63	46	P	P	17 52 13.3	+0.5
YKA	Yellowknife Ar	82.67	27	P	P	17 52 11.3	-1.3
	comp=Z,2.1nm,0.4s,mb4.3,baz=286,slow=5.1,SNR=33						
YBH	Yreka Blue Hor	82.70	49	P	P	17 52 14.2	+0.9
	comp=Z,7.2nm,0.7s,mb4.6,baz=242,slow=1.9,SNR=19						
TBM	Table Mountain	83.03	43	P	P	17 52 14.9	+0.2
OD2	Odessa Site #2	84.23	43	P	P	17 52 20.7	-0.1
RES	Resolute Bay	84.36	13	eP	P	17 52 20.3	-0.5
	comp=Z,1.1nm,0.5s,mb3.9						
NEW	Newport	85.05	42	P	P	17 52 25.0	+0.1
	comp=Z,11nm,0.7s,mb4.9,baz=291,slow=4.6,SNR=14						
NEW	Newport	85.05	42	eP	P	17 52 24.5	-0.4
	comp=Z,9.1nm,0.6s,mb4.9						
WVOR	Wild Horse Val	85.49	48	eP	P	17 52 27.3	+0.1
	comp=Z,5.0nm,1.1s,mb4.4						
BMO	Blue Mountains	85.81	45	eP	P	17 52 28.5	-0.2
	comp=Z,13nm,1.0s,mb4.8						
EDM	Edmonton	85.96	36	eP	P	17 52 29.1	-0.1
NVAR	Mina Array Bea	86.75	51	P	P	17 52 34.2	+0.8
	comp=Z,2.4nm,0.5s,mb4.4,baz=282,slow=4.7,SNR=22						
ARCES	ARCESS Array B	86.94	342	P	P	17 52 33.1	-0.5
	comp=Z,1.7nm,0.6s,mb4.2,baz=76,slow=7.1,SNR=9.2						
HLID	Hailey	88.17	46	eP	P	17 52 40.4	+0.3
	comp=Z,9.0nm,0.9s,mb4.8						
ELK	Elko	88.40	49	P	P	17 52 42.2	+1.0
	comp=Z,8.9nm,0.7s,mb4.9,baz=296,slow=5.2,SNR=37						
HRY	Holter Researc	88.93	42	eP	P	17 52 44.0	+0.4
QLMT	Earthquake Lak	89.81	44	eP	P	17 52 48.6	+0.8
HVU	Hansel Valley	89.86	47	eP	P	17 52 48.5	+0.3
TPAW	Teton Pass	90.58	45	eP	P	17 52 51.8	+0.4
MOOW	Moose Ponds	90.64	45	eP	P	17 52 52.3	+0.6
HWUT	Hardware Ranch	90.78	47	eP	P	17 52 52.5	+0.1
	comp=Z,3.2nm,0.6s,mb4.6						
LOHW	Long Hollow	90.78	45	eP	P	17 52 52.8	+0.4
FINES	FINESS Array B	91.04	335	P	P	17 52 51.6	-1.6
	comp=Z,1.1nm,0.4s,mb4.4,baz=65,slow=4.9,SNR=22						
JLU	Jordanelle	91.19	48	eP	P	17 52 55.0	+0.7
BW06	Boulder Array	91.79	45	eP	P	17 52 56.7	-0.3
	comp=Z,1.2nm,0.6s,mb4.3						
PDAR	Pinedale Array	91.79	45	P	P	17 52 57.0	-0.1
	comp=Z,0.9nm,0.6s,mb4.2,baz=241,slow=2.8,SNR=10						
DBIC	Dimbokro	143.80	302	PKP	PKPdf	17 59 23.0	-0.4
	comp=Z,8.5nm,0.4s,baz=37,slow=4.1,SNR=57						
DBIC	Dimbokro	143.80	302	ePKPdf	PKPdf	17 59 22.7	-0.6
LPAZ	La Paz	147.97	99	PKPbc	PKPdf	17 59 36.6	+6.2
	comp=Z,1.8nm,0.7s,baz=321,slow=2.5,SNR=8.1						

*IDC **11** 17:40:07.2±5.5, 15.92S×168.31E, mb4.4/5, mb1 4.5/5, mb1mx4.1/16, mbtmp4.5/5, MS3.4/1, Ms1 3.4/1, ms1mx2.9/20, Error ellipse: s-maj=113.0km s-min=29.8km az=39.0*
ISC 11 17:40:09.8±3.8**, 15.8S**±0.4×**168.3E**±0.4**, h33**^{km}**, n9, σ0^{s}48**/9**, mb4.3**/6**, MS3.2**/1**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	21.37	255	eP	P	17 45 03.2	+6.6
	13nm,1.2s,mb4.1						
PMG	Port Moresby	21.55	285	P	P	17 44 59.0	+0.5
	11nm,0.8s,mb4.3,baz=39,slow=4.6,SNR=6.9						
PMG				LR	LR	17 51 13.2	
	comp=Z,88nm,18.0s,MS3.2,baz=192,slow=31						
URZ	Urewera	23.69	162	P	P	17 45 19.4	0.0
	2.4nm,0.4s,mb4.0,baz=185,slow=13,SNR=3.9						
STKA	Stephens Creek	29.07	232	P	P	17 46 10.0	+0.7
	4.7nm,0.6s,mb4.4,baz=52,slow=8.3,SNR=23						
WB2	Warramunga Arr	32.51	258	eP	P	17 46 38.9	-1.0
WRA	Warramunga Arr	32.52	258	P	P	17 46 39.8	-0.3
	0.8nm,0.4s,mb4.0,baz=94,slow=8.5,SNR=48						
ASAR	Alice Springs	33.22	251	P	P	17 46 46.0	0.0
	14nm,0.5s,mb5.2,baz=76,slow=9.3,SNR=431						
ASPA	Alice Springs	33.22	251	eP	P	17 46 46.1	+0.1
FORT	Forrest	39.60	241	eP	P	17 47 40.0	+0.1
	328nm,0.6s						

KRSC 11 18:11:37.0±3.9**, 50.00N**×**156.83E, h14**^{km}±54^{km}**, ML4.1,**

Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.82**	**327**	*e*P	Pb	18 11 52.3	-0.2
SKR				*e*S	Sb	18 12 06.5	+3.3
PAU	**Pauzhetka**	**1.47**	**360**	*e*P	Pn	18 12 03.0	-0.2
PAU				*e*S	Sb	18 12 25.3	+3.3
PAU				Smax			
	180nm,0.2s						
UGLR	**Uglovaya**	**3.45**	**20**	*e*P	Pn	18 12 32.3	+0.9
UGLR				*e*S	Sn	18 13 10.4	-2.0
AVH	**Avacha**	**3.48**	**19**	*e*P	Pn	18 12 32.8	+0.9
AVH				*e*S	Sn	18 13 11.6	-1.7
KOK	**Koryaka**	**3.48**	**18**	*e*P	Pn	18 12 33.6	+1.6
KOK				*e*S	Sn	18 13 12.9	-0.5

IDC ***11*** *18:14:44.5±3.3,2.62N×126.43E,h53km±28km,mb4.0/11, mb1 4.2/11,mb1mx4.1/16,mbtmp4.2/11,MS3.5/1, Ms1 3.7/1,ms1mx2.9/20,Error ellipse: s-maj=50.5km s-min=12.2km az=70.0*

NEIC ***11*** *18:14:45.3±2.3,2.67N×126.53E,h66km±21km,mb4.6/13, Error ellipse: s-maj=22.2km s-min=6.7km az=59.0*

ISC 11 18:14:40.4±0.4,2.71N±0.07×126.5E±0.1,h33km,n32, σ0992/35,mb4.5/21,MS3.4/1,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**10.75**	**288**	*e*Pn	**P**	**18 17 17.4**	**+2.2**
KSM	**Kuching**	**16.20**	**266**	*e*P	**P**	**18 18 32.6**	**+5.3**
KAKA	**Kakadu**	**16.43**	**159**	*e*P	**P**	**18 18 29.3**	**-0.8**
	23nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.69**	**182**	*e*P	**P**	**18 19 19.8**	**-0.6**
	18nm,0.6s						
WRAB	**Tennant Creek**	**23.79**	**161**	P	**P**	**18 19 51.0**	**-0.2**
	231nm,0.6s,SNR=34						
WRAB	**Tennant Creek**	**23.79**	**161**	*e*P	**P**	**18 19 51.2**	**0.0**
	25nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**23.80**	**161**	P	**P**	**18 19 51.3**	**0.0**
	21nm,0.6s,mb4.7,baz=342,slow=10,SNR=139						
WRA				S	**S**	**18 24 03.7**	**+2.2**
	1.3nm,0.8s,baz=341,slow=15,SNR=5.5						
WB2	**Warramunga Arr**	**23.80**	**161**	⇑*i*P	**P**	**18 19 51.3**	**0.0**
WB2				*e*S	**S**	**18 24 03.7**	**+2.1**
MBWA	**Marble Bar**	**24.62**	**195**	*e*P	**P**	**18 19 58.8**	**-0.4**
	13nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**27.20**	**165**	P	**P**	**18 20 22.6**	**-0.7**
	2.7nm,0.5s,mb4.0,baz=349,slow=7.4,SNR=64						
ASAR				PcP	PcP	18 23 43.6	+0.3
	1.5nm,0.7s,baz=340,slow=2.2,SNR=6.0						
ASAR				S	**S**	**18 24 58.7**	**+0.7**
	0.6nm,0.8s,baz=343,slow=19,SNR=3.4						
ASPA	**Alice Springs**	**27.20**	**165**	*e*P	**P**	**18 20 22.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**31.18**	**302**	P	**P**	**18 20 58.5**	**-0.3**
	0.7nm,0.9s,baz=119,slow=6.9,SNR=5.4						
CMAR				LR	LR	18 33 18.9	
	comp=Z,73nm,18.6s,MS3.4,baz=200,slow=36						
ENH	**Enshi**	**31.79**	**331**	*e*P	**P**	**18 21 04.1**	**-0.1**
	2.6nm,0.6s,mb4.2						
FORT	**Forrest**	**33.33**	**178**	*e*P	**P**	**18 21 17.1**	**-0.5**
	668nm,0.8s						
STKA	**Stephens Creek**	**37.27**	**158**	P	**P**	**18 21 51.1**	**0.0**
	5.3nm,0.6s,mb4.5,baz=335,slow=10,SNR=21						
LSA	**Lhasa**	**42.92**	**312**	*e*P	**P**	**18 22 39.3**	**+1.3**
	3.9nm,0.6s,mb4.3						
JIRN	**Jiri**	**45.76**	**307**	*e*P	**P**	**18 23 00.3**	**-0.6**
	14nm,0.9s,mb4.9						
PKI	**Pulchoki**	**46.35**	**306**	*e*P	**P**	**18 23 06.0**	**+0.5**
KKN	**Kakani**	**46.55**	**307**	*e*P	**P**	**18 23 05.9**	**-1.1**
	9.2nm,0.7s,mb4.8						
DMN	**Daman**	**46.61**	**306**	*e*P	**P**	**18 23 07.1**	**-0.4**
	13nm,0.8s,mb4.9						
GKN	**Gorkha**	**47.15**	**306**	*e*P	**P**	**18 23 10.0**	**-1.8**
	14nm,0.9s,mb4.9						
KOLN	**Koldanda**	**47.90**	**306**	*e*P	**P**	**18 23 17.1**	**-0.5**
	33nm,0.8s,mb5.4						
SONM	**Songino Array**	**48.18**	**342**	P	**P**	**18 23 19.6**	**0.0**
	1.1nm,0.7s,mb4.0,baz=156,slow=8.5,SNR=8.9						
YAK	**Yakutsk**	**59.23**	**2**	*e*P	**P**	**18 24 40.2**	**-0.5**
	6.9nm,0.7s,mb4.8						
ZAL	**Zalesovo**	**61.38**	**333**	P	**P**	**18 24 56.8**	**+1.4**
	0.6nm,0.5s,mb4.0,baz=358,slow=5.5,SNR=3.9						
KURK	**Kurchatov**	**62.46**	**328**	*e*P	**P**	**18 25 01.2**	**-1.4**
	5.7nm,0.8s,mb4.8						
VNDA	**Vanda**	**82.45**	**173**	P	**P**	**18 27 01.1**	**+0.7**
	1.2nm,0.8s,mb3.9,baz=330,slow=9.2,SNR=7.1						
ILAR	**Eielson Array**	**86.13**	**25**	P	**P**	**18 27 19.8**	**+0.8**
	0.3nm,0.6s,mb3.7,baz=245,slow=5.2,SNR=6.6						
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**18 27 45.2**	**+1.6**
	3.5nm,1.1s,mb4.6,baz=90,slow=3.6,SNR=3.9						
ARCES	**ARCESS Array B**	**91.31**	**340**	P	**P**	**18 27 45.2**	**+1.6**
FINES	**FINESS Array B**	**92.60**	**332**	P	**P**	**18 27 49.1**	**-0.5**
	1.3nm,0.8s,mb4.4,baz=90,slow=5.7,SNR=6.8						
MLR	**Muntele Rosu**	**95.45**	**316**	P	**P**	**18 28 03.5**	**+0.5**
	0.9nm,0.5s,mb4.4,baz=184,slow=21,SNR=3.8						

DJA 11 18:27:16.6±1.0,9.56S×115.19E,h33km,MD4.5/2, ML4.0/1,2C-2D,Error ellipse: s-maj=24.7km s-min=8.1km az=174.0,South of Bali

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.90**	**22**	⇑*e*Pg	P	18 27 31.7	-1.1
	242nm,0.2s						
RATI	**Rata**	**0.90**	**22**	*e*P	P	18 27 32.2	-0.6
RATI				*e*Sg	S	18 27 42.6	-2.3
KEDI	**Kedomdong**	**1.41**	**41**	⇑*e*Pn	Pn	18 27 39.2	-1.1
KEDI				*e*Sn	Sn	18 27 55.8	-2.1
SRDI	**Scrawed**	**1.49**	**316**	⇓*e*Pn	Pn	18 27 40.0	-1.5
SRDI				*e*Sn	Sn	18 27 57.2	-2.8
KELI	**Kelakatan**	**1.50**	**333**	⇓*e*Pn	Pn	18 27 40.9	-0.8

NIED ***11*** *18:47:00,43.00N×144.90E,h62km,Mw5.4 Best double couple: M0 1.5×10 17 NP1:φs 17°,δ68°,λ74°. NP2:φs 236°, δ27°,λ125°.*

BJI ***11*** *18:47:35.4,43.03N×144.77E,h62km,mB5.4,mb5.0, Ms4.8,Msz4.7*

NEIC ***11*** *18:47:36.7±0.1,43.09N×144.67E,mb4.9/93,MW5.5, MW5.2(NIED),Error ellipse: s-maj=4.0km s-min=2.7km az=152.0,Moment Tensor Solution. s7 Moment tensor: Scale 10 17Nm; Mrr 1.80; Mθθ -1.82; Mφφ 0.02; Mrθ -0.23; Mθφ -0.89; Mφr 0.82; Best double couple: M0 2.2×10 17 NP1: φs 271°,δ49°,λ124°. NP2:φs 45°,δ52°,λ57°. Principal axes: T 2.2, Plg65°, Azm251°; N -.01, Plg25°, Azm67°; P -2.19, Plg2°, Azm157°;*

NEIC Felt (II) at Yuzhno-Kuril'sk, Kunashir. Recorded [4 JMA] in the Kushiro area, [3 JMA] in eastern Hokkaido, [2 JMA] in the Obihiro area and [1 JMA] in south-central Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.

HRVD ***11*** *18:47:36.7±0.2,42.94N×144.95E,h74km±1km,MW5.4/72, Centroid moment Tensor Solution. LP body waves: s61,c112;Mantle waves: s72,c166; Half duration: 1s2 Moment tensor: Scale 10 17Nm; Mrr 1.06±.03; Mθθ -0.26±.03; Mφφ -0.79±.03; Mrθ -0.04±.02; Mθφ -0.98±.02; Mφr 0.88±.02; Best double couple: M0 1.62×10 17 NP1: φs 245°,δ38°,λ136°. NP2:φs 12°,δ64°,λ60°. Principal axes: T 1.52, Plg59°, Azm239°; N .202, Plg26°, Azm26°; P -1.721, Plg14°, Azm124°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

JMA ***11*** *18:47:36.9±0.1,43.01N×144.86E,h61km±1km,M5.1 Broadband fault plane solution: P waves. NP1:φs 246°, δ36°,λ149°. NP2:φs 3°,δ72°,λ59°. Principal axes: T Plg52°, Azm236°; N Plg30°, Azm13°; P Plg21°, Azm116°;*

JMA Felt IV J1.

SKHL ***11*** *18:47:36.0±2.6,43.04N×145.07E,h92km±19km,mb6.2/4, mbh6.6/2,Ms4.9/6,msh5.8/6*

SKHL Felt (II) at Yushno-Kurilsk.

MOS ***11*** *18:47:37.0±0.8,43.16N×144.67E,h67km,mb5.1/70,Error ellipse: s-maj=7.8km s-min=4.6km az=102.5*

MOS Felt (II) at Yuzhno-Kuril'sk.

IDC ***11*** *18:47:39.5±2.3,43.09N×144.73E,h82km±19km,mb4.3/26, mb1 4.5/28,mb1mx4.5/28,mbtmp4.7/28,MS4.5/29, Ms1 4.6/29,ms1mx4.4/36,Error ellipse: s-maj=13.2km s-min=10.5km az=122.0*

CSEM ***11*** *18:47:41.1,44.59N×144.19E,h33km,mb5.5*

ISC 11 18:47:35.9±0.2,42.99N±0.02×144.79E±0.03,h65km±1km, h54km±1.3km:pP-P,n435,σ0997/438,mb4.8/132,36C-25D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAK	**Akkeshi**	**0.07**	**276**	⇑P	**P**	**18 47 46.1**	**+0.7**
JAK				*e*S	**S**	**18 47 52.6**	**+0.2**
JNK	**Nakash**	**0.60**	**355**	⇓P	**P**	**18 47 49.4**	**0.0**
JNK				*e*S	**S**	**18 47 58.6**	**-0.7**
JOB	**Onbets**	**0.71**	**263**	⇓P	**P**	**18 47 51.9**	**+1.3**
JOB				*e*S	**S**	**18 48 03.0**	**+1.4**
NEM2	**Nemuro 2**	**0.79**	**61**	P	**P**	**18 47 51.2**	**-0.5**
NEM2				*e*S	**S**	**18 48 01.2**	**-2.2**
JAR	**Ashorobuto**	**0.81**	**293**	⇓P	**P**	**18 47 53.1**	**+1.3**
JAR				*e*S	**S**	**18 48 05.1**	**+1.4**
JRA	**Rausu**	**0.98**	**14**	⇑P	**P**	**18 47 54.4**	**+0.3**
JRA				*e*S	**S**	**18 48 07.3**	**-0.3**
JCH	**Churui**	**1.11**	**251**	⇓P	**P**	**18 47 56.9**	**+1.0**
JCH				*e*S	**S**	**18 48 11.5**	**+0.7**
JTKR	**Abashiri--Toko**	**1.17**	**327**	⇓P	**P**	**18 47 57.8**	**+1.2**
JTKR				*e*S	**S**	**18 48 12.2**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**1.30**	**36**	*α i*PN	**P**	**18 47 58.0**	**-0.6**
YUK				*i* S	**S**	**18 48 14.5**	**-0.9**
YUK				pmax	pmax		
	comp=Z,35μm,1.5s						
YUK				pmax	pmax		
	comp=N,45μm,3.0s						
YUK				pmax	pmax		
	comp=E,18μm,3.0s						
YUK				pmax	pmax		
	comp=N,5μm,0.3s						
YUK				pmax	pmax		
	comp=E,5μm,0.3s						
YUK				pmax	pmax		
	comp=Z,16μm,0.3s						
YUK				smax			
	comp=N,270μm,3.8s						
YUK	**Yuzh-Kuril'sk**	**1.30**	**36**	*i* P	**P**	**18 47 58.0**	**-0.6**
YUK				*i* P		18 47 58.0	
YUK				*i* P		18 47 58.0	
YUK				AMB	AMB	18 47 59.4	
	comp=N,45μm,3.0s						
YUK				AMB	AMB	18 47 59.4	
	comp=N,18μm,3.0s						
YUK				AMB	AMB	18 47 59.4	
	comp=N,35μm,3.0s						
YUK				AMB	AMB	18 47 59.4	
	comp=N,5μm,0.2s						
YUK				AMB	AMB	18 47 59.4	
	comp=N,5μm,0.2s						
YUK				AMB	AMB	18 47 59.4	
	comp=N,16μm,0.2s						
YUK				*i* S	**S**	**18 48 14.5**	**-0.9**
YUK				A		18 48 17.0	
	comp=N,165μm,2.0s						
YUK				A		18 48 17.0	
	comp=N,270μm,3.8s						
JMP	**Maruseppu**	**1.46**	**315**	⇓P	**P**	**18 48 01.7**	**+1.1**
ERM	**Erimo**	**1.55**	**232**	Pn	**P**	**18 48 06.8**	**+4.9**
	comp=N,30μm,0.4s,SNR=74						
JFR	**Furan**	**1.62**	**277**	⇓P	**P**	**18 48 04.0**	**+1.2**
JNBK	**Urakawa-nobuka**	**1.66**	**245**	⇓P	**P**	**18 48 04.0**	**+0.6**
JKK2	**Kamakawa 2**	**1.73**	**301**	⇓P	**P**	**18 48 05.8**	**+1.5**
JBT2	**Biratori 2**	**1.79**	**264**	⇓P	**P**	**18 48 05.9**	**+0.7**
JAB	**Ashibetsu**	**1.94**	**286**	⇓P	**P**	**18 48 09.5**	**+2.2**
ASAJ	**Asahikawa**	**1.95**	**306**	P	**P**	**18 48 09.2**	**+1.9**
	comp=N,652nm,0.3s,baz=142,slow=7.5,SNR=3355						
ASAJ				S	**S**	**18 48 37.7**	**+7.0**
	comp=N,302nm,0.3s,baz=270,slow=31,SNR=4.5						
ASAJ	**Asahikawa**	**1.95**	**306**	⇓P	**P**	**18 48 09.2**	**+1.8**
JHR	**Hokuryu**	**2.36**	**290**	⇓P	**P**	**18 48 15.1**	**+1.9**
JEW	**Eniwo**	**2.46**	**268**	⇓P	**P**	**18 48 16.3**	**+1.7**
JNB	**Noboribetsu**	**2.81**	**261**	⇓P	**P**	**18 48 20.4**	**+0.8**
KUR	**Kuril'sk**	**3.15**	**44**	⇓*i*PN	**P**	**18 48 22.0**	**-2.4**
KUR				*i* S	**S**	**18 48 59.0**	**-2.0**
KUR				pmax	pmax		
	comp=N,1μm,0.8s						
KUR				pmax	pmax		
	comp=E,860nm,0.8s						
KUR				pmax	pmax		
	comp=Z,3μm,0.8s						
KUR				pmax	pmax		
	comp=N,18μm,2.0s						
KUR				pmax	pmax		
	comp=E,10μm,2.0s						
KUR				pmax	pmax		
	comp=Z,22μm,2.0s						
KUR				smax			
	comp=N,6μm,0.6s						
KUR				smax			
	comp=E,3μm,0.6s						
KUR				smax			
	comp=N,55μm,2.0s						
KUR				smax			
	comp=E,42μm,2.0s						
KUR	**Kuril'sk**	**3.15**	**44**	*i* P	**P**	**18 48 22.0**	**-2.4**
KUR				AMB	AMB	18 48 31.0	
	comp=E,20μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,15μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,25μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,18μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,10μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,22μm,2.0s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,1μm,0.8s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,860nm,0.8s						
KUR				AMB	AMB	18 48 31.0	
	comp=E,3μm,0.8s						
KUR				*i* S	**S**	**18 48 59.0**	**-2.0**
KUR				A		18 49 12.0	
	comp=E,20μm,2.0s						
KUR				A		18 49 12.0	
	comp=E,15μm,2.0s						
KUR				A		18 49 12.0	
	comp=E,55μm,2.0s						
KUR				A		18 49 12.0	
	comp=E,42μm,2.0s						
KUR				A		18 49 12.0	
	comp=E,6μm,0.6s						
KUR				A		18 49 12.0	
	comp=E,3μm,0.6s						
JOT	**Ohata**	**3.21**	**241**	⇑P	**P**	**18 48 26.2**	**+1.0**
JANG	**Nango**	**3.58**	**224**	P	**P**	**18 48 29.9**	**-0.5**
MIYJ	**Miyakonagasawa**	**4.08**	**214**	P	**P**	**18 48 36.3**	**-1.0**
YSS	**Yuzh-Sakhalins**	**4.22**	**341**	*be*PN	**P**	**18 48 39.0**	**-0.3**
YSS				*e*S	**S**	**18 49 22.0**	**-5.7**
YSS				pmax	pmax		
	comp=N,150nm,0.3s						
YSS				pmax	pmax		
	comp=E,80nm,0.3s						
YSS				pmax	pmax		
	comp=Z,220nm,0.3s						
YSS				smax			
	comp=N,170nm,0.8s						
YSS				MLR	MLR		
	comp=Z,8μm,15.0s						
YSS				MLR	MLR		
	comp=N,9μm,13.0s						
YSS	**Yuzh-Sakhalins**	**4.22**	**341**	⇓*e*P	**P**	**18 48 39.0**	**-0.3**
YSS				⇓*e*P		18 48 39.0	
YSS				AMB	AMB	18 48 40.8	
	comp=N,150nm,0.3s						
YSS				AMB	AMB	18 48 40.8	
	comp=N,80nm,0.3s						
YSS				AMB	AMB	18 48 40.8	
	comp=N,220nm,0.3s						
YSS				*e*S	**S**	**18 49 22.0**	**-5.7**
YSS				A		18 49 23.3	
	comp=N,170nm,0.8s						
YSS				AMS	AMS	18 50 48.0	
	comp=N,8μm,13.0s						
YSS				AMS	AMS	18 50 48.0	
	comp=N,11μm,13.0s						
YSS				AMS	AMS	18 50 48.0	
	comp=N,9μm,14.0s						
YSS				AMS	AMS	18 50 48.0	
	comp=N,8μm,14.0s						
JIW	**Iwasaki**	**4.30**	**238**	P	**P**	**18 48 40.5**	**0.0**
OFUJ	**Ofunato**	**4.56**	**212**	P	**P**	**18 48 42.9**	**-1.2**
JMK	**Ichinoseki**	**4.85**	**215**	P	**P**	**18 48 46.9**	**-1.3**
JIO	**Ouri**	**5.23**	**211**	P	**P**	**18 48 51.5**	**-1.8**
TEY	**Ternei**	**6.25**	**292**	*e*P	**P**	**18 49 02.0**	**-5.5**
TEY				AMB	AMB	18 49 03.5	
	comp=N,40nm,1.0s						
UGL	**Uglegorsk**	**6.38**	**344**	*e*PN	**P**	**18 49 06.3**	**-3.0**
UGL				S	**S**	**18 50 24.0**	**+2.5**
UGL				pmax	pmax		
	comp=Z,44nm,0.6s						
UGL				smax			
	comp=E,1μm,4.0s						
UGL				smax			
	comp=N,2μm,5.0s						
UGL				smax			
	comp=Z,2μm,6.0s						
UGL				MLR	MLR		
	comp=N,8μm,18.0s						
UGL				MLR	MLR		
	comp=E,8μm,18.0s						
UGL				MLR	MLR		
	comp=Z,8μm,18.0s						
UGL	**Uglegorsk**	**6.38**	**344**	*e*P	**P**	**18 49 06.3**	**-3.0**
UGL				AMB	AMB	18 49 11.7	
	comp=Z,44nm,0.6s						
UGL				*e*S	**S**	**18 50 24.0**	**+2.5**
UGL				A		18 50 30.0	
	comp=Z,2μm,5.0s						
UGL				A		18 50 30.0	
	comp=Z,1μm,5.0s						
UGL				A		18 50 30.0	
	comp=Z,2μm,5.0s						
UGL				AMS	AMS	18 51 48.0	
	comp=Z,8μm,18.0s						
JSZ	**Suzu**	**7.93**	**228**	P	**P**	**18 49 31.0**	**+0.2**
TYV	**Tymovskoe**	**8.01**	**350**	*e*P	**P**	**18 49 29.0**	**-2.9**
TYV				AMB	AMB	18 49 41.6	
	comp=Z,45nm,0.7s						
TYV				AMB	AMB	18 49 49.0	
	comp=Z,600nm,6.0s						
TYV				*e*S	**S**	**18 50 57.0**	**-4.9**
TYV				A		18 51 37.0	
	comp=Z,2μm,6.0s						
TYV				A		18 51 37.0	
	comp=Z,1μm,6.0s						
TYV				AMS	AMS	18 52 37.0	
	comp=Z,4μm,22.0s						
TYV				AMS	AMS	18 53 47.0	
	comp=Z,3μm,12.0s						
TYV				AMS	AMS	18 53 47.0	
	comp=Z,3μm,12.0s						
MAJO	**Matsushiro**	**8.19**	**220**	*e*PN	**P**	**18 49 33.5**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,74nm,0.5s						
MAJO	**Matsushiro**	**8.19**	**220**	*e*Pn	**P**	**18 49 33.5**	**-0.9**
	comp=Z,74nm,0.5s						
MAT	**Matsushiro**	**8.19**	**220**	*e*PN	**P**	**18 49 33.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,177nm,1.3s						
MAT	**Matsushiro**	**8.19**	**220**	*e*P	**P**	**18 49 33.0**	**-1.4**
	comp=Z,177nm,1.3s						
MAT				S	**S**	**18 51 05.0**	**-1.3**
MAT	**Matsushiro**	**8.19**	**220**	P	**P**	**18 49 33.4**	**-1.0**
MAT				*e*S	**S**	**18 51 05.2**	**-1.1**
MAT	**Matsushiro**	**8.19**	**220**	P	**P**	**18 49 33.3**	**-1.1**
JNG	**Nsakai**	**8.35**	**220**	P	**P**	**18 49 35.8**	**-0.8**
VLA	**Vladivostok**	**9.44**	**275**	*e*PN	**P**	**18 50 00.0**	**+8.5**
VLA				*i*		18 51 38.0	
VLA				MLR	MLR		
	comp=E,5μm,17.0s						
VLA				MLR	MLR		
	comp=Z,6μm,17.0s						
VLA				MLR	MLR		
	comp=N,2μm,12.0s						
NKL	**Nikolayevsk**	**10.53**	**346**	*i* P	**P**	**18 50 03.0**	**-3.2**
NKL				AMB	AMB	18 50 03.8	
	comp=N,17nm,0.5s						
NKL				AMB	AMB	18 50 03.8	
	comp=N,9.0nm,0.5s						
NKL				AMB	AMB	18 50 03.8	
	comp=N,29nm,0.5s						
NKL				A		18 52 16.0	
	comp=N,800nm,7.0s						
NKL				AMS	AMS	18 54 23.0	
	comp=N,2μm,18.0s						
NKL				AMS	AMS	18 54 23.0	
	comp=N,3μm,18.0s						
JHJ	**Hachijo jima 2**	**10.61**	**203**	P	**P**	**18 50 05.7**	**-1.7**
	comp=N,25nm,0.3s,baz=58,slow=22,SNR=4.9						
JHJ				S	**S**	**18 51 54.9**	**-11**
	comp=N,83nm,0.3s,baz=50,slow=22,SNR=7.0						
JHJ				LR	LR	18 54 31.5	
	comp=N,2μm,21.4s,baz=131,slow=39						
OKH	**Okha**	**10.64**	**354**	*e*P	**P**	**18 50 06.2**	**-1.5**
OKH				AMS	AMS	18 55 12.0	
	comp=N,5μm,14.0s						
OKH				AMS	AMS	18 55 12.0	
	comp=N,4μm,14.0s						
SKR	**Severo-Kuril's**	**10.92**	**41**	*e*PN	**P**	**18 50 08.0**	**-3.5**
SKR				pmax	pmax		
	comp=E,130nm,0.9s						
SKR				pmax	pmax		
	comp=Z,160nm,0.9s						
SKR				pmax	pmax		
	comp=N,70nm,0.4s						
SKR				pmax	pmax		
	comp=N,2μm,4.0s						
SKR				pmax	pmax		
	comp=E,2μm,4.0s						
SKR				pmax	pmax		
	comp=Z,2μm,4.0s						
SKR				MLR	MLR		
	comp=Z,5μm,14.0s						
SKR				MLR	MLR		
	comp=N,3μm,12.0s						
SKR				MLR	MLR		
	comp=E,4μm,12.0s						
KLR	**Kul'dur**	**10.99**	**309**	*e*PN	**P**	**18 50 11.0**	**-1.4**
KLR				*e*		18 52 15.0	
KLR				MLR	MLR		
	comp=Z,5μm,12.0s						
KLR	**Kul'dur**	**10.99**	**309**	*e*P	**P**	**18 50 11.0**	**-1.4**
KLR				*e*P		18 50 11.5	
MDJ	**Mudanjiang**	**11.11**	**284**	*e*Pn	**P**	**18 50 09.9**	**-4.1**
	comp=Z,11nm,0.8s						
EKMR	**Ekimchan**	**12.81**	**326**	*e*P	**P**	**18 50 34.8**	**-1.9**
EKMR				AMB	AMB	18 50 39.0	
	comp=Z,130nm,1.5s						
PET	**Petropavlovsk**	**13.65**	**38**	*e*P	**P**	**18 50 54.6**	**+7.0**
PET				*e*S	**S**	**18 53 25.0**	**+7.0**
PET				pmax	pmax		
	comp=Z,26nm,1.2s						
PET				pmax	pmax		
	comp=Z,300nm,11.4s						
PET				smax			
	comp=N,400nm,11.9s						
PET				smax			
	comp=E,500nm,12.3s						
PET				MLR	MLR		
	comp=Z,3μm,16.0s						
KS15	**Wonju Array Si**	**14.05**	**252**	*e*Pn	**P**	**18 50 59.7**	**+6.7**
CN2	**Changchun**	**14.09**	**280**	*e*P	**P**	**18 50 51.7**	**-1.7**
CN2				*e*XP		18 51 11.4	
CN2				*e*S	**S**	**18 53 29.9**	**+1.3**
CN2				PCP	PcP	18 56 14.4	+4.4
CN2				AMB	AMB		
	comp=Z,30nm,1.3s						
CN2				LR	LR		
	comp=N,4μm,15.0s						
CN2				LR	LR		
	comp=E,3μm,15.0s						
CN2				LR	LR		
	comp=Z,4μm,18.0s						
BMKR	**Bomnak**	**15.69**	**324**	*e*P	**P**	**18 51 10.9**	**-3.2**
BMKR				AMB	AMB	18 51 27.7	
	comp=Z,64nm,1.0s						
SNY	**Shenyang**	**15.71**	**273**	⇑P	**P**	**18 51 14.3**	**-0.1**
SNY				AP		18 51 23.3	
SNY				XP		18 51 29.8	
SNY				S	**S**	**18 54 12.3**	**+5.8**
SNY				AMB	AMB		
	comp=Z,460nm,10.8s						
SNY				LR	LR		
	comp=N,1μm,13.8s						
SNY				LR	LR		
	comp=E,2μm,17.4s						
SNY				LR	LR		
	comp=Z,3μm,35.8s						

ZEA Zeya 15.81 319 *e*P **P 18 51 14.0 -1.6**
ZEA AMB AMB 18 51 20.2
comp=Z,37nm,1.3s
ZEA AMB AMB 18 51 20.2
comp=Z,29nm,1.3s
ZEA AMB AMB 18 51 20.2
comp=Z,55nm,1.3s
ZEA AMB AMB 18 51 33.0
comp=Z,700nm,5.0s
ZEA AMB AMB 18 51 33.0
comp=Z,800nm,5.0s
ZEA AMB AMB 18 51 33.0
comp=Z,1μm,5.0s
ZEA A 18 54 20.0
comp=Z,900nm,10.0s
ZEA A 18 54 20.0
comp=Z,500nm,10.0s
ZEA AMS AMS 18 58 03.0
comp=Z,3μm,15.0s
ZEA AMS AMS 18 58 03.0
comp=Z,3μm,15.0s
ZEA AMS AMS 18 58 03.0
comp=Z,4μm,15.0s
CBIJ Chichi jima 16.00 188 P **P 18 51 17.3 -0.8**
comp=Z,4.5nm,0.3s,baz=294,slow=18,SNR=3.1
CBIJ S **S 18 54 02.8 -10**
comp=Z,16nm,0.3s,baz=301,slow=22,SNR=6.2
CBIJ LR LR 18 57 38.8
comp=Z,849nm,19.0s,baz=227,slow=37
KROS Kirovskiy 16.36 321 *e*P **P 18 51 21.4 -1.0**
KROS AMB AMB 18 51 40.5
comp=Z,660nm,2.5s
KROS AMB AMB 18 51 40.5
comp=Z,700nm,2.5s
KROS AMB AMB 18 51 40.5
comp=Z,900nm,2.5s
MA2 Magadan 17.01 10 *e*P **P 18 51 31.8 +1.2**
MA2 pmax pmax
comp=Z,48nm,1.2s
MA2 Magadan 17.01 10 *e*P **P 18 51 31.8 +1.3**
comp=Z,48nm,1.2s
DL2 Dalian 17.95 265 P **P 18 51 41.4 -1.0**
DL2 XP 18 52 03.9
DL2 S **S 18 55 04.7 +7.4**
DL2 AMB AMB
comp=Z,30nm,0.6s
DL2 AMB AMB
comp=Z,350nm,6.0s
DL2 LR LR
comp=N,610nm,15.7s
DL2 LR LR
comp=E,1μm,15.1s
DL2 LR LR
comp=Z,1μm,16.3s
HIA Hailar 18.41 299 *e*P **P 18 51 46.5 -1.4**
HIA pmax pmax
comp=Z,26nm,0.8s
HIA Hailar 18.41 299 *e*P **P 18 51 46.5 -1.5**
comp=Z,26nm,0.8s
CLNS Chul'man 18.77 324 *e*P **P 18 52 05.4 +13**
CLNS pmax pmax
comp=Z,55nm,1.4s
CLNS pmax pmax
comp=N,56nm,1.1s
CLNS pmax pmax
comp=E,47nm,1.6s
CLNS pmax pmax
comp=Z,32nm,1.0s
CLNS pmax pmax
comp=N,49nm,1.2s
CLNS pmax pmax
comp=E,25nm,0.8s
CLNS MLR MLR
comp=N,2μm,17.0s
CLNS MLR MLR
comp=Z,2μm,17.0s
CLNS MLR MLR
comp=E,300nm,19.0s
SEY Seymchan 20.47 10 *e*P **P 18 52 09.5 -0.8**
SEY *e*PPP 18 52 27.2
SEY *SP 18 52 41.3
SEY *e*S **S 18 55 45.5 -5.2**
SEY *SS 18 56 21.5
SEY pmax pmax
comp=Z,40nm,1.2s
SEY smax
comp=N,700nm,7.7s
SEY smax
comp=E,200nm,5.5s
JOW Kunigami 20.99 225 P **P 18 52 16.8 +0.9**
comp=E,54nm,0.9s,baz=12,slow=9.3,SNR=3.6
JOW LR LR 19 00 53.5
comp=E,2μm,21.9s,baz=75,slow=38
YAK Yakutsk 21.07 340 *e*P **P 18 52 13.2 -3.2**
YAK pmax pmax
comp=Z,60nm,0.8s,mb5.0
YAK Yakutsk 21.07 340 *e*P **P 18 52 13.2 -3.2**
comp=Z,60nm,0.8s,mb5.0
FX1 Attu Island--F 21.30 52 P **P 18 52 19.9 +1.1**
FX1 pmax pmax
comp=Z,45nm,0.7s
FX1 Attu Island--F 21.30 52 P **P 18 52 19.9 +1.1**
comp=Z,45nm,0.7s,mb4.9,baz=259,slow=10,SNR=5.5
FX1 Attu Island--F 21.30 52 *e*P **P 18 52 19.9 +1.1**
BJI Beijing 21.58 272 P **P 18 52 21.0 -0.7**
BJI XP 18 52 42.0
BJI S **S 18 56 08.8 -3.1**
BJI AMB AMB
comp=Z,40nm,1.3s,mb4.6
BJI AMB AMB
comp=Z,422nm,3.5s
BJI LR LR
comp=N,674nm,17.7s
BJI LR LR
comp=E,2μm,17.7s
BJI LR LR
comp=Z,3μm,28.4s
BJI Beijing 21.58 272 P **P 18 52 21.0 -0.7**
comp=Z,40nm,1.3s,mb4.6
BJI sP 18 52 42.0
BJI S **S 18 56 08.8 -3.1**
BJI LR LR
comp=Z,3μm,28.4s
BJT Baijiatuau 21.60 272 *e*P **P 18 52 20.9 -0.9**
BJT pmax pmax
comp=Z,39nm,0.8s
BJT Baijiatuau 21.60 272 *e*P **P 18 52 20.9 -0.9**
comp=Z,39nm,0.8s,mb4.8
SSE Sheshan 22.19 245 P **P 18 52 26.2 -1.5**
SSE S **S 18 56 22.5 -0.4**
SSE AMB AMB
comp=Z,19nm,0.8s,mb4.5
SSE AMB AMB
comp=Z,317nm,5.3s
SSE LR LR
comp=N,791nm,27.4s
SSE LR LR
comp=E,998nm,27.5s
SSE LR LR
comp=Z,1μm,27.0s
SSE Sheshan 22.19 245 P **P 18 52 26.2 -1.5**
comp=Z,19nm,0.8s,mb4.5
SSE pP 18 52 34.3
SSE sP 18 52 38.8
SSE S **S 18 56 22.5 -0.4**
SSE sS 18 56 37.6
SSE LR LR
comp=Z,1μm,27.0s
TIA Tai'an 22.30 262 *e*P **P 18 52 28.7 -0.1**
NJ2 Nanjing 23.20 251 *e*P **P 18 52 37.6 +0.1**
NJ2 PP PP 18 53 12.1 +2.0
NJ2 S **S 18 56 37.0 -3.8**
NJ2 AMB AMB
comp=Z,90nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,6.3s
NJ2 LR LR
comp=N,4μm,26.4s
NJ2 LR LR
comp=E,3μm,23.5s
NJ2 LR LR
comp=Z,5μm,24.5s
BOD Bodaibo 24.32 318 *e*P **P 18 52 48.3 +0.2**
BOD pmax pmax
comp=Z,15nm,1.4s,mb4.1
HHC Hu-ho-hao-te 24.73 276 *e*P **P 18 52 52.5 +0.2**
HHC AP 18 53 05.2
HHC XP 18 53 12.3
HHC PP PP 18 53 30.1 -0.6
HHC PCP PcP 18 56 32.1 +3.3
HHC S **S 18 57 03.6 -3.3**
HHC XS 18 57 26.8
HHC SS SS 18 58 03.1 -4.9
HHC AMB AMB
comp=Z,40nm,0.5s,mb5.1
HHC AMB AMB
comp=Z,876nm,4.9s
HHC LR LR
comp=N,1μm,20.2s
HHC LR LR
comp=E,1μm,25.0s
HHC LR LR
comp=Z,2μm,35.7s
TIY Taiyuan 25.12 269 ⇑P **P 18 53 00.0 +3.9**
TIY S **S 18 57 21.0 +7.5**
TIY LR LR
comp=N,517nm,9.0s
BTO Baotou 25.92 277 *e*P **P 18 53 04.2 +0.7**
BTO AMB AMB
comp=Z,33nm,0.5s,mb5.0
ULN Ulaanbaatar 26.74 294 *e*P **P 18 53 10.6 -0.4**
ULN pmax pmax
comp=Z,31nm,1.0s,mb4.8
ULN Ulaanbaatar 26.74 294 *e*P **P 18 53 10.6 -0.4**
comp=Z,31nm,1.0s,mb4.8
SONM Songino Array 27.19 294 P **P 18 53 14.9 -0.2**
comp=Z,6.2nm,0.4s,mb4.5,baz=84,slow=8.2,SNR=139
BILL Bilibino 27.58 17 *e*P **P 18 53 18.1 -0.4**
BILL *e* 18 54 13.1
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb3.9
BILL MLR MLR
comp=Z,1μm,20.0s
BILL Bilibino 27.58 17 *e*P **P 18 53 17.8 -0.7**
comp=Z,7.6nm,0.8s,mb4.3
TLY Talaya 28.87 302 *e*P **P 18 53 27.3 -2.9**
TLY *eS* **S 18 58 14.3 -0.1**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
TLY MLR MLR
comp=Z,2μm,18.0s
ZAK Zakamensk 29.11 299⇑*e*P **P 18 53 32.0 -0.3**
ZAK pmax pmax
comp=Z,13nm,1.1s,mb4.5
XAN Xi'an 29.27 264 P **P 18 53 33.7 -0.3**
XAN S **S 18 58 21.7 +0.8**
XAN AMB AMB
comp=Z,22nm,1.3s,mb4.6
XAN AMB AMB
comp=Z,443nm,14.2s
XAN LR LR
comp=N,551nm,26.5s
XAN LR LR
comp=E,830nm,41.5s
XAN LR LR
comp=Z,1μm,36.9s
MOY Mondy 30.52 302 *e*P **P 18 53 44.5 -0.4**
ENH Enshi 30.81 257 *e*P **P 18 53 47.2 -0.5**
comp=Z,32nm,0.9s,mb5.0
LZH Lanzhou 32.08 272⇑*i*P **P 18 53 59.3 +0.6**
LZH AP pP 18 54 14.9 +0.3
LZH XP sP 18 54 22.0 -0.5
LZH AMB AMB
comp=Z,81nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,357nm,6.0s
LZH LR LR
comp=E,1μm,14.7s
LZH LR LR
comp=Z,3μm,15.9s
LZH Lanzhou 32.08 272⇑*i*P **P 18 53 59.3 +0.6**
comp=Z,81nm,1.5s,mb5.2
LZH pP pP 18 54 14.9 +0.3
LZH sP sP 18 54 22.0 -0.5
LZH LR LR
comp=Z,3μm,15.9s
GTA Gaotai 33.72 280 *e*P **P 18 54 13.2 +0.3**
GTA AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
GTA AMB AMB
comp=Z,337nm,5.3s
GTA LR LR
comp=N,848nm,17.5s
GTA LR LR
comp=E,885nm,17.1s
GTA LR LR
comp=Z,1μm,17.9s
TNA Tin City 34.42 33 *e*P **P 18 54 18.4 -0.3**
comp=Z,27nm,1.0s,mb5.0
GYA Guiyang 35.06 254 P **P 18 54 24.5 0.0**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
GYA AMB AMB
comp=Z,310nm,8.2s
QIZ Qiongzhong 37.89 242 P **P 18 54 49.7 +1.4**
QIZ XP sP 18 55 08.5 -3.9
QIZ S **S 19 00 38.3 +3.6**
QIZ AMB AMB
comp=Z,413nm,7.4s
QIZ LR LR
comp=E,738nm,14.3s
QIZ LR LR
comp=Z,660nm,17.3s
KMI Kunming 38.67 256⇑P **P 18 54 55.9 +1.2**
KMI AP pP 18 55 10.0 -1.0
KMI XP sP 18 55 17.3 -1.5
KMI PP PP 18 56 23.5 -4.2
KMI S **S 19 00 43.3 -3.1**
KMI XS 19 01 09.0
KMI SS SS 19 03 26.7 -4.2
KMI AMB AMB
comp=Z,28nm,1.4s,mb4.9
KMI AMB AMB
comp=Z,282nm,6.1s
KMI LR LR
comp=N,806nm,22.1s
KMI LR LR
comp=E,509nm,18.9s
KMI LR LR
comp=Z,772nm,31.9s
KMI Kunming 38.67 256⇑P **P 18 54 55.9 +1.2**
comp=Z,28nm,1.4s,mb4.9
KMI pP pP 18 55 10.0 -1.0
KMI sP sP 18 55 17.3 -1.5
KMI PP PP 18 56 23.5 -4.2
KMI S **S 19 00 43.3 -3.1**
KMI sS 19 01 09.0
KMI SS SS 19 03 26.7 -4.2
KMI LR LR
comp=Z,770nm,31.9s
ZAL Zalesovo 40.10 307 P **P 18 55 06.3 0.0**
comp=Z,4.1nm,0.4s,mb4.6,baz=20,slow=6.4,SNR=19
ZAL LR LR 19 13 28.6
comp=Z,4μm,20.7s,baz=32,slow=39
IMA Indian Mountai 40.27 34 *e*P **P 18 55 07.7 +0.1**
IMA pmax pmax
comp=Z,229nm,0.8s,mb6.1
IMA Indian Mountai 40.27 34 *e*P **P 18 55 07.7 0.0**
comp=Z,229nm,0.8s,mb6.1
WMQ Urumqi 40.77 291⇑*i*P **P 18 55 12.4 +0.4**
WMQ AP pP 18 55 27.0 -1.3
WMQ XP sP 18 55 34.0 -2.0
WMQ PP PP 18 56 50.0 +0.1
WMQ PCP PcP 18 57 14.0 +1.2
WMQ S **S 19 01 17.0 -0.7**
WMQ XS 19 01 43.5
WMQ SS SS 19 04 14.0 -2.1
WMQ AMB AMB
comp=Z,13nm,0.7s,mb4.9
WMQ AMB AMB
comp=Z,258nm,3.8s
WMQ LR LR
comp=N,3μm,18.0s
WMQ LR LR
comp=E,3μm,14.2s
WMQ LR LR
comp=Z,5μm,17.6s
NVS Novosibirsk 40.85 309 *e*P **P 18 55 10.9 -1.6**
NVS pmax pmax
comp=Z,28nm,1.6s,mb4.8
NVS pmax pmax
comp=E,14nm,1.4s
SPU Mount Spurr 40.99 41 *e*P **P 18 55 14.5 +0.9**
MCK McKinley 42.29 37 *e*P **P 18 55 24.1 0.0**
MCK pmax pmax
comp=Z,13nm,0.9s,mb4.7
MCK McKinley 42.29 37 *e*P **P 18 55 24.1 0.0**
comp=Z,13nm,0.9s,mb4.7
COLA College 42.70 36 *e*P **P 18 55 27.9 +0.5**
COLA pmax pmax
comp=Z,31nm,0.8s,mb5.1
COLA College 42.70 36 *e*P **P 18 55 27.9 +0.5**
comp=Z,31nm,0.8s,mb5.1
SML Sawmill 42.72 40 *e*P **P 18 55 28.2 +0.6**
ILAR Eielson Array 43.11 36 P **P 18 55 30.6 -0.2**
comp=Z,6.5nm,0.8s,mb4.4,baz=259,slow=5.9,SNR=39
ILAR LR LR 19 16 12.8
comp=Z,485nm,18.2s,baz=283,slow=40
MKAR Makanchi Array 43.41 298 *e*P **P 18 55 33.2 -0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.5s
KKTK Khon Kaen 44.46 246 P **P 18 55 42.0 -0.3**
LSA Lhasa 44.49 271 P **P 18 55 43.8 +1.4**
LSA Lhasa 44.49 271 *e*P **P 18 55 43.6 +1.2**
LSA pmax pmax
comp=Z,32nm,1.1s,mb5.0
LSA Lhasa 44.49 271 *e*P **P 18 55 43.6 +1.1**
comp=Z,32nm,1.1s,mb5.0
KURK Kurchatov 44.53 304 P **P 18 55 42.3 -0.1**
comp=Z,100nm,0.4s,mb5.9,SNR=20
KURK Kurchatov 44.53 304 *e*P **P 18 55 41.7 -0.8**
KURK pmax pmax
comp=Z,26nm,0.8s,mb5.0
KURK Kurchatov 44.53 304 *e*P **P 18 55 41.7 -0.7**
comp=Z,26nm,0.8s,mb5.0
CHG Chiang Mai 45.42 253 ⇑P **P 18 55 50.7 +0.7**
comp=Z,15nm,0.8s,mb4.8
CM31 Chiang Mai Arr 45.66 252 *e*P **P 18 55 52.3 +0.5**
comp=Z,2.4nm,0.3s,mb4.4
CMAR Chiang Mai Arr 45.66 252 P **P 18 55 52.5 +0.7**
comp=Z,2.6nm,0.5s,mb4.2,baz=44,slow=7.6,SNR=24
CMAR LR LR 19 16 28.1
comp=Z,739nm,18.7s,baz=55,slow=38
SHL Shillong 46.27 266 *e*P **P 18 55 56.0 -0.6**
DAWY Dawson 46.43 36 *e*P **P 18 55 57.2 -0.1**
INK Inuvik 47.92 30 *e*P **P 18 56 08.5 -0.6**
INK pmax pmax
comp=Z,29nm,0.9s
INK Inuvik 47.92 30 P **P 18 56 07.8 -1.3**
comp=Z,3.4nm,0.3s,mb4.6,baz=292,slow=6.8,SNR=30
INK LR LR 19 18 00.4
comp=Z,687nm,19.8s,baz=272,slow=38
INK Inuvik 47.92 30 *e*P **P 18 56 08.5 -0.6**
comp=Z,30nm,0.9s,mb5.1
CHKZ Chkalovo 48.31 310 *e*P **P 18 56 10.9 -1.3**
CHKZ pmax pmax
comp=Z,340nm,1.0s,mb6.1
CHKZ Chkalovo 48.31 310 *e*P **P 18 56 10.9 -1.3**
comp=Z,340nm,1.0s,mb6.1
BVA0 Borovoye Array 48.65 309 *i*P **P 18 56 14.1 -0.8**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ULHL Ulahol 49.13 294 P **P 18 56 18.7 0.0**
SNR=11
JIRN Jiri 49.24 272 *e*P **P 18 56 19.8 0.0**
comp=Z,20nm,0.4s,mb5.4
TKM2 Tokmak 2 49.27 295 P **P 18 56 20.2 +0.4**
SNR=26
KBK Karagaybulak 49.82 295 P **P 18 56 24.2 +0.2**
SNR=26
KKN Kakani 49.84 273 *e*P **P 18 56 24.2 -0.2**
comp=Z,26nm,0.5s,mb5.4
KKN Kakani 49.84 273 *e*P **P 18 56 24.2 -0.2**
KKN pmax pmax
comp=Z,13nm,0.5s,mb5.1
USP Ospenovka 49.85 296 P **P 18 56 24.1 -0.2**
SNR=15
KZA Kyzart 49.87 294 P **P 18 56 25.1 +0.7**
SNR=5.8
PKI Pulchoki 49.87 272 *e*P **P 18 56 24.3 -0.3**
comp=Z,14nm,0.3s,mb5.3
PKI Pulchoki 49.87 272 *e*P **P 18 56 24.3 -0.3**
PKI pmax pmax
comp=Z,7.0nm,0.3s,mb5.1
FRU Bishkek 49.96 295 *e*P **P 18 56 25.0 -0.1**
DMN Daman 50.07 273 *e*P **P 18 56 25.0 -1.1**
comp=Z,21nm,0.4s,mb5.4
AAK Ala-Archa 50.13 295 P **P 18 56 26.3 -0.1**
SNR=13
AAK Ala-Archa 50.13 295 P **P 18 56 25.0 -1.4**
comp=Z,99nm,0.4s,mb6.1,SNR=15
AAK Ala-Archa 50.13 295 *i*P **P 18 56 25.1 -1.3**
AAK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
AAK MLR MLR
comp=Z,500nm,18.0s
AAK Ala-Archa 50.13 295 *e*P **P 18 56 24.9 -1.5**
comp=Z,6.4nm,0.4s,mb4.9
GKN Gorkha 50.19 273 *e*P **P 18 56 26.8 -0.3**
comp=Z,38nm,0.4s,mb5.7
KSH Kashi 50.53 291 P **P 18 56 29.6 +0.1**
KSH *e*AP pP 18 56 43.1 -3.1
KSH *e*XP sP 18 56 47.9 -5.6
KSH *e*PCP PcP 18 57 48.9 +2.1
KSH *e*PP PP 18 58 27.7 +1.2
KSH *e*PPP PPP 18 59 24.3 -1.3
KSH *e*SCP 19 01 39.2
KSH *e*PCS 19 01 43.6
KSH *e*S **S 19 03 37.0 -0.3**
KSH *e*PS PS 19 03 55.8 -0.3
KSH *e*XS 19 04 00.9
KSH *e*SCS ScS 19 06 14.7 +3.6
KSH *e*SS SS 19 07 10.4 +1.2
KSH AMB AMB
comp=Z,500nm,4.7s
KSH LR LR
comp=N,450nm,6.4s
KSH LR LR
comp=E,1μm,6.7s
EKS2 Erkin-Say 50.59 295 P **P 18 56 30.0 +0.1**
SNR=14
AML Almayashu 50.88 295 P **P 18 56 32.6 +0.5**
SNR=13
KOLN Koldanda 51.08 274 *e*P **P 18 56 33.9 +0.1**
comp=E,52nm,0.4s,mb6.0
PMG Port Moresby 52.19 177 LR LR 19 14 17.0
comp=E,244nm,21.8s,baz=192,slow=31
DLBC Dease Lake 52.39 41 LR LR 19 20 14.5
comp=E,464nm,19.3s,baz=276,slow=37
LGTI Lohaghat 52.60 278⇓*i*P **P 18 56 46.0 +0.8**
SOKR Solikamsk 53.28 321⇓*i*P **P 18 56 46.4 -3.5**
SOKR pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
SOKR MLR MLR
comp=Z,500nm,22.0s
DDI Dehra Dun 53.71 280 *e*P **P 18 56 52.5 -0.9**
SDNR Sundarnagar 53.85 282 *e*P **P 18 56 53.8 -0.6**
KULM Kulim 54.08 239 *e*P **P 18 56 57.1 +0.7**
NDI New Delhi 55.22 279 *e*P **P 18 57 02.7 -1.8**
BBB Bella Bella 56.07 48 LR LR 19 21 47.7
comp=Z,279nm,19.8s,baz=298,slow=37
RES Resolute Bay 56.18 16 *e*P **P 18 57 09.1 -1.7**
RES pmax pmax
comp=Z,61nm,0.9s,mb5.6
RES Resolute Bay 56.18 16 *e*P **P 18 57 09.1 -1.7**
comp=Z,61nm,0.9s,mb5.6
KAKA Kakadu 56.57 194 *e*P **P 18 57 14.0 -0.3**
comp=Z,11nm,0.6s,mb5.1
KAKA *e* pP 18 57 28.9 -2.4
VIS Vishakhapatnam 57.34 264 *e*P **P 18 57 16.2 -3.5**
VIS *e* 18 57 21.8
comp=Z,19nm,1.7s
YKW3 Yellowknife Ar 57.34 33 *e*P **P 18 57 17.7 -1.5**
YKA Yellowknife Ar 57.38 33 P **P 18 57 18.4 -1.0**
comp=Z,4.5nm,0.8s,mb4.5,baz=302,slow=6.8,SNR=52
YKA LR LR 19 25 55.0
comp=Z,305nm,20.0s,baz=295,slow=40
YKA Yellowknife Ar 57.38 33 P **P 18 57 18.4 -1.0**
YKA LR LR 19 25 55.0
BHPL Bhopal 58.24 273 *e*P **P 18 57 22.7 -3.3**
BHPL *e* 18 57 26.5
comp=Z,22nm,1.1s
AJM Ajmer 58.35 278 *e*P **P 18 57 25.1 -1.6**
AJM *e* 18 57 26.3
comp=Z,26nm,0.4s
ARCES ARCESS Array B 59.35 339 P **P 18 57 31.8 -1.3**
comp=Z,1.9nm,0.4s,mb4.5,baz=65,slow=8.4,SNR=29

ARCES LR LR 19 27 22.9
comp=Z,552nm,18.5s,baz=169,slow=40
ARCES ARCESS Array B 59.35 339 P **P** **18 57 31.8 -1.3**
ARCES LR LR 19 27 22.9
DAG Danmarks Havn 60.06 356⇑ *i*P **P** **18 57 36.0 -1.8**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
DAG Danmarks Havn 60.06 356⇑ *i*P **P** **18 57 36.0 -1.8**
comp=Z,2.5nm,0.9s,mb4.2
KTK1 Kautokeino 60.30 339 *e*P **P** **18 57 39.7 +0.1**
comp=Z,64nm,2.0s,mb5.3
KTK1 Kautokeino 60.30 339 *e*P **P** **18 57 39.7 +0.1**
KTK1 AMb AMB 18 57 40.8
comp=Z,64nm,2.0s,mb5.3
TRO Tromso 60.93 341 *e*P **P** **18 57 41.3 -2.5**
CTA Charters Tower 62.77 178 LR LR 19 21 29.1
comp=Z,234nm,20.9s,baz=8.2,slow=32
EDM Edmonton 63.12 41 *e*P **P** **18 57 58.1 -0.6**
FITZ Fitzroy Crossi 63.29 200 *e*P **P** **18 57 59.1 -1.2**
comp=Z,14nm,0.9s,mb4.9
WRAB Tennant Creek 63.34 191 *e*P **P** **18 58 01.4 +0.8**
WRAB *e**PP pP 18 58 15.1 -2.8
WRAB pmax pmax
comp=Z,80nm,1.4s,mb5.5
WRAB Tennant Creek 63.34 191 *e*P **P** **18 58 01.4 +0.8**
comp=Z,80nm,1.4s,mb5.5
WRAB *e*pP pP 18 58 15.1 -2.9
WB2 Warramunga Arr 63.35 191 *e*P **P** **18 57 59.8 -0.9**
WB2 *i* pP 18 58 15.3 -2.7
WRA Warramunga Arr 63.35 191 P **P** **18 57 59.6 -1.1**
comp=Z,4.0nm,0.6s,mb4.5,baz=7.9,slow=6.9,SNR=32
NEW Newport 64.12 47 *e*P **P** **18 58 04.4 -0.8**
NEW *e**PP pP 18 58 19.6 -2.9
NEW pmax pmax
comp=Z,28nm,1.3s
NEW Newport 64.12 47 LR LR 19 27 25.7
comp=Z,373nm,19.0s,baz=317,slow=37
NEW Newport 64.12 47 *e*P **P** **18 58 04.4 -0.8**
comp=Z,28nm,1.3s,mb4.9
NEW *e*pP pP 18 58 19.6 -2.9
KAD Karad 64.30 270 *e*P **P** **18 58 04.9 -1.9**
KAD *e* 18 58 06.1
comp=Z,15nm,0.5s
MOR8 Moi Rana 64.67 340 *e*P **P** **18 58 05.8 -2.6**
SUMG Summit 64.72 1 *e*P **P** **18 58 08.1 -0.6**
comp=Z,27nm,0.6s,mb5.2
FINES FINESS Array B 64.76 332 P **P** **18 58 07.7 -1.4**
comp=Z,7.7nm,0.4s,mb4.8,baz=48,slow=7.9,SNR=78
FINES LR LR 19 29 21.1
comp=Z,839nm,18.0s,baz=266,slow=39
OBN Obninsk 64.90 323 *e*P **P** **18 58 08.4 -1.7**
OBN *e* 18 58 38.2
OBN S **S** **19 06 45.0 +0.2**
OBN *e* 19 07 28.9
OBN *e*SS SS 19 11 01.4 +2.2
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
OBN MLR MLR
comp=Z,600nm,16.0s
BMO Blue Mountains 66.06 50 *e*P **P** **18 58 17.7 -0.1**
comp=Z,4.3nm,0.7s,mb4.4
SCO Scoresbysund 66.43 355 *i* P **P** **18 58 18.9 -0.8**
SCO pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SCO Scoresbysund 66.43 355 *i* P **P** **18 58 18.9 -0.8**
comp=Z,6.0nm,0.9s,mb4.4
VSU Vasula 66.64 330 *i* P **P** **18 58 19.7 -1.4**
WVOR Wild Horse Val 66.76 53 *e*P **P** **18 58 21.9 -0.3**
WVOR pmax pmax
comp=Z,14nm,1.1s,mb4.7
WVOR Wild Horse Val 66.76 53 *e*P **P** **18 58 21.9 -0.3**
comp=Z,14nm,1.1s,mb4.7
ASAR Alice Springs 67.08 191 P **P** **18 58 24.6 +0.1**
comp=Z,5.2nm,0.7s,mb4.5,baz=8.7,slow=5.6,SNR=46
ASAR LR LR 19 24 50.0
comp=Z,233nm,19.4s,baz=7.8,slow=33
ASPA Alice Springs 67.08 191 *e*P **P** **18 58 24.0 -0.5**
ASPA *i* pP 18 58 40.5 -1.5
FFC Flin Flon 67.33 35 P **P** **18 58 24.1 -1.4**
comp=Z,126nm,0.5s,mb6.0,SNR=15
FFC Flin Flon 67.33 35 *e*P **P** **18 58 24.8 -0.7**
FFC pmax pmax
comp=Z,16nm,0.8s,mb4.9
FFC Flin Flon 67.33 35 *e*P **P** **18 58 24.8 -0.7**
comp=Z,16nm,0.8s,mb4.9
MBWA Marble Bar 67.87 205 *e*P **P** **18 58 29.5 0.0**
HRY Holter Researc 67.91 46 *e*P **P** **18 58 29.6 +0.3**
GOF Gofitskoye 68.08 312 *i* P **P** **18 58 30.0 -0.4**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.1
CMB Columbia Colle 68.40 58 *e*P **P** **18 58 32.8 +0.3**
CMB *e**PP pP 18 58 48.0 -2.1
CMB pmax pmax
comp=Z,35nm,1.4s,mb5.0
CMB Columbia Colle 68.40 58 *e*P **P** **18 58 32.8 +0.3**
comp=Z,35nm,1.4s,mb5.0
CMB *e*pP pP 18 58 48.0 -2.1
HLID Hailey 68.49 50 *e*P **P** **18 58 33.3 +0.3**
comp=Z,14nm,1.2s,mb4.7
BOZ Bozeman (W) 68.70 47 *e*P **P** **18 58 34.8 +0.6**
BOZ pmax pmax
comp=Z,12nm,0.6s,mb4.9
BOZ Bozeman (W) 68.70 47 *e*P **P** **18 58 34.8 +0.6**
comp=Z,12nm,0.6s,mb4.9
KIV Kislovodsk 68.97 311 *c i*P **P** **18 58 36.5 +0.5**
KIV *e* pP 18 58 52.8 -0.8
KIV *i* pP 18 58 57.6 +4.0
KIV *i* 19 01 13.3
KIV *e*S S 19 07 39.9 +5.7
KIV *e* 19 08 31.9
KIV pmax pmax
comp=Z,25nm,0.8s,mb5.1
KIV MLR MLR
comp=Z,900nm,20.0s
KIV Kislovodsk 68.97 311 *e*P **P** **18 58 36.0 0.0**
comp=Z,48nm,0.9s,mb5.3
TI2 Plekhanov 69.22 308⇑ *i*P **P** **18 58 38.0 +0.5**
TI2 *i* pP 18 58 53.0 -2.1
TI2 pmax pmax
comp=Z,20nm,0.8s,mb5.0
TI2 pmax pmax
comp=Z,40nm,1.0s,mb5.2
QLMT Earthquake Lak 69.33 48 *e*P **P** **18 58 40.3 +2.1**
MOL Molde 69.35 340 *e*P **P** **18 58 38.4 +0.5**
comp=Z,129nm,1.8s,mb5.5
MOL Molde 69.35 340 *e*P **P** **18 58 38.4 +0.5**
MOL AMb AMB 18 58 47.6
comp=Z,129nm,1.8s,mb5.5
DOMB Dombas 69.41 339 *e*P **P** **18 58 37.9 -0.5**
NVAR Mina Array Bea 69.44 56 P **P** **18 58 39.2 +0.3**
comp=Z,15nm,1.1s,mb4.8,baz=302,slow=4.7,SNR=46
MNV Mina 69.53 56 *e*P **P** **18 58 39.6 +0.1**
MNV pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MNV Mina 69.53 56 *e*P **P** **18 58 39.6 +0.2**
comp=Z,3.4nm,0.7s,mb4.3
NB2 NORSAR Subarra 69.68 338 P **P** **18 58 39.0 -1.0**
comp=Z,4.2nm,0.5s,mb4.5,baz=33,slow=6.2
NB2 NORSAR Subarra 69.68 338 P **P** **18 58 39.0 -1.0**
NB2 pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
NB2 NORSAR Subarra 69.68 338 P **P** **18 58 39.0 -1.0**
baz=33,slow=6.5
NOA NORSAR Array B 69.68 338 P **P** **18 58 38.6 -1.4**
comp=Z,7.3nm,0.7s,mb4.6,baz=34,slow=6.3,SNR=18
NOA LR LR 19 32 48.5
comp=Z,753nm,20.8s,baz=10.0,slow=39
SFJD Kangerlussuaq 69.72 6 *i* P **P** **18 58 38.5 -1.6**
SFJD *i* 18 59 27.8
ELK Elko 69.81 53 *e*P **P** **18 58 41.9 +0.8**
ELK pmax pmax
comp=Z,11nm,1.2s
ELK Elko 69.81 53 LR LR 19 24 48.7
comp=Z,333nm,21.8s,baz=310,slow=32
ELK Elko 69.81 53 *e*P **P** **18 58 41.9 +0.8**
comp=Z,11nm,1.2s,mb4.5
LKWY Lake 70.06 47 *e*P **P** **18 58 44.0 +1.4**
LKWY pmax pmax
comp=Z,21nm,1.0s,mb4.9
LKWY Lake 70.06 47 *e*P **P** **18 58 44.0 +1.4**
comp=Z,22nm,1.0s,mb4.9
IMW Indian Meadow 70.21 48 *e*P **P** **18 58 44.7 +1.3**
GNI Garni 70.23 307 *e*P **P** **18 58 44.7 +1.0**
GNI pmax pmax
comp=Z,61nm,1.4s
GNI Garni 70.23 307 P **P** **18 58 44.4 +0.7**
comp=Z,3.2nm,0.4s,mb4.5,baz=242,slow=3.0,SNR=7.1
GNI Garni 70.23 307 *e*P **P** **18 58 44.7 +1.0**
comp=Z,61nm,1.4s,mb5.2
TPH Tonopah 70.32 56 *e*P **P** **18 58 44.4 +0.1**
TPH pmax pmax
comp=Z,24nm,1.1s,mb4.9
TPH Tonopah 70.32 56 *e*P **P** **18 58 44.4 +0.1**
comp=Z,24nm,1.1s,mb4.9
RRI2 Red Ridge 70.36 49 *e*P **P** **18 58 45.7 +1.3**
FRB Frobisher Bay 70.38 15 LR LR 19 34 29.0
comp=Z,764nm,19.2s,baz=315,slow=40
MOOW Moose Ponds 70.41 48 *e*P **P** **18 58 45.2 +0.5**
TPAW Teton Pass 70.47 48 *e*P **P** **18 58 46.5 +1.4**
WUWY Wally Ulrich 70.55 48 *e*P **P** **18 58 46.4 +0.9**
HVU Hansel Valley 70.56 51 *e*P **P** **18 58 46.7 +1.0**
LOHW Long Hollow 70.58 48 *e*P **P** **18 58 46.6 +0.9**
comp=Z,16nm,1.1s,mb4.8
SNOW Snow King Moun 70.59 48 *e*P **P** **18 58 46.9 +1.0**
SOC Sochi 70.85 312 *e*P **P** **18 58 43.5 -3.9**
SOC *e* 18 59 06.2
SOC *e* 19 01 22.5
SOC *e*PPP PPP 19 03 04.8 -3.3
SOC *e*S S 19 07 48.1 -8.0
SOC *e* 19 08 38.1
SOC *e*SS SS 19 12 36.7 +5.1
SOC pmax pmax
comp=Z,16nm,0.7s,mb5.0
SOC pmax pmax
comp=N,15nm,0.8s
SOC pmax pmax
comp=E,21nm,1.0s
SOC MLR MLR
comp=N,1μm,20.0s
SOC MLR MLR
comp=Z,1μm,20.0s
SOC MLR MLR
comp=E,620nm,21.0s
AHID Auburn Hatcher 70.86 49 *e*P **P** **18 58 47.9 +0.5**
comp=E,10nm,0.9s,mb4.7
AHID *e*pP pP 18 59 03.0 -2.1
AKASG Malin Array Be 71.16 323 P **P** **18 58 47.9 -1.2**
comp=E,10nm,0.6s,mb4.8,baz=41,slow=6.0,SNR=51
SUW Suwalki 71.25 328 *e*P **P** **18 58 45.2 -4.3**
SUW *e* 18 59 08.2
SUW MLR MLR 19 31 56.5
comp=E,1μm,22.2s
ANN Anapa 71.26 314 *e*P **P** **18 58 44.5 -5.3**
HWUT Hardware Ranch 71.36 50 *e*P **P** **18 58 51.2 +0.8**
comp=E,82nm,1.8s,mb5.3
HWUT *e*pP pP 18 59 06.0 -2.2
TPNV Topopah Spring 71.64 56 *e*P **P** **18 58 52.2 0.0**
TPNV pmax pmax
comp=Z,18nm,0.5s,mb5.2
TPNV Topopah Spring 71.64 56 *e*P **P** **18 58 52.2 0.0**
comp=Z,18nm,0.5s,mb5.2
BW06 Boulder Array 71.71 48 *e*P **P** **18 58 52.4 -0.1**
comp=Z,6.2nm,0.6s,mb4.6
PDAR Pinedale Array 71.71 48 P **P** **18 58 52.6 +0.1**
comp=Z,3.3nm,0.5s,mb4.4,baz=310,slow=0.4,SNR=31
PDAR LR LR 19 28 50.4
comp=Z,220nm,21.6s,baz=100,slow=34
BANOM Banah 71.77 289 P **P** **18 58 53.1 -0.1**
SNR=5.2
BIDO Bidbid 72.01 286 ⇓P **P** **18 58 56.0 +1.3**
SNR=5.3
NLU North Lily Min 72.16 52 *e*P **P** **18 58 58.2 +3.0**
DAU Daniels Canyon 72.33 51 *e*P **P** **18 58 57.3 +1.1**
ASHO Ashiyiah 72.73 288 P **P** **18 58 58.8 0.0**
SNR=6.4
SIM Simferopol' 72.88 316 P pP 18 59 12.0 -5.1
SIM S S 19 08 20.0 +0.8
SIM MLR MLR
comp=Z,700nm,16.0s
MVU Marysvale 73.04 53 *e*P **P** **18 59 01.5 +1.1**
comp=Z,3.5nm,0.9s,mb4.2
MSU Marysvale 73.05 53 *e*P **P** **18 59 02.0 +1.5**
TMUT Trail Mountain 73.10 52 *e*P **P** **18 59 01.9 +1.2**
TMUT *e*pP pP 18 59 16.8 -1.7
ULM Lac du Bonnet 73.14 36 P **P** **18 58 59.9 -0.8**
comp=Z,3.8nm,0.8s,mb4.2,baz=305,slow=4.0,SNR=6.9
ULM LR LR 19 30 13.1
comp=Z,275nm,20.4s,baz=323,slow=35
ULM Lac du Bonnet 73.14 36 P **P** **18 58 59.9 -0.8**
ULM LR LR 19 30 13.1
BSY Bisya 73.16 285 P **P** **18 59 01.7 +0.3**
SNR=12
SRU San Rafael 73.61 52 *e*P **P** **18 59 04.1 +0.3**
KIS Kishinev 74.02 320 *e*P **P** **18 59 05.0 -0.9**
KIS *e* 19 01 57.0
KIS *e* 19 03 45.0
KIS *e* 19 08 24.0
KIS *e* 19 09 32.0
STKA Stephens Creek 74.56 183 P **P** **18 59 08.8 -0.6**
comp=Z,3.5nm,0.8s,mb4.1,baz=342,slow=7.3,SNR=6.9
STKA LR LR 19 33 23.2
comp=Z,208nm,18.6s,baz=7.2,slow=37
STKA Stephens Creek 74.56 183 *e*P **P** **18 59 09.9 +0.5**
STKA *e*pP pP 18 59 25.3 -1.9
KWP Kalwaria 74.77 325 *e*P **P** **18 59 10.6 +0.4**
KWP MLR MLR 19 32 49.0
comp=Z,900nm,23.3s
BURAR Bucovina Array 75.21 323⇑ *i*P **P** **18 59 12.9 +0.2**
BURAR Bucovina Array 75.21 323⇑ *i*P **P** **18 59 12.9 +0.1**
KOLS Kolonicke sedl 75.48 325 *e*pP pP 18 59 30.4 -1.7
OJC Ojcow 75.50 327 *e*P **P** **18 59 14.7 +0.3**
CFR Carcaliu 75.67 319⇓ *i*P **P** **18 59 15.5 0.0**
VRI Vrincioaia 75.83 321⇓ *i*P **P** **18 59 18.5 +2.2**
ISCO Idaho Springs 75.90 48 *e*P **P** **18 59 18.0 +1.1**
ISCO *e**PP pP 18 59 32.8 -1.9
ISCO pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
ISCO Idaho Springs 75.90 48 *e*P **P** **18 59 18.0 +1.1**
comp=Z,9.1nm,1.0s,mb4.5
ISCO *e*pP pP 18 59 32.8 -1.9
NIE Niedzica 75.92 326 *e*P **P** **18 59 16.0 -0.8**
KSP Ksiaz 76.36 329 *e*P **P** **18 59 19.4 +0.1**
KSP *e* 18 59 30.8
KSP *e**PP pP 18 59 41.2 +4.1
KSP Ksiaz 76.36 329 *e*P **P** **18 59 19.7 +0.5**
KSP *e* pP 18 59 41.9 +4.8
KSP MLR MLR 19 34 43.0
comp=Z,2μm,23.8s
OKC Ostrava-Krasne 76.46 328⇑ *e*P **P** **18 59 19.8 0.0**
OKC AMS AMS 19 35 20.0
comp=Z,1μm,20.2s
MLR Muntele Rosu 76.47 321⇓ *i*P **P** **18 59 20.2 +0.2**
KECS Kecovo 76.58 326 *e* pP 18 59 38.8 +0.4
UPC Upice 76.74 329⇑ *e*P **P** **18 59 21.6 +0.2**
MORC Moravsky Berou 76.74 328 *e*P **P** **18 59 21.3 -0.1**
MORC pmax pmax
comp=Z,25nm,1.0s,mb4.9
MORC Moravsky Berou 76.74 328 *e*P **P** **18 59 21.3 -0.1**
comp=Z,25nm,1.0s,mb4.9
DPC Dobruska-Polom 76.75 329 *e*P **P** **18 59 21.7 +0.3**
DPC *e*x x 18 59 43.6
DPC AMS AMS 19 34 40.0
comp=Z,2μm,24.4s
EYMN Ely 76.76 35 *e*P **P** **18 59 20.9 -0.7**
comp=Z,33nm,1.2s,mb4.9
CLL Collm 77.18 331⇑ *i*P **P** **18 59 23.3 -0.5**
CLL *i* 18 59 33.8
CLL pmax pmax
comp=Z,14nm,0.7s,mb4.8
CLL MLR MLR
comp=Z,1μm,17.0s
CLL Collm 77.18 331⇑ *i*P **P** **18 59 23.3 -0.5**
comp=Z,14nm,0.7s,mb4.8
CLL *i* 18 59 33.8
CLL LR LR
comp=Z,1μm,17.0s
CLL Collm 77.18 331⇑ P **P** **18 59 23.3 -0.5**
comp=Z,logA/T=1.3,mb4.8
CLL *i* PCP PcP 18 59 33.8 -0.9
CLL *i* *PP pP 18 59 38.5 -3.2
CLL *i* *SP sP 18 59 45.3 -3.5
CLL *i* 18 59 57.3
CLL *i* 19 00 30.2
BRG Berggiesshubel 77.20 331 *e*P PcP 18 59 33.6 -1.2
BRG *e* 19 00 03.5
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.5
BRG MLR MLR
comp=N,1μm,24.0s
BRG MLR MLR
comp=E,700nm,24.0s
BRG MLR MLR
comp=Z,2μm,24.0s
BRG Berggiesshubel 77.20 331 *e*P PcP 18 59 33.6 -1.2
comp=Z,15nm,1.4s
BRG *e* 19 00 03.5
BRG LR LR
comp=Z,2μm,24.0s
VYHS Vyhne 77.25 326 *e*P **P** **18 59 24.8 +0.5**
VYHS *es*P sP 18 59 46.0 -3.3
SDCO Great Sand Dun 77.41 50 *e*P **P** **18 59 26.0 +0.6**
comp=Z,7.8nm,1.0s,mb4.4
CLZ Clausthal 77.63 333 *e*P **P** **18 59 26.6 +0.3**
comp=Z,14nm,0.9s,mb4.7
PRU Pruhonice 77.71 330⇑ *e*P **P** **18 59 27.3 +0.5**
PRU *ep*P pP 18 59 37.6 -7.0
PRU AMS AMS 19 36 50.0
comp=Z,1μm,17.0s
TUC Tucson 78.08 57 *e*P **P** **18 59 29.9 +0.7**
TUC pmax pmax
comp=Z,15nm,1.4s,mb4.5
TUC Tucson 78.08 57 *e*P **P** **18 59 29.9 +0.7**
comp=Z,15nm,1.4s,mb4.5
ZST Bratislava 78.18 327 *ep*P pP 18 59 43.9 -3.4
MOX Moxa 78.21 332 *e*P PcP 18 59 41.7 +2.5
MOX LR LR
comp=Z,700nm,22.0s
MOX Moxa 78.21 332 *i* P PcP 18 59 41.7 +2.5
comp=Z,logA/T=1.0
MOX L 19 37 32.0
NKC Novy Kostel 78.27 331⇑ AMS AMS 19 37 40.0
comp=Z,900nm,14.9s
RBK Rabkut 78.70 283 P **P** **18 59 32.5 -0.4**
SNR=5.2
WHFO Wadi Hawf 78.73 284 P **P** **18 59 32.6 -0.5**
SNR=9.9
KHC Kasperske Hory 78.77 330⇑ *i*P **P** **18 59 32.8 +0.2**
KHC *e* 18 59 43.4
KHC MLR MLR
comp=Z,2μm,17.9s
KHC Kasperske Hory 78.77 330⇑ *i*P **P** **18 59 32.8 +0.2**
KHC *e* 18 59 43.4
KHC *e* 18 59 43.5
KHC LR LR
comp=Z,2μm,17.9s
KHC Kasperske Hory 78.77 330⇑ *i*P **P** **18 59 32.8 +0.2**
KHC pP pP 18 59 43.5 -7.0
KHC AMS AMS 19 37 30.0
comp=Z,2μm,17.9s
LAZ Ladron 78.82 53 *e*P **P** **18 59 35.4 +2.1**
ANMO Albuquerque 78.83 52 *i* P **P** **18 59 34.1 +0.8**
ANMO Albuquerque 78.83 52 LR LR 19 31 17.5
comp=Z,97nm,19.9s,slow=33
SCHQ Schefferville 78.89 18 P **P** **18 59 33.0 -0.2**
comp=Z,3.1nm,0.7s,mb4.2,baz=356,slow=8.1,SNR=10
SCHQ LR LR 19 35 53.6
comp=Z,604nm,20.1s,baz=64,slow=37
GEC2 GERESS Array S 78.96 330 *e*P **P** **18 59 33.7 0.0**
GEC2 pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
GEC2 GERESS Array S 78.96 330 *e*P **P** **18 59 33.7 0.0**
comp=Z,3.0nm,0.5s,mb4.4
GERES GERESS Array B 78.96 330 P **P** **18 59 33.6 -0.1**
comp=Z,2.3nm,0.4s,mb4.3,baz=36,slow=6.8,SNR=20
WET Wettzell 79.02 330 *e*P **P** **18 59 34.3 +0.3**
WET pmax pmax
comp=Z,13nm,1.1s,mb4.7
WET Wettzell 79.02 330 *e*P **P** **18 59 34.3 +0.3**
comp=Z,13nm,1.1s,mb4.7
GRA1 Grafenberg Arr 79.15 331 *e*P **P** **18 59 35.0 +0.3**
comp=Z,12nm,0.6s,mb4.9
GRA1 *ep*P pP 18 59 50.4 -2.2
GRA1 *es*P sP 18 59 57.0 -2.8
GRA1 LR LR
comp=Z,800nm,21.3s
GRF Grafenberg Arr 79.15 331 *e*P **P** **18 59 35.0 +0.3**
GRF *e**PP pP 18 59 50.4 -2.2
GRF *e**SP sP 18 59 57.0 -2.8
GRF pmax pmax
comp=Z,12nm,0.6s,mb4.9
GRF MLR MLR
comp=Z,800nm,21.3s
GRF Grafenberg Arr 79.15 331 *e*P **P** **18 59 35.0 +0.3**
GRF *e**PP pP 18 59 50.4 -2.2
GRF *e**SP sP 18 59 57.0 -2.8
GRF pmax pmax
comp=Z,12nm,0.6s,mb4.9
GRF MLR MLR
comp=Z,800nm,21.3s
GRF Grafenberg Arr 79.15 331 *e*P **P** **18 59 35.0 +0.3**
comp=Z,12nm,0.6s,mb4.9
GRF *ep*P pP 18 59 50.4 -2.2
GRF *es*P sP 18 59 57.0 -2.8
GRF LR LR
comp=Z,800nm,21.3s
TNS Taunus Mts 79.65 333 *e*P **P** **18 59 37.3 -0.1**
TNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
TNS Taunus Mts 79.65 333 *e*P **P** **18 59 37.3 -0.1**
comp=Z,8.0nm,1.0s,mb4.5
NWAO Narrogin (SRO) 79.66 203 P **P** **18 59 38.3 +0.5**
comp=Z,4.5nm,0.6s,mb4.5,baz=304,slow=5.7,SNR=6.9
VTS Vitosha 79.96 320 *e*P **P** **18 59 40.0 +0.8**
GROS Grobnik 80.23 327 *i* P **P** **18 59 40.6 0.0**
PERS Pernice 80.24 327 *e*P **P** **18 59 40.7 +0.1**
ASF Jabal al Asfar 80.28 305 P **P** **18 59 40.1 -1.1**
comp=Z,7.0nm,1.1s,mb4.4,baz=244,slow=7.8,SNR=4.8
ASF LR LR 19 42 25.6
comp=Z,307nm,19.8s,baz=247,slow=41
MMB Musomiste 80.49 319 *e*P **P** **18 59 42.0 -0.1**
KKB Krupnik 80.58 320 *e*P **P** **18 59 44.0 +1.5**
BBLS Bajina Basta - 80.68 323 *e*P **P** **18 59 42.4 -0.7**
PTCC Patocco-Chiusa 81.12 328 *e*P **P** **18 59 44.6 -0.6**
KSU1 Kansas State U 81.17 44 *e*P **P** **18 59 47.0 +1.2**
SKO Skopje 81.27 321 *e*Pn **P** **18 59 46.5 +0.3**
BFO Black Forest 81.31 332 *e*P **P** **18 59 46.1 -0.2**
BFO pmax pmax
comp=Z,18nm,1.5s,mb4.7
BFO Black Forest 81.31 332 *e*P **P** **18 59 46.1 -0.2**
comp=Z,18nm,1.5s,mb4.7
CDF Champ du Feu 81.60 333 *e*P **P** **18 59 47.4 -0.3**
comp=Z,9.1nm,0.8s,mb4.4
CDF Champ du Feu 81.60 333 *e*P **P** **18 59 47.4 -0.3**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
GDL2 Guadalupe Moun 82.02 53 *e*P **P** **18 59 51.4 +1.1**
BRMO Bormio 82.17 330 *e*P **P** **18 59 51.4 +0.7**
HAU Haudompre 82.26 333 *e*P **P** **18 59 50.6 -0.6**
HAU *e*R
comp=Z,884nm,20.8s
VAI Varese 83.28 331 *e*P **P** **18 59 56.2 -0.2**
WMOK Wichita Mounta 83.32 48 *e*P **P** **18 59 57.0 +0.2**
WMOK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
WMOK Wichita Mounta 83.32 48 *e*P **P** **18 59 57.0 +0.2**
comp=Z,10nm,1.0s,mb4.6
CABF La Chapelle 83.56 333 *e*P **P** **18 59 58.2 +0.5**
FLN La Foliniere 83.66 338 *e*P **P** **18 59 58.1 -0.1**
FLN *e*R
comp=Z,721nm,21.0s
LDF La Druitiere 83.72 337 *e*P **P** **18 59 58.8 +0.3**
comp=Z,10.0nm,0.8s,mb4.4
LDF La Druitiere 83.72 337 *e*P **P** **18 59 58.8 +0.3**
LDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SSF Saint Saulge 84.01 335 *e*P **P** **18 59 59.8 -0.2**
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SSF Saint Saulge 84.01 335 *e*P **P** **18 59 59.8 -0.2**
comp=Z,2.9nm,0.6s,mb4.3
GRR Gorron 84.11 338 *e*P **P** **19 00 00.8 +0.4**
comp=Z,10nm,0.5s,mb4.6
GRR Gorron 84.11 338 *e*P **P** **19 00 00.8 +0.4**
GRR pmax pmax
comp=Z,5.0nm,0.5s,mb4.6
NRCA Norcia 84.18 326 *e*P **P** **19 00 01.4 +0.4**
SADO Sadowa 84.24 30 LR LR 19 37 54.0
comp=Z,229nm,19.5s,baz=333,slow=36
SMF Signal de Mont 84.27 334 *e*P **P** **19 00 01.3 0.0**
comp=Z,10nm,0.7s,mb4.5
SMF Signal de Mont 84.27 334 *e*P **P** **19 00 01.3 0.0**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
AVF Avril sur Loir 84.30 335 *e*P **P** **19 00 01.4 0.0**

	comp=Z,22nm,1.0s,mb4.7						
AVF	**Avril sur Loir**	**84.30**	**335**	eP	**P**	**19 00 01.4**	**0.0**
AVF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
LPL	**La Plagne**	**84.30**	**332**	eP	**P**	**19 00 02.0**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4						
LPL	**La Plagne**	**84.30**	**332**	eP	**P**	**19 00 02.0**	**+0.6**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.5						
LPG	**La Plagne**	**84.31**	**332**	eP	**P**	**19 00 02.3**	**+0.8**
	comp=Z,11nm,0.8s,mb4.4						
LPG	**La Plagne**	**84.31**	**332**	eP	**P**	**19 00 02.3**	**+0.8**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
LTX	**Lajitas**	**84.50**	**55**	eP	**P**	**19 00 03.0**	**+0.1**
LTX				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
LTX	**Lajitas**	**84.50**	**55**	eP	**P**	**19 00 03.0**	**+0.2**
	comp=Z,18nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**84.50**	**55**	P	**P**	**19 00 03.2**	**+0.3**
	comp=Z,2.3nm,0.7s,mb4.1,baz=288,slow=4.0,SNR=15						
TXAR				LR	LR	19 35 33.2	
	comp=Z,220nm,19.3s,baz=335,slow=34						
CCM	**Cathedral Cave**	**84.64**	**41**	eP	**P**	**19 00 03.8**	**+0.4**
CCM				e*PP	pP	19 00 18.9	-2.6
CCM				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
CCM	**Cathedral Cave**	**84.64**	**41**	eP	**P**	**19 00 03.8**	**+0.4**
	comp=Z,24nm,1.0s,mb5.1						
CCM				epP	pP	19 00 18.9	-2.6
BGF	**Bois d'Agland**	**84.66**	**335**	eP	**P**	**19 00 03.2**	**0.0**
SGMF	**Saint Gilles**	**84.69**	**339**	eP	**P**	**19 00 04.2**	**+0.8**
IDI	**Anoyia**	**84.75**	**315**	P	**P**	**19 00 03.3**	**-0.7**
	comp=Z,16nm,0.5s,mb5.2,baz=232,slow=19,SNR=24						
ROSF	**Rostrenen**	**84.81**	**339**	eP	**P**	**19 00 04.3**	**+0.4**
	comp=Z,68nm,1.3s,mb5.1						
ROSF	**Rostrenen**	**84.81**	**339**	eP	**P**	**19 00 04.3**	**+0.4**
ROSF				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
MBDF	**Montbardon**	**84.97**	**331**	eP	**P**	**19 00 05.6**	**+0.8**
	comp=Z,4.6nm,0.4s,mb4.5						
MBDF	**Montbardon**	**84.97**	**331**	eP	**P**	**19 00 05.6**	**+0.8**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
TCF	**Toulx Ste Croi**	**85.10**	**335**	eP	**P**	**19 00 05.7**	**+0.3**
	comp=Z,8.7nm,0.8s,mb4.4						
TCF	**Toulx Ste Croi**	**85.10**	**335**	eP	**P**	**19 00 05.7**	**+0.3**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ORIF	**Oris-en-Rattie**	**85.11**	**332**	eP	**P**	**19 00 06.0**	**+0.5**
	comp=Z,24nm,1.0s,mb4.8						
ORIF				eR			
	comp=Z,827nm,22.5s						
PPT	**Papeete**	**85.13**	**119**	P	**P**	**19 00 06.7**	**+0.5**
	comp=Z,37nm,0.5s,mb5.5,baz=224,slow=6.9,SNR=4.2						
QUIF	**Quistinic**	**85.16**	**339**	eP	**P**	**19 00 05.9**	**+0.2**
	comp=Z,46nm,1.3s,mb5.0						
QUIF	**Quistinic**	**85.16**	**339**	eP	**P**	**19 00 05.9**	**+0.2**
QUIF				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.0						
SBF	**Sospel**	**85.48**	**331**	eP	**P**	**19 00 07.0**	**-0.4**
MFF	**Saint Martin d**	**85.53**	**337**	eP	**P**	**19 00 08.0**	**+0.5**
	comp=Z,15nm,0.8s,mb4.6						
MFF	**Saint Martin d**	**85.53**	**337**	eP	**P**	**19 00 08.0**	**+0.5**
MFF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
VIVF	**Saint-Julien-l**	**85.58**	**333**	eP	**P**	**19 00 08.3**	**+0.5**
	comp=Z,5.4nm,0.6s,mb4.4						
VIVF	**Saint-Julien-l**	**85.58**	**333**	eP	**P**	**19 00 08.3**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
JCT	**Junction City**	**85.92**	**51**	P	**P**	**19 00 12.5**	**+2.6**
JCT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
JCT	**Junction City**	**85.92**	**51**	P	**P**	**19 00 12.5**	**+2.6**
	comp=Z,9.6nm,0.7s,mb4.8						
FRF	**La Foret Royal**	**86.03**	**331**	eP	**P**	**19 00 10.0**	**-0.1**
PGF	**Pioggiola**	**86.04**	**329**	eP	**P**	**19 00 09.8**	**-0.3**
SMRF	**Simiane la Rot**	**86.04**	**332**	eP	**P**	**19 00 10.9**	**+0.8**
RJF	**Les Rejaudoux**	**86.20**	**335**	eP	**P**	**19 00 11.6**	**+0.8**
	comp=Z,16nm,1.0s,mb4.6						
RJF				eR			
	comp=Z,873nm,22.2s						
RJF	**Les Rejaudoux**	**86.20**	**335**	eP	**P**	**19 00 11.6**	**+0.8**
RJF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
RJF				MLR	MLR		
	comp=Z,870nm,22.3s						
LMR	**La Mourre**	**86.28**	**331**	eP	**P**	**19 00 11.2**	**-0.1**
	comp=Z,17nm,0.8s,mb4.8						
LMR	**La Mourre**	**86.28**	**331**	eP	**P**	**19 00 11.2**	**-0.1**
LMR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CAF	**Calviac**	**86.37**	**334**	eP	**P**	**19 00 12.9**	**+1.2**
	comp=Z,21nm,1.0s,mb4.7						
CAF	**Calviac**	**86.37**	**334**	eP	**P**	**19 00 12.9**	**+1.2**
CAF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
LASF	**Ste Croix**	**86.54**	**333**	eP	**P**	**19 00 13.2**	**+0.7**
LFF	**La Frestale**	**86.77**	**335**	eP	**P**	**19 00 14.6**	**+1.0**
	comp=Z,16nm,0.6s,mb4.8						
LFF	**La Frestale**	**86.77**	**335**	eP	**P**	**19 00 14.6**	**+1.0**
LFF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
MTLF	**Montolieu**	**87.74**	**334**	eP	**P**	**19 00 19.2**	**+0.8**
VAE	**Valguarnera**	**88.08**	**323**	LR	LR	19 45 24.8	
	comp=Z,500nm,18.3s,baz=33,slow=39						
EPF	**Esparros**	**88.61**	**335**	eP	**P**	**19 00 23.0**	**+0.4**
ETSF	**Etsaut**	**89.01**	**335**	eP	**P**	**19 00 25.4**	**+1.0**
	comp=Z,3.7nm,0.5s,mb4.4						
ETSF	**Etsaut**	**89.01**	**335**	eP	**P**	**19 00 25.4**	**+1.0**
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
SJPF	**Ste Jean**	**89.02**	**336**	eP	**P**	**19 00 25.1**	**+0.6**
	comp=Z,18nm,1.0s,mb4.7						
SJPF	**Ste Jean**	**89.02**	**336**	eP	**P**	**19 00 25.1**	**+0.6**
SJPF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
RPZ	**Rata Peaks**	**89.47**	**161**	LR	LR	19 34 39.1	
	comp=Z,394nm,20.7s,baz=40,slow=32						
ESDC	**Sonseca Array**	**92.99**	**336**	P	**P**	**19 00 43.3**	**+0.3**
	comp=Z,0.4nm,0.5s,mb4.0,baz=8.7,slow=4.9,SNR=4.3						
SDV	**Santo Domingo**	**119.12**	**41**	PKP	PKPdf	19 06 19.1	+1.3
	comp=Z,2.3nm,0.5s,baz=313,slow=3.0,SNR=5.6						
VNDA	**Vanda**	**120.70**	**176**	PKP	PKPdf	19 06 21.5	+2.0
	comp=Z,0.9nm,0.8s,baz=73,slow=8.3,SNR=5.9						
DBIC	**Dimbokro**	**123.41**	**323**	PKP	PKPdf	19 06 26.4	+0.4
	comp=Z,1.9nm,0.4s,baz=158,slow=12,SNR=4.2						
LPAZ	**La Paz**	**141.34**	**57**	PKP	PKPdf	19 07 02.6	+3.0
	comp=Z,0.9nm,0.4s,baz=3.4,slow=1.3,SNR=2.1						
LPAZ	**La Paz**	**141.34**	**57**	ePKPdf	PKPdf	19 07 03.2	+3.6
LVC	**Limon Verde**	**145.47**	**65**	PKPbc	PKPbc	19 07 10.0	+2.8
	comp=Z,8.2nm,0.8s,baz=295,slow=5.0,SNR=11						
LVC	**Limon Verde**	**145.47**	**65**	ePKPdf	PKPdf	19 07 10.2	+3.6
LVC				epPKPdf		19 07 25.8	
SNAA	**Sanae**	**147.20**	**198**	P	PKPdf	19 07 10.9	+2.9
SNAA	**Sanae**	**147.20**	**198**		PKPdf	19 07 12.8	+4.8
SNAA	**Sanae**	**147.20**	**198**	PKPbc	PKPdf	19 07 11.9	+3.8
	comp=Z,1.3nm,0.7s,baz=159,slow=4.2,SNR=11						
VNA2	**Neumayer--Watz**	**148.76**	**197**	P	PKPdf	19 07 16.1	+5.6
VNA2	**Neumayer--Watz**	**148.76**	**197**	⇑i	PKPdf	19 07 18.1	+7.6
VNA2	**Neumayer--Watz**	**148.76**	**197**	⇑i	PKPdf	19 07 37.3	+27
VNA3	**Neumayer Olymp**	**148.99**	**196**	⇓iP	PKPdf	19 07 18.3	+7.4
VNA3	**Neumayer Olymp**	**148.99**	**196**	⇑i	PKPdf	19 07 19.9	+9.0
VNA3	**Neumayer Olymp**	**148.99**	**196**	⇑i	PKPdf	19 07 34.5	+24
VNA3	**Neumayer Olymp**	**148.99**	**196**	⇑i	PKPdf	19 07 39.7	+29
BDFB	**Brasilia**	**150.62**	**26**	PKPbc	PKPdf	19 07 22.5	+7.4
	comp=Z,11nm,0.9s,baz=344,slow=2.0,SNR=12						
PLCA	**Paso Flores**	**153.70**	**97**	PKPbc	PKPdf	19 07 28.8	+10
	comp=Z,1.9nm,0.8s,baz=35,slow=16,SNR=3.2						

TAP 11 18:59:52.1,24.37N×120.92E,h6km,ML4.0,7C-15D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWQ1	**Liyutan**	**0.14**	**261**	⇓iP	Pg	18 59 54.4	-0.7
TWQ1				S	Sg	18 59 56.9	-0.1
NSY	**Sanyi**	**0.15**	**288**	⇑iP	Pg	18 59 55.1	-0.2
NSY				S	Sg	18 59 58.3	+0.8
NSTT	**Nanjuang**	**0.27**	**16**	⇓iP	Pg	18 59 57.4	-0.3
NSTT				S	Sg	19 00 01.8	+0.5
TCU	**Taichung**	**0.31**	**225**	⇓iP	Pg	18 59 58.5	0.0
NNS	**Nan Shan**	**0.42**	**80**	⇓iP	Pg	19 00 00.4	-0.2
NNS				S	Sg	19 00 05.8	-0.4
TYC	**Yuchr**	**0.47**	**187**	⇓iP	Pg	19 00 01.1	-0.5
TYC				S	Sg	19 00 08.0	+0.2
SMLT	**Sun Moon Lake**	**0.48**	**182**	⇑iP	Pg	19 00 01.5	-0.4
SMLT				S	Sg	19 00 08.9	+0.5
NSK	**Sanguang**	**0.50**	**53**	⇓iP	Pg	19 00 01.5	-0.7
NSK				S	Sg	19 00 08.8	-0.2
WNT	**Mingjian**	**0.54**	**204**	⇓iP	Pg	19 00 03.0	+0.2
WNT				S	Sg	19 00 11.8	+1.7
NCU	**National Centr**	**0.65**	**22**	eP	Pg	19 00 05.3	+0.3
NCU				S	Sg	19 00 14.7	+1.0
ENTT	**Nioudou**	**0.65**	**65**	⇓iP	Pg	19 00 04.3	-0.8
ENTT				S	Sg	19 00 12.5	-1.3
TWD	**Chiawan**	**0.68**	**115**	⇑iP	Pg	19 00 05.3	-0.5
TWD				S	Sg	19 00 14.1	-0.8
ESL	**Shilin**	**0.72**	**140**	⇑iP	Pg	19 00 05.9	-0.8
ESL				S	Sg	19 00 15.1	-1.3
HWA	**Hwalien**	**0.74**	**122**	⇑iP	Pg	19 00 06.7	-0.2
ENA	**Nanau**	**0.75**	**85**	⇑P	Pg	19 00 06.4	-0.8
ENA				S	Sg	19 00 15.7	-1.5
WGK	**Gukeng**	**0.76**	**206**	⇓P	Pg	19 00 06.8	-0.5
WGK				S	Sg	19 00 18.3	+0.9
TWE	**Neicheng**	**0.77**	**63**	⇓iP	Pg	19 00 06.6	-0.8
WTCT	**Ta-ch'eng**	**0.77**	**229**	P	Pg	19 00 06.5	-1.1
WTCT				S	Sg	19 00 18.3	+0.4
CHN5	**Tsauling**	**0.80**	**196**	⇓iP	Pb	19 00 07.4	-0.7
CHN5				S	Sg	19 00 18.9	0.0
ILA	**Ilan**	**0.85**	**62**	eP	Pb	19 00 08.1	-0.8
TAP	**Taipei**	**0.85**	**39**	eP	Pb	19 00 08.9	-0.1
TAP				S	Sb	19 00 22.1	+1.7
TWA	**Mucha**	**0.86**	**45**	eP	Pb	19 00 08.9	-0.2
TWA				S	Sb	19 00 22.2	+1.7
TWS1	**Kuangyinshan**	**0.86**	**32**	⇓P	Pb	19 00 09.1	0.0
TWS1				S	Sb	19 00 22.7	+2.2
ALS	**Alishan**	**0.86**	**187**	⇓iP	Pb	19 00 08.8	-0.3
ALS				S	Sb	19 00 21.4	+0.7
TAP1	**Taipei**	**0.86**	**39**	⇓P	Pb	19 00 08.7	-0.4
TAP1				S	Sb	19 00 22.0	+1.3
YUS	**Yu-Shan**	**0.88**	**178**	eP	Pb	19 00 08.4	-1.0
YUS				S	Sb	19 00 21.9	+0.8
TWC	**Suao**	**0.88**	**74**	P	Pb	19 00 08.6	-0.9
TWC				S	Sb	19 00 19.2	-2.0
CHN2	**Minshiung**	**0.93**	**206**	eP	Pb	19 00 09.6	-0.7
CHN2				S	Sb	19 00 23.3	+0.6
EHY	**Hungye**	**0.94**	**157**	⇑P	Pb	19 00 09.4	-1.0
EHY				S	Sb	19 00 22.1	-0.7
WSF	**Szhu**	**0.97**	**221**	⇓P	Pb	19 00 09.9	-1.1
WSF				S	Sb	19 00 24.0	+0.2
CHY	**Chiayi**	**0.98**	**208**	eP	Pb	19 00 10.2	-0.9
CHY				S	Sb	19 00 24.3	+0.1
EGS		**1.03**	**63**	eP	Pb	19 00 12.3	+0.2
EGS				S	Sb	19 00 28.4	+2.7
NWF	**Wu-fen Shan**	**1.05**	**48**	eP	Pb	19 00 12.1	-0.3
NWF				S	Sb	19 00 27.4	+1.2
CHN4	**Tsaushan**	**1.06**	**197**	eP	Pb	19 00 11.7	-0.8
CHN4				S	Sb	19 00 27.1	+0.7
TWF1	**Yuli**	**1.07**	**161**	eP	Pb	19 00 11.7	-1.0
TWF1				S	Sb	19 00 26.9	+0.1
TWY	**Chenhua**	**1.09**	**34**	eP	Pb	19 00 12.7	-0.4
TWY				S	Sb	19 00 29.3	+1.8
WTP	**Ta-pu**	**1.15**	**194**	eP	Pb	19 00 13.0	-1.1
WTP				S	Sb	19 00 29.9	+0.7
TWB1	**Santiao Chiao**	**1.16**	**57**	eP	Pb	19 00 13.7	-0.6
TWB1				S	Sb	19 00 30.7	+1.3
TWK	**Hsinying**	**1.17**	**200**	eP	Pb	19 00 13.4	-1.0
TWK				S	Sb	19 00 30.3	+0.7
ELDTW	**Lidau**	**1.18**	**176**	eP	Pb	19 00 13.7	-0.9
ELDTW				S	Sb	19 00 30.1	+0.1
CHN8	**Yiju**	**1.21**	**213**	eP	Pb	19 00 13.8	-1.3
CHN8				S	Sb	19 00 31.4	+0.6
STYT	**Tauyuan**	**1.21**	**187**	eP	Pb	19 00 14.2	-0.9
STYT				S	Sb	19 00 31.0	+0.1
CHN1	**Nanshi**	**1.23**	**197**	eP	Pb	19 00 14.3	-1.2
CHN1				S	Sb	19 00 32.1	+0.6
SGST	**Jiashian**	**1.32**	**194**	eP	Pb	19 00 16.0	-0.9
SGST				S	Sb	19 00 35.8	+1.8
CHKT	**Chengkung**	**1.33**	**162**	eP	Pb	19 00 17.0	-0.1
CHKT				S	Sb	19 00 37.1	+2.9
SCLT	**Jiali**	**1.36**	**209**	eP	Pb	19 00 16.6	-1.1
SCLT				S	Sb	19 00 36.4	+1.2
CHN3	**Shinhua**	**1.39**	**202**	eP	Pb	19 00 17.4	-0.6
CHN3				S	Sb	19 00 38.2	+2.3
PNG	**Penghu**	**1.48**	**238**	eP	Pn	19 00 16.3	-3.2
PNG				S	Sb	19 00 37.4	-1.4
TWG	**Pinlang**	**1.55**	**175**	eP	Pn	19 00 20.3	-0.1
TWG				S	Sb	19 00 42.5	+1.8
WDGT	**Dungji**	**1.60**	**226**	eP	Pn	19 00 18.3	-2.8
WDGT				S	Sb	19 00 40.1	-2.0
TWM1	**Shoushan**	**1.61**	**197**	eP	Pn	19 00 21.0	-0.2
TTN	**Taitung**	**1.62**	**173**	eP	Pn	19 00 21.9	+0.4
SSD	**Sandimen**	**1.64**	**189**	eP	Pn	19 00 20.9	-0.8
SSD				S	Sb	19 00 43.9	+0.6
SGLT	**Jiouru**	**1.68**	**194**	eP	Pn	19 00 23.2	+0.8
ECL	**Taimali**	**1.77**	**179**	eP	Pn	19 00 23.4	-0.1
ECL				S	Sn	19 00 47.3	+0.7
EAST	**Anshuo**	**1.98**	**182**	eP	Pn	19 00 26.3	-0.3
EAST				S	Sn	19 00 52.2	+0.2
TAW	**Tawu**	**2.00**	**181**	eP	Pn	19 00 26.7	-0.2
SCZT	**Fangliau**	**2.01**	**188**	eP	Pn	19 00 26.3	-0.7
SCZT				S	Sn	19 00 53.1	+0.4
TWP	**Hsiaoliuchiu**	**2.08**	**194**	eP	Pn	19 00 27.8	-0.2

IDC ***11*** *19:07:08.9±2.5, 43.17N×105.12W, mb3.4/2, mb1 3.7/4, mb1mx3.5/20, mbtmp3.5/4, ML3.2/2, Error ellipse: s-maj=53.4km s-min=10.1km az=158.0*
NEIC ***11*** *19:07:10.2±0.7, 43.58N×105.25W, ML3.1, Error ellipse: s-maj=9.2km s-min=7.4km az=184.0, Suspected Mining explosion.*
NEIC 80 km [50 miles] SSE of Gillette.
ISC 11 19:07:08.3±0.7**, 43.64N**±0.04×**105.18W**±0.07**, n25, σ1s17**/36**, mb4.4**/1**, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.34**	**185**	ePn	**Pn**	**19 07 48.4**	**-0.2**
PHWY				ePg	**Pg**	**19 07 54.6**	**-0.4**
PHWY				eSn	**Sn**	**19 08 20.2**	**+1.7**
PDAR	**Pinedale Array**	**3.32**	**256**	Pn	**Pn**	**19 08 05.0**	**+2.4**
	1.4nm,0.3s,baz=75,slow=18,SNR=50						
PDAR				Pg	**Pg**	**19 08 08.3**	**-6.3**
	4.1nm,0.3s,baz=78,slow=18,SNR=58						
PDAR				Lg		19 08 51.4	
	12nm,0.3s,baz=80,slow=32,SNR=14						
BW06	**Boulder Array**	**3.32**	**256**	ePn	**Pn**	**19 08 03.8**	**+1.2**
BW06				eSn	**Sn**	**19 08 52.3**	**+9.0**
ISCO	**Idaho Springs**	**3.85**	**185**	ePn	**Pn**	**19 08 09.7**	**-0.4**
ISCO				eSg	**Sg**	**19 09 15.3**	**-1.1**
LKWY	**Lake**	**3.88**	**286**	ePn	**Pn**	**19 08 10.2**	**-0.2**
LKWY				ePg	**Pg**	**19 08 24.0**	**-1.7**
LOHW	**Long Hollow**	**3.94**	**272**	ePn	**Pn**	**19 08 11.2**	**-0.2**
MOOW	**Moose Ponds**	**4.04**	**274**	Pn	**Pn**	**19 08 13.0**	**+0.2**
WUWY	**Wally Ulrich**	**4.05**	**271**	Pn	**Pn**	**19 08 13.0**	**+0.2**
WUWY				ePb	**Pb**	**19 08 21.8**	**+1.5**
SNOW	**Snow King Moun**	**4.06**	**269**	ePb	**Pb**	**19 08 21.8**	**+1.2**
YFT	**Old Faithful**	**4.16**	**283**	ePg	**Pg**	**19 08 28.4**	**-3.0**
IMW	**Indian Meadow**	**4.18**	**276**	ePn	**Pn**	**19 08 15.7**	**+0.9**
IMW				ePb	**Pb**	**19 08 24.4**	**+1.7**
TPAW	**Teton Pass**	**4.20**	**270**	ePn	**Pn**	**19 08 14.6**	**-0.5**
TPAW				ePg	**Pg**	**19 08 29.8**	**-2.4**
YMR	**Madison River**	**4.29**	**286**	Pn	**Pn**	**19 08 15.4**	**-1.0**
AHID	**Auburn Hatcher**	**4.42**	**261**	ePb	**Pb**	**19 08 27.4**	**+0.7**
RRI2	**Red Ridge**	**4.48**	**268**	ePn	**Pn**	**19 08 18.4**	**-0.7**
RRI2				ePg	**Pg**	**19 08 35.1**	**-2.6**
QLMT	**Earthquake Lak**	**4.65**	**287**	Pn	**Pn**	**19 08 21.0**	**-0.5**
HWUT	**Hardware Ranch**	**5.13**	**249**	ePn	**Pn**	**19 08 28.0**	**-0.3**
	8.3nm,0.8s						
HWUT				ePb	**Pb**	**19 08 40.7**	**+1.8**
HRY	**Holter Researc**	**5.62**	**305**	ePn	**Pn**	**19 08 34.5**	**-0.6**
SRU	**San Rafael**	**6.05**	**223**	ePn	**Pn**	**19 08 40.6**	**-0.6**
PV01	**Paradox Valley**	**6.07**	**206**	Pn	**Pn**	**19 08 40.5**	**-0.9**
TMUT	**Trail Mountain**	**6.27**	**228**	Pn	**Pn**	**19 08 44.6**	**+0.2**
ULM	**Lac du Bonnet**	**9.17**	**41**	Pn	**P**	**19 09 24.6**	**-0.3**
	0.8nm,0.3s,baz=229,slow=11,SNR=5.8						
YKA	**Yellowknife Ar**	**19.68**	**347**	P	**P**	**19 11 45.0**	**+3.5**
	0.2nm,0.4s,baz=156,slow=8.9,SNR=5.9						
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 17 29.3**	**+0.7**
ARCES	**ARCESS Array B**	**61.49**	**18**	P	**P**	**19 17 29.3**	**+0.7**
	2.3nm,0.8s,mb4.4,baz=337,slow=6.9,SNR=5.2						

NIED ***11*** *19:10:00, 24.00N×122.20E, h35km, Mw4.5 Best double couple: $M_0$6.22×10^{15} NP1:ϕ_s240°, δ90°, λ15°. NP2:ϕ_s150°, δ75°, λ180°.*
TAP ***11*** *19:10:32.8, 23.91N×122.24E, h9km±1km, ML4.7*
JMA ***11*** *19:10:34.8±0.3, 24.00N×122.23E, h33km, M4.7*
NEIC ***11*** *19:10:35.8±0.8, 24.06N×122.21E, h38km±6km, mb4.7/29, Error ellipse: s-maj=7.6km s-min=6.5km az=208.0*
IDC ***11*** *19:10:35.9±0.6, 24.10N×122.30E, h35km±5km, mb4.3/22, mb1 4.4/23, mb1mx4.4/27, mbtmp4.5/23, MS4.0/3, Ms1 4.0/3, ms1mx3.4/30, Error ellipse: s-maj=15.4km s-min=12.0km az=71.0*
BJI ***11*** *19:10:35.3, 24.18N×122.25E, h31km, mB4.8, mb4.3, ML4.3, Ms4.3, Msz4.2*
ISC 11 19:10:35.1±0.5**, 24.01N**±0.05×**122.22E**±0.03**, h43**km±4km**, h37**km±1.5km**:pP-P, n108, σ1s12**/122**, mb4.5**/49**, MS4.0**/5**, 2C-1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.59**	**286**	⇑iPn	**P**	**19 10 46.3**	**-0.9**
YOJ	**Yonaguni jima**	**0.85**	**58**	P	**P**	**19 10 50.5**	**-0.2**
YOJ				S	**S**	**19 11 01.3**	**-0.9**
YHNB	**Yeheng**	**1.01**	**310**	ePn	**P**	**19 10 53.6**	**+0.6**
TATO	**Taipei**	**1.17**	**325**	ePn	**P**	**19 10 56.5**	**+1.4**
IRIF	**Iriomote-Funau**	**1.42**	**77**	P	**P**	**19 10 59.1**	**+0.2**
IRIF				eS	**S**	**19 11 17.8**	**+1.3**
HATJ	**Hateruma jima**	**1.45**	**88**	P	**P**	**19 10 59.2**	**-0.1**
HATJ				S	**S**	**19 11 17.9**	**+0.5**
JKRS	**Kuro-shima**	**1.65**	**82**	P	**P**	**19 11 02.4**	**+0.2**
JKRS				S	**S**	**19 11 25.0**	**+2.7**
JIJ	**Ishigaki jima**	**1.79**	**78**	P	**P**	**19 11 03.8**	**-0.3**
JIJ				S	**S**	**19 11 25.7**	**-0.1**
JTJ	**Tarama**	**2.35**	**74**	P	**P**	**19 11 11.9**	**-0.2**
JTJ				S	**S**	**19 11 42.0**	**+2.1**
JMJ	**Miyako jima 2**	**2.91**	**73**	S	**S**	**19 11 55.1**	**+0.9**
JOGS	**Gusukube**	**3.00**	**75**	P	**P**	**19 11 22.4**	**+1.0**
JOGS				eS	**S**	**19 11 57.9**	**+1.5**
QZH	**Quanzhou**	**3.43**	**286**	⇑iP	**P**	**19 11 26.6**	**-0.9**
QZH				S	**S**	**19 12 02.7**	**-4.7**
QZH				Smax			
	comp=N,730nm,0.7s						
QZH				Smax			
	comp=E,1μm,1.0s						
JKE	**Kume jima 2**	**4.73**	**60**	P	**P**	**19 11 44.6**	**-1.3**
JKE				eS	**S**	**19 12 39.2**	**-1.0**
NAH1	**Naha**	**5.42**	**65**	eS	**S**	**19 13 01.0**	**+3.6**
JJT2	**Tamagusuku 2**	**5.44**	**66**	eS	**S**	**19 12 56.2**	**-1.8**
JIH	**Iheya**	**6.00**	**59**	eS	**S**	**19 13 08.3**	**-3.7**
JOW	**Kunigami**	**6.15**	**62**	Pn	**P**	**19 12 02.9**	**-2.8**
JOW				Sn	**S**	**19 13 12.7**	**-3.1**
	comp=E,11nm,0.3s,baz=125,slow=25,SNR=5.7						
JOW	**Kunigami**	**6.15**	**62**	P	**P**	**19 12 02.8**	**-2.9**
JOW				eS	**S**	**19 13 11.1**	**-4.6**
CVP	**Callao Caves**	**6.29**	**183**	eP	**P**	**19 12 05.0**	**-2.7**
JTK	**Tokunoshima**	**7.13**	**57**	P	**P**	**19 12 16.0**	**-3.5**
JAM	**Amami Oshima**	**7.95**	**55**	P	**P**	**19 12 26.6**	**-4.2**
JAM				S	**S**	**19 13 53.4**	**-6.9**
ENH	**Enshi**	**12.93**	**302**	Pn	**P**	**19 13 37.5**	**-1.3**
KS15	**Wonju Array Si**	**14.24**	**19**	ePn	**P**	**19 13 57.6**	**+1.7**
GYA	**Guiyang**	**14.29**	**283**	P	**P**	**19 13 56.2**	**-0.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**15.32**	**314**	P	**P**	**19 14 10.0**	**0.0**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.5s						
CD2	**Chengdu**	**17.75**	**297**	P	**P**	**19 14 44.6**	**+3.8**
KMI	**Kunming**	**17.76**	**278**	P	**P**	**19 14 44.4**	**+3.6**
KMI				AP		19 14 49.9	
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,218nm,8.7s						
KMI				LR	LR		
	comp=N,852nm,16.0s						
KMI				LR	LR		
	comp=E,875nm,11.8s						
KMI				LR	LR		
	comp=Z,880nm,12.0s						
KMI	**Kunming**	**17.76**	**278**	P	**P**	**19 14 44.4**	**+3.6**
	comp=Z,7.0nm,1.1s						
KMI				pP		19 14 49.9	
KMI				S	**S**	**19 17 45.2**	**-9.5**
HHC	**Hu-ho-hao-te**	**19.02**	**335**	eP	**P**	**19 14 55.6**	**-0.5**
HHC				AP		19 15 03.7	
HHC				XP		19 15 10.8	
HHC				PP	PP	19 15 14.4	+1.4
HHC				S	**S**	**19 18 26.4**	**+3.4**
HHC				XS		19 18 38.3	
HHC				SS	SS	19 18 51.4	+2.2
HHC				PCP	PcP	19 19 18.8	-0.9
HHC				AMB	AMB		
	comp=Z,14nm,0.5s						
HHC				LR	LR		
	comp=N,578nm,16.1s						
HHC				LR	LR		
	comp=E,446nm,17.2s						
HHC				LR	LR		
	comp=Z,742nm,13.7s						
BTO	**Baotou**	**19.46**	**331**	eP	**P**	**19 14 59.8**	**-1.2**
LZH	**Lanzhou**	**19.91**	**311**	eP	**P**	**19 15 07.2**	**+1.4**
LZH				AP		19 15 18.4	
LZH				XP		19 15 23.5	
LZH				AMB	AMB		
	comp=Z,30nm,1.5s						
LZH				AMB	AMB		
	comp=Z,196nm,5.3s						
LZH				LR	LR		
	comp=E,1μm,14.8s						
LZH				LR	LR		
	comp=Z,1μm,15.6s						
LZH	**Lanzhou**	**19.91**	**311**	eP	**P**	**19 15 07.2**	**+1.4**
	comp=Z,30nm,1.5s						
LZH				pP		19 15 18.4	
LZH				sP		19 15 23.5	
CM31	**Chiang Mai Arr**	**22.38**	**260**	eP	**P**	**19 15 27.2**	**-3.9**
	comp=Z,9.4nm,1.2s,mb4.1						
CMAR	**Chiang Mai Arr**	**22.38**	**260**	P	**P**	**19 15 32.5**	**+1.5**
	comp=Z,4.2nm,1.0s,mb3.8,baz=60,slow=8.6,SNR=18						
CMAR				pP		19 15 42.2	
	comp=Z,1.3nm,0.8s,baz=47,slow=8.3,SNR=3.7						
GTA	**Gaotai**	**24.38**	**314**	eP	**P**	**19 15 51.6**	**+1.2**
GTA				AP		19 15 59.2	
GTA				XP		19 16 03.5	
GTA				PP	PP	19 16 27.1	+0.5
GTA				S	**S**	**19 20 09.1**	**+4.9**
GTA				XS		19 20 19.8	
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,123nm,4.2s						
GTA				LR	LR		
	comp=N,231nm,11.4s,MS4.1						
GTA				LR	LR		
	comp=E,316nm,11.8s,MS4.1						
GTA				LR	LR		
	comp=Z,472nm,13.3s,MS4.2						
HIA	**Hailar**	**25.28**	**356**	eP	**P**	**19 15 58.4**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.3						
ASAJ	**Asahikawa**	**26.08**	**35**	P	**P**	**19 16 04.7**	**-1.9**
	comp=Z,4.5nm,0.6s,mb4.2,baz=247,slow=20,SNR=4.2						
ASAJ				LR	LR	19 25 26.8	
	comp=Z,141nm,21.0s,MS3.5,baz=245,slow=34						
ULN	**Ulaanbaatar**	**26.68**	**337**	eP	**P**	**19 16 11.4**	**-0.6**
	comp=Z,22nm,0.8s,mb4.7						
SONM	**Songino Array**	**26.90**	**336**	P	**P**	**19 16 13.5**	**-0.5**
	comp=Z,21nm,0.8s,mb4.7,baz=149,slow=9.6,SNR=168						
SONM				PcP	PcP	19 19 35.8	+0.1
	comp=Z,0.3nm,0.6s,baz=136,slow=1.9,SNR=4.1						
SONM				pPcP		19 19 46.1	
	comp=Z,0.4nm,0.7s,baz=158,slow=3.2,SNR=4.1						
SONM				ScP		19 23 13.3	
	comp=Z,0.5nm,1.0s,baz=203,slow=2.2,SNR=3.4						
LSA	**Lhasa**	**28.24**	**288**	eP	**P**	**19 16 25.4**	**-0.9**
	comp=Z,4.1nm,0.6s,mb4.2						
TLY	**Talaya**	**31.09**	**337**	eP	**P**	**19 16 50.0**	**-1.5**
	comp=Z,13nm,0.8s,mb4.8						
WMQ	**Urumqi**	**34.46**	**314**	eP	**P**	**19 17 21.5**	**+0.7**
WMQ				PP	PP	19 18 38.0	+0.6
WMQ				PCP	PcP	19 19 55.0	-0.6
WMQ				eS	**S**	**19 22 51.5**	**+6.4**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				AMB	AMB		
	comp=Z,120nm,4.0s						
WMQ				LR	LR		
	comp=N,217nm,19.4s,MS4.0						
WMQ				LR	LR		
	comp=E,186nm,18.8s,MS4.0						
WMQ				LR	LR		
	comp=Z,191nm,21.6s,MS3.8						
YAK	**Yakutsk**	**38.34**	**6**	*e*P	**P**	**19 17 51.6**	**-1.7**
	comp=Z,4.3nm,0.4s,mb4.5						
ZAL	**Zalesovo**	**40.91**	**327**	P	**P**	**19 18 14.2**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.3,baz=1.9,slow=8.6,SNR=32						
ZAL				LR	LR	19 37 14.9	
	comp=Z,276nm,18.9s,MS4.1,baz=343,slow=39						
PMG	**Port Moresby**	**41.19**	**141**	P	**P**	**19 18 17.8**	**+0.3**
	comp=Z,6.7nm,0.8s,mb4.3,baz=351,slow=3.8,SNR=3.7						
ULHL	**Ulahol**	**42.02**	**307**	P	**P**	**19 18 25.9**	**+1.9**
	SNR=13						
TKM2	**Tokmak 2**	**42.61**	**308**	P	**P**	**19 18 30.4**	**+1.6**
	SNR=12						
KURK	**Kurchatov**	**42.83**	**320**	*e*P	**P**	**19 18 29.8**	**-0.7**
	comp=Z,13nm,1.1s,mb4.6						
KURK				*e*	pP	19 18 41.1	-1.3
KBK	**Karagaybulak**	**43.03**	**307**	P	**P**	**19 18 34.3**	**+2.0**
	SNR=8.9						
UCH	**Uchtor**	**43.28**	**307**	P	**P**	**19 18 37.0**	**+2.7**
	SNR=14						
AAK	**Ala-Archa**	**43.36**	**307**	P	**P**	**19 18 36.5**	**+1.6**
	SNR=6.2						
AAK	**Ala-Archa**	**43.36**	**307**	*e*P	**P**	**19 18 34.7**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.1						
AML	**Almayashu**	**43.87**	**306**	P	**P**	**19 18 41.0**	**+1.9**
	SNR=12						
EKS2	**Erkin-Say**	**43.89**	**307**	P	**P**	**19 18 40.5**	**+1.2**
	SNR=8.4						
WRAB	**Tennant Creek**	**45.25**	**164**	*e*P	**P**	**19 18 44.5**	**-5.9**
	comp=Z,6.6nm,0.3s,mb4.9						
WRA	**Warramunga Arr**	**45.26**	**164**	P	**P**	**19 18 49.7**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=86,slow=5.1,SNR=13						
WRA	**Warramunga Arr**	**45.26**	**164**	P	**P**	**19 18 49.7**	**-0.8**
WB2	**Warramunga Arr**	**45.26**	**164**	⇓*i*P	**P**	**19 18 44.8**	**-5.7**
ASAR	**Alice Springs**	**48.73**	**166**	P	**P**	**19 19 17.5**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=343,slow=6.2,SNR=12						
CTA	**Charters Tower**	**49.70**	**150**	P	**P**	**19 19 26.0**	**+0.8**
	comp=Z,4.9nm,0.8s,mb4.6,baz=279,slow=7.0,SNR=3.9						
STKA	**Stephens Creek**	**58.58**	**161**	P	**P**	**19 20 29.0**	**-1.1**
	comp=Z,4.4nm,0.8s,mb4.6,baz=15,slow=8.0,SNR=9.0						
STKA				pP	pP	19 20 39.0	-3.4
	comp=Z,4.3nm,0.7s,baz=330,slow=6.3,SNR=6.1						
STKA	**Stephens Creek**	**58.58**	**161**	*e*P	**P**	**19 20 29.3**	**-0.8**
IMA	**Indian Mountai**	**65.93**	**26**	*e*P	**P**	**19 21 18.3**	**-0.3**
KIV	**Kislovodsk**	**66.43**	**309**	*e*P	**P**	**19 21 19.9**	**-2.2**
	comp=Z,7.5nm,0.8s,mb4.8						
ILAR	**Eielson Array**	**68.93**	**27**	P	**P**	**19 21 35.4**	**-1.9**
	comp=Z,2.0nm,1.1s,mb4.0,baz=297,slow=8.6,SNR=12						
ARCES	**ARCESS Array B**	**70.05**	**338**	P	**P**	**19 21 43.2**	**-0.9**
	comp=Z,2.6nm,0.9s,mb4.1,baz=92,slow=8.8,SNR=7.7						
MALT	**Malatya**	**70.88**	**304**	*e*P	**P**	**19 21 50.5**	**+0.8**
	comp=Z,8.5nm,1.2s,mb4.5						
FINES	**FINESS Array B**	**72.07**	**330**	P	**P**	**19 21 55.9**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4,baz=60,slow=5.4,SNR=13						
INK	**Inuvik**	**73.03**	**22**	P	**P**	**19 22 00.9**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.5,baz=308,slow=5.6,SNR=22						
INK	**Inuvik**	**73.03**	**22**	*e*P	**P**	**19 22 00.7**	**-1.2**
	comp=Z,6.0nm,0.8s,mb4.6						
AKASG	**Malin Array Be**	**73.63**	**319**	P	**P**	**19 22 04.5**	**-1.2**
	comp=Z,5.4nm,0.7s,mb4.6,baz=59,slow=6.5,SNR=21						
DLBC	**Dease Lake**	**78.61**	**31**	P	**P**	**19 22 34.6**	**+0.9**
	comp=Z,1.4nm,0.4s,mb4.2,baz=198,slow=21,SNR=3.2						
RES	**Resolute Bay**	**78.68**	**9**	*e*P	**P**	**19 22 33.0**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**78.81**	**332**	P	**P**	**19 22 34.4**	**-0.4**
	comp=Z,2.5nm,1.0s,mb4.1,baz=54,slow=5.8						
NOA	**NORSAR Array B**	**78.81**	**332**	P	**P**	**19 22 33.9**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.0,baz=58,slow=5.7,SNR=5.1						
NOA	**NORSAR Array B**	**78.81**	**332**	P	**P**	**19 22 33.9**	**-0.9**
VYHS	**Vyhne**	**80.72**	**319**	*e*P	**P**	**19 22 45.9**	**+0.6**
RPZ	**Rata Peaks**	**80.92**	**146**	LR	LR	19 53 42.4	
	comp=Z,177nm,21.7s,MS4.4,baz=232,slow=32						
KSP	**Ksiaz**	**81.15**	**322**	*e*P	**P**	**19 22 47.9**	**+0.4**
YKA	**Yellowknife Ar**	**82.76**	**23**	P	**P**	**19 22 55.6**	**0.0**
	comp=Z,4.2nm,0.8s,mb4.5,baz=314,slow=4.9,SNR=71						
YKA				pP	pP	19 23 07.5	-0.8
	comp=Z,1.4nm,0.8s,baz=313,slow=4.8,SNR=4.7						
SUMG	**Summit**	**82.77**	**354**	*e*P	**P**	**19 22 54.9**	**-0.6**
	comp=Z,2.8nm,0.4s,mb4.7						
GERES	**GERESS Array B**	**83.57**	**321**	P	**P**	**19 23 00.8**	**+0.8**
	comp=Z,5.5nm,1.0s,mb4.7,baz=56,slow=4.8,SNR=8.9						
KMBO	**Kilima Mbogo**	**85.86**	**267**	P	**P**	**19 23 13.9**	**+1.8**
	comp=Z,1.6nm,0.8s,mb4.3,baz=35,slow=11,SNR=6.2						
KMBO				pP	pP	19 23 24.9	-0.1
	comp=Z,1.3nm,0.9s,baz=40,slow=18,SNR=3.6						
CDF	**Champ du Feu**	**87.43**	**323**	*e*P	**P**	**19 23 19.0**	**0.0**
EDM	**Edmonton**	**89.29**	**30**	*e*P	**P**	**19 23 28.1**	**+0.4**
LPG	**La Plagne**	**89.36**	**321**	*e*P	**P**	**19 23 29.0**	**+0.7**
	comp=Z,9.2nm,0.8s,mb4.8						
LPL	**La Plagne**	**89.36**	**321**	*e*P	**P**	**19 23 28.7**	**+0.4**
	comp=Z,8.5nm,0.8s,mb4.8						
PGF	**Pioggiola**	**89.64**	**317**	*e*P	**P**	**19 23 29.9**	**+0.2**
MBDF	**Montbardon**	**89.79**	**320**	*e*P	**P**	**19 23 30.3**	**0.0**
	comp=Z,9.9nm,1.1s,mb4.8						
SBF	**Sospel**	**89.88**	**319**	*e*P	**P**	**19 23 31.1**	**+0.3**
	comp=Z,67nm,1.2s,mb5.6						
ORIF	**Oris-en-Rattie**	**90.20**	**320**	*e*P	**P**	**19 23 32.3**	**0.0**
	comp=Z,7.1nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**90.29**	**323**	*e*P	**P**	**19 23 32.7**	**+0.1**
SMF	**Signal de Mont**	**90.35**	**323**	*e*P	**P**	**19 23 32.9**	**0.0**
	comp=Z,23nm,1.1s,mb5.1						
FRF	**La Foret Royal**	**90.52**	**319**	*e*P	**P**	**19 23 33.5**	**-0.3**
AVF	**Avril sur Loir**	**90.53**	**323**	*e*P	**P**	**19 23 33.7**	**-0.1**
	comp=Z,5.3nm,0.7s,mb4.7						
NEW	**Newport**	**90.60**	**35**	P	**P**	**19 23 35.4**	**+1.3**
	comp=Z,1.7nm,0.5s,mb4.6,baz=77,slow=7.1,SNR=4.1						
NEW	**Newport**	**90.60**	**35**	*e*P	**P**	**19 23 34.1**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.8						
LMR	**La Mourre**	**90.73**	**319**	*e*P	**P**	**19 23 34.6**	**-0.2**
SMRF	**Simiane la Rot**	**90.92**	**320**	*e*P	**P**	**19 23 34.5**	**-1.2**
	comp=Z,6.9nm,0.8s,mb4.7						
VIVF	**Saint-Julien-l**	**90.94**	**321**	*e*P	**P**	**19 23 35.7**	**0.0**
FRB	**Frobisher Bay**	**92.13**	**5**	P	**P**	**19 23 40.3**	**-0.5**
	comp=Z,8.4nm,0.8s,mb5.1,baz=14,slow=5.5,SNR=6.5						
FCC	**Fort Churchill**	**92.22**	**18**	*e*P	**P**	**19 23 40.5**	**-0.8**
	comp=Z,4.4nm,0.8s,mb4.8						
CAF	**Calviac**	**92.38**	**322**	*e*P	**P**	**19 23 42.5**	**+0.1**
	comp=Z,19nm,1.2s,mb5.0						
RJF	**Les Rejaudoux**	**92.45**	**323**	*e*P	**P**	**19 23 42.9**	**+0.2**
	comp=Z,27nm,1.2s,mb5.2						
FFC	**Flin Flon**	**92.91**	**24**	*e*P	**P**	**19 23 44.3**	**-0.2**
	comp=Z,8.3nm,1.0s,mb5.1						
MTLF	**Montolieu**	**93.26**	**321**	*e*P	**P**	**19 23 45.8**	**-0.7**
NVAR	**Mina Array Bea**	**95.91**	**43**	P	**P**	**19 24 00.5**	**+1.9**
	comp=Z,0.6nm,0.4s,mb4.3,baz=310,slow=4.6,SNR=6.5						
SDV	**Santo Domingo**	**144.97**	**23**	PKP	PKPdf	19 30 09.1	+0.6
	comp=Z,10nm,0.9s,baz=99,slow=7.4,SNR=14						
SDV				pPKP		19 30 20.4	
	comp=Z,9.6nm,0.8s,baz=349,slow=1.8,SNR=6.0						

NEIC ***11*** *19:11:26.4±4.8, 20.66S×178.45W, h572km±51km, mb4.4/6, Error ellipse: s-maj=36.3km s-min=16.3km az=53.0*

IDC ***11*** *19:11:29.0±1.9, 20.76S×178.65W, h593km±19km, mb3.5/8, mb1 3.6/9, mb1mx3.5/17, mbtmp4.5/9, Error ellipse: s-maj=22.0km s-min=18.5km az=179.0*

ISC 11 19:11:28.2±2.8**, 20.8S**±0.2×**178.7W**±0.2**, h597**km±32km**, n24,** σ**0**^{s}**81**/21**, mb4.2**/12**, 2C-1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.78**	**191**	P	**P**	**19 15 01.1**	**-1.6**
	1.3nm,0.3s,baz=132,slow=22,SNR=7.6						
CTA	**Charters Tower**	**32.82**	**265**	*e*P	**P**	**19 17 16.4**	**+1.0**
	6.9nm,0.4s,mb4.6						
CTA	**Charters Tower**	**32.82**	**265**	P	**P**	**19 17 15.6**	**+0.2**
	7.1nm,0.4s,mb4.7,baz=90,slow=9.3,SNR=28						
CTAO	**Charters Tower**	**32.82**	**265**	*e*P	**P**	**19 17 16.1**	**+0.6**
	7.6nm,0.4s,mb4.7						
PMG	**Port Moresby**	**34.79**	**284**	P	**P**	**19 17 33.0**	**+1.2**
	10.0nm,0.8s,mb4.5,baz=112,slow=7.2,SNR=5.6						
STKA	**Stephens Creek**	**37.08**	**244**	P	**P**	**19 17 51.6**	**+1.1**
	1.3nm,0.4s,mb3.8,baz=115,slow=9.4,SNR=9.0						
ASAR	**Alice Springs**	**43.83**	**257**	P	**P**	**19 18 44.3**	**-0.2**
	8.9nm,0.5s,mb4.5,baz=89,slow=7.5,SNR=242						
ASAR				ScP		19 23 14.4	
	0.7nm,0.7s,baz=108,slow=4.6,SNR=5.5						
ASAR				S	**S**	**19 24 31.9**	**-1.7**
	1.9nm,0.9s,baz=93,slow=16,SNR=8.8						
ASPA	**Alice Springs**	**43.83**	**257**	⇓*i*P	**P**	**19 18 44.7**	**+0.2**
WRA	**Warramunga Arr**	**43.93**	**262**	P	**P**	**19 18 44.9**	**-0.4**
	7.3nm,0.3s,mb4.7,baz=97,slow=7.6,SNR=786						
WRA	**Warramunga Arr**	**43.93**	**262**	P	**P**	**19 18 44.9**	**-0.4**
KAKA	**Kakadu**	**47.34**	**272**	*e*P	**P**	**19 19 10.8**	**-0.6**
	6.3nm,0.3s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.35**	**263**	*e*P	**P**	**19 19 48.0**	**0.0**
	3.3nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**57.16**	**258**	*e*P	**P**	**19 20 20.6**	**-0.8**
	4.9nm,0.6s,mb3.9						
VNDA	**Vanda**	**57.56**	**185**	P	**P**	**19 20 23.8**	**+0.4**
	2.2nm,1.0s,mb3.3,baz=5.3,slow=7.6,SNR=6.6						
VNDA	**Vanda**	**57.56**	**185**	P	**P**	**19 20 23.8**	**+0.4**
QSPA	**South Pole Qui**	**69.27**	**180**	*e*P	**P**	**19 21 38.0**	**+0.5**
	4.5nm,0.4s,mb4.2						
VNA3	**Neumayer Olymp**	**87.89**	**176**	⇑*i*	**P**	**19 23 16.0**	**+0.3**
VNA2	**Neumayer--Watz**	**88.32**	**177**	⇑*i*	**P**	**19 23 18.5**	**+0.8**
ILAR	**Eielson Array**	**88.75**	**13**	P	**P**	**19 23 18.6**	**-1.3**
	0.5nm,0.5s,mb3.6,baz=216,slow=5.1,SNR=8.4						
CMAR	**Chiang Mai Arr**	**89.61**	**290**	P	**P**	**19 23 25.4**	**+0.5**
	1.4nm,0.7s,mb3.9,baz=124,slow=3.2,SNR=6.8						
ARCES	**ARCESS Array B**	**129.09**	**349**	PKP	PKPdf	19 29 28.1	-0.5
	2.2nm,0.8s,baz=34,slow=4.4,SNR=4.2						
FINES	**FINESS Array B**	**135.87**	**343**	PKP	PKPdf	19 29 43.7	+2.3
	1.0nm,0.8s,baz=180,slow=1.9,SNR=4.9						
FINES				SKPbc		19 32 19.3	
	2.2nm,0.8s,baz=135,slow=2.7,SNR=5.6						
FINES	**FINESS Array B**	**135.87**	**343**	PKP	PKPdf	19 29 43.7	+2.3
FINES				SKPbc		19 32 19.3	
AKASG	**Malin Array Be**	**142.96**	**330**	PKP	PKPdf	19 29 52.7	-1.6
	3.4nm,0.4s,baz=40,slow=4.2,SNR=38						

NEIC ***11*** *20:05:51.5, 30.92S×71.53W, h52km, MD3.8(GUC), After GUC.*

GUC 11 20:05:51.5±0.9**, 30.92S**×**71.53W, h52**km±8km**, MD3.8, ML3.5, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.42**	**43**	⇑*i*P	P	20 06 02.4	+0.4
OVCH				*i* S	S	20 06 10.2	+0.6
OVCH				AMP		20 06 11.0	
	comp=E,6μm,0.4s						
ILCH	**Illapel**	**0.78**	**156**	⇓*i*P	P	20 06 07.0	+0.6
ILCH				*i* S	S	20 06 18.1	+0.7
ILCH				AMP		20 06 19.4	
	comp=N,2μm,0.2s						
LSCH	**La Serena**	**1.04**	**14**	*i* P	P	20 06 10.2	+0.1
LSCH				*i* S	S	20 06 24.2	+0.5
LSCH				AMP		20 06 24.6	
	comp=E,1μm,0.2s						
PACH	**Papudo**	**1.61**	**177**	⇓*i*P	P	20 06 18.0	-0.1
PACH				*i* S	S	20 06 38.0	+0.1
JACH	**Jahuel**	**1.93**	**156**	*e*P	P	20 06 22.8	+0.2
LCO	**Las Campanas**	**2.04**	**21**	⇑*i*P	P	20 06 24.0	0.0
LCO				*i* S	S	20 06 49.0	+0.7
LCO				AMP		20 06 50.1	
	comp=E,898nm,0.5s						
ROCH	**El Roble**	**2.09**	**168**	*e*P	P	20 06 24.9	0.0
ROCH				*i* S	S	20 06 50.6	+0.8
VACH	**Vallenar**	**2.43**	**16**	*e*P	P	20 06 29.3	-0.4
VACH				*i* S	S	20 06 58.5	+0.1
ZON	**Zonda**	**2.52**	**105**	*e*P	P	20 06 32.2	+1.2
ZON				*e*S	S	20 07 02.2	+1.5
LCCH	**Las Cruces**	**2.55**	**181**	⇑*i*P	P	20 06 30.7	-0.7
CLCH	**Cerro Calan**	**2.61**	**161**	*e*P	P	20 06 32.0	-0.2
CLCH				*i* S	S	20 07 03.1	+0.2
CLCH				AMP		20 07 15.9	
	comp=E,345nm,0.6s						
FCH	**Farellones**	**2.62**	**157**	*e*P	P	20 06 32.6	+0.2
FCH				*i* S	S	20 07 03.9	+0.7
FCH				AMP		20 07 13.7	
	comp=N,163nm,0.4s						
RCDM	**Rinconada Maip**	**2.63**	**167**	⇑*i*P	P	20 06 32.6	0.0
RCDM				*i* S	S	20 07 02.6	-0.9
RCDM				AMP		20 07 06.0	
	comp=N,246nm,0.1s						
ANTU	**Antumapu**	**2.75**	**164**	*i* S	S	20 07 05.7	-0.7
ANTU				AMP		20 07 11.4	
	comp=E,171nm,0.4s						
CHCH	**Chadas Angostu**	**3.10**	**166**	*i* P	P	20 06 38.5	-0.6
LMEL	**Las Melosas**	**3.13**	**159**	*e*P	P	20 06 39.7	+0.1
LMEL				*i* S	S	20 07 15.5	-0.5
LMEL				AMP		20 07 18.5	
	comp=N,208nm,0.2s						
CICH	**Cipreses**	**3.52**	**165**	*e*P	P	20 06 44.6	-0.5
SFDO	**San Fernando**	**3.71**	**173**	*e*P	P	20 06 47.7	-0.1

NEIC ***11*** *20:06:38.0±1.2, 36.28N×71.45E, h98km±12km, mb4.4/16, Error ellipse: s-maj=10.0km s-min=6.3km az=63.0*

MOS ***11*** *20:06:38.3±1.1, 36.33N×71.43E, h116km, mb4.3/14, Error ellipse: s-maj=11.2km s-min=7.0km az=96.6*

BJI ***11*** *20:06:39.9, 36.54N×71.15E, h120km, mB5.1, mb4.7*

NNC ***11*** *20:06:44.2±3.7, 36.58N×71.43E, h142km±36km, mpv4.9, Error ellipse: s-maj=55.1km s-min=29.5km az=101.0*

IDC ***11*** *20:06:44.8±4.7, 36.38N×71.31E, h158km±43km, mb3.9/15, mb1 4.1/17, mb1mx3.9/23, mbtmp4.4/17, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=18.6km s-min=13.7km az=146.0*

ISC 11 20:06:39.4±0.4**, 36.26N**±0.02×**71.56E**±0.05**, h130**km±5km**, n114,** σ**1**^{s}**13**/132**, mb4.2**/32**, 7C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.45**	**173**	⇑P	**P**	**20 07 21.4**	**+1.8**
CHCP	**Chirah Chowk**	**2.95**	**151**	P	**P**	**20 07 28.8**	**+2.6**
THW	**Thamme Wali**	**3.46**	**177**	P	**P**	**20 07 34.0**	**+1.0**
SBDP	**Sheikh Budin**	**4.00**	**189**	⇑P	**P**	**20 07 39.9**	**-0.3**
SARP	**Sargodha**	**4.43**	**168**	P	**P**	**20 07 46.2**	**+0.3**
SARP				S	**S**	**20 08 34.0**	**-2.9**
JMU	**Jammu**	**4.48**	**141**	*i*	**S**	**20 08 41.0**	**+2.7**
DRP	**Derazinda**	**4.64**	**194**	P	**P**	**20 07 48.8**	**0.0**
THN	**Thein Dam**	**5.14**	**137**	*e*P	**P**	**20 07 56.8**	**+1.4**
	911nm,0.1s						
THN				*e*S	**S**	**20 08 54.0**	**0.0**
DLH	**Dalhousie**	**5.20**	**134**	*e*S	**S**	**20 08 56.0**	**+0.5**
PONG	**Pong**	**5.63**	**138**	*e*P	**P**	**20 08 04.0**	**+2.0**
PONG				*e*S	**S**	**20 09 07.0**	**+1.0**
AML	**Almayashu**	**6.09**	**15**	P	**P**	**20 08 08.3**	**+0.1**
	SNR=607						
UCH	**Uchtor**	**6.38**	**20**	P	**P**	**20 08 12.6**	**+0.4**
	SNR=87						
KZA	**Kyzart**	**6.48**	**25**	P	**P**	**20 08 13.9**	**+0.4**
	SNR=26						
SDNR	**Sundarnagar**	**6.54**	**135**	*e*P	**P**	**20 08 14.8**	**+0.5**
SDNR				*e*S	**S**	**20 09 24.2**	**-3.8**
EKS2	**Erkin-Say**	**6.62**	**14**	P	**P**	**20 08 15.1**	**-0.3**
	SNR=94						
AAK	**Ala-Archa**	**6.76**	**19**	P	**P**	**20 08 17.6**	**+0.3**
	SNR=85						
AAK	**Ala-Archa**	**6.76**	**19**	⇑P	**P**	**20 08 17.5**	**+0.2**
	47nm,0.5s						
AAK				⇓S	**S**	**20 09 31.0**	**-2.2**
	194nm,0.7s						
AAK	**Ala-Archa**	**6.76**	**19**	Pn	**P**	**20 08 16.7**	**-0.6**
	813nm,0.4s						
AAK	**Ala-Archa**	**6.76**	**19**	*e*PN	**P**	**20 08 16.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,67nm,0.5s						
AAK	**Ala-Archa**	**6.76**	**19**	*e*Pn	**P**	**20 08 16.4**	**-0.9**
	comp=Z,67nm,0.5s						
AAK				*e*Sn	**S**	**20 09 27.5**	**-5.7**
KBK	**Karagaybulak**	**6.90**	**21**	P	**P**	**20 08 19.8**	**+0.5**
	SNR=34						
SMLA	**Simla**	**6.93**	**136**	*i* P	**P**	**20 08 19.0**	**-0.7**
SMLA				*i* S	**S**	**20 09 34.6**	**-2.8**
FRU	**Bishkek**	**6.97**	**19**	*e*PN	**P**	**20 08 20.5**	**+0.2**
FRU				pmax	pmax		
	comp=Z,146nm,0.5s						
ULHL	**Ulahol**	**6.99**	**30**	P	**P**	**20 08 20.9**	**+0.4**
	SNR=19						
CHMS	**Chumysh**	**7.16**	**19**	P	**P**	**20 08 23.2**	**+0.4**
	SNR=42						
TKM2	**Tokmak 2**	**7.34**	**24**	P	**P**	**20 08 25.5**	**+0.3**
	SNR=37						
USP	**Ospenovka**	**7.35**	**17**	P	**P**	**20 08 25.1**	**-0.3**
	SNR=103						
DDI	**Dehra Dun**	**8.04**	**136**	*e*P	**P**	**20 08 34.2**	**-0.4**
DDI				*e*S	**S**	**20 10 04.2**	**-0.1**
JOSI	**Joshimath**	**8.78**	**128**	*e*P	**P**	**20 08 35.7**	**-8.7**
JOSI				*e*S	**S**	**20 10 09.2**	**-13**
KHET	**Khetri**	**8.92**	**155**	*e*P	**P**	**20 08 45.3**	**-1.0**
KHET				*e*S	**S**	**20 10 21.1**	**-4.3**
KHET				*e*		20 10 22.9	
	comp=N,79nm,0.3s						
KHET				*e*		20 10 22.9	
	comp=E,90nm,0.2s						
NDI	**New Delhi**	**8.94**	**146**	*e*P	**P**	**20 08 44.0**	**-2.6**
NDI				*e*S	**S**	**20 10 21.0**	**-4.9**
AYAN	**Aya Nagar**	**9.07**	**147**	*e*P	**P**	**20 08 47.6**	**-0.7**
AYAN				*e*S	**S**	**20 10 24.3**	**-4.8**
AYAN				*e*		20 10 29.3	
	comp=Z,51nm,0.9s						
SONA	**Sohna**	**9.25**	**148**	*e*P	**P**	**20 08 48.8**	**-1.9**
SONA				*e*S	**S**	**20 10 27.7**	**-5.7**
SONA				*e*		20 10 30.0	
	comp=N,62nm,0.3s						
SONA				*e*		20 10 30.1	
	comp=E,81nm,0.3s						
PTH	**Pithoragarh**	**9.88**	**130**	*e*P	**P**	**20 09 00.0**	**+0.9**
PTH				*e*		20 10 42.0	
LGTI	**Lohaghat**	**9.97**	**130**	*e*P	**P**	**20 09 00.0**	**-0.3**
LGTI				*e*S	**S**	**20 10 46.5**	**-4.0**
AJM	**Ajmer**	**10.10**	**164**	*e*P	**P**	**20 09 01.9**	**-0.1**
AJM				*e*		20 09 02.5	
	comp=Z,46nm,0.8s						
AJM				*e*		20 10 50.0	
AJM				*e*		20 10 51.5	
	comp=E,221nm,0.7s						
AJM				*e*		20 10 51.6	
	comp=N,132nm,0.5s						
MK31	**Makanchi Array**	**13.23**	**34**	⇑P	**P**	**20 09 43.3**	**+0.4**
	comp=N,5.7nm,0.8s,baz=227,slow=15,SNR=66						
KOLN	**Koldanda**	**13.26**	**126**	*e*P	**P**	**20 09 42.5**	**-0.9**
KOLN				*e*S	**S**	**20 12 03.8**	**-4.3**
GKN	**Gorkha**	**13.79**	**123**	*e*P	**P**	**20 09 49.6**	**-0.7**
	comp=N,300nm,0.6s						
BHPL	**Bhopal**	**13.93**	**157**	*e*P	**P**	**20 09 53.5**	**+1.3**
BHPL				*e*		20 12 16.8	
ALBI	**Allahabad**	**14.02**	**138**	*e*	**S**	**20 12 16.0**	**-10**
DMN	**Daman**	**14.36**	**123**	*e*P	**P**	**20 09 57.0**	**-0.6**
	comp=N,65nm,0.5s						
KKN	**Kakani**	**14.37**	**122**	*e*P	**P**	**20 09 56.9**	**-0.8**
	comp=N,165nm,0.5s						
KKN	**Kakani**	**14.37**	**122**	*e*P	**P**	**20 09 56.9**	**-0.8**
KKN				pmax	pmax		
	comp=Z,82nm,0.5s						
WMQ	**Urumqi**	**14.47**	**54**	*e*P	**P**	**20 10 05.0**	**+6.1**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s						
PKI	**Pulchoki**	**14.59**	**123**	*e*P	**P**	**20 10 00.7**	**+0.1**
	comp=Z,140nm,0.5s						
PKI	**Pulchoki**	**14.59**	**123**	*e*P	**P**	**20 10 00.7**	**+0.1**
PKI				pmax	pmax		
	comp=Z,70nm,0.5s						
JIRN	**Jiri**	**15.08**	**121**	*e*P	**P**	**20 10 06.4**	**-0.3**
	comp=Z,129nm,0.5s						
KURK	**Kurchatov**	**15.32**	**17**	⇑P	**P**	**20 10 10.7**	**+1.1**
	comp=Z,5.7nm,0.8s						
KURK	**Kurchatov**	**15.32**	**17**	Pn	**P**	**20 10 09.3**	**-0.2**
	comp=Z,97nm,0.8s,SNR=17						
KURK	**Kurchatov**	**15.32**	**17**	*e*P	**P**	**20 10 07.4**	**-2.1**
KURK				pmax	pmax		
	comp=Z,12nm,0.8s						
KURK	**Kurchatov**	**15.32**	**17**	*e*Pn	**P**	**20 10 07.3**	**-2.2**
	comp=Z,12nm,0.8s						
BVA0	**Borovoye Array**	**16.78**	**358**	⇑P	**P**	**20 10 26.3**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=178,slow=9.8,SNR=77						
BVAR	**Borovoye Array**	**16.78**	**358**	P	**P**	**20 10 26.7**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=166,slow=12,SNR=29						
CHKZ	**Chkalovo**	**17.43**	**358**	⇑P	**P**	**20 10 33.7**	**-2.0**
	comp=Z,9.2nm,0.6s						
CHKZ	**Chkalovo**	**17.43**	**358**	*e*P	**P**	**20 10 33.1**	**-2.6**
LSA	**Lhasa**	**17.68**	**106**	P	**P**	**20 10 42.6**	**+3.8**
LSA	**Lhasa**	**17.68**	**106**	*e*P	**P**	**20 10 41.8**	**+3.0**
LSA				pmax	pmax		
	comp=Z,13nm,0.9s						
LSA	**Lhasa**	**17.68**	**106**	*e*P	**P**	**20 10 41.8**	**+3.0**
	comp=Z,13nm,0.9s						
POO	**Poona**	**17.78**	**173**	*e*	**S**	**20 13 55.0**	**+3.8**
LATR	**Latur**	**18.32**	**165**	*e*	**S**	**20 13 59.0**	**-3.9**
HYB	**Hyderabad**	**19.77**	**160**	*e*P	**P**	**20 11 03.0**	**+1.6**
HYB				*e*S	**S**	**20 14 31.0**	**-0.9**
HYB	**Hyderabad**	**19.77**	**160**	*i* P	**P**	**20 11 03.0**	**+1.6**
HYB				*e*S	**S**	**20 14 31.0**	**-0.9**
ZAL	**Zalesovo**	**19.93**	**23**	P	**P**	**20 11 03.4**	**+0.4**
	comp=Z,17nm,0.3s,baz=256,slow=6.8,SNR=153						
NVS	**Novosibirsk**	**20.25**	**20**	*i* P	**P**	**20 11 04.3**	**-1.8**
NVS				*e*S	**S**	**20 14 41.8**	**+1.0**
NVS				pmax	pmax		
	comp=Z,13nm,0.9s						
NVS				pmax	pmax		
	comp=N,11nm,0.8s						
NVS				smax			
	comp=E,11nm,1.0s						
SHL	**Shillong**	**20.40**	**116**	*e*	**P**	**20 11 01.0**	**-6.8**
SHL				*e*		20 14 47.0	
GNI	**Garni**	**21.40**	**289**	P	**P**	**20 11 17.8**	**+0.1**
	comp=E,8.4nm,0.9s,mb4.1,baz=330,slow=4.5,SNR=7.5						
GNI	**Garni**	**21.40**	**289**	*e*P	**P**	**20 11 18.4**	**+0.7**
ZEI	**Tsey**	**22.25**	**295**	*e*P	**P**	**20 11 28.0**	**+2.0**
ZEI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
GTA	**Gaotai**	**22.50**	**73**	*e*P	**P**	**20 11 34.4**	**+5.9**
GTA				AP		20 11 58.6	
GTA				XP		20 12 12.9	
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
KIV	**Kislovodsk**	**23.30**	**298**	P	**P**	**20 11 35.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.4						
KIV	**Kislovodsk**	**23.30**	**298**	P	**P**	**20 11 35.9**	**-0.3**
	comp=Z,12nm,0.8s,mb4.4						
SOKR	**Solikamsk**	**25.22**	**342**	⇓*i*P	**P**	**20 11 54.0**	**-0.3**
SOKR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
ZAK	**Zakamensk**	**26.81**	**48**	*e*P	**P**	**20 12 10.5**	**+1.5**
ZAK				*e*	pP	20 12 40.3	+3.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.6						
SONM	**Songino Array**	**28.10**	**55**	P	**P**	**20 12 23.3**	**+2.5**
	comp=Z,3.6nm,0.7s,mb4.2,baz=265,slow=9.3,SNR=35						
ULN	**Ulaanbaatar**	**28.54**	**55**	*e*P	**P**	**20 12 26.3**	**+1.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
ULN	**Ulaanbaatar**	**28.54**	**55**	*e*P	**P**	**20 12 26.3**	**+1.5**
	comp=Z,2.4nm,0.6s,mb4.1						
OBN	**Obninsk**	**30.41**	**319**	*e*P	**P**	**20 12 39.6**	**-1.7**
OBN						20 13 43.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
AKASG	**Malin Array Be**	**33.45**	**309**	P	**P**	**20 13 04.4**	**-3.3**
	comp=Z,8.6nm,1.0s,mb4.5,baz=79,slow=7.7,SNR=15						
MLR	**Muntele Rosu**	**35.29**	**300**	P	**P**	**20 13 23.9**	**+0.4**
	comp=Z,3.0nm,0.8s,mb4.0,baz=130,slow=5.9,SNR=4.9						
JOF	**Joensuu**	**36.30**	**330**	*e*p	**P**	**20 13 31.5**	**-0.2**
	comp=Z,2.2nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**37.93**	**326**	P	**P**	**20 13 44.9**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.1,baz=115,slow=10,SNR=21						
KAF	**Kangasniemi**	**38.07**	**327**	*e*p	**P**	**20 13 45.8**	**-0.8**
ARCES	**ARCESS Array B**	**41.54**	**338**	P	**P**	**20 14 15.2**	**+0.2**
	comp=Z,4.3nm,0.4s,mb4.4,baz=118,slow=8.5,SNR=37						
ARCES				LR	LR	20 31 45.5	
	comp=Z,104nm,18.3s,baz=196,slow=36						
ARE0	**ARCESS Array S**	**41.54**	**338**	P	**P**	**20 14 15.0**	**0.0**
NB2	**NORSAR Subarra**	**44.84**	**323**	P	**P**	**20 14 40.6**	**-1.2**
	comp=Z,6.5nm,0.6s,mb4.4,baz=96,slow=7.9						
NB2	**NORSAR Subarra**	**44.84**	**323**	P	**P**	**20 14 40.6**	**-1.2**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**44.84**	**323**	P	**P**	**20 14 40.9**	**-0.9**
	comp=Z,5.8nm,0.6s,mb4.4,baz=96,slow=7.8,SNR=20						
NAO01	**NORSAR Array S**	**44.99**	**323**	*e*P	**P**	**20 14 42.3**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.2						
KMBO	**Kilima Mbogo**	**49.01**	**228**	P	**P**	**20 15 16.9**	**+1.9**
	comp=Z,1.0nm,0.5s,mb3.8,baz=39,slow=13,SNR=6.3						
BILL	**Bilibino**	**58.62**	**26**	*e*P	**P**	**20 16 24.7**	**+0.1**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.3						
BILL	**Bilibino**	**58.62**	**26**	*e*P	**P**	**20 16 24.7**	**+0.1**
	comp=Z,2.4nm,0.4s,mb4.4						
SUMG	**Summit**	**61.43**	**341**	*e*P	**P**	**20 16 44.0**	**+0.3**
	comp=Z,15nm,1.0s,mb4.8						
LSZ	**Lusaka**	**65.62**	**227**	*e*P	**P**	**20 17 11.8**	**-0.1**

LSZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
LSZ	Lusaka	65.62	227	*e*P	P	20 17 11.8	-0.1
	comp=Z,1.7nm,0.5s,mb4.1						
MATP	Matopo	69.54	223	P	P	20 17 36.0	-0.3
	comp=Z,4.7nm,0.5s,mb4.5,baz=37,slow=7.3,SNR=7.9						
IMA	Indian Mountai	72.21	18	*e*P	P	20 17 51.6	+0.2
IMA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
IMA	Indian Mountai	72.21	18	*e*P	P	20 17 51.6	+0.2
	comp=Z,13nm,0.6s,mb4.8						
INK	Inuvik	74.07	9	*e*P	P	20 18 02.5	+0.4
INK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
INK	Inuvik	74.07	9	P	P	20 18 03.0	+0.8
	comp=Z,3.3nm,0.5s,mb4.3,baz=341,slow=6.0,SNR=19						
INK	Inuvik	74.07	9	*e*P	P	20 18 02.5	+0.4
	comp=Z,3.2nm,0.4s,mb4.4						
LBTB	Lobatse	74.81	223	*e*P	P	20 18 08.1	+0.9
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.1						
LBTB	Lobatse	74.81	223	*e*P	P	20 18 08.1	+0.9
	comp=Z,2.3nm,0.4s,mb4.2						
ILAR	Eielson Array	74.89	16	P	P	20 18 06.8	0.0
	comp=Z,1.7nm,0.8s,mb3.7,baz=316,slow=4.7,SNR=18						
DBIC	Dimbokro	75.14	267	P	P	20 18 07.4	-1.9
	comp=Z,1.4nm,0.6s,mb3.8,baz=44,slow=6.1,SNR=2.6						
MCK	McKinley	75.29	17	*e*P	P	20 18 09.5	+0.3
MCK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
MCK	McKinley	75.29	17	*e*P	P	20 18 09.5	+0.4
	comp=Z,1.8nm,0.5s,mb4.0						
BOSA	Boshof	77.86	221	*e*P	P	20 18 24.5	+0.3
	comp=Z,4.1nm,0.8s,mb4.1						
YKW3	Yellowknife Ar	81.39	3	*e*P	P	20 18 42.6	+0.1
YKA	Yellowknife Ar	81.46	3	P	P	20 18 43.5	+0.6
	comp=Z,3.3nm,0.5s,mb4.2,baz=348,slow=5.3,SNR=93						
WRA	Warramunga Arr	81.48	122	P	P	20 18 44.7	+0.9
	comp=Z,0.5nm,0.5s,mb3.4,baz=326,slow=4.8,SNR=5.1						
SCHQ	Schefferville	82.49	337	P	P	20 18 48.8	+0.4
	comp=Z,1.9nm,0.8s,mb3.8,baz=150,slow=14,SNR=4.2						
FFC	Flin Flon	89.21	356	*e*P	P	20 19 21.8	+0.8
FFC				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
FFC	Flin Flon	89.21	356	*e*P	P	20 19 21.8	+0.7
	comp=Z,2.6nm,1.0s,mb4.1						

*IDC **11** 20:08:45.1±1.8, 7.19N×92.12E, mb3.8/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=61.0km s-min=24.7km az=64.0*
*NEIC **11** 20:08:50.0±1.0, 7.17N×92.27E, h30km, mb4.6/2, Error ellipse: s-maj=20.3km s-min=11.4km az=63.0*
ISC 11 20:08:48.2±1.2**, 7.2N**±0.1×**92.3E**±0.2**, h30km, n10, σ0.85**/10**, mb4.0**/6**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	8.47	103	*e*Pn	P	20 10 50.5	-1.5
CM31	Chiang Mai Arr	12.90	29	*e*Pn	P	20 11 54.1	+1.7
CMAR	Chiang Mai Arr	12.90	29	Pn	P	20 11 51.6	-0.8
	0.3nm,0.3s,baz=212,slow=14,SNR=22						
KSM	Kuching	18.79	107	*e*P	P	20 13 08.2	+0.3
SONM	Songino Array	42.22	14	P	P	20 16 40.2	-0.1
	0.4nm,0.8s,mb3.1,baz=188,slow=7.6,SNR=3.6						
WRA	Warramunga Arr	49.35	124	P	P	20 17 37.7	+0.4
	1.1nm,0.5s,mb4.1,baz=299,slow=9.8,SNR=37						
WRAB	Tennant Creek	49.35	124	*e*P	P	20 17 37.4	+0.1
	4.5nm,0.7s,mb4.6						
CHKZ	Chkalovo	49.57	343	*e*P	P	20 17 38.5	-0.1
	3.1nm,0.5s,mb4.6						
ASAR	Alice Springs	50.88	128	P	P	20 17 49.7	+0.8
	0.9nm,0.7s,mb3.8,baz=301,slow=7.2,SNR=7.8						
FINES	FINESS Array B	72.47	333	P	P	20 20 12.9	-0.9
	1.1nm,0.7s,mb3.9,baz=90,slow=3.8,SNR=4.6						

*JMA **11** 20:16:50.0±0.4, 24.06N×122.18E, h66km, M3.2*
TAP 11 20:16:49.0, 23.92N×122.20E, h18km±1km, ML3.7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.92	54	P	Pb	20 17 06.7	+0.7
YOJ				S	Sb	20 17 18.7	+1.0
IRIF	Iriomote-Funau	1.46	73	P	Pn	20 17 14.1	-0.6
IRIF				S	Sb	20 17 34.1	+0.7
HATJ	Hateruma jima	1.47	84	P	Pn	20 17 15.2	+0.3
HATJ				S	Sb	20 17 33.0	-0.9
JKRS	Kuro-shima	1.68	79	P	Pn	20 17 18.1	+0.2
JKRS				*e*S	Sn	20 17 39.3	+0.1
JIJ	Ishigaki jima	1.83	76	P	Pn	20 17 19.2	-0.8
JIJ				*e*S	Sn	20 17 40.4	-2.5
JTJ	Tarama	2.39	72	*e*S	Sn	20 17 56.8	-0.4

MAN 11 20:22:04.9, 6.97N×125.66E, h31km, mb4.4, ML3.3, MS3.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KCP	Kidapawan	0.57	274	⇓*e*P	Pb	20 22 17.1	+0.7
KCP				*i* S	Sb	20 22 27.0	+2.6
MATI	Mati	0.59	92	*e*P	Pb	20 22 17.5	+0.8
BUKP	Musuan	1.08	327	*e*P	Pn	20 22 23.7	-0.5
BUTP	Butuan	1.99	359	*e*P	Pn	20 22 37.2	+0.1
PAGZ	Pagadian	2.43	291	*e*P	Pn	20 22 42.7	-0.6
IPIL	Ipil	3.17	285	*e*P	Pn	20 22 54.1	+0.2

*SOF **11** 20:24:42.4, 40.89N×22.14E, h10km, MD2.7*
*ATH **11** 20:24:43.3, 40.80N×22.11E, h38km±1km, MD3.1/5*
*NEIC **11** 20:24:43.3, 40.80N×22.11E, h38km, MD3.1(ATH), After ATH.*
*CSEM **11** 20:24:43.3, 40.80N×22.11E, h38km, MD3.1/5, After ATH*
*THE **11** 20:24:44.3, 40.82N×22.23E, h6km, ML2.8*
ISC 11 20:24:43.2±0.4**, 40.81N**±0.04×**22.21E**±0.03**, h13km**±4km**, n20, σ0.73**/28**, 3C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GRG	Griva	0.21	46	*e*Pg	Pg	20 24 48.3	+0.4
GRG				*e*Sg	Sg	20 24 51.4	+0.3
VAY	Valandovo	0.58	28	⇑*i*Pg	Pg	20 24 54.6	-0.3
VAY				*i* Sg	Sg	20 25 02.0	-0.8
THE	Thessaloniki	0.60	107	*e*Pg	Pg	20 24 55.5	0.0
THE				*e*Sg	Sg	20 25 04.5	+0.9
KZN	Kozani	0.60	213	*e*PN	Pn	20 24 55.5	-1.6
KNT	Kendrikon	0.63	56	*e*Pg	Pg	20 24 56.0	0.0
KNT				*e*Sg	Sg	20 25 04.3	-0.2
FNA	Florina	0.63	268	*e*Pg	Pg	20 24 56.6	+0.6
FNA				*e*Sg	Sg	20 25 05.8	+1.2
BIA	Bitola	0.70	287	⇑*i*Pg	Pg	20 24 57.4	+0.1
BIA				*i* Sg	Sg	20 25 07.5	+0.7
LIT	Litokhoron	0.74	163	*e*Pg	Pg	20 24 57.9	-0.3
SOH	Sokhos	0.87	89	*e*Pg	Pg	20 25 00.5	-0.2
PLG	Polygyros	1.04	114	*e*PN	Pn	20 25 03.3	-0.1
PLG				*e*SN	Sn	20 25 18.0	+0.3
OHR	Ohrid	1.11	286	⇑*i*Pg	Pg	20 25 04.3	-1.1
OHR				*i* Sg	Sg	20 25 19.8	-0.4
KKB	Krupnik	1.24	32	Pg	Pg	20 25 06.0	-2.1
SKO	Skopje	1.29	334	*e*Pn	Pn	20 25 07.5	+0.5
NVR	Nevrokopi	1.36	66	*e*PN	Pn	20 25 08.5	+0.5
MMB	Musomiste	1.39	55	P	Pn	20 25 08.8	+0.5
OUR	Ouranopolis	1.43	109	*e*Pb	Pb	20 25 09.9	+0.6
NEO	Neokhori	1.69	152	*e*PN	Pn	20 25 12.5	-0.2
EVR	Evrytania	1.92	189	*e*PN	Pn	20 25 15.0	-0.9
VTS	Vitosha	1.93	23	P	Pn	20 25 17.0	+0.9
PGB	Panagyurishte	2.27	40	*e*P	Pn	20 25 21.2	+0.2

IDC 11 20:38:33.5±1.5**, 0.92N**×**125.48E, mb3.8**/4**, mb1 4.0**/4**, mb1mx3.8**/14**, mbtmp3.8**/4**, Error ellipse: s-maj=180.8km s-min=23.1km az=71.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.48	158	P	P	20 43 33.7	-2.3
	1.6nm,0.5s,baz=336,slow=10,SNR=47						
WB2	Warramunga Arr	22.48	158	*e*P	P	20 43 34.5	-1.6
ASPA	Alice Springs	25.77	162	*e*P	P	20 44 07.6	-0.3
ASAR	Alice Springs	25.78	162	P	P	20 44 06.8	-1.2
	4.5nm,0.8s,baz=350,slow=10,SNR=40						
STKA	Stephens Creek	36.02	156	P	P	20 45 36.7	-1.8
	1.5nm,0.7s,baz=330,slow=8.0,SNR=7.1						
SONM	Songino Array	49.58	343	P	P	20 47 26.4	-1.9
	0.4nm,1.0s,baz=149,slow=8.4,SNR=2.9						

IDC 11 20:40:19.9±34.0**, 23.07S**×**174.86W, h328km**±106km**, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.4**/16**, mbtmp4.3**/4**, Error ellipse: s-maj=449.6km s-min=99.0km az=77.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	36.22	267	*e*P	P	20 46 52.9	-1.1
	5.1nm,0.4s						
CTA	Charters Tower	36.22	267	P	P	20 46 53.1	-0.9
	8.6nm,0.5s,baz=94,slow=9.6,SNR=17						
STKA	Stephens Creek	39.41	247	P	P	20 47 17.7	-2.6
	2.0nm,0.6s,baz=99,slow=11,SNR=8.2						
ASAR	Alice Springs	46.83	259	P	P	20 48 17.9	-1.7
	1.2nm,0.8s,baz=86,slow=6.8,SNR=20						
WB2	Warramunga Arr	47.17	264	*e*P	P	20 48 21.0	-1.3
WRA	Warramunga Arr	47.18	264	P	P	20 48 21.2	-1.2
	2.3nm,0.3s,baz=98,slow=8.4,SNR=59						
WRA				ScP		20 53 08.0	
	0.7nm,0.8s,baz=100,slow=3.7,SNR=7.7						

*IDC **11** 20:52:14.5±1.2, 4.99N×94.71E, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.0/1, Error ellipse: s-maj=59.5km s-min=20.0km az=53.0*
*NEIC **11** 20:52:18.9±0.7, 4.85N×94.59E, h30km, mb4.2/5, Error ellipse: s-maj=23.0km s-min=9.8km az=222.0*
ISC 11 20:52:17.9±0.8**, 4.9N**±0.1×**94.7E**±0.1**, h33km, n18, σ1.03**/18**, mb4.1**/13**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.98	86	*e*Pn	Pn	20 53 47.4	+0.9
CM31	Chiang Mai Arr	14.14	17	*e*Pn	P	20 55 43.6	+5.6
	1.4nm,0.4s						
CMAR	Chiang Mai Arr	14.14	17	Pn	P	20 55 43.0	+5.0
	0.2nm,0.3s,baz=210,slow=11,SNR=19						
LSA	Lhasa	24.92	353	*e*P	P	20 57 40.4	+0.9
	3.1nm,0.5s,mb4.1						
AAK	Ala-Archa	41.65	337	*e*P	P	21 00 06.3	+1.4
	1.8nm,0.9s,mb3.7						
AAK				*e*pP	pP	21 00 18.9	+4.1
SONM	Songino Array	43.98	11	P	P	21 00 22.4	-1.4
	0.9nm,0.7s,mb3.6,baz=194,slow=7.9,SNR=10						
SONM				PcP	PcP	21 02 08.8	-0.9
	0.3nm,0.9s,baz=195,slow=3.6,SNR=7.8						
WRA	Warramunga Arr	46.14	124	P	P	21 00 41.2	-0.3
	1.0nm,0.8s,mb3.8,baz=301,slow=10,SNR=17						
WRAB	Tennant Creek	46.15	124	*e*P	P	21 00 41.2	-0.2
	2.9nm,0.5s,mb4.5						
ASAR	Alice Springs	47.63	128	P	P	21 00 52.9	-0.2
	0.8nm,0.5s,mb4.0,baz=300,slow=7.9,SNR=16						
KURK	Kurchatov	47.63	346	*e*P	P	21 00 52.2	-0.5
	1.4nm,0.6s,mb4.2						
ZAL	Zalesovo	49.58	352	P	P	21 01 06.7	-1.0
	1.6nm,0.3s,mb4.5,baz=328,slow=7.2,SNR=8.2						
ZAL	Zalesovo	49.58	352	P	P	21 01 06.7	-1.0
CHKZ	Chkalovo	52.47	342	*e*P	P	21 01 28.8	-0.8
	2.6nm,0.7s,mb4.3						
CHKZ				*e*pP	pP	21 01 42.4	+2.8
FINES	FINESS Array B	75.59	332	P	P	21 03 59.3	-1.6
	3.9nm,1.2s,mb4.2,baz=117,slow=4.3,SNR=4.7						
ARCES	ARCESS Array B	78.25	340	P	P	21 04 15.6	-0.1
	4.1nm,1.1s,mb4.3,baz=95,slow=8.3,SNR=3.5						
GERES	GERESS Array B	80.40	319	P	P	21 04 28.5	+0.8
	0.9nm,0.7s,mb3.8,baz=90,slow=5.9,SNR=3.1						
CLL	Collm	81.00	321	P	P	21 04 34.0	+3.2
CLL				*e**PP	pP	21 04 39.0	-2.2
DAVOX	Davos	82.90	316	P	P	21 04 41.6	+0.9
	2.1nm,0.7s,mb4.3,baz=135,slow=21,SNR=2.9						

MAN 11 21:03:49.1, 8.69N×126.42E, h69km, mb4.0, ML2.8, MS2.5, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.50	187	⇑*i*P	P	21 04 04.2	+2.2
BIPH				*i* S	S	21 04 14.1	+2.6
BUTP	Butuan	0.84	290	*e*P	P	21 04 08.6	+2.9
BUTP				*e*S	S	21 04 22.6	+4.6
SCPH	Surigao	1.43	320	*e*P	P	21 04 13.3	-0.3
SCPH				*e*S	S	21 04 36.8	+5.1
BUKP	Musuan	1.57	239	*e*P	P	21 04 15.9	+0.5
BUKP				*e*S	S	21 04 35.8	+0.8

*IDC **11** 21:04:35.9±0.6, 4.79N×94.99E, mb4.3/13, mb1 4.4/14, mb1mx4.3/21, mbtmp4.3/14, ML4.7/1, MS3.3/1, Ms1 3.5/1, ms1mx2.9/19, Error ellipse: s-maj=23.7km s-min=15.4km az=53.0*
*BJI **11** 21:04:35.6, 4.31N×94.95E, h33km, mb4.5*
*NEIC **11** 21:04:40.5±0.3, 4.75N×94.95E, h30km, mb4.4/13, Error ellipse: s-maj=8.3km s-min=5.0km az=49.0*
ISC 11 21:04:40.5±2.7**, 4.75N**±0.08×**95.02E**±0.10**, h44km**±25km**, n36, σ0.67**/37**, mb4.4**/27**, 1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.63	84	*e*Pn	P	21 06 03.0	-0.7
KULM				*e*Sn	S	21 07 07.7	-0.4
CM31	Chiang Mai Arr	14.15	15	Pn	P	21 08 00.5	+0.3
	4.0nm,0.3s						
CMAR	Chiang Mai Arr	14.15	15	Pn	P	21 08 03.9	+3.7
	1.1nm,0.3s,baz=206,slow=12,SNR=20						
CMAR				LR	LR	21 13 07.7	
	comp=Z,123nm,20.8s,baz=230,slow=36						
KSM	Kuching	15.61	102	Pn	P	21 08 20.0	+0.8
JIRN	Jiri	24.28	341	*e*P	P	21 09 54.4	-0.5
	9.3nm,0.3s,mb4.7						
GYA	Guiyang	24.29	26	P	P	21 09 56.8	+1.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
PKI	Pulchoki	24.47	339	*e*P	P	21 09 56.7	-0.1
	comp=Z,3.4nm,0.3s,mb4.2						
DMN	Daman	24.61	338	*e*P	P	21 09 58.3	+0.1
	comp=Z,8.9nm,0.7s,mb4.4						
KKN	Kakani	24.72	339	*e*P	P	21 09 59.2	+0.1
	comp=Z,4.6nm,0.4s,mb4.4						
LSA	Lhasa	25.08	352	P	P	21 10 03.6	+1.0
LSA	Lhasa	25.08	352	*e*P	P	21 10 03.0	+0.4
	comp=Z,7.2nm,0.8s,mb4.2						
GKN	Gorkha	25.14	338	*e*P	P	21 10 03.3	+0.1
	comp=Z,15nm,0.3s,mb5.0						
KOLN	Koldanda	25.34	336	*e*P	P	21 10 05.1	0.0
	comp=Z,15nm,0.6s,mb4.7						
XAN	Xi'an	31.87	22	P	P	21 11 02.8	-1.0
XAN				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.9						
GTA	Gaotai	34.77	7	*e*P	P	21 11 28.2	-0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
AAK	Ala-Archa	41.90	337	*e*P	P	21 12 29.0	+0.7
	comp=Z,5.2nm,0.9s,mb4.2						
NWAO	Narrogin (SRO)	42.99	152	P	P	21 12 37.0	-0.5
	comp=Z,6.8nm,1.0s,mb4.3,baz=300,slow=14,SNR=2.7						
SONM	Songino Array	44.02	11	P	P	21 12 44.7	-0.9
	comp=Z,1.1nm,0.6s,mb3.8,baz=195,slow=9.3,SNR=19						
SONM				PcP	PcP	21 14 31.1	+0.1
	comp=Z,0.3nm,0.5s,baz=203,slow=4.3,SNR=4.0						
WRA	Warramunga Arr	45.78	124	P	P	21 13 00.4	+0.5
	comp=Z,9.3nm,0.6s,mb4.9,baz=301,slow=9.3,SNR=91						
WRAB	Tennant Creek	45.78	124	*e*P	P	21 13 00.3	+0.3
	comp=Z,14nm,0.8s,mb5.0						
WRAB				*e*pP	pP	21 13 14.5	+2.3
WB2	Warramunga Arr	45.79	124	⇓*i*P	P	21 13 00.5	+0.5
ASAR	Alice Springs	47.28	128	P	P	21 13 12.0	+0.3
	comp=Z,4.6nm,0.7s,mb4.5,baz=299,slow=8.0,SNR=48						
KURK	Kurchatov	47.83	346	P	P	21 13 15.4	-0.3
	comp=Z,33nm,0.4s,mb5.7,SNR=19						
KURK	Kurchatov	47.83	346	*e*P	P	21 13 15.2	-0.5
	comp=Z,3.2nm,0.7s,mb4.5						
ZAL	Zalesovo	49.74	352	P	P	21 13 30.1	-0.2
	comp=Z,3.1nm,0.3s,mb4.8,baz=308,slow=5.3,SNR=12						
CHKZ	Chkalovo	52.69	342	*e*P	P	21 13 52.0	-0.6
	comp=Z,3.0nm,0.3s,mb4.7						
STKA	Stephens Creek	57.34	133	P	P	21 14 26.1	-0.6
	comp=Z,0.5nm,0.3s,mb4.0,baz=324,slow=8.7,SNR=4.1						
KMBO	Kilima Mbogo	58.01	266	P	P	21 14 31.8	+0.1
	comp=Z,0.8nm,0.7s,mb3.9,baz=58,slow=11,SNR=7.6						
KMBO	Kilima Mbogo	58.01	266	*e*P	P	21 14 31.8	+0.1
	comp=Z,2.4nm,0.9s,mb4.2						
MATP	Matopo	69.89	246	P	P	21 15 48.8	-0.6
	comp=Z,1.3nm,0.6s,mb4.0,baz=63,slow=9.0,SNR=4.7						
LBTB	Lobatse	73.55	242	P	P	21 16 11.3	+0.1
	comp=Z,3.6nm,0.8s,mb4.4,baz=94,slow=6.0,SNR=5.5						
LBTB	Lobatse	73.55	242	*e*P	P	21 16 10.9	-0.3
	comp=Z,3.5nm,0.8s,mb4.3						
FINES	FINESS Array B	75.86	332	P	P	21 16 23.1	-0.7
	comp=Z,0.6nm,0.3s,mb4.0,baz=108,slow=6.1,SNR=15						
ARCES	ARCESS Array B	78.48	340	P	P	21 16 38.0	-0.2
	comp=Z,2.9nm,1.0s,mb4.2,baz=91,slow=7.0,SNR=8.8						
VAE	Valguarnera	79.68	307	P	P	21 16 46.8	+1.5
	comp=Z,5.4nm,0.7s,mb4.6,baz=100,slow=22,SNR=4.1						
GERES	GERESS Array B	80.73	319	P	P	21 16 50.9	+0.1
	comp=Z,0.4nm,0.4s,mb3.7,baz=127,slow=4.9,SNR=3.2						

*NNC **11** 21:14:22.5±0.7, 47.07N×82.86E, mpv4.3, Error ellipse: s-maj=3.6km s-min=2.3km az=63.0*
*NEIC **11** 21:14:22.5, 47.07N×82.86E, mb3.9/6, After NNC.*
*IDC **11** 21:14:22.5±0.8, 47.11N×83.15E, mb3.8/10, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, ML4.4/3, Error ellipse: s-maj=17.0km s-min=11.8km az=79.0*
*BJI **11** 21:14:22.8, 47.18N×82.95E, h25km, mB4.6, mb4.1, ML4.5, Ms3.8*
*MOS **11** 21:14:23.1±1.5, 47.02N×82.68E, h19km, mb4.4/2, Error ellipse: s-maj=13.3km s-min=6.7km az=90.6*
ISC 11 21:14:23.2±0.9**, 47.12N**±0.03×**82.81E**±0.05**, h17km**±8km**, n60, σ1.43**/71**, mb3.8**/12**, 6C-7D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	0.48	228	⇑P	Pb	21 14 32.0	-0.9
	343nm,0.5s,baz=54,slow=19,SNR=5.0						
MK31				⇓S	Sb	21 14 38.5	-1.0
	2µm,0.4s,baz=56,slow=29						
MK31	Makanchi Array	0.48	228	P	Pb	21 14 32.0	-0.9
MK31				S	Sb	21 14 38.5	-1.0
MKAR	Makanchi Array	0.48	228	*e*PG	Pb	21 14 32.0	-0.9
MKAR				S	Sb	21 14 38.5	-1.0
MKAR				pmax	pmax		
	comp=Z,66nm,0.2s						
UKR	Ust'-Kan	4.03	18	*e*PN	Pn	21 15 29.7	+4.0
UKR				*e*S	Sb	21 16 30.7	+8.5
AKAR	Aktash	4.51	43	*e*PN	Pn	21 15 36.1	+3.5
AKAR				*e*		21 15 46.2	
AKAR				*e*S	Sb	21 16 45.6	+9.5
KURK	Kurchatov	4.54	324	⇓Pn	Pn	21 15 34.0	+1.1
	comp=Z,24nm,0.4s						
KURK				⇓Lg		21 16 49.4	
	comp=Z,320nm,0.8s						
KURK	Kurchatov	4.54	324	Pn	Pn	21 15 34.2	+1.3
	comp=Z,1µm,0.4s,SNR=33						
KURK	Kurchatov	4.54	324	PN	Pn	21 15 34.8	+1.9
KURK						21 16 45.6	
KURK				pmax	pmax		
	comp=Z,9.0nm,0.4s						
WMQ	Urumqi	4.76	132	⇑*i*P	Pn	21 15 36.5	+0.4
WMQ				S	Sn	21 16 32.5	+0.9
WMQ				Smax			
	comp=N,380nm,1.0s						
WMQ				Smax			
	comp=E,211nm,0.7s						
WMQ				LR	LR		
	comp=N,542nm,6.2s						
WMQ				LR	LR		
	comp=E,610nm,5.5s						
ARTR	Artybash	5.51	30	*e*PN	Pn	21 15 49.1	+2.4
ARTR				*e*		21 16 03.6	
ARTR				*e*S	Sb	21 17 12.8	+7.7
ELT	Yel'tsovka	6.53	18	*e*PN	Pn	21 16 02.4	+1.4
TKM2	Tokmak 2	6.62	233	P	Pn	21 16 04.0	+1.8
	SNR=14						
ULHL	Ulahol	6.76	226	P	Pn	21 16 05.4	+1.1
	SNR=18						
ZAL	Zalesovo	6.94	10	Pn	Pn	21 16 07.6	+0.8
	comp=E,21nm,0.3s,baz=278,slow=8.7,SNR=121						
ZAL				Sn	Sn	21 17 24.4	-1.7
	comp=E,12nm,0.3s,baz=314,slow=23,SNR=9.2						
ZAL				Lg		21 18 00.2	
	comp=E,10.0nm,0.3s,baz=4.8,slow=23,SNR=11						
ZAL	Zalesovo	6.94	10	Pn	Pn	21 16 07.6	+0.8
ZAL				*e*		21 18 00.3	
USP	Ospenovka	7.02	240	P	Pn	21 16 10.5	+2.5
	SNR=14						
CHMS	Chumysh	7.04	237	P	Pn	21 16 09.9	+1.7
	SNR=12						
KBK	Karagaybulak	7.15	234	P	Pn	21 16 10.6	+0.8
	SNR=22						
AAK	Ala-Archa	7.42	236	P	Pn	21 16 16.0	+2.5
	SNR=14						
AAK	Ala-Archa	7.42	236	⇑Pn	Pn	21 16 12.9	-0.6
	comp=E,8.3nm,0.4s						
AAK				⇓Lg		21 18 18.4	
	comp=E,97nm,0.8s						
AAK	Ala-Archa	7.42	236	Pn	Pn	21 16 12.3	-1.2
	comp=E,188nm,0.4s,SNR=35						
AAK	Ala-Archa	7.42	236	P	Pn	21 16 13.6	+0.1
AAK				pmax	pmax		
	comp=Z,3.0nm,0.4s						
UCH	Uchtor	7.67	233	P	Pn	21 16 19.8	+2.7
	SNR=7.3						
NVS	Novosibirsk	7.74	2	*e*P	Pn	21 16 18.0	+0.1
NVS				*e*		21 17 42.0	
EKS2	Erkin-Say	7.81	238	P	Pn	21 16 20.9	+1.9
	SNR=16						
AML	Almayashu	8.19	236	P	P	21 16 26.7	+2.4
	SNR=7.7						
BVA0	Borovoye Array	9.93	311	⇑Pn	P	21 16 46.0	-2.3
	comp=Z,0.3nm,0.3s,baz=124,slow=14,SNR=79						
BVA0				⇑Sn	Sn	21 18 38.5	-1.8
	comp=Z,2.6nm,0.7s,baz=105,slow=22,SNR=7.7						
BVA0				⇑Lg		21 19 39.2	
	comp=Z,12nm,0.9s,baz=117,slow=26,SNR=5.0						
BVA0	Borovoye Array	9.93	311	*e*P	P	21 16 47.5	-0.7
BVA0				*e*		21 18 36.2	
BVA0	Borovoye Array	9.93	311	Pn	P	21 16 46.0	-2.3
BVA0				Sn	Sn	21 18 38.5	-1.8
BVA0				Lg		21 19 39.1	
BVAR	Borovoye Array	9.93	311	Pn	P	21 16 47.4	-0.8
	comp=Z,2.6nm,0.3s,baz=119,slow=14,SNR=37						
CHKZ	Chkalovo	10.18	315	⇓Pn	P	21 16 49.7	-1.9
	comp=Z,2.5nm,0.5s						
CHKZ				⇓Sn	S	21 18 44.6	-1.7
	comp=Z,7.9nm,0.6s						
CHKZ				⇓Lg		21 19 44.8	
	comp=Z,41nm,0.8s						
CHKZ	Chkalovo	10.18	315	P	P	21 16 50.3	-1.3
CHKZ						21 18 40.9	
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CHKZ	Chkalovo	10.18	315	P	P	21 16 50.3	-1.3
CHKZ				*e*		21 18 40.9	
ZAK	Zakamensk	13.89	69	*e*P	P	21 17 40.9	-0.5
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s						
SONM	Songino Array	15.95	79	Pn	P	21 18 08.0	-0.4
	comp=Z,0.2nm,0.3s,baz=281,slow=11,SNR=15						
SONM				Lg		21 22 42.3	
	comp=Z,0.1nm,0.3s,baz=275,slow=30,SNR=3.7						
LSA	Lhasa	18.56	157	P	P	21 18 41.6	+0.4
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LSA	Lhasa	18.56	157	P	P	21 18 41.6	+0.3
	comp=Z,2.6nm,0.7s						
GKN	Gorkha	19.14	175	*e*P	P	21 18 46.8	-1.4
	comp=Z,10.0nm,0.4s						
KKN	Kakani	19.39	173	*e*P	P	21 18 49.5	-1.6
	comp=Z,8.1nm,0.6s						
KKN	Kakani	19.39	173	*e*P	P	21 18 49.5	-1.6
KKN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DMN	Daman	19.56	174	*e*P	P	21 18 51.0	-2.0
JIRN	Jiri	19.61	171	*e*P	P	21 18 52.3	-1.3
	comp=Z,9.4nm,0.5s						
PKI	Pulchoki	19.62	173	*e*P	P	21 18 52.1	-1.6
	comp=Z,7.9nm,0.7s						
PKI	Pulchoki	19.62	173	*e*P	P	21 18 52.1	-1.6
PKI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BOD	Bodaibo	21.61	49	*e*P	P	21 19 11.3	-2.8

BOD pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
GNI Garni 28.21 270 P **P 21 20 20.7 +3.8**
comp=Z,1.1nm,0.5s,mb3.7,baz=49,slow=11,SNR=2.6
CMAR Chiang Mai Arr 31.51 150 P **P 21 20 46.3 -0.2**
comp=Z,0.9nm,0.8s,mb3.6,baz=326,slow=8.1,SNR=8.1
JOF Joensuu 32.43 318 *e*p **P 21 20 54.6 +0.5**
comp=Z,0.5nm,0.3s,mb3.8
KAF Kangasniemi 34.72 316 *e*p **P 21 21 15.0 +1.0**
FINES FINESS Array B 34.85 315 P **P 21 21 16.0 +0.9**
comp=Z,1.0nm,0.8s,mb3.8,baz=108,slow=6.0,SNR=9.6
ARCES ARCESS Array B 35.55 329 P **P 21 21 22.4 +1.3**
comp=Z,3.7nm,1.0s,mb4.3,baz=79,slow=6.2,SNR=4.0
NB2 NORSAR Subarra 42.01 316 P **P 21 22 14.4 -0.3**
comp=Z,1.7nm,0.5s,mb3.9,baz=76,slow=7.9
NB2 NORSAR Subarra 42.01 316 P **P 21 22 14.4 -0.3**
NB2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
NOA NORSAR Array B 42.01 316 P **P 21 22 14.8 +0.1**
NOA NORSAR Array B 42.01 316 P **P 21 22 14.7 0.0**
comp=Z,1.8nm,0.6s,mb3.9,baz=77,slow=8.0,SNR=8.4
ESDC Sonseca Array 60.39 298 P **P 21 24 35.7 +2.0**
comp=Z,0.5nm,0.6s,mb3.7,baz=43,slow=6.2,SNR=4.1
ILAR Eielson Array 61.92 22 P **P 21 24 41.8 -2.0**
comp=Z,0.8nm,0.7s,mb4.0,baz=323,slow=5.6,SNR=8.3
YKA Yellowknife Ar 69.85 9 P **P 21 25 33.0 -1.4**
comp=Z,0.4nm,0.6s,mb3.5,baz=343,slow=6.2,SNR=6.9
WRA Warramunga Arr 81.25 132 P **P 21 26 39.0 -0.8**
comp=Z,0.4nm,0.3s,mb3.8,baz=340,slow=5.5,SNR=13
ASAR Alice Springs 84.16 134 P **P 21 26 54.5 -0.3**
comp=Z,0.5nm,0.9s,mb3.6,baz=320,slow=5.3,SNR=4.7

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*IDC **11** 21:24:40.8±2.1, 28.07N×111.99W, mb3.5/4, mb1 3.8/9, mb1mx3.6/24, mbtmp3.5/9, ML3.4/4, MS3.9/15, Ms1 3.9/15, ms1mx3.8/20, Error ellipse: s-maj=28.5km s-min=11.6km az=19.0*
*NEIC **11** 21:24:41.5±1.1, 28.00N×112.06W, h10km, mb3.7/3, Error ellipse: s-maj=15.9km s-min=8.1km az=223.0*
ISC 11 21:24:41.0±0.8**, 28.14N**±0.07×**111.95W**±0.06**, h10km, n42, σ1ˢ15**/37**, mb3.5**/3**, MS3.9**/10**, Gulf of California**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
TUC Tucson 4.28 13 *e*P **Pn 21 25 44.9 -2.8**
BAR Barrett 6.09 319 P **Pn 21 26 09.6 -3.7**
TXAR Lajitas Array 7.37 79 Pn **Pn 21 26 30.7 -0.6**
0.6nm,0.3s,baz=249,slow=13,SNR=16
TXAR Pg **Pg 21 27 01.1 -7.0**
0.5nm,0.3s,baz=243,slow=17,SNR=7.3
TXAR Sn **Sn 21 27 55.7 -0.1**
baz=257,slow=17,SNR=2.5
TXAR Lg 21 28 35.7
1.0nm,0.3s,baz=248,slow=20,SNR=5.0
TXAR LR LR 21 29 32.9
comp=Z,2μm,20.6s,baz=270,slow=39
TXAR Lajitas Array 7.37 79 Pn **Pn 21 26 30.7 -0.6**
TXAR Pg **Pg 21 27 01.1 -7.0**
TXAR Sn **Sn 21 27 55.7 -0.1**
TXAR Lg 21 28 35.7
TXAR LR LR 21 29 32.9
LAZ Ladron 7.47 32 *e*P **Pn 21 26 33.0 +0.2**
GDL2 Guadalupe Moun 7.71 57 *e*P **Pn 21 26 36.9 +0.8**
ANMO Albuquerque 8.24 33 Pn **P 21 26 44.1 +0.6**
baz=201,slow=13,SNR=3.0
ANMO Sn **Sn 21 28 17.1 -0.6**
baz=40,slow=15,SNR=2.9
ANMO Lg 21 29 04.5
baz=356,slow=7.0,SNR=7.8
ANMO LR LR 21 30 14.7
comp=Z,152nm,19.5s,slow=40
CPRX Cap Rock 8.50 53 P **P 21 26 46.2 -0.9**
MVU Marysvale 10.34 359 P **P 21 27 10.8 -1.7**
MSU Marysvale 10.35 359 P **P 21 27 11.6 -1.0**
AMTX Amarillo 11.04 50 P **P 21 27 21.9 -0.1**
NVAR Mina Array Bea 11.55 334 Pn **P 21 27 30.0 +1.0**
0.1nm,0.3s,baz=150,slow=12,SNR=4.6
NVAR Lg 21 30 56.5
0.0nm,0.3s,baz=7.1,slow=24,SNR=2.2
NVAR LR LR 21 32 11.9
comp=Z,454nm,18.3s,baz=115,slow=39
NVAR Mina Array Bea 11.55 334 Pn **P 21 27 30.0 +0.9**
NVAR Lg 21 30 56.5
NVAR LR LR 21 32 11.9
ELK Elko 12.86 349 Pn **P 21 27 48.9 +2.2**
0.2nm,0.3s,baz=178,slow=9.1,SNR=13
ELK Lg 21 31 28.9
0.0nm,0.3s,baz=175,slow=18,SNR=3.0
ELK LR LR 21 32 58.3
comp=Z,606nm,21.4s,baz=163,slow=38
HWUT Hardware Ranch 13.44 1 *e*P **P 21 27 56.0 +1.7**
BW06 Boulder Array 14.72 7 P **P 21 28 13.0 +1.9**
3.3nm,0.9s
PDAR Pinedale Array 14.72 7 Pn **P 21 28 14.2 +3.0**
baz=69,slow=38,SNR=2.3
PDAR Lg 21 32 25.6
baz=209,slow=33,SNR=1.7
PDAR LR LR 21 33 29.9
comp=Z,523nm,18.0s,baz=185,slow=36
PDAR Pinedale Array 14.72 7 Pn **P 21 28 14.2 +3.0**
PDAR Lg 21 32 25.6
PDAR LR LR 21 33 29.9
MOD Modoc 15.33 336 P **P 21 28 17.9 -1.1**
13nm,1.2s
HLID Hailey 15.52 353 *e*P **P 21 28 21.0 -0.5**
4.8nm,1.3s
YMR Madison River 16.51 2 P **P 21 28 33.9 -0.4**
BMO Blue Mountains 17.22 347 P **P 21 28 41.8 -1.3**
8.9nm,1.4s
NEW Newport 20.49 350 P **P 21 29 22.3 +0.7**
1.8nm,0.4s,baz=117,slow=18,SNR=3.4
NEW LR LR 21 37 40.2
comp=Z,434nm,20.6s,MS3.8,baz=274,slow=38
NEW Newport 20.49 350 P **P 21 29 22.3 +0.7**
NEW LR LR 21 37 40.2
TEIG Tepich 22.96 105 P **P 21 29 46.1 -0.6**
SWET Sewanee 23.20 66 P **P 21 29 50.5 +1.6**
ULM Lac du Bonnet 25.24 25 P **P 21 30 09.8 +1.2**
0.9nm,0.5s,mb3.6,baz=354,slow=8.7,SNR=2.0
ULM Lac du Bonnet 25.24 25 P **P 21 30 09.8 +1.2**
BBB Bella Bella 26.88 338 LR LR 21 41 43.8
comp=Z,336nm,18.8s,MS3.9,baz=156,slow=38
SADO Sadowa 30.91 49 LR LR 21 45 23.2
comp=Z,73nm,19.4s,MS3.4,baz=84,slow=40
DLBC Dease Lake 32.80 342 LR LR 21 44 27.4
comp=Z,488nm,19.8s,MS4.2,baz=152,slow=36
YKA Yellowknife Ar 34.40 358 P **P 21 31 29.4 -0.8**
0.2nm,0.5s,mb3.3,baz=180,slow=8.8,SNR=5.4
YKA LR LR 21 46 57.3
comp=Z,257nm,18.0s,MS4.0,baz=185,slow=39
SCHQ Schefferville 41.99 38 LR LR 21 50 46.4
comp=Z,215nm,18.3s,MS4.1,baz=284,slow=37
OTAV Otavalo 42.41 125 P **P 21 32 37.4 -0.3**
ILAR Eielson Array 42.76 339 P **P 21 32 39.6 -0.3**
1.6nm,1.1s,mb3.7,baz=150,slow=7.7,SNR=7.4
SDV Santo Domingo 43.33 108 *e*P **P 21 32 45.3 +0.1**
FRB Frobisher Bay 45.12 26 LR LR 21 50 44.6
comp=Z,160nm,18.7s,MS4.0,baz=298,slow=35
PPT Papeete 58.23 223 *e*LR LR 21 51 20.9
78nm,20.8s
LPAZ La Paz 61.24 131 LR LR 22 00 30.6
comp=Z,63nm,21.6s,MS3.7,baz=256,slow=35
TBI Tubuai 62.68 219 *e*LR LR 21 53 14.2
77nm,30.0s
BDFB Brasilia 75.63 117 LR LR 22 10 07.3
comp=Z,110nm,19.0s,MS4.2,baz=174,slow=36
NOA NORSAR Array B 79.94 24 LR LR 22 17 24.5
comp=Z,96nm,18.2s,MS4.2,baz=150,slow=40

IDC 11 21:26:03.5±3.1**, 14.24N**×**92.07E, mb3.4**/3**, mb1 3.5**/4**, mb1mx3.4**/17**, mbtmp3.2**/4**, ML3.0**/1**, MS3.9**/2**, Ms1 3.9**/2**, ms1mx3.4**/9**, Error ellipse: s-maj=81.6km s-min=29.9km az=83.0, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 7.81 57 Pn Pn 21 27 58.2 -3.0
0.1nm,0.3s,baz=246,slow=16,SNR=2.6
SONM Songino Array 35.54 17 P P 21 33 02.6 -1.7
0.2nm,0.6s,baz=209,slow=7.7,SNR=2.7
WRA Warramunga Arr 53.69 128 P P 21 35 27.3 -2.4
0.4nm,0.6s,baz=294,slow=6.6,SNR=6.0
ASAR Alice Springs 55.61 132 P P 21 35 41.5 -2.2
0.3nm,0.4s,baz=306,slow=7.0,SNR=5.9
ARCES ARCESS Array B 68.62 340 LR LR 22 07 41.4
comp=Z,92nm,21.4s,baz=13,slow=36
NOA NORSAR Array B 73.23 330 LR LR 22 14 35.1
comp=Z,68nm,19.2s,baz=265,slow=40

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*NEIC **11** 22:02:38.2, 59.04N×154.09W, h106km, MG2.9(AEIC), After AEIC.*
*IDC **11** 22:02:42.9±8.4, 59.69N×154.09W, h139km±70km, mb3.4/2, mb1 3.1/5, mb1mx3.0/20, mbtmp3.5/5, Error ellipse: s-maj=70.6km s-min=34.3km az=15.0*
ISC 11 22:02:35.7±0.5**, 59.04N**±0.04×**154.05W**±0.09**, h118km**±4km**, n38, σ0ˢ82**/49**, mb3.9**/2**, Southern Alaska**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MCNL McNeil River 0.21 315 P **P 22 02 52.5 +0.3**
MCNL S **S 22 03 03.2 -1.5**
AUI Augustine Isla 0.44 47 P **P 22 02 53.8 +0.6**
AUI S **S 22 03 06.0 -0.4**
KAPH Katmai Pasha 0.47 199 P **P 22 02 53.9 +0.5**
KAPH S **S 22 03 06.5 -0.2**
AUE Augustine Isla 0.48 47 P **P 22 02 54.3 +0.9**
KAHC Katmai Hardscr 0.63 232 P **P 22 02 54.8 +0.4**
BGM Big Mountain 0.70 301 P **P 22 02 55.0 +0.1**
BGM S **S 22 03 08.3 -1.3**
OPT Oil Point 0.75 34 P **P 22 02 56.4 +1.0**
KAWH Katmai 0.76 211 P **P 22 02 56.0 +0.5**
KAWH S **S 22 03 10.0 -0.5**
SYI Shuyak Island 0.96 116 P **P 22 02 58.1 +0.6**
SYI S **S 22 03 13.6 -0.3**
ILW Iliamna West 1.13 24 P **P 22 02 59.9 +0.7**
ILW S **S 22 03 16.7 -0.1**
INE Iliamna NE 1.14 26 P **P 22 03 00.1 +0.7**
ILIM Iliamna 1.18 28 P **P 22 03 00.6 +0.7**
KDAK Kodiak Island 1.48 148 Pn **P 22 03 03.3 +0.1**
2μm,0.3s
KDAK Kodiak Island 1.48 148 P **P 22 03 03.4 +0.2**
KDAK S **S 22 03 23.1 -0.9**
RDN Redoubt North 1.62 23 P **P 22 03 05.7 +0.9**
NCT North Crescent 1.63 20 P **P 22 03 05.7 +0.8**
DFR Drift River 1.71 23 P **P 22 03 06.6 +0.8**
DFR S **S 22 03 28.9 +0.2**
BRLK Bradley Lake 1.78 64 P **P 22 03 07.3 +0.6**
SVW2 Sparrevohn 2.20 340 P **P 22 03 12.4 +0.3**
SPU Mount Spurr 2.37 24 *e*P **P 22 03 15.0 +0.6**
SLKM Skilak Lake 2.44 51 *e*P **P 22 03 16.0 +0.7**
STLK Strandline Lak 2.71 23 P **P 22 03 20.1 +1.2**
RC01 Rabbit Creek A 2.99 45 P **P 22 03 22.8 +0.2**
RC01 S **S 22 03 56.1 -2.1**
LTI Latouche 3.31 70 P **P 22 03 27.0 0.0**
GHO Glory Hole Cre 3.74 41 P **P 22 03 32.1 -0.7**
CUT Chulitna 3.85 27 P **P 22 03 34.7 +0.4**
SML Sawmill 3.97 43 P **P 22 03 35.1 -0.8**
HIN Hinchinbrook I 4.06 67 P **P 22 03 36.5 -0.5**
SCM Sheep Creek Mo 4.35 47 P **P 22 03 40.4 -0.7**
EYAK Cordova Ski Ar 4.46 67 P **P 22 03 42.2 -0.3**
KTH Kantishna Hill 4.78 17 P **P 22 03 46.1 -0.6**
CCB Clear Creek Bu 6.36 25 P **P 22 04 06.3 -1.8**
ILAR Eielson Array 6.67 27 P **P 22 04 10.5 -2.0**
0.4nm,0.3s,baz=218,slow=12,SNR=26
ILAR S **S 22 05 19.4 -8.1**
0.8nm,0.3s,baz=90,slow=28,SNR=14
INK Inuvik 12.94 36 P **P 22 05 36.5 +0.7**
0.1nm,0.3s,baz=236,slow=14,SNR=3.8
YKA Yellowknife Ar 19.35 63 P **P 22 06 54.2 +0.3**
0.1nm,0.3s,baz=275,slow=9.7,SNR=6.2
YKA Yellowknife Ar 19.35 63 P **P 22 06 54.2 +0.3**
SONM Songino Array 54.92 306 P **P 22 11 56.4 +0.5**
1.4nm,0.7s,mb4.1,baz=48,slow=5.9,SNR=14
ZAL Zalesovo 57.85 323 P **P 22 12 14.7 -1.8**
0.6nm,0.8s,mb3.7,baz=282,slow=4.1,SNR=3.8

IDC 11 22:12:08.9±8.0**, 6.76S**×**150.57E, h97km**±52km**, mb3.5**/3**, mb1 3.6**/4**, mb1mx3.3**/13**, mbtmp3.8**/4**, MS2.8**/1**, Ms1 2.8**/1**, ms1mx2.4**/10**, Error ellipse: s-maj=87.1km s-min=58.8km az=151.0, New Britain region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 4.28 232 P P 22 13 10.8 -2.3
1.4nm,0.3s,baz=39,slow=13,SNR=4.3
PMG S S 22 14 02.0 -0.1
1.6nm,0.3s,baz=190,slow=20,SNR=3.1
PMG LR LR 22 15 08.6
comp=Z,118nm,20.4s,baz=76,slow=42
WRA Warramunga Arr 20.49 229 P P 22 16 39.0 -2.2
1.0nm,0.6s,baz=54,slow=10,SNR=9.1
ASAR Alice Springs 23.21 222 P P 22 17 08.0 -0.2
2.1nm,0.7s,baz=55,slow=9.6,SNR=16
STKA Stephens Creek 26.36 197 P P 22 17 36.0 -1.9
3.2nm,0.8s,baz=5.7,slow=11,SNR=6.0

IGQ 11 22:28:30.6, 1.61S×**78.09W, h185km**±4km**, mb4.0, 3C-10D, Error ellipse: s-maj=6.4km s-min=3.4km az=39.5, Ecuador**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ULBA Ulba 0.36 296 ⇓P P 22 28 56.1 +0.2
ULBA S S 22 29 14.4 -0.9
ARRY Arrayan 0.38 285 ⇓P P 22 28 56.1 +0.1
ARRY S S 22 29 14.2 -1.3
RETU Refugio 0.39 294 ⇑P P 22 28 56.6 +0.6
JUIV Juive 0.42 296 ⇓P P 22 28 56.6 +0.6
IGUA Igualata 0.56 282 P P 22 28 57.5 +0.8
PISA Pisayambo 0.62 331 P P 22 28 57.4 +0.5
TAMB Tambo 0.95 343 ⇓P P 22 28 59.5 +0.8
VC1 Cotopaxi 1 1.01 342 P P 22 29 00.1 +1.0
NAS1 Nasa 1.04 338 ⇑P P 22 29 00.7 +1.4
ANTI Antisana 1.15 356 ⇓P P 22 29 00.8 +0.5
JUA2 San Juan 2 1.48 339 P P 22 29 05.4 +2.2
TERV Terraza Guagua 1.52 340 ⇓P P 22 29 04.3 +0.7
PINO Pino 1.53 340 ⇑P P 22 29 04.3 +0.5
YANA Yana 1.56 342 P P 22 29 04.0 0.0
ELAGU Cayambe Volc 1.58 4 P P 22 29 04.8 +0.6
CONE Cono NE Rev Vo 1.59 16 P P 22 29 04.2 0.0
CAYR Refugio Cayamb 1.61 3 ⇓P P 22 29 05.4 +0.9
CAYA Cayambe 1.67 3 ⇓P P 22 29 06.0 +0.9
JOR1 San Jorge 1 1.69 341 ⇓P P 22 29 03.7 -1.6
COTA Cotacachi 1.95 353 ⇓P P 22 29 09.0 +1.1
ECEN Cerro Negro 2.42 3 P P 22 29 15.5 +2.4
HOJA Cerro de Hojas 2.52 283 P P 22 29 13.9 -0.5
HOJA S S 22 29 42.0 -6.1

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*ATH **11** 23:02:49.6, 40.99N×23.43E, h16km±7km, MD3.0/4*
*NEIC **11** 23:02:49.6, 40.99N×23.43E, h16km, MD3.0(ATH), After ATH.*
*CSEM **11** 23:02:54.8±0.1, 40.72N×23.70E, h15km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.8km az=59.0*
*THE **11** 23:02:55.0, 40.71N×23.68E, h7km, ML2.6*
ISC 11 23:02:54.2±0.7**, 40.71N**±0.05×**23.72E**±0.05**, h25km**±7km**, n13, σ1ˢ02**/18**, 1C, Greece**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SOH Sokhos 0.29 292 *e*Pg **Pb 23 03 00.6 -0.5**
SOH *e*Sg **Sb 23 03 04.8 -1.1**
PLG Polygyros 0.40 211 ⇑*i*PN **Pn 23 03 02.2 -1.9**
PLG *e*SN **Sn 23 03 09.0 -1.8**
SRS Serrai 0.41 347 *e*Pg **Pb 23 03 02.9 -0.1**
OUR Ouranopolis 0.43 152 *e*Pg **Pb 23 03 03.6 +0.3**
THE Thessaloniki 0.58 262 *e*Pg **Pb 23 03 05.6 0.0**
THE *e*Sg **Sb 23 03 13.2 -0.2**
NVR Nevrokopi 0.65 10 *e*PB **Pb 23 02 59.0 -7.8**
PAIG Paliouri 0.79 182 *e*Pg **Pb 23 03 09.5 +0.4**
PAIG *e*Sg **Sb 23 03 20.9 +1.5**
GRG Griva 1.03 284 *e*Pg **Pn 23 03 14.0 +0.9**
GRG *e*Sg **Sb 23 03 28.1 +1.8**
LIT Litokhoron 1.12 237 *e*Pg **Pn 23 03 15.5 +1.1**
RDO Rodhopi 1.45 72 *e*PN **Pn 23 03 19.4 +0.3**
NEO Neokhori 1.46 195 *e*PN **Pn 23 03 20.1 +0.9**
ALN Alexandroupoli 1.78 83 *e*Pb **Pb 23 03 25.3 -0.7**
AGG Agios Georgios 2.00 213 *e*Pb **Pb 23 03 28.6 -1.1**

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*NEIC **11** 23:04:02.7, 15.81N×94.09W, h16km, MD4.1(MEX), After MEX.*
MEX 11 23:04:02.6±0.8**, 15.82N**×**94.11W, h18km**±49km**, MD4.1, Near coast of Oaxaca**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMIG Matias Romero 1.46 330 *i* P Pn 23 04 24.7 -3.6
CMIG *i* S Sn 23 04 42.3 -4.8
HUIG Huatulco 1.92 269 *e*P Pn 23 04 31.5 -3.4
HUIG *e*S Sn 23 04 53.2 -5.5
CCIG Comitan 1.96 76 *e*P Pn 23 04 32.5 -2.8
CCIG *e*S Sn 23 04 54.1 -5.5
OXX Oaxaca 2.80 297 *e*P Pn 23 04 46.0 -1.4
OXX *e*S Sn 23 05 20.0 -1.0
OXX Oaxaca 2.80 297 *e*P Pn 23 04 46.0 -1.4
OXX *e*S Sn 23 05 19.5 -1.5
VHO Vista Hermosa 2.80 297 *e*P Pn 23 04 46.0 -1.5
VHO *e*S Sn 23 05 19.8 -1.3
VHO Vista Hermosa 2.80 297 *e*P Pn 23 04 46.0 -1.5
VHO *i* S Sn 23 05 16.6 -4.5
EVV El Vigia 2.87 336 *e*P Pn 23 04 41.5 -7.0
EVV *i* S Sn 23 05 17.0 -5.9
TEIG Tepich 7.07 51 *e*Pn Pn 23 05 40.4 -7.5
4.8nm,0.4s

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*IDC **11** 23:07:52.9±1.7, 13.53N×93.60E, mb3.8/5, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=49.8km s-min=21.9km az=81.0*
ISC 11 23:07:53.3±6.0**, 13.5N**±0.1×**93.7E**±0.2**, h15km**±40km**, n6, σ0ˢ70**/7**, mb3.8**/5**, Andaman Islands region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CMAR Chiang Mai Arr 7.05 45 Pn **Pn 23 09 38.5 -0.1**
0.3nm,0.3s,baz=238,slow=15,SNR=7.1
CMAR Sn **Sn 23 10 59.2 -0.1**
0.4nm,0.3s,baz=237,slow=25,SNR=2.9
SONM Songino Array 35.80 15 P **P 23 14 54.7 +0.7**
0.4nm,0.5s,mb3.6,baz=207,slow=7.1,SNR=6.6
ZAL Zalesovo 40.91 352 P **P 23 15 36.0 -0.4**
0.5nm,0.3s,mb3.6,baz=272,slow=6.7,SNR=3.1
WRA Warramunga Arr 52.05 129 P **P 23 17 05.7 +0.8**
0.4nm,0.6s,mb3.5,baz=299,slow=10.0,SNR=6.5
WRA PcP PcP 23 18 17.5 +0.3
0.2nm,0.5s,baz=319,slow=2.9,SNR=7.4
ASAR Alice Springs 54.00 133 P **P 23 17 18.9 -0.4**
0.8nm,0.5s,mb3.9,baz=306,slow=6.9,SNR=11
STKA Stephens Creek 64.40 136 P **P 23 18 30.9 -0.5**
1.4nm,0.7s,mb4.1,baz=333,slow=4.5,SNR=4.4

JMA 11 23:16:29.6±0.2**, 43.68N**×**147.92E, h13km, M3.8, Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NEM2 Nemuro 2 1.61 260 P Pn 23 16 58.4 +0.4
NEM2 *e*S Sn 23 17 19.0 +0.2
JRA Rausu 2.04 278 P Pn 23 17 04.4 +0.3
JRA *e*S Sn 23 17 29.9 +0.2
JNK Nakash 2.33 269 *e*S Sn 23 17 35.9 -1.0
JAK Akkeshi 2.45 255 P Pn 23 17 10.2 +0.2
JAK *e*S Sn 23 17 39.2 -0.8
JTKR Abashiri--Toko 2.92 277 P Pn 23 17 16.8 +0.1
JAR Ashorobuto 3.04 264 P Pn 23 17 18.8 +0.3
JAR *e*S Sn 23 17 55.0 -0.1
JOB Onbets 3.08 257 *e*S Sn 23 17 55.7 -0.3
JMP Maruseppu 3.31 277 P Pn 23 17 22.4 +0.1
JCH Churui 3.50 254 *e*S Sn 23 18 05.6 -1.0
JNBK Urakawa-nobuka 4.04 252 P Pn 23 17 32.4 -0.2

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*IDC **11** 23:58:03.3±1.2, 52.60N×168.18W, mb3.8/11, mb1 4.1/12, mb1mx4.0/22, mbtmp3.8/12, ML3.7/1, Error ellipse: s-maj=30.9km s-min=18.7km az=8.0*
*NEIC **11** 23:58:05.2, 52.24N×167.99W, h26km, ML3.7(AEIC), After AEIC.*
ISC 11 23:58:07.0±1.3**, 52.4N**±0.1×**168.09W**±0.09**, h49km**±10km**, n24, σ1ˢ14**/27**, mb3.9**/12**, Fox Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NIKO Nikolski 0.77 323 P **P 23 58 21.2 -0.5**
NIKO S **S 23 58 33.1 +0.6**
OKFG Magazine Ridge 1.06 6 P **P 23 58 25.6 -0.1**
OKFG S **S 23 58 42.2 +2.6**
MSW Makushin Switc 1.75 26 P **P 23 58 35.1 -0.4**
UNV Unalaska Valle 1.77 32 P **P 23 58 35.0 -0.9**
UNV S **S 23 58 57.6 +0.4**
MTBL Makushin Table 1.82 27 P **P 23 58 36.6 +0.1**
AHB Akutan Harbor 2.23 37 P **P 23 58 41.2 -1.1**
HAG Hague Volcano 4.71 49 P **P 23 59 18.4 +1.0**
SPIA Saint Paul Isl 4.99 346 P **P 23 59 22.1 +0.8**
ADK Adak 5.31 268 P **P 23 59 25.3 -0.5**
SDPT Sand Point 5.41 53 P **P 23 59 25.7 -1.5**
ILAR Eielson Array 16.53 33 Pn **P 00 01 53.5 -3.0**
0.1nm,0.3s,baz=225,slow=11,SNR=7.6
INK Inuvik 22.93 33 P **P 00 03 04.7 -2.3**
3.0nm,0.7s,mb3.9,baz=206,slow=7.5,SNR=6.7
INK Inuvik 22.93 33 P **P 00 03 04.7 -2.3**
YKA Yellowknife Ar 29.66 49 P **P 00 04 10.3 +0.7**
0.6nm,0.9s,mb3.3,baz=269,slow=8.8,SNR=8.2
YKA PcP PcP 00 07 12.8 -0.4
0.1nm,0.5s,baz=284,slow=2.5,SNR=4.0
NVAR Mina Array Bea 36.88 92 P **P 00 05 14.3 +2.0**
0.7nm,0.7s,mb3.6,baz=293,slow=10,SNR=5.6
PDAR Pinedale Array 39.64 80 P **P 00 05 36.9 +1.7**
0.7nm,0.5s,mb3.6,baz=300,slow=4.6,SNR=7.7
TXAR Lajitas Array 51.97 90 P **P 00 07 13.9 +0.9**
1.1nm,0.6s,mb3.9,baz=295,slow=4.8,SNR=7.9
SONM Songino Array 51.98 301 P **P 00 07 13.0 +0.1**
0.3nm,0.4s,mb3.6,baz=67,slow=6.3,SNR=9.7
ARCES ARCESS Array B 58.01 354 P **P 00 07 55.6 -0.8**
3.1nm,0.8s,mb4.4,baz=4.9,slow=6.4,SNR=6.3
KAF Kangasniemi 65.31 353 *e*p **P 00 08 43.9 -1.4**
3.0nm,0.6s,mb4.5
FINES FINESS Array B 65.99 353 P **P 00 08 49.2 -0.4**
1.1nm,0.4s,mb4.2,baz=30,slow=7.7,SNR=17
NOA NORSAR Array B 66.95 0 P **P 00 08 55.2 -0.5**
5.6nm,1.2s,mb4.5,baz=324,slow=8.4,SNR=3.4
AKASG Malin Array Be 76.28 349 P **P 00 09 51.8 +0.3**
0.5nm,0.3s,mb3.9,baz=14,slow=5.8,SNR=4.6
CMAR Chiang Mai Arr 77.38 284 P **P 00 09 59.7 +1.4**
1.0nm,0.9s,mb3.7,baz=24,slow=5.8,SNR=4.4

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*CSEM **12** 00:33:34.9±0.1, 67.84N×20.35E, h2km, ML2.5, Error ellipse: s-maj=3.3km s-min=2.6km az=31.0, Mining explosion.*
*UPP **12** 00:33:35.3, 67.83N×20.19E, h0km, ML2.5, Mining explosion.*
*HEL **12** 00:33:36.0±0.1, 67.84N×20.17E, ML2.6, ML2.5(UPP), ML2.6(BER), Explosion*
*BER **12** 00:33:37.9±4.0, 67.84N×20.35E, ML2.6, ML2.8(NAO), Suspected explosion*
*NAO **12** 00:33:37.3±1.4, 67.84N×20.66E, ML2.8*
ISC 12 00:33:34.6±0.4**, 67.80N**±0.02×**20.26E**±0.07**, n41, σ1ˢ14**/67**, Sweden**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUA Kurravaara 0.16 11 *i* P **Pg 00 33 38.0 +0.2**
KUA *i* S **Sg 00 33 40.3 +0.3**
NIKU Nikkaluokta 0.47 280 *i* P **Pg 00 33 43.7 -0.2**
DUNU Dundret 0.69 170 *i* P **Pg 00 33 48.9 +0.6**
LANU Lannavaara 0.70 68 *i* P **Pg 00 33 48.7 +0.1**
LANU *i* S **Sg 00 33 59.2 +1.2**
LANU Lannavaara 0.70 68 P **Pg 00 33 48.7 +0.1**
LANU S **Sg 00 33 59.1 +1.1**
MASU Masugnsbyn 0.75 116 *i* P **Pg 00 33 50.2 +0.7**
KIF Kilpisjarvi 1.23 9 *e*P **Pb 00 33 58.0 -0.5**
KIF *e*S **Sb 00 34 14.0 -0.8**
KIF Kilpisjarvi 1.23 9 P **Pb 00 33 57.9 -0.5**
KIF S **Sb 00 34 13.9 -0.9**
PAJU Pajala 1.35 124 *e*P **Pb 00 34 00.7 +0.2**
PAJU *e*S **Sb 00 34 19.7 +1.6**
PAJU Pajala 1.35 124 P **Pb 00 34 00.7 +0.3**
PAJU S **Sb 00 34 19.6 +1.5**
ERTU Ertsjaerv 1.46 148 *e*P **Pn 00 34 02.9 +0.7**
KTK1 Kautokeino 1.65 41 *e*P **Pn 00 34 06.0 +1.0**
KTK1 *e*S **Sb 00 34 27.7 +0.9**
KTK1 Kautokeino 1.65 41 P **Pn 00 34 05.9 +1.0**
KTK1 S **Sb 00 34 27.6 +0.8**
TRO Tromso 1.91 346 *e*P **Pn 00 34 08.2 -0.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRO				eS	Sn	00 34 33.5	-0.3
TRO				AML	AML	00 34 35.9	
	comp=Z,49nm,0.4s						
TRO	Tromso	1.91	346	P	Pn	00 34 08.2	-0.5
TRO				S	Sn	00 34 33.5	-0.3
	comp=Z,49nm,0.4s						
SGF	Sodankyl	2.43	95	eP	Pn	00 34 17.5	+1.4
SGF				eS	Sn	00 34 47.5	+0.6
LOF	Lofoten	2.56	281	eP	Pn	00 34 19.9	+2.0
LOF				AML	AML	00 34 59.1	
	comp=Z,45nm,0.4s						
LOF	Lofoten	2.56	281	P	Pn	00 34 19.9	+2.0
	comp=Z,45nm,0.4s						
ARA0	ARCESS Array S	2.60	45	eP	Pn	00 34 18.8	+0.3
ARA0				eSB	Sb	00 34 53.5	-0.9
ARA0	ARCESS Array S	2.60	45	Pn	Pn	00 34 18.8	+0.3
	baz=226,slow=14						
ARA0				Lg		00 34 53.5	
	baz=227,slow=28						
MOR8	Moi Rana	2.81	237	eP	Pn	00 34 22.2	+0.6
MOR8				eSG	Sg	00 34 59.0	-9.0
MOR8				AML	AML	00 34 59.8	
	comp=Z,80nm,0.0s						
MOR8	Moi Rana	2.81	237	P	Pn	00 34 22.1	+0.6
MOR8				Sg	Sg	00 34 59.0	-9.1
KEV	Kevo	3.15	48	eP	Pn	00 34 26.8	+0.4
KEV				eS	Sn	00 35 04.3	-0.9
KEV				MSG		00 35 11.6	
	comp=Z,15nm,0.3s						
KEV	Kevo	3.15	48	P	Pn	00 34 26.8	+0.4
KEV				S	Sn	00 35 04.2	-1.0
	comp=Z,15nm,0.3s						
STOK	Stokkvaagen	3.19	246	eP	Pn	00 34 28.2	+1.1
STOK				AML	AML	00 35 24.5	
	comp=Z,50nm,0.4s						
STOK	Stokkvaagen	3.19	246	P	Pn	00 34 28.1	+1.1
	comp=Z,50nm,0.4s						
OUL	Oulu	3.54	138	eSB	Sb	00 35 22.9	+1.1
OUL				MSG		00 35 34.3	
	comp=Z,17nm,0.3s						
KU4	Liikasenvaara	3.92	107	ePG	Pg	00 34 46.6	-6.2
KU4				eS	Sn	00 35 23.6	-1.2
MSF	Maaselka	3.95	115	eP	Pn	00 34 38.6	+0.9
MSF				eS	Sn	00 35 24.0	-1.5
MSF				MSG		00 35 45.1	
	comp=Z,18nm,0.4s						
MSF	Maaselka	3.95	115	P	Pn	00 34 38.6	+0.8
MSF				S	Sn	00 35 24.0	-1.5
	comp=Z,18nm,0.4s						
NSS	Namsos	4.70	230	eP	Pn	00 34 47.3	-1.1
NSS	Namsos	4.70	230	P	Pn	00 34 47.2	-1.2
KJN	Kajaani	4.81	137	eS	Sn	00 35 45.1	-2.3
KJN				MSG		00 36 10.4	
	comp=Z,7.2nm,0.3s						
KJN	Kajaani	4.81	137	S	Sn	00 35 45.0	-2.4
	comp=Z,7.2nm,0.3s						
APA0	Apatity Array	4.86	86	Pn	Pn	00 34 47.4	-3.2
	baz=291,slow=12						
APA0				Sn	Sn	00 35 45.0	-3.5
	baz=285,slow=28						
APA0				Lg		00 36 05.0	
	baz=285,slow=28						
APA0	Apatity Array	4.86	86	eP	Pn	00 34 47.4	-3.2
APA0				eS	Sn	00 35 45.0	-3.5
APA0				eSG	Sg	00 36 05.0	-11
FIA0	FINESS Array S	6.85	156	Pn	Pn	00 35 18.4	-0.3
	baz=345,slow=14						
FIA0				Sn	Sn	00 36 34.7	-3.7
	baz=347,slow=22						
FIA0				Lg		00 37 08.7	
	baz=346,slow=28						
FIA0	FINESS Array S	6.85	156	eP	Pn	00 35 18.4	-0.3
FIA0				eS	Sn	00 36 34.7	-3.7
FIA0				eSG	Sg	00 37 08.7	-14
HFS	Hagfors	8.21	204	Pn	P	00 35 35.5	-2.3
	baz=12,slow=12						
HFS				Lg		00 37 54.5	
	baz=22,slow=28						
HFS	Hagfors	8.21	204	eP	P	00 35 35.5	-2.3
HFS				e		00 37 54.5	
SPA0	Spitsbergen Ar	10.50	356	eP	P	00 36 05.5	-3.7

DJA 12 00:37:36.2±0.9**,9.55S**×**115.19E,h20**^{km}±25^{km}**,MD4.7**/4, **ML4.8**/4**,2C-6D,Error ellipse: s-maj=53.6km s-min=7.9km az=177.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.89	23	⇓iPn	Pn	00 37 50.8	-2.7
	3μm,0.2s						
RATI				⇓iSn	Sn	00 38 00.9	-4.9
KEDI	Kedomdong	1.40	41	⇓iPn	Pn	00 37 58.2	-2.6
	552nm,0.2s						
KEDI				⇓iSn	Sn	00 38 14.3	-4.4
SRDI	Scrawed	1.48	316	⇓iPn	Pn	00 37 59.2	-2.8
	707nm,0.2s						
SRDI				⇓iSn	Sn	00 38 16.1	-4.7
KELI	Kelakatan	1.49	332	⇑iPn	Pn	00 37 59.8	-2.3
	796nm,0.2s						
KELI				⇑iSn	Sn	00 38 17.5	-3.6

*CNRM **12** 00:42:09.6,35.04N×2.52W,h17^{km},MD2.9*
*CSEM **12** 00:42:10.8±0.1,35.01N×2.85W,h8^{km},MD2.9,Error ellipse: s-maj=3.0km s-min=2.6km az=168.0*
*NEIC **12** 00:42:12.3,34.95N×2.93W,h5^{km},MG3.4(MDD),After MDD.*
*MDD **12** 00:42:12.7±0.5,34.99N×2.86W,h6^{km}±4^{km},mb3.4/15, Error ellipse: s-maj=6.1km s-min=4.3km az=28.0,PRXIMO*
ISC 12 00:42:11.7±0.7**,35.00N**±0.04×**2.79W**±0.05**,h19**^{km}±4^{km}**, n47,**σ**1**^{s}**20**/87**,Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.04	126	P	Pb	00 42 14.0	-1.2
ZAI				S	Sb	00 42 17.0	-0.5
ZAI	Zaio	0.04	126	iP	Pb	00 42 14.0	-1.2
EMLI	Melilla	0.33	337	P	Pb	00 42 18.3	-0.6
	44nm,0.2s,SNR=7.9						
EMLI				S	Sb	00 42 23.9	+0.2
	24nm,0.3s,SNR=7.9						
EMEL	Melilla	0.33	336	P	Pb	00 42 18.6	-0.3
	36nm,0.1s,SNR=7.9						
EMEL				S	Sb	00 42 22.8	-1.0
	24nm,0.3s,SNR=7.9						
TOU	Touzarine	0.79	268	iP	Pb	00 42 26.5	-0.2
TOU				iS	Sb	00 42 39.5	+2.6
EALB	Alboran	0.96	348	P	Pb	00 42 30.9	+1.3
EALB				S	Sb	00 42 43.5	+1.7
EALB	Alboran	0.96	348	P	Pb	00 42 30.3	+0.8
	7.6nm,0.1s,SNR=7.9						
EALB				S	Sb	00 42 43.9	+2.1
	15nm,0.2s,SNR=7.9						
EALB	Alboran	0.96	348	P	Pb	00 42 30.9	+1.4
	11nm,0.2s,SNR=7.9						
EALB				S	Sb	00 42 43.5	+1.7
	15nm,0.2s,SNR=7.9						
MPAL	Palemas	0.97	284	eP	Pb	00 42 29.5	-0.2
MPAL				eS	Sb	00 42 45.0	+2.9
EBER	Berja	1.90	358	P	Pn	00 42 44.3	+0.7
EBER				S	Sn	00 43 06.1	-1.1
EBER	Berja	1.90	358	P	Pn	00 42 43.9	+0.2
	1.1nm,0.3s,SNR=7.9						
EBER				S	Sn	00 43 06.3	-0.9
	1.9nm,0.3s,SNR=7.9						
EBER	Berja	1.90	358	P	Pn	00 42 44.3	+0.7
	0.1nm,0.5s,SNR=7.9						
EBER				S	Sn	00 43 06.1	-1.1
	1.9nm,0.3s,SNR=7.9						
ENIJ	Nijar	2.03	13	P	Pn	00 42 45.6	+0.1
ENIJ				S	Sn	00 43 10.1	-0.4
ENIJ	Nijar	2.03	13	P	Pn	00 42 45.6	+0.1
	4.7nm,0.4s,SNR=7.9						
ENIJ				S	Sn	00 43 10.6	+0.1
	2.7nm,0.2s,SNR=7.9						
ENIJ	Nijar	2.03	13	P	Pn	00 42 45.6	+0.1
	1.5nm,0.2s,SNR=7.9						
ENIJ				S	Sn	00 43 10.1	-0.4
	2.7nm,0.2s,SNR=7.9						
ERON	Agron	2.18	338	P	Pn	00 42 46.5	-1.2
ERON				S	Sn	00 43 13.4	-1.0
ERON	Agron	2.18	338	P	Pn	00 42 46.5	-1.2
	1.2nm,0.2s,SNR=7.9						
ERON				S	Sn	00 43 14.7	+0.3
	0.8nm,0.2s,SNR=7.9						
ERON	Agron	2.18	338	P	Pn	00 42 46.5	-1.2
	1.3nm,0.2s,SNR=7.9						
ERON				S	Sn	00 43 13.4	-0.9
	0.8nm,0.2s,SNR=7.9						
EMIJ	Mijas	2.25	315	P	Pn	00 42 46.8	-1.8
EMIJ				S	Sn	00 43 11.2	-4.9
EMIJ	Mijas	2.25	315	P	Pn	00 42 47.1	-1.5
	2.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	00 43 11.8	-4.3
	0.1nm,0.4s,SNR=7.9						
EMIJ	Mijas	2.25	315	P	Pn	00 42 46.8	-1.8
	2.3nm,0.1s,SNR=7.9						
EMIJ				S	Sn	00 43 11.2	-4.9
	0.1nm,0.4s,SNR=7.9						
ECOG	Cogollos-Vega	2.36	345	P	Pn	00 42 51.4	+1.2
	1.2nm,0.2s,SNR=7.9						
ECOG				S	Sn	00 43 19.3	+0.4
	1.5nm,0.3s,SNR=7.9						
ELOJ	Sierra Loja	2.41	333	P	Pn	00 42 52.4	+1.4
	1.2nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	2.62	304	P	Pn	00 42 54.7	+0.8
EJIF				S	Sn	00 43 26.2	+0.7
EJIF	Jimena Fronter	2.62	304	P	Pn	00 42 54.7	+0.8
	0.6nm,0.2s,SNR=7.9						
EJIF				S	Sn	00 43 24.5	-1.0
	0.3nm,0.2s,SNR=4.0						
EJIF	Jimena Fronter	2.62	304	P	Pn	00 42 54.7	+0.8
	0.6nm,0.2s,SNR=7.9						
EJIF				S	Sn	00 43 26.2	+0.7
	0.3nm,0.2s,SNR=4.0						
EQES	Quesada	2.81	355	P	Pn	00 42 58.7	+2.0
EQES				S	Sn	00 43 31.8	+1.4
EQES	Quesada	2.81	355	P	Pn	00 42 58.5	+1.9
	2.2nm,0.4s,SNR=7.9						
EQES				S	Sn	00 43 31.5	+1.2
	1.7nm,0.3s,SNR=7.9						
EQES	Quesada	2.81	355	P	Pn	00 42 58.7	+2.0
	3.1nm,0.3s,SNR=7.9						
EQES				S	Sn	00 43 31.7	+1.4
	1.7nm,0.3s,SNR=7.9						
EMUR	La Murta	3.10	23	P	Pn	00 43 02.5	+1.7
	1.6nm,0.2s,SNR=7.9						
EMUR				S	Sn	00 43 36.3	-1.5
	0.8nm,0.2s,SNR=7.9						
EMUR	La Murta	3.10	23	P	Pn	00 43 02.5	+1.7
	2.6nm,0.3s,SNR=7.9						
EMUR				S	Sn	00 43 36.3	-1.5
	0.8nm,0.2s,SNR=7.9						
ESPR	Espera	3.11	308	P	Pn	00 43 00.4	-0.5
ESPR				S	Sn	00 43 37.0	-0.9
ESPR	Espera	3.11	308	P	Pn	00 43 00.4	-0.6
	0.5nm,0.1s,SNR=4.0						
ESPR				S	Sn	00 43 37.0	-0.9
	0.0nm,0.5s,SNR=4.0						
ESPR	Espera	3.11	308	P	Pn	00 43 00.4	-0.5
	0.5nm,0.1s,SNR=4.0						
ESPR				S	Sn	00 43 37.0	-1.0
	SNR=4.0						
EADA	Adamuz	3.48	336	P	Pn	00 43 06.0	-0.1
	2.6nm,0.3s,SNR=7.9						
EADA				S	Sn	00 43 44.4	-2.8
	0.4nm,0.2s,SNR=4.0						
EADA	Adamuz	3.48	336	P	Pn	00 43 06.0	-0.1
	0.6nm,0.1s,SNR=7.9						
EADA				S	Sn	00 43 44.3	-2.9
ETOB	Tobarra	3.77	15	P	Pn	00 43 12.4	+2.0
ETOB				S	Sn	00 43 54.2	-0.6
ETOB	Tobarra	3.77	15	P	Pn	00 43 11.8	+1.4
	1.1nm,0.3s,SNR=7.9						
ETOB				S	Sn	00 43 54.2	-0.6
	0.7nm,0.2s,SNR=7.9						
ETOB	Tobarra	3.77	15	P	Pn	00 43 12.4	+2.0
	0.3nm,0.1s,SNR=7.9						
ETOB				S	Sn	00 43 54.2	-0.6
	0.7nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	4.18	313	P	Pn	00 43 14.0	-2.1
EMIN				S	Sn	00 44 00.0	-5.0
EMIN	Mina Concepcio	4.18	313	P	Pn	00 43 14.0	-2.1
	1.2nm,0.3s,SNR=7.9						
EMIN				S	Sn	00 43 58.8	-6.2
	0.3nm,0.2s,SNR=7.9						
ESDC	Sonseca Array	4.76	349	P	Pn	00 43 24.9	+0.5
	0.5nm,0.1s,baz=173,slow=12,SNR=8.4						
ESDC	Sonseca Array	4.76	349	P	Pn	00 43 24.9	+0.5
EBAD	Badajoz	5.05	319	P	Pn	00 43 26.6	-1.9
	1.4nm,0.2s,SNR=7.9						
EBAD				S	Sn	00 44 20.9	-6.1
	2.2nm,0.3s,SNR=7.9						
EBAD	Badajoz	5.05	319	P	Pn	00 43 26.6	-1.9
EIBI	Ibiza	5.21	38	P	Pn	00 43 31.2	+0.6
	8.2nm,0.5s,SNR=4.0						
EIBI	Ibiza	5.21	38	P	Pn	00 43 31.2	+0.5

*IDC **12** 01:11:26.3±3.8,9.43N×93.33E,mb3.6/3,mb1 3.8/4, mb1mx3.6/17,mbtmp3.6/4,ML3.7/1,Error ellipse: s-maj=142.2km s-min=29.8km az=74.0*
*NEIC **12** 01:11:30.7±1.3,9.46N×93.36E,h30^{km},mb4.0/2,Error ellipse: s-maj=60.7km s-min=11.7km az=58.0*
ISC 12 01:11:27.6±1.1**,9.1N**±0.1×**92.9E**±0.2**,h33**^{km}**,n8,**σ**0**^{s}**83**/8**, mb3.8**/5**,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.02	32	Pn	P	01 14 06.8	+0.7
	0.2nm,0.3s,baz=225,slow=14,SNR=9.0						
AAK	Ala-Archa	37.08	337	eP	P	01 18 38.0	+1.4
	1.3nm,0.8s,mb3.8						
SONM	Songino Array	40.27	14	P	P	01 19 01.3	-1.8
	1.0nm,0.9s,mb3.6,baz=194,slow=6.7,SNR=9.7						
KURK	Kurchatov	43.12	347	P	P	01 19 26.3	-0.2
CHKZ	Chkalovo	47.92	342	eP	P	01 20 04.3	-0.4
	1.0nm,0.4s,mb4.2						
WRA	Warramunga Arr	50.01	126	P	P	01 20 21.4	+0.1
	0.7nm,0.5s,mb4.0,baz=305,slow=8.6,SNR=11						
WRA				PcP	PcP	01 21 41.9	+0.8
	0.3nm,0.5s,baz=307,slow=3.2,SNR=4.0						
WRAB	Tennant Creek	50.02	126	P	P	01 20 21.3	0.0
ASAR	Alice Springs	51.68	130	P	P	01 20 33.9	0.0
	0.4nm,0.5s,mb3.6,baz=305,slow=7.3,SNR=6.9						
ASAR				PcP	PcP	01 21 48.7	+1.5
	0.5nm,0.7s,baz=307,slow=3.4,SNR=5.1						

IDC 12 01:38:05.9±29.0**,22.77S**×**179.88E,h220**^{km}±258^{km}**, mb3.6**/3**,mb1 3.8**/4**,mb1mx3.4**/15**,mbtmp4.3**/4**,ML4.6**/1**, Error ellipse: s-maj=170.1km s-min=43.1km az=21.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	15.62	188	P	P	01 41 34.4	-1.6
	2.1nm,0.3s,baz=43,slow=18,SNR=13						
STKA	Stephens Creek	35.05	247	P	P	01 44 37.1	-2.6
	1.9nm,0.6s,baz=75,slow=10,SNR=6.0						
ASAR	Alice Springs	42.12	259	P	P	01 45 36.5	-1.8
	1.2nm,0.5s,baz=92,slow=7.6,SNR=25						
ASPA	Alice Springs	42.12	259	eP	P	01 45 36.8	-1.5
WB2	Warramunga Arr	42.37	265	eP	P	01 45 39.5	-0.9
WRA	Warramunga Arr	42.38	265	P	P	01 45 39.7	-0.7
	2.1nm,0.3s,baz=96,slow=8.5,SNR=51						
FINES	FINESS Array B	137.35	342	PKP	PKPdf	01 57 03.1	+0.5
	1.0nm,0.8s,baz=117,slow=6.2,SNR=3.8						
AKASG	Malin Array Be	143.96	328	PKP	PKPdf	01 57 13.8	-0.8
	1.1nm,0.5s,baz=44,slow=4.0,SNR=7.8						

*ATH **12** 01:58:18.7,39.75N×25.27E,h5^{km},MD2.8/3*
*CSEM **12** 01:58:19.0±0.2,39.80N×25.29E,h15^{km},MD2.8,Error ellipse: s-maj=3.7km s-min=2.6km az=15.0*
*THE **12** 01:58:20.7,39.85N×25.21E,h16^{km}*
ISC 12 01:58:18.5±1.0**,39.76N**±0.05×**25.29E**±0.05**,h5**^{km}±8^{km}**,n9,** σ**0**^{s}**98**/16**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LIA	Limnos Island	0.16	330	ePG	Pg	01 58 22.1	+0.3
LOS	Limnos	0.23	318	ePg	Pg	01 58 24.1	+0.8
LOS				eSg	Sg	01 58 27.9	+1.4
PRK	Paraskevi	0.92	124	ePB	Pb	01 58 36.5	-0.1
PRK				eSB	Sb	01 58 49.1	+0.2
OUR	Ouranopolis	1.15	300	ePg	Pg	01 58 39.9	-1.7
OUR				eSg	Sg	01 58 54.9	-2.0
AOS	Alonnisos	1.24	242	ePb	Pb	01 58 42.8	+0.8
PAIG	Paliouri	1.25	278	ePb	Pb	01 58 41.1	-1.1
PAIG				eSb	Sb	01 58 58.0	-0.4
ALN	Alexandroupoli	1.27	27	ePb	Pb	01 58 42.0	-0.6
ALN				eSb	Sb	01 58 59.0	-0.1
ALN	Alexandroupoli	1.27	27	ePb	Pb	01 58 42.0	-0.6
ALN				eSb	Sb	01 58 59.0	-0.2
PLG	Polygyros	1.54	294	ePB	Pb	01 58 48.0	+0.8
PLG				eSB	Sb	01 59 08.0	+1.1

IDC 12 02:10:20.8±4.0**,3.22N**×**126.97E,mb3.8**/3**,mb1 4.0**/3**, mb1mx3.7**/16**,mbtmp3.8**/3**,Error ellipse: s-maj=178.0km s-min=59.5km az=73.0,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.13	163	P	P	02 15 38.9	-0.7
	2.4nm,0.7s,baz=343,slow=10.0,SNR=10						
ASAR	Alice Springs	27.57	166	P	P	02 16 09.5	-2.2
	0.4nm,0.4s,baz=343,slow=7.2,SNR=11						
STKA	Stephens Creek	37.57	159	P	P	02 17 37.1	-1.8
	2.3nm,0.9s,baz=328,slow=8.0,SNR=3.1						

KRSC 12 02:34:25.3±1.0**,53.47N**×**161.44E,h15**^{km}±3^{km}**,ML4.0,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.93	247	iP	Pb	02 34 43.4	+0.8
SPN				iS	Sb	02 34 56.0	+1.5
NLC	Nalytchevo	1.29	257	eP	Pb	02 34 48.6	-0.2
NLC				iS	Sb	02 35 05.4	+0.4
KII	Karymskiy	1.31	296	eP	Pb	02 34 48.1	-1.0
KII				eS	Sb	02 35 05.1	-0.5
UGLR	Uglovaya	1.59	262	eP	Pn	02 34 53.4	+0.2
UGLR				eS	Sn	02 35 13.8	+0.3
AVH	Avacha	1.63	264	eP	Pn	02 34 54.3	+0.6
AVH				eS	Sn	02 35 15.6	+1.1
KOK	Koryaka	1.69	265	eP	Pn	02 34 54.6	0.0
KOK				eS	Sn	02 35 15.9	-0.1
PET	Petropavlovsk	1.73	256	eP	Pn	02 34 55.2	0.0
PET				eS	Sn	02 35 17.4	+0.3
TUMR	Tumrok	1.97	338	eP	Pn	02 34 58.6	0.0
TUMR				eS	Sn	02 35 23.9	+0.8
RUS	Russkaya	2.05	241	eP	Pn	02 35 00.7	+0.9
RUS				eS	Sn	02 35 26.7	+1.5
KRMR	Karymshinskiy	2.09	253	eP	Pn	02 35 01.1	+0.7
KRMR				eS	Sn	02 35 26.9	+0.6
KRMR				Smax			
	120nm,0.4s						
GNL	Ganaly	2.10	278	eP	Pn	02 35 00.9	+0.5
GNL				eS	Sn	02 35 27.6	+1.2
GRL	Gorelyy	2.23	247	eP	Pn	02 35 03.6	+1.3
GRL				eS	Sn	02 35 32.6	+2.8
KMNR	Kamenistaya	2.40	344	eP	Pn	02 35 05.1	+0.4
KMNR				eS	Sn	02 35 34.5	+0.6
APC	Apacha	2.63	260	eP	Pn	02 35 09.7	+1.6
APC				eS	Sn	02 35 42.6	+2.6
APC				Smax			
	50nm,1.3s						
KOZ	Kozyrevsk	2.75	341	eP	Pn	02 35 10.9	+1.2
KOZ				eS	Sn	02 35 43.4	+0.5
KBTR	Krutoberegovo	2.86	16	eP	Pn	02 35 11.5	+0.2
KBTR				eS	Sn	02 35 45.8	+0.1
KBG	Krutoberegovo	2.88	14	eP	Pn	02 35 12.8	+1.1
KBG				eS	Sn	02 35 48.8	+2.4
KBG				Smax			
	800nm,1.0s						
KBG	Krutoberegovo	2.88	14	eP	Pn	02 35 10.8	-0.9
KBG				eS	Sn	02 35 43.7	-2.7
KBG				Smax			
	520nm,1.0s						
KLY	Klyuchi	2.89	351	eP	Pn	02 35 11.6	-0.1
KLY				eS	Sn	02 35 47.0	+0.6
ESO	Esso	2.93	328	eP	Pn	02 35 12.4	+0.1
ESO				eS	Sn	02 35 47.3	-0.2
ESO				Smax			
	50nm,0.9s						
SRDR	Sredinnyy	3.02	341	eP	Pn	02 35 15.0	+1.4
SRDR				eS	Sn	02 35 51.3	+1.5
BKI	Bering	3.17	55	eP	Pn	02 35 14.2	-1.5
BKI				eS	Sn	02 35 48.0	-5.6
BKI				Smax			
	40nm,0.2s						
SKR	Severo-Kuril's	4.31	232	eS	Sn	02 36 25.4	+3.0

MEX 12 02:41:39.3±0.3**,17.82N**×**99.87W,h58**^{km}±8^{km}**,MD3.6, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLIG	Platanillo	0.66	31	iP	P	02 41 51.7	-1.3
PLIG				iS	S	02 42 01.3	-1.9
CAIG	El Cayaco	0.86	207	eP	P	02 41 54.1	-1.5
CAIG				iS	S	02 42 05.4	-2.3
ACX	Acapulco	0.95	183	iP	P	02 41 55.0	-1.8
ACX				iS	S	02 42 08.0	-1.9

*IDC **12** 03:03:39.6±5.8,5.52S×151.48E,h63^{km}±53^{km},mb3.8/7, mb1 4.0/8,mb1mx3.9/14,mbtmp4.0/8,ML3.1/1,MS3.0/1, Ms1 3.0/1,ms1mx2.3/25,Error ellipse: s-maj=48.5km s-min=30.6km az=120.0*
*NEIC **12** 03:03:40.7±2.6,5.44S×151.33E,h72^{km}±23^{km},mb4.3/3, Error ellipse: s-maj=31.7km s-min=15.8km az=123.0*
ISC 12 03:03:39.5±3.7**,5.4S**±0.2×**151.2E**±0.2**,h70**^{km}±31^{km}**,n15,** σ**0**^{s}**72**/15**,mb4.0**/10**,1C,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.68	225	P	P	03 05 03.1	0.0
	3.6nm,0.3s,baz=24,slow=8.1,SNR=9.8						
PMG				S	S	03 06 08.0	+0.2
	12nm,0.3s,baz=142,slow=18,SNR=9.6						
CTA	Charters Tower	15.41	198	LR	LR	03 12 15.8	
	comp=Z,60nm,20.0s,baz=226,slow=34						
KAKA	Kakadu	19.92	247	eP	P	03 08 07.5	-0.7
	7.7nm,0.5s						
WRAB	Tennant Creek	21.88	227	eP	P	03 08 27.7	-0.4
	18nm,0.6s,mb4.6						
WB2	Warramunga Arr	21.89	227	eP	P	03 08 28.8	+0.6
WRA	Warramunga Arr	21.90	227	P	P	03 08 27.9	-0.4
	11nm,0.7s,mb4.3,baz=52,slow=9.8,SNR=74						
ASAR	Alice Springs	24.68	221	P	P	03 08 55.7	+0.3
	3.2nm,0.6s,mb4.0,baz=60,slow=8.5,SNR=38						
ASPA	Alice Springs	24.68	221	eP	P	03 08 55.9	+0.5
FITZ	Fitzroy Crossi	28.01	241	⇑iP	P	03 09 25.6	-0.6
	14nm,0.6s,mb4.7						
SONM	Songino Array	65.98	329	P	P	03 14 21.8	+1.1
	1.1nm,0.7s,mb3.8,baz=141,slow=4.8,SNR=9.9						
ZAL	Zalesovo	80.77	327	P	P	03 15 47.0	+0.2
	0.5nm,0.7s,mb3.5,baz=37,slow=6.6,SNR=3.4						
ILAR	Eielson Array	83.28	22	P	P	03 15 58.2	-1.3
	0.6nm,0.7s,mb3.5,baz=244,slow=4.9,SNR=9.4						
CHKZ	Chkalovo	88.74	324	P	P	03 16 25.4	-1.1
	0.6nm,0.5s,mb3.9						
BVAR	Borovoye Array	88.76	323	P	P	03 16 27.7	+1.1
	0.7nm,0.7s,mb3.8,baz=108,slow=4.7,SNR=4.3						
NVAR	Mina Array Bea	93.67	52	P	P	03 16 50.3	+0.6
	0.8nm,0.7s,mb4.2,baz=250,slow=4.3,SNR=7.0						

WEL 12 03:04:22.4±0.3**,39.55S**×**174.13E,h169**^{km}±3^{km}**,ML3.6**/15**, Error ellipse: s-maj=2.2km s-min=1.5km az=90.0,North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NRZ	Ngariki Road	0.26	323	PN	P	03 04 45.2	-0.4
NEZ	North Egmont	0.28	354	PN	P	03 04 45.5	-0.1
RAEZ	Rainy Point	0.33	38	SN	S	03 05 01.5	-2.1
PKE	Pukeiti	0.37	342	PN	P	03 04 45.4	-0.5
VRZ	Vera Road	0.64	49	PN	P	03 04 46.0	-1.0
VRZ				SN	S	03 05 03.1	-2.9
WAZ	Wanganui	0.69	108	PN	P	03 04 47.3	0.0
WAZ				SN	S	03 05 05.0	-1.4
TWVZ	Taurewa	1.12	65	PN	P	03 04 49.6	-0.6
FWVZ	Far West T-bar	1.14	76	PN	P	03 04 50.2	-0.2
WPVZ	Whakapapa	1.15	73	PN	P	03 04 50.3	-0.2
CNZ	Chateau	1.15	73	PN	P	03 04 50.2	-0.3
WNVZ	Wahianoa	1.16	80	PN	P	03 04 50.3	-0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HIZ	Hauiti	1.17	29	PN	P	03 04 49.5	-1.3
NGZ	Ngauruhoe	1.20	72	PN	P	03 04 50.7	-0.2
WTVZ	West Tongariro	1.21	70	PN	P	03 04 50.8	-0.3
TUVZ	Tukino	1.21	77	PN	P	03 04 51.2	+0.1
MGZ	Maungaku	1.22	64	PN	P	03 04 50.8	-0.4
OTVZ	Oturere	1.25	73	PN	P	03 04 51.4	0.0
KRVZ	Karewarewa	1.25	69	PN	P	03 04 51.3	-0.2
MOVZ	Moawhango	1.26	84	PN	P	03 04 51.0	-0.6
DUWZ	D'Urville Isla	1.27	187	PN	P	03 04 51.1	-0.5
KATZ	Kakaramea	1.34	65	PN	P	03 04 52.2	-0.1
KIW	Kapiti Island	1.44	156	PN	P	03 04 52.7	-0.6
TSZ	Takapari Road	1.50	111	PN	P	03 04 53.2	-0.6
MRZ	Mangatainoka R	1.57	136	PN	P	03 04 54.0	-0.5
CAW	Cannon Point	1.72	156	PN	P	03 04 55.6	-0.4
MRW	Makara Radio	1.74	166	PN	P	03 04 55.9	-0.4
NNZ	Nelson	1.77	199	PN	P	03 04 56.1	-0.4
QRZ	Quartz Range	1.77	223	PN	P	03 04 56.3	-0.3
WEL	Wellington	1.80	165	PN	P	03 04 56.5	-0.5
SNZO	South Karori	1.81	166	PN	P	03 04 56.5	-0.5
BKZ	Black Stump Fm	1.87	79	PN	P	03 04 57.1	-0.6
TUWZ	Tuamarina	1.89	184	PN	P	03 04 57.5	-0.3
MTW	Mount Morrison	1.92	147	PN	P	03 04 57.6	-0.6
BHW	Baring Head	1.94	163	PN	P	03 04 57.8	-0.7
BFZ	Birch Farm	1.98	126	PN	P	03 04 58.3	-0.6
MSWZ	Moikau Station	2.05	156	PN	P	03 04 59.0	-0.7
PAWZ	Paruwai Farm	2.08	152	PN	P	03 04 59.4	-0.7
PWZ	Pawanui	2.16	104	PN	P	03 05 00.8	-0.2
BSWZ	Blackbirch Sta	2.17	185	PN	P	03 05 01.0	-0.2
THZ	Tophouse	2.40	203	PN	P	03 05 03.2	-0.7
KNZ	Kokohu	2.80	80	ePN	P	03 05 08.2	-0.5
DSZ	Denniston Nort	2.82	218	PN	P	03 05 08.3	-0.7
KHZ	Kahutara	2.90	189	PN	P	03 05 09.0	-1.0
LTZ	Lake Taylor	3.53	203	ePN	P	03 05 16.3	-1.6

*NEIC **12** 03:16:05.0±4.6, 21.90S×176.64W, h170^{km}±40^{km}, mb4.4/2, Error ellipse: s-maj=17.5km s-min=14.2km az=199.0*
*IDC **12** 03:16:05.0±7.6, 22.00S×176.50W, h171^{km}±68^{km}, mb3.8/9, mb1 4.0/10, mb1mx3.9/17, mbtmp4.2/10, Error ellipse: s-maj=34.2km s-min=22.5km az=168.0*
ISC 12 03:15:58.5±5.6**, 21.9S**±0.2×**176.6W**±0.1**, h119**^{km}±50^{km}**, n27, σ0^{s}57**/20**, mb4.1**/10**, 2C, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	Urewera	17.21	197	P	P	03 19 52.7	-0.1
	1.6nm,0.3s,baz=331,slow=6.7,SNR=11						
URZ				S	S	03 22 52.3	-6.3
	0.6nm,0.3s,baz=78,slow=20,SNR=8.5						
RPZ	Rata Peaks	24.08	202	P	P	03 21 03.6	-0.2
	13nm,0.7s,mb4.4,baz=271,slow=4.3,SNR=7.7						
CTA	Charters Tower	34.66	266	eP	P	03 22 40.0	+1.4
	7.0nm,0.4s,mb4.8						
CTA	Charters Tower	34.66	266	P	P	03 22 40.0	+1.4
	10nm,0.5s,mb4.9,baz=100,slow=10.0,SNR=20						
STKA	Stephens Creek	38.39	246	P	P	03 23 10.4	+0.6
	3.4nm,0.6s,mb4.4,baz=97,slow=9.8,SNR=9.1						
STKA	Stephens Creek	38.39	246	eP	P	03 23 09.7	-0.1
ASAR	Alice Springs	45.48	258	P	P	03 24 07.8	+0.1
	3.3nm,0.6s,mb4.2,baz=90,slow=7.2,SNR=34						
ASAR				PcP	PcP	03 25 44.0	-1.0
	2.7nm,0.9s,baz=110,slow=4.1,SNR=8.8						
ASPA	Alice Springs	45.48	258	eP	P	03 24 07.3	-0.4
WRAB	Tennant Creek	45.70	263	P	P	03 24 08.8	-0.6
	4.3nm,0.6s,mb4.4						
WRA	Warramunga Arr	45.71	263	P	P	03 24 09.1	-0.4
	2.7nm,0.5s,mb4.2,baz=99,slow=7.8,SNR=16						
WRA				PcP	PcP	03 25 45.0	-0.9
	0.3nm,0.3s,baz=102,slow=2.7,SNR=2.9						
SBA	Scott Base	56.60	184	P	P	03 25 30.7	-0.1
NVAR	Mina Array Bea	81.14	43	P	P	03 28 02.6	+0.3
	0.5nm,0.8s,mb3.4,baz=236,slow=6.0,SNR=3.6						
BGU	Big Grassy Mou	85.90	43	eP	P	03 28 27.3	+1.1
VNA3	Neumayer Olymp	86.70	176	⇑i	P	03 28 29.5	+0.1
TXAR	Lajitas Array	86.71	57	P	P	03 28 30.2	-0.2
	0.4nm,0.8s,mb3.4,baz=217,slow=6.3,SNR=5.3						
VNA2	Neumayer--Watz	87.15	176	⇑i	P	03 28 31.8	+0.2
ILAR	Eielson Array	89.36	12	P	P	03 28 41.4	-0.8
	0.7nm,0.8s,mb3.7,baz=218,slow=5.4,SNR=11						
YKA	Yellowknife Ar	97.21	24	P	P	03 29 17.6	-0.7
	0.1nm,0.3s,mb3.7,baz=243,slow=4.6,SNR=5.2						
YKA	Yellowknife Ar	97.21	24	P	P	03 29 17.6	-0.7
BVAR	Borovoye Array	120.95	320	PKP	PKPdf	03 34 36.7	0.0
	0.9nm,0.7s,baz=80,slow=0.4,SNR=7.1						
ARCES	ARCESS Array B	130.49	350	PKP	PKPdf	03 34 54.5	-0.1
	3.5nm,0.9s,baz=12,slow=0.9,SNR=11						
FINES	FINESS Array B	137.44	344	PKP	PKPdf	03 35 06.7	-1.0
	0.7nm,0.8s,baz=207,slow=4.3,SNR=4.7						
FINES	FINESS Array B	137.44	344	PKP	PKPdf	03 35 06.7	-1.0
AKASG	Malin Array Be	144.83	331	PKP	PKPdf	03 35 20.2	-0.8
	1.8nm,0.4s,baz=39,slow=3.9,SNR=10						
ASF	Jabal al Asfar	148.54	296	PKPbc	PKPdf	03 35 32.4	+4.6
	1.6nm,0.6s,baz=299,slow=4.1,SNR=4.2						
CLL	Collm	149.67	348	ePKP1	PKPdf	03 35 35.0	+6.0
MLR	Muntele Rosu	150.07	327	PKPbc	PKPdf	03 35 35.6	+5.8
	baz=107,slow=11						

*ATH **12** 03:16:10.5, 39.87N×20.69E, h5^{km}±3^{km}, MD3.0/4*
*NEIC **12** 03:16:10.8, 39.89N×20.69E, h4^{km}, MD2.9(ATH), After ATH.*
*CSEM **12** 03:16:10.6±0.1, 39.86N×20.67E, h10^{km}, MD2.9, Error ellipse: s-maj=2.9km s-min=1.7km az=169.0*
*THE **12** 03:16:11.6, 39.83N×20.64E, h6^{km}*
ISC 12 03:16:11.0±0.6**, 39.84N**±0.03×**20.68E**±0.04**, h1**^{km}±8^{km}**, n15, σ0^{s}94**/26**, 1C, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAN	Janina	0.23	145	⇑iPG	Pg	03 16 15.5	-0.1
JAN				eSG	Sg	03 16 19.0	+0.4
LSK	Leskovik	0.32	349	i Pg	Pg	03 16 17.9	+0.6
LSK				i Sg	Sg	03 16 26.3	+4.8
IGT	Igoumenitsa	0.41	221	ePg	Pg	03 16 18.4	-0.8
IGT				eSg	Sg	03 16 24.9	+0.3
SRN	Sarande	0.53	274	i Pg	Pg	03 16 20.9	-0.6
SRN				i Sg	Sg	03 16 29.4	+0.9
KEK	Kerkira	0.69	260	ePG	Pg	03 16 24.0	-0.8
KEK				eSB	Sg	03 16 34.5	+0.4
KEK	Kerkira	0.69	260	ePg	Pg	03 16 23.0	-1.8
KEK				eSg	Sg	03 16 34.5	+0.4
KZN	Kozani	0.96	61	ePB	Pb	03 16 28.7	-1.4
FNA	Florina	1.08	29	ePg	Pg	03 16 32.1	-0.5
FNA				eSg	Sg	03 16 48.8	+1.8
EVR	Evrytania	1.27	136	ePB	Pb	03 16 35.5	0.0
BIA	Bitola	1.27	22	i Sn	Sn	03 16 54.2	+0.3
LIT	Litokhoron	1.41	79	ePb	Pb	03 16 37.2	-0.7
LIT				eSb	Sb	03 16 57.2	+0.9
AGG	Agios Georgios	1.52	122	ePb	Pb	03 16 38.4	-1.2
AGG				eSb	Sb	03 17 00.1	+0.8
VLS	Valsamata	1.66	182	ePb	Pb	03 16 44.0	+1.8
GRG	Griva	1.72	49	ePb	Pb	03 16 41.8	-1.4
GRG				eSb	Sb	03 17 05.2	0.0
GRG	Griva	1.72	49	ePb	Pb	03 16 41.8	-1.4
GRG				eSb	Sb	03 17 05.2	-0.1

*NIED **12** 03:20:00, 35.60N×140.10E, h62^{km}, Mw4.1 Best double couple: $M_0$1.41×10^{15} NP1:ϕ_s355°, δ56°, λ83°. NP2:ϕ_s187°, δ35°, λ100°.*
*MOS **12** 03:20:01.5±1.3, 35.54N×140.10E, h75^{km}, mb4.6/3, Error ellipse: s-maj=20.9km s-min=10.3km az=110.8*
*JMA **12** 03:20:02.8±0.2, 35.64N×140.10E, h73^{km}±2^{km}, M4.1 Broadband fault plane solution: P waves. NP1:ϕ_s156°, δ25°, λ48°. NP2:ϕ_s20°, δ72°, λ107°. Principal axes: T Plg60°, Azm315°; N Plg16°, Azm195°; P Plg25°, Azm97°;*
JMA Felt II J1.
*BJI **12** 03:20:02.5, 35.63N×139.92E, h72^{km}, mB4.9, mb4.7, Ms3.9*
*NEIC **12** 03:20:04.8±1.0, 35.51N×139.87E, h80^{km}±8^{km}, mb4.3/3, Error ellipse: s-maj=10.8km s-min=7.4km az=87.0*
NEIC Recorded [2 JMA] in Chiba, Kanagawa, Saitama and Tokyo; [1 JMA] in Gumma, Ibaraki, Shizuoka, Tochigi and Yamanashi Prefectures.
*IDC **12** 03:20:04.7±2.0, 35.51N×139.93E, h79^{km}±20^{km}, mb3.7/16, mb1 3.9/19, mb1mx3.8/24, mbtmp4.0/19, Error ellipse: s-maj=21.5km s-min=13.9km az=78.0*
ISC 12 03:20:02.7±0.3**, 35.56N**±0.03×**140.01E**±0.05**, h80**^{km}±2^{km}**, n51, σ1^{s}05**/68**, mb4.0**/22**, 3C-4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JCN	Nagara	0.21	133	⇑P	P	03 20 14.5	+0.1
JCN				S	S	03 20 23.5	+0.2
TOK	Tokyo	0.24	301	⇑P	P	03 20 14.7	0.0
TOK				S	S	03 20 23.7	+0.1
JOD2	Odawara 2	0.81	249	⇓P	P	03 20 20.0	+0.2
JOD2				S	S	03 20 32.0	-0.5
BSO3	Boso 3	0.86	152	⇑P	P	03 20 20.0	-0.3
JIM2	Oshima 3	0.97	210	P	P	03 20 21.9	+0.4
JIM2				S	S	03 20 35.5	-0.2
JAG	Ashikaga	0.97	332	⇓P	P	03 20 21.1	-0.5
JAG				S	S	03 20 34.7	-1.2
JRY	Ryogami san	1.01	297	⇓P	P	03 20 22.7	+0.6
JRY				eS	S	03 20 36.8	+0.1
JYN	Shimob	1.20	267	⇓P	P	03 20 25.1	+0.6
JYN				eS	S	03 20 41.1	+0.3
BSO1	Boso 1	1.20	139	P	P	03 20 23.8	-0.7
BSO1				eS	S	03 20 40.0	-0.8
JIZS	Izushimoda	1.25	228	P	P	03 20 25.7	+0.5
JIZS				S	S	03 20 42.2	+0.2
JKT	Katashina	1.35	333	P	P	03 20 26.0	-0.6
JKT				eS	S	03 20 42.7	-1.6
MAJO	Matsushiro	1.76	304	eP	P	03 20 32.2	+0.3
MAT	Matsushiro	1.76	304	eP	P	03 20 33.0	+1.1
MAT				S	S	03 20 56.0	+2.5
MAT	Matsushiro	1.76	304	P	P	03 20 32.5	+0.6
MAT				eS	S	03 20 56.0	+2.5
JHJ	Hachijo jima 2	2.44	185	P	P	03 20 43.1	+1.7
	71nm,0.3s,baz=253,slow=14,SNR=10.0						
JHJ				S	S	03 21 10.2	+0.1
	151nm,0.3s,baz=70,slow=22,SNR=10.0						
CBIJ	Chichi jima	8.64	167	P	P	03 22 02.8	-4.1
	9.8nm,0.3s,baz=94,slow=15,SNR=3.9						
CBIJ				S	S	03 23 34.0	-10
	8.1nm,0.3s,baz=139,slow=20,SNR=3.4						
ASAJ	Asahikawa	8.77	12	P	P	03 22 05.2	-3.5
ASAJ				S	S	03 23 40.1	-6.8
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	Asahikawa	8.77	12	P	P	03 22 05.2	-3.5
	comp=N,0.8nm,0.3s,baz=244,slow=16,SNR=3.8						
ASAJ				S	S	03 23 40.0	-6.8
	comp=N,0.6nm,0.3s,baz=260,slow=19,SNR=2.6						
HHC	Hu-ho-hao-te	22.92	292	eP	P	03 24 58.8	-1.5
HHC				AP		03 25 17.6	
HHC				XP		03 25 27.7	
HHC				PCP	PcP	03 28 46.9	-3.1
HHC				S	S	03 28 57.6	-2.6
HHC				XS		03 29 27.3	
HHC				SS	SS	03 29 49.4	-0.6
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.4						
HHC				LR	LR		
	comp=N,175nm,19.6s						
HHC				LR	LR		
	comp=E,283nm,23.8s						
MA2	Magadan	25.03	13	P	P	03 25 22.8	+2.3
ENH	Enshi	26.10	267	P	P	03 25 30.5	-0.3
ULN	Ulaanbaatar	27.29	307	P	P	03 25 41.2	-0.3
SONM	Songino Array	27.71	307	P	P	03 25 44.3	-1.1
	comp=E,0.8nm,0.8s,mb3.3,baz=105,slow=9.5,SNR=5.7						
BOD	Bodaibo	28.21	330	eP	P	03 25 48.9	-0.8
WMQ	Urumqi	40.52	298	eP	P	03 27 37.5	+2.3
WMQ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
ZAL	Zalesovo	42.10	314	P	P	03 27 49.5	+1.4
	comp=Z,1.7nm,0.5s,mb4.1,baz=5.6,slow=5.6,SNR=8.3						
KURK	Kurchatov	45.97	309	eP	P	03 28 18.4	-0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
KURK	Kurchatov	45.97	309	eP	P	03 28 18.4	-0.9
	comp=Z,4.9nm,0.8s,mb4.3						
CHKZ	Chkalovo	50.50	314	eP	P	03 28 53.2	-1.2
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
CHKZ	Chkalovo	50.50	314	eP	P	03 28 53.2	-1.2
	comp=Z,1.9nm,0.6s,mb4.3						
BVAR	Borovoye Array	50.74	313	P	P	03 28 57.4	+1.2
	comp=Z,0.5nm,0.4s,mb3.9,baz=90,slow=7.2,SNR=4.7						
ILAR	Eielson Array	51.34	32	P	P	03 29 00.9	+0.3
	comp=Z,2.2nm,1.2s,mb4.1,baz=280,slow=6.1,SNR=7.8						
WRAB	Tennant Creek	55.45	186	eP	P	03 29 30.5	-1.0
WB2	Warramunga Arr	55.46	186	eP	P	03 29 30.2	-1.4
WRA	Warramunga Arr	55.46	186	P	P	03 29 30.5	-1.1
	comp=Z,3.9nm,0.6s,mb4.6,baz=2.5,slow=7.7,SNR=44						
ASAR	Alice Springs	59.19	187	P	P	03 29 57.5	-0.2
	comp=Z,0.9nm,0.5s,mb4.0,baz=14,slow=9.7,SNR=14						
ARCES	ARCESS Array B	64.97	339	P	P	03 30 35.7	0.0
	comp=Z,4.3nm,1.0s,mb4.2,baz=45,slow=6.9,SNR=5.7						
YKA	Yellowknife Ar	65.65	29	P	P	03 30 40.0	-0.1
	comp=Z,0.3nm,0.7s,mb3.2,baz=302,slow=6.5,SNR=6.7						
JOF	Joensuu	66.73	332	ep	P	03 30 45.9	-1.0
	comp=Z,1.6nm,0.5s,mb4.1						
FORT	Forrest	66.94	191	eP	P	03 30 49.0	+0.2
	comp=Z,229nm,0.6s						
STKA	Stephens Creek	67.10	179	P	P	03 30 49.0	-0.8
	comp=Z,2.1nm,0.8s,mb4.0,baz=297,slow=6.8,SNR=4.0						
KAF	Kangasniemi	69.09	333	ep	P	03 30 59.2	-2.5
	comp=Z,2.2nm,0.5s,mb4.2						
KAF	Kangasniemi	69.09	333	eP	P	03 30 59.2	-2.5
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
FINES	FINESS Array B	69.59	332	P	P	03 31 04.8	+0.1
	comp=Z,3.9nm,0.9s,mb4.2,baz=76,slow=5.1,SNR=20						
AKASG	Malin Array Be	74.76	322	P	P	03 31 35.3	-0.1
	comp=Z,0.7nm,0.4s,mb3.8,baz=47,slow=5.7,SNR=9.2						
NB2	NORSAR Subarra	75.10	337	P	P	03 31 37.5	+0.4
	comp=Z,1.1nm,0.6s,mb3.8,baz=41,slow=5.8						
NOA	NORSAR Array B	75.10	337	P	P	03 31 37.8	+0.7
	comp=Z,1.6nm,0.8s,mb3.8,baz=39,slow=5.7,SNR=4.0						
NVAR	Mina Array Bea	76.78	52	P	P	03 31 49.1	+2.0
	comp=Z,0.7nm,0.8s,mb3.5,baz=296,slow=5.6,SNR=5.0						
PDAR	Pinedale Array	79.51	45	P	P	03 32 03.5	+1.4
	comp=Z,0.5nm,0.5s,mb3.6,baz=247,slow=0.8,SNR=5.9						
SCHQ	Schefferville	87.06	15	P	P	03 32 41.6	+1.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=286,slow=7.4,SNR=3.1						
TXAR	Lajitas Array	91.92	52	P	P	03 33 05.5	+1.9
	comp=Z,0.1nm,0.5s,mb3.3,baz=292,slow=2.9,SNR=4.2						

*ROM **12** 03:35:49.1±0.5, 42.42N×12.34E, h8^{km}±2^{km}, MD2.8/5, ML2.2/3, Error ellipse: s-maj=2.9km s-min=1.8km az=90.0*
*NEIC **12** 03:35:49.2, 42.42N×12.34E, h8^{km}, MD2.8(ROM), ML2.5(LDG), After ROM.*
*LDG **12** 03:35:51.9±1.2, 42.19N×12.15E, h10^{km}, Ml2.5/2, Error ellipse: s-maj=34.7km s-min=21.1km az=166.0*
ISC 12 03:35:47.8±0.8**, 42.38N**±0.04×**12.22E**±0.06**, h7**^{km}±9^{km}**, n36, σ1^{s}01**/46**, 2C-2D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MNS	Montasola	0.34	90	⇓iPG	Pg	03 35 55.3	+0.6
MNS				SG	Sg	03 35 59.6	+0.3
MNS	Montasola	0.34	90	⇓iPg	Pg	03 35 55.3	+0.6
MNS				eSg	Sg	03 35 59.6	+0.3
LNSS	Leonessa	0.64	70	ePG	Pg	03 36 00.7	0.0
LNSS				SG	Sg	03 36 09.7	+0.4
FIAM	Fiamignano	0.67	100	ePG	Pg	03 36 01.4	+0.1
FIAM	Fiamignano	0.67	100	ePg	Pg	03 36 01.4	+0.1
CERT	Cerreto	0.71	127	ePG	Pg	03 36 02.7	+0.6
CERT				SG	Sg	03 36 14.2	+2.6
CERT	Cerreto	0.71	127	ePg	Pg	03 36 02.7	+0.6
CERT				eSg	Sg	03 36 14.2	+2.6
NRCA	Norcia	0.80	55	⇑iPG	Pg	03 36 03.2	-0.5
NRCA				SG	Sg	03 36 13.4	-1.0
	97nm,0.3s						
NRCA	Norcia	0.80	55	⇑iPg	Pg	03 36 03.2	-0.6
NRCA				eSg	Sg	03 36 13.4	-1.0
AQU	L'Aquila	0.88	92	ePG	Pg	03 36 05.2	-0.1
AQU	L'Aquila	0.88	92	eP	Pb	03 36 04.8	0.0
CAMP	Campotosto	0.89	80	ePG	Pg	03 36 05.3	-0.3
CAMP				SG	Sg	03 36 17.6	+0.1
PTQR	Pietraquaria	0.95	112	ePG	Pg	03 36 06.2	-0.5
	57nm,0.4s						
PTQR	Pietraquaria	0.95	112	ePg	Pg	03 36 06.2	-0.5
GUAR	Guarcino	1.00	126	ePG	Pg	03 36 07.5	-0.3
GUAR	Guarcino	1.00	126	ePg	Pg	03 36 07.5	-0.3
FAGN	Fagnano	1.02	96	ePG	Pg	03 36 07.1	-1.0
SNTG	Esanatoglia	1.02	31	ePG	Pg	03 36 07.3	-0.8
	59nm,0.4s						
SNTG	Esanatoglia	1.02	31	ePg	Pg	03 36 07.3	-0.9
ARV	Arcevia	1.23	25	ePN	Pn	03 36 11.8	+0.4
ARV	Arcevia	1.23	25	ePg	Pg	03 36 11.8	-0.6
CRE	Caprese Michel	1.25	351	ePN	Pn	03 36 13.8	+2.1
	24nm,0.4s						
CRE	Caprese Michel	1.25	351	ePg	Pg	03 36 13.8	+1.0
SDI	San Donato	1.36	119	ePN	Pn	03 36 12.9	-0.3
	59nm,0.4s						
SDI	San Donato	1.36	119	ePg	Pg	03 36 12.9	-2.1
PGF	Pioggiola	2.39	275	ePn	Pn	03 36 29.6	+1.6
PGF				eSn	Sn	03 36 56.1	-1.7
	8.8nm,0.7s						
SBF	Sospel	3.80	294	ePn	Pn	03 36 48.0	-0.1
FRF	La Foret Royal	4.26	288	ePn	Pn	03 36 54.2	-0.3
LMR	La Mourre	4.31	285	ePn	Pn	03 36 55.1	-0.1
LMR				eSn	Sn	03 37 43.1	-3.2
	1.3nm,0.4s						
MBDF	Montbardon	4.60	302	ePn	Pn	03 37 00.4	+1.0
LPL	La Plagne	5.05	310	ePn	Pn	03 37 08.7	+2.9
SMRF	Simiane la Rot	5.12	290	ePn	Pn	03 37 07.2	+0.5
ORIF	Oris-en-Rattie	5.25	301	eP	Pn	03 37 13.2	+4.6
VIVF	Saint-Julien-l	6.01	297	ePn	Pn	03 37 19.8	+0.5
LASF	Ste Croix	6.34	288	ePn	Pn	03 37 22.6	-1.4
CAF	Calviac	7.79	292	ePn	Pn	03 37 43.9	-0.4

*IDC **12** 03:35:49.8±1.8, 24.84N×140.89E, h188^{km}±17^{km}, mb3.2/5, mb1 3.4/6, mb1mx3.1/20, mbtmp3.8/6, MS2.9/1, Ms1 2.9/1, ms1mx2.2/14, Error ellipse: s-maj=64.5km s-min=15.6km az=100.0*
ISC 12 03:35:49.3±1.7**, 24.8N**±0.1×**141.0E**±0.6**, h200**^{km}±16^{km}**, n8, σ0^{s}59**/9**, mb3.4**/6**, 1C, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.52	24	P	P	03 36 35.1	+1.3
	109nm,0.3s,baz=137,slow=4.4,SNR=48						
CBIJ				LR	LR	03 37 04.1	
	comp=Z,238nm,19.7s,baz=131,slow=29						
CBIJ				S	S	03 37 07.3	-1.0
	84nm,0.3s,baz=302,slow=23,SNR=18						
WB2	Warramunga Arr	44.93	189	⇑iP	P	03 43 46.3	+0.1
WRA	Warramunga Arr	44.94	189	P	P	03 43 46.3	+0.1
	7.3nm,0.4s,mb4.4,baz=9.4,slow=8.7,SNR=39						
ASAR	Alice Springs	48.66	189	P	P	03 44 14.8	-0.4
	0.2nm,0.5s,mb2.7,baz=21,slow=6.4,SNR=5.0						
STKA	Stephens Creek	56.35	179	P	P	03 45 11.3	-0.4
	0.7nm,0.3s,mb3.6,baz=349,slow=10,SNR=3.6						
INK	Inuvik	65.55	24	P	P	03 46 13.1	0.0
	0.5nm,0.8s,mb3.2,baz=260,slow=6.1,SNR=4.0						
YKA	Yellowknife Ar	74.66	28	P	P	03 47 08.5	+0.5
	0.1nm,0.4s,mb2.8,baz=295,slow=5.9,SNR=4.4						
FINES	FINESS Array B	79.56	334	P	P	03 47 34.7	-0.3
	2.8nm,1.0s,mb3.8,baz=56,slow=5.0,SNR=4.9						

*NEIC **12** 03:52:14.4, 17.19N×94.90W, h129^{km}, MD4.2(MEX), After MEX.*
MEX 12 03:52:14.1±1.1**, 17.21N×94.88W, h131**^{km}±8^{km}**, MD4.2, 6C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.12	180	i P	P	03 52 30.6	-1.4
CMIG				i S	S	03 52 43.3	-2.4
TUIG	Tuzandepetl	0.93	28	eP	P	03 52 35.1	-1.5
TUIG				eS	S	03 52 51.1	-2.8
EVV	El Vigia	1.32	340	eP	P	03 52 38.0	-2.7
EVV				eS	S	03 52 56.0	-5.1
EVV	El Vigia	1.32	340	eP	P	03 52 38.0	-2.7
EVV				eS	S	03 52 59.0	-2.1
OXX	Oaxaca	1.76	266	eP	P	03 52 44.5	-1.2
OXX				eS	S	03 53 08.5	-1.3
VHO	Vista Hermosa	1.77	266	⇑iP	P	03 52 44.9	-0.9
VHO				eS	S	03 53 08.5	-1.6
HUIG	Huatulco	1.85	220	⇑iP	P	03 52 43.6	-3.1
HUIG				i S	S	03 53 08.9	-2.8
CCIG	Comitan	2.79	109	⇑iP	P	03 52 57.6	-1.2
CCIG				i S	S	03 53 30.8	-2.0
IISM	Ciudad Serdan	2.96	307	eP	P	03 52 59.0	-2.1
IISM				eS	S	03 53 34.0	-2.8
IIB	San Bernardino	3.73	298	eP	P	03 53 11.0	-0.2
IIB				eS	S	03 53 50.0	-5.0
PPM	Popocatepetl	4.01	298	eP	P	03 53 15.0	0.0
PPM				⇑iP		03 53 15.7	
PPM				eS	S	03 53 58.0	-3.7
PPM				eS	S	03 53 58.3	-3.4
PLIG	Platanillo	4.56	286	⇑iP	P	03 53 21.3	-1.0
PLIG				eS	S	03 54 08.7	-6.0
PLIG	Platanillo	4.56	286	⇑iP	P	03 53 21.3	-1.0
PLIG				i S	S	03 54 11.2	-3.5
ACX	Acapulco	4.83	267	eP	P	03 53 21.0	-4.9
ACX				eS	S	03 54 15.5	-5.8
TEIG	Tepich	6.94	63	eP	P	03 53 49.2	-5.3

IDC 12 04:16:00.6±1.6**, 6.95S×129.17E, mb3.7**/2**, mb1 4.3**/4**, mb1mx4.1**/11**, mbtmp4.1**/4**, ML4.3**/2**, Error ellipse: s-maj=107.3km s-min=24.8km az=71.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	13.86	159	Pn	P	04 19 18.6	-2.2
	1.6nm,0.3s,baz=338,slow=12,SNR=28						
WRA				Sn	S	04 21 42.2	-14
	2.3nm,0.3s,baz=332,slow=24,SNR=7.0						
ASAR	Alice Springs	17.24	165	P	P	04 20 03.2	-1.2
	1.5nm,0.3s,baz=337,slow=9.8,SNR=112						
ASAR				S	S	04 23 03.4	-12
	0.6nm,0.3s,baz=334,slow=19,SNR=7.4						
STKA	Stephens Creek	27.38	157	P	P	04 21 47.6	-2.1
	0.9nm,0.4s,baz=348,slow=11,SNR=5.7						
SONM	Songino Array	58.13	342	P	P	04 25 56.1	-2.3
	0.3nm,0.6s,baz=171,slow=4.7,SNR=3.3						

*CNRM **12** 04:26:31.3, 35.19N×2.63W, h5^{km}, MD3.3*
*CSEM **12** 04:26:33.2±0.4, 35.03N×2.89W, h15^{km}, MD3.3, Error ellipse: s-maj=7.7km s-min=4.8km az=144.0*
*NEIC **12** 04:26:34.2, 34.97N×2.97W, h6^{km}, MN3.2(MDD), After MDD.*
*MDD **12** 04:26:34.4±0.5, 34.99N×2.87W, h8^{km}±3^{km}, mb3.7/22, Error ellipse: s-maj=5.3km s-min=3.6km az=49.0, PRXIMO*
ISC 12 04:26:33.2±0.5**, 35.05N**±0.03×**2.85W**±0.04**, h10**^{km}**, n60, σ1^{s}41**/101**, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ZAI	Zaio	0.12	133	P	Pg	04 26 36.0	-0.2
ZAI				S	Sg	04 26 39.0	+0.8
ZAI	Zaio	0.12	133	i P	Pg	04 26 36.0	-0.2
EMLI	Melilla	0.26	342	P	Pg	04 26 40.5	+1.8
	137nm,0.1s,SNR=27						
EMLI				S	Sg	04 26 44.6	+2.2
	1μm,0.2s,SNR=14						
EMEL	Melilla	0.26	341	P	Pg	04 26 40.5	+1.8
	229nm,0.1s,SNR=27						
EMEL				S	Sg	04 26 44.6	+2.2
	1μm,0.2s,SNR=14						
TOU	Touzarine	0.74	263	i P	Pb	04 26 48.0	+0.2
TOU				i S	Sb	04 27 01.0	+3.3
EALB	Alboran	0.90	351	P	Pb	04 26 52.2	+1.8
	29nm,0.2s,SNR=8.0						
EALB				S	Sb	04 27 05.6	+3.4
	91nm,0.2s,SNR=6.5						
EALB	Alboran	0.90	351	P	Pb	04 26 52.2	+1.8
	8.6nm,0.1s,SNR=8.0						
EALB				S	Sb	04 27 05.6	+3.4
	91nm,0.2s,SNR=6.5						
MPAL	Palemas	0.91	281	i P	Pb	04 26 50.5	-0.1
MPAL				i S	Sb	04 27 06.0	+3.5
EBER	Berja	1.84	359	P	Pn	04 27 05.4	+0.1
	4.1nm,0.4s,SNR=7.9						
EBER				S	Sn	04 27 27.7	-1.1
	11nm,0.3s,SNR=7.9						
EBER	Berja	1.84	359	P	Pn	04 27 05.4	+0.2
	4.4nm,0.4s,SNR=7.9						
EBER				S	Sn	04 27 27.7	-1.1
	11nm,0.3s,SNR=7.9						
ENIJ	Nijar	1.99	15	P	Pn	04 27 07.3	+0.1
	9.5nm,0.3s,SNR=7.9						
ENIJ				S	Sn	04 27 33.0	+0.6
	16nm,0.3s,SNR=7.9						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ERON	Agron	2.11	339	P	Pn	04 27 07.9	-1.2
	3.5nm,0.2s,SNR=7.9						
ERON				S	Sn	04 27 35.9	+0.3
	3.9nm,0.4s,SNR=7.9						
EMIJ	Mijas	2.17	315	P	Pn	04 27 08.0	-1.9
EMIJ				S	Sn	04 27 34.7	-2.4
EMIJ	Mijas	2.17	315	P	Pn	04 27 08.8	-1.1
	3.5nm,0.1s,SNR=24						
EMIJ				S	Sn	04 27 34.7	-2.4
	13nm,0.3s						
EMIJ	Mijas	2.17	315	P	Pn	04 27 08.0	-1.9
	4.2nm,0.1s,SNR=24						
EMIJ				S	Sn	04 27 34.7	-2.4
	13nm,0.3s						
ECOG	Cogollos-Vega	2.29	346	P	Pn	04 27 13.1	+1.4
	3.8nm,0.3s,SNR=9.9						
ECOG				S	Sn	04 27 42.0	+1.8
	4.9nm,0.3s						
ELOJ	Sierra Loja	2.34	334	P	Pn	04 27 12.9	+0.5
	2.0nm,0.2s,SNR=11						
ELOJ				S	Sn	04 27 41.7	+0.3
	1.6nm,0.2s						
EJIF	Jimena Fronter	2.54	304	P	Pn	04 27 14.8	-0.5
EJIF	Jimena Fronter	2.54	304	P	Pn	04 27 15.6	+0.3
	3.2nm,0.2s,SNR=7.9						
EJIF	Jimena Fronter	2.54	304	P	Pn	04 27 14.8	-0.5
	2.2nm,0.2s,SNR=7.9						
CZD	Col de Zad	2.71	223	eP	Pn	04 27 18.5	+0.8
CZD				iS	Sn	04 27 51.0	+0.1
EQES	Quesada	2.75	356	P	Pn	04 27 20.3	+2.1
EQES				S	Sn	04 27 54.0	+2.2
EQES	Quesada	2.75	356	P	Pn	04 27 20.1	+1.9
	6.8nm,0.4s,SNR=43						
EQES				S	Sn	04 27 52.2	+0.4
	21nm,0.3s						
EQES	Quesada	2.75	356	P	Pn	04 27 20.3	+2.1
	6.0nm,0.2s,SNR=43						
EQES				S	Sn	04 27 54.0	+2.2
	21nm,0.3s						
ESPR	Espera	3.04	308	P	Pn	04 27 22.5	+0.2
	1.3nm,0.2s,SNR=7.9						
ESPR				S	Sn	04 27 56.4	-2.7
	3.1nm,0.3s,SNR=7.9						
ESPR	Espera	3.04	308	P	Pn	04 27 22.5	+0.2
	1.2nm,0.1s,SNR=7.9						
ESPR				S	Sn	04 27 56.4	-2.7
	3.1nm,0.3s,SNR=7.9						
EMUR	La Murta	3.07	25	P	Pn	04 27 23.1	+0.3
	1.9nm,0.2s,SNR=14						
EMUR				S	Sn	04 27 57.4	-2.6
	4.5nm,0.3s						
EMUR	La Murta	3.07	25	P	Pn	04 27 23.1	+0.3
	2.8nm,0.2s,SNR=14						
EMUR				S	Sn	04 27 57.4	-2.6
	4.5nm,0.3s						
EBAN	Banos Encina	3.20	347	P	Pn	04 27 25.8	+1.2
EBAN				S	Sn	04 28 03.7	+0.6
EBAN	Banos Encina	3.20	347	P	Pn	04 27 25.8	+1.2
	1.9nm,0.2s,SNR=7.9						
EBAN				S	Sn	04 28 02.0	-1.1
	1.3nm,0.2s,SNR=7.9						
EBAN	Banos Encina	3.20	347	P	Pn	04 27 25.8	+1.3
	1.9nm,0.2s,SNR=7.9						
EBAN				S	Sn	04 28 03.7	+0.6
	SNR=7.9						
EADA	Adamuz	3.41	336	P	Pn	04 27 27.3	-0.2
	1.9nm,0.1s,SNR=16						
EADA				S	Sn	04 28 06.0	-2.3
	3.9nm,0.4s						
EADA	Adamuz	3.41	336	P	Pn	04 27 27.3	-0.2
	2.2nm,0.1s,SNR=16						
EADA				S	Sn	04 28 06.1	-2.3
EVIA	Vianos	3.59	4	P	Pn	04 27 33.7	+3.5
EVIA				S	Sn	04 28 14.3	+1.2
EVIA	Vianos	3.59	4	P	Pn	04 27 33.7	+3.5
	1.3nm,0.2s,SNR=7.9						
EVIA				S	Sn	04 28 11.7	-1.4
	4.4nm,0.4s,SNR=7.9						
EVIA	Vianos	3.59	4	S	Sn	04 28 14.3	+1.2
	4.4nm,0.4s,SNR=7.9						
ETOB	Tobarra	3.74	16	P	Pn	04 27 33.9	+1.6
ETOB				S	Sn	04 28 15.7	-1.1
ETOB	Tobarra	3.74	16	P	Pn	04 27 30.9	-1.3
	1.3nm,0.2s,SNR=18						
ETOB				S	Sn	04 28 15.7	-1.1
	2.4nm,0.2s						
ETOB	Tobarra	3.74	16	P	Pn	04 27 33.8	+1.6
	1.0nm,0.1s,SNR=18						
ETOB				S	Sn	04 28 15.7	-1.1
	2.4nm,0.2s						
EMIN	Mina Concepcio	4.10	312	P	Pn	04 27 35.7	-1.7
	1.6nm,0.1s,SNR=28						
EMIN				S	Sn	04 28 21.1	-4.9
	0.5nm,0.4s						
EMIN	Mina Concepcio	4.10	312	P	Pn	04 27 35.7	-1.7
	1.3nm,0.1s,SNR=28						
EMIN				S	Sn	04 28 21.1	-5.0
	0.5nm,0.4s						
EBEN	Beniarda	4.21	29	P	Pn	04 27 39.7	+0.8
	1.5nm,0.4s,SNR=4.0						
EBEN				S	Sn	04 28 26.5	-2.2
	0.9nm,0.3s,SNR=4.0						
EBEN	Beniarda	4.21	29	P	Pn	04 27 39.7	+0.8
	0.4nm,0.2s,SNR=4.0						
EBEN				S	Sn	04 28 26.5	-2.3
	0.9nm,0.3s,SNR=4.0						
ESDC	Sonseca Array	4.70	349	P	Pn	04 27 46.6	+0.7
ESDC	Sonseca Array	4.70	349	P	Pn	04 27 45.2	-0.7
	3.6nm,0.2s,baz=173,slow=12,SNR=18						
ESDC	Sonseca Array	4.70	349	P	Pn	04 27 46.6	+0.7
	5.8nm,0.3s,SNR=18						
EBAD	Badajoz	4.98	319	P	Pn	04 27 48.3	-1.5
	2.3nm,0.1s,SNR=7.9						
EBAD				S	Sn	04 28 42.9	-5.3
	1.9nm,0.2s,SNR=7.9						
EBAD	Badajoz	4.98	319	P	Pn	04 27 48.3	-1.5
	3.1nm,0.2s,SNR=7.9						
EBAD				S	Sn	04 28 42.8	-5.4
	1.9nm,0.2s,SNR=7.9						
EIBI	Ibiza	5.20	39	P	Pn	04 27 52.8	-0.1
	1.6nm,0.2s,SNR=4.0						
EIBI	Ibiza	5.20	39	P	Pn	04 27 52.8	-0.1
	1.3nm,0.2s,SNR=4.0						
GUD	Guadarrama	5.68	350	P	Pn	04 27 59.1	-0.5
	1.2nm,0.4s,SNR=7.9						
ECAL	Calabor	7.52	337	P	Pn	04 28 24.5	-1.2
	0.9nm,0.2s,SNR=7.9						
ECAL				S	Sn	04 29 44.6	-7.3
	1.5nm,0.3s,SNR=4.0						
ECAL	Calabor	7.52	337	P	Pn	04 28 24.5	-1.2
	1.1nm,0.2s,SNR=7.9						
ELOB	Lobios	7.94	331	P	Pn	04 28 27.6	-3.8
ELOB	Lobios	7.94	331	P	Pn	04 28 28.7	-2.7
	0.4nm,0.2s,SNR=4.0						
ERUA	La Rua	8.06	337	P	P	04 28 30.8	-2.3
	0.6nm,0.2s,SNR=7.9						
EINC	Incio	8.37	337	P	P	04 28 35.6	-1.9
	0.9nm,0.2s,SNR=4.0						
EINC	Incio	8.37	337	P	P	04 28 35.6	-1.8
EJON	La Jonquera	8.64	30	P	P	04 28 40.4	-0.9
EJON	La Jonquera	8.64	30	P	P	04 28 40.3	-0.9

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*IDC **12** 04:34:44.1±1.6, 0.67S×19.82W, mb3.9/7, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, ML4.8/1, MS3.7/6, Ms1 3.7/6, ms1mx3.3/25, Error ellipse: s-maj=65.3km s-min=23.8km az=143.0*

ISC 12 04:34:44.6±1.5**, 0.6S**±0.3×**19.9W**±0.2**, h10^{km}, n13, σ0^{s}99**/8**, mb3.9**/7**, MS3.8**/5**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	16.61	64	Pn	P	04 38 40.2	+0.9
	3.6nm,0.3s,baz=238,slow=14,SNR=49						
DBIC				LR	LR	04 43 48.3	
	comp=Z,104nm,18.3s,baz=226,slow=33						
BDFB	Brasilia	31.57	240	LR	LR	04 52 24.7	
	comp=Z,143nm,18.5s,MS3.7,baz=290,slow=34						
ESDC	Sonseca Array	42.60	18	P	P	04 42 43.4	+0.7
	1.1nm,0.8s,mb3.6,baz=205,slow=8.2,SNR=6.0						
LPAZ	La Paz	50.06	249	P	P	04 43 41.7	-0.3
	1.2nm,0.6s,mb4.1,baz=82,slow=7.1,SNR=6.5						
LPAZ				LR	LR	05 06 21.1	
	comp=Z,56nm,18.0s,MS3.6,baz=297,slow=38						
DAVOX	Davos	53.87	25	P	P	04 44 09.3	-0.9
	1.8nm,0.7s,mb4.1,baz=221,slow=18						
GERES	GERESS Array B	57.10	26	P	P	04 44 33.0	-0.6
	3.0nm,1.0s,mb4.3,baz=198,slow=6.2,SNR=8.1						
PLCA	Paso Flores	60.81	222	LR	LR	05 10 12.7	
	comp=Z,33nm,18.1s,MS3.5,baz=280,slow=35						
AKASG	Malin Array Be	65.86	32	P	P	04 45 30.7	-1.8
	0.2nm,0.3s,mb3.6,baz=239,slow=5.9,SNR=4.8						
TXAR	Lajitas Array	84.86	299	P	P	04 47 21.7	+0.3
	0.4nm,0.6s,mb3.7,baz=119,slow=6.2,SNR=6.6						
TXAR				LR	LR	05 26 09.4	
	comp=Z,58nm,19.8s,MS4.0,baz=350,slow=36						
PDAR	Pinedale Array	90.15	313	LR	LR	05 26 13.5	
	comp=Z,55nm,19.5s,MS4.0,baz=341,slow=34						
YKA	Yellowknife Ar	92.69	332	P	P	04 47 59.3	+1.5
	0.4nm,0.8s,mb3.9,baz=86,slow=5.2,SNR=7.1						
ASPA	Alice Springs	144.94	135	eP	PKPbc	04 54 23.8	+0.7
ASAR	Alice Springs	144.94	135	PKP	PKPdf	04 54 23.9	-2.1
	5.1nm,0.7s,baz=228,slow=2.5,SNR=44						

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*IDC **12** 04:37:54.8±3.6, 38.65N×70.95E, mb3.7/5, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=65.3km s-min=39.0km az=145.0*

*NNC **12** 04:37:56.8±3.1, 38.94N×70.14E, mpv4.1, Error ellipse: s-maj=64.1km s-min=26.0km az=137.0*

ISC 12 04:38:04.4±1.9**, 39.4N**±0.2×**70.34E**±0.10**, h33^{km}, n21, σ1^{s}07**/22**, mb3.5**/5**, 4C-1D, Tajikistan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AML	Almayashu	3.73	42	P	P	04 39 01.8	+0.8
	SNR=147						
EKS2	Erkin-Say	4.16	38	P	P	04 39 08.4	+1.2
	SNR=35						
UCH	Uchtor	4.24	47	P	P	04 39 08.9	+0.6
	SNR=94						
AAK	Ala-Archa	4.50	43	P	P	04 39 12.9	+0.9
	SNR=16						
AAK	Ala-Archa	4.50	43	⇑Pn	Pn	04 39 12.9	+0.7
	13nm,0.4s						
AAK				⇓Sn	Sn	04 40 11.8	+7.7
	38nm,0.8s						
KZA	Kyzart	4.58	53	P	P	04 39 13.1	-0.1
	SNR=48						
KBK	Karagaybulak	4.76	46	P	P	04 39 16.8	+1.1
	SNR=35						
CHMS	Chumysh	4.89	41	P	P	04 39 18.2	+0.6
	SNR=22						
USP	Ospenovka	4.96	38	P	P	04 39 19.0	+0.4
	SNR=27						
TKM2	Tokmak 2	5.29	47	P	P	04 39 23.0	-0.2
	SNR=34						
ULHL	Ulahol	5.30	56	P	P	04 39 21.7	-1.6
	SNR=35						
MK31	Makanchi Array	11.43	46	⇑P	P	04 40 45.6	-2.6
	9.2nm,2.0s,baz=230,slow=13,SNR=6.7						
BVA0	Borovoye Array	13.62	0	⇑P	P	04 41 17.9	+0.5
	1.8nm,2.5s,baz=175,slow=17,SNR=5.5						
BVAR	Borovoye Array	13.62	0	Pn	P	04 41 16.7	-0.6
	0.3nm,0.3s,baz=168,slow=14,SNR=6.1						
CHKZ	Chkalovo	14.27	1	⇑P	P	04 41 24.5	-1.5
	2.6nm,1.7s						
ZAL	Zalesovo	17.54	29	P	P	04 42 06.2	-1.5
	0.6nm,0.3s,baz=247,slow=11,SNR=6.5						
ZAL				LR	LR	04 49 32.3	
	comp=Z,60nm,18.8s,baz=304,slow=39						
AKASG	Malin Array Be	30.78	305	P	P	04 44 21.0	+2.1
	0.4nm,0.4s,mb3.6,baz=109,slow=8.4,SNR=4.9						
FINES	FINESS Array B	34.80	324	P	P	04 44 53.8	+0.1
	0.5nm,0.6s,mb3.6,baz=104,slow=7.9,SNR=4.4						
ARCES	ARCESS Array B	38.27	336	P	P	04 45 23.0	+0.1
	2.7nm,0.9s,mb4.0,baz=117,slow=5.4,SNR=3.8						
NOA	NORSAR Array B	41.77	321	P	P	04 45 51.6	-0.2
	0.4nm,0.6s,mb3.2,baz=106,slow=8.4,SNR=2.9						
YKA	Yellowknife Ar	78.36	2	P	P	04 50 01.0	-1.5
	0.2nm,0.6s,mb3.2,baz=351,slow=5.6,SNR=6.7						

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*BJI **12** 04:38:18.2, 2.58S×128.64E, h72^{km}, mB5.3, mb4.9*

*NEIC **12** 04:38:21.9±2.3, 2.37S×127.93E, h49^{km}±24^{km}, mb4.7/9, Error ellipse: s-maj=24.7km s-min=9.5km az=60.0*

*IDC **12** 04:38:24.6±4.0, 2.57S×127.82E, h76^{km}±38^{km}, mb4.0/8, mb1 4.1/9, mb1mx4.0/17, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=35.9km s-min=9.5km az=67.0*

ISC 12 04:38:16.2±2.7**, 2.1S**±0.1×**128.5E**±0.3**, h21^{km}**±20^{km}**, n35, σ0^{s}77**/38**, mb4.6**/19**, 1C-2D, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.22	160	eP	P	04 40 58.7	0.0
	14nm,0.4s						
KAKA				eS	S	04 42 59.3	-5.2
FITZ	Fitzroy Crossi	16.11	190	eP	P	04 42 08.1	+4.9
	11nm,0.6s						
WRAB	Tennant Creek	18.60	162	P	P	04 42 34.0	-0.5
	76nm,0.5s,SNR=18						
WRAB	Tennant Creek	18.60	162	eP	P	04 42 34.0	-0.5
	10nm,0.5s						
WRA	Warramunga Arr	18.61	162	P	P	04 42 33.8	-0.8
	1.1nm,0.3s,baz=337,slow=12,SNR=23						
WRA				S	S	04 45 57.8	-0.3
	0.4nm,0.3s,baz=334,slow=21,SNR=4.7						
WB2	Warramunga Arr	18.61	162	eP	P	04 42 34.4	-0.2
PMG	Port Moresby	19.95	112	P	P	04 42 55.8	+5.8
	5.0nm,0.6s,baz=270,slow=2.0,SNR=2.4						
ASAR	Alice Springs	22.05	167	P	P	04 43 12.2	+0.8
	18nm,0.6s,mb4.7,baz=347,slow=11,SNR=154						
ASAR				S	S	04 47 08.2	-0.1
	11nm,1.1s,baz=343,slow=16,SNR=6.1						
ASPA	Alice Springs	22.05	167	eP	P	04 43 12.0	+0.7
ASPA				eS	S	04 47 09.4	+1.0
CTA	Charters Tower	24.92	137	P	P	04 43 43.0	+3.5
	5.0nm,0.8s,mb4.1,baz=307,slow=10,SNR=3.7						
CTA	Charters Tower	24.92	137	P	P	04 43 43.0	+3.5
STKA	Stephens Creek	32.07	159	P	P	04 44 44.3	+0.3
	3.5nm,0.8s,mb4.2,baz=308,slow=11,SNR=3.4						
STKA	Stephens Creek	32.07	159	P	P	04 44 43.3	-0.7
GYA	Guiyang	35.37	325	⇑iP	P	04 45 13.2	+0.6
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,220nm,3.1s						
CMAR	Chiang Mai Arr	35.52	306	P	P	04 45 14.0	0.0
	comp=Z,1.4nm,0.4s,mb4.2,baz=135,slow=6.1,SNR=12						
CMAR	Chiang Mai Arr	35.52	306	P	P	04 45 13.9	0.0
ENH	Enshi	36.96	332	eP	P	04 45 26.0	0.0
	comp=Z,9.6nm,0.7s,mb4.7						
XAN	Xi'an	40.41	335	P	P	04 45 54.5	-0.1
XAN				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.6						
BJI	Beijing	43.45	346	P	P	04 46 19.5	-0.1
BJI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
BJI	Beijing	43.45	346	P	P	04 46 19.5	-0.1
	comp=Z,14nm,1.0s,mb4.7						
LZH	Lanzhou	44.42	331	⇓P	P	04 46 29.0	+1.5
LZH				AP	pP	04 46 43.1	+9.2
LZH				XP	sP	04 46 49.6	+13
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,150nm,4.1s						
LZH	Lanzhou	44.42	331	⇓P	P	04 46 29.0	+1.5
	comp=Z,50nm,1.5s,mb5.0						
LZH				pP	pP	04 46 43.1	+9.2
LZH				sP	sP	04 46 49.6	+13
MDJ	Mudanjiang	46.56	1	P	P	04 46 44.5	+0.2
MDJ				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,209nm,4.2s						
LSA	Lhasa	47.67	315	eP	P	04 46 54.6	+1.2
	comp=Z,4.9nm,0.4s,mb4.9						
GTA	Gaotai	49.00	331	eP	P	04 47 04.3	+0.8
GTA				AMB	AMB		
	comp=Z,14nm,0.8s,mb5.0						
ULN	Ulaanbaatar	53.19	342	eP	P	04 47 34.9	-0.2
	comp=Z,5.1nm,0.6s,mb4.6						
SONM	Songino Array	53.37	342	P	P	04 47 36.5	+0.1
	comp=Z,4.0nm,0.8s,mb4.4,baz=149,slow=8.1,SNR=36						
SONM				PcP	PcP	04 48 44.4	+0.8
	comp=Z,0.9nm,0.7s,baz=146,slow=5.0,SNR=3.8						
WMQ	Urumqi	58.51	326	P	P	04 48 13.5	+0.1
WMQ				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
AAK	Ala-Archa	65.86	319	eP	P	04 49 01.3	-1.3
ZAL	Zalesovo	66.57	334	P	P	04 49 06.2	-0.7
	comp=Z,1.5nm,0.8s,mb4.1,baz=354,slow=3.4,SNR=6.8						
KURK	Kurchatov	67.59	328	P	P	04 49 12.2	-1.2
	comp=Z,94nm,0.6s,mb6.0,SNR=17						
KURK	Kurchatov	67.59	328	eP	P	04 49 12.1	-1.3
	comp=Z,14nm,0.8s,mb5.0						
BVAR	Borovoye Array	73.15	328	P	P	04 49 46.4	-0.7
	comp=Z,0.9nm,0.4s,mb4.1,baz=127,slow=7.4,SNR=11						
CHKZ	Chkalovo	73.34	328	eP	P	04 49 47.2	-1.0
	comp=Z,2.7nm,0.8s,mb4.2						
TXAR	Lajitas Array	123.63	56	PKP	PKPdf	04 57 16.7	-0.6
	comp=Z,0.3nm,0.7s,baz=90,slow=1.3,SNR=4.9						

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*SOF **12** 04:40:41.5, 40.68N×23.63E, h21^{km}, MD3.0*

*NEIC **12** 04:40:42.7, 40.71N×23.70E, h18^{km}, MD3.3(ATH), After ATH.*

*ATH **12** 04:40:43.0, 40.72N×23.66E, h17^{km}±1^{km}, MD3.3/5*

*THE **12** 04:40:43.3, 40.71N×23.68E, h10^{km}, ML2.9*

*CSEM **12** 04:40:43.4±0.1, 40.72N×23.69E, h15^{km}, ML2.9, Error ellipse: s-maj=1.3km s-min=1.1km az=101.0*

ISC 12 04:40:42.4±0.4**, 40.72N**±0.02×**23.70E**±0.03**, h13^{km}**±4^{km}**, n25, σ1^{s}17**/40**, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOH	Sokhos	0.28	291	ePg	Pg	04 40 49.1	+0.6
SOH				eSg	Sg	04 40 53.2	+0.7
PLG	Polygyros	0.40	209	ePB	Pb	04 40 51.1	+0.2
PLG				eSB	Sb	04 40 56.0	-0.6
SRS	Serrai	0.40	348	ePg	Pg	04 40 51.3	+0.6
SRS				eSg	Sg	04 40 57.2	+0.8
OUR	Ouranopolis	0.44	151	ePg	Pg	04 40 52.0	+0.5
THE	Thessaloniki	0.57	261	ePg	Pg	04 40 54.0	0.0
THE				eSg	Sg	04 41 01.5	-0.2
NVR	Nevrokopi	0.64	11	ePN	Pn	04 40 55.5	-1.4
NVR				eSN	Sn	04 41 04.7	-2.2
PAIG	Paliouri	0.79	181	ePg	Pg	04 40 58.0	-0.4
PAIG				eSg	Sg	04 41 09.2	+0.1
GRG	Griva	1.01	284	ePg	Pg	04 41 02.5	-0.3
GRG				eSg	Sg	04 41 16.7	+0.3
VAY	Valandovo	1.04	305	i Pg	Pg	04 41 03.5	+0.1
VAY				i Sg	Sg	04 41 18.3	+0.9
LIT	Litokhoron	1.11	237	ePg	Pg	04 41 03.7	-1.0
LIT				eSg	Sg	04 41 19.1	-0.6
RZN	Rozhen	1.23	38	i Pg	Pg	04 41 07.0	-0.1
RZN				i Sg	Sg	04 41 24.0	+0.4
KKB	Krupnik	1.23	338	i Pg	Pg	04 41 06.0	-1.2
LOS	Limnos	1.31	126	ePb	Pb	04 41 06.7	+0.1
XOR	Xorichti	1.41	196	ePb	Pb	04 41 08.1	-0.1
RDO	Rodhopi	1.45	72	ePb	Pb	04 41 08.9	0.0
RDO				eSn	Sn	04 41 31.4	+3.8
RDO	Rodhopi	1.45	72	ePN	Pn	04 41 10.9	+2.3
RDO				eSN	Sn	04 41 31.4	+3.8
NEO	Neokhori	1.46	195	ePN	Pn	04 41 10.0	+1.3
NEO	Neokhori	1.46	195	ePb	Pb	04 41 08.9	-0.1
KZN	Kozani	1.53	255	ePN	Pn	04 41 11.3	+1.6
KZN				eSN	Sn	04 41 32.3	+2.8
AOS	Alonnisos	1.56	175	ePb	Pb	04 41 09.9	-0.7
PLD	Plovdiv	1.57	28	i P	Pn	04 41 14.0	+3.7
PLD	Plovdiv	1.57	28	i Sg	Sg	04 41 37.0	+2.1
PGB	Panagyurishte	1.86	11	i Pg	Pg	04 41 17.0	-2.6
PGB				i Sg	Sg	04 41 42.5	-1.9
VTS	Vitosha	1.90	349	i Pg	Pg	04 41 17.0	-3.5
VTS				i Sg	Sg	04 41 42.0	-3.9
EVR	Evrytania	2.32	220	ePb	Pb	04 41 21.5	-2.2

NEIC 12 04:45:46.4, 61.59N×149.67W, h33^{km}, ML3.5(PMR)**, ML3.2**(AEIC)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PWA	Palmer West	0.12	304	P	Pn	04 45 52.0	+0.3
PMR	Palmer	0.26	88	P	Pb	04 45 53.0	-0.6
PMR				S	Sb	04 45 59.1	+0.6
GHO	Glory Hole Cre	0.40	62	P	Pb	04 45 54.6	-0.9
FIB	Fire Island	0.48	210	P	Pb	04 45 56.6	-0.1
RC01	Rabbit Creek A	0.50	184	P	Pb	04 45 55.9	-1.0
RC01				S	Sb	04 46 04.4	+0.2
KNK	Knik Glacier	0.61	106	P	Pb	04 45 57.6	-1.1
SML	Sawmill	0.68	70	P	Pn	04 45 57.9	-1.8
SML				S	Sb	04 46 07.9	-1.1
VOGL	Vogel Lake	0.69	212	P	Pn	04 45 59.9	-0.1
CUT	Chulitna	0.87	341	P	Pn	04 46 00.6	-1.9
PWL	Port Wells	0.97	138	P	Pn	04 46 02.5	-1.4
STLK	Strandline Lak	1.04	266	P	Pn	04 46 03.6	-1.3
MPA	Moose Pass	1.11	172	P	Pn	04 46 05.1	-0.8
SLKM	Skilak Lake	1.11	194	P	Pn	04 46 04.8	-1.2
NKA	Nikishka	1.14	223	P	Pn	04 46 06.7	+0.4
SCM	Sheep Creek Mo	1.15	76	P	Pn	04 46 05.1	-1.3
SPU	Mount Spurr	1.22	252	P	Pn	04 46 06.2	-1.3
CRP	Crater Peak	1.23	256	P	Pn	04 46 06.7	-1.0
CRP				S	Sn	04 46 24.2	+0.9
CKN	Chakachatna No	1.26	254	P	Pn	04 46 07.1	-0.9
HUR	Hurricane	1.40	1	P	Pn	04 46 08.8	-1.2
HUR				S	Sn	04 46 26.8	-0.6
GLI	Glacier Island	1.43	118	P	Pn	04 46 09.3	-1.3
JPK	Jack Peak	1.58	108	P	Pn	04 46 11.8	-0.7
VLZ	Valdez	1.67	104	P	Pn	04 46 12.5	-1.5
VLZ				S	Sn	04 46 33.9	-0.6
FID	Port Fidalgo	1.76	117	P	Pn	04 46 13.2	-2.0
DFR	Drift River	1.77	237	P	Pn	04 46 14.2	-1.2
LTI	Latouche	1.79	149	P	Pn	04 46 13.2	-2.4
RDN	Redoubt North	1.85	236	P	Pn	04 46 15.1	-1.4
RND	Reindeer	1.87	11	P	Pn	04 46 15.7	-1.1
NCT	North Crescent	1.89	238	P	Pn	04 46 15.9	-1.1
TRF	Thorofare Moun	1.90	352	P	Pn	04 46 16.0	-1.1
TRF				S	Sn	04 46 39.0	-1.1
BRLK	Bradley Lake	1.92	199	P	Pn	04 46 15.7	-1.9
DIV	Divide	1.93	102	P	Pn	04 46 15.9	-1.8
DIV				S	Sn	04 46 40.4	-0.8
HIN	Hinchinbrook I	1.95	126	P	Pn	04 46 16.4	-1.5
KTH	Kantishna Hill	2.06	344	P	Pn	04 46 18.3	-1.2
KTH				S	Sn	04 46 43.5	-0.8
TZL	Tazlina	2.07	75	P	Pn	04 46 19.1	-0.6
EYAK	Cordova Ski Ar	2.17	117	P	Pn	04 46 19.1	-2.0
MCK	McKinley	2.18	9	P	Pn	04 46 20.3	-0.9
CNPM	China Poot	2.21	201	P	Pn	04 46 19.8	-1.8
ILIM	Iliamna	2.21	228	P	Pn	04 46 20.3	-1.3
INE	Iliamna NE	2.26	229	P	Pn	04 46 21.2	-1.2
ILW	Iliamna West	2.29	229	P	Pn	04 46 21.5	-1.2
PAX	Paxson	2.41	53	P	Pn	04 46 23.9	-0.5
THY	Trims Highway	2.59	43	P	Pn	04 46 27.3	+0.3
BWN	Browne	2.60	2	P	Pn	04 46 25.9	-1.3
OPT	Oil Point	2.61	224	P	Pn	04 46 27.0	-0.4
GLB	Gilahina Butte	2.81	90	P	Pn	04 46 28.5	-1.8
SVW2	Sparrevohn	2.89	263	P	Pn	04 46 28.9	-2.4
MENT	Mentasta	3.10	61	eP	Pn	04 46 34.6	+0.3
CCB	Clear Creek Bu	3.19	15	P	Pn	04 46 33.1	-2.5
TT01	Tatalina	3.25	297	P	Pn	04 46 33.8	-2.7
SYI	Shuyak Island	3.28	206	P	Pn	04 46 35.6	-1.3
DOT	Dot Lake	3.32	49	P	Pn	04 46 33.9	-3.5
COLA	College	3.40	13	P	Pn	04 46 36.6	-2.0
IL1	Eielson Array	3.44	20	P	Pn	04 46 37.5	-1.6
MDM	Murphy Dome	3.45	10	P	Pn	04 46 37.2	-2.1
MLY	Manley	3.49	353	P	Pn	04 46 37.6	-2.3
BALM	Baldy	3.58	96	P	Pn	04 46 38.6	-2.5
BCA3	Beaver Creek A	3.97	65	P	Pn	04 46 45.4	-1.2
KDAK	Kodiak Island	4.09	202	P	Pn	04 46 44.7	-3.7
IM3	Indian Mountai	4.77	340	P	Pn	04 46 55.0	-3.1
IMA	Indian Mountai	4.84	340	eP	Pn	04 46 56.8	-2.2
DAWY	Dawson	5.33	58	P	Pn	04 47 02.7	-3.2
COLD	Coldfoot	5.67	358	P	Pn	04 47 08.4	-2.3
BM3	Burnt Mountain	6.25	18	P	Pn	04 47 16.2	-2.8
TNA	Tin City	9.05	304	eP	P	04 47 53.9	-4.0

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*BJI **12** 04:50:44.3, 8.81N×93.08E, h30^{km}, mB5.1, mb4.9, Ms4.8, Msz4.2*

*MOS **12** 04:50:49.5±1.0, 9.40N×93.12E, h33^{km}, mb5.2/21, Error ellipse: s-maj=13.2km s-min=6.6km az=109.5*

*NEIC **12** 04:50:51.1±0.2, 9.40N×93.06E, h30^{km}, mb4.9/22, Error ellipse: s-maj=7.6km s-min=4.6km az=48.0*

*HRVD **12** 04:50:51.1±0.8, 9.48N×93.02E, h53^{km}±3^{km}, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s35,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.25; $M_{\theta\theta}$0.14±.17; $M_{\phi\phi}$-2.21±.18; $M_{r\theta}$0.39±.11; $M_{\theta\phi}$0.28±.18; $M_{\phi r}$-0.66±.16; Best double couple: $M_0$2.292×10^{16} NP1:ϕ_s2°, δ37°, λ104°.*

NP2:φs165°,δ55°,λ80°. Principal axes: T 2.227, Plg78°, Azm39°; N .126, Plg8°, Azm171°; P -2.356, Plg9°, Azm262°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*IDC **12** 04:50:55.9±0.7, 9.46N×93.13E, h68km±5km, mb4.4/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.6/21, MS3.9/12, Ms1 4.0/12, ms1mx3.9/23 Error ellipse: s-maj=22.8km s-min=10.7km az=57.0*

ISC 12 04:50:52.9±0.9**, 9.36N**±0.04×**93.15E**±0.04**, h63**km±7km**, h58**km±5.6km**:pP-P, n173,** σ1**.03**/168**, mb4.8**/58**, 11C-8D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.22**	**63**	P	**P**	**04 52 39.0**	**+0.9**
SNG	**Songkhla**	**7.70**	**106**	P	**P**	**04 52 47.0**	**+2.3**
KULM	**Kulim**	**8.46**	**118**	*e*P	**P**	**04 52 54.4**	**-0.8**
NST	**Nakhon Sawan**	**9.27**	**47**	⇑P	**P**	**04 53 08.5**	**+2.3**
	258nm,0.7s						
CM31	**Chiang Mai Arr**	**10.65**	**31**	P	**P**	**04 53 23.8**	**-1.4**
CMAR	**Chiang Mai Arr**	**10.65**	**31**	P	**P**	**04 53 25.9**	**+0.8**
	1.9nm,0.3s,baz=220,slow=15,SNR=24						
CMAR				LR	LR	04 57 27.4	
	comp=Z,455nm,19.8s,baz=215,slow=37						
CHG	**Chiang Mai**	**10.95**	**30**	⇑P	**P**	**04 53 30.9**	**+1.7**
	11nm,0.8s						
NANT	**Nan**	**11.90**	**37**	⇑P	**P**	**04 53 43.0**	**+1.0**
	115nm,1.0s						
VIS	**Vishakhapatnam**	**12.66**	**312**	*e*P	**P**	**04 53 49.6**	**-2.5**
VIS				*e*		04 54 08.2	
	comp=Z,88nm,1.2s						
VIS				*e*S	S	04 55 51.4	-21
VIS				*e*		04 56 00.9	
	comp=N,243nm,0.7s						
VIS				*e*		04 56 01.2	
	comp=E,225nm,0.4s						
BOK	**Bokaro**	**15.95**	**335**	*e*P	**P**	**04 54 35.0**	**+0.2**
BOK				*e*		04 55 02.9	
	comp=Z,36nm,1.4s						
BOK				*e*		04 57 19.2	
SHL	**Shillong**	**16.17**	**356**	*e*P	**P**	**04 54 38.5**	**+0.9**
HYB	**Hyderabad**	**16.30**	**301**	*e*P	**P**	**04 54 35.0**	**-4.2**
HYB				*e*S	**S**	**04 57 26.0**	**-12**
HYB	**Hyderabad**	**16.30**	**301**	*i* P	**P**	**04 54 35.0**	**-4.2**
HYB				*e*		04 57 26.0	
HYB				*e*S	**S**	**04 57 37.0**	**-0.5**
BLSP	**Bilaspur**	**16.53**	**321**	*e*P	**P**	**04 54 42.3**	**+0.2**
BLSP				*e*		04 54 44.1	
	comp=Z,29nm,1.5s						
BLSP				*e*		04 57 33.0	
KSM	**Kuching**	**18.78**	**114**	*e*P	**P**	**04 55 09.6**	**-0.2**
JIRN	**Jiri**	**19.36**	**341**	*e*P	**P**	**04 55 16.0**	**-0.1**
	comp=Z,46nm,0.5s						
PKI	**Pulchoki**	**19.54**	**339**	*e*P	**P**	**04 55 17.7**	**-0.4**
	comp=Z,23nm,0.5s						
DMN	**Daman**	**19.68**	**338**	*e*P	**P**	**04 55 19.7**	**+0.1**
	comp=Z,74nm,1.1s						
GUN	**Gumba**	**19.69**	**341**	*e*P	**P**	**04 55 19.3**	**-0.4**
	comp=Z,44nm,0.4s						
KKN	**Kakani**	**19.78**	**339**	*e*P	**P**	**04 55 19.9**	**-0.8**
	comp=Z,46nm,0.7s						
KAD	**Karad**	**20.06**	**295**	*e*P	**P**	**04 55 26.3**	**+2.5**
KAD				*e*		04 55 26.9	
	comp=Z,32nm,1.4s						
GKN	**Gorkha**	**20.21**	**338**	*e*P	**P**	**04 55 24.9**	**-0.3**
	comp=Z,43nm,0.5s						
LSA	**Lhasa**	**20.33**	**355**	P	**P**	**04 55 25.8**	**-0.6**
LSA	**Lhasa**	**20.33**	**355**	*e*P	**P**	**04 55 25.2**	**-1.2**
	comp=Z,20nm,0.4s						
KOLN	**Koldanda**	**20.41**	**335**	*e*P	**P**	**04 55 27.3**	**0.0**
	comp=Z,52nm,1.0s						
BHPL	**Bhopal**	**20.43**	**314**	*e*P	**P**	**04 55 29.2**	**+1.7**
BHPL				*e*		04 55 34.3	
	comp=Z,17nm,0.6s						
BHPL				*e*		04 59 03.5	
POO	**Poona**	**20.82**	**298**	⇑*i*P	**P**	**04 55 32.0**	**+0.5**
POO				*i*		04 59 09.0	
GYA	**Guiyang**	**21.29**	**35**	⇑*i*P	**P**	**04 55 36.0**	**-0.3**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
CD2	**Chengdu**	**23.61**	**23**	P	**P**	**04 55 58.9**	**-0.1**
SONA	**Sohna**	**24.12**	**323**	*e*S	**S**	**05 00 20.2**	**+5.8**
KALG	**Kalgarh**	**24.16**	**328**	*e*S	**S**	**05 00 20.3**	**+5.2**
AYAN	**Aya Nagar**	**24.27**	**324**	*e*	Sx	05 00 37.1	
NDI	**New Delhi**	**24.37**	**324**	*e*	Sx	05 00 35.0	
KHET	**Khetri**	**24.77**	**321**	*e*S	**S**	**05 00 28.8**	**+3.5**
DDI	**Dehra Dun**	**25.18**	**328**	*e*P	**P**	**04 56 15.0**	**+0.8**
DDI				*e*		05 00 54.2	
ENH	**Enshi**	**25.80**	**34**	*e*P	**P**	**04 56 18.5**	**-1.5**
	comp=Z,12nm,0.6s,mb4.6						
LZH	**Lanzhou**	**28.33**	**18**	⇓P	**P**	**04 56 43.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,61nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,213nm,5.2s						
LZH				LR	LR		
	comp=N,596nm,11.2s						
LZH				LR	LR		
	comp=Z,833nm,13.0s						
LZH	**Lanzhou**	**28.33**	**18**	⇓P	**P**	**04 56 43.0**	**-0.1**
	comp=Z,61nm,1.5s,mb5.0						
LZH				pP	pP	04 56 58.0	-0.3
LZH				sP	sP	04 57 03.5	-2.4
LZH				PcP	PcP	05 00 15.0	+20
LZH				LR	LR		
	comp=Z,830nm,13.0s						
XAN	**Xi'an**	**28.52**	**28**	P	**P**	**04 56 42.6**	**-2.2**
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
GTA	**Gaotai**	**30.52**	**10**	⇑P	**P**	**04 57 02.3**	**-0.1**
GTA				AP	pP	04 57 14.0	-3.9
GTA				XP	sP	04 57 18.5	-7.0
GTA				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.0						
NJ2	**Nanjing**	**32.82**	**43**	*e*P	**P**	**04 57 21.5**	**-1.2**
NJ2				AP	pP	04 57 31.0	-7.3
NJ2				XP	sP	04 57 35.0	-11
NJ2				S	**S**	**05 02 35.0**	**+0.8**
NJ2				XS		05 02 50.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,840nm,4.9s						
NJ2				LR	LR		
	comp=N,2μm,22.4s						
NJ2				LR	LR		
	comp=E,1μm,21.5s						
NJ2				LR	LR		
	comp=Z,880nm,20.2s						
KSH	**Kashi**	**33.73**	**336**	*e*P	**P**	**04 57 31.1**	**+0.6**
KSH				*e*AP	pP	04 57 40.3	-5.8
KSH				*e*XP	sP	04 57 44.3	-10
KSH				*e*PP	PP	04 58 44.0	-0.9
KSH				*e*PPP	PPP	04 59 02.1	-0.6
KSH				*e*PCP	PcP	05 00 09.2	+0.2
KSH				S	**S**	**05 02 51.2**	**+3.0**
KSH				*e*XS		05 03 07.3	
KSH				*e*SCP		05 03 50.0	
KSH				*e*PCS		05 03 54.2	
KSH				*e*SS	SS	05 04 58.0	+1.0
KSH				*e*SCS	ScS	05 07 51.5	+4.5
KSH				AMB	AMB		
	comp=Z,470nm,4.5s						
KSH				LR	LR		
	comp=N,900nm,6.3s						
KSH				LR	LR		
	comp=E,610nm,6.9s						
SSE	**Sheshan**	**33.88**	**46**	P	**P**	**04 57 28.5**	**-3.3**
SSE				AP	pP	04 57 36.7	-11
SSE				XP	sP	04 57 41.0	-14
SSE				PP	PP	04 58 44.8	-2.0
SSE				S	**S**	**05 02 51.0**	**+0.4**
SSE				XS		05 03 05.9	
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,168nm,5.0s						
SSE				LR	LR		
	comp=Z,94nm,21.1s						
SSE	**Sheshan**	**33.88**	**46**	P	**P**	**04 57 28.5**	**-3.3**
	comp=Z,29nm,0.7s,mb5.3						
SSE				pP	pP	04 57 36.7	-11
SSE				sP	sP	04 57 41.0	-14
SSE				PP	PP	04 58 44.8	-2.0
SSE				S	**S**	**05 02 51.0**	**+0.4**
SSE				sS		05 03 05.9	
SSE				SS	SS	05 05 17.8	+17
SSE				LR	LR		
	comp=Z,90nm,21.1s						
WMQ	**Urumqi**	**34.66**	**353**	P	**P**	**04 57 38.5**	**+0.1**
WMQ				AP	pP	04 57 48.0	-6.1
WMQ				XP	sP	04 57 52.0	-10
WMQ				PP	PP	04 58 55.0	-1.7
WMQ				S	**S**	**05 03 05.0**	**+2.4**
WMQ				XS		05 03 21.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,202nm,6.2s						
WMQ				LR	LR		
	comp=N,868nm,22.6s						
WMQ				LR	LR		
	comp=E,744nm,24.3s						
WMQ				LR	LR		
	comp=Z,852nm,25.4s						
HHC	**Hu-ho-hao-te**	**35.36**	**24**	*e*P	**P**	**04 57 44.3**	**-0.1**
HHC				AP	pP	04 57 52.4	-7.7
HHC				XP	sP	04 57 57.7	-10
HHC				PP	PP	04 59 04.9	-0.6
HHC				PCP	PcP	05 00 14.5	+0.8
HHC				S	**S**	**05 03 18.8**	**+5.4**
HHC				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,167nm,8.9s						
HHC				LR	LR		
	comp=N,270nm,13.1s						
HHC				LR	LR		
	comp=E,346nm,16.6s						
HHC				LR	LR		
	comp=Z,194nm,23.2s						
ULHL	**Ulahol**	**35.98**	**338**	P	**P**	**04 57 46.0**	**-3.6**
	SNR=12						
KZA	**Kyzart**	**36.20**	**337**	P	**P**	**04 57 52.6**	**+1.1**
	SNR=14						
UCH	**Uchtor**	**36.61**	**337**	P	**P**	**04 57 56.2**	**+1.2**
	SNR=21						
BJT	**Baijiatuau**	**36.77**	**30**	*e*P	**P**	**04 57 56.9**	**+0.5**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BJT	**Baijiatuau**	**36.77**	**30**	*e*P	**P**	**04 57 56.9**	**+0.5**
	comp=Z,9.9nm,0.8s,mb4.7						
BJI	**Beijing**	**36.80**	**30**	P	**P**	**04 57 57.4**	**+0.9**
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,246nm,23.8s						
BJI	**Beijing**	**36.80**	**30**	P	**P**	**04 57 57.4**	**+0.9**
	comp=Z,17nm,0.8s,mb4.9						
BJI				S	S	05 04 07.8	+32
BJI				LR	LR		
	comp=Z,250nm,23.8s						
TKM2	**Tokmak 2**	**36.80**	**338**	P	**P**	**04 57 57.2**	**+0.7**
	SNR=12						
KBK	**Karagaybulak**	**36.81**	**337**	P	**P**	**04 57 58.0**	**+1.4**
	SNR=28						
AML	**Almayashu**	**36.86**	**336**	P	**P**	**04 57 58.6**	**+1.5**
	SNR=82						
AAK	**Ala-Archa**	**36.97**	**337**	P	**P**	**04 57 59.3**	**+1.4**
	SNR=30						
AAK	**Ala-Archa**	**36.97**	**337**	P	**P**	**04 57 58.5**	**+0.6**
	comp=Z,149nm,1.1s,mb5.7,SNR=33						
AAK	**Ala-Archa**	**36.97**	**337**	*i* P	**P**	**04 57 58.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.1						
AAK	**Ala-Archa**	**36.97**	**337**	*i* P	**P**	**04 57 58.1**	**+0.2**
CHMS	**Chumysh**	**37.18**	**337**	P	**P**	**04 58 00.2**	**+0.5**
	SNR=14						
EKS2	**Erkin-Say**	**37.27**	**336**	P	**P**	**04 58 01.7**	**+1.2**
	SNR=40						
JOW	**Kunigami**	**37.46**	**58**	LR	LR	05 16 04.0	
	comp=Z,138nm,18.3s,baz=12,slow=40						
USP	**Ospenovka**	**37.50**	**337**	P	**P**	**04 58 03.0**	**+0.6**
	SNR=45						
MKAR	**Makanchi Array**	**38.44**	**348**	*i* P	**P**	**04 58 09.3**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**38.44**	**348**	*i* P	**P**	**04 58 09.4**	**-0.7**
SONM	**Songino Array**	**39.95**	**14**	P	**P**	**04 58 22.6**	**-0.1**
	comp=Z,18nm,1.0s,mb4.8,baz=199,slow=6.9,SNR=93						
SONM				PcP	PcP	05 00 28.4	+0.7
	comp=Z,3.0nm,0.7s,baz=206,slow=3.9,SNR=7.9						
SONM				pPcP		05 00 46.5	
	comp=Z,3.0nm,1.0s,baz=205,slow=3.9,SNR=3.6						
SONM				ScP		05 04 11.9	
	comp=Z,0.2nm,0.5s,baz=180,slow=4.3,SNR=3.7						
ULN	**Ulaanbaatar**	**40.14**	**15**	*e*P	**P**	**04 58 23.4**	**-0.9**
ZAK	**Zakamensk**	**41.75**	**10**	*e*P	**P**	**04 58 36.2**	**-1.3**
ZAK				*e*		05 00 21.0	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.8						
MOY	**Mondy**	**42.67**	**7**	*e*P	**P**	**04 58 45.0**	**0.0**
KURK	**Kurchatov**	**42.95**	**346**	*i* P	**P**	**04 58 46.8**	**-0.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
KURK	**Kurchatov**	**42.95**	**346**	*e*P	**P**	**04 58 46.6**	**-0.7**
	comp=Z,20nm,1.1s,mb4.8						
TLY	**Talaya**	**43.07**	**10**	*i* P	**P**	**04 58 48.6**	**+0.3**
CN2	**Changchun**	**44.32**	**34**	*e*P	**P**	**04 58 58.9**	**+0.4**
CN2				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.4						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
ZAL	**Zalesovo**	**44.96**	**353**	P	**P**	**04 59 03.4**	**-0.1**
	comp=Z,4.4nm,0.3s,mb4.7,baz=308,slow=6.0,SNR=20						
ZAL				LR	LR	05 19 13.9	
	comp=Z,102nm,18.3s,baz=44,slow=38						
HIA	**Hailar**	**45.56**	**24**	*e*P	**P**	**04 59 07.9**	**-0.4**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	**45.56**	**24**	*e*P	**P**	**04 59 07.9**	**-0.4**
	comp=Z,5.5nm,0.4s,mb4.8						
NVS	**Novosibirsk**	**46.05**	**352**	*e*P	**P**	**04 59 09.9**	**-2.2**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
NVS				pmax	pmax		
	comp=N,14nm,1.7s						
MUN	**Mundaring**	**46.64**	**153**	*e*P	**P**	**04 59 18.2**	**+1.1**
	comp=N,14nm,1.9s,mb4.5						
MUN	**Mundaring**	**46.64**	**153**	*e*P	**P**	**04 59 18.2**	**+1.1**
MUN				pmax	pmax		
	comp=Z,14nm,1.9s,mb4.6						
BVAR	**Borovoye Array**	**47.28**	**341**	P	**P**	**04 59 21.0**	**-0.8**
	comp=Z,3.3nm,0.5s,mb4.6,baz=143,slow=7.4,SNR=33						
CHKZ	**Chkalovo**	**47.77**	**342**	*i* P	**P**	**04 59 25.1**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**47.77**	**342**	*e*P	**P**	**04 59 24.8**	**-0.9**
	comp=Z,37nm,0.7s,mb5.5						
NWAO	**Narrogin (SRO)**	**47.90**	**152**	P	**P**	**04 59 27.9**	**+0.9**
	comp=Z,7.4nm,0.4s,mb5.0,baz=322,slow=5.8,SNR=17						
WRA	**Warramunga Arr**	**49.91**	**126**	P	**P**	**04 59 42.7**	**0.0**
	comp=Z,7.6nm,0.5s,mb5.0,baz=304,slow=8.6,SNR=48						
WRA				PcP	PcP	05 01 03.3	+0.9
	comp=Z,1.3nm,0.5s,baz=317,slow=2.9,SNR=8.4						
WRAB	**Tennant Creek**	**49.92**	**126**	P	**P**	**04 59 42.0**	**-0.7**
	comp=Z,137nm,0.4s,SNR=28						
WRAB	**Tennant Creek**	**49.92**	**126**	*e*P	**P**	**04 59 42.3**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.3						
WRAB	**Tennant Creek**	**49.92**	**126**	*e*P	**P**	**04 59 42.3**	**-0.4**
	comp=Z,18nm,0.6s,mb5.3						
WB2	**Warramunga Arr**	**49.92**	**126**	⇑*i*P	**P**	**04 59 42.6**	**-0.1**
BOD	**Bodaibo**	**50.95**	**14**	⇓*i*P	**P**	**04 59 48.9**	**-1.1**
BOD				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
ASPA	**Alice Springs**	**51.61**	**130**	*e*P	**P**	**04 59 54.8**	**-0.7**
ASAR	**Alice Springs**	**51.61**	**130**	P	**P**	**04 59 55.0**	**-0.5**
	comp=Z,3.4nm,0.4s,mb4.6,baz=304,slow=7.9,SNR=85						
ASAR				PcP	PcP	05 01 09.8	+1.2
	comp=Z,3.2nm,0.6s,baz=316,slow=3.1,SNR=9.9						
ASAR				pPcP		05 01 28.1	
	comp=Z,1.9nm,0.8s,baz=304,slow=3.8,SNR=4.5						
ASAR				ScP		05 04 59.8	
	comp=Z,0.3nm,0.6s,baz=304,slow=5.2,SNR=3.9						
ASAR				LR	LR	05 24 56.1	
	comp=Z,63nm,19.8s,baz=308,slow=40						
GNI	**Garni**	**52.71**	**314**	*i* P	**P**	**05 00 03.9**	**+0.4**
GNI				pmax	pmax		
	comp=Z,9.0nm,0.7s						
GNI	**Garni**	**52.71**	**314**	LR	LR	05 23 38.9	
	comp=Z,85nm,21.0s,baz=280,slow=37						
GNI	**Garni**	**52.71**	**314**	*i* P	**P**	**05 00 03.0**	**-0.5**
CLNS	**Chul'man**	**53.40**	**21**	*e*P	**P**	**05 00 07.4**	**-1.0**
CLNS				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
CLNS				pmax	pmax		
	comp=N,13nm,0.8s						
CLNS				pmax	pmax		
	comp=E,14nm,0.9s						
SVE	**Sverdlovsk**	**53.67**	**338**	⇑*e*P	**P**	**05 00 09.5**	**-0.9**
SVE				*e*	pP	05 00 27.0	+0.2
SVE				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.3						
ASAJ	**Asahikawa**	**54.96**	**42**	P	**P**	**05 00 20.4**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0,baz=302,slow=11,SNR=6.6						
KIV	**Kislovodsk**	**55.57**	**318**	*i* P	**P**	**05 00 24.5**	**+0.1**
KIV				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**55.57**	**318**	*e*P	**P**	**05 00 23.8**	**-0.6**
	comp=Z,21nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**56.23**	**39**	P	**P**	**05 00 29.0**	**-0.1**
YSS				*e*	pP	05 00 44.0	-1.7
YSS				pmax	pmax		
	comp=Z,30nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**56.23**	**39**	*i* P	**P**	**05 00 28.7**	**-0.4**
KMBO	**Kilima Mbogo**	**56.63**	**262**	LR	LR	05 20 53.9	
	comp=Z,146nm,20.3s,baz=78,slow=32						
SOC	**Sochi**	**57.44**	**316**	*e*P	**P**	**05 00 34.8**	**-2.9**
SOC				*e*		05 01 26.8	
SOC				*e*		05 02 46.7	
SOC				*e*PPP	PPP	05 04 06.6	-2.1
SOC				*e*S	**S**	**05 08 31.7**	**+3.6**
SOC				*e*		05 10 20.5	
SOC				*e*SS	SS	05 12 17.6	-2.3
SOC				pmax	pmax		
	comp=N,17nm,0.8s						
SOC				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.3						
SOC				pmax	pmax		
	comp=E,19nm,1.1s						
EIL	**Elat**	**57.85**	**299**	LR	LR	05 25 37.5	
	comp=E,72nm,19.8s,baz=290,slow=36						
YAK	**Yakutsk**	**58.92**	**19**	*i* P	**P**	**05 00 46.2**	**-1.5**
YAK				pmax	pmax		
	comp=Z,26nm,0.7s,mb5.4						
YAK	**Yakutsk**	**58.92**	**19**	*i* P	**P**	**05 00 46.3**	**-1.4**
CTA	**Charters Tower**	**59.88**	**120**	*e*P	**P**	**05 00 55.6**	**+0.6**
	comp=Z,13nm,1.1s,mb4.9						
CTA	**Charters Tower**	**59.88**	**120**	*e*P	**P**	**05 00 55.6**	**+0.6**
CTA				pmax	pmax		
	comp=Z,13nm,1.1s						
CTA	**Charters Tower**	**59.88**	**120**	P	**P**	**05 00 55.8**	**+0.8**
	comp=Z,16nm,0.9s,mb5.0,baz=283,slow=10,SNR=4.3						
STKA	**Stephens Creek**	**61.83**	**134**	P	**P**	**05 01 07.6**	**-0.4**
	comp=Z,18nm,1.3s,mb5.0,baz=327,slow=10,SNR=6.0						
STKA				LR	LR	05 27 25.6	
	comp=Z,132nm,20.4s,baz=325,slow=35						
STKA	**Stephens Creek**	**61.83**	**134**	P	**P**	**05 01 07.6**	**-0.4**
STKA				LR	LR	05 27 25.6	
MOS	**Moscow**	**63.31**	**329**	*e*P	pP	05 01 31.7	-2.7
MOS				MLR	MLR		
	comp=Z,700nm,19.6s						
OBN	**Obninsk**	**63.61**	**328**	*i* P	**P**	**05 01 18.4**	**-1.1**
OBN				*e*S	**S**	**05 09 48.9**	**+2.0**
OBN				pmax	pmax		
	comp=Z,43nm,2.1s,mb5.1						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s						
KIS	**Kishinev**	**65.78**	**317**	*e*P	**P**	**05 01 31.0**	**-2.6**
MA2	**Magadan**	**65.92**	**28**	*i* P	**P**	**05 01 33.7**	**-0.6**
MA2				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.1						
TIXI	**Tiksi**	**65.98**	**12**	⇑*i*P	**P**	**05 01 33.3**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,28nm,0.5s,mb5.5						
TIXI	**Tiksi**	**65.98**	**12**	⇑*i*P	**P**	**05 01 33.4**	**-1.1**
AKASG	**Malin Array Be**	**66.39**	**321**	P	**P**	**05 01 35.8**	**-1.7**
	comp=Z,3.3nm,0.7s,mb4.5,baz=89,slow=5.1,SNR=9.5						
AKASG				pP	pP	05 01 54.7	+0.2
	comp=Z,3.6nm,0.7s,baz=86,slow=5.5,SNR=5.1						
VRI	**Vrincioaia**	**66.96**	**316**	⇓P	**P**	**05 01 41.4**	**+0.3**
MLR	**Muntele Rosu**	**67.44**	**315**	P	**P**	**05 01 44.6**	**+0.5**
	comp=Z,6.1nm,0.8s,mb4.7,baz=170,slow=6.0,SNR=5.2						
MLR	**Muntele Rosu**	**67.44**	**315**	⇓P	**P**	**05 01 44.8**	**+0.7**
BURAR	**Bucovina Array**	**68.30**	**318**	⇓P	**P**	**05 01 49.9**	**+0.5**
BURAR	**Bucovina Array**	**68.30**	**318**	⇓P	**P**	**05 01 49.9**	**+0.5**
JOF	**Joensuu**	**69.10**	**334**	*e*p	**P**	**05 01 53.1**	**-1.0**
	comp=Z,2.1nm,0.5s,mb4.3						
KOLS	**Kolonicke sedl**	**70.45**	**319**	*e*P	**P**	**05 02 12.0**	**+9.4**
KOLS				*e*	pP	05 02 21.7	+1.9
KOLS	**Kolonicke sedl**	**70.45**	**319**	*e*pP	**P**	**05 02 12.0**	**+9.4**
KOLS				*e*	pP	05 02 21.7	+1.9
SUW	**Suwalki**	**70.74**	**324**	*e*P	**P**	**05 02 03.2**	**-1.0**
FINES	**FINESS Array B**	**70.95**	**332**	P	**P**	**05 02 04.7**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=103,slow=6.7,SNR=19						
CRVS	**Cervenica-Dubn**	**70.98**	**318**	*e*P	**P**	**05 02 09.8**	**+4.0**
CRVS	**Cervenica-Dubn**	**70.98**	**318**	*e*	**P**	**05 02 09.8**	**+4.0**
KAF	**Kangasniemi**	**71.03**	**333**	*e*p	**P**	**05 02 03.5**	**-2.4**
	comp=Z,0.8nm,0.4s,mb4.0						
KAF	**Kangasniemi**	**71.03**	**333**	*e*P	**P**	**05 02 03.5**	**-2.4**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
OJC	**Ojcow**	**72.22**	**320**	*e*P	**P**	**05 02 12.8**	**-0.3**
VYHS	**Vyhne**	**72.66**	**318**	*e*P	**P**	**05 02 14.6**	**-1.2**
OKC	**Ostrava-Krasne**	**73.24**	**319**	*e*P	**P**	**05 02 19.1**	**0.0**
ARCES	**ARCESS Array B**	**73.55**	**340**	P	**P**	**05 02 20.7**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=101,slow=6.9,SNR=15						
ARCES				LR	LR	05 40 20.4	
	comp=Z,146nm,18.1s,baz=23,slow=40						
ARCES	**ARCESS Array B**	**73.55**	**340**	P	**P**	**05 02 20.7**	**+0.1**
ARCES				LR	LR	05 40 20.4	
MORC	**Moravsky Berou**	**73.62**	**319**	*e*P	**P**	**05 02 21.2**	**-0.2**
	comp=Z,5.0nm,0.9s,mb4.4						
ZST	**Bratislava**	**73.79**	**317**	*e*P	**P**	**05 02 22.9**	**+0.5**
ZST				*e*	pP	05 02 40.5	+0.8
DPC	**Dobruska-Polom**	**74.45**	**320**	*e*P	**P**	**05 02 27.1**	**+0.9**
KSP	**Ksiaz**	**74.50**	**320**	*e*P	**P**	**05 02 26.2**	**-0.3**
UPC	**Upice**	**74.66**	**320**	*e*P	**P**	**05 02 28.6**	**+1.2**
BILL	**Bilibino**	**75.08**	**22**	*e*P	**P**	**05 02 29.2**	**-0.3**
BILL				*i*		05 02 37.9	
BILL				*i*		05 05 15.7	
BILL				*e*S	S	05 12 02.7	+1.4
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
BILL				MLR	MLR		
	comp=Z,7μm,28.0s						
PRU	**Pruhonice**	**75.57**	**319**	*e*P	**P**	**05 02 33.1**	**+0.5**
PVCC	**Panska Ves**	**75.58**	**320**	*e*P	**P**	**05 02 26.5**	**-6.1**
GERES	**GERESS Array B**	**76.08**	**318**	P	**P**	**05 02 36.2**	**+0.7**
	comp=Z,3.7nm,0.8s,mb4.4,baz=90,slow=4.0,SNR=10.0						
GERES				pP	pP	05 02 55.2	+2.4
	comp=Z,3.4nm,0.8s,baz=90,slow=5.3,SNR=4.4						
KHC	**Kasperske Hory**	**76.17**	**318**	*e*P	**P**	**05 02 36.0**	**0.0**
CLL	**Collm**	**76.60**	**321**	*e*P	**P**	**05 02 38.0**	**-0.4**
CLL	**Collm**	**76.60**	**321**	P	**P**	**05 02 38.0**	**-0.4**
GRA1	**Grafenberg Arr**	**77.71**	**319**	*e*P	**P**	**05 02 45.6**	**+1.0**
	comp=Z,11nm,1.2s,mb4.7						
GRA1				*e*pP	pP	05 03 05.3	+3.2
GRF	**Grafenberg Arr**	**77.71**	**319**	*e*P	**P**	**05 02 45.6**	**+1.0**
GRF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
GRF	**Grafenberg Arr**	**77.71**	**319**	*e*P	**P**	**05 02 45.6**	**+1.0**
	comp=Z,11nm,1.2s,mb4.7						
GRF				*e*pP	pP	05 03 05.3	+3.2
NB2	**NORSAR Subarra**	**77.97**	**330**	P	**P**	**05 02 44.6**	**-1.2**
	comp=Z,4.7nm,1.0s,mb4.4,baz=93,slow=5.6						
NOA	**NORSAR Array B**	**77.97**	**330**	P	**P**	**05 02 45.3**	**-0.5**
	comp=Z,2.4nm,0.9s,mb4.1,baz=95,slow=5.4,SNR=4.8						
NOA				LR	LR	05 39 46.1	
	comp=Z,119nm,20.9s,baz=305,slow=38						
DAVOX	**Davos**	**78.65**	**316**	P	**P**	**05 02 50.0**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=135,slow=11,SNR=5.6						
LPG	**La Plagne**	**80.89**	**315**	*e*P	**P**	**05 03 02.8**	**+0.9**
	comp=Z,20nm,1.0s,mb4.7						
EKA	**Eskdalemuir Ar**	**85.95**	**325**	P	**P**	**05 03 27.9**	**+0.6**
	comp=Z,3.9nm,1.0s,mb4.6,baz=90,slow=5.0,SNR=3.6						
SYO	**Syowa Base**	**86.53**	**197**	⇓P	**P**	**05 03 29.0**	**-0.8**
SYO	**Syowa Base**	**86.53**	**197**	⇑PcP	PcP	05 03 33.7	+1.1
IMA	**Indian Mountai**	**90.63**	**22**	*e*P	**P**	**05 03 50.1**	**+0.8**
	comp=Z,28nm,0.9s,mb5.6						
ILAR	**Eielson Array**	**93.75**	**22**	P	**P**	**05 04 03.6**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.8,baz=293,slow=4.2,SNR=31						

ILAR LR LR 05 47 09.4
comp=Z,76nm,19.6s,baz=355,slow=36
VNDA Vanda 94.57 168 P P 05 04 09.6 +2.4
comp=Z,0.7nm,0.5s,mb4.3,baz=311,slow=7.3,SNR=7.3
VNDA LR LR 05 41 00.2
comp=Z,76nm,18.2s,baz=110,slow=32
INK Inuvik 95.84 16 P P 05 04 14.4 +1.2
comp=Z,5.1nm,0.6s,mb5.2,baz=318,slow=3.4,SNR=66
INK Inuvik 95.84 16 eP P 05 04 13.6 +0.4
comp=Z,12nm,1.1s,mb5.2
RES Resolute Bay 95.97 2 eP P 05 04 14.8 +1.1
comp=Z,5.2nm,0.9s,mb5.0
YKA Yellowknife Ar 105.22 13 Pdiff Pdif 05 04 56.0 +0.7
comp=Z,0.9nm,1.1s,baz=322,slow=3.9,SNR=5.3
YKA PP PP 05 09 14.4 -5.5
comp=Z,1.5nm,0.8s,baz=334,slow=7.8,SNR=16
YKA Yellowknife Ar 105.22 13 Pdif Pdif 05 04 56.0 +0.7
YKA PP PP 05 09 14.4 -5.5
PDAR Pinedale Array 124.13 20 PKP PKPdf 05 09 47.1 +2.4
comp=Z,1.1nm,0.7s,slow=1.5,SNR=11
PDAR pPKP 05 10 06.0
comp=Z,1.6nm,0.9s,baz=45,slow=2.1,SNR=5.9
NVAR Mina Array Bea 124.14 30 PKP PKPdf 05 09 48.1 +3.2
comp=Z,5.1nm,1.2s,baz=292,slow=0.6,SNR=6.3
NVAR pPKP 05 10 07.4
comp=Z,2.1nm,0.9s,baz=338,slow=0.8,SNR=7.2
TXAR Lajitas Array 138.26 22 PKP PKPdf 05 10 14.8 +3.0
comp=Z,0.6nm,0.7s,baz=276,slow=0.8,SNR=10
TXAR Lajitas Array 138.26 22 PKP PKPdf 05 10 14.8 +3.0
PLCA Paso Flores 145.57 202 PKPbc PKPbc 05 10 28.4 +3.4
comp=Z,8.3nm,0.8s,baz=148,slow=3.8,SNR=21

IDC 12 04:53:50.5±1.6, 21.88N×95.76E, mb3.8/3, mb1 4.0/4, mb1mx3.7/18, mbtmp3.8/4, ML3.7/1, Error ellipse: s-maj=38.2km s-min=19.8km az=65.0
ISC 12 04:53:47.7±0.9, 21.2N±0.2×95.33E±0.10, h10km, n8, σ1s02/10, mb3.8/3, Myanmar

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CHG Chiang Mai 4.17 125 PG Pg 04 55 11.3 +0.4
CHG SG Sg 04 56 05.2 -1.3
CMAR Chiang Mai Arr 4.39 129 Pn Pn 04 55 00.7 +4.8
1.0nm,0.3s,baz=316,slow=13,SNR=10
CMAR Pg Pg 04 55 15.0 -0.2
6.3nm,0.3s,baz=315,slow=18,SNR=26
CMAR Lg 04 56 13.0
11nm,0.3s,baz=315,slow=31,SNR=9.8
BDT Bhumibol Dam 5.28 138 P Pn 04 55 16.0 +7.5
51nm,0.7s
NANT Nan 5.60 115 PG rx 04 56 46.0
NANT SG Sg 04 56 55.0 +0.8
BWNR Bhubaneshwar 8.96 266 e P 04 56 00.0 -0.1
ASAR Alice Springs 58.34 138 P P 05 03 48.8 +3.3
1.3nm,1.0s,mb3.9,baz=321,slow=6.6,SNR=4.8
ILAR Eielson Array 82.01 23 P P 05 06 08.9 0.0
0.3nm,0.6s,mb3.4,baz=290,slow=5.0,SNR=4.4
INK Inuvik 83.91 16 P P 05 06 17.7 -0.9
0.8nm,0.5s,mb4.1,baz=340,slow=4.2,SNR=5.8

IDC 12 04:59:23.7±1.8, 14.43N×92.16E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=77.2km s-min=22.6km az=63.0
NEIC 12 04:59:26.0±1.6, 14.25N×92.15E, h30km, mb4.0/2, Error ellipse: s-maj=63.4km s-min=22.3km az=59.0
ISC 12 04:59:25.1±1.4, 14.4N±0.2×92.1E±0.4, h30km, n9, σ1s08/9, mb3.8/7, Andaman Islands region

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SONM Songino Array 35.42 17 P P 05 06 20.6 +0.1
1.6nm,1.0s,mb3.9,baz=201,slow=7.2,SNR=8.5
KURK Kurchatov 37.87 346 eP P 05 06 39.6 -1.4
1.9nm,0.7s,mb3.9
ZAL Zalesovo 39.90 353 P P 05 06 59.1 +1.2
1.3nm,0.9s,mb3.7,baz=304,slow=7.7,SNR=5.4
CHKZ Chkalovo 42.72 341 eP P 05 07 20.8 -0.3
1.5nm,0.5s,mb4.0
WRA Warramunga Arr 53.74 128 P P 05 08 47.9 +0.8
0.5nm,0.6s,mb3.6,baz=310,slow=7.7,SNR=2.8
WRAB Tennant Creek 53.74 128 eP P 05 08 44.9 -2.3
ASAR Alice Springs 55.67 132 P P 05 09 02.0 +0.9
0.4nm,0.6s,mb3.6,baz=313,slow=6.4,SNR=6.2
FINES FINESS Array B 66.08 331 P P 05 10 11.8 +0.6
0.8nm,0.6s,mb3.9,baz=117,slow=4.3,SNR=4.5
FINES FINESS Array B 66.08 331 P P 05 10 11.8 +0.6

NIED 12 05:01:00, 35.40N×140.50E, h20km, Mw3.8 Best double couple: Mo5.15×10^14 NP1:φs56°, δ75°, λ80°. NP2:φs270°, δ18°, λ123°.
JMA 12 05:01:16.9±0.1, 35.43N×140.36E, h28km±1km, M4.0
JMA Felt III J1.
IDC 12 05:01:18.9±2.8, 34.77N×138.64E, mb3.9/4, mb1 4.1/5, mb1mx3.7/21, mbtmp4.1/5, ML4.2/1, Error ellipse: s-maj=113.6km s-min=22.4km az=57.0
NEIC 12 05:01:20.8±0.9, 34.78N×138.46E, h10km, MW3.7(NIED), Error ellipse: s-maj=64.8km s-min=11.5km az=84.0
ISC 12 05:01:16.9±0.6, 35.35N±0.05×140.33E±0.08, h33km±6km, n19, σ1s02/25, mb4.1/5, 2C-4D, Near east coast of eastern Honshu

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JCN Nagara 0.12 303 ⇓P P 05 01 22.5 -0.3
JCN eS S 05 01 26.2 -0.8
KTR Katsuura 0.20 183 ⇑P P 05 01 23.6 +0.1
BSO4 Boso 4 0.36 179 ⇑P P 05 01 26.5 +1.0
BSO3 Boso 3 0.57 165 ⇓P P 05 01 29.2 +0.9
BSO1 Boso 1 0.88 142 ⇓P P 05 01 32.5 -0.3
BSO1 eS S 05 01 45.7 +1.2
JYT Yasato 0.88 353 ⇓P P 05 01 31.6 -1.3
JIM2 Oshima 3 0.97 230 P P 05 01 34.3 +0.1
JOD2 Odawara 2 1.02 265 P P 05 01 35.3 +0.4
JOD2 eS S 05 01 48.5 +0.3
JAG Ashikaga 1.29 327 P P 05 01 38.1 -0.5
MAJO Matsushiro 2.09 305 eP P 05 01 51.8 +1.5
MAT Matsushiro 2.09 305 P P 05 01 51.0 +0.8
MAT S S 05 02 20.0 +4.6
MAT Matsushiro 2.09 305 P P 05 01 51.3 +1.1
MAT eS S 05 02 19.7 +4.3
JHJ Hachijo jima 2 2.27 192 Pn P 05 01 52.4 -0.4
174nm,0.3s,baz=273,slow=23,SNR=22
JHJ Sn S 05 02 18.2 -1.6
139nm,0.3s,baz=235,slow=22,SNR=13
CBIJ Chichi jima 8.38 169 Pn P 05 03 15.3 -3.6
10nm,0.3s,baz=52,slow=19,SNR=3.3
ZAL Zalesovo 42.43 314 P P 05 09 10.0 +0.1
0.6nm,0.3s,mb3.6,baz=12,slow=5.8,SNR=5.1
WRAB Tennant Creek 55.27 187 eP P 05 10 49.5 0.0
6.8nm,1.0s,mb4.6
WRA Warramunga Arr 55.28 187 P P 05 10 47.3 -2.2
0.8nm,0.6s,mb3.9,baz=4.3,slow=7.6,SNR=5.2
ASAR Alice Springs 59.01 187 P P 05 11 16.1 +0.2
0.4nm,0.6s,mb3.6,baz=3.1,slow=6.0,SNR=4.1
STKA Stephens Creek 66.88 179 P P 05 12 11.0 +3.2
5.2nm,0.9s,mb4.5,baz=347,slow=12,SNR=3.3

NEIC 12 05:33:16.0±1.0, 30.34S×178.96W, h211km±9km, mb4.6/4, Error ellipse: s-maj=16.3km s-min=14.5km az=105.0
IDC 12 05:33:17.7±3.2, 30.59S×178.82W, h237km±29km, mb3.5/5, mb1 3.7/7, mb1mx3.6/16, mbtmp4.1/7, Error ellipse: s-maj=31.1km s-min=22.5km az=166.0
ISC 12 05:33:14.5±0.8, 30.50S±0.06×179.1W±0.1, h199km±8km, n43, σ1s15/42, mb4.0/8, 3C-1D, Kermadec Islands region

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RAO Raoul Island 1.62 40 eP P 05 33 50.3 +0.6
PUZ Puketiti 7.86 195 PN P 05 35 05.7 -1.1
PUZ SN S 05 36 33.9 -0.5
PUZ Puketiti 7.86 195 PN P 05 35 05.7 -1.1
PUZ SN S 05 36 33.9 -0.5
MWZ Matawai 8.29 199 PN P 05 35 11.6 -0.8
MWZ Matawai 8.29 199 PN P 05 35 11.6 -0.8
URZ Urewera 8.34 201 P P 05 35 15.7 +2.6
1.0nm,0.3s,baz=76,slow=2.8,SNR=5.5
URZ S S 05 36 48.9 +3.2
9.7nm,0.3s,baz=258,slow=20,SNR=16
KNZ Kokohu 8.90 196 SN S 05 36 59.4 +0.8
KNZ Kokohu 8.90 196 SN S 05 36 59.4 +0.8
WNVZ Wahianoa 9.81 205 PN P 05 35 33.1 +0.9
BFZ Birch Farm 10.83 199 PN P 05 35 46.2 +0.9
BFZ Birch Farm 10.83 199 PN P 05 35 46.2 +0.9
KIW Kapiti Island 11.42 204 PN P 05 35 52.6 -0.2
KIW Kapiti Island 11.42 204 PN P 05 35 52.6 -0.2
CAW Cannon Point 11.58 202 PN P 05 35 53.8 -1.1
CAW Cannon Point 11.58 202 PN P 05 35 53.8 -1.1
TUWZ Tuamarina 12.26 205 PN P 05 36 01.6 -1.9
TUWZ Tuamarina 12.26 205 PN P 05 36 01.6 -1.9
NNZ Nelson 12.30 208 PN P 05 36 03.5 -0.5
NNZ Nelson 12.30 208 PN P 05 36 03.5 -0.5
QRZ Quartz Range 12.33 211 PN P 05 36 04.6 +0.2
QRZ Quartz Range 12.33 211 PN P 05 36 04.6 +0.2
THZ Tophouse 12.95 208 PN P 05 36 10.5 -1.7
THZ Tophouse 12.95 208 PN P 05 36 10.5 -1.7
RPZ Rata Peaks 15.33 208 P P 05 36 41.8 0.0
0.9nm,0.3s,baz=349,slow=12,SNR=3.6
RPZ S S 05 39 22.2 -3.8
0.8nm,0.3s,baz=40,slow=23,SNR=5.8
CTA Charters Tower 32.87 280 P P 05 39 32.0 +0.3
10nm,1.0s,mb4.3,baz=130,slow=7.9,SNR=4.0
CTAO Charters Tower 32.87 280 P P 05 39 31.9 +0.2
13nm,1.0s,mb4.4
STKA Stephens Creek 33.52 257 P P 05 39 38.7 +1.6
1.7nm,0.5s,mb3.8,baz=105,slow=10,SNR=7.7
STKA Stephens Creek 33.52 257 P P 05 39 38.7 +1.6
ASAR Alice Springs 42.14 268 P P 05 40 48.9 -0.1
0.7nm,0.4s,mb3.5,baz=105,slow=7.2,SNR=13
ASAR ScP 05 46 05.5
0.5nm,0.9s,baz=109,slow=4.9,SNR=4.2
WRAB Tennant Creek 43.13 273 P P 05 40 56.4 -0.6
8.2nm,0.9s,mb4.2
WRA Warramunga Arr 43.14 273 P P 05 40 56.8 -0.3
1.2nm,0.3s,mb3.9,baz=110,slow=8.2,SNR=16
QSPA South Pole Qui 59.61 180 eP P 05 42 60.0 +1.0
10nm,0.7s,mb4.6
QSPA ⇑iP 05 43 00.8
PMSA Palmer Station 72.56 156 eP P 05 44 18.7 -2.3
16nm,1.1s,mb4.6
VNA3 Neumayer Olymp 78.26 177 ⇑i P 05 44 53.6 +0.5
VNA2 Neumayer--Watz 78.69 177 ⇑i P 05 44 56.4 +1.0
VNA1 Neumayer--Stat 78.92 177 ⇓i P 05 44 58.1 +1.4
NVAR Mina Array Bea 88.97 43 P P 05 45 46.5 -1.2
0.6nm,0.8s,mb3.5,baz=232,slow=12,SNR=5.0
NVAR Mina Array Bea 88.97 43 P P 05 45 46.5 -1.2
FINES FINESS Array B 144.91 339 PKPbc PKPbc 05 52 24.8 -2.5
2.7nm,0.4s,baz=48,slow=4.5,SNR=27
FINES FINESS Array B 144.91 339 PKPbc PKPbc 05 52 24.8 -2.5
NB2 NORSAR Subarra 148.70 350 PKPabc PKPdf 05 52 36.6 +3.4
1.1nm,0.6s,baz=15,slow=2.6
NOA NORSAR Array B 148.70 350 PKPbc PKPdf 05 52 36.6 +3.4
1.5nm,0.6s,baz=14,slow=4.1,SNR=4.9
AKASG Malin Array Be 150.79 322 PKPbc PKPdf 05 52 41.4 +4.7
1.8nm,0.5s,baz=48,slow=2.7,SNR=13
AKASG PKPab PKPab 05 52 48.8 -4.0
1.1nm,0.6s,baz=48,slow=4.7,SNR=5.3

IDC 12 05:33:45.2±1.3, 10.61N×91.44E, mb4.1/5, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, ML4.0/1, Error ellipse: s-maj=44.2km s-min=21.4km az=69.0
NEIC 12 05:33:49.7±0.7, 10.60N×91.53E, h30km, mb4.6/3, Error ellipse: s-maj=19.9km s-min=12.0km az=75.0
BJI 12 05:33:51.8, 11.09N×91.55E, h30km, mB4.8, mb4.2
ISC 12 05:33:47.5±1.0, 10.6N±0.1×91.5E±0.2, h30km, n14, σ0s69/13, mb4.3/9, 1D, Andaman Islands region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CMAR Chiang Mai Arr 10.60 42 Pn P 05 36 20.3 -0.3
0.4nm,0.3s,baz=235,slow=14,SNR=9.4
VIS Vishakhapatnam 10.66 313 eP P 05 36 17.0 -4.4
VIS e 05 38 07.0
LSA Lhasa 19.01 359 eP P 05 38 11.0 +1.3
6.2nm,0.8s
GYA Guiyang 21.28 40 ⇓iP P 05 38 33.8 -0.1
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.2
GYA AMB AMB
comp=Z,250nm,5.2s
ENH Enshi 25.73 38 eP P 05 39 16.3 -1.0
comp=Z,25nm,0.8s,mb4.8
ENH epP pP 05 39 23.7 -2.3
GTA Gaotai 29.63 13 eP P 05 39 52.7 +0.1
GTA AP pP 05 40 00.3 -1.1
GTA XP sP 05 40 03.4 -1.9
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
SONM Songino Array 39.17 16 P P 05 41 14.8 +0.4
comp=Z,10nm,1.3s,mb4.4,baz=205,slow=8.0,SNR=20
ZAL Zalesovo 43.56 354 P P 05 41 50.9 +0.5
comp=Z,0.9nm,0.6s,mb3.7,baz=300,slow=8.3,SNR=5.7
CHKZ Chkalovo 46.12 343 eP P 05 42 10.7 -0.1
WRA Warramunga Arr 51.92 126 P P 05 42 56.4 +0.4
comp=Z,2.7nm,0.7s,mb4.3,baz=306,slow=8.4,SNR=13
WRAB Tennant Creek 51.92 126 eP P 05 42 55.9 -0.2
comp=Z,8.0nm,0.8s,mb4.7
ASAR Alice Springs 53.62 130 P P 05 43 09.1 +0.4
comp=Z,2.3nm,0.7s,mb4.2,baz=306,slow=6.8,SNR=20
FINES FINESS Array B 69.12 332 P P 05 44 51.7 -1.1
comp=Z,1.3nm,0.9s,mb3.9,baz=284,slow=5.7,SNR=1.9
PLCA Paso Flores 146.07 205 PKPbc PKPbc 05 53 27.9 +2.9
comp=Z,1.5nm,0.8s,baz=160,slow=3.9,SNR=3.2

DJA 12 05:47:47.5±0.9, 9.23S×114.57E, h75km±14km, MD4.7/4, ML4.0/4, 7C-1D, Error ellipse: s-maj=35.8km s-min=8.6km az=9.0, South of Bali

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
SRDI Scrawed 0.86 330 ⇑iPn P 05 48 03.9 -0.8
220nm,0.2s
SRDI ⇑iSn S 05 48 15.5 -2.0
KELI Kelakatan 1.01 355 ⇑iPn P 05 48 06.2 -0.4
288nm,0.2s
KELI ⇑iSn S 05 48 20.1 -0.8
RATI Rata 1.07 62 ⇑iPn P 05 48 07.2 -0.2
1μm,0.2s
RATI ⇑iSn S 05 48 20.6 -1.7
KEDI Kedomdong 1.69 64 ⇑iPn P 05 48 14.2 -1.5
40nm,0.2s
KEDI ⇓iSn S 05 48 33.5 -3.0

IDC 12 06:02:56.4±1.0, 3.41S×135.52E, mb4.2/7, mb1 4.4/9, mb1mx4.3/13, mbtmp4.2/9, ML3.6/2, MS3.7/3, Ms1 3.7/3, ms1mx3.1/20, Error ellipse: s-maj=50.5km s-min=21.0km az=72.0
BJI 12 06:03:00.6, 3.60S×135.30E, h41km, mB5.3, mb4.8
NEIC 12 06:03:02.7±2.0, 3.57S×135.25E, h41km±21km, mb4.6/4, Error ellipse: s-maj=16.4km s-min=13.6km az=91.0
ISC 12 06:03:01.1±1.9, 3.62S±0.06×135.3E±0.1, h46km±19km, n21, σ0s91/23, mb4.3/9, MS3.9/2, Irian Jaya region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KAKA Kakadu 9.46 197 eP P 06 05 16.7 -0.9
20nm,0.6s
KAKA eS S 06 07 03.9 +0.3
PMG Port Moresby 13.12 117 Pn P 06 06 07.7 +0.6
0.9nm,0.3s,baz=290,slow=15,SNR=4.3
WRAB Tennant Creek 16.23 183 eP P 06 06 48.7 +1.1
55nm,1.1s
WB2 Warramunga Arr 16.25 183 eP P 06 06 44.1 -3.6
WB2 eS S 06 09 35.6 -10
WRA Warramunga Arr 16.25 183 Pn P 06 06 43.7 -4.0
0.3nm,0.3s,baz=3.9,slow=13,SNR=9.4
WRA Sn S 06 09 40.3 -5.8
0.4nm,0.3s,baz=9.5,slow=22,SNR=6.8
WRA Lg 06 11 36.1
slow=28,SNR=4.1
FITZ Fitzroy Crossi 17.21 213 eP P 06 06 59.4 -0.5
9.1nm,0.6s
ASAR Alice Springs 19.97 184 P P 06 07 32.2 -0.1
18nm,0.7s,baz=9.1,slow=11,SNR=159
ASAR S S 06 11 09.3 -0.1
1.0nm,0.7s,baz=6.7,slow=28,SNR=3.4
ASAR Lg 06 13 41.8
3.9nm,1.0s,baz=356,slow=29,SNR=2.7
ASAR LR LR 06 15 30.4
comp=Z,74nm,21.8s,baz=360,slow=37
ASPA Alice Springs 19.97 184 eP P 06 07 32.3 -0.1
STKA Stephens Creek 28.72 169 P P 06 08 57.2 +0.8
1.8nm,0.3s,mb4.3,baz=350,slow=12,SNR=3.4
STKA LR LR 06 21 24.9
comp=Z,249nm,18.7s,MS3.8,baz=202,slow=38
STKA Stephens Creek 28.72 169 P P 06 08 57.2 +0.8
STKA LR LR 06 21 24.9
CMAR Chiang Mai Arr 41.99 303 P P 06 10 49.8 0.0
0.8nm,0.3s,mb3.8,baz=120,slow=5.6,SNR=5.3
BJI Beijing 46.86 340 P P 06 11 28.1 -0.6
BJI AMB AMB
comp=Z,14nm,0.9s,mb4.9
BJI Beijing 46.86 340 P P 06 11 28.1 -0.6
comp=Z,14nm,0.9s,mb4.9
URZ Urewera 51.38 138 LR LR 06 33 54.2
comp=Z,110nm,19.0s,MS3.9,baz=239,slow=36
LSA Lhasa 53.68 311 P P 06 12 22.8 +1.9
comp=Z,3.5nm,0.5s,mb4.5
GTA Gaotai 53.84 326 eP P 06 12 22.8 +0.9
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
SONM Songino Array 57.16 337 P P 06 12 45.5 -0.2
comp=Z,1.5nm,0.7s,mb4.1,baz=156,slow=7.2,SNR=16
ZAL Zalesovo 71.05 331 P P 06 14 16.1 -0.1
comp=Z,1.9nm,1.1s,mb3.9,baz=339,slow=5.3,SNR=7.2
BVAR Borovoye Array 78.13 326 P P 06 14 56.8 -0.2
comp=Z,1.7nm,0.8s,mb4.1,baz=135,slow=8.4,SNR=9.3
ILAR Eielson Array 88.08 25 P P 06 15 45.7 -1.9
comp=Z,0.9nm,0.6s,mb4.2,baz=264,slow=4.1,SNR=7.3
LPAZ La Paz 149.55 131 PKPbc PKPdf 06 22 50.5 +8.6
comp=Z,1.4nm,0.9s,baz=135,slow=2.9,SNR=5.1

IDC 12 06:12:05.1±6.8, 52.26N×176.69E, h86km±41km, mb3.0/3, mb1 3.3/4, mb1mx3.1/22, mbtmp3.4/4, Error ellipse: s-maj=106.9km s-min=25.0km az=171.0, Rat Islands

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
FX1 Attu Island--F 2.24 287 P P 06 12 40.9 -0.1
19nm,0.3s,baz=189,slow=3.8,SNR=38
FX1 S S 06 13 07.7 0.0
20nm,0.3s,baz=247,slow=20,SNR=23
ILAR Eielson Array 22.38 42 P P 06 16 55.5 -1.2
0.5nm,0.8s,baz=244,slow=8.4,SNR=4.1
YKA Yellowknife Ar 36.65 46 P P 06 19 02.8 -1.7
0.8nm,1.0s,baz=287,slow=8.6,SNR=6.4
SONM Songino Array 43.74 293 P P 06 20 01.6 -1.4
0.1nm,0.3s,baz=57,slow=7.5,SNR=4.2

IDC 12 06:14:59.0±1.2, 2.51N×94.40E, mb4.1/8, mb1 4.3/9, mb1mx4.1/18, mbtmp4.1/9, ML4.4/1, Error ellipse: s-maj=54.5km s-min=17.5km az=58.0
NEIC 12 06:15:03.5±0.6, 2.53N×94.48E, h30km, mb4.6/4, Error ellipse: s-maj=15.8km s-min=8.9km az=55.0
ISC 12 06:15:02.3±0.8, 2.6N±0.1×94.5E±0.1, h33km, n17, σ0s57/16, mb4.2/12, Off west coast of northern Sumatera

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
KULM Kulim 6.68 66 eP P 06 16 40.5 -0.2
CMAR Chiang Mai Arr 16.38 15 Pn P 06 18 51.4 0.0
0.5nm,0.3s,baz=210,slow=11,SNR=18
LSA Lhasa 27.18 354 eP P 06 20 46.1 +1.1
11nm,0.6s,mb4.5
WRA Warramunga Arr 45.02 122 P P 06 23 17.2 +0.2
1.8nm,0.8s,mb4.0,baz=302,slow=8.6,SNR=8.5
WRAB Tennant Creek 45.03 122 eP P 06 23 17.0 -0.1
7.2nm,0.9s,mb4.5
SONM Songino Array 46.25 11 P P 06 23 26.5 +0.2
2.3nm,0.7s,mb4.2,baz=191,slow=8.9,SNR=24
SONM PcP PcP 06 25 02.0 0.0
0.4nm,0.8s,baz=180,slow=2.5,SNR=3.6
ASAR Alice Springs 46.35 126 P P 06 23 27.6 +0.1
0.6nm,0.6s,mb3.7,baz=296,slow=7.9,SNR=6.4
ASAR PcP PcP 06 25 03.0 +0.3
0.5nm,0.9s,baz=291,slow=3.1,SNR=4.3
KURK Kurchatov 49.83 347 eP P 06 23 53.9 -0.2
4.1nm,0.9s,mb4.5
ZAL Zalesovo 51.83 353 P P 06 24 09.8 +0.5
3.4nm,0.4s,mb4.6,baz=300,slow=5.0,SNR=14
ZAL Zalesovo 51.83 353 P P 06 24 09.8 +0.5
BVAR Borovoye Array 54.12 342 P P 06 24 25.4 -0.9
2.9nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=18
CHKZ Chkalovo 54.61 343 eP P 06 24 29.0 -0.9
7.7nm,1.0s,mb4.7
STKA Stephens Creek 56.25 131 P P 06 24 41.9 -0.2
1.6nm,0.7s,mb4.2,baz=284,slow=7.9,SNR=5.4
STKA Stephens Creek 56.25 131 P P 06 24 41.9 -0.2
FINES FINESS Array B 77.56 333 P P 06 26 55.9 -0.6
0.9nm,0.8s,mb3.8,baz=117,slow=9.3,SNR=4.3
GERES GERESS Array B 82.03 319 P P 06 27 21.6 +0.9
1.2nm,0.8s,mb3.9,baz=127,slow=4.9,SNR=5.0
TXAR Lajitas Array 143.81 27 PKP PKPdf 06 34 35.1 +0.3
0.6nm,0.8s,baz=190,slow=1.7,SNR=7.5

NIED 12 07:01:00, 41.90N×142.30E, h56km, Mw4.0 Best double couple: Mo9.8×10^14 NP1:φs26°, δ68°, λ84°. NP2:φs221°, δ23°, λ103°.
MOS 12 07:01:20.4±1.3, 41.52N×142.17E, h33km, mb4.3/4, Error ellipse: s-maj=32.0km s-min=12.4km az=81.7
JMA 12 07:01:28.4±0.2, 41.94N×142.33E, h68km±3km, M3.7 Broadband fault plane solution: P waves. NP1:φs150°, δ13°, λ29°. NP2:φs31°, δ84°, λ101°. Principal axes: T Plg50°, Azm313°; N Plg11°, Azm210°; P Plg38°, Azm111°;
JMA Felt I J1.
IDC 12 07:01:31.8±5.8, 42.08N×142.24E, h86km±38km, mb3.6/10, mb1 3.8/11, mb1mx3.6/22, mbtmp3.9/11 Error ellipse: s-maj=49.4km s-min=18.9km az=172.0
NEIC 12 07:01:34.0±4.3, 42.55N×142.20E, h85km±25km, mb4.3/2, Error ellipse: s-maj=48.6km s-min=11.1km az=173.0
NEIC Recorded [1 JMA] in the Shizunai area.
ISC 12 07:01:27.9±0.4, 41.94N±0.03×142.32E±0.04, h73km±3km, n41, σ0s87/58, mb3.9/14, 3C-9D, Hokkaido region

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
JNBK Urakawa-nobuka 0.47 43 P P 07 01 40.1 -0.7
JNBK eS S 07 01 49.1 -1.2
ERM Erimo 0.63 83 Pn P 07 01 42.7 +0.3
13μm,0.4s
JEM Erimo 0.63 83 ⇑P P 07 01 42.6 +0.2
JEM eS S 07 01 52.7 -0.5
JBT2 Biratori 2 0.84 2 ⇓P P 07 01 44.7 -0.1
JBT2 eS S 07 01 57.0 -0.3
JKB Kayabe 0.96 267 ⇓P P 07 01 46.2 0.0
JKB eS S 07 01 59.0 -1.0
JCH Churui 1.03 49 ⇑P P 07 01 47.4 +0.3
JCH eS S 07 02 01.5 0.0
JNB Noboribetsu 1.09 300 ⇓P P 07 01 47.6 -0.3
JNB eS S 07 02 01.6 -1.2
JOT Ohata 1.10 240 ⇓P P 07 01 48.4 +0.3
JOT eS S 07 02 02.9 -0.2
JEW Eniwo 1.11 325 ⇓P P 07 01 48.6 +0.5
JEW eS S 07 02 03.3 +0.1
JFR Furan 1.24 9 ⇓P P 07 01 49.9 0.0
JFR eS S 07 02 06.0 -0.3
JYM2 Yakumo 2 1.46 278 P P 07 01 52.9 -0.1
JYM2 eS S 07 02 10.8 -0.7
JSR Shiriuchi 1.48 255 ⇓P P 07 01 53.3 +0.1
JSR eS S 07 02 12.5 +0.6
JOB Onbets 1.48 49 P P 07 01 54.2 +1.0
JTM Tenmabayashi 1.49 220 P P 07 01 53.9 +0.6
JAB Ashibetsu 1.57 358 P P 07 01 55.1 +0.7
JANG Nango 1.68 201 ⇑P P 07 01 56.3 +0.5
JANG eS S 07 02 17.1 +0.7
JAR Ashorobuto 1.73 38 P P 07 01 56.7 +0.2
JAR eS S 07 02 18.3 +0.6
JHR Hokuryu 1.85 347 ⇓P P 07 01 59.2 +1.0
JHR eS S 07 02 23.2 +2.6
ASAJ Asahikawa 2.19 5 P P 07 02 03.6 +0.8
ASAJ S S 07 02 30.4 +1.7
ASAJ pmax pmax
comp=Z,22nm,0.3s
ASAJ smax
comp=N,17nm,0.3s
ASAJ Asahikawa 2.19 5 P P 07 02 03.6 +0.8
comp=N,22nm,0.3s,baz=234,slow=7.3,SNR=88
ASAJ S S 07 02 30.4 +1.6
comp=N,17nm,0.3s,baz=327,slow=26,SNR=15
YUK Yuzh-Kuril'sk 3.34 50 ⇓iP P 07 02 18.9 -0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
YUK				*i* S	**S**	**07 02 55.0**	**-2.7**
YUK				pmax	pmax		
	comp=N,180nm,0.4s						
YUK				pmax	pmax		
	comp=Z,320nm,0.4s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				smax			
	comp=N,390nm,0.5s						
YUK				smax			
	comp=E,220nm,0.6s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,2μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.02**	**3**	P	**P**	**07 02 38.6**	**-3.8**
SONM	**Songino Array**	**25.96**	**295**	P	**P**	**07 06 55.6**	**+0.6**
	comp=N,1.2nm,0.5s,mb3.6,baz=75,slow=8.9,SNR=16						
BILL	**Bilibino**	**29.14**	**18**	*e*P	**P**	**07 07 15.5**	**-8.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
KURK	**Kurchatov**	**43.60**	**304**	*e*P	**P**	**07 09 26.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**43.60**	**304**	*e*P	**P**	**07 09 26.1**	**-0.1**
	comp=Z,6.0nm,0.8s,mb4.4						
ILAR	**Eielson Array**	**45.03**	**35**	P	**P**	**07 09 37.0**	**-0.4**
	comp=Z,1.5nm,1.1s,mb3.6,baz=261,slow=5.3,SNR=9.9						
BVAR	**Borovoye Array**	**47.90**	**309**	P	**P**	**07 10 00.2**	**0.0**
	comp=Z,2.3nm,0.3s,mb4.4,baz=73,slow=9.3,SNR=10.0						
INK	**Inuvik**	**49.74**	**29**	P	**P**	**07 10 13.9**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**49.74**	**29**	P	**P**	**07 10 13.9**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=229,slow=5.0,SNR=8.3						
INK	**Inuvik**	**49.74**	**29**	*e*P	**P**	**07 10 13.3**	**-0.9**
RES	**Resolute Bay**	**57.69**	**15**	*e*P	**P**	**07 11 11.2**	**-1.4**
RES				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
RES	**Resolute Bay**	**57.69**	**15**	*e*P	**P**	**07 11 11.2**	**-1.4**
	comp=Z,0.9nm,0.5s,mb4.1						
YKA	**Yellowknife Ar**	**59.25**	**32**	P	**P**	**07 11 23.0**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=305,slow=6.4,SNR=15						
JOF	**Joensuu**	**61.99**	**331**	*e*p	**P**	**07 11 40.0**	**-2.1**
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**64.82**	**332**	P	**P**	**07 11 59.9**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.2,baz=59,slow=7.8,SNR=49						
NB2	**NORSAR Subarra**	**69.94**	**337**	P	**P**	**07 12 32.1**	**-0.6**
	comp=Z,1.1nm,0.5s,mb3.9,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.94**	**337**	P	**P**	**07 12 32.3**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.0,baz=37,slow=6.1,SNR=5.9						
AKASG	**Malin Array Be**	**70.87**	**322**	P	**P**	**07 12 37.7**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.0,baz=43,slow=5.9,SNR=9.1						
PDAR	**Pinedale Array**	**73.77**	**47**	P	**P**	**07 12 57.0**	**+1.3**
	comp=Z,0.7nm,0.7s,mb3.5,baz=300,slow=1.6,SNR=7.7						
TXAR	**Lajitas Array**	**86.60**	**53**	P	**P**	**07 14 06.5**	**+2.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=289,slow=4.4,SNR=4.6						

CASC 12 07:08:22.1±1.6**, 12.29N**×**87.84W, h48**km±130km**, MD3.7, ML2.9, 5C-1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LEON	**Leon**	**0.94**	**82**	*e*P	P	07 08 38.3	-0.8
CNCH	**Conchagua**	**0.98**	**1**⇑	*e*P	P	07 08 40.4	+0.7
CNCH				*e*S	S	07 08 54.1	+1.4
TEL3	**Telica 3**	**1.02**	**74**	*e*P	P	07 08 40.1	0.0
VSM	**San Miguel**	**1.21**	**340**	*e*P	P	07 08 44.1	+1.2
VSM				*e*S	S	07 08 58.9	+0.5
MOMJ	**Momotombo**	**1.28**	**84**⇑	*e*P	P	07 08 43.2	-0.8
MGAN	**Managua**	**1.57**	**95**⇓	*e*P	P	07 08 47.5	-0.6
MGAN				*e*S	S	07 09 07.0	-0.3
MGAN				*i*		07 09 09.9	
	comp=E,156nm,0.8s						
TICN	**Ticuantepe**	**1.60**	**99**	*e*P	P	07 08 47.8	-0.7
WILN	**Americas 2**	**1.62**	**94**	*e*P	P	07 08 48.3	-0.6
WILN				*e*S	S	07 09 08.6	-0.1
SNVI	**San Vicente**	**1.64**	**324**	*e*P	P	07 08 49.8	+0.8
LCBS	**La Ceiba**	**1.75**	**321**⇑	*e*P	P	07 08 50.1	-0.5
LCBS				*e*S	S	07 09 11.7	-0.1
PYTN	**Playitas**	**1.76**	**82**	*e*P	P	07 08 51.1	+0.3
LFRS	**El Faro**	**1.78**	**318**⇑	*e*P	P	07 08 50.4	-0.7
LFRS				*e*S	S	07 09 12.6	0.0
LFU	**La Fuente**	**1.91**	**320**⇑	*e*P	P	07 08 53.0	+0.1
LFU				*e*S	S	07 09 15.0	-0.6
BOQS	**Boqueron**	**2.01**	**316**	*e*P	P	07 08 55.0	+0.7
SBLS	**San Blas**	**2.32**	**312**	*e*P	P	07 08 58.4	-0.3
SBLS				*e*S	S	07 09 26.1	0.0
RTR	**El Retiro**	**2.38**	**313**	*e*P	P	07 08 60.0	+0.5
RTR				*e*S	S	07 09 28.1	+0.6

IDC ***12*** *07:33:04.5±0.7, 6.72N×72.93W, h162km±8km, mb3.4/6, mb1 3.6/8, mb1mx3.3/22, mbtmp3.9/8, Error ellipse: s-maj=25.3km s-min=7.6km az=132.0*

NEIC ***12*** *07:33:05.2±0.6, 6.71N×72.92W, h170km±6km, mb3.5/2, Error ellipse: s-maj=14.4km s-min=8.7km az=129.0*

ISC 12 07:33:04.1±0.7**, 6.7N**±0.1×**72.9W**±0.1**, h173**km±9km**, n15,** σ**0.60**/16**, mb3.6**/6**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.34**	**217**	P	**P**	**07 33 45.9**	**+0.9**
	48nm,0.3s,baz=292,slow=19,SNR=218						
ROSC				S	**S**	**07 34 15.6**	**-0.9**
	50nm,0.3s,baz=100,slow=16,SNR=9.9						
SDV	**Santo Domingo**	**3.11**	**47**	P	**P**	**07 33 55.3**	**+0.8**
	22nm,0.3s,baz=247,slow=3.2,SNR=110						
SDV				S	**S**	**07 34 32.6**	**-0.5**
	19nm,0.3s,baz=86,slow=22,SNR=21						
SDV	**Santo Domingo**	**3.11**	**47**	*e*P	**P**	**07 33 54.9**	**+0.5**
SDV				P		07 33 55.3	
SDV				S	**S**	**07 34 32.6**	**-0.5**
OTAV	**Otavalo**	**8.50**	**221**	*e*P	**P**	**07 35 05.2**	**+0.3**
	0.9nm,0.5s						
TEIG	**Tepich**	**20.04**	**313**	*e*P	**P**	**07 37 25.5**	**-0.1**
	1.3nm,0.6s						
TXAR	**Lajitas Array**	**36.66**	**312**	P	**P**	**07 39 55.9**	**0.0**
	0.3nm,0.6s,mb3.1,baz=130,slow=8.8,SNR=5.0						
SCHQ	**Schefferville**	**48.20**	**5**	P	**P**	**07 41 29.5**	**+0.7**
	4.4nm,0.6s,mb4.2,baz=175,slow=6.4,SNR=24						
SCHQ	**Schefferville**	**48.20**	**5**	P	**P**	**07 41 29.5**	**+0.7**
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**07 43 16.2**	**-1.0**
	0.9nm,0.6s,mb3.8,baz=132,slow=6.6,SNR=37						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	**P**	**07 43 16.2**	**-1.0**
DBIC	**Dimbokro**	**67.54**	**86**	P	**P**	**07 43 44.1**	**-0.3**
	3.4nm,0.8s,mb4.1,baz=251,slow=6.0,SNR=4.1						
INK	**Inuvik**	**73.17**	**340**	P	**P**	**07 44 17.1**	**-0.2**
	0.5nm,0.7s,mb3.4,baz=148,slow=3.6,SNR=5.1						
ILAR	**Eielson Array**	**77.12**	**335**	P	**P**	**07 44 40.1**	**+0.4**
	0.6nm,1.0s,mb3.2,baz=129,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**149.22**	**234**	PKPbc	PKPdf	07 52 34.2	+5.8
	0.6nm,0.6s,baz=120,slow=3.7,SNR=9.7						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPdf	07 52 37.6	+7.2
	0.9nm,0.6s,baz=109,slow=2.4,SNR=5.6						

ISK ***12*** *07:36:08.9, 39.39N×40.85E, h5km, ML5.7*

MOS ***12*** *07:36:10.0±1.1, 39.39N×40.96E, h10km, mb5.4/82, MS5.1/32, Error ellipse: s-maj=3.9km s-min=2.4km az=39.8*

CSEM ***12*** *07:36:10.5, 39.42N×40.96E, h10km, mb5.4*

IDC ***12*** *07:36:10.1±0.5, 39.41N×40.97E, mb4.8/22, mb1 4.9/29, mb1mx4.9/30, mbtmp4.8/29, ML4.3/6, MS5.2/24, Ms1 5.2/24, ms1mx5.1/28, Error ellipse: s-maj=11.8km s-min=8.2km az=178.0*

BJI ***12*** *07:36:10.0, 39.47N×40.46E, h32km, mB5.6, mb5.2, Ms5.8, Msz5.3*

NEIC ***12*** *07:36:12.2±0.8, 39.44N×40.98E, h11km±5km, mb5.4/146, MS5.0/17, MW5.6, ML5.7(ISK), Error ellipse: s-maj=3.2km s-min=2.5km az=186.0, Moment Tensor Solution. s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01; $M_{\theta\theta}$0.81; $M_{\phi\phi}$-0.80; $M_{r\theta}$0.09; $M_{\theta\phi}$-3.49; $M_{\phi r}$-0.77; Best double couple: $M_0$3.7×10^{17} NP1:ϕ_s84°,δ78°,λ-180°. NP2:ϕ_s353°, δ90°,λ-12°. Principal axes: T 3.67, Plg9°, Azm39°; N -.01, Plg78°, Azm173°; P -3.66, Plg9°, Azm308°;*

NEIC At least 16 people injured and 214 buildings damaged in the Cat-Karliova area. A landslide blocked a road between Cat and Erzurum. Several livestock killed at Cat. Felt at Diyarbakir, Erzincan, Mus and Tunceli.

HRVD ***12*** *07:36:12.2±0.2, 39.42N×40.79E, h16km, MW5.6/78, Centroid moment Tensor Solution. LP body waves: s61,c126; Mantle waves: s78,c176; Half duration: 1.6 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.09±.05; $M_{\theta\theta}$-1.40±.06; $M_{\phi\phi}$1.49±.05; $M_{r\theta}$1.58±.18; $M_{\theta\phi}$-2.76±.04; $M_{\phi r}$0.70±.14; Best double couple: $M_0$3.515×10^{17} NP1: ϕ_s191°,δ70°,λ-15°. NP2:ϕ_s286°,δ76°,λ-159°. Principal axes: T 3.177, Plg4°, Azm58°; N .677, Plg65°, Azm318°; P -3.854, Plg25°, Azm150°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ZUR_RM ***12*** *07:36:12, 39.44N×40.98E, h21km, Mw5.8/19, Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19; $M_{\theta\theta}$-2.36; $M_{\phi\phi}$2.55; $M_{r\theta}$-0.26; $M_{\theta\phi}$-4.58; $M_{\phi r}$0.51; Best double couple: $M_0$5.22×10^{17} NP1:ϕ_s14°,δ86°,λ5°. NP2:ϕ_s284°,δ85°,λ176°. Principal axes: T 5.349, Plg6°, Azm239°; N -.253, Plg84°, Azm54°; P -5.095, Plg0°, Azm149°;*

ISC 12 07:36:10.2±0.4**, 39.39N**±0.01×**40.94E**±0.01**, h8**km±2km**, h21**km±2.3km**:pP-P, n1029,** σ**1.23**/1106**, mb5.3**/201**, MS5.2**/65**, 50C-64D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRT	**Varto**	**0.52**	**119**	*i* PG	**Pg**	**07 36 21.0**	**+0.2**
EZM	**Erzurum**	**0.61**	**32**	*i* PG	**Pg**	**07 36 22.4**	**-0.1**
ERZM	**Erzurum**	**0.61**	**32**	*i* P	**Pg**	**07 36 22.3**	**-0.2**
ERZM				*i* S	**Sg**	**07 36 40.7**	**+10**
BINT	**Bingol**	**0.62**	**215**	*i* PG	**Pg**	**07 36 21.4**	**-1.3**
BINT	**Bingol**	**0.62**	**215**	Pg	**Pg**	**07 36 21.4**	**-1.3**
EZC	**Erzincan**	**0.94**	**293**	*i* PN	**Pn**	**07 36 32.8**	**+3.3**
EZC	**Erzincan**	**0.94**	**293**	Pn	**Pn**	**07 36 32.8**	**+3.3**
BTMT	**Batman**	**1.27**	**160**	*i* PN	**Pn**	**07 36 34.5**	**+0.3**
PTK	**Pertek**	**1.30**	**248**	*i* Pn	**Pn**	**07 36 33.1**	**-1.6**
PTK				*e*Sn	**Sn**	**07 36 52.2**	**-0.2**
BEST	**Besiri**	**1.52**	**170**	*i* P	**Pn**	**07 36 39.0**	**+1.2**
BEST				*i* S	**Sb**	**07 37 00.4**	**+3.0**
GUMT	**Gumushane**	**1.55**	**314**	*i* PN	**Pn**	**07 36 37.4**	**-0.9**
GUMT	**Gumushane**	**1.55**	**314**	Pn	**Pn**	**07 36 37.4**	**-0.9**
DIY	**Diyarbakir**	**1.59**	**201**	*i* PN	**Pn**	**07 36 39.8**	**+1.0**
DIY	**Diyarbakir**	**1.59**	**201**	Pn	**Pn**	**07 36 39.8**	**+1.0**
ELZG	**Elazig**	**1.77**	**240**	*i* P	**Pn**	**07 36 40.4**	**-0.9**
ELZG				*i* S	**Sn**	**07 37 06.6**	**+2.4**
KARS	**Kars**	**2.06**	**53**	*i* PN	**Pn**	**07 36 46.9**	**+1.4**
VANB	**Van**	**2.06**	**112**	*i* PN	**Pn**	**07 36 47.3**	**+1.7**
VANB	**Van**	**2.06**	**112**	Pn	**Pn**	**07 36 47.9**	**+2.2**
VANB	**Van**	**2.06**	**112**	Pn	**Pn**	**07 36 47.9**	**+2.3**
TVAN	**Van**	**2.10**	**113**	*i* P	**Pn**	**07 36 47.5**	**+1.3**
TVAN				*i* S	Sn	07 37 34.0	+21
BCA	**Borcka**	**2.12**	**14**	PN	**Pn**	**07 36 47.4**	**+1.0**
BCA	**Borcka**	**2.12**	**14**	Pn	**Pn**	**07 36 47.6**	**+1.2**
VANT	**Van**	**2.13**	**115**	*i* PN	**Pn**	**07 36 47.1**	**+0.6**
VANT	**Van**	**2.13**	**115**	Pn	**Pn**	**07 36 48.5**	**+2.0**
MYA	**Malataya**	**2.23**	**242**	*i* PN	**Pn**	**07 36 48.1**	**+0.1**
MALT	**Malatya**	**2.24**	**242**	*i* PN	**Pn**	**07 36 47.6**	**-0.5**
MALT	**Malatya**	**2.24**	**242**⇑	*i*P	**Pn**	**07 36 47.4**	**-0.7**
MALT				*e*		07 37 18.7	
MALT	**Malatya**	**2.24**	**242**	Pn	**Pn**	**07 36 47.7**	**-0.4**
MALT	**Malatya**	**2.24**	**242**	*i* P	**Pn**	**07 36 48.1**	**0.0**
MALT				*i* S	**Sn**	**07 37 21.3**	**+5.2**
MALT	**Malatya**	**2.24**	**242**	Pn	**Pn**	**07 36 47.7**	**-0.4**
MALT				*e*S	**Sn**	**07 37 18.7**	**+2.6**
CLDR	**Caldiran**	**2.32**	**95**	*i* PN	**Pn**	**07 36 50.7**	**+1.4**
URFA	**Urfa**	**2.56**	**221**	*i* PN	**Pn**	**07 36 52.6**	**-0.1**
HKR	**Hakkari**	**2.84**	**129**	PN	**Pn**	**07 36 58.5**	**+1.8**
HKR	**Hakkari**	**2.84**	**129**	Pn	**Pn**	**07 36 59.1**	**+2.3**
HKR	**Hakkari**	**2.84**	**129**	Pn	**Pn**	**07 36 59.1**	**+2.4**
GNI	**Garni**	**3.03**	**74**	PN	**Pn**	**07 37 00.2**	**+0.8**
GNI	**Garni**	**3.03**	**74**	Pn	**Pn**	**07 37 00.3**	**+0.9**
	41nm,0.3s,baz=300,slow=2.9,SNR=95						
GNI				Pg	**Pg**	**07 37 06.6**	**-4.1**
	341nm,0.3s,baz=342,slow=1.1,SNR=112						
GNI	**Garni**	**3.03**	**74**	Pn	**Pn**	**07 37 00.1**	**+0.7**
GNI	**Garni**	**3.03**	**74**	Pn	**Pn**	**07 37 00.1**	**+0.7**
SVST	**Sivas**	**3.11**	**278**	*i* P	**Pn**	**07 37 00.8**	**+0.3**
SVST				*i* S	**Sn**	**07 37 45.6**	**+7.4**
GZT	**Gaziantep**	**3.34**	**234**	*i* P	**Pn**	**07 37 02.8**	**-1.0**
GZT				*i* S	**Sn**	**07 37 59.0**	**+15**
TOKT	**Tokat**	**3.51**	**287**	PN	**Pn**	**07 37 06.2**	**0.0**
TOKT	**Tokat**	**3.51**	**287**	Pn	**Pn**	**07 37 06.2**	**0.0**
MSL	**Mosul**	**3.53**	**151**	*i* Pn	**Pn**	**07 37 05.5**	**-1.0**
MSL				*i* Pb	**Pb**	**07 37 14.5**	**+1.9**
MSL				*i* Pg	**Pg**	**07 37 25.5**	**+4.8**
MSL				*i* Sn	**Sn**	**07 38 01.5**	**+13**
MSL				*i* Sb	Sb	07 38 16.5	+21
KAHT	**Ahir Dag**	**3.64**	**242**	*i* P	**Pn**	**07 37 06.8**	**-1.3**
KAHT				*i* S	**Sn**	**07 38 03.4**	**+12**
GAZ	**Gaziantep**	**3.67**	**234**	PN	**Pn**	**07 37 07.5**	**-1.0**
GAZ	**Gaziantep**	**3.67**	**234**	Pn	**Pn**	**07 37 06.5**	**-2.1**
ONI	**Oni**	**3.71**	**30**	P	**Pn**	**07 37 09.7**	**+0.6**
ONI				S	**Sn**	**07 38 10.0**	**+16**
TI2	**Plekhanov**	**3.73**	**50**⇑	*i*P	**Pn**	**07 37 10.0**	**+0.7**
TI2				*i*		07 37 44.0	
TI2				pmax	pmax		
	comp=N,130nm,0.8s						
TI2				pmax	pmax		
	comp=E,130nm,0.8s						
TI2				pmax	pmax		
	comp=Z,500nm,0.8s						
TI2				pmax	pmax		
	comp=Z,7μm,1.5s						
TI2				pmax	pmax		
	comp=N,2μm,7.0s						
TI2				pmax	pmax		
	comp=E,4μm,7.0s						
TI2				pmax	pmax		
	comp=Z,32μm,1.5s						
TI2				MLR	MLR		
	comp=N,40μm,3.5s						
TI2				MLR	MLR		
	comp=E,21μm,3.5s						
TI2				MLR	MLR		
	comp=Z,35μm,3.5s						
TI2	**Plekhanov**	**3.73**	**50**	*i* P	**Pn**	**07 37 10.0**	**+0.7**
	comp=Z,32μm,1.5s						
MTA	**Mtatsminda**	**3.73**	**51**	P	**Pn**	**07 37 09.6**	**+0.2**
MTA				S	**Sn**	**07 38 10.0**	**+16**
DUS	**Dusheti**	**3.93**	**45**	P	**Pn**	**07 37 12.4**	**+0.2**
DUS				S	Px	07 37 15.7	
BNN	**Bunyan**	**4.00**	**264**	PN	**Pn**	**07 37 13.1**	**-0.1**
BNN	**Bunyan**	**4.00**	**264**	Pn	**Pn**	**07 37 13.2**	**0.0**
ZEI	**Tsey**	**4.05**	**33**	*i* P	**Pn**	**07 37 15.5**	**+1.6**
ZEI				*e*		07 38 04.8	
ZEI				pmax	pmax		
	comp=Z,85nm,0.2s						
ZEI				smax			
	comp=N,3μm,1.0s						
ZEI	**Tsey**	**4.05**	**33**	*i* P	**Pn**	**07 37 15.5**	**+1.6**
	comp=N,3μm,1.0s						
ZEI				*e*S	**Sn**	**07 38 04.8**	**+2.7**
KVT	**Kavak**	**4.11**	**296**	PN	**Pn**	**07 37 15.1**	**+0.4**
KVT	**Kavak**	**4.11**	**296**	Pn	**Pn**	**07 37 15.1**	**+0.4**
SOC	**Sochi**	**4.29**	**348**	*i* P	**Pn**	**07 37 16.9**	**-0.4**
SOC				*e*		07 38 06.4	
SOC				pmax	pmax		
	comp=Z,2μm,1.2s						
SOC				pmax	pmax		
	comp=N,2μm,1.3s						
SOC				pmax	pmax		
	comp=E,516nm,0.7s						
SOC				MLR	MLR		
	comp=Z,31μm,11.0s						
SOC				MLR	MLR		
	comp=N,48μm,12.0s						
SOC				MLR	MLR		
	comp=E,66μm,12.0s						
SOC	**Sochi**	**4.29**	**348**⇓	*i*P	**Pn**	**07 37 16.8**	**-0.5**
SOC	**Sochi**	**4.29**	**348**	*i* P	**Pn**	**07 37 16.9**	**-0.4**
	comp=E,2μm,1.3s						
SOC				*e*S	**Sn**	**07 38 06.4**	**-1.8**
	comp=E,31μm,11.0s						
COBT	**Iskenderun**	**4.68**	**234**	*i* P	**Pn**	**07 37 21.8**	**-1.0**
COBT				*i* S	**Sn**	**07 38 37.4**	**+19**
CEYT	**Ceyhan**	**4.73**	**242**	*e*PN	**Pn**	**07 37 23.5**	**0.0**
CEYT	**Ceyhan**	**4.73**	**242**	Pn	**Pn**	**07 37 23.6**	**+0.1**
KIV	**Kislovodsk**	**4.75**	**15**	*ce*P	**Pn**	**07 37 24.2**	**+0.4**
KIV				*i*		07 38 11.5	
KIV				pmax	pmax		
	comp=Z,130nm,0.6s						
KIV				MLR	MLR		
	comp=Z,44μm,18.0s						
KIV	**Kislovodsk**	**4.75**	**15**	*e*P	**Pn**	**07 37 24.5**	**+0.7**
KIV	**Kislovodsk**	**4.75**	**15**	*e*P	**Pn**	**07 37 24.2**	**+0.4**
	comp=Z,130nm,0.6s						
AVNT	**Avonos**	**4.77**	**265**	*i* P	**Pn**	**07 37 23.5**	**-0.7**
AVNT				*i* S	Sn	07 38 44.1	+24
CTKT	**Corum**	**4.88**	**287**	*i* P	**Pn**	**07 37 26.2**	**+0.5**
CTKT				*i* S	Sn	07 38 49.2	+26
CORM	**Corum**	**4.93**	**281**	*e*PN	**Pn**	**07 37 25.7**	**-0.6**
HTY	**Hatay**	**5.01**	**231**	*e*PN	**Pn**	**07 37 26.7**	**-0.8**
HTY	**Hatay**	**5.01**	**231**	Pn	**Pn**	**07 37 26.3**	**-1.2**
BOYT	**Boyabat**	**5.04**	**296**	*i* P	**Pn**	**07 37 28.9**	**+1.0**
BOYT				*i* S	**Sn**	**07 38 35.4**	**+8.4**
BYBT	**Boyabat**	**5.15**	**296**	*e*PN	**Pn**	**07 37 29.7**	**+0.2**
BYBT	**Boyabat**	**5.15**	**296**	Pn	**Pn**	**07 37 29.8**	**+0.3**
TOS	**Tosya**	**5.55**	**289**	*e*PN	**Pn**	**07 37 34.5**	**-0.6**
TOS	**Tosya**	**5.55**	**289**	Pn	**Pn**	**07 37 37.1**	**+2.0**
KAMT	**Kaman**	**5.60**	**272**	*e*PN	**Pn**	**07 37 35.3**	**-0.5**
KAMT	**Kaman**	**5.60**	**272**	Pn	**Pn**	**07 37 35.3**	**-0.5**
DBC	**Dubki**	**5.74**	**49**	P	**Pn**	**07 37 38.8**	**+1.1**
CANT	**Cankiri**	**5.75**	**285**	*e*PN	**Pn**	**07 37 37.8**	**-0.2**
CANT	**Cankiri**	**5.75**	**285**	Pn	**Pn**	**07 37 37.8**	**-0.1**
BUJR	**Buynaksk**	**5.79**	**52**	P	**Pn**	**07 37 31.5**	**-7.0**
URKR	**Urkarakh**	**5.79**	**59**	P	**Pn**	**07 37 40.0**	**+1.5**
BZK	**Bozkurt**	**5.87**	**298**	*e*PN	**Pn**	**07 37 39.9**	**+0.3**
BZK	**Bozkurt**	**5.87**	**298**	Pn	**Pn**	**07 37 40.0**	**+0.4**
GOF	**Gofitskoye**	**5.88**	**15**⇓	*i*P	**Pn**	**07 37 40.0**	**+0.3**
GOF				*i* S	**Sn**	**07 38 50.0**	**+1.9**
GOF				pmax	pmax		
	comp=Z,120nm,1.3s						
GOF				pmax	pmax		
	comp=Z,200nm,1.2s						
GOF				smax			
	comp=N,3.0nm,1.3s						
GOF				MLR	MLR		
	comp=N,80μm,16.0s						
GOF				MLR	MLR		
	comp=E,80μm,16.0s						
GOF				MLR	MLR		
	comp=Z,55μm,16.0s						
GOF	**Gofitskoye**	**5.88**	**15**	*i* P	**Pn**	**07 37 40.0**	**+0.3**
	comp=Z,3.0nm,1.3s						
GOF				*i* S	**Sn**	**07 38 50.0**	**+1.9**
ELDT	**Eldivan**	**5.88**	**283**	*i* P	**Pn**	**07 37 39.5**	**-0.3**
ELDT				*i* S	Sn	07 39 16.9	+29
ANN	**Anapa**	**6.00**	**335***d*	*i*P	**Pn**	**07 37 40.9**	**-0.6**
ANN				*e*S	**Sn**	**07 38 51.0**	**-0.3**
ANN				pmax	pmax		
	comp=Z,294nm,1.3s						
ANN				MLR	MLR		
	comp=N,25μm,17.0s						
ANN				MLR	MLR		
	comp=E,26μm,17.0s						
ANN				MLR	MLR		
	comp=Z,30μm,17.0s						
ANN	**Anapa**	**6.00**	**335**⇑	*i*P	**Pn**	**07 37 40.8**	**-0.7**
ANN	**Anapa**	**6.00**	**335**	*i* P	**Pn**	**07 37 40.9**	**-0.6**
	comp=Z,294nm,1.3s						
ANN				*e*S	**Sn**	**07 38 51.0**	**-0.3**
MAK	**Makhachkala**	**6.11**	**52***d*	*i*P	**Pn**	**07 37 45.0**	**+2.1**
MAK				*i* S	**Sn**	**07 38 48.3**	**-5.5**
MAK				pmax	pmax		
	comp=Z,1μm,3.0s						
MAK				pmax	pmax		
	comp=Z,600nm,1.5s						
MAK				pmax	pmax		
	comp=N,660nm,1.0s						
MAK				pmax	pmax		
	comp=E,660nm,1.0s						
MAK				smax			
	comp=N,9μm,6.8s						
MAK				smax			
	comp=E,22μm,6.8s						
MAK				MLR	MLR		
	comp=N,55μm,7.0s						
MAK				MLR	MLR		
	comp=E,27μm,7.0s						
MAK				MLR	MLR		
	comp=Z,85μm,7.0s						
MAK	**Makhachkala**	**6.11**	**52**⇑	*i*P	**Pn**	**07 37 44.1**	**+1.2**
BALT	**Daday**	**6.15**	**293**	*i* P	**Pn**	**07 37 44.4**	**+0.8**
BALT				*i* S	Sn	07 39 19.9	+25
ANTO	**Ankara**	**6.31**	**277**	*e*PN	**Pn**	**07 37 45.5**	**-0.3**
ANTO	**Ankara**	**6.31**	**277**	Pn	**Pn**	**07 37 47.4**	**+1.5**
ANTO	**Ankara**	**6.31**	**277**	P	**Pn**	**07 37 47.4**	**+1.6**
LOD	**Lodumlu**	**6.33**	**277**	*e*PN	**Pn**	**07 37 46.4**	**+0.2**
LOD	**Lodumlu**	**6.33**	**277**	Pn	**Pn**	**07 37 47.9**	**+1.7**
HWQ	**Hawqa**	**6.48**	**220**	*e*PN	**Pn**	**07 37 46.7**	**-1.6**
SAFT	**Safranbolu**	**6.57**	**289**	*e*PN	**Pn**	**07 37 49.8**	**+0.2**
SAFT	**Safranbolu**	**6.57**	**289**	Pn	**Pn**	**07 37 50.5**	**+0.9**
BHD	**Baghdad**	**6.71**	**155**	*i* Pn	**Pn**	**07 37 49.0**	**-2.4**
BHD				*i* Pb	**Pb**	**07 38 06.0**	**-0.9**
BHD				*i* Sn	**Sn**	**07 39 16.0**	**+7.2**
BHD				*i* Sb	**Sb**	**07 39 42.0**	**+14**
KONT	**Konya--Tatoy**	**6.87**	**261**	*e*PN	**Pn**	**07 37 53.2**	**-0.5**
KONT	**Konya--Tatoy**	**6.87**	**261**	Pn	**Pn**	**07 37 54.8**	**+1.1**
BHL	**Bhannes**	**6.93**	**219**	*e*PN	**Pn**	**07 37 52.9**	**-1.7**
BHL	**Bhannes**	**6.93**	**219**	*e*Pn	**Pn**	**07 37 52.8**	**-1.7**
PHNC	**Paralimni**	**7.04**	**234**	P	**Pn**	**07 37 57.5**	**+1.4**
	comp=Z,35nm,1.6s						
KIZT	**Kizilcal**	**7.06**	**269**	*e*PN	**Pn**	**07 37 55.9**	**-0.5**
KIZT	**Kizilcal**	**7.06**	**269**	Pn	**Pn**	**07 37 56.0**	**-0.5**
KIZT	**Kizilcal**	**7.06**	**269**	Pn	**Pn**	**07 37 56.0**	**-0.4**
HDMB	**Hadim**	**7.09**	**253**	*e*PN	**Pn**	**07 37 56.5**	**-0.3**
HDMB	**Hadim**	**7.09**	**253**	Pn	**Pn**	**07 37 58.2**	**+1.4**
KSDI	**Kefar Szold**	**7.51**	**216**	P	**Pn**	**07 38 03.1**	**+0.4**
CSS	**Prodhromos**	**7.51**	**236**	P	**Pn**	**07 38 02.2**	**-0.5**
SIM	**Simferopol'**	**7.52**	**320**	*e*P	**Pn**	**07 38 06.0**	**+3.1**
SIM				*e*S	**Sn**	**07 39 35.0**	**+5.8**
SIM				pmax	pmax		
	comp=Z,142nm,0.8s						
SIM	**Simferopol'**	**7.52**	**320**	*e*P	**Pn**	**07 38 01.0**	**-1.9**
MDU	**Mudurnu**	**7.55**	**281**	*e*PN	**Pn**	**07 38 03.1**	**-0.2**
MDU	**Mudurnu**	**7.55**	**281**	Pn	**Pn**	**07 38 03.1**	**-0.2**
KSHT	**Keshet**	**7.62**	**215**	P	**Pn**	**07 38 02.9**	**-1.3**
LEF	**Lefka**	**7.70**	**239**	*e*PN	**Pn**	**07 38 05.0**	**-0.4**
ESKT	**Eskisehir**	**7.81**	**274**	*e*PN	**Pn**	**07 38 06.1**	**-0.8**
ESKT	**Eskisehir**	**7.81**	**274**	Pn	**Pn**	**07 38 07.1**	**+0.2**
ESKT	**Eskisehir**	**7.81**	**274**	Pn	**Pn**	**07 38 07.1**	**+0.2**
HNTI	**Hanita**	**7.83**	**218**	P	**Pn**	**07 38 08.1**	**+1.0**
ALFC	**Alevga**	**7.88**	**240**	P	**Pn**	**07 38 06.2**	**-1.6**
	comp=Z,5.1nm,1.0s						
ASF	**Jabal al Asfar**	**7.91**	**206**	Pn	**Pn**	**07 38 06.9**	**-1.4**
	comp=Z,3.1nm,0.3s,baz=252,slow=5.9,SNR=29						
ASF				Lg		07 40 26.9	
	comp=Z,12nm,0.3s,baz=78,slow=23,SNR=3.9						
ASF				LR	LR	07 41 09.4	
	comp=Z,10μm,18.7s,baz=258,slow=38						
SZAC	**Souni-Zanaja**	**7.93**	**237**	P	**Pn**	**07 38 08.0**	**-0.5**
	comp=Z,24nm,1.7s						
HAF	**Haifa**	**8.15**	**218**	P	**P**	**07 38 12.4**	**+0.8**
MMLI	**Mount Malkishu**	**8.25**	**215**	P	**P**	**07 38 13.5**	**+0.4**
OFRI	**'Ofer**	**8.30**	**217**	P	**P**	**07 38 15.4**	**+1.7**
ISP	**Isparta**	**8.31**	**263**	*e*PN	**P**	**07 38 12.6**	**-1.3**
ISP	**Isparta**	**8.31**	**263**	Pn	**P**	**07 38 14.2**	**+0.3**
ISP	**Isparta**	**8.31**	**263**	Pn	**P**	**07 38 14.2**	**+0.3**
ISP	**Isparta**	**8.31**	**263**	P	**P**	**07 38 15.5**	**+1.6**
BCK	**Bucak**	**8.35**	**260**	*e*PN	**P**	**07 38 13.2**	**-1.2**
BCK	**Bucak**	**8.35**	**260**	Pn	**P**	**07 38 13.2**	**-1.2**
ALT	**Altintas**	**8.41**	**271**	*e*PN	**P**	**07 38 14.2**	**-1.1**
ALT	**Altintas**	**8.41**	**271**	Pn	**P**	**07 38 15.6**	**+0.3**
ALT	**Altintas**	**8.41**	**271**	Pn	**P**	**07 38 15.6**	**+0.3**
ANTB	**Antalya**	**8.48**	**256**	*e*PN	**P**	**07 38 14.9**	**-1.3**
HRT	**Hereke**	**8.76**	**283**	*e*PN	**P**	**07 38 18.7**	**-1.4**
HRT	**Hereke**	**8.76**	**283**	Pn	**P**	**07 38 19.1**	**-1.0**
HRT	**Hereke**	**8.76**	**283**	Pn	**P**	**07 38 19.1**	**-1.0**
YLV	**Yalova**	**8.96**	**281**	*e*PN	**P**	**07 38 22.0**	**-0.9**
DRGI	**Dragot**	**8.99**	**212**	P	**P**	**07 38 24.2**	**+0.8**
ELL	**Elmali**	**9.09**	**257**	*e*PN	**P**	**07 38 23.4**	**-1.3**
ELL	**Elmali**	**9.09**	**257**	Pn	**P**	**07 38 23.5**	**-1.2**
ELL	**Elmali**	**9.09**	**257**	Pn	**P**	**07 38 23.5**	**-1.2**
ISK	**Istanbul-Kandi**	**9.24**	**284**	*e*PN	**P**	**07 38 25.5**	**-1.3**
ISK	**Istanbul-Kandi**	**9.24**	**284**	Pn	**P**	**07 38 26.2**	**-0.6**
DENT	**Denizli**	**9.47**	**264**	*e*PN	**P**	**07 38 28.2**	**-1.7**
DENT	**Denizli**	**9.47**	**264**	Pn	**P**	**07 38 29.8**	**-0.1**
DENT	**Denizli**	**9.47**	**264**	Pn	**P**	**07 38 29.8**	**-0.1**
KSL	**Kastellorizon**	**9.55**	**254**	*e*P	**P**	**07 38 35.5**	**+4.4**
FETY	**Fethiye**	**9.75**	**257**	*e*PN	**P**	**07 38 32.5**	**-1.3**
RTMM	**Retamin**	**9.76**	**213**	P	**P**	**07 38 34.9**	**+1.0**
MASH	**Mash'abbe Sade**	**9.77**	**213**	P	**P**	**07 38 34.6**	**+0.6**
KZIT	**Kziot**	**10.01**	**214**	P	**P**	**07 38 38.6**	**+1.2**
DALT	**Dalyan (Mudla)**	**10.05**	**259**	*e*PN	**P**	**07 38 35.9**	**-2.0**
DALT	**Dalyan (Mudla)**	**10.05**	**259**	Pn	**P**	**07 38 37.5**	**-0.4**
BALB	**Balikesir**	**10.10**	**276**	*e*PN	**P**	**07 38 37.4**	**-1.1**

BALB	Balikesir	10.10	276	Pn	P	07 38 38.2	-0.4
BALB	Balikesir	10.10	276	Pn	P	07 38 38.2	-0.3
MRMT	Marmara Adasi	10.31	281	ePN	P	07 38 40.0	-1.5
MRMT	Marmara Adasi	10.31	281	Pn	P	07 38 41.1	-0.4
PSN	Preselentsi	10.48	298	eP	P	07 38 43.0	-0.8
MFT	Murefte	10.56	282	ePN	P	07 38 43.5	-1.4
MFT	Murefte	10.56	282	Pn	P	07 38 44.9	0.0
MFT	Murefte	10.56	282	Pn	P	07 38 44.9	0.0
ARG	Arkhangelos	10.62	257	eP	P	07 38 44.9	-0.8
ARG	Arkhangelos	10.62	257	P	P	07 38 46.5	+0.8
IZM	Izmir	10.71	269	ePN	P	07 38 44.8	-2.1
IZM	Izmir	10.71	269	Pn	P	07 38 46.4	-0.5
CANB	Canakkale	10.71	278	ePN	P	07 38 45.2	-1.8
CANB	Canakkale	10.71	278	Pn	P	07 38 46.9	-0.1
CANB	Canakkale	10.71	278	Pn	P	07 38 46.9	-0.1
MBH	Mount Berech	10.78	209	P	P	07 38 48.5	+0.6
EIL	Elat	10.88	209	Pn	P	07 38 48.0	-1.3
	comp=Z,0.6nm,0.3s,baz=346,slow=11,SNR=15						
EIL				Lg		07 41 57.0	
	comp=Z,1.3nm,0.3s,baz=270,slow=20,SNR=2.6						
EIL				LR	LR	07 42 47.9	
	comp=Z,4µm,18.0s,baz=43,slow=36						
EIL	Elat	10.88	209	P	P	07 38 49.7	+0.5
PRD	Provadia	10.88	295	eP	P	07 38 50.0	+0.8
BLCB	Balcova	10.88	269	ePN	P	07 38 47.1	-2.2
BLCB	Balcova	10.88	269	Pn	P	07 38 48.3	-1.0
BLCB	Balcova	10.88	269	Pn	P	07 38 48.3	-1.0
BODT	Bodrum	10.97	262	ePN	P	07 38 49.1	-1.4
HARR	Harsova	11.03	303	P	P	07 38 52.0	+0.7
EDRB	Edirne	11.07	287	ePN	P	07 38 50.4	-1.4
EDRB	Edirne	11.07	287	Pn	P	07 38 50.5	-1.4
CFR	Carcaliu	11.11	306	P	P	07 38 52.0	-0.3
SMG	Samos	11.17	266	eP	P	07 38 53.2	-0.1
PRK	Paraskevi	11.37	274	eP	P	07 38 56.6	+0.7
KARP	Karpathos	11.60	255	eP	P	07 38 58.0	-1.1
KIS	Kishinev	11.66	315	eP	P	07 38 59.0	-0.8
KIS				eS	S	07 41 06.0	-5.3
KIS				MLR	MLR		
	comp=N,7µm,13.0s						
KIS				MLR	MLR		
	comp=Z,9µm,13.0s						
KIS				MLR	MLR		
	comp=E,12µm,16.0s						
RDO	Rodhopi	11.90	283	eP	P	07 39 03.7	+0.6
RDO	Rodhopi	11.90	283	P	P	07 39 04.4	+1.3
SZH	Strazhica	11.93	294	eP	P	07 39 04.0	+0.5
ISR	Istrita	12.10	303	P	P	07 39 09.4	+3.6
LIA	Limnos Island	12.16	277	eP	P	07 39 07.8	+1.1
VRI	Vrincioaia	12.30	306	P	P	07 39 08.4	-0.1
APE	Apeiranthos	12.34	264	ePN	P	07 39 06.8	-2.3
APE	Apeiranthos	12.34	264	Pn	P	07 39 08.3	-0.7
APE	Apeiranthos	12.34	264	eP	P	07 39 09.1	0.0
APE	Apeiranthos	12.34	264	P	P	07 39 10.3	+1.2
PVL	Pavlikeni	12.35	293	eP	P	07 39 13.0	+3.9
VOR	Voronezh	12.40	355	eP	P	07 39 07.0	-2.9
VOR				pmax	pmax		
	comp=N,630nm,1.6s						
VOR				pmax	pmax		
	comp=Z,370nm,1.6s						
VOR				pmax	pmax		
	comp=E,150nm,1.3s						
IAS	Iasi	12.47	313	P	P	07 39 12.6	+1.8
RZN	Rozhen	12.56	286	eP	P	07 39 13.0	+1.0
SANT	Santorini	12.60	261	⇑iP	P	07 39 11.3	-1.2
	comp=E,122nm,1.1s						
SANT	Santorini	12.60	261	⇑iP	P	07 39 11.4	-1.1
	comp=E,122nm,1.1s						
PLD	Plovdiv	12.61	288	eP	P	07 39 15.0	+2.3
THR3	Thira Island,	12.63	261	eP	P	07 39 12.9	0.0
MLR	Muntele Rosu	12.64	304	Pn	P	07 39 13.2	+0.2
	comp=E,0.3nm,0.3s,baz=74,slow=2.2,SNR=14						
MLR				LR	LR	07 44 47.4	
	comp=E,8µm,20.4s,baz=305,slow=41						
NPS	Neapolis	12.88	256	eP	P	07 39 15.5	-0.7
XRY	Khrisi	12.97	254	eP	P	07 39 17.0	-0.5
PGB	Panagyurishte	13.07	289	eP	P	07 39 21.0	+2.3
OUR	Ouranopolis	13.07	280	eP	P	07 39 20.8	+2.0
MTUR	Matau	13.11	302	P	P	07 39 20.6	+1.3
NVR	Nevrokopi	13.17	284	eP	P	07 39 21.9	+1.7
MMB	Musomiste	13.29	285	eP	P	07 39 23.0	+1.3
SRS	Serrai	13.37	283	eP	P	07 39 23.6	+0.9
IDI	Anoyia	13.41	257	Pn	P	07 39 23.5	+0.2
	comp=E,1.2nm,0.3s,baz=60,slow=9.5,SNR=12						
PLG	Polygyros	13.48	280	eP	P	07 39 25.9	+1.7
ATH	Athens Observa	13.54	269	eP	P	07 39 26.1	+1.2
NEO	Neokhori	13.72	275	eP	P	07 39 27.3	0.0
NSAL	Nisos Salamina	13.74	269	eP	P	07 39 28.5	+0.8
NAIG	Nisos Aigina	13.76	269	eP	P	07 39 28.0	+0.2
VTS	Vitosha	13.77	289	eP	P	07 39 29.0	+1.0
VTS	Vitosha	13.77	289	P	P	07 39 29.4	+1.4
KKB	Krupnik	13.79	286	eP	P	07 39 29.0	+0.8
THE	Thessaloniki	13.84	281	eP	P	07 39 30.3	+1.4
VAM	Vamos	13.89	259	eP	P	07 39 27.7	-1.9
LKR	Lokris	13.97	273	eP	P	07 39 31.1	+0.4
AKASG	Malin Array Be	14.00	328	Pn	P	07 39 26.8	-4.2
	comp=E,6.8nm,0.3s,baz=132,slow=14,SNR=145						
AKASG	Malin Array Be	14.00	328	Pn	P	07 39 26.8	-4.2
BURAR	Bucovina Array	14.05	311	P	P	07 39 30.1	-1.5
BURAR	Bucovina Array	14.05	311	P	P	07 39 30.1	-1.5
VAY	Valandovo	14.14	284	⇓iP	P	07 39 35.2	+2.3
VAY				iS	S	07 42 35.2	+24
VAY				i		07 44 06.4	
GVD	Gavdhos	14.19	257	eP	P	07 39 33.0	-0.6
	comp=E,317nm,1.1s						
GVD	Gavdhos	14.19	257	eP	P	07 39 33.0	-0.6
	comp=E,317nm,1.1s						
GRG	Griva	14.27	282	eP	P	07 39 36.6	+2.1
VLI	Veliai	14.44	265	eP	P	07 39 36.1	-0.7
KYTH	Kithira	14.49	263	eP	P	07 39 36.5	-0.9
KZN	Kozani	14.76	280	eP	P	07 39 41.4	+0.4
BARS	Barje	14.81	290	⇑iP	P	07 39 44.2	+2.6
EVR	Evrytania	14.86	274	eP	P	07 39 43.1	+0.8
BOLS	Boljevac	14.87	293	⇓iP	P	07 39 45.5	+3.1
SKO	Skopje	15.02	286	⇑iP	P	07 39 48.2	+3.8
SKO				pmax	pmax		
	comp=Z,330nm,1.7s						
SKO	Skopje	15.02	286	⇑iP	P	07 39 48.2	+3.8
	comp=Z,0.3nm,1.7s						
SKO				i		07 44 10.1	
SKO				i		07 44 34.7	
FNA	Florina	15.04	282	eP	P	07 39 45.9	+1.2
RLS	Riolos of Patr	15.26	271	eP	P	07 39 49.0	+1.4
OHR	Ohrid	15.48	283	⇓iP	P	07 39 51.8	+1.4
OHR				⇓i		07 39 55.9	
OHR				iS	S	07 42 57.6	+15
OHR				iPcP	PcP	07 44 49.2	-5.2
SVIS	Svilajnac	15.48	295	⇑iP	P	07 39 50.9	+0.5
JAN	Janina	15.51	277	eP	P	07 39 54.0	+3.2
GRUS	Gruza	15.77	293	⇑iP	P	07 39 57.4	+3.3
LVV	L'vov	15.89	317	eP	P	07 39 57.0	+1.3
LVV				eS	S	07 42 58.0	+5.8
VLS	Valsamata	15.92	272	eP	P	07 39 56.8	+0.7
IGT	Igoumenitsa	15.92	277	eP	P	07 39 56.7	+0.6
OBN	Obninsk	16.01	351	Pn	P	07 39 55.9	-1.2
	comp=Z,2µm,0.9s,SNR=38						
OBN	Obninsk	16.01	351	⇑iP	P	07 39 55.4	-1.7
OBN				eS	S	07 42 48.7	-6.1
OBN				pmax	pmax		
	comp=Z,508nm,1.0s						
OBN				MLR	MLR		
	comp=Z,7µm,13.0s						
OBN	Obninsk	16.01	351	⇓eP	P	07 39 54.4	-2.7
	comp=Z,441nm,0.9s						
OBN	Obninsk	16.01	351	iP	P	07 39 55.4	-1.7
	comp=Z,508nm,1.0s						
BEO	Belgrade	16.13	296	⇑iP	P	07 40 00.3	+1.6
PVY	Plav	16.15	288	⇓iP	P	07 40 01.6	+2.6
QSH	Qafa e Shtames	16.15	284	ip	P	07 40 01.4	+2.4
IVA	Berane	16.23	289	⇓iP	P	07 40 03.4	+3.4
UZH	Uzhgorod	16.25	311	eP	P	07 39 59.0	-1.3
KEK	Kerkira	16.31	278	eP	P	07 40 01.0	-0.1
DIVS	Divcibare	16.32	294	⇑iP	P	07 40 04.3	+3.2
KOLS	Kolonicke sedl	16.41	312	ePN	P	07 40 00.6	-1.6
KOLS				e		07 40 09.3	
MOS	Moscow	16.51	353	⇓iP	P	07 40 01.6	-1.9
KWP	Kalwaria	16.51	314	eP	P	07 40 01.7	-1.9
KWP				epP		07 40 07.5	
KWP				epP		07 40 36.2	
KWP				MLR	MLR	07 49 02.2	
	comp=Z,6µm,19.3s						
PLE	Pljevlja	16.64	291	⇓iP	P	07 40 09.9	+4.7
ULC	Ulcinj	16.65	286	⇓iP	P	07 40 09.9	+4.5

TTG	Podgorica	16.66	287	⇓iP	P	07 40 10.2	+4.7
BBLS	Bajina Basta -	16.70	293	⇑iP	P	07 40 08.6	+2.7
CRVS	Cervenica-Dubn	16.87	311	eP	P	07 40 09.9	+1.8
CRVS				e		07 40 16.9	
CRVS				eS	S	07 43 25.2	+10
NKY	Niksic	16.88	289	⇓iP	P	07 40 11.8	+3.5
BUM	Brajici-Budva	16.93	287	⇓iP	P	07 40 12.9	+4.1
UPM	Unac-Piva	16.98	290	⇓iP	P	07 40 12.2	+2.7
PECR	Pechory	17.07	6	eP	P	07 40 09.4	-1.1
PECR				eS	S	07 43 17.4	-1.9
PECR				pmax	pmax		
	comp=Z,3µm,2.0s						
PECR				pmax	pmax		
	comp=Z,2µm,4.0s						
PECR				smax			
	comp=N,4µm,4.0s						
PECR				smax			
	comp=E,12µm,4.0s						
PECR				MLR	MLR		
	comp=Z,13µm,16.0s						
PECR				MLR	MLR		
	comp=N,8µm,15.0s						
PECR				MLR	MLR		
	comp=E,15µm,16.0s						
PECR	Pechory	17.07	6	eP	P	07 40 09.4	-1.1
	comp=E,2µm,4.0s						
BRY	Bratogost	17.22	289	⇓iP	P	07 40 13.9	+1.3
HCY	Herceg Novi	17.23	287	⇓iP	P	07 40 14.7	+2.0
KECS	Kecovo	17.27	308	ePN	P	07 40 12.4	-0.7
PSZ	Piszkesteto	17.41	306	P	P	07 40 15.9	+1.0
PSZ	Piszkesteto	17.41	306	⇓eP	P	07 40 15.3	+0.4
PSZ	Piszkesteto	17.41	306	eP	P	07 40 14.9	0.0
	comp=E,739nm,1.8s						
MNK	Minsk	17.52	334	⇑eP	P	07 40 10.0	-6.2
LCI	Lecce	17.55	280	eP	P	07 40 19.5	+2.8
PKSM	Moragy	17.70	300	P	P	07 40 19.2	+0.7
PKSM	Moragy	17.70	300	⇓iP	P	07 40 18.4	-0.1
NIE	Niedzica	17.77	311	eP	P	07 40 16.8	-2.6
STON	Ston	17.84	289	iP	P	07 40 22.0	+1.8
RHK1	Bakonya	18.05	299	eP	P	07 40 23.2	+0.3
VYHS	Vyhne	18.29	307	iP	P	07 40 25.3	-0.5
VYHS				eS	S	07 43 58.4	+11
SRO	Srobarova	18.38	305	eP	P	07 40 27.6	+0.7
SRO1	Iza	18.41	304	eP	P	07 40 28.7	+1.3
SRO1				esP		07 40 40.1	
OJC	Ojcow	18.44	313	⇓iP	P	07 40 25.1	-2.6
OJC				eS	S	07 43 57.6	+7.1
OJC	Ojcow	18.44	313	⇓iP	P	07 40 25.1	-2.6
OJC				epP		07 40 28.1	
OJC				ePP	PP	07 40 39.7	-3.5
OJC				eS	S	07 43 57.6	+7.1
OJC				MLR	MLR	07 49 45.7	
	comp=E,5µm,19.8s						
LTRZ	Laterza	18.51	281	eP	P	07 40 28.7	0.0
LTRZ	Laterza	18.51	281	eP	P	07 40 28.7	0.0
IDID	Didziasalis	18.55	334	eP	P	07 40 26.0	-3.0
IDID				AMb	AMB	07 40 35.3	
	comp=Z,64nm,1.2s						
IDID	Didziasalis	18.55	334	eP	P	07 40 26.0	-3.1
	comp=Z,64nm,1.2s,SNR=40						
KOLL	Kolacno	18.58	307	iP	P	07 40 29.1	-0.4
KOLL				esP		07 40 34.5	
KOLL				e		07 40 44.2	
TIP	Timpagrande	18.71	277	⇑eP	P	07 40 28.7	-2.5
TIP	Timpagrande	18.71	277	⇑eP	P	07 40 28.7	-2.4
IIGN	Ignalina	18.76	333	eP	P	07 40 28.1	-3.5
IIGN				AMb	AMB	07 40 34.2	
	comp=Z,44nm,1.1s						
WAR	Warsaw	18.84	320	eP	P	07 40 31.0	-1.5
WAR				epP		07 40 37.7	
WAR				eS	S	07 44 10.3	+11
WAR	Warsaw	18.84	320	eP	P	07 40 31.0	-1.6
WAR				epP		07 40 37.7	
WAR				eS	S	07 44 10.3	+11
WAR				MLR	MLR	07 49 12.9	
	comp=Z,9µm,18.7s						
ORI	Oriolo Calabro	18.84	280	P	P	07 40 34.1	+1.4
SUW	Suwalki	18.95	326	eP	P	07 40 32.2	-1.7
SUW				epP		07 40 36.2	
SUW				eS	S	07 44 08.7	+6.6
SUW	Suwalki	18.95	326	eP	P	07 40 32.2	-1.7
SUW				eS	S	07 44 08.7	+6.6
SUW				MLR	MLR	07 48 48.1	
	comp=Z,5µm,19.3s						
ISAL	Salakas	18.97	333	eP	P	07 40 30.5	-3.5
ISAL				AMb	AMB	07 40 34.1	
	comp=Z,42nm,1.4s						
GRI	Girifalco	19.03	276	P	P	07 40 35.1	+0.2
IZAR	Zarasai	19.07	334	eP	P	07 40 32.0	-3.3
SISC	Sisak	19.09	297	iP	P	07 40 36.8	+1.2
FGMS	Monte Sant'Ang	19.11	285	eP	P	07 40 35.6	-0.3
JAVC	Velka Javorina	19.14	307	P	P	07 40 37.1	+1.0
SMOL	Smolenice	19.17	306	eP	P	07 40 36.9	+0.4
SMOL				esP		07 40 41.9	
SMOL				e		07 40 50.7	
OKC	Ostrava-Krasne	19.23	310	⇓iP	P	07 40 34.8	-2.4
OKC				eS	S	07 44 10.3	+2.0
OKC				AMS	AMS	07 50 10.0	
	comp=Z,7µm,14.2s						
ZST	Bratislava	19.27	305	eP	P	07 40 37.6	-0.1
ZST				eS	S	07 44 17.7	+8.4
ZST	Bratislava	19.27	305	eP	P	07 40 37.6	-0.1
ZST				esP		07 40 48.0	
ZST				eS	S	07 44 17.7	+8.4
ZST				eL		07 50 06.4	
RAC	Raciborz	19.30	311	eP	P	07 40 36.8	-1.2
RAC				eS	S	07 44 16.6	+6.6
RAC				MLR	MLR	07 49 10.5	
RAC				MLR	MLR	07 49 57.7	
RAC				LME		07 50 02.8	
RAC				LMN		07 50 13.5	
	comp=Z,16µm,16.5s						
CUC	Castrocucco	19.33	280	P	P	07 40 38.8	+0.3
KOGS	Kog	19.36	299	eP	P	07 40 39.8	+1.0
RGNG	Rignano Grg	19.39	285	eP	P	07 40 38.8	-0.4
RGNG	Rignano Grg	19.39	285	eP	P	07 40 38.8	-0.3
SOI	Samo	19.45	274	eP	P	07 40 39.9	+0.1
FG4	Candela	19.46	283	eP	P	07 40 39.4	-0.6
SOP	Sopron	19.47	303	P	P	07 40 40.4	+0.4
MRLC	Muro Lucano	19.51	282	eP	P	07 40 32.7	-7.8
MRLC				P		07 40 40.4	
MRLC	Muro Lucano	19.51	282	P	P	07 40 40.4	-0.1
MORC	Moravsky Berou	19.56	310	⇓eP	P	07 40 38.9	-2.1
	comp=Z,381nm,1.8s						
MORC	Moravsky Berou	19.56	310	P	P	07 40 39.9	-1.1
FG5	Orsara di Pugl	19.64	284	eP	P	07 40 42.1	+0.1
SGO	Sicignano	19.66	282	eP	P	07 40 42.3	0.0
SCLL	Scilla	19.68	275	eP	P	07 40 41.2	-1.2
SCLL	Scilla	19.68	275	eP	P	07 40 41.2	-1.2
MTTG	Motta San Giov	19.74	274	eP	P	07 40 41.2	-1.9
MTTG	Motta San Giov	19.74	274	eP	P	07 40 41.2	-2.0
VKA	Vienna	19.79	305	⇑iP	P	07 40 44.8	+1.2
	comp=Z,2µm,3.0s						
VKA	Vienna	19.79	305	⇑iP	P	07 40 44.8	+1.2
VKA				pmax	pmax		
	comp=Z,2µm,3.0s						
MSI	Messina ING	19.81	275	eP	P	07 40 43.4	-0.5
CSSN	Cassano Irpino	19.86	283	eP	P	07 40 42.9	-1.5
CSSN	Cassano Irpino	19.86	283	eP	P	07 40 42.9	-1.5
BOJS	Bojanci	19.87	296	eP	P	07 40 45.7	+1.2
BOJS				eS	S	07 44 25.9	+3.3
MRB1	Monte Rocchett	19.88	283	P	P	07 40 45.4	+0.8
CIGN	Sant'Elia a Pi	19.90	285	P	P	07 40 44.9	0.0
VRAC	Vranov	19.96	308	P	P	07 40 44.6	-0.8
	comp=Z,0.3nm,0.3s,baz=112,slow=14,SNR=22						
VRAC	Vranov	19.96	308	P	P	07 40 45.1	-0.4
VRAC	Vranov	19.96	308	iP	P	07 40 44.5	-1.0
PSB1	Pescosannita	19.99	284	P	P	07 40 46.2	+0.3
KRUC	Moravsky	20.00	307	P	P	07 40 45.3	-0.6
ARSA	Arzberg	20.03	301	⇑iP	P	07 40 45.2	-1.1
	comp=Z,22nm,0.8s						
PERS	Pernice	20.17	299	eP	P	07 40 48.1	+0.4
AGST	Augusta-Monte	20.27	272	eP	P	07 40 46.0	-2.8
AGST	Augusta-Monte	20.27	272	eP	P	07 40 46.0	-2.8
SLNA	Salina	20.30	276	P	P	07 40 47.8	-1.3
CII	Carovilli	20.35	285	eP	P	07 40 49.5	-0.1
	comp=Z,570nm,1.1s						
MIDA	Miranda	20.39	285	P	P	07 40 50.6	+0.6
SSY	Sortino	20.41	272	P	P	07 40 49.4	-0.9
LJU	Ljubljana	20.46	298	eP	P	07 40 53.6	+2.9
LJU				eS	S	07 44 26.0	-8.8
RNI2	Rionero Sannit	20.46	285	P	P	07 40 50.6	-0.2

DPC	Dobruska-Polom	20.51	310	⇓iP	P	07 40 51.7	+0.5
DPC				eS	S	07 44 41.3	+5.6
DPC				AMS	AMS	07 51 00.0	
	comp=Z,10µm,14.2s						
MNO	Monte Soro	20.53	274	eP	P	07 40 50.5	-1.0
OBKA	Obir	20.53	299	⇑iP	P	07 40 53.7	+2.3
	comp=Z,20nm,0.9s						
INTR	Introdacqua	20.64	286	P	P	07 40 52.3	-0.3
SDI	San Donato	20.72	285	eP	P	07 40 53.0	-0.4
KSP	Ksiaz	20.72	312	⇓eP	P	07 40 52.0	-1.4
KSP				eS	S	07 44 44.5	+4.5
KSP				MLR	MLR		
	comp=Z,9µm,23.3s,MS5.1						
KSP	Ksiaz	20.72	312	eP	P	07 40 52.6	-0.8
KSP				eS	S	07 44 46.7	+6.7
KSP				MLR	MLR	07 49 41.6	
	comp=Z,8µm,23.3s,MS5.0						
UPC	Upice	20.75	311	⇓iP	P	07 40 52.0	-1.7
JAVS	Javornik	20.76	297	eP	P	07 40 55.2	+1.4
VAE	Valguarnera	20.85	273	P	P	07 40 55.6	+0.8
	comp=Z,68nm,0.8s,baz=50,slow=4.3,SNR=11						
VVLD	Villa Vallelon	20.85	286	P	P	07 40 54.3	-0.5
AOI	Ancona	20.86	290	P	P	07 40 55.5	+0.6
VOY	Vojsko	20.89	297	eP	P	07 40 55.0	-0.2
VOY				e		07 41 00.8	
TRI	Trieste	20.94	296	eP	P	07 40 58.8	+3.1
AQU	L'Aquila	21.00	287	P	P	07 40 56.6	+0.3
AQU	L'Aquila	21.00	287	eP	P	07 40 56.2	-0.1
AQU	L'Aquila	21.00	287	eP	P	07 40 56.2	-0.1
MOA	Molln	21.00	302	⇑iP	P	07 40 55.8	-0.5
	comp=Z,59nm,0.8s,mb5.0						
PTQR	Pietraquaria	21.01	286	eP	P	07 40 57.0	+0.5
CSLB	Castelbuono	21.02	275	eP	P	07 40 55.4	-1.2
CSLB	Castelbuono	21.02	275	eP	P	07 40 55.3	-1.3
GIB	Gibilmanna	21.03	275	eP	P	07 41 04.3	+7.6
GUAR	Guarcino	21.09	285	P	P	07 40 57.5	+0.3
DRE	Drenchia	21.09	298	⇓eP	P	07 40 57.0	-0.2
CING	Cingoli	21.16	290	P	P	07 40 57.6	-0.3
VSU	Vasula	21.17	339	iPr		07 40 56.3	
VSU	Vasula	21.17	339	iP	P	07 40 56.3	-1.6
WDD	Wield Dalam	21.19	269	P	P	07 40 59.4	+1.1
ROBS	Robic	21.19	298	eP	P	07 40 59.8	+1.6
NRCA	Norcia	21.21	288	eP	P	07 40 57.7	-0.8
NRCA	Norcia	21.21	288	eP	P	07 40 57.7	-0.7
FIAM	Fiamignano	21.21	287	P	P	07 40 59.4	+0.9
COLI	Coloredo	21.26	297	⇑eP	P	07 41 00.0	+1.0
PTCC	Patocco-Chiusa	21.32	298	eP	P	07 40 58.8	-0.8
PTCC	Patocco-Chiusa	21.32	298	eP	P	07 40 58.8	-0.8
CERT	Cerreto	21.33	286	P	P	07 40 59.7	+0.1
GKP	Gorka Klasztor	21.33	318	eP	P	07 40 58.6	-1.0
GKP				e*PP		07 41 02.6	
GKP				eS	S	07 45 04.9	+13
GKP				MLR	MLR		
	comp=Z,17µm,15.4s,MS5.5						
GKP	Gorka Klasztor	21.33	318	eP	P	07 40 58.6	-1.0
GKP				epP		07 41 02.6	
GKP				eS	S	07 45 04.8	+13
GKP				MLR	MLR	07 51 56.9	
	comp=Z,17µm,15.4s,MS5.5						
SNTG	Esanatoglia	21.34	289	eP	P	07 41 00.0	+0.2
ARV	Arcevia	21.34	290	eP	P	07 40 60.0	+0.2
ARV	Arcevia	21.34	290	eP	P	07 41 00.0	+0.2
BAD	Bernadia	21.37	298	⇑eP	P	07 40 59.0	-1.1
GMNA	Gemona	21.38	298	eP	P	07 41 00.4	+0.2
GMNA	Gemona	21.38	298	eP	P	07 41 00.4	+0.2
PESA	Pesaro	21.43	291	P	P	07 41 01.4	+0.7
PRU	Pruhonice	21.45	308	⇓iP	P	07 40 59.6	-1.2
PRU				eS	S	07 45 01.6	+7.7
PRU				AMS	AMS	07 51 50.0	
	comp=Z,8µm,14.0s						
KBA	Koelnbreinsper	21.45	300	⇓iP	P	07 41 00.0	-0.8
	comp=Z,81nm,0.8s,mb5.1						
KBA	Koelnbreinsper	21.45	300	⇓iP	P	07 41 00.0	-0.8
KBA				pmax	pmax		
	comp=Z,81nm,0.8s,mb5.1						
FSSB	Fossombrone	21.47	291	eP	P	07 41 02.0	+0.9
FSSB	Fossombrone	21.47	291	eP	P	07 41 02.0	+0.9
FAVR	Favara	21.47	273	eP	P	07 41 06.6	+5.4
PUL	Pulkovo	21.48	345	iP	P	07 41 00.4	-0.7
MNS	Montasola	21.54	287	eP	P	07 41 02.3	+0.5
PRA	Prague	21.54	308	⇓P	P	07 41 03.0	+1.3
PRA				AMS	AMS	07 52 00.0	
USI	Ustica	21.54	277	eP	P	07 41 02.0	+0.1
USI	Ustica	21.54	277	eP	P	07 41 02.0	+0.1
MPRI	Monte Prat	21.55	298	⇓eP	P	07 41 04.0	+2.1
BSY	Bisya	21.60	135	P	P	07 41 02.0	-0.5
	SNR=456						
ZOU	Zoufplan	21.61	298	⇑eP	P	07 41 02.0	-0.5
PVCC	Panska Ves	21.62	310	⇓iP	P	07 41 01.5	-1.0
PVCC				AMS	AMS	07 52 20.0	
	comp=Z,5µm,13.8s						
GEC2	GERESS Array S	21.62	305	eP	P	07 41 01.6	-1.0
GEC2				pmax	pmax		
	comp=Z,214nm,1.5s,mb5.3						
GEC2	GERESS Array S	21.62	305	eP	P	07 41 01.6	-1.0
	comp=Z,214nm,1.5s,mb5.3						
GERES	GERESS Array B	21.62	305	P	P	07 41 01.6	-1.0
	comp=Z,7.7nm,0.6s,mb4.3,baz=104,slow=11,SNR=50						
BSYO	Bisya	21.64	135	P	P	07 41 02.0	-0.9
	SNR=456						
MURB	Monte Urbino	21.64	290	P	P	07 41 04.5	+1.7
TAS	Tashkent	21.66	76	deP	P	07 41 01.0	-2.0
TAS				pmax	pmax		
	comp=Z,3µm,4.0s						
ROM9	Roma	21.68	286	P	P	07 41 05.1	+1.9
RSM	Repubblica di	21.71	291	eP	P	07 41 04.9	+1.4
SVE	Sverdlovsk	21.71	30	⇑iP	P	07 41 02.0	-1.5
SVE				e		07 41 38.0	
SVE				eS	S	07 45 02.0	+3.1
SVE				eSS	SS	07 45 48.0	+13
SVE				pmax	pmax		
	comp=Z,320nm,2.2s,mb5.4						
SVE				smax			
	comp=N,5µm,11.0s						
SVE				smax			
	comp=E,5µm,11.0s						
SVE	Sverdlovsk	21.71	30	iP	P	07 41 02.0	-1.5
	comp=E,320nm,2.2s,mb5.4						
FVI	Forni Avoltri	21.75	299	eP	P	07 41 03.8	0.0
KHC	Kasperske Hory	21.78	306	⇓iP	P	07 41 03.1	-1.1
KHC				e		07 41 07.0	
KHC				eS	S	07 45 05.5	+5.4
KHC				MLR	MLR		
	comp=Z,6µm,14.7s,MS5.1						
KHC	Kasperske Hory	21.78	306	⇓iP	P	07 41 03.1	-1.1
KHC				e		07 41 07.0	
KHC				e		07 41 19.5	
KHC				eS	S	07 45 05.5	+5.4
KHC				LR	LR		
	comp=Z,6µm,14.7s,MS5.1						
KHC	Kasperske Hory	21.78	306	⇓iP	P	07 41 03.1	-1.1
KHC				pP		07 41 07.0	
KHC				ex	x	07 41 19.5	
KHC				eS	S	07 45 05.5	+5.4
KHC				AMS	AMS	07 51 20.0	
	comp=Z,6µm,14.7s						
SMDO	Samad	21.82	133	P	P	07 41 04.3	-0.5
	SNR=268						
MMGO	Monte Magaggia	21.91	274	P	P	07 41 07.0	+1.4
TOLF	Tolfa	22.05	286	P	P	07 41 08.3	+1.4
CRE	Caprese Michel	22.07	290	eP	P	07 41 09.7	+2.6
BRG	Berggiesshubel	22.11	310	iP	P	07 41 06.7	-0.8
BRG				iS	S	07 45 15.0	+8.8
BRG				pmax	pmax		
	comp=Z,250nm,1.6s,mb5.4						
BRG				MLR	MLR		
	comp=Z,7µm,13.9s,MS5.2						
BRG	Berggiesshubel	22.11	310	iP	P	07 41 06.7	-0.8
	comp=Z,250nm,1.6s,mb5.4						
BRG				iS	S	07 45 15.0	+8.8
BRG				LR	LR		
	comp=Z,7µm,13.9s,MS5.2						
SFI	Santa Sofia	22.15	291	eP	P	07 41 10.6	+2.7
SEST	Monte Rota	22.15	299	P	P	07 41 08.0	+0.1
WET	Wettzell	22.23	305	eP	P	07 41 07.5	-1.1
WET				pmax	pmax		
	comp=Z,451nm,1.9s,mb5.6						
WET	Wettzell	22.23	305	eP	P	07 41 07.5	-1.1
	comp=Z,451nm,1.9s,mb5.6						
PGD	Poggio Sodo	22.24	291	eP	P	07 41 11.5	+2.7
VMG	Vicchio	22.37	291	eP	P	07 41 12.1	+2.0
CTI	Castel Tesino	22.45	297	eP	P	07 41 10.6	-0.2
BRES	Bressanone	22.47	299	P	P	07 41 12.3	+1.2

SEI Scarperia 22.51 292 *e*P **P** 07 41 15.5 +4.1
SOKR Solikamsk 22.56 21⇓*i*P **P** 07 41 11.8 0.0
SOKR *i* S **S** 07 45 17.4 +3.1
SOKR pmax pmax
comp=Z,230nm,1.2s,mb5.5
SOKR MLR MLR
comp=Z,5µm,18.0s,MS5.0
WATA Walderalm 22.68 300⇓*i*P **P** 07 41 13.4 +0.3
comp=Z,200nm,1.4s,mb5.3
WATA Walderalm 22.68 300⇓*i*P **P** 07 41 13.4 +0.3
WATA pmax pmax
comp=Z,200nm,1.4s,mb5.3
BERN Bernov 22.76 308⇓P **P** 07 41 24.5 +11
GRFL Gerfalco 22.77 289 *e*P **P** 07 41 19.7 +5.6
APPI Appiano 22.79 298 P **P** 07 41 16.2 +2.0
ZCCA Zocca 22.79 292 *e*P **P** 07 41 16.6 +2.4
NKC Novy Kostel 22.80 308⇓*i*P **P** 07 41 13.7 -0.5
NKC AMS AMS 07 52 20.0
comp=Z,8µm,13.8s
CLL Collm 22.82 311 *i*P **P** 07 41 13.9 -0.5
CLL *i* 07 41 18.3
CLL *e*S **S** 07 45 25.0 +6.0
CLL pmax pmax
comp=Z,183nm,1.5s,mb5.3
CLL MLR MLR
comp=Z,7µm,12.5s,MS5.3
CLL Collm 22.82 311 *i*P **P** 07 41 13.9 -0.5
comp=Z,183nm,1.5s,mb5.3
CLL *i* 07 41 18.3
CLL *e*S **S** 07 45 25.0 +6.0
CLL LR LR
comp=Z,7µm,12.5s,MS5.3
CLL Collm 22.82 311 P **P** 07 41 13.9 -0.5
comp=Z,logA/T=2.1,mb5.3
CLL *i* 07 41 18.3
CLL *e* 07 41 28.0
CLL *e*S **S** 07 45 25.0 +6.0
RUE Ruedersdorf 22.82 314 *e*P **P** 07 41 14.0 -0.4
comp=Z,618nm,1.5s,mb5.8
SQTA Sankt Quirin 22.91 300⇓*i*P **P** 07 41 14.9 -0.4
comp=Z,126nm,1.2s,mb5.2
SQTA Sankt Quirin 22.91 300⇓*i*P **P** 07 41 14.9 -0.4
SQTA pmax pmax
comp=Z,126nm,1.2s,mb5.2
MOTA Moosalm 23.00 300⇓*i*P **P** 07 41 15.4 -0.8
comp=Z,10nm,1.4s
MOTA Moosalm 23.00 300⇓*i*P **P** 07 41 15.4 -0.8
MOTA pmax pmax
comp=Z,10.0nm,1.4s
FUR Furstenfeldbru 23.03 302 *e*P **P** 07 41 16.1 -0.4
FUR pmax pmax
comp=Z,619nm,1.5s,mb5.8
FUR Furstenfeldbru 23.03 302 *e*P **P** 07 41 16.1 -0.4
comp=Z,619nm,1.5s,mb5.8
BDI Bagni Di Lucca 23.05 292 *e*P **P** 07 41 19.6 +2.8
GSCL Gusciola 23.07 292 *e*P **P** 07 41 19.9 +3.0
PII Pisa 23.10 291 *e*P **P** 07 41 18.9 +1.7
SAL Salo 23.18 295 *e*P **P** 07 41 20.6 +2.6
ERBM Eremo 23.20 292 *e*P **P** 07 41 20.6 +2.4
VLC Villacollemand 23.21 292 *e*P **P** 07 41 17.6 -0.7
comp=Z,244nm,1.4s,mb5.4
BRMO Bormio 23.38 298 *e*P **P** 07 41 20.9 +1.1
VINC Vinca 23.38 292 P **P** 07 41 19.2 -0.7
VINC Vinca 23.38 292 P **P** 07 41 19.2 -0.7
GRA1 Grafenberg Arr 23.41 306 *e*P **P** 07 41 20.7 +0.5
comp=Z,4µm,2.5s
GRA1 *ep*P 07 41 29.1
GRA1 LR LR
comp=Z,4µm,21.3s,MS4.9
GRF Grafenberg Arr 23.41 306 *e*P **P** 07 41 20.7 +0.5
GRF *e**PP 07 41 29.1
GRF pmax pmax
comp=Z,4µm,2.5s
GRF MLR MLR
comp=Z,4µm,21.3s,MS4.9
GRF Grafenberg Arr 23.41 306 *e*P **P** 07 41 20.7 +0.5
comp=Z,4µm,2.5s
GRF *ep*P 07 41 29.1
GRF LR LR
comp=Z,4µm,21.3s,MS4.9
MOX Moxa 23.43 308 *e*P **P** 07 41 24.1 +3.7
MOX pmax pmax
comp=Z,245nm,2.0s,mb5.3
MOX MLR MLR
comp=Z,3µm,22.0s,MS4.7
MOX Moxa 23.43 308 *e*P **P** 07 41 24.1 +3.7
comp=Z,245nm,2.0s,mb5.3
MOX LR LR
comp=Z,3µm,22.0s,MS4.7
MOX Moxa 23.43 308⇓*i*P **P** 07 41 24.1 +3.7
comp=Z,logA/T=2.1,mb5.3
MOX S **S** 07 45 43.0 +13
MOX L 07 51 46.0
GRAM 23.45 293 P **P** 07 41 21.0 +0.5
GRAM 23.45 293 P **P** 07 41 21.0 +0.4
BSD Bornholm Skovb 23.45 321 *i*P **P** 07 41 20.4 -0.1
comp=Z,115nm,0.8s,mb5.4
BSD *i* S **S** 07 45 36.4 +6.1
comp=Z,4µm,16.0s
CODM 23.60 292 P **P** 07 41 21.4 -0.6
CODM 23.60 292 P **P** 07 41 21.4 -0.6
UBR Uberruh 23.72 301 *e*P **P** 07 41 22.8 -0.4
DAVOX Davos 23.75 298 P **P** 07 41 23.8 +0.3
comp=Z,13nm,0.5s,mb4.6,baz=114,slow=11,SNR=18
HDH Heidenheim 23.81 303 P **P** 07 41 25.0 +0.9
HDH Heidenheim 23.81 303 *e*P **P** 07 41 23.5 -0.6
DAVA Damuels 23.81 300⇑*i*P **P** 07 41 23.8 -0.3
comp=Z,48nm,0.8s,mb5.0
FINES FINESS Array B 23.91 342 P **P** 07 41 25.4 +0.5
comp=Z,40nm,0.8s,mb4.9,baz=142,slow=9.3,SNR=68
FINES LR LR 07 52 46.0
comp=Z,4µm,19.0s,MS4.9,baz=142,slow=42
RGN Rugen 23.98 318 *e*P **P** 07 41 22.6 -3.0
comp=Z,970nm,1.5s,mb6.0
VDL Val di Lei 24.00 297⇓P **P** 07 41 26.4 +0.5
DGI Dorgali Grotta 24.01 282 P **P** 07 41 27.3 +1.2
TUE Stuetta 24.08 297 P **P** 07 41 28.1 +1.4
PGF Pioggiola 24.25 288 *e*P **P** 07 41 28.1 -0.3
comp=Z,450nm,1.4s,mb5.4
PGF Pioggiola 24.25 288 *e*P **P** 07 41 28.1 -0.3
PGF pmax pmax
comp=Z,225nm,1.4s,mb5.4
JOF Joensuu 24.27 349 *ep* **P** 07 41 26.7 -1.7
comp=Z,87nm,0.9s,mb5.2
BVA0 Borovoye Array 24.31 46 *i*P **P** 07 41 28.1 -0.8
BVA0 pmax pmax
comp=Z,37nm,1.4s,mb4.6
BVAR Borovoye Array 24.31 46 P **P** 07 41 28.7 -0.2
comp=Z,13nm,0.8s,mb4.4,baz=252,slow=4.7,SNR=31
VSL Villasalto 24.32 280 *e*P **P** 07 41 29.5 +0.4
comp=Z,131nm,1.2s,mb5.2
BUCH Bad Urach 24.35 302 P **P** 07 41 29.8 +0.5
BUCH Bad Urach 24.35 302⇓*e*P **P** 07 41 28.5 -0.8
LLS Linth-Limmern 24.35 298⇓P **P** 07 41 28.9 -0.4
SIND Sindeldorf 24.36 304 P **P** 07 41 30.6 +1.2
SIND Sindeldorf 24.36 304 *e*P **P** 07 41 28.9 -0.5
VAI Varese 24.43 296 *e*P **P** 07 41 30.1 0.0
GUT Gutenstein 24.44 301 P **P** 07 41 30.8 +0.6
GUT Gutenstein 24.44 301 *e*P **P** 07 41 29.5 -0.7
ABTO Aybut 24.45 150 P **P** 07 41 30.6 0.0
SNR=29
KAF Kangasniemi 24.45 343 *ep* **P** 07 41 30.0 -0.1
comp=Z,121nm,0.9s,mb5.3
KAF Kangasniemi 24.45 343 *e*P **P** 07 41 30.0 -0.1
KAF pmax pmax
comp=Z,121nm,0.9s,mb5.3
WILA Wila 24.48 300⇓P **P** 07 41 30.1 -0.6
STU Stuttgart 24.51 303 *e*P **P** 07 41 30.4 -0.4
STU pmax pmax
comp=Z,246nm,1.4s,mb5.5
STU Stuttgart 24.51 303 *e*P **P** 07 41 30.4 -0.4
comp=Z,246nm,1.4s,mb5.5
PCP Pian Castagno 24.54 293 P **P** 07 41 30.3 -0.9
CLZ Clausthal 24.55 311 *e*P **P** 07 41 31.2 0.0
comp=Z,544nm,2.2s,mb5.7
MUO Muotathal 24.62 299⇑P **P** 07 41 32.4 +0.5
SPAK Spaichingen 24.66 301 *e*P **P** 07 41 32.7 +0.3
SPAK Spaichingen 24.66 301 *e*P **P** 07 41 33.0 +0.6
CHKZ Chkalovo 24.69 45 *i*P **P** 07 41 31.9 -0.7
CHKZ pmax pmax
comp=Z,122nm,1.4s,mb5.2
FIN Finale Ligure 24.77 292 P **P** 07 41 35.0 +1.5
FIN Finale Ligure 24.77 292 P **P** 07 41 31.4 -2.1
SLE Schleitheim 24.81 300⇑P **P** 07 41 33.6 -0.2
AML Almayashu 24.88 73 P **P** 07 41 35.2 +0.7
SNR=25
EKS2 Erkin-Say 24.90 72 P **P** 07 41 35.8 +1.1
SNR=80
TOD Tromm 24.92 305⇓*e*P **P** 07 41 35.1 +0.3
TOD Tromm 24.92 305 *e*P **P** 07 41 34.9 +0.1
ORO Oropa 24.97 295 *e*P **P** 07 41 34.5 -0.8
ORX Oropa 24.97 295 P **P** 07 41 33.9 -1.4
COP Copenhagen 24.97 320 *e*P **P** 07 41 37.7 +2.5
COP pmax pmax
comp=Z,82nm,1.2s,mb5.1
COP MLR MLR
comp=Z,2µm,16.0s,MS4.7
COP Copenhagen 24.97 320 *e*P **P** 07 41 37.7 +2.5
comp=Z,82nm,1.2s,mb5.1
COP *i* S **S** 07 46 05.8 +10
COP LR LR
comp=Z,2µm,16.0s,MS4.7
COP Copenhagen 24.97 320 *i*P **P** 07 41 37.7 +2.5
comp=Z,82nm,1.2s,mb5.1
COP *i* S **S** 07 46 05.8 +10
comp=Z,2µm,16.0s
MCGN Macugnaga 24.98 296 *e*P **P** 07 41 36.3 +0.9
BFO Black Forest 25.00 302 P **P** 07 41 35.2 -0.4
comp=Z,195nm,1.9s,mb5.3,SNR=9.4
BFO Black Forest 25.00 302 *e*P **P** 07 41 35.3 -0.3
BFO pmax pmax
comp=Z,174nm,1.8s,mb5.3
BFO Black Forest 25.00 302 *e*P **P** 07 41 35.3 -0.3
comp=Z,174nm,1.8s,mb5.3
MMK Mattmark 25.00 296⇑P **P** 07 41 37.1 +1.5
IMI Imperia 25.01 291 *e*P **P** 07 41 36.4 +0.7
IMI Imperia 25.01 291 P **P** 07 41 34.4 -1.3
ROB Roburent 25.02 292 P **P** 07 41 35.0 -0.8
SULZ Sulz-Cheisache 25.03 300⇓P **P** 07 41 35.1 -0.8
MONE Monesi 25.10 292 P **P** 07 41 35.0 -1.6
MONE Monesi 25.10 292 P **P** 07 41 35.0 -1.6
TRAV 25.13 295 P **P** 07 41 36.0 -0.8
TRAV 25.13 295 P **P** 07 41 36.0 -0.8
NEGI Negi 25.14 291 P **P** 07 41 35.4 -1.6
NEGI Negi 25.14 291 P **P** 07 41 35.4 -1.6
FELD Feldberg 25.15 301⇓*e*P **P** 07 41 37.1 +0.1
FELD Feldberg 25.15 301 *e*P **P** 07 41 36.7 -0.3
KIZ Kirchzarten 25.22 301 P **P** 07 41 38.3 +0.6
KIZ Kirchzarten 25.22 301 *e*P **P** 07 41 37.8 +0.1
SAOF Saorge 25.25 291 *e*P **P** 07 41 39.7 +1.7
LKBD Leukerbad 25.26 297⇑P **P** 07 41 37.8 -0.3
TNS Taunus Mts 25.28 306 *e*P **P** 07 41 38.4 +0.2
TNS pmax pmax
comp=Z,1µm,2.6s,mb6.0
TNS Taunus Mts 25.28 306 *e*P **P** 07 41 38.4 +0.2
comp=Z,1µm,2.6s,mb6.0
BSEG Bad Segeberg 25.31 315 *e*P **P** 07 41 39.2 +0.7
KTD Kalmit 25.33 304 *e*P **P** 07 41 39.0 +0.3
KTD Kalmit 25.33 304 *e*P **P** 07 41 39.5 +0.8
SBF Sospel 25.34 291 *e*P **P** 07 41 38.5 -0.3
comp=Z,740nm,1.2s,mb5.8
SBF Sospel 25.34 291 *e*P **P** 07 41 38.5 -0.3
SBF pmax pmax
comp=Z,370nm,1.2s,mb5.8
AUTN L'Aution 25.34 291 *e*P **P** 07 41 41.2 +2.3
ENR Entracque 25.34 292 P **P** 07 41 38.0 -0.9
DIX Grande Dixence 25.39 296⇓P **P** 07 41 38.9 -0.4
REVF Revere 25.39 291 *e*P **P** 07 41 40.0 +0.7
USP Ospenovka 25.40 70 P **P** 07 41 39.4 0.0
SNR=13
STV2 Anna di Valdie 25.41 292 P **P** 07 41 37.8 -1.7
STV2 Anna di Valdie 25.41 292 P **P** 07 41 37.8 -1.7
STV Sta Anna Valdi 25.41 292 P **P** 07 41 37.3 -2.2
AAK Ala-Archa 25.43 72 P **P** 07 41 41.3 +1.5
SNR=46
AAK Ala-Archa 25.43 72 P **P** 07 41 39.0 -0.7
comp=Z,266nm,1.3s,mb5.6,SNR=56
AAK Ala-Archa 25.43 72 P **P** 07 41 40.7 +1.0
AAK pmax pmax
comp=Z,533nm,1.6s,mb5.8
AAK Ala-Archa 25.43 72⇑*i*P **P** 07 41 38.9 -0.8
comp=Z,343nm,1.5s,mb5.7
AAK LR LR
comp=Z,1µm,21.0s,MS4.4
LANF Langenberg 25.45 303 *e*P **P** 07 41 40.5 +0.7
LIBD Limburg 25.45 301 *e*P **P** 07 41 39.3 -0.6
RSP Reno Superiore 25.46 294 P **P** 07 41 39.1 -0.9
DOI San Damiano 25.46 293 *e*P **P** 07 41 38.8 -1.2
TOUF Mont Tournerai 25.47 291 *e*P **P** 07 41 41.7 +1.6
UCH Uchtor 25.48 73 P **P** 07 41 41.1 +0.9
SNR=17
FRU Bishkek 25.51 71 *i*P **P** 07 41 41.0 +0.6
FRU pmax pmax
comp=Z,560nm,1.6s,mb5.8
LSD Ceresole Reale 25.54 295 P **P** 07 41 40.4 -0.3
MVIF Mont Vial 25.54 291 *e*P **P** 07 41 41.4 +0.7
PZZ Prazzo 25.57 293 P **P** 07 41 39.4 -1.6
CHMS Chumysh 25.60 71 P **P** 07 41 41.8 +0.5
SNR=28
FENE Fenestrelle 25.60 294 P **P** 07 41 39.4 -1.8
WLS Welschbruch 25.66 302 P **P** 07 41 43.5 +1.7
LBOS 25.70 170⇓*e*P **P** 07 41 44.4 +1.9
CDF Champ du Feu 25.71 302 *e*P **P** 07 41 40.4 -1.8
comp=Z,35nm,0.9s,mb4.6
CDF Champ du Feu 25.71 302 *e*P **P** 07 41 40.4 -1.8
CDF pmax pmax
comp=Z,17nm,0.9s,mb4.6
MOF Molkenrain 25.73 300 *e*P **P** 07 41 43.1 +0.6
EMV Vieux Emosson 25.74 296⇑P **P** 07 41 42.4 -0.2
ECH Echery 25.76 301 *e*P **P** 07 41 41.2 -1.5
KBK Karagaybulak 25.76 72 P **P** 07 41 43.9 +1.0
SNR=38
SURF Saint Ours 25.77 293 *e*P **P** 07 41 46.2 +3.3
ABH Alteburg 25.77 305⇓*e*P **P** 07 41 43.4 +0.5
ABH Alteburg 25.77 305 *e*P **P** 07 41 42.8 -0.1
RRL Cesana Torines 25.79 294 P **P** 07 41 42.9 -0.2
MBDF Montbardon 25.80 293 *e*P **P** 07 41 42.7 -0.5
comp=Z,215nm,1.0s,mb5.3
MBDF Montbardon 25.80 293 *e*P **P** 07 41 42.7 -0.5
MBDF pmax pmax
comp=Z,108nm,1.0s,mb5.3
LPG La Plagne 25.82 295 *e*P **P** 07 41 42.7 -0.7
comp=Z,183nm,0.9s,mb5.3
LPG La Plagne 25.82 295 *e*P **P** 07 41 42.7 -0.7
LPG pmax pmax
comp=Z,92nm,0.9s,mb5.3
LPL La Plagne 25.84 295 *e*P **P** 07 41 42.5 -1.0
comp=Z,238nm,1.2s,mb5.3
LPL La Plagne 25.84 295 *e*P **P** 07 41 42.5 -1.0
LPL pmax pmax
comp=Z,119nm,1.2s,mb5.3
BNI Bardonecchia 25.87 294 *e*P **P** 07 41 43.4 -0.4
BNI pmax pmax
comp=Z,164nm,1.1s,mb5.5
BNI Bardonecchia 25.87 294 P **P** 07 41 43.6 -0.2
BNI pmax pmax
comp=Z,160nm,1.1s,mb5.5
BNI Bardonecchia 25.87 294 *e*P **P** 07 41 43.4 -0.4
comp=Z,164nm,1.1s,mb5.5
LOMF Lomont 25.88 299 *e*P **P** 07 41 43.8 -0.1
HINF Hinteralfeld 25.91 300 *e*P **P** 07 41 43.3 -0.9
comp=Z,98nm,1.1s,mb4.9
HINF Hinteralfeld 25.91 300 *e*P **P** 07 41 43.3 -0.9
HINF pmax pmax
comp=Z,49nm,1.1s,mb5.0
FRF La Foret Royal 25.92 290 *e*P **P** 07 41 44.1 -0.2
comp=Z,149nm,1.1s,mb5.1
FRF La Foret Royal 25.92 290 *e*P **P** 07 41 44.1 -0.2
FRF pmax pmax
comp=Z,75nm,1.1s,mb5.1
LMR La Mourre 26.03 290 *e*P **P** 07 41 44.1 -1.2
comp=Z,230nm,1.3s,mb5.2
LMR La Mourre 26.03 290 *e*P **P** 07 41 44.1 -1.2
LMR pmax pmax
comp=Z,115nm,1.3s,mb5.2
KZA Kyzart 26.04 73 P **P** 07 41 46.9 +1.5
SNR=34
RUP Ruppelstein 26.05 304⇓*e*P **P** 07 41 45.8 +0.4
RUP Ruppelstein 26.05 304 *e*P **P** 07 41 44.7 -0.7
TKM2 Tokmak 2 26.22 71 P **P** 07 41 47.5 +0.4
SNR=26
GDM Grand'Maison 26.27 294 *e*P **P** 07 41 48.8 +1.3
HAU Haudompre 26.27 301 *e*P **P** 07 41 45.6 -1.9
HAU *e*R
comp=Z,6µm,18.8s
CABF La Chapelle 26.33 297 *e*P **P** 07 41 46.8 -1.3
comp=Z,451nm,1.1s,mb5.6
CABF La Chapelle 26.33 297 *e*P **P** 07 41 46.8 -1.3
CABF pmax pmax
comp=Z,226nm,1.1s,mb5.6
TAVF Tavernes 26.34 291 *e*P **P** 07 41 50.2 +2.0
STOF St-Etienne Org 26.43 291 *e*P **P** 07 41 51.8 +2.8
ORIF Oris-en-Rattie 26.44 294 *e*P **P** 07 41 48.5 -0.5
ORIF *e*R
comp=Z,9µm,20.2s
CMAH Djebel Manchou 26.47 275 P **P** 07 41 49.0 -0.5
ABSA Djebel Ababsia 26.53 274 P **P** 07 41 51.0 +1.0
VILF Villemus 26.58 291 *e*P **P** 07 41 52.3 +1.9
PUYF Puyloubier 26.61 290 *e*P **P** 07 41 52.3 +1.7
WLF Walferdange 26.63 304 *e*P **P** 07 41 49.9 -0.8
WLF pmax pmax
comp=Z,61nm,1.0s,mb5.1
WLF Walferdange 26.63 304 P **P** 07 41 50.0 -0.7
WLF pmax pmax
comp=Z,61nm,1.0s,mb5.1
WLF Walferdange 26.63 304 *e*P **P** 07 41 49.9 -0.9
comp=Z,61nm,1.0s,mb5.1
WLF Walferdange 26.63 304 P **P** 07 41 50.2 -0.5
comp=Z,44nm,1.3s,mb4.8
SMRF Simiane la Rot 26.68 291 *e*P **P** 07 41 50.3 -1.0
comp=Z,179nm,1.6s,mb5.1
WTSB Winterswijk 26.70 309 *e*P **P** 07 41 53.0 +1.6
ULHL Ulahol 26.75 72 P **P** 07 41 53.1 +1.1
SNR=51
GELF Grande-Etoile 26.82 290 *e*P **P** 07 41 53.9 +1.4
TREF Trevaresse 26.83 291 *e*P **P** 07 41 52.0 -0.7
CAEH 'Ain El Ouahch 26.87 275 P **P** 07 41 52.0 -1.1
HFA0 Hagfors New Ar 26.89 330 P **P** 07 41 52.3 -0.7
MUD Monsted U'grnd 26.95 320 *i*P **P** 07 41 55.5 +1.9
comp=Z,88nm,1.0s,mb5.2
MUD *i* S **S** 07 46 36.9 +7.9
comp=Z,6µm,17.0s
KSH Kashi 26.95 78 *e*P **P** 07 41 55.0 +1.2
KSH *e*AP pP 07 42 02.0 +5.7
KSH *e*XP sP 07 42 05.1 +7.7
KSH *e*PP PP 07 42 41.0 +1.6
KSH *e*PPP PPP 07 42 53.0 +1.6
KSH *e*PCP PcP 07 45 16.0 -0.2
KSH *e*S **S** 07 46 29.1 -0.2
KSH *e*XS 07 46 41.4
KSH *e*SS SS 07 47 42.6 +0.2
KSH AMB AMB
comp=Z,450nm,2.0s,mb5.7
KSH LR LR
comp=N,14µm,15.0s,MS5.8
KSH LR LR
comp=E,7µm,11.0s,MS5.8
HGN Heimansgroeve 26.96 307 *e*P **P** 07 41 55.0 +1.2
comp=E,133nm,1.4s,mb5.3
HGN *e*S **S** 07 46 39.6 +10
PRAF Pradon 26.98 291 *e*P **P** 07 41 52.0 -2.0
WIT Witteveen 27.00 311 *e*P **P** 07 41 54.4 +0.2
CKFL Kef-Lekhel 27.08 275 P **P** 07 41 59.0 +4.0
AAA Alma-Ata 27.18 70 P **P** 07 41 54.0 -1.9
AAA pmax pmax
comp=Z,600nm,4.0s
AAA MLR MLR
comp=N,4µm,13.0s,MS5.5
AAA MLR MLR
comp=E,6µm,13.0s,MS5.5
AAA MLR MLR
comp=Z,5µm,13.0s,MS5.3
AAA Alma-Ata 27.18 70 P **P** 07 41 57.0 +1.1
MEZF Maizieres J'vi 27.19 301 *e*P **P** 07 41 54.2 -1.7
CASM Ain Smara 27.30 274 P **P** 07 42 02.0 +5.0
VIVF Saint-Julien-l 27.30 293 *e*P **P** 07 41 55.1 -1.8
comp=Z,80nm,1.1s,mb4.9
VIVF Saint-Julien-l 27.30 293 *e*P **P** 07 41 55.1 -1.8
VIVF pmax pmax
comp=Z,40nm,1.1s,mb4.9
GIVF Givet 27.55 305 *e*P **P** 07 41 57.6 -1.5
DFRA Djebel Bou Aff 27.69 275 P **P** 07 42 03.0 +2.4
SMF Signal de Mont 27.88 297 *e*P **P** 07 42 00.4 -1.8
comp=Z,64nm,1.0s,mb4.9
SMF Signal de Mont 27.88 297 *e*P **P** 07 42 00.4 -1.8
SMF pmax pmax
comp=Z,32nm,1.0s,mb4.9
LASF Ste Croix 27.91 292 *e*P **P** 07 42 01.8 -0.7
comp=Z,359nm,1.7s,mb5.4
BAIF Baives 27.93 305 *e*P **P** 07 42 01.0 -1.6
comp=Z,45nm,1.1s,mb4.7
BAIF Baives 27.93 305 *e*P **P** 07 42 01.0 -1.6
BAIF pmax pmax
comp=Z,23nm,1.1s,mb4.7
CMER Merouana 27.95 273 P **P** 07 42 03.0 +0.1
OSL Oslo 27.97 327 *e*P **P** 07 42 04.3 +1.4
OSL Oslo 27.97 327 *e*P **P** 07 42 02.7 -0.2
PLDF La Plantade 28.02 296 *e*P **P** 07 42 02.7 -0.8
CKHR Kef el Ahmar 28.12 274 P **P** 07 42 03.5 -1.0
SSF Saint Saulge 28.12 298 *e*P **P** 07 42 02.7 -1.7
SET Setif 28.15 275 P **P** 07 42 08.0 +3.2
AVF Avril sur Loir 28.22 298 *e*P **P** 07 42 03.5 -1.8
comp=Z,96nm,1.0s,mb5.1
AVF Avril sur Loir 28.22 298 *e*P **P** 07 42 03.5 -1.8
AVF pmax pmax
comp=Z,48nm,1.0s,mb5.1
KONO Kongsberg 28.29 326 *i*P **P** 07 42 07.1 +1.3
KONO Kongsberg 28.29 326 PFAKE 07 42 20.0 +14
KONO LR LR
comp=Z,5µm,20.0s,MS5.1
KONO Kongsberg 28.29 326 *e*S **S** 07 46 50.2 -0.4
LBL Lubilhac 28.30 294 *e*P **P** 07 42 05.5 -0.5
AGO Saint Agoulin 28.37 296 *e*P **P** 07 42 05.5 -1.1
NB2 NORSAR Subarra 28.40 330 P **P** 07 42 04.8 -2.0
comp=Z,66nm,1.4s,mb5.1,baz=126,slow=8.6
NB2 NORSAR Subarra 28.40 330 P **P** 07 42 04.8 -2.0
NB2 pmax pmax
comp=Z,66nm,1.4s,mb5.1
NB2 NORSAR Subarra 28.40 330 P **P** 07 42 04.8 -2.0
baz=126,slow=9.3
NOA NORSAR Array B 28.40 330 P **P** 07 42 05.0 -1.8
comp=Z,5.3nm,0.7s,mb4.3,baz=126,slow=8.8,SNR=21
NOA LR LR 07 54 39.6
comp=Z,4µm,19.4s,MS5.0,baz=125,slow=39
NOA NORSAR Array B 28.40 330 P **P** 07 42 05.0 -1.8
NOA LR LR 07 54 39.6
NAO01 NORSAR Array S 28.42 329 *e*P **P** 07 42 05.1 -1.8
comp=Z,37nm,0.8s,mb5.1
NAO01 LR LR
comp=Z,5µm,22.0s,MS5.0
APA Apatity 28.55 354⇑*i*P **P** 07 42 08.0 0.0
APA *i* S **S** 07 46 56.0 +1.4
APA *i* SS SS 07 48 24.0 +4.1
APA pmax pmax
comp=Z,47nm,1.2s,mb5.1
APA MLR MLR
comp=Z,6µm,18.0s,MS5.2
BGF Bois d'Agland 28.57 297 *e*P **P** 07 42 06.4 -2.0
comp=Z,75nm,1.2s,mb5.0
BGF Bois d'Agland 28.57 297 *e*P **P** 07 42 06.4 -2.0
BGF pmax pmax
comp=Z,37nm,1.2s,mb5.0
KURK Kurchatov 28.63 54 P **P** 07 42 07.5 -1.4
comp=Z,273nm,0.9s,mb6.0,SNR=30
KURK Kurchatov 28.63 54⇑*e*P **P** 07 42 08.0 -0.9
KURK pmax pmax
comp=Z,41nm,1.2s,mb5.0
KURK Kurchatov 28.63 54 *e*P **P** 07 42 07.3 -1.6
comp=Z,67nm,1.1s,mb5.3
KURK LR LR
comp=Z,2µm,20.0s,MS4.8
HYF Humbligny 28.72 299 *e*P **P** 07 42 08.3 -1.5
EJON La Jonquera 28.76 289 P **P** 07 42 10.2 +0.1
comp=Z,112nm,1.8s,mb5.3
EJON La Jonquera 28.76 289 P **P** 07 42 10.2 0.0
comp=Z,112nm,1.8s,mb5.3,SNR=5.2
TCF Toulx Ste Croi 29.00 297 *e*P **P** 07 42 10.8 -1.5
comp=Z,110nm,1.2s,mb5.2
TCF Toulx Ste Croi 29.00 297 *e*P **P** 07 42 10.8 -1.5
TCF pmax pmax
comp=Z,55nm,1.2s,mb5.2
CAF Calviac 29.14 294 *e*P **P** 07 42 12.0 -1.6
MTLF Montolieu 29.15 290 *e*P **P** 07 42 12.4 -1.3
ETOS Mallorca 29.25 283 P **P** 07 42 14.1 -0.5
comp=Z,403nm,2.6s,mb5.7
ETOS Mallorca 29.25 283 P **P** 07 42 14.0 -0.6
comp=Z,403nm,2.6s,mb5.7,SNR=7.9
PONG Pong 29.26 94 *e*P **P** 07 42 16.0 +1.2

RJF **Les Rejaudoux** 29.52 295 *e*P P 07 42 15.8 -1.2
RJF *e*R
comp=Z,9µm,18.5s
BLS5 Blasjo 29.57 324 *e*P P 07 42 18.3 +0.9
comp=Z,65nm,1.5s,mb5.1
BLS5 Blasjo 29.57 324 *e*P P 07 42 18.3 +0.9
BLS5 AMb AMB 07 42 24.2
comp=Z,65nm,1.5s,mb5.1
ABA Alger-Bouzarea 29.80 277 P P 07 42 08.5 -11
EMIR Miracle 29.83 288 P P 07 42 19.5 -0.4
comp=Z,609nm,2.3s,mb5.9,SNR=9.1
LFF La Frestale 30.08 294 *e*P P 07 42 20.4 -1.6
comp=Z,65nm,0.9s,mb5.0
LFF La Frestale 30.08 294 *e*P P 07 42 20.4 -1.6
LFF pmax pmax
comp=Z,32nm,0.9s,mb5.0
EPOB Poblet 30.25 287 P P 07 42 23.4 -0.2
comp=Z,176nm,2.4s,mb5.4
EPOB Poblet 30.25 287 P P 07 42 23.4 -0.2
comp=Z,176nm,2.4s,mb5.4,SNR=7.9
NSS Namsos 30.34 336 *e*P P 07 42 22.2 -1.9
NSS *e*S **S** 07 47 21.3 -2.0
NSS AMS AMS 07 56 49.2
comp=Z,5µm,15.0s,MS5.3
BER Bergen 30.52 325 *e*S **S** 07 47 26.9 +0.8
BER AMS AMS 07 56 31.3
comp=Z,3µm,17.5s,MS5.1
EIBI Ibiza 30.52 282 P P 07 42 28.7 +2.7
comp=Z,412nm,2.3s,mb5.8
EIBI Ibiza 30.52 282 P P 07 42 28.7 +2.8
comp=Z,412nm,2.3s,mb5.9,SNR=7.9
EPF Esparros 30.55 290 *e*P P 07 42 23.8 -2.4
comp=Z,34nm,1.0s,mb4.8
EPF Esparros 30.55 290 *e*P P 07 42 23.8 -2.4
EPF pmax pmax
comp=Z,17nm,1.0s,mb4.8
RESF Ens 30.58 290 *e*P P 07 42 25.1 -1.3
LDF La Druitiere 30.62 301 *e*P P 07 42 24.8 -1.9
MFF Saint Martin d 30.63 297 *e*P P 07 42 24.4 -2.4
comp=Z,50nm,1.0s,mb5.0
MFF Saint Martin d 30.63 297 *e*P P 07 42 24.4 -2.4
MFF pmax pmax
comp=Z,25nm,1.0s,mb5.0
EBIE Bielsa 30.74 290 P P 07 42 28.9 +1.0
comp=Z,268nm,1.9s,mb5.8
EBIE Bielsa 30.74 290 P P 07 42 28.9 +1.1
comp=Z,268nm,1.9s,mb5.8,SNR=12
MOR8 Moi Rana 30.77 339 *e*P P 07 42 26.6 -1.2
comp=Z,97nm,1.3s,mb5.5
MOR8 Moi Rana 30.77 339 *e*P P 07 42 26.6 -1.2
MOR8 AMb AMB 07 42 31.6
comp=Z,97nm,1.3s,mb5.5
EBR Ebro Roquetas 30.78 286 *e*P P 07 42 29.5 +1.3
MKAR Makanchi Array 30.80 62 *i* P P 07 42 27.5 -0.9
ERTA Horta de San J 30.88 286 P P 07 42 27.9 -1.2
comp=Z,62nm,1.5s,mb5.2
ERTA Horta de San J 30.88 286 P P 07 42 27.9 -1.2
comp=Z,62nm,1.5s,mb5.2,SNR=7.3
AJM Ajmer 30.89 104 *e*P P 07 42 29.4 +0.1
AJM *e* 07 42 36.4
comp=Z,61nm,0.9s
GRR Gorron 31.11 301 *e*P P 07 42 28.4 -2.6
comp=Z,60nm,0.9s,mb5.1
GRR Gorron 31.11 301 *e*P P 07 42 28.4 -2.6
GRR pmax pmax
comp=Z,30nm,0.9s,mb5.1
KTK1 Kautokeino 31.18 348 *e*P P 07 42 31.8 +0.3
comp=Z,163nm,1.5s,mb5.6
KTK1 Kautokeino 31.18 348 *e*P P 07 42 31.8 +0.3
KTK1 *e*pP pP 07 42 34.1 +0.2
KTK1 AMb AMB 07 42 37.7
comp=Z,163nm,1.5s,mb5.6
ETSF Etsaut 31.22 290 *e*P P 07 42 31.6 -0.5
comp=Z,25nm,0.8s,mb4.8
ETSF Etsaut 31.22 290 *e*P P 07 42 31.6 -0.5
ETSF pmax pmax
comp=Z,13nm,0.8s,mb4.8
ARCES ARCESS Array B 31.31 350 P P 07 42 32.0 -0.6
comp=Z,24nm,0.6s,mb5.2,baz=158,slow=6.5,SNR=27
ARCES LR LR 07 56 01.2
comp=Z,7µm,21.8s,MS5.3,baz=153,slow=38
ARCES ARCESS Array B 31.31 350 P P 07 42 32.0 -0.6
ARCES LR LR 07 56 01.2
ARE0 ARCESS Array S 31.31 350 *e*P P 07 42 31.7 -1.0
KEV Kevo 31.32 351 *e*p P 07 42 30.6 -2.1
comp=Z,29nm,0.9s,mb5.1
KEV Kevo 31.32 351 *e*P P 07 42 30.6 -2.1
KEV pmax pmax
comp=Z,29nm,0.9s,mb5.1
ESAC San Caprasio 31.34 288 P P 07 42 34.0 +0.9
comp=Z,259nm,1.4s,mb5.9
ESAC San Caprasio 31.34 288 P P 07 42 34.0 +0.9
comp=Z,259nm,1.4s,mb5.9,SNR=7.3
LARF Larrau 31.52 290 *e*P P 07 42 32.6 -2.1
DDI Dehra Dun 31.59 95 *e*P P 07 42 36.7 +1.2
EMOS Mosqueruela 31.59 285 P P 07 42 35.2 -0.2
comp=Z,426nm,2.1s,mb5.9
EMOS Mosqueruela 31.59 285 P P 07 42 35.2 -0.2
comp=Z,426nm,2.1s,mb5.9,SNR=12
SJPF Ste Jean 31.68 291 *e*P P 07 42 34.9 -1.2
comp=Z,59nm,1.2s,mb5.0
SJPF Ste Jean 31.68 291 *e*P P 07 42 34.9 -1.2
SJPF pmax pmax
comp=Z,30nm,1.2s,mb5.0
NDI New Delhi 31.71 98 *e*P P 07 42 35.0 -1.5
NDI *e*S **S** 07 47 46.0 +0.9
EBEN Beniarda 31.78 282 P P 07 42 36.8 -0.3
comp=Z,144nm,1.6s,mb5.5
EBEN Beniarda 31.78 282 P P 07 42 36.8 -0.3
comp=Z,144nm,1.6s,mb5.6,SNR=5.0
EALK Alkurruntz 31.87 291 P P 07 42 37.5 -0.2
comp=Z,191nm,2.7s,mb5.5
EALK Alkurruntz 31.87 291 P P 07 42 37.5 -0.3
comp=Z,191nm,2.7s,mb5.4,SNR=7.9
NVS Novosibirsk 32.10 47⇑*i*P P 07 42 37.8 -1.9
NVS pmax pmax
comp=Z,71nm,1.4s,mb5.3
NVS pmax pmax
comp=N,58nm,1.6s
NVS pmax pmax
comp=E,76nm,1.3s
SGMF Saint Gilles 32.24 300 *e*P P 07 42 38.7 -2.2
comp=E,84nm,1.1s,mb5.2
SGMF Saint Gilles 32.24 300 *e*P P 07 42 38.7 -2.2
SGMF pmax pmax
comp=Z,42nm,1.1s,mb5.2
TRO Tromso 32.48 346 *e*P P 07 42 42.1 -0.7
TRO LR LR
comp=Z,4230µm,18.1s
TRO Tromso 32.48 346 *e*P P 07 42 42.1 -0.7
TRO *e*S **S** 07 47 53.0 -3.7
TRO *e*ScP 07 49 10.4
TRO AMS AMS 07 57 24.9
comp=Z,4µm,18.1s,MS5.2
QUIF Quistinic 32.65 300 *e*P P 07 42 42.2 -2.3
comp=Z,80nm,1.1s,mb5.3
QUIF Quistinic 32.65 300 *e*P P 07 42 42.2 -2.3
QUIF pmax pmax
comp=Z,40nm,1.1s,mb5.3
EMUR La Murta 32.78 281 P P 07 42 46.2 +0.4
comp=Z,139nm,1.7s,mb5.6,SNR=6.0
ETOB Tobarra 32.80 282 P P 07 42 45.4 -0.6
comp=Z,245nm,2.5s,mb5.7
ETOB Tobarra 32.80 282 P P 07 42 45.4 -0.5
comp=Z,245nm,2.5s,mb5.7,SNR=9.5
ZAL Zalesovo 32.85 49 P P 07 42 44.9 -1.3
comp=Z,2.8nm,0.9s,mb4.2,baz=226,slow=6.9,SNR=8.6
ZAL LR LR 07 58 10.5
comp=Z,4µm,20.3s,MS5.1,baz=208,slow=40
ESK Eskdalemuir 33.23 313 PFAKE 07 43 00.0 +10
ESK LR LR
comp=Z,850nm,19.0s,MS4.5
ELAN Lanestosa 33.26 291 P P 07 42 46.0 -3.9
comp=Z,169nm,2.6s,mb5.5
ELAN Lanestosa 33.26 291 P P 07 42 46.0 -3.9
comp=Z,169nm,2.6s,mb5.5,SNR=4.6
EVIA Vianos 33.52 283 P P 07 42 52.1 -0.1
EVIA pmax pmax
comp=Z,17nm,0.6s,mb5.2
EVIA Vianos 33.52 283 P P 07 42 52.1 -0.2
comp=Z,17nm,0.6s,mb5.2
EVIA Vianos 33.52 283 P P 07 42 52.1 -0.1
comp=Z,17nm,0.6s,mb5.2,SNR=7.8
ENIJ Nijar 33.77 280 P P 07 42 52.6 -1.8
ENIJ pmax pmax
comp=Z,47nm,1.0s,mb5.4

ENIJ Nijar 33.77 280 P P 07 42 52.6 -1.8
comp=Z,47nm,1.0s,mb5.4,SNR=5.3
EHUE Huescar 33.82 281 P P 07 42 53.9 -0.9
EHUE pmax pmax
comp=Z,28nm,1.0s,mb5.2
EHUE Huescar 33.82 281 P P 07 42 53.9 -0.9
comp=Z,28nm,1.0s,mb5.2
EHUE Huescar 33.82 281 P P 07 42 53.9 -0.9
comp=Z,28nm,1.0s,mb5.1,SNR=7.9
EQES Quesada 34.18 282 P P 07 42 57.1 -0.8
comp=Z,198nm,1.8s,mb5.7
EQES Quesada 34.18 282 P P 07 42 57.1 -0.9
comp=Z,198nm,1.8s,mb5.7,SNR=22
BOM Bombay 34.26 117 *e* P 07 42 47.1 -12
GUD Guadarrama 34.27 287 P P 07 42 59.3 +0.6
GUD pmax pmax
comp=Z,20nm,0.9s,mb5.0
GUD Guadarrama 34.27 287 P P 07 42 59.3 +0.6
comp=Z,20nm,0.9s,mb5.0
GUD Guadarrama 34.27 287 P P 07 42 59.3 +0.6
comp=Z,20nm,0.9s,mb5.1,SNR=7.9
EBER Berja 34.31 280 P P 07 42 58.3 -0.8
comp=Z,293nm,2.3s,mb5.8
EBER Berja 34.31 280 P P 07 42 58.3 -0.8
comp=Z,293nm,2.3s,mb5.8,SNR=8.2
ESBB Sonseca Array 34.36 285 P P 07 42 59.3 -0.2
comp=Z,114nm,1.8s,mb5.5,SNR=7.9
ESDC Sonseca Array 34.36 285 P P 07 42 57.8 -1.7
comp=Z,21nm,1.1s,mb5.0,baz=66,slow=8.9,SNR=24
ESDC PcP PcP 07 45 36.2 +0.6
comp=Z,1.3nm,0.6s,baz=51,slow=3.9,SNR=4.2
ESDC Sonseca Array 34.36 285 P P 07 42 59.3 -0.1
comp=Z,114nm,1.8s,mb5.5
ESDC Sonseca Array 34.36 285 P P 07 42 59.3 -0.2
comp=Z,47nm,1.2s,mb5.3,SNR=20
ESLA Sonseca Array 34.36 285 *e*P P 07 42 57.8 -1.7
comp=Z,8.9nm,1.0s,mb4.7
ESLA LR LR
comp=Z,15µm,20.0s,MS5.7
EARI Arriondas 34.53 292 P P 07 42 59.6 -1.3
comp=Z,232nm,2.4s,mb5.7
EARI Arriondas 34.53 292 P P 07 42 59.6 -1.3
comp=Z,232nm,2.4s,mb5.7,SNR=5.2
ECOG Cogollos-Vega 34.71 281 P P 07 43 00.9 -1.6
comp=Z,5.2nm,0.4s,mb4.8,SNR=4.0
BHPL Bhopal 34.80 107 *e*P P 07 43 02.7 -0.7
BHPL *e* 07 43 10.4
comp=Z,115nm,1.4s
BHPL *e*S **S** 07 48 35.4 +2.2
WMQ Urumqi 34.88 67⇑*i*P P 07 43 03.9 0.0
WMQ AP pP 07 43 11.0 +4.7
WMQ XP sP 07 43 14.5 +7.1
WMQ PP PP 07 44 22.0 +0.5
WMQ PCP PcP 07 45 37.0 0.0
WMQ S **S** 07 48 33.0 -1.2
WMQ SS SS 07 50 47.0 -0.7
WMQ AMB AMB
comp=Z,64nm,1.7s,mb5.3
WMQ AMB AMB
comp=Z,616nm,5.8s
WMQ LR LR
comp=N,8µm,16.0s,MS5.6
WMQ LR LR
comp=E,5µm,16.7s,MS5.6
WMQ LR LR
comp=Z,3µm,15.4s,MS5.2
DLF Lyons Farm 34.92 309 *e*P P 07 43 06.3 +2.1
ERON Agron 34.98 281 P P 07 43 03.6 -1.2
comp=Z,31nm,1.3s,mb5.1
ERON Agron 34.98 281 P P 07 43 03.6 -1.2
comp=Z,31nm,1.3s,mb5.1,SNR=6.7
ELOJ Sierra Loja 35.20 281 P P 07 43 06.4 -0.3
ELOJ pmax pmax
comp=Z,28nm,1.2s,mb5.1
ELOJ Sierra Loja 35.20 281 P P 07 43 06.4 -0.2
comp=Z,28nm,1.2s,mb5.1
ELOJ Sierra Loja 35.20 281 P P 07 43 06.4 -0.3
comp=Z,28nm,1.2s,mb5.0,SNR=4.7
POO Poona 35.22 117 *e*P P 07 43 07.0 0.0
POO *e* 07 43 13.3
comp=Z,79nm,1.7s
EADA Adamuz 35.22 283 P P 07 43 05.8 -1.1
comp=Z,216nm,2.1s,mb5.7
EADA Adamuz 35.22 283 P P 07 43 05.7 -1.2
comp=Z,216nm,2.1s,mb5.7,SNR=11
DCN Croghan 35.37 309 *e*P P 07 43 07.0 -1.0
EMIJ Mijas 35.85 280 P P 07 43 10.1 -2.2
comp=Z,303nm,2.4s,mb5.8
EMIJ Mijas 35.85 280 P P 07 43 10.1 -2.1
comp=Z,303nm,2.4s,mb5.8,SNR=5.4
ECAB El Cabril 35.88 283 P P 07 43 11.4 -1.1
comp=Z,220nm,2.2s,mb5.7
ECAB El Cabril 35.88 283 P P 07 43 11.4 -1.1
comp=Z,220nm,2.2s,mb5.7,SNR=7.9
ECAL Calabor 35.89 290 P P 07 43 12.1 -0.4
comp=Z,301nm,2.5s,mb5.8
ECAL Calabor 35.89 290 P P 07 43 12.1 -0.4
comp=Z,301nm,2.5s,mb5.8,SNR=6.4
EPON Ponenova 35.92 292 P P 07 43 12.4 -0.3
comp=Z,541nm,3.1s
EPON Ponenova 35.92 292 P P 07 43 12.5 -0.2
comp=Z,541nm,3.1s,SNR=7.9
PBRG Braganca 35.92 290 *e*P P 07 43 15.3 +2.5
ERUA La Rua 36.09 291 P P 07 43 16.2 +2.0
ERUA pmax pmax
comp=Z,78nm,1.8s,mb5.3
ERUA La Rua 36.09 291 P P 07 43 16.2 +2.0
comp=Z,78nm,1.8s,mb5.3
ERUA La Rua 36.09 291 P P 07 43 16.2 +2.0
comp=Z,78nm,1.8s,mb5.3,SNR=7.9
EINC Incio 36.19 291 P P 07 43 15.0 -0.1
comp=Z,355nm,2.8s,mb5.8
EINC Incio 36.19 291 P P 07 43 15.0 0.0
comp=Z,355nm,2.8s,mb5.8,SNR=7.5
KAD Karad 36.29 118 *e*P P 07 43 15.8 -0.3
KAD *e* 07 43 23.3
comp=Z,90nm,1.7s
KAD *e*S **S** 07 49 00.0 +3.8
EJIF Jimena Fronter 36.42 280 P P 07 43 17.1 +0.1
EJIF pmax pmax
comp=Z,64nm,0.9s,mb5.5
EJIF Jimena Fronter 36.42 280 P P 07 43 17.1 0.0
comp=Z,64nm,0.9s,mb5.5
EJIF Jimena Fronter 36.42 280 P P 07 43 17.1 +0.1
comp=Z,64nm,0.9s,mb5.6,SNR=7.9
ESPR Espera 36.58 281 P P 07 43 16.9 -1.5
comp=Z,209nm,2.6s,mb5.5
ESPR Espera 36.58 281 P P 07 43 16.9 -1.5
comp=Z,209nm,2.6s,mb5.5,SNR=6.4
DKH Dar Khurkhour 36.66 279 *i* P P 07 43 19.0 0.0
PVRL Vila Real 36.76 289 *e*P P 07 43 20.9 +1.1
comp=Z,43nm,1.0s,mb5.2
PVRL Vila Real 36.76 289 *e*P P 07 43 18.7 -1.1
MTE Manteigas 36.84 288 *e*P P 07 43 21.3 +0.8
comp=Z,93nm,1.8s,mb5.3
MTE *e*S **S** 07 49 05.1 +0.6
MTE *e*SS SS 07 51 45.9 +14
MTE Manteigas 36.84 288 *e*P P 07 43 19.1 -1.4
comp=Z,70nm,1.1s,mb5.4
ELOB Lobios 36.87 290 P P 07 43 21.0 +0.2
comp=Z,320nm,2.9s,mb5.6
EBAD Badajoz 36.89 285 P P 07 43 20.4 -0.5
comp=Z,304nm,3.6s
EBAD Badajoz 36.89 285 P P 07 43 20.4 -0.5
comp=Z,304nm,3.6s,SNR=7.9
EMIN Mina Concepcio 36.92 283 P P 07 43 21.3 +0.1
comp=Z,202nm,2.4s,mb5.5
PCBR Castelo Branco 36.94 287 *e*P P 07 43 21.8 +0.5
comp=Z,71nm,1.6s,mb5.2
CPS Cap Spartel 36.98 280 *i* P P 07 43 22.0 +0.3
STS Santiago 37.01 292 P P 07 43 22.7 +0.8
STS pmax pmax
comp=Z,62nm,1.4s,mb5.2
STS Santiago 37.01 292 P P 07 43 22.7 +0.8
comp=Z,62nm,1.4s,mb5.2
PVIS Viseu 37.02 288 *e*P P 07 43 22.9 +0.9
comp=Z,40nm,1.7s,mb5.0
PVIS Viseu 37.02 288 *e*P P 07 43 22.4 +0.4
KOLN Koldanda 37.07 95 *e*P P 07 43 22.6 +0.1
comp=Z,392nm,2.0s,mb5.9
EMAZ Mazaricos 37.30 292 P P 07 43 20.6 -3.8
comp=Z,107nm,2.4s,mb5.2
PALC Alcoutim 37.62 283 *e*P P 07 43 26.6 -0.5
comp=Z,29nm,1.2s,mb4.9
PALC Alcoutim 37.62 283 *e*P P 07 43 26.8 -0.3
PTOM Tomar 37.69 287 *e*P P 07 43 28.5 +0.9
comp=Z,117nm,1.4s,mb5.4

PTOM Tomar 37.69 287 *e*P P 07 43 27.5 -0.1
EVO Evora 37.70 285 *e*P P 07 43 28.1 +0.3
comp=Z,18nm,1.2s,mb4.4
EVO *e*R
comp=Z,5µm,19.0s
PBEJ Beja 37.74 284 *e*P P 07 43 29.0 +0.9
comp=Z,28nm,1.3s,mb4.8
PBEJ Beja 37.74 284 *e*P P 07 43 28.5 +0.4
GKN Gorkha 37.76 94 *e*P P 07 43 28.4 +0.1
comp=Z,132nm,1.0s,mb5.6
DMN Daman 38.31 94 *e*P P 07 43 33.3 +0.3
comp=Z,266nm,1.3s,mb5.8
KKN Kakani 38.36 94 *e*P P 07 43 33.4 0.0
comp=Z,150nm,1.2s,mb5.6
PTEO Sao Teotonio 38.54 283 *e*P P 07 43 35.7 +0.9
comp=Z,55nm,2.1s,mb4.9
PTEO Sao Teotonio 38.54 283 *e*P P 07 43 35.8 +1.0
PKI Pulchoki 38.56 94 *e*P P 07 43 34.9 -0.2
comp=Z,277nm,1.4s,mb5.8
GUN Gumba 38.76 93 *e*P P 07 43 36.8 0.0
comp=Z,277nm,1.0s,mb5.9
JIRN Jiri 39.12 93 *e*P P 07 43 40.2 +0.4
comp=Z,138nm,1.0s,mb5.6
HYB Hyderabad 39.27 113 *e*P P 07 43 40.5 -0.6
HYB *e*S **S** 07 49 40.0 -1.7
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.1
HYB Hyderabad 39.27 113 *e*P P 07 43 40.5 -0.6
comp=Z,40nm,1.0s,mb5.1
HYB *e*S **S** 07 49 40.0 -1.7
HYB Hyderabad 39.27 113 *i* P P 07 43 40.5 -0.6
comp=Z,40nm,1.0s,mb5.1
HYB *e*S **S** 07 49 40.0 -1.7
HYB *e*SS SS 07 52 28.0 +1.1
OUK Oukaimeden 40.26 274 *i* P P 07 43 50.0 +0.9
JMIC Jan Mayen 40.34 337 LR LR 08 01 15.7
comp=Z,4µm,19.1s,MS5.3,baz=252,slow=37
JMIC Jan Mayen 40.34 337 AMS AMS 08 01 42.5
comp=Z,3µm,21.7s,MS5.1
KMBO Kilima Mbogo 40.46 186 P P 07 43 51.7 +0.7
KMBO pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 40.46 186 P P 07 43 50.7 -0.2
comp=Z,3.5nm,0.9s,baz=21,slow=8.1,SNR=8.2
KMBO LR LR 07 59 31.6
comp=Z,7µm,18.9s,MS5.5,baz=353,slow=35
KMBO Kilima Mbogo 40.46 186 *e*P P 07 43 51.3 +0.4
comp=Z,13nm,1.3s,mb4.5
KMBO LR LR
comp=Z,4µm,20.0s,MS5.3
CIA Chichaoua 40.79 275 *i* P P 07 43 55.0 +1.5
MBAR Mbarara 40.88 196 *e*P P 07 43 52.3 -2.1
MBAR pmax pmax
comp=Z,30nm,1.5s,mb4.7
MBAR MLR MLR
comp=Z,1µm,19.0s,MS4.7
MBAR Mbarara 40.88 196 *e*P P 07 43 52.3 -2.1
comp=Z,30nm,1.5s,mb4.7
MBAR LR LR
comp=Z,1µm,19.0s,MS4.7
LSA Lhasa 42.01 87 P P 07 44 05.0 +1.5
LSA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
LSA Lhasa 42.01 87 *e*P P 07 44 04.4 +0.9
LSA pmax pmax
comp=Z,25nm,0.8s,mb4.9
LSA Lhasa 42.01 87 *e*P P 07 44 04.4 +0.9
comp=Z,25nm,0.8s,mb4.9
VIS Vishakhapatnam 42.54 108 *e* P 07 44 06.5 -1.5
MOY Mondy 42.66 53 *e*P P 07 44 09.4 +0.9
MOY *e* 07 45 51.0
MOY pmax pmax
comp=Z,53nm,2.1s,mb4.9
BORG Borgarnes 43.48 327 LR LR 08 02 52.4
comp=Z,3µm,18.7s,MS5.2,baz=192,slow=37
TLY Talaya 44.29 52*c i*P P 07 44 22.1 +0.3
TLY *e* 07 46 05.0
TLY *e*S **S** 07 50 54.2 -1.1
TLY *e*SS SS 07 54 12.6 +7.1
TLY *e*SSS SSS 07 55 01.8 +1.5
TLY pmax pmax
comp=Z,31nm,1.4s,mb4.8
TLY MLR MLR
comp=Z,2µm,16.0s,MS5.0
TLY Talaya 44.29 52 *e*P P 07 44 21.9 +0.1
comp=Z,39nm,1.3s,mb5.0
TLY LR LR
comp=Z,564nm,21.0s,MS4.5
ZAK Zakamensk 44.29 54 *e*P P 07 44 21.9 +0.1
ZAK *e* 07 46 10.1
ZAK pmax pmax
comp=Z,12nm,1.6s,mb4.4
ZAK pmax pmax
comp=Z,12nm,1.7s,mb4.3
SCO Scoresbysund 44.45 335 *i* P P 07 44 23.6 +0.8
SCO *i* 07 46 07.1
SCO pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
SCO Scoresbysund 44.45 335 *i* P P 07 44 23.6 +0.8
comp=Z,9.7nm,0.8s,mb4.6
SCO *i* 07 46 07.1
SHL Shillong 44.58 92 *e*P P 07 44 24.0 -0.5
SHL *e*SS SS 07 54 21.0 +10
IRK Irkutsk 44.58 52 *e*P P 07 44 23.3 -0.8
IRK *e* 07 46 05.0
IRK pmax pmax
comp=Z,47nm,0.8s,mb5.4
GTA Gaotai 44.77 70 P P 07 44 26.7 +0.9
GTA AP pP 07 44 32.7 +4.4
GTA XP sP 07 44 35.8 +6.4
GTA PP PP 07 46 11.4 -0.1
GTA S **S** 07 51 00.2 -2.2
GTA SS SS 07 54 11.0 -3.7
GTA AMB AMB
comp=Z,12nm,1.4s,mb4.5
GTA AMB AMB
comp=Z,307nm,3.8s
GTA LR LR
comp=N,3µm,15.6s,MS5.5
GTA LR LR
comp=E,3µm,14.4s,MS5.5
GTA LR LR
comp=Z,3µm,19.8s
SONM Songino Array 46.85 57 P P 07 44 41.6 -0.6
comp=Z,2.1nm,0.6s,mb4.2,baz=280,slow=9.5,SNR=18
SONM PcP PcP 07 46 14.5 -1.1
comp=Z,4.3nm,0.7s,baz=268,slow=3.0,SNR=12
ULN Ulaanbaatar 47.27 57 *e*P P 07 44 45.2 -0.3
ULN pmax pmax
comp=Z,54nm,1.1s,mb5.4
ULN Ulaanbaatar 47.27 57 *e*P P 07 44 45.2 -0.3
comp=Z,54nm,1.1s,mb5.4
LZH Lanzhou 48.96 73 ⇑P P 07 44 58.6 -0.3
LZH AP pP 07 45 06.1 +4.7
LZH XP sP 07 45 09.3 +6.9
LZH PP PP 07 46 53.0 +0.5
LZH S **S** 07 52 04.0 +1.9
LZH XS 07 52 15.0
LZH *eSS SS 07 55 27.0 -1.5
LZH AMB AMB
comp=Z,71nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,270nm,4.4s
LZH LR LR
comp=N,6µm,14.5s
LZH LR LR
comp=Z,10µm,17.5s,MS5.8
LZH Lanzhou 48.96 73 ⇑P P 07 44 58.6 -0.3
LZH *PP pP 07 45 06.1 +4.7
LZH 07 46 53.0
LZH S **S** 07 52 04.0 +1.9
LZH *SS 07 52 15.0
LZH *eSS SS 07 55 27.0 -1.5
LZH pmax pmax
comp=Z,71nm,1.6s,mb5.5
LZH MLR MLR
comp=Z,10µm,17.5s,MS5.8
LZH Lanzhou 48.96 73 ⇑P P 07 44 58.6 -0.3
comp=Z,71nm,1.6s,mb5.5
LZH pP pP 07 45 06.1 +4.7
LZH sP sP 07 45 09.3 +6.9
LZH PP PP 07 46 53.0 +0.5
LZH S **S** 07 52 04.0 +1.9
LZH sS 07 52 15.0
LZH *eSS SS 07 55 27.0 -1.5

LZH LR LR
comp=Z,10µm,17.5s,MS5.8
BOD Bodaibo 49.10 43 *e*P **P 07 44 57.5 -2.1**
BOD pmax pmax
comp=Z,29nm,1.0s,mb5.3
SUMG Summit 49.79 337 *e*P **P 07 45 03.1 -1.6**
comp=Z,72nm,1.2s,mb5.6
CD2 Chengdu 51.15 79 P **P 07 45 15.3 -0.3**
CD2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
BTO Baotou 51.65 65 *e*P **P 07 45 18.5 -0.8**
DBIC Dimbokro 52.44 244 P **P 07 45 23.4 -2.2**
comp=Z,54nm,1.2s,mb5.4,baz=27,slow=10,SNR=22
TIXI Tiksi 52.53 24⇓ *e*P **P 07 45 24.6 -1.0**
HHC Hu-ho-hao-te 52.64 64 *e*P **P 07 45 26.4 -0.4**
HHC AP pP 07 45 34.1 +4.8
HHC XP sP 07 45 36.7 +6.4
HHC PCP PcP 07 46 38.3 +1.5
HHC PP PP 07 47 25.3 -1.9
HHC S **S** **07 52 51.2 -1.5**
HHC XS 07 53 03.9
HHC SS SS 07 56 26.5 -3.4
HHC AMB AMB
comp=Z,35nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,329nm,4.3s
HHC LR LR
comp=N,4µm,16.1s,MS5.6
HHC LR LR
comp=E,3µm,17.3s,MS5.6
HHC LR LR
comp=Z,2µm,20.2s,MS5.2
ALE Alert 52.91 351 P **P 07 45 29.0 +0.7**
comp=Z,202nm,1.6s,mb5.8,SNR=25
KMI Kunming 53.21 86 P **P 07 45 30.2 -1.1**
KMI AP pP 07 45 38.3 +4.5
KMI XP sP 07 45 41.6 +6.8
KMI S **S** **07 52 59.8 -0.9**
KMI XS 07 53 13.4
KMI SS SS 07 56 39.6 -0.1
KMI SSS SSS 07 58 30.8 +3.1
KMI AMB AMB
comp=Z,32nm,1.4s,mb5.1
KMI AMB AMB
comp=Z,218nm,3.1s
KMI LR LR
comp=N,2µm,17.1s,MS5.4
KMI LR LR
comp=E,2µm,18.9s,MS5.4
KMI LR LR
comp=Z,2µm,18.3s,MS5.1
KMI Kunming 53.21 86 P **P 07 45 30.2 -1.1**
KMI *PP pP 07 45 38.3 +4.5
KMI S **S** **07 52 59.8 -0.9**
KMI *SS 07 53 13.4
KMI SS SS 07 56 39.6 -0.1
KMI SSS SSS 07 58 30.8 +3.1
KMI pmax pmax
comp=Z,32nm,1.4s,mb5.1
KMI MLR MLR
comp=Z,2µm,18.3s,MS5.1
KMI Kunming 53.21 86 P **P 07 45 30.2 -1.1**
comp=Z,32nm,1.4s,mb5.1
KMI pP pP 07 45 38.3 +4.5
KMI sP sP 07 45 41.6 +6.8
KMI S **S** **07 52 59.8 -0.9**
KMI sS 07 53 13.4
KMI SS SS 07 56 39.6 -0.1
KMI SSS SSS 07 58 30.8 +3.1
KMI LR LR
comp=Z,2µm,18.3s,MS5.1
XAN Xi'an 53.60 73 P **P 07 45 32.4 -1.6**
XAN S **S** **07 53 11.7 +5.8**
XAN SS SS 07 56 45.2 -0.6
XAN AMB AMB
comp=Z,14nm,1.7s,mb4.6
XAN LR LR
comp=N,2µm,20.4s,MS5.5
XAN LR LR
comp=E,3µm,16.8s,MS5.5
XAN LR LR
comp=Z,2µm,15.7s,MS5.4
CHG Chiang Mai 53.73 95 ⇑P **P 07 45 35.4 +0.3**
comp=Z,23nm,0.8s,mb5.2
CMAR Chiang Mai Arr 53.94 95 P **P 07 45 34.6 -2.0**
comp=Z,9.0nm,0.9s,mb4.7,baz=293,slow=8.0,SNR=13
CMAR LR LR 08 12 31.0
comp=Z,805nm,21.7s,MS4.7,baz=290,slow=40
HIA Hailar 54.82 52 *e*P **P 07 45 41.7 -1.0**
HIA pmax pmax
comp=Z,52nm,1.3s
HIA Hailar 54.82 52 *e*P **P 07 45 41.7 -1.0**
comp=Z,52nm,1.3s,mb5.4
CLNS Chul'man 55.05 42 *e*P **P 07 45 55.2 +11**
CLNS *e* 07 47 53.8
CLNS *e*PPP PPP 07 48 57.8 -3.6
CLNS *e*S **S** **07 53 24.8 -0.2**
CLNS *e* 07 55 24.9
CLNS pmax pmax
comp=Z,15nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,6.0nm,0.8s
CLNS pmax pmax
comp=E,8.0nm,1.0s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,8.0nm,0.9s
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLNS smax
comp=N,193nm,11.4s
CLNS smax
comp=Z,204nm,11.7s
CLNS smax
comp=E,72nm,14.6s
CLNS MLR MLR
comp=N,5µm,16.0s,MS5.7
CLNS MLR MLR
comp=Z,7µm,16.0s,MS5.8
CLNS MLR MLR
comp=E,800nm,15.0s,MS5.7
SFJD Kangerlussuaq 55.05 331 *i* P **P 07 45 46.4 +2.2**
comp=E,14nm,1.0s,mb4.9
comp=Z,2µm,19.0s
NANT Nan 55.10 94 ⇑P **P 07 45 42.0 -3.1**
comp=Z,344nm,1.0s,mb6.3
GYA Guiyang 55.55 82⇑ *i*P **P 07 45 46.8 -1.5**
GYA AP pP 07 45 52.6 +1.7
GYA XP sP 07 45 56.9 +5.0
GYA PP PP 07 47 53.9 -0.1
GYA S **S** **07 53 34.2 +2.1**
GYA AMB AMB
comp=Z,30nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,150nm,3.6s
GYA LR LR
comp=N,2µm,24.0s,MS5.3
GYA LR LR
comp=E,2µm,24.6s,MS5.3
GYA LR LR
comp=Z,2µm,26.1s,MS5.1
YAK Yakutsk 55.57 35 *e*P **P 07 45 46.1 -1.9**
YAK *e* 07 46 43.7
YAK *e* 07 47 49.9
YAK *e*PPP PPP 07 49 05.8 -1.8
YAK *e*S **S** **07 53 32.6 +0.7**
YAK *e* 07 55 35.1
YAK *e*SS SS 07 57 21.9 +5.0
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=Z,17nm,1.0s,mb5.0
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK pmax pmax
comp=N,3.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK smax
comp=N,3.0nm,1.4s
YAK smax
comp=E,2.0nm,1.0s

YAK MLR MLR
comp=Z,2µm,15.0s,MS5.3
YAK MLR MLR
comp=N,1µm,13.0s,MS5.4
YAK MLR MLR
comp=E,2µm,15.0s,MS5.4
YAK Yakutsk 55.57 35⇑ *e*P **P 07 45 46.0 -2.0**
LSZ Lusaka 55.67 195 *e*P **P 07 45 48.4 -0.9**
LSZ pmax pmax
comp=Z,27nm,1.2s,mb5.2
LSZ Lusaka 55.67 195 *e*P **P 07 45 47.6 -1.7**
comp=Z,27nm,1.3s,mb5.1
ENH Enshi 55.79 77 *e*P **P 07 45 48.0 -2.0**
comp=Z,40nm,1.1s,mb5.4
BJI Beijing 56.18 63 P **P 07 45 51.8 -0.9**
BJI XP sP 07 46 03.4 +7.2
BJI S **S** **07 53 44.6 +4.2**
BJI AMB AMB
comp=Z,15nm,1.6s,mb4.8
BJI AMB AMB
comp=Z,193nm,3.4s
BJI LR LR
comp=N,4µm,20.0s,MS5.5
BJI LR LR
comp=E,2µm,20.1s,MS5.5
BJI LR LR
comp=Z,3µm,19.8s,MS5.4
BJI Beijing 56.18 63 P **P 07 45 51.8 -0.9**
BJI S **S** **07 53 44.6 +4.2**
BJI pmax pmax
comp=Z,15nm,1.6s,mb4.8
BJI MLR MLR
comp=Z,3µm,19.8s,MS5.4
BJI Beijing 56.18 63 P **P 07 45 51.8 -0.9**
comp=Z,15nm,1.6s,mb4.8
BJI sP sP 07 46 03.4 +7.2
BJI S **S** **07 53 44.6 +4.2**
BJI SS SS 07 57 46.8 +20
BJI LR LR
comp=Z,3µm,19.8s,MS5.4
NST Nakhon Sawan 56.49 97 P **P 07 45 57.0 +1.8**
NNT Nongplab 58.07 100 P **P 07 46 08.0 +1.6**
WHN Wuhan 59.30 74 *e*P **P 07 46 13.8 -1.0**
WHN LR LR
comp=Z,5µm,20.0s,MS5.7
DL2 Dalian 60.45 62 P **P 07 46 25.7 +3.1**
DL2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
DL2 LR LR
comp=N,740nm,16.5s,MS5.2
DL2 LR LR
comp=E,1µm,16.3s,MS5.2
DL2 LR LR
comp=Z,1µm,15.7s,MS5.2
MATP Matopo 60.62 193 LR LR 08 11 29.3
comp=Z,2µm,18.4s,MS5.3,baz=12,slow=35
CN2 Changchun 60.69 56 *e*P **P 07 46 22.7 -1.4**
CN2 XP sP 07 46 33.6 +6.0
CN2 *e*S **S** **07 54 35.0 -4.1**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.8
CN2 LR LR
comp=N,5µm,16.0s,MS5.8
CN2 LR LR
comp=E,3µm,16.0s,MS5.8
CN2 LR LR
comp=Z,3µm,16.0s,MS5.5
NJ2 Nanjing 61.86 70 *e*P **P 07 46 33.2 +1.0**
NJ2 AP pP 07 46 40.7 +5.8
NJ2 XP sP 07 46 44.1 +8.3
NJ2 PP PP 07 48 51.5 +0.8
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.6
NJ2 AMB AMB
comp=Z,690nm,5.2s
NJ2 LR LR
comp=N,5µm,20.2s,MS5.8
NJ2 LR LR
comp=E,4µm,21.8s,MS5.8
NJ2 LR LR
comp=Z,4µm,23.8s,MS5.5
KLR Kul'dur 61.96 48 *e*P **P 07 46 23.9 -8.8**
KLR *e*S **S** **07 54 54.0 -1.2**
KLR *e* 07 56 20.0
KLR MLR MLR
comp=N,14µm,16.0s,MS6.2
KLR MLR MLR
comp=E,3µm,16.0s,MS6.2
QIZ Qiongzhong 62.05 88 P **P 07 46 32.2 -1.4**
QIZ S **S** **07 54 52.3 -4.5**
QIZ LR LR
comp=E,2µm,20.5s
QIZ LR LR
comp=Z,1µm,19.8s,MS5.0
TSUM Tsumeb 62.24 205 LR LR 08 13 08.9
comp=Z,4µm,18.7s,MS5.6,baz=188,slow=36
RES Resolute Bay 62.52 348 *e*P **P 07 46 35.6 -0.4**
RES pmax pmax
comp=Z,69nm,1.8s,mb5.5
RES Resolute Bay 62.52 348 *e*P **P 07 46 35.6 -0.4**
comp=Z,69nm,1.8s,mb5.5
MDJ Mudanjiang 62.91 53 P **P 07 46 37.4 -1.6**
MDJ PP PP 07 48 55.5 -3.5
MDJ S **S** **07 55 07.5 +0.2**
MDJ SS SS 07 59 11.4 -3.2
MDJ AMB AMB
comp=Z,13nm,2.2s,mb4.7
MDJ AMB AMB
comp=Z,203nm,4.8s
MDJ LR LR
comp=N,4µm,22.5s,MS5.6
MDJ LR LR
comp=E,3µm,21.2s,MS5.6
MDJ LR LR
comp=Z,3µm,19.2s,MS5.4
FRB Frobisher Bay 63.19 332 LR LR 08 14 43.7
comp=Z,2µm,19.8s,MS5.4,baz=65,slow=37
KULM Kulim 63.44 106 *e*P **P 07 46 40.1 -2.8**
SSE Sheshan 64.06 70 P **P 07 46 45.6 -1.2**
SSE XP sP 07 46 57.9 +7.6
SSE PP PP 07 49 05.7 -3.8
SSE S **S** **07 55 19.9 -1.9**
SSE XS 07 55 34.7
SSE SS SS 07 59 29.6 -2.6
SSE AMB AMB
comp=Z,44nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,71nm,3.2s
SSE LR LR
comp=N,2µm,25.9s,MS5.3
SSE LR LR
comp=E,2µm,25.9s,MS5.3
SSE LR LR
comp=Z,1µm,22.9s,MS5.0
SSE Sheshan 64.06 70 P **P 07 46 45.6 -1.2**
comp=Z,44nm,0.8s,mb5.5
SSE sP sP 07 46 57.9 +7.6
SSE PP PP 07 49 05.7 -3.8
SSE S **S** **07 55 19.9 -1.9**
SSE sS 07 55 34.7
SSE SS SS 07 59 29.6 -2.6
SSE LR LR
comp=Z,1µm,22.9s,MS5.0
SEY Seymchan 64.38 28 *e*P **P 07 46 49.9 +1.6**
SEY *e* 07 47 27.9
SEY *e*S **S** **07 55 25.2 0.0**
SEY *e*SS SS 07 59 40.5 +3.8
SEY pmax pmax
comp=E,20nm,0.8s
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.7
SEY smax
comp=N,2µm,25.8s
SEY smax
comp=E,2µm,27.3s
BILL Bilibino 65.36 20 *e*P **P 07 46 53.4 -1.1**
BILL pmax pmax
comp=Z,27nm,1.1s,mb5.2
BILL Bilibino 65.36 20 *e*P **P 07 46 53.4 -1.1**
comp=Z,26nm,1.1s,mb5.2
LBTB Lobatse 65.65 195 P **P 07 46 56.5 -0.7**
comp=Z,16nm,0.9s,mb5.0,baz=17,slow=6.4
MA2 Magadan 65.78 32 *e*P **P 07 46 56.2 -1.2**
MA2 pmax pmax
comp=Z,62nm,1.4s,mb5.5
MA2 Magadan 65.78 32 *e*P **P 07 46 56.1 -1.2**
comp=Z,62nm,1.4s,mb5.5
SCHQ Schefferville 67.75 323 P **P 07 47 07.8 -2.1**
comp=Z,8.4nm,0.7s,mb4.9,baz=38,slow=5.9,SNR=21
SCHQ LR LR 08 19 58.5
comp=Z,821nm,18.1s,MS5.0,baz=58,slow=39
SCHQ Schefferville 67.75 323 *e*P **P 07 47 07.5 -2.5**
comp=Z,28nm,1.2s,mb5.2
BOSA Boshof 69.21 195 *e*P **P 07 47 18.4 -1.1**
BOSA pmax pmax
comp=Z,33nm,1.4s,mb5.1
BOSA Boshof 69.21 195 *e*P **P 07 47 17.9 -1.6**
comp=Z,33nm,1.4s,mb5.1
YSS Yuzh-Sakhalins 69.41 46⇓ *e*P **P 07 47 18.0 -2.4**
YSS S S 07 56 30.0 +3.8
YSS pmax pmax
comp=Z,190nm,2.0s,mb5.7
YSS MLR MLR
comp=Z,2µm,17.0s,MS5.5
YSS MLR MLR
comp=N,2µm,15.0s,MS5.7
YSS MLR MLR
comp=E,3µm,16.0s,MS5.7
YSS Yuzh-Sakhalins 69.41 46⇑ *e*P **P 07 47 19.1 -1.3**
INK Inuvik 72.55 358 P **P 07 47 39.2 +0.4**
INK pmax pmax
comp=Z,27nm,1.1s
INK Inuvik 72.55 358 P **P 07 47 38.2 -0.6**
comp=Z,15nm,1.0s,mb4.9,baz=0.4,slow=7.0,SNR=19
INK LR LR 08 20 31.5
comp=Z,914nm,20.8s,MS5.0,baz=138,slow=37
INK Inuvik 72.55 358 *e*P **P 07 47 37.8 -1.1**
comp=Z,27nm,1.2s,mb5.0
MAT Matsushiro 72.80 57 P **P 07 47 44.0 +3.0**
MAT pmax pmax
comp=Z,38nm,1.3s,mb5.2
MAT MLR MLR
comp=Z,2µm,20.0s,MS5.4
MAT Matsushiro 72.80 57 P **P 07 47 44.0 +3.0**
comp=Z,38nm,1.3s,mb5.2
MAT *e*S S 07 57 23.0 +17
MAT LR LR
comp=Z,2µm,20.0s,MS5.4
MAT Matsushiro 72.80 57 P **P 07 47 43.6 +2.6**
MAT S S 07 57 22.6 +17
TNA Tin City 73.00 12 *e*P **P 07 47 41.5 -0.1**
comp=Z,14nm,1.2s,mb4.8
KSM Kuching 73.19 102⇑ *e*P **P 07 47 43.4 -0.4**
PET Petropavlovsk 73.38 34 *e*P **P 07 47 47.4 +3.4**
PET *e*S S 07 57 17.4 +5.5
PET *e*PS PS 07 57 59.9 +14
PET MLR MLR
comp=Z,2µm,19.0s,MS5.4
PET MLR MLR
comp=Z,2µm,20.0s
IMA Indian Mountai 74.27 6 *e*P **P 07 47 50.5 +1.6**
IMA pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
IMA Indian Mountai 74.27 6 *e*P **P 07 47 50.5 +1.6**
comp=Z,3.0nm,0.8s,mb4.3
FCC Fort Churchill 75.31 338 *e*P **P 07 47 55.2 +0.2**
FCC pmax pmax
comp=Z,60nm,1.2s,mb5.4
FCC Fort Churchill 75.31 338 *e*P **P 07 47 55.2 +0.2**
comp=Z,60nm,1.2s,mb5.4
COLA College 75.85 4 *e*P **P 07 47 59.6 +1.6**
COLA pmax pmax
comp=Z,25nm,0.9s,mb5.1
COLA College 75.85 4 *e*P **P 07 47 59.6 +1.6**
comp=Z,25nm,0.9s,mb5.1
ILAR Eielson Array 76.00 3 P **P 07 47 58.2 -0.7**
comp=Z,1.1nm,0.8s,baz=312,slow=4.4,SNR=7.0
ILAR PKPPKP 08 15 17.4
comp=Z,0.5nm,0.9s,baz=210,slow=3.2,SNR=5.2
ILAR LR LR 08 27 05.0
comp=Z,869nm,21.9s,MS5.0,baz=150,slow=40
YKW3 Yellowknife Ar 76.51 349 *e*P **P 07 48 01.1 -0.7**
YKA Yellowknife Ar 76.57 349 P **P 07 48 01.9 -0.2**
comp=Z,11nm,0.7s,mb4.9,baz=19,slow=6.0,SNR=77
YKA LR LR 08 23 10.6
comp=Z,1µm,19.0s,MS5.2,baz=5.0,slow=37
YKA Yellowknife Ar 76.57 349 P **P 07 48 01.9 -0.2**
YKA LR LR 08 23 10.6
DAWY Dawson 76.89 0 *e*P **P 07 48 03.6 -0.2**
MCK McKinley 76.92 4 P **P 07 48 03.4 -0.6**
MCK pmax pmax
comp=Z,28nm,1.4s,mb5.0
MCK McKinley 76.92 4 *e*P **P 07 48 03.4 -0.7**
comp=Z,28nm,1.4s,mb5.0
THY Trims Highway 77.40 3 *e*P **P 07 48 07.1 +0.4**
MENT Mentasta 77.95 2 *e*P **P 07 48 11.0 +1.3**
ACCN Adirondack Com 78.62 317 P **P 07 48 14.8 +1.0**
SML Sawmill 78.88 4 *e*P **P 07 48 15.0 +0.2**
PWA Palmer West 78.93 5 *e*P **P 07 48 17.1 +2.0**
PWA pmax pmax
comp=Z,58nm,1.2s,mb5.4
PWA Palmer West 78.93 5 *e*P **P 07 48 17.1 +2.0**
comp=Z,58nm,1.2s,mb5.4
FX1 Attu Island--F 79.22 27 LR LR 08 29 43.0
comp=Z,109nm,19.2s,baz=218,slow=41
SPU Mount Spurr 79.22 6 *e*P **P 07 48 20.3 +3.6**
FFC Flin Flon 81.02 339 P **P 07 48 28.3 +1.9**
comp=Z,181nm,1.1s,mb5.9,SNR=27
FFC Flin Flon 81.02 339 *e*P **P 07 48 26.8 +0.4**
FFC pmax pmax
comp=Z,81nm,1.4s,mb5.5
FFC Flin Flon 81.02 339 *e*P **P 07 48 26.8 +0.4**
comp=Z,81nm,1.4s,mb5.5
DLBC Dease Lake 82.25 355 P **P 07 48 34.5 +1.8**
comp=Z,18nm,1.1s,mb4.9,baz=360,slow=5.0,SNR=13
DLBC LR LR 08 24 48.4
comp=Z,976nm,21.9s,MS5.1,baz=359,slow=36
DLBC Dease Lake 82.25 355 *e*P **P 07 48 34.8 +2.1**
ERPA Erie 82.77 320 *e*P **P 07 48 36.5 +0.7**
comp=Z,175nm,1.7s,mb5.8
SSPA Standing Stone 82.78 318 *e*P **P 07 48 35.9 0.0**
comp=Z,95nm,1.7s,mb5.5
ULM Lac du Bonnet 83.00 334 P **P 07 48 38.2 +1.3**
comp=Z,13nm,0.8s,mb5.0,baz=42,slow=5.0,SNR=18
ULM LR LR 08 26 05.7
comp=Z,736nm,19.8s,MS5.1,baz=229,slow=36
ULM Lac du Bonnet 83.00 334 *e*P **P 07 48 38.0 +1.2**
comp=Z,100nm,1.4s,mb5.7
ALLY Alegheny Colle 83.19 320 P **P 07 48 39.5 +1.5**
AAM Ann Arbor 84.42 322 P **P 07 48 48.4 +4.2**
AAM pmax pmax
comp=Z,18nm,0.7s,mb5.3
AAM Ann Arbor 84.42 322 *e*P **P 07 48 45.2 +1.1**
comp=Z,18nm,0.6s,mb5.4
MCWV Mont Chateau 84.52 318 *e*P **P 07 48 44.9 +0.2**
comp=Z,16nm,0.7s,mb5.3
EDM Edmonton 85.12 345 P **P 07 48 48.1 +0.7**
EDM Edmonton 85.12 345 *e*P **P 07 48 47.7 +0.3**
CS6B Jaguaretama 85.47 259⇓ *i*P **P 07 48 51.1 +1.0**
CS6B *i* pP 07 48 54.0 +1.3
ACSO Alum Creek Sta 85.67 320 *e*P **P 07 48 51.7 +1.3**
comp=Z,124nm,1.6s,mb5.9
WALA Waterton Lakes 89.17 344 *e*P **P 07 49 07.0 -0.2**
comp=Z,55nm,1.5s,mb5.7
NEW Newport 90.58 346 *e*P **P 07 49 15.0 +1.2**
NEW pmax pmax
comp=Z,58nm,1.2s
NEW Newport 90.58 346 P **P 07 49 15.0 +1.2**
comp=Z,33nm,1.0s,mb5.6,baz=26,slow=5.4,SNR=32
NEW LR LR 08 30 43.6
comp=Z,1µm,21.9s,MS5.4,baz=25,slow=36
NEW Newport 90.58 346 *e*P **P 07 49 15.0 +1.2**
comp=Z,58nm,1.2s,mb5.8
MSO Missoula 91.28 343 *e*P **P 07 49 18.6 +1.6**
comp=Z,26nm,1.4s,mb5.4
BOZ Bozeman (W) 91.84 341 *e*P **P 07 49 21.6 +2.0**
BOZ pmax pmax
comp=Z,31nm,1.5s,mb5.4
BOZ Bozeman (W) 91.84 341 *e*P **P 07 49 21.6 +1.9**
comp=Z,31nm,1.5s,mb5.4
LRAL Lakeview Retre 93.29 318 *e*P **P 07 49 25.9 -0.7**
comp=Z,36nm,1.4s,mb5.6
IMW Indian Meadow 93.29 340 *e*P **P 07 49 28.5 +2.1**
MOOW Moose Ponds 93.38 340 *e*P **P 07 49 28.4 +1.6**
WUWY Wally Ulrich 93.57 340 *e*P **P 07 49 31.0 +3.3**
SNOW Snow King Moun 93.65 340 *e*P **P 07 49 31.6 +3.6**
TPAW Teton Pass 93.67 340 *e*P **P 07 49 31.4 +3.3**
BMO Blue Mountains 93.89 345 *e*P **P 07 49 29.8 +0.7**
comp=Z,12nm,1.1s,mb5.2
RRI2 Red Ridge 93.91 340 *e*P **P 07 49 31.0 +1.8**
PDAR Pinedale Array 93.96 339 P **P 07 49 31.6 +2.1**
comp=Z,1.9nm,0.8s,mb4.6,baz=27,slow=3.5,SNR=14

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PDAR				LR	LR	08 33 20.2	
	comp=Z,2µm,19.9s,MS5.6,baz=27,slow=36						
PHWY	**Pilot Hill**	**94.06**	**335**	*e*P	**P**	**07 49 32.3**	**+2.4**
HLID	**Hailey**	**94.48**	**342**	*e*P	**P**	**07 49 34.3**	**+2.5**
	comp=Z,12nm,1.5s,mb5.1						
SDCO	**Great Sand Dun**	**97.28**	**334**	*e*P	**P**	**07 49 47.3**	**+2.6**
	comp=Z,4.0nm,1.1s,mb4.8						
ELK	**Elko**	**97.34**	**342**	LR	LR	08 35 55.3	
	comp=Z,1µm,19.0s,MS5.4,baz=242,slow=37						
PV10	**Paradox Valley**	**97.86**	**337**	*e*P	**P**	**07 49 49.0**	**+1.7**
PV01	**Paradox Valley**	**97.93**	**336**	P	**P**	**07 49 49.9**	**+2.3**
BDFB	**Brasilia**	**98.96**	**257**	LR	LR	08 35 27.6	
	comp=Z,2µm,20.5s,MS5.6,baz=57,slow=36						
ANMO	**Albuquerque**	**100.13**	**333**	P	P	07 50 01.1	+3.4
	comp=Z,0.2nm,0.3s,baz=45,slow=6.6,SNR=3.7						
NVAR	**Mina Array Bea**	**100.25**	**344**	P	P	07 50 00.9	+2.7
	comp=Z,0.9nm,0.9s,baz=23,slow=5.5,SNR=6.8						
NVAR				PP	PP	07 54 01.0	-5.8
	comp=Z,0.9nm,1.0s,baz=315,slow=2.6,SNR=3.9						
NVAR				PKKPbc		08 06 18.1	
	comp=Z,0.4nm,0.7s,baz=200,slow=4.0,SNR=4.3						
TXAR	**Lajitas Array**	**104.10**	**329**	Pdiff	Pdif	07 50 19.5	+4.0
	comp=Z,0.4nm,0.9s,baz=72,slow=4.0,SNR=3.8						
TXAR	**Lajitas Array**	**104.10**	**329**	Pdif	Pdif	07 50 19.5	+4.0
WRA	**Warramunga Arr**	**104.92**	**104**	PP	PP	07 54 46.1	+3.6
	comp=Z,2.1nm,1.0s,baz=313,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**106.80**	**107**	PKiKP		07 54 38.9	
	comp=Z,0.5nm,0.7s,baz=314,slow=1.8,SNR=6.3						
ASAR				PP	PP	07 54 57.8	+1.3
	comp=Z,2.5nm,1.1s,baz=325,slow=6.5,SNR=4.1						
STKA	**Stephens Creek**	**117.00**	**110**	PKP	PKPdf	07 54 57.5	-1.0
	comp=Z,5.3nm,1.1s,baz=0.9,slow=6.0,SNR=5.3						
PLCA	**Paso Flores**	**128.80**	**245**	*e*PKIKP	PKPdf	07 55 18.8	-2.3
PLCA	**Paso Flores**	**128.80**	**245**	PKP	PKPdf	07 55 19.2	-1.9
	comp=Z,9.7nm,1.1s,baz=61,slow=3.4,SNR=7.7						
QSPA	**South Pole Qui**	**129.22**	**180**	⇑*i*P	PKPdf	07 55 21.1	+0.2
URZ	**Urewera**	**146.08**	**102**	PKPbc	PKPbc	07 55 49.4	-1.2
	comp=Z,30nm,0.7s,baz=301,slow=3.6,SNR=23						
TAOE	**Nuku Hiva Isla**	**149.58**	**2**	*e*LR	LR	08 45 30.0	
PPT	**Papeete**	**156.41**	**26**	*e*LR	LR	08 48 35.3	
	comp=Z,2µm,31.2s						
TBI	**Tubuai**	**161.73**	**32**	*e*LR	LR	08 51 15.8	
	comp=Z,710nm,24.5s						
RKT	**Rikitea**	**163.41**	**347**	*e*LR	LR	08 52 01.3	
	comp=Z,932nm,24.8s						

IDC 12 07:38:39.7±1.2**, 14.55S×71.71W, mb3.8**/3**, mb1 4.1**/5**, mb1mx3.8**/18**, mbtmp3.7**/5**, ML3.6**/2**, MS3.5**/5**, Ms1 3.5**/5**, ms1mx3.1**/29**, Error ellipse: s-maj=46.7km s-min=21.6km az=59.0, Central Peru**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.86**	**117**	Pn	Pn	07 39 40.6	-1.0
	1.7nm,0.3s,baz=292,slow=14,SNR=22						
LPAZ				Sn	Sn	07 40 29.2	+0.7
	1.6nm,0.3s,baz=139,slow=11,SNR=3.6						
LVC	**Limon Verde**	**8.45**	**162**	Pn	P	07 40 43.2	-3.2
	0.2nm,0.3s,baz=320,slow=10,SNR=4.7						
LVC				LR	LR	07 43 55.3	
	comp=Z,292nm,18.6s,baz=327,slow=37						
BDFB	**Brasilia**	**22.90**	**96**	LR	LR	07 53 03.0	
	comp=Z,264nm,18.4s,baz=113,slow=38						
SDV	**Santo Domingo**	**23.30**	**3**	LR	LR	07 53 50.2	
	comp=Z,130nm,20.9s,baz=221,slow=39						
PLCA	**Paso Flores**	**26.11**	**178**	P	P	07 44 15.6	-1.4
	2.4nm,1.0s,baz=356,slow=14,SNR=3.4						
PLCA				LR	LR	07 54 32.0	
	comp=Z,97nm,19.9s,baz=359,slow=36						
JTS	**JuntasAbangare**	**27.95**	**331**	LR	LR	07 54 54.1	
	comp=Z,68nm,21.2s,baz=39,slow=35						
TXAR	**Lajitas Array**	**53.43**	**325**	P	P	07 48 02.0	-1.9
	0.1nm,0.6s,baz=149,slow=7.3,SNR=3.8						
YKA	**Yellowknife Ar**	**83.78**	**341**	P	P	07 51 09.4	-2.4
	1.9nm,0.9s,baz=132,slow=4.6,SNR=5.6						
SONM	**Songino Array**	**146.77**	**2**	PKPbc	PKPbc	07 58 24.4	+1.0
	0.8nm,0.9s,baz=353,slow=3.9,SNR=3.7						

*NEIC **12** 07:40:25.2, 11.14N×62.32W, h112km, MD3.6(TRN), After TRN.*
*TRN **12** 07:40:25.2, 11.14N×62.32W, h113km, MD3.6*
*FUNV **12** 07:40:26.2, 10.98N×62.37W, h114km, MW2.7*
ISC 12 07:40:23.5±0.8**, 11.10N**±0.04×**62.37W**±0.04**, h119**km±7km**, n18,** $\sigma 1^{s}$**12**/31**, 4C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.47**	**163**	*e*P	**P**	**07 40 42.2**	**+1.0**
GUIV				*e*S	**S**	**07 40 54.4**	**-0.2**
ITEV	**Isla Los Testi**	**0.79**	**289**	*e*P	**P**	**07 40 44.9**	**+1.3**
ITEV				*e*S	**S**	**07 41 00.2**	**+1.4**
CRUV	**Carupano**	**0.95**	**244**	*e*P	**P**	**07 40 46.8**	**+1.6**
CRUV				*e*S	**S**	**07 41 01.1**	**-0.3**
TRN	**Trinidad (W)**	**1.05**	**115**	⇑*i*P	**P**	**07 40 47.2**	**+1.0**
TRN				*e*S	**S**	**07 41 01.7**	**-1.4**
GUNV	**Guanoco**	**1.09**	**211**	*e*P	**P**	**07 40 47.9**	**+1.3**
GUNV				*e*S	**S**	**07 41 02.2**	**-1.7**
TPP	**Pointe-a-Pierr**	**1.19**	**131**	⇑*e*P	**P**	**07 40 49.5**	**+1.8**
TPP				*e*S	**S**	**07 41 07.0**	**+1.2**
GRW	**Mount Saint Ca**	**1.26**	**33**	*e*P	**P**	**07 40 49.2**	**+0.7**
GRW				*e*S	**S**	**07 41 05.7**	**-1.5**
GRHS	**Sauteurs**	**1.32**	**32**	⇓*i*P	**P**	**07 40 49.6**	**+0.4**
GRHS				*e*S	**S**	**07 41 07.6**	**-1.1**
TBH	**Brigand Hill**	**1.42**	**115**	*e*P	**P**	**07 40 51.1**	**+0.9**
TBH				*e*S	**S**	**07 41 10.2**	**-0.3**
TPR	**Prospect**	**1.56**	**87**	⇑*i*P	**P**	**07 40 51.8**	**-0.2**
TPR				*e*S	**S**	**07 41 13.2**	**-0.3**
BOT	**Bacolet**	**1.62**	**87**	⇑*i*P	**P**	**07 40 52.2**	**-0.4**
ORIV	**Oritupano**	**2.26**	**207**	*e*S	**S**	**07 41 25.6**	**-3.3**
SVB	**Belmont**	**2.42**	**27**	*e*P	**P**	**07 41 02.5**	**-0.4**
SVV	**Soufriere Volc**	**2.48**	**27**	*e*P	**P**	**07 41 03.9**	**+0.2**
SVV				*e*S	**S**	**07 41 33.4**	**-0.6**
BIRV	**Birongo**	**3.88**	**261**	*e*P	**P**	**07 41 21.9**	**-0.6**
CAOV	**Caicara del Or**	**5.41**	**227**	*e*P	**P**	**07 41 41.9**	**-1.2**
CAOV				*e*S	**S**	**07 42 37.7**	**-7.0**
BAUV	**El Baul**	**5.99**	**250**	*e*P	**P**	**07 41 49.7**	**-1.1**
BAUV				*e*S	**S**	**07 42 51.6**	**-7.0**
TPNV	**Topopah Spring**	**54.69**	**308**	*e*P	**P**	**07 49 46.5**	**+3.8**

CASC 12 08:04:14.1±2.3**, 11.95N×86.61W, h122**km±13km**, MD3.8, ML3.5, 9C-5D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XAVN	**Gruta Xavier**	**0.34**	**55**	⇑*e*P	P	08 04 31.5	0.0
XAVN				*e*S	S	08 04 46.3	+1.6
TICN	**Ticuantepe**	**0.38**	**78**	⇑*e*P	P	08 04 31.7	0.0
TICN				*e*S	S	08 04 45.3	+0.2
MGAN	**Managua**	**0.41**	**62**	⇑*e*P	P	08 04 31.6	-0.2
MGAN				*e*S	S	08 04 45.1	-0.2
	comp=N,832nm,0.5s						
MGAN				*i*		08 04 46.0	
	comp=E,979nm,0.7s						
MOMJ	**Momotombo**	**0.46**	**9**	⇑*e*P	P	08 04 31.9	-0.2
WILN	**Americas 2**	**0.46**	**64**	⇑*e*P	P	08 04 31.8	-0.4
WILN				*e*S	S	08 04 45.4	-0.5
LEON	**Leon**	**0.53**	**329**	⇑*e*P	P	08 04 32.9	+0.3
APON	**Apoyo**	**0.54**	**94**	⇓*e*P	P	08 04 32.4	-0.2
APON				*e*S	S	08 04 45.9	-0.8
CNGN	**Cerro Negro**	**0.55**	**351**	⇑*e*P	P	08 04 32.8	+0.1
TEL3	**Telica 3**	**0.66**	**340**	⇑*e*P	P	08 04 34.1	+0.7
TEL3				*e*S	S	08 04 48.8	+0.7
TELN	**Telica**	**0.68**	**342**	⇓*e*P	P	08 04 34.2	+0.6
TELN				*e*S	S	08 04 49.8	+1.3
PYTN	**Playitas**	**0.79**	**43**	⇓*i*P	P	08 04 34.3	-0.3
PYTN				*e*S	S	08 04 49.3	-0.7
CRIN	**San Cristobal**	**0.86**	**330**	⇓*e*P	P	08 04 35.7	+0.5
CRIN				*e*S	S	08 04 53.0	+2.0
CONN	**Concepcion**	**1.04**	**112**	⇓*e*P	P	08 04 36.3	-0.7
BLLM	**Bellamira**	**2.17**	**313**	*e*S	S	08 05 17.7	0.0
VSM	**San Miguel**	**2.19**	**312**	*e*S	S	08 05 20.9	+2.9
SNVI	**San Vicente**	**2.73**	**307**	*e*S	S	08 05 29.9	-0.8
LCBS	**La Ceiba**	**2.86**	**306**	*e*P	P	08 04 59.8	+0.3
LCBS				*e*S	S	08 05 33.5	-0.3
LFRS	**El Faro**	**2.91**	**305**	*e*P	P	08 05 00.4	+0.3
LFRS				*e*S	S	08 05 34.3	-0.7
LFU	**La Fuente**	**3.02**	**306**	⇑*e*P	P	08 05 02.6	+1.0
LFU				*e*S	S	08 05 37.9	+0.2
BOQS	**Boqueron**	**3.15**	**305**	*e*P	P	08 05 04.3	+1.0
BOQS				*e*S	S	08 05 40.5	-0.1
SBLS	**San Blas**	**3.48**	**303**	*e*P	P	08 05 08.7	+0.9
SBLS				*e*S	S	08 05 48.0	-0.7
RTR	**El Retiro**	**3.53**	**303**	*e*P	P	08 05 09.0	+0.6

*ISK **12** 08:16:59.0, 39.35N×40.86E, h14km, ML4.0*
ISC 12 08:16:59.2±0.8**, 39.37N**±0.04×**40.85E**±0.05**, h5**km±8km**, n23,** $\sigma 0^{s}$**96**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.56**	**210**	*i* PG	**Pg**	**08 17 10.3**	**-0.2**
VRT	**Varto**	**0.58**	**114**	*i* PG	**Pg**	**08 17 10.7**	**-0.1**
EZM	**Erzurum**	**0.67**	**36**	*i* PG	**Pg**	**08 17 12.1**	**-0.5**
ERZM	**Erzurum**	**0.67**	**36**	*i* P	**Pg**	**08 17 12.2**	**-0.5**
ERZM				*i* S	**Sg**	**08 17 23.8**	**+2.2**
EZC	**Erzincan**	**0.88**	**296**	PN	**Pn**	**08 17 21.7**	**+3.7**
PTK	**Pertek**	**1.23**	**248**	PN	**Pn**	**08 17 21.7**	**-1.2**
PTK	**Pertek**	**1.23**	**248**	SN	**Sn**	**08 17 38.6**	**-1.4**
BTMT	**Batman**	**1.27**	**157**	PN	**Pn**	**08 17 22.9**	**-0.7**
BEST	**Besiri**	**1.51**	**167**	*i* P	**Pn**	**08 17 28.2**	**+1.2**
BEST				*i* S	**Sb**	**08 17 49.4**	**+2.8**
GUMT	**Gumushane**	**1.52**	**316**	PN	**Pn**	**08 17 27.1**	**0.0**
GUMT	**Gumushane**	**1.52**	**316**	SN	**Sn**	**08 17 47.5**	**+0.1**
DIY	**Diyarbakir**	**1.55**	**199**	*e*PN	**Pn**	**08 17 26.7**	**-0.8**
ELZG	**Elazig**	**1.69**	**240**	*i* P	**Pn**	**08 17 30.4**	**+0.9**
ELZG				*i* S	**Sn**	**08 17 53.6**	**+1.7**
VANB	**Van**	**2.12**	**110**	*e*PN	**Pn**	**08 17 34.8**	**-1.0**
KARS	**Kars**	**2.13**	**53**	*e*PN	**Pn**	**08 17 35.0**	**-0.8**
MYA	**Malataya**	**2.16**	**242**	*e*PN	**Pn**	**08 17 36.2**	**-0.1**
MALT	**Malatya**	**2.16**	**242**	*e*PN	**Pn**	**08 17 36.4**	**+0.1**
URFA	**Urfa**	**2.50**	**220**	*e*PN	**Pn**	**08 17 40.8**	**-0.3**
GNI	**Garni**	**3.10**	**74**	*e*PN	**Pn**	**08 17 49.3**	**-0.4**
GAZ	**Gaziantep**	**3.60**	**234**	*e*PN	**Pn**	**08 17 56.9**	**0.0**
ONI	**Oni**	**3.77**	**31**	P	Px	08 18 09.2	
BNN	**Bunyan**	**3.92**	**264**	*e*PN	**Pn**	**08 18 01.5**	**+0.1**
CORM	**Corum**	**4.86**	**282**	*e*PN	**Pn**	**08 18 15.0**	**+0.3**

*ISK **12** 08:17:45.4, 39.39N×40.90E, h10km, ML4.1*
*CSEM **12** 08:17:45.4±0.1, 39.33N×40.89E, h5km, mb3.9, Error ellipse: s-maj=2.2km s-min=1.8km az=110.0*
*IDC **12** 08:17:49.6±1.3, 39.67N×40.78E, mb3.8/5, mb1 4.0/9, mb1mx3.8/22, mbtmp3.9/9, ML4.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.8/34, Error ellipse: s-maj=22.6km s-min=16.9km az=21.0*
*NEIC **12** 08:17:51.6±0.8, 39.80N×40.73E, h10km, mb3.9/1, Error ellipse: s-maj=13.9km s-min=12.5km az=92.0*
*MOS **12** 08:17:52.2±1.6, 40.01N×40.88E, h10km, mb3.9/1, Error ellipse: s-maj=23.9km s-min=11.6km az=108.7*
ISC 12 08:17:46.4±0.5**, 39.41N**±0.03×**40.90E**±0.05**, h10**km**, n31,** $\sigma 1^{s}$**11**/38**, mb3.8**/6**, 2C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.57**	**120**	*i* Pg	**Pg**	**08 17 56.5**	**-1.4**
ERZM	**Erzurum**	**0.61**	**36**	*i* P	**Pb**	**08 17 58.1**	**-0.6**
ERZM				*i* S	**Sg**	**08 18 09.0**	**+2.0**
BINT	**Bingol**	**0.62**	**211**	*i* Pg	**Pg**	**08 17 57.6**	**-1.4**
PTK	**Pertek**	**1.28**	**246**	*e*Pn	**Pn**	**08 18 09.9**	**-0.5**
PTK				*e*Sn	**Sn**	**08 18 28.6**	**+0.9**
BEST	**Besiri**	**1.55**	**169**	*i* P	**Pn**	**08 18 14.5**	**+0.3**
BEST				*i* S	**Sb**	**08 18 36.0**	**+1.8**
DIY	**Diyarbakir**	**1.60**	**199**	*e*Pn	**Pn**	**08 18 14.0**	**-1.0**
ELZG	**Elazig**	**1.75**	**239**	*i* P	**Pn**	**08 18 17.8**	**+0.7**
ELZG				*i* S	**Sn**	**08 18 39.2**	**-0.4**
MYA	**Malataya**	**2.21**	**241**	*e*Pn	**Pn**	**08 18 23.4**	**-0.3**
GNI	**Garni**	**3.05**	**75**	Pn	**Pn**	**08 18 42.2**	**+6.4**
	17nm,0.3s,baz=227,slow=8.2,SNR=5.8						
GNI				LR	LR	08 19 35.9	
	comp=Z,260nm,19.1s,baz=252,slow=34						
SVST	**Sivas**	**3.07**	**278**	*i* P	**Pn**	**08 18 37.8**	**+1.9**
SVST				*i* S	**Sn**	**08 19 29.5**	**+16**
MSL	**Mosul**	**3.57**	**150**	*e*Pn	Px	08 18 41.0	
MSL				*e*Pb	Px	08 18 50.0	
MSL				*i* Sn	**Sn**	**08 19 39.0**	**+13**
ONI	**Oni**	**3.71**	**31**	S	**Sn**	**08 19 46.9**	**+18**
SOC	**Sochi**	**4.26**	**348**	*e*PN	**Pn**	**08 18 52.2**	**-0.7**
SOC				*e*		08 19 42.8	
SOC				pmax	pmax		
	comp=N,10.0nm,0.6s						
SOC				pmax	pmax		
	comp=Z,35nm,0.6s						
SOC				pmax	pmax		
	comp=E,19nm,0.4s						
SOC				MLR	MLR		
	comp=N,548nm,13.0s						
SOC				MLR	MLR		
	comp=E,461nm,13.0s						
SOC				MLR	MLR		
	comp=Z,367nm,13.0s						
KIV	**Kislovodsk**	**4.73**	**16**	PN	**Pn**	**08 18 57.1**	**-2.5**
KIV	**Kislovodsk**	**4.73**	**16**	P	**Pn**	**08 18 57.1**	**-2.4**
GOF	**Gofitskoye**	**5.86**	**15**	*e*PN	**Pn**	**08 19 31.4**	**+16**
GOF				*i* S	**Sg**	**08 20 52.2**	**-9.3**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s						
GOF				smax			
	comp=N,80nm,1.4s						
GOF	**Gofitskoye**	**5.86**	**15**	*i* Sg	**Sg**	**08 20 52.2**	**-9.3**
ASF	**Jabal al Asfar**	**7.92**	**205**	Pn	**Pn**	**08 19 50.5**	**+6.1**
	comp=N,0.7nm,0.3s,baz=246,slow=18,SNR=3.6						
ASF				Sn	**Sn**	**08 21 28.3**	**+13**
	comp=N,0.3nm,0.3s,baz=234,slow=19,SNR=2.2						
ASF				Lg		08 22 06.3	
	comp=N,1.6nm,0.3s,baz=245,slow=22,SNR=3.4						
CFR	**Carcaliu**	**11.06**	**305**	⇑P	**P**	**08 20 33.0**	**+5.3**
MLR	**Muntele Rosu**	**12.59**	**304**	Pn	**P**	**08 20 53.1**	**+4.7**
	comp=N,0.5nm,0.3s,baz=203,slow=6.2,SNR=3.3						
MLR	**Muntele Rosu**	**12.59**	**304**	⇓P	**P**	**08 20 57.7**	**+9.3**
AKASG	**Malin Array Be**	**13.96**	**328**	Pn	**P**	**08 21 05.4**	**-1.0**
	comp=N,1.1nm,0.3s,baz=132,slow=13,SNR=13						
BURAR	**Bucovina Array**	**14.00**	**311**	⇑P	**P**	**08 21 14.1**	**+7.1**
GERES	**GERESS Array B**	**21.58**	**305**	P	**P**	**08 22 38.9**	**+0.9**
	comp=N,1.0nm,0.8s,mb3.3,baz=114,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**23.88**	**342**	P	**P**	**08 23 01.6**	**+1.1**
	comp=N,1.9nm,0.6s,mb3.7,baz=146,slow=10.0,SNR=9.0						
FINES	**FINESS Array B**	**23.88**	**342**	P	**P**	**08 23 01.5**	**+1.0**
KAF	**Kangasniemi**	**24.41**	**343**	*e*p	**P**	**08 23 05.6**	**-0.1**
	comp=N,2.6nm,0.8s,mb3.7						
KAF	**Kangasniemi**	**24.41**	**343**	*e*P	**P**	**08 23 05.6**	**-0.1**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.8						
HFS	**Hagfors**	**26.84**	**330**	P	**P**	**08 23 27.8**	**-0.7**
	comp=Z,6.2nm,1.0s,mb4.1,baz=114,slow=14,SNR=4.0						
ARCES	**ARCESS Array B**	**31.28**	**350**	P	**P**	**08 24 07.6**	**-0.7**
	comp=Z,4.7nm,1.0s,mb4.3,baz=158,slow=9.7,SNR=5.2						
YKA	**Yellowknife Ar**	**76.54**	**349**	P	**P**	**08 29 38.7**	**+0.9**
	comp=Z,0.7nm,1.1s,mb3.5,baz=12,slow=5.3,SNR=4.5						

*TAP **12** 08:19:26.0, 24.68N×122.51E, h4km±1km, ML2.6*
JMA 12 08:19:24.4±0.1**, 24.83N×122.73E, h15**km**, M2.2, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.45**	**145**	P	Pb	08 19 33.3	-0.1
YOJ				*e*S	Sb	08 19 39.5	-0.1
IRIF	**Iriomote-Funau**	**1.03**	**118**	P	Pb	08 19 43.6	+0.1
IRIF				*e*S	Sb	08 19 58.3	+1.6
HATJ	**Hateruma jima**	**1.25**	**128**	*e*S	Sb	08 20 04.2	+1.4
JKRS	**Kuro-shima**	**1.31**	**117**	P	Pb	08 19 48.0	-0.1
JKRS				*e*S	Sb	08 20 05.6	+1.1
JIJ	**Ishigaki jima**	**1.37**	**110**	P	Pn	08 19 48.7	-0.4
JIJ				*e*S	Sb	08 20 06.6	+0.3

*MAN **12** 08:24:49.9, 15.78N×120.43E, h1km, mb3.6, ML2.3, MS1.8*
ISC 12 08:24:48.3±1.6**, 15.44N**±0.08×**120.29E**±0.07**, h47**km±38km**, n5,** $\sigma 1^{s}$**31**/8**, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.50**	**313**	*e*P	**P**	**08 24 59.9**	**+0.5**
SCZP				*e*S	**S**	**08 25 07.1**	**-0.1**
PCPH	**Palayan**	**0.79**	**81**	⇓*e*P	**P**	**08 25 03.0**	**-0.1**
PCPH				*i* S	**S**	**08 25 13.4**	**-0.7**
BOLP	**Bolinao**	**1.00**	**339**	*e*P	**P**	**08 25 05.1**	**-1.1**
BALP	**Baler**	**1.27**	**76**	*e*P	**P**	**08 25 11.2**	**+1.2**
LUBP	**Lubang**	**1.70**	**181**	*e*P	**P**	**08 25 17.5**	**+1.5**
LUBP				*e*S	**S**	**08 25 35.5**	**-1.2**

*BJI **12** 08:53:55.9, 41.99N×143.21E, h78km, mB4.9, mb4.5, Ms4.0, Msz3.9*
*NIED **12** 08:54:00, 42.10N×142.60E, h44km, Mw4.2 Best double couple: M₀2.17×10^15 NP1:φs331°, δ89°, λ-123°. NP2: φs240°, δ33°, λ-1°.*
*MOS **12** 08:54:00.9±0.9, 42.00N×142.55E, h71km, mb4.6/5, Error ellipse: s-maj=18.9km s-min=9.2km az=77.2*
*JMA **12** 08:54:01.6±0.1, 42.05N×142.57E, h46km±2km, M4.2*
JMA Felt II J1.
*IDC **12** 08:54:02.8±2.5, 42.02N×142.51E, h63km±19km, mb3.8/16, mb1 4.0/17, mb1mx3.9/24, mbtmp4.1/17, Error ellipse: s-maj=18.5km s-min=14.8km az=134.0*
*NEIC **12** 08:54:03.9±1.0, 41.98N×142.53E, h78km±9km, mb4.3/7, Error ellipse: s-maj=11.3km s-min=8.2km az=120.0*
NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in Aomori Prefecture, Honshu.
ISC 12 08:54:00.3±0.3**, 42.00N**±0.03×**142.55E**±0.04**, h57**km±3km**, n58,** $\sigma 1^{s}$**02**/73**, mb4.2**/24**, 5C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.32**	**28**	⇓P	**P**	**08 54 09.9**	**-0.4**
JNBK				*e*S	**S**	**08 54 16.2**	**-1.4**
ERM	**Erimo**	**0.45**	**88**	Pn	**P**	**08 54 12.3**	**+0.7**
	53µm,0.5s						
JEM	**Erimo**	**0.45**	**88**	⇓P	**P**	**08 54 11.8**	**+0.2**
JEM				*e*S	**S**	**08 54 19.4**	**-0.4**
JBT2	**Biratori 2**	**0.79**	**350**	⇑P	**P**	**08 54 15.6**	**0.0**
JBT2				*e*S	**S**	**08 54 26.7**	**-0.2**
JCH	**Churui**	**0.86**	**44**	⇓P	**P**	**08 54 16.6**	**+0.1**
JCH				*e*S	**S**	**08 54 27.8**	**-0.8**
JKB	**Kayabe**	**1.14**	**265**	⇑P	**P**	**08 54 20.6**	**+0.3**
JKB				*e*S	**S**	**08 54 34.7**	**-0.5**
JFR	**Furan**	**1.17**	**2**	⇓P	**P**	**08 54 20.7**	**+0.1**
JEW	**Eniwo**	**1.17**	**316**	⇑P	**P**	**08 54 21.0**	**+0.3**
JEW				*e*S	**S**	**08 54 35.5**	**-0.5**
JNB	**Noboribetsu**	**1.22**	**293**	⇑P	**P**	**08 54 21.0**	**-0.4**
JNB				*e*S	**S**	**08 54 35.8**	**-1.3**
JOT	**Ohata**	**1.28**	**242**	P	**P**	**08 54 22.7**	**+0.3**
JOT				*e*S	**S**	**08 54 38.4**	**-0.4**
JOB	**Onbets**	**1.31**	**46**	⇓P	**P**	**08 54 23.7**	**+0.8**
JOB				*e*S	**S**	**08 54 40.5**	**+0.9**
JAB	**Ashibetsu**	**1.52**	**351**	⇓P	**P**	**08 54 26.0**	**+0.2**
ASAJ	**Asahikawa**	**2.12**	**1**	P	**P**	**08 54 34.8**	**+0.8**
ASAJ				S	**S**	**08 55 01.2**	**+2.1**
ASAJ				pmax	pmax		
	comp=Z,52nm,0.3s						
ASAJ				smax			
	comp=N,36nm,0.3s						
ASAJ	**Asahikawa**	**2.12**	**1**	P	**P**	**08 54 34.8**	**+0.8**
	comp=N,52nm,0.3s,baz=241,slow=8.7,SNR=100						
ASAJ				S	**S**	**08 55 01.2**	**+2.1**
	comp=N,36nm,0.3s,baz=89,slow=33,SNR=11						
YUK	**Yuzh-Kuril'sk**	**3.17**	**49**	⇑*i*P	**P**	**08 54 49.4**	**+0.4**
YUK				*i* S	**S**	**08 55 24.8**	**-1.0**
YUK				pmax	pmax		
	comp=Z,2µm,0.6s						
YUK				pmax	pmax		
	comp=Z,460nm,0.4s						
YUK				pmax	pmax		
	comp=N,370nm,0.5s						
YUK				pmax	pmax		
	comp=E,160nm,0.4s						
YUK				smax			
	comp=N,2µm,0.5s						
YUK				smax			
	comp=E,1µm,0.5s						
YUK				smax			
	comp=N,7µm,1.5s						
YUK				smax			
	comp=E,3µm,1.2s						
YSS	**Yuzh-Sakhalins**	**4.96**	**2**	*e*P	**P**	**08 55 15.6**	**+1.5**
MAJO	**Matsushiro**	**6.40**	**213**	*e*P	**P**	**08 55 34.6**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,42nm,0.7s						
MAJO	**Matsushiro**	**6.40**	**213**	*e*P	**P**	**08 55 34.6**	**+0.4**
	comp=Z,42nm,0.7s						
MAT	**Matsushiro**	**6.40**	**213**	*e*P	**P**	**08 55 35.0**	**+0.8**
MAT				S	**S**	**08 56 47.0**	**+0.2**
MAT				pmax	pmax		
	comp=Z,17nm,0.6s						
MAT	**Matsushiro**	**6.40**	**213**	*e*P	**P**	**08 55 35.0**	**+0.8**
	comp=Z,17nm,0.6s						
MAT				S	**S**	**08 56 47.0**	**+0.2**
MAT	**Matsushiro**	**6.40**	**213**	P	**P**	**08 55 35.3**	**+1.1**
MAT				*e*S	**S**	**08 56 47.2**	**+0.4**
MDJ	**Mudanjiang**	**9.80**	**290**	P	**P**	**08 56 22.2**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,13nm,2.3s						
MDJ				AMB	AMB		
	comp=Z,190nm,6.8s						
MDJ	**Mudanjiang**	**9.80**	**290**	P	**P**	**08 56 24.0**	**+3.0**
CN2	**Changchun**	**12.67**	**284**	*e*P	**P**	**08 57 02.1**	**+2.3**
BJI	**Beijing**	**19.97**	**273**	P	**P**	**08 58 28.0**	**-2.4**
BJI				AMB	AMB		
	comp=Z,11nm,0.9s						
BJI	**Beijing**	**19.97**	**273**	P	**P**	**08 58 28.0**	**-2.4**
	comp=Z,11nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.20**	**278**	*e*P	**P**	**08 59 05.4**	**+2.7**
HHC				PP	PP	08 59 41.4	+6.5
HHC				PCP	PcP	09 02 49.9	-1.1
HHC				S	**S**	**09 03 08.9**	**+2.3**
HHC				XS		09 03 42.2	
HHC				SS	SS	09 04 00.6	+4.9
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.5						
SONM	**Songino Array**	**26.09**	**295**	P	**P**	**08 59 30.6**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.5,baz=74,slow=8.3,SNR=12						
ENH	**Enshi**	**28.98**	**257**	*e*P	**P**	**08 59 54.5**	**-2.1**
	comp=Z,4.6nm,0.5s,mb4.5						
ZAL	**Zalesovo**	**39.40**	**308**	P	**P**	**09 01 26.3**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.8,baz=14,slow=11,SNR=6.4						
WMQ	**Urumqi**	**39.60**	**292**	*e*P	**P**	**09 01 21.0**	**-6.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
IMA	**Indian Mountai**	**42.01**	**33**	P	**P**	**09 01 47.1**	**+0.1**
IMA				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
IMA	**Indian Mountai**	**42.01**	**33**	P	**P**	**09 01 47.1**	**0.0**
	comp=Z,7.4nm,0.7s,mb4.4						
KURK	**Kurchatov**	**43.71**	**304**	*e*P	**P**	**09 02 00.2**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**43.71**	**304**	*e*P	**P**	**09 02 00.2**	**-0.9**
	comp=Z,2.3nm,0.6s,mb4.1						
CMAR	**Chiang Mai Arr**	**43.77**	**251**	P	**P**	**09 02 02.7**	**+0.6**
	comp=Z,0.9nm,0.4s,mb3.9,baz=39,slow=7.9,SNR=3.5						
ILAR	**Eielson Array**	**44.88**	**35**	P	**P**	**09 02 09.9**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=258,slow=5.5,SNR=52						
CHKZ	**Chkalovo**	**47.67**	**310**	*e*P	**P**	**09 02 32.2**	**-0.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**47.67**	**310**	*e*P	**P**	**09 02 32.2**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**47.99**	**309**	P	**P**	**09 02 35.1**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.5,baz=76,slow=9.0,SNR=17						
INK	**Inuvik**	**49.60**	**29**	*e*P	**P**	**09 02 45.8**	**-1.5**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**49.60**	**29**	*e*P	**P**	**09 02 45.8**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.3						
RES	**Resolute Bay**	**57.58**	**15**	*e*P	**P**	**09 03 44.2**	**-1.8**
RES				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
RES	**Resolute Bay**	**57.58**	**15**	*e*P	**P**	**09 03 44.2**	**-1.8**
	comp=Z,3.1nm,0.5s,mb4.6						
YKA	**Yellowknife Ar**	**59.11**	**32**	P	**P**	**09 03 55.9**	**-0.8**
YKA	**Yellowknife Ar**	**59.11**	**32**	P	**P**	**09 03 55.8**	**-0.8**
	comp=Z,1.0nm,0.8s,mb3.9,baz=307,slow=6.4,SNR=23						
ARCES	**ARCESS Array B**	**59.68**	**339**	P	**P**	**09 04 00.5**	**-0.1**
	comp=Z,4.5nm,1.0s,mb4.5,baz=45,slow=6.4,SNR=3.8						
WRA	**Warramunga Arr**	**62.09**	**189**	P	**P**	**09 04 16.4**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.3,baz=6.4,slow=7.1,SNR=9.3						
FINES	**FINESS Array B**	**64.85**	**332**	P	**P**	**09 04 34.0**	**-1.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=45,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**65.82**	**189**	P	**P**	**09 04 41.6**	**-0.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=19,slow=8.3,SNR=5.2						
HFS	**Hagfors**	**69.94**	**335**	P	**P**	**09 05 06.3**	**-0.6**
	comp=Z,2.5nm,0.6s,mb4.3,baz=34,slow=5.3,SNR=9.3						
NOA	**NORSAR Array B**	**69.96**	**337**	P	**P**	**09 05 06.2**	**-0.8**
	comp=Z,1.7nm,0.9s,mb4.0,baz=36,slow=6.2,SNR=4.2						
NVAR	**Mina Array Bea**	**71.36**	**55**	P	**P**	**09 05 17.5**	**+1.6**

	comp=Z,1.8nm,0.8s,mb4.0,baz=303,slow=4.3,SNR=12						
NVAR	**Mina Array Bea**	**71.36**	**55**	P	**P**	**09 05 17.5**	**+1.6**
FRB	**Frobisher Bay**	**71.75**	**14**	P	**P**	**09 05 16.6**	**-1.2**
	comp=Z,1.9nm,0.8s,mb4.1,baz=289,slow=5.4,SNR=3.9						
PDAR	**Pinedale Array**	**73.60**	**47**	P	**P**	**09 05 29.8**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.9,baz=300,slow=2.2,SNR=9.1						
TXAR	**Lajitas Array**	**86.42**	**53**	P	**P**	**09 06 39.8**	**+2.1**
	comp=Z,1.1nm,0.5s,mb4.3,baz=288,slow=3.3,SNR=18						
BDFB	**Brasilia**	**152.20**	**22**	PKPbc	PKPdf	09 13 49.8	+6.9
	comp=Z,1.6nm,0.6s,baz=201,slow=8.6,SNR=3.1						

*FUNV **12** 08:54:49.7, 8.26N×71.95W, h4km, MW3.0*
*IDC **12** 08:54:53.4±2.1, 8.27N×71.93W, h60km±24km, mb3.1/4, mb1 3.4/5, mb1mx3.2/20, mbtmp3.4/5, ML2.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.2/15, Error ellipse: s-maj=28.6km s-min=16.4km az=130.0*
ISC 12 08:54:50.4±0.5**, 8.25N**±0.04×**71.99W**±0.04**, h41**km±9km**,** **n18,** σ**0.93**/28**, mb3.5**/4**, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.50**	**220**	*e*P	**P**	**08 55 00.4**	**-0.8**
CAPV				*e*S	**S**	**08 55 07.8**	**-1.1**
VIGV	**El Vigia**	**0.85**	**47**	*e*P	**P**	**08 55 05.3**	**-0.6**
VIGV				*e*S	**S**	**08 55 16.8**	**-0.5**
SOCV	**Socops**	**1.12**	**88**	*e*P	**P**	**08 55 10.1**	**+0.3**
SOCV				*e*S	**S**	**08 55 23.9**	**-0.4**
SDV	**Santo Domingo**	**1.48**	**65**	P	**P**	**08 55 16.3**	**+1.3**
	246nm,0.3s,baz=236,slow=5.5,SNR=2851						
SDV				S	**S**	**08 55 35.0**	**+1.7**
	592nm,0.3s,baz=88,slow=23,SNR=35						
VIRV	**Villa del Rosa**	**2.27**	**350**	*e*P	**P**	**08 55 26.4**	**+0.1**
VIRV				*e*S	**S**	**08 55 55.0**	**+1.7**
CURV	**Curarigua**	**2.66**	**49**	*e*P	**P**	**08 55 32.1**	**+0.3**
SANV	**Sanarito**	**2.72**	**63**	*e*P	**P**	**08 55 33.0**	**+0.4**
SANV				*e*S	**S**	**08 56 04.5**	**-0.1**
ELOV	**Elorza**	**2.78**	**116**	*e*P	**P**	**08 55 34.0**	**+0.5**
ELOV				*e*S	**S**	**08 56 06.1**	**0.0**
DABV	**Dabajuro**	**2.97**	**27**	*e*P	**P**	**08 55 36.5**	**+0.3**
DABV				*e*S	**S**	**08 56 10.5**	**-0.4**
SIQV	**Siquisique**	**3.21**	**42**	*e*P	**P**	**08 55 39.8**	**+0.2**
SIQV				*e*S	**S**	**08 56 16.9**	**-0.1**
TEPV	**Terepaima**	**3.24**	**58**	*e*P	**P**	**08 55 39.6**	**-0.5**
TEPV				*e*S	**S**	**08 56 17.6**	**-0.3**
ROSC	**El Rosal**	**4.10**	**215**	P	**P**	**08 55 55.2**	**+3.0**
	3.7nm,0.3s,baz=80,slow=17,SNR=11						
ROSC				LR	LR	08 57 38.6	
	comp=Z,178nm,18.8s,baz=240,slow=40						
TURV	**Turiamo**	**4.64**	**62**	*e*P	**P**	**08 55 58.9**	**-1.0**
TURV				*e*S	**S**	**08 56 50.1**	**-3.1**
LPAZ	**La Paz**	**24.68**	**171**	P	**P**	**09 00 10.6**	**+1.5**
	0.3nm,0.4s,mb3.2,baz=341,slow=12,SNR=2.9						
TXAR	**Lajitas Array**	**36.39**	**309**	P	**P**	**09 01 52.4**	**-0.6**
	0.2nm,0.5s,mb3.3,baz=126,slow=8.9,SNR=4.7						
SCHQ	**Schefferville**	**46.63**	**4**	P	**P**	**09 03 15.6**	**-0.9**
	1.8nm,0.9s,mb4.0,baz=216,slow=8.7,SNR=3.5						
YKA	**Yellowknife Ar**	**62.32**	**339**	P	**P**	**09 05 10.2**	**-0.6**
	0.3nm,1.0s,mb3.4,baz=130,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**152.00**	**243**	PKPbc	PKPdf	09 14 43.0	+7.5
	0.3nm,0.5s,baz=102,slow=2.3,SNR=6.9						
WRA				PKPab	PKPab	09 14 50.0	-3.8
	0.5nm,0.5s,baz=106,slow=2.7,SNR=6.2						

*JMA **12** 09:25:34.6±0.4, 33.94N×142.54E, h64km, M3.8*
*IDC **12** 09:25:35.1±1.3, 33.79N×142.27E, mb3.6/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, ML3.8/2, Error ellipse: s-maj=28.9km s-min=26.2km az=92.0*
ISC 12 09:25:34.8±1.7**, 33.92N**±0.06×**142.40E**±0.06**, h22**km±13km**,** **n18,** σ**1.07**/26**, mb3.6**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.39**	**302**	P	**Pn**	**09 25 59.3**	**+0.1**
BSO1				S	**Sb**	**09 26 17.4**	**+0.2**
BSO2	**Boso 2**	**1.59**	**302**	*e*S	**Sn**	**09 26 24.7**	**+2.5**
BSO3	**Boso 3**	**1.79**	**300**	P	**Pn**	**09 26 05.5**	**+0.5**
BSO3				S	**Sn**	**09 26 28.6**	**+1.3**
BSO4	**Boso 4**	**2.01**	**303**	P	**Pn**	**09 26 09.1**	**+1.0**
BSO4				S	**Sn**	**09 26 34.2**	**+1.4**
CHOJ	**Chosi**	**2.19**	**325**	P	**Pn**	**09 26 10.3**	**-0.3**
JHJ2	**Mitsune**	**2.30**	**250**	P	**Pn**	**09 26 13.2**	**+1.0**
JHJ2				*e*S	**Sn**	**09 26 40.3**	**+0.1**
JHJ	**Hachijo jima 2**	**2.32**	**251**	Pn	**Pn**	**09 26 13.2**	**+0.7**
	136nm,0.3s,baz=87,slow=23,SNR=26						
JHJ				Sn	**Sn**	**09 26 40.1**	**-0.6**
	195nm,0.3s,baz=64,slow=22,SNR=21						
JIM2	**Oshima 3**	**2.58**	**289**	P	**Pn**	**09 26 15.7**	**-0.6**
JIM2				S	**Sn**	**09 26 45.0**	**-2.3**
JOD2	**Odawara 2**	**3.04**	**297**	P	**Pn**	**09 26 22.0**	**-0.8**
JOD2				S	**Sn**	**09 26 58.1**	**-0.9**
JAG	**Ashikaga**	**3.48**	**317**	P	**Pn**	**09 26 28.0**	**-1.0**
JYN	**Shimob**	**3.54**	**298**	P	**Pn**	**09 26 29.9**	**0.0**
JYN				S	**Sn**	**09 27 10.1**	**-1.6**
JRY	**Ryogami san**	**3.55**	**307**	P	**Pn**	**09 26 29.6**	**-0.5**
JMM	**Marumori**	**4.15**	**342**	P	**Pn**	**09 26 35.8**	**-2.8**
JMM				S	**Sn**	**09 27 20.5**	**-6.5**
ASAJ	**Asahikawa**	**10.19**	**1**	Pn	**P**	**09 28 03.6**	**+0.7**
	0.6nm,0.3s,baz=14,slow=12,SNR=4.2						
SONM	**Songino Array**	**30.27**	**308**	P	**P**	**09 31 47.5**	**+1.1**
	0.7nm,0.8s,mb3.5,baz=106,slow=8.3,SNR=5.2						
WRA	**Warramunga Arr**	**54.10**	**189**	P	**P**	**09 34 59.7**	**-0.8**
	0.6nm,0.4s,mb3.9,baz=6.2,slow=7.5,SNR=5.9						
ASAR	**Alice Springs**	**57.83**	**189**	P	**P**	**09 35 27.7**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=9.5,slow=11,SNR=3.0						
LVC	**Limon Verde**	**150.32**	**76**	PKPbc	PKPdf	09 45 29.8	+6.0
	2.1nm,0.8s,baz=256,slow=7.2,SNR=3.4						

KRSC 12 09:46:20.7±1.1**, 54.59N**×**160.00E, h152**km±2km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.64**	**210**	*i* P	P	09 46 43.8	+0.3
KII				*e*S	S	09 47 00.9	0.0
TUMR	**Tumrok**	**0.70**	**7**	*i* P	P	09 46 44.3	+0.5
TUMR				*i* S	S	09 47 01.4	-0.1
KMNR	**Kamenistaya**	**1.18**	**7**	*i* P	P	09 46 48.3	+0.8
KMNR				*i* S	S	09 47 09.2	+1.1
KOZ	**Kozyrevsk**	**1.47**	**357**	*i* P	P	09 46 50.7	+0.2
NLC	**Nalytchevo**	**1.47**	**196**	*i* P	P	09 46 50.6	+0.1
NLC				*i* S	S	09 47 12.8	-0.6
SPN	**Mys Shipunski**	**1.50**	**179**	*i* P	P	09 46 50.2	-0.5
SPN				*i* S	S	09 47 11.9	-1.9
GNL	**Ganaly**	**1.51**	**234**	*e*P	P	09 46 51.1	+0.3
GNL				*e*S	S	09 47 13.4	-0.6
AVH	**Avacha**	**1.52**	**210**	*e*P	P	09 46 52.2	+1.2
AVH				*e*S	S	09 47 15.6	+1.3
KOK	**Koryaka**	**1.53**	**212**	*e*P	P	09 46 52.4	+1.3
KOK				*e*S	S	09 47 15.7	+1.2
ESO	**Esso**	**1.53**	**331**	*i* P	P	09 46 50.9	-0.2
ESO				*e*S	S	09 47 13.5	-1.0
ESO				Smax			
	50nm,0.9s						
UGLR	**Uglovaya**	**1.55**	**207**	*e*P	P	09 46 52.0	+0.7
UGLR				*e*S	S	09 47 15.4	+0.6
KRSR	**Krestovskiy**	**1.66**	**11**	*e*P	P	09 46 53.2	+0.7
SRDR	**Sredinnyy**	**1.74**	**355**	*i* P	P	09 46 53.4	+0.1
SRDR				*e*S	S	09 47 18.3	-0.1
PET	**Petropavlovsk**	**1.76**	**208**	*i* P	P	09 46 54.1	+0.6
PET				*i* S	S	09 47 18.7	-0.2
KLY	**Klyuchi**	**1.77**	**12**	*e*P	P	09 46 54.8	+1.2
KLY				*e*S	S	09 47 21.0	+2.0
KRMR	**Karymshinskiy**	**2.08**	**213**	*e*P	P	09 46 58.7	+1.4
KRMR				*e*S	S	09 47 26.6	+1.2
KBG	**Krutoberegovo**	**2.27**	**42**	*e*P	P	09 47 00.6	+1.0
KBG				*i* S	S	09 47 28.9	-0.6
KBG				Smax			
	270nm,0.4s						
KBTR	**Krutoberegovo**	**2.28**	**44**	*e*P	P	09 47 00.1	+0.3
KBTR				*e*S	S	09 47 28.4	-1.3
RUS	**Russkaya**	**2.34**	**203**	*e*P	P	09 47 00.2	-0.2
RUS				*e*S	S	09 47 29.4	-1.5
GRL	**Gorelyy**	**2.34**	**210**	*e*P	P	09 47 01.2	+0.7
GRL				*e*S	S	09 47 32.1	+1.1
APC	**Apacha**	**2.37**	**226**	*i* P	P	09 47 01.7	+0.8
APC				*e*S	S	09 47 31.7	0.0
BKI	**Bering**	**3.50**	**77**	*i* P	P	09 47 15.4	+0.1
BKI				*i* S	S	09 47 53.8	-3.5

*CSEM **12** 09:49:46.8±0.8, 38.76N×28.94W, h4km±6km, ML2.1, Error ellipse: s-maj=9.5km s-min=5.2km az=55.0, After PDA*
*PDA **12** 09:49:46.8±0.8, 38.76N×28.94W, h4km±6km, MD3.0, ML2.1, Error ellipse: s-maj=9.5km s-min=5.2km az=55.0*
SVSA 12 09:49:46.8±0.8**, 38.76N**×**28.94W, h4**km±6km**, MD3.0, ML2.1, Error ellipse: s-maj=9.5km s-min=5.2km az=55.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.23**	**125**	*e*P	Pg	09 49 51.0	-0.4
PCED				*i* S	Sg	09 49 54.2	-0.3
	79nm,0.1s						
PCED	**Cedros**	**0.23**	**125**	*e*P	Pg	09 49 51.0	-0.4
PCED				*i* S	Sg	09 49 54.2	-0.3
	79nm,0.1s						
CALA	**Caldeira**	**0.26**	**133**	*e*P	Pg	09 49 51.3	-0.7
CALA				*e*S	Sg	09 49 55.4	-0.1
PICO	**Pico**	**0.48**	**122**	*e*P	Pg	09 49 55.3	-1.1
PICO				*e*S	Sg	09 50 01.6	-1.2
ROSA	**Rosais**	**0.55**	**94**	*e*P	Pg	09 49 56.6	-1.2
ROSA				*e*S	Sg	09 50 03.1	-2.0

*IDC **12** 10:06:59.6±0.8, 44.87S×80.00W, mb4.0/8, mb1 4.3/10, mb1mx4.1/18, mbtmp4.0/10, ML4.0/2, MS4.3/13, Ms1 4.3/13, ms1mx4.0/24, Error ellipse: s-maj=31.4km s-min=18.8km az=97.0*
*NEIC **12** 10:07:01.2±0.5, 44.87S×79.90W, h10km, mb4.6/2, Error ellipse: s-maj=13.9km s-min=8.4km az=94.0*
ISC 12 10:06:59.8±0.6**, 44.92S**±0.08×**79.8W**±0.2**, h10**km**, n30,** σ**0.96**/20**, mb4.0**/9**, MS4.3**/12**, 3C, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.00**	**62**	Pn	**P**	**10 08 57.8**	**-1.1**
	0.8nm,0.3s,baz=228,slow=14,SNR=49						
PLCA				LR	LR	10 11 48.1	
	comp=Z,3μm,19.8s,baz=241,slow=36						
PLCA	**Paso Flores**	**8.00**	**62**	*e*P	**P**	**10 08 57.0**	**-2.0**
PLCA				Pn	**P**	**10 08 57.8**	**-1.1**
PLCA				LR	LR	10 11 48.1	
USHA	**Ushuaia**	**12.33**	**148**	Pn	**P**	**10 09 57.8**	**-0.4**
	0.3nm,0.3s,baz=315,slow=4.3,SNR=3.8						
TRQA	**Tornquist**	**15.02**	**69**	*e*P	**P**	**10 10 42.8**	**+9.1**
	30nm,1.2s						
LVC	**Limon Verde**	**23.99**	**26**	P	**P**	**10 12 16.1**	**+0.8**
	8.3nm,0.8s,mb4.2,baz=232,slow=10,SNR=8.7						
LVC				LR	LR	10 19 25.3	
	comp=Z,587nm,21.9s,MS4.0,baz=220,slow=31						
LVC	**Limon Verde**	**23.99**	**26**	P	**P**	**10 12 16.1**	**+0.8**
LVC				LR	LR	10 19 25.3	
RPN	**Rapa Nui**	**29.51**	**297**	LR	LR	10 21 04.3	
	comp=Z,524nm,19.7s,MS4.2,baz=317,slow=29						
LPAZ	**La Paz**	**30.20**	**23**	P	**P**	**10 13 13.3**	**+0.7**
	2.2nm,0.8s,mb4.0,baz=184,slow=8.4,SNR=7.4						
LPAZ	**La Paz**	**30.20**	**23**	P	**P**	**10 13 13.3**	**+0.7**
BDFB	**Brasilia**	**39.63**	**53**	P	**P**	**10 14 33.1**	**-0.2**
	0.9nm,0.5s,mb3.8,baz=304,slow=3.6,SNR=1.9						
BDFB				LR	LR	10 31 31.0	
	comp=Z,653nm,18.2s,MS4.5,baz=50,slow=37						
VNA3	**Neumayer Olymp**	**41.94**	**153**	⇑*i*P	**P**	**10 14 52.7**	**+1.1**
VNA3				*e*		10 15 07.0	
VNA2	**Neumayer--Watz**	**42.68**	**152**	⇑*i*P	**P**	**10 14 58.9**	**+1.2**
VNA2				*e*		10 15 12.8	
SNAA	**Sanae**	**44.09**	**154**	*e*	**P**	**10 15 23.4**	**+14**
SNAA	**Sanae**	**44.09**	**154**	P	**P**	**10 15 09.6**	**+0.5**
	1.3nm,0.8s,mb3.7,baz=288,slow=14,SNR=3.5						
SNAA	**Sanae**	**44.09**	**154**	⇑*i*P	**P**	**10 15 09.5**	**+0.3**
SNAA				*e*		10 15 23.4	
RKT	**Rikitea**	**49.56**	**277**	*e*LQ		10 27 30.9	
RKT				*e*LR	LR	10 29 40.7	
	405nm,26.5s						
ROSC	**El Rosal**	**49.80**	**7**	LR	LR	10 34 21.6	
	comp=Z,621nm,19.2s,MS4.6,baz=183,slow=33						
SBA	**Scott Base**	**51.10**	**194**	P	**P**	**10 16 02.9**	**-1.0**
	8.5nm,1.0s,mb4.6						
VNDA	**Vanda**	**52.15**	**194**	P	**P**	**10 16 11.0**	**-0.9**
	1.5nm,0.9s,mb3.9,baz=113,slow=8.7,SNR=4.1						
VNDA				LR	LR	10 38 06.0	
	comp=Z,169nm,18.6s,MS4.1,baz=133,slow=36						
TBI	**Tubuai**	**59.69**	**266**	*e*LQ		10 31 56.2	
TBI				*e*LR	LR	10 34 10.7	
	337nm,27.2s						
PPT	**Papeete**	**63.53**	**271**	*e*SS	tx	10 29 46.3	
PPT				*e*LR	LR	10 35 56.3	
	296nm,25.0s						
MAW	**Mawson**	**64.31**	**165**	LR	LR	10 42 59.9	
	comp=Z,425nm,18.1s,MS4.7,baz=23,slow=34						
RAR	**Rarotonga**	**68.35**	**261**	LR	LR	10 40 18.5	
	comp=Z,250nm,19.2s,MS4.5,baz=110,slow=29						
TXAR	**Lajitas Array**	**77.03**	**339**	P	**P**	**10 18 52.8**	**-1.7**
	1.5nm,0.9s,mb3.9,baz=166,slow=6.5,SNR=12						
TXAR				LR	LR	10 47 35.4	
	comp=Z,79nm,21.7s,MS4.0,baz=165,slow=32						
DBIC	**Dimbokro**	**84.16**	**75**	LR	LR	10 56 19.0	
	comp=Z,98nm,18.4s,MS4.2,baz=185,slow=35						
NVAR	**Mina Array Bea**	**89.93**	**331**	P	**P**	**10 20 00.4**	**+0.3**
	0.7nm,0.9s,mb4.0,baz=151,slow=5.9,SNR=3.7						
NVAR				LR	LR	10 51 05.1	
	comp=Z,49nm,21.4s,MS3.9,slow=30						
PDAR	**Pinedale Array**	**91.25**	**339**	P	**P**	**10 20 07.1**	**+1.0**
	1.4nm,1.2s,mb4.2,baz=129,slow=5.8,SNR=4.9						
STKA	**Stephens Creek**	**94.78**	**214**	LR	LR	10 55 47.5	
	comp=Z,353nm,18.5s,MS4.9,baz=206,slow=31						
SCHQ	**Schefferville**	**99.99**	**8**	LR	LR	11 01 36.8	
	comp=Z,92nm,19.0s,MS4.3,baz=346,slow=33						
CMAR	**Chiang Mai Arr**	**153.59**	**177**	PKPbc	PKPdf	10 27 00.0	+6.2
	0.4nm,0.5s,baz=180,slow=3.6,SNR=2.8						
CMAR				PKPab	PKPab	10 27 13.1	-0.5
	0.3nm,0.4s,baz=214,slow=3.3,SNR=3.8						

*IDC **12** 10:07:54.1±1.5, 2.68N×95.33E, mb4.2/7, mb1 4.4/8, mb1mx4.1/18, mbtmp4.3/8, ML4.2/1, MS3.5/1, Ms1 3.7/1, ms1mx3.3/19, Error ellipse: s-maj=66.1km s-min=20.6km az=57.0*
*BJI **12** 10:07:55.7, 2.70N×95.40E, h27km, mB5.0, mb4.6*
*NEIC **12** 10:07:57.8±0.7, 2.67N×95.39E, mb4.7/6, Error ellipse: s-maj=17.0km s-min=10.0km az=222.0*
ISC 12 10:07:57.7±0.9**, 2.7N**±0.1×**95.5E**±0.1**, h33**km**, n24,** σ**0.89**/23**, mb4.5**/18**, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.75**	**64**	*e*P	**P**	**10 09 22.5**	**-0.5**
KSM	**Kuching**	**14.87**	**94**	P	**P**	**10 11 27.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**16.00**	**12**	Pn	**P**	**10 11 43.4**	**+1.3**
	0.3nm,0.3s,baz=201,slow=12,SNR=39						
CMAR				LR	LR	10 18 37.3	
	comp=Z,145nm,18.7s,baz=195,slow=40						
PKI	**Pulchoki**	**26.52**	**340**	*e*P	**P**	**10 13 36.3**	**+1.9**
DMN	**Daman**	**26.66**	**339**	*e*P	**P**	**10 13 38.0**	**+2.3**
	18nm,0.7s,mb4.7						
GUN	**Gumba**	**26.67**	**341**	*e*P	**P**	**10 13 35.5**	**-0.3**
	26nm,0.8s,mb4.8						
KKN	**Kakani**	**26.77**	**340**	*e*P	**P**	**10 13 37.0**	**+0.3**
	27nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.14**	**352**	*e*P	**P**	**10 13 39.4**	**-0.7**
	9.1nm,0.6s,mb4.5						
GKN	**Gorkha**	**27.19**	**339**	*e*P	**P**	**10 13 39.9**	**-0.7**
	31nm,0.9s,mb4.9						
KOLN	**Koldanda**	**27.37**	**337**	*e*P	**P**	**10 13 42.8**	**+0.5**
	15nm,0.7s,mb4.6						
BJT	**Baijiatuau**	**41.59**	**24**	*e*P	**P**	**10 15 44.9**	**+0.6**
	19nm,0.8s,mb4.8						
BJT				*e*pP	pP	10 15 51.6	-2.6
BJI	**Beijing**	**41.62**	**24**	P	**P**	**10 15 44.8**	**+0.3**
BJI				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.9						
BJI	**Beijing**	**41.62**	**24**	P	**P**	**10 15 44.8**	**+0.3**
	comp=Z,25nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**44.29**	**122**	P	**P**	**10 16 06.8**	**+0.2**
	comp=Z,4.7nm,1.1s,mb4.2,baz=303,slow=9.0,SNR=6.9						
ASAR	**Alice Springs**	**45.68**	**127**	P	**P**	**10 16 18.2**	**+0.6**
	comp=Z,1.3nm,0.9s,mb3.8,baz=311,slow=7.9,SNR=5.7						
SONM	**Songino Array**	**45.92**	**10**	P	**P**	**10 16 18.4**	**-0.8**
	comp=Z,4.3nm,0.8s,mb4.4,baz=190,slow=8.6,SNR=40						
SONM				PcP	PcP	10 17 55.9	-0.3
	comp=Z,1.1nm,0.6s,baz=192,slow=3.8,SNR=5.9						
TLY	**Talaya**	**49.27**	**7**	*e*P	**P**	**10 16 44.3**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.3						
KURK	**Kurchatov**	**49.90**	**346**	*e*P	**P**	**10 16 49.3**	**-0.8**
	comp=Z,7.2nm,1.1s,mb4.6						
ZAL	**Zalesovo**	**51.80**	**352**	P	**P**	**10 17 04.2**	**-0.3**
	comp=Z,6.7nm,0.6s,mb4.8,baz=308,slow=6.8,SNR=36						
BVAR	**Borovoye Array**	**54.27**	**342**	P	**P**	**10 17 21.5**	**-1.4**
	comp=Z,2.9nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=25						
CHKZ	**Chkalovo**	**54.75**	**342**	*e*P	**P**	**10 17 25.2**	**-1.2**
	comp=Z,7.5nm,0.8s,mb4.8						
CHKZ				*e*pP	pP	10 17 34.0	-2.4
FINES	**FINESS Array B**	**77.86**	**333**	P	**P**	**10 19 53.4**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=11,SNR=6.4						
ARCES	**ARCESS Array B**	**80.53**	**340**	P	**P**	**10 20 08.5**	**+0.6**
	comp=Z,2.8nm,0.9s,mb4.2,baz=45,slow=8.6,SNR=3.7						
TXAR	**Lajitas Array**	**143.22**	**29**	PKP	PKPdf	10 27 28.5	-0.7
	comp=Z,0.3nm,0.7s,baz=270,slow=0.9,SNR=3.3						

*TIF **12** 10:57:04.8, 41.16N×44.07E, h15km±2km*
*ISK **12** 10:57:05.8, 41.31N×44.05E, h32km, MD3.4*
*CSEM **12** 10:57:05.0±0.4, 41.19N×44.06E, h15km, MD3.4, Error ellipse: s-maj=8.8km s-min=2.6km az=6.0*
ISC 12 10:57:05.4±0.9**, 41.16N**±0.04×**44.08E**±0.06**, h4**km±8km**, n9,** σ**0.52**/14**, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.76**	**45**	P	**Pg**	**10 57 20.3**	**-0.4**
MTA				S	**Sg**	**10 57 30.8**	**0.0**
KARS	**Kars**	**0.92**	**234**	PG	**Pg**	**10 57 23.8**	**-0.1**
KARS	**Kars**	**0.92**	**234**	*e*Pg	**Pg**	**10 57 23.8**	**-0.1**
KARS				*e*Sg	**Sg**	**10 57 37.1**	**+0.9**
DUS	**Dusheti**	**1.04**	**26**	P	**Pb**	**10 57 25.6**	**-0.2**
DUS				S	**Sb**	**10 57 40.8**	**+1.2**
GNI	**Garni**	**1.12**	**153**	PN	**Pn**	**10 57 27.6**	**-0.3**
GNI	**Garni**	**1.12**	**153**	*e*Pn	**Pn**	**10 57 27.6**	**-0.3**
GNI				*e*Sn	**Sn**	**10 57 44.2**	**+0.2**
ONI	**Oni**	**1.50**	**342**	P	**Pn**	**10 57 32.9**	**-0.4**
ONI				S	**Sb**	**10 57 52.6**	**-0.2**
EZM	**Erzurum**	**2.42**	**240**	*e*PN	**Pn**	**10 57 45.7**	**-0.7**
VRT	**Varto**	**2.81**	**225**	*e*PN	**Pn**	**10 57 52.0**	**0.0**

IDC 12 11:03:14.4±9.5**, 3.47N**×**127.34E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/16**, mbtmp3.8**/3**, Error ellipse: s-maj=157.6km s-min=150.1km az=115.0, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.26**	**164**	P	P	11 08 33.0	-1.4
	1.8nm,0.6s,baz=344,slow=10,SNR=31						
ASAR	**Alice Springs**	**27.72**	**167**	P	P	11 09 04.5	-2.2
	0.4nm,0.9s,baz=350,slow=7.1,SNR=4.1						
STKA	**Stephens Creek**	**37.67**	**160**	P	P	11 10 32.1	-1.2
	1.5nm,0.4s,baz=327,slow=10,SNR=5.6						

*NEIC **12** 11:15:32.1±1.2, 18.92N×145.41E, h212km±14km, Error ellipse: s-maj=27.3km s-min=16.4km az=102.0*
*IDC **12** 11:15:41.0±7.9, 18.86N×145.34E, h301km±81km, mb3.2/10, mb1 3.4/10, mb1mx3.3/21, mbtmp3.9/10, Error ellipse: s-maj=27.7km s-min=15.1km az=92.0*
ISC 12 11:15:31.7±1.4**, 18.9N**±0.1×**145.4E**±0.2**, h223**km±15km**, n13,** σ**0.94**/13**, mb3.6**/9**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SARN	**Sarigan**	**2.18**	**171**	*e*P	**P**	**11 16 13.9**	**-0.3**
ASAJ	**Asahikawa**	**25.29**	**355**	P	**P**	**11 20 40.8**	**+1.4**
	5.7nm,0.8s,mb4.3,baz=190,slow=6.1,SNR=4.2						
WRA	**Warramunga Arr**	**40.07**	**196**	P	**P**	**11 22 47.9**	**+0.7**
	0.7nm,1.1s,mb3.0,baz=19,slow=8.4,SNR=7.0						
SONM	**Songino Array**	**42.85**	**321**	P	**P**	**11 23 10.1**	**+0.6**
	0.3nm,0.5s,mb3.0,baz=128,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**43.74**	**195**	P	**P**	**11 23 16.8**	**-0.2**
	0.1nm,0.5s,baz=21,slow=7.7,SNR=2.8						
ILAR	**Eielson Array**	**63.61**	**26**	P	**P**	**11 25 39.1**	**-1.5**
	0.9nm,0.7s,mb3.5,baz=251,slow=4.6,SNR=8.5						
BVAR	**Borovoye Array**	**66.18**	**320**	P	**P**	**11 25 56.6**	**-0.7**
	1.5nm,0.5s,mb3.9,baz=101,slow=7.6,SNR=12						
INK	**Inuvik**	**69.32**	**23**	P	**P**	**11 26 15.8**	**-0.6**
	1.3nm,0.8s,mb3.6,baz=265,slow=7.7,SNR=6.9						
INK	**Inuvik**	**69.32**	**23**	P	**P**	**11 26 15.8**	**-0.6**
YKA	**Yellowknife Ar**	**77.97**	**28**	P	**P**	**11 27 06.5**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=290,slow=5.5,SNR=21						
NVAR	**Mina Array Bea**	**83.25**	**52**	P	**P**	**11 27 36.2**	**+1.6**
	1.8nm,0.6s,mb4.0,baz=272,slow=4.5,SNR=19						
PFO	**Pinyon Flat Ob**	**86.25**	**56**	P	**P**	**11 28 07.0**	**+17**
	40nm,0.3s,SNR=29						
FINES	**FINESS Array B**	**86.62**	**335**	P	**P**	**11 27 49.5**	**-1.3**
	1.1nm,0.9s,mb3.6,baz=68,slow=4.0,SNR=3.1						

*IDC **12** 11:33:10.3±1.4, 9.07N×127.35E, mb3.5/3, mb1 3.7/3, mb1mx3.6/17, mbtmp3.5/3, Error ellipse: s-maj=230.0km s-min=26.7km az=74.0*
ISC 12 11:33:13.2±1.1**, 8.52N**±0.05×**126.11E**±0.05**, h17**km±10km**, n10,** σ**1.00**/15**, mb3.4**/3**, 1C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.42**	**144**	⇓*i*P	**Pb**	**11 33 20.8**	**-1.0**
BIPH				*i* S	**Sb**	**11 33 27.3**	**-0.3**
CGP	**Cagayan de Oro**	**1.40**	**267**	⇓*e*P	**Pn**	**11 33 37.7**	**-0.5**
CGP				*e*S	**Sb**	**11 33 56.8**	**+0.7**
KCP	**Kidapawan**	**1.81**	**214**	⇑*i*P	**Pn**	**11 33 46.6**	**+2.5**
KCP				*i* S	**Sn**	**11 34 05.6**	**-1.2**
TBP	**Tagbilaran**	**2.50**	**298**	*e*S	**Sn**	**11 34 22.8**	**-1.6**
LLP	**Lapu-Lapu**	**2.77**	**310**	*e*P	**Pn**	**11 34 12.0**	**+14**
LLP				*e*S	**Sn**	**11 34 31.1**	**+0.1**
PLP	**Palo**	**2.85**	**337**	*e*P	**Pn**	**11 33 59.3**	**+0.3**
PLP				*e*S	**Sn**	**11 34 33.6**	**+0.5**
SNPH	**Sibulan**	**2.95**	**286**	*e*P	**Pn**	**11 34 00.8**	**+0.4**
WRA	**Warramunga Arr**	**29.42**	**164**	P	**P**	**11 39 19.5**	**+1.1**
	0.4nm,0.8s,mb3.2,baz=347,slow=9.8,SNR=4.9						
WRA				PcP	PcP	11 42 20.4	-3.9
	0.3nm,0.5s,baz=334,slow=2.5,SNR=7.3						
ASAR	**Alice Springs**	**32.89**	**167**	P	**P**	**11 39 49.5**	**+0.7**
	0.4nm,0.6s,mb3.5,baz=344,slow=6.5,SNR=7.2						
ASAR				PcP	PcP	11 42 29.8	-3.6
	0.4nm,0.5s,baz=341,slow=2.5,SNR=9.1						
SONM	**Songino Array**	**42.59**	**340**	P	**P**	**11 41 08.8**	**-1.3**
	0.2nm,0.3s,mb3.3,baz=124,slow=5.2,SNR=4.9						

*IDC **12** 11:33:58.5±1.2, 12.41N×142.09E, mb3.9/7, mb1 4.1/7, mb1mx3.9/19, mbtmp3.9/7, Error ellipse: s-maj=44.9km s-min=19.7km az=82.0*
*NEIC **12** 11:34:09.0±2.5, 12.31N×141.99E, h82km±29km, mb4.0/1, Error ellipse: s-maj=29.8km s-min=14.4km az=86.0*
ISC 12 11:34:07.2±3.1**, 12.3N**±0.1×**142.0E**±0.2**, h80**km±35km**, n11,** σ**0.80**/11**, mb3.8**/8**, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.12**	**65**	P	**P**	**11 34 55.3**	**-0.1**
WRA	**Warramunga Arr**	**32.89**	**193**	P	**P**	**11 40 34.7**	**-1.2**
	1.8nm,0.7s,mb4.0,baz=12,slow=9.6,SNR=8.8						
ASAR	**Alice Springs**	**36.59**	**192**	P	**P**	**11 41 08.2**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=18,slow=13,SNR=7.0						
CMAR	**Chiang Mai Arr**	**41.85**	**284**	P	**P**	**11 41 50.4**	**-0.8**
	1.7nm,1.1s,mb3.7,baz=85,slow=5.8,SNR=5.4						
STKA	**Stephens Creek**	**43.91**	**180**	P	**P**	**11 42 08.8**	**+1.0**
	1.4nm,0.3s,mb4.2,baz=326,slow=6.5,SNR=5.8						
STKA	**Stephens Creek**	**43.91**	**180**	P	**P**	**11 42 08.8**	**+1.0**
ULN	**Ulaanbaatar**	**45.89**	**328**	*e*P	**P**	**11 42 24.4**	**+1.0**
	2.4nm,1.0s,mb3.9						
SONM	**Songino Array**	**46.22**	**327**	P	**P**	**11 42 26.6**	**+0.6**
	0.9nm,0.5s,mb3.8,baz=138,slow=7.4,SNR=8.5						
BVAR	**Borovoye Array**	**69.19**	**322**	P	**P**	**11 45 06.7**	**-0.5**
	0.4nm,0.5s,mb3.5,baz=112,slow=7.8,SNR=3.3						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	**P**	**11 46 35.5**	**-0.7**
	0.3nm,0.8s,mb3.3,baz=304,slow=4.9,SNR=6.7						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	**P**	**11 46 35.5**	**-0.7**

MAN 12 11:42:00.3, 8.63N×**126.14E, h12**km**, mb4.4, ML3.3, MS3.1, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.49**	**153**	⇓*i*P	Pg	11 42 09.1	-1.3
BIPH				*i* S	Sg	11 42 15.5	-1.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.61**	**304**	eP	Pb	11 42 12.4	-0.1
BUTP				eS	Sb	11 42 22.5	+1.8
BUKP	**Musuan**	**1.30**	**235**	eP	Pb	11 42 23.0	-1.2
BUKP				eS	Sb	11 42 42.6	+2.0
SCPH	**Surigao**	**1.31**	**331**	eP	Pb	11 42 23.0	-1.5
SCPH				eS	Sb	11 42 39.8	-1.3
CGP	**Cagayan de Oro**	**1.44**	**263**	⇓eP	Pn	11 42 25.4	-0.9
CGP				i S	Sb	11 42 45.1	+0.5
MATI	**Mati**	**1.67**	**176**	eP	Pn	11 42 29.1	-0.7
MSLP	**Maasin**	**1.96**	**320**	eP	Pn	11 42 33.7	0.0
TBP	**Tagbilaran**	**2.48**	**295**	eP	Pn	11 42 41.0	-0.3
PAGZ	**Pagadian**	**2.83**	**254**	eP	Pn	11 42 47.7	+1.4
BESP	**Borongan**	**3.03**	**347**	eP	Pn	11 42 49.2	+0.1

IDC 12 11:46:19.7±4.0**, 10.26N×91.54E, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.6**/17**, mbtmp3.6**/4**, ML4.1**/1**, MS3.0**/1**, Ms1 3.2**/1**, ms1mx2.6**/21**, Error ellipse: s-maj=111.4km s-min=28.8km az=80.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.85**	**41**	Pn	P	11 48 56.5	-3.0
	0.4nm,0.3s,baz=241,slow=15,SNR=4.5						
CMAR				LR	LR	11 52 56.1	
	comp=Z,73nm,18.3s,baz=230,slow=36						
SONM	**Songino Array**	**39.49**	**16**	P	P	11 53 52.0	-1.7
	0.3nm,0.5s,baz=186,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**51.73**	**125**	P	P	11 55 28.8	-2.6
	0.5nm,0.3s,baz=301,slow=10,SNR=22						
ASAR	**Alice Springs**	**53.41**	**130**	P	P	11 55 42.2	-1.6
	0.4nm,0.6s,baz=302,slow=6.8,SNR=5.7						

*IDC **12** 11:58:35.9±0.8, 4.58N×95.34E, mb4.1/10, mb1 4.3/11, mb1mx4.2/18, mbtmp4.1/11, ML4.3/1, MS3.1/1, Ms1 3.3/1, ms1mx2.6/20, Error ellipse: s-maj=36.2km s-min=17.0km az=50.0*

*NEIC **12** 11:58:40.2±0.5, 4.45N×95.24E, h30km, mb4.4/4, Error ellipse: s-maj=18.5km s-min=8.7km az=220.0*

ISC 12 11:58:38.7±0.6**, 4.4N**±0.1×**95.3E**±0.1**, h30**km**, n24, σ1s05**/24**, mb4.2**/14**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**81**	eP	**Pn**	**12 00 02.2**	**+3.1**
CMAR	**Chiang Mai Arr**	**14.38**	**14**	Pn	**P**	**12 02 07.2**	**+4.6**
	0.4nm,0.3s,baz=208,slow=11,SNR=13						
CMAR				LR	LR	12 07 01.8	
	comp=Z,86nm,21.6s,baz=215,slow=36						
KSM	**Kuching**	**15.25**	**101**	eP	**P**	**12 02 12.8**	**-1.1**
ULHL	**Ulahol**	**41.32**	**338**	P	**P**	**12 06 24.2**	**+0.9**
	SNR=8.1						
UCH	**Uchtor**	**41.96**	**337**	P	**P**	**12 06 30.3**	**+1.6**
	SNR=9.3						
KBK	**Karagaybulak**	**42.15**	**338**	P	**P**	**12 06 31.6**	**+1.4**
	SNR=9.6						
AML	**Almayashu**	**42.20**	**336**	P	**P**	**12 06 32.1**	**+1.4**
	SNR=11						
AAK	**Ala-Archa**	**42.31**	**337**	eP	**P**	**12 06 32.2**	**+0.7**
	3.7nm,0.8s,mb4.1						
USP	**Ospenovka**	**42.85**	**338**	P	**P**	**12 06 36.6**	**+0.7**
	SNR=14						
SONM	**Songino Array**	**44.28**	**11**	P	**P**	**12 06 46.1**	**-1.4**
	0.3nm,0.6s,mb3.2,baz=185,slow=8.3,SNR=3.2						
SONM				PcP	PcP	12 08 31.1	-0.9
	0.4nm,0.5s,baz=200,slow=4.3,SNR=3.8						
WRA	**Warramunga Arr**	**45.35**	**124**	P	**P**	**12 06 56.9**	**+0.4**
	4.4nm,0.5s,mb4.5,baz=302,slow=9.3,SNR=48						
WRAB	**Tennant Creek**	**45.36**	**124**	eP	**P**	**12 06 56.0**	**-0.4**
	8.2nm,0.7s,mb4.7						
WB2	**Warramunga Arr**	**45.36**	**124**	eP	**P**	**12 06 56.8**	**+0.3**
ASPA	**Alice Springs**	**46.84**	**128**	eP	**P**	**12 07 08.4**	**+0.2**
ASAR	**Alice Springs**	**46.84**	**128**	P	**P**	**12 07 08.4**	**+0.2**
	3.1nm,0.5s,mb4.5,baz=298,slow=7.9,SNR=72						
KURK	**Kurchatov**	**48.21**	**346**	eP	**P**	**12 07 17.1**	**-1.4**
	0.8nm,0.5s,mb4.0						
ZAL	**Zalesovo**	**50.09**	**352**	P	**P**	**12 07 32.1**	**-0.9**
	1.2nm,0.5s,mb4.2,baz=324,slow=7.2,SNR=7.4						
BVAR	**Borovoye Array**	**52.60**	**341**	P	**P**	**12 07 50.8**	**-1.2**
	2.3nm,0.6s,mb4.3,baz=142,slow=9.5,SNR=23						
CHKZ	**Chkalovo**	**53.09**	**342**	eP	**P**	**12 07 54.3**	**-1.3**
	6.9nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**56.91**	**133**	P	**P**	**12 08 23.5**	**-0.2**
	1.7nm,0.8s,mb4.1,baz=307,slow=15,SNR=3.2						
KMBO	**Kilima Mbogo**	**58.28**	**266**	P	**P**	**12 08 33.9**	**+0.3**
	2.4nm,0.8s,mb4.3,baz=58,slow=9.6,SNR=6.9						
FINES	**FINESS Array B**	**76.28**	**332**	P	**P**	**12 10 24.9**	**-1.3**
	1.2nm,0.6s,mb4.0,baz=94,slow=6.2,SNR=12						
ARCES	**ARCESS Array B**	**78.88**	**340**	P	**P**	**12 10 39.9**	**-0.5**
	2.2nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**81.16**	**319**	P	**P**	**12 10 52.9**	**0.0**
	1.3nm,0.7s,mb4.0,baz=90,slow=5.3,SNR=9.2						

*NEIC **12** 12:30:56.9, 29.09S×70.61W, h72km, After GUC.*

GUC 12 12:30:56.9±0.5**, 29.09S×70.61W, h72**km±3km**, ML4.2, 4D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.11**	**313**	⇓iP	P	12 31 08.2	+0.7
LCO				i S	S	12 31 17.0	+1.7
LCO				AMP		12 31 17.5	
	comp=E,8μm,0.2s						
VACH	**Vallenar**	**0.53**	**346**	⇓iP	P	12 31 10.2	-0.1
VACH				i S	S	12 31 20.6	+0.4
VACH				AMP		12 31 22.0	
	comp=N,29μm,0.1s						
LSCH	**La Serena**	**0.99**	**214**	⇓iP	P	12 31 15.4	-0.2
LSCH				i S	S	12 31 29.8	+0.2
LSCH				AMP		12 31 30.8	
	comp=E,7μm,0.4s						
CPCH	**Copiapo**	**1.74**	**8**	⇓iP	P	12 31 25.3	-0.3
CPCH				i S	S	12 31 47.5	+0.7
CPCH				AMP		12 31 49.8	
	comp=E,18μm,0.1s						
ILCH	**Illapel**	**2.59**	**191**	i P	P	12 31 36.9	-0.6
ILCH				i S	S	12 32 07.7	-0.1
ILCH				AMP		12 32 19.1	
	comp=E,675nm,0.1s						
PACH	**Papudo**	**3.51**	**191**	eP	P	12 31 49.5	-0.9
FCH	**Farellones**	**4.24**	**176**	eP	P	12 32 00.6	0.0

*NEIC **12** 12:39:07.0, 32.61S×71.74W, h20km, ML2.9(GUC), After GUC.*

GUC 12 12:39:07.0±0.8**, 32.61S×71.74W, h20**km±9km**, MD3.7, ML2.9, 7C-5D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.26**	**74**	⇓iP	Pb	12 39 13.5	+0.4
PACH				i S	Sb	12 39 18.2	+1.0
IHA	**Instituto Hidr**	**0.42**	**169**	eP	Pb	12 39 15.3	-0.4
IHA				i S	Sb	12 39 21.5	-0.2
ROCH	**El Roble**	**0.71**	**121**	⇑iP	Pb	12 39 20.3	-0.3
ROCH				i S	Sb	12 39 30.2	+0.4
LCCH	**Las Cruces**	**0.88**	**171**	⇑iP	Pb	12 39 22.7	-0.6
LCCH				i S	Sb	12 39 34.2	-0.4
JACH	**Jahuel**	**0.97**	**95**	⇑iP	Pb	12 39 24.0	-0.9
JACH				i S	Sb	12 39 37.5	+0.2
PEL	**Peldehue**	**1.03**	**121**	⇑iP	Pb	12 39 25.5	-0.5
PEL				i S	Sb	12 39 39.5	+0.4
ILCH	**Illapel**	**1.08**	**26**	i P	Pb	12 39 26.0	-0.9
ILCH				i S	Sb	12 39 40.7	+0.1
ILCH				AMP		12 39 45.0	
	comp=N,471nm,0.2s						
TACH	**Talagante**	**1.24**	**147**	⇑iP	Pn	12 39 28.4	-0.9
TACH				i S	Sb	12 39 44.6	-0.5
CLCH	**Cerro Calan**	**1.28**	**128**	⇓iP	Pn	12 39 29.1	-0.8
CLCH				i S	Sb	12 39 46.3	+0.1
CLCH				AMP		12 39 47.3	
	comp=E,523nm,0.5s						
CLCH				AMP		12 39 48.5	
	comp=N,647nm,0.5s						
LNV	**Longovilo**	**1.37**	**169**	eP	Pn	12 39 30.7	-0.6
LNV				i S	Sn	12 39 48.4	-0.5
FCH	**Farellones**	**1.41**	**121**	⇓iP	Pn	12 39 31.2	-0.7
FCH				i S	Sn	12 39 49.9	0.0
FCH				AMP		12 39 51.1	
	comp=E,292nm,0.2s						
PCH	**Pirque**	**1.44**	**135**	⇓iP	Pn	12 39 31.7	-0.5
CHCH	**Chadas Angostu**	**1.60**	**146**	eP	Pn	12 39 34.7	+0.1
CACH	**El Canelo**	**1.78**	**148**	⇑iP	Pn	12 39 38.6	+1.5
LMEL	**Las Melosas**	**1.78**	**134**	⇓iP	Pn	12 39 37.3	+0.2
LMEL				i S	Sn	12 40 00.6	+1.3
LMEL				AMP		12 40 06.0	
	comp=N,194nm,0.2s						
CICH	**Cipreses**	**2.03**	**148**	⇑iP	Pn	12 39 41.6	+0.9

*IDC **12** 12:42:21.4±2.5, 10.75N×92.38E, mb3.9/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=80.3km s-min=23.7km az=73.0*

*NEIC **12** 12:42:25.1±1.1, 10.77N×92.23E, h30km, mb4.0/3, Error ellipse: s-maj=30.9km s-min=14.2km az=72.0*

ISC 12 12:42:23.6±1.2**, 10.8N**±0.1×**92.3E**±0.2**, h30**km**, n10, σ1s17**/10**, mb4.0**/7**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.93**	**39**	Pn	**P**	**12 44 47.1**	**-0.5**
	0.1nm,0.3s,baz=240,slow=16,SNR=3.4						
LSA	**Lhasa**	**18.82**	**357**	eP	**P**	**12 46 43.8**	**+0.4**
	4.3nm,0.6s						
ENH	**Enshi**	**25.09**	**37**	P	**P**	**12 47 51.2**	**+3.9**
SONM	**Songino Array**	**38.75**	**15**	P	**P**	**12 49 47.0**	**0.0**
	0.2nm,0.5s,mb3.1,baz=207,slow=6.4,SNR=3.1						
ZAL	**Zalesovo**	**43.43**	**354**	P	**P**	**12 50 26.8**	**+1.4**
	0.6nm,0.3s,mb3.8,baz=99,slow=13,SNR=2.6						
CHKZ	**Chkalovo**	**46.14**	**342**	eP	**P**	**12 50 45.2**	**-1.9**
	1.2nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**51.42**	**126**	P	**P**	**12 51 27.4**	**-0.9**
	1.1nm,0.3s,mb4.2,baz=306,slow=8.5,SNR=28						
WRAB	**Tennant Creek**	**51.42**	**126**	eP	**P**	**12 51 31.6**	**+3.2**
	3.3nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**53.16**	**131**	P	**P**	**12 51 40.9**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=308,slow=7.8,SNR=14						
STKA	**Stephens Creek**	**63.41**	**134**	P	**P**	**12 52 53.5**	**+0.6**
	2.5nm,1.0s,mb4.3,baz=336,slow=10.0,SNR=2.6						

IDC 12 12:47:48.1±1.8**, 4.27N×93.27E, mb3.5**/4**, mb1 3.7**/5**, mb1mx3.6**/18**, mbtmp3.5**/5**, ML3.3**/1**, Error ellipse: s-maj=59.0km s-min=30.7km az=55.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.15**	**21**	Pn	P	12 51 23.8	-1.6
	0.0nm,0.3s,baz=220,slow=13,SNR=9.0						
SONM	**Songino Array**	**44.85**	**13**	P	P	12 56 04.2	-1.6
	0.3nm,0.8s,baz=180,slow=7.2,SNR=2.9						
WRA	**Warramunga Arr**	**46.98**	**122**	P	P	12 56 21.1	-2.0
	0.3nm,0.6s,baz=302,slow=8.9,SNR=4.7						
BVAR	**Borovoye Array**	**52.13**	**343**	P	P	12 56 59.8	-2.5
	0.5nm,0.8s,baz=135,slow=4.1,SNR=3.4						
GERES	**GERESS Array B**	**79.94**	**319**	P	P	12 59 59.6	-1.0
	0.8nm,0.8s,baz=112,slow=5.3,SNR=4.4						

*JMA **12** 12:54:30.3±0.3, 24.83N×122.75E, h87km, M1.9*

TAP 12 12:54:28.8, 24.70N×122.74E, h95km**, ML3.5, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.97**	**112**	P	P	12 54 50.3	+1.6
IRIF				eS	S	12 55 04.9	+1.2
HATJ	**Hateruma jima**	**1.16**	**123**	eS	S	12 55 10.3	+2.6
JKRS	**Kuro-shima**	**1.25**	**111**	P	P	12 54 53.3	+1.2
JKRS				eS	S	12 55 10.5	+1.1
JIJ	**Ishigaki jima**	**1.32**	**104**	P	P	12 54 54.4	+1.5
JIJ				eS	S	12 55 12.1	+1.2
JTJ	**Tarama**	**1.79**	**91**	eS	S	12 55 23.4	+2.4

IDC 12 12:58:19.3±15.0**, 7.84S×129.48E, h123**km±113km**, mb3.4**/1**, mb1 3.4**/3**, mb1mx3.2**/11**, mbtmp3.7**/3**, ML3.6**/2**, Error ellipse: s-maj=99.8km s-min=80.6km az=154.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.92**	**159**	P	P	13 01 17.6	-1.8
	0.6nm,0.3s,baz=336,slow=14,SNR=35						
WRA				S	S	13 03 40.5	-0.1
	1.6nm,0.3s,baz=343,slow=23,SNR=12						
ASAR	**Alice Springs**	**16.30**	**165**	P	P	13 02 03.0	+0.6
	0.3nm,0.3s,baz=340,slow=9.7,SNR=20						
ASAR				S	S	13 05 04.1	+5.4
	0.3nm,0.3s,baz=348,slow=27,SNR=5.5						
STKA	**Stephens Creek**	**26.44**	**156**	P	P	13 03 44.6	-2.1
	0.5nm,0.4s,baz=331,slow=13,SNR=3.0						

*IDC **12** 13:00:04.9±0.9, 67.05N×21.18E, mb1 3.0/4, mb1mx2.9/19, mbtmp2.9/4, ML2.3/4, Error ellipse: s-maj=17.8km s-min=7.9km az=116.0*

*HEL **12** 13:00:06.8±0.1, 67.14N×20.54E, ML1.9(UPP), Explosion*

ISC 12 13:00:03.3±0.5**, 67.02N**±0.03×**20.49E**±0.08**, n22, σ1s76**/31**, Sweden**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.11**	**16**	i P	**Pg**	**13 00 06.8**	**+1.4**
MASU	**Masugnsbyn**	**0.73**	**52**	i P	**Pg**	**13 00 14.3**	**-3.6**
ERTU	**Ertsjaerv**	**0.82**	**124**	i P	**Pg**	**13 00 17.3**	**-2.4**
KUA	**Kurravaara**	**0.94**	**356**	eP	**Pg**	**13 00 20.7**	**-1.3**
NIKU	**Nikkaluokta**	**1.02**	**327**	eP	**Pb**	**13 00 23.6**	**+0.1**
LANU	**Lannavaara**	**1.18**	**28**	eP	**Pb**	**13 00 22.9**	**-3.4**
KIF	**Kilpisjarvi**	**2.00**	**3**	eP	**Pn**	**13 00 40.8**	**+2.2**
KIF				eS	**Sn**	**13 01 04.8**	**+0.1**
KTK1	**Kautokeino**	**2.25**	**26**	eP	**Pn**	**13 00 42.8**	**+0.5**
SGF	**Sodankyl**	**2.39**	**77**	eP	**Pn**	**13 00 46.7**	**+2.5**
SGF				eS	**Sn**	**13 01 15.1**	**+0.5**
MOR8	**Moi Rana**	**2.56**	**253**	eP	**Pn**	**13 00 48.4**	**+1.7**
MOR8	**Moi Rana**	**2.56**	**253**	e	**Pn**	**13 00 48.4**	**+1.7**
TRO	**Tromso**	**2.69**	**348**	eSG	**Sg**	**13 01 26.2**	**-6.6**
LOF	**Lofoten**	**2.89**	**296**	e	**Sg**	**13 01 41.8**	**+2.4**
LOF	**Lofoten**	**2.89**	**296**	e	**Sg**	**13 01 41.8**	**+2.4**
OUL	**Oulu**	**2.94**	**129**	eP	**Pn**	**13 00 56.4**	**+4.4**
OUL				eS	**Sn**	**13 01 31.9**	**+3.3**
STOK	**Stokkvaagen**	**3.05**	**260**	eSG	**Sg**	**13 01 43.9**	**-1.0**
ARCES	**ARCESS Array B**	**3.14**	**34**	Pn	**Pn**	**13 00 52.6**	**-2.3**
	0.4nm,0.3s,baz=211,slow=14,SNR=71						
ARCES				Sn	**Sn**	**13 01 31.5**	**-2.2**
	0.7nm,0.3s,baz=218,slow=22,SNR=8.1						
MSF	**Maaselka**	**3.61**	**104**	eP	**Pn**	**13 01 04.6**	**+3.1**
MSF				eS	**Sn**	**13 01 46.1**	**+0.6**
KEV	**Kevo**	**3.66**	**38**	eP	**Pn**	**13 01 03.3**	**+1.0**
KEV				eS	**Sn**	**13 01 43.8**	**-2.9**
FINES	**FINESS Array B**	**6.10**	**154**	Pn	**Pn**	**13 01 35.4**	**-1.5**
	0.1nm,0.3s,baz=345,slow=13,SNR=7.9						
FINES				Sn	**Sn**	**13 02 44.1**	**-4.3**
	0.1nm,0.3s,baz=345,slow=21,SNR=6.2						
NOA	**NORSAR Array B**	**7.25**	**218**	Pn	**Pn**	**13 01 54.9**	**+1.9**
	0.1nm,0.3s,baz=12,slow=22,SNR=2.8						
NOA				Sn	**Sn**	**13 03 14.9**	**-2.1**
	0.0nm,0.3s,baz=284,slow=17,SNR=2.3						
HFS	**Hagfors**	**7.54**	**207**	Pn	**Pn**	**13 01 56.2**	**-1.0**
	0.0nm,0.3s,baz=29,slow=15,SNR=4.9						
HFS				Sn	**Sn**	**13 03 19.3**	**-5.1**
	0.0nm,0.3s,baz=46,slow=38,SNR=2.2						

*MOS **12** 13:03:44.6±1.0, 36.77N×139.84E, h133km, mb4.4/10, Error ellipse: s-maj=12.5km s-min=8.4km az=107.5*

*IDC **12** 13:03:44.6±1.4, 36.74N×139.69E, h107km±14km, mb3.8/16, mb1 4.1/19, mb1mx4.0/25, mbtmp4.3/19, MS3.1/1, Ms1 3.1/1, ms1mx2.3/36, Error ellipse: s-maj=16.2km s-min=9.9km az=93.0*

*JMA **12** 13:03:46.9±0.1, 36.63N×139.83E, h127km±1km, M4.1 Broadband fault plane solution: P waves. NP1:φs85°, δ64°, λ-1°. NP2:φs175°, δ89°, λ-154°. Principal axes: T Plg17°, Azm307°; N Plg64°, Azm178°; P Plg19°, Azm43°;*

JMA Felt II J1.

*BJI **12** 13:03:46.1, 36.79N×139.78E, h151km, mB4.9, mb4.5*

*NEIC **12** 13:03:47.6±0.6, 36.68N×139.64E, h139km±5km, mb4.4/13, Error ellipse: s-maj=8.7km s-min=7.6km az=52.0*

NEIC Recorded [2 JMA] in Gumma and Tochigi; [1 JMA] in Fukushima, Ibaraki, Kanagawa, Saitama, Shizuoka, Tokyo and Yamanashi Prefectures.

*NIED **12** 13:04:00, 36.70N×139.80E, h140km, Mw4.2 Best double couple: Mo2.35×10^15 NP1:φs1°, δ87°, λ137°. NP2:φs94°, δ47°, λ5°.*

ISC 12 13:03:45.0±0.3**, 36.66N**±0.03×**139.85E**±0.05**, h136**km±2km**, n89, σ1s03**/112**, mb4.2**/33**, 5C-8D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSB	**Shiboa**	**0.31**	**11**	⇑P	**P**	**13 04 05.2**	**+0.8**
JSB				eS	**S**	**13 04 19.0**	**-0.2**
JAG	**Ashikaga**	**0.39**	**233**	⇓P	**P**	**13 04 04.9**	**+0.1**
JAG				eS	**S**	**13 04 18.7**	**-1.1**
JKT	**Katashina**	**0.49**	**283**	⇓P	**P**	**13 04 05.8**	**+0.6**
JKT				eS	**S**	**13 04 20.2**	**-0.5**
JFY	**Yanaizu**	**0.75**	**351**	⇓P	**P**	**13 04 07.6**	**+0.8**
JFY				eS	**S**	**13 04 23.0**	**-0.5**
JHK	**Hiroka**	**0.89**	**312**	⇑P	**P**	**13 04 08.5**	**+0.8**
JHK				eS	**S**	**13 04 24.9**	**-0.2**
JFT	**Otama**	**0.94**	**24**	⇓P	**P**	**13 04 09.5**	**+1.4**
JFT				eS	**S**	**13 04 26.1**	**+0.2**
JRY	**Ryogami san**	**1.00**	**230**	⇓P	**P**	**13 04 09.8**	**+1.2**
JRY				eS	**S**	**13 04 27.0**	**+0.3**
JNS	**Sasagawa**	**1.23**	**340**	⇑P	**P**	**13 04 11.6**	**+0.6**
JNS				eS	**S**	**13 04 30.2**	**-0.7**
MAJO	**Matsushiro**	**1.32**	**265**	eP	**P**	**13 04 12.5**	**+0.5**
MAT	**Matsushiro**	**1.32**	**265**	eP	**P**	**13 04 13.0**	**+1.0**
MAT				eS	**S**	**13 04 32.0**	**-0.6**
MAT	**Matsushiro**	**1.32**	**265**	P	**P**	**13 04 12.7**	**+0.7**
MAT				S	**S**	**13 04 32.3**	**-0.3**
MAT	**Matsushiro**	**1.32**	**265**	P	**P**	**13 04 12.7**	**+0.7**
MAT				eS	**S**	**13 04 32.7**	**+0.1**
JMM	**Marumori**	**1.42**	**32**	⇓P	**P**	**13 04 14.1**	**+1.1**
JMM				eS	**S**	**13 04 34.2**	**-0.2**
JOD2	**Odawara 2**	**1.52**	**204**	⇓P	**P**	**13 04 14.3**	**+0.1**
JOD2				eS	**S**	**13 04 35.3**	**-1.2**
JYN	**Shimob**	**1.57**	**223**	⇓P	**P**	**13 04 15.6**	**+1.0**
JYN				eS	**S**	**13 04 37.7**	**+0.4**
JAW	**Awa shima**	**1.85**	**345**	P	**P**	**13 04 18.9**	**+1.0**
JAW				eS	**S**	**13 04 42.9**	**-0.2**
JIM2	**Oshima 3**	**1.97**	**190**	P	**P**	**13 04 19.5**	**+0.2**
JIM2				eS	**S**	**13 04 44.8**	**-0.7**
JHJ	**Hachijo jima 2**	**3.53**	**181**	P	**P**	**13 04 40.0**	**+0.3**
	330nm,0.3s,baz=197,slow=0.8,SNR=35						
JHJ				S	**S**	**13 05 21.1**	**-0.4**
	333nm,0.3s,baz=232,slow=23,SNR=14						
ERM	**Erimo**	**5.93**	**25**	Pn	**P**	**13 05 10.0**	**-1.6**
	838nm,0.6s,SNR=18						
ASAJ	**Asahikawa**	**7.74**	**15**	P	**P**	**13 05 34.4**	**-1.7**
ASAJ				S	**S**	**13 06 55.5**	**-7.0**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**7.74**	**15**	P	**P**	**13 05 34.4**	**-1.7**
	comp=N,8.8nm,0.3s,baz=247,slow=8.5,SNR=50						
ASAJ				S	**S**	**13 06 55.5**	**-7.0**
	comp=N,1.8nm,0.3s,baz=174,slow=10,SNR=3.5						
YUK	**Yuzh-Kuril'sk**	**8.68**	**30**	eP	**P**	**13 05 45.3**	**-3.3**
YUK				eS	**S**	**13 07 15.5**	**-10**
YUK				pmax	pmax		
	comp=Z,2μm,0.8s						
YUK				pmax	pmax		
	comp=N,300nm,0.4s						
YUK				pmax	pmax		
	comp=E,160nm,0.4s						
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
YUK				smax			
	comp=N,1μm,0.6s						
YUK				smax			
	comp=E,2μm,0.7s						
YUK				smax			
	comp=N,660nm,0.5s						
YUK				smax			
	comp=E,1.0nm,0.6s						
CBIJ	**Chichi jima**	**9.74**	**168**	P	**P**	**13 06 00.1**	**-2.6**
	comp=E,21nm,0.3s,baz=273,slow=21,SNR=5.9						
CBIJ				S	**S**	**13 07 41.5**	**-9.1**
	comp=E,32nm,0.3s,baz=294,slow=23,SNR=7.6						
CBIJ				LR	LR	13 09 00.3	
	comp=E,101nm,20.3s,baz=358,slow=32						
KUR	**Kuril'sk**	**10.49**	**33**	eP	**P**	**13 06 08.0**	**-4.6**
KUR				eS	**S**	**13 07 57.0**	**-11**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=E,60nm,0.5s						
KUR				smax			
	comp=N,60nm,0.0s						
YSS	**Yuzh-Sakhalins**	**10.51**	**11**	⇑iP	**P**	**13 06 10.1**	**-2.7**
YSS				e		13 08 00.0	
YSS				pmax	pmax		
	comp=Z,20nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.51**	**11**	eP	**P**	**13 06 10.4**	**-2.5**
	comp=Z,17nm,0.4s						
MDJ	**Mudanjiang**	**11.12**	**319**	P	**P**	**13 06 21.7**	**+0.8**
MDJ				S	**S**	**13 08 24.3**	**+1.2**
MDJ				AMB	AMB		
	comp=Z,16nm,2.3s						
MDJ				AMB	AMB		
	comp=Z,206nm,4.9s						
MDJ	**Mudanjiang**	**11.12**	**319**	P	**P**	**13 06 21.6**	**+0.7**
CN2	**Changchun**	**13.10**	**307**	eP	**P**	**13 06 47.4**	**+0.6**
BJI	**Beijing**	**18.86**	**288**	P	**P**	**13 07 55.4**	**-1.5**
BJI				AMB	AMB		
	comp=Z,13nm,0.5s						
BJI				AMB	AMB		
	comp=Z,144nm,3.6s						
BJI	**Beijing**	**18.86**	**288**	P	**P**	**13 07 55.4**	**-1.5**
	comp=Z,13nm,0.5s						
BJT	**Baijiatuau**	**18.86**	**287**	eP	**P**	**13 07 55.4**	**-1.6**
BJT				pmax	pmax		
	comp=Z,14nm,0.8s						
BJT	**Baijiatuau**	**18.86**	**287**	eP	**P**	**13 07 55.4**	**-1.6**
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**19.30**	**317**	eP	**P**	**13 07 59.3**	**-2.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**19.30**	**317**	eP	**P**	**13 07 59.3**	**-2.1**
	comp=Z,3.7nm,0.6s						
ENH	**Enshi**	**26.05**	**265**	eP	**P**	**13 09 06.5**	**-0.9**
	comp=Z,5.5nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**26.53**	**305**	eP	**P**	**13 09 10.6**	**-1.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
ULN	**Ulaanbaatar**	**26.53**	**305**	eP	**P**	**13 09 10.6**	**-1.0**
	comp=Z,3.4nm,0.5s,mb4.2						
SONM	**Songino Array**	**26.96**	**305**	P	**P**	**13 09 14.4**	**-1.1**
	comp=Z,3.8nm,0.4s,mb4.4,baz=106,slow=8.9,SNR=45						
BOD	**Bodaibo**	**27.19**	**329**	⇑iP	**P**	**13 09 16.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
ZAK	**Zakamensk**	**29.52**	**309**	eP	**P**	**13 09 36.9**	**-1.6**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
WMQ	**Urumqi**	**39.89**	**297**	eP	**P**	**13 11 05.0**	**-1.8**
WMQ				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.5						
ZAL	**Zalesovo**	**41.25**	**313**	P	**P**	**13 11 18.9**	**+1.0**
	comp=Z,9.6nm,0.9s,mb4.4,baz=17,slow=8.0,SNR=47						
NVS	**Novosibirsk**	**42.19**	**314**	eP	**P**	**13 11 24.8**	**-0.7**
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,7.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,11nm,0.5s,mb4.7						
MKAR	**Makanchi Array**	**43.25**	**302**	i P	**P**	**13 11 34.5**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KURK	**Kurchatov**	**45.17**	**308**	P	**P**	**13 11 49.1**	**-0.5**
	comp=Z,227nm,1.1s,mb5.7,SNR=10						
KURK	**Kurchatov**	**45.17**	**308**	eP	**P**	**13 11 49.3**	**-0.3**
KURK				pmax	pmax		
	comp=Z,33nm,0.9s,mb5.0						
KURK	**Kurchatov**	**45.17**	**308**	eP	**P**	**13 11 49.3**	**-0.2**
	comp=Z,33nm,0.9s,mb5.0						
JIRN	**Jiri**	**45.80**	**275**	eP	**P**	**13 11 55.8**	**+1.0**
	comp=Z,6.9nm,0.2s,mb4.9						
PKI	**Pulchoki**	**46.46**	**275**	eP	**P**	**13 12 00.0**	**0.0**
KKN	**Kakani**	**46.47**	**275**	eP	**P**	**13 12 00.4**	**+0.3**
	comp=Z,17nm,0.7s,mb4.8						
GKN	**Gorkha**	**46.89**	**276**	eP	**P**	**13 12 03.7**	**+0.3**
	comp=Z,24nm,0.6s,mb5.0						
KOLN	**Koldanda**	**47.82**	**276**	eP	**P**	**13 12 11.0**	**+0.3**
	comp=Z,13nm,0.9s,mb4.5						

TKM2 Tokmak 2 48.70 298 P P 13 12 18.6 +1.3
SNR=10
KZA Kyzart 49.18 297 P P 13 12 22.8 +1.9
SNR=7.2
KBK Karagaybulak 49.23 298 P P 13 12 22.3 +1.0
SNR=12
USP Ospenovka 49.38 299 P P 13 12 22.9 +0.4
SNR=5.8
AAK Ala-Archa 49.56 298 *e*P P 13 12 23.2 -0.6
AAK pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
AAK Ala-Archa 49.56 298 *e*P P 13 12 23.2 -0.6
comp=Z,2.5nm,0.5s,mb4.1
CHKZ Chkalovo 49.65 313 *e*P P 13 12 23.6 -0.7
CHKZ pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
CHKZ Chkalovo 49.65 313 *e*P P 13 12 23.6 -0.7
comp=Z,5.8nm,0.5s,mb4.5
BVA0 Borovoye Array 49.89 312 P P 13 12 26.7 +0.5
BVAR Borovoye Array 49.89 312 P P 13 12 26.7 +0.5
comp=Z,4.2nm,0.5s,mb4.3,baz=74,slow=8.3,SNR=41
AML Almayashu 50.27 298 P P 13 12 30.7 +1.5
SNR=25
ILAR Eielson Array 50.48 32 P P 13 12 31.3 +0.8
comp=Z,1.7nm,0.7s,mb3.8,baz=268,slow=4.9,SNR=33
INK Inuvik 55.29 27 *e*P P 13 13 06.8 +0.7
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 55.29 27 P P 13 13 07.2 +1.1
comp=Z,2.2nm,0.6s,mb4.1,baz=304,slow=6.3,SNR=32
INK Inuvik 55.29 27 *e*P P 13 13 06.8 +0.7
comp=Z,3.0nm,0.7s,mb4.1
WRAB Tennant Creek 56.52 186 *e*P P 13 13 14.8 -0.8
WRAB pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
WRAB Tennant Creek 56.52 186 *e*P P 13 13 14.8 -0.8
comp=Z,4.1nm,0.5s,mb4.5
WRA Warramunga Arr 56.54 186 P P 13 13 15.4 -0.2
comp=Z,2.8nm,0.5s,mb4.4,baz=0.3,slow=7.7,SNR=58
ASAR Alice Springs 60.26 186 P P 13 13 42.0 +0.6
comp=Z,1.2nm,0.9s,mb3.7,baz=360,slow=4.3,SNR=9.4
RES Resolute Bay 63.27 14 *e*P P 13 14 00.1 -0.8
RES pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
RES Resolute Bay 63.27 14 *e*P P 13 14 00.1 -0.8
comp=Z,2.3nm,0.9s,mb4.0
ARCES ARCESS Array B 63.90 339 P P 13 14 04.4 -0.5
comp=Z,3.5nm,0.9s,mb4.2,baz=53,slow=7.2,SNR=13
YKA Yellowknife Ar 64.76 30 P P 13 14 11.1 +0.5
YKA Yellowknife Ar 64.76 30 P P 13 14 11.0 +0.5
comp=Z,2.3nm,1.1s,mb3.9,baz=305,slow=6.5,SNR=14
JOF Joensuu 65.70 332 *e*p P 13 14 14.8 -1.8
comp=Z,2.0nm,0.4s,mb4.3
KAF Kangasniemi 68.06 332 *e*p P 13 14 30.3 -1.1
comp=Z,1.9nm,0.6s,mb4.0
KAF Kangasniemi 68.06 332 *e*P P 13 14 30.3 -1.1
KAF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
FINES FINESS Array B 68.55 332 P P 13 14 34.1 -0.3
comp=Z,1.2nm,0.6s,mb3.8,baz=48,slow=8.4,SNR=12
AKASG Malin Array Be 73.82 322 P P 13 15 05.5 -0.5
comp=Z,2.0nm,0.5s,mb4.1,baz=46,slow=5.9,SNR=9.4
AKASG Malin Array Be 73.82 322 P P 13 15 05.5 -0.5
NOA NORSAR Array B 74.04 337 P P 13 15 07.5 +0.5
comp=Z,4.8nm,1.1s,mb4.2,baz=40,slow=5.8,SNR=8.2
NVAR Mina Array Bea 76.22 52 P P 13 15 22.4 +2.6
comp=Z,1.7nm,0.8s,mb3.7,baz=307,slow=4.0,SNR=15
PDAR Pinedale Array 78.82 45 P P 13 15 36.2 +2.1
comp=Z,0.6nm,0.6s,mb3.4,baz=1.4,slow=1.1,SNR=6.1
CLL Collm 80.79 329 P P 13 15 45.0 +0.5
GERES GERESS Array B 82.36 327 P P 13 15 53.7 +1.0
comp=Z,0.4nm,0.4s,mb3.4,baz=31,slow=7.8,SNR=4.3
TXAR Lajitas Array 91.34 51 P P 13 16 38.6 +2.0
comp=Z,0.4nm,0.7s,mb3.6,baz=282,slow=3.0,SNR=6.1
TXAR pP pP 13 17 11.6 0.0
comp=Z,0.3nm,0.6s,baz=315,slow=3.5,SNR=4.3

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*NEIC **12** 13:17:16.1±2.5, 3.63S×135.40E, h51km±25km, mb4.1/3, Error ellipse: s-maj=19.5km s-min=17.3km az=130.0*
*IDC **12** 13:17:24.2±5.3, 3.83S×135.62E, h134km±51km, mb3.4/4, mb1 3.8/8, mb1mx3.7/14, mbtmp4.1/8, Error ellipse: s-maj=44.8km s-min=13.5km az=87.0*
ISC 12 13:17:14.2±2.1**, 3.76S**±0.08×**135.4E**±0.1**, h51**km±20km**, n14,** σ1ˢ36/17**, mb3.8**/4**, 1C, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.36**	**198**	*e*P	**P**	**13 19 29.1**	**-0.1**
	16nm,0.5s						
PMG	**Port Moresby**	**12.97**	**116**	P	**P**	**13 20 19.0**	**+0.8**
	0.3nm,0.3s,baz=206,slow=2.2,SNR=5.1						
WRAB	**Tennant Creek**	**16.11**	**183**	*e*P	**P**	**13 21 03.0**	**+4.1**
	19nm,0.4s						
WB2	**Warramunga Arr**	**16.12**	**183**	*e*P	**P**	**13 20 55.6**	**-3.4**
WB2				*e*		13 21 03.2	
WB2				*e*S	**S**	**13 23 49.8**	**-6.0**
WRA	**Warramunga Arr**	**16.12**	**184**	P	**P**	**13 20 55.5**	**-3.5**
	0.3nm,0.3s,baz=3.9,slow=13,SNR=19						
WRA				S	**S**	**13 23 52.1**	**-3.7**
	0.6nm,0.3s,baz=4.2,slow=23,SNR=9.1						
FITZ	**Fitzroy Crossi**	**17.16**	**213**	*e*P	**P**	**13 21 12.7**	**+0.7**
	11nm,0.9s						
CTA	**Charters Tower**	**19.39**	**148**	P	**P**	**13 21 37.6**	**-1.2**
	0.3nm,0.3s,baz=324,slow=8.7,SNR=3.4						
CTAO	**Charters Tower**	**19.39**	**148**	P	**P**	**13 21 38.4**	**-0.4**
	5.8nm,0.8s						
ASAR	**Alice Springs**	**19.85**	**184**	P	**P**	**13 21 45.1**	**+1.4**
	4.4nm,0.3s,baz=7.5,slow=12,SNR=279						
ASAR				S	**S**	**13 25 19.4**	**+0.2**
	0.1nm,0.3s,baz=3.4,slow=27,SNR=4.4						
ASPA	**Alice Springs**	**19.85**	**184**	⇑*i*P	**P**	**13 21 44.7**	**+1.0**
STKA	**Stephens Creek**	**28.58**	**169**	P	**P**	**13 23 07.9**	**+0.2**
	1.6nm,0.7s,mb3.9,baz=346,slow=12,SNR=3.5						
SONM	**Songino Array**	**57.31**	**337**	P	**P**	**13 26 57.3**	**-2.0**
	1.0nm,1.2s,mb3.7,baz=146,slow=5.2,SNR=2.5						
BVAR	**Borovoye Array**	**78.29**	**326**	P	**P**	**13 29 12.1**	**+1.7**
	0.4nm,0.6s,mb3.5,baz=108,slow=9.4,SNR=4.9						
ILAR	**Eielson Array**	**88.16**	**25**	P	**P**	**13 29 59.8**	**-0.7**
	0.5nm,0.5s,mb4.0,baz=263,slow=4.5,SNR=10.0						

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*CSEM **12** 13:31:31.8, 8.36S×121.27E, h33km, mb5.8*
*BJI **12** 13:32:25.0, 7.76S×121.09E, h540km, mB5.1, mb5.2*
*DJA **12** 13:32:29.7±0.8, 7.16S×120.34E, h544km±5km, mb5.7/3, MD5.3/3, ML6.0/1, Error ellipse: s-maj=31.0km s-min=8.0km az=136.0*
*MOS **12** 13:32:30.4±0.9, 7.18S×120.55E, h543km, mb5.3/26, Error ellipse: s-maj=11.6km s-min=6.1km az=115.9*
*NEIC **12** 13:32:31.5±0.1, 7.23S×120.47E, mb5.2/42, Error ellipse: s-maj=5.2km s-min=3.4km az=64.0*
*IDC **12** 13:32:31.1±0.8, 7.15S×120.64E, h534km±8km, mb4.7/25, mb1 4.8/26, mb1mx4.7/28, mbtmp5.5/26, Error ellipse: s-maj=13.5km s-min=6.0km az=58.0*
*HRVD **12** 13:32:31.5±0.6, 7.14S×120.78E, h555km±3km, MW5.2/45, Centroid moment Tensor Solution. LP body waves: s45,c69; Half duration: 1ˢ0 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.72±.05; $M_{\theta\theta}$0.76±.07; $M_{\phi\phi}$-0.03±.12; $M_{r\theta}$-0.09±.08; $M_{\theta\phi}$-0.12±.06; $M_{\phi r}$-0.44±.07; Best double couple: M_0.858×10^{17} NP1:ϕ_s302°, δ50°, λ-54°. NP2:ϕ_s74°, δ52°, λ-125°. Principal axes: T .775, Plg1°, Azm188°; N .167, Plg27°, Azm97°; P -.942, Plg63°, Azm280°; nsta1 refers to body waves, cutoff=40s.*
ISC 12 13:32:30.0±0.3**, 7.25S**±0.02×**120.46E**±0.03**, h538**km±3km**, h534**km±7.0km**: pP-P, n409,** σ1ˢ10/287**, mb5.1**/86**, 32C-31D, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NINI	**Niniconang**	**2.89**	**346**	*e*Pn	**P**	**13 33 46.0**	**+2.0**
BUNI	**Buntu Taipa**	**3.57**	**358**	*e*Pn	**P**	**13 33 49.4**	**+1.0**
TANI	**Tanete Lipujan**	**3.94**	**344**	*e*Pn	**P**	**13 33 52.0**	**+0.9**
KEDI	**Kedomdong**	**4.48**	**254**	⇓*e*Pn	**P**	**13 33 56.0**	**+0.6**
	3µm,0.2s						
KEDI				⇓*e*Sn	**S**	**13 35 02.2**	**-1.0**
RATI	**Rata**	**5.10**	**253**	⇑*e*P	**P**	**13 34 00.4**	**-0.3**
	4µm,0.1s						
RATI				⇑*e*S	**S**	**13 35 11.2**	**-1.3**
KELI	**Kelakatan**	**6.00**	**260**	⇓*e*P	**P**	**13 34 09.3**	**+0.5**
KELI				⇑*e*S	**S**	**13 35 25.6**	**-1.6**
SRDI	**Scrawed**	**6.38**	**259**	⇑*e*P	**P**	**13 34 12.0**	**-0.4**
	3µm,0.2s						
SRDI				⇑*e*S	**S**	**13 35 32.0**	**-1.7**
TSM	**Tawau**	**11.75**	**347**	P	**P**	**13 35 07.9**	**+1.4**
FITZ	**Fitzroy Crossi**	**11.91**	**155**	⇑*i*P	**P**	**13 35 08.1**	**0.0**
	1µm,0.8s						
FITZ				*e*S	**S**	**13 37 16.1**	**+0.8**
KAKA	**Kakadu**	**12.98**	**116**	⇓*i*P	**P**	**13 35 17.4**	**-1.7**
	111nm,0.5s						
KSM	**Kuching**	**13.33**	**310**	*e*P	**P**	**13 35 24.8**	**+2.2**
KSM				*e*S	**S**	**13 37 47.4**	**+5.8**
MBWA	**Marble Bar**	**13.85**	**183**	⇑*i*P	**P**	**13 35 28.1**	**+0.2**
	253nm,0.6s						
KKM	**Kota Kinabalu**	**13.87**	**342**	⇑*i*P	**P**	**13 35 28.7**	**+0.5**
KKM				*e*S	**S**	**13 37 52.1**	**+0.5**
KKM	**Kota Kinabalu**	**13.87**	**342**	P	**P**	**13 35 29.2**	**+1.0**
KCP	**Kidapawan**	**14.89**	**18**	⇑*e*P	**P**	**13 35 40.4**	**+1.9**
IPIL	**Ipil**	**15.08**	**8**	*e*P	**P**	**13 35 41.5**	**+1.1**
MATI	**Mati**	**15.24**	**22**	*e*P	**P**	**13 35 39.5**	**-2.4**
PAGZ	**Pagadian**	**15.28**	**11**	*e*P	**P**	**13 35 43.8**	**+1.6**
PENI	**Pendagan**	**15.29**	**275**	⇑*e*P	**P**	**13 35 40.1**	**-2.3**
	255nm,0.3s						
PENI				⇑*e*S	**S**	**13 38 14.2**	**-3.3**
BUKP	**Musuan**	**15.71**	**17**	*e*P	**P**	**13 35 47.0**	**+0.5**
DCPH	**Dipolog City**	**15.99**	**10**	⇑*e*P	**P**	**13 35 50.8**	**+1.5**
DCPH				*e*S	**S**	**13 38 37.6**	**+7.6**
BATP	**Bataraza**	**16.16**	**351**	*e*P	**P**	**13 35 52.1**	**+1.2**
BIPH	**Bislig**	**16.42**	**21**	*e*P	**P**	**13 35 51.6**	**-1.9**
BIPH				*e*S	**S**	**13 38 35.9**	**-1.7**
BUTP	**Butuan**	**16.91**	**18**	*e*P	**P**	**13 35 58.6**	**+0.4**
TBP	**Tagbilaran**	**17.16**	**11**	*e*P	**P**	**13 36 01.5**	**+0.8**
AAP	**Anini-y**	**17.61**	**5**	⇓*e*P	**P**	**13 36 02.0**	**-3.0**
SCPH	**Surigao**	**17.64**	**17**	*e*P	**P**	**13 36 05.2**	**-0.1**
SCPH				*e*S	Px	13 36 09.5	
LLP	**Lapu-Lapu**	**17.79**	**11**	⇓*e*P	**P**	**13 36 07.1**	**+0.3**
MSLP	**Maasin**	**17.81**	**14**	*e*P	**P**	**13 36 07.9**	**+0.9**
GUIM	**Jordan**	**17.88**	**7**	*e*P	**P**	**13 36 08.1**	**+0.5**
WRA	**Warramunga Arr**	**18.45**	**135**	P	**P**	**13 36 13.2**	**+0.2**
	25nm,0.3s,baz=314,slow=10,SNR=932						
WRA				S	**S**	**13 39 11.2**	**-1.4**
	baz=303,slow=17,SNR=5.9						
WRA				PKiKP		13 48 05.7	
	0.1nm,0.3s,baz=296,slow=1.2,SNR=6.6						
WRA				P3KPbc		14 10 32.3	
	0.1nm,0.3s,baz=134,slow=4.2,SNR=11						
WRAB	**Tennant Creek**	**18.45**	**134**	P	**P**	**13 36 13.0**	**0.0**
	4µm,0.9s						
WRAB	**Tennant Creek**	**18.45**	**134**	*c i*P	**P**	**13 36 13.2**	**+0.2**
WRAB	**Tennant Creek**	**18.45**	**134**	⇑*i*P	**P**	**13 36 13.0**	**0.0**
	935nm,0.9s						
WB2	**Warramunga Arr**	**18.46**	**135**	⇑*i*P	**P**	**13 36 13.1**	**0.0**
WB2				*e*S	**S**	**13 39 13.0**	**+0.2**
RCP	**Roxas**	**18.82**	**7**	⇓*e*P	**P**	**13 36 16.3**	**-0.3**
PLP	**Palo**	**18.84**	**14**	*e*P	**P**	**13 36 16.7**	**0.0**
BESP	**Borongan**	**19.37**	**15**	*e*P	**P**	**13 36 21.6**	**-0.1**
KGM	**Kluang**	**19.42**	**298**	P	**P**	**13 36 24.6**	**+2.3**
OTRP	**Odiongan**	**19.54**	**5**	*e*P	**P**	**13 36 24.2**	**+0.8**
SJMP	**San Jose**	**19.59**	**2**	*e*P	**P**	**13 36 25.4**	**+1.5**
AUQP	**San Andres**	**20.55**	**6**	*e*P	**P**	**13 36 33.9**	**+1.1**
BOAC	**Boac**	**20.62**	**4**	*e*P	**P**	**13 36 34.2**	**+0.9**
ASPA	**Alice Springs**	**20.81**	**143**	⇑*i*P	**P**	**13 36 34.7**	**-0.4**
ASPA				*e*S	**S**	**13 39 52.0**	**-0.1**
ASAR	**Alice Springs**	**20.81**	**143**	P	**P**	**13 36 34.7**	**-0.4**
	117nm,0.5s,baz=317,slow=8.0,SNR=1421						
ASAR				S	**S**	**13 39 51.6**	**-0.5**
	28nm,0.9s,baz=344,slow=24,SNR=5.4						
ASAR				PcP	PcP	13 40 20.6	-0.6
	21nm,0.6s,baz=333,slow=1.3,SNR=7.8						
ASAR				ScP		13 43 06.8	
	18nm,0.7s,baz=267,slow=1.0,SNR=9.8						
ASAR				PKiKP		13 48 06.8	
	1.4nm,0.7s,baz=347,slow=1.2,SNR=3.7						
ASAR				P3KPbc		14 10 20.6	
	0.7nm,0.8s,baz=133,slow=3.2,SNR=5.6						
LUBP	**Lubang**	**20.84**	**359**	*e*P	**P**	**13 36 36.3**	**+0.8**
LUBP	**Lubang**	**20.84**	**359**	*e*P	**P**	**13 36 36.4**	**+0.9**
PVCP	**Virac**	**21.03**	**10**	*e*P	**P**	**13 36 36.1**	**-1.0**
POLP	**Polilio Island**	**21.88**	**4**	*e*P	**P**	**13 36 43.7**	**-1.3**
IPM	**Ipoh**	**22.68**	**301**	P	**P**	**13 36 52.4**	**+0.1**
BALP	**Baler**	**22.87**	**3**	*e*P	**P**	**13 36 54.1**	**+0.1**
SCZP	**Santa Cruz**	**22.88**	**359**	*e*P	**P**	**13 36 52.9**	**-1.2**
KULM	**Kulim**	**23.37**	**302**	⇓*i*P	**P**	**13 36 58.2**	**-0.3**
KULM				*e*PcP	PcP	13 40 26.0	-0.7
BOLP	**Bolinao**	**23.48**	**359**	*e*P	**P**	**13 36 59.0**	**-0.6**
KLBR	**Kellerberrin**	**24.35**	**186**	⇑*i*P	**P**	**13 37 06.4**	**-0.8**
	408nm,0.4s						
FORT	**Forrest**	**24.47**	**164**	⇑*i*P	**P**	**13 37 07.6**	**-0.7**
	8µm,0.6s						
MUN	**Mundaring**	**24.92**	**189**	⇑*i*P	**P**	**13 37 11.6**	**-0.7**
	36nm,0.5s,mb5.2						
MUN	**Mundaring**	**24.92**	**189**	⇑*i*P	**P**	**13 37 11.6**	**-0.7**
MUN				pmax	pmax		
	comp=Z,36nm,0.5s,mb5.3						
NWAO	**Narrogin (SRO)**	**25.73**	**186**	*e*P	**P**	**13 37 18.9**	**-0.5**
NWAO				pmax	pmax		
	comp=Z,88nm,0.7s						
NWAO	**Narrogin (SRO)**	**25.73**	**186**	P	**P**	**13 37 19.1**	**-0.3**
	comp=Z,109nm,0.7s,mb5.6,baz=17,slow=8.6,SNR=127						
NWAO	**Narrogin (SRO)**	**25.73**	**186**	*e*P	**P**	**13 37 18.9**	**-0.5**
	comp=Z,88nm,0.7s,mb5.5						
PMG	**Port Moresby**	**26.50**	**97**	ScP		13 43 23.2	
	comp=Z,24nm,1.0s,baz=64,slow=6.5,SNR=7.5						
CTA	**Charters Tower**	**28.07**	**120**	*e*P	**P**	**13 37 39.5**	**-0.6**
	comp=Z,17nm,0.9s,mb4.7						
CTA	**Charters Tower**	**28.07**	**120**	*e*P	**P**	**13 37 39.5**	**-0.6**
CTA				pmax	pmax		
	comp=Z,17nm,0.9s						
CTA	**Charters Tower**	**28.07**	**120**	P	**P**	**13 37 39.1**	**-0.9**
	comp=Z,23nm,0.9s,mb4.8,baz=287,slow=8.7,SNR=8.7						
CTA				PcP	PcP	13 40 37.4	0.0
	comp=Z,17nm,0.6s,baz=301,slow=4.6,SNR=10.0						
CTAO	**Charters Tower**	**28.07**	**120**	*e*P	**P**	**13 37 39.6**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**28.07**	**120**	*e*P	**P**	**13 37 39.6**	**-0.4**
	comp=Z,30nm,1.2s,mb4.8						
QIZ	**Qiongzhong**	**28.13**	**338**	P	**P**	**13 37 40.6**	**0.0**
NNT	**Nongplab**	**28.51**	**314**	P	**P**	**13 37 45.0**	**+1.1**
KKTK	**Khon Kaen**	**29.22**	**323**	P	**P**	**13 37 51.0**	**+1.0**
NST	**Nakhon Sawan**	**30.40**	**319**	P	**P**	**13 38 00.0**	**-0.1**
STKA	**Stephens Creek**	**31.44**	**144**	P	**P**	**13 38 08.7**	**-0.1**
	comp=Z,182nm,0.5s,mb5.8,baz=316,slow=8.7,SNR=755						
STKA				PcP	PcP	13 40 45.5	-0.7
	comp=Z,14nm,0.5s,baz=3.9,slow=7.0,SNR=2.9						
STKA				S	**S**	**13 42 37.1**	**-2.6**
	comp=Z,28nm,0.9s,baz=115,slow=17,SNR=4.2						
STKA				ScP		13 43 37.5	
	comp=Z,26nm,0.6s,baz=302,slow=6.3,SNR=7.9						
STKA	**Stephens Creek**	**31.44**	**144**	*e*P	**P**	**13 38 08.7**	**-0.1**
NANT	**Nan**	**32.40**	**323**	P	**P**	**13 38 17.0**	**0.0**
CM31	**Chiang Mai Arr**	**33.21**	**321**	*e*P	**P**	**13 38 24.9**	**+1.0**
	comp=Z,24nm,0.6s,mb4.9						
CM31				*e*PcP	PcP	13 40 52.1	+0.9
CMAR	**Chiang Mai Arr**	**33.21**	**321**	P	**P**	**13 38 24.9**	**+1.0**
	comp=Z,29nm,0.6s,mb5.0,baz=144,slow=6.4,SNR=145						
CMAR				PcP	PcP	13 40 52.5	+1.2
	comp=Z,24nm,0.7s,baz=190,slow=3.2,SNR=21						
CMAR				ScP		13 43 46.5	
	comp=Z,2.2nm,0.7s,baz=175,slow=3.1,SNR=4.3						
CHG	**Chiang Mai**	**33.48**	**321**	P	**P**	**13 38 27.1**	**+1.0**
	comp=Z,61nm,0.8s,mb5.2						
GYA	**Guiyang**	**36.08**	**339**	⇓*i*P	**P**	**13 38 48.7**	**+1.0**
GYA				AP	pP	13 40 19.4	-2.7
GYA				PP	PP	13 40 26.7	+3.4
GYA				PCP	PcP	13 40 56.0	-3.6
GYA				S	**S**	**13 43 49.1**	**-1.1**
GYA				SCS	ScS	13 48 04.5	+3.5
GYA				AMB	AMB		
	comp=Z,110nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,270nm,3.8s						
KMI	**Kunming**	**36.51**	**332**	P	**P**	**13 38 53.6**	**+2.3**
KMI				AMB	AMB		
	comp=Z,75nm,0.9s,mb5.2						
TOO	**Toolangi**	**37.78**	**147**	⇑*i*P	**P**	**13 39 02.6**	**+1.1**
	comp=Z,2.3nm,0.5s						
TOO				*e*		13 40 43.4	
TOO	**Toolangi**	**37.78**	**147**	⇑*i*P	**P**	**13 39 02.6**	**+1.1**
TOO				*e*		13 40 43.4	
TOO				pmax	pmax		
	comp=Z,2.0nm,0.5s						
WHN	**Wuhan**	**38.03**	**351**	*e*P	**P**	**13 39 04.5**	**+1.0**
SSE	**Sheshan**	**38.13**	**1**	P	**P**	**13 39 03.6**	**-0.8**
SSE				XP	sP	13 41 41.7	+2.3
SSE				S	**S**	**13 44 18.6**	**-1.8**
SSE				XS		13 47 15.2	
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,507nm,5.2s						
SSE	**Sheshan**	**38.13**	**1**	P	**P**	**13 39 03.6**	**-0.8**
	comp=Z,38nm,0.7s,mb5.0						
SSE				sP	sP	13 41 41.7	+2.3
SSE				S	**S**	**13 44 18.6**	**-1.8**
SSE				sS		13 47 15.2	
SSE				SS	SS	13 47 40.2	+11
SSE				LR	LR		
	comp=Z,90nm,25.2s						
ENH	**Enshi**	**38.76**	**345**	*e*P	**P**	**13 39 09.5**	**0.0**
	comp=Z,78nm,0.9s,mb5.2						
RIV	**Riverview**	**38.78**	**137**	*e*P	**P**	**13 39 10.7**	**+1.1**
CBIJ	**Chichi jima**	**40.10**	**31**	P	**P**	**13 39 19.4**	**-1.0**
	comp=Z,183nm,0.9s,mb5.6,baz=291,slow=23,SNR=5.6						
CD2	**Chengdu**	**41.18**	**338**	P	**P**	**13 39 29.1**	**+0.2**
AGT	**Agartala**	**42.08**	**318**	*e*P	**P**	**13 39 37.0**	**+0.7**
XAN	**Xi'an**	**42.49**	**346**	P	**P**	**13 39 38.9**	**-0.6**
XAN				AMB	AMB		
	comp=Z,77nm,0.9s,mb5.2						
TAU	**Tasmania Unive**	**42.67**	**151**	*e*P	**P**	**13 39 41.3**	**+0.6**
TAU				*e*	pP	13 41 19.7	+1.1
TAU				pmax	pmax		
	comp=Z,67nm,1.3s,mb5.0						
TAU	**Tasmania Unive**	**42.67**	**151**	*e*P	**P**	**13 39 41.3**	**+0.6**
	comp=Z,67nm,1.3s,mb5.0						
TAU				*e*PcP	PcP	13 41 19.7	-1.1
SHL	**Shillong**	**42.85**	**321**	*e*P	**P**	**13 39 43.0**	**+0.6**
	comp=Z,150nm,1.0s,mb5.5						
SHL				*e*S	**S**	**13 45 26.0**	**-2.6**
VIS	**Vishakhapatnam**	**44.28**	**304**	*e*P	**P**	**13 39 53.8**	**+0.1**
VIS				*e*		13 39 54.6	
	comp=Z,186nm,0.5s						
LZH	**Lanzhou**	**45.85**	**341**	⇓*i*P	**P**	**13 40 06.3**	**+0.7**
LZH				AMB	AMB		
	comp=Z,91nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,381nm,4.0s						
LSA	**Lhasa**	**46.30**	**324**	*e*P	**P**	**13 40 10.3**	**+1.2**
LSA				*e*S	**S**	**13 46 17.0**	**+0.2**
LSA				pmax	pmax		
	comp=Z,210nm,0.6s,mb5.8						
LSA	**Lhasa**	**46.30**	**324**	*e*P	**P**	**13 40 10.3**	**+1.2**
	comp=Z,210nm,0.6s,mb5.8						
LSA				*e*S	**S**	**13 46 17.0**	**+0.2**
MAJO	**Matsushiro**	**46.63**	**20**	*e*P	**P**	**13 40 09.4**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5						
MAJO	**Matsushiro**	**46.63**	**20**	*e*P	**P**	**13 40 09.4**	**-2.1**
	comp=Z,16nm,0.9s,mb4.6						
MAT	**Matsushiro**	**46.63**	**20**	*e*P	**P**	**13 40 09.0**	**-2.5**
MAT				*e*S	**S**	**13 46 18.0**	**-3.4**
MAT				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.6						
MAT	**Matsushiro**	**46.63**	**20**	*e*P	**P**	**13 40 09.0**	**-2.5**
	comp=Z,18nm,1.0s,mb4.6						
MAT				*e*S	**S**	**13 46 18.0**	**-3.4**
MAT	**Matsushiro**	**46.63**	**20**	P	**P**	**13 40 09.0**	**-2.5**
MAT				S	**S**	**13 46 17.6**	**-3.8**
BJT	**Baijiatuau**	**47.20**	**356**	*e*P	**P**	**13 40 14.9**	**-0.9**
BJT				*e*		13 41 37.2	
BJT				pmax	pmax		
	comp=Z,83nm,0.6s						
BJT	**Baijiatuau**	**47.20**	**356**	*e*P	**P**	**13 40 14.9**	**-0.9**
	comp=Z,83nm,0.6s,mb5.4						
BJT				*e*PcP	PcP	13 41 37.2	+0.4
BJI	**Beijing**	**47.22**	**356**	P	**P**	**13 40 15.1**	**-0.8**
BJI				pmax	pmax		
	comp=Z,105nm,0.6s,mb5.5						
BJI				MLR	MLR		
	comp=Z,90nm,16.7s						
BJI	**Beijing**	**47.22**	**356**	P	**P**	**13 40 15.1**	**-0.8**
	comp=Z,105nm,0.6s,mb5.5						
BJI				LR	LR		
	comp=Z,90nm,16.7s						
BLSP	**Bilaspur**	**47.57**	**309**	*e*P	**P**	**13 40 17.9**	**-1.0**
DGAR	**Diego Garcia**	**47.60**	**267**	*d i*P	**P**	**13 40 18.8**	**-0.4**
DGAR	**Diego Garcia**	**47.60**	**267**	*e*P	**P**	**13 40 18.7**	**-0.5**
	comp=Z,152nm,0.7s,mb5.6						
JIRN	**Jiri**	**47.98**	**318**	*e*P	**P**	**13 40 22.1**	**+0.2**
	comp=Z,85nm,0.3s,mb5.7						
HYB	**Hyderabad**	**48.12**	**301**	⇓*e*P	**P**	**13 40 22.0**	**-1.0**
HYB				pmax	pmax		
	comp=Z,270nm,1.0s,mb5.7						
HYB	**Hyderabad**	**48.12**	**301**	⇓*e*P	**P**	**13 40 22.0**	**-1.0**
	comp=Z,270nm,1.0s,mb5.7						
HYB	**Hyderabad**	**48.12**	**301**	⇓*i*P	**P**	**13 40 22.0**	**-1.0**
	comp=Z,270nm,1.0s,mb5.7						
PKI	**Pulchoki**	**48.45**	**317**	*e*P	**P**	**13 40 25.1**	**-0.3**
	comp=Z,222nm,0.6s,mb5.9						
KKN	**Kakani**	**48.68**	**317**	*e*P	**P**	**13 40 27.0**	**-0.1**
	comp=Z,312nm,0.9s,mb5.9						
DMN	**Daman**	**48.68**	**317**	*e*P	**P**	**13 40 27.1**	**-0.1**
	comp=Z,479nm,1.0s,mb6.0						
GKN	**Gorkha**	**49.25**	**317**	*e*P	**P**	**13 40 31.1**	**-0.3**
	comp=Z,429nm,0.8s,mb6.0						
KOLN	**Koldanda**	**49.81**	**316**	*e*P	**P**	**13 40 35.3**	**-0.3**
	comp=Z,302nm,0.7s,mb5.8						
GTA	**Gaotai**	**50.21**	**339**	⇓*i*P	**P**	**13 40 39.1**	**+0.8**
GTA				PCP	PcP	13 41 48.8	+1.0
GTA				AP	pP	13 42 16.3	-3.9
GTA				PP	PP	13 42 41.7	+1.5
GTA				PCS		13 45 44.4	
GTA				S	**S**	**13 47 09.6**	**-0.5**
GTA				SCS	ScS	13 49 32.0	+2.2
GTA				AMB	AMB		
	comp=Z,92nm,0.6s,mb5.4						
GTA				AMB	AMB		
	comp=Z,215nm,4.9s						
AKL	**Akola**	**50.93**	**304**	*i*	**P**	**13 40 40.0**	**-3.8**
KAD	**Karad**	**51.83**	**299**	*e*P	**P**	**13 40 49.0**	**-1.5**
KAD				*e*		13 40 50.6	
	comp=Z,138nm,1.3s						
BHPL	**Bhopal**	**51.84**	**307**	*e*P	**P**	**13 40 48.8**	**-1.7**
BHPL				*e*		13 40 49.6	
	comp=Z,111nm,0.5s						
MDJ	**Mudanjiang**	**52.28**	**8**	P	**P**	**13 40 51.7**	**-1.6**
MDJ				SCP		13 45 00.7	
MDJ				S	**S**	**13 47 38.4**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,25nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,200nm,4.7s						
MDJ	**Mudanjiang**	**52.28**	**8**	*e*P	**P**	**13 40 52.0**	**-1.2**
	comp=Z,16nm,0.6s,mb4.5						
POO	**Poona**	**52.62**	**300**	⇓*i*P	**P**	**13 40 53.0**	**-3.1**
LGTI	**Lohaghat**	**53.17**	**315**	*e*P	**P**	**13 40 59.3**	**-0.5**
SONA	**Sohna**	**54.75**	**312**	*e*P	**P**	**13 41 09.1**	**-1.9**
AYAN	**Aya Nagar**	**54.84**	**312**	*e*P	**P**	**13 41 09.4**	**-2.2**
NDI	**New Delhi**	**54.89**	**313**	*e*	**P**	**13 41 08.0**	**-4.0**
KUDL	**Kundal**	**55.13**	**312**	*e*P	**P**	**13 41 11.3**	**-2.3**
KHET	**Khetri**	**55.60**	**311**	*e*P	**P**	**13 41 14.8**	**-2.1**
AJM	**Ajmer**	**55.66**	**309**	*e*P	**P**	**13 41 14.5**	**-2.8**
AJM				*e*		13 41 16.8	
	comp=Z,193nm,0.3s						
KKR	**Kurukshetra**	**55.89**	**314**	*e*P	**P**	**13 41 17.6**	**-1.2**
ULN	**Ulaanbaatar**	**56.14**	**349**	*d i*P	**P**	**13 41 20.1**	**-0.2**
ULN	**Ulaanbaatar**	**56.14**	**349**	*e*P	**P**	**13 41 20.1**	**-0.3**
	comp=Z,34nm,0.6s,mb4.8						
ULN				*e*PcP	PcP	13 42 10.0	-0.4
SONM	**Songino Array**	**56.23**	**349**	P	**P**	**13 41 20.7**	**-0.3**
	comp=Z,56nm,0.7s,mb4.9,baz=166,slow=8.2,SNR=606						
SONM				PcP	PcP	13 42 10.7	-0.1
	comp=Z,8.2nm,0.8s,baz=172,slow=5.8,SNR=5.5						
SONM				pP	pP	13 43 06.5	0.0
	comp=Z,5.1nm,0.8s,baz=162,slow=7.8,SNR=3.9						
SONM				S	**S**	**13 48 26.3**	**-3.3**
	comp=Z,1.9nm,1.0s,baz=166,slow=10,SNR=4.9						
SONM				PKPPKP		14 11 08.9	
	comp=Z,0.8nm,1.0s,baz=224,slow=1.7,SNR=4.2						
SONM	**Songino Array**	**56.23**	**349**	P	**P**	**13 41 20.7**	**-0.3**
SONM				PcP	PcP	13 42 10.7	-0.1
SONM				pP	pP	13 43 06.5	0.0
SONM				S	**S**	**13 48 26.3**	**-3.3**
SONM				P'P'		14 11 08.9	
HIA	**Hailar**	**56.28**	**359**	*e*P	**P**	**13 41 19.7**	**-1.6**
HIA				*e*		13 42 09.9	
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
HIA	**Hailar**	**56.28**	**359**	*e*P	**P**	**13 41 19.7**	**-1.6**
	comp=Z,12nm,0.8s,mb4.2						
HIA				*e*PcP	PcP	13 42 09.9	-1.1
SMLA	**Simla**	**56.30**	**315**	⇓*i*P	**P**	**13 41 19.3**	**-2.4**
SMLA				*i*		13 48 24.8	

SDNR **Sundarnagar** 56.66 315 *e*P P 13 41 23.8 -0.3
BHK **Bhakra** 57.00 315 *e* P 13 41 35.9 +9.4
RPZ **Rata Peaks** 57.11 138 P P 13 41 26.6 -0.5
comp=Z,102nm,0.6s,mb5.2,baz=274,slow=2.4,SNR=118
RPZ pP pP 13 43 13.2 +0.1
comp=Z,64nm,0.9s,baz=285,slow=2.0,SNR=11
YSS **Yuzh-Sakhalins** 57.48 18*d* iP P 13 41 29.8 +0.2
YSS pmax pmax
comp=Z,25nm,1.1s,mb4.4
PONG **Pong** 57.63 315 *e* P 13 41 29.0 -1.8
ZAK **Zakamensk** 59.30 347⇑ iP P 13 41 40.8 -0.9
ZAK *e* 13 42 22.1
ZAK *e* 13 49 04.1
ZAK pmax pmax
comp=Z,20nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,14nm,0.9s,mb4.2
URZ **Urewera** 59.56 130 P P 13 41 42.5 -1.1
comp=Z,17nm,0.6s,mb4.5,baz=268,slow=3.1,SNR=22
TLY **Talaya** 60.45 348 *e*P P 13 41 49.1 -0.2
TLY *e* 13 42 27.9
TLY pmax pmax
comp=Z,36nm,0.9s,mb4.7
TLY **Talaya** 60.45 348 *e*P P 13 41 48.8 -0.4
comp=Z,28nm,0.8s,mb4.7
TLY *e*PcP PcP 13 42 27.9 +0.4
IRK **Irkutsk** 60.85 349 *e*P P 13 41 51.0 -1.0
IRK *e* 13 42 28.9
IRK pmax pmax
comp=Z,48nm,1.9s,mb4.5
MOY **Mondy** 61.02 346 *e*P P 13 41 53.1 +0.1
MOY *e* 13 42 30.4
MOY pmax pmax
comp=Z,37nm,1.6s,mb4.5
MKAR **Makanchi Array** 63.59 332 *i* P P 13 42 09.9 +0.2
MKAR pmax pmax
comp=Z,176nm,0.7s
CLNS **Chul'man** 63.96 3 *e*P P 13 42 10.7 -1.2
CLNS pmax pmax
comp=Z,28nm,0.6s,mb4.9
CLNS pmax pmax
comp=N,23nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.7s
AAK **Ala-Archa** 64.89 324*d* iP P 13 42 17.8 -0.2
AAK pmax pmax
comp=Z,97nm,0.9s,mb5.2
AAK **Ala-Archa** 64.89 324 *e*P P 13 42 17.6 -0.4
comp=Z,97nm,0.9s,mb5.2
AAK *e*PcP PcP 13 42 45.8 -0.2
FRU **Bishkek** 64.94 324 *e*P P 13 42 18.0 -0.4
FRU *e* PcP 13 42 41.0 -5.2
FRU pmax pmax
comp=Z,120nm,1.6s,mb5.1
BOD **Bodaibo** 65.06 356⇑ iP P 13 42 17.8 -1.0
BOD *e* 13 50 13.6
BOD *e* 13 51 15.1
BOD pmax pmax
comp=Z,43nm,0.8s,mb4.9
WBK **Wadi Bani Khal** 67.07 298 P P 13 42 32.0 +0.1
SNR=16
JMDO **Jabal Madar** 67.75 298 P P 13 42 35.7 -0.3
SNR=35
ZAL **Zalesovo** 67.94 338 P P 13 42 36.2 -0.4
comp=Z,73nm,0.4s,mb5.5,baz=343,slow=4.7,SNR=358
ZAL S S 13 50 50.0 -3.0
comp=Z,9.3nm,1.1s,baz=197,slow=21,SNR=29
ZAL PKP2bc 14 10 49.2
comp=Z,0.7nm,0.4s,baz=188,slow=5.9,SNR=3.5
ZAL **Zalesovo** 67.94 338 P P 13 42 36.2 -0.4
ZAL S S 13 50 50.0 -3.0
ZAL ⇑*e* 14 10 49.2
SMDO **Samad** 68.01 298 P P 13 42 37.6 0.0
SNR=46
KURK **Kurchatov** 68.09 333 P P 13 42 37.5 -0.1
comp=Z,1µm,0.8s
KURK **Kurchatov** 68.09 333*d* iP P 13 42 37.3 -0.3
KURK pmax pmax
comp=Z,87nm,0.9s,mb5.3
KURK **Kurchatov** 68.09 333 *e*P P 13 42 37.4 -0.2
comp=Z,235nm,1.0s,mb5.7
BIDO **Bidbid** 68.09 299 P P 13 42 38.4 +0.3
SNR=17
BSY **Bisya** 68.66 298 P P 13 42 41.3 -0.2
SNR=21
NVS **Novosibirsk** 69.22 338 *e*P P 13 42 42.4 -1.9
NVS *e**PP pP 13 44 39.8 +3.3
NVS *e*S S 13 51 03.0 -4.7
NVS pmax pmax
comp=N,44nm,1.0s
NVS pmax pmax
comp=E,52nm,1.0s
NVS pmax pmax
comp=Z,140nm,1.0s,mb5.5
NVS smax
comp=N,40nm,2.1s
NVS smax
comp=E,76nm,2.1s
ARQ **Araqi** 69.44 298 P P 13 42 45.8 -0.3
SNR=18
YAK **Yakutsk** 69.44 5 *e*P P 13 42 43.6 -1.9
YAK *e* PcP 13 43 04.6 -0.2
YAK *e*PPP PPP 13 47 08.5 -4.1
YAK *e*S S 13 51 05.5 -4.5
YAK *e* SKS 13 51 50.5 +0.1
YAK *e*SSS SSS 13 59 05.3 -1.3
YAK pmax pmax
comp=Z,43nm,0.8s,mb5.0
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,3.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK smax
comp=N,13nm,1.0s
YAK smax
comp=E,9.0nm,1.0s
YAK **Yakutsk** 69.44 5 *e*P P 13 42 44.5 -1.0
comp=E,143nm,0.8s,mb5.5
ASHO **Ashiyiah** 70.25 299 P P 13 42 51.2 +0.3
SNR=50
BANOM **Banah** 70.43 301 P P 13 42 52.2 +0.3
SNR=32
MA2 **Magadan** 70.85 16*d* iP P 13 42 54.1 +0.3
MA2 pmax pmax
comp=Z,72nm,0.7s,mb5.3
MA2 **Magadan** 70.85 16 *e*P P 13 42 54.1 +0.3
comp=Z,73nm,0.8s,mb5.3
BVA0 **Borovoye Array** 73.46 331 *i* P P 13 43 08.7 -0.2
BVA0 pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
BVAR **Borovoye Array** 73.46 331 P P 13 43 08.8 -0.1
comp=Z,48nm,0.6s,mb5.1,baz=120,slow=5.7,SNR=290
BVAR S S 13 51 52.4 -2.6
comp=Z,5.1nm,1.0s,baz=90,slow=7.4,SNR=11
VNDA **Vanda** 73.49 171 *e*P P 13 43 09.2 +0.5
VNDA pmax pmax
comp=Z,12nm,0.6s
VNDA **Vanda** 73.49 171 P P 13 43 09.3 +0.6
comp=Z,15nm,0.7s,mb4.5,baz=316,slow=6.4,SNR=82
VNDA **Vanda** 73.49 171 *e*P P 13 43 09.2 +0.6
comp=Z,12nm,0.6s,mb4.5
CHKZ **Chkalovo** 73.75 332 *i* P P 13 43 10.2 -0.3
CHKZ pmax pmax
comp=Z,64nm,0.7s,mb5.2
SEY **Seymchan** 74.11 15 *e*P P 13 43 14.9 +2.6
SEY 13 43 30.7
SEY *e* 13 46 02.1
SEY *e*PPP PPP 13 48 05.4 +8.3
SEY *e*S S 13 52 00.3 -1.6
SEY *e*SPP SPP 13 53 03.3 +4.1
SEY *e*SS SS 13 57 08.2 +3.7
SEY *e*SSS SSS 14 00 20.7 -4.2
SEY pmax pmax
comp=E,20nm,0.7s
SEY pmax pmax
comp=Z,50nm,0.7s,mb5.0
SEY pmax pmax
comp=N,20nm,0.5s
SEY smax
comp=N,300nm,14.8s
SEY smax
comp=E,140nm,17.9s
FX1 **Attu Island--F** 74.65 30 *e*P P 13 43 16.2 +0.6
TIXI **Tiksi** 78.93 3⇓ iP P 13 43 37.7 -0.7
TIXI *e*S S 13 52 48.6 -4.1
TIXI pmax pmax
comp=Z,83nm,0.9s,mb5.1
SYO **Syowa Base** 80.00 201 ⇑P P 13 43 44.5 +0.5
SYO **Syowa Base** 80.00 201 ⇑PcP PcP 13 43 47.2 -2.8
SVE **Sverdlovsk** 80.24 331⇓ *i*P P 13 43 45.3 -0.2
SVE pmax pmax
comp=Z,120nm,1.7s,mb5.0
BILL **Bilibino** 81.72 16⇓ *e*P P 13 43 52.8 -0.1
BILL pmax pmax
comp=Z,7.0nm,0.7s,mb4.2
BILL **Bilibino** 81.72 16 *e*P P 13 43 52.7 -0.1
comp=Z,13nm,1.0s,mb4.3
QSPA **South Pole Qui** 82.73 180⇓ *i*P P 13 43 59.1 +1.3
comp=Z,20nm,0.6s,mb4.8
KMBO **Kilima Mbogo** 83.12 270 *e*P P 13 44 02.7 +1.6
KMBO pmax pmax
comp=Z,54nm,1.2s
KMBO **Kilima Mbogo** 83.12 270 P P 13 44 03.1 +2.1
comp=Z,27nm,0.9s,mb4.8,baz=60,slow=7.3,SNR=52
KMBO **Kilima Mbogo** 83.12 270 *e*P P 13 44 02.7 +1.6
comp=Z,54nm,1.2s,mb5.0
GNI **Garni** 83.85 312 P P 13 44 05.4 +1.2
GNI **Garni** 83.85 312 *e*P P 13 44 05.6 +1.4
GNI pmax pmax
comp=Z,47nm,0.9s
GNI **Garni** 83.85 312 *e*P P 13 44 05.6 +1.5
comp=Z,47nm,0.9s,mb5.0
HKR **Hakkari** 83.97 309 P P 13 44 06.2 +1.4
TI2 **Plekhanov** 84.25 313⇓ *e*P P 13 44 07.6 +1.5
TI2 pmax pmax
comp=N,30nm,0.2s
TI2 pmax pmax
comp=E,30nm,0.2s
TI2 pmax pmax
comp=Z,200nm,0.2s
TVAN **Van** 84.46 310 *i* P P 13 44 08.8 +1.7
VANB **Van** 84.49 310 P P 13 44 08.6 +1.3
ONI **Oni** 85.40 314 P P 13 44 13.1 +1.5
BEST **Besiri** 85.95 309 *i* P P 13 44 15.5 +1.1
VRT **Varto** 86.02 310 *e*P P 13 44 17.0 +2.3
KIV **Kislovodsk** 86.27 315 *e*P P 13 44 16.3 +0.5
KIV pmax pmax
comp=Z,32nm,0.9s,mb5.0
KIV **Kislovodsk** 86.27 315 *e*P P 13 44 16.3 +0.5
comp=Z,32nm,0.9s,mb4.9
GOF **Gofitskoye** 86.29 316⇑ *i*P P 13 44 16.5 +0.7
GOF pmax pmax
comp=Z,190nm,1.3s,mb5.6
ERZM **Erzurum** 86.31 311 *i* P P 13 44 11.1 -5.0
EZM **Erzurum** 86.32 311 *e*P P 13 44 18.2 +2.1
PTK **Pertek** 87.60 310 *e*P P 13 44 21.8 -0.3
ELZG **Elazig** 87.84 309 *i* P P 13 44 24.9 +1.7
GUMT **Gumushane** 87.84 311 *e*P P 13 44 24.9 +1.7
MALT **Malatya** 88.24 309 *e*P P 13 44 26.3 +1.2
MALT pmax pmax
comp=Z,45nm,1.1s,mb5.1
MALT **Malatya** 88.24 309 *e*P P 13 44 26.3 +1.2
comp=Z,45nm,1.1s,mb5.1
SOC **Sochi** 88.29 314 *e*P P 13 44 24.1 -1.1
SOC *e**PP pP 13 46 22.8 -1.3
SOC *e* PP 13 48 00.0 -3.9
SOC *e*PPP PPP 13 50 02.6 -3.6
SOC *e*S SKS 13 53 59.4 -2.6
SOC *e* S 13 54 23.7 +0.1
SOC *e*SS SS 14 00 31.6 -1.3
SOC *e*SSS SSS 14 04 11.4 -0.3
SOC pmax pmax
comp=Z,38nm,0.6s,mb5.3
SOC pmax pmax
comp=N,16nm,0.8s
SOC pmax pmax
comp=E,19nm,0.8s
ASF **Jabal al Asfar** 88.40 303 P P 13 44 28.0 +2.0
comp=E,18nm,0.7s,mb4.9,baz=347,slow=2.9,SNR=15
GZT **Gaziantep** 88.74 308 *i* P P 13 44 28.6 +1.1
KAHT **Ahir Dag** 89.33 308 *i* P P 13 44 31.1 +0.8
MATP **Matopo** 89.33 250 P P 13 44 31.9 +1.3
comp=E,79nm,0.8s,mb5.6,baz=107,slow=4.2,SNR=123
MATP PKKPbc 14 02 05.2
comp=E,2.1nm,1.0s,baz=153,slow=5.3,SNR=3.7
MATP **Matopo** 89.33 250 P P 13 44 31.9 +1.3
MATP PKKPbc 14 02 05.2
COBT **Iskenderun** 89.63 307 *i* P P 13 44 32.1 +0.4
MBAR **Mbarara** 89.65 269 P P 13 44 32.8 +0.5
comp=E,145nm,0.8s,mb5.9,SNR=12
MBAR **Mbarara** 89.65 269*d* iP P 13 44 32.5 +0.2
MBAR **Mbarara** 89.65 269 *e*P P 13 44 32.0 -0.2
comp=E,27nm,0.9s,mb5.1
EIL **Elat** 89.66 300 P P 13 44 32.9 +0.9
comp=E,6.8nm,0.6s,mb4.6,baz=114,slow=4.2,SNR=6.4
ANN **Anapa** 90.13 315 *e*P P 13 44 30.2 -3.6
LSZ **Lusaka** 90.30 255 *e*P P 13 44 36.2 +1.0
LSZ pmax pmax
comp=Z,115nm,1.1s,mb5.6
LSZ **Lusaka** 90.30 255 *e*P P 13 44 36.2 +1.0
comp=Z,115nm,1.1s,mb5.6
AVNT **Avonos** 91.08 309 *i* P P 13 44 38.7 +0.5
BOSA **Boshof** 91.11 241 *e*P P 13 44 39.4 +0.7
BOSA pmax pmax
comp=Z,63nm,1.4s,mb5.3
BOSA **Boshof** 91.11 241 *e*P P 13 44 39.4 +0.7
comp=Z,64nm,1.4s,mb5.4
MEST **Erdemli** 91.32 307 *i* P P 13 44 39.3 -0.1
LBTB **Lobatse** 91.35 245 P P 13 44 41.0 +1.2
comp=Z,14nm,0.8s,mb4.9,baz=120,slow=4.8,SNR=14
BOYT **Boyabat** 91.42 311 *i* P P 13 44 40.0 +0.2
MOS **Moscow** 91.91 326 *e*P P 13 44 41.8 +0.1
MOS pmax pmax
comp=Z,51nm,0.6s,mb5.7
ELDT **Eldivan** 92.40 310 *i* P P 13 44 44.2 -0.1
OBN **Obninsk** 92.40 325*d* iP P 13 44 43.6 -0.3
OBN *e* 13 48 35.6
OBN *e* 13 54 21.4
OBN *e*SS SS 14 01 30.5 -0.3
OBN pmax pmax
comp=Z,38nm,0.7s,mb5.5
OBN MLR MLR
comp=Z,100nm,16.0s
OBN **Obninsk** 92.40 325 *e*P P 13 44 43.5 -0.4
comp=Z,38nm,0.6s,mb5.6
BALT **Daday** 92.57 311 *i* P P 13 44 45.9 +0.9
SNAA **Sanae** 93.06 195⇑ iP P 13 44 48.0 +1.4
SNAA **Sanae** 93.06 195 P P 13 44 48.1 +1.5
comp=Z,4.5nm,0.7s,mb4.6,baz=154,slow=4.3,SNR=44
SNAA PKKPbc 14 01 51.7
comp=Z,0.6nm,0.9s,baz=244,slow=14,SNR=8.1
SGKT **Sivrigoynuk** 93.45 310 *i* P P 13 44 49.1 0.0
SUR **Sutherland** 94.24 237 P P 13 44 54.6 +1.6
comp=Z,18nm,1.0s,mb5.2,baz=84,slow=6.8,SNR=6.0
ESKT **Eskisehir** 94.26 309 *i* P P 13 44 52.3 -0.5
VNA2 **Neumayer--Watz** 94.69 195⇑ iP P 13 44 56.0 +1.9
IMA **Indian Mountai** 94.89 24 *e*P P 13 44 56.0 +1.0
comp=Z,11nm,1.0s,mb5.0
JOF **Joensuu** 96.01 333 *e*p P 13 44 56.9 -3.2
comp=Z,4.4nm,0.6s,mb4.9
JOF **Joensuu** 96.01 333 *e*P P 13 44 56.9 -3.2
comp=Z,4.0nm,0.6s,mb4.8
AKASG **Malin Array Be** 96.33 320 P P 13 45 01.0 -1.0
comp=Z,14nm,0.8s,mb5.3,baz=76,slow=4.3,SNR=25
AKASG PP PP 13 49 01.2 -4.4
comp=Z,0.6nm,0.3s,baz=79,slow=4.9,SNR=4.9
AKASG PKKPbc 14 01 46.3
comp=Z,5.5nm,0.9s,baz=293,slow=2.3,SNR=5.8
MCK **McKinley** 96.71 27 *e*P P 13 45 02.1 -1.2
comp=Z,3.9nm,0.7s,mb4.8
SML **Sawmill** 96.90 29 *e*P P 13 45 03.7 -0.6
ILAR **Eielson Array** 97.64 26 P P 13 45 05.6 -2.0
comp=Z,1.0nm,0.5s,mb4.4,baz=252,slow=4.6,SNR=25
ILAR PKKP 13 49 37.7
comp=Z,0.4nm,0.6s,baz=309,slow=5.1,SNR=4.8
ILAR PKKPbc 14 01 41.0
comp=Z,2.3nm,0.8s,baz=107,slow=2.2,SNR=20
VRI **Vrincioaia** 97.75 315 ⇓P P 13 45 08.9 +0.4
VSU **Vasula** 98.08 328⇑ *e*P P 13 45 10.0 +0.3
MLR **Muntele Rosu** 98.28 315 P P 13 45 11.2 +0.3
comp=Z,5.4nm,0.9s,mb4.9,baz=99,slow=14,SNR=6.0
MLR PP PP 13 49 16.2 -4.5
comp=Z,10nm,0.9s,baz=146,slow=6.0,SNR=6.2
MLR **Muntele Rosu** 98.28 315 ⇓P P 13 45 10.5 -0.4
KAF **Kangasniemi** 98.30 332 *e*p P 13 45 08.8 -1.8
comp=Z,4.2nm,0.7s,mb4.9
KAF **Kangasniemi** 98.30 332 *e*P P 13 45 08.8 -1.8
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
FINES **FINESS Array B** 98.42 331 P P 13 45 10.4 -0.7
comp=Z,5.0nm,0.7s,mb5.0,baz=104,slow=7.9,SNR=23
FINES PP PP 13 49 18.0 -3.2
comp=Z,2.4nm,1.0s,baz=180,slow=5.7,SNR=4.2
FINES PKiKP 13 49 39.9
comp=Z,2.3nm,0.8s,baz=115,slow=3.4,SNR=5.1
ARCES **ARCESS Array B** 98.48 339 P P 13 45 11.1 -0.2
comp=Z,8.1nm,0.8s,mb5.1,baz=90,slow=4.9,SNR=9.3
ARCES PKiKP 13 49 38.6
comp=Z,3.8nm,0.9s,baz=27,slow=14,SNR=3.6
IDI **Anoyia** 98.68 305 P P 13 45 12.9 0.0
comp=Z,8.1nm,0.7s,mb5.2,baz=43,slow=9.2,SNR=9.0
BURAR **Bucovina Array** 98.84 317 ⇑P P 13 45 13.9 +0.5
INK **Inuvik** 102.60 21 P Pdif 13 45 29.1 -0.4
comp=Z,1.0nm,0.7s,baz=237,slow=3.6,SNR=11
INK PP PP 13 49 47.1 -5.3
comp=Z,1.4nm,0.8s,baz=158,slow=5.0,SNR=7.2
INK PKKPbc 14 01 27.0
comp=Z,2.6nm,0.8s,baz=102,slow=5.6,SNR=8.1
NB2 **NORSAR Subarra** 105.58 332 P Pdif 13 45 42.0 -0.8
comp=Z,7.1nm,1.0s,baz=76,slow=4.5
NB2 **NORSAR Subarra** 105.58 332 P Pdif 13 45 42.0 -0.8
NB2 pmax pmax
comp=Z,7.0nm,1.0s
NB2 **NORSAR Subarra** 105.58 332 P Pdif 13 45 42.0 -0.8
baz=76,slow=4.4
NOA **NORSAR Array B** 105.58 332 Pdiff Pdif 13 45 42.5 -0.3
comp=Z,9.2nm,1.1s,baz=75,slow=4.5,SNR=9.0
NOA PP PP 13 50 11.1 -3.5
comp=Z,1.8nm,0.8s,baz=76,slow=7.3,SNR=4.4
DLBC **Dease Lake** 106.31 31 PKiKP 13 49 54.3
comp=Z,1.0nm,1.4s,baz=282,slow=24,SNR=3.5
GERES **GERESS Array B** 106.44 319 PKiKP 13 49 55.3
comp=Z,2.5nm,0.8s,baz=90,slow=2.7,SNR=13
GERES PP PP 13 50 15.8 -5.4
comp=Z,1.2nm,0.7s,baz=76,slow=5.5,SNR=3.8
GERES PKKPbc 14 01 15.5
comp=Z,0.4nm,0.6s,baz=280,slow=8.1,SNR=6.0
GRA1 **Grafenberg Arr** 107.92 320 *e*PKP 13 49 58.5
GRF **Grafenberg Arr** 107.92 320 *e*PKP 13 49 58.5
RES **Resolute Bay** 109.62 9 *e*PKiKP 13 50 00.1
HINF **Hinteralfeld** 111.12 319 *e*PKiKP PKPdf 13 50 03.0 +0.9
comp=Z,7.2nm,0.7s
HAU **Haudompre** 111.41 319 *e*PKiKP PKPdf 13 50 04.0 +1.3
comp=Z,18nm,1.0s
LPG **La Plagne** 111.70 316 *e*PKiKP PKPdf 13 50 05.1 +1.8
LPG **La Plagne** 111.70 316 *e*P PP 13 50 55.2 -3.7
comp=Z,32nm,0.9s
MBDF **Montbardon** 111.84 315 *e*PKiKP PKPdf 13 50 05.5 +1.9
GIVF **Givet** 111.86 321 *e*PKiKP PKPdf 13 50 04.2 +0.7
CABF **La Chapelle** 111.90 317 *e*PKiKP PKPdf 13 50 05.3 +1.7
comp=Z,42nm,1.2s
YKA **Yellowknife Ar** 112.01 24 PKiKP 13 50 04.6
comp=Z,6.0nm,0.5s,baz=306,slow=1.9,SNR=113
YKA SKP 13 52 49.3
comp=Z,1.4nm,0.7s,baz=306,slow=1.9,SNR=8.6
YKA PKKPbc 14 00 58.3
comp=Z,3.2nm,1.1s,baz=114,slow=3.0,SNR=21
YKA SKKPbc 14 03 50.4
comp=Z,0.9nm,0.9s,baz=109,slow=2.1,SNR=8.7
YKA **Yellowknife Ar** 112.01 24 PKPdf PKPdf 13 50 04.6 +1.1
YKA SKP 13 52 49.4
YKA PKKPbc 14 00 58.3
YKA SKKPbc 14 03 50.4
FRF **La Foret Royal** 112.17 314 *e*PKiKP PKPdf 13 50 06.2 +2.0
comp=Z,39nm,1.1s
BAIF **Baives** 112.25 321 *e*PKiKP PKPdf 13 50 05.9 +1.7
comp=Z,20nm,1.0s
LMR **La Mourre** 112.31 314 *e*PKiKP PKPdf 13 50 06.3 +1.8
comp=Z,44nm,1.2s
VIVF **Saint-Julien-l** 113.27 316 *e*PKiKP PKPdf 13 50 07.6 +1.2
comp=Z,10.0nm,1.0s
SMF **Signal de Mont** 113.40 318 *e*PKiKP PKPdf 13 50 07.8 +1.2
SSF **Saint Saulge** 113.51 318 *e*PKiKP PKPdf 13 50 08.2 +1.4
comp=Z,34nm,1.2s
AVF **Avril sur Loir** 113.68 318 *e*PKiKP PKPdf 13 50 08.1 +0.9
comp=Z,5.7nm,0.8s
LASF **Ste Croix** 114.02 315 *e*PKiKP PKPdf 13 50 09.3 +1.4
BGF **Bois d'Agland** 114.08 318 *e*PKiKP PKPdf 13 50 09.4 +1.4
comp=Z,15nm,0.7s
HUMO **Hull Mountain** 114.35 46 *e*PKiKP 13 50 10.9
TCF **Toulx Ste Croi** 114.58 318 *e*PKiKP PKPdf 13 50 10.3 +1.4
EKA **Eskdalemuir Ar** 114.63 328 PKP PKPdf 13 50 10.8 +2.0
comp=Z,2.3nm,0.8s,baz=26,slow=2.5,SNR=6.1
YBH **Yreka Blue Hor** 114.72 47 PKiKP 13 50 11.0
comp=Z,1.8nm,0.8s,baz=307,slow=5.1,SNR=5.0
CAF **Calviac** 115.05 316 *e*PKiKP PKPdf 13 50 11.5 +1.6
comp=Z,13nm,0.9s
RJF **Les Rejaudoux** 115.32 317 *e*PKiKP PKPdf 13 50 11.9 +1.5
MTLF **Montolieu** 115.36 315 *e*PKiKP PKPdf 13 50 11.7 +1.2
comp=Z,3.1nm,0.7s
LDF **La Druitiere** 115.39 321 *e*PKiKP PKPdf 13 50 11.3 +0.9
comp=Z,30nm,1.1s
NSHM **Saint Helena R** 115.48 51 PKPdf PKPdf 13 50 12.9 +2.1
FLN **La Foliniere** 115.56 321 *e*PKiKP PKPdf 13 50 11.8 +1.1
GRR **Gorron** 115.92 321 *e*PKiKP PKPdf 13 50 12.5 +1.1
LFF **La Frestale** 115.95 317 *e*PKiKP PKPdf 13 50 13.2 +1.6
MFF **Saint Martin d** 116.04 319 *e*PKiKP PKPdf 13 50 12.8 +1.1
comp=Z,16nm,0.8s
MOD **Modoc** 116.43 47 *e*PKPdf PKPdf 13 50 15.1 +2.5
NEW **Newport** 116.65 39 PKP PKPdf 13 50 14.2 +1.3
comp=Z,6.4nm,0.7s,baz=266,slow=1.8,SNR=17
NEW **Newport** 116.65 39 *e*PKPdf PKPdf 13 50 14.5 +1.6
EPF **Esparros** 116.76 315 *e*PKiKP PKPdf 13 50 14.5 +1.2
EDM **Edmonton** 116.90 33 *e*PKPdf PKPdf 13 50 14.9 +1.7
SGMF **Saint Gilles** 117.03 321 *e*PKiKP PKPdf 13 50 14.6 +1.0
comp=Z,34nm,1.0s
LRV **Little Rabbit** 117.14 53 *e*PKPdf PKPdf 13 50 16.7 +2.6
ETSF **Etsaut** 117.43 315 *e*PKiKP PKPdf 13 50 16.5 +2.0
comp=Z,25nm,1.3s
ROSF **Rostrenen** 117.45 321 *e*PKiKP PKPdf 13 50 15.4 +1.0
WVOR **Wild Horse Val** 117.48 46 *e*PKPdf PKPdf 13 50 16.9 +2.3
BMO **Blue Mountains** 117.68 43 *e*PKPdf PKPdf 13 50 15.9 +0.9
USHA **Ushuaia** 117.70 174 PKP PKPdf 13 50 16.7 +2.0
comp=Z,10nm,0.9s,baz=78,slow=2.0,SNR=5.9
SJPF **Ste Jean** 117.84 315 *e*PKiKP PKPdf 13 50 17.2 +1.9
comp=Z,29nm,1.2s
WALA **Waterton Lakes** 118.33 37 *e*PKPdf PKPdf 13 50 17.8 +1.6
NVAR **Mina Array Bea** 118.79 50 PKP PKPdf 13 50 19.9 +2.6
comp=Z,6.4nm,0.6s,baz=269,slow=0.5,SNR=74
NVAR SKP 13 53 04.7
comp=Z,2.8nm,0.7s,baz=234,slow=0.8,SNR=13
NVAR PKKPbc 14 00 38.1
comp=Z,3.1nm,0.9s,baz=127,slow=5.3,SNR=20
MSO **Missoula** 119.19 40 *e*PKPdf PKPdf 13 50 18.8 +1.0
MWC **Mount Wilson** 119.96 55 *e*PKPdf PKPdf 13 50 21.8 +2.1
HLID **Hailey** 120.07 43 *e*PKPdf PKPdf 13 50 22.1 +2.4
ELK **Elko** 120.42 47 PKP PKPdf 13 50 22.9 +2.5
comp=Z,12nm,0.6s,baz=300,slow=1.9,SNR=58
ELK SKP 13 53 07.5
comp=Z,3.5nm,0.9s,baz=232,slow=2.4,SNR=6.8
ELK PKKPbc 14 00 31.5
comp=Z,2.6nm,0.7s,baz=78,slow=2.4,SNR=14
ELK **Elko** 120.42 47 *e*PKPdf PKPdf 13 50 22.5 +2.1
TPNV **Topopah Spring** 120.75 51 *e*PKPdf PKPdf 13 50 26.4 +5.4
ESDC **Sonseca Array** 120.83 312 PKP PKPdf 13 50 23.2 +2.0
comp=Z,3.3nm,0.8s,baz=26,slow=3.6,SNR=12
ESDC PP PP 13 52 01.1 -0.2
comp=Z,1.1nm,0.6s,baz=52,slow=7.9,SNR=4.7
BOZ **Bozeman (W)** 121.12 40 *e*PKPdf PKPdf 13 50 23.4 +1.8
PFO **Pinyon Flat Ob** 121.40 55 *e*PKPdf PKPdf 13 50 25.3 +2.8
BAR **Barrett** 121.43 56 *e*PKPdf PKPdf 13 50 24.9 +2.3
QLMT **Earthquake Lak** 121.58 41 *e*PKPdf PKPdf 13 50 25.3 +2.8
FFC **Flin Flon** 121.79 27 *e*PKPdf PKPdf 13 50 24.0 +1.3
HVU **Hansel Valley** 121.82 45 *e*PKPdf PKPdf 13 50 25.5 +2.4
BGU **Big Grassy Mou** 121.94 46 *e*PKPdf PKPdf 13 50 25.8 +2.4
LDFC **Landfair** 122.12 53 *e*PKPdf PKPdf 13 50 26.7 +2.8
YFT **Old Faithful** 122.12 41 *e*PKPdf PKPdf 13 50 27.6 +4.0
FCC **Fort Churchill** 122.20 20 *e*PKPdf PKPdf 13 50 23.9 +0.5
SPUT **South Promonto** 122.22 45 *e*PKPdf PKPdf 13 50 25.9 +2.1
RRI2 **Red Ridge** 122.24 43 *e*PKPdf PKPdf 13 50 26.6 +2.7
IMW **Indian Meadow** 122.28 42 *e*PKPdf PKPdf 13 50 26.4 +2.4
LKWY **Lake** 122.36 41 PKPdf PKPdf 13 50 26.8 +2.7
TPAW **Teton Pass** 122.43 42 *e*PKPdf PKPdf 13 50 26.6 +2.4
WUWY **Wally Ulrich** 122.55 42 *e*PKPdf PKPdf 13 50 27.1 +2.7
SNOW **Snow King Moun** 122.57 42 *e*PKPdf PKPdf 13 50 27.4 +2.9
LOHW **Long Hollow** 122.61 42 *e*PKPdf PKPdf 13 50 26.8 +2.3
ARUT **Antelope Range** 122.66 49 *e*PKPdf PKPdf 13 50 27.6 +2.8
HWUT **Hardware Ranch** 122.73 45 *e*PKPdf PKPdf 13 50 26.6 +1.7
NLU **North Lily Min** 122.96 47 *e*PKPdf PKPdf 13 50 27.8 +2.5

PVRL	**Vila Real**	**123.00**	**315**	*e*PKPdf	PKPdf	13 50 27.8	+2.4
MTE	**Manteigas**	**123.19**	**314**	*e*PKPdf	PKPdf	13 50 28.1	+2.3
MPU	**Maple Canyon**	**123.25**	**46**	*e*PKPdf	PKPdf	13 50 28.5	+2.6
PVIS	**Viseu**	**123.33**	**314**	*e*PKPdf	PKPdf	13 50 28.4	+2.4
PCBR	**Castelo Branco**	**123.34**	**313**	*e*PKPdf	PKPdf	13 50 28.4	+2.3
MVU	**Marysvale**	**123.35**	**48**	*e*PKPdf	PKPdf	13 50 29.4	+3.3
MSU	**Marysvale**	**123.37**	**48**	*e*PKPdf	PKPdf	13 50 29.1	+3.0
DAU	**Daniels Canyon**	**123.38**	**46**	*e*PKPdf	PKPdf	13 50 27.5	+1.4
PDAR	**Pinedale Array**	**123.66**	**43**	PKP	PKPdf	13 50 27.2	+0.7
	comp=Z,2.6nm,0.4s,baz=159,slow=0.4,SNR=37						
PDAR				PKKPbc		14 00 18.9	
	comp=Z,2.8nm,0.8s,baz=115,slow=6.1,SNR=21						
PDAR				SKKPbc		14 03 15.2	
	comp=Z,0.6nm,0.7s,baz=108,slow=4.7,SNR=4.8						
TMUT	**Trail Mountain**	**123.81**	**47**	*e*PKPdf	PKPdf	13 50 29.9	+2.9
LAO	**LASA Array**	**124.02**	**37**	*e*PKPdf	PKPdf	13 50 29.9	+2.7
PTOM	**Tomar**	**124.09**	**313**	*e*PKPdf	PKPdf	13 50 30.2	+2.7
PALC	**Alcoutim**	**124.14**	**311**	*e*PKPdf	PKPdf	13 50 30.2	+2.6
PBEJ	**Beja**	**124.25**	**311**	*e*PKPdf	PKPdf	13 50 30.4	+2.6
SRU	**San Rafael**	**124.38**	**47**	*e*PKPdf	PKPdf	13 50 30.0	+2.0
PV10	**Paradox Valley**	**125.73**	**47**	*e*PKPdf	PKPdf	13 50 33.4	+2.6
DBIC	**Dimbokro**	**125.75**	**273**	PKP	PKPdf	13 50 32.9	+1.4
	comp=Z,20nm,0.8s,baz=89,slow=2.1,SNR=27						
PV01	**Paradox Valley**	**126.16**	**48**	*e*PKPdf	PKPdf	13 50 34.0	+2.4
TUC	**Tucson**	**126.34**	**55**	*e*PKPdf	PKPdf	13 50 34.4	+2.2
ULM	**Lac du Bonnet**	**127.53**	**29**	PKP	PKPdf	13 50 35.4	+1.5
	comp=Z,9.9nm,0.9s,baz=303,slow=3.3,SNR=15						
ULM				SKPbc		13 53 03.2	
	comp=Z,5.6nm,0.7s,baz=319,slow=5.7,SNR=8.9						
ULM	**Lac du Bonnet**	**127.53**	**29**	PKP	PKPdf	13 50 35.4	+1.5
ULM				SKPbc		13 53 03.2	
ISCO	**Idaho Springs**	**127.60**	**44**	*e*PKPdf	PKPdf	13 50 35.8	+1.5
ANMO	**Albuquerque**	**128.91**	**50**	PKhKP		13 50 20.2	
	comp=Z,0.3nm,0.4s,baz=356,slow=9.9,SNR=3.1						
ANMO				PKP	PKPdf	13 50 39.8	+2.7
	comp=Z,8.7nm,0.9s,baz=200,slow=3.2,SNR=26						
ANMO				SKPbc		13 53 10.9	
	comp=Z,8.3nm,0.8s,baz=284,slow=4.7,SNR=20						
ANMO	**Albuquerque**	**128.91**	**50**	PKP		13 50 20.2	
ANMO				*e*PKPdf	PKPdf	13 50 39.4	+2.4
PLCA	**Paso Flores**	**131.19**	**169**	PKhKP		13 50 34.0	
	comp=Z,1.9nm,1.1s,baz=297,slow=8.8,SNR=3.2						
PLCA				PKP	PKPdf	13 50 43.4	+2.2
	comp=Z,5.6nm,0.7s,baz=226,slow=1.0,SNR=21						
PLCA				SKPbc		13 53 18.8	
	comp=Z,10nm,1.0s,baz=196,slow=2.7,SNR=12						
EYMN	**Ely**	**131.20**	**28**	*e*PKPdf	PKPdf	13 50 42.0	+1.0
SCHQ	**Schefferville**	**132.19**	**6**	PKhKP		13 50 35.1	
	comp=Z,1.5nm,0.6s,baz=20,slow=4.4,SNR=8.6						
SCHQ				PKP	PKPdf	13 50 45.4	+2.8
	comp=Z,13nm,0.7s,baz=16,slow=2.5,SNR=35						
SCHQ				SKPbc		13 53 21.8	
	comp=Z,11nm,0.7s,baz=7.1,slow=1.8,SNR=15						
SCHQ	**Schefferville**	**132.19**	**6**	PKP		13 50 35.1	
SCHQ				PKP	PKPdf	13 50 45.4	+2.8
SCHQ				SKPbc		13 53 21.8	
TXAR	**Lajitas Array**	**133.07**	**56**	PKP	PKPdf	13 50 47.4	+2.4
	comp=Z,4.7nm,0.6s,baz=270,slow=1.3,SNR=27						
TXAR				SKPab		13 53 25.1	
	comp=Z,9.1nm,0.9s,baz=270,slow=2.5,SNR=25						
KSU1	**Kansas State U**	**134.00**	**41**	*e*PKPdf	PKPdf	13 50 47.7	+1.3
TRQA	**Tornquist**	**134.87**	**177**	*e*PKPdf	PKPdf	13 50 50.0	+1.9
JCT	**Junction City**	**135.79**	**53**	*e*PKPdf	PKPdf	13 50 51.8	+1.8
BLO	**Bloomington**	**140.00**	**33**	*e*PKPpre		13 50 52.3	
ACSO	**Alum Creek Sta**	**141.03**	**29**	*e*PKPpre		13 50 54.9	
NCB	**Newcomb**	**141.23**	**17**	*e*PKPpre		13 50 55.9	
MCWV	**Mont Chateau**	**142.93**	**26**	*e*PKPpre		13 51 01.7	
SSPA	**Standing Stone**	**142.93**	**23**	*e*PKPpre		13 51 01.3	
SWET	**Sewanee**	**143.09**	**37**	*e*PKPpre		13 51 01.2	
TZTN	**Tazewell**	**143.53**	**33**	*e*PKP	PKPdf	13 51 03.4	-0.1
CPCT	**Cooper Cave**	**143.76**	**36**	*e*PKP	PKPdf	13 51 03.6	-0.3
LRAL	**Lakeview Retre**	**143.85**	**41**	*e*PKP	PKPdf	13 51 04.3	+0.1
PAL	**Palisades**	**144.03**	**19**	*e*PKP	PKPdf	13 51 04.8	+0.6
MVL	**Millersville**	**144.07**	**22**	*e*PKP	PKPdf	13 51 05.1	+0.7
BRNJ	**Basking Ridge**	**144.10**	**20**	*e*PKP	PKPdf	13 51 05.4	+1.0
FWV	**Forest Hill**	**144.16**	**29**	*e*PKP	PKPdf	13 51 05.4	+0.8
SDMD	**Soldier's Deli**	**144.40**	**23**	*e*PKP	PKPdf	13 51 06.0	+1.1
ELN	**Prospectdale**	**144.46**	**30**	*e*PKP	PKPdf	13 51 06.3	+1.1
BLA	**Blacksburg**	**144.64**	**29**	*e*PKPdf	PKPdf	13 51 06.4	+0.9
CBN	**Corbin**	**145.21**	**25**	*e*PKPdf	PKPdf	13 51 08.1	+1.7
GOGA	**Godfrey**	**145.81**	**37**	*e*PKPdf	PKPdf	13 51 09.8	+2.2
CAM4	**Nova Friburgo**	**146.21**	**209**	*e*P	PKPdf	13 51 11.6	+3.0
CAM4				*i*		13 51 13.8	
CAM4				*i*		13 51 15.9	
CAM4				*i*		13 51 19.4	
JSC	**Jenkinsville**	**146.45**	**34**	*e*PKPbc	PKPbc	13 51 12.5	+1.9
LVC	**Limon Verde**	**148.94**	**163**	*e*PKPdf	PKPdf	13 51 16.8	+3.9
LVC				*e*PKPbc	PKPdf	13 51 21.0	+8.1
TEIG	**Tepich**	**149.32**	**62**	*e*PKPbc	PKPdf	13 51 20.7	+7.1
BDFB	**Brasilia**	**154.56**	**207**	PKP	PKPdf	13 51 24.1	+3.0
	comp=Z,18nm,0.8s,baz=180,slow=1.5,SNR=25						
BDFB				PKPbc	PKPdf	13 51 33.0	+12
	comp=Z,12nm,1.0s,baz=205,slow=5.5,SNR=5.9						
BDFB				PKPab	PKPab	13 51 50.5	+0.6
	comp=Z,16nm,0.9s,baz=166,slow=4.6,SNR=8.0						
JTS	**JuntasAbangare**	**154.71**	**81**	PKPbc	PKPdf	13 51 33.4	+12
	comp=Z,9.7nm,0.7s,baz=341,slow=7.0,SNR=5.9						
LPAZ	**La Paz**	**155.12**	**160**	PKP	PKPdf	13 51 25.6	+3.7
	comp=Z,6.3nm,0.8s,baz=202,slow=0.7,SNR=29						
LPAZ				PKPab	PKPab	13 51 53.8	+1.6
	comp=Z,14nm,0.7s,baz=194,slow=4.6,SNR=16						
LPAZ	**La Paz**	**155.12**	**160**	*e*PKPdf	PKPdf	13 51 25.8	+3.9
CS6B	**Jaguaretama**	**155.63**	**239**	(P)	PKPab	13 51 55.3	+0.7
CS6B				*i*		13 51 56.1	
OTAV	**Otavalo**	**159.90**	**109**	*e*PKPdf	PKPdf	13 51 30.7	+2.7
ROSC	**El Rosal**	**165.10**	**98**	PKP	PKPdf	13 51 34.7	+1.7
	comp=Z,4.1nm,0.4s,baz=102,slow=23,SNR=6.5						
SJG	**San Juan**	**167.43**	**30**	PKP	PKPdf	13 51 36.4	+1.9
	comp=Z,7.2nm,0.3s,baz=332,slow=22,SNR=3.6						
SDV	**Santo Domingo**	**168.90**	**81**	PKP	PKPdf	13 51 37.4	+1.8
	comp=Z,12nm,1.0s,baz=324,slow=1.4,SNR=9.9						
SDV				PKPab	PKPab	13 52 53.9	+1.8
	comp=Z,7.2nm,0.7s,baz=29,slow=3.3,SNR=8.3						
SDV	**Santo Domingo**	**168.90**	**81**	*e*PKPdf	PKPdf	13 51 37.0	+1.4

*KRSC **12** 14:28:56.5±0.8, 55.13N×163.04E, h36km±5km, ML4.5*
*MOS **12** 14:28:57.1±1.1, 55.14N×162.88E, h70km, mb4.4/6, Error ellipse: s-maj=16.1km s-min=9.0km az=73.1*
*NEIC **12** 14:29:00.5±0.6, 55.24N×162.60E, mb4.2/6, Error ellipse: s-maj=22.1km s-min=9.1km az=156.0*
*IDC **12** 14:29:01.4±1.2, 55.32N×162.65E, h81km±8km, mb3.5/10, mb1 3.8/12, mb1mx3.6/23, mbtmp3.9/12, Error ellipse: s-maj=37.5km s-min=15.5km az=163.0*
ISC 12 14:28:56.6±0.4**, 55.12N**±0.02×**163.04E**±0.05**, h60**km±5km**, h81**km±2.2km**:pP-P, n68,** $\sigma 1^{s}07$/107**, mb4.0**/16**, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.10**	**354**	P	**P**	**14 29 15.7**	**-0.6**
KBTR				S	**S**	**14 29 29.4**	**-1.4**
KBTR	**Krutoberegovo**	**1.10**	**354**	*i* P	**P**	**14 29 15.6**	**-0.7**
KBTR				*i* S	**S**	**14 29 29.3**	**-1.5**
KBG	**Krutoberegovo**	**1.16**	**351**	*i* P	**P**	**14 29 16.2**	**-0.7**
KBG				*i* S	**S**	**14 29 31.0**	**-1.1**
KBG				Smax			
	7µm,0.9s						
ZLN	**Zelenaya**	**1.56**	**306**	*e*P	**P**	**14 29 23.5**	**+0.9**
ZLN				*e*S	**S**	**14 29 43.2**	**+1.4**
LGNR	**Loginova**	**1.65**	**307**	*e*P	**P**	**14 29 24.8**	**+1.0**
LGNR				*e*S	**S**	**14 29 46.5**	**+2.5**
TUMR	**Tumrok**	**1.67**	**277**	*i* P	**P**	**14 29 24.4**	**+0.3**
TUMR				*i* S	**S**	**14 29 44.3**	**-0.1**
BKI	**Bering**	**1.69**	**86**	*e*P	**P**	**14 29 24.3**	**-0.1**
BKI				*e*S	**S**	**14 29 44.4**	**-0.5**
BKI				Smax			
	1µm,0.3s						
KMNR	**Kamenistaya**	**1.72**	**293**	*i* P	**P**	**14 29 25.2**	**+0.4**
KMNR				*i* S	**S**	**14 29 45.8**	**+0.1**
KRSR	**Krestovskiy**	**1.78**	**309**	*e*P	**P**	**14 29 25.6**	**-0.1**
KRSR				*e*S	**S**	**14 29 46.9**	**-0.3**
KLY	**Klyuchi**	**1.81**	**313**	P	**P**	**14 29 24.7**	**-1.3**
KLY				S	**S**	**14 29 46.1**	**-1.7**
KLY	**Klyuchi**	**1.81**	**313**	*i* P	**P**	**14 29 24.5**	**-1.5**
KLY				*i* S	**S**	**14 29 46.0**	**-1.8**
KPT	**Kopyto**	**1.81**	**299**	*i* P	**P**	**14 29 26.6**	**+0.5**
KPT				*e*S	**S**	**14 29 49.1**	**+1.2**
KOZR	**Kozyr**	**2.02**	**299**	PN	**P**	**14 29 29.8**	**+0.8**
KOZR				S	**S**	**14 29 54.3**	**+1.3**
KOZ	**Kozyrevsk**	**2.03**	**299**	P	**P**	**14 29 29.8**	**+0.7**
KOZ				S	**S**	**14 29 54.3**	**+1.1**
KOZ	**Kozyrevsk**	**2.03**	**299**	*e*P	**P**	**14 29 29.5**	**+0.4**
KOZ				*e*S	**S**	**14 29 54.1**	**+0.9**
SRDR	**Sredinnyy**	**2.23**	**304**	*i* P	**P**	**14 29 32.0**	**0.0**
SRDR				*e*S	**S**	**14 29 58.8**	**+0.5**
KII	**Karymskiy**	**2.35**	**244**	P	**P**	**14 29 34.5**	**+0.8**
KII				S	**S**	**14 30 01.9**	**+0.4**
KII	**Karymskiy**	**2.35**	**244**	*e*P	**P**	**14 29 34.3**	**+0.6**
KII				*e*S	**S**	**14 30 01.8**	**+0.3**
ESO	**Esso**	**2.59**	**290**	*i* P	**P**	**14 29 36.5**	**-0.7**
ESO				*e*S	**S**	**14 30 05.8**	**-1.8**
ESO				Smax			
	240nm,0.9s						
SPN	**Mys Shipunski**	**2.69**	**222**	P	**P**	**14 29 37.6**	**-0.9**
SPN				S	**S**	**14 30 07.0**	**-3.0**
SPN	**Mys Shipunski**	**2.69**	**222**	*e*P	**P**	**14 29 37.6**	**-0.9**
SPN				*i* S	**S**	**14 30 07.6**	**-2.4**
NLC	**Nalytchevo**	**2.92**	**230**	P	**P**	**14 29 41.5**	**-0.3**
NLC				S	**S**	**14 30 14.0**	**-1.8**
NLC	**Nalytchevo**	**2.92**	**230**	*i* P	**P**	**14 29 41.4**	**-0.4**
NLC				*i* S	**S**	**14 30 13.9**	**-1.9**
SDLR	**Sedlovina**	**3.06**	**235**	*e*P	**P**	**14 29 44.3**	**+0.6**
SDLR				*e*S	**S**	**14 30 19.1**	**-0.2**
SMAR	**Somma**	**3.11**	**235**	*e*P	**P**	**14 29 45.6**	**+1.2**
SMAR				*e*S	**S**	**14 30 20.6**	**+0.1**
UGLR	**Uglovaya**	**3.13**	**234**	*i* P	**P**	**14 29 45.5**	**+0.8**
UGLR				*e*S	**S**	**14 30 19.6**	**-1.5**
AVH	**Avacha**	**3.13**	**235**	*i* P	**P**	**14 29 45.8**	**+1.0**
AVH				*e*S	**S**	**14 30 21.3**	**+0.1**
KOK	**Koryaka**	**3.17**	**237**	*e*P	**P**	**14 29 45.9**	**+0.7**
KOK				*e*S	**S**	**14 30 21.7**	**-0.3**
GNL	**Ganaly**	**3.30**	**247**	*i* P	**P**	**14 29 48.2**	**+1.1**
GNL				*e*S	**S**	**14 30 26.5**	**+1.1**
PET	**Petropavlovsk**	**3.33**	**233**	P	**P**	**14 29 47.9**	**+0.4**
PET				S	**S**	**14 30 25.0**	**-1.1**
PET	**Petropavlovsk**	**3.33**	**233**	*e*PN	**P**	**14 29 48.0**	**+0.5**
PET				*e*S	**S**	**14 30 25.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,106nm,0.2s						
PET				smax			
	comp=E,275nm,0.5s						
PET	**Petropavlovsk**	**3.33**	**233**	*e*P	**P**	**14 29 47.5**	**0.0**
PET	**Petropavlovsk**	**3.33**	**233**	*i* P	**P**	**14 29 47.9**	**+0.4**
PET				*i* S	**S**	**14 30 24.9**	**-1.2**
KRMR	**Karymshinskiy**	**3.69**	**234**	*e*P	**P**	**14 29 53.6**	**+0.9**
KRMR				*e*S	**S**	**14 30 34.9**	**-0.4**
RUS	**Russkaya**	**3.80**	**227**	P	**P**	**14 29 54.4**	**+0.3**
RUS				S	**S**	**14 30 36.4**	**-1.5**
RUS	**Russkaya**	**3.80**	**227**	*i* P	**P**	**14 29 54.4**	**+0.3**
RUS				*e*S	**S**	**14 30 36.3**	**-1.6**
GRL	**Gorelyy**	**3.91**	**231**	*e*P	**P**	**14 29 57.2**	**+1.6**
GRL				*e*S	**S**	**14 30 40.4**	**-0.2**
APC	**Apacha**	**4.10**	**240**	*e*P	**P**	**14 29 59.4**	**+1.0**
APC				*e*S	**S**	**14 30 45.0**	**-0.6**
OSSR	**Ossora**	**4.14**	**0**	*e*P	**P**	**14 29 58.1**	**-0.9**
OSSR				*e*S	**S**	**14 30 45.1**	**-1.5**
OSSR				Smax			
	comp=E,170nm,0.7s						
FX1	**Attu Island--F**	**6.38**	**106**	P	**P**	**14 30 29.4**	**-0.7**
	comp=E,15nm,0.3s,baz=233,slow=3.9,SNR=36						
FX1				S	**S**	**14 31 36.9**	**-5.4**
	comp=E,30nm,0.3s,baz=155,slow=19,SNR=16						
FX1	**Attu Island--F**	**6.38**	**106**	*e*P	**P**	**14 30 28.5**	**-1.6**
KAMR	**Kamenskoye**	**7.54**	**11**	*e*P	**P**	**14 30 46.7**	**+0.4**
KAMR				*i* S	**S**	**14 32 07.4**	**-3.8**
KAMR				Smax			
	comp=E,30nm,1.1s						
ASAJ	**Asahikawa**	**17.15**	**239**	P	**P**	**14 32 53.4**	**0.0**
	comp=E,0.4nm,0.3s,baz=134,slow=24,SNR=2.7						
TIXI	**Tiksi**	**22.04**	**332**	*e*P	**P**	**14 33 46.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
IMA	**Indian Mountai**	**23.38**	**45**	*e*P	**P**	**14 34 01.8**	**+1.8**
IMA				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
IMA	**Indian Mountai**	**23.38**	**45**	*e*P	**P**	**14 34 01.8**	**+1.9**
	comp=Z,25nm,0.9s,mb4.6						
MCK	**McKinley**	**25.32**	**51**	*e*P	**P**	**14 34 19.6**	**+0.9**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
MCK	**McKinley**	**25.32**	**51**	*e*P	**P**	**14 34 19.6**	**+0.9**
	comp=Z,1.4nm,0.7s,mb3.6						
COLA	**College**	**25.75**	**48**	*e*P	**P**	**14 34 23.7**	**+1.0**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
COLA	**College**	**25.75**	**48**	*e*P	**P**	**14 34 23.7**	**+0.9**
	comp=Z,2.9nm,0.8s,mb3.9						
ILAR	**Eielson Array**	**26.16**	**48**	P	**P**	**14 34 27.1**	**+0.5**
	comp=Z,2.3nm,0.7s,mb3.8,baz=269,slow=9.6,SNR=28						
ILAR				pP	pP	14 34 46.6	+5.6
	comp=Z,1.1nm,0.8s,baz=269,slow=8.7,SNR=4.4						
BOD	**Bodaibo**	**26.75**	**296**	*e*P	**P**	**14 34 27.1**	**-4.9**
INK	**Inuvik**	**31.20**	**40**	*e*P	**P**	**14 35 11.9**	**+0.1**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**31.20**	**40**	P	**P**	**14 35 12.4**	**+0.7**
	comp=Z,1.3nm,0.7s,mb3.8,baz=275,slow=6.2,SNR=12						
INK	**Inuvik**	**31.20**	**40**	*e*P	**P**	**14 35 11.8**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.0						
SONM	**Songino Array**	**35.15**	**282**	P	**P**	**14 35 45.0**	**-1.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=58,slow=8.1,SNR=4.7						
DLBC	**Dease Lake**	**35.46**	**57**	P	**P**	**14 35 51.6**	**+3.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=257,slow=14,SNR=4.0						
YKA	**Yellowknife Ar**	**40.50**	**45**	P	**P**	**14 36 31.8**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=298,slow=7.7,SNR=3.8						
YKA				pP	pP	14 36 51.1	+5.1
	comp=Z,0.6nm,0.6s,baz=299,slow=8.0,SNR=7.4						
KURK	**Kurchatov**	**48.14**	**302**	*e*P	**P**	**14 37 28.9**	**-3.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
KURK	**Kurchatov**	**48.14**	**302**	*e*P	**P**	**14 37 28.9**	**-3.1**
	comp=Z,2.4nm,0.3s,mb4.7						
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P	**P**	**14 37 42.5**	**-3.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
CHKZ	**Chkalovo**	**49.95**	**309**	*e*P	**P**	**14 37 42.5**	**-3.5**
	comp=Z,1.9nm,0.5s,mb4.4						
PDAR	**Pinedale Array**	**55.05**	**64**	P	**P**	**14 38 24.0**	**-0.1**
	comp=Z,0.6nm,0.9s,mb3.6,slow=4.4,SNR=4.3						
FINES	**FINESS Array B**	**58.93**	**337**	P	**P**	**14 38 49.3**	**-2.0**
	comp=Z,0.6nm,0.5s,mb3.9,baz=27,slow=8.5,SNR=7.5						
CMAR	**Chiang Mai Arr**	**60.28**	**259**	P	**P**	**14 39 00.5**	**-0.7**
	comp=Z,0.4nm,0.5s,mb3.7,baz=22,slow=8.1,SNR=5.1						
AKASG	**Malin Array Be**	**67.74**	**330**	P	**P**	**14 39 47.5**	**-1.7**
	comp=Z,1.1nm,0.4s,mb4.3,baz=26,slow=6.6,SNR=5.6						
TXAR	**Lajitas Array**	**68.28**	**70**	P	**P**	**14 39 54.7**	**+1.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=313,slow=4.2,SNR=8.1						
TXAR				pP	pP	14 40 15.3	+5.9
	comp=Z,0.2nm,0.4s,baz=315,slow=5.1,SNR=2.2						
ASAR	**Alice Springs**	**82.33**	**207**	pP	pP	14 41 35.1	+5.2
	comp=Z,0.3nm,0.6s,baz=14,slow=4.9,SNR=2.5						

IDC 12 14:51:15.8±5.0**, 27.60N**×**111.82W, mb1 3.6**/3**, mb1mx3.3**/21**, mbtmp3.1**/3**, ML3.6**/2**, Error ellipse: s-maj=67.3km s-min=16.8km az=17.0, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.38**	**75**	Pn	Pn	14 53 06.0	-1.4
	0.3nm,0.3s,baz=247,slow=13,SNR=9.3						
TXAR				Sn	Sn	14 54 29.5	-3.4
	0.1nm,0.3s,baz=276,slow=13,SNR=3.5						
TXAR				Lg		14 55 05.9	
	0.2nm,0.3s,baz=249,slow=28,SNR=4.1						
ANMO	**Albuquerque**	**8.64**	**31**	Lg		14 55 43.9	
	baz=303,slow=16,SNR=2.9						
NVAR	**Mina Array Bea**	**12.09**	**335**	Pn	P	14 54 10.8	-1.4
	0.0nm,0.3s,baz=162,slow=17,SNR=2.3						
PDAR	**Pinedale Array**	**15.24**	**6**	Pn	P	14 54 57.5	+3.5
	0.0nm,0.3s,baz=176,slow=10,SNR=7.0						

*MEX **12** 14:55:32.9±0.5, 13.98N×92.76W, h60km±85km, MD4.6*
*CASC **12** 14:55:33.0±2.2, 14.24N×92.80W, h58km±58km, MD4.6, ML4.6, mb4.3(NEIC)*
*NEIC **12** 14:55:36.1±1.6, 14.32N×92.58W, h62km±10km, mb4.3/4, MD4.6(MEX), Error ellipse: s-maj=20.0km s-min=11.5km az=188.0*
*IDC **12** 14:55:42.9±3.6, 14.72N×92.34W, h110km±32km, mb3.8/9, mb1 4.0/11, mb1mx3.7/24, mbtmp4.1/11, MS3.3/3, Ms1 3.3/3, ms1mx2.8/24, Error ellipse: s-maj=42.7km s-min=17.9km az=44.0*
ISC 12 14:55:32.7±0.6**, 14.05N**±0.06×**92.81W**±0.03**, h55**km±6km**, n54,** $\sigma 1^{s}09$/70**, mb4.2**/11**, MS3.4**/2**, 4C-2D, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JAT	**Jato**	**1.17**	**77**⇓	*e*P	**P**	**14 55 52.4**	**-0.6**
JAT				*e*S	**S**	**14 56 08.4**	**+0.2**
JAT				AML	AML	14 56 10.9	
	comp=N,17µm,0.2s						
TP2	**Tecpan 2**	**1.88**	**67**⇓	*e*P	**P**	**14 56 02.0**	**-1.1**
TP2				*e*S	**S**	**14 56 25.3**	**-0.3**
TP2				AML	AML	14 56 25.9	
	comp=N,3µm,0.4s						
IXG	**Ixpaco**	**2.29**	**87**	*e*P	**P**	**14 56 08.0**	**-0.9**
IXG				*e*S	**S**	**14 56 37.6**	**+1.7**
IXG				AML	AML	14 56 53.5	
	comp=N,16µm,0.5s						
CCIG	**Comitan**	**2.31**	**16**⇑	*i*P	**P**	**14 56 08.4**	**-0.8**
CCIG				*e*S	**S**	**14 56 36.0**	**-0.4**
CCIG	**Comitan**	**2.31**	**16**	*i* P	**P**	**14 56 08.3**	**-0.9**
CCIG				*e*S	**S**	**14 56 36.0**	**-0.4**
RBDL	**Robledal**	**3.03**	**88**	*e*P	**P**	**14 56 19.1**	**-0.4**
RBDL				*e*S	**S**	**14 56 55.4**	**+0.6**
RTR	**El Retiro**	**3.08**	**92**⇑	*e*P	**P**	**14 56 19.7**	**-0.4**
RTR				*e*S	**S**	**14 56 57.3**	**+1.4**
SBLS	**San Blas**	**3.10**	**94**⇑	*e*P	**P**	**14 56 20.1**	**-0.4**
SBLS				*e*S	**S**	**14 56 57.2**	**+0.7**
SNJE	**San Jose**	**3.12**	**93**⇑	*e*P	**P**	**14 56 19.9**	**-0.7**
MTO2	**Montecristo 2**	**3.36**	**84**	*e*P	**P**	**14 56 26.2**	**+2.1**
BOQS	**Boqueron**	**3.44**	**95**	*e*P	**P**	**14 56 24.8**	**-0.4**
LFU	**La Fuente**	**3.60**	**94**	*e*P	**P**	**14 56 27.8**	**+0.3**
HUIG	**Huatulco**	**3.61**	**299**	*e*P	**P**	**14 56 27.2**	**-0.4**
HUIG				*i* S	**S**	**14 57 08.2**	**-1.2**
CMIG	**Matias Romero**	**3.62**	**327**	*i* P	**P**	**14 56 24.6**	**-3.1**
CMIG				*i* S	**S**	**14 57 07.6**	**-2.0**
LFRS	**El Faro**	**3.67**	**96**	*e*P	**P**	**14 56 28.5**	**+0.1**
LFRS				*e*S	**S**	**14 57 10.4**	**-0.4**
LCBS	**La Ceiba**	**3.75**	**96**	*e*P	**P**	**14 56 29.1**	**-0.3**
LCBS				*e*S	**S**	**14 57 11.3**	**-1.4**
SNVI	**San Vicente**	**3.88**	**96**	*e*P	**P**	**14 56 31.6**	**+0.2**
SNVI				*e*S	**S**	**14 57 17.3**	**+1.1**
OXX	**Oaxaca**	**4.82**	**309**	*e*P	**P**	**14 56 45.0**	**+0.4**
OXX				*e*S	**S**	**14 57 41.0**	**+1.1**
VHO	**Vista Hermosa**	**4.83**	**309**	*e*P	**P**	**14 56 44.9**	**+0.2**
VHO				*i* S	**S**	**14 57 40.7**	**+0.8**
CNCH	**Conchagua**	**4.90**	**98**	*e*P	**P**	**14 56 45.0**	**-0.7**
IISM	**Ciudad Serdan**	**6.58**	**319**	*e*P	**P**	**14 57 09.5**	**+0.4**
IISM				*e*S	**S**	**14 58 25.5**	**+2.0**
IIB	**San Bernardino**	**7.21**	**313**	*e*P	**P**	**14 57 20.5**	**+2.6**
IIB				*e*S	**S**	**14 58 40.0**	**+0.8**
ACX	**Acapulco**	**7.40**	**293**	*e*P	**P**	**14 57 19.0**	**-1.5**
PPM	**Popocatepetl**	**7.48**	**313**	*e*Pn	**P**	**14 57 23.7**	**+2.1**
PPM				*e*Sg	**S**	**14 58 51.8**	**+5.9**
PPM	**Popocatepetl**	**7.48**	**313**	*e*P	**P**	**14 57 20.8**	**-0.9**
PPM				*e*P		14 57 21.0	
PPM				*i* S	**S**	**14 58 46.3**	**+0.5**
TEIG	**Tepich**	**7.52**	**35**	*e*P	**P**	**14 57 17.6**	**-4.5**
	comp=N,67nm,0.5s						
JTS	**JuntasAbangare**	**8.54**	**115**	P	**P**	**14 57 43.3**	**+7.0**
	comp=N,1.1nm,0.3s,baz=83,slow=23,SNR=3.3						
JTS				S	**S**	**14 59 30.0**	**+18**
	comp=N,0.5nm,0.3s,baz=167,slow=20,SNR=2.5						
JTS				LR	LR	15 00 56.4	
	comp=N,116nm,21.2s,baz=318,slow=37						
JTS	**JuntasAbangare**	**8.54**	**115**	*e*P	**P**	**14 57 42.8**	**+6.5**
	comp=N,38nm,0.8s						
LTX	**Lajitas**	**18.23**	**328**	*e*P	**P**	**14 59 44.7**	**+1.2**
	comp=N,5.2nm,0.8s						
TXAR	**Lajitas Array**	**18.23**	**328**	P	**P**	**14 59 44.0**	**+0.4**
	comp=N,0.3nm,0.3s,baz=150,slow=14,SNR=15						
GDL2	**Guadalupe Moun**	**20.93**	**332**	*e*P	**P**	**15 00 13.0**	**0.0**
WMOK	**Wichita Mounta**	**21.29**	**346**	*e*P	**P**	**15 00 16.8**	**+0.1**
SDV	**Santo Domingo**	**22.33**	**101**	P	**P**	**15 00 28.7**	**+1.6**
	comp=N,2.9nm,0.5s,mb4.0,baz=325,slow=7.8,SNR=7.6						
LENM	**Lemitar**	**23.78**	**330**	P	**P**	**15 00 45.3**	**+4.1**
ANMO	**Albuquerque**	**24.18**	**332**	P	**P**	**15 00 45.3**	**+0.2**
	comp=N,1.8nm,0.5s,mb3.8,baz=132,slow=10,SNR=7.1						
SJG	**San Juan**	**25.92**	**77**	LR	LR	15 10 49.7	
	comp=N,106nm,20.3s,MS3.4,baz=267,slow=36						
SDCO	**Great Sand Dun**	**26.16**	**337**	*e*P	**P**	**15 01 04.7**	**+0.9**
	comp=N,5.9nm,1.1s,mb4.0						
PV01	**Paradox Valley**	**27.76**	**333**	P	**P**	**15 01 16.8**	**-1.7**
PV10	**Paradox Valley**	**28.17**	**332**	*e*P	**P**	**15 01 22.7**	**+0.5**
PDAR	**Pinedale Array**	**32.05**	**336**	P	**P**	**15 01 54.7**	**-1.8**
	comp=N,1.0nm,0.8s,mb3.7,baz=138,slow=9.3,SNR=7.5						
SNOW	**Snow King Moun**	**33.11**	**336**	*e*P	**P**	**15 02 06.1**	**+0.4**
NVAR	**Mina Array Bea**	**33.14**	**322**	P	**P**	**15 02 07.7**	**+1.7**
	comp=N,3.7nm,0.7s,mb4.5,baz=125,slow=9.1,SNR=48						
NVAR				PcP	PcP	15 04 48.1	0.0
	comp=N,1.0nm,0.7s,baz=124,slow=5.1,SNR=6.6						
ULM	**Lac du Bonnet**	**36.19**	**357**	P	**P**	**15 02 28.3**	**-3.5**
	comp=N,1.6nm,0.4s,mb4.3,baz=173,slow=7.7,SNR=4.6						
ULM				LR	LR	15 18 35.8	
	comp=N,69nm,18.8s,MS3.5,baz=26,slow=39						
SCHQ	**Schefferville**	**45.45**	**21**	P	**P**	**15 03 43.8**	**-4.2**
	comp=N,2.8nm,1.2s,mb4.0,baz=12,slow=17,SNR=3.6						
SCHQ				PcP	PcP	15 05 25.1	-1.6
	comp=N,2.4nm,0.7s,baz=221,slow=2.4,SNR=7.2						
YKA	**Yellowknife Ar**	**50.80**	**347**	P	**P**	**15 04 28.1**	**-1.3**
	comp=N,6.7nm,0.7s,mb4.7,baz=151,slow=7.5,SNR=136						
YKA				PcP	PcP	15 05 44.9	-0.9
	comp=N,0.9nm,1.0s,baz=149,slow=3.8,SNR=4.4						
YKA	**Yellowknife Ar**	**50.80**	**347**	P	**P**	**15 04 28.1**	**-1.3**
YKA				PcP	PcP	15 05 44.9	-0.9
INK	**Inuvik**	**60.17**	**344**	P	**P**	**15 05 36.0**	**-0.9**
	comp=N,2.4nm,0.5s,mb4.5,baz=134,slow=6.3,SNR=33						
INK	**Inuvik**	**60.17**	**344**	*e*P	**P**	**15 05 35.6**	**-1.3**
	comp=N,2.4nm,0.5s,mb4.5						
ILAR	**Eielson Array**	**62.48**	**337**	P	**P**	**15 05 51.9**	**-0.6**
	comp=N,3.2nm,1.1s,mb4.4,baz=136,slow=4.7,SNR=18						
SPU	**Mount Spurr**	**63.16**	**332**	*e*P	**P**	**15 05 57.4**	**+0.3**
BILL	**Bilibino**	**81.12**	**338**	*e*P	**P**	**15 07 40.2**	**-3.2**
	comp=N,7.2nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**134.64**	**256**	PKP	PKPdf	15 14 48.9	+2.8
	comp=N,0.6nm,0.7s,baz=83,slow=2.3,SNR=7.1						
ASAR	**Alice Springs**	**134.94**	**251**	PKP	PKPdf	15 14 48.6	+2.0
	comp=N,0.3nm,0.6s,baz=124,slow=2.8,SNR=5.9						
CMAR	**Chiang Mai Arr**	**145.68**	**340**	PKPbc	PKPbc	15 15 08.5	+1.8
	comp=N,1.7nm,0.7s,baz=337,slow=3.7,SNR=13						

IDC 12 15:05:57.1±8.5**, 7.16N**×**90.61E, mb3.4**/2**, mb1 3.7**/3**, mb1mx3.4**/17**, mbtmp3.4**/3**, ML3.6**/1**, Error ellipse: s-maj=184.9km s-min=53.7km az=94.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.86**	**35**	Pn	P	15 09 15.2	-2.2
	0.1nm,0.3s,baz=231,slow=15,SNR=5.5						
WRA	**Warramunga Arr**	**50.76**	**123**	P	P	15 14 58.7	-2.7
	0.5nm,0.8s,baz=302,slow=9.5,SNR=6.0						
WRA				pP	pP	15 15 08.6	+7.2
	0.9nm,0.7s,baz=302,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**52.21**	**127**	P	P	15 15 10.8	-1.5
	0.4nm,0.8s,baz=297,slow=6.0,SNR=4.0						
ASAR				pP	pP	15 15 20.0	+7.7
	1.0nm,1.0s,baz=301,slow=8.0,SNR=8.0						

*NEIC **12** 15:32:48.2, 38.87S×175.11E, h216km, MG3.9(WEL), After WEL.*
WEL 12 15:32:47.4±0.2**, 38.79S**×**175.14E, h221**km±1km**, ML4.0**/9**, Error ellipse: s-maj=2.4km s-min=1.8km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.35**	**321**	P	P	15 33 16.4	-0.4
HIZ				S	S	15 33 38.5	-1.1
HIZ	**Hauiti**	**0.35**	**321**	PN	P	15 33 16.4	-0.4
HIZ				SN	S	15 33 38.5	-1.0
TWVZ	**Taurewa**	**0.37**	**140**	P	P	15 33 16.4	-0.4
TWVZ				S	S	15 33 37.9	-1.8
TWVZ	**Taurewa**	**0.37**	**140**	PN	P	15 33 16.4	-0.4
TWVZ				SN	S	15 33 38.1	-1.5
MGZ	**Maungaku**	**0.38**	**124**	P	P	15 33 16.7	-0.2
MGZ	**Maungaku**	**0.38**	**124**	PN	P	15 33 16.7	-0.2
MGZ				SN	S	15 33 39.1	-0.6
VRZ	**Vera Road**	**0.45**	**221**	P	P	15 33 16.2	-0.9
VRZ				S	S	15 33 39.4	-0.7
VRZ	**Vera Road**	**0.45**	**221**	PN	P	15 33 16.2	-0.9
VRZ				SN	S	15 33 38.9	-1.2
KATZ	**Kakaramea**	**0.47**	**113**	P	P	15 33 16.9	-0.2

KATZ				S	S	15 33 39.6	-0.6
KATZ	**Kakaramea**	**0.47**	**113**	PN	P	15 33 16.8	-0.3
KATZ				SN	S	15 33 39.6	-0.7
WTVZ	**West Tongariro**	**0.48**	**133**	P	P	15 33 16.9	-0.3
WTVZ	**West Tongariro**	**0.48**	**133**	PN	P	15 33 16.9	-0.3
WTVZ				SN	S	15 33 38.8	-1.5
CNZ	**Chateau**	**0.52**	**142**	P	P	15 33 17.1	-0.2
CNZ	**Chateau**	**0.52**	**142**	PN	P	15 33 17.1	-0.2
WPVZ	**Whakapapa**	**0.53**	**143**	P	P	15 33 17.1	-0.2
WPVZ	**Whakapapa**	**0.53**	**143**	PN	P	15 33 17.1	-0.2
WPVZ				SN	S	15 33 38.7	-1.8
NGZ	**Ngauruhoe**	**0.53**	**137**	P	P	15 33 17.1	-0.2
NGZ	**Ngauruhoe**	**0.53**	**137**	PN	P	15 33 17.1	-0.2
NGZ				SN	S	15 33 38.9	-1.6
OTVZ	**Oturere**	**0.56**	**132**	PN	P	15 33 17.4	0.0
OTVZ				SN	S	15 33 39.3	-1.4
FWVZ	**Far West T-bar**	**0.57**	**145**	P	P	15 33 17.3	-0.2
FWVZ				S	S	15 33 38.8	-2.0
FWVZ	**Far West T-bar**	**0.57**	**145**	PN	P	15 33 17.3	-0.1
FWVZ				SN	S	15 33 39.0	-1.8
TUVZ	**Tukino**	**0.63**	**140**	P	P	15 33 17.6	-0.1
TUVZ				S	S	15 33 39.6	-1.6
TUVZ	**Tukino**	**0.63**	**140**	PN	P	15 33 17.6	0.0
TUVZ				SN	S	15 33 39.3	-1.9
WNVZ	**Wahianoa**	**0.65**	**146**	P	P	15 33 17.5	-0.3
WNVZ	**Wahianoa**	**0.65**	**146**	PN	P	15 33 17.5	-0.3
RAEZ	**Rainy Point**	**0.76**	**229**	P	P	15 33 17.6	-0.7
RAEZ	**Rainy Point**	**0.76**	**229**	PN	P	15 33 17.6	-0.6
MOVZ	**Moawhango**	**0.78**	**142**	P	P	15 33 17.8	-0.5
MOVZ	**Moawhango**	**0.78**	**142**	PN	P	15 33 17.8	-0.6
MOVZ				SN	S	15 33 39.2	-3.2
NEZ	**North Egmont**	**0.94**	**239**	PN	P	15 33 18.9	-0.3
WAZ	**Wanganui**	**0.97**	**187**	P	P	15 33 19.0	-0.3
WAZ	**Wanganui**	**0.97**	**187**	PN	P	15 33 19.0	-0.4
WAZ				SN	S	15 33 43.7	-0.5
PKE	**Pukeiti**	**0.98**	**245**	P	P	15 33 18.9	-0.5
PKE	**Pukeiti**	**0.98**	**245**	PN	P	15 33 18.9	-0.5
NRZ	**Ngariki Road**	**1.08**	**239**	P	P	15 33 19.6	-0.5
NRZ	**Ngariki Road**	**1.08**	**239**	PN	P	15 33 19.6	-0.5
NWEZ	**Newall Road**	**1.10**	**243**	P	P	15 33 19.8	-0.4
NWEZ	**Newall Road**	**1.10**	**243**	PN	P	15 33 19.8	-0.4
BKZ	**Black Stump Fm**	**1.12**	**110**	P	P	15 33 20.1	-0.3
BKZ				S	S	15 33 43.4	-2.6
BKZ	**Black Stump Fm**	**1.12**	**110**	PN	P	15 33 20.1	-0.3
BKZ				SN	S	15 33 43.4	-2.5
TSZ	**Takapari Road**	**1.42**	**154**	P	P	15 33 22.1	-0.6
TSZ	**Takapari Road**	**1.42**	**154**	PN	P	15 33 22.1	-0.6
URZ	**Urewera**	**1.64**	**72**	P	P	15 33 23.6	-0.9
URZ	**Urewera**	**1.64**	**72**	PN	P	15 33 23.6	-0.9
URZ				SN	S	15 33 49.7	-3.4
PWZ	**Pawanui**	**1.82**	**133**	*e*P	P	15 33 25.6	-0.6
PWZ	**Pawanui**	**1.82**	**133**	PN	P	15 33 25.6	-0.5
MRZ	**Mangatainoka R**	**1.90**	**170**	P	P	15 33 25.4	-1.5
MRZ	**Mangatainoka R**	**1.90**	**170**	PN	P	15 33 25.4	-1.5
MWZ	**Matawai**	**1.93**	**77**	P	P	15 33 26.6	-0.6
MWZ	**Matawai**	**1.93**	**77**	PN	P	15 33 26.6	-0.6
KNZ	**Kokohu**	**1.99**	**97**	*e*P	P	15 33 27.6	-0.2
KNZ	**Kokohu**	**1.99**	**97**	PN	P	15 33 27.4	-0.4
BFZ	**Birch Farm**	**2.08**	**156**	P	P	15 33 27.2	-1.4
KIW	**Kapiti Island**	**2.08**	**185**	P	P	15 33 26.8	-1.8
CAW	**Cannon Point**	**2.32**	**181**	P	P	15 33 29.2	-1.9
MTW	**Mount Morrison**	**2.38**	**173**	P	P	15 33 29.7	-2.1
MRW	**Makara Radio**	**2.46**	**188**	P	P	15 33 30.5	-2.1
WEL	**Wellington**	**2.51**	**186**	P	P	15 33 30.9	-2.3
SNZO	**South Karori**	**2.54**	**187**	P	P	15 33 31.2	-2.3
PUZ	**Puketiti**	**2.55**	**75**	*e*P	P	15 33 32.7	-0.9
BHW	**Baring Head**	**2.62**	**184**	P	P	15 33 32.2	-2.2
MSWZ	**Moikau Station**	**2.62**	**178**	P	P	15 33 32.2	-2.2
NNZ	**Nelson**	**2.78**	**209**	P	P	15 33 33.2	-2.9
MXZ	**Matakaoa Point**	**2.78**	**65**	P	P	15 33 35.5	-0.6
QRZ	**Quartz Range**	**2.86**	**224**	P	P	15 33 33.7	-3.3
THZ	**Tophouse**	**3.43**	**209**	*e*P	P	15 33 40.3	-3.3
DSZ	**Denniston Nort**	**3.90**	**220**	P	P	15 33 44.3	-5.0
MQZ	**McQueen's Vall**	**5.26**	**200**	*e*P	P	15 34 01.3	-4.9
ODZ	**Otahua Downs**	**7.09**	**207**	*e*P	P	15 34 25.6	-4.0

IDC 12 15:41:08.4±1.4**, 32.83S**×**178.32W, mb4.1**/4**, mb1 4.4**/5**, mb1mx4.0**/15**, mbtmp4.2**/5**, ML4.3**/1**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.6**/16**, 4C, Error ellipse: s-maj=47.0km s-min=25.9km az=146.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**5.94**	**207**	PN	Pn	15 42 36.8	-2.8
PUZ				SN	Sn	15 43 47.2	-2.1
MWZ	**Matawai**	**6.46**	**210**	PN	Pn	15 42 43.8	-3.2
MWZ				SN	Sn	15 43 59.7	-2.6
URZ	**Urewera**	**6.58**	**213**	Pn	Pn	15 42 47.2	-1.5
	6.3nm,0.3s,baz=282,slow=1.0,SNR=45						
URZ				Sn	Sn	15 44 01.9	-3.6
	5.7nm,0.3s,baz=129,slow=23,SNR=7.7						
URZ	**Urewera**	**6.58**	**213**	PN	Pn	15 42 46.5	-2.3
URZ				SN	Sn	15 44 02.2	-3.3
CTA	**Charters Tower**	**34.00**	**283**	P	P	15 47 55.2	-0.8
	3.6nm,0.6s,baz=113,slow=18,SNR=6.5						
CTA				LR	LR	15 59 57.4	
	comp=Z,74nm,18.6s,baz=123,slow=33						
ASAR	**Alice Springs**	**42.77**	**270**	P	P	15 49 07.5	-1.8
	1.3nm,0.5s,baz=109,slow=7.4,SNR=29						
WRA	**Warramunga Arr**	**43.98**	**275**	P	P	15 49 17.2	-2.0
	1.4nm,0.4s,baz=112,slow=8.0,SNR=24						
SNAA	**Sanae**	**75.75**	**179**		P	15 53 14.8	+18
VNA3	**Neumayer Olymp**	**75.91**	**176**	⇑*i*	P	15 53 06.2	+8.3
VNA3	**Neumayer Olymp**	**75.91**	**176**	⇑*i*	P	15 53 18.4	+21
VNA2	**Neumayer--Watz**	**76.34**	**177**	⇑*i*	P	15 53 10.1	+10
VNA1	**Neumayer--Stat**	**76.57**	**177**	⇑*i*	P	15 53 19.3	+18
NVAR	**Mina Array Bea**	**90.20**	**43**	P	P	15 54 12.3	+0.3
	0.4nm,0.8s,baz=230,slow=4.4,SNR=4.1						
KAF	**Kangasniemi**	**146.72**	**339**	*e*p	PKPbc	16 00 42.8	-8.2
	2.0nm,0.6s						
FINES	**FINESS Array B**	**147.31**	**338**	PKPbc	PKPdf	16 00 51.0	-1.5
	1.7nm,0.5s,baz=42,slow=3.0,SNR=19						
NOA	**NORSAR Array B**	**151.10**	**350**	PKPbc	PKPdf	16 01 02.0	+3.6
	0.6nm,0.7s,baz=23,slow=4.4,SNR=3.7						
AKASG	**Malin Array Be**	**153.01**	**320**	PKPbc	PKPdf	16 01 07.0	+5.5
	0.3nm,0.4s,baz=47,slow=3.9,SNR=4.0						

*IDC **12** 15:45:44.2±1.7, 9.20N×126.73E, mb3.4/3, mb1 3.6/3, mb1mx3.4/17, mbtmp3.4/3, Error ellipse: s-maj=227.5km s-min=25.0km az=73.0*

*MAN **12** 15:45:50.0, 9.22N×126.68E, h17^{km}, mb4.5, ML3.4, MS3.3*

ISC 12 15:45:50.2±0.9**, 9.23N**±0.04×**126.77E**±0.08**, h62**^{km}±12^{km}**, n20,** σ1^{s}**28**/30**, mb3.3**/3**, 1C-1D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.11**	**201**	⇑*e*P	**P**	**15 46 08.3**	**-1.8**
BIPH				*i* S	**S**	**15 46 20.2**	**-4.7**
BUTP	**Butuan**	**1.16**	**257**	*e*P	**P**	**15 46 08.6**	**-2.1**
BUTP				*e*S	**S**	**15 46 28.3**	**+2.3**
SCPH	**Surigao**	**1.37**	**294**	*e*P	**P**	**15 46 12.3**	**-1.5**
SCPH				*e*S	**S**	**15 46 28.4**	**-2.9**
MSLP	**Maasin**	**2.08**	**296**	*e*P	**P**	**15 46 24.2**	**+0.7**
BUKP	**Musuan**	**2.15**	**232**	*e*P	**P**	**15 46 25.6**	**+1.0**
BUKP				*e*S	**S**	**15 46 54.5**	**+4.4**
MATI	**Mati**	**2.32**	**193**	*e*P	**P**	**15 46 27.1**	**+0.2**
MATI				*e*S	**S**	**15 46 53.4**	**-1.0**
PLP	**Palo**	**2.61**	**318**	*e*P	**P**	**15 46 31.1**	**+0.2**
PLP				*e*S	**S**	**15 47 03.1**	**+1.6**
BESP	**Borongan**	**2.69**	**331**	*e*P	**P**	**15 46 32.6**	**+0.4**
KCP	**Kidapawan**	**2.76**	**217**	⇓*i*P	**P**	**15 46 34.0**	**+0.8**
KCP				*i* S	**S**	**15 47 06.8**	**+1.4**
TBP	**Tagbilaran**	**2.90**	**279**	*e*P	**P**	**15 46 35.2**	**0.0**
TBP				*e*S	**S**	**15 47 07.2**	**-1.8**
LLP	**Lapu-Lapu**	**2.96**	**292**	*e*P	**P**	**15 46 36.1**	**0.0**
DCPH	**Dipolog City**	**3.43**	**259**	*e*P	**P**	**15 46 42.6**	**0.0**
DCPH				*e*S	**S**	**15 47 20.6**	**-1.7**
SNPH	**Sibulan**	**3.49**	**272**	*e*P	**P**	**15 46 45.0**	**+1.7**
PAGZ	**Pagadian**	**3.62**	**248**	*e*P	**P**	**15 46 46.2**	**+1.0**
CNP	**Catarman**	**3.86**	**328**	*e*P	**P**	**15 46 48.8**	**+0.2**
CNP				*e*S	**S**	**15 47 30.8**	**-2.2**
GUIM	**Jordan**	**4.34**	**289**	*e*P	**P**	**15 46 55.8**	**+0.4**
PVCP	**Virac**	**5.04**	**330**	*e*P	**P**	**15 47 06.2**	**+1.2**
WRA	**Warramunga Arr**	**29.93**	**166**	P	**P**	**15 51 52.9**	**-1.9**
	0.4nm,0.6s,mb3.4,baz=346,slow=9.2,SNR=4.0						
ASAR	**Alice Springs**	**33.43**	**168**	P	**P**	**15 52 25.9**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=347,slow=7.0,SNR=7.2						
SONM	**Songino Array**	**42.16**	**340**	P	**P**	**15 53 38.6**	**+0.5**
	0.2nm,0.4s,mb3.1,baz=132,slow=7.5,SNR=4.6						

*TAP **12** 15:50:53.6, 23.83N×121.96E, h29^{km}, ML2.6*

JMA 12 15:51:15.3±0.2**, 24.15N**×**123.56E, h17**^{km}±2^{km}**, M2.0, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.24**	**40**	P	Pb	15 51 20.7	-0.2
IRIF				*e*S	Sb	15 51 24.6	0.0
HATJ	**Hateruma jima**	**0.24**	**112**	P	Pb	15 51 20.7	-0.2
HATJ				S	Sb	15 51 24.6	0.0
JKRS	**Kuro-shima**	**0.42**	**78**	P	Pb	15 51 23.8	-0.1
JKRS				S	Sb	15 51 29.8	+0.1
JIJ	**Ishigaki jima**	**0.57**	**68**	P	Pb	15 51 26.2	-0.3
JIJ				*e*S	Sb	15 51 33.4	-0.7
JTJ	**Tarama**	**1.15**	**65**	P	Pb	15 51 36.4	+0.1
JTJ				*e*S	Sb	15 51 51.8	+1.0

*IDC **12** 15:58:32.8±5.4, 16.23S×174.26W, h83^{km}±46^{km}, mb4.0/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.3/9, Error ellipse: s-maj=33.9km s-min=13.2km az=133.0*

*NEIC **12** 15:58:36.7±1.3, 16.22S×174.37W, h121^{km}±12^{km}, mb4.0/6, Error ellipse: s-maj=20.6km s-min=8.5km az=146.0*

ISC 12 15:58:33.6±1.5**, 16.0S**±0.1×**174.5W**±0.1**, h104**^{km}±14^{km}**, n22,** σ1^{s}**02**/24**, mb4.2**/14**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.38**	**52**	*e*Pn	**P**	**15 59 28.3**	**+2.7**
AFI				*e*Sn	**S**	**16 00 03.4**	**-1.6**
NOUC	**Port Laguerre**	**19.11**	**249**	*e*P	**P**	**16 02 57.0**	**+6.1**
URZ	**Urewera**	**23.34**	**197**	P	**P**	**16 03 32.6**	**-0.7**
	8.6nm,0.8s,mb4.1,baz=309,slow=4.6,SNR=8.1						
URZ				S	**S**	**16 07 39.3**	**+4.5**
	4.0nm,0.6s,baz=90,slow=20,SNR=4.8						
CTAO	**Charters Tower**	**37.47**	**258**	P	**P**	**16 05 38.9**	**0.0**
	11nm,1.0s,mb4.8						
PMG	**Port Moresby**	**37.93**	**275**	P	**P**	**16 05 46.1**	**+3.4**
	13nm,0.9s,mb4.8,baz=128,slow=3.9,SNR=5.0						
STKA	**Stephens Creek**	**42.80**	**240**	P	**P**	**16 06 23.6**	**+0.8**
	11nm,0.9s,mb4.6,baz=89,slow=9.8,SNR=18						
STKA	**Stephens Creek**	**42.80**	**240**	*e*P	**P**	**16 06 23.2**	**+0.4**
WB2	**Warramunga Arr**	**48.66**	**257**	*e*P	**P**	**16 07 09.6**	**+0.3**
WRAB	**Tennant Creek**	**48.66**	**257**	*e*P	**P**	**16 07 07.6**	**-1.7**
	4.9nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**48.67**	**257**	P	**P**	**16 07 09.5**	**+0.1**
	2.1nm,0.6s,mb4.2,baz=91,slow=7.2,SNR=24						
WRA				PcP	PcP	16 08 33.3	-0.2
	0.8nm,0.5s,baz=95,slow=3.2,SNR=5.5						
ASAR	**Alice Springs**	**48.91**	**252**	P	**P**	**16 07 11.3**	**+0.1**
	7.7nm,0.7s,mb4.8,baz=88,slow=7.6,SNR=113						
ASAR				PcP	PcP	16 08 34.4	0.0
	1.0nm,0.7s,baz=95,slow=4.4,SNR=5.2						
ASPA	**Alice Springs**	**48.91**	**252**	*e*P	**P**	**16 07 11.4**	**+0.2**
GUMO	**Guam**	**49.79**	**304**	P	**P**	**16 07 15.5**	**-2.6**
	208nm,1.4s						
QSPA	**South Pole Qui**	**74.01**	**180**	P	**P**	**16 09 59.0**	**-0.2**
NVAR	**Mina Array Bea**	**75.51**	**42**	P	**P**	**16 10 08.9**	**+0.5**
	1.4nm,0.7s,mb3.8,baz=231,slow=11,SNR=14						
PV10	**Paradox Valley**	**81.71**	**46**	*e*P	**P**	**16 10 41.4**	**-0.8**
TXAR	**Lajitas Array**	**81.84**	**56**	P	**P**	**16 10 43.3**	**+0.2**
	0.5nm,0.6s,mb3.5,baz=217,slow=6.3,SNR=6.2						
MCK	**McKinley**	**81.94**	**11**	*e*P	**P**	**16 10 43.1**	**+0.2**
	1.5nm,0.7s,mb3.9						
ANMO	**Albuquerque**	**82.02**	**50**	P	**P**	**16 10 43.6**	**-0.3**
	3.4nm,1.2s,mb4.0						
ILAR	**Eielson Array**	**83.27**	**12**	P	**P**	**16 10 50.3**	**+0.7**
	0.4nm,0.5s,mb3.5,baz=230,slow=5.7,SNR=8.9						
PDAR	**Pinedale Array**	**83.44**	**42**	P	**P**	**16 10 51.1**	**+0.2**
	1.6nm,0.5s,mb4.1,baz=214,slow=3.1,SNR=17						
SDCO	**Great Sand Dun**	**83.92**	**48**	P	**P**	**16 10 54.0**	**+0.5**
	1.9nm,1.0s,mb3.9						

IDC 12 16:01:43.9±19.0**, 18.95S**×**177.83W, h519**^{km}±243^{km}**, mb2.9**/4**, mb1 3.1**/5**, mb1mx2.9**/17**, mbtmp3.8**/5**, Error ellipse: s-maj=96.2km s-min=31.4km az=21.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.74**	**192**	P	P	16 05 38.9	-0.9
	0.4nm,0.3s,baz=334,slow=18,SNR=3.8						
CTA	**Charters Tower**	**33.83**	**262**	P	P	16 07 42.9	-1.2
	2.2nm,0.8s,baz=125,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**44.99**	**260**	P	P	16 09 12.4	-1.9
	0.2nm,0.3s,baz=97,slow=7.5,SNR=5.2						
ASAR	**Alice Springs**	**45.05**	**255**	P	P	16 09 13.9	-0.7
	1.8nm,0.5s,baz=89,slow=8.8,SNR=4.9						
ILAR	**Eielson Array**	**86.77**	**13**	P	P	16 13 32.2	-0.9
	0.2nm,0.5s,baz=220,slow=5.1,SNR=8.0						

MAN 12 16:04:02, 13.76N×**120.50E, h82**^{km}**, mb3.8, ML2.5, MS2.1, 4C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.25**	**264**	⇑*i*P	P	16 04 16.6	+2.3
LUBP	**Lubang**	**0.25**	**264**	*e*P	P	16 04 16.6	+2.2
LUBP				*e*S	S	16 04 27.2	+3.6
TGY	**Tagaytay City**	**0.54**	**51**	⇑*i*P	P	16 04 18.4	+1.9
TGY				*i* S	S	16 04 30.8	+3.6
LBPH	**Los Banos**	**0.76**	**59**	⇓*e*P	P	16 04 26.1	+7.4
NBP	**Mount Natib**	**0.98**	**355**	⇑*e*P	P	16 04 21.6	+0.4
ARP	**Angono**	**1.00**	**39**	⇑*i*P	P	16 04 21.1	-0.2
BOAC	**Boac**	**1.34**	**103**	*e*P	P	16 04 25.9	+0.1
BOAC				*e*S	S	16 04 44.3	+0.9
SJMP	**San Jose**	**1.42**	**155**	*e*P	P	16 04 27.3	+0.4
SJMP				*e*S	S	16 04 46.2	+0.8
POLP	**Polilio Island**	**1.69**	**55**	*e*P	P	16 04 31.2	+0.8
ENPP	**El Nido**	**2.75**	**203**	*e*P	P	16 04 44.7	-0.2
CUYO	**Cuyo Island**	**2.94**	**170**	*e*P	P	16 04 46.3	-1.3

*IDC **12** 16:09:00.1±1.6, 10.74N×91.95E, mb3.9/5, mb1 4.0/6, mb1mx3.7/17, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=54.0km s-min=22.7km az=67.0*

*NEIC **12** 16:09:05.0±0.8, 10.71N×92.06E, h30^{km}, mb4.5/3, Error ellipse: s-maj=22.1km s-min=9.3km az=74.0*

ISC 12 16:09:05.0±4.5**, 10.8N**±0.2×**92.2E**±0.2**, h42**^{km}±41^{km}**, n20,** σ0^{s}**58**/20**, mb4.1**/7**, 1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.02**	**40**	Pn	**P**	**16 11 29.1**	**-0.4**
	0.1nm,0.3s,baz=233,slow=15,SNR=6.7						
JIRN	**Jiri**	**17.73**	**342**	*e*P	**P**	**16 13 10.5**	**+0.1**
	10nm,0.3s						
PKI	**Pulchoki**	**17.89**	**340**	*e*P	**P**	**16 13 12.2**	**-0.3**
	7.7nm,0.3s						
DMN	**Daman**	**18.03**	**339**	*e*P	**P**	**16 13 14.2**	**0.0**
	20nm,0.5s						
KKN	**Kakani**	**18.14**	**340**	*e*P	**P**	**16 13 15.1**	**-0.5**
GKN	**Gorkha**	**18.56**	**338**	*e*P	**P**	**16 13 20.3**	**-0.5**
	13nm,0.3s						
KOLN	**Koldanda**	**18.75**	**336**	*e*P	**P**	**16 13 24.7**	**+1.7**
	9.3nm,0.4s						
LSA	**Lhasa**	**18.85**	**357**	*e*P	**P**	**16 13 25.0**	**+0.7**
	5.7nm,0.6s						
KSM	**Kuching**	**20.20**	**116**	*e*P	**P**	**16 13 33.4**	**-5.8**
SONM	**Songino Array**	**38.81**	**15**	P	**P**	**16 16 27.5**	**0.0**
	0.2nm,0.5s,mb3.1,baz=211,slow=8.5,SNR=3.7						
FITZ	**Fitzroy Crossi**	**43.72**	**131**	*e*P	**P**	**16 17 08.3**	**0.0**
	5.9nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**51.48**	**126**	P	**P**	**16 18 08.8**	**0.0**
	3.5nm,0.5s,mb4.5,baz=301,slow=10.0,SNR=86						
WRAB	**Tennant Creek**	**51.49**	**126**	*e*P	**P**	**16 18 08.8**	**-0.1**
	9.7nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**51.49**	**126**	⇑*i*P	**P**	**16 18 08.9**	**0.0**
ASAR	**Alice Springs**	**53.22**	**130**	P	**P**	**16 18 21.8**	**0.0**
	1.1nm,0.5s,mb4.1,baz=306,slow=7.0,SNR=63						
PMG	**Port Moresby**	**58.20**	**108**	*e*P	**P**	**16 18 58.2**	**+0.4**
STKA	**Stephens Creek**	**63.47**	**134**	P	**P**	**16 19 34.1**	**+0.8**
	0.9nm,0.7s,mb4.0,baz=297,slow=6.8,SNR=3.2						
STKA	**Stephens Creek**	**63.47**	**134**	P	**P**	**16 19 33.0**	**-0.3**
FINES	**FINESS Array B**	**69.28**	**332**	P	**P**	**16 20 08.5**	**-1.2**
	0.7nm,0.8s,mb3.6,baz=101,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**69.28**	**332**	P	**P**	**16 20 08.5**	**-1.2**

WEL 12 16:30:51.5±0.5**, 35.77S**×**178.38E, h214**^{km}±6^{km}**, ML3.6**/13**, Error ellipse: s-maj=12.2km s-min=7.4km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.79**	**182**	PN	P	16 31 29.3	-0.1
MXZ				SN	S	16 31 57.9	-0.6
PUZ	**Puketiti**	**2.30**	**182**	PN	P	16 31 34.2	-0.3
PUZ				SN	S	16 32 07.3	-0.4
MWZ	**Matawai**	**2.65**	**195**	PN	P	16 31 38.6	+0.3
MWZ				SN	S	16 32 14.8	+0.2
URZ	**Urewera**	**2.68**	**202**	PN	P	16 31 38.4	-0.3
KNZ	**Kokohu**	**3.29**	**190**	PN	P	16 31 45.0	-0.7
BKZ	**Black Stump Fm**	**3.71**	**203**	PN	P	16 31 50.3	-0.5
PWZ	**Pawanui**	**4.42**	**195**	PN	P	16 31 58.0	-1.6
PWZ				SN	S	16 32 51.9	-0.5
TSZ	**Takapari Road**	**4.69**	**203**	PN	P	16 32 01.2	-1.8

MEX 12 16:40:15.6±0.7**, 19.28N**×**95.83W, h16**^{km}±12^{km}**, MD3.8, Veracruz**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**0.71**	**309**	*i* P	Pb	16 40 26.9	-2.2
LVIG				*i* S	Sb	16 40 35.4	-3.0
EVV	**El Vigia**	**0.94**	**151**	*e*P	Pb	16 40 31.0	-1.9
EVV				*e*S	Sb	16 40 40.5	-4.4
OXX	**Oaxaca**	**2.34**	**201**	*e*P	Pn	16 40 50.5	-3.7
OXX				*e*S	Sn	16 41 17.0	-5.8
CMIG	**Matias Romero**	**2.35**	**157**	*i* P	Pn	16 40 51.4	-2.9
CMIG				*i* S	Sn	16 41 16.7	-6.3
PPM	**Popocatepetl**	**2.65**	**266**	*i* S	Sn	16 41 25.9	-4.7

OTT 12 16:59:01.5±0.3**, 52.76N**×**67.35W, MN2.8**/7**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.10**	**8**	PN	Pn	16 59 37.8	-0.6
SCHQ				SN	Sn	17 00 04.7	-0.9
SCHQ				Trac		17 00 08.6	
	comp=Z,30nm,0.2s						
MNQ	**Manicouagan**	**2.40**	**202**	PN	Pn	16 59 42.2	-0.4
MNQ				Trac		17 00 17.2	
	comp=Z,19nm,0.2s						
SMQ	**Clarke City**	**2.57**	**171**	PN	Pn	16 59 43.1	-2.0
SMQ				Trac		17 00 22.0	
	comp=Z,12nm,0.2s						
ICQ	**Pointe Anglais**	**3.24**	**179**	PN	Pn	16 59 52.9	-1.7
ICQ				SN	Sn	17 00 30.8	-3.8
ICQ				Trac		17 00 41.6	
	comp=Z,11nm,0.2s						
CNQ	**Baie Comeau**	**3.49**	**188**	PN	Pn	16 59 57.2	-1.0
CNQ				SN	Sn	17 00 38.0	-2.9
CNQ				Trac		17 00 57.4	
	comp=Z,7.9nm,0.2s						
GSQ	**Grosses Roches**	**3.86**	**178**	PN	Pn	17 00 01.7	-1.6
GSQ				Trac		17 00 51.2	
	comp=Z,9.2nm,0.3s						
LG4Q	**La Grande 4**	**4.15**	**285**	PN	Pn	17 00 05.0	-2.5
LG4Q				SN	Sn	17 00 53.1	-4.4
LG4Q				SG	Sg	17 01 06.7	-13
LG4Q				Trac		17 01 09.6	
	comp=Z,3.0nm,0.2s						
LMQ	**La Malbaie**	**5.56**	**201**	PN	Pn	17 00 23.9	-3.5
DRLN	**Deer Lake**	**7.13**	**116**	PN	Pn	17 00 44.2	-5.5
VLDQ	**Val d'Or**	**7.95**	**238**	PN	Pn	17 00 58.0	-3.1
VIMO	**Victor Mine**	**9.94**	**277**	PN	P	17 01 22.8	-5.7
SILO	**Sutton Inlier**	**10.57**	**286**	PN	P	17 01 31.2	-6.0

*IDC **12** 17:05:22.8±0.8, 41.53N×72.46E, h19^{km}±4^{km}, mb4.3/25, mb1 4.5/27, mb1mx4.5/28, mbtmp4.4/27, ML3.9/2, MS4.0/13, Ms1 4.0/13, ms1mx3.9/22, Error ellipse: s-maj=12.4km s-min=11.8km az=64.0*

*MOS **12** 17:05:23.1±1.0, 41.66N×72.45E, h29^{km}, mb4.9/64, MS4.2/15, Error ellipse: s-maj=6.8km s-min=4.6km az=128.7*

MOS Felt (II) at Chimkent, Taraz.

*NNC **12** 17:05:23.0±5.5, 41.86N×72.31E, h8^{km}±7^{km}, mpv5.4, Error ellipse: s-maj=50.7km s-min=20.3km az=55.0*

*BJI **12** 17:05:23.1, 41.78N×72.42E, h26^{km}, mB5.1, mb4.6, ML5.1, Ms4.6, Msz4.2*

*NEIC **12** 17:05:23.6±1.8, 41.62N×72.47E, h22^{km}±12^{km}, mb4.8/68, MS4.1/4, Error ellipse: s-maj=5.9km s-min=3.4km az=189.0*

NEIC Felt [II] at Shymkent and Taraz, Kazakhstan.

*KNET **12** 17:05:23.6±0.5, 41.67N×72.59E, h8^{km}±2^{km}, ml4.9, Error ellipse: s-maj=4.5km s-min=2.5km az=147.0*

ISC 12 17:05:21.7±0.1**, 41.55N**±0.02×**72.37E**±0.02**, h20**^{km}**, h20**^{km}±.7^{km}**:pP-P, n285,** σ1^{s}**15**/312**, mb4.7**/98**, MS4.1**/30**, 73C-15D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.15**	**59**	⇑P	**Pb**	**17 05 42.2**	**-0.5**
	3μm,0.3s,SNR=9262						
AML				⇑S	**Sb**	**17 05 56.4**	**-0.7**
	8μm,0.2s						
EKS2	**Erkin-Say**	**1.52**	**43**	P	**Pn**	**17 05 49.0**	**+0.8**
	2μm,0.5s,SNR=3615						
EKS2				⇑S	**Sn**	**17 06 08.1**	**+0.4**
	2μm,0.3s						
UCH	**Uchtor**	**1.73**	**66**	P	**Pn**	**17 05 52.9**	**+1.6**
	2μm,0.4s,SNR=2376						
UCH				⇑S	**Sn**	**17 06 15.5**	**+2.5**
	4μm,0.3s						
AAK	**Ala-Archa**	**1.91**	**55**	*e*PN	**Pn**	**17 05 54.5**	**+0.7**
FRU	**Bishkek**	**2.10**	**52**	⇓*i*PN	**Pn**	**17 05 59.0**	**+2.5**
FRU				*i*		17 06 26.0	
FRU				pmax	pmax		
	comp=Z,7μm,2.0s						
FRU				smax			
	comp=E,36μm,2.0s						
KBK	**Karagaybulak**	**2.21**	**59**	⇑P	**Pn**	**17 06 01.3**	**+3.2**
	comp=E,7μm,0.4s,SNR=4762						
KBK				⇑S	**Sn**	**17 06 30.0**	**+4.9**
	comp=E,11μm,0.4s						
KZA	**Kyzart**	**2.21**	**75**	⇑P	**Pn**	**17 06 01.1**	**+3.0**
	comp=E,3μm,0.3s,SNR=4558						
KZA				⇓S	**Sn**	**17 06 29.8**	**+4.7**
	comp=E,10μm,0.6s						
CHMS	**Chumysh**	**2.28**	**50**	⇓P	**Pn**	**17 06 01.9**	**+2.8**
	comp=E,6μm,0.5s,SNR=1247						
CHMS				⇓S	**Sn**	**17 06 30.8**	**+3.9**
	comp=E,9μm,0.4s						
USP	**Ospenovka**	**2.33**	**42**	⇑P	**Pn**	**17 06 02.2**	**+2.5**
	comp=E,2μm,0.4s,SNR=2957						
USP				⇓S	**Sn**	**17 06 32.7**	**+4.7**
	comp=E,7μm,0.4s						
TKM2	**Tokmak 2**	**2.76**	**59**	⇓P	**Pn**	**17 06 08.4**	**+2.5**
	comp=E,2μm,0.4s,SNR=4645						
ULHL	**Ulahol**	**2.97**	**75**	⇑P	**Pn**	**17 06 11.4**	**+2.5**
	comp=E,470nm,0.3s,SNR=98						
KSH	**Kashi**	**3.41**	**125**	⇑*i*P	**Pn**	**17 06 19.0**	**+3.8**
KSH				S	**Sn**	**17 06 55.5**	**-0.1**
KSH				Smax			
	comp=N,3μm,1.1s						
KSH				Smax			
	comp=E,3μm,1.0s						
AAA	**Alma-Ata**	**3.80**	**62**	*i* PN	**Pn**	**17 06 27.0**	**+6.4**
AAA				*e*		17 07 16.0	
AAA				pmax	pmax		
	comp=Z,2μm,2.5s						
AAA				smax			
	comp=N,10μm,2.0s						
AAA				smax			
	comp=E,8μm,2.0s						
AAA				MLR	MLR		
	comp=N,8μm,8.0s						
AAA				MLR	MLR		
	comp=E,10μm,8.0s						
AAA				MLR	MLR		
	comp=Z,10μm,8.0s						
CEP	**Cherat**	**7.72**	**183**	P	**Pn**	**17 07 18.9**	**+2.9**
CEP				S	**Sn**	**17 08 45.0**	**+1.2**
CHCP	**Chirah Chowk**	**7.91**	**175**	P	**Pn**	**17 07 20.8**	**+2.2**
THW	**Thamme Wali**	**8.76**	**183**	P	**P**	**17 07 31.2**	**+0.8**
MK31	**Makanchi Array**	**8.84**	**50**	Pn	**P**	**17 07 31.3**	**-0.3**
	comp=Z,80nm,0.5s,baz=232,slow=12,SNR=1931						
MK31				⇓Lg		17 09 58.0	
	comp=Z,110nm,0.6s,baz=229,slow=12,SNR=23						

MKAR Makanchi Array 8.84 50 *i* P **P 17 07 31.2 -0.4**
MKAR pmax pmax
comp=Z,91nm,0.5s
SBDP Sheikh Budin 9.32 188 P **P 17 07 38.0 -0.1**
DLH Dalhousie 9.44 161 *e* **P 17 07 42.0 +2.2**
DLH *e* 17 09 22.0
THN Thein Dam 9.48 163 *e*P **P 17 07 40.6 +0.2**
comp=Z,40nm,0.4s
THN *e* 17 09 24.1
SARP Sargodha 9.61 178 P **P 17 07 41.5 -0.7**
DRP Derazinda 9.94 191 P **P 17 07 48.0 +1.3**
PONG Pong 10.00 162 *e*P **P 17 07 47.0 -0.5**
PONG *e* 17 09 38.0
KURK Kurchatov 10.13 23 ⇓Pn **P 17 07 45.9 -3.4**
comp=Z,18nm,1.1s
KURK ⇑Lg 17 10 39.2
comp=Z,266nm,0.9s
KURK Kurchatov 10.13 23 Pn **P 17 07 46.3 -3.0**
comp=Z,179nm,1.0s,SNR=18
KURK Kurchatov 10.13 23 ⇑*i*P **P 17 07 45.8 -3.5**
KURK pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 10.13 23 *e*P **P 17 07 45.6 -3.7**
comp=Z,20nm,0.6s
BHK Bhakra 10.62 161 *e* **P 17 08 08.9 +13**
BHK *e* 17 10 04.3
SDNR Sundarnagar 10.69 158 *e*P **P 17 07 55.4 -1.5**
SDNR *e* 17 09 51.4
SMLA Simla 11.09 158 ⇑*i*P **P 17 07 59.3 -3.2**
WMQ Urumqi 11.51 74 *e*P **P 17 08 07.0 -1.0**
WMQ PP PP 17 08 15.5 -1.4
WMQ *e*S **S 17 10 11.0 -6.0**
WMQ AMB AMB
comp=Z,11nm,0.8s
WMQ AMB AMB
comp=Z,150nm,4.6s
WMQ LR LR
comp=N,1μm,7.6s
WMQ LR LR
comp=E,1μm,8.2s
WMQ LR LR
comp=Z,887nm,16.2s
BVA0 Borovoye Array 11.56 354 ⇑Pn **P 17 08 05.6 -3.1**
comp=Z,5.6nm,0.7s
BVA0 ⇑Sn **S 17 10 10.4 -7.8**
comp=Z,8.9nm,1.0s
BVA0 ⇓Lg 17 11 19.9
comp=Z,34nm,1.1s,baz=161,slow=22,SNR=4.7
BVAR Borovoye Array 11.56 354 Pn **P 17 08 05.3 -3.4**
comp=Z,2.0nm,0.3s,baz=158,slow=12,SNR=36
BVAR Sn **S 17 10 09.9 -8.4**
comp=Z,9.2nm,0.3s,baz=166,slow=24,SNR=6.0
BVAR Lg 17 11 25.1
comp=Z,8.1nm,0.3s,baz=177,slow=30,SNR=5.4
DDI Dehra Dun 12.11 156 *e*P **P 17 08 12.9 -3.3**
DDI *e* 17 10 29.5
CHKZ Chkalovo 12.19 355 ⇓Pn **P 17 08 13.8 -3.4**
comp=Z,13nm,0.6s
CHKZ ⇑Sn **S 17 10 19.6 -14**
comp=Z,48nm,1.1s
CHKZ ⇑Lg 17 11 41.3
comp=Z,150nm,1.0s
CHKZ Chkalovo 12.19 355 *e*P **P 17 08 12.9 -4.3**
CHKZ *e*S S 17 10 11.9 -22
NDI New Delhi 13.43 161 *e*P **P 17 08 30.5 -3.3**
comp=Z,57nm,0.5s
NDI *e*S **S 17 10 46.0 -18**
AYAN Aya Nagar 13.60 162 *e*P **P 17 08 34.3 -1.8**
AYAN *e* 17 10 50.4
AYAN *e* 17 11 25.8
comp=Z,19nm,1.0s
LGTI Lohaghat 13.66 150 ⇓*i*P **P 17 08 35.0 -1.9**
LGTI *e* 17 11 02.0
KHET Khetri 13.74 167 *e*P **P 17 08 34.6 -3.2**
KHET *e* 17 10 51.6
KHET *e* 17 11 06.4
comp=E,17nm,0.3s
KUDL Kundal 13.79 165 *e*P **P 17 08 35.0 -3.6**
KUDL *e* 17 11 02.0
KUDL *e* 17 11 25.2
comp=Z,23nm,0.8s
SONA Sohna 13.82 162 *e*P **P 17 08 36.2 -2.7**
SONA *e* 17 10 54.4
SONA *e* 17 11 09.2
comp=E,65nm,0.5s
SONA *e* 17 11 10.2
comp=N,28nm,0.5s
ZAL Zalesovo 14.92 30 Pn **P 17 08 51.2 -1.9**
comp=N,0.8nm,0.3s,baz=249,slow=9.8,SNR=9.1
ZAL Sn **S 17 11 34.0 -4.6**
comp=N,1.9nm,0.3s,baz=207,slow=16,SNR=2.9
ZAL Lg 17 13 09.9
comp=N,2.0nm,0.3s,baz=17,slow=17,SNR=2.3
ZAL LR LR 17 15 32.0
comp=N,495nm,20.7s,baz=252,slow=41
NVS Novosibirsk 15.12 25 *e*P **P 17 08 55.7 0.0**
AJM Ajmer 15.15 172 *e*P **P 17 08 53.9 -2.5**
AJM *e* 17 11 35.0
KOLN Koldanda 16.54 143 *e*P **P 17 09 10.3 -3.9**
comp=N,67nm,0.5s
KOLN *e*S **S 17 12 04.4 -12**
GKN Gorkha 16.83 140 *e*P **P 17 09 14.0 -3.9**
comp=N,121nm,0.4s
KKN Kakani 17.33 138 *e*P **P 17 09 20.3 -3.8**
comp=N,59nm,0.5s
DMN Daman 17.39 139 *e*P **P 17 09 21.3 -3.6**
comp=N,50nm,0.5s
PKI Pulchoki 17.57 138 *e*P **P 17 09 23.4 -3.8**
comp=N,62nm,0.6s
JIRN Jiri 17.89 136 *e*P **P 17 09 28.6 -2.6**
comp=N,60nm,0.4s
BHPL Bhopal 18.74 165 *e*P **P 17 09 41.0 -0.7**
BHPL *e* 17 09 42.4
comp=Z,19nm,0.5s
BHPL *e* 17 12 58.6
LSA Lhasa 19.26 122 *e*P **P 17 09 50.5 +2.7**
LSA pmax pmax
comp=Z,52nm,1.4s
LSA Lhasa 19.26 122 *e*P **P 17 09 50.5 +2.7**
comp=Z,52nm,1.4s
BANOM Banah 20.48 225 P **P 17 10 01.1 0.0**
SNR=31
TI2 Plekhanov 20.62 280 *e*P **P 17 10 10.0 +7.7**
GNI Garni 20.92 275 *e*P **P 17 10 06.5 +1.0**
GNI pmax pmax
comp=Z,43nm,0.9s
GNI Garni 20.92 275 P **P 17 10 06.6 +1.2**
comp=Z,9.8nm,0.8s,baz=295,slow=3.7,SNR=5.5
GNI LR LR 17 20 03.6
comp=Z,72nm,18.2s,MS3.1,baz=162,slow=42
GNI Garni 20.92 275 *e*P **P 17 10 06.5 +1.0**
comp=Z,43nm,0.9s
GTA Gaotai 20.95 87 *e*P **P 17 10 06.2 +0.4**
GTA AP 17 10 11.2
GTA XP 17 10 14.9
GTA PP PP 17 10 30.0 +1.4
GTA S **S 17 14 00.6 +7.0**
GTA XS 17 14 09.0
GTA AMB AMB
comp=Z,11nm,1.0s
GTA AMB AMB
comp=Z,231nm,4.9s
GTA LR LR
comp=N,362nm,13.3s,MS4.0
GTA LR LR
comp=E,328nm,14.1s,MS4.0
GTA LR LR
comp=Z,789nm,16.3s,MS4.2
ZEI Tsey 21.11 283 *e*P **P 17 10 08.3 +0.9**
ZEI *i**PP 17 10 21.7
ZEI *e*S rx 17 14 51.5
ZEI pmax pmax
comp=Z,4.0nm,1.0s,mb3.7
ONI Oni 21.46 282 P **P 17 10 10.7 -0.2**
BIDO Bidbid 21.57 218 P **P 17 10 13.4 +1.2**
SNR=6.2
GOF Gofitskoye 21.58 289 *e*P **P 17 10 19.7 +7.6**
GOF *i*S **S 17 14 14.7 +9.3**
GOF pmax pmax
comp=Z,60nm,1.1s,mb4.9
GOF smax
comp=N,230nm,2.3s
GOF MLR MLR
comp=Z,2μm,16.0s,MS4.5
ASHO Ashiyiah 21.61 224 P **P 17 10 13.5 +0.9**
SNR=58
KIV Kislovodsk 21.88 286 *e*P **P 17 10 15.1 0.0**
KIV *e*S **S 17 14 02.5 -8.4**
KIV pmax pmax
comp=Z,37nm,0.7s,mb4.9
KIV Kislovodsk 21.88 286 *e*P **P 17 10 15.1 -0.1**
comp=Z,37nm,0.7s,mb4.9
KIV *e*S **S 17 14 02.5 -8.4**
MOY Mondy 21.98 53 *e*P **P 17 10 17.2 +1.1**
MOY pmax pmax
comp=Z,41nm,1.7s,mb4.6
WBK Wadi Bani Khal 21.99 215 P **P 17 10 18.1 +1.7**
SNR=33
ARQ Araqi 22.49 221 P **P 17 10 22.8 +1.4**
SNR=8.0
JMDO Jabal Madar 22.58 216 P **P 17 10 24.0 +1.8**
SNR=18
SHL Shillong 22.69 129 *e*P **P 17 10 25.0 +1.7**
ZAK Zakamensk 23.09 57 *e*P **P 17 10 28.1 +1.2**
ZAK pmax pmax
comp=Z,17nm,1.3s,mb4.3
TLY Talaya 23.58 54 *e*P **P 17 10 33.8 +2.1**
TLY *e* 17 11 05.2
TLY pmax pmax
comp=Z,26nm,1.8s,mb4.4
TLY MLR MLR
comp=Z,674nm,23.0s,MS4.0
TLY Talaya 23.58 54 *e*P **P 17 10 34.2 +2.6**
comp=Z,13nm,1.1s,mb4.3
SOC Sochi 24.05 286 *e*P **P 17 10 36.8 +0.4**
SOC *e* 17 11 05.6
SOC *e* 17 14 20.5
SOC *e*S **S 17 14 51.5 +1.9**
SOC *e*SS SS 17 15 39.0 -2.4
SOC pmax pmax
comp=Z,14nm,0.9s,mb4.4
SOC pmax pmax
comp=N,3.0nm,0.5s
SOC pmax pmax
comp=E,16nm,1.0s
SOC MLR MLR
comp=Z,394nm,12.0s,MS4.1
SOC MLR MLR
comp=N,314nm,13.0s,MS4.1
SOC MLR MLR
comp=E,201nm,12.0s,MS4.1
IRK Irkutsk 24.09 53 *e*P **P 17 10 36.0 -0.6**
IRK *e* 17 11 20.7
HYB Hyderabad 24.63 166 ⇑*e*P **P 17 10 43.0 +0.7**
HYB Hyderabad 24.63 166 ⇑*i*P **P 17 10 43.0 +0.7**
SONM Songino Array 24.85 64 P **P 17 10 44.7 +0.6**
comp=E,2.8nm,0.9s,mb3.8,baz=273,slow=9.9,SNR=27
SONM Lg 17 18 23.4
comp=E,0.9nm,1.1s,baz=273,slow=29,SNR=2.5
LZH Lanzhou 25.04 92 *e*P **P 17 10 47.0 +1.0**
LZH AP pP 17 10 53.0 +1.3
LZH XP sP 17 10 57.0 +2.7
LZH AMB AMB
comp=Z,27nm,1.4s,mb4.6
LZH AMB AMB
comp=Z,210nm,5.8s
LZH LR LR
comp=N,970nm,12.6s
LZH LR LR
comp=Z,1μm,13.7s,MS4.6
LZH Lanzhou 25.04 92 *e*P **P 17 10 47.0 +1.0**
comp=Z,27nm,1.4s,mb4.6
LZH pP pP 17 10 53.0 +1.3
LZH sP sP 17 10 57.0 +2.7
LZH PP PP 17 11 03.9 -20
LZH LR LR
comp=Z,1μm,13.7s,MS4.6
ULN Ulaanbaatar 25.29 64 *e*P **P 17 10 48.6 +0.4**
ULN pmax pmax
comp=Z,35nm,1.2s,mb4.8
ULN Ulaanbaatar 25.29 64 *e*P **P 17 10 48.6 +0.3**
comp=Z,35nm,1.2s,mb4.8
MALT Malatya 26.13 274 *e*P **P 17 10 57.1 +0.9**
MALT pmax pmax
comp=Z,29nm,1.2s,mb4.7
MALT Malatya 26.13 274 *e*P **P 17 10 57.1 +0.9**
comp=Z,29nm,1.2s,mb4.7
OBN Obninsk 27.05 312 ⇑*e*P **P 17 11 04.8 +0.3**
OBN *e* 17 11 45.0
OBN *e* 17 14 25.3
OBN *e*S **S 17 15 36.3 -3.2**
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.4
OBN MLR MLR
comp=Z,300nm,12.0s,MS4.1
OBN Obninsk 27.05 312 P **P 17 11 04.4 -0.1**
comp=Z,24nm,1.4s,mb4.5
WHFO Wadi Hawf 28.44 220 P **P 17 11 17.5 +0.1**
SNR=24
RBK Rabkut 28.59 218 P **P 17 11 18.9 +0.2**
SNR=11
ABTO Aybut 29.15 220 P **P 17 11 24.0 +0.2**
SNR=12
HHC Hu-ho-hao-te 29.33 78 *e*P **P 17 11 25.8 +0.6**
HHC XP sP 17 11 35.7 +2.2
HHC PP PP 17 12 22.2 +1.7
HHC PCP PcP 17 14 32.5 +0.8
HHC S **S 17 16 15.9 -0.2**
HHC XS 17 16 30.8
HHC SS SS 17 17 50.0 +2.1
HHC SCS ScS 17 22 03.3 -0.7
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,120nm,7.7s
HHC LR LR
comp=N,328nm,18.4s,MS4.2
HHC LR LR
comp=E,376nm,16.7s,MS4.2
HHC LR LR
comp=Z,357nm,19.6s,MS4.0
KMI Kunming 30.00 114 P **P 17 11 30.7 -0.7**
KMI AP pP 17 11 38.4 +1.3
KMI S **S 17 16 27.7 +0.7**
KMI XS 17 16 39.1
KMI AMB AMB
comp=Z,9.0nm,1.1s,mb4.4
KMI LR LR
comp=N,395nm,11.0s,MS4.3
KMI LR LR
comp=E,302nm,15.4s,MS4.3
KMI LR LR
comp=Z,320nm,14.3s,MS4.1
KMI Kunming 30.00 114 P **P 17 11 30.7 -0.7**
comp=Z,9.0nm,1.1s,mb4.4
KMI pP pP 17 11 38.4 +1.3
KMI S **S 17 16 27.7 +0.7**
KMI sS 17 16 39.1
KMI LR LR
comp=Z,320nm,14.3s,MS4.1
BOD Bodaibo 30.86 44 *e*P **P 17 11 35.5 -3.1**
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
AKASG Malin Array Be 30.89 302 P **P 17 11 38.1 -0.7**
comp=Z,4.9nm,0.5s,mb4.6,baz=75,slow=7.9,SNR=20
AKASG PcP PcP 17 14 33.8 -1.8
comp=Z,0.6nm,0.5s,baz=69,slow=3.3,SNR=4.0
ENH Enshi 31.87 99 *e*P **P 17 11 46.1 -1.7**
comp=Z,19nm,1.1s,mb4.8
GYA Guiyang 31.93 107 P **P 17 11 54.0 +5.7**
GYA AP pP 17 11 59.8 +5.7
GYA XP sP 17 12 02.9 +6.3
GYA S **S 17 17 06.3 +9.1**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,90nm,3.0s
GYA LR LR
comp=N,150nm,16.2s,MS3.9
GYA LR LR
comp=E,130nm,15.4s,MS3.9
GYA LR LR
comp=Z,140nm,15.8s,MS3.7
JOF Joensuu 32.16 326 *e*p **P 17 11 49.0 -1.0**
comp=Z,3.6nm,0.8s,mb4.2
CMAR Chiang Mai Arr 32.31 127 P **P 17 11 50.3 -1.4**
comp=Z,0.5nm,0.5s,mb3.6,baz=308,slow=8.7,SNR=7.2
CMAR PcP PcP 17 14 38.5 -1.2
comp=Z,3.2nm,1.2s,baz=301,slow=3.6,SNR=6.8
EIL Elat 32.41 261 P **P 17 11 52.5 0.0**
comp=Z,2.9nm,0.6s,mb4.3,baz=182,slow=37,SNR=2.9
BJT Baijiatuau 32.94 78 P **P 17 12 01.5 +4.6**
LVZ Lovozero 33.25 335 *i*P **P 17 11 57.4 -2.0**
LVZ pmax pmax
comp=Z,94nm,2.4s,mb5.3
LVZ MLR MLR
comp=Z,300nm,15.0s,MS4.1
MLR Muntele Rosu 33.53 293 P **P 17 12 02.5 +0.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=106,slow=18,SNR=8.2
MLR LR LR 17 28 14.0
comp=Z,710nm,18.9s,MS4.4,baz=66,slow=41
FINES FINESS Array B 34.03 322 P **P 17 12 05.7 -0.5**
comp=Z,4.8nm,0.4s,mb4.8,baz=109,slow=9.6,SNR=115
FINES LR LR 17 26 27.6
comp=Z,168nm,21.1s,MS3.7,baz=294,slow=37
FINES FINESS Array B 34.03 322 P **P 17 12 05.7 -0.5**
FINES LR LR 17 26 27.6
LVV L'vov 34.25 301 *e*P **P 17 12 08.1 -0.1**
LVV MLR MLR
comp=Z,300nm,17.3s,MS4.1
SUW Suwalki 34.62 308 *e*P **P 17 12 10.6 -0.8**
KWP Kalwaria 35.12 301 *e*P **P 17 12 16.9 +1.2**
KOLS Kolonicke sedl 35.49 299 *e*P **P 17 12 16.2 -2.6**
KEV Kevo 36.58 335 *e*p **P 17 12 26.0 -1.8**
comp=Z,5.7nm,0.7s,mb4.5
KEV Kevo 36.58 335 *e*P **P 17 12 26.0 -1.8**
KEV pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
NIE Niedzica 36.70 300 *e*P **P 17 12 29.6 +0.6**
OJC Ojcow 36.92 302 *e*P **P 17 12 31.2 +0.3**
ARCES ARCESS Array B 36.96 335 P **P 17 12 30.9 -0.2**
comp=Z,9.2nm,0.5s,mb4.9,baz=108,slow=8.7,SNR=109
ARCES LR LR 17 28 05.7
comp=Z,397nm,18.1s,MS4.2,baz=289,slow=37
ARE0 ARCESS Array S 36.96 335 *e*P **P 17 12 30.6 -0.4**
VYHS Vyhne 37.80 299 *e*P **P 17 12 39.1 +0.8**
VYHS *e* 17 14 00.4
NJ2 Nanjing 38.01 89 *e*P **P 17 12 41.1 +0.8**
NJ2 AP pP 17 12 46.8 +0.7
NJ2 XP sP 17 12 50.1 +1.5
NJ2 PP PP 17 14 11.1 +0.6
NJ2 S **S 17 18 31.0 -0.2**
NJ2 XS 17 18 43.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
NJ2 AMB AMB
comp=Z,540nm,5.4s
NJ2 LR LR
comp=N,1μm,18.4s,MS4.9
NJ2 LR LR
comp=E,720nm,14.1s,MS4.9
NJ2 LR LR
comp=Z,1μm,15.3s,MS4.8
OKC Ostrava-Krasne 38.03 301 *e*P **P 17 12 40.3 +0.1**
GKP Gorka Klasztor 38.19 307 *e*P **P 17 12 42.0 +0.5**
GKP Gorka Klasztor 38.19 307 *e*P **P 17 12 42.0 +0.5**
MORC Moravsky Berou 38.43 301 *e*P **P 17 12 43.8 +0.2**
MORC pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
MORC Moravsky Berou 38.43 301 *e*P **P 17 12 43.8 +0.2**
comp=Z,5.6nm,0.7s,mb4.4
CN2 Changchun 38.53 68 *e*P **P 17 12 44.8 +0.3**
KSP Ksiaz 39.05 303 *e*P **P 17 12 49.1 +0.3**
KSP Ksiaz 39.05 303 *e*P **P 17 12 49.3 +0.5**
DPC Dobruska-Polom 39.11 303 *e*P **P 17 12 50.3 +1.0**
DPC *e*pP pP 17 12 55.9 +0.8
VRAC Vranov 39.12 301 P **P 17 12 50.6 +1.2**
comp=Z,2.3nm,0.4s,mb4.2,baz=88,slow=9.5,SNR=5.2
UPC Upice 39.28 303 *e*P **P 17 12 51.5 +0.8**
YAK Yakutsk 39.30 39 *e*P **P 17 12 49.3 -1.4**
YAK *e*S **S 17 18 46.9 -3.3**
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.0
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=E,11nm,1.1s
YAK Yakutsk 39.30 39*c i*P **P 17 12 49.9 -0.8**
YAK pmax pmax
comp=Z,43nm,0.7s,mb5.3
YAK MLR MLR
comp=Z,300nm,8.0s
YAK Yakutsk 39.30 39 *e*P **P 17 12 49.8 -0.9**
comp=Z,107nm,0.7s,mb5.7
YAK *e* pP 17 12 55.0 -1.5
PVCC Panska Ves 40.19 303 *e*P **P 17 12 53.1 -5.1**
PVCC *e**PP pP 17 12 59.0 -5.0
PVCC Panska Ves 40.19 303 *e*P **P 17 12 59.0 +0.8**
SSE Sheshan 40.22 89 P **P 17 12 59.5 +0.9**
SSE XP sP 17 13 12.3 +5.4
SSE S **S 17 19 03.4 -1.0**
SSE XS 17 19 19.0
SSE AMB AMB
comp=Z,61nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,116nm,3.9s
SSE LR LR
comp=N,28nm,17.3s,MS3.7
SSE LR LR
comp=E,90nm,17.3s,MS3.7
SSE LR LR
comp=Z,134nm,20.8s,MS3.8
SSE Sheshan 40.22 89 P **P 17 12 59.5 +0.9**
comp=Z,61nm,0.8s,mb5.4
SSE sP sP 17 13 12.3 +5.4
SSE S **S 17 19 03.4 -1.0**
SSE sS 17 19 19.0
SSE SS SS 17 22 02.1 +5.2
SSE LR LR
comp=Z,130nm,20.8s,MS3.8
PRU Prunonice 40.30 302 *e*P **P 17 12 59.8 +0.7**
BRG Berggiesshubel 40.52 304 ⇑*i*P **P 17 13 01.8 +0.9**
BRG pmax pmax
comp=Z,16nm,0.8s,mb4.7
BRG Berggiesshubel 40.52 304 ⇑*i*P **P 17 13 01.8 +0.9**
comp=Z,16nm,0.8s,mb4.7
TIXI Tiksi 40.71 24 ⇑*i*P **P 17 13 01.8 -0.5**
TIXI pmax pmax
comp=Z,23nm,0.6s,mb5.0
TIXI MLR MLR
comp=Z,166nm,19.0s,MS3.9
CLL Collm 41.02 305 ⇑*i*P **P 17 13 05.3 +0.3**
CLL *e* 17 13 14.0
CLL pmax pmax
comp=Z,18nm,0.6s,mb4.9
CLL Collm 41.02 305 ⇑*i*P **P 17 13 05.3 +0.3**
comp=Z,18nm,0.6s,mb4.9
CLL *e* 17 13 14.0
CLL Collm 41.02 305 ⇑P **P 17 13 05.3 +0.3**
comp=Z,logA/T=1.5,mb4.9
CLL *e**PP pP 17 13 11.0 +0.1
CLL *e**SP sP 17 13 14.0 +0.7
CLL *e* 17 13 19.0
VISS Visnje 41.06 296 *e*P **P 17 13 06.1 +0.8**
GEC2 GERESS Array S 41.07 301 *e*P **P 17 13 06.6 +1.2**
GEC2 pmax pmax
comp=Z,18nm,1.1s,mb4.6
GEC2 GERESS Array S 41.07 301 *e*P **P 17 13 06.6 +1.2**
comp=Z,18nm,1.1s,mb4.6
GERES GERESS Array B 41.07 301 P **P 17 13 06.5 +1.1**
comp=Z,9.1nm,0.6s,mb4.6,baz=68,slow=7.7,SNR=79
KHC Kasperske Hory 41.09 301 *e*P **P 17 13 06.6 +1.0**
KHC *e*pP pP 17 13 12.3 +0.8
NB2 NORSAR Subarra 41.11 320 P **P 17 13 04.9 -0.7**
comp=Z,22nm,0.8s,mb4.8,baz=90,slow=7.9
NB2 NORSAR Subarra 41.11 320 P **P 17 13 04.9 -0.7**
NB2 pmax pmax
comp=Z,22nm,0.8s,mb4.8
NB2 NORSAR Subarra 41.11 320 P **P 17 13 04.9 -0.7**
baz=90,slow=8.6
NOA NORSAR Array B 41.11 320 P **P 17 13 05.2 -0.4**
comp=Z,15nm,0.7s,mb4.7,baz=91,slow=8.3,SNR=59
NOA LR LR 17 30 48.3
comp=Z,179nm,20.4s,MS3.9,baz=75,slow=37
NOA NORSAR Array B 41.11 320 P **P 17 13 05.2 -0.4**
NOA LR LR 17 30 48.3
MDJ Mudanjiang 41.17 66 P **P 17 13 06.8 +0.5**
MDJ AP pP 17 13 12.9 +0.7
MDJ XP sP 17 13 15.5 +0.9
MDJ PP PP 17 14 42.0 -2.5
MDJ PCP PcP 17 15 01.1 -5.0
MDJ S **S 17 19 20.3 +1.9**
MDJ AMB AMB
comp=Z,13nm,1.7s,mb4.3
MDJ AMB AMB
comp=Z,190nm,4.5s

MDJ LR LR
comp=N,83nm,18.3s,MS3.9
MDJ LR LR
comp=E,143nm,19.2s,MS3.9
MDJ LR LR
comp=Z,213nm,19.2s,MS4.0
NAO01 NORSAR Array S 41.27 319 *e*P **P** **17 13 06.2 -0.8**
comp=Z,17nm,0.7s,mb4.8
KLR Kul'dur 41.44 58 *e*P **P** **17 13 05.4 -3.1**
WET Wettzell 41.54 301 *e*P **P** **17 13 10.1 +0.9**
WET pmax pmax
comp=Z,13nm,1.0s,mb4.5
WET Wettzell 41.54 301 *e*P **P** **17 13 10.1 +0.9**
comp=Z,13nm,1.0s,mb4.5
JAVS Javornik 41.55 296 *e*P **P** **17 13 13.4 +4.0**
KONO Kongsberg 41.96 318 *e*P **P** **17 13 12.1 -0.4**
KONO pmax pmax
comp=E,15nm,0.8s,mb4.7
KONO Kongsberg 41.96 318 *e*P **P** **17 13 12.1 -0.4**
comp=Z,15nm,0.8s,mb4.7
MOX Moxa 42.01 304 *e*P **P** **17 13 13.7 +0.6**
MOX pmax pmax
comp=Z,14nm,1.1s,mb4.5
MOX Moxa 42.01 304 *e*P **P** **17 13 13.7 +0.6**
comp=Z,14nm,1.1s,mb4.5
MOX Moxa 42.01 304 *i* P **P** **17 13 13.7 +0.6**
comp=Z,logA/T=1.1,mb4.5
BSEG Bad Segeberg 42.19 309 *e*P **P** **17 13 15.7 +1.2**
GRA1 Grafenberg Arr 42.47 303 *e*P **P** **17 13 18.4 +1.6**
comp=Z,28nm,0.8s,mb4.9
GRA1 *e*pP pP 17 13 24.0 +1.3
GRF Grafenberg Arr 42.47 303 *e*P **P** **17 13 18.4 +1.6**
GRF *e**PP pP 17 13 24.0 +1.3
GRF pmax pmax
comp=Z,28nm,0.8s,mb4.9
GRF Grafenberg Arr 42.47 303 *e*P **P** **17 13 18.4 +1.6**
GRF *e**PP pP 17 13 24.0 +1.3
GRF pmax pmax
comp=Z,28nm,0.8s,mb4.9
GRF Grafenberg Arr 42.47 303 *e*P **P** **17 13 18.4 +1.6**
comp=Z,28nm,0.8s,mb4.9
GRF *e*pP pP 17 13 24.0 +1.3
CLZ Clausthal 42.54 306 *e*P **P** **17 13 18.4 +1.1**
comp=Z,13nm,1.0s,mb4.6
FUR Furstenfeldbru 42.80 300 *e*P **P** **17 13 21.2 +1.6**
FUR pmax pmax
comp=Z,28nm,0.5s,mb5.2
FUR Furstenfeldbru 42.80 300 *e*P **P** **17 13 21.2 +1.6**
comp=Z,28nm,0.5s,mb5.2
SQTA Sankt Quirin 43.09 299⇓ *i*P **P** **17 13 22.2 +0.2**
comp=Z,9.6nm,1.4s,mb4.3
SQTA Sankt Quirin 43.09 299⇓ *i*P **P** **17 13 22.2 +0.2**
SQTA pmax pmax
comp=Z,10.0nm,1.4s,mb4.3
MOTA Moosalm 43.13 299⇓ *i*P **P** **17 13 22.7 +0.5**
comp=Z,0.4nm,1.2s
DAVA Damuels 43.94 300⇓ *i*P **P** **17 13 29.5 +0.7**
comp=Z,17nm,0.7s,mb4.9
DAVOX Davos 44.09 299 P **P** **17 13 30.0 0.0**
comp=Z,10nm,0.7s,mb4.7,baz=110,slow=6.2,SNR=21
DAVOX pP pP 17 13 36.6 +0.6
comp=Z,7.1nm,0.5s,baz=77,slow=5.5,SNR=7.3
DAVOX Davos 44.09 299 P **P** **17 13 30.0 0.0**
DAVOX pP pP 17 13 36.6 +0.6
BFO Black Forest 44.65 301 *e*P **P** **17 13 35.0 +0.4**
BFO pmax pmax
comp=Z,15nm,1.2s,mb4.7
BFO Black Forest 44.65 301 *e*P **P** **17 13 35.0 +0.4**
comp=Z,15nm,1.2s,mb4.7
CDF Champ du Feu 45.30 302⇑ *i*P **P** **17 13 39.8 0.0**
comp=Z,20nm,1.0s,mb4.6
CDF Champ du Feu 45.30 302⇑ *i*P **P** **17 13 39.8 0.0**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
HINF Hinteralfeld 45.75 301⇑ *i*P **P** **17 13 43.2 -0.1**
comp=Z,16nm,1.0s,mb4.6
HINF Hinteralfeld 45.75 301⇑ *i*P **P** **17 13 43.2 -0.1**
HINF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
HAU Haudompre 46.02 301⇑ *i*P **P** **17 13 45.5 +0.1**
comp=Z,22nm,0.8s,mb4.9
HAU *e*R
comp=Z,242nm,22.0s
HAU Haudompre 46.02 301⇑ *i*P **P** **17 13 45.5 +0.1**
HAU pmax pmax
comp=Z,11nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,240nm,22.0s,MS4.1
GIVF Givet 46.36 305 *e*P **P** **17 13 48.6 +0.5**
LPG La Plagne 46.56 298 *e*P **P** **17 13 50.5 +0.8**
comp=Z,7.7nm,0.5s,mb4.6
LPG La Plagne 46.56 298 *e*P **P** **17 13 50.5 +0.8**
LPG pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
LPL La Plagne 46.56 298⇑ *i*P **P** **17 13 50.4 +0.6**
comp=Z,13nm,0.6s,mb4.8
LPL La Plagne 46.56 298⇑ *i*P **P** **17 13 50.4 +0.6**
LPL pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
CABF La Chapelle 46.62 300⇑ *i*P **P** **17 13 51.0 +0.8**
comp=Z,15nm,1.0s,mb4.6
CABF La Chapelle 46.62 300⇑ *i*P **P** **17 13 51.0 +0.8**
CABF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 46.69 303⇑ *i*P **P** **17 13 51.1 +0.4**
comp=Z,58nm,1.2s,mb5.1
BAIF Baives 46.75 305⇑ *i*P **P** **17 13 51.7 +0.5**
comp=Z,76nm,1.3s,mb5.2
BAIF Baives 46.75 305⇑ *i*P **P** **17 13 51.7 +0.5**
BAIF pmax pmax
comp=Z,38nm,1.3s,mb5.2
MBDF Montbardon 46.81 297 *e*P **P** **17 13 51.4 -0.3**
comp=Z,19nm,0.8s,mb4.7
MBDF Montbardon 46.81 297 *e*P **P** **17 13 51.4 -0.3**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 47.34 298 *e*P **P** **17 13 55.3 -0.6**
ORIF *e*R
comp=Z,368nm,20.0s
SMF Signal de Mont 48.07 300⇑ *i*P **P** **17 14 01.0 -0.6**
comp=Z,27nm,1.2s,mb4.9
SMF Signal de Mont 48.07 300⇑ *i*P **P** **17 14 01.0 -0.6**
SMF pmax pmax
comp=Z,14nm,1.2s,mb4.9
SSF Saint Saulge 48.15 301⇑ *i*P **P** **17 14 01.5 -0.7**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SSF Saint Saulge 48.15 301⇑ *i*P **P** **17 14 01.5 -0.7**
comp=Z,4.9nm,0.9s,mb4.5
VIVF Saint-Julien-l 48.16 298⇑ *i*P **P** **17 14 02.3 0.0**
comp=Z,13nm,0.7s,mb4.8
VIVF Saint-Julien-l 48.16 298⇑ *i*P **P** **17 14 02.3 0.0**
VIVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
AVF Avril sur Loir 48.34 301⇑ *i*P **P** **17 14 03.2 -0.5**
comp=Z,33nm,1.0s,mb5.0
AVF Avril sur Loir 48.34 301⇑ *i*P **P** **17 14 03.2 -0.5**
AVF pmax pmax
comp=Z,16nm,1.0s,mb5.0
BGF Bois d'Agland 48.74 301⇑ *i*P **P** **17 14 06.3 -0.5**
LASF Ste Croix 48.99 297⇑ *i*P **P** **17 14 08.9 +0.2**
comp=Z,12nm,0.7s,mb4.7
TCF Toulx Ste Croi 49.25 301⇑ *i*P **P** **17 14 10.6 -0.1**
comp=Z,16nm,1.1s,mb4.7
TCF Toulx Ste Croi 49.25 301⇑ *i*P **P** **17 14 10.6 -0.1**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
EKA Eskdalemuir Ar 49.50 313 P **P** **17 14 11.9 -0.6**
comp=Z,5.1nm,0.5s,mb4.8,baz=83,slow=8.0,SNR=24
ESK Eskdalemuir 49.53 313 P **P** **17 14 11.5 -1.2**
ESK pmax pmax
comp=Z,20nm,1.0s,mb5.1
ESK Eskdalemuir 49.53 313 P **P** **17 14 11.5 -1.2**
comp=Z,20nm,1.0s,mb5.1
MA2 Magadan 49.79 41 *e*P **P** **17 14 13.9 -0.7**
MA2 *e* pP 17 14 19.0 -1.6
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 49.79 41 *e*P **P** **17 14 13.9 -0.7**
comp=Z,9.9nm,0.9s,mb4.8
MA2 *e* pP 17 14 19.0 -1.6
CAF Calviac 49.85 299⇑ *i*P **P** **17 14 15.5 +0.1**
comp=Z,21nm,1.2s,mb4.7
CAF Calviac 49.85 299⇑ *i*P **P** **17 14 15.5 +0.1**
CAF pmax pmax
comp=Z,11nm,1.2s,mb4.8

LDF La Druitiere 49.91 304⇑ *i*P **P** **17 14 15.0 -0.7**
comp=Z,15nm,0.6s,mb4.9
LDF La Druitiere 49.91 304⇑ *i*P **P** **17 14 15.0 -0.7**
LDF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
RJF Les Rejaudoux 50.07 300⇑ *i*P **P** **17 14 17.2 +0.2**
comp=Z,18nm,1.0s,mb4.8
RJF *e*R
comp=Z,168nm,18.2s
RJF Les Rejaudoux 50.07 300⇑ *i*P **P** **17 14 17.2 +0.2**
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,170nm,18.3s,MS4.1
FLN La Foliniere 50.07 304 *e*P **P** **17 14 16.1 -0.9**
FLN *e*R
comp=Z,292nm,21.5s
MAT Matsushiro 50.27 73 *e*P **P** **17 14 18.0 -0.7**
MAT Matsushiro 50.27 73 P **P** **17 14 18.2 -0.5**
MTLF Montolieu 50.37 297⇑ *i*P **P** **17 14 19.3 -0.1**
comp=Z,7.6nm,0.7s,mb4.5
MTLF Montolieu 50.37 297⇑ *i*P **P** **17 14 19.3 -0.1**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
GRR Gorron 50.44 304 *e*P **P** **17 14 18.8 -1.0**
comp=Z,40nm,0.9s,mb5.1
GRR Gorron 50.44 304 *e*P **P** **17 14 18.8 -1.0**
GRR pmax pmax
comp=Z,20nm,0.9s,mb5.2
MFF Saint Martin d 50.65 302⇑ *i*P **P** **17 14 20.4 -1.0**
comp=Z,17nm,0.9s,mb4.7
MFF Saint Martin d 50.65 302⇑ *i*P **P** **17 14 20.4 -1.0**
MFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LFF La Frestale 50.72 299⇑ *i*P **P** **17 14 22.0 +0.1**
comp=Z,11nm,0.6s,mb4.6
LFF La Frestale 50.72 299⇑ *i*P **P** **17 14 22.0 +0.1**
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SGMF Saint Gilles 51.54 304⇑ *i*P **P** **17 14 27.5 -0.6**
comp=Z,19nm,0.6s,mb4.9
SGMF Saint Gilles 51.54 304⇑ *i*P **P** **17 14 27.5 -0.6**
SGMF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
ROSF Rostrenen 51.95 305⇑ *i*P **P** **17 14 30.4 -0.9**
comp=Z,14nm,0.5s,mb4.8
ROSF Rostrenen 51.95 305⇑ *i*P **P** **17 14 30.4 -0.9**
ROSF pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
QUIF Quistinic 52.05 304⇑ *i*P **P** **17 14 31.0 -1.0**
comp=Z,14nm,0.6s,mb4.8
QUIF Quistinic 52.05 304⇑ *i*P **P** **17 14 31.0 -1.0**
QUIF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ETSF Etsaut 52.41 298⇑ *i*P **P** **17 14 34.6 -0.2**
comp=Z,8.5nm,0.7s,mb4.5
ETSF Etsaut 52.41 298⇑ *i*P **P** **17 14 34.6 -0.2**
ETSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SJPF Ste Jean 52.76 298 *e*P **P** **17 14 37.5 +0.1**
KMBO Kilima Mbogo 53.06 226 *e*P **P** **17 14 39.2 -0.9**
KMBO pmax pmax
comp=Z,7.0nm,1.1s
KMBO Kilima Mbogo 53.06 226 P **P** **17 14 39.2 -0.9**
comp=Z,6.0nm,1.1s,mb4.4,baz=28,slow=10,SNR=12
KMBO Kilima Mbogo 53.06 226 *e*P **P** **17 14 39.1 -0.9**
comp=Z,7.2nm,1.1s,mb4.5
BILL Bilibino 53.63 28⇑ *e*P **P** **17 14 43.1 -0.3**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,300nm,19.0s,MS4.4
BILL Bilibino 53.63 28 *e*P **P** **17 14 43.0 -0.5**
comp=Z,11nm,1.1s,mb4.7
ESDC Sonseca Array 56.15 295 P **P** **17 15 01.4 -0.8**
comp=Z,2.7nm,0.7s,mb4.4,baz=58,slow=6.8,SNR=10
ESDC pP pP 17 15 07.7 -0.5
comp=Z,0.9nm,0.5s,baz=55,slow=7.2,SNR=4.8
ESLA Sonseca Array 56.15 295 *e*P **P** **17 15 00.8 -1.5**
comp=Z,2.9nm,1.1s,mb4.2
SUMG Summit 56.66 340 *e*P **P** **17 15 04.3 -1.1**
comp=Z,9.8nm,0.9s,mb4.8
IMA Indian Mountai 67.00 19 *e*P **P** **17 16 13.5 -1.3**
IMA pmax pmax
comp=Z,59nm,1.0s,mb5.6
IMA Indian Mountai 67.00 19 *e*P **P** **17 16 13.5 -1.2**
comp=Z,58nm,1.0s,mb5.6
INK Inuvik 68.75 10 *e*P **P** **17 16 24.8 -0.9**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 68.75 10 P **P** **17 16 25.0 -0.7**
comp=Z,5.0nm,0.6s,mb4.6,baz=2.3,slow=7.1,SNR=35
INK Inuvik 68.75 10 *e*P **P** **17 16 24.8 -1.0**
comp=Z,8.9nm,0.9s,mb4.7
COLA College 69.34 17 *e*P **P** **17 16 28.4 -1.0**
COLA pmax pmax
comp=Z,18nm,1.2s,mb4.9
COLA College 69.34 17 *e*P **P** **17 16 28.4 -0.9**
comp=Z,18nm,1.2s,mb4.9
ILAR Eilson Array 69.64 17 P **P** **17 16 30.0 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=330,slow=4.5,SNR=12
ILAR LR LR 17 51 08.2
comp=Z,96nm,18.3s,MS4.1,baz=358,slow=39
LSZ Lusaka 69.73 226 *e*P **P** **17 16 32.0 -0.5**
LSZ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LSZ Lusaka 69.73 226 *e*P **P** **17 16 32.0 -0.5**
comp=Z,5.5nm,0.7s,mb4.6
DAWY Dawson 71.77 14 *e*P **P** **17 16 42.8 -1.3**
SML Sawmill 71.86 19 *e*P **P** **17 16 43.5 -1.2**
DBIC Dimbokro 76.05 267 P **P** **17 17 08.6 -1.3**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 76.05 267 P **P** **17 17 08.6 -1.3**
comp=Z,2.4nm,0.6s,mb4.3,baz=147,slow=11,SNR=3.6
DBIC Dimbokro 76.05 267 *e*P **P** **17 17 08.4 -1.5**
comp=Z,11nm,1.1s,mb4.7
YKW3 Yellowknife Ar 76.08 3 *e*P **P** **17 17 08.1 -0.9**
YKA Yellowknife Ar 76.15 3 P **P** **17 17 08.7 -0.7**
comp=Z,2.6nm,0.7s,mb4.3,baz=350,slow=5.8,SNR=48
YKA LR LR 17 54 07.6
comp=Z,125nm,18.6s,MS4.2,baz=35,slow=38
YKA Yellowknife Ar 76.15 3 P **P** **17 17 08.7 -0.7**
YKA LR LR 17 54 07.6
SCHQ Schefferville 77.87 337 P **P** **17 17 18.8 -0.3**
comp=Z,6.2nm,1.2s,mb4.4,baz=217,slow=3.3,SNR=5.5
SCHQ pP pP 17 17 24.6 -0.7
comp=Z,2.8nm,0.8s,baz=353,slow=3.4,SNR=3.9
SCHQ LR LR 17 50 12.7
comp=Z,80nm,20.8s,MS4.0,baz=3.8,slow=34
FCC Fort Churchill 79.42 353 *e*P **P** **17 17 27.0 -0.5**
FCC pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
FCC Fort Churchill 79.42 353 *e*P **P** **17 17 27.0 -0.5**
comp=Z,9.4nm,1.2s,mb4.6
BOSA Boshof 82.28 221 P **P** **17 17 42.9 -0.3**
BOSA pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BOSA Boshof 82.28 221 P **P** **17 17 42.9 -0.4**
comp=Z,9.2nm,1.1s,mb4.6
WRA Warramunga Arr 83.81 123 P **P** **17 17 50.1 -1.2**
comp=Z,2.0nm,1.1s,mb4.2,baz=323,slow=4.7,SNR=7.7
WRA PKKPbc
comp=Z,0.2nm,0.8s,baz=142,slow=2.3,SNR=4.8
WRAB Tennant Creek 83.81 123 P **P** **17 17 51.2 -0.1**
WRAB pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
WRAB Tennant Creek 83.81 123 P **P** **17 17 51.1 -0.1**
comp=Z,5.3nm,0.7s,mb4.8
ASAR Alice Springs 86.31 126 P **P** **17 18 03.1 -0.6**
comp=Z,3.9nm,1.0s,mb4.6,baz=325,slow=5.2,SNR=14
ASAR LR LR 18 05 28.3
comp=Z,57nm,20.6s,MS4.0,baz=354,slow=42
ULM Lac du Bonnet 88.00 352 P **P** **17 18 10.8 -0.4**
comp=Z,1.9nm,0.8s,mb4.4,baz=16,slow=5.4,SNR=3.4
ULM LR LR 17 59 57.9
comp=Z,96nm,19.4s,MS4.2,baz=20,slow=37
SADO Sadowa 90.35 340 LR LR 18 03 25.3
comp=Z,137nm,18.0s,MS4.4,baz=111,slow=38
PDAR Pinedale Array 96.05 1 P **P** **17 18 48.6 -0.1**
comp=Z,0.7nm,0.7s,mb4.2,slow=3.0,SNR=6.4
PDAR LR LR 18 03 31.2
comp=Z,90nm,20.1s,MS4.2,baz=202,slow=36
NVAR Mina Array Bea 99.81 8 P **P** **17 19 07.5 +1.7**
comp=Z,0.5nm,0.7s,mb4.1,baz=315,slow=3.8,SNR=4.0
LPAZ La Paz 137.77 295 PKP PKPdf 17 24 47.6 -1.6
comp=Z,0.3nm,0.3s,baz=13,slow=2.6,SNR=4.3
TRQA Tornquist 145.07 260 *e*PKPdf PKPdf 17 24 57.6 -4.0
TRQA *e* 17 25 03.3
PLCA Paso Flores 152.20 259 PKPbc PKPdf 17 25 16.4 +3.5
comp=Z,3.1nm,0.9s,baz=124,slow=5.0,SNR=5.7

GUC 12 17:07:31.2±0.7, 29.41S×70.76W, h64km±5km, ML3.8, 2C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.40**	**8**⇑	*i*P	P	17 07 43.5	+0.9
LCO				*i* S	S	17 07 52.5	+1.5
LCO				AMP		17 07 55.0	
	comp=E,3μm,0.4s						
LSCH	**La Serena**	**0.65**	**220**⇑	*i*P	P	17 07 45.3	+0.1
LSCH				*i* S	S	17 07 55.8	+0.1
LSCH				AMP		17 07 56.2	
	comp=E,1μm,0.3s						
VACH	**Vallenar**	**0.83**	**0**⇓	*i*P	P	17 07 47.9	+0.5
VACH				*i* S	S	17 08 00.0	+0.6
VACH				AMP		17 08 00.4	
	comp=N,21μm,0.1s						
CPCH	**Copiapo**	**2.07**	**10**	*e*P	P	17 08 04.1	-0.3
CPCH				*i* S	S	17 08 29.0	0.0
CPCH				AMP		17 08 34.0	
	comp=N,3μm,0.1s						

BJI 12 17:28:09.3, 27.65N×100.91E, h14km, ML2.9, Ms3.5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**3.00**	**146**	P	Pn	17 28 57.6	+0.1
KMI				PG	Pg	17 29 01.8	-7.5
KMI				S	Sn	17 29 31.3	-2.3
KMI				SG	Sg	17 29 36.8	-13
KMI				Smax			
	comp=N,50nm,0.9s						
KMI				Smax			
	comp=E,45nm,0.9s						
GYA	**Guiyang**	**5.27**	**102**	P	Pn	17 29 31.0	+1.5
GYA				LR	LR		
	comp=N,270nm,8.1s						
GYA				LR	LR		
	comp=E,280nm,6.6s						

*IDC **12** 17:29:57.3±2.0, 9.59N×91.57E, mb3.6/5, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, ML3.9/1, Error ellipse: s-maj=63.3km s-min=23.0km az=66.0*
*BJI **12** 17:30:00.4, 9.40N×91.67E, h46km, mb4.1*
*NEIC **12** 17:30:02.3±0.9, 9.68N×91.79E, h30km, mb4.1/5, Error ellipse: s-maj=20.0km s-min=12.2km az=69.0*
ISC 12 17:30:00.7±1.0, 9.7N±0.1×91.9E±0.1, h30km, n14, σ0§89/14, mb3.9/10, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**11.06**	**37**	*e*P	**P**	**17 32 38.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**11.06**	**37**	Pn	**P**	**17 32 41.0**	**+0.9**
	0.2nm,0.3s,baz=227,slow=15,SNR=10						
LSA	**Lhasa**	**19.90**	**358**	*e*P	**P**	**17 34 33.0**	**+0.1**
	6.0nm,0.7s						
ENH	**Enshi**	**26.23**	**36**	*e*P	**P**	**17 35 34.4**	**-0.6**
	7.6nm,0.8s,mb4.3						
GTA	**Gaotai**	**30.41**	**12**	*e*P	**P**	**17 36 13.8**	**+1.1**
GTA				AP	pP	17 36 22.3	+0.8
GTA				XP	sP	17 36 25.9	+0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**36.16**	**338**	P	**P**	**17 37 03.3**	**+0.9**
	comp=Z,2.6nm,1.2s,mb4.0						
SONM	**Songino Array**	**39.92**	**15**	P	**P**	**17 37 34.9**	**+1.0**
	comp=Z,0.7nm,0.6s,mb3.6,baz=203,slow=8.6,SNR=9.6						
KURK	**Kurchatov**	**42.32**	**347**	*e*P	**P**	**17 37 52.5**	**-1.0**
	comp=Z,2.3nm,1.0s,mb3.8						
ZAL	**Zalesovo**	**44.47**	**354**	P	**P**	**17 38 11.4**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=298,slow=9.7,SNR=4.5						
BVAR	**Borovoye Array**	**46.56**	**342**	P	**P**	**17 38 25.8**	**-1.7**
	comp=Z,0.3nm,0.6s,mb3.4,SNR=3.6						
WRA	**Warramunga Arr**	**51.13**	**125**	P	**P**	**17 39 03.7**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=306,slow=8.3,SNR=5.6						
WRAB	**Tennant Creek**	**51.13**	**125**	P	**P**	**17 39 02.7**	**-0.6**
	comp=Z,11nm,1.1s,mb4.7						
SARN	**Sarigan**	**52.78**	**76**	*e*P	**P**	**17 39 22.2**	**+6.4**
ASAR	**Alice Springs**	**52.79**	**130**	P	**P**	**17 39 16.1**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.4,baz=300,slow=7.6,SNR=5.3						

IDC 12 17:37:44.4±3.1, 18.12S×69.75W, h125km±15km, mb3.6/3, mb1 3.6/5, mb1mx3.3/17, mbtmp3.9/5, Error ellipse: s-maj=55.9km s-min=10.4km az=106.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.38**	**41**	P	P	17 38 23.4	-0.1
	3.8nm,0.3s,baz=220,slow=4.9,SNR=90						
LPAZ				S	S	17 38 54.1	+0.8
	2.7nm,0.3s,baz=103,slow=22,SNR=4.7						
LVC	**Limon Verde**	**4.54**	**170**	P	P	17 38 52.3	-0.1
	4.9nm,0.3s,baz=350,slow=10,SNR=78						
LVC				S	S	17 39 43.8	-0.8
	11nm,0.3s,baz=248,slow=22,SNR=22						
BDFB	**Brasilia**	**20.94**	**87**	P	P	17 42 18.2	-0.6
	2.7nm,0.3s,baz=270,slow=7.4,SNR=6.7						
PLCA	**Paso Flores**	**22.55**	**182**	P	P	17 42 34.5	0.0
	1.1nm,0.7s,baz=353,slow=12,SNR=4.4						
DBIC	**Dimbokro**	**68.58**	**75**	P	P	17 48 33.9	-2.4
	2.1nm,0.7s,baz=232,slow=7.9,SNR=5.1						

*IDC **12** 18:03:49.3±0.6, 3.37N×96.47E, mb4.2/13, mb1 4.3/14, mb1mx4.2/19, mbtmp4.2/14, ML3.1/1, MS3.5/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=26.9km s-min=14.9km az=56.0*
*BJI **12** 18:03:49.0, 2.92N×96.42E, h36km, mB5.0, mb4.6, Ms4.5, Msz4.0*
*MOS **12** 18:03:52.5±1.0, 3.43N×96.51E, h33km, mb4.8/19, Error ellipse: s-maj=15.9km s-min=8.4km az=93.3*
*NEIC **12** 18:03:54.0±0.3, 3.40N×96.47E, h30km, mb4.6/19, Error ellipse: s-maj=9.6km s-min=6.5km az=73.0*
ISC 12 18:03:51.8±0.4, 3.33N±0.05×96.42E±0.06, h29km, h29km±1.8km:pP-P,n78,σ1§14/80, mb4.4/44, MS3.8/8, 2C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.65**	**65**	*e*Pn	**Pn**	**18 05 05.0**	**+3.0**
IPM	**Ipoh**	**4.76**	**75**	P	**Pn**	**18 05 06.5**	**+3.0**
KKTK	**Khon Kaen**	**14.38**	**26**	P	**P**	**18 07 24.0**	**+8.4**
	1μm,0.5s						
CM31	**Chiang Mai Arr**	**15.23**	**9**	P	**P**	**18 07 27.1**	**+0.3**
	9.9nm,0.9s						
CM31				*e*		18 07 32.4	
CMAR	**Chiang Mai Arr**	**15.23**	**9**	Pn	**P**	**18 07 25.1**	**-1.8**
	0.0nm,0.3s,baz=198,slow=11,SNR=2.8						
CMAR				LR	LR	18 14 35.9	
	comp=Z,136nm,18.4s,baz=180,slow=43						
NANT	**Nan**	**15.93**	**15**	⇑P	**P**	**18 07 38.0**	**+2.1**
	81nm,1.0s						
KKM	**Kota Kinabalu**	**19.91**	**81**	*e*P	**P**	**18 08 24.4**	**0.0**
KMI	**Kunming**	**22.50**	**15**	P	**P**	**18 08 50.7**	**+0.1**
KMI				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.2						
KMI				LR	LR		
	comp=Z,132nm,20.5s,MS3.4						
KMI	**Kunming**	**22.50**	**15**	P	**P**	**18 08 50.7**	**+0.1**
	comp=Z,9.0nm,0.8s,mb4.2						
GYA	**Guiyang**	**25.01**	**22**⇓	*i*P	**P**	**18 09 16.1**	**+1.2**
GYA				AP	pP	18 09 23.4	0.0
GYA				XP	sP	18 09 29.5	+2.2
GYA				PP	PP	18 09 56.1	+3.5
GYA				S	**S**	**18 13 36.6**	**+2.4**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,170nm,3.9s						
GYA				LR	LR		
	comp=N,130nm,15.2s,MS3.7						
GYA				LR	LR		
	comp=E,110nm,14.8s,MS3.7						
GYA				LR	LR		

	comp=Z,150nm,15.8s,MS3.6						
PKI	**Pulchoki**	**26.30**	**338**	*e*P	**P**	**18 09 28.0**	**+1.1**
DMN	**Daman**	**26.45**	**337**	*e*P	**P**	**18 09 29.9**	**+1.6**
	comp=Z,9.2nm,0.8s,mb4.3						
KKN	**Kakani**	**26.54**	**337**	*e*P	**P**	**18 09 29.2**	**0.0**
	comp=Z,18nm,1.1s,mb4.5						
LSA	**Lhasa**	**26.70**	**350**	*e*P	**P**	**18 09 30.5**	**-0.1**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**26.70**	**350**	*e*P	**P**	**18 09 30.5**	**-0.1**
	comp=Z,6.8nm,0.6s,mb4.3						
GKN	**Gorkha**	**26.98**	**337**	*e*P	**P**	**18 09 33.6**	**+0.4**
	comp=Z,15nm,0.6s,mb4.7						
KOLN	**Koldanda**	**27.21**	**335**	*e*P	**P**	**18 09 37.1**	**+1.8**
	comp=Z,13nm,0.8s,mb4.5						
ENH	**Enshi**	**29.51**	**23**	*e*P	**P**	**18 09 54.0**	**-2.0**
	comp=Z,14nm,1.1s,mb4.6						
MBWA	**Marble Bar**	**33.38**	**138**	*e*P	**P**	**18 10 29.7**	**-0.4**
	comp=Z,10nm,0.9s,mb4.8						
GTA	**Gaotai**	**36.04**	**4**	*e*P	**P**	**18 10 52.4**	**-0.3**
GTA				AP	pP	18 11 01.6	+0.2
GTA				XP	sP	18 11 05.4	+0.2
GTA				S	**S**	**18 16 31.8**	**+2.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
GTA				AMB	AMB		
	comp=Z,99nm,4.9s						
GTA				LR	LR		
	comp=N,132nm,11.0s,MS4.1						
GTA				LR	LR		
	comp=E,166nm,14.4s,MS4.1						
GTA				LR	LR		
	comp=Z,165nm,15.6s,MS3.9						
HHC	**Hu-ho-hao-te**	**39.77**	**18**	*e*P	**P**	**18 11 24.8**	**+0.9**
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,100nm,6.9s						
BJT	**Baijiatuau**	**40.66**	**23**	*e*P	**P**	**18 11 32.1**	**+0.9**
BJT				pmax	pmax		
	comp=Z,26nm,1.1s						
BJT	**Baijiatuau**	**40.66**	**23**	*e*P	**P**	**18 11 32.1**	**+0.8**
	comp=Z,26nm,1.1s,mb4.8						
BJI	**Beijing**	**40.69**	**23**	P	**P**	**18 11 32.3**	**+0.9**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.7						
BJI	**Beijing**	**40.69**	**23**	P	**P**	**18 11 32.3**	**+0.9**
	comp=Z,14nm,0.7s,mb4.7						
WMQ	**Urumqi**	**41.05**	**350**	*e*P	**P**	**18 11 34.5**	**+0.1**
WMQ				AP	pP	18 11 44.0	+0.8
WMQ				XP	sP	18 11 48.0	+1.2
WMQ				PP	PP	18 13 13.0	+0.9
WMQ				S	**S**	**18 17 44.0**	**-0.9**
WMQ				XS		18 18 00.0	
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,110nm,5.9s						
WMQ				LR	LR		
	comp=N,274nm,13.2s,MS4.4						
WMQ				LR	LR		
	comp=E,301nm,17.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,186nm,14.9s,MS4.1						
NWAO	**Narrogin (SRO)**	**41.10**	**153**	*e*P	**P**	**18 11 35.7**	**+0.8**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**41.10**	**153**	P	**P**	**18 11 34.9**	**0.0**
	comp=Z,8.3nm,0.9s,mb4.3,baz=320,slow=13,SNR=3.6						
NWAO	**Narrogin (SRO)**	**41.10**	**153**	*e*P	**P**	**18 11 35.7**	**+0.8**
	comp=Z,7.1nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**43.74**	**337**	⇑*e*P	**P**	**18 11 57.5**	**+1.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.8						
AAK	**Ala-Archa**	**43.74**	**337**	*e*P	**P**	**18 11 57.4**	**+1.0**
	comp=Z,1.6nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**43.84**	**123**	P	**P**	**18 11 57.4**	**-0.1**
	comp=Z,3.7nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=30						
WRAB	**Tennant Creek**	**43.84**	**123**	*e*P	**P**	**18 11 57.8**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
WRAB	**Tennant Creek**	**43.84**	**123**	*e*P	**P**	**18 11 57.8**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.6						
KS15	**Wonju Array Si**	**44.55**	**36**	P	**P**	**18 11 58.8**	**-4.2**
MKAR	**Makanchi Array**	**45.00**	**346**	*i* P	**P**	**18 12 05.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**45.16**	**9**	P	**P**	**18 12 08.2**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.3,baz=190,slow=9.3,SNR=37						
SONM				PcP	PcP	18 13 47.8	-0.5
	comp=Z,0.5nm,0.7s,baz=189,slow=3.0,SNR=3.0						
ULN	**Ulaanbaatar**	**45.30**	**10**	P	**P**	**18 12 07.4**	**-1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**45.30**	**10**	P	**P**	**18 12 07.4**	**-1.5**
	comp=Z,2.1nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**45.31**	**128**	P	**P**	**18 12 09.1**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=302,slow=7.8,SNR=43						
ZAK	**Zakamensk**	**47.24**	**6**	*e*P	**P**	**18 12 21.3**	**-2.9**
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.2s,mb3.4						
KURK	**Kurchatov**	**49.54**	**345**	*d i*P	**P**	**18 12 41.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
KURK	**Kurchatov**	**49.54**	**345**	*e*P	**P**	**18 12 41.1**	**-0.9**
	comp=Z,11nm,1.2s,mb4.8						
HIA	**Hailar**	**49.90**	**20**	P	**P**	**18 12 43.8**	**-1.0**
HIA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HIA	**Hailar**	**49.90**	**20**	P	**P**	**18 12 43.8**	**-1.0**
	comp=Z,6.2nm,0.9s,mb4.6						
MDJ	**Mudanjiang**	**50.42**	**30**	P	**P**	**18 12 48.3**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,282nm,5.0s						
MDJ				LR	LR		
	comp=N,12nm,16.8s,MS3.4						
MDJ				LR	LR		
	comp=E,32nm,18.1s,MS3.4						
MDJ				LR	LR		
	comp=Z,36nm,17.4s,MS3.4						
ZAL	**Zalesovo**	**51.34**	**351**	P	**P**	**18 12 55.0**	**-0.6**
	comp=Z,2.3nm,0.7s,mb4.2,baz=310,slow=6.7,SNR=12						
BVA0	**Borovoye Array**	**53.99**	**341**	*i* P	**P**	**18 13 14.4**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**53.99**	**341**	P	**P**	**18 13 14.6**	**-0.8**
	comp=Z,6.0nm,0.8s,mb4.6,baz=135,slow=8.4,SNR=49						
CHKZ	**Chkalovo**	**54.47**	**341**	*i* P	**P**	**18 13 18.3**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**55.36**	**133**	P	**P**	**18 13 25.1**	**-0.7**
	comp=Z,3.0nm,0.8s,mb4.4,baz=312,slow=6.1,SNR=5.2						
STKA	**Stephens Creek**	**55.36**	**133**	*e*P	**P**	**18 13 25.3**	**-0.5**
BOD	**Bodaibo**	**56.08**	**11**	*e*P	**P**	**18 13 27.8**	**-2.7**
YSS	**Yuzh-Sakhalins**	**59.05**	**35**	P	**P**	**18 13 50.1**	**-1.6**
YSS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
YSS	**Yuzh-Sakhalins**	**59.05**	**35**	P	**P**	**18 13 50.1**	**-1.6**
	comp=Z,7.9nm,0.9s,mb4.7						
GNI	**Garni**	**59.23**	**316**	*i* P	pP	18 14 01.9	-0.2
GNI				pmax	pmax		
	comp=Z,15nm,2.0s						
KMBO	**Kilima Mbogo**	**59.30**	**267**	*e*P	**P**	**18 13 55.9**	**+2.0**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.30**	**267**	P	**P**	**18 13 55.2**	**+1.3**
	comp=Z,1.9nm,0.8s,mb4.2,baz=60,slow=11,SNR=7.6						
KMBO				LR	LR	18 36 11.9	
	comp=Z,36nm,18.4s,MS3.5,baz=91,slow=33						
KMBO	**Kilima Mbogo**	**59.30**	**267**	*e*P	**P**	**18 13 55.9**	**+2.0**
	comp=Z,2.8nm,0.9s,mb4.3						
KIV	**Kislovodsk**	**62.19**	**319**	*i* P	pP	18 14 23.2	+0.9
KIV				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.9						
GOF	**Gofitskoye**	**62.43**	**320**	*e*P	**P**	**18 14 19.9**	**+5.2**
YAK	**Yakutsk**	**63.61**	**17**	*e*P	**P**	**18 14 20.1**	**-2.1**
YAK				*e*		18 14 34.3	
YAK				pmax	pmax		
	comp=Z,36nm,0.9s,mb5.4						
YAK	**Yakutsk**	**63.61**	**17**	*e*P	**P**	**18 14 20.1**	**-2.0**
	comp=Z,36nm,0.9s,mb5.4						
YAK				*e*		18 14 34.3	
SOC	**Sochi**	**64.03**	**317**	*e*P	**P**	**18 14 30.0**	**+4.8**
SOC				*e*		18 16 49.0	
SOC				*e*PPP	PPP	18 18 17.8	-2.1
SOC				*e*S	**S**	**18 22 57.5**	**-0.5**
SOC				*e*SSS	SSS	18 29 55.1	-2.2
SOC				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.2						
SOC				pmax	pmax		
	comp=N,28nm,1.0s						
SOC				pmax	pmax		
	comp=E,11nm,0.9s						
LSZ	**Lusaka**	**69.98**	**253**	P	**P**	**18 15 04.0**	**+0.7**
LSZ				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
LSZ	**Lusaka**	**69.98**	**253**	P	**P**	**18 15 04.0**	**+0.7**
	comp=Z,6.3nm,1.3s,mb4.4						
OBN	**Obninsk**	**70.41**	**328**	*e*P	**P**	**18 15 10.3**	**+5.1**
OBN				*e*		18 15 32.9	
OBN				*e*		18 17 39.7	
OBN				*e*S	S	18 24 14.1	-0.4
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,13.0s,MS4.2						
TIXI	**Tiksi**	**71.24**	**10**	⇓*i*P	**P**	**18 15 08.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AKASG	**Malin Array Be**	**73.10**	**322**	P	**P**	**18 15 21.0**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=82,slow=4.8,SNR=4.8						
LBTB	**Lobatse**	**74.14**	**243**	*e*P	**P**	**18 15 27.8**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
LBTB	**Lobatse**	**74.14**	**243**	P	**P**	**18 15 28.0**	**+0.1**
	comp=Z,1.6nm,0.6s,mb4.1,baz=116,slow=6.7,SNR=3.8						
LBTB	**Lobatse**	**74.14**	**243**	*e*P	**P**	**18 15 27.8**	**-0.1**
	comp=Z,4.8nm,1.0s,mb4.4						
BOSA	**Boshof**	**75.17**	**239**	P	**P**	**18 15 29.4**	**-4.4**
BOSA				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
BOSA	**Boshof**	**75.17**	**239**	P	**P**	**18 15 29.4**	**-4.4**
	comp=Z,14nm,1.3s,mb4.7						
FINES	**FINESS Array B**	**77.76**	**332**	P	**P**	**18 15 48.1**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.0,baz=117,slow=4.3,SNR=5.6						
BILL	**Bilibino**	**79.47**	**21**	*e*P	**P**	**18 15 57.0**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
ARCES	**ARCESS Array B**	**80.28**	**340**	P	**P**	**18 16 01.1**	**-0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=4.9,SNR=7.3						
GERES	**GERESS Array B**	**82.70**	**319**	P	**P**	**18 16 15.4**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=80,slow=8.1,SNR=6.0						

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*NEIC **12** 18:05:39.5±1.6, 22.89S×177.91W, h266^{km}±16^{km}, mb4.6/3, Error ellipse: s-maj=20.5km s-min=10.1km az=136.0*

*IDC **12** 18:05:48.8±2.8, 23.19S×178.03W, h356^{km}±29^{km}, mb3.6/10, mb1 3.8/11, mb1mx3.7/18, mbtmp4.3/11, Error ellipse: s-maj=26.4km s-min=12.3km az=154.0*

ISC 12 18:05:46.1±3.1**, 23.3S**±0.1×**178.1W**±0.1**, h341**^{km}±32^{km}**, n28,** $\sigma 0^{s}83$/20**, mb3.9**/12**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.04**	**34**	*e*P	**P**	**18 08 05.7**	**-12**
URZ	**Urewera**	**15.51**	**194**	P	**P**	**18 09 08.6**	**-0.5**
	2.6nm,0.3s,baz=341,slow=4.5,SNR=14						
URZ				S	**S**	**18 11 51.4**	**-0.6**
	1.0nm,0.3s,baz=86,slow=14,SNR=4.9						
RPZ	**Rata Peaks**	**22.29**	**201**	P	**P**	**18 10 17.6**	**+0.9**
	5.9nm,0.6s,mb4.0,baz=269,slow=2.1,SNR=5.6						
CTA	**Charters Tower**	**33.27**	**269**	P	**P**	**18 11 54.9**	**+0.6**
	4.1nm,0.4s,mb4.0,baz=83,slow=12,SNR=19						
CTAO	**Charters Tower**	**33.27**	**269**	*e*P	**P**	**18 11 54.6**	**+0.3**
	25nm,1.3s,mb4.3						
STKA	**Stephens Creek**	**36.62**	**247**	P	**P**	**18 12 23.8**	**+1.5**
	1.6nm,0.4s,mb3.6,baz=99,slow=12,SNR=11						
STKA	**Stephens Creek**	**36.62**	**247**	*e*P	**P**	**18 12 23.7**	**+1.4**
ASAR	**Alice Springs**	**43.90**	**260**	P	**P**	**18 13 22.1**	**+0.2**
	3.4nm,0.7s,mb3.6,baz=94,slow=8.1,SNR=24						
ASAR				S	**S**	**18 19 27.3**	**+0.3**
	0.4nm,0.6s,baz=94,slow=15,SNR=7.1						
WRAB	**Tennant Creek**	**44.23**	**265**	*e*P	**P**	**18 13 23.6**	**-0.8**
	7.1nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**44.24**	**265**	P	**P**	**18 13 23.6**	**-0.9**
	1.4nm,0.3s,mb3.5,baz=96,slow=8.0,SNR=26						
PMSA	**Palmer Station**	**78.78**	**156**	*e*P	**P**	**18 17 07.0**	**-5.5**
	58nm,1.1s,mb5.2						
KS15	**Wonju Array Si**	**78.94**	**319**	P	**P**	**18 17 19.4**	**+5.6**
NVAR	**Mina Array Bea**	**83.06**	**43**	P	**P**	**18 17 35.6**	**+0.4**
	1.2nm,0.7s,mb3.8,baz=209,slow=6.6,SNR=7.0						
TXAR	**Lajitas Array**	**88.58**	**57**	P	**P**	**18 18 03.6**	**+1.4**
	0.6nm,0.8s,mb3.5,baz=225,slow=7.1,SNR=6.4						
DLBC	**Dease Lake**	**90.60**	**23**	P	**P**	**18 18 10.3**	**-0.6**
	1.0nm,0.9s,mb3.7,baz=195,slow=12,SNR=3.9						
DLBC	**Dease Lake**	**90.60**	**23**	P	**P**	**18 18 10.3**	**-0.6**
PDAR	**Pinedale Array**	**91.00**	**43**	P	**P**	**18 18 12.9**	**-0.2**
	0.7nm,0.7s,mb3.7,baz=207,slow=3.3,SNR=6.0						
ILAR	**Eielson Array**	**91.01**	**13**	P	**P**	**18 18 11.2**	**-1.4**
	0.5nm,0.4s,mb3.8,baz=218,slow=5.2,SNR=21						
ARCES	**ARCESS Array B**	**131.62**	**349**	PKP	PKPdf	18 24 18.5	+0.5
	1.8nm,0.6s,slow=1.2,SNR=7.2						
ARCES	**ARCESS Array B**	**131.62**	**349**	PKP	PKPdf	18 24 18.5	+0.4
KAF	**Kangasniemi**	**137.78**	**343**	*e*p	PKPdf	18 24 30.0	+0.4
	0.8nm,0.5s						
FINES	**FINESS Array B**	**138.39**	**343**	PKP	PKPdf	18 24 32.2	+1.5
	1.4nm,0.8s,baz=180,slow=3.8,SNR=5.9						
FINES	**FINESS Array B**	**138.39**	**343**	PKP	PKPdf	18 24 32.2	+1.5
AKASG	**Malin Array Be**	**145.38**	**329**	PKPbc	PKPbc	18 24 43.5	-0.6
	0.7nm,0.4s,baz=43,slow=4.2,SNR=7.8						
CLL	**Collm**	**150.72**	**346**	*i* P	PKPdf	18 24 59.2	+7.4
CLL				*e*		18 25 11.0	
BRG	**Berggiesshubel**	**150.91**	**344**	*i* P	PKPdf	18 24 59.9	+7.8
KHC	**Kasperske Hory**	**152.60**	**343**	*e*PKP	PKPdf	18 25 03.0	+8.4
GERES	**GERESS Array B**	**152.83**	**343**	PKPbc	PKPdf	18 25 03.5	+8.6
	0.7nm,0.6s,baz=45,slow=1.9,SNR=5.3						

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*NEIC **12** 18:28:22.8, 32.71S×71.64W, h26^{km}, ML3.3(GUC), After GUC.*

GUC 12 18:28:22.8±0.7**, 32.71S**×**71.64W, h26**^{km}±3^{km}**, MD3.8, ML3.3, 16C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.24**	**45**	⇓*i*P	Pb	18 28 29.5	+0.4
PACH				*i* S	Sb	18 28 34.1	+0.7
IHA	**Instituto Hidr**	**0.32**	**180**	⇑*i*P	Pb	18 28 30.1	-0.1
IHA				*i* S	Sb	18 28 35.5	+0.2
ROCH	**El Roble**	**0.59**	**117**	⇑*i*P	Pb	18 28 34.4	-0.1
ROCH				*i* S	Sb	18 28 43.2	+0.7
LCCH	**Las Cruces**	**0.77**	**176**	⇑*i*P	Pb	18 28 36.7	-0.8
LCCH				*i* S	Sb	18 28 46.6	-0.9
JACH	**Jahuel**	**0.88**	**89**	⇑*i*P	Pb	18 28 38.5	-0.8
JACH				*i* S	Sb	18 28 51.1	+0.3
PEL	**Peldehue**	**0.91**	**119**	⇑*i*P	Pb	18 28 39.6	-0.3
PEL				*i* S	Sb	18 28 52.2	+0.5
PUEX	**Pudahuel**	**1.04**	**135**	⇑*i*P	Pn	18 28 41.8	-0.1
PUEX				*i* S	Sb	18 28 55.9	+0.5
PUEX				AMP		18 28 56.4	
	comp=E,2μm,0.2s						
SAN	**Santiago**	**1.11**	**132**	⇓*i*P	Pn	18 28 42.6	-0.2
SAN				*i* S	Sb	18 28 57.0	-0.2
SAN				AMP		18 28 58.2	
	comp=N,1μm,0.3s						
STL	**Santa Lucia**	**1.11**	**131**	⇑*i*P	Pn	18 28 42.5	-0.3
STL				*i* S	Sb	18 28 57.0	-0.3
STL				AMP		18 28 57.9	
	comp=N,550nm,0.3s						
TACH	**Talagante**	**1.11**	**148**	⇓*i*P	Pn	18 28 42.5	-0.3
TACH				*i* S	Sn	18 28 56.7	-0.7
DSCH	**Colegio Aleman**	**1.13**	**128**	⇑*i*P	Pn	18 28 42.9	-0.3
DSCH				*i* S	Sn	18 28 57.8	-0.1
DSCH				AMP		18 28 58.5	
	comp=E,3μm,0.3s						
ILCH	**Illapel**	**1.14**	**21**	⇑*i*P	Pn	18 28 42.8	-0.4
ILCH				*i* S	Sn	18 28 58.6	+0.5
ILCH				AMP		18 29 01.6	
	comp=E,1μm,0.3s						
CLCH	**Cerro Calan**	**1.15**	**127**	⇓*i*P	Pn	18 28 43.1	-0.3
CLCH				*i* S	Sn	18 28 58.7	+0.3
CLCH				AMP		18 29 04.5	
	comp=E,983nm,0.6s						
ANTU	**Antumapu**	**1.21**	**136**	⇑*i*P	Pn	18 28 44.1	0.0
ANTU				*i* S	Sn	18 29 00.3	+0.6
ANTU				AMP		18 29 04.3	
	comp=E,1μm,0.2s						
FSR	**Penalolen**	**1.21**	**130**	⇑*i*P	Pn	18 28 44.2	0.0
FSR				*i* S	Sn	18 29 00.4	+0.5
FSR				AMP		18 29 00.9	
	comp=N,1μm,0.2s						
LNV	**Longovilo**	**1.26**	**171**	⇑*i*P	Pn	18 28 43.8	-1.1
LNV				*i* S	Sn	18 29 00.6	-0.5
FCH	**Farellones**	**1.29**	**119**	*i* P	Pn	18 28 45.2	-0.2
FCH				*i* S	Sn	18 29 02.6	+0.7
FCH				AMP		18 29 03.5	
	comp=E,1μm,0.1s						
PCH	**Pirque**	**1.31**	**134**	⇓*i*P	Pn	18 28 45.6	-0.1
SJCH	**San Jose de Ma**	**1.42**	**131**	⇑*i*P	Pn	18 28 46.9	-0.4
SJCH				*i* S	Sn	18 29 05.8	+0.5
SJCH				AMP		18 29 08.2	
	comp=E,518nm,0.2s						
CHCH	**Chadas Angostu**	**1.48**	**146**	⇓*i*P	Pn	18 28 48.5	+0.5
CACH	**El Canelo**	**1.65**	**149**	*e*P	Pn	18 28 51.9	+1.4
CACH				*i* S	Sn	18 29 14.2	+3.1
LMEL	**Las Melosas**	**1.66**	**134**	⇑*i*P	Pn	18 28 51.1	+0.5
LMEL				*i* S	Sn	18 29 13.1	+1.9
LMEL				AMP		18 29 16.9	
	comp=N,1μm,0.2s						
CICH	**Cipreses**	**1.90**	**148**	⇑*i*P	Pn	18 28 54.8	+0.6
CICH				*i* S	Sn	18 29 20.0	+2.6
SFDO	**San Fernando**	**1.97**	**165**	⇑*i*P	Pn	18 28 54.9	-0.3
ZON	**Zonda**	**2.77**	**66**	*e*P	Pn	18 29 07.0	+0.5
ZON				*e*S	Sn	18 29 47.0	+7.6

IDC 12 18:30:06.7±8.7**, 1.71S**×**135.59E, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.5**/12**, mbtmp3.5**/3**, ML3.2**/1**, Error ellipse: s-maj=144.4km s-min=104.0km az=131.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.16**	**184**	P	P	18 34 19.7	-2.6
	0.1nm,0.3s,baz=6.7,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**21.89**	**184**	P	P	18 35 00.4	-3.0
	0.5nm,0.8s,baz=6.2,slow=11,SNR=8.6						
STKA	**Stephens Creek**	**30.54**	**170**	P	P	18 36 23.1	-1.1
	1.3nm,0.5s,baz=359,slow=10,SNR=7.2						

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*IDC **12** 18:49:11.0±1.8, 22.00N×143.19E, h225^{km}±17^{km}, mb3.6/13, mb1 3.8/15, mb1mx3.6/25, mbtmp4.3/15, Error ellipse: s-maj=20.7km s-min=10.0km az=96.0*

*NEIC **12** 18:49:13.8±2.5, 21.98N×143.12E, h254^{km}±25^{km}, mb4.0/11, Error ellipse: s-maj=17.0km s-min=7.8km az=92.0*

ISC 12 18:49:10.3±1.4**, 21.98N**±0.07×**143.2E**±0.1**, h232**^{km}±12^{km}**, n30,** $\sigma 0^{s}98$/31**, mb3.9**/22**, 1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.17**	**350**	P	**P**	**18 50 28.1**	**-0.1**
	43nm,0.3s,baz=276,slow=23,SNR=12						
CBIJ				S	**S**	**18 51 28.4**	**-0.7**
	27nm,0.3s,baz=240,slow=23,SNR=6.1						
JOW	**Kunigami**	**14.40**	**293**	P	**P**	**18 52 26.2**	**+1.1**
	6.3nm,0.3s,baz=104,slow=19,SNR=4.5						
MAJO	**Matsushiro**	**15.14**	**345**	*e*P	**P**	**18 52 33.7**	**-0.4**
	13nm,0.7s						
KS15	**Wonju Array Si**	**20.30**	**323**	*e*P	**P**	**18 53 31.9**	**+2.4**
ASAJ	**Asahikawa**	**22.09**	**359**	P	**P**	**18 53 49.0**	**+2.2**
	4.9nm,0.8s,mb4.1,baz=202,slow=11,SNR=4.8						
MA2	**Magadan**	**37.95**	**6**	*e*P	**P**	**18 56 06.2**	**-0.6**
	3.5nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**38.74**	**321**	P	**P**	**18 56 14.1**	**+0.6**
	3.8nm,0.9s,mb3.9						
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**18 56 17.1**	**+0.5**
	1.7nm,0.4s,mb3.9,baz=124,slow=7.2,SNR=49						
YAK	**Yakutsk**	**41.09**	**350**	*e*P	**P**	**18 56 31.4**	**-1.3**
	12nm,1.3s,mb4.2						
WRAB	**Tennant Creek**	**42.54**	**192**	*e*P	**P**	**18 56 45.0**	**+0.1**
	11nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.55**	**192**	⇑*i*P	**P**	**18 56 45.1**	**+0.1**
WRA	**Warramunga Arr**	**42.55**	**192**	P	**P**	**18 56 45.2**	**+0.2**
	3.0nm,0.4s,mb4.1,baz=16,slow=9.2,SNR=109						
ASAR	**Alice Springs**	**46.26**	**192**	P	**P**	**18 57 13.9**	**-0.4**
	1.1nm,0.5s,mb3.4,baz=14,slow=12,SNR=26						
BILL	**Bilibino**	**48.25**	**11**	*e*P	**P**	**18 57 29.3**	**+0.1**
	3.1nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**53.57**	**182**	P	**P**	**18 58 08.7**	**-0.7**
	1.0nm,0.5s,mb3.6,baz=5.4,slow=10.0,SNR=9.4						
STKA	**Stephens Creek**	**53.57**	**182**	P	**P**	**18 58 07.6**	**-1.8**
ZAL	**Zalesovo**	**54.00**	**322**	P	**P**	**18 58 11.8**	**-0.4**
	2.5nm,0.4s,mb4.0,baz=357,slow=9.0,SNR=10.0						
KURK	**Kurchatov**	**57.27**	**317**	*e*P	**P**	**18 58 34.9**	**-0.6**
	3.6nm,0.7s,mb4.1						
ILAR	**Eielson Array**	**61.80**	**27**	P	**P**	**18 59 04.3**	**-1.8**
	3.2nm,0.8s,mb4.0,baz=261,slow=5.3,SNR=29						
CHKZ	**Chkalovo**	**62.32**	**320**	*e*P	**P**	**18 59 08.4**	**-1.4**
	2.9nm,0.6s,mb4.1						
INK	**Inuvik**	**67.32**	**24**	P	**P**	**18 59 41.4**	**-0.2**
	1.6nm,0.7s,mb3.8,baz=286,slow=6.4,SNR=9.9						
INK	**Inuvik**	**67.32**	**24**	*e*P	**P**	**18 59 41.4**	**-0.1**
	2.2nm,0.8s,mb3.8						
DLBC	**Dease Lake**	**69.90**	**34**	P	**P**	**18 59 58.9**	**+1.4**
	1.6nm,0.9s,mb3.6,baz=304,slow=10,SNR=4.1						
DLBC	**Dease Lake**	**69.90**	**34**	P	**P**	**18 59 58.9**	**+1.4**
YKA	**Yellowknife Ar**	**76.21**	**28**	P	**P**	**19 00 34.3**	**+0.2**
	0.8nm,0.4s,mb3.7,baz=292,slow=5.9,SNR=17						
RES	**Resolute Bay**	**76.81**	**13**	*e*P	**P**	**19 00 37.2**	**-0.1**
	1.6nm,0.9s,mb3.6						
ARCES	**ARCESS Array B**	**78.66**	**341**	P	**P**	**19 00 46.8**	**-0.6**
	2.6nm,0.7s,mb4.0,baz=51,slow=7.8,SNR=6.7						
CMB	**Columbia Colle**	**81.60**	**52**	*e*P	**P**	**19 01 05.0**	**+1.4**
	1.8nm,0.8s,mb3.8						
FINES	**FINESS Array B**	**82.93**	**334**	P	**P**	**19 01 09.0**	**-0.9**
	1.0nm,0.3s,mb4.0,baz=70,slow=5.2,SNR=26						
NVAR	**Mina Array Bea**	**82.98**	**51**	P	**P**	**19 01 12.0**	**+1.3**
	0.9nm,0.7s,mb3.6,baz=268,slow=4.5,SNR=4.6						

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*ISK **12** 18:57:15.1, 38.04N×30.83E, h5^{km}, MD3.7*

*CSEM **12** 18:57:15.1±0.1, 38.04N×30.83E, h5^{km}, MD3.7, Error ellipse: s-maj=3.5km s-min=2.2km az=124.0, After ISK*

ISC 12 18:57:15.8±0.4**, 38.00N**±0.03×**30.89E**±0.03**, h5**^{km}**, n33,** $\sigma 1^{s}00$/37**, 2C-1D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.34**	**243**	*i* PG	**Pg**	**18 57 22.0**	**-0.7**
ISP				*i* SG	**Sg**	**18 57 27.4**	**+0.1**
TKTP	**Tekketepe**	**0.46**	**275**	*i* P	**Pg**	**18 57 23.9**	**-1.1**
TKTP				*i* S	**Sg**	**18 57 32.0**	**+1.0**
BCK	**Bucak**	**0.59**	**204**	*i* PG	**Pg**	**18 57 27.6**	**+0.1**
KHL	**Karahalli**	**1.13**	**287**	PG	**Pg**	**18 57 36.4**	**-2.0**
KHL	**Karahalli**	**1.13**	**287**	SG	**Sg**	**18 57 52.6**	**-0.8**
KONT	**Konya--Tatoy**	**1.16**	**92**	PG	**Pg**	**18 57 38.5**	**-0.5**
KIZT	**Kizilcal**	**1.17**	**41**	*i* PG	**Pg**	**18 57 38.6**	**-0.6**
ELL	**Elmali**	**1.47**	**212**	PG	**Pg**	**18 57 44.6**	**-0.6**
DENT	**Denizli**	**1.49**	**261**	PG	**Pg**	**18 57 43.3**	**-2.3**
DNZL	**Cakiroluk**	**1.50**	**259**	*i* P	**Pn**	**18 57 43.6**	**+0.2**
DNZL				*i* S	**Sb**	**18 58 05.1**	**+2.3**
ESKT	**Eskisehir**	**1.52**	**359**	*i* P	**Pn**	**18 57 44.1**	**+0.3**
ESKT				*i* S	**Sb**	**18 58 05.9**	**+2.4**
ESKT	**Eskisehir**	**1.52**	**359**	*i* Pg	**Pg**	**18 57 44.2**	**-1.9**
HDMB	**Hadim**	**1.63**	**129**	PG	**Pg**	**18 57 47.7**	**-0.7**
FETY	**Fethiye**	**1.98**	**227**	PG	**Pn**	**18 57 51.2**	**+0.8**
DALT	**Dalyan (Mudla)**	**2.18**	**236**	*e*PG	**Pn**	**18 57 54.2**	**+1.1**
YER	**Yerkesik**	**2.25**	**248**	PG	**Pn**	**18 57 55.1**	**+1.0**
ANTO	**Ankara**	**2.38**	**38**	*e*PG	**Pn**	**18 57 56.0**	**-0.1**
LOD	**Lodumlu**	**2.39**	**37**	*e*PG	**Pn**	**18 57 56.8**	**+0.6**
ORLT	**Orhaneli**	**2.57**	**323**	*e*PG	**Pn**	**18 57 59.0**	**+0.2**
KAMT	**Kaman**	**2.60**	**57**	*e*PG	**Pn**	**18 57 59.8**	**+0.6**
BALB	**Balikesir**	**2.87**	**306**	*e*PG	**Pn**	**18 58 03.3**	**+0.2**
IZM	**Izmir**	**2.89**	**279**	*e*PG	**Pn**	**18 58 02.9**	**-0.4**
HRT	**Hereke**	**2.98**	**342**	*e*PG	**Pn**	**18 58 04.0**	**-0.6**
BODT	**Bodrum**	**3.00**	**253**	*e*PG	**Pn**	**18 58 05.2**	**+0.3**
BLCB	**Balcova**	**3.06**	**278**	*e*PG	**Pn**	**18 58 06.1**	**+0.3**
SAFT	**Safranbolu**	**3.52**	**23**	*e*PG	**Pn**	**18 58 11.9**	**-0.5**
CANB	**Canakkale**	**3.60**	**305**	*e*PG	**Pn**	**18 58 13.8**	**+0.3**
CORM	**Corum**	**3.63**	**52**	*e*PG	**Pn**	**18 58 14.5**	**+0.6**
BNN	**Bunyan**	**3.98**	**76**	*e*PG	**Pn**	**18 58 19.8**	**+1.0**
EDRB	**Edirne**	**5.00**	**322**	*e*PG	**Pn**	**18 58 32.6**	**-0.7**
MLR	**Muntele Rosu**	**8.35**	**335**	⇑P	**P**	**18 59 20.7**	**+0.3**
VRI	**Vrincioaia**	**8.45**	**340**	⇑P	**P**	**18 59 20.0**	**-1.8**
BURAR	**Bucovina Array**	**10.47**	**338**	⇓P	**P**	**18 59 51.3**	**+1.7**

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*IDC **12** 19:03:49.3±2.9, 32.70S×178.47W, mb4.1/2, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, ML4.0/1, MS3.9/3, Ms1 3.9/3, ms1mx3.0/24, Error ellipse: s-maj=66.5km s-min=35.2km*

az=116.0

ISC 12 19:03:50.5±3.4, 32.9S±0.1×178.2W±0.5, h33km, n9, σ0s30/10, mb4.0/2, MS3.9/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	5.92	209	PN	Pn	19 05 18.3	+0.1
PUZ				SN	Sn	19 06 25.1	-0.5
PUZ				SN	Sn	19 06 25.4	-0.2
URZ	Urewera	6.58	214	Pn	Pn	19 05 27.5	0.0
	2.8nm,0.3s,baz=136,slow=21,SNR=20						
URZ				Sn	Sn	19 06 42.4	+0.3
	1.7nm,0.3s,baz=144,slow=19,SNR=5.3						
URZ	Urewera	6.58	214	PN	Pn	19 05 27.8	+0.3
URZ				SN	Sn	19 06 42.3	+0.1
URZ				SN	Sn	19 06 42.4	+0.3
CTA	Charters Tower	34.15	283	LR	LR	19 23 24.5	
	comp=Z,76nm,18.7s,MS3.5,baz=228,slow=35						
ASAR	Alice Springs	42.90	270	P	P	19 11 48.0	+0.3
	1.4nm,0.6s,mb3.9,baz=109,slow=7.4,SNR=22						
WRA	Warramunga Arr	44.11	275	P	P	19 11 57.2	-0.4
	2.2nm,0.6s,mb4.0,baz=113,slow=7.7,SNR=17						
USHA	Ushuaia	73.93	145	LR	LR	19 39 54.6	
	comp=Z,102nm,20.2s,MS4.1,baz=16,slow=29						
NEW	Newport	97.48	36	LR	LR	19 52 19.6	
	comp=Z,73nm,18.9s,MS4.2,baz=303,slow=30						
FINES	FINESS Array B	147.44	338	PKPbc	PKPdf	19 23 32.7	+5.1
	2.9nm,0.8s,baz=44,slow=3.8,SNR=10						

MAN 12 19:18:54.7, 14.02N×120.35E, h32km, mb4.1, ML2.9, MS2.6, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LUBP	Lubang	0.30	200	eP	Pb	19 19 03.3	+1.0
LUBP				eS	Sb	19 19 11.5	+3.9
TGY	Tagaytay City	0.57	82	eP	Pb	19 19 07.9	+1.5
TGY				i S	Sb	19 19 19.7	+5.3
BOAC	Boac	1.56	111	eP	Pn	19 19 19.9	-0.7
POLP	Polilio Island	1.69	65	eP	Pn	19 19 22.4	-0.1
POLP				eS	Sn	19 19 44.5	+1.2
PCPH	Palayan	1.69	25	⇓eP	Pn	19 19 19.9	-2.6
PCPH				i S	Sn	19 19 41.9	-1.4
SJMP	San Jose	1.72	154	eP	Pn	19 19 21.3	-1.6
SCZP	Santa Cruz	1.79	346	eP	Pn	19 19 23.2	-0.7
BALP	Baler	2.08	35	eP	Pn	19 19 28.0	-0.1
BALP				eS	Sn	19 19 55.3	+2.2
CAUP	Cauayan	3.23	26	eP	Pn	19 19 44.1	-0.4

IDC 12 19:24:14.6±2.8, 22.17S×67.52W, h174km±25km, mb3.3/1, mb1 3.4/3, mb1mx3.1/13, mbtmp3.6/3, Error ellipse: s-maj=68.2km s-min=14.9km az=100.0

ISC 12 19:24:13.5±2.1, 22.24S±0.09×67.5W±0.5, h183km±24km, n7, σ0s86/9, mb3.5/1, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	1.35	254	P	P	19 24 45.3	+0.6
	29nm,0.3s,baz=75,slow=6.0,SNR=295						
LVC				S	S	19 25 08.5	-0.3
	23nm,0.3s,baz=305,slow=19,SNR=46						
LPAZ	La Paz	5.95	354	P	P	19 25 42.1	+1.4
	2.1nm,0.3s,baz=173,slow=11,SNR=24						
LPAZ				S	S	19 26 47.0	-1.3
	0.4nm,0.3s,baz=51,slow=13,SNR=3.6						
PLCA	Paso Flores	18.62	187	P	P	19 28 18.9	-0.5
	0.1nm,0.3s,baz=11,slow=10,SNR=2.4						
VNA3	Neumayer Olymp	58.96	161	P	P	19 33 48.0	-7.5
VNA2	Neumayer--Watz	59.53	161	P	P	19 33 49.0	-10
SNAA	Sanae	61.16	161	P	P	19 34 09.9	-0.5
YKA	Yellowknife Ar	92.32	340	P	P	19 37 04.3	+0.7
	0.4nm,0.8s,mb3.5,baz=132,slow=4.3,SNR=9.2						

IDC 12 19:28:23.4±1.2, 6.13S×130.58E, mb4.0/4, mb1 4.4/6, mb1mx4.2/12, mbtmp4.2/6, ML4.5/2, Error ellipse: s-maj=93.2km s-min=20.3km az=63.0

NEIC 12 19:28:28.6±0.4, 6.37S×130.09E, h30km, mb4.3/4, Error ellipse: s-maj=15.4km s-min=6.9km az=66.0

ISC 12 19:28:34.7±3.0, 6.67S±0.09×130.1E±0.1, h118km±32km, n16, σ1s25/18, mb4.0/8, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRAB	Tennant Creek	13.82	163	eP	P	19 31 46.8	+0.1
	33nm,0.6s						
WRAB				eS	S	19 34 11.1	-6.4
WRA	Warramunga Arr	13.83	163	Pn	P	19 31 46.9	+0.1
	2.0nm,0.3s,baz=339,slow=13,SNR=59						
WRA				Sn	S	19 34 11.2	-6.5
	2.3nm,0.3s,baz=338,slow=22,SNR=6.9						
ASAR	Alice Springs	17.29	168	P	P	19 32 32.1	+1.8
	4.3nm,0.3s,baz=344,slow=11,SNR=210						
ASAR				S	S	19 35 34.5	-2.4
	0.5nm,0.3s,baz=352,slow=27,SNR=4.5						
KSM	Kuching	21.32	292	eP	P	19 33 12.8	-0.8
GUMO	Guam	24.92	36	eP	P	19 33 47.2	-1.3
STKA	Stephens Creek	27.29	158	P	P	19 34 12.4	+2.1
	0.8nm,0.4s,mb3.6,baz=338,slow=8.9,SNR=6.4						
KULM	Kulim	31.68	291	P	P	19 34 49.0	-0.4
CM31	Chiang Mai Arr	39.58	310	eP	P	19 35 54.8	-1.4
	7.6nm,1.1s,mb4.4						
CMAR	Chiang Mai Arr	39.58	310	P	P	19 35 56.8	+0.6
	1.2nm,0.6s,mb3.9,baz=141,slow=7.1,SNR=11						
MAJO	Matsushiro	43.66	10	P	P	19 36 29.6	+0.2
	8.8nm,0.9s,mb4.5						
BJT	Baijiatuau	48.20	346	eP	P	19 37 03.0	-2.2
AAK	Ala-Archa	70.34	320	P	P	19 39 38.8	+1.1
	1.3nm,0.9s,mb3.8						
ZAL	Zalesovo	71.32	334	P	P	19 39 43.9	+0.5
	0.8nm,0.3s,mb4.0,baz=355,slow=6.4,SNR=4.2						
KURK	Kurchatov	72.28	329	eP	P	19 39 50.2	+1.2
	1.7nm,0.6s,mb4.0						
BVAR	Borovoye Array	77.83	328	P	P	19 40 21.5	+0.9
	1.1nm,0.9s,mb3.6,baz=117,slow=3.2,SNR=6.9						
LPAZ	La Paz	150.93	142	PKPbc	PKPdf	19 48 19.6	+11
	1.5nm,0.3s,baz=309,slow=2.5,SNR=11						

BJI 12 19:34:24.6, 38.41N×106.05E, h11km, ML3.6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LZH	Lanzhou	2.91	218	PG	Pg	19 35 18.1	-4.7
LZH				SG	Sg	19 35 57.2	-4.4
LZH				Smax			
	comp=N,504nm,0.6s						
LZH				Smax			
	comp=E,292nm,0.7s						
LZH				LR	LR		
	comp=E,626nm,4.1s						
LZH				LR	LR		
	comp=Z,770nm,6.2s						
BTO	Baotou	3.77	53	eP	Pn	19 35 25.6	+1.6
BTO				PG	Pg	19 35 30.1	-10
BTO				SG	Sg	19 36 13.3	-17
BTO				Smax			
	comp=N,68nm,0.3s						
BTO				Smax			
	comp=E,78nm,0.3s						
XAN	Xi'an	4.94	151	P	Pn	19 35 37.8	-2.8
XAN				PG	Pg	19 35 48.6	-15
XAN				S	Sn	19 36 36.5	-1.9
XAN				SG	Sg	19 36 51.8	-17
XAN				Smax			
	comp=N,76nm,0.7s						
XAN				Smax			
	comp=E,44nm,0.8s						
GTA	Gaotai	4.96	284	P	Pn	19 35 38.1	-2.9
GTA				PG	Pg	19 35 52.4	-11
GTA				S	Sn	19 36 36.3	-2.8
GTA				SG	Sg	19 36 59.3	-11
GTA				Smax			
	comp=N,91nm,0.6s						
GTA				Smax			
	comp=E,67nm,0.5s						

IDC 12 19:38:12.2±54.0, 17.13S×178.67E, mb4.3/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.3/3, 1D, Error ellipse: s-maj=972.2km s-min=136.5km az=77.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.59	239	P	P	19 45 20.7	-1.2
	1.8nm,0.7s,baz=90,slow=9.5,SNR=8.7						
WB2	Warramunga Arr	42.02	259	eP	P	19 46 05.4	-1.9
WRA	Warramunga Arr	42.03	259	P	P	19 46 05.5	-1.9
	0.9nm,0.3s,baz=95,slow=7.8,SNR=51						
ASAR	Alice Springs	42.32	254	P	P	19 46 07.8	-1.9
	13nm,0.7s,baz=89,slow=7.8,SNR=238						
ASPA	Alice Springs	42.33	254	⇓iP	P	19 46 08.0	-1.8

DJA 12 20:28:41.0±0.9, 9.25S×113.28E, h15km, ML4.5/4, 1C-6D, Error ellipse: s-maj=18.8km s-min=18.3km az=151.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	1.15	48	⇓ePn	Pn	20 28 59.7	-2.8
	578nm,0.2s						
SRDI				⇓eSn	Sn	20 29 13.0	-4.9
KELI	Kelakatan	1.58	49	⇓ePn	Pn	20 29 06.6	-2.1
	450nm,0.2s						
KELI				Sn	Sn	20 29 25.2	-3.7
RATI	Rata	2.29	77	⇓ePn	Pn	20 29 16.3	-2.5
	545nm,0.2s						
RATI				⇓eSn	Sn	20 29 41.7	-5.2
KEDI	Kedomdong	2.90	75	⇓ePn	Pn	20 29 24.3	-3.3
	112nm,0.2s						
KEDI				⇑eSn	Sn	20 29 56.6	-5.9

NIED 12 21:44:00, 29.10N×130.10E, h29km, Mw4.3 Best double couple: Mo2.98×10^15 NP1:φs193°, δ53°, λ71°. NP2:φs42°, δ41°, λ113°.

BJI 12 21:44:38.3, 28.50N×130.92E, h51km, mB4.8, mb4.4, Ms4.1, Msz3.9

JMA 12 21:44:44.8±0.2, 29.10N×130.05E, h73km±4km, M3.9

NEIC 12 21:44:46.9±0.3, 29.07N×130.22E, mb4.4/23, Error ellipse: s-maj=9.2km s-min=7.1km az=138.0

IDC 12 21:44:46.9±0.8, 29.09N×130.15E, h50km±7km, mb3.8/14, mb1 4.1/15, mb1mx4.0/22, mbtmp4.1/15, MS3.6/8, Ms1 3.6/8, ms1mx3.5/21, Error ellipse: s-maj=20.8km s-min=14.3km az=89.0

ISC 12 21:44:44.9±0.5, 29.02N±0.03×130.27E±0.05, h48km±4km, h53km±2.5km:pP-P, n71, σ1s10/82, mb4.3/40, MS3.8/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JZK	Kikaishima	0.75	200	P	P	21 45 01.0	+1.7
JZK				S	S	21 45 14.3	+4.4
JAM	Amami Oshima	0.84	224	P	P	21 45 00.7	+0.1
JAM				S	S	21 45 12.7	+0.6
JNN	Nakanoshima	0.89	337	P	P	21 45 00.4	-0.8
JNN				S	S	21 45 12.5	-0.7
JKC	Kuchinoerabu	1.44	358	P	P	21 45 08.6	-0.4
JKC				S	S	21 45 26.9	0.0
JTK	Tokunoshima	1.69	224	P	P	21 45 13.2	+0.6
JTK				S	S	21 45 34.2	+1.0
JTN	Tanegashima 3	1.74	21	P	P	21 45 13.2	-0.1
JTN				S	S	21 45 34.9	+0.5
JTSR	Tashiro 2	2.21	15	P	P	21 45 19.7	-0.3
JOW	Kunigami	2.81	219	P	P	21 45 28.4	0.0
	16nm,0.3s,baz=92,slow=20,SNR=15						
JOW				S	S	21 46 10.2	+8.9
	27nm,0.3s,baz=120,slow=28,SNR=6.2						
JOW				LR	LR	21 46 46.6	
	comp=Z,843nm,18.7s,baz=111,slow=43						
JOW	Kunigami	2.81	219	P	P	21 45 28.3	-0.1
JJT2	Tamagusuku 2	3.64	218	P	P	21 45 39.2	-1.0
JKE	Kume jima 2	4.09	230	P	P	21 45 45.9	-0.7
JKE				eS	S	21 46 31.2	-2.6
KS15	Wonju Array Si	8.63	347	P	P	21 46 52.8	+2.9
JHJ	Hachijo jima 2	9.12	61	LR	LR	21 50 29.3	
	comp=Z,114nm,20.2s,baz=109,slow=37						
MAJO	Matsushiro	10.04	40	eP	P	21 47 07.1	-2.2
	16nm,1.0s						
CBIJ	Chichi jima	10.70	97	LR	LR	21 50 33.2	
	comp=Z,171nm,21.6s,baz=332,slow=32						
CN2	Changchun	15.25	347	eP	P	21 48 23.8	+5.3
CN2				eAP		21 48 34.5	
CN2				eS	S	21 51 06.6	+0.3
CN2				AMB	AMB		
	comp=Z,40nm,0.8s						
CN2				AMB	AMB		
	comp=Z,160nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,14.0s						
CN2				LR	LR		
	comp=E,300nm,14.0s						
CN2				LR	LR		
	comp=Z,400nm,16.0s						
MDJ	Mudanjiang	15.57	358	P	P	21 48 23.1	+0.4
MDJ				S	S	21 51 14.6	+0.7
MDJ				SS	SS	21 51 38.5	+5.3
MDJ				AMB	AMB		
	comp=Z,265nm,5.6s						
MDJ				LR	LR		
	comp=N,68nm,18.5s						
MDJ				LR	LR		
	comp=E,49nm,19.6s						
MDJ				LR	LR		
	comp=Z,80nm,20.6s						
BJT	Baijiatuau	15.96	317	eP	P	21 48 29.9	+2.3
	comp=Z,26nm,1.0s						
BJI	Beijing	15.97	317	P	P	21 48 36.1	+8.4
	comp=Z,17nm,1.2s						
ASAJ	Asahikawa	18.00	30	LR	LR	21 56 03.2	
	comp=Z,185nm,19.4s,baz=204,slow=38						
ENH	Enshi	18.11	279	eP	P	21 48 55.6	+1.0
	comp=Z,10nm,0.8s						
HHC	Hu-ho-hao-te	19.30	313	eP	P	21 49 10.8	+2.2
HHC				AP		21 49 23.5	
HHC				XP		21 49 30.6	
HHC				S	S	21 52 43.9	+5.3
HHC				AMB	AMB		
	comp=Z,20nm,0.5s						
HHC				AMB	AMB		
	comp=Z,99nm,4.5s						
HHC				LR	LR		
	comp=N,273nm,14.3s						
HHC				LR	LR		
	comp=E,212nm,13.1s						
HHC				LR	LR		
	comp=Z,254nm,14.9s						
YSS	Yuzh-Sakhalins	20.38	25	P	P	21 49 19.9	-0.1
	comp=Z,32nm,1.3s						
LZH	Lanzhou	23.32	294	eP	P	21 49 51.0	+1.6
LZH				AP		21 50 03.6	
LZH				XP		21 50 09.1	
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,100nm,4.5s						
LZH	Lanzhou	23.32	294	eP	P	21 49 51.0	+1.6
	comp=Z,31nm,1.5s,mb4.5						
LZH				pP		21 50 03.6	
LZH				sP		21 50 09.1	
KMI	Kunming	24.79	268	P	P	21 50 04.8	+0.9
KMI				XP		21 50 21.5	
KMI				S	S	21 54 20.4	+0.1
KMI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.4						
KMI				LR	LR		
	comp=N,299nm,11.9s,MS4.0						
KMI				LR	LR		
	comp=E,211nm,16.5s,MS4.0						
KMI				LR	LR		
	comp=Z,233nm,14.6s,MS3.8						
KMI	Kunming	24.79	268	P	P	21 50 04.8	+0.9
	comp=Z,8.0nm,0.7s,mb4.4						
KMI				sP		21 50 21.5	
KMI				S	S	21 54 20.4	+0.1
KMI				LR	LR		
	comp=Z,230nm,14.6s,MS3.8						
ULN	Ulaanbaatar	26.00	323	eP	P	21 50 13.1	-1.9
	comp=Z,3.2nm,0.7s,mb4.0						
SONM	Songino Array	26.33	322	P	P	21 50 16.2	-1.8
	comp=Z,1.8nm,0.6s,mb3.8,baz=141,slow=9.8,SNR=14						
GTA	Gaotai	27.12	301	eP	P	21 50 25.4	+0.1
GTA				AP	pP	21 50 40.0	+2.3
GTA				XP	sP	21 50 47.0	+3.5
GTA				PP	PP	21 51 12.7	0.0
GTA				S	S	21 54 59.3	+0.9
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,130nm,4.6s						
GTA				LR	LR		
	comp=N,208nm,14.8s						
GTA				LR	LR		
	comp=E,184nm,21.7s						
GTA				LR	LR		
	comp=Z,216nm,17.9s,MS3.8						
TLY	Talaya	30.10	326	eP	P	21 50 52.0	+0.1
	comp=Z,1.2nm,0.6s,mb3.8						
CMAR	Chiang Mai Arr	30.45	257	P	P	21 50 55.1	-0.3
	comp=Z,0.3nm,0.6s,mb3.2,baz=64,slow=6.9,SNR=4.2						
CMAR				LR	LR	22 05 11.0	
	comp=Z,93nm,18.0s,MS3.5,baz=210,slow=40						
LSA	Lhasa	33.99	281	eP	P	21 51 25.4	-0.8
	comp=Z,2.6nm,0.8s,mb4.2						
WMQ	Urumqi	36.88	305	eP	P	21 51 52.0	+1.4
WMQ				AP	pP	21 52 06.0	+2.6
WMQ				XP	sP	21 52 14.0	+4.6
WMQ				S	S	21 57 32.0	+0.7
WMQ				XS		21 57 58.0	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,148nm,6.0s						
WMQ				LR	LR		
	comp=N,154nm,19.4s,MS4.1						
WMQ				LR	LR		
	comp=E,232nm,18.7s,MS4.1						
WMQ				LR	LR		
	comp=Z,163nm,17.6s,MS3.9						
PKI	Pulchoki	39.35	279	eP	P	21 52 10.7	-0.6
	comp=Z,14nm,0.6s,mb4.9						
KKN	Kakani	39.41	279	eP	P	21 52 11.3	-0.5
	comp=Z,20nm,0.8s,mb4.9						
DMN	Daman	39.60	279	eP	P	21 52 12.9	-0.5
	comp=Z,18nm,0.8s,mb4.8						
GKN	Gorkha	39.92	280	eP	P	21 52 15.2	-0.8
	comp=Z,17nm,0.9s,mb4.8						
KOLN	Koldanda	40.87	280	eP	P	21 52 23.1	-0.7
	comp=Z,14nm,1.0s,mb4.5						
ZAL	Zalesovo	41.20	320	P	P	21 52 25.9	-0.4
	comp=Z,0.9nm,0.6s,mb3.6,baz=15,slow=8.2,SNR=6.8						
ZAL				LR	LR	22 11 43.5	
	comp=Z,117nm,18.8s,MS3.8,baz=151,slow=39						
ZAL	Zalesovo	41.20	320	P	P	21 52 25.9	-0.4
ZAL				LR	LR	22 11 43.5	
KURK	Kurchatov	44.11	314	eP	P	21 52 48.9	-1.2
	comp=Z,5.3nm,1.0s,mb4.2						
BILL	Bilibino	44.46	18	eP	P	21 52 51.4	-1.3
	comp=Z,3.8nm,0.8s,mb4.2						
AAK	Ala-Archa	46.43	303	eP	P	21 53 04.0	-4.6
	comp=Z,0.9nm,0.6s,mb3.9						
WRAB	Tennant Creek	48.83	175	eP	P	21 53 27.1	-0.6
	comp=Z,13nm,0.9s,mb5.0						
WRA	Warramunga Arr	48.84	175	P	P	21 53 27.4	-0.3
	comp=Z,5.2nm,0.7s,mb4.7,baz=354,slow=8.3,SNR=29						
WRA				pP	pP	21 53 41.4	+0.6
	comp=Z,2.6nm,0.7s,baz=354,slow=8.4,SNR=5.4						
CHKZ	Chkalovo	49.37	317	eP	P	21 53 29.5	-1.9
	comp=Z,3.0nm,0.7s,mb4.4						
BVAR	Borovoye Array	49.45	317	P	P	21 53 31.0	-1.0
	comp=Z,8.6nm,0.8s,mb4.9,baz=92,slow=9.5,SNR=61						
BVAR				PcP	PcP	21 54 52.9	-1.0
	comp=Z,2.1nm,0.8s,baz=90,slow=4.4,SNR=5.3						
ASAR	Alice Springs	52.50	176	P	P	21 53 55.2	-0.3
	comp=Z,2.2nm,0.5s,mb4.3,baz=7.4,slow=14,SNR=42						
ASAR				pP	pP	21 54 10.0	+1.3
	comp=Z,2.1nm,0.5s,baz=8.5,slow=14,SNR=5.6						
ILAR	Eielson Array	61.13	29	P	P	21 54 55.0	-1.2
	comp=Z,0.7nm,0.7s,mb3.9,baz=268,slow=5.9,SNR=8.4						
STKA	Stephens Creek	61.51	169	LR	LR	22 20 20.5	
	comp=Z,112nm,20.4s,MS4.0,baz=270,slow=35						
INK	Inuvik	65.62	24	P	P	21 55 24.6	-1.1
	comp=Z,9.1nm,1.4s,mb4.6						
FINES	FINESS Array B	71.33	331	P	P	21 55 58.9	-2.3
	comp=Z,1.2nm,0.5s,mb4.1,baz=79,slow=6.5,SNR=18						
RES	Resolute Bay	72.47	11	P	P	21 56 07.1	-0.6
	comp=Z,6.8nm,0.9s,mb4.6						
YKA	Yellowknife Ar	75.24	26	P	P	21 56 24.3	+0.5
	comp=Z,1.9nm,0.8s,mb4.1,baz=303,slow=5.5,SNR=37						
YKA				pP	pP	21 56 37.9	+0.2
	comp=Z,0.7nm,0.8s,baz=305,slow=5.7,SNR=3.7						
YKA				LR	LR	22 31 09.2	
	comp=Z,51nm,19.0s,MS3.8,baz=85,slow=37						
YKA	Yellowknife Ar	75.24	26	P	P	21 56 24.3	+0.5
YKA				pP	pP	21 56 37.9	+0.2
YKA				LR	LR	22 31 09.2	
NOA	NORSAR Array B	77.61	334	P	P	21 56 38.9	+1.6
	comp=Z,0.9nm,0.8s,mb3.7,baz=50,slow=5.4,SNR=4.1						
SUMG	Summit	78.38	357	P	P	21 56 41.0	-0.3
	comp=Z,4.5nm,0.9s,mb4.4						
EDM	Edmonton	81.28	33	P	P	21 56 50.8	-6.5
NEW	Newport	82.29	38	eP	P	21 57 03.7	+1.1
	comp=Z,7.3nm,1.3s,mb4.5						
WALA	Waterton Lakes	83.53	37	eP	P	21 57 10.9	+2.0
	comp=Z,11nm,1.3s,mb4.8						
GERES	GERESS Array B	84.05	324	P	P	21 57 11.8	+0.3
	comp=Z,0.8nm,0.6s,mb4.0,baz=60,slow=7.9,SNR=1.8						
FCC	Fort Churchill	85.09	21	P	P	21 57 16.9	+0.5
	comp=Z,11nm,1.3s,mb4.8						
CMB	Columbia Colle	86.16	48	eP	P	21 57 22.5	+0.3
	comp=Z,4.6nm,0.8s,mb4.8						
HLID	Hailey	86.61	41	P	P	21 57 26.1	+1.8
	comp=Z,2.3nm,1.0s,mb4.4						
NVAR	Mina Array Bea	87.28	47	P	P	21 57 29.4	+1.8
	comp=Z,0.4nm,0.3s,mb4.1,baz=292,slow=2.5,SNR=3.8						
NVAR	Mina Array Bea	87.28	47	P	P	21 57 29.4	+1.8
HWUT	Hardware Ranch	89.47	41	P	P	21 57 37.8	-0.3
	comp=Z,5.6nm,1.3s,mb4.7						
PDAR	Pinedale Array	89.86	40	P	P	21 57 41.2	+1.4
	comp=Z,0.3nm,0.5s,mb3.9,baz=315,slow=4.2,SNR=3.9						
ULM	Lac du Bonnet	91.12	28	P	P	21 57 45.5	0.0
	comp=Z,2.3nm,0.8s,mb4.6,baz=265,slow=4.7,SNR=3.7						
RW3	Ridgway	93.92	42	eP	P	21 57 54.7	-3.9

DJA 12 21:45:50.7±0.9, 9.86S×117.35E, h2km, ML3.9/3, 3C-5D, Error ellipse: s-maj=28.4km s-min=17.9km az=31.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.83	318	⇑ePn	Pn	21 46 20.3	-3.1
	116nm,0.2s						
KEDI				⇓eSn	Sn	21 46 43.5	-3.9
RATI	Rata	2.12	302	⇓ePn	Pn	21 46 24.8	-2.7
RATI				⇓eSn	Sn	21 46 49.4	-5.4
KELI	Kelakatan	3.26	300	⇑ePn	Pn	21 46 41.8	-2.0
	20nm,0.2s						
KELI				⇓iSn	Sn	21 47 16.9	-6.8
SRDI	Scrawed	3.45	293	⇓ePn	Pn	21 46 42.9	-3.6
	48nm,0.2s						
SRDI				⇑eSn	Sn	21 47 22.0	-6.5

MOS 12 22:13:11.6±2.3, 49.96N×89.64E, h15km, mb4.4/1, Error ellipse: s-maj=12.5km s-min=8.8km az=127.7

IDC 12 22:13:11.1±0.9, 49.96N×89.67E, mb3.9/6, mb1 4.1/9, mb1mx3.8/22, mbtmp3.8/9, ML3.2/3, Error ellipse: s-maj=23.8km s-min=10.4km az=36.0

BJI 12 22:13:11.9, 49.80N×89.60E, h12km, ML4.4, Ms4.0

NNC 12 22:13:12.0±2.5, 50.12N×89.71E, h21km±15km, mpv4.3, Error ellipse: s-maj=26.6km s-min=16.1km az=115.0

NEIC 12 22:13:12.0±0.6, 49.84N×89.49E, h10km, Error ellipse: s-maj=11.8km s-min=7.5km az=25.0

ISC 12 22:13:10.3±0.5, 49.86N±0.05×89.56E±0.06, h10km, n36, σ1s58/50, mb4.0/6, 8C-1D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AKAR	Aktash	1.33	291	ePG	Pg	22 13 35.2	-1.8
AKAR				eS	Sb	22 13 54.8	+2.9
ELDR	Elanda	2.60	303	ePN	Pn	22 13 57.8	+4.7
ELDR				eS	Sn	22 14 32.6	+7.5
KTNR	Kaitanak	2.66	278	ePN	Pn	22 13 59.7	+5.7
KTNR				eS	Sn	22 14 35.9	+9.3
TASR	Tashtagol	3.09	341	ePN	Pn	22 14 01.7	+1.6
TASR				e		22 14 05.7	
TASR				eS	Sn	22 14 45.4	+7.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
UKR	**Ust'-Kan**	**3.25**	**291**	*e*PN	**Pn**	**22 14 10.7**	**+8.3**
UKR				*e*S	**Sn**	**22 14 52.9**	**+11**
ELT	**Yel'tsovka**	**3.99**	**330**	*e*PN	**Pn**	**22 14 13.2**	**+0.3**
ELT				*e*		22 14 24.6	
ELT				*e*S	**Sn**	**22 15 14.2**	**+14**
ZAL	**Zalesovo**	**5.03**	**326**	Pn	**Pn**	**22 14 26.8**	**-1.0**
	1.3nm,0.3s,baz=339,slow=11,SNR=12						
ZAL				Pg	**Pg**	**22 14 38.2**	**-13**
	3.1nm,0.3s,baz=349,slow=10,SNR=12						
ZAL				Sn	**Sn**	**22 15 27.2**	**+0.5**
	7.3nm,0.3s,baz=51,slow=19,SNR=3.0						
ZAL				Lg		22 15 46.9	
	12nm,0.3s,baz=58,slow=10,SNR=7.7						
ZAL	**Zalesovo**	**5.03**	**326**	Pn	**Pn**	**22 14 26.8**	**-0.9**
ZAL				*e*		22 15 27.2	
ZAL				*e*		22 15 46.9	
MK31	**Makanchi Array**	**5.74**	**240**	Pn	**Pn**	**22 14 40.3**	**+2.6**
	36nm,0.6s,baz=74,slow=13,SNR=112						
MK31				⇑Pg	**Pg**	**22 15 01.0**	**-3.9**
	24nm,0.6s,baz=63,slow=13,SNR=23						
MK31				⇑Sn	**Sn**	**22 15 54.5**	**+10**
	28nm,0.8s,baz=63,slow=23,SNR=3.7						
MK31				⇑Lg		22 16 17.2	
	135nm,1.0s,baz=59,slow=38,SNR=9.3						
MKAR	**Makanchi Array**	**5.74**	**240**	PN	**Pn**	**22 14 40.2**	**+2.5**
MKAR						22 16 14.2	
MKAR				pmax	pmax		
	comp=Z,27nm,0.6s						
MKAR	**Makanchi Array**	**5.74**	**240**	Pn	**Pn**	**22 14 40.2**	**+2.5**
MKAR				*e*		22 16 14.2	
WMQ	**Urumqi**	**6.18**	**193**	*e*P	**Pn**	**22 14 45.2**	**+1.3**
WMQ				Smax			
	comp=N,173nm,1.0s						
WMQ				Smax			
	comp=E,224nm,1.0s						
WMQ				LR	LR		
	comp=N,460nm,4.2s						
WMQ				LR	LR		
	comp=E,382nm,3.9s						
NVS	**Novosibirsk**	**6.31**	**325**	*e*PN	**Pn**	**22 14 58.4**	**+13**
NVS				*e*		22 15 06.2	
NVS				*e*		22 16 00.5	
NVS				*e*		22 16 25.1	
KURK	**Kurchatov**	**7.07**	**281**	⇑Pn	**Pn**	**22 14 55.6**	**-0.8**
	comp=E,8.0nm,0.9s,baz=91,slow=11,SNR=36						
KURK				⇑Sn	**Sn**	**22 16 16.0**	**-1.6**
	comp=E,8.2nm,0.2s,baz=350,slow=16,SNR=3.3						
KURK				⇑Lg		22 16 54.8	
	comp=E,61nm,0.7s,baz=6.5,slow=17,SNR=14						
KURK	**Kurchatov**	**7.07**	**281**	Pn	**Pn**	**22 14 55.5**	**-0.9**
	comp=E,98nm,0.8s,SNR=24						
KURK	**Kurchatov**	**7.07**	**281**	*e*PN	**Pn**	**22 14 55.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MOY	**Mondy**	**7.47**	**72**	*e*P	**Pn**	**22 15 03.5**	**+1.4**
MOY				pmax	pmax		
	comp=Z,31nm,0.7s						
MOY	**Mondy**	**7.47**	**72**	*e*P	**Pn**	**22 15 03.5**	**+1.4**
	comp=Z,31nm,0.7s						
ZAK	**Zakamensk**	**8.83**	**81**	*e*P	**P**	**22 15 14.3**	**-6.7**
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s						
ZAK	**Zakamensk**	**8.83**	**81**	*e*P	**P**	**22 15 14.3**	**-6.7**
	comp=Z,14nm,1.2s						
SONM	**Songino Array**	**11.28**	**94**	Pn	**P**	**22 15 51.3**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=285,slow=14,SNR=9.2						
SONM				Pg	P	22 16 31.5	+37
	comp=Z,0.3nm,0.3s,baz=280,slow=17,SNR=8.1						
SONM				Lg		22 19 03.9	
	comp=Z,0.8nm,0.3s,baz=296,slow=32,SNR=12						
ULN	**Ulaanbaatar**	**11.69**	**93**	*e*P	**P**	**22 15 58.2**	**-2.0**
ULN				*e*		22 16 38.5	
CHKZ	**Chkalovo**	**12.34**	**295**	⇓Pn	**P**	**22 16 06.0**	**-2.8**
	comp=Z,12nm,2.5s						
CHKZ				⇑Sn	**S**	**22 18 21.8**	**-5.6**
	comp=Z,9.1nm,1.1s						
CHKZ	**Chkalovo**	**12.34**	**295**	P	**P**	**22 16 05.9**	**-2.9**
CHKZ						22 18 21.7	
CHKZ				pmax	pmax		
	comp=Z,30nm,2.6s						
CHKZ	**Chkalovo**	**12.34**	**295**	P	**P**	**22 16 05.9**	**-2.9**
CHKZ				*e*		22 18 21.7	
BVA0	**Borovoye Array**	**12.37**	**292**	Pn	**P**	**22 16 07.2**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=199,slow=43,SNR=13						
BVA0				⇑Sn	**S**	**22 18 20.6**	**-7.7**
	comp=Z,1.3nm,1.0s,baz=97,slow=22,SNR=7.3						
BVA0	**Borovoye Array**	**12.37**	**292**	P	**P**	**22 16 07.1**	**-2.2**
BVA0				*i*		22 18 20.5	
BVAR	**Borovoye Array**	**12.37**	**292**	Pn	**P**	**22 16 07.7**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=109,slow=16,SNR=11						
BVAR				Sn	**S**	**22 18 21.2**	**-7.0**
	comp=Z,0.9nm,0.3s,baz=102,slow=21,SNR=7.5						
BOD	**Bodaibo**	**16.40**	**52**	*e*P	**P**	**22 16 53.6**	**-8.3**
LSA	**Lhasa**	**20.17**	**176**	P	**P**	**22 17 45.1**	**-2.5**
FINES	**FINESS Array B**	**36.16**	**313**	P	**P**	**22 20 15.3**	**+1.0**
	comp=Z,29nm,1.6s,mb5.0,baz=90,slow=9.7,SNR=3.0						
ILAR	**Eielson Array**	**57.62**	**25**	P	**P**	**22 23 02.6**	**+0.3**
	comp=Z,0.6nm,0.9s,mb3.6,baz=321,slow=5.7,SNR=4.4						
INK	**Inuvik**	**57.86**	**17**	P	**P**	**22 23 04.8**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=306,slow=2.2,SNR=3.3						
YKA	**Yellowknife Ar**	**66.36**	**12**	P	**P**	**22 24 00.9**	**+0.3**
	comp=Z,0.8nm,0.9s,mb3.7,baz=340,slow=6.8,SNR=9.4						
WRA	**Warramunga Arr**	**80.00**	**138**	P	**P**	**22 25 21.3**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=342,slow=5.9,SNR=7.0						
ASAR	**Alice Springs**	**83.10**	**140**	P	**P**	**22 25 38.5**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=341,slow=6.0,SNR=7.2						

MAN 12 22:14:36.1, 15.20N×121.96E, h2km, mb3.6, ML2.3, MS1.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.47**	**183**	*e*P	Pg	22 14 45.1	-0.3
POLP				*e*S	Sg	22 14 53.3	+1.7
BALP	**Baler**	**0.66**	**325**	*e*P	Pg	22 14 49.5	+0.3
BALP				*e*S	Sg	22 15 01.5	+3.5
PCPH	**Palayan**	**0.91**	**294**	⇑*e*P	Pb	22 14 53.6	-0.7
PCPH				*i* S	Sg	22 15 10.0	+3.5
CAUP	**Cauayan**	**1.74**	**356**	*e*P	Pn	22 15 04.9	-2.7
CAUP				*e*S	Sn	22 15 29.6	-1.1
PVCP	**Virac**	**2.65**	**127**	*e*P	Pn	22 15 20.5	-0.2
PVCP				*e*S	Sn	22 15 54.4	+0.6

*CSEM **12** 22:33:07.2, 5.11N×95.09E, h33km, mb5.5*

*MOS **12** 22:33:09.4±0.8, 5.48N×94.75E, h33km, mb5.6/48, MS4.8/12, Error ellipse: s-maj=9.8km s-min=5.3km az=118.3*

*BJI **12** 22:33:12.8, 5.29N×94.66E, h76km, mB5.2, mb5.4, Ms5.2, Msz4.8*

*NEIC **12** 22:33:14.4±0.1, 5.48N×94.69E, mb5.2/121, Error ellipse: s-maj=4.8km s-min=3.5km az=199.0*

NEIC Felt [III] at Banda Aceh.

*IDC **12** 22:33:14.8±0.4, 5.55N×94.77E, h58km±3km, mb4.9/24, mb1 4.9/25, mb1mx4.9/26, mbtmp5.1/25, MS4.3/4, Ms1 4.4/4, ms1mx3.8/22, Error ellipse: s-maj=15.4km s-min=10.3km az=47.0*

*HRVD **12** 22:33:14.4±0.3, 5.16N×94.62E, h55km±1km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s45,c74; Mantle waves: s54,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.20±.21; $M_{\theta\theta}$-2.93±.16; $M_{\phi\phi}$-2.27±.18; $M_{r\theta}$1.95±.12; $M_{\theta\phi}$3.27±.13; $M_{\phi r}$-2.12±.16; Best double couple: $M_0$6.248×10^{16} NP1:ϕ_s309°, δ31°, λ85°. NP2:ϕ_s135°, δ59°, λ93°. Principal axes: T 5.911, Plg76°, Azm54°; N .674, Plg3°, Azm313°; P -6.585, Plg14°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 12 22:33:12.5±0.2**, 5.44N**±0.03×**94.72E**±0.03**, h57km, h57km**±1.1km**: pP-P, n460, σ1.02**/446**, mb5.3**/178**, MS4.9**/28**, 79C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.90**	**91**	*e*Pn	**P**	**22 34 40.1**	**+0.7**
SNG	**Songkhla**	**6.11**	**73**	P	**P**	**22 34 43.0**	**+0.7**
	806nm,1.0s						
NNT	**Nongplab**	**8.66**	**35**	P	**P**	**22 35 20.0**	**+2.4**
NST	**Nakhon Sawan**	**11.48**	**27**	P	**P**	**22 35 58.5**	**+2.4**
	83nm,0.5s						
BDT	**Bhumibol Dam**	**12.46**	**19**	P	**P**	**22 36 12.0**	**+2.7**
	33nm,0.7s						
CM31	**Chiang Mai Arr**	**13.58**	**17**	*e*P	**P**	**22 36 27.8**	**+3.6**
	113nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.58**	**17**	P	**P**	**22 36 28.3**	**+4.1**
	5.7nm,0.3s,baz=211,slow=14,SNR=88						
CMAR				LR	LR	22 42 04.2	
	comp=Z,633nm,18.1s,baz=205,slow=39						
CMAR				ScP		22 45 16.9	
	0.3nm,0.3s,baz=261,slow=2.2,SNR=6.1						
CHG	**Chiang Mai**	**13.92**	**17**	⇑P	**P**	**22 36 30.3**	**+1.7**
	19nm,0.8s						
NANT	**Nan**	**14.51**	**23**	⇑P	**P**	**22 36 38.0**	**+1.8**
	812nm,1.0s						
KSM	**Kuching**	**16.05**	**104**	*e*P	**P**	**22 36 58.4**	**+2.4**
KSM				*e*pP		22 37 15.4	
MDRS	**Chennai**	**16.17**	**299**	*e*P	**P**	**22 36 59.2**	**+1.7**
MDRS				*e*		22 37 20.1	
	comp=Z,109nm,0.9s						
MDRS				*e*		22 39 40.6	
VIS	**Vishakhapatnam**	**16.53**	**319**	*e*P	**P**	**22 37 02.9**	**+0.9**
VIS				*e*		22 37 11.9	
	comp=Z,176nm,0.7s						
BWNR	**Bhubaneshwar**	**17.12**	**330**	*e*	**P**	**22 37 03.0**	**-6.5**
BWNR				*e*		22 40 00.0	
TRD	**Trivandrum**	**17.89**	**281**	*e*	**S**	**22 40 44.2**	**+10**
HYB	**Hyderabad**	**19.80**	**308**	*e*P	**P**	**22 37 40.5**	**-0.6**
HYB				pmax	pmax		
	comp=Z,70nm,1.0s						
HYB	**Hyderabad**	**19.80**	**308**	*i* P	**P**	**22 37 40.5**	**-0.6**
	comp=Z,70nm,1.0s						
HYB				*e*S	**S**	**22 41 14.0**	**-1.8**
QIZ	**Qiongzhong**	**20.00**	**46**	P	**P**	**22 37 44.8**	**+1.7**
QIZ				AP		22 37 57.3	
QIZ				XP		22 38 06.3	
QIZ				S	**S**	**22 41 18.5**	**-1.4**
QIZ				LR	LR		
	comp=N,2μm,17.8s						
QIZ				LR	LR		
	comp=E,1μm,15.3s						
QIZ				LR	LR		
	comp=Z,2μm,18.6s						
QIZ	**Qiongzhong**	**20.00**	**46**	*e*P	**P**	**22 37 44.2**	**+1.1**
	comp=Z,274nm,1.4s						
QIZ				*e*pP		22 37 57.7	
SHL	**Shillong**	**20.20**	**353**	*e*P	**P**	**22 37 41.0**	**-4.2**
SHL				*e*S	**S**	**22 41 30.0**	**+6.2**
BLSP	**Bilaspur**	**20.58**	**325**	*e*P	**P**	**22 37 48.9**	**-0.3**
BLSP				*e*		22 38 06.8	
	comp=Z,346nm,1.2s						
BLSP				*e*		22 41 32.8	
MNGI	**Mangalore**	**21.00**	**292**	*i*	**P**	**22 37 58.5**	**+5.0**
MNGI				*i*		22 41 36.5	
KMI	**Kunming**	**21.03**	**21**	P	**P**	**22 37 55.6**	**+1.8**
KMI				AP		22 38 07.6	
KMI				PP	PP	22 38 19.3	+1.3
KMI				S	**S**	**22 41 40.9**	**+1.2**
KMI				PCP	PcP	22 42 02.4	+3.1
KMI				SS	SS	22 42 15.0	-0.3
KMI				SSS	SSS	22 42 29.5	-1.5
KMI				AMB	AMB		
	comp=Z,114nm,1.0s,mb5.2						
KMI				LR	LR		
	comp=N,7μm,14.3s,MS5.3						
KMI				LR	LR		
	comp=E,6μm,15.5s,MS5.3						
KMI				LR	LR		
	comp=Z,5μm,13.0s,MS5.1						
KMI	**Kunming**	**21.03**	**21**	P	**P**	**22 37 55.6**	**+1.8**
KMI				*PP		22 38 07.6	
KMI				*SP		22 38 13.3	
KMI				PPP	PPP	22 38 28.8	+1.1
KMI				S	**S**	**22 41 40.9**	**+1.2**
KMI				*SS		22 42 00.3	
KMI				SS	SS	22 42 15.0	-0.3
KMI				SSS	SSS	22 42 29.5	-1.5
KMI				pmax	pmax		
	comp=Z,114nm,1.0s,mb5.2						
KMI				MLR	MLR		
	comp=Z,5μm,13.0s,MS5.1						
KMI	**Kunming**	**21.03**	**21**	P	**P**	**22 37 55.6**	**+1.8**
	comp=Z,114nm,1.0s,mb5.2						
KMI				pP		22 38 07.6	
KMI				sP		22 38 13.3	
KMI				PP	PP	22 38 19.3	+1.3
KMI				PPP	PPP	22 38 28.8	+1.1
KMI				S	**S**	**22 41 40.9**	**+1.2**
KMI				sS		22 42 00.3	
KMI				PcP	PcP	22 42 02.4	+3.1
KMI				SS	SS	22 42 15.0	-0.3
KMI				SSS	SSS	22 42 29.5	-1.5
KMI				LR	LR		
	comp=Z,5μm,13.0s,MS5.1						
KKM	**Kota Kinabalu**	**21.39**	**87**	*e*P	**P**	**22 37 58.3**	**+0.8**
KKM				*e*pP		22 38 14.3	
NGP	**Nagpur**	**21.79**	**317**	*e*P	**P**	**22 38 02.5**	**+1.1**
NGP				*e*S	**S**	**22 42 00.8**	**+6.9**
LATR	**Latur**	**21.93**	**308**	*e*P	**P**	**22 38 03.8**	**+1.1**
GOA	**Goa**	**22.82**	**298**	*e*P	**P**	**22 38 07.1**	**-4.7**
GOA				*e*S	**S**	**22 42 14.5**	**+1.9**
KAD	**Karad**	**23.30**	**302**	*e*P	**P**	**22 38 18.0**	**+1.7**
KAD				*e*S	**S**	**22 42 29.4**	**+8.4**
ALBI	**Allahabad**	**23.32**	**329**	*e*P	**P**	**22 38 16.0**	**-0.4**
JIRN	**Jiri**	**23.54**	**341**	*e*P	**P**	**22 38 17.5**	**-1.1**
	comp=Z,55nm,0.3s,mb5.5						
PKI	**Pulchoki**	**23.73**	**339**	*e*P	**P**	**22 38 19.9**	**-0.5**
	comp=Z,72nm,0.5s,mb5.3						
GYA	**Guiyang**	**23.81**	**27**	⇑*i*P	**P**	**22 38 23.0**	**+1.8**
GYA				AP		22 38 35.5	
GYA				XP		22 38 43.2	
GYA				S	**S**	**22 42 31.6**	**+1.8**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,370nm,4.7s						
GYA				LR	LR		
	comp=N,860nm,21.8s,MS4.4						
GYA				LR	LR		
	comp=E,840nm,18.2s,MS4.4						
GYA				LR	LR		
	comp=Z,2μm,19.7s,MS4.5						
DMN	**Daman**	**23.87**	**339**	*e*P	**P**	**22 38 21.1**	**-0.6**
	comp=Z,129nm,0.6s,mb5.5						
KKN	**Kakani**	**23.98**	**339**	*e*P	**P**	**22 38 21.6**	**-1.1**
	comp=Z,204nm,0.9s,mb5.6						
POO	**Poona**	**24.17**	**304**	⇑*i*P	**P**	**22 38 26.0**	**+1.3**
POO				*i*		22 42 49.0	
BHPL	**Bhopal**	**24.32**	**318**	*e*P	**P**	**22 38 27.2**	**+1.0**
BHPL				*e*		22 38 30.5	
	comp=Z,103nm,0.7s						
BHPL				*e*		22 42 53.5	
LSA	**Lhasa**	**24.37**	**352**	*e*P	**P**	**22 38 26.3**	**-0.3**
LSA				pmax	pmax		
	comp=Z,96nm,0.6s,mb5.4						
LSA	**Lhasa**	**24.37**	**352**	*e*P	**P**	**22 38 26.2**	**-0.3**
	comp=Z,96nm,0.6s,mb5.4						
GKN	**Gorkha**	**24.40**	**338**	*e*P	**P**	**22 38 26.6**	**-0.3**
	comp=Z,112nm,0.4s,mb5.6						
KOLN	**Koldanda**	**24.60**	**336**	*e*P	**P**	**22 38 29.4**	**+0.5**
	comp=Z,346nm,0.7s,mb6.0						
BOM	**Bombay**	**25.20**	**304**	*e*	**S**	**22 42 42.0**	**-11**
DGAR	**Diego Garcia**	**25.62**	**240**	*e*P	**P**	**22 38 38.1**	**-0.6**
DGAR				pmax	pmax		
	comp=Z,904nm,1.9s,mb6.0						
DGAR	**Diego Garcia**	**25.62**	**240**	*e*P	**P**	**22 38 38.1**	**-0.6**
	comp=Z,904nm,1.9s,mb6.0						
LGTI	**Lohaghat**	**27.53**	**332**	⇓*i*P	**P**	**22 38 55.7**	**-0.4**
PTH	**Pithoragarh**	**27.62**	**332**	*e*	**P**	**22 38 51.0**	**-6.0**
ENH	**Enshi**	**28.35**	**28**	*e*P	**P**	**22 39 02.1**	**-1.4**
	comp=Z,47nm,0.7s,mb5.2						
AJM	**Ajmer**	**28.38**	**320**	*i* P	**P**	**22 39 04.0**	**+0.2**
DDI	**Dehra Dun**	**29.31**	**330**	*e*P	**P**	**22 39 10.6**	**-1.4**
DDI				*e*		22 43 56.9	
SMLA	**Simla**	**30.41**	**329**	*i* P	**P**	**22 39 19.0**	**-2.8**
SMLA				*i*		22 45 18.9	
SDNR	**Sundarnagar**	**30.81**	**329**	*e*P	**P**	**22 39 25.0**	**-0.3**
WHN	**Wuhan**	**31.06**	**34**	⇑P	**P**	**22 39 28.0**	**+0.4**
WHN				LR	LR		
	comp=Z,13μm,15.0s,MS5.7						
XAN	**Xi'an**	**31.36**	**23**	P	**P**	**22 39 29.1**	**-1.0**
XAN				AMB	AMB		
	comp=Z,132nm,1.0s,mb5.7						
XAN				LR	LR		
	comp=N,3μm,22.3s,MS5.0						
XAN				LR	LR		
	comp=E,3μm,20.6s,MS5.0						
XAN				LR	LR		
	comp=Z,3μm,23.2s,MS4.8						
LZH	**Lanzhou**	**31.63**	**14**	⇑*e*P	**P**	**22 39 31.6**	**-0.9**
LZH				PP	PP	22 40 38.5	0.0
LZH				PCP	PcP	22 42 24.0	+0.4
LZH				*e*S	**S**	**22 44 36.0**	**-0.4**
LZH				AMB	AMB		
	comp=Z,90nm,1.3s,mb5.4						
LZH				AMB	AMB		
	comp=Z,249nm,5.4s						
LZH				LR	LR		
	comp=N,3μm,8.5s						
LZH				LR	LR		
	comp=Z,3μm,10.2s,MS5.3						
LZH	**Lanzhou**	**31.63**	**14**	⇑*e*P	**P**	**22 39 31.6**	**-0.9**
LZH				*PP	pP	22 39 43.1	-3.7
LZH				*SP	sP	22 39 48.3	-5.5
LZH						22 40 38.5	
LZH						22 42 24.0	
LZH				*e*S	**S**	**22 44 36.0**	**-0.4**
LZH				pmax	pmax		
	comp=Z,90nm,1.3s,mb5.4						
LZH				MLR	MLR		
	comp=Z,3μm,10.2s,MS5.3						
LZH	**Lanzhou**	**31.63**	**14**	⇑*e*P	**P**	**22 39 31.6**	**-0.9**
	comp=Z,90nm,1.3s,mb5.4						
LZH				pP	pP	22 39 43.1	-3.7
LZH				sP	sP	22 39 48.3	-5.5
LZH				PP	PP	22 40 38.5	0.0
LZH				PcP	PcP	22 42 24.0	+0.4
LZH				*e*S	**S**	**22 44 36.0**	**-0.4**
LZH				sS		22 45 02.2	
LZH				ScP		22 46 03.0	
LZH				LR	LR		
	comp=Z,3μm,10.2s,MS5.3						
THN	**Thein Dam**	**32.20**	**329**	*e*P	**P**	**22 39 35.0**	**-2.4**
	comp=Z,28nm,0.4s,mb5.5						
GTA	**Gaotai**	**34.13**	**7**	⇑*i*P	**P**	**22 39 53.8**	**-0.3**
GTA				AP	pP	22 40 07.8	-0.8
GTA				XP	sP	22 40 16.5	+0.8
GTA				PP	PP	22 41 08.8	-1.1
GTA				PCP	PcP	22 42 30.8	+0.3
GTA				S	**S**	**22 45 15.4**	**+0.2**
GTA				SS	SS	22 47 27.5	+1.1
GTA				AMB	AMB		
	comp=Z,103nm,0.8s,mb5.8						
GTA				AMB	AMB		
	comp=Z,194nm,5.7s						
GTA				LR	LR		
	comp=N,1μm,16.4s,MS4.8						
GTA				LR	LR		
	comp=E,820nm,13.7s,MS4.8						
GTA				LR	LR		
	comp=Z,863nm,12.6s,MS4.7						
NJ2	**Nanjing**	**34.79**	**37**	*e*P	**P**	**22 40 00.3**	**+0.5**
NJ2				AP	pP	22 40 15.9	+1.6
NJ2				XP	sP	22 40 23.3	+1.9
NJ2				PP	PP	22 41 19.9	+1.4
NJ2				S	**S**	**22 45 27.0**	**+1.6**
NJ2				XS		22 45 52.0	
NJ2				AMB	AMB		
	comp=Z,220nm,0.8s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,710nm,5.4s						
NJ2				LR	LR		
	comp=N,2μm,25.5s,MS5.0						
NJ2				LR	LR		
	comp=E,3μm,23.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,3μm,19.6s,MS5.0						
SSE	**Sheshan**	**35.62**	**41**	P	**P**	**22 40 06.0**	**-0.9**
SSE				AP	pP	22 40 21.1	-0.3
SSE				S	**S**	**22 45 37.5**	**-0.7**
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,95nm,3.2s						
SSE				LR	LR		
	comp=N,939nm,19.4s,MS4.7						
SSE				LR	LR		
	comp=E,847nm,19.4s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,19.3s,MS4.7						
SSE	**Sheshan**	**35.62**	**41**	P	**P**	**22 40 06.0**	**-0.9**
	comp=Z,32nm,0.7s,mb5.4						
SSE				pP	pP	22 40 21.1	-0.3
SSE				sP	sP	22 40 28.4	-0.1
SSE				S	**S**	**22 45 37.5**	**-0.7**
SSE				sS		22 46 03.4	
SSE				SS	SS	22 48 16.8	+16
SSE				LR	LR		
	comp=Z,1μm,19.3s,MS4.7						
MBWA	**Marble Bar**	**36.06**	**138**	*e*P	**P**	**22 40 09.8**	**-1.0**
	comp=Z,25nm,1.2s,mb5.0						
TIA	**Tai'an**	**36.89**	**31**	*e*P	**P**	**22 40 17.8**	**+0.2**
TIA				AMB	AMB		
	comp=Z,67nm,1.0s,mb5.4						
BTO	**Baotou**	**37.61**	**19**	*e*P	**P**	**22 40 23.0**	**-0.5**
BTO				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.0						
KSH	**Kashi**	**37.92**	**336**	*e*P	**P**	**22 40 26.6**	**+0.5**
KSH				*e*AP	pP	22 40 42.0	+1.3
KSH				*e*XP	sP	22 40 49.2	+1.6
KSH				*e*PP	PP	22 41 58.2	+1.7
KSH				*e*PPP	PPP	22 42 21.2	+2.1
KSH				*e*PCP	PcP	22 42 42.0	+0.3
KSH				S	**S**	**22 46 14.4**	**+1.2**
KSH				*e*SCP		22 46 24.0	
KSH				*e*PCS		22 46 29.0	
KSH				*e*XS		22 46 40.0	
KSH				*e*SS	SS	22 48 54.2	+2.0
KSH				*e*SCS	ScS	22 50 31.0	+0.2
KSH				LR	LR		
	comp=N,8μm,12.5s,MS5.9						
KSH				LR	LR		
	comp=E,10μm,11.2s,MS5.9						
HHC	**Hu-ho-hao-te**	**38.36**	**21**	*e*P	**P**	**22 40 30.8**	**+1.1**
HHC				AP	pP	22 40 46.8	+2.5
HHC				XP	sP	22 40 54.0	+2.8
HHC				PP	PP	22 42 03.7	+2.1
HHC				PCP	PcP	22 42 42.9	-0.2
HHC				S	**S**	**22 46 21.6**	**+1.7**
HHC				XS		22 46 47.2	
HHC				SS	SS	22 49 00.5	-1.3
HHC				AMB	AMB		
	comp=Z,74nm,0.9s,mb5.4						
HHC				AMB	AMB		
	comp=Z,157nm,7.3s						
HHC				LR	LR		
	comp=N,812nm,23.2s						
HHC				LR	LR		
	comp=E,733nm,17.8s						
HHC				LR	LR		
	comp=Z,1μm,22.6s,MS4.6						
JOW	**Kunigami**	**38.41**	**53**	LR	LR	22 59 15.1	
	comp=Z,696nm,19.4s,MS4.5,baz=223,slow=41						
WBK	**Wadi Bani Khal**	**38.50**	**300**	P	**P**	**22 40 33.5**	**+2.4**
	SNR=10						
WMQ	**Urumqi**	**38.73**	**352**	⇑*i*P	**P**	**22 40 33.1**	**+0.3**
WMQ				AP	pP	22 40 48.5	+1.1
WMQ				XP	sP	22 40 55.0	+0.8
WMQ				PP	PP	22 42 07.5	+1.7
WMQ				PCP	PcP	22 42 43.5	-0.7
WMQ				S	**S**	**22 46 25.0**	**-0.5**
WMQ				SS	SS	22 49 09.0	-0.8
WMQ				AMB	AMB		
	comp=Z,65nm,0.7s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,344nm,5.2s						
WMQ				LR	LR		
	comp=N,2μm,19.6s,MS5.2						
WMQ				LR	LR		
	comp=E,3μm,21.3s,MS5.2						
WMQ				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
JMDO	**Jabal Madar**	**39.17**	**299**	P	**P**	**22 40 38.7**	**+2.0**
	SNR=13						
SMDO	**Samad**	**39.46**	**300**	P	**P**	**22 40 41.4**	**+2.4**
	SNR=21						
BJT	**Baijiatuau**	**39.47**	**26**	*e*P	**P**	**22 40 40.4**	**+1.4**
BJT				pmax	pmax		
	comp=Z,167nm,1.0s						
BJT	**Baijiatuau**	**39.47**	**26**	*e*P	**P**	**22 40 40.4**	**+1.3**
	comp=Z,167nm,1.0s,mb5.7						

BJI Beijing 39.49 26 P **P** **22 40 40.8 +1.6**
BJI AMB AMB
comp=Z,144nm,0.9s,mb5.7
BJI AMB AMB
comp=Z,247nm,6.9s
BJI LR LR
comp=N,929nm,17.6s,MS4.9
BJI LR LR
comp=E,1μm,17.6s,MS4.9
BJI LR LR
comp=Z,834nm,24.9s
BJI Beijing 39.49 26 P **P** **22 40 40.8 +1.6**
comp=Z,144nm,0.9s,mb5.7
BJI sP sP 22 40 58.1 -2.6
BJI PP PP 22 42 21.4 +7.0
BJI S S 22 47 01.7 +25
BJI SS tx 22 50 02.3
BJI LR LR
comp=Z,830nm,24.9s,MS4.5
BIDO Bidbid 39.55 301 P **P** **22 40 42.4 +2.5**
SNR=16
BSY Bisya 40.08 299 P **P** **22 40 46.6 +2.4**
SNR=44
ULHL Ulahol 40.17 339 P **P** **22 40 45.7 +1.0**
SNR=11
KZA Kyzart 40.39 337 P **P** **22 40 47.9 +1.3**
SNR=15
UCH Uchtor 40.80 337 P **P** **22 40 51.3 +1.3**
SNR=44
ARQ Araqi 40.87 300 P **P** **22 40 53.0 +2.3**
SNR=11
TKM2 Tokmak 2 40.99 338 P **P** **22 40 52.5 +0.9**
SNR=29
KBK Karagaybulak 41.00 338 P **P** **22 40 53.2 +1.5**
SNR=58
AML Almayashu 41.05 336 P **P** **22 40 53.4 +1.4**
SNR=45
AAK Ala-Archa 41.16 337 P **P** **22 40 53.2 +0.3**
comp=Z,594nm,0.8s,SNR=35
AAK Ala-Archa 41.16 337*c* *i*P **P** **22 40 53.0 +0.1**
AAK pmax pmax
comp=Z,82nm,0.8s,mb5.4
AAK Ala-Archa 41.16 337 *e*P **P** **22 40 52.7 -0.2**
comp=Z,94nm,0.8s,mb5.5
DL2 Dalian 41.27 32 P **P** **22 40 55.3 +1.4**
DL2 AP pP 22 41 12.7 +4.1
DL2 AMB AMB
comp=Z,80nm,0.9s,mb5.3
DL2 LR LR
comp=N,430nm,18.0s,MS4.5
DL2 LR LR
comp=E,440nm,15.5s,MS4.5
DL2 LR LR
comp=Z,540nm,16.3s,MS4.5
FRU Bishkek 41.28 337 *e*P **P** **22 40 55.0 +1.1**
FRU *e* pP 22 41 09.0 +0.4
FRU pmax pmax
comp=Z,200nm,2.0s,mb5.4
CHMS Chumysh 41.37 338 P **P** **22 40 55.1 +0.5**
SNR=22
EKS2 Erkin-Say 41.46 337 P **P** **22 40 56.4 +1.0**
SNR=42
USP Ospenovka 41.70 338 P **P** **22 40 58.0 +0.6**
SNR=63
ASHO Ashiyiah 41.73 301 P **P** **22 41 00.0 +2.1**
SNR=8.9
WHFO Wadi Hawf 41.87 291 P **P** **22 41 00.7 +1.6**
SNR=12
BANOM Banah 41.99 303 P **P** **22 41 02.4 +2.4**
SNR=9.4
MKAR Makanchi Array 42.58 347 *i* P **P** **22 41 04.4 -0.1**
MKAR pmax pmax
comp=Z,27nm,0.4s
SONM Songino Array 43.41 11 P **P** **22 41 11.0 -0.4**
comp=Z,46nm,0.8s,mb5.3,baz=191,slow=8.1,SNR=454
SONM pP pP 22 41 25.8 -0.2
comp=Z,13nm,0.7s,baz=207,slow=8.3,SNR=3.9
SONM PcP PcP 22 42 59.5 +0.1
comp=Z,9.2nm,0.7s,baz=197,slow=3.6,SNR=13
SONM ScP 22 46 44.9
comp=Z,3.2nm,0.9s,baz=198,slow=3.9,SNR=7.0
NWAO Narrogin (SRO) 43.73 152 P **P** **22 41 13.2 -1.0**
NWAO pmax pmax
comp=Z,27nm,1.1s
NWAO Narrogin (SRO) 43.73 152 P **P** **22 41 13.2 -0.9**
comp=Z,27nm,1.1s,mb4.9
KS15 Wonju Array Si 43.92 39 *e*P **P** **22 41 14.9 -0.6**
KS15 *e*pP pP 22 41 31.9 +1.6
SNY Shenyang 44.42 31 ⇑P **P** **22 41 19.6 0.0**
SNY S **S** **22 47 51.3 +1.7**
SNY AMB AMB
comp=Z,60nm,1.1s,mb5.2
SNY LR LR
comp=N,490nm,19.6s
SNY LR LR
comp=E,910nm,10.0s
SNY LR LR
comp=Z,560nm,26.7s
ZAK Zakamensk 45.37 8⇓*i*P **P** **22 41 25.7 -1.3**
ZAK *e* 22 43 04.0
ZAK pmax pmax
comp=Z,13nm,1.2s,mb4.6
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
MOY Mondy 46.37 5 *e*P **P** **22 41 34.4 -0.5**
MOY *e* 22 43 09.8
MOY pmax pmax
comp=Z,21nm,2.1s,mb4.7
WRA Warramunga Arr 46.40 124 P **P** **22 41 35.5 -0.1**
comp=Z,35nm,0.6s,mb5.5,baz=301,slow=10.0,SNR=209
WRA pP pP 22 41 52.0 +1.6
comp=Z,44nm,0.9s,baz=302,slow=9.0,SNR=7.9
WRA ScP 22 46 58.0
comp=Z,2.0nm,0.7s,baz=313,slow=3.7,SNR=5.1
WRAB Tennant Creek 46.41 124 P **P** **22 41 35.0 -0.6**
comp=Z,505nm,0.6s,SNR=61
WRAB Tennant Creek 46.41 124 *e*P **P** **22 41 35.4 -0.2**
WRAB *e**PP pP 22 41 52.6 +2.1
WRAB pmax pmax
comp=Z,156nm,1.0s,mb5.9
WRAB Tennant Creek 46.41 124*c* *i*P **P** **22 41 35.5 -0.1**
WRAB Tennant Creek 46.41 124 *e*P **P** **22 41 35.4 -0.2**
comp=Z,156nm,1.0s,mb5.9
WRAB *e*pP pP 22 41 52.6 +2.1
TLY Talaya 46.69 8 *e*P **P** **22 41 37.1 -0.3**
TLY *e* 22 43 15.5
TLY pmax pmax
comp=Z,25nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,457nm,16.0s,MS4.5
TLY Talaya 46.69 8 *e*P **P** **22 41 37.1 -0.3**
comp=Z,25nm,0.9s,mb5.1
CN2 Changchun 46.80 30 ⇑P **P** **22 41 38.4 0.0**
CN2 *e*AP pP 22 41 54.1 +0.9
CN2 PCP PcP 22 43 10.4 -0.8
CN2 PP PP 22 43 27.9 -0.7
CN2 *e*S **S** **22 48 22.6 -0.9**
CN2 AMB AMB
comp=Z,70nm,0.6s,mb5.8
CN2 LR LR
comp=N,2μm,17.0s,MS5.3
CN2 LR LR
comp=E,1μm,17.0s,MS5.3
CN2 LR LR
comp=Z,2μm,15.0s,MS5.2
KURK Kurchatov 47.10 346 P **P** **22 41 40.5 -0.2**
comp=Z,1μm,0.8s,SNR=67
KURK Kurchatov 47.10 346*c* *i*P **P** **22 41 40.8 +0.1**
KURK pmax pmax
comp=Z,71nm,0.7s,mb5.7
KURK Kurchatov 47.10 346 *e*P **P** **22 41 40.7 0.0**
comp=Z,155nm,0.7s,mb6.0
KURK *e*pP pP 22 41 57.3 +1.8
IRK Irkutsk 47.32 8 *e*P **P** **22 41 41.1 -1.3**
IRK *e* 22 51 31.2
IRK pmax pmax
comp=Z,62nm,1.9s,mb5.2
ASAR Alice Springs 47.93 129 P **P** **22 41 47.5 0.0**
comp=Z,29nm,0.8s,mb5.4,baz=300,slow=7.5,SNR=226
ASAR pP pP 22 42 04.3 +1.9
comp=Z,22nm,0.8s,baz=300,slow=8.1,SNR=7.8
HIA Hailar 48.54 22 *e*P **P** **22 41 51.4 -0.5**
HIA pmax pmax
comp=Z,95nm,1.1s
HIA Hailar 48.54 22 *e*P **P** **22 41 51.4 -0.6**
comp=Z,95nm,1.1s,mb5.7

ZAL Zalesovo 49.02 352 P **P** **22 41 55.7 +0.2**
comp=Z,41nm,0.6s,mb5.7,baz=301,slow=6.0,SNR=244
ZAL pP pP 22 42 11.2 +0.7
comp=Z,18nm,0.7s,baz=307,slow=6.2,SNR=5.1
ZAL ScP 22 47 09.2
comp=Z,10nm,1.2s,baz=312,slow=5.3,SNR=4.1
ZAL Zalesovo 49.02 352 P **P** **22 41 55.7 +0.2**
ZAL pP pP 22 42 11.2 +0.7
ZAL ScP 22 47 09.2
MDJ Mudanjiang 49.52 32 P **P** **22 41 59.9 +0.4**
MDJ AP pP 22 42 15.4 +1.0
MDJ XP sP 22 42 22.4 +1.4
MDJ PCP PcP 22 43 19.9 -1.1
MDJ SCP 22 47 11.4
MDJ S **S** **22 49 04.5 +2.8**
MDJ AMB AMB
comp=Z,53nm,1.3s,mb5.4
MDJ AMB AMB
comp=Z,241nm,5.7s
MDJ LR LR
comp=N,213nm,21.8s,MS4.5
MDJ LR LR
comp=E,552nm,21.8s,MS4.5
MDJ LR LR
comp=Z,346nm,19.0s,MS4.4
MDJ Mudanjiang 49.52 32 *e*P **P** **22 41 59.2 -0.3**
comp=Z,158nm,1.4s,mb5.8
NVS Novosibirsk 50.12 351 *e*P **P** **22 42 02.2 -1.8**
NVS *e*S **S** **22 49 08.8 -1.2**
NVS pmax pmax
comp=N,48nm,1.1s
NVS pmax pmax
comp=E,41nm,1.1s
NVS pmax pmax
comp=Z,111nm,1.1s,mb5.8
NVS smax
comp=N,37nm,2.0s
NVS smax
comp=E,112nm,2.0s
MAT Matsushiro 50.39 46 *e*P **P** **22 42 06.0 -0.3**
MAT *e*S **S** **22 49 20.0 +6.0**
MAT pmax pmax
comp=Z,48nm,1.3s,mb5.4
MAT MLR MLR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 50.39 46 *e*P **P** **22 42 06.0 -0.3**
comp=Z,48nm,1.3s,mb5.4
MAT *e*S **S** **22 49 20.0 +6.0**
MAT LR LR
comp=Z,1μm,20.0s,MS5.0
MAT Matsushiro 50.39 46 P **P** **22 42 06.3 0.0**
MAT S **S** **22 49 20.0 +6.0**
BVA0 Borovoye Array 51.47 341 P **P** **22 42 13.4 -0.8**
BVA0 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
BVAR Borovoye Array 51.47 341 P **P** **22 42 13.5 -0.8**
comp=Z,60nm,0.8s,mb5.6,baz=142,slow=9.0,SNR=255
BVAR pP pP 22 42 29.3 0.0
comp=Z,16nm,0.5s,baz=145,slow=10,SNR=5.2
CHKZ Chkalovo 51.95 342 *i* P **P** **22 42 17.4 -0.4**
CHKZ pmax pmax
comp=Z,281nm,1.5s,mb6.0
CHKZ Chkalovo 51.95 342 *e*P **P** **22 42 17.4 -0.5**
comp=Z,167nm,0.7s,mb6.1
CHKZ *e* pP 22 42 30.9 -2.0
KLR Kul'dur 53.69 29 *e*P **P** **22 42 28.0 -2.9**
KLR pmax pmax
comp=N,28nm,1.4s
KLR pmax pmax
comp=E,40nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s,mb5.2
PMG Port Moresby 54.30 106*c* *i*P **P** **22 42 35.3 -0.5**
PMG Port Moresby 54.30 106 *e*P **P** **22 42 34.5 -1.3**
comp=Z,21nm,0.7s,mb5.2
BOD Bodaibo 54.38 13⇓*i*P **P** **22 42 34.1 -1.7**
BOD pmax pmax
comp=Z,49nm,1.0s,mb5.4
GNI Garni 56.55 315*c* *i*P **P** **22 42 50.9 -0.8**
GNI pmax pmax
comp=Z,51nm,1.4s
GNI Garni 56.55 315 P **P** **22 42 51.1 -0.6**
comp=Z,15nm,0.8s,mb5.1,baz=218,slow=1.0,SNR=17
GNI LR LR 23 08 13.4
comp=Z,299nm,18.3s,MS4.4,baz=274,slow=37
GNI Garni 56.55 315 *e*P **P** **22 42 50.5 -1.2**
comp=Z,58nm,1.1s,mb5.5
CTAO Charters Tower 56.63 118 *e*P **P** **22 42 48.2 -4.4**
CTAO *e**PP pP 22 43 05.0 -2.9
CTAO pmax pmax
comp=Z,35nm,1.1s,mb5.3
CTAO Charters Tower 56.63 118 *e*P **P** **22 42 48.2 -4.4**
comp=Z,35nm,1.1s,mb5.3
CTAO *e*pP pP 22 43 05.0 -2.9
TI2 Plekhanov 57.20 317⇑*i*P **P** **22 42 56.0 -0.3**
KMBO Kilima Mbogo 57.76 265 *e*P **P** **22 43 01.5 +0.9**
KMBO pmax pmax
comp=Z,11nm,1.0s
KMBO Kilima Mbogo 57.76 265 P **P** **22 43 01.9 +1.2**
comp=Z,3.7nm,0.8s,mb4.5,baz=54,slow=9.1,SNR=17
KMBO Kilima Mbogo 57.76 265 *e*P **P** **22 43 01.5 +0.8**
comp=Z,11nm,1.0s,mb4.8
STKA Stephens Creek 58.02 133 P **P** **22 43 01.8 -0.4**
comp=Z,8.0nm,0.6s,mb5.0,baz=304,slow=7.6,SNR=22
STKA Stephens Creek 58.02 133 *e*P **P** **22 43 01.2 -0.9**
ZEI Tsey 58.21 318 *e*P **P** **22 43 02.7 -0.6**
ZEI *i**PP pP 22 43 16.0 -2.7
ZEI *i* 22 45 16.7
ZEI pmax pmax
comp=Z,27nm,0.7s,mb5.4
YSS Yuzh-Sakhalins 58.36 37⇑*i*P **P** **22 43 04.0 -0.3**
YSS *e* pP 22 43 15.8 -3.8
YSS pmax pmax
comp=E,30nm,1.0s
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 58.36 37 *e*P **P** **22 43 04.0 -0.3**
comp=Z,65nm,1.0s,mb5.6
ONI Oni 58.43 317 P **P** **22 42 59.5 -5.4**
ERZM Erzurum 58.85 314 *i* P **P** **22 43 07.6 -0.2**
KIV Kislovodsk 59.51 319*c* *i*P **P** **22 43 10.9 -1.4**
KIV pmax pmax
comp=Z,48nm,0.8s,mb5.6
KIV Kislovodsk 59.51 319 *e*P **P** **22 43 07.9 -4.4**
comp=Z,43nm,0.8s,mb5.5
KIV *e*pP pP 22 43 26.0 -1.7
GOF Gofitskoye 59.74 320⇓*i*P **P** **22 43 11.9 -2.0**
GOF *i* pP 22 43 26.4 -2.9
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.5
ASF Jabal al Asfar 60.03 304 P **P** **22 43 16.0 -0.1**
comp=Z,16nm,0.8s,mb5.1,baz=340,slow=4.5,SNR=18
ASF LR LR 23 09 20.3
comp=Z,307nm,21.9s,MS4.4,baz=159,slow=36
ELZG Elazig 60.12 312 *i* P **P** **22 43 15.7 -0.9**
MALT Malatya 60.48 311 *e*P **P** **22 43 18.3 -0.8**
MALT pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MALT Malatya 60.48 311 *e*P **P** **22 43 18.3 -0.8**
comp=Z,6.5nm,0.8s,mb4.7
GZT Gaziantep 60.85 310 *i* P **P** **22 43 20.9 -0.7**
EIL Elat 61.15 301 *e*P **P** **22 43 23.7 0.0**
comp=Z,73nm,1.8s,mb5.5
EIL *e*pP pP 22 43 39.7 +0.5
SOKR Solikamsk 61.27 339⇑*i*P **P** **22 43 21.7 -2.4**
SOKR *e* pP 22 43 37.4 -2.1
SOKR pmax pmax
comp=Z,30nm,0.8s,mb5.5
SOC Sochi 61.34 317 *e*P **P** **22 43 21.1 -3.7**
SOC *e* 22 44 01.4
SOC *e* 22 45 35.1
SOC *e*PPP PPP 22 47 03.1 -8.1
SOC *e*S **S** **22 51 39.1 -0.2**
SOC *e* 22 53 12.1
SOC *e*SS SS 22 55 36.2 -5.8
SOC pmax pmax
comp=Z,67nm,1.2s,mb5.7
SOC pmax pmax
comp=N,12nm,0.8s
SOC pmax pmax
comp=E,26nm,1.0s
BHL Bhannes 61.45 306 *e*P **P** **22 43 26.2 +0.5**
COBT Iskenderun 61.63 309 *i* P **P** **22 43 26.6 -0.2**
YAK Yakutsk 62.12 18 *e*P **P** **22 43 26.9 -2.8**
YAK *e**PP pP 22 43 44.7 -0.5

YAK *e* 22 45 43.0
YAK *e*S **S** **22 51 46.1 -2.7**
YAK *e**SS 22 52 24.2
YAK *e*SSS SSS 22 58 37.3 +0.4
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.4
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK smax
comp=N,4.0nm,1.2s
YAK smax
comp=E,3.0nm,1.1s
YAK Yakutsk 62.12 18 *e*P **P** **22 43 27.6 -2.1**
comp=E,53nm,0.8s,mb5.7
MEST Erdemli 63.29 308 *i* P **P** **22 43 36.9 -1.0**
AVNT Avonos 63.30 311 *i* P **P** **22 43 37.1 -0.8**
CSS Prodhromos 63.56 306 *e*P **P** **22 43 38.2 -1.6**
comp=E,20nm,0.6s,mb5.3
MAMC Mammari 63.70 307 P **P** **22 43 40.5 -0.2**
SZAC Souni-Zanaja 63.88 306 P **P** **22 43 40.9 -0.9**
BOYT Boyabat 63.99 314 *i* P **P** **22 43 40.9 -1.6**
MBAR Mbarara 64.17 267 *e*P **P** **22 43 43.5 -0.6**
MBAR *e**PP pP 22 43 58.4 -1.3
MBAR pmax pmax
comp=Z,14nm,1.1s,mb4.9
MBAR Mbarara 64.17 267 *e*P **P** **22 43 43.5 -0.6**
comp=Z,14nm,1.1s,mb4.9
MBAR *e*pP pP 22 43 58.4 -1.2
ALFC Alevga 64.19 306⇑P **P** **22 43 43.0 -0.9**
comp=Z,1.6nm,0.7s
ALFC Alevga 64.19 306⇑*i*P **P** **22 43 43.0 -0.9**
PECR Pechory 64.53 332 *e*P **P** **22 43 41.0 -4.7**
PECR *e* pP 22 43 57.3 -4.0
PECR *e* 22 53 32.0
PECR pmax pmax
comp=Z,700nm,1.2s
PECR MLR MLR
comp=N,1μm,16.0s,MS5.4
PECR MLR MLR
comp=E,2μm,16.0s,MS5.4
PECR MLR MLR
comp=Z,1μm,16.0s,MS5.1
ELDT Eldivan 64.81 312 *i* P **P** **22 43 47.3 -0.5**
VOR Voronezh 64.90 326 *e*P **P** **22 43 46.3 -1.9**
VOR *e* pP 22 44 02.0 -1.8
VOR pmax pmax
comp=E,40nm,1.4s
VOR pmax pmax
comp=Z,120nm,1.4s,mb5.7
BALT Daday 65.12 313 *i* P **P** **22 43 48.9 -0.9**
SIM Simferopol' 65.59 317 *e*P **P** **22 43 50.0 -2.7**
SIM *e**PP pP 22 44 07.0 -1.4
SIM pmax pmax
comp=Z,42nm,0.9s,mb5.5
SGKT Sivrigoynuk 65.84 312 *i* P **P** **22 43 53.6 -0.9**
ISP Isparta 66.40 309 *e*P **P** **22 43 56.3 -1.7**
ISP *e**PP pP 22 44 12.1 -1.6
ISP pmax pmax
comp=Z,77nm,1.1s,mb5.7
ISP Isparta 66.40 309 *e*P **P** **22 43 56.3 -1.7**
comp=Z,77nm,1.1s,mb5.7
ISP *e*pP pP 22 44 12.1 -1.6
ESKT Eskisehir 66.50 311 *i* P **P** **22 43 57.3 -1.3**
HNR Honiara 66.65 103 *e*P **P** **22 43 59.5 -0.5**
comp=Z,94nm,0.9s,mb5.8
MOS Moscow 67.45 329α *i*P **P** **22 44 03.1 -1.2**
MOS *e**PP pP 22 44 18.2 -1.8
MOS *e* 22 44 31.3
MOS *e* 22 46 30.2
MOS *e*PPP PPP 22 48 07.8 -4.6
MOS *e*S S 22 52 49.5 -5.0
MOS pmax pmax
comp=Z,92nm,0.8s,mb5.9
MOS smax
comp=N,400nm,3.8s
TAU Tasmania Unive 67.64 141 *e*P **P** **22 44 04.4 -1.3**
TAU pmax pmax
comp=Z,24nm,1.1s,mb5.1
TAU Tasmania Unive 67.64 141 *e*P **P** **22 44 04.4 -1.3**
comp=Z,24nm,1.1s,mb5.1
OBN Obninsk 67.74 328 P **P** **22 44 04.1 -2.0**
comp=Z,378nm,0.5s,SNR=9.2
OBN Obninsk 67.74 328*c* *i*P **P** **22 44 04.6 -1.5**
OBN *i* pP 22 44 17.1 -4.7
OBN *i* 22 46 34.5
OBN *e*S S 22 53 00.9 +2.9
OBN *e*SS SS 22 57 23.2 +1.8
OBN pmax pmax
comp=Z,47nm,0.7s,mb5.6
OBN MLR MLR
comp=Z,200nm,15.0s,MS4.5
OBN Obninsk 67.74 328 *e*P **P** **22 44 04.2 -1.8**
comp=Z,37nm,0.8s,mb5.5
MANT Manisa 68.03 309 *i* P **P** **22 44 08.1 -0.2**
AYDN Tasoluk 68.41 308 *i* P **P** **22 44 09.9 -0.6**
MA2 Magadan 68.65 27*c* *i*P **P** **22 44 11.1 -0.6**
MA2 *e* 22 54 07.6
MA2 pmax pmax
comp=Z,20nm,0.7s,mb5.2
MA2 pmax pmax
comp=E,9.0nm,1.2s
MA2 pmax pmax
comp=N,5.0nm,0.7s
MA2 Magadan 68.65 27 *e*P **P** **22 44 10.7 -1.0**
comp=N,22nm,0.7s,mb5.2
BTOK Tokmak 68.68 311 *i* P **P** **22 44 11.5 -0.7**
KDAG Bornova 69.02 309 *i* P **P** **22 44 14.3 0.0**
LSZ Lusaka 69.03 251 *e*P **P** **22 44 14.4 -0.3**
LSZ *e**PP pP 22 44 26.5 -4.0
LSZ pmax pmax
comp=Z,25nm,1.1s,mb5.1
LSZ Lusaka 69.03 251 *e*P **P** **22 44 14.4 -0.3**
comp=Z,24nm,1.1s,mb5.0
LSZ *e*pP pP 22 44 26.5 -4.0
TIXI Tiksi 69.50 11⇑*i*P **P** **22 44 14.9 -1.8**
TIXI pmax pmax
comp=Z,48nm,0.8s,mb5.5
TIXI MLR MLR
comp=Z,487nm,18.0s,MS4.8
TIXI Tiksi 69.50 11⇑*i*P **P** **22 44 15.0 -1.7**
CFR Carcaliu 69.74 316 P **P** **22 44 17.7 -0.9**
HARR Harsova 69.77 316 P **P** **22 44 18.1 -0.7**
PRD Provadia 69.83 314 *e*P **P** **22 44 19.0 -0.2**
MATP Matopo 69.89 246 P **P** **22 44 21.1 +1.2**
comp=Z,3.5nm,0.5s,mb4.5,baz=74,slow=6.3,SNR=18
MATP pP pP 22 44 37.5 +1.7
comp=Z,22nm,0.9s,baz=76,slow=8.3,SNR=10.0
MATP Matopo 69.89 246 P **P** **22 44 21.1 +1.2**
MATP pP pP 22 44 37.5 +1.7
SANT Santorini 70.12 307 *e*P **P** **22 44 19.6 -1.5**
comp=Z,135nm,1.1s,mb5.8
AKASG Malin Array Be 70.42 322 P **P** **22 44 19.9 -2.7**
comp=Z,21nm,0.7s,mb5.2,baz=88,slow=5.1,SNR=63
AKASG pP pP 22 44 36.4 -2.1
comp=Z,12nm,0.8s,baz=88,slow=4.9,SNR=6.8
IDI Anoyia 70.43 305 P **P** **22 44 23.0 0.0**
comp=Z,48nm,0.6s,mb5.6,baz=80,slow=8.3,SNR=69
IDI pP pP 22 44 38.3 -0.5
comp=Z,21nm,0.6s,baz=96,slow=8.4,SNR=4.1
VRI Vrincioaia 70.85 317 P **P** **22 44 25.3 0.0**
SEY Seymchan 70.89 24 *e*P **P** **22 44 24.2 -1.1**
SEY *e* 22 54 19.1
SEY *e* 22 58 10.6
SEY pmax pmax
comp=Z,20nm,0.7s,mb5.2
BUC1 Bucharest 71.03 315 P **P** **22 44 26.5 +0.1**
MLR Muntele Rosu 71.31 316 P **P** **22 44 28.1 0.0**
MTUR Matau 71.87 316 P **P** **22 44 27.8 -3.7**
BURAR Bucovina Array 72.23 318 P **P** **22 44 33.7 +0.2**
PUL Pulkovo 72.61 331 *i* P **P** **22 44 35.1 -0.4**
KKB Krupnik 72.73 312 *e*P **P** **22 44 35.0 -1.6**
VTS Vitosha 72.75 313 P **P** **22 44 36.1 -0.6**
VTS Vitosha 72.75 313 *e*P **P** **22 44 35.0 -1.7**
JOF Joensuu 73.28 335 *e*p **P** **22 44 36.3 -3.1**
comp=Z,18nm,0.8s,mb5.0
LVV L'vov 73.44 320⇓*i*P **P** **22 44 39.3 -1.3**
LVV *e* pP 22 44 55.1 -1.4
LVV MLR MLR

comp=Z,390nm,21.7s,MS4.7
LVV MLR MLR
comp=N,300nm,21.1s,MS4.6
LVV MLR MLR
comp=E,200nm,23.0s,MS4.6
LBTB Lobatse 73.60 242 *e*P **P** **22 44 42.9 +0.8**
comp=E,26nm,1.0s,mb5.1
LBTB *e*pP pP 22 44 58.9 +1.0
SKO Skopje 73.96 312 *i* P **P** **22 44 41.5 -2.3**
SKO *i* pP 22 44 57.5 -2.2
VSU Vasula 73.97 330 *d* iP **P** **22 44 42.8 -0.7**
VSU Vasula 73.97 330 *i* Pr **P** **22 44 42.8 -0.7**
LVZ Lovozero 74.03 340 P **P** **22 44 42.4 -1.3**
comp=E,340nm,0.6s,mb6.5,SNR=25
LVZ Lovozero 74.03 340⇑ *e*P **P** **22 44 42.7 -1.0**
LVZ pmax pmax
comp=Z,37nm,0.7s,mb5.4
LVZ Lovozero 74.03 340⇑ *e*P **P** **22 44 42.8 -0.9**
KWP Kalwaria 74.25 320 *e*P **P** **22 44 45.0 -0.4**
KWP Kalwaria 74.25 320 *e*P **P** **22 44 45.0 -0.3**
APA Apatity 74.32 340⇓ *i*P **P** **22 44 44.5 -0.9**
APA *i* pP 22 45 04.2 +2.9
APA pmax pmax
comp=Z,34nm,0.8s,mb5.3
APA MLR MLR
comp=Z,2μm,18.0s,MS5.5
KOLS Kolonicke sedl 74.41 319 *e*P **P** **22 44 46.5 +0.2**
KOLS *e*pP pP 22 45 01.3 -0.9
BOSA Boshof 74.80 239 *e*P **P** **22 44 49.6 +0.6**
BOSA *e**PP pP 22 45 05.6 +0.7
BOSA pmax pmax
comp=Z,26nm,1.0s,mb5.1
BOSA Boshof 74.80 239 *e*P **P** **22 44 49.6 +0.6**
comp=Z,26nm,1.0s,mb5.1
BOSA *e*pP pP 22 45 05.6 +0.8
SUW Suwalki 74.81 325 *e*P **P** **22 44 47.2 -1.3**
CRVS Cervenica-Dubn 74.93 319 *e*P **P** **22 44 49.2 -0.1**
CRVS *e* pP 22 45 04.8 -0.4
FINES FINESS Array B 75.12 332 P **P** **22 44 49.4 -0.7**
comp=Z,9.9nm,0.7s,mb4.9,baz=102,slow=5.9,SNR=64
FINES pP pP 22 45 05.1 -0.9
comp=Z,8.8nm,0.6s,baz=104,slow=7.9,SNR=8.4
KAF Kangasniemi 75.21 333 *e*p **P** **22 44 47.3 -3.3**
comp=Z,11nm,0.6s,mb5.0
KAF Kangasniemi 75.21 333 *e*P **P** **22 44 47.3 -3.3**
KAF pmax pmax
comp=Z,11nm,0.6s,mb5.0
KECS Kecovo 75.51 319 *e*P **P** **22 44 52.4 -0.2**
KECS *e*pP pP 22 45 07.6 -0.9
BBLS Bajina Basta - 75.67 314⇑ *i*P **P** **22 44 53.3 -0.3**
NIE Niedzica 75.76 320 *e*P **P** **22 44 52.5 -1.5**
PSZ Piszkesteto 75.82 318 P **P** **22 44 54.6 +0.2**
PSZ Piszkesteto 75.82 318 *e*P **P** **22 44 53.8 -0.6**
comp=Z,22nm,0.8s,mb5.1
PSZ *e*pP pP 22 45 09.9 -0.4
PSZ Piszkesteto 75.82 318⇑ *i*P **P** **22 44 54.3 -0.1**
OJC Ojcow 76.20 320 *e*P **P** **22 44 56.3 -0.2**
VYHS Vyhne 76.60 318 *e*P **P** **22 44 58.6 -0.2**
VYHS *e*pP pP 22 45 13.8 -0.9
SRO Srobarova 76.87 318 *e*P **P** **22 45 00.1 -0.2**
SRO *e* pP 22 45 15.8 -0.5
SRO1 Iza 76.92 318 *e*P **P** **22 45 01.0 +0.4**
SRO1 *e*pP pP 22 45 16.8 +0.3
OKC Ostrava-Krasne 77.21 320 *e*P **P** **22 45 02.2 0.0**
OKC *e*pP pP 22 45 18.2 +0.1
KEV Kevo 77.31 341 *e*p **P** **22 45 00.6 -1.7**
comp=Z,30nm,0.7s,mb5.3
KEV Kevo 77.31 341 *e*P **P** **22 45 00.6 -1.7**
KEV pmax pmax
comp=Z,30nm,0.7s,mb5.3
MORC Moravsky Berou 77.59 320 *e*P **P** **22 45 04.4 +0.1**
comp=Z,40nm,1.1s,mb5.3
MORC *e*pP pP 22 45 19.9 -0.3
ZST Bratislava 77.72 318 *e*P **P** **22 45 05.2 +0.2**
ZST *e* pP 22 45 17.2 -3.8
ARCES ARCESS Array B 77.74 340 P **P** **22 45 04.7 0.0**
comp=Z,26nm,0.7s,mb5.3,baz=95,slow=5.9,SNR=108
ARCES pP pP 22 45 21.3 +0.6
comp=Z,12nm,0.6s,baz=104,slow=5.0,SNR=5.1
BILL Bilibino 78.13 21⇑ *e*P **P** **22 45 05.4 -1.4**
BILL pmax pmax
comp=Z,12nm,0.7s,mb4.9
BILL Bilibino 78.13 21 *e*P **P** **22 45 05.6 -1.3**
comp=Z,14nm,0.8s,mb5.0
KOGS Kog 78.14 316 *e*P **P** **22 45 07.2 -0.1**
GKP Gorka Klasztor 78.18 323 *e*P **P** **22 45 06.8 -0.6**
KTK1 Kautokeino 78.36 340⇑ *i*P **P** **22 45 07.7 -0.5**
KTK1 *e*pP pP 22 45 22.3 -1.8
DPC Dobruska-Polom 78.43 320 *e*P **P** **22 45 09.3 +0.4**
DPC *e*pP pP 22 45 21.5 -3.4
DPC AMS AMS 23 35 20.0
comp=Z,900nm,14.8s
KSP Ksiaz 78.50 321⇑ *e*P **P** **22 45 09.3 +0.1**
KSP *e**PP pP 22 45 25.4 +0.2
KSP Ksiaz 78.50 321 *e*P **P** **22 45 09.4 +0.2**
UPC Upice 78.64 320 *e*P **P** **22 45 10.4 +0.4**
ARSA Arzberg 78.70 317⇑ *i*P **P** **22 45 10.6 +0.2**
comp=Z,44nm,1.4s,mb5.2
FX1 Attu Island--F 78.71 37 P **P** **22 45 10.7 +0.4**
comp=Z,45nm,0.5s,mb5.6,baz=19,slow=0.8,SNR=19
FX1 Attu Island--F 78.71 37 *e*P **P** **22 45 09.9 -0.4**
BOJS Bojanci 78.76 315 *e*P **P** **22 45 10.8 -0.1**
BOJS *e* pP 22 45 22.8 -4.1
PERS Pernice 78.93 316 *e*P **P** **22 45 11.8 +0.1**
VAE Valguarnera 79.03 307 P **P** **22 45 13.7 +1.3**
comp=Z,24nm,0.9s,mb5.1,baz=64,slow=2.6,SNR=7.2
LJU Ljubljana 79.30 316 *e*P **P** **22 45 14.0 +0.2**
OBKA Obir 79.31 316⇑ *i*P **P** **22 45 14.3 +0.5**
comp=Z,20nm,0.7s,mb5.2
SUR Sutherland 79.44 236 *e*P **P** **22 45 15.7 +0.9**
comp=Z,34nm,1.0s,mb5.2
PRU Pruhonice 79.54 320 *e*P **P** **22 45 15.1 +0.1**
PRU *e*pP pP 22 45 24.2 -6.8
PRU AMS AMS 23 36 10.0
comp=Z,600nm,16.6s
PVCC Panska Ves 79.56 320 *e*P **P** **22 45 15.4 +0.3**
MOA Molln 79.59 318⇑ *i*P **P** **22 45 14.9 -0.3**
comp=Z,14nm,0.9s,mb4.9
TSUM Tsumeb 79.71 249 *e*P **P** **22 45 17.6 +1.1**
comp=Z,7.6nm,0.8s,mb4.7
TSUM *e*pP pP 22 45 33.0 +0.5
VOY Vojsko 79.74 316 *e*P **P** **22 45 13.7 -2.4**
VOY *e* 22 45 15.8
VOY *e* pP 22 45 31.8 -0.4
AQU L'Aquila 79.95 312 *e*P **P** **22 45 16.7 -0.6**
comp=Z,32nm,0.9s,mb5.2
BRG Berggiesshubel 79.99 321 *i* P **P** **22 45 17.6 +0.3**
BRG *i* pP 22 45 33.8 +0.4
BRG pmax pmax
comp=Z,22nm,1.0s,mb5.0
BRG Berggiesshubel 79.99 321 *i* P **P** **22 45 17.6 +0.3**
comp=Z,22nm,1.0s,mb5.0
BRG *i* pP 22 45 33.8 +0.4
TRO Tromso 80.00 340 *e*P **P** **22 45 15.4 -1.6**
TRO *e*pP pP 22 45 30.6 -2.4
ROBS Robic 80.02 316 *e*P **P** **22 45 17.2 -0.4**
GEC2 GERESS Array S 80.02 319 *e*P **P** **22 45 17.9 +0.4**
GEC2 pmax pmax
comp=Z,49nm,1.0s,mb5.4
GEC2 GERESS Array S 80.02 319 *e*P **P** **22 45 17.9 +0.4**
comp=Z,49nm,1.0s,mb5.4
GERES GERESS Array B 80.02 319 P **P** **22 45 17.8 +0.2**
comp=Z,24nm,0.6s,mb5.3,baz=97,slow=5.3,SNR=124
GERES pP pP 22 45 33.5 -0.1
comp=Z,19nm,0.8s,baz=90,slow=5.3,SNR=9.1
KHC Kasperske Hory 80.12 319 *c* iP **P** **22 45 17.9 -0.2**
KHC Kasperske Hory 80.12 319 *e*P **P** **22 45 17.9 -0.2**
KHC *e* pP 22 45 30.0 -4.1
KHC *e* pP 22 45 36.5 +2.4
KHC LR LR
comp=Z,900nm,18.6s,MS5.1
KHC Kasperske Hory 80.12 319 *e*P **P** **22 45 17.9 -0.2**
KHC pP pP 22 45 30.0 -4.1
KHC x x 22 45 36.5
KHC AMS AMS 23 38 10.0
comp=Z,900nm,18.6s
PTCC Patocco-Chiusa 80.13 316 *e*P **P** **22 45 17.9 -0.3**
KBA Koelnbreinsper 80.17 317⇑ *i*P **P** **22 45 18.0 -0.4**
comp=Z,20nm,1.1s,mb5.0
RUE Ruedersdorf 80.19 322 *e*P **P** **22 45 18.0 -0.4**
comp=Z,39nm,0.8s,mb5.4
ARV Arcevia 80.32 313 *e*P **P** **22 45 19.8 +0.5**
FSSB Fossombrone 80.44 313 *e*P **P** **22 45 20.4 +0.4**
FVI Forni Avoltri 80.54 316 *e*P **P** **22 45 20.0 -0.4**

WET Wettzell 80.58 319 *e*P **P** **22 45 20.7 +0.2**
WET pmax pmax
comp=Z,26nm,1.0s,mb5.1
WET Wettzell 80.58 319 *e*P **P** **22 45 20.7 +0.2**
comp=Z,26nm,1.0s,mb5.1
CLL Collm 80.60 321⇑ *i*P **P** **22 45 20.3 -0.3**
CLL *e* pP 22 45 33.0 -3.6
CLL pmax pmax
comp=Z,20nm,1.1s,mb5.0
CLL MLR MLR
comp=Z,1μm,20.0s,MS5.3
CLL Collm 80.60 321⇑ *i*P **P** **22 45 20.3 -0.3**
comp=Z,20nm,1.1s,mb5.0
CLL *e* pP 22 45 33.0 -3.6
CLL LR LR
comp=Z,1μm,20.0s,MS5.3
CLL Collm 80.60 321⇑ P **P** **22 45 20.3 -0.3**
comp=Z,logA/T=1.3,mb5.0
CLL *e**PP pP 22 45 33.0 -3.6
CLL *e*SP sP 22 45 40.0 -2.9
CRE Caprese Michel 81.04 313 *e*P **P** **22 45 23.2 +0.1**
SFI Santa Sofia 81.12 313 *e*P **P** **22 45 24.5 +1.0**
MOR8 Moi Rana 81.12 336 *e*P **P** **22 45 22.1 -0.9**
comp=Z,43nm,1.8s,mb5.1
MOR8 Moi Rana 81.12 336 *e*P **P** **22 45 22.1 -0.9**
MOR8 AMb AMB 22 45 25.8
comp=Z,43nm,1.9s,mb5.1
MOR8 *e*pP pP 22 45 37.5 -1.6
CTI Castel Tesino 81.31 316 *e*P **P** **22 45 24.8 +0.4**
VMG Vicchio 81.34 314 *e*P **P** **22 45 25.7 +1.0**
WATA Walderalm 81.38 317⇑ *i*P **P** **22 45 24.0 -0.8**
comp=Z,21nm,1.1s,mb5.0
MOX Moxa 81.45 320 *e*P **P** **22 45 25.1 0.0**
MOX pmax pmax
comp=Z,41nm,1.6s,mb5.1
MOX Moxa 81.45 320 *e*P **P** **22 45 25.1 0.0**
comp=Z,41nm,1.6s,mb5.1
MOX Moxa 81.45 320 *i* P **P** **22 45 25.1 0.0**
comp=Z,logA/T=1.4,mb5.1
SEI Scarperia 81.48 314 *e*P **P** **22 45 26.1 +0.7**
SQTA Sankt Quirin 81.63 317⇑ *i*P **P** **22 45 25.7 -0.4**
comp=Z,15nm,0.8s,mb5.0
GRA1 Grafenberg Arr 81.68 319 *e*P **P** **22 45 26.7 +0.5**
comp=Z,43nm,1.1s,mb5.3
GRA1 *e*pP pP 22 45 46.3 +4.0
GRA1 LR LR
comp=Z,600nm,18.9s,MS5.0
GRF Grafenberg Arr 81.68 319 *e*P **P** **22 45 26.7 +0.5**
GRF pmax pmax
comp=Z,43nm,1.1s,mb5.3
GRF MLR MLR
comp=Z,600nm,18.9s,MS5.0
GRF Grafenberg Arr 81.68 319 *e*P **P** **22 45 26.7 +0.5**
comp=Z,43nm,1.1s,mb5.3
GRF *e*pP pP 22 45 46.3 +4.0
GRF LR LR
comp=Z,600nm,18.9s,MS5.0
LOF Lofoten 81.69 338 *e*P **P** **22 45 27.8 +1.8**
MOTA Moosalm 81.71 317⇑ *i*P **P** **22 45 25.9 -0.5**
comp=Z,1.2nm,1.1s
NB2 NORSAR Subarra 82.12 331 P **P** **22 45 27.2 -1.1**
comp=Z,10.0nm,1.0s,mb4.7,baz=91,slow=4.8
NB2 NORSAR Subarra 82.12 331 P **P** **22 45 27.2 -1.1**
baz=91,slow=5.1
NOA NORSAR Array B 82.12 331 P **P** **22 45 27.8 -0.5**
comp=Z,5.4nm,0.9s,mb4.5,baz=94,slow=5.5,SNR=10
NOA PP PP 22 48 37.9 -0.9
comp=Z,1.4nm,0.8s,baz=90,slow=8.8,SNR=4.7
NOA NORSAR Array B 82.12 331 P **P** **22 45 27.8 -0.6**
NOA PP PP 22 48 37.9 -0.9
BRMO Bormio 82.20 316 *e*P **P** **22 45 29.4 +0.4**
CLZ Clausthal 82.26 321 *e*P **P** **22 45 29.4 +0.2**
comp=Z,20nm,1.0s,mb5.0
NAO01 NORSAR Array S 82.28 331 *e*P **P** **22 45 27.9 -1.2**
comp=Z,18nm,1.1s,mb4.9
BSEG Bad Segeberg 82.34 324 *e*P **P** **22 45 30.1 +0.5**
BSEG pmax pmax
comp=Z,48nm,1.3s,mb5.3
DAVA Damuels 82.54 317⇑ *i*P **P** **22 45 31.0 +0.3**
comp=Z,28nm,1.2s,mb5.2
DAVOX Davos 82.54 316 P **P** **22 45 31.4 +0.6**
comp=Z,38nm,0.6s,mb5.6,baz=123,slow=6.1,SNR=88
KONO Ingsberg 82.87 329 *e*P **P** **22 45 30.4 -1.7**
comp=Z,42nm,1.4s,mb5.3
STU Stuttgart 83.00 318 *e*P **P** **22 45 32.8 -0.2**
comp=Z,14nm,0.4s,mb5.4
PGF Pioggiola 83.21 312 *e*P **P** **22 45 34.4 +0.2**
TOD Tromm 83.25 319 *e*P **P** **22 45 33.9 -0.4**
SYO Syowa Base 83.26 197 ⇑P **P** **22 45 38.0 +4.0**
SYO Syowa Base 83.26 197 ⇓pP pP 22 45 52.0 +1.9
SPAK Spaichingen 83.27 318 *e*P **P** **22 45 34.3 -0.1**
BFO Black Forest 83.58 318 P **P** **22 45 36.0 0.0**
comp=Z,108nm,0.7s,mb6.1,SNR=11
BFO Black Forest 83.58 318 *e*P **P** **22 45 35.5 -0.5**
BFO pmax pmax
comp=Z,18nm,0.9s,mb5.2
BFO Black Forest 83.58 318 *e*P **P** **22 45 35.5 -0.5**
comp=Z,18nm,0.9s,mb5.2
FELD Feldberg 83.80 317 *e*P **P** **22 45 36.5 -0.6**
MCGN Macugnaga 83.86 316 *e*P **P** **22 45 37.4 -0.1**
LANF Langenberg 83.91 319 *e*P **P** **22 45 37.8 +0.1**
ABH Alteburg 84.06 319 *e*P **P** **22 45 38.4 0.0**
CDF Champ du Feu 84.28 318⇑ *i*P **P** **22 45 39.1 -0.4**
comp=Z,18nm,0.9s,mb4.9
SBF Sospel 84.31 313 *e*P **P** **22 45 39.9 +0.1**
comp=Z,99nm,0.8s,mb5.7
MOF Molkenrain 84.39 317 *e*P **P** **22 45 39.5 -0.6**
HINF Hinteralfeld 84.58 317⇑ *i*P **P** **22 45 40.2 -0.8**
comp=Z,6.6nm,0.6s,mb4.6
LOMF Lomont 84.61 317 *e*P **P** **22 45 40.8 -0.4**
CMAH Djebel Manchou 84.63 306 P **P** **22 45 43.0 +1.4**
LPG La Plagne 84.74 315⇑ *i*P **P** **22 45 42.3 +0.4**
comp=Z,50nm,0.9s,mb5.4
LPL La Plagne 84.75 315⇑ *i*P **P** **22 45 42.3 +0.3**
comp=Z,59nm,0.8s,mb5.5
MBDF Montbardon 84.76 314⇑ *i*P **P** **22 45 41.5 -0.5**
comp=Z,49nm,1.3s,mb5.2
BNI Bardonecchia 84.81 315 *e*P **P** **22 45 41.2 -1.0**
comp=Z,12nm,0.8s,mb5.1
FRF La Foret Royal 84.90 313⇑ *i*P **P** **22 45 43.0 +0.3**
comp=Z,111nm,1.0s,mb5.6
HAU Haudompre 84.91 318⇑ *i*P **P** **22 45 42.3 -0.4**
comp=Z,34nm,0.7s,mb5.3
LMR La Mourre 85.01 313⇑ *i*P **P** **22 45 43.4 +0.1**
comp=Z,62nm,1.0s,mb5.4
CABF La Chapelle 85.15 316⇑ *i*P **P** **22 45 44.2 +0.3**
comp=Z,24nm,0.7s,mb5.1
CKFL Kef-Lekhel 85.20 306 P **P** **22 45 46.0 +1.6**
ORIF Oris-en-Rattie 85.38 315 *e*P **P** **22 45 44.9 -0.2**
comp=Z,19nm,0.8s,mb5.0
CASM Ain Smara 85.40 306 P **P** **22 45 47.0 +1.6**
CTEI Djebel Teioual 85.48 306 P **P** **22 45 48.0 +2.2**
SMRF Simiane la Rot 85.65 314 *e*P **P** **22 45 47.1 +0.7**
MEZF Maizieres J'vi 85.75 318⇑ *i*P **P** **22 45 46.7 -0.1**
comp=Z,33nm,1.1s,mb5.2
GIVF Givet 85.81 320 *e*P **P** **22 45 47.1 +0.1**
DFRA Djebel Bou Aff 85.87 306 P **P** **22 45 50.0 +2.3**
CKHR Kef Ahmar 86.20 306 P **P** **22 45 51.0 +1.7**
BAIF Baives 86.20 320⇑ *i*P **P** **22 45 49.3 +0.3**
comp=Z,34nm,1.0s,mb5.2
VIVF Saint-Julien-l 86.24 315⇑ *i*P **P** **22 45 49.5 +0.2**
comp=Z,30nm,0.9s,mb5.2
SET Setif 86.28 306 P **P** **22 45 52.0 +2.3**
SMF Signal de Mont 86.69 316⇑ *i*P **P** **22 45 51.3 -0.2**
comp=Z,40nm,0.9s,mb5.3
LASF Ste Croix 86.88 314⇑ *i*P **P** **22 45 52.9 +0.4**
comp=Z,40nm,1.0s,mb5.3
SSF Saint Saulge 86.89 317⇑ *i*P **P** **22 45 52.4 0.0**
comp=Z,19nm,0.8s,mb5.1
PLDF La Plantade 86.90 316 *e*P **P** **22 45 52.8 +0.3**
AVF Avril sur Loir 87.02 317⇑ *i*P **P** **22 45 52.9 -0.2**
comp=Z,34nm,1.2s,mb5.2
LBL Lubilhac 87.22 315 *e*P **P** **22 45 54.8 +0.7**
AGO Saint Agoulin 87.23 316 *e*P **P** **22 45 54.4 +0.3**
BGF Bois d'Agland 87.38 316⇑ *i*P **P** **22 45 55.1 +0.3**
comp=Z,46nm,1.1s,mb5.3
HYF Humbligny 87.46 317⇑ *i*P **P** **22 45 55.6 +0.4**
TCF Toulx Ste Croi 87.85 316⇑ *i*P **P** **22 45 57.3 +0.2**
comp=Z,41nm,1.5s,mb5.2
CAF Calviac 88.08 315⇑ *i*P **P** **22 45 58.8 +0.6**
comp=Z,26nm,1.1s,mb5.1
MTLF Montolieu 88.13 313⇑ *i*P **P** **22 45 58.9 +0.4**
comp=Z,24nm,0.9s,mb5.1
TNA Tin City 88.13 24 *e*P **P** **22 45 58.1 +0.1**
comp=Z,16nm,0.8s,mb5.3
RJF Les Rejaudoux 88.43 315⇑ *i*P **P** **22 46 00.5 +0.6**

comp=Z,25nm,0.9s,mb5.2
EMIR Miracle 88.78 312 P **P** **22 46 01.3 -0.4**
comp=Z,31nm,0.7s,mb5.8
LFF La Frestale 89.02 315⇑ *i*P **P** **22 46 03.4 +0.7**
comp=Z,15nm,0.7s,mb5.1
LDF La Druitiere 89.17 319⇑ *i*P **P** **22 46 03.4 +0.1**
comp=Z,42nm,1.0s,mb5.4
EPOB Poblet 89.18 311 P **P** **22 46 02.6 -0.9**
comp=Z,18nm,1.5s,mb5.2
FLN La Foliniere 89.38 319⇑ *i*P **P** **22 46 04.4 +0.1**
comp=Z,19nm,0.6s,mb5.3
MFF Saint Martin d 89.43 317⇑ *i*P **P** **22 46 04.8 +0.2**
comp=Z,70nm,1.4s,mb5.5
EPF Esparros 89.53 313 *e*P **P** **22 46 04.9 -0.2**
GRR Gorron 89.68 318 *e*P **P** **22 46 06.1 +0.4**
EBR Ebro Roquetas 89.68 311 *e*P **P** **22 46 06.5 +0.6**
EBIE Bielsa 89.72 313 P **P** **22 46 06.5 +0.5**
comp=Z,8.6nm,0.8s,mb5.1
ERTA Horta de San J 89.78 311 P **P** **22 46 07.9 +1.5**
comp=Z,47nm,1.4s,mb5.6
ETSF Etsaut 90.20 313 *e*P **P** **22 46 09.3 +1.0**
comp=Z,22nm,0.8s,mb5.2
ESAC San Caprasio 90.29 312 P **P** **22 46 10.5 +1.8**
comp=Z,46nm,1.5s,mb5.6
VNDA Vanda 90.44 168 P **P** **22 46 09.9 +1.2**
comp=Z,1.7nm,0.9s,mb4.4,baz=175,slow=2.3,SNR=5.7
EMOS Mosqueruela 90.47 310 P **P** **22 46 10.3 +0.7**
comp=Z,84nm,1.4s,mb5.9
SJPF Ste Jean 90.66 313⇑ *i*P **P** **22 46 11.4 +1.0**
comp=Z,22nm,0.8s,mb5.2
SGMF Saint Gilles 90.82 318⇑ *i*P **P** **22 46 11.2 +0.2**
comp=Z,16nm,0.7s,mb5.1
QUIF Quistinic 91.28 318⇑ *i*P **P** **22 46 13.2 0.0**
comp=Z,13nm,0.7s,mb5.1
ROSF Rostrenen 91.28 319⇑ *i*P **P** **22 46 13.4 +0.2**
comp=Z,40nm,1.1s,mb5.3
ETOB Tobarra 91.53 309 P **P** **22 46 18.3 +3.7**
comp=Z,43nm,2.0s,mb5.4
ALE Alert 91.55 357 P **P** **22 46 14.0 +0.2**
comp=Z,159nm,0.6s,SNR=27
EVIA Vianos 92.27 309 P **P** **22 46 19.0 +1.0**
comp=Z,10.0nm,0.8s,mb5.2
EBER Berja 92.83 307 P **P** **22 46 25.0 +4.4**
comp=Z,26nm,1.2s,mb5.5
EQES Quesada 92.84 308 P **P** **22 46 22.4 +1.8**
comp=Z,12nm,1.3s,mb5.2
GUD Guadarrama 93.20 311 P **P** **22 46 23.7 +1.5**
comp=Z,11nm,0.7s,mb5.4
ESDC Sonseca Array 93.22 310 P **P** **22 46 23.1 +0.8**
comp=Z,4.7nm,0.6s,mb5.1,baz=61,slow=4.1,SNR=44
ESDC pP pP 22 46 39.6 +0.8
comp=Z,3.0nm,0.7s,baz=69,slow=3.5,SNR=5.4
ESDC Sonseca Array 93.22 310 P **P** **22 46 22.5 +0.2**
comp=Z,12nm,0.9s,mb5.3
ESLA Sonseca Array 93.22 310 *e*P **P** **22 46 23.1 +0.8**
comp=Z,3.2nm,1.4s,mb4.6
ESLA *e*pP pP 22 46 39.1 +0.3
EBAN Banos Encina 93.34 309 P **P** **22 46 23.8 +0.9**
comp=Z,6.5nm,0.8s,mb5.1
IMA Indian Mountai 93.64 22 *e*P **P** **22 46 24.6 +1.1**
comp=Z,106nm,0.8s,mb6.3
IMA *e*pP pP 22 46 39.1 -0.9
ELOJ Sierra Loja 93.79 308 P **P** **22 46 24.2 -0.7**
comp=Z,2.1nm,0.6s,mb4.7
EADA Adamuz 93.95 309 P **P** **22 46 24.3 -1.3**
comp=Z,19nm,1.5s,mb5.3
MCK McKinley 96.45 24 *e*P **P** **22 46 35.5 -0.9**
comp=Z,5.3nm,0.9s,mb5.0
SUMG Summit 96.63 347 *e*P **P** **22 46 37.9 +0.8**
comp=Z,8.5nm,1.0s,mb5.1
ILAR Eielson Array 96.77 22 P **P** **22 46 36.8 -1.0**
comp=Z,1.5nm,0.7s,mb4.5,baz=287,slow=3.8,SNR=28
ILAR PP PP 22 50 32.8 -3.0
comp=Z,0.7nm,0.8s,baz=302,slow=6.6,SNR=4.9
SML Sawmill 97.55 25 *e*P **P** **22 46 41.5 0.0**
DBIC Dimbokro 98.84 278 P **P** **22 46 48.8 +0.4**
comp=Z,2.8nm,0.9s,mb4.8,baz=350,slow=11,SNR=3.0
INK Inuvik 99.16 16 P **P** **22 46 48.6 0.0**
comp=Z,9.4nm,1.1s,mb5.2,baz=323,slow=5.7,SNR=14
YKA Yellowknife Ar 108.64 14 Pdiff Pdif 22 47 32.4 +1.6
comp=Z,0.3nm,0.6s,baz=326,slow=4.3,SNR=8.5
YKA PKiKP 22 51 35.6
comp=Z,0.4nm,0.6s,baz=334,slow=2.1,SNR=7.1
YKA PP PP 22 51 56.9 -8.9
comp=Z,0.2nm,0.4s,baz=304,slow=2.8,SNR=3.9
YKA PKKPbc 23 02 44.7
comp=Z,0.4nm,0.8s,baz=158,slow=2.8,SNR=4.1
YKA PKKP PKKP 23 03 01.6 +11
comp=Z,0.4nm,0.9s,baz=150,slow=3.0,SNR=6.0
YKA Yellowknife Ar 108.64 14 Pdif Pdif 22 47 32.4 +1.7
YKA PKPdf 22 51 35.6
YKA PP PP 22 51 56.9 -8.9
YKA PKKPbc 23 02 44.7
YKA PKKP PKKP 23 03 01.6 +11
TBI Tubuai 115.82 113 *e*LR LR 23 26 54.9
comp=Z,593nm,22.0s
PPT Papeete 116.11 107 *e*LR LR 23 27 02.8
comp=Z,417nm,24.5s
SCHQ Schefferville 118.01 348 PKP PKPdf 22 51 54.5 +1.6
comp=Z,2.7nm,0.5s,baz=47,slow=3.8,SNR=11
SCHQ pPKP 22 52 10.7
comp=Z,2.4nm,0.7s,baz=272,slow=5.8,SNR=3.2
NEW Newport 119.67 24 PKP PKPdf 22 51 58.1 +1.7
comp=Z,3.2nm,0.7s,baz=76,slow=2.6,SNR=5.6
MSO Missoula 122.10 23 *e*PKPdf PKPdf 22 52 02.1 +1.0
CHMT Chamberlain Mo 122.29 22 *e*PKPdf PKPdf 22 52 02.4 +1.0
ULM Lac du Bonnet 123.78 8 PKP PKPdf 22 52 05.3 +1.1
comp=Z,14nm,0.7s,baz=5.0,slow=2.8,SNR=34
ULM pPKP 22 52 22.3
comp=Z,6.3nm,0.7s,baz=304,slow=2.6,SNR=4.8
ULM Lac du Bonnet 123.78 8 *e*PKPdf PKPdf 22 52 04.8 +0.5
BOZ Bozeman (W) 123.97 22 *e*PKPdf PKPdf 22 52 06.5 +1.7
HLID Hailey 124.58 25 *e*PKPdf PKPdf 22 52 08.2 +2.3
QLMT Earthquake Lak 124.73 22 *e*PKPdf PKPdf 22 52 08.2 +1.9
RRI2 Red Ridge 126.03 23 *e*PKPdf PKPdf 22 52 11.3 +2.6
LOHW Long Hollow 126.08 23 *e*PKPdf PKPdf 22 52 10.5 +1.7
SNOW Snow King Moun 126.15 23 *e*PKPdf PKPdf 22 52 11.5 +2.5
EYMN Ely 126.56 5 *e*PKPdf PKPdf 22 52 11.0 +1.3
NVAR Nina Array Bea 126.68 32 PKP PKPdf 22 52 13.2 +3.1
comp=Z,4.1nm,0.5s,baz=327,slow=0.7,SNR=20
PDAR Pinedale Array 127.20 22 PKP PKPdf 22 52 12.6 +1.5
comp=Z,5.4nm,0.6s,baz=85,slow=1.6,SNR=43
PDAR pPKP 22 52 29.4
comp=Z,4.0nm,0.9s,baz=102,slow=0.6,SNR=5.7
MTUM Tungsten Hills 127.32 33 *e*PKPdf PKPdf 22 52 13.8 +2.3
TRCR Troy Canyon 128.14 30 *e*PKPdf PKPdf 22 52 16.1 +3.0
RKT Rikitea 129.02 115 *e*LR LR 23 33 01.8
comp=Z,620nm,29.0s
MSU Marysvale 129.66 27 *e*PKPdf PKPdf 22 52 18.4 +2.5
KSU1 Kansas State U 134.46 12 *e*PKPdf PKPdf 22 52 26.3 +1.4
ANMO Albuquerque 135.14 25 PKP PKPdf 22 52 28.3 +2.0
comp=Z,4.9nm,0.7s,baz=286,slow=0.6,SNR=16
ANMO SKPbc 22 55 53.6
comp=Z,2.1nm,0.8s,baz=1.0,slow=5.0,SNR=4.6
ANMO Albuquerque 135.14 25 PKP PKPdf 22 52 28.3 +2.0
ANMO SKPbc 22 55 53.6
GDL2 Guadalupe Moun 138.39 25 *e*PKPdf PKPdf 22 52 34.3 +2.0
MIAR Mount Ida 139.47 11 *e*PKPdf PKPdf 22 52 35.9 +1.7
TXAR Lajitas Array 141.17 26 PKhKP 22 52 33.1
comp=Z,1.1nm,0.6s,baz=55,slow=1.8,SNR=8.5
TXAR PKP PKPdf 22 52 38.9 +1.4
comp=Z,3.3nm,0.5s,baz=190,slow=0.6,SNR=16
TXAR PKiKP 22 52 42.2
comp=Z,3.3nm,0.5s,baz=284,slow=0.5,SNR=16
TXAR PP PP 22 55 38.3 -5.0
comp=Z,0.2nm,0.4s,baz=30,slow=35,SNR=3.7
TXAR SKPbc 22 56 11.2
comp=Z,1.7nm,1.0s,baz=333,slow=2.8,SNR=3.6
TXAR Lajitas Array 141.17 26 PKP PKPdf 22 52 38.9 +1.4
TXAR PKPdf PKPdf 22 52 42.2 +4.7
TXAR PP PP 22 55 38.3 -5.0
TXAR SKPbc 22 56 11.2
JCT Junction City 141.67 20 *e*PKPpre 22 52 33.7
JCT *e*PKPdf PKPdf 22 52 40.7 +2.4
BDFB Brasilia 142.05 252 PKP PKPdf 22 52 40.9 +1.6
comp=Z,1.2nm,0.5s,baz=169,slow=10,SNR=3.5
BDFB PP PP 22 55 47.3 -1.7
comp=Z,2.1nm,0.5s,baz=157,slow=16,SNR=5.0
PLCA Paso Flores 142.46 198 PKP PKPdf 22 52 41.2 +1.9
comp=Z,1.2nm,0.7s,baz=56,slow=5.3,SNR=4.8
PLCA SKPbc 22 56 13.6
comp=Z,3.2nm,1.0s,baz=145,slow=3.6,SNR=4.2
PLCA Paso Flores 142.46 198 PKP PKPdf 22 52 41.2 +1.9
PLCA SKPbc 22 56 13.6
DWPF Disney 146.44 354 *e*PKPdf PKPdf 22 52 49.6 +3.0
SJG San Juan 149.94 322 PKP PKPdf 22 52 53.7 +1.3

comp=Z,3.1nm,0.3s,baz=337,slow=18,SNR=3.7
SJG PKPbc PKPdf 22 52 59.0 +6.6
comp=Z,25nm,0.7s,baz=35,slow=3.5,SNR=12
SJG San Juan 149.94 322 PKP PKPdf 22 52 53.7 +1.3
SJG PKPbc PKPdf 22 52 59.0 +6.5
TEIG Tepich 154.33 7 *e*PKPdf PKPdf 22 53 01.7 +2.9
TEIG *e*PKPbc PKPdf 22 53 08.4 +10
TEIG *e*PKPab PKPab 22 53 22.3 -1.5
LPAZ La Paz 160.03 236 PKP PKPdf 22 53 09.3 +3.3
comp=Z,2.8nm,0.8s,baz=15,slow=2.4,SNR=12
LPAZ La Paz 160.03 236 *e*PKPdf PKPdf 22 53 07.7 +1.7
ROSC El Rosal 165.03 313 PKP PKPdf 22 53 13.7 +2.5
comp=Z,5.7nm,0.3s,baz=100,slow=12,SNR=5.6

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*IDC **12** 22:37:01.1±3.9, 37.56N×74.72E, mb4.0/4, mb1 4.1/5, mb1mx3.8/19, mbtmp3.9/5, ML3.5/1, MS4.1/1, Ms1 4.1/1, ms1mx3.0/19, Error ellipse: s-maj=76.8km s-min=68.2km az=38.0*
ISC 12 22:37:11.4±2.4**, 38.8N**±0.2×**75.1E**±0.3**, h33km, n14, σ0.35**/13**, mb3.8**/4**, MS4.1**/1**, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZA	**Kyzart** SNR=21	**3.29**	**2**	P	**P**	**22 38 01.7**	**-0.1**
UCH	**Uchtor** SNR=36	**3.47**	**353**	P	**P**	**22 38 04.4**	**+0.1**
AML	**Almayashu** SNR=5.0	**3.51**	**343**	P	**P**	**22 38 05.2**	**+0.4**
ULHL	**Ulahol** SNR=6.1	**3.57**	**14**	P	**P**	**22 38 05.6**	**-0.2**
KBK	**Karagaybulak** SNR=22	**3.87**	**359**	P	**P**	**22 38 10.2**	**+0.1**
TKM2	**Tokmak 2** SNR=43	**4.15**	**5**	P	**P**	**22 38 14.1**	**0.0**
CHMS	**Chumysh** SNR=11	**4.22**	**357**	P	**P**	**22 38 14.7**	**-0.3**
USP	**Ospenovka** SNR=12	**4.50**	**355**	P	**P**	**22 38 28.8**	**+10**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=157,slow=11,SNR=12	**14.61**	**349**	Pn	**P**	**22 40 41.5**	**+4.2**
FINES	**FINESS Array B** 0.6nm,0.4s,mb3.8,baz=118,slow=10,SNR=19	**37.49**	**323**	P	**P**	**22 44 23.4**	**+0.1**
ARCES	**ARCESS Array B** 3.0nm,0.9s,mb4.0,baz=111,slow=9.5,SNR=4.7	**40.34**	**336**	P	**P**	**22 44 46.3**	**-0.7**
NOA	**NORSAR Array B** 0.5nm,0.5s,mb3.6,baz=107,slow=7.5,SNR=3.0	**44.56**	**321**	P	**P**	**22 45 21.3**	**-0.1**
VAE	**Valguarnera** comp=Z,201nm,19.3s,MS4.1,baz=133,slow=41	**46.95**	**288**	LR	LR	23 09 20.9	
YKA	**Yellowknife Ar** 0.4nm,0.5s,mb3.6,baz=348,slow=5.5,SNR=6.8	**78.77**	**5**	P	**P**	**22 49 12.1**	**+0.5**

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*IDC **12** 22:43:28.2±0.4, 9.79N×91.65E, mb4.8/25, mb1 4.9/26, mb1mx4.8/29, mbtmp4.8/26, ML4.7/1, MS5.0/13, Ms1 5.0/13, ms1mx4.9/15, Error ellipse: s-maj=16.5km s-min=11.1km az=44.0*
*BJI **12** 22:43:30.4, 9.70N×91.72E, h28km, mB5.6, mb5.1, Ms5.5, Msz5.1*
*MOS **12** 22:43:31.2±1.0, 9.73N×91.66E, h33km, mb5.3/39, MS5.0/12, Error ellipse: s-maj=8.8km s-min=5.5km az=103.2*
*NEIC **12** 22:43:32.7±0.2, 9.74N×91.63E, h30km, mb5.1/49, MS5.0/3, Error ellipse: s-maj=4.9km s-min=4.5km az=191.0*
*HRVD **12** 22:43:32.7±0.2, 9.72N×91.60E, h12km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s30,c38;Mantle waves: s64,c127; Half duration: 1.0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.32±.02; $M_{\theta\theta}$0.59±.02; $M_{\phi\phi}$-0.91±.02; $M_{r\theta}$0.15±.06; $M_{\theta\phi}$-0.21±.02; $M_{\phi r}$-0.30±.05; Best double couple: M_0.863×10^{17} NP1:ϕ_s51°,δ61°,λ168°. NP2:ϕ_s147°,δ79°,λ29°. Principal axes: T .728, Plg28°, Azm13°; N .271, Plg59°, Azm166°; P -.999, Plg12°, Azm277°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*CSEM **12** 22:43:33.1, 9.93N×91.70E, h33km, mb5.5*
ISC 12 22:43:31.2±0.2**, 9.70N**±0.03×**91.68E**±0.03**, h33km, (h31km**±3.9km**:pP-P), n252, σ1.14**/258**, mb5.0**/88**, MS5.1**/35**, 8C-11D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**9.91**	**116**	*e*Pn	**P**	**22 45 51.7**	**-2.9**
IPM	**Ipoh**	**10.58**	**118**	P	**P**	**22 46 02.1**	**-1.5**
CM31	**Chiang Mai Arr** 75nm,0.9s	**11.20**	**38**	*e*P	**P**	**22 46 10.3**	**-1.8**
CMAR	**Chiang Mai Arr** 1.5nm,0.3s,baz=232,slow=14,SNR=52	**11.20**	**38**	Pn	**P**	**22 46 11.3**	**-0.8**
CMAR	comp=Z,4μm,19.3s,baz=220,slow=43			LR	LR	22 51 26.6	
VIS	**Vishakhapatnam**	**11.37**	**315**	*e*P	**P**	**22 46 10.6**	**-3.8**
VIS				*e*S	**S**	**22 48 05.4**	**-16**
VIS	comp=E,293nm,0.9s			*e*		22 48 27.6	
VIS	comp=N,251nm,0.8s			*e*		22 48 28.3	
MDRS	**Chennai**	**11.69**	**288**	*e*P	**P**	**22 46 17.1**	**-1.7**
MDRS				*e*S	**S**	**22 48 13.2**	**-16**
MDRS	comp=E,547nm,0.2s			*e*		22 48 18.1	
MDRS	comp=N,708nm,0.2s			*e*		22 48 18.3	
MDRS				*i*		22 48 58.3	
BWNR	**Bhubaneshwar**	**11.96**	**332**	*e*P	**P**	**22 46 20.0**	**-2.4**
BWNR				*e*		22 48 14.0	
CAL	**Calcutta**	**13.17**	**346**	*e*P	**P**	**22 46 35.0**	**-3.5**
CAL				*e*		22 49 09.7	
AGT	**Agartala**	**14.11**	**358**	*e*P	**P**	**22 46 52.0**	**+1.0**
TRD	**Trivandrum**	**14.58**	**267**	*e*P	**P**	**22 46 52.2**	**-5.0**
TRD				*i*		22 49 58.2	
HYB	**Hyderabad**	**14.88**	**302**	*e*P	**P**	**22 47 07.0**	**+6.0**
HYB				*e*S	**S**	**22 49 42.0**	**-3.5**
HYB	**Hyderabad**	**14.88**	**302**	*i* P	**P**	**22 47 07.0**	**+6.0**
HYB				*e*S	**S**	**22 49 42.0**	**-3.5**
HYB	comp=N,11nm,16.0s			LR	LR		
BLSP	**Bilaspur**	**15.39**	**325**	*e*P	**P**	**22 47 05.7**	**-1.9**
BLSP				*e*		22 49 51.5	
BLSP	comp=E,89nm,1.0s			*e*		22 50 14.3	
BLSP	comp=N,66nm,0.3s			*e*		22 50 15.3	
SHL	**Shillong**	**15.79**	**1**	*e*P	**P**	**22 47 10.0**	**-2.7**
NGP	**Nagpur**	**16.65**	**315**	*e*	**P**	**22 47 26.9**	**+3.1**
NGP				*e*S	**S**	**22 50 27.5**	**+0.8**
MNGI	**Mangalore**	**16.84**	**283**	*i* P	**P**	**22 47 27.4**	**+1.3**
MNGI	comp=N,113nm,1.2s			*i*		22 50 14.4	
AKL	**Akola**	**17.87**	**309**⇓	*i*	Px	22 46 59.9	
AKL				*e*		22 47 45.0	
AKL	comp=N,166nm,1.3s			*i*		22 49 59.6	
ALBI	**Allahabad**	**18.14**	**330**	*e*	**S**	**22 51 15.0**	**+14**
GOA	**Goa**	**18.34**	**290**	*e*	**P**	**22 47 36.9**	**-8.1**
GOA				*e*S	**S**	**22 51 06.1**	**+1.0**
JIRN	**Jiri**	**18.60**	**345**	*e*P	**P**	**22 47 48.1**	**0.0**
JIRN	**Jiri**	**18.60**	**345**	*e*P	**P**	**22 47 51.3**	**+3.2**
KAD	**Karad**	**18.60**	**296**	*e*P	**P**	**22 47 48.1**	**-0.1**
KAD				*e*		22 50 53.7	
KMI	**Kunming**	**18.60**	**33**	P	**P**	**22 47 49.0**	**+0.8**
KMI				AP		22 47 58.3	
KMI	comp=Z,91nm,0.8s			AMB	AMB		
KMI	comp=Z,1μm,6.6s			AMB	AMB		
KMI	**Kunming**	**18.60**	**33**	P	**P**	**22 47 49.0**	**+0.8**
KMI	comp=Z,91nm,0.8s			pmax	pmax		
KMI	**Kunming** comp=Z,91nm,0.8s	**18.60**	**33**	P	**P**	**22 47 49.0**	**+0.8**
KMI				pP		22 47 58.3	
PKI	**Pulchoki** comp=Z,269nm,1.2s	**18.74**	**342**	*e*P	**P**	**22 47 48.2**	**-1.5**
PKI	**Pulchoki** comp=Z,102nm,0.6s	**18.74**	**342**	*e*P	**P**	**22 47 49.5**	**-0.2**
DMN	**Daman** comp=Z,186nm,0.9s	**18.86**	**342**	*e*P	**P**	**22 47 49.7**	**-1.6**
DMN	**Daman** comp=Z,186nm,0.9s	**18.86**	**342**	*e*P	**P**	**22 47 51.0**	**-0.3**
KKN	**Kakani** comp=Z,66nm,1.0s	**18.98**	**342**	*e*P	**P**	**22 47 51.8**	**-0.8**
KKN	**Kakani**	**18.98**	**342**	*e*P	**P**	**22 47 53.7**	**+1.1**
BHPL	**Bhopal**	**19.16**	**316**	*e*P	**P**	**22 47 53.0**	**-1.7**
BHPL	comp=Z,97nm,1.3s			*e*		22 48 05.4	
BHPL				*e*		22 51 23.6	
POO	**Poona**	**19.37**	**299**⇓	*i*P	**P**	**22 47 55.0**	**-2.1**
POO				*i*		22 51 53.0	
GKN	**Gorkha** comp=Z,42nm,0.4s	**19.38**	**341**	*e*P	**P**	**22 47 57.0**	**-0.1**
GKN	**Gorkha** comp=Z,106nm,0.5s	**19.38**	**341**	*e*P	**P**	**22 47 56.7**	**-0.4**
KOLN	**Koldanda** comp=Z,67nm,0.7s	**19.52**	**338**	*e*P	**P**	**22 47 57.6**	**-1.1**
KOLN	**Koldanda** comp=Z,140nm,0.8s	**19.52**	**338**	*e*P	**P**	**22 47 57.2**	**-1.5**
QIZ	**Qiongzhong**	**19.88**	**60**	P	**P**	**22 48 02.5**	**-0.1**
QIZ				S	**S**	**22 51 36.6**	**-2.9**
QIZ	comp=N,5μm,10.7s			LR	LR		
QIZ	comp=E,6μm,12.5s			LR	LR		
QIZ	comp=Z,7μm,13.0s			LR	LR		
QIZ	**Qiongzhong** comp=Z,80nm,1.1s	**19.88**	**60**	*e*P	**P**	**22 48 01.5**	**-1.1**
LSA	**Lhasa**	**19.91**	**359**	*e*P	**P**	**22 48 02.2**	**-0.7**
LSA	comp=Z,256nm,1.2s			pmax	pmax		
LSA	**Lhasa** comp=Z,256nm,1.2s	**19.91**	**359**	*e*P	**P**	**22 48 02.2**	**-0.6**
KSM	**Kuching**	**20.25**	**113**	*e*P	**P**	**22 48 05.0**	**-1.6**
BOM	**Bombay**	**20.42**	**299**	*e*	**P**	**22 48 11.1**	**+2.8**
GYA	**Guiyang**	**21.89**	**38**⇓	*i*P	**P**	**22 48 23.7**	**+0.5**
GYA				S	**S**	**22 52 26.5**	**+8.4**
GYA	comp=Z,50nm,1.0s,mb4.9			AMB	AMB		
GYA	comp=N,4μm,15.0s,MS5.0			LR	LR		
GYA	comp=E,3μm,15.6s,MS5.0			LR	LR		
GYA	comp=Z,6μm,15.6s,MS5.1			LR	LR		
LGTI	**Lohaghat**	**22.38**	**333**⇓	*i*P	**P**	**22 48 29.5**	**+1.5**
PTH	**Pithoragarh**	**22.48**	**333**	*e*P	**P**	**22 48 30.0**	**+1.0**
PTH				*e*		22 52 44.0	
NDI	**New Delhi**	**23.26**	**326**	*e*P	**P**	**22 48 36.0**	**-0.8**
NDI				*e*S	**S**	**22 52 48.0**	**+5.1**
CD2	**Chengdu**	**23.92**	**26**	P	**P**	**22 48 43.3**	**+0.2**
CD2	comp=Z,90nm,0.7s,mb5.3			AMB	AMB		
DDI	**Dehra Dun**	**24.14**	**330**	*e*P	**P**	**22 48 47.0**	**+1.7**
DDI				*e*		22 53 18.4	
KKM	**Kota Kinabalu**	**24.57**	**97**	*e*P	**P**	**22 48 51.7**	**+2.1**
KKM	**Kota Kinabalu**	**24.57**	**97**	P	**P**	**22 48 51.9**	**+2.3**
SMLA	**Simla**	**25.23**	**330**⇓	*i*P	**P**	**22 48 55.9**	**+0.1**
DGAR	**Diego Garcia**	**25.60**	**229**	*e*P	**P**	**22 49 00.5**	**+1.0**
DGAR	comp=Z,136nm,1.3s,mb5.3			pmax	pmax		
DGAR	**Diego Garcia** comp=Z,136nm,1.3s,mb5.3	**25.60**	**229**	*e*P	**P**	**22 49 00.5**	**+1.1**
SDNR	**Sundarnagar**	**25.63**	**330**	*e*	**P**	**22 49 02.4**	**+2.8**
ENH	**Enshi** comp=Z,160nm,0.9s,mb5.5	**26.37**	**37**	*e*P	**P**	**22 49 04.7**	**-1.7**
TSM	**Tawau**	**26.54**	**100**	P	**P**	**22 49 09.2**	**+1.0**
LZH	**Lanzhou**	**28.51**	**21**	*e*P	**P**	**22 49 25.8**	**0.0**
LZH				AP	pP	22 49 32.2	-3.1
LZH				XP	sP	22 49 34.7	-4.9
LZH	comp=Z,124nm,1.8s,mb5.3			AMB	AMB		
LZH	comp=Z,876nm,4.4s			AMB	AMB		
LZH	comp=N,8μm,14.2s			LR	LR		
LZH	comp=Z,8μm,15.0s,MS5.5			LR	LR		
LZH	**Lanzhou**	**28.51**	**21**	*e*P	**P**	**22 49 25.8**	**0.0**
LZH				*SP	sP	22 49 34.7	-4.9
LZH	comp=Z,124nm,1.8s,mb5.3			pmax	pmax		
LZH	comp=Z,8μm,15.0s,MS5.5			MLR	MLR		
LZH	**Lanzhou** comp=Z,124nm,1.8s,mb5.3	**28.51**	**21**	*e*P	**P**	**22 49 25.8**	**0.0**
LZH				pP	pP	22 49 32.2	-3.1
LZH				sP	sP	22 49 34.7	-4.9
LZH	comp=Z,8μm,15.0s,MS5.5			LR	LR		
XAN	**Xi'an**	**28.94**	**31**	P	**P**	**22 49 28.1**	**-1.6**
XAN	comp=Z,32nm,0.9s,mb5.0			AMB	AMB		
GTA	**Gaotai**	**30.47**	**12**	*e*P	**P**	**22 49 43.4**	**+0.2**
GTA				PP	PP	22 50 42.9	-0.5
GTA				PCP	PcP	22 52 46.0	+3.9
GTA				S	**S**	**22 54 36.3**	**-4.6**
GTA	comp=Z,28nm,1.0s,mb5.0			AMB	AMB		
GTA	comp=Z,475nm,5.3s			AMB	AMB		
GTA	comp=N,2μm,15.6s,MS5.2			LR	LR		
GTA	comp=E,3μm,14.4s,MS5.2			LR	LR		
GTA	comp=Z,2μm,16.0s,MS4.9			LR	LR		
NJ2	**Nanjing**	**33.58**	**45**	*e*P	**P**	**22 50 12.0**	**+1.5**
NJ2				AP	pP	22 50 21.5	+1.3
NJ2				XP	sP	22 50 25.5	+1.0
NJ2				PP	PP	22 51 24.7	+1.3
NJ2				S	**S**	**22 55 32.0**	**+2.4**
NJ2				XS		22 55 48.0	
NJ2	comp=Z,220nm,0.8s,mb6.1			AMB	AMB		
NJ2	comp=Z,710nm,5.4s			AMB	AMB		
NJ2	comp=N,2μm,25.5s,MS4.7			LR	LR		
NJ2	comp=E,1μm,23.2s,MS4.7			LR	LR		
NJ2	comp=Z,3μm,19.6s,MS5.0			LR	LR		
WMQ	**Urumqi**	**34.17**	**355**⇓	*i*P	**P**	**22 50 15.7**	**+0.2**
WMQ				AP	pP	22 50 22.0	-3.1
WMQ				XP	sP	22 50 24.5	-5.0
WMQ				PP	PP	22 51 32.0	+1.5
WMQ				PPP	PPP	22 51 50.0	+1.5
WMQ				S	**S**	**22 55 42.0**	**+3.4**
WMQ				XS		22 55 54.0	
WMQ				PCS		22 56 36.0	
WMQ				SS	SS	22 57 52.0	+3.8
WMQ	comp=Z,41nm,0.9s,mb5.4			AMB	AMB		
WMQ	comp=Z,467nm,4.8s			AMB	AMB		
WMQ	comp=N,3μm,16.8s,MS5.2			LR	LR		
WMQ	comp=E,3μm,20.2s,MS5.2			LR	LR		
WMQ	comp=Z,2μm,21.0s,MS4.9			LR	LR		
SSE	**Sheshan**	**34.71**	**48**	P	**P**	**22 50 18.6**	**-1.7**
SSE	comp=Z,47nm,0.7s,mb5.5			AMB	AMB		
SSE	comp=Z,293nm,8.4s			AMB	AMB		
SSE	comp=N,939nm,19.4s,MS4.7			LR	LR		
SSE	comp=E,847nm,19.4s,MS4.7			LR	LR		
SSE	comp=Z,1μm,19.3s,MS4.7			LR	LR		
SSE	**Sheshan** comp=Z,47nm,0.7s,mb5.5	**34.71**	**48**	P	**P**	**22 50 18.6**	**-1.7**
SSE	comp=Z,1μm,19.3s,MS4.7			LR	LR		
BTO	**Baotou**	**34.82**	**25**	*e*P	**P**	**22 50 18.8**	**-2.3**
BTO	comp=Z,29nm,0.9s,mb5.2			AMB	AMB		
TIA	**Tai'an**	**35.08**	**37**	*e*P	**P**	**22 50 23.4**	**+0.1**
TIA	comp=Z,38nm,1.2s,mb5.2			AMB	AMB		
TIA	comp=N,2μm,11.0s,MS5.3			LR	LR		
TIA	comp=E,3μm,12.0s,MS5.3			LR	LR		
ULHL	**Ulahol** SNR=6.4	**35.14**	**340**	P	**P**	**22 50 25.2**	**+1.4**
KZA	**Kyzart** SNR=9.7	**35.34**	**339**	P	**P**	**22 50 27.5**	**+2.0**
HHC	**Hu-ho-hao-te**	**35.68**	**26**	*e*P	**P**	**22 50 28.3**	**-0.1**
HHC				AP	pP	22 50 37.2	-0.9
HHC				XP	sP	22 50 42.7	+0.3
HHC				PCP	PcP	22 52 55.1	-1.5
HHC				S	**S**	**22 56 01.3**	**-0.6**
HHC				XS		22 56 18.2	
HHC				SS	SS	22 58 23.7	+0.8
HHC				SCS	ScS	23 00 38.6	-3.7
HHC	comp=Z,48nm,0.9s,mb5.4			AMB	AMB		
HHC	comp=Z,442nm,6.5s			AMB	AMB		
HHC	comp=N,3μm,13.7s,MS5.3			LR	LR		
HHC	comp=E,3μm,15.5s,MS5.3			LR	LR		
HHC	comp=Z,2μm,14.3s,MS5.1			LR	LR		
UCH	**Uchtor** SNR=6.9	**35.74**	**338**	P	**P**	**22 50 30.1**	**+1.2**
AAA	**Alma-Ata**	**35.83**	**342**	*e*P	**P**	**22 50 30.0**	**+0.3**
AAA				*e*S	**S**	**22 56 11.0**	**+6.7**
AAA	comp=Z,600nm,7.0s			pmax	pmax		
AAA	comp=N,600nm,8.0s			smax			
AAA	comp=E,2μm,8.0s			smax			
KBK	**Karagaybulak** SNR=13	**35.95**	**339**	P	**P**	**22 50 32.0**	**+1.3**
TKM2	**Tokmak 2** SNR=7.7	**35.96**	**340**	P	**P**	**22 50 33.2**	**+2.5**
AML	**Almayashu** SNR=27	**35.97**	**337**	P	**P**	**22 50 32.3**	**+1.5**
AAK	**Ala-Archa** comp=E,88nm,1.0s,mb5.7,SNR=17	**36.10**	**338**	P	**P**	**22 50 32.3**	**+0.4**
AAK	**Ala-Archa**	**36.10**	**338***c*	*i*P	**P**	**22 50 32.5**	**+0.6**
AAK	comp=Z,30μm,1.5s			pmax	pmax		
AAK	comp=Z,2μm,19.0s,MS5.0			MLR	MLR		
AAK	**Ala-Archa** comp=Z,72nm,1.6s,mb5.3	**36.10**	**338**	*e*P	**P**	**22 50 31.4**	**-0.6**
CHMS	**Chumysh** SNR=6.7	**36.32**	**339**	P	**P**	**22 50 35.2**	**+1.4**
EKS2	**Erkin-Say** SNR=16	**36.39**	**338**	P	**P**	**22 50 35.1**	**+0.8**
USP	**Ospenovka** SNR=26	**36.65**	**339**	P	**P**	**22 50 37.2**	**+0.7**
BJT	**Baijiatuau**	**37.23**	**32**	*e*P	**P**	**22 50 41.9**	**+0.4**
BJT	comp=Z,50nm,1.0s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,50nm,1.0s,mb5.3	**37.23**	**32**	*e*P	**P**	**22 50 41.9**	**+0.4**
BJI	**Beijing**	**37.25**	**32**	P	**P**	**22 50 42.6**	**+0.9**
BJI				S	**S**	**22 56 27.6**	**+1.4**
BJI	comp=Z,43nm,0.8s,mb5.3			AMB	AMB		
BJI	comp=N,2μm,15.8s,MS5.4			LR	LR		
BJI	comp=E,4μm,15.0s,MS5.4			LR	LR		
BJI	comp=Z,3μm,17.9s,MS5.1			LR	LR		
BJI	**Beijing** comp=Z,43nm,0.8s,mb5.3	**37.25**	**32**	P	**P**	**22 50 42.6**	**+0.9**
BJI				S	**S**	**22 56 27.6**	**+1.4**
BJI	comp=Z,3μm,17.9s,MS5.1			LR	LR		
MKAR	**Makanchi Array**	**37.82**	**349**	*i* P	**P**	**22 50 45.7**	**-0.7**
MKAR	comp=Z,27nm,0.9s			pmax	pmax		
MKAR	**Makanchi Array**	**37.82**	**349**	*i* P	**P**	**22 50 45.8**	**-0.6**
JOW	**Kunigami** comp=Z,41nm,0.7s,mb5.3,baz=195,slow=25,SNR=4.1	**38.52**	**59**	P	**P**	**22 50 53.5**	**+1.2**
DL2	**Dalian**	**39.54**	**38**	P	**P**	**22 51 02.5**	**+1.8**
DL2				S	**S**	**22 57 03.6**	**+2.7**
DL2	comp=Z,20nm,1.5s,mb4.6			AMB	AMB		
DL2	comp=Z,410nm,8.1s			AMB	AMB		
DL2	comp=N,1μm,14.7s,MS5.0			LR	LR		
DL2	comp=E,780nm,14.5s,MS5.0			LR	LR		
DL2	comp=Z,1μm,11.6s,MS5.0			LR	LR		
SONM	**Songino Array** comp=Z,17nm,0.7s,mb4.9,baz=198,slow=7.7,SNR=118	**39.99**	**15**	P	**P**	**22 51 04.9**	**+0.5**
ULN	**Ulaanbaatar**	**40.20**	**16**	*e*P	**P**	**22 51 05.6**	**-0.5**
ULN	comp=Z,21nm,0.9s,mb4.9			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,21nm,0.9s,mb4.9	**40.20**	**16**	*e*P	**P**	**22 51 05.6**	**-0.5**
MBWA	**Marble Bar** comp=Z,17nm,0.9s,mb4.7	**41.23**	**138**	P	**P**	**22 51 15.3**	**+0.4**
ZAK	**Zakamensk**	**41.68**	**11**	*e*P	**P**	**22 51 19.6**	**+1.3**
ZAK	comp=Z,6.0nm,2.1s			pmax	pmax		
KURK	**Kurchatov** comp=Z,156nm,1.1s,mb5.5,SNR=20	**42.29**	**348**	P	**P**	**22 51 23.0**	**-0.3**
KURK	**Kurchatov**	**42.29**	**348***c*	*i*P	**P**	**22 51 23.0**	**-0.3**
KURK	comp=Z,44nm,1.9s,mb4.8			pmax	pmax		
KURK	**Kurchatov** comp=Z,43nm,1.2s,mb5.0	**42.29**	**348**	*e*P	**P**	**22 51 22.0**	**-1.3**
MOY	**Mondy**	**42.54**	**9**	*e*P	**P**	**22 51 27.0**	**+1.7**
SNY	**Shenyang**	**42.55**	**36**	⇓P	**P**	**22 51 26.3**	**+0.8**
SNY				*e*S	**S**	**22 57 47.8**	**+2.4**
SNY	comp=Z,30nm,1.6s,mb4.8			AMB	AMB		
SNY	comp=N,3μm,14.7s,MS5.3			LR	LR		
SNY	comp=E,2μm,17.5s,MS5.3			LR	LR		
SNY	comp=Z,2μm,16.2s,MS5.2			LR	LR		
TLY	**Talaya**	**42.99**	**11**	*e*P	**P**	**22 51 29.8**	**+0.8**
TLY				*e*		22 53 14.6	
TLY				*e*S	**S**	**22 57 50.2**	**-1.6**
TLY	comp=Z,28nm,2.3s,mb4.6			pmax	pmax		
TLY	comp=Z,2μm,16.0s,MS5.0			MLR	MLR		
TLY	**Talaya** comp=Z,10nm,1.1s,mb4.5	**42.99**	**11**	*e*P	**P**	**22 51 30.5**	**+1.4**
ZAL	**Zalesovo** comp=Z,24nm,1.0s,mb4.9,baz=295,slow=8.5,SNR=44	**44.47**	**354**	P	**P**	**22 51 41.2**	**+0.3**
ZAL	comp=Z,2μm,18.1s,MS5.0,baz=291,slow=41			LR	LR	23 13 33.3	
CN2	**Changchun**	**44.86**	**35**	*e*P	**P**	**22 51 44.9**	**+0.7**
CN2				*e*XP	sP	22 51 59.1	+0.9
CN2				*e*S	**S**	**22 58 21.4**	**+2.4**
CN2	comp=Z,50nm,0.9s,mb5.3			AMB	AMB		
CN2	comp=Z,590nm,7.0s			AMB	AMB		
CN2	comp=N,2μm,17.0s,MS5.3			LR	LR		
CN2	comp=E,1μm,17.0s,MS5.3			LR	LR		
CN2	comp=Z,2μm,16.0s,MS5.1			LR	LR		
NVS	**Novosibirsk**	**45.52**	**353**	*e*P	**P**	**22 51 47.5**	**-1.9**
NVS				*e*S	**S**	**22 58 28.8**	**+0.4**
NVS	comp=Z,131nm,1.5s,mb5.6			pmax	pmax		
NVS	comp=N,105nm,1.5s			pmax	pmax		
NVS	comp=E,67nm,1.5s			pmax	pmax		
NVS	comp=N,27nm,2.4s			smax			
NVS	comp=E,57nm,2.4s			smax			
HIA	**Hailar**	**45.87**	**25**	*e*P	**P**	**22 51 52.5**	**+0.3**
HIA	comp=Z,20nm,1.0s			pmax	pmax		
HIA	**Hailar** comp=Z,20nm,1.0s,mb5.0	**45.87**	**25**	*e*P	**P**	**22 51 52.5**	**+0.3**
BVA0	**Borovoye Array**	**46.51**	**342**	P	**P**	**22 51 56.5**	**-0.6**
BVAR	**Borovoye Array**	**46.51**	**342**	P	**P**	**22 51 56.9**	**-0.3**

comp=Z,7.9nm,0.9s,mb4.6,baz=158,slow=8.0,SNR=17
CHKZ Chkalovo 47.01 343 *i* P **P** **22 52 00.5 -0.5**
CHKZ pmax pmax
comp=Z,40nm,1.3s,mb5.2
CHKZ Chkalovo 47.01 343 *eP* **P** **22 52 00.7 -0.4**
comp=Z,29nm,1.0s,mb5.2
MDJ Mudanjiang 47.73 36 *eP* **P** **22 52 07.4 +0.5**
comp=Z,10nm,0.9s,mb4.9
NWAO Narrogin (SRO) 48.89 151 *eP* **P** **22 52 16.6 +0.6**
NWAO pmax pmax
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 48.89 151 P **P** **22 52 16.8 +0.8**
comp=Z,10nm,0.8s,mb4.9,baz=5.0,slow=5.2,SNR=5.3
NWAO Narrogin (SRO) 48.89 151 *eP* **P** **22 52 16.6 +0.6**
comp=Z,14nm,0.8s,mb5.0
MAJO Matsushiro 49.80 50 P **P** **22 52 23.1 +0.1**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.9
MAJO Matsushiro 49.80 50 P **P** **22 52 23.1 +0.1**
comp=Z,11nm,0.9s,mb4.9
CBIJ Chichi jima 50.60 63 LR LR 23 11 41.1
comp=Z,246nm,21.4s,MS4.2,baz=165,slow=34
BOD Bodaibo 50.99 15 *eP* **P** **22 52 30.7 -1.1**
BOD pmax pmax
comp=Z,23nm,1.2s,mb5.0
WRA Warramunga Arr 51.30 125 P **P** **22 52 33.9 -0.7**
comp=Z,10nm,0.9s,mb4.8,baz=300,slow=9.6,SNR=64
WRAB Tennant Creek 51.30 125 P **P** **22 52 35.0 +0.4**
comp=Z,133nm,0.9s,mb5.9,SNR=16
WRAB Tennant Creek 51.30 125 *eP* **P** **22 52 33.9 -0.7**
WRAB pmax pmax
comp=Z,37nm,0.8s,mb5.4
WRAB Tennant Creek 51.30 125 *eP* **P** **22 52 33.9 -0.7**
comp=Z,37nm,0.8s,mb5.4
GNI Garni 51.43 314 *c iP* **P** **22 52 36.5 +1.2**
GNI pmax pmax
comp=Z,45nm,1.2s
GNI MLR MLR
comp=Z,1μm,23.0s
GNI Garni 51.43 314 P **P** **22 52 35.3 0.0**
comp=Z,16nm,1.0s,mb4.9,baz=11,slow=5.0,SNR=17
GNI Garni 51.43 314 *eP* **P** **22 52 35.5 +0.3**
comp=Z,86nm,1.3s,mb5.5
KLR Kul'dur 51.62 33 *eP* **P** **22 52 34.5 -2.1**
TI2 Plekhanov 52.05 316‖ *eP* **P** **22 52 40.2 +0.3**
TI2 *eS* **S** **23 00 05.0 +5.0**
TI2 *e* 23 02 28.0
TI2 pmax pmax
comp=Z,60nm,0.6s,mb5.7
ASAR Alice Springs 52.95 129 P **P** **22 52 46.4 -0.5**
comp=Z,4.4nm,0.6s,mb4.6,baz=303,slow=7.3,SNR=37
ASAR PcP PcP 22 53 56.1 +0.6
comp=Z,4.1nm,0.7s,baz=298,slow=3.8,SNR=5.8
ASAR LR LR 23 19 07.3
comp=Z,1μm,18.1s,MS5.0,baz=299,slow=40
ONI Oni 53.28 317 P **P** **22 52 48.8 -0.3**
CLNS Chul'man 53.62 22 *eP* **P** **22 52 51.4 0.0**
CLNS pmax pmax
comp=Z,62nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,28nm,0.8s
CLNS pmax pmax
comp=E,24nm,0.8s
ERZM Erzurum 53.75 313 *i* P **P** **22 52 54.0 +1.4**
KIV Kislovodsk 54.34 318‖ *eP* **P** **22 52 56.7 -0.2**
KIV pmax pmax
comp=Z,51nm,1.4s,mb5.3
KIV MLR MLR
comp=Z,900nm,21.0s,MS4.8
KIV Kislovodsk 54.34 318 *eP* **P** **22 52 55.9 -1.0**
comp=Z,58nm,1.2s,mb5.4
GOF Gofitskoye 54.56 319 *i* P **P** **22 52 58.2 -0.3**
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.2
GOF MLR MLR
comp=Z,2μm,16.0s,MS5.4
ELZG Elazig 55.07 310 *i* P **P** **22 53 02.7 +0.4**
ASF Jabal al Asfar 55.19 302 P **P** **22 53 02.6 -0.6**
comp=Z,4.2nm,1.1s,mb4.4,baz=328,slow=22,SNR=2.1
KMBO Kilima Mbogo 55.23 262 *eP* **P** **22 53 00.3 -3.5**
KMBO pmax pmax
comp=Z,18nm,1.3s
KMBO Kilima Mbogo 55.23 262 P **P** **22 53 05.0 +1.2**
comp=Z,3.1nm,0.9s,mb4.3,baz=49,slow=9.7,SNR=11
KMBO LR LR 23 16 20.3
comp=Z,2μm,18.0s,MS5.2,baz=94,slow=36
KMBO Kilima Mbogo 55.23 262 *eP* **P** **22 53 00.2 -3.6**
comp=Z,18nm,1.3s,mb4.9
KMBO LR LR 23 16 20.3
MALT Malatya 55.43 310 *eP* **P** **22 53 03.5 -1.5**
comp=Z,19nm,1.3s,mb5.0
ASAJ Asahikawa 55.69 43 LR LR 23 18 22.7
comp=Z,1μm,18.6s,MS5.0,baz=172,slow=38
GZT Gaziantep 55.83 309 *i* P **P** **22 53 08.1 +0.3**
SOC Sochi 56.19 316 *eP* **P** **22 53 08.0 -2.3**
SOC *e* 22 54 06.3
SOC *e* 22 55 11.1
SOC *e*PPP PPP 22 56 26.2 -7.6
SOC *e*S **S** **23 00 55.1 -0.6**
SOC *e* 23 02 51.5
SOC *e*SS SS 23 04 46.5 +4.0
SOC pmax pmax
comp=Z,46nm,1.1s,mb5.4
SOC pmax pmax
comp=N,60nm,1.3s
SOC pmax pmax
comp=E,32nm,1.1s
SOC MLR MLR
comp=Z,856nm,18.0s,MS4.9
SOC MLR MLR
comp=N,409nm,19.0s,MS4.8
SOC MLR MLR
comp=E,682nm,18.0s,MS4.8
SOKR Solikamsk 56.24 340⇑ *iP* **P** **22 53 09.8 -0.6**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,950nm,18.0s,MS4.9
YSS Yuzh-Sakhalins 56.89 40 *eP* **P** **22 53 15.0 -0.3**
YSS *e* pP 22 53 25.9 +0.5
YSS S **S** **23 01 12.0 +7.0**
YSS pmax pmax
comp=Z,20nm,0.9s,mb5.2
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.2
YSS MLR MLR
comp=N,2μm,18.0s
YSS Yuzh-Sakhalins 56.89 40 P **P** **22 53 15.2 -0.1**
comp=N,21nm,0.8s,mb5.2
PMG Port Moresby 58.40 107 P **P** **22 53 26.4 +0.2**
comp=N,14nm,0.9s,mb5.0,baz=274,slow=2.6,SNR=5.2
YAK Yakutsk 59.08 20 *eP* **P** **22 53 28.3 -2.1**
YAK *eS* **S** **23 01 39.4 +6.0**
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK smax
comp=E,173nm,8.7s
YAK smax
comp=N,125nm,10.0s
YAK MLR MLR
comp=Z,1μm,12.0s,MS5.2
YAK MLR MLR
comp=N,848nm,13.0s,MS5.1
YAK MLR MLR
comp=E,580nm,13.0s,MS5.1
YAK Yakutsk 59.08 20 *eP* **P** **22 53 28.5 -1.9**
comp=E,74nm,0.9s,mb5.7
YAK *e* pP 22 53 39.0 -1.5
SGKT Sivrigoynuk 60.78 311 *i* P **P** **22 53 41.1 -1.3**
CTA Charters Tower 61.32 119 P **P** **22 53 47.3 +1.1**
comp=E,18nm,0.8s,mb5.3,baz=283,slow=6.8,SNR=11
CTAO Charters Tower 61.32 119 *eP* **P** **22 53 47.0 +0.7**
CTAO pmax pmax
comp=Z,55nm,1.2s,mb5.6
CTAO Charters Tower 61.32 119 *eP* **P** **22 53 47.0 +0.7**
comp=Z,55nm,1.2s,mb5.6
ISP Isparta 61.40 308‖ *eP* **P** **22 53 46.3 -0.3**
ISP Isparta 61.40 308 *eP* **P** **22 53 45.8 -0.8**
comp=Z,38nm,1.2s,mb5.4
ESKT Eskisehir 61.46 310 *i* P **P** **22 53 46.1 -0.9**
MBAR Mbarara 61.50 264 P **P** **22 53 48.3 +0.7**
comp=Z,64nm,1.8s,mb5.5

MOS Moscow 62.27 329 *eP* **P** **22 53 51.5 -0.6**
MOS *e* 22 54 34.6
MOS *e* 22 56 09.3
MOS *e*S **S** **23 02 16.4 +2.2**
MOS *e* 23 02 51.4
MOS *e*SS SS 23 06 17.7 -1.7
MOS pmax pmax
comp=Z,39nm,1.0s,mb5.5
OBN Obninsk 62.55 328⇑ *eP* **P** **22 53 53.3 -0.7**
OBN *e* 22 54 31.1
OBN *i* 22 56 08.4
OBN *e*S **S** **23 02 16.5 -1.2**
OBN *e*SS SS 23 06 26.7 +2.8
OBN pmax pmax
comp=Z,68nm,2.3s,mb5.4
OBN Obninsk 62.55 328 *eP* **P** **22 53 52.5 -1.6**
comp=Z,24nm,1.0s,mb5.3
STKA Stephens Creek 63.12 133 P **P** **22 53 58.0 -0.1**
comp=Z,13nm,1.1s,mb5.0,baz=325,slow=5.9,SNR=17
STKA LR LR 23 23 18.4
comp=Z,1μm,18.8s,MS5.2,baz=300,slow=38
STKA Stephens Creek 63.12 133 *eP* **P** **22 53 58.0 -0.2**
KDAG Bornova 64.02 308 *i P* **P** **22 53 58.8 -5.2**
KIS Kishinev 64.54 318 *eP* **P** **22 54 05.0 -2.2**
KIS *e* 22 54 11.0
AKASG Malin Array Be 65.22 322 P **P** **22 54 09.5 -2.1**
comp=Z,5.5nm,1.0s,mb4.5,baz=90,slow=4.7,SNR=11
AKASG PP PP 22 56 37.4 +0.2
comp=Z,1.1nm,0.8s,baz=98,slow=7.4,SNR=4.1
IDI Anoyia 65.53 304 P **P** **22 54 13.7 -0.1**
comp=Z,6.8nm,0.7s,mb4.8,baz=47,slow=18,SNR=4.0
TIXI Tiksi 65.95 12 *eP* **P** **22 54 14.5 -1.4**
TIXI *e* 22 56 39.8
TIXI *e* 23 04 11.7
TIXI *e*SS SS 23 07 20.1 +3.9
TIXI pmax pmax
comp=Z,41nm,1.2s,mb5.3
TIXI Tiksi 65.95 12‖ *eP* **P** **22 54 15.3 -0.6**
MA2 Magadan 66.31 28 *eP* **P** **22 54 18.6 +0.3**
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MA2 Magadan 66.31 28 *eP* **P** **22 54 18.3 -0.1**
comp=Z,18nm,0.9s,mb5.1
LSZ Lusaka 67.61 249 *eP* **P** **22 54 27.2 0.0**
LSZ pmax pmax
comp=Z,27nm,1.3s,mb5.1
LSZ Lusaka 67.61 249 *eP* **P** **22 54 27.2 0.0**
comp=Z,27nm,1.3s,mb5.1
JOF Joensuu 68.17 335 *ep* **P** **22 54 28.8 -1.1**
comp=Z,8.1nm,0.7s,mb4.9
MATP Matopo 68.95 244 P **P** **22 54 36.0 +0.5**
comp=Z,22nm,1.2s,mb5.0,baz=80,slow=7.4,SNR=7.0
LVZ Lovozero 69.03 340‖ *eP* **P** **22 54 35.3 +0.1**
KWP Kalwaria 69.07 319 *eP* **P** **22 54 35.4 -0.4**
KOLS Kolonicke sedl 69.24 319 *eP* **P** **22 54 32.6 -4.2**
KOLS *e* 22 57 27.8
KOLS Kolonicke sedl 69.24 319 *eE* **P** **22 54 32.6 -4.2**
KOLS *e* 22 57 27.8
APA Apatity 69.30 340⇑ *iP* **P** **22 54 37.3 +0.4**
APA *i* pP 22 54 49.3 +2.1
APA pmax pmax
comp=Z,23nm,1.2s,mb5.0
APA MLR MLR
comp=Z,4μm,17.0s,MS5.7
CRVS Cervenica-Dubn 69.76 319 *eP* **P** **22 54 41.9 +1.9**
CRVS *e* 22 57 46.9
FINES FINESS Array B 69.97 332 P **P** **22 54 40.2 -0.9**
comp=Z,6.2nm,0.8s,mb4.6,baz=104,slow=7.9,SNR=20
KAF Kangasniemi 70.07 333 *ep* **P** **22 54 36.6 -5.0**
comp=Z,8.1nm,1.0s,mb4.6
KAF Kangasniemi 70.07 333 *eP* **P** **22 54 36.6 -5.0**
KAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
OJC Ojcow 71.02 320 *eP* **P** **22 54 47.4 -0.2**
VYHS Vyhne 71.43 318 *eP* **P** **22 54 50.1 0.0**
VYHS *e* 22 57 34.7
OKC Ostrava-Krasne 72.03 319 *eP* **P** **22 54 53.7 +0.1**
MORC Moravsky Berou 72.41 319 *eP* **P** **22 54 54.8 -1.1**
MORC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
MORC Moravsky Berou 72.41 319 *eP* **P** **22 54 54.8 -1.1**
comp=Z,6.5nm,1.0s,mb4.5
ZST Bratislava 72.55 317 *eP* **P** **22 54 56.8 0.0**
ARCES ARCESS Array B 72.74 340 P **P** **22 54 56.9 -0.6**
comp=Z,12nm,0.8s,mb4.9,baz=76,slow=5.0,SNR=12
ARCES LR LR 23 29 18.1
comp=Z,2μm,19.2s,MS5.3,baz=115,slow=38
LBTB Lobatse 73.00 240 *eP* **P** **22 55 00.8 +0.8**
LBTB pmax pmax
comp=Z,31nm,1.3s,mb5.1
LBTB Lobatse 73.00 240 P **P** **22 55 01.2 +1.2**
comp=Z,9.0nm,0.8s,mb4.8,baz=97,slow=3.9,SNR=10
LBTB Lobatse 73.00 240 *eP* **P** **22 55 00.8 +0.8**
comp=Z,31nm,1.3s,mb5.1
KSP Ksiaz 73.31 320 *eP* **P** **22 55 01.5 +0.2**
KSP Ksiaz 73.31 320 *eP* **P** **22 55 01.2 0.0**
UPC Upice 73.46 320 *eP* **P** **22 55 02.5 +0.4**
PRU Pruhonice 74.36 319 *eP* **P** **22 55 07.8 +0.4**
PVCC Panska Ves 74.38 320 *eP* **P** **22 55 06.9 -0.5**
BOSA Boshof 74.51 237 *eP* **P** **22 55 09.3 +0.6**
BOSA pmax pmax
comp=Z,22nm,1.2s,mb5.0
BOSA Boshof 74.51 237 *eP* **P** **22 55 09.3 +0.6**
comp=Z,22nm,1.2s,mb5.0
BRG Berggiesshubel 74.80 320 *eP* **P** **22 55 10.0 +0.1**
BRG pmax pmax
comp=Z,12nm,1.1s,mb4.7
BRG MLR MLR
comp=Z,850nm,22.0s,MS5.0
BRG Berggiesshubel 74.80 320 *eP* **P** **22 55 10.0 +0.1**
comp=Z,12nm,1.1s,mb4.7
BRG LR LR
comp=Z,850nm,22.0s,MS5.0
GERES GERESS Array B 74.85 318 P **P** **22 55 10.4 +0.2**
comp=Z,4.7nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=15
KHC Kasperske Hory 74.95 318 *eP* **P** **22 55 10.5 -0.2**
BILL Bilibino 75.31 22‖ *eP* **P** **22 55 12.9 +0.4**
BILL pmax pmax
comp=Z,12nm,0.8s,mb4.9
BILL Bilibino 75.31 22 *eP* **P** **22 55 12.8 +0.3**
comp=Z,6.6nm,0.7s,mb4.7
CLL Collm 75.42 321 *i* P **P** **22 55 13.3 -0.1**
CLL pmax pmax
comp=Z,15nm,1.2s,mb4.8
CLL Collm 75.42 321 *i* P **P** **22 55 13.3 -0.1**
comp=Z,15nm,1.2s,mb4.8
CLL Collm 75.42 321 P **P** **22 55 13.3 -0.1**
comp=Z,logA/T=1.1,mb4.8
NKC Novy Kostel 75.72 319 *eP* **P** **22 55 15.6 +0.4**
MOX Moxa 76.27 320 *eP* **P** **22 55 19.2 +0.9**
MOX pmax pmax
comp=Z,21nm,1.6s,mb4.8
MOX MLR MLR
comp=Z,1μm,18.0s,MS5.2
MOX Moxa 76.27 320 *eP* **P** **22 55 19.2 +0.9**
comp=Z,21nm,1.6s,mb4.8
MOX LR LR
comp=Z,1μm,18.0s,MS5.2
MOX Moxa 76.27 320 *i* P **P** **22 55 19.2 +0.9**
comp=Z,logA/T=1.1,mb4.8
MOX L 23 34 38.0
GRA1 Grafenberg Arr 76.50 319 *eP* **P** **22 55 19.6 0.0**
comp=Z,30nm,1.6s,mb5.0
GRF Grafenberg Arr 76.50 319 *eP* **P** **22 55 19.6 0.0**
GRF pmax pmax
comp=Z,30nm,1.6s,mb5.0
GRF Grafenberg Arr 76.50 319 *eP* **P** **22 55 19.6 0.0**
GRF pmax pmax
comp=Z,30nm,1.6s,mb5.0
GRF Grafenberg Arr 76.50 319 *eP* **P** **22 55 19.6 0.0**
comp=Z,30nm,1.6s,mb5.0
NB2 NORSAR Subarra 76.96 330 P **P** **22 55 20.6 -1.4**
comp=Z,34nm,1.7s,mb5.0,baz=94,slow=5.6
NB2 NORSAR Subarra 76.96 330 P **P** **22 55 20.6 -1.4**
NB2 pmax pmax
comp=Z,34nm,1.7s,mb5.0
NB2 NORSAR Subarra 76.96 330 P **P** **22 55 20.6 -1.4**
baz=94,slow=5.9
NOA NORSAR Array B 76.96 330 P **P** **22 55 20.6 -1.3**
comp=Z,3.9nm,0.9s,mb4.3,baz=93,slow=5.8,SNR=9.6
NOA LR LR 23 36 38.7
comp=Z,868nm,19.1s,MS5.1,baz=85,slow=42
FX1 Attu Island--F 77.20 38 P **P** **22 55 23.1 -0.4**
comp=Z,21nm,0.6s,mb5.2,baz=278,slow=4.7,SNR=6.7
DAVOX Davos 77.39 316 P **P** **22 55 25.2 +0.5**

comp=Z,5.8nm,0.8s,mb4.6,baz=327,slow=22,SNR=6.9
TSUM Tsumeb 78.42 248 *eP* **P** **22 55 29.9 -0.9**
comp=Z,10nm,1.3s,mb4.6
SUR Sutherland 79.38 234 *eP* **P** **22 55 35.4 -0.5**
comp=Z,153nm,2.0s,mb5.6
LPG La Plagne 79.61 315 *eP* **P** **22 55 36.4 -0.5**
comp=Z,77nm,1.5s,mb5.1
LPG La Plagne 79.61 315 *eP* **P** **22 55 36.4 -0.5**
LPG pmax pmax
comp=Z,38nm,1.5s,mb5.1
MAW Mawson 79.83 191 LR LR 23 28 32.2
comp=Z,802nm,18.3s,MS5.1,baz=38,slow=34
TNA Tin City 85.52 24 *eP* **P** **22 56 07.3 +0.6**
comp=Z,7.9nm,0.9s,mb4.9
ESDC Sonseca Array 88.19 310 P **P** **22 56 20.9 +0.5**
comp=Z,1.4nm,0.8s,mb4.2,baz=62,slow=5.8,SNR=5.7
IMA Indian Mountai 90.86 22 *eP* **P** **22 56 34.3 +2.0**
comp=Z,43nm,1.0s,mb5.7
ILAR Eielson Array 93.97 22 P **P** **22 56 47.0 +0.4**
comp=Z,2.6nm,0.7s,mb4.8,baz=291,slow=3.7,SNR=29
ILAR PP PP 23 00 27.5 -8.1
comp=Z,0.9nm,0.8s,baz=299,slow=8.5,SNR=6.1
ILAR LR LR 23 44 57.9
comp=Z,629nm,18.4s,MS5.1,baz=316,slow=39
VNDA Vanda 95.20 168 LR LR 23 37 37.9
comp=Z,1μm,18.2s,MS5.3,baz=304,slow=34
DBIC Dimbokro 95.28 278 LR LR 23 43 12.9
comp=Z,521nm,18.6s,MS5.0,baz=60,slow=38
RES Resolute Bay 95.68 2 *eP* **P** **22 56 55.4 +1.1**
comp=Z,10nm,1.0s,mb5.2
INK Inuvik 95.91 15 P **P** **22 56 56.2 +0.9**
comp=Z,3.1nm,0.8s,mb4.8,baz=314,slow=5.2,SNR=11
YKA Yellowknife Ar 105.20 12 PP PP 23 01 55.5 -5.8
comp=Z,1.4nm,0.9s,baz=333,slow=8.0,SNR=9.6
PDAR Pinedale Array 124.30 19 PKP PKPdf 23 02 29.2 +2.1
comp=Z,1.1nm,0.9s,baz=27,slow=3.3,SNR=7.6
NVAR Mina Array Bea 124.55 28 PKP PKPdf 23 02 30.9 +3.1
comp=Z,2.4nm,0.9s,baz=322,slow=0.6,SNR=9.6
MSU Marysvale 127.13 23 *eP* PKPdf 23 02 35.8 +3.0
PV01 Paradox Valley 128.80 20 *eP* PKPdf 23 02 39.0 +3.1
ANMO Albuquerque 132.40 20 PKP PKPdf 23 02 46.3 +3.5
comp=Z,1.8nm,0.8s,baz=101,slow=2.3,SNR=5.4
TXAR Lajitas Array 138.47 20 PKiKP 23 02 58.5
comp=Z,1.2nm,0.9s,baz=180,slow=1.3,SNR=7.2
TXAR PP PP 23 05 41.1 -7.6
comp=Z,0.2nm,0.4s,baz=235,slow=6.5,SNR=8.2
SJG San Juan 144.75 322 PKP PKPdf 23 03 06.8 +1.2
comp=Z,6.2nm,0.6s,baz=39,slow=11,SNR=4.0
SJG San Juan 144.75 322 PKP PKPdf 23 03 06.8 +1.2
PLCA Paso Flores 145.31 204 PKPbc PKPbc 23 03 09.0 +2.6
comp=Z,7.1nm,0.9s,baz=150,slow=3.9,SNR=12
PLCA Paso Flores 145.31 204 *eP* PKPdf 23 03 07.3 +1.4
TEIG Tepich 150.27 360 *eP* PKPdf 23 03 21.6 +7.0
FCH Farellones 151.21 213 *eP* PKPdf 23 03 23.6 +8.0
SDV Santo Domingo 154.49 316 PKPab PKPab 23 03 44.6 -1.5
comp=Z,4.4nm,0.9s,baz=266,slow=0.4,SNR=5.7
LVC Limon Verde 157.40 233 PKPab PKPab 23 03 56.3 -2.0
comp=Z,1.4nm,0.7s,baz=338,slow=8.3,SNR=3.6

NEIC ***12*** *23:42:26.6±0.9,24.15N×121.89E,h10km,mb4.3/3,Error ellipse: s-maj=15.4km s-min=10.3km az=187.0*
JMA ***12*** *23:42:26.3±0.4,23.95N×121.71E,h16km,M4.2*
BJI ***12*** *23:42:26.8,24.15N×121.63E,h10km,mB4.7,mb4.3, ML3.9,Ms4.3,Msz4.2*
TAP ***12*** *23:42:27.2,24.21N×121.78E,h6km,ML4.5*
TAP Felt I J at Chiawan, III J at Nanau, I J at Hualien, II J at Suao, II J at Nanshan, II J at Nioudou, II J at Neicheng, I J at Ilan, I J.
IDC ***12*** *23:42:28.2±0.8,24.71N×122.19E,mb3.8/10,mb1 4.1/10, mb1mx3.9/20,mbtmp3.9/10,MS3.8/1,Ms1 3.8/1, ms1mx2.6/33,Error ellipse: s-maj=29.0km s-min=17.8km az=77.0*
ISC 12 23:42:27.3±0.4, 24.19N±0.02×121.85E±0.02, h1km±3km, n89,σ1^{s}15/130, mb4.0/13, MS3.6/1, 9C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
NACB	**Ninganchiao**	**0.24**	**265**	*ePg*		**Pg 23 42 31.4**	**-0.6**
NACB				*eSg*		**Sg 23 42 34.6**	**-0.5**
ENA	**Nanau**	**0.26**	**336**	⇑*iP*		**Pg 23 42 32.7**	**+0.3**
ENA				S		**Sg 23 42 36.5**	**+0.7**
TWD	**Chiawan**	**0.26**	**245**	⇓*iP*		**Pg 23 42 32.4**	**-0.1**
TWD				S		**Sg 23 42 36.2**	**+0.2**
HWA	**Hwalien**	**0.31**	**227**	*eP*		**Pg 23 42 34.7**	**+1.1**
TWC	**Suao**	**0.41**	**359**	⇑*iP*		**Pg 23 42 36.0**	**+0.4**
NNS	**Nan Shan**	**0.50**	**299**	⇑*iP*		**Pg 23 42 37.0**	**-0.3**
NNS				S		**Sg 23 42 43.3**	**-0.7**
ENTT	**Nioudou**	**0.52**	**330**	⇑*iP*		**Pg 23 42 37.7**	**+0.1**
ESL	**Shilin**	**0.54**	**226**	*i P*		**Pg 23 42 37.9**	**-0.2**
TWE	**Neicheng**	**0.55**	**342**	⇑*iP*		**Pg 23 42 38.5**	**+0.2**
TWE				S		**Sg 23 42 46.3**	**+0.6**
ILA	**Ilan**	**0.58**	**350**	P		**Pg 23 42 39.3**	**+0.5**
ILA				S		**Sg 23 42 47.9**	**+1.3**
YHNB	**Yeheng**	**0.64**	**318**	*ePg*		**Pg 23 42 39.7**	**-0.5**
YHNB				*eSg*		**Sg 23 42 48.9**	**+0.2**
EGS		**0.65**	**6**	⇑*iP*		**Pg 23 42 40.9**	**+0.6**
EGS				S		**Sg 23 42 50.1**	**+1.1**
NSK	**Sanguang**	**0.66**	**317**	⇓*iP*		**Pg 23 42 40.2**	**-0.2**
NSK				S		**Sg 23 42 49.3**	**+0.1**
TWB1	**Santiao Chiao**	**0.82**	**9**	⇑*iP*		**Pg 23 42 43.7**	**0.0**
TWB1				S		**Sg 23 42 54.3**	**-0.3**
TWA	**Mucha**	**0.82**	**343**	⇑*iP*		**Pg 23 42 43.8**	**+0.1**
TWA				S		**Sg 23 42 54.6**	**0.0**
EHY	**Hungye**	**0.84**	**216**	*eP*		**Pg 23 42 42.8**	**-1.2**
EHY				S		**Sg 23 42 56.1**	**+0.9**
TATO	**Taipei**	**0.85**	**337**	*ePg*		**Pg 23 42 44.0**	**-0.2**
TATO				*eSg*		**Sg 23 42 52.2**	**-3.2**
NWF	**Wu-fen Shan**	**0.88**	**356**	⇑*iP*		**Pb 23 42 45.0**	**0.0**
NWF				S		**Sg 23 42 56.4**	**0.0**
NSTT	**Nanjuang**	**0.89**	**299**	*eP*		**Pb 23 42 44.7**	**-0.5**
NSTT				S		**Sg 23 42 56.0**	**-0.9**
TAP1	**Taipei**	**0.90**	**340**	*eP*		**Pb 23 42 45.3**	**0.0**
TAP	**Taipei**	**0.90**	**339**	*eP*		**Pb 23 42 45.5**	**+0.2**
TAP				S		**Sg 23 42 57.4**	**+0.2**
SMLT	**Sun Moon Lake**	**0.93**	**251**	*eP*		**Pb 23 42 45.0**	**-0.8**
SMLT				S		**Sb 23 42 56.8**	**-1.6**
TYC	**Yuchr**	**0.96**	**253**	*eP*		**Pb 23 42 45.5**	**-0.8**
TYC				S		**Sb 23 42 57.4**	**-1.9**
TWF1	**Yuli**	**0.98**	**211**	*eP*		**Pb 23 42 44.9**	**-1.8**
NCU	**National Centr**	**0.98**	**322**	*eP*		**Pb 23 42 47.1**	**+0.4**
NCU				S		**Sb 23 43 02.5**	**+2.5**
TWS1	**Kuangyinshan**	**0.99**	**336**	*eP*		**Pb 23 42 47.4**	**+0.6**
TWQ1	**Liyutan**	**1.00**	**279**	*eP*		**Pb 23 42 47.1**	**+0.1**
NSY	**Sanyi**	**1.02**	**283**	*eP*		**Pb 23 42 48.0**	**+0.6**
YUS	**Yu-Shan**	**1.08**	**230**	*eP*		**Pb 23 42 48.1**	**-0.4**
YUS				S		**Sb 23 43 03.6**	**+0.7**
YOJ	**Yonaguni jima**	**1.09**	**76**	P		**Pb 23 42 49.7**	**+1.1**
YOJ				*eS*		**Sb 23 43 06.7**	**+3.6**
TWY	**Chenhua**	**1.10**	**348**	*eP*		**Pb 23 42 49.5**	**+0.7**
TWY				S		**Sb 23 43 06.8**	**+3.3**
WNT	**Mingjian**	**1.11**	**254**	*eP*		**Pb 23 42 49.7**	**+0.7**
WNT				S		**Sb 23 43 05.0**	**+1.2**
ALS	**Alishan**	**1.18**	**235**	*eP*		**Pb 23 42 49.8**	**-0.3**
ALS				S		**Sb 23 43 06.7**	**+1.1**
CHKT	**Chengkung**	**1.18**	**202**	*eP*		**Pb 23 42 48.1**	**-2.0**
CHKT				S		**Sb 23 43 05.9**	**+0.2**
CHN5	**Tsauling**	**1.23**	**241**	*eP*		**Pb 23 42 51.0**	**0.0**
ELDTW	**Lidau**	**1.26**	**218**	*eP*		**Pb 23 42 49.4**	**-2.1**
WGK	**Gukeng**	**1.28**	**247**	*eP*		**Pb 23 42 52.1**	**+0.2**
CHN2	**Minshiung**	**1.42**	**243**	*eP*		**Pn 23 42 55.0**	**+0.7**
CHN4	**Tsaushan**	**1.43**	**234**	*eP*		**Pn 23 42 54.5**	**+0.1**
CHN4				S		**Sb 23 43 15.2**	**+2.3**
STYT	**Tauyuan**	**1.44**	**225**	*eP*		**Pn 23 42 53.4**	**-1.0**
STYT				S		**Sb 23 43 14.2**	**+1.0**
PCYT	**Pengchaiyu**	**1.44**	**8**	*eP*		**Pn 23 42 54.7**	**+0.1**
WTCT	**Ta-ch'eng**	**1.48**	**257**	*eP*		**Pn 23 42 55.0**	**0.0**
WTP	**Ta-pu**	**1.48**	**231**	*eP*		**Pn 23 42 54.6**	**-0.4**
WTP				S		**Sb 23 43 15.2**	**+0.8**
CHY	**Chiayi**	**1.48**	**242**	*eP*		**Pn 23 42 55.5**	**+0.4**
CHY				S		**Sb 23 43 16.1**	**+1.6**
TWG	**Pinlang**	**1.54**	**208**	*eP*		**Pn 23 42 52.9**	**-3.1**
TWK	**Hsinying**	**1.56**	**234**	*eP*		**Pn 23 42 56.2**	**0.0**
TWK				S		**Sb 23 43 18.2**	**+1.5**
CHN1	**Nanshi**	**1.58**	**231**	*eP*		**Pn 23 42 56.5**	**+0.1**
CHN1				S		**Sb 23 43 18.9**	**+1.7**
WSF	**Szhu**	**1.59**	**250**	*eP*		**Pn 23 42 56.7**	**0.0**
WSF				S		**Sb 23 43 19.9**	**+2.1**
SGST	**Jiashian**	**1.61**	**227**	*eP*		**Pn 23 42 56.7**	**-0.2**
IRIF	**Iriomote-Funau**	**1.72**	**85**	P		**Pn 23 42 58.5**	**0.0**
IRIF				*eS*		**Sn 23 43 21.6**	**+0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHN8	**Yiju**	**1.73**	**241**	eP	**Pn**	**23 42 58.6**	**0.0**
CHN8				S	**Sn**	**23 43 23.0**	**+1.4**
CHN3	**Shinhua**	**1.76**	**231**	eP	**Pn**	**23 43 00.7**	**+1.6**
HATJ	**Hateruma jima**	**1.79**	**94**	P	**Pn**	**23 42 59.4**	**-0.1**
HATJ				eS	**Sn**	**23 43 23.4**	**+0.2**
ECL	**Taimali**	**1.79**	**208**	eP	**Pn**	**23 42 56.7**	**-2.8**
SSD	**Sandimen**	**1.83**	**218**	eP	**Pn**	**23 42 59.0**	**-1.1**
SCLT	**Jiali**	**1.83**	**237**	eP	**Pn**	**23 43 00.7**	**+0.7**
SCLT				S	**Sn**	**23 43 25.5**	**+1.3**
TWM1	**Shoushan**	**1.89**	**224**	eP	**Pn**	**23 43 02.2**	**+1.2**
SGLT	**Jiouru**	**1.92**	**221**	eP	**Pn**	**23 43 03.2**	**+1.7**
JKRS	**Kuro-shima**	**1.97**	**88**	P	**Pn**	**23 43 01.8**	**-0.3**
JKRS				eS	**Sn**	**23 43 27.6**	**-0.1**
EAST	**Anshuo**	**2.02**	**207**	eP	**Pn**	**23 43 00.3**	**-2.6**
JIJ	**Ishigaki jima**	**2.10**	**85**	P	**Pn**	**23 43 03.4**	**-0.5**
JIJ				eS	**Sn**	**23 43 31.8**	**+0.8**
SCZT	**Fangliau**	**2.14**	**212**	eP	**Pn**	**23 43 03.2**	**-1.3**
PNG	**Penghu**	**2.19**	**254**	eP	**Pn**	**23 43 04.0**	**-1.3**
PNG				S	**Sn**	**23 43 32.5**	**-1.0**
WDGT	**Dungji**	**2.21**	**246**	eP	**Pn**	**23 43 04.9**	**-0.7**
WDGT				S	**Sn**	**23 43 32.2**	**-1.8**
QZH	**Quanzhou**	**3.06**	**285**	P	**Pn**	**23 43 15.3**	**-2.4**
QZH				S	**Sn**	**23 43 50.6**	**-4.9**
QZH				Smax			
	comp=N,560nm,0.6s						
QZH				Smax			
	comp=E,540nm,1.0s						
GZH	**Guangzhou**	**7.88**	**264**	P	**Pn**	**23 44 18.8**	**-7.0**
NJ2	**Nanjing**	**8.26**	**342**	eP	**P**	**23 44 27.8**	**-3.3**
NJ2				AP		23 44 30.9	
NJ2				XP		23 44 33.8	
NJ2				S	**Sn**	**23 45 59.5**	**-6.7**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s						
NJ2				LR	LR		
	comp=N,1μm,8.6s						
NJ2				LR	LR		
	comp=E,410nm,7.6s						
NJ2				LR	LR		
	comp=Z,1μm,8.4s						
ENH	**Enshi**	**12.55**	**302**	P	**P**	**23 45 21.9**	**-8.0**
LZH	**Lanzhou**	**19.54**	**312**	eP	**P**	**23 46 59.7**	**+0.7**
LZH				AP		23 47 03.5	
LZH				XP		23 47 07.0	
LZH				AMB	AMB		
	comp=Z,39nm,1.5s						
LZH				LR	LR		
	comp=N,480nm,9.5s						
LZH				LR	LR		
	comp=Z,596nm,10.3s						
CN2	**Changchun**	**19.78**	**8**	eP	**P**	**23 47 02.7**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**22.08**	**259**	P	**P**	**23 47 30.1**	**+4.5**
	comp=Z,0.5nm,0.4s,mb3.3,baz=59,slow=8.8,SNR=7.1						
HIA	**Hailar**	**25.08**	**357**	eP	**P**	**23 47 52.0**	**-2.7**
	comp=Z,8.4nm,1.2s,mb4.3						
ASAJ	**Asahikawa**	**26.13**	**35**	LR	LR	23 57 43.1	
	comp=Z,183nm,18.8s,MS3.6,baz=317,slow=36						
ULN	**Ulaanbaatar**	**26.39**	**337**	eP	**P**	**23 48 03.6**	**-3.2**
	comp=Z,5.1nm,1.0s,mb4.1						
SONM	**Songino Array**	**26.60**	**336**	P	**P**	**23 48 06.5**	**-2.3**
	comp=Z,1.5nm,0.8s,mb3.8,baz=162,slow=10,SNR=13						
LSA	**Lhasa**	**27.87**	**288**	P	**P**	**23 48 19.0**	**-1.5**
ZAL	**Zalesovo**	**40.58**	**327**	P	**P**	**23 50 07.3**	**-2.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=344,slow=8.0,SNR=6.5						
WRAB	**Tennant Creek**	**45.52**	**163**	eP	**P**	**23 50 54.4**	**+4.0**
	comp=Z,6.9nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**45.52**	**163**	P	**P**	**23 50 52.4**	**+2.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=345,slow=8.9,SNR=5.4						
CHKZ	**Chkalovo**	**48.11**	**321**	eP	**P**	**23 51 06.3**	**-4.2**
	comp=Z,36nm,0.8s						
ASAR	**Alice Springs**	**48.99**	**165**	P	**P**	**23 51 20.0**	**+2.4**
	comp=Z,0.6nm,0.5s,mb3.9,baz=349,slow=8.2,SNR=4.4						
BILL	**Bilibino**	**51.47**	**20**	eP	**P**	**23 51 31.3**	**-4.6**
STKA	**Stephens Creek**	**58.86**	**160**	P	**P**	**23 52 31.9**	**+1.8**
	comp=Z,1.8nm,1.0s,mb4.0,baz=324,slow=8.1,SNR=4.1						
STKA	**Stephens Creek**	**58.86**	**160**	eP	**P**	**23 52 30.8**	**+0.7**
ILAR	**Eielson Array**	**68.92**	**27**	P	**P**	**23 53 32.4**	**-3.1**
	comp=Z,0.4nm,0.5s,mb3.9,baz=275,slow=5.8,SNR=8.5						
FINES	**FINESS Array B**	**71.75**	**330**	P	**P**	**23 53 48.5**	**-4.3**
	comp=Z,0.7nm,0.7s,mb3.9,baz=52,slow=5.0,SNR=9.6						
INK	**Inuvik**	**72.99**	**22**	P	**P**	**23 53 55.6**	**-4.4**
	comp=Z,1.5nm,0.8s,mb4.2,baz=306,slow=11,SNR=4.7						
YKA	**Yellowknife Ar**	**82.72**	**23**	P	**P**	**23 54 49.8**	**-3.9**
	comp=Z,0.9nm,0.5s,mb4.2,baz=312,slow=5.1,SNR=29						
YKA	**Yellowknife Ar**	**82.72**	**23**	P	**P**	**23 54 49.8**	**-3.9**

*IDC **12** 23:51:52.8±14.0, 52.21N×164.87W, mb3.7/5, mb1 4.0/6, mb1mx3.7/23, mbtmp3.6/6, ML3.2/1, Error ellipse: s-maj=265.1km s-min=37.9km az=78.0*

*NEIC **12** 23:51:53.5, 52.35N×165.52W, $h22^{km}$, ML3.2(AEIC), After AEIC.*

ISC 12 23:51:51.2±2.6**, 52.24N**±0.08×**165.50W**±0.10**, $h22^{km}\pm22^{km}$, n16,** $\sigma0^{s}85$/19**, mb3.7**/5**, South of Aleutian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**1.72**	**340**	P	**Pn**	**23 52 20.2**	**-0.2**
UNV				S	**Sn**	**23 52 41.3**	**-0.6**
MSW	**Makushin Switc**	**1.85**	**336**	P	**Pn**	**23 52 22.3**	**+0.1**
MSW				S	**Sn**	**23 52 45.1**	**-0.1**
MTBL	**Makushin Table**	**1.88**	**338**	P	**Pn**	**23 52 23.0**	**+0.4**
OKFG	**Magazine Ridge**	**1.88**	**310**	P	**Pn**	**23 52 23.0**	**+0.4**
OKFG				S	**Sn**	**23 52 45.8**	**-0.1**
NIKO	**Nikolski**	**2.18**	**291**	P	**Pn**	**23 52 26.8**	**-0.1**
WFAR	**Faris Peak**	**2.34**	**10**	P	**Pn**	**23 52 29.6**	**+0.3**
WESN	**West Dahl Nort**	**2.40**	**13**	P	**Pn**	**23 52 31.5**	**+1.4**
SDPT	**Sand Point**	**4.31**	**42**	P	**Pn**	**23 52 56.2**	**-1.1**
ATKA	**Atka Island**	**5.35**	**273**	P	**Pn**	**23 53 11.5**	**-0.4**
ILAR	**Eielson Array**	**15.79**	**30**	Pn	**P**	**23 55 31.6**	**-2.0**
	0.0nm,0.3s,baz=211,slow=13,SNR=3.1						
INK	**Inuvik**	**22.18**	**31**	P	**P**	**23 56 49.5**	**+2.3**
	3.8nm,0.8s,mb3.9,baz=240,slow=10,SNR=14						
YKA	**Yellowknife Ar**	**28.54**	**49**	P	**P**	**23 57 47.1**	**+0.2**
	0.4nm,0.6s,mb3.3,baz=269,slow=7.4,SNR=6.3						
YKA	**Yellowknife Ar**	**28.54**	**49**	P	**P**	**23 57 47.1**	**+0.2**
NEW	**Newport**	**30.73**	**78**	P	**P**	**23 58 06.5**	**-0.1**
	1.5nm,0.6s,mb4.0,baz=278,slow=14,SNR=3.2						
PDAR	**Pinedale Array**	**38.08**	**82**	P	**P**	**23 59 10.3**	**+0.5**
	0.6nm,0.5s,mb3.5,baz=304,slow=3.8,SNR=6.6						
TXAR	**Lajitas Array**	**50.37**	**92**	P	**P**	**00 00 47.8**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=305,slow=5.6,SNR=5.4						

*IDC **13** 00:53:17.3±2.9, 5.88S×149.02E, mb3.5/1, mb1 4.2/3, mb1mx3.8/13, mbtmp4.1/3, ML3.9/2, MS3.4/4, Ms1 3.4/4, ms1mx3.3/13, Error ellipse: s-maj=106.0km s-min=40.8km az=138.0*

*NEIC **13** 00:53:19.9±1.6, 6.17S×149.23E, $h10^{km}$, mb4.5/2, Error ellipse: s-maj=53.0km s-min=22.3km az=138.0*

ISC 13 00:53:26.0±4.9**, 6.3S**±0.4×**148.9E**±0.7**, $h54^{km}\pm38^{km}$, n11,** $\sigma0^{s}74$/10**, mb4.0**/2**, MS3.4**/2**, 1D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.52**	**210**	Pn	**P**	**00 54 19.9**	**+0.2**
	24nm,0.3s,baz=28,slow=7.1,SNR=79						
PMG				Sn	**S**	**00 55 01.0**	**+0.5**
	32nm,0.3s,baz=117,slow=23,SNR=12						
PMG				LR	LR	00 55 57.1	
	comp=Z,228nm,19.8s,baz=190,slow=40						
PMG	**Port Moresby**	**3.52**	**210**	⇓iP	**P**	**00 54 19.6**	**0.0**
PMG				eS	**S**	**00 55 00.3**	**-0.1**
PMG				LR	LR	00 55 57.1	
CTA	**Charters Tower**	**13.92**	**191**	LR	LR	01 01 12.2	
	comp=Z,133nm,19.8s,baz=234,slow=33						
WRAB	**Tennant Creek**	**19.58**	**225**	eP	**P**	**00 57 52.2**	**-0.2**
	13nm,0.8s						
WB2	**Warramunga Arr**	**19.59**	**225**	eP	**P**	**00 57 51.4**	**-1.1**
WRA	**Warramunga Arr**	**19.59**	**225**	P	**P**	**00 57 51.5**	**-1.1**
	0.7nm,0.3s,baz=50,slow=10,SNR=24						
ASAR	**Alice Springs**	**22.49**	**218**	P	**P**	**00 58 22.5**	**+0.4**
	1.5nm,0.6s,mb3.6,baz=54,slow=9.7,SNR=23						
ASAR				LR	LR	01 06 47.3	
	comp=Z,68nm,20.4s,MS3.1,baz=189,slow=35						
ASPA	**Alice Springs**	**22.50**	**218**	eP	**P**	**00 58 22.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**25.55**	**241**	eP	**P**	**00 58 52.9**	**+1.1**
	12nm,0.8s,mb4.5						
JOW	**Kunigami**	**38.57**	**330**	LR	LR	01 14 54.5	
	comp=Z,141nm,20.7s,MS3.8,baz=240,slow=34						
BDFB	**Brasilia**	**152.46**	**143**	PKPbc	PKPdf	01 13 17.6	+7.5
	0.8nm,0.4s,baz=165,slow=4.6,SNR=4.4						

CASC 13 01:03:56.6±1.3**, 13.36N**×**90.26W, $h30^{km}\pm4^{km}$, MD3.9, ML3.6, 3C-5D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.78**	**53**	⇓eP	Pb	01 04 11.8	+0.2
SBLS				eS	Sb	01 04 23.6	+1.6
RTR	**El Retiro**	**0.80**	**48**	⇓eP	Pb	01 04 12.2	+0.3
RTR				eS	Sb	01 04 24.0	+1.5
SNJE	**San Jose**	**0.81**	**52**	⇓eP	Pn	01 04 12.2	+0.1
SNJE				eS	Sb	01 04 24.0	+1.2
IXG	**Ixpaco**	**0.83**	**347**	⇓eP	Pn	01 04 11.8	-0.5
IXG				eS	Sb	01 04 23.8	+0.5
IXG				AML	AML	01 04 29.8	
	comp=N,9μm,0.4s						
RBDL	**Robledal**	**0.93**	**37**	⇑eP	Pn	01 04 14.3	+0.5
RBDL				eS	Sb	01 04 28.3	+2.1
BOQS	**Boqueron**	**1.03**	**69**	⇑eP	Pn	01 04 15.1	0.0
BOQS				eS	Sn	01 04 29.8	+1.2
SNET	**Serv Nac Est T**	**1.05**	**72**	eP	Pn	01 04 15.3	-0.2
LFRS	**El Faro**	**1.20**	**77**	eP	Pn	01 04 17.3	-0.3
LFRS				eS	Sn	01 04 33.4	+0.4
LBRS	**Las Brisas**	**1.25**	**72**	eP	Pn	01 04 17.4	-0.8
LCBS	**La Ceiba**	**1.28**	**77**	eP	Pn	01 04 18.2	-0.6
LCBS				eS	Sn	01 04 34.7	-0.5
MTO2	**Montecristo 2**	**1.35**	**40**	⇓eP	Pn	01 04 20.0	+0.2
SNVI	**San Vicente**	**1.41**	**80**	eP	Pn	01 04 20.7	+0.1
SNVI				eS	Sn	01 04 39.8	+1.5
TP2	**Tecpan 2**	**1.59**	**333**	⇑eP	Pn	01 04 23.4	+0.2
TP2				eS	Sn	01 04 43.7	+0.7
TP2				AML	AML	01 04 45.6	
	comp=N,514nm,0.4s						
JAT	**Jato**	**1.64**	**306**	eP	Pn	01 04 24.1	+0.2
JAT				eS	Sn	01 04 44.5	+0.3
JAT				AML	AML	01 04 50.9	
	comp=N,918nm,0.3s						

*CSEM **13** 01:31:13.6, 44.92N×37.36E, $h2^{km}$, mb4.7*

*BJI **13** 01:31:16.0, 44.63N×36.66E, $h38^{km}$, mB5.3, mb4.9, Ms5.1, Msz4.4*

*MOS **13** 01:31:18.8±1.0, 44.95N×37.13E, $h23^{km}$, mb4.6/45, MS3.9/10, Error ellipse: s-maj=5.2km s-min=3.3km az=27.5*

MOS Felt (III-IV) at Anapa.

*NEIC **13** 01:31:18.4±0.2, 44.91N×37.25E, $h10^{km}$, mb4.4/96, Error ellipse: s-maj=3.2km s-min=2.8km az=26.0*

NEIC Felt [IV] at Anapa. Felt at Krasnodar and Novorossiysk. Also felt in Abinskiy Rayon and Slavyanskiy Rayon.

*ZUR_RM **13** 01:31:18, 44.49N×37.25E, $h15^{km}$, Mw4.6/17, Moment Tensor Solution. s17 Moment tensor: Scale 10^{15}Nm; M_{rr}-5.22; $M_{\theta\theta}$7.44; $M_{\phi\phi}$-2.22; $M_{r\theta}$2.37; $M_{\theta\phi}$3.34; $M_{\phi r}$-1.24; Best double couple: $M_0 7.65\times10^{15}$ NP1:ϕ_s278°, δ59°, λ-55°. NP2:ϕ_s44°, δ45°, λ-134°. Principal axes: T 8.747, Plg8°, Azm344°; N -2.197, Plg29°, Azm78°; P -6.55, Plg59°, Azm240°;*

*IDC **13** 01:31:22.8±1.1, 44.97N×37.15E, $h38^{km}\pm9^{km}$, mb4.2/20, mb1 4.4/31, mb1mx4.4/32, mbtmp4.4/31, ML4.4/8, MS3.9/14, Ms1 3.9/14, ms1mx3.8/25 Error ellipse: s-maj=9.6km s-min=7.0km az=39.0*

ISC 13 01:31:20.0±0.1**, 44.88N**±0.02×**37.15E**±0.02**, $h33^{km}$, n540,** $\sigma1^{s}24$/571**, mb4.4**/121**, MS4.1**/20**, 34C-12D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ANN	**Anapa**	**0.21**	**112**	d iP	**P**	**01 31 25.6**	**-1.1**
ANN				i		01 31 33.2	
ANN				pmax	pmax		
	comp=Z,18μm,0.4s						
ANN				pmax	pmax		
	comp=N,2μm,0.3s						
ANN				pmax	pmax		
	comp=E,2μm,0.2s						
ANN				smax			
	comp=N,20μm,0.4s						
ANN				smax			
	comp=E,34μm,0.4s						
ANN				smax			
	comp=Z,5μm,0.4s						
ANN	**Anapa**	**0.21**	**112**	iS	**S**	**01 31 33.2**	**+1.7**
KGUR	**Krasnodar**	**1.34**	**83**	⇑iP	**P**	**01 31 45.7**	**+3.1**
SIM	**Simferopol'**	**2.16**	**273**	iP	**P**	**01 31 57.0**	**+2.7**
SIM				i		01 32 22.0	
SIM				pmax	pmax		
	comp=Z,3μm,0.4s						
SIM				smax			
	comp=E,6μm,1.0s						
SIM				MLR	MLR		
	comp=Z,420nm,8.7s						
SIM	**Simferopol'**	**2.16**	**273**	iS	**S**	**01 32 22.0**	**+1.9**
	comp=Z,420nm,8.7s						
SOC	**Sochi**	**2.25**	**124**	iP	**P**	**01 31 56.1**	**+0.5**
SOC				eS	**S**	**01 32 29.5**	**+7.0**
SOC				pmax	pmax		
	comp=N,95nm,0.5s						
SOC				pmax	pmax		
	comp=Z,230nm,0.5s						
SOC				pmax	pmax		
	comp=E,35nm,0.3s						
SOC				smax			
	comp=N,4μm,0.9s						
BZK	**Bozkurt**	**3.71**	**219**	iP	**P**	**01 32 17.2**	**+0.8**
BOYT	**Boyabat**	**3.83**	**206**	iP	**P**	**01 32 19.3**	**+1.2**
BOYT				iS	**S**	**01 32 58.9**	**-3.7**
BYBT	**Boyabat**	**3.83**	**208**	iP	**P**	**01 32 19.1**	**+1.0**
KVT	**Kavak**	**3.88**	**192**	eP	**P**	**01 32 20.0**	**+1.2**
KIV	**Kislovodsk**	**4.07**	**101**	d iP	**P**	**01 32 20.8**	**-0.7**
KIV				iS	**S**	**01 33 08.2**	**-0.5**
KIV				pmax	pmax		
	comp=Z,40nm,0.7s						
KIV				MLR	MLR		
	comp=Z,1μm,17.0s						
KIV	**Kislovodsk**	**4.07**	**101**	ePn	**Pn**	**01 32 21.3**	**-0.4**
KIV				Sn	**Sn**	**01 33 02.9**	**-5.9**
KIV	**Kislovodsk**	**4.07**	**101**	iP	**P**	**01 32 20.8**	**-0.7**
	comp=Z,40nm,0.7s						
KIV	**Kislovodsk**	**4.07**	**101**	ePn	**Pn**	**01 32 21.3**	**-0.4**
KIV				Sn	**Sn**	**01 33 02.9**	**-5.9**
KIV				iS	**S**	**01 33 08.2**	**-0.5**
	comp=Z,1μm,17.0s						
SHAR	**Shatzhatmas**	**4.12**	**104**	iP	**P**	**01 32 22.0**	**-0.2**
SHAR				eS	**S**	**01 33 08.7**	**-1.2**
GOF	**Gofitskoye**	**4.18**	**85**	⇓iP	**P**	**01 32 22.9**	**-0.1**
GOF				eS	**S**	**01 33 12.0**	**+0.6**
GOF				pmax	pmax		
	comp=Z,210nm,0.8s						
GOF	**Gofitskoye**	**4.18**	**85**	iP	**P**	**01 32 22.9**	**-0.1**
	comp=Z,210nm,0.8s						
GOF				eS	**S**	**01 33 12.0**	**+0.6**
BALT	**Daday**	**4.33**	**221**	iP	**P**	**01 32 26.6**	**+1.4**
BALT				iS	**S**	**01 33 14.8**	**-0.5**
TOKT	**Tokat**	**4.58**	**186**	P	**P**	**01 32 29.5**	**+0.8**
TOKT	**Tokat**	**4.58**	**186**	P	**P**	**01 32 28.3**	**-0.4**
CTKT	**Corum**	**4.60**	**203**	iP	**P**	**01 32 30.0**	**+1.0**
CTKT				iS	**S**	**01 33 20.0**	**-2.0**
KUBR	**Kubataba**	**4.62**	**101**	eP	**P**	**01 32 29.5**	**+0.2**
GUMT	**Gumushane**	**4.74**	**158**	P	**P**	**01 32 29.5**	**-1.5**
GUMT	**Gumushane**	**4.74**	**158**	P	**P**	**01 32 26.5**	**-4.5**
SAFT	**Safranbolu**	**4.89**	**224**	P	**P**	**01 32 34.1**	**+0.9**
CANT	**Cankiri**	**5.00**	**213**	P	**P**	**01 32 35.8**	**+1.1**
CORM	**Corum**	**5.05**	**203**	P	**P**	**01 32 37.0**	**+1.5**
SVST	**Sivas**	**5.11**	**182**	iP	**P**	**01 32 37.6**	**+1.4**
SVST				iS	**S**	**01 33 34.2**	**-0.6**
ONI	**Oni**	**5.11**	**115**	P	**P**	**01 32 36.1**	**-0.2**
ELDT	**Eldivan**	**5.18**	**213**	iP	**P**	**01 32 38.1**	**+1.0**
ZEI	**Tsey**	**5.32**	**111**	eP	**P**	**01 32 39.5**	**+0.4**
ZEI				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ZEI	**Tsey**	**5.32**	**111**	eP	**P**	**01 32 39.5**	**+0.4**
	comp=Z,8.0nm,0.3s						
YOZ	**Yozgat**	**5.41**	**195**	eP	**P**	**01 32 39.1**	**-1.3**
YOZ	**Yozgat**	**5.41**	**195**	P	**P**	**01 32 38.9**	**-1.5**
EZC	**Erzincan**	**5.50**	**158**	eP	**P**	**01 32 37.8**	**-3.8**
EZC	**Erzincan**	**5.50**	**158**	P	**P**	**01 32 37.1**	**-4.5**
SGKT	**Sivrigoynuk**	**5.71**	**223**	iP	**P**	**01 32 45.5**	**+0.8**
EZM	**Erzurum**	**5.87**	**146**	P	**P**	**01 32 45.4**	**-1.4**
ERZM	**Erzurum**	**5.87**	**146**	iP	**P**	**01 32 37.1**	**-10**
TLCR		**5.92**	**276**	⇑P	**P**	**01 32 47.0**	**-0.6**
ANTO	**Ankara**	**5.96**	**214**	eP	**P**	**01 32 47.2**	**-0.9**
ANTO	**Ankara**	**5.96**	**214**	P	**P**	**01 32 48.3**	**+0.2**
KAMT	**Kaman**	**6.07**	**206**	eP	**P**	**01 32 50.6**	**+0.9**
BNN	**Bunyan**	**6.10**	**190**	eP	**P**	**01 32 50.3**	**+0.2**
BNN	**Bunyan**	**6.10**	**190**	P	**P**	**01 32 50.0**	**-0.1**
KARS	**Kars**	**6.11**	**132**	eP	**P**	**01 32 45.1**	**-5.1**
KARS	**Kars**	**6.11**	**132**	P	**P**	**01 32 46.5**	**-3.7**
HENT	**Hendek**	**6.13**	**231**	iP	**P**	**01 32 50.6**	**+0.1**
KIS	**Kishinev**	**6.19**	**293**	eP	**P**	**01 32 49.0**	**-2.4**
KIS				iS	**S**	**01 33 59.0**	**-2.9**
KIS				smax			
	comp=N,2μm,1.0s						
KIS				smax			
	comp=E,2μm,1.0s						
KIS				smax			
	comp=N,2μm,1.0s						
KIS				smax			
	comp=E,2μm,1.0s						
KIS	**Kishinev**	**6.19**	**293**	eP	**P**	**01 32 49.0**	**-2.4**
KIS				iS	**S**	**01 33 59.0**	**-2.9**
	comp=E,2μm,1.0s						
PTK	**Pertek**	**6.21**	**164**	eP	**P**	**01 32 48.7**	**-3.0**
MDU	**Mudurnu**	**6.21**	**227**	eP	**P**	**01 32 51.8**	**+0.1**
AVNT	**Avonos**	**6.33**	**197**	iP	**P**	**01 32 53.5**	**+0.1**
AVNT				iS	Px	01 33 02.5	
TI2	**Plekhanov**	**6.37**	**117**	eP	**P**	**01 32 54.0**	**0.0**
CFR	**Carcaliu**	**6.40**	**276**	⇑P	**P**	**01 32 53.3**	**-1.0**
CFR	**Carcaliu**	**6.40**	**276**	⇑P	**P**	**01 32 53.3**	**-1.0**
CFR	**Carcaliu**	**6.40**	**276**	P	**P**	**01 32 53.5**	**-0.8**
BINT	**Bingol**	**6.49**	**156**	P	**P**	**01 32 52.0**	**-3.7**
ELZG	**Elazig**	**6.52**	**167**	iP	**P**	**01 32 55.6**	**-0.5**
CVD	**Cernavoda**	**6.54**	**268**	⇑P	**P**	**01 32 56.3**	**0.0**
CVD	**Cernavoda**	**6.54**	**268**	⇑P	**P**	**01 32 56.3**	**0.0**
PSN	**Preselentsi**	**6.55**	**263**	eP	**P**	**01 32 56.0**	**-0.5**
HARR	**Harsova**	**6.57**	**272**	⇑P	**P**	**01 32 56.3**	**-0.4**
VRT	**Varto**	**6.60**	**149**	eP	**P**	**01 32 51.1**	**-6.1**
MYA	**Malataya**	**6.62**	**171**	eP	**P**	**01 32 53.9**	**-3.5**
MYA	**Malataya**	**6.62**	**171**	P	**P**	**01 32 54.2**	**-3.2**
MALT	**Malatya**	**6.63**	**171**	eP	**P**	**01 32 54.7**	**-2.9**
MALT	**Malatya**	**6.63**	**171**	eP	**P**	**01 32 56.6**	**-1.0**
MALT				pmax	pmax		
	comp=Z,16nm,0.6s						
MALT	**Malatya**	**6.63**	**171**	ePn	**Pn**	**01 32 56.6**	**-1.2**
	comp=Z,16nm,0.6s						
MALT	**Malatya**	**6.63**	**171**	eP	**P**	**01 32 56.6**	**-1.0**
	comp=Z,16nm,0.6s						
HRT	**Hereke**	**6.83**	**236**	eP	**P**	**01 32 56.2**	**-4.3**
VOR	**Voronezh**	**6.99**	**11**	⇓iP	**P**	**01 33 01.5**	**-1.2**
VOR				pmax	pmax		
	comp=E,80nm,1.1s						
VOR				pmax	pmax		
	comp=Z,200nm,1.1s						
VOR	**Voronezh**	**6.99**	**11**	iP	**P**	**01 33 01.5**	**-1.2**
ISK	**Istanbul-Kandi**	**7.05**	**240**	eP	**P**	**01 33 02.0**	**-1.6**
ISK	**Istanbul-Kandi**	**7.05**	**240**	P	**P**	**01 33 01.2**	**-2.4**
IAS	**Iasi**	**7.07**	**293**	⇑P	**P**	**01 33 04.1**	**+0.4**
ESKT	**Eskisehir**	**7.11**	**223**	eP	**P**	**01 33 03.6**	**-0.7**
ESKT	**Eskisehir**	**7.11**	**223**	iP	**P**	**01 33 03.7**	**-0.7**
BADT	**Buyukada**	**7.14**	**239**	eP	**P**	**01 33 02.2**	**-2.6**
BADT	**Buyukada**	**7.14**	**239**	P	**P**	**01 33 03.0**	**-1.8**
YLV	**Yalova**	**7.17**	**236**	eP	**P**	**01 33 02.0**	**-3.1**
KIZT	**Kizilcal**	**7.17**	**215**	eP	**P**	**01 33 04.7**	**-0.5**
PRD	**Provadia**	**7.23**	**260**	eP	**P**	**01 33 05.0**	**-1.0**
KAHT	**Ahir Dag**	**7.25**	**182**	iP	**P**	**01 33 08.5**	**+2.3**
GNI	**Garni**	**7.33**	**128**	Pn	**Pn**	**01 33 11.1**	**+3.5**
	comp=Z,0.4nm,0.3s,baz=353,slow=10,SNR=3.5						
GNI				Sn	**Sn**	**01 34 32.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=310,slow=15,SNR=3.2						
GNI				LR	LR	01 36 16.0	
	comp=Z,265nm,20.6s,baz=360,slow=40						
GNI	**Garni**	**7.33**	**128**	Pn	**Pn**	**01 33 11.1**	**+3.5**
GNI				Sn	**Sn**	**01 34 32.1**	**+1.6**
GNI				LR	LR	01 36 16.0	
GNI	**Garni**	**7.33**	**128**	S	**S**	**01 34 32.1**	**+1.7**
DIY	**Diyarbakir**	**7.35**	**161**	eP	**P**	**01 33 03.0**	**-4.7**
CTT	**Catalca**	**7.40**	**243**	eP	**P**	**01 33 04.7**	**-3.7**
VRI	**Vrincioaia**	**7.41**	**281**	⇑P	**P**	**01 33 07.7**	**-0.8**
BTMT	**Batman**	**7.43**	**153**	eP	**P**	**01 33 00.0**	**-8.8**
GZT	**Gaziantep**	**7.52**	**178**	iP	**P**	**01 33 10.1**	**0.0**
ISR	**Istrita**	**7.53**	**276**	P	**P**	**01 33 11.9**	**+1.8**
URFA	**Urfa**	**7.54**	**170**	eP	**P**	**01 33 12.7**	**+2.4**
ULDT	**Uludag**	**7.58**	**234**	iP	**P**	**01 33 08.3**	**-2.6**
BEST	**Besiri**	**7.64**	**155**	iP	**P**	**01 33 16.0**	**+4.3**
GAZ	**Gaziantep**	**7.70**	**180**	eP	**P**	**01 33 10.0**	**-2.5**
ORLT	**Orhaneli**	**7.78**	**235**	eP	**P**	**01 33 10.7**	**-3.0**
ORLT	**Orhaneli**	**7.78**	**235**	P	**P**	**01 33 11.8**	**-1.9**
TVAN	**Van**	**7.88**	**141**	iP	**P**	**01 33 27.5**	**+12**
AKASG	**Malin Array Be**	**7.90**	**320**	Pn	**Pn**	**01 33 12.7**	**-2.8**
	comp=Z,23nm,0.3s,baz=124,slow=14,SNR=83						
AKASG				Sn	**Sn**	**01 34 36.5**	**-8.1**
	comp=Z,35nm,0.3s,baz=132,slow=24,SNR=8.8						
KIEV	**Kiev**	**7.90**	**320**	P	**P**	**01 33 12.0**	**-3.3**
MLR	**Muntele Rosu**	**7.94**	**278**	P	**P**	**01 33 15.8**	**-0.1**
MLR						01 34 42.5	
MLR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
MLR				smax			
	comp=N,15nm,0.3s						
MLR	**Muntele Rosu**	**7.94**	**278**	Pn	**Pn**	**01 33 15.8**	**-0.4**
	comp=N,5.6nm,0.3s,baz=122,slow=5.5,SNR=82						
MLR				Sn	**Sn**	**01 34 42.5**	**-3.4**
	comp=N,14nm,0.3s,baz=336,slow=24,SNR=8.1						
MLR	**Muntele Rosu**	**7.94**	**278**	⇑P	**P**	**01 33 15.6**	**-0.3**
MLR	**Muntele Rosu**	**7.94**	**278**	⇑P	**P**	**01 33 15.6**	**-0.3**
BUC1	**Bucharest**	**7.96**	**270**	⇓P	**P**	**01 33 15.2**	**-0.9**
BUC1	**Bucharest**	**7.96**	**270**	⇓P	**P**	**01 33 15.2**	**-0.9**
BUC1	**Bucharest**	**7.96**	**270**	P	**P**	**01 33 15.3**	**-0.8**
EDRB	**Edirne**	**8.17**	**252**	eP	**P**	**01 33 16.0**	**-3.0**
KMPD	**K-Podol'skiy**	**8.22**	**300**	P	**P**	**01 33 17.0**	**-2.7**
SZH	**Strazhica**	**8.24**	**263**	eP	**P**	**01 33 17.0**	**-3.0**
SNX	**Sinaia**	**8.25**	**277**	⇑P	**P**	**01 33 20.1**	**-0.1**
SNX	**Sinaia**	**8.25**	**277**	⇑P	**P**	**01 33 20.1**	**0.0**
SNX	**Sinaia**	**8.25**	**277**	P	**P**	**01 33 20.2**	**+0.1**
MFT	**Murefte**	**8.33**	**244**	eP	**P**	**01 33 16.4**	**-4.9**
ZIMR		**8.55**	**266**	⇓P	**P**	**01 33 22.8**	**-1.5**
ZIMR		**8.55**	**266**	⇓P	**P**	**01 33 22.8**	**-1.5**
ISP	**Isparta**	**8.62**	**218**	eP	**P**	**01 33 23.6**	**-1.7**
ISP	**Isparta**	**8.62**	**218**	⇑eP	**P**	**01 33 25.3**	**0.0**
ISP	**Isparta**	**8.62**	**218**	P	**P**	**01 33 25.8**	**+0.5**
BALB	**Balikesir**	**8.64**	**236**	eP	**P**	**01 33 22.4**	**-3.2**
PVL	**Pavlikeni**	**8.68**	**263**	eP	**P**	**01 33 26.0**	**-0.1**
BURAR	**Bucovina Array**	**8.71**	**293**	P	**P**	**01 33 24.9**	**-1.7**
BURAR	**Bucovina Array**	**8.71**	**293**	⇑P	**P**	**01 33 24.1**	**-2.5**
BCK	**Bucak**	**8.91**	**216**	eP	**P**	**01 33 28.3**	**-1.0**
DIM	**Dimitrovgrad**	**8.91**	**256**	eP	**P**	**01 33 26.0**	**-3.4**
RDO	**Rodhopi**	**9.29**	**250**	P	**P**	**01 33 32.6**	**-2.0**
PLD	**Plovdiv**	**9.46**	**257**	eP	**P**	**01 33 34.0**	**-3.0**
RZN	**Rozhen**	**9.62**	**255**	eP	**P**	**01 33 36.0**	**-3.0**
PGB	**Panagyurishte**	**9.69**	**261**	eP	**P**	**01 33 38.0**	**-2.1**
ELL	**Elmali**	**9.80**	**217**	eP	**P**	**01 33 40.5**	**-1.1**
LVV	**L'vov**	**10.18**	**304**	eP	**P**	**01 33 44.1**	**-2.7**
LVV				eS	**S**	**01 35 41.5**	**+0.6**
LVV				MLR	MLR		
	comp=N,12μm,10.0s						
LVV				MLR	MLR		
	comp=E,1μm,10.0s						
LVV				MLR	MLR		
	comp=Z,2μm,10.0s						
LVV	**L'vov**	**10.18**	**304**	eP	**P**	**01 33 44.0**	**-2.8**
OBN	**Obninsk**	**10.25**	**358**	d iP	**P**	**01 33 44.1**	**-3.7**
OBN				iS	**S**	**01 35 33.7**	**-9.0**
OBN				pmax	pmax		
	comp=Z,112nm,0.7s						
OBN				MLR	MLR		
	comp=Z,800nm,16.0s						
OBN	**Obninsk**	**10.25**	**358**	⇓ePn	**P**	**01 33 44.1**	**-3.7**
	comp=Z,141nm,0.6s						
OBN				eSn	**S**	**01 35 30.0**	**-13**
OBN	**Obninsk**	**10.25**	**358**	iP	**P**	**01 33 44.1**	**-3.7**
	comp=Z,800nm,16.0s						
MMB	**Musomiste**	**10.34**	**256**	eP	**P**	**01 33 47.0**	**-1.9**
VTS	**Vitosha**	**10.35**	**262**	P	**P**	**01 33 47.5**	**-1.7**
VTS	**Vitosha**	**10.35**	**262**	eP	**P**	**01 33 47.0**	**-2.2**
KKB	**Krupnik**	**10.68**	**259**	eP	**P**	**01 33 51.0**	**-2.6**
UZH	**Uzhgorod**	**10.86**	**295**	eP	**P**	**01 33 54.0**	**-2.2**
MOS	**Moscow**	**10.88**	**1**	α iP	**P**	**01 33 53.6**	**-2.7**
MOS				eS	**S**	**01 35 47.9**	**-10**
MOS				pmax	pmax		
	comp=Z,150nm,0.7s						
MOS				smax			

comp=E,200nm,0.8s
MOS MLR MLR
comp=N,800nm,15.0s
MOS MLR MLR
comp=E,900nm,15.9s
MOS Moscow 10.88 1 *i* P **P 01 33 53.6 -2.7**
comp=E,150nm,0.7s
KWP Kalwaria 10.90 301 *e*P **P 01 33 55.6 -1.1**
KOLS Kolonicke sedl 10.96 297 *e*PN **P 01 33 55.9 -1.5**
KOLS *e*SN **S 01 35 49.2 -11**
MNK Minsk 11.35 331 *e*P **P 01 33 53.0 -10**
CRVS Cervenica-Dubn 11.46 296 *e*PN **P 01 34 01.4 -2.9**
CRVS *e*SN **S 01 35 59.9 -12**
SKO Skopje 11.79 261 *e*Pn **P 01 34 05.5 -3.2**
KECS Kecovo 12.00 293 *e*Pn **P 01 34 11.6 +0.1**
KECS *e*Sn **S 01 36 16.2 -9.0**
DIVS Divcibare 12.29 272⇑ *i*P **P 01 34 13.5 -1.9**
PSZ Piszkesteto 12.30 290 *e*P **P 01 34 12.4 -3.1**
PSZ pmax pmax
comp=Z,13nm,0.7s
PSZ Piszkesteto 12.30 290 *e*Pn **P 01 34 12.4 -3.2**
comp=Z,13nm,0.7s
PSZ Piszkesteto 12.30 290 *e*P **P 01 34 12.4 -3.1**
comp=Z,13nm,0.7s
NIE Niedzica 12.33 298 *e*P **P 01 34 13.0 -2.9**
ASF Jabal al Asfar 12.69 181 Pn **P 01 34 20.7 -0.1**
comp=Z,0.1nm,0.3s,baz=352,slow=14,SNR=4.4
ASF LR LR 01 40 09.4
comp=Z,303nm,21.4s,baz=78,slow=41
SUW Suwalki 12.87 320 *e*P **P 01 34 18.4 -4.8**
OJC Ojcow 12.87 301 *e*P **P 01 34 19.7 -3.5**
OJC *e*S **S 01 36 33.8 -12**
OJC MLR MLR 01 40 01.1
comp=Z,1µm,17.7s
VYHS Vyhne 13.08 293 *e*Pn **P 01 34 23.7 -2.3**
VYHS *e*Sn **S 01 36 43.7 -7.6**
SRO Srobarova 13.34 289 *e*P **P 01 34 32.4 +3.0**
SRO Srobarova 13.34 289 *e* **P 01 34 32.4 +3.0**
IDI Anoyia 13.40 229 Pn **P 01 34 32.8 +2.6**
comp=Z,0.8nm,0.3s,baz=46,slow=11,SNR=7.9
OKC Ostrava-Krasne 13.79 298 *e*P **P 01 34 41.5 +6.3**
OKC *e*S **S 01 36 54.6 -14**
OKC AMS AMS 01 41 20.0
comp=Z,1µm,16.9s
GVD Gavdhos 14.17 229 *e*P **P 01 34 42.4 +2.2**
comp=Z,89nm,1.0s
ZST Bratislava 14.19 291 *e*P **P 01 34 49.4 +9.0**
ZST Bratislava 14.19 291 *e* **P 01 34 49.4 +9.0**
VRAC Vranov 14.68 295 Pn **P 01 34 53.1 +6.3**
baz=98,slow=7.1,SNR=2.1
VSU Vasula 15.03 338*c i*P **P 01 34 47.4 -4.0**
VSU Vasula 15.03 338 *i*P **P 01 34 47.4 -4.0**
DPC Dobruska-Polom 15.06 299 *e*P **P 01 34 50.6 -1.2**
DPC *e*S **S 01 37 26.1 -12**
ARSA Arzberg 15.20 287⇑ *i*P **P 01 35 01.7 +8.1**
comp=Z,9.4nm,1.2s
KSP Ksiaz 15.20 301 *e*P **P 01 34 58.7 +5.2**
EIL Elat 15.28 187 Pn **P 01 34 58.7 +3.9**
comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=4.4
EIL Elat 15.28 187 Pn **P 01 34 58.7 +3.9**
UPC Upice 15.29 299 *e*P **P 01 35 04.7 +10**
BOJS Bojanci 15.45 280 *e*P **P 01 35 03.0 +6.0**
GKP Gorka Klasztor 15.48 310 *e*P **P 01 34 53.7 -3.5**
PDKS Podkum 15.59 282 *e*P **P 01 35 04.6 +6.0**
PRU Pruhonice 16.11 297 *e*P **P 01 35 11.1 +5.8**
PRU AMS AMS 01 42 30.0
comp=Z,1µm,19.0s
TIP Timpagrande 16.18 257 *e*P **P 01 35 10.0 +3.8**
PVCC Panska Ves 16.19 298 *e*P **P 01 35 11.7 +5.4**
MRLC Muro Lucano 16.41 263 *e*P **P 01 35 13.5 +4.3**
GERES GERESS Array B 16.50 292 Pn **P 01 35 10.3 +0.1**
comp=Z,0.2nm,0.3s,baz=99,slow=13,SNR=4.5
GERES Sn **S 01 38 09.9 -1.8**
comp=Z,0.2nm,0.3s,baz=90,slow=24,SNR=3.3
KHC Kasperske Hory 16.61 293 *e*P **P 01 35 18.4 +6.8**
KHC *e* 01 35 25.5
KHC Kasperske Hory 16.61 293 *e*P **P 01 35 18.4 +6.8**
KHC x x 01 35 25.5
KHC AMS AMS 01 42 40.0
comp=Z,1µm,15.6s
BRG Berggiesshubel 16.65 299 *e*P **P 01 35 11.3 -0.8**
BRG pmax pmax
comp=Z,8.0nm,1.5s
BRG Berggiesshubel 16.65 299 *e*P **P 01 35 11.3 -0.8**
comp=Z,8.2nm,1.5s
BRG *e* 01 35 19.2
KBA Koelnbreinsper 16.68 286⇑ *i*P **P 01 35 16.4 +3.8**
comp=Z,15nm,0.8s
KBA Koelnbreinsper 16.68 286⇑ *i*P **P 01 35 16.4 +3.8**
KBA pmax pmax
comp=Z,15nm,0.8s
RUE Ruedersdorf 17.15 305 *e*P **P 01 35 14.5 -4.0**
comp=Z,21nm,0.8s
SDI San Donato 17.27 268 *e*P **P 01 35 24.8 +4.8**
CLL Collm 17.32 300 *i*P **P 01 35 24.8 +4.2**
CLL pmax pmax
comp=Z,29nm,1.6s
CLL Collm 17.32 300 *i*P **P 01 35 24.8 +4.2**
comp=Z,29nm,1.6s
CLL *i* 01 35 30.5
CLL Collm 17.32 300 P **P 01 35 24.8 +4.2**
comp=Z,logA/T=1.3
CLL *i* 01 35 30.5
CLL *i* PP PP 01 35 37.0 +2.0
CLL *e* 01 35 48.0
NKC Novy Kostel 17.48 297 *e*P **P 01 35 23.0 +0.5**
NKC AMS AMS 01 43 20.0
comp=Z,900nm,17.1s
FSSB Fossombrone 17.48 275 *e*P **P 01 35 24.4 +1.8**
BSD Bornholm Skovb 17.51 314 *e*P **P 01 35 22.8 -0.1**
BSD pmax pmax
comp=Z,66nm,1.2s
BSD Bornholm Skovb 17.51 314 *e*P **P 01 35 22.8 -0.1**
comp=Z,66nm,1.2s
BSD *i* 01 41 13.9
BSD Bornholm Skovb 17.51 314 *i*P **P 01 35 22.8 -0.1**
comp=Z,66nm,1.2s
BSD *i* 01 41 13.9
FINES FINESS Array B 17.83 342 Pn **P 01 35 21.6 -5.2**
comp=Z,4.1nm,0.3s,baz=154,slow=14,SNR=148
FINES Sn **S 01 38 25.4 -16**
comp=Z,4.1nm,0.3s,baz=149,slow=22,SNR=6.9
FINES LR LR 01 42 49.8
comp=Z,242nm,20.9s,baz=144,slow=39
MOX Moxa 18.06 298 *e*P **P 01 35 42.1 +12**
MOX Moxa 18.06 298 *i*P **P 01 35 42.1 +12**
comp=Z,logA/T=1.1
MOX L 01 44 03.0
CRE Caprese Michel 18.08 275 *e*P **P 01 35 34.2 +4.1**
SQTA Sankt Quirin 18.14 287⇑ *i*P **P 01 35 31.8 +1.0**
comp=Z,11nm,1.0s
SQTA Sankt Quirin 18.14 287⇑ *i*P **P 01 35 31.8 +1.0**
SQTA pmax pmax
comp=Z,11nm,1.0s
GRA1 Grafenberg Arr 18.20 295 *e*P **P 01 35 36.7 +5.1**
comp=Z,6.0nm,1.1s
GRF Grafenberg Arr 18.20 295 *e*P **P 01 35 36.7 +5.1**
GRF pmax pmax
comp=Z,6.0nm,1.1s
GRF Grafenberg Arr 18.20 295 *e*P **P 01 35 36.7 +5.1**
GRF pmax pmax
comp=Z,6.0nm,1.1s
GRF Grafenberg Arr 18.20 295 *e*P **P 01 35 36.7 +5.1**
comp=Z,6.0nm,1.1s
MOTA Moosalm 18.20 287⇑ *i*P **P 01 35 32.3 +0.7**
comp=Z,0.7nm,1.0s
MOTA Moosalm 18.20 287⇑ *i*P **P 01 35 32.3 +0.7**
MOTA pmax pmax
comp=Z,1.0nm,1.0s
JOF Joensuu 18.38 352 *e*p **P 01 35 29.6 -4.2**
comp=Z,32nm,0.5s
KAF Kangasniemi 18.38 344 *e*p **P 01 35 29.8 -4.0**
comp=Z,11nm,0.4s
KAF Kangasniemi 18.38 344 *e*P **P 01 35 29.8 -4.0**
KAF pmax pmax
comp=Z,11nm,0.4s
VAE Valguarnera 18.61 255 Pn **P 01 35 40.3 +3.5**
comp=Z,0.4nm,0.3s,baz=78,slow=9.3,SNR=3.2
BRMO Bormio 18.75 284 *e*P **P 01 35 40.7 +2.3**
SOKR Solikamsk 18.89 32⇑ *i*P **P 01 35 34.4 -5.5**
SOKR MLR MLR
comp=Z,360nm,19.0s
SVE Sverdlovsk 18.93 42 *e*P **P 01 35 39.0 -1.5**
SVE MLR MLR
comp=N,100nm,18.0s
SVE MLR MLR
comp=E,100nm,18.0s
SVE MLR MLR
comp=Z,400nm,18.0s
DAVA Damuels 19.04 287⇓ *i*P **P 01 35 41.6 -0.2**
comp=Z,7.8nm,0.5s
DAVOX Davos 19.07 285 P **P 01 35 42.2 0.0**
comp=Z,4.6nm,0.3s,baz=78,slow=9.3,SNR=51
STU Stuttgart 19.47 292 *e*P **P 01 35 44.6 -2.0**
STU pmax pmax
comp=Z,15nm,0.7s
STU Stuttgart 19.47 292 *e*P **P 01 35 44.6 -2.0**
comp=Z,15nm,0.7s
VAI Varese 19.93 283 *e*P **P 01 35 51.8 +0.2**
BFO Black Forest 20.05 290 Pn **P 01 35 53.7 +0.9**
comp=Z,128nm,0.7s,SNR=9.1
FELD Feldberg 20.28 289 *e*P **P 01 35 56.0 +0.7**
PCP Pian Castagno 20.30 279 P **P 01 35 53.8 -1.7**
LANF Langenberg 20.39 292 *e*P **P 01 35 57.0 +0.5**
PGF Pioggiola 20.45 273 *e*P **P 01 35 58.3 +1.2**
comp=Z,90nm,1.0s
PGF Pioggiola 20.45 273 *e*P **P 01 35 58.3 +1.2**
PGF pmax pmax
comp=Z,45nm,1.0s
MCGN Macugnaga 20.46 283 *e*P **P 01 35 57.5 +0.4**
ORO Oropa 20.51 282 *e*P **P 01 35 56.8 -0.9**
ORX Oropa 20.51 282 P **P 01 35 55.8 -1.9**
FIN Finale Ligure 20.60 278 P **P 01 35 58.3 -0.3**
BBS Basel-Blauen 20.64 288 *e*P **P 01 35 58.1 -0.9**
TRAV 20.69 282 P **P 01 35 59.0 -0.6**
TRAV 20.69 282 P **P 01 35 59.0 -0.5**
HFA0 Hagfors New Ar 20.74 326 P **P 01 35 58.2 -1.8**
HFA0 Pn **P 01 36 00.0 0.0**
CDF Champ du Feu 20.75 290 *e*P **P 01 35 59.7 -0.5**
comp=Z,22nm,1.0s
CDF Champ du Feu 20.75 290 *e*P **P 01 35 59.7 -0.5**
CDF pmax pmax
comp=Z,11nm,1.0s
ROB Roburent 20.82 279 P **P 01 36 00.1 -0.8**
IMI Imperia 20.89 278 P **P 01 36 00.9 -0.7**
IMI Imperia 20.89 278 P **P 01 36 00.9 -0.7**
MONE Monesi 20.95 278 P **P 01 36 01.8 -0.4**
MONE Monesi 20.95 278 P **P 01 36 01.8 -0.4**
MUD Monsted U'grnd 21.02 313 *i*P **P 01 36 02.1 -0.8**
comp=Z,16nm,0.7s,mb4.5
comp=Z,500nm,17.0s
NEGI Negi 21.03 278 P **P 01 36 02.5 -0.6**
NEGI Negi 21.03 278 P **P 01 36 02.5 -0.6**
HINF Hinteralfeld 21.06 289 *e*P **P 01 36 02.7 -0.6**
comp=Z,9.4nm,0.5s,mb4.1
HINF Hinteralfeld 21.06 289 *e*P **P 01 36 02.7 -0.6**
HINF pmax pmax
comp=Z,5.0nm,0.5s,mb4.1
RSP Reno Superiore 21.09 281 P **P 01 36 02.4 -1.2**
LSD Ceresole Reale 21.11 282 P **P 01 36 03.9 +0.1**
ENR Entracque 21.15 279 P **P 01 36 04.0 -0.3**
STV2 Anna di Valdie 21.21 279 P **P 01 36 05.1 +0.2**
DOI San Damiano 21.21 280 *e*P **P 01 36 03.8 -1.1**
STV Sta Anna Valdi 21.21 279 P **P 01 36 05.1 +0.2**
SBF Sospel 21.22 278 *e*P **P 01 36 05.6 +0.6**
comp=Z,80nm,0.9s,mb4.7
SBF Sospel 21.22 278 *e*P **P 01 36 05.6 +0.6**
SBF pmax pmax
comp=Z,40nm,0.9s,mb4.8
FENE Fenestrelle 21.24 281 P **P 01 36 04.6 -0.6**
PZZ Prazzo 21.32 280 P **P 01 36 05.1 -0.8**
TOUF Mont Tournerai 21.32 278 *e*P **P 01 36 10.8 +4.9**
LPG La Plagne 21.38 282 *e*P **P 01 36 06.7 +0.1**
comp=Z,46nm,0.5s,mb4.7
LPG La Plagne 21.38 282 *e*P **P 01 36 06.7 +0.1**
LPG pmax pmax
comp=Z,23nm,0.5s,mb4.8
HAU Haudompre 21.39 289 *e*P **P 01 36 06.3 -0.3**
comp=Z,14nm,0.6s,mb4.2
HAU *e*R
comp=Z,316nm,18.5s
HAU Haudompre 21.39 289 *e*P **P 01 36 06.3 -0.3**
HAU pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
HAU MLR MLR
comp=Z,320nm,18.5s,MS3.8
LPL La Plagne 21.39 283 *e*P **P 01 36 06.8 +0.1**
comp=Z,46nm,0.5s,mb4.8
LPL La Plagne 21.39 283 *e*P **P 01 36 06.8 +0.1**
LPL pmax pmax
comp=Z,23nm,0.5s,mb4.8
RRL Cesana Torines 21.46 281 P **P 01 36 08.2 +0.9**
MBDF Montbardon 21.50 280 *e*P **P 01 36 07.9 +0.1**
comp=Z,110nm,0.8s,mb5.0
MBDF Montbardon 21.50 280 *e*P **P 01 36 07.9 +0.1**
MBDF pmax pmax
comp=Z,55nm,0.8s,mb5.0
BNI Bardonecchia 21.51 281 *e*P **P 01 36 08.1 +0.3**
BNI pmax pmax
comp=Z,18nm,0.7s,mb4.6
BNI Bardonecchia 21.51 281 *e*P **P 01 36 08.1 +0.3**
comp=Z,18nm,0.7s,mb4.6
CABF La Chapelle 21.68 286 *e*P **P 01 36 09.5 -0.1**
comp=Z,52nm,0.8s,mb4.7
CABF La Chapelle 21.68 286 *e*P **P 01 36 09.5 -0.1**
CABF pmax pmax
comp=Z,26nm,0.8s,mb4.7
FRF La Foret Royal 21.85 277 *e*P **P 01 36 13.6 +2.4**
comp=Z,48nm,0.8s,mb4.7
FRF La Foret Royal 21.85 277 *e*P **P 01 36 13.6 +2.4**
FRF pmax pmax
comp=Z,24nm,0.8s,mb4.7
OSL Oslo 21.85 323 *e*P **P 01 36 10.1 -1.1**
LMR La Mourre 22.00 277 *e*P **P 01 36 15.6 +2.8**
ORIF Oris-en-Rattie 22.09 281 *e*P **P 01 36 13.4 -0.2**
comp=Z,41nm,0.8s,mb4.6
ORIF *e*R
comp=Z,584nm,17.8s
GRN Grenoble 22.12 282 *e*P **P 01 36 14.1 +0.1**
KONO Kongsberg 22.20 322 *e*P **P 01 36 13.8 -0.8**
KONO pmax pmax
comp=Z,36nm,1.1s,mb4.7
KONO Kongsberg 22.20 322 *e*P **P 01 36 13.8 -0.9**
comp=Z,36nm,1.1s,mb4.7
MEZF Maizieres J'vi 22.23 291 *e*P **P 01 36 15.4 +0.4**
comp=Z,37nm,0.8s,mb4.6
NB2 NORSAR Subarra 22.26 326 P **P 01 36 14.3 -0.9**
comp=Z,25nm,0.7s,mb4.8,baz=132,slow=9.3
NB2 NORSAR Subarra 22.26 326 P **P 01 36 14.3 -0.9**
NB2 pmax pmax
comp=Z,25nm,0.7s,mb4.8
NB2 NORSAR Subarra 22.26 326 P **P 01 36 14.3 -0.9**
baz=132,slow=10
NOA NORSAR Array B 22.26 326 P **P 01 36 14.4 -0.8**
comp=Z,13nm,0.7s,mb4.5,baz=129,slow=10,SNR=58
NOA S **S 01 40 13.8 +0.7**
comp=Z,1.7nm,0.6s,baz=135,slow=22,SNR=3.9
NOA LR LR 01 45 55.0
comp=Z,517nm,18.5s,MS4.0,baz=125,slow=39
NOA NORSAR Array B 22.26 326 P **P 01 36 14.4 -0.8**
NOA S **S 01 40 13.8 +0.6**
NOA LR LR 01 45 55.0
STOF St-Etienne Org 22.26 279 *e*P **P 01 36 17.4 +2.0**
NAO01 NORSAR Array S 22.28 325 *e*P **P 01 36 14.8 -0.6**
comp=Z,34nm,0.7s,mb4.9
GIVF Givet 22.35 295 *e*P **P 01 36 15.8 -0.4**
VILF Villemus 22.43 279 *e*P **P 01 36 18.9 +1.8**
SMRF Simiane la Rot 22.50 279 *e*P **P 01 36 18.5 +0.8**
comp=Z,121nm,0.8s,mb5.1
PUYF Puyloubier 22.52 278 *e*P **P 01 36 20.4 +2.5**
BAIF Baives 22.75 295 *e*P **P 01 36 20.0 -0.1**
comp=Z,18nm,0.8s,mb4.2
BAIF Baives 22.75 295 *e*P **P 01 36 20.0 -0.1**
BAIF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
APA Apatity 22.83 356⇑ *i*P **P 01 36 22.2 +1.5**
APA *i* 01 36 30.8
APA *i* 01 36 50.1
APA pmax pmax
comp=Z,92nm,1.4s,mb5.0
APA Apatity 22.83 356 *i*P **P 01 36 22.2 +1.5**
comp=Z,92nm,1.4s,mb5.0
VIVF Saint-Julien-l 22.94 282 *e*P **P 01 36 21.7 -0.3**
comp=Z,52nm,1.2s,mb4.5
VIVF Saint-Julien-l 22.94 282 *e*P **P 01 36 21.7 -0.3**
VIVF pmax pmax
comp=Z,26nm,1.2s,mb4.5
BVA0 Borovoye Array 23.12 57 *i*P **P 01 36 23.6 -0.1**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
BVAR Borovoye Array 23.12 57 P **P 01 36 24.6 +0.9**
comp=Z,1.7nm,0.4s,mb3.8,baz=250,slow=8.5,SNR=18
BVAR S **S 01 40 31.8 +3.1**
comp=Z,5.2nm,0.8s,baz=270,slow=20,SNR=4.7
SMF Signal de Mont 23.21 286 *e*P **P 01 36 25.0 +0.4**
comp=Z,20nm,0.9s,mb4.2
SMF Signal de Mont 23.21 286 *e*P **P 01 36 25.0 +0.4**
SMF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
CHKZ Chkalovo 23.35 56 *i*P **P 01 36 26.5 +0.6**
CHKZ pmax pmax
comp=Z,32nm,1.1s,mb4.7
CHKZ Chkalovo 23.35 56 *e*P **P 01 36 25.8 -0.1**
SSF Saint Saulge 23.39 287 *e*P **P 01 36 25.6 -0.7**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
SSF Saint Saulge 23.39 287 *e*P **P 01 36 25.6 -0.7**
comp=Z,8.9nm,0.8s,mb4.3
PLDF La Plantade 23.47 285 *e*P **P 01 36 28.5 +1.4**
BLS5 Blasjo 23.52 319 *e*P **P 01 36 29.2 +1.8**
AVF Avril sur Loir 23.53 287 *e*P **P 01 36 28.9 +1.2**
comp=Z,15nm,0.7s,mb4.2
AVF Avril sur Loir 23.53 287 *e*P **P 01 36 28.9 +1.2**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
ODD1 Odda 23.65 320 *e*P **P 01 36 30.2 +1.5**
comp=Z,85nm,2.5s,mb4.7
ODD1 Odda 23.65 320 *e*P **P 01 36 30.2 +1.5**
ODD1 AMb AMB 01 36 40.0
comp=Z,85nm,2.5s,mb4.7
ODD1 Odda 23.65 320 *e*P **P 01 36 30.2 +1.5**
comp=Z,85nm,2.5s,mb4.7,SNR=34
DOMB Dombas 23.68 326 *e*P **P 01 36 30.7 +1.8**
comp=Z,76nm,2.2s,mb4.7
DOMB Dombas 23.68 326 *e*P **P 01 36 30.7 +1.8**
DOMB AMb AMB 01 36 37.3
comp=Z,76nm,2.2s,mb4.7
DOMB Dombas 23.68 326 *e*P **P 01 36 30.7 +1.7**
comp=Z,76nm,2.2s,mb4.7,SNR=34
LASF Ste Croix 23.68 280 *e*P **P 01 36 30.3 +1.1**
comp=Z,38nm,0.8s,mb4.6
AGO Saint Agoulin 23.79 285 *e*P **P 01 36 31.9 +1.7**
LBL Lubilhac 23.86 283 *e*P **P 01 36 31.5 +0.6**
CMAH Djebel Manchou 23.89 260 P **P 01 36 33.0 +1.7**
BGF Bois d'Agland 23.91 286 *e*P **P 01 36 31.2 -0.2**
comp=Z,31nm,0.7s,mb4.5
BGF Bois d'Agland 23.91 286 *e*P **P 01 36 31.2 -0.2**
BGF pmax pmax
comp=Z,16nm,0.7s,mb4.6
TRON Trondheim 23.99 330 *e*P **P 01 36 33.4 +1.4**
CAEH 'Ain El Ouahch 24.21 261 P **P 01 36 37.0 +2.6**
TCF Toulx Ste Croi 24.38 286 *e*P **P 01 36 36.6 +0.6**
comp=Z,29nm,0.9s,mb4.4
TCF Toulx Ste Croi 24.38 286 *e*P **P 01 36 36.6 +0.6**
TCF pmax pmax
comp=Z,14nm,0.9s,mb4.4
BANOM Banah 24.41 134 P **P 01 36 36.9 +0.4**
SNR=25
RUND Rundenannen 24.43 321 *e*P **P 01 36 40.1 +3.7**
CKFL Kef-Lekhel 24.49 260 P **P 01 36 39.0 +1.9**
MOL Molde 24.56 327 *e*P **P 01 36 40.5 +3.0**
comp=Z,70nm,1.8s,mb4.9
MOL Molde 24.56 327 *e*P **P 01 36 40.5 +3.0**
MOL AMb AMB 01 36 50.0
comp=Z,70nm,1.8s,mb4.9
MOL Molde 24.56 327 *e*P **P 01 36 40.5 +2.9**
comp=Z,70nm,1.8s,mb4.9,SNR=33
MOR8 Moi Rana 24.63 338 *e*P **P 01 36 38.2 0.0**
CASM Ain Smara 24.72 260 P **P 01 36 42.0 +2.6**
CAF Calviac 24.74 283 *e*P **P 01 36 41.4 +1.9**
EJON La Jonquera 24.80 277 P **P 01 36 41.1 +1.0**
comp=Z,0.7nm,0.4s,mb3.5,SNR=7.9
CTEI Djebel Teioual 24.88 260 P **P 01 36 43.0 +2.1**
DFRA Djebel Dou Aff 25.01 261 P **P 01 36 45.0 +2.8**
MTLF Montolieu 25.02 279 *e*P **P 01 36 43.7 +1.5**
comp=Z,17nm,0.8s,mb4.3
MTLF Montolieu 25.02 279 *e*P **P 01 36 43.7 +1.5**
MTLF pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
RJF Les Rejaudoux 25.04 284 *e*P **P 01 36 44.2 +1.8**
comp=Z,16nm,0.8s,mb4.3
RJF *e*R
comp=Z,700nm,17.0s
RJF Les Rejaudoux 25.04 284 *e*P **P 01 36 44.2 +1.8**
RJF pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
RJF MLR MLR
comp=Z,700nm,17.0s,MS4.2
STOK Stokkvaagen 25.14 337 *e*P **P 01 36 43.2 +0.2**
comp=Z,103nm,1.0s,mb5.3
STOK Stokkvaagen 25.14 337 *e*P **P 01 36 43.2 +0.2**
STOK AMb AMB 01 36 56.2
comp=Z,103nm,1.0s,mb5.3
STOK Stokkvaagen 25.14 337 *e*P **P 01 36 43.2 +0.1**
comp=Z,103nm,1.0s,mb5.3,SNR=29
KTK1 Kautokeino 25.23 348 *e*P **P 01 36 45.1 +1.2**
ASHO Ashiyiah 25.32 136 P **P 01 36 44.4 -0.8**
SNR=8.6
ARCES ARCESS Array B 25.42 350 P **P 01 36 45.9 +0.2**
comp=Z,14nm,0.7s,mb4.6,baz=158,slow=8.4,SNR=61
ARCES LR LR 01 46 09.5
comp=Z,136nm,18.1s,MS3.5,baz=181,slow=35
ARE0 ARCESS Array S 25.42 350 *e*P **P 01 36 46.0 +0.3**
SET Setif 25.51 261 P **P 01 36 43.0 -3.9**
CKHR Kef el Ahmar 25.52 261 P **P 01 36 49.0 +2.0**
LDF La Druitiere 25.65 292 *e*P **P 01 36 48.4 +0.3**
comp=Z,31nm,0.9s,mb4.5
LDF La Druitiere 25.65 292 *e*P **P 01 36 48.4 +0.3**
LDF pmax pmax
comp=Z,15nm,0.9s,mb4.5
LFF La Frestale 25.66 283 *e*P **P 01 36 49.0 +0.8**
comp=Z,34nm,0.8s,mb4.6
LFF La Frestale 25.66 283 *e*P **P 01 36 49.0 +0.8**
LFF pmax pmax
comp=Z,17nm,0.8s,mb4.6
ETOS Mallorca 25.77 271 P **P 01 36 50.6 +1.3**
comp=Z,2.5nm,0.6s,mb3.9
ETOS Mallorca 25.77 271 P **P 01 36 50.6 +1.3**
comp=Z,2.5nm,0.6s,mb4.0,SNR=7.9
FLN La Foliniere 25.87 292 *e*P **P 01 36 50.5 +0.4**
comp=Z,49nm,1.1s,mb4.6
FLN *e*R
comp=Z,425nm,22.2s
FLN La Foliniere 25.87 292 *e*P **P 01 36 50.5 +0.4**
FLN pmax pmax
comp=Z,25nm,1.1s,mb4.7
FLN MLR MLR
comp=Z,420nm,22.3s,MS3.9
EMIR Miracle 25.93 276 P **P 01 36 52.4 +1.7**
comp=Z,1.2nm,0.3s,mb3.9
EMIR Miracle 25.93 276 P **P 01 36 52.4 +1.6**
comp=Z,1.2nm,0.3s,mb3.9,SNR=7.9
MFF Saint Martin d 25.93 287 *e*P **P 01 36 50.9 +0.1**
comp=Z,11nm,0.6s,mb4.3
MFF Saint Martin d 25.93 287 *e*P **P 01 36 50.9 +0.1**
MFF pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
GRR Gorron 26.16 291 *e*P **P 01 36 52.8 0.0**
comp=Z,13nm,0.7s,mb4.3
GRR Gorron 26.16 291 *e*P **P 01 36 52.8 0.0**
GRR pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
LOF Lofoten 26.35 340 *e*P **P 01 36 56.3 +1.9**
comp=Z,128nm,1.7s,mb5.2
LOF Lofoten 26.35 340 *e*P **P 01 36 56.3 +1.9**
LOF AMb AMB 01 37 01.2
comp=Z,128nm,1.7s,mb5.2
LOF Lofoten 26.35 340 *e*P **P 01 36 56.3 +1.9**
comp=Z,128nm,1.7s,mb5.2,SNR=28
EKS2 Erkin-Say 26.40 82 P **P 01 36 54.6 -0.5**
SNR=6.6
EPF Esparros 26.43 279 *e*P **P 01 36 54.6 -0.7**
comp=Z,12nm,0.8s,mb4.2
EPF Esparros 26.43 279 *e*P **P 01 36 54.6 -0.7**
EPF pmax pmax
comp=Z,6.0nm,0.8s,mb4.2
EPOB Poblet 26.43 275 P **P 01 36 56.4 +1.0**
comp=Z,1.5nm,0.3s,mb4.0
EPOB Poblet 26.43 275 P **P 01 36 56.4 +1.0**
comp=Z,1.5nm,0.3s,mb3.9,SNR=9.6
TRO Tromso 26.47 346 *e*P **P 01 36 54.5 -1.0**
AML Almayashu 26.50 83 P **P 01 36 56.0 -0.1**
SNR=7.1
EBIE Bielsa 26.66 278 P **P 01 36 58.2 +0.6**
comp=Z,4.8nm,0.4s,mb4.4
EBIE Bielsa 26.66 278 P **P 01 36 58.2 +0.7**

comp=Z,4.8nm,0.4s,mb4.3,SNR=17
ARQ Araqi 26.68 137 P P 01 36 57.3 -0.6
SNR=13
USP Ospenovka 26.73 80 P P 01 36 56.9 -1.2
SNR=12
AAK Ala-Archa 26.91 81 P P 01 36 58.8 -1.0
comp=Z,225nm,0.5s,SNR=7.8
AAK Ala-Archa 26.91 81⇑ iP P 01 36 58.5 -1.3
AAK pmax pmax
comp=Z,21nm,0.6s,mb4.8
AAK Ala-Archa 26.91 81⇑ iP P 01 36 58.5 -1.3
comp=Z,21nm,0.6s,mb4.8
EBR Ebro Roquetas 27.03 274 eP P 01 37 01.4 +0.5
ETSF Etsaut 27.09 279 eP P 01 37 01.7 +0.2
comp=Z,46nm,1.1s,mb4.6
ETSF Etsaut 27.09 279 eP P 01 37 01.7 +0.2
ETSF pmax pmax
comp=Z,23nm,1.1s,mb4.6
ERTA Horta de San J 27.10 275 P P 01 37 01.8 +0.2
comp=Z,1.3nm,0.4s,mb3.8
ERTA Horta de San J 27.10 275 P P 01 37 01.8 +0.3
comp=Z,1.3nm,0.4s,mb3.8,SNR=7.9
EIBI Ibiza 27.11 270 P P 01 37 03.9 +2.2
comp=Z,1.8nm,0.5s,mb3.9
EIBI Ibiza 27.11 270 P P 01 37 03.9 +2.2
comp=Z,1.8nm,0.5s,mb3.8,SNR=7.9
KBK Karagaybulak 27.22 81 P P 01 37 02.4 -0.3
SNR=11
SGMF Saint Gilles 27.30 291 eP P 01 37 03.1 -0.2
comp=Z,16nm,0.8s,mb4.3
SGMF Saint Gilles 27.30 291 eP P 01 37 03.1 -0.2
SGMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
ESAC San Caprasio 27.40 277 P P 01 37 06.9 +2.6
comp=Z,4.9nm,0.4s,mb4.4
ESAC San Caprasio 27.40 277 P P 01 37 06.9 +2.6
comp=Z,4.9nm,0.4s,mb4.4,SNR=5.1
SJPF Ste Jean 27.50 280 eP P 01 37 05.3 +0.1
comp=Z,21nm,1.0s,mb4.3
SJPF Ste Jean 27.50 280 eP P 01 37 05.3 +0.1
SJPF pmax pmax
comp=Z,11nm,1.0s,mb4.3
BSY Bisya 27.51 137 P P 01 37 04.5 -1.0
SNR=13
EKA Eskdalemuir Ar 27.52 307 P P 01 37 04.5 -0.6
comp=Z,3.1nm,1.0s,mb3.9,baz=96,slow=9.0,SNR=3.2
BSYO Bisya 27.55 137 P P 01 37 04.6 -1.2
SNR=13
TKM2 Tokmak 2 27.60 80 P P 01 37 05.1 -1.0
SNR=12
KZA Kyzart 27.62 82 P P 01 37 06.5 +0.2
SNR=13
EALK Alkurruntz 27.66 280 P P 01 37 07.5 +0.8
comp=Z,0.8nm,0.3s,mb3.8
EALK Alkurruntz 27.66 280 P P 01 37 07.4 +0.7
comp=Z,0.8nm,0.3s,mb3.8,SNR=7.9
SMDO Samad 27.67 135 P P 01 37 06.0 -0.9
SNR=12
QUIF Quistinic 27.75 291 eP P 01 37 08.2 +0.8
comp=Z,66nm,1.1s,mb4.9
QUIF Quistinic 27.75 291 eP P 01 37 08.2 +0.8
QUIF pmax pmax
comp=Z,33nm,1.1s,mb4.9
ROSF Rostrenen 27.76 292 eP P 01 37 07.8 +0.3
EMOS Mosqueruela 27.88 274 P P 01 37 09.4 +0.7
comp=Z,1.3nm,0.4s,mb3.9
EMOS Mosqueruela 27.88 274 P P 01 37 09.4 +0.7
comp=Z,1.3nm,0.4s,mb3.9,SNR=6.9
KURK Kurchatov 28.17 63 P P 01 37 10.0 -1.2
comp=Z,49nm,0.6s,mb5.3,SNR=11
KURK Kurchatov 28.17 63⇑ eP P 01 37 10.2 -1.0
KURK pmax pmax
comp=Z,6.0nm,1.9s,mb3.9
KURK Kurchatov 28.17 63 eP P 01 37 10.1 -1.0
comp=Z,15nm,1.2s,mb4.5
ULHL Ulahol 28.26 81 P P 01 37 11.8 -0.3
SNR=10
JMDO Jabal Madar 28.27 136 P P 01 37 12.1 -0.2
SNR=5.9
EBEN Beniarda 28.36 271 P P 01 37 14.2 +1.2
comp=Z,2.1nm,0.5s,mb4.0
EBEN Beniarda 28.36 271 P P 01 37 14.2 +1.2
comp=Z,2.1nm,0.5s,mb4.0,SNR=7.9
ELAN Lanestosa 29.01 281 P P 01 37 18.6 -0.1
comp=Z,1.3nm,0.4s,mb4.0
ELAN Lanestosa 29.01 281 P P 01 37 18.6 -0.1
comp=Z,1.3nm,0.4s,mb4.0,SNR=5.1
ETOB Tobarra 29.33 271 P P 01 37 23.2 +1.6
comp=Z,0.7nm,0.4s,mb3.7
ETOB Tobarra 29.33 271 P P 01 37 23.2 +1.6
comp=Z,0.7nm,0.4s,mb3.7,SNR=7.9
EMUR La Murta 29.45 270 P P 01 37 23.7 +1.0
comp=Z,1.8nm,0.5s,mb4.1
EMUR La Murta 29.45 270 P P 01 37 23.7 +1.0
comp=Z,1.8nm,0.5s,mb4.1,SNR=16
EVIA Vianos 30.01 272 P P 01 37 28.8 +1.2
EVIA pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
EVIA Vianos 30.01 272 P P 01 37 28.8 +1.2
comp=Z,0.8nm,0.4s,mb3.8
EVIA Vianos 30.01 272 P P 01 37 28.8 +1.2
comp=Z,0.8nm,0.4s,mb3.9,SNR=6.7
EARI Arriondas 30.22 282 P P 01 37 29.6 +0.1
comp=Z,1.2nm,0.4s,mb4.0
EARI Arriondas 30.22 282 P P 01 37 29.6 +0.1
comp=Z,1.2nm,0.4s,mb4.0,SNR=6.6
GUD Guadarrama 30.38 277 P P 01 37 30.8 -0.2
GUD pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
GUD Guadarrama 30.38 277 P P 01 37 30.8 -0.1
comp=Z,0.9nm,0.4s,mb3.9
GUD Guadarrama 30.38 277 P P 01 37 30.8 -0.2
comp=Z,0.9nm,0.4s,mb3.9,SNR=7.9
ENIJ Nijar 30.53 269 P P 01 37 33.5 +1.2
ENIJ pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ENIJ Nijar 30.53 269 P P 01 37 33.5 +1.2
comp=Z,1.1nm,0.4s,mb4.0,SNR=5.7
ESDC Sonseca Array 30.62 275 P P 01 37 32.3 -0.8
comp=Z,4.0nm,0.9s,mb4.2,baz=63,slow=8.8,SNR=8.7
ESDC PcP PcP 01 40 31.3 +0.2
comp=Z,0.1nm,0.3s,baz=29,slow=2.0,SNR=4.7
ESDC Sonseca Array 30.62 275 P P 01 37 32.7 -0.4
comp=Z,0.4nm,0.2s,mb3.9
ESDC Sonseca Array 30.62 275 P P 01 37 32.7 -0.4
comp=Z,0.4nm,0.2s,mb3.9,SNR=13
EQES Quesada 30.77 271 P P 01 37 35.2 +0.7
comp=Z,1.9nm,0.5s,mb4.2
EQES Quesada 30.77 271 P P 01 37 35.2 +0.8
comp=Z,1.9nm,0.5s,mb4.2,SNR=18
NVS Novosibirsk 30.81 54 eP P 01 37 33.4 -1.2
EBER Berja 31.05 269 P P 01 37 37.9 +1.0
comp=Z,1.7nm,0.5s,mb4.1
EBER Berja 31.05 269 P P 01 37 37.9 +1.0
comp=Z,1.7nm,0.5s,mb4.1,SNR=6.2
MKAR Makanchi Array 31.18 70 i P P 01 37 37.2 -0.8
MKAR pmax pmax
comp=Z,1.0nm,0.3s
ECOG Cogollos-Vega 31.36 270 P P 01 37 40.0 +0.4
ECOG pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
ECOG Cogollos-Vega 31.36 270 P P 01 37 40.0 +0.4
comp=Z,1.7nm,0.4s,mb4.2
ECOG Cogollos-Vega 31.36 270 P P 01 37 40.0 +0.4
comp=Z,1.7nm,0.4s,mb4.2,SNR=18
EPON Pontenova 31.56 283 P P 01 37 41.1 -0.3
comp=Z,1.0nm,0.4s,mb4.0
EPON Pontenova 31.56 283 P P 01 37 41.1 -0.2
comp=Z,1.0nm,0.4s,mb4.0,SNR=7.9
ERON Agron 31.65 270 P P 01 37 42.0 -0.2
comp=Z,1.7nm,0.3s,mb4.3
ERON Agron 31.65 270 P P 01 37 42.0 -0.2
comp=Z,1.7nm,0.3s,mb4.4,SNR=11
EADA Adamuz 31.68 273 P P 01 37 43.0 +0.5
comp=Z,0.3nm,0.3s,mb3.6,SNR=6.2
ECAL Calabor 31.73 280 P P 01 37 42.2 -0.6
comp=Z,0.4nm,0.3s,mb3.7
ECAL Calabor 31.73 280 P P 01 37 42.2 -0.7
comp=Z,0.4nm,0.3s,mb3.7,SNR=7.9
ZAL Zalesovo 31.75 56 P P 01 37 42.1 -0.8
comp=Z,2.6nm,0.4s,mb4.4,baz=181,slow=4.7,SNR=12
ELOJ Sierra Loja 31.83 271 P P 01 37 44.4 +0.6
ELOJ pmax pmax
comp=Z,1.0nm,0.2s,mb4.3
ELOJ Sierra Loja 31.83 271 P P 01 37 44.4 +0.6
comp=Z,0.7nm,0.2s,mb4.1,SNR=6.8
ERUA La Rua 31.86 281 P P 01 37 44.2 +0.2
ERUA pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ERUA La Rua 31.86 281 P P 01 37 44.2 +0.2
comp=Z,0.8nm,0.4s,mb3.9,SNR=7.9
EINC Incio 31.91 282 P P 01 37 44.6 +0.2
comp=Z,0.9nm,0.6s,mb3.8
EINC Incio 31.91 282 P P 01 37 44.6 +0.1
comp=Z,0.9nm,0.6s,mb3.8,SNR=7.9
EMIJ Mijas 32.54 270 P P 01 37 48.7 -1.3
comp=Z,1.4nm,0.4s,mb4.2
EMIJ Mijas 32.54 270 P P 01 37 48.7 -1.3
comp=Z,1.4nm,0.4s,mb4.2,SNR=7.9
PVRL Vila Real 32.66 280 eP P 01 37 50.7 -0.2
MTE Manteigas 32.87 278 eP P 01 37 53.0 +0.2
comp=Z,9.4nm,0.7s,mb4.8
PVIS Viseu 32.99 279 eP P 01 37 53.8 -0.1
comp=Z,13nm,1.8s,mb4.6
PCBR Castelo Branco 33.04 277 eP P 01 37 54.1 -0.2
comp=Z,7.8nm,1.1s,mb4.5
ESPR Espera 33.17 271 P P 01 37 54.8 -0.7
comp=Z,1.6nm,0.4s,mb4.3
ESPR Espera 33.17 271 P P 01 37 54.8 -0.7
comp=Z,1.6nm,0.4s,mb4.3,SNR=6.7
EMIN Mina Concepcio 33.35 273 P P 01 37 56.3 -0.6
comp=Z,0.1nm,0.2s,mb3.4,SNR=7.9
PTOM Tomar 33.79 277 eP P 01 38 00.9 +0.2
JMIC Jan Mayen 34.19 335 LR LR 01 52 49.6
comp=Z,312nm,19.3s,MS4.0,baz=79,slow=38
WMQ Urumqi 35.68 73 P P 01 38 17.7 +0.8
WMQ PP PP 01 39 38.0 0.0
WMQ PCP PcP 01 40 46.5 +1.4
WMQ S **S** **01 43 52.5 +2.0**
WMQ SS SS 01 46 12.0 +0.5
WMQ AMB AMB
comp=Z,17nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,199nm,5.0s
WMQ LR LR
comp=N,680nm,16.0s,MS4.6
WMQ LR LR
comp=E,504nm,17.6s,MS4.6
WMQ LR LR
comp=Z,552nm,18.4s,MS4.3
BORG Borgarnes 37.38 323 LR LR 01 54 47.2
comp=Z,482nm,21.6s,MS4.3,baz=74,slow=38
KOLN Koldanda 40.53 99 eP P 01 38 56.8 -0.8
comp=Z,18nm,0.8s,mb4.8
GKN Gorkha 41.12 98 eP P 01 39 01.3 -1.2
comp=Z,14nm,0.5s,mb4.9
DMN Daman 41.69 98 eP P 01 39 06.1 -1.0
comp=Z,33nm,0.8s,mb5.0
KKN Kakani 41.70 97 eP P 01 39 06.0 -1.2
comp=Z,19nm,0.5s,mb5.0
MOY Mondy 41.80 57 eP P 01 39 09.2 +1.5
PKI Pulchoki 41.93 98 eP P 01 39 08.3 -0.8
comp=Z,16nm,0.7s,mb4.8
JIRN Jiri 42.42 97 eP P 01 39 12.4 -0.8
comp=Z,7.4nm,0.3s,mb4.8
ZAK Zakamensk 43.58 58 eP P 01 39 23.0 +0.8
ZAK *e* 01 41 09.1
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
GTA Gaotai 45.76 74 eP P 01 39 40.0 +0.1
GTA AP pP 01 39 46.8 -3.0
GTA XP sP 01 39 49.9 -4.0
GTA AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMBO Kilima Mbogo 45.81 180 eP P 01 39 41.4 +0.8
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 45.81 180 P P 01 39 42.0 +1.4
comp=Z,1.6nm,0.8s,mb4.0,baz=28,slow=7.3,SNR=5.8
KMBO LR LR 01 59 51.8
comp=Z,45nm,18.3s,MS3.5,baz=103,slow=37
KMBO Kilima Mbogo 45.81 180 eP P 01 39 41.4 +0.7
comp=Z,2.6nm,1.0s,mb4.1
SONM Songino Array 46.41 60 P P 01 39 44.8 -0.1
comp=Z,3.5nm,0.6s,mb4.5,baz=287,slow=8.2,SNR=57
SONM PcP PcP 01 41 19.3 -0.6
comp=Z,0.9nm,0.5s,baz=286,slow=3.7,SNR=3.9
SONM ScP 01 45 11.8
comp=Z,1.7nm,1.2s,baz=270,slow=2.5,SNR=4.1
ULN Ulaanbaatar 46.81 60⇓ eP P 01 39 48.8 +0.8
ULN Ulaanbaatar 46.81 60 eP P 01 39 48.4 +0.4
comp=Z,3.8nm,0.6s,mb4.5
BOD Bodaibo 47.11 45 eP P 01 39 48.9 -1.3
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
TIXI Tiksi 48.68 25 eP P 01 40 02.9 +0.6
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
TIXI MLR MLR
comp=Z,81nm,15.0s,MS3.8
DBIC Dimbokro 52.71 237 eP P 01 40 32.8 -0.8
DBIC pmax pmax
comp=Z,38nm,0.8s
DBIC Dimbokro 52.71 237 P P 01 40 33.0 -0.6
comp=Z,37nm,0.8s,mb5.4,baz=18,slow=8.8,SNR=63
DBIC Dimbokro 52.71 237 eP P 01 40 32.8 -0.9
comp=Z,38nm,0.8s,mb5.4
YAK Yakutsk 52.74 36⇑ eP P 01 40 32.7 -0.6
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
YAK MLR MLR
comp=Z,200nm,17.0s,MS4.2
HHC Hu-ho-hao-te 52.91 66 eP P 01 40 35.4 +0.6
HHC PP PP 01 42 33.1 -2.7
HHC S **S** **01 48 03.6 +3.6**
HHC SS SS 01 51 43.2 +5.0
HHC AMB AMB
comp=Z,17nm,0.5s,mb5.2
HHC AMB AMB
comp=Z,142nm,7.7s
HHC LR LR
comp=N,318nm,17.2s,MS4.5
HHC LR LR
comp=E,294nm,17.8s,MS4.5
HHC LR LR
comp=Z,162nm,17.8s,MS4.1
BJI Beijing 56.32 65 eP P 01 40 58.1 -1.6
BJI AMB AMB
comp=Z,19nm,1.0s,mb5.1
BJI LR LR
comp=Z,183nm,25.2s,MS4.1
BJI Beijing 56.32 65 eP P 01 40 58.1 -1.6
comp=Z,19nm,1.0s,mb5.1
BJI LR LR
comp=Z,180nm,25.2s,MS4.1
CMAR Chiang Mai Arr 57.30 96 P P 01 41 04.2 -2.8
comp=Z,3.0nm,1.0s,mb4.3,baz=307,slow=8.9,SNR=9.4
ENH Enshi 57.36 78 eP P 01 41 05.3 -2.0
comp=Z,13nm,0.8s,mb5.0
CN2 Changchun 59.98 57 eP P 01 41 25.3 0.0
KLR Kul'dur 60.42 49 eP P 01 41 24.7 -3.5
LSZ Lusaka 60.42 190 eP P 01 41 28.7 0.0
LSZ pmax pmax
comp=Z,14nm,1.1s,mb4.9
LSZ Lusaka 60.42 190 eP P 01 41 28.6 0.0
comp=Z,14nm,1.1s,mb4.9
WHN Wuhan 60.56 75 eP P 01 41 28.5 -0.9
SCHQ Schefferville 61.70 320 P P 01 41 36.5 -0.3
comp=Z,2.0nm,0.7s,mb4.3,baz=50,slow=7.6,SNR=12
NJ2 Nanjing 62.71 71 eP P 01 41 43.1 -0.7
NJ2 AP pP 01 41 50.8 -3.2
NJ2 XP sP 01 41 55.0 -2.8
NJ2 S **S** **01 50 07.0 -1.5**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,282nm,4.6s
NJ2 LR LR
comp=N,1μm,15.2s,MS5.3
NJ2 LR LR
comp=E,1μm,16.4s,MS5.3
NJ2 LR LR
comp=Z,2μm,17.2s
SSE Sheshan 64.86 70 eP P 01 41 54.6 -3.3
SSE AMB AMB
comp=Z,65nm,0.6s
SSE Sheshan 64.86 70 eP P 01 41 54.6 -3.3
comp=Z,65nm,0.6s
MATP Matopo 65.47 189 P P 01 42 02.1 +0.2
comp=Z,35nm,0.7s,mb5.5,baz=8.9,slow=7.3,SNR=87
TSUM Tsumeb 66.22 200 P P 01 42 07.0 +0.2
comp=Z,1.9nm,0.8s,mb4.2,baz=142,slow=2.4,SNR=4.0
TSUM Tsumeb 66.22 200 eP P 01 42 06.9 +0.1
YSS Yuzh-Sakhalins 67.58 46⇑ eP P 01 42 15.4 +0.5
YSS pmax pmax
comp=Z,35nm,2.1s,mb5.0
IMA Indian Mountai 69.07 5 eP P 01 42 25.6 +1.8
IMA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
IMA Indian Mountai 69.07 5 eP P 01 42 25.6 +1.8
comp=Z,2.0nm,0.5s,mb4.3
LBTB Lobatse 70.35 191 eP P 01 42 33.0 +0.7
LBTB pmax pmax
comp=Z,22nm,1.0s,mb5.0
LBTB Lobatse 70.35 191 P P 01 42 33.2 +0.9
comp=Z,17nm,0.7s,mb5.1,baz=1.6,slow=5.7,SNR=22
LBTB Lobatse 70.35 191 eP P 01 42 33.0 +0.6
comp=Z,22nm,1.0s,mb5.0
COLA College 70.52 2⇑ eP P 01 42 33.8 +1.1
YKW3 Yellowknife Ar 70.55 347 eP P 01 42 33.5 +0.6
YKA Yellowknife Ar 70.61 347 P P 01 42 33.9 +0.7
comp=Z,5.9nm,0.4s,mb4.9,baz=18,slow=6.4,SNR=110
YKA LR LR 02 13 59.0
comp=Z,161nm,20.0s,MS4.3,baz=30,slow=36
YKA Yellowknife Ar 70.61 347 P P 01 42 33.9 +0.7
YKA LR LR 02 13 59.0
ILAR Eielson Array 70.64 2 P P 01 42 34.1 +0.7
comp=Z,0.8nm,0.5s,mb3.9,baz=350,slow=6.7,SNR=16
ILAR LR LR 02 19 56.8
comp=Z,56nm,19.0s,MS3.8,baz=180,slow=41
DAWY Dawson 71.37 358 eP P 01 42 38.9 +1.1
THY Trims Highway 72.03 1 eP P 01 42 42.8 +1.1
MENT Mentasta 72.53 0 eP P 01 42 46.3 +1.7
BOSA Boshof 73.94 191 eP P 01 42 53.4 -0.2
BOSA pmax pmax
comp=Z,20nm,0.9s,mb5.0
BOSA Boshof 73.94 191 eP P 01 42 53.4 -0.2
comp=Z,20nm,0.9s,mb5.1
FX1 Attu Island--F 75.56 26 eP P 01 43 03.0 +0.6
ULM Lac du Bonnet 76.84 331 P P 01 43 10.4 +0.7
comp=Z,2.7nm,0.6s,mb4.3,baz=50,slow=6.5,SNR=8.7
ULM LR LR 02 15 04.5
comp=Z,122nm,18.2s,MS4.3,baz=18,slow=34
ULM Lac du Bonnet 76.84 331 eP P 01 43 10.1 +0.3
comp=Z,5.5nm,0.9s,mb4.5
ULM LR LR 02 15 04.5
EDM Edmonton 79.06 342 eP P 01 43 23.0 +1.1
NEW Newport 84.54 343 eP P 01 43 52.3 +1.9
NEW pmax pmax
comp=Z,5.0nm,0.6s
NEW Newport 84.54 343 eP P 01 43 52.3 +1.9
comp=Z,4.6nm,0.6s,mb4.8
PDAR Pinedale Array 87.82 336 P P 01 44 07.8 +1.2
comp=Z,0.7nm,0.6s,mb4.1,baz=74,slow=4.0,SNR=4.8
PDAR LR LR 02 23 58.8
comp=Z,146nm,18.4s,MS4.4,baz=43,slow=36
NVAR Mina Array Bea 94.17 341 P P 01 44 38.8 +2.5
comp=Z,0.6nm,0.8s,mb4.1,baz=56,slow=3.3,SNR=3.7
NVAR LR LR 02 30 01.3
comp=Z,44nm,20.5s,MS3.9,baz=175,slow=37
TXAR Lajitas Array 97.96 326 P P 01 44 54.8 +1.0
comp=Z,0.2nm,0.7s,mb3.8,baz=63,slow=2.8,SNR=4.3
TXAR LR LR 02 29 50.2
comp=Z,118nm,19.2s,MS4.4,baz=110,slow=36
ASAR Alice Springs 110.94 103 PKIKP 01 49 50.6
comp=Z,0.5nm,0.9s,baz=340,slow=1.2,SNR=5.6
LVC Limon Verde 116.78 264 PKP PKPdf 01 50 03.5 +2.4
comp=Z,1.5nm,0.4s,baz=238,slow=1.0,SNR=4.8
STKA Stephens Creek 121.36 105 PKP PKPdf 01 50 10.2 +0.4
comp=Z,1.4nm,0.5s,baz=285,slow=4.8,SNR=8.2
PLCA Paso Flores 128.42 248 PKP PKPdf 01 50 25.1 +1.9
comp=Z,3.1nm,0.7s,baz=34,slow=2.0,SNR=11
RPZ Rata Peaks 147.32 105 PKPbc PKPdf 01 51 00.7 +3.6
comp=Z,3.1nm,0.5s,baz=0.6,slow=4.3,SNR=4.6

IDC ***13*** *01:34:36.4±2.9, 10.19N×62.32W,mb3.7/3,mb1 4.0/3, mb1mx3.5/20,mbtmp3.7/3,MS3.6/1,Ms1 3.6/1, ms1mx2.4/23,Error ellipse: s-maj=72.3km s-min=38.9km az=170.0*
NEIC ***13*** *01:34:57.5±0.5, 11.35N×62.26W,h137km±6km, MD3.7(TRN),Error ellipse: s-maj=12.0km s-min=9.4km az=99.0*
FUNV ***13*** *01:34:57.6, 11.40N×62.02W,h125km,MW3.2*
TRN ***13*** *01:34:59.6, 11.39N×62.09W,h125km,MD3.7*
ISC 13 01:34:56.6±0.5, 11.29N±0.05×62.23W±0.03, h143km±4km, n26,σ1°11/38, mb3.4/3, 3C-2D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.64**	**179⇑**	***i*P**	**P**	**01 35 18.2**	**-0.2**
GUIV				*e*S	**S**	**01 35 32.6**	**-2.6**
ITEV	**Isla Los Testi**	**0.89**	**274⇓**	***i*P**	**P**	**01 35 20.4**	**+0.4**
ITEV				*e*S	**S**	**01 35 37.1**	**-0.9**
GRW	**Mount Saint Ca**	**1.03**	**33**	***e*P**	**P**	**01 35 21.1**	**-0.1**
TRN	**Trinidad (W)**	**1.03**	**128⇑**	***i*P**	**P**	**01 35 22.0**	**+0.8**
TRN				*e*S	**S**	**01 35 39.0**	**-1.1**
GRHS	**Sauteurs**	**1.09**	**32**	***e*P**	**P**	**01 35 21.1**	**-0.7**
CRUV	**Carupano**	**1.16**	**238⇓**	***i*P**	**P**	**01 35 23.7**	**+1.2**
CRUV				*e*S	**S**	**01 35 42.9**	**+0.6**
GRSS	**Sisters**	**1.17**	**31**	***e*P**	**P**	**01 35 22.0**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.24**	**142⇑**	***i*P**	**P**	**01 35 24.7**	**+1.5**
TPP				*e*S	**S**	**01 35 45.6**	**+1.9**
GUNV	**Guanoco**	**1.32**	**212**	*e*S	**S**	**01 35 45.4**	**+0.1**
TBH	**Brigand Hill**	**1.40**	**125**	***e*P**	**P**	**01 35 25.6**	**+0.7**
TPR	**Prospect**	**1.43**	**94**	***e*P**	**P**	**01 35 24.6**	**-0.7**
TPR				*e*S	**S**	**01 35 44.1**	**-3.2**
SVB	**Belmont**	**2.19**	**26**	***e*P**	**P**	**01 35 34.4**	**+0.4**
SVV	**Soufriere Volc**	**2.25**	**26**	***e*P**	**P**	**01 35 35.2**	**+0.5**
IBAV	**Isla La Blanqu**	**2.36**	**283**	***e*P**	**P**	**01 35 37.3**	**+1.1**
IBAV				*e*S	**S**	**01 36 06.2**	**-0.2**
PCRV	**Puerto La Cruz**	**2.61**	**245**	***e*P**	**P**	**01 35 41.4**	**+2.0**
PCRV				*e*S	**S**	**01 36 12.6**	**+0.5**
MERV	**Las Mercedes**	**4.49**	**243**	***e*P**	**P**	**01 36 05.4**	**+1.4**
MERV				*e*S	**S**	**01 36 55.2**	**-0.6**
LUEV	**Luepa**	**5.47**	**172**	***e*P**	**P**	**01 36 16.1**	**-0.8**
LUEV				*e*S	**S**	**01 37 14.0**	**-5.3**
CAOV	**Caicara del Or**	**5.64**	**226**	***e*P**	**P**	**01 36 19.5**	**+0.2**
CAOV				*e*S	**S**	**01 37 21.2**	**-2.2**
BAUV	**El Baul**	**6.18**	**248**	***e*P**	**P**	**01 36 27.1**	**+0.5**
BAUV				*e*S	**S**	**01 37 34.3**	**-2.1**
PAYV	**Puerto Ayacuch**	**7.92**	**223**	***e*P**	**P**	**01 36 50.4**	**+0.3**
PAYV				*e*S	**S**	**01 38 13.8**	**-4.7**
SDV	**Santo Domingo**	**8.61**	**255**	***e*P**	**P**	**01 36 59.6**	**+0.5**
TXAR	**Lajitas Array**	**42.53**	**301**	P	**P**	**01 42 39.2**	**-0.5**
	0.3nm,0.5s,mb3.2,baz=118,slow=11,SNR=8.9						
TXAR				LR	LR	02 03 04.4	
	comp=Z,75nm,20.0s,baz=115,slow=40						
TXAR	**Lajitas Array**	**42.53**	**301**	P	**P**	**01 42 39.2**	**-0.5**
TXAR				LR	LR	02 03 04.4	
PDAR	**Pinedale Array**	**51.59**	**316**	P	**P**	**01 43 48.5**	**-1.8**
	0.8nm,1.0s,mb3.3,baz=110,slow=9.8,SNR=4.6						
FINES	**FINESS Array B**	**79.37**	**29**	P	**P**	**01 46 48.3**	**+0.6**
	1.7nm,1.0s,mb3.6,baz=297,slow=9.3,SNR=3.7						
CMAR	**Chiang Mai Arr**	**145.09**	**32**	PKPbc	PKPbc	01 54 19.6	+1.4
	0.7nm,0.3s,baz=304,slow=3.3,SNR=4.4						

NEIC ***13*** *01:41:18.3, 19.56N×67.34W,h13km,MD3.8(RSPR), After RSPR.*
RSPR 13 01:41:18.3, 19.56N×67.34W, h13km±23km, MD3.8/14, MD3.8/14, 12C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOPR	**Arecibo Observ**	**1.33**	**155⇑**	***e*P**	Pb	01 41 38.6	-4.1
AOPR				*e*S	Sb	01 41 56.3	-3.2
LRS	**Lares**	**1.34**	**159⇑**	***e*P**	Pb	01 41 39.0	-3.9
LSP	**Las Mesas**	**1.39**	**170⇓**	***e*P**	Pn	01 41 40.5	-3.1
LSP				*e*S	Sb	01 41 58.3	-3.0
CRPR	**Cabo Rojo, PR**	**1.56**	**172⇑**	***e*P**	Pn	01 41 42.8	-3.1
CRPR				*e*S	Sb	01 42 02.6	-3.4
MGP	**Maguayo**	**1.56**	**171⇑**	***e*P**	Pn	01 41 43.0	-3.0
MGP				*e*S	Sb	01 42 01.5	-4.6
PORP	**Portuguez**	**1.64**	**156⇓**	***e*P**	Pn	01 41 43.5	-3.6
CELP	**Cerrillos**	**1.64**	**154⇓**	***e*P**	Pn	01 41 43.5	-3.6
CELP				*e*S	Sn	01 42 03.8	-4.4
CSB	**Colonia Sabana**	**1.69**	**138⇑**	***e*P**	Pn	01 41 45.1	-2.7
CSB				*e*S	Sn	01 42 03.9	-5.6
SJG	**San Juan**	**1.83**	**142⇑**	***e*P**	Pn	01 41 47.5	-2.3
SJG				*e*S	Sn	01 42 08.9	-4.1
SJG	**San Juan**	**1.83**	**142⇑**	***e*P**	Pn	01 41 46.7	-3.1
SJG				*e*S	Sn	01 42 08.4	-4.5
CBYP	**Canovanas**	**1.90**	**132⇑**	***e*P**	Pn	01 41 47.7	-3.1
HUMP	**Col San Antoni**	**2.00**	**135⇑**	***e*P**	Pn	01 41 49.3	-2.9
CPD	**Cerro la Pandu**	**2.03**	**138⇑**	***e*P**	Pn	01 41 49.8	-2.9
CPD				*e*S	Sn	01 42 13.4	-4.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MTP	Monte Pirata	2.23	130⇑	eP	Pn	01 41 52.3	-3.3

*NEIC **13** 01:49:52.8±0.4, 19.33S×69.16W, mb4.5/9, Error ellipse: s-maj=13.8km s-min=8.2km az=82.0*
*BJI **13** 01:49:52.7, 19.30S×69.20W, h105^{km}*
*IDC **13** 01:49:53.1±0.5, 19.25S×69.13W, h109^{km}±4^{km}, mb4.1/13, mb1 4.3/15, mb1mx4.2/19, mbtmp4.5/15, MS3.4/2, Ms1 3.4/2, ms1mx2.5/19, Error ellipse: s-maj=19.6km s-min=13.4km az=70.0*
ISC 13 01:49:51.2±1.0**, 19.29S**±0.05×**69.1W**±0.1**, h108**^{km}±9^{km}**, h109**^{km}±2.1^{km}**:pP-P, n40, σ1s08**/35**, mb4.3**/16**, 2C, Northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.13	18	P	P	01 50 44.6	+4.8
	11nm,0.3s,baz=194,slow=8.0,SNR=420						
LPAZ				S	S	01 51 18.2	+1.5
	6.8nm,0.3s,baz=184,slow=16,SNR=6.2						
LPAZ	La Paz	3.13	18⇑	iPn	P	01 50 44.4	+4.5
LPAZ				eSn	S	01 51 15.7	-0.9
LVC	Limon Verde	3.32	176	P	P	01 50 43.5	+1.1
	48nm,0.3s,baz=346,slow=9.4,SNR=120						
LVC				S	S	01 51 20.0	-1.2
	108nm,0.3s,baz=267,slow=19,SNR=5.9						
LVC	Limon Verde	3.32	176	ePn	P	01 50 42.9	+0.5
LVC				eSn	S	01 51 11.1	-10
TRQA	Tornquist	19.72	163	eP	P	01 54 13.4	-1.1
	23nm,1.0s						
BDFB	Brasilia	20.47	83	P	P	01 54 22.1	-0.2
	47nm,0.7s,baz=266,slow=11,SNR=40						
BDFB				LR	LR	02 03 21.1	
	comp=Z,206nm,18.4s,baz=204,slow=40						
PLCA	Paso Flores	21.41	183	P	P	01 54 31.6	-0.1
	14nm,0.8s,mb4.3,baz=359,slow=11,SNR=25						
PLCA				LR	LR	02 03 47.7	
	comp=Z,61nm,20.0s,baz=359,slow=39						
PLCA	Paso Flores	21.41	183	eP	P	01 54 31.3	-0.3
	28nm,1.1s,mb4.5						
OTAV	Otavalo	21.45	334	eP	P	01 54 34.8	+2.7
	8.3nm,0.8s,mb4.1						
CAM4	Nova Friburgo	25.01	102⇑	iP	P	01 55 07.6	+0.9
CAM4				i		01 55 10.7	
CAM4				i	pP	01 55 33.5	+3.7
SDV	Santo Domingo	28.03	357	P	P	01 55 32.3	-2.3
	8.8nm,0.9s,mb4.3,baz=187,slow=8.1,SNR=11						
SDV	Santo Domingo	28.03	357	eP	P	01 55 32.4	-2.2
	7.5nm,0.8s,mb4.3						
RCBR	Riachuelo	35.00	72	eP	P	01 56 35.7	+0.3
	18nm,0.7s,mb5.0						
SJG	San Juan	37.28	5	P	P	01 56 51.7	-2.7
	3.9nm,0.3s,mb4.8,baz=203,slow=4.3,SNR=4.2						
SJG	San Juan	37.28	5	eP	P	01 56 52.4	-2.0
	16nm,1.1s,mb4.8						
TXAR	Lajitas Array	58.70	325	P	P	01 59 39.0	-1.1
	1.0nm,0.7s,mb4.0,baz=151,slow=8.8,SNR=16						
TXAR				pP	pP	02 00 05.0	-1.4
	0.9nm,0.7s,baz=145,slow=7.4,SNR=5.6						
DBIC	Dimbokro	68.33	74	P	P	02 00 42.7	-0.7
	29nm,0.8s,mb5.2,baz=225,slow=6.9,SNR=43						
DBIC	Dimbokro	68.33	74	eP	P	02 00 42.5	-0.9
	72nm,1.3s,mb5.3						
PDAR	Pinedale Array	72.09	330	P	P	02 01 05.7	0.0
	1.3nm,1.0s,mb3.7,baz=128,slow=7.5,SNR=6.5						
PDAR				pP	pP	02 01 34.1	+1.1
	0.8nm,0.7s,baz=128,slow=9.0,SNR=3.7						
HWUT	Hardware Ranch	72.20	328	P	P	02 01 06.7	+0.4
	5.3nm,1.2s,mb4.2						
ULM	Lac du Bonnet	73.15	342	P	P	02 01 10.4	-1.3
	2.2nm,0.9s,mb4.0,baz=105,slow=5.1,SNR=3.0						
ULM				pP	pP	02 01 38.2	-0.9
	3.5nm,0.6s,baz=143,slow=6.3,SNR=5.3						
ULM	Lac du Bonnet	73.15	342	P	P	02 01 10.4	-1.3
ULM				pP	pP	02 01 38.2	-0.9
NVAR	Mina Array Bea	73.63	322	P	P	02 01 15.8	+1.0
	3.3nm,1.0s,mb4.0,baz=138,slow=7.3,SNR=14						
NVAR				pP	pP	02 01 42.8	+0.5
	1.6nm,0.9s,baz=140,slow=7.3,SNR=3.6						
NVAR	Mina Array Bea	73.63	322	P	P	02 01 15.8	+1.0
NVAR				pP	pP	02 01 42.8	+0.5
SCHQ	Schefferville	73.84	1	P	P	02 01 15.3	-0.3
	1.3nm,0.7s,mb3.8,baz=221,slow=9.3,SNR=3.2						
SCHQ				pP	pP	02 01 43.4	+0.2
	2.7nm,0.8s,baz=166,slow=8.3,SNR=2.7						
VNDA	Vanda	78.98	190	P	P	02 01 45.4	+1.3
	1.0nm,0.7s,mb3.8,baz=55,slow=6.2,SNR=3.9						
EDM	Edmonton	81.67	335	eP	P	02 01 58.4	-0.4
ESDC	Sonseca Array	84.41	45	P	P	02 02 14.2	+1.2
	2.1nm,0.8s,mb4.0,baz=242,slow=6.4,SNR=14						
ESLA	Sonseca Array	84.41	45	eP	P	02 02 13.3	+0.3
	2.5nm,1.1s,mb4.0						
YKA	Yellowknife Ar	89.04	341	P	P	02 02 35.3	+0.6
	8.8nm,0.9s,mb4.8,baz=134,slow=4.7,SNR=142						
YKA				pP	pP	02 03 03.3	+0.1
	6.7nm,0.8s,baz=135,slow=4.8,SNR=10						
YKW3	Yellowknife Ar	89.09	341	eP	P	02 02 35.6	+0.6
STKA	Stephens Creek	121.22	211	PKP	PKPdf	02 08 33.2	+1.3
	1.2nm,0.3s,baz=315,slow=2.9,SNR=3.9						
STKA	Stephens Creek	121.22	211	PKP	PKPdf	02 08 33.2	+1.2
ASAR	Alice Springs	131.75	209	PKP	PKPdf	02 08 53.3	+0.9
	0.6nm,0.6s,baz=134,slow=1.5,SNR=5.7						
ASAR				pPKP		02 09 23.1	
	2.4nm,0.9s,baz=147,slow=2.2,SNR=9.5						
WRA	Warramunga Arr	134.73	212	PKP	PKPdf	02 08 59.5	+1.4
	1.4nm,0.8s,baz=148,slow=1.8,SNR=6.2						
WRA				pPKP		02 09 28.6	
	1.9nm,0.7s,baz=160,slow=1.6,SNR=5.9						
ZAL	Zalesovo	140.04	24	PKP	PKPdf	02 09 09.8	+3.0
	0.8nm,0.7s,baz=168,slow=4.6,SNR=4.8						
ZAL				pPKP		02 09 39.3	
	1.7nm,0.6s,baz=216,slow=2.4,SNR=4.7						
ZAL	Zalesovo	140.04	24	PKP	PKPdf	02 09 09.8	+3.0
ZAL				pPKP		02 09 39.3	
SONM	Songino Array	151.29	6	PKPbc	PKPdf	02 09 34.6	+8.9
	2.9nm,1.0s,baz=313,slow=1.7,SNR=16						
SONM				pPKPbc		02 10 03.6	
	7.0nm,0.8s,baz=323,slow=1.7,SNR=13						
CN2	Changchun	152.66	337	ePKP	PKPdf	02 09 30.8	+2.9
CMAR	Chiang Mai Arr	168.68	92	PKPab	PKPab	02 10 58.5	+0.1
	1.2nm,0.7s,baz=270,slow=6.8,SNR=7.5						

*IDC **13** 02:09:45.8±0.7, 26.23S×131.92E, mb4.2/7, mb1 4.4/12, mb1mx4.3/16, mbtmp4.3/12, ML4.6/4, MS3.7/4, Ms1 3.7/4, ms1mx3.3/12, Error ellipse: s-maj=19.3km s-min=12.7km az=117.0*
*AUST **13** 02:09:49.0, 26.16S×131.64E, h5^{km}, ML4.6*
*NEIC **13** 02:09:49.0, 26.16S×131.64E, h5^{km}, mb4.5/8, ML4.6(AUST), After AUST.*
ISC 13 02:09:42.7±0.4**, 26.21S**±0.04×**131.69E**±0.04**, h5**^{km}**, n65, σ1s76**/70**, mb4.2**/9**, MS3.8**/3**, 3C-1D, South Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASPA	Alice Springs	3.23	39⇑	iP	Pn	02 10 37.8	+2.8
ASPA				eS	Sn	02 11 15.6	+1.3
ASAR	Alice Springs	3.23	39	Pn	Pn	02 10 37.9	+2.8
	46nm,0.3s,baz=219,slow=12,SNR=2975						
ASAR				Pg	Pg	02 10 43.5	-3.6
	22nm,0.3s,baz=214,slow=16,SNR=32						
ASAR				Sn	Sn	02 11 16.1	+1.7
	33nm,0.3s,baz=219,slow=23,SNR=9.3						
ASAR				Lg		02 11 24.1	
	73nm,0.3s,baz=220,slow=27,SNR=14						
FORT	Forrest	5.57	214	eP	Pn	02 11 12.3	+4.1
WRA	Warramunga Arr	6.69	22	Pn	Pn	02 11 24.9	+0.8
	12nm,0.3s,baz=194,slow=14,SNR=181						
WRA				Sn	Sn	02 12 38.0	-3.6
	15nm,0.3s,baz=202,slow=24,SNR=5.4						
WRA				Lg		02 13 15.9	
	16nm,0.3s,baz=202,slow=27,SNR=6.2						
WB2	Warramunga Arr	6.70	22⇑	iP	Pn	02 11 24.7	+0.5
WB2				eS	Sn	02 12 37.9	-3.8
WRAB	Tennant Creek	6.70	22	Pn	Pn	02 11 25.0	+0.7
	195nm,0.5s						
WRAB	Tennant Creek	6.70	22	eP	Pn	02 11 25.4	+1.1
	35nm,0.4s						
WRAB				S	Sn	02 12 37.2	-4.7
BBOO	Buckleboo	7.60	151	eP	Pn	02 11 37.8	+0.9
BBOO				eS	Sn	02 12 59.3	-5.1
	505nm,0.4s						
BBOO	Buckleboo	7.60	151	eP	Pn	02 11 37.8	+0.9
	505nm,0.4s						
BBOO				eS	Sn	02 12 59.3	-5.1
QIS	Mount Isa	9.19	54	eP	P	02 11 57.3	-1.6
QIS				eS	Sn	02 13 35.2	-8.6
	73nm,0.5s						
QIS	Mount Isa	9.19	54	eP	P	02 11 57.3	-1.6
	73nm,0.5s						
QIS				eS	Sn	02 13 35.2	-8.6
STKA	Stephens Creek	10.34	125	Pn	P	02 12 13.6	-1.3
	4.2nm,0.3s,baz=304,slow=13,SNR=33						
STKA				Sn	Sx	02 14 04.6	
	16nm,0.3s,baz=324,slow=19,SNR=7.1						
STKA				Lg		02 15 07.1	
	11nm,0.3s,baz=11,slow=23,SNR=3.2						
STKA				LR	LR	02 16 21.2	
	comp=Z,231nm,19.2s,baz=292,slow=39						
STKA	Stephens Creek	10.34	125	eP	P	02 12 12.9	-1.9
STKA				eS	Sx	02 14 00.8	
KNA	Kununurra	10.76	345	eP	P	02 12 18.6	-2.0
KNA				eS	Sx	02 14 14.7	
	3.5nm,0.2s						
KNA	Kununurra	10.76	345	eP	P	02 12 18.6	-2.0
	3.5nm,0.2s						
KNA				eS	Sx	02 14 14.7	
QLP	Quilpie	11.25	95	eP	P	02 12 24.4	-2.9
QLP				eS	Sx	02 14 27.2	
MEEK	Meekatharra	11.73	265	eP	P	02 12 33.6	-0.2
MEEK				eS	Sx	02 14 38.8	
	316nm,0.3s						
MEEK	Meekatharra	11.73	265	eP	P	02 12 33.6	-0.2
	316nm,0.3s						
MEEK				eS	Sx	02 14 38.8	
MBWA	Marble Bar	12.05	292	eP	P	02 12 37.9	-0.3
MBWA				eS	Sx	02 14 44.8	
CMSA	Cobar Meteorol	13.36	117	eP	P	02 12 53.7	-2.0
CMSA				eS	Sx	02 15 10.9	
	21nm,0.5s						
CMSA	Cobar Meteorol	13.36	117	eP	P	02 12 53.7	-2.0
	21nm,0.5s						
CMSA				eS	Sx	02 15 10.9	
KAKA	Kakadu	13.44	3	eP	P	02 12 52.7	-4.0
ARPS	Mount Arapiles	13.62	143	eP	P	02 12 56.8	-2.3
	332nm,0.7s						
ARPS				eS	Sx	02 15 21.1	
MORW	Morawa	14.17	255	eP	P	02 13 04.6	-1.7
MORW				eS	Sx	02 15 33.3	
	639nm,1.0s						
MORW	Morawa	14.17	255	eP	P	02 13 04.6	-1.7
	639nm,1.0s						
MORW				eS	Sx	02 15 33.3	
MTSU	Mount Surprise	14.17	58	eP	P	02 13 04.8	-1.6
MTSU				eS	Sx	02 15 31.6	
	366nm,0.8s						
MTSU	Mount Surprise	14.17	58	eP	P	02 13 04.8	-1.6
	366nm,0.8s						
MTSU				eS	Sx	02 15 31.6	
NWAO	Narrogin (SRO)	14.25	239	Pn	P	02 13 04.9	-2.4
	2.4nm,0.3s,baz=44,slow=9.8,SNR=18						
NWAO				Sn	Sx	02 15 38.2	
	2.8nm,0.3s,baz=70,slow=14,SNR=4.6						
NWAO				Lg		02 17 09.2	
	4.5nm,0.3s,baz=144,slow=21,SNR=4.5						
NWAO	Narrogin (SRO)	14.25	239	eP	P	02 13 05.4	-1.9
MUN	Mundaring	14.71	243	eP	P	02 13 12.0	-1.3
MUN				eS	Sx	02 15 46.9	
	49nm,0.8s						
MUN	Mundaring	14.71	243	eP	P	02 13 12.0	-1.3
	49nm,0.8s						
MUN				eS	Sx	02 15 46.9	
CTA	Charters Tower	14.71	69	eP	P	02 13 11.3	-2.1
CTA	Charters Tower	14.71	69	Pn	P	02 13 11.2	-2.2
	2.1nm,0.3s,baz=247,slow=15,SNR=22						
CTA				Sn	Sx	02 15 49.6	
	1.9nm,0.3s,baz=240,slow=16,SNR=5.5						
CTA				Lg		02 17 25.7	
	1.4nm,0.3s,baz=308,slow=18,SNR=2.5						
CTA				LR	LR	02 18 59.9	
	comp=Z,458nm,18.0s,baz=229,slow=38						
CTAO	Charters Tower	14.71	69	eP	P	02 13 11.5	-1.9
	12nm,0.6s						
GIRL	Giralia	15.17	280	eP	P	02 13 33.3	+14
GIRL				eS	Sx	02 16 27.8	
	119nm,0.8s						
GIRL	Giralia	15.17	280	eP	P	02 13 33.3	+14
	119nm,0.8s						
GIRL				eS	Sx	02 16 27.8	
RKGY	Rocky Gully	15.20	233	eP	P	02 13 19.4	-0.4
RKGY				eS	Sx	02 16 01.9	
	9.4nm,0.2s						
RKGY	Rocky Gully	15.20	233	eP	P	02 13 19.4	-0.4
	9.4nm,0.2s						
RKGY				eS	Sx	02 16 01.9	
RMQ	Roma	15.30	95	eP	P	02 13 19.3	-1.9
TOO	Toolangi	16.28	137	eP	P	02 13 34.3	+0.6
YNG	Young	16.52	123	eP	P	02 13 37.3	+0.5
YNG				eS	Sx	02 16 32.2	
	2.7nm,0.4s						
YNG	Young	16.52	123	eP	P	02 13 37.3	+0.5
	2.7nm,0.4s						
YNG				eS	Sx	02 16 32.2	
EIDS	Eidsvold	17.48	92	eP	P	02 13 48.9	-0.1
ARMA	Armidale	18.04	108	eP	P	02 13 59.3	+3.4
MGCD	Mangrove Creek	18.24	117	eP	P	02 14 00.7	+2.4
	21nm,1.0s						
TAU	Tasmania Unive	21.00	146	P	P	02 14 30.3	+0.9
	13nm,0.9s						
PMG	Port Moresby	22.23	44	P	P	02 14 43.5	+1.5
	12nm,0.8s,mb4.4,baz=308,slow=12,SNR=5.0						
PMG				LR	LR	02 23 45.0	
	comp=Z,254nm,18.3s,MS3.7,baz=94,slow=38						
PMG	Port Moresby	22.23	44	eP	P	02 14 44.0	+2.0
	60nm,1.5s,mb4.8						
KSM	Kuching	34.41	320	P	P	02 16 35.5	+2.2
URZ	Urewera	39.89	119	P	P	02 17 20.6	+1.4
	9.2nm,0.8s,mb4.5,baz=252,slow=6.4,SNR=4.0						
VNDA	Vanda	53.30	172	P	P	02 19 06.1	+1.7
	2.0nm,0.9s,mb4.1,baz=329,slow=5.8,SNR=4.2						
VNDA				LR	LR	02 37 31.2	
	comp=Z,74nm,18.5s,MS3.8,baz=257,slow=31						
VNDA	Vanda	53.30	172	eP	P	02 19 06.6	+2.2
	8.3nm,1.3s,mb4.5						
CMAR	Chiang Mai Arr	54.62	321	P	P	02 19 17.9	+3.0
	0.6nm,0.4s,mb4.0,baz=140,slow=5.5,SNR=4.3						
KMI	Kunming	58.19	329	P	P	02 19 45.0	+4.7
	4.0nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=Z,130nm,31.2s,MS3.9						
SYO	Syowa Base	66.56	203	⇓P	P	02 20 41.5	+6.0
SYO	Syowa Base	66.56	203	⇑pP	pP	02 20 43.3	+6.3
SONM	Songino Array	77.13	343	P	P	02 21 42.0	+3.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=162,slow=5.9,SNR=17						
SNAA	Sanae	77.45	193	P	P	02 21 42.5	+2.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=156,slow=12,SNR=7.4						
SNAA	Sanae	77.45	193	eP	P	02 21 42.8	+2.6
MATP	Matopo	92.29	246	P	P	02 23 00.3	+4.6
	comp=Z,0.9nm,0.6s,mb4.3,baz=150,slow=8.1,SNR=3.1						
CHKZ	Chkalovo	95.42	328	P	P	02 23 09.8	+0.5
	comp=Z,0.8nm,0.8s,mb4.2						
ARCES	ARCESS Array B	119.95	337	PKP	PKPdf	02 28 36.0	-0.1
	comp=Z,3.5nm,0.9s,baz=90,slow=3.6,SNR=3.5						
FINES	FINESS Array B	120.09	328	PKP	PKPdf	02 28 36.7	+0.1
	comp=Z,0.8nm,0.6s,baz=117,slow=4.3,SNR=7.4						
FINES	FINESS Array B	120.09	328	PKP	PKPdf	02 28 36.7	+0.1
YKA	Yellowknife Ar	123.82	31	PKP	PKPdf	02 28 43.8	-0.1
	comp=Z,0.3nm,0.7s,baz=283,slow=1.8,SNR=5.7						

*MOS **13** 02:18:37.2±0.9, 11.51N×93.04E, h33^{km}, mb5.2/27, Error ellipse: s-maj=12.0km s-min=5.1km az=121.8*
*BJI **13** 02:18:41.0, 11.36N×93.05E, h81^{km}, mB5.2, mb4.7, Ms4.7, Msz3.8*
*HRVD **13** 02:18:42.0±0.6, 11.69N×93.12E, h113^{km}±8^{km}, MW4.8/44, Centroid moment Tensor Solution. LP body waves: s10,c13;Mantle waves: s44,c63; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.14±.21; $M_{\theta\theta}$-0.75±.16; $M_{\phi\phi}$0.60±.20; $M_{r\theta}$-1.03±.10; $M_{\theta\phi}$-0.32±.19; $M_{\phi r}$-1.91±.12; Best double couple: $M_0$2.295×10^{16} NP1:ϕ_s117°,δ19°, λ176°. NP2:ϕ_s211°,δ89°,λ71°. Principal axes: T 2.368, Plg43°, Azm102°; N -.146, Plg19°, Azm211°; P -2.222, Plg41°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **13** 02:18:43.8±0.8, 11.58N×93.02E, h72^{km}±7^{km}, mb5.0/88 Error ellipse: s-maj=6.2km s-min=4.0km az=46.0*
*IDC **13** 02:18:43.6±1.6, 11.58N×93.19E, h71^{km}±12^{km}, mb4.4/19, mb1 4.6/20, mb1mx4.6/23, mbtmp4.7/20, MS4.0/8, Ms1 4.1/8, ms1mx3.8/22, Error ellipse: s-maj=18.5km s-min=9.5km az=50.0*
ISC 13 02:18:42.1±0.7**, 11.57N**±0.03×**93.01E**±0.03**, h70**^{km}±5^{km}**, h57**^{km}±1.1^{km}**:pP-P, n316, σ0s97**/319**, mb4.8**/122**, 15C-41D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NNT	Nongplab	6.65	81	P	P	02 20 20.3	+1.0
NST	Nakhon Sawan	8.04	59	P	P	02 20 38.8	+0.5
SNG	Songkhla	8.68	120	P	P	02 20 48.0	+0.9
CM31	Chiang Mai Arr	8.93	39	eP	P	02 20 49.5	-1.0
	8.7nm,0.3s						
CMAR	Chiang Mai Arr	8.93	39	P	P	02 20 51.1	+0.6
	1.3nm,0.3s,baz=230,slow=14,SNR=66						
CMAR				S	S	02 22 27.3	-3.2
	0.5nm,0.3s,baz=235,slow=28,SNR=6.3						
CMAR				LR	LR	02 24 34.7	
	comp=Z,406nm,21.6s,baz=230,slow=40						
CMAR				ScP		02 30 38.0	
	0.2nm,0.3s,baz=207,slow=2.0,SNR=4.6						
CHG	Chiang Mai	9.20	38	⇓P	P	02 20 57.7	+3.5
	19nm,0.9s						
KULM	Kulim	9.79	129	eP	P	02 21 03.0	+0.5
CHRT	Chiangrai	10.52	37	⇓P	P	02 21 11.0	-1.2
	184nm,1.0s						
IPM	Ipoh	10.54	131	P	P	02 21 13.3	+0.7
KKTK	Khon Kaen	10.64	62	⇓P	P	02 21 16.3	+2.4
	247nm,1.0s						
BWNR	Bhubaneshwar	11.10	322	eP	P	02 21 15.7	-4.5
BWNR				eS	S	02 23 07.3	-16
BWNR				e		02 23 15.7	
	comp=N,484nm,0.6s						
BWNR				e		02 23 15.7	
	comp=E,903nm,0.5s						
VIS	Vishakhapatnam	11.19	304	eP	P	02 21 17.8	-3.5
VIS				e		02 21 20.0	
	comp=Z,342nm,0.8s						
VIS				e		02 23 09.3	
VIS				e		02 23 13.3	
	comp=E,278nm,0.2s						
VIS				e		02 23 13.4	
	comp=N,350nm,0.5s						
BOK	Bokaro	13.92	332	eP	P	02 21 52.8	-4.7
BOK				e		02 22 07.3	
	comp=Z,82nm,1.5s						
BOK				e		02 24 20.0	
KGM	Kluang	13.95	132	P	P	02 22 00.2	+2.3
SHL	Shillong	13.97	356	eP	P	02 21 52.0	-6.1
SHL				e		02 24 20.0	
BLSP	Bilaspur	14.78	317	eP	P	02 22 07.5	-1.2
BLSP				e		02 22 09.5	
	comp=Z,95nm,1.5s						
BLSP				eS	S	02 24 51.5	+0.5
HYB	Hyderabad	15.15	294	eP	P	02 22 11.5	-2.0
HYB				pmax	pmax		
	comp=Z,90nm,1.0s						
HYB	Hyderabad	15.15	294	i P	P	02 22 11.5	-2.0
	comp=Z,90nm,1.0s						
HYB				e		02 22 18.0	
HYB				eS	S	02 24 59.0	-0.8
KMI	Kunming	16.33	33	P	P	02 22 32.1	+3.8
KMI				AP		02 22 42.3	
KMI				XP		02 22 49.4	
KMI				S	S	02 25 29.1	+2.4
KMI				SS	SS	02 25 50.6	+2.0
KMI				AMB	AMB		
	comp=Z,13nm,0.8s						
KMI				AMB	AMB		
	comp=Z,264nm,5.5s						
KMI				LR	LR		
	comp=N,379nm,19.0s						
KMI				LR	LR		
	comp=E,389nm,17.8s						
KMI				LR	LR		
	comp=Z,298nm,22.7s						
KMI	Kunming	16.33	33	P	P	02 22 32.1	+3.8
KMI				S	S	02 25 29.1	+2.4
KMI				pmax	pmax		
	comp=Z,13nm,0.8s						
KMI	Kunming	16.33	33	P	P	02 22 32.1	+3.8
	comp=Z,13nm,0.8s						
KMI				pP		02 22 42.3	
KMI				sP		02 22 49.4	
KMI				S	S	02 25 29.1	+2.4
KMI				SS	SS	02 25 50.6	+2.0
NGP	Nagpur	16.43	307	eP	P	02 22 30.6	+1.1
NGP				e		02 25 18.4	
JIRN	Jiri	17.24	339	eP	P	02 22 40.2	+0.4
	comp=Z,13nm,0.3s						
LATR	Latur	17.28	295	e	Sx	02 25 35.0	
ALBI	Allahabad	17.30	324	e	S	02 26 00.0	+11
PKI	Pulchoki	17.45	337	eP	P	02 22 42.4	+0.1
	comp=Z,372nm,1.3s						
DMN	Daman	17.60	336	eP	P	02 22 43.7	-0.5
	comp=Z,79nm,0.7s						
KKN	Kakani	17.69	337	eP	P	02 22 45.1	-0.3
	comp=Z,153nm,1.2s						
MNGI	Mangalore	17.83	276	i P	P	02 22 49.5	+2.4
MNGI				i		02 25 47.8	
LSA	Lhasa	18.13	355	P	P	02 22 50.8	+0.2
LSA	Lhasa	18.13	355	eP	P	02 22 51.1	+0.5
LSA				pmax	pmax		
	comp=Z,25nm,0.8s						
GKN	Gorkha	18.14	336	eP	P	02 22 49.8	-1.0
	comp=Z,173nm,0.9s						
KOLN	Koldanda	18.38	333	eP	P	02 22 52.4	-1.3
	comp=Z,72nm,0.6s						
BHPL	Bhopal	18.85	310	eP	P	02 22 57.4	-1.7
BHPL				eS	S	02 26 29.3	+6.0
KAD	Karad	19.10	290	eP	P	02 22 60.0	-2.0
KAD				e		02 26 14.2	
GYA	Guiyang	19.62	39	P	P	02 23 07.2	-0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
POO	Poona	19.75	293⇓	iP	P	02 23 08.0	-0.9
POO				i		02 26 32.0	
BOM	Bombay	20.79	293	eP	P	02 23 19.6	-0.2
BOM				e		02 26 57.1	
CD2	Chengdu	21.67	26	eP	P	02 23 27.6	-0.9
CD2				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.6						
NDI	New Delhi	22.54	321	eP	P	02 23 36.0	-1.1
NDI				eS	S	02 27 39.0	+4.3
AJM	Ajmer	22.79	313	i P	P	02 23 42.0	+2.4
DDI	Dehra Dun	23.26	326	eP	P	02 23 43.9	-0.2
DDI				e		02 27 56.4	
KKM	Kota Kinabalu	23.57	101	eP	P	02 23 49.5	+2.2
ENH	Enshi	24.09	37	eP	P	02 23 52.2	+0.1
	comp=Z,25nm,0.8s,mb4.6						
SMLA	Simla	24.37	325⇑	iP	P	02 23 54.5	-0.4
SMLA				i		02 28 24.1	
	comp=Z,29nm,0.3s						
SDNR	Sundarnagar	24.76	326	eP	P	02 24 00.4	+1.7
LZH	Lanzhou	26.30	20	eP	P	02 24 13.5	+0.4
LZH				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,163nm,5.0s						
LZH	Lanzhou	26.30	20	eP	P	02 24 13.5	+0.4
	comp=Z,40nm,1.3s,mb4.7						
GTA	Gaotai	28.38	11	eP	P	02 24 32.2	+0.3
GTA				S	S	02 29 13.6	+1.4
GTA				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
NJ2	Nanjing	31.34	45	eP	P	02 24 58.2	0.0
NJ2				PP	PP	02 26 03.7	+0.2
NJ2				S	S	02 30 04.0	+5.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,420nm,5.2s						
NJ2				LR	LR		
	comp=N,370nm,18.0s						
NJ2				LR	LR		
	comp=E,850nm,14.6s						
NJ2				LR	LR		
	comp=Z,30nm,15.7s						
KSH	Kashi	31.68	334	eP	P	02 25 02.1	+1.0
KSH				eAP	pP	02 25 16.0	-2.1
KSH				ePP	PP	02 26 09.2	+1.4
KSH				ePPP	PPP	02 26 24.5	+1.3
KSH				ePCP	PcP	02 27 52.1	+0.5
KSH				eS	S	02 30 05.1	+0.9

KSH eSCP 02 31 28.4
KSH ePCS 02 31 35.5
KSH eSS SS 02 32 00.0 +1.9
KSH eSCS ScS 02 35 25.1 +1.1
KSH AMB AMB
comp=Z,420nm,4.2s
KSH LR LR
comp=N,670nm,5.7s
KSH LR LR
comp=E,730nm,5.3s
WMQ Urumqi 32.46 353 P **P** **02 25 08.2 +0.3**
WMQ AP pP 02 25 23.0 -2.0
WMQ PP PP 02 26 18.0 +0.1
WMQ PCP PcP 02 27 55.0 +1.3
WMQ S **S** **02 30 17.0 +0.6**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.6
WMQ AMB AMB
comp=Z,213nm,5.4s
WMQ LR LR
comp=N,750nm,21.2s
WMQ LR LR
comp=E,764nm,19.7s
WMQ LR LR
comp=Z,758nm,22.0s
SSE Sheshan 32.50 49 eP **P** **02 25 05.4 -2.9**
SSE S **S** **02 30 21.5 +4.4**
SSE AMB AMB
comp=Z,48nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,143nm,4.3s
SSE LR LR
comp=Z,121nm,29.8s
SSE Sheshan 32.50 49 eP **P** **02 25 05.4 -2.9**
comp=Z,48nm,0.7s,mb5.3
SSE S **S** **02 30 21.5 +4.4**
SSE LR LR
comp=Z,120nm,29.8s
HHC Hu-ho-hao-te 33.43 26 eP **P** **02 25 16.2 -0.1**
HHC AP pP 02 25 32.0 -1.4
HHC PP PP 02 26 30.2 +0.2
HHC S **S** **02 30 29.3 -2.1**
HHC SS SS 02 32 38.3 -0.3
HHC SCS ScS 02 35 32.5 -0.4
HHC AMB AMB
comp=Z,14nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,215nm,6.4s
HHC LR LR
comp=N,199nm,21.4s
HHC LR LR
comp=E,298nm,19.6s
HHC LR LR
comp=Z,111nm,19.6s
ULHL Ulahol 33.89 337 P **P** **02 25 20.3 +0.1**
SNR=17
KZA Kyzart 34.13 336 P **P** **02 25 23.2 +1.0**
SNR=19
WBK Wadi Bani Khal 34.26 293 P **P** **02 25 26.1 +2.5**
SNR=6.0
UCH Uchtor 34.55 335 P **P** **02 25 26.7 +0.8**
SNR=12
TKM2 Tokmak 2 34.71 337 P **P** **02 25 27.7 +0.5**
SNR=16
KBK Karagaybulak 34.74 336 P **P** **02 25 28.6 +1.2**
SNR=12
AML Almayashu 34.81 334 P **P** **02 25 29.2 +1.1**
SNR=31
AAK Ala-Archa 34.90 336 P **P** **02 25 29.2 +0.4**
comp=Z,104nm,1.1s,mb5.6,SNR=23
AAK Ala-Archa 34.90 336 *d* iP **P** **02 25 28.9 +0.1**
AAK pmax pmax
comp=Z,31nm,1.3s,mb5.0
AAK MLR MLR
comp=Z,300nm,18.0s
AAK Ala-Archa 34.90 336 *i* Pr 02 25 28.9
comp=Z,31nm,1.3s
AAK LR LR
comp=Z,300nm,18.0s
BJI Beijing 34.98 32 eP **P** **02 25 29.4 -0.2**
BJI S **S** **02 31 04.2 +8.8**
BJI AMB AMB
comp=Z,15nm,0.9s,mb4.8
BJI LR LR
comp=N,331nm,21.5s
BJI LR LR
comp=E,344nm,21.1s
BJI LR LR
comp=Z,212nm,25.6s
BJI Beijing 34.98 32 eP **P** **02 25 29.4 -0.2**
comp=Z,15nm,0.9s,mb4.8
BJI S **S** **02 31 04.2 +8.8**
BJI LR LR
comp=Z,210nm,25.6s
FRU Bishkek 35.02 336 eP **P** **02 25 31.0 +1.2**
FRU pmax pmax
comp=Z,40nm,1.9s,mb4.9
CHMS Chumysh 35.10 336 P **P** **02 25 30.8 +0.2**
SNR=13
SMDO Samad 35.19 294 P **P** **02 25 34.1 +2.6**
SNR=8.8
EKS2 Erkin-Say 35.21 335 P **P** **02 25 32.0 +0.5**
SNR=23
USP Ospenovka 35.43 336 P **P** **02 25 33.8 +0.4**
SNR=38
BSY Bisya 35.88 293 P **P** **02 25 39.8 +2.4**
SNR=27
MKAR Makanchi Array 36.26 348 *i* P **P** **02 25 39.8 -0.6**
MKAR pmax pmax
comp=Z,7.0nm,0.5s
ASHO Ashiyiah 37.33 296 P **P** **02 25 52.3 +2.7**
SNR=9.0
SONM Songino Array 37.86 15 P **P** **02 25 54.3 +0.6**
comp=Z,2.1nm,0.5s,mb4.2,baz=203,slow=8.4,SNR=24
SONM PcP PcP 02 28 09.1 -0.2
comp=Z,2.3nm,0.6s,baz=203,slow=3.9,SNR=7.2
SONM ScP 02 31 51.7
comp=Z,1.8nm,0.7s,baz=209,slow=3.4,SNR=8.9
ULN Ulaanbaatar 38.05 15⇑ eP **P** **02 25 56.0 +0.7**
ULN Ulaanbaatar 38.05 15 eP **P** **02 25 54.8 -0.5**
comp=Z,3.0nm,0.8s,mb4.2
WHFO Wadi Hawf 38.41 284 P **P** **02 26 00.4 +1.8**
SNR=65
ABTO Aybut 38.83 283 P **P** **02 26 04.3 +2.2**
SNR=7.2
ZAK Zakamensk 39.61 10 eP **P** **02 26 08.3 +0.1**
ZAK *e* 02 28 15.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
KURK Kurchatov 40.78 346 P **P** **02 26 17.7 -0.2**
comp=Z,100nm,1.0s,mb5.6,SNR=21
KURK Kurchatov 40.78 346 *d* iP **P** **02 26 17.5 -0.4**
KURK pmax pmax
comp=Z,14nm,1.3s,mb4.6
TLY Talaya 40.93 10 eP **P** **02 26 20.3 +1.2**
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TLY MLR MLR
comp=Z,120nm,23.0s
CN2 Changchun 42.59 35 eP **P** **02 26 33.0 +0.2**
CN2 eS **S** **02 32 53.0 +3.0**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,250nm,4.0s
ZAL Zalesovo 42.77 353 P **P** **02 26 34.5 +0.4**
comp=Z,4.1nm,0.5s,mb4.5,baz=301,slow=8.3,SNR=26
ZAL ScP 02 32 10.2
comp=Z,1.5nm,0.5s,baz=306,slow=5.1,SNR=9.0
ZAL LR LR 02 48 10.0
comp=Z,88nm,18.3s,baz=298,slow=41
NVS Novosibirsk 43.85 352 eP **P** **02 26 41.0 -2.0**
NVS pmax pmax
comp=N,6.0nm,1.1s
NVS pmax pmax
comp=E,3.0nm,1.1s
NVS pmax pmax
comp=Z,12nm,1.1s,mb4.5
BVA0 Borovoye Array 45.16 341 P **P** **02 26 52.7 -0.7**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
BVAR Borovoye Array 45.16 341 P **P** **02 26 52.9 -0.6**
comp=Z,14nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=60
CHKZ Chkalovo 45.64 342 *i* P **P** **02 26 57.1 -0.1**
CHKZ pmax pmax
comp=Z,47nm,0.8s,mb5.3
MUN Mundaring 48.66 154 eP **P** **02 27 21.1 -0.1**
comp=Z,7.0nm,0.5s,mb4.8
MUN Mundaring 48.66 154 eP **P** **02 27 21.1 -0.1**
MUN pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
BOD Bodaibo 48.86 15 eP **P** **02 27 21.8 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
NWAO Narrogin (SRO) 49.92 153 P **P** **02 27 29.9 -1.0**
comp=Z,34nm,1.2s,mb5.2,baz=321,slow=5.5,SNR=7.7
WRA Warramunga Arr 51.34 127 P **P** **02 27 40.4 -1.4**
WRA S **S** **02 34 51.3 -2.8**
WRA Warramunga Arr 51.34 127 P **P** **02 27 40.4 -1.4**
comp=Z,7.4nm,0.5s,mb5.0,baz=301,slow=10.0,SNR=36
WRA ScP 02 32 44.4
comp=Z,1.0nm,0.7s,baz=314,slow=4.1,SNR=4.7
WRA S **S** **02 34 51.3 -2.8**
comp=Z,0.5nm,0.8s,baz=313,slow=17,SNR=2.7
WRAB Tennant Creek 51.34 127 eP **P** **02 27 40.3 -1.5**
WRAB pmax pmax
comp=Z,17nm,0.6s,mb5.2
WRAB Tennant Creek 51.34 127 eP **P** **02 27 40.2 -1.6**
comp=Z,17nm,0.6s,mb5.2
WB2 Warramunga Arr 51.34 127 eP **P** **02 27 40.1 -1.8**
CLNS Chul'man 51.41 22 eP **P** **02 27 41.2 -0.6**
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=Z,14nm,0.7s,mb5.1
SVE Sverdlovsk 51.58 338⇓ eP **P** **02 27 42.0 -1.1**
SVE pmax pmax
comp=Z,80nm,1.5s,mb5.5
TI2 Plekhanov 51.65 315⇓ iP **P** **02 27 45.0 +1.1**
ASPA Alice Springs 53.15 131 eP **P** **02 27 53.9 -1.5**
ASAR Alice Springs 53.15 131 P **P** **02 27 53.8 -1.6**
ASAR 02 29 02.8
ASAR S **S** **02 35 16.2 -2.7**
ASAR Alice Springs 53.15 131 P **P** **02 27 53.8 -1.6**
comp=Z,24nm,1.2s,mb5.1,baz=309,slow=7.3,SNR=28
ASAR PcP PcP 02 29 02.8 +0.2
comp=Z,2.4nm,0.7s,baz=308,slow=4.5,SNR=5.5
ASAR ScP 02 32 53.2
comp=Z,1.1nm,0.8s,baz=314,slow=4.9,SNR=6.1
ASAR S **S** **02 35 16.1 -2.7**
comp=Z,1.1nm,0.8s,baz=291,slow=14,SNR=6.5
ASAR LR LR 02 49 56.9
comp=Z,155nm,20.7s,baz=306,slow=35
ERZM Erzurum 53.48 311 *i* P **P** **02 27 58.2 +0.6**
KIV Kislovodsk 53.87 317⇓ iP **P** **02 28 00.2 -0.2**
KIV *i* 02 28 12.6
KIV *e* 02 30 02.9
KIV pmax pmax
comp=Z,101nm,0.9s,mb5.8
KIV Kislovodsk 53.87 317⇓ iP **P** **02 28 00.2 -0.2**
comp=Z,101nm,0.9s,mb5.8
KIV *i* 02 28 12.6
KIV *e* 02 30 02.9
GOF Gofitskoye 54.04 318⇑ iP **P** **02 28 02.0 +0.4**
GOF pmax pmax
comp=Z,50nm,1.0s,mb5.5
ELZG Elazig 54.89 309 *i* P **P** **02 28 07.5 -0.4**
MALT Malatya 55.27 309 eP **P** **02 28 10.4 -0.2**
MALT pmax pmax
comp=Z,22nm,1.1s,mb5.1
MALT Malatya 55.27 309 eP **P** **02 28 10.4 -0.2**
comp=Z,22nm,1.1s,mb5.1
GZT Gaziantep 55.72 307 *i* P **P** **02 28 13.2 -0.7**
SOC Sochi 55.77 315 eP **P** **02 28 11.7 -2.5**
SOC *e* 02 29 05.5
SOC *e* 02 30 21.4
SOC *e*PPP PPP 02 31 29.8 -6.8
SOC *e*S **S** **02 35 58.0 +4.2**
SOC *e*SS SS 02 39 44.5 +4.4
SOC pmax pmax
comp=Z,47nm,1.0s,mb5.5
SOC pmax pmax
comp=N,53nm,0.9s
SOC pmax pmax
comp=E,51nm,0.8s
KMBO Kilima Mbogo 56.81 261 eP **P** **02 28 23.1 +1.1**
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO Kilima Mbogo 56.81 261 P **P** **02 28 23.1 +1.1**
comp=Z,3.3nm,0.8s,mb4.4,baz=54,slow=10.0,SNR=16
KMBO Kilima Mbogo 56.81 261 eP **P** **02 28 23.1 +1.0**
comp=Z,2.1nm,0.8s,mb4.2
YAK Yakutsk 56.89 20 *i* P **P** **02 28 21.0 -0.9**
YAK pmax pmax
comp=Z,17nm,0.5s,mb5.3
YAK Yakutsk 56.89 20 *i* P **P** **02 28 21.0 -0.9**
comp=Z,17nm,0.5s,mb5.3
ANN Anapa 57.70 316 eP **P** **02 28 20.5 -7.4**
ANN pmax pmax
comp=Z,232nm,1.5s
PMG Port Moresby 57.72 109 P **P** **02 28 26.6 -1.8**
PMG Port Moresby 57.72 109 P **P** **02 28 26.5 -1.9**
comp=Z,8.1nm,0.7s,mb4.9,baz=151,slow=7.7,SNR=4.2
VOR Voronezh 58.95 324⇓ iP **P** **02 28 35.8 -0.6**
VOR eS **S** **02 36 37.5 +2.2**
VOR pmax pmax
comp=E,70nm,1.0s
VOR pmax pmax
comp=Z,140nm,1.0s
VOR smax
comp=E,80nm,1.4s
SIM Simferopol' 60.02 315⇓ iP **P** **02 28 43.0 -0.9**
SIM pmax pmax
comp=Z,48nm,1.0s,mb5.5
ISP Isparta 61.32 307 eP **P** **02 28 50.9 -1.9**
ISP *e* 02 29 03.0
ISP pmax pmax
comp=Z,21nm,1.1s,mb5.1
ISP Isparta 61.32 307 eP **P** **02 28 50.9 -2.0**
comp=Z,21nm,1.1s,mb5.1
ISP *e* 02 29 03.0
MOS Moscow 61.37 328 eP **P** **02 28 52.1 -0.8**
MOS *e* 02 29 04.8
MOS *e* 02 29 29.4
MOS *e* 02 31 06.9
MOS pmax pmax
comp=Z,69nm,0.8s,mb5.7
OBN Obninsk 61.69 327 *d* iP **P** **02 28 54.1 -0.9**
OBN *e* 02 31 07.0
OBN eS **S** **02 37 11.0 +0.6**
OBN pmax pmax
comp=Z,106nm,1.3s,mb5.7
OBN MLR MLR
comp=Z,200nm,21.0s
OBN Obninsk 61.69 327 *i* Pr 02 28 54.1
comp=Z,106nm,1.3s
OBN *e* 02 31 07.0
OBN eS **S** **02 37 11.0 +0.6**
OBN LR LR
comp=Z,200nm,21.0s
STKA Stephens Creek 63.46 135 P **P** **02 29 07.3 +0.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=316,slow=6.2,SNR=6.7
STKA LR LR 02 57 48.0
comp=Z,165nm,18.7s,baz=293,slow=37
TIXI Tiksi 63.86 12 eP **P** **02 29 07.9 -1.3**
TIXI pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
KIS Kishinev 64.07 317 eP **P** **02 29 09.0 -1.9**
CFR Carcaliu 64.21 315 P **P** **02 29 11.3 -0.5**
AKASG Malin Array Be 64.59 321 P **P** **02 29 12.7 -1.6**
comp=Z,12nm,0.7s,mb4.8,baz=88,slow=4.8,SNR=54
VRI Vrincioaia 65.30 315 P **P** **02 29 19.0 +0.1**
MLR Muntele Rosu 65.78 315 P **P** **02 29 21.9 -0.1**
comp=Z,30nm,0.8s,mb5.2,baz=344,slow=0.8,SNR=36
MLR Muntele Rosu 65.78 315 P **P** **02 29 22.5 +0.5**
MTUR Matau 66.36 314 P pP 02 29 39.4 -5.0
BURAR Bucovina Array 66.59 317 P **P** **02 29 27.1 +0.1**
JOF Joensuu 67.06 334 ep **P** **02 29 28.9 -0.9**
VTS Vitosha 67.41 311 P **P** **02 29 31.8 -0.5**
LVV L'vov 67.70 319 eP **P** **02 29 32.9 -1.1**
VSU Vasula 67.87 329c iP **P** **02 29 34.5 -0.4**
VSU Vasula 67.87 329⇑ iP **P** **02 29 34.5 -0.4**
KWP Kalwaria 68.52 319 eP **P** **02 29 38.8 -0.3**
KOLS Kolonicke sedl 68.72 318 eP **P** **02 29 40.3 0.0**
KOLS *e* 02 29 46.0
SUW Suwalki 68.89 324 eP **P** **02 29 40.3 -0.9**
FINES FINESS Array B 68.95 332 P **P** **02 29 40.8 -0.8**
comp=Z,35nm,1.1s,mb5.1,baz=104,slow=7.9,SNR=45
KAF Kangasniemi 69.02 332 ep **P** **02 29 40.8 -1.2**
CRVS Cervenica-Dubn 69.25 318 eP **P** **02 29 45.5 +1.9**
CRVS *e* 02 29 59.2
NIE Niedzica 70.05 318 eP **P** **02 29 47.0 -1.5**
OJC Ojcow 70.46 319 eP **P** **02 29 50.4 -0.5**
VYHS Vyhne 70.94 317 eP **P** **02 29 53.4 -0.5**
MATP Matopo 70.95 244 P **P** **02 29 55.2 +0.8**
comp=Z,3.0nm,0.7s,mb4.2,baz=83,slow=6.8,SNR=8.0
SRO2 Moca 71.19 317 eP **P** **02 29 55.1 -0.3**
SRO Srobarova 71.25 317 eP **P** **02 29 55.8 +0.1**
SRO1 Iza 71.30 317 eP **P** **02 29 56.1 +0.1**
ARCES ARCESS Array B 71.44 340 P **P** **02 29 55.6 -0.9**
comp=Z,5.9nm,0.8s,mb4.5,baz=104,slow=6.2,SNR=6.2
ARCES LR LR 03 01 50.9
comp=Z,266nm,19.6s,baz=192,slow=36
OKC Ostrava-Krasne 71.49 319 eP **P** **02 29 56.7 -0.4**
MORC Moravsky Berou 71.88 319 eP **P** **02 29 59.5 +0.1**
comp=Z,21nm,1.0s,mb4.9
ZST Bratislava 72.08 317 eP **P** **02 30 00.4 -0.3**
ZST *e* pP 02 30 15.3 -4.4
GKP Gorka Klasztor 72.31 322 eP **P** **02 30 01.2 -0.7**
KOGS Kog 72.60 315 eP **P** **02 30 03.3 -0.5**
DPC Dobruska-Polom 72.69 319 eP **P** **02 30 04.6 +0.4**
KSP Ksiaz 72.73 320 eP **P** **02 30 04.6 +0.2**
UPC Upice 72.90 319 eP **P** **02 30 05.5 +0.1**
BILL Bilibino 73.10 22 eP **P** **02 30 05.4 -0.8**
BILL *e* pP 02 30 21.6 -3.7
BILL pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
BILL Bilibino 73.10 22 eP **P** **02 30 05.4 -0.8**
comp=Z,2.0nm,0.5s,mb4.2
BILL *e* pP 02 30 21.6 -3.7
PERS Pernice 73.38 315 eP **P** **02 30 08.2 -0.1**
LJU Ljubljana 73.79 315 *i* P **P** **02 30 10.6 -0.1**
PVCC Panska Ves 73.82 319 eP **P** **02 30 11.0 +0.2**
PRU Pruhonice 73.82 319 eP **P** **02 30 11.0 +0.1**
MOA Molln 73.97 317⇑ iP **P** **02 30 11.3 -0.5**
comp=Z,9.7nm,0.9s,mb4.5
BRG Berggiesshubel 74.22 320 *i* P **P** **02 30 13.4 +0.2**
BRG pmax pmax
comp=Z,18nm,0.8s,mb4.8
BRG Berggiesshubel 74.22 320 *i* P **P** **02 30 13.4 +0.2**
comp=Z,18nm,0.8s,mb4.8
GEC2 GERESS Array S 74.36 318 eP **P** **02 30 13.9 -0.1**
GEC2 pmax pmax
comp=Z,22nm,0.9s,mb4.9
GEC2 GERESS Array S 74.36 318 eP **P** **02 30 13.9 -0.1**
comp=Z,22nm,0.9s,mb4.9
GERES GERESS Array B 74.36 318 P **P** **02 30 14.1 +0.1**
comp=Z,15nm,0.7s,mb4.8,baz=90,slow=5.3,SNR=80
RUE Ruedersdorf 74.36 321 eP **P** **02 30 13.8 -0.2**
comp=Z,62nm,1.0s,mb5.3
KHC Kasperske Hory 74.44 318⇑ eP **P** **02 30 14.8 +0.3**
KHC Kasperske Hory 74.44 318 eP **P** **02 30 14.0 -0.5**
KBA Koelnbreinsper 74.60 316⇑ iP **P** **02 30 15.2 -0.2**
comp=Z,14nm,1.1s,mb4.6
KBA Koelnbreinsper 74.60 316⇑ iP **P** **02 30 15.2 -0.2**
KBA pmax pmax
comp=Z,14nm,1.1s,mb4.6
CLL Collm 74.82 320⇓ iP **P** **02 30 16.3 -0.3**
CLL pmax pmax
comp=Z,15nm,1.1s,mb4.6
CLL Collm 74.82 320⇓ iP **P** **02 30 16.3 -0.3**
comp=Z,15nm,1.1s,mb4.6
CLL Collm 74.82 320 ⇓P **P** **02 30 16.3 -0.3**
comp=Z,logA/T=1.1,mb4.6
CLL *e* 02 30 30.0
WET Wettzell 74.90 318 eP **P** **02 30 17.1 0.0**
WET pmax pmax
comp=Z,19nm,1.1s,mb4.7
WET Wettzell 74.90 318 eP **P** **02 30 17.1 0.0**
comp=Z,19nm,1.1s,mb4.7
LBTB Lobatse 75.07 240 eP **P** **02 30 19.2 +0.7**
LBTB pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
LBTB Lobatse 75.07 240 eP **P** **02 30 19.2 +0.6**
comp=Z,3.5nm,0.8s,mb4.1
NKC Novy Kostel 75.17 319 eP **P** **02 30 18.5 -0.1**
MOX Moxa 75.70 319 eP **P** **02 30 22.0 +0.4**
WATA Walderalm 75.80 316⇓ iP **P** **02 30 21.2 -1.1**
comp=Z,8.6nm,0.5s,mb4.7
WATA Walderalm 75.80 316⇓ iP **P** **02 30 21.2 -1.1**
WATA pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
GRA1 Grafenberg Arr 75.97 319 eP **P** **02 30 23.4 +0.2**
comp=Z,20nm,1.2s,mb4.7
GRA1 *e*pP pP 02 30 39.6 -2.7
GRF Grafenberg Arr 75.97 319 eP **P** **02 30 23.4 +0.2**
GRF *e*PP pP 02 30 39.6 -2.7
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.7
GRF Grafenberg Arr 75.97 319 eP **P** **02 30 23.4 +0.2**
GRF *e*PP pP 02 30 39.6 -2.7
GRF pmax pmax
comp=Z,20nm,1.2s,mb4.7
GRF Grafenberg Arr 75.97 319 eP **P** **02 30 23.4 +0.2**
comp=Z,20nm,1.2s,mb4.7
GRF *e*pP pP 02 30 39.6 -2.7
FUR Furstenfeldbru 75.98 317 eP **P** **02 30 22.5 -0.8**
FUR pmax pmax
comp=Z,14nm,0.7s,mb4.8
FUR Furstenfeldbru 75.98 317 eP **P** **02 30 22.5 -0.8**
comp=Z,14nm,0.7s,mb4.8
NB2 NORSAR Subarra 75.99 330 P **P** **02 30 21.8 -1.3**
comp=Z,2.6nm,0.7s,mb4.1,baz=90,slow=5.8
NB2 NORSAR Subarra 75.99 330 P **P** **02 30 21.8 -1.3**
NB2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
NOA NORSAR Array B 75.99 330 P **P** **02 30 22.1 -0.9**
comp=Z,6.6nm,0.9s,mb4.3,baz=92,slow=5.8,SNR=15
SQTA Sankt Quirin 76.05 316⇑ iP **P** **02 30 22.9 -0.8**
comp=Z,14nm,0.6s,mb4.9
SQTA Sankt Quirin 76.05 316⇑ iP **P** **02 30 22.9 -0.8**
SQTA pmax pmax
comp=Z,14nm,0.6s,mb4.9
MOTA Moosalm 76.12 316⇑ iP **P** **02 30 23.1 -1.0**
comp=Z,0.8nm,1.0s
MOTA Moosalm 76.12 316⇑ iP **P** **02 30 23.1 -1.0**
MOTA pmax pmax
comp=Z,1.0nm,1.0s
BSEG Bad Segeberg 76.45 323 eP **P** **02 30 26.2 +0.4**
CLZ Clausthal 76.46 321 eP **P** **02 30 26.1 +0.2**
comp=Z,26nm,0.9s,mb5.0
SARO Sassorosso 76.76 313 P **P** **02 30 28.6 +0.8**
VALM 76.86 313 P **P** **02 30 29.0 +0.6**
VINC Vinca 76.94 313 P **P** **02 30 28.1 -0.7**
DAVA Damuels 76.95 316⇓ iP **P** **02 30 28.8 0.0**
comp=Z,41nm,1.1s,mb5.1
GRAM 76.98 313 P **P** **02 30 29.6 +0.6**
DAVOX Davos 76.98 316 P **P** **02 30 29.1 +0.1**
comp=Z,13nm,0.8s,mb4.7,baz=122,slow=6.8,SNR=16
BACM 76.99 313 P **P** **02 30 30.4 +1.4**
MUD Monsted U'grnd 77.05 326 *i* P **P** **02 30 29.7 +0.6**
MUD pmax pmax
comp=Z,15nm,1.0s,mb4.7
MUD Monsted U'grnd 77.05 326 *i* P **P** **02 30 29.7 +0.6**
comp=Z,15nm,1.0s,mb4.7
CODM 77.14 313 P **P** **02 30 30.4 +0.6**
TNS Taunus Mts 77.74 319 eP **P** **02 30 33.4 +0.3**
TNS pmax pmax
comp=Z,15nm,1.0s,mb4.7
TNS Taunus Mts 77.74 319 eP **P** **02 30 33.4 +0.3**
comp=Z,15nm,1.0s,mb4.7
PCP Pian Castagno 78.06 313 P **P** **02 30 34.2 -0.7**
FIN Finale Ligure 78.33 313 P **P** **02 30 36.3 -0.1**
ORX Oropa 78.37 314 P **P** **02 30 36.5 -0.1**
TRAV 78.55 314 P **P** **02 30 36.3 -1.3**
ROB Roburent 78.56 313 P **P** **02 30 37.5 -0.2**
IMI Imperia 78.58 313 P **P** **02 30 37.9 +0.1**
CDF Champ du Feu 78.63 317⇓ iP **P** **02 30 37.4 -0.6**
comp=Z,22nm,1.0s,mb4.7
MONE Monesi 78.67 313 P **P** **02 30 37.9 -0.4**
NEGI Negi 78.72 313 P **P** **02 30 37.5 -1.1**
ENR Entracque 78.89 313 P **P** **02 30 39.6 +0.1**
SBF Sospel 78.92 313⇓ iP **P** **02 30 39.4 -0.3**
comp=Z,42nm,0.7s,mb5.1
RSP Reno Superiore 78.92 314 P **P** **02 30 39.0 -0.7**
HINF Hinteralfeld 78.96 317 eP **P** **02 30 39.3 -0.5**
comp=Z,7.5nm,0.7s,mb4.3
LSD Ceresole Reale 78.97 314 P **P** **02 30 40.5 +0.6**
FENE Fenestrelle 79.07 314 P **P** **02 30 40.0 -0.5**
PZZ Prazzo 79.09 313 P **P** **02 30 39.2 -1.5**
LPG La Plagne 79.25 314 eP **P** **02 30 41.8 +0.4**
comp=Z,85nm,0.8s,mb5.3
LPL La Plagne 79.26 314⇓ iP **P** **02 30 41.8 +0.3**
comp=Z,109nm,0.7s,mb5.5

RRL	**Cesana Torines**	**79.28**	**314**	P	**P**	**02 30 41.1**	**-0.5**
HAU	**Haudompre**	**79.28**	**317**⇓	*i*P	**P**	**02 30 41.0**	**-0.6**
	comp=Z,46nm,0.9s,mb5.0						
MBDF	**Montbardon**	**79.31**	**314**⇓	*i*P	**P**	**02 30 41.1**	**-0.7**
	comp=Z,37nm,0.9s,mb4.9						
BNI	**Bardonecchia**	**79.34**	**314**	*e*P	**P**	**02 30 41.5**	**-0.4**
	comp=Z,38nm,0.9s,mb5.2						
FRF	**La Foret Royal**	**79.52**	**312**⇓	*i*P	**P**	**02 30 42.7**	**-0.2**
	comp=Z,57nm,0.9s,mb5.1						
CABF	**La Chapelle**	**79.60**	**316**⇓	*i*P	**P**	**02 30 43.3**	**0.0**
	comp=Z,29nm,0.8s,mb4.8						
LMR	**La Mourre**	**79.64**	**312**⇓	*i*P	**P**	**02 30 43.3**	**-0.3**
	comp=Z,22nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	**79.92**	**314**⇓	*i*P	**P**	**02 30 44.5**	**-0.6**
	comp=Z,27nm,0.9s,mb4.8						
GIVF	**Givet**	**80.08**	**319**	*e*P	**P**	**02 30 45.2**	**-0.6**
MEZF	**Maizieres J'vi**	**80.10**	**318**	*e*P	**P**	**02 30 45.5**	**-0.4**
SMRF	**Simiane la Rot**	**80.24**	**313**⇓	*i*P	**P**	**02 30 47.2**	**+0.4**
	comp=Z,41nm,1.0s,mb4.9						
BAIF	**Baives**	**80.47**	**319**⇓	*i*P	**P**	**02 30 47.8**	**-0.1**
	comp=Z,44nm,1.1s,mb4.9						
VIVF	**Saint-Julien-l**	**80.78**	**314**⇓	*i*P	**P**	**02 30 49.6**	**0.0**
	comp=Z,32nm,0.9s,mb4.8						
SMF	**Signal de Mont**	**81.13**	**316**⇓	*i*P	**P**	**02 30 51.0**	**-0.4**
	comp=Z,37nm,0.8s,mb5.0						
SSF	**Saint Saulge**	**81.31**	**316**⇓	*i*P	**P**	**02 30 52.1**	**-0.2**
	comp=Z,17nm,0.9s,mb4.6						
AVF	**Avril sur Loir**	**81.44**	**316**⇓	*i*P	**P**	**02 30 52.6**	**-0.5**
	comp=Z,37nm,1.0s,mb4.9						
LASF	**Ste Croix**	**81.46**	**313**	*e*P	**P**	**02 30 53.6**	**+0.4**
BGF	**Bois d'Agland**	**81.82**	**316**	*e*P	**P**	**02 30 55.1**	**+0.1**
	comp=Z,37nm,1.0s,mb4.9						
HYF	**Humbligny**	**81.86**	**317**	*e*P	**P**	**02 30 55.6**	**+0.4**
TCF	**Toulx Ste Croi**	**82.30**	**316**⇓	*i*P	**P**	**02 30 57.6**	**+0.1**
	comp=Z,37nm,1.1s,mb4.8						
CAF	**Calviac**	**82.61**	**314**⇓	*i*P	**P**	**02 30 59.5**	**+0.4**
	comp=Z,21nm,1.0s,mb4.7						
MTLF	**Montolieu**	**82.74**	**313**⇓	*i*P	**P**	**02 31 00.1**	**+0.3**
	comp=Z,38nm,0.9s,mb4.9						
JMIC	**Jan Mayen**	**82.88**	**341**	LR	LR	03 14 55.6	
	comp=Z,104nm,19.8s,baz=80,slow=41						
RJF	**Les Rejaudoux**	**82.93**	**315**⇓	*i*P	**P**	**02 31 01.2**	**+0.5**
	comp=Z,27nm,0.9s,mb4.8						
EMIR	**Miracle**	**83.48**	**311**	P	**P**	**02 31 03.9**	**+0.3**
	comp=Z,32nm,0.7s,mb5.3						
LDF	**La Druitiere**	**83.49**	**318**⇓	*i*P	**P**	**02 31 03.4**	**-0.1**
	comp=Z,27nm,0.8s,mb4.8						
LFF	**La Frestale**	**83.53**	**314**	*e*P	**P**	**02 31 04.3**	**+0.5**
	comp=Z,38nm,1.1s,mb4.8						
FLN	**La Foliniere**	**83.69**	**318**	*e*P	**P**	**02 31 04.4**	**-0.1**
	comp=Z,28nm,0.9s,mb4.8						
MFF	**Saint Martin d**	**83.85**	**316**⇓	*i*P	**P**	**02 31 05.3**	**-0.1**
	comp=Z,28nm,0.8s,mb4.8						
EPOB	**Poblet**	**83.90**	**311**	P	**P**	**02 31 06.3**	**+0.6**
	comp=Z,20nm,0.7s,mb5.1						
EBIE	**Bielsa**	**84.35**	**312**	P	**P**	**02 31 06.6**	**-1.4**
	comp=Z,18nm,1.4s,mb4.7						
EBR	**Ebro Roquetas**	**84.43**	**310**	*e*P	**P**	**02 31 09.5**	**+1.1**
ERTA	**Horta de San J**	**84.53**	**311**	P	**P**	**02 31 09.9**	**+1.0**
	comp=Z,14nm,0.8s,mb5.0						
ETSF	**Etsaut**	**84.82**	**313**	*e*P	**P**	**02 31 11.8**	**+1.5**
	comp=Z,33nm,1.0s,mb4.9						
ESAC	**San Caprasio**	**84.98**	**311**	P	**P**	**02 31 12.0**	**+0.9**
	comp=Z,21nm,0.7s,mb5.2						
SGMF	**Saint Gilles**	**85.14**	**318**⇓	*i*P	**P**	**02 31 11.9**	**+0.1**
	comp=Z,28nm,0.9s,mb4.9						
EMOS	**Mosqueruela**	**85.24**	**310**	P	**P**	**02 31 14.4**	**+1.9**
	comp=Z,25nm,0.9s,mb5.2						
SJPF	**Ste Jean**	**85.26**	**313**	*e*P	**P**	**02 31 13.2**	**+0.7**
	comp=Z,48nm,1.2s,mb5.0						
QUIF	**Quistinic**	**85.61**	**318**	*e*P	**P**	**02 31 13.9**	**-0.2**
	comp=Z,27nm,0.9s,mb4.9						
ETOB	**Tobarra**	**86.39**	**309**	P	**P**	**02 31 19.7**	**+1.6**
	comp=Z,8.7nm,0.8s,mb4.7						
EVIA	**Vianos**	**87.13**	**309**	P	**P**	**02 31 22.9**	**+1.2**
	comp=Z,10nm,1.0s,mb4.7						
EQES	**Quesada**	**87.75**	**308**	P	**P**	**02 31 26.7**	**+2.0**
	comp=Z,8.6nm,0.9s,mb4.8						
EBER	**Berja**	**87.80**	**307**	P	**P**	**02 31 26.2**	**+1.2**
	comp=Z,12nm,0.7s,mb5.0						
GUD	**Guadarrama**	**87.92**	**311**	P	**P**	**02 31 25.4**	**-0.1**
	comp=Z,11nm,0.8s,mb5.0						
ESDC	**Sonseca Array**	**88.00**	**310**	P	**P**	**02 31 26.4**	**+0.5**
	comp=Z,4.6nm,0.8s,mb4.6,baz=64,slow=4.3,SNR=21						
ESDC	**Sonseca Array**	**88.00**	**310**	P	**P**	**02 31 26.7**	**+0.8**
	comp=Z,3.5nm,0.7s,mb4.5						
EALB	**Alboran**	**88.13**	**306**	P	**P**	**02 31 28.6**	**+2.0**
	comp=Z,82nm,1.5s,mb5.5						
EBAN	**Banos Encina**	**88.21**	**308**	P	**P**	**02 31 28.3**	**+1.3**
	comp=Z,3.6nm,0.6s,mb4.6						
IMA	**Indian Mountai**	**88.64**	**22**	P	**P**	**02 31 29.7**	**+1.4**
	comp=Z,26nm,1.2s,mb5.1						
ELOJ	**Sierra Loja**	**88.73**	**308**	P	**P**	**02 31 30.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb4.1						
EADA	**Adamuz**	**88.82**	**309**	P	**P**	**02 31 30.6**	**+0.7**
	comp=Z,9.4nm,0.9s,mb4.8						
EMIJ	**Mijas**	**89.35**	**307**	P	**P**	**02 31 32.0**	**-0.4**
	comp=Z,8.9nm,0.7s,mb4.9						
RPZ	**Rata Peaks**	**89.42**	**135**	LR	LR	03 13 52.1	
	comp=Z,99nm,18.7s,baz=96,slow=37						
EJIF	**Jimena Fronter**	**89.92**	**307**	P	**P**	**02 31 34.9**	**-0.1**
ESPR	**Espera**	**90.12**	**308**	P	**P**	**02 31 36.6**	**+0.6**
	comp=Z,11nm,0.8s,mb5.0						
EMIN	**Mina Concepcio**	**90.52**	**309**	P	**P**	**02 31 38.7**	**+0.9**
	comp=Z,8.3nm,0.8s,mb4.9						
EVO	**Evora**	**91.34**	**310**	*e*P	**P**	**02 31 43.4**	**+1.8**
	comp=Z,8.6nm,0.9s,mb4.6						
ILAR	**Eielson Array**	**91.76**	**22**	P	**P**	**02 31 43.0**	**0.0**
	comp=Z,0.8nm,0.7s,mb4.1,baz=294,slow=4.3,SNR=11						
ILAR				PP	PP	02 35 20.9	-3.8
	comp=Z,0.4nm,0.9s,baz=282,slow=5.4,SNR=4.1						
ILAR				PKKPbc		02 49 02.9	
	comp=Z,0.2nm,0.6s,baz=163,slow=2.3,SNR=4.7						
URZ	**Urewera**	**92.50**	**128**	LR	LR	03 14 17.9	
	comp=Z,95nm,18.5s,baz=220,slow=36						
INK	**Inuvik**	**93.77**	**16**	*e*P	**P**	**02 31 52.5**	**+0.5**
	comp=Z,6.4nm,1.1s,mb4.9						
YKA	**Yellowknife Ar**	**103.10**	**13**	Pdiff	Pdif	02 32 35.5	+1.3
	comp=Z,0.3nm,0.8s,baz=333,slow=4.4,SNR=4.4						
YKA				PP	PP	02 36 46.1	-6.4
	comp=Z,0.4nm,1.0s,baz=332,slow=7.8,SNR=5.5						
YKA	**Yellowknife Ar**	**103.10**	**13**	Pdif	Pdif	02 32 35.5	+1.3
YKA				PP	PP	02 36 46.1	-6.4
VNA2	**Neumayer--Watz**	**104.26**	**199**⇑	*i*P	Pdif	02 32 20.8	-18
VNA2	**Neumayer--Watz**	**104.26**	**199**	*e*	Pdif	02 32 32.0	-7.2
VNA3	**Neumayer Olymp**	**104.96**	**199**⇑	*i*P	Pdif	02 32 21.2	-21
VNA3	**Neumayer Olymp**	**104.96**	**199**	*e*	Pdif	02 32 32.2	-10
PDAR	**Pinedale Array**	**122.11**	**19**	PKP	PKPdf	02 37 31.0	+2.0
	comp=Z,1.0nm,0.6s,baz=43,slow=1.2,SNR=11						
NVAR	**Mina Array Bea**	**122.29**	**29**	PKP	PKPdf	02 37 31.5	+2.0
	comp=Z,1.8nm,0.7s,baz=335,slow=0.8,SNR=12						
MSU	**Marysvale**	**124.90**	**24**	*e*PKPdf	PKPdf	02 37 38.6	+4.0
TXAR	**Lajitas Array**	**136.27**	**21**	PKP	PKPdf	02 37 56.5	+0.2
	comp=Z,1.3nm,0.9s,baz=39,slow=1.3,SNR=8.1						
TXAR				PP	PP	02 40 37.1	-3.7
	comp=Z,0.7nm,1.1s,baz=342,slow=4.0,SNR=3.6						
TXAR				SKPbc		02 41 24.8	
	comp=Z,2.4nm,0.7s,baz=280,slow=1.4,SNR=28						
BDFB	**Brasilia**	**141.94**	**259**	PKP	PKPdf	02 38 08.6	+1.7
	comp=Z,2.3nm,1.0s,baz=119,slow=2.8,SNR=3.7						
TRQA	**Tornquist**	**145.42**	**216**	*e*PKPdf	PKPdf	02 38 14.2	+1.8
PLCA	**Paso Flores**	**147.54**	**204**	PKPbc	PKPdf	02 38 21.5	+5.7
	comp=Z,3.4nm,0.8s,baz=91,slow=3.3,SNR=8.3						
PLCA	**Paso Flores**	**147.54**	**204**	PKPbc	PKPdf	02 38 21.5	+5.7
TEIG	**Tepich**	**148.38**	**2**	*e*PKPbc	PKPdf	02 38 23.5	+5.7
LPAZ	**La Paz**	**161.11**	**253**	PKP	PKPdf	02 38 38.2	+3.3
	comp=Z,0.9nm,0.8s,baz=270,slow=3.0,SNR=3.8						
LPAZ				PKPab	PKPab	02 39 21.9	+1.0
	comp=Z,0.4nm,0.4s,baz=315,slow=4.3,SNR=3.5						
LPAZ	**La Paz**	**161.11**	**253**	PKP	PKPdf	02 38 38.2	+3.3
LPAZ				PKPab	PKPab	02 39 21.9	+1.0

IDC 13 02:43:14.5±2.6**, 9.13N**×**91.17E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.7**/16**, mbtmp4.0**/4**, Error ellipse: s-maj=144.9km s-min=28.9km az=53.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAL	**Zalesovo**	**44.97**	**355**	P	P	02 51 31.2	-2.0
	1.5nm,0.3s,baz=305,slow=3.7,SNR=5.7						
WRA	**Warramunga Arr**	**51.38**	**125**	P	P	02 52 21.4	-2.0
	0.4nm,0.6s,baz=301,slow=9.7,SNR=3.2						
FINES	**FINESS Array B**	**70.24**	**332**	P	P	02 54 29.6	-1.6
	1.1nm,0.9s,baz=117,slow=8.5,SNR=3.7						
ARCES	**ARCESS Array B**	**73.10**	**340**	P	P	02 54 46.0	-2.1
	2.2nm,0.9s,baz=102,slow=8.3,SNR=5.3						

*NEIC **13** 02:56:48.6±1.4, 19.32S×177.58W, h308^{km}±14^{km}, mb3.7/3, Error ellipse: s-maj=22.7km s-min=10.2km az=137.0*
*IDC **13** 02:56:52.7±2.8, 19.55S×177.49W, h351^{km}±30^{km}, mb3.4/9, mb1 3.7/10, mb1mx3.6/16, mbtmp4.1/10, Error ellipse: s-maj=33.5km s-min=11.7km az=148.0*
ISC 13 02:56:47.8±1.6**, 19.3S**±0.1×**177.7W**±0.1**, h311**^{km}±16^{km}**, n19,** σ**0.91**/19**, mb3.7**/12**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.80**	**47**	*e*P	**P**	**02 58 39.4**	**-0.4**
URZ	**Urewera**	**19.40**	**192**	P	**P**	**03 00 52.0**	**-0.5**
	2.6nm,0.3s,baz=54,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**38.60**	**243**	P	**P**	**03 03 44.4**	**+1.3**
	1.6nm,0.3s,mb3.9,baz=84,slow=9.2,SNR=5.1						
WRAB	**Tennant Creek**	**45.09**	**261**	*e*P	**P**	**03 04 34.3**	**-1.3**
	1.1nm,0.4s,mb3.4						
WRA	**Warramunga Arr**	**45.10**	**261**	P	**P**	**03 04 35.9**	**+0.3**
	0.6nm,0.3s,mb3.3,baz=97,slow=7.4,SNR=16						
WRA				S	**S**	**03 10 49.8**	**-0.8**
	0.4nm,0.7s,baz=118,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**45.11**	**256**	P	**P**	**03 04 36.3**	**+0.6**
	5.9nm,0.6s,mb4.0,baz=92,slow=8.2,SNR=121						
ASAR				S	**S**	**03 10 49.7**	**-1.1**
	0.4nm,0.8s,baz=88,slow=18,SNR=4.7						
SBA	**Scott Base**	**59.05**	**184**	P	**P**	**03 06 17.1**	**-0.2**
NVAR	**Mina Array Bea**	**79.95**	**43**	P	**P**	**03 08 24.7**	**+0.5**
	3.3nm,1.1s,mb4.0,baz=213,slow=7.5,SNR=9.2						
NVAR	**Mina Array Bea**	**79.95**	**43**	P	**P**	**03 08 24.7**	**+0.5**
HLID	**Hailey**	**85.23**	**41**	P	**P**	**03 08 51.4**	**+0.5**
	1.0nm,0.8s,mb3.7						
TXAR	**Lajitas Array**	**86.15**	**57**	P	**P**	**03 08 56.4**	**+0.7**
	0.7nm,0.8s,mb3.6,baz=213,slow=7.2,SNR=9.2						
ILAR	**Eielson Array**	**87.11**	**13**	P	**P**	**03 08 58.1**	**-1.2**
	0.4nm,0.5s,mb3.5,baz=219,slow=5.0,SNR=5.2						
CHMT	**Chamberlain Mo**	**87.70**	**38**	*e*P	**P**	**03 09 02.1**	**-0.5**
PDAR	**Pinedale Array**	**87.89**	**43**	P	**P**	**03 09 03.8**	**+0.1**
	0.5nm,0.7s,mb3.4,baz=162,slow=4.7,SNR=4.6						
BOZ	**Bozeman (W)**	**88.01**	**40**	*e*P	**P**	**03 09 04.8**	**+0.6**
	1.4nm,0.7s,mb3.9						
CMAR	**Chiang Mai Arr**	**90.03**	**289**	P	**P**	**03 09 16.4**	**+2.1**
	0.7nm,0.4s,mb3.8,baz=135,slow=2.0,SNR=4.1						
YKA	**Yellowknife Ar**	**95.32**	**25**	P	**P**	**03 09 36.1**	**-1.4**
	0.2nm,0.6s,mb3.4,baz=241,slow=4.6,SNR=5.6						
ARCES	**ARCESS Array B**	**127.83**	**350**	PKP	PKPdf	03 15 15.9	-0.2
	5.2nm,1.0s,slow=0.9,SNR=3.5						
GERES	**GERESS Array B**	**149.16**	**345**	PKPbc	PKPdf	03 16 00.3	+5.6
	0.9nm,0.8s,baz=31,slow=5.7,SNR=3.5						

*CSEM **13** 02:57:01.6, 33.96N×25.60E, h17^{km}, MD3.4/3, After ATH*
ATH 13 02:57:01.8, 33.97N×**25.54E, h21**^{km}**, MD3.5**/3**, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.91**	**8**	*e*PN	Pn	02 57 19.0	-0.4
XRY				*e*SN	Sn	02 57 32.0	0.0
NPS	**Neapolis**	**1.29**	**3**	*e*PN	Pn	02 57 26.0	+1.1
KARP	**Karpathos**	**2.06**	**40**	*e*PN	Pn	02 57 37.5	+1.6

IDC 13 03:02:02.5±5.5**, 45.11S**×**81.74W, mb3.9**/4**, mb1 4.1**/5**, mb1mx3.8**/15**, mbtmp3.8**/5**, ML3.6**/1**, MS3.3**/2**, Ms1 3.3**/2**, ms1mx2.7**/18**, Error ellipse: s-maj=146.7km s-min=36.0km az=176.0, Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.30**	**66**	Pn	P	03 04 16.4	-4.4
	0.2nm,0.3s,baz=246,slow=16,SNR=5.9						
PLCA				LR	LR	03 07 23.3	
	comp=Z,211nm,18.2s,baz=324,slow=34						
LVC	**Limon Verde**	**24.78**	**29**	P	P	03 07 26.3	-0.9
	5.6nm,1.1s,baz=204,slow=10.0,SNR=3.3						
LVC				LR	LR	03 14 22.4	
	comp=Z,62nm,20.8s,baz=227,slow=30						
BDFB	**Brasilia**	**40.83**	**55**	P	P	03 09 46.5	-1.0
	1.0nm,0.5s,baz=192,slow=9.3,SNR=2.8						
TXAR	**Lajitas Array**	**76.73**	**340**	P	P	03 13 55.8	-1.4
	0.5nm,0.7s,baz=166,slow=9.2,SNR=8.3						
NVAR	**Mina Array Bea**	**89.45**	**332**	P	P	03 15 00.5	-1.9
	0.2nm,0.3s,baz=163,slow=8.9,SNR=3.5						

*BJI **13** 03:02:19.5, 40.35N×44.97E, h10^{km}, mB5.2, mb4.8, Ms5.0, Msz4.2*
*NSSP **13** 03:02:19.7, 40.18N×45.93E, h5^{km}, ML4.0*
*TIF **13** 03:02:21.8, 40.22N×45.84E, h22^{km}±2^{km}*
*IDC **13** 03:02:24.5±0.8, 40.36N×45.73E, mb4.3/20, mb1 4.4/24, mb1mx4.4/26, mbtmp4.3/24, ML4.0/4, MS3.9/6, Ms1 3.9/6, ms1mx3.7/24, Error ellipse: s-maj=18.7km s-min=9.7km az=157.0*
*MOS **13** 03:02:26.2±1.5, 40.33N×45.85E, h22^{km}, mb4.8/37, Error ellipse: s-maj=6.5km s-min=3.8km az=129.4*
*NEIC **13** 03:02:26.1±0.3, 40.34N×45.84E, h10^{km}, mb4.6/46, Error ellipse: s-maj=7.3km s-min=4.4km az=176.0*
NEIC Felt [VI] in the epicentral area and [IV] at Vardenis. Felt at Azat, Norabak, Sotk and Tretuk, Armenia.
*ZUR_RM **13** 03:02:26, 40.34N×45.84E, h12^{km}, Mw4.7/12, Moment Tensor Solution. s12 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08; $M_{\theta\theta}$-0.88; $M_{\phi\phi}$0.96; $M_{r\theta}$-0.23; $M_{\theta\phi}$-0.99; $M_{\phi r}$0.47; Best double couple: $M_0$1.44×10^{16} NP1:ϕ_s290°, δ78°, λ166°. NP2:ϕ_s23°, δ77°, λ12°. Principal axes: T 1.5638, Plg18°, Azm246°; N -.2478, Plg72°, Azm71°; P -1.316, Plg1°, Azm337°;*
*CSEM **13** 03:02:31.3, 41.02N×45.77E, h10^{km}, mb4.7*
*TEH **13** 03:02:37.3, 39.62N×46.24E, h10^{km}, Mn4.4*
ISC 13 03:02:24.7±0.1**, 40.32N**±0.02×**45.86E**±0.02**, h10**^{km}**, (h17**^{km}±2.2^{km}**:pP-P), n306,** σ**1.35**/310**, mb4.5**/86**, MS4.0**/14**, 14C-9D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNI	**Garni**	**0.87**	**259**	Pg	**Pg**	**03 02 41.4**	**-0.8**
	871nm,0.3s,baz=49,slow=6.3,SNR=1478						
GNI				Lg		03 02 57.8	
	1µm,0.3s,baz=23,slow=20,SNR=24						
AMBZ	**Amberd**	**1.22**	**274**	S	**Sb**	**03 03 01.6**	**-1.6**
TI2	**Plekhanov**	**1.65**	**330**⇓	*i*PG	**Pn**	**03 02 53.8**	**-0.1**
TI2				pmax	pmax		
	comp=N,270nm,0.4s						
TI2				pmax	pmax		
	comp=E,290nm,0.4s						
TI2				pmax	pmax		
	comp=Z,400nm,0.4s						
TI2				pmax	pmax		
	comp=N,2µm,0.6s						
TI2				pmax	pmax		
	comp=E,2µm,0.6s						
TI2				pmax	pmax		
	comp=Z,7µm,0.6s						
TI2	**Plekhanov**	**1.65**	**330**⇓	*i*P	**Pn**	**03 02 53.8**	**-0.1**
	comp=Z,400nm,0.4s						
AKT	**Akhty**	**1.83**	**50**	*i* PN	**Pn**	**03 02 53.0**	**-3.6**
CLDR	**Caldiran**	**1.90**	**233**	*i* P	Px	03 03 59.1	
DUS	**Dusheti**	**1.98**	**334**	P	**Pn**	**03 02 59.9**	**+1.2**
DUS				S	**Sn**	**03 03 27.5**	**+3.8**
ITBZ	**Tabriz**	**2.09**	**174**	Pn	**Pn**	**03 03 01.6**	**+1.3**
KARS	**Kars**	**2.13**	**279**	*i* P	Px	03 04 02.4	
IHRS	**Heris**	**2.20**	**155**	Pn	**Pn**	**03 03 02.2**	**+0.4**
GNBR	**Gunib**	**2.23**	**22**	*i* Pn	**Pn**	**03 03 02.0**	**-0.3**
GNBR				*e*Sn	**Sn**	**03 03 29.2**	**-1.0**
IHSH	**Hashtroud**	**2.28**	**151**	Pn	**Pn**	**03 03 17.3**	**+14**
VANB	**Van**	**2.57**	**229**	*i* P	Px	03 04 09.7	
TVAN	**Van**	**2.61**	**228**	*i* P	**Pn**	**03 03 09.7**	**+2.0**
TVAN				*i* S	**Sn**	**03 03 35.6**	**-4.1**
TVAN	**Van**	**2.61**	**228**	*i* P	**Pn**	**03 03 09.9**	**+2.2**
IAZR	**Azarshahr**	**2.64**	**178**	Pn	**Pn**	**03 03 10.9**	**+2.8**
VANT	**Van**	**2.67**	**226**	*i* P	Px	03 04 12.1	
BUJR	**Buynaksk**	**2.68**	**20**	*i* PN	**Pn**	**03 03 13.0**	**+4.3**
BUJR						03 03 54.0	
BUJR	**Buynaksk**	**2.68**	**20**	Sg	**Sg**	**03 03 54.0**	**+0.1**
IBST	**Bostanabad**	**2.73**	**163**	Pn	**Pn**	**03 03 11.9**	**+2.4**
DBC	**Dubki**	**2.80**	**15**	*i* PN	**Pn**	**03 03 12.2**	**+1.8**
ZEI	**Tsey**	**2.86**	**330**	*i* PN	**Pn**	**03 03 13.6**	**+2.3**
ZEI				*e*		03 03 20.3	
ZEI				*e*		03 03 46.6	
ZEI				*e*		03 03 56.2	
ZEI				pmax	pmax		
	comp=Z,896nm,0.3s						
ZEI	**Tsey**	**2.86**	**330**	*i* Pn	**Pn**	**03 03 13.6**	**+2.3**
	comp=Z,896nm,0.3s						
ONI	**Oni**	**2.90**	**322**	P	**Pn**	**03 03 13.8**	**+2.0**
ONI				S	**Sn**	**03 03 50.6**	**+3.6**
MAK	**Makhachkala**	**2.92**	**24**	PN	**Pn**	**03 03 14.0**	**+1.9**
MAK				*i* S	**Sn**	**03 03 52.0**	**+4.4**
MAK				pmax	pmax		
	comp=Z,442nm,0.8s						
MAK				smax			
	comp=N,6µm,2.0s						
MAK				smax			
	comp=E,14µm,2.0s						
MAK				MLR	MLR		
	comp=Z,11µm,6.0s						
MAK				MLR	MLR		
	comp=N,4µm,4.0s						
MAK				MLR	MLR		
	comp=E,7µm,4.0s						
MAK	**Makhachkala**	**2.92**	**24**	Pn	**Pn**	**03 03 14.0**	**+1.9**
	comp=E,442nm,0.8s						
HKR	**Hakkari**	**3.19**	**212**	*e*P	Px	03 04 18.6	
BCA	**Borcka**	**3.40**	**291**	*e*P	Px	03 04 21.6	
ERZM	**Erzurum**	**3.47**	**265**	*i* P	**Pn**	**03 03 21.4**	**+1.5**
ERZM	**Erzurum**	**3.47**	**265**	*i* P	**Pn**	**03 03 21.6**	**+1.7**
ERZM				*i* S	**Sn**	**03 04 16.4**	**+15**
EZM	**Erzurum**	**3.47**	**265**	P	Px	03 04 21.8	
VRT	**Varto**	**3.54**	**252**	P	Px	03 04 22.9	
KUBR	**Kubataba**	**3.93**	**333**	*i* PN	**Pn**	**03 03 28.0**	**+1.5**
KUBR				*i* S	**Sn**	**03 04 30.0**	**+17**
BTMT	**Batman**	**4.00**	**239**	*e*P	Px	03 04 31.1	
SHAR	**Shatzhatmas**	**4.17**	**326**	*i* PN	**Pn**	**03 03 31.7**	**+1.8**
SHAR				*e*S	**Sn**	**03 04 37.5**	**+18**
BEST	**Besiri**	**4.31**	**237**	*i* P	**Pn**	**03 03 34.6**	**+2.7**
BEST	**Besiri**	**4.31**	**237**	*i* P	**Pn**	**03 03 34.7**	**+2.7**
BEST				*i* S	**Sn**	**03 04 39.2**	**+16**
KIV	**Kislovodsk**	**4.33**	**328***d*	*i*PN	**Pn**	**03 03 33.4**	**+1.1**
KIV				*i*		03 03 45.7	
KIV				*i* S	**Sn**	**03 04 27.5**	**+4.0**
KIV				pmax	pmax		
	comp=Z,17nm,0.6s						
KIV				MLR	MLR		
	comp=Z,2µm,11.0s						
KIV	**Kislovodsk**	**4.33**	**328**	*e*Pn	**Pn**	**03 03 33.3**	**+1.1**
KIV				*e*S	**Sn**	**03 04 38.6**	**+15**
KIV	**Kislovodsk**	**4.33**	**328**	*e*Pn	**Pn**	**03 03 33.3**	**+1.1**
BINT	**Bingol**	**4.39**	**253**	*e*P	Px	03 04 34.6	
EZC	**Erzincan**	**4.67**	**265**	*e*P	Px	03 04 43.6	
GUMT	**Gumushane**	**4.87**	**274**	*e*P	Px	03 04 42.1	
DIY	**Diyarbakir**	**5.00**	**243**	*e*P	Px	03 04 43.4	
GOF	**Gofitskoye**	**5.17**	**337**⇑	*i*PN	**Pn**	**03 03 44.5**	**+0.3**
GOF				pmax	pmax		
	comp=Z,70nm,1.2s						
GOF	**Gofitskoye**	**5.17**	**337**	*i* Pn	**Pn**	**03 03 44.5**	**+0.3**
	comp=Z,70nm,1.2s						
PTK	**Pertek**	**5.19**	**256**	*e*P	Px	03 04 46.4	
KRF	**Krasnovodsk**	**5.48**	**91**⇓	*i*P	**Pn**	**03 03 42.0**	**-6.5**
KRF				S	**Sn**	**03 04 45.6**	**-6.8**
IDHR	**Dehrash**	**5.62**	**176**	Pn	**Pn**	**03 04 05.7**	**+15**
SOC	**Sochi**	**5.62**	**307**	*e*P	**Pn**	**03 03 49.8**	**-0.7**
SOC				*e*		03 04 52.0	
SOC				pmax	pmax		
	comp=Z,30nm,0.7s						
SOC				pmax	pmax		
	comp=N,58nm,1.1s						
SOC				pmax	pmax		
	comp=E,44nm,0.9s						
SOC				MLR	MLR		
	comp=Z,884nm,9.0s						
SOC				MLR	MLR		
	comp=N,1µm,11.0s						
SOC				MLR	MLR		
	comp=E,2µm,14.0s						
SOC	**Sochi**	**5.62**	**307**	*e*P	**Pn**	**03 03 49.8**	**-0.7**
	comp=E,58nm,1.1s						
SOC				*e*S	**Sn**	**03 04 52.0**	**-3.9**
	comp=E,1µm,11.0s						
ELZG	**Elazig**	**5.62**	**253**	*i* P	**Pn**	**03 03 53.0**	**+2.5**
ELZG	**Elazig**	**5.62**	**253**	*i* P	**Pn**	**03 03 53.2**	**+2.7**
IVIS	**Veys**	**5.83**	**172**	Pn	**Pn**	**03 04 00.2**	**+6.7**
IRAZ	**Razeghan**	**5.87**	**145**	Pn	**Pn**	**03 03 54.2**	**+0.3**
IRAZ	**Razeghan**	**5.87**	**145**	Lg		03 05 17.1	
IGHG	**Ghaleghazi**	**6.00**	**174**	Pn	**Pn**	**03 04 08.4**	**+13**
MALT	**Malatya**	**6.10**	**253**	*e*P	Px	03 04 58.3	
MALT	**Malatya**	**6.10**	**253**	*e*P	**Pn**	**03 03 57.5**	**+0.3**
MALT				pmax	pmax		
	comp=Z,20nm,0.8s						
MALT	**Malatya**	**6.10**	**253**	*e*Pn	**Pn**	**03 03 57.5**	**+0.3**
	comp=Z,20nm,0.8s						
MALT	**Malatya**	**6.10**	**253**	*e*Pn	**Pn**	**03 03 57.5**	**+0.3**
	comp=Z,20nm,0.8s						
URFA	**Urfa**	**6.20**	**245**	*e*P	Px	03 05 00.7	
IKOM	**Komasi**	**6.27**	**167**	Pn	**Pn**	**03 04 05.4**	**+5.8**
IAFJ	**Afjeh**	**6.41**	**132**	Pn	**Pn**	**03 04 00.3**	**-1.3**
IDMV	**Damavand**	**6.79**	**132**	Pn	**Pn**	**03 04 07.1**	**+0.1**
GZT	**Gaziantep**	**7.12**	**248**	*i* P	**Pn**	**03 04 13.6**	**+2.1**
IFIR	**Firoozkooh**	**7.17**	**128**	Pn	**Pn**	**03 04 12.9**	**+0.6**
GAZ	**Gaziantep**	**7.45**	**248**	*e*P	Px	03 05 17.6	
KAHT	**Ahir Dag**	**7.50**	**252**	*i* P	**Pn**	**03 04 18.3**	**+1.5**
KAHT	**Ahir Dag**	**7.50**	**252**	*i* P	**Pn**	**03 04 26.3**	**+9.5**
BOYT	**Boyabat**	**8.38**	**281**	*e*P	**P**	**03 04 32.8**	**+3.7**
AVNT	**Avonos**	**8.64**	**263**	*i* P	**P**	**03 04 36.3**	**+3.6**
ASF	**Jabal al Asfar**	**10.88**	**224**	Pn	**P**	**03 05 02.9**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=287,slow=7.4,SNR=6.3						
ASF				Lg		03 08 30.8	
	comp=Z,0.1nm,0.3s,slow=20,SNR=3.1						
ASF				LR	LR	03 09 12.8	
	comp=Z,399nm,21.2s,baz=94,slow=38						
CSS	**Prodhromos**	**11.28**	**246**	*e*Pn	**P**	**03 05 05.6**	**-3.4**
CSS	**Prodhromos**	**11.28**	**246**	*e*Pn	**P**	**03 05 05.6**	**-3.4**
ISP	**Isparta**	**12.18**	**263**	P	**P**	**03 05 19.0**	**-2.3**
ISP				pmax	pmax		
	comp=Z,25nm,1.4s						
ISP	**Isparta**	**12.18**	**263**	P	**P**	**03 05 19.0**	**-2.3**
	comp=Z,25nm,1.4s						
ISP	**Isparta**	**12.18**	**263**	P	**P**	**03 05 19.0**	**-2.3**
	comp=Z,25nm,1.4s						
VOR	**Voronezh**	**12.31**	**340**	*e*P	**P**	**03 05 22.0**	**-0.9**
VOR				*e*		03 07 31.0	
VOR				pmax	pmax		
	comp=E,60nm,1.4s						
VOR				pmax	pmax		
	comp=Z,70nm,1.4s						
EIL	**Elat**	**13.87**	**223**	LR	LR	03 11 09.2	
	comp=Z,396nm,18.8s,baz=56,slow=38						
KIS	**Kishinev**	**14.01**	**304**	*e*P	**P**	**03 05 52.0**	**+6.5**
MLR	**Muntele Rosu**	**15.47**	**296**	Pn	**P**	**03 06 10.1**	**+5.6**
	comp=Z,0.3nm,0.3s,baz=158,slow=5.0,SNR=11						
AKASG	**Malin Array Be**	**15.58**	**317**	Pn	**P**	**03 06 04.1**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=123,slow=10,SNR=14						
OBN	**Obninsk**	**16.05**	**340***c*	*i*P	**P**	**03 06 08.8**	**-3.1**
OBN				*e*S	**S**	**03 09 12.4**	**+2.5**
OBN				pmax	pmax		
	comp=Z,35nm,1.1s						
OBN				MLR	MLR		
	comp=Z,500nm,18.0s						
OBN	**Obninsk**	**16.05**	**340**	*e*P	**P**	**03 06 08.0**	**-3.9**
	comp=Z,21nm,0.6s						
MOS	**Moscow**	**16.36**	**343**	*e*P	**P**	**03 06 12.1**	**-3.8**
MOS				MLR	MLR		
	comp=Z,800nm,17.0s						
MOS				MLR	MLR		
	comp=N,500nm,16.9s						
BANOM	**Banah**	**16.79**	**146**	P	**P**	**03 06 22.0**	**+0.5**
	SNR=62						
IDI	**Anoyia**	**17.30**	**260**	Pn	**P**	**03 06 27.1**	**-0.9**
	comp=N,0.5nm,0.3s,baz=117,slow=4.4,SNR=6.0						
ASHO	**Ashiyiah**	**17.78**	**148**	P	**P**	**03 06 34.1**	**+0.2**
	SNR=51						
LVV	**L'vov**	**18.05**	**309**	*e*P	**P**	**03 06 36.5**	**-0.7**
GVD	**Gavdhos**	**18.09**	**259**	*e*P	**P**	**03 06 36.2**	**-1.5**
	comp=N,35nm,0.9s						
KWP	**Kalwaria**	**18.78**	**307**	*e*P	**P**	**03 06 46.7**	**+0.6**
KOLS	**Kolonicke sedl**	**18.81**	**305**	*e*P	**P**	**03 06 47.3**	**+0.8**
SVE	**Sverdlovsk**	**19.13**	**25**⇓	*e*P	**P**	**03 06 47.0**	**-3.2**
SVE				*e*		03 10 17.0	
SVE				pmax	pmax		
	comp=Z,40nm,1.2s						
ARQ	**Araqi**	**19.17**	**149**	P	**P**	**03 06 50.2**	**-0.8**
	SNR=23						
CRVS	**Cervenica-Dubn**	**19.31**	**304**	*e*	**P**	**03 06 49.6**	**-2.8**
DIVS	**Divcibare**	**19.50**	**290**	*e*P	**P**	**03 06 57.6**	**+2.9**
KECS	**Kecovo**	**19.82**	**303**	*e*P	**P**	**03 06 57.1**	**-1.1**

BSY Bisya 19.98 148 P **P** **03 06 59.0 -1.2**
SNR=45
BSYO Bisya 20.00 148 P **P** **03 06 59.0 -1.4**
SNR=45
PSZ Piszkesteto 20.07 301 *e*P **P** **03 06 58.6 -2.3**
PSZ *e* 03 07 04.6
PSZ pmax pmax
comp=Z,87nm,1.8s
PSZ Piszkesteto 20.07 301 *e*P **P** **03 06 58.6 -2.3**
comp=Z,87nm,1.8s
PSZ *e* 03 07 04.6
SOKR Solikamsk 20.46 16 *e*P **P** **03 07 01.0 -4.0**
SOKR *e* 03 10 44.1
SOKR pmax pmax
comp=Z,30nm,0.8s
SUW Suwalki 20.50 319 *e*P **P** **03 07 04.1 -1.3**
PKSM Moragy 20.62 296⇑ *i*P **P** **03 07 07.7 +1.0**
JMDO Jabal Madar 20.68 146 P **P** **03 07 06.6 -0.9**
SNR=31
OJC Ojcow 20.75 307 *e*P **P** **03 07 03.6 -4.3**
VYHS Vyhne 20.88 302 *e*P **P** **03 07 10.7 +1.3**
BVA0 Borovoye Array 20.96 44 P **P** **03 07 08.5 -1.7**
BVAR Borovoye Array 20.96 44 P **P** **03 07 08.1 -2.1**
comp=Z,9.5nm,0.5s,baz=231,slow=9.5,SNR=38
BVAR S **S** **03 10 58.2 -0.7**
comp=Z,5.0nm,0.8s,baz=227,slow=26,SNR=4.4
AML Almayashu 20.98 76 P **P** **03 07 10.4 -0.1**
SNR=45
EKS2 Erkin-Say 21.01 74 P **P** **03 07 10.0 -0.7**
SNR=61
CHKZ Chkalovo 21.39 43 *i*P **P** **03 07 11.1 -3.4**
CHKZ pmax pmax
comp=Z,21nm,0.9s,mb4.5
CHKZ Chkalovo 21.39 43 *e*P **P** **03 07 12.0 -2.5**
comp=Z,17nm,0.7s,mb4.5
USP Ospenovka 21.51 73 P **P** **03 07 14.1 -1.7**
SNR=13
AAK Ala-Archa 21.54 74 P **P** **03 07 15.6 -0.5**
comp=Z,105nm,0.8s,mb5.3,SNR=40
AAK Ala-Archa 21.54 74*c* *i*P **P** **03 07 14.8 -1.3**
AAK pmax pmax
comp=Z,19nm,0.9s,mb4.5
AAK MLR MLR
comp=Z,200nm,16.0s,MS3.6
AAK Ala-Archa 21.54 74 *e*P **P** **03 07 13.9 -2.2**
comp=Z,35nm,0.8s,mb4.8
UCH Uchtor 21.58 76 P **P** **03 07 16.4 -0.1**
SNR=17
FRU Bishkek 21.62 74 *i*P **P** **03 07 16.8 -0.1**
FRU *e* 03 07 47.0
FRU pmax pmax
comp=Z,290nm,2.5s,mb5.3
OKC Ostrava-Krasne 21.65 305 *e*P **P** **03 07 17.8 +0.6**
CHMS Chumysh 21.71 73 P **P** **03 07 17.9 +0.1**
SNR=16
KBK Karagaybulak 21.87 74 P **P** **03 07 19.9 +0.5**
SNR=32
VSU Vasula 21.88 332 *i*P **P** **03 07 20.5 +1.2**
ZST Bratislava 21.96 301 *e*P **P** **03 07 22.7 +2.5**
MORC Moravsky Berou 22.02 305 *e*P **P** **03 07 21.1 +0.3**
MORC pmax pmax
comp=Z,12nm,0.9s,mb4.3
MORC Moravsky Berou 22.02 305 *e*P **P** **03 07 21.1 +0.3**
comp=Z,12nm,0.9s,mb4.3
MORC Moravsky Berou 22.02 305 *e*P **P** **03 07 22.0 +1.2**
KZA Kyzart 22.14 76 P **P** **03 07 22.1 0.0**
SNR=30
TKM2 Tokmak 2 22.33 74 P **P** **03 07 23.6 -0.4**
SNR=22
VRAC Vranov 22.51 303 P **P** **03 07 24.5 -1.1**
comp=Z,3.2nm,0.8s,mb3.8,baz=200,slow=20,SNR=2.6
VRAC Vranov 22.51 303 *e*P **P** **03 07 27.5 +1.9**
ULHL Ulahol 22.86 75 P **P** **03 07 30.6 +1.5**
SNR=65
ARSA Arzberg 22.87 298⇑ *i*P **P** **03 07 32.4 +3.2**
comp=Z,14nm,0.9s,mb4.4
DPC Dobruska-Polom 22.92 306 *e*P **P** **03 07 30.6 +0.9**
KSH Kashi 23.06 82 *e*P **P** **03 07 33.0 +1.8**
KSH *e*AP 03 07 37.0
KSH *e*XP 03 07 40.1
KSH *e*PP PP 03 08 03.0 +1.7
KSH *e*S **S** **03 11 40.4 +2.8**
KSH *e*SCP 03 14 58.3
KSH *e*PCS 03 15 00.1
KSH AMB AMB
comp=Z,550nm,1.6s
KSH LR LR
comp=N,650nm,5.7s
KSH LR LR
comp=E,720nm,5.2s
KSP Ksiaz 23.07 307 *e*P **P** **03 07 31.9 +0.8**
KSP Ksiaz 23.07 307 *e*P **P** **03 07 31.6 +0.5**
KSP *e*pP 03 07 37.9
UPC Upice 23.15 306 *e*P **P** **03 07 34.5 +2.6**
WHFO Wadi Hawf 23.34 161 P **P** **03 07 33.0 -1.1**
SNR=40
ABTO Aybut 23.77 162 P **P** **03 07 37.5 -0.8**
SNR=23
RBK Rabkut 23.85 160 P **P** **03 07 38.3 -0.7**
SNR=14
PRU Pruhonice 23.95 304 *e*P **P** **03 07 42.6 +2.9**
JOF Joensuu 24.25 344 *e*p **P** **03 07 41.8 -0.7**
comp=E,12nm,0.6s,mb4.5
GEC2 GERESS Array S 24.29 301 *e*P **P** **03 07 44.6 +1.6**
GEC2 pmax pmax
comp=Z,18nm,1.0s,mb4.5
GEC2 GERESS Array S 24.29 301 *e*P **P** **03 07 44.6 +1.6**
comp=Z,18nm,1.0s,mb4.5
GERES GERESS Array B 24.29 301 P **P** **03 07 44.3 +1.2**
comp=Z,10nm,0.6s,mb4.4,baz=101,slow=8.5,SNR=40
KBA Koelnbreinsper 24.34 297⇑ *i*P **P** **03 07 45.8 +2.3**
comp=Z,9.6nm,0.8s,mb4.3
KBA Koelnbreinsper 24.34 297⇑ *i*P **P** **03 07 45.8 +2.3**
KBA pmax pmax
comp=Z,10.0nm,0.8s,mb4.3
FINES FINESS Array B 24.37 337 P **P** **03 07 43.0 -0.6**
comp=Z,5.1nm,0.6s,mb4.1,baz=141,slow=10,SNR=35
FINES LR LR 03 17 52.7
comp=Z,244nm,18.7s,MS3.7,baz=284,slow=38
FINES FINESS Array B 24.37 337 P **P** **03 07 43.0 -0.6**
FINES LR LR 03 17 52.6
KHC Kasperske Hory 24.42 302 *e*P **P** **03 07 45.8 +1.6**
KHC *e* 03 07 58.0
KHC Kasperske Hory 24.42 302 *e*P **P** **03 07 45.8 +1.6**
KHC x x 03 07 58.0
BRG Berggiesshubel 24.52 306 *e*P **P** **03 07 47.4 +2.2**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
BRG Berggiesshubel 24.52 306 *e*P **P** **03 07 47.4 +2.2**
comp=Z,2.7nm,0.8s,mb3.8
BRG Berggiesshubel 24.52 306 *e*P **P** **03 07 47.3 +2.1**
comp=Z,38nm,2.1s,mb4.6
VAE Valguarnera 24.57 274 P **P** **03 07 46.8 +1.0**
comp=Z,15nm,1.1s,mb4.4,baz=326,slow=7.3,SNR=2.6
KAF Kangasniemi 24.83 338 *e*p **P** **03 07 47.3 -0.8**
comp=Z,6.1nm,0.6s,mb4.3
KAF Kangasniemi 24.83 338 *e*P **P** **03 07 47.3 -0.8**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.3
WET Wettzell 24.87 302 *e*P **P** **03 07 51.2 +2.6**
WET pmax pmax
comp=Z,14nm,0.9s,mb4.5
WET Wettzell 24.87 302 *e*P **P** **03 07 51.2 +2.6**
comp=Z,14nm,0.9s,mb4.5
KURK Kurchatov 25.01 54 P **P** **03 07 50.3 +0.4**
comp=Z,213nm,0.9s,SNR=30
KURK Kurchatov 25.01 54*c* *i*P **P** **03 07 50.3 +0.4**
KURK pmax pmax
comp=Z,15nm,0.8s,mb4.6
KURK Kurchatov 25.01 54 *e*P **P** **03 07 50.2 +0.3**
comp=Z,35nm,0.8s,mb4.9
RUE Ruedersdorf 25.02 310 *e*P **P** **03 07 49.9 -0.2**
comp=Z,29nm,0.8s,mb4.9
CLL Collm 25.19 307⇓ *i*P **P** **03 07 53.3 +1.6**
CLL *i* pP 03 07 58.2 +3.6
CLL pmax pmax
comp=Z,24nm,0.8s,mb4.8
CLL Collm 25.19 307⇓ *i*P **P** **03 07 53.3 +1.6**
comp=Z,24nm,0.8s,mb4.8
CLL *i* pP 03 07 58.2 +3.6
CLL Collm 25.19 307 ⇓P **P** **03 07 53.3 +1.6**
comp=Z,logA/T=1.5,mb4.8
CLL *i* pP 03 07 58.2 +3.6
CLL Collm 25.19 307 *e*P **P** **03 07 53.3 +1.6**
comp=Z,24nm,0.8s,mb4.8
NKC Novy Kostel 25.32 304 *e*P **P** **03 07 54.6 +1.7**
GUNZ Gunzen 25.42 305 *e*P **P** **03 07 57.0 +3.2**
comp=Z,9.0nm,1.3s,mb4.1
NOTT Nottersdorf 25.46 303 *e*P **P** **03 07 56.2 +2.0**
comp=Z,9.0nm,0.9s,mb4.3
WATA Walderalm 25.56 297⇑ *i*P **P** **03 07 54.6 -0.5**
comp=Z,11nm,0.9s,mb4.4
WATA Walderalm 25.56 297⇑ *i*P **P** **03 07 54.6 -0.5**
WATA pmax pmax
comp=Z,11nm,0.9s,mb4.4
SQTA Sankt Quirin 25.80 297⇑ *i*P **P** **03 07 55.9 -1.5**
comp=Z,12nm,0.9s,mb4.4
SQTA Sankt Quirin 25.80 297⇑ *i*P **P** **03 07 55.9 -1.5**
SQTA pmax pmax
comp=Z,12nm,0.9s,mb4.4
FUR Furstenfeldbru 25.82 299 *e*P **P** **03 08 00.2 +2.7**
FUR pmax pmax
comp=Z,43nm,1.5s,mb4.8
FUR Furstenfeldbru 25.82 299 *e*P **P** **03 08 00.2 +2.7**
comp=Z,43nm,1.5s,mb4.8
MOTA Moosalm 25.88 297⇓ *i*P **P** **03 07 57.3 -0.8**
comp=Z,1.0nm,1.2s
MOX Moxa 25.92 305 *e*P **P** **03 08 00.5 +2.0**
comp=Z,18nm,1.6s,mb4.3
GRA1 Grafenberg Arr 26.02 303 *e*P **P** **03 08 02.3 +2.9**
comp=Z,13nm,1.0s,mb4.4
GRF Grafenberg Arr 26.02 303 *e*P **P** **03 08 02.3 +2.9**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.4
GRF Grafenberg Arr 26.02 303 *e*P **P** **03 08 02.3 +2.9**
GRF pmax pmax
comp=Z,13nm,1.0s,mb4.4
GRF Grafenberg Arr 26.02 303 *e*P **P** **03 08 02.3 +2.9**
comp=Z,13nm,1.0s,mb4.4
SDNR Sundarnagar 26.58 99 *e*P **P** **03 08 04.5 -0.3**
DAVOX Davos 26.70 296 P **P** **03 08 05.0 -0.7**
comp=Z,7.1nm,0.7s,mb4.3,baz=172,slow=7.1,SNR=13
DAVA Damuels 26.71 297⇓ *i*P **P** **03 08 04.9 -0.9**
comp=Z,12nm,0.8s,mb4.5
MKAR Makanchi Array 27.01 64 *i*P **P** **03 08 08.0 -0.5**
MKAR pmax pmax
comp=Z,8.0nm,0.8s
PGF Pioggiola 27.59 287 *e*P **P** **03 08 12.6 -1.3**
comp=Z,220nm,1.4s,mb5.3
PGF Pioggiola 27.59 287 *e*P **P** **03 08 12.6 -1.3**
PGF pmax pmax
comp=Z,110nm,1.4s,mb5.3
NDI New Delhi 28.19 105 *e* **P** **03 08 24.0 +4.6**
LVZ Lovozero 28.31 351 *i*P **P** **03 08 23.7 +3.6**
NVS Novosibirsk 28.70 47 *e*P **P** **03 08 22.6 -1.1**
NVS pmax pmax
comp=N,3.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
NVS pmax pmax
comp=Z,14nm,0.9s,mb4.7
LPG La Plagne 28.90 293 *e*P **P** **03 08 25.2 -0.5**
comp=Z,68nm,1.7s,mb4.8
LPG La Plagne 28.90 293 *e*P **P** **03 08 25.2 -0.5**
LPG pmax pmax
comp=Z,34nm,1.7s,mb4.8
LPL La Plagne 28.92 293 *e*P **P** **03 08 25.1 -0.7**
comp=Z,25nm,1.4s,mb4.5
LPL La Plagne 28.92 293 *e*P **P** **03 08 25.1 -0.7**
LPL pmax pmax
comp=Z,13nm,1.4s,mb4.5
MBDF Montbardon 28.95 292 *e*P **P** **03 08 25.0 -1.1**
comp=Z,14nm,0.7s,mb4.5
MBDF Montbardon 28.95 292 *e*P **P** **03 08 25.0 -1.1**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
BNI Bardonecchia 28.99 292 P **P** **03 08 27.0 +0.6**
HAU Haudompre 29.11 299 *e*P **P** **03 08 26.1 -1.4**
comp=Z,7.9nm,0.8s,mb4.2
HAU Haudompre 29.11 299 *e*P **P** **03 08 26.1 -1.4**
HAU pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
FRF La Foret Royal 29.16 289 *e*P **P** **03 08 26.6 -1.5**
comp=Z,60nm,1.2s,mb4.9
FRF La Foret Royal 29.16 289 *e*P **P** **03 08 26.6 -1.5**
FRF pmax pmax
comp=Z,30nm,1.2s,mb4.9
CABF La Chapelle 29.31 296 *e*P **P** **03 08 28.1 -1.2**
comp=Z,22nm,1.1s,mb4.5
CABF La Chapelle 29.31 296 *e*P **P** **03 08 28.1 -1.2**
CABF pmax pmax
comp=Z,11nm,1.0s,mb4.5
ZAL Zalesovo 29.38 49 P **P** **03 08 29.3 -0.6**
comp=Z,2.5nm,0.7s,mb4.0,baz=225,slow=8.5,SNR=12
ZAL LR LR 03 21 42.5
comp=Z,216nm,20.5s,MS3.8,baz=117,slow=39
ZAL Zalesovo 29.38 49 P **P** **03 08 29.3 -0.6**
ZAL LR LR 03 21 42.5
NB2 NORSAR Subarra 29.64 326 P **P** **03 08 29.4 -2.8**
comp=Z,3.1nm,0.8s,mb4.1,baz=120,slow=8.6
NB2 NORSAR Subarra 29.64 326 P **P** **03 08 29.4 -2.8**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
NOA NORSAR Array B 29.64 326 P **P** **03 08 30.0 -2.1**
comp=Z,2.1nm,0.8s,mb3.9,baz=121,slow=8.6,SNR=7.4
NOA LR LR 03 21 11.0
comp=Z,234nm,19.4s,MS3.8,baz=125,slow=38
NOA NORSAR Array B 29.64 326 P **P** **03 08 30.0 -2.2**
NOA LR LR 03 21 11.0
SMF Signal de Mont 30.85 296 *e*P **P** **03 08 41.6 -1.4**
WMQ Urumqi 31.02 70 P **P** **03 08 45.3 +0.8**
WMQ XP sP 03 08 52.0 +3.2
WMQ PP PP 03 09 47.0 +0.4
WMQ PCP PcP 03 11 41.0 +0.5
WMQ *e*S **S** **03 13 56.0 +7.8**
WMQ XS 03 14 03.0
WMQ AMB AMB
comp=Z,7.0nm,0.8s,mb4.5
WMQ AMB AMB
comp=Z,193nm,5.4s
WMQ LR LR
comp=N,830nm,18.6s,MS4.5
WMQ LR LR
comp=E,822nm,21.2s,MS4.5
WMQ LR LR
comp=Z,615nm,24.0s,MS4.2
SSF Saint Saulge 31.06 297 *e*P **P** **03 08 43.8 -1.0**
SSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
SSF Saint Saulge 31.06 297 *e*P **P** **03 08 43.8 -1.0**
comp=Z,4.6nm,0.9s,mb4.3
AVF Avril sur Loir 31.18 296 *e*P **P** **03 08 44.4 -1.5**
comp=Z,19nm,1.1s,mb4.5
AVF Avril sur Loir 31.18 296 *e*P **P** **03 08 44.4 -1.5**
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
ARCES ARCESS Array B 31.19 346 P **P** **03 08 44.8 -1.1**
comp=Z,4.1nm,0.9s,mb4.2,baz=154,slow=10,SNR=7.6
ARCES LR LR 03 22 16.2
comp=Z,271nm,18.3s,MS4.0,baz=9.2,slow=38
ARCES ARCESS Array B 31.19 346 P **P** **03 08 44.8 -1.1**
ARCES LR LR 03 22 16.2
BGF Bois d'Agland 31.54 296 *e*P **P** **03 08 47.6 -1.5**
TCF Toulx Ste Croi 32.00 295 *e*P **P** **03 08 52.1 -1.1**
CAF Calviac 32.26 293 *e*P **P** **03 08 54.3 -1.1**
LFF La Frestale 33.19 293 *e*P **P** **03 09 02.0 -1.5**
LDF La Druitiere 33.41 300 *e*P **P** **03 09 04.2 -1.2**
KOLN Koldanda 33.44 100 *e*P **P** **03 09 07.0 +1.1**
comp=Z,19nm,0.8s,mb5.0
FLN La Foliniere 33.64 300 *e*P **P** **03 09 05.7 -1.7**
GRR Gorron 33.92 300 *e*P **P** **03 09 08.4 -1.4**
comp=Z,38nm,1.0s,mb5.0
GRR Gorron 33.92 300 *e*P **P** **03 09 08.4 -1.4**
GRR pmax pmax
comp=Z,19nm,1.0s,mb5.0
GKN Gorkha 34.10 99 *e*P **P** **03 09 11.5 -0.1**
comp=Z,25nm,0.7s,mb5.3
ETSF Etsaut 34.47 290 *e*P **P** **03 09 13.0 -1.6**
PKI Pulchoki 34.91 99 *e*P **P** **03 09 14.8 -3.7**
SGMF Saint Gilles 35.06 300 *e*P **P** **03 09 18.4 -1.2**
comp=Z,49nm,1.1s,mb5.0
SGMF Saint Gilles 35.06 300 *e*P **P** **03 09 18.4 -1.2**
SGMF pmax pmax
comp=Z,24nm,1.1s,mb5.0
GUN Gumba 35.09 98 *e*P **P** **03 09 22.0 +1.9**
EKA Eskdalemuir Ar 35.37 312 P **P** **03 09 21.1 -1.1**
comp=Z,5.8nm,0.6s,mb4.7,baz=99,slow=9.0,SNR=26
JIRN Jiri 35.45 98 *e*P **P** **03 09 24.6 +1.4**
ROSF Rostrenen 35.53 300 *e*P **P** **03 09 22.2 -1.4**
HYB Hyderabad 36.29 119 *e*P **P** **03 09 32.0 +1.7**
EQES Quesada 37.69 282 P **P** **03 09 41.5 -0.5**
comp=Z,2.0nm,0.8s,mb3.9
EQES Quesada 37.69 282 P **P** **03 09 41.5 -0.5**
comp=Z,2.0nm,0.8s,mb3.9,SNR=21
ESDC Sonseca Array 37.76 286 P **P** **03 09 40.0 -2.6**
comp=Z,4.6nm,0.9s,mb4.2,baz=66,slow=8.9,SNR=13
ESDC Sonseca Array 37.76 286 P **P** **03 09 42.1 -0.5**
comp=Z,0.1nm,0.3s
ESDC Sonseca Array 37.76 286 P **P** **03 09 42.1 -0.4**
comp=Z,0.1nm,0.3s,SNR=18
ESLA Sonseca Array 37.76 286 *e*P **P** **03 09 41.6 -0.9**
comp=Z,2.0nm,1.0s,mb3.8
EBER Berja 37.87 281 P **P** **03 09 43.7 +0.3**
comp=Z,1.1nm,0.5s,mb3.8
EBER Berja 37.87 281 P **P** **03 09 43.7 +0.3**
comp=Z,1.1nm,0.5s,mb3.8,SNR=7.7
EBAN Banos Encina 38.11 283 P **P** **03 09 44.9 -0.5**
EBAN pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
EBAN Banos Encina 38.11 283 P **P** **03 09 44.9 -0.5**
comp=Z,0.6nm,0.3s,mb3.8
EBAN Banos Encina 38.11 283 P **P** **03 09 44.9 -0.5**
comp=Z,0.6nm,0.3s,mb3.8,SNR=19
LSA Lhasa 38.21 92 *e*P **P** **03 09 47.4 +1.0**
LSA pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
LSA Lhasa 38.21 92 *e*P **P** **03 09 47.4 +1.0**
comp=Z,6.5nm,0.6s,mb4.5
ECOG Cogollos-Vega 38.24 282 P **P** **03 09 46.7 +0.1**
ECOG pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
ECOG Cogollos-Vega 38.24 282 P **P** **03 09 46.7 +0.2**
comp=Z,5.0nm,0.9s,mb4.2
ECOG Cogollos-Vega 38.24 282 P **P** **03 09 46.7 +0.1**
comp=Z,5.0nm,0.9s,mb4.2,SNR=8.6
EALB Alboran 38.32 280 P **P** **03 09 48.6 +1.4**
comp=Z,1.6nm,0.2s,mb4.4
EALB Alboran 38.32 280 P **P** **03 09 48.6 +1.4**
comp=Z,1.6nm,0.2s,mb4.5,SNR=7.9
EADA Adamuz 38.70 284 P **P** **03 09 49.5 -0.9**
comp=Z,0.8nm,0.8s,mb3.5,SNR=9.1
ESPR Espera 40.10 282 P **P** **03 10 02.1 0.0**
comp=Z,9.4nm,0.9s,mb4.5
ESPR Espera 40.10 282 P **P** **03 10 02.1 +0.1**
comp=Z,9.4nm,0.9s,mb4.5,SNR=8.6
MTE Manteigas 40.16 288 *e*P **P** **03 10 03.2 +0.7**
comp=Z,19nm,1.1s,mb4.7
PCBR Castelo Branco 40.29 287 *e*P **P** **03 10 03.8 +0.2**
comp=Z,11nm,1.1s,mb4.5
EBAD Badajoz 40.30 285 P **P** **03 10 02.6 -1.1**
comp=Z,0.8nm,0.7s,mb3.6
EBAD Badajoz 40.30 285 P **P** **03 10 02.6 -1.1**
comp=Z,0.8nm,0.7s,mb3.6,SNR=7.9
EMIN Mina Concepcio 40.39 284 P **P** **03 10 02.2 -2.1**
comp=Z,0.1nm,0.4s
EMIN Mina Concepcio 40.39 284 P **P** **03 10 02.2 -2.2**
comp=Z,0.1nm,0.4s,SNR=10.0
ZAK Zakamensk 40.65 56 *e*P **P** **03 10 08.1 +1.7**
ZAK *e* 03 12 05.9
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
TLY Talaya 40.70 54 *e*P **P** **03 10 08.9 +2.1**
TLY pmax pmax
comp=Z,13nm,2.3s,mb4.2
TLY MLR MLR
comp=Z,100nm,16.0s,MS3.8
GTA Gaotai 40.88 73 *e*P **P** **03 10 10.9 +2.5**
GTA AP pP 03 10 16.1 +4.7
GTA XP sP 03 10 19.7 +7.0
GTA PP PP 03 11 52.3 +6.4
GTA PPP PPP 03 12 26.3 +12
GTA S **S** **03 16 27.1 +7.5**
GTA XS 03 16 37.3
GTA AMB AMB
comp=Z,12nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,113nm,5.7s
GTA LR LR
comp=N,243nm,12.9s,MS4.3
GTA LR LR
comp=E,220nm,16.7s,MS4.3
GTA LR LR
comp=Z,151nm,13.3s,MS4.0
PTOM Tomar 41.04 287 *e*P **P** **03 10 10.5 +0.8**
comp=Z,14nm,1.1s,mb4.5
PALC Alcoutim 41.09 284 *e*P **P** **03 10 09.1 -1.1**
comp=Z,28nm,1.5s,mb4.7
EVO Evora 41.11 286 *e*P **P** **03 10 09.2 -1.1**
comp=Z,52nm,1.8s,mb4.5
PBEJ Beja 41.18 285 *e*P **P** **03 10 11.2 +0.3**
comp=Z,10nm,1.1s,mb4.4
SONM Songino Array 43.14 59 P **P** **03 10 27.2 +0.4**
comp=Z,0.7nm,0.6s,mb3.6,baz=278,slow=8.9,SNR=7.9
ULN Ulaanbaatar 43.57 59 *e*P **P** **03 10 30.6 +0.4**
ULN pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
ULN Ulaanbaatar 43.57 59 *e*P **P** **03 10 30.6 +0.3**
comp=Z,8.4nm,0.8s,mb4.5
LZH Lanzhou 45.07 76 *e*P **P** **03 10 43.0 +0.5**
LZH AP pP 03 10 48.0 +2.5
LZH XP sP 03 10 51.0 +4.2
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.9
LZH Lanzhou 45.07 76 *e*P **P** **03 10 43.0 +0.5**
comp=Z,26nm,1.2s,mb4.9
LZH pP pP 03 10 48.0 +2.5
LZH sP sP 03 10 51.0 +4.2
BOD Bodaibo 45.83 44 *e*P **P** **03 10 46.9 -1.4**
BOD pmax pmax
comp=Z,11nm,0.8s,mb4.8
HHC Hu-ho-hao-te 48.81 67 *e*P **P** **03 11 14.2 +2.3**
HHC AP pP 03 11 18.7 +3.8
HHC PP PP 03 13 07.2 +2.0
HHC S **S** **03 18 14.3 +0.4**
HHC AMB AMB
comp=Z,12nm,0.9s,mb4.9
HHC AMB AMB
comp=Z,200nm,6.5s
HHC LR LR
comp=N,307nm,20.2s
HHC LR LR
comp=Z,183nm,19.0s,MS4.1
KMI Kunming 49.40 90 P **P** **03 11 17.1 +0.5**
KMI AP pP 03 11 20.6 +0.9
KMI S **S** **03 18 20.9 -1.4**
KMI AMB AMB
comp=Z,14nm,1.1s,mb4.9
KMI LR LR
comp=Z,84nm,25.8s,MS3.6
KMI Kunming 49.40 90 P **P** **03 11 17.1 +0.5**
KMI *PP pP 03 11 20.6 +0.9
KMI S **S** **03 18 20.9 -1.4**
KMI SS SS 03 21 47.0 -3.1
KMI pmax pmax
comp=Z,14nm,1.1s,mb4.9
KMI MLR MLR
comp=Z,80nm,25.8s,MS3.6
KMI Kunming 49.40 90 P **P** **03 11 17.1 +0.5**
comp=Z,14nm,1.1s,mb4.9
KMI pP pP 03 11 20.6 +0.9
KMI S **S** **03 18 20.9 -1.4**
KMI SS SS 03 21 47.0 -3.1
KMI LR LR
comp=Z,80nm,25.8s,MS3.6
TIXI Tiksi 50.15 24 *e*P **P** **03 11 20.7 -1.1**
TIXI pmax pmax
comp=Z,14nm,2.6s,mb4.5
TIXI MLR MLR
comp=Z,87nm,14.0s,MS3.9
CMAR Chiang Mai Arr 50.30 99 P **P** **03 11 24.4 +0.8**
comp=Z,2.3nm,0.8s,mb4.3,baz=300,slow=8.2,SNR=14
CMAR PP PP 03 13 24.6 +4.6
comp=Z,3.2nm,1.1s,baz=304,slow=10,SNR=4.4
GYA Guiyang 51.69 86 P **P** **03 11 34.1 +0.1**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
ENH Enshi 51.90 80 *e*P **P** **03 11 35.7 +0.1**
comp=Z,20nm,1.2s,mb4.9
YAK Yakutsk 52.62 36 *i*P **P** **03 11 39.0 -1.5**
YAK MLR MLR
comp=Z,100nm,15.0s,MS4.0
DBIC Dimbokro 56.27 248 P **P** **03 12 06.3 -1.6**
comp=Z,3.6nm,0.6s,mb4.6,baz=27,slow=14,SNR=2.7
CN2 Changchun 57.01 58 *e*P **P** **03 12 12.1 -0.7**
NJ2 Nanjing 57.98 73 *e*P **P** **03 12 18.3 -1.5**
NJ2 AP pP 03 12 25.9 +3.0
NJ2 XP sP 03 12 29.2 +5.2
NJ2 PP PP 03 14 27.3 -2.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NJ2				S	S	03 20 13.0	-5.3
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,284nm,6.7s						
NJ2				LR	LR		
	comp=N,1μm,16.2s,MS5.1						
NJ2				LR	LR		
	comp=E,426nm,14.0s,MS5.1						
NJ2				LR	LR		
	comp=Z,1μm,18.4s,MS5.0						
SSE	**Sheshan**	**60.18**	**73**	*e*P	**P**	**03 12 31.6**	**-3.4**
	comp=Z,39nm,0.7s,mb5.5						
MATP	**Matopo**	**62.56**	**198**	P	**P**	**03 12 49.5**	**-1.7**
	comp=Z,6.2nm,0.9s,mb4.7,baz=348,slow=7.9,SNR=3.5						
MA2	**Magadan**	**62.96**	**34**	*i* P	**P**	**03 12 52.7**	**-0.6**
MA2				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.7						
BILL	**Bilibino**	**63.16**	**21**⇑	*e*P	**P**	**03 12 54.2**	**-0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7						
LBTB	**Lobatse**	**67.68**	**200**	P	**P**	**03 13 25.6**	**+1.3**
	comp=Z,5.4nm,0.8s,mb4.6,baz=79,slow=4.9,SNR=4.2						
SCHQ	**Schefferville**	**69.21**	**325**	P	**P**	**03 13 32.1**	**-1.1**
	comp=Z,3.8nm,1.0s,mb4.3,baz=53,slow=7.8,SNR=9.9						
IMA	**Indian Mountai**	**72.88**	**8**	*e*P	**P**	**03 13 55.4**	**+0.4**
IMA				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.2						
IMA	**Indian Mountai**	**72.88**	**8**	*e*P	**P**	**03 13 55.4**	**+0.4**
	comp=Z,56nm,1.6s,mb5.2						
ILAR	**Eielson Array**	**74.77**	**6**	P	**P**	**03 14 05.3**	**-0.7**
	comp=Z,1.2nm,1.1s,mb3.8,baz=339,slow=6.9,SNR=7.3						
DAWY	**Dawson**	**75.88**	**2**	*e*P	**P**	**03 14 12.3**	**-0.1**
YKW3	**Yellowknife Ar**	**76.27**	**351**	*e*P	**P**	**03 14 14.2**	**-0.5**
YKA	**Yellowknife Ar**	**76.34**	**351**	P	**P**	**03 14 14.7**	**-0.3**
YKA	**Yellowknife Ar**	**76.34**	**351**	P	**P**	**03 14 14.6**	**-0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=14,slow=5.7,SNR=41						
ULM	**Lac du Bonnet**	**83.76**	**336**	P	**P**	**03 14 54.8**	**0.0**
	comp=Z,2.8nm,0.9s,mb4.4,baz=12,slow=6.0,SNR=4.9						
EDM	**Edmonton**	**85.12**	**348**	*e*P	**P**	**03 15 02.2**	**+0.6**

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*IDC **13** 03:04:21.9±0.8, 0.20N×29.61E, mb4.1/11, mb1 4.3/12, mb1mx4.1/22, mbtmp4.1/12, ML4.4/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/24, Error ellipse: s-maj=27.3km s-min=16.1km az=95.0*

*NEIC **13** 03:04:22.9±0.5, 0.19N×29.88E, h10km, mb4.5/3, Error ellipse: s-maj=14.7km s-min=9.7km az=70.0*

ISC 13 03:04:21.8±2.1**, 0.19N**±0.08×**29.87E**±0.07**, h17**km±16km**, n25, σ1^{s}06**/27**, mb4.0**/13**, MS3.6**/4**, 2C, Zaire**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**1.17**	**132**⇑	*i*P	**Pb**	**03 04 43.8**	**+0.6**
MBAR				*e*S	**Sb**	**03 04 57.5**	**-0.5**
KMBO	**Kilima Mbogo**	**7.50**	**100**	Pn	**Pn**	**03 06 14.4**	**+1.2**
	5.6nm,0.3s,baz=264,slow=15,SNR=60						
KMBO				Sn	**Sn**	**03 07 38.4**	**-0.4**
	17nm,0.3s,baz=22,slow=22,SNR=6.5						
KMBO				Lg		03 08 15.7	
	47nm,0.3s,baz=250,slow=23,SNR=18						
KMBO				LR	LR	03 09 05.9	
	comp=Z,474nm,19.1s,baz=269,slow=37						
KMBO	**Kilima Mbogo**	**7.50**	**100**⇑	*e*P	**Pn**	**03 06 12.8**	**-0.5**
KMBO				Sn	**Sn**	**03 07 38.4**	**-0.4**
KMBO				Lg		03 08 15.7	
KMBO				LR	LR	03 09 05.9	
LSZ	**Lusaka**	**15.46**	**186**	*e*P	**P**	**03 07 53.5**	**-7.5**
	38nm,1.2s						
MATP	**Matopo**	**20.53**	**184**	P	**P**	**03 09 00.6**	**-1.7**
	2.3nm,0.5s,baz=357,slow=14,SNR=13						
MATP				Lg		03 14 59.4	
	46nm,1.2s,baz=291,slow=22,SNR=5.9						
MATP				LR	LR	03 16 14.5	
	comp=Z,358nm,18.5s,MS3.8,baz=7.8,slow=35						
MATP	**Matopo**	**20.53**	**184**	P	**P**	**03 09 00.6**	**-1.7**
MATP				Lg		03 14 59.4	
MATP				LR	LR	03 16 14.5	
TSUM	**Tsumeb**	**22.73**	**211**	P	**P**	**03 09 25.0**	**+0.5**
	4.9nm,1.1s,mb3.9,baz=351,slow=9.3,SNR=4.3						
TSUM				Lg		03 15 59.0	
	16nm,1.1s,baz=72,slow=16,SNR=4.6						
TSUM				LR	LR	03 19 22.5	
	comp=Z,86nm,19.4s,MS3.2,baz=33,slow=40						
TSUM	**Tsumeb**	**22.73**	**211**	*e*P	**P**	**03 09 25.6**	**+1.0**
TSUM				Lg		03 15 59.0	
TSUM				LR	LR	03 19 22.5	
LBTB	**Lobatse**	**25.39**	**189**	P	**P**	**03 09 52.2**	**+1.9**
	8.9nm,0.8s,mb4.4,baz=18,slow=9.5,SNR=9.6						
LBTB				Lg		03 17 24.6	
	4.7nm,0.9s,baz=306,slow=20,SNR=3.2						
LBTB				LR	LR	03 19 59.2	
	comp=Z,343nm,18.3s,MS3.9,baz=215,slow=37						
LBTB	**Lobatse**	**25.39**	**189**	*e*P	**P**	**03 09 53.2**	**+2.9**
LBTB				Lg		03 17 24.6	
LBTB				LR	LR	03 19 59.2	
BOSA	**Boshof**	**28.98**	**188**	*e*P	**P**	**03 10 23.0**	**+0.1**
	4.5nm,0.8s,mb4.2						
EIL	**Elat**	**29.71**	**9**	LR	LR	03 21 57.5	
	comp=Z,137nm,20.2s,MS3.6,baz=23,slow=36						
DBIC	**Dimbokro**	**35.23**	**281**	P	**P**	**03 11 15.3**	**-2.5**
	9.5nm,1.3s,mb4.6,baz=48,slow=12,SNR=6.1						
DBIC	**Dimbokro**	**35.23**	**281**	P	**P**	**03 11 15.3**	**-2.5**
MALT	**Malatya**	**38.75**	**11**	P	**P**	**03 11 43.6**	**-3.5**
MLR	**Muntele Rosu**	**45.24**	**356**	P	**P**	**03 12 41.3**	**+1.0**
	1.8nm,0.5s,mb4.2,baz=192,slow=9.3,SNR=2.9						
ESDC	**Sonseca Array**	**49.97**	**326**	P	**P**	**03 13 17.2**	**0.0**
	0.4nm,0.5s,mb3.7,baz=141,slow=8.1,SNR=3.5						
VRAC	**Vranov**	**50.24**	**349**	P	**P**	**03 13 19.2**	**0.0**
	0.6nm,0.4s,mb4.0,baz=142,slow=12,SNR=2.9						
AKASG	**Malin Array Be**	**50.33**	**359**	P	**P**	**03 13 19.5**	**-0.3**
	0.1nm,0.3s,mb3.3,baz=188,slow=5.4,SNR=4.0						
GERES	**GERESS Array B**	**50.43**	**346**	P	**P**	**03 13 20.6**	**0.0**
	0.7nm,0.7s,mb3.8,baz=170,slow=8.1,SNR=4.6						
KHC	**Kasperske Hory**	**50.73**	**346**	*e*P	**P**	**03 13 22.5**	**-0.4**
KHC				*e*pP	pP	03 13 30.0	+2.0
FINES	**FINESS Array B**	**61.16**	**358**	P	**P**	**03 14 38.2**	**+0.5**
	0.8nm,0.7s,mb3.9,baz=153,slow=5.6,SNR=3.4						
ARCES	**ARCESS Array B**	**69.28**	**358**	P	**P**	**03 15 29.9**	**-0.1**
	10nm,1.2s,mb4.6,baz=172,slow=6.4,SNR=7.9						
SONM	**Songino Array**	**80.83**	**42**	P	**P**	**03 16 40.0**	**+3.6**
	0.5nm,1.0s,mb3.4,baz=270,slow=5.8,SNR=3.7						
LPAZ	**La Paz**	**97.73**	**254**	*e*P	**P**	**03 18 01.9**	**+3.8**
	0.8nm,0.5s,mb4.5						

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*BGS **13** 03:31:09.9, 25.87N×62.90E, h33km, mb6.1*

*MOS **13** 03:31:15.5±1.0, 27.04N×61.85E, h10km, mb6.2/99, MS5.3/48, Error ellipse: s-maj=5.8km s-min=2.5km az=131.5*

*TEH **13** 03:31:18.3, 26.79N×62.06E, h10km, Mn6.3*

*CSEM **13** 03:31:20.6±0.0, 26.89N×61.71E, h51km, mb5.8/99, Ms5.4, Mw6.0, Error ellipse: s-maj=2.5km s-min=1.3km az=23.0*

*BJI **13** 03:31:21.5, 27.15N×61.83E, h56km, mB6.2, mb5.8, Ms5.7, Msz5.4*

*NEIC **13** 03:31:23.1±0.1, 27.10N×61.89E, h54km, mb5.9/173, ME5.5, MS5.4/66, MW6.0, Error ellipse: s-maj=3.7km s-min=2.2km az=201.0 Broadband fault plane solution: P waves. NP1:ϕ_s245°, δ40°, λ-90°. NP2:ϕ_s65°, δ50°, λ-90°. Principal axes: T Plg5°, Azm155°; N Plg0°, Azm0°; P Plg85°, Azm335°; Moment Tensor Solution. s30 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.78; $M_{\theta\theta}$1.22; $M_{\phi\phi}$-0.44; $M_{r\theta}$-0.30; $M_{\theta\phi}$0.51; $M_{\phi r}$-0.10; Best double couple: $M_0$1.1×10^{18} NP1:ϕ_s257°, δ37°, λ-86°. NP2:ϕ_s72°, δ53°, λ-93°. Principal axes: T 1.41, Plg8°, Azm164°; N -.58, Plg2°, Azm74°; P -.83, Plg81°, Azm328°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Some damage in the Saravan area.

*PDA **13** 03:31:23.1, 27.12N×61.90E, h54km, mb6.0*

*IDC **13** 03:31:23.1±0.3, 27.11N×61.93E, h51km±2km, mb5.3/25, mb1 5.5/26, mb1mx5.5/26, mbtmp5.6/26, MS5.4/22, Ms1 5.4/22, ms1mx5.2/28, Error ellipse: s-maj=10.6km s-min=7.9km az=30.0*

*HRVD **13** 03:31:23.1±0.1, 26.73N×62.00E, h58km, MW6.0/77, Centroid moment Tensor Solution. LP body waves: s77, c170; Mantle waves: s75, c261; Half duration: 2^{s}4 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.94±.01; $M_{\theta\theta}$1.15±.01; $M_{\phi\phi}$-0.20±.01; $M_{r\theta}$-0.32±.01; $M_{\theta\phi}$0.48±.01; $M_{\phi r}$-0.11±.01; Best double couple: $M_0$1.171×10^{18} NP1: ϕ_s253°, δ37°, λ-89°. NP2:ϕ_s72°, δ53°, λ-90°. Principal axes: T 1.351, Plg8°, Azm162°; N -.355, Plg0°, Azm72°; P -.991, Plg82°, Azm340°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*SVSA **13** 03:31:23.1, 27.12N×61.90E, h54km, Mb6.0*

*OMAN **13** 03:31:26.7±0.8, 26.69N×61.71E, h100km, Error ellipse: s-maj=49.6km s-min=18.3km az=242.0*

*THR **13** 03:31:27.3±1.0, 27.32N×61.54E, h55km, mb6.0, ML6.1*

ISC 13 03:31:20.9±0.1**, 27.08N**±0.02×**61.90E**±0.01**, h52**km±.5km**:pP-P, n1417, σ1^{s}04**/1480**, mb5.8**/276**, MS5.4**/122**, 57C-333D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHSF	**Zahedan**	**2.71**	**339**	*e*P	**P**	**03 32 04.0**	**+0.9**
ZHSF	**Zahedan**	**2.71**	**339**	*e*P	**P**	**03 32 04.8**	**+1.7**
BIDO	**Bidbid**	**4.93**	**225**	⇓P	**P**	**03 32 33.1**	**-1.2**
	SNR=84						
BIDO				⇑S	**S**	**03 33 25.9**	**-4.8**
BNDS	**Bandar-Abbas**	**5.11**	**275**	*e*P	**P**	**03 32 38.0**	**+1.1**
BNDS				*e*S	**S**	**03 33 29.0**	**-6.4**
BNDS	**Bandar-Abbas**	**5.11**	**275**	*e*P	**P**	**03 32 38.1**	**+1.1**
BNDS				*e*S	**S**	**03 33 29.8**	**-5.6**
BNDS	**Bandar-Abbas**	**5.11**	**275**	*e*P	**P**	**03 32 38.0**	**+1.1**
BNDS				*e*S	**S**	**03 33 29.8**	**-5.6**
	SNR=91						
BANOM	**Banah**	**5.15**	**258**	⇓P	**P**	**03 32 37.8**	**+0.4**
	SNR=317						
WBK	**Wadi Bani Khal**	**5.19**	**212**	⇑P	**P**	**03 32 36.0**	**-2.0**
	SNR=1440						
WBK				⇓S	**S**	**03 33 29.9**	**-7.4**
SMDO	**Samad**	**5.32**	**222**	⇑P	**P**	**03 32 38.8**	**-0.9**
	SNR=1231						
KRBR	**Kerman**	**5.37**	**304**	*e*P	**P**	**03 32 42.0**	**+1.6**
KRBR				*e*S	**S**	**03 33 34.0**	**-7.8**
KRBR	**Kerman**	**5.37**	**304**	*e*P	**P**	**03 32 42.1**	**+1.7**
KRBR				*e*S	**S**	**03 33 34.4**	**-7.4**
ASHO	**Ashiyiah**	**5.78**	**247**	⇑P	**P**	**03 32 46.2**	**0.0**
	SNR=985						
JMDO	**Jabal Madar**	**5.83**	**217**	⇑P	**P**	**03 32 45.7**	**-1.2**
	SNR=929						
IBAF	**Bafgh**	**7.12**	**311**	Pn	**P**	**03 33 05.5**	**+0.5**
IMEH	**Mehriz**	**7.68**	**306**	Pn	**P**	**03 33 12.0**	**-0.7**
BHJ	**Bhuj**	**7.99**	**117**	*e*P	**P**	**03 33 15.3**	**-1.7**
BHJ				*e*S	**S**	**03 34 37.4**	**-9.5**
BHJ				*e*		03 34 40.8	
	comp=N,4μm,0.4s						
BHJ				*e*		03 34 41.8	
	comp=E,6μm,0.4s						
GHIR	**Ghir-Karzin**	**8.00**	**281**	*e*P	**P**	**03 33 16.7**	**-0.3**
GHIR				*e*S	**S**	**03 34 38.3**	**-8.8**
GHIR	**Ghir-Karzin**	**8.00**	**281**	*e*P	**P**	**03 33 16.0**	**-1.1**
GHIR				*e*S	**S**	**03 34 38.0**	**-9.0**
JASL	**Jaisalmer**	**8.03**	**89**	*e*P	**P**	**03 33 16.1**	**-1.4**
JASL				*e*S	**S**	**03 34 38.7**	**-9.1**
IPAR	**Pars**	**8.26**	**291**	Pn	**P**	**03 33 20.7**	**-0.1**
ICHK	**Chekchek**	**8.30**	**310**	Pn	**P**	**03 33 23.2**	**+1.9**
IMOK	**Mook**	**8.35**	**286**	Pn	**P**	**03 33 21.7**	**-0.3**
SHI	**Shiraz**	**8.66**	**289**	Pn	**P**	**03 33 26.1**	**-0.1**
SBDP	**Sheikh Budin**	**9.32**	**54**	⇑P	**P**	**03 33 34.3**	**-1.0**
IMYA	**Miamay**	**9.36**	**351**	Pn	**P**	**03 33 35.0**	**-0.8**
MHI	**Mashhad**	**9.43**	**348**	Pn	**P**	**03 33 37.0**	**+0.2**
IPAY	**Payeh**	**9.66**	**346**	Pn	**P**	**03 33 40.1**	**+0.1**
NASN	**Na'in**	**9.73**	**308**	*e*P	**P**	**03 33 42.0**	**+1.1**
NASN				*e*S	**S**	**03 35 19.0**	**-11**
NASN	**Na'in**	**9.73**	**308**	*e*P	**P**	**03 33 42.1**	**+1.2**
NASN				AML	AML	03 33 46.1	
	comp=Z,688nm,1.1s						
NASN				*e*S	**S**	**03 35 19.8**	**-10**
IKRD	**Kardeh**	**10.08**	**344**	Pn	**P**	**03 33 42.6**	**-3.1**
THW	**Thamme Wali**	**10.25**	**54**	P	**P**	**03 33 44.1**	**-4.0**
IQHU	**Quchan**	**10.35**	**345**	Pn	**P**	**03 33 49.5**	**+0.1**
ISFR	**Esferayen**	**10.47**	**343**	Pn	**P**	**03 33 51.8**	**+0.8**
SARP	**Sargodha**	**10.54**	**60**	⇑P	**P**	**03 33 47.5**	**-4.6**
IANJ	**Anjiloo**	**10.79**	**323**	Pn	**P**	**03 33 56.4**	**+1.0**
CEP	**Cherat**	**10.93**	**50**	⇓P	**P**	**03 33 54.1**	**-3.3**
ISHV	**Shirvan**	**11.01**	**342**	Pn	**P**	**03 33 58.5**	**+0.1**
ISHV	**Shirvan**	**11.01**	**342**	Pn	**P**	**03 33 58.4**	**0.0**
ILAS	**Lasjerd**	**11.27**	**319**	Pn	**P**	**03 34 02.7**	**+0.9**
AJM	**Ajmer**	**11.40**	**90**	*e*P	**P**	**03 34 01.2**	**-2.5**
AJM				*e*S	**S**	**03 35 58.8**	**-12**
AJM				*e*		03 36 21.6	
	comp=N,2μm,0.6s						
AJM				*e*		03 36 21.8	
	comp=E,1μm,0.6s						
IFIR	**Firoozkooh**	**11.57**	**320**	Pn	**P**	**03 34 06.1**	**+0.2**
CHCP	**Chirah Chowk**	**11.79**	**54**	⇑P	**P**	**03 34 07.6**	**-1.3**
CHCP				S	**S**	**03 36 06.0**	**-14**
WHFO	**Wadi Hawf**	**11.81**	**221**	⇓P	**P**	**03 34 06.4**	**-2.9**
	SNR=240						
RBK	**Rabkut**	**11.90**	**218**	⇓P	**P**	**03 34 07.9**	**-2.5**
	SNR=200						
IDMV	**Damavand**	**11.95**	**318**	Pn	**P**	**03 34 11.4**	**+0.4**
DAMV	**Damavand**	**12.02**	**318**	*e*P	**P**	**03 34 12.0**	**0.0**
DAMV	**Damavand**	**12.02**	**318**	*e*P	**P**	**03 34 12.3**	**+0.4**
DAMV				AMb	AMB	03 34 30.4	
	comp=Z,2μm,2.2s						
DAMV	**Damavand**	**12.02**	**318**	*e*P	**P**	**03 34 12.3**	**+0.3**
	comp=Z,2μm,2.2s,SNR=84						
IAFJ	**Afjeh**	**12.33**	**318**	Pn	**P**	**03 34 16.7**	**+0.6**
KHET	**Khetri**	**12.37**	**82**	*e*P	**P**	**03 34 13.9**	**-2.8**
KHET				*e*S	**S**	**03 36 19.8**	**-14**
ABTO	**Aybut**	**12.54**	**221**	P	**P**	**03 34 16.0**	**-2.9**
	SNR=146						
ASAO	**Ashtian**	**12.62**	**309**	*e*P	**P**	**03 34 21.1**	**+1.0**
ASAO				AMb	AMB	03 34 24.3	
	comp=Z,274nm,1.1s						
ASAO	**Ashtian**	**12.62**	**309**	*e*P	**P**	**03 34 21.0**	**+0.9**
RDF	**Al-Radifah**	**12.82**	**282**	*e*P	**P**	**03 34 19.7**	**-2.9**
RDF				*e*S	**S**	**03 36 29.8**	**-15**
IMHD	**Mahdasht**	**12.86**	**315**	Pn	**P**	**03 34 22.5**	**-0.7**
BOM	**Bombay**	**12.93**	**127**	*e*P	**P**	**03 34 23.0**	**-1.2**
BOM				*e*S	**S**	**03 36 36.5**	**-11**
RTK	**Rohtak**	**12.96**	**78**	*e*P	**P**	**03 34 20.8**	**-3.7**
NAY	**Al-Naaiem**	**13.12**	**283**	*e*P	**P**	**03 34 24.1**	**-2.5**
THN	**Thein Dam**	**13.13**	**63**	*e*P	**P**	**03 34 23.6**	**-3.1**
THN				*e*S	**S**	**03 36 36.5**	**-15**
PONG	**Pong**	**13.15**	**65**	*e*P	**P**	**03 34 24.0**	**-3.1**
PONG				*e*S	**S**	**03 36 40.0**	**-13**
IRAZ	**Razeghan**	**13.17**	**312**	Pn	**P**	**03 34 27.1**	**-0.2**
DLH	**Dalhousie**	**13.36**	**63**	*e*P	**P**	**03 34 28.0**	**-1.8**
DLH				*e*		03 36 46.0	
BHK	**Bhakra**	**13.38**	**68**	*e*P	**P**	**03 34 30.0**	**-0.1**
BHK				*e*S	**S**	**03 36 44.4**	**-14**
BHGR	**Bahadurgarh**	**13.39**	**80**	*e*P	**P**	**03 34 29.3**	**-0.9**
BHGR				*e*S	**S**	**03 36 45.9**	**-12**
KKR	**Kurukshetra**	**13.43**	**74**	*e*P	**P**	**03 34 27.4**	**-3.3**
SONA	**Sohna**	**13.50**	**82**	*e*P	**P**	**03 34 28.4**	**-3.3**
SONA				*e*S	**S**	**03 36 45.5**	**-16**
AYAN	**Aya Nagar**	**13.55**	**81**	*e*	**P**	**03 34 28.9**	**-3.4**
AYAN				*e*		03 36 50.4	
NDI	**New Delhi**	**13.64**	**80**	*e*	**P**	**03 34 38.0**	**+4.6**
NDI				*e*		03 37 38.1	
SDNR	**Sundarnagar**	**13.86**	**68**	*e*	**P**	**03 34 33.5**	**-2.9**
SDNR				*e*		03 36 46.9	
POO	**Poona**	**13.91**	**125**	*e*P	**P**	**03 34 35.8**	**-1.3**
POO				*e*		03 34 40.4	
	comp=Z,852nm,1.1s						
POO				*e*		03 36 58.0	
SMLA	**Simla**	**13.94**	**70**⇑	*i*P	**P**	**03 34 34.8**	**-2.5**
SMLA				*i*		03 36 55.6	
IKOM	**Komasi**	**14.26**	**303**	Pn	**P**	**03 34 40.1**	**-1.4**
DDI	**Dehra Dun**	**14.54**	**73**	*e*	**P**	**03 34 42.2**	**-3.0**
DDI				*e*		03 37 21.9	
BHPL	**Bhopal**	**14.56**	**102**	*e*P	**P**	**03 34 44.3**	**-1.3**
BHPL				*e*		03 37 12.6	
IVIS	**Veys**	**14.90**	**304**	Pn	**P**	**03 34 47.6**	**-2.3**
KAD	**Karad**	**14.95**	**128**	*e*P	**P**	**03 34 50.5**	**-0.2**
KAD				*e*S	**S**	**03 37 38.1**	**+2.7**
JHNI	**Jhansi**	**15.01**	**92**⇓	*i*P	**P**	**03 34 50.0**	**-1.4**
JHNI				*e*		03 37 25.0	
IGHG	**Ghaleghazi**	**15.03**	**302**	Pn	**P**	**03 34 51.6**	**0.0**
IDHR	**Dehrash**	**15.32**	**303**	Pn	**P**	**03 34 54.9**	**-0.4**
JOSI	**Joshimath**	**15.86**	**73**	*e*	**P**	**03 34 50.8**	**-11**
GOA	**Goa**	**16.00**	**134**⇑	*i*	**P**	**03 34 57.1**	**-7.0**
GOA				*i*		03 37 53.8	
LATR	**Latur**	**16.02**	**120**	*e*	**P**	**03 35 01.0**	**-3.4**
PTH	**Pithoragarh**	**16.31**	**77**	*e*P	**P**	**03 35 08.0**	**0.0**
PTH				*e*		03 37 54.0	
LGTI	**Lohaghat**	**16.33**	**77**⇓	*i*P	**P**	**03 35 04.0**	**-4.2**
LGTI				*e*		03 37 52.0	
IBST	**Bostanabad**	**16.50**	**314**	Pn	**P**	**03 35 09.8**	**-0.4**
NGP	**Nagpur**	**16.72**	**107**	*e*P	**P**	**03 35 11.4**	**-1.8**
NGP				*e*S	**S**	**03 38 18.9**	**+2.6**
IHRS	**Heris**	**16.77**	**316**	Pn	**P**	**03 35 13.8**	**+0.2**
KSH	**Kashi**	**17.06**	**40**⇑	*i*P	**P**	**03 35 17.6**	**+0.3**
KSH				AP		03 35 27.6	
KSH				PP	PP	03 35 33.3	+1.3
KSH				XP		03 35 35.5	
KSH				S	**S**	**03 38 23.1**	**-0.7**
KSH				XS		03 38 39.5	
KSH				SS	SS	03 38 45.8	-0.3
KSH				AMB	AMB		
	comp=Z,4μm,1.6s						
KSH				LR	LR		
	comp=N,40μm,12.8s						
KSH				LR	LR		
	comp=E,42μm,9.2s						
ITBZ	**Tabriz**	**17.28**	**314**	Pn	**P**	**03 35 20.4**	**+0.3**
AML	**Almayashu**	**17.85**	**30**	P	**P**	**03 35 25.1**	**-2.0**
	SNR=709						
ALBI	**Allahabad**	**17.95**	**91**	*e*P	**P**	**03 35 26.0**	**-2.5**
HYB	**Hyderabad**	**18.15**	**119**⇑	*e*P	**P**	**03 35 30.0**	**-1.0**
HYB				*e*S	**S**	**03 38 44.0**	**-4.4**
HYB				pmax	pmax		
	comp=Z,543nm,1.2s						
HYB	**Hyderabad**	**18.15**	**119**⇑	*e*P	**P**	**03 35 30.0**	**-1.0**
	comp=Z,543nm,1.2s						
HYB				*e*S	**S**	**03 38 44.0**	**-4.4**
HYB	**Hyderabad**	**18.15**	**119**⇑	*i*P	**P**	**03 35 30.0**	**-1.0**
	comp=Z,543nm,1.2s						
HYB				*e*PP	PP	03 35 48.0	+1.6
HYB				*e*S	**S**	**03 38 48.0**	**-0.4**
HYB				*e*SS	SS	03 39 12.0	-1.2
HYB				LR	LR		
	comp=Z,20nm,26.0s						
UCH	**Uchtor**	**18.29**	**31**	P	**P**	**03 35 31.4**	**-1.2**
	SNR=573						
EKS2	**Erkin-Say**	**18.31**	**29**	P	**P**	**03 35 31.3**	**-1.5**
	SNR=814						
KZA	**Kyzart**	**18.52**	**33**	P	**P**	**03 35 34.5**	**-0.8**
	SNR=942						
HKR	**Hakkari**	**18.55**	**309**	P	**P**	**03 35 34.8**	**-0.9**
MNGI	**Mangalore**	**18.56**	**137**	*i* P	**P**	**03 35 36.4**	**+0.4**
MNGI				*i* S	**S**	**03 39 02.0**	**+4.3**
	comp=Z,338nm,1.5s						
AAK	**Ala-Archa**	**18.60**	**30**	P	**P**	**03 35 34.3**	**-2.0**
	comp=Z,2μm,0.9s						
AAK	**Ala-Archa**	**18.60**	**30***c*	*i*P	**P**	**03 35 34.4**	**-1.9**
AAK				pmax	pmax		
	comp=Z,295nm,0.6s						
AAK				MLR	MLR		
	comp=Z,22μm,18.0s						
AAK	**Ala-Archa**	**18.60**	**30**⇑	*i*P	**P**	**03 35 34.4**	**-1.9**
	comp=Z,295nm,0.6s						
FRU	**Bishkek**	**18.82**	**30**⇑	*e*P	**P**	**03 35 37.8**	**-1.0**
FRU				*e*S	**S**	**03 39 09.0**	**+5.7**
FRU				pmax	pmax		
	comp=Z,1μm,2.2s						
KBK	**Karagaybulak**	**18.83**	**31**	P	**P**	**03 35 38.5**	**-0.5**
	SNR=412						
CHMS	**Chumysh**	**19.01**	**30**	P	**P**	**03 35 40.1**	**-0.9**
	SNR=132						
BLSP	**Bilaspur**	**19.04**	**101**	*e*P	**P**	**03 35 41.2**	**-0.3**
BLSP				*e*		03 36 04.0	
	comp=Z,841nm,1.3s						
BLSP				*e*		03 39 05.6	
USP	**Ospenovka**	**19.11**	**29**	P	**P**	**03 35 41.6**	**-0.6**
	SNR=25						
ULHL	**Ulahol**	**19.14**	**34**	P	**P**	**03 35 43.9**	**+1.5**
	SNR=50						
VANT	**Van**	**19.22**	**311**	P	**P**	**03 35 45.6**	**+2.2**
VANT	**Van**	**19.22**	**311**	P	**P**	**03 35 44.6**	**+1.2**
TVAN	**Van**	**19.25**	**311**	*i* P	**P**	**03 35 43.7**	**-0.1**
KOLN	**Koldanda**	**19.27**	**83**	*e*P	**P**	**03 35 43.1**	**-0.9**
	comp=Z,1μm,1.2s						
VANB	**Van**	**19.29**	**311**	P	**P**	**03 35 45.4**	**+1.2**
GNI	**Garni**	**19.30**	**317**⇓	*e*P	**P**	**03 35 44.8**	**+0.6**
GNI				pmax	pmax		
	comp=Z,616nm,1.1s						
GNI				MLR	MLR		
	comp=Z,6μm,12.0s						
GNI	**Garni**	**19.30**	**317**	P	**P**	**03 35 45.1**	**+0.9**
	comp=Z,16nm,0.3s,baz=310,slow=1.5,SNR=45						
GNI				pP		03 35 56.9	
	comp=Z,6.6nm,0.3s,baz=212,slow=11,SNR=11						
GNI	**Garni**	**19.30**	**317**⇓	*e*P	**P**	**03 35 44.8**	**+0.6**
	comp=Z,616nm,1.1s						
TKM2	**Tokmak 2**	**19.33**	**32**	P	**P**	**03 35 44.5**	**-0.1**
	SNR=31						
PAAR	**P'arak'ar**	**19.50**	**316**	⇓P	**P**	**03 35 44.1**	**-2.3**
PAAR				S		03 36 01.4	
MAK	**Makhachkala**	**19.70**	**327***c*	*i*P	**P**	**03 35 48.2**	**-0.4**
MAK				*i* S	**S**	**03 39 24.0**	**+1.3**
MAK				pmax	pmax		
	comp=Z,3μm,5.0s						
MAK				pmax	pmax		
	comp=Z,495nm,1.0s						
MAK				smax			
	comp=N,20μm,12.0s						
MAK				smax			
	comp=E,24μm,12.0s						
MAK				MLR	MLR		
	comp=N,10μm,20.0s						
MAK				MLR	MLR		
	comp=E,8μm,14.0s						
MAK				MLR	MLR		
	comp=Z,18μm,14.0s						
MAK	**Makhachkala**	**19.70**	**327**⇑	*i*P	**P**	**03 35 48.2**	**-0.4**
	comp=Z,495nm,1.0s						
MAK				*i* S	**S**	**03 39 24.0**	**+1.3**
BDHA	**Al Bayda'**	**20.07**	**233**⇓	*e*P	**P**	**03 35 53.2**	**+0.5**
BDHA				AMb	AMB	03 35 54.7	
	comp=Z,244nm,1.2s						
BDHA	**Al Bayda'**	**20.07**	**233**⇓	*e*P	**P**	**03 35 53.2**	**+0.5**
	comp=Z,122nm,1.2s						
BDHA	**Al Bayda'**	**20.07**	**233**⇓	*e*P	**P**	**03 35 53.2**	**+0.5**
	comp=Z,122nm,1.2s						
GKN	**Gorkha**	**20.18**	**82**	*e*P	**P**	**03 35 54.0**	**+0.2**
	comp=Z,297nm,0.7s						
GKN				*e*S	**S**	**03 39 24.8**	**-7.6**
AAA	**Alma-Ata**	**20.25**	**33**	*i* P	**P**	**03 35 54.0**	**-0.4**
TI2	**Plekhanov**	**20.29**	**320**⇓	*i*P	**P**	**03 35 54.4**	**-0.4**
TI2				*i*		03 35 54.4	
TI2				*e*S	**S**	**03 39 37.4**	**+2.9**
TI2				*i*		03 39 45.4	
TI2	**Plekhanov**	**20.29**	**320**⇓	*i*P	**P**	**03 35 54.4**	**-0.4**
TI2				*e*S	**S**	**03 39 37.4**	**+2.9**
BTMT	**Batman**	**20.41**	**308**	P	**P**	**03 35 54.7**	**-1.4**
BEST	**Besiri**	**20.43**	**307**	*i* P	**P**	**03 35 55.8**	**-0.5**
HAJJ	**Hajjah**	**20.44**	**240**⇑	*e*P	**P**	**03 35 57.0**	**+0.5**
HAJJ				AMb	AMB	03 35 59.0	
	comp=Z,1μm,2.3s						
HAJJ	**Hajjah**	**20.44**	**240**⇑	*e*P	**P**	**03 35 57.0**	**+0.5**
	comp=Z,521nm,2.3s						
HAJJ	**Hajjah**	**20.44**	**240**⇑	*e*P	**P**	**03 35 57.0**	**+0.5**
	comp=Z,521nm,2.3s						
DHBB	**Dhamar BB**	**20.53**	**236**⇓	*e*P	**P**	**03 35 59.5**	**+2.0**
	comp=Z,3μm,1.1s						
DHBB				*i* S	**S**	**03 39 50.0**	**+11**
DUS	**Dusheti**	**20.55**	**321**	P	**P**	**03 35 56.9**	**-0.7**
KARS	**Kars**	**20.59**	**316**	P	**P**	**03 35 59.6**	**+1.6**
KARS	**Kars**	**20.59**	**316**	P	**P**	**03 35 59.5**	**+1.6**
KBSD	**Kabsdagh**	**20.59**	**304**⇑	*i*P	**P**	**03 35 56.9**	**-1.1**
DMN	**Daman**	**20.61**	**83**	*e*P	**P**	**03 35 59.0**	**+0.7**
	comp=Z,1μm,1.1s						
SFNV	**Sufian**	**20.70**	**302**⇑	*i*P	**P**	**03 36 00.1**	**+1.0**
KKN	**Kakani**	**20.76**	**83**	*e*P	**P**	**03 36 00.3**	**+0.5**
	comp=Z,1μm,0.8s						
VRT	**Varto**	**20.82**	**310**	P	**P**	**03 36 00.6**	**+0.3**
PKI	**Pulchoki**	**20.89**	**83**	*e*P	**P**	**03 36 01.7**	**+0.6**
	comp=Z,1μm,1.1s						
DIY	**Diyarbakir**	**21.18**	**306**	*e*P	**P**	**03 36 03.7**	**-0.3**
UDYN	**Al 'Udayn**	**21.24**	**236**⇓	*i*P	**P**	**03 36 06.7**	**+2.1**
GUN	**Gumba**	**21.28**	**82**	*e*P	**P**	**03 36 06.8**	**+1.7**
ERZM	**Erzurum**	**21.31**	**312**	*i* P	**P**	**03 36 07.1**	**+1.7**
EZM	**Erzurum**	**21.32**	**312**	P	**P**	**03 36 06.8**	**+1.5**
BINT	**Bingol**	**21.41**	**309**	P	**P**	**03 36 06.5**	**+0.2**
BINT	**Bingol**	**21.41**	**309**	P	**P**	**03 36 07.2**	**+0.9**
ZEI	**Tsey**	**21.44**	**321**	*i* P	**P**	**03 36 07.6**	**+1.0**
ZEI				*i* *PP		03 36 26.8	
ZEI				*e*S	**S**	**03 40 06.5**	**+10**
ZEI				pmax	pmax		
	comp=Z,152nm,0.7s,mb5.4						
JIRN	**Jiri**	**21.57**	**83**	*e*P	**P**	**03 36 09.6**	**+1.6**

comp=Z,2µm,0.9s,mb6.4
ONI Oni 21.57 321 P **P** **03 36 08.4 +0.5**
ONI S **S** **03 40 03.8 +5.0**
TRBA At Turbah 21.61 234⇓*e*P **P** **03 36 10.2 +1.8**
TRBA AMb AMB 03 36 11.8
comp=Z,463nm,1.2s,mb5.8
JHLN Al Jahlan 21.75 299⇑*i*P **P** **03 36 10.9 +1.2**
VIS Vishakhapatnam 21.86 111 *e*P **P** **03 36 12.7 +1.8**
VIS *e* 03 36 33.9
comp=Z,487nm,1.2s
VIS *e* 03 40 02.0
BOK Bokaro 21.89 93 *e*P **P** **03 36 13.5 +2.3**
BOK *e* 03 36 37.3
comp=Z,3µm,1.1s
BOK *e*S **S** **03 40 09.0 +4.2**
URFA Urfa 22.03 304 *e*P **P** **03 36 11.6 -0.9**
MDRS Chennai 22.12 125⇑*i*P **P** **03 36 14.0 +0.5**
MDRS *e*S **S** **03 40 14.0 +5.0**
MDRS *e* 03 41 47.0
MDRS *e* 03 43 52.0
PTK Pertek 22.19 308 *e*P **P** **03 36 09.9 -4.1**
EZC Erzincan 22.28 310 *e*P **P** **03 36 19.0 +4.1**
EZC Erzincan 22.28 310 P **P** **03 36 19.8 +4.9**
ASF Jabal al Asfar 22.30 289 P **P** **03 36 17.3 +2.1**
comp=Z,226nm,0.8s,mb5.6,baz=339,slow=3.7,SNR=90
ASF sP 03 36 35.7
comp=Z,512nm,0.9s,baz=283,slow=1.2,SNR=7.5
ELZG Elazig 22.32 306 *i*P **P** **03 36 15.2 0.0**
SALA Sala 22.51 290⇑*i*P **P** **03 36 17.4 +0.2**
MALT Malatya 22.65 306 *e*P **P** **03 36 17.1 -1.4**
MALT Malatya 22.65 306 *e*P **P** **03 36 18.4 -0.1**
MALT pmax pmax
comp=Z,363nm,1.2s,mb5.7
MYA Malataya 22.65 306 *e*P **P** **03 36 15.0 -3.6**
GUMT Gumushane 22.84 311 *e*P **P** **03 36 21.9 +1.5**
BWNR Bhubaneshwar 22.89 102 *e* **P** **03 36 17.0 -4.0**
BWNR *e* 03 41 57.0
KIV Kislovodsk 22.89 322⇓*e*P **P** **03 36 22.3 +1.5**
comp=Z,117nm,0.9s,mb5.3
KIV *i* 03 36 27.8
KIV *i* 03 36 43.4
KIV *i* 03 40 11.9
KIV *i*S **S** **03 40 30.8 +8.2**
KIV *i*SS SS 03 41 02.2 -7.0
KIV pmax pmax
comp=Z,117nm,0.9s,mb5.3
KIV MLR MLR
comp=Z,5µm,19.0s,MS5.0
KIV Kislovodsk 22.89 322⇓*e*P **P** **03 36 22.3 +1.5**
comp=Z,117nm,0.9s,mb5.3
KIV *i* 03 36 27.8
KIV *i* 03 36 43.4
KIV *i* 03 40 11.9
KIV *i*S **S** **03 40 30.8 +8.2**
KIV *i*SS SS 03 41 02.2 -7.0
KIV LR LR
comp=Z,5µm,19.0s,MS5.0
GZT Gaziantep 22.94 303 *i*P **P** **03 36 23.1 +1.7**
GAZ Gaziantep 23.15 302 *e*P **P** **03 36 25.0 +1.6**
KSHT Keshet 23.31 291 P **P** **03 36 28.0 +3.0**
TRD Trivandrum 23.34 140 *e*P **P** **03 36 27.2 +1.7**
TRD *i*S **S** **03 40 35.2 +4.4**
HWQ Hawqa 23.41 294 *e*P **P** **03 36 28.9 +2.9**
HRI Mount Hermon 23.42 292 P **P** **03 36 28.9 +2.9**
GOF Gofitskoye 23.45 325 *i*P **P** **03 36 27.4 +1.2**
GOF *i* 03 37 10.0
GOF *i*S **S** **03 40 37.5 +5.1**
GOF pmax pmax
comp=Z,180nm,1.2s,mb5.4
GOF smax
comp=N,740nm,1.4s
GOF smax
comp=E,810nm,1.4s
GOF MLR MLR
comp=Z,19µm,16.0s,MS5.7
DRGI Dragot 23.52 287 P **P** **03 36 30.0 +2.9**
KAHT Ahir Dag 23.55 303 *i*P **P** **03 36 29.0 +1.8**
MMLI Mount Malkishu 23.57 289 P **P** **03 36 30.8 +3.2**
BHL Bhannes 23.58 293 *e*P **P** **03 36 30.5 +2.8**
SLGI Shiliguri 23.64 85 *e* **P** **03 36 31.0 +2.7**
ZFRI Zfri 23.65 285 P **P** **03 36 31.4 +3.1**
COBT Iskenderun 23.68 300 *i*P **P** **03 36 31.4 +2.8**
GTK Gangtok 23.75 83 *e* **P** **03 36 21.0 -8.3**
PRNI Paran 23.80 284 P **P** **03 36 32.9 +3.2**
EIL Elat 23.84 283 P **P** **03 36 32.7 +2.6**
comp=Z,221nm,1.0s,mb5.5,baz=77,slow=8.0,SNR=55
EIL pP 03 36 43.9
comp=Z,119nm,0.9s,baz=61,slow=17,SNR=8.6
EIL sP 03 36 51.1
comp=Z,311nm,1.0s,baz=69,slow=11,SNR=8.9
EIL LR LR 03 47 47.6
comp=Z,16µm,19.5s,MS5.5,baz=98,slow=41
EIL Elat 23.84 283 P **P** **03 36 32.5 +2.3**
HNTI Hanita 23.86 291 P **P** **03 36 33.6 +3.3**
MBH Mount Berech 23.87 283 P **P** **03 36 33.7 +3.3**
HAF Haifa 23.94 290 P **P** **03 36 33.8 +2.6**
OFRI 'Ofer 23.96 290 P **P** **03 36 34.2 +2.9**
MASH Mash'abbe Sade 24.00 286 P **P** **03 36 34.7 +2.9**
RTMM Retamin 24.09 286 P **P** **03 36 35.6 +3.0**
CEYT Ceyhan 24.21 301 P **P** **03 36 35.4 +1.6**
SVST Sivas 24.28 308 *i*P **P** **03 36 36.6 +2.2**
KZIT Kziot 24.33 286 P **P** **03 36 38.0 +3.0**
SOC Sochi 24.35 318 *e*P **P** **03 36 36.0 +0.9**
SOC *e* 03 37 09.9
SOC *e* 03 40 13.7
SOC *e*S **S** **03 40 48.9 +0.9**
SOC *e*SS SS 03 41 39.7 -4.9
SOC pmax pmax
comp=Z,270nm,1.1s,mb5.6
SOC pmax pmax
comp=N,157nm,1.3s
SOC pmax pmax
comp=E,141nm,1.2s
SOC MLR MLR
comp=N,4µm,21.0s,MS5.3
SOC MLR MLR
comp=E,10µm,21.0s,MS5.3
SOC MLR MLR
comp=Z,10µm,21.0s,MS5.3
SOC Sochi 24.35 318 *e*P **P** **03 36 36.0 +0.9**
comp=Z,270nm,1.1s,mb5.6
SOC *e* 03 37 09.9
SOC *e* 03 40 13.7
SOC *e*S **S** **03 40 48.9 +0.9**
SOC *e*SS SS 03 41 39.7 -4.9
SOC LR LR
comp=Z,10µm,21.0s,MS5.3
CAL Calcutta 24.39 95 *e* **P** **03 36 42.5 +6.8**
CAL *e* 03 41 01.4
BNN Bunyan 24.73 305 *e*P **P** **03 36 40.0 +1.3**
TOKT Tokat 24.79 309 *e*P **P** **03 36 40.8 +1.5**
PHNC Paralimni 25.09 295 P **P** **03 36 43.7 +1.4**
MEST Erdemli 25.34 299 *i*P **P** **03 36 45.5 +0.8**
YOZ Yozgat 25.39 306 *e*P **P** **03 36 42.3 -2.7**
MKAR Makanchi Array 25.41 34 *i*P **P** **03 36 46.0 +0.9**
AVNT Avonos 25.43 304 *i*P **P** **03 36 45.9 +0.5**
KVT Kavak 25.45 310 *e*P **P** **03 36 45.0 -0.5**
CSS Prodhromos 25.65 295 P **P** **03 36 47.3 -0.2**
comp=Z,4.8nm,0.7s
MAMC Mammari 25.78 295 P **P** **03 36 50.0 +1.3**
LSA Lhasa 25.83 77 P **P** **03 36 52.0 +2.7**
LSA AP pP 03 37 02.8 +0.6
LSA XP sP 03 37 15.8 +7.3
LSA S **S** **03 41 20.0 +7.2**
LSA XS 03 41 35.8
LSA AMB AMB
comp=Z,100nm,0.7s,mb5.5
LSA LR LR
comp=N,10µm,6.4s
LSA LR LR
comp=E,7µm,5.8s
LSA Lhasa 25.83 77⇓*i*P **P** **03 36 51.0 +1.7**
LSA pmax pmax
comp=Z,607nm,1.0s,mb6.1
LSA Lhasa 25.83 77 P **P** **03 36 52.0 +2.7**
comp=Z,100nm,0.7s,mb5.5
LSA pP pP 03 37 02.8 +0.6
LSA sP sP 03 37 15.8 +7.3
LSA S **S** **03 41 20.0 +7.2**
LSA sS 03 41 35.8
SZAC Souni-Zanaja 25.98 294⇑P **P** **03 36 52.6 +2.0**
comp=Z,5.5nm,0.7s
SZAC Souni-Zanaja 25.98 294⇑*e*P **P** **03 36 52.6 +2.0**
LEF Lefka 26.04 295 *e*P **P** **03 36 45.0 -6.1**
CORM Corum 26.08 307 *e*P **P** **03 36 48.3 -3.2**
CTKT Corum 26.13 308 *i*P **P** **03 36 52.8 +0.8**
ALFC Alevga 26.28 295⇑P **P** **03 36 54.7 +1.4**
comp=Z,5.4nm,0.6s
ALFC Alevga 26.28 295⇑*e*P **P** **03 36 54.7 +1.4**
BOYT Boyabat 26.37 310 *i*P **P** **03 36 54.4 +0.2**
ANN Anapa 26.39 318 *e*P **P** **03 36 52.0 -2.3**
ANN *e*S **S** **03 41 22.7 +0.8**
ANN pmax pmax
comp=Z,230nm,1.3s,mb5.5
ANN MLR MLR
comp=N,3µm,23.0s,MS5.3
ANN MLR MLR
comp=E,9µm,23.0s,MS5.3
ANN MLR MLR
comp=Z,7µm,23.0s,MS5.2
PPCY Paphos 26.44 294 P **P** **03 36 55.2 +0.4**
KAMT Kaman 26.46 305 *e*P **P** **03 36 50.9 -4.1**
KAMT Kaman 26.46 305 Pn **P** **03 36 54.9 -0.1**
AKMC Akamas 26.47 295⇑*e*P **P** **03 36 56.6 +1.4**
BYBT Boyabat 26.49 310 *e*P **P** **03 36 55.4 +0.2**
AGT Agartala 26.66 90 *i*P **P** **03 36 58.0 +1.1**
AGT *i* 03 39 09.0
BVA0 Borovoye Array 26.67 11 *i*P **P** **03 36 56.7 -0.1**
BVA0 pmax pmax
comp=Z,91nm,1.0s,mb5.3
BVAR Borovoye Array 26.67 11 P **P** **03 36 56.5 -0.3**
comp=Z,179nm,0.6s,mb5.8,baz=191,slow=7.6,SNR=427
BVAR pP pP 03 37 10.0 +0.2
comp=Z,279nm,1.0s,baz=194,slow=10,SNR=7.6
BVAR sP sP 03 37 16.5 +0.4
comp=Z,375nm,0.9s,baz=190,slow=9.0,SNR=7.2
WMQ Urumqi 26.68 45⇓*i*P **P** **03 36 58.3 +1.4**
WMQ AP pP 03 37 12.0 +2.0
WMQ PP PP 03 37 44.0 +1.5
WMQ PCP PcP 03 40 22.0 +2.0
WMQ S **S** **03 41 29.0 +2.4**
WMQ SS SS 03 42 41.0 +0.1
WMQ PCS 03 43 58.8
WMQ AMB AMB
comp=Z,326nm,1.6s,mb5.6
WMQ AMB AMB
comp=Z,2µm,3.9s
WMQ LR LR
comp=N,19µm,14.6s,MS6.0
WMQ LR LR
comp=E,22µm,15.5s,MS6.0
WMQ LR LR
comp=Z,17µm,22.0s
HDMB Hadim 26.73 299 *e*P **P** **03 36 55.5 -1.9**
KURK Kurchatov 26.82 24 P **P** **03 36 57.7 -0.5**
comp=Z,1µm,1.5s,mb6.2
KURK Kurchatov 26.82 24 *e*P **P** **03 36 57.6 -0.6**
KURK pmax pmax
comp=Z,320nm,1.1s,mb5.8
KURK Kurchatov 26.82 24 *e*P **P** **03 36 57.6 -0.6**
TOS Tosya 26.83 308 *e*P **P** **03 36 57.8 -0.6**
SHL Shillong 26.89 86 *e*P **P** **03 36 59.0 0.0**
SHL *e* 03 41 50.0
CANT Cankiri 26.95 307 *e*P **P** **03 36 52.3 -7.2**
ELDT Eldivan 27.05 307 *i*P **P** **03 37 02.4 +2.0**
KONT Konya--Tatoy 27.06 301 *e*P **P** **03 36 56.8 -3.7**
BZK Bozkurt 27.21 310 *e*P **P** **03 37 01.3 -0.5**
ANTO Ankara 27.30 305 *e*P **P** **03 37 00.7 -1.9**
ANTO Ankara 27.30 305 P **P** **03 37 01.2 -1.4**
LOD Lodumlu 27.32 305 *e*P **P** **03 37 02.5 -0.4**
CHKZ Chkalovo 27.34 11 *e*P **P** **03 37 02.2 -0.7**
CHKZ pmax pmax
comp=Z,545nm,1.2s,mb6.0
BALT Daday 27.46 309 *i*P **P** **03 37 04.2 0.0**
KIZT Kizilcal 27.67 303 *e*P **P** **03 37 05.3 -0.8**
SAFT Safranbolu 27.84 308 *e*P **P** **03 37 01.3 -6.3**
SGKT Sivrigoynuk 28.06 306 *i*P **P** **03 37 08.8 -0.8**
ANTB Antalya 28.15 298 *e*P **P** **03 37 11.7 +1.4**
BCK Bucak 28.31 299 *e*P **P** **03 37 11.2 -0.6**
ISP Isparta 28.46 300 *e*P **P** **03 37 12.2 -0.9**
ISP Isparta 28.46 300 *e*P **P** **03 37 12.4 -0.7**
ISP pmax pmax
comp=Z,584nm,1.3s,mb6.0
SIM Simferopol' 28.48 316⇓*i*P **P** **03 37 13.0 -0.3**
SIM *e*S **S** **03 41 55.0 -0.6**
SIM pmax pmax
comp=Z,121nm,1.1s,mb5.4
SIM MLR MLR
comp=Z,7µm,21.4s,MS5.2
SIM Simferopol' 28.48 316⇓*i*P **P** **03 37 13.0 -0.3**
comp=Z,121nm,1.1s,mb5.4
SIM *e*S **S** **03 41 55.0 -0.6**
SIM LR LR
comp=Z,7µm,21.4s,MS5.2
SIM Simferopol' 28.48 316⇓*i*P **P** **03 37 13.0 -0.3**
comp=Z,121nm,1.1s,mb5.4
SIM *e*S **S** **03 41 55.0 -0.6**
ESKT Eskisehir 28.62 304 *e*P **P** **03 37 14.0 -0.5**
ESKT Eskisehir 28.62 304 *i*P **P** **03 37 14.6 +0.1**
MDU Mudurnu 28.63 306 *e*P **P** **03 37 13.2 -1.4**
ELL Elmali 28.70 298 *e*P **P** **03 37 14.2 -1.1**
ELL Elmali 28.70 298 P **P** **03 37 16.6 +1.3**
IMP Imphal 28.86 87⇓*i*P **P** **03 37 17.0 +0.2**
HENT Hendek 28.97 306 *i*P **P** **03 37 16.7 -1.0**
ALT Altintas 29.05 302 *e*P **P** **03 37 18.4 0.0**
DENT Denizli 29.58 299 *e*P **P** **03 37 21.1 -2.0**
DALT Dalyan (Mudla) 29.71 297 *e*P **P** **03 37 13.9 -10**
HRT Hereke 29.86 306 *e*P **P** **03 37 20.2 -5.4**
HRT Hereke 29.86 306 Pn **P** **03 37 25.8 +0.2**
VOR Voronezh 29.98 331⇓*i*P **P** **03 37 26.2 -0.4**
VOR *e*S **S** **03 42 19.5 0.0**
VOR pmax pmax
comp=E,140nm,1.3s
VOR pmax pmax
comp=Z,190nm,1.3s,mb5.7
VOR smax
comp=E,470nm,1.3s
VOR smax
comp=Z,470nm,2.6s
ARG Arkhangelos 30.04 296⇓*i*P **P** **03 37 27.5 +0.3**
ARG Arkhangelos 30.04 296 P **P** **03 37 27.9 +0.7**
YER Yerkesik 30.05 298 *e*P **P** **03 37 25.7 -1.7**
ULDT Uludag 30.06 304 *i*P **P** **03 37 26.9 -0.5**
MANT Manisa 30.10 301 *i*P **P** **03 37 27.5 -0.2**
ISK Istanbul-Kandi 30.37 306 *e*P **P** **03 37 27.4 -2.7**
AYDN Tasoluk 30.46 299 *i*P **P** **03 37 31.1 +0.1**
BDRM Kayabasi 30.70 298 *e*P **P** **03 37 31.9 -1.2**
KARP Karpathos 30.73 295 *e*P **P** **03 37 32.3 -1.1**
BTOK Tokmak 30.78 303 *e*P **P** **03 37 32.9 -0.9**
BODT Bodrum 30.81 298 *e*P **P** **03 37 26.5 -7.5**
BALB Balikesir 30.87 303 *e*P **P** **03 37 33.0 -1.6**
KDAG Bornova 31.07 300 *i*P **P** **03 37 35.9 -0.5**
IZM Izmir 31.08 300 *e*P **P** **03 37 33.8 -2.6**
BLCB Balcova 31.24 300 *e*P **P** **03 37 32.8 -5.1**
ZAL Zalesovo 31.69 26 P **P** **03 37 41.4 -0.2**
comp=Z,58nm,0.5s,mb5.7,baz=253,slow=8.0,SNR=221
ZAL pP pP 03 37 55.2 +0.2
comp=Z,34nm,0.5s,baz=259,slow=11,SNR=4.9
ZAL sP sP 03 38 00.6 -0.9
comp=Z,25nm,0.9s,baz=228,slow=10,SNR=3.1
ZAL LR LR 03 53 08.4
comp=Z,14µm,21.5s,MS5.6,baz=243,slow=41
NVS Novosibirsk 31.81 24 *i*P **P** **03 37 41.3 -1.3**
NVS pmax pmax
comp=N,633nm,1.5s
NVS pmax pmax
comp=E,300nm,1.5s
NVS pmax pmax
comp=Z,1µm,1.5s,mb6.5
XRY Khrisi 31.87 293 *e*P **P** **03 37 44.0 +0.6**
PECR Pechory 31.90 341⇓*i*P **P** **03 37 42.4 -1.0**
PECR *i* 03 37 42.4
PECR *e* 03 38 46.0
PECR *i* 03 39 06.6
PECR *e* 03 45 08.0
PECR MLR MLR
comp=Z,20µm,24.0s,MS5.7
PECR MLR MLR
comp=N,8µm,20.0s,MS5.5
PECR MLR MLR
comp=E,7µm,20.0s,MS5.5
PECR MLR MLR
comp=Z,19µm,22.0s
PECR MLR MLR
comp=N,7µm,17.0s
PECR MLR MLR
comp=E,16µm,20.0s
NPS Neapolis 31.97 294 *e*P **P** **03 37 45.6 +1.4**
THR1 Thera Island 32.20 296 *e*P **P** **03 37 45.8 -0.4**
SANT Santorini 32.20 296⇓*e*P **P** **03 37 45.3 -0.9**
comp=E,881nm,1.0s,mb6.5
SANT *e*pP pP 03 37 59.0 -0.6
SANT Santorini 32.20 296⇓*e*P **P** **03 37 45.3 -0.9**
comp=E,881nm,1.0s,mb6.5
SANT *e*pP pP 03 37 59.0 -0.6
PRD Provadia 32.20 309 *e*P pP 03 37 59.0 -0.6
APE Apeiranthos 32.22 297⇓*e*P **P** **03 37 47.0 +0.6**
APE Apeiranthos 32.22 297 *e*P **P** **03 37 46.0 -0.4**
THR3 Thira Island, 32.25 296 *e*P **P** **03 37 46.3 -0.3**
HARR Harsova 32.35 312 P **P** **03 37 47.5 0.0**
CFR Carcaliu 32.40 313 P **P** **03 37 47.8 -0.1**
ALN Alexandroupoli 32.53 304 *e*P **P** **03 37 48.4 -0.6**
IDI Anoyia 32.56 294 P **P** **03 37 50.6 +1.2**
SOKR Solikamsk 32.66 355*c*⇓*i*P **P** **03 37 49.9 -0.1**
SOKR *i* 03 39 08.0
SOKR *i*S **S** **03 42 56.7 -4.7**
SOKR 03 48 24.6
SOKR pmax pmax
comp=Z,310nm,1.0s,mb6.2
SOKR MLR MLR
comp=Z,5µm,19.0s,MS5.2
KIS Kishinev 32.70 316*a*⇓*i*P **P** **03 37 48.0 -2.5**
KIS *e* 03 39 19.0
KIS *i*S **S** **03 42 59.5 -2.6**
KIS 03 48 16.0
KIS smax
comp=N,500nm,2.0s
KIS smax
comp=E,2µm,6.0s
KIS MLR MLR
comp=Z,7µm,16.0s,MS5.4
KIS MLR MLR
comp=N,3µm,4.0s
KIS MLR MLR
comp=E,6µm,15.0s
RDO Rodhopi 32.96 305 P **P** **03 37 52.9 +0.1**
VAM Vamos 33.13 294 *e*P **P** **03 37 55.2 +0.9**
DIM Dimitrovgrad 33.19 306 *e*P **P** **03 37 54.0 -0.8**
GVD Gavdhos 33.19 293 *e*P **P** **03 37 54.8 0.0**
comp=E,226nm,1.0s,mb6.0
GVD Gavdhos 33.19 293 *e*P **P** **03 37 54.8 0.0**
comp=E,226nm,1.0s,mb6.0
SZH Strazhica 33.24 308 *e*P **P** **03 37 55.0 -0.2**
ISR Istrita 33.42 312 P **P** **03 38 07.2 +10**
OBN Obninsk 33.53 334 P **P** **03 37 57.9 +0.4**
comp=E,3µm,0.8s,SNR=76
OBN Obninsk 33.53 334*d*⇓*i*P **P** **03 37 57.7 +0.2**
OBN *i*S **S** **03 43 14.6 -0.2**
OBN pmax pmax
comp=Z,907nm,1.2s,mb6.6
OBN MLR MLR
comp=Z,10µm,18.0s,MS5.6
OBN Obninsk 33.53 334 *i*Pr 03 37 57.7
comp=Z,907nm,1.2s
OBN *i*S **S** **03 43 14.6 -0.2**
OBN LR LR
comp=Z,10µm,18.0s,MS5.6
OBN Obninsk 33.53 334 *i*S **S** **03 43 14.6 -0.2**
IAS Iasi 33.56 316 P **P** **03 37 58.1 +0.1**
VRI Vrincioaia 33.57 313 P **P** **03 37 58.7 +0.7**
MOS Moscow 33.58 335*k*⇓*i*P **P** **03 37 58.6 +0.6**
MOS *e* 03 39 13.7
MOS *e* 03 40 44.1
MOS *e*S **S** **03 43 16.4 +0.8**
MOS pmax pmax
comp=Z,1µm,1.9s,mb6.5
MOS pmax pmax
comp=Z,590nm,1.4s,mb6.3
MOS pmax pmax
comp=N,160nm,1.2s
MOS pmax pmax
comp=E,169nm,1.2s
MOS smax
comp=N,5µm,3.6s
MOS MLR MLR
comp=E,6µm,17.0s
MOS MLR MLR
comp=Z,7µm,17.0s,MS5.5
PVL Pavlikeni 33.65 308 *e*P **P** **03 38 05.0 +6.3**
RZN Rozhen 33.69 305 *e*P **P** **03 37 59.0 -0.1**
GTA Gaotai 33.77 59⇓*i*P **P** **03 38 01.4 +1.6**
GTA AP pP 03 38 14.9 +1.6
GTA XP sP 03 38 22.8 +3.0
GTA PP PP 03 39 17.0 +3.0
GTA PCP PcP 03 40 40.0 +1.7
GTA S **S** **03 43 23.8 +5.1**
GTA SCS ScS 03 48 17.8 +0.2
GTA AMB AMB
comp=Z,162nm,1.5s,mb5.7
GTA AMB AMB
comp=Z,1µm,7.6s
GTA LR LR
comp=N,7µm,19.0s,MS5.4
GTA LR LR
comp=E,3µm,20.9s,MS5.4
GTA LR LR
comp=Z,5µm,31.9s
MPAR Parnis Oros 33.78 299 *e*P **P** **03 38 00.0 +0.1**
PLD Plovdiv 33.80 306 P **P** **03 38 00.9 +0.9**
PLD Plovdiv 33.80 306 *e*P **P** **03 38 00.0 0.0**
NAIG Nisos Aigina 33.92 298 *e*P pP 03 38 13.0 -1.6
MLR Muntele Rosu 33.95 312 P **P** **03 38 02.3 +1.0**
comp=Z,78nm,0.9s,mb5.7,baz=142,slow=2.9,SNR=64
MLR pP pP 03 38 15.3 +0.5
comp=Z,162nm,1.2s,baz=172,slow=3.8,SNR=10
MLR sP sP 03 38 21.6 +0.3
comp=Z,575nm,1.2s,baz=32,slow=8.3,SNR=19
MLR PcP PcP 03 40 39.0 +0.2
comp=Z,110nm,1.1s,baz=89,slow=1.6,SNR=3.8
MLR Muntele Rosu 33.95 312 P **P** **03 38 02.5 +1.2**
NSAL Nisos Salamina 33.96 298 *e*P **P** **03 38 03.0 +1.6**
KYTH Kithira 34.13 295 *e*P **P** **03 38 02.8 -0.2**
AKASG Malin Array Be 34.24 322 P **P** **03 38 03.3 -0.4**
AKASG 03 40 39.1
AKASG Malin Array Be 34.24 322 P **P** **03 38 03.3 -0.4**
comp=Z,116nm,0.8s,mb5.8,baz=125,slow=7.7,SNR=230
AKASG pP pP 03 38 16.1 -1.1
comp=Z,28nm,0.5s,baz=124,slow=8.4,SNR=9.7
AKASG sP sP 03 38 22.1 -1.6
comp=Z,94nm,0.6s,baz=125,slow=8.4,SNR=12
AKASG PcP PcP 03 40 39.0 -0.5
comp=Z,58nm,1.0s,baz=98,slow=1.8,SNR=9.3
AKASG pPcP 03 40 54.2
comp=Z,12nm,0.7s,baz=85,slow=2.5,SNR=4.9
AKASG Malin Array Be 34.24 322 P **P** **03 38 03.3 -0.4**
AKASG *e* 03 40 39.1
NVR Nevrokopi 34.24 304 *e*P **P** **03 38 03.7 -0.1**
KIEV Kiev 34.24 322 P **P** **03 38 03.0 -0.7**
VLI Veliai 34.25 296⇓*i*P **P** **03 38 03.1 -0.9**
PGB Panagyurishte 34.30 307 *e*P **P** **03 38 05.0 +0.7**
NEO Neokhori 34.34 301⇓*i*P **P** **03 38 04.9 +0.2**
PLG Polygyros 34.35 303 *e*P **P** **03 38 05.4 +0.6**
SRS Serrai 34.39 304 *e*P **P** **03 38 04.8 -0.3**
LKR Lokris 34.42 300⇓*i*P **P** **03 38 04.7 -0.7**
SOH Sokhos 34.51 303 *e*P **P** **03 38 05.5 -0.6**
THE Thessaloniki 34.76 303 *e*P **P** **03 38 08.2 -0.1**
KMPD K-Podol'skiy 34.81 318 P **P** **03 38 08.0 -0.6**
KNT Kendrikon 34.91 304 *e*P **P** **03 38 08.8 -0.8**
KKB Krupnik 34.92 305 *e*P **P** **03 38 09.0 -0.6**
AGG Agios Georgios 34.98 300 *e*P **P** **03 38 07.6 -2.6**
CHG Chiang Mai 34.99 96⇓P **P** **03 38 10.5 +0.1**
comp=Z,111nm,0.8s,mb5.8
VTS Vitosha 34.99 306 P **P** **03 38 10.4 +0.2**
VTS Vitosha 34.99 306 *e*P **P** **03 38 10.0 -0.2**
ITM Ithomi 35.10 297 *e*P **P** **03 38 11.1 -0.1**
CM31 Chiang Mai Arr 35.11 96 *e*P **P** **03 38 10.3 -1.2**
comp=Z,44nm,0.8s,mb5.4
CMAR Chiang Mai Arr 35.11 96 P **P** **03 38 11.4 -0.1**
CMAR 03 40 43.1
CMAR Chiang Mai Arr 35.11 96 P **P** **03 38 11.4 -0.1**
comp=Z,9.1nm,0.6s,mb4.9,baz=286,slow=10.0,SNR=51
CMAR pP pP 03 38 25.4 +0.4
comp=Z,11nm,0.7s,baz=283,slow=10,SNR=8.1
CMAR sP sP 03 38 32.1 +0.6
comp=Z,23nm,0.9s,baz=288,slow=8.6,SNR=8.6
CMAR PcP PcP 03 40 43.1 +0.7
comp=Z,18nm,0.7s,baz=283,slow=4.3,SNR=12
CMAR pPcP 03 40 57.6
comp=Z,21nm,1.0s,baz=276,slow=3.6,SNR=6.2
CMAR LR LR 03 55 26.9
comp=Z,5µm,20.5s,MS5.2,baz=280,slow=41
VAY Valandovo 35.18 304 *i*P **P** **03 38 11.4 -0.5**

VAY *i* 03 38 13.0
VAY *i* PPP PPP 03 39 42.7 -7.8
VAY Valandovo 35.18 304 *i* P **P** **03 38 11.4 -0.5**
VAY *i* 03 38 13.0
VAY ⇑*i* 03 38 31.3
VAY *i* PPP PPP 03 39 42.7 -7.8
VAY *i* 03 40 14.9
BURAR Bucovina Array 35.19 315 P **P** **03 38 12.3 +0.4**
BURAR Bucovina Array 35.19 315 P **P** **03 38 12.4 +0.5**
GRG Griva 35.24 303 *eP* **P** **03 38 12.4 0.0**
EVR Evrytania 35.37 300 *eP* **P** **03 38 12.8 -0.7**
CHRT Chiangrai 35.38 93 ⇓P **P** **03 38 13.0 -0.7**
comp=Z,234nm,1.1s,mb6.0
RLS Riolos of Patr 35.54 298 *eP* **P** **03 38 15.2 +0.2**
BDT Bhumibol Dam 35.61 98 P **P** **03 38 17.0 +1.2**
DGAR Diego Garcia 35.78 162 *eP* **P** **03 38 17.7 +0.5**
DGAR pmax pmax
comp=Z,138nm,1.2s,mb5.8
DGAR MLR MLR
comp=Z,2µm,22.0s,MS4.8
DGAR Diego Garcia 35.78 162 *eP* **P** **03 38 17.7 +0.5**
comp=Z,138nm,1.2s,mb5.8
DGAR LR LR
comp=Z,2µm,22.0s,MS4.8
DGAR Diego Garcia 35.78 162 *eP* **P** **03 38 17.7 +0.5**
comp=Z,138nm,1.2s,mb5.8
FNA Florina 35.98 303 *eP* **P** **03 38 18.8 +0.2**
BARS Barje 36.04 306⇓*iP* **P** **03 38 18.8 -0.4**
BIA Bitola 36.05 303 *i* P **P** **03 38 18.8 -0.5**
BIA *i* 03 38 38.8
SKO Skopje 36.14 305⇓*iP* **P** **03 38 19.3 -0.7**
comp=Z,0.1nm,0.8s
SKO ⇑*i* 03 38 39.4
comp=Z,0.3nm,1.2s
SKO *i* PPP PPP 03 39 51.3 -12
BOLS Boljevac 36.18 308⇑*iP* **P** **03 38 19.4 -0.8**
JAN Janina 36.21 301 *eP* **P** **03 38 21.0 +0.4**
VLS Valsamata 36.24 298 *eP* **P** **03 38 23.4 +2.5**
OHR Ohrid 36.46 303⇓*iP* **P** **03 38 21.0 -1.7**
OHR ⇑*i* 03 38 41.3
NANT Nan 36.55 95 ⇓P **P** **03 38 22.0 -1.7**
comp=Z,302nm,0.9s,mb6.1
IGT Igoumenitsa 36.59 301 *eP* **P** **03 38 23.2 -0.6**
LZH Lanzhou 36.60 65⇓*iP* **P** **03 38 25.8 +1.8**
LZH AP pP 03 38 40.5 +2.9
LZH XP sP 03 38 48.0 +4.0
LZH PP PP 03 39 52.1 +2.6
LZH PCP PcP 03 40 48.0 +1.3
LZH S **S** **03 44 02.0 -0.5**
LZH XS 03 44 27.0
LZH SS SS 03 46 33.4 +2.2
LZH SCS ScS 03 48 37.0 +4.1
LZH AMB AMB
comp=Z,712nm,1.8s,mb6.2
LZH AMB AMB
comp=Z,4µm,5.8s
LZH LR LR
comp=N,13µm,18.5s
LZH LR LR
comp=Z,21µm,20.0s,MS5.9
LZH Lanzhou 36.60 65⇓*iP* **P** **03 38 25.7 +1.7**
LZH 03 39 52.1
LZH 03 40 48.0
LZH S **S** **03 44 02.0 -0.5**
LZH SS SS 03 46 33.4 +2.2
LZH 03 48 37.0
LZH pmax pmax
comp=Z,712nm,1.8s,mb6.2
LZH MLR MLR
comp=Z,21µm,20.0s,MS5.9
LZH Lanzhou 36.60 65⇓*iP* **P** **03 38 25.8 +1.8**
comp=Z,710nm,1.8s,mb6.2
LZH pP pP 03 38 40.5 +2.9
LZH sP sP 03 38 48.0 +4.0
LZH PP PP 03 39 52.1 +2.6
LZH PcP PcP 03 40 48.0 +1.3
LZH S **S** **03 44 02.0 -0.5**
LZH sS 03 44 27.0
LZH SS SS 03 46 33.4 +2.2
LZH ScS ScS 03 48 37.0 +4.1
LZH LR LR
comp=Z,21µm,20.0s,MS5.9
KMI Kunming 36.61 84 P **P** **03 38 24.9 +0.8**
KMI AP pP 03 38 38.3 +0.6
KMI XP sP 03 38 43.9 -0.2
KMI PP PP 03 39 50.6 +0.9
KMI PPP PPP 03 40 11.4 +1.4
KMI PCP PcP 03 40 47.3 +0.5
KMI S **S** **03 44 03.9 +1.2**
KMI XS 03 44 26.8
KMI SS SS 03 46 32.6 +1.1
KMI SSS SSS 03 47 03.4 +1.0
KMI AMB AMB
comp=Z,208nm,1.4s,mb5.8
KMI AMB AMB
comp=Z,2µm,4.8s
KMI LR LR
comp=N,4µm,17.5s,MS5.3
KMI LR LR
comp=E,3µm,22.0s,MS5.3
KMI LR LR
comp=Z,3µm,26.2s,MS5.0
KMI Kunming 36.61 84 P **P** **03 38 24.9 +0.8**
KMI 03 39 50.6
KMI PPP PPP 03 40 11.4 +1.4
KMI 03 40 47.3
KMI S **S** **03 44 03.9 +1.2**
KMI SS SS 03 46 32.6 +1.1
KMI SSS SSS 03 47 03.4 +1.0
KMI pmax pmax
comp=Z,208nm,1.4s,mb5.8
KMI MLR MLR
comp=Z,3µm,26.2s,MS5.0
KMI Kunming 36.61 84 P **P** **03 38 24.9 +0.8**
comp=Z,210nm,1.4s,mb5.8
KMI pP pP 03 38 38.3 +0.6
KMI sP sP 03 38 43.9 -0.2
KMI PP PP 03 39 50.6 +0.9
KMI PcP PcP 03 40 47.3 +0.5
KMI S **S** **03 44 03.9 +1.2**
KMI sS 03 44 26.8
KMI SS SS 03 46 32.6 +1.1
KMI LR LR
comp=Z,3µm,26.2s,MS5.0
CD2 Chengdu 36.65 74⇓*iP* **P** **03 38 24.3 -0.1**
CD2 AMB AMB
comp=Z,92nm,1.2s,mb5.5
KMBO Kilima Mbogo 36.74 224 *eP* **P** **03 38 27.5 +2.1**
KMBO pmax pmax
comp=Z,89nm,1.0s
KMBO MLR MLR
comp=Z,2µm,22.0s
KMBO Kilima Mbogo 36.74 224 P **P** **03 38 27.6 +2.2**
comp=Z,44nm,0.8s,mb5.3,baz=32,slow=11,SNR=94
KMBO pP pP 03 38 41.0 +2.1
comp=Z,46nm,0.8s,baz=41,slow=12,SNR=12
KMBO LR LR 03 54 00.0
comp=Z,5µm,20.0s,MS5.3,baz=42,slow=37
KMBO Kilima Mbogo 36.74 224 *eP* **P** **03 38 27.4 +2.1**
comp=Z,89nm,1.0s,mb5.5
KMBO *ep*P pP 03 38 41.1 +2.1
KMBO LR LR
comp=Z,2µm,22.0s,MS4.8
LVV L'vov 36.78 318 *eP* **P** **03 38 24.9 -0.4**
LVV *e* 03 39 46.5
LVV *e* 03 40 08.1
LVV *eS* **S** **03 44 06.3 +1.2**
LVV *e* 03 46 36.7
LVV MLR MLR
comp=N,700nm,16.0s,MS5.0
LVV MLR MLR
comp=E,2µm,16.0s,MS5.0
LVV MLR MLR
comp=Z,2µm,16.0s,MS5.0
SVIS Svilajnac 36.80 309⇓*iP* **P** **03 38 24.4 -1.1**
SRN Sarande 36.88 301 *ePn* **P** **03 38 25.8 -0.5**
MNK Minsk 37.00 327⇓*iP* **P** **03 38 25.0 -2.1**
KEK Kerkira 37.02 301 *eP* **P** **03 38 27.0 -0.4**
GRUS Gruza 37.06 308⇓*iP* **P** **03 38 27.1 -0.7**
GRUS Gruza 37.06 308 P **P** **03 38 27.0 -0.7**
TIR Tirane 37.19 303 *ePn* **P** **03 38 28.5 -0.4**
NST Nakhon Sawan 37.23 100 ⇑P **P** **03 38 30.4 +1.0**
comp=Z,145nm,0.6s,mb6.0

UZH Uzhgorod 37.39 316 *eP* **P** **03 38 31.0 +0.6**
KWP Kalwaria 37.50 318 *eP* **P** **03 38 32.2 +0.9**
KWP *epP* pP 03 38 51.9 +7.0
KWP *eS* **S** **03 44 19.1 +3.1**
KWP Kalwaria 37.50 318 *eP* **P** **03 38 32.2 +0.9**
KWP *epP* pP 03 38 51.9 +7.0
KWP *eS* **S** **03 44 19.1 +3.1**
KWP MLR MLR 03 56 19.3
comp=Z,8µm,25.0s,MS5.4
KWP Kalwaria 37.50 318 *eP* **P** **03 38 32.2 +0.9**
KWP *eS* **S** **03 44 19.1 +3.1**
KOLS Kolonicke sedl 37.51 316 *iP* **P** **03 38 32.7 +1.3**
KOLS *epP* pP 03 38 46.3 +1.3
KOLS *esP* sP 03 38 50.2 -1.2
KOLS *eS* **S** **03 44 19.7 +3.6**
KOLS Kolonicke sedl 37.51 316 *iP* **P** **03 38 32.7 +1.3**
KOLS *eS* **S** **03 44 19.7 +3.6**
DIVS Divcibare 37.62 308⇑*iP* **P** **03 38 31.6 -0.7**
DIVS Divcibare 37.62 308 P **P** **03 38 31.6 -0.8**
IDID Didziasalis 37.98 328 *iP* **P** **03 38 35.8 +0.6**
IDID AMb AMB 03 38 38.6
comp=Z,98nm,0.8s,mb5.6
IDID *epP* pP 03 38 49.4 +0.5
IDID *esP* sP 03 38 57.1 +1.9
IDID *ePP* PP 03 40 01.5 -4.3
IDID Didziasalis 37.98 328 *iP* **P** **03 38 35.8 +0.6**
comp=Z,98nm,0.8s,mb5.6,SNR=38
IDID *epP* pP 03 38 49.3 +0.4
SNR=142
BBLS Bajina Basta - 37.98 307⇓*iP* **P** **03 38 35.2 -0.2**
CRVS Cervenica-Dubn 38.00 316 *eP* **P** **03 38 36.9 +1.4**
CRVS *e* 03 40 01.6
CRVS *eS* **S** **03 44 24.2 +0.6**
CRVS Cervenica-Dubn 38.00 316 *eP* **P** **03 38 36.9 +1.4**
CRVS *e* pP 03 38 52.6 +3.5
CRVS *ePP* PP 03 40 01.6 -4.5
CRVS *eS* **S** **03 44 24.2 +0.6**
NNT Nongplab 38.23 105 P **P** **03 38 40.7 +3.0**
IIGN Ignalina 38.25 327 *iP* **P** **03 38 38.2 +0.7**
IIGN *epP* pP 03 38 51.1 0.0
MOY Mondy 38.25 39 *eP* **P** **03 38 39.7 +2.2**
MOY pmax pmax
comp=Z,826nm,1.6s,mb6.2
ISAL Salakas 38.41 328 *iP* **P** **03 38 39.5 +0.6**
ISAL AMb AMB 03 38 42.2
comp=Z,84nm,0.8s,mb5.5
ISAL *epP* pP 03 38 52.7 +0.2
ISAL *ePP* PP 03 40 09.4 -1.4
ISAL Salakas 38.41 328 *iP* **P** **03 38 39.5 +0.7**
comp=Z,84nm,0.8s,mb5.5,SNR=37
ISAL *epP* pP 03 38 52.7 +0.2
SNR=142
ISAL Salakas 38.41 328 *ePP* PP 03 40 09.4 -1.4
SNR=52
IZAR Zarasai 38.45 328 *iP* **P** **03 38 39.9 +0.7**
IZAR AMb AMB 03 38 42.7
comp=Z,115nm,1.2s,mb5.5
IZAR *epP* pP 03 38 53.1 +0.3
IZAR *esP* sP 03 39 01.0 +1.8
IZAR Zarasai 38.45 328 *iP* **P** **03 38 39.9 +0.7**
comp=Z,115nm,1.2s,mb5.5,SNR=37
IZAR *epP* pP 03 38 53.1 +0.3
SNR=142
KECS Kecovo 38.47 315 *eP* **P** **03 38 40.6 +1.2**
KECS *epP* pP 03 38 53.6 +0.6
KECS *esP* sP 03 39 01.1 +1.7
PSZ Piszkesteto 38.67 314 *eP* **P** **03 38 41.4 +0.3**
PSZ pmax pmax
comp=Z,196nm,1.1s,mb5.8
PSZ Piszkesteto 38.67 314⇓*esP* **P** **03 38 41.4 +0.3**
NIE Niedzica 38.88 316 *eP* **P** **03 38 41.5 -1.3**
PKS7 Kunszentmiklos 38.91 312⇓*eP* **P** **03 38 43.4 +0.4**
PKSM Moragy 39.04 311⇓*iP* **P** **03 38 44.3 +0.2**
ZAK Zakamensk 39.09 42⇑*iP* **P** **03 38 45.5 +1.0**
ZAK *e* 03 44 41.9
ZAK pmax pmax
comp=Z,118nm,1.6s,mb5.4
SUW Suwalki 39.09 324⇓*eP* **P** **03 38 44.8 +0.3**
SUW *epP* pP 03 39 04.3 +6.1
SUW *ePP* PP 03 40 32.2 +14
SUW *eS* **S** **03 44 40.3 +0.2**
SUW Suwalki 39.09 324⇓*eP* **P** **03 38 44.8 +0.3**
SUW *epP* pP 03 39 04.3 +6.1
SUW *ePP* PP 03 40 32.2 +14
SUW *eS* **S** **03 44 40.3 +0.2**
SUW MLR MLR 03 55 00.2
comp=Z,10µm,31.7s,MS5.4
SUW Suwalki 39.09 324⇓*eP* **P** **03 38 44.8 +0.3**
SUW *eS* **S** **03 44 40.3 +0.2**
BUD Budapest 39.11 313⇓*esP* **P** **03 38 44.7 0.0**
PUL Pulkovo 39.20 335 *iP* **P** **03 38 45.0 -0.3**
TIP Timpagrande 39.31 300⇓*iP* **P** **03 38 46.7 +0.2**
TIP *epP* pP 03 39 00.9 +0.7
TIP Timpagrande 39.31 300⇓*iP* **P** **03 38 46.7 +0.2**
TIP *epP* pP 03 39 00.9 +0.7
KKTK Khon Kaen 39.34 97 ⇑P **P** **03 38 47.6 +0.7**
comp=Z,309nm,0.6s,mb6.2
OJC Ojcow 39.47 317⇓*iP* **P** **03 38 48.4 +0.7**
OJC *e* 03 40 55.2
OJC *eS* **S** **03 44 47.6 +1.8**
OJC *eSS* SS 03 47 34.6 -0.2
OJC MLR MLR
comp=Z,6µm,23.2s,MS5.3
OJC Ojcow 39.47 317⇓*iP* **P** **03 38 48.4 +0.7**
OJC *epP* pP 03 39 01.5 +0.2
OJC *ePcP* PcP 03 40 55.2 -0.2
OJC *eS* **S** **03 44 47.6 +1.8**
OJC *eSS* SS 03 47 34.6 -0.2
OJC MLR MLR 03 57 54.6
comp=Z,6µm,23.2s,MS5.3
OJC Ojcow 39.47 317⇓*iP* **P** **03 38 48.4 +0.7**
OJC *epP* pP 03 39 01.5 +0.2
OJC *eS* **S** **03 44 47.6 +1.8**
WAR Warsaw 39.50 321⇓*eP* **P** **03 38 49.3 +1.4**
WAR *eS* **S** **03 44 48.8 +2.6**
WAR MLR MLR
comp=Z,6µm,27.5s,MS5.3
WAR Warsaw 39.50 321⇓*eP* **P** **03 38 49.3 +1.4**
WAR *epP* pP 03 39 08.9 +7.3
WAR *eS* **S** **03 44 48.8 +2.6**
WAR LR LR
comp=Z,6µm,27.5s,MS5.3
WAR Warsaw 39.50 321⇓*eP* **P** **03 38 49.2 +1.3**
WAR *epP* pP 03 39 08.9 +7.3
WAR *eS* **S** **03 44 48.8 +2.6**
WAR MLR MLR 03 57 15.5
comp=Z,6µm,27.5s,MS5.3
PKSG 39.50 313⇓*eP* **P** **03 38 48.3 +0.3**
LIKS Likavka 39.52 315 *epP* pP 03 39 02.8 +1.0
LIKS *esP* sP 03 39 08.2 +0.2
VYHS Vyhne 39.52 314 *iP* **P** **03 38 48.5 +0.4**
VYHS *e* 03 40 44.3
VYHS *eS* **S** **03 44 41.5 -5.1**
VYHS *eSS* SS 03 48 06.8 +31
VYHS Vyhne 39.52 314 *iP* **P** **03 38 48.5 +0.4**
VYHS *epP* pP 03 39 02.1 +0.3
VYHS *e* 03 40 44.3
VYHS *eS* **S** **03 44 41.5 -5.1**
VYHS *eSS* SS 03 48 06.8 +31
SRO2 Moca 39.60 313 *eP* **P** **03 38 49.5 +0.7**
SRO2 *epP* pP 03 39 02.4 -0.1
SRO2 *esP* sP 03 39 09.1 +0.4
SRO Srobarova 39.66 313 *eP* **P** **03 38 50.0 +0.7**
SRO *e* 03 40 52.3
SRO Srobarova 39.66 313 *eP* **P** **03 38 50.0 +0.7**
SRO *epP* pP 03 39 03.1 +0.1
SRO *esP* sP 03 39 09.9 +0.6
SRO *e* 03 40 52.3
SRO1 Iza 39.70 313 *eP* **P** **03 38 50.3 +0.6**
SRO1 *e* pP 03 39 02.9 -0.4
TLY Talaya 39.77 40⇓*iP* **P** **03 38 52.4 +2.2**
comp=Z,458nm,1.4s,mb6.0
TLY *epP* pP 03 39 08.7 +4.8
TLY LR LR
comp=Z,348nm,20.0s
TLY Talaya 39.77 40⇓*iP* **P** **03 38 52.4 +2.2**
comp=Z,458nm,1.4s,mb6.0
VSU Vasula 39.79 332 *iP* **P** **03 38 50.5 +0.2**
SOI Samo 39.80 298 *eP* **P** **03 38 51.3 +0.7**
GYA Guiyang 39.81 80⇓*iP* **P** **03 38 50.8 +0.1**
GYA AP pP 03 39 05.3 +0.9
GYA XP sP 03 39 11.3 +0.6

GYA S **S** **03 44 48.5 -2.6**
GYA AMB AMB
comp=Z,90nm,1.4s,mb5.3
GYA AMB AMB
comp=Z,830nm,5.3s
GYA LR LR
comp=N,5µm,22.1s,MS5.3
GYA LR LR
comp=E,2µm,22.1s,MS5.3
GYA LR LR
comp=Z,3µm,26.9s,MS5.0
KOLL Kolacno 39.82 314 *iP* **P** **03 38 51.3 +0.7**
KOLL *epP* pP 03 39 05.0 +0.7
KOLL *esP* sP 03 39 11.2 +0.6
SCLL Scilla 40.08 298 *eP* **P** **03 38 53.7 +0.8**
SCLL Scilla 40.08 298 *eP* **P** **03 38 53.7 +0.8**
MTTG Motta San Giov 40.09 298 *eP* **P** **03 38 53.7 +0.8**
CUC Castrocucco 40.10 301 P **P** **03 38 54.1 +1.1**
SONM Songino Array 40.26 47 P **P** **03 38 56.2 +2.0**
comp=Z,44nm,0.7s,mb5.3,baz=254,slow=8.2,SNR=320
SONM pP pP 03 39 09.3 +1.4
comp=Z,26nm,0.7s,baz=253,slow=9.4,SNR=5.9
IRK Irkutsk 40.34 40⇓*iP* **P** **03 38 56.7 +1.8**
IRK pmax pmax
comp=Z,818nm,1.5s,mb6.2
OKC Ostrava-Krasne 40.35 316⇓*iP* **P** **03 38 55.4 +0.4**
OKC *eS* **S** **03 44 59.1 +0.1**
OKC Ostrava-Krasne 40.35 316⇓*iP* **P** **03 38 55.4 +0.4**
OKC *epP* pP 03 39 08.2 -0.5
OKC *ex* x 03 40 50.7
OKC *eS* **S** **03 44 59.1 +0.1**
OKC AMS AMS 03 59 30.0
comp=Z,3µm,16.6s
OKC Ostrava-Krasne 40.35 316⇓*iP* **P** **03 38 55.4 +0.4**
OKC *epP* pP 03 39 08.2 -0.5
OKC *eS* **S** **03 44 59.1 +0.1**
JAVC Velka Javorina 40.36 315 P **P** **03 38 56.6 +1.5**
RAC Raciborz 40.40 317 *eP* **P** **03 38 56.2 +0.8**
RAC *eS* **S** **03 45 00.4 +0.7**
RAC MLR MLR 03 59 05.0
comp=Z,5µm,19.0s,MS5.3
MRLC Muro Lucano 40.41 302 *eP* **P** **03 38 56.3 +0.7**
MRLC Muro Lucano 40.41 302 *eP* **P** **03 38 56.3 +0.7**
RGNG Rignano Grg 40.42 303 *eP* **P** **03 38 58.6 +3.0**
SISC Sisak 40.42 309 *iP* **P** **03 38 59.2 +3.6**
AGST Augusta-Monte 40.44 297 *eP* **P** **03 38 56.6 +0.7**
AGST Augusta-Monte 40.44 297 *eP* **P** **03 38 56.6 +0.7**
SGO Sicignano 40.53 302 *eP* **P** **03 38 57.7 +1.1**
ZST Bratislava 40.55 314 *eP* **P** **03 38 56.5 -0.2**
ZST *e* 03 40 52.2
ZST *e* 03 47 54.3
ZST Bratislava 40.55 314 *eP* **P** **03 38 56.5 -0.2**
ZST *epP* pP 03 39 09.9 -0.5
ZST *esP* sP 03 39 16.6 0.0
ZST *e* 03 40 52.2
ZST *ePCS* 03 44 49.5
ZST *e* 03 47 54.3
ZST *eSS* SS 03 48 25.4 +27
SSY Sortino 40.56 296 P **P** **03 38 57.7 +0.8**
FG5 Orsara di Pugl 40.62 303 *eP* **P** **03 38 59.2 +1.9**
PZI Palazzolo 40.66 296 *eP* **P** **03 38 59.8 +2.1**
ULN Ulaanbaatar 40.69 47⇓*iP* **P** **03 38 59.4 +1.6**
ULN pmax pmax
comp=Z,233nm,1.3s,mb5.7
ULN MLR MLR
comp=Z,2µm,22.0s,MS4.9
ULN Ulaanbaatar 40.69 47⇓*iP* **P** **03 38 59.4 +1.5**
comp=Z,234nm,1.3s,mb5.7
ULN *epP* pP 03 39 13.7 +2.1
ULN LR LR
comp=Z,2µm,22.0s,MS4.9
ULN Ulaanbaatar 40.69 47⇓*iP* **P** **03 38 59.4 +1.6**
comp=Z,234nm,1.3s,mb5.7
ULN *epP* pP 03 39 13.6 +2.1
MBAR Mbarara 40.70 233 P **P** **03 38 59.4 +1.1**
comp=Z,262nm,0.9s,mb5.9,SNR=31
MBAR Mbarara 40.70 233⇓*iP* **P** **03 38 58.9 +0.6**
MBAR pmax pmax
comp=Z,38nm,0.9s,mb5.0
MBAR Mbarara 40.70 233⇓*iP* **P** **03 38 58.9 +0.6**
comp=Z,38nm,0.9s,mb5.0
MBAR *epP* pP 03 39 12.8 +0.9
MBAR Mbarara 40.70 233⇓*iP* **P** **03 38 58.9 +0.6**
comp=Z,38nm,0.9s,mb5.0
MORC Moravsky Berou 40.71 316 *eP* **P** **03 38 58.1 +0.2**
MORC pmax pmax
comp=Z,112nm,1.0s,mb5.5
MORC Moravsky Berou 40.71 316 *eP* **P** **03 38 58.1 +0.1**
comp=Z,112nm,1.0s,mb5.5
MORC *epP* pP 03 39 10.9 -0.7
MORC Moravsky Berou 40.71 316 *eP* **P** **03 38 58.1 +0.2**
comp=Z,112nm,1.0s,mb5.5
MORC *epP* pP 03 39 10.9 -0.7
CSSN Cassano Irpino 40.77 302 *eP* **P** **03 38 59.7 +1.2**
CSSN Cassano Irpino 40.77 302 *eP* **P** **03 38 59.7 +1.2**
SOP Sopron 40.78 313 P **P** **03 38 59.1 +0.6**
SOP Sopron 40.78 313⇓*esP* **P** **03 38 58.5 0.0**
SOP Sopron 40.78 313⇓*eP* **P** **03 38 58.8 +0.3**
SLNA Salina 40.78 299 *eP* **P** **03 39 00.0 +1.3**
SLNA Salina 40.78 299 *eP* **P** **03 39 00.0 +1.3**
XAN Xi'an 40.79 68 P **P** **03 38 59.6 +0.8**
XAN AP pP 03 39 14.0 +1.5
XAN AMB AMB
comp=Z,233nm,1.4s,mb5.6
XAN AMB AMB
comp=Z,1µm,12.6s
XAN LR LR
comp=N,2µm,23.9s,MS5.4
XAN LR LR
comp=E,6µm,25.5s,MS5.4
XAN LR LR
comp=Z,7µm,25.9s,MS5.4
MRB1 Monte Rocchett 40.83 302 P **P** **03 38 59.5 +0.5**
MNO Monte Soro 40.88 298 *eP* **P** **03 39 01.3 +1.9**
WDD Wield Dalam 41.02 294 P **P** **03 39 01.8 +1.2**
JOF Joensuu 41.07 339 *ep* **P** **03 39 01.1 +0.3**
comp=Z,83nm,0.7s,mb5.5
VRAC Vranov 41.17 315 P **P** **03 39 02.3 +0.6**
VRAC Vranov 41.17 315 *eP* **P** **03 39 02.1 +0.4**
BOJS Bojanci 41.21 309 *eP* **P** **03 39 02.4 +0.3**
BOJS *epP* pP 03 39 16.2 +0.4
BOJS *esP* sP 03 39 22.4 +0.4
BOJS *ePcP* PcP 03 41 01.9 +0.9
BOJS *e* 03 41 17.6
KRUC Moravsky 41.23 315 P **P** **03 39 02.9 +0.7**
ARSA Arzberg 41.36 312⇑*iP* **P** **03 39 04.2 +0.8**
comp=Z,45nm,1.1s,mb5.0
CSLB Castelbuono 41.38 298 P **P** **03 39 04.7 +1.1**
CII Carovilli 41.38 303 *eP* **P** **03 39 05.2 +1.6**
CII Carovilli 41.38 303 *eP* **P** **03 39 05.2 +1.6**
MIDA Miranda 41.41 303 P **P** **03 39 04.7 +0.9**
RNI2 Rionero Sannit 41.49 303 P **P** **03 39 05.9 +1.4**
PERS Pernice 41.51 311 *eP* **P** **03 39 04.5 0.0**
PERS *esP* sP 03 39 24.9 +0.4
PERS *e* 03 41 02.8
PERS *e* 03 41 43.1
PERS *eS* **S** **03 45 14.9 -1.3**
PERS *e* 03 48 28.8
DPC Dobruska-Polom 41.63 316⇓*iP* **P** **03 39 06.0 +0.5**
DPC *e* 03 41 01.0
DPC *eS* **S** **03 45 13.5 -4.4**
DPC MLR MLR
comp=Z,4µm,19.5s,MS5.3
DPC Dobruska-Polom 41.63 316⇓*iP* **P** **03 39 06.0 +0.5**
DPC *epP* pP 03 39 19.1 -0.1
DPC *ePCP* PcP 03 41 01.0 -1.3
DPC *eS* **S** **03 45 13.5 -4.4**
DPC AMS AMS 03 59 40.0
comp=Z,4µm,19.5s
ENH Enshi 41.63 74 *eP* **P** **03 39 05.9 +0.1**
comp=Z,133nm,1.1s,mb5.5
ENH Enshi 41.63 74 *eP* **P** **03 39 05.9 +0.1**
comp=Z,133nm,1.1s,mb5.5
FAVR Favara 41.69 297 *eP* **P** **03 39 09.2 +3.0**
BTO Baotou 41.69 58 *eP* **P** **03 39 07.9 +1.8**
BTO AMB AMB
comp=Z,211nm,1.3s,mb5.6
UBT Ubonrachathani 41.70 97 P **P** **03 39 07.5 +1.0**
INTR Introdacqua 41.71 304 P **P** **03 39 06.7 +0.5**
SDI San Donato 41.75 303 *eP* **P** **03 39 06.5 -0.1**
KSP Ksiaz 41.79 317⇓*eP* **P** **03 39 07.5 +0.7**
KSP *e* 03 41 02.6
KSP *eS* **S** **03 45 16.5 -3.8**

KSP				eSS	SS	03 48 30.0	+7.8
KSP				MLR	MLR		
	comp=Z,9µm,20.9s,MS5.6						
KSP	Ksiaz	41.79	317	⇓eP	P	03 39 07.5	+0.7
KSP				epP	pP	03 39 20.9	+0.4
KSP				esP	sP	03 39 27.7	+1.0
KSP				ePcP	PcP	03 41 02.6	-0.3
KSP				eS	S	03 45 16.5	-3.8
KSP				eSS	SS	03 48 30.0	+7.8
KSP				LR	LR		
	comp=Z,9µm,20.9s,MS5.6						
KSP	Ksiaz	41.79	317	⇓eP	P	03 39 07.9	+1.2
KSP				epP	sP	03 39 27.9	+1.1
KSP				eS	S	03 45 22.8	+2.6
KSP				MLR	MLR	03 55 58.1	
	comp=Z,10µm,34.7s,MS5.5						
KSP	Ksiaz	41.79	317	ePcP	PcP	03 41 02.6	-0.3
KSP				eSS	SS	03 48 30.0	+7.8
LJU	Ljubljana	41.80	310	eP	P	03 39 07.2	+0.3
LJU				epP	pP	03 39 21.0	+0.4
LJU				e		03 39 27.1	
LJU				ePcP	PcP	03 41 03.8	+0.8
LJU				eS	S	03 45 16.9	-3.6
UPC	Upice	41.86	317	⇓iP	P	03 39 07.9	+0.5
UPC				epP	pP	03 39 21.5	+0.4
OBKA	Obir	41.87	310	⇑iP	P	03 39 06.3	-1.2
	comp=Z,48nm,1.2s,mb5.0						
FINES	FINESS Array B	41.88	335	P	P	03 39 07.7	+0.3
	comp=Z,117nm,0.7s,mb5.6,baz=129,slow=8.7,SNR=532						
FINES				pP	pP	03 39 20.6	-0.5
	comp=Z,61nm,0.4s,baz=127,slow=9.5,SNR=12						
FINES				sP	sP	03 39 27.4	0.0
	comp=Z,75nm,0.5s,baz=127,slow=9.5,SNR=7.0						
FINES				LR	LR	03 59 38.2	
	comp=Z,6µm,19.8s,MS5.5,baz=124,slow=40						
VVLD	Villa Vallelon	41.90	303	P	P	03 39 08.1	+0.2
GKP	Gorka Klasztor	42.02	321	⇓eP	P	03 39 09.6	+1.0
GKP				eS	S	03 45 24.4	+0.8
GKP				MLR	MLR		
	comp=Z,8µm,27.0s,MS5.5						
GKP	Gorka Klasztor	42.02	321	⇓eP	P	03 39 09.6	+1.0
GKP				epP	pP	03 39 29.2	+6.8
GKP				eS	S	03 45 24.4	+0.8
GKP				LR	LR		
	comp=Z,8µm,27.0s,MS5.5						
GKP	Gorka Klasztor	42.02	321	⇓eP	P	03 39 09.6	+1.0
GKP				epP	pP	03 39 29.2	+6.9
GKP				eS	S	03 45 24.4	+0.8
GKP				MLR	MLR	03 58 40.9	
	comp=Z,8µm,27.0s,MS5.5						
PTQR	Pietraquaria	42.08	304	eP	P	03 39 10.1	+0.8
PTQR	Pietraquaria	42.08	304	eP	P	03 39 10.1	+0.8
USI	Ustica	42.08	299	eP	P	03 39 10.7	+1.4
USI	Ustica	42.08	299	eP	P	03 39 10.7	+1.3
AQU	L'Aquila	42.11	304	⇓eP	P	03 39 09.7	+0.2
AQU				pmax	pmax		
	comp=Z,210nm,1.0s,mb5.7						
AQU	L'Aquila	42.11	304	eP	P	03 39 10.5	+1.0
AQU	L'Aquila	42.11	304	eP	P	03 39 10.5	+1.0
GUAR	Guarcino	42.13	303	P	P	03 39 10.0	+0.3
KAF	Kangasniemi	42.22	336	ep	P	03 39 10.6	+0.4
	comp=Z,104nm,0.6s,mb5.6						
KAF	Kangasniemi	42.22	336	eP	P	03 39 10.6	+0.4
KAF				pmax	pmax		
	comp=Z,104nm,0.6s,mb5.6						
VOY	Vojsko	42.23	310	eP	P	03 39 09.8	-0.7
VOY				epP		03 39 10.8	
VOY				e	pP	03 39 23.8	-0.4
TRI	Trieste	42.27	309	eP	P	03 39 10.9	+0.1
FIAM	Fiamignano	42.31	304	P	P	03 39 12.1	+0.9
MOA	Molln	42.32	312	⇑iP	P	03 39 11.3	+0.1
	comp=Z,111nm,1.7s,mb5.2						
NRCA	Norcia	42.37	305	eP	P	03 39 12.1	+0.5
NRCA	Norcia	42.37	305	eP	P	03 39 12.1	+0.5
CADS	Cadrg	42.37	310	eP	P	03 39 11.3	-0.3
CERT	Cerreto	42.39	303	P	P	03 39 12.0	+0.2
MTGR	Montagna Grand	42.41	297	P	P	03 39 12.8	+0.8
SNTG	Esanatoglia	42.53	305	eP	P	03 39 13.4	+0.4
SNTG	Esanatoglia	42.53	305	eP	P	03 39 13.4	+0.4
ERC	Erice	42.54	298	eP	P	03 39 13.8	+0.6
ERC	Erice	42.54	298	eP	P	03 39 13.8	+0.7
ARV	Arcevia	42.56	306	eP	P	03 39 13.6	+0.4
ARV	Arcevia	42.56	306	eP	P	03 39 13.6	+0.4
PRU	Pruhonice	42.63	315	⇓iP	P	03 39 13.6	-0.1
PRU				eS	S	03 45 34.2	+1.5
PRU				MLR	MLR		
	comp=Z,4µm,20.7s,MS5.3						
PRU	Pruhonice	42.63	315	⇓iP	P	03 39 13.6	-0.1
PRU				epP	pP	03 39 25.7	-1.8
PRU				eS	S	03 45 34.2	+1.5
PRU				AMS	AMS	03 59 30.0	
	comp=Z,4µm,20.7s						
MNS	Montasola	42.64	304	eP	P	03 39 13.7	-0.2
PTCC	Patocco-Chiusa	42.66	310	eP	P	03 39 13.9	-0.2
PTCC	Patocco-Chiusa	42.66	310	eP	P	03 39 13.9	-0.1
FSSB	Fossombrone	42.70	306	eP	P	03 39 14.7	+0.3
FSSB	Fossombrone	42.70	306	eP	P	03 39 14.7	+0.3
GMNA	Gemona	42.72	310	eP	P	03 39 14.0	-0.5
PVCC	Panska Ves	42.75	316	⇓iP	P	03 39 15.1	+0.4
PVCC				AMS	AMS	04 00 20.0	
	comp=Z,4µm,18.6s						
KULM	Kulim	42.78	113	eP	P	03 39 15.8	+0.3
KULM				epP	pP	03 39 31.7	+2.5
KULM	Kulim	42.78	113	eP	P	03 39 15.8	+0.3
KBA	Koelnbreinsper	42.79	311	⇑iP	P	03 39 15.4	+0.4
	comp=Z,88nm,1.4s,mb5.3						
KBA	Koelnbreinsper	42.79	311	⇑iP	P	03 39 15.4	+0.4
KBA				pmax	pmax		
	comp=Z,88nm,1.4s,mb5.3						
HHC	Hu-ho-hao-te	42.87	58	eP	P	03 39 17.5	+1.7
HHC				AP	pP	03 39 32.4	+2.8
HHC				XP	sP	03 39 39.1	+3.3
HHC				PP	PP	03 41 02.3	+4.1
HHC				PCP	PcP	03 41 08.3	+1.7
HHC				PCS		03 44 57.8	
HHC				S	S	03 45 37.8	+1.5
HHC				XS		03 46 04.4	
HHC				SS	SS	03 48 44.9	+2.5
HHC				SCS	ScS	03 49 12.5	+3.0
HHC				AMB	AMB		
	comp=Z,172nm,1.8s,mb5.5						
HHC				AMB	AMB		
	comp=Z,2µm,5.2s						
HHC				LR	LR		
	comp=N,3µm,23.2s,MS5.3						
HHC				LR	LR		
	comp=E,3µm,22.0s,MS5.3						
HHC				LR	LR		
	comp=Z,4µm,20.2s,MS5.3						
GEC2	GERESS Array S	42.90	314	eP	P	03 39 16.3	+0.4
GEC2				e		03 41 06.6	
GEC2				eS	S	03 45 37.7	+1.1
GEC2	GERESS Array S	42.90	314	eP	P	03 39 16.3	+0.4
	comp=Z,336nm,1.3s,mb5.9						
GEC2	GERESS Array S	42.90	314	ePcP	PcP	03 41 06.6	0.0
GEC2				eS	S	03 45 37.7	+1.1
GERES	GERESS Array B	42.90	314	P	P	03 39 16.2	+0.3
GERES						03 41 05.7	
GERES	GERESS Array B	42.90	314	P	P	03 39 16.2	+0.3
	comp=Z,25nm,0.8s,mb5.0,baz=112,slow=7.2,SNR=106						
GERES				pP	pP	03 39 29.6	-0.1
	comp=Z,86nm,0.8s,baz=101,slow=6.8,SNR=23						
GERES				PcP	PcP	03 41 05.7	-0.9
	comp=Z,37nm,1.0s,baz=90,slow=4.0,SNR=5.1						
RSM	Repubblica di	42.96	306	eP	P	03 39 16.5	0.0
KHC	Kasperske Hory	43.04	314	⇓iP	P	03 39 17.0	-0.1
KHC				eS	S	03 45 37.4	-1.2
KHC				MLR	MLR		
	comp=Z,5µm,22.0s,MS5.4						
KHC	Kasperske Hory	43.04	314	⇓iP	P	03 39 17.0	-0.1
KHC				epP	pP	03 39 31.5	+0.7
KHC				e		03 39 36.0	
KHC				e		03 40 08.5	
KHC				eS	S	03 45 37.4	-1.2
KHC				LR	LR		
	comp=Z,5µm,22.0s,MS5.4						
KHC	Kasperske Hory	43.04	314	⇓iP	P	03 39 17.0	-0.1
KHC				epP	pP	03 39 31.5	+0.7
KHC				sP	sP	03 39 36.0	-1.0
KHC				x	x	03 40 08.5	
KHC				eS	S	03 45 37.4	-1.2
KHC				AMS	AMS	04 00 00.0	
	comp=Z,5µm,22.0s						
FVI	Forni Avoltri	43.09	310	eP	P	03 39 16.9	-0.6
GOTU	Gotland	43.09	327	P	P	03 39 17.7	+0.4
BRG	Berggiesshubel	43.23	317	iP	P	03 39 19.2	+0.6
BRG				i		03 39 21.2	
BRG				e		03 45 46.7	
BRG				iSS	SS	03 48 57.0	+8.4
BRG				pmax	pmax		
	comp=Z,323nm,1.8s,mb5.8						
BRG				MLR	MLR		
	comp=Z,8µm,29.7s,MS5.4						
BRG	Berggiesshubel	43.23	317	iP	P	03 39 19.2	+0.6
	comp=Z,323nm,1.8s,mb5.8						
BRG				i		03 39 21.2	
BRG				i		03 39 38.3	
BRG				i		03 40 49.2	
BRG				iPcP	PcP	03 41 18.0	+10
BRG				iS	S	03 45 34.0	-7.3
BRG				e		03 45 46.7	
BRG				iSS	SS	03 48 57.0	+8.4
BRG				LR	LR		
	comp=Z,8µm,29.7s,MS5.4						
BRG	Berggiesshubel	43.23	317	iP	P	03 39 19.2	+0.6
BRG				iSS	SS	03 48 57.0	+8.4
CRE	Caprese Michel	43.29	306	eP	P	03 39 20.0	+0.8
SFI	Santa Sofia	43.39	306	eP	P	03 39 21.2	+1.2
PGD	Poggio Sodo	43.48	306	eP	P	03 39 22.2	+1.5
PGD	Poggio Sodo	43.48	306	eP	P	03 39 22.1	+1.4
WET	Wettzell	43.49	314	eP	P	03 39 20.4	-0.4
WET				e		03 41 08.8	
WET				eS	S	03 45 45.3	+0.1
WET	Wettzell	43.49	314	eP	P	03 39 20.4	-0.4
	comp=Z,171nm,1.8s,mb5.5						
WET	Wettzell	43.49	314	ePcP	PcP	03 41 08.8	+0.2
SEST	Monte Rota	43.49	310	P	P	03 39 21.1	+0.3
VMG	Vicchio	43.61	306	eP	P	03 39 23.1	+1.3
RUE	Ruedersdorf	43.76	319	eP	P	03 39 23.0	+0.2
	comp=Z,492nm,1.1s,mb6.2						
RUE				epP	pP	03 39 36.6	0.0
RUE	Ruedersdorf	43.76	319	eP	P	03 39 23.7	+0.9
	comp=Z,460nm,1.3s,mb6.0						
RUE				epP	pP	03 39 36.7	+0.1
SEI	Scarperia	43.76	306	eP	P	03 39 24.0	+1.1
SEI	Scarperia	43.76	306	eP	P	03 39 24.0	+1.0
CTI	Castel Tesino	43.78	309	eP	P	03 39 22.7	-0.4
CLL	Collm	43.91	317	⇓iP	P	03 39 25.4	+1.3
CLL				eS	S	03 45 52.0	+0.7
CLL				pmax	pmax		
	comp=Z,712nm,1.3s,mb6.2						
CLL				MLR	MLR		
	comp=Z,5µm,17.0s,MS5.5						
CLL	Collm	43.91	317	⇓iP	P	03 39 25.4	+1.3
	comp=Z,712nm,1.3s,mb6.2						
CLL				ipP	pP	03 39 39.0	+1.1
CLL				eS	S	03 45 52.0	+0.7
CLL				esS		03 46 14.0	
CLL				LR	LR		
	comp=Z,5µm,17.0s,MS5.5						
CLL	Collm	43.91	317	⇓P	P	03 39 25.4	+1.3
	comp=Z,logA/T=2.7,mb6.2						
CLL				i*PP	pP	03 39 39.0	+1.1
CLL				i*SP	sP	03 39 45.0	+1.0
CLL				e*SPP		03 41 29.0	
CLL				ePPP	PPP	03 41 53.0	+6.5
CLL				eS	S	03 45 52.0	+0.7
CLL				e*SS		03 46 14.0	
CLL				e		03 46 23.0	
CLL				eSS	SS	03 49 20.0	+19
CLL				eSSS	SSS	03 49 58.0	+1.7
CLL	Collm	43.91	317	⇓iP	P	03 39 25.4	+1.3
	comp=Z,712nm,1.3s,mb6.2						
CLL				eS	S	03 45 53.6	+2.3
BSD	Bornholm Skovb	43.94	323	⇓iP	P	03 39 23.7	-0.6
BSD				iS	S	03 45 48.6	-3.0
BSD				pmax	pmax		
	comp=Z,304nm,0.8s,mb6.1						
BSD	Bornholm Skovb	43.94	323	⇓iP	P	03 39 23.7	-0.6
	comp=Z,304nm,0.8s,mb6.1						
BSD				i		03 39 43.4	
BSD				i		03 41 29.9	
BSD				iS	S	03 45 48.6	-3.0
BSD				i		03 49 44.2	
	comp=Z,4µm,18.0s						
GRFL	Gerfalco	43.95	305	eP	P	03 39 26.7	+2.1
GRFL	Gerfalco	43.95	305	eP	P	03 39 26.7	+2.1
NKC	Novy Kostel	44.00	315	⇓iP	P	03 39 25.1	+0.3
NKC				eS	S	03 45 53.6	+1.0
NKC	Novy Kostel	44.00	315	⇓iP	P	03 39 25.1	+0.3
NKC				epP	pP	03 39 38.5	-0.1
NKC				eS	S	03 45 53.6	+1.0
NKC				AMS	AMS	04 00 10.0	
	comp=Z,5µm,28.1s						
LVZ	Lovozero	44.02	346	P	P	03 39 24.0	-0.7
	comp=Z,1µm,1.3s,mb6.5,SNR=20						
LVZ	Lovozero	44.02	346	iP	P	03 39 24.6	-0.1
WATA	Walderalm	44.02	311	⇑iP	P	03 39 24.5	-0.5
	comp=Z,83nm,1.1s,mb5.4						
WATA	Walderalm	44.02	311	⇑iP	P	03 39 24.5	-0.5
WATA				pmax	pmax		
	comp=Z,83nm,1.1s,mb5.4						
ZCCA	Zocca	44.06	307	eP	P	03 39 26.9	+1.6
ZCCA	Zocca	44.06	307	eP	P	03 39 26.9	+1.5
GUNZ	Gunzen	44.10	316	eP	P	03 39 26.0	+0.3
	comp=Z,98nm,1.9s,mb5.2						
NOTT	Nottersdorf	44.12	315	eP	P	03 39 26.2	+0.4
	comp=Z,112nm,1.4s,mb5.4						
WERD	Werda	44.14	316	eP	P	03 39 26.3	+0.4
	comp=Z,94nm,1.7s,mb5.2						
SQTA	Sankt Quirin	44.25	311	⇑iP	P	03 39 26.6	-0.3
	comp=Z,168nm,1.4s,mb5.6						
SQTA	Sankt Quirin	44.25	311	⇑iP	P	03 39 26.6	-0.3
SQTA				pmax	pmax		
	comp=Z,168nm,1.4s,mb5.6						
BDI	Bagni Di Lucca	44.30	306	eP	P	03 39 26.7	-0.7
PII	Pisa	44.33	306	eP	P	03 39 26.4	-1.2
GSCL	Gusciola	44.34	307	eP	P	03 39 28.1	+0.5
GSCL	Gusciola	44.34	307	eP	P	03 39 28.1	+0.5
MOTA	Moosalm	44.34	311	⇑iP	P	03 39 26.8	-0.8
	comp=Z,7.6nm,1.4s						
FUR	Furstenfeldbru	44.35	312	eP	P	03 39 27.4	-0.3
SARO	Sassorosso	44.45	306	P	P	03 39 28.9	+0.4
SARO	Sassorosso	44.45	306	P	P	03 39 28.9	+0.3
SARO	Sassorosso	44.45	306	P	P	03 39 28.9	+0.3
VLC	Villacollemand	44.46	306	eP	P	03 39 28.1	-0.5
	comp=Z,167nm,1.1s,mb5.7						
VLC	Villacollemand	44.46	306	eP	P	03 39 28.1	-0.5
	comp=Z,167nm,1.1s,mb5.7						
ERBM	Eremo	44.47	307	eP	P	03 39 28.8	+0.1
ERBM	Eremo	44.47	307	eP	P	03 39 28.8	+0.1
SAL	Salo	44.51	309	eP	P	03 39 29.4	+0.4
VALM		44.58	307	P	P	03 39 29.8	+0.2
VALM		44.58	307	P	P	03 39 29.8	+0.2
MOX	Moxa	44.61	316	eP	P	03 39 30.2	+0.5
MOX				pmax	pmax		
	comp=Z,158nm,1.6s,mb5.6						
MOX				MLR	MLR		
	comp=Z,4µm,20.0s,MS5.3						
MOX	Moxa	44.61	316	⇓eP	P	03 39 30.2	+0.5
	comp=Z,158nm,1.6s,mb5.6						
MOX				e		03 39 50.0	
MOX				eS	S	03 46 05.0	+3.6
MOX				eSS	SS	03 49 33.0	+19
MOX				LR	LR		
	comp=Z,4µm,20.0s,MS5.3						
MOX	Moxa	44.61	316	⇓iP	P	03 39 30.2	+0.5
	comp=Z,logA/T=2.0,mb5.6						
MOX				pP	pP	03 39 50.0	+6.5
MOX				S	S	03 46 05.0	+3.6
MOX				SS	SS	03 49 33.0	+19
MOX				L		04 02 29.0	
MOX	Moxa	44.61	316	eP	P	03 39 30.3	+0.6
	comp=Z,127nm,1.4s,mb5.6						
QIZ	Qiongzhong	44.62	90	P	P	03 39 31.5	+1.3
QIZ				S	S	03 46 02.6	+0.7
QIZ				XS		03 46 27.3	
QIZ				SS	SS	03 49 16.4	+2.3
QIZ				LR	LR		
	comp=N,3µm,27.2s						
QIZ				LR	LR		
	comp=Z,3µm,32.0s,MS5.0						
RGN	Rugen	44.63	322	eP	P	03 39 31.2	+1.4
	comp=Z,1µm,1.2s,mb6.5						
RGN				epP	pP	03 39 44.1	+0.5
RGN	Rugen	44.63	322	eP	P	03 39 31.2	+1.4
	comp=Z,1µm,1.2s,mb6.5						
VINC	Vinca	44.63	306	P	P	03 39 29.4	-0.5
VINC	Vinca	44.63	306	P	P	03 39 29.4	-0.6
VINC	Vinca	44.63	306	P	P	03 39 29.4	-0.6
GRA1	Grafenberg Arr	44.66	314	eP	P	03 39 30.6	+0.4
GRA1				epP	pP	03 39 44.7	+0.8
GRA1				esP	sP	03 39 51.2	+1.1
GRA1				ePcP	PcP	03 41 12.9	+0.3
GRA1				eS	S	03 46 04.0	+1.9
GRA1				LR	LR		
	comp=Z,4µm,19.7s,MS5.3						
GRA1	Grafenberg Arr	44.66	314	eP	P	03 39 30.6	+0.4
	comp=Z,336nm,1.3s,mb6.0						
GRF	Grafenberg Arr	44.66	314	eP	P	03 39 30.6	+0.4
GRF				e		03 41 12.9	
GRF				eS	S	03 46 04.0	+1.9
GRF				MLR	MLR		
	comp=Z,4µm,19.7s,MS5.3						
GRF	Grafenberg Arr	44.66	314	eP	P	03 39 30.6	+0.4
GRF				e		03 41 12.9	
GRF				eS	S	03 46 04.0	+1.9
GRF				MLR	MLR		
	comp=Z,4µm,19.7s,MS5.3						
GRF	Grafenberg Arr	44.66	314	eP	P	03 39 30.6	+0.4
GRF				epP	pP	03 39 44.7	+0.8
GRF				esP	sP	03 39 51.2	+1.1
GRF				ePcP	PcP	03 41 12.9	+0.3
GRF				eS	S	03 46 04.0	+1.9
GRF				LR	LR		
	comp=Z,4µm,19.7s,MS5.3						
BACM		44.70	307	P	P	03 39 29.9	-0.6
BACM		44.70	307	P	P	03 39 29.9	-0.6
BRMO	Bormio	44.71	310	eP	P	03 39 30.6	0.0
BRMO	Bormio	44.71	310	eP	P	03 39 30.6	0.0
GRAM		44.72	307	P	P	03 39 30.9	+0.2
FUORN	Ofenpass	44.81	310	⇓iP	P	03 39 31.5	+0.1
CODM		44.87	307	P	P	03 39 31.3	-0.6
CODM		44.87	307	P	P	03 39 31.3	-0.6
BERNI	Berninapass	44.95	310	⇓iP	P	03 39 32.7	+0.2
VSL	Villasalto	45.04	300	eP	P	03 39 34.3	+1.0
	comp=Z,414nm,1.1s,mb6.2						
VSL				epP	pP	03 39 48.5	+1.3
VSL	Villasalto	45.04	300	eP	P	03 39 34.3	+1.0
	comp=Z,414nm,1.1s,mb6.2						
UBR	Uberruh	45.05	311	⇓eP	P	03 39 32.7	-0.6
UBR	Uberruh	45.05	311	P	P	03 39 33.0	-0.3
DAVOX	Davos	45.09	310	⇓iP	P	03 39 33.3	-0.3
CGL	Cagliari Serpe	45.11	300	eP	P	03 39 35.1	+1.3
HDH	Heidenheim	45.12	313	eP	P	03 39 32.8	-1.1
HDH	Heidenheim	45.12	313	P	P	03 39 33.8	-0.1
DAVA	Damuels	45.15	311	⇑iP	P	03 39 33.5	-0.6
	comp=Z,335nm,1.4s,mb6.0						
BOB	Bobbio (Coli)	45.18	307	eP	P	03 39 35.3	+0.9
VDL	Val di Lei	45.34	310	⇓iP	P	03 39 35.6	0.0
VDL	Val di Lei	45.34	310	⇓iP	P	03 39 35.5	-0.1
PGF	Pioggiola	45.37	304	⇓iP	P	03 39 35.1	-0.8
	comp=Z,283nm,1.3s,mb5.6						
PGF	Pioggiola	45.37	304	⇓iP	P	03 39 35.1	-0.8
PGF				pmax	pmax		
	comp=Z,142nm,1.3s,mb5.6						
LIENZ	Alp Oberkamor	45.42	311	⇓iP	P	03 39 35.8	-0.4
PLONS	Plons	45.46	310	⇓iP	P	03 39 35.9	-0.7
COP	Copenhagen	45.46	323	⇓iP	P	03 39 37.7	+1.2
COP				iS	S	03 46 17.9	+4.3
COP				pmax	pmax		
	comp=Z,312nm,1.1s,mb6.0						
COP				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.0						
COP	Copenhagen	45.46	323	⇓iP	P	03 39 37.7	+1.2
	comp=Z,312nm,1.1s,mb6.0						
COP				i		03 39 57.6	
COP				e		03 41 40.0	
COP				iS	S	03 46 17.9	+4.3
COP				i		03 50 15.8	
	comp=Z,2µm,21.0s						
GENL	Genova Univers	45.50	307	P	P	03 39 36.0	-0.9
GENL	Genova Univers	45.50	307	P	P	03 39 36.0	-0.9
MUGIO	Muggio	45.57	309	⇓iP	P	03 39 36.3	-1.2
CLZ	Clausthal	45.63	317	eP	P	03 39 39.1	+1.2
CLZ				ePcP	PcP	03 41 15.8	-0.1
CLZ				eS	S	03 46 19.6	+3.6
SIND	Sindeldorf	45.64	314	⇓eP	P	03 39 37.8	-0.2
SIND	Sindeldorf	45.64	314	P	P	03 39 38.2	+0.2
BUCH	Bad Urach	45.67	312	⇓eP	P	03 39 37.1	-1.1
BUCH	Bad Urach	45.67	312	P	P	03 39 38.2	0.0
LLS	Linth-Limmern	45.69	310	⇓iP	P	03 39 37.9	-0.5
WHN	Wuhan	45.75	73	⇓P	P	03 39 40.3	+1.2
WHN				AP	pP	03 39 53.5	+0.6
WHN				S	S	03 46 20.4	+2.4
WHN				AMB	AMB		
	comp=Z,511nm,1.3s,mb6.3						
WHN				LR	LR		
	comp=Z,13µm,25.2s,MS5.8						
VAI	Varese	45.76	309	eP	P	03 39 37.9	-1.0
GUT	Gutenstein	45.77	312	⇓eP	P	03 39 38.1	-0.9
WEIN	Weingarten	45.79	311	⇓iP	P	03 39 38.5	-0.7
PCP	Pian Castagno	45.81	307	P	P	03 39 37.7	-1.7
STU	Stuttgart	45.82	313	eP	P	03 39 38.3	-1.1
STU				pmax	pmax		
	comp=Z,191nm,1.1s,mb5.9						
STU	Stuttgart	45.82	313	eP	P	03 39 38.3	-1.1
	comp=Z,191nm,1.1s,mb5.9						
STU	Stuttgart	45.82	313	eP	P	03 39 38.6	-0.8
	comp=Z,190nm,1.1s,mb5.9						
SISB	Singen-Sch Ber	45.82	311	P	P	03 39 39.4	0.0
WILA	Wila	45.83	311	⇓iP	P	03 39 39.0	-0.5
STEIN	Stein am Rhein	45.88	311	⇓iP	P	03 39 39.1	-0.8
FUSIO	Fusio	45.89	310	⇓iP	P	03 39 39.2	-0.8
NRDL	Niedersach Rie	45.93	318	eP	P	03 39 41.6	+1.4
	comp=Z,526nm,1.2s,mb6.3						
MUO	Muotathal	45.96	310	⇓iP	P	03 39 40.1	-0.4
SPAK	Spaichingen	45.99	312	eP	P	03 39 40.3	-0.5
SPAK	Spaichingen	45.99	312	eP	P	03 39 39.7	-1.1
TRULL	Truellikon	46.01	311	⇓iP	P	03 39 39.3	-1.6
FIN	Finale Ligure	46.03	306	P	P	03 39 39.7	-1.4
ZUR	Zurich	46.04	311	⇓iP	P	03 39 40.6	-0.6
LBG	Lerchenberg	46.06	313	P	P	03 39 40.8	-0.5
FLACH	Flaach	46.07	311	⇓iP	P	03 39 40.6	-0.8
BNALP	Bannalp	46.09	310	⇓iP	P	03 39 41.0	-0.6
SLE	Schleitheim	46.15	311	⇓iP	P	03 39 41.0	-1.0
BSEG	Bad Segeberg	46.15	320	eP	P	03 39 43.0	+1.1
BSEG				e		03 41 17.8	
BSEG				eS	S	03 46 26.3	+2.9
BSEG	Bad Segeberg	46.15	320	ePcP	PcP	03 41 17.8	+0.1
TOD	Tromm	46.20	314	⇓eP	P	03 39 42.5	+0.1
TOD	Tromm	46.20	314	eP	P	03 39 41.9	-0.5
IMI	Imperia	46.24	306	P	P	03 39 41.9	-0.9
IMI	Imperia	46.24	306	P	P	03 39 41.9	-0.9
HASLI	Hasliberg	46.27	310	⇓iP	P	03 39 42.2	-0.8
ROB	Roburent	46.28	306	P	P	03 39 42.1	-1.0
ORO	Oropa	46.29	308	eP	P	03 39 41.6	-1.5
ORX	Oropa	46.29	308	P	P	03 39 41.8	-1.3
MCGN	Macugnaga	46.31	309	eP	P	03 39 42.1	-1.2
BFO	Black Forest	46.33	312	P	P	03 39 42.7	-0.7
	comp=Z,170nm,1.4s,mb5.8,SNR=13						
BFO	Black Forest	46.33	312	eP	P	03 39 42.3	-1.1
BFO				ePcP	PcP	03 41 18.5	+0.1
BFO	Black Forest	46.33	312	eP	P	03 39 42.3	-1.1
	comp=Z,92nm,1.5s,mb5.5						
BFO	Black Forest	46.33	312	ePcP	PcP	03 41 18.5	+0.1
MONE	Monesi	46.35	306	P	P	03 39 42.3	-1.4
MONE	Monesi	46.35	306	P	P	03 39 42.3	-1.3
BJT	Baijiatuau	46.37	59	P	P	03 39 45.4	+1.5
BJT				PcP	PcP	03 41 19.7	+1.0
BJT				PP	PP	03 41 35.0	+1.8
BJT				PcS		03 45 13.8	
BJT				sS		03 46 57.2	
BJT	Baijiatuau	46.37	59	eP	P	03 39 45.2	+1.3
BJT				pmax	pmax		
	comp=Z,264nm,1.4s						
BJT	Baijiatuau	46.37	59	eP	P	03 39 45.2	+1.3
	comp=Z,264nm,1.4s,mb6.0						
BJT	Baijiatuau	46.37	59	eP	P	03 39 45.2	+1.3
	comp=Z,264nm,1.4s,mb6.0						
SULZ	Sulz-Cheisache	46.37	311	⇓iP	P	03 39 42.9	-0.9
NEGI	Negi	46.37	306	P	P	03 39 42.4	-1.4
NEGI	Negi	46.37	306	P	P	03 39 42.4	-1.4
BJI	Beijing	46.38	59	eP	P	03 39 45.1	+1.2
BJI				AP	pP	03 40 00.5	+2.8
BJI				XP	sP	03 40 07.5	+3.7
BJI				PCP	PcP	03 41 18.8	+0.1
BJI				S	S	03 46 32.8	+6.0

BJI AMB AMB
comp=Z,127nm,1.3s,mb5.7
BJI AMB AMB
comp=Z,2μm,3.9s
BJI LR LR
comp=N,6μm,24.2s,MS5.5
BJI LR LR
comp=E,3μm,23.1s,MS5.5
BJI LR LR
comp=Z,5μm,29.0s
BJI Beijing 46.38 59 *e*P **P 03 39 45.1 +1.2**
BJI 03 41 18.8
BJI 03 41 39.9
BJI S **S 03 46 32.7 +5.9**
BJI 03 49 36.9
BJI pmax pmax
comp=Z,127nm,1.3s,mb5.7
BJI MLR MLR
comp=Z,5μm,29.0s,MS5.3
BJI Beijing 46.38 59 *e*P **P 03 39 45.1 +1.2**
comp=Z,130nm,1.3s,mb5.7
BJI pP pP 03 40 00.5 +2.8
BJI sP sP 03 40 07.5 +3.7
BJI PcP PcP 03 41 18.8 +0.1
BJI S **S 03 46 32.8 +6.0**
BJI LR LR
comp=Z,5μm,29.0s,MS5.3
HFA0 Hagfors New Ar 46.42 329 P **P 03 39 43.7 -0.3**
TRAV 46.44 308 P **P 03 39 42.0 -2.3**
TRAV 46.44 308 P **P 03 39 42.0 -2.3**
FELD Feldberg 46.49 311⇓*e*P **P 03 39 43.8 -0.9**
GZH Guangzhou 46.50 83 P **P 03 39 46.6 +1.5**
GZH S **S 03 46 31.8 +3.0**
GZH LR LR
comp=N,3μm,18.0s,MS5.3
GZH LR LR
comp=E,2μm,22.4s,MS5.3
GZH LR LR
comp=Z,4μm,21.4s,MS5.3
TNS Taunus Mts 46.52 315 *e*P **P 03 39 46.0 +1.1**
TNS *e* 03 41 19.5
TNS *e*S **S 03 46 31.9 +3.2**
TNS Taunus Mts 46.52 315 *e*PcP PcP 03 41 19.5 +0.5
KIZ Kirchzarten 46.55 312⇓*e*P **P 03 39 44.3 -0.9**
KIZ Kirchzarten 46.55 312 P **P 03 39 44.7 -0.5**
SBF Sospel 46.57 306⇓*i*P **P 03 39 44.9 -0.5**
comp=Z,677nm,1.1s,mb6.2
SBF **Sospel 46.57 306**⇓*i*P **P 03 39 44.9 -0.5**
SBF pmax pmax
comp=Z,338nm,1.1s,mb6.2
AUTN L'Aution 46.58 306 *e*P **P 03 39 44.6 -0.8**
LKBD Leukerbad 46.59 309⇓*i*P **P 03 39 44.6 -0.9**
ENR Entracque 46.60 306 P **P 03 39 44.9 -0.7**
ENR Entracque 46.60 306 P **P 03 39 44.8 -0.8**
REVF Revere 46.61 306 *e*P **P 03 39 45.2 -0.5**
KTD Kalmit 46.62 313 *e*P **P 03 39 45.9 +0.2**
KTD Kalmit 46.62 313 *e*P **P 03 39 45.8 +0.1**
WIMIS Wimmis 46.62 310⇓*i*P **P 03 39 44.9 -0.8**
BALST Balsthal 46.64 311⇓*i*P **P 03 39 45.2 -0.6**
STV2 Anna di Valdie 46.66 306 P **P 03 39 44.9 -1.3**
STV2 Anna di Valdie 46.66 306 P **P 03 39 44.8 -1.3**
STV Sta Anna Valdi 46.66 306 P **P 03 39 45.1 -1.0**
ABSA Djebel Ababsia 46.69 295 P **P 03 39 48.5 +2.0**
TOUF Mont Tournerai 46.71 306 *e*P **P 03 39 46.5 0.0**
CMAH Djebel Manchou 46.71 296 P **P 03 39 47.5 +0.9**
DIX Grande Dixence 46.72 309⇓*i*P **P 03 39 46.0 -0.5**
STR Strasbourg 46.73 312 *e*P **P 03 39 45.8 -0.8**
DOI San Damiano 46.73 307 *e*P **P 03 39 44.5 -2.1**
LANF Langenberg 46.75 313 *e*P **P 03 39 45.8 -0.9**
RSP Reno Superiore 46.76 308 P **P 03 39 44.9 -2.0**
RSP Reno Superiore 46.76 308 P **P 03 39 44.8 -2.1**
MVIF Mont Vial 46.77 306 *e*P **P 03 39 46.8 -0.2**
BBS Basel-Blauen 46.77 311⇓*e*P **P 03 39 46.3 -0.6**
BBS Basel-Blauen 46.77 311 *e*P **P 03 39 45.8 -1.1**
LIBD Limburg 46.79 312⇓*e*P **P 03 39 46.7 -0.3**
LIBD Limburg 46.79 312 *e*P **P 03 39 46.2 -0.8**
SENIN Lac Senin 46.82 309⇓*i*P **P 03 39 46.7 -0.6**
PZZ Prazzo 46.84 307 P **P 03 39 46.0 -1.5**
LSD Ceresole Reale 46.85 308 P **P 03 39 47.6 0.0**
FENE Fenestrelle 46.89 307 P **P 03 39 46.7 -1.2**
FENE Fenestrelle 46.89 307 P **P 03 39 46.7 -1.2**
BOURR Bourrignon 46.96 311⇓*i*P **P 03 39 47.9 -0.5**
CALN Calern 46.96 306 *e*P **P 03 39 48.1 -0.3**
WLS Welschbruch 46.98 312 *e*P **P 03 39 47.1 -1.4**
SALAN Lac Salanfe 47.03 309⇓*i*P **P 03 39 48.2 -0.7**
CDF Champ du Feu 47.03 312⇓*i*P **P 03 39 48.1 -0.8**
comp=Z,212nm,1.1s,mb5.7
CDF Champ du Feu 47.03 312⇓*i*P **P 03 39 48.1 -0.8**
CDF pmax pmax
comp=Z,106nm,1.1s,mb5.7
SURF Saint Ours 47.04 307 *e*P **P 03 39 49.3 +0.2**
ABH Alteburg 47.04 314⇓*e*P **P 03 39 49.4 +0.4**
ABH Alteburg 47.04 314 *e*P **P 03 39 49.3 +0.3**
AIGLE Aigle 47.05 309⇓*i*P **P 03 39 48.2 -0.9**
MOF Molkenrain 47.07 311 *e*P **P 03 39 48.2 -1.0**
EMV Vieux Emosson 47.07 309⇓*i*P **P 03 39 48.7 -0.6**
MBDF Montbardon 47.08 307⇓*i*P **P 03 39 48.7 -0.7**
comp=Z,612nm,1.1s,mb6.1
MBDF Montbardon 47.08 307⇓*i*P **P 03 39 48.7 -0.7**
MBDF pmax pmax
comp=Z,306nm,1.1s,mb6.1
RRL Cesana Torines 47.08 307 P **P 03 39 48.7 -0.7**
TORNY Torny 47.09 310⇓*i*P **P 03 39 49.0 -0.4**
ECH Echery 47.09 312 *e*P **P 03 39 48.6 -0.8**
FRF La Foret Royal 47.13 305⇓*i*P **P 03 39 48.9 -0.9**
comp=Z,295nm,1.3s,mb5.8
FRF La Foret Royal 47.13 305⇓*i*P **P 03 39 48.9 -0.9**
FRF pmax pmax
comp=Z,148nm,1.3s,mb5.8
LPG La Plagne 47.14 308⇓*i*P **P 03 39 49.4 -0.4**
comp=Z,312nm,0.9s,mb5.9
LPG La Plagne 47.14 308⇓*i*P **P 03 39 49.4 -0.4**
LPG pmax pmax
comp=Z,156nm,0.9s,mb5.9
LPL La Plagne 47.15 308⇓*i*P **P 03 39 49.5 -0.4**
comp=Z,490nm,1.1s,mb6.0
LPL La Plagne 47.15 308⇓*i*P **P 03 39 49.5 -0.4**
LPL pmax pmax
comp=Z,245nm,1.1s,mb6.0
CAEH 'Ain El Ouahch 47.16 296 P **P 03 39 51.0 +0.9**
BNI Bardonecchia 47.16 307 *e*P **P 03 39 48.8 -1.2**
BNI pmax pmax
comp=Z,493nm,1.1s,mb6.3
BNI Bardonecchia 47.16 307 *e*P **P 03 39 48.8 -1.2**
comp=Z,493nm,1.1s,mb6.3
BNI *e*pP pP 03 40 04.0 +0.1
BNI Bardonecchia 47.16 307 *e*P **P 03 39 48.8 -1.2**
comp=Z,493nm,1.1s,mb6.3
BNI *e*pP pP 03 40 04.0 +0.1
LMR La Mourre 47.22 305⇓*i*P **P 03 39 49.4 -1.1**
comp=Z,256nm,1.6s,mb5.6
LMR La Mourre 47.22 305⇓*i*P **P 03 39 49.4 -1.1**
LMR pmax pmax
comp=Z,128nm,1.6s,mb5.6
LOMF Lomont 47.23 311 *e*P **P 03 39 50.3 -0.2**
KEV Kevo 47.23 344 *e*p **P 03 39 50.5 +0.3**
comp=Z,130nm,0.6s,mb6.0
KEV Kevo 47.23 344 *e*P **P 03 39 50.5 +0.3**
KEV pmax pmax
comp=Z,130nm,0.6s,mb6.0
HINF Hinteralfeld 47.25 311⇓*i*P **P 03 39 49.8 -0.9**
comp=Z,162nm,1.1s,mb5.5
HINF Hinteralfeld 47.25 311⇓*i*P **P 03 39 49.8 -0.9**
HINF pmax pmax
comp=Z,81nm,1.1s,mb5.6
CKFL Kef-Lekhel 47.29 296 P **P 03 39 52.0 +0.8**
IBBN Ibbenburen 47.31 317 *e*P **P 03 39 52.2 +1.2**
comp=Z,982nm,1.3s,mb6.6
RUP Ruppelstein 47.33 314⇓*e*P **P 03 39 51.5 +0.2**
RUP Ruppelstein 47.33 314 *e*P **P 03 39 51.2 -0.1**
TIA Tai'an 47.34 65 ⇓P **P 03 39 52.4 +0.9**
TIA S **S 03 46 41.0 +0.5**
TIA AMB AMB
comp=Z,408nm,1.2s,mb6.2
TIA LR LR
comp=N,2μm,14.0s,MS5.3
TIA LR LR
comp=E,2μm,13.0s,MS5.3
BRANT Les Verrieres 47.43 310⇓*i*P **P 03 39 52.2 +0.1**
MUD Monsted U'grnd 47.44 323⇓*i*P **P 03 39 53.1 +1.1**
MUD *i* S **S 03 46 45.6 +4.0**
MUD pmax pmax
comp=Z,267nm,1.0s,mb6.1
MUD Monsted U'grnd 47.44 323⇓*i*P **P 03 39 53.1 +1.1**
comp=Z,267nm,1.0s,mb6.1
MUD *i* 03 40 12.9
MUD *i* S **S 03 46 45.6 +4.0**
comp=Z,4μm,18.0s
ARCES ARCESS Array B 47.44 344 P **P 03 39 52.0 +0.1**
comp=Z,175nm,0.9s,mb6.0,baz=139,slow=6.8,SNR=201
ARCES pP pP 03 40 05.2 -0.6
comp=Z,48nm,0.7s,baz=144,slow=7.7,SNR=3.9
ARCES sP sP 03 40 11.4 -0.4
comp=Z,356nm,1.1s,baz=135,slow=3.4,SNR=6.6
ARCES LR LR 04 03 09.1
comp=Z,14μm,19.2s,MS6.0,baz=138,slow=40
ARE0 ARCESS Array S 47.44 344⇓*e*P **P 03 39 51.8 -0.1**
ARE0 ARCESS Array S 47.44 344⇓*e*P **P 03 39 51.8 -0.1**
BUG Bochum--Univer 47.45 316 *e*P **P 03 39 53.4 +1.2**
comp=Z,675nm,1.2s,mb6.5
CASM Ain Smara 47.49 295 P **P 03 39 54.0 +1.3**
BOD Bodaibo 47.49 35⇑*i*P **P 03 39 52.6 +0.2**
BOD pmax pmax
comp=Z,685nm,1.1s,mb6.5
GIMEL Gimel 47.54 309⇓*i*P **P 03 39 53.0 0.0**
TAVF Tavernes 47.56 305 *e*P **P 03 39 52.7 -0.5**
GDM Grand'Maison 47.57 308 *e*P **P 03 39 51.9 -1.3**
CTEI Djebel Teioual 47.58 295 P **P 03 39 55.0 +1.6**
HAU Haudompre 47.61 311⇓*i*P **P 03 39 52.6 -0.9**
comp=Z,122nm,0.8s,mb5.7
HAU *e*R
comp=Z,3μm,18.8s
HAU Haudompre 47.61 311⇓*i*P **P 03 39 52.6 -0.9**
HAU pmax pmax
comp=Z,61nm,0.8s,mb5.7
HAU MLR MLR
comp=Z,3μm,18.8s,MS5.3
CABF La Chapelle 47.67 310⇓*i*P **P 03 39 54.1 +0.1**
comp=Z,1μm,1.2s,mb6.5
CABF La Chapelle 47.67 310⇓*i*P **P 03 39 54.1 +0.1**
CABF pmax pmax
comp=Z,621nm,1.2s,mb6.5
KTK1 Kautokeino 47.68 342⇓*i*P **P 03 39 53.6 -0.2**
comp=Z,594nm,1.6s,mb6.4
KTK1 Kautokeino 47.68 342⇓*i*P **P 03 39 53.6 -0.2**
KTK1 AMb AMB 03 39 56.9
comp=Z,594nm,1.6s,mb6.4
KTK1 Kautokeino 47.68 342⇓*i*P **P 03 39 53.6 -0.2**
comp=Z,594nm,1.6s,mb6.4
ORIF Oris-en-Rattie 47.73 307⇓*i*P **P 03 39 52.7 -1.7**
comp=Z,83nm,0.7s,mb5.6
ORIF *e*R
comp=Z,4μm,22.0s
OSL Oslo 47.73 328 *e*P **P 03 39 53.5 -0.8**
comp=Z,103nm,1.3s,mb5.7
OSL Oslo 47.73 328 *e*P **P 03 39 53.5 -0.8**
OSL AMb AMB 03 39 57.2
comp=Z,103nm,1.3s,mb5.7
OSL Oslo 47.73 328 *e*P **P 03 39 53.5 -0.7**
comp=Z,103nm,1.3s,mb5.7
VILF Villemus 47.81 306 *e*P **P 03 39 54.9 -0.2**
PUYF Puyloubier 47.82 305 *e*P **P 03 39 54.7 -0.5**
WTSB Winterswijk 47.83 317⇓*i*P **P 03 39 56.1 +0.9**
comp=Z,615nm,1.9s,mb6.3
WTSB *ex* x 03 40 10.2
THEF They Montfort 47.87 312 *e*P **P 03 39 54.9 -0.6**
NB2 NORSAR Subarra 47.89 329 P **P 03 39 54.9 -0.6**
comp=Z,834nm,1.1s,mb6.7,baz=112,slow=7.4
NB2 NORSAR Subarra 47.89 329 P **P 03 39 54.9 -0.6**
NB2 pmax pmax
comp=Z,834nm,1.1s,mb6.7
NB2 NORSAR Subarra 47.89 329 P **P 03 39 54.9 -0.6**
baz=112,slow=7.9
NOA NORSAR Array B 47.89 329 P **P 03 39 55.4 -0.2**
comp=Z,64nm,0.7s,mb5.8,baz=112,slow=7.7,SNR=223
NOA pP pP 03 40 08.8 -0.6
comp=Z,227nm,1.0s,baz=119,slow=7.1,SNR=17
NOA sP sP 03 40 14.6 -0.9
comp=Z,330nm,0.9s,baz=117,slow=7.5,SNR=14
NOA LR LR 04 02 46.7
comp=Z,5μm,19.4s,MS5.5,baz=110,slow=39
NOA NORSAR Array B 47.89 329 P **P 03 39 55.4 -0.2**
NOA pP pP 03 40 08.8 -0.6
NOA sP sP 03 40 14.6 -0.9
NOA LR LR 04 02 46.7
NOA NORSAR Array B 47.89 329 P **P 03 39 55.3 -0.2**
NOA pP pP 03 40 08.8 -0.6
WLF Walferdange 47.91 314 *e*P **P 03 39 55.4 -0.4**
WLF pmax pmax
comp=Z,155nm,0.9s,mb6.0
WLF Walferdange 47.91 314 *e*P **P 03 39 55.4 -0.4**
comp=Z,155nm,0.9s,mb6.0
WLF Walferdange 47.91 314 P **P 03 39 56.4 +0.6**
comp=Z,142nm,1.3s,mb5.8
SMRF Simiane la Rot 47.92 306⇓*i*P **P 03 39 55.3 -0.6**
comp=Z,317nm,1.2s,mb5.9
DFRA Djebel Bou Aff 47.96 296 P **P 03 39 59.0 +2.6**
NAO01 NORSAR Array S 47.97 329 *e*P **P 03 39 55.7 -0.5**
comp=Z,508nm,1.1s,mb6.5
NAO01 *e*pP pP 03 40 09.6 -0.4
NAO01 NORSAR Array S 47.97 329 *e*P **P 03 39 55.7 -0.4**
comp=Z,508nm,1.1s,mb6.5
NAO01 *e*pP pP 03 40 09.6 -0.4
GELF Grande-Etoile 48.01 305 *e*P **P 03 39 56.4 -0.3**
TREF Trevaresse 48.05 305 *e*P **P 03 39 56.6 -0.4**
MEM Membach 48.12 315 P **P 03 39 58.5 +1.1**
KONO Kongsberg 48.17 327 *e*P **P 03 39 57.0 -0.7**
KONO pmax pmax
comp=Z,573nm,1.2s,mb6.5
KONO MLR MLR
comp=Z,3μm,20.0s,MS5.3
KONO Kongsberg 48.17 327 *e*P **P 03 39 57.0 -0.7**
comp=Z,573nm,1.2s,mb6.5
KONO *e*pP pP 03 40 10.7 -0.9
KONO LR LR
comp=Z,3μm,20.0s,MS5.3
KONO Kongsberg 48.17 327 *e*P **P 03 39 57.0 -0.7**
comp=Z,573nm,1.2s,mb6.5
KONO *e*pP pP 03 40 10.6 -0.9
KONO *e*S **S 03 46 44.1 -7.7**
SNR=35
KONO *e*SS SS 03 50 24.7 +8.3
SNR=41
HGN Heimansgroeve 48.19 315⇓*i*P **P 03 39 58.8 +0.8**
comp=Z,217nm,2.0s,mb5.8
HGN *ex* x 03 40 11.1
HGN *e*PP PP 03 41 56.4 +6.4
HGN *i* S **S 03 46 42.6 -10**
HGN *e*SS SS 03 50 40.1 +23
PRAF Pradon 48.21 306 *e*P **P 03 39 57.5 -0.7**
CKHR Kef el Ahmar 48.30 295 P **P 03 39 59.0 0.0**
SET Setif 48.37 296 P **P 03 40 01.0 +1.4**
MEZF Maizieres J'vi 48.52 312⇓*i*P **P 03 40 00.5 0.0**
comp=Z,1μm,1.3s,mb6.5
VIVF Saint-Julien-l 48.58 307⇓*i*P **P 03 40 00.3 -0.8**
comp=Z,865nm,1.2s,mb6.3
VIVF Saint-Julien-l 48.58 307⇓*i*P **P 03 40 00.3 -0.8**
VIVF pmax pmax
comp=Z,432nm,1.2s,mb6.4
MOR8 Moi Rana 48.80 337⇓*i*P **P 03 40 01.5 -0.9**
comp=Z,373nm,1.5s,mb6.2
MOR8 Moi Rana 48.80 337⇓*i*P **P 03 40 01.5 -0.9**
MOR8 AMb AMB 03 40 05.0
comp=Z,373nm,1.5s,mb6.2
MOR8 *e*pP pP 03 40 16.2 -0.1
MOR8 Moi Rana 48.80 337⇓*i*P **P 03 40 01.5 -1.0**
comp=Z,373nm,1.5s,mb6.2
MOR8 *e*pP pP 03 40 16.2 -0.1
SNR=146
GIVF Givet 48.82 314⇓*i*P **P 03 40 03.8 +1.0**
comp=Z,1μm,1.3s,mb6.5
GIVF Givet 48.82 314⇓*i*P **P 03 40 03.8 +1.0**
GIVF pmax pmax
comp=Z,637nm,1.3s,mb6.5
DOU Dourbes 48.96 314 P **P 03 40 04.8 +0.9**
SNART Snartemo 48.96 325 *e*P **P 03 40 04.9 +1.1**
comp=Z,513nm,1.2s,mb6.4
SNART Snartemo 48.96 325 *e*P **P 03 40 04.9 +1.1**
SNART AMb AMB 03 40 06.4
comp=Z,513nm,1.2s,mb6.4
SNART Snartemo 48.96 325 *e*P **P 03 40 04.9 +1.1**
comp=Z,513nm,1.2s,mb6.4
NSS Namsos 48.97 334 *e*P **P 03 40 01.8 -2.0**
NSS *e*S **S 03 47 01.8 -1.2**
NSS *e*SS SS 03 50 34.9 +5.0
NSS AMS AMS 04 04 12.2
comp=Z,9μm,20.2s,MS5.8
LASF Ste Croix 49.16 306⇓*i*P **P 03 40 05.1 -0.4**
comp=Z,565nm,1.0s,mb6.2
UCC Uccle 49.19 315 P **P 03 40 06.2 +0.6**
SNF Seneffe 49.20 315 P **P 03 40 06.6 +0.8**
BAIF Baives 49.21 314⇓*i*P **P 03 40 06.5 +0.7**
comp=Z,988nm,1.3s,mb6.4
BAIF Baives 49.21 314⇓*i*P **P 03 40 06.5 +0.7**
BAIF pmax pmax
comp=Z,494nm,1.3s,mb6.4
DOMB Dombas 49.22 330⇓*i*P **P 03 40 05.7 -0.1**
comp=Z,472nm,1.4s,mb6.3
DOMB Dombas 49.22 330⇓*i*P **P 03 40 05.7 -0.1**
DOMB AMb AMB 03 40 09.0
comp=Z,472nm,1.4s,mb6.3
DOMB *e*pP pP 03 40 19.5 -0.1
DOMB *e*sP sP 03 40 25.9 +0.3
DOMB Dombas 49.22 330⇓*i*P **P 03 40 05.7 0.0**
comp=Z,472nm,1.4s,mb6.3
DOMB *e*pP pP 03 40 19.5 -0.1
SNR=146
DOMB *e*sP sP 03 40 26.0 +0.4
SNR=162
SMF Signal de Mont 49.22 309⇓*i*P **P 03 40 05.5 -0.5**
comp=Z,2μm,1.1s,mb6.7
SMF Signal de Mont 49.22 309⇓*i*P **P 03 40 05.5 -0.5**
SMF pmax pmax
comp=Z,768nm,1.1s,mb6.6
HIA Hailar 49.23 47⇓*e*P **P 03 40 07.1 +1.1**
HIA *e* 03 41 29.5
HIA pmax pmax
comp=Z,326nm,1.4s
HIA Hailar 49.23 47⇓*e*P **P 03 40 07.0 +1.1**
comp=Z,326nm,1.4s,mb6.2
HIA pP pP 03 40 21.4 +1.5
HIA *e*PcP PcP 03 41 29.5 +0.8
HIA Hailar 49.23 47⇓*e*P **P 03 40 07.1 +1.1**
comp=Z,326nm,1.4s,mb6.2
HIA pP pP 03 40 21.4 +1.5
TRO Tromso 49.26 342 *e*P **P 03 40 04.7 -1.3**
TRO LR LR
comp=Z,5264μm,17.5s
TRO Tromso 49.26 342 *e*P **P 03 40 04.7 -1.3**
TRO *e*S **S 03 47 03.2 -3.9**
TRO *e*SS SS 03 50 46.2 +11
TRO AMS AMS 04 04 25.8
comp=Z,5μm,17.5s,MS5.6
NJ2 Nanjing 49.30 70 *e*P **P 03 40 07.4 +0.6**
NJ2 AP pP 03 40 17.8 -2.9
NJ2 PP PP 03 42 01.8 +0.4
NJ2 S **S 03 47 11.0 +2.9**
NJ2 AMB AMB
comp=Z,1μm,1.5s,mb6.8
NJ2 AMB AMB
comp=Z,2μm,4.2s
NJ2 LR LR
comp=N,9μm,12.0s
NJ2 LR LR
comp=E,2μm,22.1s
NJ2 LR LR
comp=Z,12μm,19.1s
PLDF La Plantade 49.35 309 *e*P **P 03 40 06.5 -0.5**
STOK Stokkvaagen 49.38 336⇓*i*P **P 03 40 06.4 -0.6**
comp=Z,900nm,1.6s,mb6.5
STOK Stokkvaagen 49.38 336⇓*i*P **P 03 40 06.4 -0.6**
STOK AMb AMB 03 40 09.7
comp=Z,900nm,1.6s,mb6.5
STOK *e*pP pP 03 40 20.9 0.0
STOK *e*sP sP 03 40 27.6 +0.8
STOK Stokkvaagen 49.38 336⇓*i*P **P 03 40 06.4 -0.6**
comp=Z,900nm,1.6s,mb6.5
STOK *e*pP pP 03 40 20.9 0.0
SNR=146
STOK *e*sP sP 03 40 27.6 +0.7
SNR=162
SSF Saint Saulge 49.47 310⇓*i*P **P 03 40 07.5 -0.4**
SSF pmax pmax
comp=Z,374nm,1.1s,mb6.3
SSF Saint Saulge 49.47 310⇓*i*P **P 03 40 07.5 -0.4**
comp=Z,374nm,1.1s,mb6.3
AVF Avril sur Loir 49.56 310⇓*i*P **P 03 40 08.0 -0.6**
comp=Z,478nm,1.2s,mb6.1
AVF Avril sur Loir 49.56 310⇓*i*P **P 03 40 08.0 -0.6**
AVF pmax pmax
comp=Z,239nm,1.2s,mb6.1
LBL Lubilhac 49.60 308 *e*P **P 03 40 08.6 -0.3**
BLS5 Blasjo 49.63 326⇓*i*P **P 03 40 09.8 +0.8**
comp=Z,163nm,1.4s,mb5.9
BLS5 Blasjo 49.63 326⇓*i*P **P 03 40 09.8 +0.8**
BLS5 AMb AMB 03 40 11.7
comp=Z,163nm,1.4s,mb5.9
BLS5 *e*pP pP 03 40 23.5 +0.7
BLS5 *e*sP sP 03 40 30.1 +1.2
BLS5 Blasjo 49.63 326⇓*i*P **P 03 40 09.8 +0.8**
comp=Z,163nm,1.4s,mb5.9
BLS5 *e*pP pP 03 40 23.5 +0.6
SNR=146
ODD1 Odda 49.68 327⇓*i*P **P 03 40 09.1 -0.2**
ODD1 *e*pP pP 03 40 23.4 +0.2
AGO Saint Agoulin 49.69 309 *e*P **P 03 40 09.7 +0.1**
STAV Stavanger 49.88 326 *e*P **P 03 40 11.6 +0.7**
comp=Z,362nm,1.2s,mb6.3
STAV Stavanger 49.88 326 *e*P **P 03 40 11.6 +0.7**
STAV AMb AMB 03 40 12.9
comp=Z,362nm,1.2s,mb6.3
STAV *e*pP pP 03 40 24.9 +0.1
STAV *e*sP sP 03 40 31.2 +0.4
STAV Stavanger 49.88 326 *e*P **P 03 40 11.6 +0.7**
comp=Z,362nm,1.2s,mb6.3
STAV *e*pP pP 03 40 24.9 +0.1
SNR=146
STAV *e*sP sP 03 40 31.2 +0.4
SNR=162
EJON La Jonquera 49.89 304 P **P 03 40 09.8 -1.4**
comp=Z,3.9nm,0.8s
EJON La Jonquera 49.89 304 P **P 03 40 09.8 -1.4**
comp=Z,3.9nm,0.8s
BGF Bois d'Agland 49.90 309⇓*i*P **P 03 40 10.8 -0.4**
comp=Z,309nm,0.8s,mb6.1
BGF Bois d'Agland 49.90 309⇓*i*P **P 03 40 10.8 -0.4**
BGF pmax pmax
comp=Z,154nm,0.8s,mb6.1
ADJB Djebel Djouab 49.95 296 P **P 03 40 13.0 +1.2**
MOL Molde 50.06 331 *e*P **P 03 40 13.0 +0.8**
MOL AMb AMB 03 40 16.4
comp=Z,145nm,1.5s,mb5.8
MOL *e*pP pP 03 40 26.7 +0.6
MOL Molde 50.06 331 *e*P **P 03 40 13.0 +0.8**
MOL *e*pP pP 03 40 26.7 +0.6
SNR=146
HYF Humbligny 50.06 310⇓*i*P **P 03 40 12.3 -0.2**
ETOS Mallorca 50.09 300 P **P 03 40 12.6 -0.2**
comp=Z,26nm,0.7s,mb5.4
ETOS Mallorca 50.09 300 P **P 03 40 12.6 -0.2**
comp=Z,26nm,0.7s,mb5.4
LRDF Laroque-de-Fa 50.13 305 *e*P **P 03 40 12.3 -0.7**
ABA Alger-Bouzarea 50.20 297 P **P 03 40 12.6 -1.1**
TCF Toulx Ste Croi 50.34 309⇓*i*P **P 03 40 14.3 -0.2**
comp=Z,252nm,0.8s,mb6.0
TCF Toulx Ste Croi 50.34 309⇓*i*P **P 03 40 14.3 -0.2**
TCF pmax pmax
comp=Z,126nm,0.8s,mb6.0
EMHD Djebel Mahouad 50.34 296 P **P 03 40 11.0 -3.7**
MTLF Montolieu 50.35 305⇓*i*P **P 03 40 14.6 -0.1**
comp=Z,769nm,1.0s,mb6.4
MTLF Montolieu 50.35 305⇓*i*P **P 03 40 14.6 -0.1**
MTLF pmax pmax
comp=Z,384nm,1.0s,mb6.4
RUND Rundenannen 50.42 328⇓*i*P **P 03 40 15.5 +0.5**
RUND AMb AMB 03 40 17.2
comp=Z,418nm,1.2s,mb6.3
RUND *e*pP pP 03 40 29.1 +0.1
RUND *e*sP sP 03 40 35.6 +0.7
RUND Rundenannen 50.42 328⇓*i*P **P 03 40 15.5 +0.5**
RUND *e*pP pP 03 40 29.1 +0.2
SNR=147
RUND *e*sP sP 03 40 35.6 +0.7
SNR=162
BER Bergen 50.43 327 *e*P **P 03 40 15.4 +0.4**
comp=Z,527nm,1.2s,mb6.4
BER LR LR
comp=Z,6015μm,22.1s
BER Bergen 50.43 327 *e*P **P 03 40 15.4 +0.4**
BER AMb AMB 03 40 17.1
comp=Z,527nm,1.2s,mb6.4
BER *e*pP pP 03 40 29.2 +0.2
BER *e*sP sP 03 40 35.9 +0.9
BER *e*S **S 03 47 18.6 -4.8**

BER AMS AMS 04 05 05.1
comp=Z,6µm,22.1s,MS5.6
BER Bergen 50.43 327 *eP* **P 03 40 15.4 +0.3**
comp=Z,527nm,1.2s,mb6.4
BER *ep*P pP 03 40 29.2 +0.2
SNR=147
BER *e*S **S 03 47 18.5 -4.8**
SNR=34
CAF Calviac 50.44 307⇓*iP* **P 03 40 15.1 -0.2**
comp=Z,791nm,1.0s,mb6.4
CAF Calviac 50.44 307⇓*iP* **P 03 40 15.1 -0.2**
CAF pmax pmax
comp=Z,396nm,1.0s,mb6.4
EGD Espegrend 50.45 327 *eP* **P 03 40 15.7 +0.4**
EGD AMb AMB 03 40 17.4
comp=Z,562nm,1.2s,mb6.5
EGD *ep*P pP 03 40 29.3 +0.1
EGD *es*P sP 03 40 36.0 +0.9
EGD Espegrend 50.45 327 *eP* **P 03 40 15.7 +0.5**
EGD *ep*P pP 03 40 29.3 +0.1
SNR=147
CARF Carcanieres 50.46 304 *eP* **P 03 40 15.4 -0.1**
ASK Askoy 50.52 328 *eP* **P 03 40 16.1 +0.3**
comp=Z,501nm,1.5s,mb6.2
ASK Askoy 50.52 328 *eP* **P 03 40 16.1 +0.3**
ASK AMb AMB 03 40 20.8
comp=Z,501nm,1.5s,mb6.2
ASK *ep*P pP 03 40 29.8 +0.1
ASK *es*P sP 03 40 36.5 +0.7
ASK Askoy 50.52 328 *eP* **P 03 40 16.1 +0.3**
comp=Z,501nm,1.5s,mb6.2
ASK *ep*P pP 03 40 29.8 +0.1
SNR=147
LPEF Le Peyrat 50.59 305 *eP* **P 03 40 16.5 -0.1**
QZH Quanzhou 50.62 79 *i* PR 03 40 17.3
QZH S **S 03 47 24.8 -1.7**
QZH XS 03 47 50.8
QZH LR LR
comp=N,2µm,11.6s,MS5.6
QZH LR LR
comp=E,2µm,12.2s,MS5.6
QZH LR LR
comp=E,6µm,25.4s
DL2 Dalian 50.66 61 PR 03 40 17.9
DL2 AP pP 03 40 34.3 +3.3
DL2 S **S 03 47 30.6 +3.9**
DL2 AMB AMB
comp=Z,90nm,1.1s,mb5.6
DL2 AMB AMB
comp=Z,490nm,5.5s
DL2 LR LR
comp=E,2µm,15.3s
DL2 LR LR
comp=Z,3µm,21.6s
RJF Les Rejaudoux 50.82 308⇓*iP* **P 03 40 18.2 0.0**
comp=Z,880nm,0.9s,mb6.4
RJF *e*R
comp=Z,5µm,22.5s
RJF Les Rejaudoux 50.82 308⇓*iP* **P 03 40 18.2 0.0**
RJF pmax pmax
comp=Z,440nm,0.9s,mb6.4
RJF MLR MLR
comp=Z,5µm,22.5s,MS5.5
SUE Sulen 50.88 328⇓*iP* **P 03 40 18.5 0.0**
SUE AMb AMB 03 40 21.6
comp=Z,288nm,1.4s,mb6.0
SUE *ep*P pP 03 40 32.8 +0.4
SUE *es*P sP 03 40 39.0 +0.6
SUE Sulen 50.88 328⇓*iP* **P 03 40 18.5 +0.1**
SUE *ep*P pP 03 40 32.8 +0.4
SNR=147
SUE *es*P sP 03 40 39.0 +0.6
SNR=162
EMIR Miracle 50.93 303 P **P 03 40 19.8 +0.7**
comp=Z,33nm,0.6s,mb5.4
EMIR Miracle 50.93 303 P **P 03 40 19.8 +0.7**
comp=Z,33nm,0.6s,mb5.4
APAE Packway 51.12 317⇓*eP* **P 03 40 20.4 0.0**
SALF Salau 51.13 304 *eP* **P 03 40 18.8 -1.8**
MLS Moulis 51.19 305 *eP* **P 03 40 19.9 -1.2**
EIBI Ibiza 51.29 300 P **P 03 40 22.2 +0.3**
comp=Z,697nm,1.5s,mb6.4
EIBI Ibiza 51.29 300 P **P 03 40 22.2 +0.3**
comp=Z,697nm,1.5s,mb6.4
EPOB Poblet 51.30 303 P **P 03 40 21.9 0.0**
comp=Z,23nm,0.7s,mb5.2
AEU East Anglia Un 51.30 317⇓*eP* **P 03 40 22.1 +0.4**
LFF La Frestale 51.38 307⇓*iP* **P 03 40 22.5 +0.1**
comp=Z,1µm,0.8s,mb6.5
LFF La Frestale 51.38 307⇓*iP* **P 03 40 22.5 +0.1**
LFF pmax pmax
comp=Z,507nm,0.8s,mb6.5
ABA1 Baconsthorpe 51.38 317⇓*eP* **P 03 40 22.5 +0.2**
SSE Sheshan 51.43 71 ⇓*iP* **P 03 40 23.9 +0.8**
SSE AP pP 03 40 37.9 +0.9
SSE XP sP 03 40 47.0 +4.0
SSE S **S 03 47 38.5 +0.9**
SSE XS 03 48 04.5
SSE AMB AMB
comp=Z,184nm,1.7s,mb5.7
SSE AMB AMB
comp=Z,781nm,4.2s
SSE LR LR
comp=N,2µm,21.8s,MS5.4
SSE LR LR
comp=E,3µm,21.9s,MS5.4
SSE LR LR
comp=Z,4µm,27.6s
SSE Sheshan 51.43 71 ⇓*P* **P 03 40 23.9 +0.8**
comp=Z,180nm,1.7s,mb5.7
SSE *p*P pP 03 40 37.9 +0.9
SSE S **S 03 47 38.5 +0.9**
SSE sS 03 48 04.5
SSE LR LR
comp=Z,4µm,27.6s,MS5.2
SSE Sheshan 51.43 71 ⇓*P* **P 03 40 23.9 +0.8**
comp=Z,180nm,1.7s,mb5.7
SSE *p*P pP 03 40 37.9 +0.9
SSE S **S 03 47 38.5 +0.9**
MELF Melles 51.44 305 *eP* **P 03 40 22.0 -1.0**
EBNR Beni Rached 51.47 296 P **P 03 40 24.5 +1.2**
ECHA Ech Chlef 51.62 296 P **P 03 40 25.5 +1.1**
EPF Esparros 51.74 305⇓*iP* **P 03 40 23.7 -1.5**
comp=Z,110nm,1.2s,mb5.4
EPF Esparros 51.74 305⇓*iP* **P 03 40 23.7 -1.5**
EPF pmax pmax
comp=Z,55nm,1.2s,mb5.4
EBR Ebro Roquetas 51.78 302 *eP* **P 03 40 25.5 0.0**
ETRT Tiaret 51.78 295 P **P 03 40 26.0 +0.4**
EANR 'Ain N'Sour 51.86 296 P **P 03 40 27.0 +0.8**
ERTA Horta de San J 51.89 302 P **P 03 40 26.3 0.0**
comp=Z,22nm,0.7s,mb5.2
SNY Shenyang 51.90 57 ⇓*P* **P 03 40 26.3 -0.1**
SNY S **S 03 47 50.4 +6.6**
SNY LR LR
comp=N,3µm,21.3s
SNY LR LR
comp=E,2µm,27.6s
SNY LR LR
comp=Z,4µm,24.0s,MS5.3
EBIE Bielsa 51.91 304 P **P 03 40 26.2 -0.3**
comp=Z,9.6nm,0.5s,mb5.0
EBIE Bielsa 51.91 304 P **P 03 40 26.2 -0.2**
comp=Z,9.6nm,0.5s,mb5.0
LABF Labassere 51.94 305 *eP* **P 03 40 26.4 -0.2**
LDF La Druitiere 51.95 312⇓*iP* **P 03 40 26.0 -0.7**
comp=Z,375nm,0.6s,mb6.2
LDF La Druitiere 51.95 312⇓*iP* **P 03 40 26.0 -0.7**
LDF pmax pmax
comp=Z,187nm,0.6s,mb6.2
MFF Saint Martin d 51.97 309⇓*iP* **P 03 40 26.0 -0.8**
comp=Z,834nm,1.3s,mb6.2
MFF Saint Martin d 51.97 309⇓*iP* **P 03 40 26.0 -0.8**
MFF pmax pmax
comp=Z,417nm,1.3s,mb6.2
VIEF Viey 51.98 305 *eP* **P 03 40 26.6 -0.4**
FLN La Foliniere 52.19 312⇓*iP* **P 03 40 27.9 -0.6**
comp=Z,899nm,1.0s,mb6.3
FLN *e*R
comp=Z,4µm,22.0s
FLN La Foliniere 52.19 312⇓*iP* **P 03 40 27.9 -0.6**
FLN pmax pmax
comp=Z,449nm,1.0s,mb6.3
FLN MLR MLR
comp=Z,4µm,22.0s,MS5.4
OJGS Djebel Guires 52.21 295 P **P 03 40 28.0 -0.8**
REYF Montagne du Re 52.27 305 *eP* **P 03 40 28.8 -0.4**
KTG1 Tilbrook Grang 52.28 317⇓*iP* **P 03 40 28.6 -0.5**
LMK Market Rasen 52.31 318 *eP* **P 03 40 29.0 -0.3**
ETSF Etsaut 52.41 305⇓*iP* **P 03 40 30.1 -0.1**
comp=Z,535nm,0.9s,mb6.2
ETSF Etsaut 52.41 305⇓*iP* **P 03 40 30.1 -0.1**
ETSF pmax pmax
comp=Z,268nm,0.9s,mb6.2
FDAF Les Forges d'A 52.42 305 *eP* **P 03 40 30.0 -0.3**
ESAC San Caprasio 52.43 303 P **P 03 40 30.1 -0.3**
comp=Z,57nm,0.8s,mb5.6
ESAC San Caprasio 52.43 303 P **P 03 40 30.1 -0.3**
comp=Z,57nm,0.8s,mb5.6
GRR Gorron 52.44 312⇓*iP* **P 03 40 29.7 -0.7**
comp=Z,228nm,0.7s,mb5.9
GRR Gorron 52.44 312⇓*iP* **P 03 40 29.7 -0.7**
GRR pmax pmax
comp=Z,114nm,0.7s,mb5.9
SKP1 Kophill 52.49 316⇓*iP* **P 03 40 30.6 -0.1**
EBEN Beniarda 52.55 299 P **P 03 40 31.5 +0.2**
comp=Z,10.0nm,0.4s,mb5.1
EBEN Beniarda 52.55 299 P **P 03 40 31.5 +0.2**
comp=Z,10.0nm,0.4s,mb5.1
EMOS Mosqueruela 52.55 301 P **P 03 40 32.4 +1.0**
comp=Z,32nm,0.6s,mb5.4
EMOS Mosqueruela 52.55 301 P **P 03 40 32.4 +1.1**
comp=Z,32nm,0.6s,mb5.4
LWH Whinny Nab 52.59 319 *eP* **P 03 40 31.6 +0.3**
ORDF Ordiarp 52.66 305 *eP* **P 03 40 30.7 -1.4**
LARF Larrau 52.71 305 *eP* **P 03 40 32.4 -0.1**
SJPF Ste Jean 52.88 305⇓*iP* **P 03 40 33.3 -0.4**
comp=Z,274nm,0.8s,mb5.9
SJPF Ste Jean 52.88 305⇓*iP* **P 03 40 33.3 -0.4**
SJPF pmax pmax
comp=Z,137nm,0.8s,mb5.9
KSM Kuching 52.90 110 *eP* **P 03 40 33.0 -1.2**
KSM Kuching 52.90 110 *eP* **P 03 40 33.0 -1.2**
OSSF Osses 52.90 305 *eP* **P 03 40 32.3 -1.6**
KBI1 Birley Grange 53.02 318⇓*iP* **P 03 40 34.0 -0.6**
CLNS Chul'man 53.07 38*d iP* **P 03 40 36.2 +1.3**
CLNS *e**PP pP 03 40 43.2 -5.8
CLNS *e* 03 41 41.5
CLNS *e* 03 42 33.2
CLNS *e*PPP PPP 03 43 37.4 -6.0
CLNS *e*S **S 03 48 00.7 +1.2**
CLNS *e*PS PS 03 48 13.7 -3.8
CLNS *e* 03 50 19.2
CLNS *e*SS SS 03 51 50.4 +12
CLNS pmax pmax
comp=Z,380nm,1.0s,mb6.3
CLNS pmax pmax
comp=N,69nm,0.9s
CLNS pmax pmax
comp=E,363nm,1.8s
CLNS pmax pmax
comp=Z,41nm,1.1s,mb5.3
CLNS pmax pmax
comp=N,44nm,0.7s
CLNS pmax pmax
comp=E,34nm,0.9s
CLNS smax
comp=N,36nm,1.3s
CLNS smax
comp=Z,8.0nm,1.2s
CLNS smax
comp=E,7.0nm,1.1s
CLNS MLR MLR
comp=N,3µm,20.0s,MS5.4
CLNS MLR MLR
comp=Z,11µm,20.0s,MS5.9
CLNS MLR MLR
comp=E,1µm,16.0s,MS5.4
EALK Alkurruntz 53.08 305 P **P 03 40 34.5 -0.7**
comp=E,8.3nm,0.4s,mb5.0
EALK Alkurruntz 53.08 305 P **P 03 40 34.5 -0.7**
comp=E,8.3nm,0.4s,mb5.0
LCP Cassop 53.09 320⇓*eP* **P 03 40 34.5 -0.6**
SWN1 Swindon 53.10 316⇓*iP* **P 03 40 35.5 +0.2**
HPK Haverah Park 53.12 319⇓*iP* **P 03 40 35.1 -0.2**
YHNB Yeheng 53.13 78 *eP* **P 03 40 37.6 +1.7**
YHNB *ep*P pP 03 40 51.0 +1.1
YHNB Yeheng 53.13 78 *eP* **P 03 40 37.6 +1.8**
YHNB *ep*P pP 03 40 51.0 +1.1
CN2 Changchun 53.13 54⇓*iP* **P 03 40 35.8 +0.2**
CN2 *e*AP pP 03 40 50.5 +0.8
CN2 PCP PcP 03 41 45.8 +2.6
CN2 *e*S **S 03 47 59.3 -1.3**
CN2 XS 03 48 29.8
CN2 AMB AMB
comp=Z,110nm,1.4s,mb5.6
CN2 AMB AMB
comp=Z,2µm,4.0s
CN2 LR LR
comp=N,3µm,19.0s,MS5.6
CN2 LR LR
comp=E,4µm,19.0s,MS5.6
CN2 LR LR
comp=Z,6µm,21.0s,MS5.6
TATO Taipei 53.14 78 PFAKE 03 40 50.0 +14
TATO LR LR
comp=Z,2µm,19.0s,MS5.2
KWE Weaver Farm 53.19 317⇓*iP* **P 03 40 35.3 -0.7**
USTO Oran 53.22 296 P **P 03 40 38.0 +1.6**
JQE Queens East 53.22 313⇓*eP* **P 03 40 35.5 -0.6**
LHO Holmfirth 53.23 318⇓*iP* **P 03 40 35.7 -0.5**
JRS Jersey 53.26 313⇓*eP* **P 03 40 35.7 -0.7**
JLP Les Platons 53.27 313⇓*eP* **P 03 40 35.5 -1.0**
CART Cartagena 53.30 298 *eP* **P 03 40 35.7 -1.2**
comp=Z,97nm,0.8s,mb5.8
CART *eP*cP PcP 03 41 42.9 -1.0
CART Cartagena 53.30 298 *eP* **P 03 40 35.7 -1.2**
comp=Z,97nm,0.8s,mb5.8
CART Cartagena 53.30 298 *eP*cP PcP 03 41 42.9 -1.0
JSA Saint Aubin 53.31 313⇓*eP* **P 03 40 36.1 -0.7**
LSZ Lusaka 53.33 222 *eP* **P 03 40 38.2 +0.8**
LSZ pmax pmax
comp=Z,68nm,1.1s,mb5.5
LSZ MLR MLR
comp=Z,899nm,20.0s,MS4.8
LSZ Lusaka 53.33 222 *eP* **P 03 40 38.1 +0.7**
comp=Z,68nm,1.1s,mb5.5
LSZ *ep*P pP 03 40 52.5 +1.0
LSZ LR LR
comp=Z,899nm,20.0s,MS4.8
LSZ Lusaka 53.33 222 *eP* **P 03 40 38.2 +0.8**
comp=Z,68nm,1.1s,mb5.5
EMUR La Murta 53.45 298 P **P 03 40 37.4 -0.7**
comp=Z,5.4nm,0.5s
EMUR La Murta 53.45 298 P **P 03 40 37.4 -0.6**
comp=Z,5.4nm,0.5s
NACB Ninganchiao 53.46 79 *eP* **P 03 40 39.2 +0.9**
NACB *ep*P pP 03 40 53.4 +1.0
NACB Ninganchiao 53.46 79 *eP* **P 03 40 39.2 +0.9**
NACB *ep*P pP 03 40 53.4 +1.0
OTSS Djebel Tessala 53.49 295 P **P 03 40 40.0 +1.6**
SGMF Saint Gilles 53.58 311⇓*iP* **P 03 40 38.3 -0.5**
comp=Z,914nm,1.3s,mb6.3
SGMF Saint Gilles 53.58 311⇓*iP* **P 03 40 38.3 -0.5**
SGMF pmax pmax
comp=Z,457nm,1.3s,mb6.2
ETOB Tobarra 53.58 299 P **P 03 40 39.4 +0.4**
comp=Z,21nm,0.6s,mb5.2
ETOB Tobarra 53.58 299 P **P 03 40 39.4 +0.4**
comp=Z,21nm,0.6s,mb5.2
HAE Alders End 53.58 316⇓*iP* **P 03 40 38.1 -0.7**
HAE AMb AMB 03 40 40.0
comp=Z,638nm,1.3s,mb6.4
SMD Mendips 53.67 315⇓*iP* **P 03 40 38.6 -0.9**
HGH Gray Hill 53.73 316 *eP* **P 03 40 39.1 -0.9**
HGH AMb AMB 03 40 41.6
comp=Z,906nm,1.4s,mb6.5
BTA Talkin 53.80 320⇓*iP* **P 03 40 40.2 -0.2**
HLM1 Long Mynd 53.80 317⇓*iP* **P 03 40 40.0 -0.4**
HLM1 AMb AMB 03 40 42.5
comp=Z,413nm,1.9s,mb6.0
MCH1 Michaelchurch 53.86 316⇓*iP* **P 03 40 40.1 -0.8**
BDL Dobcross Hall 53.94 320⇓*eP* **P 03 40 41.2 -0.1**
SSP1 Stoney Pound 53.94 317 *i* **P P 03 40 41.3 -0.2**
SSP1 AMb AMB 03 40 43.6
comp=Z,1µm,1.2s,mb6.6
BBH Bruntsheil 53.95 320 *eP* **P 03 40 41.0 -0.5**
QUIF Quistinic 53.99 311⇓*iP* **P 03 40 40.9 -1.0**
comp=Z,712nm,1.2s,mb6.2
QUIF Quistinic 53.99 311⇓*iP* **P 03 40 40.9 -1.0**
QUIF pmax pmax
comp=Z,356nm,1.2s,mb6.2
OLHC Oulhaca 54.00 295 P **P 03 40 43.0 +0.9**
HTR Trewern Hill 54.03 316⇓*iP* **P 03 40 41.4 -0.7**
HTR AMb AMB 03 40 43.1
comp=Z,503nm,1.1s,mb6.4
SBD1 Bryn Du 54.04 317⇓*iP* **P 03 40 42.1 -0.1**
ROSF Rostrenen 54.05 312⇓*iP* **P 03 40 41.6 -0.7**
comp=Z,547nm,1.2s,mb6.1
ROSF Rostrenen 54.05 312⇓*iP* **P 03 40 41.6 -0.7**
ROSF pmax pmax
comp=Z,274nm,1.2s,mb6.1
BBO1 Bothel 54.11 319⇓*iP* **P 03 40 42.4 -0.2**
BCC1 Chapelcross 54.11 320 *eP* **P 03 40 42.1 -0.5**
BHH Howats Hill 54.12 320⇓*iP* **P 03 40 42.1 -0.6**
ESK Eskdalemuir 54.12 320 *eP* **P 03 40 42.2 -0.5**
ESK pmax pmax
comp=Z,282nm,1.3s,mb6.0
ESK Eskdalemuir 54.12 320 *eP* **P 03 40 42.2 -0.5**
comp=Z,282nm,1.3s,mb6.0
ESK *ep*P pP 03 40 55.5 -1.3
ESK Eskdalemuir 54.12 320⇓*eP* **P 03 40 42.0 -0.7**
ESK AMb AMB 03 40 43.9
comp=Z,300nm,1.4s,mb6.0
ESK Eskdalemuir 54.12 320 *eP* **P 03 40 42.2 -0.5**
comp=Z,282nm,1.3s,mb6.0
ESK *ep*P pP 03 40 55.5 -1.3
MME1 Meikle Cairn 54.14 323⇓*eP* **P 03 40 42.4 -0.4**
MCD Coleburn Disti 54.32 323⇓*eP* **P 03 40 43.8 -0.3**
EVIA Vianos 54.32 300 P **P 03 40 44.6 +0.2**
EVIA pmax pmax
comp=Z,51nm,0.6s,mb5.6
EVIA Vianos 54.32 300 P **P 03 40 44.6 +0.2**
comp=Z,51nm,0.6s,mb5.6
ENIJ Nijar 54.34 298 P **P 03 40 43.8 -0.8**
ENIJ pmax pmax
comp=Z,17nm,0.6s,mb5.2
ENIJ Nijar 54.34 298 P **P 03 40 43.8 -0.7**
comp=Z,17nm,0.6s,mb5.2
ENIJ Nijar 54.34 298 P **P 03 40 43.8 -0.8**
comp=Z,17nm,0.6s,mb5.2
BWH Wardlaw 54.37 320⇓*eP* **P 03 40 44.1 -0.5**
MLA1 Latheron 54.44 324⇓*iP* **P 03 40 44.4 -0.6**
WPM1 Penmaenmawr 54.44 318⇓*iP* **P 03 40 44.8 -0.3**
WPM1 AMb AMB 03 40 47.2
comp=Z,665nm,1.7s,mb6.3
ELAN Lanestosa 54.48 305 P **P 03 40 45.3 -0.2**
comp=Z,281nm,1.0s,mb6.2
ELAN Lanestosa 54.48 305 P **P 03 40 45.3 -0.2**
comp=Z,281nm,1.0s,mb6.2
HSP Hornsund 54.52 348 *eP* **P 03 40 45.5 +0.1**
YLL Llanberis 54.60 318⇓*eP* **P 03 40 45.7 -0.5**
PCOU Corrie 54.67 321⇓*eP* **P 03 40 46.4 -0.2**
WME Myndd Eilian 54.69 318 *i* P **P 03 40 46.5 -0.4**
WME AMb AMB 03 40 48.3
comp=Z,370nm,1.3s,mb6.3
PCA1 Carrot 54.74 321⇓*iP* **P 03 40 47.0 -0.2**
WLF1 Llynfaes 54.74 318 *eP* **P 03 40 46.9 -0.4**
INCN Inchon 54.75 62 *eP* **P 03 40 47.3 -0.2**
comp=Z,401nm,1.4s,mb6.3
INCN *ep*P pP 03 41 00.9 -0.8
INCN LR LR
comp=Z,1µm,19.0s,MS5.0
INCN Inchon 54.75 62 *eP* **P 03 40 47.3 -0.2**
comp=Z,401nm,1.4s,mb6.3
INCN *ep*P pP 03 41 00.9 -0.8
YRE Yr Eifl 54.75 317⇓*iP* **P 03 40 46.7 -0.7**
YRE AMb AMB 03 40 49.4
comp=Z,437nm,2.1s,mb6.1
WCB1 Church Bay 54.83 318⇓*eP* **P 03 40 46.9 -1.0**
WCB1 AMb AMB 03 40 49.4
comp=Z,526nm,1.2s,mb6.4
MVH1 Achvaich 54.84 323⇓*iP* **P 03 40 46.9 -1.0**
POB1 Observatory 54.84 321⇓*eP* **P 03 40 47.2 -0.7**
YRC Rhoscolyn 54.84 318⇓*iP* **P 03 40 47.8 -0.3**
YRC AMb AMB 03 40 49.6
comp=Z,652nm,1.2s,mb6.5
EQES Quesada 54.89 299 P **P 03 40 47.9 -0.7**
comp=Z,31nm,0.4s,mb5.7
EBER Berja 54.89 298 P **P 03 40 48.3 -0.3**
comp=Z,40nm,0.5s,mb5.7
EBER Berja 54.89 298 P **P 03 40 48.3 -0.3**
comp=Z,40nm,0.5s,mb5.7
MDO Dochfour 54.90 323⇓*iP* **P 03 40 47.3 -1.1**
WIM Isle of Man 54.92 319⇓*iP* **P 03 40 48.2 -0.3**
WIM AMb AMB 03 40 50.9
comp=Z,888nm,1.5s,mb6.6
GAL1 Galloway 54.96 320⇓*eP* **P 03 40 48.4 -0.4**
PMSU Muirshiel 55.02 321⇓*iP* **P 03 40 49.0 -0.3**
CSA1 St Austell 55.06 314⇓*iP* **P 03 40 49.1 -0.4**
ZAI Zaio 55.12 295 *i* P **P 03 40 50.0 -0.3**
EALB Alboran 55.17 296 P **P 03 40 50.8 +0.1**
comp=Z,9.9nm,0.5s,mb5.1
EALB Alboran 55.17 296 P **P 03 40 50.8 +0.1**
comp=Z,9.9nm,0.5s,mb5.1
CMA1 Manaccan 55.22 314⇓*eP* **P 03 40 50.3 -0.5**
EMLI Melilla 55.22 296 P **P 03 40 51.3 +0.3**
SNR=7.9
CRQ2 Rosemanowes 2 55.24 314⇓*iP* **P 03 40 50.3 -0.6**
CRQ2 AMb AMB 03 40 52.2
comp=Z,443nm,1.3s,mb6.3
CGH1 Goonhilly 55.24 314⇓*iP* **P 03 40 50.2 -0.7**
CCA1 Carnmenellis 55.28 314⇓*iP* **P 03 40 50.7 -0.5**
CGW Gweek 55.28 314⇓*eP* **P 03 40 50.7 -0.5**
ESDC Sonseca Array 55.30 301 P **P 03 40 50.9 -0.6**
comp=Z,62nm,0.8s,mb5.7,baz=71,slow=7.3,SNR=157
ESDC pP pP 03 41 05.0 -0.7
comp=Z,30nm,0.9s,baz=74,slow=6.8,SNR=4.8
ESLA Sonseca Array 55.30 301 *eP* **P 03 40 50.1 -1.4**
comp=Z,61nm,1.2s,mb5.5
ESLA Sonseca Array 55.30 301 *eP* **P 03 40 50.2 -1.3**
comp=Z,61nm,1.2s,mb5.5
GUD Guadarrama 55.31 302 P **P 03 40 50.3 -1.3**
ECOG Cogollos-Vega 55.36 298 P **P 03 40 50.7 -1.3**
ECOG pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
ECOG Cogollos-Vega 55.36 298 P **P 03 40 50.7 -1.3**
comp=Z,4.9nm,0.4s,mb4.9
ECOG Cogollos-Vega 55.36 298 P **P 03 40 50.7 -1.3**
comp=Z,4.9nm,0.4s,mb4.9
EBAN Banos Encina 55.39 299 P **P 03 40 51.7 -0.5**
EBAN pmax pmax
comp=Z,45nm,0.6s,mb5.7
EBAN Banos Encina 55.39 299 P **P 03 40 51.7 -0.5**
comp=Z,45nm,0.6s,mb5.7
EBAN Banos Encina 55.39 299 P **P 03 40 51.7 -0.5**
comp=Z,45nm,0.6s,mb5.7
GMK Mull of Kintyr 55.48 320⇓*iP* **P 03 40 52.1 -0.5**
CPZ Penzance 55.51 314⇓*iP* **P 03 40 52.1 -0.8**
CPZ AMb AMB 03 40 54.0
comp=Z,310nm,1.4s,mb6.2
ERON Agron 55.60 298 P **P 03 40 52.7 -1.0**
comp=Z,13nm,0.5s,mb5.2
ERON Agron 55.60 298 P **P 03 40 52.7 -1.0**
comp=Z,13nm,0.5s,mb5.2
KKM Kota Kinabalu 55.62 102 *eP* **P 03 40 54.1 -0.1**
KKM *ep*P pP 03 41 07.5 -0.9
KKM Kota Kinabalu 55.62 102 P **P 03 40 54.8 +0.6**
KKM Kota Kinabalu 55.62 102 *eP* **P 03 40 54.1 -0.1**
KKM *ep*P pP 03 41 07.5 -0.9
GMM Mts of Mourne 55.67 319⇓*eP* **P 03 40 52.8 -1.2**
KS15 Wonju Array Si 55.73 62 *eP* **P 03 40 54.3 -0.4**
CVP Callao Caves 55.75 86 *eP* **P 03 40 55.5 +0.5**
EARI Arriondas 55.76 306 P **P 03 40 53.9 -0.9**
comp=Z,9.4nm,0.7s,mb4.9
EARI Arriondas 55.76 306 P **P 03 40 53.9 -0.9**
comp=Z,9.4nm,0.7s,mb4.9
GCL Cushendall 55.79 320⇓*iP* **P 03 40 54.3 -0.5**
ELOJ Sierra Loja 55.85 298 P **P 03 40 53.7 -1.8**
comp=Z,4.4nm,0.5s
PCPH Palayan 55.89 89 *eP* **P 03 41 09.9 +14**
DSB Dublin 55.93 318 *eP* **P 03 40 55.4 -0.4**
comp=Z,109nm,1.0s,mb5.8
DSB Dublin 55.93 318 *eP* **P 03 40 55.4 -0.4**
comp=Z,109nm,1.0s,mb5.8
TOU Touzarine 55.93 295 *i* P **P 03 40 57.0 +0.9**
EADA Adamuz 56.01 299 P **P 03 40 55.9 -0.7**
comp=Z,12nm,0.7s,mb5.0
EADA Adamuz 56.01 299 P **P 03 40 55.9 -0.7**
comp=Z,12nm,0.7s,mb5.0
DLF Lyons Farm 56.02 318 *eP* **P 03 40 55.7 -0.8**
MDJ Mudanjiang 56.03 53 P **P 03 40 56.4 -0.3**
MDJ AP pP 03 41 09.9 -1.0
MDJ XP sP 03 41 16.3 -0.6

MDJ PCP PcP 03 41 54.5 +0.2
MDJ PP PP 03 43 01.8 -1.6
MDJ SCP 03 45 48.5
MDJ PCS 03 45 54.3
MDJ S **S** **03 48 42.6 +3.1**
MDJ AMB AMB
comp=Z,74nm,1.6s,mb5.5
MDJ AMB AMB
comp=Z,710nm,7.0s
MDJ LR LR
comp=N,2μm,19.1s,MS5.7
MDJ LR LR
comp=E,6μm,22.9s,MS5.7
MDJ LR LR
comp=Z,8μm,24.2s,MS5.7
MDJ Mudanjiang 56.03 53 P **P** **03 40 56.6 -0.1**
MDJ sS 03 49 08.4
MDJ Mudanjiang 56.03 53 P **P** **03 40 56.4 -0.3**
comp=Z,74nm,1.6s,mb5.5
MDJ pP pP 03 41 09.9 -1.0
MDJ sP sP 03 41 16.3 -0.6
MDJ PcP PcP 03 41 54.5 +0.2
MDJ PP PP 03 43 01.8 -1.6
MDJ ScP 03 45 48.5
MDJ PcS 03 45 54.3
MDJ S **S** **03 48 42.6 +3.1**
MDJ LR LR
comp=Z,8μm,24.2s,MS5.7
YAK Yakutsk 56.06 32 *d iP* **P** **03 40 55.0 -1.6**
YAK *e* 03 41 55.8
YAK *e* 03 43 03.6
YAK *e*PPP PPP 03 44 17.0 -2.9
YAK *e*S **S** **03 48 39.2 -0.4**
YAK *e* 03 50 37.3
YAK *e*SSS SSS 03 54 39.4 +3.5
YAK pmax pmax
comp=Z,274nm,1.0s,mb6.2
YAK pmax pmax
comp=N,40nm,1.2s
YAK pmax pmax
comp=E,160nm,1.1s
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,36nm,1.1s
YAK smax
comp=E,187nm,5.8s
YAK smax
comp=N,23nm,3.2s
YAK MLR MLR
comp=N,2μm,17.0s,MS5.7
YAK MLR MLR
comp=E,5μm,16.0s,MS5.7
YAK MLR MLR
comp=Z,6μm,16.0s,MS5.8
YAK Yakutsk 56.06 32 *i* Pr 03 40 55.0
comp=Z,274nm,1.0s
YAK *e* 03 41 55.8
YAK *e* 03 43 03.6
YAK *e*PPP PPP 03 44 17.0 -2.9
YAK *e*S **S** **03 48 39.2 -0.4**
YAK *e* 03 50 37.3
YAK *e*SSS SSS 03 54 39.4 +3.5
YAK LR LR
comp=Z,6μm,16.0s,MS5.8
DMUB Kingscourt 56.24 318 *eP* **P** **03 40 57.8 -0.2**
EMIJ Mijas 56.44 297 P **P** **03 40 57.9 -1.9**
comp=Z,29nm,0.5s,mb5.6
DCN Croghan 56.47 318 *eP* **P** **03 40 59.7 0.0**
PGP Puerto Galera 56.56 91⇑ *iP* **P** **03 41 09.8 +9.0**
LQP Lukban 56.84 90 *eP* **P** **03 41 04.2 +1.3**
EJIF Jimena Fronter 57.01 297 P **P** **03 41 02.6 -1.3**
EJIF pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
EJIF Jimena Fronter 57.01 297 P **P** **03 41 02.6 -1.3**
comp=Z,5.5nm,0.4s,mb4.9
EJIF Jimena Fronter 57.01 297 P **P** **03 41 02.6 -1.3**
comp=Z,5.5nm,0.4s,mb4.9
ECAL Calabor 57.06 304 P **P** **03 41 03.5 -0.6**
comp=Z,6.5nm,0.4s,mb5.0
ECAL Calabor 57.06 304 P **P** **03 41 03.5 -0.6**
comp=Z,6.5nm,0.4s,mb5.0
PBRG Braganca 57.08 304 *eP* **P** **03 41 03.6 -0.7**
comp=Z,231nm,1.4s,mb6.0
PBRG *e*pP pP 03 41 17.7 -0.8
PBRG *e*sP sP 03 41 24.6 +0.1
KLR Kul'dur 57.09 47⇑ *iP* **P** **03 41 01.3 -2.9**
KLR *e* 03 43 07.0
KLR *e* 03 44 28.5
KLR *e*S **S** **03 48 49.5 -3.9**
KLR *e* 03 49 15.5
KLR *e* 03 52 52.0
KLR pmax pmax
comp=N,200nm,1.6s
KLR pmax pmax
comp=E,280nm,1.6s
KLR pmax pmax
comp=Z,280nm,1.6s,mb6.0
KLR pmax pmax
comp=E,1μm,8.0s
KLR pmax pmax
comp=Z,2μm,8.0s
KLR MLR MLR
comp=N,5μm,14.0s,MS5.8
KLR MLR MLR
comp=E,2μm,14.0s,MS5.8
DKH Dar Kharkhour 57.12 296 *i* P **P** **03 41 03.0 -1.6**
EPON Pontenova 57.16 306 P **P** **03 41 04.0 -0.8**
comp=E,18nm,0.4s,mb5.5
ESPR Espera 57.24 298 P **P** **03 41 04.0 -1.5**
comp=E,20nm,0.6s,mb5.3
ESPR Espera 57.24 298 P **P** **03 41 04.0 -1.4**
comp=E,20nm,0.6s,mb5.3
ERUA La Rua 57.29 305 P **P** **03 41 05.4 -0.3**
ERUA pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
ERUA La Rua 57.29 305 P **P** **03 41 05.4 -0.3**
comp=Z,6.4nm,0.5s,mb4.9
ERUA La Rua 57.29 305 P **P** **03 41 05.4 -0.3**
comp=Z,6.4nm,0.5s,mb4.9
TIXI Tiksi 57.31 20⇓ *eP* **P** **03 41 04.8 -0.7**
CZD Col de Zad 57.39 293 *i* P **P** **03 41 07.0 +0.5**
EINC Incio 57.40 305 P **P** **03 41 06.3 -0.2**
comp=Z,19nm,0.7s,mb5.2
EINC Incio 57.40 305 P **P** **03 41 06.3 -0.2**
comp=Z,19nm,0.7s,mb5.2
CPS Cap Spartel 57.49 297 *i* P **P** **03 41 06.0 -1.3**
EMIN Mina Concepcio 57.71 299 P **P** **03 41 07.4 -1.3**
comp=Z,5.6nm,0.5s,mb4.8
EMIN Mina Concepcio 57.71 299 P **P** **03 41 07.4 -1.3**
comp=Z,5.6nm,0.5s,mb4.8
EBAD Badajoz 57.79 300 P **P** **03 41 08.2 -1.1**
comp=Z,9.3nm,0.6s,mb5.0
EBAD Badajoz 57.79 300 P **P** **03 41 08.2 -1.0**
comp=Z,9.3nm,0.6s,mb5.0
PVRL Vila Real 57.88 303 *eP* **P** **03 41 09.4 -0.5**
comp=Z,329nm,1.4s,mb6.2
PVRL *e*pP pP 03 41 24.8 +0.6
PVRL *e*sP sP 03 41 30.6 +0.4
MTE Manteigas 57.90 302 *eP* **P** **03 41 09.8 -0.2**
comp=Z,228nm,0.9s,mb6.2
MTE *e*pP pP 03 41 24.8 +0.5
MTE *e*sP sP 03 41 30.7 +0.4
MTE *e*PP PP 03 43 19.9 -0.4
MTE *e*S **S** **03 49 05.8 +1.6**
MTE *e*LQ 03 58 55.4
MTE *e*LR LR 04 04 17.4
comp=Z,3μm,18.0s
MTE Manteigas 57.90 302 *eP* **P** **03 41 09.5 -0.5**
comp=Z,172nm,1.2s,mb6.0
MTE Manteigas 57.90 302 *eP* **P** **03 41 09.8 -0.2**
comp=Z,228nm,0.9s,mb6.2
MTE *e*S **S** **03 49 05.8 +1.6**
PCBR Castelo Branco 57.95 302 *eP* **P** **03 41 10.0 -0.3**
comp=Z,428nm,1.3s,mb6.3
PCBR *e*pP pP 03 41 24.8 +0.2
PCBR *e*sP sP 03 41 30.9 +0.3
ELOB Lobios 58.05 304 P **P** **03 41 10.9 -0.1**
comp=Z,1μm,2.6s,mb6.5
ELOB Lobios 58.05 304 P **P** **03 41 10.9 -0.1**
comp=Z,1μm,2.6s,mb6.5
PVIS Viseu 58.11 303 *eP* **P** **03 41 11.4 -0.1**
comp=Z,308nm,1.3s,mb6.2
PVIS *e*pP pP 03 41 26.2 +0.4
PVIS *e*sP sP 03 41 32.4 +0.7
STS Santiago 58.24 305 P **P** **03 41 11.9 -0.5**
STS pmax pmax
comp=Z,23nm,0.7s,mb5.3
STS Santiago 58.24 305 P **P** **03 41 11.9 -0.5**
comp=Z,23nm,0.7s,mb5.3
STS Santiago 58.24 305 P **P** **03 41 11.9 -0.5**
comp=Z,23nm,0.7s,mb5.3
JMIC Jan Mayen 58.28 339 LR LR 04 08 41.6
comp=Z,6μm,19.3s,MS5.8,baz=84,slow=38
JMIC Jan Mayen 58.28 339 *eS* **S** **03 49 09.4 +0.7**
JMIC AMS AMS 04 09 07.0
comp=Z,6μm,17.4s,MS5.8
VAL Valentia 58.34 316⇑ *iP* **P** **03 41 11.8 -1.1**
PALC Alcoutim 58.39 299 *eP* **P** **03 41 12.3 -1.2**
comp=Z,122nm,1.2s,mb5.8
PALC *e*pP pP 03 41 27.1 -0.7
PALC *e*sP sP 03 41 33.2 -0.5
PALC Alcoutim 58.39 299 *eP* **P** **03 41 12.2 -1.3**
EZAM Zamans 58.47 305 P **P** **03 41 14.0 +0.1**
EZAM pmax pmax
comp=Z,112nm,1.0s,mb5.8
EZAM Zamans 58.47 305 P **P** **03 41 14.0 +0.1**
comp=Z,112nm,1.0s,mb5.8
EMAZ Mazaricos 58.54 306 P **P** **03 41 14.1 -0.4**
comp=Z,17nm,0.5s,mb5.3
EMAZ Mazaricos 58.54 306 P **P** **03 41 14.1 -0.3**
comp=Z,17nm,0.5s,mb5.3
PBEJ Beja 58.58 300 *eP* **P** **03 41 14.1 -0.7**
comp=Z,167nm,1.3s,mb5.9
PBEJ *e*pP pP 03 41 28.8 -0.3
PBEJ *e*sP sP 03 41 35.5 +0.4
PBEJ Beja 58.58 300 *eP* **P** **03 41 14.0 -0.8**
EVO Evora 58.60 300⇓ *iP* **P** **03 41 14.9 0.0**
comp=Z,259nm,1.1s,mb5.9
EVO *e*R
comp=Z,3μm,22.0s
PTOM Tomar 58.70 302 *eP* **P** **03 41 15.3 -0.3**
comp=Z,468nm,1.2s,mb6.4
PTOM *e*pP pP 03 41 30.2 +0.4
PTOM *e*sP sP 03 41 36.4 +0.6
ALMR Almeirim 58.91 301 *eP* **P** **03 41 14.7 -2.4**
PTEO Sao Teotonio 59.35 299 *eP* **P** **03 41 19.3 -0.8**
comp=Z,145nm,1.9s,mb5.7
PTEO *e*pP pP 03 41 36.0 +1.6
PTEO *e*sP sP 03 41 41.0 +0.6
PTEO Sao Teotonio 59.35 299 *eP* **P** **03 41 19.2 -0.9**
PLOU Loures 59.40 301 *eP* **P** **03 41 20.0 -0.5**
comp=Z,294nm,2.2s,mb5.9
PLOU *e*pP pP 03 41 35.1 +0.3
PLOU *e*sP sP 03 41 41.1 +0.3
LIS Lisbon 59.43 301 *eP* **P** **03 41 18.4 -2.3**
LIS AMb AMB 03 41 22.8
comp=Z,326nm,1.1s,mb6.3
LIS *e*S **S** **03 49 25.6 +1.5**
LIS *e*S **S** **03 49 25.7 +1.5**
LIS AMS AMS 04 12 24.8
comp=E,2μm,23.6s
LIS Lisbon 59.43 301 *eP* **P** **03 41 18.4 -2.3**
comp=E,326nm,1.1s,mb6.3
LIS *e*S **S** **03 49 25.6 +1.4**
OUK Oukaimeden 60.16 292 *i* P **P** **03 41 26.0 +0.2**
CIA Chichaoua 60.80 293 *i* P **P** **03 41 29.0 -1.1**
JHA Jbel Lahdid 61.32 293 *i* P **P** **03 41 34.0 +0.3**
AOF Agadir Oufela 61.77 292 *i* P **P** **03 41 37.0 +0.3**
CGR Cap Guir 61.98 292 *i* P **P** **03 41 36.0 -2.1**
LBTB Lobatse 62.52 217 P **P** **03 41 42.6 +0.8**
LBTB pP pP 03 41 57.2 +1.0
LBTB S **S** **03 50 07.1 +3.5**
LBTB Lobatse 62.52 217 *eP* **P** **03 41 42.4 +0.6**
LBTB pmax pmax
comp=Z,220nm,1.1s,mb6.2
LBTB MLR MLR
comp=Z,2μm,22.0s,MS5.2
LBTB Lobatse 62.52 217 *eP* **P** **03 41 42.4 +0.6**
comp=Z,220nm,1.1s,mb6.2
LBTB *e*pP pP 03 41 56.9 +0.7
LBTB LR LR
comp=Z,2μm,22.0s,MS5.2
LBTB Lobatse 62.52 217 *eP* **P** **03 41 42.4 +0.6**
comp=Z,220nm,1.1s,mb6.2
BUKP Musuan 62.58 95 *eP* **P** **03 41 41.0 -1.3**
SCO Scoresbysund 62.70 338 *i* P **P** **03 41 42.8 +0.4**
SCO *i* S **S** **03 50 10.4 +5.1**
SCO pmax pmax
comp=Z,79nm,1.0s,mb5.8
SCO Scoresbysund 62.70 338 *i* P **P** **03 41 42.8 +0.4**
comp=Z,79nm,1.0s,mb5.8
SCO *i* pP pP 03 41 57.9 +1.1
SCO *e* pP 03 42 01.9 +5.1
SCO *i* S **S** **03 50 10.4 +5.1**
TSUM Tsumeb 62.95 228 *eP* **P** **03 41 45.2 +0.5**
comp=Z,114nm,1.1s,mb5.9
TSUM *e*pP pP 03 41 59.7 +0.6
TSUM Tsumeb 62.95 228 *eP* **P** **03 41 45.2 +0.5**
comp=Z,113nm,1.1s,mb5.9
BORG Borgarnes 62.99 331 P **P** **03 41 46.1 +1.7**
comp=Z,94nm,0.9s,mb5.9,baz=98,slow=7.1,SNR=8.5
BORG pP pP 03 41 58.3 -0.5
comp=Z,134nm,1.1s,baz=88,slow=5.1,SNR=5.3
BORG sP sP 03 42 04.2 -0.5
comp=Z,177nm,1.0s,baz=85,slow=4.7,SNR=6.8
MAJO Matsushiro 63.99 61 *eP* **P** **03 41 50.4 -0.9**
MAJO pmax pmax
comp=Z,77nm,0.9s,mb5.7
MAJO Matsushiro 63.99 61 *eP* **P** **03 41 50.4 -0.9**
comp=Z,77nm,0.9s,mb5.7
MAJO Matsushiro 63.99 61 *eP* **P** **03 41 50.4 -0.9**
comp=Z,77nm,0.9s,mb5.7
MAT Matsushiro 63.99 61 *eP* **P** **03 41 50.0 -1.3**
MAT *e*S **S** **03 50 31.0 +9.1**
MAT pmax pmax
comp=Z,114nm,1.1s,mb5.8
MAT Matsushiro 63.99 61 *eP* **P** **03 41 50.0 -1.3**
comp=Z,114nm,1.1s,mb5.8
MAT *e*S **S** **03 50 31.0 +9.1**
MAT Matsushiro 63.99 61 P **P** **03 41 50.4 -0.9**
MAT S **S** **03 50 22.6 +0.7**
YSS Yuzh-Sakhalins 64.72 48⇓ *iP* **P** **03 41 55.1 -0.7**
YSS *e* 03 42 26.0
YSS *e*S **S** **03 50 30.0 -0.7**
YSS *e*PPS PPS 03 50 55.0 -13
YSS pmax pmax
comp=Z,270nm,1.2s,mb6.2
YSS MLR MLR
comp=E,4μm,21.0s
YSS MLR MLR
comp=Z,4μm,21.0s,MS5.5
YSS Yuzh-Sakhalins 64.72 48⇓ *iP* **P** **03 41 55.1 -0.7**
comp=Z,270nm,1.2s,mb6.2
YSS *e* 03 42 26.0
YSS *e*S **S** **03 50 30.0 -0.7**
YSS *e*PPS PPS 03 50 55.0 -13
YSS LR LR
comp=Z,4μm,21.0s,MS5.5
ASAJ Asahikawa 65.29 51 LR LR 04 13 54.6
comp=Z,2μm,18.6s,MS5.3,baz=319,slow=39
BOSA Boshof 65.59 215 P **P** **03 42 02.0 +0.2**
BOSA pP pP 03 42 16.4 0.0
BOSA S S 03 50 41.3 -0.4
BOSA Boshof 65.59 215 *eP* **P** **03 42 02.1 +0.3**
BOSA pmax pmax
comp=Z,176nm,0.9s,mb6.1
BOSA Boshof 65.59 215 *eP* **P** **03 42 02.1 +0.3**
comp=Z,176nm,0.9s,mb6.1
BOSA *e*pP pP 03 42 16.3 -0.1
BOSA Boshof 65.59 215 *eP* **P** **03 42 02.1 +0.3**
comp=Z,176nm,0.9s,mb6.1
CFTV Fuerteventura 66.14 291 P **P** **03 42 05.2 -0.1**
comp=Z,26nm,0.9s,mb5.3
CFTV Fuerteventura 66.14 291 P **P** **03 42 05.2 -0.1**
comp=Z,26nm,0.9s,mb5.3
JHJ Hachijo jima 2 66.21 64 LR LR 04 14 35.8
comp=Z,2μm,18.9s,MS5.4,baz=310,slow=39
DBIC Dimbokro 66.32 265 P **P** **03 42 06.8 +0.2**
DBIC *e*pP pP 03 42 21.3 +0.1
DBIC S S 03 50 51.8 +1.1
DBIC Dimbokro 66.32 265 *eP* **P** **03 42 06.3 -0.3**
DBIC pmax pmax
comp=Z,280nm,1.0s
DBIC Dimbokro 66.32 265 P **P** **03 42 06.8 +0.2**
comp=Z,221nm,0.9s,mb6.2,baz=45,slow=7.7,SNR=82
DBIC pP pP 03 42 21.4 +0.2
comp=Z,58nm,0.9s,baz=49,slow=8.6,SNR=5.3
DBIC LR LR 04 14 53.0
comp=Z,2μm,18.5s,MS5.4,baz=41,slow=39
DBIC Dimbokro 66.32 265 *eP* **P** **03 42 06.3 -0.3**
comp=Z,280nm,1.0s,mb6.2
DBIC *e*pP pP 03 42 20.9 -0.3
DBIC Dimbokro 66.32 265 *eP* **P** **03 42 06.3 -0.3**
comp=Z,280nm,1.0s,mb6.2
SEY Seymchan 66.47 30 *i* P **P** **03 42 09.9 +3.2**
SEY *SP sP 03 42 32.1 +5.1
SEY *e*PPP PPP 03 46 09.0 -2.6
SEY *e*S S 03 50 53.6 +1.9
SEY *SS 03 51 20.8
SEY pmax pmax
comp=E,200nm,0.7s
SEY pmax pmax
comp=Z,350nm,0.7s,mb6.5
SEY smax
comp=N,4μm,7.9s
SEY smax
comp=E,3μm,10.9s
SEY MLR MLR
comp=Z,52μm,22.0s
SEY MLR MLR
comp=N,7μm,20.0s,MS6.5
SEY MLR MLR
comp=E,31μm,23.0s,MS6.5
MA2 Magadan 66.50 34 *eP* **P** **03 42 07.2 +0.2**
MA2 pmax pmax
comp=Z,364nm,1.5s,mb6.2
MA2 MLR MLR
comp=Z,5μm,19.0s,MS5.8
MA2 Magadan 66.50 34 *eP* **P** **03 42 07.2 +0.2**
comp=Z,364nm,1.5s,mb6.2
MA2 LR LR
comp=Z,5μm,19.0s,MS5.8
MA2 Magadan 66.50 34 *eP* **P** **03 42 07.2 +0.2**
comp=Z,364nm,1.5s,mb6.2
SUMG Summit 67.45 341 *eP* **P** **03 42 13.6 +0.8**
comp=Z,750nm,1.4s,mb6.5
SUMG *e*pP pP 03 42 28.3 +0.9
EOSO Osorio 67.47 291 P **P** **03 42 13.3 -0.3**
comp=Z,5.6nm,0.5s,mb4.8
EOSO Osorio 67.47 291 P **P** **03 42 13.4 -0.3**
comp=Z,5.6nm,0.5s,mb4.8
ALE Alert 67.48 353 P **P** **03 42 13.0 +0.1**
comp=Z,3μm,1.2s
CCAN Las Canadas 68.30 291 P **P** **03 42 19.1 +0.3**
comp=Z,1.6nm,0.6s
CCAN Las Canadas 68.30 291 P **P** **03 42 19.1 +0.3**
comp=Z,1.6nm,0.6s
EGOM La Gomera 68.82 292 P **P** **03 42 21.7 -0.3**
comp=Z,4.6nm,0.5s
EGOM La Gomera 68.82 292 P **P** **03 42 21.7 -0.4**
comp=Z,4.6nm,0.5s
CBIJ Chichi jima 70.16 69 LR LR 04 15 36.6
comp=Z,759nm,19.9s,MS5.0,baz=27,slow=38
BILL Bilibino 70.34 23 *d iP* **P** **03 42 31.6 +0.9**
BILL *e* 03 42 52.8
BILL *e* 03 45 06.4
BILL *i* SS SS 03 56 20.2 +9.5
BILL pmax pmax
comp=Z,348nm,1.5s,mb6.1
BILL MLR MLR
comp=Z,3μm,15.0s,MS5.7
BILL Bilibino 70.34 23 *i* Pr 03 42 31.6
comp=Z,348nm,1.5s
BILL *e* 03 42 52.8
BILL *e* 03 45 06.4
BILL *i* SS SS 03 56 20.2 +9.5
BILL LR LR
comp=Z,3μm,15.0s,MS5.7
SUR Sutherland 70.90 216 P **P** **03 42 36.5 +1.8**
comp=Z,303nm,0.9s,mb6.2,SNR=8.1
SUR Sutherland 70.90 216 *eP* **P** **03 42 36.2 +1.5**
comp=Z,69nm,1.1s,mb5.5
SUR *e*pP pP 03 42 50.2 +0.8
SUR LR LR
comp=Z,515nm,19.0s,MS4.8
SUR Sutherland 70.90 216 *eP* **P** **03 42 36.2 +1.5**
comp=Z,69nm,1.1s,mb5.5
PDA Ponta Delgada 72.18 304 *erx* 04 09 31.0
PET Petropavlovsk 72.69 39 *eP* **P** **03 42 45.2 +0.3**
PET *e*PPP PPP 03 47 15.3 +3.5
PET *e*S S 03 52 10.4 +5.5
PET *e**SS 03 52 36.2
PET *e*SS SS 03 56 58.6 +11
PET *e*SSS SSS 04 00 06.5 +9.2
PET pmax pmax
comp=Z,37nm,0.6s,mb5.5
PET pmax pmax
comp=Z,400nm,16.3s
PET MLR MLR
comp=Z,5μm,21.0s,MS5.8
PET Petropavlovsk 72.69 39 PFAKE 03 43 00.0 +15
PET LR LR
comp=Z,6μm,21.0s,MS5.8
SFJ Sondre 73.61 338 *eP* **P** **03 42 49.1 -0.9**
comp=Z,27nm,0.9s,mb5.2
SFJ *e*pP pP 03 43 04.9 +0.2
SFJ LR LR
comp=Z,6μm,21.0s,MS5.9
SFJD Kangerlussuaq 73.61 338⇓ *iP* **P** **03 42 49.7 -0.3**
comp=Z,63nm,1.0s,mb5.5
SFJD *i* pP 03 43 05.3 +0.5
SFJD *i* 03 52 46.2
comp=Z,6μm,21.0s
MBWA Marble Bar 73.70 125 *eP* **P** **03 42 51.0 -0.5**
comp=Z,63nm,1.0s,mb5.5
MBWA LR LR
comp=Z,4μm,20.0s,MS5.7
MBWA Marble Bar 73.70 125 *eP* **P** **03 42 51.0 -0.5**
comp=Z,63nm,1.0s,mb5.5
FITZ Fitzroy Crossi 76.38 119 *eP* **P** **03 43 06.3 -0.6**
comp=Z,66nm,0.9s,mb5.6
FITZ *i* pP pP 03 43 21.7 0.0
RES Resolute Bay 77.36 354 *eP* **P** **03 43 11.7 +0.4**
RES *e*PP pP 03 43 26.8 +0.7
RES pmax pmax
comp=Z,65nm,1.1s,mb5.5
RES Resolute Bay 77.36 354 *eP* **P** **03 43 11.7 +0.4**
comp=Z,65nm,1.1s,mb5.5
RES *e*pP pP 03 43 26.8 +0.7
RES Resolute Bay 77.36 354 *eP* **P** **03 43 11.7 +0.4**
comp=Z,65nm,1.1s,mb5.5
MUN Mundaring 78.26 135 *eP* **P** **03 43 16.2 -0.9**
comp=Z,39nm,1.2s,mb5.2
MUN *i* pP pP 03 43 31.3 -0.6
MUN Mundaring 78.26 135 *eP* **P** **03 43 16.2 -0.9**
MUN *i **PP pP 03 43 31.3 -0.6
MUN pmax pmax
comp=Z,39nm,1.2s,mb5.2
KAKA Kakadu 79.00 110⇑ *iP* **P** **03 43 22.0 +0.6**
comp=Z,158nm,0.9s,mb5.9
KAKA *i* pP pP 03 43 36.2 -0.1
NWAO Narrogin (SRO) 79.54 135 *eP* **P** **03 43 23.6 -0.5**
NWAO *e**PP pP 03 43 37.7 -1.2
NWAO pmax pmax
comp=Z,200nm,1.2s
NWAO Narrogin (SRO) 79.54 135 *eP* **P** **03 43 23.6 -0.5**
comp=Z,200nm,1.2s,mb5.9
NWAO *e*pP pP 03 43 37.7 -1.2
NWAO Narrogin (SRO) 79.54 135 *eP* **P** **03 43 23.6 -0.5**
comp=Z,200nm,1.2s,mb5.9
FX1 Attu Island--F 80.54 35 *eP* **P** **03 43 30.5 +1.5**
FX1 *e*pP pP 03 43 45.1 +1.2
FX1 Attu Island--F 80.54 35 *eP* **P** **03 43 30.5 +1.5**
FRB Frobisher Bay 81.47 340 P **P** **03 43 33.9 +0.3**
FRB 03 46 36.8
FRB Frobisher Bay 81.47 340 P **P** **03 43 33.9 +0.3**
comp=Z,80nm,0.9s,mb5.6,baz=40,slow=4.8,SNR=77
FRB *e*pP pP 03 43 49.3 +0.7
comp=Z,71nm,0.8s,baz=30,slow=3.8,SNR=7.4
FRB PP PP 03 46 36.8 -5.3
comp=Z,64nm,1.3s,baz=40,slow=7.5,SNR=3.2
FRB Frobisher Bay 81.47 340 P **P** **03 43 33.9 +0.3**
FRB *e*pP pP 03 43 49.3 +0.7
FRB *e*PP PP 03 46 36.8 -5.3
IMA Indian Mountai 83.24 14 *eP* **P** **03 43 44.7 +2.0**
IMA pmax pmax
comp=Z,132nm,0.8s,mb6.0
IMA Indian Mountai 83.24 14 *eP* **P** **03 43 44.7 +2.0**
comp=Z,132nm,0.8s,mb6.0
INK Inuvik 84.21 6⇓ *eP* **P** **03 43 48.7 +1.3**
INK pmax pmax
comp=Z,56nm,1.2s
INK Inuvik 84.21 6 P **P** **03 43 48.7 +1.2**

comp=Z,68nm,0.8s,mb5.8,baz=4.3,slow=7.4,SNR=234
INK pP pP 03 44 04.3 +1.9
comp=Z,67nm,1.0s,baz=345,slow=6.9,SNR=8.7
INK LR LR 04 27 14.2
comp=Z,3μm,21.7s,MS5.7,baz=0.5,slow=40
INK Inuvik 84.21 6⇓*eP* P 03 43 48.7 +1.2
comp=Z,56nm,1.2s,mb5.6
INK epP pP 03 44 03.8 +1.3
INK Inuvik 84.21 6⇓*eP* P 03 43 48.7 +1.3
comp=Z,56nm,1.2s,mb5.6
WRA Warramunga Arr 84.28 116 P P **03 43 49.2 +0.3**
comp=Z,40nm,0.7s,mb5.7,baz=311,slow=4.3,SNR=161
WRA pP pP 03 44 03.3 -0.6
comp=Z,67nm,1.0s,baz=310,slow=4.3,SNR=27
WRA sP sP 03 44 09.8 +0.3
comp=Z,76nm,0.9s,baz=313,slow=4.4,SNR=6.5
WRA PKKPbc 04 02 02.3
comp=Z,5.0nm,1.1s,baz=125,slow=1.7,SNR=11
WRA PKPPKP 04 10 08.0
comp=Z,3.8nm,1.1s,baz=133,slow=1.9,SNR=6.1
WRAB Tennant Creek 84.29 116 P P **03 43 49.0 +0.1**
comp=Z,594nm,0.8s,mb6.8,SNR=28
WRAB Tennant Creek 84.29 116 *eP* P **03 43 48.6 -0.3**
WRAB pmax pmax
comp=Z,330nm,1.0s,mb6.4
WRAB MLR MLR
comp=Z,818nm,21.0s,MS5.1
WRAB Tennant Creek 84.29 116 *eP* P **03 43 48.6 -0.3**
comp=Z,330nm,1.0s,mb6.4
WRAB epP pP 03 44 03.6 -0.4
WRAB LR LR
comp=Z,580nm,21.0s,MS4.9
WRAB Tennant Creek 84.29 116 *eP* P **03 43 48.6 -0.3**
comp=Z,330nm,1.0s,mb6.4
WB2 Warramunga Arr 84.29 116⇓*iP* P **03 43 49.1 +0.1**
WB2 epP pP 03 44 03.9 -0.1
FORT Forrest 85.43 128 *eP* P **03 43 54.7 +0.3**
comp=Z,1μm,1.0s
FORT epP pP 03 44 09.9 +0.4
COLA College 85.47 12 P P **03 43 55.2 +1.5**
COLA pP pP 03 44 11.7 +2.9
COLA College 85.47 12 P P **03 43 54.9 +1.2**
COLA pmax pmax
comp=Z,180nm,1.2s,mb6.1
COLA College 85.47 12 *eP* P **03 43 55.1 +1.4**
comp=Z,491nm,1.9s,mb6.3
ILAR Eielson Array 85.74 12 P P **03 43 55.6 +0.5**
ILAR 03 47 15.1
ILAR Eielson Array 85.74 12 P P **03 43 55.5 +0.5**
comp=Z,20nm,0.9s,mb5.3,baz=332,slow=4.0,SNR=138
ILAR pP pP 03 44 10.8 +0.6
comp=Z,45nm,1.1s,baz=325,slow=4.8,SNR=10
ILAR PP PP 03 47 15.1 -1.1
comp=Z,35nm,1.2s,baz=329,slow=7.5,SNR=8.8
ILAR PKKPbc 04 01 58.0
comp=Z,1.4nm,0.7s,baz=185,slow=1.9,SNR=17
ILAR PKPPKP 04 10 03.0
comp=Z,1.1nm,1.0s,baz=202,slow=3.6,SNR=5.7
ILAR LR LR 04 28 06.5
comp=Z,2μm,21.1s,MS5.5,baz=350,slow=40
ILAR Eielson Array 85.74 12 P P **03 43 55.5 +0.4**
ASPA Alice Springs 85.88 119⇓*iP* P **03 43 57.0 +0.3**
ASPA epP pP 03 44 12.0 +0.2
ASAR Alice Springs 85.88 119 P P **03 43 57.1 +0.4**
comp=Z,35nm,0.7s,mb5.7,baz=307,slow=4.8,SNR=244
ASAR pP pP 03 44 11.6 -0.3
comp=Z,81nm,0.8s,baz=301,slow=4.9,SNR=31
ASAR sP sP 03 44 18.3 +1.0
comp=Z,65nm,0.9s,baz=302,slow=5.0,SNR=8.7
ASAR PKKPbc 04 01 58.6
comp=Z,2.5nm,0.7s,baz=121,slow=2.9,SNR=17
ASAR PKPPKP 04 10 08.9
comp=Z,2.3nm,1.2s,baz=154,slow=3.6,SNR=4.4
ASAR LR LR 04 24 17.7
comp=Z,985nm,21.1s,MS5.2,baz=309,slow=37
SVW2 Sparrevohn 87.01 17 *eP* P **03 44 03.5 +2.1**
THY Trims Highway 87.18 12 *eP* P **03 44 03.0 +0.9**
THY epP pP 03 44 18.7 +1.4
THY Trims Highway 87.18 12 *eP* P **03 44 03.0 +0.8**
SCHQ Schefferville 87.33 333 P P **03 44 04.1 +1.0**
comp=Z,11nm,1.0s,mb5.0,baz=46,slow=6.5,SNR=17
SCHQ pP pP 03 44 19.6 +1.4
comp=Z,5.7nm,0.9s,baz=37,slow=7.2,SNR=9.4
SCHQ PP PP 03 47 27.7 -2.5
comp=Z,14nm,0.9s,baz=21,slow=9.5,SNR=4.0
SCHQ LR LR 04 25 13.4
comp=Z,2μm,21.2s,MS5.5,baz=65,slow=37
DAWY Dawson 87.62 9⇓*iP* P **03 44 05.8 +1.5**
DAWY epP pP 03 44 20.9 +1.5
DAWY Dawson 87.62 9⇓*iP* P **03 44 05.8 +1.5**
MENT Mentasta 87.99 11 *eP* P **03 44 07.9 +1.8**
PMR Palmer 88.14 14 *eP* P **03 44 08.2 +1.4**
PMR pmax pmax
comp=Z,347nm,1.4s,mb6.4
PMR Palmer 88.14 14 *eP* P **03 44 08.2 +1.4**
comp=Z,347nm,1.4s,mb6.4
SLKM Skilak Lake 88.86 15 *eP* P **03 44 11.5 +1.2**
SLKM epP pP 03 44 25.3 -0.1
SLKM Skilak Lake 88.86 15 *eP* P **03 44 11.5 +1.3**
DIV Divide 89.27 13 *eP* P **03 44 14.3 +2.2**
comp=Z,180nm,1.0s,mb6.4
DIV Divide 89.27 13 *eP* P **03 44 14.3 +2.1**
comp=Z,180nm,1.0s,mb6.4
EYAK Cordova Ski Ar 89.80 13 *eP* P **03 44 16.8 +2.1**
EYAK epP pP 03 44 30.6 +0.7
PMG Port Moresby 90.04 100 *eP* P **03 44 17.7 +0.8**
PMG pmax pmax
comp=Z,23nm,0.8s
PMG MLR MLR
comp=Z,759nm,21.0s
PMG Port Moresby 90.04 100 LR LR 04 31 23.1
comp=Z,546nm,18.3s,MS5.0,baz=118,slow=40
PMG Port Moresby 90.04 100 *eP* P **03 44 17.7 +0.8**
comp=Z,23nm,0.8s,mb5.6
PMG epP pP 03 44 32.0 -0.1
PMG LR LR
comp=Z,759nm,21.0s,MS5.1
PMG Port Moresby 90.04 100 *eP* P **03 44 17.7 +0.8**
comp=Z,23nm,0.8s,mb5.6
YKW3 Yellowknife Ar 90.63 358 *eP* P **03 44 19.7 +1.2**
YKW3 epP pP 03 44 34.8 +1.0
YKW3 Yellowknife Ar 90.63 358 *eP* P **03 44 19.7 +1.2**
KDAK Kodiak Island 90.65 18 *eP* P **03 44 20.4 +1.7**
comp=Z,288nm,1.4s,mb6.4
KDAK epP pP 03 44 35.4 +1.5
KDAK Kodiak Island 90.65 18 *eP* P **03 44 20.4 +1.7**
comp=Z,288nm,1.4s,mb6.4
YKA Yellowknife Ar 90.69 358 P P **03 44 20.1 +1.3**
YKA 03 47 52.1
YKA Yellowknife Ar 90.69 358 P P **03 44 20.0 +1.2**
comp=Z,28nm,0.9s,mb5.6,baz=353,slow=5.0,SNR=324
YKA pP pP 03 44 35.1 +1.1
comp=Z,34nm,1.0s,baz=0.4,slow=5.3,SNR=8.3
YKA PP PP 03 47 52.1 -4.9
comp=Z,2.8nm,0.9s,baz=10,slow=7.7,SNR=2.8
YKA PKKPbc 04 01 45.4
comp=Z,1.1nm,0.6s,baz=174,slow=2.4,SNR=25
YKA PKPPKP 04 09 58.9
comp=Z,1.0nm,1.1s,baz=156,slow=0.8,SNR=3.9
YKA LR LR 04 30 29.4
comp=Z,1μm,19.7s,MS5.4,baz=10.0,slow=39
FCC Fort Churchill 92.17 348 *eP* P **03 44 26.7 +0.9**
FCC pmax pmax
comp=Z,67nm,0.6s,mb6.2
FCC Fort Churchill 92.17 348 *eP* P **03 44 26.7 +0.9**
comp=Z,67nm,0.6s,mb6.2
FCC epP pP 03 44 40.9 -0.1
FCC Fort Churchill 92.17 348 *eP* P **03 44 26.7 +0.9**
comp=Z,67nm,0.6s,mb6.2
CTA Charters Tower 94.14 110 *eP* P **03 44 35.6 0.0**
comp=Z,14nm,0.8s,mb5.4
CTA epP pP 03 44 50.8 0.0
CTA Charters Tower 94.14 110 *eP* P **03 44 35.6 0.0**
CTA pmax pmax
comp=Z,14nm,0.8s
CTA Charters Tower 94.14 110 LR LR 04 29 33.9
comp=Z,2μm,20.7s,MS5.5,baz=298,slow=37
CTAO Charters Tower 94.14 110 *eP* P **03 44 36.0 +0.4**
CTAO pmax pmax
comp=Z,53nm,1.3s,mb5.8
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.5
CTAO Charters Tower 94.14 110 *eP* P **03 44 36.0 +0.4**
comp=Z,54nm,1.3s,mb5.8
CTAO LR LR
comp=Z,2μm,22.0s,MS5.5
CTAO Charters Tower 94.14 110 *eP* P **03 44 36.0 +0.4**
comp=Z,54nm,1.3s,mb5.8
DLBC Dease Lake 94.23 6 P P **03 44 37.3 +2.2**
comp=Z,30nm,1.1s,mb5.6,baz=343,slow=5.8,SNR=38
DLBC pP pP 03 44 52.4 +2.0
comp=Z,30nm,1.0s,baz=3.2,slow=4.9,SNR=15
DLBC LR LR 04 32 58.4
comp=Z,3μm,22.0s,MS5.7,baz=344,slow=39
MAW Mawson 94.40 180 pP pP 03 44 51.2 +0.3
comp=Z,53nm,1.0s,baz=24,slow=6.9,SNR=3.6
MAW LR LR 04 18 18.1
comp=Z,1μm,21.2s,MS5.3,baz=357,slow=30
STKA Stephens Creek 95.87 123 P P **03 44 43.4 +0.2**
comp=Z,7.8nm,0.9s,mb5.1,baz=314,slow=5.8,SNR=14
STKA pP pP 03 44 58.1 -0.4
comp=Z,13nm,0.9s,baz=333,slow=5.8,SNR=12
STKA PP PP 03 48 37.6 -0.4
comp=Z,3.8nm,1.1s,baz=265,slow=9.9,SNR=3.5
STKA PKKPbc 04 01 33.8
comp=Z,7.5nm,1.1s,baz=178,slow=0.4,SNR=7.5
STKA LR LR 04 26 45.9
comp=Z,2μm,21.2s,MS5.6,baz=288,slow=35
STKA Stephens Creek 95.87 123 *eP* P **03 44 42.8 -0.5**
STKA *ep*P pP 03 44 57.1 -1.4
STKA Stephens Creek 95.87 123 *eP* P **03 44 42.8 -0.4**
FFC Flin Flon 97.35 351 P P **03 44 50.8 +1.4**
comp=Z,160nm,1.0s,mb6.4,SNR=15
EDM Edmonton 99.93 357 *eP* P **03 45 01.7 +0.5**
CASY Casey 100.12 162 PFAKE 03 45 10.0 +8.3
CASY LR LR
comp=Z,2μm,19.0s,MS5.6
SADO Sadowa 100.14 333 PP PP 03 49 06.0 -4.9
comp=Z,30nm,1.2s,baz=33,slow=9.2,SNR=4.6
ULM Lac du Bonnet 100.53 346 P P 03 45 03.9 -0.1
comp=Z,2.7nm,0.7s,baz=10,slow=4.6,SNR=7.6
ULM pP 03 45 19.3
comp=Z,4.7nm,0.9s,baz=348,slow=6.5,SNR=4.8
ULM PP PP 03 49 08.2 -5.6
comp=Z,7.6nm,1.1s,baz=26,slow=9.0,SNR=3.7
ULM Lac du Bonnet 100.53 346 P P 03 45 03.9 -0.1
ULM pP 03 45 19.3
ULM PP PP 03 49 08.2 -5.6
HNR Honiara 101.35 95 PFAKE 03 45 20.0 +12
HNR LR LR
comp=Z,1μm,22.0s,MS5.4
SSPA Standing Stone 102.97 330 PFAKE 03 45 30.0 +15
SSPA LR LR
comp=Z,787nm,22.0s,MS5.2
TAU Tasmania Unive 104.77 131 PFAKE 03 45 30.0 +7.1
TAU LR LR
comp=Z,364nm,21.0s,MS4.9
NEW Newport 105.00 359 PKKPbc 04 01 06.9
comp=Z,1.5nm,0.6s,baz=219,slow=7.5,SNR=5.5
CHMT Chamberlain Mo 106.22 357 *e*Pdif Pdif 03 45 30.7 +1.5
MSO Missoula 106.34 357 PKiKP 03 49 42.3
SNAA Sanae 108.01 198⇑*i*PKPdf 03 49 43.6
SNAA *e* 03 49 59.5
BMO Blue Mountains 108.41 359 PKIKP 03 49 47.5
BMO Blue Mountains 108.41 359 *e*PKiKP 03 49 43.9
COR Corvallis 108.52 4 PFAKE 03 50 00.0
COR LR LR
comp=Z,555nm,21.0s,MS5.1
WCI Wyandotte Cave 108.52 334 PFAKE 03 50 00.0
WCI LR LR
comp=Z,740nm,21.0s,MS5.2
VNA2 Neumayer--Watz 108.91 199⇑*i*PKPdf 03 49 45.5
VNA2 *e* 03 50 01.7
VNA2 *e* 03 50 06.6
VNA2 *e* 03 50 14.4
VNA1 Neumayer--Stat 109.03 199 PKPdf 03 49 44.7
VNA1 *e* 03 49 59.6
VNA1 *e* 03 50 04.7
VNA1 *e* 03 50 11.4
VNA3 Neumayer Olymp 109.72 199⇑*i*PKPdf 03 49 46.7
VNA3 *e* 03 50 02.7
VNA3 *e* 03 50 07.8
VNA3 *e* 03 50 15.3
DRV Dumont d'Urvil 110.01 155 Pdif Pdif 03 45 55.0 +10
PDAR Pinedale Array 110.05 353 PKiKP 03 49 48.9
comp=Z,3.3nm,0.7s,baz=57,slow=2.8,SNR=14
PDAR PP PP 03 50 22.6 -2.7
comp=Z,11nm,1.1s,slow=1.5,SNR=11
PDAR PKKPbc 04 00 51.3
comp=Z,0.9nm,0.7s,baz=163,slow=4.7,SNR=7.1
CCM Cathedral Cave 110.48 338 PFAKE 03 50 00.0 +13
CCM LR LR
comp=Z,936nm,19.0s,MS5.4
HUMO Hull Mountain 110.51 4 PFAKE 03 50 00.0 +13
HUMO LR LR
comp=Z,4μm,22.0s,MS5.9
MOD Modoc 111.33 2 PFAKE 03 50 00.0 +11
MOD LR LR
comp=Z,3μm,21.0s,MS5.9
GOGA Godfrey 111.44 329 PFAKE 03 50 00.0 +11
GOGA LR LR
comp=Z,2μm,21.0s,MS5.7
SJG San Juan 112.50 306 PFAKE 03 50 00.0 +8.2
SJG LR LR
comp=Z,822nm,20.0s,MS5.3
BMN Battle Mountai 112.83 359 PKIKP PKPdf 03 49 56.9 +4.9
HOPS Hopland 114.10 4 PFAKE 03 50 10.0 +15
HOPS LR LR
comp=Z,3μm,20.0s,MS6.0
MIAR Mount Ida 114.45 338 PFAKE 03 50 10.0 +15
MIAR LR LR
comp=Z,3μm,22.0s,MS5.9
BDFB Brasilia 114.45 264 PKP PKPdf 03 49 56.6 +0.9
comp=Z,1.1nm,0.7s,baz=135,slow=1.4,SNR=3.2
BDFB PP PP 03 50 50.2 -7.4
comp=Z,5.9nm,1.1s,baz=75,slow=5.8,SNR=5.0
PV01 Paradox Valley 114.51 352 *e*PKiKP 03 49 57.6
DWPF Disney 114.80 324 PFAKE 03 50 10.0 +14
DWPF LR LR
comp=Z,530nm,22.0s,MS5.1
MNV Mina 114.83 0 *e*PKIKP PKPdf 03 49 59.5 +3.5
NVAR Mina Array Bea 114.83 0 PKP PKPdf 03 49 59.5 +3.4
comp=Z,11nm,0.7s,baz=52,slow=1.7,SNR=60
NVAR pPKP 03 50 13.5
comp=Z,8.5nm,0.8s,baz=39,slow=1.8,SNR=5.8
NVAR PKKPbc 04 00 36.9
comp=Z,2.2nm,0.9s,baz=169,slow=5.2,SNR=10
NVAR Mina Array Bea 114.83 0 PKP PKPdf 03 49 59.5 +3.4
NVAR pPKP 03 50 13.5
NVAR PKKPbc 04 00 36.9
CMB Columbia Colle 115.19 2 PFAKE 03 50 10.0 +13
CMB LR LR
comp=Z,2μm,20.0s,MS5.8
WMOK Wichita Mounta 115.85 342 PFAKE 03 50 10.0 +12
WMOK LR LR
comp=Z,4μm,22.0s,MS6.0
SAO San Andreas Ge 116.42 3 PFAKE 03 50 10.0 +11
SAO LR LR
comp=Z,2μm,22.0s,MS5.6
QSPA South Pole Qui 116.92 180⇓*iP* PKPdf 03 50 01.0 +1.9
ANMO Albuquerque 117.33 349 PKP PKPdf 03 50 02.4 +1.5
comp=Z,2.6nm,0.8s,baz=330,slow=2.6,SNR=7.7
ANMO PP PP 03 51 09.8 -7.6
comp=Z,4.3nm,1.0s,baz=25,slow=5.5,SNR=4.4
ANMO Albuquerque 117.33 349 PKP PKPdf 03 50 02.4 +1.5
ANMO PP PP 03 51 09.8 -7.6
ANMO LR LR
comp=Z,2μm,19.0s,MS5.8
LDFC Landfair 118.11 357 *e*PKPdf PKPdf 03 50 05.4 +3.1
LENM Lemitar 118.18 350 PKPdf PKPdf 03 50 04.2 +1.7
VNDA Vanda 118.39 166 PKP PKPdf 03 50 02.7 +0.7
comp=Z,2.2nm,0.9s,slow=1.0,SNR=9.1
VNDA PKKPbc 04 00 23.7
comp=Z,4.0nm,1.0s,baz=91,slow=1.9,SNR=7.4
VNDA Vanda 118.39 166 PKP PKPdf 03 50 02.7 +0.7
VNDA PKKPbc 04 00 23.7
SBA Scott Base 119.41 166 PFAKE 03 50 20.0 +16
SBA LR LR
comp=Z,3μm,20.0s,MS5.8
HKT Hockley 119.42 338 PFAKE 03 50 20.0 +15
HKT LR LR
comp=Z,795nm,20.0s,MS5.3
PFO Pinyon Flat Ob 119.62 358 PFAKE 03 50 20.0 +15
PFO LR LR
comp=Z,639nm,20.0s,MS5.2
JCT Junction City 120.15 342 *e*PKIKP PKPdf 03 50 08.6 +2.1
JCT MLR MLR
comp=Z,3μm,20.0s,MS5.9
JCT Junction City 120.15 342 *e*PKPdf PKPdf 03 50 08.6 +2.1
JCT *ep*PKPdf 03 50 24.0
JCT LR LR
comp=Z,3μm,20.0s,MS5.9
TUC Tucson 120.53 353 *e*PKPdf PKPdf 03 50 10.0 +2.8
TUC *ep*PKPdf 03 50 25.5
TUC LR LR
comp=Z,2μm,22.0s,MS5.8
BAR Barrett 120.55 359 *e*PKPdf PKPdf 03 50 10.6 +3.3
SDV Santo Domingo 121.75 301 PKP PKPdf 03 50 11.7 +1.8
comp=Z,6.7nm,0.6s,baz=59,slow=2.9,SNR=17
SDV PKKPbc 04 00 10.4
comp=Z,5.6nm,1.1s,baz=282,slow=7.2,SNR=4.9
SDV Santo Domingo 121.75 301 PKP PKPdf 03 50 11.8 +1.9
SDV PKKPbc 04 00 10.4
SDV LR LR
comp=Z,651nm,22.0s,MS5.2
LTX Lajitas 122.22 345 *e*PKPdf PKPdf 03 50 13.3 +2.8
TXAR Lajitas Array 122.22 345 PKP PKPdf 03 50 13.1 +2.5
comp=Z,12nm,0.6s,baz=176,slow=1.7,SNR=127
TXAR pPKP 03 50 28.4
comp=Z,5.8nm,0.7s,baz=27,slow=2.8,SNR=7.0
TXAR PKKPbc 04 00 08.2
comp=Z,2.1nm,1.0s,baz=196,slow=6.2,SNR=14
SNZO South Karori 123.92 123 PFAKE 03 50 30.0 +16
SNZO LR LR
comp=Z,2μm,22.0s,MS5.7
TEIG Tepich 124.80 325 *e*PKPdf PKPdf 03 50 18.1 +2.4
TEIG *ep*PKPdf 03 50 32.8
CPUP Villa Florida 126.20 256 PKPdf PKPdf 03 50 19.8 +1.6
CPUP pPKPdf 03 50 35.6
ROSC El Rosal 127.12 300 PKP PKPdf 03 50 23.3 +2.9
comp=Z,46nm,0.9s,baz=107,slow=2.4,SNR=50
ROSC pPKP 03 50 38.6
comp=Z,30nm,0.9s,baz=108,slow=3.2,SNR=8.3
PMSA Palmer Station 129.31 207 PFAKE 03 50 30.0 +6.8
PMSA LR LR
comp=Z,916nm,20.0s,MS5.5
PPM Popocatepetl 130.39 336 *i* P PKPdf 03 50 29.2 +2.7
JTS JuntasAbangare 130.87 315 PFAKE 03 50 40.0 +12
JTS LR LR
comp=Z,161nm,21.0s,MS4.7
TRQA Tornquist 132.10 242 *e*PKPdf PKPdf 03 50 31.9 +2.6
TRQA *ep*PKPdf 03 50 47.0
TRQA LR LR
comp=Z,1μm,21.0s,MS5.7
LPAZ La Paz 132.61 272 PKPdf PKPdf 03 50 33.8 +3.0
LPAZ PP PP 03 52 55.4 -3.7
LPAZ PKSbc 03 54 01.7
LPAZ La Paz 132.61 272 PKP PKPdf 03 50 33.3 +2.5
comp=Z,25nm,1.2s,baz=48,slow=4.6,SNR=34
LPAZ pPKP 03 50 48.7
comp=Z,9.3nm,1.1s,baz=127,slow=3.5,SNR=5.3
LPAZ SKP 03 54 03.6
comp=Z,8.1nm,1.1s,baz=211,slow=21,SNR=5.5
LPAZ La Paz 132.61 272 *e*PKPdf PKPdf 03 50 33.1 +2.3
LPAZ LR LR
comp=Z,1μm,20.0s,MS5.5
OTAV Otavalo 133.21 299 *e*PKPdf PKPdf 03 50 35.0 +3.0
OTAV *ep*PKPdf 03 50 50.6
OTAV LR LR
comp=Z,788nm,21.0s,MS5.4
LVC Limon Verde 135.37 265 PKP PKPdf 03 50 37.1 +1.4
comp=Z,21nm,1.1s,baz=75,slow=3.2,SNR=9.6
LVC pPKP 03 50 52.8
comp=Z,20nm,1.2s,baz=113,slow=4.8,SNR=4.8
LVC Limon Verde 135.37 265 PKPdf PKPdf 03 50 36.9 +1.2
LVC *ep*PKPdf 03 50 53.6
LVC LR LR
comp=Z,988nm,22.0s,MS5.5
ARE Arequipa 135.67 274 *eP* PKPdf 03 50 26.0 -10
PLCA Paso Flores 138.74 238 PKP PKPdf 03 50 43.2 +1.7
comp=Z,21nm,1.1s,baz=122,slow=4.4,SNR=18
PLCA pPKP 03 50 59.5
comp=Z,10nm,0.9s,baz=193,slow=0.5,SNR=7.1
PLCA Paso Flores 138.74 238 *e*PKPdf PKPdf 03 50 44.6 +3.2
PLCA LR LR
comp=Z,1μm,22.0s,MS5.5
PPT Papeete 149.45 79 *e*PKPbc PKPdf 03 51 08.0 +7.6
comp=Z,118nm,1.3s
PPT Papeete 149.45 79 *e*PP PP 03 54 31.8 -9.2
PPT *e*SS SS 04 13 58.1 +10
PPT *e*LR LR 04 40 52.9
comp=Z,3μm,28.5s
PPT Papeete 149.45 79 PKPbc PKPdf 03 51 08.1 +7.7
comp=Z,99nm,1.2s,baz=333,slow=2.3,SNR=3.3
PPT pPKPbc 03 51 23.8
comp=Z,157nm,1.1s,baz=294,slow=1.1,SNR=3.1
PPT Papeete 149.45 79 *e*PKPbc PKPdf 03 51 08.0 +7.6
PPT *e*PP PP 03 54 31.8 -9.2
PPT *e*SS SS 04 13 58.1 +10
PPT *e*LR LR 04 40 52.9
PAE Paea 149.48 79 *e*PKPbc PKPdf 03 51 08.0 +7.6
TIAR Tiarei 149.65 78 *e*PKPbc PKPdf 03 51 08.3 +7.6
comp=Z,261nm,1.3s
TVO Taravao 149.82 79 *e*PKPbc PKPdf 03 51 08.9 +7.9
comp=Z,375nm,1.4s
MEH Mehetia 150.89 78 *e*PKPbc PKPdf 03 51 10.9 +8.3
comp=Z,125nm,1.1s
TBI Tubuai 151.42 90 *e*PKPbc PKPdf 03 51 12.0 +8.7
comp=Z,169nm,1.2s
TBI *e*PP PP 03 54 49.5 -2.7
TBI *e*SS SS 04 14 10.0 +0.5
TBI *e*LR LR 04 41 57.7
comp=Z,2μm,26.2s
TAOE Nuku Hiva Isla 152.36 53 *e*PKPbc PKPdf 03 51 15.1 +10
TAOE *e*SS SS 04 14 44.9 +25
TAOE *e*LR LR 04 42 01.9
RKT Rikitea 164.21 79 *e*PP PP 03 55 44.3 -18
RKT *e*SS SS 04 16 24.5 -1.3
RKT *e*LR LR 04 47 36.4
comp=Z,3μm,28.5s

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*PNSN **13** 03:37:47.7, 47.25N×122.83W, h24km, MD3.3, Fault plane solution: NP1:ϕ≈55°, δ70°, NP2:ϕ≈303°, δ44°, Principal axes: T Plg49°, Azm282°; P Plg15°, Azm173°;*
*NEIC **13** 03:37:47.7, 47.25N×122.83W, h24km, MD3.3(SEA), After SEA.*
NEIC Felt [IV] at Lacey; [III] at Allyn, Belfair, Eatonville, Lakebay, Lakewood, Olalla, Olympia, Port Orchard, Seattle, Spanaway, Tacoma and University Place; [II] at Auburn, Bainbridge Island, Bremerton, Dupont, Gig Harbor, Kent, Puyallup and Vashon.
*PGC **13** 03:37:47.5, 47.25N×122.83W, h24km, ML2.6/25, MD3.3(SEA), Southern Puget Sound, Washington.*

ISC 13 03:37:46.8±0.2, 47.25N±0.01×122.88W±0.03, h23km±2km, n113, σ0≤80/140, 24C-31D, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEW	**McNeil Island**	**0.17**	**108**	⇑P	**Pb**	**03 37 52.7**	**+0.8**
EGRN	**Evergreen Coll**	**0.19**	**200**	⇓P	**Pb**	**03 37 52.7**	**+0.5**
KIMR	**Kitsap County**	**0.26**	**17**	⇓P	**Pb**	**03 37 53.2**	**+0.1**
UPS	**University of**	**0.27**	**88**	⇑P	**Pb**	**03 37 52.8**	**-0.5**
GMW	**Gold Mountain**	**0.30**	**12**	⇓P	**Pb**	**03 37 53.6**	**-0.1**
GNW	**Green Mountain**	**0.31**	**7**	⇓P	**Pb**	**03 37 53.6**	**-0.2**
GNW				S	**Sb**	**03 37 58.7**	**+0.1**
CPW	**Capitol Peak**	**0.33**	**212**	⇓P	**Pb**	**03 37 54.5**	**+0.4**
TBPA	**Tacoma Substat**	**0.35**	**89**	⇑P	**Pb**	**03 37 54.7**	**+0.2**
PCFR	**Pierce County**	**0.40**	**131**	⇑P	**Pb**	**03 37 55.1**	**-0.2**
BABE	**Bainbridge Sch**	**0.42**	**34**	P	**Pb**	**03 37 56.3**	**+0.7**
PCEP	**Pierce County**	**0.43**	**109**	⇑P	**Pb**	**03 37 55.6**	**-0.1**
KITP	**Kitsap County**	**0.45**	**22**	P	**Pb**	**03 37 56.8**	**+0.7**
GHW	**Garrison Hill**	**0.47**	**117**	⇑P	**Pb**	**03 37 56.1**	**-0.3**
RRHS	**Rochester High**	**0.47**	**194**	⇑P	**Pb**	**03 37 56.7**	**+0.3**
KINR	**Kitsap County**	**0.52**	**18**	P	**Pb**	**03 37 57.5**	**+0.2**
LAWT	**Lawton Element**	**0.52**	**39**	⇓P	**Pb**	**03 37 58.1**	**+0.9**
PCMD	**Pierce County**	**0.54**	**132**	P	**Pb**	**03 37 57.2**	**-0.4**
LCW	**Lucas Creek**	**0.60**	**168**	⇓P	**Pb**	**03 37 58.3**	**-0.2**
WISH	**Wishkah**	**0.62**	**258**	⇑P	**Pb**	**03 37 59.9**	**+1.0**
FINN	**Finn Hill Juni**	**0.64**	**43**	P	**Pb**	**03 38 00.0**	**+0.8**
BRKS	**Brookside Elem**	**0.64**	**38**	⇓P	**Pb**	**03 37 59.8**	**+0.5**
RAW	**Raver**	**0.65**	**82**	⇑P	**Pb**	**03 37 59.3**	**-0.1**
PNLK	**Pine Lake Midd**	**0.67**	**60**	⇑P	**Pb**	**03 37 59.9**	**+0.3**
ALCT	**Alcott Element**	**0.69**	**55**	P	**Pb**	**03 38 00.7**	**+0.6**
LMW	**Ladd Mountain**	**0.71**	**145**	⇓P	**Pb**	**03 37 60.0**	**-0.5**
ELW	**Echo Lake**	**0.73**	**70**	⇑P	**Pb**	**03 38 00.1**	**-0.5**
LEOT	**Leota Junior H**	**0.73**	**45**	P	**Pb**	**03 38 01.1**	**+0.3**
GSM	**Grass Mountain**	**0.74**	**94**	⇓P	**Pb**	**03 38 00.6**	**-0.4**
EARN	**East Ridge Ele**	**0.75**	**49**	P	**Pb**	**03 38 01.2**	**+0.2**
BLN	**Blyn Mountain**	**0.76**	**355**	⇓P	**Pb**	**03 38 00.5**	**-0.7**
OSD	**Olympics--Snow**	**0.79**	**316**	⇓P	**Pb**	**03 38 02.0**	**+0.2**
BMW	**Boistfort Moun**	**0.81**	**197**	⇓P	**Pb**	**03 38 01.9**	**-0.3**
SQM	**Sequim**	**0.83**	**352**	⇓P	**Pb**	**03 38 02.4**	**0.0**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
REMR	Mount Rainier-	0.83	121	⇑P	Pb	03 38 01.8	-0.7
RCS	Mount Rainier-	0.88	116	⇑P	Pb	03 38 02.5	-0.7
FMW	Mount Fremont	0.89	111	⇑P	Pb	03 38 02.6	-0.8
LON	Longmire	0.89	124	⇑P	Pb	03 38 02.6	-0.8
LON				S	Sb	03 38 14.0	-1.0
RCM	Mount Rainier-	0.89	118	⇑P	Pb	03 38 02.9	-0.6
TTW	Tolt Reservoir	0.92	61	⇑P	Pb	03 38 03.1	-0.9
TTW				S	Sb	03 38 15.1	-0.7
KOSW	Kosmos	0.92	149	⇑P	Pb	03 38 03.4	-0.6
HTW	Haystack Looko	0.93	54	⇑P	Pb	03 38 03.3	-0.8
OOW	Octopus West	1.01	299	⇑P	Pb	03 38 06.5	+1.0
ERK	Elk Rock	1.02	158	⇓P	Pb	03 38 04.6	-1.0
STW	Striped Peak	1.04	330	⇓P	Pb	03 38 06.8	+0.7
WPW	White Pass	1.07	121	⇓P	Pb	03 38 05.8	-0.7
GLK	Glacier Lake	1.11	128	P	Pn	03 38 06.6	-0.5
STD	Studebaker Rid	1.11	156	P	Pn	03 38 06.4	-0.7
OBC	Olympics--Boni	1.12	314	⇑P	Pn	03 38 08.2	+0.9
ATES	Arlington Traf	1.13	29	P	Pn	03 38 06.5	-0.8
JCW	Jim Creek	1.14	34	⇓P	Pn	03 38 06.5	-1.0
VGZ	Gonzales	1.20	346	P	Pn	03 38 07.5	-0.9
VGZ				S	Sb	03 38 23.0	-0.8
VGZ				Trac		03 38 26.5	
	comp=Z,48nm,0.1s						
ERW	Mount Erie	1.21	8	P	Pn	03 38 10.0	+1.5
NLO	Nicolai Mounta	1.23	199	⇓P	Pn	03 38 08.8	+0.1
CDFW	Cedar Flats	1.27	153	P	Pn	03 38 09.1	-0.3
CMW	Cultus Mountai	1.28	23	⇓P	Pn	03 38 09.0	-0.4
TWW	Teanaway	1.38	94	⇑P	Pn	03 38 11.2	+0.3
ASR	Mount Adams--S	1.42	141	⇓P	Pn	03 38 11.3	-0.1
PGC	Sidney	1.45	345	eP	Pn	03 38 11.0	-0.9
PGC	Sidney	1.45	345	⇑P	Pn	03 38 11.8	-0.1
PGC				S	Sn	03 38 30.7	+0.4
PGC				Trac		03 38 32.9	
	comp=Z,51nm,0.2s						
WRW	Wenatchee Ridg	1.48	65	P	Pn	03 38 12.6	+0.2
LZB	Mount Lazard	1.50	335	P	Pn	03 38 12.7	0.0
LZB				S	Sn	03 38 31.0	-0.6
LZB				Trac		03 38 32.1	
	comp=Z,19nm,0.1s						
NAC	Naches	1.50	110	P	Pn	03 38 13.5	+0.8
LTY	Liberty	1.51	89	⇑P	Pn	03 38 12.7	-0.1
RPW	Rockport	1.51	37	⇓P	Pn	03 38 12.8	0.0
SNB	Saturna Island	1.53	353	P	Pn	03 38 13.4	+0.3
SNB	Saturna Island	1.53	353	P	Pn	03 38 13.5	+0.3
SNB				S	Sn	03 38 33.9	+1.4
SNB				Trac		03 38 38.4	
	comp=Z,39nm,0.2s						
SBES	Silver Beach E	1.55	12	P	Pn	03 38 14.0	+0.7
TBM	Table Mountain	1.56	92	⇑P	Pn	03 38 14.2	+0.7
EBG	Ellensburg	1.62	101	⇓P	Pn	03 38 15.2	+0.9
KMOR	Kings Mountain	1.67	195	P	Pn	03 38 15.0	-0.1
SLFW	Sugar Loaf	1.67	72	P	Pn	03 38 16.3	+1.2
PFB	Port Renfrew	1.68	322	P	Pn	03 38 15.2	-0.1
PFB				S	Sn	03 38 35.8	-0.5
PFB				Trac		03 38 36.5	
	comp=Z,35nm,0.2s						
APM	Augspurger Mou	1.73	151	P	Pn	03 38 16.8	+0.8
GOBB	Galiano Island	1.75	346	P	Pn	03 38 16.9	+0.7
GOBB				Trac		03 38 41.5	
	comp=Z,20nm,0.1s						
ETW	Entiat	1.77	78	⇑P	Pn	03 38 17.6	+1.2
PGO	Gresham	1.81	170	P	Pn	03 38 18.1	+1.0
VLMM	Larch Mountain	1.81	161	P	Pn	03 38 18.0	+0.9
VDB	Vedder Mountai	1.85	16	⇓P	Pn	03 38 18.1	+0.5
VDB	Vedder Mountai	1.85	16	⇓P	Pn	03 38 18.2	+0.6
VDB				S	Sn	03 38 41.4	+0.9
VDB				Trac		03 38 42.5	
	comp=Z,44nm,0.2s						
MXC	Moxie City	1.90	110	P	Pn	03 38 19.9	+1.5
NLW	Nelson Butte	1.91	63	P	Pn	03 38 18.9	+0.5
VLL	Laurance Lake	1.98	155	P	Pn	03 38 21.3	+1.9
HNB	Haney	2.03	6	⇓P	Pn	03 38 20.8	+0.6
HNB				S	Sn	03 38 46.1	+1.0
HNB				Trac		03 38 47.7	
	comp=Z,87nm,0.3s						
TDH	Tom, Dick, Har	2.11	159	P	Pn	03 38 22.8	+1.5
NLLB	Nanaimo Lost L	2.11	340	⇓P	Pn	03 38 21.3	0.0
NLLB				S	Sn	03 38 46.4	-0.7
NLLB				Trac		03 38 53.3	
	comp=Z,14nm,0.1s						
MGB	Mount Grey	2.13	326	P	Pn	03 38 21.5	-0.1
MGB				Pg	Pn	03 38 24.8	+3.2
MGB				S	Sn	03 38 45.6	-2.0
MGB				Trac		03 38 48.5	
	comp=Z,36nm,0.3s						
GT2	Goat Mountain	2.14	168	P	Pn	03 38 23.0	+1.2
BIB	Bowen Island	2.17	353	⇓P	Pn	03 38 22.8	+0.5
BIB				S	Sn	03 38 49.0	+0.2
BIB				Trac		03 38 50.8	
	comp=Z,20nm,0.2s						
HOPB	Hope	2.35	24	P	Pn	03 38 25.5	+0.7
HOPB				S	Sn	03 38 56.7	+3.5
HOPB				Trac		03 39 03.2	
	comp=Z,17nm,0.1s						
ALB	Alberni	2.40	328	P	Pn	03 38 25.6	0.0
ALB				S	Sn	03 38 53.4	-1.2
ALB				Trac		03 39 02.8	
	comp=Z,13nm,0.2s						
WPB	Watts Point	2.42	355	⇓P	Pn	03 38 25.8	+0.1
WPB				S	Sn	03 38 53.9	-1.0
WPB				Trac		03 39 03.9	
	comp=Z,19nm,0.3s						
SHB	Sechelt	2.44	345	P	Pn	03 38 26.3	+0.3
SHB				S	Sn	03 38 55.0	-0.5
SHB				Trac		03 38 59.0	
	comp=Z,38nm,0.2s						
TXB	Texada	2.65	338	P	Pn	03 38 29.4	+0.3
TXB				Trac		03 39 07.1	
	comp=Z,15nm,0.3s						
COR	Corvallis	2.69	186	ePn	Pn	03 38 29.1	-0.5
BTB	Buttle Lake	2.83	323	P	Pn	03 38 31.1	-0.5
BTB				Pg	Pn	03 38 39.5	+7.8
BTB				S	Sn	03 39 04.8	-0.6
BTB				Trac		03 39 11.8	
	comp=Z,30nm,0.3s						
WSLR	Whistler	2.88	359	⇓P	Pn	03 38 32.8	+0.5
WSLR				Trac		03 39 21.8	
	comp=Z,10.0nm,0.3s						
PNT	Penticton	3.00	45	P	Pn	03 38 34.0	-0.1
PNT				Sg	Sn	03 39 16.5	+6.7
PNT				Trac		03 39 23.1	
	comp=Z,30nm,0.2s						
CBB	Campbell River	3.23	330	P	Pn	03 38 36.2	-1.2
CBB				Pg	Pn	03 38 42.0	+4.6
CBB				S	Sn	03 39 15.0	-0.6
CBB				Trac		03 39 28.9	
	comp=Z,7.0nm,0.4s						
GDR	Gold River	3.28	322	Pg	Pn	03 38 45.4	+7.3
GDR				S	Sn	03 39 13.4	-3.4
GDR				Trac		03 39 20.7	
	comp=Z,10.0nm,0.3s						
LLLB	Lillooet	3.42	11	⇓P	Pn	03 38 40.1	0.0
NCRB	Newcastle Ridg	3.79	328	P	Pn	03 38 45.5	+0.2
WOSB	Woss	3.80	321	P	Pn	03 38 45.6	+0.2
WOSB				Trac		03 39 36.1	
	comp=Z,2.0nm,0.2s						
NEW	Newport	4.01	73	ePn	Pn	03 38 46.3	-2.2
MAYB	Maynard	4.24	320	P	Pn	03 38 52.4	+0.7
MAYB				S	Sn	03 39 39.3	-1.8
MAYB				Trac		03 39 43.8	
	comp=Z,4.0nm,0.3s						
BPBC	Brooks Peninsu	4.35	314	P	Pn	03 38 53.1	-0.1
BPBC				S	Sn	03 39 39.0	-4.8
BPBC				Trac		03 39 43.3	
	comp=Z,6.0nm,0.3s						
BMO	Blue Mountains	4.56	120	ePn	Pn	03 38 54.7	-1.5
PHC	Port Hardy	4.57	321	P	Pn	03 38 56.0	-0.4
HUMO	Hull Mountain	4.65	181	ePn	Pn	03 38 55.7	-1.8
HOLB	Holberg	4.84	316	P	Pn	03 39 00.5	+0.3
SLEB	Sale Mountain	5.00	37	P	Pn	03 39 02.5	0.0
SLEB				Sg	Sn	03 40 20.5	+20
SLEB				Trac		03 40 27.3	
	comp=Z,10.0nm,0.6s						
DOWB	Downie Slide	5.13	32	Sg	Sx	03 40 29.1	
WALA	Waterton Lakes	6.27	70	ePn	Pn	03 39 17.9	-2.4
WALA	Waterton Lakes	6.27	70	P	Pn	03 39 19.6	-0.7
WALA				S	Sn	03 40 28.6	-3.4
WALA				Sg	Sn	03 40 55.3	+23
WALA				Trac		03 41 06.5	
	comp=Z,8.0nm,0.6s						

*IDC **13** 03:49:16.4±1.0, 21.91N×144.96E, mb3.6/6, mb1 3.9/6, mb1mx3.7/21, mbtmp3.6/6, Error ellipse: s-maj=50.0km s-min=21.4km az=101.0*

*NEIC **13** 03:49:23.2±0.6, 21.86N×145.06E, h50km, mb4.5/1, Error ellipse: s-maj=35.1km s-min=11.8km az=102.0*

ISC 13 03:49:19.5±0.8, **21.9N**±0.1×**145.1E**±0.4, **h33**km, **n9**, σ**0.39**/9, **mb3.8**/7, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WB2	Warramunga Arr	42.85	195	eP	P	03 57 16.5	0.0
WRA	Warramunga Arr	42.86	195	P	P	03 57 16.3	-0.2
	0.7nm,0.3s,mb3.9,baz=11,slow=8.3,SNR=11						
FITZ	Fitzroy Crossi	44.04	207	eP	P	03 57 26.1	-0.1
	5.9nm,0.6s,mb4.5						
ASAR	Alice Springs	46.54	194	P	P	03 57 46.3	+0.3
	0.5nm,0.6s,mb3.6,baz=12,slow=7.3,SNR=4.8						
ILAR	Eielson Array	61.09	27	P	P	03 59 31.6	-0.7
	0.3nm,0.7s,mb3.5,baz=261,slow=5.4,SNR=5.0						
BVAR	Borovoye Array	63.69	319	P	P	03 59 49.8	0.0
	0.6nm,0.5s,mb3.9,baz=103,slow=7.3,SNR=6.7						
YKA	Yellowknife Ar	75.48	28	P	P	04 01 02.4	+0.8
	0.2nm,0.7s,mb3.2,baz=291,slow=5.4,SNR=3.4						
YKA	Yellowknife Ar	75.48	28	P	P	04 01 02.4	+0.8
FINES	FINESS Array B	83.78	335	P	P	04 01 46.2	0.0
	0.7nm,0.7s,mb3.9,baz=68,slow=5.2,SNR=7.6						

IDC 13 03:53:36.6±7.9, **6.27N**×**92.26E**, **mb3.9**/6, **mb1 4.1**/6, **mb1mx3.8**/18, **mbtmp3.9**/6, **Error ellipse: s-maj=196.7km s-min=57.2km az=139.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SONM	Songino Array	43.14	14	P	P	04 01 38.5	-2.0
	0.4nm,0.8s,baz=199,slow=6.7,SNR=3.8						
ZAL	Zalesovo	47.91	354	P	P	04 02 17.2	-1.3
	1.1nm,0.4s,baz=319,slow=2.7,SNR=5.1						
BVAR	Borovoye Array	49.93	343	P	P	04 02 31.1	-2.9
	0.3nm,0.6s,baz=90,slow=7.2,SNR=2.5						
FINES	FINESS Array B	73.26	333	P	P	04 05 10.3	-1.0
	0.6nm,0.7s,baz=153,slow=4.3,SNR=3.4						
GERES	GERESS Array B	77.78	319	P	P	04 05 36.4	-0.8
	1.4nm,0.7s,baz=90,slow=4.0,SNR=6.9						
DAVOX	Davos	80.25	316	P	P	04 05 48.8	-1.9
	1.9nm,0.5s,baz=131,slow=9.3						

IDC 13 03:53:37.0±2.6, **5.25N**×**92.46E**, **mb3.8**/4, **mb1 3.9**/5, **mb1mx3.7**/18, **mbtmp3.7**/5, **ML4.1**/1, **Error ellipse: s-maj=84.4km s-min=30.0km az=61.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.57	25	Pn	P	03 57 05.5	-1.1
	0.3nm,0.3s,baz=214,slow=13,SNR=3.3						
SONM	Songino Array	44.08	13	P	P	04 01 46.2	-2.3
	0.6nm,0.7s,baz=193,slow=9.2,SNR=6.4						
WRA	Warramunga Arr	48.18	123	P	P	04 02 19.5	-1.9
	2.3nm,1.1s,baz=303,slow=8.9,SNR=5.3						
ZAL	Zalesovo	48.94	354	P	P	04 02 26.2	-0.6
	1.7nm,0.4s,baz=318,slow=5.9,SNR=6.7						
BVAR	Borovoye Array	50.96	343	P	P	04 02 38.9	-3.4
	0.4nm,0.6s,baz=135,slow=8.2,SNR=3.6						

MAN 13 03:54:19.2, 9.24N×**126.78E, h79**km**, mb4.1, ML2.9, MS2.7, 1C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BIPH	Bislig	1.13	202	⇑iP	P	03 54 40.7	+0.7
BIPH				iS	S	03 54 56.6	+1.0
BUTP	Butuan	1.18	257	eP	P	03 54 42.4	+1.8
SCPH	Surigao	1.38	293	eP	P	03 54 43.6	+0.2
SCPH				eS	S	03 54 56.7	-4.7
BUKP	Musuan	2.17	232	eP	P	03 54 59.5	+5.4
PAGZ	Pagadian	3.63	248	eP	P	03 55 14.5	+0.1

JMA 13 04:24:47.3±0.6, **33.20N**×**142.60E, h55**km**, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BSO1	Boso 1	1.98	318	P	P	04 25 19.2	+0.1
BSO1				eS	S	04 25 43.6	+0.9
BSO3	Boso 3	2.36	313	P	P	04 25 25.0	+0.5
BSO4	Boso 4	2.59	314	P	P	04 25 28.7	+0.9
JRY	Ryogami san	4.15	314	P	P	04 25 49.9	+0.2
JRY				eS	S	04 26 35.8	-1.6

*IDC **13** 04:42:37.4±1.1, 35.16N×143.39E, mb3.6/4, mb1 3.9/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=65.7km s-min=25.0km az=97.0*

*JMA **13** 04:43:04.6±0.2, 36.13N×137.04E, h278km±2km, M3.1*

ISC 13 04:43:04.0±1.1, **36.1N**±0.2×**137.1E**±0.2, **h281**km±6km, **n11**, σ**0.46**/13, **mb3.2**/3, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
JGN	Niukaw	0.23	68	P	P	04 43 40.3	+0.2
JGM	Miyama	0.52	212	P	P	04 43 40.8	+0.1
JGM				eS	S	04 44 08.6	-0.7
JKG	Kaga	0.60	284	P	P	04 43 41.0	+0.1
MAT	Matsushiro	1.02	66	P	P	04 43 43.2	+0.7
MAT				S	S	04 44 12.1	-0.6
MAT	Matsushiro	1.02	66	P	P	04 43 43.3	+0.8
JWT	Wachi	1.59	238	P	P	04 43 46.0	-0.1
JIE	Ise	1.77	189	P	P	04 43 48.1	+0.7
JIE				S	S	04 44 21.4	+0.1
WRA	Warramunga Arr	55.83	183	P	P	04 52 13.8	-0.6
	0.5nm,0.3s,mb3.4,slow=7.6,SNR=6.8						
ASAR	Alice Springs	59.55	183	P	P	04 52 40.2	0.0
	0.5nm,1.0s,mb3.0,baz=5.6,slow=5.2,SNR=3.8						
YKA	Yellowknife Ar	66.31	29	P	P	04 53 15.3	-8.3
	0.3nm,0.6s,mb3.2,baz=290,slow=5.5,SNR=7.2						
FINES	FINESS Array B	67.93	331	P	PcP	04 53 58.6	+0.2
	0.7nm,0.5s,baz=73,slow=5.6,SNR=14						

*NAO **13** 04:54:43.0±2.5, 67.64N×33.64E, ML2.4*

*CSEM **13** 04:54:44.2±0.3, 67.74N×33.40E, h5km, ML2.4, Error ellipse: s-maj=7.4km s-min=2.5km az=89.0*

HEL 13 04:54:43.2±0.4, **67.71N**×**33.73E, ML2.6, ML2.2**(BER), **ML2.4**(NAO), **Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
APA0	Apatity Array	0.30	249	iP	Pg	04 54 48.2	-1.0
APA0				iS	Sg	04 54 52.4	-0.9
APA0				eRG		04 54 53.2	
APA0	Apatity Array	0.30	249	Pg	Pg	04 54 48.2	-1.0
	baz=84,slow=16						
APA0				Lg		04 54 52.4	
	baz=81,slow=37						
APA0				Rg		04 54 53.2	
	baz=81,slow=37						
KU4	Liikasenvaara	2.12	232	eP	Pn	04 55 19.8	-0.4
KU4				eS	Sn	04 55 47.5	-0.2
MSF	Maaselka	2.59	228	eP	Pn	04 55 26.8	-0.3
MSF				eS	Sn	04 56 00.1	+0.4
SGF	Sodankyl	2.77	268	eP	Pn	04 55 28.0	-1.7
SGF				eS	Sn	04 56 02.7	-1.7
SGF				MSG		04 56 10.6	
	comp=Z,14nm,0.3s						
SGF	Sodankyl	2.77	268	P	Pn	04 55 27.9	-1.8
SGF				S	Sn	04 56 02.7	-1.7
	comp=Z,14nm,0.3s						
KEV	Kevo	3.19	313	eP	Pn	04 55 35.0	-0.7
KEV				eS	Sn	04 56 13.2	-1.9
KEV				MSG		04 56 28.8	
	comp=Z,27nm,0.3s						
KEV	Kevo	3.19	313	P	Pn	04 55 34.9	-0.8
KEV				S	Sn	04 56 13.1	-1.9
	comp=Z,27nm,0.3s						
ARA0	ARCESS Array S	3.52	305	eP	Pn	04 55 39.1	-1.2
ARA0				ePG	Pg	04 55 47.9	-5.7
ARA0				eS	Sn	04 56 19.9	-3.4
ARA0				eSG		04 56 30.4	
ARA0	ARCESS Array S	3.52	305	Pn	Pn	04 55 39.1	-1.2
	baz=122,slow=16						
ARA0				Pg	Pg	04 55 47.9	-5.7
	baz=119,slow=16						
ARA0				Sn	Sn	04 56 19.9	-3.4
	baz=121,slow=28						
ARA0				Lg		04 56 30.4	
	baz=116,slow=37						
KTK1	Kautokeino	4.10	293	eP	Pn	04 55 47.3	-1.2
KTK1				AML	AML	04 56 51.0	
	comp=Z,16nm,0.6s						
KTK1	Kautokeino	4.10	293	P	Pn	04 55 47.2	-1.3
	comp=Z,16nm,0.6s						
OUL	Oulu	4.11	234	eP	Pn	04 55 47.9	-0.7
OUL				eSG	Sg	04 56 51.5	-8.4
OUL				MSG		04 56 55.4	
	comp=Z,15nm,0.4s						
OUL	Oulu	4.11	234	P	Pn	04 55 47.9	-0.7
OUL				Sg	Sg	04 56 51.5	-8.4
	comp=Z,15nm,0.4s						
KIF	Kilpisjarvi	4.96	291	eP	Pn	04 55 58.3	-2.4
KIF				eS	Sn	04 56 54.4	-5.2
KIF	Kilpisjarvi	4.96	291	P	Pn	04 55 58.2	-2.5
KIF				S	Sn	04 56 54.4	-5.2
TRO	Tromso	5.73	296	eP	Pn	04 56 08.1	-3.5
TRO				AML	AML	04 57 36.8	
	comp=Z,3.7nm,0.3s						
TRO	Tromso	5.73	296	P	Pn	04 56 08.1	-3.5
	comp=Z,3.7nm,0.3s						
FIA0	FINESS Array S	7.10	211	Pn	Pn	04 56 26.0	-4.9
	baz=16,slow=16						
FIA0				Sn	Sn	04 57 45.8	-7.5
	baz=18,slow=22						
FIA0				Lg		04 58 19.2	
	baz=30,slow=28						
FIA0	FINESS Array S	7.10	211	eP	Pn	04 56 26.0	-4.9
FIA0				eS	Sn	04 57 45.8	-7.5
FIA0				eSG		04 58 19.2	
SPA0	Spitsbergen Ar	11.59	342	Pn	P	04 57 26.6	-6.1
	baz=135,slow=14						
SPA0	Spitsbergen Ar	11.59	342	eP	P	04 57 26.6	-6.1

*NIED **13** 05:09:00, 34.20N×141.50E, h8km, Mw4.2 Best double couple: $M_0$2.64×10^15 NP1:ϕ_s16°, δ54°, λ92°. NP2:ϕ_s193°, δ37°, λ87°.*

*MOS **13** 05:09:31.9±0.8, 34.06N×141.70E, h33km, mb4.7/11, Error ellipse: s-maj=17.0km s-min=8.1km az=120.3*

*BJI **13** 05:09:31.0, 34.29N×141.49E, h17km, mB5.0, mb4.6, Ms4.3, Msz4.1*

*NEIC **13** 05:09:34.2±4.2, 34.07N×141.58E, h32km±28km, mb4.4/10, Error ellipse: s-maj=13.1km s-min=9.0km az=92.0*

*JMA **13** 05:09:34.3±0.2, 34.16N×141.52E, h36km±2km, M3.7*

*IDC **13** 05:09:36.3±2.1, 34.09N×141.59E, h49km±20km, mb3.7/15, mb1 3.9/16, mb1mx3.8/23, mbtmp4.0/16, ML3.8/1, MS4.0/2, Ms1 4.0/2, ms1mx3.1/32, Error ellipse: s-maj=19.4km s-min=12.7km az=106.0*

ISC 13 05:09:33.5±0.8, **34.15N**±0.04×**141.60E**±0.05, **h41**km±5km, **h33**km±11.5km**:pP-P, n82,** σ**0.89**/97, **mb4.3**/37, **MS4.2**/6, **4C-2D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
BSO1	Boso 1	0.72	315	P	P	05 09 47.1	-0.2
BSO1				S	S	05 09 56.4	-1.0
BSO2	Boso 2	0.92	311	S	S	05 10 01.1	-1.3
BSO3	Boso 3	1.11	306	P	P	05 09 53.3	+0.5
BSO3				S	S	05 10 06.7	-0.5
BSO4	Boso 4	1.34	309	P	P	05 09 57.4	+1.2
BSO4				S	S	05 10 13.4	+0.4
CHOJ	Chosi	1.67	339	P	P	05 10 01.2	+0.4
CHOJ				S	S	05 10 21.6	+0.5
JHJ2	Mitsune	1.81	236	P	P	05 10 03.3	+0.5
JHJ2				S	S	05 10 26.2	+1.5
JHJ	Hachijo jima 2	1.83	236	P	P	05 10 03.4	+0.2
	174nm,0.3s,baz=242,slow=18,SNR=15						
JHJ				S	S	05 10 26.2	+1.0
	137nm,0.3s,baz=211,slow=23,SNR=11						
JIM2	Oshima 3	1.88	288	P	P	05 10 03.5	-0.3
JIZS	Izushimoda	2.32	285	P	P	05 10 10.6	+0.5
JOD2	Odawara 2	2.35	299	P	P	05 10 10.2	-0.3
MAJO	Matsushiro	3.66	312	eP	P	05 10 29.5	+0.3
MAT	Matsushiro	3.66	312	eP	P	05 10 29.0	-0.2
MAT				eS	S	05 11 09.0	-2.6
MAT	Matsushiro	3.66	312	P	P	05 10 29.1	-0.1
MAT				S	S	05 11 11.3	-0.3
ASAJ	Asahikawa	9.98	4	P	P	05 11 57.1	-0.3
ASAJ				S	S	05 13 40.8	-8.4
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,307nm,19.5s						
ASAJ	Asahikawa	9.98	4	P	P	05 11 57.1	-0.3
	comp=Z,0.9nm,0.3s,baz=235,slow=16,SNR=7.1						
ASAJ				S	S	05 13 40.8	-8.4
	comp=Z,0.4nm,0.3s,baz=336,slow=19,SNR=3.8						
ASAJ				LR	LR	05 16 57.9	
	comp=Z,307nm,19.5s,baz=162,slow=44						
YSS	Yuzh-Sakhalins	12.82	4	eP	P	05 12 31.7	-4.0
SSE	Sheshan	17.46	266	eP	P	05 13 33.4	-2.2
SSE				AP		05 13 42.3	
SSE				S	S	05 16 47.9	+1.3
SSE				AMB	AMB		
	comp=Z,26nm,1.0s						
SSE				AMB	AMB		
	comp=Z,100nm,3.5s						
SSE				LR	LR		
	comp=N,212nm,15.8s						
SSE				LR	LR		
	comp=E,569nm,15.9s						
SSE				LR	LR		
	comp=Z,661nm,14.5s						
SSE	Sheshan	17.46	266	eP	P	05 13 33.4	-2.2
	comp=Z,26nm,1.0s						
SSE				pP		05 13 42.3	
SSE				S	S	05 16 47.9	+1.3
SSE				sS		05 17 08.6	
NJ2	Nanjing	19.17	270	eP	P	05 13 56.4	+0.1
NJ2				AP		05 14 03.8	
NJ2				XP		05 14 08.4	
NJ2				PP	PP	05 14 13.4	-0.1
NJ2				PPP	PPP	05 14 16.3	-6.5
NJ2				S	S	05 17 25.0	0.0
NJ2				XS		05 17 39.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,304nm,4.2s						
NJ2				LR	LR		
	comp=N,450nm,15.5s						
NJ2				LR	LR		
	comp=E,1μm,15.9s						
BJI	Beijing	21.08	294	eP	P	05 14 18.6	+2.1
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.2						
BJI	Beijing	21.08	294	eP	P	05 14 18.6	+2.1
	comp=Z,8.0nm,0.7s,mb4.2						
HIA	Hailar	22.12	320	eP	P	05 14 25.5	-1.3
HIA				pmax	pmax		
	comp=Z,19nm,1.1s						
HIA	Hailar	22.12	320	eP	P	05 14 25.5	-1.3
	comp=Z,19nm,1.1s,mb4.4						
WHN	Wuhan	23.27	269	eP	P	05 14 36.0	-2.3
HHC	Hu-ho-hao-te	24.67	295	eP	P	05 14 51.8	0.0
HHC				PP	PP	05 15 29.4	+0.6
HHC				S	S	05 19 08.3	+0.5
HHC				SS	SS	05 20 08.4	+2.6
HHC				AMB	AMB		
	comp=Z,13nm,1.7s,mb4.2						
HHC				AMB	AMB		
	comp=Z,102nm,6.5s						
HHC				LR	LR		
	comp=N,280nm,18.4s,MS3.9						
HHC				LR	LR		
	comp=E,307nm,21.4s,MS3.9						
ULN	Ulaanbaatar	29.19	308	eP	P	05 15 33.7	+0.7
ULN				e	pP	05 15 47.8	+3.6
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
ULN	Ulaanbaatar	29.19	308	eP	P	05 15 33.7	+0.7
	comp=Z,8.1nm,1.0s,mb4.4						
ULN				e	pP	05 15 47.8	+3.6
SONM	Songino Array	29.61	308	P	P	05 15 37.9	+1.1
	comp=Z,4.3nm,0.8s,mb4.2,baz=109,slow=8.3,SNR=34						

BOD	Bodaibo	30.08	330	eP	P	05 15 39.7	-1.2
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
GYA	Guiyang	31.01	265	⇑iP	P	05 15 48.6	-0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
ZAK	Zakamensk	32.24	312	⇑iP	P	05 16 00.8	+0.7
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
TLY	Talaya	32.40	314	eP	P	05 16 02.6	+1.2
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
TLY	Talaya	32.40	314	eP	P	05 16 02.6	+1.2
	comp=Z,3.8nm,0.8s,mb4.3						
GTA	Gaotai	33.66	291	eP	P	05 16 12.4	0.0
GTA				AP	pP	05 16 19.5	-4.2
GTA				XP	sP	05 16 22.8	-6.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,139nm,5.3s						
GTA				LR	LR		
	comp=N,230nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=E,160nm,15.2s,MS4.1						
GTA				LR	LR		
	comp=Z,241nm,13.7s,MS4.1						
TIXI	Tiksi	38.17	354	eP	P	05 16 50.4	+0.1
TIXI				eS	S	05 22 40.5	+0.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
TIXI				MLR	MLR		
	comp=Z,249nm,16.0s,MS4.1						
CMAR	Chiang Mai Arr	41.00	259	P	P	05 17 13.4	-0.8
	comp=Z,1.4nm,0.6s,mb3.8,baz=48,slow=7.2,SNR=8.6						
WMQ	Urumqi	42.34	300	P	P	05 17 26.5	+1.5
WMQ				AP	pP	05 17 36.0	-0.6
WMQ				XP	sP	05 17 40.0	-1.6
WMQ				PP	PP	05 19 08.0	+1.8
WMQ				eS	S	05 23 50.0	+7.1
WMQ				XS		05 24 01.0	
WMQ				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,257nm,5.3s						
WMQ				LR	LR		
	comp=N,521nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=E,468nm,23.1s,MS4.5						
WMQ				LR	LR		
	comp=Z,424nm,22.0s,MS4.3						
ZAL	Zalesovo	44.02	315	P	P	05 17 39.1	+0.5
	comp=Z,2.8nm,0.9s,mb4.0,baz=12,slow=8.3,SNR=14						
NVS	Novosibirsk	44.98	316	eP	P	05 17 46.1	-0.1
JIRN	Jiri	47.50	278	eP	P	05 18 06.6	+0.1
	comp=Z,45nm,1.1s,mb5.3						
GUN	Gumba	47.66	278	eP	P	05 18 07.8	0.0
	comp=Z,46nm,1.1s,mb5.4						
KURK	Kurchatov	47.87	310	P	P	05 18 09.0	-0.1
	comp=Z,71nm,1.0s,SNR=18						
KURK	Kurchatov	47.87	310	eP	P	05 18 08.9	-0.2
KURK				e		05 18 23.9	
KURK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
KURK	Kurchatov	47.87	310	eP	P	05 18 08.9	-0.2
	comp=Z,12nm,0.9s,mb4.9						
KURK				e		05 18 23.9	
PKI	Pulchoki	48.17	278	eP	P	05 18 10.9	-0.9
	comp=Z,34nm,1.1s,mb5.3						
KKN	Kakani	48.20	278	eP	P	05 18 11.6	-0.4
	comp=Z,30nm,1.0s,mb5.3						
DMN	Daman	48.41	278	eP	P	05 18 13.2	-0.4
GKN	Gorkha	48.64	279	eP	P	05 18 14.8	-0.6
	comp=Z,60nm,1.1s						
KOLN	Koldanda	49.58	279	eP	P	05 18 22.2	-0.4
	comp=Z,44nm,1.3s,mb5.3						
ILAR	Eielson Array	51.86	31	P	P	05 18 39.1	-0.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=272,slow=6.7,SNR=9.0						
AAK	Ala-Archa	52.04	300	⇓eP	P	05 18 40.9	-0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
AAK	Ala-Archa	52.04	300	eP	P	05 18 40.5	-0.5
	comp=Z,3.3nm,1.0s,mb4.2						
CHKZ	Chkalovo	52.42	315	eP	P	05 18 43.3	-0.5
CHKZ				e		05 18 49.6	
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CHKZ	Chkalovo	52.42	315	eP	P	05 18 43.3	-0.5
	comp=Z,8.4nm,1.0s,mb4.6						
CHKZ				e		05 18 49.5	
BVAR	Borovoye Array	52.66	314	P	P	05 18 45.7	+0.2
	comp=Z,2.5nm,0.9s,mb4.1,baz=90,slow=7.4,SNR=13						
WRAB	Tennant Creek	54.22	188	eP	P	05 18 56.2	-1.3
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
WRAB	Tennant Creek	54.22	188	eP	P	05 18 56.2	-1.3
	comp=Z,4.9nm,0.7s,mb4.5						
WRA	Warramunga Arr	54.23	188	P	P	05 18 56.3	-1.3
	comp=Z,1.7nm,0.7s,mb4.1,baz=5.8,slow=7.6,SNR=8.5						
NDI	New Delhi	54.42	283	e	P	05 18 58.0	-0.9
INK	Inuvik	56.89	26	P	P	05 19 16.6	+0.4
	comp=Z,0.5nm,0.6s,mb3.7,baz=6.5,slow=12,SNR=6.0						
INK	Inuvik	56.89	26	eP	P	05 19 16.3	0.0
	comp=Z,0.3nm,0.6s,mb3.5						
ASAR	Alice Springs	57.96	188	P	P	05 19 23.5	-0.8
	comp=Z,1.1nm,0.7s,mb4.0,baz=12,slow=8.8,SNR=13						
HYB	Hyderabad	58.33	270	eP	P	05 19 26.0	-0.9
HYB	Hyderabad	58.33	270	i P	P	05 19 26.0	-0.9
STKA	Stephens Creek	65.67	180	P	P	05 20 15.2	-0.7
	comp=Z,1.3nm,0.8s,mb4.0,baz=333,slow=16,SNR=2.7						
FORT	Forrest	65.83	193	⇓iP	P	05 20 16.6	-0.3
	comp=Z,237nm,0.6s						
YKA	Yellowknife Ar	66.23	30	P	P	05 20 18.8	-0.1
	comp=Z,0.3nm,0.8s,mb3.4,baz=295,slow=6.2,SNR=4.2						
YKA				LR	LR	05 52 37.4	
	comp=Z,229nm,18.3s,MS4.4,baz=170,slow=39						
YKA	Yellowknife Ar	66.23	30	P	P	05 20 18.8	-0.1
YKA				LR	LR	05 52 37.4	
OBN	Obninsk	70.51	324	⇑eP	P	05 20 46.3	+0.8
OBN				eS	S	05 30 00.0	+5.6
OBN				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
FINES	FINESS Array B	71.44	333	P	P	05 20 51.6	+0.6
	comp=Z,2.6nm,0.9s,mb4.2,baz=56,slow=14,SNR=6.7						
KIV	Kislovodsk	72.92	312	⇑iP	P	05 21 01.9	+1.8
KIV				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
SOC	Sochi	74.95	313	eP	P	05 21 11.5	-0.4
SOC				e		05 23 58.2	
SOC				eS	S	05 30 48.5	+3.5
SOC				e		05 31 20.5	
SOC				eSS	SS	05 35 36.1	0.0
SOC				pmax	pmax		
	comp=Z,88nm,1.1s						
SOC				pmax	pmax		
	comp=N,80nm,1.0s						
SOC				pmax	pmax		
	comp=E,52nm,1.1s						
ANN	Anapa	75.65	315	eP	P	05 21 24.0	+8.1
ANN				pmax	pmax		
	comp=Z,211nm,1.5s						
AKASG	Malin Array Be	76.68	323	P	P	05 21 21.7	+0.1
	comp=Z,1.4nm,0.6s,mb4.0,baz=47,slow=5.7,SNR=9.9						
AKASG	Malin Array Be	76.68	323	P	P	05 21 21.7	+0.1
NB2	NORSAR Subarra	76.91	338	P	P	05 21 23.0	+0.3
	comp=Z,3.5nm,1.0s,mb4.2,baz=40,slow=5.8						
NOA	NORSAR Array B	76.91	338	P	P	05 21 22.9	+0.2
	comp=Z,1.8nm,0.8s,mb4.0,baz=39,slow=5.9,SNR=4.8						
KIS	Kishinev	79.19	320	e	P	05 21 39.0	+3.4
PDAR	Pinedale Array	79.58	45	P	P	05 21 39.2	+1.5
	comp=Z,0.4nm,0.8s,mb3.4,baz=270,slow=1.5,SNR=4.1						
PV10	Paradox Valley	82.57	48	eP	P	05 21 55.2	+1.7
GERES	GERESS Array B	85.25	328	P	P	05 22 07.0	+0.3
	comp=Z,0.3nm,0.5s,mb3.7,SNR=3.8						
LPAZ	La Paz	147.93	64	PKPbc	PKPdf	05 29 17.7	+6.0
	comp=Z,1.1nm,0.9s,baz=23,slow=12,SNR=4.3						

IDC 13 05:31:32.0±1.1**, 15.97N×92.80E, mb3.7**/8**, mb1 3.9**/9**, mb1mx3.8**/17**, mbtmp3.7**/9**, ML3.8**/1**, 1D, Error ellipse: s-maj=40.5km s-min=20.8km az=48.0, Bay of Bengal**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDT	Bhumibol Dam	6.08	77	P	Pn	05 33 08.0	+2.7
CMAR	Chiang Mai Arr	6.37	66	Pn	Pn	05 33 06.3	-3.1
	0.5nm,0.3s,baz=250,slow=15,SNR=13						
CHG	Chiang Mai	6.51	63	⇓P	Sn	05 34 21.4	-6.0
	15nm,0.6s						
SONM	Songino Array	33.70	17	P	P	05 38 15.5	-1.4
	0.2nm,0.4s,baz=195,slow=8.3,SNR=2.7						
WRA	Warramunga Arr	54.22	130	P	P	05 41 00.1	-2.0
	1.5nm,0.9s,baz=312,slow=7.7,SNR=5.1						
ASAR	Alice Springs	56.26	134	P	P	05 41 14.5	-2.4
	0.4nm,0.5s,baz=310,slow=6.4,SNR=6.2						
FINES	FINESS Array B	65.01	331	P	P	05 42 13.6	-2.4
	1.3nm,0.9s,baz=108,slow=6.0,SNR=8.5						
ARCES	ARCESS Array B	67.26	339	P	P	05 42 28.2	-2.0
	1.4nm,0.6s,baz=63,slow=5.4,SNR=6.5						
GERES	GERESS Array B	71.01	317	P	P	05 42 52.1	-1.5
	0.8nm,0.6s,baz=90,slow=5.3,SNR=5.0						
NOA	NORSAR Array B	72.10	330	P	P	05 42 57.8	-2.1
	1.5nm,0.9s,baz=306,slow=6.0,SNR=3.1						

*CSEM **13** 06:22:32.4±0.6, 38.70N×29.21W, h5^{km}, ML2.9, Error ellipse: s-maj=17.4km s-min=5.4km az=20.0, After PDA*
*PDA **13** 06:22:32.4±0.6, 38.70N×29.21W, h5^{km}, MD3.3, ML2.9, Error ellipse: s-maj=17.4km s-min=5.4km az=20.0*
SVSA 13 06:22:32.4±0.6**, 38.70N×29.21W, h5^{km}, MD3.3, ML2.9, Error ellipse: s-maj=17.4km s-min=5.4km az=20.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PCED	Cedros	0.41	100	eP	Pg	06 22 39.5	-1.1
PCED				i S	Sg	06 22 45.2	-0.9
	236nm,0.2s						
PCED	Cedros	0.41	100	eP	Pg	06 22 39.5	-1.1
PCED				i S	Sg	06 22 45.2	-0.9
	236nm,0.2s						
CALA	Caldeira	0.42	106	eP	Pg	06 22 39.7	-1.1
CALA				eS	Sg	06 22 45.4	-1.0
HOR	Horta	0.49	111	eP	Pg	06 22 41.1	-1.1
HOR				eS	Sg	06 22 47.1	-1.7
PICO	Pico	0.65	108	eP	Pg	06 22 43.5	-1.9
PICO				i rx		06 22 48.1	
PICO				eS	Sg	06 22 51.8	-2.3
ROSA	Rosais	0.76	88	erx		06 22 46.4	

IDC 13 06:24:38.2±1.8**, 11.36N×92.48E, mb3.6**/3**, mb1 3.8**/4**, mb1mx3.5**/17**, mbtmp3.6**/4**, ML3.8**/1**, Error ellipse: s-maj=52.5km s-min=31.7km az=60.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.42	41	Pn	P	06 26 56.1	-2.1
	0.3nm,0.3s,baz=235,slow=15,SNR=4.4						
SONM	Songino Array	38.19	15	P	P	06 31 58.5	-2.7
	0.2nm,0.4s,baz=210,slow=7.0,SNR=5.0						
WRA	Warramunga Arr	51.62	127	P	P	06 33 47.0	-2.1
	0.5nm,0.6s,baz=299,slow=9.8,SNR=5.7						
FINES	FINESS Array B	68.89	332	P	P	06 35 45.1	-1.5
	1.0nm,0.9s,baz=104,slow=7.9,SNR=7.2						

*IDC **13** 06:34:48.3±1.1, 31.12N×50.08E, mb3.9/16, mb1 4.0/17, mb1mx4.0/25, mbtmp3.9/17, ML4.0/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/22, Error ellipse: s-maj=25.9km s-min=19.0km az=154.0*
*NEIC **13** 06:34:49.6, 30.73N×50.04E, h34^{km}, mb4.0/2, ML3.9(THR), MN3.7(TEH), After THR.*
*THR **13** 06:34:49.6±0.8, 30.73N×50.04E, h34^{km}±13^{km}, ML3.9*
*CSEM **13** 06:34:49.4±0.1, 30.70N×49.99E, h35^{km}, mb4.1/2, Error ellipse: s-maj=2.7km s-min=1.2km az=57.0*
*TEH **13** 06:34:50.6, 30.68N×49.99E, h19^{km}, Mn3.7*
*OMAN **13** 06:34:55.6, 30.37N×50.09E, h40^{km}, Error ellipse: s-maj=245.5km s-min=37.5km az=358.0*
ISC 13 06:34:50.2±0.5**, 30.73N**±0.04×**50.04E**±0.05**, h43^{km}**±6^{km}**, n73, σ1^{s}12**/82**, mb3.9**/18**, MS3.7**/1**, 4C-2D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	1.74	323	ePg	P	06 35 20.0	+1.6
SHGR	Shooshtar-Gavs	1.74	323	ePG	P	06 35 20.8	+2.4
SHGR				AML	AML	06 35 48.9	
	comp=N,3μm,0.4s						
SHI	Shiraz	2.40	116	Pn	P	06 35 29.0	+1.1
IPAR	Pars	2.75	108	Pn	P	06 35 33.8	+0.9
RDF	Al-Radifah	2.81	231	eP	P	06 35 38.0	+4.3
RDF				eS	S	06 36 14.4	+7.8
NAY	Al-Naaiem	2.83	239	eP	P	06 35 38.8	+4.7
IMOK	Mook	2.87	125	Pn	P	06 35 35.0	+0.5
NASN	Na'in	3.14	48	ePn	P	06 35 39.0	+0.6
NASN	Na'in	3.14	48	ePN	P	06 35 39.2	+0.8
QAM	Qamsar	3.50	25	Pn	P	06 35 43.0	-0.5
GHIR	Ghir-Karzin	3.54	133	ePN	P	06 35 44.7	+0.7
GHIR				AML	AML	06 36 58.0	
	comp=N,161nm,0.4s						
GHIR	Ghir-Karzin	3.54	133	ePn	P	06 35 44.0	-0.1
ASAO	Ashtian	3.81	360	ePN	P	06 35 48.8	+0.9
ASAO				AML	AML	06 36 54.7	
	comp=N,101nm,0.6s						
ASAO	Ashtian	3.81	360	Pn	P	06 35 48.0	+0.1
IMEH	Mehriz	3.98	79	Pn	P	06 35 51.1	+0.8
ICHK	Chekchek	4.03	67	Pn	P	06 35 51.5	+0.5
IKOM	Komasi	4.05	329	Pn	P	06 35 52.3	+1.0
IVIS	Veys	4.64	326	Pn	P	06 35 57.5	-2.2
IRAZ	Razeghan	4.67	359	Pn	P	06 36 00.2	+0.2
IRAZ				Sn	S	06 36 51.8	-1.8
IBAF	Bafgh	4.82	78	Pn	P	06 36 01.2	-1.0
SNGE	Sanandaj	4.91	333	ePN	P	06 36 03.2	-0.2
SNGE				AML	AML	06 37 49.3	
	comp=N,73nm,0.6s						
SNGE	Sanandaj	4.91	333	Pn	P	06 36 03.0	-0.4
IDHR	Dehrash	5.02	323	Pn	P	06 36 04.4	-0.5
IDMV	Damavand	5.12	19	Pn	P	06 36 06.3	-0.1
DAMV	Damavand	5.15	18	ePn	P	06 36 06.0	-0.8
DAMV	Damavand	5.15	18	ePN	P	06 36 06.5	-0.3
ILAS	Lasjerd	5.25	27	Pn	P	06 36 08.9	+0.7
IAFJ	Afjeh	5.31	15	Pn	P	06 36 08.9	-0.1
IFIR	Firoozkooh	5.41	24	Pn	P	06 36 10.4	+0.1
BHD	Baghdad	5.43	299	ePn	P	06 35 58.0	-13
BHD				ePb	P	06 36 13.0	+2.3
BHD				ePg	P	06 36 28.0	+17
BHD				eSn	S	06 37 11.0	-1.9
BHD				eSb	S	06 37 32.0	+19
BHD				eSg	S	06 37 50.0	+37
IANJ	Anjiloo	5.74	34	Pn	P	06 36 15.2	+0.2
ISHM	Shahmirzad	5.75	27	Pn	P	06 36 16.2	+1.0
BNDS	Bandar-Abbas	6.31	120	ePn	P	06 36 22.0	-1.0
BNDS	Bandar-Abbas	6.31	120	ePN	P	06 36 22.3	-0.7
BANOM	Banah	7.30	129	⇓P	P	06 36 35.6	-1.3
	SNR=16						
BANOM				⇑S	S	06 37 55.3	-4.1
ASHO	Ashiyiah	8.04	137	⇑P	P	06 36 46.2	-0.9
	SNR=12						
ASHO				⇑S	S	06 38 13.6	-4.2
ARQ	Araqi	9.36	140	⇓P	P	06 37 04.9	-0.5
BSY	Bisya	10.20	139	P	P	06 37 17.3	+0.3
	SNR=6.3						
BSYO	Bisya	10.24	139	P	P	06 37 17.3	-0.2
	SNR=6.3						
JMDO	Jabal Madar	11.01	137	P	P	06 37 28.1	+0.1
	SNR=11						
ASF	Jabal al Asfar	11.31	281	Pn	P	06 37 31.4	-0.7
	comp=N,1.2nm,0.3s,baz=320,slow=4.5,SNR=4.9						
ASF				Sn	S	06 39 34.9	-3.2
	comp=N,0.4nm,0.3s,baz=128,slow=19,SNR=4.2						
ASF				Lg		06 40 54.6	
	comp=N,0.2nm,0.3s,baz=180,slow=20,SNR=1.5						
MALT	Malatya	12.20	311	P	P	06 37 41.4	-2.5
MALT	Malatya	12.20	311	P	P	06 37 41.4	-2.6
WHFO	Wadi Hawf	13.19	164	⇑P	P	06 37 55.5	-1.8
IDI	Anoyia	21.55	289	P	P	06 39 39.2	+1.5
	comp=N,12nm,0.8s,mb4.4,baz=96,slow=12,SNR=6.1						
MLR	Muntele Rosu	23.89	315	P	P	06 40 02.4	+1.9
	comp=N,8.3nm,1.1s,mb4.1,baz=36,slow=8.7,SNR=5.1						
AKASG	Malin Array Be	25.28	328	P	P	06 40 12.9	-1.0
	comp=N,0.4nm,0.4s,mb3.3,baz=136,slow=9.0,SNR=7.3						
AKASG	Malin Array Be	25.28	328	P	P	06 40 12.9	-1.0
BVAR	Borovoye Array	26.77	28	P	P	06 40 28.0	+0.3
	comp=N,3.4nm,0.6s,mb4.0,baz=225,slow=6.3,SNR=13						
PSZ	Piszkesteto	28.70	315	eP	P	06 40 45.5	+0.2
	comp=N,1.5nm,0.4s,mb4.1						
PSZ	Piszkesteto	28.70	315	eP	P	06 40 45.5	+0.3
	comp=N,1.5nm,0.4s,mb4.1						
KURK	Kurchatov	29.17	39	eP	P	06 40 49.7	+0.3
	comp=N,3.3nm,0.8s,mb4.1						
KURK	Kurchatov	29.17	39	eP	P	06 40 49.7	+0.3
	comp=N,3.3nm,0.8s,mb4.1						
GERES	GERESS Array B	32.87	314	P	P	06 41 20.2	-1.8
	comp=N,0.2nm,0.4s,mb3.4,baz=142,slow=11,SNR=3.0						
GERES	GERESS Array B	32.87	314	P	P	06 41 20.2	-1.8
ZAL	Zalesovo	34.08	37	P	P	06 41 31.3	-1.0
	comp=N,0.7nm,0.4s,mb3.9,baz=217,slow=9.7,SNR=6.4						
FINES	FINESS Array B	34.52	340	P	P	06 41 34.8	-1.2
	comp=N,0.7nm,0.5s,mb3.9,baz=144,slow=8.8,SNR=12						
HFS	Hagfors	38.07	331	P	P	06 42 05.7	-0.3
	comp=N,1.5nm,0.5s,mb4.0,baz=127,slow=7.4,SNR=8.6						
NOA	NORSAR Array B	39.59	331	P	P	06 42 18.2	-0.4
	comp=N,0.4nm,0.8s,mb3.2,baz=116,slow=9.1,SNR=2.7						
CM31	Chiang Mai Arr	45.79	94	P	P	06 43 13.0	+3.3
SONM	Songino Array	45.81	51	P	P	06 43 09.3	-0.1
	comp=N,0.3nm,0.7s,mb3.3,baz=278,slow=10,SNR=4.3						
BDT	Bhumibol Dam	46.37	95	P	P	06 43 12.5	-1.7
MATP	Matopo	54.91	205	P	P	06 44 24.0	+5.0
	comp=N,3.6nm,1.0s,mb4.3,baz=21,slow=7.9,SNR=4.0						
DBIC	Dimbokro	56.59	257	P	P	06 44 34.2	+3.0
	comp=N,6.0nm,0.9s,mb4.6,baz=54,slow=7.0,SNR=4.2						
DBIC				LR	LR	07 11 56.8	
	comp=N,70nm,20.4s,MS3.7,baz=57,slow=39						
SCHQ	Schefferville	79.08	328	P	P	06 46 52.2	+1.0
	comp=N,2.6nm,0.9s,mb4.2,baz=45,slow=7.1,SNR=3.6						
SCHQ	Schefferville	79.08	328	eP	P	06 46 52.1	+0.8
SCHQ	Schefferville	79.08	328	eP	P	06 46 52.1	+0.9
INK	Inuvik	81.23	1	P	P	06 47 03.0	+0.6
	comp=N,0.4nm,0.6s,mb3.5,baz=288,slow=8.1,SNR=6.5						
INK	Inuvik	81.23	1	eP	P	06 47 02.7	+0.2
INK	Inuvik	81.23	1	eP	P	06 47 02.7	+0.2
ILAR	Eielson Array	83.90	7	P	P	06 47 17.2	+1.1
	comp=N,0.4nm,0.8s,mb3.6,baz=316,slow=3.0,SNR=7.2						
YKA	Yellowknife Ar	86.29	353	P	P	06 47 29.4	+1.5
	comp=N,1.2nm,0.9s,mb4.1,baz=11,slow=5.3,SNR=23						
YKA	Yellowknife Ar	86.29	353	P	P	06 47 29.4	+1.5

*NIED **13** 06:55:00, 37.50N×142.10E, h29^{km}, Mw3.7 Best double couple: $M_0$4.4×10^{14} NP1:ϕ_s223°, δ77°, λ67°. NP2:ϕ_s104°, δ26°, λ148°.*
*IDC **13** 06:55:41.8±0.9, 37.44N×142.11E, mb3.7/7, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, ML3.5/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/23, Error ellipse: s-maj=35.3km s-min=16.4km az=99.0*
*JMA **13** 06:55:45.1±0.2, 37.53N×142.06E, h31^{km}±4^{km}, M3.9*
*NEIC **13** 06:55:48.9±2.4, 37.42N×142.09E, h53^{km}±21^{km}, Error ellipse: s-maj=24.3km s-min=14.7km az=94.0*
ISC 13 06:55:44.8±0.6**, 37.47N**±0.03×**142.14E**±0.05**, h33^{km}, n23, σ1^{s}05**/38**, mb3.6**/7**, 4C-1D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	1.01	264	⇑P	P	06 56 02.4	-0.3
JFK				eS	S	06 56 14.5	-1.4
ONAJ	Iwakimizuishiy	1.13	251	⇑P	P	06 56 04.2	-0.1
ONAJ				eS	S	06 56 17.8	-1.2
JMM	Marumori	1.14	291	⇑P	P	06 56 04.1	-0.3
JMM				S	S	06 56 17.4	-1.7
JIO	Ouri	1.16	328	⇓P	P	06 56 04.4	-0.3
JIO				S	S	06 56 17.8	-1.9
JFT	Otama	1.44	272	⇑P	P	06 56 09.4	+0.7
JFT				eS	S	06 56 26.6	0.0
JOU	Okura	1.47	308	P	P	06 56 09.5	+0.3
JOU				eS	S	06 56 26.9	-0.5
JMK	Ichinoseki	1.65	334	P	P	06 56 11.9	+0.2
JMK				eS	S	06 56 30.6	-1.3
JYS	Shirataka	1.81	295	P	P	06 56 15.3	+1.3
JYS				eS	S	06 56 37.0	+1.1
JFY	Yanaizu	1.94	269	P	P	06 56 17.8	+1.9
JFY				eS	S	06 56 40.2	+0.8
JYK	Kaneyama	2.01	316	P	P	06 56 19.2	+2.2
JYK				eS	S	06 56 42.3	+1.1
JOM	Ohasama	2.10	342	P	P	06 56 18.4	+0.1
JOM				eS	S	06 56 42.9	-0.6
MAJO	Matsushiro	3.28	255	eP	P	06 56 37.4	+2.3
MAT	Matsushiro	3.28	255	eP	P	06 56 37.0	+1.9
MAT				eS	S	06 57 20.0	+6.5
MAT	Matsushiro	3.28	255	P	P	06 56 36.2	+1.1
MAT				eS	S	06 57 13.9	+0.4
JHJ	Hachijo jima 2	4.75	205	Pn	Pn	06 56 55.7	-0.4
	6.2nm,0.3s,baz=73,slow=19,SNR=3.3						
JHJ				Sn	Sn	06 57 48.7	-2.1
	15nm,0.3s,baz=106,slow=20,SNR=3.4						
ASAJ	Asahikawa	6.65	3	Pn	Pn	06 57 22.4	-0.3
	0.9nm,0.3s,baz=262,slow=13,SNR=4.7						
ASAJ				Sn	Sn	06 58 37.5	-0.7
	0.5nm,0.3s,baz=342,slow=20,SNR=2.3						
ASAJ				LR	LR	07 00 00.5	
	comp=Z,95nm,21.3s,baz=131,slow=39						
SONM	Songino Array	28.03	303	P	P	07 01 35.0	+0.2
	1.4nm,0.9s,mb3.6,baz=108,slow=7.8,SNR=8.0						
ILAR	Eielson Array	48.81	33	P	P	07 04 28.4	+0.1
	0.7nm,1.1s,mb3.6,baz=259,slow=6.5,SNR=6.2						
WRA	Warramunga Arr	57.58	189	P	P	07 05 32.5	-1.3
	0.6nm,0.7s,mb3.7,baz=5.9,slow=7.2,SNR=3.5						
ASAR	Alice Springs	61.30	189	P	P	07 05 58.9	-0.5
	0.7nm,0.8s,mb3.8,baz=7.4,slow=7.1,SNR=4.8						
YKA	Yellowknife Ar	63.14	30	P	P	07 06 11.8	+0.7
	0.1nm,0.4s,mb3.3,baz=302,slow=6.8,SNR=4.8						
FINES	FINESS Array B	68.70	332	P	P	07 06 46.3	-0.1
	2.2nm,0.9s,mb4.1,baz=22,slow=10,SNR=5.2						
NOA	NORSAR Array B	74.01	338	P	P	07 07 19.0	+0.8
	0.4nm,0.7s,mb3.5,baz=32,slow=7.2,SNR=3.0						

IDC 13 07:28:42.3±12.0**, 13.38N×145.20E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.8**/19**, mbtmp4.0**/4**, Error ellipse: s-maj=392.1km s-min=87.8km az=165.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILAR	Eielson Array	68.61	25	P	P	07 39 46.6	-2.4
	0.5nm,0.5s,baz=251,slow=5.9,SNR=12						
INK	Inuvik	74.43	22	P	P	07 40 22.7	-1.0
	0.8nm,1.1s,baz=270,slow=6.1,SNR=3.1						
YKA	Yellowknife Ar	82.89	27	P	P	07 41 08.9	-1.0
	0.3nm,0.4s,baz=286,slow=5.3,SNR=6.1						
FINES	FINESS Array B	91.49	335	P	P	07 41 50.3	-1.3
	0.6nm,0.6s,baz=76,slow=5.7,SNR=5.7						

IDC 13 07:40:18.9±14.0**, 5.02S×158.23E, mb4.1**/3**, mb1 4.2**/4**, mb1mx3.9**/15**, mbtmp4.1**/4**, ML4.2**/1**, Error ellipse: s-maj=233.3km s-min=93.4km az=52.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	18.98	217	P	P	07 44 42.2	-2.3
	0.5nm,0.3s,baz=39,slow=14,SNR=5.2						
WRA	Warramunga Arr	27.58	235	P	P	07 46 08.5	-1.5
	1.2nm,0.3s,baz=61,slow=9.0,SNR=35						
ASAR	Alice Springs	29.89	229	P	P	07 46 28.2	-2.5
	0.8nm,0.4s,baz=61,slow=9.4,SNR=17						
STKA	Stephens Creek	30.94	208	P	P	07 46 37.8	-2.2
	1.4nm,0.9s,baz=35,slow=13,SNR=4.4						

*NEIC **13** 08:50:15.9±1.9, 30.54S×177.43W, h10^{km}, mb4.4/1, Error ellipse: s-maj=41.2km s-min=14.4km az=99.0*
*IDC **13** 08:50:15.6±2.8, 30.52S×177.60W, mb4.1/3, mb1 4.3/4, mb1mx4.0/15, mbtmp4.1/4, ML2.9/1, Error ellipse: s-maj=65.0km s-min=34.6km az=117.0*
ISC 13 08:50:14.1±4.5**, 30.7S**±0.1×**177.4W**±0.7**, h10^{km}, n9, σ0^{s}76**/9**, mb4.2**/4**, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	1.48	343	eP	Pn	08 50 40.7	-0.2
URZ	Urewera	8.81	209	Pn	P	08 52 24.7	+0.2
	0.1nm,0.3s,baz=20,slow=16,SNR=3.3						
URZ				Sn	Sn	08 54 04.6	-0.3
	1.2nm,0.3s,baz=2.5,slow=23,SNR=8.6						
CTAO	Charters Tower	34.33	279	eP	P	08 57 03.9	+0.8
STKA	Stephens Creek	34.90	257	P	P	08 57 09.7	+1.8
	2.6nm,0.5s,mb4.4,baz=97,slow=10,SNR=11						

STKA	**Stephens Creek**	**34.90**	**257**	*e*P	**P**	**08 57 09.3**	**+1.4**
ASAR	**Alice Springs**	**43.59**	**267**	P	**P**	**08 58 19.9**	**-0.3**
	0.7nm,0.5s,mb3.7,baz=106,slow=7.8,SNR=19						
WRAB	**Tennant Creek**	**44.60**	**272**	*e*P	**P**	**08 58 27.7**	**-0.7**
	2.8nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.60**	**272**	P	**P**	**08 58 27.6**	**-0.9**
	1.9nm,0.4s,mb4.3,baz=111,slow=8.1,SNR=27						
FINES	**FINESS Array B**	**145.56**	**340**	PKPbc	PKPbc	09 09 53.8	+1.3
	1.8nm,0.6s,baz=56,slow=3.8,SNR=19						

IDC 13 08:58:27.6±6.5**,4.51N×94.96E,mb3.4**/2**,mb1 3.8**/3**, mb1mx3.5**/17**,mbtmp3.5**/3**,ML4.0**/1**,MS3.8**/1**,Ms1 3.7**/1**, ms1mx3.1**/11**,Error ellipse: s-maj=197.3km s-min=32.8km az=71.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.40**	**15**	Pn	P	09 01 51.1	-3.9
	0.2nm,0.3s,baz=216,slow=12,SNR=6.0						
SONM	**Songino Array**	**44.27**	**11**	P	P	09 06 39.4	-1.3
	0.1nm,0.4s,baz=180,slow=10,SNR=2.0						
WRA	**Warramunga Arr**	**45.69**	**123**	P	P	09 06 50.5	-2.0
	0.9nm,0.6s,baz=301,slow=9.0,SNR=7.9						
STKA	**Stephens Creek**	**57.22**	**133**	LR	LR	09 34 35.3	
	comp=Z,85nm,18.9s,baz=42,slow=38						

*NEIC **13** 09:21:06.1,16.96N×95.48W,h98km,MD3.7(MEX),After MEX.*

MEX 13 09:21:06.0±0.3**,16.96N×95.48W,h99**km±5km**,MD3.7,1D, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.58**	**77**	*i* P	P	09 21 21.1	-1.4
CMIG				*i* S	S	09 21 32.8	-2.0
OXX	**Oaxaca**	**1.20**	**276**	*e*P	P	09 21 27.5	-1.6
OXX				*e*S	S	09 21 44.0	-2.3
VHO	**Vista Hermosa**	**1.21**	**275**	⇓*i*P	P	09 21 27.8	-1.4
VHO				*e*S	S	09 21 45.0	-1.5
HUIG	**Huatulco**	**1.33**	**207**	*e*P	P	09 21 28.7	-1.9
HUIG				*i* S	S	09 21 46.9	-2.0

*IDC **13** 09:36:31.9±0.8,12.41N×92.32E,mb4.0/9,mb1 4.1/10, mb1mx4.0/18,mbtmp4.0/10,ML4.3/1,MS3.0/1,Ms1 3.2/1, ms1mx2.6/22,Error ellipse: s-maj=29.9km s-min=17.6km az=62.0*

*NEIC **13** 09:36:36.5±0.6,12.34N×92.39E,h30km,mb4.2/3,Error ellipse: s-maj=15.9km s-min=11.4km az=77.0*

*BJI **13** 09:36:38.1,12.18N×92.53E,h32km,mB5.0,mb4.4*

ISC 13 09:36:30.9±5.6**,12.21N**±0.10×**92.20E**±0.09**,h8**km±35km**, n21,**σ**1.08**/21**,mb4.1**/13**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NST	**Nakhon Sawan**	**8.44**	**65**	P	**P**	**09 38 36.7**	**+0.3**
CM31	**Chiang Mai Arr**	**8.99**	**45**	*e*P	**P**	**09 38 42.3**	**-1.9**
CMAR	**Chiang Mai Arr**	**8.99**	**45**	Pn	**P**	**09 38 39.2**	**-5.0**
	0.9nm,0.3s,baz=238,slow=16,SNR=21						
CMAR				LR	LR	09 41 52.0	
	comp=Z,101nm,19.4s,baz=220,slow=36						
VIS	**Vishakhapatnam**	**10.17**	**304**	*e*P	**P**	**09 39 00.0**	**-0.5**
LSA	**Lhasa**	**17.43**	**357**	P	**P**	**09 40 38.8**	**+2.6**
GYA	**Guiyang**	**19.65**	**42**	P	**P**	**09 41 05.8**	**+2.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**33.22**	**27**	*e*P	**P**	**09 43 11.8**	**+1.2**
HHC				XP	sP	09 43 25.8	+12
HHC				PP	PP	09 44 22.9	+1.2
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,182nm,7.0s						
SONM	**Songino Array**	**37.45**	**16**	P	**P**	**09 43 45.1**	**-1.5**
	comp=Z,0.7nm,0.6s,mb3.7,baz=198,slow=7.8,SNR=3.4						
KURK	**Kurchatov**	**39.97**	**347**	P	**P**	**09 44 07.5**	**-0.1**
	comp=Z,1.7nm,0.8s,mb3.8						
CHKZ	**Chkalovo**	**44.79**	**342**	*e*P	**P**	**09 44 47.1**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**50.85**	**153**	P	**P**	**09 45 35.9**	**+1.4**
	comp=Z,6.4nm,0.7s,mb4.7,baz=273,slow=6.5,SNR=7.2						
NWAO	**Narrogin (SRO)**	**50.85**	**153**	P	**P**	**09 45 35.9**	**+1.4**
WRA	**Warramunga Arr**	**52.35**	**127**	P	**P**	**09 45 45.3**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=301,slow=10,SNR=16						
WRA				PcP	PcP	09 46 59.1	+1.9
	comp=Z,1.0nm,0.5s,baz=316,slow=3.2,SNR=5.9						
WRAB	**Tennant Creek**	**52.36**	**127**	*e*P	**P**	**09 45 45.2**	**-0.9**
	comp=Z,3.9nm,0.5s,mb4.6						
ASAR	**Alice Springs**	**54.17**	**131**	P	**P**	**09 45 59.0**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.0,baz=308,slow=7.3,SNR=12						
KMBO	**Kilima Mbogo**	**56.13**	**260**	P	**P**	**09 46 14.0**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.9,baz=57,slow=18,SNR=3.7						
STKA	**Stephens Creek**	**64.47**	**134**	P	**P**	**09 47 11.4**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=308,slow=7.8,SNR=2.1						
FINES	**FINESS Array B**	**68.01**	**332**	P	**P**	**09 47 32.7**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.8,baz=90,slow=5.7,SNR=4.8						
FINES	**FINESS Array B**	**68.01**	**332**	P	**P**	**09 47 32.7**	**0.0**
ARCES	**ARCESS Array B**	**70.57**	**340**	P	**P**	**09 47 47.7**	**-0.6**
	comp=Z,2.0nm,0.9s,mb4.1,baz=90,slow=7.2,SNR=2.9						
ILAR	**Eielson Array**	**91.46**	**22**	P	**P**	**09 49 38.2**	**-0.5**
	comp=Z,0.3nm,0.8s,mb3.7,baz=294,slow=4.3,SNR=4.1						

*IDC **13** 09:50:19.7±0.9,9.75N×138.66E,mb3.9/7,mb1 4.2/7, mb1mx4.1/17,mbtmp3.9/7,MS3.6/6,Ms1 3.6/6, ms1mx3.3/22,Error ellipse: s-maj=51.8km s-min=18.9km az=96.0*

*NEIC **13** 09:50:21.1±0.6,9.77N×138.53E,h10km,mb4.2/3,Error ellipse: s-maj=29.5km s-min=13.7km az=91.0*

ISC 13 09:50:19.4±0.6**,9.74N**±0.09×**138.5E**±0.2**,h10**km**,n19,** σ**1.19**/15**,mb4.0**/11**,MS3.5**/5**,Western Caroline Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**17.62**	**11**	LR	LR	09 59 15.3	
	comp=Z,127nm,21.6s,baz=195,slow=30						
PMG	**Port Moresby**	**20.90**	**155**	LR	LR	10 02 37.3	
	comp=Z,225nm,18.5s,MS3.6,baz=140,slow=35						
WRA	**Warramunga Arr**	**29.77**	**188**	P	**P**	**09 56 28.1**	**-0.5**
	2.0nm,0.8s,mb3.9,baz=5.5,slow=9.6,SNR=7.6						
ASAR	**Alice Springs**	**33.49**	**188**	P	**P**	**09 57 01.4**	**+0.1**
	1.1nm,0.9s,mb3.8,baz=18,slow=12,SNR=8.0						
ASAR				LR	LR	10 10 21.7	
	comp=Z,73nm,21.3s,MS3.4,baz=3.9,slow=36						
CMAR	**Chiang Mai Arr**	**39.22**	**287**	LR	LR	10 12 49.3	
	comp=Z,52nm,19.2s,MS3.4,baz=220,slow=34						
STKA	**Stephens Creek**	**41.49**	**176**	P	**P**	**09 58 08.7**	**+0.3**
	1.5nm,0.6s,mb3.8,baz=338,slow=9.4,SNR=5.7						
STKA				LR	LR	10 14 51.8	
	comp=Z,102nm,19.2s,MS3.7,baz=25,slow=36						
STKA	**Stephens Creek**	**41.49**	**176**	*e*P	**P**	**09 58 08.8**	**+0.5**
STKA				LR	LR	10 14 51.8	
ULN	**Ulaanbaatar**	**46.31**	**331**	*e*P	**P**	**09 58 47.7**	**+0.6**
	1.7nm,0.9s,mb4.0						
SONM	**Songino Array**	**46.60**	**331**	P	**P**	**09 58 50.5**	**+1.0**
	1.9nm,0.9s,mb4.0,baz=146,slow=4.5,SNR=11						
ZAL	**Zalesovo**	**61.26**	**327**	LR	LR	10 30 22.4	
	comp=Z,54nm,18.1s,MS3.7,baz=90,slow=39						
KURK	**Kurchatov**	**63.60**	**322**	*e*P	**P**	**10 00 51.2**	**-1.5**
	5.4nm,1.0s,mb4.5						
COLA	**College**	**74.33**	**25**	*e*P	**P**	**10 01 56.9**	**-1.7**
	1.1nm,0.5s,mb4.0						
ILAR	**Eielson Array**	**74.72**	**25**	P	**P**	**10 02 00.2**	**-0.7**
	0.7nm,0.9s,mb3.6,baz=241,slow=6.0,SNR=6.6						
INK	**Inuvik**	**80.29**	**22**	P	**P**	**10 02 32.8**	**+1.1**
BBB	**Bella Bella**	**84.49**	**38**	P	**P**	**10 02 51.9**	**-1.8**
	7.2nm,0.8s,mb4.9,baz=259,slow=5.2,SNR=3.3						
YKA	**Yellowknife Ar**	**89.11**	**26**	P	**P**	**10 03 16.9**	**+0.9**
	0.3nm,0.7s,mb3.7,baz=296,slow=5.0,SNR=6.4						
YKA	**Yellowknife Ar**	**89.11**	**26**	P	**P**	**10 03 16.9**	**+0.9**
NVAR	**Mina Array Bea**	**94.20**	**50**	P	**P**	**10 03 42.4**	**+2.3**
	0.4nm,0.7s,mb4.0,baz=247,slow=3.0,SNR=4.0						
NVAR	**Mina Array Bea**	**94.20**	**50**	P	**P**	**10 03 42.4**	**+2.3**

*IDC **13** 09:54:13.8±1.5,1.90S×96.54E,mb3.9/8,mb1 4.1/8, mb1mx4.0/15,mbtmp3.9/8,Error ellipse: s-maj=61.7km s-min=20.8km az=53.0*

*NEIC **13** 09:54:16.1±0.8,1.68S×96.87E,h10km,mb4.1/1,Error ellipse: s-maj=20.1km s-min=14.1km az=54.0*

ISC 13 09:54:14.7±1.0**,1.6S**±0.1×**96.9E**±0.1**,h10**km**,n13,** σ**0.91**/12**,mb3.9**/8**,Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.78**	**29**	*e*P	**Pn**	**09 56 10.0**	**-0.6**
CMAR	**Chiang Mai Arr**	**20.01**	**6**	P	**P**	**09 58 52.3**	**+1.7**
	3.4nm,0.8s,baz=197,slow=9.1,SNR=5.1						
KKM	**Kota Kinabalu**	**20.70**	**68**	*e*P	**P**	**09 58 56.9**	**-0.9**
WRA	**Warramunga Arr**	**40.86**	**119**	P	**P**	**10 01 59.3**	**+0.6**
	0.5nm,0.5s,mb3.4,baz=302,slow=8.9,SNR=3.3						
ASAR	**Alice Springs**	**42.00**	**124**	P	**P**	**10 02 08.1**	**+0.1**
	0.6nm,0.6s,mb3.4,baz=296,slow=8.1,SNR=7.5						
SONM	**Songino Array**	**49.91**	**8**	P	**P**	**10 03 11.4**	**+0.9**
	0.7nm,0.8s,mb3.8,baz=189,slow=8.3,SNR=5.3						
ZAL	**Zalesovo**	**56.24**	**351**	P	**P**	**10 03 57.8**	**+0.3**
	3.5nm,0.5s,mb4.7,baz=303,slow=5.2,SNR=13						
CHKZ	**Chkalovo**	**59.27**	**342**	*e*P	**P**	**10 04 17.3**	**-1.5**
	0.8nm,0.5s,mb4.0						
AKASG	**Malin Array Be**	**77.29**	**323**	P	**P**	**10 06 09.8**	**-1.2**
	0.9nm,0.6s,mb3.9,baz=91,slow=5.1,SNR=4.1						
AKASG	**Malin Array Be**	**77.29**	**323**	P	**P**	**10 06 09.8**	**-1.2**
FINES	**FINESS Array B**	**82.33**	**333**	P	**P**	**10 06 37.9**	**+0.1**
	0.6nm,0.6s,mb3.7,baz=90,slow=7.6,SNR=5.5						
ARCES	**ARCESS Array B**	**85.05**	**340**	P	**P**	**10 06 52.0**	**+0.6**
	3.7nm,1.0s,mb4.5,baz=90,slow=4.5,SNR=3.7						
TXAR	**Lajitas Array**	**146.15**	**33**	PKPbc	PKPbc	10 13 57.8	+1.8
	0.3nm,0.6s,baz=276,slow=0.9,SNR=6.6						

*IDC **13** 10:04:18.9±1.6,4.61N×95.61E,mb4.1/6,mb1 4.2/6, mb1mx3.9/17,mbtmp4.1/6,MS3.5/1,Ms1 3.5/1, ms1mx2.5/23,Error ellipse: s-maj=72.3km s-min=21.9km az=64.0*

*NEIC **13** 10:04:25.3±0.7,4.79N×96.09E,h30km,mb4.6/1,Error ellipse: s-maj=22.9km s-min=12.2km az=224.0*

ISC 13 10:04:23.4±0.8**,4.8N**±0.1×**96.1E**±0.1**,h30**km**,n14,** σ**0.88**/13**,mb4.2**/7**,MS3.5**/1**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.58**	**83**	*e*P	**Pn**	**10 05 32.6**	**0.0**
HYB	**Hyderabad**	**21.27**	**308**	*e*P	**P**	**10 09 11.0**	**+1.2**
HYB	**Hyderabad**	**21.27**	**308**	*i* P	**P**	**10 09 11.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**42.53**	**153**	P	**P**	**10 12 16.4**	**-1.9**
	5.3nm,0.7s,mb4.4,baz=319,slow=9.3,SNR=3.4						
SONM	**Songino Array**	**43.80**	**10**	P	**P**	**10 12 28.3**	**0.0**
	1.1nm,0.7s,mb3.7,baz=188,slow=7.9,SNR=7.5						
WRA	**Warramunga Arr**	**44.91**	**124**	P	**P**	**10 12 37.7**	**0.0**
	1.6nm,0.5s,mb4.1,baz=302,slow=9.3,SNR=22						
WRAB	**Tennant Creek**	**44.92**	**124**	*e*P	**P**	**10 12 37.8**	**0.0**
	4.5nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**44.92**	**124**	*e*P	**P**	**10 12 37.8**	**0.0**
ASPA	**Alice Springs**	**46.47**	**129**	*e*P	**P**	**10 12 50.4**	**+0.5**
ASAR	**Alice Springs**	**46.47**	**129**	P	**P**	**10 12 50.3**	**+0.4**
	5.3nm,0.9s,mb4.5,baz=300,slow=7.4,SNR=57						
ASAR				LR	LR	10 32 38.9	
	comp=Z,60nm,20.3s,MS3.5,baz=94,slow=36						
FORT	**Forrest**	**46.73**	**141**	*e*P	**P**	**10 12 53.1**	**+1.2**
	287nm,0.6s						
STKA	**Stephens Creek**	**56.59**	**133**	P	**P**	**10 14 06.2**	**+0.1**
	1.7nm,0.4s,mb4.4,baz=306,slow=8.7,SNR=3.5						
FINES	**FINESS Array B**	**76.33**	**332**	P	**P**	**10 16 09.4**	**-1.8**
	1.3nm,1.1s,mb3.8,baz=124,slow=5.0,SNR=4.1						
CLL	**Collm**	**81.97**	**321**	*e**PP	pP	10 16 51.0	-0.4

*JMA **13** 10:22:19.8±0.1,28.11N×129.25E,h49km±2km,M3.8*
JMA Felt II J1.

*IDC **13** 10:22:21.6±4.0,27.92N×129.45E,h54km±37km,mb3.3/8, mb1 3.5/8,mb1mx3.4/20,mbtmp3.6/8,MS3.5/1,Ms1 3.5/1, ms1mx2.5/12,Error ellipse: s-maj=34.1km s-min=16.4km az=79.0*

ISC 13 10:22:19.6±0.5**,27.98N**±0.06×**129.36E**±0.08**,h52**km±4km**, n21,**σ**0.87**/29**,mb3.5**/8**,MS3.5**/1**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.41**	**242**	P	**P**	**10 22 30.0**	**-0.1**
JTK				S	**S**	**10 22 37.5**	**-0.1**
JAM	**Amami Oshima**	**0.48**	**27**	P	**P**	**10 22 30.2**	**-0.6**
JAM				S	**S**	**10 22 37.9**	**-1.0**
JZK	**Kikaishima**	**0.63**	**58**	P	**P**	**10 22 33.2**	**+0.6**
JZK				*e*S	**S**	**10 22 43.7**	**+1.5**
JOW	**Kunigami**	**1.50**	**220**	P	**P**	**10 22 44.6**	**-0.1**
	144nm,0.3s,baz=88,slow=20,SNR=62						
JOW				S	**S**	**10 23 04.8**	**+1.6**
	85nm,0.3s,baz=136,slow=27,SNR=9.5						
JOW	**Kunigami**	**1.50**	**220**	P	**P**	**10 22 44.7**	**0.0**
JOW				*e*S	**S**	**10 23 03.5**	**+0.3**
JIH	**Iheya**	**1.56**	**233**	P	**P**	**10 22 45.9**	**+0.4**
JIH				*e*S	**S**	**10 23 04.9**	**+0.3**
JNN	**Nakanoshima**	**1.91**	**14**	P	**P**	**10 22 50.5**	**+0.1**
JJT2	**Tamagusuku 2**	**2.33**	**218**	P	**P**	**10 22 56.1**	**-0.3**
JJT2				*e*S	**S**	**10 23 24.2**	**+0.3**
JAGN	**Aguni-jima**	**2.34**	**234**	P	**P**	**10 22 57.2**	**+0.7**
JAGN				*e*S	**S**	**10 23 24.3**	**+0.1**
JKC	**Kuchinoerabu**	**2.58**	**16**	P	**P**	**10 23 00.0**	**+0.1**
JKE	**Kume jima 2**	**2.83**	**235**	P	**P**	**10 23 02.6**	**-0.8**
JKE				*e*S	**S**	**10 23 35.3**	**-1.1**
JTN	**Tanegashima 3**	**3.02**	**28**	*e*S	**S**	**10 23 40.2**	**-1.0**
SONM	**Songino Array**	**26.68**	**324**	P	**P**	**10 27 57.7**	**+2.1**
	0.7nm,0.6s,mb3.4,baz=138,slow=9.3,SNR=8.5						
ZAL	**Zalesovo**	**41.50**	**321**	P	**P**	**10 30 04.5**	**+1.5**
	0.5nm,0.4s,mb3.5,baz=103,slow=11,SNR=2.8						
WRA	**Warramunga Arr**	**47.88**	**174**	P	**P**	**10 30 53.1**	**-1.6**
	0.4nm,0.3s,mb3.9,baz=354,slow=8.3,SNR=4.3						
BVAR	**Borovoye Array**	**49.66**	**317**	P	**P**	**10 31 07.0**	**-1.0**
	0.3nm,0.4s,mb3.7,baz=90,slow=7.4,SNR=3.5						
CTA	**Charters Tower**	**50.50**	**159**	LR	LR	10 52 43.1	
	comp=Z,43nm,18.2s,MS3.5,baz=226,slow=36						
ASAR	**Alice Springs**	**51.53**	**175**	P	**P**	**10 31 22.4**	**-0.2**
	0.6nm,0.6s,mb3.7,slow=9.0,SNR=9.2						
ASAR				PcP	PcP	10 32 35.1	-1.1
	0.5nm,0.9s,baz=343,slow=3.9,SNR=3.8						
ILAR	**Eielson Array**	**62.42**	**29**	P	**P**	**10 32 40.2**	**+1.0**
	0.1nm,0.5s,mb3.2,baz=284,slow=9.6,SNR=6.6						
FINES	**FINESS Array B**	**71.84**	**331**	P	**P**	**10 33 38.3**	**-0.1**
	0.4nm,0.4s,mb3.7,baz=68,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**76.52**	**25**	P	**P**	**10 34 04.4**	**-1.0**
	0.1nm,0.5s,mb3.0,baz=304,slow=5.4,SNR=4.4						

MAN 13 10:29:18.7,9.99N×122.31E,h1km**,mb4.4,ML3.3,MS3.1, 1C-2D,Negros**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AAP	**Anini-y**	**0.56**	**320**	*e*P	Pg	10 29 29.5	-0.4
SNPH	**Sibulan**	**1.12**	**125**	⇓*i*P	Pb	10 29 41.0	+0.5
SNPH				*i* S	Sb	10 29 54.1	-1.3
TBP	**Tagbilaran**	**1.56**	**101**	⇓*e*P	Pn	10 29 48.2	+0.4
TBP				*i* S	Sb	10 30 08.6	+0.3
RCP	**Roxas**	**1.62**	**15**	⇑*e*P	Sg	10 30 14.6	+1.9
LLP	**Lapu-Lapu**	**1.67**	**79**	*e*P	Pn	10 29 48.9	-0.4
LLP				*e*S	Sb	10 30 08.4	-2.9
DCPH	**Dipolog City**	**1.73**	**143**	*i* P	Pn	10 29 49.2	-1.0
DCPH				*i* S	Sn	10 30 11.9	-1.4
IPIL	**Ipil**	**2.20**	**173**	*e*P	Sn	10 30 21.3	-3.9
MSLP	**Maasin**	**2.52**	**86**	*e*P	Pn	10 30 02.6	+1.2
BUKP	**Musuan**	**3.43**	**127**	*e*P	Pn	10 30 15.1	+0.6

*IDC **13** 10:59:59.3±0.8,10.58N×92.01E,mb4.3/9,mb1 4.4/10, mb1mx4.1/19,mbtmp4.2/10,MS3.5/4,Ms1 3.5/4, ms1mx3.2/20,Error ellipse: s-maj=39.4km s-min=15.1km az=65.0*

*BJI **13** 11:00:01.2,10.62N×92.08E,h20km,mB5.1,mb4.6,Ms4.5, Msz3.9*

*NEIC **13** 11:00:02.8±0.4,10.63N×92.13E,mb4.5/11,Error ellipse: s-maj=12.6km s-min=7.5km az=70.0*

ISC 13 11:00:01.5±0.5**,10.57N**±0.06×**92.05E**±0.06**,h28**km**, h28**km±4.8km**:pP-P,n46,**σ**0.90**/44**,mb4.4**/21**,MS3.6**/3**,1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.29**	**40**	Pn	**P**	**11 02 27.7**	**-3.0**
CMAR				LR	LR	11 07 16.7	
	comp=Z,135nm,19.6s,baz=205,slow=42						
VIS	**Vishakhapatnam**	**11.04**	**311**	*e*P	**P**	**11 02 40.0**	**-0.9**
VIS				*e*S	**S**	**11 04 30.0**	**-14**
VIS				*e*		11 11 20.9	
VIS				*e*		11 13 19.2	
VIS				*e*T		11 13 37.8	
VIS				*e*		11 13 46.8	
	comp=N,91nm,1.3s						
SALM	**Salem**	**13.63**	**276**	*e*P	**P**	**11 03 14.0**	**-1.7**
HYB	**Hyderabad**	**14.75**	**299**	*i* P	**P**	**11 03 36.0**	**+5.7**
HYB				*e*S	**S**	**11 06 15.0**	**+1.4**
JIRN	**Jiri**	**17.87**	**343**	*e*P	**P**	**11 04 09.0**	**-0.9**
	comp=N,27nm,0.9s						
PKI	**Pulchoki**	**18.02**	**341**	*e*P	**P**	**11 04 11.7**	**-0.2**
	comp=N,46nm,1.1s						
DMN	**Daman**	**18.16**	**340**	*e*P	**P**	**11 04 12.7**	**-0.9**
	comp=N,21nm,0.7s						
GUN	**Gumba**	**18.20**	**342**	*e*P	**P**	**11 04 13.2**	**-0.8**
	comp=N,18nm,0.6s						
GKN	**Gorkha**	**18.68**	**339**	*e*P	**P**	**11 04 19.1**	**-0.9**
	comp=N,14nm,0.3s						
KOLN	**Koldanda**	**18.86**	**336**	*e*P	**P**	**11 04 21.7**	**-0.4**
	comp=N,12nm,0.5s						
LSA	**Lhasa**	**19.05**	**358**	*e*P	**P**	**11 04 24.9**	**+0.6**
	comp=N,14nm,0.8s						
POO	**Poona**	**19.29**	**296**	*e*	**S**	**11 08 15.0**	**+17**
GYA	**Guiyang**	**20.98**	**39**	⇑*i*P	**P**	**11 04 46.1**	**+0.9**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
NDI	**New Delhi**	**22.75**	**324**	*e*P	**P**	**11 05 03.5**	**+0.6**
CD2	**Chengdu**	**22.97**	**27**	*e*P	**P**	**11 05 04.5**	**-0.5**
DDI	**Dehra Dun**	**23.57**	**328**	*e*P	**P**	**11 05 13.0**	**+2.1**
ENH	**Enshi**	**25.45**	**37**	*e*P	**P**	**11 05 28.1**	**-0.8**
	comp=Z,27nm,0.6s,mb5.0						
ENH				*e*pP	pP	11 05 33.1	-4.0
LZH	**Lanzhou**	**27.56**	**21**	*e*P	**P**	**11 05 48.5**	**+0.2**
LZH				AP	pP	11 06 00.5	+4.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.7						
LZH	**Lanzhou**	**27.56**	**21**	*e*P	**P**	**11 05 48.5**	**+0.2**
	comp=Z,27nm,1.3s,mb4.7						
LZH				pP	pP	11 06 00.5	+4.0
LZH				sP	sP	11 06 05.4	+5.2
GTA	**Gaotai**	**29.54**	**12**	*e*P	**P**	**11 06 07.1**	**+1.0**
GTA				AP	pP	11 06 17.6	+3.3
GTA				XP	sP	11 06 21.9	+3.9
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
HHC	**Hu-ho-hao-te**	**34.73**	**26**	*e*P	**P**	**11 06 52.1**	**+0.7**
HHC				AP	pP	11 06 59.4	-0.4
HHC				XP	sP	11 07 02.4	-0.9
HHC				PP	PP	11 08 08.0	-0.8
HHC				S	**S**	**11 12 20.3**	**+1.5**
HHC				XS		11 12 33.1	
HHC				SS	SS	11 14 34.8	+2.4
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,242nm,8.2s						
AAK	**Ala-Archa**	**35.43**	**337**	*e*P	**P**	**11 06 57.0**	**-0.3**
	comp=Z,9.2nm,1.3s,mb4.5						
AAK				*e*pP	pP	11 07 04.3	-1.4
SONM	**Songino Array**	**39.06**	**15**	P	**P**	**11 07 28.1**	**+0.3**
	comp=Z,4.1nm,1.0s,mb4.1,baz=196,slow=9.0,SNR=23						
SONM				PcP	PcP	11 09 38.7	+0.8
	comp=Z,0.7nm,0.8s,baz=196,slow=2.9,SNR=3.5						
ULN	**Ulaanbaatar**	**39.26**	**16**	P	**P**	**11 07 28.6**	**-0.8**
	comp=Z,2.8nm,0.9s,mb4.0						
KURK	**Kurchatov**	**41.52**	**347**	*e*P	**P**	**11 07 48.7**	**+0.7**
	comp=Z,6.7nm,1.3s,mb4.1						
ZAL	**Zalesovo**	**43.63**	**354**	P	**P**	**11 08 06.0**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.0,baz=302,slow=7.2,SNR=11						
ZAL				LR	LR	11 30 10.3	
	comp=Z,48nm,22.0s,MS3.4,baz=118,slow=42						
CN2	**Changchun**	**43.94**	**35**	*e*P	**P**	**11 08 10.9**	**+3.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**45.79**	**342**	P	**P**	**11 08 22.2**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=162,slow=9.4,SNR=5.1						
CHKZ	**Chkalovo**	**46.29**	**342**	*e*P	**P**	**11 08 26.8**	**+0.4**
	comp=Z,3.5nm,0.8s,mb4.3						
NWAO	**Narrogin (SRO)**	**49.48**	**152**	P	**P**	**11 08 51.5**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.8,baz=164,slow=10,SNR=4.0						
NWAO	**Narrogin (SRO)**	**49.48**	**152**	*e*P	**P**	**11 08 51.6**	**-0.1**
	comp=Z,5.7nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**51.51**	**126**	P	**P**	**11 09 07.2**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.8,baz=305,slow=8.4,SNR=20						
WRAB	**Tennant Creek**	**51.51**	**126**	*e*P	**P**	**11 09 07.3**	**0.0**
	comp=Z,18nm,0.8s,mb5.1						
WB2	**Warramunga Arr**	**51.52**	**126**	*e*P	**P**	**11 09 06.9**	**-0.4**
ASAR	**Alice Springs**	**53.22**	**130**	P	**P**	**11 09 19.9**	**-0.2**
	comp=Z,3.6nm,0.9s,mb4.3,baz=312,slow=5.7,SNR=11						
ASAR				PcP	PcP	11 10 28.4	+0.7
	comp=Z,1.1nm,0.7s,baz=306,slow=4.2,SNR=5.1						
ASAR				LR	LR	11 33 19.4	
	comp=Z,54nm,20.5s,MS3.6,baz=197,slow=38						
KIV	**Kislovodsk**	**53.94**	**317**	*e*P	**P**	**11 09 24.6**	**-0.4**
	comp=Z,9.8nm,0.9s,mb4.7						
KMBO	**Kilima Mbogo**	**55.72**	**261**	LR	LR	11 29 20.7	
	comp=Z,75nm,19.4s,MS3.8,baz=85,slow=32						
STKA	**Stephens Creek**	**63.45**	**134**	P	**P**	**11 10 31.8**	**+0.3**
	comp=Z,5.7nm,0.6s,mb4.9,baz=316,slow=6.8,SNR=10						
STKA	**Stephens Creek**	**63.45**	**134**	*e*P	**P**	**11 10 31.7**	**+0.3**
FINES	**FINESS Array B**	**69.37**	**332**	P	**P**	**11 11 08.1**	**-0.6**
	comp=Z,1.1nm,0.7s,mb3.9,baz=100,slow=8.5,SNR=5.5						
ARCES	**ARCESS Array B**	**72.04**	**340**	P	**P**	**11 11 24.9**	**+0.2**
	comp=Z,2.9nm,0.8s,mb4.2,baz=79,slow=6.2,SNR=9.2						
LBTB	**Lobatse**	**73.75**	**240**	*e*P	**P**	**11 11 36.4**	**+0.9**
	comp=Z,1.4nm,0.6s,mb4.1						
PDAR	**Pinedale Array**	**123.36**	**19**	PKP	PKPdf	11 18 57.0	-4.4
	comp=Z,0.4nm,0.7s,baz=100,slow=9.0,SNR=3.8						
TXAR	**Lajitas Array**	**137.53**	**20**	PKhKP		11 19 21.9	
	comp=Z,0.1nm,0.5s,baz=270,slow=1.8,SNR=2.7						
TXAR				PKP	PKPdf	11 19 27.4	-1.1
	comp=Z,0.2nm,0.5s,baz=252,slow=0.6,SNR=4.5						
PLCA	**Paso Flores**	**146.25**	**204**	PKPbc	PKPbc	11 19 41.7	+1.9
	comp=Z,0.7nm,0.5s,baz=120,slow=3.8,SNR=4.9						
PLCA	**Paso Flores**	**146.25**	**204**	*e*PKPdf	PKPdf	11 19 43.2	-0.4

IDC 13 11:03:11.0±1.9**,2.15S×123.91E,mb3.7**/4**,mb1 3.9**/4**, mb1mx3.8**/13**,mbtmp3.7**/4**,MS3.2**/1**,Ms1 3.2**/1**, ms1mx2.6**/19**,Error ellipse: s-maj=198.2km s-min=23.5km az=69.0,Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.41**	**151**	P	P	11 07 50.3	-2.3
	2.0nm,0.9s,baz=330,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**23.48**	**156**	P	P	11 08 21.6	-1.7
	1.0nm,0.7s,baz=327,slow=9.0,SNR=13						
ASAR				LR	LR	11 19 15.3	
	comp=Z,51nm,18.7s,baz=252,slow=41						
STKA	**Stephens Creek**	**33.95**	**152**	P	P	11 09 56.6	-1.6
	2.3nm,0.7s,baz=317,slow=12,SNR=5.1						
SONM	**Songino Array**	**52.08**	**345**	P	P	11 12 22.7	-2.1
	0.6nm,0.8s,baz=169,slow=7.3,SNR=3.9						

*NIED **13** 11:49:00,43.00N×145.40E,h47km,Mw3.4 Best double couple: M₀1.31×10¹⁴ NP1:φs49°,δ68°,λ87°. NP2:φs236°, δ22°,λ97°.*

JMA 13 11:49:03.8±0.1**,42.99N×145.41E,h47**km±1km**,M3.5, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.45**	**33**	P	P	11 49 14.0	-0.3
NEM2				*e*S	S	11 49 21.4	-0.3
JAK	**Akkeshi**	**0.52**	**271**	P	P	11 49 15.1	-0.1
JAK				S	S	11 49 23.3	0.0
JNK	**Nakash**	**0.78**	**320**	P	P	11 49 18.3	-0.3
JNK				*e*S	S	11 49 28.5	-0.9
JRA	**Rausu**	**0.97**	**348**	P	P	11 49 21.1	-0.1
JRA				*e*S	S	11 49 33.9	-0.2
JOB	**Onbets**	**1.16**	**266**	P	P	11 49 23.6	-0.3
JAR	**Ashorobuto**	**1.24**	**285**	P	P	11 49 24.9	-0.1
JTKR	**Abashiri--Toko**	**1.47**	**312**	P	P	11 49 28.5	+0.1

*NIED **13** 11:52:00,34.50N×140.30E,h71km,Mw4.2 Best double couple: M₀2.11×10¹⁵ NP1:φs77°,δ78°,λ-121°. NP2: φs328°,δ33°,λ-22°.*

*MOS **13** 11:52:00.5±0.8,34.39N×140.20E,h88km,mb4.2/5,Error ellipse: s-maj=23.9km s-min=9.3km az=112.0*

*JMA **13** 11:52:00.1±0.1,34.44N×140.33E,h65km±2km,M4.5*
JMA Felt I J1.

*BJI **13** 11:52:00.7,34.72N×140.64E,h109km,mB5.0,mb4.6*

NEIC **13** *11:52:02.7±1.2, 34.41N×140.20E, h88km±10km, mb4.3/7, Error ellipse: s-maj=13.5km s-min=8.4km az=88.0*
NEIC Recorded [1 JMA] Chiba, Kanagawa and Tokyo Prefectures.
IDC **13** *11:52:02.2±1.2, 34.38N×140.14E, h83km±13km, mb3.7/14, mb1 3.9/16, mb1mx3.8/22, mbtmp4.1/16, MS3.4/1, Ms1 3.4/1, ms1mx2.6/21, Error ellipse: s-maj=21.0km s-min=13.9km az=86.0*
ISC 13 11:51:59.0±0.4**, 34.42N**±0.03×**140.35E**±0.05**, h74**km±2km**, n59, σ0.95**/73**, mb4.0**/24**, 7C-5D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO3	Boso 3	0.40	19	⇑P	P	11 52 11.7	+0.3
BSO1	Boso 1	0.57	65	⇓P	P	11 52 13.3	+0.3
BSO1				S	S	11 52 21.4	-1.8
BSO4	Boso 4	0.57	359	⇑P	P	11 52 13.5	+0.5
BSO4				eS	S	11 52 23.8	+0.5
TATJ	Tateyama 2	0.72	328	⇑P	P	11 52 15.2	+0.6
TATJ				S	S	11 52 27.0	+0.8
KTR	Katsuura	0.73	358	⇑P	P	11 52 15.0	+0.3
KTR				S	S	11 52 25.9	-0.5
JMY	Miyakejima3	0.78	244	P	P	11 52 15.8	+0.5
JMY				S	S	11 52 27.1	-0.2
JIM2	Oshima 3	0.82	292	⇑P	P	11 52 15.7	0.0
JIM2				S	S	11 52 26.6	-1.5
JKO	Kozu shima	1.03	257	⇓P	P	11 52 19.2	+0.8
KTJJ	Kamata 2	1.18	296	⇓P	P	11 52 20.0	-0.2
KTJJ				S	S	11 52 33.1	-3.0
JIZS	Izushimoda	1.25	284	⇓P	P	11 52 21.6	+0.3
JIZS				S	S	11 52 37.2	-0.7
JOD2	Odawara 2	1.34	309	⇓P	P	11 52 22.2	-0.3
JHJ	Hachijo jima 2	1.38	200	P	P	11 52 24.4	+1.4
	452nm,0.3s,baz=300,slow=3.0,SNR=131						
JHJ				S	S	11 52 42.0	+1.1
	1μm,0.3s,baz=92,slow=23,SNR=29						
MAJO	Matsushiro	2.75	321	⇑ePn	P	11 52 42.9	+1.0
MAJO				eSn	S	11 53 14.0	0.0
MAT	Matsushiro	2.75	321	eP	P	11 52 43.0	+1.1
MAT				eS	S	11 53 14.0	-0.1
MAT	Matsushiro	2.75	321	P	P	11 52 42.9	+1.0
MAT				S	S	11 53 13.9	-0.1
CBIJ	Chichi jima	7.47	167	P	P	11 53 45.7	-1.7
	21nm,0.3s,baz=270,slow=23,SNR=3.6						
CBIJ				S	S	11 55 07.3	-4.0
	6.2nm,0.3s,baz=272,slow=22,SNR=2.2						
ASAJ	Asahikawa	9.84	9	P	P	11 54 16.9	-2.8
	3.3nm,0.3s,baz=233,slow=8.1,SNR=12						
ASAJ				S	S	11 56 00.3	-9.0
	1.5nm,0.3s,baz=116,slow=33,SNR=6.6						
KS15	Wonju Array Si	10.55	290	eP	P	11 54 31.4	+2.1
YSS	Yuzh-Sakhalins	12.65	8	eP	P	11 54 53.0	-4.5
HHC	Hu-ho-hao-te	23.62	294	eP	P	11 57 03.9	0.0
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,76nm,5.2s						
MA2	Magadan	26.09	12	eP	P	11 57 28.4	+1.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
MA2	Magadan	26.09	12	eP	P	11 57 28.2	+1.0
	comp=Z,17nm,0.8s,mb4.5						
ULN	Ulaanbaatar	28.21	309	eP	P	11 57 47.0	+0.3
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
ULN	Ulaanbaatar	28.21	309	eP	P	11 57 47.0	+0.3
	comp=Z,1.7nm,0.4s,mb3.9						
SONM	Songino Array	28.63	308	P	P	11 57 50.6	+0.2
	comp=Z,1.7nm,0.7s,mb3.8,baz=107,slow=8.0,SNR=14						
BOD	Bodaibo	29.34	331	eP	P	11 57 55.5	-1.1
ZAK	Zakamensk	31.30	312	eP	P	11 58 13.3	-0.7
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
WMQ	Urumqi	41.31	299	eP	P	11 59 39.0	+0.3
ZAL	Zalesovo	43.09	314	P	P	11 59 53.5	+0.3
	comp=Z,1.4nm,0.7s,mb3.8,baz=11,slow=8.2,SNR=10.0						
ZAL				LR	LR	12 17 57.6	
	comp=Z,46nm,18.0s,baz=343,slow=36						
NVS	Novosibirsk	44.06	316	eP	P	12 00 00.2	-0.8
KURK	Kurchatov	46.91	310	eP	P	12 00 23.3	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
KURK	Kurchatov	46.91	310	eP	P	12 00 23.3	-0.3
	comp=Z,3.5nm,0.6s,mb4.3						
CHKZ	Chkalovo	51.50	315	eP	P	12 00 57.0	-1.9
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	Chkalovo	51.50	315	eP	P	12 00 57.0	-1.9
	comp=Z,3.4nm,0.6s,mb4.5						
ILAR	Eielson Array	52.17	31	P	P	12 01 04.7	+1.0
	comp=Z,0.7nm,0.7s,mb3.8,baz=263,slow=6.3,SNR=9.9						
WRAB	Tennant Creek	54.35	187	P	P	12 01 19.0	-1.5
	comp=Z,93nm,0.8s,SNR=11						
WRAB	Tennant Creek	54.35	187	eP	P	12 01 19.5	-1.0
WRAB				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
WRAB	Tennant Creek	54.35	187	eP	P	12 01 19.5	-1.0
	comp=Z,16nm,0.7s,mb5.2						
WB2	Warramunga Arr	54.36	187	⇑iP	P	12 01 19.7	-0.8
WRA	Warramunga Arr	54.36	187	P	P	12 01 19.4	-1.1
	comp=Z,15nm,0.7s,mb5.1,baz=4.5,slow=7.7,SNR=165						
INK	Inuvik	57.11	26	eP	P	12 01 40.1	+0.4
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	Inuvik	57.11	26	P	P	12 01 40.2	+0.6
	comp=Z,0.6nm,0.4s,mb4.0,baz=265,slow=3.6,SNR=13						
INK	Inuvik	57.11	26	eP	P	12 01 40.1	+0.4
	comp=Z,0.7nm,0.6s,mb3.9						
ASAR	Alice Springs	58.09	187	P	P	12 01 46.5	-0.7
	comp=Z,2.7nm,0.8s,mb4.3,baz=20,slow=11,SNR=34						
ASPA	Alice Springs	58.09	187	eP	P	12 01 48.2	+1.1
STKA	Stephens Creek	65.95	179	P	P	12 02 39.7	+0.2
	comp=Z,2.9nm,0.9s,mb4.1,baz=17,slow=9.1,SNR=5.6						
STKA	Stephens Creek	65.95	179	P	P	12 02 39.7	+0.2
ARCES	ARCESS Array B	66.14	340	P	P	12 02 39.6	-0.5
	comp=Z,4.0nm,0.9s,mb4.2,baz=37,slow=6.1,SNR=3.1						
YKA	Yellowknife Ar	66.50	29	P	P	12 02 43.0	+0.5
	comp=Z,0.3nm,0.7s,mb3.2,baz=300,slow=6.3,SNR=7.8						
JOF	Joensuu	67.86	332	ep	P	12 02 50.9	-0.1
	comp=Z,1.2nm,0.4s,mb4.1						
KAF	Kangasniemi	70.23	333	ep	P	12 03 04.8	-0.8
	comp=Z,0.9nm,0.4s,mb4.0						
KAF	Kangasniemi	70.23	333	eP	P	12 03 04.8	-0.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.0						
FINES	FINESS Array B	70.72	332	P	P	12 03 08.4	-0.1
	comp=Z,0.9nm,0.5s,mb3.9,baz=58,slow=6.4,SNR=13						
AKASG	Malin Array Be	75.84	322	P	P	12 03 39.0	+0.5
	comp=Z,1.4nm,0.5s,mb4.0,baz=49,slow=5.8,SNR=2.6						
HFS	Hagfors	76.11	336	P	P	12 03 39.8	-0.1
	comp=Z,1.7nm,0.6s,mb4.0,baz=63,slow=3.2,SNR=7.1						
NB2	NORSAR Subarra	76.26	337	P	P	12 03 41.0	+0.3
	comp=Z,2.6nm,1.0s,mb3.9,baz=42,slow=5.6						
NOA	NORSAR Array B	76.26	337	P	P	12 03 41.3	+0.6
	comp=Z,1.1nm,0.7s,mb3.7,baz=40,slow=5.6,SNR=4.0						
NVAR	Mina Array Bea	77.26	52	P	P	12 03 50.3	+3.5
	comp=Z,0.3nm,0.3s,mb3.5,baz=315,slow=5.1,SNR=4.4						
PDAR	Pinedale Array	80.12	45	P	P	12 04 04.2	+1.8
	comp=Z,0.2nm,0.6s,mb3.1,baz=284,slow=3.7,SNR=3.0						

IDC 13 11:52:42.8±53.0**, 22.03S**×**176.31W, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.7**/13**, mbtmp3.7**/3**, Error ellipse: s-maj=975.0km s-min=165.5km az=85.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.58	246	P	P	12 00 06.0	-3.2
	0.9nm,0.8s,baz=90,slow=9.1,SNR=3.1						
ASAR	Alice Springs	45.73	258	P	P	12 01 05.9	-1.8
	0.5nm,0.8s,baz=95,slow=6.8,SNR=12						
WRA	Warramunga Arr	45.97	263	P	P	12 01 08.9	-0.8
	0.9nm,0.4s,baz=98,slow=8.3,SNR=29						

WEL 13 12:36:16.8±0.4**, 45.07S**×**167.49E, h116**km±3km**, ML3.5**/10**, 1C-1D, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.47	210	PN	P	12 36 33.4	-0.9
DCZ				SN	S	12 36 46.5	-0.9
MSZ	Milford Sound	0.51	38	PN	P	12 36 34.5	0.0
MLZ	Mavora Lakes	0.56	120	⇓PN	P	12 36 34.5	-0.3
MLZ				SN	S	12 36 48.0	-0.4
WHZ	Wether Hill Ro	0.88	159	PN	P	12 36 37.3	-0.3
WHZ				SN	S	12 36 52.5	-0.6
WKZ	Wanaka	1.11	78	PN	P	12 36 39.9	-0.1
WKZ				SN	S	12 36 56.1	-1.2
EAZ	Earnscleugh	1.30	98	PN	P	12 36 41.5	-0.5
EAZ				SN	S	12 36 58.9	-2.1
JCZ	Jackson Bay	1.35	43	⇑PN	P	12 36 42.0	-0.7
JCZ				SN	S	12 37 00.5	-1.7
TUZ	Tuapeka	1.75	121	PN	P	12 36 46.7	-0.7
TUZ				SN	S	12 37 07.3	-3.1
LBZ	Lake Benmore	2.04	71	PN	P	12 36 49.1	-1.9
LBZ				SN	S	12 37 12.6	-4.2
FOZ	Fox Glacier	2.18	47	ePN	P	12 36 51.6	-1.4
ODZ	Otahua Downs	2.24	90	PN	P	12 36 51.9	-1.8
RPZ	Rata Peaks	2.89	63	PN	P	12 36 59.4	-3.0
MQZ	McQueen's Vall	3.94	72	SN	S	12 37 54.7	-7.6
LTZ	Lake Taylor	4.14	58	PN	P	12 37 17.3	-2.0
LTZ				SN	S	12 38 01.0	-6.2
DSZ	Denniston Nort	4.57	45	PN	P	12 37 21.0	-4.2
DSZ				SN	S	12 38 10.6	-7.0
THZ	Tophouse	5.15	52	ePN	P	12 37 28.1	-4.8
QRZ	Quartz Range	5.63	43	ePN	P	12 37 36.0	-3.3

MOS **13** *13:01:05.7±1.0, 44.47N×7.00E, h10km, mb3.8/1, Error ellipse: s-maj=7.2km s-min=4.0km az=107.1*
STR **13** *13:01:06.8±0.2, 44.48N×6.99E, h5km±1km, Ml2.8, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC **13** *13:01:06.4, 44.45N×6.93E, h6km, ML3.2(GEN), ML2.8(STR), ML2.8(LDG), After GEN.*
CSEM **13** *13:01:06.5±0.1, 44.49N×7.04E, h10km, ML2.8/17, Error ellipse: s-maj=1.6km s-min=1.1km az=72.0*
GEN **13** *13:01:06.4, 44.45N×6.93E, h6km, ML3.2*
LDG **13** *13:01:06.7±0.1, 44.48N×7.00E, h2km, Md2.8/2, Ml2.8/19, Error ellipse: s-maj=1.2km s-min=0.7km az=78.0*
ROM **13** *13:01:06.5±0.4, 44.46N×7.00E, h9km±1km, MD2.6/3, ML2.0/2, Error ellipse: s-maj=2.3km s-min=2.1km az=90.0*
ISC 13 13:01:05.9±0.2**, 44.47N**±0.01×**6.95E**±0.02**, h12**km±1km**, n89, σ1.03**/160**, 3C, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SURF	Saint Ours	0.10	274	Pg	Pg	13 01 08.7	-0.1
SURF				Sg	Sg	13 01 10.4	-0.4
PZZ	Prazzo	0.11	74	P	Pg	13 01 09.5	+0.5
DOI	San Damiano	0.21	82	⇑iPG	Pg	13 01 11.1	+0.4
DOI				SG	Sg	13 01 13.9	+0.1
	355nm,0.3s						
DOI	San Damiano	0.21	82	⇑iPg	Pg	13 01 11.1	+0.4
DOI				eSg	Sg	13 01 13.9	+0.1
DOI	San Damiano	0.21	82	⇑iPg	Pg	13 01 11.1	+0.4
	355nm,0.3s						
DOI				Sg	Sg	13 01 13.9	+0.1
MBDF	Montbardon	0.28	333	ePg	Pg	13 01 12.3	+0.3
MBDF				eSg	Sg	13 01 16.8	+0.8
	278nm,0.2s						
OG22	Abries	0.35	359	Pg	Pg	13 01 13.8	+0.6
OG22				Sg	Sg	13 01 18.6	+0.5
STV	Sta Anna Valdi	0.35	131	P	Pg	13 01 13.0	-0.2
STV				S	Sg	13 01 18.0	-0.1
STV2	Anna di Valdie	0.35	130	P	Pg	13 01 13.0	-0.2
STV2				S	Sg	13 01 17.9	-0.2
STV2	Anna di Valdie	0.35	130	P	Pg	13 01 13.0	-0.2
ENR	Entracque	0.42	126	P	Pg	13 01 14.3	-0.2
ENR				S	Sg	13 01 20.0	-0.2
RRL	Cesana Torines	0.46	345	P	Pg	13 01 15.9	+0.5
RRL				S	Sg	13 01 22.4	+0.7
TOUF	Mont Tournerai	0.51	155	Pg	Pg	13 01 16.3	+0.1
FENE	Fenestrelle	0.56	8	P	Pb	13 01 17.8	+0.6
FENE				S	Sb	13 01 25.4	+0.5
FENE	Fenestrelle	0.56	8	P	Pb	13 01 17.8	+0.6
FENE				S	Sb	13 01 25.4	+0.5
AUTN	L'Aution	0.59	144	Pg	Pg	13 01 17.6	-0.2
AUTN				Sg	Sg	13 01 25.9	+0.1
MVIF	Mont Vial	0.59	166	Pg	Pg	13 01 17.9	-0.1
OG25	Le Caire	0.64	261	Pg	Pg	13 01 19.1	+0.3
SAOF	Saorge	0.65	138	Pg	Pg	13 01 18.8	-0.3
SAOF				Sg	Sg	13 01 27.3	-0.6
ROB	Roburent	0.68	105	P	Pb	13 01 19.7	+0.5
ROB				S	Sb	13 01 28.6	+0.2
MONE	Monesi	0.70	124	P	Pb	13 01 19.7	+0.1
MONE				S	Sb	13 01 28.6	-0.2
MONE	Monesi	0.70	124	P	Pb	13 01 19.7	+0.2
MONE				S	Sb	13 01 28.6	-0.2
SBF	Sospel	0.70	150	ePg	Pg	13 01 19.8	-0.3
SBF				eSg	Sg	13 01 28.9	-0.7
	113nm,0.3s						
RSP	Reno Superiore	0.71	18	P	Pb	13 01 20.4	+0.6
RSP				S	Sb	13 01 30.0	+0.8
CALN	Calern	0.72	184	Pg	Pg	13 01 20.7	+0.2
NEGI	Negi	0.83	139	P	Pb	13 01 22.0	+0.2
NEGI				S	Sb	13 01 32.5	0.0
NEGI	Negi	0.83	139	P	Pb	13 01 22.0	+0.3
NEGI				S	Sb	13 01 32.5	-0.1
IMI	Imperia	0.88	130	ePG	Pg	13 01 23.0	-0.6
IMI				SG	Sg	13 01 36.2	+0.8
	75nm,0.3s						
IMI	Imperia	0.88	130	ePg	Pg	13 01 23.0	-0.6
IMI				eSg	Sg	13 01 36.1	+0.8
IMI	Imperia	0.88	130	ePg	Pg	13 01 23.0	-0.6
	75nm,0.3s						
IMI				S	Sb	13 01 34.3	+0.2
IMI				Sg	Sg	13 01 36.2	+0.8
ORIF	Oris-en-Rattie	0.89	301	ePg	Pg	13 01 23.3	-0.4
ORIF				ePn	Pn	13 01 24.9	+0.9
ORIF				eSg	Sg	13 01 35.4	-0.2
	79nm,0.3s						
ORIF	Oris-en-Rattie	0.89	301	eP	Pg	13 01 23.3	-0.4
ORIF				e		13 01 35.4	
STOF	St-Etienne Org	0.89	238	Pg	Pg	13 01 25.2	+1.4
FIN	Finale Ligure	0.94	106	ePG	Pg	13 01 24.2	-0.6
FIN				SG	Sg	13 01 37.2	-0.2
	41nm,0.2s						
FIN	Finale Ligure	0.94	106	ePg	Pg	13 01 24.2	-0.6
FIN				eSg	Sg	13 01 37.2	-0.1
FIN	Finale Ligure	0.94	106	ePg	Pg	13 01 24.2	-0.6
	41nm,0.2s						
FIN				Sg	Sg	13 01 37.2	-0.2
FRF	La Foret Royal	0.94	194	ePg	Pb	13 01 24.1	+0.4
FRF				ePn	Pn	13 01 25.5	+0.7
FRF				eSg	Sg	13 01 36.8	-0.6
FRF				eSn	Sn	13 01 39.0	+0.8
	82nm,0.2s						
FRF	La Foret Royal	0.94	194	eP	Pb	13 01 24.1	+0.4
FRF				e		13 01 39.0	
LSD	Ceresole Reale	0.99	8	P	Pb	13 01 25.6	+1.0
LSD				S	Sb	13 01 38.8	+1.4
LPG	La Plagne	1.03	352	ePg	Pg	13 01 26.5	-0.2
LPG				eSg	Sg	13 01 39.8	-0.7
	23nm,0.2s						
LPL	La Plagne	1.05	352	ePg	Pg	13 01 26.8	-0.3
LPL				eSg	Sg	13 01 40.0	-1.2
	30nm,0.3s						
TAVF	Tavernes	1.07	217	Pg	Pg	13 01 27.0	-0.4
TAVF				Sg	Sg	13 01 43.3	+1.5
VILF	Villemus	1.09	236	Pg	Pg	13 01 28.3	+0.6
SMRF	Simiane la Rot	1.11	244	ePg	Pg	13 01 28.1	0.0
SMRF				eSn	Sn	13 01 43.6	+1.1
	99nm,0.2s						
PCP	Pian Castagno	1.14	86	P	Pb	13 01 27.7	+0.6
PCP				S	Sb	13 01 41.9	+0.2
GRN	Grenoble	1.15	312	Pg	Pg	13 01 29.5	+0.5
GRN				Sg	Sg	13 01 45.0	+0.5
TRAV		1.18	28	P	Pb	13 01 28.1	+0.3
TRAV		1.18	28	P	Pb	13 01 28.1	+0.3
LMR	La Mourre	1.18	196	ePn	Pn	13 01 28.3	0.0
LMR				ePg	Pg	13 01 29.3	-0.3
LMR				eSn	Sn	13 01 44.6	+0.2
	94nm,0.2s						
LMR	La Mourre	1.18	196	eP	Pn	13 01 28.3	0.0
LMR				e		13 01 44.6	
OCF	Saint Nazaire	1.19	276	Pg	Pg	13 01 31.1	+1.4
OG26	St.-Nazaire-De	1.19	276	Pg	Pg	13 01 31.1	+1.4
PUYF	Puyloubier	1.30	224	Pg	Pg	13 01 31.6	-0.5
ORX	Oropa	1.37	32	P	Pn	13 01 30.2	-0.7
TREF	Trevaresse	1.42	234	Pg	Pg	13 01 34.6	+0.4
TREF				Sg	Sg	13 01 53.8	+0.6
PRAF	Pradon	1.45	243	Pg	Pg	13 01 35.4	+0.5
BERF	Bertagne	1.48	219	Pg	Pg	13 01 34.5	-1.0
GELF	Grande-Etoile	1.55	226	Pg	Pg	13 01 36.6	-0.3
MCGN	Macugnaga	1.65	26	ePN	Pn	13 01 35.5	+0.5
	7.0nm,0.3s						
MCGN	Macugnaga	1.65	26	ePg	Pg	13 01 35.5	-3.6
MCGN	Macugnaga	1.65	26	ePn	Pn	13 01 35.5	+0.5
	7.0nm,0.3s						
VIVF	Saint-Julien-l	1.67	284	ePn	Pn	13 01 35.9	+0.6
VIVF				eP		13 01 37.0	
VIVF				eSn	Sn	13 01 56.5	-0.3
VIVF				eSg	Sg	13 02 00.5	-1.2
	25nm,0.3s						
VIVF	Saint-Julien-l	1.67	284	eP	Pn	13 01 35.9	+0.6
VIVF				e		13 01 56.5	
CABF	La Chapelle	2.22	344	eP	Pn	13 01 45.3	+2.1
CABF				ePg	Pg	13 01 47.9	-2.4
CABF				eSg	Sg	13 02 16.5	-3.5
	5.9nm,0.3s						
CABF	La Chapelle	2.22	344	eP	Pn	13 01 45.3	+2.1
CABF				e		13 02 16.5	
LASF	Ste Croix	2.26	261	ePn	Pn	13 01 44.3	+0.6
LASF				ePg	Pg	13 01 49.1	-2.0
LASF				eSn	Sn	13 02 10.7	-1.0
	9.0nm,0.4s						
PGF	Pioggiola	2.43	142	ePn	Pn	13 01 46.1	-0.1
PGF				eSn	Sn	13 02 14.2	-1.9
	14nm,0.2s						
SMF	Signal de Mont	3.08	316	eP	Pn	13 01 57.5	+2.1
SMF				ePg	Pg	13 02 03.9	-3.6
SMF				eSg	Sg	13 02 43.7	-4.9
	6.3nm,0.3s						
HINF	Hinteralfeld	3.34	359	ePn	Pn	13 01 58.0	-1.1
HINF				ePg	Pg	13 02 08.6	-4.1
HINF				eSn	Sn	13 02 36.0	-3.2
	3.3nm,0.4s						
HINF	Hinteralfeld	3.34	359	eP	Pn	13 01 58.0	-1.1
HINF				e		13 02 36.0	
AVF	Avril sur Loir	3.43	314	eP	Pn	13 02 02.2	+1.9
AVF				eSg	Sg	13 02 54.1	-6.0
	2.5nm,0.3s						
CAF	Calviac	3.52	279	ePn	Pn	13 02 02.2	+0.6
SSF	Saint Saulge	3.54	318	ePn	Pn	13 02 01.0	-0.9
SSF				eP		13 02 03.9	
SSF				eSn	Sn	13 02 40.5	-3.6
SSF				eSg	Sg	13 02 57.5	-6.2
	6.4nm,0.6s						
SSF	Saint Saulge	3.54	318	eP	Pn	13 02 01.0	-0.9
SSF				e		13 02 40.5	
SSF	Saint Saulge	3.54	318	eP	Pn	13 02 03.9	+2.0
SSF				eSn	Sn	13 02 40.5	-3.6
SSF				eSg	Sg	13 02 57.5	-6.2
	3.2nm,0.6s						
HAU	Haudompre	3.56	353	ePn	Pn	13 02 01.2	-1.0
HAU				eSn	Sn	13 02 41.1	-3.5
HAU				eSg	Sg	13 02 58.3	-6.1
	4.1nm,0.4s						
BGF	Bois d'Agland	3.56	307	eP	Pn	13 02 04.3	+2.1
BGF				ePg	Pg	13 02 12.8	-4.2
BGF				eSg	Sg	13 02 58.3	-6.2
	8.9nm,0.4s						
MTLF	Montolieu	3.60	253	ePn	Pn	13 02 02.5	-0.3
MTLF				ePg	Pg	13 02 13.7	-4.2
MTLF				eSn	Sn	13 02 43.1	-2.7
	4.3nm,0.3s						
MTLF	Montolieu	3.60	253	eP	Pn	13 02 02.5	-0.3
MTLF				e		13 02 43.1	
TCF	Toulx Ste Croi	3.80	300	ePn	Pn	13 02 05.6	-0.1
CDF	Champ du Feu	3.95	3	ePn	Pn	13 02 06.2	-1.5
CDF				eSn	Sn	13 02 50.2	-4.2
CDF				eSg	Sg	13 03 10.4	-6.9
	2.2nm,0.4s						
RJF	Les Rejaudoux	3.95	284	ePn	Pn	13 02 07.2	-0.6
RJF				ePg	Pg	13 02 20.6	-4.2
RJF				eSn	Sn	13 02 52.8	-1.8
	5.7nm,0.5s						
RJF	Les Rejaudoux	3.95	284	eP	Pn	13 02 07.2	-0.6
RJF				e		13 02 52.8	
HYF	Humbligny	4.11	314	eP	Pn	13 02 12.3	+2.3
EPF	Esparros	5.00	256	eP	Pn	13 02 24.8	+2.1
EPF				ePg	Pg	13 02 39.6	-6.2
MFF	Saint Martin d	5.42	296	ePn	Pn	13 02 26.7	-1.9
MFF				ePg	Pg	13 02 48.3	-5.9
LDF	La Druitiere	6.39	313	ePn	Pn	13 02 39.3	-2.9
GRR	Gorron	6.67	309	ePn	Pn	13 02 44.3	-1.9
FLN	La Foliniere	6.68	313	eP	Pn	13 02 48.5	+2.2

NEIC **13** *13:03:08.7, 51.41N×175.50W, h20km, mb3.9/2, ML3.9(AEIC), After AEIC.*
IDC **13** *13:03:08.7±5.3, 51.63N×175.77W, h25km±33km, mb3.5/10, mb1 3.8/11, mb1mx3.6/24, mbtmp3.7/11, ML4.0/1, MS3.4/1, Ms1 3.3/1, ms1mx2.9/22, Error ellipse: s-maj=30.6km s-min=19.9km az=163.0*
ISC 13 13:03:10.8±0.8**, 51.6N**±0.1×**175.60W**±0.08**, h54**km±6km**, n28, σ0.78**/29**, mb3.6**/10**, MS3.3**/1**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GSIG	Igitkin Island	0.41	330	P	P	13 03 21.5	+0.2
GSMY	Great Sitkin M	0.50	326	P	P	13 03 22.8	+0.5
GSTD	Great Sitkin T	0.54	322	P	P	13 03 23.5	+0.7
GSTR	Great Sitkin T	0.54	329	P	P	13 03 23.8	+1.0
ETKA	Kagalaska Isla	0.55	295	P	P	13 03 22.4	-0.5
ETKA				S	S	13 03 30.9	-0.8
ADAG	Mount Adagdak	0.71	300	P	P	13 03 25.5	+0.6
KIWB	Kanaga Island	0.99	284	P	P	13 03 28.5	-0.1
KIKV	Kanaga Island	1.01	285	P	P	13 03 29.0	+0.1
KIMD	Kanaga Island	1.03	278	P	P	13 03 28.8	-0.4
ATKA	Atka Island	1.04	56	P	P	13 03 28.8	-0.6
ATKA				S	S	13 03 42.2	-1.0
NIKO	Nikolski	4.35	69	P	P	13 04 16.0	-0.1
UNV	Unalaska Valle	5.95	65	P	P	13 04 38.6	+0.2
SPIA	Saint Paul Isl	6.37	27	P	P	13 04 44.8	+0.4
IMA	Indian Mountai	18.22	29	eP	P	13 07 21.8	+0.7
	8.8nm,0.8s						
BILL	Bilibino	18.67	339	eP	P	13 07 27.0	+0.5
	5.7nm,0.7s						
ILAR	Eielson Array	19.81	37	P	P	13 07 36.8	-2.3
	0.2nm,0.3s,baz=241,slow=10,SNR=14						
INK	Inuvik	26.11	34	P	P	13 08 39.8	-1.0
	1.4nm,0.8s,mb3.5,baz=234,slow=19,SNR=18						
INK				PcP	PcP	13 12 07.0	-0.8
	1.7nm,1.1s,baz=219,slow=5.0,SNR=5.5						
YKA	Yellowknife Ar	33.60	47	P	P	13 09 47.4	-0.1
	0.2nm,0.3s,mb3.5,baz=279,slow=7.5,SNR=7.1						
YKA				PcP	PcP	13 12 26.3	-0.7
	0.4nm,0.7s,baz=286,slow=3.1,SNR=7.6						
YKA				LR	LR	13 22 56.8	
	comp=Z,59nm,20.9s,MS3.3,baz=225,slow=35						
NEW	Newport	36.91	72	P	P	13 10 15.5	-0.3
	2.0nm,0.5s,mb4.2,baz=299,slow=8.0,SNR=7.0						
EDM	Edmonton	36.93	62	eP	P	13 10 16.5	+0.6
NVAR	Mina Array Bea	41.54	85	P	P	13 10 56.4	+2.2
	0.2nm,0.3s,mb3.2,baz=113,slow=19,SNR=3.1						
ELK	Elko	42.05	80	P	P	13 10 59.2	+0.9
	0.3nm,0.5s,mb3.2,baz=166,slow=20,SNR=2.2						
PDAR	Pinedale Array	44.32	74	P	P	13 11 17.5	+0.7
	1.2nm,0.5s,mb3.9,baz=316,slow=3.4,SNR=11						
SONM	Songino Array	48.31	298	PcP	PcP	13 13 13.6	-1.1
	0.5nm,0.7s,baz=76,slow=2.4,SNR=6.0						
SONM				ScP		13 17 05.9	
	0.3nm,0.8s,baz=63,slow=3.2,SNR=3.1						
TXAR	Lajitas Array	56.64	84	P	P	13 12 50.2	-0.3
	0.2nm,0.7s,mb3.2,baz=353,slow=12,SNR=3.3						
BVAR	Borovoye Array	61.97	321	P	P	13 13 26.4	-0.6
	1.1nm,0.4s,mb4.3,baz=53,slow=6.0,SNR=9.0						
WRA	Warramunga Arr	83.61	227	P	P	13 15 33.7	-0.8
	0.3nm,0.7s,mb3.6,baz=33,slow=5.8,SNR=4.7						
ASAR	Alice Springs	87.05	225	P	P	13 15 51.0	-0.5
	0.4nm,0.7s,mb3.8,baz=18,slow=5.1,SNR=5.0						

BJI **13** *13:18:35.8, 9.38N×91.87E, h49km, mb4.4*
IDC **13** *13:18:36.1±1.1, 10.06N×91.59E, mb4.1/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML3.8/1, MS2.9/1, Ms1 3.1/1, ms1mx2.7/14, Error ellipse: s-maj=42.8km s-min=20.2km az=70.0*
NEIC **13** *13:18:43.1±2.4, 10.14N×91.77E, h49km±20km, mb4.3/4, Error ellipse: s-maj=19.1km s-min=9.6km az=68.0*
ISC 13 13:18:39.1±0.6**, 10.12N**±0.08×**91.7E**±0.1**, h33**km**, n27, σ0.82**/24**, mb4.1**/11**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.87	40	Pn	P	13 21 15.3	-0.3
	0.2nm,0.3s,baz=238,slow=15,SNR=8.8						
CMAR				LR	LR	13 25 02.1	
	comp=Z,70nm,20.9s,baz=230,slow=35						
JIRN	Jiri	18.20	344	eP	P	13 22 51.2	+0.2
	21nm,0.9s						
PKI	Pulchoki	18.34	342	eP	P	13 22 53.0	+0.2
	19nm,0.7s						
DMN	Daman	18.46	341	eP	P	13 22 54.0	-0.4
	19nm,0.6s						
KKN	Kakani	18.58	342	eP	P	13 22 54.8	-1.0
GKN	Gorkha	18.98	341	eP	P	13 22 59.4	-1.2
	24nm,0.6s						
KOLN	Koldanda	19.13	338	eP	P	13 23 01.6	-0.7
	19nm,0.7s						
LSA	Lhasa	19.49	359	eP	P	13 23 06.0	-0.2
	13nm,0.6s						
ENH	Enshi	26.03	37	eP	P	13 24 10.4	-0.9
	6.8nm,0.7s,mb4.3						
GTA	Gaotai	30.06	13	eP	P	13 24 49.8	+2.3
GTA				AP	pP	13 24 56.9	-0.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
SONM	Songino Array	39.59	16	P	P	13 26 09.9	+0.9
	comp=Z,1.6nm,0.6s,mb3.9,baz=204,slow=8.3,SNR=16						
ULN	Ulaanbaatar	39.79	16	eP	P	13 26 11.5	+0.8
	comp=Z,1.1nm,0.6s,mb3.8						
ZAL	Zalesovo	44.05	354	P	P	13 26 46.9	+1.5
	comp=Z,1.0nm,0.4s,mb3.9,baz=310,slow=7.4,SNR=4.7						
ZAL	Zalesovo	44.05	354	P	P	13 26 46.9	+1.5
CHKZ	Chkalovo	46.61	343	eP	P	13 27 05.9	+0.1
	comp=Z,1.9nm,0.5s,mb4.3						
NWAO	Narrogin (SRO)	49.26	151	eP	P	13 27 26.2	-0.7
WRA	Warramunga Arr	51.54	125	P	P	13 27 44.0	-0.3
	comp=Z,2.8nm,0.5s,mb4.5,baz=306,slow=8.4,SNR=5.6						
ASAR	Alice Springs	53.22	130	P	P	13 27 56.6	-0.2
	comp=Z,1.2nm,0.6s,mb4.0,baz=309,slow=7.3,SNR=4.4						
STKA	Stephens Creek	63.41	133	P	P	13 29 08.0	0.0
	comp=Z,2.2nm,0.5s,mb4.5,baz=305,slow=4.1,SNR=7.4						
STKA	Stephens Creek	63.41	133	eP	P	13 29 07.9	-0.1
LSZ	Lusaka	67.76	249	P	P	13 29 37.2	+1.1
FINES	FINESS Array B	69.60	332	P	P	13 29 46.0	-0.8
	comp=Z,0.7nm,0.6s,mb3.8,baz=117,slow=8.5,SNR=4.2						
FINES	FINESS Array B	69.60	332	P	P	13 29 46.0	-0.8
ILAR	Eielson Array	93.58	21	P	P	13 31 52.8	0.0
	comp=Z,0.3nm,0.7s,mb3.8,baz=291,slow=4.0,SNR=4.5						
NVAR	Mina Array Bea	124.18	28	PKP	PKPdf	13 37 37.8	+2.8
	comp=Z,0.5nm,0.3s,baz=315,slow=4.2,SNR=3.9						
PLCA	Paso Flores	145.69	204	PKPbc	PKPbc	13 38 17.2	+1.9
	comp=Z,1.8nm,0.8s,baz=210,slow=6.0,SNR=5.3						
PLCA	Paso Flores	145.69	204	ePKP	PKPdf	13 38 17.0	+2.5
PLCA				PKPbc	PKPbc	13 38 17.2	+1.9

*IDC **13** 13:19:08.4±4.3, 5.34S×131.27E, mb3.9/2, mb1 4.3/4, mb1mx4.0/11, mbtmp4.1/4, ML4.3/2, Error ellipse: s-maj=197.2km s-min=25.0km az=59.0*

ISC 13 13:19:28.0±2.6**, 6.6S**±0.1×**129.8E**±0.1**, h150**km±29km**, n8, σ1s44**/14**, mb3.7**/2**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	6.65	157	eP	P	13 21 05.4	+1.1
	111nm,0.3s						
KAKA				eS	S	13 22 17.8	-1.4
FITZ	Fitzroy Crossi	12.15	199	eP	P	13 22 18.5	+1.5
	22nm,1.1s						
FITZ				eS	S	13 24 28.7	-1.0
WRA	Warramunga Arr	14.02	162	Pn	P	13 22 39.6	-1.5
	1.6nm,0.3s,baz=334,slow=14,SNR=66						
WRA				Sn	S	13 25 09.3	-3.9
	2.4nm,0.3s,baz=335,slow=24,SNR=7.6						
WB2	Warramunga Arr	14.02	162	eP	P	13 22 40.2	-1.0
WB2				eS	S	13 25 10.0	-3.3
ASPA	Alice Springs	17.46	167	eP	P	13 23 25.6	+1.9
ASPA				eS	S	13 26 36.2	+5.2
ASAR	Alice Springs	17.46	167	P	P	13 23 25.4	+1.6
	1.3nm,0.3s,baz=347,slow=11,SNR=68						
ASAR				S	S	13 26 35.0	+4.1
	0.5nm,0.3s,baz=356,slow=26,SNR=6.0						
STKA	Stephens Creek	27.50	158	P	P	13 25 02.0	-0.4
	0.8nm,0.3s,mb3.8,baz=306,slow=7.3,SNR=13						
CMAR	Chiang Mai Arr	39.27	310	P	P	13 26 42.6	-1.1
	0.9nm,0.6s,mb3.6,baz=136,slow=8.0,SNR=7.3						

*IDC **13** 14:03:32.1±10.0, 5.29S×129.76E, h206km±112km, mb3.3/4, mb1 3.5/6, mb1mx3.4/12, mbtmp3.9/6, Error ellipse: s-maj=88.8km s-min=21.6km az=54.0*

ISC 13 14:03:29.3±1.7**, 5.28S**±0.07×**129.6E**±0.2**, h191**km±16km**, n10, σ0s85**/16**, mb3.7**/4**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.90	159	eP	P	14 05 23.5	+1.4
	26nm,0.5s						
KAKA				eS	S	14 06 46.2	-4.1
FITZ	Fitzroy Crossi	13.31	197	eP	P	14 06 37.4	+5.4
	15nm,0.8s						
FITZ				eS	S	14 08 55.5	-0.5
WRA	Warramunga Arr	15.29	163	P	P	14 06 55.7	-1.1
	0.5nm,0.3s,baz=336,slow=12,SNR=60						
WRA				S	S	14 09 40.8	+0.1
	1.3nm,0.3s,baz=327,slow=23,SNR=10.0						
WB2	Warramunga Arr	15.29	163	eP	P	14 06 56.5	-0.3
WB2				eS	S	14 09 41.0	+0.2
ASPA	Alice Springs	18.75	168	eP	P	14 07 36.6	+0.6
ASPA				eS	S	14 10 55.9	+1.3
ASAR	Alice Springs	18.75	168	P	P	14 07 36.2	+0.2
	0.6nm,0.3s,baz=347,slow=11,SNR=78						
ASAR				S	S	14 10 54.2	-0.4
	0.2nm,0.3s,baz=346,slow=18,SNR=6.2						
STKA	Stephens Creek	28.75	158	P	P	14 09 09.7	-1.6
	0.5nm,0.3s,mb3.7,baz=155,slow=12,SNR=8.5						
CMAR	Chiang Mai Arr	38.33	309	P	P	14 10 34.4	+0.9
	1.5nm,0.5s,mb3.9,baz=135,slow=6.8,SNR=19						
SONM	Songino Array	56.69	341	P	P	14 12 55.1	+0.1
	0.5nm,0.6s,mb3.5,baz=164,slow=7.4,SNR=4.9						
ZAL	Zalesovo	69.87	334	P	P	14 14 20.5	-0.6
	0.6nm,0.4s,mb3.7,baz=298,slow=3.4,SNR=3.2						

*BJI **13** 14:33:59.2, 18.20S×178.00W, h617km, mB4.9, mb4.7*
*MOS **13** 14:34:00.5±1.9, 18.14S×178.03W, h619km, mb4.7/11, Error ellipse: s-maj=12.5km s-min=10.5km az=46.0*
*NEIC **13** 14:34:00.3±0.7, 18.19S×177.96W, h618km±8km, mb4.6/31, Error ellipse: s-maj=9.5km s-min=5.5km az=146.0*
*IDC **13** 14:34:02.8±1.6, 18.47S×177.89W, h656km±20km, mb3.9/15, mb1 4.1/16, mb1mx4.0/20, mbtmp4.9/16, Error ellipse: s-maj=15.9km s-min=8.5km az=150.0*

ISC 13 14:33:58.9±0.9**, 18.22S**±0.06×**178.02W**±0.06**, h614**km±11km**, h600**km±7.3km**:pP-P, n210, σ0s88**/120**, mb4.5**/46**, 31C-17D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.38	55	⇓eP	P	14 35 53.4	+0.1
AFI				pmax	pmax		
	comp=Z,240nm,1.0s						
AFI	Afiamalu	7.38	55	⇓eP	P	14 35 53.4	+0.1
	comp=Z,240nm,1.0s						
RAO	Raoul Island	10.98	180	eP	P	14 36 27.6	+0.1
RAR	Rarotonga	17.44	103	eP	P	14 37 30.6	+0.8
RAR				pmax	pmax		
	comp=Z,55nm,1.1s						
RAR	Rarotonga	17.44	103	P	P	14 37 29.1	-0.7
	comp=Z,1.1nm,0.3s,baz=221,slow=8.5,SNR=4.9						
RAR	Rarotonga	17.44	103	eP	P	14 37 30.6	+0.8
	comp=Z,55nm,1.1s						
URZ	Urewera	20.41	191	P	P	14 37 55.7	-1.4
	comp=Z,6.5nm,0.4s,baz=353,slow=7.1,SNR=8.8						
URZ				S	S	14 41 02.6	-5.8
	comp=Z,2.3nm,0.4s,baz=212,slow=21,SNR=4.1						
QRZ	Quartz Range	23.95	198	PN	P	14 38 29.3	+0.4
QRZ	Quartz Range	23.95	198	PN	P	14 38 29.3	+0.4
NNZ	Nelson	24.08	196	ePN	P	14 38 29.0	-1.0
NNZ	Nelson	24.08	196	ePN	P	14 38 29.0	-1.0
THZ	Tophouse	24.71	196	ePN	P	14 38 34.5	-1.1
THZ	Tophouse	24.71	196	ePN	P	14 38 34.5	-1.1
DSZ	Denniston Nort	25.01	198	ePN	P	14 38 36.9	-1.2
DSZ	Denniston Nort	25.01	198	ePN	P	14 38 36.9	-1.2
RPZ	Rata Peaks	27.04	198	P	P	14 38 53.9	-1.9
	comp=Z,4.5nm,0.5s,mb4.4,baz=20,slow=12,SNR=4.3						
RPZ				PcP	PcP	14 41 54.8	-1.4
	comp=Z,2.9nm,0.5s,baz=285,slow=3.9,SNR=3.7						
CTA	Charters Tower	33.76	261	⇓iP	P	14 39 54.4	+1.4
	comp=Z,9.0nm,0.6s,mb4.6						
CTA	Charters Tower	33.76	261	⇓iP	P	14 39 54.4	+1.4
CTA				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CTA	Charters Tower	33.76	261	P	P	14 39 54.4	+1.4
	comp=Z,14nm,0.8s,mb4.7,baz=84,slow=9.6,SNR=18						
CTA				PcP	PcP	14 42 13.8	-0.6
	comp=Z,5.9nm,0.8s,baz=180,slow=1.0,SNR=3.2						
CTAO	Charters Tower	33.76	261	eP	P	14 39 54.3	+1.3
CTAO				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
CTAO	Charters Tower	33.76	261	eP	P	14 39 54.3	+1.3
	comp=Z,12nm,0.7s,mb4.6						
TOO	Toolangi	37.26	231	⇓iP	P	14 40 23.4	+1.7
	comp=Z,0.9nm,0.8s						
TOO	Toolangi	37.26	231	⇓iP	P	14 40 23.4	+1.7
TOO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
STKA	Stephens Creek	38.80	242	P	P	14 40 35.5	+1.2
	comp=Z,20nm,0.7s,mb4.8,baz=89,slow=9.4,SNR=56						
STKA				PcP	PcP	14 42 29.6	-0.1
	comp=Z,3.4nm,0.6s,baz=80,slow=3.9,SNR=3.6						
STKA	Stephens Creek	38.80	242	eP	P	14 40 35.8	+1.5
WB2	Warramunga Arr	44.92	260	⇑iP	P	14 41 22.6	0.0
WB2				i PCP	PcP	14 42 50.2	-0.5
WB2				eS	S	14 47 14.6	-3.1
WRAB	Tennant Creek	44.93	260	P	P	14 41 22.0	-0.6
	comp=Z,259nm,0.4s,SNR=57						
WRAB	Tennant Creek	44.93	260	eP	P	14 41 22.8	+0.2
WRAB				e		14 42 49.2	
WRAB				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.1						
WRAB	Tennant Creek	44.93	260	eP	P	14 41 22.8	+0.1
	comp=Z,36nm,0.6s,mb5.1						
WRAB				ePcP	PcP	14 42 49.2	-1.5
WRA	Warramunga Arr	44.94	260	P	P	14 41 22.7	-0.1
	comp=Z,19nm,0.5s,mb4.9,baz=95,slow=7.1,SNR=438						
WRA				PcP	PcP	14 42 49.9	-0.9
	comp=Z,3.7nm,0.5s,baz=90,slow=3.6,SNR=8.9						
WRA				S	S	14 47 13.7	-4.2
	comp=Z,2.9nm,0.8s,baz=98,slow=13,SNR=7.0						
ASAR	Alice Springs	45.06	255	P	P	14 41 24.2	+0.6
	comp=Z,37nm,0.5s,mb5.2,baz=90,slow=7.6,SNR=578						
ASAR				PcP	PcP	14 42 50.5	-0.6
	comp=Z,8.7nm,0.5s,baz=96,slow=4.0,SNR=14						
ASAR				S	S	14 47 18.2	-1.4
	comp=Z,6.8nm,0.7s,baz=89,slow=15,SNR=36						
ASPA	Alice Springs	45.06	255	⇓iP	P	14 41 24.1	+0.5
ASPA				i PCP	PcP	14 42 50.5	-0.6
ASPA				i S	S	14 47 18.6	-1.0
KAKA	Kakadu	47.94	269	⇑iP	P	14 41 45.6	+0.1
	comp=Z,28nm,0.4s,mb5.2						
FORT	Forrest	50.21	245	⇓iP	P	14 42 01.6	-0.4
	comp=Z,809nm,0.5s						
FITZ	Fitzroy Crossi	53.34	261	⇓iP	P	14 42 24.7	+0.2
	comp=Z,9.6nm,0.3s,mb4.6						
MBWA	Marble Bar	58.35	256	eP	P	14 42 58.4	-0.6
	comp=Z,235nm,2.1s,mb5.0						
NWAO	Narrogin (SRO)	59.39	242	P	P	14 43 05.3	-0.4
	comp=Z,10nm,0.6s,mb4.1,baz=84,slow=6.6,SNR=10						
SBA	Scott Base	60.13	184	eP	P	14 43 11.4	+1.4
SBA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SBA	Scott Base	60.13	184	eP	P	14 43 11.4	+1.4
	comp=Z,1.1nm,0.6s						
VNDA	Vanda	60.17	185	eP	P	14 43 11.0	+0.8
MUN	Mundaring	60.31	243	⇑iP	P	14 43 12.1	+0.3
	comp=Z,19nm,0.6s,mb4.5						
MUN	Mundaring	60.31	243	⇑iP	P	14 43 12.1	+0.3
MUN				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.5						
MAT	Matsushiro	68.38	323	eP	P	14 44 01.0	-1.2
MAT	Matsushiro	68.38	323	P	P	14 44 01.2	-1.0
QSPA	South Pole Qui	71.84	180	⇓iP	P	14 44 23.1	+1.3
	comp=Z,8.1nm,0.7s,mb4.4						
KSM	Kuching	73.09	277	eP	P	14 44 30.6	+0.5
YSS	Yuzh-Sakhalins	73.86	333	⇑eP	P	14 44 34.0	+0.2
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS	Yuzh-Sakhalins	73.86	333	eP	P	14 44 34.0	+0.3
	comp=Z,24nm,1.0s,mb4.7						
SSE	Sheshan	76.22	310	eP	P	14 44 51.3	+4.1
SSE				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,246nm,4.5s						
SSE	Sheshan	76.22	310	eP	P	14 44 51.2	+4.0
	comp=Z,38nm,0.6s,mb5.0						
MWC	Mount Wilson	77.28	47	eP	P	14 44 52.5	-0.3
CMB	Columbia Colle	77.81	43	eP	P	14 44 55.2	-0.3
	comp=Z,8.8nm,0.9s,mb4.2						
NJ2	Nanjing	78.42	309	eP	P	14 45 03.6	+4.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,406nm,6.6s						
YBH	Yreka Blue Hor	78.53	39	P	P	14 44 58.9	-0.4
	comp=Z,6.7nm,0.6s,mb4.1,baz=184,slow=2.1,SNR=28						
MTUM	Tungsten Hills	78.63	44	eP	P	14 45 00.2	+0.3
MDJ	Mudanjiang	78.65	325	P	P	14 44 59.5	-0.3
MDJ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,162nm,4.6s						
MDJ	Mudanjiang	78.65	325	eP	P	14 45 00.4	+0.6
	comp=Z,9.1nm,0.8s,mb4.2						
HUMO	Hull Mountain	78.92	38	eP	P	14 45 01.8	+0.5
	comp=Z,3.5nm,0.7s,mb3.8						
NVAR	Mina Array Bea	79.39	44	P	P	14 45 04.2	+0.3
	comp=Z,6.5nm,0.7s,mb4.1,baz=231,slow=10,SNR=33						
LDFC	Landfair	79.80	48	eP	P	14 45 05.5	-0.5
MOD	Modoc	80.09	40	eP	P	14 45 07.5	+0.1
	comp=Z,28nm,1.4s,mb4.4						
CN2	Changchun	80.49	322	eP	P	14 45 10.0	+0.6
CN2				eAP	pP	14 47 17.5	-1.1
CN2				eXP	sP	14 48 17.0	-2.3
CN2				eS	S	14 54 28.6	+2.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.1						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
SSOR	Sweet Springs	80.57	36	P	P	14 45 09.8	0.0
VLMM	Larch Mountain	81.22	36	P	P	14 45 13.4	+0.3
WVOR	Wild Horse Val	81.41	40	eP	P	14 45 14.3	+0.2
WVOR				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.4						
WVOR	Wild Horse Val	81.41	40	eP	P	14 45 14.2	+0.1
	comp=Z,16nm,1.0s,mb4.4						
OOW	Octopus West	81.41	33	P	P	14 45 15.0	+0.9
MA2	Magadan	81.59	345	i P	P	14 45 13.6	-1.1
MA2				pmax	pmax		
	comp=Z,100nm,5.0s						
CMW	Cultus Mountai	82.93	34	P	P	14 45 21.8	+0.2
TBM	Table Mountain	83.00	35	P	P	14 45 22.2	+0.2
SNIWA	Snively Ranch	83.11	36	P	P	14 45 23.0	+0.4
GBL	Gable Mountain	83.30	36	P	P	14 45 23.8	+0.3
MSU	Marysvale	83.55	46	eP	P	14 45 25.9	+1.0
WTV	Waterville	83.66	35	P	P	14 45 24.8	-0.5
HLID	Hailey	84.62	41	eP	P	14 45 30.1	0.0
	comp=Z,5.6nm,0.8s,mb4.2						
ENH	Enshi	84.75	304	eP	P	14 45 31.6	+0.6
	comp=Z,12nm,0.6s,mb4.7						
SRU	San Rafael	84.97	46	eP	P	14 45 32.0	+0.1
GYA	Guiyang	85.51	300	⇑iP	P	14 45 35.8	+1.0
GYA				AP	pP	14 47 42.1	-3.7
GYA				XP	sP	14 48 44.3	-1.7
GYA				SKS	SKS	14 55 03.3	+2.5
GYA				S	S	14 55 18.4	+3.0
GYA				XS		14 59 03.8	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
LTX	Lajitas	85.85	57	eP	P	14 45 37.2	+0.8
LTX				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.6						
LTX	Lajitas	85.85	57	eP	P	14 45 37.2	+0.9
	comp=Z,20nm,1.2s,mb4.6						
TXAR	Lajitas Array	85.85	57	P	P	14 45 37.4	+1.0
	comp=Z,9.5nm,0.7s,mb4.5,baz=219,slow=6.1,SNR=110						
COLA	College	86.00	12	eP	P	14 45 34.5	-1.7
COLA				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.6						
COLA	College	86.00	12	eP	P	14 45 34.5	-1.6
	comp=Z,10.0nm,0.6s,mb4.6						
ANMO	Albuquerque	86.00	51	i P	P	14 45 37.3	+0.4
IMA	Indian Mountai	86.01	10	eP	P	14 45 35.6	-0.6
IMA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.7						
IMA	Indian Mountai	86.01	10	eP	P	14 45 35.6	-0.6
	comp=Z,15nm,0.7s,mb4.7						
ILAR	Eielson Array	86.11	13	P	P	14 45 35.0	-1.6
	comp=Z,5.0nm,0.5s,mb4.4,baz=220,slow=4.8,SNR=184						
ILAR				PKiKP		14 50 37.4	
	comp=Z,0.2nm,0.5s,baz=246,slow=4.1,SNR=4.7						
RRI2	Red Ridge	86.47	42	eP	P	14 45 38.9	0.0
XAN	Xi'an	86.74	307	P	P	14 45 41.0	+0.6
XAN				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.7						
BILL	Bilibino	86.78	354	P	P	14 45 38.7	-1.1
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
BILL	Bilibino	86.78	354	P	P	14 45 38.7	-1.0
	comp=Z,6.4nm,0.8s,mb4.4						
DAWY	Dawson	87.28	16	eP	P	14 45 41.7	-0.5
YFT	Old Faithful	87.30	41	eP	P	14 45 44.5	+1.7
PDAR	Pinedale Array	87.33	43	P	P	14 45 42.9	-0.1
	comp=Z,4.9nm,0.7s,mb4.3,baz=222,slow=3.2,SNR=44						
BOZ	Bozeman (W)	87.39	40	eP	P	14 45 42.6	-0.6
	comp=Z,11nm,1.3s,mb4.4						
LKWY	Lake	87.63	41	eP	P	14 45 46.0	+1.6
	comp=Z,8.0nm,1.0s,mb4.4						
SDCO	Great Sand Dun	87.89	49	eP	P	14 45 45.0	-0.7
	comp=Z,4.8nm,1.4s,mb4.0						
SYO	Syowa Base	88.93	193	⇑P	P	14 45 49.2	-0.7
SYO	Syowa Base	88.93	193	⇑PcP	PcP	14 45 51.2	+0.3
CM31	Chiang Mai Arr	89.33	290	eP	P	14 45 54.0	+1.1
	comp=Z,12nm,1.1s,mb4.6						
CMAR	Chiang Mai Arr	89.33	290	P	P	14 45 54.1	+1.2
	comp=Z,6.7nm,0.9s,mb4.5,baz=108,slow=2.9,SNR=33						
YAK	Yakutsk	90.00	338	i P	P	14 45 53.9	-1.0
YAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6						
EDM	Edmonton	90.22	33	eP	P	14 45 54.9	-1.2
SNAA	Sanae	90.28	178	⇑iP	P	14 45 56.1	+0.1
VNA3	Neumayer Olymp	90.41	176	⇑iP	P	14 45 57.2	+0.6
VNA2	Neumayer--Watz	90.85	177	⇑iP	P	14 45 58.1	-0.6
LZH	Lanzhou	91.37	308	eP	P	14 46 03.1	+1.2
LZH				AP	pP	14 48 15.0	+0.5
LZH				XP	sP	14 49 15.3	+0.8
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	Lanzhou	91.37	308	eP	P	14 46 03.1	+1.2
	comp=Z,23nm,1.0s,mb5.1						
LZH				pP	pP	14 48 15.0	+0.5
LZH				sP	sP	14 49 15.3	+0.8
INK	Inuvik	92.09	15	eP	P	14 46 02.9	-1.4
INK				pmax	pmax		
	comp=Z,19nm,1.3s						
INK	Inuvik	92.09	15	eP	P	14 46 02.9	-1.4
	comp=Z,19nm,1.3s,mb5.0						
ULN	Ulaanbaatar	93.63	319	i P	P	14 46 12.6	+0.8
ULN	Ulaanbaatar	93.63	319	eP	P	14 46 11.5	-0.3
	comp=Z,2.0nm,0.8s,mb4.3						
SONM	Songino Array	94.03	319	P	P	14 46 13.5	-0.1
	comp=Z,0.5nm,0.6s,mb3.9,baz=141,slow=7.9,SNR=5.9						
YKA	Yellowknife Ar	94.46	25	P	P	14 46 14.1	-1.1
YKA	Yellowknife Ar	94.46	25	P	P	14 46 14.0	-1.2
	comp=Z,1.8nm,0.6s,mb4.4,baz=242,slow=4.4,SNR=52						
TIXI	Tiksi	96.55	345	i P	P	14 46 22.1	-2.3
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.2						
LPAZ	La Paz	102.94	112	eP	Pdif	14 46 53.1	-1.1
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
LPAZ	La Paz	102.94	112	ePdif	Pdif	14 46 53.1	-1.1
	comp=Z,2.3nm,0.6s						
AAK	Ala-Archa	114.86	309	i PKIKP	PKPdf	14 51 28.3	-2.7
CHKZ	Chkalovo	117.11	322	ePKIKP	PKPdf	14 51 34.5	-0.5
ARCES	ARCESS Array B	126.69	350	PKP	PKPdf	14 51 52.8	-0.3
	comp=Z,4.5nm,0.5s,baz=80,slow=1.3,SNR=41						
JOF	Joensuu	130.96	343	ep	PKPdf	14 52 01.3	-0.1
KAF	Kangasniemi	132.96	345	ep	PKPdf	14 52 04.7	-0.5
FINES	FINESS Array B	133.59	344	PKP	PKPdf	14 52 06.2	-0.1
	comp=Z,2.5nm,0.5s,baz=98,slow=3.2,SNR=14						
OBN	Obninsk	134.74	333	⇓iPKIKP	PKPdf	14 52 04.3	-4.3
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NB2	NORSAR Subarra	136.73	353	PKPabc	PKPdf	14 52 03.3	-8.8
	comp=Z,2.2nm,1.1s,baz=17,slow=2.6						
NOA	NORSAR Array B	136.73	353	PKhKP		14 52 00.7	
	comp=Z,0.6nm,0.7s,baz=240,slow=14,SNR=3.4						
NOA				PKP	PKPdf	14 52 13.9	+1.8
	comp=Z,1.6nm,0.7s,baz=13,slow=4.1,SNR=6.3						
KMBO	Kilima Mbogo	140.33	245	ePKPpre		14 52 16.4	
MALT	Malatya	142.50	310	ePKPpre		14 52 22.1	
DMUB	Kingscourt	143.73	9	eP	PKPbc	14 52 24.1	0.0
KIS	Kishinev	143.81	328	ePKIKP	PKPdf	14 52 35.0	+10
LVV	L'vov	143.84	336	ePKIKP	PKPdf	14 52 25.1	+0.1
DCN	Croghan	144.22	9	eP	PKPdf	14 52 25.9	+0.4
DLF	Lyons Farm	144.37	9	eP	PKPdf	14 52 27.0	+1.2
OJC	Ojcow	145.03	340	ePKP	PKPdf	14 52 28.0	+1.0
TLCR		145.03	326	⇑P	PKPdf	14 52 29.3	+2.1
TLCR		145.03	326	⇑P	PKPdf	14 52 29.3	+2.1
BURAR	Bucovina Array	145.06	332	⇑P	PKPdf	14 52 29.8	+2.7
KOLS	Kolonicke sedl	145.24	336	i PKP	PKPdf	14 52 30.2	+2.8
KOLS				e		14 52 35.7	
CFR	Carcaliu	145.40	327	⇑P	PKPdf	14 52 30.3	+2.5
KSP	Ksiaz	145.51	344	⇓ePKIKP	PKPdf	14 52 30.7	+2.9
KSP	Ksiaz	145.51	344	ePKP	PKPdf	14 52 31.0	+3.2
NIE	Niedzica	145.54	339	ePKP	PKPdf	14 52 29.4	+1.5
CRVS	Cervenica-Dubn	145.57	337	ePKP	PKPdf	14 52 31.0	+3.1
VRI	Vrincioaia	145.63	329	⇑P	PKPdf	14 52 31.1	+3.0
HARR	Harsova	145.83	326	⇑P	PKPdf	14 52 32.1	+3.6
CLL	Collm	145.85	348	⇓iPKIKP	PKPdf	14 52 31.3	+3.0
CLL				pmax	pmax		
	comp=Z,64nm,0.8s						
OKC	Ostrava-Krasne	145.89	341	ePKIKP	PKPdf	14 52 31.7	+3.3
OKC	Ostrava-Krasne	145.89	341	⇑ePKPB	PKPbc	14 52 31.7	+1.7
UPC	Upice	145.89	344	ePKIKP	PKPdf	14 52 31.8	+3.4
UPC	Upice	145.89	344	⇑ePKPB	PKPbc	14 52 31.8	+1.8
DPC	Dobruska-Polom	145.95	344	ePKIKP	PKPdf	14 52 32.2	+3.7
DPC	Dobruska-Polom	145.95	344	⇑ePKPB	PKPbc	14 52 32.2	+2.0
BRG	Berggiesshubel	146.06	346	ePKIKP	PKPdf	14 52 30.1	+1.4
BRG				i		14 52 34.2	
BRG				pmax	pmax		
	comp=Z,28nm,0.7s						
BRG	Berggiesshubel	146.06	346	ePKP	PKPdf	14 52 30.1	+1.4
BRG				i		14 52 32.0	
BRG				i		14 52 34.2	
MBAR	Mbarara	146.09	240	ePKPdf	PKPdf	14 52 28.9	-1.0
MBAR				ePKPbc	PKPbc	14 52 33.3	+1.6
WTSB	Winterswijk	146.11	355	eP	PKPdf	14 52 31.7	+2.9
MORC	Moravsky Berou	146.12	342	ePKIKP	PKPdf	14 52 30.4	+1.6
MORC				e		14 52 34.3	
MORC	Moravsky Berou	146.12	342	ePKPdf	PKPdf	14 52 30.4	+1.5
MORC				ePKPbc	PKPbc	14 52 32.2	+1.6
MORC				ePKPab	PKPab	14 52 34.3	-2.0
BHL	Bhannes	146.14	304	eP	PKPdf	14 52 33.2	+3.8
PVCC	Panska Ves	146.23	346	ePKIKP	PKPdf	14 52 33.0	+4.0
PVCC	Panska Ves	146.23	346	⇑ePKPB	PKPbc	14 52 33.0	+2.2
MLR	Muntele Rosu	146.29	329	⇓P	PKPdf	14 52 33.0	+3.7
PRU	Pruhonice	146.74	345	ePKIKP	PKPdf	14 52 34.0	+4.1
PRU	Pruhonice	146.74	345	⇑ePKPB	PKPbc	14 52 34.0	+2.0
MOX	Moxa	146.75	349	ePKIKP	PKPdf	14 52 33.7	+3.8
VYHS	Vyhne	146.84	339	ePKP	PKPdf	14 52 34.3	+4.2
VYHS				e		14 52 38.1	
PSZ	Piszkesteto	146.96	338	⇓ePKP/B	PKPdf	14 52 34.4	+4.1
NKC	Novy Kostel	146.98	348	ePKIKP	PKPdf	14 52 34.8	+4.5
NKC	Novy Kostel	146.98	348	⇑ePKPB	PKPbc	14 52 34.8	+2.2
SMOL	Smolenice	147.28	341	i PKP	PKPdf	14 52 35.7	+4.9
SMOL				e		14 52 40.3	
HGN	Heimansgroeve	147.38	355	eP	PKPdf	14 52 35.1	+4.2
	comp=Z,15nm,0.8s						
CSS	Prodhromos	147.56	307	ePKPbc	PKPdf	14 52 36.2	+4.5
SRO	Srobarova	147.60	339	ePKP	PKPdf	14 52 37.1	+5.7
TNS	Taunus Mts	147.66	352	ePKIKP	PKPdf	14 52 36.3	+4.9
ZST	Bratislava	147.66	341	ePKP	PKPdf	14 52 36.5	+5.1
GRF	Grafenberg Arr	147.73	349	ePKIKP	PKPdf	14 52 36.7	+5.2
KHC	Kasperske Hory	147.77	346	ePKHKP		14 52 32.5	
KHC				e		14 52 36.8	
KHC	Kasperske Hory	147.77	346	⇑ePKPB	PKPdf	14 52 32.5	+0.9
KHC				ePKPAB	PKPab	14 52 36.8	-6.0
WET	Wettzell	147.92	346	ePKHKP		14 52 37.0	
GEC2	GERESS Array S	148.01	345	ePKHKP		14 52 37.2	
GERES	GERESS Array B	148.01	345	PKP	PKPdf	14 52 31.7	-0.2
	comp=Z,1.3nm,1.0s,baz=333,slow=2.2,SNR=6.2						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
GERES				PKPbc	PKPdf	14 52 37.2	+5.2
	comp=Z,8.9nm,0.6s,baz=79,slow=6.8,SNR=90						
ISP	Isparta	148.31	314	ePKHKP		14 52 37.5	
WLF	Walferdange	148.45	355	ePKHKP		14 52 38.3	
MOA	Molln	148.79	344	⇑iP	PKPdf	14 52 36.6	+3.4
FUR	Furstenfeldbru	149.18	348	ePKHKP		14 52 40.4	
FLN	La Foliniere	149.47	3	ePKIKP	PKPdf	14 52 35.3	+1.1
	comp=Z,12nm,0.8s						
BFO	Black Forest	149.53	352	ePKHKP		14 52 40.7	
LDF	La Druitiere	149.66	3	ePKIKP	PKPdf	14 52 35.7	+1.2
PERS	Pernice	149.66	342	i PKPbc	PKPdf	14 52 40.5	+6.0
KBA	Koelnbreinsper	149.74	344	⇑iP	PKPdf	14 52 41.0	+6.3
GRR	Gorron	149.82	4	ePKIKP	PKPdf	14 52 36.1	+1.3
WATA	Walderalm	149.91	347	⇓iP	PKPdf	14 52 41.4	+6.4
GRUS	Gruza	149.94	332	⇑iP	PKPdf	14 52 41.8	+6.7
MOTA	Moosalm	150.00	348	⇑iP	PKPdf	14 52 41.7	+6.6
HAU	Haudompre	150.08	354	ePKIKP	PKPdf	14 52 36.6	+1.4
DIVS	Divcibare	150.08	333	⇑iP	PKPdf	14 52 41.7	+6.3
QUIF	Quistinic	150.09	7	ePKIKP	PKPdf	14 52 36.3	+1.1
SQTA	Sankt Quirin	150.10	347	⇓iP	PKPdf	14 52 42.2	+7.0
LEGS	Legarje	150.22	341	i PKPbc	PKPdf	14 52 42.2	+6.7
LEGS				ePKPab	PKPab	14 52 51.1	-1.8
DAVA	Damuels	150.29	349	⇑iP	PKPdf	14 52 43.0	+7.5
LJU	Ljubljana	150.37	342	i PKPbc	PKPdf	14 52 42.8	+7.1
BBLS	Bajina Basta -	150.52	334	⇑iP	PKPdf	14 52 43.1	+7.2
BOJS	Bojanci	150.63	341	ePKPbc	PKPdf	14 52 43.5	+7.4
SSF	Saint Saulge	151.21	358	ePKIKP	PKPdf	14 52 38.9	+2.0
MFF	Saint Martin d	151.64	3	ePKIKP	PKPdf	14 52 38.3	+0.8
	comp=Z,7.5nm,0.8s						
TCF	Toulx Ste Croi	152.01	360	ePKIKP	PKPdf	14 52 39.0	+1.0
	comp=Z,3.2nm,0.7s						
ORIF	Oris-en-Rattie	153.18	354	ePKIKP	PKPdf	14 52 41.0	+1.3
EVO	Evora	157.97	21	ePKIKP	PKPdf	14 52 47.4	+1.1
	comp=Z,2.7nm,0.6s						
ESDC	Sonseca Array	158.01	12	PKP	PKPdf	14 52 46.0	-0.3
	comp=Z,0.9nm,1.0s,slow=3.0,SNR=4.3						
ESDC				PKPab	PKPab	14 53 23.8	-2.4
	comp=Z,1.9nm,0.9s,baz=339,slow=3.7,SNR=9.3						

*ATH **13** 14:36:42.8, 40.80N×23.00E, h22km, MD2.9/4*
*NEIC **13** 14:36:42.8, 40.80N×23.00E, h22km, MD2.9(ATH), After ATH.*
*SOF **13** 14:36:43.7, 40.83N×22.93E, h5km, MD2.7*
*THE **13** 14:36:43.4, 40.85N×22.93E, h3km, ML2.9*
*CSEM **13** 14:36:43.4±0.1, 40.85N×22.94E, h8km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.6km az=105.0*
ISC 13 14:36:42.9±0.4**, 40.84N**±0.02×**22.95E**±0.03**, h11**km±4km**, n21, σ0.94**/34**, 3C, Greece**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
THE	Thessaloniki	0.21	177	ePg	Pg	14 36 47.7	+0.2
THE				eSg	Sg	14 36 51.2	+0.6
SOH	Sokhos	0.31	93	ePg	Pg	14 36 49.9	+0.6
KNT	Kendrikon	0.32	353	ePg	Pg	14 36 49.8	+0.1
KNT				eSg	Sg	14 36 54.2	0.0
GRG	Griva	0.43	286	ePg	Pg	14 36 51.3	-0.5
GRG				eSg	Sg	14 36 57.4	-0.3
SRS	Serrai	0.56	60	ePg	Pg	14 36 54.0	-0.3
SRS				eSg	Sg	14 37 02.0	+0.2
VAY	Valandovo	0.56	329	⇑iPg	Pg	14 36 53.9	-0.4
VAY				⇑iSg	Sg	14 37 01.5	-0.4
PLG	Polygyros	0.60	141	ePN	Pn	14 36 53.3	-3.7
LIT	Litokhoron	0.82	206	ePg	Pg	14 36 58.4	-0.9
LIT				eSg	Sg	14 37 10.3	0.0
NVR	Nevrokopi	0.86	53	⇑iPN	Pn	14 36 59.5	-1.2
NVR				eSN	Sn	14 37 11.3	-1.9
OUR	Ouranopolis	0.93	122	ePg	Pg	14 37 01.3	-0.3
MMB	Musomiste	0.95	38	i Pg	Pg	14 37 02.5	+0.5
MMB				Sg	Sg	14 37 15.0	+0.3
KKB	Krupnik	1.03	5	i Pg	Pg	14 37 03.7	+0.1
KZN	Kozani	1.04	240	ePN	Pn	14 37 03.2	-0.2
PAIG	Paliouri	1.07	148	ePg	Pg	14 37 03.2	-1.2
PAIG				eSg	Sg	14 37 19.6	+1.0
PAIG	Paliouri	1.07	148	ePg	Pg	14 37 03.2	-1.1
PAIG				eSg	Sg	14 37 19.6	+1.0
FNA	Florina	1.20	268	ePb	Pb	14 37 05.5	+0.4
FNA				eSb	Sb	14 37 22.5	+2.1
NEO	Neokhori	1.54	172	ePN	Pn	14 37 10.4	-0.1
NEO				eSN	Sn	14 37 30.7	0.0
RZN	Rozhen	1.58	57	P	Pn	14 37 14.5	+3.5
RZN				S	Sb	14 37 35.0	+3.5
VTS	Vitosha	1.76	6	i P	Pn	14 37 17.5	+3.9
VTS	Vitosha	1.76	6	S	Sn	14 37 41.0	+4.8
AGG	Agios Georgios	1.88	195	ePb	Pb	14 37 15.7	-1.0

IDC 13 15:07:13.1±5.6**, 6.30S**×**129.66E, h300**km±83km**, mb3.1**/1**, mb1 3.3**/3**, mb1mx3.0**/11**, mbtmp4.0**/3**, Error ellipse: s-maj=95.1km s-min=50.8km az=88.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.30	162	P	P	15 10 21.4	-3.3
	0.4nm,0.3s,baz=340,slow=11,SNR=45						
WRA				S	S	15 13 01.9	+5.1
	0.2nm,0.3s,baz=344,slow=21,SNR=5.4						
ASAR	Alice Springs	17.74	167	P	P	15 11 00.5	-1.5
	0.9nm,0.3s,baz=344,slow=11,SNR=132						
ASAR				S	S	15 14 09.1	+2.9
	0.1nm,0.3s,baz=348,slow=26,SNR=5.1						
STKA	Stephens Creek	27.78	158	P	P	15 12 35.0	-2.1
	0.5nm,0.4s,baz=329,slow=11,SNR=4.8						

*BJI **13** 15:08:09.8, 40.43S×174.53E, h160km, mB5.7, mb5.3*
*NEIC **13** 15:08:11.7±0.1, 40.18S×173.58E, mb5.5/26, Error ellipse: s-maj=4.4km s-min=3.0km az=134.0*
NEIC Items knocked from shelves in parts of central New Zealand. Felt from New Plymouth on the North Island to Christchurch on the South Island.
*IDC **13** 15:08:11.3±0.5, 40.19S×173.67E, h137km±4km, mb5.1/13, mb1 5.1/15, mb1mx5.0/18, mbtmp5.5/15, MS4.1/8, Ms1 4.1/8, ms1mx3.6/17, Error ellipse: s-maj=10.1km s-min=7.3km az=145.0*
*HRVD **13** 15:08:11.7±0.2, 40.17S×173.66E, h153km±1km, MW5.4/74, Centroid moment Tensor Solution. LP body waves: s64,c115; Mantle waves: s74,c143; Half duration: 1.2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.44±.03; $M_{\theta\theta}$0.73±.03; $M_{\phi\phi}$-0.28±.03; $M_{r\theta}$0.82±.02; $M_{\theta\phi}$-0.20±.03; $M_{\phi r}$-0.97±.02; Best double couple: $M_0$1.435×10^{17} NP1: ϕ_s68°, δ23°, λ-155°. NP2: ϕ_s315°, δ81°, λ-69°. Principal axes: T 1.42, Plg32°, Azm28°; N .03, Plg21°, Azm132°; P -1.45, Plg50°, Azm249°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **13** 15:08:12.1±1.5, 40.26S×173.62E, h150km, mb5.6/13 Error ellipse: s-maj=14.1km s-min=11.5km az=129.5*
*WEL **13** 15:08:13.1±0.2, 40.18S×173.67E, h143km±2km, ML6.4/20, Error ellipse: s-maj=1.2km s-min=0.6km az=90.0*
WEL Felt from Auckland to Canterbury, maximum reported intensity MM 6.
ISC 13 15:08:11.4±0.2**, 40.21S**±0.02×**173.62E**±0.04**, h144**km±2km**, h143**km±2.4km**: pP-P, n501, σ1.13**/287**, mb5.4**/49**, 67C-92D, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.64	159	⇑PN	P	15 08 34.6	+1.2
DUWZ				SN	S	15 08 50.7	+0.6
NWEZ	Newall Road	0.95	11	⇓P	P	15 08 36.6	+1.1
NWEZ	Newall Road	0.95	11	⇓PN	P	15 08 36.6	+1.2
DFE	Dawson Falls	0.96	23	P	P	15 08 36.6	+1.1
DFE	Dawson Falls	0.96	23	PN	P	15 08 36.6	+1.2
NEZ	North Egmont	1.00	21	⇑P	P	15 08 36.8	+0.9
NEZ	North Egmont	1.00	21	⇑PN	P	15 08 36.8	+0.9
NNZ	Nelson	1.02	190	⇑P	P	15 08 37.6	+1.5
NNZ				S	S	15 08 55.9	+0.9
NNZ	Nelson	1.02	190	⇑PN	P	15 08 37.6	+1.5
NNZ				⇑PN	P	15 08 37.6	+1.5
NNZ				SN	S	15 08 55.8	+0.8
QRZ	Quartz Range	1.04	233	⇓P	P	15 08 37.5	+1.3
QRZ	Quartz Range	1.04	233	⇑PN	P	15 08 37.5	+1.3
QRZ				SN	S	15 08 55.5	+0.3
PKE	Pukeiti	1.05	16	⇓P	P	15 08 37.3	+1.0
PKE	Pukeiti	1.05	16	⇓PN	P	15 08 37.3	+1.0
RAEZ	Rainy Point	1.09	33	⇓P	P	15 08 37.7	+0.9
RAEZ	Rainy Point	1.09	33	⇓PN	P	15 08 37.7	+0.9
WAZ	Wanganui	1.14	67	P	P	15 08 38.4	+1.2
WAZ	Wanganui	1.14	67	⇓PN	P	15 08 38.4	+1.2
WAZ				⇓PN	P	15 08 38.4	+1.2
KIW	Kapiti Island	1.18	124	⇓P	P	15 08 38.7	+1.1
KIW				S	S	15 08 56.3	-1.4
KIW	Kapiti Island	1.18	124	⇓PN	P	15 08 38.7	+1.1
KIW				SN	S	15 08 56.3	-1.4
TUWZ	Tuamarina	1.24	169	⇑PN	P	15 08 39.5	+1.3
MRW	Makara Radio	1.31	142	⇓P	P	15 08 40.3	+1.4
MRW	Makara Radio	1.31	142	⇓PN	P	15 08 40.3	+1.4
SNZO	South Karori	1.37	144	⇑P	P	15 08 40.8	+1.2
SNZO	South Karori	1.37	144	PN	P	15 08 40.8	+1.2
SNZO				⇑PN	P	15 08 40.8	+1.3
WEL	Wellington	1.38	141	⇑P	P	15 08 41.0	+1.3
WEL	Wellington	1.38	141	PN	P	15 08 40.9	+1.2
VRZ	Vera Road	1.39	39	⇓P	P	15 08 40.0	+0.2
VRZ	Vera Road	1.39	39	⇓PN	P	15 08 40.0	+0.2
VRZ				⇓PN	P	15 08 40.0	+0.2
VRZ				SN	S	15 09 00.7	-0.9
CAW	Cannon Point	1.42	130	⇓P	P	15 08 41.2	+1.1
CAW	Cannon Point	1.42	130	⇓PN	P	15 08 41.2	+1.1
CAW				SN	S	15 09 01.5	-0.6
BSWZ	Blackbirch Sta	1.52	173	⇑P	P	15 08 42.7	+1.6
BSWZ	Blackbirch Sta	1.52	173	⇑PN	P	15 08 42.7	+1.6
BHW	Baring Head	1.53	142	⇑P	P	15 08 42.2	+1.0
BHW	Baring Head	1.53	142	⇑PN	P	15 08 42.2	+1.0
MRZ	Mangatainoka R	1.56	107	⇓P	P	15 08 42.3	+0.7
MRZ	Mangatainoka R	1.56	107	⇓PN	P	15 08 42.3	+0.7
MRZ				PN	P	15 08 42.4	+0.8
MRZ				SN	S	15 09 02.8	-2.0
CMWZ	Cape Campbell	1.60	164	⇑P	P	15 08 44.0	+2.0
CMWZ	Cape Campbell	1.60	164	⇑PN	P	15 08 44.0	+2.0
THZ	Tophouse	1.65	199	⇑P	P	15 08 43.7	+1.2
THZ	Tophouse	1.65	199	⇑PN	P	15 08 43.7	+1.2
MTW	Mount Morrison	1.72	124	⇓P	P	15 08 44.2	+0.9
MTW	Mount Morrison	1.72	124	⇓PN	P	15 08 44.2	+0.9
MSWZ	Moikau Station	1.73	135	⇓P	P	15 08 44.4	+1.0
MSWZ	Moikau Station	1.73	135	⇓PN	P	15 08 44.4	+1.0
WNVZ	Wahianoa	1.76	61	⇓P	P	15 08 43.9	+0.1
WNVZ	Wahianoa	1.76	61	⇓PN	P	15 08 43.9	+0.2
DRZ	Dome Shelter	1.76	59	P	P	15 08 44.5	+0.7
DRZ	Dome Shelter	1.76	59	⇑PN	P	15 08 44.0	+0.2
FWVZ	Far West T-bar	1.77	58	⇑P	P	15 08 43.9	0.0
FWVZ	Far West T-bar	1.77	58	⇑PN	P	15 08 43.9	+0.1
WPVZ	Whakapapa	1.79	57	⇓P	P	15 08 44.2	+0.1
WPVZ	Whakapapa	1.79	57	⇓PN	P	15 08 44.1	0.0
CNZ	Chateau	1.79	56	⇑P	P	15 08 44.2	0.0
CNZ	Chateau	1.79	56	⇑PN	P	15 08 44.2	0.0
TSZ	Takapari Road	1.80	86	⇓P	P	15 08 44.5	+0.3
TSZ	Takapari Road	1.80	86	⇓PN	P	15 08 44.5	+0.2
PAWZ	Paruwai Farm	1.80	131	⇓PN	P	15 08 45.2	+1.0
TWVZ	Taurewa	1.80	52	⇓PN	P	15 08 44.2	-0.1
MOVZ	Moawhango	1.83	65	⇓PN	P	15 08 44.2	-0.3
TUVZ	Tukino	1.83	60	⇓P	P	15 08 44.8	+0.3
TUVZ	Tukino	1.83	60	⇓PN	P	15 08 44.8	+0.2
NGZ	Ngauruhoe	1.84	57	⇓PN	P	15 08 44.7	0.0
WTVZ	West Tongariro	1.87	55	⇓P	P	15 08 45.0	0.0
WTVZ	West Tongariro	1.87	55	⇓PN	P	15 08 45.0	-0.1
OTVZ	Oturere	1.89	57	⇓PN	P	15 08 45.4	+0.1
MGZ	Maungaku	1.91	51	⇓PN	P	15 08 45.4	-0.1
HIZ	Hauiti	1.94	30	eP	P	15 08 45.6	-0.3
HIZ	Hauiti	1.94	30	PN	P	15 08 45.5	-0.4
KATZ	Kakaramea	2.02	53	⇓P	P	15 08 46.8	0.0
KATZ	Kakaramea	2.02	53	⇓PN	P	15 08 46.8	0.0
BFZ	Birch Farm	2.06	104	⇑P	P	15 08 47.6	+0.3
BFZ	Birch Farm	2.06	104	⇓PN	P	15 08 47.6	+0.3
DSZ	Denniston Nort	2.06	221	⇑P	P	15 08 48.5	+1.2
DSZ	Denniston Nort	2.06	221	⇑PN	P	15 08 48.4	+1.1
DSZ				⇑PN	P	15 08 48.6	+1.3
RITZ	Rihia Road	2.12	55	⇓P	P	15 08 48.3	+0.2
RITZ	Rihia Road	2.12	55	PN	P	15 08 48.0	-0.1
RATZ	Rangitukua	2.13	52	⇓P	P	15 08 48.5	+0.3
RATZ	Rangitukua	2.13	52	⇓PN	P	15 08 48.2	0.0
KHZ	Kahutara	2.21	182	⇑PN	P	15 08 50.2	+1.0
KHZ				⇑PN	P	15 08 50.2	+1.1
WATZ	Wairara	2.22	48	⇓P	P	15 08 49.3	0.0
WATZ	Wairara	2.22	48	⇓PN	P	15 08 49.3	0.0
HATZ	Hinemaiaia	2.32	56	⇓P	P	15 08 49.7	-0.9
HATZ	Hinemaiaia	2.32	56	⇓PN	P	15 08 49.7	-0.9
WHTZ	Whakaora	2.38	50	P	P	15 08 51.5	+0.2
WHTZ	Whakaora	2.38	50	⇓PN	P	15 08 51.4	+0.1
BKZ	Black Stump Fm	2.45	66	⇑P	P	15 08 51.2	-1.0
BKZ	Black Stump Fm	2.45	66	⇓PN	P	15 08 51.1	-1.1
PWZ	Pawanui	2.49	87	⇓eP	P	15 08 52.2	-0.6
PWZ	Pawanui	2.49	87	⇓PN	P	15 08 52.1	-0.7
PATZ	Paeroa	2.74	49	PN	P	15 08 55.5	-0.4
LTZ	Lake Taylor	2.77	201	⇑P	P	15 08 56.4	+0.1
LTZ	Lake Taylor	2.77	201	⇑PN	P	15 08 56.4	+0.1
UTU	Utuhina	2.85	45	P	P	15 08 57.5	+0.2
UTU	Utuhina	2.85	45	PN	P	15 08 57.4	0.0
TOZ	Tahuroa Road	2.88	31	P	P	15 08 56.9	-0.8
TOZ	Tahuroa Road	2.88	31	PN	P	15 08 56.8	-0.9
TAZ	Tarawera	2.99	50	P	P	15 08 58.3	-0.8
TAZ	Tarawera	2.99	50	PN	P	15 08 58.4	-0.8
MKRZ	Makatiti	3.03	48	P	P	15 08 59.2	-0.5
MKRZ	Makatiti	3.03	48	⇓PN	P	15 08 59.1	-0.5
LIRZ	Lichensteins R	3.08	45	P	P	15 08 59.7	-0.6
LIRZ	Lichensteins R	3.08	45	PN	P	15 08 59.4	-0.9
EDRZ	Edgecumbe	3.21	50	P	P	15 09 00.7	-1.3
EDRZ	Edgecumbe	3.21	50	PN	P	15 09 00.5	-1.5
TGRZ	Tauranga	3.22	41	P	P	15 09 01.3	-0.9
TGRZ	Tauranga	3.22	41	PN	P	15 09 01.3	-0.8
MARZ	Manawahe	3.25	48	P	P	15 09 01.2	-1.4
MARZ	Manawahe	3.25	48	PN	P	15 09 00.8	-1.8
MKAZ	Moumakai	3.32	22	P	P	15 09 03.8	+0.3
MKAZ	Moumakai	3.32	22	⇓PN	P	15 09 03.7	+0.2
URZ	Urewera	3.33	55	P	P	15 09 01.2	-2.5
	297nm,0.3s,baz=247,slow=7.9,SNR=1806						
URZ				S	S	15 09 39.6	-4.1
	2μm,0.3s,baz=111,slow=22,SNR=26						
URZ				LR	LR	15 09 56.5	
	comp=Z,9μm,18.1s,baz=194,slow=32						
URZ	Urewera	3.33	55	⇓PN	P	15 09 01.1	-2.6
KNZ	Kokohu	3.35	71	⇓P	P	15 09 01.8	-2.0
KNZ	Kokohu	3.35	71	PN	P	15 09 01.8	-2.1
WTAZ	Waiatarua	3.35	13	P	P	15 09 04.9	+1.0
WTAZ	Waiatarua	3.35	13	PN	P	15 09 04.7	+0.8
OTAZ	Otara	3.41	18	P	P	15 09 05.2	+0.5
OTAZ	Otara	3.41	18	PN	P	15 09 05.2	+0.5
CRLZ	Canterbury Las	3.45	192	⇑P	P	15 09 03.8	-1.4
CRLZ	Canterbury Las	3.45	192	⇑PN	P	15 09 03.7	-1.5
KAAZ	Kauri Point	3.48	14	PN	P	15 09 06.5	+0.9
MTAZ	Motutapu	3.56	17	P	P	15 09 07.1	+0.4
MTAZ	Motutapu	3.56	17	PN	P	15 09 07.0	+0.3
MWZ	Matawai	3.56	60	⇓eP	P	15 09 04.3	-2.4
MWZ	Matawai	3.56	60	⇓PN	P	15 09 04.0	-2.7
MQZ	McQueen's Vall	3.57	191	⇑PN	P	15 09 05.0	-1.8
WVZ	Waitaha Valley	3.59	216	⇑eP	P	15 09 06.3	-0.7
KUZ	Kuaotunu	3.83	26	⇓P	P	15 09 09.5	-0.7
KUZ	Kuaotunu	3.83	26	⇓PN	P	15 09 09.5	-0.7
WIZ	White Island	3.86	47	PN	P	15 09 08.6	-2.0
RPZ	Rata Peaks	3.99	208	P	P	15 09 11.0	-1.4
	51nm,0.3s,baz=294,slow=1.4,SNR=276						
RPZ				S	S	15 09 56.0	-3.2
	1μm,0.3s,baz=140,slow=21,SNR=25						
RPZ	Rata Peaks	3.99	208	eP	P	15 09 10.6	-1.7
RPZ	Rata Peaks	3.99	208	PN	P	15 09 10.6	-1.7
PUZ	Puketiti	4.19	61	⇓eP	P	15 09 11.9	-3.0
PUZ	Puketiti	4.19	61	⇓PN	P	15 09 11.7	-3.2
WCZ	Waipu Caves	4.30	8	⇑P	P	15 09 16.4	0.0
WCZ	Waipu Caves	4.30	8	⇑PN	P	15 09 16.4	0.0
FOZ	Fox Glacier	4.46	220	eP	P	15 09 16.0	-2.5
FOZ	Fox Glacier	4.46	220	PN	P	15 09 15.7	-2.7
MXZ	Matakaoa Point	4.51	56	⇓P	P	15 09 16.5	-2.7
MXZ	Matakaoa Point	4.51	56	PN	P	15 09 16.3	-2.9
LBZ	Lake Benmore	4.89	210	eP	P	15 09 22.3	-1.9
LBZ	Lake Benmore	4.89	210	ePN	P	15 09 21.5	-2.7
OUZ	Omahuta	4.98	360	⇓eP	P	15 09 25.7	+0.3
OUZ	Omahuta	4.98	360	⇑PN	P	15 09 25.7	+0.3
JCZ	Jackson Bay	5.29	222	P	P	15 09 27.8	-1.7
JCZ	Jackson Bay	5.29	222	PN	P	15 09 27.7	-1.8
ODZ	Otahua Downs	5.31	203	eP	P	15 09 28.0	-1.8
ODZ	Otahua Downs	5.31	203	PN	P	15 09 27.9	-1.8
WKZ	Wanaka	5.73	215	eP	P	15 09 32.5	-2.9
WKZ	Wanaka	5.73	215	ePN	P	15 09 32.1	-3.3
EAZ	Earnscleugh	5.94	211	eP	P	15 09 35.4	-2.8
EAZ	Earnscleugh	5.94	211	PN	P	15 09 35.0	-3.2
MSZ	Milford Sound	6.13	221	PN	P	15 09 38.4	-2.4
TUZ	Tuapeka	6.44	206	eP	P	15 09 42.7	-2.3
TUZ	Tuapeka	6.44	206	ePN	P	15 09 42.3	-2.7
MLZ	Mavora Lakes	6.51	216	eP	P	15 09 43.9	-2.1
MLZ	Mavora Lakes	6.51	216	ePN	P	15 09 43.7	-2.2
WHZ	Wether Hill Ro	7.04	214	P	P	15 09 50.9	-2.1
WHZ	Wether Hill Ro	7.04	214	ePN	P	15 09 50.8	-2.2
MCQ	Macquarie Isla	17.36	210	eP	P	15 12 13.8	+7.9
DZM	Mont Dzumac	19.08	339	eP	P	15 12 23.8	-1.3
DZM	Mont Dzumac	19.08	339	eP	P	15 12 23.8	-1.3
CNB	Canberra Magne	19.77	277	⇓iP	P	15 12 34.5	+2.3
	1μm,0.9s						
CNB				eT		15 31 05.1	
TAU	Tasmania Unive	19.84	254	eP	P	15 12 31.8	-1.1
TAU				pmax	pmax		
	comp=Z,45nm,0.8s						
TAU	Tasmania Unive	19.84	254	eP	P	15 12 31.8	-1.0
	comp=Z,45nm,0.8s						
TOO	Toolangi	22.02	268	⇓iP	P	15 12 56.9	+2.3
	comp=Z,8.9nm,1.1s						
TOO				i pP		15 13 26.1	
TOO	Toolangi	22.02	268	⇓iP	P	15 12 56.9	+2.3
TOO				i *PP		15 13 26.1	
TOO				pmax	pmax		
	comp=Z,9.0nm,1.1s						
STKA	Stephens Creek	27.09	278	P	P	15 13 43.0	+0.6
	comp=Z,34nm,1.0s,mb4.9,baz=116,slow=9.7,SNR=41						
STKA				LR	LR	15 22 36.8	
	comp=Z,184nm,22.0s,baz=289,slow=32						
STKA	Stephens Creek	27.09	278	eP	P	15 13 43.0	+0.6
STKA				epP	pP	15 14 12.2	-0.3
AFI	Afiamalu	29.16	30	P	P	15 13 56.8	-4.4
AFI				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.3						
AFI	Afiamalu	29.16	30	P	P	15 13 58.3	-3.0
	comp=Z,60nm,0.9s,mb5.3						
RAR	Rarotonga	29.52	58	eP	P	15 14 02.6	-1.7
RAR				pmax	pmax		
	comp=Z,227nm,0.9s						
RAR	Rarotonga	29.52	58	P	P	15 14 02.9	-1.5
	comp=Z,190nm,0.8s,mb5.9,baz=233,slow=7.0,SNR=31						
RAR				LR	LR	15 23 04.3	
	comp=Z,459nm,19.5s,baz=285,slow=30						
RAR	Rarotonga	29.52	58	eP	P	15 14 02.6	-1.7
	comp=Z,227nm,0.9s,mb5.9						
CTA	Charters Tower	30.82	303	⇓iP	P	15 14 16.7	+0.8
	comp=Z,38nm,1.0s,mb5.1						
CTA	Charters Tower	30.82	303	⇓iP	P	15 14 16.7	+0.8
CTA				pmax	pmax		
	comp=Z,38nm,1.0s						
CTA	Charters Tower	30.82	303	P	P	15 14 15.1	-0.8
	comp=Z,54nm,1.0s,mb5.2,baz=138,slow=10,SNR=19						
CTA				LR	LR	15 25 46.1	
	comp=Z,234nm,18.5s,baz=137,slow=34						
CTAO	Charters Tower	30.82	303	eP	P	15 14 16.3	+0.4
CTAO				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.3						
CTAO	Charters Tower	30.82	303	eP	P	15 14 16.3	+0.4
	comp=Z,78nm,1.1s,mb5.3						
TBI	Tubuai	35.30	73	eP	P	15 14 54.8	+0.5
	comp=Z,111nm,0.9s,mb5.5						
TBI				eLR	LR	15 24 16.5	
	comp=Z,2μm,67.8s						
ASAR	Alice Springs	37.18	284	P	P	15 15 09.9	-0.1
	comp=Z,48nm,0.8s,mb5.2,baz=131,slow=8.8,SNR=276						
ASAR				pP	pP	15 15 40.6	-1.3
	comp=Z,14nm,0.8s,baz=128,slow=7.1,SNR=3.2						
ASAR				PcP	PcP	15 17 25.5	-2.0
	comp=Z,17nm,0.6s,baz=131,slow=3.6,SNR=10						
ASAR				S	S	15 20 45.4	0.0
	comp=Z,2.5nm,0.9s,baz=135,slow=15,SNR=3.9						
ASPA	Alice Springs	37.18	284	⇓iP	P	15 15 10.0	-0.1
ASPA				i PCP	PcP	15 17 25.9	-1.6
ASPA				i S		15 21 12.1	
VNDA	Vanda	37.74	184	P	P	15 15 15.2	+0.9
VNDA	Vanda	37.74	184	eP	P	15 15 15.0	+0.7
VNDA				pmax	pmax		
	comp=Z,104nm,0.9s						
VNDA	Vanda	37.74	184	P	P	15 15 15.2	+0.9
	comp=Z,60nm,0.7s,mb5.3,baz=2.5,slow=8.2,SNR=160						
VNDA				LR	LR	15 28 39.6	
	comp=Z,224nm,19.2s,baz=13,slow=32						
VNDA	Vanda	37.74	184	eP	P	15 15 15.0	+0.7
	comp=Z,104nm,0.9s,mb5.5						
SBA	Scott Base	37.86	182	eP	P	15 15 16.5	+1.2
SBA				pmax	pmax		
	comp=Z,400nm,1.1s,mb6.0						
SBA	Scott Base	37.86	182	eP	P	15 15 17.2	+1.9
	comp=Z,396nm,1.1s,mb6.0						
FORT	Forrest	37.92	270	⇓iP	P	15 15 16.0	-0.2
	comp=Z,3μm,0.9s						
PMG	Port Moresby	38.66	315	eP	P	15 15 23.5	+1.0
PMG				e*PP	pP	15 15 55.8	+1.3
PMG				pmax	pmax		
	comp=Z,120nm,1.0s						
PMG	Port Moresby	38.66	315	eP	P	15 15 23.5	+1.0
	comp=Z,120nm,1.0s,mb5.5						
PMG				epP	pP	15 15 55.8	+1.3
PAE	Paea	38.87	66	eP	P	15 15 24.4	+0.2
	comp=Z,385nm,1.1s,mb5.9						
PPT	Papeete	38.93	65	eP	P	15 15 25.2	+0.4
	comp=Z,244nm,1.2s,mb5.7						
PPT	Papeete	38.93	65	eLR	LR	15 25 51.0	
	comp=Z,3μm,46.8s						
PPT	Papeete	38.93	65	P	P	15 15 25.2	+0.4
	comp=Z,152nm,0.8s,mb5.7,baz=192,slow=4.5,SNR=12						
TVO	Taravao	39.02	66	eP	P	15 15 26.0	+0.6
	comp=Z,224nm,1.1s,mb5.7						
TIAR	Tiarei	39.10	66	eP	P	15 15 26.7	+0.6
	comp=Z,586nm,1.0s,mb6.2						
TIAR				epP	pP	15 16 00.8	+2.6
	comp=Z,188nm,0.8s						
WB2	Warramunga Arr	39.12	289	⇓iP	P	15 15 26.1	-0.2
WB2				i S	S	15 21 19.9	+5.1
WRAB	Tennant Creek	39.13	289	P	P	15 15 26.0	-0.4
	comp=Z,974nm,0.6s,SNR=49						
WRAB	Tennant Creek	39.13	289	eP	P	15 15 25.8	-0.6
WRAB				pmax	pmax		
	comp=Z,156nm,0.7s,mb5.8						
WRAB	Tennant Creek	39.13	289	eP	P	15 15 25.8	-0.6
	comp=Z,156nm,0.7s,mb5.8						
WRA	Warramunga Arr	39.13	289	P	P	15 15 26.2	-0.1
	comp=Z,78nm,0.6s,mb5.5,baz=129,slow=7.6,SNR=206						
WRA				PcP	PcP	15 17 31.4	-2.2
	comp=Z,9.9nm,0.7s,baz=129,slow=3.0,SNR=7.0						
WRA				S	S	15 21 14.2	-0.8
	comp=Z,2.0nm,0.9s,baz=119,slow=14,SNR=5.0						
MEH	Mehetia	39.79	67	eP	P	15 15 32.5	+0.7
	comp=Z,145nm,1.4s,mb5.4						
CASY	Casey	43.26	212	⇑iP	P	15 15 57.3	-2.2
NWAO	Narrogin (SRO)	45.22	261	eP	P	15 16 14.2	-1.5
NWAO				pmax	pmax		
	comp=Z,237nm,1.4s						
NWAO	Narrogin (SRO)	45.22	261	P	P	15 16 14.1	-1.6
	comp=Z,82nm,0.8s,mb5.4,baz=118,slow=6.9,SNR=36						
NWAO	Narrogin (SRO)	45.22	261	eP	P	15 16 14.2	-1.4
	comp=Z,237nm,1.4s,mb5.6						
KAKA	Kakadu	45.33	295	eP	P	15 16 16.4	-0.4
	comp=Z,37nm,0.8s,mb5.1						
MUN	Mundaring	46.42	261	⇓iP	P	15 16 24.4	-0.7
	comp=Z,110nm,1.2s,mb5.4						
MUN				i pP	pP	15 16 58.9	+1.1
MUN				i PCP	PcP	15 17 56.7	-1.2
MUN	Mundaring	46.42	261	⇓iP	P	15 16 24.4	-0.7
MUN				i *PP	pP	15 16 58.9	+1.1
MUN				i		15 17 56.7	
MUN				pmax	pmax		
	comp=Z,110nm,1.2s,mb5.4						
FITZ	Fitzroy Crossi	46.67	284	⇓iP	P	15 16 27.3	0.0
	comp=Z,372nm,1.2s,mb5.9						
FITZ				i PCP	PcP	15 17 57.8	-1.2
MBWA	Marble Bar	49.31	276	eP	P	15 16 46.5	-1.2
	comp=Z,249nm,0.9s,mb5.8						
MBWA				ePcP	PcP	15 18 06.4	-2.0
QSPA	South Pole Qui	49.92	180	⇑iP	P	15 16 52.9	+1.4
	comp=Z,856nm,0.8s,mb6.4						
MAW	Mawson	60.66	204	P	P	15 18 07.7	-1.3
	comp=Z,49nm,0.9s,mb5.3,baz=160,slow=4.0,SNR=4.1						
MAW				LR	LR	15 42 04.5	
	comp=Z,170nm,19.6s,baz=5.1,slow=34						
SYO	Syowa Base	65.92	196	⇑P	P	15 18 39.8	-3.5
PMSA	Palmer Station	66.08	157	eP	P	15 18 44.6	+0.2
	comp=Z,125nm,0.9s,mb5.7						
SNAA	Sanae	68.40	181	⇓iP	P	15 18 57.4	-1.4
SNAA	Sanae	68.40	181	P	P	15 18 57.4	-1.4
	comp=Z,13nm,0.7s,mb4.8,baz=184,slow=6.5,SNR=65						
MAIT	Maitri	68.55	186	⇓iP	P	15 18 58.4	-1.3
NVL	N'lazarevskaya	68.55	186	⇑iP	P	15 18 56.3	-3.4
NVL				eSSS	S	15 27 54.3	+5.6

NVL pmax pmax
comp=Z,177nm,1.5s,mb5.6
VNA3 Neumayer Olymp 68.83 179 ⇓*i*P **P 15 19 02.4 +1.0**
VNA2 Neumayer--Watz 69.17 180 ⇓*i*P **P 15 19 04.7 +1.2**
VNA2 Neumayer--Watz 69.17 180 ⇑*i* sP 15 19 52.0 -2.4
VNA1 Neumayer--Stat 69.44 179 ⇓*i*P **P 15 19 06.7 +1.5**
KKM Kota Kinabalu 69.94 297 P **P 15 19 08.6 -0.5**
KSM Kuching 70.89 289 *e*P **P 15 19 13.5 -1.3**
KSM *e*PcP PcP 15 19 32.7 -1.8
KSM *e*pP pP 15 19 48.6 -1.6
USHA Ushuaia 71.53 147 P **P 15 19 18.8 +0.9**
comp=Z,29nm,0.8s,mb5.0,baz=195,slow=7.0,SNR=13
KGM Kluang 76.38 285 P **P 15 19 47.1 +0.5**
IPM Ipoh 79.79 285 P **P 15 20 04.7 -0.5**
KULM Kulim 80.54 285 ⇓*i*P **P 15 20 08.5 -0.8**
SNG Songkhla 81.82 287 P **P 15 20 15.0 -1.0**
MAT Matsushiro 83.03 332 *e*P **P 15 20 21.0 -0.7**
MAT *e*S S 15 30 21.0 -6.2
MAT pmax pmax
comp=Z,22nm,1.0s,mb4.8
MAT Matsushiro 83.03 332 *e*P **P 15 20 21.0 -0.7**
comp=Z,22nm,1.0s,mb4.8
MAT *e*S S 15 30 21.0 -6.2
MAT Matsushiro 83.03 332 P **P 15 20 21.2 -0.5**
MAT *e*S S 15 30 28.0 +0.8
QIZ Qiongzhong 83.59 301 P **P 15 20 26.0 +1.2**
QIZ S S 15 30 32.9 -0.2
SSE Sheshan 85.98 317 *e*P **P 15 20 38.8 +2.3**
SSE S S 15 30 59.0 +2.8
SSE AMB AMB
comp=Z,48nm,0.7s,mb5.3
SSE Sheshan 85.98 317 *e*P **P 15 20 38.7 +2.2**
comp=Z,48nm,0.7s,mb5.3
SSE pP pP 15 21 11.6 -1.6
SSE S S 15 30 59.0 +2.8
SSE sS 15 32 02.8
SSE SS SS 15 36 56.3 +15
SSE LR LR
comp=Z,40nm,20.1s
NNT Nongplab 86.09 290 P **P 15 20 38.4 +1.1**
KKTK Khon Kaen 86.44 295 ⇑P **P 15 20 39.5 +0.5**
comp=Z,556nm,0.8s,mb6.3
TRQA Tornquist 86.95 139 *e*P **P 15 20 41.5 +0.6**
comp=Z,30nm,1.3s,mb5.0
TRQA *e*pP pP 15 21 20.6 +2.9
TRQA *e*sP sP 15 21 34.9 +1.3
KS15 Wonju Array Si 87.93 325 *e*P **P 15 20 46.8 +1.1**
NJ2 Nanjing 87.96 316 *e*P **P 15 20 46.9 +0.9**
NJ2 AP pP 15 21 30.8 +8.0
NJ2 XP sP 15 21 49.3 +11
NJ2 PP PP 15 24 19.3 +2.8
NJ2 S S 15 31 14.0 -0.9
NJ2 AMB AMB
comp=Z,80nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,4.8s
ASAJ Asahikawa 88.47 338 P **P 15 20 48.8 +0.6**
comp=Z,9.6nm,0.9s,mb4.6,baz=252,slow=15,SNR=5.3
INCN Inchon 88.51 324 *e*P **P 15 20 48.6 +0.1**
comp=Z,52nm,1.1s,mb5.4
WHN Wuhan 89.29 312 ⇓P **P 15 20 52.3 0.0**
WHN S S 15 31 31.3 +4.2
WHN AMB AMB
comp=Z,37nm,1.1s,mb5.2
BDT Bhumibol Dam 89.73 293 P **P 15 20 55.0 +0.4**
CM31 Chiang Mai Arr 90.59 294 *e*P **P 15 20 58.9 +0.3**
comp=Z,24nm,0.7s,mb5.3
CMAR Chiang Mai Arr 90.59 294 P **P 15 20 59.1 +0.5**
comp=Z,24nm,0.8s,mb5.3,baz=147,slow=3.3,SNR=142
CMAR pP pP 15 21 34.4 -1.3
comp=Z,3.1nm,0.8s,baz=141,slow=2.7,SNR=1.0
CMAR PP PP 15 24 33.2 -4.5
comp=Z,1.7nm,0.9s,baz=151,slow=5.5,SNR=4.3
CMAR LR LR 16 00 29.2
comp=Z,68nm,20.9s,baz=225,slow=35
CHG Chiang Mai 90.83 294 ⇓P **P 15 21 00.1 +0.4**
comp=Z,34nm,1.2s,mb5.3
GYA Guiyang 90.93 304 ⇓*i*P **P 15 20 59.9 -0.2**
GYA AP pP 15 21 35.8 -1.3
GYA PP PP 15 24 41.0 +0.7
GYA SKS SKS 15 31 17.3 +0.9
GYA S S 15 31 43.5 +1.5
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.2
GYA AMB AMB
comp=Z,130nm,4.2s
YSS Yuzh-Sakhalins 91.04 339 ⇑*e*P **P 15 21 02.0 +1.9**
YSS *i* *PP pP 15 21 40.8 +3.7
YSS *e*S S 15 31 46.0 +3.6
YSS *e*PS PS 15 33 00.0 -15
YSS Yuzh-Sakhalins 91.04 339 *e*P **P 15 21 00.4 +0.3**
comp=Z,22nm,1.1s,mb5.1
ENH Enshi 91.92 309 *e*P **P 15 21 04.5 -0.1**
comp=Z,58nm,0.9s,mb5.6
TIA Tai'an 92.08 318 ⇓P **P 15 21 05.0 -0.1**
TIA AMB AMB
comp=Z,59nm,1.0s,mb5.6
KMI Kunming 92.53 301 P **P 15 21 08.8 +1.3**
KMI AP pP 15 21 45.8 +1.3
KMI AMB AMB
comp=Z,18nm,1.1s,mb5.1
KMI Kunming 92.53 301 P **P 15 21 08.8 +1.3**
comp=Z,18nm,1.1s,mb5.1
KMI pP pP 15 21 45.8 +1.3
MDJ Mudanjiang 93.26 330 P **P 15 21 10.8 +0.5**
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.9
MDJ AMB AMB
comp=Z,114nm,4.4s
CN2 Changchun 94.23 327 *e*P **P 15 21 14.8 +0.1**
CN2 *e*AP pP 15 21 51.0 -0.8
CN2 *e*S S 15 32 11.8 +1.6
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
XAN Xi'an 94.96 311 P **P 15 21 18.5 +0.2**
XAN AMB AMB
comp=Z,17nm,1.0s,mb5.2
BJI Beijing 95.49 319 *e*P **P 15 21 19.6 -1.0**
BJI SKS SKS 15 31 45.3 +3.8
BJI S S 15 32 23.5 +2.5
BJI XS 15 33 33.9
BJI AMB AMB
comp=Z,12nm,0.9s,mb5.1
BJI Beijing 95.49 319 *e*P **P 15 21 19.6 -1.0**
BJI 15 31 45.2
BJI S S 15 32 23.5 +2.5
BJI SS SS 15 38 54.4 -1.9
BJI pmax pmax
comp=Z,12nm,0.9s,mb5.1
BJI MLR MLR
comp=Z,50nm,21.0s
BJI Beijing 95.49 319 *e*P **P 15 21 19.6 -1.0**
comp=Z,12nm,0.9s,mb5.1
BJI SKS SKS 15 31 45.2 +3.7
BJI S S 15 32 23.5 +2.5
BJI sS 15 33 33.9
BJI SS SS 15 38 54.4 -1.9
BJI LR LR
comp=Z,50nm,21.0s
HHC Hu-ho-hao-te 98.44 317 *e*P **P 15 21 36.9 +2.9**
HHC AMB AMB
comp=Z,20nm,0.5s,mb5.8
LZH Lanzhou 99.36 310 *e*P **P 15 21 39.3 +1.0**
LZH PP PP 15 25 47.0 +2.1
LZH *e*S S 15 32 56.0 +2.3
LZH SS SS 15 39 54.0 +3.7
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,110nm,4.5s
LZH Lanzhou 99.36 310 *e*P **P 15 21 39.2 +0.9**
LZH *PP pP 15 22 14.4 -1.0
LZH *SP sP 15 22 31.0 -0.2
LZH 15 25 47.0
LZH *e*S S 15 32 56.0 +2.3
LZH SS SS 15 39 54.0 +3.7
LZH pmax pmax
comp=Z,28nm,1.5s,mb5.5
LZH Lanzhou 99.36 310 *e*P **P 15 21 39.2 +0.9**
comp=Z,28nm,1.5s,mb5.5
LZH pP pP 15 22 14.4 -1.0
LZH sP sP 15 22 31.0 -0.2
LZH PP PP 15 25 47.0 +2.1
LZH *e*S S 15 32 56.0 +2.3
LZH sS 15 34 01.0
LZH SS SS 15 39 54.0 +3.7
LPAZ La Paz 99.72 121 P **P 15 21 42.8 +2.5**
NVAR Mina Array Bea 99.99 48 LR LR 15 59 01.4
comp=Z,38nm,20.2s,baz=175,slow=30
TXAR Lajitas Array 103.21 63 PP PP 15 26 10.7 -3.9
comp=Z,0.1nm,0.3s,slow=18,SNR=3.2
TXAR PKKPbc 15 37 49.2
comp=Z,0.6nm,0.6s,baz=74,slow=3.5,SNR=7.7
BOSA Boshof 105.48 209 P Pdif 15 22 04.0 -1.6
SONM Songino Array 105.99 320 Pdiff Pdif 15 22 06.6 -0.7
comp=Z,1.0nm,0.9s,baz=142,slow=4.0,SNR=8.2
SONM PP PP 15 26 31.7 -2.9
comp=Z,0.6nm,0.8s,baz=149,slow=7.2,SNR=3.6
SONM PKKPbc 15 37 41.1
comp=Z,0.8nm,0.7s,baz=283,slow=1.8,SNR=6.2
SONM PKKPab 15 37 57.8
comp=Z,1.5nm,1.0s,baz=298,slow=4.8,SNR=6.3
PDAR Pinedale Array 107.85 49 PKKPbc 15 37 34.3
comp=Z,0.8nm,0.8s,baz=90,slow=5.9,SNR=5.9
PDAR PKKPab 15 37 47.8
comp=Z,3.1nm,1.2s,baz=63,slow=3.3,SNR=7.3
ILAR Eielson Array 109.13 17 PKiKP 15 26 23.5
comp=Z,0.4nm,0.7s,baz=301,slow=2.8,SNR=4.6
ILAR PKKPbc 15 37 30.8
comp=Z,0.5nm,1.0s,baz=27,slow=2.0,SNR=3.7
BDFB Brasilia 112.28 136 PKKPbc 15 37 20.6
comp=Z,2.6nm,1.0s,baz=88,slow=6.6,SNR=3.4
WMQ Urumqi 113.85 308 PKP PKPdf 15 26 33.0 +0.4
WMQ PP PP 15 27 33.5 +0.8
WMQ PKS PKS 15 30 08.5 +0.3
WMQ SKS SKS 15 33 28.0 +23
WMQ SKKS 15 34 09.0
WMQ PP PP
comp=Z,146nm,5.6s
INK Inuvik 115.15 19 PKP PKPdf 15 26 33.5 -1.1
comp=Z,0.7nm,0.7s,baz=353,slow=18,SNR=3.0
INK PKKPbc 15 37 12.6
comp=Z,3.0nm,0.9s,baz=42,slow=8.8,SNR=8.3
TIXI Tiksi 115.95 346 *i* PKiKP PKPdf 15 26 34.7 -1.3
LSZ Lusaka 116.12 218 PKiKP PKPdf 15 26 37.5 -0.1
YKA Yellowknife Ar 117.28 30 PKP PKPdf 15 26 38.4 -0.3
comp=Z,0.5nm,0.7s,baz=251,slow=1.6,SNR=9.6
YKA pPKP 15 27 16.1
comp=Z,0.6nm,0.7s,baz=235,slow=1.9,SNR=2.2
YKA PKKPbc 15 37 01.4
comp=Z,2.0nm,0.8s,baz=49,slow=4.1,SNR=32
YKA Yellowknife Ar 117.28 30 PKP PKPdf 15 26 38.4 -0.3
YKA pPKP 15 27 16.1
YKA PKKPbc 15 37 01.4
ZAL Zalesovo 120.62 317 PKP PKPdf 15 26 43.9 -1.6
comp=Z,0.9nm,0.8s,baz=6.1,slow=5.9,SNR=5.4
TKM2 Tokmak 2 120.99 302 P PKPdf 15 26 45.7 -0.8
SNR=7.5
UCH Uchtor 121.37 301 P PKPdf 15 26 46.6 -0.6
SNR=7.7
AAK Ala-Archa 121.57 301 *i* PKiKP PKPdf 15 26 46.6 -1.0
AAK Ala-Archa 121.57 301 *e*PKPdf PKPdf 15 26 46.0 -1.6
CHMS Chumysh 121.57 302 P PKPdf 15 26 46.8 -0.8
SNR=6.4
USP Ospenovka 121.86 302 P PKPdf 15 26 47.3 -0.8
SNR=8.1
AML Almayashu 121.87 300 P PKPdf 15 26 48.4 +0.2
SNR=13
EKS2 Erkin-Say 122.06 301 P PKPdf 15 26 48.4 -0.2
SNR=8.6
KURK Kurchatov 122.60 311 *i* PKiKP PKPdf 15 26 47.8 -1.5
KURK Kurchatov 122.60 311 *e*PKPdf PKPdf 15 26 47.7 -1.6
KMBO Kilima Mbogo 122.80 235 PKP PKPdf 15 26 49.9 -0.7
comp=Z,6.0nm,1.2s,baz=73,slow=4.2,SNR=9.2
KMBO Kilima Mbogo 122.80 235 *e*PKPdf PKPdf 15 26 50.8 +0.2
BVAR Borovoye Array 128.20 312 PKP PKPdf 15 26 59.7 -0.4
comp=Z,5.7nm,0.8s,baz=117,slow=3.3,SNR=19
CHKZ Chkalovo 128.27 312 *e*PKiKP PKPdf 15 26 58.6 -1.5
GNI Garni 141.39 287 *i* PKiKP PKPdf 15 27 24.3 -0.5
TI2 Plekhanov 141.83 289 *e*PKHKP 15 27 21.4
ZEI Tsey 142.70 291 *i* PKiKP PKPdf 15 27 24.3 -2.6
ONI Oni 142.98 290 P PKPdf 15 27 24.9 -2.5
BTMT Batman 143.20 283 P PKPbc 15 27 26.8 +0.6
BEST Besiri 143.27 282 *i* P PKPbc 15 27 25.9 -0.5
VRT Varto 143.46 284 P PKPbc 15 27 27.8 +0.9
VRT Varto 143.46 284 P PKPbc 15 27 27.3 +0.3
GOF Gofitskoye 143.78 294 *i* PKiKP PKPdf 15 27 43.3 +15
GOF pmax pmax
comp=Z,510nm,1.0s
SFJD Kangerlussuaq 143.80 28 *i* P PKPbc 15 27 26.2 -0.9
comp=Z,9.8nm,0.9s
SFJD *e* 15 28 11.7
ERZM Erzurum 143.81 285 *i* P PKPbc 15 27 28.4 +0.5
EZM Erzurum 143.81 285 P PKPbc 15 27 29.1 +1.2
KIV Kislovodsk 143.82 292 *d* *i* PKiKP PKPdf 15 27 26.6 -2.2
KIV pmax pmax
comp=Z,76nm,0.9s
KIV Kislovodsk 143.82 292 *e*PKPpre 15 27 27.3
BCA Borcka 144.03 288 P PKPbc 15 27 28.6 +0.1
DIY Diyarbakir 144.05 282 P PKPbc 15 27 28.8 +0.1
DIY Diyarbakir 144.05 282 P PKPbc 15 27 27.7 -1.0
BINT Bingol 144.16 283 P PKPbc 15 27 29.7 +0.7
BINT Bingol 144.16 283 P PKPbc 15 27 29.0 0.0
ASF Jabal al Asfar 144.45 271 PKP PKPdf 15 27 30.9 +0.6
comp=Z,148nm,0.9s,baz=351,slow=2.1,SNR=117
LVZ Lovozero 144.47 335 *i* PKiKP PKPdf 15 27 28.6 -0.6
EIL Elat 144.81 266 PKP PKPdf 15 27 31.7 +0.7
comp=Z,242nm,0.9s,baz=67,slow=1.5,SNR=129
EIL Elat 144.81 266 *e*PKPdf PKPdf 15 27 31.0 0.0
URFA Urfa 144.97 280 *e*P PKPdf 15 27 32.0 +1.0
PTK Pertek 144.98 283 *e*P PKPdf 15 27 31.9 +0.9
ELZG Elazig 145.17 282 *i* P PKPdf 15 27 32.8 +1.4
GUMT Gumushane 145.35 286 *e*P PKPdf 15 27 33.9 +2.3
MALT Malatya 145.53 282 *e*P PKPdf 15 27 31.7 -0.3
MALT Malatya 145.53 282 *e*PKP2 PKPab 15 27 32.7 -2.3
KEV Kevo 145.63 340 *e*p PKPdf 15 27 32.3 +1.1
SOC Sochi 145.86 291 *i* PKP2 PKPab 15 27 33.5 -2.6
SOC *e* 15 30 54.9
SOC *e*PPP PPP 15 34 11.2 -5.1
SOC *e*SS SS 15 49 34.2 -4.4
SOC *e*SSS SSS 15 55 04.0 -6.0
SOC pmax pmax
comp=Z,94nm,0.7s
SOC pmax pmax
comp=N,28nm,0.8s
SOC pmax pmax
comp=E,32nm,1.0s
GZT Gaziantep 145.89 280 *i* P PKPdf 15 27 34.3 +1.7
HWQ Hawqa 146.03 274 *e*P PKPdf 15 27 36.2 +3.3
GAZ Gaziantep 146.09 279 *e*P PKPdf 15 27 35.7 +2.7
BHL Bhannes 146.11 273 *e*P PKPdf 15 27 35.4 +2.3
ARCES ARCESS Array B 146.17 341 PKPbc PKPbc 15 27 33.0 -0.3
comp=E,32nm,0.7s,baz=68,slow=1.8,SNR=39
ARCES pPKPbc 15 28 10.9
comp=E,34nm,0.9s,baz=27,slow=2.7,SNR=4.8
ARE0 ARCESS Array S 146.17 341 *e*PKPdf PKPdf 15 27 33.2 +1.1
ARE0 *ep*PKPdf 15 28 10.7
KAHT Ahir Dag 146.49 280 *i* P PKPdf 15 27 36.4 +2.9
DBIC Dimbokro 146.58 183 PKPdf PKPdf 15 27 35.2 +0.9
DBIC Dimbokro 146.58 183 PKPbc PKPbc 15 27 35.4 -0.6
comp=E,26nm,0.6s,baz=157,slow=3.7,SNR=31
DBIC pPKPbc 15 28 12.7
comp=E,6.4nm,0.6s,baz=170,slow=6.2,SNR=1.5
DBIC Dimbokro 146.58 183 *e*PKPdf PKPdf 15 27 34.9 +0.5
COBT Iskenderun 146.60 278 *i* P PKPdf 15 27 35.6 +1.8
VOR Voronezh 146.82 306 ⇑*i*PKP2 PKPab 15 27 37.0 -2.5
VOR pmax pmax
comp=Z,340nm,1.5s
VOR pmax pmax
comp=N,30nm,1.4s
VOR pmax pmax
comp=E,150nm,1.4s
MOS Moscow 147.34 313 *e*PKP2 PKPab 15 27 38.1 -3.3
MOS *e* 15 31 15.7
MOS pmax pmax
comp=Z,92nm,0.7s
TOKT Tokat 147.48 284 *e*P PKPdf 15 27 39.6 +4.4
TOKT Tokat 147.48 284 P PKPdf 15 27 38.3 +3.2
ANN Anapa 147.67 293 *i* PKP2 PKPab 15 27 38.8 -4.3
ANN pmax pmax
comp=Z,234nm,1.2s
PHNC Paralimni 147.77 274 P PKPdf 15 27 40.0 +4.2
comp=Z,2.3nm,0.9s
OBN Obninsk 148.04 312 ⇑*i*PKP2 PKPab 15 27 40.0 -4.2
OBN *e* 15 31 07.9
OBN *e*SS SS 15 50 03.7 +0.5
OBN pmax pmax
comp=Z,91nm,0.8s
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 148.04 312 *e*PKPdf PKPdf 15 27 36.2 +0.6
OBN *e*PKPbc PKPdf 15 27 39.6 +4.0
JOF Joensuu 148.12 328 *e*p PKPdf 15 27 38.5 +3.0
comp=Z,33nm,0.6s
MEST Erdemli 148.23 277 *i* P PKPdf 15 27 40.0 +3.5
CSS Prodhromos 148.29 273 P PKPdf 15 27 39.6 +3.0
AVNT Avonos 148.35 281 *i* P PKPdf 15 27 33.2 -3.4
MAMC Mammari 148.45 274 P PKPdf 15 27 41.5 +4.6
SZAC Souni-Zanaja 148.56 273 P PKPdf 15 27 42.1 +5.0
CTKT Corum 148.86 284 *i* P PKPdf 15 27 42.5 +5.2
ALFC Alevga 148.92 273 P PKPdf 15 27 41.5 +3.9
comp=Z,2.5nm,0.7s
BOYT Boyabat 148.94 286 *i* P PKPdf 15 27 42.4 +4.9
AKMC Akamas 149.08 273 P PKPdf 15 27 41.9 +4.0
ELDT Eldivan 149.84 284 *i* P PKPdf 15 27 42.8 +4.0
SIM Simferopol' 150.03 293 *e*PKIKP PKPdf 15 27 45.0 +6.0
SIM *i* 15 27 52.0
SIM pmax pmax
comp=Z,117nm,0.9s
BALT Daday 150.08 286 *i* P PKPdf 15 27 43.0 +3.8
KAF Kangasniemi 150.53 329 *ep* PKPdf 15 27 44.2 +5.0
SGKT Sivrigoynuk 150.88 283 *i* P PKPdf 15 27 44.9 +4.5
FINES FINESS Array B 150.98 328 PKPbc PKPdf 15 27 45.1 +5.3
comp=Z,14nm,0.8s,baz=90,slow=3.8,SNR=47
FINES pPKPbc 15 28 21.4
comp=Z,4.6nm,0.6s,baz=63,slow=6.2,SNR=1.8
ISP Isparta 151.38 277 PKIKP PKPdf 15 27 47.3 +6.1
ISP Isparta 151.38 277 PKPbc PKPdf 15 27 46.6 +5.4
ISP *e*PKPab PKPab 15 27 56.7 -1.9
ESKT Eskisehir 151.55 281 *i* P PKPdf 15 27 48.0 +6.5
VSU Vasula 152.16 322 *i* PKIKP PKPdf 15 27 44.4 +2.7
DNZL Cakiroluk 152.44 276 *i* P PKPdf 15 27 51.1 +8.3
MANT Manisa 153.03 278 *i* P PKPab 15 28 04.9 -0.6
AKASG Malin Array Be 153.16 305 PKPbc PKPdf 15 27 50.4 +7.0
comp=Z,6.6nm,0.6s,baz=67,slow=2.4,SNR=27
AKASG PKPab PKPab 15 28 04.0 -1.7
comp=Z,36nm,0.7s,baz=65,slow=4.7,SNR=34
AKASG Malin Array Be 153.16 305 PKPbc PKPdf 15 27 50.4 +7.0
AKASG PKPab PKPab 15 28 04.0 -1.7
KIS Kishinev 153.79 297 *e*PKIKP PKPdf 15 27 43.0 -1.4
KIS *e* 15 28 06.0
KIS *e* 15 31 38.0
TLCR 153.80 293 ⇑P PKPab 15 28 07.4 -1.1
KDAG Bornova 153.99 277 *i* P PKPab 15 28 06.7 -2.9
CFR Carcaliu 154.28 293 ⇑P PKPab 15 28 09.3 -1.2
HARR Harsova 154.41 291 ⇑P PKPab 15 28 10.0 -1.1
HARR Harsova 154.41 291 ⇑P PKPab 15 28 10.0 -1.1
PRD Provadia 154.70 288 *i* P PKPab 15 28 13.5 +1.1
IDI Anoyia 154.87 269 PKPbc PKPdf 15 27 55.7 +9.5
comp=Z,11nm,0.8s,baz=139,slow=5.6,SNR=6.0
IDI PKPab PKPab 15 28 12.2 -1.1
comp=Z,64nm,0.9s,baz=118,slow=5.4,SNR=3.9
VRI Vrincioaia 155.27 294 ⇑P PKPab 15 28 14.1 -0.6
VRI Vrincioaia 155.27 294 ⇑P PKPab 15 28 14.1 -0.6
SZH Strazhica 155.78 288 *i* P PKPab 15 28 17.5 +0.5
SUW Suwalki 155.82 315 PKPdif PKPdf 15 27 55.8 +9.0
SUW *e*PKPab PKPab 15 28 15.1 -1.7
SUW *e*PKP PKPab 15 28 15.6 -1.2
MLR Muntele Rosu 155.82 293 PKPbc PKPdf 15 27 57.8 +11
comp=Z,2.4nm,0.5s,baz=93,slow=14,SNR=4.1
MLR PKPab PKPab 15 28 16.4 -0.7
comp=Z,32nm,0.9s,baz=306,slow=0.4,SNR=21
MLR Muntele Rosu 155.82 293 ⇓P PKPab 15 28 16.3 -0.8
BURAR Bucovina Array 156.19 299 ⇑P PKPab 15 28 18.4 -0.2
BURAR Bucovina Array 156.19 299 ⇑P PKPab 15 28 18.4 -0.2
HFS Hagfors 156.45 335 PKPbc PKPdf 15 28 01.3 +14
comp=Z,3.3nm,0.8s,baz=63,slow=3.3,SNR=4.4
HFS PKPab PKPab 15 28 17.6 -1.7
comp=Z,9.0nm,0.7s,baz=63,slow=3.3,SNR=18
NB2 NORSAR Subarra 156.50 338 P PKPab 15 28 18.3 -1.2
comp=Z,2.4nm,0.7s,baz=48,slow=4.8
NOA NORSAR Array B 156.50 338 PKPab PKPab 15 28 17.8 -1.7
comp=Z,0.7nm,0.6s,baz=82,slow=5.5,SNR=11
NOA pPKPab 15 28 53.2
comp=Z,2.1nm,0.9s,baz=44,slow=4.1,SNR=3.1
NOA NORSAR Array B 156.50 338 PKPab PKPab 15 28 17.8 -1.7
NOA pPKPab 15 28 53.2
RZN Rozhen 156.53 284 *i* P PKPab 15 28 21.0 +0.7
LVV L'vov 156.60 304 *e*PKP2 PKPab 15 28 18.9 -1.4
PGB Panagyurishte 157.02 286 *i* P PKPab 15 28 22.5 +0.2
MMB Musomiste 157.25 283 *i* P PKPab 15 28 23.5 +0.1
KWP Kalwaria 157.48 304 *e*PKP PKPab 15 28 24.1 0.0
VTS Vitosha 157.73 286 *i* P PKPab 15 28 26.0 +0.6
KKB Krupnik 157.76 284 *i* P PKPab 15 28 26.0 +0.4
KOLS Kolonicke sedl 157.91 303 *e*P PKPdf 15 28 05.7 +16
KOLS *e*PKP PKPab 15 28 26.2 +0.2
KOLS Kolonicke sedl 157.91 303 *e*PKP PKPab 15 28 26.2 +0.2
KOLS Kolonicke sedl 157.91 303 *e* PKPab 15 28 05.7 +16
CRVS Cervenica-Dubn 158.44 303 *e*PKP PKPab 15 28 29.8 +1.6
BOLS Boljevac 158.68 289 ⇓*i*PKP PKPab 15 28 26.8 -2.6
SKO Skopje 158.99 284 *i* PKP PKPab 15 28 28.5 -2.3
comp=Z,0.1nm,1.1s
NIE Niedzica 159.04 305 *e*PKP PKPab 15 28 29.2 -1.6
OJC Ojcow 159.12 307 *e*PKP PKPab 15 28 30.5 -0.6
KECS Kecovo 159.16 302 *e*PKP PKPab 15 28 31.1 -0.3
SVIS Svilajnac 159.21 290 *e*PKP PKPab 15 28 29.1 -2.6
GKP Gorka Klasztor 159.32 317 *e*PKP PKPab 15 28 31.4 -0.5
GKP Gorka Klasztor 159.32 317 *e*PKP PKPab 15 28 31.4 -0.4
BSD Bornholm Skovb 159.44 324 *i* P PKPab 15 28 30.8 -1.5
comp=Z,37nm,1.1s
GRUS Gruza 159.58 289 ⇑*i*PKP PKPab 15 28 32.3 -1.0
PSZ Piszkesteto 159.68 301 ⇑*e*PKP/p PKPab 15 28 32.9 -0.7
DIVS Divcibare 160.10 290 ⇓*i*PKP PKPab 15 28 34.9 -0.7
VYHS Vyhne 160.23 303 *e*PKP PKPab 15 28 35.2 -0.7
OKC Ostrava-Krasne 160.25 307 *e*PKPAB PKPab 15 28 35.7 -0.3
BBLS Bajina Basta - 160.53 289 ⇓*i*PKP PKPab 15 28 36.6 -0.7
SRO Srobarova 160.74 301 *e*PKP PKPab 15 28 36.8 -1.4
SRO1 Iza 160.80 301 *e*PKP PKPab 15 28 37.7 -0.7
MUD Monsted U'grnd 160.81 333 *e*P PKPdf 15 28 10.3 +18
MUD Monsted U'grnd 160.81 333 *i* P PKPdf 15 28 10.3 +18
comp=Z,29nm,1.2s
KSP Ksiaz 160.96 311 ⇑*e*PKP PKPab 15 28 38.8 -0.2
KSP Ksiaz 160.96 311 *e*PKP PKPab 15 28 39.1 +0.1
DPC Dobruska-Polom 161.15 310 *e*PKPAB PKPab 15 28 40.0 +0.1
UPC Upice 161.27 311 *e*PKPAB PKPab 15 28 40.2 -0.2
VRAC Vranov 161.38 307 PKPab PKPab 15 28 40.1 -0.8
comp=Z,20nm,0.8s,baz=68,slow=5.2,SNR=25
PVCC Panska Ves 162.09 312 *e*PKPAB PKPab 15 28 43.7 -0.3
BRG Berggiesshubel 162.28 314 *i* PKP2 PKPab 15 28 44.1 -0.7
BRG *e* 15 32 36.7
PRU Pruhonice 162.34 311 *e*PKPAB PKPab 15 28 44.8 -0.3
CLL Collm 162.56 316 *i* PKP PKPab 15 28 44.9 -1.1
CLL *ep*PKP 15 29 25.0
CLL Collm 162.56 316 ⇑*i*PKP2 PKPab 15 28 44.9 -1.1
CLL *e* 15 28 52.0
CLL *e**PPKP2 15 29 25.0
LEGS Legarje 163.16 297 *e*PKPab PKPab 15 28 48.1 -0.7
KHC Kasperske Hory 163.28 309 *e*P PKPdf 15 28 11.5 +16
KHC *e*PKP PKPab 15 28 48.8 -0.3
KHC *e* 15 28 54.5
KHC Kasperske Hory 163.28 309 *e*PKPAB PKPab 15 28 48.8 -0.3
KHC *ex* x 15 28 54.5
BOJS Bojanci 163.30 296 *e*PKPab PKPab 15 28 49.1 -0.3
GERES GERESS Array B 163.32 308 PKPab PKPab 15 28 49.1 -0.3
comp=Z,12nm,0.8s,baz=56,slow=4.8,SNR=45
MOA Molln 163.34 304 ⇑*i*P PKPab 15 28 49.2 -0.3
comp=Z,39nm,1.0s
NKC Novy Kostel 163.42 313 *e*PKPAB PKPab 15 28 49.4 -0.4
VAE Valguarnera 163.58 267 PKPab PKPab 15 28 50.8 0.0
comp=Z,16nm,0.6s,baz=284,slow=4.2,SNR=8.1
MOX Moxa 163.66 316 *e*PKP PKPab 15 28 49.9 -0.9
MOX Moxa 163.66 316 *i* P PKPab 15 28 49.9 -0.9
comp=Z,logA/T=1.3
CEY Cerknica 163.82 297 *e*PKPab PKPab 15 28 51.0 -0.6
EKA Eskdalemuir Ar 164.72 353 PKPab PKPab 15 28 53.4 -1.8
comp=Z,2.3nm,0.7s,baz=336,slow=3.4,SNR=7.2
AQU L'Aquila 164.97 285 *e*P PKPab 15 28 56.0 -0.7
NRCA Norcia 165.16 287 *e*P PKPab 15 28 56.6 -1.0
WATA Walderalm 165.22 305 ⇑*i*P PKPab 15 28 56.9 -0.8
comp=Z,28nm,1.1s
ARV Arcevia 165.23 289 ⇑*i*P PKPab 15 28 57.8 -0.1
SNTG Esanatoglia 165.26 288 *e*P PKPab 15 28 57.2 -0.8
FSSB Fossombrone 165.33 290 ⇑*i*P PKPab 15 28 58.2 0.0
SQTA Sankt Quirin 165.50 305 ⇑*i*P PKPab 15 28 58.2 -0.7
comp=Z,39nm,1.1s
MOTA Moosalm 165.51 305 ⇑*i*P PKPab 15 28 58.2 -0.8
comp=Z,0.9nm,1.0s
RSM Repubblica di 165.53 291 *e*P PKPab 15 28 59.5 +0.3
SFI Santa Sofia 165.97 291 *e*P PKPab 15 29 01.6 +0.5
PGD Poggio Sodo 166.06 291 *e*P PKPab 15 29 01.9 +0.4

VMG	Vicchio	166.17	292	eP	PKPab	15 29 02.1	+0.2
SEI	Scarperia	166.29	292	eP	PKPab	15 29 02.9	+0.5
ZCCA	Zocca	166.50	294	eP	PKPab	15 29 04.7	+1.3
DAVOX	Davos	166.50	304	PKPab	PKPab	15 29 03.4	+0.1
	comp=Z,30nm,0.9s,baz=85,slow=3.5,SNR=27						
GSCL	Gusciola	166.78	294	eP	PKPab	15 29 05.2	+0.7
BDI	Bagni Di Lucca	166.83	293	eP	PKPab	15 29 03.6	-1.1
ERBM	Eremo	166.88	294	eP	PKPab	15 29 05.9	+0.9
CDF	Champ du Feu	167.25	315	ePKP2	PKPab	15 29 05.6	-0.9
	comp=Z,25nm,1.0s						
GIVF	Givet	167.35	325	ePKP2	PKPab	15 29 05.1	-1.8
BAIF	Baives	167.65	326	ePKP2	PKPab	15 29 05.7	-2.5
	comp=Z,27nm,1.1s						
HINF	Hinteralfeld	167.82	313	ePKP2	PKPab	15 29 07.6	-1.4
	comp=Z,25nm,1.1s						
HAU	Haudompre	168.00	315	ePKP2	PKPab	15 29 08.4	-1.4
	comp=Z,9.0nm,0.8s						
PGF	Pioggiola	168.21	286	ePKP2	PKPab	15 29 08.7	-2.2
	comp=Z,88nm,1.0s						
MEZF	Maizieres J'vi	168.36	319	ePKP2	PKPab	15 29 10.0	-1.4
ABSA	Djebel Ababsia	168.42	255	P	PKPab	15 29 12.5	+0.5
CMAH	Djebel Manchou	168.60	256	P	PKPab	15 29 12.0	-0.8
CABF	La Chapelle	168.91	309	ePKP2	PKPab	15 29 11.7	-2.1
	comp=Z,94nm,1.5s						
LPG	La Plagne	169.01	303	ePKP2	PKPab	15 29 13.8	-0.5
	comp=Z,74nm,0.9s						
LPL	La Plagne	169.02	303	ePKP2	PKPab	15 29 13.7	-0.6
	comp=Z,90nm,1.0s						
CKFL	Kef-Lekhel	169.03	254	P	PKPab	15 29 14.0	-0.7
CAEH	'Ain El Ouahch	169.08	256	P	PKPab	15 29 14.0	-0.9
CTEI	Djebel Teioual	169.12	252	P	PKPab	15 29 15.0	-0.1
CASM	Ain Smara	169.14	253	P	PKPab	15 29 17.5	+2.3
MBDF	Montbardon	169.29	299	ePKP2	PKPab	15 29 13.4	-2.2
	comp=Z,17nm,0.9s						
DFRA	Djebel Bou Aff	169.71	253	P	PKPab	15 29 17.5	-0.2
FRF	La Foret Royal	169.73	293	ePKP2	PKPab	15 29 15.5	-2.0
	comp=Z,184nm,1.2s						
CKHR	Kef el Ahmar	169.74	250	P	PKPab	15 29 17.5	-0.3
ORIF	Oris-en-Rattie	169.81	302	ePKP2	PKPab	15 29 15.8	-2.0
	comp=Z,21nm,0.9s						
LMR	La Mourre	169.88	292	ePKP2	PKPab	15 29 16.0	-2.2
	comp=Z,365nm,1.6s						
SSF	Saint Saulge	170.09	317	ePKP2	PKPab	15 29 17.0	-2.0
SMF	Signal de Mont	170.18	314	ePKP2	PKPab	15 29 17.4	-2.0
	comp=Z,19nm,0.8s						
AVF	Avril sur Loir	170.35	316	ePKP2	PKPab	15 29 18.1	-2.1
	comp=Z,18nm,1.0s						
SMRF	Simiane la Rot	170.35	297	ePKP2	PKPab	15 29 19.1	-1.2
	comp=Z,65nm,1.3s						
HYF	Humbligny	170.39	320	ePKP2	PKPab	15 29 18.2	-2.2
LDF	La Druitiere	170.50	334	ePKP2	PKPab	15 29 19.0	-1.8
	comp=Z,17nm,1.0s						
VIVF	Saint-Julien-l	170.62	303	ePKP2	PKPab	15 29 20.3	-1.2
	comp=Z,31nm,0.9s						
BGF	Bois d'Agland	170.76	316	ePKP2	PKPab	15 29 20.0	-2.1
GRR	Gorron	170.92	336	ePKP2	PKPab	15 29 20.4	-2.3
	comp=Z,21nm,0.9s						
TCF	Toulx Ste Croi	171.28	317	ePKP2	PKPab	15 29 22.6	-1.7
	comp=Z,18nm,1.1s						
LASF	Ste Croix	171.47	300	ePKP2	PKPab	15 29 23.4	-1.9
MFF	Saint Martin d	172.17	327	ePKP2	PKPab	15 29 26.0	-2.3
	comp=Z,34nm,1.0s						
CAF	Calviac	172.19	310	ePKP2	PKPab	15 29 26.8	-1.6
	comp=Z,37nm,0.9s						
RJF	Les Rejaudoux	172.28	314	ePKP2	PKPab	15 29 27.5	-1.3
	comp=Z,32nm,0.9s						
MTLF	Montolieu	172.85	299	ePKP2	PKPab	15 29 30.7	-0.7
	comp=Z,51nm,1.4s						
EBR	Ebro Roquetas	174.73	279	ePKPpB	PKPab	15 29 39.5	-0.3
ETSF	Etsaut	174.87	304	ePKP2	PKPab	15 29 38.5	-1.9
SJPF	Ste Jean	175.17	309	ePKP2	PKPab	15 29 39.9	-1.8
	comp=Z,55nm,1.4s						
ESDC	Sonseca Array	178.07	255	PKP	PKPdf	15 28 04.9	+1.2
	comp=Z,1.7nm,0.9s,baz=116,slow=0.7,SNR=7.0						
ESDC				PKPab	PKPab	15 29 53.2	-1.5
	comp=Z,10.0nm,0.9s,baz=82,slow=3.9,SNR=28						
ESDC				pPKPab		15 30 30.9	
	comp=Z,2.1nm,0.9s,baz=102,slow=4.6,SNR=2.7						

*THR **13** 15:11:35.9±0.9, 32.09N×49.48E, h14km±10km, ML2.8*
*CSEM **13** 15:11:36.2±0.1, 31.99N×49.42E, h20km, ML3.6/1, Error ellipse: s-maj=2.5km s-min=1.5km az=127.0*
*TEH **13** 15:11:37.6, 31.89N×49.46E, h18km, Mn3.1*
ISC 13 15:11:36.1±1.4**, 31.98N**±0.06×**49.43E**±0.08**, h14**km±9km**, n18, σ0§51**/22**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHGO	Shushtar	0.55	284	ePG	Pg	15 11 47.1	-0.3
SHGR	Shooshtar-Gavs	0.55	284	ePG	Pg	15 11 47.1	-0.3
SHGR				AML	AML	15 12 13.8	
	comp=N,520nm,0.6s						
ASAO	Ashtian	2.61	11	ePG	Pg	15 12 20.7	-7.5
ASAO				eSG	Sg	15 12 54.4	-8.7
ASAO				AML	AML	15 13 10.2	
	comp=N,48nm,0.5s						
ASAO	Ashtian	2.61	11	ePg	Pg	15 12 20.7	-7.6
	SNR=90						
ASAO				eSg	Sg	15 12 54.4	-8.7
	comp=N,48nm,0.5s,SNR=90						
NASN	Na'in	2.97	73	ePN	Pn	15 12 24.1	+0.3
RST	Umm Al-Ruwaisa	3.24	221	eP	Pn	15 12 27.1	-0.6
RST				eS	Sn	15 13 06.4	0.0
NAY	Al-Naaiem	3.31	215	eP	Pn	15 12 29.6	+0.9
IVIS	Veys	3.33	320	Pn	Pn	15 12 29.8	+0.8
IGHG	Ghaleghazi	3.35	315	Pn	Pn	15 12 22.3	-7.0
IRAZ	Razeghan	3.44	7	Pn	Pn	15 12 31.3	+0.8
IRAZ	Razeghan	3.44	7	Lg		15 13 26.7	
RDF	Al-Radifah	3.45	209	eP	Pn	15 12 30.4	-0.2
RDF				eS	Sn	15 13 11.5	-0.2
SNGE	Sanandaj	3.56	331	ePN	Pn	15 12 32.4	+0.2
SNGE				AML	AML	15 13 37.1	
	comp=N,20nm,0.6s						
IVRN	Varamin	3.57	32	Pn	Pn	15 12 32.7	+0.4
IVRN				Sn	Sn	15 13 13.6	-1.1
IDHR	Dehrash	3.72	318	Pn	Pn	15 12 34.1	-0.4
IDMV	Damavand	4.19	30	Pn	Pn	15 12 41.1	0.0
IAFJ	Afjeh	4.30	26	Pn	Pn	15 12 42.8	0.0
IFIR	Firoozkooh	4.58	36	Pn	Pn	15 12 46.4	-0.3

IDC 13 16:12:51.4±6.0**, 5.85N**×**94.98E, mb3.7**/3**, mb1 3.9**/4**, mb1mx3.6**/17**, mbtmp3.6**/4**, ML3.5**/1**, Error ellipse: s-maj=188.0km s-min=26.7km az=74.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.12	17	Pn	P	16 15 57.8	-4.0
	0.1nm,0.3s,baz=234,slow=14,SNR=9.5						
SONM	Songino Array	42.96	11	P	P	16 20 52.5	-1.4
	0.4nm,0.7s,baz=190,slow=8.4,SNR=3.0						
WRA	Warramunga Arr	46.42	125	P	P	16 21 20.4	-1.6
	1.3nm,0.7s,baz=302,slow=9.1,SNR=11						
WRA				pP	pP	16 21 30.9	+8.9
	0.8nm,0.7s,baz=305,slow=8.6,SNR=3.4						
ASAR	Alice Springs	47.99	129	P	P	16 21 32.1	-2.2
	1.4nm,0.7s,baz=300,slow=8.0,SNR=30						
ASAR				pP	pP	16 21 42.5	+8.2
	0.8nm,0.7s,baz=302,slow=8.1,SNR=5.5						

*NEIC **13** 16:14:51.9±0.9, 50.33N×18.79E, h5km, MG2.6(WAR), Error ellipse: s-maj=13.3km s-min=6.7km az=190.0*
*PRU **13** 16:14:52.6, 50.34N×18.79E*
WAR 13 16:14:51.6, 50.26N×**18.86E, h0**km**, ML2.6, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAC	Raciborz	0.46	248	ePg	Pg	16 15 01.7	+0.8
RAC				eSg	Sg	16 15 08.9	+1.9
OJC	Ojcow	0.60	93	ePg	Pg	16 15 03.9	+0.3
OJC				eSg	Sg	16 15 12.3	+0.6
OKC	Ostrava-Krasne	0.62	228	ePG	Pg	16 15 04.3	+0.2
OKC				eSG	Sg	16 15 14.4	+2.0
MORC	Moravsky Berou	0.98	241	eP	Pb	16 15 10.5	-0.5
MORC				eS	Sg	16 15 23.2	-1.0
NIE	Niedzica	1.26	131	ePG	Pg	16 15 15.0	-1.8
NIE				eSG	Sg	16 15 32.0	-1.6
DPC	Dobruska-Polom	1.63	274	ePG	Pg	16 15 21.2	-3.0
DPC				eSG	Sg	16 15 42.5	-3.4
	48nm,0.6s						
KSP	Ksiaz	1.74	291	ePn	Pn	16 15 21.9	-1.3
KSP				ePg	Pg	16 15 24.5	-1.8
KSP				eSg	Sg	16 15 47.2	-2.3
KSP	Ksiaz	1.74	291	ePn	Pn	16 15 24.6	+1.4
KSP				eSn	Sn	16 15 47.4	+1.0
KSP				eSg	Sg	16 15 49.0	-0.5
VYHS	Vyhne	1.77	181	ePN	Pn	16 15 22.9	-0.7
VYHS				eSN	Sn	16 15 47.8	+0.7
UPC	Upice	1.84	279	ePG	Pg	16 15 25.1	-3.3
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	16 15 32.9	+3.5
CRVS				eSN	Sn	16 16 00.7	+3.4
KOLS	Kolonicke sedl	2.59	120	ePG	Pg	16 15 43.9	+0.7
PRU	Pruhonice	2.79	266	ePG	Pg	16 15 42.5	-4.9
PRU				eSG	Sg	16 16 20.1	-4.5
BRG	Berggiesshubel	3.20	283	ePg	Pg	16 15 50.7	-4.7
BRG				eSg	Sg	16 16 32.2	-5.8
KHC	Kasperske Hory	3.61	254	ePN	Pn	16 15 46.5	-3.4
KHC				ePG	Pg	16 15 57.3	-6.4
KHC				eSN	Sn	16 16 31.0	-2.9
KHC				eSG	Sg	16 16 46.2	-5.6
CLL	Collm	3.86	288	eSG	Sg	16 16 56.0	-4.2
MOA	Molln	3.87	233	i SG	Sg	16 16 56.6	-3.7
	2.9nm,0.4s						
MOA	Molln	3.87	233	i P	Pn	16 16 01.3	+7.8
MOA				i Sg	Sg	16 16 56.6	-3.7
NKC	Novy Kostel	4.12	272	eSG	Sg	16 17 01.2	-7.5

DJA 13 16:22:54.9±1.0**, 9.57S**×**116.19E, h80**km**, MD6.1**/3**, ML3.7**/4**, 4C-3D, Error ellipse: s-maj=25.8km s-min=14.2km az=155.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	1.06	322	⇑ePn	P	16 23 13.2	-1.7
	201nm,0.2s						
RATI				⇑eSn	S	16 23 29.3	-0.7
KEDI	Kedomdong	1.08	356	⇑ePn	P	16 23 14.9	-0.2
	104nm,0.2s						
KEDI				⇑eSn	S	16 23 29.2	-1.1
KELI	Kelakatan	2.15	309	⇓ePn	P	16 23 29.9	+0.4
	24nm,0.1s						
SRDI	Scrawed	2.30	298	⇓ePn	P	16 23 30.6	-0.9
	53nm,0.2s						
SRDI				⇓eSn	S	16 23 55.9	-2.8

*IDC **13** 16:29:25.6±2.5, 8.51N×82.94W, mb3.7/5, mb1 4.0/6, mb1mx3.6/21, mbtmp3.7/6, ML3.8/1, Error ellipse: s-maj=99.7km s-min=22.3km az=35.0*
*CASC **13** 16:29:26.3±2.3, 8.46N×83.03W, h3km±5km, MD4.0, mb4.0(NEIC)*
*NEIC **13** 16:29:28.9±1.1, 8.32N×83.22W, h25km, mb4.0/1, Error ellipse: s-maj=59.0km s-min=21.4km az=60.0*
ISC 13 16:29:24.4±1.4**, 8.3N**±0.1×**83.0W**±0.2**, h8**km±6km**, n21, σ1§01**/28**, mb3.7**/5**, 2C-1D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.37	332	⇓iP	Pg	16 29 31.1	-0.8
ACR				eS	Sg	16 29 37.4	+0.4
BUS	Buena Vista	1.44	328	eP	Pn	16 29 49.3	-1.5
BUS				eS	Sb	16 30 08.8	-0.6
LCR2	La Lucha 2	1.73	325	⇑eP	Pn	16 29 54.3	-0.7
LCR2				eS	Sn	16 30 16.8	-0.6
ICR	Volcan Irazu	1.84	333	eP	Pn	16 29 57.8	+1.2
ICR				eS	Sn	16 30 21.3	+1.0
SJS	Escuela Geolog	1.92	327	eP	Pn	16 29 58.2	+0.5
SJS				eS	Sn	16 30 21.5	-0.7
PRS1	Puriscal	2.10	322	eP	Pn	16 29 59.1	-1.3
PRS1				eS	Sn	16 30 26.8	-0.1
CGA2	Cerro Gallo 2	2.22	319	eP	Pn	16 30 02.2	+0.1
VPS2	Volcan Poas 2	2.22	327	eP	Pn	16 30 04.0	+1.9
TRTC	Tortuguero	2.35	342	⇑eP	Pn	16 30 03.6	-0.2
TRTC				eS	Sn	16 30 33.5	+0.3
FORC	Fortuna	2.70	322	eP	Pn	16 30 11.1	+2.2
JTS	JuntasAbangare	2.75	315	Pn	Pn	16 30 09.3	-0.3
	709nm,0.4s,SNR=55						
JTS	JuntasAbangare	2.75	315	Pn	Pn	16 30 09.4	-0.2
	19nm,0.3s,baz=108,slow=15,SNR=60						
JTS				Pg	Pg	16 30 12.4	-6.9
	23nm,0.3s,baz=102,slow=22,SNR=69						
JTS				Lg		16 30 50.9	
	13nm,0.3s,baz=329,slow=22,SNR=8.1						
JTS	JuntasAbangare	2.75	315	eP	Pn	16 30 08.9	-0.7
JTS				Pg	Pg	16 30 12.4	-6.9
JTS				Lg		16 30 50.9	
ELK	Elko	43.16	324	P	P	16 37 28.1	+0.7
	0.4nm,0.4s,mb3.5,baz=192,slow=9.3,SNR=3.2						
NVAR	Mina Array Bea	43.67	319	P	P	16 37 33.5	+1.9
	0.8nm,0.7s,mb3.6,baz=121,slow=5.3,SNR=3.6						
YKA	Yellowknife Ar	58.76	343	P	P	16 39 23.5	-1.6
	0.5nm,0.7s,mb3.6,baz=139,slow=6.8,SNR=16						
INK	Inuvik	68.45	342	P	P	16 40 28.4	-0.3
	0.8nm,0.9s,mb3.7,baz=94,slow=8.0,SNR=3.6						
INK	Inuvik	68.45	342	P	P	16 40 28.1	-0.7
	0.8nm,0.6s,mb3.9						
ILAR	Eielson Array	71.55	336	P	P	16 40 47.2	-0.5
	0.9nm,0.6s,mb3.9,baz=119,slow=4.8,SNR=23						
ASAR	Alice Springs	141.54	242	PKP	PKPdf	16 48 58.1	-1.9
	0.4nm,0.8s,baz=93,slow=1.9,SNR=5.3						
WRA	Warramunga Arr	142.09	248	PKP	PKPdf	16 48 59.6	-1.4
	0.3nm,0.6s,baz=90,slow=1.3,SNR=6.4						

WEL 13 16:41:33.7±0.3**, 41.27S**×**172.59E, h203**km±2km**, ML3.9**/13**, 13C, Error ellipse: s-maj=2.6km s-min=2.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.44	354	⇑PN	P	16 42 00.8	-0.5
QRZ				SN	S	16 42 21.3	-1.3
THZ	Tophouse	0.55	155	⇑PN	P	16 42 01.5	-0.1
THZ				SN	S	16 42 22.1	-1.2
NNZ	Nelson	0.60	86	⇑PN	P	16 42 01.3	-0.5
NNZ				SN	S	16 42 22.4	-1.2
DSZ	Denniston Nort	0.76	231	⇑PN	P	16 42 01.9	-0.6
DSZ				SN	S	16 42 22.9	-2.1
TUWZ	Tuamarina	1.03	100	⇑PN	P	16 42 04.1	-0.1
BSWZ	Blackbirch Sta	1.06	115	⇑PN	P	16 42 04.3	-0.1
DUWZ	D'Urville Isla	1.11	66	PN	P	16 42 04.3	-0.5
KHZ	Kahutara	1.35	149	PN	P	16 42 06.3	-0.5
LTZ	Lake Taylor	1.53	189	PN	P	16 42 07.8	-0.5
MRW	Makara Radio	1.59	89	⇑PN	P	16 42 08.2	-0.7
MRW				SN	S	16 42 34.0	-1.9
SNZO	South Karori	1.59	92	⇑PN	P	16 42 08.1	-0.8
WEL	Wellington	1.64	91	PN	P	16 42 08.6	-0.7
BHW	Baring Head	1.72	95	⇑PN	P	16 42 09.3	-0.8
KIW	Kapiti Island	1.80	78	⇑PN	P	16 42 10.1	-0.7
CAW	Cannon Point	1.88	86	⇑PN	P	16 42 10.8	-0.8
MSWZ	Moikau Station	2.01	95	PN	P	16 42 12.1	-0.8
PAWZ	Paruwai Farm	2.14	94	PN	P	16 42 13.3	-0.9
MTW	Mount Morrison	2.20	88	⇑PN	P	16 42 14.1	-0.9
MRZ	Mangatainoka R	2.34	76	PN	P	16 42 15.3	-1.2
WAZ	Wanganui	2.37	51	PN	P	16 42 15.8	-1.0
MQZ	McQueen's Vall	2.44	179	PN	P	16 42 15.7	-1.8
VRZ	Vera Road	2.71	39	SN	S	16 42 54.4	-2.4
BFZ	Birch Farm	2.83	79	⇑PN	P	16 42 21.0	-1.0
TSZ	Takapari Road	2.83	66	PN	P	16 42 20.1	-1.9
WNVZ	Wahianoa	3.01	51	PN	P	16 42 22.5	-1.5
FWVZ	Far West T-bar	3.03	49	SN	S	16 43 01.4	-2.1
FOZ	Fox Glacier	3.15	222	PN	P	16 42 22.2	-3.5
FOZ				SN	S	16 42 57.8	-8.2
PWZ	Pawanui	3.48	71	ePN	P	16 42 28.2	-1.6
JCZ	Jackson Bay	3.98	224	PN	P	16 42 32.9	-3.1
ODZ	Otahua Downs	4.04	200	PN	P	16 42 34.5	-2.2
WKZ	Wanaka	4.42	215	PN	P	16 42 38.2	-3.3
URZ	Urewera	4.60	51	SN	S	16 43 32.3	-5.7
TUZ	Tuapeka	5.16	204	PN	P	16 42 48.1	-2.7

*NEIC **13** 17:08:14.0, 46.54N×80.98W, h18km, MN3.6(OTT), After OTT.*
NEIC Felt throughout the Sudbury area.
*IDC **13** 17:08:14.0±0.8, 46.59N×80.97W, mb3.2/2, mb1 3.9/5, mb1mx3.5/22, mbtmp3.7/5, ML2.6/2, Error ellipse: s-maj=13.9km s-min=7.0km az=50.0*
OTT 13 17:08:14.4±0.1**, 46.54N**×**80.98W, h1**km**, MN3.6**/21**, 4D, Ontario**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SUNO	Sudbury Onapin	0.27	292	⇓PG	Pg	17 08 19.3	-0.5
SUNO				SG	Sg	17 08 22.5	-0.8
SUNO				Trac		17 08 23.4	
	comp=Z,851nm,0.2s						
RSPO	Restoule Provi	0.97	119	⇓PG	Pg	17 08 31.9	-1.8
RSPO				SG	Sg	17 08 44.6	-2.0
RSPO				Trac		17 08 49.2	
	comp=Z,185nm,0.2s						
KLBO	Killbear Provi	1.30	155	⇓PG	Pg	17 08 37.5	-2.8
KLBO				SG	Sg	17 08 54.1	-3.6
KLBO				Trac		17 08 54.9	
	comp=Z,313nm,0.2s						
EEO	Eldee	1.32	85	⇓PG	Pg	17 08 38.1	-2.6
EEO				SG	Sg	17 08 53.2	-5.2
EEO				Trac		17 08 58.8	
	comp=Z,315nm,0.3s						
TOBO	Tobermory, Bru	1.37	196	PG	Pg	17 08 38.8	-2.9
TOBO				SG	Sg	17 08 54.9	-5.1
TOBO				SG	Sg	17 08 55.1	-4.9
TOBO				Trac		17 09 01.4	
	comp=Z,341nm,0.3s						
BUKO	Buck Lake	1.56	134	PG	Pg	17 08 41.9	-3.6
BUKO				SG	Sg	17 09 01.9	-4.4
BUKO				Trac		17 09 04.9	
	comp=Z,270nm,0.3s						
ALGO	Algonquin Park	2.12	105	PN	Pn	17 08 51.1	-0.3
ALGO				SG	Sg	17 09 19.3	-5.6
ALGO				Trac		17 09 23.8	
	comp=Z,391nm,0.2s						
KILO	Kirkland Lake	2.13	23	PN	Pn	17 08 50.0	-1.6
KILO				SG	Sg	17 09 19.5	-5.9
KILO				Trac		17 09 21.5	
	comp=Z,316nm,0.3s						
CLWO	Collingwood	2.15	167	PN	Pn	17 08 51.8	0.0
CLWO				SN	Sn	17 09 20.0	+0.6
CLWO				Trac		17 09 22.8	
	comp=Z,1μm,0.5s						
SADO	Sadowa	2.19	143	Pn	Pn	17 08 52.0	-0.5
	37nm,0.3s,baz=336,slow=14,SNR=294						
SADO				Sn	Sn	17 09 19.7	-0.9
	73nm,0.3s,baz=64,slow=22,SNR=31						
SADO				Lg		17 09 24.1	
	73nm,0.3s,baz=62,slow=21,SNR=32						
SADO				Rg		17 09 33.1	
	1μm,0.9s,baz=350,slow=6.1,SNR=17						
SADO	Sadowa	2.19	143	Pn	Pn	17 08 52.0	-0.5
SADO				Sn	Sn	17 09 19.7	-0.9
SADO				Lg		17 09 24.1	
SADO				Rg		17 09 33.1	
SADO	Sadowa	2.19	143	PN	Pn	17 08 51.5	-0.9
SADO				SG	Sg	17 09 19.9	-7.5
SADO				Trac		17 09 25.0	
	comp=Z,106nm,0.2s						
BRCO	Bruce Peninsul	2.32	188	PN	Pn	17 08 55.3	+1.0
BRCO				SG	Sg	17 09 25.3	-6.4
BRCO				Trac		17 09 27.6	
	comp=Z,424nm,0.2s						
CRLO	Chalk River	2.55	100	PN	Pn	17 08 57.0	-0.5
CRLO				SN	Sn	17 09 28.1	-1.6
CRLO				Trac		17 09 35.3	
	comp=Z,83nm,0.2s						
BANO	Bancroft	2.62	124	PN	Pn	17 08 57.4	-1.2
BANO				SN	Sn	17 09 30.3	-1.3
BANO				Trac		17 09 37.9	
	comp=Z,62nm,0.2s						
PEMO	Pembroke	2.74	107	PN	Pn	17 08 59.5	-0.8
PEMO				SN	Sn	17 09 34.0	-0.5
PEMO				Trac		17 09 43.7	
	comp=Z,76nm,0.2s						
VLDQ	Val d'Or	2.87	56	PN	Pn	17 08 59.1	-3.0
VLDQ				SN	Sn	17 09 31.1	-6.6
VLDQ				SG	Sg	17 09 37.6	-12
VLDQ				Trac		17 09 40.2	
	comp=Z,116nm,0.2s						
KAPO	Kapuskasing	3.08	341	PN	Pn	17 09 03.1	-2.1
KAPO				SN	Sn	17 09 38.2	-5.0
KAPO				SG	Sg	17 09 47.1	-10
KAPO				Trac		17 09 55.1	
	comp=Z,187nm,0.5s						
CBRQ	Cabonga Reserv	3.19	74	PN	Pn	17 09 04.4	-2.2
CBRQ				SN	Sn	17 09 41.4	-4.3
CBRQ				SG	Sg	17 09 50.7	-10
CBRQ				Trac		17 10 00.3	
	comp=Z,150nm,0.5s						
RD01	Burlington	3.24	165	PN	Pn	17 09 05.4	-1.9
RD01				SN	Sn	17 09 46.3	-0.7
RD01				Trac		17 10 01.6	
	comp=Z,331nm,0.3s						
RD02	Waterdown	3.32	166	PN	Pn	17 09 06.9	-1.6
RD02				SN	Sn	17 09 46.7	-2.5
RD02				Trac		17 10 01.7	
	comp=Z,275nm,0.4s						
RD03	Mount Hope	3.44	167	PN	Pn	17 09 13.2	+3.1
RD03				SG	Sg	17 10 04.5	-4.4
RD03				Trac		17 10 05.7	
	comp=Z,490nm,0.4s						
RD04	Stoney Creek	3.51	164	PN	Pn	17 09 10.0	-1.2
RD04				SN	Sn	17 09 51.1	-2.9
RD04				SG	Sg	17 09 59.2	-12
RD04				Trac		17 10 08.2	
	comp=Z,230nm,0.3s						
GRQ	Grand Remous	3.53	87	PN	Pn	17 09 09.8	-1.7
GRQ				PG	Pg	17 09 15.6	-9.3
GRQ				SN	Sn	17 09 51.2	-3.3
GRQ				SG	Sg	17 10 02.4	-10
GRQ				Trac		17 10 05.3	
	comp=Z,80nm,0.5s						
MALO	McAlpine Lake	3.58	13	PN	Pn	17 09 08.8	-3.3
MALO				PG	Pg	17 09 18.1	-7.7
MALO				SG	Sg	17 10 03.7	-10
MALO				Trac		17 10 06.9	
	comp=Z,221nm,0.6s						
OTRO	Otter Rapids	3.67	353	SG	Sg	17 10 06.7	-10
OTRO				Trac		17 10 09.6	
	comp=Z,297nm,0.1s						
MPPO	Murphy's Point	3.75	116	PN	Pn	17 09 12.4	-2.2
MPPO				SN	Sn	17 09 54.6	-5.5
MPPO				SG	Sg	17 10 08.6	-11
MPPO				Trac		17 10 15.4	
	comp=Z,57nm,0.3s						
GAC	Glen Almond	3.92	100	PN	Pn	17 09 14.5	-2.5
GAC				SN	Sn	17 09 58.7	-5.6
GAC				SG	Sg	17 10 14.0	-11
GAC				Trac		17 10 20.4	
	comp=Z,46nm,0.3s						
BUF	Buffalo	3.92	156	P	Pn	17 09 16.2	-0.9
BUF				S	Sn	17 10 09.3	+4.9
PNPO	Pukaskwa Natio	4.13	302	PN	Pn	17 09 17.9	-2.2
PNPO				SN	Sn	17 10 03.9	-5.9
PNPO				SG	Sg	17 10 18.4	-14
PNPO				Trac		17 10 25.8	
	comp=Z,51nm,0.2s						
TRQ	Mont Tremblant	4.46	92	PN	Pn	17 09 22.1	-2.6
TRQ				PG	Pg	17 09 32.6	-11
TRQ				SN	Sn	17 10 11.7	-6.4
TRQ				SG	Sg	17 10 30.1	-13
TRQ				Trac		17 10 44.9	
	comp=Z,34nm,0.3s						
ERPA	Erie	4.48	170	Pn	Pn	17 09 22.1	-2.9
AAM	Ann Arbor	4.65	205	Pn	Pn	17 09 24.5	-2.9
ALLY	Alegheny Colle	4.93	173	ePn	Pn	17 09 27.2	-4.2
GTO	Geraldton	5.13	311	Trac		17 10 56.3	
	comp=Z,42nm,0.2s						
NCB	Newcomb	5.42	116	ePn	Pn	17 09 34.2	-4.1
	18nm,0.5s						
DPQ	Saint Jean	5.66	86	PN	Pn	17 09 36.6	-5.0
DPQ				SN	Sn	17 10 39.7	-8.4
DPQ				SG	Sg	17 11 04.2	-18
MIV	Mineville/With	5.80	112	ePn	Pn	17 09 39.8	-3.9
ACCN	Adirondack Com	6.07	119	ePn	Pn	17 09 41.4	-6.1
TBO	Thunder Bay	6.08	293	PN	Pn	17 09 44.7	-2.9
TBO				SN	Sn	17 10 51.7	-6.9
TBO				SG	Sg	17 11 22.1	-15
TBO				Trac		17 11 26.5	
	comp=Z,18nm,0.3s						
SSPA	Standing Stone	6.32	158	ePn	Pn	17 09 47.7	-3.2
ACSO	Alum Creek Sta	6.47	194	Pn	Px	17 10 22.3	
VIMO	Victor Mine	6.53	345	PN	Pn	17 09 50.0	-4.0
VIMO				SN	Sn	17 11 00.1	-10
VIMO				LG		17 11 30.1	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNH	Hanover	6.78	112	ePn	Pn	17 09 51.3	-6.1
MCWV	Mont Chateau	6.93	173	Pn	Pn	17 09 54.6	-5.0
EYMN	Ely	7.29	285	ePn	Pn	17 09 58.9	-5.8
QUA2	Belchertown	7.50	122	Pn	Pn	17 10 01.8	-5.8
JFWS	Jewell Farm	7.53	245	Pn	Pn	17 10 06.3	-1.7
PAL	Palisades	7.54	135	Pn	Pn	17 10 02.9	-5.2
SDMD	Soldier's Deli	7.75	155	ePn	Pn	17 10 06.1	-5.0
WES	Weston	8.06	118	Pn	Px	17 10 43.7	
SOLO	Sioux Lookout	8.18	299	PN	P	17 10 12.4	-4.7
SOLO				SN	Sn	17 11 41.4	-10
SOLO				LG		17 12 20.6	
SOLO				Trac		17 12 30.2	
	comp=Z,36nm,0.7s						
BRYW	Bryant College	8.21	121	Pn	Px	17 10 34.9	
SILO	Sutton Inlier	8.33	344	PN	P	17 10 14.2	-4.9
SILO				SN	Sn	17 11 43.7	-11
SILO				LG		17 12 26.5	
SILO				Trac		17 12 29.1	
	comp=Z,111nm,1.3s						
LG4Q	La Grande 4	8.36	29	PN	P	17 10 12.1	-7.4
LG4Q				SN	Sn	17 11 39.0	-17
LG4Q				LG		17 12 30.6	
LG4Q				Trac		17 12 46.6	
	comp=Z,17nm,0.4s						
BLO	Bloomington	8.41	211	Pn	Px	17 11 10.0	
CBN	Corbin	8.75	161	Pn	Px	17 10 52.2	
FWV	Forest Hill	8.96	179	Pn	P	17 10 21.3	-6.5
MNQ	Manicouagan	9.03	59	PN	P	17 10 21.5	-7.3
MNQ				SN	Sn	17 11 59.3	-13
MNQ				LG		17 12 47.2	
ULM	Lac du Bonnet	10.57	296	Pn	P	17 10 43.3	-6.7
	0.6nm,0.3s,baz=113,slow=12,SNR=5.7						
ULM				Sn	S	17 12 35.5	-15
	1.3nm,0.3s,baz=5.2,slow=11,SNR=7.9						
ULM	Lac du Bonnet	10.57	296	Pn	P	17 10 43.3	-6.7
ULM				Sn	S	17 12 35.5	-15
SCHQ	Schefferville	12.20	42	Pn	P	17 11 04.6	-7.6
	0.5nm,0.3s,baz=237,slow=12,SNR=12						
SCHQ				Sn	S	17 13 13.1	-17
	0.5nm,0.3s,baz=328,slow=17,SNR=4.7						
SCHQ	Schefferville	12.20	42	ePn	P	17 11 04.6	-7.5
FCC	Fort Churchill	14.56	332	PN	P	17 11 31.6	-12
FCC				SN	S	17 14 08.1	-18
PDAR	Pinedale Array	20.62	270	P	P	17 12 54.6	-3.0
	0.8nm,0.6s,baz=62,slow=13,SNR=8.3						
YKA	Yellowknife Ar	24.81	322	P	P	17 13 36.8	-2.0
	0.5nm,0.6s,baz=111,slow=9.7,SNR=7.3						
YKA	Yellowknife Ar	24.81	322	P	P	17 13 36.8	-2.0

*IDC **13** 17:22:02.8±1.7, 8.27S×68.45E, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, MS3.5/3, Ms1 3.5/3, ms1mx3.2/18, Error ellipse: s-maj=38.1km s-min=25.4km az=152.0*

*NEIC **13** 17:22:04.5±1.3, 7.98S×68.58E, h10^{km}, mb4.2/1, Error ellipse: s-maj=38.7km s-min=21.8km az=202.0*

ISC 13 17:22:03.7±1.5, **7.9S**±0.3×**68.7E**±0.1, **h10**^{km}, **n8**, σ**1^{s}36**/6, **mb3.9**/4, **MS3.5**/3, **Chagos Archipelago region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DGAR	Diego Garcia	3.70	83	eP	Pn	17 23 04.0	+1.8
DGAR				eS	Sn	17 23 45.6	-0.8
KMBO	Kilima Mbogo	32.08	280	LR	LR	17 39 34.6	
	comp=Z,59nm,18.6s,MS3.3,baz=87,slow=33						
CMAR	Chiang Mai Arr	39.65	48	P	P	17 29 42.0	+4.4
	0.6nm,0.7s,mb3.4,baz=242,slow=10.0,SNR=6.0						
CMAR				LR	LR	17 45 27.9	
	comp=Z,41nm,18.5s,MS3.3,baz=343,slow=35						
CHKZ	Chkalovo	61.32	1	eP	P	17 32 21.4	-0.4
	1.7nm,1.0s,mb4.1						
ASAR	Alice Springs	64.16	112	P	P	17 32 40.5	-0.6
	0.9nm,0.7s,mb3.9,baz=270,slow=6.1,SNR=13						
ASAR				LR	LR	17 56 43.6	
	comp=Z,53nm,18.3s,MS3.8,baz=100,slow=32						
WRA	Warramunga Arr	64.46	108	P	P	17 32 43.1	0.0
	1.2nm,0.8s,mb4.0,baz=278,slow=6.8,SNR=6.7						
YKA	Yellowknife Ar	125.42	2	PKP	PKPdf	17 41 05.1	-2.9
	0.1nm,0.4s,baz=346,slow=2.5,SNR=3.8						
YKA	Yellowknife Ar	125.42	2	PKP	PKPdf	17 41 05.1	-2.9

*MOS **13** 17:48:14.4±1.1, 42.45N×13.18E, h10^{km}, mb3.9/1, Error ellipse: s-maj=8.9km s-min=5.2km az=127.7*

*ROM **13** 17:48:15.4±0.1, 42.52N×13.28E, h10^{km}±2^{km}, MD3.5/7, ML2.9/8, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0*

*NEIC **13** 17:48:15.5, 42.52N×13.28E, h10^{km}, MD3.6(PDG), MD3.5(ROM), ML3.2(LDG), After ROM.*

*CSEM **13** 17:48:15.1±0.0, 42.52N×13.32E, h12^{km}, ML3.0/5, Error ellipse: s-maj=1.1km s-min=0.8km az=49.0*

*LDG **13** 17:48:17.5±0.1, 42.41N×13.24E, h10^{km}, Ml3.2/10, Error ellipse: s-maj=5.4km s-min=3.0km az=55.0*

*PDG **13** 17:48:17.6±0.3, 42.29N×13.48E, h11^{km}±2^{km}*

ISC 13 17:48:15.7±0.2, **42.51N**±0.02×**13.27E**±0.02, **h19**^{km}±2^{km}, **n105**, σ**0^{s}98**/160, **16C-20D**, **Central Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CAMP	Campotosto	0.10	77	⇑iPG	Pb	17 48 18.8	-0.7
CAMP				SG	Sb	17 48 21.1	-1.0
AQU	L'Aquila	0.19	149	⇑iPG	Pb	17 48 19.9	-0.6
AQU				SG	Sb	17 48 23.2	-0.6
AQU	L'Aquila	0.19	149	⇑iPg	Pb	17 48 19.9	-0.6
AQU				eSg	Sb	17 48 23.2	-0.6
LNSS	Leonessa	0.19	298	⇓iPG	Pb	17 48 20.5	-0.1
LNSS				SG	Sb	17 48 24.0	0.0
TERO	Teramo	0.27	66	⇑iPG	Pb	17 48 21.0	-0.8
TERO				SG	Sb	17 48 25.1	-0.8
TERO	Teramo	0.27	66	⇑iPg	Pb	17 48 20.9	-0.9
TERO				eSg	Sb	17 48 25.1	-0.9
FIAM	Fiamignano	0.27	205	⇑iPG	Pb	17 48 21.3	-0.5
FIAM				SG	Sb	17 48 25.6	-0.4
FIAM	Fiamignano	0.27	205	⇑iPg	Pb	17 48 21.3	-0.5
FIAM				eSg	Sb	17 48 25.6	-0.3
FAGN	Fagnano	0.34	137	⇑iPG	Pb	17 48 22.2	-0.7
FAGN				SG	Sb	17 48 28.1	+0.3
NRCA	Norcia	0.34	340	⇓iPG	Pb	17 48 22.7	-0.3
	162nm,0.5s						
NRCA	Norcia	0.34	340	⇓iPg	Pb	17 48 22.7	-0.3
NRCA	Norcia	0.34	340	⇓iPg	Pb	17 48 22.7	-0.3
	162nm,0.5s						
MNS	Montasola	0.46	254	⇑iPG	Pb	17 48 24.5	-0.4
MNS				SG	Sb	17 48 31.7	+0.5
MNS	Montasola	0.46	254	⇑iPg	Pb	17 48 24.5	-0.4
MNS				eSg	Sb	17 48 31.7	+0.5
PTQR	Pietraquaria	0.50	169	ePG	Pb	17 48 25.0	-0.6
PTQR	Pietraquaria	0.50	169	ePg	Pb	17 48 25.0	-0.7
CERT	Cerreto	0.60	201	ePG	Pb	17 48 26.8	-0.6
CERT	Cerreto	0.60	201	ePg	Pb	17 48 26.8	-0.6
INTR	Introdacqua	0.69	137	ePG	Pb	17 48 27.7	-1.1
INTR	Introdacqua	0.69	137	ePg	Pb	17 48 27.7	-1.1
GUAR	Guarcino	0.72	178	ePG	Pb	17 48 30.1	+0.7
GUAR				SG	Sb	17 48 41.8	+3.1
GUAR	Guarcino	0.72	178	ePg	Pb	17 48 30.1	+0.8
GUAR				eSg	Sb	17 48 41.8	+3.1
SNTG	Esanatoglia	0.78	342	⇓iPG	Pb	17 48 30.2	-0.2
SNTG				SG	Sb	17 48 42.5	+1.9
SNTG	Esanatoglia	0.78	342	⇓iPg	Pb	17 48 30.2	-0.2
SNTG				eSg	Sb	17 48 42.5	+1.9
CING	Cingoli	0.86	356	⇓iPG	Pb	17 48 31.6	-0.2
CING				SG	Sb	17 48 45.5	+2.5
CING	Cingoli	0.86	356	⇓iPg	Pb	17 48 31.6	-0.2
CING				eSg	Sb	17 48 45.5	+2.5
MA9	Marino	0.87	212	ePG	Pb	17 48 33.0	+1.1
	567nm,0.4s						
MA9	Marino	0.87	212	ePg	Pb	17 48 33.0	+1.0
MA9	Marino	0.87	212	ePg	Pb	17 48 33.0	+1.1
	567nm,0.4s						
SDI	San Donato	0.90	153	ePG	Pb	17 48 32.0	-0.4
SDI				SG	Sb	17 48 47.0	+3.1
SDI	San Donato	0.90	153	ePg	Pb	17 48 32.0	-0.4
SDI				eSg	Sb	17 48 47.0	+3.1
LAV9	Lanuvio	0.94	207	ePG	Pb	17 48 34.9	+1.8
	894nm,0.4s						
LAV9	Lanuvio	0.94	207	ePg	Pb	17 48 34.9	+1.9
LAV9	Lanuvio	0.94	207	ePg	Pb	17 48 34.9	+1.8
	894nm,0.4s						
ARV	Arcevia	1.01	346	⇓iPG	Pb	17 48 34.3	-0.1
ARV				SG	Sb	17 48 50.3	+3.0
ARV	Arcevia	1.01	346	⇓iPg	Pb	17 48 34.3	-0.1
ARV				eSg	Sb	17 48 50.3	+3.0
AOI	Ancona	1.06	13	ePg	Pb	17 48 35.6	+0.4
AOI				eSg	Sb	17 48 52.8	+4.1
AOI	Ancona	1.06	13	ePn	Pn	17 48 35.6	-0.1
AOI				Sn	Sn	17 48 52.8	+2.7
CII	Carovilli	1.10	135	ePN	Pn	17 48 36.0	-0.2
CII	Carovilli	1.10	135	ePg	Pb	17 48 36.0	+0.1
FSSB	Fossombrone	1.23	343	ePN	Pn	17 48 38.3	+0.2
	353nm,0.4s						
FSSB	Fossombrone	1.23	343	ePg	Pn	17 48 38.3	+0.2
FSSB	Fossombrone	1.23	343	ePn	Pn	17 48 38.3	+0.2
	353nm,0.4s						
SFI	Santa Sofia	1.74	324	ePN	Pn	17 48 46.4	+1.1
	161nm,0.6s						
SFI	Santa Sofia	1.74	324	ePg	Pn	17 48 46.4	+1.1
PGD	Poggio Sodo	1.77	321	ePN	Pn	17 48 46.1	+0.3
PGD	Poggio Sodo	1.77	321	ePg	Pn	17 48 46.1	+0.2
RGNG	Rignano Grg	1.92	115	ePN	Pn	17 48 49.5	+1.6
RGNG	Rignano Grg	1.92	115	ePg	Pn	17 48 49.5	+1.7
VMG	Vicchio	1.92	320	ePN	Pn	17 48 48.9	+0.9
VMG	Vicchio	1.92	320	ePg	Pn	17 48 48.9	+0.9
SEI	Scarperia	2.08	318	ePN	Pn	17 48 50.7	+0.4
	156nm,0.3s						
SEI	Scarperia	2.08	318	ePg	Pn	17 48 50.6	+0.4
SEI	Scarperia	2.08	318	ePn	Pn	17 48 50.7	+0.4
	156nm,0.3s						
CSSN	Cassano Irpino	2.11	141	ePN	Pn	17 48 51.5	+0.8
	27nm,0.6s						
CSSN	Cassano Irpino	2.11	141	ePg	Pn	17 48 51.5	+0.8
CSSN	Cassano Irpino	2.11	141	ePn	Pn	17 48 51.5	+0.8
	27nm,0.6s						
MS1	Monte Sant'Ang	2.15	111	ePn	Pn	17 48 53.0	+1.8
BDI	Bagni Di Lucca	2.49	309	ePN	Pn	17 48 56.3	+0.2
	21nm,0.2s						
BDI	Bagni Di Lucca	2.49	309	ePg	Pn	17 48 56.3	+0.2
BDI	Bagni Di Lucca	2.49	309	ePn	Pn	17 48 56.3	+0.2
	21nm,0.2s						
CDT	Castel del Mon	2.66	121	ePn	Pn	17 48 59.3	+0.7
SG1	Sgolgore (BA)	3.05	122	ePn	Pn	17 49 04.8	+0.7
PGF	Pioggiola	3.16	272	ePn	Pn	17 49 05.9	+0.3
STON	Ston	3.29	82	i Pn	Pn	17 49 07.6	+0.2
STON				i Sn	Sn	17 49 45.8	-0.6
VOY	Vojsko	3.55	7	ePn	Pn	17 49 11.7	+0.6
VOY				eSn	Sn	17 49 53.1	+0.1
PE1	Pezze di Greco	3.55	117	ePn	Pn	17 49 11.5	+0.4
LJU	Ljubljana	3.64	14	ePn	Pn	17 49 17.9	+5.4
LJU				eSn	Sn	17 49 56.8	+1.3
HCY	Herceg Novi	3.87	89	⇓iPn	Pn	17 49 16.2	+0.5
HCY				eSn	Sn	17 50 01.1	0.0
BRY	Bratogost	3.91	83	⇓iPn	Pn	17 49 17.3	+1.0
BRY				eSn	Sn	17 50 02.4	+0.3
OBKA	Obir	4.10	12	⇓iPN	Pn	17 49 19.2	+0.2
OBKA				i SN	Sn	17 50 05.9	-1.1
BUM	Brajici-Budva	4.17	91	⇓iPn	Pn	17 49 20.7	+0.7
BUM				eSn	Sn	17 50 07.9	-1.0
UPM	Unac-Piva	4.20	79	⇓iPn	Pn	17 49 21.5	+1.0
UPM				eSn	Sn	17 50 09.5	-0.1
NKY	Niksic	4.23	84	⇓iPn	Pn	17 49 21.3	+0.4
NKY				eSn	Sn	17 50 10.0	-0.4
TTG	Podgorica	4.43	89	⇓iPn	Pn	17 49 24.4	+0.7
TTG				eSn	Sn	17 50 13.9	-1.6
ULC	Ulcinj	4.47	95	ePn	Pn	17 49 24.1	-0.2
ULC				eSn	Sn	17 50 14.5	-1.9
SBF	Sospel	4.48	290	ePn	Pn	17 49 23.6	-0.7
SBF				eSn	Sn	17 50 12.6	-4.0
	13nm,0.5s						
KBA	Koelnbreinsper	4.57	1	⇓iPN	Pn	17 49 26.0	+0.4
KBA				i SN	Sn	17 50 18.3	-0.5
PLE	Pljevlja	4.57	78	ePn	Pn	17 49 27.1	+1.4
PLE				eSn	Sn	17 50 19.0	0.0
SCE	Schlegeis	4.66	347	⇓iPn	Pn	17 49 28.0	+1.1
IVA	Berane	4.90	84	ePn	Pn	17 49 31.4	+1.0
IVA				eSn	Sn	17 50 26.3	-0.9
SQTA	Sankt Quirin	4.93	343	⇑iPN	Pn	17 49 31.5	+0.7
SQTA				i SN	Sn	17 50 28.5	+0.5
PVY	Plav	4.95	87	⇓iPn	Pn	17 49 32.1	+1.0
PVY				eSn	Sn	17 50 27.4	-1.1
FRF	La Foret Royal	4.97	284	ePn	Pn	17 49 30.2	-1.1
FRF				eSn	Sn	17 50 23.7	-5.2
	2.8nm,0.4s						
WATA	Walderalm	4.97	347	⇑iPN	Pn	17 49 31.8	+0.5
WATA				i SN	Sn	17 50 29.4	+0.4
ARSA	Arzberg	5.00	18	⇑iPN	Pn	17 49 31.3	-0.5
ARSA				i SN	Sn	17 50 27.8	-2.0
LMR	La Mourre	5.03	282	ePn	Pn	17 49 31.1	-1.1
MOTA	Moosalm	5.07	343	⇑iPN	Pn	17 49 33.4	+0.7
MOTA				i SN	Sn	17 50 31.6	+0.1
MBDF	Montbardon	5.21	297	ePn	Pn	17 49 34.7	0.0
MBDF				eSn	Sn	17 50 30.9	-4.2
	7.9nm,0.7s						
DAVA	Damuels	5.35	334	⇑iPN	Pn	17 49 37.3	+0.7
DAVA				i SN	Sn	17 50 39.0	+0.5
MOA	Molln	5.38	7	⇑iPN	Pn	17 49 36.7	-0.4
MOA				i SN	Sn	17 50 38.2	-1.2
LPG	La Plagne	5.57	305	ePn	Pn	17 49 39.0	-0.8
LPG				eSn	Sn	17 50 39.6	-4.4
	4.1nm,0.5s						
LPL	La Plagne	5.59	305	ePn	Pn	17 49 39.4	-0.7
LPL				eSn	Sn	17 50 39.7	-4.9
	3.8nm,0.4s						
SMRF	Simiane la Rot	5.81	287	ePn	Pn	17 49 42.2	-0.9
ORIF	Oris-en-Rattie	5.87	297	ePn	Pn	17 49 43.3	-0.7
CABF	La Chapelle	6.56	311	ePn	Pn	17 49 53.9	+0.1
CABF				eSn	Sn	17 51 04.9	-4.1
	3.1nm,0.5s						
KHC	Kasperske Hory	6.62	2	eP	Pn	17 49 54.5	-0.1
KHC				e		17 51 05.7	
KHC	Kasperske Hory	6.62	2	ePn	Pn	17 49 54.5	-0.1
KHC				e		17 50 05.5	
KHC				e		17 51 01.5	
KHC				eSn	Sn	17 51 05.7	-4.7
KHC	Kasperske Hory	6.62	2	ePN	Pn	17 49 54.5	-0.1
KHC				ex	x	17 50 05.5	
KHC				x	x	17 51 01.5	
KHC				eSN	Sn	17 51 05.7	-4.7
HINF	Hinteralfeld	6.98	322	ePn	Pn	17 49 57.2	-2.4
HINF				eSn	Sn	17 51 13.8	-5.5
	5.5nm,0.4s						
LASF	Ste Croix	7.04	286	ePn	Pn	17 49 58.8	-1.8
CDF	Champ du Feu	7.25	327	ePn	Pn	17 50 01.5	-1.9
CDF				eSn	Sn	17 51 20.6	-5.5
	6.0nm,0.4s						
HAU	Haudompre	7.35	321	ePn	Pn	17 50 03.3	-1.5
HAU				eSn	Sn	17 51 22.4	-6.2
	11nm,0.5s						
PRU	Pruhonice	7.53	6	eSN	Sn	17 51 26.3	-6.8
SSF	Saint Saulge	8.30	307	eP	P	17 50 16.7	-1.4

BJI 13 17:53:08.8, 39.55N×118.29E, h22^{km}**, mb4.3, ML3.6, 1D, Northeastern China**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BJI	Beijing	1.70	287	P	Pn	17 53 36.8	-0.8
BJI				PG	Pn	17 53 38.5	+0.9
BJI				S	Sn	17 53 57.0	-1.9
BJI				SG	Sn	17 54 00.0	+1.1
BJI				Smax			
	comp=N,556nm,0.5s						
BJI				Smax			
	comp=E,1μm,0.5s						
DL2	Dalian	2.67	103	P	Pn	17 53 51.6	+0.1
DL2				PG	Pn	17 53 58.5	+7.0
DL2				SG	Sn	17 54 32.4	+8.8
DL2				Smax			
	comp=N,174nm,0.7s						
DL2				Smax			
	comp=E,176nm,0.7s						
TIA	Tai'an	3.46	196	P	Pn	17 54 03.0	+0.3
TIA				PG	Pn	17 54 15.0	+12
TIA				SG	Sn	17 54 56.6	+13
TIA				Smax			
	comp=N,65nm,0.5s						
TIA				Smax			
	comp=E,72nm,0.5s						
SNY	Shenyang	4.62	59	⇓PG	Pn	17 54 32.5	+13
SNY				SG	Sn	17 55 32.3	+19
SNY				Smax			
	comp=N,100nm,0.5s						
SNY				Smax			
	comp=E,40nm,0.3s						
HHC	Hu-ho-hao-te	5.31	286	ePG	Pn	17 54 45.8	+17
HHC				SG	Sn	17 55 53.0	+23
HHC				Smax			
	comp=N,38nm,0.7s						
HHC				Smax			
	comp=E,68nm,0.5s						
CN2	Changchun	6.84	49	ePG	Pn	17 55 11.9	+21
CN2				eSG	Sn	17 56 40.6	+32
CN2				Smax			
	comp=N,70nm,0.8s						
CN2				Smax			
	comp=E,50nm,0.8s						

*IDC **13** 18:02:58.4±1.1, 19.09N×67.12W, mb3.4/3, mb1 3.8/5, mb1mx3.5/20, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=39.6km s-min=13.0km az=49.0*

*NEIC **13** 18:03:01.3, 18.94N×67.33W, h20^{km}, MD3.7(RSPR), After RSPR.*

*RSPR **13** 18:03:01.3, 18.94N×67.33W, h20^{km}±20^{km}, MD3.6/15, MD3.6/15*

ISC 13 18:02:59.9±1.3, **18.93N**±0.08×**67.26W**±0.06, **h27**^{km}±9^{km}, **n23**, σ**0^{s}64**/32, **mb3.4**/3, **7C-3D**, **Mona Passage**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MPR	Mayaguez	0.73	171	⇑iP	Pb	18 03 13.8	-0.1
MPR				eS	Sb	18 03 23.5	0.0
LRS	Lares	0.75	148	⇑iP	Pb	18 03 14.2	-0.1
AOPR	Arecibo Observ	0.76	140	⇑iP	Pb	18 03 14.3	-0.1
AOPR				eS	Sb	18 03 26.5	+2.1
LSP	Las Mesas	0.77	167	⇑iP	Pb	18 03 14.7	0.0
CRPR	Cabo Rojo, PR	0.93	171	⇑iP	Pb	18 03 17.0	-0.4
CRPR				eS	Sb	18 03 29.1	-0.3
MGP	Maguayo	0.94	170	⇓iP	Pb	18 03 17.1	-0.3
PORP	Portuguez	1.06	146	⇑iP	Pn	18 03 18.9	-0.3
CELP	Cerrillos	1.07	143	⇑iP	Pn	18 03 19.2	-0.2
CELP				eS	Sb	18 03 33.1	-0.3
CSB	Colonia Sabana	1.23	121	⇓iP	Pn	18 03 21.6	0.0
SJG	San Juan	1.33	128	eS	Sn	18 03 40.3	+0.2
SJG	San Juan	1.33	128	⇑iP	Pn	18 03 23.3	+0.1
SJG	San Juan	1.33	128	Pg	Pn	18 03 23.2	+0.1
	109nm,0.3s,baz=297,slow=13,SNR=138						
SJG				Lg		18 03 41.9	
	181nm,0.3s,baz=319,slow=21,SNR=14						
SJG	San Juan	1.33	128	⇑eP	Pn	18 03 22.9	-0.2
SJG				eS	Sn	18 03 40.3	+0.2
CBYP	Canovanas	1.49	116	⇑eP	Pn	18 03 24.9	-0.4
CBYP				eS	Sn	18 03 43.5	-0.6
HUMP	Col San Antoni	1.55	120	⇑eP	Pn	18 03 26.1	-0.2
HUMP				eS	Sn	18 03 45.1	-0.6
CPD	Cerro la Pandu	1.56	125	⇓eP	Pn	18 03 26.4	0.0
CPD				eS	Sn	18 03 46.1	+0.3
MTP	Monte Pirata	1.82	117	⇑eP	Pn	18 03 29.8	-0.3
MTP				eS	Sn	18 03 53.5	+1.0
SDV	Santo Domingo	10.51	199	Pn	P	18 05 31.7	-0.5
	0.9nm,0.3s,baz=28,slow=17,SNR=3.7						
ROSC	El Rosal	15.60	207	Pn	P	18 06 43.5	+3.5
	0.5nm,0.3s,baz=90,slow=17,SNR=2.7						
TXAR	Lajitas Array	34.67	294	P	P	18 09 51.0	+1.4
	0.3nm,0.6s,mb3.4,baz=111,slow=7.7,SNR=3.2						
TXAR	Lajitas Array	34.67	294	P	P	18 09 51.0	+1.4
YKA	Yellowknife Ar	54.31	335	P	P	18 12 25.5	-0.5
	0.3nm,0.5s,mb3.5,baz=111,slow=7.4,SNR=5.5						
ILAR	Eielson Array	68.63	333	P	P	18 14 02.5	-0.1
	0.2nm,0.5s,mb3.3,baz=100,slow=5.1,SNR=4.9						

*STR **13** 18:17:28.4±0.2, 44.47N×6.73E, h5^{km}±1^{km}, Ml2.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **13** 18:17:28.4, 44.56N×7.21E, h5^{km}, ML2.6(GEN), ML2.0(STR), ML1.8(LDG), After GEN.*

*LDG **13** 18:17:28.3±0.1, 44.56N×7.17E, h14^{km}, Md1.8/1, Ml1.8/6, Error ellipse: s-maj=1.4km s-min=0.6km az=74.0*

ISC 13 18:17:27.7±0.3, **44.54N**±0.02×**7.15E**±0.03, **h13**^{km}±3^{km}, **n25**, σ**0^{s}54**/48, **Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PZZ	Prazzo	0.05	221	P	Pg	18 17 30.5	+0.3
PZZ				S	Sb	18 17 32.0	+0.3
DOI	San Damiano	0.08	120	ePg	Pg	18 17 30.5	0.0
DOI				eSg	Sg	18 17 31.7	-0.6
OG22	Abries	0.31	333	Pg	Pg	18 17 34.8	+0.4
OG22				Sg	Sg	18 17 39.0	+0.2
STV2	Anna di Valdie	0.32	157	P	Pg	18 17 34.8	+0.3
STV2				S	Sg	18 17 39.1	-0.1
STV	Sta Anna Valdi	0.33	157	P	Pg	18 17 34.8	+0.3
STV				S	Sg	18 17 39.1	-0.1
MBDF	Montbardon	0.33	304	ePg	Pg	18 17 35.5	+0.9
MBDF				eSg	Sg	18 17 39.9	+0.7
	6.0nm,0.2s						
ENR	Entracque	0.37	148	P	Pg	18 17 35.5	+0.1
ENR				S	Sg	18 17 40.3	-0.4
RRL	Cesana Torines	0.46	326	P	Pg	18 17 37.8	+0.7
RRL				S	Sg	18 17 44.0	+0.6
FENE	Fenestrelle	0.49	353	P	Pb	18 17 37.8	+0.1
FENE				S	Sg	18 17 44.0	-0.4
TOUF	Mont Tournerai	0.54	172	Pg	Pg	18 17 39.0	+0.4
TOUF				Sg	Sg	18 17 46.3	+0.4
ROB	Roburent	0.57	115	P	Pb	18 17 38.6	-0.5
ROB				S	Sb	18 17 45.9	-1.0
AUTN	L'Aution	0.58	160	Pg	Pg	18 17 41.0	+1.4
RSP	Reno Superiore	0.61	7	P	Pb	18 17 39.8	0.0
RSP				S	Sb	18 17 47.5	-0.5
MONE	Monesi	0.64	137	P	Pb	18 17 40.3	+0.1
MONE				S	Sb	18 17 48.2	-0.5
SBF	Sospel	0.71	163	ePg	Pg	18 17 42.3	+0.2
SBF				eSg	Sg	18 17 51.7	0.0
	2.3nm,0.2s						
NEGI	Negi	0.80	150	P	Pb	18 17 43.7	+0.7
IMI	Imperia	0.83	140	P	Pb	18 17 43.9	+0.5
IMI				S	Sb	18 17 54.6	+0.3
FIN	Finale Ligure	0.83	113	P	Pb	18 17 43.6	+0.1
FIN				S	Sb	18 17 54.2	-0.1
LSD	Ceresole Reale	0.91	0	P	Pb	18 17 45.7	+0.8
LSD				S	Sb	18 17 57.3	+0.5
ORIF	Oris-en-Rattie	0.98	293	ePg	Pg	18 17 47.3	0.0
ORIF				eSg	Sg	18 17 59.9	-0.6
	0.9nm,0.3s						
LPG	La Plagne	0.99	344	ePg	Pg	18 17 47.3	-0.4
LPG				eSg	Sg	18 18 00.3	-0.7
	1.5nm,0.2s						
LPL	La Plagne	1.02	343	ePg	Pg	18 17 47.6	-0.5
LPL				eSg	Sg	18 18 00.7	-1.0
	2.6nm,0.3s						
FRF	La Foret Royal	1.05	200	ePg	Pg	18 17 48.6	-0.1
FRF				eSg	Sg	18 18 02.5	-0.3
	2.2nm,0.2s						
SMRF	Simiane la Rot	1.27	244	ePg	Pg	18 17 52.2	-0.8
SMRF				eSg	Sg	18 18 09.2	-0.8
	2.7nm,0.2s						
LMR	La Mourre	1.29	201	ePg	Pg	18 17 53.0	-0.6
LMR				eSg	Sg	18 18 10.4	-0.6
	4.0nm,0.2s						

*NEIC **13** 18:31:40.4±0.5, 12.19N×143.64E, mb4.3/2, Error ellipse: s-maj=21.3km s-min=10.8km az=108.0*

*IDC **13** 18:31:40.5±0.7, 12.22N×143.69E, h22^{km}±4^{km}, mb3.8/9, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, Error ellipse: s-maj=29.5km s-min=17.3km az=99.0*

ISC 13 18:31:39.7±5.2, **12.17N**±0.09×**143.6E**±0.1, **h31**^{km}±37^{km}, **h23**^{km}±.6^{km}**:pP-P**, **n15**, σ**1^{s}05**/16, **mb4.2**/12, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.86	40	eP	Pn	18 32 10.3	+0.3
GUMO				eS	Sn	18 32 32.1	-0.5
WRAB	Tennant Creek	33.18	196	eP	P	18 38 14.0	-2.0
	94nm,1.8s,mb5.4						
WRA	Warramunga Arr	33.19	196	P	P	18 38 16.1	0.0
	1.9nm,0.7s,mb4.1,baz=19,slow=9.8,SNR=10						
ASAR	Alice Springs	36.86	195	P	P	18 38 48.7	+1.4
	0.6nm,0.7s,mb3.6,baz=20,slow=11,SNR=4.4						
STKA	Stephens Creek	43.84	183	P	P	18 39 44.9	0.0
	1.0nm,0.8s,mb3.6,baz=280,slow=24,SNR=2.8						
SONM	Songino Array	47.21	326	P	P	18 40 12.6	+1.0
	0.3nm,0.6s,mb3.4,baz=149,slow=8.4,SNR=3.2						
SONM				pP	pP	18 40 19.0	-2.0
	0.5nm,0.6s,baz=144,slow=7.4,SNR=4.5						
KURK	Kurchatov	64.90	320	eP	P	18 42 17.4	-0.9
	2.5nm,0.8s,mb4.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KURK				e		18 42 24.9	
ILAR	Eielson Array	70.36	25	P	P	18 42 50.9	-1.4
	0.5nm,0.6s,mb3.6,baz=249,slow=5.4,SNR=7.7						
ILAR				pP	pP	18 42 58.7	-3.3
	0.6nm,0.4s,baz=252,slow=5.5,SNR=6.9						
PPT	Papeete	72.26	113	P	P	18 43 04.1	-0.3
	31nm,0.6s,mb5.4,baz=218,slow=3.8,SNR=5.0						
INK	Inuvik	76.13	22	P	P	18 43 26.2	+0.2
	0.6nm,0.6s,mb3.7,baz=276,slow=5.8,SNR=4.9						
INK				pP	pP	18 43 33.1	-2.8
INK	Inuvik	76.13	22	eP	P	18 43 25.7	-0.3
	2.4nm,0.9s,mb4.1						
INK				pP	pP	18 43 33.1	-2.8
YKA	Yellowknife Ar	84.67	27	P	P	18 44 12.6	+1.2
	1.3nm,0.6s,mb4.2,baz=289,slow=5.2,SNR=23						
YKA				pP	pP	18 44 20.1	-1.3
	1.7nm,0.6s,baz=288,slow=5.2,SNR=12						
NVAR	Mina Array Bea	88.75	51	P	P	18 44 34.1	+2.2
	1.2nm,0.7s,mb4.3,baz=263,slow=4.2,SNR=5.7						
FINES	FINESS Array B	91.93	335	P	P	18 44 45.5	-0.7
	0.7nm,0.4s,mb4.3,baz=65,slow=5.7,SNR=14						
FINES				pP	pP	18 44 52.8	-3.4
	0.6nm,0.4s,baz=69,slow=4.1,SNR=2.2						
FINES	FINESS Array B	91.93	335	P	P	18 44 45.5	-0.7
FINES				pP	pP	18 44 52.8	-3.4

IDC 13 18:43:37.9±1.5**,35.12N**×**88.53E,mb3.5**/3**,mb1 3.8**/4**, mb1mx3.5**/16**,mbtmp3.5**/4**,ML3.1**/1**,Error ellipse: s-maj=184.2km s-min=29.1km az=45.0,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	19.00	148	P	P	18 48 02.2	-1.4
	0.0nm,0.3s,baz=330,slow=12,SNR=6.1						
GERES	GERESS Array B	55.13	309	P	P	18 53 12.0	-2.0
	0.4nm,0.8s,baz=51,slow=6.3,SNR=3.7						
WRA	Warramunga Arr	69.92	134	P	P	18 54 51.0	-2.1
	0.5nm,0.6s,baz=325,slow=6.8,SNR=12						
ASAR	Alice Springs	72.58	137	P	P	18 55 06.8	-2.2
	0.4nm,0.8s,baz=311,slow=5.6,SNR=4.7						

IDC 13 18:58:40.9±3.0**,10.89S**×**164.57E,mb3.7**/4**,mb1 4.0**/4**, mb1mx3.8**/14**,mbtmp3.7**/4**,MS3.2**/1**,Ms1 3.2**/1**, ms1mx2.7**/20**,Error ellipse: s-maj=107.3km s-min=30.4km az=132.0,Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.46	249	P	P	19 04 56.6	-1.2
	0.6nm,0.5s,baz=82,slow=8.9,SNR=11						
ASAR	Alice Springs	31.84	242	P	P	19 05 07.2	-2.6
	1.9nm,1.0s,baz=67,slow=9.6,SNR=12						
ASAR				LR	LR	19 17 12.0	
	comp=Z,49nm,21.3s,baz=5.8,slow=35						
SONM	Songino Array	77.87	324	P	P	19 10 39.9	-2.2
	0.6nm,0.7s,baz=134,slow=5.4,SNR=5.7						
ILAR	Eielson Array	83.74	19	P	P	19 11 12.2	-0.7
	0.4nm,0.9s,baz=231,slow=5.1,SNR=4.5						

*NEIC **13** 19:40:45.8±1.0,23.78S×175.70W,mb4.5/4,Error ellipse: s-maj=51.6km s-min=11.9km az=159.0*
*IDC **13** 19:40:46.4±1.1,23.48S×175.81W,h44^{km}±5^{km},mb4.0/12, mb1 4.2/13,mb1mx4.1/19,mbtmp4.3/13,ML5.0/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/23,Error ellipse: s-maj=58.1km s-min=12.8km az=158.0*
*BJI **13** 19:40:46.5,23.46S×175.00W,h64^{km},mB5.3,mb4.9*
ISC 13 19:40:44.3±1.0**,23.9S**±0.3×**175.7W**±0.2**,h44**^{km}**, h44**^{km}±1.4^{km}**:pP-P,n31,**σ**1**^{s}**07**/22**,mb4.3**/18**,MS3.6**/2**,1C, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAR	Rarotonga	14.95	83	P	P	19 44 02.1	-12
	5.9nm,0.3s,baz=234,slow=5.1,SNR=10						
RAR				LR	LR	19 49 01.6	
	comp=Z,324nm,18.6s,baz=285,slow=33						
RAR	Rarotonga	14.95	83	eP	P	19 44 01.5	-13
TBI	Tubuai	24.04	94	eLR	LR	19 51 16.6	
	166nm,21.5s						
PPT	Papeete	25.20	81	eLR	LR	19 51 41.9	
	173nm,21.5s						
CTA	Charters Tower	35.42	269	P	P	19 47 38.9	+0.6
	2.5nm,0.3s,mb4.5,baz=88,slow=12,SNR=7.3						
CTA				LR	LR	19 59 02.4	
	comp=Z,73nm,19.2s,MS3.5,baz=49,slow=31						
RKT	Rikitea	37.26	97	eLR	LR	19 57 18.8	
	136nm,33.0s						
PMG	Port Moresby	38.24	286	P	P	19 48 00.2	-1.8
	11nm,1.0s,mb4.5,baz=27,slow=4.5,SNR=3.1						
PMG				pP	pP	19 48 13.8	-0.2
	12nm,0.8s,baz=79,slow=3.0,SNR=3.7						
STKA	Stephens Creek	38.40	248	P	P	19 48 04.0	+0.8
	0.9nm,0.5s,mb3.8,baz=92,slow=16,SNR=3.9						
STKA				pP	pP	19 48 15.3	+0.1
	1.1nm,0.6s,baz=112,slow=22,SNR=2.2						
STKA	Stephens Creek	38.40	248	eP	P	19 48 03.1	-0.1
ASAR	Alice Springs	45.92	260	P	P	19 49 05.0	+0.2
	2.5nm,0.8s,mb4.2,baz=90,slow=8.6,SNR=15						
ASAR				pP	pP	19 49 17.2	+0.3
	2.9nm,0.9s,baz=86,slow=7.7,SNR=5.8						
ASAR				LR	LR	20 08 06.1	
	comp=Z,115nm,18.9s,MS3.8,baz=279,slow=36						
WRAB	Tennant Creek	46.33	265	P	P	19 49 06.8	-1.2
	13nm,0.9s,mb4.9						
WRA	Warramunga Arr	46.34	265	P	P	19 49 07.1	-1.0
	6.9nm,0.8s,mb4.6,baz=101,slow=8.1,SNR=18						
WRA				pP	pP	19 49 19.1	-1.2
	2.8nm,0.8s,baz=102,slow=8.3,SNR=4.6						
YSS	Yuzh-Sakhalins	79.84	333	eP	P	19 52 50.0	+0.3
	14nm,0.9s,mb4.9						
CMB	Columbia Colle	80.52	41	eP	P	19 52 52.5	-1.0
	2.0nm,0.8s,mb4.1						
YBH	Yreka Blue Hor	81.62	37	P	P	19 52 57.8	-1.3
	0.9nm,0.6s,mb3.9,baz=190,slow=11,SNR=3.6						
NVAR	Mina Array Bea	82.04	42	P	P	19 53 01.1	-0.4
	1.0nm,0.5s,mb4.0,baz=210,slow=6.6,SNR=5.8						
NVAR				pP	pP	19 53 13.4	-1.0
	1.1nm,0.7s,baz=236,slow=13,SNR=2.8						
MDJ	Mudanjiang	84.48	324	P	P	19 53 14.9	+1.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,193nm,4.9s						
ELK	Elko	85.33	42	P	P	19 53 18.9	+1.0
	comp=Z,0.8nm,0.7s,mb4.0,baz=186,slow=4.8,SNR=5.0						
ELK				pP	pP	19 53 30.5	-0.6
	comp=Z,0.9nm,0.7s,baz=150,slow=5.9,SNR=3.0						
ELK	Elko	85.33	42	P	P	19 53 18.9	+1.0
ELK				pP	pP	19 53 30.5	-0.6
CN2	Changchun	86.25	322	eP	P	19 53 23.6	+1.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
TXAR	Lajitas Array	87.10	56	P	P	19 53 28.1	+1.2
	comp=Z,1.4nm,1.1s,mb4.1,baz=207,slow=5.6,SNR=6.2						
TXAR				pP	pP	19 53 41.5	+1.3
	comp=Z,2.8nm,0.9s,baz=211,slow=7.3,SNR=11						
HLID	Hailey	87.50	40	eP	P	19 53 28.9	+0.4
	comp=Z,0.7nm,0.7s,mb4.0						
PDAR	Pinedale Array	89.97	42	P	P	19 53 39.3	-0.9
	comp=Z,0.3nm,0.4s,mb4.0,baz=207,slow=3.3,SNR=4.7						
PDAR				pP	pP	19 53 53.6	+0.1
	comp=Z,0.7nm,0.9s,baz=225,slow=2.1,SNR=3.6						
ILAR	Eielson Array	91.12	12	P	P	19 53 44.2	-0.9
	comp=Z,0.6nm,0.8s,mb4.0,baz=219,slow=5.6,SNR=5.6						
ILAR				pP	pP	19 53 57.4	-1.0
	comp=Z,1.2nm,1.0s,baz=220,slow=6.7,SNR=4.3						
CMAR	Chiang Mai Arr	93.23	289	P	P	19 53 58.2	+2.3
	comp=Z,3.6nm,0.9s,mb4.8,baz=122,slow=2.4,SNR=17						
CMAR				pP	pP	19 54 12.0	+2.8
	comp=Z,1.6nm,0.9s,baz=152,slow=4.9,SNR=3.9						
AKASG	Malin Array Be	146.98	331	PKPbc	PKPdf	20 00 22.6	+2.7
	comp=Z,4.2nm,0.8s,baz=43,slow=3.9,SNR=13						
KSP	Ksiaz	151.51	344	eP	PKPdf	20 00 34.3	+7.4
CLL	Collm	151.79	348	ePKP1	PKPdf	20 00 36.0	+8.6
BRG	Berggiesshubel	152.02	347	eP	PKPdf	20 00 36.2	+8.5
BRG				e		20 00 38.9	
BRG				e		20 00 49.4	
BRG				i		20 01 20.5	
KHC	Kasperske Hory	153.74	346⇑	ePKPB	PKPdf	20 00 36.0	+5.8
KHC				ePKPAB	PKPab	20 00 53.0	-0.4
GERES	GERESS Array B	153.98	346	PKPbc	PKPdf	20 00 40.0	+10
	comp=Z,0.5nm,0.8s,baz=315,slow=1.9,SNR=3.4						

*IDC **13** 19:40:11.2±11.0,5.16S×124.60E,mb4.5/3,mb1 4.7/4, mb1mx4.0/15,mbtmp4.5/4,ML4.4/1,Error ellipse: s-maj=181.5km s-min=89.1km az=129.0*
ISC 13 19:41:00.7±4.1**,7.2S**±0.2×**126.9E**±0.2**,h268**^{km}±31^{km}**,n7,** σ**1**^{s}**02**/9**,mb3.9**/2**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	7.76	135	eP	P	19 42 53.0	+1.2
	16nm,0.6s						
KAKA				eS	S	19 44 18.6	-0.3
FITZ	Fitzroy Crossi	10.91	186	eP	P	19 43 30.8	-0.5
	20nm,2.0s						
FITZ				eS	S	19 45 30.9	+0.9
WRA	Warramunga Arr	14.60	151	P	P	19 44 16.1	-0.9
	1.3nm,0.3s,baz=325,slow=12,SNR=84						
WB2	Warramunga Arr	14.61	151	eP	P	19 44 15.8	-1.2
ASAR	Alice Springs	17.72	158	P	P	19 44 51.5	0.0
	16nm,0.5s,baz=330,slow=9.9,SNR=199						
CTA	Charters Tower	22.75	126	P	P	19 45 44.2	+2.9
	3.0nm,0.6s,mb3.8,baz=286,slow=14,SNR=3.7						
STKA	Stephens Creek	28.14	153	P	P	19 46 30.1	-0.4
	4.0nm,0.5s,mb4.1,baz=326,slow=9.1,SNR=22						

CASC 13 19:42:00.1±2.0**,11.25N**×**86.67W,h27**^{km}±6^{km}**,MD3.9, ML3.1,3C-3D,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APON	Apoyo	0.89	42⇓	eP	Pb	19 42 15.5	-1.4
APON				eS	Sb	19 42 28.6	+0.2
TICN	Ticuantepe	0.89	29	eP	Pb	19 42 16.3	-0.6
TICN				eS	Sb	19 42 29.7	+1.3
COPN	Copaltepe	0.93	5	eP	Pn	19 42 17.0	-0.5
COPN				eS	Sb	19 42 32.5	+3.0
XAVN	Gruta Xavier	0.96	21	eP	Pn	19 42 17.0	-0.9
MGAN	Managua	0.99	25	eP	Pn	19 42 17.3	-1.0
MGAN				eS	Sb	19 42 32.2	+1.1
MGAN				i		19 42 33.8	
	comp=N,457nm,0.1s						
WILN	Americas 2	1.02	28	eP	Pn	19 42 17.5	-1.3
WILN				eS	Sb	19 42 32.9	+0.7
APYN	Apoyeque	1.03	18⇓	eP	Pn	19 42 18.3	-0.6
APYN				eS	Sb	19 42 33.7	+1.3
MOMJ	Momotombo	1.16	6	eP	Pn	19 42 20.3	-0.5
MIRN	Miramar	1.19	358⇑	eP	Pn	19 42 20.8	-0.3
CNGN	Cerro Negro	1.25	359⇑	eP	Pn	19 42 21.7	-0.3
TEL3	Telica 3	1.33	353⇑	eP	Pn	19 42 23.1	0.0
TELN	Telica	1.36	354⇓	eP	Pn	19 42 23.5	-0.1
PYTN	Playitas	1.42	25	eP	Pn	19 42 23.1	-1.3
PYTN				eS	Sn	19 42 41.8	-0.5
CGA2	Cerro Gallo 2	2.49	119	eP	Pn	19 42 39.2	-0.6
CGA2				eS	Sn	19 43 10.3	+0.7
PRS1	Puriscal	2.64	118	eP	Pn	19 42 40.7	-1.3
PRS1				eS	Sn	19 43 15.0	+1.6
LAJ	Bijagual	2.86	118	eP	Pn	19 42 40.5	-4.5
TRTC	Tortuguero	2.98	103	eP	Pn	19 42 46.6	-0.2
TRTC				eS	Sn	19 43 20.7	-1.4
LCR2	La Lucha 2	3.02	119	eP	Pn	19 42 46.4	-1.0
BUS	Buena Vista	3.33	120	eP	Pn	19 42 51.2	-0.4

IDC 13 19:54:02.4±56.0**,14.09S**×**170.88E,mb4.0**/3**,mb1 4.2**/3**, mb1mx3.8**/14**,mbtmp4.0**/3**,Error ellipse: s-maj=958.0km s-min=116.3km az=67.0,Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	32.10	232	P	P	20 00 31.3	-2.3
	0.9nm,0.4s,baz=55,slow=9.3,SNR=13						
WRA	Warramunga Arr	35.38	255	P	P	20 01 00.5	-1.5
	0.6nm,0.3s,baz=87,slow=8.3,SNR=22						
ASAR	Alice Springs	36.17	249	P	P	20 01 06.5	-2.2
	1.6nm,0.4s,baz=76,slow=9.6,SNR=55						

*CSEM **13** 19:56:52.3±0.1,42.79N×7.22W,h11^{km},ML2.7/3,Error ellipse: s-maj=3.5km s-min=2.6km az=57.0*
MDD 13 19:56:52.0±0.2**,42.82N**×**7.21W,h10**^{km}±4^{km}**,mbLg1.7**/10**, Error ellipse: s-maj=3.3km s-min=1.4km az=93.0, PRXIMO,Spain**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EINC	Incio	0.19	214	Pg	Pg	19 56 55.9	-0.2
	4.2nm,0.0s,SNR=74						
EINC				Lg		19 56 58.5	
	88nm,0.1s,SNR=7.9						
EINC	Incio	0.19	214	Pg	Pg	19 56 55.9	-0.2
	4.2nm,0.0s,SNR=74						
EINC				Lg		19 56 58.5	
	88nm,0.1s,SNR=7.9						
ERUA	La Rua	0.43	173	Pg	Pg	19 57 00.2	-0.5
	1.6nm,0.1s,SNR=8.0						
ERUA				Lg		19 57 05.7	
	4.7nm,0.1s,SNR=17						
EPON	Pontenova	0.51	5	Pg	Pg	19 57 01.6	-0.7
	0.6nm,0.1s,SNR=15						
EPON				Lg		19 57 08.3	
	9.3nm,0.2s,SNR=26						
EPON	Pontenova	0.51	5	Pg	Pg	19 57 01.6	-0.8
	0.6nm,0.1s,SNR=15						
ECAL	Calabor	0.94	158	Pg	Pg	19 57 10.2	-0.7
	0.5nm,0.1s,SNR=9.7						
ECAL				Lg		19 57 22.2	
	15nm,0.3s,SNR=8.8						
ECAL	Calabor	0.94	158	Pg	Pg	19 57 10.2	-0.7
	0.5nm,0.1s,SNR=9.7						
STS	Santiago	0.99	274	Pg	Pg	19 57 10.1	-1.7
	5.1nm,0.1s,SNR=7.1						
STS				Lg		19 57 23.2	
	10nm,0.1s,SNR=7.9						
PBRG	Braganca	1.07	161	eSn	Sn	19 57 26.0	-2.0
	2.1nm,0.1s						
PBRG	Braganca	1.07	161	eSn	Sn	19 57 26.0	-2.0
	2.1nm,0.1s						
ELOB	Lobios	1.14	214	Pg	Pg	19 57 12.2	-2.6
	0.6nm,0.1s,SNR=15						
ELOB				Lg		19 57 26.9	
	1.7nm,0.1s,SNR=8.0						
ELOB	Lobios	1.14	214	Pg	Pg	19 57 12.2	-2.6
	0.6nm,0.1s,SNR=15						
EZAM	Zamans	1.29	239	Pg	Pg	19 57 16.0	-1.8
	1.4nm,0.1s,SNR=7.9						
EZAM				Lg		19 57 33.1	
	3.3nm,0.4s,SNR=4.0						
EMAZ	Mazaricos	1.31	276	Pg	Pg	19 57 16.1	-2.0
	1.5nm,0.1s,SNR=14						
EMAZ				Lg		19 57 33.0	
	6.8nm,0.2s,SNR=7.9						
EMAZ	Mazaricos	1.31	276	Pg	Pg	19 57 16.1	-2.0
	1.5nm,0.1s,SNR=14						
EARI	Arriondas	1.54	71	Pg	Pg	19 57 21.3	-1.6
	0.6nm,0.1s,SNR=9.8						
EARI				Lg		19 57 41.6	
	0.9nm,0.2s,SNR=7.5						
EARI	Arriondas	1.54	71	Pg	Pg	19 57 21.3	-1.6
	0.6nm,0.1s,SNR=9.8						
PVRL	Vila Real	1.59	194	eSg	Sg	19 57 41.9	-3.0
	4.5nm,0.1s						
PVRL	Vila Real	1.59	194	eSg	Sg	19 57 41.9	-3.0
	4.5nm,0.1s						
PVIS	Viseu	2.16	194	eSg	Sg	19 57 59.2	-4.8
	1.6nm,0.1s						
PVIS	Viseu	2.16	194	eSg	Sg	19 57 59.2	-4.8
	1.6nm,0.1s						

*IDC **13** 20:23:07.8±0.8,11.79N×94.25E,mb3.9/10,mb1 4.1/11, mb1mx3.9/19,mbtmp3.9/11,ML3.5/1,MS4.2/4,Ms1 4.2/4, ms1mx3.3/26,Error ellipse: s-maj=30.8km s-min=18.2km az=60.0*
*NEIC **13** 20:23:12.9±6.2,11.83N×94.38E,h32^{km}±43^{km},mb4.2/5, Error ellipse: s-maj=21.9km s-min=10.0km az=56.0*
ISC 13 20:23:15.0±3.0**,11.9N**±0.1×**94.5E**±0.1**,h67**^{km}±27^{km}**,n26,** σ**0**^{s}**70**/23**,mb4.0**/14**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	7.85	33	Pn	P	20 25 05.1	-3.6
	0.2nm,0.3s,baz=222,slow=15,SNR=4.7						
JIRN	Jiri	17.54	335	eP	P	20 27 17.6	+1.1
	20nm,0.9s						
PKI	Pulchoki	17.80	333	eP	P	20 27 20.0	+0.3
	48nm,1.3s						
DMN	Daman	17.97	332	eP	P	20 27 22.4	+0.6
	17nm,0.9s						
LSA	Lhasa	18.02	351	eP	P	20 27 22.6	+0.1
	4.0nm,0.8s						
KKN	Kakani	18.04	333	eP	P	20 27 22.8	+0.1
	13nm,1.0s						
GKN	Gorkha	18.52	332	eP	P	20 27 28.1	-0.3
	19nm,0.8s						
KOLN	Koldanda	18.83	329	eP	P	20 27 31.4	-0.6
	20nm,0.9s						
SONM	Songino Array	37.23	13	P	P	20 30 21.9	+0.3
	1.9nm,1.2s,mb3.9,baz=190,slow=7.5,SNR=6.3						
KURK	Kurchatov	40.86	345	eP	P	20 30 47.5	-4.2
	3.3nm,1.0s,mb4.1						
ZAL	Zalesovo	42.67	352	P	P	20 31 06.7	+0.1
	0.9nm,0.4s,mb3.8,baz=306,slow=7.9,SNR=5.0						
BVAR	Borovoye Array	45.37	340	P	P	20 31 27.4	-1.0
	0.8nm,0.5s,mb3.7,baz=132,slow=8.1,SNR=4.9						
CHKZ	Chkalovo	45.83	340	eP	P	20 31 32.5	+0.5
	6.0nm,0.5s,mb4.6						
WRA	Warramunga Arr	50.38	128	P	P	20 32 07.8	0.0
	2.4nm,0.6s,mb4.3,baz=309,slow=8.8,SNR=38						
WRAB	Tennant Creek	50.38	128	eP	P	20 32 08.3	+0.5
	3.6nm,0.6s,mb4.5						
ASAR	Alice Springs	52.28	133	P	P	20 32 22.4	+0.4
	2.0nm,0.9s,mb4.1,baz=309,slow=6.7,SNR=20						
STKA	Stephens Creek	62.65	135	LR	LR	21 02 24.9	
	comp=Z,85nm,18.1s,baz=27,slow=38						
FINES	FINESS Array B	69.38	331	P	P	20 34 17.0	-0.4
	0.9nm,0.8s,mb3.6,baz=90,slow=5.7,SNR=5.8						
ARCES	ARCESS Array B	71.66	340	P	P	20 34 31.3	+0.2
	10.0nm,1.3s,mb4.5,baz=76,slow=5.0,SNR=4.2						
ARCES				LR	LR	21 10 44.4	
	comp=Z,85nm,19.2s,baz=195,slow=40						
ARCES	ARCESS Array B	71.66	340	P	P	20 34 31.3	+0.2
ARCES				LR	LR	21 10 44.4	
MATP	Matopo	72.37	244	P	P	20 34 34.6	-1.5
	1.5nm,1.0s,mb3.8,baz=32,slow=11,SNR=4.2						
GERES	GERESS Array B	75.11	318	P	P	20 34 51.8	+0.3
	0.5nm,0.6s,mb3.4,baz=104,slow=5.5,SNR=5.2						
NOA	NORSAR Array B	76.45	330	P	P	20 34 58.7	-0.2
	1.4nm,1.0s,mb3.6,baz=124,slow=20,SNR=2.8						
LBTB	Lobatse	76.46	241	P	P	20 35 00.3	+0.5
	0.9nm,0.6s,mb3.7						
SUR	Sutherland	82.87	235	LR	LR	21 07 12.9	
	comp=Z,190nm,18.7s,baz=100,slow=32						
VNDA	Vanda	96.74	168	LR	LR	21 18 44.2	
	comp=Z,287nm,18.6s,baz=130,slow=34						

*NEIC **13** 20:32:12.4±1.1,17.59S×178.71W,h440^{km}±13^{km},mb3.9/7, Error ellipse: s-maj=12.9km s-min=7.5km az=149.0*
*IDC **13** 20:32:19.2±2.3,17.69S×178.87W,h518^{km}±26^{km}, mb3.4/12,mb1 3.7/12,mb1mx3.6/18,mbtmp4.3/12,Error ellipse: s-maj=20.7km s-min=11.4km az=156.0*
ISC 13 20:32:14.8±1.2**,17.7S**±0.1×**178.81W**±0.09**,h478**^{km}±15^{km}**, n29,**σ**0**^{s}**71**/32**,mb3.8**/17**,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.74	62	P	P	20 34 03.3	-5.8
AFI				eS	S	20 35 39.6	-0.1
URZ	Urewera	20.81	189	P	P	20 36 22.7	0.0
	12nm,0.6s,baz=330,slow=4.8,SNR=8.5						
SNZO	South Karori	24.20	192	eP	P	20 36 53.4	-0.2
	3.6nm,0.5s,mb4.1						
RPZ	Rata Peaks	27.33	196	P	P	20 37 20.7	-0.8
	3.5nm,0.3s,mb4.2,baz=224,slow=4.5,SNR=3.6						
CTA	Charters Tower	33.11	260	P	P	20 38 11.0	-0.4
	4.6nm,0.5s,mb4.1,baz=66,slow=9.3,SNR=6.4						
CTAO	Charters Tower	33.11	260	eP	P	20 38 11.7	+0.3
	4.5nm,0.6s,mb4.1						
PMG	Port Moresby	34.05	279	eP	P	20 38 20.2	+0.8
TOO	Toolangi	37.02	230	eP	P	20 38 45.8	+2.0
	0.5nm,0.9s,mb2.9						
STKA	Stephens Creek	38.40	241	P	P	20 38 56.4	+1.1
	0.9nm,0.3s,mb3.7,baz=98,slow=10,SNR=13						
STKA	Stephens Creek	38.40	241	eP	P	20 38 56.2	+0.9
WB2	Warramunga Arr	44.29	259	eP	P	20 39 42.2	-0.4
WRAB	Tennant Creek	44.29	259	eP	P	20 39 41.7	-1.0
	4.2nm,0.5s,mb4.1						
WRA	Warramunga Arr	44.30	259	P	P	20 39 42.2	-0.5
	2.3nm,0.8s,mb3.6,baz=96,slow=7.4,SNR=25						
WRA				S	S	20 45 41.1	-0.2
	1.2nm,1.2s,baz=99,slow=16,SNR=2.6						
ASAR	Alice Springs	44.48	254	P	P	20 39 44.4	+0.2
	11nm,0.4s,mb4.6,baz=89,slow=8.1,SNR=221						
ASAR				S	S	20 45 38.8	-5.1
	1.7nm,0.9s,baz=85,slow=14,SNR=8.9						
ASPA	Alice Springs	44.49	254	eP	P	20 39 44.5	+0.4
ASPA				eS	S	20 45 38.8	-5.1
KAKA	Kakadu	47.21	269	eP	P	20 40 05.0	-0.2
	7.7nm,0.3s,mb4.6						
FORT	Forrest	49.76	244	eP	P	20 40 23.0	-1.2
	88nm,0.6s						
FITZ	Fitzroy Crossi	52.69	260	eP	P	20 40 45.8	0.0
VNDA	Vanda	60.63	185	P	P	20 41 40.4	+0.7
	1.8nm,0.8s,mb3.5,baz=33,slow=4.7,SNR=7.0						
VNDA	Vanda	60.63	185	eP	P	20 41 39.9	+0.1
	1.8nm,0.7s,mb3.6						
NVAR	Mina Array Bea	79.53	44	P	P	20 43 32.3	+0.1
	1.8nm,0.8s,mb3.6,baz=217,slow=5.7,SNR=5.4						
HLID	Hailey	84.71	41	eP	P	20 43 57.9	-0.5
	0.7nm,0.7s,mb3.4						
TXAR	Lajitas Array	86.20	58	P	P	20 44 07.5	+1.6
	1.8nm,0.8s,mb3.8,baz=216,slow=6.7,SNR=16						
BW06	Boulder Array	87.45	44	eP	P	20 44 11.6	0.0
	0.7nm,0.5s,mb3.6						
PDAR	Pinedale Array	87.45	44	P	P	20 44 11.7	+0.1
	0.9nm,0.7s,mb3.6,baz=213,slow=4.2,SNR=7.7						
SNAA	Sanae	90.83	179	P	P	20 44 26.1	-0.5
	0.4nm,0.6s,mb3.5,baz=184,slow=13,SNR=5.7						
YKA	Yellowknife Ar	94.29	25	P	P	20 44 42.0	-0.6
	0.4nm,0.9s,mb3.5,baz=246,slow=4.4,SNR=5.8						
YKA	Yellowknife Ar	94.29	25	P	P	20 44 42.0	-0.6
GERES	GERESS Array B	147.30	345	PKPbc	PKPdf	20 51 01.9	+1.7
	0.3nm,0.6s,baz=333,slow=3.0,SNR=4.1						

*IDC **13** 20:33:36.3±1.7,11.57N×93.92E,mb3.7/5,mb1 3.8/6, mb1mx3.6/18,mbtmp3.6/6,ML3.6/1,Error ellipse: s-maj=58.1km s-min=20.5km az=64.0*
*NEIC **13** 20:33:41.4±0.9,11.63N×94.03E,h30^{km},mb4.2/2,Error ellipse: s-maj=26.1km s-min=12.5km az=68.0*
ISC 13 20:33:39.6±1.1**,11.7N**±0.1×**94.1E**±0.2**,h30**^{km}**,n8,**σ**0**^{s}**57**/8**, mb3.8**/7**,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.21	34	Pn	P	20 35 39.9	+0.1
	0.2nm,0.3s,baz=226,slow=16,SNR=5.8						
SONM	Songino Array	37.51	14	P	P	20 40 52.7	+0.1
	0.5nm,1.0s,mb3.2,baz=198,slow=4.6,SNR=2.9						
ZAL	Zalesovo	42.82	352	P	P	20 41 35.9	-0.6
	0.6nm,0.4s,mb3.7,baz=317,slow=4.4,SNR=2.8						
BVAR	Borovoye Array	45.44	340	P	P	20 41 57.2	-0.4
	0.3nm,0.5s,mb3.4,baz=129,slow=9.2,SNR=3.2						
CHKZ	Chkalovo	45.91	341	eP	P	20 42 02.2	+0.9
	2.0nm,0.7s,mb4.2						
WRA	Warramunga Arr	50.53	128	P	P	20 42 36.8	-0.9
	1.6nm,0.6s,mb4.1,baz=306,slow=8.4,SNR=13						
WRAB	Tennant Creek	50.53	128	eP	P	20 42 38.2	+0.5
	2.2nm,0.6s,mb4.3						
ASAR	Alice Springs	52.40	132	P	P	20 42 52.1	+0.3
	0.9nm,0.8s,mb3.8,baz=312,slow=7.2,SNR=6.9						

*IDC **13** 20:35:26.1±2.0,21.78N×95.72E,mb3.8/5,mb1 4.0/6, mb1mx3.7/17,mbtmp3.8/6,ML3.8/1,Error ellipse: s-maj=79.3km s-min=18.0km az=64.0*
*BJI **13** 20:35:29.3,21.67N×95.67E,h37^{km},mB4.5,mb4.1*
*NEIC **13** 20:35:30.2±3.0,21.81N×95.80E,h26^{km}±23^{km},Error ellipse: s-maj=47.7km s-min=8.2km az=61.0*
ISC 13 20:35:30.3±1.3**,21.6N**±0.1×**95.6E**±0.2**,h49**^{km}±13^{km}**,n16,** σ**1**^{s}**21**/19**,mb3.7**/5**,1D,Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	3.49	334	eP	P	20 36 25.0	+1.5
CHG	Chiang Mai	4.21	131	PG	P	20 36 32.9	-0.7
CHG				SG	rx	20 36 45.4	
CHRT	Chiangrai	4.28	113	⇓PN	P	20 36 31.0	-3.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CHRT				PG	P	20 36 46.0	+11
CHRT				SG	S	20 37 33.0	+9.0
CM31	Chiang Mai Arr	4.45	135	eP	P	20 36 36.0	-1.0
CM31				e		20 36 50.0	
CMAR	Chiang Mai Arr	4.45	135	Pn	P	20 36 36.4	-0.7
	1.1nm,0.3s,baz=315,slow=13,SNR=28						
CMAR				Pg	P	20 36 52.0	+15
	7.7nm,0.3s,baz=319,slow=17,SNR=49						
CMAR				Lg		20 37 48.4	
	15nm,0.3s,baz=317,slow=31,SNR=18						
BDT	Bhumibol Dam	5.42	143	P	P	20 36 52.0	+1.5
	82nm,0.9s						
NANT	Nan	5.55	120	PN	P	20 36 47.0	-5.4
NANT				PG	rx	20 38 15.0	
NANT				SG	rx	20 38 22.0	
NST	Nakhon Sawan	7.32	143	P	P	20 37 07.5	-10
LSA	Lhasa	8.98	334	P	P	20 37 39.0	-1.0
LSA	Lhasa	8.98	334	eP	P	20 37 37.5	-2.5
LZH	Lanzhou	16.09	25	eP	P	20 39 16.4	+1.7
LZH				AMB	AMB		
	comp=Z,27nm,1.4s						
SONM	Songino Array	27.54	16	P	P	20 41 13.0	-1.5
	comp=Z,0.4nm,0.8s,mb3.1,baz=198,slow=9.1,SNR=2.8						
ZAL	Zalesovo	33.28	348	P	P	20 42 04.5	-0.7
	comp=Z,0.8nm,0.4s,mb4.0,baz=299,slow=5.4,SNR=3.7						
WRA	Warramunga Arr	56.05	135	P	P	20 45 07.1	+0.3
	comp=Z,1.0nm,1.0s,mb3.8,baz=322,slow=7.6,SNR=5.6						
ASAR	Alice Springs	58.45	138	P	P	20 45 23.6	-0.2
	comp=Z,0.8nm,0.6s,mb3.9,baz=320,slow=6.7,SNR=9.1						
STKA	Stephens Creek	69.06	139	P	P	20 46 34.5	+1.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=323,slow=10,SNR=3.1						

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*IDC **13** 20:38:55.1±0.4, 32.61S×71.63W, mb5.2/20, mb1 5.2/21, mb1mx5.2/23, mbtmp5.2/21, ML4.7/2, MS4.6/12, Ms1 4.6/12, ms1mx4.5/19, Error ellipse: s-maj=19.3km s-min=12.4km az=77.0*

*BJI **13** 20:38:57.8, 32.31S×72.20W, h25km, mB5.3, Msz5.3*

*MOS **13** 20:38:59.6±0.9, 32.50S×71.67W, h33km, mb5.7/17, Error ellipse: s-maj=14.8km s-min=9.0km az=96.0*

*NEIC **13** 20:38:59.7±0.1, 32.59S×71.68W, mb5.3/58, MS4.8/9, ML5.2(GUC), Error ellipse: s-maj=5.7km s-min=2.6km az=60.0*

NEIC Felt [IV] at La Ligua, Papudo, Quintero and Valparaiso; [III] at La Calera, Los Andes, Quillota, San Antonio, San Felipe and Santiago.

*HRVD **13** 20:38:59.7±0.2, 32.72S×72.02W, h36km±1km, MW5.2/57, Centroid moment Tensor Solution. LP body waves: s49,c76;Mantle waves: s57,c94; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; Mrr0.57±.03; Mθθ0.10±.02; Mφφ-0.66±.02; Mrθ0.07±.02; Mθφ-0.01±.02; Mφr-0.56±.03; Best double couple: Mo.834×10^{17} NP1:φs9°,δ24°,λ103°. NP2:φs175°,δ66°,λ84°. Principal axes: T .787, Plg68°, Azm74°; N .094, Plg5°, Azm177°; P -.882, Plg21°, Azm269°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*GUC **13** 20:39:00.6±1.1, 32.73S×71.72W, h11km±3km, ML5.2*

ISC 13 20:38:59.2±0.8**, 32.57S**±0.04×**71.77W**±0.05**, h32**km±5km**, h27**km±1.1km**:pP-P, n309, σ0s99**/187**, mb5.2**/71**, MS4.7**/21**, 39C-15D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.28	83	⇓iP	Pb	20 39 07.5	+0.9
IHA	Instituto Hidr	0.47	167	⇓iP	Pb	20 39 07.6	-1.6
ROCH	El Roble	0.75	122	⇑iP	Pn	20 39 13.3	-0.3
LCCH	Las Cruces	0.92	170	⇑iP	Pn	20 39 14.5	-1.5
JACH	Jahuel	1.00	97	⇑iP	Pn	20 39 17.6	+0.4
PEL	Peldehue	1.07	122	⇑iP	Pn	20 39 18.6	+0.4
PUEX	Pudahuel	1.21	136	⇑iP	Pn	20 39 21.2	+0.9
PUEX				iS	Sn	20 39 36.5	+0.8
SAN	Santiago	1.28	134	⇑iP	Pn	20 39 21.3	+0.1
SAN				iS	Sn	20 39 36.9	-0.5
STL	Santa Lucia	1.28	133	⇓iP	Pn	20 39 21.2	0.0
STL				iS	Sn	20 39 37.4	0.0
STL				AMP		20 39 43.1	
	comp=N,33μm,0.6s						
TACH	Talagante	1.28	147	⇑iP	Pn	20 39 20.8	-0.5
CLCH	Cerro Calan	1.32	129	⇓iP	Pn	20 39 22.0	+0.2
CLCH				iS	Sn	20 39 38.1	-0.3
CLCH				AMP		20 39 42.8	
	comp=N,102μm,0.5s						
CLCH				AMP		20 39 43.4	
	comp=N,110μm,0.5s						
ANTU	Antumapu	1.38	137	eP	Pn	20 39 22.9	+0.3
ANTU				AMP		20 39 43.4	
	comp=N,111μm,0.4s						
FSR	Penalolen	1.38	131	⇓iP	Pn	20 39 23.0	+0.3
FSR				AMP		20 39 53.0	
	comp=N,77μm,0.6s						
FCH	Farellones	1.45	122	⇓iP	Pn	20 39 24.4	+0.7
FCH				iS	Sn	20 39 42.8	+1.0
FCH				AMP		20 39 43.8	
	comp=E,81μm,0.2s						
PCH	Pirque	1.48	135	⇑iP	Pn	20 39 24.4	+0.3
SJCH	San Jose de Ma	1.60	132	eP	Pn	20 39 26.0	+0.3
SJCH				iS	Sn	20 39 45.8	+0.4
SJCH				AMP		20 39 49.4	
	comp=E,48μm,0.4s						
CHCH	Chadas Angostu	1.65	146	⇑iP	Pn	20 39 26.8	+0.3
CACH	El Canelo	1.83	148	⇑iP	Pn	20 39 30.0	+1.0
LMEL	Las Melosas	1.83	135	⇓iP	Pn	20 39 29.9	+0.9
LMEL				iS	Sn	20 39 52.7	+1.4
LMEL				AMP		20 39 56.0	
	comp=N,60μm,0.4s						
CICH	Cipreses	2.08	148	⇓iP	Pn	20 39 33.1	+0.5
SFDO	San Fernando	2.13	163	⇓iP	Pn	20 39 33.0	-0.5
LSCH	La Serena	2.69	10	iS	Sn	20 40 22.4	+9.1
LSCH				AMP		20 40 43.1	
	comp=N,13μm,0.3s						
TRQA	Tornquist	9.69	127	⇑ePn	P	20 41 16.3	-3.3
	comp=N,480nm,1.1s						
TRQA				Sn	Sn	20 43 10.6	+2.2
LVC	Limon Verde	10.24	15	Pn	P	20 41 22.0	-5.2
	comp=N,1.0nm,0.3s,baz=181,slow=8.8,SNR=11						
LVC				Sn	S	20 43 32.6	+11
	comp=N,6.5nm,0.3s,baz=191,slow=6.9,SNR=4.8						
LVC				LR	LR	20 45 16.7	
	comp=N,4μm,21.2s,baz=210,slow=37						
LVC	Limon Verde	10.24	15	ePn	P	20 41 22.8	-4.3
	comp=N,127nm,0.9s						
LVC				e		20 41 31.1	
LPAZ	La Paz	16.54	12	eP	P	20 42 51.6	+1.0
LPAZ				pmax	pmax		
	comp=Z,89nm,1.2s						
LPAZ	La Paz	16.54	12	Pn	P	20 42 51.1	+0.5
	comp=Z,1.0nm,0.3s,baz=184,slow=8.9,SNR=57						
LPAZ				Sn	S	20 46 12.4	+20
	comp=Z,0.0nm,0.3s,baz=186,slow=18,SNR=2.1						
LPAZ	La Paz	16.54	12	eP	P	20 42 51.6	+1.0
	comp=Z,89nm,1.2s						
EFI	East Falkland	21.56	156	P	P	20 43 45.3	-2.6
	comp=Z,625nm,0.8s,mb6.1,SNR=18						
USHA	Ushuaia	22.38	175	P	P	20 43 55.1	-1.0
	comp=Z,45nm,0.8s,mb4.9,baz=348,slow=3.9,SNR=9.3						
BDFB	Brasilia	27.36	58	P	P	20 44 41.9	-1.8
	comp=Z,106nm,1.0s,mb5.3,baz=230,slow=9.0,SNR=99						
BDFB				LR	LR	20 56 35.2	
	comp=Z,5μm,21.3s,MS5.0,baz=234,slow=39						
BAO	Brasilia Array	27.38	58	⇑iP	P	20 44 41.9	-1.9
BAO				i	pP	20 44 49.4	-3.8
BAO				S	tx	20 51 15.6	
CAM4	Nova Friburgo	27.76	76	⇑iP	P	20 44 45.7	-1.5
CAM4				i	pP	20 44 56.3	-0.3
CAM4				i		20 45 45.6	
PMSA	Palmer Station	32.58	174	eP	P	20 45 28.4	-1.1
	comp=Z,27nm,0.6s,mb5.3						
PMSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
RPN	Rapa Nui	32.91	270	LR	LR	20 55 10.5	
	comp=Z,2μm,19.9s,MS4.7,baz=209,slow=30						
OTAV	Otavalo	33.24	348	eP	P	20 45 37.3	+1.5
	comp=Z,16nm,1.1s,mb4.8						
OTAV				pP	pP	20 45 45.2	-0.1
OTAV				ePcP	PcP	20 48 18.4	+0.5
OTAV				LR	LR		
	comp=Z,720nm,19.0s,MS4.4						
ROSC	El Rosal	37.30	356	P	P	20 46 12.2	+1.8
	comp=Z,36nm,0.8s,mb5.2,baz=137,slow=3.4,SNR=30						
ROSC				LR	LR	21 01 33.1	
	comp=Z,481nm,19.3s,MS4.3,baz=181,slow=36						
SDV	Santo Domingo	41.24	2	P	P	20 46 43.1	0.0
	comp=Z,54nm,0.9s,mb5.2,baz=203,slow=7.1,SNR=41						
SDV				PcP	PcP	20 48 39.7	-2.5
	comp=Z,15nm,0.9s,baz=324,slow=3.1,SNR=3.3						
SDV	Santo Domingo	41.24	2	eP	P	20 46 42.8	-0.2
	comp=Z,49nm,0.8s,mb5.2						
SDV				ePcP	PcP	20 48 41.1	-1.1
JTS	JuntasAbangare	44.44	341	P	P	20 47 10.0	+0.7
JTS				pmax	pmax		
	comp=Z,11nm,0.9s						
JTS	JuntasAbangare	44.44	341	LR	LR	21 01 48.9	
	comp=Z,224nm,19.0s,MS4.1,baz=358,slow=31						
JTS	JuntasAbangare	44.44	341	P	P	20 47 10.0	+0.7
	comp=Z,11nm,0.9s,mb4.6						
VNA3	Neumayer Olymp	50.60	158	⇑i	P	20 48 12.2	+16
VNA3	Neumayer Olymp	50.60	158	⇑iP	P	20 47 57.5	+0.9
VNA3				⇑iP		20 48 12.2	
SJG	San Juan	50.68	7	eP	P	20 47 56.4	-1.5
SJG				pmax	pmax		
	comp=Z,66nm,1.0s						
SJG				MLR	MLR		
	comp=Z,639nm,20.0s						
SJG	San Juan	50.68	7	P	P	20 47 55.8	-2.1
	comp=Z,53nm,1.0s,mb5.4,baz=214,slow=3.6,SNR=16						
SJG	San Juan	50.68	7	eP	P	20 47 56.4	-1.6
	comp=Z,66nm,1.0s,mb5.5						
SJG				LR	LR		
	comp=Z,639nm,20.0s,MS4.6						
VNA1	Neumayer--Stat	50.90	157	⇑i	P	20 48 09.5	+11
VNA1	Neumayer--Stat	50.90	157	⇑iP	P	20 47 59.8	+0.9
VNA1				⇑iP	pP	20 48 09.5	+0.8
VNA2	Neumayer--Watz	51.24	158	⇑i	P	20 48 16.1	+15
VNA2	Neumayer--Watz	51.24	158	⇑iP	P	20 48 02.3	+0.8
VNA2				⇑iP		20 48 16.1	
VNA2				⇑iP		20 48 27.0	
SNAA	Sanae	52.82	158	⇑i	P	20 48 24.3	+11
SNAA	Sanae	52.82	158	c iP	P	20 48 11.9	-1.5
SNAA	Sanae	52.82	158	P	P	20 48 11.4	-2.0
	comp=Z,15nm,0.9s,mb4.9,baz=285,slow=6.3,SNR=34						
SNAA	Sanae	52.82	158	⇑iP	P	20 48 11.7	-1.7
SNAA				⇑iP		20 48 24.3	
TEIG	Tepich	54.82	341	eP	P	20 48 28.0	-0.8
	comp=Z,20nm,0.6s,mb5.3						
RKT	Rikitea	55.97	263	eSS	SS	20 59 50.6	-17
RKT				eLR	LR	21 04 49.8	
	comp=Z,733nm,24.8s,baz=125						
MAIT	Maitri	57.51	157	eP	P	20 48 46.0	-1.4
NVL	N'lazarevskaya	57.54	157	⇓iP	P	20 48 44.8	-2.8
NVL				pmax	pmax		
	comp=Z,165nm,1.8s,mb5.8						
QSPA	South Pole Qui	57.66	180	⇑iP	P	20 48 54.8	+6.4
	comp=Z,43nm,1.0s,mb5.4						
QSPA				eP	pP	20 49 04.5	+6.3
VNDA	Vanda	65.55	191	eP	P	20 49 40.6	-0.7
VNDA				pmax	pmax		
	comp=Z,20nm,1.4s						
VNDA	Vanda	65.55	191	P	P	20 49 40.1	-1.1
	comp=Z,7.3nm,1.1s,mb4.6,baz=152,slow=5.9,SNR=8.3						
VNDA	Vanda	65.55	191	eP	P	20 49 40.6	-0.7
	comp=Z,20nm,1.4s,mb5.0						
GOGA	Godfrey	66.55	349	eP	P	20 49 47.1	-1.3
GOGA				pmax	pmax		
	comp=Z,16nm,0.7s,mb5.2						
GOGA	Godfrey	66.55	349	eP	P	20 49 47.1	-1.2
	comp=Z,16nm,0.7s,mb5.2						
TAOE	Nuku Hiva Isla	67.08	274	eLR	LR	21 10 00.1	
JSC	Jenkinsville	67.09	351	eP	P	20 49 50.8	-1.0
SYO	Syowa Base	67.11	159	⇓P	P	20 49 49.0	-2.3
SYO	Syowa Base	67.11	159	⇑pP	pP	20 49 58.2	-3.1
NATX	Nacogdoches	67.54	339	eP	P	20 49 54.9	+0.2
	comp=Z,23nm,0.9s,mb5.2						
TBI	Tubuai	67.88	256	eLR	LR	21 10 21.0	
	comp=Z,2μm,25.2s,baz=110						
JCT	Junction City	68.10	334	eP	P	20 49 58.1	-0.1
JCT				pmax	pmax		
	comp=Z,94nm,1.6s,mb5.6						
JCT	Junction City	68.10	334	eP	P	20 49 58.1	-0.1
	comp=Z,94nm,1.6s,mb5.6						
TXAR	Lajitas Array	68.60	330	P	P	20 50 01.5	+0.1
	comp=Z,3.7nm,0.8s,mb4.4,baz=151,slow=7.8,SNR=37						
TXAR				LR	LR	21 15 57.6	
	comp=Z,520nm,18.5s,MS4.8,baz=95,slow=32						
TXAR				PKPPKP		21 18 15.2	
	comp=Z,0.7nm,0.9s,baz=346,slow=5.2,SNR=4.0						
CPCT	Cooper Cave	68.71	349	eP	P	20 50 01.1	-0.9
SWET	Sewanee	68.73	348	eP	P	20 50 01.2	-0.8
OXF	Oxford	68.76	344	eP	P	20 50 01.1	-1.1
OXF				pmax	pmax		
	comp=Z,109nm,0.9s,mb5.8						
OXF	Oxford	68.76	344	eP	P	20 50 01.1	-1.2
	comp=Z,109nm,0.9s,mb5.8						
TZTN	Tazewell	69.63	350	eP	P	20 50 06.2	-1.3
MIAR	Mount Ida	69.84	341	eP	P	20 50 03.1	-5.7
MIAR				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
MIAR	Mount Ida	69.84	341	eP	P	20 50 03.1	-5.7
	comp=Z,40nm,1.4s,mb5.2						
ELN	Prospectdale	69.94	352	eP	P	20 50 08.7	-0.7
GNAR	Gosnell	70.29	344	eP	P	20 50 09.9	-1.7
FWV	Forest Hill	70.30	352	eP	P	20 50 10.7	-0.9
PPT	Papeete	70.68	261	eLR	LR	21 11 32.2	
	comp=Z,668nm,26.0s,baz=120						
CLNB	Carlsbad	71.26	332	eP	P	20 50 18.2	+0.7
MNTX	Cornudas Mount	71.38	330	eP	P	20 50 17.2	-1.0
	comp=Z,16nm,0.9s,mb5.0						
MNTX				epP	pP	20 50 26.0	-2.2
MNTX				LR	LR		
	comp=Z,736nm,19.0s,MS5.0						
GDL2	Guadalupe Moun	71.40	331	eP	P	20 50 18.0	-0.3
USIN	University of	71.72	347	eP	P	20 50 18.6	-1.6
	comp=Z,98nm,1.1s,mb5.7						
WCI	Wyandotte Cave	71.72	348	eP	P	20 50 18.5	-1.6
	comp=Z,20nm,0.8s,mb5.1						
WCI				epP	pP	20 50 26.0	-4.2
CPRX	Cap Rock	71.93	332	eP	P	20 50 21.1	-0.4
CPRX				epP	pP	20 50 30.6	-0.8
FVM	French Village	72.31	345	eP	P	20 50 23.0	-0.7
FVM				pmax	pmax		
	comp=Z,165nm,1.6s,mb5.7						
FVM	French Village	72.31	345	eP	P	20 50 23.0	-0.7
	comp=Z,165nm,1.6s,mb5.7						
CCM	Cathedral Cave	72.57	344	eP	P	20 50 24.6	-0.6
	comp=Z,52nm,0.9s,mb5.5						
BLO	Bloomington	72.68	348	eP	P	20 50 24.0	-1.8
BLO				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
BLO	Bloomington	72.68	348	eP	P	20 50 24.0	-1.8
	comp=Z,20nm,0.8s,mb5.1						
SLM	Saint Louis	72.90	345	eP	P	20 50 26.4	-0.7
SLM				pmax	pmax		
	comp=Z,22nm,0.3s,mb5.6						
SLM	Saint Louis	72.90	345	eP	P	20 50 26.4	-0.7
	comp=Z,22nm,0.3s,mb5.6						
ACSO	Alum Creek Sta	73.18	351	eP	P	20 50 27.9	-0.8
	comp=Z,66nm,0.9s,mb5.6						
LPM	Los Pinos Moun	74.17	331	eP	P	20 50 35.4	+0.8
ALLY	Alegheny Colle	74.25	353	eP	P	20 50 34.2	-0.7
ALLY				epP	pP	20 50 41.8	-3.2
LAZ	Ladron	74.45	330	eP	P	20 50 37.3	+1.1
LAZ				epP	pP	20 50 46.1	-0.2
MAW	Mawson	74.48	164	LR	LR	21 25 51.5	
	comp=Z,924nm,19.4s,MS5.1,baz=43,slow=38						
DBIC	Dimbokro	74.51	71	eP	P	20 50 35.9	-1.0
DBIC				pmax	pmax		
	comp=Z,53nm,1.0s						
DBIC	Dimbokro	74.51	71	P	P	20 50 35.6	-1.3
	comp=Z,43nm,0.9s,mb5.4,baz=206,slow=5.8,SNR=28						
DBIC				LR	LR	21 19 28.8	
	comp=Z,502nm,21.9s,MS4.8,baz=216,slow=33						
DBIC	Dimbokro	74.51	71	eP	P	20 50 35.9	-1.1
	comp=Z,53nm,1.0s,mb5.4						
ANMO	Albuquerque	74.65	331	iP	P	20 50 36.6	-0.7
ANMO	Albuquerque	74.65	331	LR	LR	21 19 07.9	
	comp=Z,493nm,19.4s,MS4.8,slow=32						
ANMO	Albuquerque	74.65	331	eP	P	20 50 36.8	-0.5
	comp=Z,13nm,1.1s,mb4.8						
ANMO				LR	LR		
	comp=Z,590nm,19.0s,MS4.9						
ERPA	Erie	74.70	354	eP	P	20 50 36.8	-0.7
	comp=Z,73nm,1.3s,mb5.5						
ERPA				epP	pP	20 50 43.4	-4.1
KSU1	Kansas State U	74.95	340	eP	P	20 50 38.3	-0.7
GENY	Geneseo	75.17	355	eP	P	20 50 40.5	+0.3
GENY				epP	pP	20 50 47.2	-3.0
SUR	Sutherland	75.32	119	P	P	20 50 41.3	0.0
	comp=Z,42nm,0.8s,mb5.4,baz=252,slow=5.1,SNR=16						
SUR	Sutherland	75.32	119	eP	P	20 50 41.6	+0.3
	comp=Z,52nm,0.9s,mb5.5						
CBKS	Cedar Bluff	75.63	338	eP	P	20 50 42.9	0.0
	comp=Z,103nm,1.4s,mb5.6						
CBKS				pP	pP	20 50 51.6	-1.3
FFD	Franklin Falls	75.67	0	eP	P	20 50 44.0	+1.0
	comp=Z,48nm,0.7s,mb5.5						
MIV	Mineville/With	76.29	359	eP	P	20 50 46.4	-0.1
WUAZ	Wupatki	77.24	328	eP	P	20 50 53.2	+1.2
	comp=Z,28nm,1.1s,mb5.1						
SADO	Sadowa	77.26	355	P	P	20 50 51.5	-0.4
	comp=Z,19nm,0.7s,mb5.1,baz=191,slow=5.0,SNR=24						
SADO	Sadowa	77.26	355	P	P	20 50 51.5	-0.4
BAR	Barrett	77.50	322	eP	P	20 50 54.7	+1.2
RW3	Ridgway	77.99	332	eP	P	20 50 57.7	+1.7
PFO	Pinyon Flat Ob	78.12	323	P	P	20 50 59.0	+2.1
	comp=Z,92nm,0.9s,mb5.7,SNR=8.7						
PFO	Pinyon Flat Ob	78.12	323	eP	P	20 50 58.3	+1.4
	comp=Z,22nm,1.1s,mb5.0						
PV01	Paradox Valley	78.25	331	eP	P	20 50 58.8	+1.3
ISCO	Idaho Springs	78.54	334	eP	P	20 50 59.4	+0.4
	comp=Z,6.1nm,0.8s,mb4.6						
PV10	Paradox Valley	78.64	331	eP	P	20 50 59.9	+0.3
TSUM	Tsumeb	79.39	106	eP	P	20 51 03.8	-0.3
	comp=Z,100nm,1.1s,mb5.7						
SRU	San Rafael	79.88	330	eP	P	20 51 06.7	+0.4
MSU	Marysvale	80.09	329	eP	P	20 51 08.7	+1.2
BOSA	Boshof	80.53	118	eP	P	20 51 09.4	-0.6
BOSA				pmax	pmax		
	comp=Z,63nm,1.0s,mb5.5						
BOSA				MLR	MLR		
	comp=Z,914nm,20.0s,MS5.1						
BOSA	Boshof	80.53	118	eP	P	20 51 09.4	-0.6
	comp=Z,63nm,1.0s,mb5.5						
BOSA				LR	LR		
	comp=Z,914nm,20.0s,MS5.1						
MPU	Maple Canyon	81.11	330	eP	P	20 51 13.6	+0.8
DAU	Daniels Canyon	81.28	331	eP	P	20 51 14.7	+1.0
TPH	Tonopah	82.04	325	eP	P	20 51 19.1	+1.4
	comp=Z,14nm,0.9s,mb4.9						
EYMN	Ely	82.08	347	eP	P	20 51 16.8	-0.8
	comp=Z,18nm,0.9s,mb5.0						
MTUM	Tungsten Hills	82.13	324	eP	P	20 51 19.1	+0.9
HWUT	Hardware Ranch	82.41	331	eP	P	20 51 19.9	+0.4
	comp=Z,19nm,1.0s,mb5.0						
OMM	Old Mammoth Mi	82.55	324	eP	P	20 51 21.5	+1.2
PDAR	Pinedale Array	82.59	333	PKKPbc		21 09 44.5	
	comp=Z,0.9nm,0.7s,baz=45,slow=1.3,SNR=7.8						
LRV	Little Rabbit	82.66	322	P	P	20 51 20.9	0.0
LBTB	Lobatse	82.70	115	eP	P	20 51 20.7	-0.6
LBTB				pmax	pmax		
	comp=Z,97nm,1.1s,mb5.8						
LBTB	Lobatse	82.70	115	P	P	20 51 20.9	-0.5
	comp=Z,91nm,1.2s,mb5.7,baz=255,slow=6.2,SNR=39						
LBTB	Lobatse	82.70	115	eP	P	20 51 20.7	-0.7
	comp=Z,97nm,1.1s,mb5.7						
MNV	Mina	82.77	325	eP	P	20 51 22.3	+0.8
	comp=Z,5.7nm,0.9s,mb4.6						
NVAR	Mina Array Bea	82.84	325	P	P	20 51 23.6	+1.8
	comp=Z,8.6nm,0.8s,mb4.9,baz=140,slow=6.9,SNR=17						
NVAR				LR	LR	21 25 51.9	
	comp=Z,116nm,19.1s,MS4.3,baz=115,slow=34						
HVU	Hansel Valley	83.05	330	eP	P	20 51 23.0	+0.1
ELK	Elko	83.27	328	P	P	20 51 24.4	+0.5
	comp=Z,9.3nm,0.9s,mb4.8,baz=131,slow=2.7,SNR=39						
ELK	Elko	83.27	328	eP	P	20 51 24.9	+1.0
	comp=Z,11nm,0.9s,mb4.9						
ELK				LR	LR		
	comp=Z,441nm,19.0s,MS4.8						
TPAW	Teton Pass	83.75	332	eP	P	20 51 26.9	+0.6
RRI2	Red Ridge	83.77	332	eP	P	20 51 27.1	+0.6
IMW	Indian Meadow	84.08	333	eP	P	20 51 28.7	+0.7
YMR	Madison River	84.75	333	eP	P	20 51 33.0	+1.7
RPZ	Rata Peaks	84.88	220	P	P	20 51 33.0	+1.1
	comp=Z,20nm,0.8s,mb5.3,baz=141,slow=4.3,SNR=11						
QLMT	Earthquake Lak	85.06	333	eP	P	20 51 34.7	+1.8
NSHM	Saint Helena R	85.07	322	eP	P	20 51 34.6	+1.6
ULM	Lac du Bonnet	85.18	345	P	P	20 51 32.9	-0.4
	comp=Z,16nm,0.8s,mb5.2,baz=160,slow=4.0,SNR=41						
ULM	Lac du Bonnet	85.18	345	eP	P	20 51 32.4	-0.9
	comp=Z,20nm,0.8s,mb5.3						
HLID	Hailey	85.20	330	eP	P	20 51 34.6	+1.0
	comp=Z,9.1nm,0.9s,mb4.9						
MCMT	McKenzie Canyo	85.61	332	eP	P	20 51 36.9	+1.3
BOZ	Bozeman (W)	85.82	333	eP	P	20 51 36.6	0.0
	comp=Z,6.0nm,0.8s,mb4.9						
MOD	Modoc	86.51	326	eP	P	20 51 39.3	-0.8
	comp=Z,6.6nm,0.7s,mb5.0						
SCHQ	Schefferville	87.15	3	P	P	20 51 42.6	-0.3
	comp=Z,21nm,1.1s,mb5.3,baz=183,slow=4.5,SNR=14						
SCHQ				LR	LR	21 28 37.9	
	comp=Z,271nm,18.1s,MS4.7,baz=160,slow=34						
KHMM	Horse Mountain	87.41	323	eP	P	20 51 46.4	+1.9
MATP	Matopo	87.44	113	P	P	20 51 45.1	0.0
	comp=Z,17nm,0.7s,mb5.4,baz=232,slow=4.7,SNR=38						
BMO	Blue Mountains	87.47	329	eP	P	20 51 45.0	+0.3
	comp=Z,7.4nm,0.8s,mb5.0						
CHMT	Chamberlain Mo	87.50	333	eP	P	20 51 45.4	+0.6
YBH	Yreka Blue Hor	87.54	324	P	P	20 51 45.1	0.0
	comp=Z,9.5nm,0.8s,mb5.1,baz=85,slow=3.7,SNR=25						
YBH	Yreka Blue Hor	87.54	324	eP	P	20 51 45.1	0.0
	comp=Z,9.7nm,0.9s,mb5.0						
KRMB	Red Mountain	87.98	324	eP	P	20 51 48.6	+1.4
WALA	Waterton Lakes	89.52	334	eP	P	20 51 54.7	+0.3
	comp=Z,23nm,1.2s,mb5.4						
WALA				epP	pP	20 52 02.3	-2.3
LSZ	Lusaka	90.03	108	eP	P	20 51 57.5	0.0
	comp=Z,56nm,1.2s,mb5.8						
NEW	Newport	90.12	332	P	P	20 51 57.0	-0.2
	baz=128,slow=7.3						
NEW				LR	LR	21 28 04.1	
	comp=Z,224nm,21.7s,MS4.6,baz=140,slow=33						
NEW	Newport	90.12	332	eP	P	20 51 56.2	-1.0
	comp=Z,3.7nm,0.8s,mb4.8						
PTEO	Sao Teotonio	91.19	45	eP	P	20 52 02.5	+0.1
	comp=Z,41nm,1.1s,mb5.7						
PALC	Alcoutim	91.89	46	eP	P	20 52 05.6	0.0
	comp=Z,20nm,1.3s,mb5.3						
PBEJ	Beja	92.02	45	eP	P	20 52 06.3	+0.1
	comp=Z,11nm,1.4s,mb5.0						
EVO	Evora	92.27	45	eP	P	20 52 06.1	-1.2
	comp=Z,9.5nm,0.9s,mb4.8						
EVO				eR			
	comp=Z,471nm,22.2s						
PTOM	Tomar	92.74	44	eP	P	20 52 09.0	-0.5
	comp=Z,12nm,1.4s,mb5.1						
EDM	Edmonton	92.77	336	eP	P	20 52 08.0	-1.2
PCBR	Castelo Branco	93.43	44	eP	P	20 52 12.3	-0.3
	comp=Z,9.3nm,1.3s,mb5.0						
MTE	Manteigas	93.75	44	eP	P	20 52 14.0	-0.1
	comp=Z,15nm,1.1s,mb5.3						
PVRL	Vila Real	94.22	43	eP	P	20 52 16.2	0.0
	comp=Z,20nm,1.3s,mb5.4						
PBRG	Braganca	95.12	43	eP	P	20 52 21.1	+0.7
	comp=Z,15nm,1.5s,mb5.2						
ESDC	Sonseca Array	95.42	46	P	P	20 52 20.9	-0.9
	comp=Z,2.8nm,0.9s,mb4.7,baz=249,slow=4.0,SNR=11						
SJPF	Ste Jean	99.14	44	eP	P	20 52 38.3	-0.2
	comp=Z,27nm,1.0s,mb5.4						
ETSF	Etsaut	99.41	45	eP	P	20 52 39.6	-0.2
	comp=Z,12nm,0.9s,mb5.1						
EPF	Esparros	100.02	45	eP	P	20 52 42.4	-0.2
YKA	Yellowknife Ar	100.78	341	P	P	20 52 44.5	-1.0
	comp=Z,0.8nm,0.5s,baz=140,slow=4.4,SNR=30						
YKA				PP	PP	20 56 45.6	-10
	comp=Z,0.2nm,0.8s,baz=139,slow=7.4,SNR=2.6						
YKA				PKKPbc		21 08 56.7	
	comp=Z,0.9nm,0.9s,baz=330,slow=2.9,SNR=10						
YKA	Yellowknife Ar	100.78	341	P	P	20 52 44.5	-1.0
YKA				PP	PP	20 56 45.6	-10
YKA				PKKPbc		21 08 56.7	
ROSF	Rostrenen	101.10	39	eP	P	20 52 46.7	-0.6
	comp=Z,25nm,1.1s						
ROSF	Rostrenen	101.10	39	eP	P	20 52 46.7	-0.6
ROSF				pmax	pmax		
	comp=Z,12nm,1.1s						
MTLF	Montolieu	101.33	46	eP	P	20 52 47.9	-0.5
LFF	La Frestale	101.36	44	eP	P	20 52 48.2	-0.3
MFF	Saint Martin d	101.80	42	eP	P	20 52 50.0	-0.5
	comp=Z,9.5nm,0.9s						
MFF	Saint Martin d	101.80	42	eP	P	20 52 50.0	-0.5
MFF				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RJF	Les Rejaudoux	102.02	44	eP	Pdif	20 52 50.6	-0.8
	comp=Z,30nm,1.5s						

RJF				eR			
	comp=Z,728nm,18.8s						
RJF	**Les Rejaudoux**	**102.02**	**44**	eP	Pdif	20 52 50.6	-0.8
RJF				pmax	pmax		
	comp=Z,15nm,1.5s						
RJF				MLR	MLR		
	comp=Z,730nm,18.8s,MS5.2						
CAF	**Calviac**	**102.12**	**44**	eP	Pdif	20 52 51.4	-0.5
	comp=Z,5.2nm,0.8s						
CAF	**Calviac**	**102.12**	**44**	eP	Pdif	20 52 51.4	-0.5
CAF				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GRR	**Gorron**	**102.43**	**40**	eP	Pdif	20 52 52.6	-0.5
	comp=Z,33nm,1.2s						
GRR	**Gorron**	**102.43**	**40**	eP	Pdif	20 52 52.6	-0.5
GRR				pmax	pmax		
	comp=Z,17nm,1.2s						
LASF	**Ste Croix**	**102.73**	**46**	eP	Pdif	20 52 54.6	+0.1
	comp=Z,15nm,1.1s						
LDF	**La Druitiere**	**102.95**	**40**	eP	Pdif	20 52 54.6	-0.8
	comp=Z,14nm,1.0s						
LDF	**La Druitiere**	**102.95**	**40**	eP	Pdif	20 52 54.6	-0.8
LDF				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TCF	**Toulx Ste Croi**	**102.97**	**43**	eP	Pdif	20 52 55.6	+0.1
BGF	**Bois d'Agland**	**103.48**	**43**	eP	Pdif	20 52 57.8	0.0
VIVF	**Saint-Julien-l**	**103.64**	**45**	eP	Pdif	20 52 58.7	+0.2
AVF	**Avril sur Loir**	**103.90**	**43**	eP	Pdif	20 52 58.8	-0.8
SMF	**Signal de Mont**	**104.11**	**43**	eP	Pdif	20 53 00.4	-0.1
	comp=Z,11nm,1.0s						
SMF	**Signal de Mont**	**104.11**	**43**	eP	Pdif	20 53 00.4	-0.1
SMF				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SSF	**Saint Saulge**	**104.14**	**43**	eP	Pdif	20 53 00.0	-0.7
ORIF	**Oris-en-Rattie**	**104.40**	**46**	eP	Pdif	20 53 02.5	+0.6
ORIF				eR			
	comp=Z,561nm,21.0s						
SBF	**Sospel**	**104.81**	**47**	eP	Pdif	20 53 03.9	+0.2
PGF	**Pioggiola**	**105.12**	**49**	eP	Pdif	20 53 05.1	0.0
LPL	**La Plagne**	**105.22**	**46**	eP	Pdif	20 53 05.5	0.0
LPG	**La Plagne**	**105.23**	**46**	eP	Pdif	20 53 05.9	+0.4
	comp=Z,14nm,1.1s						
LPG	**La Plagne**	**105.23**	**46**	eP	Pdif	20 53 05.9	+0.4
LPG				pmax	pmax		
	comp=Z,7.0nm,1.1s						
GERES	**GERESS Array B**	**110.99**	**45**	PKIKP	PKPdf	20 57 29.7	-4.5
GERES	**GERESS Array B**	**110.99**	**45**	PKiKP		20 57 29.6	
	comp=Z,1.2nm,0.8s,baz=180,slow=1.3,SNR=11						
CLL	**Collm**	**111.64**	**42**	ePKIKP	PKPdf	20 57 33.0	-2.3
ILAR	**Eielson Array**	**113.02**	**333**	PKiKP		20 57 33.2	
	comp=Z,1.2nm,0.8s,baz=175,slow=1.0,SNR=8.5						
ILAR				PKKPbc		21 08 18.7	
	comp=Z,0.7nm,0.9s,baz=299,slow=6.1,SNR=5.4						
NOA	**NORSAR Array B**	**114.70**	**32**	PKP	PKPdf	20 57 36.7	-4.4
	comp=Z,1.4nm,0.8s,baz=248,slow=2.3,SNR=4.2						
KWP	**Kalwaria**	**116.73**	**47**	ePKPdf	PKPdf	20 57 41.0	-4.4
BURAR	**Bucovina Array**	**117.64**	**49**	⇑P	PKPdf	20 57 42.9	-4.2
BURAR	**Bucovina Array**	**117.64**	**49**	⇑P	PKPdf	20 57 42.9	-4.3
SUW	**Suwalki**	**118.39**	**42**	ePKPdf	PKPdf	20 57 43.6	-4.9
CFR	**Carcaliu**	**118.78**	**53**	⇓P	PKPdf	20 57 44.7	-4.7
CFR	**Carcaliu**	**118.78**	**53**	⇓P	PKPdf	20 57 44.7	-4.8
ASAR	**Alice Springs**	**118.94**	**207**	PKP	PKPdf	20 57 44.7	-5.6
	comp=Z,0.8nm,0.7s,baz=137,slow=1.8,SNR=9.3						
ASAR				PKKPbc		21 07 59.8	
	comp=Z,1.3nm,1.0s,baz=333,slow=2.7,SNR=6.6						
TLCR		**119.24**	**53**	⇑P	PKPdf	20 57 45.7	-4.7
TLCR		**119.24**	**53**	⇑P	PKPdf	20 57 45.7	-4.6
ASF	**Jabal al Asfar**	**120.87**	**69**	PKP	PKPdf	20 57 48.1	-5.7
	comp=Z,0.8nm,0.3s,baz=178,slow=2.2,SNR=4.4						
AKASG	**Malin Array Be**	**121.05**	**47**	PKP	PKPdf	20 57 48.0	-5.8
	comp=Z,6.1nm,0.7s,baz=267,slow=3.0,SNR=35						
AKASG	**Malin Array Be**	**121.05**	**47**	PKP	PKPdf	20 57 48.0	-5.8
FINES	**FINESS Array B**	**121.68**	**34**	PKP	PKPdf	20 57 49.0	-5.7
	comp=Z,3.4nm,0.8s,baz=45,slow=5.4,SNR=12						
KAF	**Kangasniemi**	**121.91**	**33**	ep	PKPdf	20 57 49.6	-5.5
	comp=Z,5.1nm,0.5s						
WRA	**Warramunga Arr**	**122.12**	**209**	PKP	PKPdf	20 57 51.0	-5.5
	comp=Z,2.4nm,0.8s,baz=153,slow=1.9,SNR=41						
WRA				PKKPbc		21 07 48.3	
	comp=Z,1.3nm,1.0s,baz=336,slow=4.2,SNR=4.8						
ARCES	**ARCESS Array B**	**122.62**	**24**	PKP	PKPdf	20 57 51.4	-5.0
	comp=Z,3.3nm,0.9s,baz=270,slow=1.2,SNR=3.6						
MALT	**Malatya**	**124.06**	**63**	ePKPdf	PKPdf	20 57 55.5	-4.4
JOF	**Joensuu**	**124.32**	**33**	ep	PKPdf	20 57 54.8	-5.0
OBN	**Obninsk**	**126.24**	**43**	⇓iPKIKP	PKPdf	20 57 56.3	-7.2
OBN				e		20 59 52.1	
OBN				ePS	PS	21 09 58.2	+2.2
OBN				pmax	pmax		
	comp=Z,28nm,1.0s						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.8						
OBN	**Obninsk**	**126.24**	**43**	PKPdf	PKPdf	20 57 57.3	-6.2
KIV	**Kislovodsk**	**128.54**	**57**	⇓iPKIKP	PKPdf	20 58 03.7	-4.6
KIV				i		20 58 17.1	
KIV				pmax	pmax		
	comp=Z,19nm,0.9s						
KIV				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.5						
KIV	**Kislovodsk**	**128.54**	**57**	ePKPdf	PKPdf	20 58 04.1	-4.3
GOF	**Gofitskoye**	**128.97**	**56**	⇑iPKIKP	PKPdf	20 58 05.5	-3.6
GOF				pmax	pmax		
	comp=Z,40nm,1.0s						
GNI	**Garni**	**129.27**	**62**	PKP	PKPdf	20 58 03.8	-6.0
	comp=Z,11nm,1.1s,baz=310,slow=21,SNR=5.3						
BILL	**Bilibino**	**131.65**	**335**	ePKIKP	PKPdf	20 58 09.4	-4.2
BILL				pmax	pmax		
	comp=Z,13nm,1.0s						
BILL	**Bilibino**	**131.65**	**335**	ePKPdf	PKPdf	20 58 09.0	-4.6
TIXI	**Tiksi**	**139.33**	**350**	ePKHKP		20 58 11.9	
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BHJ	**Bhuj**	**144.83**	**95**	ePKPb	PKPbc	20 58 34.4	+1.1
SALM	**Salem**	**145.45**	**120**	ePKPb	PKPbc	20 58 36.0	+0.8
KAD	**Karad**	**145.76**	**108**	ePKPd	PKPdf	20 58 36.4	-4.0
KAD				e		20 58 37.7	
	comp=Z,157nm,1.0s						
CHKZ	**Chkalovo**	**145.95**	**40**	ePKP2	PKPab	20 58 35.6	-2.0
POO	**Poona**	**146.14**	**106**	ePKPb	PKPbc	20 58 38.2	+1.4
POO				e		20 58 39.9	
	comp=Z,157nm,1.0s						
YAK	**Yakutsk**	**147.46**	**341**	i PKP2	PKPab	20 58 40.2	-3.0
YAK	**Yakutsk**	**147.46**	**341**	ePKPbc	PKPdf	20 58 40.0	-1.8
KSM	**Kuching**	**149.01**	**184**	ePKPbc	PKPdf	20 58 45.0	-0.9
KSM				ePKPab	PKPab	20 58 50.1	-0.9
HYB	**Hyderabad**	**149.29**	**112**	⇑ePKP2	PKPab	20 58 46.0	-5.9
HYB	**Hyderabad**	**149.29**	**112**	⇑iPKP	PKPdf	20 58 46.0	-0.1
	comp=Z,100nm,1.0s						
YSS	**Yuzh-Sakhalins**	**150.10**	**309**	⇑ePKIKP	PKPdf	20 58 47.2	+0.7
YSS				i		20 58 54.3	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
YSS	**Yuzh-Sakhalins**	**150.10**	**309**	ePKPbc	PKPdf	20 58 47.5	+1.0
YSS				ePKPab	PKPab	20 58 54.6	+0.1
AJM	**Ajmer**	**150.23**	**93**	ePKPb	PKPdf	20 58 47.0	-0.4
ASAJ	**Asahikawa**	**150.89**	**303**	PKP	PKPdf	20 58 43.6	-4.2
	comp=Z,28nm,0.9s,baz=268,slow=16,SNR=4.6						
ASAJ				PKPbc	PKPdf	20 58 48.9	+1.1
	comp=Z,26nm,0.9s,baz=270,slow=8.7,SNR=14						
ASAJ				PKPab	PKPab	20 58 57.1	-0.7
	comp=Z,16nm,0.9s,baz=252,slow=27,SNR=5.5						
EKS2	**Erkin-Say**	**151.08**	**60**	P	PKPdf	20 58 45.5	-2.7
	SNR=13						
AML	**Almayashu**	**151.10**	**61**	P	PKPdf	20 58 45.3	-2.9
	SNR=9.4						
BHPL	**Bhopal**	**151.31**	**101**	ePKPb	PKPdf	20 58 50.8	+1.7
BHPL				e		20 58 52.2	
	comp=Z,42nm,0.9s						
USP	**Ospenovka**	**151.50**	**58**	P	PKPdf	20 58 45.7	-3.0
	SNR=5.6						
NVS	**Novosibirsk**	**151.61**	**31**	ePKIKP	PKPdf	20 58 44.1	-4.4
NVS				i		21 02 35.9	
NVS				pmax	pmax		
	comp=Z,142nm,1.4s						
NVS				pmax	pmax		
	comp=N,5.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,18nm,0.7s						
AAK	**Ala-Archa**	**151.61**	**60**	i PKIKP	PKPdf	20 58 45.1	-3.9
AAK	**Ala-Archa**	**151.61**	**60**	ePKPdf	PKPdf	20 58 45.0	-4.0
AAK				ePKPbc	PKPdf	20 58 51.0	+2.0
FRU	**Bishkek**	**151.66**	**59**	⇑iPKIKP	PKPdf	20 58 52.0	+3.0
FRU				pmax	pmax		
	comp=Z,120nm,1.8s						
KURK	**Kurchatov**	**151.67**	**41**	i PKIKP	PKPdf	20 58 45.1	-3.7
KURK	**Kurchatov**	**151.67**	**41**	ePKPdf	PKPdf	20 58 44.9	-3.9
KURK				ePKPbc	PKPdf	20 58 51.2	+2.4
KURK				ePKPab	PKPab	20 58 60.0	-0.9
KURK				LR	LR		
	comp=Z,102nm,19.0s,MS4.7						
UCH	**Uchtor**	**151.69**	**60**	P	PKPdf	20 58 46.2	-2.8
	SNR=9.6						
CHMS	**Chumysh**	**151.73**	**59**	P	PKPdf	20 58 52.0	+2.9
	SNR=30						
KBK	**Karagaybulak**	**151.94**	**59**	P	PKPdf	20 58 46.6	-2.8
	SNR=5.6						
KULM	**Kulim**	**151.95**	**164**	ePKPbc	PKPdf	20 58 51.8	+1.5
KZA	**Kyzart**	**152.25**	**61**	P	PKPdf	20 58 54.1	+4.2
	SNR=18						
TKM2	**Tokmak 2**	**152.36**	**59**	P	PKPdf	20 58 46.5	-3.6
	SNR=11						
PONG	**Pong**	**152.75**	**83**	ePKPb	PKPdf	20 58 53.0	+2.1
ZAL	**Zalesovo**	**152.89**	**31**	PKP	PKPdf	20 58 46.2	-4.2
	comp=Z,2.8nm,0.9s,baz=206,slow=2.6,SNR=19						
ZAL				PKPbc	PKPdf	20 58 54.0	+3.5
	comp=Z,73nm,1.1s,baz=177,slow=2.7,SNR=99						
ZAL				PKPab	PKPab	20 59 05.1	-0.8
	comp=Z,14nm,0.8s,baz=196,slow=3.1,SNR=9.1						
ZAL	**Zalesovo**	**152.89**	**31**	PKP	PKPdf	20 58 46.2	-4.2
ZAL				PKPbc	PKPdf	20 58 54.0	+3.5
ZAL				PKPab	PKPab	20 59 05.1	-0.8
ULHL	**Ulahol**	**152.95**	**60**	P	PKPdf	20 58 48.4	-2.5
	SNR=5.2						
NDI	**New Delhi**	**153.08**	**90**	ePKPb	PKPdf	20 58 53.0	+1.5
CLNS	**Chul'man**	**153.15**	**340**	ePKIKP	PKPdf	20 58 52.2	+1.5
CLNS				pmax	pmax		
	comp=Z,21nm,0.7s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.8s						
SDNR	**Sundarnagar**	**153.52**	**84**	ePKPb	PKPdf	20 58 56.5	+4.5
SMLA	**Simla**	**153.62**	**85**	ePKPb	PKPdf	20 58 54.5	+2.3
SMLA				i		20 59 07.2	
DDI	**Dehra Dun**	**154.20**	**87**	ePKPd	PKPdf	20 58 50.0	-3.0
BOD	**Bodaibo**	**154.44**	**353**	ePKIKP	PKPdf	20 58 46.8	-5.6
BOD				e		20 59 10.8	
BLSP	**Bilaspur**	**154.65**	**108**	ePKPb	PKPdf	20 58 58.1	+4.3
BLSP				e		20 58 59.5	
	comp=Z,38nm,0.9s						
KLR	**Kul'dur**	**155.80**	**320**	ePKIKP	PKPdf	20 58 45.2	-9.3
MDJ	**Mudanjiang**	**159.49**	**312**	PKP	PKPdf	20 58 54.3	-5.0
MOY	**Mondy**	**160.19**	**13**	ePKP2	PKPab	20 59 37.4	+0.2
WMQ	**Urumqi**	**160.39**	**49**	PKP	PKPdf	20 58 56.8	-3.5
WMQ				APKP		20 59 07.5	
WMQ				XPKP		20 59 11.0	
WMQ				PKP2	PKPab	20 59 40.0	+1.7
WMQ				PKS	PKS	21 02 29.0	+1.6
WMQ				PP	PP	21 03 23.0	+1.5
WMQ				PPP	PPP	21 07 07.0	+0.7
WMQ				SKKS		21 10 06.0	
WMQ				SS	SS	21 23 29.0	+1.8
WMQ				PP	PP		
	comp=Z,732nm,10.6s						
WMQ				LR	LR		
	comp=Z,408nm,19.9s						
ZAK	**Zakamensk**	**161.83**	**10**	ePKIKP	PKPdf	20 58 57.6	-3.9
ZAK				e		20 59 44.1	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CN2	**Changchun**	**162.46**	**315**	ePKP	PKPdf	20 58 56.9	-5.5
CMAR	**Chiang Mai Arr**	**163.65**	**147**	PKP	PKPdf	20 59 00.1	-4.2
	comp=Z,2.6nm,0.9s,baz=246,slow=2.9,SNR=10.0						
CMAR				PKPab	PKPab	20 59 50.2	-2.9
	comp=Z,2.2nm,0.8s,baz=220,slow=4.7,SNR=7.7						
SONM	**Songino Array**	**164.69**	**5**	PKP	PKPdf	20 58 59.3	-5.2
	comp=Z,1.4nm,0.9s,baz=296,slow=1.7,SNR=7.8						
SONM				PKPab	PKPab	20 59 56.0	-0.9
	comp=Z,6.0nm,1.0s,baz=342,slow=3.9,SNR=15						
LSA	**Lhasa**	**165.09**	**97**	PKP	PKPdf	20 59 03.0	-2.4
LSA	**Lhasa**	**165.09**	**97**	ePKPdf	PKPdf	20 59 02.1	-3.3
GTA	**Gaotai**	**170.35**	**43**	ePKP	PKPdf	20 59 05.6	-3.1
GTA				APKP		20 59 13.0	
GTA				XPKP		20 59 17.8	
GTA				PKP2	PKPab	21 00 22.6	+0.6
GTA				PKS	PKS	21 02 37.3	+2.3
GTA				PP	PP	21 04 12.8	-0.3
GTA				SKS	SKS	21 06 04.0	-6.9
GTA				SKKS		21 10 54.5	
GTA				PP	PP		
	comp=Z,153nm,7.6s						
GTA				LR	LR		
	comp=Z,1µm,24.7s						
KMI	**Kunming**	**171.16**	**146**	PKP	PKPdf	20 59 06.8	-2.8
KMI				LR	LR		
	comp=Z,167nm,33.6s						
KMI	**Kunming**	**171.16**	**146**	PKP	PKPdf	20 59 06.7	-2.9
KMI				LR	LR		
	comp=Z,170nm,33.6s						
HHC	**Hu-ho-hao-te**	**171.32**	**343**	ePKP	PKPdf	20 59 05.6	-3.6
HHC				APKP		20 59 13.4	
HHC				XPKP		20 59 17.8	
HHC				PKS	PKS	21 02 38.9	+3.5
HHC				PP	PP	21 04 20.3	+2.4
HHC				SKS	SKS	21 06 03.5	-7.8
HHC				PP	PP		
	comp=Z,219nm,11.3s						
TIA	**Tai'an**	**171.80**	**299**	⇑PKP	PKPdf	20 59 05.6	-4.0
GYA	**Guiyang**	**173.76**	**167**	PKP	PKPdf	20 59 05.9	-4.9
GYA				APKP		20 59 16.8	
GYA				XPKP		20 59 20.3	
GYA				PP	PP	21 04 35.9	+5.4
GYA				SKKS		21 11 16.6	
GYA				PP	PP		
	comp=Z,130nm,9.2s						
LZH	**Lanzhou**	**174.95**	**45**	ePKP	PKPdf	20 59 08.0	-2.8
LZH				APKP		20 59 15.3	
LZH				XPKP		20 59 19.0	
LZH				PKP2	PKPab	21 00 43.3	+0.8
LZH				PP	PP	21 04 38.5	+2.3
LZH				SKS	SKS	21 06 07.0	-5.5
LZH				SKKS		21 11 16.0	
LZH				SS	SS	21 25 55.0	+1.9
LZH				PP	PP		
	comp=Z,362nm,7.1s						
LZH				LR	LR		
	comp=Z,725nm,21.0s						
XAN	**Xi'an**	**178.43**	**339**	PKP	PKPdf	20 59 07.6	-4.0
XAN				APKP		20 59 15.1	

IDC 13 20:43:32.5±3.3**, 28.68S**×**72.78E, mb3.9**/4**, mb1 4.1**/4**, mb1mx3.8**/14**, mbtmp3.9**/4**, MS3.7**/1**, Ms1 3.9**/1**, ms1mx3.3**/12**, Error ellipse: s-maj=95.9km s-min=39.6km az=54.0, South Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**53.25**	**31**	P	P	20 52 53.4	-2.0
	0.7nm,0.8s,baz=214,slow=6.5,SNR=6.4						
CMAR				LR	LR	21 11 59.9	
	comp=Z,68nm,19.9s,baz=70,slow=32						
ASAR	**Alice Springs**	**54.58**	**100**	P	P	20 53 01.9	-3.1
	0.8nm,0.7s,baz=249,slow=6.3,SNR=6.9						
WRA	**Warramunga Arr**	**56.25**	**96**	P	P	20 53 15.1	-2.2
	1.8nm,0.9s,baz=253,slow=7.0,SNR=4.4						
STKA	**Stephens Creek**	**58.60**	**112**	P	P	20 53 32.3	-1.4
	1.0nm,0.5s,baz=264,slow=7.7,SNR=3.3						
YKA	**Yellowknife Ar**	**145.83**	**6**	PKPbc	PKPbc	21 03 11.9	-1.3
	0.3nm,0.9s,baz=342,slow=3.9,SNR=3.7						

*BJI **13** 20:43:51.0, 11.90S×166.90E, h163km, mB5.2, mb4.6*
*NEIC **13** 20:43:52.1±0.4, 11.93S×166.88E, mb4.5/10, Error ellipse: s-maj=13.6km s-min=8.4km az=139.0*
*IDC **13** 20:43:54.0±3.2, 11.89S×166.78E, h176km±27km, mb3.9/12, mb1 4.0/13, mb1mx4.0/19, mbtmp4.4/13, Error ellipse: s-maj=21.1km s-min=14.9km az=121.0*
ISC 13 20:43:50.9±0.6**, 11.97S**±0.09×**166.8E**±0.1**, h164km, n70, σ0ˢ92**/33**, mb4.3**/20**, 1C, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**19.47**	**276**	P	**P**	**20 48 08.8**	**+1.5**
	1.1nm,0.3s,baz=176,slow=22,SNR=3.7						
PMG	**Port Moresby**	**19.47**	**276**	eP	**P**	**20 48 09.2**	**+1.8**
	9.0nm,0.7s						
CTA	**Charters Tower**	**21.32**	**245**	eP	**P**	**20 48 27.3**	**+1.4**
	8.9nm,0.6s,mb4.3						
CTA	**Charters Tower**	**21.32**	**245**	P	**P**	**20 48 27.7**	**+1.8**
	11nm,0.6s,mb4.4,baz=65,slow=12,SNR=15						
CTAO	**Charters Tower**	**21.32**	**245**	eP	**P**	**20 48 27.8**	**+1.9**
	11nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**30.51**	**226**	P	**P**	**20 49 51.5**	**+0.5**
	1.3nm,0.4s,mb4.0,baz=66,slow=13,SNR=9.9						
STKA	**Stephens Creek**	**30.51**	**226**	eP	**P**	**20 49 51.5**	**+0.5**
RPZ	**Rata Peaks**	**31.84**	**174**	P	**P**	**20 50 03.4**	**+0.9**
	6.0nm,0.5s,mb4.6,baz=312,slow=2.2,SNR=8.0						
WB2	**Warramunga Arr**	**32.15**	**252**	eP	**P**	**20 50 04.5**	**-0.9**
WRAB	**Tennant Creek**	**32.15**	**252**	eP	**P**	**20 50 04.1**	**-1.3**
WRA	**Warramunga Arr**	**32.16**	**252**	P	**P**	**20 50 04.4**	**-1.1**
	0.6nm,0.4s,mb3.7,baz=72,slow=8.7,SNR=27						
WRA				pP	pP	20 50 38.9	-1.3
	0.8nm,0.7s,baz=78,slow=8.2,SNR=2.8						
WRA				PcP	PcP	20 52 49.9	-0.6
	1.4nm,0.7s,baz=82,slow=2.5,SNR=7.1						
ASAR	**Alice Springs**	**33.33**	**245**	P	**P**	**20 50 14.5**	**-0.9**
	1.8nm,0.4s,mb4.2,baz=67,slow=10,SNR=21						
ASAR				pP	pP	20 50 49.5	-0.9
	1.6nm,0.8s,baz=77,slow=9.0,SNR=5.8						
ASAR				PcP	PcP	20 52 53.1	-0.4
	1.3nm,0.7s,baz=83,slow=2.5,SNR=11						
ASAR				ScP		20 56 21.2	
	1.5nm,1.0s,baz=45,slow=1.0,SNR=5.8						
ASPA	**Alice Springs**	**33.33**	**245**	eP	**P**	**20 50 14.5**	**-1.0**
KAKA	**Kakadu**	**33.57**	**265**	⇑iP	**P**	**20 50 17.2**	**-0.3**
	49nm,1.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.16**	**256**	eP	**P**	**20 51 12.3**	**-0.4**
	20nm,1.1s,mb4.7						
FORT	**Forrest**	**40.38**	**236**	eP	**P**	**20 51 15.1**	**+0.7**
	162nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.82**	**237**	eP	**P**	**20 52 29.0**	**-0.2**
ASAJ	**Asahikawa**	**60.01**	**340**	P	**P**	**20 53 41.5**	**-1.1**
	9.4nm,0.6s,mb4.8,baz=193,slow=5.4,SNR=10						
VNDA	**Vanda**	**65.59**	**181**	eP	**P**	**20 54 18.8**	**-0.1**
CN2	**Changchun**	**67.07**	**329**	eP	**P**	**20 54 28.5**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CM31	**Chiang Mai Arr**	**73.43**	**293**	eP	**P**	**20 55 07.5**	**0.0**
	comp=Z,4.4nm,0.3s,mb4.7						
CMAR	**Chiang Mai Arr**	**73.43**	**293**	P	**P**	**20 55 08.1**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.0,baz=118,slow=4.4,SNR=15						
LZH	**Lanzhou**	**76.15**	**312**	eP	**P**	**20 55 24.0**	**+1.3**
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.7						
LZH	**Lanzhou**	**76.15**	**312**	eP	**P**	**20 55 24.0**	**+1.3**
	comp=Z,20nm,1.0s,mb4.7						
LZH				pP	Px	20 55 38.6	
QSPA	**South Pole Qui**	**78.04**	**180**	P	**P**	**20 55 32.0**	**-0.3**
	comp=Z,5.8nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**79.66**	**324**	eP	**P**	**20 55 42.1**	**+0.5**
	comp=Z,6.8nm,0.9s,mb4.3						
SONM	**Songino Array**	**80.02**	**323**	P	**P**	**20 55 43.8**	**+0.2**
	comp=Z,2.6nm,0.9s,mb3.9,baz=139,slow=5.7,SNR=12						
GTA	**Gaotai**	**80.44**	**314**	eP	**P**	**20 55 47.0**	**+1.0**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**83.72**	**302**	eP	**P**	**20 56 04.6**	**+1.4**
	comp=Z,1.4nm,0.6s,mb3.9						
YBH	**Yreka Blue Hor**	**83.80**	**45**	P	**P**	**20 56 04.2**	**+0.9**
	comp=Z,1.0nm,0.6s,mb3.8,baz=214,slow=3.6,SNR=3.0						
ILAR	**Eielson Array**	**84.06**	**18**	P	**P**	**20 56 03.6**	**-0.4**
	comp=Z,5.8nm,0.6s,mb4.5,baz=242,slow=5.1,SNR=89						
ZAL	**Zalesovo**	**94.92**	**324**	P	**P**	**20 56 53.9**	**-1.6**
	comp=Z,0.6nm,0.5s,mb4.0,baz=343,slow=8.8,SNR=4.0						
YKA	**Yellowknife Ar**	**95.31**	**27**	P	**P**	**20 56 55.9**	**-1.1**
	comp=Z,0.2nm,0.7s,baz=142,slow=7.7,SNR=4.8						
ARCES	**ARCESS Array B**	**117.48**	**346**	PKP	PKPdf	21 02 17.2	+0.5
	comp=Z,2.7nm,0.7s,baz=42,slow=0.7,SNR=17						
ARCES	**ARCESS Array B**	**117.48**	**346**	PKP	PKPdf	21 02 17.2	+0.5
KAF	**Kangasniemi**	**122.47**	**339**	ep	PKPdf	21 02 27.0	+0.5
	comp=Z,1.4nm,0.5s						
FINES	**FINESS Array B**	**123.01**	**339**	PKP	PKPdf	21 02 28.2	+0.6
	comp=Z,0.4nm,0.4s,baz=90,slow=1.9,SNR=11						
FINES	**FINESS Array B**	**123.01**	**339**	PKP	PKPdf	21 02 28.2	+0.6
NOA	**NORSAR Array B**	**127.86**	**345**	PKP	PKPdf	21 02 38.0	+1.1
	comp=Z,0.3nm,0.5s,baz=34,slow=4.1,SNR=2.4						
KHC	**Kasperske Hory**	**136.82**	**334**	ePKPDF	PKPdf	21 02 57.0	+3.0
GERES	**GERESS Array B**	**136.99**	**334**	PKP	PKPdf	21 02 57.4	+3.1
	comp=Z,0.9nm,0.8s,slow=1.3,SNR=7.2						
GRR	**Gorron**	**142.26**	**347**	ePKP1	PKPdf	21 03 01.9	-1.9
SSF	**Saint Saulge**	**142.30**	**341**	ePKP1	PKPdf	21 03 01.7	-2.2
LPL	**La Plagne**	**142.50**	**337**	ePKP1	PKPdf	21 03 03.9	-0.4
LPG	**La Plagne**	**142.51**	**337**	ePKP1	PKPdf	21 03 03.7	-0.6
SMF	**Signal de Mont**	**142.56**	**341**	ePKP1	PKPdf	21 03 02.8	-1.6
AVF	**Avril sur Loir**	**142.59**	**341**	ePKP1	PKPdf	21 03 02.2	-2.2
SGMF	**Saint Gilles**	**142.75**	**348**	ePKP1	PKPdf	21 03 02.7	-1.9
BGF	**Bois d'Agland**	**142.95**	**342**	ePKP1	PKPdf	21 03 04.1	-0.9
	comp=Z,6.1nm,0.6s						
MBDF	**Montbardon**	**143.14**	**336**	ePKP1	PKPbc	21 03 05.9	+2.3
ORIF	**Oris-en-Rattie**	**143.33**	**337**	ePKP1	PKPbc	21 03 05.0	+0.8
	comp=Z,15nm,0.7s						
TCF	**Toulx Ste Croi**	**143.39**	**342**	ePKP1	PKPbc	21 03 04.7	+0.4
	comp=Z,3.4nm,0.8s						
SBF	**Sospel**	**143.58**	**335**	ePKP1	PKPbc	21 03 05.1	+0.1
	comp=Z,51nm,1.0s						
MFF	**Saint Martin d**	**143.76**	**345**	ePKP1	PKPbc	21 03 06.0	+0.6
	comp=Z,19nm,0.8s						
VIVF	**Saint-Julien-l**	**143.83**	**338**	ePKP1	PKPbc	21 03 06.5	+0.8
	comp=Z,8.6nm,0.7s						
PGF	**Pioggiola**	**143.94**	**332**	ePKP1	PKPbc	21 03 05.7	-0.4
FRF	**La Foret Royal**	**144.16**	**335**	ePKP1	PKPbc	21 03 07.0	+0.3
	comp=Z,21nm,0.8s						
SMRF	**Simiane la Rot**	**144.24**	**337**	ePKP1	PKPbc	21 03 08.0	+1.1
	comp=Z,14nm,0.7s						
LMR	**La Mourre**	**144.40**	**335**	ePKP1	PKPbc	21 03 08.1	+0.7
	comp=Z,23nm,0.6s						
RJF	**Les Rejaudoux**	**144.48**	**342**	ePKP1	PKPbc	21 03 08.5	+1.0
	comp=Z,14nm,0.9s						
CAF	**Calviac**	**144.66**	**341**	ePKP1	PKPbc	21 03 09.3	+1.3
	comp=Z,15nm,0.9s						
LASF	**Ste Croix**	**144.80**	**338**	ePKP1	PKPbc	21 03 09.9	+1.4
	comp=Z,22nm,0.8s						
LFF	**La Frestale**	**145.05**	**343**	ePKP1	PKPbc	21 03 10.3	+1.2
	comp=Z,15nm,0.8s						
MTLF	**Montolieu**	**146.02**	**340**	ePKP1	PKPbc	21 03 13.5	+1.9
	comp=Z,18nm,0.7s						
EPF	**Esparros**	**146.90**	**342**	ePKP1	PKPbc	21 03 15.6	+2.0
SJPF	**Ste Jean**	**147.28**	**344**	ePKP1	PKPdf	21 03 17.1	+4.6
ETSF	**Etsaut**	**147.29**	**343**	ePKP1	PKPdf	21 03 17.2	+4.6
DFRA	**Djebel Bou Aff**	**150.11**	**328**	P	PKPdf	21 03 25.5	+8.3
ESDC	**Sonseca Array**	**151.22**	**345**	PKPbc	PKPdf	21 03 26.7	+7.9
	comp=Z,1.3nm,0.6s,baz=14,slow=2.7,SNR=10.0						
ESDC				PKPab	PKPab	21 03 35.4	-0.4
	comp=Z,1.2nm,0.5s,baz=15,slow=3.8,SNR=9.1						
ESLA	**Sonseca Array**	**151.22**	**345**	ePKPbc	PKPdf	21 03 27.0	+8.2

*IDC **13** 20:53:21.5±1.6, 28.89N×130.57E, mb3.5/4, mb1 3.7/5, mb1mx3.5/21, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=61.9km s-min=28.7km az=111.0*
*JMA **13** 20:53:28.2±0.3, 29.03N×129.57E, h58km±4km, M3.4*
ISC 13 20:53:27.4±0.6**, 29.05N**±0.05×**129.6E**±0.1**, h71km**±6km**, n11, σ0ˢ79**/18**, mb3.4**/4**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.63**	**178**	P	**P**	**20 53 41.0**	**-0.8**
JAM				S	**S**	**20 53 50.3**	**-2.1**
JZK	**Kikaishima**	**0.81**	**154**	P	**P**	**20 53 43.9**	**+0.2**
JZK				S	**S**	**20 53 57.3**	**+1.4**
JNN	**Nakanoshima**	**0.83**	**18**	P	**P**	**20 53 44.1**	**0.0**
JNN				S	**S**	**20 53 55.9**	**-0.6**
JTK	**Tokunoshima**	**1.37**	**204**	P	**P**	**20 53 51.8**	**+0.6**
JTK				S	**S**	**20 54 09.0**	**+0.2**
JKC	**Kuchinoerabu**	**1.51**	**21**	P	**P**	**20 53 53.4**	**+0.3**
JKC				S	**S**	**20 54 11.6**	**-0.4**
JTN	**Tanegashima 3**	**2.02**	**37**	P	**P**	**20 54 00.3**	**+0.5**
JTN				S	**S**	**20 54 24.4**	**+0.6**
JOW	**Kunigami**	**2.49**	**208**	Pn	**P**	**20 54 06.7**	**+0.2**
	16nm,0.3s,baz=94,slow=20,SNR=26						
JOW				Sn	**S**	**20 54 36.7**	**+1.0**
	15nm,0.3s,baz=155,slow=28,SNR=9.5						
WRA	**Warramunga Arr**	**48.92**	**174**	P	**P**	**21 02 07.4**	**-1.0**
	0.2nm,0.5s,mb3.3,baz=6.7,slow=7.8,SNR=6.1						
ASAR	**Alice Springs**	**52.57**	**175**	P	**P**	**21 02 36.0**	**-0.1**
	0.2nm,0.7s,mb3.2,baz=6.9,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**61.65**	**168**	P	**P**	**21 03 39.1**	**-1.0**
	0.7nm,0.5s,mb3.9,baz=350,slow=6.1,SNR=2.8						
YKA	**Yellowknife Ar**	**75.48**	**26**	P	**P**	**21 05 05.7**	**+0.7**
	0.2nm,0.6s,mb3.0,baz=304,slow=5.6,SNR=4.1						

IDC 13 21:00:59.9±3.1**, 14.21S**×**177.98W, mb4.0**/5**, mb1 4.2**/5**, mb1mx3.9**/15**, mbtmp4.0**/5**, Error ellipse: s-maj=69.2km**

s-min=37.5km az=39.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	24.35	189	P	P	21 06 20.1	-0.4
	2.7nm,0.3s,baz=18,slow=15,SNR=6.4						
STKA	Stephens Creek	40.86	237	P	P	21 08 43.5	-1.7
	2.9nm,1.1s,baz=58,slow=3.3,SNR=3.1						
WRA	Warramunga Arr	45.82	256	P	P	21 09 23.5	-2.2
	0.3nm,0.8s,baz=94,slow=7.9,SNR=10						
ASAR	Alice Springs	46.29	251	P	P	21 09 27.9	-1.4
	3.2nm,0.3s,baz=85,slow=8.6,SNR=89						
VNDA	Vanda	64.14	185	P	P	21 11 35.4	-2.6
	1.4nm,0.9s,baz=28,slow=7.3,SNR=2.9						
KHC	Kasperske Hory	143.90	347	eP	PKPbc	21 20 37.0	+0.8
GERES	GERESS Array B	144.15	347	PKP	PKPdf	21 20 37.3	-2.1
	0.2nm,0.5s,baz=14,slow=4.0,SNR=7.9						

*NEIC **13** 21:17:39.8, 32.66S×71.74W, h27^{km}, ML3.1(GUC), After GUC.*

GUC 13 21:17:39.8±0.9**, 32.66S×71.74W, h27^{km}±6^{km}, MD3.5, ML3.1, 4C-7D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.29	65	⇓iP	Pb	21 17 47.1	+0.3
PACH				iS	Sb	21 17 52.3	+0.7
ROCH	El Roble	0.69	117	⇑iP	Pb	21 17 53.1	-0.1
ROCH				iS	Sb	21 18 03.0	+0.6
LCCH	Las Cruces	0.82	170	⇓iP	Pb	21 17 54.8	-0.7
LCCH				iS	Sb	21 18 05.6	-0.6
JACH	Jahuel	0.97	92	⇑iP	Pn	21 17 57.2	-0.6
JACH				iS	Sb	21 18 10.5	+0.2
PEL	Peldehue	1.01	119	iS	Sb	21 18 12.3	+0.7
TACH	Talagante	1.20	146	⇓iP	Pn	21 18 00.9	-0.1
TACH				iS	Sn	21 18 16.2	-0.3
DSCH	Colegio Aleman	1.23	127	⇑iP	Pn	21 18 01.6	+0.1
DSCH				iS	Sn	21 18 18.0	+0.7
DSCH				AMP		21 18 18.6	
	comp=N,688nm,0.2s						
CLCH	Cerro Calan	1.25	126	⇓iP	Pn	21 18 01.9	+0.1
CLCH				iS	Sn	21 18 18.7	+0.8
CLCH				AMP		21 18 20.1	
	comp=N,411nm,0.5s						
CLCH				AMP		21 18 26.3	
	comp=N,616nm,0.7s						
LNV	Longovilo	1.32	168	⇓iP	Pn	21 18 02.0	-0.8
LNV				iS	Sn	21 18 19.1	-0.5
FCH	Farellones	1.39	119	⇓iP	Pn	21 18 04.2	+0.4
FCH				iS	Sn	21 18 22.6	+1.2
FCH				AMP		21 18 23.1	
	comp=E,495nm,0.2s						
PCH	Pirque	1.41	133	⇓iP	Pn	21 18 04.5	+0.5
PCH				iS	Sn	21 18 23.5	+1.7
CHCH	Chadas Angostu	1.56	145	⇑iP	Pn	21 18 07.1	+0.8
CHCH				eS	Sn	21 18 27.0	+1.3
CACH	El Canelo	1.74	147	iS	Sn	21 18 34.0	+3.7
LMEL	Las Melosas	1.75	133	eP	Pn	21 18 09.9	+1.0
LMEL				iS	Sn	21 18 33.6	+3.0
LMEL				AMP		21 18 35.8	
	comp=N,418nm,0.1s						
CICH	Cipreses	1.99	147	eP	Pn	21 18 13.1	+0.8
CICH				eS	Sn	21 18 38.7	+2.1

*ATH **13** 21:21:35.6, 36.72N×29.07E, h5^{km}±4^{km}, MD3.3/3*
*NEIC **13** 21:21:35.6, 36.72N×29.07E, h5^{km}, MD3.3(ATH), ML3.4(NIC), After ATH.*
*ISK **13** 21:21:37.0, 36.42N×28.99E, h10^{km}, MD3.3, ML3.4*
*CSEM **13** 21:21:37.2±0.1, 36.47N×29.03E, h10^{km}, MD3.3, Error ellipse: s-maj=4.1km s-min=1.4km az=32.0*
*NIC **13** 21:21:43.8±0.4, 36.12N×29.09E, h25^{km}, ML3.4, MW2.9*

ISC 13 21:21:37.3±0.8**, 36.46N**±0.03×**29.06E**±0.03**, h3^{km}±6^{km}, n28, σ0^{s}96**/39**, 2C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DALT	Dalyan (Mudla)	0.46	312	iPg	Pg	21 21 46.2	-0.3
DALT				eSg	Sg	21 21 53.3	+0.7
KSL	Kastellorizon	0.53	126	ePB	Pb	21 21 49.5	+0.6
KSL				eSB	Sb	21 21 59.5	+2.9
ELL	Elmali	0.74	67	iPG	Pg	21 21 52.6	+0.4
ARG	Arkhangelos	0.79	252	ePB	Pb	21 21 53.5	+0.1
ARG				eSB	Sb	21 22 06.0	+1.7
YER	Yerkesik	0.92	317	iPG	Pg	21 21 55.0	-0.6
DNZL	Cakiroluk	1.23	360	iP	Pb	21 22 01.1	+0.3
DNZL				iS	Sb	21 22 17.9	+1.0
DENT	Denizli	1.29	359	PN	Pn	21 22 01.7	-0.6
MLSB	Milas	1.32	309	PN	Pn	21 22 02.1	-0.6
ANTB	Antalya	1.35	71	ePN	Pn	21 22 04.0	+0.8
BDRM	Kayabasi	1.43	295	iP	Pn	21 22 05.0	+0.7
BDRM				iS	Sb	21 22 23.9	+1.1
AYDN	Tasoluk	1.52	322	iP	Pn	21 22 06.9	+1.3
AYDN				iS	Sb	21 22 24.7	-0.8
BODT	Bodrum	1.53	294	ePN	Pn	21 22 04.7	-1.0
BCK	Bucak	1.58	50	ePN	Pn	21 22 06.9	+0.5
KARP	Karpathos	1.79	240	ePg	Pg	21 22 11.5	-1.5
KARP				eSn	Sn	21 22 40.0	+7.0
KARP	Karpathos	1.79	240	ePG	Pg	21 22 11.5	-1.5
KARP				eSN	Sn	21 22 39.0	+6.0
ISP	Isparta	1.80	40	ePN	Pn	21 22 10.0	+0.4
ISP	Isparta	1.80	40	ePn	Pn	21 22 11.1	+1.5
MANT	Manisa	2.06	349	iP	Pn	21 22 13.0	-0.4
MANT				iS	Sn	21 22 37.9	-2.0
IZM	Izmir	2.40	324	ePN	Pn	21 22 17.0	-1.2
HDMB	Hadim	2.80	79	ePN	Pn	21 22 23.9	0.0
AKMC	Akamas	3.02	117	P	Pn	21 22 26.4	-0.7
KONT	Konya--Tatoy	3.02	60	ePN	Pn	21 22 27.5	+0.4
PPCY	Paphos	3.10	119	P	Pn	21 22 28.1	-0.1
ALFC	Alevga	3.16	113	⇑eP	Pn	21 22 28.5	-0.5
	0.8nm,0.2s						
ALFC				S	Sn	21 23 04.6	-3.2
KIZT	Kizilcal	3.29	42	ePN	Pn	21 22 31.8	+0.9
SZAC	Souni-Zanaja	3.55	118	⇑iP	Pn	21 22 33.9	-0.7
SZAC				S	Sn	21 23 12.6	-5.1
MAMC	Mammari	3.62	110	P	Pn	21 22 35.5	0.0
CSS	Prodhromos	3.79	112	P	Pn	21 22 37.2	-0.7

*CSEM **13** 21:51:14.4±0.8, 38.62N×28.55W, h10^{km}, ML2.3, Error ellipse: s-maj=2.9km s-min=2.0km az=165.0, After PDA*
*PDA **13** 21:51:14.4±0.8, 38.62N×28.55W, h10^{km}, MD2.8, ML2.3, Error ellipse: s-maj=2.9km s-min=2.0km az=165.0*

SVSA 13 21:51:14.4±0.8**, 38.62N×28.55W, h10^{km}, MD2.8, ML2.3, Error ellipse: s-maj=2.9km s-min=2.0km az=165.0, Azores Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	Horta	0.12	214	eP	Pg	21 51 16.7	-0.6
HOR				eS	Sg	21 51 19.1	-0.2
PCED	Cedros	0.12	273	eP	Pg	21 51 16.7	-0.7
PCED				eS	Sg	21 51 19.3	-0.1
	285nm,0.1s						
PCED	Cedros	0.12	273	eP	Pg	21 51 16.7	-0.7
PCED				eS	Sg	21 51 19.3	-0.1
	285nm,0.1s						
CALA	Caldeira	0.13	251	eP	Pg	21 51 17.1	-0.4
CALA				eS	Sg	21 51 19.8	+0.2
PICO	Pico	0.15	142	eP	Pg	21 51 17.6	-0.4
PICO				eS	Sg	21 51 20.1	-0.3
ROSA	Rosais	0.26	68	eP	Pg	21 51 19.2	-0.7
ROSA				eS	Sg	21 51 22.8	-0.7

*NEIC **13** 22:01:02.8, 32.66S×71.82W, h26^{km}, ML3.2(GUC), After GUC.*

GUC 13 22:01:02.8±0.8**, 32.66S×71.82W, h26^{km}±5^{km}, MD3.6, ML3.2, 5C-6D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.35	69	⇓iP	Pb	22 01 10.9	+0.4
PACH				iS	Sb	22 01 16.4	+0.5
IHA	Instituto Hidr	0.39	157	⇓iP	Pb	22 01 11.2	-0.1
ROCH	El Roble	0.75	115	⇑iP	Pb	22 01 17.0	-0.2
ROCH				iS	Sb	22 01 27.2	+0.3
LCCH	Las Cruces	0.84	165	⇑iP	Pb	22 01 18.1	-0.5
LCCH				iS	Sb	22 01 29.0	-0.5
JACH	Jahuel	1.04	91	⇑iP	Pn	22 01 21.2	-0.6
JACH				iS	Sb	22 01 34.8	-0.4
PEL	Peldehue	1.07	117	iP	Pn	22 01 22.2	-0.1
PEL				iS	Sb	22 01 36.3	+0.2
TACH	Talagante	1.23	143	⇓iP	Pn	22 01 24.4	-0.2
TACH				iS	Sn	22 01 39.8	-0.7
DSCH	Colegio Aleman	1.28	125	eP	Pn	22 01 24.9	-0.4
DSCH				iS	Sn	22 01 42.5	+0.7
DSCH				AMP		22 01 43.1	
	comp=E,706nm,0.3s						
CLCH	Cerro Calan	1.30	124	⇓iP	Pn	22 01 25.6	0.0
CLCH				iS	Sn	22 01 43.1	+0.8
CLCH				AMP		22 01 46.5	
	comp=N,604nm,0.5s						
CLCH				AMP		22 01 46.9	
	comp=N,711nm,0.5s						
LNV	Longovilo	1.33	165	⇓iP	Pn	22 01 25.3	-0.8
LNV				iS	Sn	22 01 43.1	0.0
FCH	Farellones	1.45	118	⇓iP	Pn	22 01 28.1	+0.4
FCH				iS	Sn	22 01 46.7	+0.7
FCH				AMP		22 01 47.0	
	comp=N,828nm,0.2s						
PCH	Pirque	1.45	131	eP	Pn	22 01 27.6	-0.2
CHCH	Chadas Angostu	1.60	143	eP	Pn	22 01 30.6	+0.7
CHCH				iS	Sn	22 01 51.1	+1.2
CACH	El Canelo	1.77	145	eP	Pn	22 01 33.5	+1.1
CACH				iS	Sn	22 01 57.2	+2.9
LMEL	Las Melosas	1.80	132	iP	Pn	22 01 33.8	+1.1
LMEL				iS	Sn	22 01 57.6	+2.7
LMEL				AMP		22 02 00.5	
	comp=N,438nm,0.2s						
CICH	Cipreses	2.02	145	⇑iP	Pn	22 01 36.9	+0.9
CICH				iS	Sn	22 02 04.1	+3.4
SFDO	San Fernando	2.06	161	⇑iP	Pn	22 01 37.0	+0.5

JMA 13 22:02:33.1±0.2**, 31.31N×141.08E, M3.8, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.09	330	P	Pn	22 03 10.2	+0.4
BSO1	Boso 1	3.33	359	P	Pn	22 03 28.0	+0.4
BSO2	Boso 2	3.44	356	eS	Sn	22 04 11.6	+0.4
BSO3	Boso 3	3.52	352	P	Pn	22 03 30.3	+0.2
BSO3				eS	Sn	22 04 13.8	+0.8
JIM2	Oshima 3	3.67	338	P	Pn	22 03 33.2	+0.9
JOD2	Odawara 2	4.28	338	P	Pn	22 03 42.0	+1.0
JYN	Shimob	4.68	334	P	Pn	22 03 49.6	+2.9
JRY	Ryogami san	5.03	339	P	Pn	22 03 52.8	+1.1
JMK	Ichinoseki	7.62	1	P	Pn	22 04 26.8	-1.4
JMK				S	Sn	22 05 51.5	-4.8

IDC 13 22:07:01.1±1.4**, 21.46S×66.74W, h213^{km}±19^{km}, mb3.1**/1**, mb1 3.4**/4**, mb1mx3.2**/16**, mbtmp3.7**/4**, Error ellipse: s-maj=30.5km s-min=15.4km az=103.0, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	2.33	240	P	P	22 07 45.0	+0.6
	3.6nm,0.3s,baz=54,slow=7.4,SNR=47						
LVC				S	S	22 08 18.1	+0.4
	8.6nm,0.3s,baz=234,slow=21,SNR=52						
LPAZ	La Paz	5.31	345	P	P	22 08 21.6	+1.2
	3.1nm,0.3s,baz=147,slow=9.7,SNR=76						
LPAZ				S	S	22 09 22.8	+0.8
	baz=227,slow=24,SNR=2.2						
BDFB	Brasilia	18.66	75	P	P	22 11 03.1	-2.1
	0.6nm,0.3s,baz=261,slow=8.5,SNR=6.0						
YKA	Yellowknife Ar	91.83	340	P	P	22 19 44.1	-1.3
	0.4nm,0.9s,baz=132,slow=4.1,SNR=6.2						

*NEIC **13** 22:09:12.8, 37.45N×118.84W, h8^{km}, ML4.2(NCEDC), MW4.0(BRK), After NCEDC.*
*IDC **13** 22:09:13.3±1.1, 37.43N×118.78W, mb3.6/6, mb1 3.8/10, mb1mx3.7/23, mbtmp3.6/10, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=11.8km s-min=9.1km az=117.0*

ISC 13 22:09:12.2±0.8**, 37.49N**±0.04×**118.75W**±0.04**, h7^{km}±6^{km}, n48, σ1^{s}39**/48**, mb3.5**/5**, California-Nevada border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	Tungsten Hills	0.21	133	ePg	Pg	22 09 17.6	+1.1
OMM	Old Mammoth Mi	0.23	303	ePg	Pg	22 09 16.6	-0.3
NVAR	Mina Array Bea	1.00	21	Pg	Pg	22 09 33.0	+0.7
	227nm,0.3s,baz=208,slow=18,SNR=828						
NVAR				Lg		22 09 49.4	
	185nm,0.3s,baz=195,slow=29,SNR=11						
NVAR	Mina Array Bea	1.00	21	Pg	Pg	22 09 33.0	+0.7
NVAR				Lg		22 09 49.4	
MNV	Mina	1.05	27	ePg	Pg	22 09 33.6	+0.4
TPH	Tonopah	1.34	64	eP	Pb	22 09 39.0	+1.7
CMB	Columbia Colle	1.40	293	eP	Pn	22 09 37.4	-0.9
DAC	Darwin (Calif)	1.53	142	eP	Pn	22 09 40.2	+0.1
WCN	Washoe City	1.97	337	ePn	Pn	22 09 47.5	+1.1
PAHR	Pah Rah Range	2.26	348	ePn	Pn	22 09 50.1	-0.5
SAO	San Andreas Ge	2.27	252	ePn	Pn	22 09 50.0	-0.7
TRCR	Troy Canyon	2.65	70	ePn	Pn	22 09 57.1	+1.1
SAC	San Andreas	2.91	273	ePn	Pn	22 09 59.1	-0.7
BMN	Battle Mountai	3.17	22	ePn	Pn	22 10 03.0	-0.5
NSHM	Saint Helena R	3.21	290	ePn	Pn	22 10 04.3	+0.2
MWC	Mount Wilson	3.31	170	ePn	Pn	22 10 05.9	+0.3
HOPS	Hopland	3.71	295	ePn	Pn	22 10 10.5	-0.8
LDFC	Landfair	3.81	128	ePn	Pn	22 10 11.4	-1.1
ARUT	Antelope Range	4.23	84	ePn	Pn	22 10 18.5	-0.1
ELK	Elko	4.24	39	Pn	Pn	22 10 19.3	+0.5
	2.4nm,0.3s,baz=234,slow=12,SNR=53						
ELK				Lg		22 11 26.4	
	13nm,0.3s,baz=311,slow=20,SNR=8.5						
ELK				LR	LR	22 12 27.4	
	comp=Z,177nm,20.9s,baz=197,slow=45						
ELK	Elko	4.24	39	ePn	Pn	22 10 19.3	+0.5
PFO	Pinyon Flat Ob	4.30	154	Pn	Pn	22 10 19.0	-0.6
	123nm,0.3s,SNR=9.3						
PFO	Pinyon Flat Ob	4.30	154	ePn	Pn	22 10 18.4	-1.2
YBH	Yreka Blue Hor	5.22	325	Pn	Pn	22 10 33.5	+0.9
	0.4nm,0.3s,baz=143,slow=4.8,SNR=12						
YBH				Lg		22 11 55.1	
	0.5nm,0.3s,baz=283,slow=20,SNR=3.0						
YBH	Yreka Blue Hor	5.22	325	Pn	Pn	22 10 32.6	0.0
	9.5nm,0.7s						
MSU	Marysvale	5.29	77	ePn	Pn	22 10 35.2	+1.5
BGU	Big Grassy Mou	5.61	51	ePn	Pn	22 10 38.5	+0.3
NLU	North Lily Min	5.77	63	ePn	Pn	22 10 39.6	-0.8
HUMO	Hull Mountain	6.04	329	Pn	Pn	22 10 43.9	-0.3
TMUT	Trail Mountain	6.20	71	Pn	Pn	22 10 47.0	+0.7
DAU	Daniels Canyon	6.53	61	Pn	Pn	22 10 49.1	-1.9
SRU	San Rafael	6.67	73	ePn	Pn	22 10 51.0	-2.1
HLID	Hailey	6.90	27	ePn	Pn	22 10 52.2	-4.1
HWUT	Hardware Ranch	6.91	51	Pn	Pn	22 10 54.8	-1.6
AHID	Auburn Hatcher	7.88	46	Pn	Pn	22 11 07.8	-2.2
RRI2	Red Ridge	8.14	42	Pn	P	22 11 11.1	-2.6
TPAW	Teton Pass	8.44	42	Pn	P	22 11 15.6	-2.2
MCMT	McKenzie Canyo	8.57	29	Pn	P	22 11 16.6	-3.0
LOHW	Long Hollow	8.71	43	Pn	P	22 11 18.0	-3.5
MOOW	Moose Ponds	8.72	42	Pn	P	22 11 18.6	-3.1
PDAR	Pinedale Array	8.79	50	Pn	P	22 11 24.8	+2.1
	0.1nm,0.3s,baz=234,slow=13,SNR=12						
PDAR				Lg		22 13 48.0	
	0.0nm,0.3s,baz=224,slow=29,SNR=2.5						
TXAR	Lajitas Array	14.99	118	Pn	P	22 12 49.5	+3.3
	0.1nm,0.3s,baz=297,slow=11,SNR=9.9						
ULM	Lac du Bonnet	20.75	45	P	P	22 13 57.4	+1.5
	0.7nm,0.4s,baz=247,slow=6.8,SNR=3.9						
DLBC	Dease Lake	22.21	344	P	P	22 14 13.3	+2.7
	1.4nm,0.4s,mb3.8,baz=154,slow=16,SNR=4.5						
YKA	Yellowknife Ar	25.16	5	P	P	22 14 42.5	+3.3
	0.5nm,0.8s,mb3.1,baz=187,slow=9.4,SNR=2.0						
INK	Inuvik	31.94	350	P	P	22 15 42.4	+2.0
	0.8nm,0.9s,mb3.5,baz=125,slow=6.9,SNR=3.3						
ILAR	Eielson Array	31.98	338	P	P	22 15 42.0	+1.2
	1.3nm,0.8s,mb3.8,baz=156,slow=8.3,SNR=19						
NOA	NORSAR Array B	73.69	23	P	P	22 20 50.4	+2.5
	0.5nm,0.7s,mb3.5,baz=322,slow=12,SNR=2.6						

*BGS **13** 22:12:43.7, 5.49N×94.60E, h33^{km}, mb5.5*
*MOS **13** 22:12:43.6±0.9, 5.67N×94.70E, h42^{km}, mb5.7/62, MS4.6/15, Error ellipse: s-maj=9.3km s-min=5.1km az=119.4*
*BJI **13** 22:12:43.9, 5.37N×94.48E, h63^{km}, mB5.5, mb5.6, Ms5.1, Msz4.9*
*NEIC **13** 22:12:45.8±0.1, 5.49N×94.60E, mb5.4/144, MW5.5, Error ellipse: s-maj=4.2km s-min=2.8km az=208.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; M_{rr}1.71; $M_{\theta\theta}$0.09; $M_{\phi\phi}$-1.80; $M_{r\theta}$0.87; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.41; Best double couple: $M_0 2\times10^{17}$ NP1:ϕ_s12°, δ40°, λ124°. NP2:ϕ_s150°, δ57°, λ65°. Principal axes: T 2.11, Plg67°, Azm10°; N -.18, Plg21°, Azm165°; P -1.92, Plg9°, Azm258°;*
NEIC Felt [III] at Banda Aceh.
*HRVD **13** 22:12:45.8±0.2, 5.42N×94.42E, h42^{km}, MW5.4/67, Centroid moment Tensor Solution. LP body waves: s61,c112;Mantle waves: s67,c129; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.10±.03; $M_{\theta\theta}$-0.36±.03; $M_{\phi\phi}$-0.74±.03; $M_{r\theta}$0.66±.02; $M_{\theta\phi}$0.63±.02; $M_{\phi r}$-0.53±.03; Best double couple: $M_0 1.434\times10^{17}$ NP1: ϕ_s334°, δ28°, λ107°. NP2:ϕ_s134°, δ63°, λ81°. Principal axes: T 1.396, Plg70°, Azm25°; N .074, Plg8°, Azm138°; P -1.473, Plg18°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **13** 22:12:47.0±2.8, 5.56N×94.69E, h61^{km}±24^{km}, mb4.9/33, mb1 4.9/34, mb1mx4.9/35, mbtmp5.2/34, ML5.9/1, MS4.6/21, Ms1 4.6/21, ms1mx4.4/30 Error ellipse: s-maj=12.5km s-min=9.3km az=39.0*

ISC 13 22:12:44.4±0.1**, 5.49N**±0.03×**94.64E**±0.02**, h53^{km}, h53^{km}±.8^{km}:pP-P, n710, σ1^{s}03**/652**, mb5.4**/224**, MS4.8**/46**, 97C-16D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.99	92	⇓iPn	P	22 14 13.2	+0.6
KULM				eSn	S	22 15 19.5	-1.2
SNG	Songkhla	6.17	74	P	P	22 14 15.0	-0.1
	764nm,1.0s						
IPM	Ipoh	6.43	98	P	P	22 14 19.3	+0.5
NNT	Nongplab	8.66	35	P	P	22 14 52.0	+2.3
KGM	Kluang	9.33	111	P	P	22 14 59.6	+0.8
NST	Nakhon Sawan	11.46	28	P	P	22 15 30.4	+2.4
	117nm,0.5s						
BDT	Bhumibol Dam	12.44	20	P	P	22 15 42.0	+0.9
	53nm,0.8s						
KKTK	Khon Kaen	13.44	36	P	P	22 15 59.0	+4.8
	2µm,0.5s						
CM31	Chiang Mai Arr	13.55	18	ePn	P	22 15 57.5	+1.7
	62nm,0.3s						
CMAR	Chiang Mai Arr	13.55	18	P	P	22 15 57.4	+1.5
CMAR				pmax	pmax		
	comp=Z,19nm,0.3s						
CMAR				MLR	MLR		
	comp=Z,2µm,20.6s						
CMAR				pmax	pmax		
	comp=N,1.0nm,0.3s						
CMAR	Chiang Mai Arr	13.55	18	P	P	22 15 57.4	+1.5
	comp=N,18nm,0.3s,baz=210,slow=15,SNR=205						
CMAR				LR	LR	22 21 00.0	
	comp=N,2µm,20.6s,baz=205,slow=37						
CMAR				ScP		22 24 49.2	
	comp=N,1.0nm,0.3s,baz=224,slow=3.1,SNR=5.3						
CHG	Chiang Mai	13.89	17	⇑P	P	22 16 02.3	+2.0
	comp=N,150nm,0.8s						
NANT	Nan	14.49	24	⇑P	P	22 16 10.0	+1.9
	comp=N,686nm,1.0s						
CHRT	Chiangrai	15.14	19	⇑P	P	22 16 19.0	+2.4
	comp=N,545nm,1.2s						
PENI	Pendagan	15.21	136	eP	P	22 16 11.4	-6.1
	comp=N,81nm,0.5s						
MDRS	Chennai	16.06	299	eP	P	22 16 33.0	+4.6
MDRS				e		22 16 37.0	
MDRS				e		22 19 08.0	
KSM	Kuching	16.14	104	eP	P	22 16 32.5	+3.1
PULI	Pulasari	16.32	136	eP	P	22 16 26.1	-5.5
VIS	Vishakhapatnam	16.43	319	eP	P	22 16 32.1	-0.8
VIS				e		22 16 35.5	
	comp=Z,158nm,0.4s						
VIS				e		22 19 21.4	
BWNR	Bhubaneshwar	17.03	331	eP	P	22 16 40.0	-0.5
BWNR				e		22 16 42.2	
	comp=Z,150nm,0.3s						
BWNR				e		22 19 36.7	
SALM	Salem	17.36	292	e	P	22 16 48.0	+3.3
SALM				e		22 19 42.0	
CAL	Calcutta	18.01	341	eP	P	22 16 51.2	-1.5
CAL				e		22 20 10.3	
CAL				e		22 20 20.5	
AGT	Agartala	18.57	350	e	P	22 16 55.0	-4.5
IMP	Imphal	19.19	358	eP	P	22 17 06.0	-0.6
HYB	Hyderabad	19.70	308	⇑eP	P	22 17 12.0	-0.2
	comp=Z,214nm,1.2s						
HYB				eS	S	22 20 56.0	+10
HYB	Hyderabad	19.70	308	⇑iP	P	22 17 12.0	-0.2
	comp=Z,214nm,1.2s						
HYB				e		22 17 24.0	
HYB				eS	S	22 20 40.0	-6.1
QIZ	Qiongzhong	20.02	46	P	P	22 17 16.4	+0.8
QIZ				AP		22 17 29.6	
QIZ				XP		22 17 38.6	
QIZ				S	S	22 20 54.0	+1.2
QIZ				SS	SS	22 21 22.5	-0.6
QIZ				LR	LR		
	comp=N,4µm,16.8s,MS4.9						
QIZ				LR	LR		
	comp=E,3µm,16.4s,MS4.9						
QIZ				LR	LR		
	comp=Z,4µm,18.2s,MS4.8						
QIZ	Qiongzhong	20.02	46	eP	P	22 17 17.0	+1.4
	comp=Z,330nm,1.4s						
QIZ				pP		22 17 27.4	
BOK	Bokaro	20.05	336	iP	P	22 17 15.8	-0.2
BOK				iS	S	22 20 58.3	+4.9
SHL	Shillong	20.13	353	eP	P	22 17 14.0	-2.8
SHL				e		22 20 55.0	
BLSP	Bilaspur	20.49	325	eP	P	22 17 20.6	+0.1
BLSP				e		22 17 26.3	
	comp=Z,405nm,1.3s						
BLSP				eS	S	22 21 05.5	+3.6
MNGI	Mangalore	20.90	292	e	P	22 17 39.0	+14
MNGI				e		22 21 03.7	
	comp=Z,200nm,1.7s						
KMI	Kunming	21.01	21	P	P	22 17 27.8	+2.0
KMI				AP		22 17 38.9	
KMI				XP		22 17 43.9	
KMI				PP	PP	22 17 51.5	+1.7
KMI				PPP	PPP	22 18 00.9	+1.6
KMI				S	S	22 21 13.6	+1.8
KMI				XS		22 21 31.9	
KMI				SS	SS	22 21 47.8	+1.0
KMI				SSS	SSS	22 22 02.3	0.0
KMI				AMB	AMB		
	comp=Z,117nm,1.1s,mb5.1						
KMI				AMB	AMB		
	comp=Z,545nm,3.1s						
KMI				LR	LR		
	comp=N,2µm,19.6s						
KMI				LR	LR		
	comp=E,2µm,14.3s						
KMI				LR	LR		
	comp=Z,3µm,21.1s,MS4.6						
KMI	Kunming	21.01	21	P	P	22 17 27.8	+2.0
	comp=Z,117nm,1.1s,mb5.1						
KMI				pP		22 17 38.9	
KMI				sP		22 17 43.9	
KMI				PP	PP	22 17 51.5	+1.7
KMI				PPP	PPP	22 18 00.9	+1.6
KMI				S	S	22 21 13.6	+1.8
KMI				sS		22 21 31.9	
KMI				SS	SS	22 21 47.8	+1.0
KMI				SSS	SSS	22 22 02.3	0.0
KMI				LR	LR		
	comp=Z,3µm,21.1s,MS4.6						
KKM	Kota Kinabalu	21.48	87	eP	P	22 17 31.4	+0.8
KKM				epP		22 17 45.5	
KKM	Kota Kinabalu	21.48	87	P	P	22 17 32.8	+2.2
NGP	Nagpur	21.70	317	eP	P	22 17 33.7	+1.0
NGP				eS	S	22 21 30.0	+5.4
LATR	Latur	21.82	308	eP	P	22 17 34.5	+0.5
LATR				e		22 21 29.0	
GOA	Goa	22.72	298	eP	P	22 17 35.9	-7.1
GOA				iS	S	22 21 40.5	-2.9
TSM	Tawau	23.18	92	P	P	22 17 49.6	+2.2
KAD	Karad	23.20	302	eP	P	22 17 49.8	+2.2

KAD *e* 22 17 56.4
comp=Z,43nm,0.6s
KAD *eS* **S** **22 21 57.8 +6.0**
ALBI Allahabad 23.23 329 *eP* **P** **22 17 47.0 -0.8**
JIRN Jiri 23.46 341 *eP* **P** **22 17 49.2 -0.8**
comp=Z,350nm,0.5s,mb6.0
PKI Pulchoki 23.65 339 *eP* **P** **22 17 51.3 -0.5**
comp=Z,188nm,0.6s,mb5.7
DMN Daman 23.79 339 *eP* **P** **22 17 52.9 -0.3**
comp=Z,192nm,0.6s,mb5.7
GYA Guiyang 23.80 28⇑ *iP* **P** **22 17 55.0 +1.7**
GYA AP 22 18 10.9
GYA XP 22 18 14.1
GYA PP PP 22 18 31.3 +3.3
GYA AMB AMB
comp=Z,320nm,0.8s,mb5.8
GYA AMB AMB
comp=Z,930nm,5.7s
GYA LR LR
comp=N,3μm,19.2s
GYA LR LR
comp=E,2μm,12.6s
GYA LR LR
comp=Z,4μm,20.0s,MS4.8
KKN Kakani 23.89 339 *eP* **P** **22 17 53.5 -0.7**
KELI Kelakatan 24.03 124 *eP* **P** **22 17 56.0 +0.3**
POO Poona 24.07 304 *eP* **P** **22 17 59.4 +3.4**
POO *e* 22 18 00.6
comp=Z,98nm,0.9s
POO *e* 22 22 14.7
BHPL Bhopal 24.22 318 *eP* **P** **22 17 59.9 +2.4**
BHPL *e* 22 18 02.2
comp=Z,241nm,0.9s
BHPL *e* 22 22 21.2
LSA Lhasa 24.30 353 P **P** **22 17 59.0 +0.8**
LSA AP 22 18 08.8
LSA PP PP 22 18 38.3 +3.7
LSA S **S** **22 22 14.0 +3.3**
LSA AMB AMB
comp=Z,110nm,1.6s,mb5.0
LSA Lhasa 24.30 353⇑ *eP* **P** **22 17 58.0 -0.1**
comp=Z,168nm,0.6s,mb5.7
GKN Gorkha 24.32 338 *eP* **P** **22 17 58.2 -0.2**
comp=Z,372nm,0.5s,mb6.1
KOLN Koldanda 24.51 336 *eP* **P** **22 18 00.8 +0.5**
comp=Z,548nm,0.6s,mb6.3
BOM Bombay 25.10 304 *eP* **P** **22 18 08.3 +2.3**
comp=Z,317nm,4.4s
BOM *e* 22 22 31.4
KEDI Kedomdong 25.52 123 *eP* **P** **22 18 08.3 -1.7**
comp=Z,77nm,0.6s,mb5.4
DGAR Diego Garcia 25.58 240 P **P** **22 18 10.3 -0.2**
comp=Z,298nm,1.4s,mb5.6
CD2 Chengdu 26.70 18⇑ *iP* **P** **22 18 19.8 -0.9**
CD2 AMB AMB
comp=Z,71nm,0.8s,mb5.2
LGTI Lohaghat 27.44 332 *eP* **P** **22 18 27.0 -0.5**
PTH Pithoragarh 27.53 332 *eP* **P** **22 18 27.0 -1.4**
PTH *e* 22 23 53.0
AJM Ajmer 28.28 320 *i* P **P** **22 18 35.0 -0.2**
ENH Enshi 28.34 28 *eP* **P** **22 18 34.5 -1.2**
comp=Z,69nm,0.6s,mb5.5
NDI New Delhi 28.36 326 *eP* **P** **22 18 33.0 -2.9**
NDI *e* 22 24 08.0
DDI Dehra Dun 29.22 330 *eP* **P** **22 18 43.2 -0.3**
DDI *eS* **S** **22 23 34.5 +3.5**
QZH Quanzhou 30.03 47 *eP* **P** **22 18 52.3 +1.5**
QZH S **S** **22 23 44.5 +0.6**
QZH AMB AMB
comp=Z,80nm,1.0s,mb5.4
QZH LR LR
comp=N,1μm,10.0s,MS5.1
QZH LR LR
comp=E,2μm,10.8s,MS5.1
QZH LR LR
comp=Z,6μm,20.6s
SMLA Simla 30.32 329 *i* P **P** **22 18 50.8 -2.5**
SMLA *i* 22 25 13.5
SDNR Sundarnagar 30.72 330 *eP* **P** **22 18 56.7 -0.1**
WHN Wuhan 31.07 34 ⇓P **P** **22 19 00.4 +0.6**
WHN AMB AMB
comp=Z,122nm,1.5s,mb5.5
WHN LR LR
comp=Z,7μm,17.1s,MS5.4
XAN Xi'an 31.34 23 P **P** **22 19 01.1 -1.2**
XAN AMB AMB
comp=Z,199nm,0.8s,mb6.0
XAN LR LR
comp=N,1μm,19.9s,MS4.8
XAN LR LR
comp=E,1μm,16.4s,MS4.8
XAN LR LR
comp=Z,2μm,19.4s,MS4.9
LZH Lanzhou 31.60 14⇑P **P** **22 19 03.5 -1.0**
LZH AP pP 22 19 17.2 -0.8
LZH XP sP 22 19 23.8 -0.8
LZH PP PP 22 20 09.8 -0.4
LZH PCP PcP 22 21 56.0 +0.1
LZH *eS* **S** **22 24 07.5 -0.9**
LZH SS SS 22 25 59.1 -1.1
LZH AMB AMB
comp=Z,130nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,491nm,4.1s
LZH LR LR
comp=E,2μm,15.8s
LZH LR LR
comp=Z,3μm,16.9s,MS5.1
LZH Lanzhou 31.60 14⇑P **P** **22 19 03.5 -1.0**
comp=Z,130nm,1.3s,mb5.6
LZH pP pP 22 19 17.2 -0.8
LZH sP sP 22 19 23.8 -0.8
LZH PP PP 22 20 09.8 -0.4
LZH PCP PcP 22 21 56.0 +0.1
LZH *eS* **S** **22 24 07.5 -0.9**
LZH SS SS 22 25 59.1 -1.1
LZH LR LR
comp=Z,3μm,16.9s,MS5.1
PONG Pong 31.60 329 *eP* **P** **22 19 04.0 -0.5**
DLH Dalhousie 32.06 329 *eP* **P** **22 19 06.0 -2.5**
THN Thein Dam 32.10 329 *eP* **P** **22 19 07.1 -1.8**
comp=Z,62nm,0.4s,mb5.8
GTA Gaotai 34.09 7⇑ *iP* **P** **22 19 25.8 -0.2**
GTA AP pP 22 19 40.3 +0.6
GTA XP sP 22 19 46.9 +0.6
GTA PP PP 22 20 40.1 -1.3
GTA PCP PcP 22 22 03.3 +0.6
GTA S **S** **22 24 43.9 -3.2**
GTA XS 22 25 09.0
GTA SCP 22 25 43.3
GTA PCS 22 25 48.0
GTA SCS ScS 22 29 43.3 +0.7
GTA AMB AMB
comp=Z,97nm,1.1s,mb5.7
GTA AMB AMB
comp=Z,490nm,4.6s
GTA LR LR
comp=N,858nm,21.3s,MS4.5
GTA LR LR
comp=E,570nm,24.0s,MS4.5
GTA LR LR
comp=Z,1μm,24.3s,MS4.6
NJ2 Nanjing 34.80 38 *eP* **P** **22 19 32.8 +0.6**
NJ2 AP pP 22 19 47.3 +1.4
NJ2 XP sP 22 19 52.1 -0.4
NJ2 PP PP 22 20 51.6 +0.8
NJ2 PPP PPP 22 21 09.8 +0.9
NJ2 S **S** **22 24 58.0 -0.2**
NJ2 XS 22 25 24.0
NJ2 AMB AMB
comp=Z,250nm,0.9s,mb6.1
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,4μm,18.9s,MS5.3
NJ2 LR LR
comp=E,3μm,15.4s,MS5.3
SSE Sheshan 35.63 41 *eP* **P** **22 19 41.0 +1.7**
SSE XP sP 22 20 01.1 +1.5
SSE S **S** **22 25 13.5 +2.5**
SSE XS 22 25 37.6
SSE AMB AMB
comp=Z,43nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,171nm,4.3s
SSE LR LR
comp=N,448nm,15.5s,MS5.0
SSE LR LR
comp=E,2μm,15.5s,MS5.0
SSE LR LR
comp=Z,2μm,15.0s,MS5.0
SSE Sheshan 35.63 41 *eP* **P** **22 19 41.0 +1.7**
comp=Z,43nm,0.8s,mb5.4
SSE sP sP 22 20 01.1 +1.5
SSE S **S** **22 25 13.5 +2.5**
SSE sS 22 25 37.6
SSE SS SS 22 27 58.6 +26
SSE LR LR
comp=Z,2μm,15.0s,MS5.0
TIA Tai'an 36.89 31⇑P **P** **22 19 49.8 0.0**
TIA AMB AMB
comp=Z,125nm,1.2s,mb5.6
BTO Baotou 37.59 19 *eP* **P** **22 19 54.4 -1.2**
BTO AMB AMB
comp=Z,64nm,0.6s,mb5.5
BTO LR LR
comp=E,1μm,13.1s
KSH Kashi 37.83 336 *i* P **P** **22 19 58.0 +0.3**
KSH AP pP 22 20 10.1 -1.4
KSH XP sP 22 20 15.3 -2.6
KSH PP PP 22 21 28.1 +0.4
KSH PCP PcP 22 22 15.3 +1.4
KSH S **S** **22 25 43.3 -1.2**
KSH SCP 22 25 57.3
KSH PCS 22 26 02.4
KSH SS SS 22 28 19.1 -3.4
KSH AMB AMB
comp=Z,1μm,3.4s
KSH LR LR
comp=N,790nm,6.2s
KSH LR LR
comp=E,590nm,6.2s
HHC Hu-ho-hao-te 38.33 21 *eP* **P** **22 20 02.8 +1.0**
HHC AP pP 22 20 15.3 -0.3
HHC XP sP 22 20 21.8 -0.3
HHC PP PP 22 21 35.8 +2.3
HHC S **S** **22 25 55.5 +3.3**
HHC XS 22 26 21.1
HHC SS SS 22 28 36.9 +3.3
HHC SCS ScS 22 30 06.8 +0.8
HHC AMB AMB
comp=Z,95nm,1.2s,mb5.4
HHC LR LR
comp=N,2μm,20.2s,MS5.1
HHC LR LR
comp=E,2μm,16.1s,MS5.1
HHC LR LR
comp=Z,2μm,20.2s,MS4.9
WBK Wadi Bani Khal 38.40 300 P **P** **22 20 05.1 +2.6**
SNR=11
JOW Kunigami 38.44 53 P **P** **22 20 01.6 -1.3**
comp=Z,62nm,0.7s,mb5.5,baz=232,slow=8.0,SNR=12
JOW LR LR 22 35 46.3
comp=Z,2μm,20.9s,MS4.9,baz=253,slow=36
FITZ Fitzroy Crossi 38.54 128 *eP* **P** **22 20 02.9 -0.8**
comp=Z,46nm,1.1s,mb5.1
WMQ Urumqi 38.66 352⇑ *iP* **P** **22 20 05.1 +0.6**
WMQ AP pP 22 20 19.0 +0.7
WMQ PP PP 22 21 38.5 +1.2
WMQ PCP PcP 22 22 15.5 -0.9
WMQ S **S** **22 25 57.5 +0.5**
WMQ XS 22 26 20.5
WMQ SS SS 22 28 40.5 -0.2
WMQ AMB AMB
comp=Z,81nm,0.8s,mb5.5
WMQ AMB AMB
comp=Z,340nm,3.9s
WMQ LR LR
comp=N,2μm,14.0s,MS5.3
WMQ LR LR
comp=E,2μm,14.0s,MS5.3
WMQ LR LR
comp=Z,3μm,23.8s
JMDO Jabal Madar 39.07 299 P **P** **22 20 10.2 +2.1**
SNR=11
SMDO Samad 39.35 300 P **P** **22 20 12.8 +2.4**
SNR=15
BIDO Bidbid 39.45 301 P **P** **22 20 13.7 +2.4**
SNR=23
BJT Baijiatuau 39.46 26 P **P** **22 20 12.9 +1.7**
BJT Baijiatuau 39.46 26 *eP* **P** **22 20 12.8 +1.6**
comp=Z,253nm,1.1s,mb5.9
BJI Beijing 39.48 26 *eP* **P** **22 20 12.9 +1.5**
BJI AP pP 22 20 25.4 +0.2
BJI XP sP 22 20 32.1 +0.5
BJI PCP PcP 22 22 13.4 -5.6
BJI S **S** **22 26 09.3 -0.2**
BJI XS 22 26 34.6
BJI AMB AMB
comp=Z,180nm,1.1s,mb5.7
BJI LR LR
comp=N,1μm,23.2s,MS4.7
BJI LR LR
comp=E,1μm,24.7s,MS4.7
BJI LR LR
comp=Z,2μm,25.5s,MS4.8
BJI Beijing 39.48 26 *eP* **P** **22 20 12.9 +1.5**
comp=Z,180nm,1.1s,mb5.7
BJI pP pP 22 20 25.4 +0.2
BJI sP sP 22 20 32.1 +0.5
BJI PcP PcP 22 22 13.4 -5.6
BJI S **S** **22 26 09.3 -0.2**
BJI sS 22 26 34.6
BJI SS SS 22 29 28.8 +30
BJI LR LR
comp=Z,2μm,25.5s,MS4.8
BSY Bisya 39.98 299 P **P** **22 20 18.3 +2.6**
SNR=42
ULHL Ulahol 40.09 339 P **P** **22 20 17.6 +1.2**
SNR=19
UCH Uchtor 40.72 337 P **P** **22 20 22.8 +1.1**
SNR=192
ARQ Araqi 40.77 300 P **P** **22 20 24.7 +2.5**
SNR=11
TKM2 Tokmak 2 40.91 339 P **P** **22 20 23.9 +0.7**
SNR=146
KBK Karagaybulak 40.92 338 P **P** **22 20 24.5 +1.2**
SNR=321
AML Almayashu 40.96 336 P **P** **22 20 24.8 +1.2**
SNR=336
AAK Ala-Archa 41.07 337 P **P** **22 20 24.2 -0.3**
comp=Z,584nm,1.3s,mb6.0
AAK Ala-Archa 41.07 337 *eP* **P** **22 20 24.4 -0.1**
AAK pmax pmax
comp=Z,150nm,1.1s,mb5.5
AAK Ala-Archa 41.07 337 *eP* **P** **22 20 24.4 -0.1**
comp=Z,150nm,1.1s,mb5.5
FRU Bishkek 41.20 338⇑ *iP* **P** **22 20 26.0 +0.5**
FRU *e* pP 22 20 39.5 +0.1
FRU pmax pmax
comp=Z,420nm,2.2s,mb5.7
DL2 Dalian 41.27 32 P **P** **22 20 27.6 +1.4**
DL2 S **S** **22 26 40.4 +4.2**
DL2 XS 22 27 09.0
DL2 AMB AMB
comp=Z,120nm,0.8s,mb5.6
DL2 AMB AMB
comp=Z,190nm,4.5s
DL2 LR LR
comp=N,760nm,21.4s,MS4.7
DL2 LR LR
comp=E,510nm,17.9s,MS4.7
DL2 LR LR
comp=Z,900nm,16.9s,MS4.7
CHMS Chumysh 41.29 338 P **P** **22 20 26.4 +0.2**
SNR=56
EKS2 Erkin-Say 41.38 337 P **P** **22 20 27.8 +0.8**
SNR=121
USP Ospenovka 41.61 338 P **P** **22 20 29.4 +0.5**
SNR=314
ASHO Ashiyiah 41.63 301 P **P** **22 20 31.7 +2.3**
SNR=30
KAKA Kakadu 41.69 116 *eP* **P** **22 20 28.6 -1.4**
comp=Z,26nm,0.5s,mb5.1
WHFO Wadi Hawf 41.77 291 P **P** **22 20 32.0 +1.4**
SNR=20
BANOM Banah 41.88 303 P **P** **22 20 33.8 +2.4**
SNR=6.9
ABTO Aybut 42.10 290 P **P** **22 20 35.0 +1.7**
SNR=6.5
MUN Mundaring 42.56 152 *eP* **P** **22 20 37.6 +0.7**
comp=Z,40nm,1.8s,mb4.8
SONM Songino Array 43.37 12 P **P** **22 20 43.0 -0.3**
comp=Z,54nm,0.8s,mb5.3,baz=192,slow=8.1,SNR=262
SONM PcP PcP 22 22 31.2 -0.5
comp=Z,11nm,0.5s,baz=199,slow=3.7,SNR=11
SONM pPcP 22 22 46.5
comp=Z,62nm,1.3s,baz=225,slow=1.7,SNR=4.9
SONM ScP 22 26 17.6
comp=Z,3.0nm,1.1s,baz=202,slow=3.9,SNR=4.3
ULN Ulaanbaatar 43.54 12 *eP* **P** **22 20 43.8 -0.8**
ULN pmax pmax
comp=Z,46nm,0.6s,mb5.4
ULN Ulaanbaatar 43.54 12 *eP* **P** **22 20 43.8 -0.9**
comp=Z,46nm,0.6s,mb5.4
NWAO Narrogin (SRO) 43.82 152 P **P** **22 20 47.7 +0.5**
NWAO pmax pmax
comp=Z,5.0nm,0.7s
NWAO Narrogin (SRO) 43.82 152 P **P** **22 20 47.7 +0.5**
comp=Z,5.1nm,0.7s,mb4.4,baz=288,slow=6.4,SNR=3.8
NWAO Narrogin (SRO) 43.82 152 P **P** **22 20 47.7 +0.5**
KS15 Wonju Array Si 43.93 39 *eP* **P** **22 20 47.4 -0.6**
SNY Shenyang 44.42 31⇑P **P** **22 20 51.8 0.0**
SNY S **S** **22 27 22.8 +0.6**
SNY LR LR
comp=N,1μm,17.7s,MS4.9
SNY LR LR
comp=E,830nm,22.2s,MS4.9
SNY LR LR
comp=Z,2μm,20.6s,MS4.9
ZAK Zakamensk 45.32 8⇓ *iP* **P** **22 20 58.1 -0.8**
ZAK *e* 22 22 37.3
ZAK pmax pmax
comp=Z,24nm,1.5s,mb4.8
ZAK pmax pmax
comp=Z,8.0nm,1.4s,mb4.4
MOY Mondy 46.32 5 *eP* **P** **22 21 06.3 -0.5**
MOY pmax pmax
comp=Z,45nm,2.6s,mb4.9
MENI Mendum Tagoi 46.41 99 *eP* **P** **22 21 06.1 -2.0**
WRA Warramunga Arr 46.51 124 P **P** **22 21 08.3 -0.4**
WRA pmax pmax
comp=Z,36nm,0.7s
WRA Warramunga Arr 46.51 124 P **P** **22 21 08.3 -0.4**
comp=Z,36nm,0.7s,mb5.4,baz=302,slow=9.7,SNR=353
WRAB Tennant Creek 46.51 124 *eP* **P** **22 21 08.3 -0.4**
WRAB pmax pmax
comp=Z,140nm,1.0s,mb5.8
WRAB Tennant Creek 46.51 124 *eP* **P** **22 21 08.3 -0.4**
comp=Z,141nm,1.0s,mb5.8
WB2 Warramunga Arr 46.52 124⇑ *iP* **P** **22 21 08.4 -0.4**
WB2 *eS* **S** **22 27 51.3 -1.2**
YOMI Yo Moklole 46.58 99 *eP* **P** **22 21 04.6 -4.8**
TLY Talaya 46.64 8⇑ *iP* **P** **22 21 09.4 +0.1**
TLY *e* 22 22 41.7
TLY *ePPP* PP 22 22 58.3 -0.9
TLY *e* 22 30 59.1
TLY pmax pmax
comp=Z,48nm,1.1s,mb5.3
TLY MLR MLR
comp=Z,1μm,19.0s,MS4.8
TLY Talaya 46.64 8 *eP* **P** **22 21 09.3 -0.1**
comp=Z,22nm,0.9s,mb5.1
TLY *ep*P pP 22 21 23.7 +0.4
CN2 Changchun 46.79 31⇑P **P** **22 21 10.5 -0.1**
CN2 *e*AP pP 22 21 25.3 +0.7
CN2 *e*XP sP 22 21 33.8 +3.0
CN2 PCP PcP 22 22 42.1 -1.5
CN2 *eS* **S** **22 27 58.6 +2.5**
CN2 AMB AMB
comp=Z,80nm,0.7s,mb5.8
CN2 AMB AMB
comp=Z,270nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.1
CN2 LR LR
comp=E,1μm,16.0s,MS5.1
CN2 LR LR
comp=Z,1μm,19.0s,MS4.9
KURK Kurchatov 47.02 346 *eP* **P** **22 21 12.7 +0.3**
KURK *e**PP pP 22 21 25.2 -1.2
KURK pmax pmax
comp=Z,440nm,1.0s,mb6.3
KURK Kurchatov 47.02 346 *eP* **P** **22 21 12.7 +0.3**
comp=Z,440nm,1.0s,mb6.3
KURK *ep*P pP 22 21 25.2 -1.2
IRK Irkutsk 47.28 8 *eP* **P** **22 21 13.8 -0.5**
IRK *e* 22 22 44.6
IRK pmax pmax
comp=Z,100nm,1.7s,mb5.5
ASPA Alice Springs 48.03 129⇑ *iP* **P** **22 21 20.1 -0.6**
ASPA *eS* **S** **22 28 12.0 -1.9**
ASAR Alice Springs 48.03 129 P **P** **22 21 20.1 -0.5**
comp=Z,20nm,0.6s,mb5.4,baz=299,slow=8.1,SNR=104
ASAR LR LR 22 42 06.1
comp=Z,314nm,20.9s,MS4.3,baz=296,slow=37
FORT Forrest 48.19 141 *eP* **P** **22 21 21.4 -0.4**
comp=Z,567nm,0.7s
HIA Hailar 48.52 22 *eP* **P** **22 21 23.6 -0.4**
comp=Z,45nm,0.6s,mb5.7
ZAL Zalesovo 48.96 352 P **P** **22 21 27.5 +0.2**
ZAL pmax pmax
comp=Z,85nm,0.3s
ZAL MLR MLR
comp=Z,448nm,21.4s
ZAL Zalesovo 48.96 352 P **P** **22 21 27.5 +0.1**
comp=Z,85nm,0.3s,mb6.3,baz=308,slow=6.1,SNR=108
ZAL LR LR 22 45 29.3
comp=Z,448nm,21.4s,MS4.4,baz=293,slow=40
MDJ Mudanjiang 49.51 33 P **P** **22 21 32.3 +0.5**
MDJ AP pP 22 21 46.0 +0.1
MDJ XP sP 22 21 51.4 -0.6
MDJ AMB AMB
comp=Z,85nm,1.2s,mb5.7
MDJ AMB AMB
comp=Z,340nm,4.9s
MDJ LR LR
comp=N,222nm,9.6s
MDJ LR LR
comp=E,1μm,16.6s
MDJ LR LR
comp=Z,1μm,18.5s,MS4.9
MDJ Mudanjiang 49.51 33 *eP* **P** **22 21 31.9 +0.1**
comp=Z,87nm,0.9s,mb5.8
CBIJ Chichi jima 50.05 59 P **P** **22 21 35.4 -0.8**
comp=Z,98nm,0.5s,mb6.1,baz=271,slow=19,SNR=4.4
CBIJ LR LR 22 40 17.0
comp=Z,422nm,21.2s,MS4.4,baz=275,slow=33
NVS Novosibirsk 50.06 351 *i* P **P** **22 21 34.0 -1.8**
NVS *i* pP 22 21 48.5 -1.4
NVS *eS* **S** **22 28 32.2 -9.5**
NVS pmax pmax
comp=N,91nm,0.9s
NVS pmax pmax
comp=Z,151nm,0.9s,mb6.0
NVS pmax pmax
comp=E,68nm,1.0s
NVS smax
comp=N,68nm,2.1s
NVS smax
comp=E,38nm,1.6s
JHJ Hachijo jima 2 50.14 51 LR LR 22 41 37.8
comp=E,668nm,20.4s,MS4.6,baz=112,slow=35
MAJO Matsushiro 50.42 46 *eP* **P** **22 21 38.2 -0.6**
MAJO *PPP pP 22 21 55.0 +2.1
MAJO pmax pmax
comp=Z,25nm,1.0s,mb5.2
MAJO Matsushiro 50.42 46 *eP* **P** **22 21 38.2 -0.7**
comp=Z,25nm,1.0s,mb5.2
MAJO pP pP 22 21 55.0 +2.0
MAT Matsushiro 50.42 46 *eP* **P** **22 21 38.0 -0.8**
comp=Z,135nm,1.7s,mb5.7
MAT LR LR
comp=Z,2μm,20.0s,MS5.1
MAT Matsushiro 50.42 46 P **P** **22 21 37.5 -1.3**
MAT S **S** **22 28 49.6 +2.7**
BVAR Borovoye Array 51.39 341 P **P** **22 21 45.1 -0.8**
comp=Z,77nm,0.7s,mb5.7,baz=139,slow=11,SNR=247
CHKZ Chkalovo 51.87 342 *eP* **P** **22 21 49.2 -0.3**
CHKZ *e**PP pP 22 22 02.4 -1.3
CHKZ pmax pmax
comp=Z,410nm,1.0s,mb6.3
CHKZ Chkalovo 51.87 342 *eP* **P** **22 21 49.2 -0.3**
comp=Z,408nm,0.9s,mb6.4
CHKZ *ep*P pP 22 22 02.4 -1.3

Sta	Name	Dist	Az	Phase	Phase	Time	Res
KLR	Kul'dur	53.69	29	eP	P	22 22 00.0	-3.1
KLR				pmax	pmax		
	comp=N,63nm,2.0s						
KLR				pmax	pmax		
	comp=E,100nm,2.0s						
KLR				pmax	pmax		
	comp=Z,130nm,2.0s,mb5.5						
BOD	Bodaibo	54.34	13	⇓iP	P	22 22 06.2	-1.6
BOD				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.5						
PMG	Port Moresby	54.39	106	P	P	22 22 08.1	-0.7
PMG				pmax	pmax		
	comp=Z,28nm,0.5s						
PMG	Port Moresby	54.39	106	P	P	22 22 08.1	-0.7
	comp=Z,28nm,0.5s,mb5.4,baz=40,slow=3.9,SNR=17						
PMG	Port Moresby	54.39	106	eP	P	22 22 07.2	-1.6
	comp=Z,40nm,0.8s,mb5.4						
GNI	Garni	56.45	315	P	P	22 22 22.9	-0.4
GNI				pmax	pmax		
	comp=Z,65nm,1.1s						
GNI	Garni	56.45	315	P	P	22 22 22.8	-0.5
	comp=Z,31nm,1.0s,mb5.3,baz=291,slow=1.2,SNR=32						
GNI	Garni	56.45	315	eP	P	22 22 21.9	-1.4
	comp=Z,65nm,1.1s,mb5.6						
GNI				epP	pP	22 22 36.6	-1.1
CLNS	Chul'man	56.49	19	eP	P	22 22 21.8	-1.6
CLNS				e		22 24 27.3	
CLNS				ePPP	PPP	22 25 43.4	-5.7
CLNS				e		22 32 01.9	
CLNS				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
CLNS				pmax	pmax		
	comp=N,22nm,1.2s						
CLNS				pmax	pmax		
	comp=E,15nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
CLNS				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.1						
CLNS				MLR	MLR		
	comp=N,900nm,19.0s,MS4.9						
CLNS				MLR	MLR		
	comp=E,200nm,18.0s,MS4.9						
CTA	Charters Tower	56.74	118	eP	P	22 22 24.5	-1.1
	comp=E,22nm,1.5s,mb5.0						
CTA	Charters Tower	56.74	118	P	P	22 22 24.6	-1.0
CTA				pmax	pmax		
	comp=Z,20nm,0.9s						
CTA				MLR	MLR		
	comp=Z,677nm,21.6s						
CTA	Charters Tower	56.74	118	P	P	22 22 24.6	-1.0
	comp=Z,20nm,0.9s,mb5.1,baz=292,slow=6.2,SNR=7.9						
CTA				LR	LR	22 47 36.1	
	comp=Z,677nm,21.6s,MS4.7,baz=285,slow=37						
ASAJ	Asahikawa	56.90	40	P	P	22 22 26.1	-0.3
ASAJ				pmax	pmax		
	comp=Z,17nm,0.7s						
ASAJ				MLR	MLR		
	comp=Z,876nm,19.7s						
ASAJ	Asahikawa	56.90	40	P	P	22 22 26.1	-0.3
	comp=Z,17nm,0.7s,mb5.2,baz=255,slow=10.0,SNR=12						
ASAJ				LR	LR	22 48 07.5	
	comp=Z,876nm,19.6s,MS4.9,baz=90,slow=37						
TI2	Plekhanov	57.10	317	⇑iP	P	22 22 27.2	-0.7
TI2				i	pP	22 22 42.6	+0.2
TI2				pmax	pmax		
	comp=Z,80nm,1.0s,mb5.7						
KMBO	Kilima Mbogo	57.68	265	eP	P	22 22 33.0	+0.6
KMBO				pmax	pmax		
	comp=Z,40nm,1.2s						
KMBO	Kilima Mbogo	57.68	265	P	P	22 22 32.6	+0.2
	comp=Z,3.0nm,0.8s,mb4.4,baz=47,slow=9.7,SNR=12						
KMBO				LR	LR	22 43 13.6	
	comp=Z,1μm,21.9s,MS4.9,baz=95,slow=32						
KMBO	Kilima Mbogo	57.68	265	eP	P	22 22 33.0	+0.7
	comp=Z,40nm,1.3s,mb5.3						
ZEI	Tsey	58.11	318	iP	P	22 22 33.9	-1.1
ZEI				i*PP	pP	22 22 48.7	-0.7
ZEI				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.2						
STKA	Stephens Creek	58.12	133	P	P	22 22 34.4	-0.9
	comp=Z,8.0nm,0.6s,mb4.9,baz=307,slow=6.8,SNR=18						
STKA				LR	LR	22 48 10.7	
	comp=Z,706nm,21.2s,MS4.8,baz=356,slow=36						
STKA	Stephens Creek	58.12	133	eP	P	22 22 33.9	-1.3
STKA				epP	pP	22 22 49.8	+0.1
ONI	Oni	58.33	317	P	P	22 22 35.6	-0.9
YSS	Yuzh-Sakhalins	58.36	37	⇑iP	P	22 22 36.0	-0.7
YSS				e	pP	22 22 50.0	-1.1
YSS				e	pP	22 22 55.3	+4.2
YSS				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
YSS	Yuzh-Sakhalins	58.36	37	eP	P	22 22 36.4	-0.2
	comp=Z,64nm,0.8s,mb5.7						
ERZM	Erzurum	58.75	314	iP	P	22 22 38.6	-0.9
KIV	Kislovodsk	59.41	319	c iP	P	22 22 42.3	-1.7
KIV				i	pP	22 22 56.9	-1.5
KIV				iS	S	22 30 46.2	-1.0
KIV				pmax	pmax		
	comp=Z,72nm,1.0s,mb5.7						
KIV	Kislovodsk	59.41	319	eP	P	22 22 42.2	-1.8
	comp=Z,85nm,1.0s,mb5.7						
KIV				epP	pP	22 22 57.6	-0.8
GOF	Gofitskoye	59.65	320	⇓iP	P	22 22 44.0	-1.6
GOF				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.6						
ASF	Jabal al Asfar	59.93	304	P	P	22 22 47.8	+0.1
	comp=Z,24nm,0.8s,mb5.3,baz=350,slow=2.3,SNR=31						
ASF				PcP	PcP	22 23 34.1	+0.8
	comp=Z,19nm,0.9s,baz=328,slow=2.6,SNR=6.0						
ASF				LR	LR	22 49 00.5	
	comp=Z,613nm,21.7s,MS4.7,baz=160,slow=36						
ELZG	Elazig	60.02	312	iP	P	22 22 47.2	-1.0
MALT	Malatya	60.38	311	eP	P	22 22 49.5	-1.2
MALT				e*PP	pP	22 23 04.8	-0.4
MALT				pmax	pmax		
	comp=Z,70nm,1.6s,mb5.4						
MALT	Malatya	60.38	311	eP	P	22 22 49.5	-1.2
	comp=Z,70nm,1.6s,mb5.4						
MALT				epP	pP	22 23 04.8	-0.4
EIL	Elat	61.04	301	P	P	22 22 55.4	0.0
	comp=Z,15nm,0.7s,mb5.2,baz=92,slow=5.3,SNR=11						
EIL				LR	LR	22 50 09.1	
	comp=Z,630nm,18.1s,MS4.8,baz=104,slow=37						
EIL	Elat	61.04	301	eP	P	22 22 54.8	-0.6
	comp=Z,46nm,1.3s,mb5.5						
SOKR	Solikamsk	61.18	339	⇑iP	P	22 22 52.8	-3.0
SOKR				pmax	pmax		
	comp=Z,70nm,1.1s,mb5.7						
SOKR				MLR	MLR		
	comp=Z,370nm,21.0s,MS4.5						
HWQ	Hawqa	61.20	306	eP	P	22 22 56.7	+0.3
SOC	Sochi	61.24	317	iP	P	22 22 52.1	-4.4
SOC				e		22 23 32.9	
SOC				eS	S	22 31 10.2	-0.5
SOC				e		22 32 38.1	
SOC				eSS	SS	22 35 13.3	+0.3
SOC				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.8						
SOC				pmax	pmax		
	comp=N,24nm,1.2s						
SOC				pmax	pmax		
	comp=E,15nm,1.0s						
BHL	Bhannes	61.35	306	eP	P	22 22 57.8	+0.5
KAHT	Ahir Dag	61.35	310	iP	P	22 22 52.1	-5.2
COBT	Iskenderun	61.52	309	iP	P	22 22 58.0	-0.4
YAK	Yakutsk	62.09	18	eP	P	22 22 59.9	-2.0
YAK				e*PP	pP	22 23 09.3	-7.1
YAK				e		22 25 20.7	
YAK				eS	S	22 31 44.9	+24
YAK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.4						
YAK				pmax	pmax		
	comp=N,16nm,1.2s						
YAK				pmax	pmax		
	comp=E,13nm,1.2s						
YAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
YAK				smax			
	comp=E,5.0nm,1.3s						
YAK				MLR	MLR		
	comp=Z,466nm,13.0s,MS4.8						
YAK				MLR	MLR		
	comp=N,405nm,18.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,502nm,17.0s,MS4.8						
YAK	Yakutsk	62.09	18	eP	P	22 22 59.8	-2.1
	comp=E,91nm,0.8s,mb6.0						
PHNC	Paralimni	62.91	307	P	P	22 23 06.9	-0.9
MEST	Erdemli	63.19	308	iP	P	22 23 07.9	-1.6
AVNT	Avonos	63.20	311	iP	P	22 23 08.2	-1.4
ANN	Anapa	63.21	318	eP	P	22 23 07.6	-2.0
CSS	Prodhromos	63.46	306	P	P	22 23 10.8	-0.6
MAMC	Mammari	63.60	307	⇑P	P	22 23 12.2	-0.1
MAMC	Mammari	63.60	307	⇑eP	P	22 23 12.2	-0.1
SZAC	Souni-Zanaja	63.78	306	P	P	22 23 13.6	+0.1
TOO	Toolangi	63.80	137	eP	P	22 23 14.0	+0.4
	comp=E,1.2nm,0.9s						
BOYT	Boyabat	63.89	314	iP	P	22 23 11.8	-2.4
ALFC	Alevga	64.09	306	⇑P	P	22 23 14.4	-1.1
	comp=E,1.5nm,0.7s						
ALFC	Alevga	64.09	306	⇑eP	P	22 23 14.4	-1.1
MBAR	Mbarara	64.09	267	eP	P	22 23 16.3	+0.4
MBAR				pmax	pmax		
	comp=Z,46nm,1.3s,mb5.3						
MBAR	Mbarara	64.09	267	eP	P	22 23 15.3	-0.6
	comp=Z,46nm,1.4s,mb5.3						
MBAR				epP	pP	22 23 27.4	-3.1
MBAR				e	pP	22 23 31.5	+1.0
PPCY	Paphos	64.23	306	P	P	22 23 14.5	-2.0
AKMC	Akamas	64.28	306	P	P	22 23 15.8	-0.9
ELDT	Eldivan	64.71	312	iP	P	22 23 18.3	-1.2
VOR	Voronezh	64.81	326	eP	P	22 23 18.0	-1.9
VOR				e	pP	22 23 33.0	-1.6
VOR				eS	S	22 31 53.8	-1.3
VOR				pmax	pmax		
	comp=N,60nm,1.4s						
VOR				pmax	pmax		
	comp=E,100nm,1.4s						
VOR				pmax	pmax		
	comp=Z,150nm,1.4s,mb5.8						
VOR				smax			
	comp=E,60nm,1.4s						
BALT	Daday	65.02	313	iP	P	22 23 20.6	-0.9
CNB	Canberra Magne	65.45	133	eP	P	22 23 24.6	+0.2
	comp=E,633nm,1.4s,mb6.5						
SIM	Simferopol'	65.49	317	⇑iP	P	22 23 23.0	-1.4
SIM				pmax	pmax		
	comp=Z,60nm,0.8s,mb5.7						
SIM				MLR	MLR		
	comp=Z,270nm,21.4s,MS4.4						
SGKT	Sivrigoynuk	65.74	312	iP	P	22 23 24.4	-1.7
ISP	Isparta	66.30	309	P	P	22 23 28.2	-1.5
ISP				pmax	pmax		
	comp=Z,160nm,1.2s,mb5.9						
ISP	Isparta	66.30	309	eP	P	22 23 27.8	-1.8
	comp=Z,159nm,1.3s,mb5.9						
ESKT	Eskisehir	66.40	311	iP	P	22 23 28.9	-1.4
HNR	Honiara	66.75	103	P	P	22 23 31.7	-1.2
HNR				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.8						
HNR	Honiara	66.75	103	eP	P	22 23 31.8	-1.1
	comp=Z,115nm,1.0s,mb5.9						
MOS	Moscow	67.36	329	⇑iP	P	22 23 34.8	-1.2
MOS				i	pP	22 23 46.0	-4.8
MOS				e		22 26 09.3	
MOS				iS	S	22 32 25.1	-1.0
MOS				e		22 33 25.5	
MOS				pmax	pmax		
	comp=Z,400nm,1.8s,mb6.2						
MOS				pmax	pmax		
	comp=Z,212nm,1.2s,mb6.0						
OBN	Obninsk	67.64	328	c iP	P	22 23 36.1	-1.7
OBN				i	pP	22 23 51.1	-1.5
OBN				e		22 26 06.2	
OBN				eS	S	22 32 26.8	-2.7
OBN				pmax	pmax		
	comp=Z,170nm,1.2s,mb6.0						
OBN				MLR	MLR		
	comp=Z,300nm,24.0s,MS4.4						
OBN	Obninsk	67.64	328	eP	P	22 23 35.9	-2.0
	comp=Z,187nm,1.2s,mb6.0						
OBN				epP	pP	22 23 50.5	-2.2
ULDT	Uludag	67.82	311	iP	P	22 23 37.9	-1.2
MANT	Manisa	67.93	309	iP	P	22 23 38.9	-1.1
KARP	Karpathos	68.53	306	eP	P	22 23 42.0	-1.7
MA2	Magadan	68.64	27	eP	P	22 23 43.1	-0.8
MA2				e	pP	22 24 02.2	+3.4
MA2				e		22 26 11.7	
MA2				e		22 33 22.2	
MA2				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.2						
MA2	Magadan	68.64	27	eP	P	22 23 43.0	-1.0
	comp=Z,34nm,0.8s,mb5.3						
KDAG	Bornova	68.91	309	iP	P	22 23 45.5	-0.5
LSZ	Lusaka	68.96	251	P	P	22 23 47.5	+0.8
LSZ				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.2						
LSZ	Lusaka	68.96	251	eP	P	22 23 47.0	+0.4
	comp=Z,43nm,1.4s,mb5.2						
TIXI	Tiksi	69.46	11	⇑iP	P	22 23 47.1	-1.7
TIXI				pmax	pmax		
	comp=Z,96nm,0.7s,mb5.8						
TIXI				pmax	pmax		
	comp=N,16nm,0.6s						
TIXI				pmax	pmax		
	comp=E,15nm,0.7s						
TIXI				pmax	pmax		
	comp=Z,304nm,1.5s,mb6.0						
TIXI				MLR	MLR		
	comp=Z,636nm,19.0s,MS4.9						
TIXI	Tiksi	69.46	11	⇑iP	P	22 23 46.9	-1.9
AYVA	Ayvalik	69.51	310	iP	P	22 23 47.1	-2.5
KIS	Kishinev	69.61	318	⇑iP	P	22 23 47.0	-3.1
KIS				e	pP	22 24 03.0	-2.0
KIS				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
XRY	Khrisi	69.62	305	eP	P	22 23 50.0	-0.4
CFR	Carcaliu	69.64	316	P	P	22 23 49.5	-0.8
CFR	Carcaliu	69.64	316	⇑P	P	22 23 49.0	-1.3
CFR	Carcaliu	69.64	316	⇑P	P	22 23 49.0	-1.3
HARR	Harsova	69.67	316	⇑P	P	22 23 49.6	-0.9
HARR	Harsova	69.67	316	⇑P	P	22 23 49.6	-0.9
PRD	Provadia	69.72	314	iP	P	22 23 53.5	+2.6
NPS	Neapolis	69.74	305	eP	P	22 23 51.0	-0.1
PRK	Paraskevi	69.82	310	eP	P	22 23 51.0	-0.6
MATP	Matopo	69.84	246	P	P	22 23 52.3	+0.3
	comp=Z,9.3nm,1.0s,mb4.7,baz=54,slow=7.1,SNR=13						
PET	Petropavlovsk	70.17	35	eP	P	22 23 51.2	-2.2
PET				MLR	MLR		
	comp=Z,500nm,19.0s,MS4.8						
AKASG	Malin Array Be	70.32	322	P	P	22 23 52.3	-2.1
AKASG				pmax	pmax		
	comp=Z,26nm,0.6s						
AKASG	Malin Array Be	70.32	322	P	P	22 23 52.3	-2.1
	comp=Z,26nm,0.6s,mb5.3,baz=89,slow=5.4,SNR=103						
IDI	Anoyia	70.33	305	P	P	22 23 54.3	-0.4
	comp=Z,48nm,0.6s,mb5.6,baz=88,slow=7.8,SNR=74						
RDO	Rodhopi	70.70	312	eP	P	22 23 56.0	-0.8
ISR	Istrita	70.72	316	⇓P	P	22 23 58.1	+1.2
ISR	Istrita	70.72	316	⇓P	P	22 23 58.1	+1.2
VRI	Vrincioaia	70.75	317	P	P	22 23 57.0	-0.1
VRI	Vrincioaia	70.75	317	⇑P	P	22 23 57.1	0.0
VRI	Vrincioaia	70.75	317	⇑P	P	22 23 57.1	0.0
SEY	Seymchan	70.88	24	eP	P	22 23 56.4	-1.1
SEY				e	pP	22 24 10.8	-1.6
SEY				e		22 26 33.8	
SEY				eS	S	22 33 08.7	+1.3
SEY				pmax	pmax		
	comp=Z,20nm,0.7s,mb5.2						
VAM	Vamos	70.90	305	eP	P	22 23 58.1	-0.1
BUC1	Bucharest	70.93	315	P	P	22 23 58.8	+0.6
MLR	Muntele Rosu	71.21	316	P	P	22 23 59.9	0.0
MLR	Muntele Rosu	71.21	316	P	P	22 23 59.3	-0.6
	comp=Z,84nm,1.0s,mb5.6,baz=53,slow=2.8,SNR=36						
MLR	Muntele Rosu	71.21	316	⇑P	P	22 23 59.3	-0.6
MLR	Muntele Rosu	71.21	316	⇑P	P	22 23 59.3	-0.6
RZN	Rozhen	71.40	312	iP	P	22 24 03.5	+2.5
SNX	Sinaia	71.48	316	P	P	22 24 01.3	-0.2
PTL	Penteli	71.51	308	eP	P	22 24 04.5	+2.8
PGB	Panagyurishte	71.94	313	iP	P	22 24 06.3	+2.1
MMB	Musomiste	72.11	312	iP	P	22 24 07.5	+2.2
BURAR	Bucovina Array	72.13	318	⇑P	P	22 24 05.1	-0.2
BURAR	Bucovina Array	72.13	318	⇑P	P	22 24 05.1	-0.2
PUL	Pulkovo	72.52	331	iP	P	22 24 06.9	-0.4
KKB	Krupnik	72.63	312	iP	P	22 24 09.5	+1.1
VTS	Vitosha	72.65	313	P	P	22 24 07.8	-0.7
VTS	Vitosha	72.65	313	iP	P	22 24 10.3	+1.8
ITM	Ithomi	72.93	307	eP	P	22 24 08.7	-1.5
JOF	Joensuu	73.19	335	ep	P	22 24 10.5	-0.7
	comp=Z,4.6nm,0.5s,mb4.7						
EVR	Evrytania	73.22	309	eP	P	22 24 10.0	-1.9
LVV	L'vov	73.35	320	eP	P	22 24 11.3	-1.1
LVV				e	pP	22 24 26.9	-0.4
LBTB	Lobatse	73.56	242	P	P	22 24 15.3	+1.2
LBTB				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.4						
LBTB	Lobatse	73.56	242	P	P	22 24 15.0	+0.9
	comp=Z,9.0nm,0.7s,mb4.8,baz=98,slow=5.6,SNR=18						
LBTB	Lobatse	73.56	242	eP	P	22 24 14.7	+0.6
	comp=Z,61nm,1.3s,mb5.4						
BOLS	Boljevac	73.73	314	⇓iP	P	22 24 12.9	-1.9
SKO	Skopje	73.86	312	iP	P	22 24 13.5	-2.1
VSU	Vasula	73.87	330	iP	P	22 24 14.7	-0.6
VSU	Vasula	73.87	330	iP	P	22 24 14.8	-0.5
LVZ	Lovozero	73.95	340	iP	P	22 24 15.3	-0.3
LVZ				pmax	pmax		
	comp=Z,26nm,1.1s,mb5.1						
LVZ	Lovozero	73.95	340	iP	P	22 24 15.4	-0.2
JAN	Janina	74.04	310	eP	P	22 24 09.5	-7.2
VLS	Valsamata	74.09	308	eP	P	22 24 15.5	-1.5
KWP	Kalwaria	74.16	320	eP	P	22 24 17.2	0.0
KWP				e	pP	22 24 32.1	0.0
KOLS	Kolonicke sedl	74.31	319	eP	P	22 24 18.1	0.0
KOLS				epP	pP	22 24 33.4	+0.4
SVIS	Svilajnac	74.32	314	eP	P	22 24 16.9	-1.3
GRUS	Gruza	74.63	314	⇓iP	P	22 24 18.3	-1.7
SUW	Suwalki	74.71	325	eP	P	22 24 19.2	-1.1
SUW				e	pP	22 24 34.3	-0.9
BOSA	Boshof	74.76	239	eP	P	22 24 21.2	+0.2
BOSA				e	pP	22 24 32.0	-4.0
BOSA				pmax	pmax		
	comp=Z,79nm,1.3s,mb5.5						
BOSA	Boshof	74.76	239	eP	P	22 24 21.2	+0.2
	comp=Z,79nm,1.3s,mb5.5						
BOSA				e	pP	22 24 32.0	-4.0
CRVS	Cervenica-Dubn	74.84	319	eP	P	22 24 22.0	+0.9
FINES	FINESS Array B	75.03	332	P	P	22 24 21.0	-0.9
FINES				pmax	pmax		
	comp=Z,8.0nm,0.5s						
FINES				MLR	MLR		
	comp=Z,232nm,19.1s						
FINES	FINESS Array B	75.03	332	P	P	22 24 21.0	-0.9
	comp=Z,8.1nm,0.5s,mb5.0,baz=101,slow=6.2,SNR=95						
FINES				LR	LR	23 05 39.9	
	comp=Z,232nm,19.1s,MS4.5,baz=266,slow=42						
KAF	Kangasniemi	75.12	333	ep	P	22 24 21.7	-0.7
	comp=Z,5.3nm,0.6s,mb4.7						
DIVS	Divcibare	75.17	314	⇓iP	P	22 24 21.2	-1.9
KECS	Kecovo	75.41	319	eP	P	22 24 23.8	-0.6
KECS				e	pP	22 24 39.4	+0.1
BBLS	Bajina Basta -	75.56	314	⇓iP	P	22 24 24.8	-0.6
NIE	Niedzica	75.66	320	eP	P	22 24 24.3	-1.5
PSZ	Piszkesteto	75.72	318	eP	P	22 24 25.8	-0.4
PSZ				e*PP	pP	22 24 40.1	-1.0
PSZ				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
PSZ	Piszkesteto	75.72	318	eP	P	22 24 25.8	-0.4
	comp=Z,34nm,0.8s,mb5.3						
PSZ				epP	pP	22 24 40.1	-1.0
PSZ	Piszkesteto	75.72	318	⇑iP	P	22 24 25.9	-0.3
OJC	Ojcow	76.11	320	⇑iP	P	22 24 27.9	-0.4
OJC				i PcP	PcP	22 24 43.3	+2.7
MAW	Mawson	76.32	192	LR	LR	22 51 42.3	
	comp=Z,459nm,18.4s,MS4.8,baz=82,slow=31						
VYHS	Vyhne	76.50	318	iP	P	22 24 30.2	-0.4
VYHS				epP	pP	22 24 45.6	0.0
SRO2	Moca	76.71	318	iP	P	22 24 31.4	-0.3
SRO2				epP	pP	22 24 47.3	+0.5
SRO	Srobarova	76.77	318	eP	P	22 24 32.7	+0.6
SRO				epP	pP	22 24 47.9	+0.8
SRO1	Iza	76.82	318	eP	P	22 24 33.1	+0.7
SRO1				e	pP	22 24 46.2	-1.2
RAC	Raciborz	77.11	320	eP	P	22 24 34.3	+0.3
OKC	Ostrava-Krasne	77.11	320	eP	P	22 24 34.1	+0.1
OKC				epP	pP	22 24 49.2	+0.2
TIP	Timpagrande	77.16	309	eP	P	22 24 33.7	-0.8
KEV	Kevo	77.23	341	ep	P	22 24 33.9	-0.3
	comp=Z,23nm,0.6s,mb5.3						
SMOL	Smolenice	77.43	318	eP	P	22 24 36.3	+0.5
MORC	Moravsky Berou	77.49	320	P	P	22 24 36.2	+0.1
MORC	Moravsky Berou	77.49	320	eP	P	22 24 35.1	-0.9
	comp=Z,87nm,1.2s,mb5.6						
MORC				epP	pP	22 24 50.7	-0.4
ZST	Bratislava	77.62	318	eP	P	22 24 37.1	+0.3
ZST				epP	pP	22 24 51.7	-0.1
SOI	Samo	77.65	308	eP	P	22 24 37.6	+0.4
ARCES	ARCESS Array B	77.66	340	P	P	22 24 36.3	-0.3
ARCES				pmax	pmax		
	comp=Z,21nm,0.6s						
ARCES				MLR	MLR		
	comp=Z,338nm,21.3s						
ARCES	ARCESS Array B	77.66	340	P	P	22 24 36.3	-0.3
	comp=Z,21nm,0.6s,mb5.2,baz=89,slow=5.8,SNR=122						
ARCES				LR	LR	23 04 56.6	
	comp=Z,338nm,21.3s,MS4.6,baz=110,slow=40						
ARE0	ARCESS Array S	77.66	340	eP	P	22 24 36.0	-0.6
ARE0				epP	pP	22 24 50.4	-1.2
SISC	Sisak	77.88	315	iP	P	22 24 37.6	-0.6
MTTG	Motta San Giov	77.93	308	eP	P	22 24 39.3	+0.6
SOP	Sopron	77.93	317	⇑eP	P	22 24 38.4	-0.1
KOGS	Kog	78.04	316	⇑eP	P	22 24 38.9	-0.2
	comp=Z,273nm,1.2s,mb6.1						
VRAC	Vranov	78.06	319	P	P	22 24 39.3	+0.1
GKP	Gorka Klasztor	78.08	323	eP	P	22 24 38.8	-0.4
GKP				e	pP	22 24 54.1	-0.2
GKP	Gorka Klasztor	78.08	323	eP	P	22 24 38.9	-0.4
GKP				e	pP	22 24 54.1	-0.2
BILL	Bilibino	78.11	21	d iP	P	22 24 38.6	-0.5
BILL				e		22 27 39.0	
BILL				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
BILL	Bilibino	78.11	21	eP	P	22 24 38.3	-0.7
	comp=Z,28nm,1.1s,mb5.1						
KTK1	Kautokeino	78.28	340	eP	P	22 24 40.0	0.0
KTK1				epP	pP	22 24 55.0	0.0
DPC	Dobruska-Polom	78.33	320	eP	P	22 24 41.1	+0.4
DPC				epP	pP	22 24 56.4	+0.7
SGO	Sicignano	78.34	310	eP	P	22 24 41.0	0.0
KSP	Ksiaz	78.40	321	⇑eP	P	22 24 41.1	+0.1
KSP				e*PP	pP	22 24 56.3	+0.2
KSP	Ksiaz	78.40	321	eP	P	22 24 41.3	+0.3
KSP				e	pP	22 24 57.2	+1.1
UPC	Upice	78.55	320	eP	P	22 24 42.4	+0.6
UPC				epP	pP	22 24 55.9	-1.0
ARSA	Arzberg	78.60	317	⇑iP	P	22 24 42.3	+0.1
	comp=Z,65nm,1.1s,mb5.5						
BOJS	Bojanci	78.66	315	⇑eP	P	22 24 42.4	-0.2
	comp=Z,174nm,1.2s,mb5.9						
BOJS				epP	pP	22 24 57.1	-0.6
BOJS				e		22 25 03.4	
FX1	Attu Island--F	78.72	37	P	P	22 24 42.9	+0.2
FX1				pmax	pmax		
	comp=Z,73nm,0.5s						
FX1	Attu Island--F	78.72	37	P	P	22 24 42.9	+0.2
	comp=Z,73nm,0.5s,mb5.8,baz=325,slow=2.8,SNR=20						
FX1	Attu Island--F	78.72	37	eP	P	22 24 42.7	0.0
PERS	Pernice	78.83	316	⇑iP	P	22 24 43.5	0.0
	comp=Z,137nm,1.0s,mb5.8						
DRV	Dumont d'Urvil	78.97	163	P	P	22 24 50.0	+6.1
DRV				S	S	22 34 38.0	+1.0
LJU	Ljubljana	79.20	316	⇑eP	P	22 24 45.7	+0.2
	comp=Z,313nm,1.2s,mb6.1						
LJU				epP	pP	22 25 00.2	-0.4
LJU				esP	sP	22 25 06.8	+0.4
LJU				e		22 25 18.8	
OBKA	Obir	79.21	316	⇑iP	P	22 24 45.7	+0.1
	comp=Z,105nm,1.6s,mb5.5						
SUR	Sutherland	79.40	236	P	P	22 24 48.5	+1.6
	comp=Z,14nm,0.8s,mb5.0,baz=76,slow=7.6,SNR=13						
PRU	Pruhonice	79.44	320	eP	P	22 24 47.0	+0.2
PRU				epP	pP	22 25 02.5	+0.7
PVCC	Panska Ves	79.47	320	eP	P	22 24 47.0	+0.1
PVCC				epP	pP	22 25 02.4	+0.4
MOA	Molln	79.49	318	⇑iP	P	22 24 46.7	-0.3
	comp=Z,36nm,1.1s,mb5.2						
SDI	San Donato	79.52	311	eP	P	22 24 46.5	-0.8
BSD	Bornholm Skovb	79.64	325	⇓iP	P	22 24 47.3	-0.4
BSD				pmax	pmax		
	comp=Z,44nm,1.2s,mb5.3						
BSD	Bornholm Skovb	79.64	325	⇓iP	P	22 24 47.3	-0.4
	comp=Z,44nm,1.2s,mb5.3						

VOY Vojsko 79.64 316 *e*P **P** **22 24 47.6 -0.3**
VOY *e*pP pP 22 25 02.6 -0.4
TSUM Tsumeb 79.65 249 *e*P **P** **22 24 49.9 +1.4**
comp=Z,2.0nm,1.5s
TRI Trieste 79.72 315 *e*P **P** **22 24 47.8 -0.6**
CADS Cadrg 79.76 316⇑ *e*P **P** **22 24 48.1 -0.5**
PTQR Pietraquaria 79.84 312 *e*P **P** **22 24 48.8 -0.2**
AQU L'Aquila 79.85 312 P **P** **22 24 49.4 +0.3**
AQU L'Aquila 79.85 312 *e*P **P** **22 24 49.6 +0.5**
BRG Berggiesshubel 79.89 321 *i* P **P** **22 24 49.3 +0.2**
BRG *i* pP 22 25 04.2 0.0
BRG pmax pmax
comp=Z,66nm,1.6s,mb5.3
BRG Berggiesshubel 79.89 321 *i* P **P** **22 24 49.3 +0.2**
comp=Z,66nm,1.5s,mb5.3
BRG *i* pP 22 25 04.2 0.0
TRO Tromso 79.91 340 *e*P **P** **22 24 47.6 -1.3**
TRO *e*pP pP 22 25 02.5 -1.5
TRO AMb AMB 22 25 03.6
comp=Z,87nm,1.5s,mb5.5
GEC2 GERESS Array S 79.92 319 *e*P **P** **22 24 49.6 +0.2**
GEC2 pmax pmax
comp=Z,103nm,1.0s,mb5.7
GEC2 GERESS Array S 79.92 319 *e*P **P** **22 24 49.6 +0.2**
comp=Z,103nm,1.0s,mb5.7
GERES GERESS Array B 79.92 319 P **P** **22 24 49.5 +0.1**
GERES pmax pmax
comp=Z,34nm,0.7s
GERES GERESS Array B 79.92 319 P **P** **22 24 49.5 +0.2**
comp=Z,34nm,0.7s,mb5.4,baz=98,slow=5.4,SNR=255
KHC Kasperske Hory 80.02 319 *e*P **P** **22 24 49.8 -0.1**
KHC *e*pP pP 22 25 04.8 -0.2
PTCC Patocco-Chiusa 80.03 316 *e*P **P** **22 24 49.8 -0.2**
KBA Koelnbreinsper 80.07 317⇑ *i*P **P** **22 24 49.6 -0.6**
comp=Z,52nm,1.2s,mb5.3
NRCA Norcia 80.07 312 *e*P **P** **22 24 49.9 -0.4**
RUE Ruedersdorf 80.10 322 *e*P **P** **22 24 50.1 -0.1**
comp=Z,91nm,1.0s,mb5.7
GMNA Gemona 80.11 316 *e*P **P** **22 24 50.2 -0.2**
SNTG Esanatoglia 80.21 313 *e*P **P** **22 24 50.8 -0.2**
ARV Arcevia 80.22 313 *e*P **P** **22 24 51.2 +0.2**
FSSB Fossombrone 80.34 313 *e*P **P** **22 24 52.0 +0.2**
MNS Montasola 80.38 312 *e*P **P** **22 24 50.9 -1.0**
FVI Forni Avoltri 80.44 316 *e*P **P** **22 24 51.8 -0.4**
WET Wettzell 80.48 319 *e*P **P** **22 24 52.4 +0.1**
WET pmax pmax
comp=Z,61nm,1.1s,mb5.4
WET Wettzell 80.48 319 *e*P **P** **22 24 52.4 +0.1**
comp=Z,61nm,1.1s,mb5.4
CLL Collm 80.51 321⇑ *i*P **P** **22 24 51.9 -0.5**
CLL *i* pP 22 25 06.8 -0.7
CLL pmax pmax
comp=Z,47nm,1.2s,mb5.3
CLL Collm 80.51 321⇑ *i*P **P** **22 24 51.9 -0.5**
comp=Z,47nm,1.2s,mb5.3
CLL *i* pP 22 25 06.8 -0.7
CLL Collm 80.51 321 ⇑P **P** **22 24 51.9 -0.5**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *pP pP 22 25 06.8 -0.7
CLL *e*PP PP 22 27 55.0 -2.8
RSM Repubblica di 80.59 313 *e*P **P** **22 24 53.8 +0.8**
NKC Novy Kostel 80.81 320 *e*P **P** **22 24 54.0 0.0**
NKC *e*pP pP 22 25 09.3 +0.2
SFI Santa Sofia 81.02 313 *e*P **P** **22 24 56.3 +1.0**
MOR8 Moi Rana 81.04 336 *e*P **P** **22 24 53.8 -1.1**
MOR8 AMb AMB 22 24 56.3
comp=Z,61nm,1.9s,mb5.2
MOR8 *e*pP pP 22 25 09.6 -0.4
PGD Poggio Sodo 81.11 313 *e*P **P** **22 24 56.8 +1.0**
CTI Castel Tesino 81.20 316 *e*P **P** **22 24 56.4 +0.2**
VMG Vicchio 81.24 314 *e*P **P** **22 24 57.4 +0.9**
WATA Walderalm 81.28 317⇑ *i*P **P** **22 24 55.7 -0.9**
comp=Z,48nm,1.2s,mb5.3
MOX Moxa 81.35 320 *e*P **P** **22 24 56.7 -0.2**
MOX pmax pmax
comp=Z,70nm,1.7s,mb5.3
MOX Moxa 81.35 320 *e*P **P** **22 24 56.7 -0.2**
comp=Z,70nm,1.7s,mb5.3
MOX Moxa 81.35 320 *i* P **P** **22 24 56.7 -0.2**
comp=Z,logA/T=1.6,mb5.3
SEI Scarperia 81.38 314 *e*P **P** **22 24 57.9 +0.7**
FUR Furstenfeldbru 81.51 318 *e*P **P** **22 24 57.4 -0.3**
FUR pmax pmax
comp=Z,80nm,1.4s,mb5.5
FUR Furstenfeldbru 81.51 318 *e*P **P** **22 24 57.4 -0.3**
comp=Z,80nm,1.4s,mb5.5
SQTA Sankt Quirin 81.53 317⇑ *i*P **P** **22 24 57.4 -0.5**
comp=Z,33nm,0.9s,mb5.3
GRA1 Grafenberg Arr 81.58 319 *e*P **P** **22 24 58.6 +0.5**
comp=Z,64nm,1.2s,mb5.4
GRA1 *e*pP pP 22 25 13.5 +0.3
GRF Grafenberg Arr 81.58 319 *e*P **P** **22 24 58.6 +0.5**
GRF e*PP pP 22 25 13.5 +0.3
GRF pmax pmax
comp=Z,64nm,1.2s,mb5.4
GRF Grafenberg Arr 81.58 319 *e*P **P** **22 24 58.6 +0.5**
comp=Z,64nm,1.2s,mb5.4
GRF *e*pP pP 22 25 13.5 +0.3
MOTA Moosalm 81.61 317⇓ *i*P **P** **22 24 57.7 -0.6**
comp=Z,2.1nm,1.0s
LOF Lofoten 81.61 338 *e*P **P** **22 25 00.3 +2.4**
LOF AMb AMB 22 25 12.5
comp=Z,163nm,1.9s,mb5.6
ZCCA Zocca 81.66 314 *e*P **P** **22 25 00.4 +1.8**
BDI Bagni Di Lucca 81.93 314 *e*P **P** **22 24 59.2 -0.8**
GSCL Gusciola 81.94 314 *e*P **P** **22 25 01.1 +1.1**
SAL Salo 81.98 315 *e*P **P** **22 25 01.1 +0.8**
NB2 NORSAR Subarra 82.03 331 P **P** **22 24 59.0 -1.2**
comp=Z,21nm,1.2s,mb5.0,baz=95,slow=5.6
NB2 NORSAR Subarra 82.03 331 P **P** **22 24 59.0 -1.2**
baz=95,slow=5.6
NOA NORSAR Array B 82.03 331 P **P** **22 24 59.5 -0.7**
NOA 22 28 08.4
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,164nm,20.3s
NOA NORSAR Array B 82.03 331 P **P** **22 24 59.5 -0.7**
comp=Z,3.6nm,0.7s,mb4.4,baz=94,slow=5.4,SNR=9.7
NOA PP PP 22 28 08.4 -2.0
comp=Z,1.7nm,0.8s,baz=66,slow=4.5,SNR=3.7
NOA LR LR 23 07 31.4
comp=Z,164nm,20.3s,MS4.4,baz=75,slow=40
ERBM Eremo 82.06 314 *e*P **P** **22 25 02.3 +1.6**
SARO Sassorosso 82.07 314 P **P** **22 25 00.4 -0.3**
BRMO Bormio 82.10 316 *e*P **P** **22 25 01.1 +0.3**
CLZ Clausthal 82.17 321 *e*P **P** **22 25 01.1 0.0**
comp=Z,59nm,1.2s,mb5.4
VALM 82.18 314 P **P** **22 25 01.4 +0.1**
HDH Heidenheim 82.22 318⇑ *e*P **P** **22 25 00.9 -0.5**
BSEG Bad Segeberg 82.24 324 *e*P **P** **22 25 01.6 +0.2**
BSEG pmax pmax
comp=Z,83nm,1.2s,mb5.5
UBR Uberruh 82.28 317⇑ *e*P **P** **22 25 01.3 -0.5**
GRAM 82.31 314 P **P** **22 25 02.6 +0.6**
DAVA Damuels 82.44 317⇑ *i*P **P** **22 25 02.8 +0.2**
comp=Z,81nm,1.1s,mb5.6
SIND Sindeldorf 82.63 319⇑ *e*P **P** **22 25 03.4 -0.1**
BOB Bobbio (Coli) 82.75 314 *e*P **P** **22 25 05.0 +0.8**
BUCH Bad Urach 82.79 318⇑ *e*P **P** **22 25 04.1 -0.2**
VSL Villasalto 82.88 309 *e*P **P** **22 25 04.9 -0.1**
comp=Z,66nm,1.1s,mb5.6
STU Stuttgart 82.90 318 P **P** **22 25 05.2 +0.3**
STU pmax pmax
comp=Z,26nm,1.0s,mb5.2
STU Stuttgart 82.90 318 *e*P **P** **22 25 04.8 -0.1**
comp=Z,26nm,1.0s,mb5.2
STU *e*pP pP 22 25 19.9 -0.2
GUT Gutenstein 82.95 318⇑ *e*P **P** **22 25 04.9 -0.3**
PGF Pioggiola 83.11 312 *e*P **P** **22 25 06.1 0.0**
comp=Z,88nm,1.1s,mb5.4
TOD Tromm 83.15 319⇑ *e*P **P** **22 25 05.9 -0.2**
SPAK Spaichingen 83.17 318⇑ *e*P **P** **22 25 06.1 -0.2**
SPAK Spaichingen 83.17 318 *e*P **P** **22 25 06.2 -0.1**
VAI Varese 83.21 315 *e*P **P** **22 25 05.5 -1.0**
SYO Syowa Base 83.29 197 ⇑P P **22 25 08.0 +1.5**
SYO Syowa Base 83.29 197 ⇑PcP PcP 22 25 11.4 +0.1
TNS Taunus Mts 83.37 320 *e*P **P** **22 25 07.5 +0.3**
TNS pmax pmax
comp=Z,40nm,1.1s,mb5.4
TNS Taunus Mts 83.37 320 *e*P **P** **22 25 07.5 +0.3**
comp=Z,40nm,1.1s,mb5.4

PCP Pian Castagno 83.40 314 P **P** **22 25 07.6 +0.1**
BFO Black Forest 83.48 318 P **P** **22 25 07.7 -0.1**
comp=Z,152nm,0.9s,mb6.0,SNR=12
BFO Black Forest 83.48 318 *e*P **P** **22 25 07.5 -0.3**
BFO pmax pmax
comp=Z,41nm,1.3s,mb5.3
BFO Black Forest 83.48 318 *e*P **P** **22 25 07.5 -0.3**
comp=Z,41nm,1.3s,mb5.3
FIN Finale Ligure 83.64 314 P **P** **22 25 08.6 -0.2**
FELD Feldberg 83.70 317⇑ *e*P **P** **22 25 08.7 -0.3**
MCGN Macugnaga 83.76 316 *e*P **P** **22 25 09.8 +0.5**
KIZ Kirchzarten 83.76 318⇑ *e*P **P** **22 25 09.0 -0.3**
ORX Oropa 83.77 315 P **P** **22 25 08.5 -0.8**
LANF Langenberg 83.81 319⇑ *e*P **P** **22 25 09.6 +0.1**
MOL Molde 83.82 332 *e*P **P** **22 25 11.2 +2.0**
MOL AMb AMB 22 25 38.4
comp=Z,108nm,2.1s,mb5.6
IMI Imperia 83.88 313 *e*P **P** **22 25 08.0 -2.1**
ROB Roburent 83.89 314 P **P** **22 25 09.8 -0.2**
TRAV 83.94 315 P **P** **22 25 09.0 -1.2**
ABH Alteburg 83.96 319⇑ *e*P **P** **22 25 10.5 +0.3**
ABH Alteburg 83.96 319⇑ *e*P **P** **22 25 10.3 +0.1**
LIBD Limburg 83.97 318⇑ *e*P **P** **22 25 10.5 +0.2**
LIBD Limburg 83.97 318 *e*P **P** **22 25 10.2 -0.1**
MONE Monesi 83.97 314 P **P** **22 25 10.2 -0.2**
NEGI Negi 84.02 313 P **P** **22 25 09.4 -1.3**
RPZ Rata Peaks 84.03 135 P **P** **22 25 10.6 -0.1**
comp=Z,28nm,1.4s,mb5.2,baz=350,slow=17,SNR=4.9
BBS Basel-Blauen 84.05 317⇑ *e*P **P** **22 25 10.2 -0.5**
BBS Basel-Blauen 84.05 317⇑ *e*P **P** **22 25 10.4 -0.3**
SAOF Saorge 84.12 314 *e*P **P** **22 25 11.3 +0.1**
WLS Welschbruch 84.12 318⇑ *e*P **P** **22 25 10.7 -0.4**
CDF Champ du Feu 84.18 318 *e*P **P** **22 25 10.9 -0.5**
comp=Z,32nm,1.0s,mb5.1
ENR Entracque 84.21 314 P **P** **22 25 11.1 -0.5**
SBF Sospel 84.21 313 *e*P **P** **22 25 11.5 -0.2**
comp=Z,224nm,1.1s,mb5.9
AUTN L'Aution 84.21 314 *e*P **P** **22 25 12.2 +0.5**
ECH Echery 84.26 318 *e*P **P** **22 25 11.1 -0.7**
STV2 Anna di Valdie 84.28 314 P **P** **22 25 10.3 -1.6**
STV Sta Anna Valdi 84.28 314 P **P** **22 25 10.8 -1.2**
RUP Ruppelstein 84.28 319⇑ *e*P **P** **22 25 12.0 +0.2**
RUP Ruppelstein 84.28 319⇑ *e*P **P** **22 25 12.1 +0.3**
MOF Molkenrain 84.29 317⇑ *e*P **P** **22 25 11.5 -0.4**
RSP Reno Superiore 84.30 315 P **P** **22 25 11.9 -0.1**
TOUF Mont Tournerai 84.34 314 *e*P **P** **22 25 12.6 +0.3**
LSD Ceresole Reale 84.36 315 P **P** **22 25 12.7 +0.4**
WTSB Winterswijk 84.38 322 *e*P **P** **22 25 06.3 -6.0**
MVIF Mont Vial 84.42 313 *e*P **P** **22 25 12.6 -0.1**
PZZ Prazzo 84.43 314 P **P** **22 25 11.7 -1.1**
FENE Fenestrelle 84.44 315 P **P** **22 25 12.4 -0.3**
HINF Hinteralfeld 84.48 317 *e*P **P** **22 25 12.1 -0.8**
ABSA Djebel Ababsia 84.50 306 P **P** **22 25 15.0 +1.7**
LOMF Lomont 84.51 317 *e*P **P** **22 25 12.8 -0.3**
CMAH Djebel Manchou 84.53 306 P **P** **22 25 15.0 +1.6**
SURF Saint Ours 84.64 314⇑ *e*P **P** **22 25 14.3 +0.5**
LPG La Plagne 84.64 315 *e*P **P** **22 25 14.0 +0.3**
comp=Z,115nm,1.0s,mb5.6
RRL Cesana Torines 84.64 315 P **P** **22 25 13.0 -0.8**
LPL La Plagne 84.65 315 *e*P **P** **22 25 14.1 +0.3**
comp=Z,105nm,0.8s,mb5.7
MBDF Montbardon 84.66 314 *e*P **P** **22 25 13.2 -0.7**
comp=Z,46nm,1.0s,mb5.3
BNI Bardonecchia 84.71 315 P **P** **22 25 13.8 -0.3**
BNI pmax pmax
comp=Z,44nm,1.1s,mb5.5
BNI Bardonecchia 84.71 315 *e*P **P** **22 25 13.6 -0.5**
comp=Z,44nm,1.1s,mb5.5
RSL Roselend 84.72 315⇑ *e*P **P** **22 25 14.1 0.0**
FRF La Foret Royal 84.80 313 *e*P **P** **22 25 14.7 +0.1**
comp=Z,180nm,1.1s,mb5.8
HAU Haudompre 84.81 318 *e*P **P** **22 25 14.2 -0.3**
comp=Z,125nm,1.1s,mb5.7
LMR La Mourre 84.91 313 *e*P **P** **22 25 15.2 +0.1**
comp=Z,149nm,1.2s,mb5.7
HGN Heimansgroeve 84.97 320 *e*P **P** **22 25 10.5 -4.8**
CAEH 'Ain El Ouahch 84.98 306 P **P** **22 25 16.5 +0.8**
THEF They Montfort 85.04 318⇑ *e*P **P** **22 25 15.2 -0.5**
CABF La Chapelle 85.05 316 *e*P **P** **22 25 16.0 +0.2**
comp=Z,84nm,1.1s,mb5.5
GDM Grand'Maison 85.10 315⇑ *e*P **P** **22 25 16.4 +0.4**
CKFL Kef-Lekhel 85.10 306 P **P** **22 25 17.0 +0.7**
OG25 Le Caire 85.17 314⇑ *e*P **P** **22 25 16.7 +0.3**
TAVF Tavernes 85.22 313⇑ *e*P **P** **22 25 17.2 +0.5**
ORIF Oris-en-Rattie 85.28 315 *e*P **P** **22 25 17.3 +0.4**
comp=Z,47nm,1.0s,mb5.3
CASM Ain Smara 85.30 306 P **P** **22 25 19.0 +1.8**
STOF St-Etienne Org 85.31 314⇑ *e*P **P** **22 25 18.2 +1.1**
GRN Grenoble 85.36 315⇑ *e*P **P** **22 25 18.2 +0.9**
CTEI Djebel Teioual 85.37 306 P **P** **22 25 19.5 +1.9**
VILF Villemus 85.46 313 *e*P **P** **22 25 18.5 +0.7**
PUYF Puyloubier 85.48 313⇑ *e*P **P** **22 25 18.7 +0.7**
OG05 Jujurieux 85.52 316⇑ *e*P **P** **22 25 18.3 +0.2**
SMRF Simiane la Rot 85.55 314 *e*P **P** **22 25 19.0 +0.7**
comp=Z,85nm,1.2s,mb5.5
MEZF Maizieres J'vi 85.65 318 *e*P **P** **22 25 18.6 -0.1**
comp=Z,37nm,1.0s,mb5.3
GELF Grande-Etoile 85.69 313 *e*P **P** **22 25 19.8 +0.8**
GIVF Givet 85.71 320 *e*P **P** **22 25 18.9 0.0**
TREF Trevaresse 85.71 313⇑ *e*P **P** **22 25 19.8 +0.7**
DFRA Djebel Bou Aff 85.77 306 P **P** **22 25 21.0 +1.4**
CMER Merouana 85.81 305 P **P** **22 25 21.0 +1.2**
PRAF Pradon 85.85 313 *e*P **P** **22 25 20.6 +0.8**
CKHR Kef el Ahmar 86.10 306 P **P** **22 25 22.5 +1.3**
BAIF Baives 86.11 320 *e*P **P** **22 25 21.2 +0.4**
comp=Z,52nm,1.0s,mb5.4
VIVF Saint-Julien-l 86.14 315 *e*P **P** **22 25 21.2 0.0**
comp=Z,82nm,1.1s,mb5.6
SMF Signal de Mont 86.59 316 *e*P **P** **22 25 23.1 -0.2**
comp=Z,90nm,1.0s,mb5.6
LASF Ste Croix 86.78 314 *e*P **P** **22 25 24.7 +0.4**
comp=Z,37nm,0.9s,mb5.3
SSF Saint Saulge 86.79 317 *e*P **P** **22 25 24.3 0.0**
comp=Z,72nm,1.3s,mb5.5
PLDF La Plantade 86.80 316⇑ *e*P **P** **22 25 24.6 +0.2**
AVF Avril sur Loir 86.92 317 *e*P **P** **22 25 24.7 -0.2**
comp=Z,86nm,1.2s,mb5.6
LBL Lubilhac 87.12 315⇑ *e*P **P** **22 25 26.4 +0.5**
AGO Saint Agoulin 87.13 316⇑ *e*P **P** **22 25 26.0 0.0**
BGF Bois d'Agland 87.28 316 *e*P **P** **22 25 26.8 +0.1**
comp=Z,104nm,1.2s,mb5.7
HYF Humbligny 87.36 317 *e*P **P** **22 25 27.4 +0.3**
URZ Urewera 87.48 129 P **P** **22 25 26.7 -1.2**
comp=Z,39nm,1.2s,mb5.5,baz=344,slow=2.6,SNR=5.7
EJON La Jonquera 87.62 312 P **P** **22 25 26.2 -2.2**
comp=Z,4.8nm,0.7s,mb4.8
TCF Toulx Ste Croi 87.75 316 *e*P **P** **22 25 29.2 +0.3**
comp=Z,100nm,1.6s,mb5.5
ETOS Mallorca 87.93 310 P **P** **22 25 29.5 -0.5**
comp=Z,9.0nm,0.7s,mb5.1
CAF Calviac 87.98 315 *e*P **P** **22 25 30.6 +0.5**
comp=Z,36nm,1.0s,mb5.2
ABA Alger-Bouzarea 88.03 307 P **P** **22 25 26.0 -4.5**
MTLF Montolieu 88.03 313 *e*P **P** **22 25 30.7 +0.3**
comp=Z,68nm,1.1s,mb5.5
EMHD Djebel Mahouad 88.15 306 P **P** **22 25 33.0 +1.9**
RJF Les Rejaudoux 88.33 315 *e*P **P** **22 25 32.4 +0.7**
comp=Z,64nm,1.1s,mb5.5
EMIR Miracle 88.68 312 P **P** **22 25 34.1 +0.6**
comp=Z,24nm,0.7s,mb5.6
KTG1 Tilbrook Grang 88.77 322 *e*P **P** **22 25 34.2 +0.5**
KTG1 AMb AMB 22 25 35.3
comp=Z,114nm,1.7s,mb5.9
LFF La Frestale 88.92 315 *e*P **P** **22 25 35.2 +0.7**
comp=Z,52nm,1.1s,mb5.5
LDF La Druitiere 89.07 319 *e*P **P** **22 25 35.2 +0.1**
comp=Z,60nm,1.1s,mb5.5
EPOB Poblet 89.08 311 P **P** **22 25 35.8 +0.4**
comp=Z,22nm,0.8s,mb5.5
LCP Cassop 89.08 325 *e*P **P** **22 25 35.6 +0.6**
EIBI Ibiza 89.14 309 P **P** **22 25 36.5 +0.8**
comp=Z,26nm,0.8s,mb5.6
HPK Haverah Park 89.28 324 *e*P **P** **22 25 36.9 +0.9**
HPK AMb AMB 22 25 38.9
comp=Z,230nm,2.0s,mb6.2
FLN La Foliniere 89.28 319 *e*P **P** **22 25 36.2 0.0**
comp=Z,93nm,1.1s,mb5.7
EBNR Beni Rached 89.29 306 P **P** **22 25 38.0 +1.5**
KBI1 Birley Grange 89.32 323 *e*P **P** **22 25 36.7 +0.5**
KBI1 AMb AMB 22 25 44.2
comp=Z,69nm,1.7s,mb5.7
MFF Saint Martin d 89.33 317 *e*P **P** **22 25 36.6 +0.1**
comp=Z,114nm,1.4s,mb5.7
EPF Esparros 89.43 313 *e*P **P** **22 25 36.8 -0.2**

ECHA Ech Chlef 89.43 306 P **P** **22 25 38.9 +1.7**
LHO Holmfirth 89.48 324 *e*P **P** **22 25 37.3 +0.4**
LHO AMb AMB 22 25 45.8
comp=Z,44nm,1.9s,mb5.5
KWE Weaver Farm 89.55 323 *e*P **P** **22 25 37.7 +0.4**
KWE AMb AMB 22 25 47.2
comp=Z,49nm,1.8s,mb5.5
ETRT Tiaret 89.57 305 P **P** **22 25 40.5 +2.6**
EBR Ebro Roquetas 89.58 311 *e*PCP PcP 22 25 39.2 -0.2
GRR Gorron 89.58 318 *e*P **P** **22 25 37.8 +0.2**
comp=Z,44nm,1.1s,mb5.4
EBIE Bielsa 89.61 313 P **P** **22 25 38.6 +0.8**
comp=Z,7.3nm,0.8s,mb5.1
EANR 'Ain N'Sour 89.67 306 P **P** **22 25 40.0 +1.7**
ERTA Horta de San J 89.68 311 P **P** **22 25 37.3 -0.9**
comp=Z,15nm,0.8s,mb5.4
ESK Eskdalemuir 89.98 326 *e*P **P** **22 25 39.9 +0.7**
ESK AMb AMB 22 25 46.9
comp=Z,48nm,1.6s,mb5.6
ETSF Etsaut 90.10 313 *e*P **P** **22 25 41.0 +0.8**
comp=Z,33nm,0.9s,mb5.4
ESAC San Caprasio 90.19 312 P **P** **22 25 40.5 -0.1**
comp=Z,25nm,0.9s,mb5.5
EMOS Mosqueruela 90.36 310 P **P** **22 25 42.3 +0.9**
comp=Z,40nm,0.8s,mb5.8
EBEN Beniarda 90.39 309 P **P** **22 25 41.7 +0.1**
comp=Z,9.8nm,0.8s,mb5.2
VNDA Vanda 90.51 168 P **P** **22 25 42.8 +1.4**
VNDA pmax pmax
comp=Z,37nm,1.6s
VNDA Vanda 90.51 168 P **P** **22 25 42.2 +0.9**
comp=Z,2.3nm,0.8s,mb4.6,baz=302,slow=7.0,SNR=3.0
VNDA LR LR 23 03 42.2
comp=Z,554nm,19.1s,MS5.0,baz=314,slow=34
VNDA Vanda 90.51 168 P **P** **22 25 42.8 +1.5**
comp=Z,37nm,1.6s,mb5.5
SJPF Ste Jean 90.56 313 *e*P **P** **22 25 43.1 +0.8**
comp=Z,58nm,1.1s,mb5.5
SGMF Saint Gilles 90.72 318 *e*P **P** **22 25 43.1 +0.2**
comp=Z,134nm,1.5s,mb5.8
EALK Alkurruntz 90.74 313 P **P** **22 25 44.0 +0.8**
comp=Z,10nm,0.8s,mb5.2
QUIF Quistinic 91.18 318 *e*P **P** **22 25 45.0 -0.1**
comp=Z,103nm,1.4s,mb5.7
ROSF Rostrenen 91.18 319 *e*P **P** **22 25 45.2 +0.1**
comp=Z,84nm,1.3s,mb5.6
EMUR La Murta 91.30 308 P **P** **22 25 46.1 +0.2**
comp=Z,6.8nm,0.8s,mb5.0
ETOB Tobarra 91.42 309 P **P** **22 25 47.5 +1.1**
comp=Z,13nm,1.0s,mb5.2
ALE Alert 91.49 357 P **P** **22 25 46.0 +0.1**
comp=Z,258nm,0.7s,SNR=17
ELAN Lanestosa 92.13 314 P **P** **22 25 48.3 -1.3**
comp=Z,9.3nm,0.8s,mb5.2
EVIA Vianos 92.16 309 P **P** **22 25 51.1 +1.3**
comp=Z,11nm,0.9s,mb5.2
ENIJ Nijar 92.18 307 P **P** **22 25 50.8 +0.8**
comp=Z,4.9nm,0.7s,mb5.0
EBER Berja 92.73 307 P **P** **22 25 53.6 +1.1**
comp=Z,24nm,1.2s,mb5.5
EQES Quesada 92.73 308 P **P** **22 25 52.7 +0.2**
comp=Z,6.2nm,0.6s,mb5.2
NVL N'lazarevskaya 92.77 199⇓ *i*P **P** **22 25 53.2 +1.3**
NVL *i* *PP pP 22 26 10.0 +2.6
NVL pmax pmax
comp=Z,37nm,1.4s,mb5.6
EALB Alboran 93.00 306 P **P** **22 25 53.2 -0.5**
comp=Z,9.7nm,0.6s,mb5.4
GUD Guadarrama 93.10 311 P **P** **22 25 55.4 +1.3**
comp=Z,12nm,0.8s,mb5.4
ESDC Sonseca Array 93.12 310 P **P** **22 25 54.8 +0.6**
comp=Z,4.9nm,0.7s,mb5.1,baz=59,slow=4.4,SNR=30
ESDC Sonseca Array 93.12 310 P **P** **22 25 54.9 +0.7**
comp=Z,6.6nm,0.6s,mb5.2
EBAN Banos Encina 93.23 309 P **P** **22 25 56.0 +1.2**
comp=Z,9.9nm,1.2s,mb5.1
EARI Arriondas 93.40 314 P **P** **22 25 56.4 +1.0**
comp=Z,8.1nm,1.0s,mb5.1
IMA Indian Mountai 93.62 22 P **P** **22 25 56.2 +0.4**
IMA pmax pmax
comp=Z,280nm,1.1s
IMA Indian Mountai 93.62 22 *e*P **P** **22 25 57.3 +1.5**
comp=Z,17nm,0.6s,mb5.6
ELOJ Sierra Loja 93.69 308 P **P** **22 25 54.8 -2.0**
comp=Z,1.3nm,0.6s,mb4.5
EADA Adamuz 93.85 309 P **P** **22 25 58.2 +0.7**
comp=Z,6.7nm,0.9s,mb5.1
EMIJ Mijas 94.28 307 P **P** **22 25 57.7 -1.9**
comp=Z,5.5nm,0.7s,mb5.1
ECAL Calabor 94.77 313 P **P** **22 26 03.2 +1.6**
comp=Z,5.1nm,1.1s,mb4.9
PBRG Braganca 94.80 313 *e*P **P** **22 26 03.1 +1.3**
comp=Z,16nm,2.0s,mb5.1
EJIF Jimena Fronter 94.85 307 P **P** **22 26 02.5 +0.3**
comp=Z,7.2nm,0.9s,mb5.1
ERUA La Rua 94.97 313 P **P** **22 26 02.3 -0.3**
comp=Z,2.7nm,0.8s,mb4.7
ESPR Espera 95.08 308 P **P** **22 26 02.8 -0.4**
comp=Z,5.3nm,1.1s,mb4.9
EMIN Mina Concepcio 95.55 309 P **P** **22 26 03.9 -1.4**
comp=Z,2.8nm,0.9s,mb4.7
EBAD Badajoz 95.62 310 P **P** **22 26 05.7 +0.1**
comp=Z,2.4nm,0.9s,mb4.6
PVRL Vila Real 95.62 312 *e*P **P** **22 26 07.1 +1.5**
comp=Z,8.9nm,1.8s,mb4.9
MTE Manteigas 95.68 311 *e*P **P** **22 26 06.6 +0.8**
comp=Z,22nm,1.4s,mb5.4
PCBR Castelo Branco 95.75 311 *e*P **P** **22 26 07.6 +1.5**
comp=Z,20nm,1.8s,mb5.2
BORG Borgarnes 95.80 337 LR LR 23 13 19.6
comp=Z,487nm,19.8s,MS5.0,baz=79,slow=38
EVO Evora 96.43 310 *e*P **P** **22 26 10.3 +1.0**
comp=Z,27nm,1.6s,mb5.1
EVO *e*R
comp=Z,482nm,18.8s
SUMG Summit 96.56 347 *e*P **P** **22 26 10.1 +1.0**
comp=Z,18nm,1.1s,mb5.4
ILAR Eielson Array 96.75 22 P **P** **22 26 09.6 -0.5**
comp=Z,1.8nm,0.7s,mb4.6,baz=300,slow=4.1,SNR=36
ILAR PP PP 22 29 54.0 -14
comp=Z,0.6nm,0.8s,baz=301,slow=7.0,SNR=4.5
ILAR PKKPbc 22 42 52.8
comp=Z,0.3nm,0.7s,baz=152,slow=2.2,SNR=3.1
PWA Palmer West 96.94 26 *e*P **P** **22 26 11.3 +0.2**
comp=Z,55nm,1.4s,mb5.8
SNAA Sanae 97.54 198 LR LR 23 02 58.1
comp=Z,110nm,20.5s,MS4.3,baz=227,slow=31
DBIC Dimbokro 98.75 278 P **P** **22 26 21.4 +1.0**
DBIC pmax pmax
comp=Z,3.0nm,0.8s
DBIC MLR MLR
comp=Z,228nm,18.8s
DBIC Dimbokro 98.75 278 P **P** **22 26 21.4 +1.0**
comp=Z,3.3nm,0.8s,mb4.9,baz=48,slow=5.5,SNR=3.2
DBIC LR LR 23 09 34.4
comp=Z,228nm,18.8s,MS4.7,baz=65,slow=34
INK Inuvik 99.13 16 P **P** **22 26 21.1 +0.3**
INK pmax pmax
comp=Z,30nm,1.3s
INK Inuvik 99.13 16 LR LR 23 18 01.5
comp=Z,742nm,20.3s,MS5.2,baz=278,slow=40
INK Inuvik 99.13 16 *e*P **P** **22 26 20.7 -0.1**
comp=Z,30nm,1.4s,mb5.6
RES Resolute Bay 99.74 3 P **P** **22 26 24.5 +1.0**
RES pmax pmax
comp=Z,18nm,0.8s,mb5.5
RES Resolute Bay 99.74 3 *e*P **P** **22 26 23.5 0.0**
comp=Z,18nm,0.8s,mb5.6
DAWY Dawson 99.89 21 *e*P **P** **22 26 23.7 -0.6**
YKA Yellowknife Ar 108.61 14 Pdiff Pdif 22 27 03.7 +0.7
comp=Z,0.6nm,0.7s,baz=332,slow=4.5,SNR=11
YKA PKIKP 22 31 07.5
comp=Z,1.1nm,0.9s,baz=338,slow=2.1,SNR=9.7
YKA PP PP 22 31 27.8 -10
comp=Z,0.7nm,0.6s,baz=334,slow=7.3,SNR=7.2
YKA PKKPbc 22 42 17.2
comp=Z,0.3nm,0.6s,baz=152,slow=3.2,SNR=9.7
YKA PKKP PKKP 22 42 31.0 +7.7
comp=Z,0.3nm,0.7s,baz=145,slow=3.5,SNR=6.1
YKA Yellowknife Ar 108.61 14 Pdif Pdif 22 27 03.7 +0.7
YKA PKPdf 22 31 07.5
YKA PP PP 22 31 27.8 -10
YKA PKIKPbc 22 42 17.2
YKA PKKP PKKP 22 42 31.0 +7.7
FCC Fort Churchill 115.57 5 PKIKP PKPdf 22 31 21.5 +1.0
FCC Fort Churchill 115.57 5 *e*PKPdf PKPdf 22 31 21.4 +0.8
TBI Tubuai 115.92 113 *e*LR LR 23 06 36.5

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,361nm,24.0s						
PPT	Papeete	116.21	107	eLR	LR	23 06 40.0	
	comp=Z,159nm,21.5s						
EDM	Edmonton	116.91	18	PKIKP	PKPdf	22 31 24.7	+1.5
EDM	Edmonton	116.91	18	ePKPdf	PKPdf	22 31 24.5	+1.2
SCHQ	Schefferville	117.94	348	PKP	PKPdf	22 31 26.4	+1.2
	comp=Z,2.1nm,0.3s,baz=354,slow=3.4,SNR=23						
FFC	Flin Flon	118.42	11	ePKPdf	PKPdf	22 31 26.5	+0.4
NEW	Newport	119.66	24	PKIKP	PKPdf	22 31 30.3	+1.6
NEW	Newport	119.66	24	PKP	PKPdf	22 31 30.1	+1.4
	comp=Z,3.3nm,0.5s,baz=129,slow=0.7,SNR=12						
NEW	Newport	119.66	24	ePKPdf	PKPdf	22 31 29.7	+1.0
HUMO	Hull Mountain	121.21	32	ePKPdf	PKPdf	22 31 34.0	+2.2
MSO	Missoula	122.08	23	ePKPdf	PKPdf	22 31 34.2	+0.7
CHMT	Chamberlain Mo	122.27	22	ePKPdf	PKPdf	22 31 34.8	+1.0
ULM	Lac du Bonnet	123.74	8	PKP	PKPdf	22 31 37.0	+0.5
	comp=Z,12nm,0.6s,baz=356,slow=2.3,SNR=28						
ULM				PP	PP	22 33 15.0	-10
	comp=Z,2.2nm,0.7s,baz=343,slow=7.9,SNR=3.0						
ULM	Lac du Bonnet	123.74	8	ePKPdf	PKPdf	22 31 36.9	+0.3
BOZ	Bozeman (W)	123.95	22	PKIKP	PKPdf	22 31 38.5	+1.4
BOZ	Bozeman (W)	123.95	22	ePKPdf	PKPdf	22 31 38.3	+1.2
HLID	Hailey	124.56	25	ePKPdf	PKPdf	22 31 40.1	+1.7
QLMT	Earthquake Lak	124.71	22	ePKPdf	PKPdf	22 31 41.3	+2.7
LAO	LASA Array	124.85	17	ePKPdf	PKPdf	22 31 41.3	+2.5
YMR	Madison River	125.03	22	ePKPdf	PKPdf	22 31 41.7	+2.5
YFT	Old Faithful	125.26	22	ePKPdf	PKPdf	22 31 43.0	+3.3
LKWY	Lake	125.33	22	PKIKP	PKPdf	22 31 43.7	+3.9
LKWY	Lake	125.33	22	ePKPdf	PKPdf	22 31 43.5	+3.8
TAOE	Nuku Hiva Isla	125.58	97	eLR	LR	23 11 04.2	
RRI2	Red Ridge	126.01	23	ePKPdf	PKPdf	22 31 42.7	+1.6
TPAW	Teton Pass	126.03	23	ePKPdf	PKPdf	22 31 43.5	+2.3
LOHW	Long Hollow	126.06	23	ePKPdf	PKPdf	22 31 42.7	+1.5
WUWY	Wally Ulrich	126.07	23	ePKPdf	PKPdf	22 31 43.6	+2.4
SNOW	Snow King Moun	126.13	23	ePKPdf	PKPdf	22 31 43.5	+2.2
ELK	Elko	126.44	28	PKIKP	PKPdf	22 31 44.5	+2.5
ELK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ELK	Elko	126.44	28	PKP	PKPdf	22 31 44.5	+2.4
	comp=Z,4.1nm,0.5s,baz=352,slow=1.8,SNR=23						
ELK	Elko	126.44	28	ePKPdf	PKPdf	22 31 43.3	+1.3
EYMN	Ely	126.52	5	ePKPdf	PKPdf	22 31 43.0	+1.0
AHID	Auburn Hatcher	126.58	23	ePKPdf	PKPdf	22 31 44.0	+1.8
LRV	Little Rabbit	126.60	36	ePKPdf	PKPdf	22 31 45.1	+2.7
NVAR	Mina Array Bea	126.68	32	PKP	PKPdf	22 31 45.0	+2.5
	comp=Z,4.2nm,0.5s,baz=294,slow=1.8,SNR=22						
PDAR	Pinedale Array	127.18	22	PKP	PKPdf	22 31 44.9	+1.4
	comp=Z,40nm,1.2s,SNR=54						
PDAR				PP	PP	22 33 41.2	-5.6
	comp=Z,0.6nm,0.5s,baz=338,slow=4.9,SNR=2.4						
MTUM	Tungsten Hills	127.32	33	PKPdf	PKPdf	22 31 46.3	+2.4
HWUT	Hardware Ranch	127.37	25	ePKPdf	PKPdf	22 31 45.5	+1.7
TRCR	Troy Canyon	128.14	30	ePKPdf	PKPdf	22 31 48.1	+2.7
DAU	Daniels Canyon	128.49	25	ePKPdf	PKPdf	22 31 48.3	+2.3
NLU	North Lily Min	128.51	26	ePKPdf	PKPdf	22 31 47.7	+1.6
MPU	Maple Canyon	128.66	26	ePKPdf	PKPdf	22 31 48.7	+2.4
RKT	Rikitea	129.12	115	eLR	LR	23 12 38.2	
	comp=Z,274nm,33.5s						
MSU	Marysvale	129.64	27	PKIKP	PKPdf	22 31 51.3	+3.0
MSU	Marysvale	129.64	27	ePKPdf	PKPdf	22 31 50.5	+2.3
SRU	San Rafael	129.88	26	ePKIKP	PKPdf	22 31 51.4	+2.7
SRU	San Rafael	129.88	26	ePKPdf	PKPdf	22 31 49.8	+1.1
PV10	Paradox Valley	131.13	25	ePKPdf	PKPdf	22 31 53.1	+2.0
KSU1	Kansas State U	134.43	12	PKPdf	PKPdf	22 31 59.0	+1.7
ANMO	Albuquerque	135.13	25	PKIKP	PKPdf	22 32 01.0	+2.3
ANMO	Albuquerque	135.13	25	ePKPdf	PKPdf	22 32 00.7	+2.0
LAZ	Ladron	135.31	26	ePKPdf	PKPdf	22 32 01.6	+2.6
LPM	Los Pinos Moun	135.60	25	ePKPdf	PKPdf	22 32 02.0	+2.5
WCI	Wyandotte Cave	136.49	1	PKIKP	PKPdf	22 32 02.0	+0.9
WCI	Wyandotte Cave	136.49	1	ePKPdf	PKPdf	22 32 01.6	+0.5
CPRX	Cap Rock	137.85	23	ePKPdf	PKPdf	22 32 05.7	+2.0
WMOK	Wichita Mounta	138.03	17	PKPdf	PKPdf	22 32 05.8	+1.8
TZTN	Tazewell	138.15	358	ePKPdf	PKPdf	22 32 05.7	+1.6
GDL2	Guadalupe Moun	138.38	25	ePKPdf	PKPdf	22 32 06.5	+1.8
MNTX	Cornudas Mount	138.38	26	ePKPdf	PKPdf	22 32 05.9	+1.2
CLNB	Carlsbad	138.52	24	ePKPdf	PKPdf	22 32 07.2	+2.2
MIAR	Mount Ida	139.43	10	PKHKP		22 31 59.7	
MIAR	Mount Ida	139.43	10	ePKPpre		22 31 59.6	
MIAR				ePKPdf	PKPdf	22 32 08.3	+1.7
LTX	Lajitas	141.16	26	ePKIKP	PKPdf	22 32 12.0	+2.2
TXAR	Lajitas Array	141.16	26	PKhKP		22 32 04.8	
	comp=Z,2.5nm,0.6s,baz=202,slow=2.1,SNR=14						
TXAR				PKP	PKPdf	22 32 11.8	+1.9
	comp=Z,4.9nm,0.6s,baz=270,slow=0.9,SNR=27						
TXAR				PP	PP	22 35 11.8	-3.9
	comp=Z,1.6nm,0.7s,slow=2.5,SNR=5.9						
TXAR				SKP		22 35 43.6	
	comp=Z,1.5nm,0.6s,baz=221,slow=0.4,SNR=5.3						
TXAR	Lajitas Array	141.16	26	PKP	PKPdf	22 32 04.8	-5.0
TXAR				PKP	PKPdf	22 32 11.8	+1.9
TXAR				PP	PP	22 35 11.8	-3.9
TXAR				SKP		22 35 43.6	
JCT	Junction City	141.65	20	PKHKP		22 32 06.3	
JCT	Junction City	141.65	20	ePKPpre		22 32 05.6	
JCT				ePKPdf	PKPdf	22 32 12.1	+1.5
LRAL	Lakeview Retre	141.65	2	ePKPpre		22 32 04.5	
BDFB	Brasilia	141.99	252	PKIKP	PKPdf	22 32 14.4	+2.8
BDFB				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BDFB	Brasilia	141.99	252	PKP	PKPdf	22 32 14.4	+2.8
	comp=Z,1.2nm,0.5s,baz=69,slow=8.5,SNR=3.5						
DWPF	Disney	146.38	354	ePKPbc	PKPbc	22 32 21.9	+1.7
DWPF				epPKPdf		22 32 37.3	
FCH	Farellones	148.96	205	eP	PKPdf	22 32 29.5	+6.6
SJG	San Juan	149.84	321	PKPbc	PKPdf	22 32 30.6	+5.9
	comp=Z,17nm,0.5s,baz=44,slow=5.2,SNR=12						
SJG	San Juan	149.84	321	ePKPdf	PKPdf	22 32 26.9	+2.2
SJG				ePKPbc	PKPdf	22 32 30.5	+5.7
SJG				PKPbc	PKPdf	22 32 30.6	+5.9
TEIG	Tepich	154.28	6	PKPdf	PKPdf	22 32 33.4	+2.3
TEIG				ePKPbc	PKPdf	22 32 40.8	+10
LPAZ	La Paz	159.99	236	PKIKP	PKPdf	22 32 40.6	+2.3
LPAZ						22 33 21.1	
LPAZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
LPAZ	La Paz	159.99	236	PKP	PKPdf	22 32 40.6	+2.2
	comp=Z,3.2nm,0.9s,baz=57,slow=3.8,SNR=7.3						
LPAZ				PKPab	PKPab	22 33 21.1	+0.6
	comp=Z,4.4nm,0.8s,baz=76,slow=7.7,SNR=6.0						
LPAZ	La Paz	159.99	236	ePKPdf	PKPdf	22 32 40.9	+2.6
ROSC	El Rosal	164.93	313	PKP	PKPdf	22 32 45.0	+1.6
	comp=Z,24nm,1.2s,baz=105,slow=23,SNR=6.6						
OTAV	Otavalo	171.05	309	ePKPdf	PKPdf	22 32 49.6	+2.1
OTAV				e		22 33 02.5	

*WEL **13** 22:30:24.4±1.9, 35.28S×178.46E, h33km, ML4.7/5, Error ellipse: s-maj=16.3km s-min=9.6km az=90.0*
*IDC **13** 22:30:29.6±1.8, 35.86S×177.60E, mb4.0/3, mb1 4.2/5, mb1mx4.0/13, mbtmp4.0/5, ML3.7/2, MS3.9/1, Ms1 3.9/1, ms1mx2.6/16, Error ellipse: s-maj=38.3km s-min=23.9km az=83.0*
ISC 13 22:30:26.9±1.4**, 35.64S**±0.06×**177.9E**±0.1**, h10km, n15, σ1.25**/24**, mb3.8**/3**, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.95	171	P*	Pb	22 30 56.8	-5.2
MXZ				S*	Sb	22 31 26.9	+0.6
MXZ				S*	Sb	22 31 27.7	+1.4
MXZ				T		22 32 46.2	
PUZ	Puketiti	2.45	174	PN	Pn	22 31 06.9	-0.6
PUZ				SN	Sn	22 31 39.6	+1.9
PUZ				SN	Sn	22 31 39.6	+1.9
URZ	Urewera	2.70	194	Pn	Pn	22 31 10.5	-0.7
	12nm,0.3s,baz=21,slow=4.4,SNR=42						
URZ				Sn	Sn	22 31 43.6	-0.7
	25nm,0.3s,baz=72,slow=22,SNR=7.6						
URZ				LR	LR	22 32 18.6	
	comp=Z,3μm,21.6s,baz=234,slow=45						
MWZ	Matawai	2.71	187	P*	Pb	22 31 10.2	-5.0
MWZ				S*	Sb	22 31 49.2	+0.6
MWZ				S*	Sb	22 31 50.0	+1.4
KNZ	Kokohu	3.39	184	ePN	Pn	22 31 20.2	-0.7
KNZ				SN	Sn	22 32 02.4	+0.8
OUZ	Omahuta	3.58	275	PN	Pn	22 31 23.8	+0.2
OUZ				SN	Sn	22 32 06.9	+0.6
RATZ	Rangitukua	3.66	208	P*	Pb	22 31 29.1	-2.3
HIZ	Hauiti	3.79	220	ePN	Pn	22 31 28.5	+1.9
BFZ	Birch Farm	5.21	194	PN	Pn	22 31 43.6	-3.2
BFZ				eSN	Sn	22 32 46.1	-1.6
RPZ	Rata Peaks	9.66	211	Pn	P	22 32 45.2	-3.7
	1.0nm,0.3s,baz=1.0,slow=4.0,SNR=6.7						
RPZ				Sn	Sn	22 34 29.4	-9.1
	0.6nm,0.3s,baz=137,slow=22,SNR=2.0						
STKA	Stephens Creek	30.34	267	P	P	22 36 41.9	+1.0
	1.9nm,0.9s,mb3.8,baz=144,slow=8.7,SNR=2.4						
ASAR	Alice Springs	39.79	275	P	P	22 38 01.9	+0.1
	1.9nm,0.7s,mb4.0,baz=116,slow=7.7,SNR=16						
WRA	Warramunga Arr	41.27	280	P	P	22 38 13.9	-0.1
	1.4nm,0.7s,mb3.7,baz=120,slow=7.8,SNR=13						
FINES	FINESS Array B	148.63	334	PKPbc	PKPdf	22 50 18.8	+6.3
	1.2nm,1.0s,baz=63,slow=3.1,SNR=6.4						
DBIC	Dimbokro	151.06	174	PKPbc	PKPdf	22 50 23.1	+5.3
	5.3nm,1.1s,baz=180,slow=6.1,SNR=3.5						

*IDC **13** 22:33:03.4±0.6, 15.09S×173.65W, mb4.4/13, mb1 4.6/14, mb1mx4.5/19, mbtmp4.4/14, ML4.5/1, MS4.5/16, Ms1 4.5/16, ms1mx4.3/26, Error ellipse: s-maj=35.5km s-min=14.7km az=134.0*
*NEIC **13** 22:33:05.0±0.3, 15.22S×173.46W, h10km, mb4.9/8, Error ellipse: s-maj=13.8km s-min=8.3km az=140.0*
*HRVD **13** 22:33:05.0±0.3, 15.13S×173.36W, h12km, MW5.4/62, Centroid moment Tensor Solution. LP body waves: s29,c39; Mantle waves: s62,c91; Half duration: 1.3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.01±.02; $M_{\theta\theta}$0.17±.02; $M_{\phi\phi}$-0.17±.02; $M_{r\theta}$-1.53±.05; $M_{\theta\phi}$0.03±.02; $M_{\phi r}$0.71±.05; Best double couple: $M_0$1.696×10^{17} NP1:ϕ_s212°, δ5°, λ-173°. NP2:ϕ_s115°, δ89°, λ-85°. Principal axes: T 1.741, Plg44°, Azm200°; N -.09, Plg5°, Azm295°; P -1.651, Plg45°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 13 22:33:06.8±0.4**, 15.1S**±0.1×**173.7W**±0.1**, h33km, n95, σ0.84**/35**, mb4.5**/21**, MS4.6**/15**, 1C-1D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.20	58⇑	iP	P	22 33 38.3	-3.4
AFI				eS	S	22 33 57.5	-11
RAR	Rarotonga	14.57	117	Pn	P	22 36 25.6	-7.0
	2.0nm,0.3s,baz=281,slow=17,SNR=3.6						
RAR				LR	LR	22 40 20.1	
	comp=Z,354nm,20.5s,baz=284,slow=30						
RAR				T		22 51 10.4	
	13nm,0.3s,baz=190,slow=5.1,SNR=4.1						
RAR	Rarotonga	14.57	117	eP	P	22 36 25.0	-7.6
	26nm,0.8s						
PPT	Papeete	23.28	99	eLQ		22 42 12.2	
PPT				eLR	LR	22 43 21.1	
	878nm,27.0s						
TBI	Tubuai	24.29	113	eLQ		22 42 38.2	
TBI				eLR	LR	22 43 30.0	
	498nm,23.8s						
URZ	Urewera	24.47	198	LR	LR	22 46 44.3	
	comp=Z,1μm,19.0s,MS4.5,baz=23,slow=34						
RPZ	Rata Peaks	31.36	201	P	P	22 39 24.7	-2.0
	4.1nm,0.5s,mb4.5,baz=75,slow=3.2,SNR=5.6						
RPZ				LR	LR	22 51 38.2	
	comp=Z,1μm,19.1s,MS4.6,baz=6.4,slow=36						
TAOE	Nuku Hiva Isla	33.38	83	eLR	LR	22 47 53.0	
RKT	Rikitea	37.37	108	eLQ		22 47 30.9	
RKT				eLR	LR	22 49 06.0	
	216nm,26.0s						
STKA	Stephens Creek	43.94	240	P	P	22 41 12.9	+0.2
	3.4nm,0.5s,mb4.3,baz=84,slow=8.0,SNR=14						
STKA				LR	LR	22 57 03.4	
	comp=Z,526nm,20.0s,MS4.5,baz=13,slow=33						
STKA	Stephens Creek	43.94	240	eP	P	22 41 12.7	+0.1
STKA				e		22 41 25.1	
WB2	Warramunga Arr	49.62	257	eP	P	22 41 57.4	0.0
WRA	Warramunga Arr	49.63	257	P	P	22 41 57.3	-0.3
	1.3nm,0.4s,mb4.3,baz=96,slow=7.8,SNR=31						
ASAR	Alice Springs	49.93	252	P	P	22 41 59.5	-0.3
	7.2nm,0.5s,mb5.0,baz=90,slow=7.7,SNR=75						
ASAR				LR	LR	23 01 49.0	
	comp=Z,538nm,18.7s,MS4.6,baz=92,slow=34						
ASPA	Alice Springs	49.93	252	eP	P	22 41 59.8	0.0
ASPA				e		22 42 14.1	
CBIJ	Chichi jima	59.93	314	LR	LR	23 08 34.9	
	comp=Z,166nm,18.4s,MS4.2,baz=326,slow=36						
SBA	Scott Base	63.54	185	eP	P	22 43 36.8	+0.9
	1.0nm,0.6s,mb4.0						
VNDA	Vanda	63.66	186	P	P	22 43 36.5	-0.2
	4.6nm,1.1s,mb4.4,baz=333,slow=9.7,SNR=9.5						
VNDA	Vanda	63.66	186	eP	P	22 43 36.8	+0.1
ASAJ	Asahikawa	71.12	328	LR	LR	23 08 54.7	
	comp=Z,169nm,21.2s,MS4.3,baz=355,slow=30						
YBH	Yreka Blue Hor	73.53	37	P	P	22 44 38.5	+0.2
	7.9nm,0.9s,mb4.7,baz=208,slow=1.8,SNR=13						
WCN	Washoe City	73.86	41	eP	P	22 44 40.4	+0.1
	25nm,1.3s,mb5.0						
NVAR	Mina Array Bea	74.29	42	P	P	22 44 42.9	+0.1
	4.6nm,0.8s,mb4.5,baz=225,slow=7.9,SNR=11						
NVAR				LR	LR	23 08 59.7	
	comp=Z,467nm,20.9s,MS4.8,baz=255,slow=29						
MNV	Mina	74.39	42	eP	P	22 44 43.7	+0.3
	17nm,1.2s,mb4.8						
QSPA	South Pole Qui	74.95	180⇓	iP	P	22 44 47.1	+1.2
	15nm,1.1s,mb4.8						
TUC	Tucson	76.42	51	eP	P	22 44 55.2	0.0
	13nm,1.3s,mb4.7						
ELK	Elko	77.54	42	LR	LR	23 10 02.6	
	comp=Z,371nm,21.4s,MS4.7,baz=217,slow=29						
MSU	Marysvale	78.41	45	eP	P	22 45 07.3	+1.2
HLID	Hailey	79.57	39	eP	P	22 45 12.1	-0.2
	12nm,1.2s,mb4.7						
LAZ	Ladron	80.08	50	eP	P	22 45 15.0	-0.2
NEW	Newport	80.62	34	P	P	22 45 19.0	+1.2
	1.4nm,0.7s,mb4.0,baz=252,slow=4.6,SNR=3.6						
TXAR	Lajitas Array	80.68	56	P	P	22 45 18.6	0.0
	1.8nm,0.8s,mb4.1,baz=225,slow=5.3,SNR=14						
PV01	Paradox Valley	80.72	46	eP	P	22 45 16.3	-2.2
AHID	Auburn Hatcher	81.24	41	eP	P	22 45 21.6	+0.4
	8.1nm,1.1s,mb4.6						
GDL2	Guadalupe Moun	81.27	53	eP	P	22 45 22.2	+0.6
GDL2				e	pP	22 45 34.0	+2.0
DLBC	Dease Lake	81.52	22	LR	LR	23 18 05.9	
	comp=Z,533nm,19.9s,MS4.9,baz=284,slow=33						
ILAR	Eielson Array	82.20	11	P	P	22 45 25.6	-0.1
	1.1nm,0.6s,mb3.9,baz=229,slow=6.1,SNR=19						
PDAR	Pinedale Array	82.23	42	P	P	22 45 25.6	-0.7
	1.8nm,0.8s,mb4.0,baz=225,slow=4.2,SNR=6.6						
PDAR				LR	LR	23 15 00.7	
	comp=Z,329nm,18.3s,MS4.7,baz=327,slow=31						
BOZ	Bozeman (W)	82.36	39	P	P	22 45 27.3	+0.4
	18nm,1.6s,mb4.7						
DAWY	Dawson	83.19	14	eP	P	22 45 31.6	+0.9
MAW	Mawson	87.99	199	LR	LR	23 22 46.9	
	comp=Z,474nm,19.0s,MS4.9,baz=336,slow=34						
INK	Inuvik	88.04	14	P	P	22 45 53.7	-0.8
	2.1nm,1.1s,mb4.3,baz=222,slow=11,SNR=4.3						
INK	Inuvik	88.04	14	P	P	22 45 53.7	-0.8
YKA	Yellowknife Ar	89.93	23	P	P	22 46 03.6	-0.1
	0.7nm,0.7s,mb4.1,baz=239,slow=4.6,SNR=13						
YKA				LR	LR	23 20 11.7	
	comp=Z,316nm,18.2s,MS4.8,baz=310,slow=32						
CMAR	Chiang Mai Arr	92.24	288	LR	LR	23 21 25.0	
	comp=Z,75nm,20.8s,MS4.1,baz=140,slow=31						
SNAA	Sanae	93.23	177	LR	LR	23 27 19.0	
	comp=Z,74nm,18.1s,MS4.2,baz=46,slow=35						
ULM	Lac du Bonnet	93.88	39	LR	LR	23 24 36.0	
	comp=Z,444nm,18.9s,MS5.0,baz=56,slow=33						
BVAR	Borovoye Array	117.46	322	PKP	PKPdf	22 51 49.5	+0.3
	0.3nm,0.5s,slow=2.9,SNR=3.2						
ARCES	ARCESS Array B	124.26	352	PKP	PKPdf	22 52 03.9	+1.9
	3.3nm,0.9s,baz=45,slow=1.7,SNR=5.3						
FINES	FINESS Array B	131.58	347	PKP	PKPdf	22 52 17.4	+1.2
	0.9nm,0.8s,baz=45,slow=3.9,SNR=3.0						
CLL	Collm	143.47	353	P		22 52 51.0	
UPC	Upice	143.81	349	ePKP		22 52 53.6	
DPC	Dobruska-Polom	143.90	349	ePKP	PKPdf	22 52 39.8	+1.1
DPC				epPKP		22 52 55.1	
OKC	Ostrava-Krasne	144.02	347	ePKP	PKPdf	22 52 41.6	+2.7
OKC				epPKP		22 52 53.8	
MOX	Moxa	144.28	354	i P		22 52 56.8	
	logA/T=1.1						
PRU	Pruhonice	144.55	351	ePKP	PKPdf	22 52 42.7	+2.8
PRU				epPKP		22 52 56.9	
NKC	Novy Kostel	144.59	353	ePKP	PKPdf	22 52 42.0	+2.1
NKC				epPKP		22 52 57.2	
TNS	Taunus Mts	144.91	358	ePKPbc	PKPbc	22 52 42.0	+1.4
GIVF	Givet	145.06	2	ePKP1	PKPbc	22 52 42.5	+1.5
	33nm,1.1s						
BAIF	Baives	145.08	2	ePKP1	PKPbc	22 52 42.8	+1.7
VYHS	Vyhne	145.12	345	ePKP	PKPdf	22 52 43.6	+2.7
VYHS				e		22 52 56.2	
GRA1	Grafenberg Arr	145.26	354	ePKPbc	PKPbc	22 52 43.6	+2.1
GRA1				epPKPbc		22 53 01.1	
GRF	Grafenberg Arr	145.26	354	ePKP	PKPdf	22 52 43.6	+2.5
GRF				pPKPbc		22 53 01.1	
KMBO	Kilima Mbogo	145.40	245	PKPbc	PKPbc	22 52 44.9	+1.9
	1.1nm,0.7s,baz=186,slow=1.9,SNR=5.3						
KMBO	Kilima Mbogo	145.40	245	ePKPdf	PKPdf	22 52 45.4	+2.9
SMOL	Smolenice	145.43	347	e		22 53 00.7	
KHC	Kasperske Hory	145.53	352	ePKP	PKPdf	22 52 44.2	+2.6
KHC				epPKP		22 52 58.2	
WET	Wettzell	145.61	352	ePKPbc	PKPbc	22 52 44.8	+2.4
GEC2	GERESS Array S	145.79	351	ePKPbc	PKPbc	22 52 45.2	+2.3
GERES	GERESS Array B	145.79	351	PKPbc	PKPbc	22 52 45.1	+2.2
	1.8nm,0.8s,baz=27,slow=3.0,SNR=20						
ZST	Bratislava	145.80	347	ePKP	PKPdf	22 52 46.2	+4.1
ZST				e		22 52 59.3	
SRO	Srobarova	145.88	346	ePKP	PKPdf	22 52 47.0	+4.8
SRO				e		22 52 59.4	
SRO2	Moca	145.91	345	e		22 52 59.7	
ROSF	Rostrenen	145.92	11	ePKP1	PKPbc	22 52 44.5	+1.3
SRO1	Iza	145.95	346	e		22 52 57.9	
SRO1				e		22 53 07.7	
FLN	La Foliniere	145.96	8	ePKP1	PKPbc	22 52 44.2	+0.9
SGMF	Saint Gilles	146.13	11	ePKP1	PKPbc	22 52 45.2	+1.5
LDF	La Druitiere	146.17	8	ePKP1	PKPbc	22 52 45.3	+1.5
	22nm,1.2s						
GRR	Gorron	146.27	9	ePKP1	PKPbc	22 52 45.8	+1.7
	8.6nm,0.8s						
QUIF	Quistinic	146.34	12	ePKP1	PKPbc	22 52 45.8	+1.6
CDF	Champ du Feu	146.76	359	ePKP1	PKPbc	22 52 48.0	+2.8
	34nm,1.2s						
FUR	Furstenfeldbru	146.76	354	ePKPbc	PKPbc	22 52 48.3	+3.1
BFO	Black Forest	146.81	358	ePKPbc	PKPbc	22 52 48.1	+2.8
HAU	Haudompre	147.18	360	ePKP1	PKPdf	22 52 49.2	+4.8
	60nm,1.4s						
SSF	Saint Saulge	148.04	4	ePKP1	PKPdf	22 52 51.6	+5.8
AVF	Avril sur Loir	148.30	4	ePKP1	PKPdf	22 52 51.9	+5.6
LEGS	Legarje	148.31	348	eP	PKPdf	22 52 51.8	+5.5
SMF	Signal de Mont	148.47	3	ePKP1	PKPdf	22 52 52.5	+6.0
BGF	Bois d'Agland	148.49	5	ePKP1	PKPdf	22 52 52.5	+5.9
CABF	La Chapelle	148.57	0	ePKP1	PKPdf	22 52 53.5	+6.8
BOJS	Bojanci	148.75	348	eP	PKPdf	22 52 54.2	+7.2
LPL	La Plagne	149.67	359	ePKP1	PKPdf	22 52 56.8	+8.3
LPG	La Plagne	149.68	359	ePKP1	PKPdf	22 52 56.9	+8.4
BNI	Bardonecchia	150.13	359	ePKPbc	PKPdf	22 52 57.8	+8.5
ESDC	Sonseca Array	153.91	18	PKPbc	PKPdf	22 53 06.9	+12
	0.1nm,0.3s,baz=346,slow=5.3,SNR=2.2						

WEL 13 22:33:27.4±2.1**, 35.26S**×**178.60E, h33km, ML4.2**/3**, Error ellipse: s-maj=18.6km s-min=13.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.31	186	eP*	Pb	22 34 01.4	-6.9
MXZ				S*	Sb	22 34 30.6	-6.1
MXZ				S*	Sb	22 34 30.8	-5.9
MXZ				T		22 35 43.2	
PUZ	Puketiti	2.82	186	PN	Pn	22 34 10.5	-0.8
PUZ				SN	Sn	22 34 40.5	-4.1
PUZ				SN	Sn	22 34 41.2	-3.3
HIZ	Hauiti	4.42	222	PN	Pn	22 34 31.6	-2.5
OTVZ	Oturere	4.55	210	eP*	Pb	22 34 34.0	-12

IDC 13 22:34:24.9±21.0**, 5.95N**×**93.00E, h96km**±130km**, mb3.5**/5**, mb1 3.6**/6**, mb1mx3.4**/17**, mbtmp3.8**/6**, ML4.2**/1**, Error ellipse: s-maj=295.2km s-min=93.4km az=147.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.72	24	P	P	22 37 35.7	-0.9
	0.4nm,0.3s,baz=226,slow=14,SNR=6.0						
SONM	Songino Array	43.28	13	P	P	22 42 16.8	-1.9
	0.4nm,0.6s,baz=196,slow=9.0,SNR=4.7						
ZAL	Zalesovo	48.31	354	P	P	22 42 56.3	-2.0
	1.0nm,0.5s,baz=276,slow=5.2,SNR=4.6						
FINES	FINESS Array B	73.88	333	P	P	22 45 49.0	-1.9
	1.3nm,0.9s,baz=90,slow=4.2,SNR=3.3						
ARCES	ARCESS Array B	76.69	340	P	P	22 46 05.8	-1.0
	1.4nm,0.7s,baz=98,slow=6.4,SNR=4.4						
GERES	GERESS Array B	78.50	319	P	P	22 46 15.6	-1.6
	0.2nm,0.5s,baz=90,slow=1.0,SNR=3.4						

*IPEC **13** 23:02:36.7±0.3, 51.56N×16.20E, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.5km az=37.0*
*NEIC **13** 23:02:37.1±0.9, 51.54N×16.18E, h5km, ML3.0(VIE), ML2.8(SZGRF), ML2.5(BRG), Error ellipse: s-maj=10.1km s-min=6.6km az=46.0*
*WAR **13** 23:02:38.4, 51.50N×16.09E, h1km, ML2.8, Mining Induced*
*CSEM **13** 23:02:38.1±0.2, 51.49N×16.11E, h0km, ML3.2/7, Error ellipse: s-maj=3.5km s-min=1.8km az=18.0*
*PRU **13** 23:02:39.0, 51.45N×16.10E*
ISC 13 23:02:36.1±0.6**, 51.47N**±0.03×**16.10E**±0.04**, n23, σ1.29**/48**, 1C, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.64	169	ePg	Pg	23 02 50.7	+1.8
KSP				eSg	Sg	23 03 00.2	+2.8
KSP	Ksiaz	0.64	169	ePg	Pg	23 02 50.7	+1.8
KSP				eSg	Sg	23 02 59.6	+2.2
UPC	Upice	0.97	183	ePG	Pg	23 02 57.0	+1.6
DPC	Dobruska-Polom	1.13	173	ePG	Pg	23 02 59.6	+0.9
DPC				eSG	Sg	23 03 14.5	+0.8
	46nm,0.4s						
PVCC	Panska Ves	1.35	226	ePG	Pg	23 03 03.5	+0.4
PVCC	Panska Ves	1.35	226	Pg	Pg	23 03 03.5	+0.4
PVCC				eSg	Sg	23 03 22.4	+1.3
BRG	Berggiesshubel	1.48	247	ePn	Pn	23 03 05.5	+1.4
BRG				i Pg	Pg	23 03 06.4	+0.7
BRG				i Sg	Sg	23 03 26.0	+0.5
BRG	Berggiesshubel	1.48	247	i Pg	Pg	23 03 06.4	+0.7
PRU	Pruhonice	1.78	214	ePN	Pn	23 03 11.4	+3.0
PRU				ePG	Pg	23 03 12.1	+0.4
PRU				eSG	Sg	23 03 35.2	-0.3
	31nm,0.4s						
MORC	Moravsky Berou	1.93	151	ePn	Pn	23 03 11.2	+0.7
MORC				eSg	Sg	23 03 38.9	-1.4
	15nm,0.3s						
CLL	Collm	1.95	266	i PG	Pg	23 03 14.0	-1.0
CLL				e		23 03 18.0	
CLL				i SG	Sg	23 03 39.8	-1.1
CLL	Collm	1.95	266	i Pg	Pg	23 03 14.0	-1.0
CLL				i Sg	Sg	23 03 39.8	-1.1
OKC	Ostrava-Krasne	2.09	141	ePG	Pg	23 03 17.0	-0.8
OKC				eSG	Sg	23 03 44.5	-1.2
VRAC	Vranov	2.19	171	eSg	Sg	23 03 47.6	-1.3
	8.4nm,0.3s						
KRUC	Moravsky	2.42	175	ePn	Pn	23 03 19.1	+1.6
KRUC				eSg	Sg	23 03 55.2	-1.4
	6.2nm,0.3s						
NKC	Novy Kostel	2.62	243	ePN	Pn	23 03 22.7	+2.2
NKC				ePG	Pg	23 03 28.0	-0.5
NKC				eSG	Sg	23 04 03.1	-0.4
	22nm,0.3s						
OJC	Ojcow	2.66	117	ePG	Pg	23 03 29.0	-0.2
OJC				eSG	Sg	23 04 04.0	-0.6
KHC	Kasperske Hory	2.85	216	ePN	Pn	23 03 25.0	+1.4
KHC				ePG	Pg	23 03 30.9	-2.0
KHC				eSN	Sn	23 03 59.5	+0.4
KHC				eSG	Sg	23 04 08.4	-2.5
MOX	Moxa	2.95	255	ePn	Pn	23 03 26.0	+0.9
MOX				ePg	Pg	23 03 33.7	-1.2
MOX				eSg	Sg	23 04 13.2	-1.0
MOX	Moxa	2.95	255	i P	Pn	23 03 26.0	+0.9
MOX				Pg	Pg	23 03 34.0	-0.9
MOX				Sg	Sg	23 04 13.0	-1.2
MOX	Moxa	2.95	255	ePg	Pg	23 03 33.7	-1.2
BSD	Bornholm Skovb	3.72	349	i P	Pn	23 03 34.2	-1.8
BSD				i S	Sn	23 04 16.5	-4.7
MOA	Molln	3.81	199⇑	iPN	Pn	23 03 37.5	+0.1
MOA				i SG	Sg	23 04 40.9	-2.2
	6.3nm,0.4s						

*NEIC **13** 23:24:42.2, 37.63S×177.46E, h118km, MG4.0(WEL), After WEL.*

WEL 13 23:24:42.2±0.4**, 37.60S×177.42E, h114**km±3km**, ML4.0**/6**, 1C-1D, Error ellipse: s-maj=2.4km s-min=2.3km az=0.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WIZ	White Island	0.20	291	ePN	P	23 24 56.7	-1.4
WIZ				SN	S	23 25 09.1	-1.1
MXZ	Matakaoa Point	0.70	87	P	P	23 25 01.1	+0.1
MXZ				S	S	23 25 15.2	-0.1
MXZ	Matakaoa Point	0.70	87	⇑PN	P	23 25 01.0	0.0
MXZ				SN	S	23 25 15.2	-0.1
MXZ				SN	S	23 25 15.5	+0.2
MARZ	Manawahe	0.71	237	P	P	23 25 01.2	+0.1
MARZ	Manawahe	0.71	237	PN	P	23 25 01.0	0.0
MWZ	Matawai	0.74	174	P	P	23 25 01.4	0.0
MWZ				S	S	23 25 15.9	0.0
MWZ	Matawai	0.74	174	PN	P	23 25 01.3	0.0
MWZ				SN	S	23 25 16.0	+0.1
EDRZ	Edgecumbe	0.74	227	P	P	23 25 01.6	+0.2
EDRZ	Edgecumbe	0.74	227	PN	P	23 25 01.6	+0.2
EDRZ				SN	S	23 25 12.9	-3.0
PUZ	Puketiti	0.81	126	P	P	23 25 01.9	-0.2
PUZ	Puketiti	0.81	126	PN	P	23 25 01.5	-0.6
TAZ	Tarawera	0.96	229	P	P	23 25 04.0	+0.4
TAZ	Tarawera	0.96	229	PN	P	23 25 03.7	+0.1
KNZ	Kokohu	1.43	172	P	P	23 25 08.1	-0.8
KNZ	Kokohu	1.43	172	PN	P	23 25 08.1	-0.8
KNZ				SN	S	23 25 26.7	-2.3
BKZ	Black Stump Fm	1.73	205	P	P	23 25 11.6	-0.8
BKZ	Black Stump Fm	1.73	205	PN	P	23 25 11.4	-1.0
BKZ				SN	S	23 25 34.4	-0.7
KATZ	Kakaramea	1.93	224	P	P	23 25 14.5	-0.4
KATZ	Kakaramea	1.93	224	PN	P	23 25 14.4	-0.5
MGZ	Maungaku	2.04	226	P	P	23 25 15.9	-0.4
MGZ	Maungaku	2.04	226	PN	P	23 25 15.8	-0.5
OTVZ	Oturere	2.08	221	PN	P	23 25 16.2	-0.7
NGZ	Ngauruhoe	2.13	222	PN	P	23 25 16.9	-0.6
TWVZ	Taurewa	2.14	226	P	P	23 25 17.2	-0.5
TWVZ	Taurewa	2.14	226	PN	P	23 25 17.1	-0.6
TUVZ	Tukino	2.17	219	P	P	23 25 17.0	-1.1
TUVZ	Tukino	2.17	219	PN	P	23 25 17.0	-1.1
FWVZ	Far West T-bar	2.21	221	P	P	23 25 17.7	-0.9
FWVZ	Far West T-bar	2.21	221	PN	P	23 25 17.7	-1.0
HIZ	Hauiti	2.22	245	P	P	23 25 19.0	+0.2
HIZ	Hauiti	2.22	245	⇓PN	P	23 25 19.0	+0.2
MOVZ	Moawhango	2.23	215	P	P	23 25 17.1	-1.8
MOVZ	Moawhango	2.23	215	PN	P	23 25 17.0	-1.8
WNVZ	Wahianoa	2.24	219	P	P	23 25 17.8	-1.2
WNVZ	Wahianoa	2.24	219	PN	P	23 25 17.8	-1.3
PWZ	Pawanui	2.46	190	P	P	23 25 19.7	-2.3
PWZ	Pawanui	2.46	190	PN	P	23 25 19.5	-2.6
TSZ	Takapari Road	2.71	204	PN	P	23 25 22.3	-3.0
BFZ	Birch Farm	3.21	196	P	P	23 25 28.4	-3.7
BFZ	Birch Farm	3.21	196	PN	P	23 25 28.2	-3.9
BFZ				SN	S	23 26 05.5	-4.4
MRZ	Mangatainoka R	3.38	205	P	P	23 25 30.3	-4.0
MRZ	Mangatainoka R	3.38	205	PN	P	23 25 30.0	-4.4
MRZ				SN	S	23 26 08.7	-5.2
KIW	Kapiti Island	3.80	210	P	P	23 25 35.6	-4.4
KIW	Kapiti Island	3.80	210	PN	P	23 25 35.5	-4.5
MTW	Mount Morrison	3.85	202	P	P	23 25 35.8	-4.9
MTW	Mount Morrison	3.85	202	PN	P	23 25 35.6	-5.2
MTW				SN	S	23 26 19.4	-6.0
CAW	Cannon Point	3.95	207	P	P	23 25 37.2	-4.9
CAW	Cannon Point	3.95	207	ePN	P	23 25 36.8	-5.3
PAWZ	Paruwai Farm	4.08	202	PN	P	23 25 38.5	-5.3
PAWZ				SN	S	23 26 24.7	-6.2
MSWZ	Moikau Station	4.16	203	P	P	23 25 39.5	-5.5
MSWZ	Moikau Station	4.16	203	PN	P	23 25 39.4	-5.6
MRW	Makara Radio	4.19	209	P	P	23 25 40.5	-4.9
MRW	Makara Radio	4.19	209	PN	P	23 25 40.1	-5.2
DUWZ	D'Urville Isla	4.20	219	PN	P	23 25 40.7	-4.7
BHW	Baring Head	4.29	207	P	P	23 25 41.0	-5.6
BHW	Baring Head	4.29	207	PN	P	23 25 40.9	-5.7
TUWZ	Tuamarina	4.68	214	ePN	P	23 25 45.9	-6.0
NNZ	Nelson	4.78	220	eP	P	23 25 47.8	-5.5
NNZ	Nelson	4.78	220	ePN	P	23 25 47.7	-5.6
NNZ				SN	S	23 26 41.8	-6.2
BSWZ	Blackbirch Sta	4.94	213	P	P	23 25 50.0	-5.4
BSWZ	Blackbirch Sta	4.94	213	ePN	P	23 25 49.9	-5.5
QRZ	Quartz Range	4.98	228	eP	P	23 25 51.2	-4.8
QRZ	Quartz Range	4.98	228	ePN	P	23 25 51.0	-5.0
QRZ				SN	S	23 26 46.4	-6.6
THZ	Tophouse	5.42	219	eP	P	23 25 56.9	-5.1
THZ	Tophouse	5.42	219	ePN	P	23 25 54.9	-7.1
THZ				SN	S	23 26 57.4	-6.4
KHZ	Kahutara	5.66	211	eP	P	23 25 59.0	-6.2
KHZ	Kahutara	5.66	211	ePN	P	23 25 58.8	-6.4
KHZ				SN	S	23 27 00.2	-9.3
DSZ	Denniston Nort	5.99	225	SN	S	23 27 09.6	-8.0
LTZ	Lake Taylor	6.51	216	eP	P	23 26 09.5	-7.3
LTZ	Lake Taylor	6.51	216	ePN	P	23 26 09.4	-7.4
MQZ	McQueen's Vall	7.10	209	eP	P	23 26 16.7	-8.2
MQZ	McQueen's Vall	7.10	209	ePN	P	23 26 16.4	-8.5
MQZ				SN	S	23 27 30.9	-14
ODZ	Otahua Downs	9.02	212	eP	P	23 26 43.4	-7.3
ODZ	Otahua Downs	9.02	212	ePN	P	23 26 43.2	-7.5

*BJI **13** 23:32:35.7, 18.00S×179.25W, h568km, mB4.7, mb4.3*
*NEIC **13** 23:32:36.9±1.0, 17.84S×178.47W, h588km±11km, mb4.6/11, Error ellipse: s-maj=28.4km s-min=6.9km az=151.0*
*IDC **13** 23:32:42.8±2.3, 17.89S×178.60W, h663km±27km, mb3.9/10, mb1 4.2/10, mb1mx3.9/15, mbtmp4.9/10, Error ellipse: s-maj=40.5km s-min=10.7km az=155.0*

ISC 13 23:32:36.1±1.2**, 17.9S**±0.2×**178.5W**±0.1**, h590**km±16km**, n105, σ0.84**/47**, mb4.5**/21**, 10C-6D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
AFI	Afiamalu	7.59	60	eP	P	23 34 30.9	-0.8
	202nm,1.0s						
ARMA	Armidale	29.86	240	⇓iP	P	23 37 59.4	+0.8
CTA	Charters Tower	33.34	260	⇓iP	P	23 38 28.7	+0.7
	23nm,0.7s,mb4.9						
CNB	Canberra Magne	33.36	232	⇓iP	P	23 38 28.7	+0.7
	320nm,0.6s						
PMG	Port Moresby	34.34	280	P	P	23 38 38.5	+2.2
	57nm,0.8s,mb5.2,baz=88,slow=5.8,SNR=21						
PMG	Port Moresby	34.34	280	eP	P	23 38 38.4	+2.0
	59nm,0.8s,mb5.3						
TOO	Toolangi	37.11	231	eP	P	23 38 59.2	+0.3
	1.0nm,0.9s						
STKA	Stephens Creek	38.55	241	P	P	23 39 11.6	+0.8
	23nm,0.6s,mb4.9,baz=92,slow=9.5,SNR=61						
STKA	Stephens Creek	38.55	241	eP	P	23 39 11.4	+0.7
WB2	Warramunga Arr	44.51	260	eP	P	23 39 57.5	-0.6
WRAB	Tennant Creek	44.52	260	eP	P	23 39 57.6	-0.5
	21nm,0.4s,mb5.0						
WRA	Warramunga Arr	44.53	260	P	P	23 39 57.6	-0.6
	17nm,0.5s,mb4.8,baz=95,slow=7.3,SNR=567						
WRA				S	S	23 45 47.7	-4.3
	0.3nm,0.7s,baz=84,slow=10,SNR=3.3						
ASAR	Alice Springs	44.69	254	P	P	23 39 59.4	-0.1
	93nm,0.7s,mb5.4,baz=87,slow=8.8,SNR=910						
ASAR				ScP		23 44 24.2	
	1.1nm,0.6s,baz=98,slow=4.4,SNR=5.5						
ASAR				S	S	23 45 51.5	-2.8
	1.8nm,0.7s,baz=89,slow=17,SNR=11						
ASPA	Alice Springs	44.69	254	⇓iP	P	23 39 59.4	-0.1
KAKA	Kakadu	47.47	269	eP	P	23 40 20.3	-0.4
	23nm,0.4s,mb5.0						
FORT	Forrest	49.92	245	⇓iP	P	23 40 37.2	-1.5
	723nm,0.5s						
FITZ	Fitzroy Crossi	52.92	261	eP	P	23 41 00.2	-0.2
	27nm,1.5s,mb4.4						
MBWA	Marble Bar	57.97	256	eP	P	23 41 34.0	-1.4
	7.2nm,0.4s,mb4.2						
MDJ	Mudanjiang	78.08	325	P	P	23 43 37.5	+1.5
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,233nm,5.5s						
MTUM	Tungsten Hills	78.72	45	eP	P	23 43 40.0	+0.5
LHEM	Herd Peak	78.80	39	P	P	23 43 40.7	+0.8
LBCM	Butte Creek Ri	78.87	41	P	P	23 43 40.8	+0.6
NVAR	Mina Array Bea	79.47	44	P	P	23 43 43.7	+0.2
	comp=Z,4.5nm,0.7s,mb3.9,baz=217,slow=7.1,SNR=19						
CN2	Changchun	79.92	322	eP	P	23 43 45.3	-0.3
SLKM	Skilak Lake	81.38	14	eP	P	23 43 52.1	-0.7
FMW	Mount Fremont	82.25	35	P	P	23 43 58.1	+0.6
ELK	Elko	82.70	43	eP	P	23 43 59.4	-0.5
	comp=Z,4.7nm,1.0s,mb4.0						
MSU	Marysvale	83.65	46	eP	P	23 44 05.5	+0.8
HLID	Hailey	84.67	41	eP	P	23 44 09.6	+0.1
	comp=Z,4.0nm,0.7s,mb4.2						
ILAR	Eielson Array	85.87	13	P	P	23 44 13.7	-1.2
	comp=Z,2.9nm,0.5s,mb4.2,baz=221,slow=4.8,SNR=103						
TXAR	Lajitas Array	86.07	58	P	P	23 44 17.2	+0.6
	comp=Z,6.5nm,0.7s,mb4.4,baz=218,slow=6.0,SNR=74						
TXAR	Lajitas Array	86.07	58	P	P	23 44 17.2	+0.5
MCMT	McKenzie Canyo	86.28	41	eP	P	23 44 17.9	+0.7
RRI2	Red Ridge	86.53	42	eP	P	23 44 18.7	+0.3
GDL2	Guadalupe Moun	86.64	55	eP	P	23 44 19.6	+0.3
CHMT	Chamberlain Mo	87.07	39	eP	P	23 44 20.3	-0.6
DAWY	Dawson	87.08	16	eP	P	23 44 20.1	-0.4
MOOW	Moose Ponds	87.08	42	eP	P	23 44 19.8	-1.2
QLMT	Earthquake Lak	87.17	41	eP	P	23 44 22.0	+0.6
PDAR	Pinedale Array	87.40	43	P	P	23 44 22.5	0.0
	comp=Z,4.6nm,0.7s,mb4.3,baz=221,slow=2.9,SNR=32						
BOZ	Bozeman (W)	87.43	40	eP	P	23 44 22.4	-0.2
	comp=Z,1.9nm,1.0s,mb3.8						
CMAR	Chiang Mai Arr	88.76	290	P	P	23 44 31.1	+1.6
	comp=Z,0.4nm,0.4s,mb3.6,baz=117,slow=4.0,SNR=2.7						
LZH	Lanzhou	90.77	308	eP	P	23 44 38.8	+0.4
LZH				AP	pP	23 46 44.5	-2.4
LZH				XP	sP	23 47 43.0	-2.1
LZH				AMB	AMB		
	comp=Z,13nm,1.5s,mb4.6						
INK	Inuvik	91.88	15	eP	P	23 44 41.4	-1.2
	comp=Z,3.7nm,0.9s,mb4.4						
YKA	Yellowknife Ar	94.34	25	P	P	23 44 52.8	-1.1
	comp=Z,0.8nm,0.5s,mb4.1,baz=242,slow=4.4,SNR=21						
ARCES	ARCESS Array B	126.25	350	PKP	PKPdf	23 50 31.0	-0.7
	comp=Z,2.2nm,0.8s,baz=98,slow=1.3,SNR=14						
JOF	Joensuu	130.48	343	ep	PKPdf	23 50 39.9	-0.1
KAF	Kangasniemi	132.49	344	ep	PKPdf	23 50 43.3	-0.4
FINES	FINESS Array B	133.12	344	PKP	PKPdf	23 50 44.2	-0.7
	comp=Z,0.6nm,0.5s,baz=45,slow=2.7,SNR=4.3						
FINES	FINESS Array B	133.12	344	PKP	PKPdf	23 50 44.2	-0.7
NB2	NORSAR Subarra	136.32	353	PKPabc	PKPdf	23 50 52.1	+1.3
	comp=Z,0.6nm,0.6s,baz=38,slow=2.6						
NOA	NORSAR Array B	136.32	353	PKP	PKPdf	23 50 51.0	+0.2
	comp=Z,1.1nm,1.0s,baz=34,slow=2.0,SNR=3.1						
NOA	NORSAR Array B	136.32	353	PKP	PKPdf	23 50 51.0	+0.2
AKASG	Malin Array Be	140.47	332	PKhKP		23 50 49.4	
	comp=Z,0.5nm,0.3s,baz=43,slow=4.4,SNR=4.4						
BURAR	Bucovina Array	144.52	332	⇑P	PKPdf	23 51 08.6	+2.9
OJC	Ojcow	144.53	340	ePKP	PKPdf	23 51 06.8	+1.2
CFR	Carcaliu	144.84	327	⇓P	PKPdf	23 51 08.9	+2.6
KSP	Ksiaz	145.04	344	⇑ePKP	PKPdf	23 51 08.9	+2.5
NIE	Niedzica	145.04	338	ePKP	PKPdf	23 51 07.6	+1.1
CLL	Collm	145.40	347	⇑iPKP1	PKPbc	23 51 09.5	+1.2
CLL				i		23 51 19.7	
UPC	Upice	145.42	344	eP	PKPdf	23 51 10.2	+3.1
UPC	Upice	145.42	344	⇑ePKPB	PKPbc	23 51 10.2	+1.9
DPC	Dobruska-Polom	145.47	343	eP	PKPdf	23 51 10.4	+3.2
DPC	Dobruska-Polom	145.47	343	⇑ePKPB	PKPbc	23 51 10.4	+1.9
BRG	Berggiesshubel	145.60	346	iP	PKPdf	23 51 10.2	+2.8
MLR	Muntele Rosu	145.74	329	⇑P	PKPdf	23 51 10.4	+2.6
PVCC	Panska Ves	145.77	345	eP	PKPdf	23 51 11.0	+3.3
PVCC	Panska Ves	145.77	345	⇑ePKPB	PKPbc	23 51 11.0	+1.8
PRU	Pruhonice	146.27	345	eP	PKPdf	23 51 12.2	+3.6
PRU	Pruhonice	146.27	345	⇑ePKPB	PKPbc	23 51 12.2	+1.8
NKC	Novy Kostel	146.53	347	⇑ePKPB	PKPbc	23 51 13.0	+2.0
GRF	Grafenberg Arr	147.29	348	ePKP	PKPdf	23 51 14.9	+4.6
KHC	Kasperske Hory	147.31	345	⇑ePKPB	PKPdf	23 51 15.0	+4.7
KHC				ePKPAB	PKPab	23 51 19.8	-0.4
GERES	GERESS Array B	147.54	345	PKPbc	PKPdf	23 51 15.5	+4.7
	comp=Z,3.1nm,0.5s,baz=25,slow=3.2,SNR=40						
GIVF	Givet	147.73	356	ePKP1	PKPdf	23 51 15.7	+4.7
BAIF	Baives	147.81	357	ePKP1	PKPdf	23 51 16.0	+4.9
	comp=Z,9.0nm,0.6s						
FLN	La Foliniere	149.14	3	ePKP1	PKPdf	23 51 18.7	+5.5
	comp=Z,27nm,0.9s						
CDF	Champ du Feu	149.17	352	ePKP1	PKPdf	23 51 19.2	+6.0
	comp=Z,6.1nm,0.5s						
PERS	Pernice	149.17	342	ePKPbc	PKPdf	23 51 19.1	+5.8
MEZF	Maizieres J'vi	149.30	355	ePKP1	PKPdf	23 51 19.8	+6.3
	comp=Z,3.2nm,0.4s						
LDF	La Druitiere	149.32	2	ePKP1	PKPdf	23 51 19.0	+5.5
	comp=Z,8.7nm,0.6s						
ROSF	Rostrenen	149.36	6	ePKP1	PKPdf	23 51 18.1	+4.5
GRR	Gorron	149.50	3	ePKP1	PKPdf	23 51 19.7	+5.9
	comp=Z,9.0nm,0.5s						
SGMF	Saint Gilles	149.51	5	ePKP1	PKPdf	23 51 19.4	+5.6
	comp=Z,21nm,0.9s						
HAU	Haudompre	149.68	354	ePKP1	PKPdf	23 51 20.3	+6.2
	comp=Z,7.2nm,0.6s						
QUIF	Quistinic	149.79	6	ePKP1	PKPdf	23 51 19.5	+5.2
HINF	Hinteralfeld	149.80	353	ePKP1	PKPdf	23 51 20.3	+6.0
	comp=Z,6.5nm,0.7s						
LJU	Ljubljana	149.88	342	ePKPbc	PKPdf	23 51 20.8	+6.4
LJU				ePKPab	PKPab	23 51 31.4	+0.6
BOJS	Bojanci	150.14	340	ePKPbc	PKPdf	23 51 22.1	+7.2
HYF	Humbligny	150.66	358	ePKP1	PKPdf	23 51 23.0	+7.4
SSF	Saint Saulge	150.84	357	ePKP1	PKPdf	23 51 23.1	+7.2
	comp=Z,8.0nm,0.6s						
CABF	La Chapelle	151.08	353	ePKP1	PKPdf	23 51 24.2	+7.9
	comp=Z,8.5nm,0.8s						
AVF	Avril sur Loir	151.11	357	ePKP1	PKPdf	23 51 23.2	+6.9
	comp=Z,9.7nm,1.0s						
SMF	Signal de Mont	151.23	357	ePKP1	PKPdf	23 51 23.8	+7.3
MFF	Saint Martin d	151.31	2	ePKP1	PKPdf	23 51 23.9	+7.3
	comp=Z,8.3nm,0.6s						
BGF	Bois d'Agland	151.37	358	ePKP1	PKPdf	23 51 24.2	+7.5
	comp=Z,9.8nm,0.7s						
TCF	Toulx Ste Croi	151.65	359	ePKP1	PKPdf	23 51 24.7	+7.6
	comp=Z,4.2nm,0.6s						
LPL	La Plagne	152.08	352	ePKP1	PKPdf	23 51 26.6	+8.9
LPG	La Plagne	152.10	352	ePKP1	PKPdf	23 51 26.8	+9.1
RJF	Les Rejaudoux	152.64	360	ePKP1	PKPdf	23 51 26.8	+8.3
MBDF	Montbardon	152.85	352	ePKP1	PKPdf	23 51 28.3	+10
	comp=Z,6.2nm,0.7s						
VIVF	Saint-Julien-l	152.96	355	ePKP1	PKPdf	23 51 28.0	+9.1
	comp=Z,3.6nm,0.7s						
CAF	Calviac	153.01	359	ePKP1	PKPdf	23 51 27.9	+8.9
ESDC	Sonseca Array	157.76	11	PKPab	PKPab	23 52 01.6	-2.7
	comp=Z,0.2nm,0.5s,baz=320,slow=3.1,SNR=6.0						
DBIC	Dimbokro	167.28	150	PKP	PKPdf	23 51 35.2	-0.1
	comp=Z,4.8nm,1.0s,baz=315,slow=5.7,SNR=2.5						

WEL 13 23:43:08.6±0.8**, 35.24S×178.77E, h33**km**, ML4.1**/2**, Error ellipse: s-maj=9.9km s-min=4.3km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.35	189	T		23 45 40.0	
PUZ	Puketiti	2.86	188	PN	Pn	23 43 51.2	-1.9
PUZ				SN	Sn	23 44 22.8	-3.9
PUZ				SN	Sn	23 44 23.8	-2.9
MGZ	Maungaku	4.56	214	eP*	Pb	23 44 16.1	-12
NGZ	Ngauruhoe	4.67	212	P*	Pb	23 44 18.0	-12

*NEIC **13** 23:43:15.3, 33.30N×116.85W, h14km, ML3.5(PAS), After PAS.*
NEIC Felt [IV] at Escondido and Santa Ysabel; [III] at Bonsall, Fallbrook, Julian, Pala, Pauma Valley, Poway, Ramona, San Marcos and Valley Center; [II] at Alpine, Aguanga, Carlsbad, Del Mar, El Cajon, Hemet, La Jolla, Lakeside, La Mesa, San Diego, Santee, Spring Valley, Temecula, Vista and Winchester.

ECX 13 23:43:15.5±0.8**, 33.31N×116.85W, h13**km±3km**, MD3.5, ML3.7, 2C-7D, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLM	Palomar	0.05	350	⇓iP	Pb	23 43 18.1	+0.3
PLM				eS	Sb	23 43 20.2	+0.8
DGR	Domenigoni Val	0.37	339	⇓iP	Pg	23 43 22.4	-0.8
POB	Polly Butte	0.38	351	⇓iP	Pg	23 43 22.8	-0.7
YAQ	Yaqui Meadows	0.44	108	⇑iP	Pb	23 43 23.9	-0.8
YAQ				eS	Sg	23 43 29.7	-1.1
PFO	Pinyon Flat Ob	0.45	48	eP	Pb	23 43 23.5	-1.2
SND	San Diego	0.57	199	⇓iP	Pb	23 43 21.7	-5.1
BAR	Barrett	0.64	166	⇓iP	Pb	23 43 26.7	-1.3
BAR	Barrett	0.64	166	eP	Pb	23 43 26.0	-2.0
RMX	La Rumorosa	0.96	137	eP	Pb	23 43 32.7	-0.8
RMX				e		23 43 46.2	
	comp=N,2μm,0.1s						
RMX				⇑e		23 43 47.0	
	comp=E,3μm,0.3s						
CBX	Cerro Bola	1.00	171	⇓iP	Pb	23 43 33.0	-1.2
CBX				eS	Sb	23 43 46.1	-0.9
MWC	Mount Wilson	1.36	313	eP	Pn	23 43 39.1	-1.2
ENX	Ensenada	1.43	174	eP	Pn	23 43 39.9	-1.4
ENX				eS	Sb	23 43 58.4	-1.0
PBX	Punta Banda	1.56	176	eP	Pn	23 43 42.4	-0.7
PBX				eS	Sn	23 44 02.6	-0.7
RDX	Rancho Dowling	1.57	151	eP	Pn	23 43 42.4	-0.8
RDX				i S	Sn	23 44 02.8	-0.6
CPBX	Cerro Prieto	1.57	124	eP	Pn	23 43 43.6	+0.3
CPBX				eS	Sn	23 44 04.8	+1.2
ECNX	Esteban Cantu	1.66	172	⇓eP	Pn	23 43 43.8	-0.7
ECNX				eP		23 43 40.0	
ECNX				eS	Sn	23 43 58.8	-7.0
ECNX				eS	Sn	23 44 05.5	-0.3
EMX	El Mayor	1.89	134	ePN	Pn	23 43 49.0	+1.1
EMX				eS	Sn	23 44 13.7	+2.0
LDFC	Landfair	2.28	39	Pn	Pn	23 43 51.2	-2.2
SPX	San Pedro Mart	2.54	152	ePN	Pn	23 43 58.3	+1.1
DAC	Darwin (Calif)	3.03	349	Pn	Pn	23 44 05.2	+1.1
MTUM	Tungsten Hills	4.27	341	Pn	Pn	23 44 22.5	+0.7
OMM	Old Mammoth Mi	4.64	339	Pn	Pn	23 44 23.5	-3.6
WUAZ	Wupatki	5.04	63	Pn	Pn	23 44 30.0	-2.6
TUC	Tucson	5.21	99	Pn	Pn	23 44 29.6	-5.4
CMB	Columbia Colle	5.53	330	Pn	Pn	23 44 37.9	-1.6

*IDC **13** 23:52:23.4±1.2, 14.29N×146.46E, mb3.6/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.6/5, MS3.8/1, Ms1 3.8/1, ms1mx2.8/20, Error ellipse: s-maj=51.7km s-min=22.7km az=98.0*

ISC 13 23:52:33.7±1.3**, 14.3N**±0.1×**146.4E**±0.4**, h100**km**, n6, σ0.65**/5**, mb3.4**/5**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	19.70	343	LR	LR	00 02 51.5	
	comp=Z,274nm,21.1s,baz=66,slow=32						
WRA	Warramunga Arr	35.99	199	P	P	23 59 26.7	-0.3
	0.3nm,0.7s,mb3.4,baz=25,slow=9.6,SNR=5.2						
ASAR	Alice Springs	39.62	198	P	P	23 59 57.5	+0.3
	0.2nm,0.5s,mb3.2,baz=28,slow=8.3,SNR=5.3						
SONM	Songino Array	47.03	324	P	P	00 00 56.2	-0.6
	0.3nm,0.5s,mb3.3,baz=140,slow=7.2,SNR=6.9						
ZAL	Zalesovo	61.93	324	P	P	00 02 45.8	+0.7
	0.4nm,0.5s,mb3.7,baz=259,slow=4.2,SNR=3.1						
ILAR	Eielson Array	67.34	25	P	P	00 03 19.8	-0.1
	0.2nm,0.4s,mb3.3,baz=253,slow=5.6,SNR=13						
ILAR				pP	pP	00 03 44.2	-0.9
	0.4nm,0.5s,baz=251,slow=5.8,SNR=2.9						

*NEIC **14** 00:00:18.9, 32.70S×71.75W, h26km, ML2.8(GUC), After GUC.*

GUC 14 00:00:18.9±0.8**, 32.70S×71.75W, h26**km±8km**, MD3.5, ML2.8, 5C-4D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.31	58	⇓iP	Pb	00 00 26.3	+0.1
PACH				i S	Sb	00 00 31.6	+0.6
ROCH	El Roble	0.68	113	⇑iP	Pb	00 00 32.0	0.0
ROCH				i S	Sb	00 00 42.0	+1.0
LCCH	Las Cruces	0.78	169	⇓iP	Pb	00 00 33.1	-0.7
LCCH				i S	Sb	00 00 44.0	0.0
JACH	Jahuel	0.98	89	⇑iP	Pb	00 00 36.4	-0.7
JACH				i S	Sb	00 00 50.0	+0.5
TACH	Talagante	1.17	144	i P	Pn	00 00 39.6	-0.2
TACH				i S	Sn	00 00 54.5	-0.5
CLCH	Cerro Calan	1.23	124	⇓iP	Pn	00 00 40.7	0.0
CLCH				i S	Sn	00 00 57.5	+0.9
CLCH				AMP		00 01 03.8	
	comp=E,286nm,0.5s						
LNV	Longovilo	1.28	167	i P	Pn	00 00 40.5	-1.0
LNV				i S	Sn	00 00 57.9	+0.1
FCH	Farellones	1.38	117	⇓iP	Pn	00 00 43.0	+0.2
FCH				i S	Sn	00 01 01.6	+1.3
FCH				AMP		00 01 02.7	
	comp=N,357nm,0.3s						
PCH	Pirque	1.38	132	⇑iP	Pn	00 00 43.4	+0.5
PCH				i S	Sn	00 01 02.4	+1.9
CHCH	Chadas Angostu	1.53	143	⇑iP	Pn	00 00 45.8	+0.7
CHCH				i S	Sn	00 01 07.2	+2.9
LMEL	Las Melosas	1.73	132	⇑iP	Pn	00 00 48.9	+1.1
LMEL				i S	Sn	00 01 12.1	+2.9
LMEL				AMP		00 01 16.7	
	comp=N,176nm,0.1s						
CICH	Cipreses	1.96	146	eP	Pn	00 00 51.7	+0.6

*IGIL **14** 00:13:21.1, 36.50N×11.10W, h0km, ML3.0*
*NEIC **14** 00:13:23.0, 36.62N×11.07W, MG4.1(MDD), After MDD.*
*INMG **14** 00:13:24.7±1.0, 36.56N×11.09W, h10km, ML2.4, Error ellipse: s-maj=5.4km s-min=3.0km az=77.0*
*CSEM **14** 00:13:26.8±0.2, 36.77N×10.86W, h134km±2km, ML3.5/3, Error ellipse: s-maj=3.9km s-min=2.4km az=57.0*

MDD 14 00:13:22.9±1.6**, 36.62N×11.08W, mb4.1**/14**, 1C, Error ellipse: s-maj=14.2km s-min=9.5km az=61.0, PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	2.10	63	ePn	Pn	00 13 58.6	-1.1
PTEO				eSn	Sn	00 14 23.7	-3.2
	20nm,0.3s						
PTEO	Sao Teotonio	2.10	63	P	Pn	00 13 58.3	-1.4
PTEO				S	Sn	00 14 23.6	-3.3
PTEO	Sao Teotonio	2.10	63	ePn	Pn	00 13 58.6	-1.1
PTEO				eSn	Sn	00 14 23.7	-3.2
	20nm,0.3s						
PLOU	Loures	2.73	34	ePn	Pn	00 14 07.4	-1.3
PLOU				eSn	Sn	00 14 39.6	-3.4
	17nm,0.1s						
PLOU	Loures	2.73	34	ePn	Pn	00 14 07.4	-1.3
PLOU				eSn	Sn	00 14 39.6	-3.4
	17nm,0.1s						
MOE	Montemor	2.88	48	ePn	Pn	00 14 10.1	-0.8
MOE				eSn	Sn	00 14 43.1	-3.8
MOE	Montemor	2.88	48	P	Pn	00 14 10.0	-0.9
MOE				S	Sn	00 14 42.9	-4.0
MOE	Montemor	2.88	48	ePn	Pn	00 14 10.1	-0.8
MOE				Sn	Sn	00 14 42.9	-4.0
PBEJ	Beja	2.92	60	ePn	Pn	00 14 09.6	-1.9
PBEJ				eSn	Sn	00 14 43.8	-4.0
	7.2nm,0.1s						
PBEJ	Beja	2.92	60	Pn	Pn	00 14 09.5	-2.0
PBEJ				Sn	Sn	00 14 43.7	-4.1
PALC	Alcoutim	3.01	73	ePn	Pn	00 14 10.7	-2.0
PALC				eSn	Sn	00 14 44.9	-5.1
	9.6nm,0.2s						
PALC	Alcoutim	3.01	73	P	Pn	00 14 10.7	-2.0
PALC				S	Sn	00 14 45.1	-4.9
PALC	Alcoutim	3.01	73	Pn	Pn	00 14 10.7	-2.0
PALC				eSn	Sn	00 14 44.9	-5.1
	9.6nm,0.2s						
ALMR	Almeirim	3.22	37	eP	Pn	00 14 11.9	-3.7
ALMR				eS	Sn	00 14 50.3	-4.9
ALMR				eS	Sn	00 14 50.3	-4.9
ALMR				AML	AML	00 14 55.0	
	comp=E,49nm,0.2s						
PTOM	Tomar	3.66	34	eSn	Sn	00 15 02.7	-3.8
	comp=E,11nm,0.2s						
PTOM	Tomar	3.66	34	eSn	Sn	00 15 02.7	-3.8
	comp=E,11nm,0.2s						
EMIN	Mina Concepcio	3.70	71	⇑P	Pn	00 14 20.0	-2.6
	comp=E,3.2nm,0.1s,SNR=18						
EMIN				S	Sn	00 15 01.7	-5.9
	comp=E,5.0nm,0.2s						
EMIN	Mina Concepcio	3.70	71	P	Pn	00 14 20.0	-2.6
	comp=E,3.2nm,0.1s,SNR=18						
EMIN				S	Sn	00 15 01.7	-5.9
	comp=E,5.0nm,0.2s						
EBAD	Badajoz	3.87	55	P	Pn	00 14 22.4	-2.5
	comp=E,2.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 15 06.5	-5.2
	comp=E,18nm,0.2s,SNR=7.9						

EBAD	**Badajoz**	**3.87**	**55**	P	Pn	00 14 22.4	-2.5
	comp=E,2.2nm,0.1s,SNR=7.9						
EBAD				S	Sn	00 15 06.6	-5.2
	comp=E,18nm,0.2s,SNR=7.9						
ESPR	**Espera**	**4.21**	**85**	P	Pn	00 14 26.7	-3.0
	comp=E,10nm,0.1s,SNR=76						
ESPR				S	Sn	00 15 13.3	-7.0
	comp=E,13nm,0.2s,SNR=5.6						
ESPR	**Espera**	**4.21**	**85**	P	Pn	00 14 26.7	-3.0
	comp=E,10nm,0.1s,SNR=76						
ESPR				S	Sn	00 15 13.3	-7.0
	comp=E,13nm,0.2s,SNR=5.6						
PCBR	**Castelo Branco**	**4.29**	**40**	*e*Pn	Pn	00 14 28.8	-2.1
PCBR				*e*Sn	Sn	00 15 15.9	-6.5
	comp=E,4.2nm,0.3s						
EJIF	**Jimena Fronter**	**4.52**	**90**	P	Pn	00 14 31.5	-2.7
	comp=E,0.9nm,0.2s,SNR=4.0						
EJIF				S	Sn	00 15 23.4	-5.0
	comp=E,0.8nm,0.3s,SNR=4.0						
MTE	**Manteigas**	**4.69**	**35**	*e*Sn	Sn	00 15 26.6	-5.8
	comp=E,3.8nm,0.3s						
MTE	**Manteigas**	**4.69**	**35**	S	Sn	00 15 26.5	-5.9
PVIS	**Viseu**	**4.79**	**30**	*e*Pn	Pn	00 14 35.6	-2.4
PVIS				*e*Sn	Sn	00 15 28.6	-6.5
	comp=E,5.3nm,0.1s						
PVIS	**Viseu**	**4.79**	**30**	P	Pn	00 14 35.3	-2.7
PVIS				S	Sn	00 15 28.6	-6.5
EMIJ	**Mijas**	**5.08**	**89**	P	Pn	00 14 38.1	-4.0
	comp=E,0.3nm,0.1s,SNR=6.5						
EMIJ				S	Sn	00 15 34.4	-8.0
	comp=E,1.6nm,0.3s						
PVRL	**Vila Real**	**5.34**	**28**	*e*Sn	Sn	00 15 42.2	-6.7
	comp=E,5.0nm,0.1s						
EADA	**Adamuz**	**5.41**	**71**	P	Pn	00 14 43.4	-3.3
	comp=E,3.7nm,0.2s,SNR=28						
EADA				S	Sn	00 15 42.4	-8.2
	comp=E,3.2nm,0.2s						
EADA	**Adamuz**	**5.41**	**71**	P	Pn	00 14 43.4	-3.3
	comp=E,3.7nm,0.2s,SNR=28						
EADA				S	Sn	00 15 42.4	-8.2
	comp=E,3.2nm,0.2s						
ELOJ	**Sierra Loja**	**5.58**	**83**	P	Pn	00 14 46.8	-2.4
	comp=E,1.1nm,0.2s,SNR=4.0						
ELOB	**Lobios**	**5.74**	**23**	P	Pn	00 14 48.3	-3.2
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	00 15 50.8	-8.1
	comp=E,4.9nm,0.2s,SNR=11						
ELOB	**Lobios**	**5.74**	**23**	P	Pn	00 14 48.3	-3.1
	comp=E,0.4nm,0.1s,SNR=7.9						
ELOB				S	Sn	00 15 50.8	-8.2
	comp=E,4.9nm,0.2s,SNR=11						
EZAM	**Zamans**	**5.82**	**18**	S	Sn	00 15 52.8	-8.2
	comp=E,1.6nm,0.1s,SNR=4.0						
ERON	**Agron**	**5.85**	**84**	P	Pn	00 14 50.1	-2.9
	comp=E,0.9nm,0.2s,SNR=4.0						
ECOG	**Cogollos-Vega**	**6.06**	**82**	P	Pn	00 14 53.1	-2.8
	comp=E,1.1nm,0.2s,SNR=4.0						
ECOG				S	Sn	00 15 59.1	-7.8
	comp=E,0.7nm,0.2s,SNR=4.0						
PBRG	**Braganca**	**6.18**	**32**	*e*Sn	Sn	00 16 01.6	-8.3
	comp=E,2.0nm,0.2s						
PBRG	**Braganca**	**6.18**	**32**	S	Sn	00 16 00.9	-9.0
ECAL	**Calabor**	**6.29**	**31**	P	Pn	00 14 55.5	-3.7
	comp=E,0.8nm,0.2s,SNR=7.9						
ECAL				S	Sn	00 16 04.5	-8.3
	comp=E,7.7nm,0.3s,SNR=11						
ECAL	**Calabor**	**6.29**	**31**	P	Pn	00 14 55.5	-3.7
	SNR=7.9						
ECAL				S	Sn	00 16 04.5	-8.3
	comp=E,7.7nm,0.3s,SNR=11						
ESDC	**Sonseca Array**	**6.39**	**59**	P	Pn	00 14 56.7	-3.9
	comp=E,1.3nm,0.1s,baz=242,slow=13,SNR=21						
ESDC				S	Sn	00 16 06.7	-8.4
	comp=E,1.4nm,0.2s,baz=244,slow=23,SNR=13						
ESDC	**Sonseca Array**	**6.39**	**59**	P	Pn	00 14 56.7	-3.8
	comp=E,1.3nm,0.1s,SNR=21						
ESDC				S	Sn	00 16 06.7	-8.4
	comp=E,1.4nm,0.2s,SNR=13						
EQES	**Quesada**	**6.50**	**77**	P	Pn	00 14 58.2	-4.0
	comp=E,0.6nm,0.2s,SNR=8.8						
EQES				S	Sn	00 16 09.8	-8.2
	comp=E,1.2nm,0.1s						
EQES	**Quesada**	**6.50**	**77**	P	Pn	00 14 58.2	-4.0
	comp=E,0.6nm,0.2s,SNR=8.8						
EQES				S	Sn	00 16 09.8	-8.2
	comp=E,1.2nm,0.1s						
ERUA	**La Rua**	**6.52**	**27**	P	Pn	00 14 58.7	-3.7
	comp=E,0.6nm,0.2s,SNR=4.0						
ERUA				S	Sn	00 16 10.6	-7.8
	comp=E,0.9nm,0.2s,SNR=4.0						
EMAZ	**Mazaricos**	**6.53**	**14**	P	Pn	00 14 58.4	-4.1
	comp=E,0.6nm,0.1s,SNR=7.9						
EMAZ				S	Sn	00 16 07.5	-11
	comp=E,2.1nm,0.1s,SNR=4.0						
EBER	**Berja**	**6.58**	**85**	P	Pn	00 14 59.8	-3.5
	comp=E,0.5nm,0.2s,SNR=4.0						
EBER				S	Sn	00 16 11.9	-8.2
	comp=E,0.9nm,0.4s,SNR=4.0						
EBER	**Berja**	**6.58**	**85**	P	Pn	00 14 59.8	-3.5
	comp=E,0.5nm,0.2s,SNR=4.0						
EBER				S	Sn	00 16 11.9	-8.2
	SNR=4.0						
EINC	**Incio**	**6.69**	**24**	P	Pn	00 15 01.1	-3.6
	comp=E,0.7nm,0.1s,SNR=7.9						
EINC				S	Sn	00 16 13.9	-8.7
	comp=E,0.5nm,0.1s,SNR=7.9						
EINC	**Incio**	**6.69**	**24**	P	Pn	00 15 01.1	-3.6
	comp=E,0.7nm,0.1s,SNR=7.9						
EINC				S	Sn	00 16 13.9	-8.7
	comp=E,0.5nm,0.1s,SNR=7.9						
GUD	**Guadarrama**	**6.75**	**51**	P	Pn	00 15 02.2	-3.4
	comp=E,0.2nm,0.2s,SNR=7.9						
GUD				S	Sn	00 16 15.4	-8.8
	comp=E,0.7nm,0.2s,SNR=7.9						
ENIJ	**Nijar**	**7.13**	**85**	P	Pn	00 15 07.2	-3.8
	comp=E,0.5nm,0.2s,SNR=4.0						
EPON	**Pontenova**	**7.35**	**23**	P	Pn	00 15 09.3	-4.8
	comp=E,1.1nm,0.2s,SNR=5.0						
EPON				S	Sn	00 16 28.7	-10
	comp=E,1.3nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**7.35**	**23**	P	Pn	00 15 09.3	-4.8
	comp=E,1.1nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**7.83**	**72**	P	Pn	00 15 16.3	-4.5
	comp=E,1.1nm,0.2s,SNR=8.6						
ETOB				S	Sn	00 16 41.1	-10
	comp=E,0.3nm,0.1s						
ETOB	**Tobarra**	**7.83**	**72**	P	Pn	00 15 16.3	-4.5
	comp=E,1.1nm,0.2s,SNR=8.6						
EARI	**Arriondas**	**8.05**	**32**	S	Sn	00 16 45.6	-11
	comp=E,3.4nm,0.7s,SNR=7.9						
ELAN	**Lanestosa**	**8.84**	**39**	S	Sn	00 17 05.6	-11
	comp=E,1.6nm,0.4s,SNR=4.0						
EBEN	**Beniarda**	**8.86**	**73**	P	P	00 15 30.3	-4.8
	comp=E,0.2nm,0.1s,SNR=4.0						
EBEN	**Beniarda**	**8.86**	**73**	P	P	00 15 30.3	-4.8
	comp=E,0.2nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**9.12**	**63**	P	P	00 15 35.4	-3.3
	comp=E,0.8nm,0.4s,SNR=4.0						
EMOS				S	Sn	00 17 10.6	-13
	comp=E,0.9nm,0.6s,SNR=4.0						
EMOS	**Mosqueruela**	**9.12**	**63**	P	P	00 15 35.4	-3.3
	SNR=4.0						
ABMS	**Boumerdes**	**11.70**	**85**	P	P	00 16 06.8	-7.3

*ATH **14** 00:18:50.8, 40.85N×22.76E, h23km±2km, MD3.0/4*
*NEIC **14** 00:18:50.8, 40.85N×22.76E, h23km, MD3.0(ATH), After ATH.*
*THE **14** 00:18:53.3, 40.84N×22.93E, h7km, ML2.8*
*CSEM **14** 00:18:53.4±0.1, 40.83N×22.92E, h5km±2km, ML2.8, Error ellipse: s-maj=3.0km s-min=2.5km az=81.0*
ISC 14 00:18:52.8±0.4**, 40.82N**±0.02×**22.93E**±0.04**, h13**km±4km**, n19, σ0.94**/30**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
THE	**Thessaloniki**	**0.19**	**172**	*e*Pg	**Pg**	**00 18 57.6**	**+0.3**
THE				*e*Sg	**Sg**	**00 19 00.7**	**+0.4**
SOH	**Sokhos**	**0.32**	**90**	*e*Pg	**Pg**	**00 18 59.8**	**+0.2**
KNT	**Kendrikon**	**0.34**	**356**	*e*Pg	**Pg**	**00 18 59.7**	**-0.3**
KNT				*e*Sg	**Sg**	**00 19 04.1**	**-0.8**
GRG	**Griva**	**0.42**	**289**	*e*Pg	**Pg**	**00 19 01.2**	**-0.4**
GRG				*e*Sg	**Sg**	**00 19 07.3**	**-0.2**
VAY	**Valandovo**	**0.57**	**331**⇑	*i*Pg	**Pg**	**00 19 03.8**	**-0.6**
VAY				*i* Sg	**Sg**	**00 19 11.5**	**-0.7**
PLG	**Polygyros**	**0.59**	**139**	*e*PN	**Pn**	**00 19 04.3**	**-2.3**
LIT	**Litokhoron**	**0.79**	**205**	*e*Pg	**Pg**	**00 19 08.3**	**-0.5**
LIT				*e*Sg	**Sg**	**00 19 20.2**	**+0.7**
NVR	**Nevrokopi**	**0.88**	**53**	*e*PN	**Pn**	**00 19 09.4**	**-1.3**
OUR	**Ouranopolis**	**0.94**	**121**	*e*Pg	**Pg**	**00 19 11.0**	**-0.6**
MMB	**Musomiste**	**0.97**	**38**	*i* Pg	**Pg**	**00 19 13.5**	**+1.1**
MMB				Sg	**Sg**	**00 19 26.5**	**+1.0**
KZN	**Kozani**	**1.02**	**240**	*e*PN	**Pn**	**00 19 08.9**	**-3.8**
KKB	**Krupnik**	**1.05**	**6**	*i* Pg	**Pg**	**00 19 15.0**	**+1.1**
KKB				Sg	**Sg**	**00 19 27.5**	**-0.5**
PAIG	**Paliouri**	**1.06**	**147**	*e*Pg	**Pg**	**00 19 13.0**	**-1.1**
PAIG				*e*Sg	**Sg**	**00 19 29.0**	**+0.7**
FNA	**Florina**	**1.18**	**269**	*e*Pb	**Pb**	**00 19 15.6**	**+1.1**
FNA				*e*Sb	**Sb**	**00 19 32.4**	**+2.8**
NEO	**Neokhori**	**1.53**	**171**	*e*PN	**Pn**	**00 19 20.0**	**+0.1**
NEO				*e*SN	**Sn**	**00 19 40.4**	**+0.7**
RZN	**Rozhen**	**1.60**	**57**	Sg	**Sg**	**00 19 47.0**	**+0.8**
VTS	**Vitosha**	**1.78**	**7**	P	**Pn**	**00 19 27.5**	**+3.9**
VTS				Sg	**Sg**	**00 19 53.0**	**+0.8**
AGG	**Agios Georgios**	**1.85**	**195**	*e*Pb	**Pb**	**00 19 25.0**	**-1.1**
PGB	**Panagyurishte**	**1.96**	**28**	Sg	**Sg**	**00 19 58.0**	**-0.2**

*IDC **14** 00:55:39.6±0.8, 27.80S×73.83E, mb4.1/13, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, MS4.1/7, Ms1 4.1/7, ms1mx3.9/15, Error ellipse: s-maj=28.6km s-min=19.3km az=36.0*
*NEIC **14** 00:55:41.4±0.5, 27.78S×73.88E, h10km, mb4.7/3, Error ellipse: s-maj=18.0km s-min=12.0km az=211.0*
ISC 14 00:55:39.6±0.6**, 27.8S**±0.1×**73.9E**±0.1**, h10**km**, n24, σ0.74**/18**, mb4.2**/16**, MS4.1**/7**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.40**	**187**	LR	LR	01 15 39.1	
	comp=Z,485nm,20.4s,MS4.3,baz=188,slow=30						
MATP	**Matopo**	**41.92**	**270**	P	**P**	**01 03 31.9**	**-0.4**
	2.9nm,1.0s,mb3.9,baz=119,slow=12,SNR=5.1						
KMBO	**Kilima Mbogo**	**43.99**	**301**	P	**P**	**01 03 51.3**	**+2.1**
	1.2nm,0.9s,mb3.6,baz=65,slow=11,SNR=5.2						
KMBO				LR	LR	01 18 25.5	
	comp=Z,82nm,19.6s,MS3.6,baz=95,slow=31						
KMBO	**Kilima Mbogo**	**43.99**	**301**	*e*P	**P**	**01 03 51.2**	**+2.0**
	1.9nm,1.0s,mb3.8						
KMBO				LR	LR	01 18 25.5	
CM31	**Chiang Mai Arr**	**51.97**	**31**	P	**P**	**01 04 51.4**	**+0.1**
	34nm,1.7s,mb5.0						
CMAR	**Chiang Mai Arr**	**51.97**	**31**	P	**P**	**01 04 51.8**	**+0.5**
	2.4nm,0.9s,mb4.1,baz=214,slow=7.7,SNR=10						
CMAR				LR	LR	01 23 20.4	
	comp=Z,202nm,19.0s,MS4.2,baz=200,slow=32						
ASAR	**Alice Springs**	**53.73**	**100**	P	**P**	**01 05 04.4**	**+0.1**
	2.2nm,0.6s,mb4.3,baz=251,slow=6.5,SNR=23						
ASAR				LR	LR	01 24 39.7	
	comp=Z,125nm,19.3s,MS4.0,baz=279,slow=32						
WRA	**Warramunga Arr**	**55.33**	**96**	P	**P**	**01 05 16.3**	**+0.1**
	1.2nm,0.6s,mb4.1,baz=258,slow=8.8,SNR=8.6						
WRAB	**Tennant Creek**	**55.34**	**96**	*e*P	**P**	**01 05 17.0**	**+0.7**
STKA	**Stephens Creek**	**57.98**	**112**	P	**P**	**01 05 35.0**	**+0.2**
	2.0nm,0.8s,mb4.2,baz=280,slow=3.4,SNR=4.6						
STKA				LR	LR	01 25 01.7	
	comp=Z,155nm,21.3s,MS4.1,baz=201,slow=30						
VNDA	**Vanda**	**62.63**	**166**	P	**P**	**01 06 05.5**	**-0.6**
	2.5nm,1.0s,mb4.3,baz=226,slow=7.3,SNR=4.2						
VNDA				LR	LR	01 31 23.5	
	comp=Z,160nm,18.5s,MS4.2,baz=250,slow=34						
ASF	**Jabal al Asfar**	**69.27**	**327**	P	**P**	**01 06 49.1**	**0.0**
	1.6nm,0.8s,mb4.0,baz=49,slow=15,SNR=3.9						
AAK	**Ala-Archa**	**70.08**	**0**	*e*P	**P**	**01 06 52.4**	**-1.4**
	17nm,1.7s,mb4.7						
GNI	**Garni**	**72.84**	**337**	P	**P**	**01 07 11.5**	**+1.0**
	1.1nm,0.5s,mb4.0,baz=353,slow=22,SNR=3.3						
BVAR	**Borovoye Array**	**80.53**	**358**	P	**P**	**01 07 52.5**	**-0.7**
	1.2nm,0.9s,mb3.8,baz=166,slow=6.1,SNR=6.6						
SONM	**Songino Array**	**80.74**	**21**	P	**P**	**01 07 54.5**	**+0.1**
	0.9nm,1.0s,mb3.6,baz=207,slow=5.5,SNR=4.6						
CHKZ	**Chkalovo**	**81.17**	**358**	*e*P	**P**	**01 07 56.0**	**-0.7**
	17nm,1.7s,mb4.7						
ZAL	**Zalesovo**	**81.93**	**6**	P	**P**	**01 08 00.5**	**0.0**
	0.7nm,0.6s,mb3.8,baz=299,slow=8.7,SNR=4.1						
DBIC	**Dimbokro**	**83.25**	**281**	LR	LR	01 42 55.1	
	comp=Z,180nm,18.1s,MS4.5,baz=123,slow=34						
AKASG	**Malin Array Be**	**87.56**	**333**	P	**P**	**01 08 28.1**	**-0.7**
	2.9nm,0.9s,mb4.5,baz=138,slow=4.2,SNR=11						
YKA	**Yellowknife Ar**	**144.84**	**7**	PKP	PKPdf	01 15 16.1	-3.1
	0.5nm,0.7s,baz=335,slow=3.6,SNR=13						
DLBC	**Dease Lake**	**145.12**	**22**	PKPbc	PKPbc	01 15 18.1	+1.0
	1.4nm,0.7s,baz=287,slow=6.8,SNR=4.3						
NVAR	**Mina Array Bea**	**165.26**	**41**	PKPab	PKPab	01 16 43.5	-0.2
	0.2nm,0.4s,baz=288,slow=2.9,SNR=2.7						
TXAR	**Lajitas Array**	**177.39**	**307**	PKPab	PKPab	01 17 39.1	+1.5
	0.4nm,0.9s,baz=225,slow=1.8,SNR=3.8						

IDC 14 01:23:02.6±13.0**, 4.15N**×**95.95E, h157**km±117km**, mb3.3**/5**, mb1 3.5**/6**, mb1mx3.2**/16**, mbtmp3.8**/6**, Error ellipse: s-maj=108.4km s-min=24.4km az=59.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.52**	**11**	P	P	01 26 21.0	-0.8
	baz=197,slow=12,SNR=4.1						
SONM	**Songino Array**	**44.44**	**10**	P	P	01 30 57.8	-1.7
	0.6nm,0.6s,baz=190,slow=8.1,SNR=7.8						
WRA	**Warramunga Arr**	**44.68**	**124**	P	P	01 31 00.0	-1.7
	0.4nm,0.4s,baz=300,slow=9.1,SNR=5.1						
ZAL	**Zalesovo**	**50.46**	**351**	P	P	01 31 43.9	-2.3
	0.6nm,0.6s,baz=321,slow=5.1,SNR=3.0						
FINES	**FINESS Array B**	**76.82**	**332**	P	P	01 34 36.4	-1.9
	1.1nm,0.9s,baz=135,slow=5.4,SNR=3.4						
ARCES	**ARCESS Array B**	**79.35**	**340**	P	P	01 34 51.2	-0.8
	2.3nm,0.9s,baz=90,slow=9.0,SNR=3.5						

MAN 14 01:28:57.2, 11.17N×**124.20E, h32**km**, mb3.8, ML2.5, MS2.1, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PLP	**Palo**	**0.76**	**90**	*e*P	Pn	01 29 07.4	-4.3
MSLP	**Maasin**	**1.21**	**148**	*e*P	Pn	01 29 19.4	+1.2
MSLP				*i* S	Sn	01 29 33.8	+0.2
BESP	**Borongan**	**1.29**	**70**	*e*P	Pn	01 29 18.8	-0.5
BESP				*e*S	Sn	01 29 30.6	-4.9
TBP	**Tagbilaran**	**1.50**	**193**	*e*P	Pn	01 29 21.8	-0.6
TBP				*e*S	Sn	01 29 51.4	+10

*NEIC **14** 01:29:43.0±0.8, 5.16N×94.07E, h30km, mb4.5/3, Error ellipse: s-maj=27.4km s-min=13.0km az=63.0*
*IDC **14** 01:29:50.0±9.0, 5.43N×94.42E, h82km±76km, mb3.8/8, mb1 4.0/9, mb1mx3.7/18, mbtmp4.1/9, ML4.4/1, Error ellipse: s-maj=65.5km s-min=16.3km az=56.0*
ISC 14 01:29:41.5±0.8**, 5.1N**±0.1×**94.0E**±0.1**, h33**km**, n23, σ1.01**/20**, mb4.2**/14**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.15**	**20**	P	**P**	**01 33 02.2**	**+0.4**
	0.7nm,0.3s,baz=212,slow=15,SNR=19						
CHG	**Chiang Mai**	**14.48**	**19**	⇑P	**P**	**01 33 09.5**	**+3.3**
	10nm,0.8s						
NANT	**Nan**	**15.13**	**25**	P	**P**	**01 33 15.0**	**+0.4**
JIRN	**Jiri**	**23.67**	**343**	*e*P	**P**	**01 34 51.4**	**+0.4**
	13nm,0.6s,mb4.5						
PKI	**Pulchoki**	**23.83**	**341**	*e*P	**P**	**01 34 53.1**	**+0.5**
KKN	**Kakani**	**24.07**	**341**	*e*P	**P**	**01 34 55.1**	**+0.1**
GKN	**Gorkha**	**24.49**	**340**	*e*P	**P**	**01 34 59.2**	**+0.2**
	12nm,0.4s,mb4.7						
KOLN	**Koldanda**	**24.65**	**337**	*e*P	**P**	**01 35 01.7**	**+1.1**
	6.9nm,0.5s,mb4.4						
SONM	**Songino Array**	**43.91**	**12**	P	**P**	**01 37 44.3**	**-2.5**
	1.3nm,0.8s,mb3.7,baz=200,slow=8.7,SNR=11						
SONM				PcP	PcP	01 39 32.6	-0.4
	0.6nm,0.6s,baz=182,slow=3.9,SNR=4.9						
ULN	**Ulaanbaatar**	**44.08**	**13**	*e*P	**P**	**01 37 45.6**	**-2.6**
	1.2nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**46.79**	**123**	P	**P**	**01 38 10.4**	**+0.3**
	1.8nm,0.7s,mb4.1,baz=303,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**46.80**	**123**	*e*P	**P**	**01 38 10.0**	**-0.1**
KURK	**Kurchatov**	**47.29**	**347**	*e*P	**P**	**01 38 13.1**	**-0.5**
	3.2nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**48.26**	**128**	P	**P**	**01 38 22.1**	**+0.4**
	1.0nm,0.5s,mb4.1,baz=300,slow=7.8,SNR=21						
ZAL	**Zalesovo**	**49.29**	**353**	P	**P**	**01 38 28.6**	**-0.5**
	3.4nm,0.4s,mb4.7,baz=299,slow=5.4,SNR=12						
BVAR	**Borovoye Array**	**51.59**	**342**	P	**P**	**01 38 45.8**	**-0.8**
	2.3nm,0.6s,mb4.3,baz=149,slow=8.6,SNR=18						
CHKZ	**Chkalovo**	**52.09**	**343**	*e*P	**P**	**01 38 49.6**	**-0.7**
	5.9nm,0.5s,mb4.8						
FINES	**FINESS Array B**	**75.12**	**333**	P	**P**	**01 41 21.5**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=90,slow=5.7,SNR=5.2						
ARCES	**ARCESS Array B**	**77.85**	**340**	P	**P**	**01 41 36.8**	**-0.2**
	1.0nm,0.7s,mb3.9,baz=45,slow=3.4,SNR=3.9						
GERES	**GERESS Array B**	**79.82**	**319**	P	**P**	**01 41 50.1**	**+1.9**
	1.1nm,0.6s,mb4.0,baz=100,slow=5.0,SNR=19						
PDAR	**Pinedale Array**	**127.81**	**22**	PKP	PKPdf	01 48 46.5	+2.3
	0.4nm,0.8s,baz=90,slow=6.3,SNR=3.5						
TXAR	**Lajitas Array**	**141.81**	**25**	PKP	PKPdf	01 49 12.8	+2.3
	0.2nm,0.5s,baz=55,slow=1.1,SNR=6.2						
TXAR	**Lajitas Array**	**141.81**	**25**	PKP	PKPdf	01 49 12.8	+2.3

*CSEM **14** 01:48:29.9±0.1, 67.71N×15.10E, h2km, ML2.1, Error ellipse: s-maj=3.8km s-min=2.0km az=129.0, Suspected Mining explosion.*
*BER **14** 01:48:33.7±4.5, 67.72N×15.20E, h4km±14km, MD2.6, ML2.1, ML2.6(NAO)*
*NEIC **14** 01:48:33.2, 67.66N×15.16E, h0km, MD2.6(BER), ML2.6(NAO), After BER.*
*NAO **14** 01:48:33.8±2.5, 67.67N×15.59E, h12km±19km, ML2.6*
*UPP **14** 01:48:33.0, 67.61N×15.35E, h4km, ML2.3, Suspected Mining explosion.*
*IDC **14** 01:48:33.2±1.6, 67.75N×15.34E, mb1 3.0/4, mb1mx2.9/19, mbtmp3.0/4, ML2.3/4, Error ellipse: s-maj=19.7km s-min=7.6km az=124.0*
HEL 14 01:48:32.0±0.2**, 67.65N**×**15.35E, h2**km±2km**, ML1.9, ML2.3**(UPP)**, ML2.1**(BER)**, 1C, Northern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOF	**Lofoten**	**0.84**	**306**	*i* P	Pg	01 48 47.2	-1.6
LOF				*i* S	Sg	01 48 57.5	-2.5
LOF				AML	AML	01 48 58.5	
	comp=Z,130nm,0.3s						
LOF	**Lofoten**	**0.84**	**306**	*e*P	Pg	01 48 47.2	-1.6
LOF				*e*S	Sg	01 48 57.5	-2.5
LOF				AML	AML	01 48 58.5	
	comp=Z,130nm,0.3s						
LOF	**Lofoten**	**0.84**	**306**	*e*P	Pg	01 48 47.2	-1.5
	SNR=93						
LOF				S	Sg	01 48 57.4	-2.5
	comp=Z,130nm,0.3s						
NIKU	**Nikkaluokta**	**1.42**	**79**⇑	*e*P	Pb	01 48 59.2	+0.3
NIKU				*e*S	Sb	01 49 20.0	+2.8
MOR8	**Moi Rana**	**1.53**	**194**	*e*P	Pn	01 48 56.9	-3.6
MOR8				*e*S	Sb	01 49 16.6	-3.8
MOR8				AML	AML	01 49 19.4	
	comp=Z,45nm,0.2s						
MOR8	**Moi Rana**	**1.53**	**194**	*e*P	Pn	01 48 56.8	-3.6
	SNR=50						
MOR8				*e*S	Sb	01 49 16.6	-3.9
	comp=Z,45nm,0.2s,SNR=50						
STOK	**Stokkvaagen**	**1.61**	**216**	*e*P	Pn	01 48 59.6	-2.0
STOK				*e*S	Sb	01 49 21.3	-1.6
STOK				AML	AML	01 49 24.0	
	comp=Z,30nm,0.4s						
STOK	**Stokkvaagen**	**1.61**	**216**	*e*P	Pn	01 48 59.6	-2.0
	SNR=50						
STOK				S	Sb	01 49 21.2	-1.7
	comp=Z,30nm,0.4s						
KUA	**Kurravaara**	**1.92**	**79**	*e*P	Pn	01 49 07.3	+1.3
KUA				*e*S	Sn	01 49 34.6	+3.6
DUNU	**Dundret**	**2.08**	**102**	*e*P	Pn	01 49 08.2	-0.2
TRO	**Tromso**	**2.38**	**32**	*e*P	Pn	01 49 10.4	-2.3
TRO				*e*S	Sn	01 49 41.4	-1.5
KIF	**Kilpisjarvi**	**2.44**	**54**	*e*P	Pn	01 49 13.0	-0.4
KIF				*e*SG	Sg	01 49 48.7	-4.4
LANU	**Lannavaara**	**2.55**	**78**	*e*P	Pn	01 49 15.3	+0.3
MASU	**Masugnsbyn**	**2.56**	**91**	*e*P	Pn	01 49 15.0	-0.2
ERTU	**Ertsjaerv**	**2.89**	**109**	*e*P	Pn	01 49 19.6	-0.4
LILU	**Lilltraesk**	**2.98**	**141**	*e*P	Pn	01 49 20.8	-0.5
PAJU	**Pajala**	**3.07**	**98**	*e*P	Pn	01 49 21.7	-0.8
KTK1	**Kautokeino**	**3.23**	**61**	*e*P	Pn	01 49 23.5	-1.2
KTK1				*e*S	Sn	01 50 02.6	-1.7
SJUU	**Sjulsmark**	**3.29**	**128**	*e*P	Pn	01 49 24.9	-0.8
NSS	**Namsos**	**3.42**	**205**	*e*P	Pn	01 49 25.7	-1.8
SVAU	**Svanoeiden**	**3.61**	**150**	*e*P	Pn	01 49 29.5	-0.6
ARA0	**ARCESS Array S**	**4.17**	**58**	Pn	Pn	01 49 35.8	-2.4
	baz=240,slow=12						
ARA0				Sn	Sn	01 50 23.8	-4.4
	baz=238,slow=22						
ARA0				Lg		01 50 41.6	
	baz=248,slow=28						
ARA0	**ARCESS Array S**	**4.17**	**58**	*e*P	Pn	01 49 35.8	-2.4
ARA0				*e*S	Sn	01 50 23.8	-4.4
ARA0				*e*SG	Sg	01 50 41.6	-9.4
ARA0	**ARCESS Array S**	**4.17**	**58**	P	Pn	01 49 35.7	-2.5
ARA0				Sn	Sn	01 50 23.8	-4.4
	SNR=50						
ARCES	**ARCESS Array B**	**4.17**	**58**	Pn	Pn	01 49 35.9	-2.2
	comp=Z,0.1nm,0.3s,baz=246,slow=14,SNR=11						
ARCES				Pg	Pg	01 49 47.2	-8.1
	comp=Z,0.5nm,0.3s,baz=238,slow=15,SNR=14						
ARCES				Sn	Sn	01 50 24.5	-3.7
	comp=Z,1.2nm,0.3s,baz=234,slow=22,SNR=8.0						
ARCES				Lg		01 50 42.6	
	comp=Z,2.8nm,0.3s,baz=248,slow=26,SNR=13						
ARCES	**ARCESS Array B**	**4.17**	**58**	Pn	Pn	01 49 35.9	-2.2
ARCES				Pg	Pg	01 49 47.2	-8.1
ARCES				Sn	Sn	01 50 24.5	-3.7
ARCES				Lg		01 50 42.6	
SGF	**Sodankyl**	**4.29**	**88**	*e*P	Pn	01 49 38.2	-1.6
SGF				*e*S	Sn	01 50 26.7	-4.5
SGF				*e*SG	Sg	01 50 43.5	-11
SGF				MSG		01 50 44.5	
	comp=Z,1.4nm,0.2s						
KEV	**Kevo**	**4.74**	**58**	*e*S	Sn	01 50 37.3	-5.3
KEV				*e*SG	Sg	01 50 57.0	-13
KEV				MSG		01 51 00.5	
	comp=Z,3.4nm,0.3s						
OUL	**Oulu**	**4.96**	**116**	*e*P	Pn	01 49 47.4	-1.9
OUL				*e*S	Sn	01 50 43.3	-4.8
OUL				*e*SG	Sg	01 51 03.7	-13
OUL				MSG		01 51 11.3	
	comp=Z,4.6nm,0.3s						
MSF	**Maaselka**	**5.69**	**101**	*e*P	Pn	01 49 56.6	-2.9
MSF				*e*S	Sn	01 51 00.4	-6.0
MSF				*e*SG	Sg	01 51 25.8	-16
MSF				MSG		01 51 26.2	
	comp=Z,0.9nm,0.3s						
KU4	**Liikasenvaara**	**5.72**	**96**	*e*P	Pn	01 49 57.4	-2.7
KU4				*e*S	Sn	01 51 01.1	-6.1
KJN	**Kajaani**	**6.20**	**119**	*e*P	Pn	01 50 03.9	-2.9
KJN				*e*S	Sn	01 51 12.3	-6.9
KJN				*e*SG	Sg	01 51 41.5	-17
KJN				MSG		01 51 42.4	
	comp=Z,0.6nm,0.2s						
APA0	**Apatity Array**	**6.73**	**82**	*e*S	Sn	01 51 24.7	-7.8
APA0	**Apatity Array**	**6.73**	**82**	Sn	Sn	01 51 24.7	-7.8
	baz=279,slow=28						
KEF	**Keuruu**	**6.83**	**139**	*e*P	Pn	01 50 13.1	-2.5
KEF				*e*S	Sn	01 51 27.4	-7.4
KEF				*e*SG	Sg	01 52 00.9	-18
KEF				MSG		01 52 02.4	
	comp=Z,0.2nm,0.2s						
NOA	**NORSAR Array B**	**6.87**	**197**	Pn	Pn	01 50 13.9	-2.4
	comp=Z,0.1nm,0.3s,baz=351,slow=14,SNR=2.9						
NOA				Sn	Sn	01 51 33.4	-2.7
	comp=Z,0.1nm,0.3s,baz=304,slow=10,SNR=3.0						
NOA				Lg		01 52 05.7	
	comp=Z,0.4nm,0.3s,baz=88,slow=12,SNR=3.1						
KAF	**Kangasniemi**	**7.24**	**135**	*e*P	Pn	01 50 18.5	-3.0
KAF				*e*S	Sn	01 51 36.6	-8.7
KAF				*e*SG	Sg	01 52 13.5	-20
KAF				MSG		01 52 16.1	
	comp=Z,0.4nm,0.2s						
HFS	**Hagfors**	**7.58**	**186**	Pn	Pn	01 50 23.7	-2.6
	baz=17,slow=10						
HFS				Sn	Sn	01 51 47.0	-6.7
	baz=14,slow=28						
HFS				Lg		01 52 33.1	
	baz=19,slow=28						
HFS	**Hagfors**	**7.58**	**186**	*e*P	Pn	01 50 23.7	-2.6
HFS				*e*S	Sn	01 51 47.0	-6.7
HFS				*e*		01 52 33.1	
HFS	**Hagfors**	**7.58**	**186**	Pn	Pn	01 50 24.4	-1.8
	comp=Z,0.0nm,0.3s,baz=14,slow=12,SNR=3.5						
HFS				Sn	Sn	01 51 46.1	-7.7

	comp=Z,0.0nm,0.3s,baz=12,slow=21,SNR=3.3						
HFS				Lg		01 52 34.5	
	comp=Z,0.1nm,0.3s,baz=6.3,slow=27,SNR=5.3						
FIA0	**FINESS Array S**	**7.74**	**138**	Pn	Pn	01 50 25.7	-2.8
	baz=336,slow=12						
FIA0				Sn	Sn	01 51 49.4	-8.4
	baz=337,slow=22						
FIA0				Lg		01 52 35.8	
	baz=337,slow=28						
FIA0	**FINESS Array S**	**7.74**	**138**	*e*S	Sn	01 51 49.1	-8.7
FIA0				*e*SG	Sg	01 52 31.0	-19
FINES	**FINESS Array B**	**7.74**	**138**	Pn	Pn	01 50 26.2	-2.3
	comp=Z,0.1nm,0.3s,baz=330,slow=12,SNR=5.1						
FINES				Sn	Sn	01 51 50.8	-7.0
	comp=Z,0.3nm,0.3s,baz=336,slow=23,SNR=7.3						
FINES				Lg		01 52 39.4	
	comp=Z,0.3nm,0.3s,baz=331,slow=26,SNR=4.4						
JOF	**Joensuu**	**8.19**	**118**	*e*S	Sn	01 51 58.3	-11
JOF				*e*SG	Sg	01 52 41.6	-23
JOF				MSG		01 52 46.2	
	comp=Z,0.3nm,0.2s						

THR ***14*** *01:55:52.5±0.9, 39.40N×40.55E, h15km±7km, ML4.6, MS5.4*

ISK ***14*** *01:55:55.7, 39.35N×40.88E, h5km, ML5.9*

NEIC ***14*** *01:55:55.6, 39.35N×40.89E, h5km, mb5.5/168, MS5.7/125, MW5.7, ML5.9(ISK), Moment Tensor Solution. s4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.45; $M_{\theta\theta}$-3.25; $M_{\phi\phi}$2.81; $M_{r\theta}$-0.39; $M_{\theta\phi}$-3.14; $M_{\phi r}$-1.10; Best double couple: $M_0$4.5×10^{17} NP1:ϕ_s112°,δ75°,λ177°. NP2:ϕ_s203°,δ87°, λ15°. Principal axes: T 4.33, Plg13°, Azm68°; N .38, Plg74°, Azm212°; P -4.71, Plg9°, Azm336°; After ISK.*

NEIC At least 18 people injured, some buildings destroyed which were damaged by the earthquake of 07:36 UTC on March 12, at least 450 additional buildings damaged and some livestock killed in Bingol Province.

HRVD ***14*** *01:55:55.6±0.1, 39.44N×40.77E, h12km, MW5.8/74, Centroid moment Tensor Solution. LP body waves: s64,c141;Mantle waves: s74,c236; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.14±.05; $M_{\theta\theta}$-2.82±.06; $M_{\phi\phi}$2.96±.05; $M_{r\theta}$2.08±.15; $M_{\theta\phi}$-4.82±.05; $M_{\phi r}$1.20±.14; Best double couple: $M_0$6.076×10^{17} NP1: ϕ_s287°,δ75°,λ-165°. NP2:ϕ_s194°,δ76°,λ-15°. Principal axes: T 5.69, Plg0°, Azm241°; N .776, Plg69°, Azm331°; P -6.461, Plg21°, Azm150°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ZUR_RM ***14*** *01:55:55, 39.35N×40.89E, h15km, Mw5.9/20, Moment Tensor Solution. s20 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.00; $M_{\theta\theta}$-3.79; $M_{\phi\phi}$4.79; $M_{r\theta}$-1.16; $M_{\theta\phi}$-7.33; $M_{\phi r}$1.40; Best double couple: $M_0$8.66×10^{17} NP1:ϕ_s285°,δ85°,λ171°. NP2:ϕ_s16°,δ81°,λ5°. Principal axes: T 9.305, Plg10°, Azm240°; N -1.292, Plg80°, Azm75°; P -8.013, Plg3°, Azm330°;*

MOS ***14*** *01:55:56.7±1.0, 39.35N×40.88E, h10km, mb5.6/89, MS5.5/40 Error ellipse: s-maj=4.0km s-min=2.2km az=39.6*

BJI ***14*** *01:55:56.4, 39.85N×40.69E, h4km, mB5.5, mb4.9, Ms6.1, Msz5.8*

IDC ***14*** *01:55:57.0±0.4, 39.35N×40.95E, mb4.9/27, mb1 5.0/34, mb1mx5.0/35, mbtmp4.9/34, ML4.3/6, MS5.4/19, Ms1 5.5/19, ms1mx5.3/22, Error ellipse: s-maj=10.4km s-min=9.4km az=20.0*

CSEM ***14*** *01:56:00.0, 39.24N×40.87E, h40km, mb5.4*

NIC ***14*** *01:56:00.0±0.6, 39.24N×40.87E, h26km, Earthquake Turkey 16 km N Hacilan.*

BGS ***14*** *01:56:21.9±1.6, 40.67N×37.65E, h5km, mb5.7*

ISC 14 01:55:56.7±0.4**, 39.33N**±0.01×**40.91E**±0.01**, h9**km±2km**, h24**km±2.2km**:pP-P, n1280,** σ**1s16**/1297**, mb5.4**/230**, MS5.6**/156**, 145C-38D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.52**	**112**	*i* PG	**Pg**	**01 56 07.0**	**-0.2**
BINT	**Bingol**	**0.56**	**216**	*i* PG	**Pg**	**01 56 07.2**	**-0.8**
BINT	**Bingol**	**0.56**	**216**	Pg	**Pg**	**01 56 07.3**	**-0.7**
BINT	**Bingol**	**0.56**	**216**	Pg	**Pg**	**01 56 07.3**	**-0.7**
EZM	**Erzurum**	**0.67**	**31**	*i* PG	**Pg**	**01 56 08.8**	**-1.4**
ERZM	**Erzurum**	**0.68**	**31**	*i* P	**Pg**	**01 56 08.7**	**-1.6**
ERZM				*i* S	**Sg**	**01 56 19.4**	**0.0**
EZC	**Erzincan**	**0.94**	**297**	*i* PN	**Pn**	**01 56 19.7**	**+3.8**
EZC	**Erzincan**	**0.94**	**297**	P	**Pb**	**01 56 19.0**	**+4.2**
BTMT	**Batman**	**1.22**	**158**	*i* PN	**Pn**	**01 56 20.4**	**+0.5**
PTK	**Pertek**	**1.26**	**250**	*i* Pn	**Pn**	**01 56 20.1**	**-0.3**
PTK				*e*Sn	**Sn**	**01 56 38.5**	**+1.0**
BEST	**Besiri**	**1.46**	**169**	*i* P	**Pn**	**01 56 24.9**	**+1.5**
BEST				*i* S	**Sb**	**01 56 49.3**	**+7.1**
DIY	**Diyarbakir**	**1.53**	**201**	*i* PN	**Pn**	**01 56 25.5**	**+1.2**
DIY	**Diyarbakir**	**1.53**	**201**	Pn	**Pn**	**01 56 25.7**	**+1.4**
GUMT	**Gumushane**	**1.58**	**316**	*i* PN	**Pn**	**01 56 25.0**	**0.0**
GUMT	**Gumushane**	**1.58**	**316**	Pn	**Pn**	**01 56 24.3**	**-0.7**
ELZG	**Elazig**	**1.72**	**242**	*i* P	**Pn**	**01 56 27.1**	**+0.1**
ELZG				*i* S	**Sn**	**01 56 50.4**	**+1.3**
VANB	**Van**	**2.07**	**110**	*i* PN	**Pn**	**01 56 33.2**	**+1.2**
TVAN	**Van**	**2.10**	**112**	*i* P	**Pn**	**01 56 34.1**	**+1.6**
TVAN				*i* S	**Sn**	**01 57 07.8**	**+8.8**
KARS	**Kars**	**2.11**	**52**	*i* PN	**Pn**	**01 56 33.7**	**+1.1**
KARS	**Kars**	**2.11**	**52**	Pn	**Pn**	**01 56 33.7**	**+1.1**
VANT	**Van**	**2.13**	**114**	*i* PN	**Pn**	**01 56 32.8**	**0.0**
VANT	**Van**	**2.13**	**114**	Pn	**Pn**	**01 56 32.8**	**0.0**
BCA	**Borcka**	**2.18**	**14**	*i* PN	**Pn**	**01 56 34.5**	**+0.8**
MYA	**Malataya**	**2.18**	**244**	*i* PN	**Pn**	**01 56 34.3**	**+0.6**
MYA	**Malataya**	**2.18**	**244**	P	**Pn**	**01 56 35.0**	**+1.3**
MALT	**Malatya**	**2.19**	**243**	*i* PN	**Pn**	**01 56 35.0**	**+1.3**
MALT	**Malatya**	**2.19**	**243**	*e*P	**Pn**	**01 56 33.3**	**-0.4**
MALT	**Malatya**	**2.19**	**243**	*i* Pn	**Pn**	**01 56 35.0**	**+1.3**
CLDR	**Caldiran**	**2.34**	**94**	*e*PN	**Pn**	**01 56 36.7**	**+0.8**
URFA	**Urfa**	**2.50**	**222**	PN	**Pn**	**01 56 39.6**	**+1.4**
HKR	**Hakkari**	**2.83**	**127**	PN	**Pn**	**01 56 44.7**	**+1.8**
HKR	**Hakkari**	**2.83**	**127**	Pn	**Pn**	**01 56 44.7**	**+1.9**
MAKU	**Maku**	**2.93**	**88**	*e*PN	**Pn**	**01 56 44.2**	**0.0**
MAKU				*e*SG	**Sg**	**01 57 32.5**	**-1.6**
MAKU				AML	AML	01 57 44.2	
	comp=N,2μm,0.6s						
MAKU	**Maku**	**2.93**	**88**	*e*Pn	**Pn**	**01 56 44.2**	**-0.1**
	SNR=52						
MAKU				*e*Sg	**Sg**	**01 57 32.5**	**-1.6**
	comp=N,2μm,0.6s,SNR=90						
GNI	**Garni**	**3.07**	**73**	PN	**Pn**	**01 56 47.5**	**+1.2**
GNI	**Garni**	**3.07**	**73***c*	*i*P	**Pn**	**01 56 46.9**	**+0.6**
GNI				pmax	pmax		
	comp=Z,3μm,1.6s						
GNI	**Garni**	**3.07**	**73**	Pn	**Pn**	**01 56 47.0**	**+0.7**
	comp=Z,33nm,0.3s,baz=289,slow=2.4,SNR=173						
GNI	**Garni**	**3.07**	**73**	*i* P	**Pn**	**01 56 46.9**	**+0.6**
	comp=Z,3μm,1.6s						
SVST	**Sivas**	**3.09**	**280**	*i* P	**Pn**	**01 56 49.8**	**+3.1**
SVST				*i* S	**Sn**	**01 57 36.9**	**+13**
GZT	**Gaziantep**	**3.29**	**234**	*i* P	**Pn**	**01 56 49.6**	**+0.3**
GZT				*i* S	**Sn**	**01 57 29.2**	**+0.2**
TOKT	**Tokat**	**3.50**	**288**	PN	**Pn**	**01 56 53.3**	**+0.8**
GAZ	**Gaziantep**	**3.62**	**235**	PN	**Pn**	**01 56 54.2**	**+0.1**
GAZ	**Gaziantep**	**3.62**	**235**	Pn	**Pn**	**01 56 54.2**	**+0.1**
ONI	**Oni**	**3.77**	**30**	P	**Pn**	**01 56 56.7**	**+0.4**
ONI				S	**Sn**	**01 57 51.8**	**+10**
TI2	**Plekhanov**	**3.79**	**49**⇑	*i*P	**Pn**	**01 56 57.2**	**+0.7**
TI2				MLR	MLR		
	comp=N,80μm,3.6s						
TI2				MLR	MLR		
	comp=E,80μm,3.6s						
TI2				MLR	MLR		
	comp=Z,90μm,3.6s						
TI2	**Plekhanov**	**3.79**	**49**⇓	*i*P	**Pn**	**01 56 56.7**	**+0.2**
BNN	**Bunyan**	**3.97**	**265**	PN	**Pn**	**01 57 00.1**	**+1.0**
BNN	**Bunyan**	**3.97**	**265**	Pn	**Pn**	**01 57 00.1**	**+1.0**
DUS	**Dusheti**	**3.99**	**45**	P	**Pn**	**01 56 59.6**	**+0.3**
ZEI	**Tsey**	**4.11**	**32**	*e*P	**Pn**	**01 57 00.4**	**-0.7**
ZEI				*e*		01 57 49.1	
ZEI				pmax	pmax		
	comp=Z,2μm,1.1s						
ZEI	**Tsey**	**4.11**	**32**	*e*P	**Pn**	**01 57 00.4**	**-0.7**
	comp=Z,2μm,1.1s						
ZEI				*e*S	**Sn**	**01 57 49.1**	**-0.9**
KVT	**Kavak**	**4.12**	**297**	PN	**Pn**	**01 57 01.9**	**+0.7**
KVT	**Kavak**	**4.12**	**297**	Pn	**Pn**	**01 57 02.7**	**+1.6**
KVT	**Kavak**	**4.12**	**297**	P	**Pn**	**01 57 02.7**	**+1.5**
YOZ	**Yozgat**	**4.34**	**276**	PN	**Pn**	**01 57 05.2**	**+0.9**
YOZ	**Yozgat**	**4.34**	**276**	Pn	**Pn**	**01 57 06.2**	**+1.9**
SOC	**Sochi**	**4.34**	**348**	*i* P	**Pn**	**01 57 03.6**	**-0.8**
SOC				*i*		01 57 53.4	
SOC				pmax	pmax		
	comp=Z,2μm,0.9s						
SOC				pmax	pmax		
	comp=N,2μm,1.0s						
SOC				pmax	pmax		
	comp=E,542nm,0.7s						
SOC				MLR	MLR		
	comp=Z,73μm,12.0s						
SOC				MLR	MLR		
	comp=N,100μm,14.0s						
SOC				MLR	MLR		
	comp=E,165μm,14.0s						
SOC	**Sochi**	**4.34**	**348**⇓	*i*P	**Pn**	**01 57 04.0**	**-0.4**
SOC				*i* S	**Sn**	**01 57 53.4**	**-2.4**
	comp=E,73μm,12.0s						
COBT	**Iskenderun**	**4.63**	**234**	*i* P	**Pn**	**01 57 08.6**	**+0.2**
COBT				*i* S	**Pn**	**01 57 08.6**	**+0.2**
CEYT	**Ceyhan**	**4.68**	**242**	PN	**Pn**	**01 57 09.8**	**+0.6**
CEYT	**Ceyhan**	**4.68**	**242**	Pn	**Pn**	**01 57 09.9**	**+0.7**
CEYT	**Ceyhan**	**4.68**	**242**	Pn	**Pn**	**01 57 09.9**	**+0.7**
KIV	**Kislovodsk**	**4.81**	**15***c*	*i*P	**Pn**	**01 57 11.6**	**+0.6**
KIV				pmax	pmax		
	comp=Z,72nm,0.5s						
KIV				MLR	MLR		
	comp=Z,88μm,19.0s						
KIV	**Kislovodsk**	**4.81**	**15**⇑	*e*Pn	**Pn**	**01 57 11.5**	**+0.5**
KIV	**Kislovodsk**	**4.81**	**15**	*i* P	**Pn**	**01 57 11.6**	**+0.6**
	comp=Z,88μm,19.0s						
CORM	**Corum**	**4.91**	**282**	PN	**Pn**	**01 57 13.2**	**+0.7**
HTY	**Hatay**	**4.96**	**231**	PN	**Pn**	**01 57 13.3**	**+0.2**
HTY	**Hatay**	**4.96**	**231**	Pn	**Pn**	**01 57 12.6**	**-0.5**
BOYT	**Boyabat**	**5.04**	**296**	*i* P	**Pn**	**01 57 16.1**	**+1.8**
BOYT				*i* S	Sn	01 57 53.0	-20
BYBT	**Boyabat**	**5.16**	**296**	*e*PN	**Pn**	**01 57 17.2**	**+1.3**
BYBT	**Boyabat**	**5.16**	**296**	Pn	**Pn**	**01 57 17.2**	**+1.3**
TOS	**Tosya**	**5.54**	**290**	*e*PN	**Pn**	**01 57 22.0**	**+0.6**
TOS	**Tosya**	**5.54**	**290**	Pn	**Pn**	**01 57 23.2**	**+1.9**
KAMT	**Kaman**	**5.58**	**273**	*e*PN	**Pn**	**01 57 22.2**	**+0.3**
KAMT	**Kaman**	**5.58**	**273**	Pn	**Pn**	**01 57 22.3**	**+0.4**
KAMT	**Kaman**	**5.58**	**273**	Pn	**Pn**	**01 57 22.3**	**+0.4**
CANT	**Cankiri**	**5.75**	**285**	*e*PN	**Pn**	**01 57 24.8**	**+0.6**
CANT	**Cankiri**	**5.75**	**285**	Pn	**Pn**	**01 57 25.9**	**+1.7**
ELDT	**Eldivan**	**5.87**	**284**	*i* P	**Pn**	**01 57 26.9**	**+0.9**
ELDT				*i* S	**Sg**	**01 59 04.8**	**-7.3**
BZK	**Bozkurt**	**5.87**	**299**	*e*PN	**Pn**	**01 57 26.7**	**+0.7**
BZK	**Bozkurt**	**5.87**	**299**	Pn	**Pn**	**01 57 27.8**	**+1.8**
GOF	**Gofitskoye**	**5.94**	**15**⇑	*i*P	**Pn**	**01 57 27.4**	**+0.5**
GOF				*i* S	**Sn**	**01 58 36.9**	**+1.0**
GOF				pmax	pmax		
	comp=Z,130nm,0.8s						
GOF				smax			
	comp=N,3μm,1.3s						
GOF				smax			
	comp=E,2μm,1.3s						
GOF				MLR	MLR		
	comp=Z,90μm,16.0s						
GOF	**Gofitskoye**	**5.94**	**15**	*i* P	**Pn**	**01 57 27.4**	**+0.5**
	comp=Z,130nm,0.8s						
ANN	**Anapa**	**6.05**	**336**	*e*P	**Pn**	**01 57 28.9**	**+0.4**
BALT	**Daday**	**6.15**	**293**	*i* P	**Pn**	**01 57 32.5**	**+2.6**
BALT				*i* S	**Sg**	**01 59 09.0**	**-12**
MAK	**Makhachkala**	**6.16**	**52**	*e*P	**Pn**	**01 57 32.0**	**+1.9**
FKH	**Fakeheh**	**6.24**	**217**	*e*PN	**Pn**	**01 57 30.9**	**-0.2**
ANTO	**Ankara**	**6.29**	**277**	*e*PN	**Pn**	**01 57 33.4**	**+1.5**
LOD	**Lodumlu**	**6.32**	**278**	*e*PN	**Pn**	**01 57 34.0**	**+1.7**
HWQ	**Hawqa**	**6.42**	**220**	*e*PN	**Pn**	**01 57 33.4**	**-0.3**
SAFT	**Safranbolu**	**6.57**	**290**	*e*PN	**Pn**	**01 57 37.5**	**+1.6**
SAFT	**Safranbolu**	**6.57**	**290**	Pn	**Pn**	**01 57 37.5**	**+1.7**
SNGE	**Sanandaj**	**6.65**	**127**	*e*PN	**Pn**	**01 57 36.1**	**-0.9**
SNGE				SN	**Sn**	**01 58 51.4**	**-2.3**
BHD	**Baghdad**	**6.66**	**154**	*i* Pn	Pn	01 56 48.0	-49
BHD				*i* Pb	Pb	01 57 08.0	-45
BHD				*i* Pg	Pg	01 57 27.0	-43
BHD				*i* Sn	Sn	01 58 21.0	-33
BHD				*i* Sb	Sb	01 58 50.0	-23
BHD				*i* Sg	**Sg**	**01 59 24.0**	**-14**
KONT	**Konya--Tatoy**	**6.83**	**261**	*e*PN	**Pn**	**01 57 41.2**	**+1.6**
KONT	**Konya--Tatoy**	**6.83**	**261**	Pn	**Pn**	**01 57 41.3**	**+1.7**
BHL	**Bhannes**	**6.87**	**220**	*e*PN	**Pn**	**01 57 39.8**	**-0.3**
PHNC	**Paralimni**	**6.98**	**234**	P	**Pn**	**01 57 42.5**	**+0.8**
KIZT	**Kizilcal**	**7.04**	**269**	*e*PN	**Pn**	**01 57 42.5**	**+0.1**
KIZT	**Kizilcal**	**7.04**	**269**	Pn	**Pn**	**01 57 42.5**	**+0.1**
HDMB	**Hadim**	**7.05**	**253**	*e*PN	**Pn**	**01 57 42.8**	**+0.3**
HRI	**Mount Hermon**	**7.35**	**216**	P	**Pn**	**01 57 47.7**	**+0.9**
MAMC	**Mammari**	**7.41**	**238**	P	**Pn**	**01 57 45.2**	**-2.4**
CSS	**Prodhromos**	**7.46**	**237**	P	**Pn**	**01 57 45.6**	**-2.7**
CSS				S	**Sn**	**01 59 10.2**	**-3.7**
MDU	**Mudurnu**	**7.54**	**282**	*e*PN	**Pn**	**01 57 49.6**	**+0.1**
MDU	**Mudurnu**	**7.54**	**282**	Pn	**Pn**	**01 57 49.7**	**+0.2**
MDU	**Mudurnu**	**7.54**	**282**	Pn	**Pn**	**01 57 49.7**	**+0.2**
SIM	**Simferopol'**	**7.55**	**320**	*e*P	**Pn**	**01 57 50.1**	**+0.5**
SIM				*e*S	**Sn**	**01 59 19.3**	**+3.1**
SIM				pmax	pmax		
	comp=Z,232nm,0.8s						
SIM	**Simferopol'**	**7.55**	**320**	*e*P	**Pn**	**01 57 50.1**	**+0.5**
	comp=Z,232nm,0.8s						
KSHT	**Keshet**	**7.56**	**215**	P	**Pn**	**01 57 49.6**	**-0.1**
LEF	**Lefka**	**7.65**	**239**	PN	**Pn**	**01 57 51.4**	**+0.4**
LEF	**Lefka**	**7.65**	**239**	Pn	**Pn**	**01 57 51.6**	**+0.5**
HNTI	**Hanita**	**7.77**	**218**	P	**Pn**	**01 57 55.4**	**+2.8**
ESKT	**Eskisehir**	**7.79**	**275**	*e*PN	**Pn**	**01 57 53.1**	**+0.1**
ESKT	**Eskisehir**	**7.79**	**275**	Pn	**Pn**	**01 57 53.2**	**+0.2**
ESKT	**Eskisehir**	**7.79**	**275**	Pn	**Pn**	**01 57 53.2**	**+0.2**
ALFC	**Alevga**	**7.83**	**240**	⇑P	**Pn**	**01 57 51.1**	**-2.4**
	comp=Z,8.8nm,1.4s						
ALFC				S	**Sn**	**01 59 19.8**	**-3.3**
ALFC	**Alevga**	**7.83**	**240**⇑	*e*P	**Pn**	**01 57 51.1**	**-2.4**
ALFC				S	**Sn**	**01 59 19.8**	**-3.3**
ASF	**Jabal al Asfar**	**7.85**	**206**	Pn	**Pn**	**01 57 52.6**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=256,slow=5.2,SNR=46						
ASF				Lg		02 00 01.5	
	comp=Z,8.6nm,0.3s,baz=282,slow=18,SNR=2.5						
ASF				LR	LR	02 00 56.1	
	comp=Z,20μm,20.8s,baz=70,slow=38						
SZAC	**Souni-Zanaja**	**7.87**	**237**	P	**Pn**	**01 57 51.6**	**-2.5**
SZAC				S	**Sn**	**01 59 19.8**	**-4.5**
AKMC	**Akamas**	**8.08**	**241**	P	**P**	**01 57 55.7**	**-1.3**
HAF	**Haifa**	**8.09**	**218**	P	**P**	**01 57 59.8**	**+2.7**
PPCY	**Paphos**	**8.15**	**240**	P	**P**	**01 57 56.6**	**-1.4**
MMLI	**Mount Malkishu**	**8.19**	**215**	P	**P**	**01 57 58.9**	**+0.4**
OFRI	**'Ofer**	**8.23**	**217**	P	**P**	**01 58 00.7**	**+1.5**
ISP	**Isparta**	**8.28**	**263**	*e*PN	**P**	**01 57 59.5**	**-0.3**
ISP	**Isparta**	**8.28**	**263**	*e*P	**P**	**01 58 00.3**	**+0.5**
ISP				pmax	pmax		
	comp=Z,390nm,1.0s						
ISP	**Isparta**	**8.28**	**263**	Pn	**P**	**01 57 59.6**	**-0.2**
ISP	**Isparta**	**8.28**	**263**	Pn	**P**	**01 57 59.6**	**-0.2**
ISP	**Isparta**	**8.28**	**263**	*e*P	**P**	**01 58 00.3**	**+0.5**
	comp=Z,390nm,1.0s						
BCK	**Bucak**	**8.32**	**260**	*e*PN	**P**	**01 58 00.7**	**+0.4**
BCK	**Bucak**	**8.32**	**260**	Pn	**P**	**01 58 00.8**	**+0.5**
BCK	**Bucak**	**8.32**	**260**	P	**P**	**01 58 00.8**	**+0.5**
ALT	**Altintas**	**8.39**	**272**	*e*PN	**P**	**01 58 01.0**	**-0.4**
ALT	**Altintas**	**8.39**	**272**	Pn	**P**	**01 58 02.1**	**+0.7**
ANTB	**Antalya**	**8.44**	**257**	*e*PN	**P**	**01 58 01.8**	**-0.2**
ASAO	**Ashtian**	**8.72**	**120**	*e*PN	**P**	**01 58 05.1**	**-0.8**
HRT	**Hereke**	**8.75**	**283**	*e*PN	**P**	**01 58 06.1**	**-0.2**
HRT	**Hereke**	**8.75**	**283**	Pn	**P**	**01 58 06.0**	**-0.3**
DRGI	**Dragot**	**8.93**	**212**	P	**P**	**01 58 09.9**	**+1.1**
YLV	**Yalova**	**8.95**	**282**	*e*PN	**P**	**01 58 08.5**	**-0.6**
YLV	**Yalova**	**8.95**	**282**	Pn	**P**	**01 58 09.6**	**+0.5**
ELL	**Elmali**	**9.05**	**257**	*e*PN	**P**	**01 58 09.7**	**-0.8**
ELL	**Elmali**	**9.05**	**257**	Pn	**P**	**01 58 13.5**	**+3.0**
ISK	**Istanbul-Kandi**	**9.23**	**285**	*e*PN	**P**	**01 58 12.5**	**-0.5**
ISK	**Istanbul-Kandi**	**9.23**	**285**	Pn	**P**	**01 58 12.5**	**-0.5**
ORLT	**Orhaneli**	**9.29**	**278**	*e*PN	**P**	**01 58 12.8**	**-1.0**
DENT	**Denizli**	**9.44**	**264**	*e*PN	**P**	**01 58 15.2**	**-0.6**
DENT	**Denizli**	**9.44**	**264**	Pn	**P**	**01 58 16.5**	**+0.6**
DENT	**Denizli**	**9.44**	**264**	Pn	**P**	**01 58 16.5**	**+0.7**
DST	**Dursunbey**	**9.50**	**276**	*e*PN	**P**	**01 58 16.1**	**-0.6**
DST	**Dursunbey**	**9.50**	**276**	Pn	**P**	**01 58 16.1**	**-0.6**
DST	**Dursunbey**	**9.50**	**276**	P	**P**	**01 58 16.2**	**-0.5**
KSL	**Kastellorizon**	**9.52**	**254**	*e*P	**P**	**01 58 19.0**	**+2.1**
DAMV	**Damavand**	**9.53**	**109**	*e*PN	**P**	**01 58 16.4**	**-0.7**
DAMV				SN	**Sn**	**02 00 00.4**	**-5.1**
SHGO	**Shushtar**	**9.64**	**136**	*e*PN	**P**	**01 58 16.3**	**-2.3**
SHGR	**Shooshtar-Gavs**	**9.64**	**136**	*e*PN	**P**	**01 58 16.3**	**-2.3**
RTMM	**Retamin**	**9.70**	**214**	P	**P**	**01 58 21.0**	**+1.6**
MASH	**Mash'abbe Sade**	**9.70**	**213**	P	**P**	**01 58 20.5**	**+1.0**
CTT	**Catalca**	**9.72**	**285**	*e*PN	**P**	**01 58 19.1**	**-0.5**
CTT	**Catalca**	**9.72**	**285**	Pn	**P**	**01 58 19.2**	**-0.5**
CTT	**Catalca**	**9.72**	**285**	P	**P**	**01 58 19.2**	**-0.4**
ZFRI	**Zfri**	**9.93**	**210**	P	**P**	**01 58 23.0**	**+0.3**
KZIT	**Kziot**	**9.95**	**214**	P	**P**	**01 58 23.4**	**+0.5**
DALT	**Dalyan (Mudla)**	**10.01**	**259**	*e*PN	**P**	**01 58 22.8**	**-0.9**
DALT	**Dalyan (Mudla)**	**10.01**	**259**	Pn	**P**	**01 58 22.8**	**-0.9**
BALB	**Balikesir**	**10.08**	**276**	*e*PN	**P**	**01 58 24.0**	**-0.7**
YER	**Yerkesik**	**10.17**	**262**	*e*PN	**P**	**01 58 25.2**	**-0.7**
YER	**Yerkesik**	**10.17**	**262**	Pn	**P**	**01 58 25.3**	**-0.7**
YER	**Yerkesik**	**10.17**	**262**	P	**P**	**01 58 25.3**	**-0.6**
PRNI	**Paran**	**10.18**	**210**	P	**P**	**01 58 26.5**	**+0.4**
MRMT	**Marmara Adasi**	**10.30**	**281**	*e*PN	**P**	**01 58 27.1**	**-0.6**
MRMT	**Marmara Adasi**	**10.30**	**281**	Pn	**P**	**01 58 27.1**	**-0.5**
PSN	**Preselentsi**	**10.49**	**299**	P	**P**	**01 58 34.5**	**+4.3**
KMTI	**Karmit**	**10.51**	**211**	P	**P**	**01 58 31.8**	**+1.2**
MFT	**Murefte**	**10.55**	**282**	*e*PN	**P**	**01 58 29.9**	**-1.2**
MFT	**Murefte**	**10.55**	**282**	Pn	**P**	**01 58 29.9**	**-1.2**
ARG	**Arkhangelos**	**10.59**	**257**⇑	*i*P	**P**	**01 58 31.9**	**+0.3**
ARG	**Arkhangelos**	**10.59**	**257**	P	**P**	**01 58 32.8**	**+1.2**
IZM	**Izmir**	**10.69**	**269**	*e*PN	**P**	**01 58 31.9**	**-1.0**
CANB	**Canakkale**	**10.70**	**278**	*e*PN	**P**	**01 58 32.0**	**-1.1**
TLCR		**10.70**	**307**	⇑P	**P**	**01 58 34.8**	**+1.7**
EIL	**Elat**	**10.81**	**209**	Pn	**P**	**01 58 34.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=8.3,slow=13,SNR=12						
EIL				Lg		02 01 35.5	
	comp=Z,1.4nm,0.3s,baz=258,slow=23,SNR=2.2						
EIL				LR	LR	02 03 23.0	
	comp=Z,20μm,18.7s,baz=38,slow=41						
EIL	**Elat**	**10.81**	**209**	*e*Pn	**P**	**01 58 34.2**	**-0.5**
	comp=Z,2μm,2.0s						
EIL	**Elat**	**10.81**	**209**	*e*Pn	**P**	**01 58 34.2**	**-0.5**
	comp=Z,2μm,2.0s						
EIL	**Elat**	**10.81**	**209**	P	**P**	**01 58 35.6**	**+0.9**
CVD	**Cernavoda**	**10.82**	**302**	⇑P	**P**	**01 58 36.6**	**+1.8**
CVD	**Cernavoda**	**10.82**	**302**	⇑P	**P**	**01 58 36.6**	**+1.8**
BLCB	**Balcova**	**10.86**	**269**	*e*PN	**P**	**01 58 34.1**	**-1.2**
BLCB	**Balcova**	**10.86**	**269**	Pn	**P**	**01 58 34.1**	**-1.2**
PRD	**Provadia**	**10.88**	**295**	P	**P**	**01 58 39.0**	**+3.4**
BODT	**Bodrum**	**10.94**	**262**	*e*PN	**P**	**01 58 35.8**	**-0.6**
HARR	**Harsova**	**11.04**	**303**	P	**P**	**01 58 37.4**	**-0.4**
EDRB	**Edirne**	**11.06**	**288**	*e*PN	**P**	**01 58 37.0**	**-1.1**
CFR	**Carcaliu**	**11.12**	**306**	⇑P	**P**	**01 58 39.8**	**+0.9**
CFR	**Carcaliu**	**11.12**	**306**	⇑P	**P**	**01 58 39.8**	**+0.9**
CFR	**Carcaliu**	**11.12**	**306**	P	**P**	**01 58 37.3**	**-1.6**
SMG	**Samos**	**11.15**	**266**	*e*P	**P**	**01 58 40.3**	**+1.1**
EZN	**Ezine**	**11.27**	**277**	*e*PN	**P**	**01 58 40.0**	**-0.9**
NAY	**Al-Naaiem**	**11.33**	**151**	*e*P	**P**	**01 58 40.2**	**-1.6**
PRK	**Paraskevi**	**11.35**	**274**	*e*P	**P**	**01 58 43.3**	**+1.3**
KARP	**Karpathos**	**11.56**	**255**⇑	*i*P	**P**	**01 58 42.8**	**-2.1**
NASN	**Na'in**	**11.62**	**120**	*e*PN	**P**	**01 58 45.0**	**-0.7**
NASN				AMS	AMS	02 04 03.4	
	comp=Z,39μm,17.5s						
KIS	**Kishinev**	**11.68**	**315**	*e*P	**P**	**01 58 44.0**	**-2.5**
RDO	**Rodhopi**	**11.89**	**284**	*e*P	**P**	**01 58 50.8**	**+1.4**
RDO	**Rodhopi**	**11.89**	**284**	P	**P**	**01 58 50.6**	**+1.2**
SZH	**Strazhica**	**11.93**	**294**	P	**P**	**01 58 53.5**	**+3.6**
DIM	**Dimitrovgrad**	**11.99**	**288**	*i* P	**P**	**01 58 54.5**	**+3.9**
ISR	**Istrita**	**12.12**	**303**	P	**P**	**01 58 53.0**	**+0.6**
LIA	**Limnos Island**	**12.15**	**278**	*e*P	**P**	**01 58 53.9**	**+1.1**
BUC1	**Bucharest**	**12.18**	**299**	⇑P	**P**	**01 58 55.8**	**+2.6**
LOS	**Limnos**	**12.22**	**278**	*e*P	**P**	**01 58 54.8**	**+1.0**
APE	**Apeiranthos**	**12.31**	**264**	*e*PN	**P**	**01 58 54.0**	**-1.0**
VRI	**Vrincioaia**	**12.32**	**307**	P	**P**	**01 58 55.1**	**0.0**
PVL	**Pavlikeni**	**12.35**	**293**	*i* P	**P**	**01 59 01.5**	**+6.0**
ZIMR		**12.43**	**295**	⇑P	**P**	**01 58 57.0**	**+0.4**
ZIMR		**12.43**	**295**	⇑P	**P**	**01 58 57.0**	**+0.4**
VOR	**Voronezh**	**12.46**	**355**	*e*P	**P**	**01 58 55.5**	**-1.5**
VOR				*e*		02 01 25.0	
VOR				pmax	pmax		
	comp=N,450nm,2.5s						
VOR				pmax	pmax		
	comp=Z,420nm,2.5s						
VOR				pmax	pmax		
	comp=E,50nm,2.0s						
IAS	**Iasi**	**12.50**	**313**	⇑P	**P**	**01 58 58.0**	**+0.5**
RZN	**Rozhen**	**12.55**	**286**	*i* P	**P**	**01 59 02.5**	**+4.3**
SANT	**Santorini**	**12.57**	**261**⇑	*e*Pn	**P**	**01 58 58.0**	**-0.4**
	comp=E,236nm,1.0s						
SANT	**Santorini**	**12.57**	**261**⇑	*e*Pn	**P**	**01 58 58.0**	**-0.4**
	comp=E,236nm,1.0s						
THR1	**Thera Island**	**12.57**	**261**	*e*P	**P**	**01 59 00.0**	**+1.6**
THR3	**Thira Island,**	**12.60**	**261**	*e*P	**P**	**01 59 00.4**	**+1.5**
MLR	**Muntele Rosu**	**12.65**	**304**	P	**P**	**01 58 58.8**	**-0.7**
MLR						02 01 24.7	
MLR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MLR				smax			
	comp=N,1.0nm,0.3s						
MLR				MLR	MLR		
	comp=Z,16μm,20.2s						
MLR	**Muntele Rosu**	**12.65**	**304**	Pn	**P**	**01 58 58.8**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=130,slow=3.4,SNR=18						
MLR				Sn	**S**	**02 01 24.7**	**+3.1**
	comp=Z,0.5nm,0.3s,baz=189,slow=22,SNR=1.8						
MLR				LR	LR	02 04 33.8	
	comp=Z,16μm,20.2s,baz=305,slow=41						
MLR	**Muntele Rosu**	**12.65**	**304**	⇓P	**P**	**01 59 00.3**	**+0.8**
MLR	**Muntele Rosu**	**12.65**	**304**	⇓P	**P**	**01 59 00.3**	**+0.8**
NPS	**Neapolis**	**12.84**	**256**	*e*P	**P**	**01 59 01.3**	**-0.8**
SNX	**Sinaia**	**12.88**	**303**	⇓P	**P**	**01 59 05.5**	**+2.9**
SNX	**Sinaia**	**12.88**	**303**	⇓P	**P**	**01 59 05.5**	**+3.0**
SNX	**Sinaia**	**12.88**	**303**	P	**P**	**01 59 03.0**	**+0.5**
OUR	**Ouranopolis**	**13.05**	**280**	*e*P	**P**	**01 59 06.2**	**+1.3**
PGB	**Panagyurishte**	**13.06**	**290**	*i* P	**P**	**01 59 10.5**	**+5.5**
MTUR	**Matau**	**13.12**	**302**	⇑P	**P**	**01 59 07.7**	**+1.8**
MTUR	**Matau**	**13.12**	**302**	⇑P	**P**	**01 59 07.7**	**+1.9**
MTUR	**Matau**	**13.12**	**302**	P	**P**	**01 59 06.3**	**+0.5**
NVR	**Nevrokopi**	**13.16**	**284**	*e*P	**P**	**01 59 07.8**	**+1.4**
AOS	**Alonnisos**	**13.21**	**275**	*e*P	**P**	**01 59 08.5**	**+1.5**
MMB	**Musomiste**	**13.28**	**285**	*i* P	**P**	**01 59 12.7**	**+4.8**
PAIG	**Paliouri**	**13.30**	**278**	*e*P	**P**	**01 59 09.8**	**+1.6**
SRS	**Serrai**	**13.36**	**283**	*e*P	**P**	**01 59 09.8**	**+0.9**
IDI	**Anoyia**	**13.37**	**257**	Pn	**P**	**01 59 08.0**	**-1.2**
	comp=Z,1.6nm,0.3s,baz=58,slow=9.2,SNR=27						
PTL	**Penteli**	**13.38**	**270**	*e*P	**P**	**01 59 10.5**	**+1.2**
MPAR	**Parnis Oros**	**13.46**	**270**	*e*P	**P**	**01 59 12.0**	**+1.7**
PLG	**Polygyros**	**13.46**	**280**	*e*P	**P**	**01 59 11.8**	**+1.5**
ATH	**Athens Observa**	**13.51**	**270**	*e*P	**P**	**01 59 12.5**	**+1.6**
SOH	**Sokhos**	**13.53**	**282**	*e*P	**P**	**01 59 12.2**	**+1.0**
NEO	**Neokhori**	**13.70**	**276**	*e*P	**P**	**01 59 14.4**	**+1.0**
NSAL	**Nisos Salamina**	**13.72**	**270**	*e*P	**P**	**01 59 14.5**	**+0.8**
NAIG	**Nisos Aigina**	**13.73**	**269**	*e*P	**P**	**01 59 15.0**	**+1.2**
VTS	**Vitosha**	**13.77**	**289**	⇑P	**P**	**01 59 19.1**	**+4.8**
VTS	**Vitosha**	**13.77**	**289**	*i* P	**P**	**01 59 19.5**	**+5.2**
VTS	**Vitosha**	**13.77**	**289**	P	**P**	**01 59 16.2**	**+1.9**
KKB	**Krupnik**	**13.78**	**286**	*i* P	**P**	**01 59 19.0**	**+4.5**
THE	**Thessaloniki**	**13.83**	**281**	*e*P	**P**	**01 59 16.6**	**+1.5**
VAM	**Vamos**	**13.85**	**259**	*e*P	**P**	**01 59 14.5**	**-1.0**
MGER	**Gerania Oros**	**13.86**	**270**	*e*P	**P**	**01 59 17.0**	**+1.4**
KNT	**Kendrikon**	**13.88**	**283**	*e*P	**P**	**01 59 16.4**	**+0.6**
LKR	**Lokris**	**13.95**	**273**	*e*P	**P**	**01 59 17.5**	**+0.8**
AKASG	**Malin Array Be**	**14.04**	**328**	Pn	**P**	**01 59 15.8**	**-2.0**
	comp=Z,6.5nm,0.3s,baz=131,slow=14,SNR=210						
AKASG				Sn	**S**	**02 01 54.2**	**-0.4**
	comp=Z,2.6nm,0.3s,baz=141,slow=22,SNR=4.2						
BURAR	**Bucovina Array**	**14.07**	**311**	⇑P	**P**	**01 59 22.6**	**+4.4**
VAY	**Valandovo**	**14.14**	**284**⇑	*i*P	**P**	**01 59 20.5**	**+1.4**
VAY				*i* S	**S**	**02 01 57.7**	**+0.6**
GVD	**Gavdhos**	**14.15**	**257**⇑	*e*Pn	**P**	**01 59 19.1**	**-0.4**
	comp=Z,632nm,1.0s						
GVD	**Gavdhos**	**14.15**	**257**	*e*P	**P**	**01 59 20.0**	**+0.6**
LIT	**Litokhoron**	**14.20**	**279**	*e*P	**P**	**01 59 20.4**	**+0.4**
GRG	**Griva**	**14.26**	**282**	*e*P	**P**	**01 59 23.8**	**+3.1**
VLI	**Veliai**	**14.41**	**265**	*e*P	**P**	**01 59 22.8**	**+0.1**
AGG	**Agios Georgios**	**14.42**	**275**	*e*P	**P**	**01 59 24.4**	**+1.5**
KYTH	**Kithira**	**14.46**	**263**	*e*P	**P**	**01 59 23.5**	**+0.1**
KZN	**Kozani**	**14.74**	**280**	*e*P	**P**	**01 59 28.4**	**+1.3**
BARS	**Barje**	**14.81**	**290**⇑	*i*P	**P**	**01 59 32.1**	**+4.2**
EVR	**Evrytania**	**14.84**	**274**⇑	*i*P	**P**	**01 59 29.8**	**+1.5**
BOLS	**Boljevac**	**14.87**	**294**⇓	*i*P	**P**	**01 59 29.8**	**+1.0**
GHIR	**Ghir-Karzin**	**14.88**	**134**	*e*PN	**P**	**01 59 25.2**	**-3.8**
SKO	**Skopje**	**15.02**	**286**	*e*P	**P**	**01 59 30.0**	**-0.6**
SKO				pmax	pmax		
	comp=Z,300nm,1.4s						
SKO	**Skopje**	**15.02**	**286**	*e*P	**P**	**01 59 30.0**	**-0.6**
	comp=Z,300nm,1.4s						
SKO				*i*		01 59 34.2	
SKO				*i*		01 59 43.0	
SKO				*i*		02 00 10.0	
SKO				*i* PcP	PcP	02 04 25.0	-15

SKO Skopje 15.02 286 eP P 01 59 30.0 -0.6
SKO ⇑i 01 59 34.2
SKO i 01 59 43.0
comp=Z,0.3nm,1.4s
SKO i 02 00 10.0
SKO i PcP PcP 02 04 25.0 -15
SKO Lm 02 08 30.0
comp=E,17nm,7.0s
SKO Lm 02 08 40.0
comp=N,16nm,7.5s
FNA Florina 15.03 282 eP P 01 59 31.9 +1.0
BIA Bitola 15.07 283 i P P 01 59 32.9 +1.5
BIA i 01 59 38.0
ITM Ithomi 15.07 268 eP P 01 59 32.2 +0.8
RLS Riolos of Patr 15.24 271 eP P 01 59 34.6 +1.0
OHR Ohrid 15.47 283⇑iP P 01 59 37.2 +0.6
OHR ⇑i 01 59 42.0
OHR i S S 02 02 44.0 +15
OHR i PcP PcP 02 04 35.7 -5.0
SVIS Svilajnac 15.49 295⇑iP P 01 59 38.1 +1.3
JAN Janina 15.49 278 eP P 01 59 40.7 +3.8
GRUS Gruza 15.77 293⇑iP P 01 59 41.7 +1.3
VLS Valsamata 15.90 272 eP P 01 59 42.2 +0.1
IGT Igoumenitsa 15.90 277 eP P 01 59 42.0 -0.2
IGT Igoumenitsa 15.90 277 eP P 01 59 42.0 -0.2
LVV L'vov 15.92 317⇑iP P 01 59 40.0 -2.3
LVV eS S 02 02 43.1 +4.0
LVV L'vov 15.92 317⇑iP P 01 59 40.5 -1.8
KRBR Kerman 16.01 121 ePN P 01 59 40.8 -2.8
KRBR SN S 02 02 42.8 +1.5
OBN Obninsk 16.06 351 Pn P 01 59 42.9 -1.2
comp=N,2μm,1.0s,SNR=71
OBN Obninsk 16.06 351c iP P 01 59 42.3 -1.8
OBN i S S 02 02 38.9 -3.4
OBN pmax pmax
comp=Z,509nm,1.1s
OBN MLR MLR
comp=Z,27μm,22.0s
OBN Obninsk 16.06 351 eP P 01 59 41.9 -2.2
comp=Z,217nm,0.7s
BEO Belgrade 16.14 296⇑iP P 01 59 46.3 +1.1
QSH Qafa e Shtames 16.14 285 i p P 01 59 47.5 +2.2
PVY Plav 16.14 288⇑iP P 01 59 47.3 +2.0
TIR Tirane 16.17 284 ep P 01 59 50.2 +4.6
IVA Berane 16.23 289⇑iP P 01 59 48.9 +2.7
UZH Uzhgorod 16.27 311⇑iP P 01 59 46.0 -0.9
KEK Kerkira 16.30 278 eP P 01 59 48.1 +0.9
DIVS Divcibare 16.32 294⇑iP P 01 59 48.6 +1.1
KOLS Kolonicke sedl 16.43 312 eP P 01 59 47.9 -1.0
KWP Kalwaria 16.54 314 eP P 01 59 48.9 -1.3
KWP eS S 02 03 00.6 +7.3
KWP Kalwaria 16.54 314 eP P 01 59 48.9 -1.3
KWP epP 01 59 57.8
KWP eS S 02 03 00.6 +7.3
KWP eSS SS 02 03 12.4 -0.9
KWP Kalwaria 16.54 314 eP P 01 59 48.9 -1.3
comp=Z,2μm,2.4s
KWP epP 01 59 57.8
KWP eS S 02 03 00.6 +7.2
KWP esS 02 03 12.4
KWP MLR MLR 02 08 46.6
comp=Z,12μm,18.6s
MOS Moscow 16.57 353κ iP P 01 59 48.0 -2.5
MOS eS S 02 02 53.4 -0.6
MOS pmax pmax
comp=Z,3μm,2.4s
MOS pmax pmax
comp=Z,994nm,1.7s
MOS pmax pmax
comp=N,472nm,1.6s
MOS smax
comp=E,7μm,4.5s
MOS smax
comp=N,4μm,4.1s
MOS MLR MLR
comp=N,8μm,12.4s
MOS MLR MLR
comp=Z,12μm,12.4s
MOS MLR MLR
comp=E,11μm,12.6s
PLE Pljevlja 16.64 291⇑iP P 01 59 52.5 +0.9
ULC Ulcinj 16.64 286⇑iP P 01 59 56.4 +4.8
TTG Podgorica 16.66 288⇑iP P 01 59 55.6 +3.8
BBLS Bajina Basta - 16.70 293⇑iP P 01 59 54.0 +1.7
NKY Niksic 16.88 289⇑iP P 01 59 57.1 +2.5
CRVS Cervenica-Dubn 16.89 311 eP P 01 59 54.2 -0.4
CRVS eS S 02 03 18.9 +17
BUM Brajici-Budva 16.92 287⇑iP P 01 59 59.2 +4.1
UPM Unac-Piva 16.98 290⇑iP P 01 59 57.2 +1.4
BRY Bratogost 17.22 289⇑iP P 01 59 59.9 +1.0
HCY Herceg Novi 17.22 288⇑iP P 02 00 01.7 +2.8
KECS Kecovo 17.29 309 P P 02 00 01.9 +2.2
KECS Kecovo 17.29 309 eP P 01 59 59.5 -0.2
BNDS Bandar-Abbas 17.41 129 ePN P 01 59 58.4 -2.9
PSZ Piszkesteto 17.43 306 eP P 02 00 01.9 +0.4
PSZ pmax pmax
comp=Z,2μm,2.0s
PSZ Piszkesteto 17.43 306 eP P 02 00 01.9 +0.5
comp=Z,2μm,2.0s
PSZ Piszkesteto 17.43 306⇓eP P 02 00 02.9 +1.4
PSZ Piszkesteto 17.43 306 eP P 02 00 01.9 +0.4
comp=Z,2μm,2.0s
LCI Lecce 17.54 281 eP P 02 00 04.2 +1.4
MNK Minsk 17.56 334 eP P 01 59 56.0 -7.1
PKSM Moragy 17.71 300 ⇓P P 02 00 06.5 +1.6
PKSM Moragy 17.71 300⇓iP P 02 00 06.2 +1.3
NIE Niedzica 17.80 311 eP P 02 00 04.1 -1.9
BUD Budapest 17.83 304⇓eP P 02 00 07.6 +1.2
STON Ston 17.84 289 i P P 02 00 06.4 -0.2
RHK1 Bakonya 18.06 299 eP P 02 00 10.1 +0.7
BRT Bari-Castellan 18.19 282 eP P 02 00 13.9 +2.8
VYHS Vyhne 18.30 307 i P P 02 00 12.5 +0.2
VYHS eS S 02 03 45.5 +12
SRO2 Moca 18.32 305 i P P 02 00 14.0 +1.4
LIKS Likavka 18.35 309 eP P 02 00 11.8 -1.2
SRO Srobarova 18.39 305 eP P 02 00 14.4 +0.9
SRO1 Iza 18.43 305 eP P 02 00 15.7 +1.8
BAI Bari 18.43 283 eP P 02 00 15.4 +1.4
OJC Ojcow 18.46 313 eP P 02 00 12.5 -1.8
OJC eS S 02 03 42.1 +4.9
OJC Ojcow 18.46 313 eP P 02 00 12.5 -1.8
OJC epP 02 00 23.0
OJC eS S 02 03 42.1 +4.9
OJC MLR MLR 02 09 31.5
comp=Z,9μm,20.2s
LTRZ Laterza 18.50 282 eP P 02 00 14.5 -0.4
LTRZ Laterza 18.50 282 eP P 02 00 14.5 -0.4
BANOM Banah 18.58 131 ⇑P P 02 00 13.7 -2.2
SG1 Sgolgore (BA) 18.59 282 eP P 02 00 15.7 -0.3
IDID Didziasalis 18.60 334 eP P 02 00 12.5 -3.4
IDID AMb AMB 02 00 20.7
comp=Z,99nm,2.2s
IDID Didziasalis 18.60 334 eP P 02 00 12.5 -3.4
comp=Z,99nm,2.2s,SNR=45
KOLL Kolacno 18.60 307 eP P 02 00 16.6 +0.6
TIP Timpagrande 18.70 277 eP P 02 00 15.7 -1.5
TIP Timpagrande 18.70 277 eP P 02 00 15.7 -1.6
IIGN Ignalina 18.80 333 eP P 02 00 15.5 -2.9
IIGN AMb AMB 02 00 23.4
comp=Z,120nm,2.0s
IIGN Ignalina 18.80 333 eP P 02 00 15.5 -2.9
comp=Z,120nm,2.0s,SNR=45
ORI Oriolo Calabro 18.83 280 eP P 02 00 19.1 +0.3
WAR Warsaw 18.87 320 eP P 02 00 17.7 -1.5
WAR eS S 02 03 52.1 +5.7
WAR pmax pmax
comp=Z,6.0nm,2.1s
WAR Warsaw 18.87 320 eP P 02 00 17.7 -1.5
comp=Z,6.1nm,2.1s
WAR epP 02 00 23.6
WAR eS S 02 03 52.1 +5.7
WAR eSS SS 02 03 59.9 -12
WAR Warsaw 18.87 320 eP P 02 00 17.7 -1.6
comp=Z,6μm,2.1s
WAR epP 02 00 23.6
WAR eS S 02 03 52.1 +5.6
WAR esS 02 03 59.9
WAR MLR MLR 02 08 58.5
comp=Z,19μm,19.1s
CDT Castel del Mon 18.89 283 eP P 02 00 19.2 -0.3
SUW Suwalki 18.99 326 eP P 02 00 18.1 -2.6
SUW eS S 02 03 54.6 +5.5
SUW Suwalki 18.99 326 eP P 02 00 18.1 -2.6
SUW epP 02 00 24.5
SUW eS S 02 03 54.6 +5.5
SUW eSS SS 02 04 02.6 -12
SUW Suwalki 18.99 326 eP P 02 00 18.1 -2.6
comp=Z,4μm,2.3s
SUW epP 02 00 24.5
SUW eS S 02 03 54.6 +5.5
SUW esS 02 04 02.5
SUW MLR MLR 02 08 22.2
comp=Z,10μm,22.5s
ZHSF Zahedan 19.00 115 ePN P 02 00 18.3 -2.6
GRI Girifalco 19.01 276 P P 02 00 20.3 -0.7
ISAL Salakas 19.01 334 eP P 02 00 18.0 -2.9
ISAL AMb AMB 02 00 25.8
comp=Z,104nm,2.1s
ISAL Salakas 19.01 334 eP P 02 00 18.0 -2.9
comp=Z,104nm,2.1s,SNR=45
SISC Sisak 19.10 297 i P P 02 00 22.8 +0.8
SISC Sisak 19.10 297 i P P 02 00 22.7 +0.7
FGMS Monte Sant'Ang 19.11 285 eP P 02 00 21.6 -0.5
FGMS Monte Sant'Ang 19.11 285 eP P 02 00 21.6 -0.5
IZAR Zarasai 19.11 334 eP P 02 00 19.1 -3.1
IZAR AMb AMB 02 00 24.6
comp=Z,156nm,1.6s
IZAR Zarasai 19.11 334 eP P 02 00 19.1 -3.0
comp=Z,156nm,1.6s,SNR=45
MS1 Monte Sant'Ang 19.11 285 eP P 02 00 21.4 -0.8
JAVC Velka Javorina 19.15 307 P P 02 00 23.7 +1.1
SMOL Smolenice 19.18 306 eP P 02 00 23.2 +0.2
OKC Ostrava-Krasne 19.25 311 eP P 02 00 21.1 -2.6
OKC eS S 02 04 02.5 +7.5
OKC AMS AMS 02 10 00.0
comp=Z,14μm,15.0s
ZST Bratislava 19.28 305 eP P 02 00 24.0 -0.2
ZST eS S 02 04 03.2 +7.3
ZST eL 02 09 48.7
RAC Raciborz 19.32 311 eP P 02 00 24.2 -0.4
RAC epP 02 00 28.5
RAC eS S 02 04 07.1 +10
RAC MLR MLR 02 09 36.2
RAC LME 02 09 49.7
RAC LMN 02 10 00.2
comp=Z,31μm,16.6s
KOGS Kog 19.37 300 eP P 02 00 24.8 -0.5
RGNG Rignano Grg 19.38 285 eP P 02 00 24.4 -0.9
RGNG Rignano Grg 19.38 285 eP P 02 00 24.5 -0.9
SOI Samo 19.43 274 eP P 02 00 24.0 -1.9
FG4 Candela 19.45 283 eP P 02 00 25.9 -0.3
SOP Sopron 19.48 303 P P 02 00 27.0 +0.6
SOP Sopron 19.48 303⇓epP 02 00 26.9
MRLC Muro Lucano 19.50 282 eP P 02 00 26.3 -0.5
MRLC Muro Lucano 19.50 282 eP P 02 00 26.3 -0.4
CEL Celeste 19.52 275 P P 02 00 25.5 -1.4
MORC Moravsky Berou 19.58 310 eP P 02 00 26.1 -1.5
MORC pmax pmax
comp=Z,1μm,2.5s
MORC Moravsky Berou 19.58 310 eP P 02 00 26.1 -1.5
comp=Z,1μm,2.5s
MORC Moravsky Berou 19.58 310 eP P 02 00 26.1 -1.5
comp=Z,1μm,2.5s
MORC Moravsky Berou 19.58 310 ePn P 02 00 26.7 -0.9
FG5 Orsara di Pugl 19.64 284 eP P 02 00 28.3 0.0
SGO Sicignano 19.65 282 eP P 02 00 28.1 -0.4
SGO Sicignano 19.65 282 eP P 02 00 28.0 -0.5
SCLL Scilla 19.66 275 eP P 02 00 27.9 -0.6
SCLL Scilla 19.66 275 eP P 02 00 28.0 -0.5
MTTG Motta San Giov 19.72 274 eP P 02 00 28.5 -0.7
MTTG Motta San Giov 19.72 274 eP P 02 00 28.5 -0.8
MSI Messina ING 19.79 275 eP P 02 00 29.1 -0.9
VKA Vienna 19.80 305⇓iP P 02 00 29.7 -0.4
comp=Z,3μm,2.5s
VKA MLRZ 02 10 00.0
comp=Z,12nm,12.0s
CSSN Cassano Irpino 19.84 283 eP P 02 00 30.2 -0.4
CSSN Cassano Irpino 19.84 283 eP P 02 00 30.2 -0.4
MRB1 Monte Rocchett 19.87 284 P P 02 00 32.1 +1.3
BOJS Bojanci 19.88 296 eP P 02 00 30.3 -0.6
BOJS eS S 02 04 16.6 +7.7
CIGN Sant'Elia a Pi 19.89 285 P P 02 00 30.9 -0.2
VRAC Vranov 19.98 308 P P 02 00 32.1 +0.1
comp=Z,0.3nm,0.3s,baz=100,slow=11,SNR=38
VRAC Vranov 19.98 308 ⇓P P 02 00 32.5 +0.5
VRAC Vranov 19.98 308 ePn P 02 00 31.6 -0.4
VRAC Vranov 19.98 308 P P 02 00 32.1 +0.1
PSB1 Pescosannita 19.98 284 P P 02 00 32.0 -0.1
KRUC Moravsky 20.01 307 P P 02 00 32.1 -0.3
ARSA Arzberg 20.04 302⇑iP P 02 00 32.2 -0.5
comp=Z,202nm,1.9s
PERS Pernice 20.18 300 eP P 02 00 33.3 -0.8
AGST Augusta-Monte 20.25 272 eP P 02 00 32.8 -2.1
AGST Augusta-Monte 20.25 272 eP P 02 00 32.8 -2.1
SLNA Salina 20.28 276 eP P 02 00 34.0 -1.2
SLNA Salina 20.28 276 eP P 02 00 34.0 -1.2
CII Carovilli 20.34 285 eP P 02 00 36.0 +0.1
CII Carovilli 20.34 285 eP P 02 00 36.0 +0.2
MIDA Miranda 20.38 285 P P 02 00 36.3 0.0
RNI2 Rionero Sannit 20.45 285 P P 02 00 37.4 +0.4
LJU Ljubljana 20.47 298 eP P 02 00 37.4 +0.2
LJU eS S 02 04 31.1 +10
MNO Monte Soro 20.51 274 eP P 02 00 37.4 -0.2
PZI Palazzolo 20.51 272 P P 02 00 35.9 -1.8
DPC Dobruska-Polom 20.53 311 eP P 02 00 37.0 -0.7
DPC eS S 02 04 29.4 +7.1
DPC AMS AMS 02 10 50.0
comp=Z,19μm,14.2s
OBKA Obir 20.54 299⇓iP P 02 00 38.0 +0.2
comp=Z,172nm,1.5s
INTR Introdacqua 20.63 286 P P 02 00 38.4 -0.4
SDI San Donato 20.71 285 eP P 02 00 39.0 -0.7
KSP Ksiaz 20.74 312⇓eP P 02 00 39.3 -0.7
KSP eS S 02 04 31.0 +4.4
KSP MLR MLR
comp=Z,26μm,15.8s,MS5.7
KSP Ksiaz 20.74 312 eP P 02 00 39.5 -0.4
comp=Z,3μm,1.9s
KSP epP 02 00 45.2
KSP eS S 02 04 28.5 +1.9
KSP MLR MLR 02 09 28.3
comp=Z,15μm,23.4s,MS5.3
UPC Upice 20.77 311 eP P 02 00 39.6 -0.7
VAE Valguarnera 20.83 273 P P 02 00 41.8 +0.9
comp=Z,144nm,0.9s,baz=57,slow=2.2,SNR=48
TERO Teramo 20.84 288 P P 02 00 40.9 -0.1
VVLD Villa Vallelon 20.84 286 P P 02 00 39.6 -1.5
AOI Ancona 20.86 290 P P 02 00 40.8 -0.4
VOY Vojsko 20.90 297 eP P 02 00 41.0 -0.6
TRI Trieste 20.94 297 eP P 02 00 42.6 +0.6
AQU L'Aquila 21.00 287⇑iP P 02 00 42.7 +0.1
CSLB Castelbuono 21.00 275 eP P 02 00 42.6 -0.1
CSLB Castelbuono 21.00 275 eP P 02 00 42.6 -0.1
PTQR Pietraquaria 21.00 286 eP P 02 00 42.6 -0.1
PTQR Pietraquaria 21.00 286 eP P 02 00 42.6 -0.1
GIB Gibilmanna 21.01 275 P P 02 00 41.5 -1.3
MOA Molln 21.02 303⇑iP P 02 00 42.6 -0.2
comp=Z,303nm,1.2s,mb5.5
VENT Ventotene 21.06 283 P P 02 00 43.0 -0.3
GUAR Guarcino 21.08 286 P P 02 00 43.7 +0.2
DRE Drenchia 21.09 298⇓eP P 02 00 43.0 -0.6
CING Cingoli 21.15 290 P P 02 00 44.0 -0.2
WDD Wield Dalam 21.16 269 P P 02 00 43.4 -1.0
ROBS Robic 21.20 298 eP P 02 00 44.2 -0.4
NRCA Norcia 21.20 288 eP P 02 00 44.6 -0.2
NRCA Norcia 21.20 288 eP P 02 00 44.6 -0.1
FIAM Fiamignano 21.21 287 P P 02 00 45.4 +0.6
VSU Vasula 21.21 339 i P P 02 00 43.6 -1.1
VSU Vasula 21.21 339 i Pr 02 00 43.6
COLI Coloredo 21.27 298⇓iP P 02 00 45.0 -0.4
CERT Cerreto 21.32 286 P P 02 00 45.5 -0.4
PTCC Patocco-Chiusa 21.33 298 eP P 02 00 45.8 -0.1
PTCC Patocco-Chiusa 21.33 298 eP P 02 00 45.8 -0.2
SNTG Esanatoglia 21.34 290 eP P 02 00 45.5 -0.5
SNTG Esanatoglia 21.34 290 eP P 02 00 45.5 -0.6
ARV Arcevia 21.34 290⇑iP P 02 00 45.8 -0.3
GKP Gorka Klasztor 21.36 319 eP P 02 00 46.0 -0.2
comp=Z,2.9nm,2.5s
GKP epP 02 00 50.4
GKP eS S 02 04 38.6 +0.2
GKP eSS SS 02 04 50.3 -22
GKP LR LR
comp=Z,34μm,15.4s
GKP Gorka Klasztor 21.36 319 eP P 02 00 46.0 -0.2
comp=Z,3μm,2.5s,mb6.2
GKP epP 02 00 50.4
GKP eS S 02 04 38.6 +0.2
GKP esS 02 04 50.3
GKP MLR MLR 02 11 44.2
comp=Z,34μm,15.4s,MS5.9
BAD Bernadia 21.38 298⇓eP P 02 00 46.0 -0.5
GMNA Gemona 21.39 298 eP P 02 00 47.5 +1.0
GMNA Gemona 21.39 298 eP P 02 00 47.5 +0.9
MCT Mte Cammarata 21.39 274 eP P 02 00 47.3 +0.6
MCT Mte Cammarata 21.39 274 eP P 02 00 47.3 +0.6
TLI Talmassons 21.43 297⇑eP P 02 00 48.0 +1.0
PESA Pesaro 21.43 292 P P 02 00 47.5 +0.5
FAVR Favara 21.45 273 eP P 02 00 48.5 +1.3
FAVR Favara 21.45 273 eP P 02 00 48.5 +1.2
KBA Koelnbreinsper 21.46 300⇑iP P 02 00 47.5 +0.3
comp=Z,203nm,1.7s,mb5.2
KBA Koelnbreinsper 21.46 300⇑iP P 02 00 47.5 +0.3
KBA pmax pmax
comp=Z,203nm,1.7s,mb5.2
BUA Buia 21.46 298⇑eP P 02 00 48.0 +0.7
PRU Pruhonice 21.46 308 eP P 02 00 46.8 -0.5
PRU eS S 02 04 47.0 +6.6
PRU AMS AMS 02 11 30.0
comp=Z,18μm,14.2s
FSSB Fossombrone 21.47 291 eP P 02 00 47.6 +0.2
FSSB Fossombrone 21.47 291 eP P 02 00 47.6 +0.2
BIDO Bidbid 21.48 132 ⇑P P 02 00 46.9 -0.8
USI Ustica 21.53 277 eP P 02 00 48.7 +0.6
USI Ustica 21.53 277 eP P 02 00 48.7 +0.7
MNS Montasola 21.53 287 eP P 02 00 47.5 -0.5
PUL Pulkovo 21.53 345 i P P 02 00 47.3 -0.6
PUL Pulkovo 21.53 345 i Pr 02 00 47.3
LAV9 Lanuvio 21.54 285 eP P 02 00 47.6 -0.5
LAV9 Lanuvio 21.54 285 eP P 02 00 47.6 -0.6
MPRI Monte Prat 21.55 298⇓eP P 02 00 48.0 -0.2
PRA Prague 21.56 309 P P 02 00 50.0 +1.8
PRA AMS AMS 02 11 50.0
MA9 Marino 21.57 286 eP P 02 00 47.9 -0.5
MA9 Marino 21.57 286 eP P 02 00 47.9 -0.5
ZOU Zoufplan 21.61 299⇑eP P 02 00 49.0 +0.2
PVCC Panska Ves 21.64 310 eP P 02 00 48.7 -0.3
PVCC eS S 02 04 52.2 +8.6
PVCC AMS AMS 02 12 10.0
comp=Z,10μm,20.5s
GEC2 GERESS Array S 21.64 305 eP P 02 00 48.6 -0.4
GEC2 eS S 02 04 58.4 +15
GEC2 pmax pmax
comp=Z,278nm,1.6s,mb5.4
GEC2 GERESS Array S 21.64 305 eP P 02 00 48.6 -0.4
comp=Z,278nm,1.6s,mb5.4
GEC2 eS S 02 04 58.4 +15
GEC2 GERESS Array S 21.64 305 eP P 02 00 48.6 -0.4
comp=Z,278nm,1.6s,mb5.4
GERES GERESS Array B 21.64 305 P P 02 00 48.6 -0.5
comp=Z,24nm,0.7s,mb4.7,baz=107,slow=10,SNR=143
MURB Monte Urbino 21.64 290 P P 02 00 50.0 +0.9
ROM9 Roma 21.67 286 P P 02 00 50.9 +1.4
TAS Tashkent 21.70 76ceP P 02 00 48.0 -1.7
TAS e 02 04 56.0
TAS pmax pmax
comp=Z,700nm,6.0s
TAS Tashkent 21.70 76 eP P 02 00 48.0 -1.7
comp=Z,700nm,6.0s
RSM Repubblica di 21.71 291 eP P 02 00 50.7 +0.9
CLTB Caltabellotta 21.73 274 P P 02 00 49.7 -0.4
FVI Forni Avoltri 21.75 299 eP P 02 00 50.7 +0.5
SVE Sverdlovsk 21.78 30⇑iP P 02 00 52.0 +1.6
SVE e 02 00 59.0
SVE eS S 02 04 48.0 +1.8
SVE eSS SS 02 05 37.0 +14
SVE pmax pmax
comp=Z,550nm,3.0s
SVE smax
comp=N,8μm,14.0s
SVE smax
comp=E,8μm,14.0s
SVE MLR MLR
comp=N,16μm,16.0s,MS5.6
SVE MLR MLR
comp=E,13μm,16.0s,MS5.6
SVE MLR MLR
comp=Z,16μm,16.0s,MS5.5
KHC Kasperske Hory 21.79 306 eP P 02 00 50.2 -0.4
KHC epP 02 00 56.5
KHC ex x 02 01 13.5
KHC eS S 02 04 54.2 +7.6
KHC AMS AMS 02 11 10.0
comp=Z,12μm,13.5s
SMDO Samad 21.80 133 ⇑P P 02 00 50.8 0.0
SNR=167
BRSN Barisano 22.00 292 eP P 02 00 55.0 +2.3
MTGR Montagna Grand 22.01 275 P P 02 00 51.8 -1.1
TOLF Tolfa 22.05 286 P P 02 00 53.2 0.0
ERC Erice 22.11 276 eP P 02 00 53.3 -0.6
BRG Berggiesshubel 22.13 310 i P P 02 00 54.1 +0.1
BRG i S S 02 04 59.0 +6.2
BRG pmax pmax
comp=Z,618nm,2.0s,mb5.7
BRG MLR MLR
comp=Z,14μm,11.6s,MS5.6
BRG Berggiesshubel 22.13 310 i P P 02 00 54.1 +0.1
comp=Z,618nm,2.0s,mb5.7
BRG i sP 02 01 11.3
BRG i S S 02 04 59.0 +6.2
BRG LR LR
comp=Z,14μm,11.6s,MS5.6
SFI Santa Sofia 22.15 291 eP P 02 00 55.3 +1.1
SEST Monte Rota 22.16 299 P P 02 00 55.2 +0.9
PGD Poggio Sodo 22.24 291⇑iP P 02 00 56.9 +1.8
WET Wettzell 22.24 305 eP P 02 00 54.3 -0.8
WET eS S 02 05 04.0 +9.2
WET pmax pmax
comp=Z,672nm,2.0s,mb5.7
WET Wettzell 22.24 305 eP P 02 00 54.3 -0.8
comp=Z,672nm,2.0s,mb5.7
WET eS S 02 05 04.0 +9.2
VMG Vicchio 22.37 291 eP P 02 00 58.5 +2.2
JMDO Jabal Madar 22.38 134 P P 02 00 56.7 +0.1
SNR=84
CTI Castel Tesino 22.45 297 eP P 02 00 57.5 +0.3
BRES Bressanone 22.48 299 P P 02 00 56.1 -1.4
SEI Scarperia 22.51 292 eP P 02 00 59.7 +2.0
SOKR Solikamsk 22.62 21d iP P 02 01 00.3 +1.6
SOKR i S S 02 05 02.9 +1.3
SOKR pmax pmax
comp=Z,120nm,1.1s,mb5.2
SOKR MLR MLR
comp=Z,9μm,18.0s,MS5.3
WBK Wadi Bani Khal 22.68 132 ⇑P P 02 01 00.1 +0.4
SNR=18
WATA Walderalm 22.69 300⇓iP P 02 00 59.9 +0.4
comp=Z,196nm,1.3s,mb5.4
WATA Walderalm 22.69 300⇓iP P 02 00 59.9 +0.4
WATA pmax pmax
comp=Z,196nm,1.3s,mb5.4
GRFL Gerfalco 22.77 289 eP P 02 01 04.0 +3.7
BERN Bernov 22.78 308 ⇑P P 02 01 09.8 +9.5
ZCCA Zocca 22.79 292 eP P 02 01 02.7 +2.2
NKC Novy Kostel 22.82 308 eP P 02 01 01.0 +0.3
NKC eS S 02 05 13.4 +8.1
NKC AMS AMS 02 12 10.0
comp=Z,17μm,13.7s
CLL Collm 22.84 311⇓iP P 02 01 01.4 +0.5
CLL eS S 02 05 13.0 +7.4
CLL pmax pmax
comp=Z,1μm,2.2s,mb6.0
CLL MLR MLR
comp=Z,17μm,12.3s,MS5.7
CLL Collm 22.84 311⇓iP P 02 01 01.4 +0.5
comp=Z,1μm,2.2s,mb6.0
CLL i 02 01 18.5
CLL eS S 02 05 13.0 +7.4
CLL LR LR
comp=Z,17μm,12.3s,MS5.7
CLL Collm 22.84 311 ⇓P P 02 01 01.4 +0.5
comp=Z,logA/T=2.8,mb6.0
CLL i 02 01 13.7
CLL i 02 01 18.5
CLL eS S 02 05 13.0 +7.4
CLL e 02 05 44.0
RUE Ruedersdorf 22.84 314 eP P 02 01 00.2 -0.8
comp=Z,1μm,1.6s,mb6.1

SQTA Sankt Quirin 22.92 300⇑*iP* P 02 01 01.8 +0.1
comp=Z,528nm,1.9s,mb5.6
SQTA Sankt Quirin 22.92 300⇑*iP* P 02 01 01.8 +0.1
SQTA pmax pmax
comp=Z,528nm,1.9s,mb5.6
MOTA Moosalm 23.01 300⇓*iP* P 02 01 02.4 -0.2
comp=Z,14nm,1.8s
FUR Furstenfeldbru 23.04 302 *eP* P 02 01 03.3 +0.4
FUR pmax pmax
comp=Z,753nm,1.5s,mb5.9
FUR Furstenfeldbru 23.04 302 *eP* P 02 01 03.3 +0.4
comp=Z,753nm,1.5s,mb5.9
FUR *eS* **S 02 05 19.5 +10**
BDI Bagni Di Lucca 23.05 292 *eP* P 02 01 03.5 +0.4
GSCL Gusciola 23.07 292 *eP* P 02 01 04.9 +1.7
PII Pisa 23.10 291 *eP* P 02 01 03.4 -0.1
SAL Salo 23.19 296 *eP* P 02 01 05.6 +1.2
ERBM Eremo 23.20 293 *eP* P 02 01 07.0 +2.5
SARO Sassorosso 23.20 292 P P 02 01 05.1 +0.6
VLC Villacollemand 23.21 292 *eP* P 02 01 05.2 +0.6
comp=Z,402nm,1.4s,mb5.7
VALM 23.31 292 P P 02 01 06.5 +0.9
BRMO Bormio 23.38 298 *eP* P 02 01 07.5 +1.2
GRA1 Grafenberg Arr 23.43 306 *eP* P 02 01 07.5 +0.9
comp=Z,3µm,2.0s,mb6.4
GRA1 *eS* **S 02 05 28.0 +12**
GRA1 LR LR
comp=Z,10µm,18.5s,MS5.3
GRF Grafenberg Arr 23.43 306 *eP* P 02 01 07.5 +0.9
GRF pmax pmax
comp=Z,3µm,2.0s,mb6.4
GRF MLR MLR
comp=Z,10µm,18.5s,MS5.3
GRF Grafenberg Arr 23.43 306 *eP* P 02 01 07.5 +0.9
GRF pmax pmax
comp=Z,3µm,2.0s,mb6.4
GRF MLR MLR
comp=Z,10µm,18.5s,MS5.3
GRF Grafenberg Arr 23.43 306 *eP* P 02 01 07.5 +0.9
comp=Z,3µm,2.0s,mb6.4
GRF *eS* **S 02 05 28.0 +12**
GRF LR LR
comp=Z,10µm,18.5s,MS5.3
GRAM 23.45 293 P P 02 01 08.2 +1.3
MOX Moxa 23.45 308 *eP* P 02 01 07.3 +0.4
MOX pmax pmax
comp=Z,305nm,2.0s,mb5.4
MOX MLR MLR
comp=Z,6µm,22.0s,MS5.0
MOX Moxa 23.45 308 *eP* P 02 01 07.3 +0.4
comp=Z,305nm,2.0s,mb5.4
MOX LR LR
comp=Z,6µm,22.0s,MS5.0
MOX Moxa 23.45 308 *iP* P 02 01 07.3 +0.4
comp=Z,logA/T=2.2,mb5.4
MOX S **S 02 05 22.0 +5.6**
MOX L 02 11 30.0
FUORN Ofenpass 23.47 298⇑*iP* P 02 01 08.5 +1.4
BSD Bornholm Skovb 23.48 321 *iP* P 02 01 07.4 +0.2
comp=Z,97nm,0.7s,mb5.3
BSD *iS* **S 02 05 24.7 +7.7**
comp=Z,8µm,18.0s
BERNI Berninapass 23.61 298⇑*iP* P 02 01 09.8 +1.3
UBR Uberruh 23.73 301⇑*eP* P 02 01 09.4 -0.2
DAVOX Davos 23.75 298 P P 02 01 10.7 +0.9
comp=Z,27nm,0.6s,mb4.8
DAVOX Davos 23.75 298⇑*iP* P 02 01 10.5 +0.6
DAVA Damuels 23.82 300⇑*iP* P 02 01 10.5 0.0
comp=Z,131nm,1.1s,mb5.3
HDH Heidenheim 23.82 303 P P 02 01 10.9 +0.4
HDH Heidenheim 23.82 303⇑*eP* P 02 01 10.3 -0.2
BOB Bobbio (Coli) 23.90 293 *eP* P 02 01 13.1 +1.8
FINES FINESS Array B 23.96 342 P P 02 01 12.6 +0.9
comp=Z,45nm,0.6s,mb5.0,baz=141,slow=12,SNR=186
FINES LR LR 02 12 14.8
comp=Z,12µm,18.1s,MS5.4,baz=142,slow=41
VDL Val di Lei 24.00 298⇑*iP* P 02 01 13.2 +0.9
RGN Rugen 24.00 318 *eP* P 02 01 13.4 +1.2
comp=Z,2µm,1.6s,mb6.2
LIENZ Alp Oberkamor 24.08 300⇑*iP* P 02 01 13.0 -0.1
TUE Stuetta 24.09 298 P P 02 01 14.7 +1.6
PLONS Plons 24.13 299⇑*iP* P 02 01 13.4 -0.1
PGF Pioggiola 24.25 288 *eP* P 02 01 15.2 +0.5
comp=Z,520nm,1.3s,mb5.5
PGF Pioggiola 24.25 288 *eP* P 02 01 15.2 +0.5
PGF pmax pmax
comp=Z,260nm,1.3s,mb5.5
VSL Villasalto 24.30 281 *eP* P 02 01 15.3 0.0
comp=Z,200nm,1.1s,mb5.5
JOF Joensuu 24.32 349 *ep* P 02 01 15.0 -0.2
BUCH Bad Urach 24.36 302 P P 02 01 16.1 +0.4
BUCH Bad Urach 24.36 302⇑*eP* P 02 01 15.5 -0.2
LLS Linth-Limmern 24.36 298⇑*iP* P 02 01 15.7 0.0
SIND Sindeldorf 24.37 305 P P 02 01 16.4 +0.6
SIND Sindeldorf 24.37 305⇑*eP* P 02 01 15.9 +0.1
BVA0 Borovoye Array 24.37 46 *iP* P 02 01 15.5 -0.3
BVAR Borovoye Array 24.37 46 P P 02 01 15.5 -0.3
comp=Z,9.2nm,0.8s,baz=243,slow=6.6,SNR=44
CGL Cagliari Serpe 24.39 280 P P 02 01 14.0 -2.1
ABTO Aybut 24.41 150 ⇓P P 02 01 16.8 +0.3
SNR=19
VAI Varese 24.43 296 *eP* P 02 01 16.4 -0.1
GUT Gutenstein 24.45 301 P P 02 01 16.8 +0.2
GUT Gutenstein 24.45 301⇑*eP* P 02 01 16.3 -0.3
WEIN Weingarten 24.46 300⇑*iP* P 02 01 16.7 0.0
SISB Singen-Sch Ber 24.49 300 P P 02 01 17.5 +0.5
WILA Wila 24.49 300⇑*iP* P 02 01 17.1 0.0
KAF Kangasniemi 24.50 343 *ep* P 02 01 16.8 -0.1
comp=Z,70nm,0.7s,mb5.2
KAF Kangasniemi 24.50 343 *eP* P 02 01 16.8 -0.1
KAF pmax pmax
comp=Z,70nm,0.7s,mb5.2
STU Stuttgart 24.52 303 *eP* P 02 01 16.5 -0.8
STU pmax pmax
comp=Z,137nm,0.9s,mb5.5
STU Stuttgart 24.52 303 *eP* P 02 01 16.5 -0.8
comp=Z,137nm,0.9s,mb5.5
PCP Pian Castagno 24.54 293 P P 02 01 18.0 +0.5
FUSIO Fusio 24.55 297⇑*iP* P 02 01 17.7 0.0
STEIN Stein am Rhein 24.55 300⇑*iP* P 02 01 17.6 0.0
CLZ Clausthal 24.57 311 *eP* P 02 01 18.7 +1.0
comp=Z,331nm,1.6s,mb5.6
CLZ *eS* **S 02 05 45.8 +10**
MUO Muotathal 24.62 299⇑*iP* P 02 01 18.2 -0.1
RBK Rabkut 24.63 148 ⇑⇑P P 02 01 19.2 +0.6
SNR=25
SPAK Spaichingen 24.67 301 *eP* P 02 01 18.6 -0.2
SPAK Spaichingen 24.67 301 *eP* P 02 01 20.0 +1.2
TRULL Truellikon 24.68 300⇑*iP* P 02 01 18.0 -0.8
ZUR Zurich 24.71 300⇑*iP* P 02 01 19.1 0.0
ZUR Zurich 24.71 300⇑*iP* P 02 01 19.0 -0.1
FLACH Flaach 24.74 300⇑*iP* P 02 01 19.2 -0.3
CHKZ Chkalovo 24.75 45 *eP* P 02 01 18.3 -1.2
CHKZ pmax pmax
comp=Z,118nm,1.2s,mb5.3
CHKZ Chkalovo 24.75 45 *eP* P 02 01 18.3 -1.1
comp=Z,118nm,1.2s,mb5.3
BNALP Bannalp 24.76 298⇑*iP* P 02 01 19.4 -0.2
LBG Lerchenberg 24.76 303 P P 02 01 19.4 -0.2
FIN Finale Ligure 24.77 292 *eP* P 02 01 19.2 -0.6
SHAO Shalim 24.78 145 ⇓P P 02 01 20.3 +0.3
SNR=15
SLE Schleitheim 24.82 301⇑*iP* P 02 01 19.8 -0.4
AML Almayashu 24.92 73 P P 02 01 25.1 +3.9
SNR=19
HASLI Hasliberg 24.93 298⇑*iP* P 02 01 20.9 -0.4
TOD Tromm 24.93 305 *eP* P 02 01 21.3 0.0
TOD Tromm 24.93 305 *eP* P 02 01 21.9 +0.6
EKS2 Erkin-Say 24.94 72 P P 02 01 22.9 +1.5
SNR=22
ORO Oropa 24.97 295 *eP* P 02 01 20.7 -1.0
ORX Oropa 24.97 295 P P 02 01 20.7 -1.0
MCGN Macugnaga 24.98 296 *eP* P 02 01 21.1 -0.7
COP Copenhagen 25.00 320⇑*iP* P 02 01 24.7 +2.9
COP pmax pmax
comp=Z,41nm,0.7s,mb5.1
COP MLR MLR
comp=Z,5µm,16.0s,MS5.1
COP Copenhagen 25.00 320⇑*iP* P 02 01 24.7 +2.9
comp=Z,41nm,0.7s,mb5.1
COP *iS* **S 02 05 56.1 +13**
comp=Z,5µm,16.0s
MMK Mattmark 25.01 296 ⇑P P 02 01 21.4 -0.6
IMI Imperia 25.01 291 *eP* P 02 01 22.2 +0.2

BFO Black Forest 25.01 302 P P 02 01 23.4 +1.4
comp=Z,207nm,1.0s,mb5.6,SNR=20
BFO Black Forest 25.01 302 *eP* P 02 01 23.3 +1.3
BFO pmax pmax
comp=Z,308nm,2.1s,mb5.5
BFO Black Forest 25.01 302 *eP* P 02 01 23.3 +1.3
comp=Z,308nm,2.1s,mb5.5
ROB Roburent 25.02 292 P P 02 01 21.7 -0.4
SULZ Sulz-Cheisache 25.04 300 ⇓P P 02 01 22.3 0.0
MONE Monesi 25.10 292 P P 02 01 22.6 -0.3
TRAV 25.13 295 P P 02 01 21.6 -1.6
NEGI Negi 25.14 291 P P 02 01 23.2 -0.1
FELD Feldberg 25.16 301 *eP* P 02 01 22.8 -0.6
FELD Feldberg 25.16 301 *eP* P 02 01 23.2 -0.2
KIZ Kirchzarten 25.23 301 P P 02 01 24.2 +0.1
KIZ Kirchzarten 25.23 301 *eP* P 02 01 23.4 -0.7
SAOF Saorge 25.25 291 *eP* P 02 01 24.3 0.0
LKBD Leukerbad 25.26 297⇑*iP* P 02 01 24.0 -0.4
WIMIS Wimmis 25.29 298⇑*iP* P 02 01 24.0 -0.6
TNS Taunus Mts 25.29 306 *eP* P 02 01 25.3 +0.6
TNS pmax pmax
comp=Z,765nm,1.9s,mb5.9
TNS Taunus Mts 25.29 306 *eP* P 02 01 25.3 +0.6
comp=Z,765nm,1.9s,mb5.9
TNS *eS* **S 02 05 58.2 +10**
BALST Balsthal 25.30 299⇑*iP* P 02 01 24.2 -0.6
BSEG Bad Segeberg 25.34 315 *eP* P 02 01 26.0 +1.0
SBF Sospel 25.34 291 *eP* P 02 01 25.4 +0.3
comp=Z,594nm,1.0s,mb5.8
SBF Sospel 25.34 291 *eP* P 02 01 25.4 +0.3
SBF pmax pmax
comp=Z,297nm,1.0s,mb5.8
AUTN L'Aution 25.34 292 *eP* P 02 01 26.0 +0.8
KTD Kalmit 25.34 304 *eP* P 02 01 24.8 -0.3
KTD Kalmit 25.34 304 *eP* P 02 01 25.2 +0.1
ENR Entracque 25.34 292 P P 02 01 24.9 -0.3
REVF Revere 25.39 301 *eP* P 02 01 25.8 +0.2
DIX Grande Dixence 25.39 296⇑*iP* P 02 01 25.6 0.0
STV2 Anna di Valdie 25.41 292 P P 02 01 24.9 -1.0
STV Sta Anna Valdi 25.41 292 P P 02 01 24.9 -0.9
USP Ospenovka 25.44 70 P P 02 01 29.9 +3.7
SNR=16
BBS Basel-Blauen 25.44 300 *eP* P 02 01 25.6 -0.5
BBS Basel-Blauen 25.44 300 *eP* P 02 01 26.3 +0.2
LANF Langenberg 25.46 303 *eP* P 02 01 25.6 -0.6
RSP Reno Superiore 25.46 294 P P 02 01 24.9 -1.4
DOI San Damiano 25.46 293 *eP* P 02 01 25.6 -0.7
LIBD Limburg 25.46 301 *eP* P 02 01 25.7 -0.6
LIBD Limburg 25.46 301 *eP* P 02 01 26.7 +0.4
TOUF Mont Tournerai 25.47 292 *eP* P 02 01 27.1 +0.7
AAK Ala-Archa 25.47 72 P P 02 01 27.2 +0.8
comp=Z,238nm,0.8s,mb5.8,SNR=29
AAK Ala-Archa 25.47 72 *eP* P 02 01 26.0 -0.4
AAK pmax pmax
comp=Z,293nm,1.6s,mb5.6
AAK MLR MLR
comp=Z,2µm,21.0s,MS4.7
AAK Ala-Archa 25.47 72 *eP* P 02 01 26.0 -0.4
comp=Z,293nm,1.6s,mb5.6
AAK LR LR
comp=Z,2µm,21.0s,MS4.7
UCH Uchtor 25.52 73 P P 02 01 33.4 +6.5
SNR=9.2
MVIF Mont Vial 25.54 291 *eP* P 02 01 27.4 +0.3
LSD Ceresole Reale 25.54 295 P P 02 01 27.2 +0.1
FRU Bishkek 25.55 71⇑*eP* P 02 01 28.0 +0.9
FRU *e* 02 02 06.0
FRU *eS* **S 02 06 01.0 +8.8**
FRU pmax pmax
comp=Z,280nm,2.0s,mb5.5
FRU smax
comp=E,12µm,16.0s
PZZ Prazzo 25.57 293 P P 02 01 26.5 -0.8
FENE Fenestrelle 25.60 294 P P 02 01 25.9 -1.7
GRYON Gryon 25.61 297⇑*iP* P 02 01 27.0 -0.7
CHMS Chumysh 25.64 71 P P 02 01 29.3 +1.3
SNR=19
WLS Welschbruch 25.67 302 *eP* P 02 01 28.4 +0.2
CDF Champ du Feu 25.72 302 *eP* P 02 01 27.3 -1.4
comp=E,65nm,1.0s,mb4.8
CDF Champ du Feu 25.72 302 *eP* P 02 01 27.3 -1.4
CDF pmax pmax
comp=Z,32nm,1.0s,mb4.8
AIGLE Aigle 25.73 297⇑*iP* P 02 01 27.9 -0.9
MOF Molkenrain 25.74 300 *eP* P 02 01 28.4 -0.5
EMV Vieux Emosson 25.75 296⇑*iP* P 02 01 28.3 -0.7
TORNY Torny 25.75 298⇑*iP* P 02 01 28.5 -0.5
ECH Echery 25.77 301 *eP* P 02 01 28.0 -1.1
SURF Saint Ours 25.77 293 *eP* P 02 01 29.2 0.0
SURF Saint Ours 25.77 293 *eP* P 02 01 30.0 +0.8
SURF Saint Ours 25.77 293 *eP* P 02 01 30.0 +0.8
ABH Alteburg 25.79 305 *eP* P 02 01 29.1 -0.2
ABH Alteburg 25.79 305 *eP* P 02 01 29.3 0.0
RRL Cesana Torines 25.80 294 P P 02 01 29.9 +0.5
MBDF Montbardon 25.80 293 *eP* P 02 01 29.5 0.0
comp=Z,905nm,1.5s,mb5.8
MBDF Montbardon 25.80 293 *eP* P 02 01 29.5 0.0
MBDF pmax pmax
comp=Z,452nm,1.5s,mb5.8
KBK Karagaybulak 25.80 72 P P 02 01 34.6 +5.1
SNR=7.1
LPG La Plagne 25.83 295 *eP* P 02 01 29.7 0.0
comp=Z,985nm,1.4s,mb5.8
LPG La Plagne 25.83 295 *eP* P 02 01 29.7 0.0
LPG pmax pmax
comp=Z,493nm,1.4s,mb5.8
LPL La Plagne 25.84 295 *eP* P 02 01 29.8 -0.1
comp=Z,403nm,1.2s,mb5.5
LPL La Plagne 25.84 295 *eP* P 02 01 29.8 -0.1
LPL pmax pmax
comp=Z,202nm,1.2s,mb5.5
BNI Bardonecchia 25.87 294 *eP* P 02 01 29.9 -0.2
BNI pmax pmax
comp=Z,310nm,1.3s,mb5.7
BNI Bardonecchia 25.87 294 *eP* P 02 01 29.9 -0.2
comp=Z,310nm,1.3s,mb5.7
LOMF Lomont 25.89 299 *eP* P 02 01 30.4 +0.1
FRF La Foret Royal 25.92 291 *eP* P 02 01 30.5 -0.1
comp=Z,798nm,1.4s,mb5.8
FRF La Foret Royal 25.92 291 *eP* P 02 01 30.5 -0.1
FRF pmax pmax
comp=Z,399nm,1.4s,mb5.8
HINF Hinteralfeld 25.92 300 *eP* P 02 01 29.5 -1.1
comp=Z,44nm,0.8s,mb4.8
HINF Hinteralfeld 25.92 300 *eP* P 02 01 29.5 -1.1
HINF pmax pmax
comp=Z,22nm,0.8s,mb4.7
LMR La Mourre 26.03 290 *eP* P 02 01 31.3 -0.3
comp=Z,349nm,1.4s,mb5.4
LMR La Mourre 26.03 290 *eP* P 02 01 31.3 -0.3
LMR pmax pmax
comp=Z,174nm,1.4s,mb5.4
RUP Ruppelstein 26.07 305 *eP* P 02 01 31.4 -0.5
RUP Ruppelstein 26.07 305 *eP* P 02 01 31.0 -0.9
KZA Kyzart 26.08 73 P P 02 01 33.9 +1.8
SNR=12
BRANT Les Verrieres 26.10 298⇑*iP* P 02 01 32.0 -0.2
GIMEL Gimel 26.21 297⇑*iP* P 02 01 33.0 -0.3
TKM2 Tokmak 2 26.26 71 P P 02 01 36.3 +2.6
SNR=18
GDM Grand'Maison 26.27 294 *eP* P 02 01 32.8 -1.0
GDM Grand'Maison 26.27 294 *eP* P 02 01 33.1 -0.7
GDM Grand'Maison 26.27 294 *eP* P 02 01 33.1 -0.7
HAU Haudompre 26.28 301 *eP* P 02 01 32.8 -1.1
HAU *eR*
comp=Z,13µm,19.0s
OG25 Le Caire 26.31 292 *eP* P 02 01 33.6 -0.6
CABF La Chapelle 26.34 297 *eP* P 02 01 34.5 +0.1
comp=Z,1µm,1.4s,mb5.9
CABF La Chapelle 26.34 297 *eP* P 02 01 34.5 +0.1
CABF pmax pmax
comp=Z,551nm,1.4s,mb5.9
TAVF Tavernes 26.34 291 *eP* P 02 01 34.5 0.0
STOF St-Etienne Org 26.43 292 *eP* P 02 01 35.8 +0.4
ORIF Oris-en-Rattie 26.44 294 *eP* P 02 01 34.2 -1.2
comp=Z,204nm,1.2s,mb5.2
ORIF *eR*
comp=Z,17µm,22.5s
CMAH Djebel Manchou 26.45 275 P P 02 01 35.0 -0.6
ABSA Djebel Ababsia 26.51 274 P P 02 01 39.0 +2.9
THEF They Montfort 26.55 301 *eP* P 02 01 34.7 -1.6
VILF Villemus 26.58 291 *eP* P 02 01 36.6 -0.1
PUYF Puyloubier 26.61 291 *eP* P 02 01 36.6 -0.3
WLF Walferdange 26.64 304 *eP* P 02 01 36.4 -0.8

WLF pmax pmax
comp=Z,60nm,1.0s,mb5.1
WLF Walferdange 26.64 304 *eP* P 02 01 36.4 -0.8
comp=Z,60nm,1.0s,mb5.1
WLF Walferdange 26.64 304 P P 02 01 36.5 -0.7
comp=Z,72nm,1.9s,mb4.9
SMRF Simiane la Rot 26.68 292 *eP* P 02 01 37.3 -0.3
comp=Z,408nm,1.7s,mb5.4
WTSB Winterswijk 26.72 310 *eP* P 02 01 38.8 +0.9
comp=Z,92nm,1.0s,mb5.3
GELF Grande-Etoile 26.81 290 *eP* P 02 01 36.2 -2.6
CAEH 'Ain El Ouahch 26.85 275 P P 02 01 39.0 -0.3
OG26 St.-Nazaire-De 26.85 293 *eP* P 02 01 38.6 -0.6
OCF Saint Nazaire 26.85 293 *eP* P 02 01 38.6 -0.6
HFS Hagfors 26.92 330 P P 02 01 39.9 +0.3
comp=Z,42nm,0.7s,mb5.1,baz=135,slow=8.4,SNR=58
HFA0 Hagfors New Ar 26.93 330 P P 02 01 41.4 +1.7
MUD Monsted U'grnd 26.98 320⇑*iP* P 02 01 42.7 +2.5
MUD *eS* **S 02 06 25.9 +10**
MUD pmax pmax
comp=Z,93nm,1.1s,mb5.2
MUD Monsted U'grnd 26.98 320⇑*iP* P 02 01 42.7 +2.5
comp=Z,93nm,1.1s,mb5.2
MUD *eS* **S 02 06 25.9 +10**
MUD *i S* **S 02 06 28.3 +13**
comp=Z,13µm,16.0s
PRAF Pradon 26.98 291 *eP* P 02 01 39.0 -1.3
HGN Heimansgroeve 26.98 307 *eP* P 02 01 41.0 +0.7
comp=Z,168nm,1.8s,mb5.3
HGN *ePP* PP 02 02 16.6 -9.4
HGN *i S* **S 02 06 24.8 +9.0**
KSH Kashi 26.99 78 *eP* P 02 01 41.3 +0.8
KSH *eAP* pP 02 01 50.1 +6.9
KSH *eXP* sP 02 01 53.1 +8.6
KSH PP PP 02 02 29.0 +2.7
KSH *ePCP* PcP 02 05 04.0 +1.5
KSH S **S 02 06 17.1 +1.1**
KSH *eXS* 02 06 29.0
KSH *eSS* SS 02 07 31.3 +1.7
KSH *eSCP* 02 08 41.4
KSH *ePCS* 02 08 44.4
KSH *eSCS* ScS 02 12 31.0 -0.2
KSH AMB AMB
comp=Z,520nm,3.2s
KSH LR LR
comp=N,12µm,9.4s
KSH LR LR
comp=E,15µm,11.5s
WIT Witteveen 27.02 311 *eP* P 02 01 41.9 +1.2
comp=E,439nm,2.3s,mb5.6
CKFL Kef-Lekhel 27.06 275 P P 02 01 41.0 -0.1
AAA Alma-Ata 27.22 70 *eP* P 02 01 44.0 +1.4
AAA *eS* **S 02 06 24.0 +4.2**
AAA smax
comp=E,11µm,15.0s
AAA MLR MLR
comp=Z,9µm,13.0s,MS5.5
AAA Alma-Ata 27.22 70 *eP* P 02 01 46.0 +3.4
CASM Ain Smara 27.28 274 P P 02 01 45.0 +1.9
VIVF Saint-Julien-l 27.30 294 *eP* P 02 01 42.1 -1.1
comp=Z,185nm,1.3s,mb5.2
VIVF Saint-Julien-l 27.30 294 *eP* P 02 01 42.1 -1.1
VIVF pmax pmax
comp=Z,92nm,1.3s,mb5.2
CTEI Djebel Teioual 27.40 274 P P 02 01 45.0 +0.7
GIVF Givet 27.56 305 *eP* P 02 01 45.3 -0.3
comp=Z,443nm,1.8s,mb5.5
GIVF Givet 27.56 305 *eP* P 02 01 45.3 -0.3
GIVF pmax pmax
comp=Z,222nm,1.8s,mb5.5
DFRA Djebel Bou Aff 27.67 275 P P 02 01 49.0 +2.3
SMF Signal de Mont 27.89 297 *eP* P 02 01 47.5 -1.1
comp=Z,504nm,1.6s,mb5.6
SMF Signal de Mont 27.89 297 *eP* P 02 01 47.5 -1.1
SMF pmax pmax
comp=Z,252nm,1.6s,mb5.6
LASF Ste Croix 27.91 292 *eP* P 02 01 48.0 -0.8
comp=Z,477nm,1.7s,mb5.5
CMER Merouana 27.93 273 P P 02 01 50.0 +1.0
BAIF Baives 27.94 305 *eP* P 02 01 48.6 -0.5
comp=Z,122nm,1.3s,mb5.1
BAIF Baives 27.94 305 *eP* P 02 01 48.6 -0.5
BAIF pmax pmax
comp=Z,61nm,1.3s,mb5.1
COLF Collangettes 27.98 295 *eP* P 02 01 48.4 -1.0
OSL Oslo 28.00 327 *eP* P 02 01 50.4 +0.9
OSL AMb AMB 02 01 54.5
comp=Z,213nm,1.2s,mb5.6
OSL Oslo 28.00 327 *eP* P 02 01 50.4 +0.9
comp=Z,213nm,1.2s,mb5.6,SNR=40
PLDF La Plantade 28.03 296 *eP* P 02 01 49.0 -0.9
CKHR Kef el Ahmar 28.10 274 P P 02 01 51.0 +0.3
SSF Saint Saulge 28.13 298 *eP* P 02 01 49.7 -1.1
SSF pmax pmax
comp=Z,146nm,1.6s,mb5.4
SSF Saint Saulge 28.13 298 *eP* P 02 01 49.7 -1.1
comp=Z,146nm,1.6s,mb5.4
SET Setif 28.14 275 P P 02 01 52.0 +1.1
AVF Avril sur Loir 28.23 298 *eP* P 02 01 50.5 -1.1
comp=Z,519nm,1.6s,mb5.6
AVF Avril sur Loir 28.23 298 *eP* P 02 01 50.5 -1.1
AVF pmax pmax
comp=Z,260nm,1.6s,mb5.6
LBL Lubilhac 28.30 294 *eP* P 02 01 51.6 -0.7
KONO Kongsberg 28.33 326 *eP* P 02 01 52.5 +0.1
KONO pmax pmax
comp=Z,240nm,1.5s,mb5.6
KONO MLR MLR
comp=Z,12µm,20.0s,MS5.5
KONO Kongsberg 28.33 326 *eP* P 02 01 52.5 +0.1
comp=Z,240nm,1.5s,mb5.6
KONO LR LR
comp=Z,12µm,20.0s,MS5.5
KONO Kongsberg 28.33 326 *eS* S 02 06 35.2 -2.2
AGO Saint Agoulin 28.37 296 *eP* P 02 01 52.1 -0.8
NB2 NORSAR Subarra 28.44 330 P P 02 01 52.3 -1.1
comp=Z,23nm,0.9s,mb4.8,baz=126,slow=8.6
NB2 NORSAR Subarra 28.44 330 P P 02 01 52.3 -1.1
NB2 pmax pmax
comp=Z,23nm,0.9s,mb4.8
NB2 NORSAR Subarra 28.44 330 P P 02 01 52.3 -1.1
baz=126,slow=9.3
NOA NORSAR Array B 28.44 330 P P 02 01 53.2 -0.2
comp=Z,7.8nm,0.8s,mb4.4,baz=126,slow=8.8,SNR=30
NOA LR LR 02 14 36.4
comp=Z,9µm,18.2s,MS5.4,baz=125,slow=39
NAO01 NORSAR Array S 28.45 329 P P 02 01 52.6 -0.9
comp=Z,41nm,0.8s,mb5.1
BGF Bois d'Agland 28.57 297 *eP* P 02 01 53.5 -1.2
comp=Z,69nm,1.0s,mb5.0
BGF Bois d'Agland 28.57 297 *eP* P 02 01 53.5 -1.2
BGF pmax pmax
comp=Z,35nm,1.0s,mb5.0
KURK Kurchatov 28.68 54 P P 02 01 55.8 +0.1
comp=Z,229nm,1.0s,mb5.9,SNR=16
KURK Kurchatov 28.68 54 *eP* P 02 01 54.5 -1.2
KURK pmax pmax
comp=Z,65nm,1.1s,mb5.3
KURK MLR MLR
comp=Z,9µm,19.0s,MS5.4
KURK Kurchatov 28.68 54 *eP* P 02 01 54.5 -1.2
comp=Z,65nm,1.1s,mb5.3
KURK LR LR
comp=Z,9µm,19.0s,MS5.4
HYF Humbligny 28.73 299 *eP* P 02 01 55.5 -0.7
EJON La Jonquera 28.75 289 P P 02 01 54.1 -2.3
comp=Z,93nm,1.9s,mb5.2
EJON La Jonquera 28.75 289 P P 02 01 54.1 -2.3
comp=Z,93nm,1.9s,mb5.2,SNR=7.6
FRNF Fournols 28.78 295 *eP* P 02 01 55.9 -0.7
VERF Verneugheol 28.82 295 *eP* P 02 01 56.6 -0.4
LVZ Lovozero 28.83 355 *eP* P 02 01 56.0 -0.9
LVZ *e* 02 02 48.1
LVZ *eS* **S 02 06 46.8 +1.3**
LVZ pmax pmax
comp=Z,607nm,3.1s
LVZ pmax pmax
comp=N,277nm,2.6s
LVZ pmax pmax
comp=E,257nm,2.8s
LVZ pmax pmax
comp=N,13nm,1.1s
LVZ pmax pmax
comp=Z,19nm,1.1s,mb4.7
LVZ pmax pmax

comp=E,11nm,1.0s
LVZ smax
comp=N,5µm,12.4s
LVZ smax
comp=Z,1µm,10.3s
LVZ smax
comp=E,2µm,5.3s
LVZ MLR MLR
comp=Z,9µm,18.0s,MS5.4
LVZ MLR MLR
comp=N,8µm,21.0s
LVZ MLR MLR
comp=E,3µm,12.0s
LVZ Lovozero 28.83 355 *i* P **P 02 01 57.4 +0.5**
THN Thein Dam 28.90 93 *e*P **P 02 02 00.0 +2.1**
comp=E,12nm,0.8s,mb4.7
LRDF Laroque-de-Fa 29.96 290 *e*P **P 02 01 56.6 -1.7**
TCF Toulx Ste Croi 29.01 297 *e*P **P 02 01 57.9 -0.8**
comp=E,262nm,1.5s,mb5.4
TCF Toulx Ste Croi 29.01 297 *e*P **P 02 01 57.9 -0.8**
TCF pmax pmax
comp=Z,131nm,1.5s,mb5.4
CAF Calviac 29.15 294 *e*P **P 02 01 59.1 -0.9**
comp=Z,131nm,1.6s,mb5.1
CAF Calviac 29.15 294 *e*P **P 02 01 59.1 -0.9**
CAF pmax pmax
comp=Z,65nm,1.6s,mb5.1
MTLF Montolieu 29.15 291 *e*P **P 02 01 59.0 -1.0**
comp=Z,231nm,1.5s,mb5.4
MTLF Montolieu 29.15 291 *e*P **P 02 01 59.0 -1.0**
MTLF pmax pmax
comp=Z,116nm,1.5s,mb5.4
ETOS Mallorca 29.23 283 ⇑P **P 02 01 59.9 -0.9**
comp=Z,320nm,1.9s,mb5.7
ETOS Mallorca 29.23 283 P **P 02 01 59.9 -0.9**
comp=Z,320nm,1.9s,mb5.7,SNR=18
PONG Pong 29.28 94 *e*P **P 02 02 00.0 -1.3**
LPEF Le Peyrat 29.42 290 *e*P **P 02 02 00.7 -1.7**
RJF Les Rejaudoux 29.52 295 *e*P **P 02 02 02.9 -0.4**
comp=Z,372nm,1.6s,mb5.5
RJF *e*R
comp=E,18µm,18.5s
RJF Les Rejaudoux 29.52 295 *e*P **P 02 02 02.9 -0.4**
RJF pmax pmax
comp=Z,186nm,1.6s,mb5.6
RJF MLR MLR
comp=E,18µm,18.5s,MS5.7
ABA Alger-Bouzarea 29.79 277 P **P 02 02 03.0 -2.8**
EMIR Miracle 29.83 288 ⇑P **P 02 02 05.0 -1.1**
comp=Z,381nm,2.4s,mb5.7
EMIR Miracle 29.83 288 P **P 02 02 05.0 -1.1**
comp=Z,381nm,2.4s,mb5.7,SNR=18
MLS Moulis 30.01 290 *e*P **P 02 02 06.0 -1.7**
EMHD Djebel Mahouad 30.02 276 P **P 02 02 09.0 +1.1**
LFF La Frestale 30.09 294 *e*P **P 02 02 07.4 -1.0**
EPOB Poblet 30.25 287 P **P 02 02 07.4 -2.4**
comp=Z,86nm,1.8s,mb5.2
EPOB Poblet 30.25 287 P **P 02 02 07.4 -2.4**
comp=Z,86nm,1.8s,mb5.2,SNR=9.8
SDNR Sundarnagar 30.26 94 *e*P **P 02 02 09.9 -0.1**
NSS Namsos 30.39 336 *e*P **P 02 02 09.5 -1.3**
NSS *e*S **S 02 07 13.6 +3.4**
NSS AMS AMS 02 16 38.7
comp=Z,10µm,20.5s,MS5.4
EIBI Ibiza 30.51 282 P **P 02 02 08.8 -3.3**
comp=Z,116nm,1.9s,mb5.4,SNR=6.9
EPF Esparros 30.55 290 *e*P **P 02 02 10.2 -2.3**
comp=Z,46nm,1.1s,mb4.9
EPF Esparros 30.55 290 *e*P **P 02 02 10.2 -2.3**
EPF pmax pmax
comp=Z,23nm,1.1s,mb4.9
BER Bergen 30.55 325 *e*P **P 02 02 13.4 +1.1**
comp=Z,281nm,1.6s
BER LR LR
comp=Z,7369µm,14.6s
BER Bergen 30.55 325 *e*P **P 02 02 13.4 +1.1**
BER AMb AMB 02 02 18.1
comp=Z,281nm,1.6s,mb5.9
BER *e*S **S 02 07 12.7 -0.1**
BER AMS AMS 02 16 17.9
comp=Z,7µm,14.6s,MS5.5
BER Bergen 30.55 325 *e*P **P 02 02 13.4 +1.1**
comp=Z,281nm,1.6s,mb5.9,SNR=39
BER *e*S **S 02 07 12.7 -0.1**
SNR=39
LDF La Druitiere 30.63 301 *e*P **P 02 02 12.3 -0.8**
comp=Z,88nm,1.3s,mb5.1
MFF Saint Martin d 30.64 297 *e*P **P 02 02 11.4 -1.8**
comp=Z,296nm,1.7s,mb5.5
MFF Saint Martin d 30.64 297 *e*P **P 02 02 11.4 -1.8**
MFF pmax pmax
comp=Z,148nm,1.7s,mb5.5
ASK Askoy 30.66 325 *e*P **P 02 02 14.5 +1.2**
comp=Z,433nm,2.0s,mb5.9
ASK Askoy 30.66 325 *e*P **P 02 02 14.5 +1.2**
ASK AMb AMB 02 02 19.4
comp=Z,433nm,2.0s,mb5.9
ASK Askoy 30.66 325 *e*P **P 02 02 14.5 +1.3**
comp=Z,433nm,2.0s,mb5.9,SNR=39
EBIE Bielsa 30.74 290 P **P 02 02 11.8 -2.3**
comp=Z,116nm,1.4s,mb5.5
EBIE Bielsa 30.74 290 P **P 02 02 11.8 -2.3**
comp=Z,116nm,1.4s,mb5.5,SNR=15
LABF Labassere 30.74 290 *e*P **P 02 02 12.0 -2.2**
EBR Ebro Roquetas 30.77 286 *e*P **P 02 02 13.5 -1.0**
VIEF Viey 30.80 290 *e*P **P 02 02 13.4 -1.3**
MOR8 Moi Rana 30.81 339 *e*P **P 02 02 14.7 +0.1**
comp=Z,112nm,1.7s,mb5.4
MOR8 Moi Rana 30.81 339 *e*P **P 02 02 14.7 +0.1**
MOR8 AMb AMB 02 02 19.6
comp=Z,112nm,1.7s,mb5.4
MOR8 Moi Rana 30.81 339 *e*P **P 02 02 14.6 +0.1**
comp=Z,112nm,1.7s,mb5.4,SNR=39
MKAR Makanchi Array 30.85 62 *i* P **P 02 02 14.5 -0.6**
MKAR pmax pmax
comp=Z,132nm,1.5s
ERTA Horta de San J 30.87 286 ⇑P **P 02 02 14.0 -1.3**
comp=Z,146nm,1.8s,mb5.5
ERTA Horta de San J 30.87 286 P **P 02 02 14.0 -1.3**
comp=Z,146nm,1.8s,mb5.5,SNR=18
FLN La Foliniere 30.88 302 *e*P **P 02 02 13.3 -2.0**
FLN *e*R
comp=Z,11µm,18.5s
AJM Ajmer 30.90 104 *i* P **P 02 02 16.0 +0.3**
EBNR Beni Rached 31.09 277 P **P 02 02 18.0 +0.7**
GRR Gorron 31.12 301 *e*P **P 02 02 15.7 -1.7**
comp=Z,112nm,1.0s,mb5.3
GRR Gorron 31.12 301 *e*P **P 02 02 15.7 -1.7**
GRR pmax pmax
comp=Z,56nm,1.0s,mb5.3
ETSF Etsaut 31.22 290 *e*P **P 02 02 17.3 -1.1**
comp=Z,54nm,0.8s,mb5.1
ETSF Etsaut 31.22 290 *e*P **P 02 02 17.3 -1.1**
ETSF pmax pmax
comp=Z,27nm,0.8s,mb5.1
KTK1 Kautokeino 31.23 348 *e*P **P 02 02 18.4 +0.2**
comp=Z,276nm,1.7s,mb5.8
KTK1 Kautokeino 31.23 348 *e*P **P 02 02 17.6 -0.6**
KTK1 AMb AMB 02 02 23.3
comp=Z,276nm,1.7s,mb5.8
KTK1 Kautokeino 31.23 348 *e*P **P 02 02 17.6 -0.6**
comp=Z,276nm,1.7s,mb5.8,SNR=39
ECHA Ech Chlef 31.26 277 P **P 02 02 20.0 +1.2**
ESAC San Caprasio 31.33 288 ⇑P **P 02 02 18.4 -1.0**
comp=Z,235nm,1.5s,mb5.8
ESAC San Caprasio 31.33 288 P **P 02 02 18.4 -1.0**
comp=Z,235nm,1.5s,mb5.8,SNR=18
ARE0 ARCESS Array S 31.36 350 *e*P **P 02 02 19.8 +0.4**
ARCES ARCESS Array B 31.37 350 P **P 02 02 19.8 +0.4**
comp=Z,42nm,0.8s,mb5.3,baz=162,slow=7.7,SNR=72
ARCES LR LR 02 15 48.9
comp=Z,18µm,21.1s,MS5.7,baz=153,slow=38
ARCES ARCESS Array B 31.37 350 P **P 02 02 19.8 +0.4**
ARCES LR LR 02 15 48.9
KEV Kevo 31.37 351 *ep* P **P 02 02 18.0 -1.5**
LARF Larrau 31.51 290 *e*P **P 02 02 19.6 -1.4**
EANR 'Ain N'Sour 31.53 277 P **P 02 02 21.8 +0.6**
ETRT Tiaret 31.55 275 P **P 02 02 22.0 +0.6**
EMOS Mosqueruela 31.59 285 ⇑P **P 02 02 20.8 -0.8**
comp=Z,168nm,1.3s,mb5.7
EMOS Mosqueruela 31.59 285 P **P 02 02 20.8 -0.8**
comp=Z,168nm,1.3s,mb5.7,SNR=18
DDI Dehra Dun 31.61 95 *e*P **P 02 02 21.6 -0.3**
SJPF Ste Jean 31.68 291 *e*P **P 02 02 21.1 -1.3**
comp=Z,36nm,1.0s,mb4.9
SJPF Ste Jean 31.68 291 *e*P **P 02 02 21.1 -1.3**
SJPF pmax pmax
comp=Z,18nm,1.0s,mb4.9
EBEN Beniarda 31.77 282 P **P 02 02 21.9 -1.4**
comp=Z,177nm,1.9s,mb5.6,SNR=15
EALK Alkurruntz 31.87 291 P **P 02 02 24.5 +0.4**
comp=Z,67nm,1.9s,mb5.2,SNR=4.2
NVS Novosibirsk 32.16 47 *i* P **P 02 02 24.3 -2.2**
NVS *i* 02 09 30.8
NVS pmax pmax
comp=N,41nm,1.4s
NVS pmax pmax
comp=E,29nm,1.4s
NVS pmax pmax
comp=Z,45nm,1.4s,mb5.1
SGMF Saint Gilles 32.25 300 *e*P **P 02 02 25.9 -1.4**
comp=Z,298nm,1.4s,mb5.6
SGMF Saint Gilles 32.25 300 *e*P **P 02 02 25.9 -1.4**
SGMF pmax pmax
comp=Z,149nm,1.4s,mb5.6
HAE Alders End 32.42 308⇑*e*P **P 02 02 27.6 -1.1**
HAE AMb AMB 02 02 33.0
comp=Z,140nm,1.5s,mb5.6
TRO Tromso 32.54 346 *e*P **P 02 02 28.8 -0.8**
TRO LR LR
comp=Z,11560µm,21.2s
TRO Tromso 32.54 346 *e*P **P 02 02 28.8 -0.8**
TRO *e*S **S 02 07 44.5 +0.7**
TRO AMS AMS 02 17 13.6
comp=Z,12µm,21.2s,MS5.5
HGH Gray Hill 32.54 307⇑*e*P **P 02 02 28.6 -1.3**
HGH AMb AMB 02 02 34.1
comp=Z,256nm,1.4s,mb6.0
CART Cartagena 32.66 280 *e*P **P 02 02 28.7 -2.3**
comp=Z,28nm,0.9s,mb5.2
QUIF Quistinic 32.66 300 *e*P **P 02 02 29.3 -1.6**
comp=Z,120nm,1.1s,mb5.4
QUIF Quistinic 32.66 300 *e*P **P 02 02 29.3 -1.6**
QUIF pmax pmax
comp=Z,60nm,1.1s,mb5.4
HLM1 Long Mynd 32.67 308⇑*e*P **P 02 02 30.0 -1.0**
HLM1 AMb AMB 02 02 35.5
comp=Z,126nm,1.4s,mb5.7
MCH1 Michaelchurch 32.69 307⇑*e*P **P 02 02 29.9 -1.2**
MCH1 AMb AMB 02 02 36.0
comp=Z,177nm,1.2s,mb5.9
ROSF Rostrenen 32.73 301 *e*P **P 02 02 29.9 -1.6**
comp=Z,55nm,0.8s,mb5.2
ROSF Rostrenen 32.73 301 *e*P **P 02 02 29.9 -1.6**
ROSF pmax pmax
comp=Z,27nm,0.8s,mb5.2
EMUR La Murta 32.77 281 P **P 02 02 29.4 -2.6**
comp=Z,123nm,2.4s,mb5.4
EMUR La Murta 32.77 281 P **P 02 02 29.3 -2.7**
comp=Z,123nm,2.4s,mb5.4,SNR=18
ETOB Tobarra 32.79 283 P **P 02 02 30.2 -2.0**
comp=Z,172nm,1.9s,mb5.7
ETOB Tobarra 32.79 283 P **P 02 02 30.2 -2.0**
comp=Z,172nm,1.9s,mb5.7,SNR=29
SSP1 Stoney Pound 32.80 308⇑*e*P **P 02 02 31.2 -0.9**
SSP1 AMb AMB 02 02 36.7
comp=Z,170nm,1.5s,mb5.7
HTR Trewern Hill 32.87 308 *e*P **P 02 02 32.4 -0.3**
HTR AMb AMB 02 02 36.7
comp=Z,128nm,1.7s,mb5.6
BTA Talkin 32.89 313 *e*P **P 02 02 32.3 -0.6**
ZAL Zalesovo 32.91 49 P **P 02 02 32.0 -1.0**
comp=Z,1.8nm,0.8s,baz=216,slow=7.7,SNR=8.4
ZAL LR LR 02 18 22.1
comp=Z,10µm,20.0s,baz=209,slow=41
SBD1 Bryn Du 32.94 309⇑*e*P **P 02 02 32.8 -0.5**
SBD1 AMb AMB 02 02 37.3
comp=Z,163nm,1.9s,mb5.6
BBH Bruntsheil 33.07 313 *e*P **P 02 02 34.5 +0.1**
BHH Howats Hill 33.23 313 *e*P **P 02 02 35.7 -0.1**
EKA Eskdalemuir Ar 33.23 314 P **P 02 02 35.0 -0.9**
comp=Z,29nm,0.7s,mb5.3,baz=106,slow=8.4,SNR=49
ESK Eskdalemuir 33.26 313 P **P 02 02 35.2 -0.8**
ESK pmax pmax
comp=Z,30nm,0.8s,mb5.3
ESK Eskdalemuir 33.26 313 *e*P **P 02 02 35.0 -1.1**
comp=Z,30nm,0.8s,mb5.3
ESK LR LR
comp=Z,2µm,22.0s,MS4.8
ELAN Lanestosa 33.26 291 P **P 02 02 34.6 -1.6**
comp=Z,75nm,1.6s,mb5.4
ELAN Lanestosa 33.26 291 P **P 02 02 34.6 -1.6**
comp=Z,75nm,1.6s,mb5.4,SNR=9.6
BWH Wardlaw 33.49 313 *e*P **P 02 02 37.2 -0.8**
EVIA Vianos 33.51 283 ⇑P **P 02 02 37.5 -1.0**
EVIA pmax pmax
comp=Z,53nm,0.6s,mb5.7
EVIA Vianos 33.51 283 ⇑P **P 02 02 37.5 -0.9**
comp=Z,53nm,0.6s,mb5.7
EVIA Vianos 33.51 283 P **P 02 02 37.5 -1.0**
comp=Z,53nm,0.6s,mb5.6,SNR=18
ENIJ Nijar 33.76 280 ⇑P **P 02 02 38.7 -1.9**
ENIJ pmax pmax
comp=Z,46nm,0.8s,mb5.5
ENIJ Nijar 33.76 280 ⇑P **P 02 02 38.7 -1.9**
comp=Z,46nm,0.8s,mb5.5
ENIJ Nijar 33.76 280 P **P 02 02 38.7 -1.9**
comp=Z,46nm,0.8s,mb5.4,SNR=18
CSA1 St Austell 33.79 304⇑*e*P **P 02 02 40.0 -0.7**
PCOU Corrie 33.88 315 *e*P **P 02 02 41.0 -0.4**
PCA1 Carrot 33.91 314 *e*P **P 02 02 41.6 -0.2**
CMA1 Manaccan 33.94 304⇑*e*P **P 02 02 41.1 -1.0**
CGH1 Goonhilly 33.96 304⇑*e*P **P 02 02 41.1 -1.1**
CRQ2 Rosemanowes 2 33.97 304⇑*e*P **P 02 02 41.2 -1.0**
CRQ2 AMb AMB 02 02 50.6
comp=Z,237nm,1.7s,mb5.8
CGW Gweek 34.00 304⇑*e*P **P 02 02 41.6 -1.0**
GAL1 Galloway 34.04 312 *e*P **P 02 02 43.0 +0.1**
EQES Quesada 34.17 282 ⇑P **P 02 02 42.6 -1.6**
comp=Z,186nm,1.1s,mb5.9
EQES Quesada 34.17 282 P **P 02 02 42.6 -1.6**
comp=Z,186nm,1.1s,mb5.9,SNR=18
PMSU Muirshiel 34.21 314 *e*P **P 02 02 44.1 -0.2**
GUD Guadarrama 34.27 287 P **P 02 02 42.8 -2.2**
GUD pmax pmax
comp=Z,80nm,1.5s,mb5.4
GUD Guadarrama 34.27 287 P **P 02 02 42.8 -2.2**
comp=Z,80nm,1.5s,mb5.4
GUD Guadarrama 34.27 287 P **P 02 02 42.8 -2.2**
comp=Z,80nm,1.5s,mb5.4,SNR=7.9
EBER Berja 34.30 280 ⇑P **P 02 02 43.9 -1.4**
comp=Z,222nm,1.3s,mb5.9
EBER Berja 34.30 280 P **P 02 02 43.9 -1.4**
comp=Z,222nm,1.3s,mb5.9,SNR=18
ESDC Sonseca Array 34.35 285 P **P 02 02 44.3 -1.4**
comp=Z,19nm,0.6s,mb5.2,baz=68,slow=9.0,SNR=143
ESDC Sonseca Array 34.35 285 ⇑P **P 02 02 44.0 -1.7**
comp=Z,43nm,0.9s,mb5.4
ESDC Sonseca Array 34.35 285 P **P 02 02 44.0 -1.7**
comp=Z,43nm,0.9s,mb5.4,SNR=18
ESLA Sonseca Array 34.35 285 *e*P **P 02 02 44.2 -1.5**
comp=Z,6.4nm,0.8s,mb4.6
ESLA LR LR
comp=Z,36µm,20.0s,MS6.1
EARI Arriondas 34.53 292 P **P 02 02 45.8 -1.4**
comp=Z,109nm,1.4s,mb5.6
EARI Arriondas 34.53 292 P **P 02 02 45.8 -1.4**
comp=Z,109nm,1.4s,mb5.6,SNR=14
EBAN Banos Encina 34.61 283 ⇑P **P 02 02 46.7 -1.3**
EBAN pmax pmax
comp=Z,59nm,0.7s,mb5.6
EBAN Banos Encina 34.61 283 ⇑P **P 02 02 46.7 -1.3**
comp=Z,59nm,0.7s,mb5.6
EBAN Banos Encina 34.61 283 P **P 02 02 46.7 -1.3**
comp=Z,59nm,0.7s,mb5.6,SNR=18
GMM Mts of Mourne 34.68 311 *e*P **P 02 02 47.9 -0.4**
ECOG Cogollos-Vega 34.70 281 ⇑P **P 02 02 47.4 -1.3**
ECOG pmax pmax
comp=Z,14nm,0.7s,mb5.0
ECOG Cogollos-Vega 34.70 281 ⇑P **P 02 02 47.4 -1.3**
comp=Z,14nm,0.7s,mb5.0
ECOG Cogollos-Vega 34.70 281 P **P 02 02 47.4 -1.3**
comp=Z,14nm,0.7s,mb5.0,SNR=18
EALB Alboran 34.71 279 ⇑P **P 02 02 47.0 -1.8**
comp=Z,162nm,1.8s,mb5.7
EALB Alboran 34.71 279 P **P 02 02 47.0 -1.8**
comp=Z,162nm,1.8s,mb5.7,SNR=18
BHPL Bhopal 34.81 107 *e*P **P 02 02 50.4 +0.6**
BHPL *e* pP 02 02 53.7 +1.1
comp=Z,64nm,0.7s
DSB Dublin 34.85 309 *e*P **P 02 02 49.5 -0.3**
comp=Z,33nm,0.9s,mb5.3
EMLI Melilla 34.86 277 P **P 02 02 48.7 -1.4**
comp=Z,185nm,1.2s,mb5.9,SNR=8.4
WMQ Urumqi 34.92 67⇓*i*P **P 02 02 50.4 -0.1**
WMQ AP pP 02 02 58.0 +4.7
WMQ XP sP 02 03 01.0 +6.5
WMQ PP PP 02 04 08.5 +0.1
WMQ PCP PcP 02 05 24.0 +0.6
WMQ S **S 02 08 20.0 -1.0**
WMQ XS 02 08 31.5
WMQ PCS 02 09 08.5
WMQ SS SS 02 10 34.0 -1.0
WMQ AMB AMB
comp=Z,38nm,1.1s,mb5.2
WMQ AMB AMB
comp=Z,760nm,6.4s
WMQ LR LR
comp=N,17µm,13.8s,MS6.0
WMQ LR LR
comp=E,12µm,15.6s,MS6.0
WMQ LR LR
comp=Z,9µm,16.1s,MS5.6
DLF Lyons Farm 34.94 309 *e*P **P 02 02 50.5 -0.1**
ERON Agron 34.96 281 ⇓P **P 02 02 49.4 -1.5**
comp=Z,30nm,1.0s,mb5.2
ERON Agron 34.96 281 P **P 02 02 49.4 -1.6**
comp=Z,30nm,1.0s,mb5.2,SNR=18
ELOJ Sierra Loja 35.19 281 ⇓P **P 02 02 50.9 -2.0**
ELOJ pmax pmax
comp=Z,43nm,1.5s,mb5.2
ELOJ Sierra Loja 35.19 281 ⇓P **P 02 02 50.9 -2.0**
comp=Z,43nm,1.5s,mb5.2
ELOJ Sierra Loja 35.19 281 P **P 02 02 50.9 -2.0**
comp=Z,43nm,1.5s,mb5.2,SNR=18
EADA Adamuz 35.21 283 ⇓P **P 02 02 51.6 -1.4**
comp=Z,178nm,1.8s,mb5.7
EADA Adamuz 35.21 283 P **P 02 02 51.6 -1.5**
comp=Z,178nm,1.8s,mb5.7,SNR=18
DMUB Kingscourt 35.21 310 *e*P **P 02 02 52.9 0.0**
POO Poona 35.22 117 *e*P **P 02 02 54.0 +0.7**
DCN Croghan 35.39 310 *e*P **P 02 02 54.4 -0.1**
EMIJ Mijas 35.84 280 ⇑P **P 02 02 55.8 -2.6**
comp=Z,163nm,1.4s,mb5.8
EMIJ Mijas 35.84 280 P **P 02 02 55.8 -2.6**
comp=Z,163nm,1.4s,mb5.8,SNR=18
ECAL Calabor 35.89 290 P **P 02 02 56.3 -2.5**
comp=Z,93nm,1.4s,mb5.5
ECAL Calabor 35.89 290 P **P 02 02 56.3 -2.5**
comp=Z,93nm,1.4s,mb5.5,SNR=6.2
EPON Pontenova 35.92 292 P **P 02 02 57.2 -1.8**
comp=Z,177nm,2.1s,mb5.6
EPON Pontenova 35.92 292 P **P 02 02 57.2 -1.8**
comp=Z,177nm,2.1s,mb5.6,SNR=4.5
PBRG Braganca 35.92 290 *e*P **P 02 02 57.5 -1.6**
comp=Z,24nm,1.5s,mb4.9
ERUA La Rua 36.09 291 P **P 02 02 58.8 -1.7**
ERUA pmax pmax
comp=Z,139nm,1.8s,mb5.6
ERUA La Rua 36.09 291 P **P 02 02 58.8 -1.7**
comp=Z,139nm,1.8s,mb5.6
ERUA La Rua 36.09 291 P **P 02 02 58.8 -1.7**
comp=Z,139nm,1.8s,mb5.6,SNR=8.7
EINC Incio 36.19 291 P **P 02 03 00.1 -1.3**
EINC Incio 36.19 291 P **P 02 03 00.1 -1.2**
SNR=7.9
KAD Karad 36.28 118 *e*P **P 02 03 02.6 +0.2**
KAD *e* 02 03 08.7
comp=Z,48nm,1.4s
EJIF Jimena Fronter 36.41 280 P **P 02 03 01.0 -2.2**
EJIF pmax pmax
comp=Z,61nm,1.0s,mb5.5
EJIF Jimena Fronter 36.41 280 P **P 02 03 01.0 -2.2**
comp=Z,61nm,1.0s,mb5.5
EJIF Jimena Fronter 36.41 280 P **P 02 03 01.0 -2.2**
comp=Z,61nm,1.0s,mb5.5,SNR=7.9
ESPR Espera 36.57 281 P **P 02 03 01.1 -3.4**
comp=Z,124nm,1.9s,mb5.4
ESPR Espera 36.57 281 P **P 02 03 01.1 -3.5**
comp=Z,124nm,1.9s,mb5.4,SNR=15
MDAL Dalia 36.60 280 *i* P **P 02 03 03.0 -1.8**
DKH Dar Kharkhour 36.65 279 *i* P **P 02 03 04.0 -1.2**
PVRL Vila Real 36.75 289 *e*P **P 02 03 05.0 -1.1**
comp=Z,30nm,1.1s,mb5.5
MTE Manteigas 36.84 288 *e*P **P 02 03 05.7 -1.1**
comp=Z,61nm,0.9s,mb5.4
MTE *e*S **S 02 08 52.9 +2.3**
MTE *e*LQ 02 13 10.9
MTE *e*LR LR 02 14 25.2
comp=Z,10µm,17.5s
MTE Manteigas 36.84 288 *e*P **P 02 03 05.6 -1.2**
comp=Z,159nm,1.3s,mb5.7
ELOB Lobios 36.87 290 P **P 02 03 05.6 -1.5**
comp=Z,85nm,1.7s,mb5.5
ELOB Lobios 36.87 290 P **P 02 03 05.6 -1.5**
comp=Z,85nm,1.7s,mb5.3,SNR=6.6
EBAD Badajoz 36.88 285 P **P 02 03 03.5 -3.7**
comp=Z,83nm,1.8s,mb5.3
EBAD Badajoz 36.88 285 P **P 02 03 03.5 -3.7**
comp=Z,83nm,1.8s,mb5.3,SNR=7.9
EMIN Mina Concepcio 36.91 283 P **P 02 03 05.0 -2.5**
comp=Z,80nm,1.4s,mb5.3
EMIN Mina Concepcio 36.91 283 P **P 02 03 05.0 -2.4**
comp=Z,80nm,1.4s,mb5.4,SNR=31
PCBR Castelo Branco 36.93 287 *e*P **P 02 03 06.4 -1.2**
comp=Z,49nm,1.0s,mb5.3
CPS Cap Spartel 36.96 280 *i* P **P 02 03 06.0 -1.9**
SFS San Fernando 36.97 281 *e*P **P 02 03 04.2 -3.7**
SFS pmax pmax
comp=Z,77nm,0.8s,mb5.6
SFS San Fernando 36.97 281 *e*P **P 02 03 04.2 -3.7**
comp=Z,78nm,0.8s,mb5.6
STS Santiago 37.01 292 P **P 02 03 07.0 -1.2**
STS pmax pmax
comp=Z,30nm,1.1s,mb5.0
STS Santiago 37.01 292 P **P 02 03 07.0 -1.2**
comp=Z,30nm,1.1s,mb5.0
STS Santiago 37.01 292 P **P 02 03 07.0 -1.2**
comp=Z,30nm,1.1s,mb5.0,SNR=7.9
PVIS Viseu 37.02 288 *e*P **P 02 03 07.8 -0.5**
comp=Z,57nm,1.8s,mb5.1
KOLN Koldanda 37.09 95 *e*P **P 02 03 09.2 +0.2**
comp=Z,81nm,1.1s,mb5.5
NGP Nagpur 37.27 108 *e*P **P 02 03 10.7 +0.2**
CZD Col de Zad 37.30 275 *i* P **P 02 03 11.0 +0.2**
EMAZ Mazaricos 37.30 292 P **P 02 03 10.0 -0.6**
comp=Z,71nm,1.6s,mb5.2
EMAZ Mazaricos 37.30 292 P **P 02 03 10.0 -0.7**
comp=Z,71nm,1.6s,mb5.3,SNR=4.9
PALC Alcoutim 37.61 283 *e*P **P 02 03 11.9 -1.4**
comp=Z,17nm,0.9s,mb4.8
PTOM Tomar 37.68 287 *e*P **P 02 03 13.1 -0.8**
comp=Z,61nm,1.1s,mb5.2
EVO Evora 37.69 285⇑*i*P **P 02 03 13.5 -0.5**
comp=Z,56nm,1.4s,mb4.8
EVO *e*R
comp=Z,10µm,18.0s
PBEJ Beja 37.73 284 *e*P **P 02 03 13.1 -1.2**
comp=Z,32nm,1.0s,mb5.0
GKN Gorkha 37.78 94 *e*P **P 02 03 15.4 +0.6**
comp=Z,154nm,1.1s,mb5.7
ALMR Almeirim 37.94 286 *e*P **P 02 03 12.6 -3.4**
DMN Daman 38.33 94 *e*P **P 02 03 20.0 +0.5**
comp=Z,200nm,1.1s,mb5.7
KKN Kakani 38.38 94 *e*P **P 02 03 20.1 +0.2**
comp=Z,78nm,1.0s,mb5.4
PLOU Loures 38.44 286 *e*P **P 02 03 19.8 -0.5**
comp=Z,138nm,1.2s,mb5.6
LIS Lisbon 38.49 285 *e*P **P 02 03 21.1 +0.4**
PTEO Sao Teotonio 38.53 284 *e*P **P 02 03 19.5 -1.5**
comp=Z,31nm,0.9s,mb5.0
PKI Pulchoki 38.58 94 *e*P **P 02 03 22.4 +0.8**
comp=Z,120nm,1.0s,mb5.6
JIRN Jiri 39.14 93 *e*P **P 02 03 26.9 +0.6**
comp=Z,212nm,1.3s,mb5.7
HYB Hyderabad 39.27 113 *e*P **P 02 03 27.0 -0.4**
HYB *e*S **S 02 09 26.0 -1.8**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.2
HYB Hyderabad 39.27 113 *e*P **P 02 03 27.0 -0.4**
comp=Z,50nm,1.0s,mb5.2
HYB *e*S **S 02 09 26.0 -1.8**
HYB Hyderabad 39.27 113 *i* P **P 02 03 27.0 -0.4**
comp=Z,50nm,1.0s,mb5.2
HYB *e*S **S 02 09 32.0 +4.2**
HYB *e*SS SS 02 12 15.0 +1.9
HYB LR LR
comp=Z,16nm,20.0s

OUK Oukaimeden 40.24 274 *i* P **P** **02 03 35.0 -0.3**
JMIC Jan Mayen 40.39 337 AMS AMS 02 21 28.1
comp=Z,9µm,19.4s
KMBO Kilima Mbogo 40.40 186 P **P** **02 03 38.9 +2.1**
comp=Z,2.8nm,0.8s,baz=18,slow=11,SNR=11
KMBO LR LR 02 19 18.4
comp=Z,13µm,18.9s,baz=354,slow=35
KMBO Kilima Mbogo 40.40 186 *e*P **P** **02 03 38.7 +2.0**
comp=Z,11nm,1.3s,mb4.4
KMBO LR LR
comp=Z,8µm,19.0s,MS5.6
CIA Chichaoua 40.77 275 *i* P **P** **02 03 39.0 -0.7**
MBAR Mbarara 40.82 196 *i* P **P** **02 03 43.0 +2.8**
MBAR Mbarara 40.82 196 PFAKE 02 03 50.0 +10
MBAR LR LR
comp=Z,1µm,19.0s,MS4.9
LSA Lhasa 42.03 87 P **P** **02 03 52.0 +2.0**
LSA Lhasa 42.03 87 *e*P **P** **02 03 50.2 +0.2**
LSA pmax pmax
comp=Z,25nm,0.7s,mb5.0
LSA Lhasa 42.03 87 *e*P **P** **02 03 50.2 +0.2**
comp=Z,25nm,0.7s,mb5.0
CGR Cap Guir 42.04 274 *i* P **P** **02 03 49.5 -0.6**
VIS Vishakhapatnam 42.55 108 *e*P **P** **02 03 54.4 0.0**
VIS *e* pP 02 03 56.2 -1.0
comp=Z,49nm,1.1s
MOY Mondy 42.71 53 *e*P **P** **02 03 56.6 +1.3**
MOY pmax pmax
comp=Z,44nm,2.2s,mb4.8
BORG Borgarnes 43.52 327 P **P** **02 04 02.4 +0.7**
comp=Z,17nm,0.9s,mb4.8,baz=76,slow=14,SNR=2.4
BORG Borgarnes 43.52 327 P **P** **02 04 02.0 +0.3**
BORG LR LR
comp=Z,2µm,19.0s,MS5.0
TLY Talaya 44.34 52 *e*P **P** **02 04 09.8 +1.3**
TLY *e* 02 05 54.9
TLY *e*S **S** **02 10 56.4 +14**
TLY *e*SS SS 02 14 07.6 +15
TLY pmax pmax
comp=Z,38nm,1.6s,mb4.9
TLY Talaya 44.34 52 *e*P **P** **02 04 09.1 +0.6**
comp=Z,38nm,1.4s,mb4.9
TLY LR LR
comp=Z,1µm,21.0s,MS4.8
ZAK Zakamensk 44.34 54 *e*P **P** **02 04 09.1 +0.5**
ZAK *e* 02 05 53.4
ZAK pmax pmax
comp=Z,7.0nm,1.3s
SCO Scoresbysund 44.49 335 *i* P **P** **02 04 11.8 +2.3**
SCO *i* 02 05 55.2
IRK Irkutsk 44.63 51 *e*P **P** **02 04 09.4 -1.5**
IRK pmax pmax
comp=Z,62nm,2.3s,mb5.0
GTA Gaotai 44.81 70 *e*P **P** **02 04 16.0 +3.5**
GTA AP pP 02 04 23.4 +8.1
GTA XP sP 02 04 26.8 +10
GTA PCP PcP 02 05 58.0 +3.1
GTA PP PP 02 06 03.1 +4.9
GTA SCP 02 09 47.5
GTA S **S** **02 10 52.3 +3.1**
GTA SS SS 02 14 04.3 +2.6
GTA AMB AMB
comp=Z,12nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,447nm,5.7s
GTA LR LR
comp=N,8µm,17.1s,MS5.8
GTA LR LR
comp=E,6µm,14.8s,MS5.8
GTA LR LR
comp=Z,6µm,19.8s,MS5.6
EFAM Famara 45.55 274 P **P** **02 04 17.4 -1.1**
comp=Z,384nm,2.1s,mb6.0
EFAM Famara 45.55 274 P **P** **02 04 17.4 -1.1**
comp=Z,384nm,2.1s,mb6.0,SNR=4.0
CFUE Fuerteventura 46.09 274 P **P** **02 04 22.0 -0.8**
comp=Z,305nm,2.1s,mb5.8,SNR=4.0
CFTV Fuerteventura 46.31 274 P **P** **02 04 23.3 -1.3**
comp=Z,32nm,1.0s,mb5.2
CFTV Fuerteventura 46.31 274 P **P** **02 04 23.3 -1.2**
comp=Z,32nm,1.0s,mb5.2,SNR=4.7
SONM Songino Array 46.90 57 P **P** **02 04 29.8 +0.9**
comp=Z,1.6nm,0.5s,baz=280,slow=9.0,SNR=25
SONM PcP PcP 02 06 02.9 +0.8
comp=Z,6.2nm,0.7s,baz=274,slow=2.6,SNR=11
ULN Ulaanbaatar 47.32 57 *e*P **P** **02 04 32.0 -0.2**
ULN pmax pmax
comp=Z,24nm,0.9s,mb5.1
ULN MLR MLR
comp=Z,44µm,19.0s,MS6.5
ULN Ulaanbaatar 47.32 57 *e*P **P** **02 04 32.0 -0.3**
comp=Z,24nm,0.9s,mb5.1
ULN LR LR
comp=Z,44µm,19.0s,MS6.5
EOSO Osorio 47.61 274 P **P** **02 04 33.6 -1.3**
comp=Z,628nm,2.0s,mb6.3
EOSO Osorio 47.61 274 P **P** **02 04 33.6 -1.2**
comp=Z,628nm,2.0s,mb6.3,SNR=8.9
EBAJ Bajamar 48.00 275 P **P** **02 04 36.5 -1.4**
comp=Z,702nm,2.3s,mb6.3
EBAJ Bajamar 48.00 275 P **P** **02 04 36.5 -1.4**
comp=Z,702nm,2.3s,mb6.3,SNR=7.9
LZH Lanzhou 49.00 73 *e*P **P** **02 04 47.4 +1.9**
LZH AP pP 02 04 55.4 +7.1
LZH XP sP 02 04 59.0 +10
LZH PP PP 02 06 42.1 +2.9
LZH S **S** **02 11 48.3 -0.5**
LZH XS 02 12 01.0
LZH SS SS 02 15 13.3 -2.1
LZH AMB AMB
comp=Z,71nm,1.0s,mb5.7
LZH AMB AMB
comp=Z,310nm,4.3s
LZH LR LR
comp=N,10µm,14.8s
LZH LR LR
comp=Z,13µm,17.6s,MS6.0
LZH Lanzhou 49.00 73 *e*P **P** **02 04 47.4 +1.9**
LZH *PP pP 02 04 55.4 +7.1
LZH 02 06 42.1
LZH S **S** **02 11 48.3 -0.5**
LZH *SS 02 12 01.0
LZH SS SS 02 15 13.2 -2.2
LZH pmax pmax
comp=Z,71nm,1.0s,mb5.7
LZH MLR MLR
comp=Z,13µm,17.6s,MS6.0
LZH Lanzhou 49.00 73 *e*P **P** **02 04 47.4 +1.9**
comp=Z,71nm,1.0s,mb5.7
LZH pP pP 02 04 55.4 +7.1
LZH sP sP 02 04 59.0 +10
LZH PP PP 02 06 42.1 +2.9
LZH S **S** **02 11 48.3 -0.5**
LZH sS 02 12 01.0
LZH SS SS 02 15 13.2 -2.2
LZH LR LR
comp=Z,13µm,17.6s,MS6.0
BOD Bodaibo 49.16 43 *e*P **P** **02 04 44.5 -1.9**
BOD pmax pmax
comp=Z,34nm,1.2s,mb5.2
SUMG Summit 49.83 337 *e*P **P** **02 04 52.2 +0.8**
comp=Z,77nm,1.3s,mb5.6
CD2 Chengdu 51.18 79 *e*P **P** **02 05 05.6 +3.4**
BTO Baotou 51.70 65 *e*P **P** **02 05 05.4 -0.6**
BTO S **S** **02 12 19.8 -6.2**
DBIC Dimbokro 52.39 244 P **P** **02 05 09.9 -1.7**
DBIC S **S** **02 12 36.9 +1.0**
DBIC Dimbokro 52.39 244 *e*P **P** **02 05 09.5 -2.1**
DBIC pmax pmax
comp=Z,93nm,1.1s
DBIC MLR MLR
comp=Z,4µm,19.0s
DBIC Dimbokro 52.39 244 P **P** **02 05 10.0 -1.6**
comp=Z,40nm,0.8s,mb5.4,baz=24,slow=9.5,SNR=35
DBIC LR LR 02 33 06.2
comp=Z,3µm,18.6s,MS5.4,baz=250,slow=42
DBIC Dimbokro 52.39 244 *e*P **P** **02 05 09.4 -2.1**
comp=Z,93nm,1.1s,mb5.6
DBIC LR LR
comp=Z,4µm,19.0s,MS5.4
TIXI Tiksi 52.59 23 *e*P **P** **02 05 11.8 -0.5**
TIXI *e* 02 07 17.5
TIXI *e*S **S** **02 12 39.4 +1.5**
TIXI *e*SS SS 02 16 18.1 +3.1
TIXI *e*SSS SSS 02 18 01.5 +2.4
TIXI pmax pmax
comp=Z,44nm,1.4s,mb5.2
TIXI MLR MLR
comp=Z,6µm,17.0s,MS5.7
TIXI Tiksi 52.59 23 PFAKE 02 05 20.0 +7.7
TIXI LR LR
comp=Z,5µm,19.0s,MS5.6
HHC Hu-ho-hao-te 52.69 64 *e*P **P** **02 05 16.3 +2.9**
HHC PP PP 02 07 18.0 +4.0
HHC SCP 02 10 23.8
HHC S **S** **02 12 43.3 +3.8**
HHC PS PS 02 12 53.5 +3.2
HHC SCS ScS 02 15 03.6 +3.4
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,335nm,5.1s
HHC LR LR
comp=N,8µm,15.5s,MS6.0
HHC LR LR
comp=E,7µm,17.8s,MS6.0
HHC LR LR
comp=Z,8µm,19.0s,MS5.8
KMI Kunming 53.24 86 P **P** **02 05 18.3 +0.5**
KMI PP PP 02 07 23.5 +4.0
KMI S **S** **02 12 48.5 +1.2**
KMI SS SS 02 16 26.9 +0.5
KMI AMB AMB
comp=Z,45nm,0.9s,mb5.4
KMI AMB AMB
comp=Z,423nm,5.1s
KMI LR LR
comp=N,3µm,17.2s,MS5.6
KMI LR LR
comp=E,4µm,17.2s,MS5.6
KMI LR LR
comp=Z,3µm,15.3s,MS5.5
KMI Kunming 53.24 86 P **P** **02 05 18.3 +0.5**
comp=Z,45nm,0.9s,mb5.4
KMI pP pP 02 05 35.9 +15
KMI sP sP 02 05 44.8 +23
KMI PP PP 02 07 23.5 +4.0
KMI S **S** **02 12 48.5 +1.2**
KMI sS 02 13 22.4
KMI SS SS 02 16 26.9 +0.5
KMI SSS SSS 02 18 32.5 +18
KMI LR LR
comp=Z,3µm,15.3s,MS5.5
XAN Xi'an 53.64 73 P **P** **02 05 23.3 +2.7**
XAN AMB AMB
comp=Z,14nm,1.0s,mb4.8
XAN LR LR
comp=N,5µm,19.6s,MS5.8
XAN LR LR
comp=E,7µm,16.6s,MS5.8
XAN LR LR
comp=Z,5µm,14.1s,MS5.7
CHRT Chiangrai 53.80 93 ⇓P **P** **02 05 20.5 -1.4**
CM31 Chiang Mai Arr 53.96 95 *e*P **P** **02 05 21.1 -1.9**
comp=Z,9.8nm,0.6s,mb4.9
CM31 LR LR
comp=Z,3µm,20.0s,MS5.3
CMAR Chiang Mai Arr 53.96 95 P **P** **02 05 22.3 -0.7**
comp=Z,7.8nm,0.8s,mb4.7,baz=305,slow=8.2,SNR=17
CMAR LR LR 02 32 40.3
comp=Z,2µm,21.1s,MS5.1,baz=300,slow=41
BDT Bhumibol Dam 54.71 96 P **P** **02 05 28.0 -0.6**
HIA Hailar 54.88 52 *e*P **P** **02 05 28.7 -0.7**
HIA pmax pmax
comp=Z,42nm,1.4s
HIA Hailar 54.88 52 *e*P **P** **02 05 28.7 -0.7**
comp=Z,42nm,1.4s,mb5.3
DGAR Diego Garcia 54.92 141 *i* P **P** **02 05 32.6 +2.4**
DGAR MLR MLR
comp=Z,2µm,22.0s,MS5.0
SFJ Sondre 55.09 331 PFAKE 02 05 40.0 +9.2
SFJ LR LR
comp=Z,4µm,20.0s,MS5.5
SFJD Kangerlussuaq 55.09 331 *i* P **P** **02 05 31.1 +0.3**
comp=Z,24nm,1.3s,mb5.1
SFJD *e*S **S** **02 13 29.2 +18**
comp=Z,5µm,19.0s
CLNS Chul'man 55.11 42 *e*P **P** **02 05 28.0 -3.0**
CLNS *e* 02 06 30.0
CLNS *e*S **S** **02 13 12.9 +0.9**
CLNS *e* 02 15 14.5
CLNS pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,3.0nm,1.0s
CLNS smax
comp=N,436nm,12.3s
CLNS smax
comp=Z,373nm,10.5s
CLNS smax
comp=E,93nm,11.7s
CLNS MLR MLR
comp=Z,14µm,16.0s,MS6.2
CLNS MLR MLR
comp=N,9µm,14.0s,MS6.0
CLNS MLR MLR
comp=E,2µm,15.0s,MS6.0
NANT Nan 55.12 94 ⇑P **P** **02 05 29.0 -2.6**
comp=E,231nm,1.0s,mb6.2
GYA Guiyang 55.58 82 ⇑*i*P **P** **02 05 34.3 -0.6**
GYA AP pP 02 05 41.8 +4.1
GYA XP sP 02 05 45.0 +6.2
GYA PP PP 02 07 39.5 -1.0
GYA S **S** **02 13 18.4 -0.3**
GYA AMB AMB
comp=Z,40nm,1.2s,mb5.3
GYA AMB AMB
comp=Z,380nm,5.4s
GYA LR LR
comp=N,6µm,23.3s,MS5.7
GYA LR LR
comp=E,4µm,23.6s,MS5.7
GYA LR LR
comp=Z,3µm,25.7s,MS5.2
LSZ Lusaka 55.60 195 *e*P **P** **02 05 35.0 -0.1**
LSZ pmax pmax
comp=Z,61nm,1.5s,mb5.4
LSZ MLR MLR
comp=Z,6µm,19.0s,MS5.7
LSZ Lusaka 55.60 195 *e*P **P** **02 05 35.0 -0.1**
comp=Z,60nm,1.5s,mb5.4
LSZ LR LR
comp=Z,6µm,19.0s,MS5.7
YAK Yakutsk 55.63 35 *i* P **P** **02 05 35.5 +0.8**
YAK pmax pmax
comp=Z,29nm,1.1s,mb5.2
YAK MLR MLR
comp=Z,10µm,18.0s,MS5.9
YAK Yakutsk 55.63 35 *i* P **P** **02 05 35.6 +0.9**
YAK LR LR
comp=Z,7µm,19.0s,MS5.8
ENH Enshi 55.83 77 *e*P **P** **02 05 38.2 +1.7**
comp=Z,56nm,1.2s,mb5.5
BJI Beijing 56.23 63 *e*P **P** **02 05 39.6 +0.3**
BJI PP PP 02 07 48.3 +2.1
BJI S **S** **02 13 31.5 +4.3**
BJI AMB AMB
comp=Z,11nm,1.2s,mb4.8
BJI LR LR
comp=N,7µm,13.7s
BJI LR LR
comp=E,8µm,19.6s
BJI LR LR
comp=Z,8µm,19.4s
BJI Beijing 56.23 63 *e*P **P** **02 05 39.6 +0.3**
BJI 02 07 48.2
BJI S **S** **02 13 31.5 +4.3**
BJI pmax pmax
comp=Z,11nm,1.2s,mb4.8
BJI MLR MLR
comp=Z,8µm,19.4s,MS5.8
BJI Beijing 56.23 63 *e*P **P** **02 05 39.6 +0.3**
comp=Z,11nm,1.2s,mb4.8
BJI sP sP 02 05 56.9 +14
BJI PP PP 02 07 48.2 +2.0
BJI S **S** **02 13 31.5 +4.3**
BJI SS SS 02 17 29.6 +15
BJI LR LR
comp=Z,8µm,19.4s,MS5.8
BJT Baijiatuau 56.23 63 P **P** **02 05 39.3 0.0**
BJT pmax pmax
comp=Z,41nm,1.3s
BJT Baijiatuau 56.23 63 P **P** **02 05 39.3 -0.1**
comp=Z,41nm,1.3s,mb5.3
NST Nakhon Sawan 56.51 97 P **P** **02 05 41.0 -0.6**
KKTK Khon Kaen 58.19 95 P **P** **02 05 53.0 -0.5**
TIA Tai'an 58.62 67 *e*P **P** **02 05 54.9 -1.4**
TIA *e*S **S** **02 14 03.5 +4.8**
TIA LR LR
comp=N,4µm,13.0s,MS5.8
TIA LR LR
comp=E,3µm,14.0s,MS5.8
WHN Wuhan 59.34 74 P **P** **02 06 05.8 +4.4**
WHN S **S** **02 14 04.0 -4.2**
WHN LR LR
comp=Z,8µm,16.0s,MS6.0
MATP Matopo 60.56 193 P **P** **02 06 08.8 -1.1**
comp=Z,16nm,0.7s,mb5.3,baz=5.9,slow=8.5,SNR=27
MATP Matopo 60.56 193 P **P** **02 06 08.8 -1.1**
CN2 Changchun 60.74 56 *e*P **P** **02 06 12.5 +1.8**
CN2 *e*AP pP 02 06 21.1 +7.4
CN2 *e*XP sP 02 06 23.4 +8.7
CN2 PCP PcP 02 06 54.8 +0.3
CN2 PP PP 02 08 28.1 +1.4
CN2 *e*S **S** **02 14 29.9 +3.9**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,240nm,4.0s
CN2 LR LR
comp=N,9µm,16.0s,MS6.2
CN2 LR LR
comp=E,10µm,16.0s,MS6.2
CN2 LR LR
comp=Z,15µm,16.0s,MS6.2
NJ2 Nanjing 61.91 70 *e*P **P** **02 06 20.8 +2.0**
NJ2 AP pP 02 06 27.6 +5.8
NJ2 XP sP 02 06 32.3 +9.5
NJ2 PP PP 02 08 38.3 +0.9
NJ2 S **S** **02 14 39.0 -2.0**
NJ2 XS 02 14 51.0
NJ2 AMB AMB
comp=Z,570nm,6.6s
NJ2 LR LR
comp=N,4µm,16.5s,MS6.1
NJ2 LR LR
comp=E,9µm,16.6s,MS6.1
NJ2 LR LR
comp=Z,10µm,15.9s,MS6.1
KLR Kul'dur 62.02 48 *e* **P** **02 06 15.8 -3.5**
KLR *e*S **S** **02 14 37.5 -4.6**
KLR *e* 02 21 32.0
KLR MLR MLR
comp=N,35µm,16.0s
QIZ Qiongzhong 62.07 88 *e*P **P** **02 06 23.9 +3.8**
QIZ S **S** **02 14 44.5 +1.2**
QIZ XS 02 14 59.6
QIZ SS SS 02 18 49.6 +1.9
QIZ LR LR
comp=E,5µm,19.9s
QIZ LR LR
comp=Z,3µm,18.5s,MS5.4
TSUM Tsumeb 62.18 205 P **P** **02 06 20.5 -0.3**
comp=Z,6.7nm,0.9s,mb4.8,baz=8.0,slow=10,SNR=14
TSUM Tsumeb 62.18 205 *e*P **P** **02 06 20.3 -0.5**
comp=Z,56nm,1.6s,mb5.5
TSUM LR LR
comp=Z,10µm,20.0s,MS6.0
RES Resolute Bay 62.57 348 *e*P **P** **02 06 23.2 +0.5**
RES pmax pmax
comp=Z,96nm,2.0s,mb5.6
RES Resolute Bay 62.57 348 *e*P **P** **02 06 23.2 +0.5**
comp=Z,96nm,2.0s,mb5.6
MDJ Mudanjiang 62.96 53 P **P** **02 06 21.9 -3.7**
MDJ PCP PcP 02 07 01.8 -1.7
MDJ PP PP 02 08 39.4 -6.4
MDJ S **S** **02 14 52.8 -1.3**
MDJ SCS ScS 02 16 15.5 +0.6
MDJ SS SS 02 18 59.0 -2.6
MDJ AMB AMB
comp=Z,148nm,4.9s
MDJ LR LR
comp=N,8µm,21.5s,MS6.0
MDJ LR LR
comp=E,5µm,19.9s,MS6.0
MDJ LR LR
comp=Z,8µm,18.8s,MS5.9
KULM Kulim 63.45 106 P **P** **02 06 30.1 +0.9**
SSE Sheshan 64.10 70 P **P** **02 06 32.5 -0.9**
SSE S **S** **02 15 07.6 -0.9**
SSE XS 02 15 19.9
SSE SS SS 02 19 17.0 -2.1
SSE AMB AMB
comp=Z,41nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,90nm,4.3s
SSE LR LR
comp=N,4µm,25.6s,MS5.5
SSE LR LR
comp=E,3µm,25.6s,MS5.5
SSE LR LR
comp=Z,3µm,20.7s,MS5.4
SSE Sheshan 64.10 70 P **P** **02 06 32.5 -0.9**
comp=Z,41nm,0.7s,mb5.6
SSE S **S** **02 15 07.6 -0.9**
SSE sS 02 15 19.9
SSE SS SS 02 19 17.0 -2.1
SSE LR LR
comp=Z,3µm,20.7s,MS5.4
SEY Seymchan 64.44 28 *e*P **P** **02 06 35.0 0.0**
SEY 02 07 16.9
SEY 02 08 58.7
SEY *e*PPP PPP 02 10 31.5 -0.1
SEY *e*S **S** **02 15 10.2 -2.0**
SEY 02 16 32.4
SEY *e*SS SS 02 19 29.2 +5.3
SEY SSS SSS 02 22 08.5 -5.0
SEY pmax pmax
comp=Z,90nm,1.0s,mb5.8
SEY pmax pmax
comp=N,30nm,0.8s
SEY pmax pmax
comp=E,60nm,1.1s
SEY smax
comp=N,2µm,15.8s
SEY smax
comp=E,2µm,18.6s
INCN Inchon 64.63 61 PFAKE 02 06 50.0 +13
INCN LR LR
comp=Z,6µm,21.0s,MS5.8
BILL Bilibino 65.42 20 *e*P **P** **02 06 40.5 -0.7**
BILL *i* 02 07 10.8
BILL *i* S S 02 15 29.0 +4.9
BILL *i* SS SS 02 19 40.1 +1.1
BILL pmax pmax
comp=Z,24nm,1.1s,mb5.1
BILL MLR MLR
comp=Z,3µm,16.0s,MS5.6
BILL Bilibino 65.42 20 *e*P **P** **02 06 40.3 -0.9**
comp=Z,16nm,0.8s,mb5.1
BILL LR LR
comp=Z,4µm,19.0s,MS5.6
QZH Quanzhou 65.48 77 *e*P **P** **02 06 43.0 +0.6**
QZH S S 02 15 30.5 +4.9
QZH LR LR
comp=N,3µm,14.9s,MS5.9
QZH LR LR
comp=E,6µm,18.5s,MS5.9
QZH LR LR
comp=Z,7µm,18.2s,MS5.9
LBTB Lobatse 65.59 195 *e*P **P** **02 06 42.9 -0.1**
LBTB pmax pmax
comp=Z,50nm,1.2s,mb5.4
LBTB MLR MLR
comp=Z,6µm,19.0s,MS5.8
LBTB Lobatse 65.59 195 P **P** **02 06 43.1 0.0**
comp=Z,17nm,0.8s,mb5.2,baz=18,slow=6.3,SNR=23
LBTB Lobatse 65.59 195 *e*P **P** **02 06 42.9 -0.1**
comp=Z,50nm,1.2s,mb5.4
LBTB LR LR
comp=Z,6µm,19.0s,MS5.8
MA2 Magadan 65.84 32 *e*P **P** **02 06 46.6 +2.5**
MA2 *e*S S 02 15 31.8 +2.4
MA2 *e*PS PS 02 15 58.2 +6.2

MA2 *e* 02 16 40.1
MA2 pmax pmax
comp=Z,20nm,1.3s,mb5.0
MA2 pmax pmax
comp=E,7.0nm,1.2s
MA2 MLR MLR
comp=E,56µm,25.0s
MA2 Magadan 65.84 32 *e*P **P** **02 06 46.5 +2.4**
MA2 LR LR
comp=Z,10µm,19.0s,MS6.0
TATO Taipei 67.65 75 PFAKE 02 07 10.0 +14
TATO LR LR
comp=Z,3µm,21.0s,MS5.5
SCHQ Schefferville 67.79 323 P **P** **02 06 56.6 +0.1**
comp=Z,8.2nm,0.8s,mb4.8,baz=74,slow=4.7,SNR=18
SCHQ LR LR 02 39 54.6
comp=Z,2µm,18.7s,MS5.4,baz=51,slow=39
BOSA Boshof 69.15 195 *e*P **P** **02 07 04.5 -0.9**
BOSA pmax pmax
comp=Z,50nm,1.3s,mb5.3
BOSA MLR MLR
comp=Z,4µm,19.0s,MS5.7
BOSA Boshof 69.15 195 *e*P **P** **02 07 04.5 -0.9**
comp=Z,50nm,1.3s,mb5.3
BOSA LR LR
comp=Z,4µm,19.0s,MS5.7
YSS Yuzh-Sakhalins 69.47 46 *e*P **P** **02 07 08.8 +1.8**
YSS *e* 02 07 17.0
YSS *e* 02 07 27.8
YSS *e*S S 02 16 11.0 -2.1
YSS *e*PPS PPS 02 16 46.0 -6.8
YSS MLR MLR
comp=N,3µm,16.0s,MS5.9
YSS MLR MLR
comp=E,5µm,17.0s,MS5.9
YSS MLR MLR
comp=Z,4µm,17.0s,MS5.8
YSS Yuzh-Sakhalins 69.47 46 *i* P **P** **02 07 08.3 +1.3**
YSS LR LR
comp=Z,6µm,19.0s,MS5.9
INK Inuvik 72.61 358 *e*P **P** **02 07 25.9 +0.4**
INK pmax pmax
comp=Z,21nm,1.1s
INK Inuvik 72.61 358 *e*P **P** **02 07 25.9 +0.4**
comp=Z,21nm,1.1s,mb5.0
MAJO Matsushiro 72.85 57 PFAKE 02 07 40.0 +12
MAJO LR LR
comp=Z,9µm,19.0s,MS6.1
MAT Matsushiro 72.85 57 *e*P **P** **02 07 28.0 +0.4**
MAT *e*S S 02 16 51.0 -1.4
MAT pmax pmax
comp=Z,16nm,1.0s,mb4.9
MAT MLR MLR
comp=Z,10µm,20.0s,MS6.1
MAT Matsushiro 72.85 57 *e*P **P** **02 07 28.0 +0.4**
comp=Z,16nm,1.0s,mb4.9
MAT *e*S S 02 16 51.0 -1.4
MAT LR LR
comp=Z,10µm,20.0s,MS6.1
MAT Matsushiro 72.85 57 P **P** **02 07 27.8 +0.2**
MAT S S 02 16 51.0 -1.4
PET Petropavlovsk 73.45 34 PFAKE 02 07 40.0 +9.3
PET LR LR
comp=Z,6µm,22.0s,MS5.8
SUR Sutherland 73.75 198 PFAKE 02 07 40.0 +7.1
SUR LR LR
comp=Z,2µm,20.0s,MS5.4
IMA Indian Mountai 74.33 6 *e*P **P** **02 07 37.5 +2.0**
IMA pmax pmax
comp=Z,170nm,1.4s,mb5.8
IMA Indian Mountai 74.33 6 *e*P **P** **02 07 38.6 +3.1**
comp=Z,60nm,1.8s,mb5.2
FCC Fort Churchill 75.35 338 *e*P **P** **02 07 42.7 +1.1**
FCC pmax pmax
comp=Z,66nm,1.3s,mb5.4
FCC Fort Churchill 75.35 338 *e*P **P** **02 07 42.7 +1.1**
comp=Z,66nm,1.3s,mb5.4
COLA College 75.91 4 *e*P **P** **02 07 46.3 +1.7**
COLA pmax pmax
comp=Z,47nm,1.3s,mb5.3
COLA College 75.91 4 *e*P **P** **02 07 46.3 +1.7**
comp=Z,47nm,1.3s,mb5.3
ILAR Eielson Array 76.06 3 P **P** **02 07 45.5 +0.1**
comp=Z,1.5nm,0.6s,baz=337,slow=2.6,SNR=15
ILAR PP PP 02 10 30.1 -7.9
comp=Z,1.0nm,0.8s,baz=348,slow=5.4,SNR=4.1
ILAR LR LR 02 47 02.9
comp=Z,2µm,21.4s,baz=211,slow=40
YKW3 Yellowknife Ar 76.56 349 *e*P **P** **02 07 48.0 -0.3**
YKA Yellowknife Ar 76.63 349 P **P** **02 07 49.2 +0.5**
comp=Z,13nm,0.8s,mb4.9,baz=20,slow=6.0,SNR=184
YKA LR LR 02 42 48.8
comp=Z,4µm,22.0s,MS5.7,baz=30,slow=37
DAWY Dawson 76.95 0 *e*P **P** **02 07 51.7 +1.3**
HRV Harvard--Oak R 78.13 316 PFAKE 02 08 10.0 +13
HRV LR LR
comp=Z,2µm,22.0s,MS5.5
NCB Newcomb 78.53 318 PFAKE 02 08 10.0 +10
NCB LR LR
comp=Z,3µm,20.0s,MS5.6
ACCN Adirondack Com 78.65 317 *e*P **P** **02 08 01.2 +1.0**
PWA Palmer West 78.99 5 *e*P **P** **02 08 04.2 +2.5**
PWA pmax pmax
comp=Z,37nm,0.9s,mb5.3
PWA Palmer West 78.99 5 *e*P **P** **02 08 04.2 +2.5**
comp=Z,37nm,0.9s,mb5.3
SVW2 Sparrevohn 79.03 8 *e*P **P** **02 08 04.7 +2.8**
FX1 Attu Island--F 79.28 27 P **P** **02 08 07.0 +3.5**
FX1 pmax pmax
comp=Z,28nm,0.6s
FX1 Attu Island--F 79.28 27 P **P** **02 08 07.0 +3.5**
comp=Z,28nm,0.6s,mb5.4
SMY Shemya 79.73 27 PFAKE 02 08 20.0 +14
SMY LR LR
comp=Z,7µm,20.0s,MS6.0
SLKM Skilak Lake 80.10 6 P **P** **02 08 07.5 -0.2**
SADO Sadowa 80.43 321 LR LR 02 39 58.5
comp=Z,804nm,20.8s,MS5.0,baz=250,slow=33
BBSR BB Station 80.81 304 PFAKE 02 08 20.0 +7.9
BBSR LR LR
comp=Z,1µm,20.0s,MS5.3
FFC Flin Flon 81.06 339 P **P** **02 08 13.3 +0.3**
comp=Z,150nm,1.7s,mb5.7,SNR=8.7
FFC Flin Flon 81.06 339 *e*P **P** **02 08 13.7 +0.7**
FFC pmax pmax
comp=Z,34nm,1.1s,mb5.2
FFC Flin Flon 81.06 339 *e*P **P** **02 08 13.7 +0.7**
comp=Z,34nm,1.1s,mb5.2
KDAK Kodiak Island 82.59 7 PFAKE 02 08 30.0 +9.2
KDAK LR LR
comp=Z,525nm,21.0s,MS4.9
ERPA Erie 82.80 320 *e*P **P** **02 08 23.4 +1.2**
comp=Z,30nm,0.7s,mb5.4
ERPA LR LR
comp=Z,3µm,21.0s,MS5.7
SSPA Standing Stone 82.81 318 PFAKE 02 08 30.0 +7.6
SSPA LR LR
comp=Z,697nm,22.0s,MS5.0
ULM Lac du Bonnet 83.05 334 P **P** **02 08 23.8 +0.5**
comp=Z,12nm,0.8s,mb4.9,baz=37,slow=4.3,SNR=25
ULM LR LR 02 49 48.8
comp=Z,2µm,19.5s,MS5.4,baz=31,slow=39
ULM Lac du Bonnet 83.05 334 *e*P **P** **02 08 23.9 +0.6**
comp=Z,81nm,1.5s,mb5.5
ULM LR LR
comp=Z,3µm,20.0s,MS5.6
SDMD Soldier's Deli 83.15 316 *e*P **P** **02 08 25.3 +1.2**
ALLY Alegheny Colle 83.22 320 *e*P **P** **02 08 25.4 +1.0**
EYMN Ely 83.36 330 *e*P **P** **02 08 24.6 -0.4**
comp=Z,39nm,1.3s,mb5.3
EYMN LR LR
comp=Z,4µm,20.0s,MS5.8
RCBR Riachuelo 83.55 257 PFAKE 02 08 40.0 +13
RCBR LR LR
comp=Z,2µm,20.0s,MS5.5
SIT Sitka 83.93 358 PFAKE 02 08 40.0 +12
SIT LR LR
comp=Z,3µm,20.0s,MS5.7
CBN Corbin 84.31 316 *e*P **P** **02 08 30.3 +0.3**
comp=Z,33nm,0.9s,mb5.5
CBN LR LR
comp=Z,3µm,20.0s,MS5.6
AAM Ann Arbor 84.45 322 *e*P **P** **02 08 31.4 +0.8**
AAM pmax pmax
comp=Z,51nm,1.1s,mb5.6
AAM MLR MLR
comp=Z,3µm,19.0s,MS5.7
AAM Ann Arbor 84.45 322 *e*P **P** **02 08 31.4 +0.8**
comp=Z,51nm,1.1s,mb5.6
AAM LR LR
comp=Z,3µm,19.0s,MS5.7
MCWV Mont Chateau 84.55 318 *e*P **P** **02 08 32.1 +1.0**
comp=Z,66nm,0.9s,mb5.8
MCWV LR LR
comp=Z,4µm,21.0s,MS5.7
EDM Edmonton 85.17 345 *e*P **P** **02 08 35.2 +1.3**
CS6B Jaguaretama 85.44 259 *e* *i*P **P** **02 08 37.2 +1.0**
CS6B *i* 02 08 47.6
ACSO Alum Creek Sta 85.70 320 *e*P **P** **02 08 36.7 -0.2**
comp=Z,39nm,1.0s,mb5.6
ACSO LR LR
comp=Z,4µm,20.0s,MS5.8
FWV Forest Hill 86.60 317 *e*P **P** **02 08 42.4 +1.0**
BLA Blacksburg 86.67 317 PFAKE 02 08 50.0 +8.2
BLA LR LR
comp=Z,3µm,20.0s,MS5.7
ELN Prospectdale 86.83 317 *e*P **P** **02 08 43.5 +0.9**
JFWS Jewell Farm 86.95 326 PFAKE 02 08 50.0 +7.0
JFWS LR LR
comp=Z,4µm,19.0s,MS5.8
WCI Wyandotte Cave 88.88 321 PFAKE 02 09 00.0 +7.6
WCI LR LR
comp=Z,861nm,20.0s,MS5.2
LAO LASA Array 89.47 338 *e*P **P** **02 08 57.8 +2.8**
comp=Z,162nm,1.6s,mb6.1
LAO LR LR
comp=Z,6µm,22.0s,MS6.0
NHSC New Hope 89.60 314 PFAKE 02 09 10.0 +14
NHSC LR LR
comp=Z,3µm,22.0s,MS5.7
USIN University of 89.75 322 *e*P **P** **02 08 57.3 +0.8**
comp=Z,24nm,0.9s,mb5.5
SLM Saint Louis 90.41 324 *e*P **P** **02 09 00.7 +1.1**
comp=Z,70nm,1.8s,mb5.7
NEW Newport 90.63 346 P **P** **02 09 01.9 +1.6**
comp=Z,29nm,1.0s,mb5.6,baz=22,slow=5.4,SNR=42
NEW LR LR 02 54 34.8
comp=Z,2µm,19.3s,MS5.6,baz=16,slow=39
NEW Newport 90.63 346 *e*P **P** **02 09 02.2 +1.9**
comp=Z,48nm,1.2s,mb5.7
NEW LR LR
comp=Z,3µm,21.0s,MS5.7
HRY Holter Researc 90.94 342 *e*P **P** **02 09 03.0 +1.3**
CHMT Chamberlain Mo 91.09 343 *e*P **P** **02 09 04.2 +1.7**
GOGA Godfrey 91.17 316 PFAKE 02 09 10.0 +6.9
GOGA LR LR
comp=Z,3µm,21.0s,MS5.7
SJG San Juan 91.23 295 LR LR 02 46 24.8
comp=Z,799nm,22.0s,MS5.1,baz=216,slow=33
SJG San Juan 91.23 295 PFAKE 02 09 10.0 +6.3
SJG LR LR
comp=Z,990nm,20.0s,MS5.2
PGC Sidney 91.31 350 P **P** **02 09 02.7 -0.7**
comp=Z,37nm,1.2s,mb5.6
MSO Missoula 91.33 343 *e*P **P** **02 09 04.7 +1.1**
comp=Z,20nm,1.4s,mb5.3
MSO LR LR
comp=Z,3µm,19.0s,MS5.7
CCM Cathedral Cave 91.34 324 PFAKE 02 09 10.0 +6.2
CCM LR LR
comp=Z,985nm,20.0s,MS5.2
BOZ Bozeman (W) 91.89 341 PFAKE 02 09 20.0 +14
BOZ LR LR
comp=Z,3µm,20.0s,MS5.7
GUMO Guam 91.98 71 PFAKE 02 09 20.0 +13
GUMO LR LR
comp=Z,2µm,19.0s,MS5.6
LKWY Lake 92.58 340 P **P** **02 09 12.6 +3.3**
LKWY pmax pmax
comp=Z,17nm,1.1s,mb5.4
LKWY MLR MLR
comp=Z,8µm,20.0s,MS6.2
LKWY Lake 92.58 340 P **P** **02 09 12.6 +3.3**
comp=Z,17nm,1.1s,mb5.4
LKWY LR LR
comp=Z,8µm,20.0s,MS6.2
QLMT Earthquake Lak 92.60 341 *e*P **P** **02 09 12.7 +3.2**
YMR Madison River 92.63 340 *e*P **P** **02 09 12.2 +2.6**
YFT Old Faithful 92.80 340 *e*P **P** **02 09 14.0 +3.6**
MCMT McKenzie Canyo 92.96 342 *e*P **P** **02 09 12.6 +1.5**
LRAL Lakeview Retre 93.32 318 *e*P **P** **02 09 13.8 +0.8**
comp=Z,56nm,1.6s,mb5.8
LRAL LR LR
comp=Z,4µm,22.0s,MS5.8
OXF Oxford 93.35 321 PFAKE 02 09 20.0 +6.8
OXF LR LR
comp=Z,3µm,20.0s,MS5.8
TPAW Teton Pass 93.72 340 *e*P **P** **02 09 17.4 +2.7**
BMO Blue Mountains 93.94 345 *e*P **P** **02 09 15.1 -0.5**
comp=Z,15nm,1.2s,mb5.3
BMO LR LR
comp=Z,3µm,21.0s,MS5.8
BW06 Boulder Array 94.01 339 PFAKE 02 09 30.0 +14
BW06 LR LR
comp=Z,6µm,20.0s,MS6.0
PDAR Pinedale Array 94.01 339 P **P** **02 09 18.1 +2.1**
comp=Z,2.1nm,0.9s,mb4.6,baz=27,slow=3.3,SNR=14
PDAR LR LR 02 53 07.2
comp=Z,5µm,20.1s,MS6.0,baz=28,slow=36
DWPF Disney 94.06 312 PFAKE 02 09 30.0 +13
DWPF LR LR
comp=Z,540nm,22.0s,MS5.0
CBKS Cedar Bluff 94.28 330 *e*P **P** **02 09 17.0 -0.3**
CBKS pmax pmax
comp=Z,54nm,1.4s,mb5.8
CBKS MLR MLR
comp=Z,6µm,19.0s,MS6.1
CBKS Cedar Bluff 94.28 330 *e*P **P** **02 09 17.0 -0.3**
comp=Z,54nm,1.4s,mb5.8
CBKS LR LR
comp=Z,6µm,19.0s,MS6.1
AHID Auburn Hatcher 94.44 340 P **P** **02 09 19.4 +1.4**
comp=Z,21nm,1.4s,mb5.4
AHID LR LR
comp=Z,4µm,21.0s,MS5.9
HLID Hailey 94.53 342 PFAKE 02 09 30.0 +12
HLID LR LR
comp=Z,4µm,19.0s,MS5.9
MBWA Marble Bar 94.94 113 PFAKE 02 09 30.0 +9.2
MBWA LR LR
comp=Z,2µm,19.0s,MS5.7
COR Corvallis 95.27 349 PFAKE 02 09 30.0 +8.3
COR LR LR
comp=Z,862nm,22.0s,MS5.2
MIAR Mount Ida 95.30 324 PFAKE 02 09 30.0 +7.9
MIAR LR LR
comp=Z,4µm,20.0s,MS5.8
ISCO Idaho Springs 95.51 335 PFAKE 02 09 30.0 +7.0
ISCO LR LR
comp=Z,7µm,22.0s,MS6.1
HWUT Hardware Ranch 95.64 340 *e*P **P** **02 09 26.1 +2.6**
comp=Z,45nm,1.7s,mb5.6
HWUT LR LR
comp=Z,7µm,21.0s,MS6.1
WVOR Wild Horse Val 96.53 345 *e*P **P** **02 09 28.8 +1.3**
WVOR pmax pmax
comp=Z,14nm,1.1s,mb5.3
WVOR MLR MLR
comp=Z,3µm,20.0s,MS5.8
WVOR Wild Horse Val 96.53 345 *e*P **P** **02 09 28.8 +1.2**
comp=Z,14nm,1.1s,mb5.3
WVOR LR LR
comp=Z,3µm,20.0s,MS5.8
DAU Daniels Canyon 96.67 339 *e*P **P** **02 09 31.3 +3.1**
HUMO Hull Mountain 97.14 348 PFAKE 02 09 40.0 +10
HUMO LR LR
comp=Z,2µm,21.0s,MS5.5
DUG Dugway 97.29 340 PFAKE 02 09 40.0 +9.0
DUG LR LR
comp=Z,4µm,21.0s,MS5.9
SDCO Great Sand Dun 97.32 334 PFAKE 02 09 40.0 +8.8
SDCO LR LR
comp=Z,5µm,21.0s,MS6.0
MOD Modoc 97.36 346 PFAKE 02 09 40.0 +8.7
MOD LR LR
comp=Z,919nm,21.0s,MS5.2
ELK Elko 97.39 342 P **P** **02 09 34.0 +2.5**
comp=Z,3.4nm,0.9s,mb4.8,baz=342,slow=2.7,SNR=13
ELK Elko 97.39 342 P **P** **02 09 34.0 +2.5**
ELK LR LR
comp=Z,5µm,22.0s,MS5.9
WMOK Wichita Mounta 97.42 328 PFAKE 02 09 40.0 +8.3
WMOK LR LR
comp=Z,2µm,20.0s,MS5.7
RW3 Ridgway 97.59 336 *e*P **P** **02 09 33.6 +1.2**
PV10 Paradox Valley 97.90 337 *e*P **P** **02 09 35.8 +2.0**
YBH Yreka Blue Hor 97.96 348 PFAKE 02 09 40.0 +6.0
YBH LR LR
comp=Z,2µm,19.0s,MS5.7
PV01 Paradox Valley 97.98 336 *e*P **P** **02 09 36.1 +2.0**
NATX Nacogdoches 98.12 323 PFAKE 02 09 40.0 +5.1
NATX LR LR
comp=Z,3µm,19.0s,MS5.8
BMN Battle Mountai 98.15 343 PFAKE 02 09 40.0 +5.1
BMN LR LR
comp=Z,3µm,19.0s,MS5.7
AMTX Amarillo 98.46 330 PFAKE 02 09 50.0 +14
AMTX LR LR
comp=Z,4µm,19.0s,MS5.9
MSU Marysvale 98.69 339 *e*P **P** **02 09 40.5 +3.2**
MVU Marysvale 98.71 339 PFAKE 02 09 50.0 +13
MVU LR LR
comp=Z,5µm,20.0s,MS6.0
BDFB Brasilia 98.92 257 LR LR 02 55 14.4
comp=Z,4µm,20.7s,MS5.9,baz=58,slow=36
ANMO Albuquerque 100.17 333 PFAKE 02 09 50.0 +5.8
ANMO LR LR
comp=Z,3µm,20.0s,MS5.8
HKT Hockley 100.18 323 PFAKE 02 09 50.0 +5.6
HKT LR LR
comp=Z,1µm,20.0s,MS5.3
MNV Mina 100.27 343 PFAKE 02 09 50.0 +5.4
MNV LR LR
comp=Z,3µm,21.0s,MS5.8
NVAR Mina Array Bea 100.30 344 P P 02 09 46.6 +1.9
comp=Z,1.8nm,1.0s,baz=317,slow=1.9,SNR=4.9
NVAR PP PP 02 13 51.2 -2.3
comp=Z,0.6nm,0.4s,baz=64,slow=4.4,SNR=4.2
NVAR Mina Array Bea 100.30 344 P P 02 09 46.6 +1.9
NVAR PP PP 02 13 51.2 -2.3
TPH Tonopah 100.40 343 PFAKE 02 09 50.0 +4.8
TPH LR LR
comp=Z,3µm,21.0s,MS5.8
SDV Santo Domingo 100.64 291 PFAKE 02 10 00.0 +13
SDV LR LR
comp=Z,659nm,19.0s,MS5.2
HOPS Hopland 100.69 347 PFAKE 02 10 00.0 +14
HOPS LR LR
comp=Z,2µm,19.0s,MS5.6
NWAO Narrogin (SRO) 100.79 124 PFAKE 02 10 00.0 +13
NWAO LR LR
comp=Z,1µm,20.0s,MS5.5
CMB Columbia Colle 101.12 345 PFAKE 02 10 00.0 +12
CMB LR LR
comp=Z,2µm,21.0s,MS5.6
WUAZ Wupatki 101.25 337 Pdif P 02 09 48.0 -1.0
WUAZ LR LR
comp=Z,7µm,20.0s,MS6.2
JCT Junction City 101.52 326 PFAKE 02 10 00.0 +10
JCT LR LR
comp=Z,3µm,20.0s,MS5.8
DAC Darwin (Calif) 102.20 342 PFAKE 02 10 00.0 +6.7
DAC LR LR
comp=Z,3µm,22.0s,MS5.8
SAO San Andreas Ge 102.56 346 PFAKE 02 10 00.0 +5.1
SAO LR LR
comp=Z,3µm,21.0s,MS5.8
MNTX Cornudas Mount 102.71 331 PFAKE 02 10 10.0 +14
MNTX LR LR
comp=Z,4µm,20.0s,MS5.9
TUC Tucson 104.03 336 PFAKE 02 10 10.0 +8.5
TUC LR LR
comp=Z,3µm,22.0s,MS5.8
TEIG Tepich 104.08 311 PFAKE 02 10 10.0 +8.0
TEIG LR LR
comp=Z,963nm,22.0s,MS5.3
LTX Lajitas 104.14 329 PFAKE 02 10 10.0 +8.0
LTX LR LR
comp=Z,4µm,20.0s,MS5.9
TXAR Lajitas Array 104.14 329 Pdiff Pdif 02 10 04.5 +2.4
comp=Z,0.4nm,1.0s,baz=63,slow=5.6,SNR=2.7
TXAR Lajitas Array 104.14 329 Pdif Pdif 02 10 04.5 +2.4
PFO Pinyon Flat Ob 104.46 341 PFAKE 02 10 10.0 +6.7
PFO LR LR
comp=Z,583nm,20.0s,MS5.1
WRA Warramunga Arr 104.93 104 Pdiff Pdif 02 10 06.3 +0.6
comp=Z,1.4nm,1.1s,baz=321,slow=3.5,SNR=4.7
WRAB Tennant Creek 104.93 104 PFAKE 02 10 20.0 +14
WRAB LR LR
comp=Z,520nm,21.0s,MS5.0
ASAR Alice Springs 106.80 107 Pdiff Pdif 02 10 15.9 +2.1
comp=Z,0.7nm,0.9s,baz=320,slow=7.0,SNR=3.4
ASAR PKiKP 02 14 26.1
comp=Z,1.5nm,0.8s,baz=329,slow=1.8,SNR=11
PMG Port Moresby 108.46 87 PFAKE 02 14 40.0
PMG LR LR
comp=Z,590nm,20.0s,MS5.2
JTS JuntasAbangare 109.58 302 PFAKE 02 14 40.0
JTS LR LR
comp=Z,481nm,20.0s,MS5.1
KWAJ Kwajalein Atol 111.24 58 PFAKE 02 14 40.0 +6.0
KWAJ LR LR
comp=Z,365nm,19.0s,MS5.0
OTAV Otavalo 112.19 290 PFAKE 02 14 40.0 +4.1
OTAV LR LR
comp=Z,935nm,20.0s,MS5.4
LPAZ La Paz 114.77 269 PFAKE 02 14 50.0 +9.2
LPAZ LR LR
comp=Z,1µm,20.0s,MS5.6
VNA2 Neumayer--Watz 115.24 196 *e* PP 02 15 43.4 +0.4
VNA2 Neumayer--Watz 115.24 196 *e*P PKPdf 02 14 50.4 +10
VNA2 *e* 02 15 43.4
VNA3 Neumayer Olymp 115.97 196 *e* PP 02 15 43.4 -4.7
VNA3 Neumayer Olymp 115.97 196 *e*P PKPdf 02 14 51.7 +10
VNA3 *e* 02 15 43.4
STKA Stephens Creek 117.00 110 PKP PKPdf 02 14 43.7 -1.3
comp=Z,2.2nm,0.5s,baz=329,slow=4.3,SNR=9.2
STKA Stephens Creek 117.00 110 *e*PKPdf PKPdf 02 14 43.6 -1.3
CASY Casey 117.90 155 PFAKE 02 14 50.0 +4.2
CASY LR LR
comp=Z,1µm,20.0s,MS5.5
HNR Honiara 118.31 78 PFAKE 02 15 00.0 +12
HNR LR LR
comp=Z,1µm,19.0s,MS5.5
LVC Limon Verde 118.97 264 PFAKE 02 15 00.0 +11
LVC LR LR
comp=Z,1µm,20.0s,MS5.5
PAYG Puerto Ayora 121.21 298 PFAKE 02 15 00.0 +6.5
PAYG LR LR
comp=Z,1µm,20.0s,MS5.5
TRQA Tornquist 121.61 245 PFAKE 02 15 00.0 +6.3
TRQA LR LR
comp=Z,2µm,21.0s,MS5.7
TAU Tasmania Unive 126.10 119 PFAKE 02 15 10.0 +7.8
TAU LR LR
comp=Z,529nm,22.0s,MS5.2
QSPA South Pole Qui 129.16 180 *i*P PKPdf 02 15 12.4 +5.2
PMSA Palmer Station 131.00 213 PFAKE 02 15 20.0 +9.0
PMSA LR LR
comp=Z,2µm,20.0s,MS5.8
VNDA Vanda 134.66 165 PKIKP PKPdf 02 15 17.4 -0.2
VNDA MLR MLR
comp=Z,2µm,20.0s
VNDA Vanda 134.66 165 PKP PKPdf 02 15 17.4 -0.2
comp=Z,1.4nm,0.8s,baz=351,slow=8.7,SNR=3.0
SBA Scott Base 135.49 166 PFAKE 02 15 30.0 +11
SBA LR LR
comp=Z,2µm,20.0s,MS5.8
AFI Afiamalu 141.69 58 PFAKE 02 15 40.0 +8.1
AFI LR LR
comp=Z,2µm,21.0s,MS5.8
URZ Urewera 146.09 102 PKPbc PKPbc 02 15 36.5 -0.5
comp=Z,28nm,0.8s,baz=343,slow=3.5,SNR=11
TAOE Nuku Hiva Isla 149.64 2 *e*LR LR 03 05 24.8
RAR Rarotonga 154.70 50 PFAKE 02 16 00.0 +7.6
RAR LR LR
comp=Z,2µm,19.0s,MS5.9
PPT Papeete 156.48 26 *e*SS SS 02 39 39.4 -11
PPT *e*LR LR 03 08 37.2
comp=Z,4µm,31.0s
TBI Tubuai 161.80 32 *e*SS SS 02 40 43.3 -2.8
TBI *e*LR LR 03 11 13.2
comp=Z,2µm,23.5s
RKT Rikitea 163.47 347 *e*SS SS 02 41 02.7 -0.8
RKT *e*LR LR 03 11 55.8
comp=Z,2µm,26.2s
PTCN Pitcairn Islan 163.89 329 PFAKE 02 16 10.0 +7.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PTCN				LR	LR		
	comp=Z,3µm,20.0s						

JMA 14 02:02:01.9±0.1, 27.95N×130.27E, h50km±1km, M3.7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.45**	**324**	P	P	02 02 12.5	-0.1
JZK				S	S	02 02 20.4	+0.1
JAM	**Amami Oshima**	**0.74**	**308**	P	P	02 02 16.4	+0.1
JAM				S	S	02 02 26.5	-0.4
JTK	**Tokunoshima**	**1.18**	**262**	P	P	02 02 22.6	+0.3
JTK				S	S	02 02 36.9	-0.6
JNN	**Nakanoshima**	**1.92**	**350**	P	P	02 02 33.0	+0.3
JNN				*e*S	S	02 02 55.9	+0.2
JOW	**Kunigami**	**2.10**	**238**	P	P	02 02 35.3	0.0
JOW				S	S	02 02 59.8	-0.4
JIH	**Iheya**	**2.24**	**247**	P	P	02 02 37.2	-0.2
JIH				S	S	02 03 02.4	-1.5
JMZ	**Minamidaito 2**	**2.29**	**158**	*e*S	S	02 03 04.1	-0.9
JKC	**Kuchinoerabu**	**2.50**	**359**	*e*S	S	02 03 10.5	-0.1
JTN	**Tanegashima 3**	**2.77**	**13**	P	P	02 02 44.8	0.0
NAH1	**Naha**	**2.88**	**233**	*e*S	S	02 03 18.9	-1.3
JAGN	**Aguni-jima**	**3.02**	**244**	P	P	02 02 46.9	-1.5
JAGN				*e*S	S	02 03 21.3	-2.3
JKE	**Kume jima 2**	**3.50**	**243**	P	P	02 02 54.3	-0.9
JKE				*e*S	S	02 03 33.3	-2.5

IDC 14 02:11:19.8±1.6, 35.71N×89.46E, mb3.3/3, mb1 3.6/6, mb1mx3.5/20, mbtmp3.4/6, ML3.5/3, Error ellipse: s-maj=47.3km s-min=28.6km az=60.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**17.46**	**41**	P	P	02 15 25.5	-0.7
	0.0nm,0.3s,baz=225,slow=14,SNR=5.6						
ZAL	**Zalesovo**	**18.52**	**351**	P	P	02 15 38.5	-0.9
	0.1nm,0.3s,baz=288,slow=11,SNR=3.5						
CMAR	**Chiang Mai Arr**	**19.12**	**151**	P	P	02 15 45.6	-1.3
	0.4nm,0.3s,baz=328,slow=13,SNR=6.3						
BVAR	**Borovoye Array**	**21.92**	**328**	P	P	02 16 16.3	-0.1
	0.7nm,0.6s,baz=124,slow=11,SNR=5.7						
GERES	**GERESS Array B**	**55.35**	**309**	P	P	02 20 54.6	-2.9
	0.1nm,0.3s,baz=90,slow=2.7,SNR=4.2						
YKA	**Yellowknife Ar**	**80.24**	**11**	P	P	02 23 30.6	-2.5
	0.2nm,0.8s,baz=332,slow=5.8,SNR=4.7						

*ISK **14** 02:17:25.7, 39.39N×40.88E, h13km, MD3.6*
*CSEM **14** 02:17:25.7, 39.39N×40.88E, h13km, MD3.6, After ISK*
ISC 14 02:17:25.9±0.7, 39.43N±0.04×40.87E±0.05, h7km±6km, n21, σ1.02/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.59**	**120**	*i* PG	**Pg**	**02 17 37.0**	**-0.8**
EZM	**Erzurum**	**0.61**	**38**	*i* PG	**Pg**	**02 17 38.7**	**+0.5**
ERZM	**Erzurum**	**0.61**	**39**	*i* P	**Pg**	**02 17 39.0**	**+0.8**
ERZM				*i* S	**Sg**	**02 17 47.3**	**+0.8**
BINT	**Bingol**	**0.62**	**208**	*i* Pg	**Pg**	**02 17 37.5**	**-1.0**
BINT				*e*Sg	**Sg**	**02 17 47.1**	**+0.3**
EZC	**Erzincan**	**0.87**	**292**	*i* PN	**Pn**	**02 17 49.3**	**+4.9**
PTK	**Pertek**	**1.27**	**246**	PN	**Pn**	**02 17 49.3**	**-0.8**
BTMT	**Batman**	**1.32**	**158**	PN	**Pn**	**02 17 50.4**	**-0.5**
GUMT	**Gumushane**	**1.48**	**314**	PN	**Pn**	**02 17 53.0**	**-0.2**
BEST	**Besiri**	**1.56**	**168**	*i* P	**Pn**	**02 17 55.0**	**+0.7**
BEST				*i* S	**Sb**	**02 18 16.3**	**+1.6**
DIY	**Diyarbakir**	**1.61**	**198**	PN	**Pn**	**02 17 53.8**	**-1.2**
ELZG	**Elazig**	**1.74**	**238**	*i* P	**Pn**	**02 17 57.6**	**+0.8**
ELZG				*i* S	**Sn**	**02 18 23.1**	**+3.7**
KARS	**Kars**	**2.08**	**55**	PN	**Pn**	**02 18 01.1**	**-0.6**
VANB	**Van**	**2.13**	**112**	PN	**Pn**	**02 18 02.0**	**-0.4**
TVAN	**Van**	**2.17**	**114**	*i* P	**Pn**	**02 18 04.4**	**+1.4**
TVAN				*i* S	**Sn**	**02 18 38.0**	**+7.6**
VANT	**Van**	**2.20**	**116**	PN	**Pn**	**02 18 01.7**	**-1.7**
MYA	**Malataya**	**2.20**	**241**	*e*PN	**Pn**	**02 18 02.9**	**-0.5**
MALT	**Malatya**	**2.21**	**241**	*e*PN	**Pn**	**02 18 03.3**	**-0.2**
CLDR	**Caldiran**	**2.38**	**96**	*e*PN	**Pn**	**02 18 06.2**	**+0.2**
URFA	**Urfa**	**2.55**	**220**	*e*PN	**Pn**	**02 18 08.3**	**-0.2**
GZT	**Gaziantep**	**3.32**	**232**	*i* P	**Pg**	**02 18 29.5**	**-2.8**
GZT				*i* S	**Sg**	**02 19 18.6**	**+2.1**
GAZ	**Gaziantep**	**3.65**	**233**	*e*PN	**Pn**	**02 18 24.4**	**+0.3**

*CSEM **14** 02:31:32.9±0.3, 37.03N×24.50W, h5km, ML2.4, Error ellipse: s-maj=6.8km s-min=2.4km az=100.0, After PDA*
*PDA **14** 02:31:32.9±0.7, 37.03N×24.50W, h5km, MD2.5, ML2.4, Error ellipse: s-maj=7.2km s-min=3.3km az=100.0*
SVSA 14 02:31:32.9±0.7, 37.03N×24.50W, h5km, MD2.5, ML2.4, Error ellipse: s-maj=7.2km s-min=3.3km az=100.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**267**	*e*P	Pg	02 31 40.6	-1.4
PSMN				*i* S	Sg	02 31 46.9	-1.1
MIRA	**Miradouro**	**0.98**	**321**	*e*P	Pb	02 31 48.9	-3.0
MIRA				*i* S	Sb	02 32 00.1	-4.8
FRA1	**Furnas**	**0.99**	**317**	*i* S	Sb	02 32 00.4	-4.8
PCNG	**Congro**	**1.03**	**316**	*e*S	Sb	02 32 01.2	-5.1
	21nm,0.1s						
VIF	**Vila Franca**	**1.03**	**314**	*i* S	Sb	02 32 01.4	-5.2
PFAD	**Fenais da Ajud**	**1.04**	**321**	*e*S	Sb	02 32 01.3	-5.5
PRCH	**Ribeira Ch**	**1.05**	**312**	*e*S	Sb	02 32 01.6	-5.4
	34nm,0.1s						
MESC	**Monte Escuro**	**1.07**	**316**	*e*S	Sb	02 32 02.2	-5.5
LFA	**Lagoa do Fogo**	**1.08**	**314**	*e*P	Pb	02 31 49.7	-4.0
CML	**Cha da Macela**	**1.11**	**312**	*e*S	Sb	02 32 03.7	-5.2

*NEIC **14** 02:38:46.3, 16.25N×98.10W, h5km, MD4.1(MEX), After MEX.*
MEX 14 02:38:46.2±0.6, 16.24N×98.10W, h5km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.16**	**349**	*i* P	Pg	02 38 48.8	-0.7
PNIG				*i* S	Sg	02 38 51.4	-0.2
VHO	**Vista Hermosa**	**1.55**	**57**	*e*P	Pn	02 39 11.3	-3.3
VHO				*i* S	Sb	02 39 29.8	-5.1
OXX	**Oaxaca**	**1.56**	**57**	*i* P	Pn	02 39 11.5	-3.3
OXX				*i* S	Sb	02 39 31.3	-3.9
ACX	**Acapulco**	**1.85**	**290**	*e*P	Pn	02 39 14.4	-4.5
ACX				*i* S	Sn	02 39 38.8	-4.2
HUIG	**Huatulco**	**1.97**	**103**	*e*P	Pn	02 39 15.9	-4.6
HUIG				*i* S	Sn	02 39 41.5	-4.4
CAIG	**El Cayaco**	**2.23**	**291**	*e*P	Pn	02 39 20.4	-3.9
CAIG				*i* S	Sn	02 39 46.8	-5.8
PLIG	**Platanillo**	**2.53**	**328**	*e*P	Pn	02 39 26.2	-2.4
PLIG				*i* S	Sn	02 39 55.6	-4.6
IIB	**San Bernardino**	**2.72**	**355**	*i* P	Pn	02 39 30.6	-0.7
IIB	**San Bernardino**	**2.72**	**355**	*i* P	Pn	02 39 30.0	-1.4
IISM	**Ciudad Serdan**	**2.82**	**14**	*e*P	Pn	02 39 31.1	-1.7
IISM				*i* S	Sn	02 40 05.5	-2.1
IISM	**Ciudad Serdan**	**2.82**	**14**	*e*P	Pn	02 39 29.0	-3.8
IISM				*i* S	Sn	02 40 03.0	-4.6
PPM	**Popocatepetl**	**2.86**	**350**	*e*P	Pn	02 39 32.8	-0.5
PPM				*i* S	Sn	02 40 00.2	-8.4
PPM	**Popocatepetl**	**2.86**	**350**	*i* P	Pn	02 39 31.4	-2.0
PPM				*e*P		02 39 32.0	
PPM				*e*P		02 39 32.5	
CMIG	**Matias Romero**	**3.19**	**74**	*e*P	Pn	02 39 33.4	-4.7
CMIG				*i* S	Sn	02 40 11.9	-5.2
ZIIG	**Zihuatanejo**	**3.50**	**293**	*i* P	Pn	02 39 40.2	-2.3
ZIIG				*i* S	Sn	02 40 21.0	-3.8
LVIG	**Laguna Verde**	**3.82**	**25**	*e*P	Pn	02 39 48.7	+1.7
LVIG				*i* S	Sn	02 40 27.5	-5.3
LVIG	**Laguna Verde**	**3.82**	**25**	*e*P	Pn	02 39 46.4	-0.6
LVIG				*i* S	Sn	02 40 27.5	-5.3

*TRN **14** 02:45:55.1, 17.57N×60.82W, h3km, MD4.3, M4.0(FDF)*
*IDC **14** 02:45:58.1±1.5, 17.91N×60.96W, mb3.7/9, mb1 4.0/12, mb1mx3.7/23, mbtmp3.8/12, ML3.9/1, Error ellipse: s-maj=34.5km s-min=21.8km az=100.0*
*NEIC **14** 02:46:01.9±0.9, 17.71N×60.92W, h35km, mb3.8/2, Error ellipse: s-maj=19.5km s-min=10.3km az=90.0*
ISC 14 02:46:00.2±0.7, 17.78N±0.07×60.93W±0.08, h33km, n21, σ1.06/25, mb3.7/9, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STMA	**St. Maarten, A**	**2.09**	**278**	*e*P	Px	02 46 51.4	
STMA				*e*S	**S**	**02 47 04.4**	**+5.7**
SABS	**Saba**	**2.21**	**266**	*e*P	**P**	**02 46 36.6**	**+1.3**
SABS				*e*S	**S**	**02 46 55.4**	**-6.3**
SABT	**Saba**	**2.21**	**266**	*e*P	**P**	**02 46 36.6**	**+1.3**
SABT				*e*S	**S**	**02 46 55.4**	**-6.3**
BBL	**Barber's Block**	**2.30**	**193**	*e*P	**P**	**02 46 35.4**	**-1.1**
MDN	**Morne-Daniel**	**2.49**	**190**	*e*P	**P**	**02 46 38.0**	**-1.2**
SJG	**San Juan**	**4.98**	**275**	Pn	**Pn**	**02 47 13.8**	**-1.0**
	4.0nm,0.3s,baz=112,slow=16,SNR=9.5						
SJG				Sn	**Sn**	**02 48 11.4**	**-0.6**
	4.1nm,0.3s,baz=308,slow=17,SNR=4.1						
SJG	**San Juan**	**4.98**	**275**	*e*P	**P**	**02 47 13.4**	**-1.3**
SJG				Sn	**Sn**	**02 48 11.4**	**-0.6**
SDV	**Santo Domingo**	**12.93**	**228**	Pn	**P**	**02 49 11.6**	**+7.2**
	0.7nm,0.3s,baz=76,slow=9.2,SNR=8.1						
SDV	**Santo Domingo**	**12.93**	**228**	*e*P	**P**	**02 49 10.8**	**+6.4**
ROSC	**El Rosal**	**18.36**	**227**	P	**P**	**02 50 15.7**	**+1.5**
	0.5nm,0.3s,baz=76,slow=13,SNR=4.6						
LPAZ	**La Paz**	**34.59**	**192**	P	**P**	**02 52 50.4**	**+2.0**
	0.8nm,1.0s,mb3.6,baz=21,slow=14,SNR=2.8						
LPAZ	**La Paz**	**34.59**	**192**	P	**P**	**02 52 48.9**	**+0.6**
	0.6nm,0.8s,mb3.6						
SCHQ	**Schefferville**	**37.26**	**354**	P	**P**	**02 53 09.1**	**-1.5**
	1.6nm,1.0s,mb3.8,baz=176,slow=12,SNR=3.5						
TXAR	**Lajitas Array**	**40.63**	**294**	P	**P**	**02 53 39.4**	**+0.5**
	0.3nm,0.5s,mb3.2,baz=119,slow=9.3,SNR=14						
ULM	**Lac du Bonnet**	**42.77**	**327**	P	**P**	**02 53 56.9**	**+0.6**
	0.7nm,0.3s,mb3.8,baz=146,slow=3.6,SNR=2.3						
PDAR	**Pinedale Array**	**48.01**	**312**	P	**P**	**02 54 37.0**	**-1.1**
	0.5nm,0.7s,mb3.7,baz=112,slow=8.0,SNR=6.2						
NEW	**Newport**	**54.55**	**317**	P	**P**	**02 55 27.4**	**0.0**
	0.4nm,0.3s,mb4.0,baz=112,slow=13,SNR=4.2						
YKA	**Yellowknife Ar**	**57.94**	**334**	P	**P**	**02 55 51.1**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=108,slow=7.4,SNR=13						
INK	**Inuvik**	**67.19**	**337**	P	**P**	**02 56 53.8**	**+1.1**
	1.4nm,1.1s,mb3.9,baz=105,slow=4.7,SNR=3.6						
INK	**Inuvik**	**67.19**	**337**	*e*P	**P**	**02 56 53.9**	**+1.2**
	1.9nm,1.2s,mb4.0						
ILAR	**Eielson Array**	**72.36**	**333**	P	**P**	**02 57 24.9**	**+0.6**
	0.3nm,0.9s,mb3.2,baz=104,slow=3.7,SNR=4.1						

*NEIC **14** 02:59:56.8, 37.07S×177.41E, h152km, MG4.0(WEL), After WEL.*
WEL 14 02:59:56.9±0.3, 37.03S×177.37E, h147km±2km, ML4.0/5, 1C-1D, Error ellipse: s-maj=3.3km s-min=2.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.92**	**126**	P	P	03 00 20.7	-0.2
MXZ				S	S	03 00 38.9	-0.4
MXZ	**Matakaoa Point**	**0.92**	**126**	⇑PN	P	03 00 20.7	-0.2
MXZ				SN	S	03 00 38.9	-0.5
URZ	**Urewera**	**1.24**	**189**	P	P	03 00 23.8	-0.1
URZ	**Urewera**	**1.24**	**189**	⇓PN	P	03 00 23.8	-0.1
URZ				SN	S	03 00 44.4	-0.3
PUZ	**Puketiti**	**1.26**	**146**	P	P	03 00 23.6	-0.4
PUZ	**Puketiti**	**1.26**	**146**	PN	P	03 00 23.7	-0.3
PUZ				SN	S	03 00 43.7	-1.2
MWZ	**Matawai**	**1.31**	**175**	P	P	03 00 24.4	-0.1
MWZ				S	S	03 00 45.5	-0.4
MWZ	**Matawai**	**1.31**	**175**	PN	P	03 00 24.4	-0.1
MWZ				SN	S	03 00 45.3	-0.5
KNZ	**Kokohu**	**2.00**	**173**	*e*P	P	03 00 31.3	-0.8
KNZ	**Kokohu**	**2.00**	**173**	PN	P	03 00 31.4	-0.7
KNZ				SN	S	03 00 57.7	-1.6
WNVZ	**Wahianoa**	**2.69**	**211**	P	P	03 00 39.8	-1.0
WNVZ	**Wahianoa**	**2.69**	**211**	PN	P	03 00 39.8	-0.9
MOVZ	**Moawhango**	**2.69**	**208**	P	P	03 00 39.0	-1.9
MOVZ	**Moawhango**	**2.69**	**208**	PN	P	03 00 39.0	-1.8
MOVZ				SN	S	03 01 10.8	-3.7
PWZ	**Pawanui**	**3.02**	**187**	P	P	03 00 42.6	-2.5
PWZ	**Pawanui**	**3.02**	**187**	PN	P	03 00 42.6	-2.5
PWZ				SN	S	03 01 17.3	-4.6
TSZ	**Takapari Road**	**3.22**	**200**	PN	P	03 00 44.7	-3.0
TSZ				SN	S	03 01 22.4	-4.2
BFZ	**Birch Farm**	**3.75**	**193**	PN	P	03 00 51.0	-3.6
BFZ				SN	S	03 01 33.2	-5.7
MRZ	**Mangatainoka R**	**3.88**	**201**	PN	P	03 00 52.2	-4.1
MRZ				SN	S	03 01 36.0	-6.1
KIW	**Kapiti Island**	**4.28**	**206**	PN	P	03 00 57.1	-4.5
KIW				SN	S	03 01 45.3	-6.0
MTW	**Mount Morrison**	**4.37**	**199**	PN	P	03 00 58.0	-4.8
MTW				SN	S	03 01 47.2	-6.3
CAW	**Cannon Point**	**4.45**	**203**	P	P	03 00 59.0	-4.8
CAW	**Cannon Point**	**4.45**	**203**	PN	P	03 00 58.9	-4.9
CAW				SN	S	03 01 49.2	-6.1
MSWZ	**Moikau Station**	**4.68**	**200**	P	P	03 01 01.7	-5.1
MSWZ	**Moikau Station**	**4.68**	**200**	PN	P	03 01 01.6	-5.2
MSWZ				SN	S	03 01 53.7	-7.0
MRW	**Makara Radio**	**4.68**	**206**	P	P	03 01 01.8	-5.0
MRW	**Makara Radio**	**4.68**	**206**	PN	P	03 01 01.8	-5.0
BHW	**Baring Head**	**4.78**	**203**	P	P	03 01 02.9	-5.3
BHW	**Baring Head**	**4.78**	**203**	PN	P	03 01 02.9	-5.3
TUWZ	**Tuamarina**	**5.13**	**210**	PN	P	03 01 07.6	-5.3
NNZ	**Nelson**	**5.21**	**215**	P	P	03 01 09.0	-4.8
NNZ	**Nelson**	**5.21**	**215**	PN	P	03 01 08.1	-5.8
NNZ				SN	S	03 02 06.8	-6.6
THZ	**Tophouse**	**5.86**	**215**	*e*P	P	03 01 17.5	-5.0
THZ	**Tophouse**	**5.86**	**215**	PN	P	03 01 17.1	-5.4
THZ				SN	S	03 02 21.8	-7.1
KHZ	**Kahutara**	**6.13**	**208**	*e*P	P	03 01 20.2	-6.0
KHZ	**Kahutara**	**6.13**	**208**	PN	P	03 01 20.2	-6.0

*IDC **14** 03:15:26.6±0.7, 27.73S×73.82E, mb4.2/11, mb1 4.4/11, mb1mx4.3/16, mbtmp4.2/11, MS4.1/2, Ms1 4.0/2, ms1mx3.2/26, Error ellipse: s-maj=23.5km s-min=20.0km az=167.0*
*NEIC **14** 03:15:27.8±0.4, 27.76S×73.81E, h10km, mb4.7/6, Error ellipse: s-maj=13.6km s-min=10.9km az=167.0*
ISC 14 03:15:26.0±0.5, 27.8S±0.1×73.9E±0.1, h10km, n24, σ0.52/19, mb4.3/14, MS4.0/2, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**40.39**	**186**	LR	LR	03 37 02.0	
	comp=Z,260nm,18.1s,MS4.1,baz=288,slow=32						
MATP	**Matopo**	**41.87**	**270**	P	**P**	**03 23 18.9**	**+0.7**
	2.3nm,0.8s,mb3.9,baz=113,slow=11,SNR=5.8						
MATP				LR	LR	03 37 47.7	
	comp=Z,180nm,19.1s,MS4.0,baz=7.9,slow=32						
BOSA	**Boshof**	**42.61**	**257**	P	**P**	**03 23 23.2**	**-0.9**
LBTB	**Lobatse**	**43.10**	**262**	P	**P**	**03 23 28.1**	**-0.2**
	2.2nm,0.8s,mb3.9,baz=119,slow=8.8,SNR=3.5						
LBTB	**Lobatse**	**43.10**	**262**	*e*P	**P**	**03 23 28.4**	**+0.2**
	6.0nm,1.2s,mb4.2						
KMBO	**Kilima Mbogo**	**43.94**	**301**	P	**P**	**03 23 40.6**	**+5.5**
	2.4nm,0.9s,mb4.0,baz=93,slow=6.0,SNR=6.3						
CMAR	**Chiang Mai Arr**	**52.00**	**31**	P	**P**	**03 24 38.4**	**+0.5**
	4.8nm,0.7s,mb4.5,baz=215,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**53.79**	**100**	P	**P**	**03 24 51.3**	**+0.2**
	3.4nm,0.6s,mb4.5,baz=251,slow=6.6,SNR=43						
WRA	**Warramunga Arr**	**55.39**	**96**	P	**P**	**03 25 03.1**	**+0.2**
	2.5nm,0.8s,mb4.3,baz=251,slow=7.6,SNR=8.1						
WRAB	**Tennant Creek**	**55.40**	**96**	*e*P	**P**	**03 25 01.9**	**-1.1**
	15nm,1.3s,mb4.9						
STKA	**Stephens Creek**	**58.04**	**112**	P	**P**	**03 25 22.1**	**+0.4**
	2.7nm,0.9s,mb4.3,baz=301,slow=9.1,SNR=5.4						
STKA	**Stephens Creek**	**58.04**	**112**	*e*P	**P**	**03 25 21.9**	**+0.2**
SNAA	**Sanae**	**59.70**	**201**	P	**P**	**03 25 33.0**	**+0.3**
	1.2nm,1.0s,mb3.9,baz=40,slow=7.9,SNR=3.8						
SNAA	**Sanae**	**59.70**	**201**	P	**P**	**03 25 33.0**	**+0.3**
	7.8nm,1.1s,mb4.7						
QSPA	**South Pole Qui**	**62.34**	**180**	*e*P	**P**	**03 25 50.4**	**-0.1**
	8.2nm,0.8s,mb4.9						
VNDA	**Vanda**	**62.65**	**166**	P	**P**	**03 25 53.0**	**+0.4**
	1.3nm,0.8s,mb4.1,baz=266,slow=9.0,SNR=4.2						
VNDA	**Vanda**	**62.65**	**166**	*e*P	**P**	**03 25 52.5**	**0.0**
	4.4nm,1.0s,mb4.5						
SONM	**Songino Array**	**80.77**	**22**	P	**P**	**03 27 41.4**	**+0.4**
	1.5nm,0.7s,mb4.0,baz=202,slow=6.7,SNR=16						
CHKZ	**Chkalovo**	**81.18**	**358**	*e*P	**P**	**03 27 43.0**	**0.0**
	3.1nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**81.94**	**7**	P	**P**	**03 27 46.4**	**-0.6**
	2.0nm,0.3s,mb4.6,baz=236,slow=0.9,SNR=5.3						
YKA	**Yellowknife Ar**	**144.85**	**7**	PKP	PKPdf	03 35 02.6	-3.0
	0.8nm,0.9s,baz=345,slow=3.8,SNR=10						
DLBC	**Dease Lake**	**145.14**	**22**	PKPbc	PKPbc	03 35 05.4	+1.8
	1.9nm,0.8s,baz=150,slow=12,SNR=6.2						
PDAR	**Pinedale Array**	**164.81**	**10**	PKP	PKPdf	03 35 33.3	+0.4
	0.4nm,0.9s,baz=45,slow=2.6,SNR=3.2						
TXAR	**Lajitas Array**	**177.34**	**306**	PKPab	PKPab	03 37 27.8	+4.1
	0.1nm,0.4s,baz=132,slow=43,SNR=2.7						

*ISK **14** 03:19:31.7, 39.38N×40.83E, h13km, MD3.5*
*CSEM **14** 03:19:31.7, 39.38N×40.83E, h13km, MD3.5, After ISK*
ISC 14 03:19:32.5±0.5, 39.43N±0.04×40.85E±0.04, h13km, n20, σ1.13/26, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.61**	**119**	*i* Pg	**Pg**	**03 19 43.8**	**-1.1**
VRT				*e*Sg	**Sg**	**03 19 52.5**	**-0.7**
EZM	**Erzurum**	**0.62**	**40**	*i* PG	**Pg**	**03 19 44.9**	**-0.2**
BINT	**Bingol**	**0.62**	**207**	*i* PG	**Pg**	**03 19 43.2**	**-1.9**
ERZM	**Erzurum**	**0.62**	**40**	*i* P	**Pb**	**03 19 44.9**	**+0.2**
ERZM				*i* S	**Sb**	**03 19 52.5**	**-0.5**
EZC	**Erzincan**	**0.86**	**292**	PN	**Pn**	**03 19 54.0**	**+3.9**
BTMT	**Batman**	**1.33**	**158**	PN	**Pn**	**03 19 55.7**	**-1.3**
GUMT	**Gumushane**	**1.47**	**315**	PN	**Pn**	**03 19 59.6**	**+0.7**
BEST	**Besiri**	**1.57**	**168**	*i* P	**Pn**	**03 20 01.2**	**+0.8**
BEST				*i* S	**Sn**	**03 20 22.5**	**+1.8**
DIY	**Diyarbakir**	**1.61**	**198**	PN	**Pn**	**03 20 00.3**	**-0.6**
ELZG	**Elazig**	**1.72**	**238**	*i* P	**Pn**	**03 20 03.0**	**+0.5**
ELZG				*i* S	**Sn**	**03 20 26.2**	**+1.7**
KARS	**Kars**	**2.09**	**55**	*e*PN	**Pn**	**03 20 08.2**	**+0.4**
VANB	**Van**	**2.15**	**112**	*e*PN	**Pn**	**03 20 07.4**	**-1.2**
TVAN	**Van**	**2.19**	**113**	*i* P	**Pn**	**03 20 10.8**	**+1.6**
TVAN				*i* S	**Sn**	**03 20 38.7**	**+2.3**
MALT	**Malatya**	**2.19**	**240**	*e*PN	**Pn**	**03 20 08.9**	**-0.3**
CLDR	**Caldiran**	**2.40**	**96**	*e*PN	**Pn**	**03 20 12.4**	**+0.2**
URFA	**Urfa**	**2.54**	**219**	*e*PN	**Pn**	**03 20 13.1**	**-1.2**
GNI	**Garni**	**3.09**	**75**	*e*PN	**Pn**	**03 20 22.1**	**+0.1**
GZT	**Gaziantep**	**3.31**	**232**	*i* P	**Pn**	**03 20 32.7**	**+7.6**
GZT				*i* S	**Sn**	**03 21 13.1**	**+8.4**
GAZ	**Gaziantep**	**3.64**	**233**	*e*PN	**Pn**	**03 20 28.6**	**-1.3**
ONI	**Oni**	**3.71**	**31**	P	**Pn**	**03 20 42.4**	**+12**

*CRAAG **14** 03:26:47.3, 36.84N×2.40E, Ml2.6*
*CSEM **14** 03:26:48.8±0.1, 36.70N×2.40E, h2km, ML2.6, Error ellipse: s-maj=4.3km s-min=3.0km az=12.0*
*NEIC **14** 03:26:51.2, 36.72N×2.40E, MG3.5(MDD), After MDD.*
*MDD **14** 03:26:51.0±0.5, 36.73N×2.41E, mb3.2/7, Error ellipse: s-maj=6.5km s-min=5.2km az=10.0, PRXIMO*
ISC 14 03:26:49.8±0.5, 36.76N±0.03×2.42E±0.04, h10km, n24, σ1.06/36, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABA	**Alger-Bouzarea**	**0.50**	**85**	P	**Pg**	**03 26 59.5**	**-0.4**
EMHD	**Djebel Mahouad**	**0.70**	**142**	P	**Pb**	**03 27 03.5**	**-0.2**
EBNR	**Beni Rached**	**0.85**	**237**	P	**Pb**	**03 27 05.8**	**-0.4**
ABMS	**Boumerdes**	**0.85**	**90**	P	**Pb**	**03 27 07.2**	**+0.9**
ADJB	**Djebel Djouab**	**1.02**	**126**	P	**Pb**	**03 27 06.5**	**-2.5**
ECHA	**Ech Chlef**	**1.04**	**235**	P	**Pb**	**03 27 09.0**	**-0.4**
ECHF	**Ech Chlef**	**1.05**	**236**	P	**Pb**	**03 27 09.0**	**-0.6**
EANR	**'Ain N'Sour**	**1.33**	**233**	P	**Pb**	**03 27 15.0**	**+0.6**
ETRT	**Tiaret**	**1.64**	**214**	P	**Pn**	**03 27 20.5**	**+1.7**
EIBI	**Ibiza**	**2.42**	**340**	P	**Pn**	**03 27 31.5**	**+1.4**
	1.7nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**03 27 59.4**	**-0.6**
	4.6nm,0.5s,SNR=7.9						
EIBI	**Ibiza**	**2.42**	**340**	P	**Pn**	**03 27 31.5**	**+1.4**
	0.9nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**03 27 59.4**	**-0.6**
	1.7nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**2.86**	**314**	P	**Pn**	**03 27 36.8**	**+0.6**
	1.2nm,0.5s,SNR=7.9						
EBEN				S	**Sn**	**03 28 12.3**	**+1.2**
	2.2nm,0.6s,SNR=7.9						
ETOS	**Mallorca**	**3.02**	**6**	P	**Pn**	**03 27 39.5**	**+0.9**
	4.0nm,0.4s,SNR=7.9						
ETOS				S	**Sn**	**03 28 15.0**	**-0.3**
	1.7nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.02**	**6**	P	**Pn**	**03 27 39.5**	**+0.9**
	4.6nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.66**	**302**	P	**Pn**	**03 27 47.8**	**+0.1**
ETOB				S	**Sn**	**03 28 29.8**	**-1.7**
ETOB	**Tobarra**	**3.66**	**302**	P	**Pn**	**03 27 47.4**	**-0.4**
	0.9nm,0.6s,SNR=4.0						
ETOB				S	**Sn**	**03 28 29.8**	**-1.7**
	0.8nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.66**	**302**	P	**Pn**	**03 27 47.8**	**0.0**
	SNR=4.0						
ETOB				S	**Sn**	**03 28 29.8**	**-1.7**
	SNR=7.9						
EMOS	**Mosqueruela**	**4.25**	**329**	P	**Pn**	**03 27 57.1**	**+0.9**
	1.0nm,0.4s,SNR=7.9						
EMOS				S	**Sn**	**03 28 44.2**	**-2.3**
	0.9nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.25**	**329**	P	**Pn**	**03 27 57.1**	**+1.0**
	SNR=7.9						
EMOS				S	**Sn**	**03 28 44.2**	**-2.2**
	SNR=7.9						
EBER	**Berja**	**4.26**	**273**	P	**Pn**	**03 27 55.2**	**-1.0**
	0.9nm,0.5s,SNR=7.9						
EBER	**Berja**	**4.26**	**273**	P	**Pn**	**03 27 55.2**	**-1.0**
	SNR=7.9						
EQES	**Quesada**	**4.50**	**285**	P	**Pn**	**03 28 00.2**	**+0.6**
EQES				S	**Sn**	**03 28 53.7**	**+1.0**
EQES	**Quesada**	**4.50**	**285**	P	**Pn**	**03 28 00.2**	**+0.6**
	0.9nm,0.4s,SNR=5.4						
EQES				S	**Sn**	**03 28 51.8**	**-0.8**
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**4.50**	**285**	P	**Pn**	**03 28 00.2**	**+0.6**
	0.8nm,0.3s,SNR=5.4						
EQES				S	**Sn**	**03 28 53.7**	**+1.1**

IDC 14 03:37:34.7±1.8, 27.58S×73.69E, mb3.7/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.7/5, Error ellipse: s-maj=52.2km s-min=31.1km az=89.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**51.89**	**31**	P	P	03 46 44.4	-3.0
	0.6nm,0.4s,baz=216,slow=7.8,SNR=5.1						
ASAR	**Alice Springs**	**53.97**	**100**	P	P	03 47 00.1	-2.7
	1.0nm,0.9s,baz=249,slow=6.7,SNR=8.2						
WRA	**Warramunga Arr**	**55.56**	**96**	P	P	03 47 12.8	-1.7
	0.3nm,0.4s,baz=258,slow=9.4,SNR=16						
VNDA	**Vanda**	**62.89**	**166**	P	P	03 48 02.1	-2.4
	1.4nm,0.9s,baz=338,slow=7.7,SNR=2.7						
SONM	**Songino Array**	**80.62**	**22**	P	P	03 49 50.2	-0.4
	0.2nm,0.7s,baz=191,slow=7.3,SNR=4.0						
YKA	**Yellowknife Ar**	**144.65**	**7**	PKP	PKPdf	03 57 11.2	-3.2
	0.4nm,0.9s,baz=336,slow=4.1,SNR=6.9						

*IDC **14** 03:50:11.3±6.5, 11.81N×94.69E, h40km±59km, mb3.7/10, mb1 3.9/11, mb1mx3.7/18, mbtmp3.9/11, ML3.6/1, MS2.9/1, Ms1 3.1/1, ms1mx2.5/22, Error ellipse: s-maj=37.9km s-min=16.1km az=58.0*
*NEIC **14** 03:50:12.0±4.0, 11.85N×94.68E, h49km±35km, mb4.6/1, Error ellipse: s-maj=36.0km s-min=14.3km az=59.0*
ISC 14 03:50:08.1±0.7, 11.88N±0.09×94.6E±0.1, h33km, n18, σ1.13/18, mb4.0/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**7.80**	**32**	P	**P**	**03 52 02.5**	**+0.6**
	0.2nm,0.3s,baz=220,slow=14,SNR=3.9						
CMAR				LR	LR	03 55 05.3	
	comp=Z,80nm,19.2s,baz=180,slow=38						
CMAR	**Chiang Mai Arr**	**7.80**	**32**	P	**P**	**03 52 02.5**	**+0.6**
CMAR				LR	LR	03 55 05.3	
JIRN	**Jiri**	**17.55**	**335**	*e*P	**P**	**03 54 11.6**	**-0.3**
	28nm,0.9s						
PKI	**Pulchoki**	**17.81**	**333**	*e*P	**P**	**03 54 14.4**	**-0.7**
DMN	**Daman**	**17.98**	**332**	*e*P	**P**	**03 54 16.8**	**-0.5**
	18nm,0.8s						
GKN	**Gorkha**	**18.54**	**331**	*e*P	**P**	**03 54 23.1**	**-1.1**
	13nm,0.6s						
KOLN	**Koldanda**	**18.85**	**329**	*e*P	**P**	**03 54 26.4**	**-1.6**
	32nm,1.0s						
SONM	**Songino Array**	**37.20**	**13**	P	**P**	**03 57 19.3**	**+1.3**
	1.0nm,1.0s,mb3.6,baz=198,slow=7.8,SNR=6.8						
ZAL	**Zalesovo**	**42.67**	**352**	P	**P**	**03 58 03.8**	**+0.6**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.9nm,0.4s,mb3.9,baz=289,slow=11,SNR=5.1						
BVAR	**Borovoye Array**	**45.38**	**340**	P	**P**	**03 58 25.0**	**-0.1**
	1.3nm,0.8s,mb3.8,baz=144,slow=13,SNR=6.0						
CHKZ	**Chkalovo**	**45.84**	**340**	*e*P	**P**	**03 58 27.6**	**-1.2**
	6.2nm,0.8s,mb4.6						
WRA	**Warramunga Arr**	**50.33**	**129**	P	**P**	**03 59 02.7**	**-1.4**
	3.6nm,0.7s,mb4.5,baz=307,slow=8.5,SNR=22						
ASAR	**Alice Springs**	**52.24**	**133**	P	**P**	**03 59 17.4**	**-1.0**
	1.8nm,0.7s,mb4.1,baz=309,slow=6.7,SNR=16						
STKA	**Stephens Creek**	**62.61**	**135**	P	**P**	**04 00 31.4**	**-0.3**
	2.0nm,0.9s,mb4.2,baz=301,slow=9.8,SNR=3.4						
FINES	**FINESS Array B**	**69.40**	**331**	P	**P**	**04 01 16.9**	**+2.5**
	1.1nm,0.9s,mb3.8,baz=112,slow=7.5,SNR=4.0						
ARCES	**ARCESS Array B**	**71.67**	**340**	P	**P**	**04 01 29.7**	**+1.7**
	2.9nm,0.9s,mb4.2,baz=80,slow=5.5,SNR=2.9						
MATP	**Matopo**	**72.44**	**244**	P	**P**	**04 01 35.0**	**+1.6**
	0.6nm,0.5s,mb3.8,baz=100,slow=6.4,SNR=3.9						
GERES	**GERESS Array B**	**75.15**	**318**	P	**P**	**04 01 49.5**	**+0.7**
	0.6nm,0.8s,mb3.6,baz=63,slow=6.0,SNR=4.1						

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*JMA **14** 03:58:44.8, 37.29N×138.97E, h11km±1km, M3.7*
Broadband fault plane solution: P waves. NP1:φs357°, δ46°, λ30°. NP2:φs245°, δ69°, λ132°. Principal axes: T Plg48°, Azm200°; N Plg39°, Azm47°; P Plg14°, Azm306°;
JMA Felt III J1.
ISC 14 03:58:44.6±0.6**, 37.29N**±0.03×**138.98E**±0.05**, h11km, n7, σ0ˢ56**/14**, 1C-5D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.05**	**141**	⇓P	**Pg**	**03 58 47.0**	**+0.2**
JHK				S	**Sg**	**03 58 48.5**	**+0.3**
JIZZ	**Izumozaki**	**0.32**	**319**	⇓P	**Pg**	**03 58 51.6**	**+0.3**
JIZZ				S	**Sg**	**03 58 56.9**	**+1.1**
JKT	**Katashina**	**0.56**	**157**	⇓P	**Pb**	**03 58 55.9**	**-0.1**
JKT				S	**Sg**	**03 59 03.7**	**+0.1**
JFY	**Yanaizu**	**0.59**	**78**	⇓P	**Pb**	**03 58 56.3**	**-0.1**
JFY				S	**Sb**	**03 59 04.4**	**-0.1**
JNS	**Sasagawa**	**0.59**	**27**	⇑P	**Pb**	**03 58 55.9**	**-0.6**
JNS				S	**Sb**	**03 59 04.0**	**-0.6**
JAG	**Ashikaga**	**0.94**	**156**	⇓P	**Pb**	**03 59 03.0**	**+0.6**
JAG				S	**Sb**	**03 59 15.4**	**+0.7**
MAT	**Matsushiro**	**0.97**	**220**	P	**Pb**	**03 59 02.1**	**-0.7**
MAT				S	**Sb**	**03 59 14.4**	**-1.0**

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*MOS **14** 04:04:07.4±1.0, 11.05N×92.08E, h33km, mb4.8/14, Error ellipse: s-maj=12.3km s-min=8.2km az=101.4*
*BJI **14** 04:04:08.9, 10.64N×92.13E, h60km, mB5.1, mb4.6, Ms4.4, Msz4.1*
*NEIC **14** 04:04:09.3±0.3, 11.07N×92.09E, mb4.6/18, MS3.9/2, Error ellipse: s-maj=6.8km s-min=6.2km az=53.0*
*IDC **14** 04:04:09.3±0.5, 11.03N×92.05E, h30km±2km, mb4.2/18, mb1 4.2/19, mb1mx4.2/23, mbtmp4.3/19, ML4.0/1, MS3.7/1, Ms1 3.9/1, ms1mx3.3/17, Error ellipse: s-maj=16.4km s-min=10.3km az=52.0*
ISC 14 04:04:07.4±0.3**, 11.04N**±0.05×**92.05E**±0.04**, h32km, h32km**±.8km**:pP-P, n102, σ1ˢ20**/105**, mb4.5**/44**, MS4.2**/10**, 2C-1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.92**	**48**	*e*P	**Pn**	**04 04 26.7**	**+2.5**
PBA				*e*		04 04 42.4	
NNT	**Nongplab**	**7.68**	**78**	P	**Pn**	**04 06 03.8**	**+3.8**
BDT	**Bhumibol Dam**	**9.14**	**47**	P	**P**	**04 06 20.0**	**-0.2**
CM31	**Chiang Mai Arr**	**9.94**	**41**	P	**P**	**04 06 29.3**	**-2.1**
CMAR	**Chiang Mai Arr**	**9.94**	**41**	Pn	**P**	**04 06 30.4**	**-1.0**
	0.4nm,0.3s,baz=236,slow=15,SNR=6.0						
CMAR				Sn	**Sn**	**04 08 19.6**	**-3.3**
	0.4nm,0.3s,baz=239,slow=28,SNR=2.4						
CMAR				LR	LR	04 11 26.5	
	comp=Z,408nm,18.0s,baz=220,slow=44						
VIS	**Vishakhapatnam**	**10.74**	**309**	*e*P	**P**	**04 06 38.2**	**-4.2**
VIS				*e*S	**S**	**04 08 27.1**	**-15**
VIS				*e*		04 08 28.3	
	comp=E,56nm,0.2s						
VIS				*e*		04 08 28.4	
	comp=N,96nm,0.3s						
BWNR	**Bhubaneshwar**	**10.99**	**328**	*e*P	**P**	**04 06 39.7**	**-6.0**
BWNR				*e*S	**S**	**04 08 32.5**	**-16**
BWNR				*e*		04 08 37.2	
	comp=N,291nm,0.3s						
BWNR				*e*		04 08 37.8	
	comp=E,258nm,0.3s						
NANT	**Nan**	**11.38**	**46**	⇓P	**P**	**04 06 52.0**	**+1.0**
	comp=E,188nm,1.0s						
MDRS	**Chennai**	**11.72**	**281**	*e*	**P**	**04 06 53.0**	**-2.6**
SALM	**Salem**	**13.59**	**274**	*e*P	**P**	**04 07 22.0**	**+1.4**
HYB	**Hyderabad**	**14.53**	**297**	*e*P	**P**	**04 07 33.0**	**+0.1**
HYB				*e*S	**S**	**04 10 04.0**	**-10**
HYB	**Hyderabad**	**14.53**	**297**	*i* P	**P**	**04 07 33.0**	**+0.1**
HYB				*e*		04 10 04.0	
HYB				*e*S	**S**	**04 10 12.0**	**-1.7**
BLSP	**Bilaspur**	**14.55**	**321**	*e*P	**P**	**04 07 30.3**	**-2.8**
BLSP				*e*		04 07 31.6	
	comp=Z,15nm,0.8s						
BLSP				*e*		04 10 02.6	
NGP	**Nagpur**	**16.02**	**310**	*e*P	**P**	**04 07 52.4**	**+0.2**
NGP				*e*		04 10 38.6	
KMI	**Kunming**	**17.29**	**34**	P	**P**	**04 08 09.8**	**+1.6**
KMI				AP		04 08 18.8	
KMI				AMB	AMB		
	comp=Z,13nm,1.3s						
KMI				AMB	AMB		
	comp=Z,184nm,5.2s						
KMI				LR	LR		
	comp=N,408nm,22.4s						
KMI				LR	LR		
	comp=E,560nm,19.6s						
KMI				LR	LR		
	comp=Z,677nm,17.5s						
KMI	**Kunming**	**17.29**	**34**	P	**P**	**04 08 09.7**	**+1.5**
KMI				pmax	pmax		
	comp=Z,13nm,1.3s						
JIRN	**Jiri**	**17.43**	**342**	*e*P	**P**	**04 08 10.1**	**+0.2**
	comp=Z,16nm,0.6s						
PKI	**Pulchoki**	**17.59**	**340**	*e*P	**P**	**04 08 12.2**	**+0.3**
	comp=Z,46nm,0.6s						
DMN	**Daman**	**17.73**	**339**	*e*P	**P**	**04 08 13.6**	**-0.1**
GKN	**Gorkha**	**18.25**	**339**	*e*P	**P**	**04 08 19.0**	**-1.2**
	comp=Z,44nm,0.6s						
KAD	**Karad**	**18.40**	**292**	*e*P	**P**	**04 08 24.5**	**+2.4**
KAD				*e*		04 10 29.8	
KOLN	**Koldanda**	**18.44**	**336**	*e*P	**P**	**04 08 22.5**	**0.0**
	comp=Z,30nm,0.5s						
LSA	**Lhasa**	**18.59**	**358**	P	**P**	**04 08 26.4**	**+2.1**
LSA	**Lhasa**	**18.59**	**358**	*e*P	**P**	**04 08 24.1**	**-0.2**
LSA				pmax	pmax		
	comp=Z,52nm,1.2s						
LSA	**Lhasa**	**18.59**	**358**	*e*P	**P**	**04 08 24.1**	**-0.1**
	comp=Z,52nm,1.2s						
GYA	**Guiyang**	**20.63**	**40**	⇑*i*P	**P**	**04 08 46.6**	**-0.3**
GYA				PP	PP	04 09 07.9	-0.6
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,150nm,3.6s						
GYA				LR	LR		
	comp=N,510nm,14.9s,MS4.2						
GYA				LR	LR		
	comp=E,400nm,10.2s,MS4.2						
GYA				LR	LR		
	comp=Z,420nm,13.7s,MS4.0						
NDI	**New Delhi**	**22.38**	**324**	*e*P	**P**	**04 09 04.5**	**0.0**
NDI				*e*		04 13 03.0	
CD2	**Chengdu**	**22.56**	**27**	*e*P	**P**	**04 09 06.3**	**-0.1**
CD2				AMB	AMB		
	comp=Z,34nm,1.2s,mb4.7						
DDI	**Dehra Dun**	**23.18**	**328**	*e*P	**P**	**04 09 15.3**	**+2.9**
DDI				*e*		04 13 30.8	
ENH	**Enshi**	**25.08**	**38**	*e*P	**P**	**04 09 29.8**	**-1.0**
	comp=Z,32nm,0.6s,mb5.0						
LZH	**Lanzhou**	**27.13**	**21**	*e*P	**P**	**04 09 55.0**	**+5.3**
LZH				AP	pP	04 10 07.5	+8.5
LZH				XP	sP	04 10 14.0	+11
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.4						
LZH				LR	LR		
	comp=N,622nm,15.0s						
LZH				LR	LR		
	comp=Z,856nm,16.4s,MS4.4						
XAN	**Xi'an**	**27.61**	**31**	P	**P**	**04 09 56.9**	**+2.8**
XAN				AP	pP	04 10 05.3	+1.9
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.2						
XAN				LR	LR		
	comp=E,331nm,20.9s						
XAN				LR	LR		
	comp=Z,590nm,21.9s,MS4.1						
GTA	**Gaotai**	**29.09**	**12**	*e*P	**P**	**04 10 08.4**	**+1.0**
GTA				XS		04 15 20.5	
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,24nm,4.2s						
GTA				LR	LR		
	comp=N,218nm,17.9s,MS4.0						
GTA				LR	LR		
	comp=E,217nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=Z,223nm,16.0s,MS3.9						
NJ2	**Nanjing**	**32.38**	**46**	*e*P	**P**	**04 10 32.6**	**-3.9**
NJ2				PP	PP	04 11 42.5	-2.2
NJ2				AMB	AMB		
	comp=Z,770nm,6.0s						
NJ2				LR	LR		
	comp=N,590nm,20.8s,MS4.5						
NJ2				LR	LR		
	comp=E,570nm,16.3s,MS4.5						
NJ2				LR	LR		
	comp=Z,530nm,13.6s,MS4.4						
WMQ	**Urumqi**	**32.88**	**354**	*e*P	**P**	**04 10 41.5**	**+0.8**
WMQ				PP	PP	04 11 52.0	+1.0
WMQ				*e*S	**S**	**04 15 55.0**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,114nm,5.5s						
WMQ				LR	LR		
	comp=N,396nm,18.2s,MS4.4						
WMQ				LR	LR		
	comp=E,639nm,22.4s,MS4.4						
WMQ				LR	LR		
	comp=Z,228nm,21.8s,MS3.8						
SSE	**Sheshan**	**33.56**	**49**	P	**P**	**04 10 42.0**	**-4.7**
	comp=Z,24nm,0.7s,mb5.2						
SSE				S	**S**	**04 16 07.3**	**+1.6**
SSE				sS		04 16 21.3	
SSE				SS	SS	04 18 33.4	+23
SSE				LR	LR		
	comp=Z,180nm,18.0s,MS3.8						
HHC	**Hu-ho-hao-te**	**34.32**	**27**	*e*P	**P**	**04 10 57.3**	**+4.1**
HHC				AMB	AMB		
	comp=Z,281nm,8.2s						
AAK	**Ala-Archa**	**35.00**	**337**	*i* P	**P**	**04 10 59.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
AAK	**Ala-Archa**	**35.00**	**337**	*e*P	**P**	**04 10 57.8**	**-1.3**
	comp=Z,4.4nm,0.9s,mb4.4						
BJI	**Beijing**	**35.93**	**32**	*e*P	**P**	**04 11 09.5**	**+2.5**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,327nm,23.6s,MS4.2						
BJI				LR	LR		
	comp=E,443nm,24.2s,MS4.2						
BJI				LR	LR		
	comp=Z,275nm,19.6s,MS4.0						
SONM	**Songino Array**	**38.61**	**16**	P	**P**	**04 11 29.7**	**+0.3**
	comp=Z,9.7nm,1.4s,mb4.3,baz=207,slow=8.3,SNR=14						
SONM				pP	pP	04 11 39.6	+0.6
	comp=Z,7.2nm,1.1s,baz=198,slow=7.8,SNR=15						
ULN	**Ulaanbaatar**	**38.82**	**16**	*i* P	**P**	**04 11 31.3**	**+0.2**
ULN	**Ulaanbaatar**	**38.82**	**16**	P	**P**	**04 11 32.1**	**+1.0**
	comp=Z,3.5nm,0.9s,mb4.1						
ZAK	**Zakamensk**	**40.30**	**11**	*e*P	**P**	**04 11 44.1**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
KURK	**Kurchatov**	**41.07**	**347**	*i* P	**P**	**04 11 49.3**	**-0.4**
KURK	**Kurchatov**	**41.07**	**347**	*e*P	**P**	**04 11 49.6**	**-0.1**
	comp=Z,9.8nm,1.0s,mb4.4						
KURK				*e*pP	pP	04 11 59.2	0.0
TLY	**Talaya**	**41.61**	**11**	*i* P	**P**	**04 11 56.2**	**+2.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.8						
ZAL	**Zalesovo**	**43.18**	**354**	P	**P**	**04 12 07.6**	**+0.7**
	comp=Z,1.6nm,0.6s,mb4.0,baz=282,slow=7.3,SNR=9.8						
ZAL				pP	pP	04 12 16.0	-0.4
	comp=Z,3.8nm,0.4s,baz=291,slow=6.3,SNR=4.6						
CN2	**Changchun**	**43.56**	**35**	*e*P	**P**	**04 12 10.3**	**+0.2**
CN2				*e*S	**S**	**04 18 34.1**	**-2.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.3						
CN2				LR	LR		
	comp=N,300nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,17.0s,MS4.3						
CN2				LR	LR		
	comp=Z,250nm,19.0s,MS4.1						
FITZ	**Fitzroy Crossi**	**44.02**	**131**	*e*P	**P**	**04 12 13.8**	**-0.4**
	comp=Z,33nm,0.9s,mb5.1						
BVAR	**Borovoye Array**	**45.35**	**342**	P	**P**	**04 12 24.1**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=143,slow=7.4,SNR=10						
BVAR				pP	pP	04 12 33.8	-0.2
	comp=Z,4.0nm,0.8s,baz=143,slow=7.4,SNR=11						
CHKZ	**Chkalovo**	**45.84**	**342**	*e*P	**P**	**04 12 28.3**	**0.0**
CHKZ				*e**PP	pP	04 12 37.9	0.0
CHKZ				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**45.84**	**342**	*e*P	**P**	**04 12 28.2**	**0.0**
	comp=Z,13nm,0.7s,mb5.0						
CHKZ				*e*pP	pP	04 12 37.9	-0.1
BOD	**Bodaibo**	**49.61**	**15**	*e*P	**P**	**04 12 55.5**	**-2.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
NWAO	**Narrogin (SRO)**	**49.89**	**152**	P	**P**	**04 12 59.8**	**-0.4**
	comp=Z,5.4nm,0.8s,mb4.7,baz=289,slow=17,SNR=1.9						
GNI	**Garni**	**50.77**	**313**	*i* P	**P**	**04 13 05.6**	**-1.1**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GNI	**Garni**	**50.77**	**313**	P	**P**	**04 13 08.7**	**+2.0**
	comp=Z,6.1nm,0.8s,mb4.6,baz=182,slow=17,SNR=4.8						
GNI	**Garni**	**50.77**	**313**	*e*P	**P**	**04 13 08.3**	**+1.6**
	comp=Z,14nm,1.1s,mb4.8						
SVE	**Sverdlovsk**	**51.72**	**339**	*e*P	**P**	**04 13 06.0**	**-7.7**
WRA	**Warramunga Arr**	**51.78**	**126**	P	**P**	**04 13 13.8**	**-0.9**
	comp=Z,5.9nm,0.8s,mb4.6,baz=305,slow=8.6,SNR=32						
WRA				pP	pP	04 13 23.6	-0.8
	comp=Z,5.9nm,0.5s,baz=306,slow=8.4,SNR=14						
WRAB	**Tennant Creek**	**51.78**	**126**	*e*P	**P**	**04 13 14.1**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,46nm,1.1s,mb5.3						
WRAB	**Tennant Creek**	**51.78**	**126**	*e*P	**P**	**04 13 14.1**	**-0.6**
	comp=Z,46nm,1.1s,mb5.3						
WB2	**Warramunga Arr**	**51.79**	**126**	⇑*i*P	**P**	**04 13 14.1**	**-0.6**
ASPA	**Alice Springs**	**53.52**	**130**	*e*P	**P**	**04 13 31.8**	**+4.2**
ASAR	**Alice Springs**	**53.52**	**130**	P	**P**	**04 13 26.8**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=305,slow=6.0,SNR=18						
ASAR				pP	pP	04 13 37.4	0.0
	comp=Z,4.1nm,0.6s,baz=306,slow=7.0,SNR=12						
KIV	**Kislovodsk**	**53.60**	**317**	*i* P	**P**	**04 13 27.3**	**-0.6**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
KIV	**Kislovodsk**	**53.60**	**317**	*e*P	**P**	**04 13 28.0**	**+0.1**
	comp=Z,10nm,0.8s,mb4.8						
ASAJ	**Asahikawa**	**54.46**	**43**	P	**P**	**04 13 35.4**	**+1.2**
	comp=Z,19nm,1.3s,mb4.9,baz=190,slow=24,SNR=3.1						
ASF	**Jabal al Asfar**	**54.79**	**302**	P	**P**	**04 13 38.1**	**+1.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=167,slow=1.8,SNR=4.8						
SOC	**Sochi**	**55.48**	**316**	*e*P	**P**	**04 13 37.5**	**-4.2**
SOC				*e*		04 14 36.4	
SOC				*e*		04 15 43.3	
SOC				*e*PPP	PPP	04 16 57.1	-4.3
SOC				*e*S	**S**	**04 21 24.6**	**+1.9**
SOC				*e*		04 23 22.3	
SOC				*e*SS	SS	04 25 09.5	+2.0
SOC				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
SOC				pmax	pmax		
	comp=N,42nm,0.9s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
KMBO	**Kilima Mbogo**	**55.79**	**261**	*e*P	**P**	**04 13 45.5**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KMBO	**Kilima Mbogo**	**55.79**	**261**	P	**P**	**04 13 45.4**	**+1.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=26,slow=11,SNR=3.9						
KMBO	**Kilima Mbogo**	**55.79**	**261**	*e*P	**P**	**04 13 45.5**	**+1.2**
	comp=Z,3.3nm,1.1s,mb4.3						
ANN	**Anapa**	**57.43**	**316**	*e*P	**P**	**04 13 51.6**	**-4.0**
ANN				pmax	pmax		
	comp=Z,185nm,1.2s						
YAK	**Yakutsk**	**57.70**	**20**	*i* P	**P**	**04 13 56.2**	**-1.0**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
OBN	**Obninsk**	**61.62**	**327**	*e*P	**P**	**04 14 22.5**	**-1.7**
OBN				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.2						
STKA	**Stephens Creek**	**63.77**	**134**	P	**P**	**04 14 39.0**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2,baz=14,slow=1.9,SNR=4.1						
STKA				pP	pP	04 14 47.8	-1.1
	comp=Z,1.7nm,0.5s,baz=18,slow=4.0,SNR=4.8						
TIXI	**Tiksi**	**64.57**	**12**	*e*P	**P**	**04 14 42.4**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,132nm,17.0s,MS4.2						
IDI	**Anoyia**	**65.09**	**304**	P	**P**	**04 14 46.8**	**-0.7**
	comp=Z,4.5nm,0.8s,mb4.5,baz=55,slow=18,SNR=3.1						
IDI				pP	pP	04 14 56.6	-0.8
	comp=Z,9.8nm,0.9s,baz=37,slow=11,SNR=3.4						
JOF	**Joensuu**	**67.12**	**334**	*e*p	**P**	**04 14 58.7**	**-1.2**
LSZ	**Lusaka**	**68.43**	**249**	*e*P	**P**	**04 15 10.2**	**+1.3**
LSZ				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.6						
LSZ	**Lusaka**	**68.43**	**249**	*e*P	**P**	**04 15 10.2**	**+1.3**
	comp=Z,8.5nm,1.3s,mb4.6						
FINES	**FINESS Array B**	**68.97**	**332**	P	**P**	**04 15 11.1**	**-0.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=104,slow=7.9,SNR=9.4						
FINES				pP	pP	04 15 20.9	-0.5
	comp=Z,3.1nm,0.6s,baz=104,slow=7.9,SNR=7.1						
KAF	**Kangasniemi**	**69.05**	**333**	*e*p	**P**	**04 15 10.3**	**-1.7**
MATP	**Matopo**	**69.87**	**243**	P	**P**	**04 15 18.0**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.4,baz=73,slow=6.1,SNR=5.9						
ARCES	**ARCESS Array B**	**71.61**	**340**	P	**P**	**04 15 27.4**	**0.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=3.6,SNR=4.2						
ARCES				pP	pP	04 15 37.0	-0.3
	comp=Z,2.2nm,0.6s,baz=84,slow=4.8,SNR=2.4						
BILL	**Bilibino**	**73.94**	**22**	*i* P	**P**	**04 15 40.8**	**-0.2**
BILL				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
LBTB	**Lobatse**	**73.98**	**240**	*e*P	**P**	**04 15 43.7**	**+1.5**
LBTB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LBTB	**Lobatse**	**73.98**	**240**	*e*P	**P**	**04 15 43.7**	**+1.6**
	comp=Z,4.7nm,0.9s,mb4.4						
GERES	**GERESS Array B**	**74.11**	**318**	P	**P**	**04 15 42.1**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=7.2						
GERES				pP	pP	04 15 51.8	-0.7
	comp=Z,1.2nm,0.8s,baz=90,slow=5.3,SNR=4.1						
GERES				sP	sP	04 15 56.0	0.0
	comp=Z,1.3nm,0.8s,baz=90,slow=4.0,SNR=5.6						
NB2	**NORSAR Subarra**	**75.98**	**330**	P	**P**	**04 15 52.1**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=96,slow=5.3						
NB2	**NORSAR Subarra**	**75.98**	**330**	P	**P**	**04 15 52.1**	**-0.8**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**75.98**	**330**	P	**P**	**04 15 52.4**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=92,slow=6.0,SNR=4.7						
NOA				pP	pP	04 16 02.1	-0.8
	comp=Z,1.3nm,0.6s,baz=93,slow=5.7,SNR=3.8						
LPG	**La Plagne**	**78.94**	**314**	*e*P	**P**	**04 16 09.3**	**-0.3**
	comp=Z,3.6nm,0.6s,mb4.2						
LPG	**La Plagne**	**78.94**	**314**	*e*P	**P**	**04 16 09.3**	**-0.3**
LPG				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ILAR	**Eielson Array**	**92.59**	**22**	P	**P**	**04 17 16.5**	**-0.2**
	comp=Z,1.0nm,0.8s,mb4.3,baz=294,slow=4.1,SNR=14						
ILAR				pP	pP	04 17 27.5	+0.5
	comp=Z,0.8nm,0.9s,baz=304,slow=4.6,SNR=4.3						
ULM	**Lac du Bonnet**	**118.58**	**6**	PKP	PKPdf	04 22 54.2	-3.3
	comp=Z,0.9nm,0.3s,baz=205,slow=2.2,SNR=3.2						
PDAR	**Pinedale Array**	**122.92**	**19**	PKP	PKPdf	04 23 03.0	-3.0
	comp=Z,0.2nm,0.5s,baz=346,slow=3.7,SNR=2.9						
NVAR	**Mina Array Bea**	**123.21**	**28**	PKP	PKPdf	04 23 04.4	-2.4
	comp=Z,0.8nm,0.7s,baz=111,slow=1.1,SNR=5.1						
TXAR	**Lajitas Array**	**137.09**	**20**	PKP	PKPdf	04 23 30.9	-2.4
	comp=Z,0.1nm,0.5s,baz=224,slow=52,SNR=2.6						
ROSC	**El Rosal**	**159.19**	**319**	PKPab	PKPab	04 24 41.4	-1.2
	comp=Z,0.7nm,0.3s,baz=225,slow=15,SNR=2.2						
LPAZ	**La Paz**	**160.05**	**253**	PKPab	PKPab	04 24 47.5	+1.3
	comp=Z,0.9nm,0.9s,baz=92,slow=4.7,SNR=3.4						

IDC 14 04:08:12.2±3.6**, 27.88S**×**73.47E, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, mbtmp3.8**/3**, 1D, Error ellipse: s-maj=102.2km s-min=49.3km az=55.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SYO	**Syowa Base**	**45.68**	**196**	⇓P	P	04 16 04.8	-31
CMAR	**Chiang Mai Arr**	**52.25**	**31**	P	P	04 17 25.4	-2.2
	0.8nm,0.3s,baz=211,slow=8.4,SNR=4.6						
ASAR	**Alice Springs**	**54.12**	**100**	P	P	04 17 39.2	-2.2
	0.7nm,0.6s,baz=255,slow=6.2,SNR=6.9						
SONM	**Songino Array**	**80.97**	**22**	P	P	04 20 28.6	-1.3
	0.2nm,0.6s,baz=215,slow=4.8,SNR=2.9						
YKA	**Yellowknife Ar**	**144.97**	**7**	PKP	PKPdf	04 27 50.0	-2.5
	0.1nm,0.4s,baz=336,slow=3.4,SNR=5.5						

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*IDC **14** 04:17:50.6±0.9, 19.29S×174.39W, mb3.8/10, mb1 4.1/10, mb1mx4.0/17, mbtmp3.8/10, Error ellipse: s-maj=49.3km s-min=18.0km az=140.0*
ISC 14 04:17:54.1±0.8**, 19.4S**±0.2×**174.4W**±0.2**, h33km, n12, σ0ˢ74**/10**, mb3.8**/10**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**27.15**	**203**	P	**P**	**04 23 35.8**	**-0.5**
	1.7nm,0.4s,mb3.9,baz=23,slow=7.7,SNR=2.9						
STKA	**Stephens Creek**	**41.29**	**244**	P	**P**	**04 25 39.2**	**+1.0**
	0.8nm,0.7s,mb3.5,baz=33,slow=10,SNR=2.5						
ASAR	**Alice Springs**	**48.04**	**255**	P	**P**	**04 26 33.5**	**+1.0**
	1.0nm,0.6s,mb4.0,baz=89,slow=8.3,SNR=13						
WRA	**Warramunga Arr**	**48.09**	**260**	P	**P**	**04 26 31.3**	**-1.6**
	0.5nm,0.5s,mb3.8,baz=97,slow=5.4,SNR=7.1						
NVAR	**Mina Array Bea**	**77.94**	**42**	P	**P**	**04 29 50.5**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=210,slow=6.8,SNR=5.0						
TXAR	**Lajitas Array**	**83.64**	**56**	P	**P**	**04 30 21.4**	**+0.3**
	0.3nm,0.8s,mb3.5,baz=220,slow=9.8,SNR=4.7						
PDAR	**Pinedale Array**	**85.87**	**42**	P	**P**	**04 30 32.5**	**+0.6**
	0.4nm,0.9s,mb3.6,baz=256,slow=3.7,SNR=3.1						
ILAR	**Eielson Array**	**86.52**	**11**	P	**P**	**04 30 34.2**	**-0.3**
	0.5nm,0.7s,mb3.9,baz=232,slow=6.3,SNR=14						
INK	**Inuvik**	**92.35**	**14**	P	**P**	**04 31 01.8**	**-0.2**
	0.7nm,0.9s,mb4.0,baz=134,slow=16,SNR=2.9						
YKA	**Yellowknife Ar**	**94.12**	**24**	P	**P**	**04 31 09.9**	**-0.2**
	0.1nm,0.4s,mb3.6,baz=226,slow=4.2,SNR=7.1						
GERES	**GERESS Array B**	**149.88**	**349**	PKPbc	PKPdf	04 37 41.4	+5.5
	0.4nm,0.6s,baz=18,slow=3.1,SNR=3.7						
EIL	**Elat**	**151.44**	**297**	PKPbc	PKPdf	04 37 46.9	+8.0
	4.0nm,0.8s,baz=35,slow=7.1,SNR=2.9						

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*ISK **14** 04:19:11.1, 39.36N×40.88E, h3km, MD3.7*
*CSEM **14** 04:19:11.8±0.1, 39.33N×40.94E, h10km, MD3.7, Error ellipse: s-maj=1.9km s-min=1.5km az=148.0*
ISC 14 04:19:12.6±0.4**, 39.37N**±0.03×**40.90E**±0.05**, h10km, n25, σ0ˢ97**/31**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.55**	**116**	*i* PG	**Pg**	**04 19 22.3**	**-1.3**
BINT	**Bingol**	**0.59**	**213**	*i* Pg	**Pg**	**04 19 23.2**	**-1.3**
BINT				*i* Sg	**Sg**	**04 19 32.2**	**-0.2**
EZM	**Erzurum**	**0.64**	**34**	*i* PG	**Pg**	**04 19 24.4**	**-1.1**
ERZM	**Erzurum**	**0.64**	**34**	*i* P	**Pb**	**04 19 24.4**	**-1.0**
ERZM				*i* S	**Sb**	**04 19 30.6**	**-3.5**
EZC	**Erzincan**	**0.92**	**294**	PN	**Pn**	**04 19 35.1**	**+3.8**
BTMT	**Batman**	**1.27**	**158**	PN	**Pn**	**04 19 35.9**	**-0.5**
PTK	**Pertek**	**1.27**	**248**	PN	**Pn**	**04 19 35.0**	**-1.3**
BEST	**Besiri**	**1.51**	**169**	*i* P	**Pn**	**04 19 41.1**	**+1.3**
BEST				*i* S	**Sb**	**04 20 00.2**	**+0.9**
GUMT	**Gumushane**	**1.54**	**315**	PN	**Pn**	**04 19 40.9**	**+0.7**
DIY	**Diyarbakir**	**1.57**	**200**	PN	**Pn**	**04 19 41.4**	**+0.8**
ELZG	**Elazig**	**1.73**	**240**	*i* P	**Pn**	**04 19 43.6**	**+0.6**
ELZG				*i* S	**Sn**	**04 20 12.6**	**+7.3**
KARS	**Kars**	**2.09**	**53**	*e*PN	**Pn**	**04 19 48.1**	**-0.1**
VANB	**Van**	**2.09**	**111**	*e*PN	**Pn**	**04 19 48.7**	**+0.5**
TVAN	**Van**	**2.13**	**113**	*i* P	**Pn**	**04 19 49.4**	**+0.7**
TVAN				*i* S	**Sn**	**04 20 06.4**	**-9.1**

VANT	**Van**	**2.15**	**115**	ePN	**Pn**	**04 19 47.6**	**-1.5**
MYA	**Malataya**	**2.19**	**242**	ePN	**Pn**	**04 19 49.9**	**+0.2**
MALT	**Malatya**	**2.20**	**242**	ePN	**Pn**	**04 19 49.6**	**-0.1**
URFA	**Urfa**	**2.53**	**221**	ePN	**Pn**	**04 19 53.3**	**-1.1**
HKR	**Hakkari**	**2.86**	**128**	ePN	**Pn**	**04 19 59.4**	**+0.2**
GNI	**Garni**	**3.06**	**74**	ePN	**Pn**	**04 20 02.9**	**+0.9**
GZT	**Gaziantep**	**3.31**	**233**	i P	**Pn**	**04 20 10.0**	**+4.6**
GZT				i S	Sn	04 21 08.2	+23
TOKT	**Tokat**	**3.48**	**287**	ePN	**Pn**	**04 20 08.5**	**+0.5**
GAZ	**Gaziantep**	**3.64**	**234**	ePN	**Pn**	**04 20 10.0**	**-0.2**
ONI	**Oni**	**3.74**	**30**	P	**Pn**	**04 20 13.6**	**+1.9**
ONI				S	**Sn**	**04 21 12.9**	**+17**
TI2	**Plekhanov**	**3.76**	**50**	eP	**Pn**	**04 20 12.4**	**+0.4**

*MOS **14** 04:27:13.2±0.9, 9.43N×93.14E, h46km, mb5.0/22, Error ellipse: s-maj=10.3km s-min=5.9km az=104.1*

*BJI **14** 04:27:14.4, 9.24N×93.15E, h73km, mB5.3, mb4.9, Ms4.5, Msz4.2*

*NEIC **14** 04:27:16.5±0.2, 9.44N×93.15E, mb5.0/31, Error ellipse: s-maj=6.5km s-min=4.7km az=47.0*

*HRVD **14** 04:27:16.5±0.5, 9.47N×93.05E, h55km±2km, MW5.0/41, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s41,c58; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.22±.22; $M_{\theta\theta}$-0.22±.15; $M_{\phi\phi}$-2.99±.14; $M_{r\theta}$0.46±.10; $M_{\theta\phi}$0.17±.15; $M_{\phi r}$-1.09±.14; Best double couple: $M_0$3.326×10^{16} NP1:ϕ_s2°,δ35°,λ100°. NP2:ϕ_s170°,δ55°,λ83°. Principal axes: T 3.456, Plg78°, Azm54°; N -.252, Plg6°, Azm174°; P -3.196, Plg10°, Azm265°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **14** 04:27:17.4±1.9, 9.47N×93.23E, h62km±16km, mb4.4/20, mb1 4.5/21, mb1mx4.5/24, mbtmp4.7/21, MS4.1/9, Ms1 4.1/9, ms1mx3.7/28 Error ellipse: s-maj=18.4km s-min=11.1km az=49.0*

ISC 14 04:27:14.5±0.2**, 9.36N**±0.03×**93.14E**±0.03**, h56**km**, h56**km±4.5km**:pP-P, n195,** σ1**.07**/209**, mb4.9**/64**, MS4.2**/19**, 14C-9D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.23**	**63**	P	**P**	**04 29 00.8**	**+0.9**
SNG	**Songkhla**	**7.71**	**106**	P	**P**	**04 29 08.0**	**+1.4**
KULM	**Kulim**	**8.47**	**118**	eP	**P**	**04 29 17.3**	**+0.2**
KULM				eS	**S**	**04 30 52.6**	**+0.3**
BDT	**Bhumibol Dam**	**9.70**	**35**	P	**P**	**04 29 36.0**	**+2.0**
	24nm,0.7s						
CM31	**Chiang Mai Arr**	**10.66**	**31**	eP	**P**	**04 29 45.8**	**-1.3**
	30nm,0.6s						
CMAR	**Chiang Mai Arr**	**10.66**	**31**	P	**P**	**04 29 47.4**	**+0.3**
	2.4nm,0.3s,baz=224,slow=14,SNR=33						
CMAR				LR	LR	04 33 50.6	
	comp=Z,814nm,20.2s,baz=215,slow=37						
CMAR				ScP		04 39 13.6	
	0.2nm,0.3s,baz=238,slow=3.0,SNR=7.6						
CHG	**Chiang Mai**	**10.96**	**30**	⇓P	**P**	**04 29 52.2**	**+1.1**
	38nm,0.8s						
KKTK	**Khon Kaen**	**11.71**	**53**	P	**P**	**04 30 03.0**	**+1.7**
NANT	**Nan**	**11.91**	**37**	⇓P	**P**	**04 30 05.0**	**+1.1**
	219nm,1.0s						
CHRT	**Chiangrai**	**12.27**	**31**	⇓P	**P**	**04 30 08.0**	**-0.7**
	145nm,0.9s						
VIS	**Vishakhapatnam**	**12.65**	**312**	eP	**P**	**04 30 11.5**	**-2.3**
VIS				eS	**S**	**04 32 18.5**	**-15**
VIS				e		04 32 23.0	
	comp=N,132nm,0.8s						
VIS				e		04 32 23.0	
	comp=E,100nm,0.5s						
IMP	**Imphal**	**15.36**	**3**	eP	**P**	**04 30 50.0**	**+0.7**
HYB	**Hyderabad**	**16.28**	**301**	eP	**P**	**04 31 05.5**	**+4.5**
HYB				eS	**S**	**04 34 00.0**	**+0.6**
HYB	**Hyderabad**	**16.28**	**301**	i P	**P**	**04 31 05.5**	**+4.5**
HYB				eS	**S**	**04 34 03.0**	**+3.6**
NGP	**Nagpur**	**17.93**	**312**	eP	**P**	**04 31 23.9**	**+2.4**
NGP				e		04 34 28.4	
KMI	**Kunming**	**18.15**	**29**	P	**P**	**04 31 24.5**	**+0.2**
KMI				S	**S**	**04 34 43.0**	**+1.4**
KMI				XS		04 35 02.6	
KMI				AMB	AMB		
	comp=Z,15nm,1.2s						
KMI				AMB	AMB		
	comp=Z,357nm,5.6s						
KMI				LR	LR		
	comp=N,589nm,16.3s						
KMI				LR	LR		
	comp=E,369nm,20.6s						
KMI				LR	LR		
	comp=Z,701nm,22.7s						
KMI	**Kunming**	**18.15**	**29**	P	**P**	**04 31 24.5**	**+0.2**
KMI				S	**S**	**04 34 43.0**	**+1.4**
KMI				pmax	pmax		
	comp=Z,15nm,1.2s						
KMI	**Kunming**	**18.15**	**29**	P	**P**	**04 31 24.5**	**+0.2**
	comp=Z,15nm,1.2s						
KMI				pP		04 31 32.7	
KMI				sP		04 31 37.4	
KMI				S	**S**	**04 34 43.0**	**+1.4**
KMI				sS		04 35 02.6	
KSM	**Kuching**	**18.79**	**114**	eP	**P**	**04 31 33.3**	**+1.3**
JIRN	**Jiri**	**19.35**	**341**	eP	**P**	**04 31 37.0**	**-1.2**
	comp=Z,40nm,0.4s						
PKI	**Pulchoki**	**19.53**	**339**	eP	**P**	**04 31 39.7**	**-0.4**
	comp=Z,51nm,0.7s						
DMN	**Daman**	**19.67**	**338**	eP	**P**	**04 31 41.6**	**-0.1**
	comp=Z,64nm,0.8s						
KKN	**Kakani**	**19.78**	**339**	eP	**P**	**04 31 42.9**	**+0.1**
	comp=Z,42nm,0.6s						
KAD	**Karad**	**20.05**	**295**	eP	**P**	**04 31 46.7**	**+1.0**
KAD				e		04 35 45.9	
GKN	**Gorkha**	**20.20**	**338**	eP	**P**	**04 31 46.8**	**-0.5**
	comp=Z,58nm,0.4s						
LSA	**Lhasa**	**20.32**	**355**	P	**P**	**04 31 48.3**	**-0.2**
LSA	**Lhasa**	**20.32**	**355**	eP	**P**	**04 31 47.4**	**-1.1**
LSA				pmax	pmax		
	comp=Z,51nm,0.8s						
LSA	**Lhasa**	**20.32**	**355**	eP	**P**	**04 31 47.4**	**-1.2**
	comp=Z,51nm,0.8s						
KOLN	**Koldanda**	**20.41**	**335**	eP	**P**	**04 31 49.3**	**-0.1**
	comp=Z,41nm,0.5s						
BHPL	**Bhopal**	**20.41**	**314**	eP	**P**	**04 31 51.3**	**+1.8**
BHPL				e		04 31 57.0	
	comp=Z,25nm,1.0s						
BHPL				e	**S**	**04 35 29.0**	**-1.0**
POO	**Poona**	**20.80**	**298**	i	**S**	**04 35 32.0**	**-5.5**
GYA	**Guiyang**	**21.30**	**35**	⇑iP	**P**	**04 31 58.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
GYA				LR	LR		
	comp=N,560nm,16.2s,MS4.2						
GYA				LR	LR		
	comp=E,410nm,14.6s,MS4.2						
GYA				LR	LR		
	comp=Z,710nm,15.6s,MS4.2						
AGRA	**Agra**	**22.85**	**323**	eP	**P**	**04 32 16.1**	**+2.2**
AGRA				e		04 36 24.5	
KKM	**Kota Kinabalu**	**23.10**	**97**	P	**P**	**04 32 18.0**	**+1.6**
LGTI	**Lohaghat**	**23.36**	**331**	e	**P**	**04 32 23.0**	**+4.3**
PTH	**Pithoragarh**	**23.45**	**331**	eP	**P**	**04 32 22.0**	**+2.3**
CD2	**Chengdu**	**23.62**	**23**	⇑iP	**P**	**04 32 21.0**	**-0.3**
CD2				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.4						
SONA	**Sohna**	**24.11**	**323**	eP	**P**	**04 32 27.0**	**+0.9**
SONA				eS	**S**	**04 36 42.1**	**+5.1**
AYAN	**Aya Nagar**	**24.26**	**324**	eP	**P**	**04 32 29.0**	**+1.5**
AYAN				eS	**S**	**04 36 45.9**	**+6.4**
NDI	**New Delhi**	**24.36**	**324**	e	**P**	**04 32 40.0**	**+11**
NDI				eS	**S**	**04 36 45.0**	**+3.8**
JOSI	**Joshimath**	**24.60**	**331**	e	**P**	**04 32 20.9**	**-10**
JOSI				e	**S**	**04 36 41.8**	**-3.4**
KHET	**Khetri**	**24.76**	**321**	eP	**P**	**04 32 32.9**	**+0.5**
DDI	**Dehra Dun**	**25.17**	**328**	eP	**P**	**04 32 37.2**	**+0.9**
DDI				e	**S**	**04 37 02.0**	**+7.3**
ENH	**Enshi**	**25.81**	**34**	eP	**P**	**04 32 40.8**	**-1.5**
	comp=Z,22nm,0.5s,mb5.0						
KLP	**Kalpa**	**26.04**	**330**	eP	**P**	**04 32 44.6**	**+0.1**
KLP				eS	**S**	**04 37 10.2**	**+1.0**
JASL	**Jaisalmer**	**27.33**	**313**	e	**P**	**04 33 07.9**	**+12**
LZH	**Lanzhou**	**28.34**	**18**	eP	**P**	**04 33 04.5**	**-0.8**
LZH				AP	pP	04 33 20.3	+1.0
LZH				XP	sP	04 33 26.3	+0.2
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,410nm,4.0s						
LZH				LR	LR		
	comp=N,859nm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.5						
LZH	**Lanzhou**	**28.34**	**18**	eP	**P**	**04 33 04.5**	**-0.8**
LZH				*PP	pP	04 33 20.3	+1.0
LZH				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.2						
LZH				MLR	MLR		
	comp=Z,1μm,16.3s,MS4.5						
LZH	**Lanzhou**	**28.34**	**18**	eP	**P**	**04 33 04.5**	**-0.8**
	comp=Z,97nm,1.5s,mb5.2						
LZH				pP	pP	04 33 20.3	+1.0
LZH				sP	sP	04 33 26.2	+0.1
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.5						
XAN	**Xi'an**	**28.53**	**28**	P	**P**	**04 33 04.9**	**-2.1**
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.9						
GTA	**Gaotai**	**30.52**	**10**	eP	**P**	**04 33 24.3**	**-0.4**
GTA				PP	PP	04 34 24.6	-1.5
GTA				PCP	PcP	04 36 23.4	+0.8
GTA				S	**S**	**04 38 23.3**	**+2.5**
GTA				SCP		04 39 58.1	
GTA				SS	SS	04 40 08.3	+3.7
GTA				SCS	ScS	04 43 55.4	+1.6
GTA				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,175nm,5.7s						
GTA				LR	LR		
	comp=N,189nm,16.0s,MS3.9						
GTA				LR	LR		
	comp=E,119nm,14.8s,MS3.9						
GTA				LR	LR		
	comp=Z,213nm,16.7s,MS3.9						
NJ2	**Nanjing**	**32.83**	**43**	eP	**P**	**04 33 44.3**	**-0.7**
NJ2				PP	PP	04 34 54.3	-1.7
NJ2				S	**S**	**04 38 59.0**	**+1.9**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,690nm,6.8s						
NJ2				LR	LR		
	comp=N,2μm,24.1s,MS4.8						
NJ2				LR	LR		
	comp=E,310nm,22.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,4μm,14.9s						
KSH	**Kashi**	**33.72**	**336**	eP	**P**	**04 33 52.8**	**+0.2**
KSH				ePP	PP	04 35 05.3	-1.5
KSH				ePCP	PcP	04 36 33.1	+1.8
KSH				S	**S**	**04 39 13.5**	**+2.6**
KSH				ePCS		04 40 16.8	
KSH				eSS	SS	04 41 17.4	-1.6
KSH				AMB	AMB		
	comp=Z,370nm,4.8s						
KSH				LR	LR		
	comp=N,1μm,7.5s						
KSH				LR	LR		
	comp=E,940nm,7.6s						
SSE	**Sheshan**	**33.89**	**46**	P	**P**	**04 33 52.0**	**-2.1**
SSE				S	**S**	**04 39 14.5**	**+1.0**
SSE				AMB	AMB		
	comp=Z,41nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,74nm,6.0s						
SSE				LR	LR		
	comp=N,90nm,23.2s,MS3.6						
SSE				LR	LR		
	comp=E,89nm,23.3s,MS3.6						
SSE				LR	LR		
	comp=Z,149nm,27.2s,MS3.6						
SSE	**Sheshan**	**33.89**	**46**	P	**P**	**04 33 52.0**	**-2.1**
	comp=Z,41nm,0.7s,mb5.5						
SSE				sP	pP	04 34 04.3	-4.2
SSE				S	**S**	**04 39 14.5**	**+1.0**
SSE				sS		04 39 28.1	
SSE				SS	SS	04 41 39.3	+16
SSE				LR	LR		
	comp=Z,150nm,27.2s,MS3.6						
BTO	**Baotou**	**34.54**	**23**	eP	**P**	**04 33 56.8**	**-2.8**
WMQ	**Urumqi**	**34.66**	**353**	P	**P**	**04 34 00.8**	**+0.2**
WMQ				PP	PP	04 35 18.0	-0.7
WMQ				eS	**S**	**04 39 28.0**	**+2.7**
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,193nm,4.5s						
WMQ				LR	LR		
	comp=N,516nm,24.7s,MS4.3						
WMQ				LR	LR		
	comp=E,479nm,23.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,452nm,21.6s,MS4.2						
HHC	**Hu-ho-hao-te**	**35.36**	**24**	eP	**P**	**04 34 06.4**	**-0.2**
HHC				PP	PP	04 35 25.3	-2.2
HHC				S	**S**	**04 39 33.8**	**-2.4**
HHC				PCS		04 40 21.9	
HHC				SS	SS	04 41 54.1	-2.4
HHC				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.3						
HHC				AMB	AMB		
	comp=Z,150nm,5.9s						
HHC				LR	LR		
	comp=N,232nm,25.0s,MS4.1						
HHC				LR	LR		
	comp=E,294nm,22.6s,MS4.1						
KZA	**Kyzart**	**36.19**	**337**	P	**P**	**04 34 14.5**	**+0.8**
	SNR=23						
UCH	**Uchtor**	**36.61**	**337**	P	**P**	**04 34 18.3**	**+1.1**
	SNR=9.6						
BJT	**Baijiatuau**	**36.78**	**30**	eP	**P**	**04 34 18.1**	**-0.5**
BJT				pmax	pmax		
	comp=Z,44nm,1.3s						
BJT	**Baijiatuau**	**36.78**	**30**	eP	**P**	**04 34 18.1**	**-0.5**
	comp=Z,44nm,1.3s,mb5.1						
TKM2	**Tokmak 2**	**36.79**	**338**	P	**P**	**04 34 19.1**	**+0.4**
	SNR=20						
BJI	**Beijing**	**36.80**	**30**	eP	**P**	**04 34 19.3**	**+0.5**
BJI				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,282nm,19.4s,MS4.2						
BJI				LR	LR		
	comp=E,257nm,19.4s,MS4.2						
BJI				LR	LR		
	comp=Z,428nm,29.0s						
BJI	**Beijing**	**36.80**	**30**	eP	**P**	**04 34 19.2**	**+0.4**
BJI				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
BJI				MLR	MLR		
	comp=Z,430nm,29.0s,MS4.1						
KBK	**Karagaybulak**	**36.80**	**337**	P	**P**	**04 34 20.0**	**+1.2**
	SNR=29						
AML	**Almayashu**	**36.85**	**336**	P	**P**	**04 34 20.6**	**+1.4**
	SNR=92						
AAK	**Ala-Archa**	**36.96**	**337**	P	**P**	**04 34 20.6**	**+0.5**
	comp=Z,163nm,0.7s,SNR=33						
AAK	**Ala-Archa**	**36.96**	**337**c	iP	**P**	**04 34 20.1**	**0.0**
AAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**36.96**	**337**	eP	**P**	**04 34 19.9**	**-0.2**
	comp=Z,29nm,1.0s,mb5.1						
FRU	**Bishkek**	**37.08**	**337**	eP	**P**	**04 34 21.0**	**-0.1**
FRU				e	pP	04 34 39.0	+3.4
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.9						
CHMS	**Chumysh**	**37.17**	**337**	P	**P**	**04 34 21.9**	**+0.1**
	SNR=14						
EKS2	**Erkin-Say**	**37.26**	**336**	P	**P**	**04 34 24.0**	**+1.3**
	SNR=22						
USP	**Ospenovka**	**37.50**	**337**	P	**P**	**04 34 25.2**	**+0.6**
	SNR=44						
MKAR	**Makanchi Array**	**38.44**	**348**	eP	**P**	**04 34 31.4**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SONM	**Songino Array**	**39.96**	**14**	P	**P**	**04 34 44.8**	**-0.2**
	comp=Z,21nm,1.0s,mb4.8,baz=201,slow=6.5,SNR=141						
SONM				PcP	PcP	04 36 50.2	+0.1
	comp=Z,2.9nm,0.6s,baz=208,slow=3.4,SNR=9.2						
SONM				ScP		04 40 33.3	
	comp=Z,1.1nm,1.0s,baz=180,slow=3.7,SNR=4.6						
ULN	**Ulaanbaatar**	**40.14**	**15**d	iP	**P**	**04 34 46.4**	**-0.1**
ULN	**Ulaanbaatar**	**40.14**	**15**	eP	**P**	**04 34 46.1**	**-0.4**
	comp=Z,22nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**41.75**	**10**⇓	iP	**P**	**04 34 59.4**	**-0.3**
ZAK				e		04 36 43.1	
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MOY	**Mondy**	**42.67**	**7**	eP	**P**	**04 35 07.7**	**+0.4**
KURK	**Kurchatov**	**42.94**	**346**	P	**P**	**04 35 09.2**	**-0.3**
	comp=Z,87nm,0.9s,mb5.5,SNR=14						
KURK	**Kurchatov**	**42.94**	**346**	eP	**P**	**04 35 08.7**	**-0.8**
KURK				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
KURK	**Kurchatov**	**42.94**	**346**c	iP	**P**	**04 35 09.0**	**-0.5**
KURK	**Kurchatov**	**42.94**	**346**	eP	**P**	**04 35 08.8**	**-0.7**
	comp=Z,28nm,1.3s,mb4.8						
TLY	**Talaya**	**43.07**	**10**c	iP	**P**	**04 35 11.1**	**+0.6**
TLY				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.4						
TLY	**Talaya**	**43.07**	**10**	eP	**P**	**04 35 11.4**	**+0.8**
	comp=Z,5.2nm,0.8s,mb4.3						
CN2	**Changchun**	**44.33**	**34**	eP	**P**	**04 35 20.8**	**0.0**
CN2				eS	**S**	**04 41 54.3**	**+4.0**
CN2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,320nm,6.0s						
CN2				LR	LR		
	comp=N,600nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,600nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,470nm,17.0s,MS4.5						
ZAL	**Zalesovo**	**44.96**	**353**	P	**P**	**04 35 25.4**	**-0.3**
	comp=Z,3.4nm,0.3s,mb4.6,baz=301,slow=8.2,SNR=22						
HIA	**Hailar**	**45.57**	**24**	eP	**P**	**04 35 30.1**	**-0.5**
HIA				pmax	pmax		
	comp=Z,43nm,1.2s						
HIA	**Hailar**	**45.57**	**24**	eP	**P**	**04 35 30.1**	**-0.5**
	comp=Z,43nm,1.2s,mb5.2						
NVS	**Novosibirsk**	**46.04**	**352**	eP	**P**	**04 35 32.0**	**-2.3**
MUN	**Mundaring**	**46.65**	**153**	eP	**P**	**04 35 40.5**	**+1.1**
	comp=Z,7.4nm,0.4s,mb5.0						
MUN	**Mundaring**	**46.65**	**153**	eP	**P**	**04 35 40.5**	**+1.1**
MUN				pmax	pmax		
	comp=Z,7.0nm,0.4s,mb4.9						
KLBR	**Kellerberrin**	**47.05**	**151**	eP	**P**	**04 35 42.7**	**+0.2**
	comp=Z,750nm,1.8s						
MDJ	**Mudanjiang**	**47.16**	**35**	P	**P**	**04 35 44.0**	**+0.8**
MDJ				PP	PP	04 37 34.8	+0.7
MDJ				PCS		04 41 10.5	
MDJ				S	**S**	**04 42 36.6**	**+5.9**
MDJ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,230nm,8.2s						
MDJ				LR	LR		
	comp=N,87nm,22.9s,MS3.9						
MDJ				LR	LR		
	comp=E,117nm,22.5s,MS3.9						
MDJ				LR	LR		
	comp=Z,168nm,23.9s,MS3.9						
BVA0	**Borovoye Array**	**47.27**	**341**	P	**P**	**04 35 43.0**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**47.27**	**341**	P	**P**	**04 35 43.2**	**-0.8**
	comp=Z,3.1nm,0.5s,mb4.5,baz=153,slow=6.6,SNR=24						
CHKZ	**Chkalovo**	**47.77**	**342**	P	**P**	**04 35 47.2**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**47.77**	**342**	eP	**P**	**04 35 47.0**	**-0.9**
	comp=Z,14nm,0.5s,mb5.3						
CBIJ	**Chichi jima**	**49.47**	**62**	LR	LR	04 56 38.0	
	comp=Z,133nm,20.8s,MS3.9,baz=346,slow=36						
WRA	**Warramunga Arr**	**49.93**	**126**	P	**P**	**04 36 04.4**	**-0.6**
	comp=Z,12nm,0.5s,mb5.2,baz=304,slow=8.6,SNR=147						
WRA				PcP	PcP	04 37 25.5	+0.7
	comp=Z,2.2nm,0.5s,baz=316,slow=3.0,SNR=12						
WRA				ScP		04 41 14.4	
	comp=Z,0.7nm,0.7s,baz=315,slow=3.8,SNR=5.0						
WRAB	**Tennant Creek**	**49.93**	**126**	P	**P**	**04 36 04.0**	**-1.0**
	comp=Z,189nm,0.5s,SNR=26						
WRAB	**Tennant Creek**	**49.93**	**126**	i P	**P**	**04 36 04.9**	**-0.1**
WRAB	**Tennant Creek**	**49.93**	**126**	eP	**P**	**04 36 04.4**	**-0.6**
	comp=Z,25nm,0.6s,mb5.4						
WB2	**Warramunga Arr**	**49.94**	**126**⇑	iP	**P**	**04 36 04.5**	**-0.6**
BOD	**Bodaibo**	**50.95**	**14**	eP	**P**	**04 36 11.0**	**-1.3**
BOD				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
KLR	**Kul'dur**	**51.14**	**32**	eP	**P**	**04 36 10.4**	**-3.4**
ASPA	**Alice Springs**	**51.62**	**130**⇑	iP	**P**	**04 36 16.8**	**-1.0**
ASAR	**Alice Springs**	**51.62**	**130**	P	**P**	**04 36 16.9**	**-1.0**
	comp=Z,7.7nm,0.6s,mb4.8,baz=303,slow=7.2,SNR=75						
ASAR				PcP	PcP	04 37 31.9	+0.9
	comp=Z,4.6nm,0.6s,baz=311,slow=3.1,SNR=8.5						
ASAR				ScP		04 41 21.9	
	comp=Z,1.3nm,0.9s,baz=292,slow=4.0,SNR=6.1						
ASAR				LR	LR	04 59 38.4	
	comp=Z,112nm,19.5s,MS3.9,baz=284,slow=38						
FORT	**Forrest**	**52.11**	**141**	eP	**P**	**04 36 21.1**	**-0.2**
	comp=Z,477nm,2.3s						
GNI	**Garni**	**52.70**	**314**	i P	**P**	**04 36 25.3**	**-0.3**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
GNI	**Garni**	**52.70**	**314**	P	**P**	**04 36 26.8**	**+1.2**
	comp=Z,3.2nm,0.5s,mb4.5,baz=154,slow=19,SNR=6.7						
GNI	**Garni**	**52.70**	**314**	eP	**P**	**04 36 26.6**	**+1.0**
	comp=Z,15nm,0.9s,mb4.9						
CLNS	**Chul'man**	**53.41**	**21**	eP	**P**	**04 36 29.8**	**-0.9**
CLNS				pmax	pmax		
	comp=Z,41nm,0.9s,mb5.4						
CLNS				pmax	pmax		
	comp=N,24nm,1.1s						
CLNS				pmax	pmax		
	comp=E,23nm,1.1s						
SVE	**Sverdlovsk**	**53.67**	**338**	eP	**P**	**04 36 31.9**	**-0.7**
ASAJ	**Asahikawa**	**54.97**	**42**	P	**P**	**04 36 42.4**	**+0.1**
	comp=E,10nm,0.5s,mb5.1,baz=153,slow=6.8,SNR=5.3						
ASAJ				LR	LR	05 01 20.6	
	comp=E,114nm,19.2s,MS4.0,baz=131,slow=37						
KIV	**Kislovodsk**	**55.56**	**318**⇓	iP	**P**	**04 36 46.0**	**-0.6**
KIV				i		04 37 06.5	
KIV				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1						
KIV	**Kislovodsk**	**55.56**	**318**	eP	**P**	**04 36 46.5**	**-0.1**
	comp=Z,15nm,0.8s,mb5.1						
YSS	**Yuzh-Sakhalins**	**56.24**	**39**⇑	iP	**P**	**04 36 51.0**	**-0.4**
YSS				e		04 36 58.8	
YSS				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.6						
YSS	**Yuzh-Sakhalins**	**56.24**	**39**	eP	**P**	**04 36 51.5**	**+0.1**
	comp=Z,24nm,0.5s,mb5.5						
ASF	**Jabal al Asfar**	**56.59**	**302**	P	**P**	**04 36 54.1**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=293,slow=4.7,SNR=2.2						
KMBO	**Kilima Mbogo**	**56.62**	**262**	P	**P**	**04 36 56.6**	**+2.1**
	comp=Z,0.4nm,0.5s,baz=250,slow=22,SNR=2.4						
KMBO				LR	LR	04 57 05.0	
	comp=Z,257nm,20.7s,baz=280,slow=32						
MALT	**Malatya**	**56.76**	**310**	eP	**P**	**04 36 54.5**	**-0.7**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
MALT	**Malatya**	**56.76**	**310**	eP	**P**	**04 36 54.5**	**-0.7**
	comp=Z,6.0nm,1.2s,mb4.5						
MALT				e		04 37 02.1	
EIL	**Elat**	**57.84**	**299**	P	**P**	**04 37 02.7**	**-0.2**
	comp=Z,3.8nm,0.7s,mb4.6,baz=134,slow=12,SNR=4.4						
EIL	**Elat**	**57.84**	**299**	eP	**P**	**04 37 02.3**	**-0.7**
	comp=Z,4.2nm,0.6s,mb4.7						
YAK	**Yakutsk**	**58.92**	**19**d	iP	**P**	**04 37 08.7**	**-1.3**
YAK				pmax	pmax		
	comp=Z,88nm,1.7s,mb5.5						
YAK	**Yakutsk**	**58.92**	**19**	eP	**P**	**04 37 07.8**	**-2.2**
	comp=Z,32nm,0.7s,mb5.5						
ANN	**Anapa**	**59.38**	**317**	eP	**P**	**04 37 20.9**	**+7.5**
ANN				pmax	pmax		
	comp=Z,119nm,1.0s,mb5.9						
CTA	**Charters Tower**	**59.90**	**120**	P	**P**	**04 37 17.7**	**+0.4**
	comp=Z,11nm,0.5s,mb5.1,baz=267,slow=7.7,SNR=7.4						
CTA				LR	LR	05 02 10.4	
	comp=Z,134nm,20.9s,MS4.1,baz=232,slow=35						
STKA	**Stephens Creek**	**61.84**	**134**	P	**P**	**04 37 29.5**	**-0.8**
	comp=Z,5.1nm,0.7s,mb4.8,baz=314,slow=7.4,SNR=15						
STKA				LR	LR	05 04 22.4	
	comp=Z,179nm,19.3s,MS4.2,baz=111,slow=36						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	61.84	134	eP	P	04 37 29.6	-0.8
MOS	Moscow	63.30	329	eP	P	04 37 58.2	+18
MOS				e	pP	04 38 13.8	+19
MOS				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.8						
OBN	Obninsk	63.60	328	eP	P	04 37 40.8	-0.9
OBN				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.8						
OBN				MLR	MLR		
	comp=Z,400nm,18.0s,MS4.6						
MA2	Magadan	65.92	28	eP	P	04 37 55.9	-0.7
MA2	Magadan	65.92	28	eP	P	04 37 54.9	-1.7
	comp=Z,18nm,1.0s,mb5.0						
TIXI	Tiksi	65.99	12	⇑iP	P	04 37 55.3	-1.5
TIXI				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.5						
VRI	Vrincioaia	66.95	316	⇑P	P	04 38 04.0	+0.7
MLR	Muntele Rosu	67.42	315	⇑P	P	04 38 06.7	+0.4
BURAR	Bucovina Array	68.29	318	⇓P	P	04 38 11.8	+0.1
BURAR	Bucovina Array	68.29	318	⇓P	P	04 38 11.8	+0.1
LSZ	Lusaka	68.84	250	P	P	04 38 17.6	+2.0
JOF	Joensuu	69.09	334	ep	P	04 38 14.8	-1.6
KWP	Kalwaria	70.27	319	eP	P	04 38 23.6	-0.2
KOLS	Kolonicke sedl	70.44	319	eP	P	04 38 23.8	-1.0
SUW	Suwalki	70.73	324	eP	P	04 38 25.5	-1.0
FINES	FINESS Array B	70.94	332	P	P	04 38 26.8	-0.9
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=6.9,SNR=13						
CRVS	Cervenica-Dubn	70.97	318	eP	P	04 38 26.0	-2.0
CRVS				e		04 38 30.2	
KAF	Kangasniemi	71.03	333	ep	P	04 38 26.3	-1.8
OJC	Ojcow	72.21	320	eP	P	04 38 34.7	-0.7
KEV	Kevo	73.12	341	ep	P	04 38 32.6	-7.7
OKC	Ostrava-Krasne	73.23	319	eP	P	04 38 41.4	0.0
ARCES	ARCESS Array B	73.54	340	P	P	04 38 42.6	-0.2
	comp=Z,1.1nm,0.4s,mb4.1,baz=96,slow=6.1,SNR=13						
MORC	Moravsky Berou	73.61	319	eP	P	04 38 42.9	-0.7
MORC				e		04 38 53.2	
MORC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MORC	Moravsky Berou	73.61	319	eP	P	04 38 42.9	-0.7
	comp=Z,6.0nm,1.1s,mb4.4						
MORC				e		04 38 53.2	
ZST	Bratislava	73.78	317	eP	P	04 38 44.4	-0.2
LBTB	Lobatse	74.09	241	P	P	04 38 47.9	+1.0
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LBTB	Lobatse	74.09	241	P	P	04 38 47.9	+1.0
	comp=Z,2.1nm,0.6s,mb4.2						
DPC	Dobruska-Polom	74.44	320	eP	P	04 38 48.5	+0.1
KSP	Ksiaz	74.50	320	eP	P	04 38 49.0	+0.3
BILL	Bilibino	75.09	22	eP	P	04 38 51.3	-0.5
BILL				pmax	pmax		
	comp=Z,13nm,1.6s,mb4.6						
BILL				MLR	MLR		
	comp=Z,200nm,21.0s,MS4.4						
PRU	Pruhonice	75.56	319	eP	P	04 38 52.1	-2.8
VOY	Vojsko	75.87	315	e(P)	P	04 38 55.8	-0.9
VOY				e	pP	04 39 07.6	-4.9
VOY				e	pP	04 39 12.8	+0.3
BRG	Berggiesshubel	75.98	320	eP	P	04 38 57.3	0.0
BRG				e	pP	04 39 13.0	-0.1
BRG				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.7						
BRG	Berggiesshubel	75.98	320	eP	P	04 38 57.3	0.0
	comp=Z,16nm,1.6s,mb4.7						
BRG				e	pP	04 39 13.0	-0.1
GERES	GERESS Array B	76.07	318	P	P	04 38 58.0	+0.2
	comp=Z,3.2nm,0.7s,mb4.3,baz=91,slow=5.8,SNR=23						
KHC	Kasperske Hory	76.16	318	eP	P	04 38 58.3	0.0
KHC				epP	pP	04 39 12.5	-1.6
FX1	Attu Island--F	76.58	38	P	P	04 39 00.5	-0.1
	comp=Z,28nm,0.5s,mb5.4,baz=174,slow=2.1,SNR=8.2						
CLL	Collm	76.59	321	eP	P	04 39 01.0	+0.3
CLL	Collm	76.59	321	P	P	04 39 01.0	+0.3
GRA1	Grafenberg Arr	77.70	319	eP	P	04 39 07.3	+0.4
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.70	319	eP	P	04 39 07.3	+0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.70	319	eP	P	04 39 07.3	+0.4
GRF				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	Grafenberg Arr	77.70	319	eP	P	04 39 07.3	+0.4
	comp=Z,5.0nm,1.1s,mb4.4						
NB2	NORSAR Subarra	77.96	330	P	P	04 39 06.9	-1.2
	comp=Z,0.9nm,0.6s,baz=96,slow=5.0						
NB2	NORSAR Subarra	77.96	330	P	P	04 39 06.9	-1.2
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	77.96	330	P	P	04 39 07.1	-1.0
	comp=Z,1.6nm,0.7s,mb4.1,baz=93,slow=5.6,SNR=4.5						
NOA				LR	LR	05 18 33.6	
	comp=Z,137nm,18.9s,MS4.3,baz=20,slow=40						
LPG	La Plagne	80.88	315	⇑iP	P	04 39 24.7	+0.5
	comp=Z,18nm,0.8s,mb4.8						
LPG	La Plagne	80.88	315	⇑iP	P	04 39 24.7	+0.5
LPG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SYO	Syowa Base	86.52	197	⇑P	P	04 39 50.2	-1.9
RPZ	Rata Peaks	87.79	135	P	P	04 40 00.3	+1.5
	comp=Z,5.0nm,0.6s,mb4.9,baz=354,slow=7.8,SNR=5.5						
RPZ				LR	LR	05 16 51.6	
	comp=Z,149nm,21.3s,MS4.4,baz=92,slow=34						
IMA	Indian Mountai	90.63	22	eP	P	04 40 13.1	+1.4
	comp=Z,51nm,0.9s,mb5.8						
ILAR	Eielson Array	93.75	22	P	P	04 40 25.4	-0.7
	comp=Z,2.6nm,0.6s,mb4.8,baz=280,slow=3.9,SNR=53						
VNDA	Vanda	94.57	168	P	P	04 40 32.0	+2.4
	comp=Z,3.0nm,1.0s,mb4.7,baz=293,slow=7.3,SNR=8.4						
INK	Inuvik	95.85	16	P	P	04 40 36.1	+0.6
	comp=Z,6.2nm,0.6s,mb5.2,baz=333,slow=4.5,SNR=114						
INK	Inuvik	95.85	16	eP	P	04 40 35.9	+0.3
	comp=Z,12nm,0.9s,mb5.3						
RES	Resolute Bay	95.97	2	eP	P	04 40 36.8	+0.8
	comp=Z,5.4nm,0.9s,mb5.0						
YKA	Yellowknife Ar	105.22	13	PP	PP	04 45 36.0	-6.2
	comp=Z,2.6nm,1.0s,baz=334,slow=7.7,SNR=19						
ULM	Lac du Bonnet	120.13	7	PKP	PKPdf	04 46 00.2	+1.0
	comp=Z,1.6nm,0.6s,baz=305,slow=3.8,SNR=3.4						
PDAR	Pinedale Array	124.14	20	PKP	PKPdf	04 46 09.2	+2.1
	comp=Z,1.1nm,0.7s,baz=6.5,slow=2.3,SNR=11						
NVAR	Mina Array Bea	124.15	30	PKP	PKPdf	04 46 10.9	+3.6
	comp=Z,0.7nm,0.4s,baz=17,slow=1.8,SNR=1.7						
TXAR	Lajitas Array	138.26	22	PKhKP		04 46 26.8	
	comp=Z,0.1nm,0.4s,SNR=3.2						
TXAR				PKP	PKPdf	04 46 37.8	+3.6
	comp=Z,0.8nm,0.9s,baz=224,slow=1.8,SNR=5.2						
LPAZ	La Paz	160.49	247	PKP	PKPdf	04 47 10.7	+2.2
	comp=Z,0.8nm,0.8s,baz=145,slow=5.4,SNR=2.6						
LPAZ				PKPab	PKPab	04 47 54.1	+1.9
	comp=Z,0.9nm,0.7s,baz=250,slow=6.3,SNR=3.7						
LPAZ	La Paz	160.49	247	ePKPdf	PKPdf	04 47 10.1	+1.6
ROSC	El Rosal	161.15	318	PKP	PKPdf	04 47 12.8	+3.6
	comp=Z,2.2nm,0.6s,baz=81,slow=21,SNR=2.8						

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*IDC **14** 04:56:29.0±1.4, 20.51N×121.04E, mb3.8/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, MS2.8/1, Ms1 2.8/1, ms1mx2.2/25, Error ellipse: s-maj=106.8km s-min=22.7km az=75.0*

*NEIC **14** 04:56:30.3±0.9, 20.55N×121.17E, h10km, Error ellipse: s-maj=57.1km s-min=10.6km az=81.0*

ISC 14 04:56:28.4±1.0**, 20.5N**±0.1×**121.1E**±0.5**, h10km, n12, σ0.63**/11**, mb3.8**/6**, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	3.68	8	P	Pn	04 57 25.9	-0.7
JOW	Kunigami	9.13	45	LR	LR	05 02 11.7	
	comp=Z,54nm,19.2s,baz=37,slow=38						
SONM	Songino Array	29.73	340	P	P	05 02 37.2	+0.2
	0.2nm,0.4s,mb3.2,baz=158,slow=9.2,SNR=2.7						
SONM	Songino Array	29.73	340	P	P	05 02 37.2	+0.2
WRAB	Tennant Creek	42.25	161	eP	P	05 04 23.2	-0.7
WRA	Warramunga Arr	42.26	161	P	P	05 04 23.2	-0.7
	0.9nm,0.6s,mb3.6,baz=342,slow=9.1,SNR=8.4						
ASAR	Alice Springs	45.66	163	P	P	05 04 51.6	+0.3
	0.5nm,0.4s,mb3.8,baz=349,slow=6.8,SNR=7.2						
CTA	Charters Tower	47.29	147	P	P	05 05 05.2	+0.9
	4.2nm,0.7s,mb4.5,baz=339,slow=10,SNR=2.7						
STKA	Stephens Creek	55.69	159	P	P	05 06 07.3	-0.1
	0.8nm,0.5s,mb4.0,baz=226,slow=20,SNR=3.6						
STKA	Stephens Creek	55.69	159	eP	P	05 06 07.1	-0.3
YKA	Yellowknife Ar	86.39	23	P	P	05 09 12.7	+0.9
	0.2nm,0.7s,mb3.5,baz=312,slow=4.7,SNR=5.7						
YKA	Yellowknife Ar	86.39	23	P	P	05 09 12.7	+0.9

IDC 14 04:57:06.6±3.5**, 27.93S**×**73.58E, mb4.0**/3**, mb1 4.1**/3**, mb1mx3.7**/13**, mbtmp4.0**/3**, Error ellipse: s-maj=103.7km s-min=40.7km az=58.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	52.25	31	P	P	05 06 19.6	-2.3
	0.5nm,0.5s,baz=215,slow=8.6,SNR=6.1						
ASAR	Alice Springs	54.02	100	P	P	05 06 33.0	-2.0
	0.9nm,0.7s,baz=250,slow=6.8,SNR=7.1						
STKA	Stephens Creek	58.22	112	P	P	05 07 02.8	-2.3
	2.3nm,1.1s,baz=225,slow=18,SNR=2.8						
YKA	Yellowknife Ar	145.02	7	PKPbc	PKPbc	05 16 43.7	-1.6
	0.7nm,1.1s,baz=342,slow=3.8,SNR=6.1						

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*TIF **14** 04:58:04.0, 39.42N×40.81E, h9km±3km*

*ISK **14** 04:58:03.7, 39.42N×40.78E, h5km, ML4.5*

*MOS **14** 04:58:04.7±1.3, 39.38N×40.91E, h10km, mb4.7/44, Error ellipse: s-maj=6.4km s-min=3.2km az=43.5*

*IDC **14** 04:58:05.5±0.6, 39.45N×40.93E, mb4.2/18, mb1 4.3/24, mb1mx4.3/27, mbtmp4.2/24, ML3.9/5, MS4.0/4, Ms1 4.0/4, ms1mx3.6/23, Error ellipse: s-maj=13.8km s-min=8.1km az=174.0*

*NEIC **14** 04:58:06.6±0.4, 39.43N×40.96E, h10km, mb4.6/70, Error ellipse: s-maj=6.8km s-min=5.1km az=160.0*

*ZUR_RM **14** 04:58:06, 39.43N×40.96E, h21km, Mw4.9/18, Moment Tensor Solution. s18 Moment tensor: Scale 10^16Nm; M_{rr}0.97; $M_{\theta\theta}$-1.81; $M_{\phi\phi}$0.84; $M_{r\theta}$-0.13; $M_{\theta\phi}$-1.68; $M_{\phi r}$-0.17; Best double couple: $M_0$2.15×10^16 NP1:ϕ_s200°, δ87°, λ8°. NP2:ϕ_s109°, δ82°, λ177°. Principal axes: T 1.668, Plg8°, Azm64°; N .968, Plg82°, Azm223°; P -2.636, Plg3°, Azm334°;*

*BJI **14** 04:58:06.5, 39.40N×41.00E, h12km, mB5.3, mb4.8, Ms5.4, Msz5.0*

*CSEM **14** 04:58:09.9, 39.11N×41.18E, h80km, mb4.6*

ISC 14 04:58:05.3±0.2**, 39.42N**±0.02×**40.86E**±0.02**, h10km, n354, σ1.15**/371**, mb4.5**/88**, MS4.1**/7**, 19C-13D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRT	Varto	0.59	119	i PG	Pg	04 58 17.1	-0.1
BINT	Bingol	0.61	208	i PG	Pg	04 58 16.3	-1.4
EZM	Erzurum	0.62	38	i PG	Pg	04 58 17.9	0.0
ERZM	Erzurum	0.62	38	i P	Pb	04 58 17.8	-0.1
ERZM				i S	Sg	04 58 26.6	+0.3
EZC	Erzincan	0.87	293	i PN	Pn	04 58 26.7	+3.2
PTK	Pertek	1.26	246	i Pn	Pn	04 58 27.7	-1.3
PTK				i Sn	Sn	04 58 45.5	-0.5
BTMT	Batman	1.32	158	i PN	Pn	04 58 30.0	+0.2
GUMT	Gumushane	1.49	315	PN	Pn	04 58 31.7	-0.6
BEST	Besiri	1.56	168	i P	Pn	04 58 34.2	+1.0
BEST				i S	Sb	04 58 53.6	+0.2
DIY	Diyarbakir	1.60	198	i PN	Pn	04 58 34.6	+0.8
ELZG	Elazig	1.73	239	i P	Pn	04 58 35.2	-0.5
ELZG				i S	Sn	04 59 07.7	+10
KARS	Kars	2.09	54	PN	Pn	04 58 42.1	+1.2
BCA	Borcka	2.11	16	PN	Pn	04 58 42.5	+1.3
VANB	Van	2.13	112	PN	Pn	04 58 42.8	+1.3
TVAN	Van	2.17	113	i P	Pn	04 58 43.4	+1.4
TVAN				i S	Sn	04 59 08.9	-0.4
MYA	Malataya	2.19	241	PN	Pn	04 58 42.4	+0.1
MALT	Malatya	2.20	241	PN	Pn	04 58 41.6	-0.8
MALT	Malatya	2.20	241	⇑ePn	Pn	04 58 42.0	-0.4
MALT	Malatya	2.20	241	⇑ePn	Pn	04 58 42.0	-0.4
VANT	Van	2.20	115	ePN	Pn	04 58 43.1	+0.7
CLDR	Caldiran	2.39	96	ePN	Pn	04 58 46.6	+1.5
URFA	Urfa	2.54	220	ePN	Pn	04 58 47.8	+0.5
GNI	Garni	3.08	75	ePN	Pn	04 58 55.3	+0.3
GNI	Garni	3.08	75	Pn	Pn	04 58 55.9	+0.9
	7.6nm,0.3s,baz=280,slow=3.5,SNR=36						
GNI				Pg	Pg	04 59 02.4	-4.4
	31nm,0.3s,baz=231,slow=2.0,SNR=93						
GNI	Garni	3.08	75	⇑ePn	Pn	04 58 55.5	+0.5
GNI				e		04 59 01.1	
GNI	Garni	3.08	75	eP	Pn	04 58 55.5	+0.5
GZT	Gaziantep	3.31	233	i P	Pn	04 58 58.4	+0.1
GZT				i S	Sn	04 59 43.2	+5.2
TOKT	Tokat	3.44	287	ePN	Pn	04 58 59.8	-0.4
GAZ	Gaziantep	3.64	233	ePN	Pn	04 59 02.0	-1.0
ONI	Oni	3.72	31	P	Pn	04 59 05.1	+1.0
ONI				S	Px	04 59 15.8	
TI2	Plekhanov	3.76	51	⇑iP	Pn	04 59 05.4	+0.8
TI2				pmax	pmax		
	comp=Z,160nm,0.6s						
TI2				pmax	pmax		
	comp=Z,250nm,0.6s						
TI2				pmax	pmax		
	comp=Z,2μm,1.5s						
TI2				MLR	MLR		
	comp=N,6μm,6.5s						
TI2				MLR	MLR		
	comp=E,8μm,6.5s						
TI2				MLR	MLR		
	comp=Z,8μm,6.5s						
TI2	Plekhanov	3.76	51	⇑iP	Pn	04 59 05.4	+0.8
	comp=Z,160nm,0.6s						
MTA	Mtatsminda	3.76	52	P	Pn	04 59 05.1	+0.4
MTA				S	Sn	05 00 16.4	+27
DUS	Dusheti	3.96	46	P	Pn	04 59 08.2	+0.8
DUS				S	Sn	04 59 22.0	-32
ZEI	Tsey	4.06	33	eP	Pn	04 59 08.0	-1.0
ZEI				e		04 59 55.7	
ZEI				pmax	pmax		
	comp=Z,124nm,0.6s						
ZEI				smax			
	comp=Z,342nm,1.1s						
ZEI	Tsey	4.06	33	eP	Pn	04 59 08.0	-1.0
	comp=Z,124nm,0.6s						
ZEI				eS	Sn	04 59 55.7	-1.4
	comp=Z,342nm,1.1s						
SOC	Sochi	4.25	349	i P	Pn	04 59 11.2	-0.5
SOC				e		05 00 00.7	
SOC				pmax	pmax		
	comp=Z,200nm,0.5s						
SOC				pmax	pmax		
	comp=N,186nm,0.7s						
SOC				pmax	pmax		
	comp=E,82nm,0.4s						
SOC				MLR	MLR		
	comp=Z,1μm,11.0s						
SOC				MLR	MLR		
	comp=N,2μm,13.0s						
SOC				MLR	MLR		
	comp=E,3μm,13.0s						
SOC	Sochi	4.25	349	eP	Pn	04 59 10.9	-0.8
SOC	Sochi	4.25	349	i P	Pn	04 59 11.2	-0.5
	comp=E,186nm,0.7s						
KIV	Kislovodsk	4.74	16	c iP	Pn	04 59 19.7	+1.1
KIV	Kislovodsk	4.74	16	ePn	Pn	04 59 19.6	+1.1
GOF	Gofitskoye	5.87	15	⇑iP	Pn	04 59 36.0	+1.5
GOF				i S	Sn	05 00 45.3	+2.8
GOF				pmax	pmax		
	comp=Z,20nm,0.8s						
GOF				smax			
	comp=E,770nm,2.5s						
GOF	Gofitskoye	5.87	15	i P	Pn	04 59 36.0	+1.5
	comp=E,20nm,0.8s						
ANN	Anapa	5.95	336	⇓iP	Pn	04 59 42.8	+7.1
ANN				eS	Sn	05 00 58.3	+14
ANN				pmax	pmax		
	comp=Z,226nm,1.2s						
ANN				MLR	MLR		
	comp=N,817nm,13.0s						
ANN				MLR	MLR		
	comp=E,665nm,13.0s						
ANN				MLR	MLR		
	comp=Z,1μm,13.0s						
ANTO	Ankara	6.24	277	⇓P	Pn	04 59 46.4	+6.6
HWQ	Hawqa	6.47	219	ePN	Pn	04 59 44.8	+1.8
BHD	Baghdad	6.76	154	ePn	Pn	04 58 52.0	-55
BHD				ePb	Pb	04 59 12.0	-51
BHD				ePg	Pg	04 59 29.5	-51
BHD				eSn	Sn	05 00 26.0	-39
BHD				eSg	Sg	05 01 30.5	-20
BHL	Bhannes	6.91	219	ePN	Pn	04 59 50.5	+1.3
SIM	Simferopol’	7.46	320	P	Pn	05 00 03.0	+6.1
SIM				S	Sn	05 01 27.0	+4.6
CSS	Prodhromos	7.47	236	ePn	Pn	04 59 58.5	+1.4
ASF	Jabal al Asfar	7.91	205	Pn	Pn	05 00 02.9	-0.3
	comp=Z,1.2nm,0.3s,baz=16,slow=9.3,SNR=6.8						
ASF				Lg		05 02 16.7	
	comp=Z,0.6nm,0.3s,baz=248,slow=22,SNR=3.4						
ISP	Isparta	8.25	262	eP	P	05 00 09.3	+1.3
ISP				pmax	pmax		
	comp=Z,16nm,0.8s						
ISP	Isparta	8.25	262	ePn	P	05 00 09.2	+1.3
	comp=Z,16nm,0.8s						
ISP	Isparta	8.25	262	ePn	P	05 00 09.2	+1.2
	comp=Z,16nm,0.8s						
TLCR		10.62	307	⇑P	P	05 00 42.3	+1.7
EIL	Elat	10.87	208	Pn	P	05 00 43.3	-0.8
	comp=Z,0.2nm,0.3s,baz=67,slow=25,SNR=2.0						
EIL				Lg		05 03 53.7	
	comp=Z,0.2nm,0.3s,baz=73,slow=19,SNR=3.2						
EIL	Elat	10.87	208	Pn	P	05 00 43.3	-0.8
EIL				Lg		05 03 53.7	
HARR	Harsova	10.96	303	⇓P	P	05 00 45.6	+0.4
KIS	Kishinev	11.60	315	eP	P	05 00 56.0	+2.1
KIS				eS	S	05 03 05.0	+0.5
ISR	Istrita	12.04	303	⇑P	P	05 01 02.1	+2.3
VRI	Vrincioaia	12.23	306	⇑P	P	05 01 03.9	+1.4
MLR	Muntele Rosu	12.57	304	Pn	P	05 01 07.7	+0.7
	comp=Z,0.3nm,0.3s,baz=121,slow=14,SNR=5.9						
MLR				Sn	S	05 03 36.8	+8.6
	comp=Z,0.2nm,0.3s,baz=292,slow=19,SNR=2.5						
MLR	Muntele Rosu	12.57	304	⇓P	P	05 01 12.5	+5.5
PGB	Panagyurishte	13.00	289	eP	P	05 01 22.0	+9.3
MMB	Musomiste	13.22	285	eP	P	05 01 24.0	+8.3
IDI	Anoyia	13.36	257	Pn	P	05 01 18.0	+0.5
	comp=Z,0.4nm,0.3s,baz=56,slow=15,SNR=3.8						
VTS	Vitosha	13.71	289	eP	P	05 01 36.0	+14
KKB	Krupnik	13.72	286	eP	P	05 01 28.0	+5.7
KMPD	K-Podol’skiy	13.80	316	P	P	05 01 28.0	+4.7
KIEV	Kiev	13.94	328	P	P	05 01 23.0	-2.1
BURAR	Bucovina Array	13.98	311	⇓P	P	05 01 31.7	+6.0
BURAR	Bucovina Array	13.98	311	⇓P	P	05 01 31.7	+6.1
GVD	Gavdhos	14.14	256	P	P	05 01 28.4	+0.7
GVD	Gavdhos	14.14	256	P	P	05 01 28.5	+0.7
OBN	Obninsk	15.97	351	i P	P	05 01 50.4	-1.1
OBN				pmax	pmax		
	comp=Z,44nm,0.9s						
OBN				MLR	MLR		
	comp=Z,500nm,20.0s						
OBN	Obninsk	15.97	351	eP	P	05 01 50.0	-1.4
	comp=Z,36nm,0.6s						
OBN	Obninsk	15.97	351	i P	P	05 01 50.4	-1.1
	comp=Z,500nm,20.0s						
DIVS	Divcibare	16.25	293	⇓iP	P	05 01 57.9	+2.7
KOLS	Kolonicke sedl	16.34	312	eP	P	05 01 58.6	+2.3
KWP	Kalwaria	16.45	314	eP	P	05 01 58.4	+0.8
MOS	Moscow	16.47	354	eP	P	05 01 55.7	-2.2
MOS				e		05 05 10.2	
MOS				pmax	pmax		
	comp=Z,72nm,1.0s						
MOS	Moscow	16.47	354	eP	P	05 01 55.7	-2.2
	comp=Z,72nm,1.0s						
CRVS	Cervenica-Dubn	16.80	311	ePN	P	05 02 00.5	-1.6
CRVS				e		05 02 13.6	
PSZ	Piszkesteto	17.35	306	eP	P	05 02 09.2	+0.2
PSZ				pmax	pmax		
	comp=Z,21nm,1.1s						
PSZ	Piszkesteto	17.35	306	eP	P	05 02 09.2	+0.3
	comp=Z,21nm,1.1s						
PSZ	Piszkesteto	17.35	306	⇑eP	P	05 02 09.9	+0.9
PSZ	Piszkesteto	17.35	306	eP	P	05 02 09.2	+0.2
	comp=Z,21nm,1.1s						
MNK	Minsk	17.47	334	eP	P	05 02 09.0	-1.4
PKSM	Moragy	17.63	300	P	P	05 02 14.0	+1.5
PKSM	Moragy	17.63	300	⇑eP	P	05 02 13.6	+1.1
NIE	Niedzica	17.71	311	eP	P	05 02 11.4	-2.1
VYHS	Vyhne	18.22	307	eP	P	05 02 20.2	+0.3
SRO2	Moca	18.24	305	eP	P	05 02 21.9	+1.7
OJC	Ojcow	18.37	313	eP	P	05 02 19.9	-1.9
TIP	Timpagrande	18.65	277	eP	P	05 02 27.0	+1.7
TIP	Timpagrande	18.65	277	eP	P	05 02 27.0	+1.8
SUW	Suwalki	18.90	326	eP	P	05 02 26.8	-1.3
SMOL	Smolenice	19.10	306	eP	P	05 02 32.1	+1.5
OKC	Ostrava-Krasne	19.16	310	eP	P	05 02 30.4	-0.9
ZST	Bratislava	19.20	305	eP	P	05 02 32.4	+0.6
SOP	Sopron	19.40	303	P	P	05 02 35.5	+1.4
SOP	Sopron	19.40	303	⇓eP	P	05 02 34.7	+0.6
MRLC	Muro Lucano	19.45	282	eP	P	05 02 34.5	-0.1
MRLC	Muro Lucano	19.45	282	eP	P	05 02 34.5	-0.1
MORC	Moravsky Berou	19.50	310	P	P	05 02 34.1	-1.0
MORC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MORC	Moravsky Berou	19.50	310	P	P	05 02 34.1	-1.0
	comp=Z,7.8nm,1.0s						
MORC	Moravsky Berou	19.50	310	ePn	P	05 02 34.3	-0.8
SGO	Sicignano	19.60	282	eP	P	05 02 36.3	-0.1
MTTG	Motta San Giov	19.68	274	eP	P	05 02 37.6	+0.3
MTTG	Motta San Giov	19.68	274	eP	P	05 02 37.6	+0.3
CSSN	Cassano Irpino	19.79	282	P	P	05 02 38.5	0.0
VRAC	Vranov	19.89	308	P	P	05 02 40.2	+0.6
	comp=Z,0.2nm,0.3s,baz=78,slow=13,SNR=2.6						
VRAC	Vranov	19.89	308	⇓P	P	05 02 43.0	+3.4
VRAC	Vranov	19.89	308	ePn	P	05 02 39.5	-0.1
CII	Carovilli	20.28	285	eP	P	05 02 43.8	+0.1
CII	Carovilli	20.28	285	eP	P	05 02 43.8	0.0
MIDA	Miranda	20.32	285	P	P	05 02 45.5	+1.3
DPC	Dobruska-Polom	20.44	310	eP	P	05 02 46.1	+0.7
SDI	San Donato	20.65	285	eP	P	05 02 47.0	-0.6
KSP	Ksiaz	20.66	312	⇑eP	P	05 02 48.8	+1.2
KSP				e*PP		05 02 57.1	
KSP	Ksiaz	20.66	312	eP	P	05 02 48.3	+0.7
KSP	Ksiaz	20.66	312	⇑eP	P	05 02 48.8	+1.2
UPC	Upice	20.69	311	eP	P	05 02 49.7	+1.8
VAE	Valguarnera	20.79	273	P	P	05 02 49.9	+0.9
	comp=Z,18nm,1.1s,baz=51,slow=15,SNR=2.9						
VAE				LR	LR	05 12 46.4	
	comp=Z,322nm,18.5s,MS3.7,baz=333,slow=42						
AQU	L’Aquila	20.93	287	eP	P	05 02 49.7	-0.8
MOA	Molln	20.94	302	⇑iP	P	05 02 49.9	-0.6
	comp=Z,19nm,0.9s						
PTQR	Pietraquaria	20.94	286	eP	P	05 02 50.7	+0.1
PTQR	Pietraquaria	20.94	286	eP	P	05 02 50.7	+0.1
NRCA	Norcia	21.14	288	eP	P	05 02 52.9	+0.3
NRCA	Norcia	21.14	288	eP	P	05 02 52.9	+0.3
PTCC	Patocco-Chiusa	21.26	298	eP	P	05 02 55.3	+1.5
SNTG	Esanatoglia	21.27	289	eP	P	05 02 53.6	-0.4
SNTG	Esanatoglia	21.27	289	eP	P	05 02 53.6	-0.3
ARV	Arcevia	21.28	290	eP	P	05 02 52.4	-1.5
ARV	Arcevia	21.28	290	eP	P	05 02 52.4	-1.6
GMNA	Gemona	21.32	298	eP	P	05 02 54.9	+0.6
GMNA	Gemona	21.32	298	eP	P	05 02 54.9	+0.5
PRU	Pruhonice	21.38	308	eP	P	05 02 54.6	-0.4
KBA	Koelnbreinsper	21.38	300	⇑iP	P	05 02 55.2	+0.2
	comp=Z,35nm,1.0s,mb4.6						
KBA	Koelnbreinsper	21.38	300	⇑iP	P	05 02 55.2	+0.2
KBA				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.6						
FSSB	Fossombrone	21.40	291	eP	P	05 02 55.2	0.0
FSSB	Fossombrone	21.40	291	eP	P	05 02 55.2	0.0
MNS	Montasola	21.47	287	eP	P	05 02 58.2	+2.3
PVCC	Panska Ves	21.55	310	eP	P	05 02 55.9	-0.8
GEC2	GERESS Array S	21.55	305	eP	P	05 02 56.4	-0.4
GEC2				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
GEC2	GERESS Array S	21.55	305	eP	P	05 02 56.4	-0.4
	comp=Z,17nm,1.1s,mb4.4						
GERES	GERESS Array B	21.55	305	P	P	05 02 55.8	-1.0
	comp=Z,3.5nm,0.7s,mb3.9,baz=113,slow=10,SNR=20						
RSM	Repubblica di	21.65	291	P	P	05 02 58.7	+1.0
FVI	Forni Avoltri	21.68	299	P	P	05 03 00.3	+2.3
KHC	Kasperske Hory	21.71	306	eP	P	05 02 57.3	-1.0
BRG	Berggiesshubel	22.05	310	eP	P	05 02 59.6	-2.1
BRG				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.4						
BRG	Berggiesshubel	22.05	310	eP	P	05 02 59.6	-2.1
	comp=Z,20nm,1.3s,mb4.4						
BRG				e		05 03 16.5	
BRG				e		05 05 01.1	
SFI	Santa Sofia	22.08	291	eP	P	05 03 06.6	+4.5
WET	Wettzell	22.16	305	eP	P	05 03 02.0	-0.8
WET				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
WET	Wettzell	22.16	305	eP	P	05 03 02.0	-0.8
	comp=Z,13nm,1.1s,mb4.3						
PGD	Poggio Sodo	22.17	291	eP	P	05 03 04.6	+1.6

VMG Vicchio 22.30 291 eP P 05 03 06.5 +2.2
CTI Castel Tesino 22.38 297 eP P 05 03 07.1 +2.1
SEI Scarperia 22.44 292 eP P 05 03 08.8 +3.2
WATA Walderalm 22.61 300⇓iP P 05 03 08.3 +1.0
comp=Z,14nm,1.2s,mb4.3
WATA Walderalm 22.61 300⇓iP P 05 03 08.3 +1.0
WATA pmax pmax
comp=Z,14nm,1.2s,mb4.3
NKC Novy Kostel 22.74 308 eP P 05 03 08.9 +0.5
CLL Collm 22.75 311 i P P 05 03 08.7 +0.1
CLL i 05 03 13.8
CLL pmax pmax
comp=Z,24nm,1.4s,mb4.4
CLL Collm 22.75 311 i P P 05 03 08.7 +0.1
comp=Z,24nm,1.4s,mb4.4
CLL i 05 03 13.8
CLL i 05 03 22.1
CLL Collm 22.75 311 P P 05 03 08.7 +0.1
comp=Z,logA/T=1.2,mb4.4
CLL i 05 03 13.8
CLL i 05 03 22.1
CLL i 05 03 49.8
SQTA Sankt Quirin 22.84 300⇑iP P 05 03 09.6 +0.1
comp=Z,18nm,1.2s,mb4.4
SQTA Sankt Quirin 22.84 300⇑iP P 05 03 09.6 +0.1
SQTA pmax pmax
comp=Z,18nm,1.2s,mb4.4
MOTA Moosalm 22.93 300⇓iP P 05 03 10.3 -0.1
comp=Z,0.4nm,0.9s
FUR Furstenfeldbru 22.96 302 eP P 05 03 10.9 +0.2
FUR pmax pmax
comp=Z,25nm,0.9s,mb4.6
FUR Furstenfeldbru 22.96 302 eP P 05 03 10.9 +0.2
comp=Z,25nm,0.9s,mb4.6
GSCL Gusciola 23.00 292 eP P 05 03 14.9 +3.8
SARO Sassorosso 23.13 292 P P 05 03 19.3 +7.0
BRMO Bormio 23.31 298 eP P 05 03 17.4 +3.3
VINC Vinca 23.31 292 P P 05 03 20.2 +6.2
GRA1 Grafenberg Arr 23.35 306 eP P 05 03 15.3 +0.9
comp=Z,118nm,1.4s,mb5.1
GRF Grafenberg Arr 23.35 306 eP P 05 03 15.3 +0.9
GRF pmax pmax
comp=Z,118nm,1.4s,mb5.1
GRF Grafenberg Arr 23.35 306 eP P 05 03 15.3 +0.9
GRF pmax pmax
comp=Z,118nm,1.4s,mb5.1
GRF Grafenberg Arr 23.35 306 eP P 05 03 15.3 +0.9
comp=Z,118nm,1.4s,mb5.1
MOX Moxa 23.37 308 eP P 05 03 18.1 +3.5
MOX pmax pmax
comp=Z,19nm,1.5s,mb4.3
MOX Moxa 23.37 308 eP P 05 03 18.1 +3.5
comp=Z,19nm,1.5s,mb4.3
MOX Moxa 23.37 308 i P P 05 03 18.1 +3.5
comp=Z,logA/T=1.1,mb4.3
CODM 23.53 292 P P 05 03 22.0 +5.8
DAVOX Davos 23.68 298 P P 05 03 19.1 +1.5
comp=Z,6.0nm,0.7s,mb4.2,baz=82,slow=7.4,SNR=7.5
FINES FINESS Array B 23.87 342 P P 05 03 19.3 0.0
comp=Z,9.0nm,0.8s,mb4.2,baz=146,slow=10,SNR=30
FINES LR LR 05 14 29.8
comp=Z,273nm,18.3s,MS3.8,baz=276,slow=41
PGF Pioggiola 24.18 288 eP P 05 03 22.5 -0.1
comp=Z,139nm,1.7s,mb4.8
PGF Pioggiola 24.18 288 eP P 05 03 22.5 -0.1
PGF pmax pmax
comp=Z,70nm,1.7s,mb4.8
JOF Joensuu 24.23 349 ep P 05 03 22.7 -0.2
BVAR Borovoye Array 24.34 46 P P 05 03 24.6 +0.6
comp=Z,3.9nm,0.8s,mb3.9,baz=243,slow=6.6,SNR=14
VAI Varese 24.36 296 P P 05 03 27.2 +2.9
KAF Kangasniemi 24.40 343 ep P 05 03 23.3 -1.3
PCP Pian Castagno 24.47 293 P P 05 03 27.9 +2.5
CLZ Clausthal 24.48 311 eP P 05 03 26.2 +0.8
comp=Z,21nm,1.3s,mb4.4
CHKZ Chkalovo 24.71 45 eP P 05 03 26.5 -1.1
CHKZ pmax pmax
comp=Z,71nm,0.6s,mb5.4
CHKZ Chkalovo 24.71 45 eP P 05 03 26.5 -1.2
comp=Z,71nm,0.6s,mb5.4
TOD Tromm 24.85 305 eP P 05 03 29.7 +0.7
ORX Oropa 24.90 295 P P 05 03 32.3 +2.8
IMI Imperia 24.94 291 P P 05 03 31.3 +1.4
MONE Monesi 25.03 292 P P 05 03 31.6 +0.8
TRAV 25.06 295 P P 05 03 32.5 +1.5
FELD Feldberg 25.08 301 eP P 05 03 32.1 +0.9
BSEG Bad Segeberg 25.25 315 eP P 05 03 33.7 +1.0
SBF Sospel 25.27 291 eP P 05 03 32.8 -0.2
comp=Z,82nm,1.0s,mb4.9
SBF Sospel 25.27 291 eP P 05 03 32.8 -0.2
SBF pmax pmax
comp=Z,41nm,1.0s,mb4.9
ENR Entracque 25.27 292 P P 05 03 33.3 +0.2
BBS Basel-Blauen 25.37 299 eP P 05 03 33.2 -0.7
RSP Reno Superiore 25.39 294 P P 05 03 34.8 +0.6
DOI San Damiano 25.40 293 eP P 05 03 35.5 +1.3
TOUF Mont Tournerai 25.40 291 eP P 05 03 35.9 +1.6
LSD Ceresole Reale 25.47 295 P P 05 03 36.4 +1.5
AAK Ala-Archa 25.48 72 P P 05 03 35.8 +0.8
comp=Z,41nm,0.8s,mb5.0,SNR=10
AAK Ala-Archa 25.48 72d iP P 05 03 35.5 +0.5
AAK pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
AAK MLR MLR
comp=Z,300nm,18.0s,MS3.9
AAK Ala-Archa 25.48 72 eP P 05 03 34.6 -0.5
comp=Z,13nm,0.9s,mb4.5
PZZ Prazzo 25.50 293 P P 05 03 34.0 -1.2
FENE Fenestrelle 25.53 294 P P 05 03 35.1 -0.4
FRU Bishkek 25.56 71 eP P 05 03 36.5 +0.7
FRU pmax pmax
comp=Z,40nm,1.5s,mb4.7
CDF Champ du Feu 25.64 302 eP P 05 03 34.8 -1.7
comp=Z,19nm,1.1s,mb4.2
CDF Champ du Feu 25.64 302 eP P 05 03 34.8 -1.7
CDF pmax pmax
comp=Z,9.0nm,1.1s,mb4.2
ECH Echery 25.69 301 eP P 05 03 39.7 +2.8
RRL Cesana Torines 25.73 293 P P 05 03 37.0 -0.3
MBDF Montbardon 25.73 293 eP P 05 03 36.8 -0.6
comp=Z,32nm,0.8s,mb4.6
MBDF Montbardon 25.73 293 eP P 05 03 36.8 -0.6
MBDF pmax pmax
comp=Z,16nm,0.8s,mb4.6
LPG La Plagne 25.76 295 eP P 05 03 37.2 -0.4
comp=Z,33nm,0.9s,mb4.6
LPG La Plagne 25.76 295 eP P 05 03 37.2 -0.4
LPG pmax pmax
comp=Z,17nm,0.9s,mb4.6
LPL La Plagne 25.77 295 eP P 05 03 37.2 -0.5
comp=Z,43nm,1.2s,mb4.5
LPL La Plagne 25.77 295 eP P 05 03 37.2 -0.5
LPL pmax pmax
comp=Z,21nm,1.2s,mb4.5
BNI Bardonecchia 25.80 294 eP P 05 03 37.9 -0.1
BNI pmax pmax
comp=Z,33nm,1.3s,mb4.7
BNI Bardonecchia 25.80 294 eP P 05 03 37.9 -0.1
comp=Z,33nm,1.3s,mb4.7
LOMF Lomont 25.82 299 eP P 05 03 40.3 +2.2
HINF Hinteralfeld 25.85 300 eP P 05 03 37.2 -1.2
comp=Z,22nm,1.1s,mb4.3
HINF Hinteralfeld 25.85 300 eP P 05 03 37.2 -1.2
HINF pmax pmax
comp=Z,11nm,1.1s,mb4.3
FRF La Foret Royal 25.85 290 eP P 05 03 37.7 -0.8
comp=Z,49nm,1.1s,mb4.6
FRF La Foret Royal 25.85 290 eP P 05 03 37.7 -0.8
FRF pmax pmax
comp=Z,24nm,1.1s,mb4.6
LMR La Mourre 25.96 290 eP P 05 03 39.0 -0.5
comp=Z,75nm,1.5s,mb4.7
LMR La Mourre 25.96 290 eP P 05 03 39.0 -0.5
LMR pmax pmax
comp=Z,37nm,1.5s,mb4.7
HAU Haudompre 26.20 300 eP P 05 03 40.4 -1.3
CABF La Chapelle 26.27 297 eP P 05 03 41.9 -0.4
comp=Z,99nm,1.0s,mb5.0
CABF La Chapelle 26.27 297 eP P 05 03 41.9 -0.4
CABF pmax pmax
comp=Z,50nm,1.0s,mb5.0
ORIF Oris-en-Rattie 26.37 293 eP P 05 03 41.3 -2.0
comp=Z,12nm,0.9s,mb4.1
ORIF Oris-en-Rattie 26.37 293 eP P 05 03 41.3 -2.0
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
SMRF Simiane la Rot 26.61 291 eP P 05 03 44.5 -1.0
comp=Z,32nm,1.3s,mb4.4
HFS Hagfors 26.82 330 P P 05 03 47.5 +0.3
comp=Z,9.1nm,0.6s,mb4.5,baz=135,slow=10,SNR=20
HFA0 Hagfors New Ar 26.83 330 P P 05 03 47.9 +0.6
KSH Kashi 27.01 78 eP P 05 03 54.1 +4.9
KSH eAP pP 05 03 58.0 +5.9
KSH eXP sP 05 04 01.5 +8.1
KSH ePCP PcP 05 07 11.3 +0.2
KSH eS S 05 08 33.3 +8.5
KSH eXS 05 08 40.0
KSH eSCP 05 10 50.0
KSH ePCS 05 10 52.8
KSH AMB AMB
comp=Z,370nm,5.2s
KSH LR LR
comp=N,860nm,6.7s
KSH LR LR
comp=E,770nm,7.8s
VIVF Saint-Julien-l 27.23 293 eP P 05 03 49.5 -1.6
comp=E,20nm,1.1s,mb4.3
VIVF Saint-Julien-l 27.23 293 eP P 05 03 49.5 -1.6
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
SMF Signal de Mont 27.81 297 eP P 05 03 55.1 -1.4
comp=Z,26nm,1.2s,mb4.4
SMF Signal de Mont 27.81 297 eP P 05 03 55.1 -1.4
SMF pmax pmax
comp=Z,13nm,1.2s,mb4.4
LASF Ste Croix 27.84 292 eP P 05 03 55.5 -1.2
comp=Z,21nm,1.2s,mb4.3
SSF Saint Saulge 28.06 298 eP P 05 03 57.3 -1.3
AVF Avril sur Loir 28.15 298 eP P 05 03 57.9 -1.6
comp=Z,15nm,1.0s,mb4.3
AVF Avril sur Loir 28.15 298 eP P 05 03 57.9 -1.6
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
NB2 NORSAR Subarra 28.35 330 P P 05 04 00.4 -0.7
comp=Z,12nm,1.7s,mb4.2,baz=126,slow=9.3
NB2 NORSAR Subarra 28.35 330 P P 05 04 00.4 -0.7
NB2 pmax pmax
comp=Z,12nm,1.7s,mb4.2
NOA NORSAR Array B 28.35 330 P P 05 04 00.6 -0.5
comp=Z,2.3nm,0.8s,mb3.8,baz=126,slow=8.8,SNR=6.8
KURK Kurchatov 28.66 54 i P P 05 04 02.9 -1.1
KURK Kurchatov 28.66 54 eP P 05 04 03.0 -1.0
TCF Toulx Ste Croi 28.94 296 eP P 05 04 05.3 -1.3
comp=Z,16nm,1.1s,mb4.4
TCF Toulx Ste Croi 28.94 296 eP P 05 04 05.3 -1.3
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
CAF Calviac 29.08 294 eP P 05 04 06.7 -1.2
MTLF Montolieu 29.09 290 eP P 05 04 06.6 -1.3
ETOS Mallorca 29.18 283 P P 05 04 08.8 -0.1
comp=Z,6.7nm,0.7s,mb4.5
ETOS Mallorca 29.18 283 P P 05 04 08.8 0.0
comp=Z,6.7nm,0.7s,mb4.5,SNR=7.9
RJF Les Rejaudoux 29.45 294 eP P 05 04 10.4 -0.8
comp=Z,18nm,1.2s,mb4.4
RJF Les Rejaudoux 29.45 294 eP P 05 04 10.4 -0.8
RJF pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
EMIR Miracle 29.77 288 P P 05 04 13.9 -0.2
comp=Z,4.4nm,0.9s,mb4.2
EMIR Miracle 29.77 288 P P 05 04 13.9 -0.2
comp=Z,4.4nm,0.9s,mb4.2,SNR=4.0
EIBI Ibiza 30.45 282 P P 05 04 18.4 -1.8
comp=Z,4.4nm,0.7s,mb4.3
EIBI Ibiza 30.45 282 P P 05 04 18.4 -1.8
comp=Z,4.4nm,0.7s,mb4.3,SNR=7.9
EPF Esparros 30.48 290 eP P 05 04 17.7 -2.7
comp=Z,9.6nm,1.0s,mb4.2
EPF Esparros 30.48 290 eP P 05 04 17.7 -2.7
EPF pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
MFF Saint Martin d 30.56 297 eP P 05 04 18.8 -2.3
comp=Z,57nm,1.7s,mb4.8
MFF Saint Martin d 30.56 297 eP P 05 04 18.8 -2.3
MFF pmax pmax
comp=Z,29nm,1.7s,mb4.8
EBIE Bielsa 30.67 289 P P 05 04 21.7 -0.4
comp=Z,5.2nm,1.1s,mb4.3,SNR=4.6
FLN La Foliniere 30.80 301 eP P 05 04 20.9 -2.2
ERTA Horta de San J 30.81 286 P P 05 04 23.3 0.0
comp=Z,3.3nm,0.8s,mb4.2
ERTA Horta de San J 30.81 286 P P 05 04 23.3 0.0
comp=Z,3.3nm,0.8s,mb4.2,SNR=7.9
GRR Gorron 31.04 301 eP P 05 04 23.0 -2.3
comp=Z,42nm,1.4s,mb4.8
GRR Gorron 31.04 301 eP P 05 04 23.0 -2.3
GRR pmax pmax
comp=Z,21nm,1.4s,mb4.8
ETSF Etsaut 31.16 290 eP P 05 04 24.6 -1.7
comp=Z,13nm,0.9s,mb4.5
ETSF Etsaut 31.16 290 eP P 05 04 24.6 -1.7
ETSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
ESAC San Caprasio 31.27 288 P P 05 04 26.9 -0.5
comp=Z,9.4nm,0.7s,mb4.7
ESAC San Caprasio 31.27 288 P P 05 04 26.9 -0.5
comp=Z,9.4nm,0.7s,mb4.7,SNR=7.9
ARCES ARCESS Array B 31.27 350 P P 05 04 26.9 -0.2
comp=Z,7.0nm,0.9s,mb4.5,baz=164,slow=8.8,SNR=12
ARCES LR LR 05 17 43.2
comp=Z,359nm,21.4s,MS4.0,baz=274,slow=38
EMOS Mosqueruela 31.53 285 P P 05 04 29.4 -0.3
comp=Z,11nm,0.7s,mb4.8
EMOS Mosqueruela 31.53 285 P P 05 04 29.4 -0.2
comp=Z,11nm,0.7s,mb4.8,SNR=10
SJPF Ste Jean 31.61 291 eP P 05 04 28.4 -1.9
comp=Z,12nm,1.0s,mb4.4
SJPF Ste Jean 31.61 291 eP P 05 04 28.4 -1.9
SJPF pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
EBEN Beniarda 31.72 282 P P 05 04 30.8 -0.5
comp=Z,3.7nm,0.8s,mb4.3,SNR=7.9
SGMF Saint Gilles 32.17 300 eP P 05 04 33.4 -1.8
comp=Z,26nm,1.2s,mb4.7
SGMF Saint Gilles 32.17 300 eP P 05 04 33.4 -1.8
SGMF pmax pmax
comp=Z,13nm,1.2s,mb4.6
QUIF Quistinic 32.59 300 eP P 05 04 36.6 -2.2
comp=Z,16nm,1.0s,mb4.6
QUIF Quistinic 32.59 300 eP P 05 04 36.6 -2.2
QUIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ROSF Rostrenen 32.65 301 eP P 05 04 37.5 -1.9
comp=Z,9.2nm,0.9s,mb4.4
ROSF Rostrenen 32.65 301 eP P 05 04 37.5 -1.9
ROSF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ETOB Tobarra 32.73 282 P P 05 04 41.4 +1.2
comp=Z,4.2nm,0.6s,mb4.5
ETOB Tobarra 32.73 282 P P 05 04 41.4 +1.2
comp=Z,4.2nm,0.6s,mb4.5,SNR=6.4
ZAL Zalesovo 32.88 49 P P 05 04 40.7 -0.6
comp=Z,0.7nm,0.3s,mb4.1,baz=188,slow=3.8,SNR=2.4
ZAL LR LR 05 20 07.4
comp=Z,207nm,19.9s,MS3.8,baz=206,slow=40
ZAL Zalesovo 32.88 49 P P 05 04 40.7 -0.6
ZAL LR LR 05 20 07.4
EVIA Vianos 33.46 283 P P 05 04 47.8 +1.3
EVIA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
EVIA Vianos 33.46 283 P P 05 04 47.8 +1.2
comp=Z,5.9nm,0.7s,mb4.6
EVIA Vianos 33.46 283 P P 05 04 47.8 +1.3
comp=Z,5.9nm,0.7s,mb4.6,SNR=5.6
ENIJ Nijar 33.70 280 P P 05 04 48.9 +0.2
ENIJ pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ENIJ Nijar 33.70 280 P P 05 04 48.9 +0.2
comp=Z,6.0nm,0.7s,mb4.7,SNR=7.9
EQES Quesada 34.12 282 P P 05 04 50.8 -1.4
comp=Z,20nm,0.8s,mb5.1
EQES Quesada 34.12 282 P P 05 04 50.8 -1.4
comp=Z,20nm,0.8s,mb5.1,SNR=17
GUD Guadarrama 34.21 287 P P 05 04 52.3 -0.7
GUD pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GUD Guadarrama 34.21 287 P P 05 04 52.3 -0.7
comp=Z,7.1nm,0.9s,mb4.6,SNR=7.9
EBER Berja 34.25 280 P P 05 04 52.6 -0.8
comp=Z,10nm,0.9s,mb4.8
EBER Berja 34.25 280 P P 05 04 52.6 -0.8
comp=Z,10nm,0.9s,mb4.8,SNR=7.8
ESDC Sonseca Array 34.29 285 P P 05 04 52.1 -1.6
comp=Z,4.0nm,0.6s,mb4.5,baz=70,slow=8.3,SNR=26
ESDC Sonseca Array 34.29 285 P P 05 04 52.0 -1.7
comp=Z,6.1nm,0.6s,mb4.7
ESDC Sonseca Array 34.29 285 P P 05 04 52.0 -1.7
comp=Z,6.1nm,0.7s,mb4.7,SNR=27
EARI Arriondas 34.46 292 P P 05 04 55.4 +0.3
comp=Z,4.4nm,0.8s,mb4.4
EARI Arriondas 34.46 292 P P 05 04 55.4 +0.3
comp=Z,4.4nm,0.8s,mb4.5,SNR=7.9
EBAN Banos Encina 34.56 282 P P 05 04 55.4 -0.6
EBAN pmax pmax
comp=Z,14nm,0.7s,mb5.0
EBAN Banos Encina 34.56 282 P P 05 04 55.4 -0.6
comp=Z,14nm,0.7s,mb5.0
EBAN Banos Encina 34.56 282 P P 05 04 55.4 -0.6
comp=Z,14nm,0.7s,mb5.0,SNR=20
ECOG Cogollos-Vega 34.65 281 P P 05 04 56.2 -0.6
ECOG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ECOG Cogollos-Vega 34.65 281 P P 05 04 56.2 -0.6
comp=Z,2.7nm,0.5s,mb4.4
ECOG Cogollos-Vega 34.65 281 P P 05 04 56.2 -0.6
comp=Z,2.7nm,0.5s,mb4.4,SNR=5.2
WMQ Urumqi 34.92 67 eP P 05 04 59.0 -0.1
WMQ XP sP 05 05 06.0 +2.7
WMQ PP PP 05 06 16.0 -1.0
WMQ PPP PPP 05 06 34.0 -1.0
WMQ eS S 05 10 29.0 -0.5
WMQ XS 05 10 37.0
WMQ AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,258nm,5.8s
WMQ LR LR
comp=N,726nm,22.5s,MS4.5
WMQ LR LR
comp=E,486nm,19.7s,MS4.5
WMQ LR LR
comp=Z,343nm,17.4s,MS4.2
EADA Adamuz 35.16 283 P P 05 04 59.7 -1.5
comp=Z,5.0nm,0.9s,mb4.4
EADA Adamuz 35.16 283 P P 05 04 59.7 -1.4
comp=Z,5.0nm,0.9s,mb4.4,SNR=7.6
EMIJ Mijas 35.79 280 P P 05 05 05.4 -1.1
comp=Z,5.2nm,0.8s,mb4.5,SNR=4.0
MTE Manteigas 36.78 287 eP P 05 05 14.1 -0.7
comp=Z,8.9nm,0.8s,mb4.7
EBAD Badajoz 36.82 285 P P 05 05 15.4 +0.2
comp=Z,1.4nm,0.6s,mb4.0,SNR=7.9
EMIN Mina Concepcio 36.85 283 P P 05 05 14.0 -1.5
comp=Z,4.6nm,0.8s,mb4.4
EMIN Mina Concepcio 36.85 283 P P 05 05 14.0 -1.5
comp=Z,4.6nm,0.8s,mb4.4,SNR=9.0
KOLN Koldanda 37.13 95 eP P 05 05 17.8 -0.1
GKN Gorkha 37.82 94 eP P 05 05 23.3 -0.4
comp=Z,15nm,0.7s,mb4.8
KKN Kakani 38.42 94 eP P 05 05 28.0 -0.7
comp=Z,16nm,0.8s,mb4.8
PKI Pulchoki 38.63 94 eP P 05 05 30.2 -0.3
comp=Z,14nm,0.9s,mb4.7
GUN Gumba 38.83 93 eP P 05 05 32.1 0.0
JIRN Jiri 39.19 93 eP P 05 05 35.4 +0.2
comp=Z,13nm,0.8s,mb4.7
ZAK Zakamensk 44.32 54 eP P 05 06 17.2 +0.3
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.5
SONM Songino Array 46.88 57 P P 05 06 36.6 -0.7
comp=Z,0.7nm,0.7s,mb3.7,baz=278,slow=9.3,SNR=8.8
SONM PcP PcP 05 08 09.6 -0.9
comp=Z,2.1nm,0.7s,baz=272,slow=3.3,SNR=12
ULN Ulaanbaatar 47.30 57 eP P 05 06 40.2 -0.4
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
ULN Ulaanbaatar 47.30 57 eP P 05 06 40.2 -0.4
comp=Z,5.4nm,0.9s,mb4.5
BOD Bodaibo 49.12 43 eP P 05 06 52.5 -2.1
BOD pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DBIC Dimbokro 52.40 244 eP P 05 07 19.4 -0.7
DBIC pmax pmax
comp=Z,7.0nm,0.7s
DBIC Dimbokro 52.40 244 P P 05 07 20.0 -0.2
comp=Z,9.9nm,1.0s,mb4.7,baz=4.1,slow=8.6,SNR=11
DBIC Dimbokro 52.40 244 eP P 05 07 19.4 -0.8
comp=Z,6.6nm,0.7s,mb4.7
HHC Hu-ho-hao-te 52.68 64 eP P 05 07 21.5 -0.4
HHC PCP PcP 05 08 31.8 0.0
HHC PP PP 05 09 24.6 +2.1
HHC PCS 05 12 28.3
HHC S S 05 14 43.8 -4.1
HHC PS PS 05 14 56.3 -2.5
HHC AMB AMB
comp=Z,9.0nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,246nm,7.5s
CMAR Chiang Mai Arr 54.00 95 P P 05 07 30.7 -1.2
comp=Z,1.2nm,0.7s,mb3.9,baz=305,slow=8.1,SNR=8.5
MATP Matopo 60.64 193 P P 05 08 19.6 +0.7
comp=Z,5.1nm,1.1s,mb4.5,baz=11,slow=6.9,SNR=5.6
CN2 Changchun 60.72 56 eP P 05 08 17.8 -1.3
NJ2 Nanjing 61.91 70 eP P 05 08 27.1 -0.3
NJ2 AP pP 05 08 31.6 +1.1
NJ2 PP PP 05 10 46.1 +0.1
NJ2 S S 05 16 49.0 -0.5
NJ2 AMB AMB
comp=Z,770nm,6.0s
NJ2 LR LR
comp=N,2µm,25.0s,MS5.3
NJ2 LR LR
comp=E,1µm,21.9s,MS5.3
NJ2 LR LR
comp=Z,830nm,17.4s,MS5.0
SCHQ Schefferville 67.69 323 P P 05 09 05.5 +1.1
comp=Z,1.8nm,0.8s,mb4.2,baz=9.8,slow=2.7,SNR=5.6
ILAR Eielson Array 75.97 3 P P 05 09 54.0 +0.5
comp=Z,0.5nm,0.9s,mb3.4,baz=259,slow=4.6,SNR=3.7
YKW3 Yellowknife Ar 76.47 349 eP P 05 09 56.0 -0.4
YKA Yellowknife Ar 76.53 349 P P 05 09 56.5 -0.2
comp=Z,3.5nm,0.8s,mb4.3,baz=20,slow=6.0,SNR=44
ULM Lac du Bonnet 82.95 334 P P 05 10 31.5 +0.1
comp=Z,1.6nm,0.7s,mb4.2,baz=49,slow=5.0,SNR=4.9
ULM Lac du Bonnet 82.95 334 P P 05 10 31.5 +0.1
EDM Edmonton 85.08 345 eP P 05 10 42.8 +0.8

ATH ***14*** *05:07:44.2, 40.54N×20.95E, h19km±1km, MD3.1/3*
NEIC ***14*** *05:07:44.2, 40.54N×20.95E, h19km, MD3.1(ATH), After ATH.*
THE ***14*** *05:07:48.0, 40.37N×21.07E, h14km, ML3.0*
CSEM ***14*** *05:07:47.6±0.1, 40.39N×21.10E, h10km, ML3.0, Error ellipse: s-maj=3.2km s-min=2.5km az=137.0*
ISC 14 05:07:47.1±0.4, **40.35N**±0.03×**21.12E**±0.04, **h13**km±5km, **n20, σ1§07**/36, **1C-2D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBN	Korca	0.37	317	i Pg	Pg	05 07 54.6	-0.3
KBN				i Sg	Sg	05 08 00.9	+0.8
LSK	Leskovik	0.45	243	i Pg	Pg	05 07 56.5	+0.2
LSK				i Sg	Sg	05 08 03.1	+0.6
FNA	Florina	0.47	24	ePg	Pg	05 07 56.9	0.0
FNA				eSg	Sg	05 08 04.7	+1.4
FNA	Florina	0.47	24	ePg	Pg	05 07 56.8	-0.1
FNA				eSg	Sg	05 08 04.7	+1.3
KZN	Kozani	0.50	95	ePN	Pn	05 07 57.5	-2.1
KZN				eSN	Sn	05 08 07.0	-0.9
BIA	Bitola	0.68	13	i Pg	Pg	05 07 59.5	-1.5
BIA				⇓i		05 07 59.9	
BIA				i Sg	Sg	05 08 09.9	-0.3
BIA	Bitola	0.68	13	i Pg	Pg	05 07 59.5	-1.5
BIA				i Sg	Sg	05 08 09.9	-0.3
JAN	Janina	0.72	197	ePN	Pn	05 08 01.0	-1.8
JAN				eSN	Sn	05 08 13.5	-0.2
OHR	Ohrid	0.80	342	⇓iPg	Pg	05 08 01.7	-1.5
OHR				⇑iSg	Sg	05 08 13.3	-0.6
SRN	Sarande	0.98	242	i Pg	Pg	05 08 06.9	+0.1
SRN				i Sg	Sg	05 08 22.7	+2.7
IGT	Igoumenitsa	1.02	217	ePg	Pg	05 08 06.6	-1.0
LIT	Litokhoron	1.08	103	ePg	Pg	05 08 07.8	-1.0
LIT				eSg	Sg	05 08 24.5	+1.2
GRG	Griva	1.15	58	ePg	Pg	05 08 08.9	-1.2
GRG				eSg	Sg	05 08 25.9	+0.4
THE	Thessaloniki	1.44	78	ePb	Pb	05 08 13.3	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
THE				*e*Sb	**Sb**	**05 08 32.5**	**+1.3**
EVR	**Evrytania**	**1.53**	**159**	*e*PN	**Pn**	**05 08 15.8**	**+1.5**
KNT	**Kendrikon**	**1.57**	**59**	*e*Pb	**Pb**	**05 08 15.2**	**-0.3**
KNT				*e*Sb	**Sb**	**05 08 35.8**	**+0.6**
KNT	**Kendrikon**	**1.57**	**59**	*e*Pb	**Pb**	**05 08 15.2**	**-0.4**
KNT				*e*Sb	**Sb**	**05 08 35.8**	**+0.5**
SKO	**Skopje**	**1.64**	**8**	*i* Pn	**Pn**	**05 08 18.3**	**+2.5**
SRS	**Serrai**	**2.03**	**67**	*e*Pn	**Pn**	**05 08 21.7**	**+0.3**
SRS				*e*Sn	**Sn**	**05 08 47.2**	**+0.4**
OUR	**Ouranopolis**	**2.19**	**90**	*e*Pn	**Pn**	**05 08 23.9**	**+0.2**

BJI ***14*** *05:11:54.9, 28.01S×73.21E, h30km, mB5.8, mb5.5, Ms5.6, Msz5.4*

MOS ***14*** *05:11:56.5±1.0, 27.65S×73.85E, h10km, mb5.8/55, MS5.3/28, Error ellipse: s-maj=10.1km s-min=5.6km az=115.6*

IDC ***14*** *05:11:56.1±0.4, 27.68S×73.88E, mb5.0/21, mb1 5.0/21, mb1mx5.0/21, mbtmp5.0/21, MS5.1/12, Ms1 5.1/12, ms1mx5.0/15, Error ellipse: s-maj=16.2km s-min=12.7km az=34.0*

NEIC ***14*** *05:11:57.5±0.1, 27.74S×73.83E, h10km, mb5.6/77, MS5.4/63, MW5.4, Error ellipse: s-maj=4.9km s-min=3.7km az=213.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.33; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$1.34; $M_{r\theta}$-0.50; $M_{\theta\phi}$-0.58; $M_{\phi r}$-0.19; Best double couple: $M_0$1.6×10^{17} NP1:ϕ_s139°, δ49°, λ-120°. NP2:ϕ_s0°, δ49°, λ-60°. Principal axes: T 1.56, Plg0°, Azm70°; N -.01, Plg22°, Azm160°; P -1.55, Plg68°, Azm339°;*

HRVD ***14*** *05:11:57.5±0.1, 27.66S×73.86E, h12km, MW5.6/73, Centroid moment Tensor Solution. LP body waves: s65,c112; Mantle waves: s73,c222; Half duration: 1s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.79±.04; $M_{\theta\theta}$1.35±.04; $M_{\phi\phi}$1.44±.04; $M_{r\theta}$-0.30±.11; $M_{\theta\phi}$-1.40±.03; $M_{\phi r}$1.08±.11; Best double couple: $M_0$3.009×10^{17} NP1: ϕ_s306°, δ36°, λ-106°. NP2:ϕ_s146°, δ56°, λ-79°. Principal axes: T 2.968, Plg10°, Azm228°; N .082, Plg9°, Azm319°; P -3.05, Plg76°, Azm92°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 14 05:11:56.0±0.2**, 27.74S**±0.04×**73.89E**±0.04**, h10**km**, (h16**km±.9km**:pP-P), n555,** σ**0s89**/406**, mb5.5**/122**, MS5.3**/81**, 31C-38D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**20.26**	**356⇑**	*i*P	**P**	**05 16 34.5**	**0.0**
DGAR				pmax	pmax		
	comp=Z,2μm,1.7s						
DGAR				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.5						
DGAR	**Diego Garcia**	**20.26**	**356⇑**	*i*P	**P**	**05 16 34.5**	**-0.1**
	comp=Z,2μm,1.7s						
DGAR				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
TRD	**Trivandrum**	**36.15**	**5**	*e*P	**P**	**05 19 01.5**	**+0.8**
TRD				*e*	pP	05 19 05.2	+1.5
	comp=Z,180nm,1.3s						
MUN	**Mundaring**	**36.78**	**107⇑**	*i*P	**P**	**05 19 07.5**	**+1.8**
	comp=Z,65nm,1.5s,mb5.2						
MUN				*e*S	**S**	**05 24 56.1**	**+7.0**
MUN	**Mundaring**	**36.78**	**107⇑**	*i*P	**P**	**05 19 07.5**	**+1.8**
MUN				*e*S	**S**	**05 24 56.1**	**+7.0**
MUN				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**37.57**	**109**	P	**P**	**05 19 12.9**	**+0.5**
	comp=Z,30nm,1.2s,mb4.9,baz=249,slow=17,SNR=4.1						
NWAO				LR	LR	05 32 09.4	
	comp=Z,14nm,18.7s,baz=358,slow=32						
KLBR	**Kellerberrin**	**38.12**	**107**	*e*P	**P**	**05 19 17.5**	**+0.4**
	comp=Z,2μm,1.3s,mb6.6						
MNGI	**Mangalore**	**40.44**	**1**	*i* P	**P**	**05 19 38.7**	**+2.2**
MNGI				*i*		05 25 52.3	
MAW	**Mawson**	**40.45**	**186**	P	**P**	**05 19 36.3**	**+0.3**
	comp=Z,48nm,0.9s,mb5.2,baz=306,slow=17,SNR=3.4						
MAW				LR	LR	05 32 17.8	
	comp=Z,4μm,21.8s,MS5.2,baz=7.1,slow=30						
KGM	**Kluang**	**40.94**	**49**	P	**P**	**05 19 42.8**	**+2.2**
IPM	**Ipoh**	**41.44**	**43**	P	**P**	**05 19 47.0**	**+2.3**
KULM	**Kulim**	**41.78**	**42**	*e*P	**P**	**05 19 48.7**	**+1.1**
MATP	**Matopo**	**41.89**	**270**	P	**P**	**05 19 48.8**	**+0.4**
	comp=Z,15nm,0.8s,mb4.7,baz=107,slow=9.2,SNR=35						
BOSA	**Boshof**	**42.64**	**257⇑**	*i*P	**P**	**05 19 54.1**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,144nm,1.7s,mb5.4						
BOSA				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.4						
BOSA	**Boshof**	**42.64**	**257⇑**	*i*P	**P**	**05 19 54.1**	**-0.4**
	comp=Z,144nm,1.7s,mb5.4						
BOSA				LR	LR		
	comp=Z,5μm,21.0s,MS5.4						
GOA	**Goa**	**42.97**	**360**	*e*	**P**	**05 19 52.0**	**-5.2**
GOA				*e*		05 26 08.4	
LBTB	**Lobatse**	**43.13**	**262**	*e*P	**P**	**05 19 57.7**	**-0.8**
LBTB				pmax	pmax		
	comp=Z,114nm,1.6s,mb5.3						
LBTB				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
LBTB	**Lobatse**	**43.13**	**262**	*e*P	**P**	**05 19 57.7**	**-0.8**
	comp=Z,114nm,1.6s,mb5.3						
LBTB				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
KMBO	**Kilima Mbogo**	**43.93**	**301⇓**	*e*P	**P**	**05 20 05.6**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,66nm,1.4s						
KMBO				MLR	MLR		
	comp=Z,1μm,20.0s						
KMBO	**Kilima Mbogo**	**43.93**	**301**	P	**P**	**05 20 05.9**	**+0.8**
	comp=Z,102nm,1.6s,mb5.3,baz=116,slow=7.3,SNR=32						
KMBO				PcP	PcP	05 21 51.2	-0.4
	comp=Z,20nm,1.5s,baz=90,slow=5.7,SNR=3.7						
KMBO				LR	LR	05 34 32.4	
	comp=Z,1μm,20.7s,MS4.8,baz=104,slow=31						
KMBO	**Kilima Mbogo**	**43.93**	**301⇓**	*e*P	**P**	**05 20 05.6**	**+0.5**
	comp=Z,66nm,1.4s,mb5.2						
KMBO				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
LSZ	**Lusaka**	**44.05**	**277**	*e*P	**P**	**05 20 06.1**	**0.0**
LSZ				pmax	pmax		
	comp=Z,237nm,2.0s,mb5.6						
LSZ				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.3						
LSZ	**Lusaka**	**44.05**	**277**	*e*P	**P**	**05 20 06.1**	**+0.1**
	comp=Z,237nm,2.0s,mb5.6						
LSZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
CASY	**Casey**	**44.68**	**160**	*e*P	**P**	**05 20 09.6**	**-0.9**
CASY				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
KAD	**Karad**	**44.77**	**0**	*e*P	**P**	**05 20 12.0**	**+0.1**
KAD				*i*		05 20 17.3	
HYB	**Hyderabad**	**45.11**	**6⇓**	*e*P	**P**	**05 20 15.0**	**+0.4**
HYB				*e*S	**S**	**05 26 56.0**	**+2.9**
HYB				pmax	pmax		
	comp=Z,333nm,1.6s,mb5.9						
HYB	**Hyderabad**	**45.11**	**6⇓**	*e*P	**P**	**05 20 15.0**	**+0.4**
	comp=Z,333nm,1.6s,mb5.9						
HYB				*e*S	**S**	**05 26 56.0**	**+2.9**
HYB	**Hyderabad**	**45.11**	**6⇓**	*i*P	**P**	**05 20 15.0**	**+0.4**
	comp=Z,333nm,1.6s,mb5.9						
HYB				*e*PP	PP	05 22 03.0	+2.1
HYB				*e*S	**S**	**05 26 56.0**	**+2.9**
HYB				LR	LR		
	comp=Z,11nm,20.0s						
KSM	**Kuching**	**45.48**	**56⇑**	*i*P	**P**	**05 20 19.0**	**+1.5**
SUR	**Sutherland**	**45.79**	**251**	*e*P	**P**	**05 20 19.8**	**0.0**
	comp=Z,84nm,1.4s,mb5.5						
SUR				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
SYO	**Syowa Base**	**45.92**	**196**	⇓P	**P**	**05 20 20.0**	**-0.3**
SYO	**Syowa Base**	**45.92**	**196**	⇑pP	pP	05 20 26.2	+2.9
POO	**Poona**	**45.99**	**360**	*i*	**S**	**05 27 12.0**	**+6.3**
VIS	**Vishakhapatnam**	**46.10**	**13**	*e*P	**P**	**05 20 20.4**	**-1.9**
VIS				*e*		05 20 26.6	
	comp=Z,90nm,2.1s						
VIS				⇑*e*		05 24 38.5	
BOM	**Bombay**	**46.37**	**359**	*e*P	**P**	**05 20 25.8**	**+1.3**
	comp=Z,468nm,1.7s,mb6.1						
BOM				*e*S	**S**	**05 27 15.2**	**+4.2**
FORT	**Forrest**	**46.98**	**107**	*e*P	**P**	**05 20 30.0**	**+0.8**
	comp=Z,2μm,1.5s						
FITZ	**Fitzroy Crossi**	**48.33**	**90**	*e*P	**P**	**05 20 40.4**	**+0.5**
	comp=Z,64nm,1.0s,mb5.6						
RBK	**Rabkut**	**48.85**	**335**	P	**P**	**05 20 44.5**	**+0.6**
	SNR=7.5						
ABTO	**Aybut**	**49.06**	**334**	P	**P**	**05 20 45.6**	**0.0**
	SNR=11						
BWNR	**Bhubaneshwar**	**49.12**	**15**	*e*P	**P**	**05 20 47.4**	**+1.5**
BWNR				*e*	pP	05 20 50.9	+1.9
	comp=Z,174nm,2.1s						
BWNR				*e*		05 25 32.9	
MBAR	**Mbarara**	**49.35**	**296**	P	**P**	**05 20 49.1**	**+1.3**
MBAR				pmax	pmax		
	comp=Z,49nm,1.7s,mb5.3						
MBAR	**Mbarara**	**49.35**	**296**	*e*P	**P**	**05 20 48.7**	**+0.8**
	comp=Z,49nm,1.7s,mb5.3						
MBAR				LR	LR		
	comp=Z,206nm,21.0s						
WHFO	**Wadi Hawf**	**49.39**	**334**	P	**P**	**05 20 47.8**	**-0.3**
	SNR=18						
BLSP	**Bilaspur**	**50.21**	**10**	*e*P	**P**	**05 20 53.7**	**-0.6**
BLSP				*e*	pP	05 20 57.8	+0.4
	comp=Z,128nm,1.6s						
BHPL	**Bhopal**	**50.79**	**4**	*e*P	**P**	**05 20 58.4**	**-0.3**
BHPL				*e*	pP	05 21 01.8	0.0
	comp=Z,126nm,1.6s						
BDT	**Bhumibol Dam**	**50.91**	**32**	P	**P**	**05 21 01.0**	**+1.3**
	comp=Z,20nm,0.9s,mb5.0						
CAL	**Calcutta**	**51.89**	**17**	*e*	**P**	**05 21 01.6**	**-5.4**
CAL				*e*		05 22 14.3	
CAL				*e*		05 28 33.9	
CM31	**Chiang Mai Arr**	**51.94**	**31**	*e*P	**P**	**05 21 07.3**	**-0.1**
	comp=Z,313nm,1.5s,mb6.0						
CM31				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
CMAR	**Chiang Mai Arr**	**51.94**	**31**	P	**P**	**05 21 07.4**	**-0.1**
	comp=Z,30nm,1.1s,mb5.2,baz=218,slow=7.2,SNR=43						
CMAR				LR	LR	05 40 17.1	
	comp=Z,2μm,18.9s,MS5.2,baz=205,slow=33						
TSUM	**Tsumeb**	**51.97**	**267**	*e*P	**P**	**05 21 07.6**	**-0.1**
	comp=Z,44nm,1.4s,mb5.2						
TSUM				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
CHG	**Chiang Mai**	**52.25**	**30**	⇓P	**P**	**05 21 09.1**	**-0.7**
	comp=Z,119nm,1.7s,mb5.5						
BSY	**Bisya**	**52.71**	**341**	P	**P**	**05 21 12.4**	**-0.8**
	SNR=29						
KKM	**Kota Kinabalu**	**52.89**	**57**	*e*P	**P**	**05 21 13.3**	**-1.5**
KKM	**Kota Kinabalu**	**52.89**	**57**	P	**P**	**05 21 15.6**	**+0.9**
TSM	**Tawau**	**53.02**	**60**	P	**P**	**05 21 16.6**	**+1.0**
ARQ	**Araqi**	**53.47**	**340**	P	**P**	**05 21 18.0**	**-0.9**
	SNR=13						
CHRT	**Chiangrai**	**53.55**	**31**	⇑P	**P**	**05 21 19.5**	**0.0**
	comp=Z,176nm,1.3s,mb5.8						
ASPA	**Alice Springs**	**53.77**	**100⇓**	*i*P	**P**	**05 21 20.8**	**-0.3**
ASAR	**Alice Springs**	**53.78**	**100**	P	**P**	**05 21 20.6**	**-0.5**
	comp=Z,45nm,1.0s,mb5.3,baz=250,slow=6.1,SNR=145						
ASAR				LR	LR	05 43 53.8	
	comp=Z,1μm,18.2s,MS4.9,baz=262,slow=36						
AGT	**Agartala**	**53.98**	**20**	*i* P	**P**	**05 21 24.0**	**+1.4**
AGT				*i*		05 22 42.0	
ASHO	**Ashiyiah**	**54.88**	**340**	P	**P**	**05 21 28.2**	**-1.0**
	SNR=6.9						
NVL	**N'lazarevskaya**	**54.94**	**201⇑**	*i*P	**P**	**05 21 27.7**	**-1.3**
NVL				*i*		05 22 29.9	
NVL				*e*		05 31 16.9	
NVL				pmax	pmax		
	comp=Z,288nm,1.8s,mb6.0						
MAIT	**Maitri**	**54.97**	**201⇓**	*i*P	**P**	**05 21 28.7**	**-0.6**
WRA	**Warramunga Arr**	**55.38**	**96**	P	**P**	**05 21 32.6**	**-0.3**
	comp=Z,43nm,1.1s,mb5.4,baz=252,slow=7.4,SNR=77						
WB2	**Warramunga Arr**	**55.38**	**96**	*e*P	**P**	**05 21 32.6**	**-0.3**
WRAB	**Tennant Creek**	**55.39**	**96**	P	**P**	**05 21 32.0**	**-0.9**
	comp=Z,537nm,1.7s,mb6.3,SNR=19						
WRAB	**Tennant Creek**	**55.39**	**96**	*i* P	**P**	**05 21 32.8**	**-0.1**
WRAB	**Tennant Creek**	**55.39**	**96⇓**	*e*P	**P**	**05 21 32.4**	**-0.6**
	comp=Z,460nm,1.6s,mb6.3						
WRAB				LR	LR		
	comp=Z,1μm,19.0s,MS5.1						
DRV	**Dumont d'Urvil**	**55.42**	**154**	S	**S**	**05 29 31.0**	**+16**
DRV				R		05 38 00.0	
BANOM	**Banah**	**55.97**	**341**	P	**P**	**05 21 35.6**	**-1.5**
	SNR=13						
KOLN	**Koldanda**	**55.97**	**10**	*e*P	**P**	**05 21 36.0**	**-1.0**
	comp=Z,533nm,1.7s,mb6.3						
DMN	**Daman**	**56.07**	**12**	*e*P	**P**	**05 21 37.3**	**-0.5**
	comp=Z,274nm,1.5s,mb6.1						
PKI	**Pulchoki**	**56.09**	**12**	*e*P	**P**	**05 21 37.1**	**-0.8**
	comp=Z,298nm,1.5s,mb6.1						
NDI	**New Delhi**	**56.19**	**4**	*e*P	**P**	**05 21 36.0**	**-2.6**
	comp=Z,312nm,1.4s,mb6.2						
NDI				*e*S	**S**	**05 29 29.0**	**+2.8**
KKN	**Kakani**	**56.28**	**12**	*e*P	**P**	**05 21 38.5**	**-0.8**
	comp=Z,466nm,1.5s,mb6.3						
JIRN	**Jiri**	**56.33**	**13**	*e*P	**P**	**05 21 39.0**	**-0.6**
	comp=Z,444nm,1.6s,mb6.2						
GKN	**Gorkha**	**56.37**	**11**	*e*P	**P**	**05 21 39.1**	**-0.8**
	comp=Z,394nm,1.5s,mb6.2						
KAKA	**Kakadu**	**56.46**	**87⇓**	*i*P	**P**	**05 21 40.2**	**-0.5**
	comp=Z,151nm,1.4s,mb5.8						
GUN	**Gumba**	**56.51**	**13**	*e*P	**P**	**05 21 40.4**	**-0.5**
	comp=Z,1μm,1.7s						
PTH	**Pithoragarh**	**57.28**	**7**	*e*P	**P**	**05 21 45.0**	**-1.4**
DDI	**Dehra Dun**	**57.87**	**4**	*e*P	**P**	**05 21 49.3**	**-1.2**
STKA	**Stephens Creek**	**58.04**	**112**	P	**P**	**05 21 51.4**	**-0.3**
	comp=Z,41nm,1.0s,mb5.4,baz=254,slow=6.4,SNR=50						
STKA				LR	LR	05 44 58.4	
	comp=Z,2μm,18.7s,MS5.2,baz=236,slow=34						
STKA	**Stephens Creek**	**58.04**	**112**	*e*P	**P**	**05 21 50.0**	**-1.6**
QIZ	**Qiongzhong**	**58.08**	**41**	*e*P	**P**	**05 21 53.4**	**+1.3**
QIZ				S	**S**	**05 29 52.3**	**+1.1**
QIZ				LR	LR		
	comp=N,2μm,21.1s,MS5.4						
QIZ				LR	LR		
	comp=E,2μm,21.1s,MS5.4						
QIZ				LR	LR		
	comp=Z,3μm,20.1s,MS5.4						
BHK	**Bhakra**	**58.87**	**3**	*e*P	**P**	**05 21 57.9**	**+0.4**
PONG	**Pong**	**59.39**	**2**	*e*P	**P**	**05 22 00.0**	**-1.1**
KMI	**Kunming**	**59.45**	**31**	P	**P**	**05 22 02.4**	**+0.8**
KMI				AP	pP	05 22 08.1	+3.4
KMI				PP	PP	05 24 19.6	+4.8
KMI				S	**S**	**05 30 15.0**	**+6.0**
KMI				AMB	AMB		
	comp=Z,64nm,1.6s,mb5.4						
KMI				AMB	AMB		
	comp=Z,617nm,3.9s						
KMI				LR	LR		
	comp=N,2μm,19.4s,MS5.3						
KMI				LR	LR		
	comp=E,2μm,23.6s,MS5.3						
KMI				LR	LR		
	comp=Z,3μm,25.3s,MS5.3						
KMI	**Kunming**	**59.45**	**31**	P	**P**	**05 22 02.4**	**+0.8**
KMI				*PP	pP	05 22 08.1	+3.4
KMI						05 24 19.6	
KMI				PPP	PPP	05 25 36.0	-3.8
KMI				S	**S**	**05 30 15.0**	**+6.0**
KMI				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.4						
KMI				MLR	MLR		
	comp=Z,3μm,25.3s,MS5.3						
KMI	**Kunming**	**59.45**	**31**	P	**P**	**05 22 02.4**	**+0.8**
	comp=Z,64nm,1.6s,mb5.4						
KMI				pP	pP	05 22 08.1	+3.4
KMI				PP	PP	05 24 19.6	+4.8
KMI				PPP	PPP	05 25 36.0	-3.8
KMI				S	**S**	**05 30 15.0**	**+6.0**
KMI				SS	SS	05 34 14.0	+8.4
KMI				SSS	SSS	05 36 56.6	+24
KMI				LR	LR		
	comp=Z,3μm,25.3s,MS5.3						
LSA	**Lhasa**	**59.45**	**17**	*e*P	**P**	**05 22 01.5**	**0.0**
LSA				pmax	pmax		
	comp=Z,74nm,0.1s						
LSA	**Lhasa**	**59.45**	**17**	*e*P	**P**	**05 22 01.5**	**0.0**
	comp=Z,74nm,0.1s						
SNAA	**Sanae**	**59.77**	**201**	*e*	**P**	**05 22 04.9**	**+1.8**
SNAA	**Sanae**	**59.77**	**201**	*e*	PcP	05 22 44.2	-5.5
SNAA	**Sanae**	**59.77**	**201⇓**	*i*P	**P**	**05 22 02.3**	**-0.8**
SNAA				*e*	pP	05 22 04.9	-1.4
SNAA				*e*		05 22 44.2	
SNAA	**Sanae**	**59.77**	**201**	LR	LR	05 44 56.9	
	comp=Z,844nm,18.1s,MS4.9,baz=52,slow=33						
TOO	**Toolangi**	**59.78**	**119**	*e*P	**P**	**05 22 04.2**	**+0.5**
	comp=Z,3.9nm,1.2s						
TOO	**Toolangi**	**59.78**	**119**	*e*P	**P**	**05 22 04.2**	**+0.5**
TOO				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TAU	**Tasmania Unive**	**60.02**	**126**	P	**P**	**05 22 05.6**	**+0.4**
TAU				pmax	pmax		
	comp=Z,63nm,1.2s,mb5.5						
TAU				MLR	MLR		
	comp=Z,401nm,21.0s,MS4.5						
TAU	**Tasmania Unive**	**60.02**	**126**	P	**P**	**05 22 05.6**	**+0.3**
	comp=Z,63nm,1.2s,mb5.5						
TAU				LR	LR		
	comp=Z,401nm,21.0s,MS4.5						
VNA2	**Neumayer--Watz**	**61.23**	**202**	*e*	**P**	**05 22 15.3**	**+2.2**
VNA2	**Neumayer--Watz**	**61.23**	**202**	*e*	**P**	**05 22 16.5**	**+3.4**
VNA2	**Neumayer--Watz**	**61.23**	**202**	*e*	PcP	05 22 55.4	-0.1
VNA2	**Neumayer--Watz**	**61.23**	**202⇑**	*i*P	**P**	**05 22 12.5**	**-0.6**
VNA2				*e*	pP	05 22 15.3	-0.9
VNA2				*e*	pP	05 22 16.5	+0.3
VNA2				*e*		05 22 55.4	
VNA1	**Neumayer--Stat**	**61.52**	**202**	*e*	**P**	**05 22 17.6**	**+2.5**
VNA1	**Neumayer--Stat**	**61.52**	**202**	*e*	**P**	**05 22 19.0**	**+3.9**
VNA1	**Neumayer--Stat**	**61.52**	**202⇑**	*i*P	**P**	**05 22 14.7**	**-0.4**
VNA1				*e*	pP	05 22 17.6	-0.6
VNA1				*e*	pP	05 22 19.0	+0.8
VNA3	**Neumayer Olymp**	**61.95**	**201**	*e*	**P**	**05 22 20.4**	**+2.4**
VNA3	**Neumayer Olymp**	**61.95**	**201**	*e*	**P**	**05 22 21.7**	**+3.7**
VNA3	**Neumayer Olymp**	**61.95**	**201**	*e*	PcP	05 22 57.1	-1.3
VNA3	**Neumayer Olymp**	**61.95**	**201⇑**	*i*P	**P**	**05 22 17.3**	**-0.7**
VNA3				*e*	pP	05 22 20.4	-0.7
VNA3				*e*	pP	05 22 21.7	+0.6
VNA3				*e*		05 22 57.1	
QSPA	**South Pole Qui**	**62.40**	**180**	*e*P	**P**	**05 22 20.0**	**-0.9**
	comp=Z,88nm,0.9s,mb5.9						
GYA	**Guiyang**	**62.42**	**33⇑**	*i*P	**P**	**05 22 21.5**	**-0.2**
GYA				PP	PP	05 24 40.8	-0.3
GYA				S	**S**	**05 30 50.8**	**+3.9**
GYA				XS		05 31 04.3	
GYA				SS	SS	05 34 58.9	+6.3
GYA				AMB	AMB		
	comp=Z,80nm,1.2s,mb5.7						
GYA				AMB	AMB		
	comp=Z,410nm,3.0s						
GYA				LR	LR		
	comp=N,2μm,19.4s,MS5.4						
GYA				LR	LR		
	comp=E,2μm,18.5s,MS5.4						
GYA				LR	LR		
	comp=Z,2μm,19.7s,MS5.3						
VNDA	**Vanda**	**62.70**	**166**	*e*P	**P**	**05 22 20.8**	**-2.1**
VNDA				pmax	pmax		
	comp=Z,80nm,1.2s						
VNDA				MLR	MLR		
	comp=Z,1μm,19.0s						
VNDA	**Vanda**	**62.70**	**166**	P	**P**	**05 22 22.4**	**-0.5**
	comp=Z,24nm,1.0s,mb5.3,baz=267,slow=7.2,SNR=41						
VNDA				LR	LR	05 46 03.5	
	comp=Z,1μm,19.5s,MS5.0,baz=260,slow=33						
VNDA	**Vanda**	**62.70**	**166**	*e*P	**P**	**05 22 20.8**	**-2.1**
	comp=Z,80nm,1.2s,mb5.7						
VNDA				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
GZH	**Guangzhou**	**63.27**	**41**	P	**P**	**05 22 25.8**	**-1.6**
GZH				LR	LR		
	comp=N,2μm,20.8s,MS5.4						
GZH				LR	LR		
	comp=E,1μm,21.8s,MS5.4						
GZH				LR	LR		
	comp=Z,5μm,20.5s,MS5.6						
CNB	**Canberra Magne**	**63.37**	**118**	*e*P	**P**	**05 22 28.2**	**+0.3**
	comp=Z,2μm,1.5s						
CD2	**Chengdu**	**64.91**	**28**	P	**P**	**05 22 37.0**	**-1.0**
CD2				AMB	AMB		
	comp=Z,101nm,1.6s,mb5.6						
CTA	**Charters Tower**	**65.77**	**101⇓**	*i*P	**P**	**05 22 43.9**	**+0.2**
	comp=Z,40nm,1.2s,mb5.3						
CTA	**Charters Tower**	**65.77**	**101⇓**	*i*P	**P**	**05 22 43.9**	**+0.2**
CTA				pmax	pmax		
	comp=Z,40nm,1.2s						
CTA	**Charters Tower**	**65.77**	**101**	P	**P**	**05 22 43.6**	**-0.1**
	comp=Z,62nm,1.3s,mb5.5,baz=253,slow=8.2,SNR=8.5						
CTA				LR	LR	05 48 34.6	
	comp=Z,2μm,19.4s,MS5.3,baz=250,slow=33						
KSH	**Kashi**	**66.93**	**2**	*e*P	**P**	**05 22 49.4**	**-1.4**
KSH				*e*AP	pP	05 22 57.8	+3.8
KSH				*e*XP	sP	05 23 01.4	+6.3
KSH				*e*PCP	PcP	05 23 17.3	-2.1
KSH				*e*PP	PP	05 25 20.3	+0.3
KSH				*e*PPP	rx	05 25 57.8	
KSH				*e*SCP		05 27 19.0	
KSH				*e*PCS		05 27 22.3	
KSH				S	S	05 31 39.5	-2.9
KSH				*e*XS		05 31 54.4	
KSH				*e*PS	PS	05 32 09.1	+3.0
KSH				*e*SCS	ScS	05 32 43.3	-1.3
KSH				*e*SS	SS	05 36 04.5	+1.9
KSH				AMB	AMB		
	comp=Z,590nm,2.0s,mb6.3						
KSH				LR	LR		
	comp=N,1μm,8.8s						
KSH				LR	LR		
	comp=E,2μm,9.6s						
ENH	**Enshi**	**66.96**	**33**	*e*P	**P**	**05 22 50.2**	**-1.0**
	comp=E,211nm,1.7s,mb5.9						
ENH				*e*		05 22 57.1	
EIL	**Elat**	**68.16**	**324**	*e*P	**P**	**05 22 58.5**	**-0.2**
	comp=E,107nm,1.4s,mb5.7						
ASF	**Jabal al Asfar**	**69.20**	**327**	P	**P**	**05 23 05.5**	**+0.4**
	comp=E,5.5nm,0.6s,mb4.7,baz=66,slow=1.7,SNR=30						
ASF				LR	LR	05 49 30.9	
	comp=E,1μm,20.5s,MS5.1,baz=359,slow=33						
KZA	**Kyzart**	**69.47**	**1**	P	**P**	**05 23 06.3**	**-0.3**
	SNR=41						
LZH	**Lanzhou**	**69.47**	**26**	⇓P	**P**	**05 23 06.5**	**-0.2**
LZH				PP	PP	05 25 43.0	+0.6
LZH				S	S	05 32 15.0	+2.2
LZH				SS	SS	05 36 43.5	+1.7
LZH				AMB	AMB		
	comp=Z,158nm,1.8s,mb5.6						
LZH				AMB	AMB		
	comp=Z,782nm,6.7s						
LZH				LR	LR		
	comp=E,5μm,18.5s						
LZH				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
LZH	**Lanzhou**	**69.47**	**26**	⇓P	**P**	**05 23 06.5**	**-0.2**
LZH				*PP	pP	05 23 09.7	-0.2
LZH				*SP	sP	05 23 11.5	+0.5
LZH						05 25 43.0	
LZH				S	S	05 32 15.0	+2.2
LZH				SS	SS	05 36 43.5	+1.7
LZH				pmax	pmax		
	comp=Z,158nm,1.8s,mb5.6						
LZH				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.8						
LZH	**Lanzhou**	**69.47**	**26**	⇓P	**P**	**05 23 06.5**	**-0.2**
	comp=Z,158nm,1.8s,mb5.6						
LZH				pP	pP	05 23 09.7	-0.2
LZH				sP	sP	05 23 11.5	+0.5
LZH				PP	PP	05 25 43.0	+0.6
LZH				S	S	05 32 15.0	+2.2
LZH				sS		05 32 20.0	
LZH				SS	SS	05 36 43.5	+1.7
LZH				LR	LR		
	comp=Z,5μm,20.0s,MS5.8						
AML	**Almayashu**	**69.52**	**360**	P	**P**	**05 23 08.0**	**+1.1**
	SNR=5.4						
TATO	**Taipei**	**69.63**	**46**	PFAKE		05 23 20.0	+12
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS5.4						
WHN	**Wuhan**	**69.65**	**37**	⇓P	**P**	**05 23 08.0**	**+0.1**
WHN				S	S	05 32 20.4	+5.5
WHN				AMB	AMB		
	comp=Z,181nm,1.7s,mb5.7						
WHN				LR	LR		
	comp=Z,5μm,19.8s,MS5.8						
ULHL	**Ulahol**	**69.66**	**2**	P	**P**	**05 23 07.5**	**-0.3**
	SNR=8.9						
XAN	**Xi'an**	**69.83**	**31**	P	**P**	**05 23 07.3**	**-1.6**
XAN				AP	pP	05 23 19.1	+7.0
XAN				XP	sP	05 23 25.8	+13
XAN				AMB	AMB		
	comp=Z,47nm,1.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,117nm,3.0s						
XAN				LR	LR		

comp=N,1µm,25.6s,MS5.2
XAN LR LR
comp=E,1µm,25.6s,MS5.2
XAN LR LR
comp=Z,2µm,26.8s,MS5.3
AAK Ala-Archa 70.02 0 P **P 05 23 08.0 -1.9**
comp=Z,294nm,1.5s,mb6.0,SNR=73
AAK Ala-Archa 70.02 0⇓ *e*P **P 05 23 08.4 -1.5**
AAK pmax pmax
comp=Z,200nm,1.6s,mb5.8
AAK MLR MLR
comp=Z,641nm,21.0s,MS4.8
AAK Ala-Archa 70.02 0⇓ *e*P **P 05 23 08.4 -1.5**
comp=Z,200nm,1.6s,mb5.8
AAK LR LR
comp=Z,641nm,21.0s,MS4.8
EKS2 Erkin-Say 70.05 360 P **P 05 23 10.3 +0.2**
SNR=43
KBK Karagaybulak 70.05 1 P **P 05 23 10.2 +0.1**
SNR=19
FRU Bishkek 70.22 1 *i* P **P 05 23 11.5 +0.4**
FRU *i* pP 05 23 16.0 +1.7
FRU *e* 05 32 20.0
FRU pmax pmax
comp=Z,260nm,2.0s,mb5.8
TKM2 Tokmak 2 70.32 1 P **P 05 23 11.2 -0.5**
SNR=80
CHMS Chumysh 70.39 1 P **P 05 23 12.0 -0.2**
SNR=11
USP Ospenovka 70.65 0 P **P 05 23 13.2 -0.6**
SNR=76
HKR Hakkari 70.86 335 *i* P **P 05 23 15.5 +0.4**
GTA Gaotai 71.04 21 *e*P **P 05 23 16.3 +0.1**
GTA AP pP 05 23 20.6 +1.3
GTA PP PP 05 25 56.3 +0.4
GTA PPP PPP 05 27 36.9 0.0
GTA S S 05 32 32.5 +1.4
GTA XS 05 32 46.1
GTA PS PS 05 33 05.5 +5.0
GTA SKS SKS 05 33 15.4 -3.9
GTA SS SS 05 37 10.8 +4.5
GTA AMB AMB
comp=Z,44nm,1.6s,mb5.1
GTA AMB AMB
comp=Z,362nm,5.3s
GTA LR LR
comp=N,896nm,23.2s,MS5.2
GTA LR LR
comp=E,1µm,19.8s,MS5.2
GTA LR LR
comp=Z,1µm,25.1s
TVAN Van 71.82 335 *i* P **P 05 23 21.5 +0.6**
VANB Van 71.89 335 P **P 05 23 19.8 -1.5**
CLDR Caldiran 72.18 336 P **P 05 23 24.6 +1.6**
BTMT Batman 72.26 334 P **P 05 23 24.4 +0.9**
WMQ Urumqi 72.32 10⇑ *i*P **P 05 23 23.8 0.0**
WMQ XP sP 05 23 31.5 +3.5
WMQ PCP PcP 05 23 42.0 0.0
WMQ PP PP 05 26 06.0 -0.4
WMQ S S 05 32 46.5 +0.8
WMQ PS PS 05 33 18.5 +0.5
WMQ SS SS 05 37 25.0 -0.7
WMQ AMB AMB
comp=Z,113nm,1.8s,mb5.5
WMQ AMB AMB
comp=Z,707nm,4.4s
WMQ LR LR
comp=N,4µm,21.2s,MS5.8
WMQ LR LR
comp=E,2µm,18.4s,MS5.8
WMQ LR LR
comp=Z,3µm,24.0s
URFA Urfa 72.71 331 P **P 05 23 26.0 -0.2**
GNI Garni 72.78 337 P **P 05 23 26.6 +0.1**
GNI Garni 72.78 337 *e*P **P 05 23 27.2 +0.7**
GNI pmax pmax
comp=Z,223nm,1.6s
GNI MLR MLR
comp=Z,665nm,19.0s
GNI Garni 72.78 337 *e*P **P 05 23 27.2 +0.7**
comp=Z,223nm,1.6s,mb5.8
GNI LR LR
comp=Z,665nm,19.0s,MS4.9
COBT Iskenderun 73.07 329 *i* P **P 05 23 28.8 +0.5**
GZT Gaziantep 73.18 330 *i* P **P 05 23 29.6 +0.7**
GAZ Gaziantep 73.18 330 *e*P **P 05 23 29.9 +0.9**
CSS Prodhromos 73.20 326 *e*P **P 05 23 28.7 -0.5**
comp=Z,160nm,1.5s,mb5.7
NJ2 Nanjing 73.26 39 *e*P **P 05 23 29.3 -0.2**
NJ2 AP pP 05 23 34.4 +1.7
NJ2 PP PP 05 26 19.8 +5.0
NJ2 S S 05 33 01.0 +4.5
NJ2 AMB AMB
comp=Z,530nm,1.2s,mb6.3
NJ2 AMB AMB
comp=Z,830nm,4.6s
NJ2 LR LR
comp=N,5µm,19.5s,MS5.8
NJ2 LR LR
comp=E,3µm,20.3s,MS5.8
NJ2 LR LR
comp=Z,6µm,18.4s,MS5.9
ELZG Elazig 73.53 332 *i* P **P 05 23 31.9 +0.9**
MALT Malatya 73.61 332 *e*P **P 05 23 31.0 -0.4**
MALT Malatya 73.61 332 *e*P **P 05 23 32.1 +0.7**
MALT pmax pmax
comp=Z,105nm,1.9s,mb5.4
MALT Malatya 73.61 332 *e*P **P 05 23 32.1 +0.6**
comp=Z,106nm,1.9s,mb5.4
MYA Malataya 73.62 332 *e*P **P 05 23 31.5 0.0**
PTK Pertek 73.70 333 *e*P **P 05 23 32.5 +0.6**
KAHT Ahir Dag 73.71 330 *i* P **P 05 23 32.4 +0.4**
EZM Erzurum 73.79 334 P **P 05 23 33.2 +0.7**
SSE Sheshan 73.87 41 P **P 05 23 33.8 +0.7**
SSE S S 05 33 08.5 +5.1
SSE AMB AMB
comp=Z,55nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,125nm,3.8s
SSE LR LR
comp=N,997nm,25.7s,MS5.2
SSE LR LR
comp=E,1µm,25.7s,MS5.2
SSE LR LR
comp=Z,2µm,23.2s,MS5.3
SSE Sheshan 73.87 41 P **P 05 23 33.8 +0.7**
comp=Z,55nm,0.8s,mb5.5
SSE pP pP 05 23 37.0 +0.8
SSE sP sP 05 23 38.3 +1.0
SSE S S 05 33 08.5 +5.1
SSE LR LR
comp=Z,2µm,23.2s,MS5.3
TI2 Plekhanov 74.19 338 *e*P **P 05 23 34.2 -0.5**
MKAR Makanchi Array 74.57 6 *i* P **P 05 23 33.7 -3.1**
GUMT Gumushane 75.00 333 *e*P **P 05 23 40.1 +0.6**
BCA Borcka 75.03 335 *e*P **P 05 23 37.7 -1.9**
JOW Kunigami 75.32 49 P **P 05 23 41.0 -0.6**
comp=Z,20nm,0.9s,mb5.0,baz=137,slow=16,SNR=2.4
ZEI Tsey 75.40 338 *e*P **P 05 23 42.4 +0.7**
ZEI *i* *PP pP 05 23 48.0 +3.2
ZEI pmax pmax
comp=Z,25nm,1.7s,mb4.9
SVST Sivas 75.46 331 *i* P **P 05 23 43.2 +1.1**
TIA Tai'an 75.52 35⇓ P **P 05 23 42.1 -0.4**
TIA AMB AMB
comp=Z,129nm,1.5s,mb5.6
AVNT Avonos 75.56 329 *i* P **P 05 23 43.4 +0.7**
BTO Baotou 75.82 28 *e*P **P 05 23 43.4 -0.7**
BTO AMB AMB
comp=Z,33nm,1.5s,mb5.0
RPZ Rata Peaks 76.19 132 P **P 05 23 46.7 +0.5**
comp=Z,14nm,1.0s,mb4.8,baz=289,slow=5.0,SNR=7.6
HHC Hu-ho-hao-te 76.67 28 *e*P **P 05 23 49.8 +0.9**
HHC AP pP 05 23 53.1 +1.1
HHC PP PP 05 26 44.5 +1.6
HHC S S 05 33 38.8 +4.7
HHC SKS SKS 05 33 56.1 -4.5
HHC PS PS 05 34 12.4 -1.5
HHC SS SS 05 38 34.9 +2.2
HHC AMB AMB
comp=Z,45nm,1.9s,mb5.1
HHC AMB AMB
comp=Z,456nm,6.2s
HHC LR LR
comp=N,1µm,23.2s,MS5.3
HHC LR LR
comp=E,1µm,25.0s,MS5.3
HHC LR LR
comp=Z,1µm,22.0s,MS5.2
KIV Kislovodsk 76.86 337⇑ *i*P **P 05 23 49.7 -0.2**
KIV *i* 05 23 55.7
KIV pmax pmax
comp=Z,30nm,2.2s,mb4.8
KIV Kislovodsk 76.86 337 *e*P **P 05 23 49.5 -0.4**
comp=Z,153nm,1.8s,mb5.6
KIV LR LR
comp=Z,229nm,22.0s,MS4.5
ISP Isparta 76.86 326 P **P 05 23 49.3 -0.7**
ISP pmax pmax
comp=Z,110nm,1.6s,mb5.5
ISP Isparta 76.86 326 *e*P **P 05 23 48.8 -1.2**
comp=Z,112nm,1.6s,mb5.5
ELDT Eldivan 77.59 330 *i* P **P 05 23 52.8 -1.2**
SOC Sochi 77.59 335 *e*P **P 05 23 52.3 -1.6**
SOC *e* 05 24 01.7
SOC *e*PPP PPP 05 28 32.5 -6.9
SOC *e*S S 05 33 41.4 -2.6
SOC *e* 05 34 08.3
SOC *e*SS SS 05 38 41.8 -4.6
SOC *e*SSS SSS 05 42 06.4 +2.8
SOC pmax pmax
comp=Z,52nm,0.9s,mb5.5
SOC pmax pmax
comp=N,18nm,1.0s
SOC pmax pmax
comp=E,32nm,1.1s
BJT Baijiatuan 78.05 32 P **P 05 23 57.1 +0.6**
BJT S S 05 33 53.1 +4.0
BJT Baijiatuan 78.05 32 *e*P **P 05 23 56.6 +0.1**
BJT pmax pmax
comp=Z,101nm,1.8s
BJT Baijiatuan 78.05 32 *e*P **P 05 23 56.6 +0.1**
comp=Z,101nm,1.8s,mb5.5
BJI Beijing 78.06 32 P **P 05 23 56.9 +0.3**
BJI S S 05 33 51.3 +2.1
BJI AMB AMB
comp=Z,32nm,1.7s,mb5.0
BJI AMB AMB
comp=Z,495nm,3.4s
BJI LR LR
comp=N,1µm,17.7s,MS5.4
BJI LR LR
comp=E,1µm,17.0s,MS5.4
BJI LR LR
comp=Z,2µm,32.2s
BJI Beijing 78.06 32 P **P 05 23 56.9 +0.3**
comp=Z,32nm,1.7s,mb5.0
BJI PP PP 05 27 03.2 +8.1
BJI S S 05 33 51.3 +2.1
BJI SKS SKS 05 34 25.9 +15
BJI SS SS 05 39 24.9 +31
BJI LR LR
comp=Z,2µm,32.2s,MS5.2
KURK Kurchatov 78.21 3 P **P 05 23 56.6 -0.6**
comp=Z,230nm,1.7s,mb5.8,SNR=42
KURK Kurchatov 78.21 3*d* *i*P **P 05 23 56.2 -1.0**
KURK *i* 05 23 56.5
KURK pmax pmax
comp=Z,63nm,1.7s,mb5.3
KURK Kurchatov 78.21 3 *e*P **P 05 23 56.0 -1.1**
comp=Z,95nm,1.4s,mb5.5
KURK LR LR
comp=Z,463nm,20.0s,MS4.8
SANT Santorini 78.38 322 *e*P **P 05 23 55.9 -2.6**
comp=Z,222nm,1.4s,mb5.9
BALT Daday 78.45 330 *i* P **P 05 23 57.4 -1.3**
HENT Hendek 79.01 328 *i* P **P 05 24 01.6 -0.2**
ULDT Uludag 79.32 327 *i* P **P 05 24 03.9 +0.4**
BTOK Tokmak 79.58 326 *i* P **P 05 23 52.5 -12**
BVA0 Borovoye Array 80.47 358 P **P 05 24 09.0 -0.4**
BVA0 pmax pmax
comp=Z,18nm,1.5s,mb4.8
BVAR Borovoye Array 80.47 358 P **P 05 24 09.0 -0.4**
comp=Z,8.7nm,0.8s,mb4.7,baz=169,slow=7.6,SNR=39
SONM Songino Array 80.70 22 P **P 05 24 10.9 +0.2**
comp=Z,9.2nm,1.0s,mb4.7,baz=225,slow=3.5,SNR=66
SONM PP PP 05 27 17.4 +0.7
comp=Z,15nm,1.3s,baz=202,slow=6.7,SNR=7.4
SONM PKPPKP 05 50 57.0
comp=Z,0.7nm,1.1s,baz=45,slow=2.0,SNR=3.3
ULN Ulaanbaatar 80.94 22 *e*P **P 05 24 11.7 -0.3**
ULN *e* 05 27 21.1
ULN pmax pmax
comp=Z,107nm,1.6s,mb5.5
ULN MLR MLR
comp=Z,1µm,20.0s,MS5.2
ULN Ulaanbaatar 80.94 22 *e*P **P 05 24 11.7 -0.3**
comp=Z,107nm,1.6s,mb5.5
ULN *e*PP PP 05 27 21.1 +2.2
ULN LR LR
comp=Z,1µm,20.0s,MS5.2
CHKZ Chkalovo 81.12 358 *e*P **P 05 24 12.3 -0.4**
CHKZ pmax pmax
comp=Z,149nm,1.4s,mb5.7
CHKZ Chkalovo 81.12 358 *e*P **P 05 24 12.3 -0.5**
comp=Z,150nm,1.4s,mb5.7
INCN Inchon 81.58 40 PFAKE 05 24 30.0 +14
INCN LR LR
comp=Z,4µm,20.0s,MS5.8
ZAL Zalesovo 81.88 6 P **P 05 24 15.8 -0.9**
comp=Z,5.1nm,0.9s,baz=278,slow=5.4,SNR=35
ZAK Zakamensk 82.02 18 *e*P **P 05 24 17.1 -0.4**
ZAK *e* 05 27 27.8
ZAK pmax pmax
comp=Z,14nm,1.9s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.7s
DZM Mont Dzumac 82.17 111 *e*P **P 05 24 19.2 +0.3**
PMSA Palmer Station 82.17 197 *e*P **P 05 24 18.4 +0.4**
comp=Z,268nm,2.0s,mb5.8
PMSA LR LR
comp=Z,1µm,21.0s,MS5.3
HNR Honiara 82.21 97 *e*P **P 05 24 20.1 +0.9**
HNR pmax pmax
comp=Z,1µm,1.7s,mb6.5
HNR MLR MLR
comp=Z,1µm,21.0s,MS5.2
HNR Honiara 82.21 97 *e*P **P 05 24 20.1 +0.8**
comp=Z,1µm,1.7s,mb6.5
HNR LR LR
comp=Z,1µm,21.0s,MS5.2
KS15 Wonju Array Si 82.27 41 *e*P **P 05 24 19.4 +0.3**
KDZ Kurdzhali 82.30 326 *e*P **P 05 24 24.0 +4.8**
PRD Provadia 82.50 328 *e*P **P 05 24 24.0 +3.8**
PSN Preselentsi 82.50 328 *e*P **P 05 24 22.0 +1.8**
DIM Dimitrovgrad 82.54 326 *e*P **P 05 24 26.0 +5.6**
MOY Mondy 82.57 17 *e*P **P 05 24 21.3 +0.9**
MOY pmax pmax
comp=Z,104nm,2.1s,mb5.5
NVS Novosibirsk 82.63 5 *e*P **P 05 24 19.5 -1.1**
NVS *i* 05 27 26.3
NVS pmax pmax
comp=Z,148nm,2.0s,mb5.7
NVS pmax pmax
comp=N,127nm,1.9s
NVS pmax pmax
comp=E,43nm,1.9s
RZN Rozhen 82.68 325 *i* P **P 05 24 26.0 +4.8**
LIT Litokhoron 82.69 323 *e*P **P 05 24 21.3 +0.1**
LKD Levkas 82.72 321 *e*P **P 05 24 30.5 +9.1**
SRS Serrai 82.84 324 *e*P **P 05 24 21.5 -0.5**
PLD Plovdiv 83.00 325 *e*P **P 05 24 28.0 +5.2**
SNY Shenyang 83.05 35⇑ P **P 05 24 22.3 -0.7**
SNY AMB AMB
comp=Z,250nm,11.2s
SNY LR LR
comp=E,790nm,21.1s
SNY LR LR
comp=Z,670nm,11.8s
MMB Musomiste 83.12 325 *i* P **P 05 24 28.0 +4.6**
DBIC Dimbokro 83.20 281 P **P 05 24 24.7 +0.3**
DBIC pmax pmax
comp=Z,63nm,1.5s
DBIC Dimbokro 83.20 281 P **P 05 24 23.9 -0.5**
comp=Z,5.7nm,1.1s,mb4.5,baz=76,slow=8.3,SNR=6.7
DBIC LR LR 06 00 40.5
comp=Z,1µm,18.3s,MS5.4,baz=103,slow=35
DBIC Dimbokro 83.20 281 *e*P **P 05 24 24.1 -0.3**
comp=Z,63nm,1.5s,mb5.4
DBIC LR LR
comp=Z,2µm,20.0s,MS5.4
KNT Kendrikon 83.24 324 *e*P **P 05 24 23.7 -0.3**
SZH Strazhica 83.25 327 *e*P **P 05 24 29.0 +4.9**
TLY Talaya 83.29 18 *e*P **P 05 24 24.1 0.0**
TLY *e*S S 05 34 50.6 +7.3
TLY *e*PS PS 05 35 37.9 +0.8
TLY *e*SS SS 05 40 08.3 -3.1
TLY pmax pmax
comp=Z,47nm,1.8s,mb5.2
TLY Talaya 83.29 18 *e*P **P 05 24 24.6 +0.5**
comp=Z,69nm,1.8s,mb5.4
TLY LR LR
comp=Z,433nm,21.0s,MS4.8
GRG Griva 83.35 323 *e*P **P 05 24 23.6 -1.0**
HARR Harsova 83.39 329 P **P 05 24 25.6 +0.9**
HARR Harsova 83.39 329⇑ P **P 05 24 24.7 -0.1**
HARR Harsova 83.39 329⇑ P **P 05 24 24.7 0.0**
IGT Igoumenitsa 83.47 321 *e*P **P 05 24 24.9 -0.4**
PVL Pavlikeni 83.51 327 *e*P **P 05 24 31.0 +5.6**
VAY Valandovo 83.52 324⇑ *i*P **P 05 24 25.7 +0.2**
PGB Panagyurishte 83.59 325 *e*P **P 05 24 30.0 +4.2**
KKB Krupnik 83.65 324 *i* P **P 05 24 30.0 +3.9**
CFR Carcaliu 83.67 329 P **P 05 24 26.8 +0.7**
CFR Carcaliu 83.67 329⇓ P **P 05 24 26.3 +0.2**
CFR Carcaliu 83.67 329⇓ P **P 05 24 26.3 +0.2**
FNA Florina 83.78 323 *e*P **P 05 24 25.9 -0.8**
VTS Vitosha 84.11 325 P **P 05 24 28.5 +0.1**
VTS Vitosha 84.11 325 *e*P **P 05 24 32.5 +4.1**
OHR Ohrid 84.32 323⇓ *i*P **P 05 24 28.7 -0.8**
ISR Istrita 84.36 328⇓ P **P 05 24 31.6 +2.0**
ISR Istrita 84.36 328⇓ P **P 05 24 31.5 +1.9**
SKO Skopje 84.58 324⇓ *i*P **P 05 24 30.5 -0.3**
SKO pmax pmax
comp=Z,151nm,1.6s,mb5.9
SKO Skopje 84.58 324⇓ *i*P **P 05 24 30.5 -0.3**
comp=Z,0.2nm,1.6s
KIS Kishinev 84.78 331 *e*P **P 05 24 30.0 -1.7**
KIS *i* 05 24 36.0
VRI Vrincioaia 84.84 329⇓ P **P 05 24 32.8 +0.8**
MLR Muntele Rosu 84.92 328 P **P 05 24 33.0 +0.7**
comp=Z,48nm,1.1s,mb5.5,baz=156,slow=3.5,SNR=39
MLR Muntele Rosu 84.92 328⇓ P **P 05 24 33.8 +1.4**
SOI Samo 84.94 318 *e*P **P 05 24 33.3 +0.6**
BARS Barje 84.98 324⇓ *i*P **P 05 24 30.5 -2.3**
SNX Sinaia 85.01 328 P **P 05 24 33.6 +0.7**
TIP Timpagrande 85.26 319 *e*P **P 05 24 34.7 +0.5**
SCLL Scilla 85.26 318 *e*P **P 05 24 35.3 +1.0**
CN2 Changchun 85.43 35 *e*P **P 05 24 34.3 -0.7**
CN2 *e*AP pP 05 24 39.8 +1.6
CN2 PP PP 05 27 54.6 -0.3
CN2 *e*S S 05 35 01.8 -2.8
CN2 SS SS 05 40 44.0 +1.0
CN2 AMB AMB
comp=Z,20nm,1.5s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,2µm,18.0s,MS5.6
CN2 LR LR
comp=E,2µm,18.0s,MS5.6
CN2 LR LR
comp=Z,2µm,19.0s,MS5.6
BOLS Boljevac 85.64 325⇑ *i*P **P 05 24 35.6 -0.4**
SLNA Salina 85.99 318 *e*P **P 05 24 37.8 -0.1**
CSLB Castelbuono 86.05 317 *e*P **P 05 24 38.7 +0.4**
GRUS Gruza 86.31 325⇑ *i*P **P 05 24 39.7 +0.4**
DIVS Divcibare 86.83 324⇓ *i*P **P 05 24 42.2 +0.3**
BURAR Bucovina Array 86.84 329⇓ P **P 05 24 43.1 +1.2**
BURAR Bucovina Array 86.84 329⇓ P **P 05 24 43.1 +1.3**
HIA Hailar 86.87 28 *e*P **P 05 24 41.7 -0.2**
HIA pmax pmax
comp=Z,57nm,1.4s
HIA Hailar 86.87 28 *e*P **P 05 24 41.7 -0.3**
comp=Z,57nm,1.4s,mb5.6
BBLS Bajina Basta - 86.97 324⇑ *i*P **P 05 24 43.2 +0.6**
SGO Sicignano 87.01 319 *e*P **P 05 24 42.5 -0.4**
BEO Belgrade 87.10 325⇓ *i*P **P 05 24 43.7 +0.5**
FG5 Orsara di Pugl 87.50 320 *e*P **P 05 24 45.6 +0.4**
MAJO Matsushiro 88.00 47 *e*P **P 05 24 47.4 -0.3**
MAJO pmax pmax
comp=Z,222nm,1.9s,mb6.1
MAJO MLR MLR
comp=Z,2µm,21.0s,MS5.4
MAJO Matsushiro 88.00 47 *e*P **P 05 24 47.4 -0.4**
comp=Z,222nm,1.9s,mb6.1
MAJO LR LR
comp=Z,2µm,21.0s,MS5.4
MAT Matsushiro 88.00 47 *e*P **P 05 24 47.0 -0.7**
MAT pmax pmax
comp=Z,294nm,2.0s,mb6.2
MAT MLR MLR
comp=Z,2µm,20.0s,MS5.5
MAT Matsushiro 88.00 47 P **P 05 24 47.2 -0.5**
MAT S S 05 35 15.8 -13
MDJ Mudanjiang 88.13 36 P **P 05 24 47.4 -0.7**
MDJ PP PP 05 28 13.8 -3.7
MDJ S S 05 35 35.3 +5.0
MDJ SS SS 05 41 19.8 -2.5
MDJ AMB AMB
comp=Z,20nm,1.6s,mb5.1
MDJ AMB AMB
comp=Z,152nm,7.0s
MDJ LR LR
comp=N,1µm,17.5s,MS5.5
MDJ LR LR
comp=E,975nm,16.8s,MS5.5
MDJ LR LR
comp=Z,2µm,16.8s,MS5.6
MDJ Mudanjiang 88.13 36 *e*P **P 05 24 47.0 -1.1**
comp=Z,68nm,1.6s,mb5.6
CII Carovilli 88.34 320 *e*P **P 05 24 49.5 +0.3**
OBN Obninsk 88.50 340*d* *i*P **P 05 24 49.6 -0.1**
OBN *i* 05 24 56.6
OBN pmax pmax
comp=Z,191nm,1.8s,mb6.1
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.8
OBN Obninsk 88.50 340 *e*P **P 05 24 50.1 +0.4**
comp=Z,142nm,1.4s,mb6.1
OBN LR LR
comp=Z,285nm,19.0s,MS4.7
SDI San Donato 88.61 320 *e*P **P 05 24 50.1 -0.4**
MOS Moscow 88.71 340 *e*P **P 05 24 48.6 -2.1**
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.4
MOS pmax pmax
comp=Z,190nm,1.8s,mb6.1
LVV L'vov 89.00 330 *e*P **P 05 24 52.6 +0.4**
LVV *e*S S 05 35 32.0 -6.2
PTQR Pietraquaria 89.05 320 *e*P **P 05 24 52.6 0.0**
KOLS Kolonicke sedl 89.14 329 *i* P **P 05 24 53.7 +0.8**
KOLS *e* 05 24 59.2
KOLS *e* 05 28 18.6
ABSA Djebel Ababsia 89.20 312 P **P 05 24 56.0 +2.5**
AQU L'Aquila 89.26 320 *e*P **P 05 24 53.6 0.0**
CMAH Djebel Manchou 89.44 312 P **P 05 24 54.5 -0.1**
KWP Kalwaria 89.45 330 *e*P **P 05 24 54.6 +0.3**
KWP *e* 05 25 00.7
CRVS Cervenica-Dubn 89.50 328 *e*P **P 05 24 56.6 +2.1**
CRVS *es*P sP 05 25 02.5 +3.7
CRVS *e* 05 28 35.7
PSZ Piszkesteto 89.54 327 P **P 05 24 55.3 +0.5**
PSZ Piszkesteto 89.54 327 *e*P **P 05 24 54.5 -0.3**
comp=Z,74nm,1.8s,mb5.7
PSZ Piszkesteto 89.54 327⇑ *e*PcP PcP 05 24 54.9 -1.6
KECS Kecovo 89.66 328 *e*P **P 05 24 57.5 +2.2**
KECS *es*P sP 05 25 01.6 +2.1
NRCA Norcia 89.73 320 *e*P **P 05 24 55.5 -0.2**
CKFL Kef-Lekhel 89.77 312 P **P 05 24 57.0 +0.8**
CASM Ain Smara 89.84 312 P **P 05 24 59.0 +2.5**
CAEH 'Ain El Ouahch 89.91 312 P **P 05 24 57.0 +0.2**
SRO2 Moca 90.17 326 *e*P **P 05 24 59.0 +1.3**
SRO Srobarova 90.24 326 *e*P **P 05 24 58.8 +0.8**
ARV Arcevia 90.24 320 *e*P **P 05 24 58.0 -0.2**
NIE Niedzica 90.39 328 *e*P **P 05 24 57.8 -0.9**
DFRA Djebel Bou Aff 90.41 312 P **P 05 25 02.0 +2.9**
VYHS Vyhne 90.45 327 *i* P **P 05 24 59.5 +0.5**
VYHS *e* 05 25 05.2
VYHS *e*PP PP 05 28 38.0 +2.0
RSM Repubblica di 90.79 321 *e*P **P 05 25 01.7 +1.0**
LJU Ljubljana 91.00 323 *e*P **P 05 25 03.0 +1.4**
ZST Bratislava 91.10 326 *e*P **P 05 25 02.2 +0.2**
ZST *es*P sP 05 25 07.2 +1.0

Sta	Name	Dist	Az	Phase	ID	Time	Res
SFI	**Santa Sofia**	**91.12**	**320**	eP	**P**	**05 25 02.6**	**+0.4**
OJC	**Ojcow**	**91.19**	**329**	eP	**P**	**05 25 02.7**	**+0.4**
ARSA	**Arzberg**	**91.27**	**325⇑**	iP	**P**	**05 25 03.5**	**+0.7**
	comp=Z,43nm,1.5s,mb5.6						
VOY	**Vojsko**	**91.33**	**323**	eP	**P**	**05 25 02.8**	**-0.3**
VOY				e		05 25 08.8	
BOD	**Bodaibo**	**91.62**	**20**	eP	**P**	**05 25 03.0**	**-1.1**
BOD				pmax	pmax		
	comp=Z,24nm,1.8s,mb5.2						
USHA	**Ushuaia**	**91.62**	**201**	LR	LR	05 58 47.7	
	comp=Z,954nm,18.4s,MS5.3,baz=111,slow=31						
OKC	**Ostrava-Krasne**	**91.70**	**328**	eP	**P**	**05 25 05.6**	**+0.9**
OKC				epP	pP	05 25 10.7	+2.8
PTCC	**Patocco-Chiusa**	**91.86**	**323**	eP	**P**	**05 25 05.4**	**-0.1**
MORC	**Moravsky Berou**	**91.95**	**327**	P	**P**	**05 25 06.1**	**+0.3**
MORC				pmax	pmax		
	comp=Z,35nm,1.7s,mb5.4						
MORC	**Moravsky Berou**	**91.95**	**327**	eP	**P**	**05 25 05.3**	**-0.5**
	comp=Z,35nm,1.8s,mb5.4						
FVI	**Forni Avoltri**	**92.29**	**323**	eP	**P**	**05 25 08.1**	**+0.6**
MOA	**Molln**	**92.31**	**324⇑**	iP	**P**	**05 25 07.8**	**+0.3**
	comp=Z,27nm,1.7s,mb5.3						
KLR	**Kul'dur**	**92.32**	**34**	eP	**P**	**05 25 04.0**	**-3.6**
KLR				e		05 25 04.5	
KLR				e		05 28 43.9	
SUW	**Suwalki**	**92.43**	**333**	eP	**P**	**05 25 07.9**	**0.0**
SUW				e		05 25 14.1	
DPC	**Dobruska-Polom**	**92.92**	**327**	eP	**P**	**05 25 10.7**	**+0.4**
DPC				epP	pP	05 25 17.0	+3.5
UPC	**Upice**	**93.17**	**327**	eP	**P**	**05 25 12.0**	**+0.6**
UPC				epP	pP	05 25 18.1	+3.5
GEC2	**GERESS Array S**	**93.23**	**325**	eP	**P**	**05 25 11.3**	**-0.5**
GEC2				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
GEC2	**GERESS Array S**	**93.23**	**325**	eP	**P**	**05 25 11.3**	**-0.5**
	comp=Z,8.0nm,1.2s,mb5.0						
GERES	**GERESS Array B**	**93.23**	**325**	P	**P**	**05 25 10.1**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=146,slow=4.8,SNR=7.7						
GERES				PP	PP	05 28 56.1	-2.1
	comp=Z,0.6nm,0.8s,baz=180,slow=2.7,SNR=3.5						
KSP	**Ksiaz**	**93.26**	**328**	eP	**P**	**05 25 12.2**	**+0.4**
KSP				e*PP	pP	05 25 18.2	+3.2
KSP				e		05 28 56.4	
KSP	**Ksiaz**	**93.26**	**328**	eP	**P**	**05 25 12.5**	**+0.7**
KSP				e		05 25 19.4	
KHC	**Kasperske Hory**	**93.48**	**325**	eP	**P**	**05 25 11.8**	**-1.1**
KHC				e*PP	pP	05 25 18.2	+2.1
KHC				e		05 28 56.5	
KHC	**Kasperske Hory**	**93.48**	**325**	eP	**P**	**05 25 11.8**	**-1.1**
KHC				epP	pP	05 25 18.2	+2.1
KHC				x	x	05 28 56.5	
PRU	**Pruhonice**	**93.55**	**326**	eP	**P**	**05 25 13.1**	**-0.1**
PRU				epP	pP	05 25 18.8	+2.4
WET	**Wettzell**	**93.84**	**325**	eP	**P**	**05 25 14.1**	**-0.5**
WET				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.2						
WET	**Wettzell**	**93.84**	**325**	eP	**P**	**05 25 14.1**	**-0.5**
	comp=Z,10.0nm,1.0s,mb5.2						
PVCC	**Panska Ves**	**93.88**	**327**	eP	**P**	**05 25 15.1**	**+0.4**
FUR	**Furstenfeldbru**	**94.06**	**323**	eP	**P**	**05 25 16.3**	**+0.7**
FUR				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.8						
FUR	**Furstenfeldbru**	**94.06**	**323**	eP	**P**	**05 25 16.3**	**+0.7**
	comp=Z,34nm,0.8s,mb5.8						
DAVA	**Damuels**	**94.28**	**322⇑**	iP	**P**	**05 25 16.3**	**-0.3**
	comp=Z,21nm,1.1s,mb5.5						
BRG	**Berggiesshubel**	**94.41**	**327**	eP	**P**	**05 25 17.9**	**+0.8**
BRG				e		05 25 23.8	
BRG				pmax	pmax		
	comp=Z,44nm,1.8s,mb5.6						
BRG	**Berggiesshubel**	**94.41**	**327**	eP	**P**	**05 25 17.9**	**+0.8**
	comp=Z,44nm,1.8s,mb5.6						
BRG				e		05 25 23.8	
BRG				e		05 25 29.3	
GKP	**Gorka Klasztor**	**94.44**	**330**	eP	**P**	**05 25 17.6**	**+0.4**
GKP				e		05 25 24.0	
NKC	**Novy Kostel**	**94.74**	**326**	eP	**P**	**05 25 19.2**	**+0.5**
NKC				epP	pP	05 25 25.1	+3.2
SMRF	**Simiane la Rot**	**94.81**	**318**	eP	**P**	**05 25 19.6**	**+0.5**
	comp=Z,50nm,1.6s,mb5.4						
LPG	**La Plagne**	**94.98**	**319**	eP	**P**	**05 25 19.2**	**-0.7**
GRA1	**Grafenberg Arr**	**95.03**	**325**	eP	**P**	**05 25 19.5**	**-0.5**
	comp=Z,26nm,0.9s,mb5.7						
GRA1				epP	pP	05 25 25.9	+2.7
GRA1				LR	LR		
	comp=Z,300nm,20.1s,MS4.8						
GRF	**Grafenberg Arr**	**95.03**	**325**	eP	**P**	**05 25 19.5**	**-0.5**
GRF				e*PP	pP	05 25 25.9	+2.7
GRF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.7						
GRF				MLR	MLR		
	comp=Z,300nm,20.1s,MS4.8						
GRF	**Grafenberg Arr**	**95.03**	**325**	eP	**P**	**05 25 19.5**	**-0.5**
GRF				e*PP	pP	05 25 25.9	+2.7
GRF				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.7						
GRF				MLR	MLR		
	comp=Z,300nm,20.1s,MS4.8						
GRF	**Grafenberg Arr**	**95.03**	**325**	eP	**P**	**05 25 19.5**	**-0.5**
	comp=Z,26nm,0.9s,mb5.7						
GRF				epP	pP	05 25 25.9	+2.7
GRF				LR	LR		
	comp=Z,300nm,20.1s,MS4.8						
ASAJ	**Asahikawa**	**95.12**	**42**	P	**P**	**05 25 19.8**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.9,baz=169,slow=34,SNR=2.0						
ASAJ				LR	LR	06 09 56.4	
	comp=Z,733nm,19.3s,MS5.2,baz=274,slow=37						
CLL	**Collm**	**95.14**	**327⇑**	iP	**P**	**05 25 21.0**	**+0.5**
CLL				i		05 25 26.8	
CLL				pmax	pmax		
	comp=Z,72nm,2.0s,mb5.8						
CLL	**Collm**	**95.14**	**327⇑**	iP	**P**	**05 25 21.0**	**+0.5**
	comp=Z,72nm,2.0s,mb5.8						
CLL				i		05 25 26.8	
CLL	**Collm**	**95.14**	**327**	⇑P	**P**	**05 25 21.0**	**+0.5**
	comp=Z,logA/T=1.6,mb5.8						
CLL				i *PP	pP	05 25 26.8	+3.1
ORIF	**Oris-en-Rattie**	**95.16**	**319**	eP	**P**	**05 25 20.6**	**-0.1**
	comp=Z,15nm,1.0s,mb5.1						
ORIF	**Oris-en-Rattie**	**95.16**	**319**	eP	**P**	**05 25 20.6**	**-0.1**
ORIF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
MOX	**Moxa**	**95.42**	**326**	eP	**P**	**05 25 22.1**	**+0.3**
MOX				pmax	pmax		
	comp=Z,59nm,2.0s,mb5.7						
MOX	**Moxa**	**95.42**	**326**	eP	**P**	**05 25 22.1**	**+0.3**
	comp=Z,59nm,2.0s,mb5.7						
MOX	**Moxa**	**95.42**	**326**	i P	**P**	**05 25 22.1**	**+0.3**
	comp=Z,logA/T=1.5,mb5.7						
BFO	**Black Forest**	**95.74**	**322**	eP	**P**	**05 25 23.4**	**+0.1**
BFO				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.4						
BFO	**Black Forest**	**95.74**	**322**	eP	**P**	**05 25 23.4**	**+0.1**
	comp=Z,18nm,1.2s,mb5.4						
VIVF	**Saint-Julien-l**	**95.84**	**318**	eP	**P**	**05 25 23.3**	**-0.5**
LASF	**Ste Croix**	**95.89**	**317**	eP	**P**	**05 25 23.6**	**-0.5**
CABF	**La Chapelle**	**96.00**	**320**	eP	**P**	**05 25 24.1**	**-0.4**
	comp=Z,49nm,1.4s,mb5.4						
CABF	**La Chapelle**	**96.00**	**320**	eP	**P**	**05 25 24.1**	**-0.4**
CABF				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.5						
HINF	**Hinteralfeld**	**96.25**	**321**	eP	**P**	**05 25 24.5**	**-1.2**
	comp=Z,32nm,1.3s,mb5.3						
HINF	**Hinteralfeld**	**96.25**	**321**	eP	**P**	**05 25 24.5**	**-1.2**
HINF				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.3						
CDF	**Champ du Feu**	**96.36**	**322**	eP	**P**	**05 25 25.2**	**-0.9**
	comp=Z,49nm,1.5s,mb5.4						
CDF	**Champ du Feu**	**96.36**	**322**	eP	**P**	**05 25 25.2**	**-0.9**
CDF				pmax	pmax		
	comp=Z,25nm,1.5s,mb5.4						
MTLF	**Montolieu**	**96.50**	**316**	eP	**P**	**05 25 26.4**	**-0.5**
	comp=Z,81nm,1.8s,mb5.6						
MTLF	**Montolieu**	**96.50**	**316**	eP	**P**	**05 25 26.4**	**-0.5**
MTLF				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.6						
HAU	**Haudompre**	**96.64**	**321**	eP	**P**	**05 25 26.3**	**-1.1**
	comp=Z,29nm,1.3s,mb5.2						
HAU	**Haudompre**	**96.64**	**321**	eP	**P**	**05 25 26.3**	**-1.1**
HAU				pmax	pmax		
	comp=Z,14nm,1.3s,mb5.2						
CLZ	**Clausthal**	**96.77**	**326**	eP	**P**	**05 25 28.5**	**+0.6**
	comp=Z,35nm,1.2s,mb5.7						
TNS	**Taunus Mts**	**96.78**	**324**	eP	**P**	**05 25 28.7**	**+0.7**
TNS				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.5						
TNS	**Taunus Mts**	**96.78**	**324**	eP	**P**	**05 25 28.7**	**+0.7**
	comp=Z,28nm,1.5s,mb5.5						
YSS	**Yuzh-Sakhalins**	**96.80**	**40**	PFAKE		05 25 40.0	+12
YSS				LR	LR		
	comp=Z,2µm,22.0s,MS5.5						
FINES	**FINESS Array B**	**96.89**	**339**	P	**P**	**05 25 27.6**	**-0.6**
	comp=Z,1.7nm,1.0s,baz=27,slow=4.3,SNR=4.0						
SMF	**Signal de Mont**	**97.30**	**319**	eP	**P**	**05 25 29.3**	**-1.1**
CAF	**Calviac**	**97.43**	**317**	eP	**P**	**05 25 30.9**	**-0.1**
	comp=Z,55nm,1.7s,mb5.4						
CAF	**Calviac**	**97.43**	**317**	eP	**P**	**05 25 30.9**	**-0.1**
CAF				pmax	pmax		
	comp=Z,28nm,1.7s,mb5.4						
EPF	**Esparros**	**97.51**	**315**	eP	**P**	**05 25 31.1**	**-0.3**
	comp=Z,66nm,1.8s,mb5.6						
EPF	**Esparros**	**97.51**	**315**	eP	**P**	**05 25 31.1**	**-0.3**
EPF				pmax	pmax		
	comp=Z,33nm,1.8s,mb5.6						
MEZF	**Maizieres J'vi**	**97.63**	**321**	eP	**P**	**05 25 31.4**	**-0.5**
AVF	**Avril sur Loir**	**97.67**	**319**	eP	**P**	**05 25 31.2**	**-0.8**
	comp=Z,13nm,1.2s,mb5.0						
AVF	**Avril sur Loir**	**97.67**	**319**	eP	**P**	**05 25 31.2**	**-0.8**
AVF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb5.1						
SSF	**Saint Saulge**	**97.72**	**319**	eP	**P**	**05 25 31.6**	**-0.7**
SSF				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.5						
SSF	**Saint Saulge**	**97.72**	**319**	eP	**P**	**05 25 31.6**	**-0.7**
	comp=Z,22nm,1.5s,mb5.5						
BGF	**Bois d'Agland**	**97.83**	**319**	eP	**P**	**05 25 32.6**	**-0.2**
	comp=Z,51nm,1.4s,mb5.6						
BGF	**Bois d'Agland**	**97.83**	**319**	eP	**P**	**05 25 32.6**	**-0.2**
BGF				pmax	pmax		
	comp=Z,26nm,1.4s,mb5.6						
RJF	**Les Rejaudoux**	**97.96**	**317**	eP	**P**	**05 25 33.0**	**-0.4**
ETSF	**Etsaut**	**98.01**	**314**	eP	**P**	**05 25 33.6**	**-0.1**
	comp=Z,33nm,1.4s,mb5.4						
ETSF	**Etsaut**	**98.01**	**314**	eP	**P**	**05 25 33.6**	**-0.1**
ETSF				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.4						
TCF	**Toulx Ste Croi**	**98.06**	**318**	eP	**P**	**05 25 33.6**	**-0.3**
SJPF	**Ste Jean**	**98.54**	**314**	eP	**P**	**05 25 36.1**	**0.0**
	comp=Z,28nm,1.2s,mb5.4						
SJPF	**Ste Jean**	**98.54**	**314**	eP	**P**	**05 25 36.1**	**0.0**
SJPF				pmax	pmax		
	comp=Z,14nm,1.2s,mb5.4						
GIVF	**Givet**	**98.64**	**323**	eP	**P**	**05 25 36.0**	**-0.3**
ESDC	**Sonseca Array**	**98.65**	**310**	P	**P**	**05 25 36.9**	**+0.3**
	comp=Z,1.2nm,0.8s,mb4.5,baz=135,slow=5.8,SNR=6.2						
BAIF	**Baives**	**98.95**	**322**	eP	**P**	**05 25 37.4**	**-0.3**
MFF	**Saint Martin d**	**99.62**	**318**	eP	**P**	**05 25 40.3**	**-0.6**
YAK	**Yakutsk**	**99.98**	**23**	PFAKE		05 25 50.0	+7.8
YAK				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
LDF	**La Druitiere**	**100.61**	**320**	eP	P	05 25 44.6	-0.7
	comp=Z,75nm,1.7s						
LDF	**La Druitiere**	**100.61**	**320**	eP	P	05 25 44.6	-0.7
LDF				pmax	pmax		
	comp=Z,38nm,1.7s						
GRR	**Gorron**	**100.93**	**319**	eP	P	05 25 45.8	-1.0
NOA	**NORSAR Array B**	**101.91**	**334**	PP	PP	05 30 02.5	-1.9
	comp=Z,2.2nm,1.0s,baz=122,slow=8.2,SNR=3.4						
TRQA	**Tornquist**	**102.59**	**214**	PFAKE		05 26 10.0	+15
TRQA				LR	LR		
	comp=Z,1µm,22.0s,MS5.4						
AFI	**Afiamalu**	**104.13**	**114**	PFAKE		05 26 10.0	+8.2
AFI				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
RCBR	**Riachuelo**	**104.59**	**255**	PFAKE		05 26 20.0	+16
RCBR				LR	LR		
	comp=Z,2µm,22.0s,MS5.6						
TIXI	**Tiksi**	**106.14**	**16**	eP	Pdif	05 26 08.1	-1.3
TIXI				eSS	SS	05 45 37.9	+3.2
TIXI				eSSS	SSS	05 49 32.0	-3.1
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MA2	**Magadan**	**107.22**	**31**	PFAKE		05 30 40.0	
MA2				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
TBI	**Tubuai**	**114.20**	**136**	eSP	SP	05 40 54.8	-13
TBI				eSS	SS	05 47 40.0	+16
TBI				eLR	LR	06 04 45.1	
	comp=Z,784nm,32.5s						
BILL	**Bilibino**	**116.28**	**25**	i PKIKP	PKPdf	05 30 39.7	-2.6
BILL				MLR	MLR		
	comp=Z,631nm,19.0s,MS5.2						
PPT	**Papeete**	**118.35**	**132**	eLR	LR	06 06 41.1	
	comp=Z,1µm,27.2s						
LVC	**Limon Verde**	**118.39**	**219**	PFAKE		05 31 00.0	+13
LVC				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
RKT	**Rikitea**	**122.27**	**148**	eLR	LR	06 08 28.3	
	comp=Z,513nm,33.0s						
LPAZ	**La Paz**	**122.82**	**225**	PKIKP	PKPdf	05 30 54.8	-1.2
LPAZ				MLR	MLR		
	comp=Z,2µm,20.0s						
LPAZ	**La Paz**	**122.82**	**225**	PKP	PKPdf	05 30 54.8	-1.2
	comp=Z,2.5nm,1.0s,baz=164,slow=2.2,SNR=7.0						
TAOE	**Nuku Hiva Isla**	**130.93**	**133**	eLR	LR	06 12 31.7	
IMA	**Indian Mountai**	**131.81**	**24**	PKIKP	PKPdf	05 31 11.0	-1.1
IMA	**Indian Mountai**	**131.81**	**24**	ePKPdf	PKPdf	05 31 10.3	-1.8
ILAR	**Eielson Array**	**134.91**	**23**	PKhKP		05 31 07.8	
	comp=Z,0.5nm,0.8s,baz=304,slow=3.3,SNR=4.1						
ILAR				PKP	PKPdf	05 31 15.2	-2.7
	comp=Z,0.8nm,0.8s,baz=306,slow=3.8,SNR=8.3						
KDAK	**Kodiak Island**	**135.88**	**34**	PFAKE		05 31 30.0	+10
KDAK				LR	LR		
	comp=Z,273nm,19.0s,MS5.0						
INK	**Inuvik**	**136.25**	**14**	PKIKP	PKPdf	05 31 17.1	-3.1
INK	**Inuvik**	**136.25**	**14**	PKP	PKPdf	05 31 17.9	-2.3
	comp=Z,3.6nm,1.0s,baz=358,slow=2.5,SNR=8.8						
INK	**Inuvik**	**136.25**	**14**	PKPdf	PKPdf	05 31 16.6	-3.6
FRB	**Frobisher Bay**	**136.64**	**337**	PKP	PKPdf	05 31 18.6	-2.5
	comp=Z,4.0nm,0.9s,baz=34,slow=4.7,SNR=5.6						
DAWY	**Dawson**	**137.87**	**21**	ePKPdf	PKPdf	05 31 20.9	-2.5
SCHQ	**Schefferville**	**140.76**	**325**	PKP	PKPdf	05 31 27.6	-1.2
	comp=Z,4.3nm,0.9s,baz=284,slow=1.5,SNR=4.0						
SDV	**Santo Domingo**	**141.66**	**248**	PKP	PKPdf	05 31 28.8	-2.8
	comp=Z,2.1nm,0.8s,baz=82,slow=10,SNR=2.7						
SDV				SKPbc		05 35 09.2	
	comp=Z,1.6nm,0.7s,baz=11,slow=9.6,SNR=3.2						
SDV	**Santo Domingo**	**141.66**	**248**	PKP	PKPdf	05 31 28.8	-2.8
SDV				SKPbc		05 35 09.2	
SDV				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
OTAV	**Otavalo**	**141.91**	**229**	ePKPpre		05 31 26.5	
OTAV				LR	LR		
	comp=Z,835nm,21.0s,MS5.5						
SJG	**San Juan**	**142.11**	**264**	PKIKP	PKPdf	05 31 30.7	-1.5
SJG				MLR	MLR		
	comp=Z,823nm,20.0s						
SJG	**San Juan**	**142.11**	**264**	PKP	PKPdf	05 31 30.7	-1.5
	comp=Z,2.4nm,0.4s,baz=283,slow=18,SNR=3.2						
ROSC	**El Rosal**	**142.16**	**239**	PKP	PKPdf	05 31 31.7	-0.8
	comp=Z,4.5nm,1.0s,baz=112,slow=12,SNR=6.8						
SIT	**Sitka**	**144.14**	**27**	PFAKE		05 31 40.0	+9.2
SIT				LR	LR		
	comp=Z,628nm,19.0s,MS5.4						
PQI	**Presque Isle**	**144.69**	**313**	PFAKE		05 31 50.0	+17
PQI				LR	LR		
	comp=Z,8µm,20.0s						
YKW3	**Yellowknife Ar**	**144.72**	**7**	ePKPdf	PKPdf	05 31 31.1	-4.3
YKA	**Yellowknife Ar**	**144.79**	**7**	PKP	PKPdf	05 31 31.5	-4.0
	comp=Z,8.1nm,0.9s,baz=339,slow=3.8,SNR=115						
YKA				PP	PP	05 34 52.8	-0.8
	comp=Z,4.2nm,1.2s,baz=353,slow=5.5,SNR=4.5						
DLBC	**Dease Lake**	**145.08**	**22**	PKPbc	PKPbc	05 31 34.5	+1.1
	comp=Z,25nm,1.0s,baz=316,slow=3.8,SNR=46						
DLBC				PP	PP	05 34 55.6	+0.2
	comp=Z,5.4nm,1.3s,baz=72,slow=4.0,SNR=3.5						
DLBC	**Dease Lake**	**145.08**	**22**	ePKPdf	PKPdf	05 31 34.0	-2.2
WVL	**Waterville**	**146.45**	**310**	PFAKE		05 31 50.0	+13
WVL				LR	LR		
	comp=Z,8µm,20.0s						
FCC	**Fort Churchill**	**147.88**	**348**	ePKP2	PKPab	05 31 41.0	-4.4
PAYG	**Puerto Ayora**	**147.92**	**211**	PFAKE		05 31 50.0	+7.7
PAYG				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
WES	**Weston**	**148.24**	**307**	PFAKE		05 31 50.0	+8.1
WES				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
MIV	**Mineville/With**	**149.23**	**311**	ePKPdf	PKPdf	05 31 41.5	-1.9
MIV				ePKPbc	PKPdf	05 31 46.0	+2.5
ACCN	**Adirondack Com**	**149.57**	**309**	ePKPbc	PKPdf	05 31 46.3	+2.3
NCB	**Newcomb**	**149.73**	**311**	ePKPbc	PKPdf	05 31 46.7	+2.4
NCB				ePKPab	PKPab	05 31 53.2	-0.3
NCB				LR	LR		
	comp=Z,725nm,19.0s,MS5.5						
PAL	**Palisades**	**150.48**	**305**	ePKIKP	PKPdf	05 31 48.5	+3.0
PAL	**Palisades**	**150.48**	**305**	PKIKP	PKPdf	05 31 50.5	+5.0
BBB	**Bella Bella**	**150.55**	**28**	PKPbc	PKPdf	05 31 49.1	+3.9
	comp=Z,36nm,1.1s,baz=350,slow=6.6,SNR=5.6						
CPNY	**Central Park**	**150.58**	**305**	ePKPbc	PKPdf	05 31 48.9	+3.2
SADO	**Sadowa**	**152.58**	**315**	PKPbc	PKPdf	05 31 52.8	+4.3
	comp=Z,11nm,1.0s,baz=327,slow=0.4,SNR=7.6						
FFC	**Flin Flon**	**152.87**	**355**	ePKIKP	PKPdf	05 31 46.6	-1.9
FFC				e		05 31 53.4	
SSPA	**Standing Stone**	**153.47**	**306**	ePKPbc	PKPdf	05 31 54.2	+4.3
SSPA				LR	LR		
	comp=Z,233nm,22.0s,MS5.0						
JTS	**JuntasAbangare**	**153.59**	**233**	PKP2	PKPab	05 32 10.5	0.0
JTS				MLR	MLR		
	comp=Z,291nm,21.0s						
JTS	**JuntasAbangare**	**153.59**	**233**	PKPab	PKPab	05 32 10.5	0.0
	comp=Z,5.3nm,0.9s,baz=253,slow=7.7,SNR=5.4						
CBN	**Corbin**	**153.82**	**301**	PKPdf	PKPdf	05 31 50.0	-0.4
CBN				LR	LR		
	comp=Z,848nm,19.0s,MS5.6						
EDM	**Edmonton**	**153.98**	**10**	ePKIKP	PKPdf	05 31 48.6	-1.5
EDM				e		05 31 56.7	
EDM	**Edmonton**	**153.98**	**10**	PKIKP	PKPdf	05 31 49.5	-0.6
ERPA	**Erie**	**154.35**	**311**	PFAKE		05 32 00.0	+9.0
ERPA				LR	LR		
	comp=Z,1µm,22.0s,MS5.7						
MCWV	**Mont Chateau**	**155.21**	**305⇓**	ePKPdf	PKPdf	05 31 49.2	-3.0
MCWV				ePKPbc	PKPdf	05 32 00.5	+8.3
MCWV				ePKPab	PKPab	05 32 15.5	-1.2
MCWV				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
ULM	**Lac du Bonnet**	**156.20**	**344**	PKP	PKPdf	05 31 51.0	-2.1
	comp=Z,0.9nm,0.4s,baz=67,slow=1.5,SNR=4.3						
ULM				PKPbc	PKPdf	05 32 00.9	+7.8
	comp=Z,4.2nm,1.0s,baz=19,slow=2.6,SNR=4.3						
ULM				PKPab	PKPab	05 32 19.1	-1.4
	comp=Z,3.1nm,0.8s,baz=27,slow=6.7,SNR=3.9						
ULM	**Lac du Bonnet**	**156.20**	**344**	PKP	PKPdf	05 31 51.0	-2.1
ULM				PKPbc	PKPdf	05 32 00.9	+7.8
ULM				PKPab	PKPab	05 32 19.1	-1.4
ULM				LR	LR		
	comp=Z,1µm,20.0s,MS5.8						
BLA	**Blacksburg**	**156.42**	**300**	PFAKE		05 32 00.0	+6.1
BLA				LR	LR		
	comp=Z,900nm,20.0s,MS5.6						
AAM	**Ann Arbor**	**156.66**	**314**	PFAKE		05 32 00.0	+6.0
AAM				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
EYMN	**Ely**	**156.83**	**334**	PFAKE		05 32 00.0	+5.9
EYMN				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
NHSC	**New Hope**	**157.03**	**290**	PFAKE		05 32 00.0	+5.1
NHSC				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
ACSO	**Alum Creek Sta**	**157.20**	**309**	ePKPab	PKPab	05 32 23.4	-1.8
ACSO				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
NEW	**Newport**	**157.79**	**20**	PKIKP	PKPdf	05 31 53.3	-2.1
NEW						05 32 26.3	
NEW				MLR	MLR		
	comp=Z,1µm,19.0s						
NEW	**Newport**	**157.79**	**20**	PKP	PKPdf	05 31 53.3	-2.1
	comp=Z,1.9nm,0.9s,baz=28,slow=1.5,SNR=8.3						
NEW				PKPab	PKPab	05 32 26.2	-1.2
	comp=Z,4.3nm,1.1s,baz=309,slow=3.2,SNR=9.8						
DWPF	**Disney**	**158.20**	**277**	PFAKE		05 32 10.0	+13
DWPF				LR	LR		
	comp=Z,307nm,21.0s,MS5.1						
COR	**Corvallis**	**158.27**	**35**	PFAKE		05 32 10.0	+14
COR				LR	LR		
	comp=Z,242nm,20.0s,MS5.0						
GOGA	**Godfrey**	**159.71**	**292**	PFAKE		05 32 10.0	+12
GOGA				LR	LR		
	comp=Z,817nm,19.0s,MS5.6						
HUMO	**Hull Mountain**	**159.81**	**38**	ePKPdf	PKPdf	05 31 57.1	-0.8
HUMO				LR	LR		
	comp=Z,855nm,21.0s,MS5.6						
MSO	**Missoula**	**159.97**	**16**	PFAKE		05 32 10.0	+12
MSO				LR	LR		
	comp=Z,767nm,20.0s,MS5.5						
CHMT	**Chamberlain Mo**	**160.05**	**14**	ePKPdf	PKPdf	05 31 56.3	-1.7
JFWS	**Jewell Farm**	**160.13**	**324**	PFAKE		05 32 10.0	+12
JFWS				LR	LR		
	comp=Z,1µm,20.0s						
WCI	**Wyandotte Cave**	**160.39**	**307**	PFAKE		05 32 10.0	+11
WCI				LR	LR		
	comp=Z,217nm,20.0s						
YBH	**Yreka Blue Hor**	**160.53**	**40**	PKIKP	PKPdf	05 31 59.2	+0.5
YBH						05 32 39.1	
YBH				MLR	MLR		
	comp=Z,719nm,19.0s						
YBH	**Yreka Blue Hor**	**160.53**	**40**	PKP	PKPdf	05 31 59.2	+0.5
	comp=Z,1.4nm,0.9s,baz=334,slow=5.8,SNR=4.1						
YBH				PKPab	PKPab	05 32 39.1	-0.3
	comp=Z,7.6nm,1.1s,baz=74,slow=1.0,SNR=8.7						
BMO	**Blue Mountains**	**160.72**	**25**	PFAKE		05 32 10.0	+11
BMO				LR	LR		
	comp=Z,1µm,21.0s						
LAO	**LASA Array**	**161.08**	**0**	ePKPdf	PKPdf	05 31 58.5	-0.5
LAO				LR	LR		
	comp=Z,2µm,20.0s						
BOZ	**Bozeman (W)**	**161.59**	**12**	PFAKE		05 32 10.0	+10
BOZ				LR	LR		
	comp=Z,1µm,19.0s						
MOD	**Modoc**	**161.72**	**36**	ePKPdf	PKPdf	05 31 59.2	-0.7
MOD				ePKPab	PKPab	05 32 44.0	-0.6
MOD				LR	LR		
	comp=Z,903nm,20.0s						
HOPS	**Hopland**	**161.96**	**47**	PFAKE		05 32 10.0	+10
HOPS				LR	LR		
	comp=Z,1µm,21.0s						
TEIG	**Tepich**	**162.08**	**249**	PFAKE		05 32 10.0	+9.2
TEIG				LR	LR		
	comp=Z,421nm,19.0s						
MCMT	**McKenzie Canyo**	**162.11**	**16**	ePKPdf	PKPdf	05 31 59.5	-0.6
MCMT				ePKPab	PKPab	05 32 45.2	-1.0
WVOR	**Wild Horse Val**	**162.14**	**32**	ePKIKP	PKPdf	05 32 00.3	0.0
WVOR						05 32 46.2	
WVOR				MLR	MLR		
	comp=Z,1µm,20.0s						
QLMT	**Earthquake Lak**	**162.42**	**13**	ePKPdf	PKPdf	05 32 00.2	-0.2
QLMT				ePKPab	PKPab	05 32 47.1	-0.4
YMR	**Madison River**	**162.66**	**12**	ePKPdf	PKPdf	05 32 00.8	+0.1
LRAL	**Lakeview Retre**	**162.69**	**292**	PFAKE		05 32 10.0	+8.9
LRAL				LR	LR		
	comp=Z,2µm,21.0s						
HLID	**Hailey**	**162.84**	**21**	PFAKE		05 32 10.0	+9.1
HLID				LR	LR		
	comp=Z,2µm,20.0s						
LKWY	**Lake**	**162.86**	**10**	ePKIKP	PKPdf	05 32 01.6	+0.7
LKWY				MLR	MLR		
	comp=Z,2µm,20.0s						
LKWY	**Lake**	**162.86**	**10**	ePKPdf	PKPdf	05 32 01.6	+0.7
LKWY				ePKPab	PKPab	05 32 49.7	+0.2
LKWY				LR	LR		
	comp=Z,2µm,20.0s						
IMW	**Indian Meadow**	**163.41**	**12**	ePKPdf	PKPdf	05 32 00.1	-1.3
IMW				ePKPab	PKPab	05 32 52.0	+0.1
TPAW	**Teton Pass**	**163.80**	**13**	ePKPdf	PKPdf	05 32 00.2	-1.7
TPAW				ePKPab	PKPab	05 32 53.0	-0.6
CCM	**Cathedral Cave**	**163.84**	**313**	PFAKE		05 32 10.0	+7.9
CCM				LR	LR		
	comp=Z,221nm,19.0s						
OXF	**Oxford**	**164.19**	**299**	PFAKE		05 32 10.0	+7.4
OXF				LR	LR		
	comp=Z,1µm,21.0s						
SAO	**San Andreas Ge**	**164.22**	**51**	PFAKE		05 32 10.0	+7.5
SAO				LR	LR		
	comp=Z,678nm,21.0s						
CMB	**Columbia Colle**	**164.23**	**46**	PFAKE		05 32 10.0	+7.5
CMB				LR	LR		
	comp=Z,1µm,19.0s						
BMN	**Battle Mountai**	**164.36**	**33**	PFAKE		05 32 10.0	+7.5
BMN				LR	LR		
	comp=Z,1µm,20.0s						
AHID	**Auburn Hatcher**	**164.47**	**14**	ePKPdf	PKPdf	05 32 01.5	-1.1
AHID				LR	LR		
	comp=Z,1µm,19.0s						
BW06	**Boulder Array**	**164.74**	**10**	PFAKE		05 32 10.0	+7.2
BW06				LR	LR		
	comp=Z,1µm,21.0s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
PDAR	**Pinedale Array**	**164.74**	**10**	PKP	PKPdf	05 32 01.4	-1.5
	comp=Z,3.3nm,1.1s,baz=180,slow=1.5,SNR=20						
PDAR				PKPab	PKPab	05 32 56.6	-1.1
	comp=Z,0.8nm,0.8s,slow=2.7,SNR=2.2						
ELK	**Elko**	**165.00**	**28**	*e*PKIKP	PKPdf	05 32 02.3	-0.9
ELK				*e*		05 32 58.6	
ELK				MLR	MLR		
	comp=Z,1µm,22.0s						
ELK	**Elko**	**165.00**	**28**	PKP	PKPdf	05 32 02.5	-0.7
	comp=Z,2.8nm,1.1s,baz=59,slow=2.4,SNR=11						
ELK				PKPab	PKPab	05 32 58.6	-0.3
	comp=Z,2.8nm,0.9s,baz=346,slow=3.8,SNR=7.4						
NVAR	**Mina Array Bea**	**165.25**	**41**	PKP	PKPdf	05 32 02.5	-1.0
	comp=Z,1.6nm,0.9s,baz=130,slow=0.9,SNR=13						
NVAR				PKPab	PKPab	05 33 00.1	0.0
	comp=Z,3.5nm,1.0s,baz=318,slow=1.8,SNR=9.3						
MNV	**Mina**	**165.33**	**40**	PFAKE		05 32 10.0	+6.4
MNV				LR	LR		
	comp=Z,994nm,20.0s						
HWUT	**Hardware Ranch**	**165.46**	**16**	*e*PKPdf	PKPdf	05 32 01.5	-2.1
HWUT				*e*PKPab	PKPab	05 32 59.4	-1.5
HWUT				LR	LR		
	comp=Z,2µm,20.0s						
MTUM	**Tungsten Hills**	**165.79**	**44**	PKPdf	PKPdf	05 32 03.7	-0.3
TPH	**Tonopah**	**166.10**	**39**	*e*PKIKP	PKPdf	05 32 03.9	-0.3
TPH				MLR	MLR		
	comp=Z,1µm,20.0s						
TPH	**Tonopah**	**166.10**	**39**	PKIKP	PKPdf	05 32 05.1	+0.9
KSU1	**Kansas State U**	**166.18**	**327**	*e*PKPdf	PKPdf	05 32 02.5	-1.8
KSU1				*e*PKPab	PKPab	05 33 03.4	-0.7
UALR	**University of**	**166.30**	**304**	*e*PKPdf	PKPdf	05 32 03.4	-1.1
DUG	**Dugway**	**166.39**	**22**	PFAKE		05 32 10.0	+5.6
DUG				LR	LR		
	comp=Z,990nm,19.0s						
JLU	**Jordanelle**	**166.43**	**18**	*e*PKPdf	PKPdf	05 32 03.6	-0.8
DAU	**Daniels Canyon**	**166.66**	**17**	PKIKP	PKPdf	05 32 05.0	+0.4
DAU	**Daniels Canyon**	**166.66**	**17**	*e*PKPdf	PKPdf	05 32 04.1	-0.5
TRCR	**Troy Canyon**	**166.77**	**34**	*e*PKPdf	PKPdf	05 32 04.9	+0.2
TRCR				*e*PKPab	PKPab	05 33 06.5	-0.2
NLU	**North Lily Min**	**166.85**	**21**	*e*PKPdf	PKPdf	05 32 03.3	-1.4
DAC	**Darwin (Calif)**	**167.07**	**46**	PFAKE		05 32 10.0	+5.0
DAC				LR	LR		
	comp=Z,933nm,20.0s						
MIAR	**Mount Ida**	**167.30**	**305**	PKIKP	PKPdf	05 32 04.8	-0.4
MIAR	**Mount Ida**	**167.30**	**305**	*e*PKPdf	PKPdf	05 32 04.2	-0.9
MIAR				LR	LR		
	comp=Z,1µm,19.0s						
TMUT	**Trail Mountain**	**167.71**	**19**	*e*PKPdf	PKPdf	05 32 03.9	-1.3
CBKS	**Cedar Bluff**	**167.74**	**336**	*e*PKIKP	PKPdf	05 32 04.3	-1.0
CBKS				MLR	MLR		
	comp=Z,1µm,21.0s						
ISCO	**Idaho Springs**	**167.96**	**358**	PFAKE		05 32 20.0	+15
ISCO				LR	LR		
	comp=Z,1µm,19.0s						
SRU	**San Rafael**	**168.07**	**17**	*e*PKIKP	PKPdf	05 32 03.4	-2.1
MVU	**Marysvale**	**168.11**	**24**	*e*PKPdf	PKPdf	05 32 05.1	-0.4
MVU				LR	LR		
	comp=Z,1µm,19.0s						
MSU	**Marysvale**	**168.12**	**24**	*e*PKIKP	PKPdf	05 32 05.3	-0.2
PV10	**Paradox Valley**	**169.11**	**12**	*e*PKPdf	PKPdf	05 32 05.9	-0.2
NATX	**Nacogdoches**	**169.27**	**295**	PFAKE		05 32 20.0	+14
NATX				LR	LR		
	comp=Z,1µm,20.0s						
PFO	**Pinyon Flat Ob**	**169.35**	**54**	*e*PKIKP	PKPdf	05 32 06.4	0.0
PFO				MLR	MLR		
	comp=Z,238nm,19.0s						
PV01	**Paradox Valley**	**169.43**	**11**	*e*PKPdf	PKPdf	05 32 05.9	-0.4
PV01				*e*PKPab	PKPab	05 33 17.8	-0.5
RW3	**Ridgway**	**169.43**	**7**	*e*PKIKP	PKPdf	05 32 05.9	-0.4
RW3				*e*		05 33 18.1	
SDCO	**Great Sand Dun**	**170.00**	**357**	*e*PKPdf	PKPdf	05 32 06.4	-0.2
SDCO				LR	LR		
	comp=Z,2µm,21.0s						
WMOK	**Wichita Mounta**	**170.62**	**320**	PFAKE		05 32 20.0	+13
WMOK				LR	LR		
	comp=Z,1µm,20.0s						
HKT	**Hockley**	**170.72**	**286**	PFAKE		05 32 20.0	+13
HKT				LR	LR		
	comp=Z,226nm,21.0s						
WUAZ	**Wupatki**	**171.04**	**29**	*e*PKPdf	PKPdf	05 32 06.0	-1.4
WUAZ				LR	LR		
	comp=Z,2µm,22.0s						
AMTX	**Amarillo**	**171.93**	**333**	PFAKE		05 32 20.0	+12
AMTX				LR	LR		
	comp=Z,1µm,21.0s						
ANMO	**Albuquerque**	**172.80**	**2**	PKIKP	PKPdf	05 32 07.6	-0.8
ANMO						05 33 33.1	
ANMO				MLR	MLR		
	comp=Z,1µm,20.0s						
ANMO	**Albuquerque**	**172.80**	**2**	PKP	PKPdf	05 32 07.6	-0.8
	comp=Z,2.7nm,0.9s,baz=138,slow=2.1,SNR=14						
ANMO				PKPab	PKPab	05 33 33.0	-0.3
	comp=Z,2.7nm,1.1s,baz=346,slow=3.8,SNR=6.0						
LPM	**Los Pinos Moun**	**173.43**	**4**	*e*PKPdf	PKPdf	05 32 08.1	-0.5
LENM	**Lemitar**	**173.55**	**6**	*e*PKPdf	PKPdf	05 32 08.4	-0.3
LENM				*e*PKPab	PKPab	05 33 37.4	+0.6
JCT	**Junction City**	**173.84**	**298**	*e*PKIKP	PKPdf	05 32 07.8	-1.1
JCT				MLR	MLR		
	comp=Z,1µm,21.0s						
TUC	**Tucson**	**173.90**	**40**	*e*PKIKP	PKPdf	05 32 07.8	-1.0
TUC				*e*		05 32 14.6	
TUC				*e*		05 33 37.7	
TUC				MLR	MLR		
	comp=Z,875nm,22.0s						
GDL2	**Guadalupe Moun**	**175.30**	**342**	*e*PKPdf	PKPdf	05 32 07.8	-1.4
MNTX	**Cornudas Mount**	**176.00**	**351**	*e*PKPdf	PKPdf	05 32 08.3	-1.2
MNTX				*e*		05 32 14.7	
MNTX				*e*PKPab	PKPab	05 33 47.2	-0.4
MNTX				*e*PP	PP	05 37 36.8	-5.1
MNTX				LR	LR		
	comp=Z,1µm,21.0s						
LTX	**Lajitas**	**177.32**	**307**	*e*PKIKP	PKPdf	05 32 09.0	-0.8
LTX				MLR	MLR		
	comp=Z,878nm,20.0s						
LTX	**Lajitas**	**177.32**	**307**	*e*PKPdf	PKPdf	05 32 09.0	-0.8
LTX				*e*PKPab	PKPab	05 33 54.3	+0.7
LTX				LR	LR		
	comp=Z,878nm,20.0s						
TXAR	**Lajitas Array**	**177.32**	**307**	PKP	PKPdf	05 32 09.1	-0.7
	comp=Z,1.0nm,0.8s,baz=180,slow=2.5,SNR=12						
TXAR				PKPab	PKPab	05 33 53.5	-0.2
	comp=Z,12nm,1.3s,baz=45,slow=3.5,SNR=13						
TXAR	**Lajitas Array**	**177.32**	**307**	PKP	PKPdf	05 32 09.1	-0.7
TXAR				PKPab	PKPab	05 33 53.5	-0.2

TIF ***14*** *05:21:43.5, 39.42N×40.77E, h5km±4km*
ISK ***14*** *05:21:45.1, 39.41N×40.77E, h16km, MD3.0*
CSEM ***14*** *05:21:45.1, 39.41N×40.77E, h16km, MD3.0, After ISK*
ISC 14 05:21:46.5±0.7**, 39.46N**±0.04×**40.76E**±0.06**, h16**km**, n11, σ1.19**/15**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.61**	**200**	PG	**Pb**	**05 21 57.0**	**-1.4**
EZM	**Erzurum**	**0.65**	**46**	PG	**Pb**	**05 21 58.2**	**-0.8**
EZM	**Erzurum**	**0.65**	**46**	SG	**Sb**	**05 22 08.7**	**+1.2**
ERZM	**Erzurum**	**0.65**	**46**	*i* P	**Pb**	**05 21 58.3**	**-0.7**
ERZM				*i* S	**Sb**	**05 22 07.9**	**+0.4**
VRT	**Varto**	**0.68**	**118**	PG	**Pb**	**05 21 57.6**	**-1.9**
VRT	**Varto**	**0.68**	**118**	*e*Pg	**Pb**	**05 21 57.6**	**-1.9**
VRT				*e*Sg	**Sb**	**05 22 08.4**	**-0.1**
PTK	**Pertek**	**1.20**	**243**	*e*PN	**Pn**	**05 22 07.3**	**-1.4**
GUMT	**Gumushane**	**1.40**	**316**	*e*PN	**Pn**	**05 22 12.0**	**+0.4**
BEST	**Besiri**	**1.61**	**165**	*i* P	**Pn**	**05 22 15.0**	**+0.5**
BEST				*i* S	**Sn**	**05 22 37.0**	**+1.8**
ELZG	**Elazig**	**1.68**	**236**	*i* P	**Pn**	**05 22 17.5**	**+1.9**
ELZG				*i* S	**Sn**	**05 22 46.0**	**+9.1**
ONI	**Oni**	**3.73**	**32**	P	**Pn**	**05 23 04.3**	**+20**

NEIC ***14*** *05:33:27.0, 39.51N×111.90W, h2km, ML3.0(SLC), After SLC.*
IDC ***14*** *05:33:28.1±1.3, 39.58N×111.84W, mb2.8/1, mb1 3.3/7, mb1mx3.2/22, mbtmp3.1/7, ML3.2/5, Error ellipse: s-maj=15.3km s-min=7.2km az=153.0*
ISC 14 05:33:27.5±0.9**, 39.55N**±0.03×**111.90W**±0.04**, h4**km±7km**, n46, σ0.93**/49**, mb2.5**/1**, 1D, Utah**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLU	**North Lily Min**	**0.43**	**342**⇓	*i*P	**Pg**	**05 33 36.8**	**+0.8**
MPU	**Maple Canyon**	**0.51**	**24**	*e*P	**Pg**	**05 33 38.2**	**+0.5**
TMUT	**Trail Mountain**	**0.59**	**115**	*e*P	**Pg**	**05 33 38.7**	**-0.6**
DAU	**Daniels Canyon**	**1.00**	**30**	*e*P	**Pb**	**05 33 47.8**	**+0.9**
MVU	**Marysvale**	**1.07**	**193**	*e*P	**Pb**	**05 33 47.7**	**-0.4**
JLU	**Jordanelle**	**1.11**	**18**	*e*P	**Pb**	**05 33 49.9**	**+1.1**
NOQ	**North Oquirrh**	**1.12**	**351**	*e*P	**Pb**	**05 33 49.8**	**+0.9**
CTU	**Camp Tracy**	**1.15**	**6**	*e*P	**Pb**	**05 33 50.1**	**+0.6**
SRU	**San Rafael**	**1.15**	**112**	*e*P	**Pb**	**05 33 48.5**	**-1.1**
TCUT	**Toone Canyon**	**1.61**	**13**	*e*P	**Pn**	**05 33 57.5**	**+0.6**
BGU	**Big Grassy Mou**	**1.62**	**328**	*e*P	**Pn**	**05 33 56.3**	**-0.7**
SPUT	**South Promonto**	**1.81**	**347**	*e*P	**Pn**	**05 33 59.6**	**0.0**
HWUT	**Hardware Ranch**	**2.07**	**7**	*e*Pn	**Pn**	**05 34 04.1**	**+0.7**
ARUT	**Antelope Range**	**2.13**	**215**	*e*Pn	**Pn**	**05 34 05.5**	**+1.3**
HVU	**Hansel Valley**	**2.33**	**344**	*e*Pn	**Pn**	**05 34 06.3**	**-0.7**
PV10	**Paradox Valley**	**2.52**	**117**	*e*Pn	**Pn**	**05 34 11.8**	**+2.0**
ELK	**Elko**	**2.82**	**296**	Pn	**Pn**	**05 34 16.9**	**+2.7**
	2.6nm,0.3s,baz=108,slow=12,SNR=22						
ELK				Lg		05 34 57.4	
	2.4nm,0.3s,baz=204,slow=23,SNR=7.9						
ELK	**Elko**	**2.82**	**296**	*e*Pn	**Pn**	**05 34 14.5**	**+0.4**
PV01	**Paradox Valley**	**2.96**	**117**	*e*Pn	**Pn**	**05 34 17.0**	**+1.0**
TRCR	**Troy Canyon**	**3.11**	**249**	Pn	**Pn**	**05 34 17.9**	**-0.3**
AHID	**Auburn Hatcher**	**3.27**	**10**	*e*Pn	**Pn**	**05 34 21.0**	**+0.5**
RW3	**Ridgway**	**3.53**	**110**	*e*Pn	**Pn**	**05 34 25.3**	**+1.0**
PDAR	**Pinedale Array**	**3.67**	**28**	Pn	**Pn**	**05 34 26.4**	**+0.2**
	0.4nm,0.3s,baz=201,slow=13,SNR=16						
PDAR				Sn	**Sn**	**05 35 11.5**	**+1.0**
	0.3nm,0.3s,baz=213,slow=46,SNR=2.8						
PDAR				Lg		05 35 22.9	
	1.3nm,0.3s,baz=205,slow=28,SNR=6.4						
RRI2	**Red Ridge**	**3.82**	**6**	*e*Pn	**Pn**	**05 34 28.4**	**0.0**
TPAW	**Teton Pass**	**4.00**	**10**	*e*Pn	**Pn**	**05 34 30.9**	**0.0**
SNOW	**Snow King Moun**	**4.00**	**12**	*e*Pn	**Pn**	**05 34 30.3**	**-0.6**
WUWY	**Wally Ulrich**	**4.08**	**12**	*e*Pn	**Pn**	**05 34 29.9**	**-2.1**
LOHW	**Long Hollow**	**4.18**	**13**	*e*Pn	**Pn**	**05 34 32.3**	**-1.1**
BMN	**Battle Mountai**	**4.18**	**284**	*e*Pn	**Pn**	**05 34 34.1**	**+0.6**
MOOW	**Moose Ponds**	**4.29**	**11**	*e*Pn	**Pn**	**05 34 34.3**	**-0.6**
IMW	**Indian Meadow**	**4.41**	**9**	*e*Pn	**Pn**	**05 34 35.1**	**-1.5**
TPH	**Tonopah**	**4.41**	**252**	*e*Pn	**Pn**	**05 34 34.6**	**-2.0**
HLID	**Hailey**	**4.43**	**336**	*e*Pn	**Pn**	**05 34 36.4**	**-0.6**
ISCO	**Idaho Springs**	**4.86**	**85**	*e*Pn	**Pn**	**05 34 42.9**	**-0.2**
MNV	**Mina**	**5.00**	**259**	Pn	**Pn**	**05 34 45.2**	**+0.2**
NVAR	**Mina Array Bea**	**5.11**	**259**	Pn	**Pn**	**05 34 47.0**	**+0.4**
	0.3nm,0.3s,baz=78,slow=13,SNR=4.4						
NVAR				Sn	**Sn**	**05 35 47.6**	**+0.7**
	baz=81,slow=16,SNR=2.1						
NVAR				Lg		05 36 06.9	
	0.5nm,0.3s,baz=118,slow=37,SNR=2.6						
NVAR	**Mina Array Bea**	**5.11**	**259**	Pn	**Pn**	**05 34 47.0**	**+0.4**
NVAR				Sn	**Sn**	**05 35 47.6**	**+0.7**
NVAR				Lg		05 36 06.9	
LDFC	**Landfair**	**5.14**	**211**	Pn	**Pn**	**05 34 47.7**	**+0.6**
MCMT	**McKenzie Canyo**	**5.32**	**353**	Pn	**Pn**	**05 34 49.0**	**-0.6**
SDCO	**Great Sand Dun**	**5.32**	**108**	Pn	**Pn**	**05 34 48.3**	**-1.3**
WCN	**Washoe City**	**6.09**	**270**	Pn	**Pn**	**05 34 59.0**	**-1.4**
ANMO	**Albuquerque**	**6.32**	**135**	Pn	**Pn**	**05 35 03.0**	**-0.6**
	baz=322,slow=12,SNR=39						
ANMO				Lg		05 36 41.8	
	baz=240,slow=20,SNR=3.3						
ANMO	**Albuquerque**	**6.32**	**135**	Pn	**Pn**	**05 35 03.0**	**-0.6**
ANMO				Lg		05 36 41.8	
YBH	**Yreka Blue Hor**	**8.50**	**288**	Pn	**P**	**05 35 35.1**	**+0.9**
	0.1nm,0.3s,baz=96,slow=10,SNR=2.3						
NEW	**Newport**	**9.49**	**338**	Pn	**P**	**05 35 46.7**	**-1.2**
	0.1nm,0.3s,baz=286,slow=8.8,SNR=2.4						
YKA	**Yellowknife Ar**	**23.04**	**357**	P	**P**	**05 38 33.9**	**-0.3**
	0.1nm,0.5s,mb2.5,baz=180,slow=9.2,SNR=5.2						

NEIC ***14*** *05:39:59.0±2.6, 11.78N×94.39E, h48km±23km, mb4.4/2, Error ellipse: s-maj=18.8km s-min=10.6km az=57.0*
IDC ***14*** *05:40:00.7±4.8, 11.85N×94.46E, h63km±43km, mb3.8/15, mb1 3.9/16, mb1mx3.9/20, mbtmp4.1/16, ML3.3/1, Error ellipse: s-maj=25.3km s-min=14.6km az=54.0*
BJI ***14*** *05:40:05.3, 12.46N×93.59E, h48km, mb4.3*
ISC 14 05:39:56.3±2.1**, 11.8N**±0.1×**94.5E**±0.1**, h41**km±18km**, n31, σ0.77**/31**, mb4.1**/19**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**5.17**	**81**	P	**P**	**05 41 12.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**7.90**	**32**	P	**P**	**05 41 51.6**	**+0.2**
	0.1nm,0.3s,baz=224,slow=16,SNR=5.0						
JIRN	**Jiri**	**17.62**	**335**	*e*P	**P**	**05 44 01.1**	**+0.6**
	54nm,1.3s						
PKI	**Pulchoki**	**17.88**	**333**	*e*P	**P**	**05 44 03.8**	**+0.1**
GUN	**Gumba**	**17.97**	**334**	*e*P	**P**	**05 44 05.2**	**+0.4**
DMN	**Daman**	**18.05**	**332**	*e*P	**P**	**05 44 06.4**	**+0.6**
	40nm,0.8s						
GKN	**Gorkha**	**18.60**	**332**	*e*P	**P**	**05 44 12.2**	**-0.5**
KOLN	**Koldanda**	**18.91**	**329**	*e*P	**P**	**05 44 16.3**	**0.0**
	59nm,0.9s						
DDI	**Dehra Dun**	**23.95**	**323**	*e*	**P**	**05 45 10.8**	**+3.0**
LZH	**Lanzhou**	**25.63**	**18**	*e*P	**P**	**05 45 27.6**	**+3.8**
LZH				AP	pP	05 45 39.0	+4.3
LZH				XP	sP	05 45 44.5	+4.9
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.5						
LZH	**Lanzhou**	**25.63**	**18**	*e*P	**P**	**05 45 27.6**	**+3.8**
	comp=Z,24nm,1.5s,mb4.5						
LZH				pP	pP	05 45 39.0	+4.3
LZH				sP	sP	05 45 44.5	+4.9
GTA	**Gaotai**	**27.92**	**9**	*e*P	**P**	**05 45 49.4**	**+4.6**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.1						
SONM	**Songino Array**	**37.30**	**13**	P	**P**	**05 47 07.1**	**+0.8**
	comp=Z,2.8nm,1.0s,mb4.0,baz=207,slow=9.7,SNR=4.4						
KURK	**Kurchatov**	**40.95**	**345**	*e*P	**P**	**05 47 36.5**	**-0.1**
	comp=Z,5.7nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**42.75**	**352**	P	**P**	**05 47 51.8**	**+0.5**
	comp=Z,2.1nm,0.8s,mb3.9,baz=298,slow=7.4,SNR=7.9						
BVAR	**Borovoye Array**	**45.45**	**340**	P	**P**	**05 48 12.4**	**-0.7**
	comp=Z,3.8nm,0.8s,mb4.3,baz=141,slow=9.5,SNR=12						
CHKZ	**Chkalovo**	**45.92**	**340**	*e*P	**P**	**05 48 16.0**	**-0.8**
	comp=Z,15nm,0.7s,mb5.0						
CHKZ				*e*		05 48 19.5	
WRA	**Warramunga Arr**	**50.31**	**128**	P	**P**	**05 48 51.6**	**+0.2**
	comp=Z,5.7nm,1.0s,mb4.5,baz=306,slow=8.5,SNR=18						
WRAB	**Tennant Creek**	**50.31**	**128**	*e*P	**P**	**05 48 51.8**	**+0.4**
GNI	**Garni**	**52.04**	**312**	P	**P**	**05 49 03.3**	**-0.9**
	comp=Z,2.2nm,0.3s,mb4.6,baz=123,slow=23,SNR=2.5						
ASAR	**Alice Springs**	**52.20**	**133**	P	**P**	**05 49 06.0**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=312,slow=7.1,SNR=10						
KMBO	**Kilima Mbogo**	**58.30**	**261**	P	**P**	**05 49 50.6**	**+0.8**
	comp=Z,0.9nm,0.6s,mb4.0,baz=202,slow=20,SNR=2.6						
STKA	**Stephens Creek**	**62.57**	**135**	P	**P**	**05 50 19.3**	**+0.6**
	comp=Z,2.6nm,0.9s,mb4.4,baz=313,slow=6.4,SNR=5.3						
FINES	**FINESS Array B**	**69.46**	**331**	P	**P**	**05 51 00.9**	**-1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=113,slow=11,SNR=3.6						
ARCES	**ARCESS Array B**	**71.74**	**340**	P	**P**	**05 51 15.8**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=76,slow=5.0,SNR=4.2						
ARCES	**ARCESS Array B**	**71.74**	**340**	P	**P**	**05 51 15.8**	**0.0**
MATP	**Matopo**	**72.36**	**244**	P	**P**	**05 51 19.8**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.0,baz=63,slow=6.8,SNR=3.4						
GERES	**GERESS Array B**	**75.19**	**318**	P	**P**	**05 51 35.7**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=14,slow=5.5,SNR=6.4						
NOA	**NORSAR Array B**	**76.54**	**330**	P	**P**	**05 51 42.8**	**-1.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=89,slow=5.8,SNR=3.9						
ILAR	**Eielson Array**	**91.01**	**22**	P	**P**	**05 52 57.4**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.8,baz=293,slow=4.7,SNR=4.0						
INK	**Inuvik**	**93.16**	**16**	P	**P**	**05 53 07.3**	**+0.2**
	comp=Z,0.8nm,0.8s,mb4.2,baz=329,slow=3.8,SNR=6.1						

CASC 14 05:50:46.4±2.3**, 12.50N**×**87.80W, h60**km±91km**, MD3.6, ML2.8, 2C-2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.76**	**75**⇓	*e*P	P	05 51 02.6	+1.2
CRIN				*e*S	S	05 51 14.8	+2.2
CNCH	**Conchagua**	**0.77**	**357**	*e*P	P	05 51 02.5	+0.9
CNCH				*e*S	S	05 51 14.0	+1.1
LEON	**Leon**	**0.89**	**95**⇓	*e*P	P	05 51 03.0	-0.1
TEL3	**Telica 3**	**0.93**	**86**⇑	*e*P	P	05 51 03.7	0.0
TEL3				*e*S	S	05 51 16.2	-0.5
TELN	**Telica**	**0.95**	**84**	*e*P	P	05 51 04.0	0.0
TELN				*e*S	S	05 51 18.2	+1.2
BLLM	**Bellamira**	**1.03**	**335**	*e*P	P	05 51 05.4	+0.3
BLLM				*e*S	S	05 51 19.7	+0.8
VSM	**San Miguel**	**1.03**	**333**	*e*P	P	05 51 06.0	+0.9
VSM				*e*S	S	05 51 19.2	+0.3
MOMJ	**Momotombo**	**1.23**	**94**⇑	*e*P	P	05 51 07.6	-0.3
MOMJ				*e*S	S	05 51 24.0	+0.2
XAVN	**Gruta Xavier**	**1.48**	**104**	*e*P	P	05 51 10.5	-0.9
XAVN				*e*S	S	05 51 28.6	-1.2
SNVI	**San Vicente**	**1.50**	**318**	*e*P	P	05 51 12.0	+0.4
SNVI				*e*S	S	05 51 30.0	-0.3
MGAN	**Managua**	**1.56**	**103**	*e*P	P	05 51 12.0	-0.4
MGAN				*e*S	S	05 51 30.8	-0.8
MGAN				*i*		05 51 36.0	
	comp=Z,117nm,0.4s						
WILN	**Americas 2**	**1.61**	**102**	*e*S	S	05 51 32.7	-0.3
LCBS	**La Ceiba**	**1.62**	**315**	*e*P	P	05 51 13.6	+0.2
LCBS				*e*S	S	05 51 32.1	-1.1
LFRS	**El Faro**	**1.66**	**312**	*e*P	P	05 51 13.9	0.0
LFRS				*e*S	S	05 51 33.4	-0.6
LFU	**La Fuente**	**1.78**	**314**	*e*P	P	05 51 15.9	+0.4
SBLS	**San Blas**	**2.22**	**307**	*e*P	P	05 51 23.1	+1.5

IDC ***14*** *06:11:08.0±0.8, 52.61N×158.94E, mb4.1/14, mb1 4.3/15, mb1mx4.2/26, mbtmp4.1/15, ML3.7/1, Error ellipse: s-maj=23.4km s-min=15.5km az=163.0*
MOS ***14*** *06:11:13.0±0.9, 52.34N×159.85E, h30km, mb4.6/4, Error ellipse: s-maj=17.4km s-min=8.2km az=83.6*
KRSC ***14*** *06:11:15.4±0.6, 52.50N×159.59E, h32km±3km, ML4.6*
NEIC ***14*** *06:11:15.9±1.3, 52.52N×159.36E, h53km±10km, mb4.6/4, Error ellipse: s-maj=16.9km s-min=12.2km az=179.0*
ISC 14 06:11:14.9±0.5**, 52.46N**±0.03×**159.67E**±0.06**, h51**km±5km**, n61, σ0.95**/93**, mb4.1**/18**, 2D, Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.68**	**19**	P	**P**	**06 11 28.2**	**-0.3**
SPN				S	**S**	**06 11 37.6**	**-0.9**
SPN	**Mys Shipunski**	**0.68**	**19**	*e*P	**P**	**06 11 28.3**	**-0.2**
SPN				*e*S	**S**	**06 11 37.6**	**-0.9**
RUS	**Russkaya**	**0.71**	**269**	P	**P**	**06 11 28.4**	**-0.4**
RUS				S	**S**	**06 11 37.8**	**-1.3**
RUS	**Russkaya**	**0.71**	**269**	*i* P	**P**	**06 11 28.4**	**-0.4**
RUS				*i* S	**S**	**06 11 37.9**	**-1.2**
NLC	**Nalytchevo**	**0.74**	**345**	P	**P**	**06 11 28.9**	**-0.4**
NLC				S	**S**	**06 11 38.9**	**-1.1**
NLC	**Nalytchevo**	**0.74**	**345**	*i* P	**P**	**06 11 28.8**	**-0.5**
NLC				*e*S	**S**	**06 11 38.9**	**-1.1**
PET	**Petropavlovsk**	**0.84**	**313**	P	**P**	**06 11 30.3**	**-0.3**
PET				S	**S**	**06 11 40.7**	**-1.6**
PET	**Petropavlovsk**	**0.84**	**313**⇓	*i*PN	**P**	**06 11 30.4**	**-0.2**
PET				*i* S	**S**	**06 11 41.5**	**-0.8**
PET				pmax	pmax		
	comp=E,2µm,0.5s						
PET				pmax	pmax		
	comp=Z,4µm,0.5s						
PET				pmax	pmax		
	comp=N,2µm,0.6s						
PET				pmax	pmax		
	comp=E,2µm,0.5s						
PET				pmax	pmax		
	comp=Z,6µm,0.5s						
PET				pmax	pmax		
	comp=N,3µm,0.5s						
PET				smax			
	comp=E,10µm,1.1s						
PET				smax			
	comp=E,7µm,0.5s						
PET				smax			
	comp=N,6µm,0.5s						
PET	**Petropavlovsk**	**0.84**	**313**⇓	*i*Pn	**P**	**06 11 30.2**	**-0.4**
PET	**Petropavlovsk**	**0.84**	**313**	*i* P	**P**	**06 11 30.3**	**-0.3**
PET				*i* S	**S**	**06 11 40.8**	**-1.5**
UGLR	**Uglovaya**	**0.91**	**326**	*i* P	**P**	**06 11 31.8**	**+0.2**
UGLR				*e*S	**S**	**06 11 43.5**	**-0.5**
SMAR	**Somma**	**0.96**	**327**	*e*P	**P**	**06 11 32.3**	**-0.1**
SMAR				*e*S	**S**	**06 11 44.6**	**-0.7**
GRL	**Gorelyy**	**0.98**	**276**	*i* P	**P**	**06 11 32.9**	**+0.3**
GRL				*e*S	**S**	**06 11 45.7**	**0.0**
AVH	**Avacha**	**0.99**	**326**	*i* P	**P**	**06 11 32.8**	**+0.1**
AVH				*e*S	**S**	**06 11 45.8**	**-0.1**
KRMR	**Karymshinskiy**	**1.01**	**292**	*i* P	**P**	**06 11 32.8**	**-0.2**
KRMR				*i* S	**S**	**06 11 44.8**	**-1.6**
KOK	**Koryaka**	**1.04**	**324**	*i* P	**P**	**06 11 33.6**	**+0.1**
KOK				*e*S	**S**	**06 11 46.8**	**-0.5**
KII	**Karymskiy**	**1.59**	**355**	*e*P	**P**	**06 11 41.7**	**+0.5**
KII				*e*S	**S**	**06 12 01.6**	**+0.9**
APC	**Apacha**	**1.60**	**288**	*i* P	**P**	**06 11 42.1**	**+0.8**
APC				*e*S	**S**	**06 12 02.1**	**+1.2**
APC				Smax			
	comp=N,1µm,0.8s						
GNL	**Ganaly**	**1.62**	**321**	*i* P	**P**	**06 11 42.1**	**+0.4**
GNL				*e*S	**S**	**06 12 02.0**	**+0.6**
PAU	**Pauzhetka**	**2.02**	**242**	*e*P	**P**	**06 11 47.4**	**+0.1**
PAU				*e*S	**S**	**06 12 09.9**	**-1.5**
SKR	**Severo-Kuril's**	**2.84**	**233**	PN	**P**	**06 11 59.5**	**+0.6**
SKR				*i* S	**S**	**06 12 32.0**	**-0.1**
SKR				smax			
	comp=E,610nm,0.3s						
SKR				smax			
	comp=N,590nm,0.5s						
SKR	**Severo-Kuril's**	**2.84**	**233**	*e*P	**P**	**06 11 59.5**	**+0.6**
SKR				*i* S	**S**	**06 12 32.0**	**-0.1**
TUMR	**Tumrok**	**2.85**	**6**	*e*P	**P**	**06 12 00.3**	**+1.3**
TUMR				*e*S	**S**	**06 12 32.6**	**+0.3**
ALID	**Alaid**	**3.02**	**240**	*e*P	**P**	**06 12 03.5**	**+2.1**
ALID				*e*S	**S**	**06 12 39.0**	**+2.4**
KMNR	**Kamenistaya**	**3.32**	**6**	*e*P	**P**	**06 12 07.3**	**+1.5**
KMNR				*e*S	**S**	**06 12 45.5**	**+1.1**
ESO	**Esso**	**3.52**	**351**	*e*P	**P**	**06 12 09.5**	**+0.9**
ESO				*e*S	**S**	**06 12 49.3**	**-0.1**
KOZ	**Kozyrevsk**	**3.61**	**2**	P	**P**	**06 12 11.4**	**+1.6**
KOZ	**Kozyrevsk**	**3.61**	**2**	*e*P	**P**	**06 12 11.1**	**+1.3**
KOZ				*e*S	**S**	**06 12 51.9**	**+0.3**
KOZR	**Kozyr**	**3.62**	**2**	PN	**P**	**06 12 11.4**	**+1.4**
SRDR	**Sredinnyy**	**3.87**	**0**	*e*P	**P**	**06 12 14.9**	**+1.4**
KLY	**Klyuchi**	**3.91**	**8**	P	**P**	**06 12 14.7**	**+0.7**
KLY	**Klyuchi**	**3.91**	**8**	*e*P	**P**	**06 12 14.5**	**+0.5**
KLY				*e*S	**S**	**06 12 57.6**	**-1.5**
KBTR	**Krutoberegovo**	**4.19**	**25**	P	**P**	**06 12 18.4**	**+0.4**
KBTR				S	**S**	**06 13 05.4**	**-0.8**
KBTR	**Krutoberegovo**	**4.19**	**25**	*e*P	**P**	**06 12 18.2**	**+0.2**
KBTR				*e*S	**S**	**06 13 05.2**	**-1.0**
KBG	**Krutoberegovo**	**4.20**	**24**	*e*P	**P**	**06 12 19.3**	**+1.1**
KBG				*e*S	**S**	**06 13 06.3**	**-0.2**
KBG				Smax			
	comp=N,1µm,1.0s						
BKI	**Bering**	**4.64**	**51**	*e*P	**P**	**06 12 21.5**	**-2.8**
BKI				*e*S	**S**	**06 13 09.7**	**-7.8**
FX1	**Attu Island--F**	**8.22**	**82**	Pn	**P**	**06 13 13.1**	**-1.1**
	comp=N,3.3nm,0.3s,baz=259,slow=23,SNR=15						
FX1				Sn	**S**	**06 14 37.9**	**-8.7**
	comp=N,14nm,0.3s,baz=134,slow=20,SNR=12						
FX1	**Attu Island--F**	**8.22**	**82**	*e*P	**P**	**06 13 13.2**	**-1.0**
IMA	**Indian Mountai**	**26.69**	**41**	P	**P**	**06 16 49.5**	**-1.1**
IMA				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
IMA	**Indian Mountai**	**26.69**	**41**	P	**P**	**06 16 49.5**	**-1.1**
	comp=Z,11nm,0.9s,mb4.4						
ILAR	**Eielson Array**	**29.45**	**44**	P	**P**	**06 17 15.3**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=263,slow=7.3,SNR=14						
TLY	**Talaya**	**33.71**	**292**	*e*P	**P**	**06 17 54.4**	**+1.4**
ZAK	**Zakamensk**	**34.47**	**290**	*e*P	**P**	**06 17 57.4**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
INK	**Inuvik**	**34.53**	**37**	P	**P**	**06 17 59.4**	**-0.5**
	comp=Z,1.6nm,0.7s,mb4.0,baz=297,slow=5.6,SNR=9.1						
DLBC	**Dease Lake**	**38.64**	**52**	P	**P**	**06 18 35.8**	**+1.3**
	comp=Z,1.4nm,1.0s,mb3.6,baz=304,slow=14,SNR=3.6						
YKA	**Yellowknife Ar**	**43.81**	**42**	P	**P**	**06 19 16.4**	**-0.4**
	comp=Z,1.3nm,0.8s,mb3.7,baz=298,slow=8.0,SNR=19						
NEW	**Newport**	**50.45**	**59**	P	**P**	**06 20 09.0**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=293,slow=7.7,SNR=2.8						
BVAR	**Borovoye Array**	**50.58**	**309**	P	**P**	**06 20 03.3**	**-6.7**
	comp=Z,1.3nm,0.7s,mb4.0,baz=101,slow=7.6,SNR=2.3						
ARCES	**ARCESS Array B**	**53.81**	**342**	P	**P**	**06 20 29.6**	**-4.4**
	comp=Z,2.1nm,0.8s,mb4.1,baz=37,slow=9.0,SNR=3.1						
SUMG	**Summit**	**54.62**	**7**	*e*P	**P**	**06 20 39.0**	**-0.9**
	comp=Z,7.0nm,0.9s,mb4.7						
BOZ	**Bozeman (W)**	**55.02**	**59**	*e*P	**P**	**06 20 42.8**	**-0.3**
NVAR	**Mina Array Bea**	**56.21**	**69**	P	**P**	**06 20 52.4**	**+0.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=293,slow=8.8,SNR=4.2						
PDAR	**Pinedale Array**	**58.06**	**60**	P	**P**	**06 21 05.0**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=316,slow=2.6,SNR=19						
ULM	**Lac du Bonnet**	**59.45**	**46**	P	**P**	**06 21 13.7**	**-0.7**
	comp=Z,0.6nm,0.3s,mb4.0,baz=300,slow=8.1,SNR=2.3						

SRU San Rafael 60.10 64 eP P 06 21 19.0 0.0
SCHQ Schefferville 66.34 27 P P 06 21 58.8 -0.9
comp=Z,1.9nm,0.8s,mb4.2,baz=337,slow=7.7,SNR=4.3
LTX Lajitas 71.13 66 eP P 06 22 30.2 +0.5
LTX pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
LTX Lajitas 71.13 66 eP P 06 22 30.2 +0.5
comp=Z,5.0nm,1.1s,mb4.4
TXAR Lajitas Array 71.13 66 P P 06 22 30.0 +0.2
comp=Z,4.2nm,0.9s,mb4.4,baz=294,slow=4.3,SNR=19
WRA Warramunga Arr 75.39 205 P P 06 22 52.6 -2.2
comp=Z,6.2nm,1.0s,mb4.5,baz=13,slow=6.7,SNR=8.9
ASAR Alice Springs 79.07 204 P P 06 23 15.3 +0.1
comp=Z,1.8nm,0.7s,mb4.1,baz=14,slow=5.4,SNR=4.1

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*NIED **14** 06:11:00, 46.20N×147.70E, h300km, Mw4.8 Best double couple: $M_0$1.7×10^{16} NP1:ϕ_s157°, δ70°, λ43°. NP2:ϕ_s49°, δ50°, λ153°.*
*SKHL **14** 06:11:23.4±2.6, 46.88N×147.50E, h293km±26km, mb6.1/5, mbh6.1/2, msh5.5/5*
*MOS **14** 06:11:24.3±0.9, 46.87N×147.20E, h288km, mb4.8/75, Error ellipse: s-maj=7.8km s-min=4.4km az=98.5*
*JMA **14** 06:11:25.1±0.5, 46.15N×147.66E, h330km, M4.9*
*BJI **14** 06:11:25.3, 46.86N×147.21E, h302km, mB4.7, mb4.5*
*NEIC **14** 06:11:26.7±0.1, 46.85N×147.22E, mb4.7/108, Error ellipse: s-maj=4.6km s-min=3.0km az=161.0*
*IDC **14** 06:11:26.4±0.5, 46.86N×147.17E, h298km±4km, mb4.2/27, mb1 4.3/30, mb1mx4.3/31, mbtmp4.9/30, Error ellipse: s-maj=9.8km s-min=6.6km az=136.0*
ISC 14 06:11:23.6±0.2, **46.80N**±0.03×**147.28E**±0.03, **h285**km±2km, **h299**km±2.2km**: pP-P, n431, σ1.00**/471, **mb4.7**/148, **21C-32D, Northwest of Kuril Islands**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KUR Kuril'sk 1.62 165j iPN P 06 12 04.6 -1.7
KUR iS S 06 12 37.5 -2.2
KUR pmax pmax
comp=N,950nm,0.7s
KUR pmax pmax
comp=E,1μm,0.7s
KUR pmax pmax
comp=Z,4μm,0.7s
KUR pmax pmax
comp=N,5μm,1.8s
KUR pmax pmax
comp=E,5μm,1.8s
KUR pmax pmax
comp=Z,20μm,1.8s
KUR smax
comp=N,5μm,1.2s
KUR smax
comp=E,5μm,1.2s
KUR smax
comp=N,14μm,2.0s
KUR smax
comp=E,18μm,2.0s
KUR Kuril'sk 1.62 165 iP P 06 12 04.6 -1.7
KUR iP 06 12 04.6
KUR AMB AMB 06 12 05.2
comp=E,950nm,0.7s
KUR AMB AMB 06 12 05.2
comp=E,1μm,0.7s
KUR AMB AMB 06 12 05.2
comp=E,4μm,0.7s
KUR AMB AMB 06 12 06.0
comp=E,5μm,1.8s
KUR AMB AMB 06 12 06.0
comp=E,20μm,1.8s
KUR iS S 06 12 37.5 -2.2
KUR A 06 12 39.5
comp=E,5μm,1.2s
KUR A 06 12 39.5
comp=E,5μm,1.2s
KUR A 06 12 39.8
comp=E,40nm,1.9s
YUK Yuzh-Kuril'sk 2.94 200α iPN P 06 12 18.0 0.0
YUK pmax pmax
comp=Z,15μm,1.0s
YUK pmax pmax
comp=N,2μm,0.4s
YUK pmax pmax
comp=Z,7μm,0.4s
YUK pmax pmax
comp=E,1μm,0.5s
YUK Yuzh-Kuril'sk 2.94 200 iP P 06 12 18.0 0.0
YUK iP 06 12 18.5
YUK AMB AMB 06 12 19.0
comp=E,15μm,1.0s
YUK AMB AMB 06 12 19.8
comp=E,2μm,0.5s
YUK AMB AMB 06 12 19.8
comp=E,1μm,0.5s
YUK AMB AMB 06 12 19.8
comp=E,7μm,0.5s
YUK iS S 06 12 57.0 -3.4
YUK A 06 13 04.0
comp=E,18μm,1.0s
YUK A 06 13 04.0
comp=E,8μm,1.0s
YUK A 06 13 06.5
comp=E,2μm,0.5s
YUK A 06 13 06.5
comp=E,3μm,0.5s
YSS Yuzh-Sakhalins 3.11 275κ iPN P 06 12 23.0 +3.2
YSS iS S 06 13 08.0 +4.4
YSS pmax pmax
comp=E,810nm,1.0s
YSS pmax pmax
comp=Z,830nm,1.0s
YSS smax
comp=N,1μm,1.2s
YSS smax
comp=N,4μm,4.0s
YSS smax
comp=E,4μm,4.0s
YSS Yuzh-Sakhalins 3.11 275⇓iPn P 06 12 23.1 +3.3
YSS eS S 06 13 07.6 +4.0
YSS Yuzh-Sakhalins 3.11 275⇓iP P 06 12 23.0 +3.2
YSS ⇓iP 06 12 23.0
JRA Rausu 3.24 209 P P 06 12 21.9 +0.7
NEM2 Nemuro 2 3.60 198 P P 06 12 23.4 -1.7
NEM2 eS S 06 13 08.8 -4.2
JTKR Abashiri--Toko 3.69 221 P P 06 12 27.8 +1.7
JTKR eS S 06 13 16.5 +1.7
JSE Soyaes 3.76 242 P P 06 12 29.5 +2.7
JSE eS S 06 13 19.3 +3.2
JWK2 Keihoku 4.03 250 P P 06 12 33.5 +3.7
UGL Uglegorsk 4.18 305 eP P 06 12 30.0 -1.6
UGL AMB AMB 06 12 32.0
comp=E,1μm,1.4s
JAK Akkeshi 4.22 207 P P 06 12 30.8 -1.2
JAK eS S 06 13 21.5 -3.9
ASAJ Asahikawa 4.25 233 PN P 06 12 34.9 +2.6
ASAJ S S 06 13 28.8 +2.9
ASAJ pmax pmax
comp=Z,38nm,0.3s
ASAJ smax
comp=N,5.0nm,0.3s
ASAJ Asahikawa 4.25 233 P P 06 12 34.9 +2.6
comp=N,38nm,0.3s,baz=80,slow=8.4,SNR=255
ASAJ S S 06 13 28.8 +2.9
comp=N,4.7nm,0.3s,slow=20,SNR=6.9
JAR Ashorobuto 4.29 217 P P 06 12 33.8 +1.0
JAR eS S 06 13 26.7 -0.2
JKK2 Kamakawa 2 4.33 229 P P 06 12 35.4 +2.2
JFR Furan 4.92 224 P P 06 12 41.7 +1.6
JFR eS S 06 13 40.7 +0.7
JHR Hokuryu 4.97 234 P P 06 12 43.3 +2.6
JCH Churui 5.03 215 P P 06 12 40.3 -1.0
JCH eS S 06 13 37.7 -4.5
TYV Tymovskoe 5.09 325⇓iP P 06 12 41.8 -0.3
TYV ⇓iP 06 12 41.8
TYV AMB AMB 06 12 42.8
comp=N,276nm,1.0s
TYV AMB AMB 06 12 42.8
comp=N,1μm,2.0s
TYV AMB AMB 06 12 42.8
comp=N,2μm,2.0s
TYV AMB AMB 06 12 42.8
comp=N,2μm,2.0s
TYV ⇑iS S 06 13 45.0 +1.5
TYV A 06 13 47.0
comp=N,3μm,5.0s
TYV A 06 13 47.0
comp=N,2μm,5.0s
TYV A 06 13 47.0
comp=N,960nm,2.0s
TYV A 06 13 47.0
comp=N,1μm,2.0s
JNBK Urakawa-nobuka 5.55 217 P P 06 12 45.8 -1.8
JNBK eS S 06 13 47.4 -6.1
ERM Erimo 5.62 213 Pn P 06 12 47.2 -1.2
comp=N,4μm,0.4s,SNR=26
JEW Eniwo 5.73 228 P P 06 12 51.2 +1.4
JEW eS S 06 13 55.9 -1.4
JSK Shakotan 5.92 237 P P 06 12 54.1 +2.0
JKB Kayabe 6.64 225 P P 06 12 59.4 -1.5
JKB eS S 06 14 11.5 -5.8
JOT Ohata 7.03 222 P P 06 13 03.4 -2.3
JOT eS S 06 14 18.8 -7.0
JOSM Okushiri--Mats 7.30 233 P P 06 13 09.0 -0.2
OKH Okha 7.31 339 eP P 06 13 09.1 -0.2
OKH iS S 06 14 37.8 +5.6
OKH eS S 06 14 37.9 +5.7
OKH A 06 14 39.0
comp=N,5μm,4.0s
NKL Nikolayevsk 7.65 329⇓iP P 06 13 12.0 -1.4
NKL AMB AMB 06 13 13.5
comp=N,800nm,2.0s
NKL AMB AMB 06 13 14.0
comp=N,150nm,1.3s
NKL AMB AMB 06 13 14.0
comp=N,130nm,1.3s
NKL AMB AMB 06 13 14.0
comp=N,370nm,1.3s
NKL eS S 06 14 41.6 +2.0
NKL A 06 14 44.5
comp=N,440nm,5.0s
NKL A 06 14 44.5
comp=N,2μm,5.0s
NKL A 06 14 44.5
comp=N,520nm,2.1s
TEY Ternei 7.65 261 eP P 06 13 14.5 +1.0
TEY AMB AMB 06 13 16.0
comp=N,50nm,1.0s
TEY AMB AMB 06 13 16.0
comp=N,120nm,1.0s
TEY AMB AMB 06 13 16.0
comp=N,130nm,1.0s
JANG Nango 7.66 215 P P 06 13 10.3 -3.3
JANG eS S 06 14 31.0 -8.9
GRNR Gornyy 8.20 303 eP P 06 13 21.8 +1.6
GRNR AMB AMB 06 13 23.0
comp=N,84nm,1.0s
JOM Ohasama 8.53 213 P P 06 13 21.6 -2.7
JOM eS S 06 14 51.6 -7.6
JMK Ichinoseki 9.01 212 P P 06 13 28.3 -2.0
JMK eS S 06 15 03.3 -6.7
PET Petropavlovsk 9.62 45 ePN P 06 13 40.6 +2.8
PET eS S 06 15 23.2 -0.4
PET pmax pmax
comp=Z,91nm,0.8s
PET smax
comp=E,213nm,0.8s
PET MLR MLR
comp=Z,900nm,20.0s
KLR Kul'dur 10.69 289 eP P 06 13 50.7 -0.3
KLR eS S 06 15 54.1 +6.6
EKMR Ekimchan 11.16 309 eP P 06 13 56.5 -0.4
EKMR AMB AMB 06 14 01.6
comp=Z,45nm,0.7s
MAJO Matsushiro 12.28 217 ePN P 06 14 10.4 -0.4
MAJO pmax pmax
comp=Z,37nm,0.6s
MAJO Matsushiro 12.28 217 eP P 06 14 10.4 -0.4
comp=Z,37nm,0.6s
MAT Matsushiro 12.28 217 ePN P 06 14 11.0 +0.2
MAT eS S 06 16 23.0 0.0
MAT pmax pmax
comp=Z,50nm,1.0s
MAT Matsushiro 12.28 217 eP P 06 14 11.0 +0.2
comp=Z,50nm,1.0s
MAT eS S 06 16 23.0 0.0
MAT Matsushiro 12.28 217 P P 06 14 10.8 0.0
MAT S S 06 16 22.5 -0.5
MDJ Mudanjiang 12.56 266 P P 06 14 14.4 +0.2
MDJ AMB AMB
comp=Z,31nm,1.1s
MDJ AMB AMB
comp=Z,199nm,7.4s
MDJ Mudanjiang 12.56 266 eP P 06 14 15.0 +0.8
comp=Z,44nm,1.1s
MA2 Magadan 12.97 8 ePN P 06 14 20.7 +1.6
MA2 pmax pmax
comp=N,120nm,1.1s
MA2 pmax pmax
comp=Z,200nm,1.1s
MA2 pmax pmax
comp=E,50nm,1.4s
MA2 Magadan 12.97 8 eP P 06 14 20.0 +0.8
comp=E,290nm,1.0s
BMKR Bomnak 14.07 311 eP P 06 14 26.5 -5.9
BMKR AMB AMB 06 14 34.5
comp=E,56nm,0.6s
ZEA Zeya 14.54 306 eP P 06 14 36.0 -2.1
ZEA AMB AMB 06 14 37.5
comp=E,23nm,1.0s
ZEA eS S 06 17 17.0 +4.4
ZEA A 06 17 19.0
comp=E,190nm,1.8s
ZEA A 06 17 19.0
comp=E,140nm,1.8s
ZEA A 06 17 19.0
comp=E,20nm,1.8s
ZEA A 06 17 19.0
comp=E,500nm,6.0s
JHJ Hachijo jima 2 14.81 205 P P 06 14 41.9 +0.4
comp=E,20nm,0.3s,baz=247,slow=19,SNR=3.1
JHJ S S 06 17 22.4 +3.9
comp=E,18nm,0.3s,baz=66,slow=22,SNR=4.9
KROS Kirovskiy 14.95 308 eP P 06 14 40.5 -2.5
KROS AMB AMB 06 14 44.0
comp=E,40nm,0.5s
KROS AMB AMB 06 14 44.0
comp=E,20nm,0.5s
KROS AMB AMB 06 14 44.0
comp=E,29nm,0.5s
CN2 Changchun 15.64 267 eP P 06 14 48.8 -2.1
CN2 eS S 06 17 33.5 -3.2
CN2 PCP PcP 06 19 28.4 -4.8
CN2 AMB AMB
comp=Z,20nm,0.7s
CN2 AMB AMB
comp=Z,340nm,6.0s
SEY Seymchan 16.43 8 eP P 06 14 59.7 +0.4
SEY pmax pmax
comp=N,300nm,1.0s
SEY pmax pmax
comp=Z,500nm,1.0s
SEY pmax pmax
comp=E,100nm,1.2s
CLNS Chul'man 17.02 314 eP P 06 15 03.5 -2.1
CLNS pmax pmax
comp=Z,69nm,0.9s
CLNS pmax pmax
comp=N,51nm,1.3s
CLNS pmax pmax
comp=E,37nm,1.0s
KS15 Wonju Array Si 17.12 244 eP P 06 15 07.8 +1.0
SNY Shenyang 17.65 262 ⇓P P 06 15 12.1 -0.1
SNY AMB AMB
comp=Z,20nm,0.8s
FX1 Attu Island--F 17.72 60 P P 06 15 14.2 +1.4
comp=Z,8.4nm,0.3s,baz=265,slow=23,SNR=5.7
FX1 S S 06 18 30.3 +13
comp=Z,6.2nm,0.3s,baz=139,slow=18,SNR=8.3
FX1 Attu Island--F 17.72 60 eP P 06 15 13.8 +1.0
YAK Yakutsk 18.28 333 eP P 06 15 18.5 0.0
YAK pmax pmax
comp=Z,360nm,1.0s
YAK Yakutsk 18.28 333c iP P 06 15 18.0 -0.5
YAK eS S 06 18 29.6 +1.5
YAK pmax pmax
comp=Z,182nm,1.0s
YAK pmax pmax
comp=N,71nm,1.1s
YAK pmax pmax
comp=E,64nm,1.1s
YAK smax
comp=N,23nm,1.2s
YAK smax
comp=Z,10.0nm,0.9s
YAK smax
comp=E,23nm,1.1s
YAK Yakutsk 18.28 333 eP P 06 15 18.5 0.0
comp=E,360nm,1.0s
HIA Hailar 18.54 288 eP P 06 15 20.3 -0.9
HIA pmax pmax
comp=Z,12nm,0.6s
HIA Hailar 18.54 288 eP P 06 15 20.3 -1.0
comp=Z,12nm,0.6s
BOD Bodaibo 22.90 311 eP 06 16 56.1
BOD Bodaibo 22.90 311 eP P 06 16 01.9 -1.7
BOD pmax pmax
comp=Z,13nm,0.8s,mb4.3
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.2
BILL Bilibino 23.42 18⇓iP P 06 16 07.6 -0.8
BILL pmax pmax
comp=Z,35nm,1.6s,mb4.4
BILL Bilibino 23.42 18 eP P 06 16 07.4 -1.1
comp=Z,26nm,0.8s,mb4.6
BJI Beijing 23.48 265 P P 06 16 11.9 +2.7
BJI XP 06 17 40.6
BJI S S 06 20 04.3 +4.9
BJI AMB AMB
comp=Z,33nm,0.7s,mb4.8
BJI Beijing 23.48 265 P P 06 16 11.9 +2.7
BJI *SP 06 17 40.6
BJI S S 06 20 04.2 +4.8
BJI pmax pmax
comp=Z,33nm,0.7s,mb4.8
BJI Beijing 23.48 265 P P 06 16 11.9 +2.7
comp=Z,33nm,0.7s,mb4.8
BJI sP 06 17 40.6
BJI S S 06 20 04.2 +4.8
BJI sS 06 21 42.7
BJT Baijiatuau 23.49 265 eP P 06 16 11.6 +2.2
BJT pmax pmax
comp=Z,21nm,0.6s
BJT Baijiatuau 23.49 265 eP P 06 16 11.6 +2.2
comp=Z,21nm,0.6s,mb4.7
JOW Kunigami 24.95 224 P P 06 16 23.1 +0.2
comp=Z,9.1nm,0.6s,mb4.4,baz=15,slow=23,SNR=2.3
SSE Sheshan 25.48 241 P P 06 16 27.8 +0.2
SSE AP pP 06 17 22.4 +1.6
SSE S S 06 20 33.1 +0.9
SSE AMB AMB
comp=Z,19nm,0.8s,mb4.6
SSE AMB AMB
comp=Z,163nm,5.5s
SSE LR LR
comp=N,27nm,21.8s
SSE LR LR
comp=E,56nm,21.8s
SSE LR LR
comp=Z,100nm,15.5s
SSE Sheshan 25.48 241 P P 06 16 27.7 +0.1
comp=Z,19nm,0.8s,mb4.6
SSE pP pP 06 17 22.4 +1.6
SSE S S 06 20 33.1 +0.9
SSE sS 06 22 17.2
SSE LR LR
comp=Z,100nm,15.5s
NJ2 Nanjing 26.26 246 eP P 06 16 34.4 -0.3
NJ2 AP pP 06 17 32.4 +4.1
NJ2 XP sP 06 18 08.3 +6.5
NJ2 S S 06 20 41.0 -3.7
NJ2 AMB AMB
comp=Z,940nm,4.0s
NJ2 LR LR
comp=N,3μm,23.8s
NJ2 LR LR
comp=E,2μm,25.7s
NJ2 LR LR
comp=Z,6μm,22.5s
HHC Hu-ho-hao-te 26.28 270 eP P 06 16 36.5 +1.6
HHC AP pP 06 17 34.6 +6.1
HHC XP sP 06 18 07.9 +5.9
HHC S S 06 20 43.8 -1.3
HHC XS 06 22 21.3
HHC AMB AMB
comp=Z,43nm,0.8s,mb4.9
TIXI Tiksi 26.40 347⇓iP P 06 16 34.2 -1.5
TIXI pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
TIXI Tiksi 26.40 347⇓iP P 06 16 34.2 -1.5
TIXI pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
ULN Ulaanbaatar 27.07 287 eP P 06 16 41.6 -0.4
ULN pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
ULN Ulaanbaatar 27.07 287 eP P 06 16 41.6 -0.3
comp=Z,9.8nm,0.9s,mb4.2
SONM Songino Array 27.51 287 P P 06 16 45.7 -0.2
comp=Z,5.4nm,0.8s,mb4.0,baz=78,slow=9.0,SNR=22
SONM pP pP 06 17 43.0 +2.7
comp=Z,4.5nm,0.9s,baz=67,slow=9.4,SNR=6.6
SONM PcP PcP 06 19 55.6 -0.7
comp=Z,2.7nm,0.7s,baz=125,slow=2.0,SNR=5.7
SONM ScP 06 23 07.4
comp=Z,5.7nm,0.8s,baz=112,slow=2.0,SNR=29
TLY Talaya 28.57 296 eP P 06 16 48.0 -7.3
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
ZAK Zakamensk 29.00 293 eP P 06 16 58.2 -0.9
XAN Xi'an 31.55 260 P P 06 17 21.8 +0.4
XAN AMB AMB
comp=Z,9.0nm,0.9s,mb4.3
LZH Lanzhou 33.88 267 eP P 06 17 42.6 +1.2
LZH AP pP 06 18 43.5 +5.4
LZH XP sP 06 19 16.0 +5.4
LZH PCP PcP 06 20 14.1 +0.8
LZH eS S 06 22 43.0 -1.1
LZH eSS SS 06 25 13.8 -1.2
LZH AMB AMB
comp=Z,27nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,150nm,5.0s
LZH Lanzhou 33.88 267 eP P 06 17 42.6 +1.2
LZH *PP pP 06 18 43.5 +5.4
LZH *SP sP 06 19 16.0 +5.4
LZH 06 20 14.1
LZH eS S 06 22 43.0 -1.1
LZH *SS 06 24 23.0
LZH eSS SS 06 25 13.8 -1.2
LZH pmax pmax
comp=Z,27nm,1.0s,mb4.7
LZH Lanzhou 33.88 267 eP P 06 17 42.6 +1.2
comp=Z,27nm,1.0s,mb4.7
LZH pP pP 06 18 43.5 +5.4
LZH sP sP 06 19 16.0 +5.4
LZH PcP PcP 06 20 14.1 +0.8
LZH eS S 06 22 43.0 -1.1
LZH sS 06 24 23.0
LZH eSS SS 06 25 13.8 -1.2
GTA Gaotai 34.99 275 eP P 06 17 51.8 +1.1
GTA AP pP 06 18 51.0 +3.4
GTA PP PP 06 19 21.4 +4.0
GTA XP sP 06 19 23.3 +3.2
GTA PCP PcP 06 20 16.8 +0.3
GTA S S 06 23 01.1 +0.1
GTA SCP 06 23 34.1
GTA PCS 06 24 04.6
GTA SS SS 06 25 39.3 +0.1
GTA SCS ScS 06 27 37.6 +1.0
GTA AMB AMB
comp=Z,22nm,0.7s,mb4.8
GTA AMB AMB
comp=Z,150nm,4.2s
GTA LR LR
comp=N,256nm,16.0s
GTA LR LR
comp=E,169nm,15.6s
GTA LR LR
comp=Z,208nm,16.7s
SVW2 Sparrevohn 35.29 45 eP P 06 17 53.7 +0.7
IMA Indian Mountai 36.14 36 eP P 06 18 00.4 +0.3
IMA pmax pmax
comp=Z,35nm,0.8s,mb4.9
IMA Indian Mountai 36.14 36 eP P 06 18 00.4 +0.3
comp=Z,35nm,0.8s,mb4.9
KDAK Kodiak Island 37.17 50 P P 06 18 08.0 -0.8

comp=Z,286nm,1.0s,mb5.7,SNR=34
GYA Guiyang 37.86 252 ⇑*i* P **P 06 18 15.4 +0.5**
GYA AP pP 06 19 13.3 +0.8
GYA XP sP 06 19 45.8 +0.9
GYA PP PP 06 19 50.8 +1.7
GYA S **S 06 23 43.3 -1.3**
GYA AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
SLKM Skilak Lake 37.96 46 *eP* **P 06 18 14.9 -0.5**
PMR Palmer 38.35 44 *eP* **P 06 18 18.8 +0.3**
PMR pmax pmax
comp=Z,18nm,0.6s,mb4.7
PMR Palmer 38.35 44 *eP* **P 06 18 18.8 +0.3**
comp=Z,18nm,0.6s,mb4.7
COLA College 38.59 38 *eP* **P 06 18 20.6 +0.1**
COLA pmax pmax
comp=Z,65nm,0.7s,mb5.2
COLA College 38.59 38 *eP* **P 06 18 20.6 +0.1**
comp=Z,65nm,0.7s,mb5.2
ILAR Eielson Array 39.01 38 P **P 06 18 23.6 -0.3**
comp=Z,20nm,0.6s,mb4.7,baz=259,slow=6.5,SNR=88
ILAR ScP 06 23 46.8
comp=Z,0.5nm,0.7s,baz=281,slow=3.7,SNR=4.1
ZAL Zalesovo 39.31 304 P **P 06 18 26.4 -0.1**
comp=Z,3.4nm,0.4s,mb4.2,baz=36,slow=6.8,SNR=12
ZAL PcP PcP 06 20 28.9 -0.6
comp=Z,4.0nm,0.6s,baz=27,slow=4.1,SNR=8.6
NVS Novosibirsk 39.95 306 *i* P **P 06 18 30.5 -1.2**
NVS *i* S **S 06 24 10.6 -4.9**
NVS pmax pmax
comp=Z,15nm,1.3s,mb4.2
NVS pmax pmax
comp=N,6.0nm,1.2s
NVS pmax pmax
comp=E,12nm,1.2s
NVS smax
comp=N,33nm,2.2s
NVS smax
comp=E,8.0nm,1.2s
WMQ Urumqi 41.14 288 ⇓*i* P **P 06 18 42.6 +1.0**
WMQ AP pP 06 19 44.0 +4.0
WMQ PP PP 06 20 26.3 +3.5
WMQ PCP PcP 06 20 36.3 +0.7
WMQ S **S 06 24 33.3 +0.2**
WMQ XS 06 26 20.3
WMQ AMB AMB
comp=Z,17nm,0.7s,mb4.4
WMQ AMB AMB
comp=Z,225nm,5.2s
KMI Kunming 41.35 254 P **P 06 18 44.0 +0.5**
KMI pmax pmax
comp=Z,10.0nm,1.1s,mb4.0
KMI MLR MLR
comp=Z,140nm,46.0s
KMI Kunming 41.35 254 P **P 06 18 44.0 +0.5**
comp=Z,10.0nm,1.1s,mb4.0
KMI LR LR
comp=Z,140nm,46.0s
DAWY Dawson 42.33 39 *eP* **P 06 18 50.6 -0.2**
MKAR Makanchi Array 43.32 295 *i* P **P 06 18 58.4 -0.6**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
INK Inuvik 43.75 32 P **P 06 19 01.6 -0.6**
INK 06 20 43.4
INK pmax pmax
comp=Z,40nm,0.5s
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 43.75 32 P **P 06 19 01.6 -0.6**
comp=Z,40nm,0.5s,mb5.0,baz=293,slow=6.2,SNR=225
INK PcP PcP 06 20 43.4 -0.6
comp=Z,3.3nm,0.6s,baz=287,slow=6.7,SNR=3.0
INK Inuvik 43.75 32 *eP* **P 06 19 01.4 -0.7**
comp=Z,38nm,0.4s,mb5.0
KURK Kurchatov 43.96 301 P **P 06 19 03.4 -0.7**
comp=Z,292nm,0.5s,mb5.8,SNR=60
KURK Kurchatov 43.96 301 *eP* **P 06 19 03.2 -0.9**
KURK pmax pmax
comp=Z,22nm,0.5s,mb4.6
KURK Kurchatov 43.96 301 *eP* **P 06 19 03.2 -0.9**
comp=Z,22nm,0.5s,mb4.6
LSA Lhasa 46.26 269 *eP* **P 06 19 24.4 +1.9**
LSA pmax pmax
comp=Z,19nm,0.6s,mb4.6
LSA Lhasa 46.26 269 *eP* **P 06 19 24.4 +1.9**
comp=Z,19nm,0.6s,mb4.6
CHKZ Chkalovo 47.29 308 *i* P **P 06 19 28.8 -1.3**
CHKZ pmax pmax
comp=Z,21nm,1.3s,mb4.3
CHKZ Chkalovo 47.29 308 *eP* **P 06 19 28.3 -1.8**
comp=Z,47nm,0.8s,mb4.9
BVA0 Borovoye Array 47.69 307 *i* P **P 06 19 32.1 -1.0**
BVA0 pmax pmax
comp=Z,6.0nm,1.4s,mb3.7
BVAR Borovoye Array 47.69 307 P **P 06 19 32.2 -1.0**
comp=Z,7.3nm,0.6s,mb4.2,baz=64,slow=7.9,SNR=36
BVAR pP pP 06 20 36.0 +2.8
comp=Z,0.9nm,0.6s,baz=104,slow=24,SNR=1.5
BVAR PcP PcP 06 20 56.8 -1.2
comp=Z,3.6nm,0.6s,baz=63,slow=3.3,SNR=7.4
BVAR Borovoye Array 47.69 307 P **P 06 19 32.1 -1.0**
BVAR pP pP 06 20 36.0 +2.8
BVAR PcP PcP 06 20 56.8 -1.3
DLBC Dease Lake 48.40 44 P **P 06 19 40.1 +1.6**
comp=Z,14nm,0.8s,mb4.4,baz=281,slow=6.2,SNR=29
CMAR Chiang Mai Arr 48.53 251 P **P 06 19 41.0 +1.0**
comp=Z,1.9nm,0.5s,mb3.7,baz=31,slow=9.2,SNR=14
CMAR pP pP 06 20 43.3 +2.9
comp=Z,0.6nm,0.3s,baz=27,slow=6.0,SNR=1.5
CMAR PcP PcP 06 21 01.4 -0.2
comp=Z,4.2nm,1.0s,baz=2.2,slow=4.2,SNR=9.3
CMAR ScP 06 24 28.4
comp=Z,0.8nm,0.3s,baz=19,slow=3.0,SNR=4.7
TKM2 Tokmak 2 49.33 293 P **P 06 19 46.7 +0.9**
SNR=12
USP Ospenovka 49.85 294 P **P 06 19 50.0 +0.3**
SNR=14
KBK Karagaybulak 49.88 293 P **P 06 19 50.1 +0.2**
SNR=12
KZA Kyzart 49.99 292 P **P 06 19 52.2 +1.5**
SNR=21
FRU Bishkek 50.00 294 *eP* **P 06 19 50.0 -0.8**
FRU *e* 06 21 07.0
AAK Ala-Archa 50.18 293 P **P 06 19 51.4 -0.7**
comp=Z,79nm,0.8s,mb5.1,SNR=15
AAK Ala-Archa 50.18 293 ⇓*i* P **P 06 19 51.4 -0.7**
AAK pmax pmax
comp=Z,11nm,0.8s,mb4.2
AAK Ala-Archa 50.18 293 *eP* **P 06 19 50.5 -1.6**
comp=Z,12nm,0.9s,mb4.2
EKS2 Erkin-Say 50.61 294 P **P 06 19 55.4 +0.1**
SNR=16
JIRN Jiri 50.94 270 *eP* **P 06 19 58.6 +0.6**
comp=Z,45nm,0.4s,mb5.1
GUN Gumba 50.99 271 *eP* **P 06 19 58.6 +0.2**
comp=Z,30nm,0.5s,mb4.9
KKN Kakani 51.48 271 *eP* **P 06 20 02.6 +0.6**
comp=Z,24nm,0.6s,mb4.7
PKI Pulchoki 51.53 271 *eP* **P 06 20 02.5 +0.2**
comp=Z,23nm,0.5s,mb4.8
DMN Daman 51.72 271 *eP* **P 06 20 04.7 +1.0**
comp=Z,30nm,0.5s,mb4.9
GKN Gorkha 51.79 272 *eP* **P 06 20 04.4 +0.1**
comp=Z,51nm,0.5s,mb5.1
RES Resolute Bay 52.03 17 *eP* **P 06 20 03.4 -2.0**
RES pmax pmax
comp=Z,48nm,0.6s,mb5.0
RES Resolute Bay 52.03 17 *eP* **P 06 20 03.4 -2.1**
comp=Z,48nm,0.6s,mb5.0
KOLN Koldanda 52.65 272 *eP* **P 06 20 10.9 +0.3**
YKW3 Yellowknife Ar 53.20 35 *eP* **P 06 20 13.1 -1.0**
YKA Yellowknife Ar 53.24 35 P **P 06 20 13.6 -0.8**
comp=Z,17nm,0.6s,mb4.5,baz=302,slow=7.1,SNR=86
YKA PcP PcP 06 21 17.5 -0.9
comp=Z,3.4nm,0.8s,baz=309,slow=3.9,SNR=8.7
YKA ScP 06 24 47.1
comp=Z,0.2nm,0.5s,baz=298,slow=4.7,SNR=3.8
ARCES ARCESS Array B 56.43 339 P **P 06 20 35.3 -1.8**
ARCES 06 21 29.3
ARCES ARCESS Array B 56.43 339 P **P 06 20 35.3 -1.8**
comp=Z,9.0nm,0.9s,mb4.2,baz=51,slow=7.6,SNR=19
ARCES PcP PcP 06 21 29.3 -1.4
comp=Z,1.4nm,0.5s,baz=56,slow=4.4,SNR=4.8
ARCES ARCESS Array B 56.43 339 P **P 06 20 35.3 -1.7**
ARCES PcP PcP 06 21 29.3 -1.4
EDM Edmonton 59.12 44 *eP* **P 06 20 54.7 -1.3**

JOF Joensuu 59.45 331 *ep* **P 06 20 55.4 -2.7**
NEW Newport 60.28 50 P **P 06 21 04.3 +0.4**
comp=Z,10nm,0.9s,mb4.3,baz=315,slow=7.0,SNR=18
SUMG Summit 60.86 2 *eP* **P 06 21 06.7 -0.9**
comp=Z,37nm,0.6s,mb5.1
YBH Yreka Blue Hor 61.20 59 P **P 06 21 11.0 +0.8**
comp=Z,6.0nm,0.9s,mb4.1,baz=349,slow=2.1,SNR=12
KAF Kangasniemi 61.64 333 *ep* **P 06 21 10.1 -2.7**
comp=Z,20nm,0.8s,mb4.8
KAF Kangasniemi 61.64 333 *eP* **P 06 21 10.1 -2.7**
KAF pmax pmax
comp=Z,20nm,0.8s,mb4.8
FINES FINESS Array B 62.21 332 P **P 06 21 14.8 -1.8**
comp=Z,38nm,0.6s,mb5.2,baz=42,slow=8.2,SNR=266
BMO Blue Mountains 62.32 53 *eP* **P 06 21 17.4 0.0**
comp=Z,17nm,1.5s,mb4.5
MSO Missoula 62.85 50 *eP* **P 06 21 20.5 -0.4**
comp=Z,19nm,1.2s,mb4.6
OBN Obninsk 62.93 323 ⇓*i* P **P 06 21 19.9 -1.4**
OBN *e* 06 21 55.8
OBN *i* S **S 06 29 25.7 -1.5**
OBN pmax pmax
comp=Z,44nm,1.3s,mb4.9
WVOR Wild Horse Val 63.11 56 *eP* **P 06 21 23.0 +0.3**
WVOR pmax pmax
comp=Z,14nm,1.0s,mb4.5
WVOR Wild Horse Val 63.11 56 *eP* **P 06 21 23.0 +0.3**
comp=Z,14nm,1.0s,mb4.5
CHMT Chamberlain Mo 63.16 49 *eP* **P 06 21 22.7 -0.2**
FFC Flin Flon 63.21 37 P **P 06 21 22.0 -1.1**
comp=Z,277nm,0.8s,mb5.9,SNR=8.0
FFC Flin Flon 63.21 37 *eP* **P 06 21 22.8 -0.3**
FFC pmax pmax
comp=Z,66nm,1.0s,mb5.2
FFC Flin Flon 63.21 37 *eP* **P 06 21 22.8 -0.3**
comp=Z,66nm,1.0s,mb5.2
FCC Fort Churchill 63.35 31 *eP* **P 06 21 22.7 -1.3**
FCC pmax pmax
comp=Z,19nm,0.5s,mb5.0
FCC Fort Churchill 63.35 31 *eP* **P 06 21 22.7 -1.3**
comp=Z,19nm,0.5s,mb5.0
HRY Holter Researc 64.03 49 *eP* **P 06 21 28.9 +0.4**
HLID Hailey 64.74 53 *eP* **P 06 21 33.2 +0.2**
comp=Z,7.2nm,1.2s,mb4.2
MCMT McKenzie Canyo 64.74 51 *eP* **P 06 21 32.8 -0.3**
BOZ Bozeman (W) 64.84 50 *eP* **P 06 21 34.3 +0.6**
BOZ pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
BOZ Bozeman (W) 64.84 50 *eP* **P 06 21 34.3 +0.6**
comp=Z,8.7nm,0.6s,mb4.6
CMB Columbia Colle 64.93 61 *eP* **P 06 21 33.9 -0.5**
CMB pmax pmax
comp=Z,14nm,1.1s,mb4.5
CMB Columbia Colle 64.93 61 *eP* **P 06 21 33.9 -0.5**
comp=Z,14nm,1.1s,mb4.5
QLMT Earthquake Lak 65.49 50 *eP* **P 06 21 38.9 +1.1**
SFJ Sondre 65.72 8 *eP* **P 06 21 38.0 -0.9**
comp=Z,8.5nm,0.5s,mb4.7
GCMT Greycliff 65.76 48 *eP* **P 06 21 40.1 +0.6**
YMR Madison River 65.85 50 *eP* **P 06 21 41.0 +1.0**
NVAR Mina Array Bea 65.91 59 P **P 06 21 41.6 +1.1**
comp=Z,12nm,0.9s,mb4.6,baz=279,slow=8.6,SNR=35
NVAR pP pP 06 22 46.8 +1.2
comp=Z,2.1nm,0.7s,baz=295,slow=6.8,SNR=2.1
MNV Mina 66.00 59 *eP* **P 06 21 41.2 +0.1**
MNV pmax pmax
comp=Z,11nm,1.0s,mb4.5
MNV Mina 66.00 59 *eP* **P 06 21 41.2 +0.1**
comp=Z,11nm,1.0s,mb4.5
LKWY Lake 66.21 50 *eP* **P 06 21 44.5 +2.1**
LKWY pmax pmax
comp=Z,12nm,1.0s,mb4.6
LKWY Lake 66.21 50 *eP* **P 06 21 44.5 +2.1**
comp=Z,12nm,1.0s,mb4.6
IMW Indian Meadow 66.38 51 *eP* **P 06 21 44.5 +1.1**
RRI2 Red Ridge 66.55 51 *eP* **P 06 21 45.4 +0.8**
CTA Charters Tower 66.57 181 P **P 06 21 45.0 -0.1**
comp=Z,6.8nm,1.1s,mb4.3,baz=146,slow=15,SNR=3.4
CTAO Charters Tower 66.57 181 P **P 06 21 45.3 +0.3**
TPAW Teton Pass 66.65 51 *eP* **P 06 21 46.3 +1.1**
NB2 NORSAR Subarra 66.80 338 P **P 06 21 44.4 -1.4**
comp=Z,20nm,0.5s,mb5.1,baz=29,slow=6.5
NB2 NORSAR Subarra 66.80 338 P **P 06 21 44.4 -1.4**
NB2 pmax pmax
comp=Z,20nm,0.5s,mb5.1
NB2 NORSAR Subarra 66.80 338 P **P 06 21 44.4 -1.4**
NB2 pmax pmax
comp=Z,20nm,0.5s,mb5.1
NB2 NORSAR Subarra 66.80 338 P **P 06 21 44.4 -1.4**
baz=29,slow=6.5
NOA NORSAR Array B 66.80 338 P **P 06 21 44.5 -1.3**
comp=Z,18nm,0.5s,mb5.1,baz=30,slow=6.5,SNR=82
NOA pP pP 06 22 51.1 +0.2
comp=Z,2.0nm,0.9s,baz=32,slow=6.3,SNR=1.1
NAO01 NORSAR Array S 67.05 338 *eP* **P 06 21 45.6 -1.8**
comp=Z,16nm,0.7s,mb4.9
AHID Auburn Hatcher 67.07 52 *eP* **P 06 21 48.0 +0.2**
comp=Z,9.9nm,1.1s,mb4.5
WRAB Tennant Creek 67.43 193 *eP* **P 06 21 49.3 -1.1**
WRA Warramunga Arr 67.44 193 P **P 06 21 49.4 -1.1**
comp=Z,2.6nm,0.5s,mb4.2,baz=10,slow=6.7,SNR=26
HWUT Hardware Ranch 67.61 53 *eP* **P 06 21 51.8 +0.7**
comp=Z,12nm,1.0s,mb4.6
KIV Kislovodsk 67.82 311 *eP* **P 06 21 53.1 +0.7**
KIV pmax pmax
comp=Z,62nm,0.7s,mb5.5
KIV Kislovodsk 67.82 311 *eP* **P 06 21 53.0 +0.6**
comp=Z,62nm,0.7s,mb5.5
PDAR Pinedale Array 67.89 51 P **P 06 21 53.2 +0.3**
comp=Z,11nm,0.7s,mb4.7,baz=295,slow=2.1,SNR=32
PDAR pP pP 06 23 03.5 +5.3
comp=Z,1.6nm,0.8s,baz=38,slow=0.2,SNR=2.4
JLU Jordanelle 68.36 53 *eP* **P 06 21 55.7 -0.1**
BORG Borgarnes 68.44 355 P **P 06 21 56.8 +0.9**
comp=Z,21nm,0.7s,mb5.0,baz=8.1,slow=10,SNR=7.8
BORG Borgarnes 68.44 355 *eP* **P 06 21 56.2 +0.4**
comp=Z,22nm,0.8s,mb4.9
NLU North Lily Min 68.46 54 *eP* **P 06 21 56.6 +0.2**
DAU Daniels Canyon 68.60 53 *eP* **P 06 21 58.2 +0.9**
SUW Suwalki 68.95 328 *eP* **P 06 21 53.9 -5.2**
ULM Lac du Bonnet 69.03 38 P **P 06 21 58.8 -0.9**
comp=Z,8.0nm,0.9s,mb4.4,baz=309,slow=6.0,SNR=16
ARUT Antelope Range 69.17 57 *eP* **P 06 22 01.8 +1.0**
GNI Garni 69.37 307 P **P 06 22 04.2 +2.2**
GNI pmax pmax
comp=Z,14nm,0.5s
GNI Garni 69.37 307 P **P 06 22 04.2 +2.2**
comp=Z,14nm,0.5s,mb5.0,baz=315,slow=3.6,SNR=11
GNI Garni 69.37 307 *eP* **P 06 22 03.2 +1.2**
comp=Z,21nm,0.6s,mb5.0
MSU Marysvale 69.39 55 *eP* **P 06 22 03.1 +1.0**
TMUT Trail Mountain 69.40 54 *eP* **P 06 22 03.2 +1.1**
SOC Sochi 69.60 312 *eP* **P 06 22 00.9 -2.4**
SOC *e* 06 22 21.8
SOC *e*PPP PPP 06 26 21.0 -2.5
SOC *e*S S 06 30 43.4 -4.0
SOC *e*SS SS 06 35 21.1 -1.6
SOC *e*SSS SSS 06 38 28.0 -3.6
SOC pmax pmax
comp=Z,59nm,0.9s,mb5.3
SOC pmax pmax
comp=N,38nm,0.8s
SOC pmax pmax
comp=E,22nm,1.0s
ANN Anapa 69.87 314 *eP* **P 06 22 09.5 +4.6**
ANN pmax pmax
comp=Z,94nm,1.0s,mb5.5
SRU San Rafael 69.91 54 *eP* **P 06 22 06.0 +0.7**
LDFC Landfair 70.06 60 *eP* **P 06 22 06.2 0.0**
ASAR Alice Springs 71.17 193 P **P 06 22 13.2 +0.1**
comp=Z,2.6nm,0.4s,mb4.2,baz=6.5,slow=5.9,SNR=57
PV10 Paradox Valley 71.25 54 *eP* **P 06 22 14.2 +0.9**
GKP Gorka Klasztor 71.61 331 *eP* **P 06 22 14.9 -0.4**
PV01 Paradox Valley 71.68 54 *eP* **P 06 22 16.1 +0.1**
RW3 Ridgway 72.08 53 *eP* **P 06 22 18.8 +0.5**
KWP Kalwaria 72.63 326 *eP* **P 06 22 21.3 +0.1**
EYMN Ely 72.64 37 *eP* **P 06 22 20.5 -0.9**
comp=Z,30nm,1.0s,mb4.9
BEST Besiri 72.87 307 *i* P **P 06 22 24.5 +1.6**
BSEG Bad Segeberg 73.20 335 *eP* **P 06 22 23.7 -0.8**
BURAR Bucovina Array 73.24 323 ⇑P **P 06 22 25.0 +0.1**
BURAR Bucovina Array 73.24 323 ⇑P **P 06 22 25.0 +0.1**
OJC Ojcow 73.24 328 *eP* **P 06 22 24.4 -0.4**
KOLS Kolonicke sedl 73.36 326 *eP* **P 06 22 25.1 -0.5**
KOLS *e* 06 22 29.9

TLCR 73.61 320 ⇓P **P 06 22 26.8 -0.3**
ELZG Elazig 73.67 309 *i* P **P 06 22 29.0 +1.5**
CRVS Cervenica-Dubn 73.70 326 *eP* **P 06 22 27.0 -0.5**
NIE Niedzica 73.71 327 *eP* **P 06 22 26.1 -1.5**
CFR Carcaliu 73.92 320 P **P 06 22 28.8 -0.1**
CFR Carcaliu 73.92 320 ⇑P **P 06 22 28.7 -0.2**
CFR Carcaliu 73.92 320 ⇑P **P 06 22 28.7 -0.2**
KSP Ksiaz 73.97 330 *eP* **P 06 22 28.2 -0.8**
KSP Ksiaz 73.97 330 *eP* **P 06 22 28.6 -0.4**
VRI Vrincioaia 73.99 321 ⇓P **P 06 22 29.7 +0.4**
MALT Malatya 74.10 309 P **P 06 22 31.3 +1.2**
MALT Malatya 74.10 309 *eP* **P 06 22 30.8 +0.8**
comp=Z,52nm,1.2s,mb5.0
OKC Ostrava-Krasne 74.16 329 *eP* **P 06 22 29.8 -0.3**
BALT Daday 74.27 315 *i* P **P 06 22 31.6 +0.6**
UPC Upice 74.34 330 *eP* **P 06 22 30.7 -0.5**
DPC Dobruska-Polom 74.37 330 *eP* **P 06 22 30.8 -0.5**
MORC Moravsky Berou 74.42 329 *eP* **P 06 22 31.0 -0.7**
MORC pmax pmax
comp=Z,22nm,0.9s,mb4.8
MORC Moravsky Berou 74.42 329 *eP* **P 06 22 31.0 -0.7**
comp=Z,22nm,0.9s,mb4.8
MLR Muntele Rosu 74.62 321 P **P 06 22 34.6 +1.7**
MLR Muntele Rosu 74.62 321 ⇓P **P 06 22 32.6 -0.2**
MLR Muntele Rosu 74.62 321 ⇓P **P 06 22 32.7 -0.2**
CLL Collm 74.66 332 ⇓*i* P **P 06 22 32.2 -0.8**
CLL pmax pmax
comp=Z,33nm,0.7s,mb5.1
CLL Collm 74.66 332 ⇓*i* P **P 06 22 32.2 -0.8**
comp=Z,33nm,0.7s,mb5.1
CLL Collm 74.66 332 ⇓P **P 06 22 32.2 -0.8**
comp=Z,logA/T=1.7,mb5.1
ISR Istrita 74.66 321 P **P 06 22 34.0 +0.9**
ISR Istrita 74.66 321 ⇓P **P 06 22 33.8 +0.7**
ISR Istrita 74.66 321 ⇓P **P 06 22 33.8 +0.7**
SCHQ Schefferville 74.72 20 P **P 06 22 32.2 -1.0**
comp=Z,2.9nm,0.5s,mb4.2,baz=316,slow=7.6,SNR=22
BRG Berggiesshubel 74.73 331 *i* P **P 06 22 33.3 -0.1**
BRG pmax pmax
comp=Z,17nm,1.1s,mb4.6
BRG Berggiesshubel 74.73 331 *i* P **P 06 22 33.3 -0.1**
comp=Z,17nm,1.1s,mb4.6
SNX Sinaia 74.92 322 P **P 06 22 35.3 +0.7**
CLZ Clausthal 75.01 334 *eP* **P 06 22 34.4 -0.6**
comp=Z,24nm,0.9s,mb4.8
VYHS Vyhne 75.03 327 *eP* **P 06 22 34.8 -0.3**
ELDT Eldivan 75.04 314 *i* P **P 06 22 35.6 +0.2**
PSZ Piszkesteto 75.11 326 P **P 06 22 35.5 -0.1**
PSZ pmax pmax
comp=Z,16nm,0.9s,mb4.7
PSZ Piszkesteto 75.11 326 P **P 06 22 35.5 -0.1**
comp=Z,16nm,0.9s,mb4.7
ANMO Albuquerque 75.15 55 ⇑*i* P **P 06 22 36.2 +0.1**
VRAC Vranov 75.16 329 ⇓P **P 06 22 36.7 +0.9**
GZT Gaziantep 75.27 309 *i* P **P 06 22 37.5 +0.8**
PRU Pruhonice 75.28 331 *eP* **P 06 22 36.2 -0.3**
KAHT Ahir Dag 75.43 310 *i* P **P 06 22 39.4 +1.8**
SMOL Smolenice 75.52 328 *eP* **P 06 22 38.4 +0.5**
SGKT Sivrigoynuk 75.66 315 *i* P **P 06 22 38.8 0.0**
MOX Moxa 75.67 333 *eP* **P 06 22 37.8 -0.9**
MOX pmax pmax
comp=Z,21nm,1.3s,mb4.6
MOX Moxa 75.67 333 *eP* **P 06 22 37.8 -0.9**
comp=Z,21nm,1.3s,mb4.6
MOX Moxa 75.67 333 *i* P **P 06 22 37.8 -0.9**
comp=Z,logA/T=1.2,mb4.6
NKC Novy Kostel 75.77 332 *eP* **P 06 22 39.2 0.0**
SRO2 Moca 75.80 327 *eP* **P 06 22 40.0 +0.5**
ANTO Ankara 75.83 314 ⇓P **P 06 22 40.9 +1.1**
ZST Bratislava 75.91 328 *eP* **P 06 22 40.6 +0.5**
WTSB Winterswijk 75.94 336 *eP* **P 06 22 39.8 -0.4**
comp=Z,36nm,0.7s,mb5.1
KHC Kasperske Hory 76.34 331 *eP* **P 06 22 42.2 -0.2**
KHC *ep*P pP 06 23 51.8 +2.9
GEC2 GERESS Array S 76.55 331 *eP* **P 06 22 43.1 -0.5**
GEC2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
GEC2 GERESS Array S 76.55 331 *eP* **P 06 22 43.1 -0.5**
comp=Z,9.0nm,0.7s,mb4.6
GERES GERESS Array B 76.55 331 P **P 06 22 43.3 -0.2**
comp=Z,4.9nm,0.5s,mb4.5,baz=37,slow=5.6,SNR=48
WET Wettzell 76.57 331 *eP* **P 06 22 43.7 0.0**
WET pmax pmax
comp=Z,25nm,1.0s,mb4.9
WET Wettzell 76.57 331 *eP* **P 06 22 43.7 0.0**
comp=Z,25nm,1.0s,mb4.9
COBT Iskenderun 76.59 309 *i* P **P 06 22 45.6 +1.5**
GRA1 Grafenberg Arr 76.63 332 *eP* **P 06 22 44.6 +0.6**
comp=Z,43nm,0.7s,mb5.3
GRF Grafenberg Arr 76.63 332 *eP* **P 06 22 44.6 +0.6**
GRF pmax pmax
comp=Z,43nm,0.7s,mb5.3
GRF Grafenberg Arr 76.63 332 *eP* **P 06 22 44.6 +0.6**
GRF pmax pmax
comp=Z,43nm,0.7s,mb5.3
GRF Grafenberg Arr 76.63 332 *eP* **P 06 22 44.6 +0.6**
comp=Z,43nm,0.7s,mb5.3
TNS Taunus Mts 77.02 334 *eP* **P 06 22 46.1 0.0**
TNS pmax pmax
comp=Z,14nm,0.8s,mb4.7
TNS Taunus Mts 77.02 334 *eP* **P 06 22 46.1 0.0**
comp=Z,14nm,0.8s,mb4.7
MOA Molln 77.21 330 ⇑*i* P **P 06 22 47.2 0.0**
comp=Z,11nm,1.0s,mb4.5
HGN Heimansgroeve 77.26 336 *eP* **P 06 22 46.8 -0.6**
comp=Z,13nm,1.3s,mb4.5
ARSA Arzberg 77.28 329 ⇑*i* P **P 06 22 47.8 +0.2**
comp=Z,6.6nm,0.6s,mb4.5
AMTX Amarillo 77.83 52 *eP* **P 06 22 50.8 -0.1**
comp=Z,13nm,0.9s,mb4.7
FUR Furstenfeldbru 77.94 332 *eP* **P 06 22 51.4 +0.1**
FUR pmax pmax
comp=Z,46nm,1.1s,mb5.1
FUR Furstenfeldbru 77.94 332 *eP* **P 06 22 51.4 +0.1**
comp=Z,46nm,1.1s,mb5.1
PERS Pernice 77.95 329 *eP* **P 06 22 51.5 +0.2**
VTS Vitosha 78.13 321 *i* P **P 06 22 57.5 +5.1**
GIVF Givet 78.16 336 *eP* **P 06 22 51.2 -1.2**
KBA Koelnbreinsper 78.19 330 ⇓*i* P **P 06 22 52.8 +0.2**
comp=Z,25nm,0.6s,mb5.1
KBA Koelnbreinsper 78.19 330 ⇓*i* P **P 06 22 52.8 +0.2**
KBA pmax pmax
comp=Z,25nm,0.6s,mb5.1
RZN Rozhen 78.20 320 *eP* **P 06 22 58.0 +5.2**
DIVS Divcibare 78.23 324 ⇑*i* P **P 06 22 52.3 -0.6**
OBKA Obir 78.26 329 ⇑*i* P **P 06 22 52.6 -0.4**
comp=Z,7.3nm,0.7s,mb4.5
GDL2 Guadalupe Moun 78.35 55 *eP* **P 06 22 54.3 +0.5**
BAIF Baives 78.37 337 *eP* **P 06 22 52.6 -0.9**
comp=Z,10nm,0.5s,mb4.5
BAIF Baives 78.37 337 *eP* **P 06 22 52.6 -0.9**
BAIF pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
STKA Stephens Creek 78.47 185 P **P 06 22 54.7 +0.2**
comp=Z,2.7nm,1.1s,mb3.9,baz=282,slow=5.2,SNR=3.7
STKA Stephens Creek 78.47 185 P **P 06 22 54.7 +0.2**
WATA Walderalm 78.57 331 ⇑*i* P **P 06 22 54.9 +0.3**
comp=Z,16nm,0.9s,mb4.8
WATA Walderalm 78.57 331 ⇑*i* P **P 06 22 54.9 +0.3**
WATA pmax pmax
comp=Z,17nm,0.9s,mb4.8
BBLS Bajina Basta - 78.65 324 ⇑*i* P **P 06 22 55.3 +0.1**
MMB Musomiste 78.72 320 *i* P **P 06 23 01.0 +5.5**
MOTA Moosalm 78.72 331 ⇓*i* P **P 06 22 55.1 -0.3**
comp=Z,1.4nm,1.1s,mb3.6
MOTA Moosalm 78.72 331 ⇓*i* P **P 06 22 55.1 -0.3**
MOTA pmax pmax
comp=Z,1.0nm,1.1s
BFO Black Forest 78.73 333 *eP* **P 06 22 55.1 -0.4**
BFO pmax pmax
comp=Z,17nm,1.1s,mb4.7
BFO Black Forest 78.73 333 *eP* **P 06 22 55.1 -0.4**
comp=Z,17nm,1.1s,mb4.7
VISS Visnje 78.76 328 *eP* **P 06 22 55.1 -0.6**
KKB Krupnik 78.77 321 *eP* **P 06 23 00.5 +4.7**
SQTA Sankt Quirin 78.79 331 ⇑*i* P **P 06 22 56.0 +0.2**
comp=Z,17nm,1.0s,mb4.7
SQTA Sankt Quirin 78.79 331 ⇑*i* P **P 06 22 56.0 +0.2**
SQTA pmax pmax
comp=Z,17nm,1.0s,mb4.7
BOJS Bojanci 78.87 328 *eP* **P 06 22 56.1 -0.1**
CEY Cerknica 78.96 328 *eP* **P 06 22 56.5 -0.2**
CDF Champ du Feu 78.98 334 *eP* **P 06 22 56.1 -0.7**
comp=Z,19nm,0.7s,mb4.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CDF	**Champ du Feu**	**78.98**	**334**	eP	**P**	**06 22 56.1**	**-0.7**
CDF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
DAVA	**Damuels**	**79.17**	**332**	⇑iP	**P**	**06 22 57.5**	**-0.3**
	comp=Z,24nm,0.9s,mb4.9						
CSS	**Prodhromos**	**79.31**	**310**	P	**P**	**06 22 58.5**	**-0.4**
	comp=Z,7.9nm,0.6s,mb4.6						
MEZF	**Maizieres J'vi**	**79.55**	**336**	eP	**P**	**06 22 59.2**	**-0.6**
HAU	**Haudompre**	**79.62**	**335**	eP	**P**	**06 22 59.2**	**-1.0**
	comp=Z,8.4nm,0.6s,mb4.4						
HAU	**Haudompre**	**79.62**	**335**	eP	**P**	**06 22 59.2**	**-1.0**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
HINF	**Hinteralfeld**	**79.64**	**334**	eP	**P**	**06 22 59.2**	**-1.1**
	comp=Z,5.0nm,0.5s,mb4.2						
HINF	**Hinteralfeld**	**79.64**	**334**	eP	**P**	**06 22 59.2**	**-1.1**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
BRMO	**Bormio**	**79.72**	**331**	eP	**P**	**06 23 01.4**	**+0.7**
CCM	**Cathedral Cave**	**80.63**	**43**	eP	**P**	**06 23 05.1**	**-0.6**
CCM				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.7						
CCM	**Cathedral Cave**	**80.63**	**43**	eP	**P**	**06 23 05.1**	**-0.5**
	comp=Z,17nm,1.0s,mb4.7						
FLN	**La Foliniere**	**80.78**	**339**	eP	**P**	**06 23 05.5**	**-0.7**
	comp=Z,17nm,0.5s,mb4.7						
FLN	**La Foliniere**	**80.78**	**339**	eP	**P**	**06 23 05.5**	**-0.7**
FLN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.8						
LDF	**La Druitiere**	**80.84**	**339**	eP	**P**	**06 23 05.8**	**-0.8**
	comp=Z,13nm,0.7s,mb4.5						
LDF	**La Druitiere**	**80.84**	**339**	eP	**P**	**06 23 05.8**	**-0.8**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
LTX	**Lajitas**	**80.89**	**57**	eP	**P**	**06 23 07.8**	**+0.6**
LTX				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
LTX	**Lajitas**	**80.89**	**57**	eP	**P**	**06 23 07.8**	**+0.5**
	comp=Z,16nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**80.89**	**57**	P	**P**	**06 23 08.2**	**+1.0**
	comp=Z,7.1nm,0.6s,mb4.6,baz=288,slow=4.0,SNR=36						
TXAR				pP	pP	06 24 18.0	+3.5
	comp=Z,3.0nm,0.9s,baz=304,slow=4.5,SNR=3.7						
CABF	**La Chapelle**	**80.95**	**334**	eP	**P**	**06 23 06.7**	**-0.5**
	comp=Z,6.6nm,0.6s,mb4.2						
CABF	**La Chapelle**	**80.95**	**334**	eP	**P**	**06 23 06.7**	**-0.5**
CABF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
GRR	**Gorron**	**81.22**	**339**	eP	**P**	**06 23 08.1**	**-0.4**
	comp=Z,32nm,0.6s,mb4.9						
GRR	**Gorron**	**81.22**	**339**	eP	**P**	**06 23 08.1**	**-0.4**
GRR				pmax	pmax		
	comp=Z,16nm,0.6s,mb4.9						
SSF	**Saint Saulge**	**81.29**	**336**	eP	**P**	**06 23 08.2**	**-0.7**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
SSF	**Saint Saulge**	**81.29**	**336**	eP	**P**	**06 23 08.2**	**-0.7**
	comp=Z,3.9nm,0.6s,mb4.3						
ARV	**Arcevia**	**81.43**	**328**	eP	**P**	**06 23 08.6**	**-1.1**
SFI	**Santa Sofia**	**81.47**	**329**	eP	**P**	**06 23 10.9**	**+1.0**
GSCL	**Gusciola**	**81.52**	**330**	eP	**P**	**06 23 11.7**	**+1.6**
SMF	**Signal de Mont**	**81.58**	**335**	eP	**P**	**06 23 09.9**	**-0.5**
	comp=Z,21nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**81.58**	**335**	eP	**P**	**06 23 09.9**	**-0.5**
SMF				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.8						
AVF	**Avril sur Loir**	**81.58**	**336**	eP	**P**	**06 23 09.9**	**-0.5**
	comp=Z,16nm,0.7s,mb4.6						
AVF	**Avril sur Loir**	**81.58**	**336**	eP	**P**	**06 23 09.9**	**-0.5**
AVF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
SNTG	**Esanatoglia**	**81.64**	**328**	eP	**P**	**06 23 11.1**	**+0.3**
LPL	**La Plagne**	**81.74**	**333**	eP	**P**	**06 23 11.5**	**+0.2**
	comp=Z,12nm,0.7s,mb4.4						
LPL	**La Plagne**	**81.74**	**333**	eP	**P**	**06 23 11.5**	**+0.2**
LPL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
LPG	**La Plagne**	**81.75**	**333**	eP	**P**	**06 23 11.7**	**+0.4**
	comp=Z,15nm,0.7s,mb4.5						
LPG	**La Plagne**	**81.75**	**333**	eP	**P**	**06 23 11.7**	**+0.4**
LPG				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**81.75**	**340**	eP	**P**	**06 23 11.0**	**-0.3**
	comp=Z,10.0nm,0.5s,mb4.5						
SGMF	**Saint Gilles**	**81.75**	**340**	eP	**P**	**06 23 11.0**	**-0.3**
SGMF				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
ROSF	**Rostrenen**	**81.84**	**341**	eP	**P**	**06 23 11.6**	**-0.1**
	comp=Z,23nm,0.6s,mb4.8						
ROSF	**Rostrenen**	**81.84**	**341**	eP	**P**	**06 23 11.6**	**-0.1**
ROSF				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.8						
BGF	**Bois d'Agland**	**81.94**	**336**	eP	**P**	**06 23 12.4**	**+0.1**
	comp=Z,14nm,0.6s,mb4.6						
BGF	**Bois d'Agland**	**81.94**	**336**	eP	**P**	**06 23 12.4**	**+0.1**
BGF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
ERPA	**Erie**	**82.03**	**33**	eP	**P**	**06 23 13.1**	**+0.2**
	comp=Z,8.7nm,0.4s,mb4.8						
JCT	**Junction City**	**82.20**	**53**	eP	**P**	**06 23 13.9**	**-0.1**
JCT				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
JCT	**Junction City**	**82.20**	**53**	eP	**P**	**06 23 13.9**	**-0.1**
	comp=Z,11nm,0.8s,mb4.6						
QUIF	**Quistinic**	**82.21**	**340**	eP	**P**	**06 23 13.3**	**-0.3**
	comp=Z,16nm,0.7s,mb4.6						
QUIF	**Quistinic**	**82.21**	**340**	eP	**P**	**06 23 13.3**	**-0.3**
QUIF				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
AQU	**L'Aquila**	**82.26**	**327**	⇓P	**P**	**06 23 15.5**	**+1.5**
MIAR	**Mount Ida**	**82.30**	**47**	eP	**P**	**06 23 14.5**	**+0.1**
MIAR				pmax	pmax		
	comp=Z,23nm,1.2s,mb4.8						
MIAR	**Mount Ida**	**82.30**	**47**	eP	**P**	**06 23 14.5**	**+0.1**
	comp=Z,23nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**82.36**	**336**	eP	**P**	**06 23 14.2**	**-0.3**
	comp=Z,23nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**82.36**	**336**	eP	**P**	**06 23 14.2**	**-0.3**
TCF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
MBDF	**Montbardon**	**82.44**	**333**	eP	**P**	**06 23 14.7**	**-0.2**
	comp=Z,11nm,0.7s,mb4.4						
MBDF	**Montbardon**	**82.44**	**333**	eP	**P**	**06 23 14.7**	**-0.2**
MBDF				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.5						
ORIF	**Oris-en-Rattie**	**82.54**	**333**	eP	**P**	**06 23 15.6**	**+0.2**
	comp=Z,14nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**82.54**	**333**	eP	**P**	**06 23 15.6**	**+0.2**
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
MFF	**Saint Martin d**	**82.70**	**338**	eP	**P**	**06 23 16.2**	**0.0**
	comp=Z,20nm,0.6s,mb4.8						
MFF	**Saint Martin d**	**82.70**	**338**	eP	**P**	**06 23 16.2**	**0.0**
MFF				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.8						
WCI	**Wyandotte Cave**	**82.74**	**40**	eP	**P**	**06 23 16.1**	**-0.5**
WCI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
WCI	**Wyandotte Cave**	**82.74**	**40**	eP	**P**	**06 23 16.1**	**-0.5**
	comp=Z,4.0nm,0.5s,mb4.5						
VIVF	**Saint-Julien-l**	**82.96**	**334**	eP	**P**	**06 23 17.5**	**-0.1**
	comp=Z,20nm,1.1s,mb4.6						
VIVF	**Saint-Julien-l**	**82.96**	**334**	eP	**P**	**06 23 17.5**	**-0.1**
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.6						
SBF	**Sospel**	**83.00**	**332**	eP	**P**	**06 23 16.4**	**-1.4**
	comp=Z,15nm,0.6s,mb4.7						
SBF	**Sospel**	**83.00**	**332**	eP	**P**	**06 23 16.4**	**-1.4**
SBF				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.7						
RJF	**Les Rejaudoux**	**83.46**	**336**	eP	**P**	**06 23 20.1**	**+0.1**
SMRF	**Simiane la Rot**	**83.48**	**333**	eP	**P**	**06 23 21.2**	**+1.0**
FRF	**La Foret Royal**	**83.52**	**332**	eP	**P**	**06 23 21.4**	**+1.1**
PGF	**Pioggiola**	**83.65**	**330**	eP	**P**	**06 23 21.2**	**+0.2**
	comp=Z,5.0nm,0.6s,mb4.2						
PGF	**Pioggiola**	**83.65**	**330**	eP	**P**	**06 23 21.2**	**+0.2**
PGF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
CAF	**Calviac**	**83.65**	**336**	eP	**P**	**06 23 21.5**	**+0.6**
	comp=Z,8.9nm,0.8s,mb4.4						
CAF	**Calviac**	**83.65**	**336**	eP	**P**	**06 23 21.5**	**+0.6**
CAF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
TIP	**Timpagrande**	**83.67**	**324**	eP	**P**	**06 23 21.6**	**+0.4**
LMR	**La Mourre**	**83.77**	**332**	eP	**P**	**06 23 21.9**	**+0.3**
	comp=Z,14nm,0.7s,mb4.6						
LMR	**La Mourre**	**83.77**	**332**	eP	**P**	**06 23 21.9**	**+0.3**
LMR				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
LASF	**Ste Croix**	**83.91**	**334**	eP	**P**	**06 23 22.8**	**+0.5**
	comp=Z,7.7nm,0.9s,mb4.2						
LFF	**La Frestale**	**84.01**	**337**	eP	**P**	**06 23 23.2**	**+0.5**
	comp=Z,28nm,0.6s,mb5.0						
LFF	**La Frestale**	**84.01**	**337**	eP	**P**	**06 23 23.2**	**+0.5**
LFF				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.0						
MTLF	**Montolieu**	**85.07**	**335**	eP	**P**	**06 23 28.5**	**+0.5**
	comp=Z,37nm,1.2s,mb4.8						
MTLF	**Montolieu**	**85.07**	**335**	eP	**P**	**06 23 28.5**	**+0.5**
MTLF				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.8						
TZTN	**Tazewell**	**85.34**	**39**	eP	**P**	**06 23 29.0**	**-0.6**
SWET	**Sewanee**	**85.40**	**41**	eP	**P**	**06 23 29.7**	**-0.2**
EPF	**Esparros**	**85.88**	**336**	eP	**P**	**06 23 32.0**	**0.0**
EALK	**Alkurruntz**	**86.20**	**338**	P	**P**	**06 23 33.8**	**+0.2**
	comp=Z,73nm,1.4s,mb5.3						
SJPF	**Ste Jean**	**86.23**	**337**	eP	**P**	**06 23 34.6**	**+0.9**
ETSF	**Etsaut**	**86.25**	**337**	eP	**P**	**06 23 34.8**	**+1.0**
	comp=Z,14nm,0.7s,mb4.6						
ETSF	**Etsaut**	**86.25**	**337**	eP	**P**	**06 23 34.8**	**+1.0**
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
EBIE	**Bielsa**	**86.25**	**336**	P	**P**	**06 23 35.1**	**+1.3**
	comp=Z,14nm,0.9s,mb4.8						
ELAN	**Lanestosa**	**86.68**	**339**	P	**P**	**06 23 35.3**	**-0.6**
	comp=Z,55nm,1.1s,mb5.3						
EPOB	**Poblet**	**87.22**	**335**	P	**P**	**06 23 39.6**	**+1.1**
	comp=Z,38nm,1.2s,mb5.1						
EPON	**Pontenova**	**87.45**	**342**	P	**P**	**06 23 38.2**	**-1.3**
	comp=Z,65nm,1.2s,mb5.3						
ETOS	**Mallorca**	**88.17**	**333**	P	**P**	**06 23 43.2**	**+0.2**
	comp=Z,42nm,1.3s,mb5.1						
EMOS	**Mosqueruela**	**88.58**	**336**	P	**P**	**06 23 45.3**	**+0.4**
	comp=Z,32nm,1.7s,mb4.9						
EBEN	**Beniarda**	**90.05**	**335**	P	**P**	**06 23 52.7**	**+0.8**
	comp=Z,75nm,1.6s,mb5.3						
ESDC	**Sonseca Array**	**90.16**	**338**	P	**P**	**06 23 52.1**	**-0.2**
	comp=Z,0.4nm,0.4s,mb3.6,baz=15,slow=5.2,SNR=4.8						
ESDC	**Sonseca Array**	**90.16**	**338**	P	**P**	**06 23 53.1**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.6						
SDV	**Santo Domingo**	**115.10**	**42**	PKP	PKPdf	06 29 32.0	+1.0
	comp=Z,1.1nm,0.5s,baz=126,slow=20,SNR=4.6						
RPN	**Rapa Nui**	**118.12**	**101**	PKP	PKPdf	06 29 36.2	-0.3
	comp=Z,30nm,0.4s,baz=331,slow=5.6,SNR=3.2						
DBIC	**Dimbokro**	**121.30**	**327**	PKP	PKPdf	06 29 42.9	-0.2
	comp=Z,3.0nm,0.6s,baz=305,slow=4.0,SNR=9.7						
DBIC				PP	PP	06 31 14.2	-6.9
	comp=Z,2.9nm,0.9s,baz=49,slow=3.1,SNR=3.3						
VNDA	**Vanda**	**124.37**	**176**	PKP	PKPdf	06 29 49.1	+1.5
	comp=Z,2.6nm,0.6s,baz=297,slow=3.1,SNR=32						
SUR	**Sutherland**	**137.12**	**270**	PKP	PKPdf	06 30 15.3	+2.7
	comp=Z,12nm,1.1s,baz=243,slow=4.9,SNR=2.9						
LPAZ	**La Paz**	**137.76**	**56**	PKP	PKPdf	06 30 16.8	+2.7
	comp=Z,1.1nm,0.6s,baz=120,slow=2.3,SNR=5.2						
LPAZ				SKPbc		06 33 19.6	
	comp=Z,4.0nm,1.2s,baz=332,slow=5.3,SNR=5.2						
LVC	**Limon Verde**	**142.20**	**63**	PKP	PKPdf	06 30 24.6	+2.7
	comp=Z,1.7nm,0.6s,baz=186,slow=4.5,SNR=2.8						
BDFB	**Brasilia**	**146.43**	**27**	PKP	PKPdf	06 30 31.2	+1.8
	comp=Z,8.7nm,0.5s,baz=317,slow=2.5,SNR=23						
BDFB				PKPbc	PKPbc	06 30 32.7	+1.9
	comp=Z,8.7nm,0.5s,baz=315,slow=3.0,SNR=23						
SNAA	**Sanae**	**151.37**	**199**	PKPbc	PKPdf	06 30 42.8	+7.4
	comp=Z,2.3nm,1.0s,baz=194,slow=4.2,SNR=8.7						
SNAA				pPKPbc		06 31 58.2	
	comp=Z,3.9nm,1.0s,baz=79,slow=1.5,SNR=7.3						

IDC 14 06:12:37.7±1.6**, 42.33N**×**149.55E, mb4.3**/6**, mb1 4.5**/6**, mb1mx4.1**/19**, mbtmp4.3**/6**, Error ellipse: s-maj=74.1km s-min=21.5km az=80.0, Off southeast coast of Hokkaido**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**30.66**	**295**	P	P	06 18 53.8	-2.0
	3.6nm,0.8s,baz=77,slow=8.3,SNR=4.9						
ARCES	**ARCESS Array B**	**61.18**	**341**	P	P	06 22 52.6	-3.3
	1.3nm,0.8s,baz=40,slow=7.0,SNR=1.9						
WRA	**Warramunga Arr**	**63.53**	**196**	P	P	06 23 09.5	-2.8
	6.0nm,0.8s,baz=16,slow=6.9,SNR=8.4						
FINES	**FINESS Array B**	**66.93**	**334**	P	P	06 23 32.5	-1.0
	1.2nm,0.6s,baz=40,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**67.24**	**196**	P	P	06 23 34.0	-2.0
	4.0nm,0.8s,baz=14,slow=5.8,SNR=10						
STKA	**Stephens Creek**	**74.20**	**187**	P	P	06 24 16.4	-1.7
	5.2nm,1.2s,baz=22,slow=5.4,SNR=3.3						

CASC 14 06:17:55.7±2.5**, 11.15N**×**86.72W, MD3.9, ML3.3, 2C-4D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**0.99**	**40**	⇑eP	Pb	06 18 14.5	-1.0
TICN	**Ticuantepe**	**1.00**	**29**	⇓eP	Pb	06 18 15.7	+0.2
XAVN	**Gruta Xavier**	**1.06**	**21**	⇓eP	Pb	06 18 16.4	-0.3
XAVN				i		06 18 39.2	
	comp=Z,531nm,0.6s						
MGAN	**Managua**	**1.09**	**25**	⇓eP	Pb	06 18 16.6	-0.6
MGAN				eS	Sb	06 18 33.2	+1.4
MGAN				i		06 18 33.9	
	comp=N,800nm,0.7s						
WILN	**Americas 2**	**1.13**	**28**	eP	Pb	06 18 17.0	-0.8
WILN				eS	Sb	06 18 34.1	+1.2
CONN	**Concepcion**	**1.15**	**69**	⇑eP	Pb	06 18 14.9	-3.3
MOMJ	**Momotombo**	**1.26**	**8**	eP	Pb	06 18 19.2	-0.8
MOMJ				eS	Sb	06 18 38.5	+1.8
MIRN	**Miramar**	**1.28**	**0**	⇓iP	Pb	06 18 20.2	-0.1
TEL3	**Telica 3**	**1.42**	**355**	eP	Pb	06 18 22.2	-0.5
CRIN	**San Cristobal**	**1.57**	**348**	eP	Pn	06 18 23.8	-1.2
LCR2	**La Lucha 2**	**3.02**	**117**	eP	Pn	06 18 45.8	+0.1
LCR2				eS	Sn	06 19 25.1	+2.1

*CSEM **14** 06:20:30.9±0.1, 45.93N×7.95E, h15km, ML1.6/8, Error ellipse: s-maj=2.7km s-min=1.7km az=105.0*
*NEIC **14** 06:20:33.0, 45.91N×7.94E, h14km, ML2.6(GEN), After GEN.*
*ZUR **14** 06:20:32.8, 45.94N×7.96E, h6km±2km, ML1.6/8*
*GEN **14** 06:20:33.0, 45.91N×7.94E, h14km, ML2.6*
ISC 14 06:20:32.0±0.5**, 45.93N**±0.02×**7.95E**±0.06**, h13**km±3km**, n27, σ0.52**/39**, 6C-2D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMK	**Mattmark**	**0.12**	**5**	i S	**Sg**	**06 20 37.2**	**-0.5**
MMK	**Mattmark**	**0.12**	**5**	⇑iP	**Pg**	**06 20 35.5**	**+0.1**
MMK	**Mattmark**	**0.12**	**5**	⇑iP	**Pg**	**06 20 35.5**	**+0.1**
ORX	**Oropa**	**0.30**	**175**	P	**Pg**	**06 20 38.7**	**+0.4**
ORX				S	**Sg**	**06 20 42.8**	**+0.1**
ORX	**Oropa**	**0.30**	**175**	P	**Pg**	**06 20 38.7**	**+0.3**
ORO	**Oropa**	**0.30**	**176**	⇑iPg	**Pg**	**06 20 38.8**	**+0.4**
ORO				eSg	**Sg**	**06 20 43.1**	**+0.3**
ORO	**Oropa**	**0.30**	**176**	⇑iPg	**Pg**	**06 20 38.8**	**+0.4**
ORO				eSg	**Sg**	**06 20 43.1**	**+0.3**
DIX	**Grande Dixence**	**0.40**	**292**	i S	**Sg**	**06 20 45.7**	**-0.3**
DIX	**Grande Dixence**	**0.40**	**292**	⇓iP	**Pg**	**06 20 40.5**	**+0.1**
DIX	**Grande Dixence**	**0.40**	**292**	⇓iP	**Pg**	**06 20 40.5**	**+0.1**
TRAV		**0.44**	**199**	P	**Pb**	**06 20 41.1**	**+0.1**
TRAV				S	**Sg**	**06 20 46.6**	**-0.5**
TRAV		**0.44**	**199**	P	**Pb**	**06 20 41.1**	**+0.1**
TRAV				S	**Sg**	**06 20 46.6**	**-0.5**
LKBD	**Leukerbad**	**0.51**	**334**	eP	**Pb**	**06 20 42.7**	**+0.5**
LKBD				eS	**Sb**	**06 20 49.0**	**-0.2**
GRYON	**Gryon**	**0.67**	**299**	eP	**Pb**	**06 20 45.9**	**+1.0**
FUSIO	**Fusio**	**0.72**	**43**	eP	**Pb**	**06 20 45.7**	**-0.2**
LSD	**Ceresole Reale**	**0.73**	**230**	P	**Pb**	**06 20 46.6**	**+0.7**
LSD				S	**Sb**	**06 20 55.9**	**+0.4**
LSD	**Ceresole Reale**	**0.73**	**230**	P	**Pb**	**06 20 46.6**	**+0.6**
LSD				S	**Sb**	**06 20 55.9**	**+0.3**
MUGIO	**Muggio**	**0.76**	**90**	⇑iP	**Pb**	**06 20 46.7**	**+0.1**
RSP	**Reno Superiore**	**0.92**	**212**	P	**Pb**	**06 20 49.4**	**+0.3**
RSP				S	**Sb**	**06 21 00.5**	**-0.5**
RSP	**Reno Superiore**	**0.92**	**212**	P	**Pb**	**06 20 49.4**	**+0.2**
RSP				S	**Sb**	**06 21 00.5**	**-0.5**
FENE	**Fenestrelle**	**1.09**	**215**	P	**Pb**	**06 20 51.9**	**-0.3**
FENE				S	**Sb**	**06 21 04.9**	**-1.2**
FENE	**Fenestrelle**	**1.09**	**215**	P	**Pb**	**06 20 51.9**	**-0.3**
FENE				S	**Sb**	**06 21 04.9**	**-1.3**
MUO	**Muotathal**	**1.14**	**24**	⇑iPg	**Pg**	**06 20 54.2**	**-0.7**
RRL	**Cesana Torines**	**1.30**	**220**	P	**Pb**	**06 20 56.5**	**+0.8**
RRL	**Cesana Torines**	**1.30**	**220**	P	**Pb**	**06 20 56.5**	**+0.8**
PZZ	**Prazzo**	**1.54**	**203**	P	**Pn**	**06 20 58.6**	**-0.8**
PZZ	**Prazzo**	**1.54**	**203**	P	**Pn**	**06 20 58.6**	**-0.7**

*MOS **14** 06:24:25.3±1.4, 56.41N×113.93E, h6km, mb4.3/1, Error ellipse: s-maj=20.7km s-min=12.0km az=66.3*
BYKL 14 06:24:25.6±0.3**, 56.38N**×**113.90E, h12**km±4km**, 9C-4D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.33**	**216**	ePG	Pg	06 24 30.8	-1.6
SVKR				e		06 24 34.6	
SVKR				pmax	pmax		
	comp=Z,519nm,0.1s						
SVKR				smax			
	comp=E,5μm,0.4s						
SVKR	**Severomuysk**	**0.33**	**216**	⇓iPg	Pg	06 24 30.8	-1.6
SVKR				i Sg	Sg	06 24 34.9	-2.1
SVKR				Pmax			
	comp=E,376nm,0.1s						
SVKR				Smax			
	comp=E,5μm,0.4s						
UKT	**Uakit**	**0.91**	**190**	ePG	Pg	06 24 42.0	-1.8
UKT				e		06 24 55.5	
UKT				pmax	pmax		
	comp=Z,63nm,0.2s						
UKT				smax			
	comp=E,573nm,0.2s						
UKT	**Uakit**	**0.91**	**190**	⇓iPg	Pg	06 24 41.9	-1.9
	comp=E,60nm,0.6s						
UKT				⇓iPg	Pg	06 24 41.9	-1.9
	comp=E,9.0nm,0.6s						
UKT				⇑iPg	Pg	06 24 41.9	-1.9
	comp=E,44nm,0.6s						
UKT				ePb	Pb	06 24 43.1	+0.3
UKT				eSg	Sg	06 24 54.0	-2.0
UKT				eSb	Sb	06 24 56.4	+1.8
UKT				e		06 25 00.1	
UKT				max			
	comp=E,67nm,0.4s						
UKT				max			
	comp=E,591nm,0.3s						
NLYR	**Nelyaty**	**1.01**	**83**	⇑iPG	Pg	06 24 43.4	-2.4
NLYR				e		06 24 55.6	
NLYR				pmax	pmax		
	comp=Z,67nm,0.3s						
NLYR				smax			
	comp=N,1μm,0.8s						
NLYR	**Nelyaty**	**1.01**	**83**	⇑iPg	Pg	06 24 43.5	-2.3
NLYR				ePb	Pb	06 24 45.9	+1.4
NLYR				e		06 24 50.7	
NLYR				eSg	Sg	06 24 56.8	-2.5
NLYR				eSb	Sb	06 25 01.9	+4.4
NLYR				max			
	comp=N,163nm,0.3s						
NLYR				max			
	comp=N,1μm,0.9s						
YOA	**Uoyan**	**1.24**	**259**	ePG	Pg	06 24 47.9	-2.5
YOA				i		06 25 05.4	
YOA				pmax	pmax		
	comp=Z,192nm,0.3s						
YOA				smax			
	comp=N,3μm,0.5s						
YOA	**Uoyan**	**1.24**	**259**	ePg	Pg	06 24 47.9	-2.5
YOA				eSg	Sg	06 25 05.3	-1.7
YOA				Pmax			
	comp=N,406nm,0.4s						
YOA				Smax			
	comp=N,2μm,0.6s						
BOD	**Bodaibo**	**1.44**	**2**	⇑iPG	Pg	06 24 50.7	-3.8
BOD				e		06 25 08.5	
BOD				pmax	pmax		
	comp=Z,168nm,0.2s						
BOD				smax			
	comp=E,798nm,0.2s						
BOD	**Bodaibo**	**1.44**	**2**	⇑iPg	Pg	06 24 51.0	-3.5
BOD				eSg	Sg	06 25 09.3	-4.5
BOD				eSb	Sb	06 25 10.5	+0.3
BOD				Pmax			
	comp=E,167nm,0.3s						
BOD				max			
	comp=E,779nm,0.3s						
KMO	**Kumora**	**1.59**	**253**	ePG	Pg	06 24 54.1	-3.3
KMO				e		06 24 54.3	
KMO				pmax	pmax		
	comp=Z,111nm,0.3s						
KMO	**Kumora**	**1.59**	**253**	⇑iPg	Pg	06 24 54.1	-3.3
KMO				eSg	Sg	06 25 15.6	-3.1
KMO				Pmax			
	comp=Z,111nm,0.4s						
KMO				Smax			
	comp=Z,848nm,1.0s						
YLYR	**Ulyunkhan**	**2.16**	**227**	ePN	Pn	06 25 02.4	+0.4
YLYR				e		06 25 03.7	
YLYR				e		06 25 32.1	
YLYR				pmax	pmax		
	comp=Z,77nm,0.2s						
YLYR				smax			
	comp=E,242nm,0.3s						
YLYR	**Ulyunkhan**	**2.16**	**227**	⇑iPn	Pn	06 25 02.3	+0.3
	comp=E,23nm,0.6s						
YLYR				⇑iPn	Pn	06 25 02.3	+0.3
	comp=E,17nm,0.6s						
YLYR				⇓iPn	Pn	06 25 02.3	+0.3
	comp=E,28nm,0.6s						
YLYR				ePg	Pg	06 25 03.7	-5.2
YLYR				eSn	Sn	06 25 29.6	+0.6
YLYR				eSg	Sg	06 25 33.3	-4.4
YLYR				Pmax			
	comp=E,76nm,0.2s						
YLYR				Smax			
	comp=E,238nm,0.6s						
CRS	**Chara**	**2.47**	**76**	ePN	Pn	06 25 06.6	+0.2
CRS				e		06 25 09.6	
CRS				e		06 25 42.0	
CRS				pmax	pmax		
	comp=Z,31nm,0.5s						
CRS				smax			
	comp=E,210nm,1.1s						
CRS	**Chara**	**2.47**	**76**	ePn	Pn	06 25 06.6	+0.2
CRS				ePg	Pg	06 25 10.0	-4.9
CRS				eSn	Sn	06 25 36.2	-0.5
CRS				eSg	Sg	06 25 41.8	-6.1
CRS				Smax			
	comp=E,208nm,1.1s						
NIZ	**Nizh Angarsk**	**2.52**	**258**	ePN	Pn	06 25 07.5	+0.4
NIZ				e		06 25 11.1	
NIZ				eS	Sn	06 25 39.3	+1.4
NIZ				e		06 25 44.0	
NIZ				pmax	pmax		
	comp=Z,30nm,0.7s						
NIZ				smax			
	comp=N,186nm,0.5s						
NIZ	**Nizh Angarsk**	**2.52**	**258**	ePn	Pn	06 25 07.7	+0.6
NIZ				ePg	Pg	06 25 11.7	-4.2
NIZ				e		06 25 15.7	
NIZ				eSn	Sn	06 25 36.3	-1.6
NIZ				eSg	Sg	06 25 43.9	-5.6
NIZ				max			
	comp=N,34nm,0.7s						
NIZ				Smax			
	comp=N,230nm,0.7s						
SYVR	**Suvo**	**3.53**	**221**	ePn	Pn	06 25 20.6	-0.9
SYVR				ePg	Pg	06 25 29.2	-7.0
SYVR				eSn	Sn	06 26 02.1	-1.5
SYVR				eSg	Sg	06 26 14.7	-8.6
SYVR				Pmax			
	comp=N,28nm,0.6s						
SYVR				Smax			
	comp=N,61nm,0.7s						
TUP	**Tupik**	**3.97**	**117**	ePN	Pn	06 25 36.4	+8.7
TUP				e		06 26 27.3	
TUP				pmax	pmax		
	comp=Z,28nm,0.5s						
TUP				smax			
	comp=E,105nm,1.0s						
TUP	**Tupik**	**3.97**	**117**	⇑iPn	Pn	06 25 26.4	-1.3
TUP				ePg	Pg	06 25 36.9	-8.0
TUP				eSn	Sn	06 26 11.5	-3.2
TUP				eSg	Sg	06 26 27.2	-11

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TUP				Pmax			
	comp=E,28nm,0.6s						
TUP				Smax			
	comp=E,113nm,0.9s						
CIT	Chita	4.37	183	eSg	Sg	06 26 40.8	-10
CIT				Smax			
	comp=E,225nm,0.7s						
OGRR	Ongureny	4.55	236	ePn	Pn	06 25 34.6	-1.3
OGRR				eSn	Sn	06 26 25.0	-4.4
OGRR				eSg	Sg	06 26 45.7	-11
OGRR				max			
	comp=E,5.0nm,0.7s						
OGRR				Smax			
	comp=E,42nm,1.4s						
TRTB	Turuntaevo	5.54	224	ePg	Pg	06 26 07.6	-8.7
TRTB				eSg	Sg	06 27 18.1	-12
TRTB				Pmax			
	comp=E,4.0nm,1.1s						
TRTB				Smax			
	comp=E,30nm,1.4s						
TRG	Tyrgan	5.70	234	ePn	Pn	06 25 51.4	-0.7
TRG				ePg	Pg	06 26 06.4	-13
TRG				eSn	Sn	06 26 54.4	-3.8
TRG				eSg	Sg	06 27 20.3	-15
TRG				Pmax			
	comp=E,2.0nm,0.4s						
TRG				Smax			
	comp=E,25nm,1.0s						
FFNB	Fofonovo	6.03	227	eSg	Sg	06 27 32.9	-13
FFNB				Smax			
	comp=E,69nm,0.8s						
CLNS	Chul'man	6.09	81	eSg	Sg	06 27 35.2	-13
HRMR	Khuramsha	6.28	224	ePg	Pg	06 26 17.9	-13
HRMR				eSn	Sn	06 27 08.4	-4.4
HRMR				eSg	Sg	06 27 40.3	-14
HRMR				Pmax			
	comp=E,8.0nm,0.5s						
HRMR				Smax			
	comp=E,101nm,1.3s						
KPC	Khapcheranga	6.75	188	ePn	Pn	06 26 03.7	-3.3
KPC				ePg	Pg	06 26 28.3	-12
KPC				eSn	Sn	06 27 19.0	-5.6
KPC				eSg	Sg	06 27 54.9	-15
KPC				Smax			
	comp=E,52nm,1.3s						
TLY	Talaya	7.65	236	eSg	Sg	06 28 21.0	-19
TLY				Smax			
	comp=E,16nm,2.2s						
ARS	Arshan	8.08	241	eSg	Sg	06 28 34.7	-20
ARS				Smax			
	comp=E,45nm,1.0s						
ORL	Orlik	9.06	251	ePn	P	06 26 37.1	-2.1
ORL				eSg	Sg	06 29 05.3	-22
ORL				Smax			
	comp=E,30nm,2.1s						

IDC ***14*** *06:29:15.2±1.7, 40.13S×174.49E, h94km±18km, mb3.7/5, mb1 3.8/7, mb1mx3.7/14, mbtmp4.0/7, Error ellipse: s-maj=21.4km s-min=15.3km az=148.0*
NEIC ***14*** *06:29:16.4, 40.22S×174.44E, h107km, MG4.7(WEL), After WEL.*
NEIC Felt in the south Taranaki region.
WEL ***14*** *06:29:16.6±0.2, 40.21S×174.44E, h104km±2km, ML4.7/18, Error ellipse: s-maj=1.3km s-min=0.6km az=90.0*
WEL Felt from Taranaki to Wellington, maximum reported intensity MM 4.
ISC 14 06:29:14.6±0.3**, 40.25S**±0.02×**174.45E**±0.04**, h115**km±4km**, n143, σ1.08**/159**, mb3.9**/5**, 21C-3D, Cook Strait**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WAZ	Wanganui	0.64	40	P	P	06 29 34.1	+1.0
WAZ				S	S	06 29 47.0	-0.2
WAZ	Wanganui	0.64	40	⇑PN	P	06 29 34.1	+1.0
WAZ				SN	S	06 29 46.9	-0.2
DUWZ	D'Urville Isla	0.69	216	⇑PN	P	06 29 34.4	+0.9
DUWZ				SN	S	06 29 47.0	-0.8
KIW	Kapiti Island	0.71	150	P	P	06 29 34.8	+1.1
KIW				S	S	06 29 47.0	-1.1
KIW	Kapiti Island	0.71	150	⇑PN	P	06 29 34.8	+1.2
KIW				SN	S	06 29 47.1	-1.0
DFE	Dawson Falls	0.96	344	P	P	06 29 36.6	+0.5
DFE	Dawson Falls	0.96	344	PN	P	06 29 36.5	+0.4
MRZ	Mangatainoka R	0.96	116	P	P	06 29 37.2	+1.1
MRZ				S	S	06 29 51.3	-0.9
MRZ	Mangatainoka R	0.96	116	⇑PN	P	06 29 37.1	+1.0
MRZ				SN	S	06 29 51.4	-0.8
RAEZ	Rainy Point	0.96	357	P	P	06 29 36.7	+0.6
RAEZ	Rainy Point	0.96	357	PN	P	06 29 36.7	+0.6
CAW	Cannon Point	0.98	152	P	P	06 29 37.8	+1.4
CAW	Cannon Point	0.98	152	⇑PN	P	06 29 37.8	+1.4
CAW				SN	S	06 29 52.6	0.0
MRW	Makara Radio	1.00	169	P	P	06 29 38.0	+1.4
MRW	Makara Radio	1.00	169	⇑PN	P	06 29 38.0	+1.5
MRW				SN	S	06 29 52.6	-0.3
NEZ	North Egmont	1.01	344	P	P	06 29 36.9	+0.2
NEZ	North Egmont	1.01	344	⇑PN	P	06 29 36.8	+0.2
WEL	Wellington	1.07	167	P	P	06 29 38.6	+1.4
WEL	Wellington	1.07	167	⇑PN	P	06 29 38.5	+1.3
WEL				SN	S	06 29 54.6	+0.5
NWEZ	Newall Road	1.07	335	P	P	06 29 37.7	+0.4
NWEZ	Newall Road	1.07	335	⇓PN	P	06 29 37.8	+0.5
PKE	Pukeiti	1.11	341	P	P	06 29 37.8	+0.1
PKE	Pukeiti	1.11	341	⇓PN	P	06 29 37.8	+0.1
PKE				SN	S	06 29 54.0	-1.0
VRZ	Vera Road	1.14	12	P	P	06 29 38.4	+0.3
VRZ	Vera Road	1.14	12	⇓PN	P	06 29 38.4	+0.3
VRZ				SN	S	06 29 55.1	-0.6
TSZ	Takapari Road	1.17	81	P	P	06 29 38.9	+0.4
TSZ	Takapari Road	1.17	81	⇑PN	P	06 29 38.9	+0.5
TSZ				SN	S	06 29 55.6	-0.7
BHW	Baring Head	1.21	165	P	P	06 29 40.0	+1.2
BHW	Baring Head	1.21	165	⇑PN	P	06 29 40.0	+1.2
BHW				SN	S	06 29 55.7	-1.1
MTW	Mount Morrison	1.21	139	P	P	06 29 40.0	+1.1
MTW	Mount Morrison	1.21	139	⇑PN	P	06 29 40.0	+1.1
MTW				SN	S	06 29 56.4	-0.7
TUWZ	Tuamarina	1.25	198	⇑PN	P	06 29 40.1	+0.8
TUWZ				SN	S	06 29 56.7	-1.0
NNZ	Nelson	1.27	220	P	P	06 29 40.4	+0.9
NNZ	Nelson	1.27	220	⇑PN	P	06 29 40.3	+0.8
WNVZ	Wahianoa	1.27	44	P	P	06 29 40.1	+0.5
WNVZ	Wahianoa	1.27	44	PN	P	06 29 40.0	+0.4
DRZ	Dome Shelter	1.29	42	P	P	06 29 40.9	+1.1
DRZ	Dome Shelter	1.29	42	ePN	P	06 29 40.5	+0.7
FWVZ	Far West T-bar	1.30	41	P	P	06 29 40.4	+0.5
FWVZ	Far West T-bar	1.30	41	PN	P	06 29 40.1	+0.2
MOVZ	Moawhango	1.31	51	P	P	06 29 40.0	+0.1
MOVZ	Moawhango	1.31	51	PN	P	06 29 39.9	0.0
MSWZ	Moikau Station	1.32	153	P	P	06 29 41.4	+1.3
MSWZ	Moikau Station	1.32	153	⇑PN	P	06 29 41.4	+1.3
WPVZ	Whakapapa	1.34	39	P	P	06 29 40.7	+0.4
WPVZ	Whakapapa	1.34	39	PN	P	06 29 40.6	+0.3
CNZ	Chateau	1.34	39	P	P	06 29 40.7	+0.3
CNZ	Chateau	1.34	39	PN	P	06 29 40.7	+0.3
TUVZ	Tukino	1.35	44	P	P	06 29 40.8	+0.4
TUVZ	Tukino	1.35	44	PN	P	06 29 40.7	+0.3
PAWZ	Paruwai Farm	1.36	147	⇑PN	P	06 29 41.8	+1.3
NGZ	Ngauruhoe	1.39	40	P	P	06 29 41.1	+0.2
NGZ	Ngauruhoe	1.39	40	PN	P	06 29 41.0	+0.1
TWVZ	Taurewa	1.40	33	P	P	06 29 40.9	-0.1
TWVZ	Taurewa	1.40	33	PN	P	06 29 40.8	-0.2
OTVZ	Oturere	1.43	41	PN	P	06 29 41.7	+0.3
WTVZ	West Tongariro	1.43	38	P	P	06 29 41.6	+0.2
WTVZ	West Tongariro	1.43	38	PN	P	06 29 41.4	0.0
BFZ	Birch Farm	1.44	108	PN	P	06 29 42.3	+0.8
MGZ	Maungaku	1.50	34	P	P	06 29 42.4	+0.2
MGZ	Maungaku	1.50	34	PN	P	06 29 42.2	0.0
CMWZ	Cape Campbell	1.51	187	P	P	06 29 44.4	+2.1
CMWZ	Cape Campbell	1.51	187	⇑PN	P	06 29 44.3	+2.0
BSWZ	Blackbirch Sta	1.53	196	P	P	06 29 43.9	+1.3
BSWZ	Blackbirch Sta	1.53	196	⇑PN	P	06 29 43.9	+1.3
QRZ	Quartz Range	1.57	248	P	P	06 29 43.1	0.0
QRZ	Quartz Range	1.57	248	PN	P	06 29 43.0	-0.1
KATZ	Kakaramea	1.59	38	P	P	06 29 38.6	-4.7
KATZ	Kakaramea	1.59	38	ePN	P	06 29 43.1	-0.2
RITZ	Rihia Road	1.67	41	P	P	06 29 42.7	-1.5
RITZ	Rihia Road	1.67	41	PN	P	06 29 44.5	+0.3
RATZ	Rangitukua	1.71	37	P	P	06 29 46.5	+1.7
RATZ	Rangitukua	1.71	37	ePN	P	06 29 44.9	+0.2
HIZ	Hauiti	1.76	10	P	P	06 29 45.6	+0.3
HIZ	Hauiti	1.76	10	PN	P	06 29 45.4	+0.1
WATZ	Wairara	1.83	33	P	P	06 29 46.5	+0.3
WATZ	Wairara	1.83	33	ePN	P	06 29 46.3	+0.2
PWZ	Pawanui	1.86	84	P	P	06 29 47.0	+0.4
PWZ	Pawanui	1.86	84	PN	P	06 29 46.8	+0.2
BKZ	Black Stump Fm	1.91	56	P	P	06 29 47.1	-0.1
BKZ	Black Stump Fm	1.91	56	ePN	P	06 29 47.0	-0.2
THZ	Tophouse	1.92	217	P	P	06 29 48.2	+1.0
THZ	Tophouse	1.92	217	⇑PN	P	06 29 48.2	+0.9
KHZ	Kahutara	2.27	197	P	P	06 29 53.1	+1.1
KHZ	Kahutara	2.27	197	⇑PN	P	06 29 53.0	+1.1
DSZ	Denniston Nort	2.50	232	P	P	06 29 55.1	+0.1
DSZ	Denniston Nort	2.50	232	⇑PN	P	06 29 55.1	+0.1
TOZ	Tahuroa Road	2.64	18	P	P	06 29 56.3	-0.6
TOZ	Tahuroa Road	2.64	18	PN	P	06 29 56.2	-0.7
KNZ	Kokohu	2.77	65	P	P	06 29 57.2	-1.5
KNZ	Kokohu	2.77	65	PN	P	06 29 57.2	-1.5
URZ	Urewera	2.86	47	P	P	06 29 58.0	-1.9
	2.9nm,0.3s,baz=243,slow=7.4,SNR=24						
URZ				S	S	06 30 30.8	-3.2
	39nm,0.3s,baz=84,slow=18,SNR=51						
URZ	Urewera	2.86	47	eP	P	06 29 58.1	-1.8
URZ	Urewera	2.86	47	PN	P	06 29 57.9	-2.0
TGRZ	Tauranga	2.88	30	P	P	06 30 00.0	-0.1
TGRZ	Tauranga	2.88	30	ePN	P	06 29 59.8	-0.3
LTZ	Lake Taylor	3.02	212	P	P	06 30 01.6	-0.3
LTZ	Lake Taylor	3.02	212	⇑PN	P	06 30 01.5	-0.4
MWZ	Matawai	3.06	52	eP	P	06 30 00.5	-2.0
MWZ	Matawai	3.06	52	ePN	P	06 30 00.3	-2.2
MKAZ	Moumakai	3.18	10	P	P	06 30 03.5	-0.6
MKAZ	Moumakai	3.18	10	PN	P	06 30 03.4	-0.8
OTAZ	Otara	3.31	7	P	P	06 30 06.5	+0.6
OTAZ	Otara	3.31	7	ePN	P	06 30 06.1	+0.2
KAAZ	Kauri Point	3.42	3	P	P	06 30 08.5	+1.1
MTAZ	Motutapu	3.47	6	P	P	06 30 07.8	-0.3
MTAZ	Motutapu	3.47	6	ePN	P	06 30 07.4	-0.6
CRLZ	Canterbury Las	3.60	202	eP	P	06 30 08.5	-1.3
CRLZ	Canterbury Las	3.60	202	ePN	P	06 30 08.1	-1.7
KUZ	Kuaotunu	3.63	16	P	P	06 30 08.9	-1.3
KUZ	Kuaotunu	3.63	16	ePN	P	06 30 08.7	-1.5
PUZ	Puketiti	3.67	55	eP	P	06 30 08.4	-2.3
PUZ	Puketiti	3.67	55	ePN	P	06 30 08.3	-2.4
MQZ	McQueen's Vall	3.71	201	P	P	06 30 09.5	-1.8
MQZ	McQueen's Vall	3.71	201	ePN	P	06 30 09.3	-2.0
WVZ	Waitaha Valley	3.97	223	eP	P	06 30 13.7	-1.0
MXZ	Matakaoa Point	4.03	50	eP	P	06 30 13.9	-1.7
MXZ	Matakaoa Point	4.03	50	ePN	P	06 30 13.7	-1.8
RPZ	Rata Peaks	4.29	215	P	P	06 30 19.0	-0.2
	6.0nm,0.3s,baz=28,slow=1.8,SNR=25						
RPZ				S	S	06 31 04.5	-4.1
	25nm,0.3s,baz=359,slow=7.7,SNR=31						
RPZ	Rata Peaks	4.29	215	P	P	06 30 18.9	-0.3
WCZ	Waipu Caves	4.30	359	P	P	06 30 19.4	+0.1
WCZ	Waipu Caves	4.30	359	ePN	P	06 30 19.1	-0.1
FOZ	Fox Glacier	4.86	225	eP	P	06 30 24.0	-2.8
FOZ	Fox Glacier	4.86	225	ePN	P	06 30 23.6	-3.2
OUZ	Omahuta	5.06	352	eP	P	06 30 30.3	+0.7
LBZ	Lake Benmore	5.21	216	eP	P	06 30 29.9	-1.6
ODZ	Otahua Downs	5.56	209	P	P	06 30 34.7	-1.5
ODZ	Otahua Downs	5.56	209	ePN	P	06 30 34.2	-2.0
JCZ	Jackson Bay	5.70	226	P	P	06 30 36.1	-2.1
JCZ	Jackson Bay	5.70	226	ePN	P	06 30 35.8	-2.4
WKZ	Wanaka	6.09	219	eP	P	06 30 41.1	-2.3
WKZ	Wanaka	6.09	219	ePN	P	06 30 39.6	-3.9
EAZ	Earnscleugh	6.26	216	eP	P	06 30 43.7	-2.1
TUZ	Tuapeka	6.71	210	eP	P	06 30 50.5	-1.5
STKA	Stephens Creek	27.72	277	P	P	06 34 53.7	-0.5
	0.6nm,0.6s,mb3.3,baz=42,slow=20,SNR=2.3						
STKA	Stephens Creek	27.72	277	P	P	06 34 53.7	-0.5
CTA	Charters Tower	31.38	301	P	P	06 35 28.6	+1.9
	4.7nm,0.8s,mb4.3,baz=122,slow=13,SNR=4.1						
ASAR	Alice Springs	37.80	283	P	P	06 36 22.4	+1.0
	1.5nm,0.4s,mb4.2,baz=131,slow=8.2,SNR=25						
ASAR				PcP	PcP	06 38 38.4	+2.2
	0.3nm,1.0s,baz=124,slow=3.3,SNR=2.6						
WB2	Warramunga Arr	39.73	289	eP	P	06 36 38.4	+1.0
WRA	Warramunga Arr	39.74	289	P	P	06 36 38.6	+1.1
	1.7nm,0.4s,mb4.2,baz=126,slow=8.3,SNR=32						
SNAA	Sanae	68.37	181	P	P	06 40 07.7	+2.6
	0.6nm,0.9s,mb3.4,baz=317,slow=18,SNR=2.7						
ARCES	ARCESS Array B	146.41	341	PKPbc	PKPbc	06 48 41.2	+0.5
	3.2nm,0.8s,baz=45,slow=3.8,SNR=7.9						
DBIC	Dimbokro	146.56	181	PKPbc	PKPbc	06 48 45.1	+2.4
	6.1nm,1.0s,baz=123,slow=2.9,SNR=9.8						

CSEM ***14*** *06:31:51.5±1.1, 45.70N×26.74E, h125km±9km, MD3.1/3, Error ellipse: s-maj=10.2km s-min=5.8km az=13.0, After BUC*
NEIC ***14*** *06:31:52.6, 45.65N×26.77E, h119km, MG3.6(BUC), After BUC.*
BUC 14 06:31:51.5±1.1**, 45.70N**×**26.74E, h125**km±9km**, MD3.1**/3**, 8C-6D, Error ellipse: s-maj=10.2km s-min=5.8km az=13.0, Romania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.17	358	⇑iP	P	06 32 08.9	+0.1
VRI				iS	S	06 32 21.8	-0.1
MLR	Muntele Rosu	0.59	250	⇑iP	P	06 32 10.9	+0.1
MLR				iS	S	06 32 25.4	0.0
ISR	Istrita	0.60	193	⇑iP	P	06 32 11.9	+1.1
ISR				iS	S	06 32 27.2	+1.7
ISR	Istrita	0.60	193	⇑iP	P	06 32 11.9	+1.1
ISR				iS	S	06 32 27.2	+1.7
SNX	Sinaia	0.93	249	⇑iP	P	06 32 13.6	+0.1
SNX				iS	S	06 32 31.1	+0.9
SNX	Sinaia	0.93	249	⇑iP	P	06 32 13.6	+0.1
SNX				iS	S	06 32 31.1	+1.0
CFR	Carcaliu	1.11	117	⇑iP	P	06 32 15.6	+0.2
CFR				iS	S	06 32 33.0	-0.4
CFR	Carcaliu	1.11	117	⇑iP	P	06 32 15.6	+0.2
CFR				iS	S	06 32 33.0	-0.4
HARR	Harsova	1.31	140	⇓iP	P	06 32 17.8	+0.1
HARR				iS	S	06 32 36.1	-1.4
HARR	Harsova	1.31	140	⇓iP	P	06 32 17.8	+0.2
HARR				iS	S	06 32 36.1	-1.4
TLCR		1.55	109	⇓iP	P	06 32 20.4	+0.1
TLCR				iS	S	06 32 42.6	+0.5
TLCR		1.55	109	⇓iP	P	06 32 20.4	+0.1
TLCR				iS	S	06 32 42.6	+0.5
TIRR	Tirgusor	1.72	136	⇓iP	P	06 32 22.1	-0.1
TIRR				iS	S	06 32 45.1	-0.4
TIRR	Tirgusor	1.72	136	⇓iP	P	06 32 22.1	-0.1
TIRR				iS	S	06 32 45.1	-0.4

WEL 14 06:47:32.9±0.7**, 38.38S**×**175.78E, h192**km±5km**, ML3.8**/14**, 1C, Error ellipse: s-maj=8.2km s-min=7.6km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OTVZ	Oturere	0.79	187	PN	P	06 48 01.1	+0.3
NGZ	Ngauruhoe	0.81	190	PN	P	06 48 00.9	0.0
TUVZ	Tukino	0.90	186	⇑PN	P	06 48 01.5	+0.1
WNVZ	Wahianoa	0.96	189	PN	P	06 48 01.8	0.0
BKZ	Black Stump Fm	0.96	145	PN	P	06 48 01.9	+0.1
BKZ				SN	S	06 48 24.4	+0.2
MOVZ	Moawhango	1.03	181	PN	P	06 48 01.8	-0.4
URZ	Urewera	1.05	84	ePN	P	06 48 02.1	-0.3
URZ				SN	S	06 48 23.9	-1.4
MWZ	Matawai	1.37	89	ePN	P	06 48 05.2	0.0
MWZ				SN	S	06 48 28.7	-1.4
WAZ	Wanganui	1.51	204	PN	P	06 48 05.6	-0.8
KNZ	Kokohu	1.61	114	PN	P	06 48 07.6	+0.2
TSZ	Takapari Road	1.69	175	PN	P	06 48 07.0	-1.1
MRZ	Mangatainoka R	2.29	184	PN	P	06 48 12.2	-2.2
MRZ				SN	S	06 48 41.2	-5.2
BFZ	Birch Farm	2.33	171	PN	P	06 48 13.1	-1.8
KIW	Kapiti Island	2.57	195	PN	P	06 48 15.0	-2.6
CAW	Cannon Point	2.78	191	PN	P	06 48 17.3	-2.8
MTW	Mount Morrison	2.79	184	PN	P	06 48 17.2	-3.0
DUWZ	D'Urville Isla	2.82	210	PN	P	06 48 17.4	-3.1
MRW	Makara Radio	2.97	196	PN	P	06 48 19.3	-3.0
WEL	Wellington	3.01	195	PN	P	06 48 19.7	-3.0
PAWZ	Paruwai Farm	3.01	185	PN	P	06 48 19.7	-3.1
MSWZ	Moikau Station	3.06	188	PN	P	06 48 20.1	-3.3
BHW	Baring Head	3.11	193	PN	P	06 48 20.8	-3.2
TUWZ	Tuamarina	3.36	204	PN	P	06 48 23.4	-3.7
NNZ	Nelson	3.39	212	PN	P	06 48 23.5	-3.9
QRZ	Quartz Range	3.51	225	PN	P	06 48 24.4	-4.5
BSWZ	Blackbirch Sta	3.64	203	PN	P	06 48 27.0	-3.6
THZ	Tophouse	4.04	212	ePN	P	06 48 31.2	-4.3
KHZ	Kahutara	4.38	202	PN	P	06 48 36.2	-3.8
DSZ	Denniston Nort	4.54	221	PN	P	06 48 36.7	-5.3
MQZ	McQueen's Vall	5.83	203	PN	P	06 48 52.7	-5.8
ODZ	Otahua Downs	7.69	208	ePN	P	06 49 17.6	-5.3

IDC 14 06:48:21.4±2.3**, 0.20N**×**121.70E, mb3.6**/4**, mb1 3.8**/4**, mb1mx3.7**/14**, mbtmp3.6**/4**, Error ellipse: s-maj=228.0km s-min=26.1km az=68.0, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.54	149	P	P	06 53 33.1	-1.3
	0.7nm,0.4s,baz=324,slow=11,SNR=24						
ASAR	Alice Springs	26.52	154	P	P	06 54 01.6	-1.2
	0.5nm,0.6s,baz=340,slow=12,SNR=8.2						
STKA	Stephens Creek	37.05	151	P	P	06 55 33.1	-2.0
	0.7nm,0.4s,baz=325,slow=12,SNR=3.9						
SONM	Songino Array	49.27	346	P	P	06 57 12.0	-1.9
	0.3nm,0.6s,baz=170,slow=8.1,SNR=3.5						

CSEM ***14*** *06:53:50.4, 47.16N×152.88E, h33km, mb5.7*
NIED ***14*** *06:54:00, 46.30N×152.80E, h44km, Mw4.9 Best double couple: M0 2.45×10^16 NP1: φs243°, δ83°, λ86°. NP2: φs96°, δ8°, λ123°.*
BGS ***14*** *06:54:04.7±2.3, 47.57N×153.89E, h128km, mb5.2*
SKHL ***14*** *06:54:04.6±1.5, 47.45N×152.52E, h136km±30km, mb6.0/7, Ms4.0/1, msh5.7/6*
BJI ***14*** *06:54:04.5, 47.75N×152.42E, h138km, mB5.2, mb5.2*
MOS ***14*** *06:54:05.1±0.9, 47.62N×152.31E, h130km, mb5.2/78, Error ellipse: s-maj=7.1km s-min=4.0km az=97.4*
NEIC ***14*** *06:54:06.5±0.6, 47.68N×152.31E, h128km±5km, mb5.2/133, Error ellipse: s-maj=5.2km s-min=3.1km az=160.0*
HRVD ***14*** *06:54:06.5±0.3, 47.63N×152.75E, h124km±3km, MW5.1/64, Centroid moment Tensor Solution. LP body waves: s28,c37; Mantle waves: s64,c112; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.88±.23; Mθθ0.49±.27; Mφφ1.39±.27; Mrθ-2.44±.14; Mθφ1.02±.26; Mφr-4.22±.13; Best double couple: M0 5.257×10^16 NP1: φs217°, δ11°, λ-84°. NP2: φs30°, δ79°, λ-91°. Principal axes: T 5.341, Plg34°, Azm121°; N -.172, Plg1°, Azm30°; P -5.172, Plg56°, Azm299°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***14*** *06:54:07.7±0.6, 47.69N×152.36E, h140km±5km, mb4.4/23, mb1 4.6/25, mb1mx4.6/26, mbtmp4.9/25, MS3.7/8, Ms1 3.8/8, ms1mx3.4/21 Error ellipse: s-maj=11.2km s-min=8.3km az=144.0*
ISC 14 06:54:04.1±0.4**, 47.58N**±0.03×**152.35E**±0.03**, h123**km±3km**, h134**km±3.4km**: pP-P, n612, σ0.94**/650**, mb5.1**/193**, 40C-112D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.89	235	⇑iPN	P	06 55 03.0	-0.2
KUR				eS	S	06 55 50.0	+1.5
KUR				pmax	pmax		
	comp=Z,5μm,1.2s						
KUR				pmax	pmax		
	comp=N,110nm,0.8s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				pmax	pmax		
	comp=Z,860nm,0.8s						
KUR				smax			
	comp=N,11μm,1.5s						
KUR				smax			
	comp=E,8μm,1.5s						
KUR	Kuril'sk	3.89	235	iP	P	06 55 03.0	-0.2
KUR				AMB	AMB	06 55 04.0	
	comp=E,5μm,1.2s						
KUR				AMB	AMB	06 55 04.2	
	comp=E,110nm,0.8s						
KUR				AMB	AMB	06 55 04.2	
	comp=E,220nm,0.8s						
KUR				AMB	AMB	06 55 04.2	
	comp=E,860nm,0.8s						
KUR				iS	S	06 55 50.0	+1.5
KUR				A		06 55 54.0	
	comp=E,11μm,1.5s						
KUR				A		06 55 54.0	
	comp=E,8μm,1.5s						
KUR				A		06 56 06.5	
	comp=E,1μm,0.6s						
KUR				A		06 56 06.5	
	comp=E,460nm,0.6s						
SKR	Severo-Kuril's	3.97	37	⇑iPN	P	06 55 05.8	+1.4
SKR				iS	S	06 55 50.5	-0.1
SKR				pmax	pmax		
	comp=N,460nm,0.5s						
SKR				pmax	pmax		
	comp=E,460nm,0.5s						
SKR				pmax	pmax		
	comp=Z,710nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,2.0s						
SKR				smax			
	comp=N,1μm,0.3s						
SKR				smax			
	comp=E,4μm,0.3s						
SKR	Severo-Kuril's	3.97	37	iP	P	06 55 05.8	+1.4
SKR				AMB	AMB	06 55 08.6	
	comp=E,2μm,2.0s						
SKR				AMB	AMB	06 55 08.6	
	comp=E,460nm,0.5s						
SKR				AMB	AMB	06 55 08.6	
	comp=E,710nm,0.5s						
SKR				⇑iS	S	06 55 50.5	-0.1
SKR				A		06 55 53.5	
	comp=E,1μm,0.2s						
SKR				A		06 55 53.5	
	comp=E,4μm,0.2s						
SKR				A		06 55 53.5	
	comp=E,410nm,0.2s						
YUK	Yuzh-Kuril'sk	5.75	234	⇑iPN	P	06 55 29.0	+0.7
YUK				eS	S	06 56 33.5	-0.2
YUK				pmax	pmax		
	comp=E,910nm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,380nm,0.4s						
YUK	Yuzh-Kuril'sk	5.75	234	iP	P	06 55 29.0	+0.7
YUK				AMB	AMB	06 55 30.0	
	comp=N,2μm,0.8s						
YUK				AMB	AMB	06 55 30.0	
	comp=N,380nm,0.5s						
YUK				AMB	AMB	06 55 30.0	
	comp=N,910nm,0.5s						
YUK				AMB	AMB	06 55 30.0	
	comp=N,2μm,0.5s						
YUK				eS	S	06 56 33.5	-0.2
YUK				A		06 56 48.5	
	comp=N,1μm,0.5s						
YUK				A		06 56 48.5	
	comp=N,540nm,0.5s						
YUK				A		06 56 50.0	
	comp=N,2μm,1.0s						
YUK				A		06 56 50.0	
	comp=N,3μm,1.0s						
JRA	Rausu	6.23	237	P	P	06 55 36.4	+1.6
NEM2	Nemuro 2	6.27	230	P	P	06 55 34.0	-1.4
NEM2				eS	S	06 56 41.5	-4.7
YSS	Yuzh-Sakhalins	6.56	268α	iPN	P	06 55 43.0	+3.6
YSS				eS	S	06 56 58.0	+4.7
YSS				pmax	pmax		
	comp=Z,370nm,1.0s						
YSS				smax			
	comp=N,1μm,4.0s						
YSS				smax			
	comp=E,1μm,4.0s						
YSS				MLR	MLR		
	comp=N,500nm,11.0s						
YSS				MLR	MLR		
	comp=E,500nm,15.0s						

YSS MLR MLR
comp=Z,600nm,15.0s
YSS Yuzh-Sakhalins 6.56 268 *e*P **P 06 55 42.7 +3.3**
comp=Z,322nm,0.9s
YSS Yuzh-Sakhalins 6.56 268 ⇓*i*P **P 06 55 43.0 +3.6**
YSS *i* P 06 55 43.0
YSS AMB AMB 06 55 44.0
comp=Z,370nm,1.0s
YSS *e*S **S 06 56 58.0 +4.7**
YSS A 06 57 06.0
comp=Z,1μm,4.0s
YSS AMS AMS 07 00 23.0
comp=Z,500nm,11.0s
YSS AMS AMS 07 00 23.0
comp=Z,500nm,15.0s
YSS AMS AMS 07 00 23.0
comp=Z,600nm,15.0s
JNK Nakash 6.68 236 P **P 06 55 41.4 +0.4**
PET Petropavlovsk 6.78 34 *e*PN **P 06 55 40.8 -1.6**
PET 06 56 55.1
PET pmax pmax
comp=Z,76nm,0.6s
PET Petropavlovsk 6.78 34 *e*Pn **P 06 55 40.8 -1.6**
comp=Z,76nm,0.6s
PET Sn **S 06 56 55.0 -3.6**
PET Petropavlovsk 6.78 34 *e*P **P 06 55 41.6 -0.8**
PET AMB AMB 06 55 47.8
comp=Z,72nm,0.5s
PET *e*S **S 06 56 53.9 -4.8**
PET A 06 57 25.3
comp=Z,710nm,0.6s
PET AMS AMS 06 57 26.0
comp=Z,520nm,0.6s
PET A 06 58 12.2
comp=Z,300nm,16.0s
JTKR Abashiri--Toko 6.92 242 P **P 06 55 46.0 +1.8**
UGL Uglegorsk 7.02 286 *e*P **P 06 55 46.0 +0.3**
UGL AMB AMB 06 55 50.0
comp=Z,1μm,2.0s
UGL *e*S **S 06 57 11.0 +6.6**
UGL A 06 57 15.0
comp=Z,1μm,6.0s
UGL A 06 57 15.0
comp=Z,3μm,6.0s
UGL A 06 57 15.0
comp=Z,3μm,7.0s
JAK Akkeshi 7.08 232 P **P 06 55 45.6 -0.8**
JAK *e*S **S 06 57 00.1 -5.7**
TYV Tymovskoe 7.15 301 ⇓*i*P **P 06 55 47.8 +0.4**
TYV AMB AMB 06 55 48.5
comp=Z,1μm,2.0s
TYV AMB AMB 06 55 49.5
comp=Z,230nm,1.0s
TYV *e*S **S 06 57 15.0 +7.4**
TYV A 06 57 22.0
comp=Z,2μm,8.0s
TYV A 06 57 22.0
comp=Z,2μm,4.0s
TYV A 06 57 22.0
comp=Z,2μm,6.0s
JMP Maruseppu 7.23 244 P **P 06 55 50.8 +2.4**
JAR Ashorobuto 7.40 238 P **P 06 55 51.6 +0.9**
JWK2 Keihoku 7.57 256 P **P 06 55 58.0 +5.0**
JOB Onbets 7.61 235 P **P 06 55 52.6 -1.0**
JOB *e*S **S 06 57 15.7 -3.1**
ASAJ Asahikawa 7.64 247 PN **P 06 55 57.5 +3.5**
ASAJ S **S 06 57 25.5 +6.1**
ASAJ pmax pmax
comp=Z,52nm,0.3s
ASAJ MLR MLR
comp=Z,136nm,18.4s
ASAJ Asahikawa 7.64 247 P **P 06 55 57.5 +3.5**
comp=Z,52nm,0.3s,baz=81,slow=14,SNR=227
ASAJ S **S 06 57 25.5 +6.1**
baz=94,slow=26,SNR=2.7
ASAJ LR LR 06 59 52.2
comp=Z,136nm,18.4s,baz=6.4,slow=45
ASAJ Asahikawa 7.64 247 P **P 06 55 57.4 +3.4**
JKK2 Kamakawa 2 7.67 245 P **P 06 55 57.0 +2.6**
JCH Churui 8.06 235 P **P 06 55 58.6 -1.1**
JCH *e*S **S 06 57 23.9 -5.8**
JFR Furan 8.16 241 P **P 06 56 01.6 +0.6**
JAB Ashibetsu 8.19 244 P **P 06 56 04.1 +2.7**
JHR Hokuryu 8.37 247 P **P 06 56 06.6 +2.8**
OKH Okha 8.46 318 *e*PN **P 06 56 05.6 +0.5**
OKH *e*S **S 06 57 43.8 +4.4**
OKH smax
comp=E,2μm,6.0s
OKH Okha 8.46 318 *e*P **P 06 56 05.6 +0.5**
OKH *i* P 06 56 05.9
OKH AMB AMB 06 56 06.1
comp=E,300nm,0.8s
OKH *e*S **S 06 57 43.8 +4.4**
OKH A 06 57 48.0
comp=E,2μm,6.0s
JBT2 Biratori 2 8.53 239 P **P 06 56 05.6 -0.3**
JEM Erimo 8.58 233 P **P 06 56 05.7 -0.9**
ERM Erimo 8.58 233 Pn **P 06 56 06.3 -0.3**
comp=E,882nm,0.4s,SNR=26
JNBK Urakawa-nobuka 8.62 236 P **P 06 56 04.8 -2.4**
JNBK *e*S **S 06 57 35.2 -8.0**
NKL Nikolayevsk 9.31 311 ⇓*i*P **P 06 56 15.5 -0.9**
NKL AMB AMB 06 56 17.0
comp=E,500nm,2.0s
NKL AMB AMB 06 56 17.0
comp=E,70nm,1.2s
NKL AMB AMB 06 56 17.0
comp=E,100nm,1.2s
NKL AMB AMB 06 56 17.0
comp=E,170nm,1.2s
NKL *e*S **S 06 58 00.5 +0.8**
NKL A 06 58 04.3
comp=E,40nm,1.2s
NKL A 06 58 10.0
comp=E,800nm,6.0s
NKL AMS AMS 07 01 17.0
comp=E,400nm,12.0s
JNB Noboribetsu 9.49 242 P **P 06 56 18.9 +0.1**
JNB *e*S **S 06 58 00.7 -3.5**
JKB Kayabe 9.85 239 P **P 06 56 21.7 -1.9**
JKB *e*S **S 06 58 04.2 -8.5**
JSH Shimam 10.00 245 P **P 06 56 25.6 +0.2**
JYM2 Yakumo 2 10.10 242 P **P 06 56 26.5 -0.4**
JYM2 *e*S **S 06 58 15.7 -2.9**
JSR Shiriuchi 10.44 239 P **P 06 56 30.2 -1.1**
JSR *e*S **S 06 58 19.1 -7.5**
JTM Tenmabayashi 10.56 234 P **P 06 56 29.5 -3.5**
JTM *e*S **S 06 58 19.9 -10**
JANG Nango 10.61 231 P **P 06 56 29.5 -4.2**
JANG *e*S **S 06 58 19.3 -11**
JOSM Okushiri--Mats 10.66 244 P **P 06 56 33.5 -0.8**
JTH Tanohata 10.75 229 *e*S **S 06 58 21.1 -13**
GRNR Gornyy 10.91 293 *e*P **P 06 56 40.2 +2.7**
GRNR AMB AMB 06 56 41.6
comp=E,67nm,1.0s
TEY Ternei 11.19 263 *e*P **P 06 56 43.5 +2.3**
TEY AMB AMB 06 56 45.0
comp=E,110nm,1.3s
TEY AMB AMB 06 56 45.0
comp=E,150nm,1.3s
JRG Rokugo 11.79 230 P **P 06 56 45.2 -4.0**
JRG *e*S **S 06 58 50.2 -8.5**
MA2 Magadan 12.06 356 *e*PN **P 06 56 52.8 +0.1**
MA2 pmax pmax
comp=E,38nm,0.6s
MA2 Magadan 12.06 356 *e*Pn **P 06 56 52.8 +0.1**
comp=E,38nm,0.6s
JIO Ouri 12.15 225 P **P 06 56 49.0 -5.0**
JIO *e*S **S 06 58 54.0 -13**
EKMR Ekimchan 13.54 301 *e*P **P 06 57 12.2 +0.3**
EKMR AMB AMB 06 57 18.3
comp=Z,38nm,0.9s
EKMR AMB AMB 06 57 18.3
comp=Z,130nm,0.9s
EKMR AMB AMB 06 57 18.3
comp=Z,170nm,0.9s
KLR Kul'dur 13.78 285 *e*P **P 06 57 15.5 +0.5**
KLR *e*P 06 57 15.8
FX1 Attu Island--F 14.32 61 P **P 06 57 22.9 +1.0**
FX1 S **S 06 59 50.5 -7.3**
FX1 pmax pmax
comp=Z,14nm,0.3s
FX1 Attu Island--F 14.32 61 P **P 06 57 22.9 +1.0**
comp=Z,14nm,0.3s,baz=231,slow=17,SNR=23
FX1 S **S 06 59 50.5 -7.3**
comp=Z,82nm,0.3s,baz=16,slow=22,SNR=16
FX1 Attu Island--F 14.32 61 *e*P **P 06 57 22.6 +0.7**
FX1 *e*S **S 06 59 42.8 -15**
MAJO Matsushiro 15.20 229 *e*P **P 06 57 32.8 -0.3**
MAJO pmax pmax
comp=Z,70nm,0.8s
MAJO Matsushiro 15.20 229 *e*P **P 06 57 32.8 -0.4**
comp=Z,70nm,0.8s
MAT Matsushiro 15.20 229 *e*P **P 06 57 33.0 -0.1**
MAT *e*S **S 07 00 27.0 +8.8**
MAT pmax pmax
comp=Z,80nm,1.0s
MAT Matsushiro 15.20 229 *e*P **P 06 57 33.0 -0.1**
comp=Z,80nm,1.0s
MAT *e*S **S 07 00 27.0 +8.8**
MAT Matsushiro 15.20 229 P **P 06 57 32.7 -0.4**
MAT S **S 07 00 26.0 +7.8**
SEY Seymchan 15.39 0 *e*P **P 06 57 37.6 +2.2**
SEY *e*S **S 07 00 25.7 +3.3**
SEY pmax pmax
comp=Z,90nm,1.1s
SEY pmax pmax
comp=N,30nm,0.7s
SEY MLR MLR
comp=Z,500nm,16.0s
SEY MLR MLR
comp=N,200nm,14.0s
MDJ Mudanjiang 16.05 268 P **P 06 57 43.4 -0.3**
MDJ AP 06 57 46.3
MDJ S **S 07 00 40.9 +3.4**
MDJ SCS ScS 07 09 30.6 -2.4
MDJ AMB AMB
comp=Z,74nm,0.8s
MDJ AMB AMB
comp=Z,480nm,10.5s
MDJ LR LR
comp=N,176nm,8.6s
MDJ LR LR
comp=E,183nm,6.7s
MDJ LR LR
comp=Z,176nm,9.6s
MDJ Mudanjiang 16.05 268 *e*P **P 06 57 44.0 +0.2**
comp=Z,52nm,0.7s
BMKR Bomnak 16.34 305 *i* P **P 06 57 46.5 -0.7**
BMKR AMB AMB 06 57 49.0
comp=Z,120nm,0.8s
BMKR AMB AMB 06 57 49.0
comp=Z,150nm,0.8s
BMKR AMB AMB 06 57 49.0
comp=Z,240nm,0.8s
ZEA Zeya 17.02 301 *e*P **P 06 57 53.6 -2.0**
ZEA AMB AMB 06 57 55.2
comp=Z,87nm,0.9s
ZEA AMB AMB 06 57 55.2
comp=Z,87nm,0.9s
ZEA AMB AMB 06 57 55.2
comp=Z,160nm,0.9s
ZEA AMB AMB 06 57 58.0
comp=Z,800nm,5.0s
ZEA AMB AMB 06 57 58.0
comp=Z,1μm,5.0s
JHJ Hachijo jima 2 17.29 218 LR LR 07 03 15.1
comp=Z,151nm,21.3s,baz=1.8,slow=32
KROS Kirovskiy 17.32 303 *i* P **P 06 57 57.4 -2.0**
KROS AMB AMB 06 57 59.0
comp=Z,22nm,1.0s
KROS AMB AMB 06 57 59.0
comp=Z,75nm,1.0s
KROS AMB AMB 06 57 59.0
comp=Z,95nm,1.0s
CLNS Chul'man 19.09 309 *e*P **P 06 58 20.7 +1.4**
CLNS *e*S **S 07 01 37.8 -6.3**
CLNS pmax pmax
comp=Z,221nm,1.0s
CLNS pmax pmax
comp=N,118nm,0.9s
CLNS pmax pmax
comp=E,145nm,0.9s
CLNS pmax pmax
comp=N,143nm,0.9s
CLNS pmax pmax
comp=Z,126nm,0.9s
CLNS pmax pmax
comp=E,118nm,1.2s
CLNS smax
comp=N,5.0nm,1.0s
CLNS smax
comp=E,10.0nm,1.0s
CLNS smax
comp=Z,6.0nm,1.1s
CLNS MLR MLR
comp=Z,300nm,14.0s
CLNS MLR MLR
comp=N,200nm,13.0s
CLNS MLR MLR
comp=E,100nm,13.0s
CN2 Changchun 19.13 269 *e*P **P 06 58 18.6 -1.2**
CN2 *e*S **S 07 01 47.4 +2.4**
CN2 PCP PcP 07 02 37.4 -1.4
CN2 SCS ScS 07 09 41.4 -0.8
CN2 AMB AMB
comp=Z,120nm,0.9s
CN2 AMB AMB
comp=Z,120nm,4.0s
YAK Yakutsk 19.35 327 *e*P **P 06 58 21.9 -0.1**
YAK *e*S **S 07 01 51.3 +2.3**
YAK pmax pmax
comp=Z,188nm,1.0s
YAK pmax pmax
comp=N,95nm,1.2s
YAK pmax pmax
comp=E,111nm,1.2s
YAK smax
comp=N,18nm,1.1s
YAK smax
comp=E,13nm,1.1s
YAK Yakutsk 19.35 327 P **P 06 58 19.8 -2.1**
comp=E,238nm,0.9s
KS15 Wonju Array Si 20.61 250 *e*P **P 06 58 35.6 +0.5**
SNY Shenyang 21.17 265 ⇓P **P 06 58 40.6 -0.1**
SNY AMB AMB
comp=Z,60nm,0.7s,mb5.0
SNY LR LR
comp=E,360nm,16.2s
SNY LR LR
comp=Z,290nm,12.8s
INCN Inchon 21.38 251 *e*P **P 06 58 44.2 +1.4**
comp=Z,138nm,0.9s,mb5.3
HIA Hailar 21.62 287 *e*P **P 06 58 43.9 -1.2**
HIA pmax pmax
comp=Z,121nm,1.1s
HIA Hailar 21.62 287 *e*P **P 06 58 43.9 -1.2**
comp=Z,121nm,1.1s,mb5.1
BILL Bilibino 21.71 14 *e*P **P 06 58 44.0 -1.9**
BILL pmax pmax
comp=Z,1μm,2.8s,mb5.7
BILL Bilibino 21.71 14 *e*P **P 06 58 44.0 -1.8**
comp=Z,1μm,2.8s,mb5.7
DL2 Dalian 23.87 260 P **P 06 59 08.3 +1.4**
DL2 XS 07 03 58.5
DL2 AMB AMB
comp=Z,50nm,1.0s,mb4.8
BOD Bodaibo 25.07 308 *e*P **P 06 59 15.4 -2.7**
BOD pmax pmax
comp=Z,15nm,1.0s,mb4.4
TIXI Tiksi 26.53 344 *e*P **P 06 59 28.8 -2.7**
TIXI pmax pmax
comp=Z,25nm,1.4s,mb4.5
TIXI MLR MLR
comp=Z,127nm,14.0s
BJI Beijing 26.98 267 P **P 06 59 37.8 +1.8**
BJI AP pP 07 00 09.3 +7.1
BJI XP sP 07 00 26.9 +10
BJI S **S 07 04 05.4 +3.0**
BJI AMB AMB
comp=Z,68nm,0.8s,mb5.2
BJI AMB AMB
comp=Z,237nm,4.0s
BJI Beijing 26.98 267 P **P 06 59 37.8 +1.8**
comp=Z,68nm,0.8s,mb5.2
BJI pP pP 07 00 09.3 +7.1
BJI sP sP 07 00 26.9 +10
BJI S **S 07 04 05.4 +3.0**
BJI sS 07 05 06.3
BJT Baijiatuau 27.00 267 *e*P **P 06 59 37.4 +1.3**
BJT pmax pmax
comp=Z,32nm,0.6s
BJT Baijiatuau 27.00 267 *e*P **P 06 59 37.4 +1.3**
comp=Z,32nm,0.6s,mb5.0
JOW Kunigami 28.02 231 P **P 06 59 45.6 +0.1**
comp=Z,27nm,1.0s,mb4.7,baz=53,slow=8.4,SNR=2.7
SSE Sheshan 28.93 247 P **P 06 59 54.8 +1.2**
SSE XP sP 07 00 41.3 +6.9
SSE S **S 07 04 35.6 +1.8**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,166nm,8.2s
SSE LR LR
comp=N,109nm,20.0s
SSE LR LR
comp=E,114nm,20.0s
SSE LR LR
comp=Z,170nm,20.0s
SSE Sheshan 28.93 247 P **P 06 59 54.8 +1.2**
comp=Z,28nm,0.7s,mb5.0
SSE sP sP 07 00 41.2 +6.8
SSE S **S 07 04 35.6 +1.8**
SSE sS 07 05 32.6
SSE LR LR
comp=Z,170nm,20.0s
HHC Hu-ho-hao-te 29.73 272 *e*P **P 07 00 00.8 +0.1**
HHC AP pP 07 00 30.4 +3.1
HHC XP sP 07 00 42.0 +0.5
HHC PP PP 07 00 58.6 -3.6
HHC PCP PcP 07 03 05.3 +3.7
HHC S **S 07 04 47.5 +1.2**
HHC AMB AMB
comp=Z,108nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,109nm,6.4s
NJ2 Nanjing 29.76 251 *e*P **P 07 00 00.6 -0.4**
NJ2 AP pP 07 00 28.5 +0.8
NJ2 PP PP 07 01 02.5 -0.1
NJ2 S **S 07 04 45.0 -1.8**
NJ2 AMB AMB
comp=Z,80nm,1.2s,mb5.2
NJ2 AMB AMB
comp=Z,830nm,4.6s
NJ2 LR LR
comp=N,630nm,19.4s
NJ2 LR LR
comp=E,650nm,20.9s
NJ2 LR LR
comp=Z,630nm,20.8s
ULN Ulaanbaatar 30.14 288 *e*P **P 07 00 02.5 -1.8**
ULN pmax pmax
comp=Z,12nm,0.9s,mb4.5
ULN Ulaanbaatar 30.14 288 *e*P **P 07 00 02.5 -1.8**
comp=Z,12nm,0.9s,mb4.5
SONM Songino Array 30.58 288 P **P 07 00 07.1 -1.0**
comp=Z,3.8nm,0.6s,mb4.3,baz=72,slow=7.9,SNR=39
SONM pP pP 07 00 39.4 +4.5
comp=Z,6.3nm,1.0s,baz=74,slow=9.0,SNR=4.6
SONM PcP PcP 07 03 02.7 -1.0
comp=Z,3.4nm,0.7s,baz=116,slow=2.5,SNR=5.7
SONM ScP 07 06 33.8
comp=Z,1.7nm,0.6s,baz=104,slow=2.1,SNR=8.9
BTO Baotou 30.88 273 *e*P **P 07 00 10.3 -0.6**
BTO AMB AMB
comp=Z,24nm,0.7s,mb5.0
TLY Talaya 31.34 296 *e*P **P 07 00 13.7 -1.1**
TLY *e* 07 00 46.4
TLY pmax pmax
comp=Z,14nm,0.8s,mb4.7
TLY MLR MLR
comp=Z,277nm,24.0s
TLY Talaya 31.34 296 *e*P **P 07 00 13.5 -1.3**
comp=Z,9.3nm,0.8s,mb4.6
ZAK Zakamensk 31.86 294 *e*P **P 07 00 17.8 -1.5**
ZAK *e* 07 00 50.3
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.1
SVW2 Sparrevohn 32.28 46 *e*P **P 07 00 23.0 +0.2**
IMA Indian Mountai 33.45 37 *e*P **P 07 00 32.7 -0.1**
IMA *e* 07 03 11.0
IMA Indian Mountai 33.45 37 *e*P **P 07 00 33.2 +0.4**
comp=Z,58nm,0.8s,mb5.5
WHN Wuhan 33.65 253 ⇓P **P 07 00 34.8 -0.1**
WHN AP pP 07 01 03.3 +1.1
KDAK Kodiak Island 33.99 52 P **P 07 00 36.0 -1.5**
comp=Z,124nm,0.5s,mb6.0,SNR=15
KDAK Kodiak Island 33.99 52 *e*P **P 07 00 36.2 -1.3**
comp=Z,16nm,0.8s,mb4.9
QZH Quanzhou 34.95 242 ⇓*i*P **P 07 00 46.9 +0.9**
QZH S **S 07 06 10.3 +2.6**
QZH AMB AMB
comp=Z,120nm,0.7s,mb5.8
XAN Xi'an 35.08 263 P **P 07 00 46.8 -0.2**
XAN AMB AMB
comp=Z,36nm,0.9s,mb5.2
PMR Palmer 35.38 45 *e*P **P 07 00 49.6 +0.4**
PMR pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
PMR Palmer 35.38 45 *e*P **P 07 00 49.6 +0.4**
comp=Z,9.5nm,0.8s,mb4.7
COLA College 35.82 39 *e*P **P 07 00 53.4 +0.5**
COLA pmax pmax
comp=Z,135nm,1.0s,mb5.8
COLA College 35.82 39 *e*P **P 07 00 53.4 +0.5**
comp=Z,135nm,1.0s,mb5.8
ILAR Eielson Array 36.23 39 P **P 07 00 56.0 -0.4**
comp=Z,72nm,1.2s,mb5.5,baz=265,slow=8.0,SNR=223
ILAR ScP 07 06 50.6
comp=Z,0.8nm,0.8s,baz=249,slow=3.5,SNR=5.0
ENH Enshi 37.02 258 *e*P **P 07 01 03.1 -0.3**
comp=Z,54nm,0.8s,mb5.5
ENH *e*PcP PcP 07 03 21.9 -0.3
LZH Lanzhou 37.35 270 ⇓P **P 07 01 06.6 +0.5**
LZH AP pP 07 01 33.5 -0.3
LZH XP sP 07 01 49.0 +0.7
LZH PP PP 07 02 37.5 +1.6
LZH PCP PcP 07 03 24.0 +0.9
LZH *e*S **S 07 06 41.0 -3.3**
LZH XS 07 07 33.0
LZH SS SS 07 09 22.0 -1.7
LZH AMB AMB
comp=Z,176nm,1.4s,mb5.8
LZH AMB AMB
comp=Z,582nm,4.6s
LZH Lanzhou 37.35 270 ⇓P **P 07 01 06.6 +0.5**
comp=Z,176nm,1.4s,mb5.8
LZH pP pP 07 01 33.5 -0.3
LZH sP sP 07 01 49.0 +0.7
LZH PP PP 07 02 37.5 +1.6
LZH PcP PcP 07 03 24.0 +0.9
LZH *e*S **S 07 06 41.0 -3.3**
LZH sS 07 07 33.0
LZH SS SS 07 09 22.0 -1.7
GTA Gaotai 38.34 278 *e*P **P 07 01 14.3 0.0**
GTA AP pP 07 01 41.8 -0.3
GTA XP sP 07 01 57.3 +0.7
GTA PP PP 07 02 47.6 +0.8
GTA PCP PcP 07 03 26.8 +0.6
GTA S **S 07 06 57.1 -2.1**
GTA SCP 07 07 01.4
GTA AMB AMB
comp=Z,25nm,1.3s,mb4.9
GTA AMB AMB
comp=Z,168nm,4.9s
GTA LR LR
comp=N,99nm,16.0s
GTA LR LR
comp=E,236nm,15.6s
GTA LR LR
comp=Z,170nm,15.2s
DAWY Dawson 39.54 40 *e*P **P 07 01 24.1 +0.2**
CD2 Chengdu 40.44 264 ⇓*i*P **P 07 01 32.3 +0.5**
CD2 AMB AMB
comp=Z,44nm,1.0s,mb5.2
INK Inuvik 41.24 33 *e*P **P 07 01 38.5 +0.6**
INK pmax pmax
comp=Z,17nm,0.9s
INK Inuvik 41.24 33 *e*P **P 07 01 38.5 +0.6**
comp=Z,17nm,0.9s,mb4.9
GYA Guiyang 41.40 256 ⇓*i*P **P 07 01 40.3 +0.7**
GYA AP pP 07 02 08.8 +1.2
GYA PP PP 07 03 20.9 +0.9
GYA S **S 07 07 45.4 +0.5**
GYA SS SS 07 10 52.6 +4.4

GYA AMB AMB
comp=Z,80nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,180nm,3.3s
GYA LR LR
comp=N,140nm,16.2s
GYA LR LR
comp=E,180nm,15.8s
GYA LR LR
comp=Z,160nm,16.0s
ZAL Zalesovo 41.73 305 P **P 07 01 41.2 -0.8**
comp=Z,3.4nm,0.5s,mb4.4,baz=52,slow=5.8,SNR=16
ZAL pP pP 07 02 14.0 +4.1
comp=Z,5.7nm,0.9s,baz=51,slow=8.3,SNR=6.0
ZAL PcP PcP 07 03 36.6 -0.1
comp=Z,12nm,1.0s,baz=44,slow=2.9,SNR=8.2
ZAL ScP 07 07 14.2
comp=Z,1.7nm,0.6s,baz=17,slow=4.2,SNR=6.1
ZAL LR LR 07 21 53.1
comp=Z,207nm,18.9s,baz=40,slow=40
ZAL Zalesovo 41.73 305 P **P 07 01 41.2 -0.8**
ZAL pP pP 07 02 14.0 +4.1
ZAL PcP PcP 07 03 36.6 -0.1
ZAL ScP 07 07 14.2
ZAL LR LR 07 21 53.1
NVS Novosibirsk 42.28 307 *i* P **P 07 01 44.8 -1.6**
NVS *i* 07 02 18.2
NVS *i* 07 03 31.4
NVS pmax pmax
comp=Z,59nm,2.2s,mb4.9
NVS pmax pmax
comp=N,17nm,1.9s
NVS pmax pmax
comp=E,45nm,1.9s
WMQ Urumqi 44.15 290⇓ *i* P **P 07 02 01.6 -0.1**
WMQ AP pP 07 02 30.0 +0.1
WMQ XP sP 07 02 45.0 +0.9
WMQ SCP 07 07 24.0
WMQ S **S 07 08 23.5 -1.2**
WMQ AMB AMB
comp=Z,14nm,0.7s,mb4.8
WMQ AMB AMB
comp=Z,308nm,6.0s
WMQ LR LR
comp=N,314nm,23.8s
WMQ LR LR
comp=E,269nm,24.2s
WMQ LR LR
comp=Z,315nm,22.2s
KMI Kunming 44.89 258 P **P 07 02 08.6 +0.7**
KMI pmax pmax
comp=Z,84nm,1.2s,mb5.3
KMI MLR MLR
comp=Z,140nm,46.0s
KMI Kunming 44.89 258 P **P 07 02 08.6 +0.7**
comp=Z,84nm,1.2s,mb5.3
KMI LR LR
comp=Z,140nm,46.0s
DLBC Dease Lake 45.40 46 *eP* **P 07 02 13.1 +1.6**
MKAR Makanchi Array 46.10 296 *i* P **P 07 02 15.8 -1.4**
MKAR pmax pmax
comp=Z,40nm,1.3s
KURK Kurchatov 46.48 303 P **P 07 02 18.0 -2.1**
comp=Z,186nm,1.2s,mb5.7,SNR=36
KURK Kurchatov 46.48 303 *i* P **P 07 02 18.4 -1.7**
KURK pmax pmax
comp=Z,31nm,1.3s,mb4.9
KURK Kurchatov 46.48 303 *eP* **P 07 02 18.0 -2.1**
comp=Z,31nm,0.9s,mb5.0
CHKZ Chkalovo 49.50 309 *i* P **P 07 02 41.1 -2.4**
CHKZ pmax pmax
comp=Z,70nm,1.4s,mb5.4
LSA Lhasa 49.72 272 P **P 07 02 47.0 +1.5**
LSA Lhasa 49.72 272 *eP* **P 07 02 46.8 +1.3**
LSA pmax pmax
comp=Z,26nm,0.5s,mb5.4
LSA Lhasa 49.72 272 *eP* **P 07 02 46.8 +1.3**
comp=Z,26nm,0.5s,mb5.4
BVA0 Borovoye Array 49.94 309 *i* P **P 07 02 45.2 -1.6**
BVAR Borovoye Array 49.94 309 P **P 07 02 45.6 -1.3**
comp=Z,9.7nm,0.5s,mb5.0,baz=59,slow=8.6,SNR=61
BVAR pP pP 07 03 19.6 +4.1
comp=Z,13nm,0.7s,baz=59,slow=8.6,SNR=6.3
BVAR PcP PcP 07 04 04.7 -0.8
comp=Z,7.1nm,0.5s,baz=94,slow=2.4,SNR=8.6
BVAR ScP 07 07 46.8
comp=Z,1.7nm,0.6s,baz=76,slow=6.1,SNR=4.4
RES Resolute Bay 50.22 19 *eP* **P 07 02 48.0 -0.7**
RES pmax pmax
comp=Z,53nm,1.0s,mb5.4
RES Resolute Bay 50.22 19 *eP* **P 07 02 48.0 -0.8**
comp=Z,53nm,1.0s,mb5.4
CHRT Chiangrai 50.51 256 ⇑P **P 07 02 52.5 +0.9**
comp=Z,268nm,0.8s
YKW3 Yellowknife Ar 50.54 37 *eP* **P 07 02 50.5 -0.8**
YKA Yellowknife Ar 50.58 37 P **P 07 02 51.5 -0.1**
comp=Z,15nm,0.8s,mb5.1,baz=298,slow=7.0,SNR=176
YKA PcP PcP 07 04 06.8 -0.9
comp=Z,4.4nm,0.8s,baz=304,slow=3.6,SNR=6.7
YKA ScP 07 07 50.0
comp=Z,0.7nm,0.7s,baz=297,slow=4.4,SNR=5.6
YKA LR LR 07 26 56.1
comp=Z,115nm,19.7s,baz=120,slow=39
YKA Yellowknife Ar 50.58 37 P **P 07 02 51.5 -0.1**
YKA PcP PcP 07 04 06.8 -0.9
YKA ScP 07 07 50.0
YKA LR LR 07 26 56.1
KKTK Khon Kaen 51.12 250 P **P 07 02 57.0 +0.7**
comp=Z,679nm,0.6s
CHG Chiang Mai 51.81 255 ⇓P **P 07 03 02.0 +0.5**
comp=Z,79nm,0.8s,mb5.8
CM31 Chiang Mai Arr 52.07 255 *eP* **P 07 03 04.1 +0.7**
comp=Z,47nm,0.8s,mb5.6
CMAR Chiang Mai Arr 52.07 255 P **P 07 03 04.2 +0.8**
comp=Z,30nm,0.6s,mb5.5,baz=34,slow=7.4,SNR=44
CMAR PcP PcP 07 04 14.1 +0.2
comp=Z,5.0nm,0.6s,baz=10,slow=3.2,SNR=6.7
CMAR ScP 07 07 58.7
comp=Z,7.9nm,1.1s,baz=19,slow=3.5,SNR=12
CMAR LR LR 07 25 45.7
comp=Z,78nm,20.3s,baz=195,slow=36
TKM2 Tokmak 2 52.17 295 P **P 07 03 01.8 -2.1**
SNR=12
CHMS Chumysh 52.65 296 P **P 07 03 06.4 -1.0**
SNR=6.6
USP Ospenovka 52.65 296 P **P 07 03 06.3 -1.2**
SNR=25
KBK Karagaybulak 52.72 295 P **P 07 03 08.1 +0.1**
SNR=7.9
FRU Bishkek 52.82 296 *eP* **P 07 03 07.0 -1.7**
FRU pmax pmax
comp=Z,40nm,1.5s,mb5.2
KZA Kyzart 52.85 294 P **P 07 03 08.8 -0.1**
SNR=11
AAK Ala-Archa 53.01 295 P **P 07 03 07.2 -2.9**
comp=Z,102nm,1.2s,mb5.7,SNR=10
AAK Ala-Archa 53.01 295⇓ *i* P **P 07 03 07.9 -2.2**
AAK pmax pmax
comp=Z,23nm,1.3s,mb5.0
AAK Ala-Archa 53.01 295 *eP* **P 07 03 07.1 -2.9**
comp=Z,21nm,1.0s,mb5.1
EKS2 Erkin-Say 53.43 296 P **P 07 03 11.9 -1.2**
SNR=17
AML Almayashu 53.78 295 P **P 07 03 15.1 -0.7**
SNR=9.8
KSH Kashi 53.86 291 *eP* **P 07 03 17.9 +1.5**
KSH *e*XP sP 07 03 59.5 +0.5
KSH *e*PCP PcP 07 04 21.8 +1.5
KSH *e*PP PP 07 05 21.3 +1.2
KSH *e*SCP 07 08 05.8
KSH *e*PCS 07 08 17.8
KSH S **S 07 10 38.8 -1.2**
KSH *e*XS 07 11 31.5
KSH *e*SCS ScS 07 12 49.8 0.0
KSH *e*SS SS 07 14 21.3 -1.1
KSH AMB AMB
comp=Z,640nm,4.8s
KSH LR LR
comp=N,1μm,7.6s
KSH LR LR
comp=E,890nm,6.4s
JIRN Jiri 54.37 273 *eP* **P 07 03 20.0 -0.2**
comp=E,47nm,0.4s,mb5.8
GUN Gumba 54.42 274 *eP* **P 07 03 20.6 0.0**
comp=E,38nm,0.4s,mb5.8
KKN Kakani 54.90 274 *eP* **P 07 03 23.9 -0.2**
comp=E,69nm,0.7s,mb5.8
PKI Pulchoki 54.95 274 *eP* **P 07 03 24.1 -0.4**
comp=E,30nm,0.5s,mb5.6
DMN Daman 55.13 274 *eP* **P 07 03 25.8 0.0**
comp=E,86nm,0.6s,mb6.0
GKN Gorkha 55.20 275 *eP* **P 07 03 25.9 -0.4**
comp=E,87nm,0.5s,mb6.0
EDM Edmonton 56.12 46 *eP* **P 07 03 31.3 -1.3**
APA Apatity 56.37 336⇑ *eP* **P 07 03 32.5 -1.7**
APA pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
ARCES ARCESS Array B 56.90 340 P **P 07 03 35.7 -2.2**
comp=Z,1.5nm,0.4s,mb4.4,baz=26,slow=6.2,SNR=22
ARCES PcP PcP 07 04 31.1 -0.6
comp=Z,9.0nm,0.7s,baz=37,slow=6.1,SNR=9.5
ARCES LR LR 07 34 09.8
comp=Z,84nm,19.9s,baz=20,slow=42
LGTI Lohaghat 57.22 279⇑ *i* P **P 07 03 41.3 +0.7**
YBH Yreka Blue Hor 57.81 62 P **P 07 03 45.5 +0.9**
YBH pmax pmax
comp=Z,5.0nm,1.1s
YBH Yreka Blue Hor 57.81 62 *eP* **P 07 03 44.8 +0.2**
comp=Z,4.5nm,1.1s,mb4.4
DDI Dehra Dun 58.12 281 *eP* **P 07 03 46.0 -0.9**
SMLA Simla 58.20 283 *i* P **P 07 03 44.3 -3.2**
SMLA *i* 07 07 55.9
KSM Kuching 58.57 232 *eP* **P 07 03 50.9 +0.7**
BMO Blue Mountains 59.05 56 *eP* **P 07 03 52.7 -0.5**
comp=Z,11nm,1.3s,mb4.7
MOD Modoc 59.13 60 *eP* **P 07 03 53.6 -0.1**
comp=Z,5.9nm,0.7s,mb4.7
MSO Missoula 59.67 53 *eP* **P 07 03 57.2 -0.2**
comp=Z,21nm,1.3s,mb5.0
NDI New Delhi 59.73 281 *eP* **P 07 03 56.0 -2.1**
SUMG Summit 59.91 4 *eP* **P 07 03 58.1 -0.6**
comp=Z,86nm,1.0s,mb5.7
CHMT Chamberlain Mo 59.99 52 *eP* **P 07 03 59.4 -0.2**
JOF Joensuu 60.36 333 *ep* **P 07 03 57.4 -4.5**
FFC Flin Flon 60.44 40 P **P 07 04 02.2 -0.3**
comp=Z,215nm,0.7s,SNR=27
FFC Flin Flon 60.44 40 *eP* **P 07 04 02.1 -0.4**
FFC pmax pmax
comp=Z,28nm,0.8s,mb5.3
FFC Flin Flon 60.44 40 *eP* **P 07 04 02.1 -0.5**
comp=Z,28nm,0.8s,mb5.3
FCC Fort Churchill 60.86 33 *eP* **P 07 04 04.2 -1.1**
FCC pmax pmax
comp=Z,25nm,0.8s,mb5.3
FCC Fort Churchill 60.86 33 *eP* **P 07 04 04.2 -1.1**
comp=Z,25nm,0.8s,mb5.3
FCC *e* 07 04 11.8
HRY Holter Researc 60.88 52 *eP* **P 07 04 05.5 -0.1**
MCMT McKenzie Canyo 61.53 54 *eP* **P 07 04 09.8 -0.3**
BOZ Bozeman (W) 61.66 52 *eP* **P 07 04 11.0 +0.1**
BOZ pmax pmax
comp=Z,16nm,0.8s,mb5.1
BOZ Bozeman (W) 61.66 52 *eP* **P 07 04 11.0 0.0**
comp=Z,16nm,0.8s,mb5.1
SCO Scoresbysund 62.18 358 *i* P **P 07 04 13.1 -1.0**
SCO pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SCO Scoresbysund 62.18 358 *i* P **P 07 04 13.1 -1.0**
comp=Z,10.0nm,1.0s,mb4.8
SCO *e*S rx 07 06 18.8
QLMT Earthquake Lak 62.30 53 *eP* **P 07 04 15.7 +0.5**
KAF Kangasniemi 62.48 335 *ep* **P 07 04 11.2 -4.9**
comp=Z,4.2nm,0.6s,mb4.7
KAF Kangasniemi 62.48 335 *eP* **P 07 04 11.2 -4.9**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
NVAR Mina Array Bea 62.51 62 P **P 07 04 16.8 +0.1**
comp=Z,15nm,1.1s,mb4.8,baz=294,slow=7.5,SNR=32
NVAR pP pP 07 04 48.3 +1.7
comp=Z,3.2nm,0.5s,baz=301,slow=7.2,SNR=4.8
YMR Madison River 62.66 53 *eP* **P 07 04 17.8 +0.2**
YFT Old Faithful 62.87 53 *eP* **P 07 04 20.0 +1.0**
VIS Vishakhapatnam 63.02 267 *eP* **P 07 04 20.0 -0.3**
VIS *e* 07 04 21.9
comp=Z,74nm,1.2s
LKWY Lake 63.03 53 *eP* **P 07 04 21.8 +1.8**
LKWY pmax pmax
comp=Z,12nm,0.8s,mb4.9
LKWY Lake 63.03 53 *eP* **P 07 04 21.8 +1.7**
comp=Z,12nm,0.8s,mb4.9
FINES FINESS Array B 63.07 334 P **P 07 04 17.9 -2.1**
comp=Z,8.3nm,0.5s,mb5.0,baz=37,slow=6.8,SNR=67
FINES PcP PcP 07 04 54.3 -2.1
comp=Z,7.8nm,0.6s,baz=45,slow=5.4,SNR=7.1
BHPL Bhopal 63.21 276 *eP* **P 07 04 20.7 -0.8**
BHPL *e* 07 04 22.2
comp=Z,94nm,1.0s
RRI2 Red Ridge 63.33 54 *eP* **P 07 04 22.7 +0.7**
TPAW Teton Pass 63.44 54 *eP* **P 07 04 23.9 +1.2**
TPAW *e* pP 07 04 55.7 +3.0
MOS Moscow 63.47 325 *eP* **P 07 04 20.0 -2.7**
MOS pmax pmax
comp=Z,58nm,1.1s,mb5.4
LAO LASA Array 63.81 49 *eP* **P 07 04 25.1 +0.1**
comp=Z,25nm,0.9s,mb5.0
OBN Obninsk 64.34 325⇓ *i* P **P 07 04 26.5 -1.7**
OBN *i* *PP pP 07 05 00.4 +2.1
OBN pmax pmax
comp=Z,77nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,200nm,17.0s
SFJD Kangerlussuaq 64.43 10⇓ *i* P **P 07 04 27.4 -1.3**
comp=Z,81nm,1.1s,mb5.5
PDAR Pinedale Array 64.68 54 P **P 07 04 30.8 +0.1**
comp=Z,5.9nm,0.8s,mb4.5,baz=311,slow=1.7,SNR=53
PDAR PcP PcP 07 05 03.0 -0.2
comp=Z,8.9nm,1.0s,baz=309,slow=1.9,SNR=7.5
NLU North Lily Min 65.16 57 *eP* **P 07 04 34.2 +0.3**
MPU Maple Canyon 65.37 57 *eP* **P 07 04 35.5 +0.3**
ARUT Antelope Range 65.82 60 P **P 07 04 38.3 +0.2**
MSU Marysvale 66.07 59 *eP* **P 07 04 39.9 +0.2**
ULM Lac du Bonnet 66.24 41 P **P 07 04 39.5 -1.1**
comp=Z,7.0nm,0.6s,mb4.7,baz=314,slow=7.3,SNR=25
ULM PcP PcP 07 05 08.4 -1.1
comp=Z,2.3nm,0.7s,baz=328,slow=5.3,SNR=4.1
HYB Hyderabad 66.47 270⇓ *eP* **P 07 04 41.5 -1.0**
HYB pmax pmax
comp=Z,69nm,0.8s,mb5.5
HYB Hyderabad 66.47 270⇓ *eP* **P 07 04 41.5 -1.0**
comp=Z,69nm,0.8s,mb5.5
HYB Hyderabad 66.47 270⇓ *i* P **P 07 04 41.5 -1.0**
comp=Z,69nm,0.8s,mb5.5
SRU San Rafael 66.61 57 *eP* **P 07 04 42.9 -0.2**
NB2 NORSAR Subarra 67.28 341 P **P 07 04 45.7 -1.2**
comp=Z,8.8nm,0.5s,mb4.8,baz=28,slow=6.2
NB2 NORSAR Subarra 67.28 341 P **P 07 04 45.7 -1.2**
NB2 pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
NB2 NORSAR Subarra 67.28 341 P **P 07 04 45.7 -1.2**
baz=28,slow=6.2
NOA NORSAR Array B 67.28 341 P **P 07 04 45.9 -1.0**
comp=Z,8.2nm,0.5s,mb4.9,baz=28,slow=6.4,SNR=58
NOA LR LR 07 40 54.9
comp=Z,70nm,20.7s,baz=350,slow=42
NAO01 NORSAR Array S 67.53 341 *eP* **P 07 04 47.0 -1.4**
comp=Z,6.0nm,0.6s,mb4.6
CTA Charters Tower 67.57 186 P **P 07 04 49.0 -0.4**
comp=Z,1.7nm,0.4s,mb4.2,baz=7,7,slow=6.3,SNR=4.5
PV10 Paradox Valley 67.96 57 *eP* **P 07 04 51.8 +0.3**
PV01 Paradox Valley 68.39 57 *eP* **P 07 04 54.4 +0.2**
RW3 Ridgway 68.81 56 *eP* **P 07 04 57.4 +0.6**
POO Poona 68.87 275⇓ *i* P **P 07 04 56.0 -1.4**
GOF Gofitskoye 68.88 314 *i* P **P 07 04 56.0 -1.1**
GOF pmax pmax
comp=Z,42nm,1.3s,mb5.1
WRA Warramunga Arr 69.13 198 P **P 07 04 58.4 -0.6**
comp=Z,2.7nm,0.8s,mb4.1,baz=18,slow=7.2,SNR=17
WRA PcP PcP 07 05 22.1 -0.1
comp=Z,2.7nm,0.7s,baz=16,slow=5.1,SNR=10
KAD Karad 69.50 273 *eP* **P 07 05 00.8 -0.5**
KAD *e* 07 05 01.8
comp=Z,103nm,1.2s
KIV Kislovodsk 69.85 314 P **P 07 05 03.6 +0.6**
KIV pmax pmax
comp=Z,15nm,0.6s,mb5.0
KIV Kislovodsk 69.85 314 P **P 07 05 03.5 +0.5**
comp=Z,15nm,0.6s,mb5.0
EYMN Ely 69.87 40 *eP* **P 07 05 02.0 -1.1**
comp=Z,18nm,0.9s,mb4.9
SOC Sochi 71.57 315 *eP* **P 07 05 11.9 -1.4**
SOC *e* 07 05 28.1
SOC *e* 07 07 51.0
SOC *e*PPP PPP 07 09 34.5 -2.9
SOC *e*S S 07 14 19.7 -1.2
SOC *e* 07 15 03.3
SOC *e*SS SS 07 18 56.0 -4.5
SOC pmax pmax
comp=Z,20nm,0.7s,mb5.1
SOC pmax pmax
comp=N,15nm,0.6s
SOC pmax pmax
comp=E,28nm,0.9s
BSD Bornholm Skovb 71.59 336 *eP* **P 07 05 12.6 -0.6**
BSD pmax pmax
comp=Z,41nm,0.8s,mb5.3
BSD Bornholm Skovb 71.59 336 *eP* **P 07 05 12.6 -0.6**
comp=Z,41nm,0.8s,mb5.3
BSD Bornholm Skovb 71.59 336 *i* P **P 07 05 12.6 -0.6**
comp=Z,41nm,0.8s,mb5.3
GNI Garni 71.60 310 P **P 07 05 13.8 +0.2**
comp=Z,4.7nm,0.5s,mb4.6,baz=316,slow=15,SNR=4.2
ANMO Albuquerque 71.84 58⇑ *i* P **P 07 05 15.9 +0.8**
MUD Monsted U'grnd 71.87 340 *eP* **P 07 05 24.9 +10**
MUD Monsted U'grnd 71.87 340 *i* P **P 07 05 24.9 +10**
comp=Z,10.0nm,0.4s,mb5.0
GKP Gorka Klasztor 72.53 334 *eP* **P 07 05 18.9 +0.2**
SCHQ Schefferville 72.75 23 P **P 07 05 19.9 -0.1**
comp=Z,16nm,0.5s,mb5.2,baz=344,slow=5.8,SNR=166
SCHQ Schefferville 72.75 23 *eP* **P 07 05 19.6 -0.3**
comp=Z,48nm,0.9s,mb5.3
ASAR Alice Springs 72.83 198 P **P 07 05 21.9 +0.8**
comp=Z,9.1nm,0.7s,mb4.7,baz=11,slow=5.4,SNR=93
ASPA Alice Springs 72.83 198 *eP* **P 07 05 22.0 +0.9**
LVV L'vov 73.22 328 *eP* **P 07 05 29.4 +6.6**
KIS Kishinev 73.71 324 *eP* **P 07 05 23.0 -2.7**
KIS *e* 07 05 45.0
KWP Kalwaria 73.85 329 *eP* **P 07 05 27.0 +0.5**
KWP Kalwaria 73.85 329 *eP* **P 07 05 27.0 +0.5**
BSEG Bad Segeberg 73.87 338 *eP* **P 07 05 26.8 +0.3**
KSU1 Kansas State U 74.15 49 *eP* **P 07 05 26.6 -1.9**
OJC Ojcow 74.35 331 *eP* **P 07 05 28.8 -0.5**
AMTX Amarillo 74.58 55 *eP* **P 07 05 31.4 +0.3**
comp=Z,15nm,0.8s,mb4.8
KOLS Kolonicke sedl 74.59 328 *eP* **P 07 05 30.1 -0.7**
BURAR Bucovina Array 74.61 326⇑ *eP* **P 07 05 30.4 -0.5**
BURAR Bucovina Array 74.61 326⇑ *eP* **P 07 05 30.4 -0.5**
NIE Niedzica 74.86 330 *eP* **P 07 05 31.3 -1.0**
CRVS Cervenica-Dubn 74.90 329 *eP* **P 07 05 38.0 +5.5**
CRVS Cervenica-Dubn 74.90 329 *e* **P 07 05 38.0 +5.5**
KSP Ksiaz 74.93 333⇓ *eP* **P 07 05 32.6 0.0**
KSP *e* 07 05 39.6
KSP Ksiaz 74.93 333 *eP* **P 07 05 32.9 +0.2**
TLCR 75.18 322⇓ P **P 07 05 34.5 +0.3**
BANOM Banah 75.19 292 P **P 07 05 35.0 +0.4**
SNR=21
OKC Ostrava-Krasne 75.22 331 *eP* **P 07 05 34.4 +0.1**
UPC Upice 75.31 333 *eP* **P 07 05 35.0 +0.2**
DPC Dobruska-Polom 75.35 333 *eP* **P 07 05 35.5 +0.5**
DPC *ex* x 07 05 41.9
MORC Moravsky Berou 75.47 332 P **P 07 05 35.7 0.0**
MORC pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
MORC Moravsky Berou 75.47 332 *eP* **P 07 05 35.3 -0.4**
comp=Z,6.7nm,0.6s,mb4.5
CFR Carcaliu 75.47 323⇑ P **P 07 05 36.3 +0.5**
VRI Vrincioaia 75.47 324⇑ P **P 07 05 36.7 +0.9**
CLL Collm 75.50 335⇑ *i* P **P 07 05 35.6 -0.2**
CLL pmax pmax
comp=Z,38nm,0.6s,mb5.3
CLL Collm 75.50 335⇑ P **P 07 05 35.6 -0.2**
comp=Z,logA/T=1.8,mb5.3
BOYT Boyabat 75.51 316 *i* P **P 07 05 36.2 +0.1**
BRG Berggiesshubel 75.61 334 *i* P **P 07 05 36.3 -0.2**
BRG *i* 07 05 42.4
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.6
BRG Berggiesshubel 75.61 334 *i* P **P 07 05 36.3 -0.2**
comp=Z,13nm,1.1s,mb4.6
BRG *i* 07 05 42.4
PVCC Panska Ves 75.73 334 *eP* **P 07 05 37.3 +0.1**
CLZ Clausthal 75.75 337 *eP* **P 07 05 37.8 +0.6**
comp=Z,24nm,0.8s,mb5.0
WBK Wadi Bani Khal 75.85 288 P **P 07 05 39.8 +1.4**
SNR=10
HARR Harsova 75.95 323 P **P 07 05 39.4 +0.9**
HARR Harsova 75.95 323⇑ P **P 07 05 38.8 +0.3**
HARR Harsova 75.95 323⇑ P **P 07 05 38.8 +0.3**
MLR Muntele Rosu 76.09 324 P **P 07 05 39.8 +0.5**
MLR Muntele Rosu 76.09 324⇓ P **P 07 05 39.6 +0.3**
MLR Muntele Rosu 76.09 324⇓ P **P 07 05 39.6 +0.3**
SMDO Samad 76.12 289 P **P 07 05 40.6 +0.6**
SNR=7.9
VYHS Vyhne 76.15 330 *eP* **P 07 05 40.0 +0.4**
ISR Istrita 76.16 324 P **P 07 05 40.9 +1.2**
ISR Istrita 76.16 324⇑ P **P 07 05 39.9 +0.2**
ISR Istrita 76.16 324⇑ P **P 07 05 39.9 +0.2**
VRAC Vranov 76.18 332 P **P 07 05 40.7 +1.0**
VRAC Vranov 76.18 332⇑ P **P 07 05 40.3 +0.6**
MALT Malatya 76.21 312 P **P 07 05 41.0 +0.8**
MALT Malatya 76.21 312 *eP* **P 07 05 40.5 +0.4**
comp=Z,10nm,0.9s,mb4.6
PRU Pruhonice 76.22 333 *eP* **P 07 05 39.2 -0.7**
PRU *ex* x 07 05 45.5
ASHO Ashiyiah 76.23 291 P **P 07 05 40.8 +0.3**
SNR=17
PSZ Piszkesteto 76.29 329 P **P 07 05 41.0 +0.6**
PSZ pmax pmax
comp=Z,19nm,1.0s,mb4.8
PSZ Piszkesteto 76.29 329 *eP* **P 07 05 40.7 +0.4**
comp=Z,19nm,1.0s,mb4.8
SNX Sinaia 76.37 325 P **P 07 05 41.7 +0.8**
MOX Moxa 76.48 336 *eP* **P 07 05 41.4 0.0**
MOX pmax pmax
comp=Z,46nm,1.6s,mb5.0
MOX Moxa 76.48 336 *eP* **P 07 05 41.4 0.0**
comp=Z,46nm,1.6s,mb5.0
MOX Moxa 76.48 336 *i* P **P 07 05 41.4 0.0**
comp=Z,logA/T=1.5,mb5.0
WTSB Winterswijk 76.55 339 *eP* **P 07 05 41.6 -0.1**
JMDO Jabal Madar 76.58 288 P **P 07 05 43.2 +0.7**
SNR=17
NKC Novy Kostel 76.62 335 *eP* **P 07 05 42.1 -0.1**
NKC *ex* x 07 05 47.0
BSY Bisya 76.89 289 P **P 07 05 45.0 +0.7**
SNR=17
ARQ Araqi 76.90 290 P **P 07 05 44.8 +0.5**
SNR=9.5
SRO Srobarova 76.92 330 *eP* **P 07 05 44.5 +0.6**
ELDT Eldivan 76.93 317 *i* P **P 07 05 44.5 +0.4**
KHC Kasperske Hory 77.27 334 *eP* **P 07 05 46.0 +0.2**
KHC *e* 07 05 51.0
DMUB Kingscourt 77.38 348⇓ *i* P **P 07 05 46.2 -0.1**
PRD Provadia 77.39 322 *eP* **P 07 05 46.5 -0.1**
GRA1 Grafenberg Arr 77.45 335 *eP* **P 07 05 47.3 +0.5**
comp=Z,73nm,1.2s,mb5.3
GRF Grafenberg Arr 77.45 335 *eP* **P 07 05 47.3 +0.5**
GRF pmax pmax
comp=Z,73nm,1.2s,mb5.3
GRF Grafenberg Arr 77.45 335 *eP* **P 07 05 47.3 +0.5**
GRF pmax pmax
comp=Z,73nm,1.2s,mb5.3
GRF Grafenberg Arr 77.45 335 *eP* **P 07 05 47.3 +0.5**
comp=Z,73nm,1.2s,mb5.3
WET Wettzell 77.47 334 *eP* **P 07 05 47.5 +0.6**
WET pmax pmax
comp=Z,49nm,1.5s,mb5.0
WET Wettzell 77.47 334 *eP* **P 07 05 47.5 +0.6**
comp=Z,49nm,1.5s,mb5.0
GEC2 GERESS Array S 77.49 333 *eP* **P 07 05 47.2 +0.2**
GEC2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
GEC2 GERESS Array S 77.49 333 *eP* **P 07 05 47.2 +0.2**
comp=Z,10.0nm,0.7s,mb4.7
GERES GERESS Array B 77.49 333 P **P 07 05 47.2 +0.1**
comp=Z,4.8nm,0.5s,mb4.5,baz=34,slow=5.9,SNR=51
SGKT Sivrigoynuk 77.49 318 *i* P **P 07 05 47.6 +0.3**
KAHT Ahir Dag 77.52 313 *i* P **P 07 05 48.3 +0.8**
TXAR Lajitas Array 77.54 60 P **P 07 05 48.3 +0.5**
comp=Z,3.5nm,0.5s,mb4.3,baz=296,slow=4.1,SNR=36
TXAR pP pP 07 06 21.2 +2.3
comp=Z,5.1nm,0.6s,baz=301,slow=4.2,SNR=4.4
TXAR PKKPbc 07 24 50.5
comp=Z,0.2nm,0.6s,baz=72,slow=4.0,SNR=3.7
TXAR LR LR 07 36 21.2
comp=Z,103nm,20.0s,baz=180,slow=33
ANTO Ankara 77.71 317⇓ P **P 07 05 48.8 +0.3**

TNS Taunus Mts 77.73 337 eP P 07 05 48.6 +0.3
TNS pmax pmax
comp=Z,26nm,1.0s,mb4.9
TNS Taunus Mts 77.73 337 eP P 07 05 48.6 +0.3
comp=Z,26nm,1.0s,mb4.9
SBD1 Bryn Du 77.76 345⇓eP P 07 05 48.5 0.0
SBD1 AMb AMB 07 05 49.6
comp=Z,77nm,1.8s,mb5.1
HGN Heimansgroeve 77.87 339⇓iP P 07 05 49.0 -0.1
comp=Z,62nm,1.9s,mb5.0
DLF Lyons Farm 77.91 347⇓iP P 07 05 49.3 0.0
SZH Strazhica 77.94 323 eP P 07 05 54.0 +4.4
DCN Croghan 77.97 348⇓iP P 07 05 49.6 0.0
HLM1 Long Mynd 78.07 345⇓eP P 07 05 50.0 -0.1
HLM1 AMb AMB 07 05 52.8
comp=Z,54nm,2.1s,mb4.9
FVM French Village 78.10 46 P P 07 05 49.4 -1.2
FVM French Village 78.10 46 eP P 07 05 49.2 -1.4
comp=Z,4.5nm,0.6s,mb4.4
TOD Tromm 78.20 337 eP P 07 05 51.2 +0.3
TOD Tromm 78.20 337⇑eP P 07 05 51.3 +0.4
MOA Mollin 78.20 333⇑iP P 07 05 51.3 +0.4
comp=Z,11nm,0.8s,mb4.6
SSP1 Stoney Pound 78.20 345⇓eP P 07 05 50.9 0.0
SSP1 AMb AMB 07 05 52.2
comp=Z,47nm,1.3s,mb5.1
SIND Sindeldorf 78.21 336 eP P 07 05 50.9 -0.1
ABH Alteburg 78.28 338 eP P 07 05 51.5 +0.2
ABH Alteburg 78.28 338⇑eP P 07 05 51.6 +0.3
ARSA Arzberg 78.33 332⇑iP P 07 05 52.3 +0.6
comp=Z,9.2nm,0.6s,mb4.7
HAE Alders End 78.47 344⇓eP P 07 05 52.5 +0.1
HAE AMb AMB 07 05 53.6
comp=Z,124nm,1.0s,mb5.6
HTR Trewern Hill 78.56 345⇓eP P 07 05 52.9 +0.1
HTR AMb AMB 07 05 54.6
comp=Z,56nm,1.7s,mb5.1
RUP Ruppelstein 78.56 338 eP P 07 05 53.1 +0.2
RUP Ruppelstein 78.56 338⇑eP P 07 05 53.3 +0.4
MCH1 Michaelchurch 78.59 345⇓eP P 07 05 52.8 -0.1
MCH1 AMb AMB 07 05 55.6
comp=Z,83nm,1.7s,mb5.3
COBT Iskenderun 78.69 312 iP P 07 05 54.4 +0.5
HDH Heidenheim 78.74 335 eP P 07 05 53.8 -0.1
GIVF Givet 78.75 339⇓iP P 07 05 53.8 -0.1
comp=Z,95nm,1.2s,mb5.2
GIVF Givet 78.75 339⇓iP P 07 05 53.8 -0.1
GIVF pmax pmax
comp=Z,47nm,1.2s,mb5.2
FUR Furstenfeldbru 78.81 335 eP P 07 05 55.0 +0.7
HGH Gray Hill 78.90 345⇓eP P 07 05 54.7 0.0
HGH AMb AMB 07 05 55.9
comp=Z,153nm,1.2s,mb5.7
JCT Junction City 78.92 57 eP P 07 05 55.1 -0.1
JCT pmax pmax
comp=Z,14nm,1.1s,mb4.7
JCT Junction City 78.92 57 eP P 07 05 55.1 -0.1
comp=Z,14nm,1.1s,mb4.7
BAIF Baives 78.93 340⇓iP P 07 05 54.9 0.0
comp=Z,113nm,1.2s,mb5.3
BAIF Baives 78.93 340⇓iP P 07 05 54.9 0.0
BAIF pmax pmax
comp=Z,56nm,1.2s,mb5.3
BLO Bloomington 79.00 43 P P 07 05 55.1 -0.4
BLO pmax pmax
comp=Z,11nm,0.6s,mb4.9
BLO Bloomington 79.00 43 eP P 07 05 54.8 -0.7
comp=Z,11nm,0.6s,mb4.9
LANF Langenberg 79.03 337 eP P 07 05 55.6 +0.1
BUCH Bad Urach 79.10 336⇓eP P 07 05 55.9 +0.1
DIM Dimitrovgrad 79.11 323 eP P 07 06 01.0 +4.9
KBA Koelnbreinsper 79.17 333⇑iP P 07 05 57.3 +1.1
comp=Z,86nm,1.1s,mb5.5
KBA Koelnbreinsper 79.17 333⇑iP P 07 05 57.3 +1.1
KBA pmax pmax
comp=Z,86nm,1.1s,mb5.5
MIAR Mount Ida 79.20 50 eP P 07 05 56.1 -0.6
MIAR pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
MIAR Mount Ida 79.20 50 eP P 07 05 56.1 -0.5
comp=Z,8.0nm,0.8s,mb4.6
OBKA Obir 79.30 332⇑iP P 07 05 57.3 +0.4
comp=Z,12nm,0.7s,mb4.8
PLD Plovdiv 79.41 323 eP P 07 06 03.0 +5.4
USIN University of 79.44 44 eP P 07 05 57.6 -0.3
comp=Z,19nm,0.7s,mb5.0
GRUS Gruza 79.45 327⇓iP P 07 05 57.6 -0.2
WATA Walderalm 79.47 334⇑iP P 07 05 58.6 +0.7
comp=Z,49nm,1.1s,mb5.2
WATA Walderalm 79.47 334⇑iP P 07 05 58.6 +0.7
WATA pmax pmax
comp=Z,49nm,1.1s,mb5.2
BFO Black Forest 79.49 336 P P 07 05 58.4 +0.4
comp=Z,212nm,1.0s,mb5.9,SNR=14
BFO Black Forest 79.49 336 eP P 07 05 58.2 +0.2
BFO pmax pmax
comp=Z,40nm,1.0s,mb5.2
BFO Black Forest 79.49 336 eP P 07 05 58.2 +0.2
comp=Z,40nm,1.0s,mb5.2
GUT Gutenstein 79.51 336⇓eP P 07 05 58.2 +0.1
DIVS Divcibare 79.54 327⇑iP P 07 05 57.0 -1.2
SPAK Spaichingen 79.58 336 eP P 07 05 59.0 +0.6
SPAK Spaichingen 79.58 336 eP P 07 05 58.6 +0.2
UBR Uberruh 79.59 335 eP P 07 05 58.3 -0.2
VTS Vitosha 79.60 324 iP P 07 06 03.0 +4.3
MOTA Moosalm 79.61 334⇑iP P 07 05 59.3 +0.7
comp=Z,2.4nm,1.1s
WLS Welschbruch 79.67 337 eP P 07 05 59.3 +0.4
STKA Stephens Creek 79.68 189 P P 07 06 00.5 +1.2
comp=Z,1.7nm,0.5s,mb4.2,baz=28,slow=4.7,SNR=9.6
MEST Erdemli 79.68 314 iP P 07 05 58.5 -0.7
SQTA Sankt Quirin 79.69 334⇑iP P 07 05 59.8 +0.8
comp=Z,39nm,1.1s,mb5.2
SQTA Sankt Quirin 79.69 334⇑iP P 07 05 59.8 +0.8
SQTA pmax pmax
comp=Z,39nm,1.1s,mb5.2
CDF Champ du Feu 79.70 337⇓iP P 07 05 59.1 0.0
comp=Z,139nm,1.3s,mb5.3
CDF Champ du Feu 79.70 337⇓iP P 07 05 59.1 0.0
CDF pmax pmax
comp=Z,70nm,1.3s,mb5.3
VAL Valentia 79.75 349⇓iP P 07 05 58.9 -0.4
RZN Rozhen 79.75 323 eP P 07 06 04.0 +4.5
LIBD Limburg 79.85 337 eP P 07 06 00.5 +0.6
LIBD Limburg 79.85 337 eP P 07 06 00.4 +0.5
WCI Wyandotte Cave 79.86 43 P P 07 06 00.1 -0.1
WCI pmax pmax
comp=Z,22nm,0.8s,mb5.0
WCI Wyandotte Cave 79.86 43 eP P 07 05 59.0 -1.2
comp=Z,22nm,0.8s,mb5.0
ECH Echery 79.91 337 eP P 07 06 00.3 +0.1
KIZ Kirchzarten 79.94 337⇓eP P 07 06 00.2 -0.2
BBLS Bajina Basta - 79.95 327⇑iP P 07 06 00.2 -0.3
FELD Feldberg 79.99 337⇓eP P 07 06 00.7 0.0
DAVA Damuels 80.01 335⇑iP P 07 06 01.5 +0.7
comp=Z,28nm,0.8s,mb5.1
MEZF Maizieres J'vi 80.18 339⇓iP P 07 06 02.0 +0.3
comp=Z,230nm,1.1s,mb5.6
THEF They Montfort 80.20 338 eP P 07 06 01.7 -0.1
MMB Musomiste 80.24 324 iP P 07 06 06.0 +3.9
MOF Molkenrain 80.25 337 eP P 07 06 01.9 -0.1
KKB Krupnik 80.26 324 iP P 07 06 06.0 +3.8
HAU Haudompre 80.31 338⇓iP P 07 06 02.2 -0.2
comp=Z,94nm,1.2s,mb5.2
HAU Haudompre 80.31 338⇓iP P 07 06 02.2 -0.2
HAU pmax pmax
comp=Z,47nm,1.2s,mb5.2
HINF Hinteralfeld 80.36 337⇓iP P 07 06 02.3 -0.3
comp=Z,31nm,0.9s,mb4.9
HINF Hinteralfeld 80.36 337⇓iP P 07 06 02.3 -0.3
HINF pmax pmax
comp=Z,16nm,0.9s,mb4.8
BBS Basel-Blauen 80.50 337 eP P 07 06 03.6 +0.2
BBS Basel-Blauen 80.50 337⇓eP P 07 06 03.5 +0.1
LOMF Lomont 80.79 337 eP P 07 06 05.5 +0.6
SKO Skopje 80.81 325 iP P 07 06 05.0 -0.2
FLN La Foliniere 81.19 342⇓iP P 07 06 06.9 -0.1
comp=Z,94nm,0.8s,mb5.3
FLN La Foliniere 81.19 342⇓iP P 07 06 06.9 -0.1
FLN pmax pmax
comp=Z,47nm,0.8s,mb5.4
LDF La Druitiere 81.28 342⇓iP P 07 06 07.3 -0.1
comp=Z,57nm,0.9s,mb5.1
LDF La Druitiere 81.28 342⇓iP P 07 06 07.3 -0.1
LDF pmax pmax
comp=Z,28nm,0.9s,mb5.1
CSS Prodhromos 81.37 313 eP P 07 06 07.8 -0.4
comp=Z,14nm,0.6s,mb5.0
MCWV Mont Chateau 81.53 38 eP P 07 06 08.9 0.0
comp=Z,66nm,1.5s,mb5.2
VAI Varese 81.62 335 eP P 07 06 09.4 +0.1
GRR Gorron 81.62 342⇓iP P 07 06 09.5 +0.2
comp=Z,99nm,0.7s,mb5.4
GRR Gorron 81.62 342⇓iP P 07 06 09.5 +0.2
GRR pmax pmax
comp=Z,49nm,0.7s,mb5.5
CABF La Chapelle 81.67 337⇓iP P 07 06 09.8 +0.3
comp=Z,96nm,1.2s,mb5.2
CABF La Chapelle 81.67 337⇓iP P 07 06 09.8 +0.3
CABF pmax pmax
comp=Z,48nm,1.2s,mb5.2
AYDN Tasoluk 81.75 319 iP P 07 06 10.6 +0.4
MCGN Macugnaga 81.76 336 eP P 07 06 10.9 +0.8
ASF Jabal al Asfar 81.77 309 P P 07 06 11.6 +1.3
comp=Z,12nm,1.0s,mb4.7,baz=279,slow=1.6,SNR=9.9
SSF Saint Saulge 81.90 339⇓iP P 07 06 10.9 +0.2
SSF pmax pmax
comp=Z,53nm,0.8s,mb5.4
SSF Saint Saulge 81.90 339⇓iP P 07 06 10.9 +0.2
comp=Z,53nm,0.8s,mb5.4
HYF Humbligny 81.91 340⇓iP P 07 06 11.4 +0.6
ORX Oropa 82.06 336 P P 07 06 11.1 -0.5
SGMF Saint Gilles 82.09 343⇓iP P 07 06 12.0 +0.3
comp=Z,148nm,0.7s,mb5.6
SGMF Saint Gilles 82.09 343⇓iP P 07 06 12.0 +0.3
SGMF pmax pmax
comp=Z,74nm,0.7s,mb5.6
ROSF Rostrenen 82.15 344⇓iP P 07 06 12.4 +0.4
comp=Z,153nm,0.8s,mb5.6
ROSF Rostrenen 82.15 344⇓iP P 07 06 12.4 +0.4
ROSF pmax pmax
comp=Z,77nm,0.8s,mb5.6
AVF Avril sur Loir 82.19 339⇓iP P 07 06 12.5 +0.3
comp=Z,123nm,0.8s,mb5.5
AVF Avril sur Loir 82.19 339⇓iP P 07 06 12.5 +0.3
AVF pmax pmax
comp=Z,61nm,0.8s,mb5.5
SMF Signal de Mont 82.21 339⇓iP P 07 06 12.6 +0.3
comp=Z,166nm,0.9s,mb5.6
SMF Signal de Mont 82.21 339⇓iP P 07 06 12.6 +0.3
SMF pmax pmax
comp=Z,83nm,0.9s,mb5.6
TRAV 82.23 336 P P 07 06 12.1 -0.4
RSM Repubblica di 82.27 332 eP P 07 06 13.7 +1.0
ZCCA Zocca 82.35 333 eP P 07 06 15.9 +2.8
FSSB Fossombrone 82.38 332 eP P 07 06 13.6 +0.3
BOB Bobbio (Coli) 82.43 334 eP P 07 06 14.2 +0.7
LSD Ceresole Reale 82.45 336 P P 07 06 14.5 +0.9
ERBM Eremo 82.46 334 eP P 07 06 15.1 +1.4
GSCL Gusciola 82.47 333 eP P 07 06 14.6 +0.9
SWET Sewanee 82.47 45 eP P 07 06 13.3 -0.6
SFI Santa Sofia 82.48 332 eP P 07 06 14.6 +0.8
GRAM 82.50 334 P P 07 06 13.7 -0.1
ARV Arcevia 82.50 331 eP P 07 06 13.9 0.0
LPL La Plagne 82.51 336⇓iP P 07 06 14.9 +1.0
comp=Z,89nm,0.9s,mb5.3
LPL La Plagne 82.51 336⇓iP P 07 06 14.9 +1.0
LPL pmax pmax
comp=Z,45nm,0.9s,mb5.3
LPG La Plagne 82.52 336⇓iP P 07 06 15.1 +1.2
comp=Z,108nm,0.9s,mb5.4
LPG La Plagne 82.52 336⇓iP P 07 06 15.1 +1.2
LPG pmax pmax
comp=Z,54nm,0.9s,mb5.4
VMG Vicchio 82.53 333 eP P 07 06 15.4 +1.4
BGF Bois d'Agland 82.53 339⇓iP P 07 06 14.3 +0.3
comp=Z,63nm,0.6s,mb5.3
BGF Bois d'Agland 82.53 339⇓iP P 07 06 14.3 +0.3
BGF pmax pmax
comp=Z,31nm,0.6s,mb5.3
QUIF Quistinic 82.53 344⇓iP P 07 06 14.1 +0.1
comp=Z,65nm,0.9s,mb5.2
QUIF Quistinic 82.53 344⇓iP P 07 06 14.1 +0.1
QUIF pmax pmax
comp=Z,32nm,0.9s,mb5.2
PGD Poggio Sodo 82.55 332 eP P 07 06 15.7 +1.6
VALM 82.57 334 P P 07 06 14.5 +0.3
CODM 82.65 334 P P 07 06 14.6 0.0
SARO Sassorosso 82.67 333 P P 07 06 15.0 +0.3
BACM 82.69 334 P P 07 06 14.6 -0.2
RSP Reno Superiore 82.70 336 P P 07 06 14.4 -0.5
VINC Vinca 82.79 334 P P 07 06 15.2 -0.2
FENE Fenestrelle 82.87 336 P P 07 06 15.7 0.0
PLDF La Plantade 82.89 339 eP P 07 06 16.6 +0.8
PCP Pian Castagno 82.90 335 P P 07 06 14.9 -1.0
AGO Saint Agoulin 82.94 339 eP P 07 06 16.8 +1.8
TCF Toulx Ste Croi 82.94 340⇓iP P 07 06 16.6 +0.6
comp=Z,165nm,1.0s,mb5.5
TCF Toulx Ste Croi 82.94 340⇓iP P 07 06 16.6 +0.6
TCF pmax pmax
comp=Z,83nm,1.0s,mb5.5
CPCT Cooper Cave 82.95 44 eP P 07 06 16.0 -0.3
BNI Bardonecchia 82.95 336 eP P 07 06 17.1 +1.0
BNI pmax pmax
comp=Z,20nm,0.8s,mb5.0
BNI Bardonecchia 82.95 336 eP P 07 06 17.1 +0.9
comp=Z,20nm,0.8s,mb5.0
GDM Grand'Maison 82.96 337 eP P 07 06 17.6 +1.4
RRL Cesana Torines 83.05 336 P P 07 06 17.4 +0.8
OG22 Abries 83.09 336 eP P 07 06 17.4 +0.6
MFF Saint Martin d 83.17 341⇓iP P 07 06 17.8 +0.6
comp=Z,113nm,0.9s,mb5.4
MFF Saint Martin d 83.17 341⇓iP P 07 06 17.8 +0.6
MFF pmax pmax
comp=Z,57nm,0.9s,mb5.4
ELN Prospectdale 83.18 40 eP P 07 06 16.9 -0.5
MBDF Montbardon 83.23 336⇓iP P 07 06 17.9 +0.4
comp=Z,44nm,1.0s,mb5.0
MBDF Montbardon 83.23 336⇓iP P 07 06 17.9 +0.4
MBDF pmax pmax
comp=Z,22nm,1.0s,mb4.9
LCHF La Chataignera 83.24 342 eP P 07 06 18.9 +1.4
APE Apeiranthos 83.28 320 ⇓P P 07 06 16.9 -1.0
ORIF Oris-en-Rattie 83.29 337⇓iP P 07 06 18.9 +1.1
comp=Z,64nm,0.7s,mb5.2
ORIF Oris-en-Rattie 83.29 337⇓iP P 07 06 18.9 +1.1
ORIF pmax pmax
comp=Z,32nm,0.7s,mb5.3
COLF Collangettes 83.30 338 eP P 07 06 18.5 +0.6
FIN Finale Ligure 83.30 335 P P 07 06 17.5 -0.4
ROB Roburent 83.32 335 P P 07 06 17.5 -0.5
PZZ Prazzo 83.34 336 P P 07 06 17.1 -1.0
AQU L'Aquila 83.37 331 P P 07 06 19.1 +0.8
AQU pmax pmax
comp=Z,48nm,1.0s,mb5.3
AQU L'Aquila 83.37 331 eP P 07 06 18.8 +0.5
comp=Z,48nm,0.9s,mb5.3
VERF Verneugheol 83.38 339 eP P 07 06 19.0 +0.7
SURF Saint Ours 83.44 336 eP P 07 06 20.0 +1.4
LRYF La Roche-sur-Y 83.49 342 eP P 07 06 19.2 +0.4
ENR Entracque 83.51 335 P P 07 06 18.0 -0.9
STV2 Anna di Valdie 83.52 336 P P 07 06 18.0 -0.9
STV Sta Anna Valdi 83.52 336 P P 07 06 18.2 -0.7
MONE Monesi 83.55 335 P P 07 06 18.8 -0.3
MNS Montasola 83.58 331 eP P 07 06 19.1 -0.2
IMI Imperia 83.67 335 eP P 07 06 19.9 +0.3
VIVF Saint-Julien-l 83.67 338⇓iP P 07 06 20.7 +1.1
comp=Z,156nm,1.0s,mb5.5
VIVF Saint-Julien-l 83.67 338⇓iP P 07 06 20.7 +1.1
VIVF pmax pmax
comp=Z,78nm,1.0s,mb5.5
PTQR Pietraquaria 83.67 331 eP P 07 06 20.3 +0.6
LBL Lubilhac 83.68 339 eP P 07 06 20.6 +0.9
FRNF Fournols 83.70 339 eP P 07 06 20.9 +1.1
FRNF Fournols 83.70 339 eP P 07 06 21.1 +1.3
LRAL Lakeview Retre 83.72 47 eP P 07 06 19.3 -0.9
comp=Z,4.2nm,0.7s,mb4.4
OG25 Le Caire 83.75 336 eP P 07 06 21.1 +1.0
OCF Saint Nazaire 83.76 337 eP P 07 06 21.4 +1.3
OG26 St.-Nazaire-De 83.76 337 eP P 07 06 21.4 +1.3
NEGI Negi 83.78 335 P P 07 06 18.9 -1.3
SBF Sospel 83.84 335⇓iP P 07 06 20.6 +0.1
comp=Z,91nm,0.8s,mb5.3
SBF Sospel 83.84 335⇓iP P 07 06 20.6 +0.1
SBF pmax pmax
comp=Z,45nm,0.8s,mb5.3
RJF Les Rejaudoux 84.03 340 eP P 07 06 22.3 +0.9
comp=Z,203nm,1.3s,mb5.5
RJF Les Rejaudoux 84.03 340 eP P 07 06 22.3 +0.9
RJF pmax pmax
comp=Z,101nm,1.3s,mb5.5
STOF St-Etienne Org 84.14 336 eP P 07 06 22.7 +0.7
SMRF Simiane la Rot 84.25 337⇓iP P 07 06 23.5 +0.9
comp=Z,68nm,1.1s,mb5.1
CAF Calviac 84.25 339⇓iP P 07 06 23.4 +0.8
comp=Z,154nm,1.0s,mb5.5
CAF Calviac 84.25 339⇓iP P 07 06 23.4 +0.8
CAF pmax pmax
comp=Z,77nm,1.0s,mb5.5
VILF Villemus 84.32 336 eP P 07 06 24.6 +1.7
FRF La Foret Royal 84.34 336⇓iP P 07 06 23.2 +0.2
TAVF Tavernes 84.45 336 eP P 07 06 24.1 +0.5
PRAF Pradon 84.52 337 eP P 07 06 24.8 +0.9
LFF La Frestale 84.55 340⇓iP P 07 06 24.3 +0.2
comp=Z,66nm,0.8s,mb5.3
LFF La Frestale 84.55 340⇓iP P 07 06 24.3 +0.2
LFF pmax pmax
comp=Z,33nm,0.8s,mb5.3
LMR La Mourre 84.58 336⇓iP P 07 06 24.7 +0.4
comp=Z,104nm,1.0s,mb5.4
LMR La Mourre 84.58 336⇓iP P 07 06 24.7 +0.4
LMR pmax pmax
comp=Z,52nm,1.0s,mb5.4
PGF Pioggiola 84.59 334⇓iP P 07 06 24.4 +0.1
comp=Z,62nm,1.0s,mb5.2
PGF Pioggiola 84.59 334⇓iP P 07 06 24.4 +0.1
PGF pmax pmax
comp=Z,31nm,1.0s,mb5.2
LASF Ste Croix 84.61 338⇓iP P 07 06 25.7 +1.4
comp=Z,92nm,1.2s,mb5.4
PUYF Puyloubier 84.62 336 eP P 07 06 24.8 +0.3
TREF Trevaresse 84.62 337 eP P 07 06 26.2 +1.7
EIL Elat 84.77 309 eP P 07 06 26.2 +0.7
comp=Z,126nm,1.3s,mb5.7
GELF Grande-Etoile 84.84 336 eP P 07 06 26.0 +0.5
TIP Timpagrande 85.01 327 eP P 07 06 26.5 0.0
MTLF Montolieu 85.71 339⇓iP P 07 06 30.2 +0.4
comp=Z,52nm,0.9s,mb5.2
MTLF Montolieu 85.71 339⇓iP P 07 06 30.2 +0.4
MTLF pmax pmax
comp=Z,26nm,0.9s,mb5.2
MLS Moulis 86.34 339 eP P 07 06 33.3 +0.4
SJAF Saint Jean de 86.34 338 eP P 07 06 33.1 +0.2
EJON La Jonquera 86.38 338 P P 07 06 33.9 +0.8
comp=Z,41nm,0.9s,mb5.4
EPF Esparros 86.45 340⇓iP P 07 06 32.8 -0.6
comp=Z,11nm,0.6s,mb4.7
EPF Esparros 86.45 340⇓iP P 07 06 32.8 -0.6
EPF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
EALK Alkurruntz 86.69 341 P P 07 06 33.9 -0.6
comp=Z,42nm,1.5s,mb5.2
SJPF Ste Jean 86.73 341 eP P 07 06 34.9 +0.1
ETSF Etsaut 86.78 340⇓iP P 07 06 35.2 +0.1
comp=Z,24nm,0.8s,mb4.8
ETSF Etsaut 86.78 340⇓iP P 07 06 35.2 +0.1
ETSF pmax pmax
comp=Z,12nm,0.8s,mb4.9
EBIE Bielsa 86.82 340 P P 07 06 35.9 +0.6
comp=Z,296nm,3.1s
ELAN Lanestosa 87.08 343 P P 07 06 36.2 -0.3
comp=Z,123nm,2.5s,mb5.4
EMIR Miracle 87.22 339 P P 07 06 36.7 -0.5
comp=Z,141nm,1.6s,mb5.6
VSL Villasalto 87.25 332 eP P 07 06 37.5 +0.1
comp=Z,44nm,1.0s,mb5.3
EARI Arriondas 87.36 344 P P 07 06 35.8 -2.1
comp=Z,222nm,2.4s,mb5.7
ERC Erice 87.51 329 eP P 07 06 39.6 +0.9
EPON Pontenova 87.69 345 P P 07 06 38.1 -1.3
comp=Z,158nm,1.7s,mb5.8
EPOB Poblet 87.86 339 P P 07 06 39.4 -0.9
comp=Z,59nm,1.5s,mb5.4
ESAC San Caprasio 87.88 340 P P 07 06 40.8 +0.5
comp=Z,156nm,1.8s,mb5.7
ERUA La Rua 88.60 345 P P 07 06 42.6 -1.1
ERUA pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ERUA La Rua 88.60 345 P P 07 06 42.5 -1.2
comp=Z,6.4nm,0.6s,mb4.8
ETOS Mallorca 88.91 337 P P 07 06 45.5 +0.2
comp=Z,12nm,1.3s,mb5.5
ECAL Calabor 88.96 345 P P 07 06 44.3 -1.1
comp=Z,813nm,4.8s
PBRG Braganca 89.09 345 eP P 07 06 45.4 -0.7
comp=Z,21nm,1.4s,mb5.0
EMOS Mosqueruela 89.17 340 P P 07 06 45.5 -0.9
comp=Z,973nm,4.2s
ELOB Lobios 89.27 345 P P 07 06 45.7 -1.2
comp=Z,265nm,2.7s,mb5.8
PVRL Vila Real 89.78 345 eP P 07 06 48.9 -0.4
comp=Z,29nm,0.6s,mb5.6
EIBI Ibiza 89.99 338 P P 07 06 50.1 -0.2
comp=Z,43nm,1.3s,mb5.4
PVIS Viseu 90.36 345 eP P 07 06 51.3 -0.8
comp=Z,26nm,1.7s,mb5.1
CMAH Djebel Manchou 90.50 332 P P 07 06 52.5 -0.3
MTE Manteigas 90.60 345 eP P 07 06 52.4 -0.8
comp=Z,16nm,0.9s,mb5.2
ESDC Sonseca Array 90.61 342 P P 07 06 51.9 -1.3
comp=Z,1.2nm,0.5s,mb4.3,baz=13,slow=3.6,SNR=13
EBEN Beniarda 90.69 339 P P 07 06 52.1 -1.6
comp=Z,212nm,2.6s,mb5.8
ABSA Djebel Ababsia 90.81 332 P P 07 06 54.0 -0.3
CKFL Kef-Lekhel 90.92 333 P P 07 06 54.5 -0.3
DFRA Djebel Bou Aff 91.05 334 P P 07 06 56.0 +0.6
ETOB Tobarra 91.06 340 P P 07 06 54.8 -0.6
comp=Z,307nm,3.2s
PCBR Castelo Branco 91.13 345 eP P 07 06 55.0 -0.7
comp=Z,15nm,1.7s,mb4.8
EVIA Vianos 91.28 341 P P 07 06 56.3 -0.2
EVIA pmax pmax
comp=Z,14nm,0.9s,mb5.1
EVIA Vianos 91.28 341 P P 07 06 56.3 -0.1
comp=Z,14nm,0.9s,mb5.1
CTEI Djebel Teioual 91.33 333 P P 07 06 56.5 -0.2
CKHR Kef el Ahmar 91.65 334 P P 07 06 59.0 +0.8
EHUE Huescar 92.09 340 P P 07 06 59.8 -0.4
EHUE pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
EHUE Huescar 92.09 340 P P 07 06 59.8 -0.3
comp=Z,8.0nm,1.2s,mb4.8
EBAD Badajoz 92.10 344 P P 07 06 57.6 -2.5
comp=Z,175nm,2.5s,mb5.8
EADA Adamuz 92.19 342 P P 07 06 59.5 -1.1
comp=Z,258nm,3.7s
ECAB El Cabril 92.45 343 P P 07 07 00.4 -1.4
comp=Z,96nm,2.4s,mb5.6
EVO Evora 92.50 345 eP P 07 07 00.8 -1.2
comp=Z,8.2nm,0.8s,mb4.8
PBEJ Beja 92.97 344 eP P 07 07 03.4 -0.8
comp=Z,15nm,2.5s,mb4.9
EMIN Mina Concepcio 92.99 343 P P 07 07 02.6 -1.7
comp=Z,149nm,3.3s
PALC Alcoutim 93.44 344 eP P 07 07 05.4 -0.9
comp=Z,15nm,1.3s,mb5.2
EJIF Jimena Fronter 94.03 342 P P 07 07 08.6 -0.4
EJIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
EJIF Jimena Fronter 94.03 342 P P 07 07 08.6 -0.4
comp=Z,9.6nm,0.9s,mb5.1
ROSC El Rosal 113.64 52 PKiKP 07 12 30.1
comp=Z,3.9nm,0.4s,baz=72,slow=22,SNR=6.5
DBIC Dimbokro 122.35 333 PKP PKPdf 07 12 45.2 +0.3
comp=Z,5.2nm,0.8s,baz=136,slow=2.2,SNR=7.8
VNDA Vanda 124.96 177 PKP PKPdf 07 12 48.8 +0.5
comp=Z,1.1nm,0.7s,baz=58,slow=3.6,SNR=7.1
LPAZ La Paz 134.41 61 PKP PKPdf 07 13 10.0 +2.2
comp=Z,1.7nm,0.7s,baz=320,slow=3.8,SNR=5.9
SYO Syowa Base 141.34 212 ⇓P PKPdf 07 13 14.0 -4.9
SYO Syowa Base 141.34 212 ⇓PKiKP 07 13 23.3
BDFB Brasilia 143.97 35 PKP PKPdf 07 13 24.1 -0.8
comp=Z,14nm,0.8s,baz=317,slow=3.2,SNR=17
MAIT Maitri 150.19 205 ePKP PKPdf 07 13 40.6 +7.0
SNAA Sanae 153.19 197 e PKPdf 07 13 47.7 +10
SNAA Sanae 153.19 197 PKPbc PKPdf 07 13 46.3 +8.3
comp=Z,1.3nm,0.6s,baz=351,slow=2.0,SNR=10.0
SNAA Sanae 153.19 197⇑iP PKPdf 07 13 46.2 +8.2
SNAA e 07 13 47.7
VNA2 Neumayer--Watz 154.66 195 e PKPdf 07 13 51.8 +12
VNA2 Neumayer--Watz 154.66 195⇑iP PKPdf 07 13 50.5 +11
VNA2 e 07 13 51.8
VNA3 Neumayer Olymp 154.78 194 e PKPdf 07 13 51.2 +11
VNA3 Neumayer Olymp 154.78 194⇑iP PKPdf 07 13 49.9 +10
VNA3 e 07 13 51.2

DJA 14 07:11:55.3±1.0, 9.48S×113.08E, h33km, MD4.7/3, ML4.4/3, 4C-3D, Error ellipse: s-maj=24.3km s-min=20.9km az=149.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	Scrawed	1.45	47	⇑iPn	Pn	07 12 18.3	-1.3
	380nm,0.2s						
SRDI	Scrawed	1.45	47	⇑iP	P	07 12 18.7	-0.7
SRDI				⇑iSn	Sn	07 12 34.5	-3.1
KELI	Kelakatan	1.88	48	⇓iPn	Pn	07 12 24.6	-1.1
	202nm,0.2s						
KELI				⇓iSn	Sn	07 12 46.2	-2.3
RATI	Rata	2.54	73	⇑iPn	Pn	07 12 33.7	-1.5
	267nm,0.2s						
RATI				⇓iSn	Sn	07 13 01.1	-4.1

IDC 14 07:27:27.4±0.7, 55.44S×1.72W, mb4.2/7, mb1 4.2/8, mb1mx4.0/15, mbtmp4.1/8, ML3.6/1, MS3.8/7, Ms1 3.8/7, ms1mx3.5/14, Error ellipse: s-maj=29.1km s-min=24.8km az=101.0

NEIC 14 07:27:29.1±0.5, 55.31S×1.76W, h10km, mb4.5/2, Error ellipse: s-maj=22.7km s-min=9.8km az=94.0

ISC 14 07:27:28.1±0.7, 55.33S±0.08×1.6W±0.3, h10km, n27, σ0s56/17, mb4.2/8, MS3.9/6, 1C, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	15.65	188		P	07 31 05.5	-4.4
VNA2	Neumayer--Watz	15.85	187		P	07 31 13.1	+0.6
VNA3	Neumayer Olymp	16.34	189		P	07 31 18.7	-0.1
SNAA	Sanae	16.41	181		P	07 31 20.9	+1.3
SNAA	Sanae	16.41	181	Pn	P	07 31 20.6	+0.9
	0.2nm,0.3s,baz=354,slow=14,SNR=17						
SNAA				Sn	S	07 34 04.2	-17
	0.0nm,0.3s,baz=320,slow=18,SNR=2.0						
SNAA				LR	LR	07 36 15.3	
	comp=Z,46nm,18.7s,baz=52,slow=32						
SNAA				T		07 46 46.3	
	0.1nm,0.3s,baz=335,slow=17,SNR=7.0						
SNAA	Sanae	16.41	181	eP	P	07 31 20.4	+0.8
	14nm,0.9s						
SUR	Sutherland	27.84	44	LR	LR	07 41 38.1	
	comp=Z,231nm,19.7s,MS3.8,baz=338,slow=30						
MAW	Mawson	31.54	139	LR	LR	07 43 25.4	
	comp=Z,198nm,18.5s,MS3.8,baz=238,slow=30						
QSPA	South Pole Qui	34.91	180	⇑iP	P	07 34 21.1	-0.1
	18nm,1.2s,mb4.9						
TSUM	Tsumeb	38.91	30	P	P	07 34 56.1	+0.6
	3.6nm,1.2s,mb4.0,baz=214,slow=9.9,SNR=3.3						
TSUM	Tsumeb	38.91	30	P	P	07 34 56.1	+0.6
MATP	Matopo	41.57	45	P	P	07 35 17.6	+0.2
	2.8nm,1.1s,mb3.8,baz=155,slow=13,SNR=2.9						
VNDA	Vanda	47.01	175	P	P	07 35 59.8	-0.7
	3.2nm,1.1s,mb4.1,baz=223,slow=12,SNR=3.5						
VNDA				LR	LR	07 55 02.0	
	comp=Z,150nm,20.6s,MS3.9,baz=180,slow=35						
BDFB	Brasilia	53.15	299	LR	LR	07 53 52.1	
	comp=Z,138nm,21.2s,MS4.0,baz=221,slow=30						
DBIC	Dimbokro	61.84	356	P	P	07 37 49.8	+0.1
	1.9nm,0.7s,mb4.3,baz=173,slow=8.1,SNR=3.0						
LPAZ	La Paz	63.41	280	P	P	07 37 59.8	-0.2
	2.2nm,1.0s,mb4.2,baz=128,slow=7.2,SNR=6.4						
LPAZ				LR	LR	08 03 05.9	
	comp=Z,67nm,21.7s,MS3.8,baz=225,slow=34						
LPAZ	La Paz	63.41	280	P	P	07 37 59.8	-0.2
LPAZ				LR	LR	08 03 05.9	
ROSC	El Rosal	84.24	287	LR	LR	08 14 56.1	
	comp=Z,102nm,19.9s,MS4.2,baz=256,slow=34						
STKA	Stephens Creek	87.60	149	P	P	07 40 16.7	-0.6
	2.0nm,0.8s,mb4.4,baz=158,slow=5.4,SNR=4.4						
ASAR	Alice Springs	92.66	140	P	P	07 40 40.5	-0.7
	1.1nm,1.1s,mb4.2,baz=191,slow=4.6,SNR=5.1						
TXAR	Lajitas Array	120.26	279	PKP	PKPdf	07 46 20.6	-1.6
	0.3nm,0.8s,baz=108,slow=2.9,SNR=2.9						
YKA	Yellowknife Ar	146.14	310	PKPbc	PKPbc	07 47 06.5	-0.6
	2.8nm,1.0s,baz=106,slow=2.9,SNR=32						
YKA	Yellowknife Ar	146.14	310	PKPbc	PKPbc	07 47 06.5	-0.6
BBB	Bella Bella	148.85	287	PKPbc	PKPdf	07 47 14.2	+0.4
	10nm,1.0s,baz=7.6,slow=11,SNR=3.0						
INK	Inuvik	154.65	320	PKPbc	PKPdf	07 47 26.7	+5.0
	4.4nm,1.4s,baz=89,slow=2.5,SNR=3.1						
INK				PKPab	PKPab	07 47 43.2	-1.3
	6.0nm,1.4s,baz=132,slow=1.8,SNR=3.3						
INK	Inuvik	154.65	320	PKPbc	PKPdf	07 47 26.7	+5.0
INK				PKPab	PKPab	07 47 43.2	-1.3
ILAR	Eielson Array	160.51	313	PKPab	PKPab	07 48 08.9	-0.8
	1.5nm,1.2s,baz=138,slow=2.7,SNR=4.8						

NEIC 14 07:36:38.2, 37.66S×176.99E, h156km, MG3.9(WEL), After WEL.

WEL 14 07:36:38.4±0.3, 37.66S×176.98E, h153km±2km, ML3.9/18, 9C-1D, Error ellipse: s-maj=2.1km s-min=1.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MARZ	Manawahe	0.41	216	P	P	07 37 00.0	-0.2
MARZ	Manawahe	0.41	216	⇑PN	P	07 36 59.9	-0.2
TGRZ	Tauranga	0.57	262	P	P	07 37 00.6	-0.3
TGRZ	Tauranga	0.57	262	⇑PN	P	07 37 00.6	-0.3
LIRZ	Lichensteins R	0.59	233	P	P	07 37 00.9	-0.1
LIRZ	Lichensteins R	0.59	233	PN	P	07 37 00.8	-0.1
URZ	Urewera	0.61	170	P	P	07 37 00.5	-0.6
URZ	Urewera	0.61	170	⇑PN	P	07 37 00.5	-0.6
URZ				SN	S	07 37 17.5	-1.1
TAZ	Tarawera	0.69	213	P	P	07 37 01.8	+0.3
TAZ	Tarawera	0.69	213	PN	P	07 37 01.7	+0.2
MWZ	Matawai	0.81	148	P	P	07 37 02.0	-0.2
MWZ				S	S	07 37 20.0	-0.6
MWZ	Matawai	0.81	148	⇑PN	P	07 37 02.0	-0.3
MWZ				SN	S	07 37 20.0	-0.5
MXZ	Matakaoa Point	1.06	85	P	P	07 37 03.9	-0.2
MXZ				S	S	07 37 23.3	-0.7
MXZ	Matakaoa Point	1.06	85	PN	P	07 37 03.9	-0.2
MXZ				SN	S	07 37 23.3	-0.7
PUZ	Puketiti	1.09	113	P	P	07 37 04.3	-0.2
PUZ				S	S	07 37 23.4	-1.2
PUZ	Puketiti	1.09	113	⇑PN	P	07 37 04.2	-0.2
PUZ				SN	S	07 37 23.0	-1.6
KUZ	Kuaotunu	1.35	312	P	P	07 37 06.1	-0.9
KUZ	Kuaotunu	1.35	312	⇓PN	P	07 37 06.1	-0.9
KNZ	Kokohu	1.47	158	P	P	07 37 08.2	0.0
KNZ				S	S	07 37 31.1	-0.1
KNZ	Kokohu	1.47	158	⇑PN	P	07 37 08.1	-0.1
KNZ				SN	S	07 37 31.1	-0.1
BKZ	Black Stump Fm	1.56	194	P	P	07 37 08.5	-0.6
BKZ				S	S	07 37 31.9	-0.9
BKZ	Black Stump Fm	1.56	194	PN	P	07 37 08.4	-0.8
BKZ				SN	S	07 37 31.9	-0.9
MGZ	Maungaku	1.76	220	P	P	07 37 11.2	-0.1
MGZ	Maungaku	1.76	220	PN	P	07 37 11.0	-0.3
OTVZ	Oturere	1.83	214	PN	P	07 37 11.7	-0.4
NGZ	Ngauruhoe	1.86	215	P	P	07 37 12.1	-0.4
NGZ	Ngauruhoe	1.86	215	ePN	P	07 37 11.9	-0.6
HIZ	Hauiti	1.88	242	P	P	07 37 12.8	+0.1
HIZ	Hauiti	1.88	242	⇑PN	P	07 37 12.7	0.0
TUVZ	Tukino	1.92	212	P	P	07 37 12.6	-0.5
TUVZ	Tukino	1.92	212	PN	P	07 37 12.5	-0.5
FWVZ	Far West T-bar	1.95	215	P	P	07 37 13.1	-0.4
FWVZ	Far West T-bar	1.95	215	PN	P	07 37 12.9	-0.5
WNVZ	Wahianoa	1.99	213	P	P	07 37 13.2	-0.7
WNVZ	Wahianoa	1.99	213	⇑PN	P	07 37 13.2	-0.7
MOVZ	Moawhango	2.00	208	PN	P	07 37 12.7	-1.3
MOVZ				SN	S	07 37 39.6	-1.7
PWZ	Pawanui	2.37	182	P	P	07 37 17.3	-1.3
PWZ	Pawanui	2.37	182	PN	P	07 37 17.2	-1.4
TSZ	Takapari Road	2.53	198	P	P	07 37 18.6	-2.0
TSZ	Takapari Road	2.53	198	PN	P	07 37 18.5	-2.1
WAZ	Wanganui	2.61	216	eP	P	07 37 18.5	-3.2
BFZ	Birch Farm	3.08	190	P	P	07 37 24.9	-2.6
BFZ	Birch Farm	3.08	190	⇑PN	P	07 37 24.9	-2.6
MRZ	Mangatainoka R	3.19	199	P	P	07 37 26.0	-3.1
MRZ	Mangatainoka R	3.19	199	PN	P	07 37 25.8	-3.3
MRZ				SN	S	07 38 04.1	-3.8
KIW	Kapiti Island	3.58	206	P	P	07 37 30.5	-3.6
KIW	Kapiti Island	3.58	206	PN	P	07 37 30.3	-3.8
MTW	Mount Morrison	3.68	198	P	P	07 37 31.6	-3.8
MTW	Mount Morrison	3.68	198	PN	P	07 37 31.4	-4.0
CAW	Cannon Point	3.75	203	P	P	07 37 32.4	-3.9
CAW	Cannon Point	3.75	203	PN	P	07 37 32.2	-4.2
PAWZ	Paruwai Farm	3.91	197	PN	P	07 37 34.3	-4.1
DUWZ	D'Urville Isla	3.94	216	ePN	P	07 37 34.7	-4.1
MRW	Makara Radio	3.98	206	P	P	07 37 35.3	-4.0
MRW	Makara Radio	3.98	206	PN	P	07 37 35.0	-4.4
MSWZ	Moikau Station	3.99	199	P	P	07 37 35.1	-4.3
MSWZ	Moikau Station	3.99	199	PN	P	07 37 34.9	-4.4
WEL	Wellington	4.01	205	PN	P	07 37 35.5	-4.2
BHW	Baring Head	4.09	203	P	P	07 37 36.2	-4.5
BHW	Baring Head	4.09	203	PN	P	07 37 36.0	-4.7
TUWZ	Tuamarina	4.44	211	PN	P	07 37 40.6	-4.8
NNZ	Nelson	4.52	217	eP	P	07 37 41.9	-4.5
NNZ	Nelson	4.52	217	PN	P	07 37 41.6	-4.8
QRZ	Quartz Range	4.69	226	eP	P	07 37 43.8	-4.8
QRZ	Quartz Range	4.69	226	PN	P	07 37 43.7	-4.9
BSWZ	Blackbirch Sta	4.71	210	P	P	07 37 44.6	-4.3
BSWZ	Blackbirch Sta	4.71	210	ePN	P	07 37 44.1	-4.7
THZ	Tophouse	5.17	216	P	P	07 37 50.1	-4.8
THZ	Tophouse	5.17	216	PN	P	07 37 49.9	-5.1
KHZ	Kahutara	5.44	208	P	P	07 37 53.6	-4.9
KHZ	Kahutara	5.44	208	PN	P	07 37 53.3	-5.2
DSZ	Denniston Nort	5.71	223	ePN	P	07 37 55.9	-6.3
LTZ	Lake Taylor	6.26	214	SN	S	07 39 11.4	-8.9
MQZ	McQueen's Vall	6.88	207	eP	P	07 38 10.8	-7.0
MQZ	McQueen's Vall	6.88	207	ePN	P	07 38 10.7	-7.2
MQZ				SN	S	07 39 24.1	-11
FOZ	Fox Glacier	8.10	221	ePN	P	07 38 27.0	-7.1
ODZ	Otahua Downs	8.78	211	P	P	07 38 36.7	-6.4
ODZ	Otahua Downs	8.78	211	ePN	P	07 38 36.5	-6.6
JCZ	Jackson Bay	8.94	222	eP	P	07 38 39.8	-5.3
JCZ	Jackson Bay	8.94	222	ePN	P	07 38 38.9	-6.2

BJI 14 08:04:33.3, 45.11S×166.79E, h6km, mB6.0, mb5.4, Ms5.0, Msz4.9

NEIC 14 08:04:35.1±0.2, 45.07S×166.75E, h10km, mb5.5/14, MS4.5/5, ML5.5(WEL), Error ellipse: s-maj=7.4km s-min=4.8km az=183.0

NEIC Felt throughout Fiordland.

HRVD 14 08:04:35.1±0.2, 45.10S×166.62E, h12km, MW5.2/56, Centroid moment Tensor Solution. LP body waves: s44,c71; Mantle waves: s56,c97; Half duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr5.58±.21; Mθθ-1.94±.16; Mφφ-3.64±.18; Mrθ-3.44±.52; Mθφ-4.01±.16; Mφr-1.87±.50; Best double couple: Mo7.403×10^16 NP1: φs23°, δ32°, λ64°. NP2: φs233°, δ62°, λ105°. Principal axes: T 6.926, Plg70°, Azm174°; N .954, Plg13°, Azm45°; P -7.88, Plg15°, Azm312°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

WEL 14 08:04:35.9±0.5, 45.08S×166.81E, h5km, ML5.3/29 Error ellipse: s-maj=4.7km s-min=1.6km az=90.0

WEL Felt from Otago to Southland, maximum reported intensity MM 4.

MOS 14 08:04:38.1±1.6, 45.13S×166.61E, h33km, mb5.5/8, MS4.5/5, Error ellipse: s-maj=19.7km s-min=12.8km az=110.1

IDC 14 08:04:39.4±2.9, 44.97S×166.97E, h40km±24km, mb4.8/9, mb1 4.8/10, mb1mx4.6/12, mbtmp4.9/10, ML4.9/2, MS4.5/8, Ms1 4.5/8, ms1mx4.1/13, Error ellipse: s-maj=19.0km s-min=17.2km az=18.0

ISC 14 08:04:33.7±0.2, 44.93S±0.03×166.81E±0.03, h10km, n317, σ1s31/153, mb5.3/28, MS4.6/18, 22C-17D, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.60	156	⇓PG	Pg	08 04 45.2	-0.5
DCZ				SG	Sg	08 04 52.1	-1.7
DCZ				SG	Sg	08 04 52.3	-1.5
MSZ	Milford Sound	0.84	72	⇓P*	Pb	08 04 51.9	+2.0
MSZ				S*	Sb	08 05 05.0	+4.0
MSZ				S*	Sb	08 05 05.2	+4.2
MLZ	Mavora Lakes	1.05	114	⇓P*	Pb	08 04 54.3	+0.8
WHZ	Wether Hill Ro	1.25	141	eP	Pb	08 04 56.7	-0.3
WHZ	Wether Hill Ro	1.25	141	⇓P*	Pb	08 04 56.7	-0.3
WHZ				S*	Sb	08 05 12.9	0.0
WKZ	Wanaka	1.57	87	eP	Pn	08 05 04.7	+2.8
WKZ				S	Sb	08 05 28.4	+6.1
WKZ	Wanaka	1.57	87	⇓PN	Pn	08 05 04.7	+2.8
WKZ				SN	Sn	08 05 28.5	+6.1
JCZ	Jackson Bay	1.64	59	⇑PN	Pn	08 05 04.4	+1.6
JCZ				SN	Sn	08 05 31.6	+7.5
EAZ	Earnscleugh	1.80	100	P	Pn	08 05 07.4	+2.3
EAZ				S	Sn	08 05 31.0	+2.9
EAZ	Earnscleugh	1.80	100	⇓PN	Pn	08 05 07.3	+2.2
TUZ	Tuapeka	2.23	118	eP	Pn	08 05 12.0	+0.6
TUZ	Tuapeka	2.23	118	⇓PN	Pn	08 05 12.0	+0.6
LBZ	Lake Benmore	2.47	78	P	Pn	08 05 17.1	+2.4
LBZ	Lake Benmore	2.47	78	PN	Pn	08 05 16.5	+1.8
FOZ	Fox Glacier	2.48	58	P	Pn	08 05 16.3	+1.4
FOZ	Fox Glacier	2.48	58	PN	Pn	08 05 16.1	+1.2
ODZ	Otahua Downs	2.72	94	eP	Pn	08 05 19.6	+1.3
ODZ				S	Sn	08 05 52.2	+0.5
ODZ	Otahua Downs	2.72	94	⇓PN	Pn	08 05 19.6	+1.2
RPZ	Rata Peaks	3.28	70	Pn	Pn	08 05 27.3	+1.0
	420nm,0.3s,baz=231,slow=5.6,SNR=418						
RPZ				Sn	Sn	08 06 10.1	+4.3
	381nm,0.3s,baz=343,slow=21,SNR=7.7						
RPZ				LR	LR	08 06 38.7	
	comp=Z,4μm,19.7s,baz=233,slow=37						
RPZ	Rata Peaks	3.28	70	P	Pn	08 05 27.3	+1.0
RPZ	Rata Peaks	3.28	70	PN	Pn	08 05 26.9	+0.6
WVZ	Waitaha Valley	3.39	58	P	Pn	08 05 27.3	-0.5
MQZ	McQueen's Vall	4.37	76	P	Pn	08 05 41.9	+0.2
MQZ	McQueen's Vall	4.37	76	PN	Pn	08 05 41.9	+0.1
CRLZ	Canterbury Las	4.39	74	P	Pn	08 05 42.7	+0.7
CRLZ	Canterbury Las	4.39	74	PN	Pn	08 05 42.7	+0.7
LTZ	Lake Taylor	4.50	63	eP	Pn	08 05 43.1	-0.4
LTZ	Lake Taylor	4.50	63	ePN	Pn	08 05 42.7	-0.8
DSZ	Denniston Nort	4.84	51	eP	Pn	08 05 47.4	-1.0
DSZ	Denniston Nort	4.84	51	PN	Pn	08 05 47.3	-1.1
THZ	Tophouse	5.46	57	eP	Pn	08 05 56.6	-0.5
THZ	Tophouse	5.46	57	PN	Pn	08 05 56.3	-0.9
KHZ	Kahutara	5.49	65	eP	Pn	08 05 58.6	+1.0
KHZ	Kahutara	5.49	65	ePN	Pn	08 05 58.5	+0.9
QRZ	Quartz Range	5.87	48	eP	Pn	08 06 01.8	-1.2
QRZ	Quartz Range	5.87	48	PN	Pn	08 06 01.6	-1.3
BSWZ	Blackbirch Sta	6.08	60	P	Pn	08 06 08.1	+2.3
BSWZ	Blackbirch Sta	6.08	60	ePN	Pn	08 06 07.2	+1.3
NNZ	Nelson	6.08	55	eP	Pn	08 06 05.5	-0.4
NNZ	Nelson	6.08	55	ePN	Pn	08 06 04.7	-1.2
TUWZ	Tuamarina	6.28	59	ePN	Pn	08 06 08.9	+0.2
DUWZ	D'Urville Isla	6.66	54	ePN	Pn	08 06 13.5	-0.5
MRW	Makara Radio	6.86	60	P	Pn	08 06 18.1	+1.2
MRW	Makara Radio	6.86	60	ePN	Pn	08 06 16.6	-0.3
BHW	Baring Head	6.87	62	P	Pn	08 06 17.5	+0.5
BHW	Baring Head	6.87	62	ePN	Pn	08 06 15.9	-1.0
CAW	Cannon Point	7.16	61	P	Pn	08 06 19.5	-1.6
CAW	Cannon Point	7.16	61	ePN	Pn	08 06 18.4	-2.7
KIW	Kapiti Island	7.21	58	P	Pn	08 06 20.7	-1.0
KIW	Kapiti Island	7.21	58	ePN	Pn	08 06 19.6	-2.2
MTW	Mount Morrison	7.40	62	P	Pn	08 06 23.3	-1.2
MTW	Mount Morrison	7.40	62	ePN	Pn	08 06 22.0	-2.5
NWEZ	Newall Road	7.71	45	P	Pn	08 06 27.5	-1.3
NWEZ	Newall Road	7.71	45	ePN	Pn	08 06 27.0	-1.8
MRZ	Mangatainoka R	7.73	60	ePN	Pn	08 06 27.1	-2.0
DFE	Dawson Falls	7.79	47	P	Pn	08 06 30.4	+0.4
DFE	Dawson Falls	7.79	47	ePN	Pn	08 06 29.9	0.0
NEZ	North Egmont	7.83	46	P	Pn	08 06 29.6	-0.9
NEZ	North Egmont	7.83	46	ePN	Pn	08 06 29.0	-1.5
PKE	Pukeiti	7.83	45	ePN	Pn	08 06 29.1	-1.4
WAZ	Wanganui	7.96	52	ePN	Pn	08 06 32.0	-0.4
RAEZ	Rainy Point	7.97	48	P	Pn	08 06 32.3	-0.2
RAEZ	Rainy Point	7.97	48	ePN	Pn	08 06 31.5	-0.9
BFZ	Birch Farm	8.13	62	ePN	P	08 06 33.7	-1.1
VRZ	Vera Road	8.29	48	ePN	P	08 06 34.7	-2.1
TSZ	Takapari Road	8.33	57	ePN	P	08 06 35.5	-2.0
WNVZ	Wahianoa	8.60	52	ePN	P	08 06 42.0	+0.8
FWVZ	Far West T-bar	8.62	52	ePN	P	08 06 42.2	+0.7
CNZ	Chateau	8.66	52	ePN	P	08 06 42.5	+0.5
TUVZ	Tukino	8.67	52	ePN	P	08 06 43.4	+1.2
NGZ	Ngauruhoe	8.71	52	ePN	P	08 06 42.5	-0.2
OTVZ	Oturere	8.75	52	ePN	P	08 06 43.1	-0.1
HIZ	Hauiti	8.79	46	ePN	P	08 06 41.8	-2.1
URZ	Urewera	10.19	53	Pn	P	08 07 01.1	-2.0
	2.7nm,0.3s,baz=230,slow=6.9,SNR=11						
URZ				Sn	S	08 08 48.6	-10
	2.9nm,0.3s,baz=84,slow=24,SNR=5.8						
URZ	Urewera	10.19	53	ePN	P	08 06 59.7	-3.4
WCZ	Waipu Caves	10.66	35	ePN	P	08 07 07.6	-1.9
OUZ	Omahuta	11.00	30	ePN	P	08 07 12.8	-1.4
TAU	Tasmania Unive	14.19	271	Pn	P	08 07 54.1	-2.7
	1μm,0.7s,SNR=24						
TAU	Tasmania Unive	14.19	271	eP	P	08 07 54.4	-2.4
TAU				pmax	pmax		
	comp=Z,118nm,0.6s						
TAU	Tasmania Unive	14.19	271	eP	P	08 07 54.4	-2.4
	comp=Z,118nm,0.6s						
TAU				eSn	S	08 10 20.2	-15
ARMA	Armidale	18.78	315	eP	P	08 08 57.9	+2.7
ARMA				eT		08 27 45.4	
STKA	Stephens Creek	23.56	295	P	P	08 09 47.0	+2.1
	comp=Z,9.1nm,0.8s,mb4.3,baz=125,slow=11,SNR=22						
STKA				PP	PP	08 10 15.4	-1.9
	comp=Z,30nm,1.0s,baz=125,slow=14,SNR=4.4						
STKA				LR	LR	08 18 16.6	
	comp=Z,1μm,18.6s,MS4.4,baz=70,slow=34						
STKA	Stephens Creek	23.56	295	eP	P	08 09 47.5	+2.5
DRV	Dumont d'Urvil	26.08	204	P	P	08 10 10.0	+1.3
DRV				R		08 17 00.0	
CTA	Charters Tower	30.07	319	eP	P	08 10 46.9	+1.6
	comp=Z,12nm,1.1s,mb4.5						
CTA	Charters Tower	30.07	319	eP	P	08 10 46.9	+1.6
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
VNDA	Vanda	32.76	182	P	P	08 11 07.0	-1.3
	comp=Z,8.4nm,1.0s,mb4.6,baz=9.8,slow=9.6,SNR=14						
VNDA				LR	LR	08 22 11.7	
	comp=Z,2μm,18.5s,MS4.8,baz=16,slow=32						
SBA	Scott Base	33.03	180	eP	P	08 11 11.1	+0.3
SBA				pmax	pmax		
	comp=Z,314nm,2.0s,mb5.9						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.8						
SBA	Scott Base	33.03	180	eP	P	08 11 11.1	+0.3
	comp=Z,314nm,2.0s,mb5.9						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
ASAR	Alice Springs	34.13	297	P	P	08 11 20.4	-0.5
	comp=Z,12nm,0.8s,mb4.9,baz=134,slow=9.1,SNR=80						
ASAR				PcP	PcP	08 13 56.9	-1.3
	comp=Z,9.6nm,0.8s,baz=133,slow=3.4,SNR=10						
ASAR				LR	LR	08 25 50.9	
	comp=Z,558nm,19.4s,MS4.3,baz=142,slow=37						
ASAR	Alice Springs	34.13	297	P	P	08 11 20.4	-0.5
ASAR				PcP	PcP	08 13 56.9	-1.3
ASAR				LR	LR	08 25 50.9	
ASPA	Alice Springs	34.13	297	⇑iP	P	08 11 20.3	-0.6
RAR	Rarotonga	36.26	60	P	P	08 11 38.8	-0.2
	comp=Z,23nm,1.1s,mb5.0,baz=71,slow=2.9,SNR=2.4						
CASY	Casey	36.55	214	eP	P	08 11 40.4	-0.6
	comp=Z,54nm,0.8s,mb5.4						
WB2	Warramunga Arr	36.63	302	⇑iP	P	08 11 41.7	-0.4
WRA	Warramunga Arr	36.64	302	P	P	08 11 41.9	-0.3
	comp=Z,28nm,0.9s,mb5.1,baz=138,slow=8.4,SNR=100						
WRA				PcP	PcP	08 14 04.5	-1.1
	comp=Z,12nm,0.9s,baz=136,slow=2.8,SNR=8.7						
WRAB	Tennant Creek	36.64	302	P	P	08 11 42.0	-0.2
	comp=Z,209nm,1.0s,mb5.9,SNR=8.0						
WRAB	Tennant Creek	36.64	302	eP	P	08 11 41.4	-0.8
WRAB				pmax	pmax		
	comp=Z,199nm,1.5s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,159nm,20.0s,MS3.8						
WRAB	Tennant Creek	36.64	302	eP	P	08 11 41.4	-0.8
	comp=Z,199nm,1.5s,mb5.7						
WRAB				LR	LR		
	comp=Z,159nm,20.0s,MS3.8						
PMG	Port Moresby	39.25	328	eP	P	08 12 07.1	+2.9
PMG				pmax	pmax		
	comp=Z,28nm,0.8s						
PMG				MLR	MLR		
	comp=Z,456nm,19.0s						
PMG	Port Moresby	39.25	328	P	P	08 12 06.6	+2.4
	comp=Z,30nm,0.9s,mb5.0,baz=170,slow=8.9,SNR=6.1						
PMG				LR	LR	08 25 51.8	
	comp=Z,489nm,18.3s,MS4.4,baz=158,slow=32						
PMG	Port Moresby	39.25	328	eP	P	08 12 07.1	+2.9
	comp=Z,28nm,0.8s,mb5.0						
PMG				LR	LR		
	comp=Z,456nm,19.0s,MS4.3						
TBI	Tubuai	41.49	74	eLR	LR	08 23 37.8	
	comp=Z,492nm,20.2s						
KAKA	Kakadu	43.45	307	eP	P	08 12 39.1	+0.5
	comp=Z,71nm,1.4s,mb5.2						
FITZ	Fitzroy Crossi	43.45	294	eP	P	08 12 38.3	-0.3
	comp=Z,82nm,1.5s,mb5.2						
QSPA	South Pole Qui	45.19	180	eP	P	08 12 52.2	+0.3
	comp=Z,95nm,1.1s,mb5.5						
MBWA	Marble Bar	45.24	286	eP	P	08 12 52.0	-1.0
	comp=Z,66nm,1.3s,mb5.3						
PPT	Papeete	45.43	67	eLQ		08 22 59.3	
PPT				eLR	LR	08 25 29.8	
	comp=Z,474nm,21.5s						
RKT	Rikitea	51.74	85	eLR	LR	08 28 29.0	
	comp=Z,438nm,35.8s						
MAW	Mawson	54.23	207	P	P	08 14 01.4	+0.2
	comp=Z,47nm,0.9s,mb5.4,baz=72,slow=12,SNR=3.5						
MAW				LR	LR	08 35 39.3	
	comp=Z,667nm,18.1s,MS4.8,baz=114,slow=34						
TAOE	Nuku Hiva Isla	58.02	69	eLR	LR	08 31 14.5	
SYO	Syowa Base	59.88	199	⇓P	P	08 14 39.3	-2.1
SYO	Syowa Base	59.88	199	⇑pP	pP	08 14 42.5	-2.0
NVL	N'lazarevskaya	63.20	189	⇑iP	P	08 15 00.1	-3.6
NVL				i *PP	pP	08 15 08.5	+1.6
NVL				i		08 15 37.0	
NVL				e		08 24 44.0	
NVL				pmax	pmax		
	comp=Z,327nm,1.7s,mb6.2						
NVL				MLR	MLR		
	comp=Z,5μm,20.6s,MS5.7						
MAIT	Maitri	63.20	189	⇑iP	P	08 15 02.4	-1.3
SNAA	Sanae	63.47	184	e	P	08 15 12.7	+7.2
SNAA	Sanae	63.47	184	e	P	08 15 15.6	+10
SNAA	Sanae	63.47	184	⇑iP	P	08 15 04.2	-1.3
SNAA				e		08 15 15.6	
SNAA	Sanae	63.47	184	LR	LR	08 40 30.8	
	comp=Z,410nm,19.2s,MS4.6,baz=216,slow=34						
SNAA	Sanae	63.47	184	⇑iP	P	08 15 04.2	-1.3
SNAA				e		08 15 12.7	
SNAA				e		08 15 15.6	
VNA3	Neumayer Olymp	64.11	181	e	P	08 15 17.5	+8.0
VNA3	Neumayer Olymp	64.11	181	e	P	08 15 21.4	+12
VNA3	Neumayer Olymp	64.11	181	⇑iP	P	08 15 08.1	-1.4
VNA3				e		08 15 17.5	
VNA3				e		08 15 21.4	
VNA2	Neumayer--Watz	64.38	182	e	P	08 15 18.8	+7.5
VNA2	Neumayer--Watz	64.38	182	e	P	08 15 21.8	+11
VNA2	Neumayer--Watz	64.38	182	⇑iP	P	08 15 10.3	-1.0
VNA2				e		08 15 18.8	
VNA2				e		08 15 21.8	
VNA1	Neumayer--Stat	64.67	182	e	P	08 15 21.9	+8.7
VNA1	Neumayer--Stat	64.67	182	e	P	08 15 25.2	+12
VNA1	Neumayer--Stat	64.67	182	⇑iP	P	08 15 12.6	-0.6
VNA1				e		08 15 21.9	
VNA1				e		08 15 25.2	
SSE	Sheshan	86.31	322	P	P	08 17 18.3	+1.4
SSE				AP	pP	08 17 27.8	+7.7
SSE				S	S	08 27 53.1	+2.4
SSE				XS		08 28 07.5	
SSE				AMB	AMB		
	comp=Z,25nm,0.8s,mb5.5						
SSE				AMB	AMB		
	comp=Z,74nm,4.8s						
SSE				LR	LR		
	comp=N,140nm,20.0s,MS4.4						
SSE				LR	LR		
	comp=E,79nm,20.0s,MS4.4						
SSE				LR	LR		
	comp=Z,171nm,20.0s,MS4.5						
SSE	Sheshan	86.31	322	P	P	08 17 18.2	+1.3
	comp=Z,25nm,0.8s,mb5.5						
SSE				pP	pP	08 17 27.8	+7.7
SSE				S	S	08 27 53.1	+2.4
SSE				sS		08 28 07.5	
SSE				SS	SS	08 33 42.0	+8.6
SSE				LR	LR		
	comp=Z,170nm,20.0s,MS4.4						
TRQA	Tornquist	86.41	143	eP	P	08 17 16.3	-1.0
	comp=Z,58nm,1.5s,mb5.6						
TRQA				LR	LR		
	comp=Z,247nm,20.0s,MS4.6						

NANT Nan 87.30 300 ⇑P P 08 17 21.0 -1.0
comp=Z,154nm,0.9s,mb6.2
CM31 Chiang Mai Arr 88.14 298 eP P 08 17 25.3 -0.7
comp=Z,34nm,1.0s,mb5.5
CMAR Chiang Mai Arr 88.14 298 P P 08 17 27.1 +1.1
comp=Z,21nm,0.9s,mb5.3,baz=152,slow=3.6,SNR=37
CMAR LR LR 08 58 30.1
comp=Z,101nm,20.6s,MS4.2,baz=150,slow=37
NJ2 Nanjing 88.15 321 eP P 08 17 28.6 +2.8
NJ2 PP PP 08 20 57.9 +2.6
NJ2 S S 08 28 09.0 +0.9
NJ2 XS 08 28 24.0
NJ2 LR LR
comp=N,720nm,30.3s,MS5.1
NJ2 LR LR
comp=E,730nm,28.3s,MS5.1
NJ2 LR LR
comp=Z,5µm,27.6s,MS5.8
CHG Chiang Mai 88.40 299 ⇑P P 08 17 28.6 +1.3
comp=Z,22nm,0.9s,mb5.4
WHN Wuhan 89.00 317 ⇓P P 08 17 31.8 +1.9
GYA Guiyang 89.71 309 i/P P 08 17 34.6 +1.2
GYA AMB AMB
comp=Z,20nm,1.2s,mb5.3
KMI Kunming 90.90 305 P P 08 17 41.4 +2.5
KMI XP sP 08 17 53.8 +11
KMI PP PP 08 21 12.3 -5.1
KMI SKS SKS 08 28 08.3 -5.6
KMI S S 08 28 30.8 -2.5
KMI AMB AMB
comp=Z,7.0nm,1.4s,mb4.8
KMI LR LR
comp=N,168nm,22.4s,MS4.6
KMI LR LR
comp=E,182nm,20.5s,MS4.6
KMI LR LR
comp=Z,185nm,26.1s
KMI Kunming 90.90 305 P P 08 17 41.4 +2.5
KMI *SP sP 08 17 53.8 +11
KMI 08 21 12.2
KMI 08 28 08.3
KMI S S 08 28 30.8 -2.5
KMI SS SS 08 34 35.1 -4.7
KMI pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
KMI MLR MLR
comp=Z,190nm,26.1s,MS4.4
KMI Kunming 90.90 305 P P 08 17 41.4 +2.5
comp=Z,7.0nm,1.4s,mb4.8
KMI sP sP 08 17 53.8 +11
KMI PP PP 08 21 12.2 -5.2
KMI SKS SKS 08 28 08.3 -5.6
KMI S S 08 28 30.8 -2.5
KMI SS SS 08 34 35.1 -4.7
KMI LR LR
comp=Z,190nm,26.1s,MS4.4
ENH Enshi 91.22 313 eP P 08 17 41.1 +0.8
comp=Z,52nm,1.4s,mb5.7
ASAJ Asahikawa 91.24 343 P P 08 17 40.8 +0.8
comp=Z,11nm,1.1s,mb5.1,baz=108,slow=17,SNR=2.7
CN2 Changchun 95.71 331 eP P 08 18 00.3 -0.3
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.5
CN2 LR LR
comp=Z,320nm,19.0s,MS4.8
HHC Hu-ho-hao-te 98.71 321 eP P 08 18 16.9 +2.7
HHC AMB AMB
comp=Z,13nm,0.5s,mb5.7
HHC AMB AMB
comp=Z,243nm,6.5s
TXAR Lajitas Array 109.75 68 PKKPbc 08 34 09.7
comp=Z,0.7nm,0.8s,baz=45,slow=3.5,SNR=5.6
WMQ Urumqi 112.86 310 ePKP PKPdf 08 23 14.0 +0.6
WMQ ePP PP 08 24 08.0 +4.3
WMQ PKS PKS 08 26 49.0 +2.9
WMQ SKS SKS 08 30 25.0 +26
WMQ SKKS 08 31 01.0
WMQ PP PP
comp=Z,300nm,9.0s
WMQ LR LR
comp=N,167nm,24.8s,MS4.9
WMQ LR LR
comp=E,290nm,22.0s,MS4.9
WMQ LR LR
comp=Z,257nm,26.2s,MS4.7
IMA Indian Mountai 114.78 17 ePKIKP PKPdf 08 23 14.7 -1.8
ILAR Eielson Array 115.19 20 PKIKP PKPdf 08 23 14.4 -3.0
ILAR 08 33 55.0
ILAR Eielson Array 115.19 20 PKP PKPdf 08 23 14.3 -3.1
comp=Z,4.3nm,1.1s,baz=258,slow=3.2,SNR=16
ILAR PKKPbc 08 33 49.2
comp=Z,2.8nm,1.1s,baz=1.6,slow=2.9,SNR=19
ILAR PKKPab 08 33 55.0
comp=Z,3.8nm,0.8s,baz=6.8,slow=3.8,SNR=30
KMBO Kilima Mbogo 116.01 239 ePKIKP PKPdf 08 23 17.9 -2.4
KMBO Kilima Mbogo 116.01 239 PKP PKPdf 08 23 19.3 -1.0
comp=Z,3.6nm,0.8s,baz=58,slow=22,SNR=6.9
MKAR Makanchi Array 117.70 309 i PKIKP PKPdf 08 23 19.9 -2.8
MKAR pmax pmax
comp=Z,6.0nm,0.8s
KZA Kyzart 118.97 302 P PKPdf 08 23 24.6 -0.7
SNR=6.5
EDM Edmonton 119.15 43 ePKIKP PKPdf 08 23 21.2 -4.2
TIXI Tiksi 119.36 347 i PKIKP PKPdf 08 23 21.8 -3.5
TIXI MLR MLR
comp=Z,100nm,18.0s,MS4.5
UCH Uchtor 119.50 301 P PKPdf 08 23 25.4 -0.9
SNR=7.9
AAK Ala-Archa 119.75 302 i/PKIKP PKPdf 08 23 24.4 -2.3
FRU Bishkek 119.79 302 ePKIKP PKPdf 08 23 25.0 -1.8
AML Almayashu 119.94 301 P PKPdf 08 23 25.8 -1.3
SNR=7.5
USP Ospenovka 120.11 302 P PKPdf 08 23 25.8 -1.7
SNR=7.5
EKS2 Erkin-Say 120.20 302 P PKPdf 08 23 26.2 -1.4
SNR=9.3
KSU1 Kansas State U 120.36 64 ePKPdf PKPdf 08 23 24.4 -3.7
ZAL Zalesovo 120.62 317 PKP PKPdf 08 23 26.2 -2.0
comp=Z,1.9nm,0.3s,baz=286,slow=20,SNR=1.3
INK Inuvik 121.34 22 ePKIKP PKPdf 08 23 25.8 -3.5
KURK Kurchatov 121.94 312 i PKIKP PKPdf 08 23 27.0 -3.9
KURK pmax pmax
comp=Z,9.0nm,1.1s
YKA Yellowknife Ar 123.93 33 PKP PKPdf 08 23 30.6 -3.9
comp=Z,0.8nm,0.6s,baz=249,slow=1.7,SNR=25
YKA PKKPbc 08 33 17.3
comp=Z,4.3nm,1.1s,baz=48,slow=4.3,SNR=51
YKA Yellowknife Ar 123.93 33 PKP PKPdf 08 23 30.6 -3.9
YKA PKKPbc 08 33 17.3
ULM Lac du Bonnet 126.71 53 PKP PKPdf 08 23 35.9 -4.0
comp=Z,1.3nm,0.6s,baz=194,slow=4.8,SNR=3.9
BVA0 Borovoye Array 127.51 311 i PKIKP PKPdf 08 23 38.9 -2.5
BVA0 pmax pmax
comp=Z,4.0nm,1.4s
BVAR Borovoye Array 127.51 311 PKP PKPdf 08 23 39.0 -2.5
comp=Z,7.2nm,1.1s,baz=117,slow=3.3,SNR=23
CHKZ Chkalovo 127.69 312 i PKIKP PKPdf 08 23 38.4 -3.4
CHKZ pmax pmax
comp=Z,20nm,1.4s
RES Resolute Bay 134.90 22 ePKIKP PKPdf 08 23 52.9 -2.0
GNI Garni 137.83 285 i PKIKP PKPdf 08 24 01.8 +0.6
BCA Borcka 140.52 285 eP PKPdf 08 24 05.3 -0.6
KIV Kislovodsk 140.77 289 c i PKIKP PKPdf 08 24 05.2 -1.1
KIV pmax pmax
comp=Z,22nm,1.3s
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.6
PTK Pertek 140.98 280 eP PKPdf 08 24 07.0 +0.2
DBIC Dimbokro 141.20 193 PKhKP 08 23 58.0
comp=Z,4.3nm,0.6s,baz=173,slow=3.8,SNR=20
DBIC Dimbokro 141.20 193 ePKPpre 08 23 58.3
GZT Gaziantep 141.57 277 i P PKPdf 08 24 01.4 -6.5
CSS Prodhromos 143.41 271 ePKPpre 08 24 06.8
BNN Bunyan 143.45 278 eP PKPbc 08 24 07.0 +0.5
TOKT Tokat 143.58 281 eP PKPbc 08 24 07.5 +0.7
MEST Erdemli 143.63 274 i P PKPbc 08 24 07.4 +0.3
LEF Lefka 143.80 271 eP PKPbc 08 24 07.4 -0.3
AVNT Avonos 144.12 277 i P PKPbc 08 24 08.4 -0.1
KVT Kavak 144.23 282 eP PKPbc 08 24 09.6 +0.9
CORM Corum 144.86 279 eP PKPbc 08 24 10.2 -0.4
SCHQ Schefferville 144.86 54 PKP PKPdf 08 24 09.0 -4.0
comp=Z,4.5nm,0.9s,baz=277,slow=2.9,SNR=8.7
SCHQ Schefferville 144.86 54 PKP PKPdf 08 24 09.0 -4.0
HDMB Hadim 144.98 273 eP PKPbc 08 24 11.7 +0.8
BOYT Boyabat 145.16 282 i P PKPbc 08 24 12.4 +1.1
KAMT Kaman 145.17 278 i P PKPbc 08 24 12.1 +0.7
BYBT Boyabat 145.27 282 eP PKPbc 08 24 12.8 +1.2
KONT Konya--Tatoy 145.51 275 eP PKPbc 08 24 14.9 +2.6
TOS Tosya 145.62 280 eP PKPbc 08 24 13.6 +1.1
CANT Cankiri 145.74 280 eP PKPbc 08 24 14.1 +1.4
ELDT Eldivan 145.83 279 i P PKPbc 08 24 14.0 +1.0
ANTO Ankara 146.03 278 eP PKPbc 08 24 14.8 +1.3
KIZT Kizilcal 146.26 276 i P PKPbc 08 24 15.4 +1.3
LVZ Lovozero 146.30 330 i/PKHKP 08 24 10.1
MOS Moscow 146.54 307 ePKP2 PKPab 08 24 15.8 -1.6
MOS pmax pmax
comp=Z,160nm,1.5s
SAFT Safranbolu 146.63 280 eP PKPbc 08 24 16.6 +1.7
ELL Elmali 146.71 271 eP PKPbc 08 24 17.4 +2.2
ISP Isparta 146.78 273 c i PKP2 PKPab 08 24 16.2 -2.8
SGKT Sivrigoynuk 146.82 279 i P PKPbc 08 24 16.7 +1.3
APA Apatity 146.86 329 i/PKP2 PKPab 08 24 16.8 -1.5
APA pmax pmax
comp=Z,73nm,1.3s
OBN Obninsk 147.11 306 ePKIKP PKPdf 08 24 14.3 -2.5
OBN pmax pmax
comp=Z,72nm,0.9s
OBN Obninsk 147.11 306 ePKPbc PKPdf 08 24 16.8 -0.1
ESKT Eskisehir 147.25 276 eP PKPdf 08 24 18.1 +0.6
ESKT Eskisehir 147.25 276 i P PKPdf 08 24 18.2 +0.6
MDU Mudurnu 147.37 278 eP PKPdf 08 24 21.0 +3.3
ALT Altintas 147.58 275 eP PKPdf 08 24 17.3 -0.8
HENT Hendek 147.73 278 i P PKPdf 08 24 19.1 +0.8
KEV Kevo 148.07 335 ep PKPdf 08 24 18.1 +0.1
AYDN Tasoluk 148.56 271 i P PKPdf 08 24 22.0 +2.3
ARCES ARCESS Array B 148.64 335 PKPbc PKPdf 08 24 20.8 +1.9
comp=Z,8.3nm,0.6s,baz=68,slow=3.4,SNR=70
JOF Joensuu 149.06 321 ep PKPdf 08 24 20.7 +1.0
KDAG Bornova 149.32 272 i P PKPdf 08 24 23.6 +2.6
IZM Izmir 149.32 272 eP PKPdf 08 24 23.8 +2.8
BALB Balikesir 149.40 275 eP PKPdf 08 24 23.0 +2.0
BLCB Balcova 149.48 272 eP PKPdf 08 24 24.0 +2.8
BNT Bandirma 149.65 276 eP PKPdf 08 24 24.2 +2.8
APE Apeiranthos 149.97 269 ⇑PKP2 PKPab 08 24 25.0 -6.8
EZN Ezine 150.58 274 eP PKPdf 08 24 26.8 +3.9
PSN Preselentsi 150.59 282 eP PKPdf 08 24 31.0 +8.3
KIS Kishinev 150.98 289 ePKIKP PKPdf 08 24 26.0 +2.8
PRD Provadia 150.99 281 eP PKPdf 08 24 32.5 +9.2
CFR Carcaliu 151.03 285 ⇓P PKPdf 08 24 28.3 +5.0
KAF Kangasniemi 151.52 321 ep PKPdf 08 24 26.9 +3.4
comp=Z,13nm,0.6s
FINES FINESS Array B 151.83 320 PKP PKPdf 08 24 21.8 -2.2
comp=Z,1.6nm,0.9s,baz=40,slow=15,SNR=4.4
FINES PKPbc PKPdf 08 24 28.4 +4.4
comp=Z,12nm,0.6s,baz=91,slow=4.2,SNR=83
FINES PKPab PKPab 08 24 37.8 -1.0
comp=Z,9.4nm,0.7s,baz=90,slow=5.7,SNR=8.2
DIM Dimitrovgrad 151.94 278 eP PKPdf 08 24 44.0 +19
SZH Strazhica 152.03 281 eP PKPdf 08 24 34.0 +9.1
ISR Istrita 152.11 285 ⇓P PKPdf 08 24 29.8 +4.9
VRI Vrincioaia 152.15 286 ⇑P PKPdf 08 24 30.3 +5.3
MNK Minsk 152.17 305 ePKIKP PKPdf 08 24 28.0 +3.3
VSU Vasula 152.27 314 ⇓i/PKIKP PKPdf 08 24 30.4 +5.7
RZN Rozhen 152.39 277 i P PKPdf 08 24 46.0 +21
MLR Muntele Rosu 152.60 285 PKP PKPdf 08 24 22.5 -3.1
comp=Z,2.0nm,1.0s,baz=42,slow=12,SNR=3.6
MLR PKPbc PKPdf 08 24 31.2 +5.6
comp=Z,15nm,0.9s,baz=268,slow=2.2,SNR=22
MLR PKPab PKPab 08 24 42.3 -0.3
comp=Z,27nm,1.1s,baz=185,slow=5.2,SNR=11
MLR PP PP 08 28 19.7 +3.5
comp=Z,0.7nm,0.3s,baz=181,slow=7.5,SNR=3.5
MLR Muntele Rosu 152.60 285 PKP PKPdf 08 24 22.5 -3.1
MLR PKPbc PKPdf 08 24 31.2 +5.6
MLR ⇑P 08 24 31.6
MLR PKPab PKPab 08 24 42.3 -0.3
MLR PP PP 08 28 19.7 +3.5
MLR Muntele Rosu 152.60 285 ⇑P PKPdf 08 24 31.6 +6.0
MMB Musomiste 153.06 276 i P PKPdf 08 24 37.5 +11
PGB Panagyurishte 153.06 278 i P PKPdf 08 24 48.5 +22
BURAR Bucovina Array 153.50 290 ⇓P PKPdf 08 24 35.2 +8.4
BURAR Bucovina Array 153.50 290 ⇓P PKPdf 08 24 35.2 +8.4
KKB Krupnik 153.60 276 i P PKPdf 08 24 51.0 +24
VTS Vitosha 153.74 278 i P PKPdf 08 24 51.5 +24
SUW Suwalki 154.93 304 ePKIKP PKPdf 08 24 35.8 +7.3
KOLS Kolonicke sedl 155.60 292 e PKPdf 08 24 39.0 +9.5
KOLS Kolonicke sedl 155.60 292 ePKP PKPdf 08 24 55.9 +26
DIVS Divcibare 156.41 280 i(P) PKPdf 08 24 57.0 +26
KECS Kecovo 156.75 291 e PKPdf 08 24 48.0 +17
VYHS Vyhne 157.84 291 ePKP PKPdf 08 25 04.3 +32
HFS Hagfors 157.89 323 PKPab PKPab 08 25 03.7 -0.9
comp=Z,7.6nm,0.9s,baz=90,slow=1.5,SNR=7.0
OKC Ostrava-Krasne 158.32 294 ePKPAB PKPab 08 25 07.0 +0.2
NB2 NORSAR Subarra 158.39 327 P PKPdf 08 25 05.1 +32
comp=Z,5.0nm,0.9s,baz=57,slow=4.3
NB2 NORSAR Subarra 158.39 327 P PKPdf 08 25 05.1 +32
baz=57,slow=4.4
NOA NORSAR Array B 158.39 327 PKPab PKPab 08 25 05.6 -1.1
comp=Z,3.2nm,0.9s,baz=56,slow=4.5,SNR=5.0
ZST Bratislava 158.98 290 ePKP PKPdf 08 25 09.6 +36
VRAC Vranov 159.34 293 PKPab PKPab 08 25 11.9 +0.7
comp=Z,1.9nm,0.5s,baz=41,slow=4.1,SNR=5.7
KSP Ksiaz 159.45 297 ePKP2 PKPab 08 25 12.1 +0.5
DPC Dobruska-Polom 159.47 296 ePKPAB PKPab 08 25 12.4 +0.7
UPC Upice 159.66 296 ePKPAB PKPab 08 25 13.0 +0.5
LJU Ljubljana 160.57 283 eP PKPdf 08 25 17.0 +41
PVCC Panska Ves 160.57 297 ePKPAB PKPab 08 25 17.1 +0.7
PRU Pruhonice 160.64 295 ePKPAB PKPab 08 25 17.0 +0.3
BRG Berggiesshubel 160.93 298 i PKP2 PKPab 08 25 18.5 +0.5
BRG pmax pmax
comp=Z,24nm,1.2s
GEC2 GERESS Array S 161.25 292 ePKIKP PKPdf 08 24 33.6 -2.7
GEC2 e 08 25 19.7
GERES GERESS Array B 161.25 292 PKP PKPdf 08 24 34.0 -2.3
comp=Z,0.5nm,0.6s,baz=117,slow=3.0,SNR=6.2
GERES PKPab PKPab 08 25 19.4 0.0
comp=Z,4.2nm,0.8s,baz=90,slow=5.3,SNR=21
KHC Kasperske Hory 161.32 293 ePKPDF PKPdf 08 24 33.0 -3.4
KHC ePKPAB PKPab 08 25 18.1 -1.6
CLL Collm 161.44 299 ePKIKP PKPdf 08 24 34.0 -2.4
CLL ePKP2 PKPab 08 25 20.0 -0.2
CLL e*PPKP2 08 25 34.0
WET Wettzell 161.78 293 ePKIKP PKPdf 08 24 34.1 -2.7
WET e 08 25 22.0
NKC Novy Kostel 161.95 296 ePKPAB PKPab 08 25 23.3 +0.8
BSEG Bad Segeberg 162.33 309 ePKP2 PKPab 08 25 25.5 +1.5
MOX Moxa 162.42 298 ePKP2 PKPab 08 25 25.0 +0.5
MOX pmax pmax
comp=Z,27nm,1.8s
GRA1 Grafenberg Arr 162.81 295 ePKPdf PKPdf 08 24 35.6 -2.2
GRA1 ePKPab PKPab 08 25 26.7 +0.5
GRF Grafenberg Arr 162.81 295 ePKIKP PKPdf 08 24 35.6 -2.2
GRF e 08 25 26.7
PGF Pioggiola 163.79 269 ePKP2 PKPab 08 25 29.5 -1.2
comp=Z,109nm,1.1s
DAVOX Davos 163.83 285 PKPab PKPab 08 25 30.6 -0.1
comp=Z,5.6nm,0.6s,baz=127,slow=7.3,SNR=7.9
TNS Taunus Mts 164.49 298 ePKP2 PKPab 08 25 34.3 +0.8
BFO Black Forest 164.84 291 ePKP2 PKPab 08 25 34.6 -0.5
SBF Sospel 165.22 273 ePKP2 PKPab 08 25 35.5 -1.4
comp=Z,56nm,1.2s
CDF Champ du Feu 165.53 291 ePKP2 PKPab 08 25 36.7 -1.4
comp=Z,22nm,1.0s
FRF La Foret Royal 165.71 271 ePKP2 PKPab 08 25 37.7 -1.4
comp=Z,79nm,1.4s
LMR La Mourre 165.76 271 ePKP2 PKPab 08 25 37.8 -1.5
HINF Hinteralfeld 165.87 289 ePKP2 PKPab 08 25 37.8 -1.8
LPG La Plagne 165.93 279 ePKP2 PKPab 08 25 38.6 -1.3
comp=Z,22nm,0.9s
LPL La Plagne 165.94 279 ePKP2 PKPab 08 25 38.6 -1.4
comp=Z,28nm,0.9s
HAU Haudompre 166.19 290 ePKP2 PKPab 08 25 39.4 -1.6
comp=Z,61nm,1.2s
CABF La Chapelle 166.44 284 ePKP2 PKPab 08 25 41.0 -1.1
comp=Z,33nm,1.1s
ORIF Oris-en-Rattie 166.48 277 ePKP2 PKPab 08 25 41.0 -1.4
SMRF Simiane la Rot 166.56 273 ePKP2 PKPab 08 25 41.0 -1.7
comp=Z,26nm,1.2s
GIVF Givet 166.78 299 ePKP2 PKPab 08 25 42.7 -0.8
MEZF Maizieres J'vi 166.99 292 ePKP2 PKPab 08 25 43.4 -1.0
BAIF Baives 167.17 300 ePKP2 PKPab 08 25 44.6 -0.6
VIVF Saint-Julien-l 167.33 276 ePKP2 PKPab 08 25 44.7 -1.3
comp=Z,22nm,1.2s
EKA Eskdalemuir Ar 167.78 332 PKPab PKPab 08 25 47.0 -0.6
comp=Z,3.3nm,1.0s,baz=8.1,slow=18,SNR=4.2
LASF Ste Croix 167.79 272 ePKP2 PKPab 08 25 46.9 -1.2
comp=Z,45nm,1.2s
SMF Signal de Mont 167.98 284 ePKP2 PKPab 08 25 47.4 -1.4
comp=Z,35nm,1.1s
SSF Saint Saulge 168.19 286 ePKP2 PKPab 08 25 48.5 -1.2
comp=Z,48nm,1.4s
AVF Avril sur Loir 168.31 285 ePKP2 PKPab 08 25 48.8 -1.5
comp=Z,38nm,1.2s
BGF Bois d'Agland 168.67 284 ePKP2 PKPab 08 25 50.9 -1.0
comp=Z,72nm,1.1s
MTLF Montolieu 168.81 267 ePKP2 PKPab 08 25 51.5 -1.1
comp=Z,30nm,1.1s
TCF Toulx Ste Croi 169.12 283 ePKP2 PKPab 08 25 52.7 -1.2
comp=Z,32nm,1.4s
CAF Calviac 169.18 275 ePKP2 PKPab 08 25 53.2 -1.0
RJF Les Rejaudoux 169.59 277 ePKP2 PKPab 08 25 55.2 -0.8
LDF La Druitiere 170.31 297 ePKP2 PKPab 08 25 58.1 -1.0
comp=Z,26nm,0.9s
FLN La Foliniere 170.49 298 ePKP2 PKPab 08 25 58.8 -1.0
ETSF Etsaut 170.66 262 ePKP2 PKPab 08 25 59.9 -0.9
comp=Z,32nm,1.1s
MFF Saint Martin d 170.73 285 ePKP2 PKPab 08 25 59.7 -1.3
comp=Z,25nm,1.1s
GRR Gorron 170.84 297 ePKP2 PKPab 08 26 00.5 -1.0
comp=Z,36nm,1.2s
SJPF Ste Jean 171.19 262 ePKP2 PKPab 08 26 02.4 -0.8
comp=Z,47nm,1.1s
ESDC Sonseca Array 171.38 236 PKP PKPdf 08 24 42.5 -2.1
comp=Z,0.3nm,0.3s,baz=9.8,slow=1.5,SNR=9.1
ESDC PKPab PKPab 08 26 04.4 +0.2
comp=Z,10nm,0.9s,baz=121,slow=3.5,SNR=29
SGMF Saint Gilles 171.96 298 ePKP2 PKPab 08 26 05.5 -0.9
comp=Z,74nm,1.6s
ROSF Rostrenen 172.37 300 ePKP2 PKPab 08 26 06.6 -1.6
EVO Evora 172.52 213 ePKP2 PKPab 08 26 07.9 -1.3
comp=Z,52nm,1.5s
EVO eR
comp=Z,475nm,17.8s

IDC 14 08:35:15.9±2.8, 28.21S×73.40E, mb3.9/7, mb1 4.1/7, mb1mx4.0/14, mbtmp3.9/7, Error ellipse: s-maj=89.5km s-min=28.2km az=48.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	52.57	31	P	P	08 44 31.6	-2.1
	0.7nm,0.5s,baz=209,slow=9.3,SNR=3.6						
ASAR	Alice Springs	54.12	100	P	P	08 44 43.3	-1.8
	1.1nm,0.6s,baz=251,slow=6.8,SNR=16						
WRA	Warramunga Arr	55.76	96	P	P	08 44 54.7	-2.4
	0.8nm,0.7s,baz=250,slow=7.8,SNR=5.3						
STKA	Stephens Creek	58.27	112	P	P	08 45 12.2	-2.6
	1.5nm,0.9s,baz=252,slow=3.2,SNR=2.9						
BVAR	Borovoye Array	80.93	358	P	P	08 47 31.8	-1.5
	0.6nm,0.8s,baz=162,slow=9.1,SNR=2.8						
SONM	Songino Array	81.30	22	P	P	08 47 33.1	-2.3
	0.3nm,0.6s,baz=210,slow=6.5,SNR=3.5						
ZAL	Zalesovo	82.40	7	P	P	08 47 39.9	-1.1
	1.5nm,0.3s,baz=145,slow=8.3,SNR=3.0						
YKA	Yellowknife Ar	145.31	7	PKPbc	PKPbc	08 54 54.1	-1.2
	0.3nm,0.6s,baz=333,slow=3.6,SNR=8.0						

*NEIC **14** 09:37:10.0±4.0, 0.69N×100.05E, h155km±36km, mb4.5/2, Error ellipse: s-maj=25.7km s-min=9.0km az=58.0*
*IDC **14** 09:37:09.8±3.4, 0.70N×100.01E, h151km±29km, mb3.9/11, mb1 3.9/12, mb1mx3.8/18, mbtmp4.3/12, Error ellipse: s-maj=30.3km s-min=12.6km az=55.0*

ISC 14 09:37:05.8±5.5, 0.7N±0.2×100.0E±0.2, h130km±49km, n18, σ0s86/17, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	17.67	357	P	P	09 41 05.3	0.0
	0.3nm,0.3s,baz=187,slow=11,SNR=6.6						
LSA	Lhasa	30.04	344	eP	P	09 43 05.9	+1.0
	6.1nm,0.5s,mb4.6						
WRA	Warramunga Arr	39.39	123	P	P	09 44 25.3	+0.8
	1.4nm,0.3s,mb4.0,baz=305,slow=9.0,SNR=21						
WRA				PcP	PcP	09 46 30.2	-0.6
	0.2nm,0.4s,baz=320,slow=2.8,SNR=4.2						
ASAR	Alice Springs	40.86	129	P	P	09 44 36.9	+0.3
	0.5nm,0.7s,mb3.2,baz=298,slow=7.6,SNR=7.6						
ASAR				PcP	PcP	09 46 35.8	+0.3
	0.3nm,0.5s,baz=302,slow=2.1,SNR=5.2						
ASAR				ScP		09 50 09.5	
	0.6nm,0.7s,baz=287,slow=3.9,SNR=7.0						
SONM	Songino Array	47.26	6	P	P	09 45 28.3	+0.7
	1.8nm,0.5s,mb4.0,baz=190,slow=9.1,SNR=4.7						
SONM				PcP	PcP	09 46 57.4	+0.2
	0.3nm,0.3s,baz=189,slow=4.9,SNR=3.4						
STKA	Stephens Creek	50.95	133	P	P	09 45 54.8	-1.4
	0.9nm,0.6s,mb3.6,baz=311,slow=16,SNR=2.9						
KURK	Kurchatov	53.03	343	eP	P	09 46 10.8	-0.8
ZAL	Zalesovo	54.52	349	P	P	09 46 21.9	-0.4
	7.7nm,0.3s,mb4.9,baz=310,slow=4.7,SNR=21						
ZAL	Zalesovo	54.52	349	P	P	09 46 21.9	-0.4
BVAR	Borovoye Array	57.67	339	P	P	09 46 43.5	-1.3
	4.4nm,0.5s,mb4.6,baz=141,slow=9.8,SNR=32						
BVAR				PcP	PcP	09 47 35.6	-0.5
	0.7nm,0.8s,baz=180,slow=4.4,SNR=4.0						
CHKZ	Chkalovo	58.12	340	eP	P	09 46 46.7	-1.3
	2.8nm,0.4s,mb4.5						
MATP	Matopo	72.97	248	P	P	09 48 23.5	0.0
	1.4nm,0.4s,mb4.0,baz=77,slow=6.1,SNR=6.0						
MATP	Matopo	72.97	248	P	P	09 48 23.5	0.0
FINES	FINESS Array B	81.74	332	P	P	09 49 10.9	-0.2
	0.6nm,0.3s,mb3.6,baz=108,slow=6.0,SNR=7.0						
ARCES	ARCESS Array B	83.95	340	P	P	09 49 22.5	+0.4
	1.9nm,0.4s,mb4.2,baz=103,slow=4.4,SNR=54						
HFS	Hagfors	87.55	330	P	P	09 49 41.4	+1.4
	1.3nm,0.6s,mb4.0,baz=106,slow=10,SNR=3.8						
DAVOX	Davos	89.59	317	P	P	09 49 50.9	+0.9
	2.0nm,0.6s,mb4.3,baz=134,slow=18,SNR=2.6						
PDAR	Pinedale Array	129.20	28	PKP	PKPdf	09 56 00.1	+1.0
	0.7nm,1.1s,baz=90,slow=5.9,SNR=3.0						

*IDC **14** 09:38:46.1±3.7, 45.09S×166.81E, mb3.6/3, mb1 3.8/4, mb1mx3.7/9, mbtmp3.7/4, ML3.9/1, MS3.0/2, Ms1 2.9/2, ms1mx2.7/11, Error ellipse: s-maj=121.8km s-min=24.4km az=176.0*
*NEIC **14** 09:38:48.8±0.6, 44.95S×166.81E, h15km, ML4.5(WEL), Error ellipse: s-maj=10.7km s-min=7.4km az=191.0*
*WEL **14** 09:38:48.4±0.5, 45.06S×166.77E, h5km, ML4.1/7, Error ellipse: s-maj=4.9km s-min=1.5km az=90.0*

ISC 14 09:38:45.4±0.7, 44.94S±0.05×166.65E±0.07, h5km, n40, σ1s19/50, mb3.5/3, MS2.9/2, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	Deep Cove	0.65	146	PG	Pg	09 38 58.2	0.0
DCZ				SG	Sg	09 39 04.5	-2.4
DCZ				SG	Sg	09 39 05.2	-1.7
MSZ	Milford Sound	0.95	74	P*	Pb	09 39 04.9	+0.9
MSZ				S*	Sb	09 39 18.0	+1.3
MLZ	Mavora Lakes	1.16	111	P	Pb	09 39 07.4	0.0
MLZ	Mavora Lakes	1.16	111	P*	Pb	09 39 07.4	-0.1
WHZ	Wether Hill Ro	1.32	137	P	Pb	09 39 09.7	-0.6
WHZ	Wether Hill Ro	1.32	137	P*	Pb	09 39 09.6	-0.7
WKZ	Wanaka	1.69	87	eP	Pn	09 39 18.0	+2.2
WKZ	Wanaka	1.69	87	PN	Pn	09 39 17.6	+1.9
WKZ				SN	Sn	09 39 39.3	+1.3
JCZ	Jackson Bay	1.74	61	eP	Pn	09 39 17.2	+0.7
JCZ	Jackson Bay	1.74	61	PN	Pn	09 39 17.2	+0.6
EAZ	Earnscleugh	1.91	100	P	Pn	09 39 20.8	+1.9
EAZ	Earnscleugh	1.91	100	PN	Pn	09 39 20.5	+1.6

EAZ				SN	**Sn**	**09 39 43.7**	**+0.2**
TUZ	**Tuapeka**	**2.33**	**117**	*e*P	**Pn**	**09 39 25.5**	**+0.5**
TUZ	**Tuapeka**	**2.33**	**117**	PN	**Pn**	**09 39 25.2**	**+0.2**
FOZ	**Fox Glacier**	**2.58**	**59**	*e*PN	**Pn**	**09 39 28.8**	**+0.2**
LBZ	**Lake Benmore**	**2.59**	**79**	*e*P	**Pn**	**09 39 29.8**	**+1.2**
LBZ	**Lake Benmore**	**2.59**	**79**	PN	**Pn**	**09 39 29.7**	**+1.1**
ODZ	**Otahua Downs**	**2.84**	**93**	P	**Pn**	**09 39 32.8**	**+0.6**
ODZ	**Otahua Downs**	**2.84**	**93**	*e*PN	**Pn**	**09 39 32.7**	**+0.4**
RPZ	**Rata Peaks**	**3.39**	**70**	Pn	**Pn**	**09 39 40.0**	**-0.1**
	12nm,0.3s,baz=236,slow=4.5,SNR=54						
RPZ				Sn	**Sn**	**09 40 20.7**	**-0.5**
	22nm,0.3s,baz=346,slow=16,SNR=4.1						
RPZ	**Rata Peaks**	**3.39**	**70**	*e*P	**Pn**	**09 39 40.0**	**-0.1**
RPZ	**Rata Peaks**	**3.39**	**70**	PN	**Pn**	**09 39 39.9**	**-0.2**
WVZ	**Waitaha Valley**	**3.49**	**59**	*e*P	**Pn**	**09 39 40.3**	**-1.2**
MQZ	**McQueen's Vall**	**4.48**	**76**	*e*P	**Pn**	**09 39 54.9**	**-0.7**
MQZ	**McQueen's Vall**	**4.48**	**76**	*e*PN	**Pn**	**09 39 55.2**	**-0.3**
LTZ	**Lake Taylor**	**4.60**	**64**	*e*P	**Pn**	**09 39 56.0**	**-1.3**
LTZ	**Lake Taylor**	**4.60**	**64**	*e*PN	**Pn**	**09 39 56.8**	**-0.5**
DSZ	**Denniston Nort**	**4.93**	**51**	*e*P	**Pn**	**09 40 00.3**	**-1.7**
DSZ				S	**Sn**	**09 40 52.4**	**-7.8**
DSZ	**Denniston Nort**	**4.93**	**51**	*e*PN	**Pn**	**09 39 59.7**	**-2.3**
DSZ				SN	**Sn**	**09 40 52.2**	**-8.0**
THZ	**Tophouse**	**5.56**	**57**	*e*P	**Pn**	**09 40 09.6**	**-1.2**
THZ	**Tophouse**	**5.56**	**57**	*e*PN	**Pn**	**09 40 09.1**	**-1.7**
QRZ	**Quartz Range**	**5.96**	**48**	*e*P	**Pn**	**09 40 14.5**	**-2.0**
QRZ				S	**Sn**	**09 41 18.0**	**-8.1**
QRZ	**Quartz Range**	**5.96**	**48**	*e*PN	**Pn**	**09 40 14.4**	**-2.1**
QRZ				SN	**Sn**	**09 41 17.3**	**-8.8**
NNZ	**Nelson**	**6.18**	**55**	P	**Pn**	**09 40 17.6**	**-1.9**
NNZ				S	**Sn**	**09 41 25.5**	**-5.9**
NNZ	**Nelson**	**6.18**	**55**	*e*PN	**Pn**	**09 40 17.4**	**-2.1**
NNZ				SN	**Sn**	**09 41 25.5**	**-5.9**
STKA	**Stephens Creek**	**23.46**	**295**	P	**P**	**09 43 60.0**	**+3.6**
	1.0nm,0.7s,mb3.3,baz=122,slow=13,SNR=2.7						
STKA				LR	LR	09 51 34.4	
	comp=Z,68nm,19.3s,MS3.1,baz=20,slow=32						
ASAR	**Alice Springs**	**34.03**	**298**	P	**P**	**09 45 33.2**	**+0.9**
	0.3nm,0.6s,mb3.4,baz=131,slow=7.0,SNR=7.1						
RAR	**Rarotonga**	**36.36**	**61**	LR	LR	09 58 59.3	
	comp=Z,10.0nm,19.7s,MS2.6,baz=227,slow=33						
WRA	**Warramunga Arr**	**36.54**	**302**	P	**P**	**09 45 54.4**	**+0.6**
	1.5nm,0.9s,mb3.8,baz=137,slow=8.1,SNR=7.6						
FINES	**FINESS Array B**	**151.76**	**320**	PKPbc	PKPdf	09 58 41.6	+5.8
	0.7nm,0.5s,baz=90,slow=3.8,SNR=5.8						

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*ATH **14** 09:39:14.4, 35.06N×24.62E, h15km±1km, MD3.5/13*
*NEIC **14** 09:39:14.4, 35.05N×24.61E, h16km, MD3.5(ATH), After ATH.*
*CSEM **14** 09:39:14.1±0.1, 35.02N×24.65E, h20km, mb4.2/1, MD3.6/3, Error ellipse: s-maj=3.0km s-min=2.0km az=171.0*
*IDC **14** 09:39:15.1±2.2, 35.34N×24.52E, mb3.6/6, mb1 3.8/7, mb1mx3.6/21, mbtmp3.6/7, ML4.0/1, MS4.2/1, Ms1 4.2/1, ms1mx2.7/29, Error ellipse: s-maj=58.8km s-min=6.9km az=21.0*
ISC 14 09:39:14.1±1.0**, 35.03N**±0.06×**24.64E**±0.05**, h13**km±7km**, n32, σ1§33**/35**, mb3.6**/6**, MS4.2**/1**, 1C, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IDI	**Anoyia**	**0.33**	**38**	Pg	**Pg**	**09 39 20.7**	**-0.4**
	227nm,0.3s,baz=224,slow=17,SNR=931						
IDI				Lg		09 39 25.3	
	baz=310,slow=18						
GVD	**Gavdhos**	**0.49**	**247**	*e*Pb	**Pb**	**09 39 24.0**	**-0.2**
GVD				*e*Pg	**Pg**	**09 39 24.2**	**-0.1**
GVD	**Gavdhos**	**0.49**	**247**	*e*Pg	**Pg**	**09 39 24.2**	**-0.1**
VAM	**Vamos**	**0.52**	**316**	⇑*i*PB	**Pb**	**09 39 23.7**	**-0.9**
VAM				*e*SB	**Sb**	**09 39 31.6**	**-0.2**
NPS	**Neapolis**	**0.83**	**73**	*e*PB	**Pb**	**09 39 29.8**	**-0.1**
NPS				*e*SN	**Sn**	**09 39 41.8**	**-1.5**
NPS	**Neapolis**	**0.83**	**73**	*e*Pn	**Pb**	**09 39 29.8**	**-0.1**
NPS				*e*Sn	**Sn**	**09 39 42.8**	**-0.5**
XRY	**Khrisi**	**0.88**	**100**	*e*PN	**Pn**	**09 39 31.5**	**-0.5**
SANT	**Santorini**	**1.49**	**26**	*e*P	**Pn**	**09 39 40.4**	**-0.4**
SANT	**Santorini**	**1.49**	**26**	*e*P	**Pn**	**09 39 40.4**	**-0.4**
KYTH	**Kithira**	**1.81**	**314**	*e*PN	**Pn**	**09 39 47.5**	**+2.2**
KARP	**Karpathos**	**2.12**	**75**	*e*PN	**Pn**	**09 39 51.9**	**+2.0**
APE	**Apeiranthos**	**2.16**	**19**	*e*PN	**Pn**	**09 39 51.4**	**+1.1**
VLI	**Veliai**	**2.18**	**321**	*e*PN	**Pn**	**09 39 51.4**	**+0.7**
NAIG	**Nisos Aigina**	**2.88**	**341**	*e*PN	**Pn**	**09 40 02.0**	**+1.4**
NSAL	**Nisos Salamina**	**3.02**	**342**	*e*PN	**Pn**	**09 40 03.5**	**+0.8**
NSAL	**Nisos Salamina**	**3.02**	**342**	*e*Pb	**Pb**	**09 40 05.5**	**-1.9**
ITM	**Ithomi**	**3.07**	**315**	*e*PB	**Pb**	**09 40 05.3**	**-3.0**
ITM	**Ithomi**	**3.07**	**315**	*e*Pb	**Pb**	**09 40 06.3**	**-1.9**
PTL	**Penteli**	**3.08**	**348**	*e*PB	**Pb**	**09 40 05.0**	**-3.3**
MPAR	**Parnis Oros**	**3.20**	**347**	*e*PN	**Pn**	**09 40 06.5**	**+1.3**
NEO	**Neokhori**	**4.42**	**346**	*e*PN	**Pn**	**09 40 23.4**	**+0.9**
GERES	**GERESS Array B**	**16.00**	**333**	Pn	**P**	**09 43 03.2**	**+2.8**
	0.3nm,0.3s,baz=144,slow=12,SNR=11						
FINES	**FINESS Array B**	**26.45**	**2**	P	**P**	**09 44 50.1**	**-2.1**
	1.1nm,0.8s,mb3.4,baz=180,slow=8.3,SNR=2.8						
ARCES	**ARCESS Array B**	**34.56**	**1**	P	**P**	**09 46 01.5**	**-2.6**
	0.8nm,0.6s,mb3.9,baz=174,slow=9.1,SNR=5.0						
MATP	**Matopo**	**55.27**	**176**	LR	LR	10 14 04.8	
	comp=Z,205nm,20.7s,MS4.2,baz=124,slow=38						
SONM	**Songino Array**	**59.90**	**50**	P	**P**	**09 49 23.6**	**+1.8**
	0.2nm,0.6s,mb3.3,baz=284,slow=8.4,SNR=2.8						
SCHQ	**Schefferville**	**63.01**	**320**	P	**P**	**09 49 41.9**	**-0.9**
	1.2nm,0.5s,mb4.3,baz=52,slow=5.3,SNR=5.9						
SCHQ	**Schefferville**	**63.01**	**320**	*e*P	**P**	**09 49 42.1**	**-0.6**
	1.1nm,0.5s,mb4.2						
SCHQ	**Schefferville**	**63.01**	**320**	*e*P	**P**	**09 49 42.1**	**-0.6**
	1.1nm,0.5s,mb4.2						
INK	**Inuvik**	**75.69**	**352**	P	**P**	**09 50 59.8**	**-0.4**
	0.9nm,1.1s,mb3.6,baz=6.6,slow=5.6,SNR=3.8						
YKA	**Yellowknife Ar**	**77.44**	**342**	P	**P**	**09 51 09.9**	**-0.2**
	0.1nm,0.5s,mb3.0,baz=31,slow=5.1,SNR=6.6						
YKA	**Yellowknife Ar**	**77.44**	**342**	P	**P**	**09 51 09.9**	**-0.2**

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*BJI **14** 09:43:39.7, 16.38N×73.21E, h10km, mB5.2, mb5.0, Ms5.0, Msz4.6*
*IDC **14** 09:43:47.5±0.5, 17.14N×73.74E, mb4.5/27, mb1 4.7/27, mb1mx4.6/29, mbtmp4.5/27, MS3.9/9, Ms1 3.9/9, ms1mx3.7/20, Error ellipse: s-maj=16.3km s-min=12.5km az=44.0*
*NDI **14** 09:43:47.9±4.7, 17.20N×73.71E, h5km±13km, ML5.2, MW5.1*
*NEIC **14** 09:43:49.1±0.2, 17.15N×73.73E, h10km, mb4.9/41, MS4.1/2, ML5.1(MERI), Error ellipse: s-maj=7.6km s-min=5.0km az=192.0*
NEIC At least 45 people injured in Kolhapur, Ratnagiri and Satara, Maharashtra and in Belgaum, Karnataka. Buildings damaged [VII] in the Dhebewadi-Kasani area and [VI] at Devgad, Koynanagar, Patan and Sangammeshwar. Minor damage [V] to some buildings at Pune. Felt [V] at Chiplun, Karad, Kolhapur and Satara; [IV] at Belgaum, Hubli and Bombay; [III] at Madgaon, Karwar, Latur, Nashik, Panaji and Solapur. Felt throughout Goa, Karnataka and western Maharashtra. Rail services interrupted in Ratnagiri and Sindudurg. For additional information, see the web site http://asc-india.org/.
*CSEM **14** 09:43:49.8, 16.92N×73.96E, h33km, mb5.6*
*HRVD **14** 09:43:49.1±0.4, 17.10N×73.79E, h13km±1km, MW4.9/51, Centroid moment Tensor Solution. LP body waves: s25,c31;Mantle waves: s51,c81; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.49±.17; $M_{\theta\theta}$0.15±.10; $M_{\phi\phi}$2.34±.13; $M_{r\theta}$0.86±.35; $M_{\theta\phi}$-0.38±.10; $M_{\phi r}$0.77±.28; Best double couple: $M_0$2.684×10^{16} NP1:ϕ_s334°,δ40°, λ-118°. NP2:ϕ_s189°,δ55°,λ-68°. Principal axes: T 2.486, Plg8°, Azm264°; N .395, Plg17°, Azm356°; P -2.881, Plg71°, Azm151°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **14** 09:43:50.3±1.1, 17.14N×73.73E, h33km, mb5.0/34 Error ellipse: s-maj=8.0km s-min=5.5km az=116.3*
ISC 14 09:43:49.8±0.7**, 17.29N**±0.03×**73.87E**±0.03**, h27**km±4km**, h17**km±5.8km**:pP-P, n228, σ1§38**/257**, mb4.7**/80**, MS4.1**/21**, 11C-11D, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAD	**Karad**	**0.30**	**86**	*e*P	**Pb**	**09 43 56.9**	**0.0**
KAD				*e*S	**Sb**	**09 44 02.3**	**+0.5**
KAD				*e*		09 44 07.7	
	comp=N,62µm,0.5s						
KAD				*e*		09 44 08.4	
	comp=E,33µm,0.4s						
POO	**Poona**	**1.23**	**359**	*e*P	**Pn**	**09 44 14.1**	**+2.5**
POO				*e*S	**Sn**	**09 44 31.4**	**+3.9**
POO				*e*		09 44 32.3	
	comp=E,25µm,0.3s						
POO				*e*		09 44 33.2	
	comp=N,27µm,0.4s						
GOA	**Goa**	**1.79**	**181**	*i* P	**Pn**	**09 44 14.5**	**-5.0**
GOA				*i* S	**Sn**	**09 44 35.9**	**-5.6**
BOM	**Bombay**	**1.89**	**328**	*e*P	**Pn**	**09 44 20.2**	**-0.8**
BOM				*e*SB	**Sb**	**09 44 48.0**	**+1.1**
LATR	**Latur**	**2.79**	**66**	*e*P	**Pn**	**09 44 35.4**	**+1.5**
LATR				*e*		09 45 15.7	
MNGI	**Mangalore**	**4.42**	**168**	*i* P	**Pn**	**09 44 55.8**	**-1.2**
MNGI				*i*		09 45 59.2	
HYB	**Hyderabad**	**4.47**	**88**	*e*P	**Pn**	**09 44 58.5**	**+0.8**
HYB				*e*		09 45 49.5	
HYB	**Hyderabad**	**4.47**	**88**	*e*Pn	**Pn**	**09 44 58.5**	**+0.8**
HYB				*e*Pg	**Pn**	**09 45 11.5**	**+14**
HYB				*e*Sn	**Sn**	**09 45 49.5**	**0.0**
HYB				*e*Sg	Sn	09 46 10.0	+20
HYB	**Hyderabad**	**4.47**	**88**	*i* Pn	**Pn**	**09 44 58.5**	**+0.8**
HYB				*e*Pg	**Pn**	**09 45 11.5**	**+14**
HYB				*e*Sn	**Sn**	**09 45 49.5**	**0.0**
HYB				*e*Sg	Sn	09 46 10.0	+20
BHV	**Bhavnagar**	**4.73**	**340**	*e*	**Pn**	**09 45 04.0**	**+2.6**
BHV				*e*		09 46 16.5	
NGP	**Nagpur**	**6.22**	**51**	*e*P	**Pn**	**09 45 24.0**	**+1.6**
NGP				*e*S	**Sn**	**09 46 30.7**	**-2.6**
BHPL	**Bhopal**	**6.80**	**29**	*e*P	**Pn**	**09 45 31.6**	**+1.1**
BHPL				*e*S	**Sn**	**09 46 46.0**	**-1.8**
BHPL				*e*		09 47 26.7	
	comp=N,2µm,0.7s						
BHPL				*e*		09 47 28.2	
	comp=E,3µm,0.5s						
SALM	**Salem**	**7.00**	**143**	⇓*i*P	**Pn**	**09 45 31.0**	**-2.3**
SALM				*i*		09 47 07.0	
MDRS	**Chennai**	**7.45**	**123**	*e*P	**Pn**	**09 45 40.0**	**+0.4**
MDRS				*e*		09 46 54.0	
MDRS				*e*		09 47 35.0	
VIS	**Vishakhapatnam**	**9.03**	**86**	*e*P	**P**	**09 46 01.0**	**-0.6**
VIS				*e*S	**Sn**	**09 47 36.7**	**-6.8**
VIS				*e*		09 48 29.3	
	comp=N,4µm,0.8s						
VIS				*e*		09 48 33.0	
	comp=E,2µm,0.7s						
BLSP	**Bilaspur**	**9.15**	**57**	*e*P	**P**	**09 46 01.6**	**-1.6**
BLSP				*e*		09 47 40.4	
BLSP				*e*		09 48 40.2	
	comp=E,3µm,0.5s						
BLSP				*e*		09 48 40.4	
	comp=N,6µm,0.9s						
AJM	**Ajmer**	**9.18**	**4**	⇑*i*P	**P**	**09 46 03.0**	**-0.6**
AJM				*i*		09 48 02.0	
JHNI	**Jhansi**	**9.22**	**27**	*e*P	**P**	**09 46 05.0**	**+0.7**
JHNI				*e*S	**Sn**	**09 47 44.0**	**-4.3**
TRD	**Trivandrum**	**9.23**	**161**	*e*	**P**	**09 45 48.2**	**-16**
TRD				*i* S	**Sn**	**09 47 36.2**	**-12**
AGRA	**Agra**	**10.59**	**20**	*e*P	**P**	**09 46 20.9**	**-2.2**
AGRA				*e*S	**S**	**09 48 12.9**	**-8.8**
AGRA				*e*		09 49 39.1	
	comp=N,5µm,1.0s						
ALBI	**Allahabad**	**10.88**	**41**	*e*P	**P**	**09 46 24.5**	**-2.6**
ALBI				*e*		09 49 28.0	
KHET	**Khetri**	**10.88**	**9**	*e*P	**P**	**09 46 24.9**	**-2.2**
KHET				*e*		09 49 37.3	
	comp=E,881nm,0.9s						
KHET				*e*		09 49 42.6	
	comp=N,672nm,0.7s						
KUDL	**Kundal**	**11.07**	**12**	*e*P	**P**	**09 46 27.3**	**-2.4**
SONA	**Sohna**	**11.30**	**15**	*e*P	**P**	**09 46 31.6**	**-1.3**
SONA				*e*S	**S**	**09 48 29.9**	**-9.4**
SONA				*e*		09 50 02.8	
	comp=N,750nm,0.9s						
SONA				*e*		09 50 03.4	
	comp=E,2µm,0.9s						
AYAN	**Aya Nagar**	**11.54**	**14**	*e*P	**P**	**09 46 33.5**	**-2.5**
NDI	**New Delhi**	**11.75**	**15**	*e*P	**P**	**09 46 35.0**	**-3.9**
NDI				*e*S	**S**	**09 48 41.0**	**-9.2**
NDI				*e*		09 49 55.0	
ASOR	**Ausora**	**11.96**	**17**	*e*	**P**	**09 46 40.6**	**-1.1**
	comp=Z,236nm,0.2s						
BOK	**Bokaro**	**12.98**	**58**	*i* P	**P**	**09 46 56.3**	**+1.0**
BOK				*i*		09 50 30.3	
LGTI	**Lohaghat**	**13.44**	**25**	*e*P	**P**	**09 46 59.7**	**-1.7**
LGTI				*e*		09 50 47.3	
PTH	**Pithoragarh**	**13.52**	**24**	*e*P	**P**	**09 47 00.0**	**-2.5**
PTH				*e*S	**S**	**09 49 22.0**	**-11**
DDI	**Dehra Dun**	**13.53**	**16**	*e*P	**P**	**09 47 01.2**	**-1.4**
DDI				*e*		09 49 37.3	
DDI				*e*		09 50 52.3	
KOLN	**Koldanda**	**13.76**	**39**	*e*P	**P**	**09 47 02.2**	**-3.5**
	comp=Z,39nm,0.3s						
KOLN				*e*S	**S**	**09 49 30.4**	**-8.2**
SMLA	**Simla**	**14.10**	**12**	⇑*i*P	**P**	**09 47 06.1**	**-4.1**
SMLA				*i*		09 49 39.5	
BHK	**Bhakra**	**14.26**	**9**	*e*	**P**	**09 47 22.8**	**+11**
SDNR	**Sundarnagar**	**14.43**	**11**	*e*P	**P**	**09 47 14.5**	**+0.1**
SDNR				*e*		09 49 48.7	
GKN	**Gorkha**	**14.56**	**41**	*e*P	**P**	**09 47 12.7**	**-3.6**
	comp=Z,94nm,0.4s						
GKN				*e*S	**S**	**09 49 49.7**	**-7.9**
DMN	**Daman**	**14.60**	**43**	*e*P	**P**	**09 47 13.3**	**-3.4**
	comp=Z,72nm,0.7s						
PONG	**Pong**	**14.72**	**7**	*e*P	**P**	**09 47 18.0**	**-0.3**
PONG				*e*		09 50 14.0	
PKI	**Pulchoki**	**14.77**	**44**	*e*P	**P**	**09 47 15.4**	**-3.5**
	comp=Z,70nm,0.4s						
KKN	**Kakani**	**14.83**	**43**	*e*P	**P**	**09 47 17.1**	**-2.6**
	comp=Z,109nm,0.6s						
WBK	**Wadi Bani Khal**	**14.97**	**293**	⇓P	**P**	**09 47 21.9**	**+0.2**
WBK				⇑S	**S**	**09 49 58.7**	**-8.6**
THN	**Thein Dam**	**15.17**	**6**	*e*P	**P**	**09 47 22.0**	**-2.2**
THN				*e*S	**S**	**09 50 01.2**	**-11**
DLH	**Dalhousie**	**15.31**	**7**	*e*	**P**	**09 47 34.0**	**+8.1**
DLH				*e*		09 50 40.0	
GUN	**Gumba**	**15.31**	**44**	*e*P	**P**	**09 47 22.0**	**-4.0**
	comp=Z,90nm,0.4s						
GUN				*e*S	**S**	**09 50 07.0**	**-8.1**
JIRN	**Jiri**	**15.35**	**46**	*e*P	**P**	**09 47 23.9**	**-2.7**
	comp=Z,64nm,0.5s						
JIRN				*e*S	**S**	**09 50 09.8**	**-6.5**
THW	**Thamme Wali**	**15.56**	**353**	P	**P**	**09 47 30.3**	**+1.1**
JMDO	**Jabal Madar**	**15.67**	**291**	⇑P	**P**	**09 47 35.5**	**+4.8**
	SNR=13						
JMDO				⇓S	**S**	**09 50 15.6**	**-8.1**
CHCP	**Chirah Chowk**	**16.31**	**358**	P	**P**	**09 47 37.4**	**-1.4**
CHCP				S	**S**	**09 50 55.0**	**+17**
BSY	**Bisya**	**16.58**	**292**	⇑P	**P**	**09 47 47.5**	**+5.2**
	SNR=8.4						
ASHO	**Ashiyiah**	**18.18**	**297**	⇑P	**P**	**09 48 05.7**	**+3.4**
	SNR=26						
BANOM	**Banah**	**18.45**	**301**	P	**P**	**09 48 08.8**	**+3.2**
	SNR=8.5						
WHFO	**Wadi Hawf**	**19.17**	**275**	⇓P	**P**	**09 48 15.8**	**+1.5**
	SNR=8.6						
LSA	**Lhasa**	**20.06**	**49**	P	**P**	**09 48 27.0**	**+3.0**
LSA				AP		09 48 34.8	
LSA				XP		09 48 38.6	
LSA				S	**S**	**09 52 13.0**	**+10**
LSA				AMB	AMB		
	comp=Z,70nm,0.7s						
LSA				LR	LR		
	comp=N,640nm,7.0s						
LSA				LR	LR		
	comp=E,650nm,7.0s						
LSA				LR	LR		
	comp=Z,700nm,6.2s						
LSA	**Lhasa**	**20.06**	**49**	*e*P	**P**	**09 48 26.9**	**+2.9**
LSA				pmax	pmax		
	comp=Z,92nm,0.8s						
LSA	**Lhasa**	**20.06**	**49**	*e*P	**P**	**09 48 26.9**	**+2.9**
	comp=Z,92nm,0.8s						
KSH	**Kashi**	**22.22**	**4**	*e*P	**P**	**09 48 50.1**	**+4.1**
KSH				*e*AP		09 48 54.5	
KSH				*e*XP		09 48 57.1	
KSH				*e*PP	PP	09 49 19.4	+6.6
KSH				*e*PCP	PcP	09 52 41.5	-1.3
KSH				*e*S	**S**	**09 52 54.4**	**+10**
KSH				*e*SS	SS	09 53 36.9	+12
KSH				*e*SCP		09 56 17.4	
KSH				AMB	AMB		
	comp=Z,400nm,5.6s						
CHG	**Chiang Mai**	**23.88**	**82**	⇓P	**P**	**09 49 08.0**	**+5.6**
	comp=Z,22nm,1.0s,mb4.5						
CM31	**Chiang Mai Arr**	**23.89**	**83**	*e*P	**P**	**09 49 05.0**	**+2.6**
	comp=Z,32nm,0.9s,mb4.8						
CMAR	**Chiang Mai Arr**	**23.89**	**83**	P	**P**	**09 49 04.6**	**+2.2**
	comp=Z,12nm,0.9s,mb4.3,baz=276,slow=9.1,SNR=37						
CMAR				LR	LR	10 00 24.4	
	comp=Z,107nm,18.4s,MS3.4,baz=270,slow=42						
AAK	**Ala-Archa**	**25.27**	**1**	P	**P**	**09 49 17.7**	**+2.2**
	comp=Z,128nm,1.2s,mb5.3,SNR=12						
AAK	**Ala-Archa**	**25.27**	**1**	*e*P	**P**	**09 49 18.1**	**+2.6**
AAK				pmax	pmax		
	comp=Z,40nm,1.7s,mb4.7						
AAK				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.0						
AAK	**Ala-Archa**	**25.27**	**1**	*e*P	**P**	**09 49 17.8**	**+2.3**
	comp=Z,23nm,1.0s,mb4.7						
FRU	**Bishkek**	**25.47**	**1**	*e*P	**P**	**09 49 20.0**	**+2.6**
NANT	**Nan**	**25.55**	**82**	⇓P	**P**	**09 49 18.0**	**-0.3**
	comp=Z,262nm,0.6s						
KMI	**Kunming**	**27.98**	**69**	P	**P**	**09 49 42.0**	**+1.4**
KMI				AP	pP	09 49 45.5	-2.9
KMI				XP	sP	09 49 46.9	-5.0
KMI				S	**S**	**09 54 26.9**	**+5.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.3						
KMI				AMB	AMB		
	comp=Z,82nm,4.1s						
KMI				LR	LR		
	comp=N,344nm,25.1s,MS4.0						
KMI				LR	LR		
	comp=E,406nm,23.4s,MS4.0						
KMI				LR	LR		
	comp=Z,477nm,19.8s,MS4.1						
KMI	**Kunming**	**27.98**	**69**	P	**P**	**09 49 42.0**	**+1.4**
KMI				*SP	sP	09 49 46.9	-5.0
KMI				S	**S**	**09 54 26.9**	**+5.5**
KMI				SS	SS	09 55 49.2	+5.6
KMI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
KMI				MLR	MLR		
	comp=Z,480nm,19.8s,MS4.1						
KMI	**Kunming**	**27.98**	**69**	P	**P**	**09 49 42.0**	**+1.4**
	comp=Z,8.0nm,0.9s,mb4.3						
KMI				pP	pP	09 49 45.5	-2.9
KMI				sP	sP	09 49 46.9	-5.0
KMI				S	**S**	**09 54 26.9**	**+5.5**
KMI				SS	SS	09 55 49.2	+5.6
KMI				LR	LR		
	comp=Z,480nm,19.8s,MS4.1						
WMQ	**Urumqi**	**28.92**	**21**	*e*P	**P**	**09 49 50.8**	**+1.9**
WMQ				XP	sP	09 49 58.0	-2.2
WMQ				PP	PP	09 50 45.0	+2.4
WMQ				S	**S**	**09 54 41.5**	**+5.1**
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,183nm,5.2s						
WMQ				LR	LR		
	comp=N,2µm,10.8s,MS5.1						
WMQ				LR	LR		
	comp=E,2µm,10.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,1µm,15.7s						
MKAR	**Makanchi Array**	**30.24**	**12**	*i* P	**P**	**09 50 01.1**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
GTA	**Gaotai**	**31.53**	**40**	*e*P	**P**	**09 50 13.3**	**+1.2**
GTA				AP	pP	09 50 16.9	-3.1
GTA				XP	sP	09 50 19.3	-4.2
GTA				PP	PP	09 51 18.8	+2.2
GTA				S	**S**	**09 55 25.3**	**+7.6**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,100nm,6.1s						
GTA				LR	LR		
	comp=N,1µm,17.1s,MS4.8						
GTA				LR	LR		
	comp=E,896nm,16.3s,MS4.8						
GTA				LR	LR		
	comp=Z,447nm,13.7s,MS4.3						
GYA	**Guiyang**	**31.69**	**68**	⇑*i*P	**P**	**09 50 15.1**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.6						
LZH	**Lanzhou**	**32.48**	**49**	*e*P	**P**	**09 50 24.0**	**+3.6**
LZH				AP	pP	09 50 33.8	+5.5
LZH				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.8						
LZH	**Lanzhou**	**32.48**	**49**	*e*P	**P**	**09 50 24.0**	**+3.6**
LZH				*PP	pP	09 50 33.7	+5.4
LZH				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.8						
LZH	**Lanzhou**	**32.48**	**49**	*e*P	**P**	**09 50 24.0**	**+3.6**
	comp=Z,31nm,1.8s,mb4.8						
LZH				pP	pP	09 50 33.7	+5.4
KURK	**Kurchatov**	**33.56**	**5**	P	**P**	**09 50 30.3**	**+0.6**
	comp=Z,177nm,0.9s,SNR=30						
KURK	**Kurchatov**	**33.56**	**5**	*d i*P	**P**	**09 50 30.7**	**+1.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**33.56**	**5**	*e*P	**P**	**09 50 30.5**	**+0.8**
	comp=Z,24nm,0.8s,mb5.2						
GNI	**Garni**	**33.97**	**318**	*d i*P	**P**	**09 50 36.2**	**+2.9**
GNI				pmax	pmax		
	comp=Z,21nm,1.1s						
GNI				MLR	MLR		
	comp=Z,200nm,20.0s						
GNI	**Garni**	**33.97**	**318**	P	**P**	**09 50 36.4**	**+3.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=182,slow=24,SNR=5.4						
ENH	**Enshi**	**34.91**	**62**	P	**P**	**09 50 42.2**	**+0.7**
	comp=Z,19nm,0.9s,mb5.0						
XAN	**Xi'an**	**35.51**	**55**	P	**P**	**09 50 47.5**	**+1.0**
XAN				AP	pP	09 50 54.8	+0.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
BVA0	**Borovoye Array**	**35.77**	**356**	P	**P**	**09 50 49.6**	**+1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
BVAR	**Borovoye Array**	**35.77**	**356**	P	**P**	**09 50 49.8**	**+1.2**
	comp=Z,2.9nm,0.4s,mb4.6,baz=164,slow=9.4,SNR=26						
CHKZ	**Chkalovo**	**36.40**	**357**	*i* P	**P**	**09 50 55.0**	**+1.1**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ASF	**Jabal al Asfar**	**36.51**	**301**	P	**P**	**09 50 58.6**	**+3.6**
	comp=Z,1.8nm,0.5s,mb4.2,baz=311,slow=4.0,SNR=3.4						
KIV	**Kislovodsk**	**37.39**	**322**	*e*P	**P**	**09 51 05.4**	**+3.2**
KIV				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.7						
ZAL	**Zalesovo**	**37.55**	**11**	P	**P**	**09 51 04.8**	**+1.3**
	comp=Z,6.3nm,0.8s,mb4.4,baz=278,slow=8.0,SNR=25						
ZAL				LR	LR	10 07 55.3	
	comp=Z,143nm,18.6s,MS3.8,baz=262,slow=38						
ZAL	**Zalesovo**	**37.55**	**11**	P	**P**	**09 51 04.8**	**+1.3**
ZAL				LR	LR	10 07 55.3	
EIL	**Elat**	**37.59**	**296**	P	**P**	**09 51 04.2**	**0.0**
	comp=Z,3.6nm,0.6s,mb4.3,baz=52,slow=37,SNR=2.2						
NVS	**Novosibirsk**	**38.17**	**9**	*i* P	**P**	**09 51 08.6**	**-0.1**
WHN	**Wuhan**	**39.08**	**63**	*e*P	**P**	**09 51 17.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**40.01**	**46**	*e*P	**P**	**09 51 27.3**	**+3.1**
HHC				PP	PP	09 53 02.8	+2.9
HHC				PCP	PcP	09 53 30.8	+1.2
HHC				S	**S**	**09 57 34.0**	**+6.1**
HHC				SCS	ScS	10 01 32.5	+5.3
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.9						
HHC				AMB	AMB		
	comp=Z,126nm,4.9s						
HHC				LR	LR		
	comp=N,666nm,13.7s,MS4.7						
HHC				LR	LR		
	comp=E,506nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,353nm,24.4s						
SONM	**Songino Array**	**40.45**	**34**	P	**P**	**09 51 30.4**	**+2.7**
	comp=Z,16nm,0.9s,mb4.8,baz=227,slow=8.7,SNR=70						
KMBO	**Kilima Mbogo**	**40.46**	**247**	P	**P**	**09 51 29.8**	**+1.6**
	comp=Z,0.4nm,0.3s,mb3.6,baz=231,slow=23,SNR=5.4						
KMBO				LR	LR	10 06 36.0	
	comp=Z,136nm,18.6s,MS3.8,baz=92,slow=34						
ZAK	**Zakamensk**	**40.56**	**29**	*e*P	**P**	**09 51 30.2**	**+1.6**
ZAK				pmax	pmax		

comp=Z,4.0nm,1.1s,mb4.0
ULN Ulaanbaatar 40.82 34 *d iP* **P 09 51 32.9 +2.2**
ULN Ulaanbaatar 40.82 34 *eP* **P 09 51 32.9 +2.2**
comp=Z,18nm,1.0s,mb4.7
ULN *e* 09 51 36.0
TLY Talaya 41.63 28 *eP* **P 09 51 40.1 +2.8**
TLY *e* 09 53 24.4
TLY *e*SS SS 10 00 58.1 +5.7
TLY pmax pmax
comp=Z,9.0nm,1.5s,mb4.2
TLY MLR MLR
comp=Z,140nm,20.0s,MS3.8
TLY Talaya 41.63 28 *eP* **P 09 51 39.6 +2.3**
comp=Z,5.2nm,1.1s,mb4.1
NJ2 Nanjing 43.13 61 *eP* **P 09 51 51.5 +1.6**
NJ2 PP PP 09 53 34.1 +1.8
NJ2 S **S 09 58 13.0 -1.1**
NJ2 XS 09 58 31.0
NJ2 AMB AMB
comp=Z,630nm,4.0s
NJ2 LR LR
comp=N,360nm,20.2s,MS4.5
NJ2 LR LR
comp=E,510nm,20.8s,MS4.5
NJ2 LR LR
comp=Z,230nm,18.1s,MS4.1
SSE Sheshan 44.97 63 P **P 09 52 01.8 -3.0**
SSE AMB AMB
comp=Z,14nm,0.5s,mb5.0
SSE AMB AMB
comp=Z,97nm,4.0s
SSE LR LR
comp=N,33nm,22.7s,MS3.9
SSE LR LR
comp=E,167nm,22.7s,MS3.9
SSE LR LR
comp=Z,222nm,21.7s,MS4.0
SSE Sheshan 44.97 63 P **P 09 52 01.7 -3.1**
comp=Z,14nm,0.5s,mb5.0
SSE S **S 09 58 37.9 -3.0**
SSE sS 09 58 53.2
SSE LR LR
comp=Z,220nm,21.7s,MS4.0
OBN Obninsk 47.28 332⇑ *iP* **P 09 52 24.5 +1.7**
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.0
VRI Vrincioaia 48.29 317⇓ **P 09 52 33.1 +2.3**
MLR Muntele Rosu 48.68 316 P **P 09 52 35.6 +1.8**
comp=Z,17nm,1.1s,mb5.0,baz=344,slow=0.9,SNR=10.0
MLR Muntele Rosu 48.68 316⇑ P **P 09 52 35.7 +1.9**
HIA Hailar 48.78 39 *eP* **P 09 52 36.1 +1.6**
HIA pmax pmax
comp=Z,13nm,0.8s
HIA Hailar 48.78 39 *eP* **P 09 52 36.1 +1.6**
comp=Z,13nm,0.8s,mb5.0
BURAR Bucovina Array 49.87 318⇑ **P 09 52 44.1 +1.2**
BURAR Bucovina Array 49.87 318⇑ **P 09 52 44.1 +1.2**
BOD Bodaibo 50.18 27 *eP* **P 09 52 43.9 -1.2**
BOD pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CN2 Changchun 50.68 47 *eP* **P 09 52 50.3 +1.2**
CN2 *e*S **S 10 00 08.0 +6.9**
CN2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,220nm,5.0s
CN2 LR LR
comp=N,500nm,12.0s,MS4.9
CN2 LR LR
comp=E,400nm,12.0s,MS4.9
CN2 LR LR
comp=Z,400nm,14.0s,MS4.6
KOLS Kolonicke sedl 52.17 319 *i* P **P 09 53 01.5 +1.2**
CRVS Cervenica-Dubn 52.66 319 *eP* **P 09 53 04.9 +0.9**
MDJ Mudanjiang 53.77 47 P **P 09 53 12.6 +0.4**
MDJ AP pP 09 53 15.8 -4.6
MDJ XP sP 09 53 17.0 -6.6
MDJ PCP PcP 09 54 17.3 -0.6
MDJ PP PP 09 55 14.4 -0.4
MDJ S **S 10 00 49.0 +5.7**
MDJ SCS ScS 10 03 02.3 +6.0
MDJ SS SS 10 04 32.0 +8.3
MDJ AMB AMB
comp=Z,20nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,202nm,5.1s
MDJ LR LR
comp=N,217nm,6.0s
MDJ LR LR
comp=E,114nm,7.4s
MDJ LR LR
comp=Z,202nm,6.5s
MDJ Mudanjiang 53.77 47 *eP* **P 09 53 12.9 +0.7**
comp=Z,14nm,0.8s,mb4.9
OJC Ojcow 54.09 320 *eP* **P 09 53 14.2 -0.3**
VYHS Vyhne 54.22 318 *eP* **P 09 53 17.1 +1.7**
JOF Joensuu 54.22 338 *ep* **P 09 53 14.2 -1.0**
FINES FINESS Array B 55.43 334 P **P 09 53 23.4 -0.7**
comp=Z,4.1nm,0.8s,mb4.5,baz=124,slow=14,SNR=15
FINES LR LR 10 21 24.8
comp=Z,116nm,21.2s,MS3.9,baz=146,slow=41
FINES FINESS Array B 55.43 334 P **P 09 53 23.4 -0.7**
FINES LR LR 10 21 24.8
KOGS Kog 55.45 315 *eP* **P 09 53 26.5 +2.0**
LSZ Lusaka 55.47 237 *eP* **P 09 53 24.1 -0.9**
LSZ pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LSZ Lusaka 55.47 237 *eP* **P 09 53 24.1 -1.0**
comp=Z,9.5nm,0.8s,mb4.9
KAF Kangasniemi 55.68 335 *ep* **P 09 53 25.0 -1.0**
comp=Z,7.5nm,0.8s,mb4.8
KAF Kangasniemi 55.68 335 *eP* **P 09 53 25.0 -1.0**
KAF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
VRAC Vranov 55.85 318 P **P 09 53 26.9 -0.4**
comp=Z,1.0nm,0.3s,mb4.3,baz=97,slow=21,SNR=1.7
BOJS Bojanci 55.96 314 *eP* **P 09 53 30.1 +2.0**
DPC Dobruska-Polom 56.28 319 *eP* **P 09 53 30.5 +0.1**
VISS Visnje 56.29 314 *eP* **P 09 53 29.7 -0.9**
KSP Ksiaz 56.42 320 *eP* **P 09 53 31.6 +0.2**
UPC Upice 56.51 320 *eP* **P 09 53 33.3 +1.3**
GERES GERESS Array B 57.61 317 P **P 09 53 38.5 -1.4**
comp=Z,2.2nm,0.9s,mb4.2,baz=100,slow=8.1,SNR=12
GERES PcP PcP 09 54 33.1 +0.4
comp=Z,0.5nm,0.7s,baz=198,slow=4.2,SNR=4.7
KHC Kasperske Hor 57.75 318 *eP* **P 09 53 39.8 -1.0**
BRG Berggiesshubel 57.87 320 *eP* **P 09 53 41.9 +0.2**
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BRG Berggiesshubel 57.87 320 *eP* **P 09 53 41.9 +0.2**
comp=Z,8.7nm,0.9s,mb4.8
MATP Matopo 58.20 232 P **P 09 53 42.5 -1.9**
comp=Z,4.3nm,0.6s,mb4.6,baz=40,slow=7.6,SNR=14
CLL Collm 58.54 320 *i* P **P 09 53 46.8 +0.4**
CLL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CLL Collm 58.54 320 *i* P **P 09 53 46.8 +0.4**
comp=Z,10.0nm,1.1s,mb4.8
CLL Collm 58.54 320 P **P 09 53 46.8 +0.4**
comp=Z,logA/T=1.0,mb4.8
YAK Yakutsk 59.10 27 *i* P **P 09 53 49.3 -0.8**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
YAK MLR MLR
comp=Z,100nm,20.0s,MS3.9
MOX Moxa 59.28 319 *eP* **P 09 53 51.6 +0.1**
MOX Moxa 59.28 319 *i* P **P 09 53 51.6 +0.1**
GRA1 Grafenberg Arr 59.36 318 *eP* **P 09 53 52.5 +0.4**
comp=Z,9.0nm,1.2s,mb4.7
GRF Grafenberg Arr 59.36 318 *eP* **P 09 53 52.5 +0.4**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
GRF Grafenberg Arr 59.36 318 *eP* **P 09 53 52.5 +0.4**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
GRF Grafenberg Arr 59.36 318 *eP* **P 09 53 52.5 +0.4**
comp=Z,9.0nm,1.2s,mb4.7
DAVOX Davos 59.84 314 P **P 09 53 54.8 -0.6**
comp=Z,1.1nm,0.5s,mb4.2,baz=335,slow=23,SNR=3.7
ARCES ARCESS Array B 60.02 342 P **P 09 53 56.4 +0.1**
comp=Z,11nm,0.8s,mb5.0,baz=127,slow=6.1,SNR=32
PGF Pioggiola 60.08 309 *eP* **P 09 53 56.0 -1.1**
comp=Z,24nm,1.2s,mb4.8
PGF Pioggiola 60.08 309 *eP* **P 09 53 56.0 -1.1**
PGF pmax pmax
comp=Z,12nm,1.2s,mb4.8
HFS Hagfors 60.43 330 P **P 09 53 58.4 -0.8**
comp=Z,5.6nm,0.9s,mb4.6,baz=104,slow=6.1,SNR=5.4
SBF Sospel 61.30 311 *eP* **P 09 54 03.9 -1.5**
comp=Z,35nm,1.0s,mb5.1
SBF Sospel 61.30 311 *eP* **P 09 54 03.9 -1.5**
SBF pmax pmax
comp=Z,17nm,1.0s,mb5.1
MBDF Montbardon 61.83 312 *eP* **P 09 54 08.4 -0.6**
comp=Z,17nm,0.6s,mb5.0
MBDF Montbardon 61.83 312 *eP* **P 09 54 08.4 -0.6**
MBDF pmax pmax
comp=Z,9.0nm,0.6s,mb5.1
NB2 NORSAR Subarra 61.86 331 P **P 09 54 07.7 -1.3**
comp=Z,2.1nm,0.6s,mb4.4,baz=107,slow=6.5
NB2 NORSAR Subarra 61.86 331 P **P 09 54 07.7 -1.3**
NB2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
NOA NORSAR Array B 61.86 331 P **P 09 54 07.7 -1.3**
comp=Z,4.3nm,0.9s,mb4.6,baz=107,slow=6.9,SNR=12
LPG La Plagne 61.89 313 *eP* **P 09 54 07.9 -1.5**
LPL La Plagne 61.90 313 *eP* **P 09 54 08.0 -1.5**
BNI Bardonecchia 61.91 312 P **P 09 54 06.3 -3.2**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BNI Bardonecchia 61.91 312 P **P 09 54 06.3 -3.2**
comp=Z,7.4nm,0.8s,mb4.9
HINF Hinteralfeld 61.99 315 *eP* **P 09 54 08.2 -1.8**
CABF La Chapelle 62.42 314 *eP* **P 09 54 12.1 -0.8**
comp=Z,55nm,1.2s,mb5.3
CABF La Chapelle 62.42 314 *eP* **P 09 54 12.1 -0.8**
CABF pmax pmax
comp=Z,28nm,1.2s,mb5.3
ORIF Oris-en-Rattie 62.47 312 *eP* **P 09 54 11.7 -1.5**
TIXI Tiksi 63.02 17⇓ *iP* **P 09 54 16.1 -0.4**
TIXI pmax pmax
comp=Z,13nm,1.0s,mb5.0
TIXI MLR MLR
comp=Z,160nm,15.0s,MS4.3
LBTB Lobatse 63.08 229 *eP* **P 09 54 16.2 -1.3**
LBTB pmax pmax
comp=Z,21nm,1.2s,mb5.1
LBTB Lobatse 63.08 229 P **P 09 54 16.8 -0.8**
comp=Z,8.0nm,0.5s,mb5.1,baz=72,slow=6.5,SNR=21
LBTB LR LR 10 16 16.7
comp=Z,212nm,22.0s,MS4.3,baz=82,slow=31
LBTB Lobatse 63.08 229 *eP* **P 09 54 16.2 -1.3**
comp=Z,21nm,1.2s,mb5.2
YSS Yuzh-Sakhalins 63.19 46 *eP* **P 09 54 17.2 -0.8**
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.5
YSS Yuzh-Sakhalins 63.19 46 *eP* **P 09 54 18.0 +0.1**
comp=Z,26nm,0.9s,mb5.4
VIVF Saint-Julien-l 63.33 312 *eP* **P 09 54 17.6 -1.3**
LASF Ste Croix 63.89 311 *eP* **P 09 54 21.9 -0.7**
comp=Z,26nm,1.1s,mb4.9
SMF Signal de Mont 63.97 314 *eP* **P 09 54 21.7 -1.4**
SSF Saint Saulge 64.21 314 *eP* **P 09 54 23.5 -1.2**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
SSF Saint Saulge 64.21 314 *eP* **P 09 54 23.5 -1.2**
comp=Z,3.5nm,0.6s,mb4.6
AVF Avril sur Loir 64.31 314 *eP* **P 09 54 24.0 -1.3**
NWAO Narrogin (SRO) 64.89 140 P **P 09 54 28.2 -1.1**
comp=Z,11nm,0.9s,mb4.9,baz=150,slow=2.2,SNR=6.8
MTLF Montolieu 65.08 310 *eP* **P 09 54 29.5 -0.8**
comp=Z,15nm,0.8s,mb4.8
MTLF Montolieu 65.08 310 *eP* **P 09 54 29.5 -0.8**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 65.09 313 *eP* **P 09 54 29.4 -0.9**
CAF Calviac 65.18 312 *eP* **P 09 54 30.4 -0.6**
BOSA Boshof 65.50 226 *eP* **P 09 54 32.1 -1.2**
BOSA pmax pmax
comp=Z,13nm,1.2s,mb4.8
BOSA Boshof 65.50 226 *eP* **P 09 54 32.1 -1.3**
comp=Z,13nm,1.2s,mb4.8
RJF Les Rejaudoux 65.57 312 *eP* **P 09 54 33.0 -0.4**
comp=Z,18nm,0.8s,mb4.8
RJF Les Rejaudoux 65.57 312 *eP* **P 09 54 33.0 -0.4**
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
EBIE Bielsa 66.62 310 P **P 09 54 42.2 +2.0**
comp=Z,5.3nm,0.7s,mb4.7
LDF La Druitiere 66.69 316 *eP* **P 09 54 39.6 -0.9**
MFF Saint Martin d 66.72 314 *eP* **P 09 54 39.9 -0.9**
FLN La Foliniere 66.92 316 *eP* **P 09 54 41.2 -0.9**
ETSF Etsaut 67.12 310 *eP* **P 09 54 44.6 +1.2**
comp=Z,19nm,0.9s,mb4.8
ETSF Etsaut 67.12 310 *eP* **P 09 54 44.6 +1.2**
ETSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
EMOS Mosqueruela 67.20 307 P **P 09 54 44.3 +0.4**
comp=Z,6.2nm,0.7s,mb4.8
SJPF Ste Jean 67.60 310 *eP* **P 09 54 46.0 -0.4**
comp=Z,7.4nm,0.7s,mb4.5
SJPF Ste Jean 67.60 310 *eP* **P 09 54 46.0 -0.4**
SJPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
EALK Alkurruntz 67.80 310 P **P 09 54 47.2 -0.5**
comp=Z,6.4nm,0.7s,mb4.8
SGMF Saint Gilles 68.31 316 *eP* **P 09 54 50.4 -0.4**
EKA Eskdalemuir Ar 68.60 323 P **P 09 54 52.9 +0.4**
comp=Z,2.3nm,0.9s,mb4.1,baz=104,slow=6.9,SNR=4.5
MA2 Magadan 68.62 32 *eP* **P 09 54 53.0 +0.5**
MA2 Magadan 68.62 32 *eP* **P 09 54 53.4 +0.9**
comp=Z,14nm,1.0s,mb4.8
QUIF Quistinic 68.73 315 *eP* **P 09 54 52.4 -1.0**
comp=Z,23nm,0.8s,mb4.8
QUIF Quistinic 68.73 315 *eP* **P 09 54 52.4 -1.0**
QUIF pmax pmax
comp=Z,11nm,0.8s,mb4.8
ROSF Rostrenen 68.79 316 *eP* **P 09 54 52.9 -0.8**
EBER Berja 69.39 304 P **P 09 54 58.9 +1.3**
comp=Z,4.4nm,0.6s,mb4.6
ESDC Sonseca Array 69.93 307 P **P 09 55 00.4 -0.4**
comp=Z,0.6nm,0.5s,mb3.8,baz=71,slow=4.9,SNR=6.5
WRA Warramunga Arr 69.95 119 P **P 09 55 01.3 0.0**
comp=Z,11nm,0.5s,mb5.0,baz=306,slow=5.8,SNR=30
WRAB Tennant Creek 69.95 119 *eP* **P 09 55 00.9 -0.4**
comp=Z,13nm,0.5s,mb5.1
WB2 Warramunga Arr 69.96 119 *eP* **P 09 55 00.9 -0.4**
EADA Adamuz 70.58 305 P **P 09 55 03.6 -1.2**
comp=Z,1.4nm,0.5s,mb4.2
FORT Forrest 70.69 132 *eP* **P 09 55 05.8 +0.2**
comp=Z,385nm,0.5s
ASAR Alice Springs 71.36 123 P **P 09 55 09.8 0.0**
comp=Z,10nm,0.6s,mb4.9,baz=300,slow=5.8,SNR=28
ASAR LR LR 10 25 09.4
comp=Z,73nm,18.2s,MS4.0,baz=320,slow=35
BILL Bilibino 75.01 23 *eP* **P 09 55 32.4 +2.0**
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
DBIC Dimbokro 77.32 273 P **P 09 55 43.4 -1.1**
comp=Z,7.0nm,0.8s,mb4.6,baz=76,slow=5.7,SNR=7.6
DBIC LR LR 10 26 44.6
comp=Z,76nm,20.8s,MS4.0,baz=75,slow=33
CTA Charters Tower 80.16 115 P **P 09 56 00.4 +0.6**
comp=Z,5.6nm,0.8s,mb4.6,baz=266,slow=10,SNR=3.9
CTA LR LR 10 36 26.1
comp=Z,64nm,18.6s,MS4.0,baz=226,slow=39
STKA Stephens Creek 81.20 127 LR LR 10 30 13.7
comp=Z,120nm,19.2s,MS4.3,baz=206,slow=34
INK Inuvik 92.36 10 P **P 09 57 00.2 +1.5**
comp=Z,2.9nm,0.7s,mb4.7,baz=3.8,slow=6.9,SNR=33
INK Inuvik 92.36 10 *eP* **P 09 57 00.1 +1.4**
comp=Z,5.8nm,1.0s,mb4.9
ILAR Eielson Array 92.48 16 P **P 09 56 59.9 +0.6**
comp=Z,1.1nm,0.9s,mb4.2,baz=288,slow=3.2,SNR=10.0
ILAR PP PP 10 00 40.4 -2.9
comp=Z,2.4nm,1.0s,baz=304,slow=5.2,SNR=7.1
DAWY Dawson 94.94 14 *eP* **P 09 57 11.9 +1.3**
YKA Yellowknife Ar 100.20 4 P P 09 57 35.2 +0.7
comp=Z,0.2nm,0.7s,baz=344,slow=4.6,SNR=5.5
YKA PP PP 10 01 40.0 -3.1
comp=Z,0.4nm,0.9s,baz=351,slow=7.1,SNR=6.1
YKA Yellowknife Ar 100.20 4 P P 09 57 35.2 +0.6
YKA PP PP 10 01 40.0 -3.1
PDAR Pinedale Array 120.16 3 PKP PKPdf 10 02 40.1 -3.3
comp=Z,1.6nm,0.6s,baz=63,slow=2.5,SNR=19
NVAR Mina Array Bea 123.41 11 PKP PKPdf 10 02 48.1 -1.7
comp=Z,0.9nm,0.5s,baz=268,slow=2.8,SNR=5.3
TXAR Lajitas Array 133.59 357 PKP PKPdf 10 03 07.6 -1.9
comp=Z,0.8nm,0.9s,baz=166,slow=5.2,SNR=4.9
LPAZ La Paz 143.65 266 PKP PKPdf 10 03 26.5 -1.5
comp=Z,1.3nm,0.8s,baz=5.7,slow=5.5,SNR=4.0
OTAV Otavalo 147.66 300 *e*PKPdf PKPdf 10 03 29.5 -5.4
OTAV *e*PKPbc PKPdf 10 03 33.5 -1.5
OTAV *e*PKPab PKPab 10 03 36.0 -1.3

NEIC ***14*** *09:48:02.3,44.97S×165.16E,h33km,ML4.2(WEL),After WEL.*
WEL 14 09:48:13.2±0.4,45.03S×166.71E,h5km,ML3.8/4,1C-1D, Error ellipse: s-maj=3.2km s-min=1.2km az=90.0,Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.55**	**145**	PG	Pg	09 48 24.1	0.0
DCZ				SG	Sg	09 48 31.3	-0.1
DCZ				SG	Sg	09 48 31.9	+0.5
MSZ	**Milford Sound**	**0.94**	**68**	P*	Pb	09 48 31.0	-0.5
MSZ				S*	Sb	09 48 44.1	+0.1
MLZ	**Mavora Lakes**	**1.08**	**108**	P	Pb	09 48 33.2	-0.8
MLZ	**Mavora Lakes**	**1.08**	**108**	⇓P*	Pb	09 48 33.2	-0.8
MLZ				S*	Sb	09 48 46.6	-1.6
MLZ				S*	Sb	09 48 47.4	-0.8
WHZ	**Wether Hill Ro**	**1.23**	**135**	P	Pb	09 48 35.6	-0.9
WHZ	**Wether Hill Ro**	**1.23**	**135**	P*	Pb	09 48 35.4	-1.1
WHZ				S*	Sb	09 48 51.7	-0.8
WKZ	**Wanaka**	**1.65**	**84**	*eP*	Pn	09 48 43.8	+0.8
WKZ	**Wanaka**	**1.65**	**84**	PN	Pn	09 48 43.0	-0.1
WKZ				SN	Sn	09 49 05.7	+0.9
WKZ				SN	Sn	09 49 06.1	+1.3
JCZ	**Jackson Bay**	**1.75**	**58**	P	Pn	09 48 43.2	-1.2
JCZ	**Jackson Bay**	**1.75**	**58**	⇑PN	Pn	09 48 43.1	-1.3
EAZ	**Earnscleugh**	**1.85**	**97**	P	Pn	09 48 46.3	+0.4
EAZ	**Earnscleugh**	**1.85**	**97**	PN	Pn	09 48 46.2	+0.4
TUZ	**Tuapeka**	**2.25**	**115**	*eP*	Pn	09 48 51.3	-0.4
TUZ	**Tuapeka**	**2.25**	**115**	PN	Pn	09 48 51.0	-0.7
LBZ	**Lake Benmore**	**2.56**	**77**	*eP*	Pn	09 48 55.8	-0.2
LBZ	**Lake Benmore**	**2.56**	**77**	PN	Pn	09 48 55.8	-0.2
FOZ	**Fox Glacier**	**2.59**	**57**	PN	Pn	09 48 54.7	-1.8
ODZ	**Otahua Downs**	**2.79**	**92**	P	Pn	09 48 58.6	-0.7
ODZ	**Otahua Downs**	**2.79**	**92**	PN	Pn	09 48 58.4	-0.9
RPZ	**Rata Peaks**	**3.38**	**69**	*eP*	Pn	09 49 06.0	-1.7
RPZ	**Rata Peaks**	**3.38**	**69**	PN	Pn	09 49 05.6	-2.1
WVZ	**Waitaha Valley**	**3.50**	**57**	P	Pn	09 49 06.2	-3.2
MQZ	**McQueen's Vall**	**4.46**	**75**	*eP*	Pn	09 49 21.1	-2.0
MQZ	**McQueen's Vall**	**4.46**	**75**	PN	Pn	09 49 20.5	-2.6
MQZ				SN	Sn	09 50 09.6	-6.5
LTZ	**Lake Taylor**	**4.60**	**63**	*e*PN	Pn	09 49 23.5	-1.5
DSZ	**Denniston Nort**	**4.95**	**50**	*e*PN	Pn	09 49 25.9	-4.2
THZ	**Tophouse**	**5.57**	**56**	*e*P	Pn	09 49 35.0	-3.7
THZ	**Tophouse**	**5.57**	**56**	*e*PN	Pn	09 49 34.9	-3.8
QRZ	**Quartz Range**	**5.99**	**47**	*e*P	Pn	09 49 40.4	-4.3
QRZ	**Quartz Range**	**5.99**	**47**	*e*PN	Pn	09 49 40.2	-4.5

IDC ***14*** *09:49:03.3±0.9,4.52S×139.60E,mb3.9/5,mb1 4.1/9, mb1mx4.1/13,mbtmp4.0/9,ML3.7/4,MS3.2/2,Ms1 3.2/2, ms1mx2.8/17,Error ellipse: s-maj=38.7km s-min=20.0km az=68.0*
NEIC ***14*** *09:49:04.3±6.8,4.56S×139.52E,h8km±43km,mb4.5/3, Error ellipse: s-maj=14.6km s-min=13.2km az=141.0*
ISC 14 09:49:05.2±0.6,4.90S±0.05×139.57E±0.06,h33km,n20, σt‡33/21,mb3.9/6,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**8.76**	**121**	Pn	**P**	**09 51 13.6**	**+1.2**
	1.1nm,0.3s,baz=347,slow=18,SNR=4.1						
PMG				Sn	**Sn**	**09 52 49.6**	**-1.6**
	0.5nm,0.3s,baz=24,slow=19,SNR=2.7						
PMG				LR	LR	09 55 14.7	
	comp=Z,159nm,18.6s,baz=152,slow=42						
KAKA	**Kakadu**	**10.48**	**222**	*eP*	**P**	**09 51 36.7**	**+0.4**
	36nm,0.5s						
KAKA				*e*S	**S**	**09 53 32.9**	**-0.7**
WRAB	**Tennant Creek**	**15.78**	**198**	*eP*	**P**	**09 52 50.0**	**+3.3**
	34nm,0.8s						
WB2	**Warramunga Arr**	**15.79**	**198**	*eP*	**P**	**09 52 47.0**	**+0.1**
WB2				*e*S	**S**	**09 55 39.2**	**-1.6**
WRA	**Warramunga Arr**	**15.79**	**198**	Pn	**P**	**09 52 46.7**	**-0.2**
	0.5nm,0.3s,baz=17,slow=13,SNR=13						
WRA				Sn	**S**	**09 55 39.7**	**-1.1**
	0.6nm,0.3s,baz=13,slow=22,SNR=5.0						
CTA	**Charters Tower**	**16.43**	**157**	Pn	**P**	**09 53 00.5**	**+5.4**
	0.2nm,0.3s,baz=334,slow=11,SNR=4.1						
CTA				LR	LR	09 59 59.7	
	comp=Z,83nm,18.6s,baz=19,slow=39						
CTAO	**Charters Tower**	**16.43**	**157**	P	**P**	**09 53 00.2**	**+5.2**
	6.9nm,0.9s						
ASAR	**Alice Springs**	**19.44**	**196**	P	**P**	**09 53 35.0**	**+3.2**
	0.8nm,0.3s,baz=26,slow=8.9,SNR=38						
ASPA	**Alice Springs**	**19.44**	**196**	*eP*	**P**	**09 53 34.9**	**+3.0**
MBWA	**Marble Bar**	**25.14**	**228**	*eP*	**P**	**09 54 31.0**	**+1.9**
	17nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**26.90**	**176**	P	**P**	**09 54 50.0**	**+4.6**
	1.2nm,0.8s,mb3.5,baz=15,slow=12,SNR=2.9						
CMAR	**Chiang Mai Arr**	**46.28**	**301**	P	**P**	**09 57 29.9**	**0.0**
	1.3nm,0.5s,mb4.1,baz=127,slow=6.7,SNR=5.8						
SONM	**Songino Array**	**60.06**	**335**	P	**P**	**09 59 10.9**	**-0.5**
	0.4nm,0.8s,mb3.5,baz=149,slow=8.4,SNR=2.5						
KURK	**Kurchatov**	**75.99**	**325**	*eP*	**P**	**10 00 50.1**	**-0.7**
BVAR	**Borovoye Array**	**81.59**	**325**	P	**P**	**10 01 20.5**	**-0.7**
	2.3nm,0.6s,mb4.3,baz=104,slow=7.6,SNR=10						
CHKZ	**Chkalovo**	**81.69**	**326**	*eP*	**P**	**10 01 20.5**	**-1.2**
ILAR	**Eielson Array**	**87.46**	**24**	P	**P**	**10 01 50.4**	**+0.1**
	0.2nm,0.6s,mb3.5,baz=244,slow=4.0,SNR=2.0						
DBIC	**Dimbokro**	**144.57**	**275**	PKP	PKPdf	10 08 42.4	+2.8
	4.6nm,1.1s,baz=75,slow=4.6,SNR=4.5						
LPAZ	**La Paz**	**145.44**	**128**	PKPbc	PKPbc	10 08 45.2	+3.8
	1.6nm,0.7s,baz=219,slow=2.0,SNR=4.8						
LPAZ	**La Paz**	**145.44**	**128**	PKPbc	PKPbc	10 08 45.2	+3.8
LPAZ				*e*PKP	PKPdf	10 08 46.9	+5.9

IDC 14 09:49:35.5±19.0,17.66S×179.37W,h653km±195km, mb3.6/5,mb1 3.6/5,mb1mx3.2/16,mbtmp4.7/5,Error ellipse: s-maj=154.9km s-min=65.9km az=102.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.59**	**260**	P	P	09 55 16.8	-1.2
	7.0nm,0.6s,baz=85,slow=10,SNR=4.1						
STKA	**Stephens Creek**	**37.95**	**241**	P	P	09 56 00.1	-1.9
	3.2nm,0.7s,baz=68,slow=9.7,SNR=4.6						
WRA	**Warramunga Arr**	**43.78**	**259**	P	P	09 56 46.7	-1.6
	4.0nm,0.5s,baz=90,slow=7.5,SNR=10						
ASAR	**Alice Springs**	**43.98**	**254**	P	P	09 56 48.3	-1.5
	22nm,0.6s,baz=89,slow=8.2,SNR=91						
ASPA	**Alice Springs**	**43.98**	**254**	*eP*	P	09 56 48.5	-1.3
NWAO	**Narrogin (SRO)**	**58.52**	**242**	P	P	09 58 31.9	-1.9
	7.0nm,0.8s,baz=108,slow=13,SNR=2.5						
ARCES	**ARCESS Array B**	**125.91**	**349**	PKP	PKPdf	10 07 24.1	-0.4
	1.6nm,0.9s,baz=90,slow=0.9,SNR=3.4						
GERES	**GERESS Array B**	**147.13**	**344**	PKPbc	PKPdf	10 08 06.7	+3.2
	1.0nm,0.4s,baz=27,slow=3.0,SNR=8.6						

IDC 14 10:01:36.6±1.2,27.83S×73.79E,mb3.8/4,mb1 4.1/4, mb1mx3.8/14,mbtmp3.8/4,Error ellipse: s-maj=54.1km s-min=26.4km az=177.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**43.04**	**262**	P	P	10 09 38.5	-1.3
	0.9nm,0.3s,baz=83,slow=8.1,SNR=2.9						
CMAR	**Chiang Mai Arr**	**52.06**	**31**	P	P	10 10 48.6	-2.0
	1.0nm,0.4s,baz=219,slow=7.3,SNR=4.4						
ASAR	**Alice Springs**	**53.85**	**100**	P	P	10 11 01.9	-1.9
	0.7nm,0.6s,baz=252,slow=6.8,SNR=13						
WRA	**Warramunga Arr**	**55.45**	**96**	P	P	10 11 13.4	-2.2
	0.5nm,0.7s,baz=249,slow=7.4,SNR=4.7						
YKA	**Yellowknife Ar**	**144.89**	**7**	PKP	PKPdf	10 21 12.5	-4.3
	0.2nm,0.6s,baz=330,slow=4.0,SNR=3.9						

IDC ***14*** *10:13:33.9±0.7,22.39S×68.36W,h110km±9km,mb3.6/4, mb1 3.7/5,mb1mx3.6/14,mbtmp3.9/5,MS3.2/1,Ms1 3.1/1, ms1mx2.7/19,Error ellipse: s-maj=32.1km s-min=25.0km az=158.0*
NEIC ***14*** *10:13:34.8±0.9,22.22S×68.32W,h116km±9km,mb3.9/3, Error ellipse: s-maj=19.7km s-min=13.0km az=100.0*
ISC 14 10:13:33.1±0.8,22.1S±0.1×68.3W±0.2,h110km±12km,n14,

σ0^{s}40/15, mb3.9/4, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	0.78	230	P	P	10 13 53.0	+0.7
	2µm,0.3s,baz=40,slow=6.9						
LVC				S	S	10 14 06.2	-0.5
	2µm,0.3s,baz=258,slow=19,SNR=91						
LVC	Limon Verde	0.78	230	P	P	10 13 53.0	+0.7
LVC				S	S	10 14 06.2	-0.5
LPAZ	La Paz	5.80	1	P	P	10 15 02.8	+4.8
	0.5nm,0.3s,baz=174,slow=6.7,SNR=21						
ARE	Arequipa	6.40	331	P	P	10 15 13.0	+6.8
ARE				eS	S	10 16 14.0	-4.4
SAML	Samuel	13.97	21	ePn	P	10 16 47.4	0.0
	7.1nm,1.3s						
TRQA	Tornquist	16.78	163	P	P	10 17 22.8	+0.1
	3.2nm,0.9s						
BDFB	Brasilia	20.20	75	P	P	10 18 01.6	+0.2
	8.4nm,0.6s,baz=244,slow=12,SNR=13						
BDFB				LR	LR	10 27 54.8	
	comp=Z,67nm,21.3s,baz=40,slow=42						
RCBR	Riachuelo	35.21	67	eP	P	10 20 18.8	-0.1
	6.5nm,0.6s,mb4.6						
DBIC	Dimbokro	68.34	73	P	P	10 24 24.7	-0.4
	4.9nm,0.7s,mb4.5,baz=223,slow=8.4,SNR=11						
PDAR	Pinedale Array	74.94	330	P	P	10 25 03.9	+0.1
	0.3nm,0.9s,mb3.0,baz=113,slow=6.9,SNR=3.4						
YKA	Yellowknife Ar	91.97	340	P	P	10 26 30.0	0.0
	0.1nm,0.5s,mb3.3,baz=136,slow=4.7,SNR=5.5						
YKA				pP	pP	10 27 03.1	+4.0
	0.4nm,0.7s,baz=138,slow=4.5,SNR=12						
YKA	Yellowknife Ar	91.97	340	P	P	10 26 30.1	0.0
YKA				pP	pP	10 27 03.1	+4.0
ASAR	Alice Springs	129.64	207	PKP	PKPdf	10 32 30.1	+0.1
	0.4nm,0.8s,baz=83,slow=2.2,SNR=3.9						
WRA	Warramunga Arr	132.72	209	PKP	PKPdf	10 32 37.0	+1.0
	0.5nm,0.9s,baz=161,slow=1.8,SNR=4.8						

WEL 14 10:17:57.6±0.1, 35.57S×177.83E, h12km, ML3.7/3, Error ellipse: s-maj=2.0km s-min=0.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	2.52	172	ePN	Pn	10 18 37.5	-1.7
PUZ				SN	Sn	10 19 07.6	-2.5
PUZ				SN	Sn	10 19 07.8	-2.3
URZ	Urewera	2.75	192	P*	Pb	10 18 40.7	-5.5
URZ				S*	Sb	10 19 12.4	-7.6
URZ				S*	Sb	10 19 12.4	-7.6
MWZ	Matawai	2.77	185	P*	Pb	10 18 40.9	-5.8
MWZ				S*	Sb	10 19 13.1	-7.7

*NEIC **14** 10:26:46.9, 11.16N×62.09W, h106km, MD3.6(TRN), After TRN.*

TRN 14 10:26:46.9, 11.16N×62.09W, h106km, MD3.6, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRN	Trinidad (W)	0.84	127	⇑iP	P	10 27 06.2	-0.3
TRN				eS	S	10 27 19.9	-1.2
TPP	Pointe-a-Pierr	1.04	143	eP	P	10 27 08.6	0.0
GRW	Mount Saint Ca	1.08	23	eP	P	10 27 09.2	+0.3
GRHS	Sauteurs	1.15	22	eP	P	10 27 09.3	-0.5
GRHS				eS	S	10 27 26.1	-0.8
TBH	Brigand Hill	1.20	124	eP	P	10 27 10.2	-0.3
TBH				eS	S	10 27 28.0	-0.2
TPR	Prospect	1.28	89	eP	P	10 27 10.9	-0.5
BOT	Bacolet	1.34	89	eP	P	10 27 11.3	-0.7

IDC 14 10:29:53.6±21.0, 16.95S×168.17E, mb4.2/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.2/4, Error ellipse: s-maj=378.5km s-min=106.0km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	5.35	197	eP	Pn	10 31 10.8	-5.8
DZM				eS	Sn	10 32 01.3	-19
STKA	Stephens Creek	28.30	233	P	P	10 35 49.0	-2.0
	2.9nm,0.6s,baz=67,slow=11,SNR=11						
WRA	Warramunga Arr	32.20	259	P	P	10 36 23.5	-2.3
	0.5nm,0.6s,baz=91,slow=9.0,SNR=8.3						
ASAR	Alice Springs	32.77	253	P	P	10 36 28.6	-2.0
	1.7nm,0.6s,baz=78,slow=8.5,SNR=35						
NWAO	Narrogin (SRO)	48.40	241	P	P	10 38 37.8	-1.7
	5.1nm,0.7s,baz=60,slow=8.1,SNR=3.8						

*NEIC **14** 10:35:01.4, 63.26N×151.08W, h6km, ML4.1(PMR), ML3.8(AEIC), After AEIC.*
*IDC **14** 10:35:01.0±1.0, 63.25N×151.08W, mb3.8/8, mb1 4.0/13, mb1mx3.9/23, mbtmp3.8/13, ML3.5/5, MS3.0/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=18.7km s-min=16.1km az=7.0*

ISC 14 10:35:01.5±0.6, 63.29N±0.02×151.07W±0.06, h14km±4km, n83, σ0^{s}93/97, mb3.8/8, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.27	14	P	Pg	10 35 07.8	+0.4
KTH				S	Sg	10 35 12.0	+0.7
TRF	Thorofare Moun	0.39	65	P	Pg	10 35 09.5	0.0
TRF				S	Sg	10 35 15.7	+0.8
HUR	Hurricane	0.72	115	P	Pb	10 35 14.9	-0.4
HUR				S	Sb	10 35 24.0	-0.8
CUT	Chulitna	0.96	157	P	Pb	10 35 19.2	-0.3
RND	Reindeer	1.00	83	P	Pb	10 35 20.2	+0.1
MCK	McKinley	1.05	64	P	Pb	10 35 21.5	+0.5
MCK				S	Sb	10 35 35.5	+1.1
BWN	Browne	1.13	38	P	Pb	10 35 23.4	+1.1
NEA	Nenana	1.56	33	P	Pn	10 35 30.5	+1.5
NEA				S	Sb	10 35 51.6	+2.5
PWA	Palmer West	1.74	161	P	Pn	10 35 31.2	-0.4
PWA				S	Sn	10 35 53.4	-0.2
MLY	Manley	1.75	5	P	Pn	10 35 31.8	+0.1
MLY				S	Sn	10 35 57.8	+3.9
GHO	Glory Hole Cre	1.82	146	P	Pn	10 35 33.0	+0.3
STLK	Strandline Lak	1.84	192	P	Pn	10 35 33.1	+0.1
STLK				S	Sn	10 35 56.9	+0.8
PMR	Palmer	1.93	151	P	Pn	10 35 33.9	-0.4
PMR				S	Sn	10 35 58.9	+0.4
SML	Sawmill	1.96	138	P	Pn	10 35 34.4	-0.3
SML				S	Sn	10 35 59.0	-0.1
CCB	Clear Creek Bu	1.98	45	P	Pn	10 35 35.3	+0.3
CGLM	Capps Glacier	2.04	193	P	Pn	10 35 35.7	-0.2
CGLM				S	Sn	10 36 03.1	+1.8
MDM	Murphy Dome	2.08	35	P	Pn	10 35 36.5	-0.1
COLA	College	2.12	40	P	Pn	10 35 36.4	-0.7
COLA				S	Sn	10 36 08.5	+5.1
BGL	Barrier Glacie	2.13	198	P	Pn	10 35 37.6	+0.4
BGL				S	Sn	10 36 06.2	+2.7
HDA	Harding Lake	2.14	57	P	Pn	10 35 36.9	-0.4
CKN	Chakachatna No	2.14	195	P	Pn	10 35 37.7	+0.4
SPU	Mount Spurr	2.17	193	eP	Pn	10 35 38.0	+0.3
FIB	Fire Island	2.17	169	P	Pn	10 35 38.7	+0.9
KNK	Knik Glacier	2.25	146	P	Pn	10 35 39.0	+0.2
SCM	Sheep Creek Mo	2.27	129	P	Pn	10 35 38.9	-0.2
TT01	Tatalina	2.29	262	P	Pn	10 35 37.7	-1.7
RC01	Rabbit Creek A	2.30	164	P	Pn	10 35 39.6	0.0
VOGL	Vogel Lake	2.33	172	P	Pn	10 35 41.6	+1.6
GLM	Gilmore Dome	2.34	42	P	Pn	10 35 39.9	-0.3
IL1	Eielson Array	2.36	49	P	Pn	10 35 39.7	-0.8
ILAR	Eielson Array	2.36	49	Pn	Pn	10 35 39.6	-0.8
	5.7nm,0.3s,baz=234,slow=14,SNR=216						
ILAR				Sn	Sn	10 36 14.8	+5.3
	117nm,0.3s,baz=234,slow=28,SNR=27						
ILAR				LR	LR	10 37 00.7	
	comp=Z,285nm,18.5s,baz=66,slow=50						
THY	Trims Highway	2.40	85	P	Pn	10 35 42.2	+1.2
NKA	Nikishka	2.56	182	P	Pn	10 35 45.6	+2.3
PAX	Paxson	2.56	95	P	Pn	10 35 43.9	+0.5
PWL	Port Wells	2.76	151	P	Pn	10 35 46.9	+0.7
DFR	Drift River	2.82	196	P	Pn	10 35 47.0	0.0
SLKM	Skilak Lake	2.82	171	P	Pn	10 35 47.4	+0.3
NCT	North Crescent	2.88	199	P	Pn	10 35 47.2	-0.7
TZL	Tazlina	2.89	113	P	Pn	10 35 49.0	+1.0
RDN	Redoubt North	2.90	197	P	Pn	10 35 48.2	0.0
IM3	Indian Mountai	2.94	338	P	Pn	10 35 48.4	-0.3
GCSA	Galena City Sc	2.94	302	P	Pn	10 35 49.5	+0.7
IMA	Indian Mountai	3.00	339	eP	Pn	10 35 50.0	+0.4
SVW2	Sparrevohn	3.06	226	P	Pn	10 35 48.7	-1.7
VLZ	Valdez	3.10	132	P	Pn	10 35 51.0	0.0
DOT	Dot Lake	3.16	80	P	Pn	10 35 51.8	-0.1
DIV	Divide	3.30	129	P	Pn	10 35 53.8	+0.1
ILIM	Iliamna	3.35	196	P	Pn	10 35 54.8	+0.3
MENT	Mentasta	3.36	93	P	Pn	10 35 55.9	+1.3
BRLK	Bradley Lake	3.54	179	P	Pn	10 35 57.7	+0.4
HIN	Hinchinbrook I	3.62	141	P	Pn	10 35 57.9	-0.6
EYAK	Cordova Ski Ar	3.73	135	P	Pn	10 35 59.9	0.0
CNPM	China Poot	3.78	181	P	Pn	10 36 00.8	+0.1
GLB	Gilahina Butte	3.86	116	P	Pn	10 36 02.2	+0.5
COLD	Coldfoot	3.97	5	P	Pn	10 36 03.2	-0.1
AGU	Augustine-Summ	4.11	197	P	Pn	10 36 05.5	+0.2
BCA3	Beaver Creek A	4.21	89	P	Pn	10 36 06.4	-0.4
MCNL	McNeil River	4.42	202	P	Pn	10 36 08.7	-1.0
BALM	Baldy	4.67	115	P	Pn	10 36 13.1	-0.3
BM3	Burnt Mountain	4.95	30	P	Pn	10 36 15.2	-2.0
CTGM	Chitina Glacie	5.13	113	P	Pn	10 36 19.9	+0.2
DAWY	Dawson	5.25	76	P	Pn	10 36 20.1	-1.4
YAH	Yahtse	5.30	119	P	Pn	10 36 21.6	-0.7
KDAK	Kodiak Island	5.58	188	P	Pn	10 36 24.7	-1.5
PNL	Peninsula	6.66	118	P	Pn	10 36 39.5	-2.0
WHY	Whitehorse	8.06	102	P	P	10 36 58.8	-2.2
INK	Inuvik	8.76	47	Pn	P	10 37 08.2	-2.6
	0.8nm,0.3s,baz=239,slow=14,SNR=75						
INK	Inuvik	8.76	47	eP	P	10 37 08.1	-2.6
BESE	Bessie Mountai	9.18	114	P	P	10 37 14.4	-2.2
DLBC	Dease Lake	11.32	106	Pn	P	10 37 44.5	-1.2
	0.1nm,0.3s,baz=51,slow=23,SNR=2.8						
DLBC	Dease Lake	11.32	106	Pn	P	10 37 44.5	-1.2
BBB	Bella Bella	16.44	122	Pn	P	10 38 53.1	+0.2
	0.1nm,0.3s,baz=172,slow=19,SNR=2.0						
YKA	Yellowknife Ar	16.50	76	Pn	P	10 38 52.5	-1.1
	0.1nm,0.3s,baz=290,slow=11,SNR=14						
YKA	Yellowknife Ar	16.50	76	Pn	P	10 38 52.5	-1.1
FX1	Attu Island--F	21.29	257	P	P	10 39 48.5	-0.9
	20nm,0.9s,mb4.5,baz=126,slow=2.7,SNR=1.9						
EDM	Edmonton	21.92	100	eP	P	10 39 55.4	-0.4
NEW	Newport	23.91	113	P	P	10 40 16.2	+1.1
	1.1nm,0.7s,mb3.4,baz=276,slow=8.5,SNR=2.6						
PDAR	Pinedale Array	31.49	111	P	P	10 41 24.9	+0.3
	0.2nm,0.6s,mb3.1,baz=320,slow=7.0,SNR=2.8						
NVAR	Mina Array Bea	31.72	126	P	P	10 41 27.5	+0.8
	0.4nm,0.6s,mb3.5,baz=326,slow=9.8,SNR=3.5						
TXAR	Lajitas Array	45.42	116	P	P	10 43 21.1	-0.1
	0.4nm,0.5s,mb3.5,baz=327,slow=6.3,SNR=5.9						
ARCES	ARCESS Array B	47.43	2	P	P	10 43 42.6	+6.0
	2.6nm,0.9s,mb4.2,baz=346,slow=7.4,SNR=3.6						
SONM	Songino Array	53.62	305	P	P	10 44 23.6	-0.4
	1.0nm,0.7s,mb3.8,baz=23,slow=9.4,SNR=6.4						
EKA	Eskdalemuir Ar	59.11	21	P	P	10 45 02.5	-0.6
	0.9nm,0.4s,mb4.1,baz=333,slow=5.6,SNR=3.9						

*IDC **14** 10:39:58.7±4.9, 17.38S×168.18E, mb4.2/5, mb1 4.3/5, mb1mx4.0/14, mbtmp4.2/5, MS3.4/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=128.5km s-min=45.4km az=119.0*

ISC 14 10:40:07.1±4.9, 17.8S±0.3×168.1E±0.6, h73km±57km, n6, σ1^{s}28/7, mb3.9/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.51	200	eP	P	10 41 15.2	+0.7
DZM				eS	S	10 42 05.1	-1.0
STKA	Stephens Creek	27.74	235	P	P	10 45 51.9	+0.9
	3.5nm,0.6s,mb4.0,baz=67,slow=7.7,SNR=3.6						
STKA				LR	LR	10 55 48.9	
	comp=Z,73nm,18.1s,baz=225,slow=34						
WRA	Warramunga Arr	32.00	261	P	P	10 46 27.9	-0.9
	0.6nm,0.8s,mb3.4,baz=92,slow=9.5,SNR=10						
ASAR	Alice Springs	32.47	254	P	P	10 46 32.8	0.0
	2.1nm,0.6s,mb4.1,baz=79,slow=8.6,SNR=55						
NWAO	Narrogin (SRO)	47.93	242	P	P	10 48 41.5	+1.2
	8.6nm,0.9s,mb4.6,baz=66,slow=12,SNR=3.5						
SONM	Songino Array	85.46	323	P	P	10 52 36.8	-1.1
	0.3nm,0.5s,mb3.5,baz=124,slow=5.2,SNR=4.2						

*NIED **14** 10:49:00, 33.30N×137.10E, h23km, Mw4.4 Best double couple: Mo4.36×10^{15} NP1:φs247°, δ51°, λ93°. NP2:φs62°, δ39°, λ86°.*
*IDC **14** 10:49:28.3±0.4, 33.13N×137.03E, mb4.2/21, mb1 4.4/24, mb1mx4.4/28, mbtmp4.2/24, ML4.1/3, MS3.6/9, Ms1 3.7/9, ms1mx3.3/35, Error ellipse: s-maj=15.9km s-min=12.1km az=100.0*
*MOS **14** 10:49:31.4±1.2, 33.15N×137.17E, h33km, mb4.6/12, Error ellipse: s-maj=13.7km s-min=7.0km az=96.7*
*BJI **14** 10:49:31.1, 33.12N×137.38E, h36km, mB4.8, mb4.5, Ms4.0, Msz3.6*
*JMA **14** 10:49:31.5±0.1, 33.17N×137.04E, h44km±2km, M4.3*
JMA Felt II J1.
*NEIC **14** 10:49:32.2±1.7, 33.11N×137.08E, h26km±11km, mb4.5/14, MW4.4(NIED), Error ellipse: s-maj=6.5km s-min=4.8km az=112.0*
NEIC Recorded [2 JMA] in Nara and [1 JMA] in Aichi, Kyoto, Mie, Shiga and Wakayama Prefectures.

ISC 14 10:49:31.0±0.9, 33.15N±0.03×137.05E±0.03, h29km±6km, n98, σ1^{s}08/113, mb4.2/40, MS3.8/10, 4C-9D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TK01	Tokai 1	0.76	36	P	Pb	10 49 45.8	+0.2
TK01				S	Sb	10 49 55.8	+0.2
TK02	Tokai 2	0.99	36	⇑P	Pn	10 49 49.2	+0.2
TK02				S	Sn	10 50 02.2	+0.2
JWZ	Kozaga	1.18	289	⇓P	Pn	10 49 51.6	-0.2
JWZ				S	Sn	10 50 05.6	-1.4
TK03	Tokai 3	1.27	37	P	Pn	10 49 53.1	+0.1
TK03				S	Sn	10 50 09.1	0.0
JIE	Ise	1.27	347	⇓P	Pn	10 49 53.3	+0.2
JIE				S	Sn	10 50 09.1	-0.1
TK04	Tokai 4	1.41	29	⇓P	Pn	10 49 55.4	+0.4
TK04				S	Sn	10 50 12.6	-0.1
JWM	Minabe	1.58	297	⇓P	Pn	10 49 57.4	-0.1
JWM				S	Sn	10 50 16.1	-1.0
JWY	Kouya	1.62	312	⇓P	Pn	10 49 58.6	+0.6
JWY				S	Sn	10 50 17.5	-0.6
TSUJ	Tsu 2	1.64	341	⇓P	Pn	10 49 58.5	+0.1
TSUJ				S	Sn	10 50 18.0	-0.7
JHE	Heguri	1.88	323	⇓P	Pn	10 50 02.1	+0.3
JHE				S	Sn	10 50 24.1	-0.7
SHZ3	Shizuoka 3	2.14	26	⇓P	Pn	10 50 05.1	-0.4
SHZ3				S	Sn	10 50 29.5	-1.8
JIZS	Izushimoda	2.18	44	P	Pn	10 50 06.8	+0.8
JAJ2	Tsuna	2.21	306	⇓P	Pn	10 50 06.9	+0.5
JAJ2				S	Sn	10 50 32.1	-0.9
JMY	Miyakejima3	2.25	65	P	Pn	10 50 07.5	+0.5
JAI	Aioi	2.27	287	P	Pn	10 50 07.3	0.0
JAI				S	Sn	10 50 32.3	-2.3
JHJ	Hachijo jima 2	2.29	90	Pn	Pn	10 50 08.2	+0.5
	232nm,0.3s,baz=213,slow=23,SNR=77						
JHJ				Sn	Sn	10 50 34.0	-1.1
	241nm,0.3s,baz=43,slow=17,SNR=11						
JHJ				LR	LR	10 50 37.8	
	comp=Z,279nm,20.7s,baz=284,slow=30						
JHJ2	Mitsune	2.32	90	P	Pn	10 50 08.1	0.0
JHJ2				S	Sn	10 50 34.4	-1.5
MAJO	Matsushiro	3.51	15	eP	Pn	10 50 25.4	+0.4
MAT	Matsushiro	3.51	15	eP	Pn	10 50 25.0	0.0
MAT				eS	Sn	10 51 05.0	-1.1
MAT	Matsushiro	3.51	15	P	Pn	10 50 25.4	+0.4
MAT				S	Sn	10 51 04.7	-1.4
JOW	Kunigami	9.88	233	Pn	P	10 51 52.3	-1.9
	3.8nm,0.3s,baz=80,slow=17,SNR=7.2						
JOW				LR	LR	10 55 34.2	
	comp=Z,233nm,18.6s,baz=231,slow=37						
ASAJ	Asahikawa	11.77	20	P	P	10 52 17.4	-2.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,346nm,19.1s						
ASAJ	Asahikawa	11.77	20	Pn	P	10 52 17.4	-2.6
	comp=Z,0.9nm,0.3s,baz=236,slow=11,SNR=9.5						
ASAJ				LR	LR	10 57 19.2	
	comp=Z,346nm,19.1s,baz=146,slow=40						
MDJ	Mudanjiang	12.83	335	P	P	10 52 36.8	+2.6
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,248nm,5.1s						
MDJ	Mudanjiang	12.83	335	ePn	P	10 52 34.4	+0.1
	comp=Z,9.6nm,0.8s						
CN2	Changchun	13.97	323	eP	P	10 52 50.8	+1.6
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
YSS	Yuzh-Sakhalins	14.45	16	eP	P	10 52 54.0	-1.5
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
YSS	Yuzh-Sakhalins	14.45	16	ePn	P	10 52 54.8	-0.7
	comp=Z,25nm,0.8s						
KLR	Kul'dur	16.55	348	eP	P	10 53 19.9	-2.6
KLR				MLR	MLR		
	comp=N,1µm,15.0s						
BJT	Baijiatuau	18.10	298	eP	P	10 53 43.5	+1.5
BJT				pmax	pmax		
	comp=Z,82nm,1.5s						
BJT	Baijiatuau	18.10	298	eP	P	10 53 43.5	+1.5
	comp=Z,82nm,1.5s						
BJI	Beijing	18.10	298	eP	P	10 53 43.4	+1.4
BJI				AMB	AMB		
	comp=Z,25nm,1.5s						
BJI				LR	LR		
	comp=N,250nm,14.6s						
BJI				LR	LR		
	comp=E,247nm,12.1s						
BJI				LR	LR		
	comp=Z,149nm,20.0s						
WHN	Wuhan	19.46	268	eP	P	10 54 03.5	+5.2
WHN				AP		10 54 10.3	
HIA	Hailar	20.63	326	eP	P	10 54 09.9	-0.7
HIA				pmax	pmax		
	comp=Z,13nm,0.7s						
HIA	Hailar	20.63	326	eP	P	10 54 09.9	-0.7
	comp=Z,13nm,0.7s						
HHC	Hu-ho-hao-te	21.71	298	eP	P	10 54 23.9	+2.3
HHC				PP	PP	10 54 47.5	+0.9
HHC				S	S	10 58 16.8	+1.6
HHC				PCP	PcP	10 58 27.1	+4.7
HHC				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,144nm,6.3s						
HHC				LR	LR		
	comp=N,289nm,20.2s,MS3.8						
HHC				LR	LR		
	comp=E,292nm,21.4s,MS3.8						
HHC				LR	LR		
	comp=Z,255nm,13.7s						
BTO	Baotou	22.81	297	eP	P	10 54 33.8	+1.3
XAN	Xi'an	23.43	280	P	P	10 54 40.8	+2.3
XAN				AP		10 54 47.5	
XAN				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
ENH	Enshi	23.60	270	eP	P	10 54 42.1	+1.9
	comp=Z,6.2nm,0.6s,mb4.2						
ULN	Ulaanbaatar	26.93	312	eP	P	10 55 11.5	0.0
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
ULN	Ulaanbaatar	26.93	312	eP	P	10 55 11.5	0.0
	comp=Z,3.0nm,0.9s,mb3.8						
SONM	Songino Array	27.33	312	P	P	10 55 14.6	-0.6
	comp=Z,3.1nm,0.8s,mb3.9,baz=121,slow=8.5,SNR=27						
SONM				PcP	PcP	10 58 34.2	-0.2
	comp=Z,0.8nm,0.6s,baz=114,slow=2.0,SNR=5.3						
MA2	Magadan	27.96	15	eP	P	10 55 19.5	-1.2
MA2				e		10 55 35.2	
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.1						
YAK	Yakutsk	29.28	353	eP	P	10 55 34.2	+1.6
YAK				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
ZAK	Zakamensk	30.17	315	eP	P	10 55 46.0	+5.3
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
TLY	Talaya	30.47	317	⇑iP	P	10 55 42.3	-1.0
TLY				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
TLY				MLR	MLR		
	comp=Z,100nm,12.0s,MS3.7						
GTA	Gaotai	30.51	293	eP	P	10 55 50.8	+7.0
GTA				AP	pP	10 55 55.3	+2.9
GTA				XP	sP	10 55 57.8	+1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
CMAR	Chiang Mai Arr	37.08	256	P	P	10 56 40.9	+0.3
	comp=Z,2.9nm,0.6s,mb4.3,baz=51,slow=7.7,SNR=14						
CMAR				PcP	PcP	10 59 01.6	+0.3
	comp=Z,0.6nm,0.3s,baz=2.0,slow=3.3,SNR=4.3						
CMAR				LR	LR	11 13 34.5	
	comp=Z,71nm,18.9s,MS3.5,baz=200,slow=39						
TIXI	Tiksi	38.81	356	⇑iP	P	10 56 54.6	0.0
TIXI				i *PP	pP	10 57 06.9	+3.5
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.8						
ZAL	Zalesovo	42.05	316	P	P	10 57 22.2	+0.8
	comp=Z,1.1nm,0.6s,mb3.7,baz=90,slow=4.5,SNR=3.4						
ZAL				PcP	PcP	10 59 16.2	-0.4
	comp=Z,1.1nm,0.7s,baz=16,slow=3.8,SNR=4.4						
ZAL				LR	LR	11 16 16.6	
	comp=Z,156nm,19.6s,MS3.9,baz=22,slow=38						
NVS	Novosibirsk	43.08	317	eP	P	10 57 30.0	+0.2
KURK	Kurchatov	45.63	311	P	P	10 57 50.2	-0.2
	comp=Z,45nm,0.7s,SNR=7.9						
KURK	Kurchatov	45.63	311	⇑iP	P	10 57 50.8	+0.4
KURK	Kurchatov	45.63	311	eP	P	10 57 50.2	-0.1
	comp=Z,6.0nm,0.8s,mb4.6						
AAK	Ala-Archa	49.26	300	eP	P	10 58 23.9	+5.0
AAK				pmax	pmax		
	comp=Z,7.0nm,2.5s,mb4.2						
AAK	Ala-Archa	49.26	300	P	P	10 58 18.1	-0.8
	comp=Z,1.6nm,0.7s,mb4.2						
CHKZ	Chkalovo	50.43	315	eP	P	10 58 27.1	-0.6
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CHKZ	Chkalovo	50.43	315	eP	P	10 58 27.1	-0.6
	comp=Z,3.4nm,0.6s,mb4.5						
BVAR	Borovoye Array	50.62	314	P	P	10 58 29.2	+0.1
	comp=Z,1.3nm,0.6s,mb4.1,baz=86,slow=5.2,SNR=3.1						
FITZ	Fitzroy Crossi	52.12	194	eP	P	10 58 40.3	-0.7
	comp=Z,12nm,0.6s,mb5.0						
WB2	Warramunga Arr	52.86	183	eP	P	10 58 45.1	-1.4
WRA	Warramunga Arr	52.86	183	P	P	10 58 45.3	-1.2
	comp=Z,8.6nm,0.8s,mb4.7,baz=358,slow=7.6,SNR=58						
WRA				PcP	PcP	10 59 55.1	-0.3
	comp=Z,2.9nm,0.9s,baz=357,slow=3.9,SNR=7.0						
CTA	Charters Tower	53.66	169	P	P	10 58 51.0	-1.4
	comp=Z,5.6nm,0.8s,mb4.5,baz=339,slow=12,SNR=3.5						
CTA				LR	LR	11 18 13.8	
	comp=Z,66nm,21.8s,MS3.6,baz=26,slow=32						
CTA	Charters Tower	53.66	169	P	P	10 58 51.0	-1.4
CTA				LR	LR	11 18 13.8	
ILAR	Eielson Array	54.66	31	P	P	10 58 58.9	-0.3
	comp=Z,0.7nm,0.9s,mb3.7,baz=279,slow=7.5,SNR=6.8						
ASAR	Alice Springs	56.58	183	P	P	10 59 12.3	-1.3
	comp=Z,5.1nm,0.7s,mb4.6,baz=13,slow=8.7,SNR=41						
ASAR				LR	LR	11 22 57.0	
	comp=Z,50nm,19.4s,MS3.6,baz=19,slow=36						
ASPA	Alice Springs	56.58	183	eP	P	10 59 12.5	-1.1
INK	Inuvik	59.44	26	eP	P	10 59 32.8	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,0.8s						
INK	Inuvik	59.44	26	P	P	10 59 32.6	-0.4
	comp=Z,1.3nm,0.8s,mb4.0,baz=262,slow=7.7,SNR=9.8						
INK	Inuvik	59.44	26	eP	P	10 59 32.8	-0.2
	comp=Z,1.5nm,0.8s,mb4.1						
STKA	Stephens Creek	64.82	176	P	P	11 00 08.8	-0.6
	comp=Z,6.9nm,0.7s,mb4.8,baz=348,slow=7.7,SNR=11						
STKA	Stephens Creek	64.82	176	eP	P	11 00 08.3	-1.2
ARCES	ARCESS Array B	66.35	339	P	P	11 00 17.7	-0.9
	comp=Z,3.8nm,1.1s,mb4.3,baz=76,slow=10.0,SNR=4.6						
ARCES				LR	LR	11 33 50.7	
	comp=Z,145nm,20.7s,MS4.2,baz=201,slow=40						
NWAO	Narrogin (SRO)	68.33	198	P	P	11 00 30.9	-0.8
	comp=Z,9.9nm,0.9s,mb4.8,baz=30,slow=8.1,SNR=2.8						
YKA	Yellowknife Ar	68.93	28	P	P	11 00 34.9	0.0
	comp=Z,0.4nm,0.4s,mb3.7,baz=297,slow=6.1,SNR=19						
FINES	FINESS Array B	70.55	332	P	P	11 00 44.3	-0.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=63,slow=4.3,SNR=9.9						
KIV	Kislovodsk	70.71	310	eP	P	11 00 51.4	+5.3
KIV				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,9.0nm,1.2s,mb4.6						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
GNI	**Garni**	**71.12**	**306**	*i* P	**P**	**11 00 54.8**	**+6.1**
SOC	**Sochi**	**72.78**	**311**	*e*P	**P**	**11 01 01.0**	**+2.6**
SOC				*e*		11 01 20.5	
SOC				*e*		11 03 37.3	
SOC				*e*PPP	PPP	11 05 22.7	-2.5
SOC				*e*		11 10 56.1	
SOC				*e*SSS	SSS	11 18 06.7	-6.3
SOC				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.1						
SOC				pmax	pmax		
	comp=N,40nm,0.9s						
SOC				pmax	pmax		
	comp=E,16nm,0.9s						
YBH	**Yreka Blue Hor**	**75.56**	**50**	P	**P**	**11 01 16.4**	**+1.8**
	comp=E,0.7nm,0.7s,mb3.7,baz=72,slow=19,SNR=2.5						
NOA	**NORSAR Array B**	**76.33**	**336**	P	**P**	**11 01 18.4**	**-0.1**
	comp=E,1.9nm,1.0s,mb4.0,baz=37,slow=6.6,SNR=2.6						
NOA				LR	LR	11 39 39.0	
	comp=E,44nm,19.2s,MS3.8,baz=255,slow=39						
FFC	**Flin Flon**	**78.88**	**30**	*e*P	**P**	**11 01 33.2**	**+0.5**
FFC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FFC	**Flin Flon**	**78.88**	**30**	*e*P	**P**	**11 01 33.2**	**+0.5**
	comp=Z,2.3nm,0.6s,mb4.3						
NVAR	**Mina Array Bea**	**80.19**	**50**	P	**P**	**11 01 41.9**	**+1.8**
	comp=Z,0.5nm,0.5s,mb3.7,baz=277,slow=8.5,SNR=3.7						
NVAR	**Mina Array Bea**	**80.19**	**50**	P	**P**	**11 01 41.9**	**+1.8**
PDAR	**Pinedale Array**	**82.94**	**43**	P	**P**	**11 01 55.4**	**+1.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=288,slow=4.7,SNR=6.7						
GERES	**GERESS Array B**	**84.04**	**326**	P	**P**	**11 02 00.5**	**+0.7**
	comp=Z,1.0nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=8.7						
GRA1	**Grafenberg Arr**	**84.55**	**328**	*e*P	**P**	**11 02 04.0**	**+1.6**
	comp=Z,6.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**84.55**	**328**	*e*P	**P**	**11 02 04.0**	**+1.6**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**84.55**	**328**	*e*P	**P**	**11 02 04.0**	**+1.6**
GRF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.8						
GRF	**Grafenberg Arr**	**84.55**	**328**	*e*P	**P**	**11 02 04.0**	**+1.6**
	comp=Z,6.0nm,0.8s,mb4.8						
ULM	**Lac du Bonnet**	**84.68**	**31**	P	**P**	**11 02 03.4**	**+0.4**
	comp=Z,0.7nm,0.4s,mb4.1,baz=341,slow=8.3,SNR=4.2						
PV10	**Paradox Valley**	**86.03**	**46**	*e*P	**P**	**11 02 12.3**	**+2.3**
PV10				*e*		11 02 24.6	
AMTX	**Amarillo**	**92.76**	**45**	*e*P	**P**	**11 02 43.5**	**+1.7**
	comp=Z,3.4nm,0.6s,mb5.0						
TXAR	**Lajitas Array**	**95.33**	**50**	P	**P**	**11 02 55.0**	**+1.2**
	comp=Z,2.9nm,0.8s,mb4.8,baz=288,slow=3.7,SNR=16						
DBIC	**Dimbokro**	**126.37**	**310**	PKP	PKPdf	11 08 32.6	-4.2
	comp=Z,1.5nm,0.6s,baz=255,slow=2.4,SNR=4.5						
SDV	**Santo Domingo**	**130.58**	**37**	PKP	PKPdf	11 08 41.3	-3.6
	comp=Z,2.2nm,0.7s,baz=342,slow=6.8,SNR=2.8						
LPAZ	**La Paz**	**151.74**	**60**	PKPbc	PKPdf	11 09 25.7	+3.9
	comp=Z,1.3nm,0.7s,baz=30,slow=18,SNR=5.0						

*IDC **14** 10:53:09.9±0.8, 19.67N×145.70E, mb3.9/10, mb1 4.1/10, mb1mx4.0/20, mbtmp3.9/10, Error ellipse: s-maj=31.1km s-min=19.7km az=101.0*
*NEIC **14** 10:53:19.5±0.6, 19.62N×145.65E, h75km, mb4.1/1, Error ellipse: s-maj=23.2km s-min=15.0km az=97.0*
ISC 14 10:53:13.2±0.7**, 19.7N**±0.1×**145.6E**±0.2**, h33**km**, n13, σ0ˢ97**/13**, mb3.8**/11**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.88**	**196**	P	**P**	**11 00 52.7**	**-1.4**
	0.3nm,0.3s,mb3.3,baz=16,slow=8.1,SNR=7.8						
SONM	**Songino Array**	**42.36**	**321**	P	**P**	**11 01 07.4**	**+1.5**
	0.5nm,0.5s,mb3.5,baz=134,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**44.56**	**195**	P	**P**	**11 01 25.2**	**+1.2**
	0.2nm,0.7s,mb3.1,baz=12,slow=6.1,SNR=3.5						
ZAL	**Zalesovo**	**57.23**	**322**	P	**P**	**11 02 59.3**	**-0.3**
	1.0nm,0.3s,mb4.3,baz=137,slow=24,SNR=4.2						
KURK	**Kurchatov**	**60.52**	**318**	*e*P	**P**	**11 03 22.0**	**-0.5**
	0.9nm,0.5s,mb4.2						
ILAR	**Eielson Array**	**62.81**	**26**	P	**P**	**11 03 36.0**	**-1.7**
	0.4nm,0.7s,mb3.6,baz=252,slow=5.2,SNR=6.7						
BVAR	**Borovoye Array**	**65.70**	**320**	P	**P**	**11 03 56.2**	**-0.3**
	1.6nm,0.4s,mb4.4,baz=91,slow=7.4,SNR=13						
INK	**Inuvik**	**68.52**	**23**	P	**P**	**11 04 14.3**	**+0.3**
	0.6nm,0.7s,mb3.6,baz=207,slow=11,SNR=5.1						
INK	**Inuvik**	**68.52**	**23**	P	**P**	**11 04 14.3**	**+0.3**
YKA	**Yellowknife Ar**	**77.17**	**28**	P	**P**	**11 05 05.4**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=289,slow=5.5,SNR=26						
YKA	**Yellowknife Ar**	**77.17**	**28**	P	**P**	**11 05 05.4**	**+0.3**
ARCES	**ARCESS Array B**	**81.56**	**342**	P	**P**	**11 05 28.2**	**-0.4**
	2.2nm,0.8s,mb4.1,baz=72,slow=7.7,SNR=9.7						
NVAR	**Mina Array Bea**	**82.60**	**52**	P	**P**	**11 05 35.9**	**+1.2**
	1.7nm,0.7s,mb4.2,baz=269,slow=6.4,SNR=7.5						

DJA 14 10:54:30.3±1.0**, 9.64S**×**113.56E, h33**km**, MD4.6**/1**, ML3.9**/3**, 5C-2D, Error ellipse: s-maj=21.6km s-min=17.9km az=50.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.29**	**26**	⇑*i*Pn	Pn	10 54 50.9	-1.4
	111nm,0.2s						
SRDI				⇑*i*Sn	Sn	10 55 05.9	-2.7
KELI	**Kelakatan**	**1.69**	**33**	⇑*e*Pn	Pn	10 54 57.2	-0.8
	59nm,0.2s						
KELI	**Kelakatan**	**1.69**	**33**	⇑*i*P	P	10 54 57.8	0.0
KELI				⇓*i*Sn	Sn	10 55 15.4	-3.3
RATI	**Rata**	**2.15**	**65**	⇑*i*Pn	Pn	10 55 02.8	-1.8
	145nm,0.7s						
RATI				⇓*i*Sn	Sn	10 55 27.6	-2.8

IDC 14 11:26:23.8±6.4**, 33.04S**×**132.48E, mb1 3.3**/3**, mb1mx3.2**/10**, mbtmp3.1**/3**, ML2.9**/3**, Error ellipse: s-maj=61.3km s-min=30.7km az=41.0, Off south coast of Australia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**7.79**	**84**	Pn	Pn	11 28 18.4	-2.8
	0.1nm,0.3s,baz=240,slow=13,SNR=2.5						
STKA				Sn	Sn	11 29 43.4	-7.8
	0.4nm,0.3s,baz=298,slow=23,SNR=3.9						
STKA				Lg		11 30 31.5	
	0.5nm,0.3s,baz=327,slow=23,SNR=4.0						
ASAR	**Alice Springs**	**9.42**	**8**	Pn	P	11 28 41.9	-2.0
	0.1nm,0.3s,baz=192,slow=12,SNR=6.4						
ASAR				Sn	Sn	11 30 26.6	-5.2
	0.2nm,0.3s,baz=190,slow=21,SNR=7.0						
ASAR				Lg		11 31 24.4	
	0.2nm,0.3s,baz=186,slow=26,SNR=5.1						
WRA	**Warramunga Arr**	**13.15**	**8**	Pn	P	11 29 31.3	-3.2
	0.1nm,0.3s,baz=185,slow=13,SNR=12						
WRA				Sn	S	11 31 54.2	-8.6
	0.1nm,0.3s,baz=191,slow=24,SNR=4.8						

MAN 14 11:28:52.1, 13.27N×**120.14E, h19**km**, mb3.7, ML2.4, MS1.9, 3C-1D, Mindoro**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.47**	**13**	*e*P	Pb	11 29 02.1	+0.5
LUBP				*e*S	Sb	11 29 08.6	+0.5
TGY	**Tagaytay City**	**1.14**	**43**	⇑*e*P	Pb	11 29 12.5	-0.4
TGY				*e*S	Sb	11 29 28.4	+1.2
SJMP	**San Jose**	**1.25**	**130**	*e*P	Pn	11 29 13.7	-1.0
BUSP	**Coron**	**1.26**	**177**	*e*P	Pn	11 29 14.2	-0.7
LBPH	**Los Banos**	**1.34**	**49**	⇑*e*P	Pn	11 29 15.3	-0.8
NBP	**Mount Natib**	**1.49**	**11**	⇑*e*P	Pn	11 29 18.3	+0.2
ARP	**Angono**	**1.60**	**38**	⇓*e*P	Pn	11 29 18.5	-1.3
BOAC	**Boac**	**1.67**	**83**	*i* P	Pn	11 29 20.1	-0.6
ENPP	**El Nido**	**2.17**	**199**	*e*P	Pn	11 29 27.4	-0.5

*CSEM **14** 11:29:25.6±0.1, 39.36N×40.81E, h25km, MD3.1, Error ellipse: s-maj=3.5km s-min=2.7km az=121.0*
ISK 14 11:29:25.6, 39.37N×**40.83E, h28**km**, MD3.1, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.56**	**208**	*i* Pg	Pb	11 29 37.6	+0.7
BINT				*e*Sg	Sb	11 29 46.4	+1.7
VRT	**Varto**	**0.59**	**114**	*i* Pg	Pb	11 29 38.2	+0.8
VRT				*e*Sg	Sb	11 29 47.5	+2.0
EZM	**Erzurum**	**0.67**	**37**	*i* PG	Pb	11 29 39.4	+0.7
EZM	**Erzurum**	**0.67**	**37**	SG	Sb	11 29 49.2	+1.5
PTK	**Pertek**	**1.22**	**247**	*e*PN	Pn	11 29 47.1	+0.1
BTMT	**Batman**	**1.28**	**156**	*e*PN	Pn	11 29 49.1	+1.1
GUMT	**Gumushane**	**1.50**	**317**	*e*PN	Pn	11 29 51.8	+0.7
DIY	**Diyarbakir**	**1.55**	**198**	*e*PN	Pn	11 29 52.3	+0.6

IDC 14 11:31:24.1±2.3**, 16.19S**×**178.43W, mb4.2**/4**, mb1 4.5**/4**, mb1mx4.0**/14**, mbtmp4.2**/4**, Error ellipse: s-maj=157.3km s-min=33.2km az=150.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.46**	**239**	P	P	11 38 55.7	-2.3
	1.6nm,0.5s,baz=87,slow=12,SNR=5.2						
WRA	**Warramunga Arr**	**44.95**	**258**	P	P	11 39 41.6	-1.5
	1.0nm,0.3s,baz=91,slow=7.8,SNR=83						
ASAR	**Alice Springs**	**45.26**	**253**	P	P	11 39 43.8	-1.7
	8.6nm,0.5s,baz=88,slow=8.7,SNR=204						
PDAR	**Pinedale Array**	**86.12**	**44**	P	P	11 44 07.4	-1.0
	0.4nm,0.7s,baz=225,slow=7.7,SNR=3.7						

*CSEM **14** 12:01:05.1±0.2, 39.35N×40.79E, h27km±3km, MD2.5, Error ellipse: s-maj=8.4km s-min=4.6km az=124.0*
ISK 14 12:01:05.0, 39.38N×**40.78E, h29**km**, MD2.5, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.55**	**205**	PG	Pb	12 01 16.4	+0.3
BINT	**Bingol**	**0.55**	**205**	*e*Pg	Pb	12 01 16.4	+0.3
BINT				*e*Sg	Sb	12 01 26.0	+2.3
VRT	**Varto**	**0.63**	**113**	PG	Pb	12 01 18.6	+1.1
VRT	**Varto**	**0.63**	**113**	*e*Pg	Pb	12 01 18.6	+1.1
VRT				*e*Sg	Sb	12 01 27.7	+1.7
EZM	**Erzurum**	**0.69**	**40**	PG	Pb	12 01 18.7	+0.2
EZM	**Erzurum**	**0.69**	**40**	SG	Sb	12 01 29.7	+1.9

*NEIC **14** 12:07:39.8, 37.18S×176.72E, h317km, MG3.7(WEL), After WEL.*
WEL 14 12:07:40.4±0.4**, 37.20S**×**176.72E, h312**km±5km**, ML3.5**/7**, Error ellipse: s-maj=9.5km s-min=7.2km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MWZ	**Matawai**	**1.30**	**151**	P	P	12 08 23.7	-0.1
MWZ				S	S	12 08 57.3	-0.5
MWZ	**Matawai**	**1.30**	**151**	PN	P	12 08 23.7	-0.1
MWZ				SN	S	12 08 57.2	-0.6
PUZ	**Puketiti**	**1.50**	**126**	*e*P	P	12 08 24.5	-0.5
PUZ				S	S	12 08 58.9	-1.0
PUZ	**Puketiti**	**1.50**	**126**	PN	P	12 08 24.5	-0.5
PUZ				SN	S	12 08 58.5	-1.4
KNZ	**Kokohu**	**1.96**	**158**	*e*P	P	12 08 28.2	0.0
KNZ	**Kokohu**	**1.96**	**158**	PN	P	12 08 28.2	0.0
BKZ	**Black Stump Fm**	**1.97**	**185**	*e*P	P	12 08 28.2	-0.1
BKZ	**Black Stump Fm**	**1.97**	**185**	PN	P	12 08 28.2	-0.1
WNVZ	**Wahianoa**	**2.30**	**202**	*e*PN	P	12 08 30.8	-0.1
TSZ	**Takapari Road**	**2.92**	**192**	*e*P	P	12 08 36.0	-0.5
TSZ	**Takapari Road**	**2.92**	**192**	PN	P	12 08 35.7	-0.9
TSZ				SN	S	12 09 20.0	-0.4
BFZ	**Birch Farm**	**3.49**	**186**	*e*PN	P	12 08 41.4	-1.0
MRZ	**Mangatainoka R**	**3.57**	**194**	P	P	12 08 42.0	-1.1
MRZ				S	S	12 09 32.2	0.0
MRZ	**Mangatainoka R**	**3.57**	**194**	PN	P	12 08 42.0	-1.1
MRZ				SN	S	12 09 31.9	-0.2
KIW	**Kapiti Island**	**3.92**	**201**	P	P	12 08 45.6	-1.2
KIW	**Kapiti Island**	**3.92**	**201**	*e*PN	P	12 08 45.5	-1.3
MTW	**Mount Morrison**	**4.06**	**193**	P	P	12 08 47.0	-1.4
MTW	**Mount Morrison**	**4.06**	**193**	*e*PN	P	12 08 46.6	-1.8
CAW	**Cannon Point**	**4.11**	**198**	P	P	12 08 47.9	-0.9
CAW	**Cannon Point**	**4.11**	**198**	*e*PN	P	12 08 47.4	-1.5
MRW	**Makara Radio**	**4.32**	**201**	P	P	12 08 49.9	-1.3
MRW	**Makara Radio**	**4.32**	**201**	*e*PN	P	12 08 49.6	-1.5
TUWZ	**Tuamarina**	**4.74**	**206**	*e*PN	P	12 08 54.3	-1.6
NNZ	**Nelson**	**4.78**	**212**	*e*P	P	12 08 54.4	-1.9
NNZ	**Nelson**	**4.78**	**212**	*e*PN	P	12 08 54.1	-2.2
NNZ				SN	S	12 09 54.4	-1.4
QRZ	**Quartz Range**	**4.88**	**221**	*e*PN	P	12 08 54.7	-2.7
THZ	**Tophouse**	**5.43**	**212**	*e*P	P	12 09 02.1	-1.8
THZ	**Tophouse**	**5.43**	**212**	*e*PN	P	12 09 01.9	-2.0
THZ				SN	S	12 10 08.0	-1.4
KHZ	**Kahutara**	**5.76**	**204**	*e*P	P	12 09 06.8	-0.9
KHZ	**Kahutara**	**5.76**	**204**	*e*PN	P	12 09 06.4	-1.3
DSZ	**Denniston Nort**	**5.92**	**218**	SN	S	12 10 16.2	-3.5
LTZ	**Lake Taylor**	**6.54**	**210**	*e*PN	P	12 09 14.6	-2.4

*MAN **14** 12:10:08.4, 9.75N×121.99E, h28km, mb4.4, ML3.3, MS3.1*
ISC 14 12:10:08.7±2.0**, 9.49N**±0.08×**122.0E**±0.1**, h33**km**, n5, σ0ˢ54**/8**, 1C, Sulu Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**1.27**	**96**	⇑*i*P	**P**	**12 10 29.4**	**-0.7**
SNPH				*i* S	**S**	**12 10 46.0**	**-0.2**
GUIM	**Jordan**	**1.29**	**29**	*e*P	**P**	**12 10 30.2**	**-0.3**
GUIM				*i* S	**S**	**12 10 46.6**	**-0.2**
TBP	**Tagbilaran**	**1.88**	**84**	*e*P	**P**	**12 10 39.9**	**+0.8**
TBP				*e*S	**S**	**12 11 01.8**	**-0.1**
PAGZ	**Pagadian**	**2.15**	**139**	*e*P	**P**	**12 10 42.6**	**-0.2**
MSLP	**Maasin**	**2.93**	**77**	*e*P	**P**	**12 10 55.0**	**+1.0**

*TAP **14** 12:17:17.5, 23.97N×122.36E, h4km, ML2.9*
JMA 14 12:17:18.0±0.4**, 24.06N**×**122.44E, h15**km**, M2.3, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.66**	**52**	P	Pb	12 17 30.7	+0.1
YOJ				S	Sb	12 17 39.4	+0.1
IRIF	**Iriomote-Funau**	**1.21**	**77**	P	Pb	12 17 39.9	-0.2
IRIF				*e*S	Sb	12 17 57.2	+1.9
HATJ	**Hateruma jima**	**1.25**	**90**	P	Pb	12 17 40.6	-0.1
HATJ				*e*S	Sb	12 17 56.7	+0.3
JKRS	**Kuro-shima**	**1.44**	**83**	P	Pn	12 17 43.7	-0.1
JKRS				*e*S	Sb	12 18 04.4	+2.3
JIJ	**Ishigaki jima**	**1.58**	**79**	P	Pn	12 17 45.0	-0.8
JIJ				*e*S	Sn	12 18 05.2	-0.8
JTJ	**Tarama**	**2.14**	**74**	*e*S	Sn	12 18 20.8	+0.6

*NEIC **14** 12:21:05.0, 34.02S×72.14W, h35km, ML2.9(GUC), After GUC.*
GUC 14 12:21:05.0±0.6**, 34.02S**×**72.14W, h35**km±2km**, MD3.9, ML2.9, 3C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.60**	**84**	⇓*i*P	P	12 21 17.2	+0.2
LNV				*i* S	S	12 21 26.0	+0.2
LCCH	**Las Cruces**	**0.72**	**41**	⇑*i*P	P	12 21 18.9	+0.3
LCCH				*i* S	S	12 21 29.1	+0.5
TACH	**Talagante**	**1.06**	**70**	*e*P	P	12 21 23.9	+0.3
SFDO	**San Fernando**	**1.10**	**123**	*e*P	P	12 21 24.4	+0.3
SFDO				*i* S	S	12 21 39.8	+1.4
CHCH	**Chadas Angostu**	**1.23**	**86**	⇑*i*P	P	12 21 26.9	+0.9
CHCH				*i* S	S	12 21 43.0	+1.2
CACH	**El Canelo**	**1.28**	**95**	*e*P	P	12 21 28.2	+1.6
CACH				*i* S	S	12 21 45.9	+3.0
PCH	**Pirque**	**1.41**	**74**	*e*P	P	12 21 29.3	+0.8
PCH				*i* S	S	12 21 48.0	+1.9
CICH	**Cipreses**	**1.45**	**102**	*e*P	P	12 21 30.4	+1.2
CLCH	**Cerro Calan**	**1.47**	**65**	*e*P	P	12 21 30.5	+1.1
CLCH				*i* S	S	12 21 49.9	+2.2
CLCH				AMP		12 21 57.3	
	comp=N,235nm,0.3s						
LMEL	**Las Melosas**	**1.61**	**84**	*e*P	P	12 21 33.1	+1.6
LMEL				*i* S	S	12 21 54.1	+2.8
LMEL				AMP		12 21 58.0	
	comp=E,335nm,0.2s						
FCH	**Farellones**	**1.69**	**66**	⇑*i*P	P	12 21 33.8	+1.3
FCH				*i* S	S	12 21 55.5	+2.4
FCH				AMP		12 22 01.0	
	comp=N,232nm,0.4s						
JACH	**Jahuel**	**1.85**	**45**	*i* P	P	12 21 35.9	+1.0

*NEIC **14** 12:32:15.2, 37.92N×44.21E, h26km, ML3.7(ISK), After ISK.*
*ISK **14** 12:32:17.5, 37.90N×43.92E, h23km, MD3.7*
*CSEM **14** 12:32:17.5, 37.90N×43.92E, h23km, MD3.7, After ISK*
ISC 14 12:32:14.8±2.8**, 37.84N**±0.08×**44.3E**±0.3**, h48**km±18km**, n17, σ0ˢ51**/22**, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.53**	**240**	*i* PG	**P**	**12 32 25.8**	**-0.6**
HKR	**Hakkari**	**0.53**	**240**	Pg	**P**	**12 32 25.8**	**-0.5**
HKR				Sg	**S**	**12 32 34.8**	**+0.1**
VANT	**Van**	**0.95**	**309**	PG	**P**	**12 32 32.3**	**+0.3**
VANT	**Van**	**0.95**	**309**	Pg	**P**	**12 32 32.4**	**+0.5**
VANT				Sg	**S**	**12 32 45.4**	**+0.7**
VANB	**Van**	**1.05**	**316**	PG	**P**	**12 32 33.4**	**0.0**
VANB				SG	**S**	**12 32 46.3**	**-0.9**
VANB	**Van**	**1.05**	**316**	Pg	**P**	**12 32 33.7**	**+0.3**
VANB				Sg	**S**	**12 32 45.7**	**-1.5**
BTMT	**Batman**	**2.27**	**280**	PN	**P**	**12 32 51.2**	**+0.6**
VRT	**Varto**	**2.54**	**301**	PN	**P**	**12 32 54.4**	**-0.1**
VRT	**Varto**	**2.54**	**301**	Pn	**P**	**12 32 54.5**	**-0.1**
EZM	**Erzurum**	**3.10**	**313**	*e*PN	**P**	**12 33 02.6**	**+0.2**
BINT	**Bingol**	**3.19**	**290**	*e*PN	**P**	**12 33 03.6**	**-0.1**
BINT	**Bingol**	**3.19**	**290**	Pn	**P**	**12 33 03.7**	**0.0**
ELZG	**Elazig**	**4.26**	**280**	*i* P	**P**	**12 33 19.1**	**+0.3**
ELZG				*i* S	**S**	**12 34 18.3**	**+10**
URFA	**Urfa**	**4.38**	**266**	*e*PN	**P**	**12 33 20.6**	**0.0**
MALT	**Malatya**	**4.68**	**278**	*e*Pn	**P**	**12 33 24.0**	**-0.7**
GZT	**Gaziantep**	**5.39**	**267**	*i* P	**P**	**12 33 40.1**	**+5.5**
COBT	**Iskenderun**	**6.58**	**261**	*i* P	**P**	**12 34 06.1**	**+15**

*MOS **14** 12:34:57.7±1.1, 48.07N×7.67E, h10km, mb4.0/1, Error ellipse: s-maj=5.5km s-min=3.6km az=81.3*
*STR **14** 12:34:59.9±0.1, 48.11N×7.76E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **14** 12:34:59.0, 48.08N×7.78E, h5km, ML3.8(VIE), ML3.4(LDG), ML3.4(CSEM), ML3.3(SZGRF), ML3.1(LEDBW), ML3.1(STR), After LEDBW.*
*LDG **14** 12:34:59.8±0.0, 48.08N×7.74E, h10km, Md3.5/3, Ml3.4/37, Error ellipse: s-maj=0.8km s-min=0.6km az=157.0*
*CSEM **14** 12:34:59.5±0.0, 48.09N×7.77E, h15km, ML3.5/40*
*BGR **14** 12:34:60.0±0.3, 48.11N×7.80E, h5km, ML3.3/1, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0*
*ZUR **14** 12:34:59.4, 48.09N×7.74E, h10km, ML3.0/26*
LEDBW 14 12:34:60.0±0.1**, 48.08N**×**7.77E, h6**km±2km**, ML3.2, 27C-29D, Error ellipse: s-maj=2.4km s-min=1.8km az=41.0, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FBB	**Freiburg**	**0.10**	**146**	⇓*e*P	Pg	12 35 02.2	0.0
FBB				⇓*i*P		12 35 02.4	
FBB				*e*S	Sg	12 35 04.0	+0.4
FBB	**Freiburg**	**0.10**	**146**	⇓*i*P	Pg	12 35 02.4	+0.2
LIBD	**Limburg**	**0.13**	**301**	⇓*e*P	Pg	12 35 02.9	+0.1
LIBD				⇓*i*P		12 35 03.0	
LIBD				*e*S	Sg	12 35 05.1	+0.4
LIBD	**Limburg**	**0.13**	**301**	⇓*i*P	Pg	12 35 03.1	+0.3
LIBD	**Limburg**	**0.13**	**301**	Pg	Pg	12 35 03.0	+0.2
LIBD				Sg	Sg	12 35 04.9	+0.2
KIZ	**Kirchzarten**	**0.16**	**142**	⇓*i*Pg	Pg	12 35 03.2	-0.1
KIZ				*i* Sg	Sg	12 35 05.5	-0.1
KIZ	**Kirchzarten**	**0.16**	**142**	⇓*i*P	Pg	12 35 03.2	-0.1
KIZ				⇓*e*P		12 35 03.3	
KIZ				*i* S	Sg	12 35 05.5	-0.1
KIZ				*e*S	Sg	12 35 05.6	0.0
KIZ	**Kirchzarten**	**0.16**	**142**	Pg	Pg	12 35 03.2	-0.1
KIZ				Sg	Sg	12 35 05.5	-0.1
FELD	**Feldberg**	**0.26**	**143**	⇓*e*P	Pg	12 35 05.1	-0.1
FELD				⇓*i*P		12 35 05.2	
FELD				*e*S	Sg	12 35 08.7	-0.1
FELD	**Feldberg**	**0.26**	**143**	⇓*i*P	Pg	12 35 05.2	0.0
FELD	**Feldberg**	**0.26**	**143**	Pg	Pg	12 35 05.2	0.0
FELD				Sg	Sg	12 35 09.9	+1.1
ECH	**Echery**	**0.43**	**288**	⇓*i*Pg	Pg	12 35 08.2	-0.4
ECH	**Echery**	**0.43**	**288**	Pg	Pg	12 35 08.2	-0.5
ECH				Sg	Sg	12 35 13.4	-1.1
WLS	**Welschbruch**	**0.43**	**320**	⇓*i*Pg	Pg	12 35 08.4	-0.3
WLS	**Welschbruch**	**0.43**	**320**	Pg	Pg	12 35 08.2	-0.5
BFO	**Black Forest**	**0.45**	**56**	⇑*e*Pg	Pg	12 35 08.3	-0.6
BFO				*e*Sg	Sg	12 35 14.6	-0.4
BFO	**Black Forest**	**0.45**	**56**	*e*Pg	Pg	12 35 08.3	-0.7
BFO				*e*Sg	Sg	12 35 13.6	-1.4
CDF	**Champ du Feu**	**0.47**	**315**	*e*Pg	Pg	12 35 08.9	-0.5
CDF				*e*P		12 35 10.1	
CDF				*e*Sg	Sg	12 35 14.8	-0.8
	154nm,0.3s						
CDF	**Champ du Feu**	**0.47**	**315**	*e*Pg	Pg	12 35 08.9	-0.5
CDF				*e*Sg	Sg	12 35 14.8	-0.8
MOF	**Molkenrain**	**0.49**	**242**	⇑*i*Pg	Pg	12 35 09.3	-0.4
MOF	**Molkenrain**	**0.49**	**242**	Pg	Pg	12 35 09.4	-0.3
SLE	**Schleitheim**	**0.58**	**123**	*e*Pg	Pg	12 35 11.0	-0.6
	SNR=146						
SLE				*e*Sg	Sg	12 35 18.5	-0.8
	SNR=7.3						
SLE	**Schleitheim**	**0.58**	**123**	⇓*i*Pg	Pg	12 35 11.0	-0.6
SLE				Sg	Sg	12 35 18.5	-0.8
	SNR=7.3						
SULZ	**Sulz-Cheisache**	**0.60**	**157**	*e*Pg	Pg	12 35 11.5	-0.5
	SNR=54						
SULZ				*e*Sg	Sg	12 35 19.6	-0.5
	SNR=15						
SULZ	**Sulz-Cheisache**	**0.60**	**157**	⇓*i*Pg	Pg	12 35 11.6	-0.4
SULZ				*i* Sg	Sg	12 35 19.6	-0.5
SULZ	**Sulz-Cheisache**	**0.60**	**157**	Pg	Pg	12 35 11.5	-0.5
	SNR=54						
SULZ				*i* Sg	Sg	12 35 19.6	-0.5
BBS	**Basel-Blauen**	**0.64**	**196**	⇑*i*Pg	Pg	12 35 12.5	-0.4
BBS	**Basel-Blauen**	**0.64**	**196**	Pg	Pg	12 35 12.5	-0.3
BBS				Sg	Sg	12 35 22.7	+1.3
HINF	**Hinteralfeld**	**0.67**	**247**	*e*Pg	Pg	12 35 12.4	-1.0
HINF				*e*P		12 35 13.3	
HINF				*e*Sg	Sg	12 35 20.8	-1.6
	191nm,0.2s						
HINF				*e*Sn	Sn	12 35 23.2	-3.4
	221nm,0.2s						
HINF	**Hinteralfeld**	**0.67**	**247**	*e*P	Pg	12 35 12.4	-1.0
HINF				*e*		12 35 23.2	
HINF	**Hinteralfeld**	**0.67**	**247**	*e*Pg	Pg	12 35 12.4	-1.0
HINF				*e*Sg	Sg	12 35 20.8	-1.6
HINF				*e*Sn	Sn	12 35 23.2	-3.4
SPAK	**Spaichingen**	**0.68**	**88**	Pg	Pg	12 35 12.6	-1.0
SPAK	**Spaichingen**	**0.68**	**88**	⇑*i*P	Pg	12 35 13.0	-0.6
SPAK				Sg	Sg	12 35 22.2	-0.5
FLACH	**Flaach**	**0.74**	**133**	⇓*i*P	Pg	12 35 14.2	-0.6
BALST	**Balsthal**	**0.75**	**184**	⇓*i*P	Pg	12 35 14.3	-0.6
BALST				*i* Sg	Sg	12 35 24.3	-0.6
TRULL	**Truellikon**	**0.75**	**125**	⇓*i*Pg	Pg	12 35 13.7	-1.3
BOURR	**Bourrignon**	**0.78**	**208**	*e*Pg	Pg	12 35 15.0	-0.6
	SNR=124						
BOURR				*e*Sg	Sg	12 35 25.6	-0.4
	SNR=7.9						
BOURR	**Bourrignon**	**0.78**	**208**	⇑*i*Pg	Pg	12 35 15.0	-0.6
BOURR				*e*Sg	Sg	12 35 25.4	-0.6
SISB	**Singen-Sch Ber**	**0.90**	**116**	Pg	Pg	12 35 17.1	-0.7
SISB				PmP		12 35 17.8	
SISB				Sg	Sg	12 35 29.3	-0.5
SISB	**Singen-Sch Ber**	**0.90**	**116**	P	Pb	12 35 17.8	+0.3
SISB				S	Sb	12 35 29.3	-0.1
ZUR	**Zurich**	**0.90**	**142**	*e*Pg	Pg	12 35 17.2	-0.7
	SNR=20						
ZUR				*e*Sg	Sg	12 35 29.1	-0.8
	SNR=8.8						
ZUR	**Zurich**	**0.90**	**142**	*e*Pg	Pg	12 35 17.3	-0.6
ZUR				*e*Sg	Sg	12 35 29.4	-0.5
LANF	**Langenberg**	**0.90**	**1**	⇓*e*Pg	Pg	12 35 16.9	-1.1
LANF	**Langenberg**	**0.90**	**1**	Pg	Pg	12 35 16.7	-1.3
LANF				Sg	Sg	12 35 29.2	-0.8
GUT	**Gutenstein**	**0.90**	**90**	⇑*i*Pg	Pg	12 35 17.1	-0.9
GUT				Sg	Sg	12 35 29.1	-0.9
MSG	**Mossingen**	**0.90**	**69**	*e*P	Pb	12 35 17.3	-0.3
MSG				*e*P		12 35 17.7	
MSG				*e*S	Sb	12 35 29.0	-0.6
MSG				*e*S	Sb	12 35 30.0	+0.4
HAU	**Haudompre**	**0.96**	**266**	*e*Pg	Pg	12 35 17.7	-1.4
HAU				*e*Sg	Sg	12 35 29.5	-2.4
	996nm,0.3s						

LOMF	Lomont	0.97	221	⇑iPg	Pg	12 35 18.2	-1.2
LOMF	Lomont	0.97	221	Pg	Pg	12 35 18.4	-1.0
TUBL	Tuebingen Lnz	0.98	63	ePg	Pg	12 35 19.1	-0.4
TUBL				Sg	Sg	12 35 32.1	-0.5
TUBL	Tuebingen Lnz	0.98	63	⇑eP	Pb	12 35 18.4	-0.6
TUBL				eP		12 35 19.1	
TUBL				S	Sb	12 35 32.1	+0.2
WEIN	Weingarten	0.99	124	ePg	Pg	12 35 19.0	-0.7
WILA	Wila	1.02	131	ePg	Pg	12 35 19.5	-0.8
	SNR=119						
WILA				eSg	Sg	12 35 32.5	-1.3
	SNR=8.0						
WILA	Wila	1.02	131	⇓iPg	Pg	12 35 19.5	-0.8
BUCH	Bad Urach	1.12	70	⇑eP	Pb	12 35 20.3	-1.0
BUCH				S	Sb	12 35 36.5	+0.5
BUCH	Bad Urach	1.12	70	SG	Sg	12 35 36.5	-0.7
STU	Stuttgart	1.17	53	ePg	Pg	12 35 20.6	-2.8
	SNR=16						
STU				eSg	Sg	12 35 36.9	-2.1
	SNR=14						
THEF	They Montfort	1.20	278	Pg	Pg	12 35 21.4	-2.6
THEF				Sg	Sg	12 35 38.4	-1.7
THEF	They Montfort	1.20	278	P	Pb	12 35 21.2	-1.6
KTD	Kalmit	1.26	9	P	Pb	12 35 24.1	+0.5
KTD				S	Sb	12 35 40.9	+0.9
KTD	Kalmit	1.26	9	Pg	Pg	12 35 23.1	-2.0
KTD	Kalmit	1.26	9	P	Pb	12 35 24.1	+0.4
KTD				Sg	Sg	12 35 40.9	-0.9
MUO	Muotathal	1.26	152	ePg	Pg	12 35 23.3	-1.8
BNALP	Bannalp	1.29	160	⇓iPg	Pg	12 35 23.6	-2.1
HASLI	Hasliberg	1.35	169	⇑iPg	Pg	12 35 25.8	-1.1
LIENZ	Alp Oberkamor	1.40	123	eP*	Pb	12 35 25.5	-0.7
BRANT	Les Verrieres	1.44	218	⇑iPn	Pn	12 35 24.6	-2.1
HEI	Heidelberg	1.46	25	eS	Sb	12 35 46.6	+0.7
PLONS	Plons	1.50	133	⇓iP*	Pb	12 35 26.8	-1.1
UBR	Uberruh	1.62	103	P	Pn	12 35 28.6	-0.7
UBR				S	Sb	12 35 47.4	-3.2
RFYF	Reffroy	1.63	291	ePn	Pn	12 35 26.7	-2.7
RFYF				eSg	Sg	12 35 50.6	-3.6
	234nm,0.2s						
DAVA	Damuels	1.63	118	⇑iPN	Pn	12 35 29.4	0.0
DAVA				iPG	Pg	12 35 30.9	-1.7
DAVA				iSG	Sg	12 35 52.3	-2.0
	47nm,0.1s						
TOD	Tromm	1.67	24	S	Sn	12 35 52.5	+0.6
TOD	Tromm	1.67	24	Pg	Pg	12 35 30.9	-2.4
RUP	Ruppelstein	1.69	344	P	Pn	12 35 31.5	+1.3
RUP	Ruppelstein	1.69	344	Pg	Pg	12 35 31.6	-2.1
RUP				Sg	Sg	12 35 53.6	-2.6
LKBD	Leukerbad	1.70	183	ePn	Pn	12 35 28.9	-1.5
HDH	Heidenheim	1.70	72	iP	Pn	12 35 28.2	-2.2
HDH				iPg	Pg	12 35 32.0	-1.9
HDH				S	Sn	12 35 48.9	-3.8
HDH				Sg	Sg	12 35 53.7	-2.9
HDH	Heidenheim	1.70	72	⇑iP	Pn	12 35 28.2	-2.2
HDH				iP		12 35 32.0	
HDH				S	Sn	12 35 48.9	-3.8
HDH				S	Sn	12 35 53.7	+1.0
HDH	Heidenheim	1.70	72	iPG	Pg	12 35 32.0	-1.9
HDH	Heidenheim	1.70	72	SG	Sg	12 35 53.7	-2.9
HDH	Heidenheim	1.70	72	iPg	Pg	12 35 32.0	-1.9
FUSIO	Fusio	1.74	159	⇓iP*	Pb	12 35 30.3	-1.6
SENIN	Lac Senin	1.75	191	⇑iPn	Pn	12 35 29.4	-1.7
SIND	Sindeldorf	1.76	43	⇓eP	Pn	12 35 28.3	-2.9
SIND				S	Sn	12 35 49.8	-4.3
SIND				Sg	Sg	12 35 56.6	-1.8
SIND	Sindeldorf	1.76	43	⇓eP	Pn	12 35 28.3	-2.9
SIND				S	Sn	12 35 49.8	-4.3
SIND				S	Sn	12 35 56.6	+2.5
SIND	Sindeldorf	1.76	43	SG	Sg	12 35 56.6	-1.8
ABH	Alteburg	1.81	355	P	Pn	12 35 33.9	+1.9
ABH				S	Sn	12 35 56.4	+1.0
SFTF	Sexfontaines	1.83	275	ePn	Pn	12 35 29.7	-2.6
SFTF				ePg	Pg	12 35 33.7	-2.9
	baz=101						
SFTF				eSn	Sn	12 35 51.1	-5.0
SFTF				eSg	Sg	12 35 57.1	-4.0
	107nm,0.2s						
SFTF	Sexfontaines	1.83	275	ePg	Pg	12 35 33.7	-2.9
SFTF				eSn	Sn	12 35 51.1	-5.0
SFTF				eSg	Sg	12 35 57.1	-4.0
	54nm,0.2s						
GIMEL	Gimel	1.86	214	⇑iPn	Pn	12 35 30.2	-2.5
MEZF	Maizieres J'vi	1.86	284	ePn	Pn	12 35 29.6	-3.1
MEZF				ePg	Pg	12 35 34.3	-2.9
	baz=110						
MEZF				eSn	Sn	12 35 50.8	-6.1
MEZF				eSg	Sg	12 35 58.3	-3.8
	109nm,0.2s						
MEZF	Maizieres J'vi	1.86	284	ePg	Pg	12 35 34.3	-2.9
MEZF				eSn	Sn	12 35 50.8	-6.1
MEZF				eSg	Sg	12 35 58.3	-3.8
	54nm,0.2s						
CABF	La Chapelle	1.86	219	ePn	Pn	12 35 30.3	-2.5
CABF				ePg	Pg	12 35 34.4	-2.8
CABF				eSn	Sn	12 35 51.7	-5.2
CABF				eSg	Sg	12 35 58.2	-3.9
	54nm,0.2s						
CABF	La Chapelle	1.86	219	eP	Pn	12 35 30.3	-2.5
CABF				e		12 35 51.7	
WLF	Walferdange	1.91	327	ePg	Pg	12 35 35.7	-2.4
	SNR=8.9						
WLF				eSg	Sg	12 36 00.3	-3.3
	SNR=2.8						
WLF	Walferdange	1.91	327	ePg	Pg	12 35 35.7	-2.5
WLF				eSg	Sg	12 36 01.7	-1.9
WLF	Walferdange	1.91	327	ePg	Pg	12 35 35.7	-2.4
WLF				eSg	Sg	12 36 01.7	-1.9
DAVOX	Davos	1.94	132	⇓iPn	Pn	12 35 33.6	-0.1
VDL	Val di Lei	1.97	143	⇓iPn	Pn	12 35 34.3	0.0
NORI	Noerdlinger Ri	2.01	70	⇑iPn	Pn	12 35 32.4	-2.4
SALAN	Lac Salanfe	2.01	196	⇑iPn	Pn	12 35 32.6	-2.3
DIX	Grande Dixence	2.02	187	⇑iPn	Pn	12 35 33.7	-1.2
EMV	Vieux Emosson	2.11	197	⇑iPn	Pn	12 35 33.9	-2.3
MCGN	Macugnaga	2.13	176	ePn	Pn	12 35 37.5	+1.0
MCGN				eSn	Sn	12 36 06.7	+3.1
MCGN	Macugnaga	2.13	176	ePn	Pn	12 35 37.5	+0.9
TNS	Taunus Mts	2.19	11	ePn	Pn	12 35 35.8	-1.6
	SNR=1.5						
TNS				ePg	Pg	12 35 40.9	-2.8
	SNR=6.7						
TNS				eSg	Sg	12 36 08.6	-4.2
	SNR=3.9						
TNS	Taunus Mts	2.19	11	eP	Pn	12 35 35.8	-1.6
TNS				e		12 36 08.6	
TNS	Taunus Mts	2.19	11	ePn	Pn	12 35 35.8	-1.6
TNS				ePg	Pg	12 35 40.9	-2.8
TNS				eSg	Sg	12 36 08.6	-4.2
FUORN	Ofenpass	2.24	130	⇑iPn	Pn	12 35 38.2	+0.1
VAI	Varese	2.32	163	eP	Pn	12 35 43.6	+4.4
FUR	Furstenfeldbru	2.35	87	ePn	Pn	12 35 38.1	-1.6
	SNR=1.1						
FUR				ePg	Pg	12 35 44.5	-2.4
	SNR=5.4						
FUR				eSg	Sg	12 36 13.8	-4.4
	SNR=12						
FUR	Furstenfeldbru	2.35	87	eP	Pn	12 35 38.1	-1.6
FUR				e		12 36 13.8	
FUR	Furstenfeldbru	2.35	87	ePn	Pn	12 35 38.1	-1.6
FUR				ePg	Pg	12 35 44.5	-2.4
FUR				eSg	Sg	12 36 13.8	-4.4
MOTA	Moosalm	2.37	107	⇓iPN	Pn	12 35 38.9	-1.1
MOTA				iSN	Sn	12 36 08.0	-1.6
MOTA				iSG	Sg	12 36 15.5	-3.3
	1.8nm,0.2s						
BRMO	Bormio	2.39	131	ePn	Pn	12 35 46.2	+5.9
ORX	Oropa	2.46	177	P	Pn	12 35 40.6	-0.6
ORO	Oropa	2.46	177	ePn	Pn	12 35 42.1	+0.8
ORO				eSn	Sn	12 36 17.5	+5.5
ORO	Oropa	2.46	177	eP	Pn	12 35 42.1	+0.8
SQTA	Sankt Quirin	2.48	109	⇑iPN	Pn	12 35 40.5	-1.0
SQTA				iPG	Pg	12 35 46.5	-2.9
SQTA				iSG	Sg	12 36 19.2	-3.3
	57nm,0.2s						
SQTA	Sankt Quirin	2.48	109	⇑iP	Pn	12 35 40.5	-1.0
SQTA				i		12 36 19.2	
TRAV		2.57	180	P	Pn	12 35 42.2	-0.6
TRAV		2.57	180	P	Pn	12 35 42.2	-0.7
LSD	Ceresole Reale	2.66	189	P	Pn	12 35 42.7	-1.4
LPL	La Plagne	2.66	196	ePn	Pn	12 35 41.2	-3.0
LPL				eP		12 35 44.0	
LPL				ePg	Pg	12 35 49.4	-3.8
LPL				eSn	Sn	12 36 11.0	-6.2
LPL				eSg	Sg	12 36 22.4	-6.3
	30nm,0.3s						
LPL	La Plagne	2.66	196	eP	Pn	12 35 41.2	-3.0
LPL				e		12 36 11.0	
LPL	La Plagne	2.66	196	ePn	Pn	12 35 41.2	-3.0
LPL				ePg	Pg	12 35 49.4	-3.8
LPL				eSn	Sn	12 36 11.0	-6.2
LPL				eSg	Sg	12 36 22.4	-6.3
WATA	Walderalm	2.67	105	⇑iPN	Pn	12 35 43.2	-1.2
WATA				iSN	Sn	12 36 15.5	-2.0
WATA				iSG	Sg	12 36 25.6	-3.4
	22nm,0.2s						
LPG	La Plagne	2.68	196	ePn	Pn	12 35 41.4	-3.0
LPG				eP		12 35 44.0	
LPG				ePg	Pg	12 35 49.6	-3.8
LPG				eSn	Sn	12 36 11.1	-6.4
LPG				eSg	Sg	12 36 23.7	-5.5
	43nm,0.4s						
LPG	La Plagne	2.68	196	eP	Pn	12 35 41.4	-3.0
LPG				e		12 36 11.1	
LPG	La Plagne	2.68	196	ePn	Pn	12 35 41.4	-3.0
LPG				ePg	Pg	12 35 49.6	-3.8
LPG				eSn	Sn	12 36 11.1	-6.4
LPG				eSg	Sg	12 36 23.7	-5.5
WTTA	Wattenberg	2.74	106	⇑iPN	Pn	12 35 43.9	-1.3
WTTA				iSN	Sn	12 36 17.3	-1.7
WTTA				iSG	Sg	12 36 28.0	-3.1
	38nm,0.4s						
GIVF	Givet	2.80	317	ePn	Pn	12 35 42.7	-3.4
GIVF				eP		12 35 45.1	
GIVF				ePg	Pg	12 35 51.5	-4.4
GIVF				eSn	Sn	12 36 14.3	-6.3
GIVF				eSg	Sg	12 36 27.0	-6.2
	24nm,0.4s						
GIVF	Givet	2.80	317	eP	Pn	12 35 42.7	-3.4
GIVF				e		12 36 14.3	
GIVF	Givet	2.80	317	ePn	Pn	12 35 42.7	-3.4
GIVF				ePg	Pg	12 35 51.5	-4.4
GIVF				eSn	Sn	12 36 14.3	-6.3
GIVF				eSg	Sg	12 36 27.0	-6.2
RSP	Reno Superiore	2.95	187	P	Pn	12 35 47.0	-1.3
SMF	Signal de Mont	3.03	243	ePn	Pn	12 35 45.1	-4.4
SMF				ePg	Pg	12 35 55.4	-5.1
SMF				eSn	Sn	12 36 19.6	-6.9
SMF				eSg	Sg	12 36 33.5	-7.5
	43nm,0.2s						
SMF	Signal de Mont	3.03	243	eP	Pn	12 35 45.1	-4.4
SMF				e		12 36 19.6	
SSF	Saint Saulge	3.06	252	ePn	Pn	12 35 46.0	-3.9
SSF				ePg	Pg	12 35 56.1	-5.0
SSF				eSn	Sn	12 36 20.2	-7.1
SSF				eSg	Sg	12 36 35.1	-6.9
	61nm,0.4s						
SSF	Saint Saulge	3.06	252	eP	Pn	12 35 46.0	-3.9
SSF				e		12 36 20.2	
BAIF	Baives	3.07	312	ePn	Pn	12 35 46.2	-3.7
BAIF				eP		12 35 48.5	
BAIF				ePg	Pg	12 35 55.9	-5.3
BAIF				eSn	Sn	12 36 20.6	-6.8
BAIF				eSg	Sg	12 36 35.0	-7.1
	12nm,0.2s						
BAIF	Baives	3.07	312	eP	Pn	12 35 46.2	-3.7
BAIF				e		12 36 20.6	
BAIF	Baives	3.07	312	ePn	Pn	12 35 46.2	-3.7
BAIF				ePg	Pg	12 35 55.9	-5.3
BAIF				eSn	Sn	12 36 20.6	-6.8
BAIF				eSg	Sg	12 36 35.0	-7.1
FENE	Fenestrelle	3.09	189	P	Pg	12 35 58.8	-2.9
RRL	Cesana Torines	3.23	193	P	Pg	12 36 00.4	-4.2
AVF	Avril sur Loir	3.27	248	ePn	Pn	12 35 48.5	-4.3
AVF				ePg	Pg	12 36 00.5	-4.7
AVF				eSn	Sn	12 36 24.5	-7.9
AVF				eSg	Sg	12 36 41.2	-7.5
	35nm,0.6s						
AVF	Avril sur Loir	3.27	248	eP	Pn	12 35 48.5	-4.3
AVF				e		12 36 24.5	
MZEK	Zeckenberg-Ebn	3.33	54	⇑iPn	Pn	12 35 49.9	-3.8
ROTZ	Rotzenmuhle	3.38	58	⇑iPn	Pn	12 35 50.4	-3.9
ORIF	Oris-en-Rattie	3.42	203	ePn	Pn	12 35 51.4	-3.6
ORIF				ePg	Pg	12 36 02.9	-5.4
ORIF				eSn	Sn	12 36 28.6	-7.8
ORIF				eSg	Sg	12 36 46.0	-8.0
	14nm,0.2s						
ORIF	Oris-en-Rattie	3.42	203	eP	Pn	12 35 51.4	-3.6
ORIF				e		12 36 28.6	
MBDF	Montbardon	3.43	192	ePn	Pn	12 35 51.6	-3.4
MBDF				ePg	Pg	12 36 03.4	-5.0
MBDF				eSn	Sn	12 36 29.4	-7.1
MBDF				eSg	Sg	12 36 47.5	-6.6
	23nm,0.6s						
MBDF	Montbardon	3.43	192	eP	Pn	12 35 51.6	-3.4
MBDF				e		12 36 29.4	
MGBB	Grossbuechelbe	3.48	55	⇑iPn	Pn	12 35 51.9	-3.9
WET	Wettzell	3.55	71	ePn	Pn	12 35 54.3	-2.5
	SNR=2.9						
WET				ePg	Pg	12 36 05.8	-5.1
	SNR=4.4						
WET				eSg	Sg	12 36 51.3	-6.9
	SNR=4.2						
WET	Wettzell	3.55	71	ePn	Pn	12 35 54.3	-2.5
WET				ePg	Pg	12 36 05.8	-5.1
WET				eSg	Sg	12 36 51.3	-6.9
HYF	Humbligny	3.56	259	ePn	Pn	12 35 52.6	-4.4
HYF				ePg	Pg	12 36 05.6	-5.5
HYF				eSg	Sg	12 36 50.7	-7.9
MOX	Moxa	3.59	43	ePn	Pn	12 35 53.4	-4.0
MOX				ePg	Pg	12 36 05.9	-5.7
MOX				eSn	Sn	12 36 35.3	-5.3
MOX				eSg	Sg	12 36 53.0	-6.5
	SNR=3.1						
MOX	Moxa	3.59	43	eP	Pn	12 35 53.4	-4.0
MOX				e		12 36 35.3	
MOX	Moxa	3.59	43	ePn	Pn	12 35 53.4	-4.0
MOX				ePg	Pg	12 36 05.9	-5.7
MOX				eSn	Sn	12 36 35.3	-5.3
MOX				eSg	Sg	12 36 52.9	-6.6
MOX	Moxa	3.59	43	iP	Pn	12 35 53.4	-4.0
MOX				Pg	Pg	12 36 06.0	-5.6
MOX				S	Sn	12 36 35.0	-5.6
MOX				Sg	Sg	12 36 53.0	-6.5
PZZ	Prazzo	3.61	188	P	Pn	12 35 57.6	0.0
BGF	Bois d'Agland	3.68	247	ePn	Pn	12 35 54.0	-4.6
BGF				ePg	Pg	12 36 08.0	-5.5
BGF				eSn	Sn	12 36 34.8	-8.1
BGF				eSg	Sg	12 36 54.5	-8.0
	57nm,0.4s						
BGF	Bois d'Agland	3.68	247	eP	Pn	12 35 54.0	-4.6
BGF				e		12 36 34.8	
NKC	Novy Kostel	3.75	53	ePG	Pg	12 36 10.2	-4.6
GUNZ	Gunzen	3.76	51	ePg	Pg	12 36 10.2	-4.8
	SNR=5.3						
ROB	Roburent	3.79	179	P	Pn	12 35 57.6	-2.6
WERD	Werda	3.80	50	ePg	Pg	12 36 10.8	-4.9
	SNR=6.1						
WERD				eSn	Sn	12 36 39.1	-6.8
	SNR=2.0						
TANN	Tannenbergstha	3.86	51	ePg	Pg	12 36 12.2	-4.8
	SNR=7.7						
TANN				eSg	Sg	12 37 01.6	-6.8
	SNR=3.8						
VIVF	Saint-Julien-l	3.87	215	ePn	Pn	12 35 56.7	-4.7
VIVF				ePg	Pg	12 36 11.2	-6.1
VIVF				eSg	Sg	12 36 59.6	-9.3
	16nm,0.2s						
KHC	Kasperske Hory	3.99	73	ePn	Pn	12 36 00.0	-3.1
KHC				e		12 36 08.0	
KHC	Kasperske Hory	3.99	73	ePN	Pn	12 36 00.0	-3.1
KHC				x	x	12 36 08.0	
KHC				ePG	Pg	12 36 14.0	-5.7
KHC				ex	x	12 36 45.0	
KHC				eSG	Sg	12 37 05.0	-7.9
GEC2	GERESS Array S	4.02	77	ePn	Pn	12 36 00.8	-2.6
	SNR=3.6						
GEC2				ePg	Pg	12 36 14.6	-5.6
	SNR=3.0						
GEC2				eSg	Sg	12 37 06.3	-7.5
	SNR=4.0						
GEC2	GERESS Array S	4.02	77	ePn	Pn	12 36 00.8	-2.6
GEC2				ePg	Pg	12 36 14.6	-5.6
GEC2				eSg	Sg	12 37 06.3	-7.5
TCF	Toulx Ste Croi	4.20	247	ePn	Pn	12 36 01.5	-4.5
TCF				ePg	Pg	12 36 17.3	-6.4
TCF				eSn	Sn	12 36 46.8	-9.2
TCF				eSg	Sg	12 37 10.6	-9.1
	12nm,0.3s						
TCF	Toulx Ste Croi	4.20	247	eP	Pn	12 36 01.5	-4.5
TCF				e		12 36 46.8	
SBF	Sospel	4.23	183	ePn	Pn	12 36 02.7	-3.7
SBF				eSn	Sn	12 36 48.4	-8.3
	12nm,0.2s						
MOA	Molln	4.37	91	⇑iPN	Pn	12 36 06.3	-2.1
MOA				iPG	Pg	12 36 21.7	-5.5
MOA				iSN	Sn	12 36 56.5	-3.9
MOA				iSG	Sg	12 37 20.4	-5.0
	11nm,0.3s						
SMRF	Simiane la Rot	4.38	201	ePn	Pn	12 36 04.4	-4.2
SMRF				eSn	Sn	12 36 52.0	-8.7
	3.8nm,0.3s						
FRF	La Foret Royal	4.59	190	eSn	Sn	12 36 57.3	-8.6
	4.6nm,0.2s						
CLL	Collm	4.69	44	e(Pn)	Pn	12 36 08.0	-4.9
CLL				ePg	Pg	12 36 27.1	-6.4
	SNR=2.4						
CLL				eSg	Sg	12 37 27.7	-8.3
	SNR=2.3						
LMR	La Mourre	4.83	191	ePn	Pn	12 36 10.5	-4.5
LMR				eSn	Sn	12 37 03.0	-9.0
	2.2nm,0.2s						
LASF	Ste Croix	4.84	216	ePn	Pn	12 36 09.4	-5.8
LASF				ePg	Pg	12 36 29.5	-7.2
LASF				eSn	Sn	12 37 03.0	-9.4
LASF				eSg	Sg	12 37 30.6	-11
	11nm,0.4s						
PRU	Pruhonice	4.84	64	ePG	Pg	12 36 30.6	-6.1
PRU				eSG	Sg	12 37 32.2	-9.0
BRG	Berggiesshubel	4.90	53	ePg	Pg	12 36 31.5	-6.2
BRG				eSg	Sg	12 37 34.1	-8.9
	SNR=2.1						
CAF	Calviac	5.05	233	ePn	Pn	12 36 13.0	-5.1
CAF				ePg	Pg	12 36 33.0	-7.8
CAF				eSg	Sg	12 37 37.0	-11
	5.4nm,0.3s						
RJF	Les Rejaudoux	5.12	239	ePn	Pn	12 36 13.8	-5.3
RJF				eSn	Sn	12 37 09.6	-10
RJF				eSg	Sg	12 37 39.4	-11
	8.0nm,0.3s						
LDF	La Druitiere	5.29	278	ePn	Pn	12 36 16.4	-5.1
LDF				eSn	Sn	12 37 13.4	-10
LDF				eSg	Sg	12 37 44.6	-11
	21nm,0.5s						
FLN	La Foliniere	5.54	280	ePn	Pn	12 36 20.8	-4.2
FLN				eSg	Sg	12 37 51.9	-12
	18nm,0.4s						
MFF	Saint Martin d	5.58	258	ePn	Pn	12 36 20.3	-5.3
MFF				eSn	Sn	12 37 20.4	-10
MFF				eSg	Sg	12 37 51.7	-14
	9.6nm,0.4s						
GRR	Gorron	5.78	276	eSn	Sn	12 37 24.7	-11
GRR				eSg	Sg	12 37 59.2	-13
	11nm,0.3s						
LFF	La Frestale	5.78	240	eSg	Sg	12 37 59.8	-13
	18nm,0.5s						
VRAC	Vranov	5.97	75	eSg	Sg	12 38 04.8	-14
MTLF	Montolieu	6.13	221	ePn	Pn	12 36 27.8	-5.5
MTLF				eSg	Sg	12 38 11.2	-13
	4.8nm,0.5s						
SGMF	Saint Gilles	6.91	275	ePn	Pn	12 36 38.6	-5.7
SGMF				eSn	Sn	12 37 51.4	-13
	3.4nm,0.4s						
SGMF				eSg	Sg	12 38 35.4	-15
	7.1nm,0.4s						
QUIF	Quistinic	7.34	273	eSg	Sg	12 38 48.7	-16
	5.6nm,0.4s						
ROSF	Rostrenen	7.39	276	eSg	Sg	12 38 48.9	-17
	8.3nm,0.6s						

MAN 14 12:36:22.2, 7.27N×123.14E, h13^{km}, mb4.6, ML3.5, MS3.4, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	0.62	23	eP	Pb	12 36 34.3	-0.1
PAGZ				eS	Sb	12 36 43.6	+0.9
IPIL	Ipil	0.76	313	eP	Pb	12 36 37.3	+0.6
IPIL				iS	Sb	12 36 48.4	+1.7
ZMPH	Zamboanga City	1.11	254	⇓iP	Pb	12 36 41.9	-0.8
ZMPH				iS	Sb	12 36 54.8	-2.1
CGP	Cagayan de Oro	1.94	53	⇓iP	Pn	12 36 55.3	+0.1
CGP				eS	Sn	12 37 20.7	+1.1
BUKP	Musuan	2.00	72	eP	Pn	12 36 55.5	-0.7
SNPH	Sibulan	2.06	3	eP	Pn	12 36 59.3	+2.3
TBP	Tagbilaran	2.51	17	eP	Pn	12 37 01.8	-1.6
TBP				eS	Sn	12 37 33.8	-0.3
GUIM	Jordan	3.38	351	iP	Pn	12 37 16.2	+0.4

MEX 14 12:39:12.7±0.5, 15.69N×95.87W, h12^{km}±15^{km}, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.25	289	iP	Pg	12 39 17.3	-0.8
HUIG				iS	Sg	12 39 20.9	-0.7
VHO	Vista Hermosa	1.61	329	iP	Pn	12 39 38.4	-2.8
VHO				iS	Sn	12 39 57.0	-5.1
OXX	Oaxaca	1.61	329	iP	Pn	12 39 36.0	-5.2
OXX				iS	Sn	12 39 57.5	-4.6
CMIG	Matias Romero	1.69	34	eP	Pn	12 39 39.4	-2.9
CMIG				iS	Sn	12 39 58.3	-5.6

*LDG **14** 12:43:42.3±0.6, 28.36S×65.23W, h10^{km}, Mb5.1/9, Ms4.6/8, Error ellipse: s-maj=50.8km s-min=15.2km az=84.0*

*GUC **14** 12:43:44.6±0.7, 28.54S×66.20W, h25^{km}*

*MOS **14** 12:43:44.8±1.5, 28.93S×66.44W, h33^{km}, mb5.8/6, Error ellipse: s-maj=60.9km s-min=20.9km az=107.6*

*HRVD **14** 12:43:44.5±0.3, 28.86S×66.28W, h27^{km}±1^{km}, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s38,c52;Mantle waves: s52,c78; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.33±.23; $M_{\theta\theta}$-0.73±.17; $M_{\phi\phi}$-2.60±.24; $M_{r\theta}$-2.05±.30; $M_{\theta\phi}$-3.10±.15; $M_{\phi r}$1.64±.41; Best double couple: $M_0$5.061×10^{16} NP1:ϕ_s247°, δ54°, λ136°. NP2:ϕ_s6°, δ56°, λ45°. Principal axes: T 5.22, Plg54°, Azm217°; N -.313, Plg36°, Azm36°; P -4.903, Plg1°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **14** 12:43:44.9, 28.60S×66.00W, h25^{km}, mB5.4, Ms5.4, Msz5.2*

*IDC **14** 12:43:44.6±0.6, 28.49S×65.96W, h21^{km}±3^{km}, mb4.8/15, mb1 4.9/17, mb1mx4.9/19, mbtmp4.9/17, ML5.0/2, MS4.6/13, Ms1 4.6/13, ms1mx4.4/22, Error ellipse: s-maj=26.4km s-min=13.7km az=75.0*

*NEIC **14** 12:43:44.5±0.2, 28.56S×66.00W, mb5.3/50, MD5.6(SJA), Error ellipse: s-maj=5.1km s-min=4.0km az=99.0*

NEIC Felt [V] at Catamarca. Also felt in La Rioja, Santiago del Estero, Tucuman and northern Cordoba.

ISC 14 12:43:42.8±0.2, 28.59S±0.03×66.04W±0.04, h24^{km}, h24^{km}±.8^{km}:pP-P, n271, σ1^{s}04/183, mb5.2/70, MS4.7/15, 22C-12D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	Copiapo	4.01	287	eP	Pn	12 44 43.6	-0.7
CPCH				iS	Sn	12 45 28.2	-3.0
CPCH				iS	Sn	12 45 28.4	-2.8
CPCH	Copiapo	4.01	287	eP	Pn	12 44 43.6	-0.7
CPCH				iS	Sn	12 45 28.4	-2.8
VACH	Vallenar	4.15	269	eP	Pn	12 44 45.7	-0.7
VACH				iS	Sn	12 45 32.4	-2.4
LSCH	La Serena	4.74	253	eP	Pn	12 44 54.3	-0.4
LSCH				iS	Sn	12 45 46.5	-3.1
JACH	Jahuel	5.66	223	eP	Pn	12 45 08.1	+0.3
FCH	Farellones	5.97	217	⇑eP	Pn	12 45 12.9	+0.7
PACH	Papudo	6.10	228	eP	Pn	12 45 11.7	-2.2
CLCH	Cerro Calan	6.16	218	⇑eP	Pn	12 45 14.5	-0.2
DSCH	Colegio Aleman	6.17	218	eP	Pn	12 45 14.8	-0.2
ANCH	Antofagasta	6.27	320	eP	Pn	12 45 14.9	-1.4
PCH	Pirque	6.32	216	eP	Pn	12 45 17.1	+0.1
LMEL	Las Melosas	6.34	213	⇑eP	Pn	12 45 17.2	-0.2

LVC **Limon Verde** **6.49** **336** Pn **Pn** **12 45 21.5 +2.0**
21nm,0.3s,baz=169,slow=9.5,SNR=189
LVC Lg 12 47 11.5
7.7nm,0.3s,baz=244,slow=23,SNR=2.5
LVC LR LR 12 48 07.1
comp=Z,4µm,20.4s,baz=160,slow=41
LVC **Limon Verde** **6.49** **336** *e*Pn **Pn** **12 45 21.4 +1.9**
387nm,0.9s
IHA **Instituto Hidr** **6.54** **226** *e*P **Pn** **12 45 17.5 -2.7**
CHCH **Chadas Angostu** **6.63** **215** ⇓*i*P **Pn** **12 45 20.8 -0.6**
CACH **El Canelo** **6.75** **214** *e*P **Pn** **12 45 22.9 -0.3**
CCHI **Chillan** **9.47** **211** *e*P **P** **12 45 55.6 -5.4**
TRQA **Tornquist** **10.03** **161** *e*Pn **P** **12 46 07.7 -1.0**
134nm,0.8s
LPAZ **La Paz** **12.39** **351** Pn **P** **12 46 40.8 0.0**
0.9nm,0.3s,baz=171,slow=9.2,SNR=21
LPAZ **La Paz** **12.39** **351** *e*Pn **P** **12 46 40.7 -0.1**
38nm,0.8s
PLCA **Paso Flores** **12.67** **196** LR LR 12 51 49.2
comp=Z,2µm,21.6s,baz=15,slow=38
ARE **Arequipa** **13.07** **336** *e*P **P** **12 46 51.0 +1.1**
COYC **Coyhaique** **17.62** **194** *e*P **P** **12 47 48.5 +0.2**
BDFB **Brasilia** **21.05** **56** P **P** **12 48 29.4 +1.7**
17nm,0.4s,mb4.7,baz=233,slow=10,SNR=19
BDFB LR LR 12 57 50.1
comp=Z,4µm,18.4s,MS4.8,baz=232,slow=40
BAO **Brasilia Array** **21.07** **56**⇓ *e*P **P** **12 48 29.3 +1.5**
BAO *i* 12 48 37.5
BAO *e*S **S** **12 52 25.9 +10**
CAM4 **Nova Friburgo** **22.06** **79** *e*P **P** **12 48 30.4 -7.4**
CAM4 *i* 12 48 42.6
CAM4 *i* 12 48 48.1
CAM4 *i* 12 49 01.1
USHA **Ushuaia** **26.28** **183** P **P** **12 49 19.7 +1.6**
39nm,0.9s,mb4.9,baz=5.1,slow=6.3,SNR=13
USHA LR LR 13 00 57.9
comp=Z,2µm,18.6s,MS4.6,baz=346,slow=39
OTAV **Otavalo** **31.03** **335** *e*P **P** **12 50 01.7 +0.5**
16nm,1.0s,mb4.8
ROSC **El Rosal** **34.19** **345** P **P** **12 50 29.6 +0.8**
11nm,0.4s,mb5.1,baz=90,slow=19,SNR=4.9
ROSC LR LR 13 05 46.4
comp=Z,988nm,21.8s,MS4.5,baz=15,slow=39
CS6B **Jaguaretama** **34.64** **54**⇓ *i*P **P** **12 50 40.1 +7.4**
CS6B *e* 12 50 44.7
CS6B *e* 12 50 53.7
RCBR **Riachuelo** **36.42** **57** *e*P **P** **12 50 46.0 -1.7**
24nm,1.3s,mb5.0
SDV **Santo Domingo** **37.52** **353** *e*P **P** **12 50 55.6 -1.3**
33nm,1.1s,mb5.0
JTS **JuntasAbangare** **42.76** **332** P **P** **12 51 42.7 +2.3**
290nm,0.7s,mb6.1,SNR=12
JTS **JuntasAbangare** **42.76** **332** *c i*P **P** **12 51 41.6 +1.2**
JTS **JuntasAbangare** **42.76** **332** *e*P **P** **12 51 40.2 -0.1**
62nm,1.1s,mb5.2
SJG **San Juan** **46.42** **360** P **P** **12 52 07.8 -1.9**
VNA3 **Neumayer Olymp** **52.56** **160**⇑ *i*P **P** **12 52 58.4 +2.2**
VNA3 **Neumayer Olymp** **52.56** **160**⇑ *i* pP 12 53 06.3 +2.8
VNA3 **Neumayer Olymp** **52.56** **160**⇑ *i* sP 12 53 10.3 +4.0
VNA1 **Neumayer--Stat** **52.76** **159**⇑ *i*P **P** **12 52 58.1 +0.3**
VNA1 **Neumayer--Stat** **52.76** **159** **P** **12 53 01.8 +4.0**
VNA1 **Neumayer--Stat** **52.76** **159**⇑ *i* pP 12 53 09.6 +4.5
VNA1 **Neumayer--Stat** **52.76** **159**⇓ *i* sP 12 53 12.8 +4.9
TEIG **Tepich** **53.07** **334** *e*P **P** **12 52 59.6 -1.1**
37nm,0.8s,mb5.4
TEIG pP pP 12 53 08.6 +0.6
VNA2 **Neumayer--Watz** **53.13** **159**⇑ *i*P **P** **12 53 02.9 +2.4**
VNA2 **Neumayer--Watz** **53.13** **159**⇑ *i* pP 12 53 12.3 +4.5
SNAA **Sanae** **54.76** **160**⇑ *i*P **P** **12 53 12.7 +0.3**
SNAA **Sanae** **54.76** **160** pP 12 53 20.7 +1.0
SNAA **Sanae** **54.76** **160**⇓ *i* sP 12 53 23.2 +0.7
SNAA **Sanae** **54.76** **160**⇓ *i*P **P** **12 53 11.2 -1.2**
SNAA **Sanae** **54.76** **160** P **P** **12 53 12.7 +0.3**
3.8nm,0.5s,mb4.7,baz=282,slow=8.4,SNR=56
MAIT **Maitri** **59.28** **158** *e*P **P** **12 53 45.1 +0.6**
NVL **N'lazarevskaya** **59.31** **158**⇓ *i*P **P** **12 53 44.0 -0.8**
NVL *i* *PP pP 12 53 54.5 +2.3
NVL *i* 12 54 00.8
NVL *e* 13 05 36.6
NVL pmax pmax
comp=Z,173nm,1.6s,mb5.8
RKT **Rikitea** **61.52** **258** *e*LR LR 13 12 19.4
comp=Z,422nm,25.8s,baz=120
RKT **Rikitea** **61.52** **258** *e*S **S** **13 02 18.1 -0.8**
RKT *e*LR LR 13 12 34.4
comp=Z,422nm,25.8s,baz=118
QSPA **South Pole Qui** **61.64** **180** *e*P **P** **12 54 01.2 +0.7**
comp=Z,101nm,1.1s,mb5.9
NATX **Nacogdoches** **65.90** **333** *e*P **P** **12 54 29.2 +0.1**
comp=Z,23nm,0.8s,mb5.3
NATX *ep*P pP 12 54 36.4 -0.1
CPCT **Cooper Cave** **66.04** **344** *e*P **P** **12 54 28.9 -1.0**
CPCT *ep*P pP 12 54 36.0 -1.4
SWET **Sewanee** **66.18** **342** *e*P **P** **12 54 28.9 -1.9**
OXF **Oxford** **66.53** **339** *e*P **P** **12 54 31.3 -1.8**
comp=Z,60nm,1.1s,mb5.5
OXF *ep*P pP 12 54 38.7 -1.8
JCT **Junction City** **66.99** **329** *e*P **P** **12 54 35.5 -0.6**
comp=Z,41nm,0.9s,mb5.5
UALR **University of** **67.75** **337** *e*P **P** **12 54 38.4 -2.3**
comp=Z,14nm,0.9s,mb5.0
UALR *ep*P pP 12 54 46.6 -1.6
LTX **Lajitas** **67.90** **325** *e*P **P** **12 54 41.7 -0.1**
comp=Z,25nm,1.4s,mb5.0
TXAR **Lajitas Array** **67.90** **325** P **P** **12 54 41.9 0.0**
comp=Z,3.5nm,0.6s,mb4.6,baz=141,slow=8.0,SNR=27
TXAR pP pP 12 54 47.8 -1.4
comp=Z,5.9nm,0.9s,baz=152,slow=7.0,SNR=10.0
MIAR **Mount Ida** **67.97** **336** *e*P **P** **12 54 40.4 -1.8**
comp=Z,36nm,1.1s,mb5.3
GLAT **Glass** **68.12** **340** *e*P **P** **12 54 41.8 -1.3**
SDMD **Soldier's Deli** **68.39** **351** *e*P **P** **12 54 44.3 -0.4**
SDMD *ep*P pP 12 54 51.1 -1.0
DBIC **Dimbokro** **68.52** **69** P **P** **12 54 44.5 -1.4**
comp=Z,5.6nm,0.5s,mb4.8,baz=215,slow=6.6,SNR=21
DBIC LR LR 13 20 49.3
comp=Z,323nm,21.9s,MS4.5,baz=211,slow=32
DBIC **Dimbokro** **68.52** **69** *e*P **P** **12 54 44.6 -1.3**
comp=Z,14nm,0.8s,mb5.0
SYO **Syowa Base** **68.98** **158** ⇓P **P** **12 54 47.8 0.0**
SYO **Syowa Base** **68.98** **158** ⇓pP pP 12 54 55.6 +0.3
WMOK **Wichita Mounta** **70.17** **332** *e*P **P** **12 54 54.0 -1.7**
comp=Z,15nm,1.0s,mb4.9
ACSO **Alum Creek Sta** **70.26** **346** *e*P **P** **12 54 54.3 -1.8**
comp=Z,14nm,0.9s,mb4.9
ACSO *ep*P pP 12 55 02.3 -1.2
VNDA **Vanda** **70.35** **190** P **P** **12 54 57.6 +1.5**
comp=Z,6.4nm,0.9s,mb4.6,baz=145,slow=5.1,SNR=17
VNDA LR LR 13 22 10.1
comp=Z,450nm,21.1s,MS4.7,baz=152,slow=33
VNDA **Vanda** **70.35** **190** *e*P **P** **12 54 57.4 +1.3**
comp=Z,47nm,1.8s,mb5.1
CCM **Cathedral Cave** **70.37** **339** *e*P **P** **12 54 55.4 -1.4**
comp=Z,32nm,0.6s,mb5.4
CLNB **Carlsbad** **70.40** **327** *e*P **P** **12 54 56.5 -0.6**
GDL2 **Guadalupe Moun** **70.58** **326** *e*P **P** **12 54 58.3 +0.1**
ALLY **Alegheny Colle** **71.09** **349** *e*P **P** **12 55 01.1 -0.1**
ALLY *ep*P pP 12 55 08.1 -0.5
ERPA **Erie** **71.52** **349** *e*P **P** **12 55 03.2 -0.6**
comp=Z,49nm,0.8s,mb5.5
ERPA *ep*P pP 12 55 10.3 -0.8
AMTX **Amarillo** **71.55** **330** *e*P **P** **12 55 03.3 -0.7**
comp=Z,17nm,0.9s,mb5.0
TAOE **Nuku Hiva Isla** **71.90** **270** *e*LR LR 13 17 04.9
TAOE **Nuku Hiva Isla** **71.90** **270** *e*LR LR 13 17 03.9
MIV **Mineville/With** **72.63** **354** *e*P **P** **12 55 10.5 +0.2**
LPM **Los Pinos Moun** **73.40** **326** *e*P **P** **12 55 15.5 +0.5**
TBI **Tubuai** **73.73** **252** *e*P **P** **12 55 17.5 +0.4**
comp=Z,112nm,1.2s,mb5.7
TBI *e*LR LR 13 17 57.4
comp=Z,177nm,24.0s
TBI **Tubuai** **73.73** **252** *e*LR LR 13 17 47.8
comp=Z,177nm,24.0s
ANMO **Albuquerque** **73.83** **326** ⇓*i*P **P** **12 55 18.3 +0.9**
TUC **Tucson** **74.00** **322** *e*P **P** **12 55 19.1 +0.7**
comp=Z,24nm,1.4s,mb4.9
CBKS **Cedar Bluff** **74.07** **333** *e*P **P** **12 55 18.6 -0.2**
comp=Z,34nm,0.9s,mb5.3
MEH **Mehetia** **74.85** **258** *e*P **P** **12 55 24.0 +0.3**
TSUM **Tsumeb** **75.64** **104** *e*P **P** **12 55 28.6 +0.4**
comp=Z,19nm,1.3s,mb4.9
TSUM *ep*P pP 12 55 35.9 +0.2
TVO **Taravao** **75.91** **257** *e*P **P** **12 55 30.4 +0.7**
comp=Z,134nm,1.4s,mb5.7
TIAR **Tiarei** **76.08** **257** *e*P **P** **12 55 31.2 +0.5**
comp=Z,35nm,0.8s,mb5.3
PAE **Paea** **76.24** **257** *e*P **P** **12 55 32.3 +0.7**
comp=Z,46nm,1.0s,mb5.4
PPT **Papeete** **76.28** **257** *e*P **P** **12 55 32.6 +0.8**
comp=Z,29nm,1.1s,mb5.1
PPT **Papeete** **76.28** **257** *e*LR LR 13 19 02.2
comp=Z,502nm,22.5s,baz=114
PPT **Papeete** **76.28** **257** *e*LR LR 13 19 15.8
comp=Z,502nm,22.5s,baz=115
MAW **Mawson** **76.82** **162** LR LR 13 31 05.6
comp=Z,517nm,19.2s,MS4.9,baz=14,slow=37
RW3 **Ridgway** **77.06** **328** *e*P **P** **12 55 36.5 +0.7**
ISCO **Idaho Springs** **77.36** **330** *e*P **P** **12 55 38.5 +1.1**
comp=Z,33nm,1.3s,mb5.1
PV01 **Paradox Valley** **77.39** **327** *e*P **P** **12 55 38.2 +0.7**
BAR **Barrett** **77.61** **318** *e*P **P** **12 55 38.8 -0.1**
PV10 **Paradox Valley** **77.81** **327** *e*P **P** **12 55 39.8 -0.1**
BOSA **Boshof** **77.92** **116** *e*P **P** **12 55 40.5 -0.2**
comp=Z,26nm,1.1s,mb5.1
PHWY **Pilot Hill** **78.53** **331** *e*P **P** **12 55 44.2 +0.4**
SRU **San Rafael** **79.10** **326** *e*P **P** **12 55 47.2 +0.3**
MSU **Marysvale** **79.46** **325** *e*P **P** **12 55 49.7 +0.7**
MVU **Marysvale** **79.47** **325** *e*P **P** **12 55 49.9 +0.9**
comp=Z,40nm,1.2s,mb5.2
ARUT **Antelope Range** **79.56** **324** *e*P **P** **12 55 50.3 +0.8**
TMUT **Trail Mountain** **79.58** **326** *e*P **P** **12 55 50.3 +0.7**
LBTB **Lobatse** **79.78** **113** *e*P **P** **12 55 50.6 -0.3**
comp=Z,25nm,1.0s,mb5.1
MPU **Maple Canyon** **80.34** **326** *e*P **P** **12 55 54.7 +1.1**
DAU **Daniels Canyon** **80.47** **327** *e*P **P** **12 55 55.5 +1.2**
NLU **North Lily Min** **80.51** **326** *e*P **P** **12 55 55.5 +1.0**
JLU **Jordanelle** **80.71** **327** *e*P **P** **12 55 56.2 +0.7**
TCUT **Toone Canyon** **81.08** **327** *e*P **P** **12 55 58.1 +0.6**
TRCR **Troy Canyon** **81.11** **323** *e*P **P** **12 55 58.9 +1.2**
PDAR **Pinedale Array** **81.51** **329** P **P** **12 56 00.5 +0.7**
comp=Z,8.6nm,0.6s,mb4.9,baz=129,slow=7.4,SNR=57
PDAR pP pP 12 56 06.9 -0.4
comp=Z,9.8nm,0.9s,baz=136,slow=4.4,SNR=10.0
HWUT **Hardware Ranch** **81.54** **327** *e*P **P** **12 56 00.1 +0.3**
comp=Z,43nm,0.9s,mb5.4
MTUM **Tungsten Hills** **82.02** **320** *e*P **P** **12 56 03.3 +0.9**
AHID **Auburn Hatcher** **82.22** **328** *e*P **P** **12 56 03.8 +0.4**
comp=Z,103nm,1.3s,mb5.6
HVU **Hansel Valley** **82.25** **327** *e*P **P** **12 56 04.0 +0.4**
OMM **Old Mammoth Mi** **82.45** **320** *e*P **P** **12 56 05.5 +0.8**
OMM *ep*P pP 12 56 13.3 +1.0
MNV **Mina** **82.56** **321** *e*P **P** **12 56 05.9 +0.6**
comp=Z,14nm,1.2s,mb4.9
SNOW **Snow King Moun** **82.60** **329** *e*P **P** **12 56 06.3 +0.9**
NVAR **Mina Array Bea** **82.64** **321** P **P** **12 56 06.1 +0.5**
comp=Z,6.9nm,1.1s,mb4.6,baz=177,slow=6.8,SNR=20
NVAR pP pP 12 56 12.9 -0.4
comp=Z,3.9nm,0.8s,baz=156,slow=4.0,SNR=7.6
LOHW **Long Hollow** **82.65** **329** *e*P **P** **12 56 06.1 +0.5**
comp=Z,49nm,1.3s,mb5.4
WUWY **Wally Ulrich** **82.66** **329** *e*P **P** **12 56 06.0 +0.4**
ELK **Elko** **82.70** **325** *e*P **P** **12 56 06.1 +0.2**
comp=Z,22nm,1.0s,mb5.2
TPAW **Teton Pass** **82.71** **329** *e*P **P** **12 56 06.3 +0.4**
RRI2 **Red Ridge** **82.77** **328** *e*P **P** **12 56 06.8 +0.5**
MOOW **Moose Ponds** **82.82** **329** *e*P **P** **12 56 06.8 +0.3**
ULM **Lac du Bonnet** **82.83** **341** P **P** **12 56 06.5 +0.1**
comp=Z,14nm,0.9s,mb5.0,baz=153,slow=4.9,SNR=22
ULM LR LR 13 31 29.9
comp=Z,216nm,21.1s,MS4.5,baz=123,slow=35
ULM **Lac du Bonnet** **82.83** **341** *e*P **P** **12 56 05.4 -1.0**
comp=Z,52nm,1.3s,mb5.4
IMW **Indian Meadow** **83.02** **329** *e*P **P** **12 56 08.2 +0.7**
SCHQ **Schefferville** **83.08** **360** P **P** **12 56 08.1 +0.5**
comp=Z,12nm,1.0s,mb4.9,baz=179,slow=3.9,SNR=9.7
SCHQ LR LR 13 33 48.1
comp=Z,307nm,21.5s,MS4.6,baz=152,slow=36
RAR **Rarotonga** **83.24** **250** LR LR 13 24 45.3
comp=Z,379nm,20.5s,MS4.8,baz=103,slow=30
LAO **LASA Array** **83.27** **333** *e*P **P** **12 56 08.7 0.0**
comp=Z,49nm,1.1s,mb5.5
LKWY **Lake** **83.31** **330** *e*P **P** **12 56 10.4 +1.5**
comp=Z,22nm,1.0s,mb5.2
YFT **Old Faithful** **83.41** **329** *e*P **P** **12 56 11.3 +1.8**
YMR **Madison River** **83.64** **330** *e*P **P** **12 56 11.6 +0.9**
YMR *ep*P pP 12 56 19.2 +0.9
QLMT **Earthquake Lak** **83.97** **329** *e*P **P** **12 56 13.3 +1.0**
WCN **Washoe City** **84.06** **321** *e*P **P** **12 56 13.9 +1.0**
comp=Z,8.5nm,1.0s,mb4.8
MCMT **McKenzie Canyo** **84.61** **329** *e*P **P** **12 56 16.6 +1.1**
HRY **Holter Researc** **85.61** **330** *e*P **P** **12 56 21.5 +1.1**
WVOR **Wild Horse Val** **85.67** **324** *e*P **P** **12 56 21.0 +0.1**
comp=Z,15nm,1.2s,mb5.1
EVO **Evora** **85.99** **42** *e*P **P** **12 56 20.6 -2.0**
comp=Z,20nm,0.9s,mb5.0
EVO *e*R
comp=Z,392nm,17.0s
MOD **Modoc** **86.17** **323** *e*P **P** **12 56 24.5 +1.1**
comp=Z,29nm,1.2s,mb5.4
CHMT **Chamberlain Mo** **86.39** **330** *e*P **P** **12 56 25.1 +0.8**
LSZ **Lusaka** **86.44** **105** *e*P **P** **12 56 26.9 +1.7**
comp=Z,53nm,1.3s,mb5.6
LSZ *ep*P pP 12 56 34.8 +1.9
BMO **Blue Mountains** **86.74** **326** *e*P **P** **12 56 25.9 -0.2**
comp=Z,26nm,1.4s,mb5.3
YBH **Yreka Blue Hor** **87.36** **321** P **P** **12 56 29.2 0.0**
comp=Z,9.8nm,0.8s,mb5.1,baz=111,slow=2.7,SNR=26
YBH **Yreka Blue Hor** **87.36** **321** *e*P **P** **12 56 28.8 -0.4**
comp=Z,8.2nm,0.8s,mb5.0
HUMO **Hull Mountain** **88.09** **322** *e*P **P** **12 56 33.0 +0.4**
comp=Z,21nm,1.4s,mb5.2
BBOR **Butter Butte** **88.13** **322** P **P** **12 56 32.9 +0.1**
VIPM **Ingram Point** **88.16** **324** P **P** **12 56 34.0 +1.1**
WALA **Waterton Lakes** **88.31** **331** *e*P **P** **12 56 34.0 +0.5**
comp=Z,68nm,1.0s,mb5.8
FFC **Flin Flon** **88.55** **340** P **P** **12 56 34.9 +0.4**
comp=Z,84nm,1.3s,mb5.9,SNR=14
CROR **Criterion Ridg** **88.68** **324** P **P** **12 56 36.3 +0.9**
BROR **Big Rock Looko** **88.94** **323** P **P** **12 56 37.4 +0.7**
ESDC **Sonseca Array** **89.13** **43** P **P** **12 56 37.8 +0.2**
comp=Z,0.6nm,0.4s,mb4.3,baz=238,slow=4.1,SNR=7.2
VFP **Flag Point** **89.15** **324** P **P** **12 56 39.0 +1.3**
OD2 **Odessa Site #2** **89.25** **327** P **P** **12 56 38.2 +0.2**
COR **Corvallis** **89.61** **323** *e*P **P** **12 56 41.1 +1.3**
comp=Z,41nm,1.2s,mb5.6
EBG **Ellensburg** **89.81** **326** P **P** **12 56 41.9 +1.2**
TBM **Table Mountain** **90.00** **326** P **P** **12 56 42.5 +0.9**
EDM **Edmonton** **91.25** **334** *e*P **P** **12 56 46.4 -0.7**
PGC **Sidney** **92.42** **326** *e*P **P** **12 56 52.9 +0.3**
comp=Z,56nm,1.0s,mb5.8
SJPF **Ste Jean** **92.87** **42** *e*P **P** **12 56 54.3 -0.6**
comp=Z,9.5nm,0.9s,mb4.9
ETSF **Etsaut** **93.13** **42** *e*P **P** **12 56 55.7 -0.4**
comp=Z,12nm,1.1s,mb5.0
EPF **Esparros** **93.74** **42** *e*P **P** **12 56 58.2 -0.7**
QUIF **Quistinic** **94.73** **37** *e*P **P** **12 57 03.3 0.0**
MTLF **Montolieu** **95.04** **43** *e*P **P** **12 57 03.2 -1.6**
SGMF **Saint Gilles** **95.26** **37** *e*P **P** **12 57 03.7 -2.0**
MFF **Saint Martin d** **95.57** **39** *e*P **P** **12 57 05.9 -1.3**
comp=Z,9.4nm,0.8s,mb5.0
RJF **Les Rejaudoux** **95.75** **41** *e*P **P** **12 57 06.5 -1.6**
RJF *e*R
comp=Z,774nm,20.5s
GRR **Gorron** **96.24** **37** *e*P **P** **12 57 08.1 -2.1**
LASF **Ste Croix** **96.44** **43** *e*P **P** **12 57 10.1 -1.1**
comp=Z,40nm,1.4s,mb5.3
FLN **La Foliniere** **96.67** **37** *e*P **P** **12 57 10.2 -1.9**
comp=Z,11nm,0.8s,mb5.1
FLN *e*R
comp=Z,518nm,22.0s
TCF **Toulx Ste Croi** **96.72** **40** *e*P **P** **12 57 12.3 -0.1**
LDF **La Druitiere** **96.76** **38** *e*P **P** **12 57 10.7 -1.9**
BGF **Bois d'Agland** **97.23** **40** *e*P **P** **12 57 13.4 -1.3**
SMRF **Simiane la Rot** **97.42** **44** *e*P **P** **12 57 15.2 -0.4**
LMR **La Mourre** **97.64** **45** *e*P **P** **12 57 15.6 -1.1**
AVF **Avril sur Loir** **97.65** **40** *e*P **P** **12 57 15.2 -1.4**
comp=Z,13nm,1.0s,mb5.1
FRF **La Foret Royal** **97.85** **44** *e*P **P** **12 57 16.5 -1.1**
SMF **Signal de Mont** **97.85** **41** *e*P **P** **12 57 17.9 +0.4**
SSF **Saint Saulge** **97.89** **40** *e*P **P** **12 57 15.9 -1.8**
ORIF **Oris-en-Rattie** **98.11** **43** *e*P **P** **12 57 16.8 -1.9**
comp=Z,8.5nm,0.6s,mb5.2
ORIF *e*R
comp=Z,339nm,22.0s
SBF **Sospel** **98.50** **45** *e*P **P** **12 57 19.7 -0.8**
YKA **Yellowknife Ar** **98.71** **339** P **P** **12 57 21.0 +0.1**
comp=Z,3.8nm,0.9s,mb4.9,baz=133,slow=4.4,SNR=61
YKA pP pP 12 57 28.2 -0.4
comp=Z,2.0nm,0.8s,baz=132,slow=4.4,SNR=7.4
YKA LR LR 13 46 51.2
comp=Z,193nm,19.1s,MS4.6,baz=110,slow=38
EKA **Eskdalemuir Ar** **99.30** **31** P **P** **12 57 23.2 -0.6**
comp=Z,1.9nm,0.8s,mb4.7,baz=237,slow=41,SNR=3.4
VAE **Valguarnera** **99.92** **53** LR LR 13 48 18.2
comp=Z,709nm,18.7s,MS5.2,baz=348,slow=39
FINES **FINESS Array B** **115.66** **32** PKPbc 13 12 56.6
comp=Z,0.5nm,0.5s,baz=45,slow=2.7,SNR=3.5
ARCES **ARCESS Array B** **117.00** **23** PKP PKPdf 13 02 26.3 -3.3
comp=Z,1.1nm,0.6s,baz=225,slow=1.7,SNR=7.9
ARCES PKKPbc 13 12 52.2
comp=Z,2.6nm,0.9s,baz=45,slow=8.6,SNR=9.1
OBN **Obninsk** **119.99** **40**⇓ *i*PKIKP PKPdf 13 02 29.8 -5.9
OBN pmax pmax
comp=Z,30nm,1.3s
OBN MLR MLR
comp=Z,300nm,19.0s,MS5.0
SOC **Sochi** **120.03** **54** *i* PKIKP PKPdf 13 02 32.6 -3.5
SOC *e* 13 03 57.3
SOC *e*PPP PPP 13 06 32.0 -1.5
SOC *e* 13 09 26.6
SOC *e*PS PS 13 13 48.5 +2.0
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=Z,14nm,0.7s
SOC pmax pmax
comp=E,21nm,0.8s
KIV **Kislovodsk** **122.22** **54** *i* PKIKP PKPdf 13 02 35.9 -4.4
ASAR **Alice Springs** **124.61** **202** PKP PKPdf 13 02 42.0 -3.6
comp=E,7.2nm,0.5s,baz=135,slow=1.6,SNR=117
ASAR pPKP 13 02 49.7
comp=E,15nm,0.8s,baz=138,slow=1.6,SNR=29
ASAR PKKP PKKP 13 13 04.3 +4.8
comp=E,0.2nm,0.4s,baz=6.9,slow=2.1,SNR=3.8
ASPA **Alice Springs** **124.61** **202** *e*PKP PKPdf 13 02 41.7 -3.8
ASPA *i* pPKP 13 02 49.7
WB2 **Warramunga Arr** **127.89** **205** *e*PKP PKPdf 13 02 48.6 -3.3
WB2 *i* pPKP 13 02 56.3
WRA **Warramunga Arr** **127.89** **205** PKP PKPdf 13 02 48.7 -3.2
comp=E,17nm,0.7s,baz=170,slow=1.7,SNR=162
WRA pPKP 13 02 56.6
comp=E,28nm,0.9s,baz=170,slow=1.7,SNR=29
WRAB **Tennant Creek** **127.90** **205** *e*PKPdf PKPdf 13 02 48.5 -3.4
WRAB *ep*PKPdf 13 02 56.5
BILL **Bilibino** **130.04** **337** *i* PKIKP PKPdf 13 02 52.5 -2.2
BILL pmax pmax
comp=Z,19nm,1.4s
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.5
PMG **Port Moresby** **130.46** **225** *i* PKIKP PKPdf 13 02 51.3 -5.7
TIXI **Tiksi** **136.11** **353** *i* PKIKP PKPdf 13 03 01.3 -4.7
TIXI *e* 13 05 41.0
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TIXI MLR MLR
comp=Z,97nm,19.0s,MS4.5
SEY **Seymchan** **137.60** **335** *e*PKIKP PKPdf 13 03 04.1 -4.8
SEY pmax pmax
comp=Z,60nm,0.9s
CHKZ **Chkalovo** **139.74** **39** *i* PKHKP 13 03 00.8
CHKZ pmax pmax
comp=Z,10.0nm,1.3s
CHKZ **Chkalovo** **139.74** **39** *e*PKPdf PKPdf 13 03 10.0 -3.1
BVA0 **Borovoye Array** **139.84** **40** PKIKP PKPdf 13 03 08.2 -5.1
BVA0 pmax pmax
comp=Z,2.0nm,1.2s
MA2 **Magadan** **140.19** **332** *e*PKIKP PKPdf 13 03 11.1 -2.6
EKS2 **Erkin-Say** **144.78** **56** P PKPbc 13 03 20.0 +2.3
SNR=21
YAK **Yakutsk** **144.97** **347** *c i*PKIKP PKPdf 13 03 18.3 -3.6
YAK pmax pmax
comp=Z,88nm,1.0s
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,12nm,1.1s
YAK **Yakutsk** **144.97** **347** *e*PKPdf PKPdf 13 03 18.0 -3.9
YAK *ep*PKPdf 13 03 26.2
USP **Ospenovka** **145.19** **54** P PKPbc 13 03 20.9 +2.2
SNR=19
AAK **Ala-Archa** **145.31** **56** *c i*PKIKP PKPdf 13 03 20.4 -2.7
AAK **Ala-Archa** **145.31** **56** *e*PKPbc PKPbc 13 03 20.9 +1.8
FRU **Bishkek** **145.36** **55** *i* PKP2 PKPab 13 03 21.5 +0.8
FRU pmax pmax
comp=Z,310nm,1.6s
CHMS **Chumysh** **145.42** **55** P PKPbc 13 03 21.6 +2.3
SNR=46
KURK **Kurchatov** **145.44** **40** *i* PKIKP PKPdf 13 03 18.7 -4.3
KURK pmax pmax
comp=Z,73nm,1.0s
KURK **Kurchatov** **145.44** **40** *e*PKPbc PKPbc 13 03 21.0 +1.9
KURK *ep*PKPdf 13 03 29.2
KBK **Karagaybulak** **145.63** **55** P PKPbc 13 03 22.6 +2.8
SNR=86
NVS **Novosibirsk** **145.65** **32**⇑ *i*PKP2 PKPab 13 03 21.0 -0.4
NVS pmax pmax
comp=N,24nm,1.5s
NVS pmax pmax
comp=Z,232nm,1.5s
NVS pmax pmax
comp=E,52nm,1.4s
HYB **Hyderabad** **145.68** **101**⇑ *e*P PKPbc 13 03 22.5 +1.8
HYB *e* 13 03 29.5
HYB **Hyderabad** **145.68** **101**⇑ *i*PKP PKPdf 13 03 22.5 -1.9
comp=E,220nm,1.0s
HYB *ep*PKP 13 03 29.5
HYB *e* 13 04 23.5
KZA **Kyzart** **145.96** **56** P PKPbc 13 03 23.9 +3.3
SNR=94
TKM2 **Tokmak 2** **146.05** **55** P PKPbc 13 03 24.6 +3.8
SNR=6.7
ULHL **Ulahol** **146.65** **56** P PKPab 13 03 26.1 +0.4
SNR=11
KSH **Kashi** **146.91** **61** *e*PKP PKPab 13 03 26.8 0.0
KSH *e*PKS PKS 13 07 00.8 +5.3
KSH *e*SKS SKS 13 10 29.5 -3.9
KSH PP PP
comp=Z,570nm,8.5s
KSH LR LR
comp=N,700nm,7.6s
KSH LR LR
comp=E,1µm,7.2s
ZAL **Zalesovo** **146.93** **32** PKPbc PKPbc 13 03 24.2 +1.7
comp=E,22nm,1.0s,baz=192,slow=3.5,SNR=62
NDI **New Delhi** **147.83** **81** *e*P PKPdf 13 03 26.0 -1.7
SMLA **Simla** **148.08** **76** *i* P PKPdf 13 03 25.9 -2.1
MKAR **Makanchi Array** **149.33** **45** *i* PKHKP 13 03 27.4
MKAR pmax pmax
comp=Z,27nm,0.7s
CLNS **Chul'man** **150.72** **348** *e*PKIKP PKPdf 13 03 33.9 +2.5
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=Z,89nm,1.0s
CLNS pmax pmax
comp=E,23nm,1.1s
BOD **Bodaibo** **150.78** **360** *e*PKIKP PKPdf 13 03 28.6 -2.8
BOD *e* 13 03 34.0
BOD pmax pmax
comp=Z,52nm,1.0s
YSS **Yuzh-Sakhalins** **151.01** **317**⇑ *e*PKIKP PKPdf 13 03 34.5 +2.4
YSS *i* 13 03 43.0
YSS pmax pmax
comp=Z,70nm,1.1s
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=E,90nm,1.0s
YSS pmax pmax
comp=Z,80nm,1.0s
YSS **Yuzh-Sakhalins** **151.01** **317** *e*PKPbc PKPdf 13 03 35.6 +3.5
KOLN **Koldanda** **153.25** **84** *e*P PKPdf 13 03 33.6 -2.4
WMQ **Urumqi** **154.06** **47** *e*PKP PKPdf 13 03 35.1 -1.5
WMQ APKP 13 03 46.0
WMQ XPKP 13 03 49.5
WMQ PKS PKS 13 07 08.0 +2.7
WMQ PP PP 13 07 35.0 +2.5
WMQ PPP PPP 13 11 06.0 +2.4
WMQ SKKS 13 14 17.5
WMQ PP PP
comp=Z,230nm,7.0s
WMQ LR LR
comp=N,238nm,22.5s,MS5.1
WMQ LR LR
comp=E,242nm,24.1s,MS5.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WMQ				LR	LR		
	comp=Z,157nm,20.8s,MS4.8						
GKN	**Gorkha**	**154.20**	**84**	*e*P	PKPdf	13 03 35.3	-2.0
	comp=Z,26nm,0.5s						
DMN	**Daman**	**154.55**	**85**	*e*P	PKPdf	13 03 36.2	-1.5
	comp=Z,38nm,0.7s						
KKN	**Kakani**	**154.73**	**85**	*e*P	PKPdf	13 03 35.8	-2.2
	comp=Z,38nm,0.6s						
PKI	**Pulchoki**	**154.81**	**85**	*e*P	PKPdf	13 03 36.1	-2.0
	comp=Z,27nm,0.7s						
MOY	**Mondy**	**154.98**	**19**	*e*PKIKP	PKPdf	13 03 37.2	-0.3
MOY				pmax	pmax		
	comp=Z,38nm,2.4s						
KLR	**Kul'dur**	**155.29**	**331**	*e*PKIKP	PKPdf	13 03 32.3	-5.7
KLR				pmax	pmax		
	comp=Z,24nm,1.4s						
IRK	**Irkutsk**	**155.29**	**14**	*e*PKIKP	PKPdf	13 03 35.6	-2.3
IRK				*e*		13 04 01.1	
IRK				pmax	pmax		
	comp=Z,38nm,2.2s						
JIRN	**Jiri**	**155.51**	**86**	*e*P	PKPdf	13 03 36.5	-2.5
	comp=Z,31nm,0.8s						
TLY	**Talaya**	**155.67**	**16**	⇓*i*PKIKP	PKPdf	13 03 37.9	-0.5
ZAK	**Zakamensk**	**156.77**	**18**	*e*PKIKP	PKPdf	13 03 36.0	-4.0
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
MAT	**Matsushiro**	**158.12**	**297**	PKP	PKPdf	13 03 43.0	+0.8
MAT	**Matsushiro**	**158.12**	**297**	*e*PKP	PKPdf	13 03 43.2	+1.0
SONM	**Songino Array**	**159.90**	**15**	PKP	PKPdf	13 03 42.2	-1.6
	comp=Z,7.0nm,1.0s,SNR=40						
SONM				pPKP		13 03 50.1	
	comp=Z,6.3nm,0.9s,baz=247,slow=1.3,SNR=18						
SONM				PKPab	PKPab	13 04 21.8	+0.7
	comp=Z,2.5nm,0.7s,baz=314,slow=2.8,SNR=6.5						
SONM				pPKPab		13 04 29.1	
	comp=Z,4.3nm,0.9s,baz=321,slow=4.4,SNR=5.4						
SONM				PP	PP	13 08 01.8	-1.7
	comp=Z,1.6nm,1.2s,baz=315,slow=1.7,SNR=3.6						
ULN	**Ulaanbaatar**	**160.02**	**14***c*	*i*PKIKP	PKPdf	13 03 42.4	-1.6
ULN	**Ulaanbaatar**	**160.02**	**14**	*e*PKPdf	PKPdf	13 03 42.4	-1.6
LSA	**Lhasa**	**160.04**	**81**	*e*PKPdf	PKPdf	13 03 43.0	-1.6
LSA				*e*pPKPdf		13 03 52.0	
CN2	**Changchun**	**162.24**	**332**	PKP	PKPdf	13 03 43.0	-3.3
CN2				APKP		13 03 53.9	
CN2				PKP2	PKPab	13 04 31.1	-0.3
CN2				PP	PP	13 08 17.4	+1.1
CN2				PP	PP		
	comp=Z,300nm,9.0s						
CN2				LR	LR		
	comp=N,400nm,21.0s						
CN2				LR	LR		
	comp=E,400nm,21.0s						
CN2				LR	LR		
	comp=Z,320nm,21.0s						
CMAR	**Chiang Mai Arr**	**162.95**	**123**	PKP	PKPdf	13 03 46.6	-1.2
	comp=Z,3.0nm,0.9s,baz=258,slow=2.4,SNR=14						
CMAR				pPKP		13 03 53.5	
	comp=Z,4.8nm,1.0s,baz=257,slow=2.1,SNR=5.8						
CMAR				PKPab	PKPab	13 04 34.7	-0.4
	comp=Z,2.9nm,1.0s,baz=240,slow=3.7,SNR=7.2						
CMAR				pPKPab		13 04 42.5	
	comp=Z,1.6nm,0.8s,baz=256,slow=3.8,SNR=4.7						
CHG	**Chiang Mai**	**163.17**	**122**	⇓P	PKPab	13 04 35.9	-0.2
	comp=Z,13nm,0.9s						
GTA	**Gaotai**	**164.08**	**44**	*e*PKP	PKPdf	13 03 47.1	-1.2
GTA				APKP		13 03 55.1	
GTA				XPKP		13 03 58.6	
GTA				PKP2	PKPab	13 04 41.4	+1.9
GTA				PP	PP	13 08 32.8	+6.1
GTA				SKS	SKS	13 10 45.3	-6.4
GTA				SKKS		13 15 13.3	
GTA				PP	PP		
	comp=Z,222nm,8.0s						
GTA				LR	LR		
	comp=N,233nm,19.8s						
GTA				LR	LR		
	comp=E,165nm,19.8s						
GTA				LR	LR		
	comp=Z,291nm,20.5s						
NANT	**Nan**	**164.44**	**126**	⇑P	PKPdf	13 03 46.0	-3.3
	comp=Z,106nm,1.0s						
HHC	**Hu-ho-hao-te**	**167.61**	**9**	*e*PKP	PKPdf	13 03 49.6	-1.6
HHC				APKP		13 03 57.9	
HHC				XPKP		13 04 02.1	
HHC				PKS	PKS	13 07 20.8	+2.6
HHC				PP	PP	13 08 47.5	+3.2
HHC				SKS	SKS	13 10 50.9	-3.0
HHC				PP	PP		
	comp=Z,204nm,9.5s						
HHC				LR	LR		
	comp=N,298nm,18.4s						
HHC				LR	LR		
	comp=E,265nm,19.6s						
HHC				LR	LR		
	comp=Z,418nm,19.6s						
BJI	**Beijing**	**168.43**	**352**	PKP	PKPdf	13 03 49.8	-1.9
BJI				APKP		13 03 57.4	
BJI	**Beijing**	**168.43**	**352**	PKP	PKPdf	13 03 49.7	-2.0
BJI				pPKP		13 03 57.4	
LZH	**Lanzhou**	**168.64**	**46**	*e*PKP	PKPdf	13 03 52.0	+0.1
LZH				APKP		13 03 59.1	
LZH				XPKP		13 04 03.0	
LZH				PKP2	PKPab	13 05 03.4	+3.9
LZH				PP	PP	13 08 53.3	+3.7
LZH				*e*SKS	SKS	13 10 50.0	-4.7
LZH				SKKS		13 15 37.0	
LZH				PP	PP		
	comp=Z,371nm,6.0s						
LZH				LR	LR		
	comp=E,368nm,17.9s						
LZH				LR	LR		
	comp=Z,569nm,19.2s						
KMI	**Kunming**	**169.40**	**106**	PKP	PKPdf	13 03 49.9	-2.8
KMI				XPKP		13 03 58.8	
KMI				PP	PP	13 08 54.6	+0.9
KMI				PP	PP		
	comp=Z,113nm,11.2s						
KMI				LR	LR		
	comp=N,192nm,19.4s						
KMI				LR	LR		
	comp=E,138nm,22.6s						
KMI				LR	LR		
	comp=Z,191nm,22.6s						
XAN	**Xi'an**	**173.06**	**37**	PKP	PKPdf	13 03 52.4	-2.1
XAN				APKP		13 04 00.1	
XAN				LR	LR		
	comp=E,249nm,18.4s						
XAN				LR	LR		
	comp=Z,389nm,19.9s						
GYA	**Guiyang**	**173.18**	**106**	⇓*i*PKP	PKPdf	13 03 52.8	-2.0
GYA				SKS	SKS	13 10 53.1	-3.8
GYA				PP	PP		
	comp=Z,150nm,8.3s						
GYA				LR	LR		
	comp=N,180nm,20.8s						
GYA				LR	LR		
	comp=E,160nm,21.4s						
GYA				LR	LR		
	comp=Z,140nm,21.5s						
NJ2	**Nanjing**	**174.54**	**310**	*e*PKP	PKPdf	13 03 50.8	-4.2
NJ2				APKP		13 04 01.5	
NJ2				XPKP		13 04 05.1	
NJ2				PKS	PKS	13 07 22.0	+0.3
NJ2				PP	PP	13 09 21.0	+1.8
NJ2				SKS	SKS	13 10 48.0	-9.1
NJ2				PP	PP		
	comp=Z,1µm,8.4s						
NJ2				LR	LR		
	comp=N,910nm,34.2s						
NJ2				LR	LR		
	comp=E,890nm,32.4s						
NJ2				LR	LR		
	comp=Z,390nm,28.8s						
ENH	**Enshi**	**175.75**	**66**	*e*PKPdf	PKPdf	13 03 53.4	-2.0

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*LDG **14** 12:44:42.8±0.1, 44.42N×11.37E, h10^{km}, Ml2.7/8, Error ellipse: s-maj=3.3km s-min=2.4km az=48.0*
*CSEM **14** 12:44:42.3±0.1, 44.32N×11.50E, h40^{km}, ML2.6/8, Error ellipse: s-maj=1.7km s-min=1.3km az=105.0*
*GEN **14** 12:44:43.1, 44.22N×11.59E, h23^{km}, ML2.4*
*ROM **14** 12:44:44.1±0.3, 44.28N×11.43E, h25^{km}±1^{km}, MD2.6/5, ML1.9/8, Error ellipse: s-maj=2.9km s-min=1.3km az=0.0*
*NEIC **14** 12:44:44.1, 44.28N×11.43E, h25^{km}, MD2.6(ROM), ML2.7(LDG), ML2.4(GEN), After ROM.*
ISC 14 12:44:42.1±0.3**, 44.42N**±0.02×**11.53E**±0.03**, h25^{km}, n65,** σ**1^{s}26**/101**, 8C-1D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SEI	**Scarperia**	**0.38**	**199**	⇑*i*PG	**Pb**	**12 44 50.9**	**+0.5**
	251nm,0.2s						
SEI	**Scarperia**	**0.38**	**199**	⇑*i*Pg	**Pb**	**12 44 50.9**	**+0.5**
SEI	**Scarperia**	**0.38**	**199**	⇑*i*Pg	**Pb**	**12 44 50.9**	**+0.5**
	251nm,0.2s						
VMG	**Vicchio**	**0.46**	**178**	*e*PG	**Pb**	**12 44 52.0**	**+0.5**
VMG				SG	**Sb**	**12 44 57.9**	**-0.1**
	218nm,0.3s						
VMG	**Vicchio**	**0.46**	**178**	*e*Pg	**Pb**	**12 44 52.0**	**+0.5**
VMG				*e*Sg	**Sb**	**12 44 57.9**	**-0.1**
VMG	**Vicchio**	**0.46**	**178**	*e*Pg	**Pb**	**12 44 52.0**	**+0.5**
	218nm,0.3s						
VMG				Sg	**Sb**	**12 44 57.9**	**-0.1**
PGD	**Poggio Sodo**	**0.56**	**165**	*e*PG	**Pb**	**12 44 53.8**	**+0.5**
	81nm,0.4s						
PGD	**Poggio Sodo**	**0.56**	**165**	*e*Pg	**Pb**	**12 44 53.8**	**+0.5**
PGD	**Poggio Sodo**	**0.56**	**165**	*e*Pg	**Pb**	**12 44 53.8**	**+0.5**
	81nm,0.4s						
SFI	**Santa Sofia**	**0.56**	**156**	*e*PG	**Pb**	**12 44 53.9**	**+0.6**
	65nm,0.3s						
SFI	**Santa Sofia**	**0.56**	**156**	*e*Pg	**Pb**	**12 44 53.9**	**+0.6**
GSCL	**Gusciola**	**0.68**	**265**	*e*PN	**Pn**	**12 44 56.2**	**+0.2**
GSCL				SN	**Sn**	**12 45 06.4**	**+0.6**
	26nm,0.4s						
GSCL	**Gusciola**	**0.68**	**265**	*e*Pg	**Pb**	**12 44 56.2**	**+1.0**
GSCL				*e*Sg	**Sb**	**12 45 06.4**	**+2.3**
GSCL	**Gusciola**	**0.68**	**265**	*e*Pn	**Pn**	**12 44 56.2**	**+0.2**
	26nm,0.4s						
GSCL				Sn	**Sn**	**12 45 06.4**	**+0.6**
BDI	**Bagni Di Lucca**	**0.76**	**242**	*e*PN	**Pn**	**12 44 56.8**	**-0.4**
BDI				SN	**Sn**	**12 45 07.1**	**-0.7**
	56nm,0.3s						
BDI	**Bagni Di Lucca**	**0.76**	**242**	*e*Pg	**Pb**	**12 44 56.8**	**+0.3**
BDI				*e*Sg	**Sb**	**12 45 07.1**	**+0.7**
BDI	**Bagni Di Lucca**	**0.76**	**242**	*e*Pn	**Pn**	**12 44 56.8**	**-0.4**
	56nm,0.3s						
BDI				Sn	**Sn**	**12 45 07.1**	**-0.7**
ERBM	**Eremo**	**0.80**	**270**	*e*PN	**Pn**	**12 44 59.2**	**+1.5**
ERBM	**Eremo**	**0.80**	**270**	*e*Pg	**Pb**	**12 44 59.2**	**+2.0**
RSM	**Repubblica di**	**0.82**	**126**	*e*PN	**Pn**	**12 44 59.5**	**+1.4**
	40nm,0.2s						
RSM	**Repubblica di**	**0.82**	**126**	*e*Pg	**Pb**	**12 44 59.5**	**+1.8**
RSM	**Repubblica di**	**0.82**	**126**	*e*Pn	**Pn**	**12 44 59.5**	**+1.4**
	40nm,0.2s						
SARO	**Sassorosso**	**0.84**	**254**	P	**Pb**	**12 44 58.7**	**+0.8**
SARO				S	**Sb**	**12 45 09.3**	**+0.5**
SARO	**Sassorosso**	**0.84**	**254**	P	**Pb**	**12 44 58.7**	**+0.8**
SARO				S	**Sb**	**12 45 09.3**	**+0.5**
VLC	**Villacollemand**	**0.86**	**253**	*e*Pn	**Pn**	**12 44 58.7**	**+0.1**
VLC	**Villacollemand**	**0.86**	**253**	*e*Pn	**Pn**	**12 44 58.7**	**+0.1**
VALM		**0.92**	**266**	P	**Pb**	**12 45 00.2**	**+1.0**
VALM				S	**Sb**	**12 45 12.0**	**+0.9**
VALM		**0.92**	**266**	P	**Pb**	**12 45 00.2**	**+0.9**
VALM				S	**Sb**	**12 45 12.0**	**+0.9**
PII	**Pisa**	**1.00**	**226**	*e*PN	**Pn**	**12 44 59.3**	**-1.4**
PII				SN	**Sn**	**12 45 12.1**	**-1.9**
	143nm,0.3s						
PII	**Pisa**	**1.00**	**226**	*e*Pg	**Pb**	**12 44 59.4**	**-1.3**
PII				*e*Sg	**Sb**	**12 45 12.1**	**-1.4**
PII	**Pisa**	**1.00**	**226**	*e*Pn	**Pn**	**12 44 59.3**	**-1.4**
	143nm,0.3s						
PII				Sn	**Sn**	**12 45 12.1**	**-1.9**
VINC	**Vinca**	**1.02**	**255**	P	**Pn**	**12 45 01.2**	**+0.3**
VINC				S	**Sb**	**12 45 13.6**	**-0.6**
VINC	**Vinca**	**1.02**	**255**	P	**Pn**	**12 45 01.2**	**+0.2**
VINC				S	**Sb**	**12 45 13.6**	**-0.5**
GRAM		**1.05**	**275**	P	**Pn**	**12 45 02.4**	**+1.1**
GRAM				S	**Sb**	**12 45 15.7**	**+0.9**
GRAM		**1.05**	**275**	P	**Pn**	**12 45 02.4**	**+1.1**
GRAM				S	**Sb**	**12 45 15.7**	**+0.9**
BACM		**1.05**	**263**	P	**Pn**	**12 45 01.9**	**+0.5**
BACM				S	**Sb**	**12 45 14.7**	**-0.2**
BACM		**1.05**	**263**	P	**Pn**	**12 45 01.9**	**+0.5**
BACM				S	**Sb**	**12 45 14.7**	**-0.2**
FSSB	**Fossombrone**	**1.16**	**128**	*e*PN	**Pn**	**12 45 04.1**	**+1.2**
	28nm,0.2s						
FSSB	**Fossombrone**	**1.16**	**128**	*e*Pg	**Pn**	**12 45 04.1**	**+1.2**
FSSB	**Fossombrone**	**1.16**	**128**	*e*Pn	**Pn**	**12 45 04.1**	**+1.2**
	28nm,0.2s						
CODM		**1.20**	**269**	P	**Pn**	**12 45 04.4**	**+0.9**
CODM		**1.20**	**269**	P	**Pn**	**12 45 04.4**	**+0.9**
ARV	**Arcevia**	**1.38**	**132**	*e*PN	**Pn**	**12 45 07.7**	**+1.7**
	15nm,0.4s						
ARV	**Arcevia**	**1.38**	**132**	*e*Pn	**Pn**	**12 45 07.7**	**+1.7**
VOJS	**Vojsko**	**2.32**	**45**	*i* Pn	**Pn**	**12 45 18.6**	**-0.9**
JAVS	**Javornik**	**2.32**	**50**	*i* Pn	**Pn**	**12 45 18.4**	**-1.2**
JAVS				*i* Sn	**Sn**	**12 45 47.0**	**-0.7**
VOY	**Vojsko**	**2.33**	**45**	*e*Sn	**Sn**	**12 45 46.8**	**-0.8**
CADS	**Cadrg**	**2.39**	**40**	*i* Pn	**Pn**	**12 45 19.7**	**-0.9**
CEY	**Cerknica**	**2.44**	**56**	*i* Pn	**Pn**	**12 45 20.1**	**-1.2**
PGF	**Pioggiola**	**2.62**	**225**	*e*Pn	**Pn**	**12 45 21.7**	**-2.1**
PGF				*e*Sn	**Sn**	**12 45 50.6**	**-4.6**
	4.6nm,0.3s						
SCE	**Schlegeis**	**2.62**	**3**	⇓*i*Pn	**Pn**	**12 45 24.9**	**+1.0**
VISS	**Visnje**	**2.73**	**58**	*i* Pn	**Pn**	**12 45 24.4**	**-0.9**
SQTA	**Sankt Quirin**	**2.81**	**356**	⇑*i*PN	**Pn**	**12 45 27.6**	**+1.1**
SQTA				*i* SN	**Sn**	**12 46 04.0**	**+4.0**
WTTA	**Wattenberg**	**2.85**	**2**	⇑*i*PN	**Pn**	**12 45 28.1**	**+1.1**
WTTA				*i* SN	**Sn**	**12 46 04.9**	**+4.0**
WATA	**Walderalm**	**2.92**	**1**	⇑*i*PN	**Pn**	**12 45 28.8**	**+0.7**
WATA				*i* SN	**Sn**	**12 46 06.9**	**+4.2**
SBF	**Sospel**	**3.00**	**261**	*e*Pn	**Pn**	**12 45 26.9**	**-2.3**
SBF				*e*Sn	**Sn**	**12 45 59.8**	**-4.9**
	10.0nm,0.3s						
DAVA	**Damuels**	**3.09**	**339**	⇑*i*PN	**Pn**	**12 45 31.8**	**+1.3**
DAVA				*i* SN	**Sn**	**12 46 11.8**	**+4.7**
MBDF	**Montbardon**	**3.41**	**277**	*e*Pn	**Pn**	**12 45 32.8**	**-2.3**
MBDF				*e*Sn	**Sn**	**12 46 10.0**	**-5.2**
	2.0nm,0.3s						
FRF	**La Foret Royal**	**3.62**	**258**	*e*Pn	**Pn**	**12 45 36.6**	**-1.5**
FRF				*e*Sn	**Sn**	**12 46 14.8**	**-5.7**
	3.7nm,0.2s						
LMR	**La Mourre**	**3.79**	**255**	*e*Pn	**Pn**	**12 45 38.1**	**-2.3**
LMR				*e*Sn	**Sn**	**12 46 18.2**	**-6.4**
	1.5nm,0.2s						
MOA	**Molln**	**3.92**	**28**	⇑*i*PN	**Pn**	**12 45 42.3**	**0.0**
MOA				*i* SN	**Sn**	**12 46 28.3**	**+0.1**
CABF	**La Chapelle**	**4.41**	**302**	*e*Pn	**Pn**	**12 45 46.8**	**-2.4**
HINF	**Hinteralfeld**	**4.70**	**318**	*e*Pn	**Pn**	**12 45 50.6**	**-2.8**
HINF				*e*Sn	**Sn**	**12 46 40.9**	**-6.9**
	1.9nm,0.2s						
CDF	**Champ du Feu**	**4.96**	**325**	*e*Pn	**Pn**	**12 45 54.6**	**-2.4**
CDF				*e*Sn	**Sn**	**12 46 47.6**	**-6.7**
	1.1nm,0.2s						
HAU	**Haudompre**	**5.08**	**317**	*e*Pn	**Pn**	**12 45 55.7**	**-3.0**
HAU				*e*Sn	**Sn**	**12 46 50.3**	**-7.0**
	3.9nm,0.3s						

SKHL 14 12:48:52.1±0.2**, 53.93N**×**127.99E, h9^{km}**±2^{km}**, mb3.5**/5**, 2C-1D, Southeastern Siberia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZEA	**Zeya**	**0.48**	**247**	*e*Pg	Pg	12 49 00.5	-1.3
ZEA				AMB	AMB	12 49 01.3	
	100nm,0.4s						
ZEA				*i* Sg	Sg	12 49 06.9	-1.4
ZEA				A		12 49 07.5	
	710nm,0.2s						
ZEA				A		12 49 07.5	
	1µm,0.2s						
YASR	**Yasnyy**	**0.64**	**181**	⇑*i*Pg	Pg	12 49 03.8	-1.2
YASR				AMB	AMB	12 49 05.2	
	5.0nm,0.5s						
YASR				AMB	AMB	12 49 05.2	
	7.0nm,0.5s						
YASR				AMB	AMB	12 49 05.2	
	14nm,0.5s						
YASR				pPg		12 49 06.3	
YASR				sPg		12 49 08.3	
YASR				*e*Sg	Sg	12 49 12.4	-1.2
YASR				A		12 49 14.6	
	100nm,0.6s						
YASR				A		12 49 14.6	
	330nm,0.6s						
YASR				A		12 49 14.6	
	30nm,0.6s						
KROS	**Kirovskiy**	**0.78**	**310**	⇑*i*Pg	Pg	12 49 06.5	-1.3
KROS				AMB	AMB	12 49 06.7	
	51nm,0.3s						
KROS				AMB	AMB	12 49 06.7	
	43nm,0.3s						
KROS				AMB	AMB	12 49 06.7	
	70nm,0.3s						
KROS				*i* Sg	Sg	12 49 16.5	-1.8
KROS				A		12 49 18.0	
	190nm,0.4s						
KROS				A		12 49 18.0	
	230nm,0.4s						
KROS				A		12 49 18.0	
	110nm,0.4s						
BMKR	**Bomnak**	**0.93**	**32**	⇓*i*Pg	Pg	12 49 09.2	-1.5
BMKR				AMB	AMB	12 49 09.5	
	24nm,0.4s						
BMKR				AMB	AMB	12 49 09.5	
	28nm,0.4s						
BMKR				AMB	AMB	12 49 09.5	
	32nm,0.4s						
BMKR				pPg		12 49 12.0	
BMKR				*i* Sg	Sg	12 49 21.5	-1.6
BMKR				A		12 49 21.9	
	100nm,0.4s						
BMKR				A		12 49 21.9	
	180nm,0.4s						
EKMR	**Ekimchan**	**3.08**	**104**	*e*Pn	Pn	12 49 41.5	-0.5
EKMR				*e*Pg	Pg	12 49 48.1	-5.6
EKMR				AMB	AMB	12 49 49.4	
	7.0nm,0.4s						
EKMR				sPg		12 49 52.6	
EKMR				*e*Sg	Sg	12 50 28.7	-6.1
EKMR				A		12 50 35.1	
	37nm,0.6s						
EKMR				A		12 50 35.1	
	27nm,0.6s						
EKMR				A		12 50 35.1	
	28nm,0.6s						
GRNR	**Gornyy**	**6.06**	**118**	*e*Sg	Sg	12 52 02.8	-11
CRS	**Chara**	**6.28**	**302**	*e*Sg	Sg	12 52 10.4	-11
CRS				A		12 52 26.1	
	36nm,1.3s						

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*ISK **14** 12:57:37.3, 39.40N×40.79E, h5^{km}, MD3.5*
*CSEM **14** 12:57:37.3, 39.40N×40.79E, h5^{km}, MD3.5, After ISK*
*NEIC **14** 12:57:38.4, 39.39N×40.81E, h10^{km}, MD3.5(ISK), After ISK.*
ISC 14 12:57:38.5±0.5**, 39.43N**±0.03×**40.80E**±0.05**, h5^{km}, n19,** σ**0^{s}75**/25**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.60**	**204**	*i* PG	**Pg**	**12 57 49.6**	**-0.9**
BINT	**Bingol**	**0.60**	**204**	Pg	**Pg**	**12 57 49.6**	**-0.9**
BINT				Sg	**Sg**	**12 57 58.6**	**+0.1**
VRT	**Varto**	**0.64**	**117**	Pg	**Pg**	**12 57 50.6**	**-0.7**
VRT				Sg	**Sg**	**12 58 00.6**	**+0.8**
VRT	**Varto**	**0.64**	**117**	*i* Pg	**Pg**	**12 57 50.4**	**-0.9**
VRT				*e*Sg	**Sg**	**12 58 00.7**	**+0.9**
EZM	**Erzurum**	**0.65**	**42**	*i* PG	**Pg**	**12 57 51.3**	**-0.1**
ERZM	**Erzurum**	**0.65**	**42**	*i* P	**Pg**	**12 57 51.4**	**-0.1**
ERZM				*i* S	**Sg**	**12 57 59.4**	**-0.8**
BTMT	**Batman**	**1.34**	**156**	PN	**Pn**	**12 58 04.2**	**+0.3**
GUMT	**Gumushane**	**1.45**	**316**	*e*PN	**Pn**	**12 58 06.2**	**+0.8**
GUMT	**Gumushane**	**1.45**	**316**	Pn	**Pn**	**12 58 06.7**	**+1.3**
BEST	**Besiri**	**1.58**	**166**	*i* P	**Pn**	**12 58 07.6**	**+0.3**
BEST				*i* S	**Sb**	**12 58 28.6**	**+0.7**
DIY	**Diyarbakir**	**1.59**	**197**	*e*PN	**Pn**	**12 58 06.9**	**-0.6**
DIY	**Diyarbakir**	**1.59**	**197**	Pn	**Pn**	**12 58 05.4**	**-2.1**
ELZG	**Elazig**	**1.69**	**237**	*i* P	**Pn**	**12 58 09.6**	**+0.7**
ELZG				*i* S	**Sn**	**12 58 35.6**	**+4.4**
BCA	**Borcka**	**2.11**	**17**	PN	**Pn**	**12 58 16.0**	**+1.1**
MYA	**Malataya**	**2.15**	**240**	*e*PN	**Pn**	**12 58 15.6**	**+0.1**
MYA	**Malataya**	**2.15**	**240**	Pn	**Pn**	**12 58 14.2**	**-1.3**
VANB	**Van**	**2.18**	**112**	*e*PN	**Pn**	**12 58 15.5**	**-0.4**
VANB	**Van**	**2.18**	**112**	Pn	**Pn**	**12 58 15.6**	**-0.3**
URFA	**Urfa**	**2.52**	**219**	*e*PN	**Pn**	**12 58 20.4**	**-0.3**

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*BJI **14** 13:07:53.5, 11.82N×143.60E, h31^{km}, mB5.2, mb5.0, Ms4.6, Msz4.3*
*MOS **14** 13:07:54.5±1.1, 11.84N×143.45E, h33^{km}, mb5.1/35, MS4.3/8, Error ellipse: s-maj=11.8km s-min=6.4km az=98.6*
*NEIC **14** 13:07:55.6±2.2, 11.80N×143.40E, h26^{km}±15^{km}, mb5.1/43, MS4.3/5, Error ellipse: s-maj=6.5km s-min=4.1km az=98.0*
*HRVD **14** 13:07:55.6±0.6, 11.59N×143.33E, h25^{km}, MW4.9/42, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s42,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.71±.20; $M_{\theta\theta}$1.59±.12; $M_{\phi\phi}$0.11±.16; $M_{r\theta}$1.48±.32; $M_{\theta\phi}$-0.37±.15; $M_{\phi r}$1.42±.40; Best double couple: $M_0$2.57×10^{16} NP1:ϕ_s118°, δ29°, λ-42°. NP2: ϕ_s247°, δ71°, λ-112°. Principal axes: T 2.173, Plg23°, Azm354°; N .793, Plg21°, Azm254°; P -2.967, Plg58°, Azm126°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **14** 13:07:56.7±5.1, 11.79N×143.59E, h36^{km}±43^{km}, mb4.7/23, mb1 4.8/24, mb1mx4.8/27, mbtmp4.9/24, ML4.6/1, MS4.1/10, Ms1 4.2/10, ms1mx3.8/27 Error ellipse: s-maj=21.5km s-min=10.0km az=83.0*
ISC 14 13:07:55.8±0.2**, 11.78N**±0.03×**143.35E**±0.04**, h40^{km}, h40^{km}**±2.8^{km}**:pP-P, n189,** σ**1^{s}06**/199**, mb5.0**/87**, MS4.2**/28**, 8C-10D, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.33**	**39**	*e*Pn	**P**	**13 08 31.2**	**-1.4**
GUMO				*e*Sn	**S**	**13 08 58.0**	**-2.3**
SARN	**Sarigan**	**5.42**	**25**	⇑*e*P	**P**	**13 09 16.2**	**-0.2**
CBIJ	**Chichi jima**	**15.28**	**356**	Pn	**P**	**13 11 30.1**	**-0.3**
	10.0nm,0.3s,baz=309,slow=21,SNR=2.1						
CBIJ				LR	LR	13 16 49.0	
	comp=Z,630nm,20.4s,baz=285,slow=35						
JOW	**Kunigami**	**20.62**	**319**	P	**P**	**13 12 35.0**	**+0.6**
	32nm,0.5s,baz=174,slow=10,SNR=15						
JOW				LR	LR	13 18 51.6	
	comp=Z,479nm,19.8s,MS3.9,baz=146,slow=32						
PMG	**Port Moresby**	**21.38**	**170**	*e*P	**P**	**13 12 40.4**	**-1.8**
PMG				pmax	pmax		
	comp=Z,53nm,0.8s						
PMG	**Port Moresby**	**21.38**	**170**	P	**P**	**13 12 40.6**	**-1.6**
	comp=Z,29nm,0.7s,mb4.7,baz=1.1,slow=5.8,SNR=19						
PMG				LR	LR	13 19 19.4	
	comp=Z,480nm,21.9s,MS3.9,baz=324,slow=32						
PMG	**Port Moresby**	**21.38**	**170**	*e*P	**P**	**13 12 40.4**	**-1.8**
	comp=Z,53nm,0.8s,mb4.9						
JHJ	**Hachijo jima 2**	**21.49**	**352**	P	**P**	**13 12 42.1**	**-1.1**
	comp=Z,185nm,1.0s,mb5.4,baz=84,slow=23,SNR=2.7						
MAJO	**Matsushiro**	**25.09**	**350**	*e*P	**P**	**13 13 15.6**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,38nm,0.9s,mb4.9						
MAJO	**Matsushiro**	**25.09**	**350**	*e*P	**P**	**13 13 15.6**	**-2.8**
	comp=Z,38nm,0.9s,mb4.9						
MAT	**Matsushiro**	**25.09**	**350**	*e*P	**P**	**13 13 16.0**	**-2.4**
MAT				*e*S	**S**	**13 17 40.0**	**+2.5**
MAT				pmax	pmax		
	comp=Z,40nm,1.0s,mb4.9						
MAT				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.3						
MAT	**Matsushiro**	**25.09**	**350**	*e*P	**P**	**13 13 16.0**	**-2.4**
	comp=Z,40nm,1.0s,mb4.9						
MAT				*e*S	**S**	**13 17 40.0**	**+2.5**
MAT				LR	LR		
	comp=Z,1µm,20.0s,MS4.3						
MAT	**Matsushiro**	**25.09**	**350**	P	**P**	**13 13 15.6**	**-2.8**
MAT				S	**S**	**13 17 40.0**	**+2.5**
KAKA	**Kakadu**	**26.63**	**204**	*e*P	**P**	**13 13 32.4**	**-0.5**
	comp=Z,39nm,0.6s,mb5.1						
HNR	**Honiara**	**26.76**	**141**	*e*P	**P**	**13 13 32.1**	**-2.1**
	comp=Z,79nm,0.9s,mb5.2						
SSE	**Sheshan**	**28.09**	**317**	P	**P**	**13 13 41.9**	**-4.2**
SSE				S	**S**	**13 18 25.8**	**-0.8**
SSE				XS		13 18 41.8	
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.2						

SSE AMB AMB
comp=Z,112nm,6.2s
SSE LR LR
comp=N,91nm,21.5s,MS3.5
SSE LR LR
comp=E,119nm,21.5s,MS3.5
SSE LR LR
comp=Z,214nm,22.3s,MS3.7
SSE Sheshan 28.09 317 P **P** **13 13 41.9 -4.2**
comp=Z,44nm,0.7s,mb5.2
SSE S **S** **13 18 25.7 -0.9**
SSE sS 13 18 41.7
SSE LR LR
comp=Z,210nm,22.3s,MS3.7
NJ2 Nanjing 30.25 316 *e*P **P** **13 14 06.3 +1.0**
NJ2 AP pP 13 14 19.1 +2.8
NJ2 XP sP 13 14 22.9 +1.4
NJ2 PP PP 13 15 08.9 +3.9
NJ2 S **S** **13 19 03.0 +2.0**
NJ2 XS 13 19 24.0
NJ2 AMB AMB
comp=Z,1μm,4.4s
NJ2 LR LR
comp=N,310nm,26.2s
NJ2 LR LR
comp=E,1μm,15.0s
NJ2 LR LR
comp=Z,390nm,23.8s,MS4.0
CTA Charters Tower 31.80 175⇓ *i*P **P** **13 14 18.6 -0.5**
comp=Z,10nm,0.6s,mb4.8
CTA Charters Tower 31.80 175⇓ *i*P **P** **13 14 18.6 -0.5**
CTA pmax pmax
comp=Z,10.0nm,0.6s
CTA Charters Tower 31.80 175 P **P** **13 14 18.5 -0.6**
comp=Z,13nm,0.6s,mb4.9,baz=347,slow=11,SNR=13
CTA LR LR 13 25 54.1
comp=Z,212nm,21.7s,MS3.8,baz=39,slow=34
CTAO Charters Tower 31.80 175 *e*P **P** **13 14 18.4 -0.7**
CTAO pmax pmax
comp=Z,14nm,0.7s,mb4.9
CTAO Charters Tower 31.80 175 *e*P **P** **13 14 18.4 -0.7**
comp=Z,14nm,0.7s,mb4.9
ASAJ Asahikawa 32.23 359 P **P** **13 14 21.1 -1.6**
comp=Z,7.8nm,0.7s,mb4.6,baz=58,slow=9.6,SNR=4.4
WRAB Tennant Creek 32.73 196 P **P** **13 14 26.0 -1.3**
comp=Z,482nm,0.6s,SNR=27
WRAB Tennant Creek 32.73 196 *e*P **P** **13 14 26.9 -0.4**
WRAB pmax pmax
comp=Z,73nm,0.6s,mb5.8
WRAB Tennant Creek 32.73 196 *e*P **P** **13 14 26.9 -0.4**
comp=Z,73nm,0.6s,mb5.8
WB2 Warramunga Arr 32.74 196⇓ *i*P **P** **13 14 27.0 -0.3**
WRA Warramunga Arr 32.75 196 P **P** **13 14 27.0 -0.3**
comp=Z,39nm,0.6s,mb5.5,baz=20,slow=9.7,SNR=218
FITZ Fitzroy Crossi 34.45 211⇑ *i*P **P** **13 14 42.5 +0.4**
comp=Z,36nm,1.2s,mb5.2
MDJ Mudanjiang 34.79 343 P **P** **13 14 44.3 -0.4**
MDJ AP pP 13 14 55.3 -0.5
MDJ XP sP 13 15 00.5 -0.5
MDJ PP PP 13 16 03.8 +1.0
MDJ S **S** **13 20 14.3 +2.7**
MDJ XS 13 20 31.1
MDJ SCS ScS 13 24 59.9 -0.6
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,67nm,3.7s
MDJ LR LR
comp=N,217nm,6.2s
MDJ LR LR
comp=E,178nm,7.3s
MDJ LR LR
comp=Z,224nm,11.2s,MS4.2
CN2 Changchun 35.45 337 *e*P **P** **13 14 54.3 +3.9**
CN2 eAP pP 13 15 02.8 +1.3
CN2 PCP PcP 13 17 23.8 +4.1
CN2 *e*S **S** **13 20 28.8 +7.0**
CN2 *e*SS SS 13 22 46.0 +4.4
CN2 SCS ScS 13 25 07.3 +3.2
CN2 AMB AMB
comp=Z,30nm,0.5s,mb5.5
CN2 LR LR
comp=N,500nm,17.0s,MS4.5
CN2 LR LR
comp=E,400nm,17.0s,MS4.5
CN2 LR LR
comp=Z,340nm,18.0s,MS4.2
ENH Enshi 36.37 306 *e*P **P** **13 14 58.6 +0.3**
comp=Z,17nm,0.8s,mb5.0
ASAR Alice Springs 36.42 195 P **P** **13 14 58.8 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=17,slow=11,SNR=115
ASAR LR LR 13 29 35.9
comp=Z,276nm,18.2s,MS4.1,baz=10,slow=36
ASPA Alice Springs 36.42 195⇓ *i*P **P** **13 14 58.8 0.0**
BJI Beijing 36.99 324 P **P** **13 15 03.1 -0.3**
BJI S **S** **13 20 50.8 +5.3**
BJI AMB AMB
comp=Z,26nm,1.1s,mb5.0
BJI LR LR
comp=N,560nm,15.9s,MS4.5
BJI LR LR
comp=E,340nm,17.6s,MS4.5
BJI LR LR
comp=Z,355nm,18.3s,MS4.2
BJI Beijing 36.99 324 P **P** **13 15 03.1 -0.3**
BJI S **S** **13 20 50.7 +5.2**
BJI pmax pmax
comp=Z,26nm,1.1s,mb5.0
BJI MLR MLR
comp=Z,360nm,18.3s,MS4.2
BJI Beijing 36.99 324 P **P** **13 15 03.1 -0.3**
comp=Z,26nm,1.1s,mb5.0
BJI S **S** **13 20 50.7 +5.2**
BJI LR LR
comp=Z,360nm,18.3s,MS4.2
GYA Guiyang 37.45 298⇑ *i*P **P** **13 15 07.3 -0.1**
GYA AP pP 13 15 19.5 +0.9
GYA XP sP 13 15 24.8 +1.1
GYA PP PP 13 16 35.3 -0.7
GYA S **S** **13 20 51.9 -0.8**
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,150nm,3.6s
GYA LR LR
comp=N,400nm,16.8s,MS4.4
GYA LR LR
comp=E,350nm,17.1s,MS4.4
GYA LR LR
comp=Z,300nm,15.6s,MS4.2
KLR Kul'dur 38.56 348 *e*P **P** **13 15 12.3 -4.1**
KLR *e* 13 17 25.8
KLR MLR MLR
comp=N,700nm,15.0s
MBWA Marble Bar 40.12 215 *e*P **P** **13 15 29.9 +0.2**
HHC Hu-ho-hao-te 40.22 322 *e*P **P** **13 15 32.8 +2.5**
HHC XP sP 13 15 40.1 -6.4
HHC PP PP 13 17 08.8 +2.2
HHC PCP PcP 13 17 37.3 +2.9
HHC S **S** **13 21 38.8 +4.5**
HHC SS SS 13 24 31.1 +3.3
HHC AMB AMB
comp=Z,16nm,0.5s,mb5.0
HHC AMB AMB
comp=Z,162nm,5.6s
HHC LR LR
comp=N,296nm,18.4s,MS4.3
HHC LR LR
comp=E,318nm,20.8s,MS4.3
HHC LR LR
comp=Z,418nm,22.0s,MS4.2
DZM Mont Dzumac 40.56 146 *e*P **P** **13 15 31.9 -1.4**
DZM Mont Dzumac 40.56 146 *e*P **P** **13 15 31.9 -1.4**
KMI Kunming 40.58 295 P **P** **13 15 35.3 +1.9**
KMI XP sP 13 15 48.5 -1.1
KMI S **S** **13 21 41.1 +1.3**
KMI XS 13 21 58.0
KMI AMB AMB
comp=Z,9.0nm,1.4s,mb4.2
KMI AMB AMB
comp=Z,119nm,6.4s
KMI LR LR
comp=N,206nm,15.6s,MS4.2
KMI LR LR
comp=E,210nm,15.6s,MS4.2
KMI LR LR
comp=Z,219nm,15.6s,MS4.1
KMI Kunming 40.58 295 P **P** **13 15 35.3 +1.9**
comp=Z,9.0nm,1.4s,mb4.2
KMI sP sP 13 15 48.5 -1.1
KMI S **S** **13 21 41.1 +1.3**
KMI sS 13 21 58.0
KMI LR LR
comp=Z,220nm,15.6s,MS4.1
BTO Baotou 41.02 320 *e*P **P** **13 15 36.9 0.0**
HIA Hailar 42.18 337 *e*P **P** **13 15 45.7 -0.6**
HIA pmax pmax
comp=Z,9.0nm,0.6s
HIA MLR MLR
comp=Z,370nm,20.0s
HIA Hailar 42.18 337 *e*P **P** **13 15 45.7 -0.6**
comp=Z,9.0nm,0.6s,mb4.6
HIA LR LR
comp=Z,370nm,20.0s,MS4.3
ARMA Armidale 42.70 169⇓ *i*P **P** **13 15 50.6 -0.3**
LZH Lanzhou 43.03 311⇓ P **P** **13 15 55.0 +1.5**
LZH AP pP 13 16 07.0 +2.1
LZH XP sP 13 16 12.1 +2.3
LZH PP PP 13 17 37.5 +1.6
LZH *e*S **S** **13 22 16.0 0.0**
LZH XS 13 22 35.1
LZH SS SS 13 25 23.0 +0.6
LZH AMB AMB
comp=Z,37nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,220nm,5.4s
LZH LR LR
comp=E,672nm,13.0s
LZH LR LR
comp=Z,869nm,14.3s,MS4.8
LZH Lanzhou 43.03 311⇓ P **P** **13 15 55.0 +1.5**
comp=Z,37nm,1.0s,mb5.1
LZH pP pP 13 16 07.0 +2.1
LZH sP sP 13 16 12.1 +2.3
LZH PP PP 13 17 37.5 +1.6
LZH *e*S **S** **13 22 16.0 0.0**
LZH sS 13 22 35.1
LZH SS SS 13 25 23.0 +0.6
LZH LR LR
comp=Z,870nm,14.3s,MS4.8
CM31 Chiang Mai Arr 43.30 284 P **P** **13 15 56.1 +0.2**
comp=Z,5.5nm,0.3s,mb4.8
CMAR Chiang Mai Arr 43.30 284 P **P** **13 15 58.0 +2.2**
comp=Z,3.5nm,0.7s,mb4.2,baz=88,slow=6.4,SNR=19
CMAR LR LR 13 32 38.2
comp=Z,127nm,19.3s,MS3.8,baz=85,slow=34
STKA Stephens Creek 43.44 182 P **P** **13 15 56.0 -0.9**
comp=Z,11nm,0.6s,mb4.8,baz=351,slow=8.1,SNR=28
STKA Stephens Creek 43.44 182 *e*P **P** **13 15 55.8 -1.1**
FORT Forrest 44.79 199 *e*P **P** **13 16 08.4 +0.6**
comp=Z,1μm,0.7s
ULN Ulaanbaatar 47.05 327 *c i*P **P** **13 16 25.4 0.0**
ULN Ulaanbaatar 47.05 327 *e*P **P** **13 16 25.3 -0.1**
comp=Z,8.1nm,0.8s,mb4.7
ULN LR LR
comp=Z,410nm,19.0s,MS4.4
CNB Canberra Magne 47.18 173 *e*P **P** **13 16 26.5 -0.1**
comp=Z,121nm,0.8s,mb5.9
GTA Gaotai 47.30 313 *e*P **P** **13 16 27.8 +0.3**
GTA AP pP 13 16 38.3 -0.5
GTA XP sP 13 16 42.3 -1.4
GTA PP PP 13 18 14.8 -3.3
GTA SCP 13 21 52.0
GTA S **S** **13 23 15.9 -1.2**
GTA XS 13 23 34.5
GTA AMB AMB
comp=Z,11nm,1.1s,mb4.7
GTA AMB AMB
comp=Z,223nm,6.1s
GTA LR LR
comp=N,234nm,16.4s,MS4.4
GTA LR LR
comp=E,226nm,15.6s,MS4.4
GTA LR LR
comp=Z,285nm,16.7s,MS4.3
SONM Songino Array 47.38 327 P **P** **13 16 28.2 +0.1**
comp=Z,3.7nm,0.5s,mb4.5,baz=151,slow=5.7,SNR=37
FX1 Attu Island--F 47.45 24 P **P** **13 16 27.2 -1.3**
comp=Z,29nm,0.6s,mb5.4,baz=93,slow=16,SNR=2.7
MA2 Magadan 48.03 5 *e*P **P** **13 16 30.6 -2.3**
MA2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MA2 Magadan 48.03 5 *e*P **P** **13 16 30.0 -2.9**
comp=Z,6.4nm,0.7s,mb4.8
TOO Toolangi 49.13 178 *e*P **P** **13 16 42.5 +0.8**
comp=Z,1.7nm,0.6s,mb4.2
TOO Toolangi 49.13 178 *e*P **P** **13 16 42.5 +0.8**
TOO pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
KLBR Kellerberrin 49.62 209 *e*P **P** **13 16 45.2 -0.4**
comp=Z,79nm,0.7s,mb5.8
ZAK Zakamensk 50.54 328⇓ *i*P **P** **13 16 51.8 -0.5**
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
MUN Mundaring 50.68 210 *e*P **P** **13 16 53.6 -0.1**
comp=Z,15nm,1.0s,mb4.9
MUN Mundaring 50.68 210 *e*P **P** **13 16 53.6 -0.1**
MUN pmax pmax
comp=Z,15nm,1.0s,mb4.9
NWAO Narrogin (SRO) 50.97 208 P **P** **13 16 55.1 -0.8**
comp=Z,12nm,1.2s,mb4.7,baz=49,slow=11,SNR=5.1
BOD Bodaibo 51.09 340⇑ *i*P **P** **13 16 55.4 -1.0**
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
TLY Talaya 51.11 329 *c i*P **P** **13 16 56.4 -0.3**
TLY pmax pmax
comp=Z,14nm,1.3s,mb4.7
TLY Talaya 51.11 329 *e*P **P** **13 16 56.4 -0.3**
comp=Z,4.8nm,0.7s,mb4.5
YAK Yakutsk 51.14 352 *e*P **P** **13 16 53.9 -2.8**
YAK *e*S **S** **13 24 05.7 -4.7**
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
YAK smax
comp=N,3.0nm,1.0s
YAK smax
comp=E,5.0nm,1.2s
YAK Yakutsk 51.14 352 *e*P **P** **13 16 54.4 -2.3**
comp=E,18nm,0.6s,mb5.2
YAK LR LR
comp=Z,261nm,19.0s,MS4.3
IRK Irkutsk 51.14 330 *e*P **P** **13 16 53.8 -3.1**
IRK pmax pmax
comp=Z,23nm,1.2s,mb5.0
MOY Mondy 52.46 328 *e*P **P** **13 17 06.6 -0.1**
MOY pmax pmax
comp=Z,21nm,1.5s,mb4.8
JIRN Jiri 55.62 295 *e*P **P** **13 17 31.0 +0.7**
comp=Z,21nm,0.6s,mb5.3
PKI Pulchoki 56.30 295 *e*P **P** **13 17 35.2 0.0**
comp=Z,17nm,0.7s,mb5.2
KKN Kakani 56.43 296 *e*P **P** **13 17 36.2 0.0**
comp=Z,31nm,0.9s,mb5.3
DMN Daman 56.57 295 *e*P **P** **13 17 37.3 +0.1**
comp=Z,23nm,0.7s,mb5.3
GKN Gorkha 57.02 296 *e*P **P** **13 17 40.2 -0.1**
comp=Z,55nm,1.0s,mb5.5
WMQ Urumqi 57.33 315⇓ *i*P **P** **13 17 42.8 +0.5**
WMQ AP pP 13 17 55.0 +1.0
WMQ XP sP 13 18 00.0 +1.3
WMQ PCP PcP 13 18 36.0 +0.1
WMQ SCP 13 22 30.0
WMQ S **S** **13 25 34.0 0.0**
WMQ XS 13 25 54.0
WMQ SCS ScS 13 27 24.5 -0.1
WMQ AMB AMB
comp=Z,21nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,492nm,7.9s
WMQ LR LR
comp=N,558nm,19.8s,MS4.9
WMQ LR LR
comp=E,624nm,17.0s,MS4.9
WMQ LR LR
comp=Z,508nm,18.4s,MS4.7
KOLN Koldanda 57.92 295 *e*P **P** **13 17 46.5 -0.2**
comp=Z,17nm,0.7s,mb5.2
BILL Bilibino 58.19 10 *e*P **P** **13 17 46.0 -2.0**
BILL pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.2
BILL Bilibino 58.19 10 *e*P **P** **13 17 46.1 -1.9**
comp=Z,8.0nm,0.8s,mb4.8
URZ Urewera 58.95 149 P **P** **13 17 50.9 -2.8**
comp=Z,15nm,0.8s,mb5.1,baz=345,slow=3.4,SNR=7.3
TIXI Tiksi 60.48 355 *e*P **P** **13 17 59.9 -3.9**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
TIXI MLR MLR
comp=Z,91nm,17.0s,MS4.0
RPZ Rata Peaks 60.73 157 P **P** **13 18 04.4 -1.5**
comp=Z,38nm,0.8s,mb5.6,baz=308,slow=0.8,SNR=35
RPZ LR LR 13 39 14.5
comp=Z,260nm,19.2s,MS4.4,baz=5.5,slow=31
MKAR Makanchi Array 61.77 317 *i*P **P** **13 18 12.8 0.0**
MKAR pmax pmax
comp=Z,21nm,1.1s
ZAL Zalesovo 62.25 325 *i*P **P** **13 18 15.4 -0.5**
ZAL pmax pmax
comp=Z,6.0nm,0.5s
ZAL Zalesovo 62.25 325 P **P** **13 18 15.3 -0.5**
comp=Z,5.8nm,0.5s,mb5.0,baz=10,slow=5.8,SNR=32
ZAL LR LR 13 45 57.8
comp=Z,313nm,19.8s,MS4.5,baz=34,slow=37
HYB Hyderabad 62.71 284 *e*P **P** **13 18 20.0 +0.5**
HYB Hyderabad 62.71 284 *i*P **P** **13 18 20.0 +0.5**
NVS Novosibirsk 63.41 326 *i*P **P** **13 18 22.6 -1.0**
NVS pmax pmax
comp=N,30nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS pmax pmax
comp=Z,32nm,1.2s,mb5.3
KURK Kurchatov 65.02 321 P **P** **13 18 33.1 -1.0**
comp=Z,329nm,1.2s,SNR=31
KURK Kurchatov 65.02 321 *i*P **P** **13 18 33.1 -1.0**
KURK pmax pmax
comp=Z,30nm,1.1s,mb5.2
KURK Kurchatov 65.02 321 *e*P **P** **13 18 33.5 -0.6**
comp=Z,45nm,0.9s,mb5.5
SVW2 Sparrevohn 65.96 28 *e*P **P** **13 18 39.0 -0.9**
AAK Ala-Archa 66.58 311 *e*P **P** **13 18 43.4 -0.8**
AAK pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.4
POO Poona 67.08 285 *e*P **P** **13 18 47.0 -0.7**
SLKM Skilak Lake 68.28 29 *e*P **P** **13 18 53.1 -1.5**
IMA Indian Mountai 68.49 23 *e*P **P** **13 18 55.1 -0.7**
IMA pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
IMA Indian Mountai 68.49 23 *e*P **P** **13 18 55.1 -0.7**
comp=Z,6.9nm,0.9s,mb4.7
PMR Palmer 69.07 28 *e*P **P** **13 18 57.9 -1.5**
PMR pmax pmax
comp=Z,24nm,1.0s,mb5.1
PMR Palmer 69.07 28 *e*P **P** **13 18 57.9 -1.5**
comp=Z,24nm,1.0s,mb5.1
CHKZ Chkalovo 70.37 323 *i*P **P** **13 19 06.5 -1.0**
CHKZ pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CHKZ Chkalovo 70.37 323 *e*P **P** **13 19 07.0 -0.5**
comp=Z,169nm,1.2s,mb5.8
BVA0 Borovoye Array 70.43 322 P **P** **13 19 07.2 -0.7**
BVA0 pmax pmax
comp=Z,11nm,1.4s,mb4.6
COLA College 70.45 25 *e*P **P** **13 19 06.4 -1.4**
COLA pmax pmax
comp=Z,11nm,0.7s,mb4.9
COLA College 70.45 25 *e*P **P** **13 19 06.4 -1.4**
comp=Z,10nm,0.7s,mb4.9
ILAR Eielson Array 70.83 25 P **P** **13 19 08.1 -2.0**
comp=Z,14nm,0.7s,mb5.0,baz=252,slow=5.9,SNR=184
PPT Papeete 72.36 113 *e*LR LR 13 40 35.9
comp=Z,154nm,29.5s
DAWY Dawson 73.91 27 *e*P **P** **13 19 28.4 +0.1**
TBI Tubuai 74.40 118 *e*LR LR 13 41 31.3
comp=Z,130nm,30.0s
INK Inuvik 76.59 22 *e*P **P** **13 19 42.8 -0.8**
INK pmax pmax
comp=Z,28nm,0.9s
INK Inuvik 76.59 22 *e*P **P** **13 19 42.8 -0.9**
comp=Z,28nm,0.9s,mb5.2
DLBC Dease Lake 78.30 32 *e*P **P** **13 19 54.0 +0.7**
PGC Sidney 83.36 42 *e*P **P** **13 20 21.2 +1.1**
comp=Z,36nm,0.9s,mb5.4
CMW Cultus Mountai 84.28 42 P **P** **13 20 26.2 +1.4**
JCW Jim Creek 84.44 42 P **P** **13 20 26.8 +1.1**
HUMO Hull Mountain 84.82 48 *e*P **P** **13 20 28.8 +1.1**
comp=Z,8.1nm,0.7s,mb5.0
FMW Mount Fremont 84.87 43 P **P** **13 20 28.7 +0.9**
IRO Indian Ridge 85.05 46 P **P** **13 20 29.6 +0.8**
ALE Alert 85.11 3 P **P** **13 20 29.0 +0.7**
comp=Z,72nm,0.9s,mb5.8,SNR=9.1
YKW3 Yellowknife Ar 85.11 27 *e*P **P** **13 20 29.3 +0.6**
TDH Tom, Dick, Har 85.12 45 P **P** **13 20 29.9 +0.8**
YKA Yellowknife Ar 85.14 27 *i*P **P** **13 20 28.7 0.0**
YKA pmax pmax
comp=Z,5.0nm,0.7s
YKA Yellowknife Ar 85.14 27 P **P** **13 20 28.7 0.0**
comp=Z,4.8nm,0.7s,mb4.7,baz=287,slow=5.1,SNR=39
YBH Yreka Blue Hor 85.17 49 *e*P **P** **13 20 30.1 +0.7**
comp=Z,12nm,0.8s,mb5.1
TBM Table Mountain 85.54 43 P **P** **13 20 32.0 +1.0**
LHEM Herd Peak 85.56 49 P **P** **13 20 32.6 +1.3**
ETW Entiat 85.62 42 P **P** **13 20 32.3 +0.8**
WTV Waterville 85.85 42 P **P** **13 20 33.3 +0.7**
VIPM Ingram Point 86.10 45 P **P** **13 20 35.0 +1.1**
EPH Ephrata 86.16 43 P **P** **13 20 34.9 +0.8**
APA Apatity 86.61 339⇓ *i*P **P** **13 20 36.0 +0.1**
APA pmax pmax
comp=Z,9.0nm,0.6s,mb5.2
RES Resolute Bay 86.64 13 *e*P **P** **13 20 36.6 +0.7**
RES pmax pmax
comp=Z,12nm,0.8s,mb5.2
RES Resolute Bay 86.64 13 *e*P **P** **13 20 36.6 +0.7**
comp=Z,12nm,0.8s,mb5.2
RKT Rikitea 87.06 114 *e*LR LR 13 47 23.7
comp=Z,140nm,29.2s
NEW Newport 87.56 41 *e*P **P** **13 20 41.5 +0.6**
NEW pmax pmax
comp=Z,29nm,0.9s
NEW Newport 87.56 41 *e*P **P** **13 20 41.5 +0.6**
comp=Z,29nm,0.9s,mb5.5
KEV Kevo 87.77 342 *ep* **P** **13 20 41.2 -0.2**
WVOR Wild Horse Val 87.98 47 *e*P **P** **13 20 44.1 +1.0**
WVOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
WVOR Wild Horse Val 87.98 47 *e*P **P** **13 20 44.1 +1.0**
comp=Z,6.8nm,0.8s,mb4.9
BMO Blue Mountains 88.31 45 *e*P **P** **13 20 45.1 +0.5**
BMO pmax pmax
comp=Z,23nm,0.9s,mb5.4
BMO Blue Mountains 88.31 45 *e*P **P** **13 20 45.1 +0.5**
comp=Z,23nm,0.9s,mb5.4
ARCES ARCESS Array B 88.34 342 P **P** **13 20 44.9 +0.7**
comp=Z,7.4nm,0.5s,mb5.1,baz=77,slow=7.1,SNR=27
ARE0 ARCESS Array S 88.34 342 *e*P **P** **13 20 44.5 +0.4**
EDM Edmonton 88.48 36 *e*P **P** **13 20 45.9 +0.7**
OMM Old Mammoth Mi 88.87 52 *e*P **P** **13 20 47.8 +0.4**
ZEI Tsey 88.92 313 *e*P **P** **13 20 47.1 -0.5**
ZEI *i* *PP pP 13 20 53.1 -6.8
ZEI pmax pmax
comp=Z,6.0nm,1.2s,mb4.8
NVAR Mina Array Bea 89.20 51 P **P** **13 20 50.2 +1.2**
comp=Z,10nm,0.7s,mb5.3,baz=262,slow=6.2,SNR=44
NVAR Mina Array Bea 89.20 51 P **P** **13 20 50.2 +1.2**
JOF Joensuu 89.30 335 *ep* **P** **13 20 47.2 -1.7**
MNV Mina 89.32 51 *e*P **P** **13 20 50.5 +0.9**
comp=Z,15nm,1.0s,mb5.3
KIV Kislovodsk 89.46 315⇑ *i*P **P** **13 20 50.7 +0.6**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.3
VNDA Vanda 89.77 176 *e*P **P** **13 20 51.7 +0.9**
VNDA pmax pmax
comp=Z,3.0nm,0.9s
VNDA Vanda 89.77 176 P **P** **13 20 51.7 +0.9**
comp=Z,5.3nm,0.9s,mb4.9,baz=308,slow=6.5,SNR=13
VNDA LR LR 14 00 20.7
comp=Z,158nm,18.4s,MS4.5,baz=154,slow=35
VNDA Vanda 89.77 176 *e*P **P** **13 20 51.7 +0.8**
comp=Z,3.0nm,0.9s,mb4.6
OBN Obninsk 89.80 327⇑ *i*P **P** **13 20 51.2 -0.2**
OBN pmax pmax

	comp=Z,6.0nm,0.4s,mb5.3						
TPH	**Tonopah**	**90.12**	**51**	*e*P	**P**	**13 20 54.0**	**+0.6**
	comp=Z,18nm,1.1s,mb5.3						
MWC	**Mount Wilson**	**90.44**	**55**	P	**P**	**13 20 55.7**	**+0.8**
CHMT	**Chamberlain Mo**	**90.45**	**42**	*e*P	**P**	**13 20 54.8**	**+0.1**
ELK	**Elko**	**90.88**	**48**	*e*P	**P**	**13 20 58.0**	**+1.2**
	comp=Z,15nm,1.2s,mb5.2						
MCMT	**McKenzie Canyo**	**91.36**	**44**	*e*P	**P**	**13 20 59.6**	**+0.7**
HRY	**Holter Researc**	**91.44**	**42**	*e*P	**P**	**13 20 60.0**	**+0.7**
SOC	**Sochi**	**91.63**	**315**	*e*P	**P**	**13 20 58.8**	**-1.4**
SOC				*e*		13 24 35.5	
SOC				*e*PPP	tx	13 26 34.4	
SOC				*e*S	S	13 31 27.6	-27
SOC				*e*PS	PS	13 33 12.1	-1.9
SOC				*e*SS	SS	13 38 03.2	-2.3
SOC				*e*SSS	SSS	13 41 38.5	-4.7
SOC				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.4						
SOC				pmax	pmax		
	comp=N,28nm,1.0s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.7s						
KAF	**Kangasniemi**	**91.74**	**335**	*e*p	**P**	**13 20 58.1**	**-2.2**
FINES	**FINESS Array B**	**92.16**	**335**	P	**P**	**13 21 01.8**	**-0.4**
	comp=E,4.1nm,0.6s,mb5.0,baz=64,slow=5.0,SNR=22						
QLMT	**Earthquake Lak**	**92.32**	**43**	*e*P	**P**	**13 21 04.6**	**+1.3**
YMR	**Madison River**	**92.68**	**43**	*e*P	**P**	**13 21 06.7**	**+1.7**
YFT	**Old Faithful**	**92.84**	**44**	*e*P	**P**	**13 21 08.4**	**+2.6**
YNR	**Norris Junctio**	**92.86**	**43**	*e*P	**P**	**13 21 08.2**	**+2.4**
PDAR	**Pinedale Array**	**94.29**	**45**	P	**P**	**13 21 12.9**	**+0.6**
	comp=E,0.9nm,0.7s,mb4.3,baz=288,slow=4.7,SNR=4.3						
LAO	**LASA Array**	**95.06**	**40**	*e*P	**P**	**13 21 16.2**	**+0.4**
	comp=E,29nm,1.0s,mb5.7						
PV10	**Paradox Valley**	**96.17**	**49**	*e*P	**P**	**13 21 21.6**	**+0.6**
RW3	**Ridgway**	**97.21**	**49**	*e*P	**P**	**13 21 27.0**	**+1.2**
NOA	**NORSAR Array B**	**98.19**	**339**	P	**P**	**13 21 30.0**	**+0.3**
	comp=E,0.4nm,0.7s,mb4.1,baz=60,slow=3.9,SNR=5.3						
NOA				LR	LR	14 08 06.0	
	comp=E,78nm,18.2s,MS4.2,baz=250,slow=37						
PLCA	**Paso Flores**	**138.55**	**140**	PKP	PKPdf	13 27 20.2	+2.4
PLCA	**Paso Flores**	**138.55**	**140**	PKP	PKPdf	13 27 20.2	+2.4
DBIC	**Dimbokro**	**143.45**	**299**	PKP	PKPdf	13 27 26.6	-0.6
	comp=E,4.4nm,0.7s,baz=114,slow=2.3,SNR=6.8						
TRQA	**Tornquist**	**145.41**	**143**	*e*PKPdf	PKPdf	13 27 31.6	+1.7
LVC	**Limon Verde**	**147.43**	**114**	*e*PKPbc	PKPdf	13 27 38.0	+4.2
LPAZ	**La Paz**	**149.15**	**102**	PKPbc	PKPdf	13 27 40.4	+3.7
	comp=E,11nm,1.0s,baz=358,slow=4.5,SNR=8.6						
LPAZ	**La Paz**	**149.15**	**102**	*e*PKPdf	PKPdf	13 27 40.1	+3.4
LPAZ				*e*PKPbc	PKPdf	13 27 44.4	+7.7
SAML	**Samuel**	**153.75**	**86**	*e*PKPbc	PKPdf	13 27 53.6	+10
SAML				*e*PKPab	PKPab	13 28 05.5	-1.3

IDC 14 13:13:39.5±8.2**, 6.15S**×**147.96E, h55**km±56km**, mb3.8**/3**, mb1 4.0**/5**, mb1mx3.7**/13**, mbtmp4.0**/5**, ML3.5**/2**, Error ellipse: s-maj=58.3km s-min=50.3km az=59.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.33**	**194**	P	P	13 14 29.6	-0.9
	18nm,0.3s,baz=14,slow=10,SNR=25						
PMG				S	S	13 15 08.1	-1.0
	16nm,0.3s,baz=5.2,slow=22,SNR=5.8						
WRA	**Warramunga Arr**	**19.06**	**223**	P	P	13 17 57.0	-3.1
	0.2nm,0.3s,baz=49,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**22.05**	**216**	P	P	13 18 29.9	-1.3
	2.3nm,0.6s,baz=52,slow=9.2,SNR=9.7						
STKA	**Stephens Creek**	**26.28**	**192**	P	P	13 19 10.0	-1.8
	3.4nm,0.7s,baz=2.3,slow=15,SNR=3.7						
VNDA	**Vanda**	**71.71**	**177**	P	P	13 24 55.4	-1.9
	1.5nm,0.9s,slow=9.1,SNR=3.4						

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*ATH **14** 13:15:21.9, 40.75N×23.59E, h21km, MD3.0/3*
*THE **14** 13:15:22.2, 40.70N×23.69E, h2km, ML2.2*
*CSEM **14** 13:15:22.0±0.1, 40.71N×23.69E, h19km, ML2.2, Error ellipse: s-maj=2.6km s-min=1.5km az=70.0*
ISC 14 13:15:21.6±0.6**, 40.70N**±0.02×**23.68E**±0.04**, h14**km±5km**, n15, σ0ˢ94**/25**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOH	**Sokhos**	**0.28**	**297**	*e*Pg	**Pg**	**13 15 27.9**	**+0.2**
SOH				*e*Sg	**Sg**	**13 15 31.8**	**+0.1**
PLG	**Polygyros**	**0.37**	**209**	⇑*i*PB	**Pb**	**13 15 30.0**	**+0.6**
PLG				*e*SB	**Sb**	**13 15 35.3**	**+0.6**
SRS	**Serrai**	**0.43**	**351**	*e*Pg	**Pg**	**13 15 30.2**	**-0.3**
SRS				*e*Sg	**Sg**	**13 15 36.6**	**+0.1**
SRS	**Serrai**	**0.43**	**351**	*e*Pg	**Pg**	**13 15 30.2**	**-0.3**
SRS				*e*Sg	**Sg**	**13 15 36.6**	**+0.2**
OUR	**Ouranopolis**	**0.43**	**147**	*e*Pg	**Pg**	**13 15 30.5**	**-0.1**
OUR				*e*Sg	**Sg**	**13 15 36.3**	**-0.2**
THE	**Thessaloniki**	**0.55**	**264**	*e*Pg	**Pg**	**13 15 33.0**	**+0.1**
THE				*e*Sg	**Sg**	**13 15 40.6**	**+0.3**
NVR	**Nevrokopi**	**0.67**	**12**	*e*PN	**Pn**	**13 15 34.4**	**-2.0**
KNT	**Kendrikon**	**0.75**	**308**	*e*Pg	**Pg**	**13 15 36.6**	**-0.3**
KNT				*e*Sg	**Sg**	**13 15 47.1**	**+0.1**
PAIG	**Paliouri**	**0.77**	**180**	*e*Pg	**Pg**	**13 15 36.9**	**-0.2**
PAIG				*e*Sg	**Sg**	**13 15 47.7**	**+0.2**
MMB	**Musomiste**	**0.89**	**2**	*i* Sg	**Sg**	**13 15 54.5**	**+2.8**
GRG	**Griva**	**1.00**	**285**	*e*Pg	**Pg**	**13 15 40.8**	**-1.0**
GRG				*e*Sg	**Sg**	**13 15 55.2**	**-0.1**
LIT	**Litokhoron**	**1.08**	**237**	*e*Pg	**Pg**	**13 15 42.4**	**-1.1**
LIT				*e*Sg	**Sg**	**13 15 59.2**	**+1.2**
KKB	**Krupnik**	**1.25**	**339**	*i* S	**Sb**	**13 16 01.0**	**+0.6**
RDO	**Rodhopi**	**1.48**	**72**	*e*PN	**Pn**	**13 15 50.1**	**+2.1**
IGT	**Igoumenitsa**	**2.82**	**247**	*e*Pn	**Pn**	**13 16 04.3**	**-2.9**

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*NEIC **14** 13:18:25.1, 16.60N×99.08W, h10km, MD3.6(MEX), After MEX.*
MEX 14 13:18:25.1±1.3**, 16.60N**×**99.08W, h10**km±15km**, MD3.6, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.84**	**289**	*i* P	Pb	13 18 37.8	-3.5
ACX				*i* S	Sb	13 18 49.0	-3.4
PNIG	**Pinotepa**	**0.94**	**103**	*i* P	Pb	13 18 40.7	-2.4
PNIG				*i* S	Sb	13 18 52.4	-2.9
CAIG	**El Cayaco**	**1.22**	**292**	*e*P	Pb	13 18 45.4	-2.4
CAIG				*i* S	Sb	13 19 00.6	-2.7
PLIG	**Platanillo**	**1.83**	**347**	*e*P	Pn	13 18 53.2	-3.7
PLIG				*i* S	Sn	13 19 15.1	-5.1
OXX	**Oaxaca**	**2.31**	**78**	*e*P	Pn	13 19 01.5	-2.3
PPM	**Popocatepetl**	**2.49**	**10**	*e*P	Pn	13 19 03.6	-2.8
IISM	**Ciudad Serdan**	**2.88**	**34**	*i* P	Pn	13 19 06.7	-5.3

MAN 14 13:26:40.4, 9.34N×**125.68E, h4**km**, mb4.1, ML2.9, MS2.6, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.37**	**189**	*i* P	Pg	13 26 47.3	-0.6
BUTP				*e*S	Sg	13 26 55.6	+2.7
SCPH	**Surigao**	**0.48**	**337**	*e*P	Pg	13 26 49.5	-0.5
SCPH				*e*S	Sg	13 26 59.9	+3.6
MSLP	**Maasin**	**1.13**	**314**	*e*P	Pb	13 27 02.0	-0.1
BUKP	**Musuan**	**1.57**	**203**	*i* P	Pn	13 27 09.6	+0.3

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*NEIC **14** 13:31:10.8, 60.19N×151.73W, h66km, ML3.2(PMR), ML3.0(AEIC), After AEIC.*
*IDC **14** 13:31:14.7±5.9, 60.43N×151.31W, h112km±61km, mb3.3/1, mb1 3.3/6, mb1mx3.2/21, mbtmp3.6/6, Error ellipse: s-maj=51.8km s-min=20.0km az=47.0*
ISC 14 13:31:08.5±0.3**, 60.18N**±0.02×**151.68W**±0.04**, h85**km±4km**, n86, σ0ˢ81**/106**, mb3.5**/1**, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.24**	**125**	P	**P**	**13 31 21.9**	**+0.8**
HOM	**Homer**	**0.52**	**178**	P	**P**	**13 31 23.6**	**+0.5**
HOM				S	**S**	**13 31 34.2**	**+0.3**
BRLK	**Bradley Lake**	**0.58**	**136**	P	**P**	**13 31 23.8**	**+0.2**
REF	**Redoubt East F**	**0.59**	**302**	P	**P**	**13 31 23.4**	**-0.4**
REF				S	**S**	**13 31 34.0**	**-1.1**
RSO	**Redoubt South**	**0.60**	**299**	P	**P**	**13 31 23.7**	**-0.2**
NKA	**Nikishka**	**0.61**	**21**	P	**P**	**13 31 25.5**	**+1.5**
RDN	**Redoubt North**	**0.63**	**303**	P	**P**	**13 31 23.7**	**-0.5**
ILIM	**Iliamna**	**0.65**	**262**	P	**P**	**13 31 23.9**	**-0.4**
ILIM				S	**S**	**13 31 35.0**	**-0.9**
DFR	**Drift River**	**0.65**	**310**	P	**P**	**13 31 23.9**	**-0.4**
DFR				S	**S**	**13 31 34.2**	**-1.7**
CNPM	**China Poot**	**0.69**	**161**	P	**P**	**13 31 25.1**	**+0.3**
CNPM				S	**S**	**13 31 36.5**	**-0.3**
INE	**Iliamna NE**	**0.70**	**261**	P	**P**	**13 31 24.6**	**-0.3**
INE				S	**S**	**13 31 35.9**	**-1.0**
XLV	**Seldovia**	**0.73**	**182**	P	**P**	**13 31 25.2**	**0.0**
XLV				S	**S**	**13 31 36.9**	**-0.6**
NCT	**North Crescent**	**0.73**	**302**	P	**P**	**13 31 25.0**	**-0.1**
ILW	**Iliamna West**	**0.74**	**261**	P	**P**	**13 31 25.2**	**0.0**
SLKM	**Skilak Lake**	**0.80**	**65**	P	**P**	**13 31 26.0**	**+0.1**
SLKM				S	**S**	**13 31 38.3**	**-0.4**
OPT	**Oil Point**	**0.94**	**237**	P	**P**	**13 31 27.8**	**+0.4**
VOGL	**Vogel Lake**	**1.03**	**36**	P	**P**	**13 31 30.2**	**+1.8**
VOGL				S	**S**	**13 31 45.3**	**+1.8**
CKT	**Bend**	**1.06**	**346**	P	**P**	**13 31 29.3**	**+0.5**
CKN	**Chakachatna No**	**1.08**	**347**	P	**P**	**13 31 29.8**	**+0.7**
CRP	**Crater Peak**	**1.12**	**348**	P	**P**	**13 31 30.4**	**+0.8**
AUE	**Augustine Isla**	**1.19**	**227**	P	**P**	**13 31 30.9**	**+0.5**
MPA	**Moose Pass**	**1.20**	**74**	P	**P**	**13 31 31.8**	**+1.2**
AUW	**Augustine West**	**1.22**	**229**	P	**P**	**13 31 31.4**	**+0.6**
AUI	**Augustine Isla**	**1.22**	**227**	P	**P**	**13 31 31.3**	**+0.4**
FIB	**Fire Island**	**1.24**	**36**	P	**P**	**13 31 32.5**	**+1.4**
RC01	**Rabbit Creek A**	**1.32**	**46**	P	**P**	**13 31 32.7**	**+0.4**
RC01				S	**S**	**13 31 50.3**	**+0.4**
STLK	**Strandline Lak**	**1.33**	**357**	P	**P**	**13 31 33.1**	**+0.8**
STLK				S	**S**	**13 31 50.7**	**+0.7**
SYI	**Shuyak Island**	**1.61**	**193**	P	**P**	**13 31 36.8**	**+0.8**
MCNL	**McNeil River**	**1.68**	**235**	P	**P**	**13 31 36.9**	**+0.1**
MCNL				S	**S**	**13 31 57.1**	**-0.5**
PWA	**Palmer West**	**1.72**	**30**	P	**P**	**13 31 38.3**	**+0.9**
PWL	**Port Wells**	**1.79**	**66**	P	**P**	**13 31 38.6**	**+0.3**
PMR	**Palmer**	**1.89**	**40**	P	**P**	**13 31 40.0**	**+0.3**
PMR				S	**S**	**13 32 02.1**	**-0.4**
LTI	**Latouche**	**1.92**	**92**	P	**P**	**13 31 39.9**	**-0.2**
KNK	**Knik Glacier**	**2.01**	**51**	P	**P**	**13 31 41.8**	**+0.6**
GHO	**Glory Hole Cre**	**2.09**	**39**	P	**P**	**13 31 42.8**	**+0.5**
KAPH	**Katmai Pasha**	**2.09**	**222**	P	**P**	**13 31 43.0**	**+0.6**
SVW2	**Sparrevohn**	**2.13**	**297**	P	**P**	**13 31 42.1**	**-0.8**
KAHC	**Katmai Hardscr**	**2.29**	**229**	P	**P**	**13 31 44.9**	**-0.3**
SML	**Sawmill**	**2.31**	**44**	P	**P**	**13 31 45.7**	**+0.3**
SML				S	**S**	**13 32 12.9**	**0.0**
CUT	**Chulitna**	**2.34**	**16**	P	**P**	**13 31 46.5**	**+0.7**
KAWH	**Katmai**	**2.41**	**223**	P	**P**	**13 31 47.1**	**+0.3**
KDAK	**Kodiak Island**	**2.45**	**191**	Pn	**P**	**13 31 46.7**	**-0.7**
	510nm,0.4s,SNR=77						
KDAK	**Kodiak Island**	**2.45**	**191**	P	**P**	**13 31 46.5**	**-0.8**
HIN	**Hinchinbrook I**	**2.59**	**83**	P	**P**	**13 31 48.4**	**-1.0**
SCM	**Sheep Creek Mo**	**2.69**	**50**	P	**P**	**13 31 51.0**	**+0.2**
VLZ	**Valdez**	**2.80**	**68**	P	**P**	**13 31 51.6**	**-0.7**
VLZ				S	**S**	**13 32 24.3**	**-0.9**
MID	**Middleton Isla**	**2.80**	**103**	P	**P**	**13 31 53.0**	**+0.7**
CAHL	**Cahill**	**2.83**	**223**	P	**P**	**13 31 53.4**	**+0.6**
CVA	**Cordova**	**2.97**	**80**	P	**P**	**13 31 53.5**	**-1.2**
EYAK	**Cordova Ski Ar**	**2.97**	**80**	P	**P**	**13 31 53.2**	**-1.4**
EYAK				S	**S**	**13 32 27.4**	**-2.0**
HUR	**Hurricane**	**2.98**	**18**	P	**P**	**13 31 55.7**	**+1.0**
DIV	**Divide**	**3.06**	**69**	P	**P**	**13 31 55.1**	**-0.8**
TRF	**Thorofare Moun**	**3.35**	**11**	P	**P**	**13 31 59.8**	**-0.1**
KTH	**Kantishna Hill**	**3.41**	**6**	P	**P**	**13 32 01.0**	**+0.3**
TT01	**Tatalina**	**3.44**	**325**	P	**P**	**13 32 00.5**	**-0.6**
RND	**Reindeer**	**3.51**	**21**	P	**P**	**13 32 02.8**	**+0.7**
TZL	**Tazlina**	**3.57**	**56**	P	**P**	**13 32 03.0**	**+0.1**
MCK	**McKinley**	**3.79**	**19**	P	**P**	**13 32 06.5**	**+0.5**
GLB	**Gilahina Butte**	**4.06**	**68**	P	**P**	**13 32 08.8**	**-0.9**
PAX	**Paxson**	**4.08**	**44**	P	**P**	**13 32 10.3**	**+0.3**
THY	**Trims Highway**	**4.30**	**38**	P	**P**	**13 32 13.9**	**+1.0**
DDM	**Donnelly Dome**	**4.54**	**35**	P	**P**	**13 32 16.5**	**+0.1**
BALM	**Baldy**	**4.68**	**75**	P	**P**	**13 32 17.2**	**-1.1**
MENT	**Mentasta**	**4.71**	**51**	P	**P**	**13 32 18.0**	**-0.6**
HDA	**Harding Lake**	**4.78**	**25**	P	**P**	**13 32 19.9**	**+0.3**
CCB	**Clear Creek Bu**	**4.83**	**20**	P	**P**	**13 32 20.3**	**-0.1**
YAH	**Yahtse**	**4.95**	**84**	P	**P**	**13 32 22.1**	**0.0**
DOT	**Dot Lake**	**5.01**	**43**	P	**P**	**13 32 22.7**	**-0.1**
COLA	**College**	**5.04**	**19**	P	**P**	**13 32 22.7**	**-0.4**
MDM	**Murphy Dome**	**5.06**	**17**	P	**P**	**13 32 22.6**	**-0.8**
IL1	**Eielson Array**	**5.12**	**24**	P	**P**	**13 32 24.0**	**-0.3**
ILAR	**Eielson Array**	**5.12**	**24**	P	**P**	**13 32 24.1**	**-0.2**
	5.0nm,0.3s,baz=203,slow=15,SNR=211						
ILAR				S	**S**	**13 33 20.2**	**-2.4**
	1.3nm,0.3s,baz=205,slow=24,SNR=8.0						
CTGM	**Chitina Glacie**	**5.17**	**77**	P	**P**	**13 32 25.9**	**+1.0**
GLM	**Gilmore Dome**	**5.22**	**20**	P	**P**	**13 32 25.7**	**+0.1**
BCA3	**Beaver Creek A**	**5.54**	**54**	P	**P**	**13 32 29.4**	**-0.6**
IM01	**Indian Mountai**	**5.91**	**352**	P	**P**	**13 32 34.0**	**-1.1**
PNL	**Peninsula**	**6.20**	**89**	P	**P**	**13 32 37.6**	**-1.5**
DAWY	**Dawson**	**6.95**	**51**	P	**P**	**13 32 49.0**	**-0.7**
COLD	**Coldfoot**	**7.11**	**5**	P	**P**	**13 32 51.3**	**-0.5**
BM3	**Burnt Mountain**	**7.91**	**20**	P	**P**	**13 33 01.4**	**-1.3**
DLBC	**Dease Lake**	**11.19**	**90**	P	**P**	**13 33 48.1**	**+1.1**
	0.1nm,0.3s,baz=79,slow=8.7,SNR=5.4						
DLBC				S	**S**	**13 35 49.4**	**-1.4**
	0.1nm,0.3s,baz=202,slow=23,SNR=3.9						
DLBC	**Dease Lake**	**11.19**	**90**	P	**P**	**13 33 48.1**	**+1.1**
DLBC				S	**S**	**13 35 49.4**	**-1.4**
INK	**Inuvik**	**11.30**	**36**	P	**P**	**13 33 48.6**	**+0.2**
	0.2nm,0.3s,baz=240,slow=14,SNR=13						
BBB	**Bella Bella**	**15.30**	**111**	P	**P**	**13 34 43.5**	**+3.0**
	0.1nm,0.3s,baz=90,slow=20,SNR=3.3						
BBB				S	**S**	**13 37 35.0**	**+7.2**
	0.1nm,0.3s,baz=49,slow=4.6,SNR=2.0						
YKA	**Yellowknife Ar**	**17.78**	**66**	P	**P**	**13 35 12.4**	**+1.0**
	0.1nm,0.3s,baz=280,slow=12,SNR=3.8						
SONM	**Songino Array**	**55.22**	**307**	P	**P**	**13 40 35.3**	**+0.9**
	0.4nm,0.7s,mb3.5,baz=30,slow=8.2,SNR=5.4						

IDC 14 14:25:12.4±11.0**, 7.64N**×**94.75E, h98**km±91km**, mb3.6**/6**, mb1 3.7**/7**, mb1mx3.5**/16**, mbtmp3.8**/7**, ML3.5**/1**, Error ellipse: s-maj=107.5km s-min=17.5km az=58.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.50**	**20**	P	P	14 27 53.2	-1.4
	0.1nm,0.3s,baz=215,slow=14,SNR=3.2						
SONM	**Songino Array**	**41.26**	**12**	P	P	14 32 47.4	-1.9
	0.7nm,0.8s,baz=190,slow=8.8,SNR=3.0						
ZAL	**Zalesovo**	**46.86**	**352**	P	P	14 33 33.2	-1.0
	1.3nm,0.4s,baz=304,slow=6.0,SNR=4.9						
WRA	**Warramunga Arr**	**47.63**	**126**	P	P	14 33 39.0	-1.8
	0.8nm,0.5s,baz=304,slow=8.7,SNR=14						
ASAR	**Alice Springs**	**49.30**	**130**	P	P	14 33 51.6	-2.0
	1.0nm,0.6s,baz=301,slow=7.2,SNR=22						
FINES	**FINESS Array B**	**73.20**	**332**	P	P	14 36 32.3	-1.8
	1.2nm,0.7s,baz=108,slow=6.0,SNR=6.8						
ARCES	**ARCESS Array B**	**75.69**	**340**	P	P	14 36 46.5	-1.8
	1.0nm,0.8s,baz=108,slow=5.7,SNR=3.2						

IDC 14 14:33:15.3±2.0**, 4.36S**×**151.64E, mb3.4**/3**, mb1 3.8**/4**, mb1mx3.6**/14**, mbtmp3.6**/4**, ML2.3**/1**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.6**/11**, Error ellipse: s-maj=149.3km s-min=25.7km az=126.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.70**	**221**	Pn	Pn	14 34 55.1	-2.3
	0.3nm,0.3s,baz=218,slow=4.1,SNR=3.5						
PMG				Sn	Sn	14 36 06.8	-8.7
	1.1nm,0.3s,baz=159,slow=21,SNR=4.2						
WRA	**Warramunga Arr**	**22.89**	**226**	P	P	14 38 22.4	+0.3
	0.4nm,0.6s,baz=51,slow=10.0,SNR=5.3						
ASAR	**Alice Springs**	**25.72**	**220**	P	P	14 38 46.4	-2.8
	0.4nm,0.7s,baz=56,slow=9.2,SNR=7.9						
URZ	**Urewera**	**40.95**	**149**	LR	LR	14 53 23.0	
	comp=Z,60nm,21.3s,baz=145,slow=30						
ILAR	**Eielson Array**	**82.19**	**22**	P	P	14 45 38.2	-1.1
	0.3nm,0.7s,baz=238,slow=5.2,SNR=7.3						

JMA 14 15:06:05.8±0.3**, 44.06N**×**148.07E, M3.5, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**248**	P	Pn	15 06 38.7	0.0
NEM2				*e*S	Sn	15 07 02.6	-0.2
JRA	**Rausu**	**2.13**	**268**	P	Pn	15 06 43.1	0.0
JRA				*e*S	Sn	15 07 11.6	+1.0
JNK	**Nakash**	**2.47**	**260**	P	Pn	15 06 48.2	+0.2
JNK				*e*S	Sn	15 07 18.9	-0.4
JAK	**Akkeshi**	**2.67**	**248**	P	Pn	15 06 50.8	0.0
JAK				*e*S	Sn	15 07 24.3	-0.1
JTKR	**Abashiri--Toko**	**3.00**	**270**	P	Pn	15 06 56.7	+1.1
JAR	**Ashorobuto**	**3.21**	**258**	P	Pn	15 06 59.3	+0.8
JAR				*e*S	Sn	15 07 39.4	+1.3
JCH	**Churui**	**3.73**	**249**	P	Pn	15 07 05.4	-0.4
JCH				*e*S	Sn	15 07 50.5	-0.6
JNBK	**Urakawa-nobuka**	**4.28**	**247**	P	Pn	15 07 13.9	+0.3
JKB	**Kayabe**	**5.60**	**250**	P	Pn	15 07 31.8	-0.6
JKB				*e*S	Sn	15 08 36.0	-2.4
JOT	**Ohata**	**5.82**	**245**	P	Pn	15 07 34.6	-0.9
JOT				*e*S	Sn	15 08 40.2	-3.8

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*MOS **14** 15:37:00.3±1.0, 8.52S×112.80E, h131km, mb5.0/26, Error ellipse: s-maj=9.3km s-min=6.1km az=120.2*
*IDC **14** 15:37:00.7±0.7, 8.56S×112.77E, h117km±6km, mb4.9/22, mb1 4.9/22, mb1mx4.9/23, mbtmp5.2/22, MS3.9/7, Ms1 3.9/7, ms1mx3.6/19, Error ellipse: s-maj=15.6km s-min=8.7km az=55.0*
*BJI **14** 15:37:00.0, 8.60S×112.70E, h120km, mB5.1, mb5.4*
*NEIC **14** 15:37:01.0±0.1, 8.62S×112.72E, mb5.2/45, Error ellipse: s-maj=5.5km s-min=4.1km az=224.0*
NEIC Felt [III] at Malang, Sawahan and Tretes.
*HRVD **14** 15:37:01.0±0.4, 8.87S×112.76E, h133km±2km, MW5.0/51, Centroid moment Tensor Solution. LP body waves: s29,c35;Mantle waves: s51,c87; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.31±.13; $M_{\theta\theta}$4.29±.15; $M_{\phi\phi}$-0.97±.18; $M_{r\theta}$0.25±.15; $M_{\theta\phi}$-0.88±.14; $M_{\phi r}$0.52±.15; Best double couple: $M_0$3.94×10^{16} NP1:ϕ_s112°,δ45°,λ-71°. NP2:ϕ_s266°,δ48°,λ-108°. Principal axes: T 4.436, Plg1°, Azm9°; N -.989, Plg13°, Azm279°; P -3.445, Plg77°, Azm104°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **14** 15:37:01.3±0.2, 8.52S×112.67E, h100km, mb5.6/2 Error ellipse: s-maj=12.5km s-min=3.9km az=6.0*
ISC 14 15:37:00.4±0.5**, 8.59S**±0.03×**112.74E**±0.03**, h132**km±4km**, h125**km±2.1km**:pP-P, n298, σ1ˢ04**/239**, mb5.1**/83**, 23C-38D, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRT	**Tretes**	**0.89**	**353**	*e*P	**P**	**15 37 21.5**	**-1.0**
SRDI	**Scrawed**	**1.39**	**85**	⇓*i*P	**P**	**15 37 27.9**	**+0.1**
KELI	**Kelakatan**	**1.77**	**78**	⇑*e*P	**P**	**15 37 33.1**	**+1.0**
RATI	**Rata**	**2.76**	**93**	⇑*i*P	**P**	**15 37 44.8**	**+0.1**
KEDI	**Kedomdong**	**3.34**	**88**	⇑*i*P	**P**	**15 37 51.4**	**-0.9**
PACI	**Pancar Gunung**	**6.11**	**289**	⇓*i*P	**P**	**15 38 29.8**	**+0.3**
PACI				⇓*i*S	**S**	**15 39 37.9**	**-0.7**
PULI	**Pulasari**	**7.07**	**288**	⇑*i*P	**P**	**15 38 42.6**	**+0.1**
	703nm,0.2s						
PENI	**Pendagan**	**8.09**	**291**	⇓*i*P	**P**	**15 38 57.2**	**+1.0**
PENI				pmax	pmax		
	comp=Z,139nm,0.6s						
PENI	**Pendagan**	**8.09**	**291**	⇓*i*P	**P**	**15 38 57.2**	**+1.0**
	comp=Z,279nm,0.6s						
NINI	**Niniconang**	**8.11**	**60**	*e*P	**P**	**15 38 59.5**	**+3.1**
TANI	**Tanete Lipujan**	**8.36**	**53**	*e*P	**P**	**15 39 01.6**	**+1.8**
BUNI	**Buntu Taipa**	**8.99**	**57**	*e*P	**P**	**15 39 11.9**	**+3.7**
KSM	**Kuching**	**10.29**	**346**	*e*Pn	**P**	**15 39 29.0**	**+3.5**
MBWA	**Marble Bar**	**14.20**	**152**	*e*Pn	**P**	**15 40 11.3**	**-5.3**
	comp=Z,124nm,0.6s						
MBWA				*e*Sn	**S**	**15 42 33.4**	**-18**
KKM	**Kota Kinabalu**	**14.95**	**14**	*e*Pn	**P**	**15 40 27.9**	**+1.7**
FITZ	**Fitzroy Crossi**	**15.70**	**128**	*e*P	**P**	**15 40 34.9**	**-0.7**
	comp=Z,87nm,0.9s						
FITZ				*e*S	**S**	**15 43 16.1**	**-9.3**
KULM	**Kulim**	**18.32**	**318**	P	**P**	**15 41 06.3**	**-0.8**
KAKA	**Kakadu**	**19.78**	**104**	⇓*i*P	**P**	**15 41 20.8**	**-1.8**
	comp=Z,47nm,0.4s						
KAKA				*i*		15 41 25.6	
KAKA				*e*S	**S**	**15 44 57.9**	**+4.8**
KLBR	**Kellerberrin**	**23.35**	**169**	*e*P	**P**	**15 41 57.0**	**-0.8**
	comp=Z,497nm,1.2s,mb5.8						
KLBR				*e*		15 42 14.6	
KLBR				*e*S	**S**	**15 46 12.1**	**+15**
MUN	**Mundaring**	**23.49**	**173**	*e*P	**P**	**15 41 58.7**	**-0.4**
	comp=Z,10nm,0.8s,mb4.3						
MUN				*e*		15 42 16.9	
MUN				*e*S	S	15 46 21.0	+21
MUN	**Mundaring**	**23.49**	**173**	*e*P	**P**	**15 41 58.7**	**-0.4**
MUN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**23.74**	**121**	P	**P**	**15 42 01.9**	**+0.2**
	comp=Z,160nm,0.7s,mb5.7,baz=294,slow=12,SNR=794						
WRA				PcP	PcP	15 45 43.0	-0.4
	comp=Z,9.8nm,0.8s,baz=298,slow=2.3,SNR=6.2						
WRA				Sn	S	15 46 28.2	+24
	comp=Z,8.3nm,0.6s,baz=284,slow=25,SNR=5.9						
WRAB	**Tennant Creek**	**23.75**	**121**	P	**P**	**15 42 01.0**	**-0.7**
	comp=Z,2µm,0.7s,SNR=36						
WRAB	**Tennant Creek**	**23.75**	**121**	*e*P	**P**	**15 42 02.1**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,237nm,0.7s,mb5.8						
WRAB	**Tennant Creek**	**23.75**	**121**	*e*P	**P**	**15 42 02.1**	**+0.4**
	comp=Z,238nm,0.7s,mb5.8						
WB2	**Warramunga Arr**	**23.75**	**121**	⇓*i*P	**P**	**15 42 01.7**	**-0.1**
WB2				*e*S	S	15 46 27.7	+23
NWAO	**Narrogin (SRO)**	**24.57**	**171**	*e*P	**P**	**15 42 08.4**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**24.57**	**171**	P	**P**	**15 42 08.5**	**-0.9**
	comp=Z,13nm,0.6s,mb4.7,baz=348,slow=7.4,SNR=15						
NWAO				Sn	S	15 46 42.4	+24
	comp=Z,12nm,0.5s,baz=20,slow=19,SNR=3.5						
NWAO	**Narrogin (SRO)**	**24.57**	**171**	*e*P	**P**	**15 42 08.4**	**-1.0**
	comp=Z,7.9nm,0.5s,mb4.5						
NNT	**Nongplab**	**24.70**	**328**	P	**P**	**15 42 12.7**	**+1.9**
ASPA	**Alice Springs**	**25.20**	**129**	⇓*i*P	**P**	**15 42 15.2**	**-0.3**
ASPA				*e*S	S	15 46 57.6	+29
ASAR	**Alice Springs**	**25.20**	**129**	P	**P**	**15 42 15.2**	**-0.3**
	comp=Z,79nm,0.6s,mb5.4,baz=303,slow=8.7,SNR=1295						
ASAR				pP	pP	15 42 41.3	-1.7
	comp=Z,26nm,0.8s,baz=300,slow=10,SNR=3.4						
ASAR				PcP	PcP	15 45 46.5	+0.1
	comp=Z,13nm,0.8s,baz=327,slow=1.9,SNR=12						
ASAR				Sn	S	15 47 03.5	+35
	comp=Z,20nm,0.8s,baz=307,slow=24,SNR=13						
FORT	**Forrest**	**26.30**	**149**	*e*P	**P**	**15 42 24.7**	**-0.9**
	comp=Z,2µm,0.6s						
FORT				*e*	pP	15 42 53.3	0.0
KKTK	**Khon Kaen**	**26.64**	**338**	P	**P**	**15 42 29.5**	**+0.6**
NST	**Nakhon Sawan**	**27.15**	**333**	⇓P	**P**	**15 42 34.0**	**+0.5**
	comp=Z,83nm,0.6s,mb5.5						
BDT	**Bhumibol Dam**	**29.04**	**332**	P	**P**	**15 42 51.0**	**+0.5**
	comp=Z,38nm,0.6s,mb5.3						
NANT	**Nan**	**29.70**	**336**	⇑P	**P**	**15 42 50.0**	**-6.3**
	comp=Z,262nm,0.8s,mb6.0						
CM31	**Chiang Mai Arr**	**30.13**	**333**	*e*P	**P**	**15 43 00.6**	**+0.4**
	comp=Z,102nm,0.9s,mb5.5						
CM31				*e*PcP	PcP	15 45 58.9	+0.5
CMAR	**Chiang Mai Arr**	**30.13**	**333**	P	**P**	**15 43 00.5**	**+0.3**
	comp=Z,73nm,0.8s,mb5.5,baz=165,slow=8.6,SNR=379						
CMAR				PcP	PcP	15 45 58.6	+0.2
	comp=Z,7.0nm,0.7s,baz=196,slow=2.5,SNR=8.0						
CMAR				ScP		15 49 29.6	
	comp=Z,8.0nm,1.0s,baz=178,slow=2.7,SNR=19						
CMAR				PKiKP		15 53 29.6	
	comp=Z,0.9nm,0.8s,baz=279,slow=1.5,SNR=5.3						
CMAR				LR	LR	15 56 09.6	
	comp=Z,105nm,18.8s,baz=170,slow=38						
PMG	**Port Moresby**	**34.00**	**94**	⇑*i*P	**P**	**15 43 33.1**	**-0.6**
PMG	**Port Moresby**	**34.00**	**94**	P	**P**	**15 43 33.5**	**-0.2**
	comp=Z,14nm,0.6s,mb4.9,baz=229,slow=2.4,SNR=12						
PMG	**Port Moresby**	**34.00**	**94**	*e*P	**P**	**15 43 32.9**	**-0.8**
	comp=Z,23nm,0.8s,mb5.0						
CTA	**Charters Tower**	**34.34**	**113**	⇓*i*P	**P**	**15 43 37.2**	**+0.6**
	comp=Z,37nm,0.7s,mb5.2						
CTA	**Charters Tower**	**34.34**	**113**	⇓*i*P	**P**	**15 43 37.2**	**+0.6**
CTA				pmax	pmax		
	comp=Z,37nm,0.7s						
CTA	**Charters Tower**	**34.34**	**113**	P	**P**	**15 43 37.2**	**+0.6**
	comp=Z,49nm,0.7s,mb5.3,baz=281,slow=11,SNR=45						
CTAO	**Charters Tower**	**34.34**	**113**	*e*P	**P**	**15 43 37.2**	**+0.6**
CTAO				pmax	pmax		
	comp=Z,59nm,0.9s,mb5.3						
CTAO	**Charters Tower**	**34.34**	**113**	*e*P	**P**	**15 43 37.2**	**+0.5**
	comp=Z,59nm,0.9s,mb5.3						
KMI	**Kunming**	**34.90**	**344**	P	**P**	**15 43 43.8**	**+2.5**
KMI				S	**S**	**15 49 08.5**	**+6.5**
KMI				AMB	AMB		
	comp=Z,33nm,1.1s,mb4.9						
KMI				AMB	AMB		

comp=Z,156nm,5.1s
KMI LR LR
comp=N,173nm,18.7s
KMI LR LR
comp=E,191nm,18.7s
KMI LR LR
comp=Z,158nm,17.3s
KMI Kunming 34.90 344 P **P** **15 43 43.8 +2.5**
comp=Z,33nm,1.1s,mb4.9
KMI sP sP 15 44 42.5 +17
KMI S **S** **15 49 08.5 +6.5**
KMI sS 15 50 14.2
KMI LR LR
comp=Z,160nm,17.3s
GYA Guiyang 35.34 351⇑ *i*P **P** **15 43 46.6 +1.6**
GYA AP pP 15 44 15.5 +1.3
GYA XP sP 15 44 29.6 0.0
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,140nm,4.8s
STKA Stephens Creek 35.42 135 P **P** **15 43 46.0 +0.3**
comp=Z,175nm,0.6s,mb5.9,baz=308,slow=8.8,SNR=464
STKA PcP PcP 15 46 12.9 0.0
comp=Z,34nm,0.6s,baz=340,slow=3.1,SNR=6.7
STKA LR LR 16 00 04.5
comp=Z,148nm,19.3s,baz=104,slow=39
STKA Stephens Creek 35.42 135⇓ *i*P **P** **15 43 45.8 +0.1**
STKA *e*PcP PcP 15 46 12.6 -0.3
JOW Kunigami 38.30 23 P **P** **15 44 09.9 +0.1**
comp=Z,30nm,0.6s,mb5.1,baz=205,slow=8.8,SNR=15
ENH Enshi 38.77 356 *e*P **P** **15 44 13.6 -0.1**
comp=Z,51nm,0.6s,mb5.3
WHN Wuhan 38.94 2⇓ P **P** **15 44 16.8 +1.7**
SSE Sheshan 40.28 11 P **P** **15 44 28.0 +1.8**
SSE S **S** **15 50 23.3 -0.1**
SSE AMB AMB
comp=Z,64nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,81nm,4.5s
SSE LR LR
comp=N,51nm,20.0s
SSE LR LR
comp=E,29nm,20.0s
SSE LR LR
comp=Z,126nm,21.9s
SSE Sheshan 40.28 11 P **P** **15 44 28.0 +1.8**
comp=Z,64nm,0.7s,mb5.4
SSE S **S** **15 50 23.2 -0.2**
SSE sS 15 50 39.2
SSE LR LR
comp=Z,130nm,21.9s
NJ2 Nanjing 40.84 8 *e*P **P** **15 44 32.3 +1.6**
NJ2 AP pP 15 45 01.3 +0.9
NJ2 XP sP 15 45 15.1 -0.8
NJ2 PP PP 15 46 10.3 +0.7
NJ2 S **S** **15 50 38.0 +6.4**
NJ2 AMB AMB
comp=Z,210nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,830nm,4.6s
NJ2 LR LR
comp=N,350nm,22.6s
NJ2 LR LR
comp=E,320nm,19.5s
NJ2 LR LR
comp=Z,510nm,14.6s
TOO Toolangi 41.32 139 *e*P **P** **15 44 36.3 +1.7**
comp=Z,1.3nm,1.0s
TOO *e* 15 46 32.1
TOO Toolangi 41.32 139 *e*P **P** **15 44 36.3 +1.7**
TOO *e* 15 46 32.1
TOO pmax pmax
comp=Z,1.0nm,1.0s
ARMA Armidale 42.29 126⇓ *i*P **P** **15 44 44.9 +2.2**
HYB Hyderabad 42.54 307 *e*P **P** **15 44 43.5 -1.4**
HYB pmax pmax
comp=Z,46nm,0.8s,mb5.2
HYB Hyderabad 42.54 307 *e*P **P** **15 44 43.5 -1.4**
comp=Z,46nm,0.8s,mb5.2
HYB Hyderabad 42.54 307 *i* P **P** **15 44 43.5 -1.4**
comp=Z,46nm,0.8s,mb5.2
XAN Xi'an 42.55 355 P **P** **15 44 45.0 +0.2**
XAN AMB AMB
comp=Z,56nm,0.8s,mb5.2
LSA Lhasa 43.37 332 P **P** **15 44 53.3 +1.8**
LSA Lhasa 43.37 332⇑ *i*P **P** **15 44 53.0 +1.5**
LSA pmax pmax
comp=Z,53nm,0.9s,mb5.2
LSA Lhasa 43.37 332⇑ *i*P **P** **15 44 53.0 +1.5**
comp=Z,53nm,0.9s,mb5.2
JIRN Jiri 44.27 325 *e*P **P** **15 44 58.6 -0.1**
comp=Z,232nm,0.6s,mb6.0
PKI Pulchoki 44.64 325 *e*P **P** **15 45 01.1 -0.6**
comp=Z,55nm,0.7s,mb5.3
DMN Daman 44.84 324 *e*P **P** **15 45 02.8 -0.5**
comp=Z,160nm,0.6s,mb5.8
KKN Kakani 44.88 325 *e*P **P** **15 45 03.0 -0.6**
comp=Z,60nm,0.6s,mb5.4
LZH Lanzhou 45.22 350⇑ P **P** **15 45 07.8 +1.6**
LZH AP pP 15 45 35.1 -1.1
LZH XP sP 15 45 51.9 +0.5
LZH PCP PcP 15 46 45.1 +0.6
LZH SCP 15 50 26.1
LZH PCS 15 50 36.3
LZH S **S** **15 51 39.1 +3.8**
LZH XS 15 52 28.3
LZH SS SS 15 54 58.1 +5.0
LZH AMB AMB
comp=Z,130nm,1.2s,mb5.4
LZH AMB AMB
comp=Z,382nm,4.0s
LZH Lanzhou 45.22 350⇑ P **P** **15 45 07.7 +1.5**
LZH *PP pP 15 45 35.1 -1.1
LZH *SP sP 15 45 51.9 +0.5
LZH 15 46 45.1
LZH S **S** **15 51 39.1 +3.8**
LZH *SS 15 52 28.2
LZH SS SS 15 54 58.1 +5.0
LZH pmax pmax
comp=Z,130nm,1.2s,mb5.4
LZH Lanzhou 45.22 350⇑ P **P** **15 45 07.7 +1.5**
comp=Z,130nm,1.2s,mb5.4
LZH pP pP 15 45 35.1 -1.1
LZH sP sP 15 45 51.9 +0.5
LZH PcP PcP 15 46 45.1 +0.6
LZH ScP 15 50 26.1
LZH PcS 15 50 36.3
LZH S **S** **15 51 39.1 +3.8**
LZH sS 15 52 28.2
LZH SS SS 15 54 58.1 +5.0
GKN Gorkha 45.41 324 *e*P **P** **15 45 07.1 -0.7**
comp=Z,63nm,0.3s,mb5.7
KOLN Koldanda 45.85 323 *e*P **P** **15 45 10.4 -0.8**
comp=Z,114nm,0.6s,mb5.7
HNR Honiara 46.60 95⇓ *i*P **P** **15 45 17.0 -0.4**
HNR pmax pmax
comp=Z,212nm,0.8s,mb5.8
HNR Honiara 46.60 95⇓ *i*P **P** **15 45 17.0 -0.3**
comp=Z,212nm,0.8s,mb5.8
BJT Baijiatuau 48.47 4⇑ *i*P **P** **15 45 31.6 0.0**
BJT pmax pmax
comp=Z,53nm,0.6s
BJT Baijiatuau 48.47 4⇑ *i*P **P** **15 45 31.6 0.0**
comp=Z,52nm,0.6s,mb5.3
BJI Beijing 48.49 4 P **P** **15 45 31.8 +0.1**
BJI XP sP 15 46 13.3 -3.5
BJI PCP PcP 15 46 55.9 -0.2
BJI SCP 15 50 39.3
BJI S **S** **15 52 21.6 +0.2**
BJI XS 15 53 14.3
BJI AMB AMB
comp=Z,67nm,0.6s,mb5.5
BJI AMB AMB
comp=Z,87nm,2.6s,mb4.9
BJI Beijing 48.49 4 P **P** **15 45 31.7 0.0**
BJI *SP sP 15 46 13.2 -3.6
BJI 15 46 55.9
BJI S **S** **15 52 21.6 +0.2**
BJI *SS 15 53 14.2
BJI pmax pmax
comp=Z,67nm,0.6s,mb5.5
BJI Beijing 48.49 4 P **P** **15 45 31.7 0.0**
comp=Z,67nm,0.6s,mb5.5
BJI sP sP 15 46 13.2 -3.6
BJI PcP PcP 15 46 55.9 -0.2
BJI ScP 15 50 39.3
BJI S **S** **15 52 21.6 +0.2**
BJI sS 15 53 14.2
BJI SS SS 15 54 00.1 +11
BTO Baotou 49.02 357 *e*P **P** **15 45 35.9 +0.1**
BTO AMB AMB
comp=Z,89nm,0.7s,mb5.5
HHC Hu-ho-hao-te 49.21 359 *e*P **P** **15 45 37.6 +0.4**
HHC AP pP 15 46 09.6 +1.9
HHC XP sP 15 46 20.3 -2.0
HHC PP PP 15 47 34.0 +2.1
HHC S **S** **15 52 32.0 +0.6**
HHC SCS ScS 15 55 11.4 -1.1
HHC SS SS 15 56 05.0 +4.1
HHC AMB AMB
comp=Z,40nm,0.7s,mb5.2
HHC AMB AMB
comp=Z,90nm,7.4s
GTA Gaotai 49.24 347⇑ P **P** **15 45 38.8 +1.3**
GTA AP pP 15 46 07.0 -1.0
GTA XP sP 15 46 22.3 -0.3
GTA PCP PcP 15 46 59.8 +1.0
GTA PP PP 15 47 34.5 +1.7
GTA PPP PPP 15 48 32.3 +1.5
GTA SCP 15 50 43.0
GTA PCS 15 50 54.3
GTA S **S** **15 52 34.8 +2.9**
GTA XS 15 53 22.8
GTA SCS ScS 15 55 14.8 +2.0
GTA SS SS 15 55 59.8 -1.7
GTA AMB AMB
comp=Z,30nm,0.8s,mb5.0
GTA AMB AMB
comp=Z,107nm,4.6s
GTA LR LR
comp=N,89nm,12.9s
GTA LR LR
comp=E,144nm,18.6s
GTA LR LR
comp=Z,159nm,16.3s
MAJO Matsushiro 50.87 27 *e*P **P** **15 45 47.9 -2.1**
MAJO pmax pmax
comp=Z,21nm,0.8s,mb4.8
MAJO Matsushiro 50.87 27 *e*P **P** **15 45 47.9 -2.0**
comp=Z,21nm,0.8s,mb4.8
MAT Matsushiro 50.87 27 *e*P **P** **15 45 48.0 -2.0**
MAT pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
MAT Matsushiro 50.87 27 *e*P **P** **15 45 48.0 -2.0**
comp=Z,10.0nm,0.6s,mb4.6
MAT Matsushiro 50.87 27 P **P** **15 45 47.9 -2.1**
SNY Shenyang 51.15 10⇓ P **P** **15 45 50.8 -1.2**
SNY AMB AMB
comp=Z,30nm,0.8s,mb5.0
DZM Mont Dzumac 53.24 111 *e*P **P** **15 46 08.3 +0.5**
CN2 Changchun 53.41 11 *e*P **P** **15 46 06.6 -2.2**
CN2 *e*AP pP 15 46 36.1 -3.6
CN2 *e*XP sP 15 46 52.0 -2.1
CN2 PCP PcP 15 47 11.8 -2.4
CN2 PPP PPP 15 49 22.0 -0.7
CN2 *e*S **S** **15 53 30.6 +1.7**
CN2 SS SS 15 57 10.6 +0.3
CN2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,400nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,300nm,17.0s
MDJ Mudanjiang 55.11 15 P **P** **15 46 20.1 -1.1**
MDJ AP pP 15 46 48.8 -3.4
MDJ XP sP 15 47 02.0 -4.8
MDJ SCP 15 51 03.9
MDJ PCS 15 51 16.8
MDJ S **S** **15 53 57.4 +5.8**
MDJ SCS ScS 15 55 57.1 +3.7
MDJ AMB AMB
comp=Z,20nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,45nm,5.1s
MDJ LR LR
comp=N,43nm,31.6s
MDJ LR LR
comp=E,42nm,28.4s
MDJ LR LR
comp=Z,55nm,29.2s
MDJ Mudanjiang 55.11 15 *e*P **P** **15 46 19.8 -1.4**
comp=Z,17nm,0.8s,mb4.8
ULN Ulaanbaatar 56.44 355⇓ *i*P **P** **15 46 30.1 -0.5**
ULN Ulaanbaatar 56.44 355 *e*P **P** **15 46 29.9 -0.8**
comp=Z,27nm,0.6s,mb5.3
SONM Songino Array 56.46 355 P **P** **15 46 30.3 -0.5**
comp=Z,27nm,0.6s,mb5.3,baz=175,slow=8.5,SNR=320
SONM PcP PcP 15 47 25.5 -0.3
comp=Z,4.7nm,0.8s,baz=166,slow=5.9,SNR=3.6
SONM ScP 15 51 13.2
comp=Z,4.3nm,0.8s,baz=164,slow=4.2,SNR=12
WMQ Urumqi 56.90 339⇑ *i*P **P** **15 46 33.8 -0.1**
WMQ AP pP 15 47 03.5 -1.7
WMQ XP sP 15 47 18.0 -1.7
WMQ PCP PcP 15 47 28.0 +0.4
WMQ PCS 15 51 27.0
WMQ S **S** **15 54 16.0 +0.6**
WMQ XS 15 55 08.0
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.7
WMQ AMB AMB
comp=Z,189nm,5.0s
WMQ LR LR
comp=N,386nm,25.8s
WMQ LR LR
comp=E,312nm,23.0s
WMQ LR LR
comp=Z,254nm,22.5s
HIA Hailar 57.94 5 *e*P **P** **15 46 39.7 -1.4**
HIA pmax pmax
comp=Z,5.0nm,0.8s
HIA Hailar 57.94 5 *e*P **P** **15 46 39.7 -1.4**
comp=Z,4.7nm,0.8s,mb4.4
KSH Kashi 58.75 327 *e*P **P** **15 46 47.3 +0.3**
KSH *e*AP pP 15 47 16.5 -1.9
KSH *e*XP sP 15 47 29.1 -3.8
KSH *e*PCP PcP 15 47 34.9 0.0
KSH *e*PP PP 15 48 59.1 -0.9
KSH *e*PPP PPP 15 50 25.4 +0.5
KSH *e*SCP 15 51 21.3
KSH *e*PCS 15 51 34.8
KSH *e*S **S** **15 54 39.8 +0.2**
KSH *e*XS 15 55 31.3
KSH *e*SCS ScS 15 56 20.1 +0.2
KSH *e*SS SS 15 58 34.0 -2.6
KSH AMB AMB
comp=Z,370nm,5.4s
KSH LR LR
comp=N,850nm,5.9s
KSH LR LR
comp=E,640nm,6.0s
ZAK Zakamensk 59.30 353⇓ *i*P **P** **15 46 49.9 -0.7**
ZAK *e* 15 47 36.3
ZAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
MSZ Milford Sound 59.55 137 PN **P** **15 46 52.9 +0.6**
MSZ Milford Sound 59.55 137 PN **P** **15 46 52.9 +0.6**
KLR Kul'dur 59.94 14 *e*P **P** **15 46 50.2 -4.8**
TLY Talaya 60.54 354 *e*P **P** **15 46 58.8 -0.2**
TLY *e* 15 55 06.4
TLY pmax pmax
comp=Z,16nm,1.1s,mb4.8
TLY MLR MLR
comp=Z,109nm,21.0s
TLY Talaya 60.54 354 *e*P **P** **15 46 58.8 -0.2**
comp=Z,14nm,1.0s,mb4.7
ULHL Ulahol 60.60 330 P **P** **15 46 58.5 -1.0**
SNR=6.2
MOY Mondy 60.87 352 *e*P **P** **15 47 01.3 +0.1**
MOY pmax pmax
comp=Z,17nm,1.6s,mb4.6
KZA Kyzart 60.98 329 P **P** **15 47 01.6 -0.6**
SNR=21
IRK Irkutsk 61.03 354 *e*P **P** **15 47 01.2 -1.1**
IRK *e* 15 47 43.5
IRK pmax pmax
comp=Z,28nm,1.0s,mb5.0
RPZ Rata Peaks 61.39 135 P **P** **15 47 04.6 -0.3**
comp=Z,81nm,0.8s,mb5.6
RPZ LR LR 16 16 11.3
comp=Z,121nm,18.5s,baz=7.9,slow=38
YSS Yuzh-Sakhalins 61.41 23*d* *i*P **P** **15 47 03.6 -1.4**
YSS *i* *PP pP 15 47 37.5 +0.8
YSS pmax pmax
comp=Z,33nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 61.41 23 *e*P **P** **15 47 03.8 -1.2**
comp=Z,35nm,1.0s,mb5.1
TKM2 Tokmak 2 61.42 330 P **P** **15 47 04.3 -0.8**
SNR=46
MKAR Makanchi Array 61.45 337 *i* P **P** **15 47 03.9 -1.3**
MKAR pmax pmax
comp=Z,8.0nm,0.5s
UCH Uchtor 61.47 328 P **P** **15 47 05.0 -0.4**
SNR=19
KBK Karagaybulak 61.56 329 P **P** **15 47 05.6 -0.4**
SNR=7.5
JMDO Jabal Madar 61.73 301 P **P** **15 47 06.2 -1.2**
SNR=8.3
AAK Ala-Archa 61.77 329 P **P** **15 47 05.7 -1.7**
comp=Z,71nm,0.6s,mb5.7,SNR=15
AAK Ala-Archa 61.77 329*d* *i*P **P** **15 47 05.6 -1.8**
AAK *i* *PP pP 15 47 40.4 +1.2
AAK pmax pmax
comp=Z,13nm,1.1s,mb4.7
AAK Ala-Archa 61.77 329 *e*P **P** **15 47 05.5 -2.0**
comp=Z,7.7nm,0.7s,mb4.6
AML Almayashu 61.83 328 P **P** **15 47 07.2 -0.7**
SNR=63
FRU Bishkek 61.85 329 *e*P **P** **15 47 08.0 0.0**
CHMS Chumysh 61.91 329 P **P** **15 47 06.9 -1.4**
SNR=5.5
SMDO Samad 62.05 302 P **P** **15 47 08.4 -1.2**
SNR=14
EKS2 Erkin-Say 62.16 328 P **P** **15 47 09.5 -0.5**
SNR=22
BIDO Bidbid 62.18 302 P **P** **15 47 09.5 -0.9**
SNR=7.3
BSY Bisya 62.65 301 P **P** **15 47 12.4 -1.1**
SNR=7.2
RBK Rabkut 63.37 294 P **P** **15 47 17.4 -0.9**
SNR=10.0
ARQ Araqi 63.45 301 P **P** **15 47 17.5 -1.3**
SNR=7.0
MRZ Mangatainoka R 63.91 131 PN **P** **15 47 21.0 -0.6**
MRZ Mangatainoka R 63.91 131 PN **P** **15 47 21.0 -0.6**
TSZ Takapari Road 64.08 130 PN **P** **15 47 22.3 -0.4**
TSZ Takapari Road 64.08 130 PN **P** **15 47 22.3 -0.4**
ABTO Aybut 64.14 294 P **P** **15 47 22.2 -1.2**
SNR=24
ASHO Ashiyiah 64.37 303 P **P** **15 47 24.1 -0.7**
SNR=5.3
URZ Urewera 64.64 128 P **P** **15 47 25.6 -0.8**
comp=Z,27nm,0.7s,mb5.2,baz=280,slow=2.6,SNR=16
URZ PcP PcP 15 47 57.7 -1.2
comp=Z,22nm,0.8s,baz=323,slow=4.3,SNR=4.7
URZ LR LR 16 17 10.7
comp=Z,74nm,19.4s,baz=1.4,slow=37
URZ Urewera 64.64 128 PN **P** **15 47 25.5 -0.9**
URZ pP pP 15 47 57.2 -1.2
URZ Urewera 64.64 128 PN **P** **15 47 25.5 -0.9**
URZ pP pP 15 47 57.2 -1.2
MWZ Matawai 64.98 128 PN **P** **15 47 28.0 -0.6**
MWZ Matawai 64.98 128 PN **P** **15 47 28.0 -0.6**
KURK Kurchatov 66.05 337 P **P** **15 47 34.2 -1.0**
comp=Z,80nm,0.6s,mb5.7,SNR=15
KURK Kurchatov 66.05 337*c* *i*P **P** **15 47 34.1 -1.1**
KURK Kurchatov 66.05 337 *e*P **P** **15 47 33.7 -1.6**
comp=Z,7.7nm,0.6s,mb4.7
BOD Bodaibo 66.19 1 *e*P **P** **15 47 35.1 -0.9**
BOD pmax pmax
comp=Z,13nm,1.0s,mb4.7
ZAL Zalesovo 66.62 342 P **P** **15 47 37.3 -1.5**
comp=Z,16nm,0.5s,mb5.2,baz=339,slow=4.1,SNR=85
ZAL LR LR 16 20 54.3
comp=Z,62nm,19.4s,baz=335,slow=40
MAW Mawson 67.58 198 P **P** **15 47 44.4 -0.2**
comp=Z,20nm,0.8s,mb4.9,baz=285,slow=18,SNR=7.5
NVS Novosibirsk 67.87 342 *i* P **P** **15 47 58.7 +12**
NVS *i* S S 15 56 29.7 -2.9
NVS pmax pmax
comp=Z,16nm,1.3s,mb4.6
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,15nm,1.4s
NVS smax
comp=N,31nm,2.1s
NVS smax
comp=E,35nm,1.5s
BVA0 Borovoye Array 71.15 335 P **P** **15 48 04.2 -2.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 71.15 335 P **P** **15 48 05.2 -1.2**
comp=Z,2.2nm,0.5s,mb4.2,baz=139,slow=8.2,SNR=23
CHKZ Chkalovo 71.52 335 *i* P **P** **15 48 07.4 -1.2**
CHKZ pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
CHKZ Chkalovo 71.52 335 *e*P **P** **15 48 07.6 -1.1**
comp=Z,8.8nm,0.8s,mb4.5
YAK Yakutsk 71.63 8 *e*P **P** **15 48 07.3 -1.9**
YAK pmax pmax
comp=Z,17nm,0.9s,mb4.8
YAK Yakutsk 71.63 8 *e*P **P** **15 48 07.8 -1.4**
comp=Z,29nm,0.8s,mb5.1
VNDA Vanda 73.40 170 *e*P **P** **15 48 19.1 -0.2**
VNDA pmax pmax
comp=Z,15nm,0.9s
VNDA Vanda 73.40 170 P **P** **15 48 19.4 +0.1**
comp=Z,14nm,0.8s,mb4.7,baz=312,slow=5.2,SNR=37
VNDA LR LR 16 16 00.3
comp=Z,173nm,18.1s,baz=334,slow=32
VNDA Vanda 73.40 170 *e*P **P** **15 48 19.1 -0.2**
comp=Z,15nm,0.9s,mb4.7
MA2 Magadan 74.41 19*de*P **P** **15 48 25.5 0.0**
MA2 *e*SP sP 15 49 11.8 -0.9
MA2 *e*PPP PPP 15 52 54.9 -5.7
MA2 *e*S S 15 57 44.7 -2.9
MA2 *e*SS 15 58 38.7
MA2 *e*SS SS 16 02 41.6 +2.7
MA2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
MA2 pmax pmax
comp=N,2.0nm,0.7s
MA2 pmax pmax
comp=E,1.0nm,0.8s
MA2 Magadan 74.41 19 *e*P **P** **15 48 25.1 -0.4**
comp=E,12nm,0.8s,mb4.7
SBA Scott Base 74.44 170 *e*P **P** **15 48 26.3 +0.9**
KMBO Kilima Mbogo 75.48 271 *i* P **P** **15 48 33.5 +1.0**
KMBO pmax pmax
comp=Z,10.0nm,0.9s
KMBO Kilima Mbogo 75.48 271 P **P** **15 48 33.5 +1.0**
comp=Z,10nm,0.9s,mb4.5,baz=60,slow=8.3,SNR=25
KMBO LR LR 16 18 50.9
comp=Z,50nm,18.4s,baz=89,slow=33
KMBO Kilima Mbogo 75.48 271 *e*P **P** **15 48 33.3 +0.8**
comp=Z,18nm,1.2s,mb4.6
SYO Syowa Base 76.01 201⇑ P **P** **15 48 34.1 -0.2**
GNI Garni 79.13 314*d* *i*P **P** **15 48 52.3 +0.2**
GNI pmax pmax
comp=Z,11nm,1.0s
GNI Garni 79.13 314 P **P** **15 48 52.7 +0.7**
comp=Z,2.1nm,0.4s,mb4.1,baz=251,slow=13,SNR=4.4
GNI Garni 79.13 314 *e*P **P** **15 48 52.5 +0.5**
comp=Z,11nm,0.8s,mb4.5
TI2 Plekhanov 79.69 315 *e*P **P** **15 48 55.8 +0.7**
TI2 *i* pP 15 49 25.8 -2.5
ZEI Tsey 80.65 316 *e*P **P** **15 49 00.8 +0.6**
ZEI *i* *PP pP 15 49 32.2 -1.3
ZEI pmax pmax
comp=Z,18nm,0.6s,mb4.9
TIXI Tiksi 80.79 5⇓ *i*P **P** **15 48 59.2 -1.1**
TIXI *e*S S 15 58 55.2 -0.5
QSPA South Pole Qui 81.40 180⇓ *i*P **P** **15 49 04.3 +0.9**
comp=Z,48nm,1.1s,mb5.0
KIV Kislovodsk 81.90 317⇑ *i*P **P** **15 49 06.9 +0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KIV				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.5						
MBAR	Mbarara	82.00	271	P	P	15 49 08.9	+1.1
	comp=Z,169nm,0.8s,mb5.7,SNR=21						
MBAR	Mbarara	82.00	271	eP	P	15 49 07.9	+0.1
	comp=Z,37nm,1.1s,mb4.9						
MBAR				epP	pP	15 49 38.5	-2.8
LSZ	Lusaka	82.56	256	⇓iP	P	15 49 11.4	+0.8
LSZ				e	pP	15 49 40.7	-3.4
LSZ				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.1						
LSZ	Lusaka	82.56	256	⇓iP	P	15 49 11.4	+0.8
	comp=Z,35nm,0.8s,mb5.1						
LSZ				e	pP	15 49 40.7	-3.3
ASF	Jabal al Asfar	82.73	304	P	P	15 49 12.6	+1.3
	comp=Z,21nm,0.9s,mb4.9,baz=6.9,slow=2.6,SNR=17						
ELZG	Elazig	82.82	311	i P	P	15 49 12.8	+1.3
MALT	Malatya	83.18	310	⇓iP	P	15 49 14.3	+0.9
MALT				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MALT	Malatya	83.18	310	⇓iP	P	15 49 14.3	+0.9
	comp=Z,9.9nm,0.8s,mb4.6						
GZT	Gaziantep	83.57	309	i P	P	15 49 16.5	+1.1
EIL	Elat	83.75	301	⇓iP	P	15 49 16.9	+0.5
	comp=Z,46nm,1.1s,mb5.1						
BOSA	Boshof	83.75	242	⇓iP	P	15 49 17.4	+0.9
BOSA				pmax	pmax		
	comp=Z,27nm,1.0s,mb4.9						
BOSA	Boshof	83.75	242	⇓iP	P	15 49 17.4	+0.9
	comp=Z,27nm,1.0s,mb4.9						
SOC	Sochi	83.81	316	eP	P	15 49 15.6	-0.8
SOC				e		15 52 28.6	
SOC				ePPP	PPP	15 54 22.8	-5.6
SOC				eS	S	15 59 25.7	-1.2
SOC				eSS	SS	16 04 54.2	-5.6
SOC				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=N,13nm,1.0s						
SOC				pmax	pmax		
	comp=E,16nm,1.0s						
LBTB	Lobatse	83.85	246	⇓iP	P	15 49 18.0	+0.9
LBTB				e*PP	pP	15 49 49.1	-1.5
LBTB				pmax	pmax		
	comp=Z,63nm,1.1s,mb5.3						
LBTB	Lobatse	83.85	246	⇓iP	P	15 49 18.0	+1.0
	comp=Z,63nm,1.1s,mb5.3						
LBTB				epP	pP	15 49 49.1	-1.5
KAHT	Ahir Dag	84.18	309	i P	P	15 49 19.6	+1.2
COBT	Iskenderun	84.36	308	i P	P	15 49 20.6	+1.2
BILL	Bilibino	85.21	18	i P	P	15 49 23.9	+1.1
AVNT	Avonos	86.01	310	i P	P	15 49 28.2	+0.8
MEST	Erdemli	86.03	308	i P	P	15 49 28.0	+0.5
CSS	Prodhromos	86.30	306	⇓iP	P	15 49 29.4	+0.5
	comp=Z,41nm,1.0s,mb5.1						
BOYT	Boyabat	86.62	313	i P	P	15 49 31.2	+0.9
SUR	Sutherland	87.08	238	eP	P	15 49 34.8	+2.0
	comp=Z,28nm,1.1s,mb5.0						
ELDT	Eldivan	87.49	311	i P	P	15 49 35.1	+0.6
BALT	Daday	87.76	312	i P	P	15 49 36.1	+0.3
SGKT	Sivrigoynuk	88.52	311	i P	P	15 49 39.8	+0.4
OBN	Obninsk	89.18	326	⇑iP	P	15 49 42.5	+0.4
OBN				i	pP	15 50 13.9	-2.2
OBN				pmax	pmax		
	comp=Z,55nm,1.6s,mb5.2						
ESKT	Eskisehir	89.21	310	i P	P	15 49 42.7	0.0
HENT	Hendek	89.44	311	i P	P	15 49 43.6	-0.1
SNAA	Sanae	89.67	197	⇓iP	P	15 49 45.5	+1.4
ULDT	Uludag	90.62	310	i P	P	15 49 49.5	+0.2
VNA2	Neumayer--Watz	91.32	197	⇑iP	P	15 49 55.6	+3.7
VNA2	Neumayer--Watz	91.32	197	⇑i	P	15 50 01.1	+9.2
VNA2	Neumayer--Watz	91.32	197		pP	15 50 24.8	-1.1
VNA1	Neumayer--Stat	91.71	197	⇑iP	P	15 49 57.5	+3.9
VNA3	Neumayer Olymp	91.78	196	⇓iP	P	15 49 57.3	+3.4
IDI	Anoyia	93.15	305	P	P	15 50 03.3	+2.2
	comp=Z,7.6nm,0.9s,mb4.8,baz=303,slow=17,SNR=2.3						
JOF	Joensuu	93.70	333	ep	P	15 50 01.8	-1.1
MLR	Muntele Rosu	93.82	315	P	P	15 50 04.2	+0.3
	comp=Z,3.7nm,0.8s,mb4.5,baz=174,slow=3.0,SNR=6.9						
KAF	Kangasniemi	95.86	332	ep	P	15 50 12.0	-0.7
FINES	FINESS Array B	95.89	331	P	P	15 50 12.8	-0.1
	comp=Z,2.1nm,0.7s,mb4.6,baz=72,slow=6.0,SNR=7.9						
FINES				PKiKP		15 54 51.4	
	comp=Z,0.6nm,0.6s,baz=135,slow=5.4,SNR=3.8						
FINES				PKKPbc		16 07 02.3	
	comp=Z,1.6nm,0.5s,SNR=9.6						
ARCES	ARCESS Array B	97.02	339	P	P	15 50 20.5	+2.6
	comp=Z,2.4nm,0.8s,mb4.5,baz=100,slow=5.5,SNR=3.6						
ARCES				PKiKP		15 54 53.6	
	comp=Z,2.3nm,1.0s,baz=117,slow=2.7,SNR=4.6						
ARCES				PKKPbc		16 06 58.2	
	comp=Z,0.6nm,0.4s,baz=266,slow=3.8,SNR=12						
ILAR	Eielson Array	102.15	26	PP	PP	15 54 58.1	+1.7
	comp=Z,0.7nm,1.1s,baz=225,slow=7.7,SNR=3.9						
ILAR				PKiKP		15 55 04.2	
	comp=Z,0.8nm,1.0s,baz=232,slow=4.7,SNR=5.2						
ILAR				PKKPbc		16 06 43.8	
	comp=Z,1.3nm,0.7s,baz=114,slow=1.7,SNR=18						
GERES	GERESS Array B	102.36	318	P	Pdif	15 50 43.2	+0.8
	comp=Z,0.2nm,0.3s,baz=90,slow=1.3,SNR=5.4						
GERES				PP	PP	15 54 55.0	-3.5
	comp=Z,0.2nm,0.5s,baz=101,slow=6.8,SNR=4.6						
GERES				PKKPbc		16 06 43.7	
	comp=Z,0.2nm,0.4s,baz=259,slow=5.0,SNR=3.7						
NOA	NORSAR Array B	103.05	331	Pdiff	Pdif	15 50 45.4	+0.3
	comp=Z,1.1nm,0.9s,baz=86,slow=4.4,SNR=2.7						
NOA				PKKPbc		16 06 41.4	
	comp=Z,0.9nm,0.7s,baz=232,slow=2.6,SNR=3.3						
NOA	NORSAR Array B	103.05	331	Pdif	Pdif	15 50 45.4	+0.3
NOA				PKKPbc		16 06 41.4	
ESDC	Sonseca Array	115.94	310	PKP	PKPdf	15 55 29.7	+1.8
	comp=Z,0.6nm,0.4s,baz=38,slow=3.5,SNR=4.8						
YKA	Yellowknife Ar	116.27	22	PKIKP	PKPdf	15 55 29.3	+1.4
YKA						15 56 00.8	
YKA						16 05 58.9	
YKA	Yellowknife Ar	116.27	22	PKP	PKPdf	15 55 29.2	+1.3
	comp=Z,5.0nm,0.6s,baz=315,slow=1.8,SNR=90						
YKA				pPKP		15 56 00.7	
	comp=Z,0.7nm,0.6s,baz=294,slow=2.0,SNR=2.3						
YKA				SKP		15 58 53.6	
	comp=Z,0.5nm,0.7s,baz=289,slow=1.8,SNR=6.7						
YKA				PKKPbc		16 05 58.8	
	comp=Z,0.5nm,0.6s,baz=120,slow=3.9,SNR=9.7						
DBIC	Dimbokro	118.18	273	ePKIKP	PKPdf	15 55 34.0	+1.3
DBIC	Dimbokro	118.18	273	PKP	PKPdf	15 55 34.2	+1.5
	comp=Z,4.5nm,0.5s,baz=88,slow=1.1,SNR=16						
HUMO	Hull Mountain	120.77	45	ePKPdf	PKPdf	15 55 39.9	+2.7
EDM	Edmonton	122.07	31	ePKPdf	PKPdf	15 55 41.2	+1.8
NEW	Newport	122.44	37	ePKPdf	PKPdf	15 55 42.7	+2.5
WVOR	Wild Horse Val	123.83	44	ePKPdf	PKPdf	15 55 45.9	+2.8
NVAR	Mina Array Bea	125.47	49	PKP	PKPdf	15 55 49.2	+2.9
	comp=Z,6.0nm,0.7s,baz=242,slow=0.4,SNR=27						
NVAR				pPKP		15 56 19.8	
	comp=Z,2.0nm,0.8s,baz=326,slow=1.5,SNR=2.3						
HLID	Hailey	126.21	41	ePKPdf	PKPdf	15 55 50.5	+2.9
HRY	Holter Researc	126.33	37	ePKPdf	PKPdf	15 55 49.8	+2.1
MCMT	McKenzie Canyo	126.64	39	ePKPdf	PKPdf	15 55 51.9	+3.5
BOZ	Bozeman (W)	126.99	38	ePKPdf	PKPdf	15 55 52.0	+2.9
QLMT	Earthquake Lak	127.52	39	ePKPdf	PKPdf	15 55 53.2	+3.1
YMR	Madison River	127.89	39	ePKPdf	PKPdf	15 55 54.3	+3.4
TPAW	Teton Pass	128.48	40	ePKPdf	PKPdf	15 55 55.0	+3.0
MOOW	Moose Ponds	128.48	40	ePKPdf	PKPdf	15 55 55.1	+3.1
SNOW	Snow King Moun	128.62	40	ePKPdf	PKPdf	15 55 54.9	+2.6
LOHW	Long Hollow	128.64	40	ePKPdf	PKPdf	15 55 55.0	+2.6
HWUT	Hardware Ranch	128.97	42	ePKPdf	PKPdf	15 55 56.0	+3.0
LAO	LASA Array	129.57	34	ePKPdf	PKPdf	15 55 57.3	+3.3
BW06	Boulder Array	129.72	40	ePKPdf	PKPdf	15 55 57.1	+2.7
PDAR	Pinedale Array	129.72	40	PKP	PKPdf	15 55 56.9	+2.4
	comp=Z,2.0nm,0.6s,baz=93,slow=0.8,SNR=14						
PDAR				pPKP		15 56 27.6	
	comp=Z,1.3nm,1.0s,baz=225,slow=2.1,SNR=2.8						
PDAR				SKPbc		15 59 06.3	
	comp=Z,2.4nm,0.8s,baz=204,slow=1.7,SNR=14						
MSU	Marysvale	129.90	46	ePKPdf	PKPdf	15 55 58.4	+3.5
TMUT	Trail Mountain	130.25	45	ePKPdf	PKPdf	15 55 59.1	+3.6
SRU	San Rafael	130.81	45	ePKPdf	PKPdf	15 55 59.0	+2.4
ULM	Lac du Bonnet	132.16	25	PKP	PKPdf	15 55 59.4	+0.6
	comp=Z,5.6nm,0.6s,baz=326,slow=3.8,SNR=16						
ULM				SKPbc		15 59 15.1	
	comp=Z,17nm,0.7s,baz=310,slow=4.7,SNR=38						
PV10	Paradox Valley	132.18	45	ePKPdf	PKPdf	15 56 02.3	+3.1
PV01	Paradox Valley	132.61	45	ePKPdf	PKPdf	15 56 03.3	+3.3
TRQA	Tornquist	133.33	186	ePKPdf	PKPdf	15 56 04.1	+2.7
ISCO	Idaho Springs	133.80	41	ePKPdf	PKPdf	15 56 04.4	+2.2
SCHQ	Schefferville	133.89	360	PKP	PKPdf	15 56 03.0	+1.2
	comp=Z,7.5nm,0.6s,baz=26,slow=2.5,SNR=25						
SCHQ				SKPbc		15 59 21.0	
	comp=Z,12nm,0.8s,baz=22,slow=2.3,SNR=19						
SCHQ	Schefferville	133.89	360	PKP	PKPdf	15 56 03.0	+1.2
SCHQ				SKPbc		15 59 21.0	
ANMO	Albuquerque	135.57	48	ePKPdf	PKPdf	15 56 09.0	+3.4
MNTX	Cornudas Mount	137.80	52	ePKPdf	PKPdf	15 56 13.3	+3.5
TXAR	Lajitas Array	140.11	54	PKhKP		15 56 07.8	
	comp=Z,3.1nm,0.7s,baz=233,slow=3.0,SNR=25						
TXAR				PKP	PKPdf	15 56 16.1	+2.0
	comp=Z,2.0nm,0.6s,baz=144,slow=0.6,SNR=8.2						
TXAR				SKPbc		15 59 41.1	
	comp=Z,1.7nm,0.8s,baz=297,slow=2.8,SNR=6.4						
SADO	Sadowa	142.51	14	SKPbc		15 59 46.2	
JCT	Junction City	142.62	50	ePKPpre		15 56 16.4	
CCM	Cathedral Cave	143.55	33	ePKPpre		15 56 18.4	
FVM	French Village	144.04	32	ePKPpre		15 56 19.9	
MIV	Mineville/With	144.23	8	ePKPdf	PKPdf	15 56 21.4	+0.7
NCB	Newcomb	144.24	9	ePKPdf	PKPdf	15 56 21.4	+0.6
MIAR	Mount Ida	144.64	39	ePKPdf	PKPdf	15 56 22.9	+1.1
GENY	Geneseo	144.72	14	ePKPdf	PKPdf	15 56 22.5	+0.8
HNH	Hanover	144.75	6	ePKPdf	PKPdf	15 56 23.3	+1.6
ERPA	Erie	144.77	17	ePKPdf	PKPdf	15 56 22.9	+1.1
BLO	Bloomington	144.99	27	ePKPdf	PKPdf	15 56 23.6	+1.3
UALR	University of	145.24	38	ePKPdf	PKPdf	15 56 24.6	+1.7
USIN	University of	145.44	29	ePKPdf	PKPdf	15 56 24.8	+1.7
ACSO	Alum Creek Sta	145.51	21	ePKPbc	PKPbc	15 56 25.4	+1.6
RCBR	Riachuelo	145.61	246	ePKPbc	PKPbc	15 56 27.0	+2.1
RCBR				epPKPdf		15 56 58.4	
HKT	Hockley	145.84	48	ePKPbc	PKPbc	15 56 27.7	+2.7
WCI	Wyandotte Cave	145.87	27	ePKPdf	PKPdf	15 56 26.2	+2.4
SSPA	Standing Stone	146.72	15	ePKPbc	PKPbc	15 56 28.8	+2.1
MCWV	Mont Chateau	147.08	18	ePKPdf	PKPdf	15 56 30.0	+4.2
OXF	Oxford	147.15	35	ePKPdf	PKPdf	15 56 30.3	+4.3
PAL	Palisades	147.19	9	ePKPbc	PKPdf	15 56 30.3	+4.4
CS6B	Jaguaretama	148.24	245	⇓iP	PKPdf	15 56 34.2	+5.8
CS6B				i		15 56 38.0	
CS6B				i		15 57 05.7	
SWET	Sewanee	148.47	30	ePKPbc	PKPdf	15 56 33.4	+5.2
TZTN	Tazewell	148.48	26	ePKPbc	PKPdf	15 56 33.8	+5.7
FWV	Forest Hill	148.64	21	ePKPbc	PKPdf	15 56 33.8	+5.4
LVC	Limon Verde	148.94	177	PKP	PKPdf	15 56 31.8	+2.5
	comp=Z,36nm,0.5s,baz=233,slow=3.4,SNR=4.8						
LVC				PKPbc	PKPdf	15 56 37.6	+8.3
	comp=Z,45nm,0.6s,baz=248,slow=1.4,SNR=95						
LVC	Limon Verde	148.94	177	PKP	PKPdf	15 56 31.8	+2.5
LVC				ePKPbc	PKPdf	15 56 36.9	+7.6
LVC				PKPbc	PKPdf	15 56 37.6	+8.3
LVC				ePKPab	PKPab	15 56 41.6	+1.4
CPCT	Cooper Cave	148.96	28	ePKPbc	PKPdf	15 56 35.2	+6.3
ELN	Prospectdale	148.98	21	ePKPbc	PKPdf	15 56 34.3	+5.4
BDFB	Brasilia	149.29	218	PKPbc	PKPdf	15 56 37.2	+7.2
	comp=Z,30nm,0.6s,baz=150,slow=1.9,SNR=26						
LRAL	Lakeview Retre	149.59	34	ePKPdf	PKPdf	15 56 32.2	+2.2
LRAL				ePKPbc	PKPdf	15 56 36.7	+6.7
COW	Cow Castle Cre	152.38	25	ePKPbc	PKPdf	15 56 43.5	+9.4
LPAZ	La Paz	155.26	178	PKP	PKPdf	15 56 42.7	+4.2
	comp=Z,2.0nm,0.5s,baz=192,slow=0.6,SNR=11						
LPAZ				PKPbc	PKPdf	15 56 51.4	+13
	comp=Z,2.1nm,0.4s,baz=213,slow=3.7,SNR=11						
LPAZ				PKPab	PKPab	15 57 08.0	+1.3
	comp=Z,14nm,0.7s,baz=190,slow=1.9,SNR=19						
LPAZ				pPKPab		15 57 37.9	
	comp=Z,5.6nm,0.8s,baz=108,slow=3.2,SNR=3.8						
LPAZ	La Paz	155.26	178	ePKPdf	PKPdf	15 56 42.2	+3.7
LPAZ				ePKPbc	PKPdf	15 56 51.1	+13
LPAZ				ePKPab	PKPab	15 57 07.2	+0.5
JTS	JuntasAbangare	162.46	83	PKP	PKPdf	15 56 49.6	+2.6
	comp=Z,3.9nm,0.6s,baz=323,slow=20,SNR=3.2						
JTS	JuntasAbangare	162.46	83	ePKPdf	PKPdf	15 56 49.5	+2.5
OTAV	Otavalo	166.10	126	ePKPdf	PKPdf	15 56 53.7	+3.2
OTAV				ePKPab	PKPab	15 57 55.1	+1.4
ROSC	El Rosal	172.06	117	PKP	PKPdf	15 56 57.1	+2.9
	comp=Z,3.7nm,0.5s,baz=90,slow=23,SNR=3.7						
SDV	Santo Domingo	176.65	85	PKP	PKPdf	15 56 58.4	+2.8
	comp=Z,3.2nm,0.7s,baz=310,slow=7.9,SNR=2.4						
SDV				PKPab	PKPab	15 58 41.5	+1.2
	comp=Z,4.6nm,0.9s,baz=330,slow=6.2,SNR=3.9						

DJA 14 15:46:56.1±0.8, 9.39S×117.34E, h80km, MD4.6/4, ML4.4/4, 6C-2D, Error ellipse: s-maj=34.6km s-min=17.6km az=20.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.51	306	⇑iPn	P	15 47 21.6	-0.5
	363nm,0.2s						
KEDI				⇓iSn	S	15 47 40.5	-0.7
RATI	Rata	1.91	290	⇑iPn	P	15 47 26.5	-0.8
	371nm,0.2s						
RATI	Rata	1.91	290	eP	P	15 47 26.8	-0.5
RATI				⇑iSn	S	15 47 49.2	-1.1
KELI	Kelakatan	3.05	292	⇑iPn	P	15 47 43.2	-0.1
	54nm,0.2s						
KELI				⇑iSn	S	15 48 15.2	-3.5
SRDI	Scrawed	3.29	286	⇑iPn	P	15 47 45.8	-0.8
	126nm,0.2s						
SRDI				⇓iSn	S	15 48 22.6	-2.1

NEIC 14 15:57:04.1, 45.14S×166.78E, h12km, ML3.8(WEL), After WEL.

WEL 14 15:57:02.3±0.5, 45.10S×166.74E, h5km, ML3.8/4, Error ellipse: s-maj=5.6km s-min=2.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.48	142	PG	Pg	15 57 12.2	+0.3
DCZ				SG	Sg	15 57 18.4	0.0
MSZ	Milford Sound	0.95	64	P*	Pb	15 57 19.4	-1.4
MLZ	Mavora Lakes	1.05	104	P	Pb	15 57 21.4	-1.1
MLZ				S	Sb	15 57 35.2	-1.1
MLZ	Mavora Lakes	1.05	104	P*	Pb	15 57 21.3	-1.2
MLZ				S*	Sb	15 57 35.1	-1.2
WHZ	Wether Hill Ro	1.17	134	P	Pb	15 57 23.8	-0.8
WHZ				S	Sb	15 57 40.0	+0.2
WHZ	Wether Hill Ro	1.17	134	P*	Pb	15 57 23.7	-0.8
WKZ	Wanaka	1.64	81	eP	Pn	15 57 32.1	+0.1
WKZ	Wanaka	1.64	81	ePN	Pn	15 57 31.7	-0.2
JCZ	Jackson Bay	1.77	55	eP	Pn	15 57 31.3	-2.5
JCZ	Jackson Bay	1.77	55	PN	Pn	15 57 31.2	-2.6
EAZ	Earnscleugh	1.82	95	P	Pn	15 57 34.7	+0.1
EAZ	Earnscleugh	1.82	95	ePN	Pn	15 57 34.1	-0.5
TUZ	Tuapeka	2.21	114	eP	Pn	15 57 39.4	-0.7
TUZ	Tuapeka	2.21	114	PN	Pn	15 57 39.1	-1.0
LBZ	Lake Benmore	2.56	75	eP	Pn	15 57 44.2	-0.9
LBZ	Lake Benmore	2.56	75	ePN	Pn	15 57 43.5	-1.6
FOZ	Fox Glacier	2.61	55	ePN	Pn	15 57 43.1	-2.8
ODZ	Otahua Downs	2.77	90	eP	Pn	15 57 46.8	-1.3
ODZ	Otahua Downs	2.77	90	PN	Pn	15 57 46.5	-1.6
RPZ	Rata Peaks	3.39	67	eP	Pn	15 57 54.6	-2.3
RPZ	Rata Peaks	3.39	67	ePN	Pn	15 57 53.8	-3.1
WVZ	Waitaha Valley	3.52	56	eP	Pn	15 57 54.6	-4.2
LTZ	Lake Taylor	4.62	62	eP	Pn	15 58 11.3	-3.1
LTZ	Lake Taylor	4.62	62	ePN	Pn	15 58 12.2	-2.2
DSZ	Denniston Nort	4.98	50	ePN	Pn	15 58 14.2	-5.4
DSZ				SN	Sn	15 59 05.5	-13
THZ	Tophouse	5.59	56	ePN	Pn	15 58 23.8	-4.4
QRZ	Quartz Range	6.02	47	eP	Pn	15 58 29.0	-5.2
QRZ	Quartz Range	6.02	47	ePN	Pn	15 58 28.6	-5.6

IDC 14 16:03:11.3±4.9, 17.95S×178.53W, h621km±58km, mb3.1/9, mb1 3.4/9, mb1mx3.2/16, mbtmp4.1/9, Error ellipse: s-maj=53.5km s-min=22.8km az=146.0

NEIC 14 16:03:14.8±4.3, 17.91S×178.71W, h668km±60km, mb4.2/3, Error ellipse: s-maj=50.4km s-min=27.2km az=149.0

ISC 14 16:03:08.5±1.1, 17.8S±0.4×178.6W±0.2, h600km, n15, σ0§89/14, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	33.27	260	P	P	16 09 00.0	+0.7
	2.7nm,0.5s,mb4.1,baz=48,slow=8.3,SNR=5.0						
CTAO	Charters Tower	33.27	260	eP	P	16 09 00.0	+0.7
	3.1nm,0.5s,mb4.2						
PMG	Port Moresby	34.26	280	P	P	16 09 09.9	+2.4
	7.5nm,0.8s,mb4.4,baz=152,slow=8.3,SNR=4.1						
PMG	Port Moresby	34.26	280	eP	P	16 09 09.6	+2.0
	7.7nm,0.8s,mb4.4						
STKA	Stephens Creek	38.50	241	P	P	16 09 42.9	+0.6
	2.3nm,0.6s,mb3.9,baz=90,slow=11,SNR=10						
WB2	Warramunga Arr	44.45	259	eP	P	16 10 28.0	-1.4
WRAB	Tennant Creek	44.45	260	eP	P	16 10 28.8	-0.6
	2.9nm,0.5s,mb4.1						
WRA	Warramunga Arr	44.46	259	P	P	16 10 29.0	-0.6
	1.6nm,0.5s,mb3.8,baz=96,slow=7.3,SNR=71						
WRA				PcP	PcP	16 11 59.3	-0.6
	0.3nm,0.3s,baz=90,slow=3.5,SNR=4.7						
ASAR	Alice Springs	44.63	254	P	P	16 10 30.8	0.0
	12nm,0.7s,mb4.5,baz=88,slow=8.6,SNR=216						
ASAR				PcP	PcP	16 11 59.8	-0.7
	0.5nm,0.5s,baz=104,slow=3.8,SNR=5.7						
ASPA	Alice Springs	44.63	254	eP	P	16 10 30.6	-0.2
NVAR	Mina Array Bea	79.50	44	P	P	16 14 15.6	+0.4
	0.3nm,0.3s,mb3.0,baz=234,slow=7.8,SNR=2.8						
ILAR	Eielson Array	85.86	13	P	P	16 14 45.1	-1.2
	0.1nm,0.5s,mb2.8,baz=217,slow=4.8,SNR=4.5						
TXAR	Lajitas Array	86.12	58	P	P	16 14 49.1	+0.7
	0.7nm,0.8s,mb3.4,baz=217,slow=6.3,SNR=6.0						
PDAR	Pinedale Array	87.43	44	P	P	16 14 54.2	-0.1
	0.4nm,0.6s,mb3.3,baz=180,slow=1.5,SNR=3.6						
GERES	GERESS Array B	147.50	345	PKPbc	PKPdf	16 21 47.2	+5.1
	0.1nm,0.4s,baz=34,slow=3.5,SNR=4.7						

IDC 14 16:05:35.6±9.9, 9.41N×93.15E, h94km±79km, mb3.3/5, mb1 3.4/6, mb1mx3.3/17, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=98.0km s-min=19.9km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.61	31	P	P	16 08 05.5	-0.7
	0.2nm,0.3s,baz=226,slow=16,SNR=5.7						
SONM	Songino Array	39.90	14	P	P	16 12 59.7	-2.1
	0.4nm,0.6s,baz=201,slow=7.0,SNR=5.9						
BVAR	Borovoye Array	47.23	341	P	P	16 13 59.0	-1.8
	0.3nm,0.5s,baz=143,slow=7.2,SNR=3.6						
WRA	Warramunga Arr	49.95	126	P	P	16 14 20.0	-2.2
	0.6nm,0.5s,baz=304,slow=8.7,SNR=9.9						
ASAR	Alice Springs	51.65	130	P	P	16 14 32.8	-2.4
	0.4nm,0.5s,baz=303,slow=7.6,SNR=10						
ASAR				PcP	PcP	16 15 47.0	-0.6
	0.2nm,0.6s,baz=307,slow=3.6,SNR=4.5						
STKA	Stephens Creek	61.87	134	P	P	16 15 44.9	-2.6
	2.1nm,1.0s,baz=315,slow=16,SNR=2.5						

NEIC 14 16:06:26.8, 37.86N×43.62E, h7km, ML3.6(ISK), After ISK.

CSEM 14 16:06:26.7±0.1, 37.86N×43.64E, h10km, MD3.7, Error ellipse: s-maj=4.1km s-min=1.8km az=62.0

ISK 14 16:06:26.8, 37.86N×43.62E, h7km, MD3.7, ML3.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	Hakkari	0.30	162	i PG	Pg	16 06 33.3	+0.4
HKR	Hakkari	0.30	162	Pg	Pg	16 06 33.4	+0.5
VANT	Van	0.61	343	PG	Pg	16 06 39.7	+0.6
VANT	Van	0.61	343	Pg	Pg	16 06 39.7	+0.6
TVAN	Van	0.69	346	i P	Pg	16 06 41.3	+0.7
TVAN				i S	Sg	16 06 55.4	+5.6
VANB	Van	0.76	346	i PG	Pg	16 06 40.9	-1.1
VANB				i SG	Sg	16 06 53.0	+0.9
VANB	Van	0.76	346	Pg	Pg	16 06 40.9	-1.0
VANB				Sg	Sg	16 06 53.9	+1.8
MSL	Mosul	1.62	195	i Pn	Px	16 06 04.5	
MSL				i Sb	Sx	16 06 24.5	
MSL				i Sg	Sx	16 06 25.5	
BTMT	Batman	1.72	282	PN	Pn	16 06 59.2	+1.8
BEST	Besiri	1.86	272	i P	Pn	16 07 00.4	+0.9
BEST				i S	Sn	16 07 27.0	+3.5
VRT	Varto	2.08	308	ePN	Pn	16 07 03.3	+0.8
VRT	Varto	2.08	308	Pn	Pn	16 07 03.3	+0.8
GNI	Garni	2.45	21	ePN	Pn	16 07 08.5	+0.7
GNI	Garni	2.45	21	Pn	Pn	16 07 08.5	+0.7
BINT	Bingol	2.66	293	ePN	Pn	16 07 11.9	+1.0
BINT	Bingol	2.66	293	Pn	Pn	16 07 11.9	+1.0
DIY	Diyarbakir	2.69	272	ePN	Pn	16 07 11.5	+0.2
ERZM	Erzurum	2.70	320	P	Pn	16 07 16.0	+4.6
ERZM				S	Sn	16 07 47.5	+2.8
EZM	Erzurum	2.70	320	ePN	Pn	16 07 12.6	+1.2
PTK	Pertek	3.48	289	ePN	Pn	16 07 23.5	+1.0
ELZG	Elazig	3.71	281	P	Pn	16 07 26.1	+0.4
ELZG				i S	Sg	16 08 24.4	-5.9
URFA	Urfa	3.83	265	ePN	Pn	16 07 27.6	+0.1
BCA	Borcka	3.90	337	ePN	Pn	16 07 29.9	+1.4
BCA	Borcka	3.90	337	Pn	Pn	16 07 29.9	+1.4
MALT	Malatya	4.12	278	ePn	Pn	16 07 30.8	-0.9
MALT				ePg	Pg	16 07 45.4	-3.8
MALT				eSg	Sg	16 08 38.0	-6.2
MALT	Malatya	4.12	278	ePn	Pn	16 07 30.8	-0.9
MALT	Malatya	4.12	278	ePg	Pg	16 07 45.4	-3.7
BHD	Baghdad	4.62	172	eP	Px	16 07 12.0	
BHD				eS	Sx	16 08 07.0	
GZT	Gaziantep	4.84	266	P	Pg	16 07 57.9	-5.5
GZT				S	Sg	16 08 58.0	-10
GAZ	Gaziantep	5.14	264	ePN	Pn	16 07 46.7	+0.6
GAZ	Gaziantep	5.14	264	Pn	Pn	16 07 46.7	+0.6
KAHT	Ahir Dag	5.35	270	P	Pn	16 07 48.1	-1.0
KAHT				S	Sg	16 09 14.1	-11
COBT	Iskenderun	6.03	259	P	Pg	16 08 17.8	-9.4
COBT				S	Sg	16 09 36.2	-11

CASC 14 16:17:54.4±2.3, 10.85N×86.53W, MD4.5, ML4.4, mb4.3(NEIC)

NEIC 14 16:17:58.9±1.1, 11.08N×86.10W, h59km±11km, mb4.3/12, MD4.5(CASC), Error ellipse: s-maj=16.3km s-min=8.5km az=224.0

IDC 14 16:17:59.1±1.9, 11.36N×85.99W, h47km±23km, mb4.0/13, mb1 4.2/14, mb1mx3.9/24, mbtmp4.3/14, ML3.8/1, MS3.4/3, Ms1 3.4/3, ms1mx2.8/28, Error ellipse: s-maj=29.1km s-min=15.2km az=53.0

ISC 14 16:17:58.0±0.7, 10.93N±0.06×86.35W±0.08, h72km±5km, n87, σ1§25/91, mb4.2/23, 6C-9D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	Concepcion	0.95	48	⇓eP	P	16 18 15.4	-0.8
APON	Apoyo	1.02	15	⇓eP	P	16 18 16.9	-0.2
MASN	Masaya	1.07	10	⇓eP	P	16 18 17.2	-0.5
TICN	Ticuantepe	1.11	6	⇓eP	P	16 18 18.1	-0.1
XAVN	Gruta Xavier	1.22	1	⇑eP	P	16 18 19.2	-0.5
MGAN	Managua	1.22	5	⇓eP	P	16 18 19.2	-0.4
MGAN				eS	S	16 18 37.8	+2.0
WILN	Americas 2	1.24	7	⇓eP	P	16 18 19.4	-0.5
WILN				eS	S	16 18 40.3	+4.0
COPN	Copaltepe	1.27	349	⇓eP	P	16 18 19.3	-1.1
COPN				eS	S	16 18 38.8	+1.7
APYN	Apoyeque	1.30	360	⇓eP	P	16 18 20.2	-0.7
APYN				eS	S	16 18 39.4	+1.5
MOMJ	Momotombo	1.49	353	eP	P	16 18 22.6	-0.8
MOMJ				eS	S	16 18 45.3	+3.2
JTS	JuntasAbangare	1.51	115	Pn	P	16 18 21.3	-2.4
	4μm,0.6s						
JTS	JuntasAbangare	1.51	115	P	P	16 18 21.9	-1.7
	94nm,0.3s,baz=312,slow=19,SNR=133						
JTS				S	S	16 18 41.5	-1.1
	182nm,0.3s,baz=312,slow=19,SNR=8.6						
JTS				LR	LR	16 19 09.5	
	comp=Z,1μm,19.4s,baz=276,slow=48						
JTS	JuntasAbangare	1.51	115	ePn	P	16 18 21.4	-2.2
MIRN	Miramar	1.55	347	eP	P	16 18 23.5	-0.7
LEON	Leon	1.58	340	⇑eP	P	16 18 23.5	-1.1
CNGN	Cerro Negro	1.60	348	⇑eP	P	16 18 23.9	-1.0
CNGN				eS	S	16 18 47.4	+2.6
PYTN	Playitas	1.63	10	⇑eP	P	16 18 24.8	-0.5
TEL3	Telica 3	1.71	343	⇑eP	P	16 18 25.3	-1.0
FORC	Fortuna	1.71	105	eP	P	16 18 27.9	+1.5
FORC				e		16 18 56.8	
FORC	Fortuna	1.71	105	eP	P	16 18 28.2	+1.8
TELN	Telica	1.73	344	⇑eP	P	16 18 25.9	-0.8
CGA2	Cerro Gallo 2	2.06	116	eP	P	16 18 31.1	0.0
CGA2	Cerro Gallo 2	2.06	116	eP	P	16 18 30.7	-0.4
VPS2	Volcan Poas 2	2.20	109	eP	P	16 18 37.0	+3.9
VPS2	Volcan Poas 2	2.20	109	eP	P	16 18 37.0	+3.9
PRS1	Puriscal	2.21	115	eP	P	16 18 35.5	+2.2
PRS1	Puriscal	2.21	115	eP	P	16 18 34.4	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LAJ	Bijagual	2.43	116	eP	P	16 18 34.1	-2.3
LAJ	Bijagual	2.43	116	eP	P	16 18 32.9	-3.5
SJS	Escuela Geolog	2.46	113	eP	P	16 18 38.4	+1.6
SJS				e		16 19 13.0	
SJS	Escuela Geolog	2.46	113⇓	eP	P	16 18 38.0	+1.2
SJS				eS	S	16 19 12.2	+6.5
LCR2	La Lucha 2	2.59	117	eP	P	16 18 40.1	+1.5
LCR2	La Lucha 2	2.59	117	eP	P	16 18 39.5	+0.9
TRTC	Tortuguero	2.61	97	eP	P	16 18 42.8	+3.9
TRTC	Tortuguero	2.61	97	eP	P	16 18 39.6	+0.7
ICR	Volcan Irazu	2.65	111	eP	P	16 18 41.8	+2.4
ICR	Volcan Irazu	2.65	111	eP	P	16 18 41.6	+2.2
BUS	Buena Vista	2.89	118	eP	P	16 18 43.5	+0.7
BUS	Buena Vista	2.89	118	eP	P	16 18 42.5	-0.3
LCBS	La Ceiba	3.74	317	eP	P	16 18 52.4	-2.3
LFRS	El Faro	3.77	316	eP	P	16 18 53.0	-2.2
ACR	Cerro Adams	3.86	126	eP	P	16 18 57.0	+0.6
ACR	Cerro Adams	3.86	126	eP	P	16 18 57.1	+0.7
RBDL	Robledal	4.55	315	eP	P	16 19 06.4	+0.4
ROSC	El Rosal	13.34	116	LR	LR	16 25 55.7	
	comp=Z,129nm,19.5s,baz=34,slow=36						
SDV	Santo Domingo	15.61	96	P	P	16 21 33.6	-1.5
	0.4nm,0.3s,baz=336,slow=19,SNR=2.4						
SDV				S	S	16 24 21.1	-4.9
	0.3nm,0.3s,baz=342,slow=8.5,SNR=2.0						
SDV	Santo Domingo	15.61	96	eP	P	16 21 34.0	-1.2
SJG	San Juan	20.80	68	P	P	16 22 32.2	-3.5
	8.3nm,0.3s,baz=337,slow=19,SNR=3.1						
SJG				LR	LR	16 29 39.0	
	comp=Z,90nm,19.8s,baz=264,slow=34						
HKT	Hockley	20.89	336	eP	P	16 22 36.3	-0.2
	13nm,1.0s						
LRAL	Lakeview Retre	22.01	359	eP	P	16 22 48.9	+1.3
	11nm,0.7s,mb4.3						
NATX	Nacogdoches	22.11	341	eP	P	16 22 49.1	+0.5
	27nm,0.6s,mb4.8						
JCT	Junction City	23.13	329	eP	P	16 22 59.5	+0.9
	6.6nm,0.9s,mb4.0						
UALR	University of	24.36	348	eP	P	16 23 10.3	-0.2
	20nm,0.8s,mb4.5						
LTX	Lajitas	24.43	321	eP	P	16 23 12.4	+1.2
	7.3nm,0.8s,mb4.1						
LTX				e		16 23 23.6	
TXAR	Lajitas Array	24.43	321	P	P	16 23 12.5	+1.3
	7.0nm,0.8s,mb4.1,baz=139,slow=10.0,SNR=42						
TXAR				PcP	PcP	16 26 52.4	+2.6
	0.1nm,0.4s,baz=68,slow=4.9,SNR=3.5						
TXAR	Lajitas Array	24.43	321	P	P	16 23 12.5	+1.2
TXAR				PcP	PcP	16 26 52.4	+2.6
WMOK	Wichita Mounta	26.28	336	eP	P	16 23 30.1	+1.5
	23nm,1.0s,mb4.6						
WMOK				e		16 23 39.9	
MNTX	Cornudas Mount	27.15	322	eP	P	16 23 35.8	-0.8
	2.0nm,1.0s,mb3.6						
ANMO	Albuquerque	30.12	326	P	P	16 24 03.5	+0.3
	2.7nm,0.8s,mb3.9,baz=127,slow=3.2,SNR=5.6						
SDCO	Great Sand Dun	31.76	330	P	P	16 24 17.4	-0.2
	4.0nm,0.8s,mb4.2						
PV10	Paradox Valley	34.05	327	P	P	16 24 37.4	0.0
SADO	Sadowa	34.29	9	P	P	16 24 37.9	-1.5
	4.3nm,0.7s,mb4.4,baz=209,slow=6.9,SNR=3.4						
BW06	Boulder Array	37.62	332	eP	P	16 25 06.7	-0.8
	1.6nm,0.7s,mb4.0						
PDAR	Pinedale Array	37.62	332	P	P	16 25 07.5	0.0
	1.8nm,0.7s,mb4.0,baz=122,slow=9.2,SNR=18						
PDAR				PcP	PcP	16 27 25.4	+1.1
	0.5nm,0.6s,baz=135,slow=4.2,SNR=4.0						
SNOW	Snow King Moun	38.72	331	eP	P	16 25 17.6	+1.0
LOHW	Long Hollow	38.76	332	eP	P	16 25 17.3	+0.3
TPAW	Teton Pass	38.83	331	eP	P	16 25 18.5	+0.9
MOOW	Moose Ponds	38.93	332	eP	P	16 25 18.7	+0.3
ELK	Elko	39.13	324	P	P	16 25 21.9	+1.9
	1.6nm,0.7s,mb4.0,baz=136,slow=8.0,SNR=8.6						
ELK				PcP	PcP	16 27 31.2	+2.1
	0.3nm,0.3s,baz=135,slow=4.3,SNR=4.6						
ELK	Elko	39.13	324	P	P	16 25 21.9	+1.9
ELK				PcP	PcP	16 27 31.2	+2.1
IMW	Indian Meadow	39.13	332	eP	P	16 25 20.9	+0.9
NVAR	Mina Array Bea	39.56	319	P	P	16 25 26.9	+3.3
	1.7nm,0.5s,mb4.1,baz=129,slow=7.0,SNR=9.0						
NVAR				PcP	PcP	16 27 33.0	+2.5
	2.0nm,0.7s,baz=127,slow=4.5,SNR=8.1						
NVAR	Mina Array Bea	39.56	319	P	P	16 25 26.9	+3.3
NVAR				PcP	PcP	16 27 33.0	+2.5
ULM	Lac du Bonnet	39.99	350	P	P	16 25 25.1	-2.0
	4.9nm,0.6s,mb4.5,baz=170,slow=9.3,SNR=13						
ULM				LR	LR	16 43 47.6	
	comp=Z,72nm,21.8s,baz=342,slow=39						
MCMT	McKenzie Canyo	40.74	331	eP	P	16 25 35.0	+1.7
BOZ	Bozeman (W)	40.79	333	eP	P	16 25 34.0	+0.3
	2.2nm,0.7s,mb4.1						
WVOR	Wild Horse Val	42.16	324	eP	P	16 25 46.1	+1.0
	3.9nm,0.6s,mb4.3						
SCHQ	Schefferville	46.44	15	P	P	16 26 17.3	-2.0
	1.6nm,0.6s,mb4.0,baz=245,slow=12,SNR=4.4						
SCHQ	Schefferville	46.44	15	P	P	16 26 17.3	-2.0
YKA	Yellowknife Ar	55.36	345	P	P	16 27 24.5	-2.1
	1.7nm,0.8s,mb4.2,baz=141,slow=7.1,SNR=43						
DLBC	Dease Lake	57.74	335	P	P	16 27 43.1	-0.6
	3.1nm,0.9s,mb4.4,baz=111,slow=6.1,SNR=6.6						
INK	Inuvik	64.97	342	P	P	16 28 30.7	-1.5
	2.7nm,0.9s,mb4.1,baz=135,slow=7.6,SNR=9.2						
ILAR	Eielson Array	67.84	336	P	P	16 28 49.4	-0.9
	1.7nm,0.8s,mb3.9,baz=130,slow=4.3,SNR=42						
ILAR				PP	PP	16 31 18.7	-4.0
	0.4nm,0.9s,baz=112,slow=5.3,SNR=4.2						
SONM	Songino Array	120.42	350	PKP	PKPdf	16 36 43.5	+2.2
	0.2nm,0.5s,baz=286,slow=1.4,SNR=4.6						
ASAR	Alice Springs	139.68	246	PKP	PKPdf	16 37 22.1	+3.7
	0.6nm,0.6s,baz=111,slow=1.7,SNR=9.5						
WRA	Warramunga Arr	139.86	252	PKP	PKPdf	16 37 22.7	+3.9
	0.8nm,0.7s,baz=93,slow=2.6,SNR=12						
CMAR	Chiang Mai Arr	150.34	350	PKPbc	PKPdf	16 37 44.6	+8.0
	1.4nm,0.8s,baz=338,slow=2.7,SNR=11						
CMAR				PKPab	PKPab	16 37 52.3	+1.6
	0.5nm,0.6s,baz=9.8,slow=5.0,SNR=4.4						

*NEIC **14** 16:29:05.1, 17.27N×101.30W, h5km, MD4.2(MEX), After MEX.*
*MEX **14** 16:29:05.1±0.9, 17.27N×101.30W, h5km, MD4.3*
*IDC **14** 16:29:30.6±31.0, 18.33N×100.88W, h214km±170km, mb3.2/5, mb1 3.4/7, mb1mx3.1/20, mbtmp3.6/7, Error ellipse: s-maj=286.1km s-min=81.3km az=165.0*
ISC 14 16:29:03.3±0.9**, 17.24N**±0.06×**101.27W**±0.04**, h24**km±6km**, n32,** σ1§**10**/47**, mb3.7**/5**, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.41	334	i P	Pb	16 29 11.9	-0.1
ZIIG				i S	Sb	16 29 16.6	-1.2
CAIG	El Cayaco	0.98	101	eP	Pb	16 29 21.9	+0.5
CAIG				i S	Sb	16 29 34.8	+0.8
CAIG	El Cayaco	0.98	101	eP	Pb	16 29 21.9	+0.4
CAIG				i S	Sb	16 29 34.7	+0.7
ACX	Acapulco	1.35	106	eP	Pn	16 29 28.2	+1.3
ACX				i S	Sn	16 29 44.4	+0.2
PLIG	Platanillo	2.04	55	eP	Pn	16 29 36.1	-0.8
PLIG				i S	Sn	16 30 02.0	+0.2
MOIG	Morelia	2.43	2	eP	Pn	16 29 42.9	+0.6
MOIG				i S	Sn	16 30 12.3	+0.6
CRX	Cerrillo	2.64	35	i P	Pn	16 29 46.7	+1.4
CRX	Cerrillo	2.64	35	eP	Pn	16 29 45.0	-0.3
CRX				i P		16 29 46.7	
UNM	Universidad Na	2.88	43	eP	Pn	16 29 52.0	+3.2
COLM	Colima	3.00	310	eP	Pn	16 29 51.4	+0.8
COLM				i S	Sn	16 30 26.6	+0.4
PPM	Popocatepetl	3.11	54	eP	Pn	16 29 51.0	-1.0
PPM				i S	Sn	16 30 29.1	+0.3
PPM	Popocatepetl	3.11	54	eP	Pn	16 29 50.4	-1.6
PPM				eP		16 29 51.0	
PPM				i S	Sn	16 30 29.1	+0.3
PNIG	Pinotepa	3.13	105	i P	Pn	16 30 00.5	+8.1
PNIG				i S	Sn	16 30 34.6	+5.3
PNIG	Pinotepa	3.13	105	i P	Pn	16 29 51.6	-0.7
PNIG				i S	Sn	16 30 31.0	+1.7
IIB	San Bernardino	3.27	58	eP	Pn	16 29 55.0	+0.6
SFJM	Santa Fe	3.64	333	eP	Pn	16 30 00.1	+0.6
SFJM				i S	Sn	16 30 42.8	+0.5
IISM	Ciudad Serdan	4.10	64	eP	Pn	16 30 03.2	-2.9
IISM	Ciudad Serdan	4.10	64	eP	Pn	16 30 03.5	-2.6
VHO	Vista Hermosa	4.34	91	i S	Sn	16 31 00.1	0.0
OXX	Oaxaca	4.35	91	eP	Pn	16 30 06.5	-3.3
OXX				i S	Sn	16 30 56.4	-4.0
OXX	Oaxaca	4.35	91	i P	Pn	16 30 10.1	+0.4
OXX				i S	Sn	16 31 00.1	-0.3
CMIG	Matias Romero	6.11	90	eP	Pn	16 30 33.8	-0.7
CMIG				i S	Sn	16 31 43.4	-1.1
TXAR	Lajitas Array	12.24	350	P	P	16 32 06.3	+7.1
	baz=169,slow=15,SNR=2.3						
TXAR	Lajitas Array	12.24	350	P	P	16 32 06.3	+7.1
GDL2	Guadalupe Moun	15.16	350	eP	P	16 32 42.0	+4.3
ANMO	Albuquerque	18.24	346	P	P	16 33 16.8	+0.1
	baz=176,slow=9.0,SNR=3.4						
NVAR	Mina Array Bea	25.85	328	P	P	16 34 36.2	+1.4
	2.9nm,0.8s,mb3.9,baz=139,slow=9.1,SNR=12						
NVAR	Mina Array Bea	25.85	328	P	P	16 34 36.2	+1.4
PDAR	Pinedale Array	26.41	346	P	P	16 34 40.6	+0.7
	0.3nm,0.5s,mb3.1,baz=140,slow=7.0,SNR=2.8						
YKA	Yellowknife Ar	46.17	351	P	P	16 37 24.7	-2.9
	0.2nm,0.5s,mb3.3,baz=161,slow=7.2,SNR=7.7						
INK	Inuvik	54.98	346	P	P	16 38 32.5	-2.2
	3.9nm,1.2s,mb4.3,baz=138,slow=5.5,SNR=9.1						
ILAR	Eielson Array	56.46	338	P	P	16 38 43.6	-1.7
	0.8nm,0.9s,mb3.7,baz=150,slow=5.1,SNR=7.7						

GUC 14 16:40:16.9±0.6**, 32.68S**×**71.72W, h31**km±6km**, MD3.5, ML2.4, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.28	59⇓	i P	Pb	16 40 24.3	+0.2
PACH				i S	Sb	16 40 29.6	+0.7
ROCH	El Roble	0.66	116	eP	Pb	16 40 29.8	-0.1
ROCH				i S	Sb	16 40 39.7	+0.8
CHNG	Los Chungos	0.81	13	eP	Pn	16 40 31.6	-0.7
CHNG				i S	Sb	16 40 43.1	-0.1
CHNG				AMP		16 40 44.5	
	comp=E,100nm,0.4s						
JACH	Jahuel	0.95	90	eP	Pn	16 40 34.2	0.0
JACH				i S	Sn	16 40 47.7	+0.9
RCDM	Rinconada Maip	1.11	137	eP	Pn	16 40 35.8	-0.8
RCDM				i S	Sn	16 40 50.9	0.0
RCDM				AMP		16 40 54.1	
	comp=N,177nm,0.5s						
TACH	Talagante	1.17	146	i P	Pn	16 40 37.5	+0.1
FCH	Farellones	1.36	119⇓	i P	Pn	16 40 41.1	+1.0
FCH				i S	Sn	16 40 59.3	+2.0
FCH				AMP		16 41 00.3	
	comp=N,136nm,0.2s						
PCH	Pirque	1.38	133	i P	Pn	16 40 41.1	+0.7
CHCH	Chadas Angostu	1.54	145	eP	Pn	16 40 43.4	+0.8
LMEL	Las Melosas	1.72	133	eP	Pn	16 40 46.9	+1.6
LMEL				AMP		16 41 13.6	
	comp=N,138nm,0.2s						

IDC 14 16:48:04.8±12.0**, 22.55S**×**179.21W, h422**km±116km**, mb3.2**/4**, mb1 3.3**/5**, mb1mx3.1**/16**, mbtmp4.0**/5**, Error ellipse: s-maj=102.0km s-min=32.7km az=43.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	15.97	191	P	P	16 51 25.9	-2.4
	1.8nm,0.3s,baz=131,slow=19,SNR=11						
URZ	Urewera	15.97	191	ePN	P	16 51 24.5	-3.8
TSZ	Takapari Road	17.93	192	ePN	P	16 51 43.7	-4.4
MRZ	Mangatainoka R	18.59	193	ePN	P	16 51 50.2	-4.3
QRZ	Quartz Range	19.51	199	PN	P	16 52 01.9	-1.6
THZ	Tophouse	20.27	197	ePN	P	16 52 07.5	-3.3
DSZ	Denniston Nort	20.57	199	ePN	P	16 52 10.7	-3.0
KHZ	Kahutara	20.72	195	ePN	P	16 52 10.7	-4.3
RPZ	Rata Peaks	22.60	199	P	P	16 52 31.7	-1.0
	6.0nm,0.5s,baz=19,slow=4.2,SNR=10						
CTA	Charters Tower	32.23	268	P	P	16 53 58.3	+0.5
	3.5nm,0.8s,baz=33,slow=16,SNR=2.8						
ASAR	Alice Springs	42.99	259	P	P	16 55 24.5	-2.1
	0.4nm,0.7s,baz=94,slow=7.3,SNR=12						
WRA	Warramunga Arr	43.24	264	P	P	16 55 26.6	-2.0
	0.4nm,0.3s,baz=96,slow=8.3,SNR=34						
ARCES	ARCESS Array B	130.72	349	PKP	PKPdf	17 06 26.3	+0.1
	2.9nm,1.1s,slow=7.3,SNR=3.5						

OTT 14 16:58:19.1±0.2**, 52.79N**×**67.26W, MN3.0**/7**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	2.06	7	PN	Pn	16 58 55.4	0.0
SCHQ				SG	Sg	16 59 23.1	-4.7
SCHQ				Trac		16 59 24.9	
	comp=Z,44nm,0.3s						
MNQ	Manicouagan	2.45	203	PN	Pn	16 59 00.4	-0.6
MNQ				Trac		16 59 37.6	
	comp=Z,19nm,0.2s						
SMQ	Clarke City	2.59	172	PN	Pn	16 59 01.5	-1.6
SMQ				Trac		16 59 39.2	
	comp=Z,24nm,0.2s						
ICQ	Pointe Anglais	3.27	180	PN	Pn	16 59 10.7	-2.0
ICQ				SN	Sn	16 59 48.0	-5.0
ICQ				Trac		17 00 02.2	
	comp=Z,26nm,0.3s						
CNQ	Baie Comeau	3.53	189	PN	Pn	16 59 15.2	-1.2
CNQ				Trac		17 00 14.5	
	comp=Z,15nm,0.3s						
GSQ	Grosses Roches	3.89	179	PN	Pn	16 59 19.4	-2.1
GSQ				SN	Sn	17 00 02.5	-6.0
GSQ				Trac		17 00 23.5	
	comp=Z,11nm,0.2s						
LG4Q	La Grande 4	4.20	284	PN	Pn	16 59 23.4	-2.4
LG4Q				PG	Pg	16 59 30.4	-13
LG4Q				SN	Sn	17 00 11.7	-4.7
LG4Q				SG	Sg	17 00 25.7	-13
LG4Q				Trac		17 00 30.3	
	comp=Z,12nm,0.3s						
LMQ	La Malbaie	5.61	202	PN	Pn	16 59 42.3	-3.5
LMQ				SN	Sn	17 00 44.4	-7.5
DRLN	Deer Lake	7.10	116	PN	Pn	17 00 02.7	-4.1
DRLN				SN	Sn	17 01 18.9	-10
LMN	Caledonia Moun	7.13	166	PN	Pn	17 00 03.0	-4.2
VLDQ	Val d'Or	8.01	238	PN	P	17 00 15.7	-4.0
MALO	McAlpine Lake	8.29	255	PN	P	17 00 17.7	-5.8
MALO				SN	Sn	17 01 46.3	-13
VIMO	Victor Mine	9.99	277	PN	P	17 00 40.3	-6.5
VIMO				SN	Sn	17 02 24.0	-17
SILO	Sutton Inlier	10.62	286	PN	P	17 00 49.4	-6.1
SILO				SN	S	17 02 39.4	-17
FRB	Frobisher Bay	11.01	357	PN	P	17 00 53.7	-7.1

*IDC **14** 17:37:20.2±1.4, 19.00N×83.13E, mb3.6/5, mb1 3.8/6, mb1mx3.6/16, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=65.8km s-min=22.0km az=52.0*
*NDI **14** 17:37:23.6±4.1, 18.96N×83.08E, h14km±23km, ML4.1*
ISC 14 17:37:20.7±2.1**, 19.15N**±0.04×**82.95E**±0.04**, h21**km±18km**, n34,** σ1§**37**/45**, mb3.6**/5**, Southern India**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	1.46	166	eP	Pn	17 37 46.6	+0.5
VIS				eS	Sn	17 38 03.1	-1.7
VIS				e		17 38 07.2	
	comp=E,3µm,0.2s						
VIS				e		17 38 07.5	
	comp=N,785nm,0.3s						
BWNR	Bhubaneshwar	2.92	67	eP	Pn	17 38 10.6	+3.5
BWNR				eS	Sn	17 38 43.1	+1.1
BWNR				e		17 38 45.7	
	comp=N,2µm,0.3s						
BWNR				e		17 38 46.4	
	comp=E,3µm,0.2s						
BLSP	Bilaspur	3.06	346	eP	Pn	17 38 11.4	+2.3
BLSP				eS	Sn	17 38 47.6	+2.2
BLSP				e		17 38 57.0	
	comp=E,715nm,0.5s						
BLSP				e		17 38 57.9	
	comp=N,518nm,0.4s						
NGP	Nagpur	4.17	299	i P	Pn	17 38 28.3	+3.6
NGP				eS	Sn	17 39 18.3	+4.9
HYB	Hyderabad	4.52	248	ePn	Pn	17 38 33.5	+3.8
HYB				ePg	Pn	17 38 49.5	+20
HYB				eSn	Sn	17 39 23.5	+1.3
HYB				eSg	Sn	17 39 42.0	+20
AKL	Akola	5.79	286	e	Sn	17 39 54.0	-0.2
LATR	Latur	6.09	264	e	Pn	17 38 57.2	+5.3
ALBI	Allahabad	6.22	350	e	Sn	17 40 03.0	-2.0
ALBI				e		17 40 34.5	
BHPL	Bhopal	6.57	309	eP	Pn	17 39 02.5	+3.9
BHPL				eS	Sn	17 40 12.7	-1.0
BHPL				e		17 40 49.7	
	comp=N,257nm,0.7s						
BHPL				e		17 40 51.1	
	comp=E,182nm,0.6s						
KAD	Karad	8.53	259	eP	P	17 39 27.8	+1.8
KAD				eS	Sn	17 40 57.8	-4.8
KAD				e		17 41 52.0	
	comp=N,136nm,0.7s						
KAD				e		17 41 52.4	
	comp=E,53nm,0.6s						
KOLN	Koldanda	8.60	4	eP	P	17 39 26.4	-0.7
	comp=E,42nm,0.4s						
POO	Poona	8.64	267	e	P	17 39 26.6	-1.0
POO				eS	Sn	17 41 01.4	-3.9
POO				e		17 41 57.3	
	comp=N,118nm,1.0s						
POO				e		17 41 58.0	
	comp=E,37nm,0.4s						
DMN	Daman	8.65	13	eP	P	17 39 27.0	-0.7
	comp=E,15nm,0.3s						
PKI	Pulchoki	8.68	15	eP	P	17 39 27.3	-0.9
	comp=E,27nm,0.4s						
KKN	Kakani	8.87	14	eP	P	17 39 29.8	-0.9
	comp=E,22nm,0.5s						
GKN	Gorkha	8.95	10	eP	P	17 39 31.0	-0.9
	comp=E,28nm,0.3s						
JIRN	Jiri	8.98	19	eP	P	17 39 31.8	-0.5
	comp=E,40nm,0.3s						
JIRN				eS	Sn	17 41 08.8	-5.0
GOA	Goa	9.44	249	e	Sn	17 41 17.4	-7.8
GOA				e		17 42 09.1	
BOM	Bombay	9.59	270	e	Sn	17 41 23.9	-5.1
BOM				eS	Sn	17 41 23.9	-5.1
	comp=E,386nm,0.4s						
MNGI	Mangalore	9.95	233	e	Sx	17 42 29.8	
SONA	Sohna	10.53	330	e	S	17 41 44.7	-7.3
SONA				e		17 42 48.3	
LGTI	Lohaghat	10.55	347	e	P	17 39 53.3	-0.6
LGTI				e		17 42 45.0	
AJM	Ajmer	10.57	315	e	P	17 39 46.2	-8.0
AJM				e		17 41 25.6	
AYAN	Aya Nagar	10.71	331	eS	S	17 41 51.0	-5.4
NDI	New Delhi	10.84	332	e	Sx	17 41 29.0	
NDI				e		17 42 39.0	
IMP	Imphal	11.63	59	e	PcP	17 46 08.0	+10
JOSI	Joshimath	11.77	346	eP	P	17 39 58.7	-12
JOSI				eS	S	17 42 03.4	-19
KLP	Kalpa	13.04	342	e	P	17 40 27.1	-0.4
KLP				eS	S	17 42 46.9	-6.0
CMAR	Chiang Mai Arr	15.16	90	Pn	P	17 41 00.8	+5.3
	comp=E,0.0nm,0.3s,baz=272,slow=12,SNR=5.8						
SONM	Songino Array	34.38	28	P	P	17 44 09.6	+1.2
	comp=E,0.4nm,1.0s,mb3.3,baz=219,slow=9.2,SNR=2.4						
FINES	FINESS Array B	57.71	332	P	P	17 47 13.4	+1.4
	comp=E,0.5nm,0.4s,mb3.9,baz=110,slow=9.2,SNR=8.3						
WRA	Warramunga Arr	63.61	125	P	P	17 47 52.0	-0.8
	comp=E,0.5nm,0.8s,mb3.6,baz=305,slow=6.2,SNR=10.0						
NOA	NORSAR Array B	64.59	329	P	P	17 48 01.1	+2.6
	comp=E,0.9nm,0.9s,mb3.8,baz=101,slow=10,SNR=2.4						
ASAR	Alice Springs	65.43	128	P	P	17 48 03.6	-0.9
	comp=E,0.2nm,0.4s,mb3.5,baz=309,slow=6.4,SNR=10						

IDC 14 17:41:10.7±1.8**, 18.69N**×**146.28E, mb3.8**/4**, mb1 4.2**/4**, mb1mx3.8**/17**, mbtmp3.8**/4**, 1C, Error ellipse: s-maj=181.2km s-min=24.2km az=115.0, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	40.13	198⇑	i P	P	17 48 49.0	-1.2
WRA	Warramunga Arr	40.14	198	P	P	17 48 48.9	-1.3
	1.5nm,0.4s,baz=22,slow=10,SNR=46						
ASAR	Alice Springs	43.80	196	P	P	17 49 17.7	-2.5
	0.5nm,0.7s,baz=20,slow=7.1,SNR=8.9						
YKA	Yellowknife Ar	77.74	28	P	P	17 53 08.8	-1.9
	0.3nm,0.6s,baz=290,slow=5.4,SNR=7.0						
NVAR	Mina Array Bea	82.71	52	P	P	17 53 37.6	-0.2
	0.7nm,0.5s,baz=270,slow=6.3,SNR=4.4						

*BJI **14** 17:44:51.4, 25.02N×99.15E, h12km, mB4.9, mb4.5, ML4.5, Ms4.6, Msz4.2*
*MOS **14** 17:44:54.5±1.3, 25.01N×99.05E, h33km, mb4.3/10, Error ellipse: s-maj=12.4km s-min=8.0km az=100.1*
*NEIC **14** 17:44:56.8±2.3, 25.03N×99.11E, h34km±17km, mb4.3/8, Error ellipse: s-maj=8.9km s-min=7.3km az=80.0*
*IDC **14** 17:44:56.4±3.8, 25.02N×99.06E, h34km±30km, mb4.1/16, mb1 4.2/17, mb1mx4.2/23, mbtmp4.3/17, ML4.0/1, MS3.9/5, Ms1 4.0/5, ms1mx3.4/22, Error ellipse: s-maj=20.3km s-min=12.3km az=70.0*
ISC 14 17:44:50.6±0.3**, 24.87N**±0.02×**99.09E**±0.04**, h10**km**, n77,** σ1§**33**/94**, mb4.2**/27**, MS4.0**/7**, 6C-3D, Yunnan**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	Kunming	3.32	85 ⇑	P	Pn	17 45 45.8	+2.1
KMI				PG	Pg	17 45 54.3	-2.6
KMI				SG	Sg	17 46 36.3	-4.9
KMI				Smax			
	comp=N,2µm,1.0s						
KMI				Smax			
	comp=E,2µm,0.9s						
KMI				LR	LR		
	comp=N,9µm,6.6s						
KMI				LR	LR		
	comp=E,3µm,6.6s						
KMI				LR	LR		
	comp=Z,3µm,13.7s						
KMI	Kunming	3.32	85 ⇑	Pn	Pn	17 45 45.8	+2.1
KMI				Pg	Pg	17 45 54.3	-2.6
KMI				Sg	Sg	17 46 36.2	-5.0
CHRT	Chiangrai	5.01	173 ⇓	PN	Pn	17 46 11.5	+3.8
CHRT				PG	Pg	17 46 31.0	+0.3
CHRT				SG	Sg	17 47 37.0	-0.5
NANT	Nan	6.22	166	PN	Pn	17 46 25.0	+0.3
NANT				PG	Sx	17 48 08.0	
NANT				SG	Sg	17 48 14.0	-3.7
CM31	Chiang Mai Arr	6.38	181	ePn	Pn	17 46 30.3	+3.3
	comp=Z,212nm,0.7s						
CM31				ePg	Pg	17 46 56.1	-1.9
CM31				eSg	Sg	17 48 22.6	-0.3
CMAR	Chiang Mai Arr	6.38	181	Pn	Pn	17 46 30.8	+3.8
	comp=Z,0.9nm,0.3s,baz=357,slow=12,SNR=99						
CMAR				Pg	Pg	17 46 56.2	-1.8
	comp=Z,6.4nm,0.3s,baz=355,slow=17,SNR=49						
CMAR				Lg		17 48 21.6	
	comp=Z,5.5nm,0.3s,baz=162,slow=33,SNR=7.6						
SHL	Shillong	6.56	278	e	Pn	17 46 30.0	+0.4
SHL				e		17 46 30.0	
GYA	Guiyang	7.02	75⇑	i P	Pn	17 46 35.5	-0.5
GYA				LR	LR		
	comp=N,5µm,11.7s						
GYA				LR	LR		
	comp=E,2µm,9.6s						
GYA				LR	LR		
	comp=Z,2µm,9.9s						
BDT	Bhumibol Dam	7.58	181	PN	Pn	17 46 48.0	+4.1
BDT				PG	Pg	17 47 18.0	-4.0
BDT				SG	Sg	17 48 59.0	-4.1
LSA	Lhasa	8.54	306	P	P	17 46 57.0	-0.3
LSA				AMB	AMB		
	comp=Z,10.0nm,0.5s						
LSA	Lhasa	8.54	306	eP	P	17 46 56.9	-0.4
LSA				pmax	pmax		
	comp=Z,12nm,0.5s						
LSA	Lhasa	8.54	306	ePn	P	17 46 56.9	-0.4
	comp=Z,12nm,0.5s						
KKTK	Khon Kaen	9.18	157	PN	P	17 47 12.0	+5.9
KKTK				PG	P	17 47 18.0	+12
KKTK				SG	Sg	17 49 56.0	-0.2
NST	Nakhon Sawan	9.20	174	P	P	17 46 58.0	-8.4
	comp=Z,92nm,1.0s						
ENH	Enshi	10.68	57	ePn	P	17 47 23.4	-3.4
	comp=Z,27nm,0.7s						
JIRN	Jiri	11.90	286	eP	P	17 47 40.0	-3.5
	comp=Z,40nm,0.7s						
LZH	Lanzhou	11.91	19 ⇑	P	P	17 47 44.9	+1.4

LZH				AP		17 47 51.1	
LZH				XP		17 47 54.5	
LZH				*e*S	S	17 49 56.0	-1.4
LZH				XS		17 50 03.3	
LZH				SS	SS	17 50 10.0	-1.7
LZH				AMB	AMB		
	comp=Z,37nm,1.5s						
LZH				AMB	AMB		
	comp=Z,144nm,4.0s						
LZH				LR	LR		
	comp=N,2µm,7.1s						
LZH				LR	LR		
	comp=Z,2µm,10.0s						
LZH	Lanzhou	11.91	19	⇑P	P	17 47 44.9	+1.4
LZH				*e*S	S	17 49 56.0	-1.4
LZH				pmax	pmax		
	comp=Z,37nm,1.5s						
LZH	Lanzhou	11.91	19	⇑P	P	17 47 44.9	+1.4
	comp=Z,37nm,1.5s						
LZH				pP		17 47 51.1	
LZH				sP		17 47 54.5	
LZH				PP	PP	17 47 54.8	+1.8
LZH				*e*S	S	17 49 56.0	-1.4
LZH				sS		17 50 03.2	
LZH				SS	SS	17 50 10.0	-1.7
XAN	Xi'an	12.52	41	P	P	17 47 46.3	-5.4
XAN				AP		17 47 51.3	
XAN				LG2		17 51 15.5	
XAN				LR	LR		
	comp=N,1µm,16.3s						
XAN				LR	LR		
	comp=E,979nm,17.5s						
XAN				LR	LR		
	comp=Z,800nm,7.2s						
PKI	Pulchoki	12.57	285	*e*P	P	17 47 49.5	-2.9
	comp=Z,38nm,0.9s						
KKN	Kakani	12.72	286	*e*P	P	17 47 51.3	-3.1
	comp=Z,148nm,1.3s						
DMN	Daman	12.84	285	*e*P	P	17 47 52.7	-3.3
	comp=Z,56nm,1.0s						
GKN	Gorkha	13.32	287	*e*P	P	17 47 58.4	-3.9
	comp=Z,61nm,1.0s						
KOLN	Koldanda	14.19	285	*e*P	P	17 48 09.2	-4.6
	comp=Z,18nm,0.8s						
WHN	Wuhan	14.65	64	P	P	17 48 19.0	-0.8
WHN				S	S	17 50 54.0	-9.1
WHN				LR	LR		
	comp=N,710nm,7.6s						
WHN				LR	LR		
	comp=E,2µm,8.0s						
WHN				LR	LR		
	comp=Z,1µm,7.9s						
BTO	Baotou	18.16	28	*e*P	P	17 49 04.8	+0.2
HHC	Hu-ho-hao-te	19.04	30	*e*P	P	17 49 15.9	+0.6
HHC				XP		17 49 23.5	
HHC				PP	PP	17 49 33.3	+1.3
HHC				S	S	17 52 43.5	-0.8
HHC				XS		17 52 49.4	
HHC				SS	SS	17 53 04.9	-4.9
HHC				PCP	PcP	17 53 41.1	+0.9
HHC				AMB	AMB		
	comp=Z,17nm,0.6s						
HHC				AMB	AMB		
	comp=Z,141nm,7.3s						
HHC				LR	LR		
	comp=N,383nm,15.5s						
HHC				LR	LR		
	comp=E,746nm,17.8s						
HHC				LR	LR		
	comp=Z,309nm,12.5s						
HYB	Hyderabad	20.52	253	*e*P	P	17 49 33.0	+1.2
HYB	Hyderabad	20.52	253	*i* P	P	17 49 33.0	+1.2
BJT	Baijiatuau	20.82	39	*e*P	P	17 49 34.4	-0.4
BJT				pmax	pmax		
	comp=Z,22nm,1.1s						
BJT	Baijiatuau	20.82	39	*e*P	P	17 49 34.4	-0.4
	comp=Z,22nm,1.1s						
BJI	Beijing	20.84	39	*e*P	P	17 49 33.5	-1.5
BJI				AMB	AMB		
	comp=Z,12nm,1.5s						
BJI				LR	LR		
	comp=N,1µm,16.2s,MS4.5						
BJI				LR	LR		
	comp=E,1µm,14.4s,MS4.5						
BJI				LR	LR		
	comp=Z,165nm,17.6s,MS3.5						
SONM	Songino Array	23.64	12	P	P	17 50 03.0	+0.3
	comp=Z,3.1nm,0.7s,mb3.9,baz=194,slow=9.7,SNR=25						
ULN	Ulaanbaatar	23.80	13	*e*P	P	17 50 06.2	+1.9
ULN				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
ULN	Ulaanbaatar	23.80	13	*e*P	P	17 50 06.2	+1.9
	comp=Z,13nm,1.1s,mb4.3						
KSH	Kashi	24.32	312	*e*P	P	17 50 10.1	+0.7
KSH				*e*AP		17 50 20.1	
KSH				*e*XP		17 50 24.5	
MKAR	Makanchi Array	25.67	333	*i* P	P	17 50 21.6	-0.6
MKAR				pmax	pmax		
	comp=Z,18nm,0.7s						
ZAK	Zakamensk	25.68	6	*e*P	P	17 50 22.7	+0.5
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.2						
JOW	Kunigami	26.32	79	LR	LR	18 01 54.2	
	comp=Z,318nm,20.0s,MS3.9,baz=96,slow=39						
SNY	Shenyang	26.41	44	*e*P	P	17 50 29.0	-0.1
AAK	Ala-Archa	26.91	317	⇓*i*P	P	17 50 28.6	-5.1
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.0						
AAK	Ala-Archa	26.91	317	*e*P	P	17 50 32.9	-0.7
	comp=Z,6.9nm,1.0s,mb4.1						
TLY	Talaya	27.00	6	*e*P	P	17 50 36.1	+1.7
TLY				*e*S	S	17 55 10.9	+0.9
TLY				*e*SS	SS	17 56 20.4	-3.2
TLY				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb3.9						
TLY				MLR	MLR		
	comp=Z,225nm,17.0s,MS3.8						
KURK	Kurchatov	30.25	334	*i* P	P	17 51 04.3	+0.6
KURK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
KURK	Kurchatov	30.25	334	P	P	17 51 03.4	-0.4
	comp=Z,2.5nm,0.8s,mb4.0						
ZAL	Zalesovo	30.94	344	*i* P	P	17 51 08.4	-1.3
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ZAL	Zalesovo	30.94	344	P	P	17 51 08.3	-1.4
	comp=Z,1.6nm,0.7s,mb4.0,baz=318,slow=11,SNR=9.6						
NVS	Novosibirsk	32.16	343	*e*P	P	17 51 18.3	-2.1
BOD	Bodaibo	34.61	14	*e*P	P	17 51 41.4	-0.3
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
BVA0	Borovoye Array	35.46	330	P	P	17 51 49.7	+0.8
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.7						
BVAR	Borovoye Array	35.46	330	P	P	17 51 48.6	-0.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=139,slow=10,SNR=11						
CHKZ	Chkalovo	35.79	331	*i* P	P	17 51 50.5	-1.3
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHKZ	Chkalovo	35.79	331	*e*P	P	17 51 52.5	+0.8
	comp=Z,1.9nm,0.6s,mb4.2						
ASAJ	Asahikawa	40.13	50	P	P	17 52 29.5	+1.3
	comp=Z,14nm,0.7s,mb4.8,baz=252,slow=9.6,SNR=13						
GOF	Gofitskoye	49.12	309	⇓*i*P	P	17 53 42.0	+1.8
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb5.0						
KIV	Kislovodsk	49.29	307	*e*P	P	17 53 42.8	+1.2
	comp=Z,12nm,1.1s,mb4.9						
ASF	Jabal al Asfar	54.48	293	P	P	17 54 21.7	+1.0
	comp=Z,4.8nm,0.7s,mb4.5,baz=272,slow=5.2,SNR=5.1						
WRAB	Tennant Creek	56.21	139	*e*P	P	17 54 36.2	+2.7
WRAB				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
WRAB	Tennant Creek	56.21	139	*e*P	P	17 54 36.2	+2.8
	comp=Z,18nm,0.9s,mb5.1						
WRA	Warramunga Arr	56.22	139	P	P	17 54 34.3	+0.9
	comp=Z,8.6nm,0.8s,mb4.8,baz=330,slow=7.4,SNR=32						
WB2	Warramunga Arr	56.22	139	*e*P	P	17 54 34.3	+0.8
ASAR	Alice Springs	58.88	142	P	P	17 54 53.0	+0.7
	comp=Z,3.9nm,0.8s,mb4.5,baz=323,slow=6.1,SNR=30						
ASAR				LR	LR	18 21 25.0	
	comp=Z,72nm,18.5s,MS3.8,baz=322,slow=37						
NWAO	Narrogin (SRO)	60.02	162	P	P	17 55 00.3	+0.3
	comp=Z,7.6nm,0.8s,mb4.8,baz=162,slow=8.7,SNR=2.4						
FINES	FINESS Array B	60.38	328	P	P	17 54 59.9	-2.2
	comp=Z,1.2nm,0.7s,mb4.0,baz=112,slow=10,SNR=6.1						
ARCES	ARCESS Array B	61.20	337	LR	LR	18 24 28.9	
	comp=Z,104nm,18.3s,MS4.0,baz=65,slow=39						
NB2	NORSAR Subarra	67.56	328	P	P	17 55 47.1	-1.9
	comp=Z,2.6nm,0.8s,mb4.3,baz=79,slow=6.5						
NOA	NORSAR Array B	67.56	328	P	P	17 55 47.1	-1.9
	comp=Z,1.5nm,0.8s,mb4.0,baz=80,slow=6.3,SNR=4.2						
GERES	GERESS Array B	68.76	315	P	P	17 55 56.0	-0.7
	comp=Z,0.8nm,0.7s,mb3.8,baz=63,slow=6.0,SNR=9.0						
STKA	Stephens Creek	69.52	142	P	P	17 56 02.6	+0.9
	comp=Z,3.9nm,0.8s,mb4.4,baz=316,slow=7.6,SNR=7.5						
STKA	Stephens Creek	69.52	142	*e*P	P	17 56 04.5	+2.9
ILAR	Eielson Array	77.33	24	P	P	17 56 46.1	-0.5
	comp=Z,0.4nm,0.6s,mb3.5,baz=279,slow=3.7,SNR=5.8						
ILAR				LR	LR	18 36 50.9	
	comp=Z,73nm,18.5s,MS4.0,baz=357,slow=40						
MATP	Matopo	82.06	243	P	P	17 57 13.8	+0.9
	comp=Z,2.7nm,0.8s,mb4.2,baz=82,slow=5.2,SNR=8.0						
LBTB	Lobatse	86.66	241	P	P	17 57 38.7	+2.6
	comp=Z,1.6nm,0.6s,mb4.4,baz=299,slow=5.0,SNR=3.5						
YKA	Yellowknife Ar	88.88	15	P	P	17 57 46.4	+0.5
	comp=Z,0.1nm,0.5s,mb3.4,baz=320,slow=4.8,SNR=5.0						
YKA				LR	LR	18 39 49.2	
	comp=Z,76nm,18.9s,MS4.1,baz=330,slow=37						
YKA	Yellowknife Ar	88.88	15	P	P	17 57 46.4	+0.5
YKA				LR	LR	18 39 49.2	
TXAR	Lajitas Array	121.84	23	PKP	PKPdf	18 03 47.1	-1.5
	comp=Z,0.3nm,0.6s,baz=315,slow=3.5,SNR=4.0						

OTT 14 17:50:01.4±0.5**, 47.63N**×**91.89W, MN2.8**/8**, Blast, Minnesota, U.S. Mining explosion., Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	Ely	0.41	40	PG	Pg	17 50 08.6	-1.1
EYMN				SG	Sg	17 50 13.7	-1.4
EYMN				Trac		17 50 16.7	
	comp=Z,3µm,0.2s						
ATKO	Atikokan Iron	1.21	9	PG	Pg	17 50 23.4	-2.2
ATKO				SG	Sg	17 50 38.1	-3.6
ATKO				Trac		17 50 45.1	
	comp=Z,9.1nm,0.1s						
TBO	Thunder Bay	1.95	58	PN	Pn	17 50 35.3	-0.8
TBO				SG	Sg	17 51 02.7	-3.5
TBO				Trac		17 51 03.5	
	comp=Z,39nm,0.2s						
LDIO	Lac des Isle M	2.17	44	PN	Pn	17 50 39.8	+0.5
LDIO				SN	Sn	17 51 05.5	-1.7
LDIO				Trac		17 51 10.3	
	comp=Z,24nm,0.2s						
EPLO	Experimental L	2.38	330	PN	Pn	17 50 41.7	-0.5
EPLO				SG	Sg	17 51 14.0	-6.7
EPLO				Trac		17 51 15.6	
	comp=Z,4.2nm,0.1s						
SOLO	Sioux Lookout	2.40	357	PN	Pn	17 50 41.6	-0.9
SOLO				SN	Sn	17 51 12.8	-0.2
SOLO				Trac		17 51 15.9	
	comp=Z,9.4nm,0.1s						
RLKO	Red Lake	3.65	341	PN	Pn	17 50 59.2	-1.2
RLKO				SN	Sn	17 51 42.5	-2.4
RLKO				SG	Sg	17 51 53.8	-9.3
RLKO				Trac		17 51 55.9	
	comp=Z,4.5nm,0.2s						
ULM	Lac du Bonnet	3.71	316	PN	Pn	17 50 58.7	-2.5
ULM				SN	Sn	17 51 39.1	-7.3
ULM				SG	Sg	17 51 53.8	-11
ULM				Trac		17 51 58.8	
	comp=Z,44nm,0.8s						
PNPO	Pukaskwa Natio	3.87	74	PN	Pn	17 51 01.0	-2.5
PNPO				SN	Sn	17 51 48.5	-1.9
GTO	Geraldton	3.89	55	PN	Pn	17 51 02.7	-1.0
GTO				PG	Pg	17 51 11.4	-7.6
GTO				SG	Sg	17 52 00.8	-10
GTO				Trac		17 52 09.7	
	comp=Z,11nm,0.2s						
KAPO	Kapuskasing	6.49	70	PN	Pn	17 51 37.3	-3.2
KAPO				SN	Sn	17 52 45.4	-11
VIMO	Victor Mine	7.36	42	PN	Pn	17 51 47.9	-4.9
VIMO				SN	Sn	17 53 07.8	-10
SILO	Sutton Inlier	8.14	30	PN	P	17 51 58.4	-5.3
SILO				SN	Sn	17 53 26.0	-12
FCC	Fort Churchill	11.23	354	PN	P	17 52 40.4	-5.7
FCC				SN	S	17 54 37.8	-16

*ISK **14** 17:51:49.0, 39.41N×40.83E, h14km, MD3.6*
*CSEM **14** 17:51:49.0, 39.41N×40.83E, h14km, MD3.6, After ISK*
ISC 14 17:51:49.2±0.6**, 39.41N**±0.03×**40.81E**±0.04**, h2**km±6km**, n22, σ0.98**/30**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.59	205	*i* Pg	Pg	17 52 00.6	-0.4
BINT				*e*Sg	Sg	17 52 10.0	+1.2
VRT	Varto	0.62	116	*i* PG	Pg	17 52 01.5	-0.1
EZM	Erzurum	0.65	41	*i* PG	Pg	17 52 02.2	0.0
ERZM	Erzurum	0.65	41	*i* P	Pg	17 52 02.5	+0.2
ERZM				*i* S	Sg	17 52 11.7	+0.8
EZC	Erzincan	0.84	294	PN	Pn	17 52 11.4	+3.7
PTK	Pertek	1.22	245	*e*PN	Pn	17 52 12.8	-0.3
BTMT	Batman	1.33	156	PN	Pn	17 52 14.1	-0.6
GUMT	Gumushane	1.46	316	*e*PN	Pn	17 52 16.3	-0.3
BEST	Besiri	1.56	167	*i* P	Pn	17 52 18.7	+0.7
BEST				*i* S	Sb	17 52 38.2	-0.3
DIY	Diyarbakir	1.58	197	*e*PN	Pn	17 52 18.0	-0.3
ELZG	Elazig	1.69	238	*i* P	Pn	17 52 21.9	+2.1
ELZG				*i* S	Sb	17 52 42.2	-0.2
KARS	Kars	2.12	55	*e*PN	Pn	17 52 24.5	-1.6
MALT	Malatya	2.16	240	*e*PN	Pn	17 52 26.5	-0.1
VANB	Van	2.17	111	*e*PN	Pn	17 52 24.9	-1.8
TVAN	Van	2.21	113	P	Pn	17 52 29.6	+2.3
TVAN				*i* S	Sn	17 52 56.5	+1.0
URFA	Urfa	2.51	219	*e*PN	Pn	17 52 31.2	-0.4
SVST	Sivas	3.00	278	P	Pg	17 52 45.0	-4.1
SVST				S	Sg	17 53 29.7	+0.6
GNI	Garni	3.12	75	*e*PN	Pn	17 52 39.1	-1.2
GZT	Gaziantep	3.27	232	P	Pg	17 52 54.0	-0.5
GZT				S	Sg	17 53 37.0	-1.1
KAHT	Ahir Dag	3.56	241	P	Pn	17 52 47.4	+0.8
COBT	Iskenderun	4.61	233	P	Pn	17 53 17.3	+16
BOYT	Boyabat	4.94	296	P	Pg	17 53 18.6	-9.1
BOYT				*e*S	Sg	17 54 28.9	-4.6

*IDC **14** 18:05:16.6±1.6, 27.82S×73.86E, mb3.8/6, mb1 4.0/6, mb1mx3.9/13, mbtmp3.8/6, Error ellipse: s-maj=46.8km s-min=28.8km az=80.0*
ISC 14 18:05:16.3±1.9**, 27.9S**±0.2×**73.9E**±0.4**, h10**km**, n8, σ0.33**/6**, mb3.8**/6**, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	52.02	31	P	P	18 14 28.6	+0.2
	1.1nm,0.7s,mb3.9,baz=214,slow=7.9,SNR=7.3						
ASAR	Alice Springs	53.73	100	P	P	18 14 41.3	+0.3
	1.4nm,0.7s,mb4.0,baz=249,slow=6.6,SNR=26						
WRA	Warramunga Arr	55.33	96	P	P	18 14 52.4	-0.4
	1.1nm,0.7s,mb4.0,baz=251,slow=7.4,SNR=8.1						
STKA	Stephens Creek	57.97	112	P	P	18 15 11.6	+0.1
	0.8nm,0.7s,mb3.8,baz=294,slow=12,SNR=2.1						
VNDA	Vanda	62.58	166	P	P	18 15 42.5	0.0
	0.8nm,0.8s,mb3.9,baz=38,slow=3.5,SNR=2.8						
SONM	Songino Array	80.80	21	P	P	18 17 31.3	-0.1
	0.3nm,0.8s,mb3.3,baz=209,slow=6.6,SNR=3.6						
YKA	Yellowknife Ar	144.90	7	PKP	PKPdf	18 24 52.9	-3.1
	0.3nm,0.6s,baz=347,slow=3.5,SNR=5.8						
DLBC	Dease Lake	145.17	22	PKPbc	PKPbc	18 24 55.1	+1.2
	1.1nm,0.7s,baz=341,slow=3.8,SNR=2.8						

*BJI **14** 18:11:46.7, 29.47N×69.26E, h10km*
*IDC **14** 18:11:53.1±1.1, 29.65N×69.66E, mb3.8/9, mb1 4.0/9, mb1mx3.8/20, mbtmp3.8/9, MS3.4/2, Ms1 3.4/2, ms1mx2.8/22, Error ellipse: s-maj=30.2km s-min=20.5km az=46.0*
*NEIC **14** 18:11:55.0±1.0, 29.86N×69.74E, h10km, mb3.8/3, Error ellipse: s-maj=21.8km s-min=15.8km az=55.0*
ISC 14 18:11:54.7±1.4**, 29.83N**±0.04×**70.17E**±0.06**, h8**km±11km**, n44, σ1.23**/48**, mb3.7**/11**, MS3.4**/2**, 1C-1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	Sheikh Budin	2.52	12	P	Pn	18 12 37.5	+0.8
JASL	Jaisalmer	2.97	167	*e*P	Pn	18 12 45.7	+2.7
SARP	Sargodha	3.00	45	P	Pn	18 12 44.4	+0.9
SARP				S	Sn	18 13 21.0	+1.0
THW	Thamme Wali	3.25	24	P	Pn	18 12 47.8	+0.8
CEP	Cherat	4.25	20	⇑P	Pn	18 13 00.9	-0.3
CEP				S	Sn	18 13 51.0	-0.6
CHCP	Chirah Chowk	4.64	34	P	Pn	18 13 06.7	-0.1
AJM	Ajmer	5.17	129	*i* P	Pn	18 13 16.0	+1.7
KHET	Khetri	5.24	108	*e*P	Pn	18 13 16.7	+1.4
KHET				*e*		18 14 54.0	
	comp=E,118nm,0.7s						
KHET				*e*		18 14 54.2	
	comp=N,113nm,0.3s						
PONG	Pong	5.40	65	*e*S	Sn	18 14 20.0	-0.7
THN	Thein Dam	5.42	60	*e*	Sn	18 14 25.4	+4.3
BHK	Bhakra	5.61	72	*e*S	Sn	18 14 27.4	+1.4
BHK				*e*		18 15 02.6	
DLH	Dalhousie	5.66	60	*e*P	Pn	18 13 22.0	+0.9
DLH				*e*S	Sn	18 14 27.0	-0.1
KUDL	Kundal	5.79	105	*e*P	Pn	18 13 23.0	0.0
KUDL				*e*S	Sn	18 14 32.5	+2.2
KUDL				*e*		18 15 09.6	
	comp=Z,78nm,0.7s						
SMLA	Simla	6.18	76	⇓*i*	Pn	18 13 27.4	-1.1
SMLA				*i* S	Sn	18 14 39.8	-0.3
AYAN	Aya Nagar	6.23	101	*e*P	Pn	18 13 30.3	+1.0
AYAN				*e*S	Sn	18 14 40.2	-1.3
AYAN				*e*		18 15 23.0	
	comp=Z,39nm,0.7s						
SONA	Sohna	6.26	103	*e*P	Pn	18 13 29.9	+0.3
SONA				*e*		18 15 28.2	
	comp=E,115nm,1.0s						
SONA				*e*		18 15 28.3	
	comp=N,85nm,0.5s						
NDI	New Delhi	6.26	99	*e*	Pn	18 13 29.0	-0.7
NDI				*e*		18 14 39.0	
NDI				*e*		18 15 15.5	
DDI	Dehra Dun	6.85	84	*e*P	Pn	18 13 39.6	+1.6
DDI				*e*		18 15 42.3	
PTH	Pithoragarh	8.75	89	*e*	Sn	18 15 37.0	-7.3
LGTI	Lohaghat	8.78	90	*e*P	P	18 14 03.5	-1.4
LGTI				*e*		18 15 44.3	
KSH	Kashi	10.78	25	*e*P	P	18 14 33.8	+1.4
KSH				*e*AP		18 14 43.8	
POO	Poona	11.74	163	*e*	Sx	18 17 23.0	
KOLN	Koldanda	11.96	97	*e*P	P	18 14 47.0	-1.5
	comp=N,15nm,0.5s						
GKN	Gorkha	12.81	95	*e*P	P	18 14 57.4	-2.5
	comp=N,15nm,0.3s						
AAK	Ala-Archa	13.24	14	*e*Pn	P	18 15 01.5	-4.1
	comp=N,4.2nm,0.5s						
DMN	Daman	13.30	96	*e*P	P	18 15 04.4	-2.0
KKN	Kakani	13.41	95	*e*P	P	18 15 05.9	-2.0
	comp=N,17nm,0.6s						
KKN				*e*S	S	18 17 28.4	-10
PKI	Pulchoki	13.57	96	*e*P	P	18 15 08.4	-1.6
	comp=N,14nm,0.6s						
JIRN	Jiri	14.22	95	*e*P	P	18 15 17.5	-1.1
	comp=N,39nm,0.6s						
LSA	Lhasa	18.22	85	P	P	18 16 11.4	+1.7
LSA	Lhasa	18.22	85	*e*P	P	18 16 13.2	+3.5
	comp=N,6.2nm,0.9s						
KURK	Kurchatov	21.81	15	*e*P	P	18 16 46.4	-2.6
	comp=N,2.4nm,0.6s,mb3.8						
BVAR	Borovoye Array	23.18	0	P	P	18 17 01.9	-0.6
	comp=N,1.9nm,0.6s,mb3.7,baz=179,slow=10,SNR=14						
CHKZ	Chkalovo	23.83	1	*e*P	P	18 17 08.9	0.0
	comp=N,2.8nm,1.0s,mb3.6						
ZAL	Zalesovo	26.33	20	P	P	18 17 33.6	+1.0
	comp=N,1.8nm,0.4s,mb3.9,baz=228,slow=4.1,SNR=8.0						
CMAR	Chiang Mai Arr	28.52	107	P	P	18 17 53.8	+0.9
	comp=N,0.9nm,0.9s,mb3.5,baz=288,slow=10,SNR=6.5						
ASF	Jabal al Asfar	28.55	283	P	P	18 17 46.8	-6.3
	comp=N,1.4nm,0.4s,mb4.0,baz=341,slow=0.4,SNR=2.9						
SONM	Songino Array	33.07	47	P	P	18 18 34.1	+1.2
	comp=N,0.6nm,0.8s,mb3.6,baz=246,slow=7.5,SNR=6.3						
FINES	FINESS Array B	42.78	331	LR	LR	18 39 55.3	
	comp=N,52nm,19.4s,MS3.4,baz=248,slow=39						
KMBO	Kilima Mbogo	43.98	231	LR	LR	18 38 27.5	
	comp=N,43nm,20.2s,MS3.4,baz=92,slow=37						
ARCES	ARCESS Array B	47.10	340	P	P	18 20 27.4	-1.2
	comp=N,0.6nm,0.5s,mb3.8,baz=100,slow=7.4,SNR=8.3						
WRA	Warramunga Arr	79.14	120	P	P	18 24 01.9	0.0
	comp=N,0.5nm,0.7s,mb3.5,baz=320,slow=5.1,SNR=5.5						
ASAR	Alice Springs	81.08	124	P	P	18 24 11.6	-0.6
	comp=N,0.4nm,0.6s,mb3.5,baz=305,slow=5.7,SNR=7.4						
YKA	Yellowknife Ar	87.92	2	P	P	18 24 45.8	+0.2
	comp=N,0.1nm,0.3s,mb3.5,baz=352,slow=4.9,SNR=5.9						

IDC 14 18:12:50.2±16.0**, 11.29N**×**143.22E, h379**km±181km**, mb3.0**/6**, mb1 3.3**/6**, mb1mx3.1**/17**, mbtmp3.8**/6**, Error ellipse: s-maj=51.2km s-min=27.5km az=63.0, South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.25	196	P	P	18 18 44.6	-2.0
	1.4nm,0.6s,baz=19,slow=9.7,SNR=16						
ASAR	Alice Springs	35.92	195	P	P	18 19 16.6	-1.1
	0.5nm,0.5s,baz=11,slow=11,SNR=10						
SONM	Songino Array	47.72	327	P	P	18 20 51.2	-0.8
	0.2nm,0.5s,baz=140,slow=7.5,SNR=3.3						
BVAR	Borovoye Array	70.73	322	P	P	18 23 25.8	-1.8
	0.6nm,0.4s,baz=111,slow=8.1,SNR=7.9						
ILAR	Eielson Array	71.32	25	P	P	18 23 28.8	-2.2
	0.4nm,0.5s,baz=256,slow=5.6,SNR=7.5						
NVAR	Mina Array Bea	89.61	51	P	P	18 25 07.8	+0.7
	0.7nm,0.7s,baz=275,slow=4.8,SNR=3.9						

*IDC **14** 18:22:19.6±6.9, 10.29N×60.58W, h25km±45km, mb3.8/15, mb1 4.0/18, mb1mx3.9/24, mbtmp4.1/18, ML4.8/1, MS3.5/1, Ms1 3.6/1, ms1mx2.3/18, Error ellipse: s-maj=18.2km s-min=14.0km az=101.0*
*TRN **14** 18:22:19.6, 10.16N×60.45W, h50km, MD3.9*
*FUNV **14** 18:22:23.0, 10.33N×60.87W, MW3.5*
*NEIC **14** 18:22:26.5, 10.55N×60.78W, h37km, mb4.2/4, MD3.8(TRN), After TRN.*
ISC 14 18:22:22.0±0.8**, 10.22N**±0.05×**60.70W**±0.06**, h66**km±6km**, n49, σ1.15**/54**, mb3.9**/17**, Trinidad**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	Brigand Hill	0.45	306	*e*P	P	18 22 35.2	+1.1
TPP	Pointe-a-Pierr	0.74	277	*e*P	P	18 22 40.0	+2.6
TPP				*e*S	S	18 22 49.5	+0.8
TRN	Trinidad (W)	0.81	302	*e*P	P	18 22 39.3	+1.1
TRN				*e*S	S	18 22 47.2	-2.9
BOT	Bacolet	0.94	359	*e*P	P	18 22 37.6	-2.2
TPR	Prospect	0.96	356	*e*P	P	18 22 38.1	-2.0
GUIV	Guiria	1.56	286	*e*P	P	18 22 48.7	+0.5
GUIV				*e*S	S	18 23 06.6	-0.9
GRW	Mount Saint Ca	2.15	334	*e*P	P	18 22 56.3	0.0
GRHS	Sauteurs	2.19	335	*e*P	P	18 22 57.5	+0.4
GRHS				*e*S	S	18 23 26.5	+3.5
GUNV	Guanoco	2.21	269	*e*P	P	18 22 58.5	+1.2
GUNV				*e*S	S	18 23 24.1	+0.8
GRIC	Isle de Caille	2.23	337	*e*P	P	18 23 02.4	+4.9
GRIC				*e*S	S	18 23 25.0	+1.2
GRSS	Sisters	2.25	337	*e*P	P	18 22 57.7	-0.1
GRSS				*e*S	S	18 23 24.8	+0.4
CRUV	Carupano	2.54	280	*e*P	P	18 23 01.3	-0.5
ITEV	Isla Los Testi	2.64	295	*e*P	P	18 23 02.9	-0.4
ITEV				*e*S	S	18 23 33.8	-0.4
ORIV	Oritupano	2.91	247	*e*P	P	18 23 08.2	+1.2
PCRV	Puerto La Cruz	3.88	270	*e*P	P	18 23 19.6	-1.0
IBAV	Isla La Blanqu	4.13	293	*e*P	P	18 23 23.2	-0.9
BIRV	Birongo	5.49	273	*e*P	P	18 23 42.4	-0.6
BAUV	El Baul	7.35	261	*e*P	P	18 24 07.2	-1.8
SJG	San Juan	9.46	327	Pn	P	18 24 36.0	-1.8
	3.7nm,0.3s,baz=311,slow=23,SNR=3.7						
SJG				Sn	S	18 26 14.3	-9.2
	2.8nm,0.3s,baz=334,slow=19,SNR=2.6						
SDV	Santo Domingo	9.89	263	Pn	P	18 24 41.8	-2.0
	7.9nm,0.3s,baz=100,slow=8.7,SNR=35						
SDV				Sn	S	18 26 27.3	-6.7
	7.8nm,0.3s,baz=68,slow=17,SNR=8.7						
SDV	Santo Domingo	9.89	263	*e*Pn	P	18 24 40.1	-3.7
	18nm,0.4s						
ROSC	El Rosal	14.52	249	Pn	P	18 25 44.3	-1.2
	0.9nm,0.3s,baz=278,slow=22,SNR=2.9						
LPAZ	La Paz	27.34	196	P	P	18 28 04.5	+1.3

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	0.5nm,0.3s,mb3.6,baz=4.1,slow=12,SNR=4.7						
LPAZ				LR	LR	18 40 18.9	
	comp=Z,97nm,21.9s,baz=268,slow=39						
LPAZ	La Paz	27.34	196	*e*P	P	18 28 04.2	+1.1
	1.3nm,0.7s,mb3.6						
LVC	Limon Verde	33.61	194	P	P	18 28 58.6	+0.3
	2.6nm,0.6s,mb4.3,baz=14,slow=6.8,SNR=6.3						
LVC	Limon Verde	33.61	194	P	P	18 28 58.3	0.0
	2.8nm,0.6s,mb4.3						
TXAR	Lajitas Array	44.37	302	P	P	18 30 29.5	+1.7
	0.3nm,0.4s,mb3.4,baz=115,slow=10,SNR=5.2						
TXAR	Lajitas Array	44.37	302	P	P	18 30 29.5	+1.7
SCHQ	Schefferville	44.76	355	P	P	18 30 31.9	+1.3
	1.9nm,0.8s,mb3.9,baz=236,slow=3.3,SNR=2.9						
SCHQ	Schefferville	44.76	355	P	P	18 30 31.9	+1.3
ULM	Lac du Bonnet	49.33	331	P	P	18 31 06.0	-0.5
	1.0nm,0.3s,mb4.2,baz=110,slow=10,SNR=3.3						
PDAR	Pinedale Array	53.40	316	P	P	18 31 37.1	-0.2
	1.5nm,0.7s,mb4.1,baz=112,slow=11,SNR=11						
DBIC	Dimbokro	55.30	89	P	P	18 31 49.5	-2.0
	1.4nm,0.4s,mb4.4,baz=230,slow=2.1,SNR=7.3						
ELK	Elko	56.74	312	P	P	18 32 00.9	-0.6
	0.4nm,0.4s,mb3.8,baz=51,slow=19,SNR=2.1						
HLID	Hailey	57.01	316	*e*P	P	18 32 03.9	+0.5
	1.4nm,0.8s,mb4.0						
ESDC	Sonseca Array	58.08	49	P	P	18 32 09.9	-1.1
	0.2nm,0.2s,mb3.7,baz=259,slow=7.2,SNR=5.7						
YBH	Yreka Blue Hor	62.44	312	P	P	18 32 40.2	-0.5
	1.1nm,0.5s,mb4.2,baz=107,slow=8.7,SNR=3.2						
YKA	Yellowknife Ar	64.83	336	P	P	18 32 55.7	-0.3
	0.4nm,0.3s,mb3.7,baz=110,slow=7.2,SNR=6.4						
YKA	Yellowknife Ar	64.83	336	P	P	18 32 55.7	-0.3
GERES	GERESS Array B	72.11	42	P	P	18 33 41.1	-0.1
	1.5nm,0.6s,mb4.0,baz=270,slow=5.3,SNR=17						
NOA	NORSAR Array B	72.38	29	P	P	18 33 43.5	+0.9
	0.7nm,0.8s,mb3.5,baz=241,slow=6.5,SNR=2.5						
BRG	Berggiesshubel	72.45	40	*e*P	P	18 33 43.5	+0.3
	6.7nm,1.3s,mb4.3						
ARCES	ARCESS Array B	79.17	21	P	P	18 34 22.1	+1.1
	0.9nm,0.7s,mb3.7,baz=256,slow=7.4,SNR=4.0						
ILAR	Eielson Array	79.20	334	P	P	18 34 22.6	+1.4
	0.8nm,0.6s,mb3.8,baz=92,slow=4.7,SNR=18						
CMAR	Chiang Mai Arr	145.13	35	PKP	PKPdf	18 41 54.9	+2.0
	1.6nm,0.7s,baz=310,slow=5.0,SNR=9.2						
STKA	Stephens Creek	150.17	220	PKPbc	PKPdf	18 42 09.2	+8.4
	1.2nm,0.9s,baz=66,slow=3.4,SNR=3.1						
CTA	Charters Tower	152.24	246	PKPbc	PKPdf	18 42 14.9	+11
	3.7nm,0.9s,baz=90,slow=7.5,SNR=3.3						
ASAR	Alice Springs	160.69	224	PKPab	PKPab	18 43 00.3	+1.0
	0.6nm,0.7s,baz=128,slow=4.5,SNR=9.8						
WRA	Warramunga Arr	162.57	235	PKPab	PKPab	18 43 10.0	+2.4
	0.6nm,1.1s,baz=154,slow=5.6,SNR=3.3						

IDC 14 18:23:21.9±3.2, 3.27S×118.50E, mb3.5/4, mb1 3.7/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=214.8km s-min=27.4km az=64.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.66	138	P	P	18 28 24.0	-2.3
	1.7nm,0.8s,baz=316,slow=11,SNR=11						
ASAR	Alice Springs	25.16	145	P	P	18 28 49.8	-0.7
	0.2nm,0.5s,baz=320,slow=8.1,SNR=4.7						
STKA	Stephens Creek	35.80	145	P	P	18 30 23.1	-1.9
	2.3nm,1.1s,baz=318,slow=12,SNR=3.3						
SONM	Songino Array	51.98	350	P	P	18 32 33.0	-2.0
	0.3nm,0.6s,baz=165,slow=8.8,SNR=3.0						

IDC 14 18:30:59.5±1.5, 24.93N×141.09E, h165km±14km, mb3.4/7, mb1 3.6/9, mb1mx3.4/21, mbtmp4.0/9, MS3.4/1, Ms1 3.4/1, ms1mx2.2/19, Error ellipse: s-maj=33.1km s-min=14.6km az=96.0

NEIC 14 18:31:08.1±0.5, 24.85N×141.03E, h250km, mb3.8/2, Error ellipse: s-maj=26.2km s-min=10.0km az=90.0

ISC 14 18:30:58.0±1.5, 25.00N±0.08×140.8E±0.2, h167km±16km, n14, σ0s92/15, mb3.7/9, 1D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.42	30	P	P	18 31 41.0	+1.5
	74nm,0.3s,baz=291,slow=22,SNR=32						
CBIJ				S	S	18 32 11.2	-0.2
	46nm,0.3s,baz=276,slow=22,SNR=4.8						
JHJ	Hachijo jima 2	8.15	354	P	P	18 32 49.5	-4.6
	3.7nm,0.3s,baz=97,slow=23,SNR=2.5						
JHJ				S	S	18 34 22.8	-2.1
	3.4nm,0.3s,baz=222,slow=23,SNR=2.6						
JOW	Kunigami	11.45	282	LR	LR	18 37 15.7	
	comp=Z,190nm,19.4s,baz=42,slow=32						
WRAB	Tennant Creek	45.10	189	*e*P	P	18 38 58.9	-0.5
	5.3nm,0.4s,mb4.5						
WB2	Warramunga Arr	45.11	189	⇓*i*P	P	18 38 59.0	-0.5
WRA	Warramunga Arr	45.11	189	P	P	18 38 59.0	-0.5
	1.5nm,0.4s,mb4.0,baz=7.8,slow=8.7,SNR=58						
ASAR	Alice Springs	48.84	188	P	P	18 39 27.9	-0.6
	0.4nm,1.0s,mb3.0,baz=22,slow=11,SNR=3.6						
CHKZ	Chkalovo	58.64	319	*e*P	P	18 40 40.4	+0.7
	0.5nm,0.5s,mb3.6						
BVAR	Borovoye Array	58.78	318	P	P	18 40 42.0	+1.3
	1.3nm,0.4s,mb4.2,baz=96,slow=7.9,SNR=24						
ILAR	Eielson Array	60.13	28	P	P	18 40 49.0	-0.7
	0.5nm,0.6s,mb3.5,baz=253,slow=5.7,SNR=6.9						
YKA	Yellowknife Ar	74.56	28	P	P	18 42 19.9	+0.2
	0.5nm,0.6s,mb3.3,baz=294,slow=5.7,SNR=10						
YKA	Yellowknife Ar	74.56	28	P	P	18 42 19.9	+0.2
ARCES	ARCESS Array B	75.12	341	P	P	18 42 23.8	+1.0
	1.2nm,0.8s,mb3.6,baz=50,slow=7.0,SNR=4.4						
FINES	FINESS Array B	79.28	334	P	P	18 42 46.1	+0.2
	0.9nm,1.0s,mb3.4,baz=63,slow=4.3,SNR=5.1						

IDC 14 18:39:17.2±12.0, 11.58N×92.17E, h58km±99km, mb3.2/4, mb1 3.4/5, mb1mx3.3/17, mbtmp3.4/5, ML3.7/1, Error ellipse: s-maj=113.3km s-min=24.2km az=59.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.46	43	P	P	18 41 30.8	-2.5
	0.2nm,0.3s,baz=238,slow=16,SNR=7.1						
SONM	Songino Array	38.06	16	P	P	18 46 29.9	-1.9
	0.3nm,0.7s,baz=194,slow=5.9,SNR=3.0						
BVAR	Borovoye Array	44.88	341	P	P	18 47 26.2	-1.4
	0.2nm,0.6s,baz=108,slow=9.1,SNR=2.7						
WRA	Warramunga Arr	52.00	127	P	P	18 48 21.0	-2.2
	0.1nm,0.5s,baz=316,slow=8.6,SNR=3.6						
ASAR	Alice Springs	53.78	131	P	P	18 48 33.8	-2.7
	0.5nm,0.9s,baz=309,slow=5.8,SNR=4.9						

NEIC 14 19:12:26.6±0.8, 3.85N×95.82E, h30km, mb4.0/2, Error ellipse: s-maj=21.7km s-min=12.6km az=53.0

IDC 14 19:12:35.3±20.0, 4.17N×96.29E, h100km±174km, mb3.5/6, mb1 3.7/7, mb1mx3.5/16, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=167.3km s-min=17.2km az=55.0

ISC 14 19:12:24.4±1.0, 3.8N±0.1×95.8E±0.1, h30km, n11, σ1s05/11, mb3.9/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.05	73	*e*Pn	Pn	19 13 39.6	-0.5
CMAR	Chiang Mai Arr	14.85	12	P	P	19 15 55.6	+1.4
	0.2nm,0.3s,baz=203,slow=12,SNR=12						
WRA	Warramunga Arr	44.63	123	P	P	19 20 37.0	+0.5
	0.6nm,0.3s,mb3.9,baz=306,slow=9.4,SNR=3.2						
ASAR	Alice Springs	46.11	128	P	P	19 20 48.0	-0.1
	1.6nm,0.5s,mb4.2,baz=302,slow=7.5,SNR=32						
KURK	Kurchatov	48.90	346	P	P	19 21 08.6	-0.9
	0.7nm,0.6s,mb3.9						
ZAL	Zalesovo	50.74	352	P	P	19 21 24.0	+0.4
	0.9nm,0.3s,mb4.1,baz=345,slow=4.8,SNR=3.5						
BVAR	Borovoye Array	53.31	341	P	P	19 21 41.4	-1.5
	0.3nm,0.6s,mb3.4,baz=143,slow=7.2,SNR=3.1						
CHKZ	Chkalovo	53.79	342	*e*P	P	19 21 45.6	-0.8
	1.5nm,0.7s,mb4.0						
STKA	Stephens Creek	56.16	133	P	P	19 22 03.9	-0.1
	1.3nm,0.6s,mb4.1,baz=290,slow=10,SNR=5.2						
STKA	Stephens Creek	56.16	133	*e*P	P	19 22 04.0	0.0
GERES	GERESS Array B	81.92	319	P	P	19 24 45.3	+2.7
	0.2nm,0.5s,mb3.3,baz=117,slow=4.4,SNR=3.0						

IDC 14 19:46:32.9±1.3, 6.92N×95.52E, mb4.0/8, mb1 4.1/9, mb1mx3.9/18, mbtmp3.9/9, ML3.7/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/16, Error ellipse: s-maj=41.4km s-min=27.8km az=50.0

ISC 14 19:46:36.7±1.0, 7.0N±0.2×95.7E±0.2, h33km, n10, σ1s19/9, mb3.6/7, MS3.6/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	11.79	15	Pn	P	19 49 24.6	-0.9
	0.2nm,0.3s,baz=211,slow=15,SNR=13						
SONM	Songino Array	41.67	11	P	P	19 54 25.7	+1.9
	0.3nm,0.7s,mb3.1,baz=188,slow=8.7,SNR=3.7						
SONM				PcP	PcP	19 56 30.5	+10
	0.1nm,0.4s,baz=234,slow=3.2,SNR=4.4						
WRA	Warramunga Arr	46.55	126	P	P	19 55 02.6	-0.8
	0.3nm,0.6s,mb3.4,baz=304,slow=5.8,SNR=5.6						
ZAL	Zalesovo	47.59	351	P	P	19 55 09.0	-2.1
	1.7nm,0.8s,mb4.1,baz=299,slow=7.8,SNR=12						
KMBO	Kilima Mbogo	58.84	264	LR	LR	20 16 38.6	
	comp=Z,45nm,21.3s,MS3.6,baz=93,slow=31						
IDI	Anoyia	70.28	305	P	P	19 57 48.6	-0.3
	19nm,1.3s,baz=122,slow=13,SNR=2.6						
FINES	FINESS Array B	74.15	332	P	P	19 58 11.9	+0.5
	0.3nm,0.6s,mb3.4,baz=207,slow=4.3,SNR=3.6						
GERES	GERESS Array B	79.45	318	P	P	19 58 40.8	-0.7
	0.3nm,0.6s,mb3.4,baz=124,slow=4.8,SNR=3.9						
HFS	Hagfors	79.94	330	P	P	19 58 44.5	+0.7
	0.8nm,0.5s,mb3.9,baz=113,slow=11,SNR=4.5						
ILAR	Eielson Array	94.94	22	P	P	19 59 58.2	+1.7
	0.4nm,1.1s,mb3.8,baz=230,slow=7.0,SNR=2.3						

NDI 14 20:03:33.0±1.0, 17.36N×73.85E, h2km, mb5.0, ML1.7, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAD	Karad	0.32	99	*e*P	Pg	20 03 38.6	-0.7
KAD				*e*S	Sg	20 03 44.1	+0.5
KAD				*e*		20 03 51.0	
	comp=N,47nm,0.2s						
KAD				*e*		20 03 52.0	
	comp=E,51nm,0.3s						
POO	Poona	1.17	360	*e*P	Pb	20 03 55.0	-0.5
POO				*e*S	Sb	20 04 12.0	+1.0
BOM	Bombay	1.82	327	*e*P	Pn	20 04 06.3	+0.7
	comp=E,206nm,0.3s						
BOM				*e*S	Sn	20 04 29.8	+0.2

IDC 14 20:12:08.8±24.0, 18.17S×172.40W, mb4.3/4, mb1 4.5/4, mb1mx3.9/17, mbtmp4.3/4, Error ellipse: s-maj=445.9km s-min=150.2km az=73.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	39.04	260	P	P	20 19 38.0	-1.3
	3.3nm,0.4s,baz=90,slow=9.7,SNR=9.9						
STKA	Stephens Creek	43.55	243	P	P	20 20 14.5	-1.7
	0.7nm,0.4s,baz=52,slow=11,SNR=7.5						
WRA	Warramunga Arr	50.20	259	P	P	20 21 06.5	-2.2
	2.0nm,0.3s,baz=98,slow=7.0,SNR=161						
ASAR	Alice Springs	50.22	254	P	P	20 21 06.7	-2.1
	1.5nm,0.3s,baz=88,slow=8.7,SNR=60						

NEIC 14 20:23:07.1, 34.42N×118.67W, h14km, ML3.6(PAS), After PAS., Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MWC	Mount Wilson	0.54	111	*e*P	Pb	20 23 17.1	-0.8
PFO	Pinyon Flat Ob	2.01	113	Pn	Pn	20 23 39.0	-2.0
	438nm,0.4s,SNR=31						
PFO	Pinyon Flat Ob	2.01	113	*e*Pn	Pn	20 23 39.7	-1.3
DAC	Darwin (Calif)	2.05	25	*e*Pn	Pn	20 23 40.6	-1.0
BAR	Barrett	2.41	136	*e*Pn	Pn	20 23 44.6	-2.1
LRV	Little Rabbit	2.77	317	*e*Pn	Pn	20 23 50.3	-1.6
MTUM	Tungsten Hills	2.92	2	*e*Pn	Pn	20 23 53.9	-0.2
TPH	Tonopah	3.83	17	Pn	Pn	20 24 07.7	+0.8
CMB	Columbia Colle	3.86	339	*e*Pn	Pn	20 24 05.3	-2.1
MNV	Mina	4.02	6	Pn	Pn	20 24 08.6	-1.1
TRCR	Troy Canyon	4.64	32	Pn	Pn	20 24 18.9	+0.4
MSU	Marysvale	6.63	50	Pn	Pn	20 24 47.8	+1.2

IDC 14 20:46:49.3±7.7, 22.38N×93.79E, h61km±56km, mb3.0/3, mb1 3.3/4, mb1mx3.2/16, mbtmp3.3/4, ML3.5/1, Error ellipse: s-maj=79.9km s-min=24.4km az=75.0

ISC 14 20:46:52.4±3.1, 22.5N±0.3×94.2E±0.4, h98km±20km, n5, σ0s45/6, mb3.2/3, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMP	Imphal	2.32	354	*i* P	P	20 47 30.0	+0.1
CMAR	Chiang Mai Arr	5.98	131	P	P	20 48 19.5	-0.4
	0.3nm,0.3s,baz=303,slow=15,SNR=9.7						
CMAR				S	S	20 49 27.9	+0.2
	0.3nm,0.3s,baz=306,slow=19,SNR=4.2						
SONM	Songino Array	27.15	18	P	P	20 52 28.2	-0.1
	0.2nm,0.7s,mb2.8,baz=180,slow=5.8,SNR=2.3						
WRA	Warramunga Arr	57.57	134	P	P	20 56 34.3	-0.2
	0.2nm,0.4s,mb3.5,baz=321,slow=7.4,SNR=9.7						
ASAR	Alice Springs	59.95	137	P	P	20 56 51.3	+0.4
	0.3nm,0.9s,mb3.3,baz=322,slow=7.4,SNR=4.6						

MEX 14 21:00:58.9±0.3, 15.70N×96.42W, h40km±8km, MD3.6, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HUIG	Huatulco	0.31	76	*e*P	P	21 01 05.9	-1.3
HUIG				*i* S	S	21 01 11.4	-1.6
VHO	Vista Hermosa	1.40	348	*e*P	P	21 01 21.0	-1.4
VHO				*i* S	S	21 01 37.1	-2.8
OXX	Oaxaca	1.41	348	*i* P	P	21 01 20.5	-2.0
OXX				*i* S	S	21 01 37.3	-2.8
CMIG	Matias Romero	2.02	46	*e*P	P	21 01 29.1	-2.1
CMIG				*i* S	S	21 01 52.5	-2.9

DJA 14 21:11:20.5±0.8, 8.51S×116.18E, h105km±5km, MD4.8/2, ML3.3/2, 5C-4D, Error ellipse: s-maj=29.5km s-min=13.0km az=7.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	0.07	286	⇑*i*Pn	P	21 11 35.0	-0.2
KEDI	Kedomdong	0.07	286	⇓*i*P	P	21 11 35.1	-0.1
KEDI				⇓*i*Sn	S	21 11 46.2	+0.1
RATI	Rata	0.68	252	⇑*i*Pn	P	21 11 38.0	-0.4
	196nm,0.2s						
RATI				⇓*i*Sn	S	21 11 51.1	-0.8
KELI	Kelakatan	1.70	280	⇑*i*Pn	P	21 11 50.1	+0.2
	12nm,0.2s						
KELI				⇓*i*Sn	S	21 12 11.6	-0.3
SRDI	Scrawed	2.02	271	⇑*i*Pn	P	21 11 53.3	-0.7
	35nm,0.2s						
SRDI				⇑*i*Sn	S	21 12 17.9	-1.1

NEIC 14 21:13:48.1, 38.34S×175.95E, h175km, MG4.2(WEL), After WEL.

WEL 14 21:13:48.0±0.4, 38.36S×175.97E, h176km±3km, ML4.0/6, 4C-1D, Error ellipse: s-maj=2.9km s-min=2.6km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MGZ	Maungaku	0.73	207	P	P	21 14 13.8	0.0
MGZ	Maungaku	0.73	207	PN	P	21 14 13.8	0.0
TWVZ	Taurewa	0.83	210	P	P	21 14 14.2	-0.2
TWVZ	Taurewa	0.83	210	PN	P	21 14 14.1	-0.2
OTVZ	Oturere	0.84	196	PN	P	21 14 14.4	-0.1
OTVZ				SN	S	21 14 35.3	+0.4
HIZ	Hauiti	0.89	259	P	P	21 14 14.2	-0.6
HIZ	Hauiti	0.89	259	⇑PN	P	21 14 14.2	-0.5
CNZ	Chateau	0.90	201	P	P	21 14 14.8	-0.1
CNZ	Chateau	0.90	201	PN	P	21 14 14.6	-0.3
URZ	Urewera	0.90	84	P	P	21 14 14.5	-0.4
URZ	Urewera	0.90	84	PN	P	21 14 14.4	-0.5
URZ				SN	S	21 14 34.8	-0.8
BKZ	Black Stump Fm	0.91	153	P	P	21 14 15.1	+0.2
BKZ				S	S	21 14 35.4	-0.2
BKZ	Black Stump Fm	0.91	153	⇑PN	P	21 14 15.1	+0.2
BKZ				SN	S	21 14 34.8	-0.9
WPVZ	Whakapapa	0.91	201	P	P	21 14 13.4	-1.5
WPVZ	Whakapapa	0.91	201	PN	P	21 14 14.6	-0.3
TUVZ	Tukino	0.94	195	P	P	21 14 15.2	+0.1
TUVZ	Tukino	0.94	195	PN	P	21 14 15.2	+0.1
FWVZ	Far West T-bar	0.95	200	P	P	21 14 15.3	+0.1
FWVZ	Far West T-bar	0.95	200	PN	P	21 14 15.2	0.0
WNVZ	Wahianoa	1.01	196	P	P	21 14 15.7	+0.1
WNVZ	Wahianoa	1.01	196	⇑PN	P	21 14 15.6	0.0
MOVZ	Moawhango	1.06	189	P	P	21 14 15.7	-0.3
MOVZ	Moawhango	1.06	189	⇑PN	P	21 14 15.7	-0.4
MOVZ				SN	S	21 14 36.4	-1.3
MWZ	Matawai	1.23	89	P	P	21 14 17.3	-0.2
MWZ	Matawai	1.23	89	⇓PN	P	21 14 17.3	-0.2
MWZ				SN	S	21 14 39.6	-0.6
KNZ	Kokohu	1.49	117	*e*P	P	21 14 20.5	+0.5
KNZ	Kokohu	1.49	117	PN	P	21 14 20.3	+0.3
WAZ	Wanganui	1.59	208	*e*P	P	21 14 20.1	-0.9
WAZ	Wanganui	1.59	208	PN	P	21 14 20.0	-1.0
TSZ	Takapari Road	1.70	180	P	P	21 14 21.4	-0.6
TSZ	Takapari Road	1.70	180	PN	P	21 14 21.2	-0.8
PWZ	Pawanui	1.81	158	P	P	21 14 23.1	0.0
PWZ	Pawanui	1.81	158	PN	P	21 14 23.0	-0.1
PUZ	Puketiti	1.83	82	*e*P	P	21 14 22.8	-0.5
PUZ	Puketiti	1.83	82	PN	P	21 14 22.6	-0.7
MXZ	Matakaoa Point	2.01	68	P	P	21 14 24.7	-0.6
MXZ	Matakaoa Point	2.01	68	*e*PN	P	21 14 24.2	-1.1
MRZ	Mangatainoka R	2.32	187	P	P	21 14 26.9	-2.0
MRZ	Mangatainoka R	2.32	187	PN	P	21 14 26.9	-2.0
BFZ	Birch Farm	2.33	175	P	P	21 14 27.5	-1.5
BFZ	Birch Farm	2.33	175	PN	P	21 14 27.3	-1.7
KIW	Kapiti Island	2.63	198	P	P	21 14 29.9	-2.7
KIW	Kapiti Island	2.63	198	PN	P	21 14 29.8	-2.8
MTW	Mount Morrison	2.82	187	P	P	21 14 32.0	-2.9
MTW	Mount Morrison	2.82	187	PN	P	21 14 31.9	-3.0
CAW	Cannon Point	2.83	194	P	P	21 14 32.3	-2.8
CAW	Cannon Point	2.83	194	PN	P	21 14 32.1	-3.0
DUWZ	D'Urville Isla	2.91	212	PN	P	21 14 32.5	-3.5
MRW	Makara Radio	3.03	198	P	P	21 14 34.3	-3.2
MRW	Makara Radio	3.03	198	PN	P	21 14 34.1	-3.3
PAWZ	Paruwai Farm	3.05	188	PN	P	21 14 34.4	-3.3
MSWZ	Moikau Station	3.10	190	P	P	21 14 35.1	-3.3
MSWZ	Moikau Station	3.10	190	PN	P	21 14 35.0	-3.4
BHW	Baring Head	3.16	195	P	P	21 14 35.6	-3.5
BHW	Baring Head	3.16	195	PN	P	21 14 35.5	-3.6
TUWZ	Tuamarina	3.44	206	PN	P	21 14 38.4	-4.3
NNZ	Nelson	3.48	214	P	P	21 14 39.0	-4.2
NNZ	Nelson	3.48	214	PN	P	21 14 38.8	-4.4
QRZ	Quartz Range	3.62	226	*e*P	P	21 14 39.9	-5.1
QRZ	Quartz Range	3.62	226	PN	P	21 14 39.8	-5.2
BSWZ	Blackbirch Sta	3.72	205	P	P	21 14 41.0	-5.1
BSWZ	Blackbirch Sta	3.72	205	*e*PN	P	21 14 42.3	-3.9
THZ	Tophouse	4.13	214	*e*P	P	21 14 47.0	-4.5
THZ	Tophouse	4.13	214	*e*PN	P	21 14 46.6	-4.8
KHZ	Kahutara	4.46	204	P	P	21 14 51.6	-4.1
KHZ	Kahutara	4.46	204	PN	P	21 14 51.4	-4.3
DSZ	Denniston Nort	4.66	222	PN	P	21 14 52.1	-6.1
LTZ	Lake Taylor	5.24	211	P	P	21 15 00.0	-5.8
LTZ	Lake Taylor	5.24	211	*e*PN	P	21 14 59.7	-6.1
MQZ	McQueen's Vall	5.90	204	P	P	21 15 08.2	-6.3
MQZ	McQueen's Vall	5.90	204	*e*PN	P	21 15 08.1	-6.4
RPZ	Rata Peaks	6.51	213	*e*P	P	21 15 16.4	-6.2
RPZ	Rata Peaks	6.51	213	*e*PN	P	21 15 16.1	-6.5
FOZ	Fox Glacier	7.04	220	*e*PN	P	21 15 21.6	-8.0
LBZ	Lake Benmore	7.43	214	*e*P	P	21 15 28.0	-6.6
LBZ	Lake Benmore	7.43	214	*e*PN	P	21 15 27.9	-6.8
ODZ	Otahua Downs	7.78	209	*e*P	P	21 15 33.5	-5.8
ODZ	Otahua Downs	7.78	209	*e*PN	P	21 15 33.1	-6.1
JCZ	Jackson Bay	7.88	221	*e*P	P	21 15 32.9	-7.7
JCZ	Jackson Bay	7.88	221	*e*PN	P	21 15 32.8	-7.8

NEIC 14 21:36:23.6, 44.62N×6.64E, h3km, ML2.5(GEN), ML2.3(LDG), ML2.1(STR), After GEN.

STR 14 21:36:24.8±0.2, 44.63N×6.76E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0

LDG 14 21:36:24.8±0.1, 44.64N×6.75E, h2km, Md2.5/2, Ml2.3/10, Error ellipse: s-maj=1.5km s-min=1.0km az=78.0

ISC 14 21:36:23.7±0.3, 44.63N±0.01×6.70E±0.02, h10km±2km, n40, σ0s54/75, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MBDF	Montbardon	0.11	28	*e*Pg	Pg	21 36 26.8	+0.1
MBDF				*e*Sg	Sg	21 36 28.4	-0.2
	200nm,0.2s						
SURF	Saint Ours	0.17	150	Pg	Pg	21 36 27.8	+0.2
SURF				Sg	Sg	21 36 30.4	+0.3
OG22	Abries	0.26	42	Pg	Pg	21 36 29.6	+0.3
OG22				Sg	Sg	21 36 33.2	+0.1
RRL	Cesana Torines	0.30	12	P	Pg	21 36 30.3	+0.3
RRL				S	Sg	21 36 34.6	+0.4
PZZ	Prazzo	0.31	113	P	Pg	21 36 30.8	+0.5
PZZ				S	Sg	21 36 35.5	+0.9
DOI	San Damiano	0.41	107	*e*Pg	Pg	21 36 32.5	+0.3
DOI				*e*Sg	Sg	21 36 37.9	+0.2
BNI	Bardonecchia	0.43	358	*e*P	Pg	21 36 33.4	+0.9
BHB	Bricherasio	0.46	62	P	Pg	21 36 33.0	0.0
BHB				S	Sg	21 36 39.8	+0.5
FENE	Fenestrelle	0.48	33	P	Pg	21 36 33.4	-0.2
FENE				S	Sg	21 36 40.1	+0.1
STV	Sta Anna Valdi	0.59	130	P	Pb	21 36 35.2	-0.4
STV				S	Sg	21 36 43.4	-0.3
STV2	Anna di Valdie	0.59	130	P	Pb	21 36 35.2	-0.4
STV2				S	Sg	21 36 43.4	-0.2
ORIF	Oris-en-Rattie	0.65	297	*e*Pg	Pg	21 36 36.8	-0.1
ORIF				*e*Sg	Sg	21 36 45.5	-0.1
	21nm,0.2s						
ENR	Entracque	0.65	127	P	Pb	21 36 36.6	-0.2
ENR				S	Sb	21 36 45.2	-0.4
RSP	Reno Superiore	0.66	37	P	Pb	21 36 37.0	+0.1
RSP				S	Sb	21 36 45.9	+0.1
TOUF	Mont Tournerai	0.73	147	Pg	Pg	21 36 38.5	+0.1
MVIF	Mont Vial	0.80	156	Pg	Pg	21 36 39.7	-0.1
AUTN	L'Aution	0.82	140	Pg	Pg	21 36 40.2	0.0
AUTN				Sg	Sg	21 36 51.2	0.0
STOF	St-Etienne Org	0.84	222	Pg	Pg	21 36 42.1	+1.4
LPG	La Plagne	0.87	3	*e*Pg	Pg	21 36 41.0	-0.3
LPG				*e*Sg	Sg	21 36 52.1	-0.9
	12nm,0.4s						
SAOF	Saorge	0.89	136	Pg	Pg	21 36 41.6	0.0
SAOF				Sg	Sg	21 36 53.7	+0.2
LPL	La Plagne	0.89	2	*e*Pg	Pg	21 36 41.3	-0.3
LPL				*e*Sg	Sg	21 36 52.7	-0.9
	9.8nm,0.3s						
LSD	Ceresole Reale	0.89	21	P	Pb	21 36 40.7	-0.1
LSD				S	Sb	21 36 52.8	+0.2
ROB	Roburent	0.90	111	P	Pb	21 36 41.2	+0.2
ROB				S	Sb	21 36 53.1	+0.2
SBF	Sospel	0.93	145	*e*Pg	Pg	21 36 42.0	-0.4
SBF				*e*Sg	Sg	21 36 53.8	-1.0
SBF				*e*Sn	Sn	21 36 55.8	-0.2
	13nm,0.2s						
MONE	Monesi	0.94	125	P	Pb	21 36 41.7	+0.2
MONE				S	Sb	21 36 53.9	+0.2
SMRF	Simiane la Rot	1.03	231	*e*Pn	Pn	21 36 45.4	+1.2
SMRF				*e*Sg	Sg	21 36 58.4	+0.1
	14nm,0.4s						
SMRF				*e*Sn	Sn	21 36 59.9	+1.2
NEGI	Negi	1.06	137	P	Pb	21 36 43.7	0.0
NEGI				S	Sb	21 36 57.0	-0.5
FRF	La Foret Royal	1.07	182	*e*Pg	Pg	21 36 44.7	-0.4
FRF				*e*Pn	Pn	21 36 45.8	+1.2
FRF				*e*Sg	Sg	21 36 58.7	-0.7
	14nm,0.2s						
TAVF	Tavernes	1.11	205	Pg	Pg	21 36 46.6	+0.6
IMI	Imperia	1.12	129	P	Pb	21 36 44.3	-0.4
IMI				S	Sb	21 36 58.2	-0.8
TRAV		1.16	40	P	Pb	21 36 45.2	-0.1
FIN	Finale Ligure	1.16	111	P	Pb	21 36 44.8	-0.6
LMR	La Mourre	1.30	186	*e*Pn	Pn	21 36 48.5	+0.6
LMR				*e*Pg	Pg	21 36 49.3	-0.4
LMR				*e*Sn	Sn	21 37 05.3	-0.1
LMR				*e*Sg	Sg	21 37 06.4	-0.7
	10nm,0.2s						
PCP	Pian Castagno	1.32	93	P	Pb	21 36 48.3	+0.1
ORX	Oropa	1.36	42	P	Pb	21 36 48.5	-0.2
VIVF	Saint-Julien-l	1.46	280	*e*Pn	Pn	21 36 50.9	+0.6
VIVF				*e*Pg	Pg	21 36 53.0	0.0
VIVF				*e*Sg	Sg	21 37 12.0	-0.5

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
	4.3nm,0.3s						
LASF	**Ste Croix**	**2.11**	**256**	*e*Pn	**Pn**	**21 36 59.9**	**+0.3**
LASF				*e*Sn	**Sn**	**21 37 25.4**	**-0.6**
	0.8nm,0.2s						
PGF	**Pioggiola**	**2.67**	**140**	*e*Pn	**Pn**	**21 37 08.1**	**+0.6**
PGF				*e*Sn	**Sn**	**21 37 40.3**	**+0.1**
	2.4nm,0.3s						
CAF	**Calviac**	**3.31**	**277**	*e*Sg	**Sg**	**21 38 10.8**	**-3.3**
	0.7nm,0.2s						
BGF	**Bois d'Agland**	**3.32**	**307**	*e*Pn	**Pn**	**21 37 16.0**	**-0.8**

KRSC 14 21:40:35.1±0.6**, 48.90N**×**156.34E, h61**km±25km**, ML3.9, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.79**	**355**	*e*P	P	21 41 02.4	-1.9
SKR				*e*S	S	21 41 25.0	-0.9
PAU	**Pauzhetka**	**2.59**	**7**	*e*P	P	21 41 16.0	+0.4
PAU				*e*S	S	21 41 46.0	+0.1
PAU				Smax			
	300nm,0.9s						
RUS	**Russkaya**	**3.80**	**21**	*e*P	P	21 41 32.4	-0.2
RUS				*e*S	S	21 42 14.1	-2.3
GRL	**Gorelyy**	**3.82**	**16**	*e*P	P	21 41 34.0	+1.1
GRL				*e*S	S	21 42 16.6	-0.3
APC	**Apacha**	**4.06**	**7**	*e*S	S	21 42 23.0	-0.1
PET	**Petropavlovsk**	**4.38**	**19**	*e*P	P	21 41 42.3	+1.5
PET				*e*S	S	21 42 31.1	+0.1
UGLR	**Uglovaya**	**4.59**	**19**	*e*P	P	21 41 44.7	+1.0
UGLR				*e*S	S	21 42 34.7	-1.6
AVH	**Avacha**	**4.62**	**18**	*e*P	P	21 41 45.8	+1.6
AVH				*e*S	S	21 42 36.6	-0.5
KOK	**Koryaka**	**4.63**	**17**	*e*P	P	21 41 45.3	+1.0
KOK				*e*S	S	21 42 35.7	-1.6
NLC	**Nalytchevo**	**4.68**	**23**	*e*P	P	21 41 43.8	-1.1
NLC				*e*S	S	21 42 34.4	-4.1
SPN	**Mys Shipunski**	**4.80**	**28**	*e*P	P	21 41 46.2	-0.5
SPN				*e*S	S	21 42 38.3	-3.3
GNL	**Ganaly**	**4.91**	**11**	*e*P	P	21 41 47.2	-0.9
GNL				*e*S	S	21 42 39.7	-4.5
KBTR	**Krutoberegovo**	**8.31**	**26**	*e*P	P	21 42 34.9	-0.5
KBTR				*e*S	S	21 44 02.5	-6.2

IDC 14 21:41:58.0±20.0**, 6.44N**×**94.62E, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.5**/16**, mbtmp3.4**/3**, ML3.8**/1**, Error ellipse: s-maj=515.3km s-min=43.6km az=85.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.67**	**19**	Pn	P	21 44 59.7	-2.7
	0.2nm,0.3s,baz=232,slow=14,SNR=13						
WRA	**Warramunga Arr**	**47.05**	**125**	P	P	21 50 32.2	-1.4
	0.4nm,0.8s,baz=306,slow=8.5,SNR=5.5						
ASAR	**Alice Springs**	**48.64**	**129**	P	P	21 50 43.5	-2.4
	0.6nm,0.7s,baz=297,slow=7.5,SNR=6.6						

*IDC **14** 21:48:59.9±0.5, 12.13N×92.36E, mb4.4/20, mb1 4.6/21, mb1mx4.5/25, mbtmp4.4/21, ML4.0/1, MS4.0/8, Ms1 4.1/8, ms1mx3.7/24, Error ellipse: s-maj=21.6km s-min=12.6km az=53.0*

*MOS **14** 21:49:02.6±1.1, 12.11N×92.37E, h33km, mb4.8/19, MS4.1/6, Error ellipse: s-maj=10.4km s-min=6.7km az=103.3*

*BJI **14** 21:49:03.1, 12.03N×92.34E, h42km, mB5.1, mb4.7, Ms4.5, Msz4.2*

*NEIC **14** 21:49:04.3±0.3, 12.18N×92.40E, h30km, mb4.7/24, MS3.8/1, Error ellipse: s-maj=7.7km s-min=6.6km az=205.0*

ISC 14 21:49:03.2±0.3**, 12.17N**±0.04×**92.35E**±0.03**, h34**km**, h34**km±2.9km**:pP-P, n142,** σ**1§16**/154**, mb4.6**/49**, MS4.2**/20**, 12C-3D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.64**	**143**	*e*P	Px	21 49 19.0	
PBA				*e*		21 49 31.4	
NNT	**Nongplab**	**7.22**	**86**	P1	**P**	**21 50 51.3**	**+2.2**
NST	**Nakhon Sawan**	**8.32**	**64**	P	**P**	**21 51 05.0**	**+0.7**
CM31	**Chiang Mai Arr**	**8.91**	**45**	*e*P	**P**	**21 51 09.4**	**-3.1**
	21nm,0.7s						
CMAR	**Chiang Mai Arr**	**8.91**	**45**	Pn	**P**	**21 51 11.3**	**-1.2**
	0.5nm,0.3s,baz=237,slow=15,SNR=58						
CMAR				Sn	**S**	**21 52 51.3**	**-1.6**
	baz=242,slow=19,SNR=2.2						
CMAR				LR	LR	21 55 07.3	
	comp=Z,399nm,19.4s,baz=230,slow=41						
BWNR	**Bhubaneshwar**	**10.23**	**323**	*e*P	**P**	**21 51 27.6**	**-3.3**
BWNR				*e*S	**S**	**21 53 11.1**	**-14**
VIS	**Vishakhapatnam**	**10.32**	**303**	*e*P	**P**	**21 51 29.0**	**-3.0**
VIS				*e*S	**S**	**21 53 12.9**	**-15**
VIS				*e*		21 53 16.7	
	comp=N,347nm,0.5s						
VIS				*e*		21 53 16.7	
	comp=E,224nm,0.6s						
CHRT	**Chiangrai**	**10.47**	**42**	⇑P	**P**	**21 51 32.0**	**-2.1**
	comp=E,132nm,1.0s						
KKTK	**Khon Kaen**	**10.96**	**67**	P	**P**	**21 51 43.0**	**+2.2**
	comp=E,494nm,0.7s						
AGT	**Agartala**	**11.70**	**355**	*e*	**P**	**21 52 07.0**	**+16**
SHL	**Shillong**	**13.33**	**358**	*e*	**P**	**21 52 07.0**	**-5.6**
SHL				*e*		21 54 31.0	
BLSP	**Bilaspur**	**13.90**	**317**	*e*P	**P**	**21 52 18.9**	**-1.3**
BLSP				*e*		21 52 20.2	
	comp=Z,17nm,0.6s						
BLSP				*e*		21 54 39.8	
HYB	**Hyderabad**	**14.32**	**293**	*i* P	**P**	**21 52 24.0**	**-1.7**
HYB				*e*		21 54 49.5	
HYB				*e*S	**S**	**21 55 04.0**	**-0.3**
NGP	**Nagpur**	**15.55**	**307**	*e*P	**P**	**21 52 41.2**	**-0.5**
NGP				*e*		21 55 21.5	
TRD	**Trivandrum**	**15.57**	**258**	*e*	**P**	**21 52 52.2**	**+10**
TRD				*i*		21 55 50.2	
KMI	**Kunming**	**16.20**	**36**	P	**P**	**21 52 51.3**	**+1.4**
KMI				XP		21 53 02.4	
KMI				S	**S**	**21 55 48.4**	**+0.3**
KMI				SS	SS	21 56 08.8	+1.1
KMI				AMB	AMB		
	comp=Z,18nm,1.3s						
KMI				AMB	AMB		
	comp=Z,184nm,3.1s						
KMI				LR	LR		
	comp=N,598nm,13.5s						
KMI				LR	LR		
	comp=E,668nm,15.1s						
KMI				LR	LR		
	comp=Z,628nm,14.1s						
KMI	**Kunming**	**16.20**	**36**	P	**P**	**21 52 51.3**	**+1.4**
KMI				S	**S**	**21 55 48.4**	**+0.3**
KMI				pmax	pmax		
	comp=Z,18nm,1.3s						
KMI	**Kunming**	**16.20**	**36**	P	**P**	**21 52 51.3**	**+1.4**
	comp=Z,18nm,1.3s						
KMI				sP		21 53 02.4	
KMI				S	**S**	**21 55 48.4**	**+0.3**
KMI				sS		21 56 00.7	
KMI				SS	SS	21 56 08.7	+1.0
JIRN	**Jiri**	**16.46**	**340**	*e*P	**P**	**21 52 52.5**	**-0.7**
	comp=Z,88nm,1.0s						
PKI	**Pulchoki**	**16.65**	**338**	*e*P	**P**	**21 52 54.8**	**-0.7**
	comp=Z,91nm,1.0s						
DMN	**Daman**	**16.79**	**337**	*e*P	**P**	**21 52 56.8**	**-0.6**
	comp=Z,57nm,0.6s						
DMN				*e*S	**S**	**21 55 54.5**	**-7.3**
KKN	**Kakani**	**16.89**	**338**	*e*P	**P**	**21 52 57.7**	**-0.9**
	comp=Z,53nm,0.9s						
GKN	**Gorkha**	**17.33**	**337**	*e*P	**P**	**21 53 04.2**	**+0.1**
	comp=Z,50nm,0.5s						
LSA	**Lhasa**	**17.48**	**357**	P	**P**	**21 53 07.0**	**+1.0**
LSA	**Lhasa**	**17.48**	**357**	*e*P	**P**	**21 53 04.0**	**-2.0**
LSA				pmax	pmax		
	comp=Z,24nm,0.8s						
LSA	**Lhasa**	**17.48**	**357**	*e*P	**P**	**21 53 04.0**	**-2.0**
	comp=Z,24nm,0.8s						
KOLN	**Koldanda**	**17.55**	**333**	*e*P	**P**	**21 53 06.7**	**-0.2**
	comp=Z,40nm,0.5s						
BHPL	**Bhopal**	**17.97**	**310**	*e*P	**P**	**21 53 12.7**	**+0.6**
BHPL				*e*		21 53 37.3	
	comp=Z,25nm,1.3s						
BHPL				*e*		21 56 15.2	
QIZ	**Qiongzhong**	**18.17**	**66**	P	**P**	**21 53 15.8**	**+1.1**
QIZ				*e*S	**S**	**21 56 30.8**	**-2.3**
QIZ				LR	LR		
	comp=E,666nm,12.0s						
QIZ				LR	LR		
	comp=Z,961nm,13.2s						
KAD	**Karad**	**18.29**	**288**	*e*P	**P**	**21 53 13.9**	**-2.4**
KAD				*e*		21 53 28.1	
	comp=Z,31nm,1.6s						
KAD				*e*		21 56 20.0	
POO	**Poona**	**18.92**	**292**	*e*P	**P**	**21 53 23.0**	**-0.9**
POO				*i*		21 56 35.0	
GYA	**Guiyang**	**19.58**	**41**	⇑*i*P	**P**	**21 53 32.5**	**+1.3**
GYA				AP		21 53 41.4	
GYA				XP		21 53 45.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,150nm,3.0s						
GYA				LR	LR		
	comp=N,410nm,12.9s						
GYA				LR	LR		
	comp=E,560nm,12.3s						
GYA				LR	LR		
	comp=Z,670nm,13.5s						
LGTI	**Lohaghat**	**20.55**	**329**	*e*	**P**	**21 53 47.0**	**+5.4**
LGTI				*e*		21 57 19.0	
NDI	**New Delhi**	**21.66**	**322**	*e*P	**P**	**21 53 54.0**	**+1.2**
NDI				*e*		21 57 38.5	
AJM	**Ajmer**	**21.91**	**313**	*i* P	**P**	**21 53 57.0**	**+1.7**
DDI	**Dehra Dun**	**22.40**	**326**	*e*P	**P**	**21 54 02.7**	**+2.5**
DDI				*e*		21 58 02.7	
SMLA	**Simla**	**23.51**	**326**	*i* P	**P**	**21 54 11.8**	**+0.7**
SMLA				*i* S	**S**	**21 58 27.5**	**+8.5**
ENH	**Enshi**	**24.01**	**39**	*e*P	**P**	**21 54 15.2**	**-0.7**
	comp=Z,65nm,1.0s,mb5.0						
LZH	**Lanzhou**	**25.97**	**22**	⇑P	**P**	**21 54 35.6**	**+1.0**
LZH				AP	pP	21 54 47.3	+3.1
LZH				XP	sP	21 54 51.5	+3.3
LZH				AMB	AMB		
	comp=Z,67nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,235nm,5.6s						
LZH				LR	LR		
	comp=E,1μm,14.4s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.6						
LZH	**Lanzhou**	**25.97**	**22**	⇑P	**P**	**21 54 35.6**	**+1.0**
LZH				*PP	pP	21 54 47.2	+3.0
LZH						21 55 27.0	
LZH				pmax	pmax		
	comp=Z,67nm,1.5s,mb5.0						
LZH				MLR	MLR		
	comp=Z,1μm,16.3s,MS4.6						
LZH	**Lanzhou**	**25.97**	**22**	⇑P	**P**	**21 54 35.6**	**+1.0**
	comp=Z,67nm,1.5s,mb5.0						
LZH				pP	pP	21 54 47.2	+3.0
LZH				sP	sP	21 54 51.5	+3.3
LZH				PP	PP	21 55 27.0	+11
LZH				*e*S	**S**	**21 59 16.0**	**+15**
LZH				sS		21 59 32.0	
LZH				SS	SS	22 00 40.0	+32
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.6						
XAN	**Xi'an**	**26.50**	**32**	P	**P**	**21 54 38.6**	**-0.8**
XAN				AP	pP	21 54 47.4	-1.7
XAN				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
XAN				LR	LR		
	comp=N,391nm,15.2s						
XAN				LR	LR		
	comp=Z,433nm,16.5s,MS4.1						
GTA	**Gaotai**	**27.93**	**12**	*e*P	**P**	**21 54 53.6**	**+1.2**
GTA				AP	pP	21 55 04.1	+1.9
GTA				XP	sP	21 55 08.3	+1.8
GTA				PP	PP	21 55 44.9	+2.6
GTA				PCP	PcP	21 58 08.9	+1.3
GTA				S	**S**	**21 59 36.3**	**+4.1**
GTA				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,188nm,4.6s						
GTA				LR	LR		
	comp=N,239nm,12.9s,MS4.1						
GTA				LR	LR		
	comp=E,248nm,14.4s,MS4.1						
GTA				LR	LR		
	comp=Z,245nm,16.4s,MS3.9						
KSH	**Kashi**	**30.86**	**335**	*e*P	**P**	**21 55 20.3**	**+1.7**
KSH				*e*AP	pP	21 55 30.0	+1.6
KSH				*e*XP	sP	21 55 35.8	+2.9
KSH				AMB	AMB		
	comp=Z,280nm,3.8s						
NJ2	**Nanjing**	**31.38**	**47**	*e*P	**P**	**21 55 23.9**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				LR	LR		
	comp=N,350nm,22.6s,MS4.1						
NJ2				LR	LR		
	comp=E,320nm,19.5s,MS4.1						
NJ2				LR	LR		
	comp=Z,510nm,14.6s,MS4.3						
WMQ	**Urumqi**	**31.79**	**354**	⇑*i*P	**P**	**21 55 27.5**	**+0.8**
WMQ				AP	pP	21 55 37.0	+0.4
WMQ				XP	sP	21 55 41.0	-0.1
WMQ				PP	PP	21 56 33.0	+0.5
WMQ				*e*S	**S**	**22 00 34.0**	**+0.6**
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,179nm,5.9s						
WMQ				LR	LR		
	comp=N,879nm,12.4s,MS4.8						
WMQ				LR	LR		
	comp=E,1μm,13.8s,MS4.8						
WMQ				LR	LR		
	comp=Z,484nm,22.6s						
BTO	**Baotou**	**32.31**	**26**	*e*P	**P**	**21 55 30.3**	**-1.0**
SSE	**Sheshan**	**32.60**	**50**	P	**P**	**21 55 31.3**	**-2.6**
SSE				S	**S**	**22 00 48.8**	**+2.6**
SSE				XS		22 01 09.6	
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,161nm,5.2s						
SSE				LR	LR		
	comp=N,178nm,18.9s,MS3.8						
SSE				LR	LR		
	comp=E,79nm,18.9s,MS3.8						
SSE				LR	LR		
	comp=Z,108nm,17.3s,MS3.6						
SSE	**Sheshan**	**32.60**	**50**	P	**P**	**21 55 31.3**	**-2.6**
	comp=Z,34nm,0.7s,mb5.4						
SSE				S	**S**	**22 00 48.7**	**+2.5**
SSE				sS		22 01 09.6	
SSE				LR	LR		
	comp=Z,110nm,17.3s,MS3.6						
HHC	**Hu-ho-hao-te**	**33.18**	**27**	*e*P	**P**	**21 55 39.4**	**+0.5**
HHC				AP	pP	21 55 48.6	-0.1
HHC				XP	sP	21 55 52.5	-0.7
HHC				PP	PP	21 56 50.5	+0.1
HHC				PCP	PcP	21 58 22.8	+1.5
HHC				S	**S**	**22 01 00.3**	**+5.2**
HHC				SS	SS	22 02 56.3	-1.1
HHC				SCS	ScS	22 06 01.8	+1.0
HHC				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
HHC				AMB	AMB		
	comp=Z,89nm,5.5s						
HHC				LR	LR		
	comp=N,250nm,20.8s						
HHC				LR	LR		
	comp=E,377nm,15.5s						
HHC				LR	LR		
	comp=Z,279nm,17.2s,MS4.0						
AAK	**Ala-Archa**	**34.09**	**336**	P	**P**	**21 55 47.1**	**+0.5**
	comp=Z,32nm,1.2s,mb5.1,SNR=8.7						
AAK	**Ala-Archa**	**34.09**	**336**	*d i*P	**P**	**21 55 47.6**	**+1.0**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
AAK				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.0						
AAK	**Ala-Archa**	**34.09**	**336**	*e*P	**P**	**21 55 45.5**	**-1.1**
	comp=Z,7.8nm,1.0s,mb4.6						
BJT	**Baijiatuau**	**34.80**	**33**	*e*P	**P**	**21 55 51.7**	**-1.1**
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	**Baijiatuau**	**34.80**	**33**	*e*P	**P**	**21 55 51.7**	**-1.1**
	comp=Z,7.3nm,0.6s,mb4.8						
BJI	**Beijing**	**34.82**	**33**	*e*P	**P**	**21 55 53.8**	**+0.8**
BJI				S	**S**	**22 01 29.3**	**+8.8**
BJI				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
BJI				LR	LR		
	comp=N,303nm,14.8s,MS4.4						
BJI				LR	LR		
	comp=E,358nm,13.6s,MS4.4						
BJI				LR	LR		
	comp=Z,190nm,19.4s						
BJI	**Beijing**	**34.82**	**33**	*e*P	**P**	**21 55 53.7**	**+0.7**
BJI				S	**S**	**22 01 29.2**	**+8.7**
BJI				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
BJI				MLR	MLR		
	comp=Z,190nm,19.4s,MS3.9						
BJI	**Beijing**	**34.82**	**33**	*e*P	**P**	**21 55 53.7**	**+0.7**
	comp=Z,20nm,0.8s,mb5.1						
BJI				S	**S**	**22 01 29.2**	**+8.7**
BJI				LR	LR		
	comp=Z,190nm,19.4s,MS3.9						
MKAR	**Makanchi Array**	**35.54**	**348**	*i* P	**P**	**21 55 58.6**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,7.0nm,0.7s						
SONM	**Songino Array**	**37.45**	**16**	P	**P**	**21 56 15.8**	**+0.7**
	comp=Z,12nm,1.0s,mb4.7,baz=202,slow=7.3,SNR=78						
ULN	**Ulaanbaatar**	**37.65**	**16**	⇑*i*P	**P**	**21 56 17.6**	**+0.8**
ULN	**Ulaanbaatar**	**37.65**	**16**	*e*P	**P**	**21 56 16.9**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**39.14**	**11**	*e*P	**P**	**21 56 30.9**	**+1.7**
ZAK				*e*		21 58 40.0	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.0s						
KURK	**Kurchatov**	**40.04**	**346**	P	**P**	**21 56 37.2**	**+0.5**
	comp=Z,62nm,1.1s,mb5.2,SNR=15						
KURK	**Kurchatov**	**40.04**	**346**	*c i*P	**P**	**21 56 37.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
KURK	**Kurchatov**	**40.04**	**346**	*e*P	**P**	**21 56 36.4**	**-0.3**
	comp=Z,12nm,1.1s,mb4.5						
TLY	**Talaya**	**40.45**	**11**	⇑*i*P	**P**	**21 56 42.4**	**+2.4**
TLY				*e*S	**S**	**22 02 52.3**	**+6.2**
TLY				*e*SS	SS	22 05 47.9	+7.1
TLY				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.5						
TLY				MLR	MLR		
	comp=Z,128nm,19.0s,MS3.8						
TLY	**Talaya**	**40.45**	**11**	*e*P	**P**	**21 56 41.3**	**+1.3**
	comp=Z,4.1nm,0.9s,mb4.2						
KS15	**Wonju Array Si**	**40.52**	**45**	*e*P	**P**	**21 56 38.2**	**-2.6**
ZAL	**Zalesovo**	**42.09**	**353**	P	**P**	**21 56 54.3**	**+0.8**
	comp=Z,4.3nm,0.7s,mb4.2,baz=297,slow=8.2,SNR=26						
ZAL				LR	LR	22 17 00.1	
	comp=Z,199nm,20.5s,MS4.0,baz=291,slow=40						
CN2	**Changchun**	**42.47**	**36**	*e*P	**P**	**21 56 57.3**	**+0.5**
CN2				*e*AP	pP	21 57 06.8	-0.1
CN2				*e*S	**S**	**22 03 12.9**	**-3.2**
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9						
CN2				AMB	AMB		
	comp=Z,120nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,12.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.5						
CN2				LR	LR		
	comp=Z,370nm,12.0s,MS4.5						
NVS	**Novosibirsk**	**43.17**	**352**	*e*P	**P**	**21 57 00.0**	**-2.3**
NVS				pmax	pmax		
	comp=N,17nm,1.9s						
NVS				pmax	pmax		
	comp=Z,12nm,1.9s,mb4.3						
NVS				pmax	pmax		
	comp=E,9.0nm,2.3s						
BVAR	**Borovoye Array**	**44.38**	**341**	P	**P**	**21 57 12.6**	**+0.5**
	comp=E,3.6nm,0.9s,mb4.1,baz=149,slow=8.6,SNR=11						
CHKZ	**Chkalovo**	**44.87**	**342**	*i* P	**P**	**21 57 16.7**	**+0.7**
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.7						
CHKZ	**Chkalovo**	**44.87**	**342**	*e*P	**P**	**21 57 15.9**	**-0.1**
	comp=Z,40nm,0.6s,mb5.4						
BOD	**Bodaibo**	**48.45**	**15**	*e*P	**P**	**21 57 44.8**	**+0.7**
BOD				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
GNI	**Garni**	**50.22**	**313**	*e*P	**P**	**21 57 57.8**	**-0.2**
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
GNI	**Garni**	**50.22**	**313**	P	**P**	**21 57 58.3**	**+0.2**
	comp=Z,6.3nm,0.8s,mb4.7,baz=201,slow=13,SNR=4.1						
GNI	**Garni**	**50.22**	**313**	*e*P	**P**	**21 57 57.8**	**-0.3**
	comp=Z,25nm,1.2s,mb5.1						
NWAO	**Narrogin (SRO)**	**50.75**	**153**	P	**P**	**21 58 00.0**	**-2.2**
	comp=Z,13nm,0.9s,mb4.8,baz=335,slow=4.5,SNR=3.1						
TI2	**Plekhanov**	**50.77**	**314**	*e*P	**P**	**21 58 04.0**	**+1.8**
WRA	**Warramunga Arr**	**52.21**	**127**	P	**P**	**21 58 12.9**	**-0.4**
	comp=Z,9.0nm,0.6s,mb4.8,baz=308,slow=7.8,SNR=78						
WRA				PcP	PcP	21 59 24.8	+0.1
	comp=Z,1.8nm,0.6s,baz=313,slow=2.9,SNR=5.1						
WRAB	**Tennant Creek**	**52.22**	**127**	P	**P**	**21 58 13.9**	**+0.6**
	comp=Z,120nm,0.7s,SNR=12						
WRAB	**Tennant Creek**	**52.22**	**127**	*e*P	**P**	**21 58 12.2**	**-1.1**
WB2	**Warramunga Arr**	**52.22**	**127**	*e*P	**P**	**21 58 12.8**	**-0.6**
KIV	**Kislovodsk**	**52.99**	**316**	⇑*i*P	**P**	**21 58 18.6**	**-0.2**
KIV				pmax	pmax		
	comp=Z,100nm,19.1s						
KIV	**Kislovodsk**	**52.99**	**316**	*e*P	**P**	**21 58 18.9**	**+0.1**
	comp=Z,18nm,0.9s,mb5.0						
ASAJ	**Asahikawa**	**53.44**	**44**	LR	LR	22 24 08.1	
	comp=Z,186nm,18.2s,MS4.2,baz=240,slow=39						
ASPA	**Alice Springs**	**54.03**	**131**	*e*P	**P**	**21 58 26.1**	**-0.7**
ASAR	**Alice Springs**	**54.03**	**131**	P	**P**	**21 58 26.2**	**-0.6**
	comp=Z,4.8nm,0.6s,mb4.6,baz=306,slow=6.7,SNR=54						
ASAR				PcP	PcP	21 59 31.7	+0.2
	comp=Z,1.3nm,0.7s,baz=310,slow=4.3,SNR=4.8						
MALT	**Malatya**	**54.39**	**309**	*e*P	**P**	**21 58 29.4**	**+0.2**
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
MALT	**Malatya**	**54.39**	**309**	*e*P	**P**	**21 58 29.4**	**+0.2**
	comp=Z,4.7nm,1.0s,mb4.4						
YSS	**Yuzh-Sakhalins**	**54.58**	**40**	⇑*i*P	**P**	**21 58 30.2**	**-0.3**
KMBO	**Kilima Mbogo**	**56.27**	**260**	P	**P**	**21 58 43.8**	**+0.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=90,slow=23,SNR=3.3						
YAK	**Yakutsk**	**56.54**	**20**	*e*P	**P**	**21 58 43.1**	**-1.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,5.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK	**Yakutsk**	**56.54**	**20**	*e*P	**P**	**21 58 43.0**	**-1.5**
	comp=E,23nm,0.7s,mb5.3						
OBN	**Obninsk**	**60.83**	**327**	*e*P	**P**	**21 59 13.7**	**-0.7**
OBN				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.8						
OBN				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.3						
CTA	**Charters Tower**	**61.97**	**121**	LR	LR	22 25 55.8	
	comp=Z,81nm,20.6s,MS3.9,baz=54,slow=36						
TIXI	**Tiksi**	**63.41**	**12**	⇑*i*P	**P**	**21 59 30.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.3						
TIXI				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
MA2	**Magadan**	**63.84**	**29**	*e*P	**P**	**21 59 34.1**	**-0.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
MA2	**Magadan**	**63.84**	**29**	*e*P	**P**	**21 59 33.5**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**64.34**	**134**	P	**P**	**21 59 37.5**	**-0.5**
	comp=Z,8.7nm,0.7s,mb4.9,baz=316,slow=7.6,SNR=16						
STKA	**Stephens Creek**	**64.34**	**134**	*e*P	**P**	**21 59 37.5**	**-0.5**
VRI	**Vrincioaia**	**64.42**	**315**	⇓*i*P	**P**	**21 59 39.3**	**+1.0**
MLR	**Muntele Rosu**	**64.90**	**315**	P	**P**	**21 59 41.6**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.6,baz=162,slow=2.3,SNR=13						
MLR	**Muntele Rosu**	**64.90**	**315**	⇓*i*P	**P**	**21 59 42.4**	**+0.9**
JOF	**Joensuu**	**66.24**	**334**	*e*p	**P**	**21 59 47.5**	**-2.2**
FINES	**FINESS Array B**	**68.11**	**332**	*i* P	**P**	**22 00 01.6**	**+0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						

FINES	FINESS Array B	68.11	332	P	P	22 00 01.1	-0.5
	comp=Z,2.1nm,0.6s,mb4.3,baz=91,slow=6.5,SNR=12						
KAF	Kangasniemi	68.19	332	ep	P	22 00 01.4	-0.6
ARCES	ARCESS Array B	70.65	340	P	P	22 00 17.6	+0.6
	comp=Z,4.1nm,0.7s,mb4.5,baz=76,slow=5.0,SNR=9.6						
ARCES				LR	LR	22 34 03.5	
	comp=Z,148nm,19.4s,MS4.2,baz=155,slow=38						
MORC	Moravsky Berou	71.00	319	eP	P	22 00 18.8	-0.6
MORC				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
MORC	Moravsky Berou	71.00	319	eP	P	22 00 18.8	-0.6
	comp=Z,8.7nm,1.2s,mb4.6						
BILL	Bilibino	72.78	22	i P	P	22 00 28.9	-0.8
VAE	Valguarnera	73.18	306	P	P	22 00 34.5	+1.9
	comp=Z,3.5nm,0.6s,mb4.5,baz=192,slow=9.3,SNR=3.0						
BRG	Berggiesshubel	73.35	320	eP	P	22 00 34.6	+1.3
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRG	Berggiesshubel	73.35	320	eP	P	22 00 34.6	+1.3
	comp=Z,2.1nm,0.7s,mb4.2						
GERES	GERESS Array B	73.48	318	P	P	22 00 34.6	+0.5
	comp=Z,2.1nm,0.8s,mb4.1,baz=90,slow=5.3,SNR=16						
KHC	Kasperske Hory	73.56	318	eP	P	22 00 34.5	-0.1
KHC				e		22 00 54.0	
KHC	Kasperske Hory	73.56	318	eP	P	22 00 34.5	-0.1
KHC				x	x	22 00 54.0	
HFS	Hagfors	73.88	329	P	P	22 00 36.0	-0.3
	comp=Z,2.5nm,0.7s,mb4.3,baz=124,slow=5.3,SNR=6.6						
CLL	Collm	73.95	320	eP	P	22 00 36.0	-0.8
CLL	Collm	73.95	320	P	P	22 00 36.0	-0.8
GRA1	Grafenberg Arr	75.10	318	eP	P	22 00 44.6	+1.1
	comp=Z,3.0nm,0.9s,mb4.2						
GRF	Grafenberg Arr	75.10	318	eP	P	22 00 44.6	+1.1
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
GRF	Grafenberg Arr	75.10	318	eP	P	22 00 44.6	+1.1
GRF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
GRF	Grafenberg Arr	75.10	318	eP	P	22 00 44.6	+1.1
	comp=Z,3.0nm,0.9s,mb4.2						
NB2	NORSAR Subarra	75.15	330	P	P	22 00 43.6	+0.1
	comp=Z,1.6nm,0.7s,mb4.1,baz=89,slow=5.8						
NB2	NORSAR Subarra	75.15	330	P	P	22 00 43.6	+0.1
NB2				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
NOA	NORSAR Array B	75.15	330	P	P	22 00 43.3	-0.2
	comp=Z,2.6nm,0.8s,mb4.2,baz=91,slow=5.7,SNR=7.1						
NOA				LR	LR	22 40 01.8	
	comp=Z,79nm,19.8s,MS4.0,baz=60,slow=41						
DAVOX	Davos	76.10	315	P	P	22 00 49.7	+0.5
	comp=Z,2.0nm,0.8s,mb4.1,baz=34,slow=6.8,SNR=3.0						
LPG	La Plagne	78.37	314	eP	P	22 01 02.5	+0.6
	comp=Z,14nm,0.9s,mb4.6						
EKA	Eskdalemuir Ar	83.21	325	P	P	22 01 27.9	+0.6
	comp=Z,2.2nm,0.7s,mb4.3,baz=80,slow=5.1,SNR=4.8						
IMA	Indian Mountai	88.33	22	eP	P	22 01 53.1	+0.9
	comp=Z,11nm,0.9s,mb5.1						
BORG	Borgarnes	88.81	337	LR	LR	22 41 57.6	
	comp=Z,284nm,21.2s,MS4.7,baz=69,slow=36						
ILAR	Eielson Array	91.44	22	P	P	22 02 07.3	+0.4
	comp=Z,1.2nm,0.8s,mb4.3,baz=308,slow=4.6,SNR=12						
ILAR				LR	LR	22 49 25.5	
	comp=Z,76nm,19.7s,MS4.1,baz=164,slow=40						
INK	Inuvik	93.36	16	P	P	22 02 16.8	+1.2
	comp=Z,1.8nm,1.0s,mb4.4,baz=281,slow=2.1,SNR=3.6						
PDAR	Pinedale Array	121.76	19	PKP	PKPdf	22 07 55.5	+1.5
	comp=Z,0.5nm,0.6s,SNR=4.0						
NVAR	Mina Array Bea	122.07	28	PKP	PKPdf	22 07 58.5	+3.8
	comp=Z,0.6nm,0.7s,baz=289,slow=0.6,SNR=5.0						
TXAR	Lajitas Array	135.94	20	PKP	PKPdf	22 08 22.6	+1.2
	comp=Z,0.2nm,0.4s,baz=270,slow=1.8,SNR=2.6						
LPAZ	La Paz	160.65	256	PKP	PKPdf	22 09 03.0	+2.8
	comp=Z,0.3nm,0.5s,baz=48,slow=5.4,SNR=3.0						
LPAZ				PKPab	PKPab	22 09 45.5	+1.3
	comp=Z,0.5nm,0.5s,baz=47,slow=11,SNR=2.7						
LPAZ	La Paz	160.65	256	PKP	PKPdf	22 09 03.0	+2.8
LPAZ				PKPab	PKPab	22 09 45.5	+1.3

*IDC **14** 22:17:21.1±22.0, 2.11N×127.59E, h193^{km}±229^{km}, mb3.6/6, mb1 3.8/6, mb1mx3.6/15, mbtmp4.2/6, Error ellipse: s-maj=70.2km s-min=32.0km az=72.0*

ISC 14 22:17:22.4±4.6, 2.1N±0.3×127.6E±0.6, h223^{km}±47^{km}, n9, σ0^{s}43/9, mb3.9/6, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.48	162	eP	P	22 20 50.9	0.0
	15nm,0.6s						
WRA	Warramunga Arr	22.88	163	P	P	22 22 07.5	-0.3
	3.8nm,0.3s,mb4.4,baz=344,slow=11,SNR=155						
WB2	Warramunga Arr	22.89	163	eP	P	22 22 08.3	+0.4
ASAR	Alice Springs	26.34	167	P	P	22 22 40.1	+0.3
	3.7nm,0.5s,mb4.3,baz=355,slow=7.9,SNR=98						
ASPA	Alice Springs	26.34	167	⇑iP	P	22 22 40.0	+0.1
CTA	Charters Tower	28.66	141	P	P	22 23 01.2	+0.4
	3.4nm,0.7s,mb4.1,baz=267,slow=19,SNR=2.4						
STKA	Stephens Creek	36.31	160	P	P	22 24 05.6	-1.0
	3.5nm,0.6s,mb4.1,baz=339,slow=9.1,SNR=12						
SONM	Songino Array	49.11	341	P	P	22 25 48.8	-0.3
	0.5nm,0.6s,mb3.0,baz=151,slow=6.7,SNR=5.4						
BVAR	Borovoye Array	69.15	327	P	P	22 28 06.7	+0.4
	0.3nm,0.5s,mb3.2,baz=90,slow=7.2,SNR=3.3						

CASC 14 22:20:36.9±1.9, 11.20N×86.69W, h36^{km}±999^{km}, MD4.0, 3C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APON	Apoyo	0.94	41	eP	P	22 20 54.5	+0.8
COPN	Copaltepe	0.98	6	eP	P	22 20 54.7	+0.4
XAVN	Gruta Xavier	1.01	21	eP	P	22 20 52.7	-2.0
CONN	Concepcion	1.11	71	⇑eP	P	22 20 55.6	-0.5
MOMJ	Momotombo	1.21	7	eP	P	22 20 58.0	+0.5
LEON	Leon	1.22	351	eP	P	22 20 57.5	-0.2
LEON				eS	S	22 21 13.4	+0.1
MIRN	Miramar	1.23	359	⇑eP	P	22 20 58.1	+0.3
CNGN	Cerro Negro	1.29	360	eP	P	22 20 58.7	0.0
TEL3	Telica 3	1.37	354	eP	P	22 20 59.5	-0.4
CRIN	San Cristobal	1.53	347	eP	P	22 21 02.3	+0.1
CGA2	Cerro Gallo 2	2.49	118	eS	S	22 21 45.8	+0.5
PRS1	Puriscal	2.64	117	eP	P	22 21 17.6	-0.5
LAJ	Bijagual	2.86	118	⇑eP	P	22 21 15.3	-5.9

*NEIC **14** 22:23:41.8±0.9, 49.94N×178.70W, h10^{km}, ML3.3(AEIC), Error ellipse: s-maj=19.3km s-min=7.3km az=154.0*

*IDC **14** 22:23:46.6±4.2, 50.05N×178.72W, h40^{km}±27^{km}, mb3.7/10, mb1 3.9/11, mb1mx3.6/24, mbtmp3.9/11, ML3.1/1, Error ellipse: s-maj=60.9km s-min=19.6km az=7.0*

ISC 14 22:23:43.5±2.2, 50.1N±0.1×178.8W±0.1, h31^{km}±16^{km}, n21, σ0^{s}78/28, mb3.8/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIMD	Kanaga Island	1.98	30	P	Pn	22 24 15.8	+0.3
KIMD				S	Sn	22 24 39.9	+0.4
KIWB	Kanaga Island	2.08	30	P	Pn	22 24 18.1	+1.1
ADK	Adak	2.27	36	P	Pn	22 24 19.7	0.0
ADK				S	Sn	22 24 46.7	-0.2
ADAG	Mount Adagdak	2.38	35	P	Pn	22 24 21.9	+0.6
ADAG				S	Sn	22 24 51.0	+1.3
GSTD	Great Sitkin T	2.61	39	P	Pn	22 24 24.8	+0.2
GSTD				S	Sn	22 24 55.4	-0.3
GSMY	Great Sitkin M	2.64	40	P	Pn	22 24 25.2	+0.2
GSIG	Igitkin Island	2.65	42	P	Pn	22 24 24.9	-0.3
GSIG				S	Sn	22 24 55.2	-1.5
GSTR	Great Sitkin T	2.68	39	P	Pn	22 24 25.9	+0.3
ATKA	Atka Island	3.61	52	P	Pn	22 24 37.3	-1.6
ATKA				S	Sn	22 25 17.2	-3.8
FX1	Attu Island--F	5.75	302	Pn	Pn	22 25 08.4	-0.7
	1.8nm,0.3s,baz=110,slow=12,SNR=7.7						
FX1				Sn	Sn	22 26 11.0	-3.8
	3.1nm,0.3s,baz=266,slow=19,SNR=6.9						
IMA	Indian Mountai	20.59	30	P	P	22 28 22.4	+0.1
INK	Inuvik	28.56	34	P	P	22 29 38.0	-0.2
	0.5nm,0.4s,mb3.6,baz=269,slow=9.8,SNR=4.1						
YKA	Yellowknife Ar	36.16	45	P	P	22 30 44.8	+0.3
	0.8nm,0.8s,mb3.7,baz=279,slow=8.0,SNR=14						
PDAR	Pinedale Array	46.73	71	P	P	22 32 10.8	-0.5
	0.4nm,0.6s,mb3.5,baz=304,slow=5.3,SNR=3.9						
SONM	Songino Array	47.24	298	P	P	22 32 16.0	+0.8
	0.2nm,0.6s,mb3.2,baz=31,slow=7.2,SNR=3.6						
ARCES	ARCESS Array B	59.39	350	P	P	22 33 44.0	-0.7
	3.1nm,0.9s,mb4.3,baz=34,slow=8.7,SNR=5.9						
BVAR	Borovoye Array	61.89	320	P	P	22 34 02.3	+0.4
	0.9nm,0.6s,mb4.1,baz=48,slow=7.4,SNR=10						
FINES	FINESS Array B	67.07	347	P	P	22 34 34.5	-0.8
	0.9nm,0.8s,mb3.9,baz=329,slow=11,SNR=3.9						
NOA	NORSAR Array B	68.96	355	P	P	22 34 47.2	+0.1
	0.8nm,0.8s,mb3.7,baz=1.7,slow=3.9,SNR=2.9						
HFS	Hagfors	69.70	353	P	P	22 34 52.1	+0.5
	10.0nm,1.3s,mb4.6,baz=211,slow=38,SNR=3.0						
GERES	GERESS Array B	80.89	352	P	P	22 35 56.6	+1.1
	0.1nm,0.4s,mb3.1,baz=18,slow=4.2,SNR=3.6						

*NEIC **14** 22:51:13.1, 46.94N×2.04W, h6^{km}, ML2.7(STR), ML2.5(LDG), After LDG.*

*LDG **14** 22:51:13.1±0.1, 46.94N×2.04W, h6^{km}, Md2.7/2, Ml2.5/20, Error ellipse: s-maj=1.0km s-min=0.6km az=58.0*

*CSEM **14** 22:51:13.1±0.1, 46.94N×2.04W, h8^{km}, ML2.5/19, Error ellipse: s-maj=1.4km s-min=0.7km az=51.0*

*STR **14** 22:51:14.3±0.8, 46.87N×2.00W, h5^{km}±1^{km}, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 14 22:51:10.3±0.5, 46.94N±0.02×1.90W±0.03, h6^{km}±3^{km}, n24, σ1^{s}23/69, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LRYF	La Roche-sur-Y	0.43	146	Pg	Pg	22 51 22.2	+3.1
LRYF				Sg	Sg	22 51 29.3	+4.4
LCHF	La Chataignera	0.84	108	Pg	Pg	22 51 31.5	+4.3
LCHF				Sg	Sg	22 51 43.3	+4.9
MFF	Saint Martin d	1.25	105	ePn	Pn	22 51 36.7	+2.3
MFF				ePg	Pg	22 51 38.0	+2.6
MFF				eSn	Sn	22 51 53.9	+2.1
MFF				eSg	Sg	22 51 55.7	+3.6
	26nm,0.2s						
QUIF	Quistinic	1.30	319	ePn	Pn	22 51 35.3	+0.2
QUIF				ePg	Pg	22 51 36.3	0.0
QUIF				eSg	Sg	22 51 52.4	-1.3
	9.3nm,0.2s						
CHIF	Chize	1.31	127	Pg	Pg	22 51 39.1	+2.6
CHIF				Sg	Sg	22 51 57.3	+3.3
SGMF	Saint Gilles	1.39	342	ePg	Pg	22 51 38.6	+0.5
SGMF				eSn	Sn	22 51 54.3	-0.9
SGMF				eSg	Sg	22 51 55.7	-0.9
	10nm,0.2s						
GRR	Gorron	1.61	26	ePn	Pn	22 51 40.9	+1.3
GRR				ePg	Pg	22 51 44.1	+1.5
GRR				eSn	Sn	22 52 01.5	+0.6
GRR				eSg	Sg	22 52 05.3	+1.2
	6.5nm,0.2s						
ROSF	Rostrenen	1.68	327	ePg	Pg	22 51 43.3	-0.6
ROSF				eSn	Sn	22 52 00.3	-2.2
ROSF				eSg	Sg	22 52 04.3	-1.9
	5.5nm,0.2s						
LDF	La Druitiere	2.05	35	ePn	Pn	22 51 47.3	+1.6
LDF				ePg	Pg	22 51 52.5	+1.3
LDF				eSn	Sn	22 52 11.7	-0.2
LDF				eSg	Sg	22 52 18.8	+0.3
	4.5nm,0.2s						
FLN	La Foliniere	2.06	27	ePn	Pn	22 51 47.2	+1.2
FLN				ePg	Pg	22 51 52.3	+0.8
FLN				eSn	Sn	22 52 12.0	-0.3
FLN				eSg	Sg	22 52 19.0	0.0
	3.8nm,0.2s						
LFF	La Frestale	2.72	136	ePn	Pn	22 51 56.2	+0.8
LFF				ePg	Pg	22 52 04.4	-0.3
LFF				eSn	Sn	22 52 28.2	-0.8
LFF				eSg	Sg	22 52 40.6	-0.3
	7.2nm,0.4s						
RJF	Les Rejaudoux	2.88	123	ePn	Pn	22 51 58.7	+0.9
RJF				ePg	Pg	22 52 07.1	-0.9
RJF				eSn	Sn	22 52 32.7	-0.5
RJF				eSg	Sg	22 52 46.1	-0.3
	3.2nm,0.2s						
TCF	Toulx Ste Croi	2.91	101	ePn	Pn	22 51 59.5	+1.4
TCF				ePg	Pg	22 52 08.8	+0.4
TCF				eSn	Sn	22 52 34.6	+0.8
TCF				eSg	Sg	22 52 47.1	-0.1
	5.5nm,0.4s						
HYF	Humbligny	3.12	82	ePn	Pn	22 52 02.2	+1.1
HYF				eSg	Sg	22 52 53.8	-0.4
BGF	Bois d'Agland	3.29	95	ePn	Pn	22 52 04.5	+1.0
BGF				ePg	Pg	22 52 15.2	-0.8
BGF				eSn	Sn	22 52 42.5	-0.9
BGF				eSg	Sg	22 52 58.2	-1.6
	7.8nm,0.3s						
CAF	Calviac	3.42	125	ePn	Pn	22 52 06.4	+1.0
CAF				eSn	Sn	22 52 45.1	-1.7
CAF				eSg	Sg	22 53 02.7	-1.6
	1.3nm,0.2s						
AVF	Avril sur Loir	3.61	90	ePn	Pn	22 52 09.1	+1.1
AVF				ePg	Pg	22 52 21.4	-1.0
AVF				eSn	Sn	22 52 50.2	-1.3
AVF				eSg	Sg	22 53 09.1	-1.4
	0.9nm,0.2s						
SSF	Saint Saulge	3.70	86	ePg	Pg	22 52 23.5	-0.8
SSF				eSn	Sn	22 52 52.3	-1.6
SSF				eSg	Sg	22 53 12.7	-1.0
	1.5nm,0.4s						
SJPF	Ste Jean	3.85	173	eSn	Sn	22 52 52.8	-4.9
SJPF				eSg	Sg	22 53 14.2	-4.5
	0.7nm,0.3s						
SMF	Signal de Mont	3.96	92	eSg	Sg	22 53 19.3	-2.8
	1.2nm,0.2s						
ETSF	Etsaut	4.15	166	ePn	Pn	22 52 15.6	-0.1
ETSF				eSn	Sn	22 53 01.0	-4.2
ETSF				eSg	Sg	22 53 23.9	-4.6
	0.7nm,0.3s						
EPF	Esparros	4.22	157	ePn	Pn	22 52 16.5	-0.2
EPF				eSg	Sg	22 53 26.5	-4.3
	2.2nm,0.4s						
MTLF	Montolieu	4.63	139	eSg	Sg	22 53 39.9	-4.6
	1.1nm,0.4s						
GIVF	Givet	5.48	52	ePn	Pn	22 52 33.7	-0.8

MAN 14 22:56:25.4, 8.49N×126.93E, h1^{km}, mb4.2, ML3.0, MS2.8, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.64	241	⇓iP	Pg	22 56 39.0	+1.0
BIPH				i S	Sg	22 56 45.1	-1.4
BUTP	Butuan	1.37	290	eP	Pb	22 56 51.5	-0.1
BUTP				eS	Sb	22 57 08.4	-1.2
MATI	Mati	1.67	203	i P	Pn	22 56 55.5	-0.5
SCPH	Surigao	1.91	312	eP	Pn	22 57 00.0	+0.6
SCPH				eS	Sn	22 57 24.5	0.0
BUKP	Musuan	1.94	252	i P	Pn	22 57 00.7	+0.8
BUKP				eS	Sn	22 57 24.6	-0.7
CGP	Cagayan de Oro	2.21	269	⇓eP	Pn	22 56 52.8	-11
CGP				eS	Sn	22 57 27.3	-4.7
MSLP	Maasin	2.61	309	eP	Pn	22 57 13.1	+3.6
TBP	Tagbilaran	3.25	292	eP	Pn	22 57 18.9	+0.3
TBP				eS	Sn	22 57 53.9	-4.5

IDC 14 23:07:36.1±4.5, 27.99S×178.06W, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=116.9km s-min=43.3km az=48.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.01	270	P	P	23 15 45.5	-1.8
	0.8nm,0.5s,baz=111,slow=7.2,SNR=16						
VNDA	Vanda	50.48	186	P	P	23 16 35.4	-2.0
	0.9nm,0.8s,baz=27,slow=9.0,SNR=3.9						
FINES	FINESS Array B	142.87	341	PKP	PKPdf	23 27 10.3	-2.5
	0.3nm,0.3s,baz=45,slow=2.7,SNR=7.0						

CASC 14 23:19:33.0±1.6, 11.37N×86.15W, h66^{km}±13^{km}, MD4.1, ML3.4, 8C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	Concepcion	0.55	69	⇓iP	P	23 19 45.5	-0.6
CONN				eS	S	23 19 54.5	-1.1
APON	Apoyo	0.55	8	⇓iP	P	23 19 46.0	-0.1
APON				eS	S	23 19 56.5	+0.9
MASN	Masaya	0.61	360	⇓eP	P	23 19 46.3	-0.5
MASN				eS	S	23 19 57.9	+1.0
TICN	Ticuantepe	0.66	353	⇓eP	P	23 19 47.5	+0.1
TICN				eS	S	23 19 58.4	+0.4
MGAN	Managua	0.78	353	⇓eP	P	23 19 48.5	-0.2
MGAN				eS	S	23 20 01.3	+1.0
	comp=N,1µm,0.4s						
WILN	Americas 2	0.79	357	⇓eP	P	23 19 48.5	-0.3
WILN				eS	S	23 20 01.2	+0.7
XAVN	Gruta Xavier	0.79	347	⇓eP	P	23 19 48.9	0.0
XAVN				eS	S	23 20 02.3	+1.6
COPN	Copaltepe	0.91	332	⇑eP	P	23 19 50.1	-0.3
COPN				eS	S	23 20 02.8	-0.6
MOMJ	Momotombo	1.10	340	⇓eP	P	23 19 52.2	-0.7
MOMJ				eS	S	23 20 07.7	+0.1
PYTN	Playitas	1.16	4	⇑eP	P	23 19 53.4	-0.3
PYTN				eS	S	23 20 08.9	-0.2
MIRN	Miramar	1.20	333	⇓eP	P	23 19 54.1	-0.1
CNGN	Cerro Negro	1.25	334	⇑eP	P	23 19 54.6	-0.3
CNGN				eS	S	23 20 12.6	+1.6
LEON	Leon	1.27	325	⇑eP	P	23 19 54.8	-0.4
LEON				eS	S	23 20 11.7	+0.1
TEL3	Telica 3	1.38	330	⇑eP	P	23 19 56.5	-0.2
TEL3				eS	S	23 20 14.0	-0.3
TELN	Telica	1.40	331	⇑eP	P	23 19 56.6	-0.4
TELN				eS	S	23 20 15.5	+0.8
CRIN	San Cristobal	1.59	326	eP	P	23 19 59.7	+0.1
FORC	Fortuna	1.71	121	eP	P	23 20 01.3	+0.2
CGA2	Cerro Gallo 2	2.13	129	eP	P	23 20 06.7	-0.3
PRS1	Puriscal	2.27	127	eP	P	23 20 09.2	+0.1
LAJ	Bijagual	2.49	127	eP	P	23 20 09.1	-3.1
TRTC	Tortuguero	2.52	108	⇑iP	P	23 20 11.2	-1.3
LCR2	La Lucha 2	2.66	127	⇑eP	P	23 20 13.8	-0.7

WEL 14 23:53:20.5±0.4, 36.69S×177.11E, h247^{km}±5^{km}, ML3.5/6, Error ellipse: s-maj=7.9km s-min=6.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.29	133	PN	P	23 53 57.3	0.0
MXZ				SN	S	23 54 24.4	-1.5
MXZ				SN	S	23 54 25.1	-0.8
URZ	Urewera	1.57	180	PN	P	23 53 58.9	-0.4
URZ				SN	S	23 54 29.4	-0.1
PUZ	Puketiti	1.66	147	PN	P	23 53 59.9	-0.2
PUZ				SN	S	23 54 29.5	-1.2
MWZ	Matawai	1.68	169	PN	P	23 54 00.3	+0.1
MWZ				SN	S	23 54 30.8	-0.2
KNZ	Kokohu	2.37	169	ePN	P	23 54 05.9	-0.7
KNZ				SN	S	23 54 41.4	-1.0
WNVZ	Wahianoa	2.90	204	ePN	P	23 54 11.5	-0.5
BFZ	Birch Farm	4.04	189	SN	S	23 55 12.9	-2.6
MRZ	Mangatainoka R	4.15	196	PN	P	23 54 24.0	-2.3
MRZ				SN	S	23 55 14.2	-3.4
KIW	Kapiti Island	4.51	202	ePN	P	23 54 27.7	-3.0
KIW				SN	S	23 55 20.3	-5.1
CAW	Cannon Point	4.69	199	ePN	P	23 54 29.8	-3.2
NNZ	Nelson	5.38	212	ePN	P	23 54 37.5	-3.9
NNZ				SN	S	23 55 40.3	-4.2
THZ	Tophouse	6.03	211	ePN	P	23 54 46.1	-3.4
THZ				SN	S	23 55 55.2	-3.8
LTZ	Lake Taylor	7.14	210	ePN	P	23 54 59.4	-4.1
LTZ				SN	S	23 56 17.6	-6.6
MQZ	McQueen's Vall	7.80	205	SN	S	23 56 31.8	-7.4

*MOS **14** 23:59:04.3±1.0, 47.00N×153.90E, h33^{km}, mb4.5/2, Error ellipse: s-maj=17.9km s-min=12.8km az=67.0*

*NEIC **14** 23:59:06.7±0.4, 46.97N×153.75E, h35^{km}, mb4.3/2, Error ellipse: s-maj=11.3km s-min=8.7km az=153.0*

*IDC **14** 23:59:10.4±4.5, 47.00N×153.76E, h67^{km}±42^{km}, mb3.6/14, mb1 3.9/16, mb1mx3.8/22, mbtmp3.9/16, ML3.6/2, MS3.2/2, Ms1 3.2/2, ms1mx2.5/36, Error ellipse: s-maj=21.0km s-min=15.5km az=133.0*

ISC 14 23:59:04.9±0.5, 47.01N±0.09×153.90E±0.09, h33^{km}, n41, σ1^{s}13/42, mb4.1/19, MS3.5/1, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.96	21	ePN	Pn	00 00 02.0	-3.0
KUR	Kuril'sk	4.55	249	ePN	Pn	00 00 13.0	-0.4
KUR				eS	S	00 01 04.8	-1.0
KUR				pmax	pmax		
	comp=Z,110nm,0.6s						
KUR				smax			
	comp=N,300nm,0.6s						
KUR				smax			
	comp=E,210nm,0.6s						
YUK	Yuzh-Kuril'sk	6.38	245	PN	Pn	00 00 40.6	+1.4
YSS	Yuzh-Sakhalins	7.62	274	ePN	Pn	00 00 55.0	-1.6
ASAJ	Asahikawa	8.44	254	P	P	00 01 08.2	+0.5
	comp=E,0.4nm,0.3s,baz=89,slow=21,SNR=3.6						
ASAJ				LR	LR	00 04 11.4	
	comp=E,78nm,19.3s,baz=18,slow=36						
FX1	Attu Island--F	13.71	58	P	P	00 02 16.6	-2.4
	comp=E,1.6nm,0.3s,baz=13,slow=15,SNR=4.3						
FX1				S	S	00 04 38.2	-13
	comp=E,1.7nm,0.3s,baz=228,slow=15,SNR=2.6						
JOW	Kunigami	28.51	234	LR	LR	00 14 36.7	
	comp=E,111nm,20.2s,MS3.5,baz=75,slow=33						
SONM	Songino Array	31.76	289	P	P	00 05 27.1	-0.9
	comp=E,0.2nm,0.5s,mb3.2,baz=63,slow=9.0,SNR=2.5						
ILAR	Eielson Array	36.01	39	P	P	00 06 05.1	+0.7
	comp=E,0.5nm,0.6s,mb3.6,baz=266,slow=8.1,SNR=6.6						
INK	Inuvik	41.15	33	P	P	00 06 48.2	+1.1
	comp=E,1.3nm,0.5s,mb3.8,baz=313,slow=7.5,SNR=12						
ZAL	Zalesovo	42.91	306	P	P	00 07 01.7	0.0
	comp=E,0.5nm,0.5s,mb3.5,baz=71,slow=10,SNR=2.8						
KURK	Kurchatov	47.67	304	eP	P	00 07 38.2	-1.5
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	Kurchatov	47.67	304	eP	P	00 07 38.2	-1.5
	comp=Z,2.1nm,0.7s,mb4.3						
YKA	Yellowknife Ar	50.40	37	P	P	00 08 00.6	+0.1
YKA	Yellowknife Ar	50.40	37	P	P	00 08 00.5	0.0
	comp=Z,0.4nm,0.6s,mb3.6,baz=295,slow=7.2,SNR=7.0						
LSA	Lhasa	50.80	273	P	P	00 08 03.6	-0.4
AAK	Ala-Archa	54.20	297	P	P	00 08 27.9	-1.4
JIRN	Jiri	55.46	275	eP	P	00 08 40.2	+1.6
	comp=Z,17nm,0.8s,mb5.2						
KKN	Kakani	56.00	276	eP	P	00 08 43.0	+0.5
DMN	Daman	56.23	276	eP	P	00 08 45.9	+1.7
GKN	Gorkha	56.30	276	eP	P	00 08 45.8	+1.2
KOLN	Koldanda	57.16	277	eP	P	00 08 51.8	+1.0
	comp=Z,12nm,0.8s,mb5.0						
KEV	Kevo	57.28	341	ep	P	00 09 04.8	+14
	comp=Z,9.5nm,0.9s,mb4.8						
ARCES	ARCESS Array B	57.79	341	P	P	00 08 54.2	-0.4
	comp=Z,2.7nm,0.9s,mb4.3,baz=27,slow=8.1,SNR=3.6						
NVAR	Mina Array Bea	61.84	63	P	P	00 09 22.8	0.0
	comp=Z,0.3nm,0.2s,mb4.0,baz=309,slow=5.5,SNR=3.8						
KAF	Kangasniemi	63.44	335	ep	P	00 09 41.1	+8.0
	comp=Z,2.0nm,0.7s,mb4.4						
KAF	Kangasniemi	63.44	335	eP	P	00 09 41.1	+8.0
KAF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
FINES	FINESS Array B	64.04	335	P	P	00 09 36.2	-0.7
	comp=Z,0.8nm,0.5s,mb4.0,baz=29,slow=7.1,SNR=9.6						
PDAR	Pinedale Array	64.16	54	P	P	00 09 38.4	+0.4
	comp=Z,0.9nm,0.8s,mb3.9,baz=284,slow=3.1,SNR=7.7						
NB2	NORSAR Subarra	68.16	341	P	P	00 10 03.3	+0.1
	comp=Z,5.8nm,1.1s,mb4.5,baz=29,slow=6.2						
NOA	NORSAR Array B	68.16	341	P	P	00 10 03.1	-0.1
	comp=Z,1.6nm,0.9s,mb4.0,baz=26,slow=6.5,SNR=4.3						
WRAB	Tennant Creek	68.92	200	P	P	00 10 07.0	-1.6
WRA	Warramunga Arr	68.93	200	P	P	00 10 07.1	-1.5
	comp=Z,1.2nm,0.8s,mb3.9,baz=18,slow=6.9,SNR=6.8						
ASAR	Alice Springs	72.62	199	P	P	00 10 31.2	+0.4
	comp=Z,1.8nm,0.7s,mb4.1,baz=9.2,slow=5.9,SNR=19						
BURAR	Bucovina Array	75.67	327	⇑P	P	00 10 48.9	+0.9
CLL	Collm	76.45	336	eP	P	00 10 55.0	+2.6
CLL				e		00 10 58.0	
CLL	Collm	76.45	336	P	P	00 10 55.0	+2.6
CLL				e		00 10 58.0	
CLL				e*PP	pP	00 11 03.0	+0.3
CFR	Carcaliu	76.55	324	⇑P	P	00 10 53.2	+0.1
TXAR	Lajitas Array	76.90	61	P	P	00 10 56.0	+0.6
	comp=Z,3.5nm,0.7s,mb4.4,baz=298,slow=3.9,SNR=20						
MLR	Muntele Rosu	77.17	325	⇓P	P	00 10 58.0	+1.4
GERES	GERESS Array B	78.46	334	P	P	00 11 02.7	-0.9
	comp=Z,0.1nm,0.3s,mb3.2,baz=142,slow=41,SNR=4.0						

LDG **15** *00:03:02.1±0.5, 42.09N×15.97E, h10km, Ml2.9/8, Error ellipse: s-maj=11.4km s-min=4.8km az=78.0*
ROM **15** *00:03:03.5±0.4, 41.94N×15.85E, h28km±2km, MD3.1/7, ML2.5/11, Error ellipse: s-maj=4.4km s-min=3.1km az=90.0*
NEIC **15** *00:03:03.6, 41.94N×15.85E, h28km, MD3.1(ROM), After ROM.*
CSEM **15** *00:03:03.2±0.1, 42.05N×15.86E, h40km, ML3.0/7, Error ellipse: s-maj=2.4km s-min=1.1km az=29.0*
THE **15** *00:03:08.0, 41.86N×16.48E, h8km*
ISC 15 00:03:01.5±0.3**, 42.08N**±0.03×**15.77E**±0.03**, h42**km±7km**, n88, σ1ˢ34**/118**, 4C-5D, Adriatic Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FGMS	**Monte Sant'Ang**	**0.40**	**160**	⇓iPG	**P**	**00 03 10.7**	**-0.3**
FGMS				SG	**S**	**00 03 16.4**	**-1.3**
FGMS	**Monte Sant'Ang**	**0.40**	**160**	⇓iPg	**P**	**00 03 10.7**	**-0.3**
FGMS				eSg	**S**	**00 03 16.4**	**-1.3**
MS1	**Monte Sant'Ang**	**0.40**	**161**	⇓iPg	**P**	**00 03 10.6**	**-0.4**
MS1				eSg	**S**	**00 03 15.8**	**-1.9**
RGNG	**Rignano Grg**	**0.43**	**199**	⇓iPG	**P**	**00 03 11.4**	**0.0**
RGNG				SG	**S**	**00 03 17.0**	**-1.4**
RGNG	**Rignano Grg**	**0.43**	**199**	⇓iPg	**P**	**00 03 11.4**	**0.0**
RGNG				eSg	**S**	**00 03 17.0**	**-1.4**
FG5	**Orsara di Pugl**	**0.88**	**205**	ePN	**P**	**00 03 18.4**	**+0.8**
	198nm,0.3s						
FG5	**Orsara di Pugl**	**0.88**	**205**	ePg	**P**	**00 03 18.4**	**+0.9**
FG5	**Orsara di Pugl**	**0.88**	**205**	ePn	**P**	**00 03 18.4**	**+0.8**
	198nm,0.3s						
FG4	**Candela**	**0.96**	**191**	ePN	**P**	**00 03 19.0**	**+0.2**
	113nm,0.3s						
FG4	**Candela**	**0.96**	**191**	ePg	**P**	**00 03 19.0**	**+0.3**
FG4	**Candela**	**0.96**	**191**	ePn	**P**	**00 03 19.0**	**+0.2**
	113nm,0.3s						
CDT	**Castel del Mon**	**1.07**	**159**	ePg	**P**	**00 03 20.2**	**0.0**
CDT				eSg	**S**	**00 03 33.5**	**-0.6**
CII	**Carovilli**	**1.15**	**252**	ePN	**P**	**00 03 24.4**	**+3.1**
	106nm,0.3s						
CII	**Carovilli**	**1.15**	**252**	ePg	**P**	**00 03 24.4**	**+3.0**
CII	**Carovilli**	**1.15**	**252**	ePn	**P**	**00 03 24.4**	**+3.1**
	106nm,0.3s						
BAI	**Bari**	**1.28**	**139**	ePg	**P**	**00 03 23.4**	**+0.2**
MRLC	**Muro Lucano**	**1.34**	**189**	ePN	**P**	**00 03 24.1**	**-0.1**
	103nm,0.4s						
MRLC	**Muro Lucano**	**1.34**	**189**	ePg	**P**	**00 03 24.1**	**0.0**
MRLC	**Muro Lucano**	**1.34**	**189**	ePn	**P**	**00 03 24.1**	**-0.1**
	103nm,0.4s						
CSSN	**Cassano Irpino**	**1.34**	**205**	ePN	**P**	**00 03 24.7**	**+0.5**
	71nm,0.4s						
CSSN	**Cassano Irpino**	**1.34**	**205**	ePg	**P**	**00 03 24.7**	**+0.5**
CSSN	**Cassano Irpino**	**1.34**	**205**	ePn	**P**	**00 03 24.7**	**+0.5**
	71nm,0.4s						
SG1	**Sgolgore (BA)**	**1.42**	**151**	ePg	**P**	**00 03 25.1**	**-0.1**
SDI	**San Donato**	**1.51**	**256**	ePN	**P**	**00 03 30.0**	**+3.4**
	93nm,0.4s						
SDI	**San Donato**	**1.51**	**256**	ePg	**P**	**00 03 30.0**	**+3.5**
SDI	**San Donato**	**1.51**	**256**	ePn	**P**	**00 03 30.0**	**+3.4**
	93nm,0.4s						
SGO	**Sicignano**	**1.56**	**193**	ePN	**P**	**00 03 26.6**	**-0.6**
	38nm,0.2s						
SGO	**Sicignano**	**1.56**	**193**	ePn	**P**	**00 03 26.6**	**-0.6**
	38nm,0.2s						
STON	**Ston**	**1.63**	**60**	i Pn	**P**	**00 03 29.4**	**+1.1**
STON				i Sg	**S**	**00 03 49.9**	**+1.6**
STON				i Sn	**S**	**00 03 50.1**	**+1.8**
STON	**Ston**	**1.63**	**60**	i Pn	**P**	**00 03 29.4**	**+1.1**
STON				i Sg	**S**	**00 03 49.8**	**+1.5**
STON				i Sn	**S**	**00 03 50.0**	**+1.7**
PTQR	**Pietraquaria**	**1.77**	**269**	ePN	**P**	**00 03 34.0**	**+3.8**
	20nm,0.4s						
PTQR	**Pietraquaria**	**1.77**	**269**	ePg	**P**	**00 03 34.0**	**+3.8**
PTQR	**Pietraquaria**	**1.77**	**269**	ePn	**P**	**00 03 34.0**	**+3.8**
	20nm,0.4s						
AQU	**L'Aquila**	**1.78**	**280**	ePN	**P**	**00 03 34.4**	**+4.0**
AQU	**L'Aquila**	**1.78**	**280**	ePg	**P**	**00 03 34.4**	**+4.0**
PE1	**Pezze di Greco**	**1.78**	**135**	ePg	**P**	**00 03 30.5**	**+0.1**
NRCA	**Norcia**	**2.10**	**292**	ePN	**P**	**00 03 37.8**	**+2.8**
	27nm,0.2s						
NRCA	**Norcia**	**2.10**	**292**	ePn	**P**	**00 03 37.8**	**+2.8**
NRCA	**Norcia**	**2.10**	**292**	ePn	**P**	**00 03 37.8**	**+2.8**
	27nm,0.2s						
MNS	**Montasola**	**2.31**	**279**	ePN	**P**	**00 03 40.7**	**+2.7**
	20nm,0.3s						
MNS	**Montasola**	**2.31**	**279**	ePn	**P**	**00 03 40.7**	**+2.7**
MNS	**Montasola**	**2.31**	**279**	ePn	**P**	**00 03 40.7**	**+2.7**
	20nm,0.3s						
SNTG	**Esanatoglia**	**2.39**	**300**	ePN	**P**	**00 03 41.5**	**+2.4**
	25nm,0.4s						
SNTG	**Esanatoglia**	**2.39**	**300**	ePn	**P**	**00 03 41.5**	**+2.3**
SNTG	**Esanatoglia**	**2.39**	**300**	ePn	**P**	**00 03 41.5**	**+2.4**
	25nm,0.4s						
ARV	**Arcevia**	**2.52**	**305**	ePN	**P**	**00 03 43.1**	**+2.2**
	12nm,0.2s						
ARV	**Arcevia**	**2.52**	**305**	ePn	**P**	**00 03 43.1**	**+2.2**
ARV	**Arcevia**	**2.52**	**305**	ePn	**P**	**00 03 43.1**	**+2.2**
	12nm,0.2s						
FSSB	**Fossombrone**	**2.73**	**307**	ePN	**P**	**00 03 46.0**	**+2.1**
	16nm,0.3s						
FSSB	**Fossombrone**	**2.73**	**307**	ePn	**P**	**00 03 46.0**	**+2.1**
FSSB	**Fossombrone**	**2.73**	**307**	ePn	**P**	**00 03 46.0**	**+2.1**
	16nm,0.3s						
TIP	**Timpagrande**	**2.99**	**165**	ePn	**P**	**00 03 48.0**	**+0.3**
TIP	**Timpagrande**	**2.99**	**165**	ePn	**P**	**00 03 48.0**	**+0.3**
VISS	**Visnje**	**3.78**	**350**	i Pn	**P**	**00 04 00.5**	**+1.6**
VISS	**Visnje**	**3.78**	**350**	i Pn	**P**	**00 04 00.4**	**+1.5**
GOLS	**Golise**	**3.93**	**359**	ePn	**P**	**00 04 02.9**	**+1.9**
VOY	**Vojsko**	**4.18**	**342**	ePn	**P**	**00 04 05.3**	**+0.9**
VOY				eSn	**S**	**00 04 52.5**	**-0.1**
VOJS	**Vojsko**	**4.18**	**342**	i Pn	**P**	**00 04 05.2**	**+0.7**
IGT	**Igoumenitsa**	**4.30**	**125**	ePn	**P**	**00 04 06.0**	**-0.1**
FNA	**Florina**	**4.41**	**105**	ePn	**P**	**00 04 07.8**	**+0.1**
FNA				eSn	**S**	**00 04 54.2**	**-4.3**
FNA	**Florina**	**4.41**	**105**	ePn	**P**	**00 04 07.8**	**+0.1**
FNA				eSn	**S**	**00 04 54.2**	**-4.3**
VLC	**Villacollemand**	**4.46**	**300**	ePn	**P**	**00 04 09.5**	**+1.1**
VLC	**Villacollemand**	**4.46**	**300**	ePn	**P**	**00 04 09.5**	**+1.1**
OBKA	**Obir**	**4.51**	**349**	⇑iPN	**P**	**00 04 10.6**	**+1.4**
OBKA				i SN	**S**	**00 04 59.8**	**-1.3**
PGF	**Pioggiola**	**5.04**	**278**	ePn	**P**	**00 04 18.1**	**+1.5**
PGF				eSn	**S**	**00 05 13.8**	**-0.6**
	0.6nm,0.3s						
GRG	**Griva**	**5.10**	**100**	ePn	**P**	**00 04 17.2**	**-0.3**
GRG				eSn	**S**	**00 05 11.1**	**-4.9**
KBA	**Koelnbreinsper**	**5.29**	**342**	⇑iPN	**P**	**00 04 20.4**	**+0.3**
KBA				i SN	**S**	**00 05 18.0**	**-2.6**
KNT	**Kendrikon**	**5.42**	**97**	ePn	**P**	**00 04 22.0**	**+0.1**
LIT	**Litokhoron**	**5.45**	**109**	ePn	**P**	**00 04 21.9**	**-0.4**
LIT				eSn	**S**	**00 05 19.2**	**-5.4**
SOH	**Sokhos**	**5.84**	**100**	ePn	**P**	**00 04 27.4**	**-0.3**
SOH				eSn	**S**	**00 05 29.6**	**-4.7**
AGG	**Agios Georgios**	**5.86**	**119**	ePn	**P**	**00 04 27.6**	**-0.4**
AGG				eSn	**S**	**00 05 30.0**	**-4.8**
MOA	**Molln**	**5.87**	**350**	⇑iPN	**P**	**00 04 29.2**	**+1.1**
MOA				i SN	**S**	**00 05 32.9**	**-2.2**
SRS	**Serrai**	**5.94**	**97**	ePn	**P**	**00 04 28.9**	**-0.3**
SRS				eSn	**S**	**00 05 32.9**	**-4.1**
WTTA	**Wattenberg**	**5.96**	**332**	⇑iPN	**P**	**00 04 29.3**	**-0.2**
WTTA				i SN	**S**	**00 05 34.4**	**-3.0**
SBF	**Sospel**	**6.37**	**289**	ePn	**P**	**00 04 36.1**	**+0.9**
FRF	**La Foret Royal**	**6.87**	**286**	ePn	**P**	**00 04 43.6**	**+1.3**
LMR	**La Mourre**	**6.94**	**284**	ePn	**P**	**00 04 43.4**	**+0.2**
MBDF	**Montbardon**	**7.07**	**295**	ePn	**P**	**00 04 43.8**	**-1.2**
MBDF				eSn	**S**	**00 06 02.1**	**-2.8**
	0.4nm,0.2s						
LPG	**La Plagne**	**7.37**	**301**	ePn	**P**	**00 04 47.1**	**-2.0**
LPG				eSn	**S**	**00 06 07.8**	**-4.5**
	1.1nm,0.2s						
LPL	**La Plagne**	**7.38**	**301**	ePn	**P**	**00 04 47.8**	**-1.6**
LPL				eSn	**S**	**00 06 09.4**	**-3.4**
	1.2nm,0.3s						
ORIF	**Oris-en-Rattie**	**7.73**	**295**	ePn	**P**	**00 04 53.5**	**-0.7**
ORIF				eSn	**S**	**00 06 17.7**	**-3.7**
	0.4nm,0.2s						
CABF	**La Chapelle**	**8.28**	**306**	ePn	**P**	**00 04 54.9**	**-7.0**
CABF				eSn	**S**	**00 06 29.6**	**-5.6**
	1.1nm,0.4s						
HINF	**Hinteralfeld**	**8.53**	**315**	ePn	**P**	**00 05 03.3**	**-2.0**
HINF				eSn	**S**	**00 06 33.3**	**-8.1**
	2.1nm,0.3s						
VIVF	**Saint-Julien-l**	**8.53**	**293**	ePn	**P**	**00 05 04.9**	**-0.4**
CDF	**Champ du Feu**	**8.71**	**319**	ePn	**P**	**00 05 07.4**	**-0.4**
HAU	**Haudompre**	**8.92**	**315**	ePn	**P**	**00 05 09.0**	**-1.6**
HAU				eSn	**S**	**00 06 43.3**	**-7.6**
	2.7nm,0.3s						
SMF	**Signal de Mont**	**9.68**	**302**	ePn	**P**	**00 05 18.6**	**-2.5**
BGF	**Bois d'Agland**	**10.28**	**300**	ePn	**P**	**00 05 28.4**	**-1.0**

IDC **15** *00:15:16.9±0.5, 11.36N×85.98W, mb4.7/25, mb1 4.9/26, mb1mx4.8/28, mbtmp4.7/26, ML2.7/2, MS5.5/19, Ms1 5.5/19, ms1mx5.2/29, Error ellipse: s-maj=21.3km s-min=10.7km az=53.0*
MOS **15** *00:15:20.8±1.5, 11.26N×86.18W, h33km, mb5.7/32, MS5.8/15, Error ellipse: s-maj=13.3km s-min=5.8km az=110.7*
CASC **15** *00:15:20.8±1.8, 10.86N×86.50W, h16km±8km, MD4.9, ML5.3, MW5.5, mb5.4(NEIC)*
NEIC **15** *00:15:21.1±0.2, 11.24N×86.07W, h30km, mb5.4/86, MS5.5/112, MW5.8, ML5.5(SNET), Error ellipse: s-maj=7.0km s-min=3.2km az=218.0, Moment Tensor Solution. s32 Moment tensor: Scale 10¹⁷Nm; M_{rr}5.39; $M_{\theta\theta}$-0.34; $M_{\phi\phi}$-5.05; $M_{r\theta}$1.15; $M_{\theta\phi}$3.49; $M_{\phi r}$0.45; Best double couple: $M_0$6.3×10¹⁷ NP1:ϕ_s348°, δ47°, λ113°. NP2:ϕ_s137°, δ48°, λ68°. Principal axes: T 5.75, Plg74°, Azm334°; N 1.16, Plg16°, Azm152°; P -6.9, Plg1°, Azm242°;*
NEIC Felt at Managua and San Juan del Sur.
BJI **15** *00:15:21.1, 11.20N×86.10W, h28km, mB5.8, Ms6.0, Msz5.9*
HRVD **15** *00:15:21.1±0.1, 10.71N×86.61W, h33km, MW5.8/79, Centroid moment Tensor Solution. LP body waves: s73, c170; Mantle waves: s79, c176; Half duration: 2ˢ0 Moment tensor: Scale 10¹⁷Nm; M_{rr}4.52±.07; $M_{\theta\theta}$-3.09±.05; $M_{\phi\phi}$-1.44±.06; $M_{r\theta}$3.35±.09; $M_{\theta\phi}$3.04±.05; $M_{\phi r}$-2.34±.10; Best double couple: $M_0$6.433×10¹⁷ NP1: ϕ_s310°, δ25°, λ94°. NP2:ϕ_s126°, δ65°, λ88°. Principal axes: T 5.988, Plg70°, Azm32°; N .88, Plg2°, Azm126°; P -6.878, Plg20°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SVSA **15** *00:15:23.4, 11.10N×86.19W, h60km, Mb5.5*
ISC 15 00:15:23.0±0.3**, 11.08N**±0.03×**86.23W**±0.03**, h71**km±2km**, h63**km±4.2km**:pP-P, n497, σ1ˢ21**/367**, mb5.2**/110**, 58C-18D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CONN	**Concepcion**	**0.77**	**51**	⇓eP	**P**	**00 15 40.0**	**+1.1**
APON	**Apoyo**	**0.84**	**11**	⇑iP	**P**	**00 15 41.5**	**+1.6**
MASN	**Masaya**	**0.90**	**5**	⇑eP	**P**	**00 15 41.8**	**+1.3**
MASN				i		00 16 04.3	
	comp=N,185µm,0.6s						
TICN	**Ticuantepe**	**0.94**	**0**	⇑eP	**P**	**00 15 42.5**	**+1.4**
MGAN	**Managua**	**1.06**	**359**	⇑eP	**P**	**00 15 43.1**	**+0.5**
MGAN				i		00 16 12.3	
	comp=E,63µm,0.9s						
XAVN	**Gruta Xavier**	**1.06**	**355**	⇑iP	**P**	**00 15 43.8**	**+1.1**
WILN	**Americas 2**	**1.07**	**2**	⇑eP	**P**	**00 15 43.9**	**+1.1**
MOMJ	**Momotombo**	**1.35**	**347**	⇑eP	**P**	**00 15 47.1**	**+0.5**
MIRN	**Miramar**	**1.43**	**341**	⇓eP	**P**	**00 15 48.2**	**+0.6**
PYTN	**Playitas**	**1.46**	**7**	⇑iP	**P**	**00 15 49.5**	**+1.6**
PYTN				eP		00 15 50.4	
LEON	**Leon**	**1.47**	**334**	⇑eP	**P**	**00 15 48.1**	**-0.1**
CNGN	**Cerro Negro**	**1.48**	**342**	⇑eP	**P**	**00 15 48.8**	**+0.5**
CNGN				eS	**S**	**00 16 11.4**	**+4.5**
JTS	**JuntasAbangare**	**1.49**	**122**	Pn	**P**	**00 15 46.8**	**-1.5**
	comp=E,82µm,0.8s						
JTS	**JuntasAbangare**	**1.49**	**122**	Pn	**P**	**00 15 45.9**	**-2.4**
	comp=E,834nm,0.3s,baz=310,slow=20,SNR=963						
JTS	**JuntasAbangare**	**1.49**	**122**	⇑iPn	**P**	**00 15 45.7**	**-2.6**
JTS				eSn	**S**	**00 16 08.1**	**+1.1**
TEL3	**Telica 3**	**1.60**	**338**	⇑eP	**P**	**00 15 50.1**	**+0.3**
TELN	**Telica**	**1.62**	**339**	⇑eP	**P**	**00 15 50.7**	**+0.5**
FORC	**Fortuna**	**1.65**	**111**	eP	**P**	**00 15 50.1**	**-0.5**
FORC	**Fortuna**	**1.65**	**111**	⇑eP	**P**	**00 15 50.7**	**+0.1**
CRIN	**San Cristobal**	**1.79**	**334**	⇑eP	**P**	**00 15 52.7**	**+0.2**
CRIN				eS	**S**	**00 16 16.9**	**+2.7**
CGA2	**Cerro Gallo 2**	**2.04**	**121**	eP	**P**	**00 15 55.9**	**+0.1**
VPS2	**Volcan Poas 2**	**2.16**	**114**	eP	**P**	**00 15 58.3**	**+0.8**
PRS1	**Puriscal**	**2.18**	**120**	eP	**P**	**00 15 57.3**	**-0.5**
LAJ	**Bijagual**	**2.41**	**120**	eP	**P**	**00 15 57.0**	**-4.0**
SJS	**Escuela Geolog**	**2.43**	**118**	eP	**P**	**00 16 01.6**	**+0.3**
SJS				eS	**S**	**00 16 34.2**	**+4.3**
TRTC	**Tortuguero**	**2.53**	**101**	eP	**P**	**00 16 02.2**	**-0.5**
LCR2	**La Lucha 2**	**2.57**	**121**	eP	**P**	**00 16 02.6**	**-0.7**
ICR	**Volcan Irazu**	**2.60**	**115**	eP	**P**	**00 16 04.9**	**+1.1**
QCR	**Quepos**	**2.62**	**129**	eP	**P**	**00 16 04.1**	**0.0**
CNCH	**Conchagua**	**2.68**	**325**	eP	**P**	**00 16 03.5**	**-1.5**
CNCH	**Conchagua**	**2.68**	**325**	⇑eP	**P**	**00 16 03.4**	**-1.5**
BUS	**Buena Vista**	**2.87**	**122**	eP	**P**	**00 16 08.0**	**+0.5**
BLLM	**Bellamira**	**3.06**	**320**	eP	**P**	**00 16 09.1**	**-1.0**
BLLM				e		00 16 43.1	
BLLM	**Bellamira**	**3.06**	**320**	⇓eP	**P**	**00 16 08.9**	**-1.2**
VSM	**San Miguel**	**3.07**	**320**	eP	**P**	**00 16 09.4**	**-0.9**
VSM	**San Miguel**	**3.07**	**320**	⇓eP	**P**	**00 16 09.2**	**-1.1**
CAHU	**Cacacuatique**	**3.30**	**324**	eP	**P**	**00 16 13.1**	**-0.4**
LIO	**Limon**	**3.32**	**109**	eP	**P**	**00 16 13.6**	**-0.2**
LIO	**Limon**	**3.32**	**109**	eP	**P**	**00 16 16.3**	**+2.4**
SNVI	**San Vicente**	**3.58**	**315**	eP	**P**	**00 16 15.6**	**-1.8**
SNVI				e		00 16 56.0	
SNVI	**San Vicente**	**3.58**	**315**	eP	**P**	**00 16 15.8**	**-1.6**
SNVI				eS	**S**	**00 16 58.8**	**+0.1**
LCBS	**La Ceiba**	**3.70**	**314**	eP	**P**	**00 16 16.6**	**-2.6**
LCBS	**La Ceiba**	**3.70**	**314**	⇑eP	**P**	**00 16 16.6**	**-2.6**
LFRS	**El Faro**	**3.74**	**313**	eP	**P**	**00 16 17.1**	**-2.6**
LBRS	**Las Brisas**	**3.81**	**314**	eP	**P**	**00 16 19.2**	**-1.4**
LBRS	**Las Brisas**	**3.81**	**314**	eP	**P**	**00 16 18.9**	**-1.7**
LFU	**La Fuente**	**3.86**	**314**	eP	**P**	**00 16 20.1**	**-1.3**
LFU	**La Fuente**	**3.86**	**314**	eP	**P**	**00 16 19.4**	**-2.0**
ACR	**Cerro Adams**	**3.87**	**128**	eP	**P**	**00 16 21.1**	**-0.4**
SNET	**Serv Nac Est T**	**3.91**	**312**	eP	**P**	**00 16 19.5**	**-2.5**
SNET				e		00 17 02.4	
SNET	**Serv Nac Est T**	**3.91**	**312**	eP	**P**	**00 16 20.7**	**-1.3**
SNET				i		00 17 30.9	
	comp=Z,8µm,0.8s						
BOQS	**Boqueron**	**3.98**	**312**	eP	**P**	**00 16 21.4**	**-1.5**
BOQS	**Boqueron**	**3.98**	**312**	eP	**P**	**00 16 21.3**	**-1.6**
BOQS				eS	**S**	**00 17 09.2**	**+0.6**
SBLS	**San Blas**	**4.30**	**310**	eP	**P**	**00 16 25.7**	**-1.7**
SBLS				eS	**S**	**00 17 14.3**	**-2.3**
SNJE	**San Jose**	**4.30**	**310**	eP	**P**	**00 16 26.4**	**-1.1**
SNJE	**San Jose**	**4.30**	**310**	⇓eP	**P**	**00 16 25.4**	**-2.1**
RTR	**El Retiro**	**4.35**	**310**	eP	**P**	**00 16 27.2**	**-1.0**
RTR	**El Retiro**	**4.35**	**310**	⇓eP	**P**	**00 16 25.9**	**-2.3**
MTO2	**Montecristo 2**	**4.49**	**318**	eP	**P**	**00 16 29.0**	**-1.2**
RBDL	**Robledal**	**4.52**	**312**	eP	**P**	**00 16 29.3**	**-1.2**
RBDL	**Robledal**	**4.52**	**312**	⇑eP	**P**	**00 16 29.2**	**-1.3**
CCIG	**Comitan**	**7.72**	**313**	i P	**P**	**00 17 14.5**	**-0.4**
TEIG	**Tepich**	**9.30**	**348**	⇑eP	**P**	**00 17 37.5**	**+1.1**
HUIG	**Huatulco**	**10.67**	**297**	i P	**P**	**00 17 52.9**	**-2.3**
VHO	**Vista Hermosa**	**11.79**	**301**	i P	**P**	**00 18 09.2**	**-1.1**
PNIG	**Pinotepa**	**12.70**	**296**	i P	**P**	**00 18 22.0**	**-0.4**
LVIG	**Laguna Verde**	**13.04**	**312**	i P	**P**	**00 18 25.1**	**-1.7**
OTAV	**Otavalo**	**13.26**	**144**	⇓eP	**P**	**00 18 28.8**	**-1.0**
	comp=Z,45nm,0.9s						
ROSC	**El Rosal**	**13.31**	**117**	Pn	**P**	**00 18 31.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=291,slow=10,SNR=2.9						
ROSC				Sn	**S**	**00 21 10.6**	**+14**
	comp=Z,0.5nm,0.3s,baz=83,slow=21,SNR=2.0						
ROSC				LR	LR	00 23 21.7	
	comp=Z,16µm,20.1s,baz=334,slow=37						
PPM	**Popocatepetl**	**14.35**	**305**	i P	**P**	**00 18 43.1**	**-0.9**
YAIG	**Yautepec**	**14.61**	**303**	eP	**P**	**00 18 45.6**	**-1.7**
PLIG	**Platanillo**	**14.74**	**301**	i P	**P**	**00 18 48.8**	**-0.2**
SDV	**Santo Domingo**	**15.52**	**97**	Pn	**P**	**00 18 57.1**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=313,slow=11,SNR=2.5						
SDV				Sn	**S**	**00 21 52.7**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=25,slow=21,SNR=1.5						
SDV	**Santo Domingo**	**15.52**	**97**	⇑eP	**P**	**00 18 57.0**	**-2.0**
	comp=Z,74nm,0.8s						
ZIIG	**Zihuatanejo**	**16.11**	**295**	eP	**P**	**00 19 01.7**	**-4.8**
MOIG	**Morelia**	**16.75**	**302**	eP	**P**	**00 19 15.8**	**+1.3**
DWPF	**Disney**	**17.53**	**14**	⇑iP	**P**	**00 19 27.2**	**+3.1**
	comp=Z,3µm,2.5s						
COLM	**Colima**	**18.66**	**298**	eP	**P**	**00 19 38.6**	**+0.8**
CJM	**Chamela**	**19.96**	**297**	eP	**P**	**00 19 51.3**	**-0.7**
SJG	**San Juan**	**20.64**	**68**	⇑iP	**P**	**00 19 58.8**	**-0.3**
SJG				pmax	pmax		
	comp=Z,400nm,1.3s						
SJG	**San Juan**	**20.64**	**68**	P	**P**	**00 19 58.0**	**-1.1**
	comp=Z,30nm,0.6s,baz=261,slow=8.5,SNR=11						
SJG				S	**S**	**00 23 44.1**	**+3.4**
	comp=Z,2.7nm,0.3s,baz=318,slow=20,SNR=1.9						
SJG				LR	LR	00 27 16.1	
	comp=Z,9µm,19.9s,baz=352,slow=35						
SJG	**San Juan**	**20.64**	**68**	⇑iP	**P**	**00 19 58.8**	**-0.2**
	comp=Z,403nm,1.3s						
HKT	**Hockley**	**20.79**	**336**	P	**P**	**00 20 00.9**	**+0.3**
HKT	**Hockley**	**20.79**	**336**	⇑iP	**P**	**00 20 00.9**	**+0.4**
	comp=Z,3µm,1.9s						
HKT				LR	LR		
	comp=Z,2µm,21.0s						
LRAL	**Lakeview Retre**	**21.86**	**358**	eP	**P**	**00 20 13.0**	**+1.8**
	comp=Z,169nm,0.7s,mb5.5						
LRAL				LR	LR		
	comp=Z,11µm,20.0s						
NATX	**Nacogdoches**	**22.00**	**341**	⇑eP	**P**	**00 20 13.1**	**+0.5**
	comp=Z,532nm,0.7s,mb6.0						
NATX				LR	LR		
	comp=Z,8µm,21.0s						
GOGA	**Godfrey**	**22.37**	**6**	⇑eP	**P**	**00 20 18.4**	**+2.3**
	comp=Z,318nm,1.2s,mb5.5						
GOGA				LR	LR		
	comp=Z,15µm,20.0s						
NHSC	**New Hope**	**22.61**	**13**	eP	**P**	**00 20 21.0**	**+2.3**
	comp=Z,2µm,1.8s,mb6.0						
NHSC				LR	LR		
	comp=Z,22µm,20.0s						
JCT	**Junction City**	**23.05**	**329**	⇑iP	**P**	**00 20 22.6**	**-0.3**
	comp=Z,460nm,1.3s,mb5.7						
JCT				LR	LR		
	comp=Z,3µm,20.0s						
OXF	**Oxford**	**23.50**	**353**	⇑eP	**P**	**00 20 27.8**	**+0.6**
	comp=Z,405nm,1.0s,mb5.7						
OXF				LR	LR		
	comp=Z,9µm,21.0s						
SWET	**Sewanee**	**24.03**	**1**	eP	**P**	**00 20 33.3**	**+1.0**
GRHS	**Sauteurs**	**24.11**	**85**	eP	**P**	**00 20 36.3**	**+3.0**
MET	**Memphis--Engin**	**24.17**	**353**	eP	**P**	**00 20 33.9**	**+0.2**
UALR	**University of**	**24.23**	**348**	⇑eP	**P**	**00 20 34.4**	**+0.1**
	comp=Z,422nm,0.6s,mb6.0						
MIAR	**Mount Ida**	**24.30**	**345**	P	**P**	**00 20 35.1**	**+0.2**
MIAR				pmax	pmax		
	comp=Z,150nm,0.7s,mb5.4						
MIAR	**Mount Ida**	**24.30**	**345**	⇑eP	**P**	**00 20 35.3**	**+0.3**
	comp=Z,174nm,0.7s,mb5.5						
MIAR				LR	LR		
	comp=Z,19µm,22.0s						
CPCT	**Cooper Cave**	**24.31**	**3**	eP	**P**	**00 20 36.6**	**+1.6**
LTX	**Lajitas**	**24.38**	**321**	P	**P**	**00 20 37.1**	**+1.3**
LTX				pmax	pmax		
	comp=Z,93nm,0.7s,mb5.2						
LTX	**Lajitas**	**24.38**	**321**	⇑eP	**P**	**00 20 36.8**	**+1.0**
	comp=Z,194nm,0.9s,mb5.4						
LTX				LR	LR		
	comp=Z,4µm,20.0s						
TXAR	**Lajitas Array**	**24.38**	**321**	P	**P**	**00 20 36.9**	**+1.1**
	comp=Z,75nm,0.7s,mb5.1,baz=139,slow=9.8,SNR=262						
TXAR				PcP	PcP	00 24 17.8	+3.0
	comp=Z,8.8nm,0.8s,baz=146,slow=4.5,SNR=4.8						
TXAR				ScP		00 27 56.6	
	comp=Z,3.1nm,1.0s,baz=117,slow=5.6,SNR=4.4						
TRN	**Trinidad (W)**	**24.39**	**89**	eP	**P**	**00 20 35.5**	**-0.5**
MDN	**Morne-Daniel**	**24.54**	**77**	eP	**P**	**00 20 38.4**	**+0.9**
HBAR	**Harrisburg**	**24.69**	**351**	eP	**P**	**00 20 37.5**	**-1.3**
NNA	**Nana**	**24.75**	**158**	P	**P**	**00 20 39.1**	**-0.4**
	comp=Z,87nm,1.4s,mb5.0						
NNA				LR	LR		
	comp=Z,2µm,22.0s						
GNAR	**Gosnell**	**25.01**	**353**	eP	**P**	**00 20 42.2**	**+0.4**
GLAT	**Glass**	**25.23**	**354**	⇑eP	**P**	**00 20 43.5**	**-0.4**
UTMT	**University of**	**25.26**	**355**	eP	**P**	**00 20 43.6**	**-0.5**
	comp=Z,352nm,1.1s,mb5.7						
TZTN	**Tazewell**	**25.46**	**5**	eP	**P**	**00 20 47.0**	**+0.9**
WMOK	**Wichita Mounta**	**26.18**	**336**	P	**P**	**00 20 51.4**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,8µm,0.8s						
WMOK	**Wichita Mounta**	**26.18**	**336**	eP	**P**	**00 20 51.4**	**-1.3**
	comp=Z,243nm,0.8s,mb5.7						
WMOK				e	pP	00 21 04.0	-5.4
WMOK				LR	LR		
	comp=Z,5µm,22.0s						
LPIG	**La Paz**	**26.29**	**303**	i P	**P**	**00 20 54.8**	**+0.9**
ELN	**Prospectdale**	**26.50**	**10**	eP	**P**	**00 20 57.1**	**+1.5**
BLA	**Blacksburg**	**26.54**	**10**	P	**P**	**00 20 57.8**	**+1.8**
BLA				pmax	pmax		
	comp=Z,240nm,1.3s,mb5.6						
BLA	**Blacksburg**	**26.54**	**10**	eP	**P**	**00 20 57.1**	**+1.1**
	comp=Z,260nm,1.2s,mb5.6						
BLA				LR	LR		
	comp=Z,17µm,20.0s						
FWV	**Forest Hill**	**26.83**	**10**	eP	**P**	**00 20 59.7**	**+1.0**
WCI	**Wyandotte Cave**	**27.03**	**360**	P	**P**	**00 21 00.4**	**-0.1**
WCI				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.5						
WCI	**Wyandotte Cave**	**27.03**	**360**	⇑eP	**P**	**00 21 00.1**	**-0.4**
	comp=Z,119nm,0.8s,mb5.5						
WCI				LR	LR		
	comp=Z,2µm,21.0s						
MNTX	**Cornudas Mount**	**27.09**	**322**	eP	**P**	**00 21 00.8**	**-0.3**
	comp=Z,47nm,0.7s,mb5.1						
MNTX				LR	LR		
	comp=Z,4µm,21.0s						
CCM	**Cathedral Cave**	**27.23**	**351**	P	**P**	**00 21 01.3**	**-1.1**
CCM				pmax	pmax		
	comp=Z,88nm,0.8s,mb5.3						
CCM	**Cathedral Cave**	**27.23**	**351**	eP	**P**	**00 21 01.1**	**-1.3**
	comp=Z,98nm,0.8s,mb5.4						
CCM				ePcP	PcP	00 24 21.5	+0.4
CCM				LR	LR		
	comp=Z,1µm,20.0s						
AMTX	**Amarillo**	**27.55**	**332**	eP	**P**	**00 21 04.7**	**-0.7**
	comp=Z,326nm,0.9s,mb5.9						
AMTX				LR	LR		
	comp=Z,6µm,22.0s						
SLM	**Saint Louis**	**27.67**	**353**	P	**P**	**00 21 06.2**	**-0.2**
SLM				pmax	pmax		
	comp=Z,42nm,0.7s,mb5.1						
SLM	**Saint Louis**	**27.67**	**353**	eP	**P**	**00 21 05.5**	**-0.9**
	comp=Z,42nm,0.6s,mb5.2						
BLO	**Bloomington**	**27.97**	**360**	P	**P**	**00 21 09.1**	**0.0**
BLO				pmax	pmax		
	comp=Z,87nm,0.7s,mb5.4						
BLO	**Bloomington**	**27.97**	**360**	eP	**P**	**00 21 08.4**	**-0.7**
	comp=Z,87nm,0.7s,mb5.4						
CBN	**Corbin**	**28.15**	**15**	eP	**P**	**00 21 11.8**	**+1.1**
	comp=Z,139nm,0.3s,mb6.0						
CBN				LR	LR		
	comp=Z,25µm,19.0s						
MCWV	**Mont Chateau**	**29.02**	**10**	eP	**P**	**00 21 18.9**	**+0.5**
	comp=Z,171nm,1.2s,mb5.5						
MCWV				LR	LR		
	comp=Z,16µm,20.0s						
BBSR	**BB Station**	**29.02**	**40**	P	**P**	**00 21 17.2**	**-1.3**
	comp=Z,131nm,1.3s,mb5.4						
BBSR				LR	LR		
	comp=Z,13µm,19.0s						
ACSO	**Alum Creek Sta**	**29.17**	**5**	eP	**P**	**00 21 18.8**	**-1.0**
	comp=Z,236nm,1.0s,mb5.8						
ACSO				LR	LR		
	comp=Z,13µm,20.0s						
KSU1	**Kansas State U**	**29.39**	**343**	⇑eP	**P**	**00 21 20.3**	**-1.4**
SDMD	**Soldier's Deli**	**29.42**	**15**	eP	**P**	**00 21 22.7**	**+0.7**
SDMD				e		00 21 33.3	
ANMO	**Albuquerque**	**30.06**	**325**	⇓iP	**P**	**00 21 28.6**	**+0.9**
ANMO	**Albuquerque**	**30.06**	**325**	P	**P**	**00 21 27.9**	**+0.2**
	comp=Z,34nm,0.7s,mb5.1,baz=135,slow=4.8,SNR=97						
ANMO				PcP	PcP	00 24 31.1	+3.0
	comp=Z,11nm,0.9s,baz=114,slow=6.8,SNR=3.2						
ANMO				LR	LR	00 37 38.9	
	comp=Z,4µm,19.2s,slow=45						
ANMO	**Albuquerque**	**30.06**	**325**	eP	**P**	**00 21 27.9**	**+0.2**
	comp=Z,33nm,0.7s,mb5.1						
ANMO				LR	LR		
	comp=Z,5µm,20.0s						
MVL	**Millersville**	**30.10**	**15**	eP	**P**	**00 21 29.0**	**+0.9**
CBKS	**Cedar Bluff**	**30.13**	**339**	eP	**P**	**00 21 27.4**	**-0.9**
	comp=Z,37nm,0.8s,mb5.1						
CBKS				LR	LR		
	comp=Z,7µm,21.0s						
SSPA	**Standing Stone**	**30.34**	**13**	eP	**P**	**00 21 30.7**	**+0.5**
	comp=Z,73nm,0.7s,mb5.4						
SSPA				LR	LR		
	comp=Z,4µm,20.0s						
TUC	**Tucson**	**30.95**	**317**	⇑eP	**P**	**00 21 35.6**	**0.0**
	comp=Z,42nm,1.0s,mb5.1						

TUC LR LR
comp=Z,12µm,19.0s
ARE Arequipa 31.01 152 *e*P **P 00 21 39.0 +2.7**
ARE *e* 00 21 45.0
AAM Ann Arbor 31.18 4 P **P 00 21 38.6 +1.1**
AAM pmax pmax
comp=Z,710nm,1.8s,mb6.1
AAM Ann Arbor 31.18 4 *e*P **P 00 21 37.4 -0.1**
comp=Z,706nm,1.8s,mb6.1
AAM LR LR
comp=Z,13µm,20.0s
ERPA Erie 31.39 9 *e*P **P 00 21 39.1 -0.2**
comp=Z,130nm,0.6s,mb5.8
ERPA LR LR
comp=Z,13µm,20.0s
SDCO Great Sand Dun 31.68 330⇓ *i*P **P 00 21 42.0 +0.1**
comp=Z,52nm,0.7s,mb5.4
SDCO LR LR
comp=Z,7µm,22.0s
PAL Palisades 31.72 18 P **P 00 21 44.7 +2.5**
PAL pmax pmax
comp=Z,110nm,1.4s,mb5.4
PAL Palisades 31.72 18 *e*P **P 00 21 43.5 +1.3**
comp=Z,114nm,1.4s,mb5.4
JFWS Jewell Farm 31.90 354 P **P 00 21 42.8 -1.0**
JFWS pmax pmax
comp=Z,120nm,0.8s,mb5.7
JFWS Jewell Farm 31.90 354 *e*P **P 00 21 42.5 -1.3**
comp=Z,99nm,0.5s,mb5.8
JFWS LR LR
comp=Z,6µm,20.0s
LPAZ La Paz 32.56 146 P **P 00 21 51.3 +1.5**
comp=Z,3.3nm,0.9s,mb4.2,baz=343,slow=11,SNR=11
LPAZ LR LR 00 35 42.3
comp=Z,9µm,19.1s,baz=311,slow=38
ISCO Idaho Springs 33.37 332 P **P 00 21 57.3 +0.7**
ISCO pmax pmax
comp=Z,140nm,1.8s,mb5.5
ISCO Idaho Springs 33.37 332 *e*P **P 00 21 57.4 +0.8**
comp=Z,23nm,0.8s,mb5.0
ISCO LR LR
comp=Z,4µm,22.0s
PV01 Paradox Valley 33.55 327 *e*P **P 00 21 59.6 +1.4**
HRV Harvard--Oak R 33.83 20 PFAKE 00 22 10.0 +10
HRV LR LR
comp=Z,17µm,20.0s
ACCN Adirondack Com 33.98 16 *e*P **P 00 22 02.4 +0.6**
SADO Sadowa 34.12 9 P **P 00 22 02.2 -0.7**
comp=Z,43nm,0.7s,mb5.4,baz=201,slow=8.4,SNR=43
SADO LR LR 00 36 16.7
comp=Z,11µm,19.5s,baz=205,slow=37
SADO Sadowa 34.12 9 P **P 00 22 02.2 -0.7**
SADO LR LR 00 36 16.7
NCB Newcomb 34.38 15 PFAKE 00 22 20.0 +15
NCB LR LR
comp=Z,8µm,22.0s
PHWY Pilot Hill 34.52 334⇑ *e*P **P 00 22 06.2 -0.2**
MSNY Massena 35.18 14 *e*P **P 00 22 12.1 0.0**
BAR Barrett 35.28 312⇑ *e*P **P 00 22 13.8 +0.8**
PFO Pinyon Flat Ob 35.60 314 P **P 00 22 18.0 +2.3**
comp=Z,186nm,1.9s,mb5.7,SNR=11
PFO Pinyon Flat Ob 35.60 314 P **P 00 22 17.2 +1.5**
PFO pmax pmax
comp=Z,47nm,1.1s,mb5.3
PFO Pinyon Flat Ob 35.60 314 *e*P **P 00 22 17.6 +1.9**
comp=Z,47nm,1.1s,mb5.3
PFO LR LR
comp=Z,1µm,20.0s
MVU Marysvale 35.83 324 PFAKE 00 22 30.0 +12
MVU LR LR
comp=Z,11µm,19.0s
WVL Waterville 36.29 20 *e*P **P 00 22 22.3 +0.9**
comp=Z,1µm,1.9s
DAU Daniels Canyon 36.63 327 *e*P **P 00 22 25.9 +1.6**
JLU Jordanelle 36.87 327⇑ *e*P **P 00 22 26.9 +0.5**
EYMN Ely 37.01 354⇑ *e*P **P 00 22 25.6 -1.9**
comp=Z,21nm,0.5s,mb5.3
EYMN LR LR
comp=Z,6µm,22.0s
MWC Mount Wilson 37.06 314 *e*P **P 00 22 30.9 +2.9**
MWC Mount Wilson 37.06 314 *e*P **P 00 22 30.0 +2.0**
TCUT Toone Canyon 37.22 326⇑ *i*P **P 00 22 29.8 +0.5**
DUG Dugway 37.33 326 PFAKE 00 22 40.0 +10
DUG LR LR
comp=Z,10µm,19.0s
PDAR Pinedale Array 37.53 331 P **P 00 22 31.6 -0.2**
comp=Z,27nm,0.7s,mb5.2,baz=134,slow=8.4,SNR=174
PDAR PcP PcP 00 24 51.5 +2.3
comp=Z,10nm,0.7s,baz=124,slow=4.6,SNR=7.0
PDAR ScP 00 28 38.1
comp=Z,1.4nm,0.8s,baz=135,slow=8.4,SNR=3.7
PDAR LR LR 00 41 12.0
comp=Z,8µm,21.9s,baz=136,slow=42
BW06 Boulder Array 37.53 331 PFAKE 00 22 40.0 +8.1
BW06 LR LR
comp=Z,10µm,22.0s
LVC Limon Verde 37.55 153 P **P 00 22 34.3 +2.1**
comp=Z,4.4nm,0.7s,mb4.4,baz=306,slow=6.6,SNR=5.4
LVC Limon Verde 37.55 153 *e*P **P 00 22 34.7 +2.5**
comp=Z,100nm,1.4s,mb5.5
LVC LR LR
comp=Z,6µm,19.0s
HWUT Hardware Ranch 37.66 328⇑ *e*P **P 00 22 33.0 +0.2**
comp=Z,84nm,0.8s,mb5.6
HWUT LR LR
comp=Z,5µm,19.0s
DAC Darwin (Calif) 37.83 317 PFAKE 00 22 50.0 +16
DAC LR LR
comp=Z,10µm,20.0s
SPUT South Promonto 37.91 327⇑ *e*P **P 00 22 35.2 +0.3**
BGU Big Grassy Mou 37.95 326⇑ *e*P **P 00 22 36.0 +0.7**
AHID Auburn Hatcher 38.27 330⇑ *e*P **P 00 22 38.4 +0.3**
comp=Z,52nm,0.8s,mb5.4
AHID *e* 00 22 49.9
AHID *e*PcP PcP 00 24 53.3 +1.9
AHID LR LR
comp=Z,7µm,19.0s
TPH Tonopah 38.61 319 PFAKE 00 22 50.0 +9.2
TPH LR LR
comp=Z,11µm,19.0s
SNOW Snow King Moun 38.63 331 *e*P **P 00 22 41.2 +0.3**
LOHW Long Hollow 38.67 331 *e*P **P 00 22 41.5 +0.2**
comp=Z,54nm,0.7s,mb5.5
WUWY Wally Ulrich 38.68 331 *e*P **P 00 22 42.0 +0.6**
TPAW Teton Pass 38.75 331 *e*P **P 00 22 42.9 +1.0**
RRI2 Red Ridge 38.82 330 *e*P **P 00 22 43.0 +0.6**
RRI2 *e*PcP PcP 00 24 55.2 +2.1
MOOW Moose Ponds 38.84 331 *e*P **P 00 22 42.7 0.0**
IMW Indian Meadow 39.05 331 *e*P **P 00 22 45.4 +1.0**
IMW *e*PcP PcP 00 24 56.4 +2.6
ELK Elko 39.06 324 P **P 00 22 46.4 +1.8**
comp=Z,28nm,0.8s,mb5.2,baz=125,slow=6.8,SNR=35
ELK PcP PcP 00 24 57.0 +3.0
comp=Z,15nm,0.9s,baz=120,slow=1.6,SNR=4.6
ELK LR LR 00 43 18.9
comp=Z,5µm,18.5s,baz=134,slow=43
MTUM Tungsten Hills 39.07 317 P **P 00 22 47.7 +3.0**
LKWY Lake 39.31 332 P **P 00 22 48.0 +1.4**
LKWY pmax pmax
comp=Z,60nm,1.2s,mb5.3
LKWY Lake 39.31 332 *e*P **P 00 22 47.9 +1.3**
comp=Z,60nm,1.3s,mb5.3
LKWY LR LR
comp=Z,8µm,19.0s
LAO LASA Array 39.33 338 *e*P **P 00 22 46.5 -0.2**
comp=Z,48nm,0.8s,mb5.4
LAO LR LR
comp=Z,7µm,21.0s
YFT Old Faithful 39.42 332 *e*P **P 00 22 49.2 +1.7**
OMM Old Mammoth Mi 39.50 318 P **P 00 22 50.3 +2.0**
NVAR Mina Array Bea 39.51 319 P **P 00 22 50.1 +1.8**
comp=Z,12nm,0.6s,mb4.9,baz=102,slow=17,SNR=28
NVAR PcP PcP 00 24 58.6 +3.2
comp=Z,32nm,0.7s,baz=128,slow=4.9,SNR=15
NVAR LR LR 00 41 14.9
comp=Z,7µm,19.7s,baz=125,slow=40
YNR Norris Junctio 39.55 332 *e*P **P 00 22 49.9 +1.3**
ULM Lac du Bonnet 39.85 350 P **P 00 22 49.5 -1.5**
comp=Z,69nm,0.5s,mb5.8,baz=165,slow=8.8,SNR=160
ULM LR LR 00 40 22.4
comp=Z,3µm,21.6s,baz=165,slow=38
ULM Lac du Bonnet 39.85 350 *e*P **P 00 22 49.2 -1.8**
comp=Z,98nm,0.6s,mb5.8
ULM LR LR
comp=Z,7µm,22.0s
BMN Battle Mountai 40.03 322⇑ *e*P **P 00 22 54.0 +1.4**
comp=Z,136nm,1.2s,mb5.7
BMN LR LR
comp=Z,4µm,19.0s
LRV Little Rabbit 40.26 315 *e*P **P 00 22 56.7 +2.2**
HLID Hailey 40.52 328 *e*P **P 00 22 57.1 +0.5**
comp=Z,32nm,0.7s,mb5.3
HLID LR LR
comp=Z,8µm,20.0s
CMB Columbia Colle 40.66 317 P **P 00 22 59.9 +2.1**
CMB pmax pmax
comp=Z,79nm,1.3s,mb5.4
CMB Columbia Colle 40.66 317 *e*P **P 00 22 59.3 +1.5**
comp=Z,79nm,1.4s,mb5.3
CMB LR LR
comp=Z,5µm,22.0s
BOZ Bozeman (W) 40.70 333 P **P 00 22 58.2 +0.1**
BOZ pmax pmax
comp=Z,39nm,0.7s,mb5.3
BOZ Bozeman (W) 40.70 333 *e*P **P 00 22 57.9 -0.1**
comp=Z,39nm,0.7s,mb5.3
BOZ LR LR
comp=Z,4µm,21.0s
SAO San Andreas Ge 40.73 315 P **P 00 23 01.5 +3.1**
SAO pmax pmax
comp=Z,150nm,1.7s,mb5.5
SAO San Andreas Ge 40.73 315 *e*P **P 00 22 58.7 +0.3**
comp=Z,149nm,1.8s,mb5.5
SAO LR LR
comp=Z,7µm,22.0s
WCN Washoe City 40.94 319 P **P 00 23 03.9 +3.8**
WCN pmax pmax
comp=Z,47nm,1.2s,mb5.2
WCN Washoe City 40.94 319 P **P 00 23 01.7 +1.6**
comp=Z,47nm,1.3s,mb5.2
WVOR Wild Horse Val 42.10 324 P **P 00 23 10.3 +0.6**
WVOR pmax pmax
comp=Z,69nm,0.8s,mb5.4
WVOR Wild Horse Val 42.10 324 *e*P **P 00 23 10.0 +0.3**
comp=Z,69nm,0.8s,mb5.4
WVOR *e*PcP PcP 00 25 06.4 +2.6
WVOR LR LR
comp=Z,9µm,20.0s
NSHM Saint Helena R 42.40 316 *e*P **P 00 23 14.1 +2.0**
MSO Missoula 42.65 332 *e*P **P 00 23 13.7 -0.4**
comp=Z,56nm,1.3s,mb5.1
MSO LR LR
comp=Z,4µm,19.0s
MOD Modoc 42.77 322 *e*P **P 00 23 14.8 -0.4**
comp=Z,64nm,1.5s,mb5.1
MOD LR LR
comp=Z,8µm,20.0s
LBCM Butte Creek Ri 42.81 320 P **P 00 23 17.0 +1.6**
BMO Blue Mountains 42.92 327⇑ *e*P **P 00 23 15.3 -1.0**
comp=Z,36nm,0.7s,mb5.2
BMO LR LR
comp=Z,9µm,20.0s
HOPS Hopland 42.95 317 *e*P **P 00 23 18.7 +2.0**
comp=Z,279nm,2.1s,mb5.6
HOPS LR LR
comp=Z,6µm,21.0s
LTIM Timbered Crate 43.08 320 P **P 00 23 19.2 +1.5**
LASM Arnica Sink 43.38 321 P **P 00 23 21.4 +1.3**
RPN Rapa Nui 44.10 210 LR LR 00 36 57.6
comp=Z,8µm,20.7s,baz=121,slow=29
YBH Yreka Blue Hor 44.16 320 P **P 00 23 26.1 -0.3**
comp=Z,3.0nm,0.5s,mb4.3,baz=118,slow=5.2,SNR=12
YBH PcP PcP 00 25 13.1 +2.4
comp=Z,7.2nm,0.7s,baz=80,slow=3.8,SNR=6.7
YBH Yreka Blue Hor 44.16 320⇑ *e*P **P 00 23 24.7 -1.7**
comp=Z,6.1nm,0.7s,mb4.4
YBH LR LR
comp=Z,8µm,22.0s
BUOR Burton Butte 44.17 321 P **P 00 23 27.5 +1.0**
KHMM Horse Mountain 44.35 319 P **P 00 23 30.3 +2.3**
HUMO Hull Mountain 44.79 321 *e*P **P 00 23 30.6 -0.9**
comp=Z,12nm,0.8s,mb4.7
HUMO *e* 00 25 14.7
HUMO LR LR
comp=Z,8µm,19.0s
KRMB Red Mountain 44.80 319 P **P 00 23 31.1 -0.4**
NEW Newport 45.17 331 P **P 00 23 33.8 -0.7**
comp=Z,8.5nm,0.8s,mb4.5,baz=129,slow=8.1,SNR=19
NEW PcP PcP 00 25 15.6 +1.5
comp=Z,7.3nm,0.6s,baz=80,slow=2.5,SNR=3.8
NEW LR LR 00 45 50.4
comp=Z,6µm,19.0s,baz=132,slow=41
FFC Flin Flon 45.28 347 P **P 00 23 34.7 -0.5**
comp=Z,241nm,0.6s,mb6.1,SNR=14
FFC Flin Flon 45.28 347 P **P 00 23 34.0 -1.2**
FFC pmax pmax
comp=Z,20nm,0.6s,mb5.0
FFC Flin Flon 45.28 347 *e*P **P 00 23 34.1 -1.1**
comp=Z,20nm,0.6s,mb5.0
FFC LR LR
comp=Z,2µm,21.0s
KBO Bosley Butte 45.37 320 *e*P **P 00 23 37.3 +1.3**
VFP Flag Point 45.49 325 P **P 00 23 37.7 +0.7**
MXC Moxie City 45.63 327 P **P 00 23 39.0 +0.9**
TDH Tom, Dick, Har 45.65 325 P **P 00 23 39.8 +1.6**
KEBM Edson Butte 45.79 321 *e*P **P 00 23 40.8 +1.5**
COR Corvallis 46.11 323 P **P 00 23 42.2 +0.3**
COR pmax pmax
comp=Z,180nm,1.4s,mb5.6
COR Corvallis 46.11 323 *e*P **P 00 23 41.9 0.0**
comp=Z,62nm,0.9s,mb5.3
COR *e*PcP PcP 00 25 20.1 +2.6
COR LR LR
comp=Z,1µm,20.0s
BDFB Brasilia 46.23 124 P **P 00 23 44.5 +1.4**
comp=Z,13nm,0.5s,mb4.9,baz=294,slow=11,SNR=23
BDFB LR LR 00 43 57.1
comp=Z,10µm,19.0s,baz=150,slow=37
BAO Brasilia Array 46.24 124⇑ *e*P **P 00 23 43.4 +0.1**
BAO *e* 00 25 21.0
BAO *i* 00 30 31.0
BAO *i* 00 34 07.7
SCHQ Schefferville 46.26 15 P **P 00 23 42.8 -0.1**
comp=Z,17nm,0.4s,mb5.1,baz=215,slow=6.0,SNR=104
SCHQ LR LR 00 43 47.7
comp=Z,9µm,19.3s,baz=208,slow=37
SCHQ Schefferville 46.26 15 *e*P **P 00 23 41.5 -1.4**
comp=Z,43nm,0.8s,mb5.2
SCHQ LR LR
comp=Z,15µm,20.0s
EDM Edmonton 47.31 338 *e*P **P 00 23 49.9 -1.4**
EDM Edmonton 47.31 338 *e*P **P 00 23 49.8 -1.5**
JCW Jim Creek 47.52 328 P **P 00 23 51.9 -1.0**
PGC Sidney 48.60 328 *e*P **P 00 24 01.7 +0.4**
comp=Z,171nm,1.3s,mb5.8
RCBR Riachuelo 52.84 106 PFAKE 00 24 50.0 +16
RCBR LR LR
comp=Z,11µm,20.0s
LPA La Plata 53.02 151 *ce*P **P 00 24 34.0 -1.1**
LPA *e*PP PP 00 26 45.0 +8.2
LPA *e*S **S 00 31 58.0 +0.3**
LPA *e*SP SP 00 32 07.0 -0.3
LPA PKIKP 00 32 20.0
LPA La Plata 53.02 151⇑ *e*P **P 00 24 34.0 -1.1**
LPA *e*PP PP 00 26 45.0 +8.2
LPA *e*S **S 00 31 58.0 +0.3**
LPA *e*SP SP 00 32 07.0 -0.3
TRQA Tornquist 53.90 156 P **P 00 24 39.9 -1.5**
comp=Z,106nm,1.6s,mb5.6
TRQA LR LR
comp=Z,2µm,20.0s
FRB Frobisher Bay 54.06 10 P **P 00 24 41.2 -1.0**
comp=Z,5.5nm,0.5s,mb4.9,baz=203,slow=7.8,SNR=14
FRB Frobisher Bay 54.06 10 P **P 00 24 41.2 -1.0**
CAM4 Nova Friburgo 54.19 128 *e*P **P 00 24 44.0 +0.2**
CAM4 *i* 00 24 47.8
CAM4 *i* 00 24 51.8
CAM4 *i* pP 00 25 01.1 -1.0
YKA Yellowknife Ar 55.24 344 *e*P **P 00 24 48.8 -2.1**
YKA Yellowknife Ar 55.24 344 P **P 00 24 48.8 -2.0**
comp=Z,18nm,0.7s,mb5.2,baz=142,slow=7.1,SNR=262
YKA PcP PcP 00 25 51.9 +1.1
comp=Z,4.3nm,0.7s,baz=147,slow=4.3,SNR=7.5
YKA LR LR 00 50 31.7
comp=Z,5µm,20.5s,baz=135,slow=38
YKW3 Yellowknife Ar 55.30 344 *e*P **P 00 24 48.9 -2.4**
TAOE Nuku Hiva Isla 57.17 252 *e*SS SS 00 36 33.0 -12
TAOE *e*LQ 00 39 18.5
TAOE *e*LR LR 00 41 22.1
DLBC Dease Lake 57.65 334 *e*P **P 00 25 07.8 -0.3**
RKT Rikitea 58.57 234 *e*P **P 00 25 16.2 +1.2**
comp=Z,69nm,1.1s,mb5.6
RKT Rikitea 58.57 234 *e*SS SS 00 36 55.8 -11
RKT *e*LQ 00 40 04.5
RKT *e*LR LR 00 41 58.3
comp=Z,4µm,24.2s,baz=48
SIT Sitka 59.26 331 PFAKE 00 25 30.0 +11
SIT LR LR
comp=Z,5µm,21.0s
SFJD Kangerlussuaq 60.71 15 *i*P **P 00 25 26.2 -2.9**
comp=Z,14nm,0.9s,mb5.0
SFJD *e*S Sx 00 34 47.0
SFJD *i* 00 38 18.2
comp=Z,12µm,20.0s
SFJ Sondre 60.71 15 PFAKE 00 25 40.0 +11
SFJ LR LR
comp=Z,12µm,21.0s
RES Resolute Bay 63.77 357 *e*P **P 00 25 47.6 -1.8**
comp=Z,24nm,0.5s,mb5.3
DAWY Dawson 64.51 337 *e*P **P 00 25 52.3 -2.0**
INK Inuvik 64.86 342⇑ *i*P **P 00 25 55.3 -1.2**
INK pmax pmax
comp=Z,20nm,0.6s
INK Inuvik 64.86 342 P **P 00 25 55.6 -0.8**
comp=Z,21nm,0.7s,mb5.1,baz=126,slow=7.8,SNR=99
INK Inuvik 64.86 342⇑ *i*P **P 00 25 55.2 -1.2**
comp=Z,20nm,0.6s,mb5.1
EYAK Cordova Ski Ar 65.66 332 *e*P **P 00 26 01.8 0.0**
MENT Mentasta 65.72 335 *e*P **P 00 26 02.0 -0.1**
DIV Divide 65.89 333 *e*P **P 00 26 02.9 -0.3**
comp=Z,53nm,0.6s,mb5.5
THY Trims Highway 66.76 335 *e*P **P 00 26 08.2 -0.5**
SML Sawmill 67.28 333 *e*P **P 00 26 11.2 -0.8**
MEH Mehetia 67.48 245 *e*P **P 00 26 14.9 +1.0**
comp=Z,38nm,1.1s,mb5.1
PMR Palmer 67.57 333 *e*P **P 00 26 14.2 +0.5**
SUMG Summit 67.61 14 *e*P **P 00 26 12.6 -1.3**
comp=Z,30nm,1.0s,mb5.1
SLKM Skilak Lake 67.73 331 P **P 00 26 14.7 -0.1**
SLKM Skilak Lake 67.73 331 *e*P **P 00 26 14.3 -0.5**
ILAR Eielson Array 67.74 336 P **P 00 26 13.8 -0.9**
comp=Z,27nm,0.6s,mb5.2,baz=126,slow=4.0,SNR=250
ILAR LR LR 00 59 00.2
comp=Z,5µm,21.9s,baz=129,slow=39
KDAK Kodiak Island 68.15 328 P **P 00 26 17.0 -0.4**
comp=Z,256nm,0.7s,mb6.2,SNR=12
KDAK Kodiak Island 68.15 328 *e*P **P 00 26 18.5 +1.1**
COLA College 68.17 336 *e*P **P 00 26 17.7 +0.3**
MCK McKinley 68.20 335 *e*P **P 00 26 16.9 -0.7**
comp=Z,21nm,0.8s,mb5.0
TVO Taravao 68.51 246 *e*P **P 00 26 21.4 +1.1**
comp=Z,64nm,1.2s,mb5.3
TIAR Tiarei 68.52 246 *e*P **P 00 26 21.4 +1.0**
comp=Z,81nm,0.9s,mb5.5
PPT Papeete 68.73 246 *e*P **P 00 26 22.7 +1.0**
comp=Z,24nm,1.3s,mb4.8
PPT Papeete 68.73 246 *e*SS SS 00 39 38.3 -7.2
PPT *e*LQ 00 43 13.7
PPT *e*LR LR 00 46 37.0
comp=Z,5µm,24.5s,baz=56
PAE Paea 68.76 246 *e*P **P 00 26 23.0 +1.1**
comp=Z,122nm,1.3s,mb5.6
BORG Borgarnes 69.45 25 PFAKE 00 26 40.0 +15
BORG LR LR
comp=Z,2µm,20.0s
SVW2 Sparrevohn 70.42 331 *e*P **P 00 26 30.6 -0.7**
TBI Tubuai 70.66 240 *e*LR LR 00 47 44.1
comp=Z,5µm,25.2s,baz=67
IMA Indian Mountai 70.86 336 P **P 00 26 33.8 0.0**
IMA pmax pmax
comp=Z,270nm,1.5s,mb5.9
IMA Indian Mountai 70.86 336 *e*P **P 00 26 34.4 +0.6**
EVO Evora 74.00 53 *e*P **P 00 26 50.2 -2.7**
comp=Z,14nm,0.8s,mb4.4
EVO *e*R
comp=Z,5µm,21.8s
DAG Danmarks Havn 74.21 13 *e*P **P 00 26 52.0 -1.5**
DAG pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
DAG MLR MLR
comp=Z,7µm,22.0s
DAG MLR MLR
comp=N,5µm,23.0s
DAG MLR MLR
comp=E,6µm,22.0s
DAG Danmarks Havn 74.21 13 *i*P **P 00 26 52.0 -1.5**
comp=E,3.9nm,0.3s,mb4.6
comp=Z,7µm,22.0s
UNV Unalaska Valle 75.39 323 *e*P **P 00 27 01.6 +1.1**
comp=Z,282nm,0.7s,mb6.1
ESK Eskdalemuir 77.01 36 PFAKE 00 27 20.0 +10
ESK LR LR
comp=Z,911nm,20.0s
EKA Eskdalemuir Ar 77.03 36 P **P 00 27 10.0 +0.2**
comp=Z,2.4nm,0.7s,baz=259,slow=6.2,SNR=9.1
ESDC Sonseca Array 77.10 52 P **P 00 27 10.1 -0.5**
comp=Z,2.1nm,0.6s,baz=283,slow=4.7,SNR=19
ESLA Sonseca Array 77.10 52 PFAKE 00 27 20.0 +9.5
ESLA LR LR
comp=Z,30µm,19.0s
ROSF Rostrenen 77.14 43 *e*P **P 00 27 08.8 -1.8**
comp=Z,106nm,1.6s,mb5.0
QUIF Quistinic 77.23 43 *e*P **P 00 27 10.0 -1.1**
comp=Z,21nm,0.9s,mb4.6
PMSA Palmer Station 77.47 170 PFAKE 00 27 30.0 +18
PMSA LR LR
comp=Z,1µm,19.0s
SGMF Saint Gilles 77.62 43 *e*P **P 00 27 11.0 -2.2**
comp=Z,31nm,1.1s,mb4.7
GRR Gorron 78.75 43 *e*P **P 00 27 18.2 -1.2**
comp=Z,13nm,0.6s,mb4.6
SJPF Ste Jean 78.90 48 *e*P **P 00 27 18.7 -1.6**
comp=Z,14nm,0.9s,mb4.5
FLN La Foliniere 78.97 42 *e*P **P 00 27 19.4 -1.2**
comp=Z,27nm,1.1s,mb4.7
FLN *e*R
comp=Z,4µm,20.2s
RAR Rarotonga 79.00 246 PFAKE 00 27 40.0 +19
RAR LR LR
comp=Z,4µm,19.0s
LDF La Druitiere 79.22 42 *e*P **P 00 27 20.7 -1.3**
MFF Saint Martin d 79.37 44 *e*P **P 00 27 21.3 -1.5**
comp=Z,7.3nm,0.8s,mb4.3
ETSF Etsaut 79.40 48 *e*P **P 00 27 21.8 -1.3**
comp=Z,2.2nm,0.5s
EPF Esparros 80.05 48 *e*P **P 00 27 25.1 -1.5**
LFF La Frestale 80.14 46 *e*P **P 00 27 25.6 -1.4**
DBIC Dimbokro 80.32 85 P **P 00 27 28.8 +0.2**
comp=Z,3.8nm,0.7s,mb4.4,baz=251,slow=6.3,SNR=13
DBIC Dimbokro 80.32 85 *e*P **P 00 27 28.0 -0.6**
comp=Z,14nm,1.1s,mb4.7
DBIC LR LR
comp=Z,2µm,20.0s
TCF Toulx Ste Croi 81.02 45 *e*P **P 00 27 30.2 -1.5**
CAF Calviac 81.08 46 *e*P **P 00 27 30.4 -1.6**
MTLF Montolieu 81.38 48 *e*P **P 00 27 31.8 -1.8**
BGF Bois d'Agland 81.43 44 *e*P **P 00 27 32.1 -1.7**
SSF Saint Saulge 81.81 44 *e*P **P 00 27 34.2 -1.6**
comp=Z,6.7nm,0.8s,mb4.2
BAIF Baives 81.89 41 *e*P **P 00 27 34.7 -1.4**
LASF Ste Croix 82.46 47 *e*P **P 00 27 37.3 -1.8**
VIVF Saint-Julien-l 82.92 46 *e*P **P 00 27 40.2 -1.3**
KONO Kongsberg 83.46 31 PFAKE 00 28 00.0 +16
KONO LR LR
comp=Z,4µm,21.0s
HAU Haudompre 83.58 42 *e*P **P 00 27 43.4 -1.4**
HAU *e*R
comp=Z,7µm,20.5s
SMRF Simiane la Rot 83.70 47 *e*P **P 00 27 43.6 -1.9**
comp=Z,66nm,1.9s,mb4.8
ORIF Oris-en-Rattie 83.76 46 *e*P **P 00 27 44.7 -1.0**
ORIF *e*R
comp=Z,6µm,21.2s
MUD Monsted U'grnd 83.83 34 *e*P **P 00 27 46.2 +0.4**
MUD *i* 00 39 14.1
MUD *i* 00 43 26.8
MUD pmax pmax
comp=Z,22nm,1.0s,mb4.9
MUD MLR MLR
comp=Z,3µm,18.0s
MUD Monsted U'grnd 83.83 34 *e*P **P 00 27 46.2 +0.4**
comp=Z,22nm,1.0s,mb4.9
MUD *i* 00 39 14.1
MUD *i* 00 43 26.8
MUD Monsted U'grnd 83.83 34 *i*P **P 00 27 46.2 +0.4**
comp=Z,22nm,1.0s,mb4.9
MUD *i* 00 39 14.1
MUD *i* 00 43 26.8

comp=Z,3µm,18.0s
HINF Hinteralfeld 83.95 43 *e*P P **00 27 45.4 -1.2**
NB2 NORSAR Subarra 83.98 29 P P **00 27 46.6 +0.2**
comp=Z,9.1nm,1.1s,mb4.5,baz=282,slow=5.3
NOA NORSAR Array B 83.98 29 P P **00 27 46.5 +0.1**
comp=Z,1.5nm,0.8s,baz=282,slow=5.0,SNR=4.7
NOA LR LR 01 06 11.3
comp=Z,2µm,18.5s,baz=265,slow=36
CDF Champ du Feu 84.12 42 *e*P P **00 27 46.1 -1.4**
MBDF Montbardon 84.42 46 *e*P P **00 27 47.5 -1.5**
LMR La Mourre 84.47 47 *e*P P **00 27 47.9 -1.4**
comp=Z,8.8nm,1.1s,mb4.2
FRF La Foret Royal 84.53 47 *e*P P **00 27 48.0 -1.6**
comp=Z,9.0nm,1.0s,mb4.3
DFRA Djebel Bou Aff 85.18 54 P pP 00 28 14.0 +1.3
HFS Hagfors 85.38 30 P P **00 27 53.3 -0.1**
comp=Z,1.1nm,0.6s,baz=225,slow=6.3,SNR=4.7
CASM Ain Smara 85.71 54 P pP 00 28 13.0 -2.4
COP Copenhagen 85.78 34 *e*P P **00 28 03.7 +8.2**
COP *i* S S 00 38 30.8 +10
COP *i* 00 39 48.2
COP pmax pmax
comp=Z,32nm,0.7s,mb5.4
COP MLR MLR
comp=Z,1µm,20.0s
COP Copenhagen 85.78 34 *i* P P **00 28 03.7 +8.2**
comp=Z,32nm,0.7s,mb5.4
COP *i* 00 38 30.4
COP *i* S S 00 38 30.8 +10
COP *i* 00 39 48.2
COP *i* 00 44 41.2
comp=Z,1µm,20.0s
CKFL Kef-Lekhel 85.87 54 P P **00 28 08.0 +12**
CAEH 'Ain El Ouahch 85.90 53 P pP 00 28 11.0 -5.3
DAVOX Davos 86.17 43 P P **00 27 58.3 +0.7**
comp=Z,0.9nm,0.5s,baz=321,slow=23,SNR=3.2
BILL Bilibino 86.22 339|| *e*P P **00 27 58.1 +0.7**
BILL *e* 00 28 07.5
BILL *e* 00 31 19.5
BILL *e* 00 33 23.7
BILL *e*PPS PPS 00 39 50.3 -10
BILL pmax pmax
comp=Z,81nm,1.7s,mb5.4
BILL MLR MLR
comp=Z,8µm,20.0s
BILL Bilibino 86.22 339 *e*P P **00 27 58.3 +0.9**
comp=Z,230nm,1.9s,mb5.8
CMAH Djebel Manchou 86.38 54 P pP 00 28 12.0 -6.7
GRA1 Grafenberg Arr 86.42 40 *e*P P **00 27 59.6 +0.8**
comp=Z,4.0nm,0.9s,mb4.3
GRA1 *e*PP PP 00 31 27.0 +4.4
GRA1 *e*S S 00 38 43.2 +16
GRA1 *e*SS SS 00 44 16.6 +4.9
GRA1 LR LR
comp=Z,6µm,18.8s
GRF Grafenberg Arr 86.42 40 *e*P P **00 27 59.6 +0.8**
GRF *e* 00 31 27.0
GRF *e*SS SS 00 44 16.6 +4.9
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF MLR MLR
comp=Z,6µm,18.8s
GRF Grafenberg Arr 86.42 40 *e*P P **00 27 59.6 +0.8**
comp=Z,4.0nm,0.9s,mb4.3
GRF *e*PP PP 00 31 27.0 +4.4
GRF *e*S S 00 38 43.2 +16
GRF *e*SS SS 00 44 16.6 +4.9
GRF LR LR
comp=Z,6µm,18.8s
PGF Pioggiola 86.42 48 *e*P P **00 27 57.8 -1.1**
MOX Moxa 86.45 39 *e*P pP 00 28 20.0 +1.4
MOX S S 00 38 38.0 +10
MOX SS SS 00 44 38.0 +26
MOX L 01 05 34.0
SMY Shemya 87.06 323 PFAKE 00 28 10.0 +8.2
SMY LR LR
comp=Z,4µm,21.0s
NKC Novy Kostel 87.06 39 *e*P P **00 28 13.3 +11**
NKC *e*S S 00 38 36.9 +3.6
NKC AMS AMS 01 06 00.0
comp=Z,5µm,19.0s
ARCES ARCESS Array B 87.08 19 P P **00 28 02.0 +0.4**
comp=Z,1.6nm,0.7s,baz=276,slow=4.1,SNR=8.8
ARCES LR LR 01 09 57.1
comp=Z,3µm,18.0s,baz=301,slow=38
ARCES ARCESS Array B 87.08 19 P P **00 28 02.0 +0.4**
ARCES LR LR 01 09 57.1
CLL Collm 87.15 38 *e*P P **00 28 03.0 +0.7**
CLL *e* pP 00 28 18.0 -4.1
CLL *e*S S 00 38 45.0 +11
CLL MLR MLR
comp=Z,4µm,22.3s
CLL Collm 87.15 38 P P **00 28 03.0 +0.7**
CLL *e**SP sP 00 28 16.0 -14
CLL *e* 00 28 30.0
CLL *e*PP PP 00 31 33.0 +4.0
CLL *e*S S 00 38 45.0 +11
CLL *e*PS PS 00 39 54.0 +7.9
CLL *e*SS SS 00 44 41.0 +19
BRG Berggiesshubel 87.83 39 *e*P P **00 28 16.8 +11**
BRG *e* pP 00 28 34.9 +10
BRG *e* 00 31 32.0
BRG *e*S S 00 38 46.0 +5.5
BRG *e*SS SS 00 44 37.0 +4.8
BRG pmax pmax
comp=Z,23nm,1.9s,mb4.9
BRG MLR MLR
comp=N,2µm,20.9s
BRG MLR MLR
comp=E,4µm,20.9s
BRG MLR MLR
comp=Z,4µm,20.9s
KHC Kasperske Hory 88.05 40 *e*P P **00 28 09.7 +3.0**
KHC *e* 00 38 47.7
KHC MLR MLR
comp=Z,4µm,18.8s
KHC Kasperske Hory 88.05 40 *e*P P **00 28 09.7 +3.0**
KHC *ex* x 00 29 06.0
KHC *e*S S 00 38 47.7 +5.1
KHC AMS AMS 01 09 00.0
comp=Z,4µm,18.8s
GERES GERESS Array B 88.20 41 P P **00 28 07.3 -0.1**
comp=Z,0.6nm,0.8s,baz=281,slow=5.0,SNR=4.6
PVCC Panska Ves 88.30 39 AMS AMS 01 03 50.0
comp=Z,4µm,19.6s
AFI Afiamalu 88.37 256 PFAKE 00 28 20.0 +11
AFI LR LR
comp=Z,3µm,20.0s
PRU Pruhonice 88.43 39 *e*P P **00 28 22.3 +14**
PRU *e*S S 00 38 52.9 +6.8
PRU AMS AMS 01 06 50.0
comp=Z,7µm,19.0s
DPC Dobruska-Polom 89.43 39 *e*P P **00 28 11.0 -2.2**
DPC *e*S S 00 39 00.3 +4.9
DPC AMS AMS 01 07 50.0
comp=Z,5µm,19.4s
LJU Ljubljana 89.46 43 *e*P P **00 28 14.0 +0.5**
GROS Grobnik 90.00 43 *e*P P **00 28 15.4 -0.5**
GROS *e* pP 00 28 30.9 -5.0
CRES Cresnjev 90.15 43 *e*P P **00 28 17.2 +0.6**
CRES *e*S S 00 39 04.7 +2.7
APA Apatity 90.57 19 *e*P P **00 28 26.0 +7.9**
APA *e* 00 39 10.0
APA *i* 00 40 30.0
APA MLR MLR
comp=Z,2µm,18.0s
FINES FINESS Array B 90.66 26 P P **00 28 19.0 +0.3**
comp=Z,3.7nm,1.3s,mb4.4,baz=207,slow=31,SNR=4.7
FINES LR LR 01 05 34.7
comp=Z,3µm,21.3s,baz=277,slow=33
OKC Ostrava-Krasne 90.71 39 AMS AMS 01 08 30.0
comp=Z,5µm,19.3s
LVZ Lovozero 90.80 19 *e*P P **00 28 22.5 +3.3**
LVZ *e*S PS 00 40 26.6 -1.6
LVZ *e*SS SS 00 45 23.7 +9.1
LVZ *e*SSS SSS 00 48 53.8 +2.0
LVZ pmax pmax
comp=Z,28nm,1.5s,mb5.2
VAE Valguarnera 91.64 51 LR LR 01 05 21.2
comp=Z,4µm,19.2s,baz=106,slow=33
SEY Seymchan 93.67 337 *e*P P **00 28 33.8 +1.3**
TIXI Tiksi 94.20 349 *e*P P **00 28 34.2 -0.5**
TIXI *e* 00 39 12.9
TIXI pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
PET Petropavlovsk 95.71 327 *e*P P **00 28 52.7 +11**
PET *e*S S 00 40 00.7 +11
PET *e*PPS PPS 00 42 02.5 -0.5
PET *e*SS SS 00 46 33.8 +9.2
PET pmax pmax
comp=Z,400nm,17.3s
PET pmax pmax
comp=Z,400nm,18.0s
PET smax
comp=N,400nm,20.4s
PET Petropavlovsk 95.71 327 PFAKE 00 29 00.0 +18
PET LR LR
comp=Z,2µm,19.0s
VNA3 Neumayer Olymp 96.14 162⇑ *i*P P **00 28 45.4 +1.9**
VNA3 *e* pP 00 29 02.7 -0.8
VNA3 *e* pP 00 29 07.0 +3.5
VNA3 *e* 00 32 43.6
VNA3 *e* 00 33 25.6
VNA3 *e* 00 33 42.7
VNA3 *e* 00 33 47.4
MA2 Magadan 96.18 335 *e*P P **00 28 45.9 +2.0**
MA2 *e* 00 32 37.4
MA2 *e*S S 00 39 57.3 +3.4
MA2 pmax pmax
comp=Z,10.0nm,2.4s,mb4.8
MA2 MLR MLR
comp=Z,9µm,30.0s
MA2 Magadan 96.18 335⇓ *i*P P **00 28 45.0 +1.1**
MA2 LR LR
comp=Z,2µm,22.0s
VNA1 Neumayer--Stat 96.42 161⇑ *i*P P **00 28 46.9 +2.1**
VNA1 *e* pP 00 29 06.4 +1.6
VNA1 *e* pP 00 29 10.4 +5.6
VNA2 Neumayer--Watz 96.77 161⇑ *i*P P **00 28 49.8 +3.4**
VNA2 *e* 00 29 04.6
VNA2 *e* pP 00 29 10.0 +3.6
VNA2 *e* 00 32 45.9
VNA2 *e* 00 33 26.5
VNA2 *e* 00 33 43.0
VNA2 *e* 00 33 47.8
SNAA Sanae 98.36 161⇑ *i*P P **00 28 52.1 -1.5**
SNAA *e* pP 00 29 08.5 -5.1
SNAA *e* pP 00 29 13.5 -0.1
SNAA *e* 00 32 43.6
SNAA *e* 00 33 22.5
SNAA *e* 00 33 38.9
SNAA *e* 00 33 45.2
OBN Obninsk 98.58 29 P P **00 29 07.0 +12**
OBN *e* 00 32 59.6
OBN *e*PS PS 00 41 58.9 +5.3
OBN *e*SS SS 00 47 18.5 +14
OBN MLR MLR
comp=Z,3µm,16.0s
OBN Obninsk 98.58 29 PFAKE 00 29 10.0 +15
OBN LR LR
comp=Z,682nm,19.0s
YAK Yakutsk 101.91 344 PFAKE 00 29 20.0 +10
YAK LR LR
comp=Z,3µm,21.0s
SIM Simferopol' 102.58 39 P Pdif 00 29 21.8 +8.6
SIM *e*PPS PS 00 42 37.0 +1.5
SIM pmax pmax
comp=Z,70nm,7.0s
SIM MLR MLR
comp=Z,3µm,19.0s
KWAJ Kwajalein Atol 103.94 282 PFAKE 00 29 30.0 +10
KWAJ LR LR
comp=Z,709nm,22.0s
SNZO South Karori 104.01 230 PFAKE 00 29 30.0 +10
SNZO LR LR
comp=Z,2µm,20.0s
SBA Scott Base 104.33 192 PFAKE 00 29 30.0 +10
SBA LR LR
comp=Z,2µm,20.0s
VNDA Vanda 105.43 192 PFAKE 00 33 50.0
VNDA LR LR
comp=Z,2µm,19.0s
TSUM Tsumeb 106.50 107 PFAKE 00 34 00.0
TSUM LR LR
comp=Z,3µm,20.0s
YSS Yuzh-Sakhalins 107.58 327 PFAKE 00 34 00.0
YSS LR LR
comp=Z,2µm,19.0s
KIV Kislovodsk 108.26 36 PFAKE 00 34 00.0
KIV LR LR
comp=Z,601nm,22.0s
SUR Sutherland 110.20 120 PFAKE 00 34 00.0 +13
SUR LR LR
comp=Z,936nm,20.0s
KLR Kul'dur 111.28 334 *e*PKIKP PKPdf 00 33 54.0 +5.4
GNI Garni 111.76 39 PFAKE 00 34 00.0 +10
GNI LR LR
comp=Z,2µm,20.0s
BOSA Boshof 114.03 116 PKIKP PKPdf 00 33 57.5 +3.0
BOSA Boshof 114.03 116 *e*P PKPdf 00 33 56.9 +2.4
BOSA LR LR
comp=Z,3µm,20.0s
LBTB Lobatse 114.30 112 PFAKE 00 34 10.0 +15
LBTB LR LR
comp=Z,2µm,20.0s
ZAL Zalesovo 114.79 6 *i* PKIKP PKPdf 00 33 58.3 +2.9
ZAL pmax pmax
comp=Z,2.0nm,0.5s
ZAL Zalesovo 114.79 6 PKP PKPdf 00 33 57.6 +2.3
comp=Z,2.3nm,0.5s,baz=306,slow=2.3,SNR=15
HNR Honiara 114.97 265 PFAKE 00 34 10.0 +13
HNR LR LR
comp=Z,2µm,21.0s
MDJ Mudanjiang 115.77 332 PDIF Pdif 00 30 10.6 -0.6
MDJ SKS SKS 00 41 11.9 +32
MDJ LR LR
comp=N,481nm,31.8s
MDJ LR LR
comp=E,1µm,26.6s
MDJ LR LR
comp=Z,968nm,26.6s
LSZ Lusaka 116.21 102 PKIKP PKPdf 00 34 03.5 +4.5
LSZ Lusaka 116.21 102 *e*PKP PKPdf 00 34 03.0 +4.0
LSZ LR LR
comp=Z,2µm,21.0s
MBAR Mbarara 116.56 85 PFAKE 00 34 10.0 +10
MBAR LR LR
comp=Z,494nm,19.0s
MAJO Matsushiro 116.82 321 PFAKE 00 34 10.0 +10
MAJO LR LR
comp=Z,1µm,22.0s
TLY Talaya 116.91 353 PFAKE 00 34 10.0 +11
TLY LR LR
comp=Z,369nm,20.0s
KURK Kurchatov 117.06 11⇑ *i*PKIKP PKPdf 00 34 02.5 +2.7
KURK Kurchatov 117.06 11 PFAKE 00 34 10.0 +10
KURK LR LR
comp=Z,1µm,21.0s
ZAK Zakamensk 118.23 353 *e*PKIKP PKPdf 00 33 59.4 -2.7
ZAK pmax pmax
comp=Z,1.0nm,1.4s
ZAK pmax pmax
comp=Z,2.0nm,2.5s
CN2 Changchun 118.24 334 *e*PKP PKPdf 00 34 06.8 +4.6
CN2 PP PP 00 35 26.0 +2.4
CN2 PP PP
comp=Z,240nm,6.0s
CN2 LR LR
comp=N,1µm,19.0s
CN2 LR LR
comp=E,1µm,19.0s
CN2 LR LR
comp=Z,1µm,21.0s
ULN Ulaanbaatar 120.14 350 *e*PKIKP PKPdf 00 34 08.8 +2.9
ULN Ulaanbaatar 120.14 350 *e*P PKPdf 00 34 07.4 +1.5
ULN LR LR
comp=Z,3µm,22.0s
SONM Songino Array 120.28 350 PKP PKPdf 00 34 09.0 +2.9
comp=Z,2.6nm,0.5s,baz=301,slow=1.0,SNR=45
SONM PKKPbc 00 44 15.7
comp=Z,0.2nm,0.5s,baz=183,slow=3.8,SNR=3.9
KS15 Wonju Array Si 122.09 328 *e*PKP PKPdf 00 34 12.4 +2.5
INCN Inchon 122.69 329 PFAKE 00 34 30.0 +19
INCN LR LR
comp=Z,1µm,21.0s
KMBO Kilima Mbogo 123.04 84 PKP PKPdf 00 34 15.7 +3.4
comp=Z,0.3nm,0.5s,baz=100,slow=3.3,SNR=6.1
KMBO Kilima Mbogo 123.04 84 PKP PKPdf 00 34 15.7 +3.4
KMBO LR LR
comp=Z,3µm,19.0s
FRU Bishkek 123.56 17 *e*PKIKP PKPdf 00 34 17.0 +4.4
FRU *e* 00 35 54.0
FRU MLR MLR
comp=Z,2µm,22.0s
GUMO Guam 123.69 295 PFAKE 00 34 30.0 +16
GUMO LR LR
comp=Z,2µm,21.0s
CASY Casey 123.70 188 PFAKE 00 34 30.0 +18
CASY LR LR
comp=Z,4µm,19.0s
AAK Ala-Archa 123.70 17 *d i*PKIKP PKPdf 00 34 15.3 +2.4
AAK MLR MLR
comp=Z,3µm,19.0s
AAK Ala-Archa 123.70 17 *e*PKP PKPdf 00 34 14.8 +1.8
AAK LR LR
comp=Z,791nm,21.0s
TAU Tasmania Unive 123.92 225 PFAKE 00 34 30.0 +17
TAU LR LR
comp=Z,609nm,20.0s
BJI Beijing 125.05 339 PKP PKPdf 00 34 19.1 +3.5
BJI PP PP 00 36 11.6 +2.1
BJI PPP PPP 00 38 50.5 +0.5
BJI SKS SKS 00 41 26.0 +14
BJI PP PP
comp=Z,399nm,8.8s
BJI LR LR
comp=N,2µm,22.0s
BJI LR LR
comp=E,932nm,21.1s
BJI LR LR
comp=Z,3µm,25.6s
BJT Baijiatuau 125.07 339 *e*PKP PKPdf 00 34 17.8 +2.1
WMQ Urumqi 125.08 5 PKP PKPdf 00 34 17.3 +1.7
WMQ PP PP 00 36 11.5 +1.9
WMQ PPP PPP 00 38 51.4 +1.2
WMQ SKS SKS 00 41 21.0 +9.5
WMQ SKKS 00 42 56.0
WMQ PP PP
comp=Z,419nm,9.0s
WMQ LR LR
comp=N,4µm,24.1s
WMQ LR LR
comp=E,1µm,22.5s
WMQ LR LR
comp=Z,3µm,26.4s
HHC Hu-ho-hao-te 125.77 343 *e*PKP PKPdf 00 34 21.4 +4.4
HHC PP PP 00 36 12.6 -1.9
HHC PKS PKS 00 37 54.9 +2.2
HHC SKS SKS 00 41 27.3 +14
HHC SKKS 00 43 07.0
HHC SS SS 00 53 09.1 +3.3
HHC PP PP
comp=Z,338nm,13.7s
HHC LR LR
comp=N,2µm,24.4s
HHC LR LR
comp=E,757nm,23.2s
HHC LR LR
comp=Z,2µm,23.8s
BTO Baotou 126.42 345 *e*PKP PKPdf 00 34 21.0 +2.8
PMG Port Moresby 127.49 267 *i* PKIKP PKPdf 00 34 24.3 +3.3
PMG Port Moresby 127.49 267 PFAKE 00 34 40.0 +19
PMG LR LR
comp=Z,1µm,20.0s
TIA Tai'an 128.06 336 *e*PKP PKPdf 00 34 24.3 +2.8
CTAO Charters Tower 128.83 253 *e*PKIKP PKPdf 00 34 25.7 +2.3
CTAO Charters Tower 128.83 253 PFAKE 00 34 40.0 +17
CTAO LR LR
comp=Z,1µm,20.0s
GTA Gaotai 129.45 354 *e*PKP PKPdf 00 34 27.0 +2.9
GTA XPKP 00 34 43.6
GTA PP PP 00 36 35.8 -3.1
GTA PKS PKS 00 38 02.5 +2.9
GTA SKS SKS 00 41 30.1 +6.1
GTA PP PP
comp=Z,350nm,11.4s
GTA LR LR
comp=N,2µm,21.3s
GTA LR LR
comp=E,1µm,18.2s
GTA LR LR
comp=Z,3µm,23.2s
SSE Sheshan 130.49 329 PKP PKPdf 00 34 30.8 +4.5
SSE PP PP 00 36 48.9 +3.1
SSE SS SS 00 54 10.3 +5.7
SSE PP PP
comp=Z,268nm,11.1s
SSE LR LR
comp=N,693nm,20.0s
SSE LR LR
comp=E,852nm,20.0s
SSE LR LR
comp=Z,818nm,22.9s
SSE Sheshan 130.49 329 PKP PKPdf 00 34 30.7 +4.4
SSE PP PP 00 36 48.9 +3.1
SSE PKS PKS 00 38 02.0 +0.3
SSE PPP PPP 00 39 39.1 +4.5
SSE SS SS 00 54 10.2 +5.6
SSE LR LR
comp=Z,820nm,22.9s
NJ2 Nanjing 130.85 332 *e*PKP PKPdf 00 34 30.0 +3.1
NJ2 XPKP 00 34 45.4
NJ2 PP PP 00 36 45.0 -3.2
NJ2 PPP PPP 00 39 36.0 -1.4
NJ2 SKKS 00 43 41.0
NJ2 PP PP
comp=Z,780nm,11.9s
NJ2 LR LR
comp=N,2µm,20.0s
NJ2 LR LR
comp=E,4µm,35.0s
NJ2 LR LR
comp=Z,7µm,35.5s
STKA Stephens Creek 131.38 237 PKP PKPdf 00 34 30.7 +2.7
comp=Z,3.6nm,0.6s,baz=349,slow=16,SNR=4.0
STKA Stephens Creek 131.38 237 PKP PKPdf 00 34 30.7 +2.7
LZH Lanzhou 132.13 349|| PKP PKPdf 00 34 33.0 +3.7
LZH PP PP 00 36 58.1 +2.2
LZH PKS PKS 00 38 06.0 +1.4
LZH SKS SKS 00 41 38.0 +7.2
LZH SKKS 00 43 45.0
LZH SS SS 00 54 29.0 +3.9
LZH PP PP
comp=Z,246nm,4.5s
LZH LR LR
comp=E,3µm,18.5s
LZH LR LR
comp=Z,5µm,20.7s
LZH Lanzhou 132.13 349|| PKP PKPdf 00 34 33.0 +3.7
LZH pPKP 00 34 47.5
LZH sPKP 00 34 53.5
LZH PP PP 00 36 58.1 +2.2
LZH PKS PKS 00 38 06.0 +1.4
LZH SKS SKS 00 41 38.0 +7.2
LZH SKKS 00 43 45.0
LZH SS SS 00 54 29.0 +3.9
LZH LR LR
comp=Z,5µm,20.7s
XAN Xi'an 132.87 343 PKP PKPdf 00 34 32.8 +2.1
XAN LR LR
comp=E,2µm,23.6s
XAN LR LR
comp=Z,2µm,19.9s
WHN Wuhan 134.12 335 *e*PKP PKPdf 00 34 36.5 +3.4
WHN PP PP 00 37 06.0 -2.9
WHN LR LR
comp=Z,3µm,20.8s
TATO Taipei 135.11 323 PFAKE 00 34 50.0 +15
TATO LR LR
comp=Z,1µm,20.0s
DDI Dehra Dun 136.15 20 *e*P PKPdf 00 34 38.4 +1.6
ENH Enshi 136.19 340 *e*PKP PKPdf 00 34 40.5 +3.6
CD2 Chengdu 137.16 347 *e*PKP PKPdf 00 34 42.1 +3.4
NDI New Delhi 137.35 22 *e*P PKPdf 00 34 41.0 +1.9
NDI *e* 00 38 14.0
LSA Lhasa 139.38 3 PKP PKPdf 00 34 45.4 +2.6
LSA Lhasa 139.38 3 PKP PKPdf 00 34 46.7 +4.0
ASAR Alice Springs 139.84 246 PKhKP 00 34 38.6
comp=Z,2.5nm,0.8s,baz=103,slow=3.1,SNR=12
ASAR PKP PKPdf 00 34 47.2 +3.5
comp=Z,7.1nm,0.8s,baz=95,slow=2.3,SNR=24
ASAR Alice Springs 139.84 246 PKP PKPdf 00 34 47.2 +3.5

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASPA	Alice Springs	139.85	246	eP	PKPdf	00 34 46.5	+2.7
WB2	Warramunga Arr	140.00	252	ePKP	PKPdf	00 34 40.3	-3.8
WRAB	Tennant Creek	140.00	252	⇓iPKIKP	PKPdf	00 34 48.3	+4.2
WRAB	Tennant Creek	140.00	252	PFAKE		00 35 00.0	+16
WRAB				LR	LR		
	comp=Z,795nm,22.0s						
WRA	Warramunga Arr	140.01	252	PKhKP		00 34 39.6	
	comp=Z,2.6nm,0.8s,baz=104,slow=2.7,SNR=12						
WRA				PKP	PKPdf	00 34 47.9	+3.8
	comp=Z,5.9nm,0.6s,baz=89,slow=2.2,SNR=17						
WRA	Warramunga Arr	140.01	252	PKP	PKPdf	00 34 47.9	+3.8
KOLN	Koldanda	140.14	14	eP	PKPdf	00 34 45.3	+1.1
	comp=Z,14nm,0.7s						
GKN	Gorkha	140.15	13	eP	PKPdf	00 34 45.1	+0.9
	comp=Z,31nm,0.8s						
KKN	Kakani	140.49	12	eP	PKPdf	00 34 45.7	+0.9
	comp=Z,31nm,0.8s						
DMN	Daman	140.63	12	eP	PKPdf	00 34 45.1	-0.1
GYA	Guiyang	140.63	342	⇓iPKP	PKPdf	00 34 49.4	+4.2
GYA				PKS	PKS	00 38 25.6	+5.5
GYA				SKS	SKS	00 41 51.8	+5.7
GYA				PP	PP		
	comp=Z,440nm,7.8s						
GYA				LR	LR		
	comp=N,1µm,27.3s						
GYA				LR	LR		
	comp=E,1µm,22.2s						
GYA				LR	LR		
	comp=Z,1µm,26.1s						
PKI	Pulchoki	140.73	12	eP	PKPdf	00 34 46.7	+1.3
JIRN	Jiri	140.79	11	eP	PKPdf	00 34 46.7	+1.2
GZH	Guangzhou	141.00	331	PKP	PKPdf	00 34 46.4	+0.4
GZH				LR	LR		
	comp=N,994nm,21.1s						
GZH				LR	LR		
	comp=E,839nm,22.1s						
GZH				LR	LR		
	comp=Z,2µm,23.2s						
FORT	Forrest	142.67	233	ePKP	PKPdf	00 34 49.9	+1.3
	comp=Z,633nm,0.7s						
KMI	Kunming	142.97	346	PKP	PKPdf	00 34 46.8	-2.5
KMI				PKS	PKS	00 38 23.8	-0.2
KMI				SS	SS	00 56 33.8	+0.6
KMI				PP	PP		
	comp=Z,227nm,10.2s						
KMI				LR	LR		
	comp=N,1µm,18.3s						
KMI				LR	LR		
	comp=E,1µm,18.3s						
KMI				LR	LR		
	comp=Z,1µm,23.3s						
POO	Poona	144.62	34	e	PKPbc	00 34 54.0	+1.8
AGT	Agartala	145.16	4	eP	PKPdf	00 34 56.0	+2.9
QIZ	Qiongzhong	146.14	332	PKP	PKPdf	00 34 59.3	+4.4
QIZ				APKP		00 35 09.6	
QIZ				PP	PP	00 38 25.1	+3.1
QIZ				SS	SS	00 57 17.3	+7.9
QIZ				LR	LR		
	comp=N,1µm,20.3s						
QIZ				LR	LR		
	comp=Z,2µm,21.1s						
QIZ	Qiongzhong	146.14	332	ePKP	PKPdf	00 34 58.9	+4.0
HYB	Hyderabad	147.94	28	eP	PKPdf	00 35 00.0	+2.1
HYB	Hyderabad	147.94	28	i PKP	PKPdf	00 35 00.0	+2.1
CHRT	Chiangrai	148.68	349	⇑P	PKPdf	00 35 02.0	+3.0
	comp=Z,126nm,1.2s						
NWAO	Narrogin (SRO)	149.38	221	PKHKP		00 35 07.2	
NWAO	Narrogin (SRO)	149.38	221	PKPbc	PKPdf	00 35 07.5	+7.7
	comp=Z,19nm,0.7s,baz=24,slow=16,SNR=6.5						
NWAO	Narrogin (SRO)	149.38	221	ePKPbc	PKPdf	00 35 06.9	+7.1
NWAO				LR	LR		
	comp=Z,1µm,20.0s						
NANT	Nan	149.53	347	⇓P	PKPdf	00 35 00.0	-0.4
	comp=Z,300nm,1.0s						
VIS	Vishakhapatnam	149.58	20	e	PKPdf	00 35 03.5	+3.0
MNGI	Mangalore	149.62	39	i P	PKPdf	00 35 03.0	+2.3
CHG	Chiang Mai	149.86	350	⇓P	PKPdf	00 35 04.1	+3.2
	comp=Z,17nm,1.4s						
KLBR	Kellerberrin	149.87	224	ePKP	PKPdf	00 35 08.0	+7.4
	comp=Z,4µm,2.0s						
CM31	Chiang Mai Arr	150.21	350	ePKPdf	PKPdf	00 35 06.0	+4.6
CM31				LR	LR		
	comp=Z,197nm,19.0s						
CMAR	Chiang Mai Arr	150.21	350	PKP	PKPdf	00 35 04.7	+3.2
	comp=Z,2.5nm,0.3s,baz=320,slow=2.0,SNR=25						
CMAR				PKPbc	PKPdf	00 35 10.6	+9.1
	comp=Z,18nm,0.7s,baz=336,slow=3.3,SNR=29						
MUN	Mundaring	150.65	221	ePKP	PKPdf	00 35 10.1	+8.3
	comp=Z,43nm,0.7s						
BDT	Bhumibol Dam	151.38	350	P	PKPdf	00 35 07.0	+3.7
	comp=Z,24nm,0.7s						
MBWA	Marble Bar	153.16	245	PFAKE		00 35 20.0	+14
MBWA				LR	LR		
	comp=Z,1µm,20.0s						
DGAR	Diego Garcia	158.65	82	PFAKE		00 35 30.0	+17
DGAR				LR	LR		
	comp=Z,472nm,21.0s						
KSM	Kuching	159.35	306	PKP	PKPdf	00 35 17.7	+3.7
KULM	Kulim	162.35	337	ePKPdf	PKPdf	00 35 17.0	0.0

NEIC 15 00:21:07.0, 36.92N×112.63W, h20km, ML3.5(SLC), 1C, After SLC., Western Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARUT	Antelope Range	1.08	323	⇑eP	Pb	00 21 27.0	+0.1
ARUT				eS	Sb	00 21 40.0	-0.5
MVU	Marysvale	1.61	12	eP	Pn	00 21 36.0	+1.3
MSU	Marysvale	1.63	13	ePn	Pn	00 21 35.6	+0.7
WUAZ	Wupatki	1.73	144	ePn	Pn	00 21 36.5	+0.1
WUAZ				eSg	Sn	00 22 00.2	+2.1
TMUT	Trail Mountain	2.62	25	ePn	Pn	00 21 49.7	+0.5
LDFC	Landfair	2.73	228	Pn	Pn	00 21 49.3	-1.4
SRU	San Rafael	2.75	37	ePn	Pn	00 21 51.6	+0.6
NLU	North Lily Min	3.06	8	ePn	Pn	00 21 56.2	+0.8
PV10	Paradox Valley	3.20	62	ePn	Pn	00 21 56.6	-0.7
PV10				ePg	Pn	00 22 02.8	+5.5
PV01	Paradox Valley	3.44	68	Pn	Pn	00 22 02.7	+1.8
PV01				ePg	Pn	00 22 09.9	+9.0
DAU	Daniels Canyon	3.65	17	Pn	Pn	00 22 06.4	+2.7
JLU	Jordanelle	3.79	14	Pn	Pn	00 22 05.8	+0.1
TPH	Tonopah	3.83	289	ePn	Pn	00 22 04.8	-1.6
BGU	Big Grassy Mou	4.01	356	Pn	Pn	00 22 08.5	-0.4
RW3	Ridgway	4.14	70	Pn	Pn	00 22 09.5	-1.3
ELK	Elko	4.33	333	ePn	Pn	00 22 11.5	-1.9
SPUT	South Promonto	4.38	2	Pn	Pn	00 22 13.9	-0.3
MNV	Mina	4.64	291	ePn	Pn	00 22 15.4	-2.4
MTUM	Tungsten Hills	4.76	277	Pn	Pn	00 22 16.4	-3.2
TUC	Tucson	4.85	161	Pg	Pn	00 22 19.5	-1.3
TUC				eS	Sn	00 23 38.1	+21
ANMO	Albuquerque	5.38	110	Pn	Pn	00 22 28.6	+0.4
SDCO	Great Sand Dun	5.74	80	Pn	Pn	00 22 33.1	-0.3

*ISK **15** 00:42:06.3, 39.41N×40.81E, h9km, MD3.7*
*CSEM **15** 00:42:06.3, 39.41N×40.81E, h9km, MD3.7, After ISK*
ISC 15 00:42:07.1±0.5**, 39.43N**±0.04×**40.79E**±0.04**, h9km, n21, σ1s01/29, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.60	203	i PG	Pg	00 42 18.1	-1.2
ERZM	Erzurum	0.65	43	i P	Pb	00 42 19.9	-0.2
ERZM				i S	Sg	00 42 29.3	+0.5
VRT	Varto	0.65	118	PG	Pg	00 42 18.8	-1.3
EZC	Erzincan	0.82	293	i PN	Pn	00 42 29.0	+4.5
PTK	Pertek	1.22	244	PN	Pn	00 42 30.1	-0.1
PTK				SN	Sn	00 42 47.5	+0.6
BTMT	Batman	1.35	156	PN	Pn	00 42 31.8	-0.4
BTMT				SN	Sn	00 42 50.2	-0.2
GUMT	Gumushane	1.44	316	ePN	Pn	00 42 34.4	+1.0
BEST	Besiri	1.58	166	i P	Pn	00 42 36.0	+0.4
BEST				i S	Sb	00 42 58.3	+2.1
DIY	Diyarbakir	1.60	196	ePN	Pn	00 42 35.6	-0.1
ELZG	Elazig	1.69	237	i P	Pn	00 42 37.9	+0.9
ELZG				S	Sn	00 43 06.7	+7.7
KARS	Kars	2.12	56	ePN	Pn	00 42 42.7	-0.5
MYA	Malataya	2.15	240	ePN	Pn	00 42 43.2	-0.5
MALT	Malatya	2.16	240	ePN	Pn	00 42 43.6	-0.1
VANB	Van	2.19	112	ePN	Pn	00 42 44.0	-0.2
TVAN	Van	2.23	113	P	Pn	00 42 47.8	+3.1
TVAN				S	Sn	00 43 16.2	+3.5
VANT	Van	2.25	115	ePN	Pn	00 42 43.4	-1.7
URFA	Urfa	2.52	218	ePN	Pn	00 42 48.3	-0.6
GZT	Gaziantep	3.28	232	P	Pn	00 43 11.9	+12
GZT				S	Sn	00 43 49.9	+11
KAHT	Ahir Dag	3.56	241	P	Pn	00 43 03.9	+0.1
GAZ	Gaziantep	3.61	232	ePN	Pn	00 43 03.7	-0.7
COBT	Iskenderun	4.62	232	P	Pn	00 43 35.1	+16
COBT				S	Sn	00 44 33.8	+21

MAN 15 00:47:25.7, 15.30N×122.25E, h19km, mb4.3, ML3.1, MS2.9, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
POLP	Polilio Island	0.64	207	eP	Pb	00 47 38.2	+0.1
POLP				eS	Sb	00 47 46.9	+0.3
BALP	Baler	0.78	304	eP	Pb	00 47 40.3	-0.1
GQP	Guinayangan	1.40	172	⇑eP	Pn	00 47 50.5	-0.1
GQP				i S	Sb	00 48 08.8	+0.3
CAUP	Cauayan	1.68	346	eP	Pn	00 47 54.5	-0.1
PALP	Palanan	1.76	6	eP	Pn	00 47 54.9	-0.8
BOAC	Boac	1.87	192	eP	Pn	00 47 57.6	+0.3
CVP	Callao Caves	2.42	350	eP	Pn	00 48 04.5	-0.7
CVP				i S	Sn	00 48 34.0	-0.6
PVCP	Virac	2.51	132	eP	Pn	00 48 05.8	-0.6
APYP	Conner	2.72	339	eP	Pn	00 48 08.4	-1.1

*LDG **15** 01:09:20.8±0.1, 49.33N×6.77E, h1km, Md2.5/1, Ml2.4/13, Error ellipse: s-maj=1.3km s-min=1.2km az=144.0, Suspected Mining induced.*
*BGR **15** 01:09:20.4±0.4, 49.32N×6.83E, h1km, ML1.9/2, Error ellipse: s-maj=6.7km s-min=3.3km az=42.0*
*CSEM **15** 01:09:20.7±0.1, 49.33N×6.76E, h2km, ML2.5/14, Error ellipse: s-maj=1.2km s-min=0.9km az=88.0*
*BNS **15** 01:09:22.5±1.1, 49.39N×6.83E, h1km, ML1.8*
ISC 15 01:09:18.5±0.3**, 49.31N**±0.01×**6.76E**±0.03**, n24, σ1s14/52, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WLF	Walferdange	0.54	312	ePg	Pg	01 09 31.2	+2.0
	SNR=7.1						
WLF				eSg	Sg	01 09 38.2	+1.9
	SNR=3.3						
CDF	Champ du Feu	0.96	159	ePg	Pg	01 09 38.3	+0.7
CDF				ePn	Pn	01 09 39.5	+0.5
CDF				eSg	Sg	01 09 51.7	+1.3
CDF				eSn	Sn	01 09 53.6	+0.1
	33nm,0.2s						
BGG	Burgeitz	0.97	22	ePg	Pg	01 09 39.9	+1.9
BGG				eSg	Sg	01 09 51.0	+0.1
	25nm,0.4s						
RFYF	Reffroy	1.09	232	ePg	Pg	01 09 42.7	+2.5
	baz=52						
RFYF				eSg	Sg	01 09 55.6	+0.9
	16nm,0.3s,baz=49						
STB	Steinbach	1.29	2	ePg	Pg	01 09 44.5	+0.3
STB				eSg	Sg	01 10 01.0	-0.4
STB	Steinbach	1.29	2	Pg	Pg	01 09 44.5	+0.2
STB				Sg	Sg	01 10 01.0	-0.5
HAU	Haudompre	1.33	192	ePg	Pg	01 09 46.1	+1.0
HAU				eSg	Sg	01 10 03.4	+0.6
	15nm,0.2s						
KLL	Kalltalsperre	1.37	348	ePg	Pg	01 09 45.1	-0.8
KLL				eSg	Sg	01 10 03.6	-0.6
MEZF	Maizieres J'vi	1.39	235	ePn	Pn	01 09 45.9	+0.8
	baz=50						
MEZF				eSg	Sg	01 10 04.7	0.0
	6.5nm,0.3s						
MEM	Membach	1.39	340	P	Pb	01 09 46.1	+1.0
BFO	Black Forest	1.42	133	ePg	Pg	01 09 47.1	+0.1
	SNR=2.5						
BFO				eSg	Sg	01 10 04.7	-1.3
	SNR=7.3						
TNS	Taunus Mts	1.43	49	ePg	Pg	01 09 45.4	-1.6
	SNR=2.0						
TNS				eSg	Sg	01 10 04.8	-1.2
	SNR=2.3						
GIVF	Givet	1.49	303	ePn	Pn	01 09 47.7	+1.1
GIVF				eSg	Sg	01 10 07.6	-0.5
	7.0nm,0.2s						
HINF	Hinteralfeld	1.49	178	ePg	Pg	01 09 48.7	+0.4
HINF				eSg	Sg	01 10 08.5	+0.3
	15nm,0.2s						
HGN	Heimansgroeve	1.55	340	ePn	Pn	01 09 48.3	+0.8
	SNR=0.9						
HGN				ePg	Pg	01 09 49.8	+0.3
	SNR=2.7						
HGN				eSg	Sg	01 10 09.3	-0.9
	SNR=3.1						
SFTF	Sexfontaines	1.59	227	ePn	Pn	01 09 49.1	+1.1
	baz=42						
SFTF				eSg	Sg	01 10 11.4	+0.1
	6.7nm,0.3s						
DOU	Dourbes	1.61	300	P	Pn	01 09 49.5	+1.1
BAIF	Baives	1.82	295	ePn	Pn	01 09 51.7	+0.3
BAIF				ePg	Pg	01 09 54.3	-0.6
BAIF				eSn	Sn	01 10 13.0	-2.5
BAIF				eSg	Sg	01 10 18.3	-0.9
	4.2nm,0.3s						
CABF	La Chapelle	2.73	190	ePn	Pn	01 10 04.6	+0.2
CABF				eSg	Sg	01 10 47.4	-2.2
	1.8nm,0.4s						
SSF	Saint Saulge	3.13	225	ePn	Pn	01 10 09.6	-0.5
SSF				eSn	Sn	01 10 45.2	-3.5
SSF				eSg	Sg	01 10 59.4	-3.3
	1.0nm,0.4s						
SMF	Signal de Mont	3.31	217	ePn	Pn	01 10 11.6	-1.0
SMF				eSg	Sg	01 11 04.9	-3.7
	2.3nm,0.3s						
AVF	Avril sur Loir	3.40	224	ePn	Pn	01 10 13.0	-0.9
AVF				eSg	Sg	01 11 07.7	-4.1
	0.5nm,0.3s						
HYF	Humbligny	3.43	235	ePn	Pn	01 10 13.5	-0.8
BGF	Bois d'Agland	3.81	225	ePn	Pn	01 10 18.7	-1.0
BGF				eSn	Sn	01 11 01.9	-3.9
BGF				eSg	Sg	01 11 20.1	-5.2
	2.7nm,0.4s						

*PRU **15** 01:11:15.8, 50.27N×18.75E*
WAR 15 01:11:14.2, 50.26N×18.86E, h0km, ML2.5, 1C, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.60	94	ePG	Pg	01 11 26.0	-0.2
OJC				eSG	Sg	01 11 36.0	+1.8
OKC	Ostrava-Krasne	0.63	228	ePG	Pg	01 11 26.7	0.0
OKC				eSG	Sg	01 11 35.3	+0.3
MORC	Moravsky Berou	0.98	241	ePg	Pg	01 11 33.0	-0.8
NIE	Niedzica	1.26	131	ePG	Pg	01 11 37.0	-2.4
NIE				eSG	Sg	01 11 55.0	-1.2
DPC	Dobruska-Polom	1.63	274	ePG	Pg	01 11 43.6	-3.2
DPC				eSG	Sg	01 12 05.3	-3.2
KSP	Ksiaz	1.74	291	i PG	Pg	01 11 47.0	-1.9
KSP				eSG	Sg	01 12 10.0	-2.1
KSP	Ksiaz	1.74	291	ePg	Pg	01 11 47.0	-1.9
KSP				eSg	Sg	01 12 10.0	-2.2
VYHS	Vyhne	1.77	181	ePG	Pg	01 11 48.9	-0.6
VYHS				i SG	Sg	01 12 11.0	-2.1
UPC	Upice	1.84	279	ePG	Pg	01 11 48.7	-2.3
SMOL	Smolenice	1.98	209	eSG	Sg	01 12 18.2	-2.0
CRVS	Cervenica-Dubn	2.17	128	ePN	Pn	01 11 54.7	+2.7
CRVS				eSN	Sn	01 12 22.9	+3.0
ZST	Bratislava	2.37	210	eSG	Sg	01 12 30.7	-2.3
KOLS	Kolonicke sedl	2.59	120	ePG	Pg	01 12 05.6	-0.2
PRU	Pruhonice	2.79	266	eSG	Sg	01 12 40.6	-6.6
KHC	Kasperske Hory	3.61	254	ePG	Pg	01 12 21.4	-4.9
KHC				ex	x	01 12 52.5	
KHC				eSG	Sg	01 13 07.9	-6.6
CLL	Collm	3.86	288	eSG	Sg	01 13 20.0	-2.8
MOA	Molln	3.87	233	⇑iPG	Pg	01 12 27.3	-4.1
MOA				i SG	Sg	01 13 15.0	-8.0
	3.6nm,0.7s						

*TEH **15** 01:12:01.3, 37.08N×54.46E, h10km, Mn3.4*
*CSEM **15** 01:12:13.1±0.5, 36.29N×53.79E, h25km, ML3.5/1, Error ellipse: s-maj=11.7km s-min=4.7km az=28.0*
*THR **15** 01:12:14.9±0.4, 36.06N×53.77E, h14km±6km, ML2.6*
ISC 15 01:12:00.9±0.9**, 36.90N**±0.10×**54.60E**±0.07**, h10km, n21, σ1s02/21, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IGLO	Galoogah	1.06	237	Pg	Pg	01 12 15.6	-6.7
IANJ	Anjiloo	1.53	201	Pn	Pn	01 12 30.8	+2.3
IFIR	Firoozkooh	1.95	230	Pn	Pn	01 12 34.8	+0.3
IFIR	Firoozkooh	1.95	230	Lg		01 13 02.9	
IPRN	Paran-Amol	2.00	252	Pn	Pn	01 12 36.2	+0.9
ILAS	Lasjerd	2.01	222	Pn	Pn	01 12 36.8	+1.4
IDMV	Damavand	2.46	238	Pn	Pn	01 12 41.6	-0.2
DAMV	Damavand	2.47	240	ePG	Pn	01 12 42.9	+0.9
DAMV				eSG	Sn	01 13 03.7	-8.8
DAMV				AML	AML	01 13 29.7	
	comp=N,111nm,0.8s						
DAMV	Damavand	2.47	240	ePg	Pn	01 12 42.9	+0.9
	SNR=90						
DAMV				eSg	Sn	01 13 03.7	-8.8
	comp=N,111nm,0.8s,SNR=90						
IAFJ	Afjeh	2.55	247	Lg		01 13 19.9	
IAFJ	Afjeh	2.55	247	Pn	Pn	01 12 42.1	-1.0
ISFR	Esferayen	2.73	86	Pn	Pn	01 12 44.4	-1.3
IVRN	Varamin	3.00	232	Pn	Pn	01 12 48.8	-0.7
IVRN				Sn	Sn	01 13 24.4	-1.6
IMHD	Mahdasht	3.40	250	Lg		01 13 46.1	
IQOM	Qom	3.52	235	Pn	Pn	01 12 55.5	-1.4
IQOM	Qom	3.52	235	Lg		01 13 51.6	
IPAY	Payeh	3.57	96	Pn	Pn	01 12 57.6	+0.1
IMOG	Moghan	3.90	100	Pn	Pn	01 13 02.5	+0.2
IRAZ	Razeghan	4.06	250	Pn	Pn	01 13 12.8	+8.2
NASN	Na'in	4.35	200	ePN	Pn	01 13 09.1	+0.5
NASN				eSG	Sn	01 13 59.2	-0.7
ASAO	Ashtian	4.40	239	ePN	Pn	01 13 10.0	+0.7
ASAO				AML	AML	01 14 21.5	
	comp=N,10nm,0.6s						

*IDC **15** 01:12:22.5±1.3, 54.16S×52.09W, mb4.2/5, mb1 4.2/6, mb1mx3.9/14, mbtmp4.2/6, ML3.8/1, MS4.3/1, Ms1 4.2/1, ms1mx2.6/21, Error ellipse: s-maj=37.0km s-min=22.6km az=17.0*
*NEIC **15** 01:12:26.1±0.5, 53.55S×51.26W, h10km, mb4.8/8, Error ellipse: s-maj=16.9km s-min=10.1km az=67.0*
ISC 15 01:12:24.8±0.6**, 53.83S**±0.08×**52.1W**±0.1**, h10km, n38, σ1s58/29, mb4.6/11, MS4.3/1, 2C, South Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EFI	East Falkland	4.22	298	Pn	Pn	01 13 32.3	+1.6
	3µm,0.4s						
USHA	Ushuaia	9.60	257	Pn	P	01 14 41.5	-4.5
	0.9nm,0.3s,baz=74,slow=13,SNR=12						
USHA				Sn	Sn	01 16 32.1	-2.9
	11nm,0.3s,baz=178,slow=22,SNR=11						
PMSA	Palmer Station	12.53	204	P	P	01 15 30.7	+4.8
	50nm,1.1s						
TRQA	Tornquist	17.18	333	eP	P	01 16 26.5	+0.1
	12nm,0.6s						
TRQA				eS	S	01 19 17.4	-19
CFAA	Coronel Fontan	25.06	326	P	P	01 17 49.1	-1.5
	0.1nm,0.4s,baz=180,slow=7.1,SNR=3.1						
VNA3	Neumayer Olymp	25.36	149	e	P	01 18 00.5	+7.4
VNA3	Neumayer Olymp	25.36	149	e	Px	01 18 10.1	
VNA3	Neumayer Olymp	25.36	149	e	Px	01 18 15.3	
VNA3	Neumayer Olymp	25.36	149	P	P	01 17 52.4	-0.7
VNA3				e		01 18 00.5	
VNA3				e		01 18 10.1	
VNA3				e		01 18 15.3	
VNA3				e		01 18 45.1	
VNA1	Neumayer--Stat	25.60	148	e	P	01 18 02.8	+7.5
VNA1	Neumayer--Stat	25.60	148	e	Px	01 18 13.0	
VNA1	Neumayer--Stat	25.60	148	e	Px	01 18 18.7	
VNA1	Neumayer--Stat	25.60	148	⇑iP	P	01 17 55.0	-0.3
VNA1				e		01 18 02.8	
VNA1				e		01 18 13.0	
VNA1				e		01 18 18.7	
VNA1				e		01 18 47.4	
VNA2	Neumayer--Watz	25.96	148	e	P	01 18 05.6	+7.0
VNA2	Neumayer--Watz	25.96	148	e	Px	01 18 19.2	
VNA2	Neumayer--Watz	25.96	148	e	Px	01 18 24.1	
VNA2	Neumayer--Watz	25.96	148	P	P	01 17 58.1	-0.5
VNA2				e		01 18 05.6	
VNA2				e		01 18 19.2	
VNA2				e		01 18 24.1	
VNA2				e		01 18 49.2	
SNAA	Sanae	27.58	149	e	P	01 18 06.8	-6.6
SNAA	Sanae	27.58	149	e	P	01 18 20.6	+7.2
SNAA	Sanae	27.58	149	e	Px	01 18 25.3	
SNAA	Sanae	27.58	149	e	Px	01 18 46.4	
SNAA	Sanae	27.58	149	e	P	01 18 06.8	-6.6
SNAA				e		01 18 20.6	
SNAA				e		01 18 25.3	
SNAA				e		01 18 46.4	
LVC	Limon Verde	33.67	331	P	P	01 19 07.0	-0.9
	2.6nm,0.7s,mb4.2,baz=151,slow=8.4,SNR=3.9						
LVC	Limon Verde	33.67	331	P	P	01 19 07.0	-0.9
QSPA	South Pole Qui	36.42	180	⇑iP	P	01 19 33.9	+3.1
	15nm,0.8s,mb5.0						
BDFB	Brasilia	38.24	6	P	P	01 19 48.0	+1.4
	1.7nm,0.5s,mb4.1,baz=174,slow=11,SNR=3.7						
BDFB				LR	LR	01 34 24.8	
	comp=Z,424nm,18.5s,MS4.3,baz=177,slow=34						
LPAZ	La Paz	39.50	335	P	P	01 19 59.0	+1.8
	0.4nm,0.6s,mb3.4,baz=126,slow=7.4,SNR=3.3						
LPAZ	La Paz	39.50	335	eP	P	01 19 58.3	+1.1
	1.8nm,0.6s,mb4.0						
SBA	Scott Base	46.43	191	eP	P	01 20 55.0	+2.3
	10nm,0.9s,mb4.8						
SUR	Sutherland	54.79	98	eP	P	01 21 51.7	-5.1
	71nm,1.5s,mb5.5						
OTAV	Otavalo	58.14	328	eP	P	01 22 21.1	+0.1
	11nm,1.0s,mb4.8						
BOSA	Boshof	60.15	98	eP	P	01 22 29.1	-5.6
	9.9nm,0.9s,mb4.8						
LBTB	Lobatse	63.05	96	P	P	01 22 51.0	-3.3
	5.4nm,0.6s,mb4.9,baz=228,slow=7.2,SNR=21						
LSZ	Lusaka	72.10	91	eP	P	01 23 47.8	-3.4
	7.3nm,0.9s,mb4.6						
DBIC	Dimbokro	72.13	50	P	P	01 23 50.2	-1.3
	5.7nm,1.0s,mb4.4,baz=191,slow=8.9,SNR=3.0						
YKA	Yellowknife Ar	125.89	329	PKP	PKPdf	01 31 25.0	-3.9
	0.1nm,0.3s,baz=130,slow=2.5,SNR=3.8						
LSA	Lhasa	144.12	117	PKP	PKPdf	01 32 03.2	-0.2
KURK	Kurchatov	150.17	76	PKPbc	PKPdf	01 32 13.4	+0.7

IDC 15 01:15:57.0±12.0**, 30.46S×178.72W, h192km**±117km**, mb3.1/2, mb1 3.4/3, mb1mx3.3/13, mbtmp3.7/3, Error ellipse: s-maj=104.9km s-min=56.3km az=12.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	7.50	198	SN	S	01 19 10.0	+1.5
PUZ	Puketiti	8.00	197	SN	S	01 19 18.7	-1.5
MWZ	Matawai	8.45	201	eSN	S	01 19 30.3	-0.3
URZ	Urewera	8.51	203	P	P	01 17 57.0	-0.7
	0.2nm,0.3s,baz=178,slow=23,SNR=3.6						
URZ				S	S	01 19 32.4	+0.2
	4.3nm,0.3s,baz=182,slow=21,SNR=14						
KNZ	Kokohu	9.04	198	eSN	S	01 19 43.3	-1.2
BFZ	Birch Farm	10.99	201	eSN	S	01 20 26.2	-3.7
MRZ	Mangatainoka R	11.19	203	eSN	S	01 20 27.8	-6.7
KIW	Kapiti Island	11.60	205	eSN	S	01 20 37.9	-6.2
CAW	Cannon Point	11.76	204	eSN	S	01 20 42.8	-4.9
PAWZ	Paruwai Farm	11.88	202	eSN	S	01 20 45.2	-5.5
MSWZ	Moikau Station	11.97	202	eSN	S	01 20 46.7	-6.0
MRW	Makara Radio	12.00	205	eSN	S	01 20 49.4	-3.8
BHW	Baring Head	12.09	204	eSN	S	01 20 49.2	-6.3
NNZ	Nelson	12.50	209	SN	S	01 20 59.2	-5.6
THZ	Tophouse	13.15	209	SN	S	01 21 14.7	-5.0
KHZ	Kahutara	13.46	205	eSN	S	01 21 21.3	-5.4
LTZ	Lake Taylor	14.26	208	eSN	S	01 21 37.4	-7.4
MQZ	McQueen's Vall	14.90	205	SN	S	01 21 51.2	-8.0
ASAR	Alice Springs	42.49	267	P	P	01 23 33.5	-1.4
	0.2nm,0.5s,baz=107,slow=7.0,SNR=4.8						
WRA	Warramunga Arr	43.48	273	P	P	01 23 41.3	-1.7
	0.5nm,0.3s,baz=110,slow=8.0,SNR=27						
FINES	FINESS Array B	144.99	339	PKP	PKPdf	01 35 09.9	-0.5
	0.7nm,0.7s,baz=45,slow=3.9,SNR=4.7						

IDC 15 01:38:37.0±5.7**, 14.66S**×**167.65E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.9**/14**, mbtmp4.0**/4**, Error ellipse: s-maj=151.6km s-min=45.3km az=118.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.32**	**230**	P	P	01 44 41.9	-1.8
	1.8nm,0.5s,baz=50,slow=9.2,SNR=4.9						
WRA	**Warramunga Arr**	**32.20**	**256**	P	P	01 45 06.9	-2.3
	0.4nm,0.5s,baz=81,slow=7.0,SNR=6.1						
ASAR	**Alice Springs**	**33.04**	**249**	P	P	01 45 14.3	-2.2
	2.9nm,0.7s,baz=80,slow=9.0,SNR=27						
SONM	**Songino Array**	**82.66**	**323**	P	P	01 51 02.6	-1.1
	0.4nm,0.9s,baz=135,slow=6.1,SNR=3.7						

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*BJI **15** 01:48:43.2, 14.53S×168.16E, h10km, mB5.1, mb4.8, Ms4.8, Msz4.5*
*NEIC **15** 01:48:44.2±0.3, 14.73S×168.05E, h10km, mb4.9/11, Error ellipse: s-maj=10.6km s-min=8.2km az=135.0*
*HRVD **15** 01:48:44.2±0.6, 14.76S×167.98E, h12km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s4,c4; Mantle waves: s37,c45; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.52±.19; $M_{\theta\theta}$0.49±.21; $M_{\phi\phi}$-2.01±.12; $M_{r\theta}$0.20±.97; $M_{\theta\phi}$0.62±.15; $M_{\phi r}$2.44±.50; Best double couple: $M_0$3.086×10^{16} NP1:ϕ_s143°, δ22°, λ53°. NP2:ϕ_s3°, δ73°, λ104°. Principal axes: T 2.859, Plg60°, Azm293°; N .456, Plg13°, Azm179°; P -3.314, Plg26°, Azm82°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*LDG **15** 01:48:45.3±0.2, 14.96S×167.33E, h10km, Mb5.0/3 Error ellipse: s-maj=26.0km s-min=5.9km az=90.0*
*IDC **15** 01:48:53.6±7.7, 14.73S×167.88E, h81km±69km, mb4.2/13, mb1 4.4/13, mb1mx4.3/17, mbtmp4.5/13, MS4.3/3, Ms1 4.3/3, ms1mx3.9/16, Error ellipse: s-maj=28.5km s-min=23.5km az=19.0*
ISC 15 01:48:43.0±0.5**, 14.85S**±0.06×**167.90E**±0.07**, h10**km**, n80, σ1s21**/42**, mb4.7**/25**, MS4.3**/4**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.32**	**191**	*e*P	**Pn**	**01 50 31.7**	**-0.9**
DZM				*e*S	**Sn**	**01 51 53.4**	**-3.1**
DZM	**Mont Dzumac**	**7.32**	**191**	*e*P	**Pn**	**01 50 31.7**	**-0.9**
DZM				*e*S	**Sn**	**01 51 53.4**	**-3.2**
HNR	**Honiara**	**9.46**	**304**	*e*P	**P**	**01 51 02.0**	**-0.4**
HNR				*e*S	**Sn**	**01 52 47.9**	**-1.9**
PMG	**Port Moresby**	**20.98**	**283**	P	**P**	**01 53 30.6**	**+1.6**
	29nm,1.0s,baz=123,slow=3.5,SNR=10						
PMG				LR	LR	02 00 25.1	
	comp=Z,889nm,18.3s,MS4.2,baz=327,slow=33						
PMG	**Port Moresby**	**20.98**	**283**	*e*P	**P**	**01 53 30.5**	**+1.5**
	48nm,1.1s						
CTA	**Charters Tower**	**21.29**	**253**	*e*P	**P**	**01 53 34.4**	**+2.3**
	10nm,0.8s,mb4.2						
CTA	**Charters Tower**	**21.29**	**253**	P	**P**	**01 53 34.6**	**+2.5**
	12nm,0.7s,mb4.3,baz=69,slow=11,SNR=10						
CTA				LR	LR	02 00 51.4	
	comp=Z,598nm,18.4s,MS4.0,baz=258,slow=34						
CTAO	**Charters Tower**	**21.29**	**253**	*e*P	**P**	**01 53 34.3**	**+2.2**
	16nm,0.8s,mb4.4						
ARMA	**Armidale**	**21.54**	**221**	*e*P	**P**	**01 53 38.0**	**+3.4**
URZ	**Urewera**	**24.70**	**162**	P	**P**	**01 54 08.8**	**+3.3**
	9.5nm,0.8s,mb4.4,baz=19,slow=1.0,SNR=3.7						
STKA	**Stephens Creek**	**29.39**	**230**	P	**P**	**01 54 50.2**	**+1.5**
	13nm,0.5s,mb4.9,baz=54,slow=7.7,SNR=54						
STKA	**Stephens Creek**	**29.39**	**230**	*e*P	**P**	**01 54 49.6**	**+0.9**
WB2	**Warramunga Arr**	**32.38**	**256**	*e*P	**P**	**01 55 14.6**	**-0.6**
WRAB	**Tennant Creek**	**32.38**	**256**	*e*P	**P**	**01 55 14.3**	**-0.9**
	14nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**32.39**	**256**	P	**P**	**01 55 14.4**	**-0.8**
	8.1nm,1.2s,mb4.4,baz=77,slow=5.6,SNR=37						
ASAR	**Alice Springs**	**33.20**	**249**	P	**P**	**01 55 22.0**	**-0.3**
	18nm,0.8s,mb5.1,baz=80,slow=9.0,SNR=96						
ASAR				PcP	PcP	01 58 04.2	-1.0
	1.6nm,0.8s,baz=84,slow=2.5,SNR=6.7						
ASPA	**Alice Springs**	**33.21**	**249**	*e*P	**P**	**01 55 21.8**	**-0.6**
PPT	**Papeete**	**40.86**	**100**	*e*LR	LR	02 07 52.4	
	517nm,29.8s						
TBI	**Tubuai**	**41.04**	**109**	*e*LR	LR	02 07 57.7	
	346nm,25.8s						
MBWA	**Marble Bar**	**46.11**	**255**	*e*P	**P**	**01 57 10.2**	**+0.7**
	43nm,1.2s,mb5.3						
RKT	**Rikitea**	**54.36**	**108**	*e*LR	LR	02 14 09.5	
	286nm,31.8s						
VNDA	**Vanda**	**62.76**	**181**	*e*P	**P**	**01 59 09.1**	**-1.3**
	1.7nm,0.8s,mb4.2						
NJ2	**Nanjing**	**66.19**	**315**	*e*P	**P**	**01 59 34.6**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
MDJ	**Mudanjiang**	**68.67**	**332**	P	**P**	**01 59 48.4**	**-0.4**
MDJ				AP	pP	01 59 59.9	+8.0
MDJ				PCP	PcP	02 00 13.0	-0.7
MDJ				S	S	02 08 50.4	+0.2
MDJ				XS		02 09 05.8	
MDJ				SCS	ScS	02 09 45.3	+0.1
MDJ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,181nm,7.1s						
MDJ				LR	LR		
	comp=N,69nm,27.4s						
MDJ				LR	LR		
	comp=E,133nm,21.8s						
MDJ				LR	LR		
	comp=Z,247nm,21.8s						
CN2	**Changchun**	**70.06**	**329**	*e*P	**P**	**01 59 57.0**	**-0.3**
CN2				*e*S	S	02 09 02.8	-3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
CN2				AMB	AMB		
	comp=Z,400nm,6.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,15.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.5						
ENH	**Enshi**	**71.92**	**309**	*e*P	**P**	**02 00 08.1**	**-0.6**
	comp=Z,9.8nm,0.7s,mb4.8						
KMI	**Kunming**	**74.89**	**302**	P	**P**	**02 00 26.1**	**-0.2**
KMI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
KMI	**Kunming**	**74.89**	**302**	P	**P**	**02 00 26.1**	**-0.2**
	comp=Z,17nm,1.0s,mb4.9						
CMAR	**Chiang Mai Arr**	**75.56**	**294**	P	**P**	**02 00 30.9**	**+0.8**
	comp=Z,3.5nm,0.8s,mb4.3,baz=117,slow=4.1,SNR=16						
HHC	**Hu-ho-hao-te**	**76.07**	**319**	*e*P	**P**	**02 00 34.8**	**+2.1**
HHC				AP	pP	02 00 43.1	+7.3
HHC				PP	PP	02 03 27.5	+2.2
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb5.2						
HIA	**Hailar**	**76.69**	**330**	P	**P**	**02 00 36.0**	**0.0**
ULN	**Ulaanbaatar**	**82.59**	**324**	*e*P	**P**	**02 01 07.7**	**0.0**
	comp=Z,15nm,1.0s,mb5.0						
SONM	**Songino Array**	**82.96**	**323**	P	**P**	**02 01 09.7**	**+0.1**
	comp=Z,5.3nm,1.1s,mb4.5,baz=135,slow=3.5,SNR=28						
GTA	**Gaotai**	**83.19**	**314**	*e*P	**P**	**02 01 12.8**	**+1.8**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
MCK	**McKinley**	**85.08**	**18**	*e*P	**P**	**02 01 18.2**	**-1.7**
	comp=Z,6.2nm,1.2s,mb4.6						
LSA	**Lhasa**	**86.14**	**302**	P	**P**	**02 01 27.6**	**+1.6**
	comp=Z,5.8nm,0.5s,mb5.1						
ILAR	**Eielson Array**	**86.45**	**18**	P	**P**	**02 01 25.2**	**-1.5**
	comp=Z,1.7nm,0.6s,mb4.5,baz=239,slow=5.2,SNR=32						
NVAR	**Mina Array Bea**	**86.88**	**49**	P	**P**	**02 01 30.6**	**+1.1**
	comp=Z,1.5nm,0.7s,mb4.3,baz=237,slow=10,SNR=11						
NVAR				LR	LR	02 32 01.1	
	comp=Z,184nm,19.7s,MS4.5,baz=270,slow=30						
TXAR	**Lajitas Array**	**95.79**	**61**	P	**P**	**02 02 10.7**	**-0.5**
	comp=Z,0.3nm,0.7s,mb3.8,baz=202,slow=6.7,SNR=4.2						
YKA	**Yellowknife Ar**	**97.37**	**27**	P	**P**	**02 02 16.0**	**-1.5**
	comp=Z,1.1nm,0.8s,mb4.3,baz=255,slow=4.6,SNR=17						
YKA	**Yellowknife Ar**	**97.37**	**27**	P	**P**	**02 02 16.0**	**-1.5**
ZAL	**Zalesovo**	**97.86**	**324**	P	**P**	**02 02 19.7**	**-0.2**
	comp=Z,0.9nm,0.8s,mb4.4,baz=13,slow=6.5,SNR=6.9						
ARCES	**ARCESS Array B**	**120.52**	**346**	PKP	PKPdf	02 07 34.5	-3.1
	comp=Z,1.1nm,0.6s,baz=63,slow=2.7,SNR=8.0						
GERES	**GERESS Array B**	**140.03**	**333**	PKP	PKPdf	02 08 11.5	-3.4
	comp=Z,0.8nm,0.8s,slow=1.3,SNR=6.0						
CII	**Carovilli**	**144.81**	**325**	*e*PKPdf	PKPdf	02 08 21.3	-2.1
FLN	**La Foliniere**	**144.86**	**347**	*e*PKP1	PKPbc	02 08 19.9	-0.4
	comp=Z,15nm,0.7s						
CABF	**La Chapelle**	**144.87**	**338**	*e*PKP1	PKPbc	02 08 21.2	+0.8
	comp=Z,18nm,1.0s						
AQU	**L'Aquila**	**144.88**	**326**	*e*PKPdf	PKPdf	02 08 21.2	-2.4
LDF	**La Druitiere**	**144.93**	**346**	*e*PKP1	PKPbc	02 08 20.3	-0.3
	comp=Z,8.4nm,0.9s						
TIP	**Timpagrande**	**144.94**	**319**	*e*PKPdf	PKPdf	02 08 21.9	-1.9
GRR	**Gorron**	**145.29**	**347**	*e*PKP1	PKPbc	02 08 21.8	+0.3
	comp=Z,26nm,0.9s						
SSF	**Saint Saulge**	**145.35**	**341**	*e*PKP1	PKPbc	02 08 22.5	+0.8
	comp=Z,33nm,0.8s						
HYF	**Humbligny**	**145.43**	**342**	*e*PKP1	PKPbc	02 08 22.9	+1.0
LPL	**La Plagne**	**145.55**	**336**	*e*PKP1	PKPbc	02 08 23.7	+1.5
	comp=Z,22nm,0.9s						
LPG	**La Plagne**	**145.56**	**336**	*e*PKP1	PKPbc	02 08 23.8	+1.5
	comp=Z,22nm,0.9s						
SMF	**Signal de Mont**	**145.61**	**340**	*e*PKP1	PKPbc	02 08 23.1	+0.8
	comp=Z,46nm,1.3s						
AVF	**Avril sur Loir**	**145.64**	**341**	*e*PKP1	PKPbc	02 08 23.1	+0.7
	comp=Z,17nm,0.9s						
SGMF	**Saint Gilles**	**145.77**	**349**	*e*PKP1	PKPbc	02 08 23.3	+0.6
	comp=Z,70nm,1.1s						
ROSF	**Rostrenen**	**145.82**	**350**	*e*PKP1	PKPbc	02 08 23.5	+0.7
	comp=Z,48nm,1.1s						
BNI	**Bardonecchia**	**145.96**	**336**	*e*PKPdf	PKPdf	02 08 24.2	-1.1
BGF	**Bois d'Agland**	**146.00**	**341**	*e*PKP1	PKPbc	02 08 24.4	+1.1
	comp=Z,12nm,0.7s						
MBDF	**Montbardon**	**146.19**	**336**	*e*PKP1	PKPbc	02 08 25.1	+1.3
	comp=Z,39nm,1.3s						
QUIF	**Quistinic**	**146.21**	**349**	*e*PKP1	PKPbc	02 08 24.5	+0.8
ORIF	**Oris-en-Rattie**	**146.38**	**337**	*e*PKP1	PKPbc	02 08 26.0	+1.8
	comp=Z,19nm,0.8s						
TCF	**Toulx Ste Croi**	**146.44**	**342**	*e*PKP1	PKPbc	02 08 25.7	+1.4
	comp=Z,17nm,0.9s						
SBF	**Sospel**	**146.62**	**334**	*e*PKP1	PKPbc	02 08 26.1	+1.3
	comp=Z,43nm,0.8s						
MFF	**Saint Martin d**	**146.80**	**345**	*e*PKP1	PKPbc	02 08 26.6	+1.4
	comp=Z,10nm,0.7s						
VIVF	**Saint-Julien-l**	**146.88**	**338**	*e*PKP1	PKPbc	02 08 27.3	+1.9
PGF	**Pioggiola**	**146.96**	**331**	*e*PKP1	PKPbc	02 08 27.4	+1.7
	comp=Z,52nm,0.9s						
FRF	**La Foret Royal**	**147.20**	**334**	*e*PKP1	PKPdf	02 08 27.8	+0.3
	comp=Z,42nm,1.1s						
SMRF	**Simiane la Rot**	**147.29**	**336**	*e*PKP1	PKPdf	02 08 28.7	+1.1
	comp=Z,48nm,1.2s						
LMR	**La Mourre**	**147.44**	**334**	*e*PKP1	PKPdf	02 08 28.6	+0.7
	comp=Z,58nm,1.2s						
RJF	**Les Rejaudoux**	**147.53**	**342**	*e*PKP1	PKPdf	02 08 28.9	+1.0
	comp=Z,14nm,0.8s						
CAF	**Calviac**	**147.71**	**341**	*e*PKP1	PKPdf	02 08 29.7	+1.5
	comp=Z,8.1nm,0.8s						
LASF	**Ste Croix**	**147.85**	**338**	*e*PKP1	PKPdf	02 08 30.1	+1.6
	comp=Z,26nm,1.1s						
LFF	**La Frestale**	**148.09**	**343**	*e*PKP1	PKPdf	02 08 30.5	+1.7
	comp=Z,16nm,0.7s						
MTLF	**Montolieu**	**149.07**	**339**	*e*PKP1	PKPdf	02 08 33.2	+2.7
	comp=Z,29nm,1.0s						
EPF	**Esparros**	**149.95**	**342**	*e*PKP1	PKPdf	02 08 35.1	+3.2
	comp=Z,10nm,1.0s						
SJPF	**Ste Jean**	**150.33**	**344**	*e*PKP1	PKPdf	02 08 36.1	+3.6
ETSF	**Etsaut**	**150.34**	**343**	*e*PKP1	PKPdf	02 08 36.8	+4.3
	comp=Z,15nm,1.0s						

DJA 15 01:51:54.8±0.9**, 9.51S**×**114.20E, h33**km**, MD5.5**/3**, ML3.6**/3**, 4C-3D, Error ellipse: s-maj=23.0km s-min=10.5km az=35.0, South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.02**	**357**	⇑*i*Pn	Pn	01 52 11.6	-1.4
	80nm,0.2s						
SRDI				⇑*i*Sn	Sn	01 52 23.3	-3.0
KELI	**Kelakatan**	**1.31**	**13**	⇓*i*Pn	Pn	01 52 16.0	-1.1
	27nm,0.2s						
KELI				⇓*i*Sn	Sn	01 52 31.9	-1.7
RATI	**Rata**	**1.52**	**59**	⇑*i*Pn	Pn	01 52 19.3	-0.9
	126nm,0.2s						
RATI	**Rata**	**1.52**	**59**	⇓*i*P	P	01 52 19.5	-0.5
RATI				⇑*i*Sn	Sn	01 52 35.8	-3.2

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*IDC **15** 01:53:59.5±1.1, 10.54S×74.72W, mb3.9/5, mb1 4.2/7, mb1mx3.8/18, mbtmp3.8/7, ML3.5/2, Error ellipse: s-maj=58.5km s-min=22.2km az=66.0*
*NEIC **15** 01:54:04.2±1.0, 10.59S×74.36W, h39km±11km, mb4.2/4, Error ellipse: s-maj=14.7km s-min=8.7km az=67.0*
ISC 15 01:54:04.0±1.7**, 10.50S**±0.08×**74.4W**±0.1**, h52**km±17km**, n17, σ0s68**/18**, mb4.0**/9**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.82**	**238**	*e*Pn	**P**	**01 54 46.5**	**-1.1**
NNA				*e*Sg	**S**	**01 55 21.4**	**+0.8**
LPAZ	**La Paz**	**8.38**	**134**	Pn	**P**	**01 56 06.8**	**+1.3**
	0.1nm,0.3s,baz=305,slow=8.9,SNR=3.9						
LPAZ				Lg		01 58 26.1	
	1.3nm,0.3s,baz=150,slow=20,SNR=5.2						
LPAZ	**La Paz**	**8.38**	**134**	*e*Pn	**P**	**01 56 01.4**	**-4.1**
LPAZ				Lg		01 58 26.1	
OTAV	**Otavalo**	**11.40**	**339**	*e*P	**P**	**01 56 46.9**	**0.0**
SDV	**Santo Domingo**	**19.62**	**11**	P	**P**	**01 58 31.8**	**+0.7**
	0.6nm,0.3s,baz=172,slow=13,SNR=3.7						
SDV	**Santo Domingo**	**19.62**	**11**	*e*P	**P**	**01 58 31.7**	**+0.6**
	6.4nm,0.6s						
CFAA	**Coronel Fontan**	**21.76**	**166**	P	**P**	**01 58 53.2**	**+0.2**
	0.3nm,0.5s,mb3.0,baz=20,slow=6.7,SNR=6.2						
CFAA	**Coronel Fontan**	**21.76**	**166**	P	**P**	**01 58 53.2**	**+0.1**
TXAR	**Lajitas Array**	**48.63**	**325**	P	**P**	**02 02 45.5**	**+0.5**
	0.7nm,0.5s,mb4.0,baz=148,slow=9.0,SNR=9.0						
ISCO	**Idaho Springs**	**57.82**	**332**	P	**P**	**02 03 52.3**	**-0.4**
	1.6nm,0.9s,mb4.0						
MSU	**Marysvale**	**60.16**	**326**	*e*P	**P**	**02 04 09.4**	**+0.5**
PDAR	**Pinedale Array**	**61.99**	**331**	P	**P**	**02 04 20.9**	**-0.4**
	0.6nm,0.4s,mb4.0,baz=122,slow=9.1,SNR=8.3						
ULM	**Lac du Bonnet**	**63.34**	**345**	P	**P**	**02 04 29.1**	**-1.0**
	2.3nm,0.5s,mb4.6,baz=151,slow=6.0,SNR=7.2						
NVAR	**Mina Array Bea**	**63.61**	**323**	P	**P**	**02 04 32.0**	**-0.1**
	0.2nm,0.4s,mb3.5,baz=141,slow=6.9,SNR=3.8						
HLID	**Hailey**	**64.96**	**329**	*e*P	**P**	**02 04 41.1**	**+0.3**
	3.2nm,1.2s,mb4.2						
SNAA	**Sanae**	**74.33**	**162**	*e*P	**P**	**02 05 37.1**	**-0.3**
	4.8nm,0.5s,mb4.7						
YKA	**Yellowknife Ar**	**79.14**	**342**	P	**P**	**02 06 04.8**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=141,slow=5.7,SNR=15						

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*IDC **15** 02:00:24.8±1.5, 33.18N×70.64E, mb3.7/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.7/5, Error ellipse: s-maj=48.4km s-min=26.3km az=60.0*
*NEIC **15** 02:00:26.4±0.8, 33.22N×70.64E, h10km, mb3.9/2, Error ellipse: s-maj=23.9km s-min=11.9km az=77.0*
ISC 15 02:00:27.0±1.3**, 33.38N**±0.07×**70.65E**±0.08**, h21**km±11km**, n23, σ1s27**/26**, mb3.6**/6**, 2C-3D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBDP	**Sheikh Budin**	**1.08**	**173**	⇓P	**Pb**	**02 00 48.2**	**+1.3**
THW	**Thamme Wali**	**1.08**	**122**	⇑P	**Pb**	**02 00 45.7**	**-1.3**
CEP	**Cherat**	**1.14**	**67**	⇓P	**Pn**	**02 00 47.7**	**-0.2**
CHCP	**Chirah Chowk**	**2.20**	**82**	⇑P	**Pn**	**02 01 05.8**	**+2.7**
SARP	**Sargodha**	**2.24**	**130**	⇓P	**Pn**	**02 01 03.3**	**-0.3**
THN	**Thein Dam**	**4.36**	**101**	*e*PN	**Pn**	**02 01 31.7**	**-2.2**
	72nm,0.2s						
THN				*e*SN	**Sn**	**02 02 23.4**	**-1.3**
PONG	**Pong**	**4.69**	**106**	*e*P	**Pn**	**02 01 39.0**	**+0.5**
PONG				*e*S	**Sn**	**02 02 34.0**	**+1.1**
SDNR	**Sundarnagar**	**5.66**	**108**	*e*P	**Pn**	**02 01 52.5**	**+0.3**
SDNR				*e*SB	Sb	02 03 25.7	+13
SMLA	**Simla**	**5.96**	**110**	*i* P	**Pn**	**02 01 59.4**	**+3.0**
SMLA				*i* SB	Sb	02 03 35.9	+14
DDI	**Dehra Dun**	**7.00**	**114**	*e*S	**Sn**	**02 03 32.5**	**+1.8**
AAK	**Ala-Archa**	**9.72**	**17**	*e*P	**P**	**02 02 48.5**	**-0.4**
KOLN	**Koldanda**	**12.47**	**113**	*e*P	**P**	**02 03 25.0**	**-1.3**
	3.0nm,0.3s						
KOLN				*e*S	**S**	**02 05 36.1**	**-10**
GKN	**Gorkha**	**13.17**	**110**	*e*P	**P**	**02 03 31.5**	**-4.1**
	4.8nm,0.3s						
PKI	**Pulchoki**	**13.97**	**111**	*e*P	**P**	**02 03 42.9**	**-3.3**
JIRN	**Jiri**	**14.55**	**109**	*e*P	**P**	**02 03 49.2**	**-4.5**
	11nm,0.3s						
CHKZ	**Chkalovo**	**20.29**	**360**	*e*P	**P**	**02 05 03.1**	**-1.0**
	2.4nm,0.6s						
ZAL	**Zalesovo**	**22.88**	**22**	P	**P**	**02 05 31.6**	**+1.5**
	0.8nm,0.3s,mb3.6,baz=248,slow=9.4,SNR=2.8						
SONM	**Songino Array**	**30.43**	**51**	P	**P**	**02 06 40.6**	**+0.4**
	0.2nm,0.5s,mb3.1,baz=251,slow=9.1,SNR=4.4						
FINES	**FINESS Array B**	**39.95**	**328**	P	**P**	**02 08 02.3**	**+1.0**
	0.4nm,0.4s,mb3.5,baz=117,slow=9.3,SNR=7.5						
WRA	**Warramunga Arr**	**80.60**	**121**	P	**P**	**02 12 39.1**	**-0.8**
	0.6nm,0.5s,mb3.8,baz=323,slow=4.9,SNR=11						
WRAB	**Tennant Creek**	**80.60**	**121**	P	**P**	**02 12 38.8**	**-1.2**
	1.3nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**82.72**	**124**	P	**P**	**02 12 50.2**	**-0.7**
	331nm,0.6s,baz=317,slow=5.2,SNR=1.0						
YKA	**Yellowknife Ar**	**84.37**	**2**	P	**P**	**02 12 58.9**	**+0.5**
	0.5nm,0.5s,mb3.9,baz=351,slow=5.2,SNR=24						

GUC 15 02:01:25.2±0.7**, 33.42S**×**69.58W, h2**km±2km**, MD3.6, ML2.3, 1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.60**	**278**	⇓*i*P	Pg	02 01 37.7	+0.5
FCH				*i* S	Sg	02 01 47.6	+2.4
FCH				AMP		02 01 48.2	
	comp=N,391nm,0.2s						
LMEL	**Las Melosas**	**0.68**	**230**	*e*P	Pg	02 01 38.9	+0.2
LMEL				*i* S	Sg	02 01 49.9	+2.2
LMEL				*i* S	Sg	02 01 50.0	+2.3
LMEL				AMP		02 01 51.0	
	comp=N,468nm,0.1s						
CLCH	**Cerro Calan**	**0.80**	**271**	*e*P	Pg	02 01 41.3	+0.1
CLCH				*i* S	Sg	02 01 53.5	+1.6
CLCH				AMP		02 01 57.6	
	comp=E,162nm,0.4s						
RCDM	**Rinconada Maip**	**1.03**	**266**	*e*P	Pb	02 01 45.2	-0.2
RCDM				AMP		02 02 02.2	
	comp=E,125nm,0.1s						
CHCH	**Chadas Angostu**	**1.03**	**240**	*e*P	Pb	02 01 44.9	-0.6
CHCH				*i* S	Sb	02 02 00.1	+0.7
TACH	**Talagante**	**1.16**	**258**	*e*P	Pb	02 01 47.3	-0.4
PACH	**Papudo**	**1.79**	**299**	*e*P	Pn	02 01 57.4	0.0

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*BJI **15** 02:07:04.8, 17.10N×73.70E, h10km, mB4.3, mb4.5, Ms4.4, Msz4.2*
*IDC **15** 02:07:05.0±1.5, 17.00N×73.48E, mb3.9/8, mb1 4.1/8, mb1mx3.9/15, mbtmp3.9/8, Error ellipse: s-maj=43.6km s-min=22.3km az=37.0*
*NEIC **15** 02:07:06.8±1.0, 17.07N×73.67E, h10km, mb4.3/6, ML4.3(MERI), Error ellipse: s-maj=25.1km s-min=12.7km az=214.0*
NEIC Some damage at Dhebewadi. Felt at Chiplun, Kolhapur, Mahabaleshwar, Miraj, Phaltan, Pune, Sangli, Satara and Wai.
*NDI **15** 02:07:09.6±3.6, 17.29N×73.89E, h15km±10km, ML4.3, mb4.3(NEIC)*
ISC 15 02:07:09.2±0.8**, 17.23N**±0.05×**73.99E**±0.05**, h31**km±5km**, n42, σ1s33**/58**, mb4.1**/16**, MS4.2**/2**, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAD	**Karad**	**0.20**	**68**	*e*P	**Pb**	**02 07 15.3**	**-0.2**
KAD				*e*S	**Sb**	**02 07 20.3**	**+0.5**
KAD				*e*S	**Sb**	**02 07 20.5**	**+0.8**
KAD				*e*		02 07 25.7	
	comp=N,7μm,0.5s						
KAD				*e*		02 07 26.4	
	comp=E,5μm,0.4s						
POO	**Poona**	**1.30**	**354**	*e*P	**Pn**	**02 07 32.1**	**+0.5**
POO				*e*S	**Sn**	**02 07 49.0**	**+1.1**
POO				*e*		02 07 51.6	
	comp=E,5μm,0.2s						
POO				*e*		02 07 51.6	
	comp=N,6μm,0.2s						
GOA	**Goa**	**1.74**	**185**	*i* P	**Pn**	**02 07 32.9**	**-5.0**
GOA				*e*S	**Sn**	**02 07 54.8**	**-4.4**
BOM	**Bombay**	**2.00**	**326**	*e*P	**Pn**	**02 07 42.3**	**+0.7**
BOM				*e*S	**Sn**	**02 08 05.3**	**-0.5**
LATR	**Latur**	**2.71**	**64**	*e*P	**Pn**	**02 07 54.1**	**+2.3**
LATR				*e*		02 08 36.3	
MNGI	**Mangalore**	**4.34**	**169**	*e*P	**Pn**	**02 08 15.0**	**+0.1**
MNGI				*e*		02 09 19.4	
	comp=N,1μm,0.4s						
HYB	**Hyderabad**	**4.36**	**87**	*e*Pn	**Pn**	**02 08 15.5**	**+0.3**
HYB				*e*Sn	**Sn**	**02 09 05.0**	**-0.6**
HYB				*e*Sg	Sn	02 09 27.0	+21
HYB	**Hyderabad**	**4.36**	**87**	*i* Pn	**Pn**	**02 08 15.5**	**+0.3**
HYB				*e*Pg	**Pn**	**02 08 28.0**	**+13**
HYB				*e*Sn	**Sn**	**02 09 05.0**	**-0.6**
HYB				*e*Sg	Sn	02 09 27.0	+21
BHV	**Bhavnagar**	**4.82**	**339**	*e*	**Pn**	**02 08 30.0**	**+8.3**
BHV				*e*		02 09 31.5	
NGP	**Nagpur**	**6.17**	**50**	*e*P	**Pn**	**02 08 41.3**	**+0.6**
NGP				*e*		02 09 50.2	
BHPL	**Bhopal**	**6.79**	**28**	*e*P	**Pn**	**02 08 49.5**	**0.0**
BHPL				*e*S	**Sn**	**02 09 59.4**	**-7.1**
BHPL				*e*		02 10 47.9	
	comp=N,302nm,0.4s						
BHPL				*e*		02 10 48.2	
	comp=E,423nm,0.6s						
VIS	**Vishakhapatnam**	**8.92**	**85**	*e*P	**P**	**02 09 18.0**	**-1.2**
VIS				*e*S	**Sn**	**02 10 52.9**	**-6.8**
VIS				*e*		02 11 48.8	
	comp=N,602nm,0.9s						
VIS				*e*		02 11 51.5	
	comp=E,208nm,0.8s						
BLSP	**Bilaspur**	**9.08**	**56**	*e*P	**P**	**02 09 20.1**	**-1.2**
BLSP				*e*S	**Sn**	**02 10 56.1**	**-7.6**
BLSP				*e*		02 12 10.2	
	comp=E,404nm,0.7s						
BLSP				*e*		02 12 10.3	
	comp=N,601nm,0.8s						
AJM	**Ajmer**	**9.22**	**4**	*e*	**Sn**	**02 11 02.0**	**-5.1**
JHNI	**Jhansi**	**9.22**	**27**	*e*	**Sn**	**02 11 01.0**	**-6.1**
NDI	**New Delhi**	**11.78**	**14**	*e*P	**P**	**02 09 56.0**	**-2.3**
NDI				*e*		02 12 02.0	
BOK	**Bokaro**	**12.91**	**58**	*i*	**S**	**02 12 37.2**	**+0.2**
PTH	**Pithoragarh**	**13.52**	**24**	*e*S	**S**	**02 12 51.0**	**-0.7**
DDI	**Dehra Dun**	**13.55**	**15**	*e*	**S**	**02 13 04.0**	**+12**
KOLN	**Koldanda**	**13.73**	**39**	*e*P	**P**	**02 10 20.4**	**-4.0**
	comp=N,16nm,0.3s						
KOLN				*e*S	**S**	**02 12 47.6**	**-9.1**
SDNR	**Sundarnagar**	**14.46**	**10**	*e*	**S**	**02 13 07.1**	**-6.8**
GKN	**Gorkha**	**14.53**	**41**	*e*P	**P**	**02 10 31.6**	**-3.2**
	comp=N,17nm,0.3s						
GKN				*e*S	**S**	**02 13 07.2**	**-8.5**
PKI	**Pulchoki**	**14.73**	**44**	*e*P	**P**	**02 10 34.0**	**-3.4**
	comp=N,10nm,0.4s						
KKN	**Kakani**	**14.79**	**43**	*e*P	**P**	**02 10 35.1**	**-3.2**
JIRN	**Jiri**	**15.31**	**45**	*e*P	**P**	**02 10 41.8**	**-3.2**
	comp=N,7.6nm,0.3s						
JIRN				*e*S	**S**	**02 13 27.3**	**-6.8**
LSA	**Lhasa**	**20.01**	**49**	*e*P	**P**	**02 11 49.5**	**+7.1**
	comp=N,13nm,0.7s						
CMAR	**Chiang Mai Arr**	**23.78**	**83**	P	**P**	**02 12 24.6**	**+4.3**
	comp=N,1.1nm,0.5s,mb3.6,baz=277,slow=10,SNR=8.4						
AAK	**Ala-Archa**	**25.32**	**1**	*e*P	**P**	**02 12 36.2**	**+1.3**
	comp=N,7.9nm,1.1s,mb4.2						
WMQ	**Urumqi**	**28.93**	**21**	*e*P	**P**	**02 13 09.0**	**+1.2**
WMQ				XP	sP	02 13 16.0	-4.9
WMQ				PP	PP	02 14 03.0	+1.3
WMQ				*e*S	**S**	**02 17 59.0**	**+3.9**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,121nm,6.7s						
WMQ				LR	LR		
	comp=N,408nm,17.5s,MS4.2						
WMQ				LR	LR		
	comp=E,375nm,18.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,340nm,19.1s,MS4.0						
KURK	**Kurchatov**	**33.61**	**5**	*e*P	**P**	**02 13 47.8**	**-1.2**
	comp=Z,5.2nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**36.46**	**357**	P	**P**	**02 14 13.2**	**0.0**
	comp=Z,1.9nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**37.58**	**10**	P	**P**	**02 14 23.1**	**+0.5**
	comp=Z,0.8nm,0.5s,mb3.7,baz=273,slow=14,SNR=4.5						
HHC	**Hu-ho-hao-te**	**39.96**	**46**	*e*P	**P**	**02 14 44.3**	**+1.6**
HHC				PP	PP	02 16 19.5	+1.2
HHC				S	**S**	**02 20 49.5**	**+3.8**
HHC				SCS	ScS	02 24 48.6	+3.3
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb5.0						
HHC				LR	LR		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,390nm,19.0s,MS4.3						
HHC				LR	LR		
	comp=E,251nm,19.6s,MS4.3						
HHC				LR	LR		
	comp=Z,445nm,20.2s,MS4.3						
SONM	**Songino Array**	**40.43**	**34**	P	**P**	**02 14 48.8**	**+2.4**
	comp=Z,1.8nm,0.8s,mb3.9,baz=223,slow=8.2,SNR=15						
ULN	**Ulaanbaatar**	**40.80**	**34**	P	**P**	**02 14 51.6**	**+2.1**
	comp=Z,3.0nm,1.0s,mb3.9						
CN2	**Changchun**	**50.63**	**47**	*e*P	**P**	**02 16 08.5**	**+0.9**
CN2				*e*XP	sP	02 16 14.9	-5.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**55.53**	**334**	P	**P**	**02 16 42.4**	**-1.3**
	comp=Z,0.9nm,0.9s,mb3.8,baz=146,slow=5.0,SNR=3.4						
GERES	**GERESS Array B**	**57.73**	**317**	P	**P**	**02 16 55.7**	**-3.9**
	comp=Z,0.3nm,0.7s,mb3.4,baz=101,slow=6.8,SNR=4.6						
ARCES	**ARCESS Array B**	**60.10**	**342**	P	**P**	**02 17 14.9**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=90,slow=6.1,SNR=5.7						
NOA	**NORSAR Array B**	**61.97**	**331**	P	**P**	**02 17 26.6**	**-1.9**
	comp=Z,0.9nm,0.7s,mb4.0,baz=109,slow=7.5,SNR=3.4						
WRA	**Warramunga Arr**	**69.82**	**119**	P	**P**	**02 18 19.8**	**+0.5**
	comp=Z,1.8nm,0.7s,mb4.1,baz=307,slow=5.7,SNR=12						
WRAB	**Tennant Creek**	**69.82**	**119**	*e*P	**P**	**02 18 19.2**	**-0.2**
	comp=Z,6.8nm,0.8s,mb4.6						

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*MOS **15** 03:06:15.4±1.4, 55.10N×113.03E, h14km, mb4.3/1, Error ellipse: s-maj=15.4km s-min=9.7km az=56.0*

BYKL 15 03:06:15.9±0.3**, 55.13N×112.98E, h13**km±22km**, 13C-4D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
UKT	**Uakit**	**0.52**	**46**	⇑*i*PG	Pg	03 06 25.2	-1.3
UKT				*e*		03 06 32.5	
UKT				pmax	pmax		
	comp=Z,139nm,0.2s						
UKT				smax			
	comp=N,2μm,0.2s						
UKT	**Uakit**	**0.52**	**46**	⇑*i*Pg	Pg	03 06 25.3	-1.2
	comp=N,219nm,0.4s						
UKT				⇑*i*Pg	Pg	03 06 25.3	-1.2
	comp=N,277nm,0.4s						
UKT				⇑*i*Pg	Pg	03 06 25.3	-1.2
	comp=N,204nm,0.4s						
UKT				*e*Sg	Sg	03 06 32.5	-1.0
UKT				Pmax			
	comp=N,188nm,0.3s						
UKT				Smax			
	comp=N,2μm,0.2s						
SVKR	**Severomuysk**	**1.04**	**18**	*e*PG	Pg	03 06 35.5	-1.3
SVKR				*e*		03 06 50.1	
SVKR				pmax	pmax		
	comp=Z,439nm,0.4s						
SVKR				smax			
	comp=N,3μm,0.6s						
SVKR	**Severomuysk**	**1.04**	**18**	*e*Pg	Pg	03 06 35.5	-1.3
SVKR				*e*Pb	Pb	03 06 36.7	+1.4
SVKR				*e*Sg	Sg	03 06 50.5	-0.3
SVKR				*e*Sb	Sb	03 06 53.7	+5.0
SVKR				max			
	comp=N,550nm,0.3s						
SVKR				max			
	comp=N,3μm,0.3s						
YLYR	**Ulyunkhan**	**1.08**	**257**	⇑*i*PG	Pg	03 06 35.5	-2.0
YLYR				*i*		03 06 50.3	
YLYR				pmax	pmax		
	comp=Z,186nm,0.1s						
YLYR				smax			
	comp=E,1μm,0.3s						
YLYR	**Ulyunkhan**	**1.08**	**257**	⇓*i*Pg	Pg	03 06 35.5	-2.0
	comp=E,104nm,0.4s						
YLYR				⇓*i*Pg	Pg	03 06 35.5	-2.0
	comp=E,191nm,0.4s						
YLYR				⇑*i*Pg	Pg	03 06 35.5	-2.0
	comp=E,240nm,0.4s						
YLYR				*e*Pb	Pb	03 06 37.0	+1.1
YLYR				*i* Sg	Sg	03 06 50.2	-1.8
YLYR				max			
	comp=E,183nm,0.5s						
YLYR				Smax			
	comp=E,1μm,0.3s						
YOA	**Uoyan**	**1.23**	**325**	⇓*i*PG	Pg	03 06 37.8	-2.8
YOA				*i*		03 06 55.1	
YOA				pmax	pmax		
	comp=Z,389nm,0.5s						
YOA				smax			
	comp=E,4μm,0.5s						
YOA	**Uoyan**	**1.23**	**325**	*e*Pg	Pg	03 06 38.3	-2.3
YOA				*e*Pb	Pb	03 06 40.5	+2.0
YOA				*e*Sg	Sg	03 06 55.1	-2.0
YOA				*e*Sb	Sb	03 06 56.9	+2.7
KMO	**Kumora**	**1.27**	**308**	⇑*i*PG	Pg	03 06 38.3	-3.0
KMO				*i*		03 06 55.4	
KMO				pmax	pmax		
	comp=Z,347nm,0.3s						
KMO				smax			
	comp=N,1μm,1.0s						
KMO	**Kumora**	**1.27**	**308**	⇑*i*Pg	Pg	03 06 38.3	-3.0
	comp=N,29nm,0.5s						
KMO				⇓*i*Pg	Pg	03 06 38.3	-3.0
	comp=N,49nm,0.5s						
KMO				⇑*i*Pg	Pg	03 06 38.3	-3.0
	comp=N,350nm,0.5s						
KMO				*e*Sg	Sg	03 06 55.0	-3.2
KMO				*e*Sb	Sb	03 06 57.8	+2.7
KMO				Pmax			
	comp=N,345nm,0.4s						
KMO				max			
	comp=N,1μm,1.0s						
NLYR	**Nelyaty**	**2.06**	**47**	*e*PN	Pn	03 06 49.7	-0.9
NLYR				*e*		03 06 52.0	
NLYR				*e*		03 07 18.9	
NLYR				pmax	pmax		
	comp=Z,87nm,0.3s						
NLYR				smax			
	comp=E,684nm,1.1s						
NLYR	**Nelyaty**	**2.06**	**47**	⇑*i*Pn	Pn	03 06 49.9	-0.7
NLYR				*e*Pg	Pg	03 06 52.2	-4.8
NLYR				*e*		03 07 01.7	
NLYR				*e*Sg	Sg	03 07 19.5	-4.9
NLYR				Pmax			
	comp=E,94nm,0.3s						
NLYR				Smax			
	comp=E,680nm,1.1s						
NIZ	**Nizh Angarsk**	**2.06**	**290**	⇑*i*Pn	Pn	03 06 50.5	-0.2
NIZ				*e*Pg	Pg	03 06 54.0	-3.1
NIZ				*e*		03 07 00.7	
NIZ				*e*Sg	Sg	03 07 19.7	-5.0
NIZ				max			
	comp=E,63nm,0.5s						
NIZ				Smax			
	comp=E,189nm,0.5s						
SYVR	**Suvo**	**2.28**	**231**	*e*PN	Pn	03 06 53.7	-0.2
SYVR				*e*		03 06 56.1	
SYVR				*e*		03 07 26.5	
SYVR				pmax	pmax		
	comp=Z,20nm,0.2s						
SYVR				smax			
	comp=N,318nm,0.3s						
SYVR	**Suvo**	**2.28**	**231**	⇑*i*Pn	Pn	03 06 53.2	-0.7
SYVR				*e*Pg	Pg	03 06 56.0	-5.5
SYVR				*e*Sg	Sg	03 07 27.0	-5.0
SYVR				Pmax			
	comp=N,30nm,0.6s						
SYVR				Smax			
	comp=N,353nm,0.8s						
BOD	**Bodaibo**	**2.75**	**11**	*e*Pn	Pn	03 06 58.7	-1.9
BOD				*e*Pg	Pg	03 07 04.8	-6.1
BOD				*e*Sn	Sn	03 07 33.3	-0.8
BOD				*e*Sg	Sg	03 07 38.8	-8.9
BOD				Pmax			
	comp=N,16nm,0.5s						
BOD				Smax			
	comp=N,154nm,0.5s						
MXMB	**Maximikha**	**3.11**	**235**	*e*Pn	Pn	03 07 04.4	-1.3
MXMB				*e*Pg	Pg	03 07 11.1	-7.0
MXMB				*e*Sn	Sn	03 07 41.4	-1.7
MXMB				*e*Sg	Sg	03 07 53.1	-6.5
MXMB				Pmax			
	comp=N,26nm,1.2s						
MXMB				Smax			
	comp=N,386nm,0.6s						
CIT	**Chita**	**3.13**	**174**	*e*Pn	Pn	03 07 07.3	+1.3
CIT				*e*Pg	Pg	03 07 13.3	-5.2
CIT				*e*Sn	Sn	03 07 42.8	-0.8
CIT				*e*Sg	Sg	03 07 53.0	-7.3
CIT				*e*		03 08 04.6	
CIT				Pmax			
	comp=N,16nm,0.7s						
CIT				Smax			
	comp=N,228nm,0.7s						
CRS	**Chara**	**3.46**	**57**	*e*PN	Pn	03 07 17.9	+7.3
CRS				*e*		03 08 02.6	
CRS				pmax	pmax		
	comp=Z,30nm,0.5s						
CRS				smax			
	comp=E,201nm,0.6s						
CRS	**Chara**	**3.46**	**57**	*e*Pn	Pn	03 07 09.1	-1.5
CRS				*e*Pg	Pg	03 07 17.8	-7.2
CRS				*e*Sn	Sn	03 07 51.5	-0.4
CRS				*e*Sg	Sg	03 08 02.6	-8.5
CRS				Pmax			
	comp=E,37nm,1.1s						
CRS				Smax			
	comp=E,233nm,1.4s						
OGRR	**Ongureny**	**3.48**	**247**	*e*PN	Pn	03 07 09.8	-1.2
OGRR				*e*		03 07 17.4	
OGRR				*e*S	Sn	03 07 50.3	-2.2
OGRR				*e*		03 08 02.6	
OGRR				pmax	pmax		
	comp=Z,18nm,0.9s						
OGRR				smax			
	comp=N,95nm,1.2s						
OGRR	**Ongureny**	**3.48**	**247**	⇑*i*Pn	Pn	03 07 09.9	-1.1
OGRR				*e*Pg	Pg	03 07 17.3	-8.2
OGRR				*e*		03 07 26.3	
OGRR				*e*Sn	Sn	03 07 51.1	-1.4
OGRR				*e*Sg	Sg	03 08 02.6	-9.3
OGRR				Pmax			
	comp=N,18nm,0.8s						
OGRR				Smax			
	comp=N,95nm,1.2s						
TUP	**Tupik**	**4.10**	**97**	*e*PN	Pn	03 07 17.8	-1.9
TUP				*e*		03 07 27.9	
TUP				*e*S	Sn	03 08 03.5	-4.6
TUP				*e*		03 08 21.6	
TUP				pmax	pmax		
	comp=Z,16nm,0.3s						
TUP				smax			
	comp=N,189nm,0.7s						
TUP	**Tupik**	**4.10**	**97**	*e*Pn	Pn	03 07 17.9	-1.8
TUP				*e*		03 07 22.6	
TUP				*e*Pg	Pg	03 07 28.3	-9.5
TUP				*e*Sn	Sn	03 08 03.5	-4.6
TUP				*e*Sg	Sg	03 08 21.5	-11
TUP				Pmax			
	comp=N,22nm,0.5s						
TUP				Smax			
	comp=N,234nm,1.2s						
TRTB	**Turuntaevo**	**4.31**	**230**	*e*Pn	Pn	03 07 21.7	-1.0
TRTB				*e*Pg	Pg	03 07 33.4	-8.5
TRTB				*e*Sn	Sn	03 08 11.9	-1.5
TRTB				*e*Sg	Sg	03 08 28.8	-11
TRTB				Pmax			
	comp=N,6.0nm,0.6s						
TRTB				Smax			
	comp=N,88nm,1.3s						
ZRHB	**Zarechye**	**4.31**	**236**	*e*Sg	Sg	03 08 30.0	-9.4
ZRHB				Smax			
	comp=N,345nm,1.0s						
TRG	**Tyrgan**	**4.58**	**242**	*e*Pn	Pn	03 07 27.5	+0.9
TRG				*e*Pg	Pg	03 07 35.9	-11
TRG				*e*Sn	Sn	03 08 18.1	-2.2
TRG				*e*Sg	Sg	03 08 36.1	-12
TRG				Pmax			
	comp=N,4.0nm,0.3s						
TRG				Smax			
	comp=N,57nm,1.1s						
FFNB	**Fofonovo**	**4.82**	**233**	*e*Sg	Sg	03 08 47.2	-9.3
FFNB				Smax			
	comp=N,171nm,1.0s						
KAB	**Kabansk**	**4.87**	**233**	*e*PN	Pn	03 07 43.5	+13
HRMR	**Khuramsha**	**5.03**	**228**	*e*Pn	Pn	03 07 34.0	+1.1
HRMR				*e*Pg	Pg	03 07 47.6	-8.8
HRMR				*e*Sn	Sn	03 08 28.2	-3.4
HRMR				*e*Sg	Sg	03 08 51.8	-12
HRMR				Pmax			
	comp=N,13nm,0.7s						
HRMR				Smax			
	comp=N,313nm,0.5s						
KPC	**Khapcheranga**	**5.45**	**184**	*e*Pn	Pn	03 07 37.9	-0.9
KPC				*e*Pg	Pg	03 07 55.9	-8.8
KPC				*e*Sn	Sn	03 08 38.8	-3.3
KPC				*e*Sg	Sg	03 09 04.7	-13
KPC				Pmax			
	comp=N,2.0nm,0.3s						
KPC				Smax			
	comp=N,74nm,1.1s						
LSTR	**Listvyanka**	**5.86**	**239**	*e*PN	Pn	03 08 00.8	+16
LSTR				*e*		03 09 16.5	
LSTR				pmax	pmax		
	comp=Z,16nm,0.6s						
LSTR				smax			
	comp=N,39nm,1.0s						
LSTR	**Listvyanka**	**5.86**	**239**	*e*Sg	Sg	03 09 16.5	-14
LSTR				Smax			
	comp=N,39nm,1.4s						
TLY	**Talaya**	**6.56**	**242**	*e*Sg	Sg	03 09 39.3	-15
TLY				Smax			
	comp=N,33nm,1.0s						
CLNS	**Chul'man**	**6.90**	**71**	*e*Sg	Sg	03 09 50.2	-15
ARS	**Arshan**	**7.07**	**247**	*e*Pg	Pg	03 08 22.3	-15
ARS				*e*Sg	Sg	03 09 52.9	-18
ARS				Pmax			
	comp=N,7.0nm,0.6s						
ARS				Smax			
	comp=N,95nm,1.5s						
ZAK	**Zakamensk**	**7.56**	**235**	*e*Sg	Sg	03 10 11.6	-16
ZAK				Smax			
	comp=N,14nm,1.3s						
MOY	**Mondy**	**7.96**	**249**	*e*PN	Pn	03 08 12.9	-1.2
MOY	**Mondy**	**7.96**	**249**	*e*Pn	Pn	03 08 13.1	-1.0
MOY				*e*Sg	Sg	03 10 22.4	-19
MOY				Smax			
	comp=N,64nm,2.0s						
ORL	**Orlik**	**8.21**	**257**	*e*PN	P	03 08 14.2	-3.4
ORL				*e*		03 08 41.2	

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*NEIC **15** 03:18:03.8±1.6, 23.99S×177.41W, h147km±15km, mb4.5/4, Error ellipse: s-maj=19.6km s-min=9.6km az=139.0*
*IDC **15** 03:18:07.7±8.9, 24.05S×177.48W, h179km±85km, mb3.9/8, mb1 4.1/9, mb1mx3.9/16, mbtmp4.4/9, Error ellipse: s-maj=49.9km s-min=23.6km az=175.0*

ISC 15 03:18:01.8±2.1**, 24.09S**±0.08×**177.5W**±0.1**, h137**km±22km**, n34,** σ**0.97**/16**, mb4.2**/11**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**11.46**	**29**	*e*P	**P**	**03 20 41.5**	**-0.7**
URZ	**Urewera**	**14.87**	**197**	P	**P**	**03 21 27.6**	**+1.6**
	5.1nm,0.3s,baz=254,slow=6.3,SNR=18						
URZ				S	**S**	**03 24 05.8**	**-1.5**
	0.9nm,0.3s,baz=277,slow=18,SNR=6.2						
CTA	**Charters Tower**	**33.79**	**270**	P	**P**	**03 24 33.1**	**+0.5**
	14nm,0.3s,mb5.1,baz=101,slow=11,SNR=34						
CTAO	**Charters Tower**	**33.79**	**270**	*e*P	**P**	**03 24 33.0**	**+0.4**
	18nm,0.3s,mb5.3						
PMG	**Port Moresby**	**36.75**	**287**	P	**P**	**03 24 57.6**	**-0.2**
	12nm,0.7s,mb4.6,baz=147,slow=4.6,SNR=6.1						
STKA	**Stephens Creek**	**36.81**	**249**	P	**P**	**03 24 59.6**	**+1.6**
	1.0nm,0.3s,mb3.9,baz=126,slow=15,SNR=6.2						
ASAR	**Alice Springs**	**44.29**	**260**	P	**P**	**03 25 59.9**	**+0.3**
	0.8nm,0.4s,mb3.8,baz=96,slow=7.9,SNR=14						
WRAB	**Tennant Creek**	**44.70**	**266**	*e*P	**P**	**03 26 01.8**	**-1.1**
	7.1nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**44.70**	**265**	P	**P**	**03 26 02.4**	**-0.5**
	2.3nm,0.3s,mb4.3,baz=92,slow=8.4,SNR=161						
SBA	**Scott Base**	**54.34**	**184**	*e*P	**P**	**03 27 09.7**	**-6.2**
	5.5nm,0.7s,mb4.4						
NVAR	**Mina Array Bea**	**83.29**	**43**	P	**P**	**03 30 15.5**	**+1.1**
	1.4nm,0.7s,mb3.8,baz=208,slow=6.2,SNR=11						
NVAR	**Mina Array Bea**	**83.29**	**43**	P	**P**	**03 30 15.5**	**+1.1**
HLID	**Hailey**	**88.72**	**40**	P	**P**	**03 30 40.9**	**+0.1**
	1.1nm,0.8s,mb3.8						
PDAR	**Pinedale Array**	**91.23**	**43**	P	**P**	**03 30 52.9**	**+0.3**
	0.9nm,0.8s,mb3.9,baz=207,slow=3.3,SNR=7.3						
ILAR	**Eielson Array**	**91.69**	**13**	P	**P**	**03 30 52.9**	**-1.3**
	0.3nm,0.5s,mb3.5,baz=224,slow=7.6,SNR=7.0						
ARCES	**ARCESS Array B**	**132.52**	**349**	PKP	PKPdf	03 36 57.9	-1.5
	6.2nm,1.2s,baz=27,slow=1.2,SNR=9.8						
ARCES	**ARCESS Array B**	**132.52**	**349**	PKP	PKPdf	03 36 57.9	-1.5
FINES	**FINESS Array B**	**139.33**	**343**	PKhKP		03 37 02.5	
	0.3nm,0.4s,baz=56,slow=6.9,SNR=3.6						
FINES				PKP	PKPdf	03 37 12.8	+0.7
	1.1nm,0.6s,baz=84,slow=4.3,SNR=9.0						
FINES	**FINESS Array B**	**139.33**	**343**	PKP	PKPdf	03 37 12.8	+0.7
NOA	**NORSAR Array B**	**142.58**	**353**	PKhKP		03 37 13.9	
	0.4nm,0.5s,baz=46,slow=4.0,SNR=3.0						
NOA	**NORSAR Array B**	**142.58**	**353**	PKP	PKPdf	03 37 13.9	-3.9
HFS	**Hagfors**	**143.14**	**351**	PKhKP		03 37 16.0	
	2.3nm,0.5s,baz=72,slow=4.7,SNR=17						
SUW	**Suwalki**	**146.34**	**338**	*e*PKPbc	PKPbc	03 37 26.6	+0.8
MALT	**Malatya**	**146.41**	**304**	*e*PKPbc	PKPbc	03 37 27.5	+1.0
EKA	**Eskdalemuir Ar**	**148.51**	**6**	PKPbc	PKPdf	03 37 31.9	+3.9
	1.6nm,0.5s,baz=348,slow=3.4,SNR=9.2						
OKC	**Ostrava-Krasne**	**151.55**	**339**	*e*PKPAB	PKPab	03 37 46.1	-4.4
UPC	**Upice**	**151.62**	**342**	*e*PKPAB	PKPab	03 37 49.1	-1.7
CLL	**Collm**	**151.65**	**346**	*e*PKP1	PKPdf	03 37 40.0	+7.1
CLL				*e*PKP2	PKPab	03 37 49.0	-1.9
DPC	**Dobruska-Polom**	**151.67**	**341**	*e*PKPAB	PKPab	03 37 50.1	-1.0
BRG	**Berggiesshubel**	**151.84**	**345**	*e*P	PKPdf	03 37 40.5	+7.3
BRG				*i*		03 37 50.0	
PRU	**Pruhonice**	**152.50**	**343**	*e*PKPAB	PKPab	03 37 52.3	-2.2
VRAC	**Vranov**	**152.51**	**340**	PKPab	PKPab	03 37 53.1	-1.5
	1.8nm,0.5s,baz=69,slow=4.3,SNR=4.0						
KHC	**Kasperske Hory**	**153.53**	**344**	*e*PKPAB	PKPab	03 37 57.4	-1.5
GERES	**GERESS Array B**	**153.77**	**343**	PKPab	PKPab	03 37 58.4	-1.5
	0.9nm,0.7s,baz=18,slow=4.2,SNR=8.0						

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*MOS **15** 03:19:05.5±1.0, 44.64N×6.82E, h10km, mb3.5/1, Error ellipse: s-maj=8.5km s-min=4.1km az=107.0*
*CSEM **15** 03:19:05.8±0.1, 44.65N×6.94E, h10km, ML2.4/8, Error ellipse: s-maj=1.7km s-min=1.3km az=102.0*
*GEN **15** 03:19:05.9, 44.64N×6.84E, h0km, ML2.8*
*NEIC **15** 03:19:06.6, 44.66N×6.89E, h2km, ML2.8(GEN), ML2.5(LDG), ML2.4(STR), After LDG.*
*LDG **15** 03:19:06.6±0.1, 44.66N×6.89E, h2km, Md2.7/2, Ml2.5/7, Error ellipse: s-maj=2.0km s-min=1.3km az=76.0*
*ROM **15** 03:19:07.5±0.5, 44.56N×6.95E, h14km±2km, MD2.4/4, ML1.6/3, Error ellipse: s-maj=4.0km s-min=1.9km az=90.0*
*STR **15** 03:19:08.6±0.6, 44.54N×6.86E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 15 03:19:05.6±0.2**, 44.63N**±0.01×**6.84E**±0.02**, h11**km±2km**, n68,** σ**0.71**/118**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.11**	**333**	*e*Pg	**Pg**	**03 19 08.6**	**+0.1**
MBDF				*e*Sg	**Sg**	**03 19 10.2**	**-0.2**
	199nm,0.2s						
SURF	**Saint Ours**	**0.15**	**187**	Pg	**Pg**	**03 19 09.3**	**0.0**
SURF				Sg	**Sg**	**03 19 11.4**	**-0.3**
PZZ	**Prazzo**	**0.23**	**124**	P	**Pg**	**03 19 10.9**	**+0.3**
PZZ				S	**Sg**	**03 19 14.2**	**+0.4**
RRL	**Cesana Torines**	**0.29**	**352**	P	**Pg**	**03 19 12.0**	**+0.3**
RRL				S	**Sg**	**03 19 16.0**	**+0.2**
DOI	**San Damiano**	**0.32**	**114**	*e*PG	**Pg**	**03 19 12.4**	**+0.1**
DOI				SG	**Sg**	**03 19 17.1**	**+0.4**
	154nm,0.2s						
DOI	**San Damiano**	**0.32**	**114**	*e*Pg	**Pg**	**03 19 12.4**	**+0.1**
DOI				*e*Sg	**Sg**	**03 19 17.1**	**+0.4**
DOI	**San Damiano**	**0.32**	**114**	*e*Pg	**Pg**	**03 19 12.4**	**+0.1**
DOI				*e*Sg	**Sg**	**03 19 17.1**	**+0.4**
BHB	**Bricherasio**	**0.37**	**55**	P	**Pg**	**03 19 13.4**	**+0.2**
BHB				S	**Sg**	**03 19 18.2**	**-0.1**
BHB	**Bricherasio**	**0.37**	**55**	P	**Pg**	**03 19 13.4**	**+0.2**
FENE	**Fenestrelle**	**0.43**	**22**	P	**Pg**	**03 19 14.4**	**0.0**
FENE				S	**Sg**	**03 19 20.2**	**-0.1**
FENE	**Fenestrelle**	**0.43**	**22**	P	**Pg**	**03 19 14.4**	**0.0**
BNI	**Bardonecchia**	**0.43**	**345**	*e*Pg	**Pg**	**03 19 15.7**	**+1.2**
BNI				*e*Sg	**Sg**	**03 19 21.1**	**+0.7**
BNI	**Bardonecchia**	**0.43**	**345**	*e*Pg	**Pg**	**03 19 15.7**	**+1.2**
BNI				*e*Sg	**Sg**	**03 19 21.1**	**+0.6**
STV	**Sta Anna Valdi**	**0.52**	**138**	P	**Pg**	**03 19 16.2**	**0.0**
STV				S	**Sg**	**03 19 23.2**	**-0.1**
STV2	**Anna di Valdie**	**0.52**	**138**	P	**Pg**	**03 19 16.0**	**-0.2**
STV2				S	**Sg**	**03 19 23.2**	**-0.1**
STV2	**Anna di Valdie**	**0.52**	**138**	P	**Pg**	**03 19 16.0**	**-0.2**
STV2				S	**Sg**	**03 19 23.2**	**-0.1**
ENR	**Entracque**	**0.58**	**134**	P	**Pb**	**03 19 17.3**	**0.0**
ENR				S	**Sg**	**03 19 24.9**	**-0.4**
RSP	**Reno Superiore**	**0.60**	**30**	P	**Pb**	**03 19 17.9**	**+0.3**
RSP				S	**Sb**	**03 19 25.6**	**-0.2**
TOUF	**Mont Tournerai**	**0.69**	**155**	Pg	**Pg**	**03 19 19.6**	**+0.2**
ORIF	**Oris-en-Rattie**	**0.74**	**293**	*e*Pg	**Pg**	**03 19 20.1**	**-0.4**
ORIF				*e*Sg	**Sg**	**03 19 31.1**	**+0.6**
	25nm,0.3s						
AUTN	**L'Aution**	**0.76**	**146**	Pg	**Pg**	**03 19 21.8**	**+0.8**
AUTN				Sg	**Sg**	**03 19 31.2**	**-0.1**
MVIF	**Mont Vial**	**0.77**	**163**	Pg	**Pg**	**03 19 21.5**	**+0.4**
ROB	**Roburent**	**0.81**	**114**	P	**Pb**	**03 19 21.8**	**+0.5**
ROB				S	**Sb**	**03 19 32.1**	**+0.1**
SAOF	**Saorge**	**0.83**	**141**	Pg	**Pg**	**03 19 22.3**	**+0.1**
LSD	**Ceresole Reale**	**0.85**	**15**	P	**Pb**	**03 19 22.5**	**+0.5**
LSD				S	**Sb**	**03 19 33.6**	**+0.4**
MONE	**Monesi**	**0.86**	**130**	P	**Pb**	**03 19 22.4**	**+0.3**
MONE				S	**Sb**	**03 19 33.5**	**+0.2**
MONE	**Monesi**	**0.86**	**130**	P	**Pb**	**03 19 22.4**	**+0.3**
MONE				S	**Sb**	**03 19 33.5**	**+0.2**
LPG	**La Plagne**	**0.87**	**356**	*e*Pg	**Pg**	**03 19 22.7**	**-0.3**
LPG				*e*Sg	**Sg**	**03 19 34.0**	**-0.7**
	22nm,0.4s						
SBF	**Sospel**	**0.88**	**151**	*e*Pg	**Pg**	**03 19 23.1**	**-0.2**
SBF				*e*Sg	**Sg**	**03 19 34.5**	**-0.6**
	16nm,0.2s						
LPL	**La Plagne**	**0.89**	**355**	*e*Pg	**Pg**	**03 19 23.2**	**-0.2**
LPL				*e*Sg	**Sg**	**03 19 34.8**	**-0.5**
STOF	**St-Etienne Org**	**0.92**	**227**	Pg	**Pg**	**03 19 26.8**	**+2.7**
REVF	**Revere**	**0.97**	**157**	Pg	**Pg**	**03 19 26.1**	**+1.0**
NEGI	**Negi**	**1.00**	**141**	P	**Pb**	**03 19 25.1**	**+0.6**
NEGI				S	**Sb**	**03 19 38.0**	**+0.5**
NEGI	**Negi**	**1.00**	**141**	P	**Pb**	**03 19 25.1**	**+0.6**
NEGI				S	**Sb**	**03 19 38.0**	**+0.5**
IMI	**Imperia**	**1.04**	**133**	*e*PN	**Pn**	**03 19 26.0**	**-0.1**
IMI				SN	**Sg**	**03 19 39.7**	**-0.8**
	14nm,0.2s						
IMI	**Imperia**	**1.04**	**133**	*e*Pg	**Pg**	**03 19 26.0**	**-0.6**
IMI				*e*Sg	**Sg**	**03 19 39.7**	**-0.8**
IMI	**Imperia**	**1.04**	**133**	P	**Pb**	**03 19 25.6**	**+0.3**
IMI	**Imperia**	**1.04**	**133**	*e*Pg	**Pn**	**03 19 26.0**	**-0.1**
IMI				S	**Sb**	**03 19 38.9**	**+0.2**
IMI				*e*Sg	**Sg**	**03 19 39.7**	**-0.8**
FIN	**Finale Ligure**	**1.07**	**113**	*e*PN	**Pn**	**03 19 26.6**	**+0.1**
FIN				SN	**Sg**	**03 19 39.7**	**-1.6**
	25nm,0.3s						
FIN	**Finale Ligure**	**1.07**	**113**	*e*Pg	**Pg**	**03 19 26.6**	**-0.4**
FIN				*e*Sg	**Sg**	**03 19 39.7**	**-1.7**
FIN	**Finale Ligure**	**1.07**	**113**	P	**Pb**	**03 19 25.9**	**+0.2**
FIN	**Finale Ligure**	**1.07**	**113**	*e*Pg	**Pn**	**03 19 26.6**	**+0.1**
FIN				*e*Sg	**Sg**	**03 19 39.7**	**-1.6**
FRF	**La Foret Royal**	**1.08**	**187**	*e*Pg	**Pg**	**03 19 26.3**	**-1.0**
FRF				*e*Sg	**Sg**	**03 19 41.1**	**-0.7**
	22nm,0.4s						
TRAV		**1.09**	**36**	P	**Pb**	**03 19 26.4**	**+0.4**
TRAV				S	**Sb**	**03 19 40.2**	**+0.2**
TRAV		**1.09**	**36**	P	**Pb**	**03 19 26.5**	**+0.5**
TRAV				S	**Sb**	**03 19 40.2**	**+0.1**
SMRF	**Simiane la Rot**	**1.12**	**235**	*e*Pn	**Pn**	**03 19 28.1**	**+0.9**
SMRF				*e*Sg	**Sg**	**03 19 43.1**	**0.0**
	19nm,0.4s						
VILF	**Villemus**	**1.12**	**226**	Pg	**Pg**	**03 19 29.2**	**+1.1**
VILF				Sg	**Sg**	**03 19 44.7**	**+1.5**
TAVF	**Tavernes**	**1.16**	**209**	Pg	**Pg**	**03 19 29.2**	**+0.3**
TAVF				Sg	**Sg**	**03 19 45.7**	**+1.3**
PCP	**Pian Castagno**	**1.22**	**94**	P	**Pb**	**03 19 28.5**	**+0.2**
ORO	**Oropa**	**1.28**	**39**	*e*PN	**Pn**	**03 19 31.0**	**+1.5**
	7.0nm,0.3s						
ORX	**Oropa**	**1.29**	**39**	P	**Pb**	**03 19 29.5**	**+0.1**
LMR	**La Mourre**	**1.32**	**191**	*e*Pn	**Pn**	**03 19 30.9**	**+0.8**
LMR				*e*Pg	**Pg**	**03 19 31.6**	**-0.5**
LMR				*e*Sn	**Sn**	**03 19 46.0**	**-1.7**
LMR				*e*Sg	**Sg**	**03 19 49.0**	**-0.7**
	15nm,0.2s						
LMR	**La Mourre**	**1.32**	**191**	*e*P	**Pn**	**03 19 30.9**	**+0.8**
LMR				*e*		03 19 49.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PUYF	**Puyloubier**	**1.37**	**217**	Pg	**Pg**	**03 19 33.4**	**+0.3**
PUYF				Sg	**Sg**	**03 19 51.1**	**-0.3**
TREF	**Trevaresse**	**1.46**	**227**	Pg	**Pg**	**03 19 35.3**	**+0.6**
PRAF	**Pradon**	**1.46**	**236**	Pg	**Pg**	**03 19 34.4**	**-0.4**
PRAF				Sg	**Sg**	**03 19 55.1**	**+0.8**
BERF	**Bertagne**	**1.56**	**213**	Pg	**Pg**	**03 19 36.3**	**-0.5**
BERF				Sg	**Sg**	**03 19 56.5**	**-1.1**
VIVF	**Saint-Julien-l**	**1.56**	**279**	*e*Pn	**Pn**	**03 19 34.8**	**+1.3**
VIVF				*e*Pg	**Pg**	**03 19 35.9**	**-0.9**
VIVF				*e*Sg	**Sg**	**03 19 56.2**	**-1.5**
	3.6nm,0.3s						
VIVF	**Saint-Julien-l**	**1.56**	**279**	*e*P	**Pn**	**03 19 34.8**	**+1.3**
VIVF				*e*		03 19 56.2	
CABF	**La Chapelle**	**2.05**	**345**	*e*Pg	**Pg**	**03 19 44.1**	**-2.5**
LASF	**Ste Croix**	**2.21**	**256**	*e*Pn	**Pn**	**03 19 43.2**	**+0.4**
LASF				*e*Sn	**Sn**	**03 20 09.7**	**-0.7**
	2.3nm,0.3s						
PGF	**Pioggiola**	**2.61**	**142**	*e*Pn	**Pn**	**03 19 49.2**	**+0.7**
PGF				*e*Sn	**Sn**	**03 20 19.2**	**-1.3**
	3.0nm,0.3s						
SMF	**Signal de Mont**	**2.91**	**315**	*e*Pn	**Pn**	**03 19 52.3**	**-0.5**
HINF	**Hinteralfeld**	**3.19**	**0**	*e*Pn	**Pn**	**03 19 55.6**	**-1.1**
AVF	**Avril sur Loir**	**3.26**	**313**	*e*Pn	**Pn**	**03 19 56.9**	**-0.9**
SSF	**Saint Saulge**	**3.37**	**317**	*e*Pn	**Pn**	**03 19 58.9**	**-0.4**
BGF	**Bois d'Agland**	**3.40**	**306**	*e*Pn	**Pn**	**03 19 59.3**	**-0.5**
MTLF	**Montolieu**	**3.58**	**250**	*e*Pn	**Pn**	**03 20 01.6**	**-0.7**

*ISK **15** 03:21:49.6, 36.95N×27.81E, h3km, MD2.9*
*CSEM **15** 03:21:49.0±0.1, 36.89N×27.80E, h2km, MD2.9, Error ellipse: s-maj=3.6km s-min=2.3km az=26.0*
*ATH **15** 03:21:50.9, 36.76N×27.59E, h10km, MD3.0/3*
ISC 15 03:21:50.2±0.6**, 36.91N**±0.03×**27.79E**±0.04**, h3km, n14, σ1s03**/21**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.32**	**299**	*i* P	**Pg**	**03 21 56.7**	**+0.1**
BDRM				*i* S	**Sg**	**03 22 01.8**	**+1.0**
BODT	**Bodrum**	**0.41**	**291**	PG	**Pg**	**03 21 58.4**	**-0.1**
YER	**Yerkesik**	**0.45**	**60**	PG	**Pg**	**03 21 58.8**	**-0.4**
YER				SG	**Sg**	**03 22 05.1**	**-0.1**
DALT	**Dalyan (Mudla)**	**0.69**	**102**	PG	**Pg**	**03 22 03.5**	**-0.5**
DALT				SG	**Sg**	**03 22 14.4**	**+1.1**
ARG	**Arkhangelos**	**0.75**	**159**	*e*P	**Pg**	**03 22 04.3**	**-0.8**
ARG				*e*S	**Sg**	**03 22 17.3**	**+2.3**
AYDN	**Tasoluk**	**0.75**	**5**	*i* P	**Pg**	**03 22 04.5**	**-0.7**
AYDN				*i* S	**Sg**	**03 22 14.5**	**-0.7**
FETY	**Fethiye**	**1.07**	**105**	*e*PG	**Pg**	**03 22 10.1**	**-1.5**
SMG	**Samos**	**1.10**	**317**	*e*PB	**Pb**	**03 22 12.1**	**+0.6**
SMG	**Samos**	**1.10**	**317**	*e*P	**Pb**	**03 22 10.8**	**-0.7**
DNZL	**Cakiroluk**	**1.27**	**52**	*i* P	**Pb**	**03 22 13.7**	**-0.6**
DNZL				*i* S	**Sb**	**03 22 31.4**	**+0.5**
DENT	**Denizli**	**1.30**	**49**	*e*PN	**Pn**	**03 22 15.2**	**0.0**
KARP	**Karpathos**	**1.46**	**201**	*e*PB	**Pb**	**03 22 14.7**	**-2.9**
BLCB	**Balcova**	**1.59**	**338**	*e*PN	**Pn**	**03 22 19.5**	**+0.2**
MANT	**Manisa**	**1.69**	**21**	*i* P	**Pn**	**03 22 21.5**	**+0.7**
MANT				*i* S	**Sb**	**03 22 46.1**	**+2.9**

*IDC **15** 04:07:50.8±1.1, 11.76N×85.57W, mb3.6/6, mb1 3.9/6, mb1mx3.6/17, mbtmp3.6/6, MS3.1/1, Ms1 3.1/1, ms1mx2.0/22, Error ellipse: s-maj=85.5km s-min=17.3km az=65.0*
*CASC **15** 04:07:53.8±3.8, 10.90N×86.60W, h19km±15km, MD4.3*
ISC 15 04:07:54.2±0.7**, 10.88N**±0.06×**86.58W**±0.06**, h66km**±9km**, n34, σ1s12**/40**, mb3.5**/6**, 5C-2D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APON	**Apoyo**	**1.15**	**26**⇑	*e*P	**P**	**04 08 14.1**	**-0.6**
CONN	**Concepcion**	**1.15**	**54**⇑	*e*P	**P**	**04 08 12.8**	**-2.0**
MASN	**Masaya**	**1.18**	**21**⇓	*e*P	**P**	**04 08 14.6**	**-0.5**
TICN	**Ticuantepe**	**1.20**	**16**	*e*P	**P**	**04 08 15.4**	**0.0**
TICN				*e*S	**S**	**04 08 31.6**	**+0.5**
XAVN	**Gruta Xavier**	**1.28**	**11**⇑	*e*P	**P**	**04 08 16.6**	**-0.1**
MGAN	**Managua**	**1.30**	**14**	*e*S	**S**	**04 08 34.1**	**+0.5**
WILN	**Americas 2**	**1.33**	**17**	*e*P	**P**	**04 08 17.0**	**-0.4**
WILN				*e*S	**S**	**04 08 34.7**	**+0.3**
MOMJ	**Momotombo**	**1.52**	**1**	*e*P	**P**	**04 08 20.0**	**+0.1**
LEON	**Leon**	**1.56**	**349**⇑	*e*P	**P**	**04 08 20.8**	**+0.4**
CNGN	**Cerro Negro**	**1.61**	**356**	*e*P	**P**	**04 08 20.9**	**-0.3**
JTS	**JuntasAbangare**	**1.70**	**110**	Pn	**P**	**04 08 20.1**	**-2.2**
	27nm,0.3s,baz=321,slow=16,SNR=118						
JTS				Sn	**S**	**04 08 42.3**	**-0.8**
	37nm,0.3s,baz=300,slow=20,SNR=15						
TEL3	**Telica 3**	**1.70**	**351**	*e*P	**P**	**04 08 22.9**	**+0.5**
PYTN	**Playitas**	**1.72**	**17**⇓	*e*P	**P**	**04 08 22.5**	**-0.2**
PYTN				*e*S	**S**	**04 08 44.1**	**+0.5**
TELN	**Telica**	**1.73**	**352**	*e*P	**P**	**04 08 23.2**	**+0.5**
CRIN	**San Cristobal**	**1.87**	**346**	*e*P	**P**	**04 08 26.5**	**+1.9**
FORC	**Fortuna**	**1.92**	**102**	*e*P	**P**	**04 08 24.4**	**-0.9**
CGA2	**Cerro Gallo 2**	**2.25**	**112**	*e*P	**P**	**04 08 29.7**	**-0.3**
PRS1	**Puriscal**	**2.40**	**112**⇑	*e*P	**P**	**04 08 32.7**	**+0.6**
VPS2	**Volcan Poas 2**	**2.40**	**106**	*e*P	**P**	**04 08 34.2**	**+2.0**
VPS2				*e*S	**S**	**04 09 01.7**	**+1.3**
LAJ	**Bijagual**	**2.62**	**112**	*e*P	**P**	**04 08 29.6**	**-5.6**
SJS	**Escuela Geolog**	**2.65**	**110**	*e*S	**S**	**04 09 14.6**	**+7.9**
LCR2	**La Lucha 2**	**2.77**	**114**	*e*P	**P**	**04 08 36.4**	**-1.0**
TRTC	**Tortuguero**	**2.83**	**96**	*e*P	**P**	**04 08 35.7**	**-2.5**
ICR	**Volcan Irazu**	**2.84**	**108**	*e*P	**P**	**04 08 40.0**	**+1.6**
BUS	**Buena Vista**	**3.07**	**115**	*e*P	**P**	**04 08 43.4**	**+1.8**
LCBS	**La Ceiba**	**3.62**	**320**	*e*P	**P**	**04 08 49.8**	**+0.5**
LCBS				*e*S	**S**	**04 09 30.0**	**-1.1**
LFRS	**El Faro**	**3.65**	**319**	*e*P	**P**	**04 08 50.2**	**+0.5**
LFRS				*e*S	**S**	**04 09 30.6**	**-1.2**
SDV	**Santo Domingo**	**15.83**	**96**	LR	LR	04 17 29.9	
	comp=Z,68nm,20.9s,baz=224,slow=39						
TXAR	**Lajitas Array**	**24.32**	**321**	P	**P**	**04 13 09.3**	**+2.2**
	1.0nm,0.7s,mb3.3,baz=137,slow=9.8,SNR=11						
PDAR	**Pinedale Array**	**37.55**	**332**	P	**P**	**04 15 05.2**	**+1.3**
	0.4nm,0.7s,mb3.4,baz=117,slow=9.9,SNR=4.4						
NVAR	**Mina Array Bea**	**39.44**	**319**	P	**P**	**04 15 24.2**	**+4.6**
	0.4nm,0.6s,mb3.5,baz=123,slow=8.2,SNR=5.0						
ULM	**Lac du Bonnet**	**39.99**	**351**	P	**P**	**04 15 22.2**	**-1.8**
	0.5nm,0.4s,mb3.7,baz=155,slow=10.0,SNR=3.5						
YKA	**Yellowknife Ar**	**55.34**	**345**	P	**P**	**04 17 21.9**	**-1.6**
	0.3nm,0.6s,mb3.5,baz=141,slow=7.2,SNR=11						
ILAR	**Eielson Array**	**67.79**	**336**	P	**P**	**04 18 46.9**	**-0.1**
	0.4nm,0.6s,mb3.4,baz=133,slow=4.5,SNR=11						

NEIC 15 04:34:18.7±2.9**, 42.60N×125.82W, h10km, mb3.5**/1**, Error ellipse: s-maj=32.8km s-min=13.9km az=77.0, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**1.13**	**76**	*e*P	Pb	04 34 39.4	-0.5
DBO	**Dodson Butte**	**1.97**	**74**	P	Pn	04 34 52.1	-0.4
HUMO	**Hull Mountain**	**2.12**	**89**	P	Pn	04 34 53.8	-0.8
HSO	**Harness Mounta**	**2.21**	**64**	P	Pn	04 34 55.2	-0.7
BBOR	**Butler Butte**	**2.33**	**82**	P	Pn	04 34 57.8	0.0
YBH	**Yreka Blue Hor**	**2.47**	**110**	*e*P	Pn	04 34 58.0	-1.8
BUOR	**Burton Butte**	**2.67**	**96**	P	Pn	04 35 03.4	+0.8
HBO	**Huckleberry Mo**	**2.84**	**63**	P	Pn	04 35 04.9	-0.2
IRO	**Indian Ridge**	**2.96**	**61**	P	Pn	04 35 06.3	-0.3
BROR	**Big Rock Looko**	**2.97**	**55**	P	Pn	04 35 05.8	-1.0
FRIS	**Frissel Point**	**3.15**	**58**	P	Pn	04 35 08.9	-0.6
SSOR	**Sweet Springs**	**3.32**	**46**	P	Pn	04 35 11.1	-0.7
FFC	**Flin Flon**	**19.76**	**44**	*e*P	P	04 38 47.6	-3.9
	1.5nm,0.6s						
WMOK	**Wichita Mounta**	**22.46**	**101**	P	P	04 39 18.4	-0.9

DJA 15 04:57:12.4±1.5**, 9.71S×112.67E, h160km, MD4.7**/3**, ML4.1**/3**, 4C-1D, Error ellipse: s-maj=51.7km s-min=41.5km az=120.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.90**	**50**⇑	*i*Pn	P	04 57 46.4	-0.9
	116nm,0.2s						
SRDI			⇓	*i*Sn	S	04 58 07.3	-6.9
KELI	**Kelakatan**	**2.33**	**51**⇑	*i*Pn	P	04 57 53.2	+0.7
	48nm,0.2s						
KELI			⇑	*i*Sn	S	04 58 21.2	-2.1
RATI	**Rata**	**2.99**	**71**⇑	*i*Pn	P	04 58 00.5	-0.2
	110nm,0.3s						

*NEIC **15** 05:08:02.3±1.1, 51.59N×177.47W, h50km±4km, mb3.5/2, ML3.8(AEIC), Error ellipse: s-maj=19.6km s-min=9.2km az=187.0*
*IDC **15** 05:08:05.3±3.4, 51.73N×177.47W, h73km±30km, mb3.3/10, mb1 3.6/11, mb1mx3.5/24, mbtmp3.7/11, Error ellipse: s-maj=37.8km s-min=16.0km az=4.0*
ISC 15 05:08:01.3±1.1**, 51.5N**±0.2×**177.49W**±0.07**, h61km**±5km**, n28, σ0s86**/34**, mb3.6**/11**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.28**	**35**	P	**P**	**05 08 10.3**	**-1.1**
KIWB	**Kanaga Island**	**0.39**	**33**	P	**P**	**05 08 11.9**	**-0.4**
KIKV	**Kanaga Island**	**0.40**	**30**	P	**P**	**05 08 12.1**	**-0.3**
KINC	**Kanaga Island**	**0.46**	**29**	P	**P**	**05 08 13.0**	**0.0**
ADK	**Adak**	**0.62**	**55**	P	**P**	**05 08 13.7**	**-1.0**
ADK				S	**S**	**05 08 24.7**	**+0.2**
ADAG	**Mount Adagdak**	**0.71**	**50**	P	**P**	**05 08 15.8**	**0.0**
GSTD	**Great Sitkin T**	**0.99**	**57**	P	**P**	**05 08 19.4**	**-0.1**
GSTD				S	**S**	**05 08 34.1**	**+1.2**
GSSP	**Great Sitkin S**	**0.99**	**55**	P	**P**	**05 08 19.6**	**+0.1**
GSSP				S	**S**	**05 08 34.5**	**+1.5**
GSMY	**Great Sitkin M**	**1.03**	**59**	P	**P**	**05 08 19.8**	**-0.2**
GSMY				S	**S**	**05 08 34.8**	**+1.0**
GSTR	**Great Sitkin T**	**1.05**	**57**	P	**P**	**05 08 20.6**	**+0.2**
GSIG	**Igitkin Island**	**1.08**	**64**	P	**P**	**05 08 19.9**	**-0.8**
GSIG				S	**S**	**05 08 35.0**	**0.0**
ATKA	**Atka Island**	**2.15**	**70**	P	**P**	**05 08 34.0**	**-1.6**
ATKA				S	**S**	**05 09 01.1**	**0.0**
FX1	**Attu Island--F**	**5.90**	**287**	P	**P**	**05 09 29.5**	**+1.4**
	1.8nm,0.3s,baz=90,slow=11,SNR=3.0						
FX1				S	**S**	**05 10 35.6**	**+0.4**
	1.2nm,0.3s,baz=262,slow=18,SNR=2.6						
THY	**Trims Highway**	**20.55**	**42**	*e*P	**P**	**05 12 36.1**	**-0.7**
ILAR	**Eielson Array**	**20.62**	**38**	P	**P**	**05 12 36.6**	**-0.8**
	0.3nm,0.4s,baz=240,slow=9.0,SNR=9.7						
INK	**Inuvik**	**26.87**	**35**	P	**P**	**05 13 36.9**	**-0.8**
	0.3nm,0.3s,mb3.3,baz=211,slow=3.4,SNR=7.3						
YKA	**Yellowknife Ar**	**34.53**	**47**	P	**P**	**05 14 44.3**	**-1.0**
	0.4nm,0.5s,mb3.6,baz=286,slow=8.8,SNR=11						
YKA				PcP	PcP	05 17 19.0	-0.3
	0.2nm,0.6s,baz=285,slow=3.4,SNR=8.3						
NEW	**Newport**	**38.06**	**70**	P	**P**	**05 15 16.7**	**+1.5**
	1.0nm,0.5s,mb3.8,baz=343,slow=12,SNR=3.6						
HLID	**Hailey**	**42.11**	**75**	*e*P	**P**	**05 15 49.5**	**+0.9**
	0.3nm,0.6s,mb3.1						
NVAR	**Mina Array Bea**	**42.72**	**84**	P	**P**	**05 15 55.8**	**+2.0**
	0.2nm,0.3s,mb3.3,baz=288,slow=8.6,SNR=2.8						
FCC	**Fort Churchill**	**45.27**	**47**	P	**P**	**05 16 12.5**	**-1.4**
BW06	**Boulder Array**	**45.48**	**73**	*e*P	**P**	**05 16 15.9**	**0.0**
	0.7nm,0.5s,mb3.8						
PDAR	**Pinedale Array**	**45.48**	**73**	P	**P**	**05 16 16.6**	**+0.7**
	0.6nm,0.3s,mb3.8,baz=314,slow=3.3,SNR=12						
SONM	**Songino Array**	**47.31**	**297**	P	**P**	**05 16 31.0**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=46,slow=6.7,SNR=5.5						
TXAR	**Lajitas Array**	**57.82**	**82**	P	**P**	**05 17 48.2**	**-0.5**
	0.1nm,0.4s,mb3.2,baz=309,slow=5.8,SNR=2.9						
ARCES	**ARCESS Array B**	**58.08**	**351**	P	**P**	**05 17 49.6**	**-0.3**
	2.9nm,0.9s,mb4.3,baz=20,slow=7.2,SNR=7.7						
HFS	**Hagfors**	**68.33**	**354**	P	**P**	**05 18 56.7**	**-0.7**
	1.6nm,0.8s,mb4.1,baz=18,slow=4.6,SNR=6.9						
DBIC	**Dimbokro**	**121.69**	**9**	PKP	PKPdf	05 26 49.5	+1.1
	1.4nm,0.8s,baz=335,slow=6.0,SNR=4.8						

*IDC **15** 05:25:51.9±1.4, 8.67N×93.65E, mb4.0/7, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, ML4.2/1, Error ellipse: s-maj=44.5km s-min=29.1km az=55.0*
*BJI **15** 05:25:54.7, 8.76N×93.75E, h26km, mb4.5*
*NEIC **15** 05:25:56.4±0.8, 8.72N×93.68E, h30km, mb4.4/4, Error ellipse: s-maj=20.8km s-min=10.9km az=48.0*
ISC 15 05:25:54.5±0.9**, 8.7N**±0.1×**93.7E**±0.1**, h30km, n23, σ0s73**/24**, mb4.2**/13**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.66**	**116**	P	**Pn**	**05 27 46.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**10.92**	**27**	Pn	**P**	**05 28 32.2**	**+0.1**
	0.5nm,0.3s,baz=210,slow=15,SNR=16						
VIS	**Vishakhapatnam**	**13.51**	**313**	*e*P	**P**	**05 29 05.5**	**-1.4**
VIS				*e*S	**S**	**05 31 27.9**	**-8.9**
JIRN	**Jiri**	**20.14**	**340**	*e*P	**P**	**05 30 29.3**	**+0.1**
	36nm,1.0s						
PKI	**Pulchoki**	**20.34**	**338**	*e*P	**P**	**05 30 31.8**	**+0.6**
	32nm,0.9s						
GUN	**Gumba**	**20.48**	**340**	*e*P	**P**	**05 30 33.0**	**+0.3**
	36nm,0.8s						
DMN	**Daman**	**20.48**	**338**	*e*P	**P**	**05 30 33.6**	**+0.8**
	21nm,0.8s						
KKN	**Kakani**	**20.58**	**338**	*e*P	**P**	**05 30 33.6**	**-0.2**
	19nm,0.7s						
LSA	**Lhasa**	**21.01**	**354**	P	**P**	**05 30 38.0**	**-0.2**
LSA	**Lhasa**	**21.01**	**354**	*e*P	**P**	**05 30 36.4**	**-1.8**
	16nm,0.7s,mb4.5						
GKN	**Gorkha**	**21.01**	**337**	*e*P	**P**	**05 30 38.6**	**+0.4**
	37nm,0.9s,mb4.7						
KOLN	**Koldanda**	**21.23**	**335**	*e*P	**P**	**05 30 40.0**	**-0.4**
	21nm,0.9s,mb4.5						
AAK	**Ala-Archa**	**37.77**	**337**	*e*P	**P**	**05 33 08.8**	**-1.0**
	5.4nm,1.0s,mb4.2						
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**05 33 31.7**	**-0.2**
	0.3nm,0.5s,mb3.2,baz=180,slow=8.6,SNR=5.0						
KURK	**Kurchatov**	**43.70**	**346**	*e*P	**P**	**05 33 57.9**	**-0.6**
	7.9nm,1.2s,mb4.3						
ZAL	**Zalesovo**	**45.66**	**353**	P	**P**	**05 34 14.2**	**-0.1**
	3.2nm,0.8s,mb4.3,baz=306,slow=7.4,SNR=20						
CHKZ	**Chkalovo**	**48.55**	**342**	*e*P	**P**	**05 34 36.5**	**-0.4**
	3.7nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**49.08**	**126**	P	**P**	**05 34 41.6**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=305,slow=8.6,SNR=5.0						
FINES	**FINESS Array B**	**71.78**	**332**	P	**P**	**05 37 16.4**	**+0.4**
	1.7nm,0.9s,mb4.0,baz=90,slow=11,SNR=4.1						
ARCES	**ARCESS Array B**	**74.34**	**340**	P	**P**	**05 37 31.8**	**+1.0**
	2.6nm,0.9s,mb4.2,baz=98,slow=6.4,SNR=3.0						
GERES	**GERESS Array B**	**76.93**	**318**	P	**P**	**05 37 46.6**	**+0.7**
	1.0nm,0.8s,mb3.8,baz=76,slow=5.5,SNR=8.8						
NOA	**NORSAR Array B**	**78.80**	**331**	P	**P**	**05 37 55.9**	**-0.1**
	1.1nm,0.8s,mb3.8,baz=90,slow=6.0,SNR=4.5						
IMA	**Indian Mountai**	**91.00**	**22**	*e*P	**P**	**05 38 58.6**	**+1.8**

*IDC **15** 05:48:07.4±1.2, 8.61N×93.67E, mb3.9/9, mb1 4.1/10, mb1mx4.0/17, mbtmp3.9/10, ML4.2/1, MS3.4/1, Ms1 3.6/1, ms1mx3.2/18, Error ellipse: s-maj=44.2km s-min=25.5km az=52.0*
*BJI **15** 05:48:10.2, 8.48N×93.77E, h38km, mb4.3*
*NEIC **15** 05:48:11.7±0.7, 8.64N×93.87E, h30km, mb4.4/5, Error ellipse: s-maj=17.3km s-min=11.9km az=51.0*
ISC 15 05:48:10.7±0.9**, 8.7N**±0.1×**93.86E**±0.09**, h33km, n32, σ0s86**/32**, mb4.1**/17**, 1D, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.54**	**116**	P	**P**	**05 49 57.8**	**-3.2**
CM31	**Chiang Mai Arr**	**10.89**	**26**	*e*P	**P**	**05 50 46.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**10.89**	**26**	Pn	**P**	**05 50 47.4**	**0.0**
	0.5nm,0.3s,baz=211,slow=14,SNR=19						
CMAR				LR	LR	05 55 05.3	
	comp=Z,166nm,18.9s,baz=73,slow=38						
VIS	**Vishakhapatnam**	**13.62**	**312**	*e*P	**P**	**05 51 23.1**	**-0.9**
VIS				*e*S	**S**	**05 53 43.5**	**-12**
HYB	**Hyderabad**	**17.24**	**302**	*e*P	**P**	**05 52 17.0**	**+6.4**
HYB	**Hyderabad**	**17.24**	**302**	*i* P	**P**	**05 52 17.0**	**+6.4**
JIRN	**Jiri**	**20.21**	**340**	*e*P	**P**	**05 52 45.7**	**+0.1**
	26nm,0.8s						
PKI	**Pulchoki**	**20.41**	**338**	*e*P	**P**	**05 52 47.7**	**+0.1**
	20nm,0.7s						
GUN	**Gumba**	**20.55**	**340**	*e*P	**P**	**05 52 49.3**	**+0.2**
	42nm,0.7s						
DMN	**Daman**	**20.55**	**337**	*e*P	**P**	**05 52 49.7**	**+0.5**
	10nm,0.3s						
KKN	**Kakani**	**20.65**	**338**	*e*P	**P**	**05 52 49.0**	**-1.2**
	21nm,0.7s						
LSA	**Lhasa**	**21.05**	**353**	P	**P**	**05 52 55.0**	**+0.7**
LSA	**Lhasa**	**21.05**	**353**	*e*P	**P**	**05 52 53.9**	**-0.4**
	13nm,0.4s,mb4.6						
GKN	**Gorkha**	**21.09**	**337**	*e*P	**P**	**05 52 54.8**	**+0.2**
	33nm,0.7s,mb4.8						
KOLN	**Koldanda**	**21.31**	**334**	*e*P	**P**	**05 52 57.5**	**+0.7**
	30nm,0.8s,mb4.7						
GYA	**Guiyang**	**21.44**	**33**⇓	*i*P	**P**	**05 52 59.4**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.2						
ENH	**Enshi**	**25.97**	**32**	*e*P	**P**	**05 53 39.9**	**-2.4**
	comp=Z,7.1nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**37.85**	**336**	*e*P	**P**	**05 55 25.9**	**-0.2**
	comp=Z,4.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**40.43**	**13**	P	**P**	**05 55 47.8**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.4,baz=197,slow=7.0,SNR=3.3						
SONM				PcP	PcP	05 57 51.5	+0.8
	comp=Z,0.2nm,0.3s,baz=251,slow=3.6,SNR=4.3						
KURK	**Kurchatov**	**43.75**	**346**	*e*P	**P**	**05 56 13.4**	**-1.3**
	comp=Z,3.1nm,0.9s,mb4.0						
ZAL	**Zalesovo**	**45.70**	**353**	P	**P**	**05 56 30.8**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3,baz=300,slow=12,SNR=0.2						
CHKZ	**Chkalovo**	**48.61**	**342**	*e*P	**P**	**05 56 52.4**	**-0.7**
	comp=Z,3.4nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**48.96**	**126**	P	**P**	**05 56 56.2**	**0.0**
	comp=Z,0.6nm,0.3s,mb4.1,baz=300,slow=9.8,SNR=11						
FINES	**FINESS Array B**	**71.86**	**332**	P	**P**	**05 59 31.7**	**-0.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=79,slow=7.1,SNR=6.5						
ARCES	**ARCESS Array B**	**74.41**	**340**	P	**P**	**05 59 46.8**	**+0.1**
	comp=Z,2.9nm,0.9s,mb4.2,baz=76,slow=5.0,SNR=5.2						
GERES	**GERESS Array B**	**77.03**	**318**	P	**P**	**06 00 02.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.6,baz=90,slow=4.0,SNR=5.4						
HFS	**Hagfors**	**77.61**	**330**	P	**P**	**06 00 05.5**	**+0.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=5.9,SNR=5.8						
NB2	**NORSAR Subarra**	**78.89**	**331**	P	**P**	**06 00 12.1**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.6,baz=95,slow=5.0						
NOA	**NORSAR Array B**	**78.89**	**331**	P	**P**	**06 00 11.9**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=96,slow=5.4,SNR=2.9						
IMA	**Indian Mountai**	**90.97**	**22**	*e*P	**P**	**06 01 14.3**	**+2.0**
ILAR	**Eielson Array**	**94.09**	**22**	P	**P**	**06 01 27.9**	**+1.3**
	comp=Z,0.6nm,0.7s,mb4.1,baz=305,slow=4.3,SNR=7.5						
PDAR	**Pinedale Array**	**124.51**	**21**	PKP	PKPdf	06 07 10.8	+3.8
	comp=Z,0.2nm,0.6s,baz=180,slow=1.5,SNR=2.4						

*ISK **15** 06:06:59.3, 39.40N×40.79E, h5km, MD3.8, ML3.9*
*CSEM **15** 06:06:59.3, 39.40N×40.79E, h5km, MD3.8, After ISK*
ISC 15 06:07:00.2±0.4**, 39.41N**±0.03×**40.80E**±0.03**, h5km, n28, σ1s10**/37**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.58**	**205**	*i* PG	**Pg**	**06 07 10.9**	**-1.0**
VRT	**Varto**	**0.63**	**116**	*i* PG	**Pg**	**06 07 11.5**	**-1.2**
EZM	**Erzurum**	**0.66**	**41**	*i* PG	**Pg**	**06 07 12.7**	**-0.7**
ERZM	**Erzurum**	**0.66**	**41**	*i* P	**Pg**	**06 07 12.6**	**-0.8**
ERZM				*i* S	**Sg**	**06 07 25.1**	**+2.9**
PTK	**Pertek**	**1.21**	**245**	PN	**Pn**	**06 07 22.9**	**-0.9**
PTK				SN	**Sn**	**06 07 38.9**	**-1.8**
BTMT	**Batman**	**1.32**	**156**	PN	**Pn**	**06 07 25.5**	**+0.1**
GUMT	**Gumushane**	**1.46**	**316**	PN	**Pn**	**06 07 27.3**	**-0.1**
BEST	**Besiri**	**1.56**	**166**	*i* P	**Pn**	**06 07 28.8**	**+0.1**
BEST				*i* S	**Sb**	**06 07 51.0**	**+2.0**
DIY	**Diyarbakir**	**1.57**	**197**	PN	**Pn**	**06 07 29.2**	**+0.3**
ELZG	**Elazig**	**1.68**	**238**	*i* P	**Pn**	**06 07 30.9**	**+0.4**
ELZG				*i* S	**Sn**	**06 07 55.7**	**+3.0**
BCA	**Borcka**	**2.13**	**17**	*e*PN	**Pn**	**06 07 36.5**	**-0.4**
KARS	**Kars**	**2.13**	**55**	*e*PN	**Pn**	**06 07 36.6**	**-0.3**
MYA	**Malataya**	**2.15**	**241**	*e*PN	**Pn**	**06 07 36.4**	**-0.7**
VANB	**Van**	**2.17**	**111**	*e*PN	**Pn**	**06 07 37.6**	**+0.1**
TVAN	**Van**	**2.21**	**113**	*i* P	**Pn**	**06 07 38.8**	**+0.7**
TVAN				*i* S	**Sn**	**06 08 06.8**	**+0.7**
VANT	**Van**	**2.23**	**115**	*e*PN	**Pn**	**06 07 36.9**	**-1.5**
URFA	**Urfa**	**2.50**	**219**	*e*PN	**Pn**	**06 07 41.2**	**-1.1**
HKR	**Hakkari**	**2.94**	**127**	*e*PN	**Pn**	**06 07 48.4**	**-0.1**
SVST	**Sivas**	**3.00**	**278**	P	**Pb**	**06 07 55.0**	**+1.2**
SVST				S	**Sg**	**06 08 39.3**	**-0.7**
GNI	**Garni**	**3.12**	**75**	*e*PN	**Pn**	**06 07 50.6**	**-0.5**
GZT	**Gaziantep**	**3.27**	**232**	P	**Pn**	**06 07 57.2**	**+4.1**
TOKT	**Tokat**	**3.40**	**287**	*e*PN	**Pn**	**06 07 54.9**	**-0.1**
KAHT	**Ahir Dag**	**3.56**	**241**	P	**Pn**	**06 07 57.7**	**+0.5**
COBT	**Iskenderun**	**4.61**	**233**	P	**Pn**	**06 08 13.2**	**+1.0**
AVNT	**Avonos**	**4.67**	**264**	P	**Pb**	**06 08 23.2**	**+0.8**
AVNT				S	**Sg**	**06 09 33.2**	**-2.5**
BOYT	**Boyabat**	**4.93**	**296**	P	**Pb**	**06 08 26.9**	**0.0**
BOYT				S	**Sg**	**06 09 39.3**	**-5.2**
ELDT	**Eldivan**	**5.77**	**283**	P	**Pn**	**06 08 34.4**	**+5.8**
BALT	**Daday**	**6.04**	**293**	P	**Pb**	**06 08 48.6**	**+2.7**
BALT				S	**Sg**	**06 10 22.9**	**+1.5**

*CRAAG **15** 06:48:49.7, 36.85N×3.88E, Ml3.2*
*CSEM **15** 06:48:50.7±0.1, 36.85N×3.82E, h5km, ML3.2, Error ellipse: s-maj=2.6km s-min=1.2km az=18.0*
*NEIC **15** 06:48:53.8, 36.98N×3.53E, MG3.7(MDD), After MDD.*
*MDD **15** 06:48:53.2±0.6, 36.83N×3.68E, h17km±7km, mb4.0/11, Error ellipse: s-maj=10.2km s-min=4.9km az=31.0, PRXIMO*
ISC 15 06:48:50.4±0.4**, 37.02N**±0.03×**3.68E**±0.04**, h10km, n51, σ1s46**/73**, Western Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.32**	**211**	P	**Pg**	**06 48 57.2**	**+0.2**
ABA	**Alger-Bouzarea**	**0.56**	**247**	P	**Pg**	**06 49 03.5**	**+1.7**
ADJB	**Djebel Djouab**	**0.89**	**193**	P	**Pb**	**06 49 05.7**	**-1.7**
EMHD	**Djebel Mahouad**	**1.01**	**216**	P	**Pb**	**06 49 09.0**	**-0.5**
SET	**Setif**	**1.61**	**120**	P	**Pn**	**06 49 19.0**	**-0.1**
DFRA	**Djebel Bou Aff**	**1.83**	**104**	P	**Pn**	**06 49 21.5**	**-0.7**
CMER	**Merouana**	**2.27**	**127**	P	**Pn**	**06 49 28.0**	**-0.6**
CASM	**Ain Smara**	**2.38**	**108**	P	**Pn**	**06 49 31.0**	**+0.8**
CKFL	**Kef-Lekhel**	**2.52**	**103**	P	**Pn**	**06 49 31.0**	**-1.1**
CAEH	**'Ain El Ouahch**	**2.55**	**95**	P	**Pn**	**06 49 32.0**	**-0.6**
EIBI	**Ibiza**	**2.72**	**318**	Pn	**Pn**	**06 49 37.2**	**+2.2**
EIBI				Sn	**Sn**	**06 50 07.7**	**-0.6**
EIBI	**Ibiza**	**2.72**	**318**	P	**Pn**	**06 49 37.2**	**+2.2**
	2.2nm,0.2s,SNR=7.2						
EIBI				S	**Sn**	**06 50 08.7**	**+0.4**
	9.4nm,0.1s,SNR=7.2						
EIBI	**Ibiza**	**2.72**	**318**	Pn	**Pn**	**06 49 37.2**	**+2.2**
	0.6nm,0.1s,SNR=7.2						
EIBI				Sn	**Sn**	**06 50 07.7**	**-0.6**
ETOS	**Mallorca**	**2.82**	**346**	P	**Pn**	**06 49 38.1**	**+1.6**
	2.7nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**06 50 09.8**	**-1.1**
	7.0nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**2.82**	**346**	Pn	**Pn**	**06 49 38.1**	**+1.6**
	1.3nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**06 50 09.8**	**-1.1**
	3.2nm,0.3s,SNR=7.9						
CMAH	**Djebel Manchou**	**3.03**	**96**	P	**Pn**	**06 49 35.5**	**-3.8**
EBEN	**Beniarda**	**3.52**	**300**	P	**Pn**	**06 49 48.2**	**+1.9**
	1.9nm,0.3s,SNR=7.9						
EBEN				S	**Sn**	**06 50 27.3**	**-1.1**
	1.1nm,0.3s,SNR=7.9						
EBEN	**Beniarda**	**3.52**	**300**	Pn	**Pn**	**06 49 48.2**	**+1.9**
	0.5nm,0.1s,SNR=7.9						
EBEN				Sn	**Sn**	**06 50 27.4**	**-1.0**
EMUR	**La Murta**	**4.00**	**283**	P	**Pn**	**06 49 53.9**	**+0.7**
	3.0nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**4.00**	**283**	Pn	**Pn**	**06 49 53.9**	**+0.7**
	2.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.44**	**293**	Pn	**Pn**	**06 50 01.2**	**+1.7**
ETOB	**Tobarra**	**4.44**	**293**	P	**Pn**	**06 50 00.9**	**+1.4**
	4.2nm,0.2s,SNR=6.9						
ETOB				S	**Sn**	**06 50 46.6**	**-5.3**
	3.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**4.44**	**293**	Pn	**Pn**	**06 50 01.2**	**+1.7**
	2.1nm,0.3s,SNR=6.9						
EMOS	**Mosqueruela**	**4.66**	**317**	P	**Pn**	**06 50 03.8**	**+1.3**
	0.8nm,0.2s,SNR=6.8						
EMOS				S	**Sn**	**06 50 55.2**	**-2.0**
	1.9nm,0.1s,SNR=7.9						
EMOS	**Mosqueruela**	**4.66**	**317**	Pn	**Pn**	**06 50 03.8**	**+1.3**
	0.4nm,0.1s,SNR=6.8						
EMOS				Sn	**Sn**	**06 50 55.2**	**-2.1**
	2.8nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.71**	**327**	P	**Pn**	**06 50 05.8**	**+2.5**
	0.8nm,0.2s,SNR=7.9						
ERTA				S	**Sn**	**06 50 56.3**	**-2.4**
	2.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.71**	**327**	Sn	**Sn**	**06 50 55.4**	**-3.3**
	2.1nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.77**	**336**	Pn	**Pn**	**06 50 05.3**	**+1.1**
EPOB				Sn	**Sn**	**06 50 56.7**	**-3.5**
EPOB	**Poblet**	**4.77**	**336**	P	**Pn**	**06 50 05.3**	**+1.1**
	0.7nm,0.1s,SNR=7.9						
EPOB				S	**Sn**	**06 50 57.7**	**-2.5**
	1.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**4.77**	**336**	Pn	**Pn**	**06 50 05.3**	**+1.2**
	0.2nm,0.1s,SNR=7.9						
EPOB				Sn	**Sn**	**06 50 56.7**	**-3.5**
	0.9nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**5.15**	**290**	P	**Pn**	**06 50 09.1**	**-0.4**
	3.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.43**	**280**	Pn	**Pn**	**06 50 14.8**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EQES				Sn	Sn	06 51 14.4	-2.4
EQES	Quesada	5.43	280	P	Pn	06 50 14.3	+0.8
	5.7nm,0.3s,SNR=19						
EQES				S	Sn	06 51 14.4	-2.4
	1.8nm,0.4s,SNR=7.9						
EQES	Quesada	5.43	280	Pn	Pn	06 50 14.8	+1.4
	1.6nm,0.1s,SNR=19						
EQES				Sn	Sn	06 51 14.4	-2.4
	0.9nm,0.3s,SNR=7.9						
EJON	La Jonquera	5.45	354	P	Pn	06 50 14.8	+1.0
	1.8nm,0.2s,SNR=7.6						
EJON				S	Sn	06 51 13.8	-3.5
	2.1nm,0.2s,SNR=7.9						
EJON	La Jonquera	5.45	354	Pn	Pn	06 50 14.8	+1.1
	2.6nm,0.1s,SNR=7.6						
EBIE	Bielsa	6.28	335	Pn	Pn	06 50 27.0	+1.6
EBIE				Sn	Sn	06 51 33.5	-4.4
EBIE	Bielsa	6.28	335	P	Pn	06 50 27.0	+1.6
	0.5nm,0.3s,SNR=7.9						
EBIE				S	Sn	06 51 35.3	-2.6
	2.1nm,0.5s,SNR=7.9						
EBIE	Bielsa	6.28	335	Pn	Pn	06 50 27.0	+1.6
	0.1nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	6.56	296	P	Pn	06 50 29.9	+0.4
	1.1nm,0.1s,baz=116,slow=14,SNR=4.8						
ESDC	Sonseca Array	6.56	296	Pn	Pn	06 50 29.9	+0.5
	0.5nm,0.3s,SNR=4.8						
EADA	Adamuz	6.66	282	P	Pn	06 50 29.4	-1.3
	0.5nm,0.2s,SNR=7.9						
EADA	Adamuz	6.66	282	Pn	Pn	06 50 29.4	-1.3
	0.1nm,0.0s,SNR=7.9						
EALK	Alkurruntz	7.35	329	Pn	Pn	06 50 39.8	-0.8
EALK				Sn	Sn	06 51 58.0	-6.9
EALK	Alkurruntz	7.35	329	P	Pn	06 50 41.2	+0.7
	1.2nm,0.3s,SNR=7.9						
EALK				S	Sn	06 51 59.8	-5.0
	2.0nm,0.2s,SNR=7.9						
EALK	Alkurruntz	7.35	329	Pn	Pn	06 50 39.8	-0.7
	1.4nm,0.3s,SNR=7.9						
EJIF	Jimena Fronter	7.37	268	P	Pn	06 50 38.3	-2.4
	1.5nm,0.1s,SNR=7.9						
EARI	Arriondas	9.25	315	P	P	06 51 09.7	+2.8
	0.5nm,0.3s,SNR=7.9						
ECAL	Calabor	9.43	305	P	P	06 51 09.7	+0.3
	0.9nm,0.2s,SNR=7.9						
ECAL	Calabor	9.43	305	Pn	P	06 51 09.7	+0.3
LJU	Ljubljana	12.12	39	eP	P	06 51 51.0	+4.9

*NEIC **15** 06:53:08.4, 36.24S×71.86W, h65km, MD3.9(GUC), After GUC.*

GUC 15 06:53:08.4±0.8**, 36.24S×71.86W, h65km±5km, MD3.9, ML4.0, 1C-3D, Central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CCHI	Chillan	0.41	206	⇓iP	P	06 53 20.1	+0.2
CCHI				iS	S	06 53 28.6	0.0
CCHI				AMP		06 53 29.9	
	comp=N,8μm,0.6s						
LNCH	Linares	0.44	28	⇓iP	P	06 53 28.5	+8.2
LNCH				iS	S	06 53 37.8	+8.8
LNCH				AMP		06 53 38.6	
	comp=N,12μm,0.6s						
NICH	Los Niches	1.33	23	eP	P	06 53 31.1	-0.4
NICH				iS	S	06 53 48.6	-0.1
SFDO	San Fernando	1.76	23	⇑iP	P	06 53 37.2	0.0
SFDO				iS	S	06 53 58.8	+0.2
CICH	Cipreses	2.24	32	eP	P	06 53 45.2	+1.2
LNV	Longovilo	2.30	9	eP	P	06 53 44.6	-0.3
CACH	El Canelo	2.35	26	eP	P	06 53 45.7	+0.1
CACH				iS	S	06 54 14.3	+1.0
CHCH	Chadas Angostu	2.50	24	eP	P	06 53 47.2	-0.5
TMCH	Temuco	2.58	193	eP	P	06 53 57.6	+8.8
TMCH				iS	S	06 54 28.5	+9.5
TACH	Talagante	2.69	17	⇓iP	P	06 53 49.9	-0.4
LMEL	Las Melosas	2.74	30	eP	P	06 53 52.3	+1.2
LMEL				iS	S	06 54 25.2	+2.0
LMEL				AMP		06 54 37.3	
	comp=N,414nm,0.3s						
PCH	Pirque	2.83	23	eP	P	06 53 52.1	-0.2
ANTU	Antumapu	2.84	21	eP	P	06 53 52.1	-0.5
ANTU				iS	S	06 54 25.0	-0.7
ANTU				AMP		06 54 33.5	
	comp=E,789nm,0.2s						
RCDM	Rinconada Maip	2.87	18	eP	P	06 53 52.0	-0.9
RCDM				iS	S	06 54 25.3	-1.1
RCDM				AMP		06 54 36.7	
	comp=N,389nm,0.4s						
FSR	Penalolen	2.96	22	eP	P	06 53 53.3	-0.9
FSR				iS	S	06 54 29.3	+0.7
FSR				AMP		06 54 43.7	
	comp=E,408nm,0.2s						
CLCH	Cerro Calan	3.03	21	eP	P	06 53 54.6	-0.6
CLCH				iS	S	06 54 29.9	-0.5
CLCH				AMP		06 54 46.0	
	comp=N,636nm,0.6s						
FCH	Farellones	3.17	24	eP	P	06 53 57.1	-0.1
FCH				iS	S	06 54 34.6	+0.6
FCH				AMP		06 54 46.0	
	comp=E,602nm,0.3s						

IDC 15 06:54:53.0±4.5**, 15.07S×173.52W, mb4.0**/4**, mb1 4.3**/4**, mb1mx3.9**/14**, mbtmp4.0**/4**, Error ellipse: s-maj=198.3km s-min=34.0km az=136.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	44.10	240	P	P	07 03 03.0	-1.9
	4.7nm,1.0s,baz=71,slow=11,SNR=4.7						
WRA	Warramunga Arr	49.81	256	P	P	07 03 48.3	-1.7
	0.8nm,0.4s,baz=91,slow=7.0,SNR=38						
ASAR	Alice Springs	50.11	252	P	P	07 03 50.0	-2.2
	2.6nm,0.6s,baz=88,slow=8.0,SNR=30						
ILAR	Eielson Array	82.14	11	P	P	07 07 15.3	-1.3
	0.3nm,0.6s,baz=219,slow=6.4,SNR=5.1						

IDC 15 07:46:57.4±5.4**, 6.57N×92.27E, mb3.6**/3**, mb1 3.9**/4**, mb1mx3.7**/16**, mbtmp3.7**/4**, ML4.3**/1**, Error ellipse: s-maj=152.5km s-min=31.0km az=77.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.49	28	Pn	P	07 50 11.7	-1.0
	0.4nm,0.3s,baz=231,slow=14,SNR=17						
SONM	Songino Array	42.85	14	P	P	07 54 57.0	-1.9
	0.2nm,0.4s,baz=211,slow=8.4,SNR=3.0						
WRA	Warramunga Arr	49.06	123	P	P	07 55 46.3	-2.3
	0.9nm,0.6s,baz=306,slow=8.4,SNR=11						
ASAR	Alice Springs	50.55	128	P	P	07 55 58.2	-1.8
	0.9nm,0.7s,baz=302,slow=7.8,SNR=8.2						

*IDC **15** 08:00:33.4±1.0, 30.71N×57.01E, mb3.8/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, Error ellipse: s-maj=30.0km s-min=26.8km az=74.0*
*NEIC **15** 08:00:34.6, 30.79N×56.87E, h14km, ML3.9(THR), MN4.2(TEH), After THR.*
*THR **15** 08:00:34.6±0.9, 30.79N×56.87E, h14km±9km, ML3.9*
*TEH **15** 08:00:35.7, 30.59N×57.03E, h18km, Mn4.2*
*CSEM **15** 08:00:35.5±0.1, 30.72N×56.91E, h25km, ML3.9, Error ellipse: s-maj=3.4km s-min=2.0km az=63.0*
*OMAN **15** 08:00:37.1±0.1, 30.81N×56.48E, h8km, Error ellipse: s-maj=201.9km s-min=41.3km az=272.0*

ISC 15 08:00:33.9±1.3**, 30.83N**±0.03×**56.91E**±0.06**, h5km**±9km**, n45, σ1§03**/52**, mb3.8**/8**, 2C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.86	189	ePg	Pg	08 00 49.0	-2.0
KRBR				eSg	Sg	08 01 01.0	-1.4
KRBR	Kerman	0.86	189	ePG	Pg	08 00 49.9	-1.1
KRBR				eSG	Sg	08 01 01.6	-0.9
KRBR				AML	AML	08 01 08.7	
	comp=N,5μm,0.3s						
KRBR	Kerman	0.86	189	ePg	Pg	08 00 49.8	-1.2
	SNR=90						
KRBR				eSg	Sg	08 01 01.0	-1.4
IBAF	Bafgh	1.38	304	Pn	Pn	08 00 59.3	-0.6
IMEH	Mehriz	2.05	286	Pn	Pn	08 01 10.1	+0.6
ICHK	Chekchek	2.56	304	Pn	Pn	08 01 16.7	-0.1
ISAD	Sadrabad	2.96	292	Pn	Pn	08 01 24.3	+1.8
BNDS	Bandar-Abbas	3.48	191	ePN	Pn	08 01 30.5	+0.6
BNDS				AML	AML	08 02 35.0	
	comp=N,264nm,0.5s						
BNDS	Bandar-Abbas	3.48	191	ePn	Pn	08 01 30.0	+0.1
IPAR	Pars	3.48	255	Pn	Pn	08 01 28.5	-1.4
ZHSF	Zahedan	3.56	109	ePN	Pn	08 01 31.7	+0.7
ZHSF	Zahedan	3.56	109	ePn	Pn	08 01 31.0	+0.1
NASN	Na'in	4.01	300	ePn	Pn	08 01 38.0	+0.7
NASN				eSg	Sg	08 02 38.0	-9.3
NASN	Na'in	4.01	300	ePN	Pn	08 01 38.1	+0.8
NASN				eSG	Sg	08 02 38.4	-8.8
NASN				AML	AML	08 02 49.3	
	comp=N,155nm,0.6s						
GHIR	Ghir-Karzin	4.26	234	ePN	Pn	08 01 40.7	-0.2
GHIR	Ghir-Karzin	4.26	234	ePn	Pn	08 01 40.0	-0.9
BANOM	Banah	4.92	186	⇑P	Pn	08 01 50.8	+0.5
	SNR=17						
BANOM				⇓S	Sn	08 02 48.7	+0.2
IFIR	Firoozkooh	5.93	325	Pn	Pn	08 02 05.4	+0.9
IFIR				Sn	Sn	08 03 12.0	-1.7
ASHO	Ashiyiah	6.17	187	⇑P	Pn	08 02 09.4	+1.5
	SNR=5.8						
IDMV	Damavand	6.25	320	Pn	Pn	08 02 09.8	+0.7
DAMV	Damavand	6.33	320	ePn	Pn	08 02 10.0	-0.2
DAMV	Damavand	6.33	320	ePN	Pn	08 02 10.3	+0.1
IQOM	Qom	6.34	311	Pn	Pn	08 02 10.5	+0.2
IAFJ	Afjeh	6.63	320	Pn	Pn	08 02 14.9	+0.4
IAFJ				Lg		08 04 10.3	
ASAO	Ashtian	6.89	304	ePn	Pn	08 02 17.0	-1.0
ASAO	Ashtian	6.89	304	ePN	Pn	08 02 17.3	-0.8
IMHD	Mahdasht	7.12	314	Pn	Pn	08 02 21.3	-0.1
ARQ	Araqi	7.47	183	⇓P	Pn	08 02 26.7	+0.4
SMDO	Samad	7.81	172	⇓P	Pn	08 02 33.0	+2.0
BSY	Bisya	8.06	178	P	P	08 02 34.9	+0.5
	SNR=7.7						
BSYO	Bisya	8.07	178	P	P	08 02 34.9	+0.3
	SNR=7.7						
MALT	Malatya	16.94	301	P	P	08 04 35.0	+1.8
	comp=N,2.0nm,0.6s						
MALT	Malatya	16.94	301	P	P	08 04 35.0	+1.8
	comp=N,2.0nm,0.6s						
AAK	Ala-Archa	18.32	45	eP	P	08 04 50.0	-0.5
	comp=N,3.4nm,1.0s						
AAK	Ala-Archa	18.32	45	eP	P	08 04 50.0	-0.5
	comp=N,3.4nm,1.0s						
MLR	Muntele Rosu	28.20	310	P	P	08 06 30.7	+1.3
	comp=N,1.3nm,0.6s,mb3.8,baz=101,slow=16,SNR=2.8						
FINES	FINESS Array B	36.66	336	P	P	08 07 42.5	-0.6
	comp=N,0.6nm,0.5s,mb3.7,baz=135,slow=14,SNR=3.6						
FINES	FINESS Array B	36.66	336	P	P	08 07 42.5	-0.6
GERES	GERESS Array B	37.16	312	P	P	08 07 46.5	-0.8
	comp=N,0.7nm,0.7s,mb3.6,baz=113,slow=10,SNR=6.0						
SONM	Songino Array	41.12	51	P	P	08 08 20.8	+0.5
	comp=N,0.4nm,0.7s,mb3.1,baz=288,slow=9.1,SNR=3.0						
MATP	Matopo	57.81	212	P	P	08 10 26.8	-2.1
	comp=N,2.7nm,0.7s,mb4.4,baz=34,slow=8.4,SNR=8.2						
MATP	Matopo	57.81	212	P	P	08 10 26.8	-2.1
ILAR	Eielson Array	82.91	10	P	P	08 12 59.4	-1.1
	comp=N,0.5nm,0.6s,mb3.7,baz=326,slow=3.5,SNR=7.9						
YKA	Yellowknife Ar	86.75	356	P	P	08 13 19.5	-0.2
	comp=N,0.6nm,0.6s,mb4.0,baz=0.3,slow=5.0,SNR=21						
WRA	Warramunga Arr	89.81	113	P	P	08 13 33.0	-2.3
	comp=N,0.3nm,0.5s,mb3.9,baz=314,slow=4.0,SNR=5.0						

*IDC **15** 08:25:07.6±0.6, 8.92S×106.14W, mb4.5/17, mb1 4.7/17, mb1mx4.5/20, mbtmp4.5/17, MS4.0/16, Ms1 4.0/16, ms1mx3.8/20, Error ellipse: s-maj=20.1km s-min=13.7km az=67.0*
*NEIC **15** 08:25:09.0±0.3, 8.97S×106.09W, h10km, mb4.9/18, Error ellipse: s-maj=11.2km s-min=5.9km az=73.0*
*BJI **15** 08:25:08.9, 9.00S×106.10W, h11km, mB5.4, Ms5.2, Msz4.6*
*HRVD **15** 08:25:09.0±0.5, 8.86S×105.89W, h15km±1km, MW4.8/50, Centroid moment Tensor Solution. LP body waves: s16,c24; Mantle waves: s50,c71; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.13±.18; $M_{\theta\theta}$-1.05±.11; $M_{\phi\phi}$-1.08±.12; $M_{r\theta}$-0.60±.26; $M_{\theta\phi}$-0.73±.07; $M_{\phi r}$0.44±.27; Best double couple: $M_0$2.068×10^{16} NP1:ϕ_s30°, δ45°, λ68°. NP2:ϕ_s240°, δ49°, λ111°. Principal axes: T 2.337, Plg74°, Azm219°; N -.537, Plg15°, Azm46°; P -1.799, Plg2°, Azm315°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 08:25:07.8±0.3**, 8.87S**±0.05×**106.09W**±0.09**, h10km, (h9km**±1.9km**:pP-P), n94, σ1§00**/72**, mb4.7**/32**, MS4.1**/20**, 5C, Central East Pacific Rise**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	28.37	48	P	P	08 31 05.4	+0.9
	2.2nm,0.7s,mb3.9,baz=229,slow=9.3,SNR=2.9						
JTS				LR	LR	08 39 10.7	
	comp=Z,144nm,22.0s,MS3.5,baz=58,slow=30						
OTAV	Otavalo	28.98	73	eP	P	08 31 10.9	+0.9
	25nm,1.4s,mb4.8						
ROSC	El Rosal	34.47	68	LR	LR	08 43 23.8	
	comp=Z,126nm,18.7s,MS3.7,baz=6.2,slow=32						
LPAZ	La Paz	37.72	105	P	P	08 32 26.7	+1.0
	7.0nm,0.9s,mb4.4,baz=283,slow=6.5,SNR=30						
LPAZ				LR	LR	08 44 37.7	
	comp=Z,267nm,18.3s,MS4.1,baz=274,slow=31						
LPAZ	La Paz	37.72	105	eP	P	08 32 26.4	+0.7
	9.5nm,0.9s,mb4.5						
TXAR	Lajitas Array	38.06	3	P	P	08 32 29.9	+1.5
	1.0nm,0.8s,mb3.6,baz=186,slow=11,SNR=11						
TXAR				PcP	PcP	08 34 43.8	-0.4
	2.6nm,1.0s,baz=180,slow=5.0,SNR=9.9						
TXAR				LR	LR	08 45 49.6	
	comp=Z,142nm,20.8s,MS3.8,baz=195,slow=33						
LVC	Limon Verde	38.17	115	P	P	08 32 30.1	+0.6
	14nm,1.1s,mb4.6,baz=282,slow=7.7,SNR=10						
LVC				LR	LR	08 43 59.4	
	comp=Z,468nm,19.0s,MS4.3,baz=248,slow=30						
LVC	Limon Verde	38.17	115	eP	P	08 32 29.1	-0.4
	22nm,1.7s,mb4.6						
SDV	Santo Domingo	39.48	64	P	P	08 32 41.1	+0.7
	4.1nm,0.7s,mb4.3,baz=254,slow=8.2,SNR=12						
SDV	Santo Domingo	39.48	64	eP	P	08 32 40.9	+0.4
	40nm,1.4s,mb5.0						
FCH	Farellones	40.99	132	eP	P	08 32 52.2	-0.5
CFAA	Coronel Fontan	41.78	128	P	P	08 32 58.4	-0.9
	1.6nm,0.8s,mb3.7,baz=287,slow=6.9,SNR=48						
CFAA				LR	LR	08 45 52.2	
	comp=Z,41nm,20.5s,MS3.3,baz=325,slow=30						
WMOK	Wichita Mounta	43.92	9	eP	P	08 33 16.2	-0.5
	6.6nm,0.8s,mb4.4						
LRAL	Lakeview Retre	45.47	23	eP	P	08 33 29.4	+0.2
	11nm,1.0s,mb4.6						
PV01	Paradox Valley	46.82	357	eP	P	08 33 40.2	+0.4
RW3	Ridgway	46.90	358	eP	P	08 33 41.7	+1.3
ARUT	Antelope Range	46.92	352	eP	P	08 33 42.6	+2.0
PV10	Paradox Valley	47.08	357	eP	P	08 33 41.3	-0.5
MTUM	Tungsten Hills	47.45	346	eP	P	08 33 45.9	+1.2
MTUM				e		08 33 51.0	
MSU	Marysvale	47.48	354	eP	P	08 33 46.0	+1.1
SJG	San Juan	47.68	56	LR	LR	08 49 39.8	
	comp=Z,114nm,21.6s,MS3.8,baz=97,slow=31						
CBKS	Cedar Bluff	47.81	7	eP	P	08 33 46.8	-0.8
	23nm,0.9s,mb5.2						
TPH	Tonopah	47.85	348	eP	P	08 33 49.6	+1.7
	9.1nm,0.9s,mb4.8						
MNV	Mina	48.39	347	P	P	08 33 53.5	+1.5
	2.7nm,0.8s,mb4.3						
NVAR	Mina Array Bea	48.42	347	P	P	08 33 54.0	+1.7
	4.0nm,0.8s,mb4.5,baz=185,slow=11,SNR=37						
NVAR				LR	LR	08 50 20.6	
	comp=Z,138nm,18.1s,MS4.0,baz=90,slow=31						
NVAR	Mina Array Bea	48.42	347	P	P	08 33 54.0	+1.7
ISCO	Idaho Springs	48.43	0	eP	P	08 33 52.1	-0.2
	17nm,1.2s,mb5.0						
JSC	Jenkinsville	48.95	27	eP	P	08 33 55.5	-1.0
TRQA	Tornquist	49.14	133	P	P	08 33 54.0	-3.9
	11nm,0.9s,mb4.9						
DAU	Daniels Canyon	49.27	355	eP	P	08 34 00.0	+1.2
HWUT	Hardware Ranch	50.48	355	eP	P	08 34 08.1	0.0
	17nm,0.9s,mb5.1						
HWUT				e		08 34 13.4	
PDAR	Pinedale Array	51.49	357	P	P	08 34 15.2	-0.5
	4.5nm,0.9s,mb4.4,baz=169,slow=6.7,SNR=27						
PDAR				LR	LR	08 54 23.7	
	comp=Z,147nm,18.7s,MS4.0,baz=18,slow=34						
LOHW	Long Hollow	52.40	356	eP	P	08 34 21.8	-0.7
	16nm,0.9s,mb5.0						
HLID	Hailey	52.73	352	eP	P	08 34 25.3	+0.3
	13nm,1.2s,mb4.7						
HLID				e	pP	08 34 29.7	+1.5
QLMT	Earthquake Lak	53.67	355	eP	P	08 34 32.8	+0.8
QLMT				ePcP	PcP	08 35 38.6	+0.4
MCMT	McKenzie Canyo	53.80	354	eP	P	08 34 33.5	+0.6
MCMT				e	pP	08 34 38.0	+2.1
BOZ	Bozeman (W)	54.50	355	eP	P	08 34 37.1	-0.9
	5.1nm,1.0s,mb4.4						
GCMT	Greycliff	54.51	357	eP	P	08 34 37.6	-0.5
USHA	Ushuaia	54.71	154	P	P	08 34 38.6	-0.8
	14nm,1.0s,mb5.0,baz=280,slow=7.2,SNR=5.4						
HRY	Holter Researc	55.57	355	eP	P	08 34 45.8	-0.1
CHMT	Chamberlain Mo	55.90	354	eP	P	08 34 47.8	-0.4
BDFB	Brasilia	57.01	103	P	P	08 34 55.3	-1.3
	10nm,0.9s,mb4.9,baz=269,slow=7.5,SNR=10.0						
BDFB				LR	LR	08 56 53.1	
	comp=Z,216nm,19.7s,MS4.2,baz=268,slow=33						
SADO	Sadowa	58.67	22	P	P	08 35 06.4	-1.4
	12nm,0.9s,mb4.9,baz=213,slow=6.7,SNR=6.1						
ULM	Lac du Bonnet	59.55	8	P	P	08 35 12.6	-1.3
	14nm,1.0s,mb5.0,baz=203,slow=7.6,SNR=21						
ULM				LR	LR	08 58 28.1	
	comp=Z,285nm,20.3s,MS4.4,baz=32,slow=34						
ULM	Lac du Bonnet	59.55	8	P	P	08 35 12.6	-1.3
EDM	Edmonton	62.16	355	eP	P	08 35 30.2	-1.3
YKA	Yellowknife Ar	71.46	356	P	P	08 36 28.9	-1.3
	5.3nm,0.8s,mb4.5,baz=164,slow=6.0,SNR=80						
YKA				LR	LR	09 05 49.0	
	comp=Z,163nm,18.9s,MS4.3,baz=95,slow=34						
YKA	Yellowknife Ar	71.46	356	P	P	08 36 28.9	-1.3
SCHQ	Schefferville	71.47	23	P	P	08 36 29.4	-1.1
	8.1nm,1.0s,mb4.6,baz=277,slow=1.5,SNR=7.2						
EYAK	Cordova Ski Ar	75.95	341	P	P	08 36 53.5	-2.9
DAWY	Dawson	76.97	346	eP	P	08 37 01.6	-0.4
MENT	Mentasta	77.19	343	eP	P	08 37 04.1	+0.8
SLKM	Skilak Lake	77.42	339	eP	P	08 37 03.9	-0.8
PMR	Palmer	77.83	340	P	P	08 37 05.9	-1.0
PWA	Palmer West	78.12	340	eP	P	08 37 07.7	-0.8
THY	Trims Highway	78.15	343	P	P	08 37 08.0	-0.6
RPZ	Rata Peaks	78.78	227	P	P	08 37 11.8	-0.6
	20nm,1.1s,mb5.0,baz=95,slow=2.1,SNR=6.3						
RPZ				LR	LR	09 04 20.8	
	comp=Z,89nm,19.8s,MS4.1,baz=208,slow=30						
INK	Inuvik	79.41	350	eP	P	08 37 14.9	-0.5
	22nm,1.1s,mb5.0						
ILAR	Eielson Array	79.50	343	P	P	08 37 15.1	-0.9
	5.9nm,1.0s,mb4.5,baz=153,slow=4.8,SNR=42						
ILAR				LR	LR	09 05 06.0	
	comp=Z,100nm,19.4s,MS4.2,baz=174,slow=30						
SVW2	Sparrevohn	79.75	338	eP	P	08 37 16.9	-0.5
SBA	Scott Base	80.78	192	P	P	08 37 22.8	+0.2
	90nm,1.8s,mb5.4						
QSPA	South Pole Qui	81.21	180	eP	P	08 37 25.0	+0.2
	46nm,0.7s,mb5.5						
VNDA	Vanda	81.84	193	P	P	08 37 28.9	+0.7
	5.6nm,1.2s,mb4.4,baz=98,slow=4.3,SNR=8.9						
VNDA				LR	LR	09 04 46.7	
	comp=Z,129nm,19.6s,MS4.3,baz=170,slow=29						
VNA3	Neumayer Olymp	83.73	161	e	P	08 37 39.3	+1.4
VNA3	Neumayer Olymp	83.73	161	e	P	08 37 40.1	+2.2
VNA3	Neumayer Olymp	83.73	161	⇑iP	P	08 37 37.8	-0.1
VNA3				e	pP	08 37 39.3	-1.8
VNA3				e	pP	08 37 40.1	-1.0
VNA3				e		08 40 47.4	
VNA1	Neumayer--Stat	84.28	161	e	P	08 37 42.4	+1.7
VNA1	Neumayer--Stat	84.28	161	e	P	08 37 43.1	+2.4
VNA1	Neumayer--Stat	84.28	161	⇑iP	P	08 37 40.8	+0.1
VNA1				e	pP	08 37 42.4	-1.5
VNA1				e	pP	08 37 43.1	-0.8
VNA2	Neumayer--Watz	84.51	161	e	P	08 37 43.2	+1.3
VNA2	Neumayer--Watz	84.51	161	e	P	08 37 43.8	+1.9
VNA2	Neumayer--Watz	84.51	161	⇑iP	P	08 37 41.6	-0.3
VNA2				e	pP	08 37 43.2	-1.9
VNA2				e	pP	08 37 43.8	-1.3
VNA2				e		08 40 48.9	
SNAA	Sanae	85.77	162	e	P	08 37 50.0	+1.9
SNAA	Sanae	85.77	162	LR	LR	09 07 46.6	
	comp=Z,84nm,18.5s,MS4.2,baz=294,slow=30						
SNAA	Sanae	85.77	162	⇑iP	P	08 37 47.4	-0.7
SNAA				e	pP	08 37 50.0	-1.3
SNAA				e		08 40 53.1	
MDJ	Mudanjiang	120.34	317	PKP	PKPdf	08 43 58.1	-4.6
CN2	Changchun	123.42	317	ePKP	PKPdf	08 44 07.3	-1.4
BJI	Beijing	131.27	317	PKP	PKPdf	08 44 21.3	-2.6
BJI				LR	LR		
	comp=Z,92nm,22.8s,MS4.4						
BJI	Beijing	131.27	317	PKP	PKPdf	08 44 21.2	-2.7
SONM	Songino Array	132.44	331	PKP	PKPdf	08 44 23.7	-2.3
	comp=Z,5.5nm,1.2s,slow=1.2,SNR=20						
HHC	Hu-ho-hao-te	133.90	320	ePKP	PKPdf	08 44 28.1	-0.6
HHC				PP	PP	08 47 02.6	+2.7
HHC				PKS	PKS	08 48 02.8	+1.9
HHC				SKS	SKS	08 51 29.6	-10
LZH	Lanzhou	141.59	319	ePKP	PKPdf	08 44 37.5	-5.5
LZH				XPKP		08 44 42.1	
GTA	Gaotai	141.77	327	ePKP	PKPdf	08 44 42.5	-0.7
GTA				PKS	PKS	08 48 16.9	+2.2
GTA				SKS	SKS	08 51 46.8	-5.6
GTA				PP	PP		
	comp=Z,180nm,5.7s						
GTA				LR	LR		
	comp=N,264nm,16.7s,MS5.1						
GTA				LR	LR		
	comp=E,189nm,21.3s,MS5.1						
GTA				LR	LR		
	comp=Z,372nm,16.4s,MS5.2						
WMQ	Urumqi	143.17	343	ePKP	PKPdf	08 44 41.0	-4.4
WMQ				APKP		08 44 50.0	
WMQ				ePP	PP	08 47 56.0	-0.6
WMQ				PKS	PKS	08 48 15.0	-1.9
WMQ				PP	PP		
	comp=Z,112nm,6.4s						
WMQ				LR	LR		
	comp=N,220nm,24.2s,MS5.0						
WMQ				LR	LR		
	comp=E,254nm,27.8s,MS5.0						
WMQ				LR	LR		
	comp=Z,137nm,23.3s,MS4.7						
GYA	Guiyang	144.38	304	⇑iPKP	PKPdf	08 44 45.0	-3.1
USP	Ospenovka	145.74	359	P	PKPbc	08 44 49.0	+1.3
	SNR=35						
CHMS	Chumysh	146.00	359	P	PKPbc	08 44 50.7	+2.3
	SNR=8.7						
TKM2	Tokmak 2	146.06	358	P	PKPbc	08 44 49.3	+0.8
	SNR=15						
EKS2	Erkin-Say	146.35	0	P	PKPbc	08 44 50.9	+1.7
	SNR=30						
AAK	Ala-Archa	146.37	359	ePKPdf	PKPdf	08 44 48.4	-2.6
ULHL	Ulahol	146.70	357	P	PKPbc	08 44 50.8	+0.8
	SNR=27						
KZA	Kyzart	146.91	358	P	PKPbc	08 44 53.3	+2.8
	SNR=23						
KMI	Kunming	148.16	304	PKP	PKPdf	08 44 54.1	-0.4
KMI				LR	LR		
	comp=Z,43nm,36.6s,MS4.0						
CMAR	Chiang Mai Arr	153.91	294	PKP	PKPdf	08 45 02.0	-1.2
	comp=Z,0.8nm,0.5s,baz=342,slow=1.2,SNR=10.0						
CMAR				PKPbc	PKPdf	08 45 09.8	+6.6
	comp=Z,4.4nm,0.8s,baz=44,slow=1.1,SNR=18						

IDC 15 08:28:43.3±12.0**, 14.65N×45.46W, mb3.7**/5**, mb1 4.2**/5**, mb1mx3.7**/18**, mbtmp3.7**/5**, Error ellipse: s-maj=313.0km s-min=77.5km az=154.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TXAR	Lajitas Array	55.40	296	P	P	08 38 19.0	-3.0
	0.3nm,0.8s,baz=122,slow=8.5,SNR=3.4						
PDAR	Pinedale Array	61.22	311	P	P	08 39 01.0	-1.5
	0.9nm,1.0s,baz=90,slow=7.4,SNR=4.7						
YKA	Yellowknife Ar	67.50	332	P	P	08 39 41.0	-2.1
	0.9nm,0.9s,baz=102,slow=6.9,SNR=9.7						
NVAR	Mina Array Bea	67.67	306	P	P	08 39 43.9	-0.7
	0.1nm,0.5s,baz=90,slow=7.2,SNR=3.5						
ILAR	Eielson Array	81.67	335	P	P	08 41 03.0	-1.5
	1.8nm,0.8s,baz=70,slow=4.7,SNR=20						

*NEIC **15** 08:38:58.2±1.1, 19.42S×177.44W, h549km±15km, mb4.2/2, Error ellipse: s-maj=27.4km s-min=12.6km az=142.0*

*IDC **15** 08:39:00.5±3.2, 19.53S×177.44W, h577km±40km, mb3.1/6, mb1 3.4/7, mb1mx3.2/15, mbtmp4.1/7, Error ellipse: s-maj=33.7km s-min=16.7km az=155.0*

ISC 15 08:38:57.4±1.4**, 19.4S**±0.2×**177.5W**±0.2**, h548**km±23km**, n14, σ0.84**/14**, mb3.8**/8**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.76**	**46**	*e*P	**P**	**08 40 53.3**	**-0.2**
URZ	**Urewera**	**19.35**	**193**	P	**P**	**08 42 47.8**	**-0.6**
	2.8nm,0.3s,baz=276,slow=2.7,SNR=24						
STKA	**Stephens Creek**	**38.67**	**243**	P	**P**	**08 45 36.5**	**+1.1**
	3.2nm,0.6s,mb4.1,baz=87,slow=10,SNR=7.5						
STKA	**Stephens Creek**	**38.67**	**243**	P	**P**	**08 45 36.5**	**+1.1**
WB2	**Warramunga Arr**	**45.19**	**261**	*e*P	**P**	**08 46 27.2**	**-0.1**
WRAB	**Tennant Creek**	**45.19**	**261**	*e*P	**P**	**08 46 27.0**	**-0.3**
	8.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**45.20**	**261**	P	**P**	**08 46 27.2**	**-0.2**
	2.3nm,0.5s,mb4.0,baz=98,slow=7.8,SNR=46						
ASAR	**Alice Springs**	**45.21**	**256**	P	**P**	**08 46 27.9**	**+0.5**
	3.6nm,0.4s,mb4.2,baz=88,slow=7.8,SNR=70						
ASAR				PcP	PcP	08 47 55.6	-0.6
	1.1nm,0.7s,baz=102,slow=4.3,SNR=5.9						
ASAR				S	**S**	**08 52 26.4**	**-1.3**
	0.5nm,0.7s,baz=91,slow=15,SNR=8.8						
ASPA	**Alice Springs**	**45.21**	**256**	*e*P	**P**	**08 46 27.8**	**+0.4**
MBWA	**Marble Bar**	**58.53**	**257**	*e*P	**P**	**08 48 02.8**	**-0.7**
	6.4nm,0.6s,mb4.0						
TXAR	**Lajitas Array**	**86.10**	**57**	P	**P**	**08 50 42.6**	**+1.0**
	0.3nm,0.6s,mb3.1,baz=219,slow=8.0,SNR=4.1						
ILAR	**Eielson Array**	**87.16**	**13**	P	**P**	**08 50 44.1**	**-1.6**
	0.1nm,0.4s,mb2.8,baz=236,slow=5.2,SNR=10						
CMAR	**Chiang Mai Arr**	**90.17**	**289**	P	**P**	**08 51 02.3**	**+1.4**
	0.4nm,0.3s,mb3.7,baz=124,slow=3.3,SNR=4.2						
GERES	**GERESS Array B**	**149.27**	**345**	PKPbc	PKPdf	08 57 44.8	+6.0
	0.7nm,0.6s,slow=1.3,SNR=6.3						

*NEIC **15** 09:06:13.6, 28.95S×71.26W, h47km, MD3.8(GUC), After GUC.*

GUC 15 09:06:13.6±0.3**, 28.95S×71.26W, h47**km±1km**, MD3.8, ML3.0, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.50**	**97**	⇓*i*P	P	09 06 25.5	+0.9
LCO				*i* S	S	09 06 34.6	+2.1
LCO				AMP		09 06 36.0	
	comp=N,831nm,0.6s						
VACH	**Vallenar**	**0.58**	**50**	⇓*i*P	P	09 06 26.1	+0.4
VACH				*i* S	S	09 06 35.5	+1.0
VACH				AMP		09 06 37.1	
	comp=N,2µm,0.1s						
LSCH	**La Serena**	**0.95**	**179**	*e*P	P	09 06 31.0	+0.2
LSCH				*i* S	S	09 06 44.3	+0.8
LSCH				AMP		09 06 49.6	
	comp=N,264nm,0.3s						
CPCH	**Copiapo**	**1.78**	**27**	*e*P	P	09 06 42.6	0.0
CPCH				*i* S	S	09 07 04.5	+0.5
CPCH				AMP		09 07 11.2	
	comp=E,1µm,0.1s						
LVC	**Limon Verde**	**6.66**	**19**	*e*S	P	09 07 45.0	-6.4

IGQ 15 09:14:43.8, 1.59S×81.33W, h12km±14km**, mb4.0, 2C, Error ellipse: s-maj=12.0km s-min=7.2km az=28.4, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**0.95**	**55**	⇑P	Pb	09 15 00.9	-0.8
HOJA				S	Sb	09 15 14.1	+0.1
IGUA	**Igualata**	**2.69**	**88**	P	Pn	09 15 28.8	+1.1
ARRY	**Arrayan**	**2.87**	**88**	P	Pn	09 15 31.4	+1.1
ULBA	**Ulba**	**2.92**	**87**	P	Pn	09 15 32.5	+1.5
PISA	**Pisayambo**	**2.99**	**80**	P	Pn	09 15 33.7	+1.7
NAS1	**Nasa**	**3.00**	**72**	P	Pn	09 15 34.6	+2.4
JUA2	**San Juan 2**	**3.05**	**63**	P	Pn	09 15 33.9	+1.1
PINO	**Pino**	**3.07**	**62**	P	Pn	09 15 33.8	+0.6
VC1	**Cotopaxi 1**	**3.07**	**72**	P	Pn	09 15 35.7	+2.5
TAMB	**Tambo**	**3.09**	**73**	P	Pn	09 15 35.4	+2.0
YANA	**Yana**	**3.12**	**62**	P	Pn	09 15 34.0	+0.1
ANTI	**Antisana**	**3.36**	**70**	⇑P	Pn	09 15 40.5	+3.3
COTA	**Cotacachi**	**3.55**	**57**	P	Pn	09 15 42.1	+2.1
CAYR	**Refugio Cayamb**	**3.69**	**64**	P	Pn	09 15 45.2	+3.3
CAYA	**Cayambe**	**3.72**	**64**	P	Pn	09 15 46.3	+3.9
ECEN	**Cerro Negro**	**4.13**	**54**	P	Pn	09 15 49.5	+1.4

*TAP **15** 09:19:29.8, 24.79N×122.39E, h4km±1km, ML3.1*

JMA 15 09:19:29.5±0.4**, 24.35N×122.45E, h17**km**, M2.4, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**78**	P	Pb	09 19 39.8	0.0
YOJ				S	Sb	09 19 46.9	0.0
IRIF	**Iriomote-Funau**	**1.17**	**90**	*e*S	Sb	09 20 07.1	+1.5
HATJ	**Hateruma jima**	**1.27**	**103**	P	Pb	09 19 52.5	-0.1
HATJ				*e*S	Sb	09 20 10.1	+1.6
JKRS	**Kuro-shima**	**1.43**	**94**	P	Pn	09 19 53.6	-1.2
JIJ	**Ishigaki jima**	**1.54**	**89**	P	Pn	09 19 56.1	-0.4
JIJ				*e*S	Sn	09 20 16.5	+0.2

*MOS **15** 09:31:34.6±0.9, 85.32N×90.49E, h10km, mb4.7/9, Error ellipse: s-maj=99.9km s-min=13.3km az=89.0*

*IDC **15** 09:31:35.4±0.7, 85.34N×90.60E, mb3.9/10, mb1 4.2/11, mb1mx4.1/18, mbtmp3.9/11, ML3.6/1, MS3.9/11, Ms1 3.9/11, ms1mx3.7/21, Error ellipse: s-maj=26.2km s-min=15.6km az=126.0*

*BJI **15** 09:31:36.0, 85.30N×91.20E, h10km, mB4.9, mb4.5, Ms4.4, Msz4.0*

*NEIC **15** 09:31:37.1±0.4, 85.33N×91.19E, h10km, mb4.6/8, Error ellipse: s-maj=11.4km s-min=8.1km az=119.0*

ISC 15 09:31:35.0±0.4**, 85.35N**±0.05×**90.8E**±0.8**, h10**km**, n48, σ1.12**/48**, mb4.2**/20**, MS3.9**/16**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**15.05**	**131**	*e*P	**P**	**09 35 08.0**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,74nm,9.2s						
ARCES	**ARCESS Array B**	**19.10**	**258**	P	**P**	**09 35 58.8**	**-1.1**
ARCES	**ARCESS Array B**	**19.10**	**258**	P	**P**	**09 35 58.7**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=18,slow=9.3,SNR=7.8						
ARCES				LR	LR	09 44 07.7	
	comp=Z,167nm,19.2s,baz=23,slow=39						
RES	**Resolute Bay**	**20.07**	**4**	*e*P	**P**	**09 36 09.1**	**-1.7**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
RES	**Resolute Bay**	**20.07**	**4**	*e*P	**P**	**09 36 09.1**	**-1.7**
	comp=Z,1.1nm,0.6s						
SUMG	**Summit**	**20.80**	**319**	*e*P	**P**	**09 36 21.6**	**+3.2**
	comp=Z,49nm,1.5s						
BILL	**Bilibino**	**21.38**	**93**	*e*P	**P**	**09 36 24.6**	**+0.3**
BILL				*e*		09 36 27.8	
BILL				*e*		09 36 57.2	
BILL				*e*S	**S**	**09 40 24.7**	**+8.1**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.2						
BILL				MLR	MLR		
	comp=Z,400nm,19.0s,MS3.8						
BILL	**Bilibino**	**21.38**	**93**	*e*P	**P**	**09 36 24.3**	**0.0**
	comp=Z,42nm,1.4s,mb4.6						
INK	**Inuvik**	**25.37**	**37**	*e*P	**P**	**09 37 03.4**	**+0.3**
INK				pmax	pmax		
	comp=Z,25nm,1.1s						
INK	**Inuvik**	**25.37**	**37**	P	**P**	**09 37 03.5**	**+0.4**
	comp=Z,15nm,1.1s,mb4.4,baz=1.9,slow=12,SNR=22						
INK				LR	LR	09 45 58.5	
	comp=Z,234nm,20.7s,MS3.7,baz=353,slow=34						
INK	**Inuvik**	**25.37**	**37**	*e*P	**P**	**09 37 03.4**	**+0.3**
	comp=Z,25nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**27.03**	**253**	P	**P**	**09 37 18.8**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.6,baz=11,slow=9.7,SNR=5.7						
FINES				LR	LR	09 48 08.0	
	comp=Z,92nm,20.0s,MS3.3,baz=22,slow=37						
BOD	**Bodaibo**	**28.11**	**153**	*e*P	**P**	**09 37 21.2**	**-7.1**
ILAR	**Eielson Array**	**28.14**	**50**	P	**P**	**09 37 29.8**	**+1.3**
	comp=Z,1.8nm,1.0s,mb3.7,baz=352,slow=8.4,SNR=19						
ILAR				PcP	PcP	09 40 41.2	-1.7
	comp=Z,0.3nm,0.5s,baz=334,slow=2.6,SNR=4.9						
ILAR				LR	LR	09 47 26.3	
	comp=Z,136nm,20.2s,MS3.5,baz=4.0,slow=34						
SVE	**Sverdlovsk**	**29.39**	**214**	*e*P	**P**	**09 37 45.0**	**+5.1**
SVE				pmax	pmax		
	comp=Z,40nm,1.9s,mb4.8						
SVE				MLR	MLR		
	comp=N,200nm,19.0s,MS3.9						
SVE				MLR	MLR		
	comp=E,200nm,19.0s,MS3.9						
SVE				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.1						
NVS	**Novosibirsk**	**30.71**	**189**	*e*P	**P**	**09 37 50.2**	**-1.4**
FRB	**Frobisher Bay**	**30.83**	**342**	LR	LR	09 49 40.3	
	comp=Z,282nm,20.8s,MS3.9,baz=142,slow=35						
YKW3	**Yellowknife Ar**	**31.88**	**22**	*e*P	**P**	**09 38 00.3**	**-1.6**
YKA	**Yellowknife Ar**	**31.95**	**22**	P	**P**	**09 38 02.0**	**-0.4**
	comp=Z,1.8nm,0.9s,mb3.9,baz=353,slow=8.5,SNR=32						
YKA				PcP	PcP	09 40 51.5	-1.3
	comp=Z,1.3nm,0.8s,baz=337,slow=3.2,SNR=18						
YKA				LR	LR	09 50 49.5	
	comp=Z,328nm,20.5s,MS4.0,slow=36						
YKA	**Yellowknife Ar**	**31.95**	**22**	P	**P**	**09 38 02.0**	**-0.4**
YKA				PcP	PcP	09 40 51.5	-1.3
CHKZ	**Chkalovo**	**32.15**	**203**	*e*P	**P**	**09 38 04.0**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.7						
CHKZ	**Chkalovo**	**32.15**	**203**	*e*P	**P**	**09 38 04.0**	**-0.3**
	comp=Z,16nm,1.4s,mb4.6						
OBN	**Obninsk**	**32.53**	**240**	*e*P	**P**	**09 38 05.9**	**-1.7**
OBN				*e*		09 48 31.9	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.7						
SONM	**Songino Array**	**37.87**	**163**	P	**P**	**09 38 53.8**	**+0.6**
	comp=Z,1.5nm,0.8s,mb3.8,baz=352,slow=8.7,SNR=9.6						
MOX	**Moxa**	**38.90**	**265**	*e*P	**P**	**09 39 10.0**	**+8.2**
SCHQ	**Schefferville**	**39.71**	**340**	LR	LR	09 54 31.2	
	comp=Z,264nm,19.1s,MS4.1,baz=262,slow=35						
GRA1	**Grafenberg Arr**	**39.88**	**265**	*e*P	**P**	**09 39 16.0**	**+6.0**
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**39.88**	**265**	*e*P	**P**	**09 39 16.0**	**+6.0**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**39.88**	**265**	*e*P	**P**	**09 39 16.0**	**+6.0**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**39.88**	**265**	*e*P	**P**	**09 39 16.0**	**+6.0**
	comp=Z,4.0nm,0.9s,mb4.2						
GERES	**GERESS Array B**	**40.52**	**262**	P	**P**	**09 39 15.9**	**+0.7**
	comp=Z,0.3nm,0.2s,mb3.5,baz=22,slow=7.2,SNR=3.6						
WMQ	**Urumqi**	**41.70**	**183**	*e*P	**P**	**09 39 27.0**	**+2.2**
WMQ				XP	sP	09 39 34.0	+4.9
WMQ				PP	PP	09 41 06.0	+1.5
WMQ				*e*S	**S**	**09 45 43.0**	**+1.6**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,77nm,3.6s						
WMQ				LR	LR		
	comp=N,741nm,14.0s,MS4.8						
WMQ				LR	LR		
	comp=E,606nm,15.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,599nm,20.2s,MS4.5						
MDJ	**Mudanjiang**	**42.01**	**138**	P	**P**	**09 39 26.3**	**-1.1**
MDJ				PP	PP	09 41 05.0	-2.9
MDJ				PCP	PcP	09 41 22.4	-0.7
MDJ				SCP		09 45 12.6	
MDJ				PCS		09 45 14.5	
MDJ				S	**S**	**09 45 43.8**	**-2.2**
MDJ				SS	SS	09 48 49.1	+1.7
MDJ				SCS	ScS	09 49 29.1	+1.0
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,112nm,6.4s						
MDJ				LR	LR		
	comp=N,31nm,19.5s						
MDJ				LR	LR		
	comp=E,46nm,25.8s						
MDJ				LR	LR		
	comp=Z,40nm,17.2s,MS3.4						
CN2	**Changchun**	**42.61**	**143**	*e*P	**P**	**09 39 31.8**	**-0.5**
AAK	**Ala-Archa**	**43.09**	**198**	*e*P	**P**	**09 39 36.7**	**+0.5**
AAK				pmax	pmax		
	comp=Z,25nm,1.7s,mb4.7						
AAK	**Ala-Archa**	**43.09**	**198**	*e*P	**P**	**09 39 36.7**	**+0.5**
	comp=Z,25nm,1.7s,mb4.7						
ULM	**Lac du Bonnet**	**44.59**	**6**	LR	LR	09 59 10.0	
	comp=Z,246nm,20.2s,MS4.1,baz=24,slow=37						
HHC	**Hu-ho-hao-te**	**44.99**	**158**	*e*P	**P**	**09 39 54.1**	**+2.5**
HHC				XP	sP	09 40 00.5	+4.6
HHC				AMB	AMB		
	comp=Z,19nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,132nm,6.5s						
BJI	**Beijing**	**45.95**	**153**	*e*P	**P**	**09 40 00.1**	**+0.8**
BJI				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
BJI				LR	LR		
	comp=N,219nm,16.0s,MS4.3						
BJI				LR	LR		
	comp=E,180nm,17.2s,MS4.3						
BJI				LR	LR		
	comp=Z,162nm,19.2s,MS4.0						
BJI	**Beijing**	**45.95**	**153**	*e*P	**P**	**09 40 00.1**	**+0.8**
	comp=Z,11nm,1.5s,mb4.6						
BJI				S	S	09 47 09.2	+26
CHMT	**Chamberlain Mo**	**47.58**	**22**	*e*P	**P**	**09 40 12.4**	**+0.4**
MCMT	**McKenzie Canyo**	**49.68**	**22**	*e*P	**P**	**09 40 29.1**	**+0.8**
PDAR	**Pinedale Array**	**51.83**	**19**	P	**P**	**09 40 44.6**	**0.0**
	comp=Z,0.6nm,1.1s,mb3.4,slow=3.6,SNR=3.1						
PDAR				LR	LR	10 02 15.7	
	comp=Z,223nm,19.1s,MS4.2,baz=33,slow=36						
NJ2	**Nanjing**	**54.02**	**150**	*e*P	**P**	**09 41 01.3**	**+0.2**
NVAR	**Mina Array Bea**	**55.88**	**28**	P	**P**	**09 41 15.4**	**+0.9**
	comp=Z,0.1nm,0.3s,mb3.3,baz=25,slow=6.7,SNR=4.8						
NVAR				PcP	PcP	09 42 13.5	+0.3
	comp=Z,0.4nm,0.6s,baz=342,slow=2.9,SNR=3.5						
NVAR				LR	LR	10 04 49.8	
	comp=Z,106nm,21.8s,MS3.9,baz=180,slow=36						
NVAR	**Mina Array Bea**	**55.88**	**28**	P	**P**	**09 41 15.4**	**+0.9**
NVAR				PcP	PcP	09 42 13.5	+0.3
TXAR	**Lajitas Array**	**65.37**	**14**	P	**P**	**09 42 18.6**	**-0.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=7.2,slow=3.3,SNR=17						
TXAR				LR	LR	10 09 28.8	
	comp=Z,239nm,21.1s,MS4.4,baz=10.0,slow=35						
CMAR	**Chiang Mai Arr**	**67.03**	**172**	P	**P**	**09 42 29.0**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=8.1,slow=6.4,SNR=5.2						

MAN 15 09:43:59.3, 17.16N×119.78E, h19km**, mb4.3, ML3.1, MS2.9, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.79**	**170**	*e*P	Pb	09 44 14.6	+0.4
BOLP				*e*S	Sb	09 44 27.3	+2.9
ABRA	**Dolores**	**1.02**	**61**	*e*P	Pb	09 44 14.8	-3.3
SCZP	**Santa Cruz**	**1.39**	**175**	*e*P	Pn	09 44 23.5	-0.4
APYP	**Conner**	**1.56**	**63**	*e*P	Pn	09 44 22.2	-4.2
CAUP	**Cauayan**	**1.97**	**96**	*e*P	Pn	09 44 32.7	+0.5
CVP	**Callao Caves**	**2.03**	**74**	*e*P	Pn	09 44 31.0	-2.1
CVP				*i* S	Sn	09 44 58.0	-0.1
BALP	**Baler**	**2.23**	**129**	*e*P	Pn	09 44 35.6	-0.4

*TAP **15** 09:46:54.4, 24.60N×122.52E, h82km±1km, ML2.9*

JMA 15 09:46:54.2±0.2**, 24.68N×122.54E, h91**km±2km**, M1.6, Taiwan region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**117**	P	P	09 47 09.0	-0.1
YOJ				S	S	09 47 19.9	-0.3
HATJ	**Hateruma jima**	**1.31**	**118**	P	P	09 47 17.8	-0.3
HATJ				S	S	09 47 36.1	+0.3
JKRS	**Kuro-shima**	**1.41**	**108**	P	P	09 47 19.3	0.0
JKRS				S	S	09 47 38.4	+0.5
JIJ	**Ishigaki jima**	**1.49**	**102**	P	P	09 47 20.0	-0.4
JIJ				S	S	09 47 39.2	-0.5
JTJ	**Tarama**	**1.97**	**91**	P	P	09 47 26.7	+0.2
JTJ				*e*S	S	09 47 50.3	0.0

*IDC **15** 10:07:04.4±0.6, 2.63N×95.92E, mb4.5/14, mb1 4.6/15, mb1mx4.6/19, mbtmp4.5/15, ML4.5/1, MS4.1/8, Ms1 4.1/8, ms1mx3.8/21, Error ellipse: s-maj=23.6km s-min=14.2km az=46.0*

*BJI **15** 10:07:06.7, 2.35N×95.85E, h45km, mB5.1, mb4.9, Ms4.7, Msz4.3*

*MOS **15** 10:07:07.2±0.7, 2.62N×95.92E, h33km, mb5.0/17, Error ellipse: s-maj=15.0km s-min=8.0km az=101.4*

*NEIC **15** 10:07:08.7±0.4, 2.63N×95.93E, h30km, mb4.9/20, Error ellipse: s-maj=10.0km s-min=7.1km az=60.0*

ISC 15 10:07:06.6±1.4**, 2.60N**±0.05×**95.95E**±0.05**, h28**km±9km**, h30**km±1.5km**:pP-P, n113, σ0.93**/110**, mb4.8**/53**, MS4.3**/21**, 1C-3D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**60**	*e*Pn	**Pn**	**10 08 28.2**	**+0.8**
SNG	**Songkhla**	**6.51**	**45**	P	**Pn**	**10 08 46.0**	**+2.9**
	366nm,0.8s						
CM31	**Chiang Mai Arr**	**16.04**	**10**	*e*P	**P**	**10 10 53.0**	**+1.0**
CMAR	**Chiang Mai Arr**	**16.04**	**10**	Pn	**P**	**10 10 52.0**	**0.0**
	0.7nm,0.3s,baz=200,slow=11,SNR=29						
CHG	**Chiang Mai**	**16.38**	**10**	⇓P	**P**	**10 10 55.6**	**-0.8**
	14nm,0.8s						
NANT	**Nan**	**16.76**	**16**	P	**P**	**10 11 01.0**	**-0.2**
KKM	**Kota Kinabalu**	**20.50**	**80**	*e*P	**P**	**10 11 45.5**	**+0.2**
QIZ	**Qiongzhong**	**21.25**	**39**	P	**P**	**10 11 52.3**	**-0.7**
QIZ				LR	LR		
	comp=E,1µm,16.5s						
QIZ				LR	LR		
	comp=Z,746nm,17.6s,MS4.1						
HYB	**Hyderabad**	**22.55**	**312**	*e*P		10 12 17.0	
HYB	**Hyderabad**	**22.55**	**312**	*i* P		10 12 17.0	
GZH	**Guangzhou**	**26.44**	**38**	P	**P**	**10 12 47.6**	**+4.4**
GZH				LR	LR		
	comp=N,463nm,13.9s						
GZH				LR	LR		
	comp=E,798nm,19.3s						
GZH				LR	LR		
	comp=Z,882nm,19.3s						
JIRN	**Jiri**	**26.61**	**340**	*e*P	**P**	**10 12 45.4**	**+0.7**
	comp=Z,178nm,0.7s,mb5.7						
PKI	**Pulchoki**	**26.80**	**339**	*e*P	**P**	**10 12 46.5**	**0.0**
	comp=Z,35nm,0.6s,mb5.1						
DMN	**Daman**	**26.95**	**338**	*e*P	**P**	**10 12 48.4**	**+0.6**
	comp=Z,69nm,0.7s,mb5.3						
GUN	**Gumba**	**26.95**	**340**	*e*P	**P**	**10 12 48.3**	**+0.5**
	comp=Z,110nm,0.7s,mb5.5						
KKN	**Kakani**	**27.05**	**339**	*e*P	**P**	**10 12 48.8**	**+0.1**
	comp=Z,110nm,0.8s,mb5.4						
LSA	**Lhasa**	**27.34**	**351**	P	**P**	**10 12 52.3**	**+1.0**
LSA	**Lhasa**	**27.34**	**351**	*e*P	**P**	**10 12 51.4**	**+0.1**
LSA				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.0						
LSA	**Lhasa**	**27.34**	**351**	*e*P	**P**	**10 12 51.4**	**0.0**
	comp=Z,30nm,0.6s,mb5.0						
GKN	**Gorkha**	**27.48**	**338**	*e*P	**P**	**10 12 52.8**	**+0.2**
	comp=Z,78nm,0.7s,mb5.4						
KOLN	**Koldanda**	**27.68**	**336**	*e*P	**P**	**10 12 54.8**	**+0.4**
	comp=Z,83nm,0.6s,mb5.5						
ENH	**Enshi**	**30.37**	**24**	*e*P	**P**	**10 13 16.4**	**-2.2**
	comp=Z,17nm,0.7s,mb4.9						
MBWA	**Marble Bar**	**33.16**	**137**	P	**P**	**10 13 43.2**	**+0.1**
	comp=Z,7.9nm,0.7s,mb4.8						
XAN	**Xi'an**	**33.55**	**20**	P	**P**	**10 13 44.4**	**-1.9**
XAN				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
XAN				LR	LR		
	comp=N,298nm,16.9s,MS4.4						
XAN				LR	LR		
	comp=E,455nm,14.5s,MS4.4						
XAN				LR	LR		
	comp=Z,412nm,17.8s,MS4.2						
LZH	**Lanzhou**	**34.12**	**11**	*e*P	**P**	**10 13 49.9**	**-1.3**
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**34.12**	**11**	*e*P	**P**	**10 13 49.9**	**-1.3**
LZH				*SP	sP	10 14 01.4	-1.8
LZH				pmax	pmax		
	comp=Z,42nm,1.5s,mb5.2						
LZH	**Lanzhou**	**34.12**	**11**	*e*P	**P**	**10 13 49.9**	**-1.3**
	comp=Z,42nm,1.5s,mb5.2						
LZH				pP	pP	10 13 57.5	-2.1
LZH				sP	sP	10 14 01.4	-1.8
NJ2	**Nanjing**	**36.38**	**34**	*e*P	**P**	**10 14 11.5**	**+1.0**
NJ2				AP	pP	10 14 20.8	+1.9
NJ2				XP	sP	10 14 24.8	+2.4
NJ2				PP	PP	10 15 35.0	+0.7
NJ2				S	**S**	**10 19 56.0**	**+6.7**
NJ2				XS		10 20 11.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,280nm,6.0s						
NJ2				LR	LR		
	comp=N,490nm,16.7s,MS4.6						
NJ2				LR	LR		
	comp=E,560nm,13.0s,MS4.6						
NJ2				LR	LR		
	comp=Z,460nm,17.8s,MS4.3						
GTA	**Gaotai**	**36.81**	**5**	⇑P	**P**	**10 14 13.5**	**-0.6**
GTA				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
GTA				AMB	AMB		
	comp=Z,214nm,4.9s						
GTA				LR	LR		
	comp=N,200nm,15.6s,MS4.1						
GTA				LR	LR		
	comp=E,178nm,19.8s,MS4.1						
GTA				LR	LR		
	comp=Z,308nm,18.3s,MS4.1						
SSE	**Sheshan**	**37.04**	**37**	P	**P**	**10 14 16.3**	**+0.3**
SSE				AP	pP	10 14 24.9	+0.5
SSE				XP	sP	10 14 28.8	+0.8
SSE				S	**S**	**10 20 01.4**	**+2.0**
SSE				XS		10 20 17.6	
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,58nm,4.0s						
SSE				LR	LR		
	comp=N,261nm,19.4s,MS4.2						
SSE				LR	LR		
	comp=E,312nm,19.2s,MS4.2						
SSE				LR	LR		
	comp=Z,355nm,21.8s,MS4.1						
SSE	**Sheshan**	**37.04**	**37**	P	**P**	**10 14 16.2**	**+0.2**
	comp=Z,25nm,0.7s,mb5.2						
SSE				pP	pP	10 14 24.9	+0.5
SSE				sP	sP	10 14 28.8	+0.8
SSE				S	**S**	**10 20 01.4**	**+2.0**
SSE				sS		10 20 17.6	
JOW	**Kunigami**	**39.24**	**49**	P	**P**	**10 14 34.4**	**-0.2**
	comp=Z,6.1nm,0.6s,mb4.5,baz=248,slow=29,SNR=5.1						
HHC	**Hu-ho-hao-te**	**40.61**	**18**	*e*P	**P**	**10 14 47.0**	**+1.3**
HHC				AP	pP	10 14 54.8	+0.6
HHC				PP	PP	10 16 23.8	+1.3
HHC				PCP	PcP	10 16 51.3	+3.3
HHC				PCS		10 20 38.9	
HHC				S	**S**	**10 20 53.8**	**+0.5**
HHC				SS	SS	10 23 46.8	-2.0
HHC				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.6						
HHC				LR	LR		
	comp=N,756nm,16.6s						
HHC				LR	LR		
	comp=E,706nm,23.8s						
HHC				LR	LR		
	comp=Z,750nm,15.5s,MS4.7						
NWAO	**Narrogin (SRO)**	**40.67**	**152**	LR	LR	10 31 44.3	
	comp=Z,4.1nm,18.2s,baz=85,slow=36						
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**10 14 54.0**	**+0.8**
BJT				*e*	pP	10 15 04.4	+2.7
BJT				pmax	pmax		
	comp=Z,83nm,0.7s						
BJT	**Baijiatuau**	**41.52**	**24**	*e*P	**P**	**10 14 54.0**	**+0.8**
	comp=Z,83nm,0.7s,mb5.5						
BJT				*e*	pP	10 15 04.4	+2.7
BJI	**Beijing**	**41.54**	**24**	*e*P	**P**	**10 14 54.1**	**+0.7**
BJI				PP	PP	10 16 34.3	+1.8
BJI				S	**S**	**10 21 03.8**	**-3.4**
BJI				SS	SS	10 24 14.1	+6.7
BJI				AMB	AMB		

comp=Z,97nm,0.7s,mb5.5
BJI LR LR
comp=N,281nm,15.4s,MS4.5
BJI LR LR
comp=E,472nm,16.2s,MS4.5
BJI LR LR
comp=Z,153nm,17.4s,MS3.9
BJI Beijing 41.54 24 *e*P **P 10 14 54.1 +0.7**
comp=Z,97nm,0.7s,mb5.5
BJI PP PP 10 16 34.3 +1.8
BJI S **S 10 21 03.8 -3.4**
BJI SS SS 10 24 14.1 +6.7
WMQ Urumqi 41.70 351 *e*P **P 10 14 55.0 +0.4**
WMQ AP pP 10 15 05.0 +1.9
WMQ XP sP 10 15 09.0 +2.4
WMQ PP PP 10 16 35.0 +0.9
WMQ *e*S **S 10 21 09.0 -0.5**
WMQ AMB AMB
comp=Z,15nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,324nm,6.0s
WMQ LR LR
comp=N,482nm,21.9s,MS4.4
WMQ LR LR
comp=E,353nm,24.0s,MS4.4
WMQ LR LR
comp=Z,386nm,22.4s,MS4.2
ULHL Ulahol 43.24 339 P **P 10 15 08.4 +1.1**
SNR=7.2
WRA Warramunga Arr 43.83 122 P **P 10 15 12.4 +0.1**
comp=Z,4.6nm,0.6s,mb4.4,baz=300,slow=9.3,SNR=19
WRAB Tennant Creek 43.84 122 *e*P **P 10 15 12.4 0.0**
WRAB pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
WRAB Tennant Creek 43.84 122 *e*P **P 10 15 12.3 -0.1**
comp=Z,9.3nm,0.6s,mb4.7
WB2 Warramunga Arr 43.84 122 *e*P **P 10 15 12.6 +0.2**
UCH Uchtor 43.88 337 P **P 10 15 13.6 +1.1**
SNR=13
TKM2 Tokmak 2 44.06 338 P **P 10 15 15.1 +1.2**
SNR=8.7
AML Almayashu 44.12 336 P **P 10 15 15.6 +1.2**
SNR=8.0
AAK Ala-Archa 44.23 337 *i*P **P 10 15 15.3 0.0**
AAK pmax pmax
comp=Z,3.0nm,0.5s,mb4.3
AAK Ala-Archa 44.23 337 *e*P **P 10 15 16.2 +0.9**
comp=Z,5.8nm,0.6s,mb4.5
FRU Bishkek 44.36 337 *e*P **P 10 15 16.5 +0.2**
EKS2 Erkin-Say 44.54 337 P **P 10 15 19.0 +1.2**
SNR=10
USP Ospenovka 44.77 338 P **P 10 15 20.4 +0.7**
SNR=16
ASAR Alice Springs 45.23 127 P **P 10 15 23.8 +0.2**
comp=Z,2.2nm,0.7s,mb4.1,baz=299,slow=8.0,SNR=22
ASAR PcP PcP 10 17 04.6 +0.8
comp=Z,1.0nm,0.8s,baz=300,slow=4.2,SNR=4.1
ASAR LR LR 10 37 34.1
comp=Z,107nm,18.9s,MS3.8,baz=90,slow=40
KS15 Wonju Array Si 45.41 36 *e*P **P 10 15 22.2 -2.7**
MKAR Makanchi Array 45.60 347 *e*P **P 10 15 25.9 -0.3**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
SONM Songino Array 45.96 10 P **P 10 15 29.2 +0.2**
comp=Z,12nm,0.6s,mb5.0,baz=190,slow=8.9,SNR=105
SONM PcP PcP 10 17 06.4 +0.4
comp=Z,2.8nm,0.6s,baz=194,slow=3.3,SNR=4.4
ULN Ulaanbaatar 46.11 10 *e*P **P 10 15 28.3 -1.8**
ULN *e* 10 17 07.0
ULN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ULN Ulaanbaatar 46.11 10 *e*P **P 10 15 28.3 -1.8**
comp=Z,6.3nm,0.6s,mb4.7
ULN *e*PcP PcP 10 17 07.0 +0.5
SNY Shenyang 46.26 29 ⇓P **P 10 15 31.0 -0.5**
SNY AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
SNY LR LR
comp=N,440nm,20.8s
SNY LR LR
comp=Z,490nm,15.2s
ZAK Zakamensk 48.02 6 *e*P **P 10 15 44.6 -0.6**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
CN2 Changchun 48.66 28 *e*P **P 10 15 49.8 -0.4**
CN2 *e*AP pP 10 16 00.0 +1.2
CN2 PCP PcP 10 17 15.5 -0.2
CN2 *e*S **S 10 22 51.6 +2.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,300nm,16.0s,MS4.5
CN2 LR LR
comp=E,300nm,16.0s,MS4.5
CN2 LR LR
comp=Z,370nm,17.0s,MS4.4
TLY Talaya 49.34 6 *e*P **P 10 15 56.1 +0.7**
TLY pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
TLY MLR MLR
comp=Z,232nm,18.0s,MS4.2
TLY Talaya 49.34 6 *e*P **P 10 15 56.0 +0.6**
comp=Z,5.2nm,0.6s,mb4.7
KURK Kurchatov 50.13 346 P **P 10 16 01.1 -0.4**
comp=Z,106nm,0.5s,SNR=14
KURK Kurchatov 50.13 346 ⇓*i*P **P 10 16 01.6 +0.1**
KURK Kurchatov 50.13 346 *e*P **P 10 16 00.9 -0.6**
comp=Z,11nm,0.6s,mb5.1
HIA Hailar 50.75 20 *e*P **P 10 16 06.2 +0.1**
HIA pmax pmax
comp=Z,7.0nm,0.6s
HIA Hailar 50.75 20 *e*P **P 10 16 06.2 +0.1**
comp=Z,7.1nm,0.6s,mb4.8
MDJ Mudanjiang 51.29 30 P **P 10 16 09.3 -1.0**
MDJ AP pP 10 16 18.3 -0.6
MDJ PCP PcP 10 17 23.6 -1.6
MDJ SCP 10 21 18.1
MDJ PCS 10 21 23.0
MDJ S **S 10 23 27.4 +1.5**
MDJ SCS ScS 10 25 57.3 +1.8
MDJ SS SS 10 26 58.9 -0.6
MDJ AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
MDJ AMB AMB
comp=Z,105nm,6.1s
MDJ LR LR
comp=N,130nm,20.0s,MS4.1
MDJ LR LR
comp=E,127nm,21.1s,MS4.1
MDJ LR LR
comp=Z,170nm,22.2s,MS4.0
ZAL Zalesovo 51.99 352 P **P 10 16 15.9 +0.4**
comp=Z,12nm,0.6s,mb5.0,baz=305,slow=5.6,SNR=46
PMG Port Moresby 52.40 104 P **P 10 16 19.1 0.0**
comp=Z,9.8nm,0.7s,mb4.8,baz=213,slow=2.1,SNR=6.3
NVS Novosibirsk 53.10 351 *i*P **P 10 16 22.2 -1.6**
NVS *e* pP 10 16 29.3 -3.1
NVS *i*S **S 10 23 49.9 -0.7**
NVS pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
NVS pmax pmax
comp=N,6.0nm,0.7s
NVS pmax pmax
comp=E,6.0nm,1.0s
NVS smax
comp=N,14nm,1.9s
NVS smax
comp=E,18nm,1.9s
CTA Charters Tower 54.24 117 P **P 10 16 33.1 +0.5**
comp=E,12nm,0.8s,mb4.8,baz=294,slow=7.9,SNR=8.2
CTA LR LR 10 42 55.9
comp=E,235nm,18.7s,MS4.3,baz=132,slow=40
CTAO Charters Tower 54.24 117 *e*P **P 10 16 32.6 0.0**
CTAO pmax pmax
comp=Z,17nm,0.9s,mb5.0
CTAO Charters Tower 54.24 117 *e*P **P 10 16 32.5 -0.1**
comp=Z,17nm,0.9s,mb5.0
BVA0 Borovoye Array 54.53 341 P **P 10 16 33.0 -1.3**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
CHKZ Chkalovo 55.02 342 *e*P **P 10 16 36.6 -1.3**
CHKZ pmax pmax
comp=Z,16nm,0.6s,mb5.2
CHKZ Chkalovo 55.02 342 *e*P **P 10 16 36.6 -1.3**
comp=Z,16nm,0.6s,mb5.2
STKA Stephens Creek 55.22 132 P **P 10 16 40.1 +0.4**
comp=Z,7.8nm,0.7s,mb4.8,baz=300,slow=6.0,SNR=13
STKA LR LR 10 39 04.0
comp=Z,147nm,21.5s,MS4.0,baz=24,slow=35
KLR Kul'dur 55.59 28 *e*P **P 10 16 36.8 -5.3**
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,1µm,13.5s,MS5.1
BOD Bodaibo 56.89 11 *e*P **P 10 16 47.5 -3.8**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ASAJ Asahikawa 58.32 38 LR LR 10 40 51.0
comp=Z,94nm,21.6s,MS3.9,baz=254,slow=35
KMBO Kilima Mbogo 58.79 267 *e*P **P 10 17 05.5 +0.3**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 58.79 267 P **P 10 17 05.6 +0.4**
comp=Z,1.1nm,0.6s,mb4.1,baz=246,slow=20,SNR=4.7
KMBO LR LR 10 40 38.0
comp=Z,346nm,18.4s,MS4.5,baz=90,slow=34
KMBO Kilima Mbogo 58.79 267 *e*P **P 10 17 05.5 +0.2**
comp=Z,3.6nm,0.9s,mb4.4
SVE Sverdlovsk 60.94 339 *e*P sP 10 17 30.5 -0.8
SVE *e* 10 18 00.0
SOC Sochi 64.25 318 *e*P **P 10 17 37.1 -4.5**
SOC *e* 10 18 08.0
SOC *e* 10 19 59.7
SOC *e*PPP PPP 10 21 29.6 -7.6
SOC *e*S **S 10 26 15.6 -0.1**
SOC *e* 10 27 30.6
SOC *e*SS SS 10 30 23.5 -3.4
SOC pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
SOC pmax pmax
comp=N,9.0nm,0.7s
SOC pmax pmax
comp=E,2.0nm,0.5s
YAK Yakutsk 64.45 17 *e*P **P 10 17 40.4 -2.2**
YAK pmax pmax
comp=Z,20nm,0.9s,mb5.2
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK Yakutsk 64.45 17 P **P 10 17 41.1 -1.4**
comp=E,35nm,0.6s,mb5.6
MATP Matopo 69.89 247 P **P 10 18 17.8 +0.2**
comp=E,1.6nm,0.7s,mb4.0,baz=45,slow=5.7,SNR=4.6
MATP Matopo 69.89 247 P **P 10 18 17.8 +0.2**
MA2 Magadan 70.63 26 *e*P **P 10 18 21.1 -0.3**
MA2 *e*S S 10 27 35.4 +3.3
MA2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MA2 Magadan 70.63 26 *e*P **P 10 18 19.9 -1.5**
comp=Z,9.7nm,0.8s,mb4.8
OBN Obninsk 70.78 328 P **P 10 18 21.0 -1.4**
OBN *e* 10 28 22.2
TIXI Tiksi 72.05 10 *e*P **P 10 18 28.6 -1.1**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TIXI MLR MLR
comp=Z,202nm,10.0s,MS4.7
JOF Joensuu 76.36 335 *e*p **P 10 18 53.9 -0.8**
comp=Z,3.6nm,0.7s,mb4.4
FINES FINESS Array B 78.19 333 P **P 10 19 04.6 -0.3**
comp=Z,4.9nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=22
FINES LR LR 10 57 58.7
comp=Z,157nm,20.1s,MS4.3,baz=80,slow=39
KAF Kangasniemi 78.28 333 *e*p **P 10 19 04.9 -0.5**
comp=Z,6.3nm,0.7s,mb4.7
KAF Kangasniemi 78.28 333 *e*P **P 10 19 04.9 -0.5**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ARCES ARCESS Array B 80.81 340 P **P 10 19 19.1 +0.3**
comp=Z,2.0nm,0.5s,mb4.3,baz=100,slow=5.9,SNR=21
ARCES LR LR 10 55 58.2
comp=Z,150nm,19.4s,MS4.4,baz=200,slow=36
GERES GERESS Array B 82.94 319 P **P 10 19 31.3 +0.9**
comp=Z,2.6nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=16
NB2 NORSAR Subarra 85.19 331 P **P 10 19 41.7 +0.3**
comp=Z,0.2nm,0.7s,baz=92,slow=6.5
NOA NORSAR Array B 85.19 331 P **P 10 19 42.1 +0.8**
comp=Z,2.5nm,0.9s,mb4.3,baz=93,slow=5.5,SNR=6.5
NOA LR LR 11 01 38.6
comp=Z,86nm,20.8s,MS4.1,baz=340,slow=38
IMA Indian Mountai 95.79 23 P **P 10 20 31.6 +0.4**
INK Inuvik 101.52 17 *e*P P 10 20 57.3 +0.3
comp=Z,1.1nm,0.9s
PPT Papeete 114.10 108 *e*LR LR 10 21 32.6
comp=Z,78nm,23.8s
ULM Lac du Bonnet 126.39 9 PKP PKPdf 10 26 09.0 -3.0
comp=Z,0.9nm,0.4s,baz=334,slow=5.7,SNR=6.6
HLID Hailey 126.57 27 *e*PKP PKPdf 10 26 11.0 -1.6
NVAR Mina Array Bea 128.37 34 PKP PKPdf 10 26 14.8 -1.4
comp=Z,1.3nm,0.8s,baz=272,slow=4.2,SNR=8.7
PDAR Pinedale Array 129.31 24 PKP PKPdf 10 26 14.6 -3.4
comp=Z,0.3nm,0.4s,slow=1.5,SNR=3.9
MSU Marysvale 131.55 30 *e*PKP PKPdf 10 26 21.9 -0.4
TXAR Lajitas Array 143.11 29 PKhKP 10 26 38.0
comp=Z,0.9nm,0.8s,baz=276,slow=1.5,SNR=10
JCT Junction City 143.84 23 *e*PKP PKPdf 10 26 39.8 -5.0

*NEIC **15** 10:23:30.4, 10.65N×62.51W, h72km, MD3.1(TRN), After TRN.*
*FUNV **15** 10:23:30.5, 10.62N×62.43W, h84km, MW2.9*
*TRN **15** 10:23:30.4, 10.65N×62.51W, h73km, MD3.1*
ISC 15 10:23:28.9±0.6, 10.60N±0.04×62.51W±0.03, h91km±7km, n18, σ0°95/34, 1C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.28**	**81**	*e*P	**P**		**10 23 42.7**	**+0.4**
GUIV				*e*S	**S**		**10 23 51.2**	**-1.3**
CRUV	**Carupano**	**0.72**	**276**	*e*P	**P**		**10 23 47.0**	**+1.1**
CRUV				*e*S	**S**		**10 23 59.0**	**+0.5**
ITEV	**Isla Los Testi**	**0.97**	**321**	*e*P	**P**		**10 23 49.5**	**+1.0**
ITEV				*e*S	**S**		**10 24 02.7**	**-0.5**
TPP	**Pointe-a-Pierr**	**1.07**	**105**	*e*P	**P**		**10 23 50.8**	**+1.1**
TPP				*e*S	**S**		**10 24 05.1**	**-0.3**
TRN	**Trinidad (W)**	**1.08**	**88**	*i*P	**P**		**10 23 50.3**	**+0.5**
TRN				*e*S	**S**		**10 24 04.3**	**-1.4**
TBH	**Brigand Hill**	**1.42**	**95**	*e*P	**P**		**10 23 54.7**	**+0.6**
TBH				*e*S	**S**		**10 24 12.7**	**-0.1**
GRW	**Mount Saint Ca**	**1.75**	**28**	*e*P	**P**		**10 23 58.7**	**+0.3**
GRW				*e*S	**S**		**10 24 19.2**	**-0.9**
ORIV	**Oritupano**	**1.77**	**210**	*e*P	**P**		**10 24 00.0**	**+1.5**
ORIV				*e*S	**S**		**10 24 21.6**	**+1.2**
TPR	**Prospect**	**1.79**	**71**	*e*P	**P**		**10 23 59.2**	**+0.4**
TPR				*e*S	**S**		**10 24 21.3**	**+0.3**
BOT	**Bacolet**	**1.84**	**72**	*e*P	**P**		**10 23 59.6**	**0.0**
BOT				*e*S	**S**		**10 24 21.8**	**-0.4**
IBAV	**Isla La Blanqu**	**2.37**	**301**	*e*P	**P**		**10 24 07.8**	**+1.1**
IBAV				*e*S	**S**		**10 24 35.1**	**+0.2**
GURV	**El Guri**	**2.88**	**191**	*e*P	**P**		**10 24 13.9**	**+0.1**
CUPV	**Cœpira**	**3.28**	**261**	*e*P	**P**		**10 24 20.4**	**+1.2**
CUPV				*e*S	**S**		**10 24 56.5**	**-0.8**
BIRV	**Birongo**	**3.70**	**268**	*e*P	**P**		**10 24 25.6**	**+0.4**
BIRV				*e*S	**S**		**10 25 06.0**	**-1.9**
MERV	**Las Mercedes**	**3.97**	**251**	*e*P	**P**		**10 24 29.0**	**+0.1**
MERV				*e*S	**S**		**10 25 11.4**	**-3.0**
LUEV	**Luepa**	**4.84**	**168**	*e*P	**P**		**10 24 39.2**	**-1.6**
CAOV	**Caicara del Or**	**4.98**	**229**	*e*P	**P**		**10 24 42.2**	**-0.5**
CAOV				*e*S	**S**		**10 25 35.4**	**-4.2**
BAUV	**El Baul**	**5.70**	**254**	*e*P	**P**		**10 24 51.5**	**-1.1**
BAUV				*e*S	**S**		**10 25 51.8**	**-5.5**

*NEIC **15** 10:35:19.0, 50.73N×130.54W, h10km, mb3.9/2, MW4.3(PGC), After PGC.*
*PGC **15** 10:35:19.3, 50.73N×130.54W, h10km, Mw4.4, Mw4.6, West of Vancouver Island, British Columbia*
*IDC **15** 10:35:21.6±1.8, 50.83N×130.16W, mb3.5/2, mb1 3.8/9, mb1mx3.7/23, mbtmp3.5/9, ML3.6/7, MS3.4/5, Ms1 3.4/5, ms1mx3.2/22, Error ellipse: s-maj=24.5km s-min=10.8km az=74.0*
ISC 15 10:35:18.9±0.5, 50.85N±0.03×130.33W±0.06, h10km, n72, σ1°14/89, mb3.6/3, MS3.4/1, 2C-1D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HOLB	**Holberg**	**1.41**	**98**	⇑Pn	**Pn**		**10 35 44.9**	**+0.2**
HOLB				Sn	**Sn**		**10 36 02.4**	**-1.0**
HOLB				Trac			10 36 03.9	
BPBC	**Brooks Peninsu**	**1.77**	**112**	⇑Pn	**Pn**		**10 35 49.1**	**-0.8**
BPBC				Sn	**Sn**		**10 36 10.5**	**-2.1**
BPBC				Trac			10 36 12.6	
PHC	**Port Hardy**	**1.84**	**93**	⇑Pn	**Pn**		**10 35 51.3**	**+0.4**
PHC				Sn	**Sn**		**10 36 14.0**	**-0.4**
PHC				Trac			10 36 14.6	
BBB	**Bella Bella**	**1.92**	**45**	Pn	**Pn**		**10 35 53.4**	**+1.3**
BBB				Sn	**Sn**		**10 36 16.9**	**+0.5**
BBB				Trac			10 36 20.2	
BNB	**Barry Inlet**	**1.94**	**333**	Pn	**Pn**		**10 35 51.0**	**-1.3**
BNB				Sn	**Sn**		**10 36 13.6**	**-3.4**
BNB				Trac			10 36 14.6	
MAYB	**Maynard**	**2.06**	**101**	⇑Pn	**Pn**		**10 35 54.1**	**+0.1**
MAYB				Trac			10 36 23.6	
EDB	**Eliza Dome**	**2.27**	**114**	Pn	**Pn**		**10 35 55.9**	**-1.2**
EDB				Sn	**Sn**		**10 36 20.5**	**-4.9**
EDB				Trac			10 36 25.0	
WOSB	**Woss**	**2.49**	**105**	Pn	**Pn**		**10 36 00.4**	**+0.2**
MOBC	**Moresby Island**	**2.54**	**338**	Pn	**Pn**		**10 35 59.5**	**-1.5**
MOBC				Sn	**Sn**		**10 36 30.6**	**-1.7**
MOBC				Trac			10 36 35.9	
BNAB	**Bonilla**	**2.66**	**356**	Pn	**Pn**		**10 36 02.2**	**-0.4**
NCRB	**Newcastle Ridg**	**2.75**	**98**	Pn	**Pn**		**10 36 04.0**	**+0.1**
NCRB				Trac			10 36 40.6	
VIB	**Van Inlet**	**2.77**	**331**	Pn	**Pn**		**10 36 02.8**	**-1.4**
ETB	**Estevan Point**	**2.85**	**120**	Pn	**Pn**		**10 36 04.4**	**-0.9**
ETB				Trac			10 36 39.4	
GDR	**Gold River**	**2.95**	**110**	⇑Pn	**Pn**		**10 36 06.2**	**-0.6**
CBB	**Campbell River**	**3.27**	**103**	⇓Pn	**Pn**		**10 36 11.6**	**+0.2**
CBB				Sn	**Sn**		**10 36 49.5**	**-1.2**
CBB				Trac			10 37 14.2	
BTB	**Buttle Lake**	**3.38**	**112**	⇑Pn	**Pn**		**10 36 12.4**	**-0.5**
RUBB	**Prince Rupert**	**3.48**	**1**	Pn	**Pn**		**10 36 14.4**	**+0.1**
RUBB				Trac			10 37 25.1	
NDB	**Naden**	**3.50**	**334**	Pn	**Pn**		**10 36 13.2**	**-1.4**
NDB				Trac			10 37 05.7	
ALB	**Alberni**	**3.88**	**112**	Pn	**Pn**		**10 36 19.2**	**-0.6**
TXB	**Texada**	**3.95**	**105**	⇑Pn	**Pn**		**10 36 20.8**	**-0.1**
MGB	**Mount Grey**	**4.08**	**115**	Pn	**Pn**		**10 36 21.6**	**-1.2**
MGB				Sn	**Sn**		**10 37 06.6**	**-4.6**
MGB				Trac			10 37 14.2	
SHB	**Sechelt**	**4.33**	**104**	Pn	**Pn**		**10 36 26.3**	**0.0**
SHB				Sn	**Sn**		**10 37 15.2**	**-2.2**
SHB				Trac			10 37 21.0	
NLLB	**Nanaimo Lost L**	**4.39**	**109**	Pn	**Pn**		**10 36 26.6**	**-0.6**
PFB	**Port Renfrew**	**4.45**	**119**	Pn	**Pn**		**10 36 27.0**	**-1.0**
WPB	**Watts Point**	**4.72**	**102**	Pn	**Pn**		**10 36 31.7**	**-0.1**
BIB	**Bowen Island**	**4.74**	**105**	Pn	**Pn**		**10 36 31.7**	**-0.5**
LZB	**Mount Lazard**	**4.77**	**115**	Pn	**Pn**		**10 36 32.7**	**0.0**
WSLR	**Whistler**	**4.78**	**96**	Pn	**Pn**		**10 36 32.2**	**-0.5**
GOBB	**Galiano Island**	**4.80**	**111**	Pn	**Pn**		**10 36 34.0**	**+1.1**
GOBB				Sn	**Sn**		**10 37 25.7**	**-3.6**
GOBB				Trac			10 37 32.4	
PGC	**Sidney**	**4.97**	**114**	*e*P	**Pn**		**10 36 34.6**	**-0.8**
PGC	**Sidney**	**4.97**	**114**	Pn	**Pn**		**10 36 35.2**	**-0.2**
PGC				Sn	**Sn**		**10 37 28.8**	**-4.9**
PGC				Trac			10 37 35.6	
SNB	**Saturna Island**	**5.08**	**111**	Pn	**Pn**		**10 36 38.2**	**+1.4**
SNB				Sn	**Sn**		**10 37 33.9**	**-2.4**
SNB				Trac			10 37 36.8	
FSB	**Fort Saint Jam**	**5.15**	**43**	Pn	**Pn**		**10 36 43.3**	**+5.3**
FSB				Sn	**Sn**		**10 37 42.7**	**+4.6**
FSB				Sg	**Sg**		**10 38 12.1**	**+1.8**
FSB				Trac			10 38 21.9	
VGZ	**Gonzales**	**5.16**	**115**	Pn	**Pn**		**10 36 38.5**	**+0.4**
VGZ				Trac			10 37 34.8	
HNB	**Haney**	**5.23**	**105**	Pn	**Pn**		**10 36 39.8**	**+0.7**
LLLB	**Lillooet**	**5.37**	**89**	Pn	**Pn**		**10 36 41.9**	**+0.9**
LLLB				Trac			10 38 13.1	
VDB	**Vedder Mountai**	**5.61**	**106**	P	**Pn**		**10 36 44.9**	**+0.5**
VDB	**Vedder Mountai**	**5.61**	**106**	Pn	**Pn**		**10 36 45.0**	**+0.5**
CMW	**Cultus Mountai**	**5.86**	**111**	P	**Pn**		**10 36 49.0**	**+1.0**
RPW	**Rockport**	**6.21**	**109**	P	**Pn**		**10 36 53.7**	**+0.8**
LON	**Longmire**	**6.96**	**123**	P	**Pn**		**10 37 04.4**	**+1.0**
NLW	**Nelson Butte**	**7.07**	**109**	P	**Pn**		**10 37 05.6**	**+0.5**
WPW	**White Pass**	**7.13**	**122**	P	**Pn**		**10 37 07.2**	**+1.3**
BMBC	**Bull Mountain**	**7.14**	**40**	Pn	**Pn**		**10 37 07.5**	**+1.5**
BMBC				Sn	**Sn**		**10 38 26.2**	**-1.8**
BMBC				Trac			10 38 33.1	
TWW	**Teanaway**	**7.24**	**117**	P	**Pn**		**10 37 09.0**	**+1.5**
ETW	**Entiat**	**7.30**	**113**	P	**Pn**		**10 37 09.5**	**+1.2**
TBM	**Table Mountain**	**7.38**	**116**	P	**Pn**		**10 37 09.8**	**+0.5**
DHW2	**Dyer Hill 2**	**7.46**	**109**	P	**Pn**		**10 37 11.1**	**+0.6**
WTV	**Waterville**	**7.48**	**111**	P	**Pn**		**10 37 11.1**	**+0.3**
DLBC	**Dease Lake**	**7.61**	**1**	Pn	**Pn**		**10 37 13.6**	**+1.0**
	0.6nm,0.3s,baz=184,slow=18,SNR=19							
DLBC				Sn	**Sn**		**10 38 41.9**	**+2.2**
	0.6nm,0.3s,baz=236,slow=12,SNR=3.3							
DLBC				LR	LR		10 40 05.3	
	comp=Z,186nm,20.4s,baz=144,slow=37							
NEW	**Newport**	**8.96**	**102**	Pn	**P**		**10 37 29.7**	**-1.7**
	0.4nm,0.3s,baz=246,slow=15,SNR=3.6							
NEW				LR	LR		10 41 14.3	
	comp=Z,367nm,19.4s,baz=324,slow=40							
NEW	**Newport**	**8.96**	**102**	Pn	**P**		**10 37 29.7**	**-1.7**
NEW				LR	LR		10 41 14.3	
BMO	**Blue Mountains**	**10.60**	**119**	*e*P	**P**		**10 37 53.0**	**-0.8**
MSO	**Missoula**	**11.52**	**104**	*e*P	**P**		**10 38 05.4**	**-0.9**
HLID	**Hailey**	**13.03**	**118**	*e*P	**P**		**10 38 26.7**	**+0.1**
YKA	**Yellowknife Ar**	**14.46**	**30**	Pn	**P**		**10 38 45.1**	**-0.2**
	0.2nm,0.3s,baz=218,slow=12,SNR=13							
YKA				LR	LR		10 44 40.3	
	comp=Z,119nm,20.5s,baz=105,slow=39							
ELK	**Elko**	**14.56**	**128**	Pn	**P**		**10 38 52.9**	**+6.2**
	0.1nm,0.3s,baz=158,slow=21,SNR=2.9							
ELK	**Elko**	**14.56**	**128**	Pn	**P**		**10 38 52.9**	**+6.2**
MOOW	**Moose Ponds**	**15.04**	**111**	*e*P	**P**		**10 38 55.0**	**+2.0**
NVAR	**Mina Array Bea**	**15.05**	**141**	Pn	**P**		**10 38 55.8**	**+2.6**
	0.1nm,0.3s,baz=299,slow=11,SNR=2.3							
BW06	**Boulder Array**	**16.32**	**112**	*e*P	**P**		**10 39 10.8**	**+1.3**
	12nm,1.4s							
PDAR	**Pinedale Array**	**16.32**	**112**	Pn	**P**		**10 39 13.5**	**+4.0**
	0.1nm,0.3s,baz=316,slow=11,SNR=28							
ILAR	**Eielson Array**	**16.43**	**334**	Pn	**P**		**10 39 18.4**	**+7.7**
	0.0nm,0.3s,baz=149,slow=9.9,SNR=15							
FFC	**Flin Flon**	**17.52**	**66**	*e*P	**P**		**10 39 26.2**	**+1.6**
INK	**Inuvik**	**17.58**	**356**	LR	LR		10 46 34.5	
	comp=Z,154nm,21.1s,baz=255,slow=38							
RW3	**Ridgway**	**20.37**	**119**	P	**P**		**10 39 56.8**	**-1.4**
ULM	**Lac du Bonnet**	**21.79**	**78**	P	**P**		**10 40 12.3**	**-0.2**
	1.4nm,0.5s,mb3.6,baz=288,slow=8.5,SNR=5.6							
ULM				LR	LR		10 49 02.7	
	comp=Z,168nm,22.0s,MS3.4,baz=311,slow=38							
ULM	**Lac du Bonnet**	**21.79**	**78**	P	**P**		**10 40 12.3**	**-0.2**
ULM				LR	LR		10 49 02.7	
SDCO	**Great Sand Dun**	**21.95**	**117**	*e*P	**P**		**10 40 16.2**	**+1.9**
	3.6nm,0.7s,mb3.9							
TXAR	**Lajitas Array**	**29.35**	**127**	P	**P**		**10 41 25.7**	**+1.7**
	0.6nm,1.0s,mb3.3,baz=297,slow=2.8,SNR=3.8							
TXAR	**Lajitas Array**	**29.35**	**127**	P	**P**		**10 41 25.7**	**+1.7**

NDI 15 10:36:05.5±2.7, 28.38N×77.42E, h17km±7km, MD2.8, ML2.7, Northern India

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AYAN	Aya Nagar	0.27	292	eP	Pb	10 36 12.1	+0.5
AYAN				eS	Sb	10 36 15.5	-0.2
SONA	Sohna	0.32	246	eP	Pb	10 36 13.5	+1.1
SONA				eS	Sb	10 36 18.2	+1.2
SONA				e		10 36 19.9	
	comp=N,954nm,0.2s						
SONA				e		10 36 19.9	
	comp=E,630nm,0.1s						
NDI	New Delhi	0.35	330	eP	Pb	10 36 11.0	-1.9
NDI				eS	Sb	10 36 15.0	-2.9
ASOR	Ausora	0.49	40	eP	Pb	10 36 14.3	-0.9
BHGR	Bahadurgarh	0.52	306	eP	Pb	10 36 16.4	+0.6
KUDL	Kundal	0.85	254	eP	Pb	10 36 22.4	+1.0
KUDL				eS	Sb	10 36 34.1	+1.7
KUDL				e		10 36 39.1	
	comp=Z,107nm,0.2s						
AGRA	Agra	1.24	158	eP	Pb	10 36 29.4	+1.4
AGRA				eS	Sb	10 36 46.3	+2.7
KHET	Khetri	1.45	258	eP	Pn	10 36 32.9	+1.7
KHET				eS	Sb	10 36 52.4	+2.5
KHET				e		10 36 53.5	
	comp=N,100nm,0.2s						
KHET				e		10 36 53.5	
	comp=E,117nm,0.1s						
LGTI	Lohaghat	2.70	66	eP	Pn	10 36 47.0	-2.1
LGTI				eS	Sn	10 37 20.0	-1.7
PTH	Pithoragarh	2.72	64	eP	Pn	10 36 51.0	+1.7
PTH				eS	Sn	10 37 22.0	-0.1
SMLA	Simla	2.75	356	i P	Pn	10 36 48.8	-0.9
SMLA				i S	Sn	10 37 23.0	+0.2
JOSI	Joshimath	2.86	40	eP	Pn	10 36 46.0	-5.3
JOSI				eS	Sn	10 37 19.9	-5.9
SDNR	Sundarnagar	3.13	353	eP	Pn	10 37 02.9	+7.7
SDNR				eS	Sn	10 37 41.5	+8.9
KLP	Kalpa	3.22	13	eP	Pn	10 36 58.0	+1.4
KLP				eS	Sn	10 37 35.9	+1.0

NEIC 15 10:49:13.0, 19.51N×69.00W, h75km, MD3.8(RSPR), After RSPR.

RSPR 15 10:49:13.0, 19.51N×69.00W, h75km±64km, MD3.8/11, MD3.8/11, 11C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.24	126	⇑eP	P	10 49 46.9	-1.9
CRPR	Cabo Rojo, PR	2.33	129	⇑eP	P	10 49 46.9	-3.1
CRPR				eS	S	10 50 15.7	-1.8
MGP	Maguayo	2.34	129	⇑eP	P	10 49 48.5	-1.7
MGP				eS	S	10 50 16.3	-1.6
LRS	Lares	2.37	120	⇑eP	P	10 49 50.4	-0.2
AOPR	Arecibo Observ	2.42	118	⇑eP	P	10 49 51.6	+0.2
AOPR				eS	S	10 50 17.3	-2.5
PORP	Portuguez	2.66	122	⇑eP	P	10 49 54.6	-0.1
PORP				eS	S	10 50 26.5	+0.6
CELP	Cerrillos	2.70	121	⇑eP	P	10 49 54.1	-1.1
CELP				eS	S	10 50 27.5	+0.7
CSB	Colonia Sabana	2.95	114	⇑eP	P	10 49 57.4	-1.4
CSB				eS	S	10 50 31.2	-1.9
CBYP	Canovanas	3.22	112	⇑eP	P	10 50 00.2	-2.3
CBYP				eS	S	10 50 38.0	-1.8
CPD	Cerro la Pandu	3.27	116	⇑eP	P	10 50 02.1	-1.1
CPD				eS	S	10 50 39.6	-1.4
MTP	Monte Pirata	3.55	113	⇑eP	P	10 50 04.4	-2.7

CSEM 15 11:07:57.8±1.4, 58.12N×10.80E, h10km, ML2.6, Error ellipse: s-maj=31.7km s-min=19.0km az=32.0

NAO 15 11:07:59.2±4.1, 58.25N×11.21E, h3km±21km, ML2.6

BER 15 11:07:59.0±5.8, 58.16N×11.07E, h0km±27km, ML2.6(NAO), Sweden

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HFS	Hagfors	2.40	33	Pn	Pn	11 08 37.8	-2.4
	baz=218,slow=14						
HFS				Sn	Sn	11 09 06.3	-4.4
	baz=218,slow=37						
HFS				Lg		11 09 10.9	
	baz=195,slow=37						
NC6	NORSAR Subarra	2.61	4	Pn	Pn	11 08 40.9	-2.2
NC6				Sn	Sn	11 09 12.9	-3.0
NC6				Lg		11 09 18.1	
NC6	NORSAR Subarra	2.61	4	Pn	Pn	11 08 40.8	-2.3
	SNR=50						
NC6				Sn	Sn	11 09 12.9	-3.0
	SNR=50						
NB2	NORSAR Subarra	2.89	1	Pn	Pn	11 08 44.6	-2.6
NB2				Sn	Sn	11 09 18.6	-4.6
NB2	NORSAR Subarra	2.89	1	Pn	Pn	11 08 44.6	-2.6
	SNR=50						
NB2				Sn	Sn	11 09 18.5	-4.7
	SNR=50						
FIA0	FINESS Array S	8.25	60	Pn	P	11 09 57.8	-5.0
	baz=246,slow=11						
FIA0				Sn	Sn	11 11 27.4	-10
	baz=254,slow=28						
FIA0				Lg		11 12 15.1	
	baz=220,slow=37						
ARA0	ARCESS Array S	13.02	23	Pn	P	11 10 59.5	-8.3
	baz=218,slow=14						

IDC 15 11:15:29.4±1.7, 45.44N×27.88W, mb3.8/7, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, MS4.0/6, Ms1 4.0/6, ms1mx3.3/23, Error ellipse: s-maj=56.4km s-min=26.3km az=6.0

NEIC 15 11:15:30.5±0.6, 45.39N×27.87W, h10km, mb4.4/6, Error ellipse: s-maj=17.1km s-min=11.6km az=180.0

CSEM 15 11:15:31.3±0.2, 45.46N×27.80W, h33km, mb4.3/6, Error ellipse: s-maj=8.0km s-min=6.2km az=177.0

ISC 15 11:15:28.9±1.0, 45.4N±0.2×27.9W±0.2, h10km, n24, σ0^{s}63/19, mb4.0/13, MS4.0/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SCHQ	Schefferville	26.38	305	P	P	11 21 06.4	-0.4
	18nm,1.3s,mb4.5						
SCHQ	Schefferville	26.38	305	P	P	11 21 06.4	-0.4
	18nm,1.3s,mb4.5						
FRB	Frobisher Bay	29.14	323	P	P	11 21 31.8	+0.1
	2.2nm,0.8s,mb3.9,baz=124,slow=3.6,SNR=2.4						
FRB				LR	LR	11 32 07.0	
	comp=Z,131nm,18.2s,MS3.6,baz=201,slow=34						
RES	Resolute Bay	40.75	338	P	P	11 23 11.4	+0.3
	4.2nm,1.2s,mb3.9						
RES	Resolute Bay	40.75	338	P	P	11 23 11.4	+0.3
	4.2nm,1.2s,mb3.9						
FCC	Fort Churchill	41.07	313	eP	P	11 23 14.3	+0.4
	11nm,1.3s,mb4.3						
FCC	Fort Churchill	41.07	313	eP	P	11 23 14.3	+0.5
	11nm,1.3s,mb4.3						
ULM	Lac du Bonnet	44.47	302	P	P	11 23 41.5	-0.2
	0.7nm,0.4s,mb3.7,baz=90,slow=7.1,SNR=3.0						
ULM				LR	LR	11 40 05.3	
	comp=Z,209nm,20.3s,MS4.0,baz=39,slow=33						
YKA	Yellowknife Ar	49.65	323	P	P	11 24 21.6	-0.5
	0.5nm,0.9s,mb3.6,baz=65,slow=7.4,SNR=7.4						
YKA				PcP	PcP	11 25 42.5	-1.3
	0.4nm,0.9s,baz=74,slow=3.7,SNR=5.7						
YKA				LR	LR	11 43 57.2	
	comp=Z,127nm,20.0s,MS3.9,baz=95,slow=34						
YKA	Yellowknife Ar	49.65	323	P	P	11 24 21.6	-0.5
YKA				PcP	PcP	11 25 42.5	-1.3
YKA	Yellowknife Ar	49.65	323	PcP	PcP	11 25 42.5	-1.3
CHKZ	Chkalovo	59.40	43	eP	P	11 25 32.7	-0.7
	2.9nm,0.8s,mb4.4						
CHKZ	Chkalovo	59.40	43	eP	P	11 25 32.7	-0.7
	2.9nm,0.8s,mb4.4						
TXAR	Lajitas Array	60.21	283	P	P	11 25 40.0	+0.6
	0.8nm,0.9s,mb3.7,baz=72,slow=7.9,SNR=6.3						
TXAR				LR	LR	11 50 47.2	
	comp=Z,253nm,20.8s,MS4.3,baz=40,slow=35						
ILAR	Eielson Array	60.32	334	P	P	11 25 39.1	-0.5
	0.4nm,0.7s,mb3.5,baz=44,slow=5.5,SNR=5.4						
ILAR				LR	LR	11 49 25.7	
	comp=Z,109nm,19.7s,MS4.0,baz=0.1,slow=34						
BDFB	Brasilia	63.48	202	LR	LR	11 50 03.6	
	comp=Z,94nm,19.3s,MS4.0,baz=52,slow=33						
KURK	Kurchatov	65.09	42	eP	P	11 26 10.5	-0.9
	2.5nm,0.8s,mb4.3						
KURK	Kurchatov	65.09	42	eP	P	11 26 10.5	-0.9
	2.5nm,0.8s,mb4.3						
ZAL	Zalesovo	65.65	37	P	P	11 26 15.6	+0.7
	0.9nm,0.3s,mb4.2,baz=155,slow=12,SNR=3.5						
LPAZ	La Paz	71.46	221	P	P	11 26 51.4	-0.2
	1.7nm,1.0s,mb3.9						
SONM	Songino Array	78.83	29	P	P	11 27 34.5	+1.4
	0.9nm,0.6s,mb3.9,baz=326,slow=4.5,SNR=5.2						
WRA	Warramunga Arr	150.62	36	PKPbc	PKPdf	11 35 23.0	+4.3
	3.0nm,1.2s,baz=324,slow=2.5,SNR=6.5						
ASAR	Alice Springs	153.71	40	PKPbc	PKPdf	11 35 29.8	+6.8
	1.6nm,1.1s,baz=314,slow=2.6,SNR=5.8						
ASAR				PKPab	PKPab	11 35 43.0	0.0
	1.4nm,0.9s,baz=343,slow=3.3,SNR=6.2						
STKA	Stephens Creek	164.17	35	PKPab	PKPab	11 36 27.5	-0.4
	3.7nm,0.8s,baz=337,slow=7.7,SNR=3.9						

WEL 15 11:23:01.5±0.3, 40.98S×172.80E, h180km±2km, ML3.7/7, 3C-8D, Error ellipse: s-maj=2.0km s-min=1.9km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.26	306	⇓PN	P	11 23 25.4	-0.4
QRZ				SN	S	11 23 42.8	-1.7
NNZ	Nelson	0.50	119	SN	S	11 23 44.9	-1.0
THZ	Tophouse	0.79	174	⇑PN	P	11 23 27.8	-0.2
THZ				SN	S	11 23 47.3	-1.2
DUWZ	D'Urville Isla	0.87	79	PN	P	11 23 28.1	-0.3
DUWZ				SN	S	11 23 48.6	-0.7
TUWZ	Tuamarina	0.97	118	PN	P	11 23 29.5	+0.5
TUWZ				SN	S	11 23 49.5	-0.9
DSZ	Denniston Nort	1.07	224	⇑PN	P	11 23 29.2	-0.7
DSZ				SN	S	11 23 50.0	-1.9
BSWZ	Blackbirch Sta	1.09	133	PN	P	11 23 30.4	+0.4
BSWZ				SN	S	11 23 51.6	-0.6
MRW	Makara Radio	1.46	100	⇓PN	P	11 23 33.0	-0.4
MRW				SN	S	11 23 55.6	-2.3
SNZO	South Karori	1.47	104	PN	P	11 23 33.1	-0.5
SNZO				SN	S	11 23 56.7	-1.6
WEL	Wellington	1.52	102	PN	P	11 23 33.5	-0.5
KHZ	Kahutara	1.54	159	⇑PN	P	11 23 33.8	-0.4
KHZ				SN	S	11 23 57.3	-2.1
KIW	Kapiti Island	1.60	86	⇓PN	P	11 23 34.2	-0.5
KIW				SN	S	11 23 58.3	-2.2
BHW	Baring Head	1.62	106	⇓PN	P	11 23 34.3	-0.6
CAW	Cannon Point	1.72	95	⇓PN	P	11 23 35.2	-0.7
CAW				SN	S	11 24 00.3	-2.2
LTZ	Lake Taylor	1.84	192	PN	P	11 23 36.5	-0.7
LTZ				SN	S	11 24 02.1	-2.7
NRZ	Ngariki Road	1.86	28	PN	P	11 23 36.5	-0.9
NWEZ	Newall Road	1.89	26	ePN	P	11 23 36.7	-0.9
MSWZ	Moikau Station	1.90	104	PN	P	11 23 37.0	-0.7
DFE	Dawson Falls	1.93	32	PN	P	11 23 37.1	-1.0
NEZ	North Egmont	1.98	31	PN	P	11 23 38.0	-0.6
PKE	Pukeiti	2.00	27	PN	P	11 23 37.9	-1.0
PAWZ	Paruwai Farm	2.02	102	PN	P	11 23 38.4	-0.7
PAWZ				SN	S	11 24 05.4	-2.6
MTW	Mount Morrison	2.05	96	⇓PN	P	11 23 38.6	-0.8
WAZ	Wanganui	2.07	54	PN	P	11 23 39.0	-0.7
RAEZ	Rainy Point	2.08	36	PN	P	11 23 38.8	-1.1
MRZ	Mangatainoka R	2.13	82	⇓PN	P	11 23 39.3	-1.1
MRZ				SN	S	11 24 08.3	-2.0
VRZ	Vera Road	2.38	40	PN	P	11 23 41.3	-2.1
VRZ				SN	S	11 24 13.7	-1.8
TSZ	Takapari Road	2.58	70	PN	P	11 23 44.0	-1.5
CRLZ	Canterbury Las	2.60	183	PN	P	11 23 43.8	-2.0
BFZ	Birch Farm	2.63	85	⇓PN	P	11 23 45.0	-1.2
BFZ				SN	S	11 24 17.7	-2.9
WNVZ	Wahianoa	2.70	53	PN	P	11 23 45.2	-1.9
FWVZ	Far West T-bar	2.72	52	PN	P	11 23 45.2	-2.1
MQZ	McQueen's Vall	2.73	182	PN	P	11 23 45.0	-2.4
MQZ				SN	S	11 24 17.7	-5.0
MOVZ	Moawhango	2.75	56	PN	P	11 23 45.3	-2.4
WPVZ	Whakapapa	2.75	51	PN	P	11 23 45.5	-2.2
CNZ	Chateau	2.76	51	PN	P	11 23 45.4	-2.3
TUVZ	Tukino	2.77	53	PN	P	11 23 46.1	-1.9
TWVZ	Taurewa	2.78	48	PN	P	11 23 45.9	-2.1
NGZ	Ngauruhoe	2.80	51	PN	P	11 23 45.9	-2.4
WTVZ	West Tongariro	2.84	50	PN	P	11 23 46.1	-2.6
OTVZ	Oturere	2.85	51	PN	P	11 23 46.8	-2.1
MGZ	Maungaku	2.89	48	PN	P	11 23 47.0	-2.3
HIZ	Hauiti	2.93	33	PN	P	11 23 47.2	-2.6

IDC 15 11:27:48.8±4.2, 15.35N×144.15E, mb3.7/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.7/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/19, Error ellipse: s-maj=113.4km s-min=35.8km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JOW	Kunigami	18.68	310	LR	LR	11 38 07.7	
	comp=Z,89nm,19.4s,baz=84,slow=33						
WRA	Warramunga Arr	36.38	196	P	P	11 34 54.6	-2.2
	1.3nm,1.0s,baz=12,slow=9.2,SNR=3.5						
CMAR	Chiang Mai Arr	43.28	281	P	P	11 35 53.1	-1.1
	1.2nm,0.8s,baz=83,slow=6.8,SNR=4.8						
SONM	Songino Array	44.90	324	P	P	11 36 04.8	-2.1
	0.9nm,0.8s,baz=127,slow=6.2,SNR=3.8						

NEIC 15 11:34:42.6±1.5, 50.91N×178.43E, h54km±8km, mb3.8/2, ML3.6(AEIC), Error ellipse: s-maj=30.2km s-min=7.6km az=191.0

IDC 15 11:34:43.7±4.0, 51.33N×178.54E, h45km±37km, mb3.3/8, mb1 3.7/9, mb1mx3.5/21, mbtmp3.6/9, ML3.6/1, Error ellipse: s-maj=58.6km s-min=24.9km az=18.0

ISC 15 11:34:41.7±1.9, 51.0N±0.3×178.5E±0.1, h58km±10km, n21, σ0^{s}87/21, mb3.6/10, Rat Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.80	73	P	P	11 35 25.0	-0.3
SMY	Shemya	3.19	304	eP	P	11 35 31.9	+1.2
GSMY	Great Sitkin M	3.58	71	P	P	11 35 36.5	+0.3
FX1	Attu Island--F	3.76	302	P	P	11 35 37.8	-0.9
	15nm,0.3s,baz=237,slow=5.0,SNR=22						
FX1	Attu Island--F	3.76	302	P	P	11 35 38.5	-0.2
ATKA	Atka Island	4.74	73	P	P	11 35 51.4	-1.0
IMA	Indian Mountai	20.67	33	P	P	11 39 19.9	+1.1
ILAR	Eielson Array	22.61	39	P	P	11 39 37.0	-1.0
	0.6nm,0.5s,mb3.2,baz=237,slow=8.4,SNR=13						
DAWY	Dawson	25.55	43	eP	P	11 40 08.0	+1.8
YKA	Yellowknife Ar	36.73	46	P	P	11 41 44.0	-0.6
	0.2nm,0.4s,mb3.3,baz=282,slow=7.8,SNR=6.4						
YKA	Yellowknife Ar	36.73	46	P	P	11 41 44.0	-0.6
HLID	Hailey	44.70	72	P	P	11 42 51.2	+0.8
	0.6nm,0.6s,mb3.6						
NVAR	Mina Array Bea	45.32	81	P	P	11 42 55.8	+0.4
	0.2nm,0.4s,mb3.3,baz=296,slow=9.4,SNR=3.6						
BW06	Boulder Array	48.06	70	eP	P	11 43 17.1	+0.2
	1.2nm,0.6s,mb4.1						
PDAR	Pinedale Array	48.06	70	P	P	11 43 17.8	+0.8
	1.6nm,0.8s,mb4.1,baz=310,slow=3.5,SNR=13						
SDCO	Great Sand Dun	53.61	73	P	P	11 43 58.1	-1.0
ARCES	ARCESS Array B	58.13	349	P	P	11 44 29.5	-1.5
	2.4nm,0.9s,mb4.2,baz=34,slow=8.7,SNR=3.7						
ARCES	ARCESS Array B	58.13	349	P	P	11 44 29.5	-1.5
TXAR	Lajitas Array	60.42	79	P	P	11 44 47.5	+0.1
	0.2nm,0.6s,mb3.4,baz=308,slow=6.2,SNR=4.3						
FINES	FINESS Array B	65.73	346	P	P	11 45 21.1	-0.7
	0.4nm,0.6s,mb3.6,baz=27,slow=9.3,SNR=3.1						
NOA	NORSAR Array B	67.82	353	P	P	11 45 35.1	+0.1
	0.5nm,0.8s,mb3.6,baz=16,slow=4.1,SNR=2.9						

IDC 15 11:35:41.7±6.3, 51.32N×178.51E, h55km±51km, mb3.2/4, mb1 3.6/5, mb1mx3.4/21, mbtmp3.6/5, ML3.3/1, Error ellipse: s-maj=97.0km s-min=38.0km az=3.0, Rat Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FX1	Attu Island--F	3.65	298	P	P	11 36 35.6	-1.5
	8.0nm,0.3s,baz=88,slow=21,SNR=4.1						
ILAR	Eielson Array	22.36	40	P	P	11 40 34.5	-1.3
	0.4nm,0.7s,baz=236,slow=9.8,SNR=3.2						
YKA	Yellowknife Ar	36.49	46	P	P	11 42 41.3	-1.7
	0.1nm,0.4s,baz=281,slow=7.8,SNR=3.2						
PDAR	Pinedale Array	47.93	71	P	P	11 44 14.7	-1.5
	0.9nm,0.7s,baz=297,slow=4.8,SNR=3.9						
FINES	FINESS Array B	65.45	346	P	P	11 46 18.0	-2.3
	1.1nm,0.8s,baz=14,slow=5.7,SNR=2.9						

IDC 15 12:03:54.4±0.7, 51.06N×178.30E, mb4.1/18, mb1 4.4/19, mb1mx4.3/24, mbtmp4.1/19, ML4.4/1, MS4.0/3, Ms1 4.0/3, ms1mx3.4/24, Error ellipse: s-maj=21.9km s-min=13.4km az=166.0

MOS 15 12:03:57.9±1.2, 51.05N×178.41E, h33km, mb4.8/23, Error ellipse: s-maj=11.0km s-min=7.3km az=98.7

NEIC 15 12:03:59.6±0.3, 51.03N×178.37E, mb4.6/32, MS3.6/1, ML3.9(AEIC), Error ellipse: s-maj=9.5km s-min=4.0km az=183.0

BJI 15 12:04:00.8, 51.44N×177.62E, h33km, mB4.8, mb4.6, Ms4.2, Msz3.9

ISC 15 12:03:59.0±0.8, 51.04N±0.08×178.36E±0.05, h44km±6km, h32km±.9km:pP-P, n139, σ1^{s}10/145, mb4.5/62, MS3.9/11, 1C-2D, Rat Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	Kanaga Island	2.85	74	P	P	12 04 43.8	+0.7
KIKV	Kanaga Island	2.92	72	P	P	12 04 45.4	+1.3
KIWB	Kanaga Island	2.92	72	eP	P	12 04 44.5	+0.3
KIRH	Kanaga Island	2.97	71	P	P	12 04 45.7	+0.8
KIRH				S	S	12 05 22.4	+2.9
SMY	Shemya	3.14	304	P	P	12 04 46.7	-0.5
GSMY	Great Sitkin M	3.63	72	P	P	12 04 54.3	+0.2
FX1	Attu Island--F	3.71	302	P	P	12 04 55.7	+0.4
FX1						12 05 33.7	
FX1				pmax	pmax		
	comp=Z,98nm,0.3s						
FX1				smax			
	comp=N,10.0nm,0.3s						
FX1	Attu Island--F	3.71	302	Pn	P	12 04 55.6	+0.4
	comp=N,98nm,0.3s,baz=188,slow=3.3,SNR=57						
FX1				Sn	S	12 05 33.6	-4.6
	comp=N,10nm,0.3s,baz=95,slow=22,SNR=3.2						
FX1	Attu Island--F	3.71	302	P	P	12 04 55.1	-0.2
ATKA	Atka Island	4.78	73	P	P	12 05 10.0	-0.5
MA2	Magadan	17.76	309	eP	P	12 08 06.0	+1.7
MA2				eS	S	12 11 26.8	+8.6
MA2				pmax	pmax		
	comp=Z,8.0nm,0.9s						
MA2	Magadan	17.76	309	eP	P	12 08 04.8	+0.5
	comp=Z,13nm,0.9s						
BILL	Bilibino	18.05	345	i P	P	12 08 09.0	+1.1
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,200nm,15.0s						
BILL	Bilibino	18.05	345	eP	P	12 08 08.0	+0.1
	comp=Z,22nm,1.2s						
IMA	Indian Mountai	20.68	33	eP	P	12 08 37.0	-0.4
IMA				pmax	pmax		
	comp=Z,55nm,0.9s						
IMA	Indian Mountai	20.68	33	eP	P	12 08 37.0	-0.4
	comp=Z,55nm,0.9s						
SML	Sawmill	21.08	46	eP	P	12 08 39.5	-2.0
MCK	McKinley	21.42	41	eP	P	12 08 43.4	-1.5
MCK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
MCK	McKinley	21.42	41	eP	P	12 08 43.4	-1.5
	comp=Z,7.0nm,1.0s,mb4.0						
DIV	Divide	22.12	49	eP	P	12 08 51.0	-0.9
	comp=Z,58nm,1.1s,mb4.9						
COLA	College	22.29	39	eP	P	12 08 52.8	-0.6
COLA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
COLA	College	22.29	39	eP	P	12 08 52.8	-0.6
	comp=Z,8.9nm,0.9s,mb4.2						
ILAR	Eielson Array	22.63	39	P	P	12 08 54.9	-1.8
	comp=Z,2.4nm,0.6s,mb3.8,baz=241,slow=8.0,SNR=52						
THY	Trims Highway	22.67	43	eP	P	12 08 56.4	-0.7
ASAJ	Asahikawa	24.91	268	P	P	12 09 19.2	+0.1
ASAJ				pmax	pmax		
	comp=Z,14nm,0.8s						
ASAJ	Asahikawa	24.91	268	P	P	12 09 19.2	+0.1
	comp=Z,14nm,0.8s,mb4.5,baz=165,slow=7.9,SNR=6.5						
DAWY	Dawson	25.57	43	eP	P	12 09 24.6	-0.5
YAK	Yakutsk	28.30	312	eP	P	12 09 47.9	-2.2
YAK				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.6						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
INK	Inuvik	28.76	35	P	P	12 09 53.3	-0.9
	comp=E,0.5nm,0.4s,mb3.6,baz=252,slow=13,SNR=9.5						
INK				PcP	PcP	12 13 03.7	0.0
	comp=E,1.3nm,0.9s,baz=352,slow=1.6,SNR=4.3						
KLR	Kul'dur	29.55	285	eP	P	12 09 57.0	-4.3
KLR				MLR	MLR		
	comp=N,900nm,17.0s						
TIXI	Tiksi	30.06	331	eP	P	12 10 04.6	-1.1
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.6						
TIXI				MLR	MLR		
	comp=Z,124nm,16.0s,MS3.6						
MDJ	Mudanjiang	32.86	278	P	P	12 10 30.3	-0.2
MDJ				AP	pP	12 10 38.8	-3.6
MDJ				XP	sP	12 10 42.8	-5.2
MDJ				PCP	PcP	12 13 13.8	-0.8
MDJ				S	S	12 15 43.6	-0.2
MDJ				SCP		12 16 54.8	
MDJ				PCS		12 16 57.5	
MDJ				SCS	ScS	12 20 56.5	+4.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,66nm,5.3s						
MDJ				LR	LR		
	comp=N,48nm,19.3s,MS3.3						
MDJ				LR	LR		
	comp=E,36nm,19.3s,MS3.3						
MDJ				LR	LR		
	comp=Z,81nm,18.1s,MS3.5						
CN2	Changchun	35.85	280	eP	P	12 10 55.4	-0.8
BOD	Bodaibo	36.74	306	eP	P	12 11 02.1	-1.4
BOD				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
YKA	Yellowknife Ar	36.75	46	P	P	12 11 02.6	-1.0
	comp=Z,0.5nm,0.4s,mb3.7,baz=283,slow=7.8,SNR=21						
YKA				PcP	PcP	12 13 25.0	-0.6
	comp=Z,1.3nm,1.1s,baz=290,slow=3.0,SNR=8.0						
YKA				ScP		12 17 12.9	
	comp=Z,0.5nm,0.9s,baz=293,slow=3.2,SNR=7.3						
YKA				LR	LR	12 28 52.4	
	comp=Z,188nm,18.8s,MS3.9,baz=250,slow=41						
YKA	Yellowknife Ar	36.75	46	P	P	12 11 02.6	-1.0
YKA				PcP	PcP	12 13 25.1	-0.6
YKA				ScP		12 17 12.9	
YKA				LR	LR	12 28 52.4	
EDM	Edmonton	40.53	59	eP	P	12 11 33.4	-1.7
YBH	Yreka Blue Hor	40.70	79	P	P	12 11 37.3	+0.6
	comp=Z,1.4nm,0.6s,mb3.8						
BMO	Blue Mountains	42.30	72	eP	P	12 11 49.9	+0.3
	comp=Z,11nm,1.4s,mb4.3						
BJI	Beijing	43.69	281	eP	P	12 12 01.8	+0.7
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,67nm,20.2s,MS3.5						
BJI	Beijing	43.69	281	eP	P	12 12 01.7	+0.6
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
BJI				MLR	MLR		
	comp=Z,70nm,20.2s,MS3.6						
BJI	Beijing	43.69	281	eP	P	12 12 01.7	+0.6
	comp=Z,7.0nm,0.8s,mb4.4						
BJI				LR	LR		
	comp=Z,70nm,20.2s,MS3.6						
HRY	Holter Researc	44.55	67	eP	P	12 12 06.2	-1.6
TLY	Talaya	44.73	301	eP	P	12 12 09.2	0.0
TLY				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3						
TLY				MLR	MLR		
	comp=Z,179nm,20.0s,MS4.0						
TLY	Talaya	44.73	301	eP	P	12 12 08.6	-0.7
	comp=Z,5.5nm,1.0s,mb4.3						
HLID	Hailey	44.75	72	eP	P	12 12 09.6	+0.1
	comp=Z,5.5nm,1.1s,mb4.3						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULN	Ulaanbaatar	44.80	295	eP	P	12 12 09.9	0.0
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
ULN	Ulaanbaatar	44.80	295	eP	P	12 12 09.9	0.0
	comp=Z,3.0nm,0.9s,mb4.1						
MCMT	McKenzie Canyo	44.98	70	eP	P	12 12 10.6	-0.7
SONM	Songino Array	45.19	295	P	P	12 12 13.5	+0.5
	comp=Z,1.4nm,0.7s,mb3.9,baz=45,slow=10,SNR=6.0						
NVAR	Mina Array Bea	45.37	81	P	P	12 12 15.6	+1.0
	comp=Z,1.7nm,0.6s,mb4.0,baz=291,slow=8.3,SNR=16						
MNV	Mina	45.46	80	P	P	12 12 15.7	+0.4
MNV				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
MNV	Mina	45.46	80	P	P	12 12 15.7	+0.4
	comp=Z,3.4nm,1.0s,mb4.1						
ZAK	Zakamensk	45.59	300⇑	iP	P	12 12 16.2	+0.1
ZAK				e		12 14 04.0	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
QLMT	Earthquake Lak	45.81	69	eP	P	12 12 17.8	-0.2
MTUM	Tungsten Hills	45.87	82	P	P	12 12 18.6	+0.1
ELK	Elko	45.87	76	eP	P	12 12 19.2	+0.7
ELK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ELK	Elko	45.87	76	eP	P	12 12 19.2	+0.7
	comp=Z,3.7nm,0.9s,mb4.3						
HHC	Hu-ho-hao-te	46.05	284	eP	P	12 12 21.4	+1.4
HHC				AP	pP	12 12 30.3	-1.8
HHC				XP	sP	12 12 33.8	-3.6
HHC				PP	PP	12 14 11.3	+2.9
HHC				S	S	12 19 02.8	+1.3
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
HHC				AMB	AMB		
	comp=Z,157nm,5.9s						
SSE	Sheshan	46.20	267	P	P	12 12 17.8	-3.5
SSE				S	S	12 19 02.8	-0.9
SSE				XS		12 19 18.3	
SSE				AMB	AMB		
	comp=Z,27nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,65nm,5.7s						
SSE				LR	LR		
	comp=N,32nm,17.6s,MS3.5						
SSE				LR	LR		
	comp=E,32nm,17.6s,MS3.5						
SSE				LR	LR		
	comp=Z,33nm,17.8s,MS3.3						
SSE	Sheshan	46.20	267	P	P	12 12 17.8	-3.5
	comp=Z,27nm,0.6s,mb5.3						
SSE				S	S	12 19 02.7	-1.0
SSE				sS		12 19 18.2	
SSE				LR	LR		
	comp=Z,30nm,17.8s,MS3.3						
NJ2	Nanjing	47.03	270	eP	P	12 12 27.0	-0.8
NJ2				AP	pP	12 12 37.1	-2.8
NJ2				XP	sP	12 12 41.8	-3.3
NJ2				PP	PP	12 14 17.3	-0.9
NJ2				S	S	12 19 19.0	+3.5
NJ2				AMB	AMB		
	comp=Z,350nm,8.5s						
NJ2				LR	LR		
	comp=N,210nm,22.4s,MS4.5						
NJ2				LR	LR		
	comp=E,530nm,19.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,500nm,19.0s,MS4.5						
FCC	Fort Churchill	47.47	45	eP	P	12 12 29.7	-1.2
DUG	Dugway	47.68	75	eP	P	12 12 33.4	+0.6
DUG				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
DUG	Dugway	47.68	75	eP	P	12 12 33.4	+0.6
	comp=Z,11nm,1.0s,mb4.8						
BW06	Boulder Array	48.11	70	eP	P	12 12 35.1	-0.9
	comp=Z,7.1nm,0.9s,mb4.7						
PDAR	Pinedale Array	48.11	70	P	P	12 12 36.5	+0.5
	comp=Z,6.0nm,0.7s,mb4.7,baz=303,slow=3.7,SNR=58						
JLU	Jordanelle	48.27	74	eP	P	12 12 37.3	0.0
JLU				e	pP	12 12 47.5	-2.0
DAU	Daniels Canyon	48.50	74	eP	P	12 12 39.6	+0.5
PV10	Paradox Valley	51.11	74	eP	P	12 12 58.9	-0.2
ULM	Lac du Bonnet	51.35	55	LR	LR	12 35 04.8	
	comp=Z,253nm,20.8s,MS4.2,baz=336,slow=36						
PV01	Paradox Valley	51.55	74	eP	P	12 13 02.6	+0.2
RW3	Ridgway	52.01	74	eP	P	12 13 05.9	0.0
ZAL	Zalesovo	52.97	312	P	P	12 13 12.2	-0.7
	comp=Z,1.4nm,0.3s,mb4.4,baz=84,slow=7.6,SNR=6.3						
ZAL				LR	LR	12 39 25.4	
	comp=Z,111nm,18.4s,MS3.9,baz=300,slow=40						
NVS	Novosibirsk	53.13	314	eP	P	12 13 12.0	-2.0
NVS				i		12 14 20.7	
NVS				pmax	pmax		
	comp=N,7.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
SDCO	Great Sand Dun	53.65	73	eP	P	12 13 18.0	-0.1
	comp=Z,14nm,1.4s,mb4.7						
SDCO				epP	pP	12 13 28.3	-2.2
LZH	Lanzhou	53.75	285	eP	P	12 13 19.5	+0.6
LZH				AP	pP	12 13 29.5	-1.8
LZH				XP	sP	12 13 34.1	-2.3
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.9						
LZH	Lanzhou	53.75	285	eP	P	12 13 19.5	+0.6
	comp=Z,15nm,1.0s,mb4.9						
LZH				pP	pP	12 13 29.5	-1.8
LZH				sP	sP	12 13 34.1	-2.3
GTA	Gaotai	54.02	290	eP	P	12 13 20.8	0.0
GTA				AP	pP	12 13 30.8	-2.4
GTA				XP	sP	12 13 35.0	-3.3
GTA				PP	PP	12 15 23.6	-0.3
GTA				S	S	12 20 53.3	+1.3
GTA				XS		12 21 10.3	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,174nm,4.6s						
GTA				LR	LR		
	comp=N,203nm,17.1s,MS4.3						
GTA				LR	LR		
	comp=E,87nm,15.6s,MS4.3						
GTA				LR	LR		
	comp=Z,128nm,14.5s,MS4.1						
ENH	Enshi	54.14	275	eP	P	12 13 19.9	-1.9
	comp=Z,5.2nm,0.8s,mb4.5						
ANMO	Albuquerque	54.91	76	eP	P	12 13 27.2	-0.1
MNTX	Cornudas Mount	57.77	78	eP	P	12 13 47.5	-0.3
	comp=Z,3.6nm,1.0s,mb4.4						
CPRX	Cap Rock	57.79	76	eP	P	12 13 45.8	-2.2
KURK	Kurchatov	57.95	312	P	P	12 13 48.7	-0.1
	comp=Z,68nm,1.0s,mb5.6,SNR=16						
KURK	Kurchatov	57.95	312⇓	iP	P	12 13 48.5	-0.3
KURK	Kurchatov	57.95	312	eP	P	12 13 47.4	-1.4
	comp=Z,14nm,1.0s,mb4.9						
WMQ	Urumqi	58.01	301	eP	P	12 13 51.0	+1.6
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
ARCES	ARCESS Array B	58.10	349	P	P	12 13 49.1	-0.6
	comp=Z,3.4nm,0.6s,mb4.5,baz=26,slow=8.3,SNR=14						
CHKZ	Chkalovo	59.41	319	eP	P	12 13 57.5	-1.5
CHKZ				pmax	pmax		
	comp=Z,46nm,0.9s,mb5.5						
CHKZ	Chkalovo	59.41	319	eP	P	12 13 57.5	-1.4
	comp=Z,46nm,0.9s,mb5.5						
WMOK	Wichita Mounta	59.70	71	eP	P	12 14 00.5	-0.7
WMOK				epP	pP	12 14 10.8	-2.9
TXAR	Lajitas Array	60.47	79	P	P	12 14 06.5	0.0
	comp=Z,1.7nm,0.9s,mb4.1,baz=297,slow=4.8,SNR=15						
SVE	Sverdlovsk	60.90	326	eP	P	12 14 04.9	-4.2
SVE				e		12 14 10.0	
SCHQ	Schefferville	61.36	37	P	P	12 14 11.0	-1.2
	comp=Z,4.3nm,1.0s,mb4.5,baz=319,slow=10,SNR=3.8						
KMI	Kunming	61.99	276	P	P	12 14 21.0	+4.1
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.9						
KMI	Kunming	61.99	276	P	P	12 14 21.0	+4.1
	comp=Z,10.0nm,1.0s,mb4.9						
MIAR	Mount Ida	62.91	68	eP	P	12 14 22.5	-0.4
MIAR				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.1						
MIAR	Mount Ida	62.91	68	eP	P	12 14 22.5	-0.4
	comp=Z,20nm,1.1s,mb5.2						
AAK	Ala-Archa	65.69	308	iP	P	12 14 40.4	-0.3
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
AAK	Ala-Archa	65.69	308	eP	P	12 14 39.3	-1.5
	comp=Z,9.8nm,1.4s,mb4.7						
FINES	FINESS Array B	65.70	346	P	P	12 14 39.9	-0.6
	comp=Z,3.5nm,0.7s,mb4.5,baz=19,slow=7.6,SNR=12						
NB2	NORSAR Subarra	67.80	353	P	P	12 14 53.2	-0.5
	comp=Z,1.3nm,0.6s,mb4.1,baz=9.0,slow=6.5						
NB2	NORSAR Subarra	67.80	353	P	P	12 14 53.2	-0.5
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	67.80	353	P	P	12 14 53.0	-0.7
	comp=Z,1.5nm,0.5s,mb4.3,baz=9.6,slow=6.3,SNR=8.9						
CMAR	Chiang Mai Arr	69.26	274	P	P	12 15 03.1	-0.4
	comp=Z,1.1nm,0.5s,mb4.1,baz=28,slow=6.9,SNR=10						
OBN	Obninsk	69.53	338	iP	P	12 15 04.6	+0.1
OBN				e		12 24 42.6	
OBN				eSS	SS	12 28 41.6	+4.2
OBN				pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
JIRN	Jiri	70.31	290	eP	P	12 15 10.5	+0.8
KKN	Kakani	70.76	290	eP	P	12 15 12.9	+0.5
	comp=Z,13nm,0.6s,mb5.1						
PKI	Pulchoki	70.84	290	eP	P	12 15 13.2	+0.2
GKN	Gorkha	70.98	291	eP	P	12 15 13.0	-0.8
	comp=Z,17nm,0.7s,mb5.1						
DMN	Daman	70.99	290	eP	P	12 15 14.0	+0.1
KOLN	Koldanda	71.76	292	eP	P	12 15 18.5	+0.1
	comp=Z,8.0nm,0.6s,mb4.8						
GOF	Gofitskoye	76.77	329⇓	iP	P	12 15 48.5	+1.4
GOF				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.3						
KWP	Kalwaria	77.57	344	eP	P	12 15 52.4	+0.9
KWP				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
KWP	Kalwaria	77.57	344	eP	P	12 15 52.4	+0.9
	comp=Z,29nm,0.9s,mb5.2						
SOC	Sochi	79.14	331	eP	P	12 15 58.8	-1.4
SOC				e		12 19 02.2	
SOC				ePPP	PPP	12 20 49.6	-2.1
SOC				eS	S	12 25 57.4	+2.4
SOC				e		12 26 21.3	
SOC				eSS	SS	12 31 11.2	+6.6
SOC				eSSS	SSS	12 34 31.7	+7.7
SOC				pmax	pmax		
	comp=N,6.0nm,0.7s						
SOC				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.9						
SOC				pmax	pmax		
	comp=E,7.0nm,0.8s						
GERES	GERESS Array B	79.63	350	P	P	12 16 02.8	+0.1
	comp=E,0.6nm,0.5s,mb3.8,baz=72,slow=4.2,SNR=4.5						
WRA	Warramunga Arr	80.55	222	P	P	12 16 07.0	-1.2
	comp=E,0.7nm,0.6s,mb3.8,baz=31,slow=5.7,SNR=12						
SSF	Saint Saulge	82.18	356	eP	P	12 16 18.5	+2.3
SSF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
SSF	Saint Saulge	82.18	356	eP	P	12 16 18.5	+2.3
	comp=Z,3.5nm,0.8s,mb4.3						
AVF	Avril sur Loir	82.45	357	eP	P	12 16 19.7	+2.1
SMF	Signal de Mont	82.58	356	eP	P	12 16 20.4	+2.2
ASAR	Alice Springs	84.05	220	P	P	12 16 26.1	0.0
	comp=Z,0.5nm,0.6s,mb3.8,baz=25,slow=5.3,SNR=5.8						
VIVF	Saint-Julien-l	84.33	355	eP	P	12 16 28.3	+1.3
MALT	Malatya	84.33	329	eP	P	12 16 29.2	+2.0
MALT				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6						
MALT	Malatya	84.33	329	eP	P	12 16 29.2	+1.9
	comp=Z,5.3nm,1.0s,mb4.6						
MBDF	Montbardon	84.34	354	eP	P	12 16 28.7	+1.6
	comp=Z,5.0nm,0.7s,mb4.5						
MBDF	Montbardon	84.34	354	eP	P	12 16 28.7	+1.6
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
LASF	Ste Croix	85.14	356	eP	P	12 16 32.9	+1.8
SMRF	Simiane la Rot	85.16	355	eP	P	12 16 33.8	+2.6
MTLF	Montolieu	85.94	357	eP	P	12 16 36.9	+1.9
	comp=Z,1.8nm,0.4s,mb4.3						
MTLF	Montolieu	85.94	357	eP	P	12 16 36.9	+1.9
MTLF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.4						
SJPF	Ste Jean	86.23	360	eP	P	12 16 38.7	+2.3
PGF	Pioggiola	86.33	352	eP	P	12 16 38.7	+1.7
	comp=Z,12nm,0.7s,mb4.9						
PGF	Pioggiola	86.33	352	eP	P	12 16 38.7	+1.7
PGF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.9						
ETSF	Etsaut	86.44	359	eP	P	12 16 39.6	+2.1
	comp=Z,3.8nm,0.6s,mb4.5						
ETSF	Etsaut	86.44	359	eP	P	12 16 39.6	+2.1
ETSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
TSUM	Tsumeb	144.78	327	ePKP	PKPdf	12 23 32.0	+1.0
LBTB	Lobatse	146.66	311	ePKP2	PKPab	12 23 36.4	-2.6

*IDC **15** 12:04:38.1±3.4, 15.28S×167.66E, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=129.4km s-min=40.4km az=141.0*

ISC 15 12:04:53.5±5.0**, 15.7S**±0.3×**167.4E**±0.5**, h129**km±63km**, n6,** σ**0.82**/6**, mb3.7**/3**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	6.40	188	eP	P	12 06 25.8	-0.7
DZM				eS	S	12 07 38.7	0.0
NOUC	Port Laguerre	6.45	189	eP	P	12 06 28.0	+0.8
WRA	Warramunga Arr	31.68	257	P	P	12 11 06.8	-0.4
	0.7nm,0.7s,mb3.5,baz=84,slow=8.8,SNR=11						
ASAR	Alice Springs	32.42	251	P	P	12 11 13.8	+0.3
	2.0nm,0.8s,mb3.9,baz=76,slow=9.0,SNR=16						
SONM	Songino Array	83.32	324	P	P	12 17 07.2	0.0
	0.9nm,0.5s,mb3.7,baz=127,slow=6.2,SNR=4.0						
ARCES	ARCESS Array B	121.20	345	PKP	PKPdf	12 23 31.0	+0.3
	2.0nm,0.9s,slow=0.9,SNR=6.1						

MAN 15 12:06:29.9, 13.79N×120.66E, h177km, mb3.8, ML2.5, MS2.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.41	262	eP	P	12 06 55.0	+0.7
LUBP				eS	S	12 07 16.3	+3.1
BOAC	Boac	1.20	106	eP	P	12 06 59.4	+0.2
SJMP	San Jose	1.40	161	eP	P	12 07 01.2	+0.2
BUSP	Coron	1.83	194	eP	P	12 07 05.8	+0.5
ENPP	El Nido	2.84	205	eP	P	12 07 16.9	0.0

*CSEM **15** 12:30:57.6, 36.07N×4.07E, ML3.5, After ALG*

CRAAG 15 12:30:57.6, 36.07N×4.07E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADJB	Djebel Djouab	0.52	279	P	Pg	12 31 08.6	+0.6
ABMS	Boumerdes	0.83	325	P	Pg	12 31 14.6	+0.5
EMHD	Djebel Mahouad	0.92	278	P	Pg	12 31 17.0	+1.1
SET	Setif	1.08	83	P	Pb	12 31 20.0	+1.1
ABA	Alger-Bouzarea	1.11	311	P	Pb	12 31 20.5	+1.2
CKHR	Kef el Ahmar	1.17	92	P	Pb	12 31 21.3	+1.0
DFRA	Djebel Bou Aff	1.53	72	P	Pn	12 31 28.8	+2.5
EBNR	Beni Rached	2.07	277	P	Pn	12 31 32.5	-1.5
ECHA	Ech Chlef	2.19	273	P	Pn	12 31 35.0	-0.8

IDC 15 12:41:59.3±10.0**, 3.42S**×**154.13E, h316**km±61km**, mb3.6**/3**, mb1 3.6**/5**, mb1mx3.3**/15**, mbtmp4.3**/5**, Error ellipse: s-maj=97.6km s-min=64.0km az=26.0, North of Solomon Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	9.13	229	P	P	12 44 07.0	-0.4
	0.5nm,0.3s,baz=45,slow=10.0,SNR=2.8						
PMG				S	S	12 45 51.6	+3.1
	0.3nm,0.3s,baz=15,slow=20,SNR=2.0						
CTA	Charters Tower	18.26	204	P	P	12 45 50.4	-2.0
	0.9nm,0.3s,baz=22,slow=8.8,SNR=7.5						
WRA	Warramunga Arr	25.34	228	P	P	12 46 58.9	-1.1
	3.2nm,0.4s,baz=53,slow=9.4,SNR=81						
ASAR	Alice Springs	28.05	222	P	P	12 47 22.1	-2.4
	2.0nm,0.4s,baz=51,slow=8.6,SNR=62						
STKA	Stephens Creek	30.66	201	P	P	12 47 45.4	-1.9
	2.6nm,1.0s,baz=22,slow=7.6,SNR=3.8						

*NEIC **15** 12:52:23.1, 17.26N×94.62W, h136km, MD3.9(MEX), After MEX.*

MEX 15 12:52:22.7±1.4**, 17.28N**×**94.62W, h144**km±11km**, MD3.9, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.32	234	iP	P	12 52 41.6	-1.5
CMIG				iS	S	12 52 56.0	-2.7
TUIG	Tuzandepetl	0.77	14	iP	P	12 52 43.9	-1.5
TUIG				iS	S	12 52 58.9	-4.0
OXX	Oaxaca	2.02	265	iP	P	12 52 56.8	-1.3
OXX				iS	S	12 53 23.7	-1.6
VHO	Vista Hermosa	2.03	265	iP	P	12 52 57.3	-1.0
VHO				iS	S	12 53 24.2	-1.3
HUIG	Huatulco	2.07	224	iP	P	12 52 55.7	-3.0
HUIG				iS	S	12 53 23.5	-2.9
CCIG	Comitan	2.57	112	iP	P	12 53 04.3	-0.8
CCIG				iS	S	12 53 34.3	-3.1
PPM	Popocatepetl	4.21	296	eP	P	12 53 26.5	+0.1
PPM				iS	S	12 54 14.5	-0.9

*IDC **15** 13:31:52.1±1.3, 7.56S×147.10E, mb3.8/4, mb1 4.2/6, mb1mx4.0/12, mbtmp3.9/6, ML4.0/2, MS3.1/1, Ms1 3.1/1, ms1mx3.0/8, Error ellipse: s-maj=39.5km s-min=14.1km az=86.0*

*NEIC **15** 13:31:53.7±0.8, 7.62S×147.08E, h10km, mb3.9/1, Error ellipse: s-maj=18.8km s-min=11.9km az=94.0*

ISC 15 13:31:55.7±1.1**, 7.6S**±0.1×**146.9E**±0.2**, h33**km**, n9,** σ**0.94**/10**, mb3.8**/3**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	1.80	173	Pn	Pn	13 32 24.8	-0.3
	143nm,0.3s,baz=355,slow=5.8,SNR=501						
PMG				Pg	P	13 32 26.3	+1.4
	143nm,0.3s,baz=343,slow=10,SNR=503						
PMG				Lg		13 32 49.4	
	170nm,0.3s,baz=312,slow=23,SNR=6.0						
CTA	Charters Tower	12.42	183	Pn	P	13 34 50.1	-3.1
	0.7nm,0.3s,baz=4.8,slow=12,SNR=3.7						
CTA				LR	LR	13 39 13.1	
	comp=Z,77nm,18.8s,baz=50,slow=35						
WRAB	Tennant Creek	17.28	224	eP	P	13 35 56.7	+0.4
	5.7nm,0.6s						
WRA	Warramunga Arr	17.30	224	P	P	13 35 56.9	+0.5
	0.4nm,0.3s,baz=47,slow=11,SNR=23						
ASAR	Alice Springs	20.27	217	P	P	13 36 30.3	-1.0
	3.9nm,0.9s,baz=48,slow=9.3,SNR=20						
CMAR	Chiang Mai Arr	53.96	299	P	P	13 41 19.1	+0.1
	0.5nm,0.5s,mb3.7,baz=130,slow=5.9,SNR=4.1						
VNDA	Vanda	70.32	177	P	P	13 43 07.7	+0.2
	1.0nm,0.8s,mb3.8,baz=346,slow=8.3,SNR=3.4						
VNDA	Vanda	70.32	177	P	P	13 43 07.7	+0.2
ILAR	Eielson Array	86.98	23	P	P	13 44 38.4	-0.1
	0.7nm,0.9s,mb3.9,baz=254,slow=5.1,SNR=9.7						

IDC 15 13:56:15.5±3.9**, 12.69S**×**166.75E, mb3.6**/3**, mb1 3.8**/3**, mb1mx3.6**/14**, mbtmp3.6**/3**, Error ellipse: s-maj=142.4km s-min=40.0km az=140.0, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	32.98	246	P	P	14 02 52.2	-2.2
	0.3nm,0.9s,baz=70,slow=9.2,SNR=5.9						
CMAR	Chiang Mai Arr	73.67	294	P	P	14 07 51.8	-1.6
	0.6nm,0.6s,baz=130,slow=4.6,SNR=6.0						
ILAR	Eielson Array	84.76	18	P	P	14 08 51.1	-1.3
	0.3nm,0.7s,baz=237,slow=4.8,SNR=5.1						

*NAO **15** 14:19:52.9±6.4, 58.29N×6.89E, h1km±34km, ML2.2*

*BER **15** 14:19:53.5±1.9, 58.37N×6.49E, MD2.5, ML1.6, ML2.2(NAO), Explosion*

ISC 15 14:19:53.7±0.8**, 58.59N**±0.05×**6.73E**±0.09**, n10,** σ**0.91**/17**, Southern Norway**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNART	Snartemo	0.35	134	eP	Pg	14 20 00.8	0.0
SNART				eS	Sg	14 20 06.3	+0.8
SNART				AML	AML	14 20 10.1	
	comp=Z,66nm,0.6s						
BLS5	Blasjo	0.85	351	eP	Pg	14 20 13.1	+2.4
BLS5				eS	Sg	14 20 28.1	+6.1
BLS5				AML	AML	14 20 31.6	
	comp=Z,19nm,0.2s						
KMY	Karmoy	0.99	310	eP	Pb	14 20 11.4	-2.0
KMY				eS	Sg	14 20 27.1	+0.4
KMY				AML	AML	14 20 29.1	
	comp=Z,23nm,0.2s						
KONO	Kongsberg	1.83	53	eP	Pn	14 20 27.5	+0.9
EGD	Espegrend	1.86	336	eP	Pn	14 20 26.7	-0.4
EGD				eSg	Sg	14 20 56.5	+1.0
RUND	Rundenannen	1.96	340	eP	Pn	14 20 28.6	+0.1
ASK	Askoy	2.06	338	eP	Pn	14 20 29.1	-0.8
ASK				eSg	Sg	14 21 01.9	-0.3
NC6	NORSAR Subarra	3.23	46	Pn	Pn	14 20 46.9	+0.1
NC6				Lg		14 21 39.6	
NB2	NORSAR Subarra	3.35	41	Pn	Pn	14 20 48.5	+0.1
NB2				Sn	Sn	14 21 29.4	0.0
NB2				Lg		14 21 44.1	
HFS	Hagfors	3.89	64	Pn	Pn	14 20 55.5	-0.6
	baz=238,slow=16						
HFS				Sn	Sn	14 21 41.8	-1.3
	baz=245,slow=22						
HFS				Lg		14 21 56.3	
	baz=237,slow=28						

*MOS **15** 15:14:06.8±0.6, 85.26N×89.99E, h10km, mb4.3/4, Error ellipse: s-maj=99.9km s-min=21.0km az=87.4*

*IDC **15** 15:14:07.8±0.8, 85.28N×90.79E, mb3.8/7, mb1 4.1/8, mb1mx3.8/19, mbtmp3.9/8, ML3.3/1, MS3.4/1, Ms1 3.3/1, ms1mx2.9/18, Error ellipse: s-maj=27.6km s-min=17.2km az=134.0*

*NEIC **15** 15:14:08.9±0.5, 85.35N×89.78E, h10km, mb4.3/5, Error ellipse: s-maj=13.9km s-min=11.0km az=141.0*

ISC 15 15:14:06.9±0.6**, 85.34N**±0.10×**9 0E**± **, h10**km**, n19,** σ**1.02**/18**, mb3.8**/10**, MS3.3**/1**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	ARCESS Array B	19.01	257	P	P	15 18 30.6	-0.1
	0.1nm,0.3s,baz=14,slow=10.0,SNR=5.1						
SUMG	Summit	20.76	318	P	P	15 18 47.5	-2.3
	25nm,1.5s						
BILL	Bilibino	21.47	92	eP	P	15 18 57.2	+0.1
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
BILL	Bilibino	21.47	92	eP	P	15 18 57.2	0.0
	comp=Z,6.5nm,0.8s,mb4.0						
INK	Inuvik	25.44	36	eP	P	15 19 35.7	0.0
INK				pmax	pmax		
	comp=Z,14nm,1.2s						
INK	Inuvik	25.44	36	P	P	15 19 36.1	+0.4
	comp=Z,6.2nm,1.1s,mb4.0,baz=353,slow=12,SNR=12						
INK	Inuvik	25.44	36	eP	P	15 19 35.7	+0.1
	comp=Z,14nm,1.2s,mb4.3						
FINES	FINESS Array B	26.94	252	P	P	15 19 50.5	+0.9
	comp=Z,1.7nm,0.6s,mb3.8,baz=22,slow=10,SNR=10						
ILAR	Eielson Array	28.22	49	P	P	15 20 02.0	+0.9
	comp=Z,1.0nm,0.8s,mb3.5,baz=347,slow=8.9,SNR=14						
ZAL	Zalesovo	31.57	186	LR	LR	15 33 49.1	
	comp=Z,63nm,20.6s,MS3.3,baz=278,slow=38						
YKA	Yellowknife Ar	32.00	21	P	P	15 20 34.5	-0.2
	comp=Z,0.9nm,0.8s,mb3.6,baz=356,slow=8.1,SNR=23						
YKA				PcP	PcP	15 23 24.8	0.0
	comp=Z,0.4nm,0.7s,baz=340,slow=3.4,SNR=11						
CHKZ	Chkalovo	32.10	202	eP	P	15 20 35.5	-0.3
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
CHKZ	Chkalovo	32.10	202	eP	P	15 20 35.5	-0.3
	comp=Z,3.4nm,0.8s,mb4.2						
KURK	Kurchatov	34.88	192	eP	P	15 20 58.9	-1.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KURK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
KURK	**Kurchatov**	**34.88**	**192**	eP	**P**	**15 20 58.9**	**-1.0**
	comp=Z,1.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**37.88**	**162**	P	**P**	**15 21 25.6**	**+0.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=344,slow=10,SNR=3.5						
SONM	**Songino Array**	**37.88**	**162**	P	**P**	**15 21 25.6**	**+0.4**
GERES	**GERESS Array B**	**40.42**	**261**	P	**P**	**15 21 48.8**	**+2.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=9.5,slow=8.1,SNR=4.2						
CMAR	**Chiang Mai Arr**	**67.03**	**171**	P	**P**	**15 25 01.0**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.6,baz=357,slow=6.9,SNR=4.6						

*BJI **15** 15:24:55.4, 18.28S×172.43W, h7^{km}, mB5.2, mb4.7, Ms4.8, Msz4.7*
*NEIC **15** 15:24:57.1±0.5, 19.07S×172.88W, h10^{km}, mb4.7/8, Error ellipse: s-maj=24.5km s-min=10.5km az=141.0*
*IDC **15** 15:25:00.4±4.3, 19.27S×172.87W, h30^{km}±29^{km}, mb4.1/11, mb1 4.4/11, mb1mx4.2/18, mbtmp4.3/11, MS3.6/3, Ms1 3.6/3, ms1mx3.1/24, Error ellipse: s-maj=82.0km s-min=14.9km az=151.0*
ISC 15 15:24:56.0±3.3**, 18.8S**±0.1×**173.2W**±0.1**, h5**^{km}±20^{km}**, n46, σ1^{s}00**/32**, mb4.5**/20**, MS3.6**/2**, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.01**	**15**	ePn	**Pn**	**15 26 13.5**	**-0.1**
AFI				eSn	**Sn**	**15 27 11.7**	**-0.9**
RAR	**Rarotonga**	**12.81**	**103**	LR	LR	15 30 59.3	
	comp=Z,212nm,21.6s,baz=285,slow=29						
PPT	**Papeete**	**22.43**	**91**	eP	**P**	**15 29 38.0**	**-19**
PPT				eLR	LR	15 34 30.4	
	296nm,27.5s						
TBI	**Tubuai**	**22.57**	**106**	eLR	LR	15 34 32.4	
	260nm,30.8s						
RKT	**Rikitea**	**35.85**	**104**	eLR	LR	15 40 43.4	
	281nm,32.2s						
CTA	**Charters Tower**	**38.24**	**261**	P	**P**	**15 32 19.6**	**+0.7**
	5.9nm,0.8s,mb4.4,baz=85,slow=11,SNR=7.0						
CTA				LR	LR	15 46 11.7	
	comp=Z,87nm,20.2s,MS3.6,baz=70,slow=33						
CTAO	**Charters Tower**	**38.24**	**261**	eP	**P**	**15 32 19.9**	**+1.0**
	11nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**42.65**	**243**	P	**P**	**15 32 54.3**	**-1.0**
	3.4nm,0.8s,mb4.1,baz=90,slow=10,SNR=2.4						
STKA				LR	LR	15 49 10.2	
	comp=Z,105nm,19.5s,MS3.7,baz=44,slow=34						
ASAR	**Alice Springs**	**49.37**	**255**	P	**P**	**15 33 48.2**	**-0.5**
	7.6nm,0.9s,mb4.7,baz=90,slow=8.0,SNR=36						
ASAR				PcP	PcP	15 35 11.2	-0.3
	1.2nm,0.6s,baz=94,slow=5.3,SNR=3.3						
ASAR				S	**S**	**15 40 54.9**	**+0.1**
	0.4nm,0.7s,baz=92,slow=14,SNR=5.5						
WRAB	**Tennant Creek**	**49.38**	**260**	eP	**P**	**15 33 47.8**	**-1.0**
	3.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**49.39**	**260**	P	**P**	**15 33 48.3**	**-0.5**
	2.6nm,0.9s,mb4.3,baz=97,slow=7.5,SNR=29						
QSPA	**South Pole Qui**	**71.30**	**180**	P	**P**	**15 36 13.5**	**-4.4**
	12nm,1.2s,mb4.7						
NVAR	**Mina Array Bea**	**76.67**	**41**	P	**P**	**15 36 49.8**	**-0.1**
	2.3nm,0.9s,mb4.1,baz=235,slow=11,SNR=12						
MSU	**Marysvale**	**80.66**	**44**	eP	**P**	**15 37 07.9**	**-3.7**
MSU				e		15 37 12.7	
MDJ	**Mudanjiang**	**81.83**	**323**	P	**P**	**15 37 17.8**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,185nm,7.7s						
HLID	**Hailey**	**82.08**	**39**	P	**P**	**15 37 18.3**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8						
TXAR	**Lajitas Array**	**82.30**	**56**	P	**P**	**15 37 20.2**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=217,slow=6.3,SNR=7.2						
TXAR	**Lajitas Array**	**82.30**	**56**	P	**P**	**15 37 20.2**	**-0.1**
NJ2	**Nanjing**	**82.38**	**307**	eP	**P**	**15 37 21.4**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6						
MCMT	**McKenzie Canyo**	**83.72**	**38**	eP	**P**	**15 37 28.1**	**+0.8**
CN2	**Changchun**	**83.81**	**320**	eP	**P**	**15 37 29.1**	**+1.3**
MCK	**McKinley**	**84.37**	**11**	eP	**P**	**15 37 30.2**	**+0.1**
	comp=Z,6.2nm,0.9s,mb4.7						
QLMT	**Earthquake Lak**	**84.56**	**39**	P	**P**	**15 37 32.1**	**+0.5**
PDAR	**Pinedale Array**	**84.61**	**41**	P	**P**	**15 37 31.9**	**+0.1**
	comp=Z,1.3nm,0.8s,mb4.1,baz=225,slow=4.2,SNR=12						
BOZ	**Bozeman (W)**	**84.89**	**38**	eP	**P**	**15 37 31.9**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.4						
COLA	**College**	**85.61**	**11**	eP	**P**	**15 37 35.7**	**-0.6**
	comp=Z,11nm,0.8s,mb5.1						
ILAR	**Eielson Array**	**85.69**	**11**	P	**P**	**15 37 38.0**	**+1.3**
	comp=Z,2.1nm,0.8s,mb4.5,baz=237,slow=5.0,SNR=24						
DAWY	**Dawson**	**86.61**	**14**	eP	**P**	**15 37 42.5**	**+1.3**
INK	**Inuvik**	**91.46**	**14**	P	**P**	**15 38 05.2**	**+1.1**
	comp=Z,2.1nm,0.9s,mb4.5,baz=216,slow=6.3,SNR=8.2						
INK	**Inuvik**	**91.46**	**14**	eP	**P**	**15 38 04.3**	**+0.2**
	comp=Z,4.0nm,0.9s,mb4.8						
HHC	**Hu-ho-hao-te**	**91.47**	**313**	eP	**P**	**15 38 03.1**	**-1.7**
HHC				AMB	AMB		
	comp=Z,16nm,0.4s,mb5.7						
YKA	**Yellowknife Ar**	**93.08**	**23**	P	**P**	**15 38 11.9**	**+0.3**
	comp=Z,0.6nm,0.8s,mb4.1,baz=233,slow=4.4,SNR=12						
CMAR	**Chiang Mai Arr**	**93.88**	**288**	P	**P**	**15 38 19.4**	**+3.1**
	comp=Z,0.6nm,0.6s,mb4.2,baz=118,slow=4.7,SNR=5.2						
WMQ	**Urumqi**	**109.25**	**311**	eP		15 43 27.0	
ARCES	**ARCESS Array B**	**127.96**	**352**	PKP	PKPdf	15 44 03.4	-1.8
	comp=Z,2.2nm,0.8s,baz=27,slow=2.7,SNR=6.9						
KMBO	**Kilima Mbogo**	**144.17**	**240**	PKP	PKPdf	15 44 34.1	-2.3
	comp=Z,1.3nm,0.8s,baz=120,slow=5.6,SNR=4.8						
CLL	**Collm**	**147.17**	**353**	i PKP1	PKPdf	15 44 42.8	+2.5
BRG	**Berggiesshubel**	**147.47**	**352**	eP	PKPdf	15 44 43.7	+2.9
GERES	**GERESS Array B**	**149.49**	**351**	PKPbc	PKPdf	15 44 48.4	+4.3
	comp=Z,1.3nm,0.8s,slow=2.7,SNR=7.5						
FLN	**La Foliniere**	**149.50**	**10**	ePKP1	PKPdf	15 44 47.5	+3.4
	comp=Z,20nm,0.7s						
LDF	**La Druitiere**	**149.72**	**9**	ePKP1	PKPdf	15 44 47.9	+3.4
GRR	**Gorron**	**149.80**	**10**	ePKP1	PKPdf	15 44 48.2	+3.6
	comp=Z,34nm,1.0s						
CDF	**Champ du Feu**	**150.43**	**359**	ePKP1	PKPdf	15 44 50.5	+4.9
HAU	**Haudompre**	**150.83**	**1**	ePKP1	PKPdf	15 44 51.2	+5.0
	comp=Z,8.8nm,0.7s						
SSF	**Saint Saulge**	**151.65**	**5**	ePKP1	PKPdf	15 44 53.1	+5.6
	comp=Z,13nm,0.8s						
AVF	**Avril sur Loir**	**151.90**	**5**	ePKP1	PKPdf	15 44 53.2	+5.4
	comp=Z,13nm,1.0s						

KRSC 15 15:29:07.1±1.0**, 54.13N**×**162.53E, h40**^{km}±6^{km}**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**1.80**	**311**	eP	P	15 29 35.9	-0.4
TUMR				eS	S	15 29 57.9	-0.2
SPN	**Mys Shipunski**	**1.82**	**236**	eP	P	15 29 35.9	-0.6
SPN				i S	S	15 29 57.3	-1.2
KII	**Karymskiy**	**1.82**	**268**	eS	S	15 29 57.5	-1.0
KBTR	**Krutoberegovo**	**2.09**	**4**	eP	P	15 29 39.5	-0.9
KBTR				eS	S	15 30 04.0	-1.3
KMNR	**Kamenistaya**	**2.10**	**322**	eP	P	15 29 40.9	+0.4
KMNR				eS	S	15 30 06.1	+0.5
NLC	**Nalytchevo**	**2.12**	**244**	eP	P	15 29 40.3	-0.6
NLC				i S	S	15 30 05.4	-0.8
KBG	**Krutoberegovo**	**2.13**	**3**	eP	P	15 29 40.2	-0.8
KBG				eS	S	15 30 05.1	-1.3
KBG				Smax			
	170nm,1.1s						
BKI	**Bering**	**2.27**	**60**	eP	P	15 29 42.0	-1.0
BKI				eS	S	15 30 07.3	-2.6
BKI				Smax			
	40nm,0.5s						
SDLR	**Sedlovina**	**2.33**	**250**	eP	P	15 29 43.7	-0.1
SDLR				eS	S	15 30 10.9	-0.5
SMAR	**Somma**	**2.38**	**250**	eP	P	15 29 44.6	0.0
SMAR				eS	S	15 30 12.0	-0.7
UGLR	**Uglovaya**	**2.39**	**249**	eP	P	15 29 44.7	0.0
UGLR				eS	S	15 30 12.0	-1.0
AVH	**Avacha**	**2.42**	**251**	i P	P	15 29 45.6	+0.6
AVH				i S	S	15 30 13.8	+0.2
KOK	**Koryaka**	**2.46**	**252**	eP	P	15 29 45.8	+0.1
KOK				eS	S	15 30 14.2	-0.6
KOZ	**Kozyrevsk**	**2.46**	**323**	eP	P	15 29 46.9	+1.2
KOZ				eS	S	15 30 16.4	+1.6
PET	**Petropavlovsk**	**2.56**	**246**	eP	P	15 29 47.5	+0.3
PET				eS	S	15 30 16.1	-1.3
SRDR	**Sredinnyy**	**2.72**	**325**	eP	P	15 29 49.0	-0.4
SRDR				eS	S	15 30 19.8	-1.6
GNL	**Ganaly**	**2.75**	**263**	eP	P	15 29 50.5	+0.7
GNL				eS	S	15 30 21.8	-0.3
ESO	**Esso**	**2.84**	**311**	eP	P	15 29 50.7	-0.5
ESO				eS	S	15 30 22.3	-2.2
KRMR	**Karymshinskiy**	**2.93**	**245**	eP	P	15 29 52.8	+0.4
KRMR				i S	S	15 30 25.3	-1.5
RUS	**Russkaya**	**2.95**	**236**	eP	P	15 29 51.8	-0.9
RUS				eS	S	15 30 25.6	-1.6
GRL	**Gorelyy**	**3.10**	**241**	eP	P	15 29 55.1	+0.2
GRL				eS	S	15 30 30.3	-0.8
APC	**Apacha**	**3.43**	**252**	eP	P	15 30 00.5	+1.1
APC				eS	S	15 30 39.6	+0.3

TAP 15 15:53:40.1, 22.62N×**120.67E, h20**^{km}**, ML3.7, 7C-6D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.13**	**344**	⇓iP	Pb	15 53 44.4	0.0
SSD				S	Sb	15 53 47.8	+0.5
SGLT	**Jiouru**	**0.20**	**302**	⇓iP	Pb	15 53 46.0	+0.8
SGLT				S	Sb	15 53 51.6	+2.9
SCZT	**Fangliau**	**0.25**	**191**	⇓iP	Pb	15 53 46.5	+0.4
SCZT				S	Sb	15 53 51.4	+1.3
ECL	**Taimali**	**0.26**	**95**	⇑iP	Pb	15 53 46.5	+0.3
ECL				S	Sb	15 53 50.8	+0.4
EAST	**Anshuo**	**0.29**	**145**	⇑iP	Pb	15 53 47.2	+0.6
EAST				S	Sb	15 53 52.5	+1.5
TWM1	**Shoushan**	**0.30**	**312**	⇑iP	Pb	15 53 47.7	+0.8
TWM1				S	Sb	15 53 54.9	+3.4
TAW	**Tawu**	**0.33**	**141**	i P	Pb	15 53 47.8	+0.4
TAW				S	Sb	15 53 53.6	+1.3
KAU	**Kaohsiung**	**0.34**	**261**	⇑iP	Pb	15 53 49.1	+1.6
TWP	**Hsiaoliuchiu**	**0.39**	**226**	P	Pb	15 53 50.1	+1.8
TWP				S	Sb	15 54 00.0	+6.1
TWG	**Pinlang**	**0.42**	**62**	⇑iP	Pb	15 53 49.0	+0.2
TWG				S	Sb	15 53 55.4	+0.7
TTN	**Taitung**	**0.46**	**73**	eP	Pb	15 53 50.6	+1.1
TTN				S	Sb	15 53 59.6	+3.8
SGST	**Jiashian**	**0.47**	**350**	i P	Pb	15 53 49.8	+0.3
SGST				S	Sb	15 53 57.1	+1.1
CHN3	**Shinhua**	**0.53**	**328**	eP	Pb	15 53 51.9	+1.1
CHN3				S	Sb	15 54 01.6	+3.7
STYT	**Tauyuan**	**0.55**	**8**	⇓iP	Pb	15 53 50.8	-0.1
STYT				S	Sb	15 53 59.2	+0.9
CHN1	**Nanshi**	**0.58**	**347**	P	Pb	15 53 51.3	-0.1
CHN1				S	Sb	15 54 00.7	+1.6
TAI1	**Yung-k'ang**	**0.58**	**316**	S	Sb	15 54 01.8	+2.4
HEN	**Hengchun**	**0.61**	**174**	P	Pb	15 53 53.1	+1.0
HEN				S	Sb	15 54 03.1	+2.8
WTP	**Ta-pu**	**0.62**	**355**	⇑P	Pb	15 53 52.1	-0.1
WTP				S	Sb	15 54 01.8	+1.3
ELDTW	**Lidau**	**0.65**	**29**	i P	Pb	15 53 52.5	-0.1
ELDTW				S	Sb	15 54 02.2	+1.0
TWK	**Hsinying**	**0.67**	**345**	eP	Pb	15 53 52.9	0.0
TWK				S	Sb	15 54 03.2	+1.5
SCLT	**Jiali**	**0.71**	**322**	eP	Pb	15 53 53.9	+0.3
SCLT				S	Sb	15 54 04.7	+1.9
CHN4	**Tsaushan**	**0.73**	**354**	eP	Pb	15 53 54.2	+0.1
CHN4				S	Sb	15 54 05.0	+1.4
CHKT	**Chengkung**	**0.80**	**53**	eP	Pb	15 53 55.3	+0.1
CHN8	**Yiju**	**0.84**	**330**	eP	Pb	15 53 56.7	+0.9
CHN8				S	Sb	15 54 07.3	+0.7
ALS	**Alishan**	**0.90**	**8**	⇓P	Pb	15 53 56.7	-0.1
ALS				S	Sb	15 54 10.0	+1.7
CHY	**Chiayi**	**0.90**	**346**	eP	Pb	15 53 56.7	-0.2
CHY				S	Sb	15 54 08.8	+0.2
YUS	**Yu-Shan**	**0.90**	**17**	⇓P	Pb	15 53 57.0	0.0
YUS				S	Sb	15 54 09.8	+1.3
CHN2	**Minshiung**	**0.93**	**349**	eP	Pb	15 53 57.4	+0.1
CHN2				S	Sb	15 54 10.0	+0.8
TWF1	**Yuli**	**0.93**	**38**	eP	Pb	15 53 57.2	-0.2
TWF1				S	Sb	15 54 09.6	+0.3
CHN5	**Tsauling**	**0.97**	**0**	eP	Pb	15 53 57.5	-0.7
CHN5				S	Sb	15 54 11.4	+0.9
LAY	**Lan-yu**	**1.00**	**125**	eP	Pb	15 53 57.7	-0.9
WGK	**Gukeng**	**1.07**	**355**	eP	Pb	15 53 58.9	-0.8
WGK				S	Sb	15 54 13.7	+0.4
EHY	**Hungye**	**1.07**	**34**	⇑P	Pb	15 53 59.6	-0.1
EHY				S	Sb	15 54 13.6	+0.3
WSF	**Szhu**	**1.09**	**338**	eP	Pb	15 53 59.2	-1.1
WSF				S	Sb	15 54 13.2	-0.8
WDGT	**Dungji**	**1.13**	**305**	eP	Pb	15 53 58.3	-2.5
WNT	**Mingjian**	**1.25**	**1**	eP	Pn	15 54 01.4	-1.4
SMLT	**Sun Moon Lake**	**1.27**	**10**	eP	Pn	15 54 02.2	-0.9
TYC	**Yuchr**	**1.29**	**8**	eP	Pn	15 54 02.1	-1.1
TYC				S	Sb	15 54 19.0	-0.7
ESL	**Shilin**	**1.38**	**30**	eP	Pn	15 54 04.1	-0.5
ESL				S	Sb	15 54 22.6	+0.3
PNG	**Penghu**	**1.39**	**313**	eP	Pn	15 54 01.7	-3.1
PNG				S	Sn	15 54 18.5	-4.2
TWT	**Tachien**	**1.69**	**16**	eP	Pn	15 54 08.4	-0.6
TWQ1	**Liyutan**	**1.72**	**3**	eP	Pn	15 54 08.6	-0.8
TWQ1				S	Sn	15 54 30.6	-0.4
NNS	**Nan Shan**	**1.92**	**19**	eP	Pn	15 54 12.2	-0.2
NNS				S	Sn	15 54 36.8	+0.7
NSTT	**Nanjuang**	**2.02**	**9**	eP	Pn	15 54 12.7	-1.1
ENA	**Nanau**	**2.05**	**28**	eP	Pn	15 54 12.4	-1.8
NSK	**Sanguang**	**2.14**	**17**	eP	Pn	15 54 15.4	0.0
NSK				S	Sn	15 54 42.9	+1.2
ENTT	**Nioudou**	**2.17**	**22**	eP	Pn	15 54 15.7	-0.2
ENTT				S	Sn	15 54 43.2	+0.7
TWE	**Neicheng**	**2.28**	**23**	eP	Pn	15 54 18.2	+0.8

IDC 15 16:04:34.1±8.7**, 4.97S**×**105.88E, mb3.9**/5**, mb1 4.1**/5**, mb1mx3.8**/14**, mbtmp3.9**/5**, Error ellipse: s-maj=210.9km s-min=55.9km az=170.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.44**	**121**	P	P	16 10 58.4	-1.3
	0.5nm,0.4s,baz=288,slow=10,SNR=9.3						
ASAR	**Alice Springs**	**32.79**	**127**	P	P	16 11 09.2	-2.1
	0.3nm,0.5s,baz=304,slow=7.7,SNR=12						
CTA	**Charters Tower**	**42.04**	**115**	P	P	16 12 26.2	-3.1
	9.3nm,1.1s,baz=310,slow=7.9,SNR=2.6						
STKA	**Stephens Creek**	**42.83**	**133**	P	P	16 12 34.0	-1.7
	1.8nm,0.5s,baz=320,slow=4.9,SNR=6.7						
VNDA	**Vanda**	**78.16**	**169**	P	P	16 16 34.9	-1.4
	1.2nm,1.1s,baz=312,slow=3.8,SNR=4.0						

*BJI **15** 16:11:20.7, 20.79S×177.46W, h471^{km}, mB4.7, mb4.2*
*NEIC **15** 16:11:21.8±1.2, 20.79S×177.99W, h454^{km}±13^{km}, mb4.5/15, Error ellipse: s-maj=13.3km s-min=10.1km az=141.0*
*IDC **15** 16:11:24.6±2.6, 20.95S×178.10W, h481^{km}±29^{km}, mb3.9/12, mb1 4.0/13, mb1mx3.9/18, mbtmp4.8/13, Error ellipse: s-maj=18.1km s-min=15.3km az=63.0*
ISC 15 16:11:20.2±1.3**, 20.83S**±0.07×**178.13W**±0.08**, h442**^{km}±14^{km}**, n48, σ0^{s}85**/48**, mb4.3**/26**, 8D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.17**	**42**	eP	**P**	**16 13 27.1**	**-2.7**
AFI				eS	**S**	**16 15 13.2**	**+0.7**
DZM	**Mont Dzumac**	**14.41**	**262**	eP	**P**	**16 14 30.8**	**+3.8**
NOUC	**Port Laguerre**	**14.54**	**262**	eP	**P**	**16 14 32.3**	**+4.0**
URZ	**Urewera**	**17.85**	**192**	P	**P**	**16 15 02.3**	**+0.6**
	4.0nm,0.3s,baz=11,slow=8.3,SNR=29						
URZ				S	**S**	**16 17 55.2**	**-5.4**
	0.3nm,0.3s,baz=34,slow=21,SNR=3.3						
RPZ	**Rata Peaks**	**24.54**	**199**	P	**P**	**16 16 02.9**	**-1.4**
	5.5nm,0.4s,mb4.3,baz=330,slow=5.2,SNR=8.7						
RPZ	**Rata Peaks**	**24.54**	**199**	P	**P**	**16 16 02.9**	**-1.5**
CTA	**Charters Tower**	**33.33**	**265**	⇓iP	**P**	**16 17 22.4**	**+1.2**
	31nm,0.4s,mb5.0						
CTA	**Charters Tower**	**33.33**	**265**	P	**P**	**16 17 22.2**	**+1.1**
	39nm,0.5s,mb5.0,baz=92,slow=10,SNR=108						
CTAO	**Charters Tower**	**33.33**	**265**	⇓iP	**P**	**16 17 22.1**	**+1.0**
	34nm,0.5s,mb4.9						
PMG	**Port Moresby**	**35.30**	**283**	P	**P**	**16 17 38.9**	**+1.2**
	36nm,0.6s,mb4.9,baz=82,slow=6.0,SNR=40						
PMG	**Port Moresby**	**35.30**	**283**	⇓iP	**P**	**16 17 38.7**	**+0.9**
	40nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**37.53**	**245**	P	**P**	**16 17 57.3**	**+1.2**
	7.0nm,0.7s,mb4.1,baz=109,slow=8.8,SNR=13						
STKA	**Stephens Creek**	**37.53**	**245**	eP	**P**	**16 17 56.8**	**+0.7**
ASAR	**Alice Springs**	**44.32**	**257**	P	**P**	**16 18 50.9**	**-0.1**
	18nm,0.8s,mb4.5,baz=92,slow=8.2,SNR=323						
ASAR				ScP		16 23 29.6	
	0.5nm,0.5s,baz=108,slow=4.1,SNR=5.7						
ASAR				S	**S**	**16 24 45.9**	**-6.1**
	2.5nm,0.8s,baz=94,slow=16,SNR=18						
ASPA	**Alice Springs**	**44.33**	**257**	⇓iP	**P**	**16 18 50.9**	**-0.1**
ASPA				i S	**S**	**16 24 45.7**	**-6.3**
WB2	**Warramunga Arr**	**44.42**	**262**	⇓iP	**P**	**16 18 51.2**	**-0.6**
WRAB	**Tennant Creek**	**44.42**	**262**	P	**P**	**16 18 51.3**	**-0.5**
	193nm,0.7s,mb5.5,SNR=25						
WRAB	**Tennant Creek**	**44.42**	**262**	eP	**P**	**16 18 50.8**	**-1.0**
	21nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**44.43**	**262**	P	**P**	**16 18 51.2**	**-0.7**
	18nm,0.8s,mb4.5,baz=96,slow=7.4,SNR=287						
WRA				S	**S**	**16 24 46.5**	**-7.0**
	1.2nm,0.9s,baz=105,slow=14,SNR=3.6						
KAKA	**Kakadu**	**47.86**	**272**	⇓iP	**P**	**16 19 17.7**	**-0.7**
	29nm,0.4s,mb5.0						
KNA	**Kununurra**	**50.49**	**266**	eP	**P**	**16 19 37.6**	**-0.5**
	5.1nm,0.5s,mb4.1						
SBA	**Scott Base**	**57.53**	**184**	eP	**P**	**16 20 28.3**	**+0.9**
	7.1nm,0.7s,mb4.1						
VNDA	**Vanda**	**57.57**	**185**	P	**P**	**16 20 27.3**	**-0.4**
	1.5nm,0.7s,mb3.5,baz=352,slow=8.1,SNR=12						
VNDA	**Vanda**	**57.57**	**185**	eP	**P**	**16 20 27.4**	**-0.3**
	2.1nm,0.7s,mb3.6						
MBWA	**Marble Bar**	**57.66**	**258**	eP	**P**	**16 20 27.4**	**-1.6**
	10.0nm,0.5s,mb4.4						
QSPA	**South Pole Qui**	**69.24**	**180**	eP	**P**	**16 21 41.9**	**-0.5**
	11nm,0.6s,mb4.7						
JOW	**Kunigami**	**70.28**	**310**	P	**P**	**16 21 49.2**	**-0.2**
	4.1nm,0.3s,mb4.4,baz=142,slow=13,SNR=9.1						
ASAJ	**Asahikawa**	**73.95**	**332**	P	**P**	**16 22 11.3**	**+0.8**
	13nm,0.6s,mb4.8,baz=195,slow=7.1,SNR=10						
MDJ	**Mudanjiang**	**80.72**	**325**	P	**P**	**16 22 47.8**	**+0.7**
MDJ				PP	PP	16 25 56.6	-2.8
MDJ				S	S	16 32 18.9	+1.8
MDJ				SS	SS	16 37 44.3	-1.0
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,116nm,6.3s						
NVAR	**Mina Array Bea**	**81.35**	**43**	P	**P**	**16 22 50.6**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.3,baz=221,slow=9.6,SNR=2.8						
CN2	**Changchun**	**82.48**	**323**	eP	**P**	**16 22 56.8**	**+0.6**
ENH	**Enshi**	**86.12**	**304**	eP	**P**	**16 23 14.3**	**-0.1**
	comp=Z,8.1nm,0.8s,mb4.5						
MCK	**McKinley**	**87.32**	**13**	P	**P**	**16 23 18.1**	**-1.2**
	comp=Z,1.2nm,0.7s,mb3.7						
TXAR	**Lajitas Array**	**87.34**	**57**	P	**P**	**16 23 20.7**	**+0.5**
	comp=Z,0.1nm,0.3s,mb3.0,baz=217,slow=6.3,SNR=3.4						
VNA3	**Neumayer Olymp**	**87.82**	**176**	⇓i	**P**	**16 23 22.2**	**+0.7**
VNA2	**Neumayer--Watz**	**88.26**	**177**	⇓i	**P**	**16 23 24.5**	**+0.9**
COLA	**College**	**88.55**	**12**	eP	**P**	**16 23 23.6**	**-1.4**
	comp=Z,5.3nm,0.8s,mb4.3						
ILAR	**Eielson Array**	**88.66**	**13**	P	**P**	**16 23 25.4**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.7,baz=230,slow=4.9,SNR=14						
HHC	**Hu-ho-hao-te**	**89.49**	**314**	eP	**P**	**16 23 29.9**	**-0.1**
HHC				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,154nm,8.3s						
DAWY	**Dawson**	**89.81**	**16**	eP	**P**	**16 23 31.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**90.11**	**290**	P	**P**	**16 23 34.2**	**+0.9**
	comp=Z,2.6nm,0.8s,mb4.1,baz=122,slow=2.8,SNR=17						
INK	**Inuvik**	**94.62**	**15**	P	**P**	**16 23 52.8**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.9						
ULN	**Ulaanbaatar**	**95.53**	**319**	eP	**P**	**16 23 57.5**	**-0.1**
	comp=Z,1.0nm,0.7s,mb4.0						
ARCES	**ARCESS Array B**	**129.22**	**350**	PKP	PKPdf	16 29 35.7	-0.9
	comp=Z,2.3nm,1.0s,baz=45,slow=1.7,SNR=3.6						
ARCES	**ARCESS Array B**	**129.22**	**350**	PKP	PKPdf	16 29 35.7	-0.9
FINES	**FINESS Array B**	**136.05**	**344**	SKP		16 32 33.5	
	comp=Z,2.1nm,0.8s,baz=45,slow=5.4,SNR=6.9						
CLL	**Collm**	**148.35**	**347**	i PKP1	PKPdf	16 30 16.7	+5.6
CLL				ePKP2	PKPab	16 30 21.0	-1.3
GERES	**GERESS Array B**	**150.48**	**344**	PKPbc	PKPdf	16 30 20.0	+5.5
	comp=Z,0.8nm,0.8s,baz=27,slow=3.0,SNR=5.0						

*NEIC **15** 16:56:46.5±0.9, 21.72S×68.16W, h138^{km}±11^{km}, mb4.1/2, Error ellipse: s-maj=34.8km s-min=13.0km az=92.0*
*IDC **15** 16:56:46.1±1.1, 21.80S×68.09W, h136^{km}±14^{km}, mb4.0/2, mb1 3.8/4, mb1mx3.5/14, mbtmp4.0/4, Error ellipse: s-maj=36.6km s-min=22.0km az=98.0*
ISC 15 16:56:44.8±1.2**, 21.93S**±0.07×**68.0W**±0.3**, h144**^{km}±19^{km}**, n9, σ0^{s}86**/10**, mb4.0**/2**, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.12**	**232**	P	**P**	**16 57 11.4**	**+1.0**
	31nm,0.3s,baz=30,slow=9.7,SNR=332						
LVC				S	**S**	**16 57 30.0**	**-0.1**
	174nm,0.3s,baz=218,slow=19,SNR=18						
LPAZ	**La Paz**	**5.61**	**358**	P	**P**	**16 58 06.1**	**-1.1**
	3.0nm,0.3s,baz=169,slow=9.0,SNR=57						
CFAA	**Coronel Fontan**	**9.64**	**181**	P	**P**	**16 59 01.3**	**+0.2**
	0.2nm,0.3s,baz=0.5,slow=14,SNR=18						
CFAA				S	**S**	**17 00 46.7**	**-1.1**
	0.1nm,0.3s,baz=210,slow=14,SNR=3.7						
TRQA	**Tornquist**	**16.88**	**164**	P	**P**	**17 00 37.6**	**+3.8**
	3.2nm,0.5s						
DBIC	**Dimbokro**	**68.01**	**73**	P	**P**	**17 07 31.7**	**+0.7**
	3.7nm,0.8s,mb4.2,baz=199,slow=7.8,SNR=7.0						
DBIC	**Dimbokro**	**68.01**	**73**	eP	**P**	**17 07 31.6**	**+0.5**
	4.0nm,0.7s,mb4.3						
MSU	**Marysvale**	**73.03**	**325**	P	**P**	**17 08 08.8**	**+8.0**
YKA	**Yellowknife Ar**	**91.88**	**340**	P	**P**	**17 09 37.4**	**0.0**
	0.6nm,0.5s,mb3.9,baz=133,slow=4.5,SNR=20						
ASAR	**Alice Springs**	**129.94**	**206**	PKP	PKPdf	17 15 40.8	+2.8
	0.2nm,0.6s,baz=136,slow=1.9,SNR=4.4						

OTT 15 16:58:31.7±0.1**, 52.82N**×**67.31W, MN2.9**/7**, Blast, Mount Wright, Qc Mining explosion., Northern Quebec**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**2.04**	**8**	PN	Pn	16 59 07.2	-0.5
SCHQ				SG	Sg	16 59 35.4	-4.1
SCHQ				Trac		16 59 37.5	
	comp=Z,41nm,0.3s						
MNQ	**Manicouagan**	**2.46**	**202**	PN	Pn	16 59 13.3	-0.5
MNQ				Trac		16 59 48.6	
	comp=Z,36nm,0.3s						
SMQ	**Clarke City**	**2.63**	**171**	PN	Pn	16 59 14.8	-1.4
SMQ				SN	Sn	16 59 48.9	-0.3
SMQ				Trac		16 59 53.6	
	comp=Z,19nm,0.2s						
ICQ	**Pointe Anglais**	**3.30**	**180**	PN	Pn	16 59 24.3	-1.4
ICQ				Trac		17 00 17.7	
	comp=Z,7.9nm,0.1s						
CNQ	**Baie Comeau**	**3.56**	**188**	PN	Pn	16 59 27.9	-1.5
CNQ				SN	Sn	17 00 11.7	-0.9
CNQ				Trac		17 00 26.0	
	comp=Z,8.7nm,0.2s						
GSQ	**Grosses Roches**	**3.92**	**178**	PN	Pn	16 59 32.5	-1.9
GSQ				SN	Sn	17 00 21.8	0.0
GSQ				Trac		17 00 37.4	
	comp=Z,5.4nm,0.2s						
LG4Q	**La Grande 4**	**4.16**	**284**	PN	Pn	16 59 36.1	-1.8
LG4Q				SN	Sn	17 00 25.6	-2.4
LG4Q				Trac		17 00 45.4	
	comp=Z,5.3nm,0.3s						
LMQ	**La Malbaie**	**5.62**	**201**	PN	Pn	16 59 53.9	-4.7
LMQ				SN	Sn	17 01 01.6	-3.2
DRLN	**Deer Lake**	**7.14**	**116**	PN	Pn	17 00 15.6	-4.3
MALO	**McAlpine Lake**	**8.27**	**255**	PN	P	17 00 30.6	-5.3
VIMO	**Victor Mine**	**9.95**	**277**	PN	P	17 00 53.5	-5.5
SILO	**Sutton Inlier**	**10.58**	**286**	PN	P	17 01 01.6	-6.0

*IDC **15** 16:59:22.4±1.8, 2.46N×94.66E, mb4.1/6, mb1 4.3/7, mb1mx4.1/17, mbtmp4.1/7, ML3.7/1, MS3.8/1, Ms1 3.8/1, ms1mx2.9/21, Error ellipse: s-maj=73.3km s-min=19.8km az=57.0*
*NEIC **15** 16:59:28.9±1.0, 2.83N×95.35E, h30^{km}, mb4.4/8, Error ellipse: s-maj=23.0km s-min=12.6km az=55.0*
*BJI **15** 16:59:29.5, 2.75N×94.84E, h37^{km}, mb4.4*
ISC 15 16:59:26.0±0.8**, 2.6N**±0.1×**94.9E**±0.1**, h30**^{km}**, n29, σ1^{s}02**/28**, mb4.4**/22**, MS3.8**/1**, 1C, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.35	65	eP	Pn	17 00 51.3	-8.8
CM31	Chiang Mai Arr	16.27	14	eP	P	17 03 13.4	-0.8
	5.9nm,0.6s						
CMAR	Chiang Mai Arr	16.27	14	Pn	P	17 03 12.8	-1.4
	0.1nm,0.3s,baz=203,slow=11,SNR=16						
KKM	Kota Kinabalu	21.55	80	eP	P	17 04 08.9	-6.3
JIRN	Jiri	26.28	342	eP	P	17 05 01.3	+0.4
	22nm,0.8s,mb4.7						
PKI	Pulchoki	26.45	341	eP	P	17 05 03.3	+0.9
	8.6nm,0.7s,mb4.4						
DMN	Daman	26.58	340	eP	P	17 05 04.6	+1.0
	9.8nm,0.7s,mb4.5						
KKN	Kakani	26.69	341	eP	P	17 05 04.3	-0.3
	17nm,0.8s,mb4.6						
GKN	Gorkha	27.11	340	eP	P	17 05 07.7	-0.7
	21nm,0.9s,mb4.7						
LSA	Lhasa	27.20	353	P	P	17 05 09.6	+0.4
LSA	Lhasa	27.20	353	eP	P	17 05 08.2	-1.0
	5.6nm,0.6s,mb4.3						
KOLN	Koldanda	27.27	338	eP	P	17 05 09.9	0.0
	12nm,0.6s,mb4.6						
XAN	Xi'an	33.93	21	P	P	17 06 09.3	+0.5
XAN				XP	sP	17 06 19.8	-1.7
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
GTA	Gaotai	36.93	6	eP	P	17 06 37.3	+3.1
GTA				AP	pP	17 06 45.8	+2.6
GTA				XP	sP	17 06 48.9	+2.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
BJT	Baijiatuau	41.97	25	P	P	17 07 18.2	+2.2
	comp=Z,13nm,0.7s,mb4.7						
BJI	Beijing	41.99	25	eP	P	17 07 19.3	+3.1
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
AAK	Ala-Archa	43.84	338	eP	P	17 07 32.4	+1.1
	comp=Z,1.7nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.73	122	P	P	17 07 38.8	+0.1
	comp=Z,3.7nm,0.4s,mb4.5,baz=300,slow=9.2,SNR=43						
WRAB	Tennant Creek	44.73	122	eP	P	17 07 38.1	-0.7
	comp=Z,11nm,0.6s,mb4.9						
WB2	Warramunga Arr	44.74	122⇑	iP	P	17 07 39.3	+0.4
ASAR	Alice Springs	46.07	127	P	P	17 07 49.0	-0.4
	comp=Z,1.8nm,0.6s,mb4.2,baz=296,slow=7.9,SNR=29						
SONM	Songino Array	46.16	11	P	P	17 07 51.0	+1.3
	comp=Z,1.8nm,0.6s,mb4.2,baz=186,slow=9.1,SNR=6.2						
ULN	Ulaanbaatar	46.32	11	P	P	17 07 49.8	-1.2
	comp=Z,3.0nm,1.0s,mb4.2						
KURK	Kurchatov	49.89	347	eP	P	17 08 13.8	-5.0
	comp=Z,4.0nm,0.9s,mb4.5						
ZAL	Zalesovo	51.85	352	P	P	17 08 33.0	-0.6
	comp=Z,1.7nm,0.4s,mb4.3,baz=284,slow=5.3,SNR=8.2						
BVAR	Borovoye Array	54.21	342	P	P	17 08 49.8	-1.3
	comp=Z,2.0nm,0.7s,mb4.2,baz=149,slow=10,SNR=14						
CHKZ	Chkalovo	54.70	343	eP	P	17 08 53.8	-0.9
	comp=Z,3.6nm,0.6s,mb4.6						
CTA	Charters Tower	55.19	117	LR	LR	17 33 36.7	
	comp=Z,87nm,20.3s,MS3.8,baz=58,slow=37						
FINES	FINESS Array B	77.71	333	P	P	17 11 21.0	-0.4
	comp=Z,0.7nm,0.7s,mb3.7,baz=79,slow=7.1,SNR=3.6						

IDC 15 17:01:59.0±13.0**,2.88N**×**93.79E,mb3.3**/2**,mb1 3.7**/3**, mb1mx3.5**/16**,mbtmp3.5**/3**,ML3.5**/1**,Error ellipse: s-maj=322.6km s-min=49.3km az=81.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.29	18	Pn	P	17 05 49.6	-1.4
	0.1nm,0.3s,baz=211,slow=11,SNR=4.2						
WRA	Warramunga Arr	45.81	121	P	P	17 10 22.8	-2.0
	0.4nm,0.6s,baz=300,slow=8.7,SNR=3.5						
ASAR	Alice Springs	47.12	126	P	P	17 10 33.4	-1.7
	0.3nm,0.6s,baz=298,slow=8.0,SNR=4.3						

*NEIC **15** 17:19:16.7,37.11N×10.92W,MG4.0(MDD),After MDD.*
*CSEM **15** 17:19:16.4±0.3,37.06N×11.10W,h20^{km},ML3.4/7,Error ellipse: s-maj=5.4km s-min=3.3km az=51.0*
*INMG **15** 17:19:17.5±0.9,37.03N×10.95W,h5^{km},ML2.3,Error ellipse: s-maj=5.5km s-min=3.5km az=73.0*
MDD 15 17:19:16.5±1.8**,37.09N**×**10.93W,mb4.1**/8**,2C,Error ellipse: s-maj=16.4km s-min=11.0km az=64.0,PRXIMO, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.82	75	ePn	Pn	17 19 47.7	-1.6
PTEO				eSn	Sn	17 20 10.6	-2.8
	9.7nm,0.1s						
PLOU	Loures	2.28	37	ePn	Pn	17 19 54.5	-1.5
PLOU				eSn	Sn	17 20 22.7	-2.5
	19nm,0.3s						
MOE	Montemor	2.50	54	ePn	Pn	17 19 57.6	-1.5
MOE				eSn	Sn	17 20 27.4	-3.3
PBEJ	Beja	2.61	68	ePn	Pn	17 19 58.6	-2.1
PBEJ				eSn	Sn	17 20 29.4	-4.1
	5.0nm,0.1s						
PBEJ	Beja	2.61	68	ePn	Pn	17 19 58.6	-2.1
PBEJ				eSn	Sn	17 20 29.4	-4.1
	5.0nm,0.1s						
PALC	Alcoutim	2.78	81	ePn	Pn	17 20 00.9	-2.2
PALC				eSn	Sn	17 20 33.0	-4.9
	8.0nm,0.1s						
PALC	Alcoutim	2.78	81	Pn	Pn	17 20 00.9	-2.2
PALC				Sn	Sn	17 20 32.6	-5.3
PTOM	Tomar	3.21	37	eSn	Sn	17 20 45.8	-3.0
	10nm,0.1s						
PTOM	Tomar	3.21	37	eSn	Sn	17 20 45.8	-3.0
	10nm,0.1s						
EMIN	Mina Concepcio	3.46	77	⇑Pn	Pn	17 20 10.0	-2.7
EMIN				Sn	Sn	17 20 49.2	-5.9
EMIN	Mina Concepcio	3.46	77	⇑Pn	Pn	17 20 10.0	-2.7
	2.2nm,0.1s,SNR=18						
EMIN				Sn	Sn	17 20 50.4	-4.6
	4.1nm,0.2s,SNR=12						
EMIN	Mina Concepcio	3.46	77	Pn	Pn	17 20 10.0	-2.7
	2.2nm,0.1s,SNR=18						
EMIN				Sn	Sn	17 20 50.4	-4.6
	4.1nm,0.2s,SNR=12						
EBAD	Badajoz	3.52	61	Pn	Pn	17 20 11.4	-2.2
	1.6nm,0.1s,SNR=9.9						
EBAD				Sn	Sn	17 20 51.5	-5.0
	5.5nm,0.2s,SNR=7.7						
EBAD	Badajoz	3.52	61	Pn	Pn	17 20 11.4	-2.2
	1.6nm,0.1s,SNR=9.9						
EBAD				Sn	Sn	17 20 51.5	-5.0
	5.5nm,0.2s,SNR=7.7						
PCBR	Castelo Branco	3.86	44	eSn	Sn	17 21 00.1	-5.1
ESPR	Espera	4.07	92	Pn	Pn	17 20 18.6	-2.8
	2.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	17 21 05.1	-5.4
	14nm,0.2s,SNR=7.9						
ESPR	Espera	4.07	92	Pn	Pn	17 20 18.6	-2.8
	2.6nm,0.1s,SNR=7.9						
ESPR				Sn	Sn	17 21 05.1	-5.4
	14nm,0.2s,SNR=7.9						
PVIS	Viseu	4.33	32	eSn	Sn	17 21 11.6	-5.5
	10nm,0.1s						
PVIS	Viseu	4.33	32	Sn	Sn	17 21 11.6	-5.5
	5.1nm,0.1s						
EJIF	Jimena Fronter	4.43	97	Pn	Pn	17 20 24.0	-2.5
	2.5nm,0.4s,SNR=7.9						
ECAB	El Cabril	4.49	76	Pn	Pn	17 20 24.5	-2.8
	2.0nm,0.2s,SNR=14						
ECAB	El Cabril	4.49	76	Pn	Pn	17 20 24.5	-2.9
	2.0nm,0.2s,SNR=14						
PVRL	Vila Real	4.87	30	eSn	Sn	17 21 24.3	-6.5
	7.1nm,0.1s						
PVRL	Vila Real	4.87	30	Sn	Sn	17 21 24.3	-6.5
	3.5nm,0.1s						
EADA	Adamuz	5.16	76	Pn	Pn	17 20 33.6	-3.2
EADA				Sn	Sn	17 21 31.2	-6.8
EADA	Adamuz	5.16	76	Pn	Pn	17 20 33.7	-3.2
	1.9nm,0.3s,SNR=7.9						
EADA				Sn	Sn	17 21 30.4	-7.6
	4.7nm,0.2s,SNR=7.9						
EADA	Adamuz	5.16	76	Pn	Pn	17 20 33.7	-3.2
	1.9nm,0.3s,SNR=7.9						
EADA				Sn	Sn	17 21 31.2	-6.8
ELOB	Lobios	5.27	24	Pn	Pn	17 20 35.4	-3.0
ELOB				Sn	Sn	17 21 33.7	-7.0
ELOB	Lobios	5.27	24	Pn	Pn	17 20 35.4	-3.0
	2.3nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	17 21 33.4	-7.4
	2.4nm,0.1s,SNR=6.4						
ELOB	Lobios	5.27	24	Pn	Pn	17 20 35.4	-3.0
	2.3nm,0.2s,SNR=7.9						
ELOB				Sn	Sn	17 21 33.4	-7.3
	2.4nm,0.1s,SNR=6.4						
PBRG	Braganca	5.72	33	eSn	Sn	17 21 44.6	-7.5
EBAN	Banos Encina	5.77	77	Pn	Pn	17 20 41.9	-3.7
	2.6nm,0.2s,SNR=4.0						
EBAN				Sn	Sn	17 21 45.1	-8.3
	0.6nm,0.1s,SNR=7.9						
ECAL	Calabor	5.83	32	Pn	Pn	17 20 43.7	-2.7
ECAL				Sn	Sn	17 21 47.4	-7.5
ECAL	Calabor	5.83	32	Pn	Pn	17 20 42.7	-3.6
	1.2nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	17 21 46.7	-8.2
	3.1nm,0.2s,SNR=7.9						
ECAL	Calabor	5.83	32	Pn	Pn	17 20 42.7	-3.7
	1.2nm,0.2s,SNR=7.9						
ECAL				Sn	Sn	17 21 47.4	-7.6
ESDC	Sonseca Array	6.05	63	Pn	Pn	17 20 46.1	-3.4
	0.9nm,0.2s,baz=249,slow=13,SNR=4.4						
ESDC	Sonseca Array	6.05	63	Pn	Pn	17 20 46.1	-3.4
	0.9nm,0.2s,SNR=4.4						
EINC	Incio	6.21	25	Pn	Pn	17 20 47.9	-3.8
	0.6nm,0.1s,SNR=7.9						
EINC	Incio	6.21	25	Pn	Pn	17 20 47.9	-3.8
	0.6nm,0.1s,SNR=7.9						
EQES	Quesada	6.29	81	Pn	Pn	17 20 49.7	-3.2
	1.6nm,0.2s,SNR=7.9						
EQES				Sn	Sn	17 21 57.7	-8.8
	8.0nm,1.0s,SNR=7.9						
EQES	Quesada	6.29	81	Pn	Pn	17 20 49.7	-3.2
	1.6nm,0.2s,SNR=7.9						
EQES				Sn	Sn	17 21 57.7	-8.8
	8.0nm,1.0s,SNR=7.9						
EPON	Pontenova	6.87	24	Pn	Pn	17 20 56.7	-4.4
	0.8nm,0.1s,SNR=7.9						
EPON	Pontenova	6.87	24	Pn	Pn	17 20 56.7	-4.3
	0.8nm,0.1s,SNR=7.9						

*NEIC **15** 17:21:48.0±2.7,6.94S×129.78E,h74^{km}±29^{km},mb4.2/4, Error ellipse: s-maj=19.3km s-min=16.7km az=206.0*
*IDC **15** 17:21:51.3±9.2,7.34S×129.22E,h98^{km}±89^{km},mb3.6/3, mb1 4.0/5,mb1mx3.8/13,mbtmp4.2/5,ML4.5/2,Error ellipse: s-maj=105.6km s-min=26.9km az=53.0*
ISC 15 17:21:51.5±1.7**,7.21S**±0.06×**129.7E**±0.1**,h130**^{km}±18^{km}**, n18,**σ**1^{s}24**/26**,mb3.7**/5**,1C,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	6.12	154	eP	P	17 23 22.4	+1.8
	42nm,0.2s						
KAKA				iS	S	17 24 28.2	-1.6
FITZ	Fitzroy Crossi	11.52	200	eP	P	17 24 34.0	+1.1
	34nm,0.3s						
FITZ				eS	S	17 26 37.6	-1.7
WRAB	Tennant Creek	13.45	161	Pn	P	17 24 57.0	-1.0
	229nm,0.4s,SNR=44						
WRAB	Tennant Creek	13.45	161	eP	P	17 24 57.2	-0.7
WRAB				eS	S	17 27 20.1	-4.5
WRA	Warramunga Arr	13.45	161	P	P	17 24 57.1	-1.0
	3.0nm,0.3s,baz=337,slow=12,SNR=145						
WRA				S	S	17 27 20.1	-4.6
	8.7nm,0.3s,baz=338,slow=22,SNR=10						
WRA	Warramunga Arr	13.45	161	P	P	17 24 57.1	-1.0
WRA				S	S	17 27 20.1	-4.6
WB2	Warramunga Arr	13.45	161⇑	iP	P	17 24 57.3	-0.8
WB2				eS	S	17 27 20.1	-4.7
ASAR	Alice Springs	16.87	166	P	P	17 25 42.7	+1.5
	2.6nm,0.3s,baz=329,slow=9.1,SNR=151						
ASAR				S	S	17 28 43.0	+0.1
	1.5nm,0.3s,baz=348,slow=26,SNR=5.7						
ASPA	Alice Springs	16.87	166	eP	P	17 25 42.7	+1.6
ASPA				eS	S	17 28 43.2	+0.3
MBWA	Marble Bar	16.87	214	eP	P	17 25 45.0	+3.9
	10nm,0.5s						
PMG	Port Moresby	17.45	98	P	P	17 25 48.0	-0.4
	5.9nm,0.3s						
FORT	Forrest	23.50	183	eP	P	17 26 54.6	+4.2
	343nm,0.8s						
STKA	Stephens Creek	26.95	157	P	P	17 27 24.1	+1.3
	1.6nm,0.5s,mb3.9,baz=1.5,slow=9.1,SNR=9.2						
STKA	Stephens Creek	26.95	157	eP	P	17 27 24.1	+1.3
CMAR	Chiang Mai Arr	39.60	310	P	P	17 29 11.6	-0.3
	0.5nm,0.5s,mb3.4,baz=137,slow=7.3,SNR=7.4						
ULN	Ulaanbaatar	58.35	342	eP	P	17 31 33.8	-1.5
	1.4nm,0.7s,mb3.9						
AAK	Ala-Archa	70.48	320	eP	P	17 32 53.0	-0.9
	1.2nm,0.5s,mb3.9						
BVAR	Borovoye Array	78.06	328	P	P	17 33 38.3	+1.1
	0.4nm,0.4s,mb3.4,baz=101,slow=6.0,SNR=4.7						

MAN 15 17:32:59.8,8.03N×**124.88E,h47**^{km}**,mb4.3,ML3.1,MS2.9, 1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.23	129	eP	P	17 33 09.8	+1.7
CGP	Cagayan de Oro	0.46	337⇓	eP	P	17 33 12.1	+1.7
CGP				eS	S	17 33 20.9	+2.9
PAGZ	Pagadian	1.49	263	eP	P	17 33 21.8	-2.9
DCPH	Dipolog City	1.61	290	eP	P	17 33 27.3	+0.9
DCPH				eS	S	17 33 46.9	+0.8
IPIL	Ipil	2.30	264	eP	P	17 33 35.8	-0.4

*NEIC **15** 17:36:29.7±0.5,41.70N×108.58W,ML2.9,Error ellipse: s-maj=7.0km s-min=5.2km az=85.0,Suspected Mining explosion.*
NEIC 55 km [35 miles] ENE of Rock Springs.
*IDC **15** 17:36:29.3±1.7,41.78N×108.70W,mb3.3/1,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,ML2.5/3,Error ellipse: s-maj=20.5km s-min=11.6km az=139.0*
ISC 15 17:36:29.9±0.4**,41.65N**±0.03×**108.71W**±0.04**,n41,** σ**1^{s}00**/57**,mb3.3**/1**,1C,Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BW06	Boulder Array	1.28	331	ePn	Pn	17 36 53.7	-1.3
BW06				eSn	Sn	17 37 12.7	-0.4
PDAR	Pinedale Array	1.28	331	Pg	Pg	17 36 53.8	-1.6
	81nm,0.3s,baz=139,slow=18,SNR=1867						
PDAR				Lg		17 37 12.9	
	60nm,0.3s,baz=139,slow=30,SNR=34						
AHID	Auburn Hatcher	2.10	303	ePn	Pn	17 37 07.0	+0.4
AHID				eS	Sn	17 37 33.6	-0.2
TCUT	Toone Canyon	2.10	256	ePn	Pn	17 37 07.0	+0.3
TCUT				eS	Sn	17 37 37.5	+3.6
HWUT	Hardware Ranch	2.14	270	ePn	Pn	17 37 06.9	-0.4
HWUT				eS	Sn	17 37 35.4	+0.4
DAU	Daniels Canyon	2.29	238	ePn	Pn	17 37 09.8	+0.4
DAU				eS	Sn	17 37 37.8	-1.0
JLU	Jordanelle	2.32	244	ePn	Pn	17 37 09.9	0.0
JLU				eS	Sn	17 37 39.2	-0.3
SNOW	Snow King Moun	2.36	321	ePn	Pn	17 37 12.2	+1.9
LOHW	Long Hollow	2.41	325	ePn	Pn	17 37 10.8	-0.3
LOHW				eS	Sn	17 37 45.5	+3.9
WUWY	Wally Ulrich	2.41	322	ePn	Pn	17 37 10.7	-0.4
WUWY				eS	Sn	17 37 42.1	+0.3
PHWY	Pilot Hill	2.47	97⇑	ePn	Pn	17 37 11.5	-0.5
PHWY				eS	Sn	17 37 44.0	+0.7
TPAW	Teton Pass	2.47	319	ePn	Pn	17 37 11.9	-0.1
TPAW				eS	Sn	17 37 48.4	+5.0
RRI2	Red Ridge	2.57	312	ePn	Pn	17 37 13.2	-0.2
MOOW	Moose Ponds	2.58	325	ePn	Pn	17 37 12.5	-1.1
MOOW				eS	Sn	17 37 50.3	+4.3
MPU	Maple Canyon	2.76	235	Pn	Pn	17 37 14.8	-1.4
NOQ	North Oquirrh	2.76	250	Pn	Pn	17 37 14.0	-2.2
IMW	Indian Meadow	2.78	325	ePn	Pn	17 37 15.7	-0.7
IMW				eS	Sn	17 37 58.0	+6.9
SPUT	South Promonto	2.83	264	ePn	Pn	17 37 17.9	+0.7
SRU	San Rafael	2.89	209	ePn	Pn	17 37 17.8	-0.3
SRU				eS	Sn	17 37 58.4	+4.3
ISCO	Idaho Springs	2.99	127	ePn	Pn	17 37 18.0	-1.4
ISCO				eS	Sn	17 38 00.8	+4.3
TMUT	Trail Mountain	3.03	220	ePn	Pn	17 37 20.3	+0.3
TMUT				eS	Sn	17 38 02.2	+4.7
HVU	Hansel Valley	3.05	274	ePn	Pn	17 37 22.0	+1.8
NLU	North Lily Min	3.07	238	ePn	Pn	17 37 19.9	-0.7
LKWY	Lake	3.16	338	Pn	Pn	17 37 23.8	+1.9
YFT	Old Faithful	3.20	332	ePn	Pn	17 37 25.3	+2.9
PV10	Paradox Valley	3.28	185	ePn	Pn	17 37 25.1	+1.5
YNR	Norris Junctio	3.38	335	Pn	Pn	17 37 24.9	-0.1
RW3	Ridgway	3.49	167	ePn	Pn	17 37 26.5	0.0
PV01	Paradox Valley	3.52	178	ePn	Pn	17 37 27.1	+0.2
PV01				eS	Sn	17 38 10.7	+0.9
QLMT	Earthquake Lak	3.75	329	ePn	Pn	17 37 30.8	+0.7
MSU	Marysvale	4.11	221	ePn	Pn	17 37 35.1	-0.2
MVU	Marysvale	4.14	222	ePn	Pn	17 37 35.6	-0.2
MCMT	McKenzie Canyo	4.38	318	ePn	Pn	17 37 40.4	+1.2
HLID	Hailey	4.62	296	ePn	Pn	17 37 43.0	+0.3
ELK	Elko	5.01	262	Pn	Pn	17 37 48.4	+0.2
	0.3nm,0.3s,baz=54,slow=13,SNR=7.0						
ELK				Lg		17 39 06.6	
	0.3nm,0.3s,baz=191,slow=17,SNR=5.2						
LAO	LASA Array	5.34	19	ePn	Pn	17 37 49.0	-3.7
	17nm,0.5s						
WUAZ	Wupatki	6.47	200	Pn	Pn	17 38 03.0	-5.8
BMO	Blue Mountains	7.04	300	eP	Pn	17 38 16.2	-0.6
NVAR	Mina Array Bea	8.03	250	Pn	P	17 38 30.1	-0.6
	0.2nm,0.3s,baz=66,slow=12,SNR=5.1						
ULM	Lac du Bonnet	12.38	42	Pn	P	17 39 22.8	-7.5
	0.2nm,0.3s,baz=227,slow=14,SNR=5.5						
YKA	Yellowknife Ar	21.17	352	P	P	17 41 14.4	-4.3
	0.8nm,0.5s,mb3.3,baz=166,slow=11,SNR=9.7						

*IDC **15** 17:37:08.4±2.3,5.09N×93.81E,mb3.7/4,mb1 3.9/5, mb1mx3.7/18,mbtmp3.7/5,ML4.1/1,Error ellipse: s-maj=92.8km s-min=23.0km az=59.0*
*NEIC **15** 17:37:13.3±0.8,5.19N×94.07E,h30^{km},mb4.3/3,Error ellipse: s-maj=19.2km s-min=10.3km az=60.0*
ISC 15 17:37:11.4±1.1**,5.2N**±0.1×**94.1E**±0.2**,h30**^{km}**,n11,** σ**0^{s}72**/11**,mb4.1**/7**,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.52	89	eP	Pn	17 38 46.9	-1.0
CM31	Chiang Mai Arr	13.97	19	P	P	17 40 29.5	-0.3
CMAR	Chiang Mai Arr	13.97	19	Pn	P	17 40 31.4	+1.5
	0.3nm,0.3s,baz=208,slow=14,SNR=12						
WRA	Warramunga Arr	46.80	124	P	P	17 45 41.1	+0.5
	0.6nm,0.5s,mb3.8,baz=302,slow=9.6,SNR=13						
WRAB	Tennant Creek	46.81	124	P	P	17 45 40.2	-0.4
	2.8nm,0.6s,mb4.4						
KURK	Kurchatov	47.15	347	eP	P	17 45 42.6	-0.4
	1.7nm,0.5s,mb4.2						
ASAR	Alice Springs	48.29	128	P	P	17 45 53.2	+1.0
	0.4nm,0.4s,mb3.8,baz=298,slow=8.1,SNR=12						
ZAL	Zalesovo	49.15	353	P	P	17 45 58.2	-0.2
	1.1nm,0.3s,mb4.3,baz=304,slow=4.2,SNR=4.0						
ZAL	Zalesovo	49.15	353	P	P	17 45 58.2	-0.2
BVAR	Borovoye Array	51.47	342	P	P	17 46 15.9	-0.2
	0.6nm,0.6s,mb3.7,baz=139,slow=11,SNR=5.9						
CHKZ	Chkalovo	51.96	342	eP	P	17 46 19.5	-0.4
	1.5nm,0.4s,mb4.3						

CASC 15 17:41:03.8±1.7**,10.51N**×**87.18W,h35**^{km}±26^{km}**,MD4.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRS1	Puriscal	2.87	100	eP	P	17 41 47.1	-1.2
VSM	San Miguel	3.09	340	eP	P	17 41 51.8	+0.4
BLLM	Bellamira	3.09	341	eP	P	17 41 51.4	0.0
BLLM				eS	S	17 42 26.7	-0.9
LCR2	La Lucha 2	3.22	103	eP	P	17 41 52.4	-0.8
ICR	Volcan Irazu	3.34	99	eP	P	17 41 54.7	-0.2
SNVI	San Vicente	3.48	332	eP	P	17 41 57.5	+0.5
SNVI				eS	S	17 42 36.0	-1.5
BUS	Buena Vista	3.50	105	eP	P	17 41 56.1	-1.1
BUS				eS	S	17 42 39.0	+1.0
LCBS	La Ceiba	3.58	331	eP	P	17 41 58.2	-0.2
LCBS				eS	S	17 42 38.8	-1.3
LFRS	El Faro	3.60	329	eP	P	17 41 58.3	-0.3
LFRS				eS	S	17 42 38.8	-1.7
SBLS	San Blas	4.08	324	eP	P	17 42 04.7	-0.7
SBLS				eS	S	17 42 51.3	-1.4

*MAN **15** 17:56:36.7,7.83N×124.57E,h5^{km},mb4.8,ML3.7,MS3.6*
*IDC **15** 17:56:49.0±4.3,5.39N×123.01E,mb3.9/4,mb1 4.1/4, mb1mx3.8/17,mbtmp3.9/4,MS3.4/2,Ms1 3.4/2, ms1mx2.9/21,Error ellipse: s-maj=206.4km s-min=26.6km az=49.0*
ISC 15 17:56:37.2±1.0**,7.76N**±0.04×**124.58E**±0.06**,h21**^{km}±9^{km}**, n20,**σ**1^{s}18**/22**,mb3.9**/3**,MS3.3**/2**,1C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	Musuan	0.50	76	eP	Pb	17 56 47.0	-0.1
CGP	Cagayan de Oro	0.70	10⇓	iP	Pb	17 56 49.4	-1.2
CGP				eS	Sb	17 56 59.3	-0.6
KCP	Kidapawan	0.90	145⇑	eP	Pb	17 56 54.6	+0.6
KCP				iS	Sb	17 57 10.8	+5.2
PAGZ	Pagadian	1.19	274	eP	Pn	17 56 58.8	+0.1
DCPH	Dipolog City	1.46	304⇓	eP	Pn	17 57 02.2	-0.4
DCPH				eS	Sn	17 57 25.6	+4.3
BUTP	Butuan	1.59	41	eP	Pn	17 57 06.4	+2.0
MATI	Mati	1.85	116	eP	Pn	17 57 10.2	+2.0
IPIL	Ipil	1.99	271	eP	Pn	17 57 12.0	+1.9
TBP	Tagbilaran	2.05	340⇓	eP	Pn	17 57 08.8	-2.2
TBP				iS	Sn	17 57 36.8	+0.6
SCPH	Surigao	2.21	24	eP	Pn	17 57 12.7	-0.6
SCPH				eS	Sn	17 57 31.7	-8.5
MSLP	Maasin	2.38	7	eP	Pn	17 57 17.0	+1.2
LLP	Lapu-Lapu	2.61	347	iP	Pn	17 57 19.3	+0.2
LLP				eS	Sn	17 57 50.6	0.0
GUIM	Jordan	3.46	326	eP	Pn	17 57 31.6	+0.5
LUBP	Lubang	7.30	325	eP	Px	17 58 50.8	
CMAR	Chiang Mai Arr	27.09	296	P	pP	18 02 31.5	+4.5
	0.2nm,0.4s,baz=114,slow=8.9,SNR=4.0						
PMG	Port Moresby	28.23	127	LR	LR	18 13 13.8	
	comp=Z,40nm,20.9s,MS3.0,baz=107,slow=35						
JHJ	Hachijo jima 2	28.91	27	LR	LR	18 13 40.4	
	comp=Z,165nm,21.5s,MS3.6,baz=96,slow=32						
WRA	Warramunga Arr	29.15	161	P	P	18 02 37.1	-2.2
	0.9nm,0.5s,mb3.7,baz=330,slow=11,SNR=15						
ASAR	Alice Springs	32.53	164	P	P	18 03 07.8	-1.3
	1.6nm,0.5s,mb4.2,baz=343,slow=6.9,SNR=46						
STKA	Stephens Creek	42.63	158	P	P	18 04 33.4	-0.6
	1.0nm,0.5s,mb3.8,baz=334,slow=7.2,SNR=3.6						

*IDC **15** 18:00:06.7±0.8,11.85N×143.60E,mb4.0/10,mb1 4.2/10, mb1mx4.0/20,mbtmp3.9/10,Error ellipse: s-maj=34.1km s-min=20.3km az=107.0*
*NEIC **15** 18:00:12.6±1.8,11.83N×143.47E,h41^{km}±17^{km},mb4.2/4, Error ellipse: s-maj=19.2km s-min=11.1km az=107.0*
ISC 15 18:00:10.9±2.2**,11.78N**±0.10×**143.4E**±0.1**,h40**^{km}±21^{km}**, n17,**σ**0^{s}97**/18**,mb4.0**/14**,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	2.31	39	ePn	P	18 00 47.0	-0.4
GUMO				eS	S	18 01 15.4	+0.6
WRAB	Tennant Creek	32.74	196	eP	P	18 06 42.2	-0.2
	1.7nm,0.5s,mb4.2						
WRA	Warramunga Arr	32.75	196	P	P	18 06 41.9	-0.6
	0.9nm,0.5s,mb4.0,baz=20,slow=9.7,SNR=12						
ASAR	Alice Springs	36.42	195	P	P	18 07 14.4	+0.6
	0.5nm,0.6s,mb3.6,baz=20,slow=10,SNR=6.5						
CMAR	Chiang Mai Arr	43.33	284	P	P	18 08 13.2	+2.0
	0.5nm,0.7s,mb3.4,baz=97,slow=6.6,SNR=4.8						
LSA	Lhasa	51.55	299	P	P	18 09 15.6	+0.2
	1.0nm,0.5s,mb4.0						
KURK	Kurchatov	65.04	321	eP	P	18 10 48.2	-1.1
	4.0nm,0.6s,mb4.6						
CHKZ	Chkalovo	70.39	323	eP	P	18 11 21.7	-1.1
	1.1nm,0.5s,mb4.0						
BVAR	Borovoye Array	70.45	322	P	P	18 11 23.3	+0.2
	2.2nm,0.4s,mb4.5,baz=108,slow=8.4,SNR=35						
ILAR	Eielson Array	70.81	25	P	P	18 11 22.9	-2.2
	1.3nm,0.7s,mb4.0,baz=256,slow=5.6,SNR=14						
INK	Inuvik	76.58	22	P	P	18 11 58.4	-0.2
	0.9nm,0.5s,mb4.0,baz=337,slow=7.7,SNR=3.4						
INK	Inuvik	76.58	22	P	P	18 11 58.4	-0.2
YKA	Yellowknife Ar	85.12	27	P	P	18 12 44.1	+0.4
	0.2nm,0.4s,mb3.6,baz=285,slow=5.1,SNR=4.1						
ARCES	ARCESS Array B	88.35	342	P	P	18 13 00.0	+0.7
	3.2nm,1.0s,mb4.5,baz=74,slow=6.6,SNR=6.6						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NVAR	Mina Array Bea	89.18	51	P	P	18 13 05.7	+1.7
	0.8nm,0.8s,mb4.1,baz=262,slow=6.0,SNR=4.8						
NVAR	Mina Array Bea	89.18	51	P	P	18 13 05.7	+1.7
FINES	FINESS Array B	92.18	335	P	P	18 13 16.9	-0.5
	0.3nm,0.5s,mb3.9,baz=72,slow=4.4,SNR=4.9						

*NEIC **15** 18:05:57.3, 31.27S×69.64W, h147km, MD4.0(GUC), After GUC.*

GUC 15 18:05:57.3±0.6**, 31.27S×69.64W, h147km**±8km**, MD4.0, ML3.9, 3C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.86	109⇓	iP	P	18 06 16.0	-4.9
ZON				eS	S	18 06 29.0	-10
JACH	Jahuel	1.62	210	i P	P	18 06 28.8	+0.4
JACH				i S	S	18 06 52.6	+0.5
CHNG	Los Chungos	1.70	249⇓	iP	P	18 06 29.5	+0.3
CHNG				i S	S	18 06 53.3	-0.4
CHNG				AMP		18 06 59.2	
	comp=E,299nm,0.2s						
LSCH	La Serena	1.94	314	eP	P	18 06 32.0	+0.2
LSCH				i S	S	18 06 57.7	-0.8
LSCH				AMP		18 06 58.3	
	comp=N,2μm,0.5s						
PACH	Papudo	1.98	230	i P	P	18 06 32.5	+0.1
PACH				eP		18 06 32.6	
PACH				i S	S	18 06 59.2	-0.2
PACH	Papudo	1.98	230	eP	P	18 06 32.6	+0.2
PACH				i S	S	18 06 59.2	-0.2
ROCH	El Roble	2.06	214⇓	iP	P	18 06 33.7	+0.4
ROCH				i S	S	18 07 01.8	+0.8
FCH	Farellones	2.12	195⇑	iP	P	18 06 35.2	+1.1
FCH				i S	S	18 07 03.1	+0.8
FCH				AMP		18 07 08.3	
	comp=E,724nm,0.3s						
CLCH	Cerro Calan	2.25	200	eP	P	18 06 35.8	+0.1
CLCH				i S	S	18 07 05.3	+0.1
CLCH				AMP		18 07 10.2	
	comp=E,891nm,0.4s						
RCDM	Rinconada Maip	2.42	204	eP	P	18 06 37.9	0.0
RCDM				i S	S	18 07 08.7	-0.3
RCDM				AMP		18 07 10.1	
	comp=E,801nm,0.3s						
PCH	Pirque	2.46	197⇑	iP	P	18 06 38.8	+0.5
LMEL	Las Melosas	2.61	190	eP	P	18 06 40.4	+0.1
LMEL				i S	S	18 07 13.3	+0.2
LMEL				AMP		18 07 18.9	
	comp=N,394nm,0.1s						
TACH	Talagante	2.62	205⇓	iP	P	18 06 40.0	-0.3
TACH				i S	S	18 07 13.0	-0.3
LCCH	Las Cruces	2.74	216	eP	P	18 06 41.6	-0.3
CHCH	Chadas Angostu	2.79	198	eP	P	18 06 42.5	-0.1
CACH	El Canelo	2.95	196⇑	iP	P	18 06 45.4	+0.7
CICH	Cipreses	3.11	192	eP	P	18 06 46.7	0.0
LVC	Limon Verde	8.65	4	ePn	P	18 07 57.3	-3.1
TRQA	Tornquist	9.25	139	eP	P	18 08 04.9	-3.4

OTT 15 18:18:53.0±1.9**, 47.76N×92.35W, MN2.6**/6**, Blast, Minnesota, U.S. Mining explosion., Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	Ely	0.60	72	PG	Pg	18 19 03.4	-1.6
EYMN				Trac		18 19 20.2	
	comp=Z,320nm,0.1s						
ATKO	Atikokan Iron	1.18	25	PG	Pg	18 19 14.9	-1.6
ATKO				Trac		18 19 41.7	
	comp=Z,5.2nm,0.1s						
EPLO	Experimental L	2.12	335	PN	Pn	18 19 28.0	-2.1
EPLO				SN	Sn	18 19 55.5	-2.1
EPLO				SG	Sg	18 20 01.3	-2.4
EPLO				Trac		18 20 06.0	
	comp=Z,4.6nm,0.2s						
TBO	Thunder Bay	2.16	65	PN	Pn	18 19 29.7	-0.9
TBO				SN	Sn	18 20 01.2	+2.8
TBO				SG	Sg	18 20 05.9	+1.1
TBO				Trac		18 20 11.5	
	comp=Z,5.6nm,0.1s						
SOLO	Sioux Lookout	2.27	4	PN	Pn	18 19 30.3	-2.0
SOLO				SN	Sn	18 20 00.4	-0.9
SOLO				SG	Sg	18 20 05.5	-3.1
SOLO				Trac		18 20 17.7	
	comp=Z,3.4nm,0.1s						
LDIO	Lac des Isle M	2.31	51	PN	Pn	18 19 32.7	-0.2
LDIO				Trac		18 20 12.6	
	comp=Z,9.6nm,0.1s						
ULM	Lac du Bonnet	3.41	318	PN	Pn	18 19 43.6	-4.9
ULM				SN	Sn	18 20 22.7	-7.5
ULM				SG	Sg	18 20 37.3	-9.1
RLKO	Red Lake	3.44	345	PN	Pn	18 19 48.9	0.0
RLKO				SN	Sn	18 20 22.6	-8.4
PKLO	Pickle Lake	3.96	18	PN	Pn	18 19 53.3	-3.0
PKLO				SN	Sn	18 20 41.5	-2.7
PKLO				SG	Sg	18 20 59.6	-5.3
GTO	Geraldton	4.08	59	PN	Pn	18 19 56.7	-1.3
GTO				SN	Sn	18 20 49.4	+2.2
GTO				SG	Sg	18 21 06.5	-2.3
GTO				Trac		18 21 17.3	
	comp=Z,4.0nm,0.1s						
PNPO	Pukaskwa Natio	4.14	76	PN	Pn	18 19 58.8	-0.1
PNPO				SN	Sn	18 20 47.1	-1.7
PNPO				SG	Sg	18 21 04.2	-6.6
VIMO	Victor Mine	7.48	44	PN	Pn	18 20 42.5	-3.5
VIMO				SN	Sn	18 22 05.9	-6.7
VIMO				SG	Sg	18 22 43.2	-19
SILO	Sutton Inlier	8.19	32	PN	P	18 20 51.5	-4.4
SILO				SN	Sn	18 22 24.0	-6.3
SILO				SG	Sg	18 23 12.0	-14
FCC	Fort Churchill	11.07	355	SN	S	18 23 27.7	-14

*NIED **15** 18:27:00, 23.40N×143.70E, h35km, Mw4.8 Best double couple: $M_0$1.86×10^16 NP1: ϕ_s219°, δ79°, λ118°. NP2: ϕ_s330°, δ30°, λ23°.*

*BJI **15** 18:27:21.4, 22.51N×143.93E, h63km, mB5.0, mb4.6, Ms4.2, Msz4.1*

*MOS **15** 18:27:26.5±0.9, 23.08N×142.87E, h41km, mb4.9/17, Error ellipse: s-maj=15.2km s-min=7.2km az=96.8*

*NEIC **15** 18:27:30.7±0.2, 23.08N×142.98E, mb4.8/21, MW4.8(NIED), Error ellipse: s-maj=8.6km s-min=6.3km az=95.0*

*IDC **15** 18:27:30.6±0.5, 23.11N×143.01E, h60km±3km, mb4.1/22, mb1 4.3/23, mb1mx4.2/27, mbtmp4.4/23, MS4.0/16, Ms1 4.0/16, ms1mx3.9/21, Error ellipse: s-maj=15.8km s-min=9.0km az=86.0*

ISC 15 18:27:30.0±0.3**, 23.22N**±0.04**×143.07E**±0.05**, h65km, h65km**±1.8km**: pP-P, n143, σ1.35**/153**, mb4.6**/58**, 6C-1D, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	3.49	347	P	P	18 28 24.6	+1.4
JHHJ				eS	S	18 29 05.1	+1.5
CBIJ	Chichi jima	3.94	348	P	P	18 28 30.2	+0.7
	38nm,0.3s,baz=291,slow=21,SNR=17						
CBIJ				S	S	18 29 16.5	+1.6
	99nm,0.3s,baz=292,slow=23,SNR=12						
CBIJ				LR	LR	18 29 17.5	
	comp=Z,306nm,21.3s,baz=170,slow=26						
CBIJ	Chichi jima	3.94	348	P	P	18 28 29.9	+0.4
CBIJ				eS	S	18 29 15.8	+0.9
JOD2	Odawara 2	12.49	345	P	P	18 30 26.1	-0.7
JOD2				eS	S	18 32 40.3	-4.7
JYN	Shimob	12.86	343	P	P	18 30 31.2	-0.4
JHU	Hanno	13.01	346	P	P	18 30 31.2	-2.5
JHU				eS	S	18 32 51.8	-5.6
JYT	Yasato	13.20	350	eS	S	18 32 54.6	-7.3
JRY	Ryogami san	13.26	345	P	P	18 30 34.9	-2.0
JRY				eS	S	18 32 55.9	-7.3
JNT	Takato	13.32	342	P	P	18 30 36.7	-1.0
JNT				eS	S	18 33 01.9	-2.8
JHO	Hitachi	13.52	351	P	P	18 30 38.5	-1.9
JHO				eS	S	18 32 58.9	-11
JAG	Ashikaga	13.53	347	P	P	18 30 36.7	-3.8
JAG				eS	S	18 33 00.5	-9.2
JNG	Nsakai	13.83	343	P	P	18 30 43.0	-1.4
JOW	Kunigami	13.89	288	LR	LR	18 35 19.5	
	comp=Z,367nm,21.3s,baz=98,slow=34						
MAJO	Matsushiro	13.93	344	P	P	18 30 44.6	-1.1
MAT	Matsushiro	13.93	344	P	P	18 30 43.0	-2.7
MAT				eS	S	18 33 08.0	-11
MAT	Matsushiro	13.93	344	P	P	18 30 43.2	-2.5
MAT				eS	S	18 33 07.5	-12
JFT	Otama	14.45	351	P	P	18 30 51.4	-1.0
JFT				eS	S	18 33 24.1	-7.3
JMM	Marumori	14.73	353	P	P	18 30 53.9	-2.2
JMM				eS	S	18 33 27.8	-10
JMK	Ichinoseki	15.77	355	P	P	18 31 10.2	+0.9
JMK				eS	S	18 33 54.6	-7.4
ASAJ	Asahikawa	20.85	359	P	P	18 32 09.9	+1.4
	6.2nm,0.7s,baz=270,slow=16,SNR=3.8						
ASAJ				LR	LR	18 40 42.2	
	comp=Z,160nm,18.3s,baz=160,slow=38						
SSE	Sheshan	20.97	297	P	P	18 32 14.0	+4.1
SSE				AMB	AMB		
	comp=Z,38nm,0.8s						
SSE				AMB	AMB		
	comp=Z,87nm,4.9s						
SSE				LR	LR		
	comp=N,55nm,25.4s						
SSE				LR	LR		
	comp=E,57nm,25.5s						
SSE				LR	LR		
	comp=Z,64nm,18.2s						
SSE	Sheshan	20.97	297	P	P	18 32 14.0	+4.1
	comp=Z,38nm,0.8s						
SSE				S	S	18 35 39.9	-15
SSE				sS		18 37 15.5	
NJ2	Nanjing	23.15	298	eP	P	18 32 32.3	+0.9
NJ2				AP		18 32 46.4	
NJ2				XP		18 32 53.3	
NJ2				PP	PP	18 33 03.9	+0.2
NJ2				S	S	18 36 36.0	+1.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,90nm,9.2s						
NJ2				LR	LR		
	comp=N,210nm,21.9s						
NJ2				LR	LR		
	comp=E,160nm,24.4s						
NJ2				LR	LR		
	comp=Z,90nm,16.4s						
YSS	Yuzh-Sakhalins	23.69	359	P	P	18 32 39.6	+3.2
YSS				pmax	pmax		
	comp=Z,42nm,1.3s,mb4.7						
YSS	Yuzh-Sakhalins	23.69	359	P	P	18 32 39.6	+3.3
	comp=Z,42nm,1.3s,mb4.7						
MDJ	Mudanjiang	24.03	336	P	P	18 32 41.3	+1.5
MDJ				XP		18 33 03.6	
MDJ				PCP	PcP	18 36 19.1	-2.5
MDJ				S	S	18 36 55.4	+6.0
MDJ				XS		18 37 22.5	
MDJ				SCS	ScS	18 43 37.0	-1.8
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,96nm,6.0s						
MDJ				LR	LR		
	comp=N,130nm,30.2s						
MDJ				LR	LR		
	comp=E,104nm,31.0s						
MDJ				LR	LR		
	comp=Z,157nm,37.0s						
SNY	Shenyang	24.69	323	⇑P	P	18 32 47.3	+1.1
SNY				S	S	18 37 14.8	+14
SNY				LR	LR		
	comp=N,190nm,8.8s						
SNY				LR	LR		
	comp=Z,60nm,18.6s						
CN2	Changchun	25.15	329	eP	P	18 32 50.4	-0.2
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
WHN	Wuhan	26.59	292	eP	P	18 33 08.5	+4.4
KLR	Kul'dur	27.46	344	eP	P	18 33 09.3	-2.6
BJI	Beijing	28.23	313	eP	P	18 33 25.3	+6.4
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
BJI				LR	LR		
	comp=Z,129nm,18.7s						
XAN	Xi'an	31.72	298	P	P	18 33 50.1	+0.2
XAN				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.2						
HHC	Hu-ho-hao-te	31.74	311	eP	P	18 33 47.6	-2.4
HHC				AP	pP	18 34 03.0	-2.9
HHC				XP	sP	18 34 10.1	-3.7
HHC				SCS	ScS	18 44 09.8	-3.6
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.9						
PMG	Port Moresby	32.67	173	P	P	18 33 55.1	-3.2
	comp=Z,5.1nm,0.8s,mb4.5,baz=320,slow=6.5,SNR=4.1						
GYA	Guiyang	33.13	283⇑	iP	P	18 34 02.9	+0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
LZH	Lanzhou	36.18	300	eP	P	18 34 30.0	+1.8
LZH				AP	pP	18 34 47.4	+3.0
LZH				XP	sP	18 34 54.0	+1.7
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,180nm,4.0s						
LZH	Lanzhou	36.18	300	eP	P	18 34 30.0	+1.8
LZH				*PP	pP	18 34 47.4	+3.0
LZH				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
LZH	Lanzhou	36.18	300	eP	P	18 34 30.0	+1.8
	comp=Z,27nm,1.4s,mb5.0						
LZH				pP	pP	18 34 47.4	+3.0
LZH				sP	sP	18 34 54.0	+1.7
MA2	Magadan	36.74	7c	iP	P	18 34 34.0	+1.4
MA2				e	pP	18 34 53.1	+4.3
MA2				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.5						
KMI	Kunming	36.75	281	P	P	18 34 30.9	-2.2
KMI				AP	pP	18 34 46.3	-3.0
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=N,86nm,17.4s						
KMI				LR	LR		
	comp=E,145nm,19.0s						
KMI				LR	LR		
	comp=Z,158nm,19.0s						
KMI	Kunming	36.75	281	P	P	18 34 30.9	-2.2
KMI				*PP	pP	18 34 46.2	-3.1
KMI				S	S	18 40 05.8	-5.8
KMI				SS	SS	18 42 40.7	-1.5
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
KMI	Kunming	36.75	281	P	P	18 34 30.9	-2.2
	comp=Z,8.0nm,1.0s,mb4.5						
KMI				pP	pP	18 34 46.2	-3.1
KMI				S	S	18 40 05.8	-5.8
KMI				SS	SS	18 42 40.7	-1.5
ULN	Ulaanbaatar	37.73	320	i P	P	18 34 42.1	+1.0
YAK	Yakutsk	39.86	350	eP	P	18 34 58.4	-0.2
YAK				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.8						
YAK	Yakutsk	39.86	350	eP	P	18 34 58.4	-0.2
	comp=Z,14nm,0.7s,mb4.8						
GTA	Gaotai	39.92	304	eP	P	18 35 02.0	+2.7
GTA				AP	pP	18 35 19.8	+4.2
GTA				XP	sP	18 35 27.0	+3.7
GTA				PP	PP	18 36 39.3	+3.6
GTA				S	S	18 41 06.8	+7.4
GTA				XS		18 41 33.1	
GTA				SS	SS	18 44 01.4	+9.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,135nm,4.9s						
GTA				LR	LR		
	comp=N,94nm,17.1s						
GTA				LR	LR		
	comp=E,112nm,16.0s						
GTA				LR	LR		
	comp=Z,199nm,16.7s						
BOD	Bodaibo	40.41	336	eP	P	18 34 59.9	-3.2
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
ZAK	Zakamensk	41.09	321	eP	P	18 35 08.2	-0.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.6						
CM31	Chiang Mai Arr	41.39	272	eP	P	18 35 10.7	-0.9
	comp=Z,2.7nm,0.6s,mb4.0						
CMAR	Chiang Mai Arr	41.39	272	P	P	18 35 12.2	+0.5
	comp=Z,1.9nm,0.7s,mb3.8,baz=65,slow=7.4,SNR=21						
CMAR				LR	LR	18 50 28.7	
	comp=Z,121nm,19.6s,baz=90,slow=33						
TLY	Talaya	41.48	323	eP	P	18 35 13.3	+1.3
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
TLY				MLR	MLR		
	comp=Z,154nm,21.0s						
CTA	Charters Tower	43.15	176	P	P	18 35 24.1	-2.0
	comp=Z,3.5nm,0.8s,mb4.2,baz=2.8,slow=12,SNR=3.8						
CTAO	Charters Tower	43.15	176	eP	P	18 35 24.1	-2.0
CTAO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
CTAO	Charters Tower	43.15	176	eP	P	18 35 24.1	-2.0
	comp=Z,11nm,1.0s,mb4.5						
WRAB	Tennant Creek	43.72	192	eP	P	18 35 28.4	-2.4
WRAB				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
WRAB	Tennant Creek	43.72	192	eP	P	18 35 28.4	-2.4
	comp=Z,10nm,0.7s,mb4.7						
WB2	Warramunga Arr	43.73	192⇓	iP	P	18 35 28.8	-2.0
WRA	Warramunga Arr	43.73	192	P	P	18 35 29.0	-1.9
	comp=Z,5.7nm,0.8s,mb4.3,baz=17,slow=8.9,SNR=71						
WRA				ScP		18 41 02.0	
	comp=Z,2.6nm,1.0s,baz=11,slow=4.0,SNR=6.5						
LSA	Lhasa	46.61	290	P	P	18 35 55.0	+1.3
BILL	Bilibino	47.06	12⇑	eP	P	18 35 57.6	+0.9
BILL				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.1						
BILL	Bilibino	47.06	12⇑	eP	P	18 35 57.6	+0.9
	comp=Z,26nm,1.0s,mb5.1						
ASAR	Alice Springs	47.44	191	P	P	18 35 57.8	-2.5
	comp=Z,1.6nm,0.6s,mb4.1,baz=17,slow=10,SNR=28						
ASAR				ScP		18 41 17.9	
	comp=Z,1.7nm,0.9s,baz=12,slow=3.7,SNR=8.8						
ASAR				LR	LR	18 54 30.1	
	comp=Z,112nm,20.2s,baz=12,slow=34						
TIXI	Tiksi	49.13	354	eP	P	18 36 13.3	+0.6
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.6						
WMQ	Urumqi	49.55	308⇑	iP	P	18 36 16.9	+0.6
WMQ				AP	pP	18 36 33.0	+0.1
WMQ				XP	sP	18 36 40.0	-0.2
WMQ				PCP	PcP	18 37 38.0	+0.5
WMQ				eS	S	18 43 19.0	+1.0
WMQ				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,366nm,6.7s						
WMQ				LR	LR		
	comp=N,130nm,22.4s						
WMQ				LR	LR		
	comp=E,192nm,24.6s						
WMQ				LR	LR		
	comp=Z,254nm,23.0s						
JIRN	Jiri	51.18	288	eP	P	18 36 29.7	+0.8
	comp=Z,16nm,0.7s,mb5.1						
PKI	Pulchoki	51.88	288	eP	P	18 36 35.1	+0.9
KKN	Kakani	51.96	288	eP	P	18 36 35.3	+0.5
	comp=Z,16nm,0.8s,mb5.0						
GKN	Gorkha	52.49	288	eP	P	18 36 39.0	+0.3
	comp=Z,16nm,0.8s,mb5.0						
ZAL	Zalesovo	52.97	321	P	P	18 36 41.5	-0.5
	comp=Z,1.8nm,0.5s,mb4.2,baz=4.0,slow=7.9,SNR=8.8						
ZAL				ScP		18 41 41.6	
	comp=Z,0.8nm,0.3s,baz=80,slow=3.3,SNR=3.7						
KOLN	Koldanda	53.43	288	eP	P	18 36 46.2	+0.4
	comp=Z,24nm,0.9s,mb5.1						
STKA	Stephens Creek	54.80	182	P	P	18 36 53.1	-2.6
	comp=Z,3.5nm,0.5s,mb4.7,baz=1.8,slow=7.3,SNR=12						
STKA				LR	LR	18 59 00.4	
	comp=Z,120nm,21.6s,baz=24,slow=35						
KURK	Kurchatov	56.30	316	P	P	18 37 06.0	-0.3
	comp=Z,45nm,0.8s,mb5.5,SNR=13						
KURK	Kurchatov	56.30	316	eP	P	18 37 05.6	-0.7
KURK				e	pP	18 37 22.4	-0.9
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
KURK	Kurchatov	56.30	316	eP	P	18 37 05.6	-0.7
	comp=Z,7.5nm,0.8s,mb4.8						
KURK				e	pP	18 37 22.4	-0.9
ULHL	Ulahol	57.90	306	P	P	18 37 19.0	+1.3
	SNR=7.1						
IMA	Indian Mountai	58.21	25	eP	P	18 37 20.3	+0.8
IMA				pmax	pmax		
	comp=Z,98nm,1.6s,mb5.6						
IMA	Indian Mountai	58.21	25	eP	P	18 37 20.3	+0.8
	comp=Z,98nm,1.6s,mb5.6						
TKM2	Tokmak 2	58.34	307	P	P	18 37 22.5	+1.7
	SNR=10						
KZA	Kyzart	58.65	306	P	P	18 37 25.0	+2.1
	SNR=7.0						
AAK	Ala-Archa	59.17	307	i P	P	18 37 24.5	-2.0
AAK	Ala-Archa	59.17	307	eP	P	18 37 25.3	-1.1
	comp=Z,5.8nm,1.1s,mb4.5						
UCH	Uchtor	59.19	306	P	P	18 37 28.6	+2.0
	SNR=7.1						
MCK	McKinley	59.71	29	eP	P	18 37 28.9	-1.0
MCK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
MCK	McKinley	59.71	29	eP	P	18 37 28.9	-1.0
	comp=Z,7.8nm,0.9s,mb4.7						
SML	Sawmill	59.71	31	P	P	18 37 29.6	-0.4
AML	Almayashu	59.80	306	P	P	18 37 33.1	+2.2
	SNR=8.0						
ILAR	Eielson Array	60.74	28	P	P	18 37 35.6	-1.3
	comp=Z,7.0nm,0.8s,mb4.8,baz=263,slow=6.0,SNR=56						
ILAR				pP	pP	18 37 52.5	-1.7
	comp=Z,2.6nm,0.8s,baz=263,slow=6.2,SNR=5.9						
ILAR				LR	LR	19 03 09.8	
	comp=Z,105nm,18.2s,baz=101,slow=35						
CHKZ	Chkalovo	61.31	320	eP	P	18 37 40.0	-1.0
CHKZ				e	pP	18 37 57.0	-1.1
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
CHKZ	Chkalovo	61.31	320	eP	P	18 37 40.0	-0.9
	comp=Z,9.3nm,1.0s,mb4.9						
CHKZ				e	pP	18 37 57.0	-1.1
BVAR	Borovoye Array	61.46	319	P	P	18 37 41.9	-0.1
	comp=Z,6.5nm,0.5s,mb5.0,baz=90,slow=7.4,SNR=42						
DAWY	Dawson	63.94	29	eP	P	18 37 58.5	+0.3
INK	Inuvik	66.23	24	eP	P	18 38 12.5	-0.4
INK				pmax	pmax		
	comp=Z,14nm,1.2s						
INK	Inuvik	66.23	24	P	P	18 38 12.7	-0.2
	comp=Z,9.4nm,1.0s,mb4.8,baz=270,slow=6.8,SNR=26						
INK	Inuvik	66.23	24	eP	P	18 38 12.5	-0.4
	comp=Z,14nm,1.2s,mb4.9						
SVE	Sverdlovsk	66.79	324	eP	P	18 38 17.0	+0.4
DLBC	Dease Lake	68.93	34	P	P	18 38 31.0	+1.1
	comp=Z,5.7nm,0.9s,mb4.5,baz=264,slow=4.5,SNR=9.5						
YKA	Yellowknife Ar	75.17	28	P	P	18 39 06.7	0.0
	comp=Z,4.2nm,0.6s,mb4.5,baz=291,slow=5.7,SNR=68						
YKA				LR	LR	19 11 16.2	
	comp=Z,182nm,18.1s,baz=290,slow=35						
ARCES	ARCESS Array B	77.46	341	P	P	18 39 19.5	0.0
	comp=Z,2.5nm,0.8s,mb4.2,baz=59,slow=7.1,SNR=5.6						
ARCES				LR	LR	19 17 56.4	
	comp=Z,147nm,20.1s,baz=192,slow=39						
YBH	Yreka Blue Hor	77.92	50	P	P	18 39 24.1	+1.5
	comp=Z,5.0nm,0.8s,mb4.5,baz=284,slow=1.5,SNR=13						
JOF	Joensuu	78.91	334	ep	P	18 39 26.4	-1.2
	comp=Z,6.4nm,0.7s,mb4.7						
CMB	Columbia Colle	80.93	53	eP	P	18 39 39.2	+0.2
CMB				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
CMB	Columbia Colle	80.93	53	eP	P	18 39 39.2	+0.2
	comp=Z,25nm,0.9s,mb5.1						
KIV	Kislovodsk	81.29	314	i P	P	18 39 38.8	-2.0
KIV				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.7						
KAF	Kangasniemi	81.31	335	ep	P	18 39 37.7	-2.8
	comp=Z,1.4nm,0.6s,mb4.1						
KAF	Kangasniemi	81.31	335	eP	P	18 39 37.7	-2.8
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FINES	FINESS Array B	81.77	334	P	P	18 39 42.2	-0.7
	comp=Z,1.4nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=12						
FINES				pP	pP	18 40 00.4	-0.4
	comp=Z,1.7nm,0.5s,baz=72,slow=6.0,SNR=5.0						
FINES				LR	LR	19 14 08.4	
	comp=Z,99nm,21.1s,baz=26,slow=34						
NVAR	Mina Array Bea	82.29	52	P	P	18 39 46.7	+0.6
	comp=Z,5.2nm,0.8s,mb4.5,baz=266,slow=5.0,SNR=26						

NVAR LR LR 19 14 56.8
comp=Z,99nm,18.9s,baz=270,slow=34
NVAR Mina Array Bea 82.29 52 P **P 18 39 46.7 +0.6**
MNV Mina 82.39 52 *e*P **P 18 39 47.3 +0.7**
MNV pmax pmax
comp=Z,11nm,1.4s,mb4.6
MNV Mina 82.39 52 *e*P **P 18 39 47.3 +0.8**
comp=Z,11nm,1.4s,mb4.6
HLID Hailey 82.86 46 *e*P **P 18 39 49.4 +0.5**
comp=Z,4.2nm,0.9s,mb4.5
ELK Elko 83.50 48 LR LR 19 12 33.1
comp=Z,163nm,19.3s,baz=328,slow=32
QLMT Earthquake Lak 84.24 44 P **P 18 39 56.2 +0.5**
FFC Flin Flon 84.60 32 P **P 18 39 58.1 +0.8**
comp=Z,138nm,1.0s,mb6.0,SNR=20
FFC Flin Flon 84.60 32 *e*P **P 18 39 58.1 +0.8**
FFC pmax pmax
comp=Z,26nm,0.9s,mb5.4
FFC Flin Flon 84.60 32 *e*P **P 18 39 58.1 +0.8**
comp=Z,26nm,0.9s,mb5.4
ARUT Antelope Range 86.04 51 *e*P **P 18 40 05.7 +0.9**
DAU Daniels Canyon 86.37 47 *e*P **P 18 40 07.8 +1.4**
PDAR Pinedale Array 86.39 45 P **P 18 40 06.5 +0.1**
comp=Z,0.9nm,0.9s,mb4.0,baz=284,slow=3.7,SNR=6.0
PDAR sP sP 18 40 29.7 -1.8
comp=Z,0.4nm,0.5s,baz=270,slow=4.4,SNR=3.3
PDAR LR LR 19 12 41.6
comp=Z,186nm,20.5s,baz=352,slow=31
MSU Marysvale 86.60 49 *e*P **P 18 40 08.9 +1.3**
HFS Hagfors 87.29 337 P **P 18 40 10.1 -0.3**
HFS *PP pP 18 40 26.9 -1.7
HFS Hagfors 87.29 337 P **P 18 40 10.0 -0.4**
comp=Z,1.2nm,0.5s,mb4.3,baz=127,slow=7.2,SNR=5.4
HFS pP pP 18 40 26.9 -1.7
comp=Z,1.0nm,0.5s,baz=90,slow=3.0,SNR=2.6
RAYN Ar Rayn 87.46 294 P **P 18 40 14.9 +2.8**
comp=Z,62nm,0.8s,SNR=12
NB2 NORSAR Subarra 87.50 339 P **P 18 40 10.1 -1.3**
comp=Z,9.2nm,1.1s,mb4.9,baz=48,slow=4.5
NB2 NORSAR Subarra 87.50 339 P **P 18 40 10.1 -1.3**
NB2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.9
NB2 NORSAR Subarra 87.50 339 P **P 18 40 10.1 -1.3**
baz=48,slow=4.6
NOA NORSAR Array B 87.50 339 P **P 18 40 10.7 -0.7**
NOA *PP pP 18 40 28.3 -1.3
NOA NORSAR Array B 87.50 339 P **P 18 40 10.6 -0.7**
comp=Z,1.9nm,0.9s,mb4.3,baz=45,slow=4.4,SNR=4.3
NOA pP pP 18 40 28.3 -1.2
comp=Z,3.5nm,0.9s,baz=50,slow=4.4,SNR=7.5
NOA LR LR 19 19 24.4
comp=Z,52nm,19.4s,baz=285,slow=36
PV10 Paradox Valley 88.84 48 *e*P **P 18 40 19.4 +1.1**
BRTR Keskin Array B 89.23 313 P **P 18 40 19.4 -0.7**
comp=Z,1.6nm,0.8s,mb4.4,baz=90,slow=2.5,SNR=8.9
BRTR pP pP 18 40 37.1 -1.2
comp=Z,2.4nm,0.9s,baz=90,slow=3.7,SNR=5.8
ULM Lac du Bonnet 90.24 33 P **P 18 40 24.8 +0.2**
comp=Z,2.0nm,0.8s,mb4.5,baz=281,slow=5.2,SNR=4.9
ULM Lac du Bonnet 90.24 33 P **P 18 40 24.8 +0.2**
CRVS Cervenica-Dubn 91.36 326 *i* pP pP 18 40 48.1 -0.1
ANMO Albuquerque 92.34 50 *i* P **P 18 40 35.0 +0.3**
ANMO Albuquerque 92.34 50 LR LR 19 20 33.9
comp=Z,157nm,18.5s,slow=34
VYHS Vyhne 92.96 327 *i* pP pP 18 40 55.7 +0.1
GERES GERESS Array B 95.23 329 pP pP 18 41 03.8 -2.1
comp=Z,1.0nm,0.8s,baz=63,slow=3.0,SNR=4.5
TXAR Lajitas Array 97.25 54 LR LR 19 18 32.4
comp=Z,132nm,21.6s,baz=40,slow=31
DBIC Dimbokro 136.81 310 PKP PKPdf 18 46 46.3 +0.2
comp=Z,5.2nm,1.2s,baz=271,slow=4.9,SNR=2.5
PLCA Paso Flores 146.82 130 PKPbc PKPbc 18 47 06.0 +1.4
comp=Z,3.6nm,0.7s,baz=255,slow=4.7,SNR=6.9
PLCA pPKPbc 18 47 23.9
comp=Z,10.0nm,0.6s,baz=230,slow=3.4,SNR=12
LPAZ La Paz 149.88 82 PKIKP PKPdf 18 47 15.5 +6.9
LPAZ 18 47 33.7
LPAZ La Paz 149.88 82 PKPbc PKPdf 18 47 15.5 +6.8
comp=Z,3.1nm,0.8s,baz=232,slow=3.8,SNR=11
LPAZ PKPab PKPab 18 47 21.4 0.0
comp=Z,3.6nm,1.0s,baz=329,slow=4.9,SNR=7.3
LPAZ pPKPbc 18 47 33.7
comp=Z,17nm,1.3s,baz=322,slow=5.8,SNR=6.1
LPAZ La Paz 149.88 82 PKPbc PKPdf 18 47 15.5 +6.8
LPAZ PKPab PKPab 18 47 21.4 0.0
LPAZ pPKPbc 18 47 33.7

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*LDG **15** 20:05:25.2±0.1, 19.18S×168.15E, h10^{km}, Mb5.1/3, Ms4.7/6, Error ellipse: s-maj=13.1km s-min=4.0km az=109.0*
*MOS **15** 20:05:26.6±1.2, 19.54S×168.56E, h33^{km}, mb5.2/22, MS4.5/9, Error ellipse: s-maj=12.9km s-min=10.4km az=25.7*
*BJI **15** 20:05:26.6, 19.12S×168.83E, h31^{km}, mB5.2, mb5.0, Ms4.9, Msz4.6*
*NEIC **15** 20:05:27.9±0.2, 19.47S×168.56E, mb5.2/36, MS4.7/56, Error ellipse: s-maj=7.1km s-min=5.5km az=141.0*
*HRVD **15** 20:05:27.9±0.3, 19.54S×168.32E, h30^{km}±1^{km}, MW5.2/63, Centroid moment Tensor Solution. LP body waves: s42,c66;Mantle waves: s63,c111; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.86±.24; $M_{\theta\theta}$-6.27±.17; $M_{\phi\phi}$3.41±.18; $M_{r\theta}$-1.47±.28; $M_{\theta\phi}$0.94±.14; $M_{\phi r}$-2.94±.30; Best double couple: $M_0$6.42×10^{16} NP1: ϕ_s132°,δ55°,λ152°. NP2:ϕ_s239°,δ68°,λ38°. Principal axes: T 6.315, Plg42°, Azm100°; N .211, Plg46°, Azm265°; P -6.526, Plg8°, Azm3°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BGS **15** 20:05:28.7±2.3, 19.47S×168.56E, h33^{km}*
*IDC **15** 20:05:28.4±0.6, 19.49S×168.59E, h35^{km}±4^{km}, mb4.7/22, mb1 4.8/22, mb1mx4.8/25, mbtmp4.9/22, MS4.4/20, Ms1 4.4/20, ms1mx4.3/27, Error ellipse: s-maj=15.4km s-min=12.9km az=119.0*
ISC 15 20:05:26.8±0.2**, 19.56S**±0.04×**168.53E**±0.04**, h37**^{km}**, h37**^{km}±1.9^{km}**:pP-P, n356,** σ1§**12**/134**, mb5.1**/65**, MS4.6**/82**, 13C-17D, Vanuatu Islands**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
DZM Mont Dzumac 3.17 218 *e*P **P 20 06 14.8 -0.7**
DZM *e*S **S 20 06 51.0 -1.6**
DZM Mont Dzumac 3.17 218 *e*P **P 20 06 14.8 -0.7**
DZM *e*S **S 20 06 51.0 -1.6**
NOUC Port Laguerre 3.27 219 *e*P **P 20 06 16.8 -0.2**
NOUC *e*S **S 20 06 54.2 -1.0**
NOUC Port Laguerre 3.27 219 *e*P **P 20 06 16.8 -0.2**
NOUC *e*S **S 20 06 54.2 -1.1**
HNR Honiara 13.04 319 *e*P **P 20 08 30.9 -1.4**
AFI Afiamalu 19.68 76 P **P 20 09 54.1 -1.6**
AFI pmax pmax
comp=Z,34nm,0.6s
AFI Afiamalu 19.68 76 P **P 20 09 54.1 -1.6**
comp=Z,34nm,0.6s
URZ Urewera 20.07 160 P **P 20 10 00.7 +0.8**
comp=Z,50nm,0.7s,baz=337,slow=4.7,SNR=23
URZ LR LR 20 16 47.6
comp=Z,2µm,20.2s,MS4.5,baz=0.1,slow=34
CTA Charters Tower 20.96 265 *e*P **P 20 10 10.4 +1.3**
comp=Z,58nm,1.0s
CTA *e*S S 20 14 16.0 +20
CTA Charters Tower 20.96 265 *e*P **P 20 10 10.4 +1.3**
CTA *e*S S 20 14 16.0 +20
CTA pmax pmax
comp=Z,58nm,1.0s
CTA Charters Tower 20.96 265 P **P 20 10 10.4 +1.3**
comp=Z,28nm,1.0s,baz=86,slow=13,SNR=17
CTA LR LR 20 17 35.4
comp=Z,680nm,19.5s,MS4.0,baz=94,slow=35
CTAO Charters Tower 20.96 265 *e*P **P 20 10 10.8 +1.7**
CTAO pmax pmax
comp=Z,72nm,1.1s
CTAO MLR MLR
comp=Z,690nm,21.0s,MS4.0
CTAO Charters Tower 20.96 265 *e*P **P 20 10 10.8 +1.7**
comp=Z,72nm,1.1s
CTAO LR LR
comp=Z,690nm,21.0s,MS4.0
SNZO South Karori 22.31 168 PFAKE 20 10 30.0 +7.5
SNZO LR LR
comp=Z,2µm,20.0s,MS4.6
PMG Port Moresby 22.99 293 *e*P **P 20 10 30.7 +1.2**
PMG pmax pmax
comp=Z,48nm,0.9s
PMG MLR MLR
comp=Z,1µm,20.0s
PMG Port Moresby 22.99 293 P **P 20 10 31.1 +1.6**
comp=Z,12nm,0.8s,mb4.4,baz=121,slow=10,SNR=7.0
PMG Port Moresby 22.99 293 *e*P **P 20 10 30.7 +1.2**
comp=Z,48nm,0.9s,mb4.9
PMG LR LR
comp=Z,1µm,20.0s,MS4.3
CNB Canberra Magne 23.08 223 *e*P **P 20 10 33.0 +2.9**
comp=Z,483nm,0.8s,mb6.0
RPZ Rata Peaks 24.18 176 P **P 20 10 43.1 +2.3**
comp=Z,10nm,0.7s,mb4.4,baz=360,slow=7.6,SNR=7.5
RPZ LR LR 20 18 40.3
comp=Z,870nm,21.5s,MS4.2,baz=340,slow=33
STKA Stephens Creek 27.11 238 P **P 20 11 08.8 +0.4**
comp=Z,6.2nm,0.5s,mb4.4,baz=66,slow=8.8,SNR=23
STKA PcP PcP 20 14 29.2 +0.3
comp=Z,12nm,0.8s,baz=70,slow=1.3,SNR=6.9
STKA LR LR 20 21 08.5
comp=Z,604nm,19.9s,MS4.2,baz=62,slow=35
STKA Stephens Creek 27.11 238 *e*P **P 20 11 08.6 +0.2**
STKA *e* 20 11 22.2
STKA *e*PcP PcP 20 14 28.3 -0.6
RAR Rarotonga 29.74 99 LR LR 20 21 09.5
comp=Z,684nm,18.5s,MS4.3,baz=239,slow=32
WB2 Warramunga Arr 32.13 263 ⇓*i*P **P 20 11 51.8 -1.5**
WRAB Tennant Creek 32.14 263 *i* P **P 20 11 51.7 -1.6**
WRAB Tennant Creek 32.14 263 *e*P **P 20 11 51.4 -1.9**
comp=Z,20nm,1.3s,mb4.8
WRAB LR LR
comp=Z,277nm,22.0s,MS3.9
WRA Warramunga Arr 32.15 263 P **P 20 11 52.0 -1.4**
comp=Z,8.5nm,0.9s,mb4.6,baz=102,slow=8.0,SNR=38
WRA PcP PcP 20 14 41.5 -0.5
comp=Z,3.8nm,0.7s,baz=94,slow=2.7,SNR=7.0
ASAR Alice Springs 32.40 256 P **P 20 11 54.7 -0.9**
comp=Z,57nm,0.6s,mb5.5,baz=85,slow=8.8,SNR=796
ASAR sP sP 20 12 10.0 -0.8
comp=Z,43nm,0.9s,baz=83,slow=9.0,SNR=10
ASAR PcP PcP 20 14 41.9 -0.7
comp=Z,3.9nm,0.9s,baz=96,slow=3.2,SNR=4.9
ASAR LR LR 20 24 47.7
comp=Z,574nm,18.4s,MS4.3,baz=90,slow=36
ASPA Alice Springs 32.40 256⇑*i*P **P 20 11 54.4 -1.2**
FORT Forrest 38.10 245 *e*P **P 20 12 44.2 +0.1**
comp=Z,927nm,0.7s
WAKE Wake Island 38.64 357 PFAKE 20 13 00.0 +11
WAKE LR LR
comp=Z,87µm,20.0s
TBI Tubuai 39.19 103 *e*P **P 20 12 51.0 -2.1**
comp=Z,64nm,1.0s,mb5.3
TBI *e*LQ 20 21 58.8
TBI *e*LR LR 20 23 44.5
comp=Z,1µm,30.2s,baz=262
PAE Paea 39.68 94 *e*P **P 20 12 55.4 -1.9**
comp=Z,42nm,1.1s,mb5.1
PPT Papeete 39.70 94 *e*P **P 20 12 55.7 -1.7**
comp=Z,20nm,1.2s,mb4.7
PPT Papeete 39.70 94 *e*LR LR 20 23 57.1
comp=Z,1µm,28.5s,baz=266
TIAR Tiarei 39.92 94 *e*P **P 20 12 57.6 -1.6**
comp=Z,77nm,1.0s,mb5.4
TVO Taravao 39.97 95 *e*P **P 20 12 58.0 -1.7**
comp=Z,34nm,1.0s,mb5.0
GUMO Guam 40.34 323 PFAKE 20 13 10.0 +7.2
GUMO LR LR
comp=Z,1µm,22.0s,MS4.7
FITZ Fitzroy Crossi 40.54 265⇓*i*P **P 20 13 04.9 +0.5**
comp=Z,39nm,0.8s,mb5.1
FITZ *e* pP 20 13 14.7 -0.3
MBWA Marble Bar 45.63 259 *e*P **P 20 13 45.5 -0.3**
comp=Z,63nm,1.0s,mb5.5
MBWA *e* pP 20 13 55.7 -0.8
MBWA LR LR
comp=Z,617nm,20.0s,MS4.5
KLBR Kellerberrin 46.97 245 *e*P **P 20 13 54.9 -1.3**
comp=Z,299nm,0.9s
NWAO Narrogin (SRO) 47.47 243 PFAKE 20 14 10.0 +10
NWAO LR LR
comp=Z,664nm,20.0s,MS4.6
TAOE Nuku Hiva Isla 50.71 85 *e*LR LR 20 29 07.1
RKT Rikitea 52.48 105 *e*LR LR 20 29 49.9
comp=Z,720nm,31.5s
VNDA Vanda 58.09 182 *e*P **P 20 15 17.8 -0.7**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA MLR MLR
comp=Z,502nm,20.0s
VNDA Vanda 58.09 182 P **P 20 15 18.3 -0.2**
comp=Z,3.3nm,0.6s,mb4.5,baz=2.6,slow=7.4,SNR=21
VNDA LR LR 20 36 20.4
comp=Z,295nm,20.8s,MS4.4,baz=344,slow=32
VNDA Vanda 58.09 182 *e*P **P 20 15 17.8 -0.7**
comp=Z,6.4nm,0.8s,mb4.7
VNDA LR LR
comp=Z,502nm,20.0s,MS4.6
SBA Scott Base 58.34 180 *e*P **P 20 15 20.9 +0.7**
SBA pmax pmax
comp=Z,31nm,0.8s,mb5.4
SBA Scott Base 58.34 180 *e*P **P 20 15 20.9 +0.6**
comp=Z,31nm,0.8s,mb5.4
JOW Kunigami 60.41 318 LR LR 20 37 30.9
comp=Z,188nm,21.2s,MS4.2,baz=339,slow=32
MAJO Matsushiro 62.72 333 PFAKE 20 16 00.0 +9.4
MAJO LR LR
comp=Z,250nm,22.0s,MS4.3
MAT Matsushiro 62.72 333 P **P 20 15 50.0 -0.6**
MAT pmax pmax
comp=Z,20nm,1.2s,mb5.1
MAT Matsushiro 62.72 333 P **P 20 15 50.0 -0.6**
comp=Z,20nm,1.2s,mb5.1
MAT Matsushiro 62.72 333 P **P 20 15 48.6 -2.0**
MAT *e*S **S 20 24 11.6 -3.4**
YHNB Yeheng 63.55 312 *e*P **P 20 15 55.2 -1.2**
TATO Taipei 63.67 312 PFAKE 20 16 10.0 +13
TATO LR LR
comp=Z,416nm,20.0s,MS4.6
ASAJ Asahikawa 67.67 340 P **P 20 16 22.5 +0.2**
comp=Z,27nm,1.1s,mb5.2,baz=184,slow=8.2,SNR=5.4
ASAJ LR LR 20 42 08.2
comp=Z,718nm,20.5s,MS4.9,baz=180,slow=32
SSE Sheshan 67.84 317 P **P 20 16 22.4 -1.2**
SSE S S 20 25 19.0 +1.2
SSE XS 20 25 34.5
SSE SS SS 20 29 42.6 +1.5
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.6
SSE AMB AMB
comp=Z,128nm,5.9s
SSE LR LR
comp=N,117nm,20.0s,MS4.3
SSE LR LR
comp=E,139nm,20.0s,MS4.3
SSE LR LR
comp=Z,111nm,28.6s
SSE Sheshan 67.84 317 P **P 20 16 22.4 -1.2**
comp=Z,40nm,0.7s,mb5.6
SSE S S 20 25 19.0 +1.2
SSE sS 20 25 34.5
SSE SS SS 20 29 42.6 +1.5
SSE LR LR
comp=Z,110nm,28.6s,MS3.9
INCN Inchon 69.10 325 PFAKE 20 16 40.0 +8.7
INCN LR LR
comp=Z,186nm,20.0s,MS4.3
QIZ Qiongzhong 69.15 300 PFAKE 20 16 40.0 +8.1
QIZ LR LR
comp=Z,195nm,21.0s,MS4.3
NJ2 Nanjing 69.97 316 *e*P **P 20 16 38.0 +1.3**
NJ2 AP pP 20 16 48.0 +0.1
NJ2 XP sP 20 16 53.0 +1.0
NJ2 PCP PcP 20 16 59.1 +0.1
NJ2 S S 20 25 47.0 +4.0
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
NJ2 AMB AMB
comp=Z,80nm,7.8s
NJ2 LR LR
comp=N,220nm,28.2s
NJ2 LR LR
comp=E,160nm,22.8s
NJ2 LR LR
comp=Z,140nm,25.8s,MS4.1
YSS Yuzh-Sakhalins 70.16 342 *e*P **P 20 16 38.0 +0.4**
YSS *e* pP 20 16 51.0 +2.2
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.9
YSS Yuzh-Sakhalins 70.16 342 P **P 20 16 37.8 +0.1**
comp=Z,38nm,1.0s,mb5.3
YSS LR LR
comp=Z,888nm,21.0s,MS5.0
QSPA South Pole Qui 70.50 180⇓*i*P **P 20 16 39.9 +0.8**
comp=Z,36nm,0.9s,mb5.3
QSPA P 20 16 55.0
WHN Wuhan 72.07 313 ⇓P **P 20 16 49.8 +0.5**
FX1 Attu Island--F 72.25 3 P **P 20 16 50.0 +0.1**
comp=Z,15nm,0.4s,mb5.2,baz=223,slow=2.7,SNR=6.6
MDJ Mudanjiang 73.08 332 P **P 20 16 55.1 -0.1**
MDJ AP pP 20 17 07.1 +0.7
MDJ XP sP 20 17 12.0 +1.6
MDJ PP PP 20 19 39.0 -1.2
MDJ S S 20 26 24.8 +6.1
MDJ AMB AMB
comp=Z,12nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,124nm,7.5s
MDJ LR LR
comp=N,60nm,30.9s,MS4.0
MDJ LR LR
comp=E,99nm,28.8s,MS4.0
MDJ LR LR
comp=Z,147nm,25.6s,MS4.2
MDJ Mudanjiang 73.08 332 *e*P **P 20 16 54.8 -0.3**
comp=Z,15nm,1.0s,mb4.9
MDJ LR LR
comp=Z,225nm,20.0s,MS4.5
TIA Tai'an 73.74 319 *e*P **P 20 16 59.0 -0.1**
CN2 Changchun 74.38 329 *e*P **P 20 17 02.5 -0.2**
CN2 *e*AP pP 20 17 16.3 +2.4
CN2 PCP PcP 20 17 18.8 +1.2
CN2 *e*XP sP 20 17 21.6 +3.6
CN2 *e*S S 20 26 29.5 -3.7
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,14.0s,MS4.8
CN2 LR LR
comp=E,200nm,14.0s,MS4.8
CN2 LR LR
comp=Z,270nm,15.0s,MS4.7
ENH Enshi 75.36 310⇑*e*P **P 20 17 08.1 -0.5**
comp=Z,21nm,0.9s,mb5.1
KLR Kul'dur 75.89 336 *e*P **P 20 17 08.8 -2.4**
UNV Unalaska Valle 76.20 15 PFAKE 20 17 20.0 +7.1
UNV LR LR
comp=Z,2µm,19.0s,MS5.5
NANT Nan 76.67 296 ⇑P **P 20 17 13.0 -3.3**
BJT Baijiatuau 76.75 321 *e*P **P 20 17 16.6 +0.3**
BJT *e* pP 20 17 27.2 -0.4
BJT pmax pmax
comp=Z,16nm,0.9s
BJT MLR MLR
comp=Z,397nm,19.0s
BJT Baijiatuau 76.75 321 *e*P **P 20 17 16.6 +0.2**
comp=Z,16nm,0.9s,mb4.9
BJT *e* pP 20 17 27.2 -0.4
BJT LR LR
comp=Z,397nm,19.0s,MS4.8
BJI Beijing 76.76 321 *e*P **P 20 17 16.8 +0.4**
BJI XP sP 20 17 27.4 -4.3
BJI AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
BJI LR LR
comp=N,290nm,21.2s,MS4.7
BJI LR LR
comp=E,261nm,21.2s,MS4.7
BJI LR LR
comp=Z,243nm,30.8s
BJI Beijing 76.76 321 *e*P **P 20 17 16.7 +0.3**
BJI *SP sP 20 17 27.4 -4.3
BJI 20 20 16.9
BJI S S 20 26 59.0 -0.5
BJI pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
BJI MLR MLR
comp=Z,240nm,30.8s,MS4.3
BJI Beijing 76.76 321 *e*P **P 20 17 16.7 +0.3**
comp=Z,9.0nm,1.1s,mb4.6
BJI sP sP 20 17 27.4 -4.3
BJI PP PP 20 20 16.9 +6.2
BJI S S 20 26 59.0 -0.5
BJI SS SS 20 32 12.7 +14
BJI LR LR
comp=Z,240nm,30.8s,MS4.3
XAN Xi'an 77.83 313 P **P 20 17 23.1 +0.6**
XAN AMB AMB
comp=Z,20nm,0.8s,mb5.1
KMI Kunming 77.87 302 P **P 20 17 24.4 +1.5**
KMI AP pP 20 17 33.6 -0.5
KMI XP sP 20 17 39.4 +1.2
KMI AMB AMB
comp=Z,15nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,148nm,6.5s
KMI LR LR
comp=N,143nm,15.9s,MS4.5
KMI LR LR
comp=E,161nm,18.0s,MS4.5
KMI LR LR
comp=Z,196nm,18.0s,MS4.5
KMI Kunming 77.87 302 P **P 20 17 24.4 +1.5**
comp=Z,15nm,1.3s,mb4.8
KMI pP pP 20 17 33.6 -0.5
KMI sP sP 20 17 39.4 +1.2
KMI S S 20 27 14.9 +3.1
KMI SS SS 20 32 06.3 -9.4
KMI LR LR
comp=Z,200nm,18.0s,MS4.5
MAW Mawson 77.89 202 P **P 20 17 23.6 +1.5**
comp=Z,18nm,0.7s,mb5.1,baz=123,slow=11,SNR=4.1
MAW LR LR 20 47 52.4
comp=Z,330nm,18.1s,MS4.7,baz=318,slow=33
CM31 Chiang Mai Arr 78.02 295 *e*P **P 20 17 24.7 +0.9**
comp=Z,10nm,1.0s,mb4.7
CMAR Chiang Mai Arr 78.02 295 P **P 20 17 25.1 +1.4**
comp=Z,6.7nm,0.8s,mb4.6,baz=129,slow=4.0,SNR=38
CMAR pP pP 20 17 35.0 0.0
comp=Z,2.8nm,0.8s,baz=166,slow=5.9,SNR=8.1
CMAR PKKPbc 20 36 22.9
comp=Z,1.1nm,0.7s,baz=277,slow=3.9,SNR=5.0
CMAR LR LR 20 49 34.9
comp=Z,57nm,21.7s,MS3.9,baz=120,slow=34
CHG Chiang Mai 78.17 295 ⇑P **P 20 17 25.3 +0.7**
comp=Z,12nm,1.0s,mb4.8
CD2 Chengdu 79.90 308 *e*P **P 20 17 34.0 +0.2**
HHC Hu-ho-hao-te 80.03 320 *e*P **P 20 17 35.5 +1.2**
HHC AP pP 20 17 46.1 +0.5
HHC XP sP 20 17 49.8 +0.2
HHC PP PP 20 20 37.3 -0.5
HHC AMB AMB
comp=Z,24nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,209nm,7.1s
HHC LR LR
comp=N,297nm,26.2s
HHC LR LR
comp=E,255nm,32.1s
HHC LR LR
comp=Z,271nm,23.2s,MS4.5
MA2 Magadan 80.17 351 *e*P **P 20 17 33.8 -0.9**
MA2 *e* pP 20 17 47.9 +1.9
MA2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MA2 Magadan 80.17 351 *e*P **P 20 17 33.2 -1.5**
comp=Z,9.9nm,0.9s,mb4.7
MA2 LR LR
comp=Z,438nm,20.0s,MS4.8
HIA Hailar 81.05 330 *e*P **P 20 17 39.2 -0.3**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA MLR MLR
comp=Z,276nm,21.0s
HIA Hailar 81.05 330 *e*P **P 20 17 39.2 -0.3**
comp=Z,3.8nm,0.6s,mb4.5
HIA LR LR
comp=Z,276nm,21.0s,MS4.6
LZH Lanzhou 82.44 312 *e*P **P 20 17 48.5 +1.5**

LZH AP pP 20 17 59.4 +1.0
LZH XP sP 20 18 04.0 +1.6
LZH AMB AMB
comp=Z,43nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,280nm,4.5s
LZH LR LR
comp=E,369nm,18.0s
LZH LR LR
comp=Z,530nm,20.0s,MS4.9
LZH Lanzhou 82.44 312 *e*P **P 20 17 48.5 +1.5**
comp=Z,43nm,1.4s,mb5.2
LZH pP pP 20 17 59.4 +1.0
LZH sP sP 20 18 04.0 +1.6
LZH LR LR
comp=Z,530nm,20.0s,MS4.9
SEY Seymchan 83.19 353 *e*P **P 20 17 52.2 +1.9**
SEY pmax pmax
comp=Z,40nm,1.1s,mb5.4
KDAK Kodiak Island 83.56 20 PFAKE 20 18 00.0 +7.8
KDAK LR LR
comp=Z,121nm,20.0s,MS4.3
SYO Syowa Base 84.44 196 ⇑P **P 20 17 55.7 -0.7**
ULN Ulaanbaatar 86.72 324 *e*P **P 20 18 08.8 +0.7**
ULN pmax pmax
comp=Z,19nm,1.0s,mb5.3
ULN MLR MLR
comp=Z,250nm,22.0s,MS4.6
ULN Ulaanbaatar 86.72 324 *e*P **P 20 18 08.8 +0.7**
comp=Z,19nm,1.0s,mb5.3
ULN LR LR
comp=Z,250nm,22.0s,MS4.6
TNA Tin City 86.73 10 *e*P **P 20 18 06.5 -1.2**
comp=Z,18nm,1.0s,mb5.3
TNA LR LR
comp=Z,198nm,19.0s,MS4.5
GTA Gaotai 86.86 314 *e*P **P 20 18 10.1 +1.1**
GTA AP pP 20 18 19.3 -1.2
GTA XP sP 20 18 23.6 -0.7
GTA AMB AMB
comp=Z,15nm,0.9s,mb5.2
GTA AMB AMB
comp=Z,104nm,5.7s
GTA LR LR
comp=N,198nm,14.8s,MS4.7
GTA LR LR
comp=E,167nm,17.5s,MS4.7
GTA LR LR
comp=Z,191nm,17.5s,MS4.6
YAK Yakutsk 86.97 343 *e*P **P 20 18 08.5 -0.5**
comp=Z,20nm,0.8s,mb5.4
YAK *e* pP 20 18 20.6 +0.2
YAK LR LR
comp=Z,557nm,20.0s,MS5.0
FIB Fire Island 87.00 19 PFAKE 20 18 20.0 +11
FIB LR LR
comp=Z,1μm,22.0s,MS5.3
SONM Songino Array 87.07 323 P **P 20 18 10.8 +1.0**
comp=Z,6.6nm,1.0s,mb4.8,baz=146,slow=4.5,SNR=15
SONM pP pP 20 18 21.7 +0.4
comp=Z,6.4nm,0.9s,baz=146,slow=4.5,SNR=7.6
BILL Bilibino 87.36 359^K *i*P **P 20 18 10.9 +0.2**
BILL *i* *PP pP 20 18 28.7 +6.5
BILL pmax pmax
comp=Z,50nm,1.3s,mb5.6
BILL Bilibino 87.36 359 *e*P **P 20 18 10.2 -0.5**
comp=Z,29nm,0.8s,mb5.6
CMB Columbia Colle 87.87 48 *e*P **P 20 18 13.7 -0.2**
comp=Z,13nm,0.8s,mb5.2
CMB LR LR
comp=Z,446nm,19.0s,MS4.9
YBH Yreka Blue Hor 88.00 44 P **P 20 18 15.4 +0.9**
comp=Z,15nm,0.8s,mb5.3,baz=171,slow=1.2,SNR=40
YBH Yreka Blue Hor 88.00 44 P **P 20 18 15.3 +0.9**
YBH LR LR
comp=Z,487nm,19.0s,MS4.9
HUMO Hull Mountain 88.25 43 *e*P **P 20 18 16.2 +0.6**
comp=Z,17nm,0.9s,mb5.3
HUMO LR LR
comp=Z,592nm,20.0s,MS5.0
LHEM Herd Peak 88.27 45 P **P 20 18 16.5 +0.8**
DIV Divide 88.36 20 PFAKE 20 18 30.0 +14
DIV LR LR
comp=Z,912nm,21.0s,MS5.2
LBCM Butte Creek Ri 88.48 46 P **P 20 18 17.3 +0.5**
BUOR Burton Butte 88.56 44 P **P 20 18 17.5 +0.4**
OMM Old Mammoth Mi 88.67 49 *e*P **P 20 18 18.0 +0.2**
SNAA Sanae 88.81 183⇓ *i*P **P 20 18 18.3 +0.7**
SNAA Sanae 88.81 183 *i* P **P 20 18 17.5 -0.1**
SNAA Sanae 88.81 183 P **P 20 18 17.9 +0.3**
comp=Z,6.5nm,0.8s,mb5.0,baz=164,slow=2.8,SNR=6.2
DAC Darwin (Calif) 89.11 51 PFAKE 20 18 30.0 +10
DAC LR LR
comp=Z,360nm,20.0s,MS4.8
LSA Lhasa 89.12 302 PFAKE 20 18 30.0 +10
LSA LR LR
comp=Z,133nm,19.0s,MS4.4
BOD Bodaibo 89.32 334 *e*P **P 20 18 19.7 -0.6**
MCK McKinley 89.36 18 PFAKE 20 18 30.0 +10
MCK LR LR
comp=Z,314nm,20.0s,MS4.7
BROR Big Rock Looko 89.37 42 P **P 20 18 21.5 +0.6**
IRO Indian Ridge 89.37 42 P **P 20 18 20.7 -0.2**
VNA3 Neumayer Olymp 89.43 181⇓ *i*P **P 20 18 23.1 +2.5**
NVAR Mina Array Bea 89.52 49 P **P 20 18 22.3 +0.6**
comp=Z,14nm,1.0s,mb5.2,baz=215,slow=5.7,SNR=45
NVAR LR LR 20 49 40.8
comp=Z,267nm,20.1s,MS4.7,baz=270,slow=30
MNV Mina 89.62 49 *e*P **P 20 18 22.3 0.0**
comp=Z,27nm,1.1s,mb5.5
MOD Modoc 89.67 45 PFAKE 20 18 30.0 +7.6
MOD LR LR
comp=Z,362nm,21.0s,MS4.8
VNA2 Neumayer--Watz 89.71 181⇓ *i*P **P 20 18 24.7 +2.8**
OOW Octopus West 89.98 39 P **P 20 18 25.6 +1.9**
IMA Indian Mountai 89.99 14 *e*P **P 20 18 22.6 -0.6**
comp=Z,32nm,1.3s,mb5.5
VNA1 Neumayer--Stat 90.01 181⇓ *i*P **P 20 18 26.3 +3.0**
BBB Bella Bella 90.11 33 P **P 20 18 24.4 +0.2**
comp=Z,11nm,0.7s,mb5.3,baz=230,slow=5.0,SNR=6.1
TPH Tonopah 90.14 49 *e*P **P 20 18 24.5 -0.1**
comp=Z,36nm,1.4s,mb5.5
ZAK Zakamensk 90.16 324⇑ *i*P **P 20 18 24.2 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.6
VBEM Beaver Butte 90.28 42 P **P 20 18 26.2 +1.0**
VLL Laurance Lake 90.41 41 P **P 20 18 26.8 +1.0**
COLA College 90.54 17 *e*P **P 20 18 23.8 -2.1**
COLA LR LR
comp=Z,305nm,19.0s,MS4.8
TLY Talaya 90.64 326 PFAKE 20 18 40.0 +13
TLY LR LR
comp=Z,39nm,20.0s,MS3.8
ILAR Eielson Array 90.73 18 P **P 20 18 24.9 -1.9**
comp=Z,3.8nm,0.7s,mb4.9,baz=240,slow=4.6,SNR=37
ILAR LR LR 20 52 22.9
comp=Z,249nm,21.2s,MS4.6,baz=206,slow=31
WVOR Wild Horse Val 91.01 45 *e*P **P 20 18 28.5 -0.2**
comp=Z,53nm,1.2s,mb5.7
BMN Battle Mountai 91.12 47 *e*P **P 20 18 29.0 -0.2**
comp=Z,26nm,1.0s,mb5.5
USHA Ushuaia 91.49 151 P **P 20 18 31.4 +0.8**
comp=Z,9.0nm,1.0s,mb5.0,baz=238,slow=6.7,SNR=3.4
USHA LR LR 20 50 41.3
comp=Z,318nm,19.2s,MS4.8,baz=180,slow=30
DAWY Dawson 92.53 20 *e*P **P 20 18 33.6 -1.5**
ELK Elko 92.63 48 P **P 20 18 36.6 +0.4**
comp=Z,4.4nm,1.1s,mb4.8,baz=213,slow=4.1,SNR=7.0
DLBC Dease Lake 92.63 28 P **P 20 18 35.3 -0.4**
comp=Z,10.0nm,1.0s,mb5.2,baz=244,slow=6.2,SNR=16
DLBC LR LR 20 52 48.0
comp=Z,304nm,21.7s,MS4.7,baz=82,slow=31
BMO Blue Mountains 92.92 43 P **P 20 18 36.4 -1.0**
comp=Z,6.0nm,1.1s,mb4.9
DUG Dugway 94.12 49 PFAKE 20 18 50.0 +7.1
DUG LR LR
comp=Z,673nm,19.0s,MS5.1
HLID Hailey 94.30 45 *e*P **P 20 18 43.9 +0.2**
comp=Z,6.2nm,1.0s,mb5.0
HLID LR LR
comp=Z,682nm,20.0s,MS5.1
TIXI Tiksi 94.92 348 PFAKE 20 19 00.0 +14
TIXI LR LR
comp=Z,400nm,21.0s,MS4.9
HWUT Hardware Ranch 95.52 48 PFAKE 20 19 00.0 +11
HWUT LR LR
comp=Z,1μm,19.0s,MS5.3
WMQ Urumqi 96.94 314⇓ *i*P **P 20 18 56.6 +0.9**
WMQ AP pP 20 19 10.0 +2.7
WMQ XP sP 20 19 15.0 +4.0
WMQ SKS SKS 20 29 29.0 +0.5
WMQ S S 20 30 12.0 +0.1
WMQ SS SS 20 36 53.0 +0.6
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,114nm,4.7s
WMQ LR LR
comp=N,415nm,21.8s,MS5.0
WMQ LR LR
comp=E,390nm,23.2s,MS5.0
WMQ LR LR
comp=Z,247nm,24.7s,MS4.6
YMR Madison River 97.02 45 P **P 20 18 56.2 +0.2**
ANMO Albuquerque 97.03 56 LR LR 20 56 57.9
comp=Z,170nm,21.8s,MS4.5,slow=32
INK Inuvik 97.06 19 LR LR 20 56 55.5
comp=Z,212nm,20.6s,MS4.6,baz=44,slow=32
PDAR Pinedale Array 97.32 47 LR LR 20 53 26.4
comp=Z,188nm,19.5s,MS4.6,baz=270,slow=30
LTX Lajitas 97.51 62 PFAKE 20 19 10.0 +11
LTX LR LR
comp=Z,954nm,21.0s,MS5.3
TXAR Lajitas Array 97.51 62 P **P 20 19 00.1 +1.4**
comp=Z,1.5nm,0.8s,mb4.6,baz=219,slow=5.8,SNR=2.4
TXAR LR LR 20 54 56.0
comp=Z,254nm,18.6s,MS4.7,baz=335,slow=30
SDCO Great Sand Dun 98.65 53 PFAKE 20 19 20.0 +16
SDCO LR LR
comp=Z,540nm,20.0s,MS5.0
PLCA Paso Flores 98.74 139 LR LR 20 53 44.7
comp=Z,130nm,19.9s,MS4.4,baz=359,slow=29
YKA Yellowknife Ar 101.26 27 P P 20 19 13.9 -0.9
comp=Z,1.2nm,0.6s,baz=254,slow=4.7,SNR=24
YKA pP 20 19 27.3
comp=Z,0.9nm,0.7s,baz=254,slow=5.0,SNR=5.6
YKA PKiKP 20 23 38.4
comp=Z,0.4nm,0.7s,baz=232,slow=1.1,SNR=3.1
YKA PKKPbc 20 35 24.6
comp=Z,0.4nm,0.6s,baz=68,slow=2.6,SNR=5.0
YKA Yellowknife Ar 101.26 27 P P 20 19 13.9 -0.9
YKA pP 20 19 27.3
ZAL Zalesovo 101.97 323 P P 20 19 17.3 -0.9
comp=Z,0.6nm,0.4s,slow=5.1,SNR=2.4
ZAL pP 20 19 29.4
comp=Z,0.5nm,0.3s,baz=202,slow=5.9,SNR=2.1
KURK Kurchatov 104.83 319 PFAKE 20 19 40.0 +9.2
KURK LR LR
comp=Z,43nm,19.0s,MS4.0
FFC Flin Flon 105.44 37 PFAKE 20 24 00.0
FFC LR LR
comp=Z,105nm,19.0s,MS4.4
MIAR Mount Ida 107.15 59 PFAKE 20 24 00.0
MIAR LR LR
comp=Z,751nm,22.0s,MS5.2
JTS JuntasAbangare 108.84 86 PFAKE 20 24 10.0
JTS LR LR
comp=Z,45nm,20.0s,MS4.0
OTAV Otavalo 111.73 98 PFAKE 20 24 10.0 +12
OTAV LR LR
comp=Z,235nm,20.0s,MS4.8
GOGA Godfrey 115.23 62 PFAKE 20 24 20.0 +15
GOGA LR LR
comp=Z,745nm,19.0s,MS5.3
ACSO Alum Creek Sta 116.30 54 PFAKE 20 24 20.0 +13
ACSO LR LR
comp=Z,1μm,19.0s,MS5.5
SADO Sadowa 119.26 49 PKP PKPdf 20 24 11.5 -0.8
comp=Z,7.1nm,0.8s,baz=263,slow=2.0,SNR=4.5
SADO Sadowa 119.26 49 PKP PKPdf 20 24 11.5 -0.8
BOSA Boshof 120.39 218 PFAKE 20 24 30.0 +15
BOSA LR LR
comp=Z,185nm,21.0s,MS4.7
FRB Frobisher Bay 121.74 26 PKP PKPdf 20 24 15.9 -0.8
comp=Z,1.4nm,0.3s,baz=112,slow=3.6,SNR=5.3
LBTB Lobatse 122.87 221 PFAKE 20 24 30.0 +10
LBTB LR LR
comp=Z,153nm,19.0s,MS4.7
KEV Kevo 124.67 345 *ep* PKPdf 20 24 22.6 +0.4
comp=Z,16nm,1.0s
KEV Kevo 124.67 345 *e*PKIKP PKPdf 20 24 22.6 +0.4
KEV pmax pmax
comp=Z,16nm,1.0s
WES Weston 125.06 52 PFAKE 20 24 40.0 +16
WES LR LR
comp=Z,2μm,22.0s
ARCES ARCESS Array B 125.20 345 PKP PKPdf 20 24 24.0 +0.8
comp=Z,4.8nm,0.4s,baz=75,slow=2.3,SNR=73
SCHQ Schefferville 125.56 36 PKP PKPdf 20 24 24.3 +0.1
comp=Z,2.9nm,0.7s,baz=270,slow=3.0,SNR=5.2
SCHQ Schefferville 125.56 36 PKP PKPdf 20 24 24.3 +0.1
WVL Waterville 126.02 49 PFAKE 20 24 40.0 +15
WVL LR LR
comp=Z,10μm,20.0s
JOF Joensuu 127.78 337 *ep* PKPdf 20 24 30.1 +1.8
comp=Z,6.1nm,0.6s
JOF Joensuu 127.78 337 *e*PKIKP PKPdf 20 24 30.1 +1.8
JOF pmax pmax
comp=Z,6.0nm,0.6s
LSZ Lusaka 127.84 231 PFAKE 20 24 40.0 +10
LSZ LR LR
comp=Z,153nm,19.0s,MS4.7
KMBO Kilima Mbogo 127.98 252 PKP PKPdf 20 24 32.6 +2.6
comp=Z,4.2nm,1.1s,baz=37,slow=2.4,SNR=9.4
KMBO sPKP 20 24 48.5
comp=Z,2.6nm,0.9s,baz=22,slow=3.9,SNR=6.2
KMBO Kilima Mbogo 127.98 252 PKP PKPdf 20 24 32.6 +2.6
KMBO sPKP 20 24 48.5
KMBO LR LR
comp=Z,162nm,20.0s,MS4.7
ZEI Tsey 128.30 309 *e*PKIKP PKPdf 20 24 24.0 -5.9
SJG San Juan 128.42 82 PKP PKPdf 20 24 30.7 -0.1
comp=Z,15nm,0.3s,baz=217,slow=5.1,SNR=12
SJG San Juan 128.42 82 *e*PKP PKPdf 20 24 30.4 -0.3
KIV Kislovodsk 128.97 311 *e*PKIKP PKPdf 20 24 31.7 +0.6
KIV Kislovodsk 128.97 311 *e*PKP PKPdf 20 24 31.7 +0.6
KIV LR LR
comp=Z,47nm,19.0s,MS4.2
OBN Obninsk 129.39 326 *e*PKIKP PKPdf 20 24 32.9 +1.3
OBN pmax pmax
comp=Z,21nm,1.5s
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.8
BDFB Brasilia 129.85 132 PKP PKPdf 20 24 33.6 +0.1
comp=Z,2.8nm,0.5s,baz=300,slow=1.7,SNR=3.8
KAF Kangasniemi 130.10 338 *ep* PKPdf 20 24 32.9 +0.2
comp=Z,0.6nm,0.4s
KAF Kangasniemi 130.10 338 *e*PKIKP PKPdf 20 24 32.9 +0.2
KAF pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 130.62 337 PKP PKPdf 20 24 34.1 +0.3
comp=Z,1.6nm,0.6s,baz=90,slow=2.8,SNR=9.7
FINES SKPbc 20 27 56.2
comp=Z,7.3nm,0.8s,baz=72,slow=6.0,SNR=21
TSUM Tsumeb 132.08 218 PFAKE 20 24 50.0 +12
TSUM LR LR
comp=Z,195nm,20.0s,MS4.8
MBAR Mbarara 134.02 249 PFAKE 20 24 50.0 +8.5
MBAR LR LR
comp=Z,43nm,20.0s,MS4.2
NB2 NORSAR Subarra135.57 344 PKPabc PKPdf 20 24 44.8 +1.8
comp=Z,1.2nm,0.7s,baz=42,slow=2.6
NOA NORSAR Array B 135.57 344 PKP PKPdf 20 24 43.7 +0.7
comp=Z,2.9nm,0.9s,baz=31,slow=1.9,SNR=6.0
NOA sPKP 20 24 59.1
comp=Z,1.3nm,0.9s,baz=319,slow=3.6,SNR=2.6
NOA SKPbc 20 28 13.7
comp=Z,1.4nm,0.9s,baz=32,slow=2.1,SNR=4.1
NOA NORSAR Array B 135.57 344 PKP PKPdf 20 24 43.7 +0.7
NOA sPKP 20 24 59.1
NOA SKPbc 20 28 13.7
BRTR Keskin Array B 136.47 307 PKP PKPdf 20 24 46.5 +1.3
comp=Z,0.4nm,0.4s,baz=180,slow=1.2,SNR=4.6
MLR Muntele Rosu 139.76 319 PKP PKPdf 20 24 52.2 +1.1
comp=Z,1.4nm,0.6s,baz=354,slow=2.1,SNR=3.1
CRVS Cervenica-Dubn 140.56 326 *e*PKP PKPdf 20 24 54.7 +2.3
CRVS *i* SKPDF 20 28 27.3
OKC Ostrava-Krasne 141.66 329 *e*PKPDF PKPdf 20 24 55.6 +1.3
OKC *e*SKP 20 28 31.6
MORC Moravsky Berou 142.00 329 *e*PKP PKPdf 20 24 53.1 -1.8
DPC Dobruska-Polom 142.18 331 *e*PKPDF PKPdf 20 24 53.8 -1.4
DPC *e*SKP 20 28 33.1
VYHS Vyhne 142.19 327 *e*PKP PKPdf 20 24 55.8 +0.6
UPC Upice 142.21 331 *e*PKPDF PKPdf 20 24 54.1 -1.1
UPC *e*SKP 20 28 33.0
PVCC Panska Ves 142.84 332 *e*PKPDF PKPdf 20 25 02.1 +5.8
PVCC *e*SKP 20 28 34.3
BRG Berggiesshubel 142.85 333 *e*PKIKP PKPdf 20 24 55.4 -0.9
BRG pmax pmax
comp=Z,5.0nm,0.9s
CLL Collm 142.92 334 *i* PKIKP PKPdf 20 24 57.2 +0.8
CLL pmax pmax
comp=Z,14nm,1.3s
CLL Collm 142.92 334 *i* PKIKP PKPdf 20 24 57.2 +0.8
comp=Z,logA/T=1.0
CLL *i* 20 28 33.9
PRU Pruhonice 143.24 332 *e*PKPDF PKPdf 20 24 58.0 +1.0
PRU *e*SKP 20 28 35.3
ZST Bratislava 143.26 328 *i* PKP PKPdf 20 24 59.5 +2.4
NKC Novy Kostel 143.97 334 *e*PKPDF PKPdf 20 24 57.7 -0.5
NKC *e*SKP 20 28 36.9
MOX Moxa 143.99 335 *e*PKIKP PKPdf 20 24 57.6 -0.6
MOX pmax pmax
comp=Z,21nm,1.5s
MOX Moxa 143.99 335 *e*PKP PKPdf 20 24 57.6 -0.6
MOX *e* 20 28 37.0
MOX Moxa 143.99 335 *i* P PKPbc 20 24 57.6 +0.2
comp=Z,logA/T=1.1
MOX PP PP 20 28 37.0 +21
KHC Kasperske Hory 144.30 332 *i* PKIKP PKPdf 20 24 58.7 -0.2
KHC Kasperske Hory 144.30 332 *e*PKPDF PKPdf 20 24 58.3 -0.6
KHC *e*SKP 20 28 36.3
GERES GERESS Array B 144.45 331 PKP PKPdf 20 25 00.1 +1.0
comp=Z,4.2nm,0.7s,baz=34,slow=3.5,SNR=32
GERES SKPbc 20 28 36.7
comp=Z,3.5nm,0.9s,baz=56,slow=3.5,SNR=13
ARSA Arzberg 144.69 328⇑ *i*P PKPbc 20 24 59.8 +0.3
GRA1 Grafenberg Arr 144.89 334 *e*PKPbc PKPbc 20 25 00.7 +0.7
GRF Grafenberg Arr 144.89 334 *e*PKIKP PKPdf 20 25 00.7 +0.8
MOA Molln 144.90 329⇑ *i*P PKPdf 20 25 00.6 +0.6
GVD Gavdhos 145.11 303 *e*PKP PKPdf 20 25 01.5 +0.7
RCBR Riachuelo 145.15 134 *e*PKP PKPdf 20 25 00.6 -0.9
RCBR LR LR
comp=Z,250nm,19.0s,MS5.0
PERS Pernice 145.31 327 *e*PKP PKPdf 20 25 02.0 +1.3
DMUB Kingscourt 145.54 355 *e*P PKPdf 20 25 02.3 +1.4
TNS Taunus Mts 145.54 337 *e*PKPbc PKPbc 20 25 02.5 +0.9
TNS *e* 20 28 39.9
OBKA Obir 145.68 327⇑ *i*P PKPdf 20 25 02.9 +1.5
WME Myndd Eilian 145.77 352⇓ *e*P PKPdf 20 25 02.9 +1.6
WME AMb AMB 20 25 03.8
comp=Z,59nm,0.8s
WCB1 Church Bay 145.82 353⇓ *e*P PKPdf 20 25 02.8 +1.5
WCB1 AMb AMB 20 25 03.8
comp=Z,93nm,1.3s
WPM1 Penmaenmawr 145.86 352⇓ *e*P PKPdf 20 25 03.3 +1.8
WPM1 AMb AMB 20 25 04.7
comp=Z,267nm,1.5s
KBA Koelnbreinsper 145.88 329⇑ *i*P PKPdf 20 25 02.9 +1.2
WLF1 Llynfaes 145.89 352 *e*P PKPdf 20 25 03.3 +1.8
TOD Tromm 145.91 336 PKP PKPdf 20 25 03.6 +2.0
YRC Rhoscolyn 145.95 353⇓ *e*P PKPdf 20 25 03.1 +1.6
YRC AMb AMB 20 25 04.3
comp=Z,195nm,1.1s
YLL Llanberis 146.01 352⇓ *e*P PKPdf 20 25 03.4 +1.7
YLL AMb AMB 20 25 05.2
comp=Z,195nm,1.5s
LJU Ljubljana 146.01 327 *e*PKP PKPdf 20 25 04.2 +2.3
LJU *e*PP PP 20 28 42.1 +14
FUR Furstenfeldbru 146.04 332 *e*PKP2 PKPab 20 25 03.2 -2.2
DLF Lyons Farm 146.11 355 *e*P PKPdf 20 25 03.9 +2.0
DCN Croghan 146.12 355 *e*P PKPdf 20 25 04.2 +2.3
STON Ston 146.19 320 *i* PKP PKPdf 20 25 04.0 +1.7
YRE Yr Eifl 146.19 352 *e*P PKPdf 20 25 04.0 +2.0
VOY Vojsko 146.34 327 *e*PKP PKPdf 20 25 03.8 +1.3
VOY *e* 20 25 20.2
STU Stuttgart 146.43 335 *e*PKP PKPdf 20 25 03.1 +0.5
RUP Ruppelstein 146.47 338 PKP PKPdf 20 25 05.7 +3.1
WTTA Wattenberg 146.55 331⇑ *i*P PKPdf 20 25 05.9 +3.1
MOTA Moosalm 146.73 332⇑ *i*P PKPdf 20 25 06.2 +3.1
SQTA Sankt Quirin 146.78 331⇓ *i*P PKPdf 20 25 06.4 +3.2
LANF Langenberg 146.80 337 PKP PKPdf 20 25 06.7 +3.5
WLF Walferdange 146.82 339 *e*PKPbc PKPbc 20 25 07.0 +2.3
GIVF Givet 146.87 341 *e*PKP1 PKPbc 20 25 06.2 +1.4
BAIF Baives 147.10 341 *e*PKP1 PKPdf 20 25 07.1 +3.5
comp=Z,78nm,1.1s
BFO Black Forest 147.13 335 *e*PKP2 PKPab 20 25 07.3 -2.4
DAVA Damuels 147.32 333⇑ *i*P PKPdf 20 25 07.9 +3.8
WLS Welschbruch 147.44 336 PKP PKPdf 20 25 08.1 +3.9
CDF Champ du Feu 147.47 337 *e*PKP1 PKPdf 20 25 08.2 +3.9
comp=Z,29nm,0.7s
ECH Echery 147.68 336 PKP PKPdf 20 25 08.1 +3.5
BRMO Bormio 147.72 331 *e*PKP PKPdf 20 25 09.6 +4.9
MOF Molkenrain 147.99 336 PKP PKPdf 20 25 09.2 +4.1
LTRZ Laterza 147.99 317 *e*PKP PKPdf 20 25 10.2 +4.8
THEF They Montfort 148.10 338 PKP PKPdf 20 25 09.7 +4.4
HINF Hinteralfeld 148.12 336 *e*PKP1 PKPdf 20 25 09.8 +4.5
comp=Z,52nm,1.2s
HAU Haudompre 148.15 337 *e*PKP1 PKPdf 20 25 09.7 +4.3
comp=Z,20nm,0.7s
HAU *e*R
comp=Z,322nm,18.5s
MEZF Maizieres J'vi 148.19 339 *e*PKP1 PKPdf 20 25 10.4 +5.0
comp=Z,68nm,0.8s
LOMF Lomont 148.52 336 PKP PKPdf 20 25 10.7 +4.7
ARV Arcevia 148.55 325 *e*PKP PKPdf 20 25 07.9 +1.7
SNTG Esanatoglia 148.71 324 *e*PKP PKPdf 20 25 11.6 +5.1
MRLC Muro Lucano 148.75 318 *e*PKP PKPdf 20 25 11.7 +5.1
TIP Timpagrande 148.78 315 *e*PKPbc PKPdf 20 25 12.0 +5.3
SFI Santa Sofia 148.86 326 *e*PKP PKPdf 20 25 09.0 +2.4
NRCA Norcia 148.89 324 *e*PKP PKPdf 20 25 07.9 +1.2
VAI Varese 148.90 332 *e*PKP PKPdf 20 25 11.7 +5.0
PGD Poggio Sodo 148.94 326 *e*PKP PKPdf 20 25 13.1 +6.3
SGO Sicignano 148.97 318 *e*PKP PKPdf 20 25 12.2 +5.3
VMG Vicchio 148.98 327 *e*PKP PKPdf 20 25 12.8 +6.0
CSSN Cassano Irpino 148.98 319 *e*PKP PKPdf 20 25 12.0 +5.0
AQU L'Aquila 149.04 323 *e*PKP PKPdf 20 25 13.8 +6.8
MCGN Macugnaga 149.17 333 *e*PKP PKPdf 20 25 12.9 +5.8
GSCL Gusciola 149.18 328 *e*PKP PKPdf 20 25 12.8 +5.7
SDI San Donato 149.21 321 *e*PKP PKPdf 20 25 12.4 +5.1
PTQR Pietraquaria 149.25 322 *e*PKP PKPdf 20 25 08.9 +1.5
BDI Bagni Di Lucca 149.39 328 *e*PKP PKPdf 20 25 12.3 +4.8
CABF La Chapelle 149.41 336 *e*PKP1 PKPdf 20 25 13.4 +5.9
MNS Montasola 149.43 323 *e*PKP PKPdf 20 25 12.8 +5.2
BOB Bobbio (Coli) 149.43 330 *e*PKP PKPdf 20 25 13.9 +6.4
FLN La Foliniere 149.55 346 *e*PKP1 PKPdf 20 25 13.0 +5.4
comp=Z,104nm,1.0s
FLN *e*R
comp=Z,447nm,17.2s
LDF La Druitiere 149.62 345 *e*PKP1 PKPdf 20 25 13.2 +5.5
comp=Z,55nm,0.9s
PII Pisa 149.67 327 *e*PKP PKPdf 20 25 12.8 +4.9
SOI Samo 149.81 314 *e*PKP PKPdf 20 25 14.8 +6.5
SSF Saint Saulge 149.96 339 *e*PKP1 PKPdf 20 25 14.5 +6.2
comp=Z,101nm,1.1s
GRR Gorron 149.98 346 *e*PKP1 PKPdf 20 25 14.4 +6.1
comp=Z,119nm,1.1s
LPL La Plagne 150.05 334 *e*PKP1 PKPdf 20 25 15.1 +6.6
comp=Z,55nm,1.2s
HYF Humbligny 150.06 341 *e*PKP1 PKPdf 20 25 15.0 +6.5
LPG La Plagne 150.06 334 *e*PKP1 PKPdf 20 25 15.3 +6.8
SMF Signal de Mont 150.21 339 *e*PKP1 PKPdf 20 25 14.9 +6.2
comp=Z,86nm,1.4s
AVF Avril sur Loir 150.25 339 *e*PKP1 PKPdf 20 25 14.8 +6.0
comp=Z,48nm,1.2s
SLNA Salina 150.38 315 *e*PKP PKPdf 20 25 15.0 +5.8
BNI Bardonecchia 150.45 333 *e*PKPbc PKPdf 20 25 16.4 +7.3
SGMF Saint Gilles 150.48 348 *e*PKP1 PKPdf 20 25 15.2 +6.1
comp=Z,106nm,1.0s
ROSF Rostrenen 150.53 349 *e*PKP1 PKPdf 20 25 15.2 +6.1
comp=Z,64nm,0.9s
GDM Grand'Maison 150.56 334 PKP PKPdf 20 25 16.8 +7.5
BGF Bois d'Agland 150.62 340 *e*PKP1 PKPdf 20 25 15.9 +6.6
comp=Z,80nm,1.1s
MBDF Montbardon 150.67 333 *e*PKP1 PKPdf 20 25 16.0 +6.5
GRN Grenoble 150.68 335 PKP PKPdf 20 25 17.0 +7.5
SURF Saint Ours 150.85 333 PKP PKPdf 20 25 17.3 +7.6
PLDF La Plantade 150.87 338 PKP PKPdf 20 25 16.8 +7.1
ORIF Oris-en-Rattie 150.89 334 *e*PKP1 PKPdf 20 25 16.7 +6.9
comp=Z,28nm,0.7s
ORIF *e*R
comp=Z,261nm,20.2s
SAOF Saorge 150.90 331 PKP PKPdf 20 25 16.7 +6.9
QUIF Quistinic 150.92 348 *e*PKP1 PKPdf 20 25 16.2 +6.5
comp=Z,24nm,0.7s

AUTN	L'Aution	150.95	331	PKP	PKPdf	20 25 17.2	+7.3
AGO	Saint Agoulin	150.96	339	PKP	PKPdf	20 25 17.0	+7.1
TOUF	Mont Tournerai	151.02	331	PKP	PKPdf	20 25 17.2	+7.2
SBF	Sospel	151.05	331	ePKP1	PKPdf	20 25 16.6	+6.5
	comp=Z,50nm,0.9s						
TCF	Toulx Ste Croi	151.06	340	ePKP1	PKPdf	20 25 17.1	+7.1
	comp=Z,78nm,1.1s						
MVIF	Mont Vial	151.16	331	PKP	PKPdf	20 25 17.4	+7.2
PGF	Pioggiola	151.29	327	ePKP1	PKPdf	20 25 17.5	+7.0
	comp=Z,74nm,0.8s						
CALN	Calern	151.39	332	PKP	PKPdf	20 25 17.0	+6.4
VIVF	Saint-Julien-l	151.42	336	ePKP1	PKPdf	20 25 17.9	+7.3
	comp=Z,49nm,1.2s						
MFF	Saint Martin d	151.47	344	ePKP1	PKPdf	20 25 17.7	+7.1
	comp=Z,94nm,1.1s						
STOF	St-Etienne Org	151.62	333	PKP	PKPdf	20 25 18.7	+7.8
LBL	Lubilhac	151.63	338	PKP	PKPdf	20 25 18.9	+8.0
FRF	La Foret Royal	151.65	332	ePKP1	PKPdf	20 25 18.0	+7.0
	comp=Z,14nm,0.6s						
SMRF	Simiane la Rot	151.78	333	ePKP1	PKPdf	20 25 19.0	+7.8
	comp=Z,86nm,1.4s						
VILF	Villemus	151.82	333	PKP	PKPdf	20 25 19.4	+8.2
TAVF	Tavernes	151.86	332	PKP	PKPdf	20 25 19.4	+8.1
LMR	La Mourre	151.89	331	ePKP1	PKPdf	20 25 18.6	+7.3
	comp=Z,32nm,0.9s						
PUYF	Puyloubier	152.09	333	PKP	PKPdf	20 25 19.6	+8.0
PRAF	Pradon	152.09	334	PKP	PKPdf	20 25 19.6	+8.0
TREF	Trevaresse	152.15	333	PKP	PKPdf	20 25 19.8	+8.1
RJF	Les Rejaudoux	152.16	340	ePKP1	PKPdf	20 25 19.6	+7.9
	comp=Z,36nm,1.0s						
RJF				eR			
	comp=Z,453nm,18.5s						
BERF	Bertagne	152.27	332	PKP	PKPdf	20 25 20.1	+8.2
CAF	Calviac	152.31	339	ePKP1	PKPdf	20 25 20.1	+8.2
	comp=Z,15nm,1.1s						
GELF	Grande-Etoile	152.32	333	PKP	PKPdf	20 25 19.8	+7.8
LASF	Ste Croix	152.40	336	ePKP1	PKPdf	20 25 20.2	+8.2
	comp=Z,45nm,1.2s						
LFF	La Frestale	152.73	341	ePKP1	PKPdf	20 25 20.8	+8.3
	comp=Z,26nm,0.9s						
MTLF	Montolieu	153.64	337	ePKP1	PKPdf	20 25 22.7	+8.9
	comp=Z,21nm,1.2s						
EPF	Esparros	154.57	340	ePKP1	PKPdf	20 25 25.0	+10
ETSF	Etsaut	154.97	341	ePKP1	PKPdf	20 25 26.3	+11
SJPF	Ste Jean	154.98	342	ePKP1	PKPdf	20 25 24.9	+9.3
	comp=Z,18nm,1.2s						
PBRG	Braganca	157.46	351	ePKPab	PKPab	20 25 52.5	-0.6
PVRL	Vila Real	158.12	352	ePKPab	PKPab	20 25 55.2	-0.7
PVIS	Viseu	158.69	352	ePKPab	PKPab	20 25 57.7	-0.7
ESDC	Sonseca Array	158.93	344	PKPab	PKPab	20 25 58.3	-1.2
	comp=Z,1.5nm,0.9s,slow=5.1,SNR=3.8						
MTE	Manteigas	158.96	352	ePKPdf	PKPdf	20 25 23.3	+2.5
MTE				ePKPab	PKPab	20 25 58.9	-0.6
PCBR	Castelo Branco	159.50	351	ePKPdf	PKPdf	20 25 22.3	+0.8
PCBR				ePKPab	PKPab	20 26 01.1	-0.8
PTOM	Tomar	159.84	353	ePKPab	PKPab	20 26 02.7	-0.6
EVO	Evora	160.86	352	ePKIKP	PKPdf	20 25 24.6	+1.7
	comp=Z,23nm,1.1s						
PBEJ	Beja	161.33	351	ePKPdf	PKPdf	20 25 25.6	+2.2
PBEJ				ePKPab	PKPab	20 26 09.3	-0.6
PTEO	Sao Teotonio	161.92	353	ePKPab	PKPab	20 26 10.4	-2.1
DBIC	Dimbokro	165.66	208	PKPab	PKPab	20 26 29.5	0.0
	comp=Z,6.3nm,0.8s,baz=140,slow=6.1,SNR=8.1						
DBIC	Dimbokro	165.66	208	PFAKE		20 25 40.0	+12
DBIC				LR	LR		
	comp=Z,231nm,22.0s						

*NEIC **15** 20:07:00.7±0.5,24.11S×66.74W,h170km±4km,mb5.1/107, Error ellipse: s-maj=4.8km s-min=3.5km az=62.0*

*HRVD **15** 20:07:00.7±0.3,24.18S×67.01W,h200km±2km,MW5.2/64, Centroid moment Tensor Solution. LP body waves: s35,c44;Mantle waves: s64,c103; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.54±.23; $M_{\theta\theta}$0.57±.29; $M_{\phi\phi}$4.97±.34; $M_{r\theta}$-1.42±.21; $M_{\theta\phi}$1.63±.28; $M_{\phi r}$-4.34±.25; Best double couple: $M_0$7.167×10^{16} NP1: ϕ_s198°,δ25°,λ-90°. NP2:ϕ_s18°,δ65°,λ-90°. Principal axes: T 7.151, Plg20°, Azm108°; N .033, Plg0°, Azm18°; P -7.183, Plg70°, Azm288°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **15** 20:07:00.0,24.10S×67.48W,h172km,mB5.3*

*MOS **15** 20:07:01.2±1.7,24.02S×66.94W,h185km,mb5.6/11, Error ellipse: s-maj=19.9km s-min=8.4km az=100.1*

*IDC **15** 20:07:01.9±0.9,24.03S×66.72W,h178km±7km,mb4.8/27, mb1 4.9/31,mb1mx4.9/31,mbtmp5.2/31,Error ellipse: s-maj=12.8km s-min=8.3km az=76.0*

*GUC **15** 20:07:02.4±1.0,24.40S×67.13W,h180km,ML5.4*

*LDG **15** 20:07:04.5±0.7,23.41S×67.01W,h200km,Mb4.9/29, Ms3.4/1,Error ellipse: s-maj=47.6km s-min=18.2km az=73.0*

ISC 15 20:06:59.7±0.5**,24.09S**±0.03×**66.80W**±0.04**,h172**km±4km**, n383,**σ**1.02**/272**,mb5.1**/138**,18C-29D,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPCH	San Pedro de A	1.74	312⇑	iP	P	20 07 38.5	+4.8
SPCH				iS	S	20 08 05.8	+5.7
SPCH				AMP		20 08 19.1	
	comp=E,8μm,0.6s						
LVC	Limon Verde	2.43	307	eP	P	20 07 44.8	+3.1
LVC				iS	S	20 08 17.2	+3.2
LVC				AMP		20 08 18.7	
	comp=E,13μm,0.9s						
LVC	Limon Verde	2.43	307	P	P	20 07 44.9	+3.2
	comp=E,775nm,0.3s,baz=130,slow=7.1,SNR=9538						
LVC				S	S	20 08 17.1	+3.1
	comp=E,2μm,0.3s,baz=287,slow=20,SNR=37						
LVC	Limon Verde	2.43	307⇑	ePn	P	20 07 44.7	+3.0
LVC				eSn	S	20 08 17.1	+3.1
ANCH	Antofagasta	3.33	276⇑	iP	P	20 07 53.9	+1.2
ANCH				iS	S	20 08 32.6	-0.9
ANCH				AMP		20 08 37.6	
	comp=N,19μm,0.5s						
CPN1	Cerro Paranal	3.33	260	eP	P	20 07 53.2	+0.5
CPN1				iS	S	20 08 31.6	-1.9
CPCH	Copiapo	4.57	224	eP	P	20 08 07.1	-1.6
LCO	Las Campanas	6.02	215	eP	P	20 08 25.5	-2.2
LCO				iS	S	20 09 29.5	-6.5
CFAA	Coronel Fontan	7.60	189	P	P	20 08 48.2	-0.4
	comp=N,2.2nm,0.3s,baz=13,slow=8.7,SNR=87						
CFAA				S	S	20 10 07.5	-6.1
	comp=N,6.2nm,0.3s,baz=249,slow=18,SNR=15						
ZON	Zonda	7.61	192	eP	P	20 08 48.5	-0.3
ZON				eS	S	20 10 08.5	-5.4
LPAZ	La Paz	7.86	351⇑	eP	P	20 08 54.4	+2.3
LPAZ	La Paz	7.86	351	P	P	20 08 54.5	+2.4
	comp=N,17nm,0.3s,baz=156,slow=10,SNR=172						
LPAZ				S	S	20 10 21.7	+2.0
	comp=N,2.7nm,0.3s,baz=328,slow=23,SNR=8.8						
ARE	Arequipa	8.77	329	eP	P	20 09 02.0	-2.0
ARE				eS	S	20 10 47.0	+5.8
TRQA	Tornquist	14.52	165	eP	P	20 10 15.7	-2.4
TRQA				eS	S	20 13 01.8	+7.0
NNA	Nana	15.35	320⇑	eP	P	20 10 29.4	+0.7
	comp=N,112nm,0.9s						
PLCA	Paso Flores	16.89	190	P	P	20 10 46.7	-0.7
	comp=N,0.6nm,0.3s,baz=9.0,slow=12,SNR=20						
PLCA				PcP	PcP	20 15 24.1	-0.7
	comp=N,0.4nm,0.3s,baz=189,slow=2.8,SNR=5.3						
PLCA				ScP		20 18 41.8	
	comp=N,0.1nm,0.3s,baz=349,slow=4.2,SNR=4.1						
PLCA	Paso Flores	16.89	190	P	P	20 10 46.7	-0.7
PLCA				PcP	PcP	20 15 24.1	-0.7
PLCA				ScP		20 18 41.8	
BDFB	Brasilia	19.55	68	P	P	20 11 16.4	+0.3
	comp=N,17nm,0.3s,baz=249,slow=10,SNR=147						
BAO	Brasilia Array	19.57	68⇑	iP	P	20 11 16.3	-0.1
BAO				S	S	20 14 47.3	+4.4
CAM4	Nova Friburgo	22.34	90	eP	P	20 11 44.9	+1.1
CAM4				i		20 11 46.1	
OTAV	Otavalo	26.69	333	eP	P	20 12 25.9	+1.0
	comp=N,15nm,1.2s,mb4.5						
ROSC	El Rosal	29.69	345	P	P	20 12 50.6	-1.2
	comp=N,15nm,0.6s,mb4.9,baz=250,slow=17,SNR=7.8						
USHA	Ushuaia	30.73	182	P	P	20 12 59.1	-1.5
	comp=N,12nm,0.7s,mb4.7,baz=351,slow=5.8,SNR=8.3						
CS6B	Jaguaretama	32.76	60c	iP	P	20 13 17.2	-1.4
CS6B				i		20 13 17.9	
SDV	Santo Domingo	32.98	353	P	P	20 13 18.8	-1.7
	comp=N,47nm,1.0s,mb5.2,baz=208,slow=6.8,SNR=41						
SDV	Santo Domingo	32.98	353⇓	eP	P	20 13 18.4	-2.1
	comp=N,64nm,1.0s,mb5.3						
JTS	JuntasAbangare	38.50	330	P	P	20 14 09.4	+2.4
	comp=N,428nm,1.1s,mb6.0,SNR=10						
JTS	JuntasAbangare	38.50	330⇓	eP	P	20 14 08.4	+1.4
JTS				e		20 16 15.6	
JTS				pmax	pmax		
	comp=Z,84nm,1.0s						
JTS	JuntasAbangare	38.50	330	P	P	20 14 08.7	+1.7
	comp=Z,45nm,0.9s,mb5.1,baz=162,slow=6.5,SNR=28						
JTS				PcP	PcP	20 16 16.2	-0.5
	comp=Z,6.6nm,0.8s,baz=264,slow=2.1,SNR=3.8						
JTS	JuntasAbangare	38.50	330⇓	eP	P	20 14 08.4	+1.4
	comp=Z,84nm,1.0s,mb5.3						
JTS				ePcP	PcP	20 16 15.6	-1.2
SJG	San Juan	41.95	1⇓	eP	P	20 14 32.1	-3.2
SJG				pmax	pmax		
	comp=Z,96nm,0.8s						
SJG	San Juan	41.95	1	P	P	20 14 33.2	-2.1
	comp=Z,81nm,0.8s,mb5.4,baz=178,slow=2.5,SNR=30						
SJG	San Juan	41.95	1⇓	eP	P	20 14 32.1	-3.2
	comp=Z,96nm,0.8s,mb5.5						
VNA3	Neumayer Olymp	57.01	161⇑	i	P	20 16 36.8	+7.6
VNA3	Neumayer Olymp	57.01	161⇓	iP	P	20 16 31.1	+1.9
VNA3			⇑	iP		20 16 36.8	
VNA1	Neumayer--Stat	57.20	160⇓	iP	P	20 16 32.7	+2.1
VNA2	Neumayer--Watz	57.58	160⇓	iP	P	20 16 35.1	+1.9
CSU	Charleston Sou	58.15	347	P	P	20 16 37.8	+0.1
NHSC	New Hope	58.29	347	eP	P	20 16 38.3	-0.4
	comp=Z,408nm,1.1s,mb6.2						
COW	Cow Castle Cre	58.66	346	eP	P	20 16 40.8	-0.5
SNAA	Sanae	59.21	161⇓	iP	P	20 16 43.8	-0.8
SNAA	Sanae	59.21	161	P	P	20 16 44.0	-0.5
	comp=Z,5.7nm,0.6s,mb4.6,baz=286,slow=7.2,SNR=39						
SNAA				PcP	PcP	20 17 30.2	-0.6
	comp=Z,4.9nm,0.5s,baz=268,slow=5.4,SNR=10						
GOGA	Godfrey	59.34	344	eP	P	20 16 43.6	-2.4
GOGA				pmax	pmax		
	comp=Z,59nm,0.7s,mb5.5						
GOGA	Godfrey	59.34	344	eP	P	20 16 43.6	-2.4
	comp=Z,59nm,0.7s,mb5.5						
JSC	Jenkinsville	59.65	346	eP	P	20 16 47.4	-0.7
LRAL	Lakeview Retre	59.98	340	eP	P	20 16 48.0	-2.3
	comp=Z,49nm,0.9s,mb5.3						
HKT	Hockley	60.53	331	eP	P	20 16 53.0	-1.1
HKT				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.2						
HKT	Hockley	60.53	331	eP	P	20 16 53.0	-1.1
	comp=Z,42nm,1.1s,mb5.2						
CPCT	Cooper Cave	61.55	344⇓	eP	P	20 16 59.0	-1.8
SWET	Sewanee	61.70	342	eP	P	20 16 60.0	-1.9
OXF	Oxford	62.11	339	eP	P	20 17 01.7	-2.9
OXF				pmax	pmax		
	comp=Z,133nm,0.8s,mb5.8						
OXF	Oxford	62.11	339	eP	P	20 17 01.7	-2.9
	comp=Z,133nm,0.8s,mb5.8						
PLAL	Pickwick Lake	62.11	340	eP	P	20 17 02.5	-2.2
	comp=Z,81nm,0.8s,mb5.6						
ELN	Prospectdale	62.39	347	eP	P	20 17 05.7	-0.7
JCT	Junction City	62.81	328	eP	P	20 17 08.1	-1.2
JCT				pmax	pmax		
	comp=Z,108nm,0.7s,mb5.8						
JCT	Junction City	62.81	328	eP	P	20 17 08.1	-1.2
	comp=Z,108nm,0.7s,mb5.8						
UALR	University of	63.36	337	eP	P	20 17 11.3	-1.6
	comp=Z,43nm,1.0s,mb5.2						
MIAR	Mount Ida	63.61	335	eP	P	20 17 12.9	-1.6
MIAR				pmax	pmax		
	comp=Z,49nm,0.9s,mb5.3						
MIAR	Mount Ida	63.61	335	eP	P	20 17 12.9	-1.6
	comp=Z,49nm,0.9s,mb5.3						
UTMT	University of	63.61	340	eP	P	20 17 13.1	-1.4
	comp=Z,476nm,0.9s,mb6.3						
GLAT	Glass	63.68	340	eP	P	20 17 13.2	-1.7
LTX	Lajitas	63.85	324	eP	P	20 17 15.5	-0.7
LTX				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.1						
LTX	Lajitas	63.85	324	eP	P	20 17 15.5	-0.7
	comp=Z,23nm,0.8s,mb5.1						
TXAR	Lajitas Array	63.85	324	P	P	20 17 15.5	-0.7
	comp=Z,14nm,0.8s,mb4.9,baz=152,slow=8.4,SNR=105						
TXAR	Lajitas Array	63.85	324	P	P	20 17 15.5	-0.7
WCI	Wyandotte Cave	64.63	343	eP	P	20 17 18.7	-2.4
WCI				pmax	pmax		
	comp=Z,90nm,0.5s,mb5.9						
WCI	Wyandotte Cave	64.63	343	eP	P	20 17 18.7	-2.4
	comp=Z,90nm,0.5s,mb5.9						
BLO	Bloomington	65.58	343⇓	eP	P	20 17 25.0	-2.1
BLO				pmax	pmax		
	comp=Z,91nm,0.5s,mb5.9						
BLO	Bloomington	65.58	343⇓	eP	P	20 17 25.0	-2.2
	comp=Z,91nm,0.5s,mb5.9						
FVM	French Village	65.61	340⇓	eP	P	20 17 25.0	-2.3
	comp=Z,73nm,0.6s,mb5.7						
ACSO	Alum Creek Sta	65.74	346	eP	P	20 17 26.6	-1.6
	comp=Z,88nm,0.9s,mb5.6						
BRYW	Bryant College	65.82	356	eP	P	20 17 28.7	+0.1
	comp=Z,95nm,1.1s,mb5.5						
WMOK	Wichita Mounta	65.91	331	eP	P	20 17 27.4	-1.9
WMOK				e		20 17 58.4	
WMOK				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.9						
WMOK	Wichita Mounta	65.91	331	eP	P	20 17 27.4	-1.9
	comp=Z,11nm,0.6s,mb4.9						
WMOK				ePcP	PcP	20 17 58.4	-0.2
CCM	Cathedral Cave	65.94	339	eP	P	20 17 27.4	-2.1
	comp=Z,154nm,0.8s,mb5.9						
QSPA	South Pole Qui	66.12	180⇓	iP	P	20 17 30.2	+0.3
	comp=Z,67nm,0.5s,mb5.7						
CLNB	Carlsbad	66.29	326	eP	P	20 17 31.0	-0.8
GDL2	Guadalupe Moun	66.48	326	eP	P	20 17 32.9	-0.1
ALLY	Alegheny Colle	66.56	349	eP	P	20 17 32.5	-0.9
MNTX	Cornudas Mount	66.62	325	eP	P	20 17 32.0	-1.9
	comp=Z,52nm,0.9s,mb5.4						
CPRX	Cap Rock	66.89	327	eP	P	20 17 35.1	-0.5
ERPA	Erie	66.99	349	eP	P	20 17 34.8	-1.2
	comp=Z,70nm,0.8s,mb5.5						
AMTX	Amarillo	67.33	329	eP	P	20 17 37.1	-1.2
	comp=Z,24nm,0.4s,mb5.4						
DBIC	Dimbokro	67.66	71	eP	P	20 17 38.7	-1.9
DBIC				pmax	pmax		
	comp=Z,20nm,1.1s						
DBIC	Dimbokro	67.66	71	P	P	20 17 39.1	-1.5
	comp=Z,8.9nm,0.7s,mb4.6,baz=212,slow=5.6,SNR=20						
DBIC	Dimbokro	67.66	71	eP	P	20 17 38.7	-1.9
	comp=Z,20nm,1.1s,mb4.8						
KSU1	Kansas State U	68.77	335	eP	P	20 17 45.5	-1.5
MSNY	Massena	69.14	354	eP	P	20 17 48.7	-0.5
LPM	Los Pinos Moun	69.31	325	eP	P	20 17 51.1	+0.6
LENM	Lemitar	69.38	325	eP	P	20 17 51.3	+0.4
SADO	Sadowa	69.44	351	P	P	20 17 49.2	-1.8
	comp=Z,8.4nm,0.4s,mb4.8,baz=186,slow=6.3,SNR=9.5						
SADO				PcP	PcP	20 18 12.1	-1.2
	comp=Z,1.4nm,0.3s,baz=225,slow=1.4,SNR=4.6						
LAZ	Ladron	69.65	325	eP	P	20 17 53.4	+0.9
ANMO	Albuquerque	69.72	326⇓	iP	P	20 17 53.0	+0.1
ANMO	Albuquerque	69.72	326	P	P	20 17 53.4	+0.4
	comp=Z,39nm,0.8s,mb5.2,baz=138,slow=6.5,SNR=116						
ANMO	Albuquerque	69.72	326⇓	eP	P	20 17 52.7	-0.2
	comp=Z,64nm,0.9s,mb5.3						
CBKS	Cedar Bluff	69.76	333⇓	eP	P	20 17 52.6	-0.5
	comp=Z,91nm,0.6s,mb5.7						
TUC	Tucson	70.06	321⇓	eP	P	20 17 55.2	+0.2
	comp=Z,54nm,1.2s,mb5.2						
TUC				epP	pP	20 18 37.0	+0.6
JFWS	Jewell Farm	70.08	342⇓	eP	P	20 17 53.6	-1.3
	comp=Z,198nm,0.6s,mb6.0						
EGOM	La Gomera	70.57	45	P	P	20 17 56.7	-1.5
	comp=Z,41nm,0.6s,mb5.3						
CCAN	Las Canadas	71.01	46	P	P	20 18 00.3	-0.5
	comp=Z,7.0nm,0.7s,mb4.5						
TAOE	Nuku Hiva Isla	71.28	268	eP	P	20 18 02.9	+0.3
SDCO	Great Sand Dun	71.46	328⇑	eP	P	20 18 03.3	+0.1
	comp=Z,46nm,0.8s,mb5.3						
CFTV	Fuerteventura	72.81	47	P	P	20 18 10.8	-0.7
	comp=Z,6.5nm,0.5s,mb4.6						
RW3	Ridgway	72.91	327	eP	P	20 18 12.6	+0.7
ISCO	Idaho Springs	73.15	330⇓	eP	P	20 18 13.3	+0.1
	comp=Z,31nm,0.8s,mb5.1						
PV01	Paradox Valley	73.26	327	eP	P	20 18 13.3	-0.7
SYO	Syowa Base	73.40	159	⇑P	P	20 18 14.0	-0.1
PV10	Paradox Valley	73.69	327	eP	P	20 18 16.5	+0.1
BAR	Barrett	73.82	318	eP	P	20 18 16.7	-0.6
PHWY	Pilot Hill	74.28	331	eP	P	20 18 20.1	+0.3
PFO	Pinyon Flat Ob	74.32	319	P	P	20 18 19.0	-1.2
	comp=Z,227nm,0.8s,mb6.0,SNR=7.1						
PFO	Pinyon Flat Ob	74.32	319	eP	P	20 18 19.3	-0.9
	comp=Z,31nm,0.8s,mb5.1						
TBI	Tubuai	74.50	251	eP	P	20 18 22.5	+1.1
	comp=Z,121nm,1.2s,mb5.5						
TBI				epP	pP	20 18 59.0	-4.2
	comp=Z,52nm,1.3s						
VNDA	Vanda	74.65	190	P	P	20 18 22.5	+1.4
	comp=Z,10nm,0.9s,mb4.5,baz=146,slow=4.1,SNR=12						
VNDA	Vanda	74.65	190	eP	P	20 18 21.8	+0.6
	comp=Z,12nm,1.1s,mb4.4						
SRU	San Rafael	75.00	326	eP	P	20 18 24.3	+0.5
EYMN	Ely	75.06	343	P	P	20 18 22.2	-1.8
	comp=Z,69nm,1.0s,mb5.2						
MSU	Marysvale	75.40	325	eP	P	20 18 26.9	+0.7
MVU	Marysvale	75.42	325	eP	P	20 18 27.4	+1.1
	comp=Z,54nm,0.9s,mb5.2						
TMUT	Trail Mountain	75.48	326	eP	P	20 18 27.3	+0.7
ARUT	Antelope Range	75.55	323	eP	P	20 18 28.3	+1.3
MWC	Mount Wilson	75.72	318	eP	P	20 18 28.9	+0.8
MPU	Maple Canyon	76.24	326	eP	P	20 18 31.4	+0.5
TVO	Taravao	76.25	257	eP	P	20 18 32.7	+1.4
	comp=Z,83nm,1.2s,mb5.2						
DAU	Daniels Canyon	76.35	327	eP	P	20 18 32.2	+0.8
TIAR	Tiarei	76.42	257	eP	P	20 18 33.3	+1.1
	comp=Z,14nm,0.7s,mb4.7						
NLU	North Lily Min	76.42	326	eP	P	20 18 32.6	+0.7
JLU	Jordanelle	76.59	327	eP	P	20 18 33.8	+1.0
PAE	Paea	76.59	257	eP	P	20 18 34.4	+1.2
	comp=Z,39nm,0.9s,mb5.0						
PPT	Papeete	76.62	257	eP	P	20 18 34.6	+1.2
	comp=Z,37nm,1.4s,mb4.8						
PPT	Papeete	76.62	257	P	P	20 18 34.9	+1.6
	comp=Z,12nm,0.4s,mb4.9,baz=100,slow=6.1,SNR=4.1						
DAC	Darwin (Calif)	76.83	320	eP	P	20 18 35.3	+1.1
	comp=Z,24nm,0.9s,mb4.8						
DUG	Dugway	76.98	326	eP	P	20 18 35.6	+0.6
	comp=Z,12nm,0.8s,mb4.6						
TRCR	Troy Canyon	77.13	323	eP	P	20 18 36.9	+1.1
PDAR	Pinedale Array	77.31	329	P	P	20 18 37.0	+0.2
	comp=Z,11nm,0.6s,mb4.7,baz=133,slow=8.1,SNR=114						
HWUT	Hardware Ranch	77.40	327	eP	P	20 18 37.6	+0.4
	comp=Z,30nm,0.6s,mb5.1						
TSUM	Tsumeb	77.46	106	eP	P	20 18 37.4	-0.6
	comp=Z,12nm,0.9s,mb4.5						
SPUT	South Promonto	77.62	327	eP	P	20 18 38.9	+0.5
TPH	Tonopah	77.86	322	eP	P	20 18 41.1	+1.2
AHID	Auburn Hatcher	78.05	328	eP	P	20 18 41.2	+0.5
	comp=Z,77nm,0.9s,mb5.3						
HVU	Hansel Valley	78.13	327	eP	P	20 18 41.5	+0.3
MTUM	Tungsten Hills	78.14	320	eP	P	20 18 42.1	+0.7
ULM	Lac du Bonnet	78.37	341	P	P	20 18 41.7	-0.6
	comp=Z,51nm,0.6s,mb5.3,baz=153,slow=6.2,SNR=106						
ULM	Lac du Bonnet	78.37	341	P	P	20 18 41.7	-0.6
SNOW	Snow King Moun	78.41	329	eP	P	20 18 43.6	+0.9
LOHW	Long Hollow	78.45	329	eP	P	20 18 43.7	+0.8
	comp=Z,37nm,0.7s,mb5.1						
TPAW	Teton Pass	78.52	329	eP	P	20 18 44.0	+0.7
OMM	Old Mammoth Mi	78.57	320	eP	P	20 18 44.5	+0.8
RRI2	Red Ridge	78.59	329	eP	P	20 18 44.3	+0.6
SCHQ	Schefferville	78.59	360	P	P	20 18 42.9	-0.5
	comp=Z,13nm,0.7s,mb4.7,baz=177,slow=3.9,SNR=56						
ELK	Elko	78.65	325	P	P	20 18 44.5	+0.5
	comp=Z,25nm,0.9s,mb4.8,baz=137,slow=4.8,SNR=55						
ELK	Elko	78.65	325	eP	P	20 18 44.2	+0.2
	comp=Z,27nm,1.0s,mb4.8						
NVAR	Mina Array Bea	78.72	321	P	P	20 18 45.3	+0.8
	comp=Z,22nm,1.0s,mb4.7,baz=153,slow=6.0,SNR=23						
IMW	Indian Meadow	78.83	329	eP	P	20 18 45.6	+0.7
LAO	LASA Array	78.95	334	eP	P	20 18 45.4	-0.1
	comp=Z,63nm,0.9s,mb5.2						
LRV	Little Rabbit	78.98	318	eP	P	20 18 47.2	+1.3
LKWY	Lake	79.09	330	P	P	20 18 46.5	+0.2
	comp=Z,47nm,1.1s,mb5.0						
YFT	Old Faithful	79.20	330	eP	P	20 18 48.2	+1.2
YMR	Madison River	79.43	330	eP	P	20 18 50.0	+1.8
QLMT	Earthquake Lak	79.77	329	eP	P	20 18 50.9	+0.9
PAHR	Pah Rah Range	80.20	322	eP	P	20 18 52.9	+0.5
	comp=Z,69nm,1.0s,mb5.2						
HLID	Hailey	80.26	327⇓	eP	P	20 18 53.6	+1.0
	comp=Z,79nm,0.8s,mb5.4						
MCMT	McKenzie Canyo	80.43	329	eP	P	20 18 54.5	+1.0
BOSA	Boshof	80.53	117	eP	P	20 18 53.8	-0.6
	comp=Z,13nm,0.6s,mb4.7						
MAW	Mawson	81.30	163⇓	iP	P	20 18 58.1	+0.5
	comp=Z,26nm,0.6s,mb5.0						
MAW	Mawson	81.30	163⇓	iP	P	20 18 58.1	+0.5
MAW				pmax	pmax		
	comp=Z,26nm,0.6s						
MAW	Mawson	81.30	163	P	P	20 18 58.0	+0.4
	comp=Z,32nm,0.6s,mb5.1,baz=216,slow=5.1,SNR=14						
NSHM	Saint Helena R	81.30	319	eP	P	20 18 58.7	+0.5
HRY	Holter Researc	81.37	331	eP	P	20 18 59.0	+0.6
CHMT	Chamberlain Mo	82.17	330	eP	P	20 19 03.4	+0.9
LBTB	Lobatse	82.19	114	PKKPbc		20 37 29.4	
	comp=Z,3.3nm,0.7s,baz=340,slow=1.4,SNR=5.3						
LBTB	Lobatse	82.19	114	eP	P	20 19 02.3	-0.8
	comp=Z,14nm,0.6s,mb4.8						
MSO	Missoula	82.43	329	eP	P	20 19 04.2	+0.3
	comp=Z,17nm,1.1s,mb4.6						
BMO	Blue Mountains	82.63	326	eP	P	20 19 04.9	-0.1
PALC	Alcoutim	82.81	44	eP	P	20 19 07.2	+1.2
	comp=Z,33nm,1.0s,mb5.0						
PBEJ	Beja	82.91	43	eP	P	20 19 07.7	+1.2
	comp=Z,14nm,0.9s,mb4.7						
EVO	Evora	83.13	43	eP	P	20 19 07.6	0.0
	comp=Z,13nm,0.8s,mb4.5						
YBH	Yreka Blue Hor	83.44	321	P	P	20 19 08.4	-0.7
	comp=Z,11nm,0.7s,mb4.7,baz=111,slow=4.6,SNR=12						
YBH	Yreka Blue Hor	83.44	321	eP	P	20 19 08.3	-0.8
	comp=Z,12nm,0.8s,mb4.7						
ESPR	Espera	83.48	45	P	P	20 19 10.4	+1.0
	comp=Z,21nm,0.6s,mb5.0						
EMIN	Mina Concepcio	83.50	44	P	P	20 19 10.3	+0.8
	comp=Z,16nm,0.7s,mb4.8						
PTOM	Tomar	83.55	41	eP	P	20 19 10.7	+0.9
	comp=Z,62nm,1.7s,mb5.1						
EBAD	Badajoz	83.88	43	P	P	20 19 12.0	+0.6
	comp=Z,17nm,0.8s,mb4.8						
KRMB	Red Mountain	83.99	321	eP	P	20 19 12.0	+0.1
WALA	Waterton Lakes	84.06	331	eP	P	20 19 12.2	+0.1
	comp=Z,36nm,0.9s,mb5.1						
FFC	Flin Flon	84.10	340	P	P	20 19 12.5	+0.4
	comp=Z,125nm,1.0s,mb5.6,SNR=14						
PCBR	Castelo Branco	84.26	42	eP	P	20 19 13.7	+0.5
	comp=Z,21nm,1.9s,mb4.5						
PVIS	Viseu	84.54	41	eP	P	20 19 15.4	+0.7
	comp=Z,40nm,1.9s,mb4.8						
MTE	Manteigas	84.56	41	eP	P	20 19 15.8	+1.1
	comp=Z,47nm,1.1s,mb5.1						
MTE	Manteigas	84.56	41	eP	P	20 19 15.4	+0.7
	comp=Z,42nm,0.9s,mb5.2						
ELOJ	Sierra Loja	84.75	45	P	P	20 19 17.0	+1.2
	comp=Z,4.6nm,0.4s,mb4.6						
ERON	Agron	84.90	46	P	P	20 19 16.7	+0.2
	comp=Z,4.3nm,0.4s,mb4.5						
NEW	Newport	84.95	329	P	P	20 19 16.2	-0.3
	comp=Z,11nm,0.7s,mb4.7,baz=127,slow=6.4,SNR=11						
NEW	Newport	84.95	329	eP	P	20 19 16.0	-0.5
	comp=Z,14nm,0.7s,mb4.8						
PVRL	Vila Real	85.00	40	eP	P	20 19 17.8	+0.9
	comp=Z,42nm,1.0s,mb5.1						
EADA	Adamuz	85.07	44	P	P	20 19 17.6	+0.2
	comp=Z,29nm,0.8s,mb5.0						
KEBM	Edson Butte	85.09	321	eP	P	20 19 18.1	+0.8
ELOB	Lobios	85.16	40	P	P	20 19 17.9	+0.3
	comp=Z,16nm,0.8s,mb4.8						
EBAN	Banos Encina	85.57	45	P	P	20 19 21.1	+1.3
	comp=Z,46nm,0.8s,mb5.3						
FCC	Fort Churchill	85.59	346	eP	P	20 19 19.1	-0.3
	comp=Z,84nm,0.8s,mb5.5						
EQES	Quesada	85.83	45	P	P	20 19 20.7	-0.4
	comp=Z,154nm,1.7s,mb5.5						
PBRG	Braganca	85.90	41	eP	P	20 19 22.3	+1.0
	comp=Z,33nm,1.9s,mb4.7						
ECAL	Calabor	85.98	40	P	P	20 19 21.7	-0.1
	comp=Z,8.7nm,0.9s,mb4.5						
ERUA	La Rua	86.02	40	P	P	20 19 22.2	+0.3
	comp=Z,4.5nm,0.6s,mb4.4						
ESDC	Sonseca Array	86.33	43	P	P	20 19 24.4	+1.0
	comp=Z,7.4nm,0.8s,mb4.5,baz=243,slow=4.8,SNR=32						
ESDC	Sonseca Array	86.33	43	P	P	20 19 23.9	+0.4
	comp=Z,3.5nm,0.6s,mb4.3						
EPON	Pontenova	86.59	39	P	P	20 19 24.6	0.0
	comp=Z,46nm,1.1s,mb5.2						
EVIA	Vianos	86.67	45	P	P	20 19 25.8	+0.7
	comp=Z,9.5nm,0.6s,mb4.8						
EDM	Edmonton	86.92	334	eP	P	20 19 24.6	-1.4
ETOB	Tobarra	87.30	45	P	P	20 19 28.3	+0.2

comp=Z,43nm,1.3s,mb5.1
FRB Frobisher Bay 87.55 359 P **P** 20 19 28.1 -0.6
comp=Z,2.2nm,0.4s,mb4.4,baz=150,slow=8.5,SNR=6.9
EARI Arriondas 87.70 40 P **P** 20 19 30.9 +1.0
comp=Z,16nm,1.3s,mb4.7
EBEN Beniarda 88.19 46 P **P** 20 19 31.5 -0.8
comp=Z,94nm,1.6s,mb5.4
LSZ Lusaka 88.31 106 *e*P **P** 20 19 35.1 +1.7
comp=Z,16nm,1.1s,mb4.8
ELAN Lanestosa 88.71 41 P **P** 20 19 34.1 -0.6
comp=Z,5.1nm,0.7s,mb4.6
EMOS Mosqueruela 88.94 44 P **P** 20 19 36.2 +0.3
comp=Z,297nm,2.9s,mb5.7
ERTA Horta de San J 89.77 44 P **P** 20 19 38.9 -0.9
comp=Z,86nm,1.6s,mb5.4
CASY Casey 89.90 179 ⇓ *i*P **P** 20 19 40.9 +1.2
SJPF Ste Jean 89.98 42 *e*P **P** 20 19 41.2 +0.6
comp=Z,31nm,0.9s,mb4.9
ETSF Etsaut 90.27 42 *e*P **P** 20 19 42.6 +0.6
comp=Z,31nm,0.9s,mb4.9
EPOB Poblet 90.46 44 P **P** 20 19 42.6 -0.3
comp=Z,25nm,1.0s,mb5.1
EBIE Bielsa 90.59 43 P **P** 20 19 43.9 +0.4
comp=Z,14nm,0.7s,mb5.1
EPF Esparros 90.89 43 *e*P **P** 20 19 45.3 +0.4
comp=Z,12nm,0.8s,mb4.7
EMIR Miracle 91.04 44 P **P** 20 19 45.5 -0.1
comp=Z,20nm,1.1s,mb5.1
ROSF Rostrenen 91.74 37 *e*P **P** 20 19 48.1 -0.6
comp=Z,81nm,1.3s,mb5.3
SGMF Saint Gilles 92.09 37 *e*P **P** 20 19 49.3 -1.0
LFF La Frestale 92.16 41 *e*P **P** 20 19 50.6 -0.1
comp=Z,58nm,1.2s,mb5.2
EJON La Jonquera 92.18 44 P **P** 20 19 50.6 -0.3
comp=Z,18nm,1.1s,mb5.0
MTLF Montolieu 92.22 43 *e*P **P** 20 19 50.6 -0.5
comp=Z,18nm,1.0s,mb4.8
MFF Saint Martin d 92.53 39 *e*P **P** 20 19 52.1 -0.3
comp=Z,40nm,0.9s,mb5.3
RJF Les Rejaudoux 92.82 41 *e*P **P** 20 19 53.3 -0.5
BBB Bella Bella 92.85 327 P **P** 20 19 54.0 +0.3
comp=Z,15nm,0.8s,mb5.2,baz=113,slow=3.6,SNR=4.9
CAF Calviac 92.95 42 *e*P **P** 20 19 54.2 -0.2
comp=Z,10nm,0.8s,mb4.7
GRR Gorron 93.11 38 *e*P **P** 20 19 54.1 -0.9
comp=Z,27nm,0.8s,mb5.1
LASF Ste Croix 93.62 43 *e*P **P** 20 19 57.4 0.0
comp=Z,5.4nm,0.7s,mb4.5
LDF La Druitiere 93.63 38 *e*P **P** 20 19 56.6 -0.7
comp=Z,14nm,0.7s,mb4.9
TCF Toulx Ste Croi 93.75 40 *e*P **P** 20 19 57.4 -0.5
comp=Z,5.0nm,0.6s,mb4.5
URZ Urewera 93.79 225 P **P** 20 19 59.2 +0.8
comp=Z,7.2nm,0.8s,mb4.8,baz=194,slow=4.2,SNR=3.5
RPZ Rata Peaks 94.19 218 P **P** 20 20 00.7 +0.7
comp=Z,10nm,0.9s,mb4.9,baz=297,slow=2.3,SNR=3.2
YKA Yellowknife Ar 94.27 340 P **P** 20 19 59.8 -0.1
comp=Z,17nm,0.5s,mb5.4,baz=133,slow=4.5,SNR=265
YKA PKKPbc 20 36 58.7
comp=Z,0.3nm,0.7s,baz=323,slow=3.2,SNR=4.0
YKA Yellowknife Ar 94.27 340 P **P** 20 19 59.8 -0.1
YKA PKKPbc 20 36 58.7
YKW3 Yellowknife Ar 94.32 340 *e*P **P** 20 19 59.5 -0.7
VIVF Saint-Julien-l 94.52 43 *e*P **P** 20 20 01.9 +0.4
SMRF Simiane la Rot 94.65 44 *e*P **P** 20 20 02.8 +0.7
comp=Z,19nm,1.1s,mb4.8
AVF Avril sur Loir 94.68 40 *e*P **P** 20 20 01.5 -0.7
comp=Z,14nm,1.1s,mb4.8
SMF Signal de Mont 94.90 41 *e*P **P** 20 20 02.9 -0.3
comp=Z,11nm,0.7s,mb4.9
SSF Saint Saulge 94.91 40 *e*P **P** 20 20 02.5 -0.7
comp=Z,7.1nm,0.7s,mb4.7
LMR La Mourre 94.93 45 *e*P **P** 20 20 03.5 +0.1
comp=Z,15nm,0.9s,mb4.9
FRF La Foret Royal 95.13 44 *e*P **P** 20 20 04.4 +0.1
comp=Z,24nm,1.4s,mb5.0
ORIF Oris-en-Rattie 95.30 43 *e*P **P** 20 20 05.7 +0.7
comp=Z,16nm,0.9s,mb4.9
MBDF Montbardon 95.76 43 *e*P **P** 20 20 08.0 +0.9
comp=Z,12nm,1.0s,mb4.8
SBF Sospel 95.78 44 *e*P **P** 20 20 07.5 +0.3
comp=Z,39nm,1.2s,mb5.3
LPL La Plagne 96.11 43 *e*P **P** 20 20 09.6 +0.9
comp=Z,21nm,1.0s,mb5.1
LPG La Plagne 96.11 43 *e*P **P** 20 20 09.7 +1.0
comp=Z,26nm,1.0s,mb5.2
CABF La Chapelle 96.23 42 *e*P **P** 20 20 09.3 +0.1
HAU Haudompre 97.05 40 *e*P **P** 20 20 12.3 -0.7
HINF Hinteralfeld 97.26 41 *e*P **P** 20 20 13.9 0.0
DLBC Dease Lake 97.39 332 P **P** 20 20 14.8 +0.6
comp=Z,9.4nm,0.8s,mb5.2,baz=145,slow=5.8,SNR=13
DLBC Dease Lake 97.39 332 P **P** 20 20 14.8 +0.6
CDF Champ du Feu 97.79 40 *e*P **P** 20 20 15.7 -0.6
comp=Z,13nm,1.0s,mb5.0
GERES GERESS Array B 101.83 42 P P 20 20 34.8 +0.3
comp=Z,0.1nm,0.3s,baz=180,slow=2.7,SNR=3.6
SISC Sisak 102.23 46 *i*P 20 25 03.0
KOGS Kog 102.52 45 *i* PKP 20 25 00.4
VLS Valsamata 102.53 54 *e*P 20 25 06.0
IGT Igoumenitsa 102.82 52 *e*P 20 25 05.0
ITM Ithomi 103.18 55 *e*P 20 25 04.4
BBLS Bajina Basta - 103.68 48 ⇓ *i*P 20 24 60.0
EVR Evrytania 103.69 53 *e*P 20 25 02.5
OHR Ohrid 103.70 51 ⇑ *i*PP PP 20 24 56.7 -6.8
OHR *i* 20 25 00.6
KYTH Kithira 103.71 56 *e*P 20 25 02.7
NVSS Nova Varos 2 103.76 48 ⇑ *i*P 20 25 04.4
VLI Veliai 103.78 56 *e*P 20 25 02.0
FNA Florina 104.00 51 *e*P 20 25 00.5
AGG Agios Georgios 104.10 53 *e*P 20 25 00.1
DIVS Divcibare 104.16 48 ⇓ *i*P 20 24 58.1
VAM Vamos 104.31 57 *e*P 20 25 01.5
SKO Skopje 104.45 50 ⇑ *i*PP PP 20 24 59.5 -10
SKO *i* 20 25 10.6
LIT Litokhoron 104.58 52 *e*P 20 24 58.8
GRG Griva 104.80 52 *e*P 20 24 57.7
THE Thessaloniki 105.09 52 *e*P 20 24 56.6
KNT Kendrikon 105.22 51 *e*P 20 24 56.8
THR3 Thira Island, 105.55 57 *e*P 20 24 55.9
SRS Serrai 105.70 52 *e*P 20 24 55.2
ILAR Eielson Array 107.41 334 Pdiff Pdif 20 20 58.5 -0.2
comp=Z,0.7nm,0.7s,baz=119,slow=2.1,SNR=5.8
ILAR PKiKP 20 25 06.2
comp=Z,0.5nm,0.5s,baz=118,slow=1.2,SNR=5.3
ILAR PP PP 20 25 30.1 -0.8
comp=Z,3.2nm,1.1s,baz=109,slow=5.0,SNR=8.3
FINES FINESS Array B 112.21 31 PKKPbc 20 36 06.5
comp=Z,0.4nm,0.4s,baz=90,slow=5.7,SNR=6.2
ARCES ARCESS Array B 113.13 22 PKKPbc 20 36 03.4
comp=Z,1.2nm,0.5s,baz=90,slow=3.6,SNR=9.6
OBN Obninsk 116.97 39 *d i*PKIKP PKPdf 20 25 24.3 +0.7
OBN pmax pmax
comp=Z,22nm,1.0s
OBN Obninsk 116.97 39 P PKPdf 20 25 24.0 +0.4
STKA Stephens Creek 118.08 207 PKKPbc 20 35 46.5
comp=Z,1.5nm,0.5s,baz=335,slow=6.9,SNR=5.1
GOF Gofitskoye 120.40 51 *e*P Pdif 20 22 10.0 +14
FORT Forrest 123.62 195 *e*PKP PKPdf 20 25 37.7 +0.6
comp=Z,476nm,0.9s
MUN Mundaring 124.18 183 ⇓ *i*PKP PKPdf 20 25 38.6 +0.4
KLBR Kellerberrin 124.47 185 *e*PKP PKPdf 20 25 39.2 +0.5
comp=Z,50nm,0.4s
CTA Charters Tower 125.55 219 PKP PKPdf 20 25 42.3 +1.2
comp=Z,5.3nm,0.5s,baz=324,slow=3.5,SNR=7.3
BILL Bilibino 125.63 338 *α i*PKIKP PKPdf 20 25 41.3 +1.3
BILL pmax pmax
comp=Z,11nm,0.8s
FX1 Attu Island--F 126.87 319 PKP PKPdf 20 25 43.6 +0.9
comp=Z,17nm,0.6s,baz=180,slow=3.0,SNR=6.5
MTSU Mount Surprise 128.19 219 *e*PKP PKPdf 20 25 47.9 +1.6
comp=Z,398nm,0.8s
ASAR Alice Springs 128.45 204 PKP PKPdf 20 25 47.1 +0.4
comp=Z,18nm,0.7s,baz=138,slow=2.0,SNR=112
ASAR SKPbc 20 28 49.0
comp=Z,0.5nm,0.5s,baz=141,slow=3.7,SNR=4.5
ASAR PKKP PKKP 20 35 55.1 +20
comp=Z,0.3nm,0.4s,baz=349,slow=1.6,SNR=5.3
ASPA Alice Springs 128.45 204 *e*PKP PKPdf 20 25 47.1 +0.4
SVE Sverdlovsk 130.12 35 *e*PKIKP PKPdf 20 25 49.9 +1.0
SVE pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 131.58 353 *e*PKIKP PKPdf 20 25 46.8 -4.5
TIXI pmax pmax
comp=Z,5.0nm,0.7s
WB2 Warramunga Arr 131.63 207 *e*PKP PKPdf 20 25 53.3 +0.5
WB2 *e*SKP 20 29 01.2
WB2 *e*PKS PKS 20 29 18.9 -8.9
WRA Warramunga Arr 131.63 207 PKP PKPdf 20 25 53.8 +1.0
comp=Z,12nm,0.5s,baz=160,slow=1.7,SNR=123
WRA SKPbc 20 29 00.8
comp=Z,11nm,0.9s,baz=154,slow=3.4,SNR=26
PMG Port Moresby 133.01 229 PKP PKPdf 20 25 57.7 +2.1
comp=Z,3.7nm,0.7s,baz=284,slow=6.3,SNR=4.5
MA2 Magadan 135.89 334 *e*PKIKP PKPdf 20 26 01.0 +1.4
MA2 pmax pmax
comp=Z,6.0nm,1.2s
CHKZ Chkalovo 136.60 36 *e*PKIKP PKPdf 20 26 02.4 +1.4
BVA0 Borovoye Array 136.75 37 *i* PKIKP PKPdf 20 26 03.0 +1.7
BVA0 pmax pmax
comp=Z,1.0nm,0.7s
BVAR Borovoye Array 136.75 37 PKP PKPdf 20 26 03.3 +2.0
comp=Z,8.7nm,0.7s,baz=275,slow=2.7,SNR=31
YAK Yakutsk 140.45 348 *e*PKHKP 20 26 00.8
YAK pmax pmax
comp=Z,11nm,0.9s
NVS Novosibirsk 142.10 28 *i* PKHKP 20 26 07.0
NVS pmax pmax
comp=Z,46nm,1.6s
NVS pmax pmax
comp=N,16nm,1.5s
KURK Kurchatov 142.34 36 *i* PKIKP PKPdf 20 26 09.7 -1.7
KURK Kurchatov 142.34 36 *e*PKP PKPdf 20 26 09.1 -2.3
EKS2 Erkin-Say 142.64 51 P PKPdf 20 26 10.8 -1.4
SNR=16
AML Almayashu 142.73 51 P PKPdf 20 26 10.7 -1.6
SNR=9.5
USP Ospenovka 142.96 49 P PKPdf 20 26 15.5 +2.8
SNR=6.3
AAK Ala-Archa 143.15 50 P PKPbc 20 26 12.4 +1.2
SNR=18
AAK Ala-Archa 143.15 50 *i* PKIKP PKPdf 20 26 11.9 -1.1
AAK Ala-Archa 143.15 50 *e*PKP PKPdf 20 26 11.3 -1.7
FRU Bishkek 143.18 50 *e*PKIKP PKPdf 20 26 12.0 -1.1
CHMS Chumysh 143.22 50 P PKPbc 20 26 12.5 +1.0
SNR=5.2
UCH Uchtor 143.28 51 P PKPbc 20 26 13.3 +1.6
SNR=12
ZAL Zalesovo 143.38 28 PKP PKPdf 20 26 12.6 -0.5
comp=N,28nm,0.6s,baz=160,slow=3.1,SNR=144
KBK Karagaybulak 143.46 50 P PKPbc 20 26 13.8 +1.6
SNR=5.0
TKM2 Tokmak 2 143.83 49 P PKPbc 20 26 14.9 +1.6
SNR=5.6
KZA Kyzart 143.85 51 P PKPbc 20 26 15.6 +2.2
SNR=9.5
ULHL Ulahol 144.50 50 P PKPbc 20 26 17.4 +2.1
SNR=16
KSH Kashi 145.10 55 *e*PKP PKPdf 20 26 18.9 +2.4
KSH *e*PKP2 PKPab 20 26 22.3 +3.4
KSH *e*APKP 20 27 01.9
KSH *e*XPKP 20 27 17.5
KSH *e*PKS PKS 20 29 52.6 +1.8
KSH *e*SKS SKS 20 33 10.3 +3.7
KSH *e*SKKS 20 36 16.3
KSH PP PP
comp=Z,470nm,8.3s
KSH LR LR
comp=N,510nm,6.7s
KSH LR LR
comp=E,470nm,6.2s
THN Thein Dam 146.09 67 *e*P PKPdf 20 26 20.2 +1.8
CLNS Chul'man 146.19 348 *e*PKP2 PKPab 20 26 19.9 -2.6
CLNS pmax pmax
comp=Z,62nm,0.8s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=E,16nm,0.9s
KHET Khetri 146.27 75 *e*P PKPdf 20 26 20.6 +1.7
KHET *e* 20 26 22.3
comp=Z,13nm,0.8s
BOD Bodaibo 146.29 359 *e*PKIKP PKPdf 20 26 19.0 +1.1
BOD pmax pmax
comp=Z,54nm,0.8s
PONG Pong 146.32 68 *e*P PKPdf 20 26 21.0 +2.2
MKAR Makanchi Array 146.47 40 *i* PKP2 PKPab 20 26 20.4 -3.5
MKAR pmax pmax
comp=Z,14nm,0.4s
KUDL Kundal 146.87 75 *e*P PKPdf 20 26 21.8 +2.0
KUDL *e* 20 26 23.7
comp=Z,28nm,0.9s
HYB Hyderabad 146.99 95 *e*P PKPdf 20 26 22.5 +2.2
HYB Hyderabad 146.99 95 *i* PKP PKPdf 20 26 22.5 +2.2
comp=Z,70nm,1.0s
HYB *e* 20 27 14.5
YSS Yuzh-Sakhalins 147.17 321 *e*PKIKP PKPdf 20 26 21.7 +2.0
SDNR Sundarnagar 147.22 69 *e*P PKPdf 20 26 23.3 +3.0
BHPL Bhopal 147.28 84 *e*P PKPdf 20 26 23.0 +2.4
BHPL *e* 20 26 25.3
comp=Z,35nm,0.7s
BHPL AMb AMB 20 26 25.5
comp=Z,29nm,0.6s
SONA Sohna 147.40 75 *e*P PKPdf 20 26 24.4 +3.7
SONA *e* 20 26 25.1
comp=Z,40nm,0.0s
SMLA Simla 147.41 69 *i* P PKPdf 20 26 21.2 +0.5
AYAN Aya Nagar 147.44 74 *e*P PKPdf 20 26 25.0 +4.2
comp=Z,17nm,0.8s
AYAN *e* 20 26 26.5
comp=Z,17nm,0.8s
NDI New Delhi 147.52 74 *e*P PKPdf 20 26 22.0 +1.1
AGRA Agra 148.13 77 *e*P PKPdf 20 26 22.4 +0.4
AGRA *e* 20 27 15.3
DDI Dehra Dun 148.22 71 *e*P PKPdf 20 26 24.8 +2.8
DDI *e* 20 27 18.8
KLP Kalpa 148.31 69 *e*P PKPdf 20 26 24.7 +2.6
KLP *e* 20 26 27.6
comp=Z,35nm,0.8s
ASAJ Asahikawa 148.76 317 PKPbc PKPdf 20 26 27.9 +5.5
comp=Z,27nm,0.7s,baz=243,slow=4.2,SNR=14
JOSI Joshimath 149.50 70 *e*P PKPdf 20 26 15.6 -8.5
JOSI *e* 20 26 17.9
comp=Z,203nm,1.2s
MOY Mondy 150.91 16 *e*PKIKP PKPdf 20 26 28.9 +3.4
MOY pmax pmax
comp=Z,86nm,1.4s
KLR Kul'dur 150.98 335 *e*PKIKP PKPdf 20 26 24.4 -1.3
KLR *e* 20 26 29.8
KLR *e* 20 26 38.2
KLR pmax pmax
comp=N,30nm,0.9s
KLR pmax pmax
comp=E,32nm,0.9s
KLR pmax pmax
comp=Z,44nm,0.9s
TLY Talaya 151.49 13 *e*PKIKP PKPdf 20 26 29.4 +3.1
TLY *e* 20 26 44.4
TLY pmax pmax
comp=Z,9.0nm,0.5s
TLY Talaya 151.49 13 *e*PKPab PKPab 20 26 44.3 +0.2
ZAK Zakamensk 152.64 14 ⇓ *i*PKIKP PKPdf 20 26 30.3 +2.2
ZAK pmax pmax
comp=Z,5.0nm,1.2s
ZAK pmax pmax
comp=Z,7.0nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.0s
KOLN Koldanda 153.16 76 *e*P PKPdf 20 26 31.0 +1.5
comp=Z,23nm,1.0s
GKN Gorkha 154.07 75 *e*P PKPdf 20 26 32.2 +1.5
comp=Z,25nm,0.8s
HIA Hailar 154.35 350 *e*PKPbc PKPdf 20 26 40.3 +10
DMN Daman 154.50 76 *e*P PKPdf 20 26 32.6 +1.3
KKN Kakani 154.65 76 *e*P PKPdf 20 26 33.1 +1.6
comp=Z,11nm,0.5s
PKI Pulchoki 154.77 76 *e*P PKPdf 20 26 33.2 +1.6
comp=Z,16nm,0.9s
MAJO Matsushiro 155.18 306 *e*PKPab PKPab 20 26 59.4 -0.8
MAT Matsushiro 155.18 306 *e*PKP PKPdf 20 26 42.0 +10
MAT Matsushiro 155.18 306 PKP PKPdf 20 26 42.4 +10
JIRN Jiri 155.46 76 *e*P PKPdf 20 26 33.6 +1.1
comp=Z,11nm,0.7s
MDJ Mudanjiang 155.54 331 PKP PKPdf 20 26 32.8 +0.7
SONM Songino Array 155.69 11 PKP PKPdf 20 26 34.5 +2.3
comp=Z,5.3nm,0.8s,SNR=14
SONM PKPbc PKPdf 20 26 43.7 +12
comp=Z,4.0nm,0.7s,baz=315,slow=1.7,SNR=6.8
SONM PKPab PKPab 20 27 02.0 0.0
comp=Z,7.3nm,0.7s,baz=328,slow=4.7,SNR=11
ULN Ulaanbaatar 155.77 10 *e*PKPdf PKPdf 20 26 34.5 +2.1
ULN *e*PKPab PKPab 20 27 02.6 +0.3
CN2 Changchun 157.91 336 *e*PKP PKPdf 20 26 35.9 +0.6
CN2 PKP2 PKPab 20 27 11.0 -0.7
CN2 XPKP 20 27 35.3
CN2 PP PP 20 30 54.3 +1.4
CN2 PP PP
comp=Z,200nm,9.0s
CN2 LR LR
comp=N,400nm,21.0s
CN2 LR LR
comp=E,300nm,21.0s
CN2 LR LR
comp=Z,330nm,21.0s
LSA Lhasa 159.57 69 PKP PKPdf 20 26 41.0 +3.3
LSA Lhasa 159.57 69 *e*PKPdf PKPdf 20 26 40.4 +2.7
LSA *e*PKPab PKPab 20 27 20.3 +1.0
GTA Gaotai 160.98 33 PKP PKPdf 20 26 41.4 +2.5
GTA PKP2 PKPab 20 27 25.3 +0.3
GTA PP PP 20 31 07.9 -1.5
GTA SKS SKS 20 33 25.6 +0.4
GTA SS SS 20 51 06.3 +0.9
GTA PP PP
comp=Z,154nm,8.7s
HHC Hu-ho-hao-te 163.23 4 *e*PKP PKPdf 20 26 43.9 +2.8
HHC APKP 20 27 29.3
HHC XPKP 20 27 46.6
HHC PKS PKS 20 30 17.6 +4.3
HHC PP PP 20 31 23.6 +2.8
HHC SKS SKS 20 33 30.3 +3.5
HHC SKKS 20 37 53.1
HHC PP PP
comp=Z,258nm,9.5s
BJI Beijing 163.90 352 PKP PKPdf 20 26 43.3 +1.5
BJI Beijing 163.90 352 PKP PKPdf 20 26 43.2 +1.4
LZH Lanzhou 165.57 32 *e*PKP PKPdf 20 26 45.1 +1.6
LZH APKP 20 27 27.9
LZH PKP2 PKPab 20 27 45.3 +0.2
LZH PP PP 20 31 33.3 -0.1
LZH SKS SKS 20 33 32.0 +3.4
LZH SKKS 20 38 03.0
LZH SS SS 20 51 55.0 +1.7
LZH PP PP
comp=Z,260nm,6.5s
CM31 Chiang Mai Arr 165.58 110 *e*PKPdf PKPdf 20 26 45.4 +1.4
CM31 *e*PKPab PKPab 20 27 44.3 -1.4
CMAR Chiang Mai Arr 165.58 110 PKP PKPdf 20 26 45.5 +1.6
comp=Z,3.4nm,0.9s,baz=267,slow=3.2,SNR=21
CMAR PKPab PKPab 20 27 45.1 -0.5
comp=Z,3.0nm,0.8s,baz=257,slow=5.3,SNR=13
CHG Chiang Mai 165.73 109 P PKPdf 20 26 46.0 +1.9
NANT Nan 167.23 112 ⇑ P PKPdf 20 26 44.0 -1.1
KMI Kunming 170.43 82 PKP PKPdf 20 26 49.3 +2.4
NJ2 Nanjing 170.63 329 *e*PKP PKPdf 20 26 48.4 +1.5
ENH Enshi 173.01 27 *e*PKPdf PKPdf 20 26 48.4 +0.3
WHN Wuhan 173.49 351 *e*PKP PKPdf 20 26 51.0 +2.7
WHN PKP2 PKPab 20 28 18.5 -1.7
GYA Guiyang 173.63 67 ⇑ *i*PKP PKPdf 20 26 50.1 +1.6
GYA APKP 20 27 32.9
GYA XPKP 20 27 49.5
GYA PP PP
comp=Z,110nm,8.0s

IDC ***15*** *20:19:38.2s2.2,9.74N×78.73W,h58km±19km,mb3.7/9, mb1 4.1/13,mb1mx3.8/24,mbtmp4.1/13,ML4.2/2,MS3.8/2, Ms1 3.8/2,ms1mx2.8/28,Error ellipse: s-maj=27.9km s-min=13.7km az=8.0*
NEIC ***15*** *20:19:39.9s0.7,9.94N×78.81W,h65km±9km,mb4.0/1, MD4.2(CASC),Error ellipse: s-maj=13.9km s-min=7.5km az=193.0*
CASC ***15*** *20:19:40.3s2.4,9.79N×78.93W,h51km±34km,MD4.2, MW4.6,mb4.0(NEIC)*
ISC 15 20:19:37.9s0.7,9.87N±0.07×78.85W±0.04,h61km±10km, n43,σ1s06/51,mb4.1/12,2C-3D,Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACLA	**Agua Clara, Si**	**0.98**	**239** ⇓ *i*P		**P**	**20 19 55.9**	**0.0**
ACLA				*e*S	**S**	**20 20 08.0**	**-1.4**
UPA	**Univ. de Panam**	**1.11**	**217** ⇓ *e*P		**P**	**20 19 58.5**	**+0.8**
UPA				*e*S	**S**	**20 20 12.0**	**-0.4**
UPD1	**Univ de Panama**	**1.55**	**148** *e*P		**P**	**20 20 03.7**	**-0.2**
UPD1				*e*S	**S**	**20 20 23.5**	**+0.4**
AZU	**Azuero**	**2.50**	**214** ⇓ *e*P		**P**	**20 20 16.9**	**-0.2**
AZU2	**Pedas**	**2.59**	**207** *e*P		**P**	**20 20 18.7**	**+0.2**
AZU2				*e*S	**S**	**20 20 47.3**	**-1.6**
ACR	**Cerro Adams**	**4.43**	**255** *e*P		**P**	**20 20 45.5**	**+1.3**
ACR	**Cerro Adams**	**4.43**	**255** *e*P		**P**	**20 20 45.9**	**+1.6**
ACR				*e*S	**S**	**20 21 34.3**	**-0.8**
TRTC	**Tortuguero**	**4.84**	**279** *e*P		**P**	**20 20 49.4**	**-0.6**
TRTC	**Tortuguero**	**4.84**	**279** *e*P		**P**	**20 20 49.3**	**-0.7**
BUS	**Buena Vista**	**4.85**	**267** *e*P		**P**	**20 20 51.0**	**+0.9**
BUS				*e*		20 21 40.8	
BUS	**Buena Vista**	**4.85**	**267** ⇑ *e*P		**P**	**20 20 51.0**	**+0.9**
BUS				*e*S	**S**	**20 21 44.2**	**-1.3**
ICR	**Volcan Irazu**	**4.91**	**272** *e*P		**P**	**20 20 50.0**	**-0.9**
LCR2	**La Lucha 2**	**5.08**	**269** *e*P		**P**	**20 20 54.5**	**+1.2**
LCR2	**La Lucha 2**	**5.08**	**269** *e*P		**P**	**20 20 54.1**	**+0.8**
LCR2				*e*S	**S**	**20 21 48.5**	**-2.9**
VPS2	**Volcan Poas 2**	**5.31**	**274** *e*P		**P**	**20 20 57.2**	**+0.7**
PRS1	**Puriscal**	**5.38**	**272** *e*P		**P**	**20 20 59.8**	**+2.4**
PRS1	**Puriscal**	**5.38**	**272** ⇑ *e*P		**P**	**20 20 59.9**	**+2.5**
PRS1				*e*S	**S**	**20 21 59.1**	**+0.3**
CGA2	**Cerro Gallo 2**	**5.53**	**272** *e*P		**P**	**20 21 01.0**	**+1.5**
JTS	**JuntasAbangare** 612nm,0.3s,SNR=19	**6.02**	**275** Pn		**P**	**20 21 06.4**	**0.0**
JTS	**JuntasAbangare** 15nm,0.3s,baz=63,slow=13,SNR=36	**6.02**	**275** P		**P**	**20 21 06.3**	**-0.1**
JTS				S	**S**	**20 22 15.8**	**+1.0**
	7.5nm,0.3s,baz=300,slow=21,SNR=6.7						
JTS				LR	LR	20 23 19.1	
	comp=Z,240nm,21.9s,baz=161,slow=36						
JTS	**JuntasAbangare**	**6.02**	**275** *e*Pn		**P**	**20 21 05.6**	**-0.8**
ROSC	**El Rosal** 1.9nm,0.3s,baz=96,slow=22,SNR=3.0	**6.70**	**138** P		**P**	**20 21 18.8**	**+2.8**
SDV	**Santo Domingo** 1.1nm,0.3s,baz=334,slow=12,SNR=5.3	**8.17**	**96** P		**P**	**20 21 34.2**	**-2.0**
SDV				S	**S**	**20 23 01.5**	**-6.4**
	20nm,0.3s,baz=340,slow=19,SNR=14						
SDV	**Santo Domingo**	**8.17**	**96** *e*P		**P**	**20 21 33.9**	**-2.3**
SDV				*e*S	**S**	**20 23 01.0**	**-6.9**
OTAV	**Otavalo**	**9.58**	**178** *e*P		**P**	**20 21 57.1**	**+1.5**
SJG	**San Juan** 1.7nm,0.3s,baz=346,slow=20,SNR=1.9	**14.79**	**55** P		**P**	**20 23 04.1**	**-1.0**
CCM	**Cathedral Cave** 5.8nm,0.7s,mb4.4	**30.20**	**340** P		**P**	**20 25 44.3**	**-0.5**
TXAR	**Lajitas Array** 0.2nm,0.3s,mb3.3,baz=132,slow=11,SNR=3.7	**30.23**	**313** P		**P**	**20 25 45.3**	**0.0**
ANMO	**Albuquerque** 1.5nm,0.6s,mb4.1,baz=93,slow=11,SNR=5.0	**35.47**	**319** P		**P**	**20 26 31.4**	**+0.8**
PDAR	**Pinedale Array** 0.9nm,0.7s,mb3.5,baz=129,slow=11,SNR=6.7	**42.34**	**326** P		**P**	**20 27 28.9**	**+1.2**
ULM	**Lac du Bonnet** 4.3nm,0.6s,mb4.3,baz=150,slow=7.8,SNR=9.9	**42.65**	**344** P		**P**	**20 27 29.2**	**-0.8**
NVAR	**Mina Array Bea** 1.4nm,1.0s,mb3.8,baz=122,slow=8.4,SNR=5.1	**45.33**	**315** P		**P**	**20 27 52.7**	**+0.9**
NVAR				PcP	PcP	20 29 30.7	-0.3
	0.8nm,0.6s,baz=135,slow=3.8,SNR=4.7						
NVAR	**Mina Array Bea**	**45.33**	**315** P		**P**	**20 27 52.7**	**+0.9**
NVAR				PcP	PcP	20 29 30.7	-0.3
HLID	**Hailey** 1.5nm,0.8s,mb4.0	**45.60**	**324** P		**P**	**20 27 54.0**	**+0.1**
YKA	**Yellowknife Ar** 4.1nm,0.7s,mb4.6,baz=132,slow=7.4,SNR=79	**58.52**	**341** P		**P**	**20 29 29.0**	**-1.2**
YKA				LR	LR	20 54 31.3	
	comp=Z,268nm,18.6s,baz=225,slow=36						
DLBC	**Dease Lake** 1.1nm,0.7s,mb4.1,baz=155,slow=13,SNR=3.0	**61.98**	**332** P		**P**	**20 29 53.8**	**0.0**
INK	**Inuvik** 4.5nm,0.8s,mb4.5	**68.29**	**341** *e*P		**P**	**20 30 33.2**	**-1.0**
ILAR	**Eielson Array** 1.7nm,0.8s,mb4.0,baz=109,slow=3.0,SNR=13	**71.83**	**335** P		**P**	**20 30 55.4**	**-0.4**
ARCES	**ARCESS Array B** 1.5nm,0.7s,mb4.3,baz=270,slow=3.6,SNR=11	**85.79**	**20** P		**P**	**20 32 11.3**	**-0.1**
ARCES	**ARCESS Array B**	**85.79**	**20** P		**P**	**20 32 11.3**	**-0.1**
ASAR	**Alice Springs** 1.2nm,0.5s,baz=113,slow=3.3,SNR=19	**145.87**	**242** PKPbc		PKPbc	20 39 11.4	-0.1
WRA	**Warramunga Arr** 0.7nm,0.6s,baz=96,slow=3.3,SNR=17	**146.46**	**249** PKPbc		PKPbc	20 39 12.7	-0.3
CMAR	**Chiang Mai Arr** 0.9nm,0.6s,baz=344,slow=2.3,SNR=6.3	**151.77**	**4** PKPbc		PKPdf	20 39 27.2	+7.2

IDC 15 20:23:59.2±2.3,9.70N×78.83W,h50km±20km,mb3.9/14, mb1 4.2/17,mb1mx4.0/26,mbtmp4.2/17,ML3.2/2,Error ellipse: s-maj=22.2km s-min=13.2km az=11.0
NEIC 15 20:24:02.0±0.8,9.85N×78.83W,h71km±9km,mb4.2/5, MD4.4(CASC),Error ellipse: s-maj=12.9km s-min=7.3km az=206.0
NEIC Felt at Panama City and Taboga.
CASC 15 20:24:01.7±2.4,9.79N×78.93W,h53km±36km,MD4.6, MW4.6,mb4.2(NEIC)
BJI 15 20:24:03.9,9.80N×78.80W,h70km,mB4.3,Ms4.7,Msz4.8
ISC 15 20:23:59.1±0.5,9.96N±0.04×78.86W±0.03,h50km±7km, n56,σ1.22/64,mb4.2/19,3C-5D,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ACLA	Agua Clara, Si	1.02	235	⇓iP	P	20 24 17.7	+0.4
ACLA				eS	S	20 24 29.5	-1.3
UPA	Univ. de Panam	1.18	214	eP	P	20 24 20.3	+0.9
UPA				eS	S	20 24 33.6	-1.0
UPD1	Univ de Panama	1.63	149	⇑iP	P	20 24 25.6	-0.3
UPD1				eS	S	20 24 44.8	-1.1
AZU	Azuero	2.57	213	eP	P	20 24 38.9	-0.3
AZU				eS	S	20 25 07.1	-2.2
ACR	Cerro Adams	4.44	253	eP	P	20 25 07.8	+2.1
ACR	Cerro Adams	4.44	253	eP	P	20 25 07.6	+1.9
TRTC	Tortuguero	4.81	278	eP	P	20 25 11.3	+0.4
TRTC	Tortuguero	4.81	278	eP	P	20 25 10.5	-0.4
BUS	Buena Vista	4.84	266	eP	P	20 25 12.9	+1.6
BUS				e		20 26 02.6	
BUS	Buena Vista	4.84	266	⇑eP	P	20 25 13.0	+1.7
BUS				eS	S	20 26 05.2	-1.5
ICR	Volcan Irazu	4.89	271	eP	P	20 25 13.4	+1.4
ICR	Volcan Irazu	4.89	271	eP	P	20 25 13.3	+1.2
ICR				eS	S	20 26 08.0	0.0
LCR2	La Lucha 2	5.07	268	eP	P	20 25 16.3	+1.8
LCR2				e		20 26 11.1	
LCR2	La Lucha 2	5.07	268	⇓eP	P	20 25 16.4	+1.9
LCR2				eS	S	20 26 12.8	+0.3
PRS1	Puriscal	5.37	271	eP	P	20 25 21.2	+2.6
PRS1	Puriscal	5.37	271	⇑eP	P	20 25 21.2	+2.6
PRS1				eS	S	20 26 20.0	+0.1
CGA2	Cerro Gallo 2	5.52	271	eP	P	20 25 22.6	+1.9
CGA2				eS	S	20 26 22.1	-1.6
OCAC	Ocana	5.74	107	eP	P	20 25 23.0	-0.7
JTS	JuntasAbangare	6.01	274	Pn	P	20 25 28.5	+1.0
	888nm,0.4s,SNR=34						
JTS	JuntasAbangare	6.01	274	P	P	20 25 28.0	+0.6
	18nm,0.3s,baz=67,slow=13,SNR=37						
JTS				S	S	20 26 33.7	-2.2
	5.4nm,0.3s,baz=126,slow=19,SNR=3.6						
JTS	JuntasAbangare	6.01	274	ePn	P	20 25 28.1	+0.6
ROSC	El Rosal	6.78	138	P	P	20 25 39.9	+1.6
	4.0nm,0.3s,baz=100,slow=17,SNR=5.0						
ROSC				S	S	20 26 56.7	+1.8
	2.9nm,0.3s,baz=90,slow=20,SNR=3.2						
SDV	Santo Domingo	8.19	97	P	P	20 25 55.7	-2.2
	1.4nm,0.3s,baz=315,slow=10.0,SNR=6.3						
SDV				S	S	20 27 24.2	-5.8
	39nm,0.3s,baz=18,slow=17,SNR=17						
SDV	Santo Domingo	8.19	97	eP	P	20 25 54.9	-3.0
SDV				eS	S	20 27 24.5	-5.5
STH	Stony Hill	8.31	14	⇓iP	P	20 25 59.9	+0.3
STH				eS	S	20 27 25.6	-7.5
GWJ	Greenwich	8.33	14	⇓eP	P	20 25 59.3	-0.5
BBJ	Bamboo Saint A	8.52	10	⇓eP	P	20 26 01.9	-0.5
BBJ				eS	S	20 27 36.0	-2.2
OTAV	Otavalo	9.67	178	eP	P	20 26 18.2	-0.2
LPAZ	La Paz	28.16	158	P	P	20 29 52.0	+3.0
	1.1nm,0.6s,mb3.7						
CCM	Cathedral Cave	30.11	340	P	P	20 30 06.1	-0.1
	8.5nm,0.7s,mb4.6						
TXAR	Lajitas Array	30.16	313	P	P	20 30 06.3	-0.5
	0.5nm,0.5s,mb3.5,baz=135,slow=8.8,SNR=6.7						
TXAR				PcP	PcP	20 33 05.7	-1.5
	0.3nm,0.5s,baz=135,slow=3.8,SNR=3.5						
SADO	Sadowa	34.68	360	P	P	20 30 47.5	+1.5
	2.3nm,0.5s,mb4.4,baz=198,slow=9.6,SNR=2.5						
ANMO	Albuquerque	35.40	319	P	P	20 30 53.3	+1.1
	1.9nm,0.6s,mb4.2,baz=135,slow=9.3,SNR=5.1						
PDAR	Pinedale Array	42.26	326	P	P	20 31 50.3	+1.0
	1.1nm,0.7s,mb3.6,baz=124,slow=11,SNR=9.7						
PDAR				PcP	PcP	20 33 41.6	-1.5
	0.7nm,0.8s,baz=143,slow=4.9,SNR=5.1						
ULM	Lac du Bonnet	42.56	344	P	P	20 31 51.0	-0.6
	6.8nm,0.6s,mb4.6,baz=148,slow=7.6,SNR=17						
NVAR	Mina Array Bea	45.26	315	P	P	20 32 14.4	+0.8
	0.8nm,0.5s,mb3.8,baz=118,slow=7.7,SNR=4.4						
NVAR				PcP	PcP	20 33 53.1	-0.2
	1.7nm,0.6s,baz=126,slow=5.1,SNR=6.7						
BOZ	Bozeman (W)	45.29	328	eP	P	20 32 14.0	+0.4
	2.2nm,0.7s,mb4.1						
HLID	Hailey	45.52	324	eP	P	20 32 16.3	+0.7
	1.6nm,0.8s,mb4.0						
SCHQ	Schefferville	45.77	10	P	P	20 32 18.4	+1.0
	3.7nm,1.1s,mb4.2,baz=280,slow=8.4,SNR=7.5						
YBH	Yreka Blue Hor	49.78	317	P	P	20 32 47.0	-1.9
	0.5nm,0.3s,mb4.0,baz=75,slow=7.4,SNR=3.9						
YKA	Yellowknife Ar	58.44	341	P	P	20 33 50.7	-1.2
	6.8nm,0.6s,mb4.8,baz=132,slow=7.4,SNR=129						
YKA	Yellowknife Ar	58.44	341	P	P	20 33 50.7	-1.2
DLBC	Dease Lake	61.90	332	P	P	20 34 15.4	-0.2
	2.5nm,0.9s,mb4.4,baz=136,slow=8.1,SNR=4.4						
INK	Inuvik	68.20	341	eP	P	20 34 55.3	-0.8
	7.7nm,0.9s,mb4.7						
ILAR	Eielson Array	71.75	335	P	P	20 35 17.1	-0.5
	2.2nm,0.8s,mb4.1,baz=107,slow=4.3,SNR=14						
ESDC	Sonseca Array	72.10	52	P	P	20 35 20.2	0.0
	1.1nm,0.7s,mb3.9,baz=269,slow=5.5,SNR=6.0						
ARCES	ARCESS Array B	85.71	20	P	P	20 36 33.2	-0.3
	1.3nm,0.5s,mb4.5,baz=286,slow=4.4,SNR=13						
ARCES	ARCESS Array B	85.71	20	P	P	20 36 33.2	-0.3
SNAA	Sanae	95.03	162	P	P	20 37 15.5	-1.6
	2.4nm,1.0s,mb4.6,baz=310,slow=7.1,SNR=3.7						
CN2	Changchun	122.11	339	ePKP	PKPdf	20 42 50.8	+2.3
WMQ	Urumqi	125.10	12	ePKP	PKPdf	20 42 57.0	+2.7
HHC	Hu-ho-hao-te	128.54	350	ePKP	PKPdf	20 43 04.8	+3.7
HHC				PKS	PKS	20 46 37.0	+0.4
ASAR	Alice Springs	145.91	242	PKPbc	PKPbc	20 43 33.3	-0.8
	2.1nm,0.5s,baz=116,slow=3.5,SNR=24						
WRAB	Tennant Creek	146.48	249	ePKP	PKPdf	20 43 35.0	+0.7
WRA	Warramunga Arr	146.49	249	PKPbc	PKPbc	20 43 34.5	-1.1
	0.8nm,0.4s,baz=96,slow=3.3,SNR=21						
CMAR	Chiang Mai Arr	151.68	4	PKPbc	PKPdf	20 43 48.7	+6.2
	1.9nm,0.9s,baz=330,slow=4.1,SNR=7.4						

DJA 15 20:25:24.4±0.9,9.60S×117.27E,h25km±5km,MD5.3/3, ML4.3/4,7C-2D,Error ellipse: s-maj=27.5km s-min=17.8km az=26.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	1.59	314	⇑ePn	Pn	20 25 49.4	-1.9
	178nm,0.2s						
KEDI	Kedomdong	1.59	314	⇓iP	Pn	20 25 51.7	+0.4
KEDI				⇓eSn	Sn	20 26 07.8	-3.4
RATI	Rata	1.92	297	⇑ePn	Pn	20 25 53.4	-2.7
	175nm,0.2s						
RATI				⇑eSn	Sn	20 26 16.1	-3.6
KELI	Kelakatan	3.07	296	⇑ePn	Pn	20 26 11.9	-0.6
	96nm,0.2s						
KELI				⇑eSn	Sn	20 26 43.9	-4.8
SRDI	Scrawed	3.28	290	⇑ePn	Pn	20 26 12.5	-3.0
	137nm,0.2s						
SRDI				⇑eSn	Sn	20 26 48.6	-5.6

ISK 15 20:31:04.4,39.40N×40.81E,h5km,MD4.1
IDC 15 20:31:05.0±3.6,39.13N×41.00E,mb3.4/5,mb1 3.6/7, mb1mx3.5/19,mbtmp3.4/7,ML1.5/2,MS3.5/6,Ms1 3.5/6, ms1mx3.4/15,Error ellipse: s-maj=83.8km s-min=16.2km az=3.0
CSEM 15 20:31:05.2±0.1,39.36N×40.77E,h2km,mb4.1/2,Error ellipse: s-maj=2.2km s-min=2.0km az=178.0
MOS 15 20:31:06.5±0.9,39.37N×40.85E,h10km,mb4.1/2,Error ellipse: s-maj=14.2km s-min=9.3km az=82.9
ZUR_RM 15 20:31:06,39.23N×40.97E,h12km,Mw4.4/13,Moment Tensor Solution. s13 Moment tensor: Scale 10^15Nm; Mrr0.68; Mθθ-4.44; Mφφ3.76; Mrθ0.65; Mθφ-0.11; Mφr-0.02; Best double couple: Mo4.14×10^15 NP1:φs314°,δ85°, λ-175°. NP2:φs224°,δ85°,λ-5°. Principal axes: T 3.761, Plg1°, Azm89°; N.762, Plg83°, Azm355°; P -4.524, Plg7°, Azm179°;
NEIC 15 20:31:06.8±1.1,39.23N×40.97E,h10km,mb4.0/3 Error ellipse: s-maj=20.8km s-min=11.7km az=163.0
ISC 15 20:31:05.7±0.3,39.40N±0.03×40.82E±0.03,h2km,n72, σ0.91/77,mb3.5/8,MS3.6/6,3C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BINT	Bingol	0.58	207	iPG	Pg	20 31 16.5	-0.8
VRT	Varto	0.61	115	iPG	Pg	20 31 17.4	-0.5
EZM	Erzurum	0.66	39	iPG	Pg	20 31 18.0	-0.9
ERZM	Erzurum	0.66	39	iP	Pg	20 31 18.0	-0.9
ERZM				iS	Sg	20 31 27.1	-0.6
EZC	Erzincan	0.85	295	PN	Pn	20 31 27.5	+3.0
PTK	Pertek	1.22	246	PN	Pn	20 31 28.6	-1.1
BTMT	Batman	1.31	156	PN	Pn	20 31 30.7	-0.3
BTMT				SN	Sn	20 31 50.4	+1.1
GUMT	Gumushane	1.48	316	PN	Pn	20 31 34.0	+0.5
BEST	Besiri	1.54	167	iP	Pn	20 31 34.6	+0.3
DIY	Diyarbakir	1.57	197	PN	Pn	20 31 35.2	+0.5
ELZG	Elazig	1.69	239	iP	Pn	20 31 37.3	+0.8
KARS	Kars	2.13	54	ePN	Pn	20 31 42.3	-0.4
MYA	Malataya	2.15	241	ePN	Pn	20 31 42.6	-0.5
VANB	Van	2.15	111	ePN	Pn	20 31 43.7	+0.6
MALT	Malatya	2.16	241	ePn	Pn	20 31 43.3	+0.1
MALT				eSn	Sn	20 32 09.2	-1.6
MALT	Malatya	2.16	241	ePn	Pn	20 31 42.7	-0.5
MALT				eSn	Sn	20 32 09.2	-1.6
TVAN	Van	2.19	112	iP	Pn	20 31 44.5	+0.8
VANT	Van	2.22	115	ePN	Pn	20 31 43.7	-0.3
URFA	Urfa	2.50	219	ePN	Pn	20 31 48.1	0.0
HKR	Hakkari	2.92	127	ePN	Pn	20 31 54.9	+0.8
SVST	Sivas	3.01	278	iP	Pn	20 32 01.0	+5.6
GNI	Garni	3.12	75	ePN	Pn	20 31 56.8	0.0
GNI	Garni	3.12	75	Pn	Pn	20 31 56.4	-0.4
	2.2nm,0.3s,baz=274,slow=3.3,SNR=18						
GNI				LR	LR	20 32 42.7	
	comp=Z,196nm,18.1s,baz=167,slow=32						
GNI				Lg		20 32 48.3	
	3.2nm,0.3s,baz=344,slow=20,SNR=3.1						
GNI	Garni	3.12	75	Pn	Pn	20 31 56.4	-0.4
GNI				Lg		20 32 48.3	
GZT	Gaziantep	3.27	233	iP	Pn	20 31 58.9	-0.1
TOKT	Tokat	3.42	287	ePN	Pn	20 32 01.4	+0.3
MSL	Mosul	3.58	149	ePn	Pn	20 32 02.5	-1.0
MSL				ePb	Pb	20 32 11.5	+1.9
MSL				iSn	Sn	20 33 02.5	+16
MSL				eSg	Sg	20 33 21.5	+17
GAZ	Gaziantep	3.60	233	ePN	Pn	20 32 03.0	-0.8
TI2	Plekhanov	3.80	51	⇑iP	Pn	20 32 06.0	-0.5
TI2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TI2				pmax	pmax		
	comp=Z,50nm,1.0s						
TI2				pmax	pmax		
	comp=Z,90nm,1.0s						
TI2				MLR	MLR		
	comp=N,4μm,6.0s						
TI2				MLR	MLR		
	comp=E,3μm,6.0s						
TI2				MLR	MLR		
	comp=Z,2μm,6.0s						
TI2	Plekhanov	3.80	51	⇑iP	Pn	20 32 06.0	-0.5
	comp=Z,10.0nm,0.8s						
BNN	Bunyan	3.91	264	ePN	Pn	20 32 08.5	+0.4
KVT	Kavak	4.02	296	ePN	Pn	20 32 08.7	-1.0
ZEI	Tsey	4.10	34	eP	Pn	20 32 11.5	+0.7
SOC	Sochi	4.27	349	eP	Pn	20 32 11.8	-1.4
SOC				e		20 32 54.7	
SOC				pmax	pmax		
	comp=Z,73nm,1.3s						
SOC				pmax	pmax		
	comp=N,71nm,1.0s						
SOC				pmax	pmax		
	comp=E,9.0nm,0.3s						
SOC				MLR	MLR		
	comp=Z,511nm,12.0s						
SOC				MLR	MLR		
	comp=N,534nm,13.0s						
SOC				MLR	MLR		
	comp=E,231nm,11.0s						
SOC	Sochi	4.27	349	eP	Pn	20 32 11.8	-1.4
	comp=E,71nm,1.0s						
COBT	Iskenderun	4.61	233	iP	Pn	20 32 33.8	+16
AVNT	Avonos	4.68	264	eP	Pn	20 32 19.9	+0.8
KIV	Kislovodsk	4.77	16	iP	Pn	20 32 21.2	+0.9
KIV				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KIV	Kislovodsk	4.77	16	eP	Pn	20 32 20.9	+0.7
KIV	Kislovodsk	4.77	16	eP	Pn	20 32 21.0	+0.7
CTKT	Corum	4.79	287	iP	Pn	20 32 29.9	+9.2
BOYT	Boyabat	4.95	296	iP	Pn	20 32 33.0	+10
KAMT	Kaman	5.51	272	ePN	Pn	20 32 31.1	+0.4
BRTR	Keskin Array B	5.56	276	Pn	Pn	20 32 31.2	-0.2
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=5.6						
BRTR	Keskin Array B	5.56	276	Pn	Pn	20 32 31.2	-0.3
ELDT	Eldivan	5.79	283	eP	Pn	20 32 43.3	+8.6
GOF	Gofitskoye	5.89	15	eP	Pn	20 32 41.0	+4.8
GOF				pmax	pmax		
	comp=Z,10.0nm,1.3s						
BHD	Baghdad	6.75	154	ePn	Pn	20 32 28.0	-20
BHD				ePg	Pg	20 33 08.0	-13
BHD				eSn	Sn	20 34 04.0	-2.8
BHD				eLg		20 34 51.0	
BHD				eSg	Sg	20 34 59.0	+8.5
SGKT	Sivrigoynuk	6.83	283	iP	Pn	20 32 59.1	+10
EIL	Elat	10.84	208	LR	LR	20 38 20.9	
	comp=Z,275nm,20.0s,baz=62,slow=41						
OBN	Obninsk	15.98	351	⇑iP	P	20 34 51.6	-1.5
OBN				pmax	pmax		
	comp=Z,11nm,0.8s						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s						
OBN	Obninsk	15.98	351	P	P	20 34 51.5	-1.6
	comp=Z,12nm,0.7s						
OBN	Obninsk	15.98	351	iP	P	20 34 51.6	-1.5
	comp=Z,100nm,12.0s						
MOS	Moscow	16.49	354	eP	P	20 35 06.4	+6.9
VAE	Valguarnera	20.75	273	LR	LR	20 43 41.0	
	comp=Z,169nm,20.5s,MS3.4,baz=116,slow=36						
VSU	Vasula	21.12	339	iP	P	20 35 54.1	+0.2
GERES	GERESS Array B	21.54	305	P	P	20 35 59.1	+0.9
	comp=Z,0.7nm,0.8s,mb3.1,baz=104,slow=11,SNR=5.4						
SVE	Sverdlovsk	21.75	30	eP	P	20 36 05.0	+4.7
SVE				MLR	MLR		
	comp=N,200nm,12.0s						
SVE				MLR	MLR		
	comp=Z,300nm,12.0s,MS3.9						
FINES	FINESS Array B	23.88	342	P	P	20 36 22.1	+1.2
	comp=Z,6.8nm,0.9s,mb4.1,baz=146,slow=10.0,SNR=7.2						
FINES	FINESS Array B	23.88	342	P	P	20 36 22.1	+1.1
JOF	Joensuu	24.25	349	ep	P	20 36 24.3	-0.3
	comp=Z,2.7nm,0.7s,mb3.8						
BVAR	Borovoye Array	24.38	46	P	P	20 36 26.7	+0.7
	comp=Z,0.5nm,0.8s,mb3.0,baz=252,slow=4.6,SNR=3.3						
KAF	Kangasniemi	24.41	343	ep	P	20 36 28.3	+2.1
	comp=Z,2.8nm,0.7s,mb3.8						
KAF	Kangasniemi	24.41	343	eP	P	20 36 28.3	+2.1
KAF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
AAK	Ala-Archa	25.52	72	iP	P	20 36 37.0	0.0
AAK				pmax	pmax		
	comp=Z,5.0nm,1.8s,mb3.7						
AAK				MLR	MLR		
	comp=Z,100nm,21.0s,MS3.3						
AAK	Ala-Archa	25.52	72	eP	P	20 36 32.2	-4.8
	comp=Z,3.2nm,0.9s,mb3.9						
AAK	Ala-Archa	25.52	72	iP	P	20 36 37.0	0.0
	comp=Z,100nm,21.0s						
NOA	NORSAR Array B	28.35	330	P	P	20 37 02.8	+0.1
	comp=Z,0.7nm,0.9s,mb3.3,baz=83,slow=13,SNR=2.5						
NOA				LR	LR	20 49 06.1	
	comp=Z,45nm,21.0s,MS3.0,baz=105,slow=38						
ARCES	ARCESS Array B	31.29	350	LR	LR	20 51 29.4	
	comp=Z,89nm,21.0s,MS3.4,baz=192,slow=39						
FRB	Frobisher Bay	63.14	332	LR	LR	21 10 54.6	
	comp=Z,250nm,21.1s,MS4.4,baz=76,slow=38						
YKA	Yellowknife Ar	76.55	349	P	P	20 42 58.3	-0.2
	comp=Z,0.4nm,0.6s,mb3.5,baz=19,slow=6.0,SNR=11						
YKA	Yellowknife Ar	76.55	349	P	P	20 42 58.4	-0.1

MAN 15 20:55:55.4,7.74N×126.68E,h1km,mb3.5,ML2.2,MS1.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BIPH	Bislig	0.54	325	iP	Pg	20 56 08.1	+1.9
BIPH				iS	Sg	20 56 14.8	+1.3
MATI	Mati	0.89	208	eP	Pg	20 56 12.9	-0.2
MATI				eS	Sg	20 56 23.1	-1.8
BUKP	Musuan	1.60	275	eP	Pn	20 56 24.6	-0.4
BUTP	Butuan	1.61	320	eP	Pn	20 56 24.6	-0.5

JMA 15 21:04:37.1±0.2,36.71N×144.32E,h52km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JFK	Kawauchi	2.83	284	P	P	21 05 21.2	+0.2
JFK				S	S	21 05 54.2	+0.1
ONAJ	Iwakimizuishiy	2.85	279	eS	S	21 05 54.4	-0.1
JIO	Ouri	2.93	307	P	P	21 05 22.7	+0.3
JMK	Ichinoseki	3.32	313	P	P	21 05 27.9	0.0
BSO1	Boso 1	3.41	234	P	P	21 05 28.7	-0.4
JRY	Ryogami san	4.43	263	P	P	21 05 43.3	-0.2
JRY				S	S	21 06 33.5	-0.8
JOD2	Odawara 2	4.48	253	P	P	21 05 44.9	+0.6
JOT	Ohata	5.32	332	P	P	21 05 56.0	+0.1
JKB	Kayabe	5.76	335	P	P	21 06 02.0	-0.1
JCH	Churui	5.94	353	P	P	21 06 01.7	-2.9
JTKR	Abashiri--Toko	7.26	358	P	P	21 06 20.0	-3.1

IDC 15 21:09:10.2±38.0,30.08S×177.53W,mb3.9/3,mb1 4.1/3, mb1mx3.8/14,mbtmp3.9/3,Error ellipse: s-maj=701.9km s-min=168.0km az=97.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.95	256	P	P	21 16 04.0	-1.9
	0.9nm,0.5s,baz=82,slow=7.1,SNR=2.5						
ASAR	Alice Springs	43.53	266	P	P	21 17 15.3	-2.1
	1.0nm,0.7s,baz=104,slow=7.7,SNR=12						
WRA	Warramunga Arr	44.49	272	P	P	21 17 23.8	-1.5
	0.7nm,0.3s,baz=111,slow=8.1,SNR=22						

IDC 15 21:16:40.3±3.0,7.33S×128.35E,mb4.2/1,mb1 4.4/3, mb1mx3.9/11,mbtmp4.2/3,ML4.3/2,Error ellipse: s-maj=272.5km s-min=50.7km az=72.0
ISC 15 21:16:59.8±2.2,8.4S±0.1×129.2E±0.1,h33km,n8, σ1.24/13,mb3.8/1,Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	5.36	144	eP	P	21 18 22.6	+3.1
	22nm,0.1s						
KAKA				eS	S	21 19 28.8	+7.8
FITZ	Fitzroy Crossi	10.26	199	eP	P	21 19 27.8	-0.1
	20nm,0.6s						
FITZ				eS	S	21 21 22.6	-0.2
WRA	Warramunga Arr	12.53	157	Pn	P	21 19 56.8	-1.8
	1.8nm,0.3s,baz=332,slow=13,SNR=87						
WRA				Sn	S	21 22 16.7	-1.3
	3.6nm,0.3s,baz=333,slow=22,SNR=13						
WB2	Warramunga Arr	12.53	157	eP	P	21 19 57.5	-1.2
WB2				eS	S	21 22 17.9	-0.2
ASPA	Alice Springs	15.86	164	eP	P	21 20 43.3	+1.0
ASPA				eS	S	21 23 36.8	0.0
ASAR	Alice Springs	15.86	164	P	P	21 20 42.9	+0.6
	1.5nm,0.3s,baz=339,slow=9.5,SNR=49						
ASAR				S	S	21 23 39.2	+2.4
	0.8nm,0.3s,baz=344,slow=22,SNR=6.1						
STKA	Stephens Creek	26.07	155	P	P	21 22 26.8	-5.5
	1.9nm,0.6s,mb3.8,baz=334,slow=10,SNR=5.5						
LPAZ	La Paz	150.09	145	PKPbc	PKPdf	21 36 37.8	-5.3
	1.0nm,0.4s,baz=149,slow=1.2,SNR=6.5						
LPAZ				PKPab	PKPab	21 36 45.9	-10
	0.5nm,0.3s,baz=195,slow=5.1,SNR=4.8						

BJI 15 21:34:03.9,2.79N×95.66E,h22km,mB5.2,mb4.7
NEIC 15 21:34:05.9±0.5,2.79N×95.62E,mb4.5/14,Error ellipse: s-maj=10.9km s-min=7.7km az=53.0
IDC 15 21:34:05.8±0.9,2.74N×95.61E,h21km±3km,mb4.0/9, mb1 4.2/10,mb1mx4.0/18,mbtmp4.2/10,ML4.5/1,MS3.3/1, Ms1 3.5/1,ms1mx2.8/22,Error ellipse: s-maj=36.5km s-min=13.8km az=51.0
ISC 15 21:34:03.8±0.6,2.76N±0.07×95.62E±0.07,h22km, h22km±.9km:pP-P,n45,σ0.85/44,mb4.5/30,2C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	5.61	63	eP	Pn	21 35 29.3	+1.1
CM31	Chiang Mai Arr	15.94	12	P	P	21 37 47.2	-1.5
	21nm,0.8s						
CMAR	Chiang Mai Arr	15.94	12	Pn	P	21 37 48.0	-0.7
	0.6nm,0.3s,baz=201,slow=11,SNR=69						
CMAR				LR	LR	21 44 39.0	
	comp=Z,100nm,18.4s,baz=200,slow=40						
CHG	Chiang Mai	16.29	11	P	P	21 37 53.2	+0.1
NANT	Nan	16.70	17	P	P	21 38 00.0	+1.7
KKM	Kota Kinabalu	20.79	80	eP	P	21 38 46.5	+0.2
KMI	Kunming	23.27	17	P	P	21 39 12.4	+1.4
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.3						
KMI	Kunming	23.27	17	P	P	21 39 12.4	+1.4
	comp=Z,14nm,1.2s,mb4.3						
JIRN	Jiri	26.35	341	eP	P	21 39 41.1	+0.7
	comp=Z,14nm,0.6s,mb4.7						
PKI	Pulchoki	26.54	339	eP	P	21 39 42.0	-0.1
	comp=Z,9.8nm,0.6s,mb4.5						
DMN	Daman	26.68	339	eP	P	21 39 43.1	-0.3
	comp=Z,19nm,0.8s,mb4.7						
KKN	Kakani	26.78	339	eP	P	21 39 44.8	+0.5
	comp=Z,31nm,0.9s,mb4.8						
LSA	Lhasa	27.13	351	P	P	21 39 49.0	+1.5
LSA	Lhasa	27.13	351	eP	P	21 39 48.4	+0.9
	comp=Z,11nm,0.8s,mb4.4						
GKN	Gorkha	27.21	338	eP	P	21 39 48.4	+0.2
	comp=Z,46nm,1.0s,mb5.0						
KOLN	Koldanda	27.40	336	eP	P	21 39 49.0	-0.9
	comp=Z,25nm,0.9s,mb4.8						
CD2	Chengdu	29.04	15	eP	P	21 40 03.6	-1.1
ENH	Enshi	30.36	24	⇑eP	P	21 40 14.9	-1.6
	comp=Z,6.3nm,0.7s,mb4.5						
WHN	Wuhan	32.83	31	eP	P	21 40 39.0	+0.8
XAN	Xi'an	33.51	20	P	P	21 40 42.8	-1.2
XAN				AP	pP	21 40 49.3	-1.3
XAN				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.5						
LZH	Lanzhou	34.03	12	eP	P	21 40 47.3	-1.2
LZH				AP	pP	21 40 54.8	-0.2
LZH				XP	sP	21 40 58.5	+0.6
LZH				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.7						
LZH	Lanzhou	34.03	12	eP	P	21 40 47.2	-1.3
	comp=Z,13nm,1.2s,mb4.7						
LZH				pP	pP	21 40 54.8	-0.2
LZH				sP	sP	21 40 58.5	+0.6
GTA	Gaotai	36.68	5	eP	P	21 41 10.6	-0.5
GTA				AP	pP	21 41 14.9	-2.7
GTA				XP	sP	21 41 17.8	-2.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
WMQ	Urumqi	41.49	351	P	P	21 41 51.8	+0.8
WMQ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
BJT	Baijiatuau	41.51	24	eP	P	21 41 52.1	+0.9
	comp=Z,18nm,0.8s,mb4.8						
BJT				epP	pP	21 41 59.1	+1.3
BJI	Beijing	41.53	24	eP	P	21 41 52.9	+1.5
BJI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
BJI	Beijing	41.53	24	eP	P	21 41 52.9	+1.5
	comp=Z,23nm,0.8s,mb4.9						
AAK	Ala-Archa	43.96	337	P	P	21 42 10.3	-0.9
	comp=Z,2.0nm,0.6s,mb4.0						
WRA	Warramunga Arr	44.20	122	P	P	21 42 13.5	+0.1
	comp=Z,3.0nm,0.7s,mb4.1,baz=298,slow=9.3,SNR=17						
WRA				pP	pP	21 42 20.5	+0.5
	comp=Z,1.8nm,0.8s,baz=300,slow=9.3,SNR=6.4						
WRAB	Tennant Creek	44.20	122	P	P	21 42 13.1	-0.3
	comp=Z,5.1nm,0.6s,mb4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.59	127	P	P	21 42 24.8	+0.3
	comp=Z,1.3nm,0.7s,mb4.0,baz=301,slow=7.9,SNR=13						
ASAR				PcP	PcP	21 44 03.0	-0.2
	comp=Z,0.5nm,1.0s,baz=288,slow=3.1,SNR=3.9						
SONM	Songino Array	45.86	10	P	P	21 42 26.4	+0.1
	comp=Z,4.3nm,0.9s,mb4.4,baz=195,slow=8.8,SNR=11						
SONM				pP	pP	21 42 33.2	+0.2
	comp=Z,5.0nm,0.7s,baz=190,slow=9.4,SNR=15						
SONM				PcP	PcP	21 44 04.0	+0.1
	comp=Z,0.5nm,0.7s,baz=180,slow=1.4,SNR=3.9						
ULN	Ulaanbaatar	46.01	11	eP	P	21 42 26.9	-0.6
	comp=Z,2.5nm,0.7s,mb4.2						
ULN				e	pP	21 42 33.8	-0.3
CN2	Changchun	48.67	29	eP	P	21 42 48.6	+0.2
KURK	Kurchatov	49.90	346	eP	P	21 42 57.6	-0.2
	comp=Z,6.3nm,0.7s,mb4.8						
KURK				e	pP	21 43 04.9	+0.4
HIA	Hailar	50.71	20	eP	P	21 43 04.0	0.0
	comp=Z,2.4nm,0.6s,mb4.3						
ZAL	Zalesovo	51.78	352	P	P	21 43 12.2	+0.2
	comp=Z,6.4nm,0.6s,mb4.7,baz=307,slow=5.9,SNR=38						
ZAL				pP	pP	21 43 19.4	+0.6
	comp=Z,5.1nm,0.5s,baz=299,slow=6.5,SNR=12						
PMG	Port Moresby	52.75	104	P	P	21 43 19.5	-0.4
	comp=Z,6.9nm,0.7s,mb4.7,baz=248,slow=9.5,SNR=4.6						
BVAR	Borovoye Array	54.28	342	P	P	21 43 29.6	-0.9
	comp=Z,4.5nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=25						
BVAR				pP	pP	21 43 36.8	-0.5
	comp=Z,4.6nm,0.6s,baz=146,slow=11,SNR=15						
CTA	Charters Tower	54.61	117	P	P	21 43 32.2	-1.2
	comp=Z,2.1nm,0.5s,mb4.5,baz=335,slow=5.3,SNR=3.3						
CHKZ	Chkalovo	54.76	342⇑	eP	P	21 43 33.5	-0.7
	comp=Z,13nm,0.8s,mb5.0						
CHKZ				epP	pP	21 43 40.4	-0.5
KMBO	Kilima Mbogo	58.48	267	P	P	21 44 01.8	+0.6
	comp=Z,1.4nm,0.9s,mb4.0						
BRTR	Keskin Array B	66.90	312	P	P	21 44 57.8	+0.9
	comp=Z,0.2nm,0.3s,mb3.6,baz=120,slow=35,SNR=2.0						
BRTR				pP	pP	21 45 02.7	-1.0
	comp=Z,0.8nm,0.8s,baz=130,slow=7.1,SNR=4.9						
FINES	FINESS Array B	77.90	333	pP	pP	21 46 08.2	-0.2
	comp=Z,0.8nm,0.5s,baz=108,slow=6.0,SNR=3.4						
GERES	GERESS Array B	82.61	319	P	P	21 46 27.6	+0.8
	comp=Z,0.1nm,0.4s,baz=281,slow=6.8,SNR=3.6						
GERES				pP	pP	21 46 34.7	+0.9
	comp=Z,1.0nm,0.8s,baz=90,slow=4.0,SNR=5.8						

*TEH **15** 21:49:12.9, 30.54N×56.66E, h13km, Mn3.2*
*CSEM **15** 21:49:14.6±0.3, 30.81N×56.69E, h14km, ML4.0/2, Error ellipse: s-maj=9.4km s-min=4.5km az=53.0*
*THR **15** 21:49:15.2±0.5, 30.77N×56.73E, h14km±5km, ML3.1*
ISC 15 21:49:14.0±0.8**, 30.76N**±0.06×**56.46E**±0.09**, h14**km**, n16, σ1§45**/19**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.82	162	ePG	Pg	21 49 30.5	0.0
KRBR				eSG	Sg	21 49 41.2	-0.4
KRBR				AML	AML	21 49 43.0	
	comp=N,815nm,0.3s						
KRBR	Kerman	0.82	162	ePg	Pg	21 49 30.5	0.0
	SNR=90						
KRBR				eSg	Sg	21 49 41.2	-0.4
	comp=N,815nm,0.3s,SNR=90						
IBAF	Bafgh	1.13	317	Pg	Pg	21 49 38.2	+1.6
IMEH	Mehriz	1.71	292	Pn	Pn	21 49 48.7	+5.1
ICHK	Chekchek	2.29	311	Pn	Pn	21 49 55.7	+3.7
IPAR	Pars	3.09	254	Pn	Pn	21 50 02.2	-1.2
BNDS	Bandar-Abbas	3.36	184	ePN	Pn	21 50 10.0	+2.8
BNDS				AML	AML	21 51 11.3	
	comp=N,41nm,0.6s						
IMOK	Mook	3.68	243	Pn	Pn	21 50 10.3	-1.4
NASN	Na'in	3.71	304	ePN	Pn	21 50 17.2	+5.0
NASN				eSG	Sg	21 51 16.7	-1.0
NASN				AML	AML	21 51 22.4	
	comp=N,38nm,0.6s						
NASN	Na'in	3.71	304	ePn	Pn	21 50 17.2	+5.0
	SNR=52						
NASN				eSg	Sg	21 51 16.7	-1.0
	comp=N,38nm,0.6s,SNR=90						
GHIR	Ghir-Karzin	3.91	232	ePN	Pn	21 50 19.4	+4.5
GHIR				AML	AML	21 51 45.0	
	comp=N,14nm,0.6s						
ZHSF	Zahedan	3.91	106	ePN	Pn	21 50 13.8	-1.1
IFIR	Firoozkooh	5.77	328	Lg		21 52 21.5	
IFIR	Firoozkooh	5.77	328	Pn	Pn	21 50 41.1	-0.2
IVRN	Varamin	5.80	318	Pn	Pn	21 50 41.5	-0.3
IDMV	Damavand	6.07	323	Pn	Pn	21 50 45.4	-0.1

*ISK **15** 21:49:26.2, 37.09N×28.59E, h18km, MD3.1*
*ATH **15** 21:49:28.0, 37.02N×28.36E, h27km, MD2.9/4*
*NEIC **15** 21:49:28.4, 37.00N×28.34E, h30km, MD3.0(ATH), After ATH.*
ISC 15 21:49:27.1±0.5**, 37.08N**±0.03×**28.60E**±0.04**, h21**km±7km**, n15, σ0§80**/21**, 1D, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.26	282	i PG	Pb	21 49 32.2	-0.9
DALT	Dalyan (Mudla)	0.32	174	PG	Pb	21 49 33.4	-0.7
DALT				SG	Sb	21 49 39.0	+0.2
FETY	Fethiye	0.59	139	PG	Pb	21 49 38.3	-0.4
FETY				SG	Sb	21 49 47.4	+0.8
DNZL	Cakiroluk	0.70	31	i P	Pb	21 49 40.1	-0.4
DNZL				i S	Sb	21 49 50.3	+0.5
DENT	Denizli	0.75	27	PG	Pb	21 49 41.3	-0.1
AYDN	Tasoluk	0.81	315	i P	Pb	21 49 42.2	-0.2
AYDN				i S	Sb	21 49 52.5	-0.3
BDRM	Kayabasi	0.92	269	i P	Pb	21 49 44.7	+0.5
BDRM				i S	Sb	21 49 57.8	+1.8
ARG	Arkhangelos	0.94	204⇓	i PN	Pn	21 49 44.3	-1.0
BODT	Bodrum	1.03	269	PG	Pb	21 49 46.2	+0.1
ELL	Elmali	1.10	107	ePN	Pn	21 49 47.2	-0.3
KSL	Kastellorizon	1.23	139	ePN	Pn	21 49 52.5	+3.2
MANT	Manisa	1.41	359	i P	Pn	21 49 52.8	+0.9
MANT				i S	Sn	21 50 14.1	+4.2
SMG	Samos	1.53	295	ePN	Pn	21 49 53.6	-0.1
BLCB	Balcova	1.79	317	ePN	Pn	21 49 56.6	-0.8
KARP	Karpathos	1.92	217	ePN	Pn	21 49 58.9	-0.3

*LDG **15** 21:56:25.0±0.2, 19.17S×168.04E, h10km, Mb4.3/2, Error ellipse: s-maj=19.8km s-min=2.7km az=107.0*
*NEIC **15** 21:56:33.9±6.4, 19.52S×168.44E, h94km±59km, mb4.1/3, Error ellipse: s-maj=32.9km s-min=16.7km az=200.0*
*IDC **15** 21:56:33.4±9.3, 19.50S×168.50E, h88km±85km, mb3.9/10, mb1 4.0/10, mb1mx3.9/17, mbtmp4.2/10, MS3.7/2, Ms1 3.8/2, ms1mx3.2/22, Error ellipse: s-maj=43.3km s-min=23.7km az=13.0*
ISC 15 21:56:26.6±2.8**, 19.5S**±0.1×**168.4E**±0.1**, h38**km±25km**, n33, σ1§05**/18**, mb4.1**/10**, MS3.8**/2**, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.11	216	eP	P	21 57 14.3	-0.2
DZM				eS	S	21 57 50.5	-0.3
NOUC	Port Laguerre	3.21	217	eP	P	21 57 16.4	+0.5
NOUC				eS	S	21 57 53.0	-0.5
URZ	Urewera	20.13	160	P	P	22 01 00.8	+0.7
	10nm,0.9s,baz=336,slow=10.0,SNR=3.5						
CTA	Charters Tower	20.84	265	P	P	22 01 10.2	+2.5
	5.5nm,0.8s,baz=99,slow=12,SNR=4.7						
CTAO	Charters Tower	20.84	265	P	P	22 01 06.9	-0.8
	4.2nm,0.6s						
PMG	Port Moresby	22.88	293	P	P	22 01 31.5	+3.4
	6.6nm,0.7s,mb4.2,baz=108,slow=6.4,SNR=2.9						
STKA	Stephens Creek	27.02	238	P	P	22 02 08.7	+1.5
	1.0nm,0.5s,mb3.6,baz=50,slow=7.9,SNR=3.1						
WRAB	Tennant Creek	32.02	263	P	P	22 02 50.7	-1.3
	4.4nm,0.9s,mb4.3						
WRA	Warramunga Arr	32.03	263	P	P	22 02 51.1	-1.0
	1.1nm,0.7s,mb3.8,baz=104,slow=8.6,SNR=7.4						
ASAR	Alice Springs	32.29	256	P	P	22 02 54.1	-0.1
	7.2nm,0.5s,mb4.8,baz=84,slow=8.7,SNR=126						
ASAR				LR	LR	22 16 09.8	
	comp=Z,56nm,19.0s,MS3.3,baz=193,slow=36						
CMAR	Chiang Mai Arr	77.91	295	P	P	22 08 23.8	+1.0
	0.6nm,0.4s,mb3.9,baz=129,slow=3.6,SNR=7.7						
ULN	Ulaanbaatar	86.64	324	eP	P	22 09 07.9	+0.6
	1.0nm,0.6s,mb4.2						
YBH	Yreka Blue Hor	88.06	44	P	P	22 09 14.0	-0.4
	2.3nm,0.7s,mb4.5,baz=202,slow=5.4,SNR=5.3						
NVAR	Mina Array Bea	89.59	49	P	P	22 09 21.8	0.0
	0.2nm,0.6s,mb3.6,baz=217,slow=7.4,SNR=3.8						
NVAR	Mina Array Bea	89.59	49	P	P	22 09 21.8	0.0
ILAR	Eielson Array	90.75	18	P	P	22 09 23.9	-2.6
	0.4nm,0.4s,mb4.1,baz=238,slow=4.9,SNR=11						
ILAR				LR	LR	22 45 18.7	
	comp=Z,99nm,20.1s,MS4.2,baz=60,slow=32						
YKA	Yellowknife Ar	101.30	27	P	P	22 10 13.7	-0.8
	0.1nm,0.3s,baz=257,slow=5.0,SNR=5.0						
YKA	Yellowknife Ar	101.30	27	P	P	22 10 13.7	-0.9
ARCES	ARCESS Array B	125.15	345	PKP	PKPdf	22 15 23.1	+0.4
	0.8nm,0.3s,baz=68,slow=2.1,SNR=22						
GERES	GERESS Array B	144.38	331	PKP	PKPdf	22 15 58.6	-0.1
	0.8nm,0.6s,baz=22,slow=5.3,SNR=7.5						
CDF	Champ du Feu	147.41	336	ePKP1	PKPdf	22 16 06.8	+3.0
	8.3nm,0.9s						
HINF	Hinteralfeld	148.06	336	ePKP1	PKPdf	22 16 09.3	+4.4
HAU	Haudompre	148.09	337	ePKP1	PKPdf	22 16 09.3	+4.4
CABF	La Chapelle	149.35	336	ePKP1	PKPdf	22 16 13.0	+6.0
SSF	Saint Saulge	149.90	339	ePKP1	PKPdf	22 16 13.9	+6.0
LPL	La Plagne	149.98	334	ePKP1	PKPdf	22 16 14.7	+6.7
LPG	La Plagne	149.99	334	ePKP1	PKPdf	22 16 14.8	+6.8
MBDF	Montbardon	150.60	333	ePKP1	PKPdf	22 16 17.4	+8.4
	2.5nm,0.6s						
ORIF	Oris-en-Rattie	150.82	334	ePKP1	PKPdf	22 16 16.3	+7.0
	7.8nm,0.7s						
PGF	Pioggiola	151.21	327	ePKP1	PKPdf	22 16 17.1	+7.1
FRF	La Foret Royal	151.57	331	ePKP1	PKPdf	22 16 17.5	+7.0
SMRF	Simiane la Rot	151.71	333	ePKP1	PKPdf	22 16 18.6	+7.9
LMR	La Mourre	151.81	331	ePKP1	PKPdf	22 16 18.1	+7.2

*ISK **15** 22:06:56.9, 39.41N×40.80E, h5km, MD3.7*
*CSEM **15** 22:06:56.9, 39.41N×40.80E, h5km, MD3.7, After ISK*
ISC 15 22:06:59.8±0.5**, 39.38N**±0.03×**41.07E**±0.04**, h5**km**, n26, σ1§34**/33**, Turkey**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRT	Varto	0.43	125	PG	Pg	22 07 09.4	+0.9
EZM	Erzurum	0.57	23	i PG	Pg	22 07 10.1	-1.2
ERZM	Erzurum	0.57	23	i P	Pg	22 07 10.1	-1.2
ERZM				i S	Sg	22 07 20.6	+1.6
BINT	Bingol	0.68	222	i PG	Pg	22 07 08.5	-4.8
EZC	Erzincan	1.04	291	i PN	Pn	22 07 19.5	-1.4
EZC				i SN	Sn	22 07 36.5	+0.6
BTMT	Batman	1.23	165	PN	Pn	22 07 23.0	-0.6
PTK	Pertek	1.40	250	PN	Pn	22 07 20.8	-5.2
BEST	Besiri	1.49	174	i P	Pn	22 07 26.5	-0.9
BEST				i S	Sb	22 07 47.8	+1.0
DIY	Diyarbakir	1.62	204	PN	Pn	22 07 26.7	-2.5
GUMT	Gumushane	1.63	312	PN	Pn	22 07 24.5	-4.9
ELZG	Elazig	1.85	242	i P	Pn	22 07 28.3	-4.2
ELZG				i S	Sn	22 07 55.4	-1.2
VANB	Van	1.97	113	ePN	Pn	22 07 34.8	+0.6
KARS	Kars	1.98	51	ePN	Pn	22 07 34.2	-0.2
TVAN	Van	2.01	114	i P	Pn	22 07 36.3	+1.6
VANT	Van	2.03	117	ePN	Pn	22 07 34.6	-0.5
BCA	Borcka	2.11	11	ePN	Pn	22 07 33.7	-2.5
MYA	Malataya	2.32	244	ePN	Pn	22 07 34.4	-4.8
MALT	Malatya	2.32	244	ePN	Pn	22 07 34.4	-4.9
URFA	Urfa	2.62	223	ePN	Pn	22 07 39.5	-4.0
SVST	Sivas	3.21	278	i P	Pn	22 07 52.6	+0.7
SVST				i S	Sn	22 08 33.0	+2.0
GZT	Gaziantep	3.42	235	i P	Pn	22 07 49.3	-5.6
KAHT	Ahir Dag	3.73	243	i P	Pn	22 08 00.6	+1.3
COBT	Iskenderun	4.76	235	i P	Pn	22 08 23.5	+10
AVNT	Avonos	4.88	265	i P	Pn	22 08 24.1	+8.6
AVNT				i S	Sn	22 09 31.2	+18
CTKT	Corum	4.98	286	i P	Pn	22 08 20.7	+3.6
CTKT				i S	Sn	22 09 34.4	+19
BOYT	Boyabat	5.13	295	i P	Pn	22 08 25.5	+6.3

*NEIC **15** 22:43:49.2, 30.77N×56.87E, h14km, mb3.6/2, ML3.8(THR), MN4.1(TEH), After THR.*
*IDC **15** 22:43:49.6±4.9, 30.70N×56.95E, mb3.5/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, MS3.2/1, Ms1 3.4/1, ms1mx2.8/27, Error ellipse: s-maj=108.3km s-min=37.6km az=174.0*
*THR **15** 22:43:49.2±0.6, 30.77N×56.87E, h14km±5km, ML3.8*
*CSEM **15** 22:43:49.9±0.1, 30.70N×56.85E, h18km, ML3.8, Error ellipse: s-maj=3.8km s-min=2.8km az=48.0*
*TEH **15** 22:43:50.9, 30.58N×56.90E, h10km, Mn4.1*
ISC 15 22:43:50.0±0.5**, 30.72N**±0.05×**56.81E**±0.06**, h14**km**, n41, σ1§05**/43**, mb3.5**/5**, MS3.2**/1**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.74	183	i Pg	Pg	22 44 04.0	-1.0
KRBR	Kerman	0.74	183	i PG	Pg	22 44 04.2	-0.9
KRBR				AML	AML	22 44 20.4	
	comp=N,3μm,0.5s						
IBAF	Bafgh	1.37	309	Pg	Pg	22 44 13.7	-3.8
IMEH	Mehriz	2.00	290	Pn	Pn	22 44 24.0	+0.2
ICHK	Chekchek	2.55	307	Pn	Pn	22 44 30.8	-0.9
BNDS	Bandar-Abbas	3.36	190	ePN	Pn	22 44 44.3	+1.1
BNDS				AML	AML	22 45 42.1	
	comp=N,192nm,0.5s						
BNDS	Bandar-Abbas	3.36	190	ePn	Pn	22 44 44.0	+0.7
IPAR	Pars	3.37	256	Pn	Pn	22 44 44.1	+0.7
ZHSF	Zahedan	3.61	107	ePN	Pn	22 44 46.4	-0.4
ZHSF	Zahedan	3.61	107	ePn	Pn	22 44 46.0	-0.8
SHI	Shiraz	3.87	255	Pn	Pn	22 44 50.3	-0.2
IMOK	Mook	3.93	246	Pn	Pn	22 44 52.2	+0.9
IMOK	Mook	3.93	246	Pn	Pn	22 44 52.5	+1.2
NASN	Na'in	3.99	302	ePn	Pn	22 44 52.0	-0.2
NASN				eSg	Sb	22 45 53.0	+4.9
NASN	Na'in	3.99	302	ePN	Pn	22 44 52.8	+0.6
NASN				eSG	Sb	22 45 53.7	+5.6
NASN				AML	AML	22 46 13.0	
	comp=N,130nm,0.6s						
NASN	Na'in	3.99	302	ePn	Pn	22 44 52.8	+0.6
	SNR=52						
NASN				eSg	Sb	22 45 53.0	+4.9
GHIR	Ghir-Karzin	4.12	235	ePN	Pn	22 44 55.1	+1.0
GHIR				AML	AML	22 46 18.7	
	comp=N,106nm,0.7s						
GHIR	Ghir-Karzin	4.12	235	ePn	Pn	22 44 55.0	+0.9
IFIR	Firoozkooh	5.97	326	Pn	Pn	22 45 20.5	+0.3
IFIR				Lg		22 47 02.0	
IDMV	Damavand	6.28	322	Pn	Pn	22 45 24.8	+0.2
IQOM	Qom	6.34	312	Pn	Pn	22 45 25.1	-0.4
IQOM				Lg		22 47 13.0	
DAMV	Damavand	6.35	322	ePn	Pn	22 45 24.0	-1.6
DAMV	Damavand	6.35	322	ePN	Pn	22 45 24.8	-0.8
IAFJ	Afjeh	6.66	322	Pn	Pn	22 45 30.0	0.0
ASAO	Ashtian	6.88	305	ePn	Pn	22 45 32.0	-1.0
ASAO	Ashtian	6.88	305	ePN	Pn	22 45 32.2	-0.7
IRAZ	Razeghan	7.42	311	Pn	Pn	22 45 40.9	+0.2
RDF	Al-Radifah	8.24	260	eP	P	22 45 49.9	-2.2
NAY	Al-Naaiem	8.43	262	eP	P	22 45 52.8	-1.9
MALT	Malatya	16.92	302	eP	P	22 47 49.6	+1.7
	comp=N,1.7nm,0.5s						
KIV	Kislovodsk	17.30	324	eP	P	22 47 56.6	+3.9
	comp=N,6.8nm,0.9s						
AAK	Ala-Archa	18.46	45	eP	P	22 48 06.1	-1.1
	comp=N,1.4nm,0.7s						
AAK	Ala-Archa	18.46	45	eP	P	22 48 06.1	-1.1
	comp=N,1.4nm,0.7s						
BRTR	Keskin Array B	20.91	302	P	P	22 48 33.1	-1.3
	comp=N,1.1nm,0.6s,baz=114,slow=15,SNR=7.9						
BVAR	Borovoye Array	24.39	20	P	P	22 49 08.7	-0.1
	comp=N,1.3nm,0.6s,mb3.5,baz=203,slow=7.5,SNR=12						
FINES	FINESS Array B	36.73	336	P	P	22 50 59.6	+1.2
	comp=N,0.7nm,0.7s,mb3.6,baz=121,slow=8.1,SNR=4.1						
GERES	GERESS Array B	37.16	312	P	P	22 51 03.8	+1.6
	comp=N,0.4nm,0.6s,mb3.5,baz=90,slow=3.9,SNR=5.7						
CMAR	Chiang Mai Arr	39.99	98	LR	LR	23 09 59.1	
	comp=N,30nm,18.9s,MS3.2,baz=300,slow=39						
ILAR	Eielson Array	83.03	10	P	P	22 56 16.0	+0.2
	comp=N,0.3nm,0.7s,mb3.4,baz=324,slow=4.0,SNR=4.3						
YKA	Yellowknife Ar	86.85	356	P	P	22 56 36.5	+1.7
	comp=N,0.2nm,0.5s,mb3.6,baz=2.7,slow=5.4,SNR=7.0						
YKA	Yellowknife Ar	86.85	356	P	P	22 56 36.5	+1.6

*IDC **15** 22:48:59.2±4.6, 30.51N×56.83E, mb3.7/6, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, ML3.8/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/25, Error ellipse: s-maj=101.7km s-min=31.3km az=170.0*
*NEIC **15** 22:49:01.5, 30.76N×56.81E, h14km, mb3.8/4, ML3.8(THR), MN4.2(TEH), After THR.*
*THR **15** 22:49:01.5±0.7, 30.76N×56.81E, h14km±7km, ML3.8*
*CSEM **15** 22:49:02.4±0.1, 30.70N×56.83E, h25km, ML3.8, Error ellipse: s-maj=4.2km s-min=2.9km az=52.0*
*TEH **15** 22:49:05.6, 30.73N×56.81E, h10km, Mn4.2*
ISC 15 22:49:01.9±0.4**, 30.80N**±0.04×**56.86E**±0.05**, h14**km**, n50, σ1§21**/54**, mb3.7**/6**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.81	186	i Pg	Pg	22 49 16.0	-2.4
KRBR	Kerman	0.81	186	i PG	Pg	22 49 16.3	-2.1
KRBR				AML	AML	22 49 32.3	
	comp=E,3μm,0.2s						
IBAF	Bafgh	1.36	306	Pg	Pg	22 49 26.2	-3.0
IMEH	Mehriz	2.02	288	Pn	Pn	22 49 36.0	0.0
ICHK	Chekchek	2.55	305	Pn	Pn	22 49 43.1	-0.4
IPAR	Pars	3.43	255	Pn	Pn	22 49 57.8	+1.7
BNDS	Bandar-Abbas	3.44	190	ePN	Pn	22 49 56.3	+0.1
BNDS				AML	AML	22 50 51.0	
	comp=N,233nm,0.6s						
BNDS	Bandar-Abbas	3.44	190	ePn	Pn	22 49 56.0	-0.2
ZHSF	Zahedan	3.59	108	ePN	Pn	22 49 59.1	+0.8
ZHSF	Zahedan	3.59	108	ePn	Pn	22 49 59.0	+0.7
SHI	Shiraz	3.94	254	Pn	Pn	22 50 04.8	+1.5
NASN	Na'in	3.99	301	ePn	Pn	22 50 04.0	0.0
NASN				eSg	Sb	22 51 04.0	+4.0
NASN	Na'in	3.99	301	ePN	Pn	22 50 04.6	+0.6
NASN				eSG	Sb	22 51 04.7	+4.6
NASN				AML	AML	22 51 16.2	
	comp=N,212nm,0.5s						
NASN	Na'in	3.99	301	ePn	Pn	22 50 04.6	+0.6
	SNR=52						
NASN				eSg	Sb	22 51 04.0	+4.0
IMOK	Mook	4.00	245	Pn	Pn	22 50 06.4	+2.2
GHIR	Ghir-Karzin	4.20	234	ePN	Pn	22 50 06.9	-0.2
GHIR				AML	AML	22 51 31.2	
	comp=N,110nm,0.7s						
GHIR	Ghir-Karzin	4.20	234	ePn	Pn	22 50 06.0	-1.1
BANOM	Banah	4.88	186	P	Pn	22 50 17.0	+0.3
	SNR=30						
IFIR	Firoozkooh	5.93	326	Pn	Pn	22 50 31.8	+0.3
ASHO	Ashiyiah	6.13	187	P	Pn	22 50 34.8	+0.5
	SNR=9.7						
IDMV	Damavand	6.26	321	Pn	Pn	22 50 37.4	+1.3
DAMV	Damavand	6.33	321	ePn	Pn	22 50 37.0	-0.1
DAMV	Damavand	6.33	321	ePN	Pn	22 50 37.1	0.0
IQOM	Qom	6.33	311	Pn	Pn	22 50 37.1	0.0
IQOM				Lg		22 52 23.0	
IAFJ	Afjeh	6.64	321	Pn	Pn	22 50 42.2	+0.7
ASAO	Ashtian	6.87	305	ePn	Pn	22 50 44.0	-0.8
ASAO	Ashtian	6.87	305	ePN	Pn	22 50 44.3	-0.5
IRAZ	Razeghan	7.41	310	Pn	Pn	22 50 53.1	+0.7
IRAZ				Lg		22 52 56.6	
BSY	Bisya	8.02	178	P	P	22 51 01.3	+0.4
	SNR=11						
BSYO	Bisya	8.04	178	P	P	22 51 01.3	+0.2
	SNR=11						
NAY	Al-Naaiem	8.48	262	eP	P	22 51 04.5	-2.8
RST	Umm Al-Ruwaisa	8.64	264	eP	P	22 51 06.6	-2.8
RST				eS	Sn	22 52 43.0	-4.6
MALT	Malatya	16.92	301	eP	P	22 53 00.5	+0.7
	comp=N,2.8nm,0.7s						
MALT	Malatya	16.92	301	eP	P	22 53 00.5	+0.7
	comp=N,2.8nm,0.7s						
ASF	Jabal al Asfar	17.09	280	P	P	22 52 59.4	-2.5
	comp=N,0.3nm,0.3s,baz=90,slow=1.0,SNR=2.4						
ASF				LR	LR	23 01 09.4	
	comp=N,58nm,20.9s,baz=166,slow=43						
KIV	Kislovodsk	17.27	323	eP	P	22 53 08.7	+4.5
	comp=N,7.8nm,1.1s						
AAK	Ala-Archa	18.38	45	eP	P	22 53 16.8	-1.3
	comp=N,1.5nm,0.7s						
AAK	Ala-Archa	18.38	45	eP	P	22 53 16.8	-1.2
	comp=N,1.5nm,0.7s						
CSS	Prodhromos	20.18	288	P	P	22 53 40.1	+1.3
	comp=N,27nm,1.3s						
CSS	Prodhromos	20.18	288	P	P	22 53 40.1	+1.3
	comp=N,27nm,1.3s						
BRTR	Keskin Array B	20.91	302	P	P	22 53 44.6	-1.7
	comp=N,1.6nm,0.7s,baz=114,slow=13,SNR=9.6						
BVAR	Borovoye Array	24.31	20	P	P	22 54 20.9	+1.1
	comp=N,1.9nm,0.6s,mb3.7,baz=199,slow=7.7,SNR=14						
KURK	Kurchatov	25.67	33	eP	P	22 54 32.5	-0.3
	comp=N,1.3nm,0.6s,mb3.6						
KURK	Kurchatov	25.67	33	eP	P	22 54 32.5	-0.3
ZAL	Zalesovo	30.64	33	P	P	22 55 17.2	-0.5
	comp=N,1.1nm,0.5s,mb3.9,baz=222,slow=9.9,SNR=5.8						
FINES	FINESS Array B	36.68	336	P	P	22 56 09.3	-0.5
	comp=N,0.8nm,0.7s,mb3.7,baz=127,slow=9.5,SNR=4.2						
FINES	FINESS Array B	36.68	336	P	P	22 56 09.3	-0.5
ILAR	Eielson Array	82.95	10	P	P	23 01 25.9	-1.2
	comp=N,0.4nm,0.8s,mb3.5,baz=323,slow=4.5,SNR=4.6						
YKA	Yellowknife Ar	86.79	356	P	P	23 01 48.0	+1.6
	comp=N,0.3nm,0.6s,mb3.7,baz=360,slow=4.7,SNR=7.5						
YKA	Yellowknife Ar	86.79	356	P	P	23 01 48.0	+1.6

IDC 15 23:03:26.7±6.3**, 3.44N**×**92.94E, mb3.5**/2**, mb1 3.8**/3**, mb1mx3.5**/17**, mbtmp3.6**/3**, ML4.0**/1**, Error ellipse: s-maj=178.1km s-min=37.1km az=72.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.04	21	Pn	P	23 07 14.5	-1.0
	0.2nm,0.3s,baz=214,slow=12,SNR=8.3						
SONM	Songino Array	45.73	13	P	P	23 11 49.6	-1.9
	1.0nm,0.7s,baz=191,slow=7.3,SNR=3.6						
WRA	Warramunga Arr	46.83	121	P	P	23 11 58.6	-1.9
	0.3nm,0.4s,baz=300,slow=9.1,SNR=5.0						

*CSEM **15** 23:08:27.2±0.3, 42.65N×40.12E, h6km, mb3.8, Error ellipse: s-maj=7.6km s-min=3.4km az=1.0, After OBN*
MOS 15 23:08:27.2±2.9**, 42.65N**×**40.12E, h6**km**, mb3.8**/1**, Error ellipse: s-maj=19.0km s-min=14.8km az=63.0, Black Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SOC	Sochi	0.98	343	ePG	Pg	23 08 45.6	-1.2
SOC				e		23 09 02.6	
SOC				pmax	pmax		
	comp=Z,152nm,0.6s						
SOC				pmax	pmax		
	comp=N,57nm,0.3s						
SOC				pmax	pmax		
	comp=E,38nm,0.2s						
SOC				smax			
	comp=N,896nm,0.3s						
SOC	Sochi	0.98	343	ePg	Pg	23 08 45.6	-1.2
	comp=N,57nm,0.3s						
SOC				eSg	Sg	23 09 02.6	+2.7
	comp=N,896nm,0.3s						
SHAR	Shatzhatmas	2.16	59	ePN	Pn	23 09 03.7	-0.5
SHAR				eS	Sn	23 09 30.5	-1.1
KIV	Kislovodsk	2.28	54	i PN	Pn	23 09 06.1	+0.1
KIV				eS	Sn	23 09 35.4	+0.7
KIV0	Kislovodsk Arr	2.29	54	i Pn	Pn	23 09 06.2	+0.1
KIV0				eSn	Sn	23 09 35.5	+0.6
ZEI	Tsey	2.79	86	ePn	Pn	23 09 10.5	-2.7
ZEI				eSn	Sn	23 09 45.7	-1.8
ZEI				eSb	Sb	23 09 58.4	+6.8
ANN	Anapa	2.90	319	ePN	Pn	23 09 16.8	+2.0
ANN				e		23 09 55.5	
ANN				e		23 10 08.9	
ANN				pmax	pmax		
	comp=Z,15nm,0.7s						
ANN				smax			
	comp=N,30nm,0.8s						
ANN				smax			
	comp=E,25nm,0.8s						
ANN				pmax	pmax		
	comp=N,72nm,0.7s						
ANN				pmax	pmax		
	comp=E,31nm,0.7s						
ANN	Anapa	2.90	319	ePn	Pn	23 09 16.8	+2.0
	comp=E,15nm,0.7s						
ANN				eSn	Sn	23 09 55.5	+5.0
ANN				eSg	Sg	23 10 08.9	+5.0
GOF	Gofitskoye	3.20	40	ePN	Pn	23 09 24.0	+4.9
GOF				i S	Sn	23 09 57.5	-0.5

GOF pmax pmax
comp=Z,8.0nm,1.0s
GOF smax
comp=N,46nm,0.8s
GOF Gofitskoye 3.20 40 *e*Pn Pn 23 09 24.0 +4.9
comp=N,8.0nm,1.0s
GOF *i* Sn Sn 23 09 57.5 -0.5
comp=N,46nm,0.8s
TBLG Delisi 3.55 103 P Pn 23 09 24.0 -0.1
TI2 Plekhanov 3.56 103 *e*Pn Pn 23 09 28.0 +3.9

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*IDC **15** 23:08:28.3±0.9, 8.31S×76.03W, mb3.9/9, mb1 4.1/13, mb1mx3.9/24, mbtmp3.9/13, ML3.5/4, MS3.3/1, Ms1 3.2/1, ms1mx2.1/25, Error ellipse: s-maj=41.1km s-min=17.1km az=57.0*
*NEIC **15** 23:08:35.3±0.9, 8.32S×75.94W, h51km±9km, mb4.2/4, Error ellipse: s-maj=18.3km s-min=8.2km az=79.0*
ISC 15 23:08:33.5±1.3**, 8.32S**±0.07×**75.9W**±0.1**, h52**km±14km**, n27, σ1ˢ08**/24**, mb3.9**/9**, MS3.2**/1**, Central Peru**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NNA Nana 3.75 194 *e*Pn **P 23 09 30.9 +0.5**
NNA *e*S **S 23 10 20.6 +6.8**
OTAV Otavalo 8.86 343 *e*P **P 23 10 40.6 -0.9**
LPAZ La Paz 11.00 137 Pn **P 23 11 09.3 -1.6**
0.1nm,0.3s,baz=150,slow=18,SNR=2.9
LPAZ Lg 23 14 16.6
0.1nm,0.3s,baz=60,slow=16,SNR=2.6
LPAZ La Paz 11.00 137 *e*P **P 23 11 09.6 -1.3**
ROSC El Rosal 13.18 7 Pn **P 23 11 42.3 +2.1**
0.5nm,0.3s,baz=90,slow=20,SNR=1.9
LVC Limon Verde 15.74 155 Pn **P 23 12 19.0 +5.6**
0.2nm,0.3s,baz=342,slow=14,SNR=4.3
LVC Limon Verde 15.74 155 P **P 23 12 18.9 +5.5**
4.3nm,0.8s
SDV Santo Domingo 17.89 17 P **P 23 12 40.4 -0.1**
0.7nm,0.3s,baz=244,slow=14,SNR=7.3
SDV Santo Domingo 17.89 17 *e*P **P 23 12 40.3 -0.1**
9.9nm,0.9s
CFAA Coronel Fontan 24.26 164 P **P 23 13 47.6 +0.6**
0.2nm,0.3s,mb3.0,baz=353,slow=13,SNR=12
BDFB Brasilia 28.25 108 LR LR 23 25 27.1
comp=Z,66nm,21.8s,MS3.2,baz=123,slow=36
JCT Junction City 44.86 330 P **P 23 16 39.3 -5.5**
TXAR Lajitas Array 45.98 326 P **P 23 16 54.4 +0.7**
0.6nm,0.5s,mb3.8,baz=120,slow=7.3,SNR=5.3
CPRX Cap Rock 48.96 329 P **P 23 17 17.3 +0.4**
ANMO Albuquerque 51.80 328 P **P 23 17 39.2 +0.7**
1.4nm,0.7s,mb4.0,baz=160,slow=7.8,SNR=4.8
ANMO Albuquerque 51.80 328 P **P 23 17 39.2 +0.6**
PDAR Pinedale Array 59.36 332 P **P 23 18 32.0 -0.8**
0.6nm,1.0s,mb3.6,baz=112,slow=4.9,SNR=3.5
ULM Lac du Bonnet 60.85 345 P **P 23 18 40.8 -2.2**
1.8nm,0.7s,mb4.3,baz=155,slow=7.6,SNR=5.0
DBIC Dimbokro 72.42 80 P **P 23 19 58.4 +1.6**
3.2nm,0.7s,mb4.4,baz=235,slow=6.2,SNR=8.6
DBIC Dimbokro 72.42 80 *e*P **P 23 19 57.6 +0.9**
4.1nm,0.6s,mb4.5
YKA Yellowknife Ar 76.61 343 P **P 23 20 19.0 -1.1**
0.4nm,0.5s,mb3.6,baz=138,slow=6.1,SNR=9.7
INK Inuvik 86.34 342 P **P 23 21 10.8 0.0**
1.9nm,1.0s,mb4.3,baz=138,slow=5.8,SNR=4.9
INK Inuvik 86.34 342 *e*P **P 23 21 10.0 -0.8**
4.8nm,1.2s,mb4.6
ILAR Eielson Array 89.50 336 P **P 23 21 26.9 +0.8**
0.6nm,0.6s,mb4.1,baz=59,slow=4.2,SNR=5.8
ZAL Zalesovo 131.93 15 PKP PKPdf 23 27 43.6 +2.2
0.7nm,0.6s,baz=120,slow=4.6,SNR=5.1
ASAR Alice Springs 136.86 222 PKP PKPdf 23 27 54.0 +2.7
0.5nm,0.6s,baz=126,slow=2.1,SNR=5.2
WRA Warramunga Arr 139.05 226 PKP PKPdf 23 27 58.2 +2.8
0.6nm,0.6s,baz=120,slow=2.0,SNR=12

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*TAP **15** 23:18:33.3, 24.23N×122.86E, h42km±1km, ML3.9*
JMA 15 23:18:34.0±0.2**, 24.41N×122.85E, h53**km±2km**, M3.3, Taiwan region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
YOJ Yonaguni jima 0.15 71 P P 23 18 42.4 +0.1
YOJ S S 23 18 48.3 -0.1
IRIF Iriomote-Funau 0.81 95 P P 23 18 49.1 -0.2
IRIF *e*S S 23 19 00.8 +0.1
HATJ Hateruma jima 0.94 112 P P 23 18 50.8 -0.4
HATJ *e*S S 23 19 04.8 +0.9
JKRS Kuro-shima 1.07 99 P P 23 18 53.0 0.0
JKRS *e*S S 23 19 07.4 +0.3
JIJ Ishigaki jima 1.18 92 P P 23 18 54.1 -0.4
JIJ *e*S S 23 19 09.2 -0.5
JOGS Gusukube 2.35 81 P P 23 19 11.6 +0.5
JKE Kume jima 2 4.04 61 P P 23 19 35.4 +0.5

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*IDC **15** 23:48:02.2±22.0, 36.59N×71.23E, h102km±197km, mb3.6/5, mb1 3.6/7, mb1mx3.3/20, mbtmp3.9/7, ML3.7/2, Error ellipse: s-maj=124.7km s-min=35.0km az=28.0*
*NEIC **15** 23:48:03.1±4.8, 36.70N×71.29E, h110km±38km, mb3.3/2, Error ellipse: s-maj=43.7km s-min=22.6km az=217.0*
ISC 15 23:47:58.6±0.9**, 36.46N**±0.04×**71.1E**±0.2**, h91**km±14km**, n27, σ1ˢ01**/29**, mb3.8**/5**, 1C-1D, Afghanistan-Tajikistan border region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CEP Cherat 2.72 165 ⇓P **P 23 48 42.1 +0.8**
CEP S **S 23 49 15.0 +1.7**
CHCP Chirah Chowk 3.32 147 P **P 23 48 50.3 +0.6**
THW Thamme Wali 3.70 171 P **P 23 48 54.8 0.0**
THW S **S 23 49 35.0 -2.5**
SBDP Sheikh Budin 4.15 183 ⇑P **P 23 49 00.6 -0.5**
SARP Sargodha 4.71 163 P **P 23 49 07.5 -1.3**
DLH Dalhousie 5.62 133 *e*P **S 23 50 18.0 -7.0**
AML Almayashu 6.02 19 P **P 23 49 27.3 +0.6**
SNR=129
UCH Uchtor 6.35 24 P **P 23 49 31.8 +0.6**
SNR=29
KZA Kyzart 6.48 29 P **P 23 49 33.2 +0.2**
SNR=12
EKS2 Erkin-Say 6.54 18 P **P 23 49 34.4 +0.5**
SNR=11
AAK Ala-Archa 6.71 22 P **P 23 49 36.9 +0.6**
SNR=28
AAK Ala-Archa 6.71 22 Pn **P 23 49 35.3 -1.0**
350nm,0.4s,SNR=72
AAK Ala-Archa 6.71 22 *e*P **P 23 49 35.8 -0.5**
KBK Karagaybulak 6.88 25 P **P 23 49 39.3 +0.7**
SNR=6.9
CHMS Chumysh 7.12 22 P **P 23 49 41.8 -0.1**
SNR=17
USP Ospenovka 7.29 20 P **P 23 49 44.0 -0.3**
SNR=21
TKM2 Tokmak 2 7.33 27 P **P 23 49 44.9 0.0**
SNR=16
KURK Kurchatov 15.25 19 P **P 23 51 28.1 -1.7**
1.2nm,0.7s
BVAR Borovoye Array 16.57 359 P **P 23 51 47.1 +0.7**
0.3nm,0.3s,baz=154,slow=10.0,SNR=6.0
CHKZ Chkalovo 17.22 359 *e*P **P 23 51 51.8 -2.6**
1.1nm,0.5s
ZAL Zalesovo 19.91 24 P **P 23 52 23.4 -1.7**
0.6nm,0.3s,baz=266,slow=9.7,SNR=4.6
FINES FINESS Array B 37.55 326 P **P 23 55 05.2 0.0**
0.3nm,0.4s,mb3.4,baz=121,slow=11,SNR=4.2
ARCES ARCESS Array B 41.21 338 P **P 23 55 36.1 +0.8**
2.6nm,0.9s,mb4.0,baz=108,slow=7.7,SNR=6.6
HFS Hagfors 43.14 322 P **P 23 55 51.9 +0.7**
0.5nm,0.3s,mb3.6,baz=98,slow=10,SNR=5.7
NOA NORSAR Array B 44.45 323 P **P 23 56 01.9 +0.2**
0.8nm,0.7s,mb3.6,baz=87,slow=11,SNR=3.5
STKA Stephens Creek 94.72 126 P **P 00 01 11.8 +1.0**
0.9nm,0.5s,mb4.5,baz=326,slow=3.6,SNR=3.2
STKA Stephens Creek 94.72 126 P **P 00 01 11.8 +1.0**

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*NEIC **15** 23:58:01.7, 45.70N×26.58E, h82km, MG3.6(BUC), After BUC.*
*CSEM **15** 23:58:01.6±0.9, 45.74N×26.62E, h81km±9km, MD3.4/3, Error ellipse: s-maj=7.1km s-min=6.0km az=76.0, After BUC*
BUC 15 23:58:01.6±0.9**, 45.74N×26.62E, h81**km±9km**, MD3.5**/3**, 16C-5D, Error ellipse: s-maj=7.1km s-min=6.0km az=76.0, Romania**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
VRI Vrincioaia 0.15 30⇑*i*P P 23 58 13.7 +0.3
VRI *i* S S 23 58 22.4 +0.3
VRI Vrincioaia 0.15 30⇑*i*P P 23 58 13.7 +0.4
VRI *i* S S 23 58 22.5 +0.4
BRD Bordesti 0.34 123⇓*i*P P 23 58 15.9 +1.6
BRD *i* S S 23 58 27.5 +3.6
BRD Bordesti 0.34 123⇓*i*P P 23 58 15.9 +1.5
BRD *i* S S 23 58 27.5 +3.6
MLR Muntele Rosu 0.53 243⇑*i*P P 23 58 16.2 +0.3
MLR *i* S S 23 58 26.3 -0.3
MLR Muntele Rosu 0.53 243⇑*i*P P 23 58 16.2 +0.3
MLR *i* S S 23 58 26.3 -0.3
ISR Istrita 0.62 185⇑*i*P P 23 58 17.9 +1.1
ISR *i* S S 23 58 31.6 +3.6
ISR Istrita 0.62 185⇑*i*P P 23 58 17.9 +1.1
ISR *i* S S 23 58 31.5 +3.5
CFR Carcaliu 1.21 117⇑*i*P P 23 58 23.6 +0.1
CFR *i* S S 23 58 41.9 +1.9
CFR Carcaliu 1.21 117⇑*i*P P 23 58 23.6 +0.1
CFR *i* S S 23 58 41.8 +1.8
BUC Bucharest 1.38 196 *i* S S 23 58 45.0 +1.2
HARR Harsova 1.40 138⇓*i*P P 23 58 26.3 +0.2
HARR *i* S S 23 58 45.2 +0.9
HARR Harsova 1.40 138⇓*i*P P 23 58 26.3 +0.1
HARR *i* S S 23 58 45.2 +0.9
BUC1 Bucharest 1.45 197⇑*i*P P 23 58 27.0 +0.1
BUC1 *i* S S 23 58 45.0 -0.5
BUC1 Bucharest 1.45 197⇑*i*P P 23 58 27.0 +0.1
BUC1 S S 23 58 45.0 -0.5
IAS Iasi 1.59 24⇑*i*P P 23 58 28.6 -0.1
IAS *i* S S 23 58 47.9 -0.8
IAS Iasi 1.59 24⇑*i*P P 23 58 28.6 -0.1
IAS *i* S S 23 58 47.9 -0.8
TLCR 1.64 109⇑*i*P P 23 58 30.2 +0.9
TLCR *i* S S 23 58 52.7 +3.0
TLCR 1.64 109⇑*i*P P 23 58 30.2 +0.9
TLCR S S 23 58 52.7 +3.0
TIRR Tirgusor 1.80 135⇓*i*P P 23 58 31.5 +0.1
BURAR Bucovina Array 2.11 333⇑*e*P P 23 58 36.1 +0.4
BURAR *i* S S 23 59 02.9 +2.1
BURAR Bucovina Array 2.11 333⇑*e*P P 23 58 36.1 +0.4
BURAR *i* S S 23 59 02.9 +2.1

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*IDC **16** 00:12:25.9±0.8, 0.70S×122.54E, mb4.2/10, mb1 4.4/10, mb1mx4.3/15, mbtmp4.2/10, Error ellipse: s-maj=43.7km s-min=14.8km az=60.0*
*NEIC **16** 00:12:30.8±0.4, 0.59S×122.85E, h30km, mb4.7/9, Error ellipse: s-maj=17.6km s-min=7.3km az=57.0*
*BJI **16** 00:12:30.2, 0.89S×122.28E, h33km, mB5.2, mb4.7, Ms4.3, Msz3.9*
ISC 16 00:12:32.5±1.9**, 0.67S**±0.07×**122.6E**±0.1**, h63**km±19km**, h16**km±5.8km**:pP-P, n48, σ0ˢ99**/47**, mb4.7**/28**, 1C, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KKM Kota Kinabalu 9.24 316 *e*P **P 00 14 44.0 -1.5**
KSM Kuching 12.50 280 *e*P **P 00 15 32.5 +2.8**
KAKA Kakadu 15.42 141 *e*P **P 00 16 09.4 +1.6**
23nm,0.8s
CVP Callao Caves 18.27 358 *e*P **P 00 16 50.0 +6.6**
APYP Conner 18.46 356 *i* P **P 00 16 45.5 -0.2**
MBWA Marble Bar 20.56 188 P **P 00 17 08.3 -0.2**
13nm,0.9s
WRAB Tennant Creek 22.32 150 *e*P **P 00 17 26.6 +0.5**
18nm,0.8s,mb4.5
WRA Warramunga Arr 22.32 150 P **P 00 17 24.7 -1.4**
4.1nm,1.0s,mb3.8,baz=338,slow=10.0,SNR=18
WB2 Warramunga Arr 22.33 150 *e*P **P 00 17 25.1 -1.0**
KULM Kulim 22.73 285 *e*P **P 00 17 26.2 -4.1**
ASPA Alice Springs 25.34 155 *e*P **P 00 17 55.4 0.0**
ASAR Alice Springs 25.34 155 P **P 00 17 55.2 -0.1**
1.9nm,0.5s,mb3.9,baz=344,slow=14,SNR=38
PMG Port Moresby 25.91 110 P **P 00 18 01.0 +0.2**
4.1nm,0.6s,mb4.2,baz=231,slow=14,SNR=1.9
NANT Nan 28.95 313 ⇑P **P 00 18 29.0 +0.7**
206nm,0.9s,mb5.9
CMAR Chiang Mai Arr 30.06 310 P **P 00 18 37.8 -0.3**
2.0nm,0.6s,mb4.0,baz=135,slow=7.8,SNR=11
CHG Chiang Mai 30.27 311 P **P 00 18 44.0 +4.0**
SSE Sheshan 31.62 358 P **P 00 18 57.8 +6.0**
SSE XP sP 00 19 09.8 -5.4
SSE AMB AMB
comp=Z,26nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,86nm,4.4s
SSE LR LR
comp=N,51nm,27.5s
SSE LR LR
comp=E,480nm,27.5s
SSE LR LR
comp=Z,170nm,24.8s
ENH Enshi 33.22 339 *e*P **P 00 19 05.4 -0.4**
comp=Z,11nm,0.7s,mb4.9
STKA Stephens Creek 35.84 152 P **P 00 19 27.6 -0.6**
comp=Z,5.2nm,0.8s,mb4.5,baz=318,slow=8.7,SNR=7.5
STKA Stephens Creek 35.84 152 *e*P **P 00 19 27.4 -0.7**
CD2 Chengdu 36.16 332 P **P 00 19 31.4 +0.5**
XAN Xi'an 36.85 341 P **P 00 19 41.3 +4.7**
XAN AMB AMB
comp=Z,6.0nm,1.2s,mb4.3
XAN LR LR
comp=E,555nm,21.0s
LZH Lanzhou 40.53 336 *e*P **P 00 20 09.8 +2.6**
LZH AP pP 00 20 16.5 -6.7
LZH XP sP 00 20 19.9 -11
LZH AMB AMB
comp=Z,33nm,1.5s,mb4.7
LZH LR LR
comp=N,194nm,12.9s
LZH LR LR
comp=Z,246nm,17.4s
LZH Lanzhou 40.53 336 *e*P **P 00 20 09.8 +2.6**
comp=Z,33nm,1.5s,mb4.7
LZH pP pP 00 20 16.5 -6.7
LZH sP sP 00 20 19.9 -11
LZH LR LR
comp=Z,250nm,17.4s
LSA Lhasa 42.59 318 P **P 00 20 25.8 +1.6**
LSA AMB AMB
comp=Z,20nm,0.7s,mb5.0
LSA Lhasa 42.59 318 *e*P **P 00 20 26.0 +1.8**
comp=Z,16nm,0.6s,mb4.9
JIRN Jiri 44.91 312 *e*P **P 00 20 43.4 +0.4**
comp=Z,42nm,0.7s,mb5.4
GTA Gaotai 45.03 335 P **P 00 20 45.3 +1.5**
GTA AP pP 00 20 51.5 -8.5
GTA XP sP 00 20 54.5 -13
GTA PP PP 00 22 28.8 -1.9
GTA AMB AMB
comp=Z,7.0nm,0.7s,mb4.6
PKI Pulchoki 45.45 311 *e*P **P 00 20 47.3 0.0**
comp=Z,18nm,0.7s,mb5.0
KKN Kakani 45.66 311 *e*P **P 00 20 48.5 -0.5**
comp=Z,29nm,0.8s,mb5.3
DMN Daman 45.70 311 *e*P **P 00 20 49.4 +0.1**
comp=Z,45nm,0.8s,mb5.5
GKN Gorkha 46.26 311 *e*P **P 00 20 53.5 -0.2**
comp=Z,32nm,0.7s,mb5.4
KOLN Koldanda 46.92 310 *e*P **P 00 20 58.8 -0.2**
comp=Z,38nm,0.7s,mb5.4
HYB Hyderabad 46.97 295 *e*P **P 00 20 59.0 -0.4**
HYB Hyderabad 46.97 295 *i* P **P 00 20 59.0 -0.4**
ULN Ulaanbaatar 50.21 346 *e*P **P 00 21 23.7 -0.4**
comp=Z,12nm,0.9s,mb4.9
SONM Songino Array 50.34 346 P **P 00 21 25.0 -0.1**
comp=Z,3.8nm,0.8s,mb4.5,baz=161,slow=7.9,SNR=12
WMQ Urumqi 54.17 329 *e*P **P 00 21 58.0 +4.2**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.8
KSH Kashi 58.43 319 *e*P **P 00 22 30.3 +6.1**
KSH *e*AP pP 00 22 36.5 -4.5
KSH *e*XP sP 00 22 41.0 -7.3
KSH AMB AMB
comp=Z,210nm,5.7s
RPZ Rata Peaks 60.72 142 P **P 00 22 40.6 +0.7**
comp=Z,16nm,1.0s,mb5.1,baz=203,slow=7.7,SNR=3.3
AAK Ala-Archa 61.01 321 *e*P **P 00 22 41.8 -0.1**
comp=Z,4.7nm,1.0s,mb4.6
ZAL Zalesovo 62.77 336 P **P 00 22 51.6 -1.9**
comp=Z,1.3nm,0.4s,mb4.4,baz=272,slow=3.7,SNR=5.3
KURK Kurchatov 63.37 330 P **P 00 22 56.5 -1.0**
comp=Z,52nm,0.8s,mb5.7,SNR=12
KURK Kurchatov 63.37 330 *e*P **P 00 22 56.0 -1.5**
comp=Z,6.6nm,0.6s,mb4.9
MA2 Magadan 63.98 15 *e*P **P 00 23 00.0 -1.3**
VNDA Vanda 79.64 172 P **P 00 24 34.1 -0.1**
comp=Z,0.9nm,0.6s,mb3.9,baz=322,slow=1.6,SNR=3.5
ILAR Eielson Array 90.81 25 P **P 00 25 31.1 +1.3**
comp=Z,0.3nm,0.6s,mb3.8,baz=248,slow=4.9,SNR=3.2
CFAA Coronel Fontan 146.29 163 PKPbc PKPbc 00 32 08.2 +1.5
comp=Z,0.3nm,1.0s,baz=180,slow=2.0,SNR=3.2

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*IDC **16** 00:14:59.7±3.3, 0.67S×122.52E, h21km±20km, mb4.2/12, mb1 4.3/12, mb1mx4.3/16, mbtmp4.3/12, MS4.1/4, Ms1 4.1/4, ms1mx3.8/17, Error ellipse: s-maj=28.7km s-min=13.7km az=60.0*
*MOS **16** 00:15:00.5±1.5, 0.78S×122.46E, h33km, mb4.9/7, Error ellipse: s-maj=28.2km s-min=10.7km az=121.7*
*NEIC **16** 00:15:01.7±0.4, 0.70S×122.65E, h30km, mb4.8/11, Error ellipse: s-maj=17.6km s-min=7.6km az=52.0*
*BJI **16** 00:15:01.6, 0.70S×122.60E, h30km, mB5.0, mb4.8, Ms4.3, Msz4.2*
ISC 16 00:15:03.4±1.3**, 0.75S**±0.06×**122.53E**±0.07**, h61**km±12km**, h12**km±7.4km**:pP-P, n68, σ1ˢ31**/67**, mb4.8**/36**, 2C, Minahassa Peninsula, Sulawesi**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
IPIL Ipil 8.48 0 *e*P **P 00 17 05.9 0.0**
PAGZ Pagadian 8.58 6 *e*P **P 00 17 04.9 -2.5**
BUKP Musuan 8.94 16 *e*P **P 00 17 07.9 -4.2**
KKM Kota Kinabalu 9.23 317 *e*P **P 00 17 14.1 -2.2**
DCPH Dipolog City 9.31 5⇑*e*P **P 00 17 18.9 +1.7**
KSM Kuching 12.41 280 *e*P **P 00 18 00.2 +0.8**
KAKA Kakadu 15.42 141 *e*P **P 00 18 40.6 +1.8**
28nm,0.7s
CVP Callao Caves 18.35 358⇑*e*P **P 00 19 20.0 +4.7**
11μm,1.0s
WRAB Tennant Creek 22.30 149 *e*P **P 00 19 58.4 +1.4**
WRAB pmax pmax
comp=Z,55nm,1.0s,mb4.9
WRAB Tennant Creek 22.30 149 *e*P **P 00 19 58.4 +1.4**
comp=Z,55nm,1.0s,mb4.9
WRA Warramunga Arr 22.31 150 P **P 00 19 55.9 -1.1**
comp=Z,3.7nm,0.6s,mb4.0,baz=332,slow=9.3,SNR=13
WRA ScP 00 27 27.5
comp=Z,1.5nm,1.0s,baz=328,slow=2.9,SNR=4.3
WB2 Warramunga Arr 22.31 149 *e*P **P 00 19 55.9 -1.1**
KULM Kulim 22.66 286 *e*P **P 00 20 02.6 +2.0**
QIZ Qiongzhong 23.27 328 *e*P **P 00 20 08.0 +1.5**
ASPA Alice Springs 25.31 155 *e*P **P 00 20 25.7 -0.5**
ASAR Alice Springs 25.31 155 P **P 00 20 26.0 -0.2**
comp=Z,5.2nm,0.5s,mb4.3,baz=345,slow=14,SNR=24
ASAR PcP PcP 00 23 59.9 +1.3
comp=Z,1.2nm,0.7s,baz=346,slow=2.0,SNR=5.1
ASAR ScP 00 27 36.8
comp=Z,0.4nm,0.5s,baz=340,slow=2.7,SNR=3.2
PMG Port Moresby 25.98 110 P **P 00 20 32.1 -0.3**
comp=Z,7.2nm,0.5s,mb4.5,baz=287,slow=19,SNR=3.9
JOW Kunigami 27.97 11 LR LR 00 31 51.2
comp=Z,202nm,18.6s,baz=107,slow=36
CMAR Chiang Mai Arr 30.03 311 P **P 00 21 08.3 -0.7**
comp=Z,1.8nm,0.5s,mb4.1,baz=136,slow=7.7,SNR=5.0
CTA Charters Tower 30.14 131 P **P 00 21 10.9 +1.0**
comp=Z,4.5nm,0.7s,mb4.3,baz=85,slow=6.2,SNR=3.5
KMI Kunming 32.07 325 P **P 00 21 33.9 +7.1**
KMI AMB AMB
comp=Z,15nm,0.8s,mb4.9
ENH Enshi 33.26 339 *e*P **P 00 21 35.6 -1.5**
comp=Z,28nm,0.9s,mb5.2
CBIJ Chichi jima 33.53 33 P **P 00 21 36.5 -3.1**
comp=Z,78nm,0.6s,mb5.8,baz=288,slow=22,SNR=5.6
STKA Stephens Creek 35.82 152 P **P 00 21 56.8 -2.2**
comp=Z,2.8nm,0.6s,mb4.3,baz=303,slow=14,SNR=2.5
STKA LR LR 00 39 07.4
comp=Z,303nm,19.5s,baz=153,slow=40
CD2 Chengdu 36.19 332 P **P 00 22 01.4 -0.8**
XAN Xi'an 36.89 341 P **P 00 22 10.9 +2.9**
XAN AP pP 00 22 15.5 -8.0
XAN AMB AMB
comp=Z,8.0nm,1.1s,mb4.5
LZH Lanzhou 40.57 336 *e*P **P 00 22 41.5 +3.0**
LZH AP pP 00 22 47.5 -6.7
LZH XP sP 00 22 51.3 -10
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.7
LZH LR LR
comp=N,207nm,13.2s
LZH LR LR
comp=Z,265nm,17.0s
LZH Lanzhou 40.57 336 *e*P **P 00 22 41.5 +3.0**
LZH *SP sP 00 22 51.2 -10
LZH pmax pmax
comp=Z,27nm,1.3s,mb4.7
LZH MLR MLR
comp=Z,260nm,17.0s
LZH Lanzhou 40.57 336 *e*P **P 00 22 41.5 +3.0**
comp=Z,27nm,1.3s,mb4.7
LZH pP pP 00 22 47.5 -6.7
LZH sP sP 00 22 51.2 -10
LZH LR LR
comp=Z,260nm,17.0s
BJT Baijiatuau 40.99 353 P **P 00 22 43.1 +1.1**
comp=Z,5.7nm,0.4s,mb4.5
BJI Beijing 41.01 353 P **P 00 22 44.4 +2.3**
BJI S **S 00 28 58.3 +8.6**
BJI AMB AMB
comp=Z,7.0nm,0.5s,mb4.5
BJI LR LR
comp=N,160nm,19.6s
BJI LR LR
comp=E,246nm,19.6s
BJI LR LR
comp=Z,135nm,23.7s
BJI Beijing 41.01 353 P **P 00 22 44.4 +2.3**
BJI S **S 00 28 58.2 +8.5**
BJI pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
BJI MLR MLR
comp=Z,140nm,23.7s
BJI Beijing 41.01 353 P **P 00 22 44.4 +2.3**
comp=Z,7.0nm,0.5s,mb4.5
BJI S **S 00 28 58.2 +8.5**
BJI LR LR
comp=Z,140nm,23.7s
LSA Lhasa 42.58 318 P **P 00 22 56.6 +1.4**
LSA AMB AMB
comp=Z,40nm,0.6s,mb5.3
LSA Lhasa 42.58 318 *e*P **P 00 22 56.7 +1.5**
LSA pmax pmax
comp=Z,30nm,0.6s,mb5.2
LSA Lhasa 42.58 318 *e*P **P 00 22 56.7 +1.4**
comp=Z,30nm,0.6s,mb5.2
JIRN Jiri 44.89 312 *e*P **P 00 23 13.9 0.0**
comp=Z,63nm,0.5s,mb5.7
GTA Gaotai 45.06 335 P **P 00 23 15.5 +0.4**
GTA AP pP 00 23 21.8 -9.1
GTA PP PP 00 25 07.0 +5.0
GTA AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
PKI Pulchoki 45.43 311 *e*P **P 00 23 17.6 -0.6**
comp=Z,23nm,0.6s,mb5.2
MDJ Mudanjiang 45.60 7 P **P 00 23 20.6 +1.2**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,104nm,4.6s
MDJ LR LR
comp=E,296nm,25.4s
MDJ LR LR
comp=Z,146nm,21.6s
KKN Kakani 45.64 311 *e*P **P 00 23 19.4 -0.5**
comp=Z,28nm,0.6s,mb5.3
DMN Daman 45.67 311 *e*P **P 00 23 20.4 +0.2**
comp=Z,26nm,0.4s,mb5.5
GKN Gorkha 46.23 311 *e*P **P 00 23 24.1 -0.5**
comp=Z,47nm,0.6s,mb5.6
KOLN Koldanda 46.90 310 *e*P **P 00 23 29.3 -0.5**
comp=Z,49nm,0.7s,mb5.6
HYB Hyderabad 46.91 295 *e*S **P 00 23 30.0 0.0**
HYB Hyderabad 46.91 295 *i* P **P 00 23 30.0 0.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ULN	**Ulaanbaatar**	**50.26**	**346**	*e*P	**P**	**00 23 54.5**	**-1.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
ULN	**Ulaanbaatar**	**50.26**	**346**	*e*P	**P**	**00 23 54.5**	**-1.1**
	comp=Z,6.4nm,0.6s,mb4.8						
SONM	**Songino Array**	**50.39**	**346**	P	**P**	**00 23 56.0**	**-0.6**
	comp=Z,7.5nm,0.7s,mb4.8,baz=160,slow=6.2,SNR=16						
ZAK	**Zakamensk**	**53.53**	**345**	*e*P	**P**	**00 24 21.3**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
WMQ	**Urumqi**	**54.19**	**329**	*e*P	**P**	**00 24 22.5**	**-2.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
TLY	**Talaya**	**54.63**	**346**	*e*P	**P**	**00 24 29.7**	**+1.6**
TLY				*e*		00 32 09.4	
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TLY				MLR	MLR		
	comp=Z,152nm,18.0s						
RPZ	**Rata Peaks**	**60.72**	**141**	P	**P**	**00 25 11.8**	**+0.7**
	comp=Z,15nm,0.9s,mb5.1,baz=201,slow=3.3,SNR=5.6						
AAK	**Ala-Archa**	**61.01**	**321**	*e*P	**P**	**00 25 12.6**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**61.01**	**321**	*e*P	**P**	**00 25 12.6**	**-0.3**
	comp=Z,2.1nm,0.8s,mb4.3						
ZAL	**Zalesovo**	**62.80**	**336**	P	**P**	**00 25 21.9**	**-2.9**
	comp=Z,1.4nm,0.4s,mb4.4,baz=166,slow=4.2						
ZAL				LR	LR	00 53 37.6	
	comp=Z,158nm,20.5s,baz=333,slow=37						
KURK	**Kurchatov**	**63.39**	**330**	P	**P**	**00 25 28.5**	**-0.3**
	comp=Z,108nm,0.8s,SNR=14						
KURK	**Kurchatov**	**63.39**	**330**	*e*P	**P**	**00 25 26.8**	**-2.0**
KURK				pmax	pmax		
	comp=Z,11nm,0.7s,mb5.1						
KURK	**Kurchatov**	**63.39**	**330**	*e*P	**P**	**00 25 26.8**	**-1.9**
	comp=Z,11nm,0.7s,mb5.1						
MA2	**Magadan**	**64.08**	**16**	*e*P	**P**	**00 25 34.1**	**+1.0**
MA2				*e*		00 34 02.2	
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
MA2	**Magadan**	**64.08**	**16**	*e*P	**P**	**00 25 32.4**	**-0.7**
	comp=Z,12nm,0.9s,mb4.9						
NVS	**Novosibirsk**	**64.08**	**336**	*e*P	**P**	**00 25 31.8**	**-1.4**
NVS				pmax	pmax		
	comp=N,9.0nm,2.3s						
NVS				pmax	pmax		
	comp=Z,29nm,2.3s,mb4.9						
NVS				pmax	pmax		
	comp=E,5.0nm,1.6s						
VNDA	**Vanda**	**79.58**	**172**	P	**P**	**00 27 04.7**	**-0.3**
	comp=E,1.1nm,0.8s,mb3.8,baz=313,slow=7.3,SNR=3.2						
VNDA				LR	LR	01 02 32.1	
	comp=E,153nm,20.1s,baz=142,slow=36						
KMBO	**Kilima Mbogo**	**85.26**	**269**	P	**P**	**00 27 36.3**	**+0.7**
	comp=E,0.3nm,0.4s,mb3.8,baz=85,slow=12,SNR=3.2						
ILAR	**Eielson Array**	**90.92**	**25**	P	**P**	**00 28 01.1**	**-0.4**
	comp=E,0.1nm,0.5s,baz=229,slow=18,SNR=5.3						
DBIC	**Dimbokro**	**127.19**	**278**	PKP	PKPdf	00 34 02.9	+0.7
	comp=E,3.4nm,1.0s,baz=138,slow=5.2,SNR=5.1						
CFAA	**Coronel Fontan**	**146.24**	**163**	PKPbc	PKPbc	00 34 37.2	-0.5
	comp=E,0.2nm,0.5s,baz=153,slow=6.8,SNR=2.1						
CFAA	**Coronel Fontan**	**146.24**	**163**	PKPbc	PKPbc	00 34 37.2	-0.5

*ATH **16** 00:52:48.5, 38.64N×23.73E, h18km±2km, MD3.4/16, ML3.4*
*NEIC **16** 00:52:48.6, 38.63N×23.71E, h18km, ML3.4(ATH), After ATH.*
*CSEM **16** 00:52:50.1±0.1, 38.57N×23.74E, h15km±1km, ML3.4, Error ellipse: s-maj=2.8km s-min=1.6km az=75.0*
*THE **16** 00:52:52.5, 38.65N×23.74E, h20km, ML3.4*
ISC 16 00:52:49.1±0.5**, 38.57N**±0.02×**23.77E**±0.05**, h19**km±5km**, n40, σ1ˢ08**/49**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.42**	**184**	*e*PB	**Pb**	**00 52 58.0**	**+0.3**
PTL	**Penteli**	**0.53**	**172**	*e*PN	**Pn**	**00 53 00.5**	**-0.9**
ATH	**Athens Observa**	**0.60**	**184**	*e*PN	**Pn**	**00 53 01.4**	**-1.0**
ATH				*e*SN	**Sn**	**00 53 11.4**	**-0.1**
AOS	**Alonnisos**	**0.60**	**8**	*e*Pg	**Pb**	**00 53 04.5**	**+3.6**
AOS	**Alonnisos**	**0.60**	**8**	*e*Pg	**Pb**	**00 53 04.4**	**+3.5**
LKR	**Lokris**	**0.61**	**278**	*e*PN	**Pn**	**00 52 58.9**	**-3.7**
NSAL	**Nisos Salamina**	**0.70**	**200**	⇓*i*PB	**Pb**	**00 53 02.6**	**+0.1**
MGER	**Gerania Oros**	**0.71**	**215**	*e*PB	**Pb**	**00 53 02.1**	**-0.5**
MGER				*e*SN	**Sn**	**00 53 13.5**	**-0.8**
NAIG	**Nisos Aigina**	**0.84**	**195**	*e*PN	**Pn**	**00 53 05.5**	**-0.4**
NEO	**Neokhori**	**0.85**	**330**	*e*PN	**Pn**	**00 53 04.0**	**-2.0**
XOR	**Xorichti**	**0.91**	**331**	*e*Pg	**Pb**	**00 53 08.2**	**+2.1**
XOR				*e*Sg	**Sb**	**00 53 19.7**	**+1.9**
AGG	**Agios Georgios**	**1.21**	**292**	*e*Pg	**Pn**	**00 53 11.3**	**+0.1**
AGG				*e*Sg	**Sb**	**00 53 27.9**	**+1.4**
PAIG	**Paliouri**	**1.36**	**357**	*e*Pb	**Pb**	**00 53 13.5**	**-0.2**
PAIG				*e*Sb	**Sb**	**00 53 30.5**	**-0.2**
EVR	**Evrytania**	**1.57**	**283**	*e*PN	**Pn**	**00 53 16.5**	**+0.2**
LOS	**Limnos**	**1.70**	**36**	*e*Pb	**Pb**	**00 53 19.1**	**-0.4**
LOS	**Limnos**	**1.70**	**36**	*e*Pb	**Pb**	**00 53 19.1**	**-0.4**
LIA	**Limnos Island**	**1.72**	**39**	*e*PN	**Pn**	**00 53 18.5**	**+0.1**
OUR	**Ouranopolis**	**1.77**	**5**	*e*Pb	**Pb**	**00 53 19.4**	**-1.3**
PLG	**Polygyros**	**1.82**	**352**	*e*PN	**Pn**	**00 53 19.8**	**-0.1**
LIT	**Litokhoron**	**1.82**	**327**	*e*Pb	**Pb**	**00 53 19.7**	**-1.9**
RLS	**Riolos of Patr**	**1.88**	**255**	*e*PN	**Pn**	**00 53 22.5**	**+1.7**
VLI	**Veliai**	**1.96**	**200**	*e*PB	**Pb**	**00 53 23.4**	**-0.6**
ITM	**Ithomi**	**2.01**	**227**	*e*PN	**Pn**	**00 53 24.6**	**+1.9**
APE	**Apeiranthos**	**2.05**	**137**	*e*PB	**Pb**	**00 53 25.0**	**-0.4**
PRK	**Paraskevi**	**2.06**	**70**	*e*PN	**Pn**	**00 53 25.0**	**+1.6**
THE	**Thessaloniki**	**2.15**	**343**	*e*Pn	**Pn**	**00 53 24.8**	**+0.2**
THE				*e*Sn	**Sn**	**00 53 50.7**	**-0.3**
SOH	**Sokhos**	**2.27**	**352**	*e*Pn	**Pn**	**00 53 26.7**	**+0.3**
KZN	**Kozani**	**2.33**	**319**	*e*PN	**Pn**	**00 53 27.5**	**+0.4**
KYTH	**Kithira**	**2.36**	**195**	*e*PB	**Pb**	**00 53 30.2**	**-0.6**
THR3	**Thira Island,**	**2.52**	**149**	*e*Pn	**Pn**	**00 53 32.6**	**+2.8**
VLS	**Valsamata**	**2.53**	**262**	*e*PB	**Pb**	**00 53 31.5**	**-2.2**
SRS	**Serrai**	**2.55**	**357**	*e*Pn	**Pn**	**00 53 30.4**	**+0.1**
SRS				*e*Sn	**Sn**	**00 53 59.6**	**-1.4**
THR1	**Thera Island**	**2.57**	**148**	*e*Pn	**Pn**	**00 53 33.1**	**+2.5**
GRG	**Griva**	**2.61**	**337**	*e*Pn	**Pn**	**00 53 31.1**	**0.0**
GRG				*e*Sn	**Sn**	**00 54 01.8**	**-0.8**
KNT	**Kendrikon**	**2.67**	**346**	*e*Pn	**Pn**	**00 53 32.6**	**+0.5**
KNT				*e*Sn	**Sn**	**00 54 03.5**	**-0.7**
NVR	**Nevrokopi**	**2.78**	**1**	*e*PN	**Pn**	**00 53 33.5**	**-0.1**
IGT	**Igoumenitsa**	**2.84**	**291**	*e*Pn	**Pn**	**00 53 35.5**	**+1.0**
FNA	**Florina**	**2.88**	**321**	*e*Pn	**Pn**	**00 53 35.3**	**+0.3**
ALN	**Alexandroupoli**	**2.91**	**36**	*e*Pn	**Pn**	**00 53 35.6**	**+0.1**
VAM	**Vamos**	**3.18**	**174**	*e*PB	**Pb**	**00 53 44.0**	**-0.7**

IDC 16 01:04:26.1±29.0**, 1.71N**×**96.46E, mb3.7**/3**, mb1 3.9**/3**, mb1mx3.6**/14**, mbtmp3.7**/3**, Error ellipse: s-maj=565.0km s-min=240.0km az=142.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.93**	**122**	P	P	01 12 26.8	-1.9
	0.8nm,0.4s,baz=300,slow=10.0,SNR=14						
ASAR	**Alice Springs**	**44.29**	**127**	P	P	01 12 39.5	-0.1
	0.4nm,0.5s,baz=303,slow=6.9,SNR=5.4						
STKA	**Stephens Creek**	**54.24**	**132**	P	P	01 13 52.2	-3.9
	1.1nm,0.7s,baz=320,slow=7.9,SNR=3.4						

*MOS **16** 01:14:06.9±0.7, 81.20N×4.58W, h10km, mb4.8/19, Error ellipse: s-maj=67.5km s-min=6.2km az=91.9*
*IDC **16** 01:14:07.0±0.6, 81.26N×4.27W, mb3.9/13, mb1 4.1/14, mb1mx4.0/23, mbtmp3.9/14, ML3.6/1, MS4.0/12, Ms1 4.0/12, ms1mx3.7/23, Error ellipse: s-maj=24.8km s-min=12.5km az=39.0*
*BER **16** 01:14:08.3±3.6, 81.42N×2.97W, MD3.4, ML3.3, ML2.1(NAO)*
*ZUR_RM **16** 01:14:08, 81.28N×4.46W, h12km, Mw4.7/6, Moment Tensor Solution. s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.98; $M_{\theta\theta}$-0.01; $M_{\phi\phi}$0.99; $M_{r\theta}$0.45; $M_{\theta\phi}$0.37; $M_{\phi r}$-0.19; Best double couple: $M_0$1.15×10^{16} NP1:ϕ_s356°, δ51°, λ-122°. NP2:ϕ_s221°, δ49°, λ-57°. Principal axes: T 1.111, Plg1°, Azm108°; N .0855, Plg24°, Azm17°; P -1.1965, Plg65°, Azm200°;*
*NEIC **16** 01:14:08.8±0.2, 81.28N×4.46W, h10km, mb4.6/23 Error ellipse: s-maj=6.6km s-min=3.8km az=54.0*
*NAO **16** 01:14:08.5±7.9, 82.05N×0.13E, h46km±79km, ML2.1*
ISC 16 01:14:06.5±0.3**, 81.34N**±0.05×**3.4W**±0.4**, h10**km**, n93, σ1ˢ06**/92**, mb4.3**/34**, MS4.0**/11**, 2C, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPA0	**Spitsbergen Ar**	**4.72**	**122**	Pn	**Pn**	**01 15 17.5**	**-2.0**
	baz=332,slow=14						
SPA0				Sn	**Sn**	**01 16 09.4**	**-5.5**
DAG	**Danmarks Havn**	**5.40**	**220**	⇑*i*P	**Pn**	**01 15 25.9**	**-3.2**
DAG				pmax	pmax		
	comp=Z,33nm,0.8s						
DAG	**Danmarks Havn**	**5.40**	**220**	⇑*i*P	**Pn**	**01 15 25.9**	**-3.2**
	comp=Z,33nm,0.8s						
HSP	**Hornsund**	**5.59**	**131**	*e*P	**Pn**	**01 15 30.0**	**-1.7**
HSP				*e*S	**Sn**	**01 16 30.4**	**-6.4**
HOPEN	**Hopen**	**7.20**	**117**	*e*P	**Pn**	**01 15 51.9**	**-2.6**
HOPEN				*e*S	**Sn**	**01 17 08.6**	**-8.5**
HOPEN				AML	AML	01 17 14.1	
	comp=Z,45nm,0.9s						
ALE	**Alert**	**8.05**	**307**	Pn	**P**	**01 16 01.0**	**-5.3**
	comp=Z,121nm,0.5s,SNR=8.8						
SUMG	**Summit**	**11.50**	**240**	*e*P	**P**	**01 16 48.0**	**-5.6**
	comp=Z,30nm,0.9s						
SCO	**Scoresbysund**	**11.69**	**212**	*i* P	**P**	**01 16 53.2**	**-3.0**
SCO				pmax	pmax		
	comp=Z,13nm,0.8s						
SCO	**Scoresbysund**	**11.69**	**212**	*i* P	**P**	**01 16 53.2**	**-3.0**
	comp=Z,13nm,0.8s						
ARA0	**ARCESS Array S**	**13.60**	**134**	P	**P**	**01 17 20.4**	**-1.0**
	baz=349,slow=11						
ARCES	**ARCESS Array B**	**13.60**	**134**	Pn	**P**	**01 17 19.8**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=346,slow=10.0,SNR=14						
ARCES				LR	LR	01 22 11.1	
	comp=Z,387nm,21.1s,baz=117,slow=36						
APA0	**Apatity Array**	**16.31**	**126**	P	**P**	**01 17 53.5**	**-3.3**
	baz=351,slow=11						
RES	**Resolute Bay**	**17.85**	**300**	*e*P	**P**	**01 18 09.2**	**-6.9**
RES				pmax	pmax		
	comp=Z,18nm,1.1s						
RES	**Resolute Bay**	**17.85**	**300**	*e*P	**P**	**01 18 09.2**	**-6.8**
	comp=Z,18nm,1.1s						
SFJD	**Kangerlussuaq**	**18.31**	**247**	*i* P	**P**	**01 18 16.0**	**-5.8**
	comp=Z,12nm,0.8s						
NB2	**NORSAR Subarra**	**20.79**	**160**	P	**P**	**01 18 50.0**	**+0.1**
	comp=Z,9.3nm,1.1s,baz=356,slow=11						
NB2	**NORSAR Subarra**	**20.79**	**160**	P	**P**	**01 18 50.0**	**+0.1**
NB2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NB2	**NORSAR Subarra**	**20.79**	**160**	P	**P**	**01 18 50.7**	**+0.8**
NOA	**NORSAR Array B**	**20.79**	**160**	P	**P**	**01 18 49.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=356,slow=8.1,SNR=4.8						
FIA0	**FINESS Array S**	**21.52**	**140**	P	**P**	**01 18 57.8**	**+0.5**
	baz=331,slow=9.3						
FINES	**FINESS Array B**	**21.52**	**140**	P	**P**	**01 18 57.4**	**0.0**
	comp=Z,2.4nm,0.8s,mb3.7,baz=352,slow=14,SNR=8.1						
FINES				PcP	PcP	01 22 58.8	-1.5
	comp=Z,0.7nm,0.9s,baz=90,slow=3.8,SNR=4.1						
FINES				LR	LR	01 26 47.5	
	comp=Z,244nm,21.6s,MS3.6,baz=177,slow=35						
FINES	**FINESS Array B**	**21.52**	**140**	P	**P**	**01 18 57.4**	**0.0**
FINES				PcP	PcP	01 22 58.8	-1.5
FINES				LR	LR	01 26 47.5	
HFS	**Hagfors**	**21.84**	**157**	P	**P**	**01 19 00.8**	**+0.3**
	baz=356,slow=12						
HFS	**Hagfors**	**21.84**	**157**	P	**P**	**01 19 00.0**	**-0.5**
HFS				pmax	pmax		
	comp=Z,6.0nm,0.8s						
HFS	**Hagfors**	**21.84**	**157**	P	**P**	**01 18 60.0**	**-0.5**
	comp=Z,5.5nm,0.8s,mb4.0,baz=353,slow=12,SNR=7.0						
FRB	**Frobisher Bay**	**23.98**	**263**	P	**P**	**01 19 20.2**	**-1.1**
	comp=Z,6.1nm,0.8s,mb4.1,baz=22,slow=10.0,SNR=10						
FRB				LR	LR	01 27 58.5	
	comp=Z,610nm,21.7s,MS4.0,baz=212,slow=35						
INK	**Inuvik**	**28.20**	**323**	P	**P**	**01 20 00.4**	**-0.2**
	comp=Z,1.2nm,0.9s,mb3.5,baz=356,slow=11,SNR=4.0						
GIVF	**Givet**	**31.48**	**170**	*e*P	**P**	**01 20 29.7**	**-0.3**
BAIF	**Baives**	**31.50**	**171**	*e*P	**P**	**01 20 30.1**	**-0.1**
YKA	**Yellowknife Ar**	**31.79**	**305**	P	**P**	**01 20 31.6**	**-1.0**
YKA						01 23 22.5	
YKA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				MLR	MLR		
	comp=Z,563nm,19.9s						
YKA	**Yellowknife Ar**	**31.79**	**305**	P	**P**	**01 20 31.6**	**-0.9**
	comp=Z,1.2nm,1.0s,mb3.7,baz=12,slow=9.1,SNR=14						
YKA				PcP	PcP	01 23 22.5	-1.3
	comp=Z,0.7nm,0.8s,baz=13,slow=2.4,SNR=10						
YKA				LR	LR	01 33 14.9	
	comp=Z,562nm,19.9s,MS4.2,baz=15,slow=36						
ILAR	**Eielson Array**	**32.77**	**332**	P	**P**	**01 20 41.1**	**0.0**
	comp=Z,1.9nm,1.0s,mb4.0,baz=360,slow=7.1,SNR=12						
ILAR				PcP	PcP	01 23 24.8	-1.7
	comp=Z,0.2nm,0.6s,baz=332,slow=5.1,SNR=4.1						
DAWY	**Dawson**	**32.88**	**326**	*e*P	**P**	**01 20 39.8**	**-2.3**
MEZF	**Maizieres J'vi**	**33.09**	**170**	*e*P	**P**	**01 20 44.2**	**+0.2**
GERES	**GERESS Array B**	**33.09**	**159**	P	**P**	**01 20 44.7**	**+0.6**
	comp=Z,1.1nm,0.8s,mb3.8,baz=11,slow=6.8,SNR=10						
GERES				PcP	PcP	01 23 27.4	-0.1
	comp=Z,0.5nm,0.9s,baz=79,slow=6.8,SNR=3.5						
CDF	**Champ du Feu**	**33.24**	**167**	*e*P	**P**	**01 20 45.7**	**+0.3**
	comp=Z,58nm,1.7s,mb4.9						
CDF	**Champ du Feu**	**33.24**	**167**	*e*P	**P**	**01 20 45.7**	**+0.3**
CDF				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
HAU	**Haudompre**	**33.62**	**168**	*e*P	**P**	**01 20 48.9**	**+0.2**
	comp=Z,8.7nm,0.9s,mb4.4						
HAU	**Haudompre**	**33.62**	**168**	*e*P	**P**	**01 20 48.9**	**+0.2**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**34.49**	**172**	*e*P	**P**	**01 20 55.8**	**-0.4**
SSF				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.8						
SSF	**Saint Saulge**	**34.49**	**172**	*e*P	**P**	**01 20 55.8**	**-0.4**
	comp=Z,16nm,1.3s,mb4.8						
AVF	**Avril sur Loir**	**34.75**	**172**	*e*P	**P**	**01 20 58.2**	**-0.3**
	comp=Z,36nm,1.5s,mb4.8						
AVF	**Avril sur Loir**	**34.75**	**172**	*e*P	**P**	**01 20 58.2**	**-0.3**
AVF				pmax	pmax		
	comp=Z,18nm,1.5s,mb4.8						
BGF	**Bois d'Agland**	**34.98**	**172**	*e*P	**P**	**01 21 00.2**	**-0.2**
	comp=Z,27nm,1.2s,mb4.8						
BGF	**Bois d'Agland**	**34.98**	**172**	*e*P	**P**	**01 21 00.2**	**-0.2**
BGF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
CABF	**La Chapelle**	**35.00**	**169**	*e*P	**P**	**01 21 00.8**	**+0.2**
	comp=Z,36nm,1.3s,mb4.8						
CABF	**La Chapelle**	**35.00**	**169**	*e*P	**P**	**01 21 00.8**	**+0.2**
CABF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
TCF	**Toulx Ste Croi**	**35.23**	**173**	*e*P	**P**	**01 21 02.0**	**-0.6**
	comp=Z,23nm,1.3s,mb4.7						
TCF	**Toulx Ste Croi**	**35.23**	**173**	*e*P	**P**	**01 21 02.0**	**-0.6**
TCF				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
NVS	**Novosibirsk**	**35.77**	**81**	*e*P	**P**	**01 21 05.1**	**-1.9**
NVS				*e*		01 22 31.5	
LPL	**La Plagne**	**36.12**	**168**	*e*P	**P**	**01 21 11.3**	**+1.2**
	comp=Z,18nm,1.1s,mb4.6						
LPL	**La Plagne**	**36.12**	**168**	*e*P	**P**	**01 21 11.3**	**+1.2**
LPL				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
LPG	**La Plagne**	**36.14**	**168**	*e*P	**P**	**01 21 11.6**	**+1.4**
	comp=Z,22nm,1.2s,mb4.7						
LPG	**La Plagne**	**36.14**	**168**	*e*P	**P**	**01 21 11.6**	**+1.4**
LPG				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
RJF	**Les Rejaudoux**	**36.21**	**174**	*e*P	**P**	**01 21 10.5**	**-0.3**
	comp=Z,54nm,1.5s,mb5.0						
RJF	**Les Rejaudoux**	**36.21**	**174**	*e*P	**P**	**01 21 10.5**	**-0.3**
RJF				pmax	pmax		
	comp=Z,27nm,1.5s,mb5.0						
CAF	**Calviac**	**36.59**	**173**	*e*P	**P**	**01 21 14.1**	**0.0**
ORIF	**Oris-en-Rattie**	**36.69**	**169**	*e*P	**P**	**01 21 15.5**	**+0.6**
	comp=Z,11nm,1.0s,mb4.3						
ORIF	**Oris-en-Rattie**	**36.69**	**169**	*e*P	**P**	**01 21 15.5**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
VIVF	**Saint-Julien-l**	**36.72**	**170**	*e*P	**P**	**01 21 15.6**	**+0.5**
ZAL	**Zalesovo**	**36.88**	**80**	P	**P**	**01 21 17.9**	**+1.6**
	comp=Z,1.0nm,0.4s,mb4.0,baz=133,slow=6.8,SNR=7.4						
ZAL				LR	LR	01 41 04.6	
	comp=Z,283nm,18.0s,MS4.1,baz=123,slow=44						
MBDF	**Montbardon**	**36.91**	**168**	*e*P	**P**	**01 21 18.1**	**+1.4**
	comp=Z,19nm,1.2s,mb4.5						
MBDF	**Montbardon**	**36.91**	**168**	*e*P	**P**	**01 21 18.1**	**+1.4**
MBDF				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.5						
LASF	**Ste Croix**	**37.48**	**171**	*e*P	**P**	**01 21 22.6**	**+1.1**
	comp=Z,14nm,1.1s,mb4.4						
SMRF	**Simiane la Rot**	**37.62**	**169**	*e*P	**P**	**01 21 23.4**	**+0.7**
	comp=Z,13nm,1.0s,mb4.3						
SBF	**Sospel**	**37.79**	**167**	*e*P	**P**	**01 21 25.2**	**+1.0**
	comp=Z,44nm,1.1s,mb4.8						
SBF	**Sospel**	**37.79**	**167**	*e*P	**P**	**01 21 25.2**	**+1.0**
SBF				pmax	pmax		
	comp=Z,22nm,1.1s,mb4.8						
FRF	**La Foret Royal**	**38.07**	**168**	*e*P	**P**	**01 21 27.0**	**+0.5**
	comp=Z,38nm,1.2s,mb4.7						
FRF	**La Foret Royal**	**38.07**	**168**	*e*P	**P**	**01 21 27.0**	**+0.5**
FRF				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.7						
MTLF	**Montolieu**	**38.18**	**173**	*e*P	**P**	**01 21 27.8**	**+0.4**
SJPF	**Ste Jean**	**38.37**	**177**	*e*P	**P**	**01 21 29.3**	**+0.3**
EPF	**Esparros**	**38.46**	**176**	*e*P	**P**	**01 21 29.7**	**-0.1**
KURK	**Kurchatov**	**39.07**	**87**	*e*P	**P**	**01 21 36.5**	**+1.7**
KURK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
KURK	**Kurchatov**	**39.07**	**87**	*e*P	**P**	**01 21 36.5**	**+1.6**
	comp=Z,12nm,1.0s,mb4.6						
PGF	**Pioggiola**	**39.16**	**165**	*e*P	**P**	**01 21 36.3**	**+0.6**
	comp=Z,7.4nm,0.8s,mb4.2						
PGF	**Pioggiola**	**39.16**	**165**	*e*P	**P**	**01 21 36.3**	**+0.6**
PGF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
EDM	**Edmonton**	**40.65**	**300**	*e*P	**P**	**01 21 48.3**	**+0.5**
ULM	**Lac du Bonnet**	**41.09**	**283**	P	**P**	**01 21 51.8**	**+0.3**
	comp=Z,2.3nm,0.8s,mb3.9,baz=30,slow=5.5,SNR=6.0						
ULM				LR	LR	01 38 38.3	
	comp=Z,298nm,21.3s,MS4.1,baz=180,slow=36						
GNI	**Garni**	**44.58**	**126**	LR	LR	01 41 45.2	
	comp=Z,81nm,18.9s,MS3.7,baz=347,slow=37						
MALT	**Malatya**	**45.65**	**133**	*e*P	**P**	**01 22 31.0**	**+2.6**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MALT	**Malatya**	**45.65**	**133**	*e*P	**P**	**01 22 31.0**	**+2.6**
	comp=Z,4.3nm,0.9s,mb4.4						
NEW	**Newport**	**46.00**	**302**	P	**P**	**01 22 31.2**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.0,baz=16,slow=7.4,SNR=3.0						
AAK	**Ala-Archa**	**46.33**	**94**	*e*P	**P**	**01 22 35.2**	**+1.4**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**46.33**	**94**	*e*P	**P**	**01 22 35.1**	**+1.4**
	comp=Z,5.8nm,1.1s,mb4.4						
BMO	**Blue Mountains**	**49.38**	**301**	*e*P	**P**	**01 22 57.9**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**50.38**	**293**	LR	LR	01 45 28.1	
	comp=Z,231nm,20.3s,MS4.2,baz=29,slow=37						
ASF	**Jabal al Asfar**	**51.55**	**136**	LR	LR	01 44 19.0	
	comp=Z,53nm,20.2s,MS3.6,baz=12,slow=35						
PV01	**Paradox Valley**	**54.79**	**291**	P	**P**	**01 23 38.2**	**0.0**
NVAR	**Mina Array Bea**	**55.83**	**301**	LR	LR	01 48 29.3	
	comp=Z,211nm,19.9s,MS4.2,slow=37						
JCT	**Junction City**	**61.03**	**281**	*e*P	**P**	**01 24 22.3**	**+0.1**
JCT				*e**PP	pP	01 24 29.6	+4.3
JCT				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
JCT	**Junction City**	**61.03**	**281**	*e*P	**P**	**01 24 22.3**	**+0.1**
	comp=Z,15nm,1.0s,mb5.1						
JCT				*e*pP	pP	01 24 29.6	+4.3
TXAR	**Lajitas Array**	**62.73**	**285**	P	**P**	**01 24 32.8**	**-0.8**
	comp=Z,1.0nm,0.7s,mb4.1,baz=53,slow=4.3,SNR=6.8						
TXAR				LR	LR	01 52 43.0	
	comp=Z,244nm,19.5s,MS4.4,baz=30,slow=37						
CMAR	**Chiang Mai Arr**	**73.73**	**75**	P	**P**	**01 25 43.0**	**+1.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=346,slow=6.2,SNR=4.7						
CMAR				LR	LR	02 03 20.0	
	comp=Z,38nm,18.4s,MS3.7,slow=40						

IGQ 16 01:19:39.7, 0.21S×81.18W, h12km±20km**, mb4.1, 4D, Error ellipse: s-maj=23.5km s-min=6.1km az=174.2, Off coast of Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOJA	**Cerro de Hojas**	**1.05**	**143**	⇓P	Pb	01 19 58.7	-0.6
JOR1	**San Jorge 1**	**2.55**	**85**	P	Pn	01 20 21.8	+0.1
PINO	**Pino**	**2.58**	**89**	P	Pn	01 20 22.9	+0.9
JUA2	**San Juan 2**	**2.58**	**90**	P	Pn	01 20 22.5	+0.5
JUA2				S	Sn	01 20 54.1	+0.6
YANA	**Yana**	**2.61**	**88**	P	Pn	01 20 23.7	+1.2
NAS1	**Nasa**	**2.74**	**99**	⇓P	Pn	01 20 26.4	+2.1
NAS1				S	Sn	01 21 01.4	+3.8
VC1	**Cotopaxi 1**	**2.81**	**99**	⇓P	Pn	01 20 27.9	+2.6
IGUA	**Igualata**	**2.84**	**117**	P	Pn	01 20 27.8	+1.9
TAMB	**Tambo**	**2.85**	**100**	P	Pn	01 20 28.4	+2.4
COTA	**Cotacachi**	**2.89**	**79**	P	Pn	01 20 29.3	+2.8
PISA	**Pisayambo**	**2.92**	**107**	P	Pn	01 20 29.4	+2.4
ARRY	**Arrayan**	**3.02**	**115**	P	Pn	01 20 30.4	+2.1
ARRY				S	Sn	01 21 04.5	-0.2
ULBA	**Ulba**	**3.04**	**114**	P	Pn	01 20 31.2	+2.7
ECEN	**Cerro Negro**	**3.37**	**72**	⇓P	Pn	01 20 35.6	+2.4

*NEIC **16** 01:27:16.0, 30.62S×117.47E, ML4.2(AUST), After AUST.*
AUST 16 01:27:17.4, 30.64S×117.46E, h3km**, ML4.2, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KLBR	**Kellerberrin**	**0.98**	**165**	*e*P	Pb	01 27 34.9	-1.8
KLBR				*e*S	Sb	01 27 47.4	-2.5
	12µm,0.5s						
MUN	**Mundaring**	**1.71**	**219**	*e*P	Pn	01 27 46.5	-1.9
MUN				*e*S	Sn	01 28 08.9	-2.2
	199nm,0.3s						
MORW	**Morawa**	**2.00**	**321**	*e*P	Pn	01 27 50.1	-2.3
MORW				*e*S	Sn	01 28 15.0	-3.2
	3µm,0.5s						
NWAO	**Narrogin (SRO)**	**2.29**	**185**	*e*P	Pn	01 27 53.8	-2.8
RKGY	**Rocky Gully**	**3.98**	**186**	*e*P	Pn	01 28 18.1	-2.6
MEEK	**Meekatharra**	**4.11**	**15**	*e*P	Pn	01 28 19.4	-3.2
MEEK				*e*S	Sn	01 29 04.5	-7.4
	466nm,0.4s						
FORT	**Forrest**	**9.12**	**94**	*e*P	P	01 29 26.2	-6.8
FORT				*e*S	Sn	01 31 03.8	-14
	835nm,0.3s						
FORT	**Forrest**	**9.12**	**94**	*e*P	P	01 29 26.2	-6.8
	835nm,0.3s						
FORT				*e*S	Sn	01 31 03.8	-14
MBWA	**Marble Bar**	**9.66**	**13**	*e*P	P	01 29 32.2	-8.2
MBWA				*e*S	Sn	01 31 13.4	-17
FITZ	**Fitzroy Crossi**	**14.53**	**33**	*e*P	P	01 30 38.1	-7.9
FITZ				*e*S	S	01 33 10.4	-18
	6.4nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.53**	**33**	*e*P	P	01 30 38.1	-7.9
	6.4nm,0.4s						
FITZ				*e*S	S	01 33 10.4	-18
ASPA	**Alice Springs**	**16.18**	**69**	*e*P	P	01 30 58.1	-9.4
ASPA				*e*S	S	01 33 46.5	-21
WB2	**Warramunga Arr**	**18.59**	**59**	*e*P	P	01 31 29.1	-8.6
WB2				*e*S	S	01 34 44.3	-18

*NEIC **16** 01:28:45.5, 43.95S×169.55E, h12km, ML4.3(WEL), After WEL.*
WEL 16 01:28:45.3±0.1**, 43.95S×169.56E, h12**km±4km**, ML4.3**/15**, 6C-2D, Error ellipse: s-maj=1.1km s-min=0.9km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FOZ	**Fox Glacier**	**0.40**	**13**	⇑P*	Pb	01 28 54.1	+0.4
FOZ				S*	Sb	01 28 59.9	+0.5
JCZ	**Jackson Bay**	**0.59**	**258**	P	Pb	01 28 56.4	-0.7
JCZ				S	Sb	01 29 03.9	-1.2
JCZ	**Jackson Bay**	**0.59**	**258**	⇑P*	Pb	01 28 56.5	-0.6
JCZ				S*	Sb	01 29 03.8	-1.3
LBZ	**Lake Benmore**	**0.62**	**135**	P	Pb	01 28 57.3	-0.3
LBZ	**Lake Benmore**	**0.62**	**135**	⇓P*	Pb	01 28 57.3	-0.3
LBZ				S*	Sb	01 29 05.4	-0.6
WKZ	**Wanaka**	**0.96**	**204**	P	Pb	01 29 02.4	-1.0
WKZ	**Wanaka**	**0.96**	**204**	⇑P*	Pb	01 29 02.4	-0.9
WKZ				S*	Sb	01 29 14.9	-0.9
RPZ	**Rata Peaks**	**1.10**	**78**	P	Pb	01 29 06.2	+0.4
RPZ	**Rata Peaks**	**1.10**	**78**	⇑P*	Pb	01 29 06.2	+0.4
RPZ				*e*S*	Sb	01 29 18.9	-1.1

WVZ	**Waitaha Valley**	**1.22**	**45**	P	Pb	01 29 07.8	0.0
EAZ	**Earnscleugh**	**1.29**	**188**	P	Pb	01 29 08.3	-0.8
EAZ	**Earnscleugh**	**1.29**	**188**	⇑PN	Pn	01 29 08.3	-0.9
EAZ				SN	Sn	01 29 25.2	-1.3
ODZ	**Otahua Downs**	**1.34**	**145**	P	Pb	01 29 09.7	-0.2
ODZ	**Otahua Downs**	**1.34**	**145**	⇓PN	Pn	01 29 09.7	-0.2
ODZ				SN	Sn	01 29 26.4	-1.2
MSZ	**Milford Sound**	**1.38**	**238**	PN	Pn	01 29 09.2	-1.2
MSZ				SN	Sn	01 29 25.5	-3.2
MLZ	**Mavora Lakes**	**1.71**	**215**	P	Pn	01 29 16.3	+1.1
MLZ	**Mavora Lakes**	**1.71**	**215**	PN	Pn	01 29 15.9	+0.7
MLZ				SN	Sn	01 29 39.6	+2.5
TUZ	**Tuapeka**	**2.01**	**179**	*e*P	Pn	01 29 18.7	-0.7
TUZ	**Tuapeka**	**2.01**	**179**	⇑PN	Pn	01 29 18.7	-0.7
CRLZ	**Canterbury Las**	**2.25**	**81**	P	Pn	01 29 22.4	-0.5
CRLZ	**Canterbury Las**	**2.25**	**81**	PN	Pn	01 29 22.7	-0.1
MQZ	**McQueen's Vall**	**2.25**	**85**	*e*P	Pn	01 29 22.7	-0.2
MQZ	**McQueen's Vall**	**2.25**	**85**	*e*PN	Pn	01 29 22.6	-0.3
WHZ	**Wether Hill Ro**	**2.26**	**210**	*e*P	Pn	01 29 22.6	-0.4
WHZ	**Wether Hill Ro**	**2.26**	**210**	PN	Pn	01 29 22.5	-0.5
LTZ	**Lake Taylor**	**2.29**	**60**	P	Pn	01 29 24.0	+0.5
LTZ	**Lake Taylor**	**2.29**	**60**	PN	Pn	01 29 24.1	+0.6
DCZ	**Deep Cove**	**2.30**	**228**	*e*PN	Pn	01 29 23.9	+0.3
DSZ	**Denniston Nort**	**2.75**	**38**	P	Pn	01 29 29.4	-0.7
DSZ	**Denniston Nort**	**2.75**	**38**	PN	Pn	01 29 28.8	-1.3
KHZ	**Kahutara**	**3.29**	**64**	*e*P	Pn	01 29 37.3	-0.4
KHZ	**Kahutara**	**3.29**	**64**	PN	Pn	01 29 37.2	-0.5
THZ	**Tophouse**	**3.29**	**49**	P	Pn	01 29 37.7	0.0
THZ	**Tophouse**	**3.29**	**49**	PN	Pn	01 29 37.6	-0.1
QRZ	**Quartz Range**	**3.82**	**36**	P	Pn	01 29 44.2	-1.0
QRZ	**Quartz Range**	**3.82**	**36**	PN	Pn	01 29 44.1	-1.1
BSWZ	**Blackbirch Sta**	**3.88**	**56**	P	Pn	01 29 46.6	+0.5
NNZ	**Nelson**	**3.92**	**47**	P	Pn	01 29 46.4	-0.3
CAW	**Cannon Point**	**4.96**	**57**	P	Pn	01 29 58.9	-2.5
KIW	**Kapiti Island**	**5.02**	**54**	P	Pn	01 30 00.0	-2.3
MTW	**Mount Morrison**	**5.20**	**60**	P	Pn	01 30 01.2	-3.6
MRZ	**Mangatainoka R**	**5.54**	**56**	*e*P	Pn	01 30 06.5	-3.1
NRZ	**Ngariki Road**	**5.65**	**37**	P	Pn	01 30 10.5	-0.7
NWEZ	**Newall Road**	**5.68**	**36**	P	Pn	01 30 10.6	-0.9
NEZ	**North Egmont**	**5.78**	**38**	P	Pn	01 30 12.4	-0.6
PKE	**Pukeiti**	**5.79**	**36**	P	Pn	01 30 12.2	-1.0
WAZ	**Wanganui**	**5.83**	**46**	P	Pn	01 30 13.5	-0.1
RAEZ	**Rainy Point**	**5.90**	**39**	P	Pn	01 30 14.0	-0.7
WNVZ	**Wahianoa**	**6.46**	**46**	P	Pn	01 30 21.6	-1.0
FWVZ	**Far West T-bar**	**6.49**	**46**	P	Pn	01 30 23.2	+0.2
CNZ	**Chateau**	**6.53**	**45**	P	Pn	01 30 23.2	-0.4
TUVZ	**Tukino**	**6.53**	**46**	P	Pn	01 30 22.7	-0.9
TWVZ	**Taurewa**	**6.57**	**44**	P	Pn	01 30 22.9	-1.3
NGZ	**Ngauruhoe**	**6.58**	**46**	P	Pn	01 30 23.7	-0.5
WTVZ	**West Tongariro**	**6.61**	**45**	P	Pn	01 30 23.5	-1.3
MGZ	**Maungaku**	**6.68**	**44**	P	Pn	01 30 24.8	-0.8
HIZ	**Hauiti**	**6.74**	**38**	P	Pn	01 30 24.4	-2.1
KATZ	**Kakaramea**	**6.77**	**45**	P	Pn	01 30 26.9	-0.1
WCZ	**Waipu Caves**	**8.80**	**26**	*e*P	P	01 30 51.8	-3.5

*IDC **16** 01:34:49.5±4.2, 35.32N×71.95E, mb3.9/4, mb1 4.0/5, mb1mx3.6/19, mbtmp3.9/5, ML3.6/1, Error ellipse: s-maj=79.7km s-min=47.8km az=9.0*

ISC 16 01:35:24.2±1.4**, 37.29N**±0.08×**71.8E**±0.2**, h200km, n18, σ0ˢ66**/18**, mb3.5**/3**, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.04**	**16**	P	**P**	**01 36 40.3**	**+0.4**
	SNR=298						
UCH	**Uchtor**	**5.35**	**22**	P	**P**	**01 36 44.0**	**+0.2**
	SNR=107						
KZA	**Kyzart**	**5.46**	**28**	P	**P**	**01 36 44.7**	**-0.5**
	SNR=43						
EKS2	**Erkin-Say**	**5.57**	**15**	P	**P**	**01 36 47.0**	**+0.3**
	SNR=43						
AAK	**Ala-Archa**	**5.72**	**20**	P	**P**	**01 36 49.1**	**+0.6**
	SNR=38						
KBK	**Karagaybulak**	**5.87**	**23**	P	**P**	**01 36 50.9**	**+0.3**
	SNR=24						
ULHL	**Ulahol**	**6.01**	**33**	P	**P**	**01 36 51.7**	**-0.6**
	SNR=22						
CHMS	**Chumysh**	**6.13**	**21**	P	**P**	**01 36 53.8**	**-0.1**
	SNR=11						
USP	**Ospenovka**	**6.31**	**18**	P	**P**	**01 36 55.5**	**-0.7**
	SNR=35						
TKM2	**Tokmak 2**	**6.32**	**26**	P	**P**	**01 36 56.4**	**0.0**
	SNR=39						
KKN	**Kakani**	**14.78**	**126**	*e*P	**P**	**01 38 43.5**	**-1.2**
	4.7nm,0.4s						
GUN	**Gumba**	**15.09**	**124**	*e*P	**P**	**01 38 49.4**	**+0.9**
	8.7nm,0.5s						
JIRN	**Jiri**	**15.46**	**124**	*e*P	**P**	**01 38 53.9**	**+0.8**
	5.0nm,0.3s						
BVAR	**Borovoye Array**	**15.76**	**357**	P	**P**	**01 38 57.7**	**+1.1**
	0.2nm,0.3s,baz=170,slow=16,SNR=3.7						
ZAL	**Zalesovo**	**18.91**	**24**	P	**P**	**01 39 31.0**	**-0.5**
	4.1nm,0.4s,baz=243,slow=4.5,SNR=17						
SONM	**Songino Array**	**27.35**	**56**	P	**P**	**01 40 45.6**	**-6.8**
	0.9nm,0.5s,mb3.7,baz=241,slow=15,SNR=2.7						
ARCES	**ARCESS Array B**	**40.67**	**337**	P	**P**	**01 42 46.0**	**0.0**
	0.7nm,0.4s,mb3.5,baz=108,slow=7.7,SNR=11						
YKA	**Yellowknife Ar**	**80.42**	**3**	P	**P**	**01 47 13.1**	**-1.1**
	0.3nm,0.4s,mb3.3,baz=348,slow=5.4,SNR=7.6						

*NEIC **16** 02:21:23.9±2.7, 31.46S×69.24W, h125km±33km, MD3.5(GUC), Error ellipse: s-maj=27.2km s-min=8.2km az=87.0*

GUC 16 02:21:24.0±0.6**, 31.43S×69.49W, h140km**±9km**, MD3.5, ML3.6, 2C-4D, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZON	**Zonda**	**0.71**	**100**	⇑*i*P	P	02 21 42.0	-3.9
ZON				*e*S	S	02 21 55.0	-7.7
JACH	**Jahuel**	**1.56**	**216**	*e*P	P	02 21 54.3	+0.4
JACH				*i* S	S	02 22 16.9	+0.2
CHNG	**Los Chungos**	**1.77**	**255**	*e*P	P	02 21 56.5	+0.3
CHNG				*i* S	S	02 22 20.5	-0.4
CHNG				AMP		02 22 26.8	
	comp=E,334nm,0.6s						
ROCH	**El Roble**	**2.01**	**219**	⇑*i*P	P	02 21 59.3	+0.4
ROCH				*i* S	S	02 22 26.3	+0.5
FCH	**Farellones**	**2.01**	**199**	⇓*i*P	P	02 21 59.9	+0.9
FCH				*i* S	S	02 22 26.9	+1.1
FCH				AMP		02 22 32.8	
	comp=E,491nm,0.3s						
LSCH	**La Serena**	**2.14**	**315**	*e*P	P	02 22 01.5	+0.8
LSCH				*i* S	S	02 22 29.1	+0.5
LSCH				AMP		02 22 29.7	
	comp=N,318nm,0.3s						
RCDM	**Rinconada Maip**	**2.34**	**208**	*e*P	P	02 22 03.2	0.0
RCDM				*i* S	S	02 22 33.3	+0.2
RCDM				AMP		02 22 34.4	
	comp=E,442nm,0.2s						
PCH	**Pirque**	**2.35**	**201**	⇓*i*P	P	02 22 03.6	+0.3
PCH				*i* S	S	02 22 33.5	+0.2
LMEL	**Las Melosas**	**2.49**	**194**	*e*P	P	02 22 05.2	+0.1
LMEL				AMP		02 22 43.1	
	comp=N,114nm,0.3s						
TACH	**Talagante**	**2.53**	**208**	⇓*i*P	P	02 22 05.2	-0.5
TACH				*i* S	S	02 22 36.8	-0.6
LCO	**Las Campanas**	**2.63**	**336**	*e*P	P	02 22 07.6	+0.7
LCO				*i* S	S	02 22 40.0	+0.4
LCO				AMP		02 22 43.0	
	comp=E,266nm,0.5s						
CHCH	**Chadas Angostu**	**2.68**	**201**	*e*P	P	02 22 07.4	-0.2
LCCH	**Las Cruces**	**2.69**	**220**	*e*P	P	02 22 07.5	-0.3
CICH	**Cipreses**	**2.99**	**195**	⇓*i*P	P	02 22 11.7	+0.2
LNV	**Longovilo**	**2.99**	**212**	*e*P	P	02 22 10.1	-1.6
VACH	**Vallenar**	**3.05**	**339**	*i* S	S	02 22 48.7	-0.6
SFDO	**San Fernando**	**3.42**	**201**	*e*P	P	02 22 16.2	-1.1

NEIC 16 02:26:50.9, 40.48N×126.07W, h5km, mb3.1/1**, MD3.3**(NCEDC)**, After NCEDC., Off coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.82**	**77**	*e*P	Pn	02 27 21.2	-2.0
KRMB	**Red Mountain**	**1.94**	**57**	*e*P	Pn	02 27 22.7	-2.2
KSXB	**Camp Six Broad**	**2.14**	**50**	P	Pn	02 27 25.6	-2.0
KBO	**Bosley Butte**	**2.22**	**38**	*e*P	Pn	02 27 26.3	-2.6
KEBM	**Edson Butte**	**2.72**	**28**	*e*P	Pn	02 27 32.9	-3.2
HOPS	**Hopland**	**2.75**	**122**	*e*P	Pn	02 27 32.5	-3.9
YBH	**Yreka Blue Hor**	**2.83**	**63**	*e*P	Pn	02 27 34.8	-2.8
LAMM	**Antelope Mount**	**2.84**	**65**	P	Pn	02 27 36.2	-1.6
LHEM	**Herd Peak**	**3.13**	**67**	P	Pn	02 27 40.9	-0.9
HUMO	**Hull Mountain**	**3.16**	**47**	*e*P	Pn	02 27 40.1	-2.2
NSHM	**Saint Helena R**	**3.32**	**125**	*e*P	Pn	02 27 43.1	-1.4
DBO	**Dodson Butte**	**3.38**	**38**	P	Pn	02 27 43.7	-1.7
BUOR	**Burton Butte**	**3.40**	**57**	P	Pn	02 27 45.9	+0.3
BBOR	**Butler Butte**	**3.50**	**45**	P	Pn	02 27 46.0	-1.1
LASM	**Arnica Sink**	**3.58**	**70**	P	Pn	02 27 47.4	-0.8
LBCM	**Butte Creek Ri**	**3.61**	**83**	P	Pn	02 27 47.6	-1.1
HOG	**Hogback Mounta**	**3.73**	**60**	P	Pn	02 27 49.8	-0.5
HSO	**Harness Mounta**	**3.77**	**35**	P	Pn	02 27 49.2	-1.8
SAC	**San Andreas**	**4.06**	**134**	*e*P	Pn	02 27 50.3	-4.7
HBO	**Huckleberry Mo**	**4.37**	**38**	P	Pn	02 27 58.4	-1.1
IRO	**Indian Ridge**	**4.52**	**38**	P	Pn	02 28 00.2	-1.4
MOD	**Modoc**	**4.58**	**70**	*e*Pn	Pn	02 28 00.4	-2.1
FRIS	**Frissel Point**	**4.75**	**37**	P	Pn	02 28 03.4	-1.5
BEND	**Bend**	**5.03**	**43**	P	Pn	02 28 07.4	-1.4
CMB	**Columbia Colle**	**5.04**	**117**	*e*Pn	Pn	02 28 07.5	-1.5
SAO	**San Andreas Ge**	**5.18**	**134**	*e*Pn	Pn	02 28 05.4	-5.6
LRV	**Little Rabbit**	**5.67**	**134**	*e*Pn	Pn	02 28 13.0	-4.8
OMM	**Old Mammoth Mi**	**6.21**	**115**	*e*Pn	Pn	02 28 21.5	-3.9
BMO	**Blue Mountains**	**7.80**	**53**	*e*Pn	Pn	02 28 46.3	-1.5
MCMT	**McKenzie Canyo**	**10.66**	**62**	*e*Pn	P	02 29 25.3	-2.0
SDCO	**Great Sand Dun**	**16.20**	**93**	*e*P	P	02 30 39.2	-1.5
	1.5nm,0.9s						
WMOK	**Wichita Mounta**	**22.32**	**96**	P	P	02 31 49.2	-1.6

IDC 16 02:31:58.9±54.0**, 16.04S×173.52W, mb4.2**/3**, mb1 4.4**/3**, mb1mx3.8**/16**, mbtmp4.2**/3**, Error ellipse: s-maj=1041.0km s-min=193.3km az=79.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.62**	**240**	P	P	02 40 05.5	-1.4
	1.4nm,0.5s,baz=90,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	02 40 51.9	-2.2
	0.4nm,0.3s,baz=97,slow=6.9,SNR=6.2						
ASAR	**Alice Springs**	**49.80**	**252**	P	P	02 40 53.7	-2.0
	6.1nm,0.6s,baz=88,slow=8.4,SNR=92						

*NNC **16** 03:04:23.2±0.5, 36.44N×81.24E, h1km±27km, mpv3.8, Error ellipse: s-maj=56.0km s-min=4.6km az=51.0*

BJI 16 03:04:15.4, 35.62N×80.72E, h8km, ML3.8, 4C, Kashmir-Xizang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**5.42**	**317**	*e*P	Pn	03 05 40.5	+2.0
KSH				SG	Sg	03 06 57.3	-18
KSH				Smax			
	comp=N,40nm,0.3s						
KSH				Smax			
	comp=E,50nm,0.4s						
AAK	**Ala-Archa**	**8.51**	**327**	⇑Pg	P	03 06 50.9	+29
	comp=E,5.1nm,1.1s						
AAK				⇑Lg		03 08 40.1	
	comp=E,9.3nm,0.8s						
WMQ	**Urumqi**	**9.79**	**31**	*e*P	P	03 06 43.1	+3.5
MK31	**Makanchi Array**	**11.23**	**6**	⇑Pn	P	03 06 55.7	-3.5
	comp=E,0.4nm,0.5s,baz=184,slow=12,SNR=14						
MK31				⇑Sn	S	03 08 56.4	-10
	comp=E,0.6nm,0.5s,baz=185,slow=24,SNR=13						

*IDC **16** 03:32:38.4±3.0, 22.52N×143.01E, h161km±31km, mb3.3/8, mb1 3.5/9, mb1mx3.4/20, mbtmp3.8/9, MS4.2/1, Ms1 4.2/1, ms1mx3.0/10, Error ellipse: s-maj=61.4km s-min=13.3km az=103.0*

ISC 16 03:32:37.3±2.8**, 22.5N**±0.1×**143.0E**±0.5**, h167km**±28km**, n10, σ0ˢ75**/10**, mb3.5**/8**, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.65**	**351**	P	**P**	**03 33 47.3**	**0.0**
	15nm,0.3s,slow=20,SNR=12						
CBIJ				S	**S**	**03 34 41.3**	**0.0**
	12nm,0.3s,baz=253,slow=19,SNR=4.8						
CTA	**Charters Tower**	**42.43**	**175**	LR	LR	03 55 48.6	
	comp=Z,292nm,18.7s,baz=325,slow=33						
WRA	**Warramunga Arr**	**43.01**	**192**	P	**P**	**03 40 21.9**	**-0.2**
	0.4nm,0.4s,mb3.4,baz=16,slow=9.1,SNR=17						
ASAR	**Alice Springs**	**46.72**	**192**	P	**P**	**03 40 51.8**	**+0.4**
	0.2nm,0.5s,mb3.0,baz=20,slow=13,SNR=3.1						
STKA	**Stephens Creek**	**54.07**	**181**	P	**P**	**03 41 46.4**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=323,slow=5.1,SNR=3.1						
ILAR	**Eielson Array**	**61.41**	**27**	P	**P**	**03 42 36.1**	**-1.7**
	0.4nm,0.6s,mb3.4,baz=266,slow=5.0,SNR=5.4						
INK	**Inuvik**	**66.91**	**24**	P	**P**	**03 43 13.1**	**-0.2**
	0.8nm,1.0s,mb3.5,baz=262,slow=3.0,SNR=4.6						
YKA	**Yellowknife Ar**	**75.83**	**28**	P	**P**	**03 44 06.4**	**+0.1**
	0.4nm,0.3s,mb3.5,baz=292,slow=5.9,SNR=9.8						
ARCES	**ARCESS Array B**	**78.13**	**341**	P	**P**	**03 44 19.3**	**+0.4**
	3.9nm,1.0s,mb4.0,baz=73,slow=9.4,SNR=3.8						
NVAR	**Mina Array Bea**	**82.77**	**52**	P	**P**	**03 44 45.6**	**+1.6**
	0.4nm,0.7s,mb3.3,baz=269,slow=5.8,SNR=4.3						

*MOS **16** 03:41:16.5±1.6, 22.63S×179.48E, h348km, mb5.3/7, Error ellipse: s-maj=28.6km s-min=18.8km az=125.4*
*IDC **16** 03:41:24.9±0.5, 24.33S×179.90E, h502km±5km, mb4.7/22, mb1 4.7/24, mb1mx4.7/24, mbtmp5.5/24, Error ellipse: s-maj=10.1km s-min=7.6km az=169.0*
*NEIC **16** 03:41:25.0±0.1, 24.37S×179.92E, mb5.1/56, Error ellipse: s-maj=6.0km s-min=3.8km az=158.0*
*HRVD **16** 03:41:25.0±0.4, 24.42S×179.98W, h525km±2km, MW5.5/56, Centroid moment Tensor Solution. LP body waves: s56,c96; Half duration: 1ˢ4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.74±.06; $M_{\theta\theta}$-0.50±.11; $M_{\phi\phi}$-0.24±.10; $M_{r\theta}$-0.60±.10; $M_{\theta\phi}$-0.76±.09; $M_{\phi r}$-1.98±.09; Best double couple: $M_0$2.301×10^{17} NP1:ϕ_s81°,δ20°,λ149°. NP2: ϕ_s200°,δ80°,λ73°. Principal axes: T 2.292, Plg52°, Azm90°; N .019, Plg17°, Azm203°; P -2.311, Plg33°, Azm304°; nsta1 refers to body waves, cutoff=40s.*
*BJI **16** 03:41:25.0, 24.40S×179.90E, h507km, mB5.1, mb5.1*

ISC 16 03:41:22.9±0.7**, 24.34S**±0.03×**179.90E**±0.03**, h491km**±8km**, h506km**±2.0km**:pP-P, n478, σ0ˢ95**/264**, mb5.2**/92**, 39C-39D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.27**	**159**	*e*P	**P**	**03 42 54.6**	**+1.9**
	3μm,0.4s						
DZM	**Mont Dzumac**	**12.57**	**278**	⇓*e*P	**P**	**03 44 11.9**	**+3.2**
DZM				*e*S	**S**	**03 46 27.8**	**+6.0**
NOUC	**Port Laguerre**	**12.70**	**277**	⇓*e*P	**P**	**03 44 14.0**	**+4.0**
NOUC				*e*S	**S**	**03 46 33.9**	**+10**
AFI	**Afiamalu**	**13.01**	**39**	*e*P	**P**	**03 44 09.3**	**-3.9**
	176nm,0.8s						
PUZ	**Puketiti**	**13.77**	**185**	PN	**P**	**03 44 22.0**	**+1.0**
PUZ				*e*SN	**S**	**03 46 47.0**	**+2.5**
PUZ	**Puketiti**	**13.77**	**185**	PN	**P**	**03 44 22.0**	**+1.0**
PUZ				*e*SN	**S**	**03 46 47.0**	**+2.5**
URZ	**Urewera**	**14.08**	**189**	P	**P**	**03 44 23.2**	**-1.1**
	18nm,0.3s,baz=12,slow=2.6,SNR=48						
URZ				S	**S**	**03 46 52.4**	**+2.0**
	12nm,0.3s,baz=60,slow=22,SNR=15						
URZ	**Urewera**	**14.08**	**189**	PN	**P**	**03 44 23.6**	**-0.7**
URZ				SN	**S**	**03 46 51.9**	**+1.5**
URZ	**Urewera**	**14.08**	**189**	PN	**P**	**03 44 23.6**	**-0.7**
URZ				SN	**S**	**03 46 51.9**	**+1.5**
MWZ	**Matawai**	**14.10**	**188**	PN	**P**	**03 44 24.3**	**-0.1**
MWZ				SN	**S**	**03 46 51.9**	**+1.1**
MWZ				*e*SN	**S**	**03 46 52.3**	**+1.5**
MWZ	**Matawai**	**14.10**	**188**	PN	**P**	**03 44 24.3**	**-0.1**
MWZ				SN	**S**	**03 46 51.9**	**+1.1**
MWZ				*e*SN	**S**	**03 46 52.3**	**+1.5**
KNZ	**Kokohu**	**14.76**	**187**	*e*SN	**S**	**03 47 04.2**	**+1.0**
KNZ	**Kokohu**	**14.76**	**187**	*e*SN	**S**	**03 47 04.2**	**+1.0**
BKZ	**Black Stump Fm**	**15.06**	**190**	PN	**P**	**03 44 33.9**	**-0.3**
BKZ				SN	**S**	**03 47 07.1**	**-1.8**
BKZ	**Black Stump Fm**	**15.06**	**190**	PN	**P**	**03 44 33.9**	**-0.3**
BKZ				SN	**S**	**03 47 07.1**	**-1.8**
MGZ	**Maungaku**	**15.08**	**193**	*e*PN	**P**	**03 44 35.9**	**+1.5**
MGZ	**Maungaku**	**15.08**	**193**	*e*PN	**P**	**03 44 35.9**	**+1.5**
NGZ	**Ngauruhoe**	**15.24**	**193**	*e*PN	**P**	**03 44 35.6**	**-0.4**
NGZ	**Ngauruhoe**	**15.24**	**193**	*e*PN	**P**	**03 44 35.6**	**-0.4**
TUVZ	**Tukino**	**15.31**	**193**	*e*PN	**P**	**03 44 37.5**	**+0.7**
TUVZ	**Tukino**	**15.31**	**193**	*e*PN	**P**	**03 44 37.5**	**+0.7**
WNVZ	**Wahianoa**	**15.38**	**193**	*e*PN	**P**	**03 44 37.9**	**+0.5**
WNVZ	**Wahianoa**	**15.38**	**193**	*e*PN	**P**	**03 44 37.9**	**+0.5**
MRZ	**Mangatainoka R**	**16.68**	**192**	*e*PN	**P**	**03 44 48.1**	**-2.2**
MRZ				*e*SN	**S**	**03 47 35.8**	**-2.4**
MRZ	**Mangatainoka R**	**16.68**	**192**	*e*PN	**P**	**03 44 48.1**	**-2.2**
MRZ				*e*SN	**S**	**03 47 35.8**	**-2.4**
KIW	**Kapiti Island**	**17.00**	**193**	*e*PN	**P**	**03 44 50.7**	**-2.8**
KIW	**Kapiti Island**	**17.00**	**193**	*e*PN	**P**	**03 44 50.7**	**-2.8**
PAWZ	**Paruwai Farm**	**17.40**	**191**	*e*SN	**S**	**03 47 50.5**	**-0.5**
PAWZ	**Paruwai Farm**	**17.40**	**191**	*e*SN	**S**	**03 47 50.5**	**-0.5**
MSWZ	**Moikau Station**	**17.47**	**192**	SN	**S**	**03 47 53.1**	**+1.0**
MSWZ	**Moikau Station**	**17.47**	**192**	SN	**S**	**03 47 53.1**	**+1.0**
SNZO	**South Karori**	**17.47**	**193**	*e*P	**P**	**03 44 57.6**	**-0.6**
	54nm,0.7s						
QRZ	**Quartz Range**	**17.56**	**199**	*e*PN	**P**	**03 45 00.4**	**+1.2**
QRZ	**Quartz Range**	**17.56**	**199**	*e*PN	**P**	**03 45 00.4**	**+1.2**
THZ	**Tophouse**	**18.33**	**197**	PN	**P**	**03 45 07.1**	**+0.5**
THZ				SN	**S**	**03 48 04.3**	**-2.8**
THZ	**Tophouse**	**18.33**	**197**	PN	**P**	**03 45 07.1**	**+0.5**
THZ				SN	**S**	**03 48 04.3**	**-2.8**
KHZ	**Kahutara**	**18.79**	**195**	PN	**P**	**03 45 10.4**	**-0.6**
KHZ	**Kahutara**	**18.79**	**195**	PN	**P**	**03 45 10.4**	**-0.6**
RAR	**Rarotonga**	**19.00**	**85**	P	**P**	**03 45 12.2**	**-1.0**
	1.4nm,0.3s,baz=237,slow=8.9,SNR=9.2						
RAR	**Rarotonga**	**19.00**	**85**	P	**P**	**03 45 12.2**	**-1.0**
LTZ	**Lake Taylor**	**19.45**	**197**	*e*PN	**P**	**03 45 16.4**	**-0.9**
LTZ				*e*SN	**S**	**03 48 21.3**	**-4.9**
LTZ	**Lake Taylor**	**19.45**	**197**	*e*PN	**P**	**03 45 16.4**	**-0.9**
LTZ				*e*SN	**S**	**03 48 21.3**	**-4.9**
RPZ	**Rata Peaks**	**20.65**	**198**	P	**P**	**03 45 28.6**	**0.0**
	29nm,0.4s,baz=32,slow=4.2,SNR=25						
JCZ	**Jackson Bay**	**21.70**	**202**	*e*PN	**P**	**03 45 38.0**	**-0.3**
JCZ	**Jackson Bay**	**21.70**	**202**	*e*PN	**P**	**03 45 38.0**	**-0.3**
HNR	**Honiara**	**24.11**	**305**	*e*P	**P**	**03 45 59.7**	**-0.9**
	595nm,0.9s,mb6.0						
TBI	**Tubuai**	**28.02**	**94**	⇑*i*P	**P**	**03 46 34.1**	**-1.0**
	244nm,0.7s,mb5.7						
CNB	**Canberra Magne**	**28.55**	**240**	⇓*i*P	**P**	**03 46 41.3**	**+1.7**
	1μm,0.7s,mb6.4						
CNB				*e*pP		03 48 08.7	
CNB				*e*S	**S**	**03 50 55.2**	**+2.3**
PAE	**Paea**	**29.22**	**83**	⇑*i*P	**P**	**03 46 44.0**	**-1.6**
	194nm,0.9s,mb5.5						
PAE				*e*pP		03 48 06.2	
	61nm,1.1s						
PAE				*e*ScP		03 52 28.6	
	48nm,1.2s						
PPT	**Papeete**	**29.25**	**83**	⇑*i*P	**P**	**03 46 44.6**	**-1.3**
	115nm,1.0s,mb5.3						
PPT				*e*ScP		03 52 28.8	
	25nm,1.1s						
PPT	**Papeete**	**29.25**	**83**	P	**P**	**03 46 45.0**	**-0.9**
	109nm,0.8s,mb5.3,baz=200,slow=3.5,SNR=16						
TIAR	**Tiarei**	**29.46**	**83**	⇑*i*P	**P**	**03 46 46.5**	**-1.2**
	541nm,0.9s,mb6.0						
TIAR				*e*pP		03 48 08.5	
	75nm,1.0s						
TIAR				*e*ScP		03 52 29.5	
	58nm,1.1s						
TVO	**Taravao**	**29.48**	**83**	⇑*i*P	**P**	**03 46 46.4**	**-1.4**
	228nm,0.8s,mb5.7						
MEH	**Mehetia**	**30.53**	**84**	*e*P	**P**	**03 46 55.2**	**-1.6**
	60nm,0.9s,mb5.0						
CTA	**Charters Tower**	**31.38**	**271**	⇓*i*P	**P**	**03 47 05.3**	**+1.2**
	416nm,0.5s,mb6.1						
CTA				*e*S	**S**	**03 51 37.0**	**+0.1**
CTA				*e*SCP		03 52 40.3	
CTA	**Charters Tower**	**31.38**	**271**	⇓*i*P	**P**	**03 47 05.3**	**+1.2**
CTA				*e*S	**S**	**03 51 37.0**	**+0.1**
CTA				pmax	pmax		
	comp=Z,415nm,0.5s						
CTA	**Charters Tower**	**31.38**	**271**	P	**P**	**03 47 05.6**	**+1.5**
	comp=Z,506nm,0.5s,mb6.2,baz=97,slow=10,SNR=567						
CTA				S	**S**	**03 51 38.7**	**+1.8**
	comp=Z,8.9nm,0.8s,baz=240,slow=17,SNR=3.8						
CTA				ScP		03 52 39.8	
	comp=Z,34nm,1.0s,baz=130,slow=2.0,SNR=11						
CTAO	**Charters Tower**	**31.38**	**271**	*e*P	**P**	**03 47 05.2**	**+1.0**
	comp=Z,492nm,0.6s,mb6.1						
PMOR	**Pomariorio Ree**	**31.66**	**79**	⇑*i*P	**P**	**03 47 05.3**	**-1.2**
	comp=Z,163nm,0.8s,mb5.5						
PMOR				*e*ScP		03 52 36.7	
	comp=Z,54nm,1.2s						
TOO	**Toolangi**	**32.13**	**238**	⇓*i*P	**P**	**03 47 11.5**	**+1.2**
	comp=Z,3.4nm,0.5s						
TOO				*e*S	**S**	**03 51 48.1**	**-0.1**
TAU	**Tasmania Unive**	**32.57**	**227**	*e*P	**P**	**03 47 14.9**	**+1.0**
	comp=Z,47nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**34.47**	**249**	P	**P**	**03 47 31.3**	**+1.3**
	comp=Z,97nm,0.6s,mb5.4,baz=92,slow=9.7,SNR=376						
STKA				ScP		03 52 50.2	
	comp=Z,13nm,0.9s,baz=296,slow=0.8,SNR=5.4						
STKA	**Stephens Creek**	**34.47**	**249**	*e*P	**P**	**03 47 31.1**	**+1.1**
STKA				*e*		03 52 50.3	
PMG	**Port Moresby**	**34.55**	**290**	P	**P**	**03 47 31.5**	**+0.7**
	comp=Z,349nm,0.7s,mb5.9,baz=93,slow=5.0,SNR=95						
PMG				ScP		03 52 51.7	
	comp=Z,70nm,1.0s,baz=196,slow=4.1,SNR=9.8						
PMG	**Port Moresby**	**34.55**	**290**	⇓*i*P	**P**	**03 47 31.4**	**+0.6**
	comp=Z,317nm,0.8s,mb5.8						
PMG				*e*		03 52 52.0	
TAOE	**Nuku Hiva Isla**	**41.09**	**75**	*e*P	**P**	**03 48 23.4**	**-1.0**
RKT	**Rikitea**	**41.20**	**98**	*e*P	**P**	**03 48 24.0**	**-1.2**
	comp=Z,124nm,0.9s,mb5.3						
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**03 48 31.1**	**+0.5**
	comp=Z,122nm,0.8s,mb5.4,baz=94,slow=8.3,SNR=533						
ASAR				pP	pP	03 50 02.6	+0.6
	comp=Z,17nm,1.0s,baz=97,slow=8.6,SNR=3.6						
ASAR				ScP		03 53 18.1	
	comp=Z,29nm,1.0s,baz=116,slow=3.9,SNR=22						
ASAR				S	**S**	**03 54 11.0**	**-2.2**
	comp=Z,7.5nm,0.8s,baz=101,slow=15,SNR=5.7						
ASAR				P3KPbc		04 17 45.1	
	comp=Z,0.8nm,0.8s,baz=284,slow=4.5,SNR=4.4						
ASAR	**Alice Springs**	**41.87**	**261**	P	**P**	**03 48 31.1**	**+0.5**
ASAR				pP	pP	03 50 02.6	+0.6
ASAR				ScP		03 53 18.1	
ASAR				S	**S**	**03 54 11.0**	**-2.2**
ASAR				*e*		04 17 45.1	
ASPA	**Alice Springs**	**41.87**	**261**	⇓*i*P	**P**	**03 48 31.1**	**+0.4**
ASPA				*e*SCP		03 53 18.1	
ASPA				*e*S	**S**	**03 54 10.8**	**-2.4**
ASPA				*e*SCS	ScS	03 57 36.5	0.0
WB2	**Warramunga Arr**	**42.27**	**267**	⇓*i*P	**P**	**03 48 33.8**	**-0.1**
WB2				*i* SCP		03 53 21.3	
WB2				*e*S	**S**	**03 54 15.1**	**-3.9**
WB2				*e*SCS	ScS	03 57 40.1	+1.1
WRAB	**Tennant Creek**	**42.27**	**267**	P	**P**	**03 48 33.0**	**-0.9**
	comp=Z,2μm,0.5s						
WRAB	**Tennant Creek**	**42.27**	**267**	*e*P	**P**	**03 48 33.6**	**-0.3**
	comp=Z,391nm,0.8s,mb5.9						
WRAB				*e*pP		03 53 20.8	
WRA	**Warramunga Arr**	**42.28**	**267**	P	**P**	**03 48 32.4**	**-1.5**
	comp=Z,193nm,0.6s,mb5.8,baz=104,slow=8.1,SNR=950						
WRA				ScP		03 53 21.3	
	comp=Z,81nm,1.0s,baz=103,slow=4.3,SNR=44						
WRA				S	**S**	**03 54 14.4**	**-4.8**
	comp=Z,9.5nm,0.8s,baz=105,slow=13,SNR=5.3						
FORT	**Forrest**	**46.07**	**250**	⇓*i*P	**P**	**03 49 02.6**	**-0.8**
	comp=Z,8μm,0.5s						
KAKA	**Kakadu**	**46.25**	**276**	⇓*i*P	**P**	**03 49 04.5**	**-0.5**
	comp=Z,310nm,0.8s,mb5.8						
KAKA				*e*SCP		03 53 37.4	
KAKA				*e*S	**S**	**03 55 12.5**	**-2.6**
FITZ	**Fitzroy Crossi**	**50.70**	**266**	⇓*i*P	**P**	**03 49 38.2**	**-0.2**
	comp=Z,403nm,0.6s,mb5.9						
FITZ				*e*pP	pP	03 51 16.2	+2.2
FITZ				*e*SCP		03 53 57.0	
FITZ				*e*S	**S**	**03 56 15.8**	**-0.1**
GUMO	**Guam**	**50.90**	**314**	*e*P	**P**	**03 49 38.9**	**-1.1**
	comp=Z,226nm,1.2s,mb5.4						
SBA	**Scott Base**	**53.94**	**183**	*e*P	**P**	**03 50 02.1**	**+1.1**
	comp=Z,54nm,1.0s,mb4.8						
SBA				*e*		03 51 47.3	
VNDA	**Vanda**	**53.94**	**185**	P	**P**	**03 50 00.8**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=358,slow=8.2,SNR=24						
VNDA				PcP	PcP	03 50 57.1	-1.6
	comp=Z,4.7nm,0.6s,baz=325,slow=2.5,SNR=5.7						
VNDA				ScP		03 54 07.2	
	comp=Z,9.1nm,0.8s,baz=351,slow=3.4,SNR=13						
VNDA	**Vanda**	**53.94**	**185**	*e*P	**P**	**03 50 00.9**	**-0.2**
	comp=Z,4.7nm,0.7s						
KLBR	**Kellerberrin**	**54.73**	**248**	⇓*i*P	**P**	**03 50 06.2**	**-1.1**
	comp=Z,948nm,0.6s,mb6.3						

KLBR epP pP 03 51 51.8 +6.8
NWAO Narrogin (SRO) 54.97 246 P **P** **03 50 07.9 -1.0**
comp=Z,25nm,0.6s,mb4.7,baz=128,slow=5.9,SNR=23
NWAO Narrogin (SRO) 54.97 246 *eP* **P** **03 50 07.7 -1.2**
comp=Z,20nm,0.6s,mb4.6
MBWA Marble Bar 55.20 260 *eP* **P** **03 50 09.2 -1.4**
comp=Z,148nm,0.8s,mb5.4
MBWA epP pP 03 51 49.4 +0.7
MUN Mundaring 55.97 247 ⇓*i*P **P** **03 50 15.1 -0.8**
comp=Z,42nm,0.6s,mb4.9
MUN epP pP 03 52 01.4 +7.1
CASY Casey 59.68 206 *eP* **P** **03 50 39.6 -0.9**
comp=Z,11nm,0.7s,mb4.4
CASY *e*PcP PcP 03 51 21.1 -0.4
BUNI Buntu Taipa 60.85 280 *eP* **P** **03 50 48.3 -0.7**
NINI Niniconang 61.04 279 *eP* **P** **03 50 49.8 -0.4**
TANI Tanete Lipujan 61.80 280 *eP* **P** **03 50 53.9 -1.3**
KEDI Kedomdong 62.70 273 ⇓*i*P **P** **03 50 59.7 -1.3**
comp=Z,169nm,0.6s,mb5.8
CBIJ Chichi jima 62.76 322 P **P** **03 51 00.2 -1.0**
comp=Z,89nm,0.6s,mb5.5,baz=293,slow=19,SNR=6.4
RPN Rapa Nui 63.02 109 P **P** **03 51 03.5 +0.6**
comp=Z,153nm,0.9s,mb5.5,baz=278,slow=4.4,SNR=5.6
RATI Rata 63.13 272 ⇓*i*P **P** **03 51 03.1 -0.7**
comp=Z,324nm,0.5s,mb6.1
KELI Kelakatan 64.28 273 ⇑*i*P **P** **03 51 09.8 -1.5**
SRDI Scrawed 64.50 272 ⇑*i*P **P** **03 51 10.9 -1.7**
comp=Z,112nm,1.1s,mb5.3
QSPA South Pole Qui 65.75 180 *eP* **P** **03 51 19.4 0.0**
comp=Z,147nm,0.9s,mb5.6
TSM Tawau 66.66 286 P **P** **03 51 25.8 -0.2**
KKM Kota Kinabalu 68.94 287 *eP* **P** **03 51 39.5 -0.4**
KKM Kota Kinabalu 68.94 287 P **P** **03 51 39.6 -0.3**
JOW Kunigami 71.21 312 P **P** **03 51 53.4 +0.2**
comp=Z,133nm,0.8s,mb5.5,baz=150,slow=6.0,SNR=40
MAJO Matsushiro 72.20 326 *eP* **P** **03 51 57.9 -0.9**
comp=Z,69nm,1.0s,mb5.1
MAT Matsushiro 72.20 326 *eP* **P** **03 51 58.0 -0.8**
comp=Z,45nm,1.0s,mb5.0
MAT *e*S S 04 00 38.0 -3.4
MAT Matsushiro 72.20 326 P **P** **03 51 57.9 -0.9**
MAT S S 04 00 38.0 -3.4
PASI Pasiripis 72.99 270 *eP* **P** **03 52 02.2 -1.6**
PENI Pendagan 73.82 271 *eP* **P** **03 52 07.0 -1.5**
comp=Z,107nm,0.6s,mb5.5
YHNB Yeheng 74.73 306 *eP* **P** **03 52 12.6 -0.9**
TATO Taipei 74.83 307 *eP* **P** **03 52 13.3 -0.7**
comp=Z,218nm,1.0s,mb5.6
ASAJ Asahikawa 76.21 333 P **P** **03 52 22.1 +1.0**
comp=Z,64nm,0.8s,mb5.2,baz=229,slow=7.9,SNR=41
MAW Mawson 77.31 200 P **P** **03 52 27.0 +0.3**
comp=Z,9.4nm,0.5s,mb4.5,baz=50,slow=3.4,SNR=11
YSS Yuzh-Sakhalins 78.49 335 ⇓*e*P **P** **03 52 34.0 +0.6**
YSS *e* 03 54 27.9
YSS pmax pmax
comp=Z,110nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 78.49 335 *eP* **P** **03 52 34.5 +1.1**
comp=Z,100nm,0.9s,mb5.2
KS15 Wonju Array Si 78.53 320 *eP* **P** **03 52 34.1 +0.2**
KGM Kluang 78.62 277 P **P** **03 52 35.2 +0.4**
SSE Sheshan 78.71 312 P **P** **03 52 36.3 +1.4**
SSE AP pP 03 54 25.8 +3.2
SSE XP sP 03 55 16.9 +4.2
SSE S S 04 01 52.3 +1.0
SSE XS 04 05 08.4
SSE SS SS 04 07 11.4 -0.9
SSE AMB AMB
comp=Z,21nm,1.2s,mb4.5
SSE AMB AMB
comp=Z,171nm,6.1s
SSE Sheshan 78.71 312 P **P** **03 52 36.2 +1.3**
comp=Z,21nm,1.2s,mb4.5
SSE pP pP 03 54 25.8 +3.2
SSE sP sP 03 55 16.9 +4.2
SSE S S 04 01 52.2 +0.9
SSE sS 04 05 08.4
SSE SS SS 04 07 11.4 -0.9
SSE LR LR
comp=Z,100nm,22.0s
PET Petropavlovsk 79.22 347 *eP* **P** **03 52 36.5 -0.7**
PET *e* 03 52 44.3
PET *e*S S 04 01 55.0 -1.1
PET pmax pmax
comp=Z,29nm,0.8s,mb4.9
PET pmax pmax
comp=Z,11nm,0.6s,mb4.6
PET smax
comp=N,300nm,15.3s
INCN Inchon 79.30 320 *eP* **P** **03 52 38.6 +0.7**
comp=N,53nm,1.0s,mb5.0
IPM Ipoh 81.78 279 P **P** **03 52 51.1 -0.1**
SAO San Andreas Ge 82.14 44 *eP* **P** **03 52 52.9 +0.3**
comp=N,39nm,1.1s,mb4.8
LRV Little Rabbit 82.20 44 *eP* **P** **03 52 53.5 +0.6**
KULM Kulim 82.42 279 *eP* **P** **03 52 54.5 +0.1**
NSHM Saint Helena R 82.51 42 *eP* **P** **03 52 54.5 +0.1**
HOPS Hopland 82.53 41 *eP* **P** **03 52 54.9 +0.4**
comp=N,49nm,1.1s,mb5.0
MDJ Mudanjiang 82.57 326 P **P** **03 52 55.1 +0.5**
MDJ AP pP 03 54 45.4 +2.0
MDJ PP PP 03 56 12.3 -1.0
MDJ S S 04 02 24.6 -5.4
MDJ XS 04 05 50.9
MDJ AMB AMB
comp=Z,58nm,0.7s,mb5.2
MDJ Mudanjiang 82.57 326 *eP* **P** **03 52 55.0 +0.4**
comp=Z,62nm,1.0s,mb5.1
MWC Mount Wilson 82.83 48 *eP* **P** **03 52 56.1 0.0**
BAR Barrett 82.89 49 *eP* **P** **03 52 56.8 +0.4**
WHN Wuhan 83.19 308 ⇓P **P** **03 52 58.8 +0.8**
WHN S S 04 02 29.0 -7.4
WHN AMB AMB
comp=Z,80nm,1.0s,mb5.2
PFO Pinyon Flat Ob 83.56 49 P **P** **03 53 00.0 +0.2**
comp=Z,124nm,1.1s,mb5.3,SNR=8.8
PFO Pinyon Flat Ob 83.56 49 *eP* **P** **03 53 00.1 +0.3**
comp=Z,20nm,1.0s,mb4.6
CMB Columbia Colle 83.58 43 *eP* **P** **03 52 59.7 -0.1**
comp=Z,46nm,1.0s,mb5.0
CMB *e*pP pP 03 54 51.7 +2.8
SNY Shenyang 83.92 321 ⇓P **P** **03 53 01.5 +0.1**
SNY AMB AMB
comp=Z,30nm,0.8s,mb4.9
CN2 Changchun 84.18 324 *eP* **P** **03 53 02.8 +0.2**
CN2 *e*AP pP 03 54 58.0 +6.1
CN2 *e*XP sP 03 55 45.3 +3.9
CN2 *e*S S 04 02 45.8 +0.1
CN2 AMB AMB
comp=Z,60nm,1.0s,mb5.1
SNAA Sanae 84.23 179 *e* **P** **03 53 03.8 +1.6**
SNAA Sanae 84.23 179 *e* pP 03 54 58.3 +6.8
SNAA Sanae 84.23 179 ⇑*i*P **P** **03 53 01.0 -1.2**
SNAA *e* 03 53 03.8
SNAA *e* 03 54 58.3
SNAA *e* 03 58 16.0
SNAA *e* 04 02 36.4
MTUM Tungsten Hills 84.33 45 *eP* **P** **03 53 04.0 +0.5**
VNA3 Neumayer Olymp 84.45 177 *e* **P** **03 53 05.7 +2.4**
VNA3 Neumayer Olymp 84.45 177 *e* pP 03 54 58.8 +6.2
VNA3 Neumayer Olymp 84.45 177 *e* sP 03 55 49.0 +6.9
VNA3 Neumayer Olymp 84.45 177 *e* PP 03 56 34.0 +6.5
VNA3 Neumayer Olymp 84.45 177 ⇑*i*P **P** **03 53 02.6 -0.7**
VNA3 *e* 03 53 05.7
VNA3 *e* 03 54 58.8
VNA3 *e* 03 55 49.0
VNA3 *e* 03 56 34.0
VNA3 *e* 03 58 15.1
VNA3 *e* 04 02 35.7
VNA3 *e* 04 10 56.5
TIA Tai'an 84.46 314 *eP* **P** **03 53 04.0 -0.2**
TIA AMB AMB
comp=Z,118nm,1.0s,mb5.4
YBH Yreka Blue Hor 84.48 39 *eP* **P** **03 53 04.7 +0.6**
comp=Z,19nm,1.0s,mb4.6
LBCM Butte Creek Ri 84.72 41 P **P** **03 53 05.7 +0.4**
WCN Washoe City 84.74 43 *eP* **P** **03 53 05.8 +0.4**
comp=Z,27nm,1.1s,mb4.8
KLR Kul'dur 84.86 331 *eP* **P** **03 53 03.5 -2.3**
KLR *e* 03 55 00.0
VNA2 Neumayer--Watz 84.86 178 *e* **P** **03 53 07.6 +2.3**
VNA2 Neumayer--Watz 84.86 178 *e* pP 03 55 00.8 +6.0
VNA2 Neumayer--Watz 84.86 178 *e* sP 03 55 51.5 +7.3
VNA2 Neumayer--Watz 84.86 178 *e* PP 03 56 34.3 +3.5
VNA2 Neumayer--Watz 84.86 178 ⇑*i*P **P** **03 53 05.1 -0.2**
VNA2 *e* 03 53 07.6
VNA2 *e* 03 55 00.8
VNA2 *e* 03 55 51.5
VNA2 *e* 03 56 34.3
VNA2 *e* 03 58 19.6
VNA2 *e* 04 02 36.8
VNA2 *e* 04 10 59.7
HUMO Hull Mountain 84.90 39 *eP* **P** **03 53 06.7 +0.6**
comp=Z,44nm,1.3s,mb4.9
BUOR Burton Butte 85.10 39 P **P** **03 53 08.0 +0.9**
VNA1 Neumayer--Stat 85.10 177 *e* pP 03 55 00.4 +4.4
VNA1 Neumayer--Stat 85.10 177 *e* sP 03 55 49.8 +4.3
VNA1 Neumayer--Stat 85.10 177 *eP* **P** **03 53 04.8 -1.7**
VNA1 *e* 03 55 00.4
VNA1 *e* 03 55 49.8
NVAR Mina Array Bea 85.13 44 P **P** **03 53 07.5 +0.1**
comp=Z,12nm,0.8s,mb4.6,baz=225,slow=8.9,SNR=56
NVAR pP pP 03 55 00.1 +3.2
comp=Z,3.9nm,1.1s,baz=210,slow=6.0,SNR=4.0
MNV Mina 85.23 44 *eP* **P** **03 53 07.6 -0.2**
comp=Z,18nm,1.0s,mb4.7
MNV *e*pP pP 03 55 00.5 +3.0
BBOR Butler Butte 85.23 38 P **P** **03 53 08.6 +0.8**
LDFC Landfair 85.31 48 ⇑*i*P **P** **03 53 08.9 +0.6**
LDFC *e*pP pP 03 54 57.7 -0.2
TPH Tonopah 85.61 45 *eP* **P** **03 53 09.8 +0.1**
comp=Z,26nm,0.9s,mb4.9
TPH *e*pP pP 03 55 00.7 +1.3
MOD Modoc 86.00 40 *eP* **P** **03 53 11.6 +0.2**
comp=Z,20nm,0.9s,mb4.7
MOD *e*pP pP 03 55 04.7 +3.5
IRO Indian Ridge 86.18 38 P **P** **03 53 12.7 +0.4**
FRIS Frissel Point 86.40 38 P **P** **03 53 13.9 +0.6**
ENH Enshi 86.61 305 *eP* **P** **03 53 15.2 +0.5**
comp=Z,83nm,0.9s,mb5.5
TUC Tucson 86.86 53 *eP* **P** **03 53 16.8 +1.0**
comp=Z,51nm,0.9s,mb5.2
TUC *e*pP pP 03 55 08.2 +2.4
GYA Guiyang 86.89 301 ⇑*i*P **P** **03 53 16.9 +0.9**
GYA AP pP 03 55 09.8 +3.8
GYA XP sP 03 56 01.0 +5.6
GYA PP PP 03 56 51.5 +2.7
GYA S S 04 03 11.8 +0.2
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
MA2 Magadan 86.97 346 *deP* **P** **03 53 15.0 -0.6**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.8
BMN Battle Mountai 86.98 43 *eP* **P** **03 53 15.2 -0.9**
comp=Z,21nm,0.9s,mb4.9
BJT Baijiatuan 87.27 316 *eP* **P** **03 53 18.2 +0.6**
comp=Z,20nm,0.8s,mb4.9
BJI Beijing 87.28 316 P **P** **03 53 18.0 +0.4**
BJI AP pP 03 55 08.5 +0.8
BJI AMB AMB
comp=Z,17nm,1.3s,mb4.6
BJI AMB AMB
comp=Z,330nm,4.2s
BJI Beijing 87.28 316 P **P** **03 53 18.0 +0.4**
comp=Z,17nm,1.3s,mb4.6
BJI pP pP 03 55 08.5 +0.8
BJI S S 04 02 54.4 -20
WVOR Wild Horse Val 87.30 41 *eP* **P** **03 53 18.0 +0.4**
comp=Z,37nm,1.1s,mb5.0
WVOR *e*pP pP 03 55 11.2 +3.5
NST Nakhon Sawan 87.35 288 P **P** **03 53 19.9 +1.5**
comp=Z,95nm,0.9s,mb5.5
VIPM Ingram Point 87.42 38 P **P** **03 53 18.6 +0.5**
VTHM Trough 87.86 38 P **P** **03 53 20.9 +0.7**
ARUT Antelope Range 87.92 47 *eP* **P** **03 53 20.9 +0.3**
SLKM Skilak Lake 87.98 14 *eP* **P** **03 53 19.8 -0.6**
PLCA Paso Flores 88.03 134 P **P** **03 53 21.8 +0.7**
comp=Z,20nm,1.1s,mb4.8,baz=237,slow=4.9,SNR=23
PLCA pP pP 03 55 13.9 +2.6
comp=Z,2.6nm,0.9s,baz=183,slow=6.6,SNR=1.8
PLCA Paso Flores 88.03 134 *eP* **P** **03 53 21.3 +0.2**
comp=Z,16nm,0.9s,mb4.7
WUAZ Wupatki 88.11 50 *eP* **P** **03 53 22.2 +0.6**
comp=Z,42nm,1.4s,mb5.0
NANT Nan 88.24 291 ⇓P **P** **03 53 29.0 +6.5**
comp=Z,350nm,0.5s,mb6.3
NAC Naches 88.68 36 P **P** **03 53 24.6 +0.6**
MXC Moxie City 88.87 37 P **P** **03 53 25.5 +0.7**
TWW Teanaway 88.91 36 P **P** **03 53 26.1 +1.1**
EBG Ellensburg 88.93 36 P **P** **03 53 25.5 +0.3**
XAN Xi'an 88.93 308 P **P** **03 53 26.5 +1.0**
XAN AMB AMB
comp=Z,62nm,1.0s,mb5.4
BDT Bhumibol Dam 89.01 289 P **P** **03 53 28.0 +1.8**
MVU Marysvale 89.12 47 *eP* **P** **03 53 27.2 +0.9**
comp=Z,19nm,1.1s,mb4.8
MVU *e* pP 03 55 20.7 +3.9
MSU Marysvale 89.15 47 *eP* **P** **03 53 27.2 +0.8**
PMR Palmer 89.19 14 *eP* **P** **03 53 25.6 -0.4**
KMI Kunming 89.38 298 ⇓P **P** **03 53 29.4 +1.6**
KMI AP pP 03 55 19.3 +1.0
KMI XP sP 03 56 09.8 +2.2
KMI PP PP 03 57 07.5 -1.1
KMI PPP PPP 03 59 12.6 +1.0
KMI SKS SKS 04 03 09.3 -0.7
KMI S S 04 03 36.0 +1.8
KMI AMB AMB
comp=Z,40nm,1.1s,mb5.2
KMI AMB AMB
comp=Z,147nm,3.9s
KMI Kunming 89.38 298 ⇓P **P** **03 53 29.4 +1.6**
comp=Z,40nm,1.1s,mb5.2
KMI pP pP 03 55 19.2 +0.9
KMI sP sP 03 56 09.8 +2.2
KMI PP PP 03 57 07.5 -1.1
KMI PPP PPP 03 59 12.6 +1.0
KMI SKS SKS 04 03 09.3 -0.7
KMI S S 04 03 36.0 +1.8
CM31 Chiang Mai Arr 89.59 290 *eP* **P** **03 53 30.6 +1.8**
comp=Z,97nm,1.2s,mb5.5
CMAR Chiang Mai Arr 89.59 290 P **P** **03 53 30.4 +1.6**
comp=Z,34nm,0.9s,mb5.2,baz=132,slow=3.4,SNR=130
CMAR PP PP 03 57 09.5 -0.8
comp=Z,4.6nm,0.9s,baz=124,slow=7.1,SNR=7.0
CMAR PKKPbc 04 10 59.9
comp=Z,1.5nm,0.6s,baz=306,slow=5.1,SNR=8.7
SEY Seymchan 89.67 348 *eP* **P** **03 53 28.2 0.0**
SEY *PP pP 03 55 25.6 +6.8
SEY *e* 03 57 04.6
SEY *e*PPP PPP 03 59 07.8 -5.2
SEY *e*S S 04 03 35.6 -0.3
SEY *e*SS SS 04 09 34.8 -16
SEY pmax pmax
comp=N,20nm,0.9s
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY pmax pmax
comp=E,10.0nm,0.7s
SEY smax
comp=N,600nm,18.7s
SEY smax
comp=E,800nm,23.8s
CHG Chiang Mai 89.74 291 ⇓P **P** **03 53 30.8 +1.3**
comp=E,52nm,0.9s,mb5.4
NLW Nelson Butte 89.77 35 P **P** **03 53 29.3 +0.3**
NLU North Lily Min 89.99 45 *eP* **P** **03 53 30.1 -0.1**
TMUT Trail Mountain 90.21 46 *eP* **P** **03 53 32.1 +0.9**
OD2 Odessa Site #2 90.22 37 P **P** **03 53 31.4 +0.3**
MPU Maple Canyon 90.31 46 *eP* **P** **03 53 31.8 +0.1**
SPUT South Promonto 90.47 44 *eP* **P** **03 53 32.4 0.0**
HLID Hailey 90.48 41 *eP* **P** **03 53 32.7 +0.3**
comp=E,20nm,1.0s,mb4.9
HVU Hansel Valley 90.52 44 *eP* **P** **03 53 32.5 -0.1**
MNTX Cornudas Mount 90.54 55 *eP* **P** **03 53 33.1 +0.1**
comp=E,24nm,0.8s,mb5.2
MNTX *e*pP pP 03 55 26.6 +2.9
LAZ Ladron 90.55 52 *eP* **P** **03 53 33.5 +0.6**
LENM Lemitar 90.55 53 *eP* **P** **03 53 33.2 +0.2**
SRU San Rafael 90.56 47 *eP* **P** **03 53 33.1 +0.2**
SRU *e*pP pP 03 55 26.9 +3.2
JLU Jordanelle 90.74 45 *eP* **P** **03 53 33.9 +0.2**
TXAR Lajitas Array 90.74 58 P **P** **03 53 34.5 +0.5**
comp=E,31nm,0.8s,mb5.3,baz=214,slow=6.2,SNR=231
TXAR PP PP 03 57 22.9 +3.6
comp=E,1.7nm,0.9s,baz=220,slow=9.8,SNR=4.5
TXAR PKKPbc 04 10 57.6
comp=E,0.3nm,0.6s,baz=45,slow=1.8,SNR=3.8
LTX Lajitas 90.74 58 *eP* **P** **03 53 34.4 +0.4**
comp=E,46nm,0.9s,mb5.4
DAU Daniels Canyon 90.76 45 *eP* **P** **03 53 34.2 +0.4**
LPM Los Pinos Moun 90.87 53 *eP* **P** **03 53 34.7 +0.3**
LPM *e*pP pP 03 55 28.5 +3.3
TCUT Toone Canyon 91.03 45 *eP* **P** **03 53 35.3 +0.3**
PV10 Paradox Valley 91.19 48 *eP* **P** **03 53 35.5 -0.3**
HWUT Hardware Ranch 91.19 44 *eP* **P** **03 53 35.2 -0.5**
comp=E,17nm,0.8s,mb5.0
HWUT *e*PP PP 03 57 15.0 -7.5
CD2 Chengdu 91.24 303 ⇓*i*P **P** **03 53 37.3 +1.1**
ANMO Albuquerque 91.30 52 *eP* **P** **03 53 36.5 +0.1**
comp=E,15nm,0.9s,mb4.9
ANMO *e*pP pP 03 55 30.4 +3.2
PV01 Paradox Valley 91.39 48 *eP* **P** **03 53 36.4 -0.3**
GDL2 Guadalupe Moun 91.54 55 *eP* **P** **03 53 37.6 +0.1**
MENT Mentasta 91.64 16 *eP* **P** **03 53 37.4 +0.2**
CLNB Carlsbad 91.93 55 P **P** **03 53 36.5 -2.9**
MCMT McKenzie Canyo 92.12 41 *eP* **P** **03 53 39.9 0.0**
MCMT *e*pP pP 03 55 34.4 +3.6
CPRX Cap Rock 92.29 55 *eP* **P** **03 53 40.6 -0.4**
ILAR Eielson Array 92.47 14 P **P** **03 53 39.8 -1.3**
comp=E,2.1nm,0.7s,mb4.2,baz=226,slow=5.3,SNR=31
ILAR pP pP 03 55 33.8 +1.8
comp=E,0.9nm,0.8s,baz=237,slow=4.1,SNR=3.2
BILL Bilibino 92.65 355 ⇑*i*P **P** **03 53 42.0 +0.2**
BILL pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
BILL Bilibino 92.65 355 *eP* **P** **03 53 41.1 -0.6**
comp=Z,8.4nm,0.8s,mb4.8
QLMT Earthquake Lak 92.97 42 *eP* **P** **03 53 44.3 +0.5**
CHMT Chamberlain Mo 93.01 39 *eP* **P** **03 53 43.3 -0.7**
PDAR Pinedale Array 93.07 44 P **P** **03 53 43.8 -0.5**
comp=Z,8.3nm,0.8s,mb4.8,baz=212,slow=3.0,SNR=62
PDAR pP pP 03 55 38.5 +3.1
comp=Z,1.2nm,1.0s,baz=252,slow=4.7,SNR=3.7
PDAR PP PP 03 57 39.6 +2.4
comp=Z,1.7nm,1.1s,baz=239,slow=8.6,SNR=5.0
YMR Madison River 93.17 42 *eP* **P** **03 53 45.0 +0.2**
LZH Lanzhou 93.57 308 ⇓P **P** **03 53 47.6 +0.8**
LZH AP pP 03 55 41.6 +3.8
LZH XP sP 03 56 32.1 +5.3
LZH PP PP 03 57 44.6 +3.3
LZH SKS SKS 04 03 32.5 -0.7
LZH *e*S S 04 04 10.8 +0.5
LZH *e*SS SS 04 10 48.5 +2.0
LZH AMB AMB
comp=Z,32nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,165nm,6.5s
LZH Lanzhou 93.57 308 ⇓P **P** **03 53 47.6 +0.8**
comp=Z,32nm,1.4s,mb5.2
LZH pP pP 03 55 41.6 +3.8
LZH sP sP 03 56 32.1 +5.3
LZH PP PP 03 57 44.6 +3.3
LZH SKS SKS 04 03 32.5 -0.7
LZH *e*S S 04 04 10.7 +0.4
LZH sS 04 07 26.8
LZH *e*SS SS 04 10 48.5 +2.0
DAWY Dawson 93.67 17 *eP* **P** **03 53 46.4 -0.2**
HRY Holter Researc 93.73 40 *eP* **P** **03 53 47.0 -0.3**
JCT Junction City 94.25 59 *eP* **P** **03 53 49.1 -1.0**
comp=Z,25nm,1.1s,mb5.2
ULN Ulaanbaatar 96.99 320 *eP* **P** **03 54 01.4 -0.7**
comp=Z,5.6nm,0.9s,mb4.8
SONM Songino Array 97.37 319 P **P** **03 54 03.8 +0.1**
comp=Z,2.2nm,0.7s,mb4.5,baz=90,slow=2.5,SNR=5.8
SONM PP PP 03 58 04.4 -5.6
comp=Z,3.6nm,1.0s,baz=121,slow=7.2,SNR=4.8
SONM PKKPbc 04 10 39.4
comp=Z,1.9nm,0.7s,baz=304,slow=4.5,SNR=5.8
INK Inuvik 98.47 16 P **P** **03 54 07.2 -1.0**
comp=Z,1.1nm,0.6s,mb4.4,baz=206,slow=5.8,SNR=13
ZAK Zakamensk 100.35 321 *eP* P 03 54 16.0 -1.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s
ZAK pmax pmax
comp=Z,2.0nm,1.6s
YKA Yellowknife Ar 100.80 25 P P 03 54 18.0 -0.7
comp=Z,0.3nm,0.6s,baz=243,slow=4.4,SNR=5.9
YKA PP PP 03 58 29.9 -5.7
comp=Z,0.4nm,0.9s,baz=238,slow=7.6,SNR=4.3
YKA PKKPbc 04 10 29.2
comp=Z,0.2nm,0.4s,baz=39,slow=2.6,SNR=5.5
YKA Yellowknife Ar 100.80 25 P P 03 54 18.0 -0.7
YKA PP PP 03 58 29.9 -5.7
YKA PKKPbc 04 10 29.2
LPAZ La Paz 102.33 114 P Pdif 03 54 27.8 +1.2
comp=Z,1.4nm,0.9s,baz=184,slow=4.3,SNR=7.0
LPAZ La Paz 102.33 114 P Pdif 03 54 27.8 +1.2
HYB Hyderabad 107.05 282 *eP* 03 59 15.0
ZAL Zalesovo 112.23 320 PKiKP 03 59 01.3
comp=Z,1.6nm,0.5s,baz=146,slow=3.4,SNR=5.7
ZAL SKP 04 01 50.1
comp=Z,1.6nm,0.7s,baz=295,slow=4.5,SNR=4.6
ZAL PKKPbc 04 09 55.0
comp=Z,0.7nm,0.4s,baz=154,slow=9.3,SNR=3.5
ZAL Zalesovo 112.23 320 PKPdf PKPdf 03 59 01.3 -0.2
ZAL SKP 04 01 50.1
ZAL PKKPbc 04 09 55.0
KURK Kurchatov 115.45 316 *e*PKiKP 03 59 07.5
KURK *e*PP PP 04 00 14.4 -7.7
KURK *e*SKPdf 04 01 55.8
AAK Ala-Archa 117.08 307 *e*PKiKP 03 59 09.8
SJG San Juan 118.61 82 SKP 04 02 01.5
comp=Z,26nm,0.9s,baz=142,slow=0.4,SNR=7.7
BDFB Brasilia 118.64 125 PKP PKPdf 03 59 15.1 +0.2
comp=Z,6.8nm,0.8s,baz=172,slow=3.0,SNR=10
BDFB SKP 04 02 01.8
comp=Z,1.0nm,0.4s,baz=243,slow=7.8,SNR=4.2
BDFB PKKPbc 04 09 34.4
comp=Z,2.9nm,0.7s,baz=106,slow=3.6,SNR=3.4
CHKZ Chkalovo 120.57 319 *e*PKPdf PKPdf 03 59 17.0 -0.8
SCHQ Schefferville 122.87 39 PKP PKPdf 03 59 21.4 -0.8
comp=Z,3.4nm,0.9s,baz=315,slow=4.3,SNR=3.3
LSZ Lusaka 131.90 218 *e*PKPdf PKPdf 03 59 42.7 +2.2
ARCES ARCESS Array B 132.29 348 PKHKP 03 59 27.6
comp=Z,1.9nm,0.9s,baz=45,slow=6.9,SNR=4.2
ARCES PKP PKPdf 03 59 39.9 +0.1
comp=Z,3.9nm,0.6s,baz=21,slow=2.0,SNR=20
ARCES SKPbc 04 02 19.8
comp=Z,33nm,0.9s,baz=27,slow=2.7,SNR=25
ARCES SKKPbc 04 11 43.4
comp=Z,1.4nm,0.7s,baz=14,slow=5.0,SNR=5.1
ARCES ARCESS Array B 132.29 348 PKP 03 59 27.6
ARCES PKP PKPdf 03 59 39.9 +0.1
ARCES SKPbc 04 02 19.8
ARCES SKKPbc 04 11 43.4
KMBO Kilima Mbogo 135.80 240 PKP PKPdf 03 59 49.5 +1.7
comp=Z,0.6nm,0.3s,baz=63,slow=2.3,SNR=5.3
KMBO SKPbc 04 02 34.4
comp=Z,5.6nm,0.8s,baz=79,slow=4.4,SNR=10
KMBO Kilima Mbogo 135.80 240 PKP PKPdf 03 59 49.5 +1.7
KMBO SKPbc 04 02 34.4
FINES FINESS Array B 138.83 341 PKhKP 03 59 44.4
comp=Z,2.8nm,0.5s,baz=51,slow=4.0,SNR=29
FINES PKP PKPdf 03 59 54.0 +2.1
comp=Z,4.2nm,0.5s,baz=58,slow=3.4,SNR=12
FINES SKPbc 04 02 39.8
comp=Z,30nm,0.8s,baz=63,slow=4.3,SNR=40
FINES SKKPbc 04 11 19.1
comp=Z,0.7nm,0.6s,baz=135,slow=2.0,SNR=5.8
OBN Obninsk 139.09 328 *e*PKHKP 03 59 43.0
OBN pmax pmax
comp=Z,3.0nm,0.9s
GNI Garni 139.37 304 PKP PKPdf 03 59 53.6 +0.1
comp=Z,3.5nm,0.4s,baz=163,slow=3.5,SNR=4.3
GNI SKPbc 04 02 44.2
comp=Z,2.0nm,0.3s,baz=180,slow=8.6,SNR=11
GNI Garni 139.37 304 PKPdf PKPdf 03 59 52.9 -0.7
GNI *e* 04 02 43.2
EZM Erzurum 141.97 304 P PKPdf 03 59 56.6 -1.5
VRT Varto 141.98 303 P PKPdf 03 59 56.6 -1.6
BTMT Batman 142.17 301 P PKPdf 03 59 56.6 -2.0
NB2 NORSAR Subarra 142.50 351 PKPabc PKPdf 03 59 54.6 -3.7
comp=Z,10.0nm,1.1s,baz=16,slow=3.1
NOA NORSAR Array B 142.50 351 PKhKP 03 59 55.5
comp=Z,9.7nm,0.9s,baz=16,slow=4.7,SNR=23
NOA SKPbc 04 02 49.4
comp=Z,6.1nm,0.8s,baz=15,slow=4.1,SNR=9.8
BINT Bingol 142.83 303 P PKPdf 03 59 58.9 -0.8
HFS Hagfors 142.95 349 PKhKP 03 59 56.7
comp=Z,29nm,0.5s,baz=63,slow=3.3,SNR=270
HFS SKPbc 04 02 50.3
comp=Z,15nm,0.9s,baz=270,slow=1.5,SNR=8.0
HFS SKKPbc 04 11 03.5
comp=Z,6.7nm,1.0s,baz=315,slow=2.1,SNR=4.3

EZC	**Erzincan**	**143.16**	**304**	P	PKPbc	04 00 01.3	+2.5
DIY	**Diyarbakir**	**143.20**	**301**	*e*P	PKPbc	03 59 59.8	+0.7
GUMT	**Gumushane**	**143.25**	**306**	P	PKPbc	03 59 59.8	+0.8
ANN	**Anapa**	**143.39**	**313**	*c i*PKHKP		03 59 58.7	
ANN				pmax	pmax		
	comp=Z,170nm,1.0s						
MNK	**Minsk**	**143.41**	**333**	*e*PKHKP		03 59 57.0	
PTK	**Pertek**	**143.66**	**303**	*i* P	PKPbc	04 00 02.2	+1.8
ELZG	**Elazig**	**144.06**	**303**	*i* P	PKPbc	04 00 04.0	+2.4
KONO	**Kongsberg**	**144.06**	**352**	*e*PKPdf	PKPdf	03 59 59.9	-1.2
URFA	**Urfa**	**144.38**	**301**	*e*P	PKPdf	04 00 03.8	+1.4
MALT	**Malatya**	**144.52**	**302**	*e*P	PKPdf	04 00 04.2	+1.6
MALT	**Malatya**	**144.52**	**302**	⇑PKHKP		04 00 04.7	
MALT	**Malatya**	**144.52**	**302**	*e*PKPdf	PKPdf	04 00 03.8	+1.2
MALT				*e*		04 02 55.2	
GZT	**Gaziantep**	**145.38**	**301**	*i* P	PKPdf	04 00 07.0	+2.9
KVT	**Kavak**	**145.59**	**308**	*e*P	PKPdf	04 00 06.5	+2.2
SUW	**Suwalki**	**145.62**	**336**	*e*PKP	PKPdf	04 00 06.1	+2.1
SUW				*e*		04 02 57.7	
SUW	**Suwalki**	**145.62**	**336**	*e*PKP	PKPdf	04 00 06.1	+2.1
SUW				*e*		04 02 57.7	
GAZ	**Gaziantep**	**145.69**	**301**	P	PKPdf	04 00 07.5	+2.9
BOYT	**Boyabat**	**146.30**	**309**	*i* P	PKPdf	04 00 09.4	+3.9
BNN	**Bunyan**	**146.37**	**304**	*e*P	PKPdf	04 00 09.1	+3.4
BYBT	**Boyabat**	**146.38**	**309**	*e*P	PKPdf	04 00 09.2	+3.6
COBT	**Iskenderun**	**146.57**	**300**	*i* P	PKPdf	04 00 10.5	+4.4
ASF	**Jabal al Asfar**	**146.61**	**292**	PKPbc	PKPbc	04 00 10.7	+2.4
	comp=Z,30nm,0.8s,baz=0.3,slow=2.6,SNR=42						
HTY	**Hatay**	**146.74**	**299**	*e*P	PKPdf	04 00 10.2	+3.8
CEYT	**Ceyhan**	**146.87**	**301**	P	PKPdf	04 00 11.1	+4.5
CORM	**Corum**	**146.90**	**307**	P	PKPdf	04 00 11.1	+4.6
TOS	**Tosya**	**147.06**	**309**	P	PKPdf	04 00 11.2	+4.4
AVNT	**Avonos**	**147.13**	**304**	*i* P	PKPdf	04 00 11.0	+4.0
HWQ	**Hawqa**	**147.19**	**296**	*e*P	PKPdf	04 00 11.6	+4.5
MUD	**Monsted U'grnd**	**147.21**	**350**	*i* PKHKP		04 00 10.5	
MUD				pmax	pmax		
	comp=Z,19nm,0.7s						
MUD	**Monsted U'grnd**	**147.21**	**350**	*i* P	PKPdf	04 00 10.5	+4.0
	comp=Z,19nm,0.7s						
BSD	**Bornholm Skovb**	**147.31**	**344**	⇓*i*PKHKP		04 00 10.3	
BSD				pmax	pmax		
	comp=Z,26nm,0.6s						
BSD	**Bornholm Skovb**	**147.31**	**344**	⇓*i*P	PKPdf	04 00 10.3	+3.6
	comp=Z,26nm,0.6s						
BALT	**Daday**	**147.33**	**310**	*i* P	PKPdf	04 00 12.0	+4.9
BHL	**Bhannes**	**147.48**	**295**	*e*P	PKPdf	04 00 12.6	+4.9
CANT	**Cankiri**	**147.49**	**308**	P	PKPdf	04 00 12.2	+4.8
ELDT	**Eldivan**	**147.67**	**308**	*i* P	PKPdf	04 00 12.6	+4.9
KIS	**Kishinev**	**147.70**	**322**	*e*PKHKP		04 00 12.0	
KIS				*e*		04 00 16.0	
KIS				*e*		04 00 19.0	
KAMT	**Kaman**	**147.82**	**306**	P	PKPdf	04 00 12.5	+4.5
SAFT	**Safranbolu**	**147.93**	**310**	P	PKPdf	04 00 12.9	+4.8
GKP	**Gorka Klasztor**	**148.28**	**340**	*e*PKP	PKPdf	04 00 13.8	+5.5
GKP				*e*		04 00 18.9	
ANTO	**Ankara**	**148.33**	**307**	*e*P	PKPdf	04 00 14.1	+5.3
ANTO	**Ankara**	**148.33**	**307**	⇓PKHKP		04 00 14.2	
LVV	**L'vov**	**148.37**	**330**	*e*PKHKP		04 00 13.4	
EIL	**Elat**	**148.40**	**287**	*e*PKPbc	PKPdf	04 00 14.7	+5.5
PHNC	**Paralimni**	**148.63**	**298**	P	PKPdf	04 00 13.3	+3.9
TLCR		**148.69**	**319**	⇑PKHKP		04 00 14.8	
CFR	**Carcaliu**	**149.10**	**319**	⇓PKHKP		04 00 15.8	
KWP	**Kalwaria**	**149.10**	**331**	*e*PKP	PKPdf	04 00 15.9	+6.2
CSS	**Prodhromos**	**149.20**	**298**	P	PKPdf	04 00 16.4	+6.0
CSS	**Prodhromos**	**149.20**	**298**	*e*P	PKPdf	04 00 15.7	+5.3
MDU	**Mudurnu**	**149.25**	**309**	P	PKPdf	04 00 16.3	+6.0
KIZT	**Kizilcal**	**149.32**	**306**	P	PKPdf	04 00 16.7	+6.3
HENT	**Hendek**	**149.34**	**310**	*i* P	PKPdf	04 00 16.1	+5.7
BSEG	**Bad Segeberg**	**149.42**	**348**	*e*PKIKP	PKPdf	04 00 16.4	+6.3
HARR	**Harsova**	**149.49**	**319**	⇓PKHKP		04 00 17.0	
LEF	**Lefka**	**149.53**	**298**	P	PKPdf	04 00 16.7	+5.8
VRI	**Vrincioaia**	**149.53**	**322**	⇑PKHKP		04 00 16.6	
SZAC	**Souni-Zanaja**	**149.60**	**298**	⇓P	PKPdf	04 00 17.3	+6.3
ALFC	**Alevga**	**149.75**	**298**	⇓P	PKPdf	04 00 17.1	+5.8
	comp=Z,1.6nm,0.8s						
ALFC	**Alevga**	**149.75**	**298**	⇓*e*P	PKPdf	04 00 17.1	+5.8
KOLS	**Kolonicke sedl**	**149.80**	**330**	*i* PKP	PKPdf	04 00 17.9	+7.0
KOLS				*i*		04 00 24.7	
PSN	**Preselentsi**	**149.86**	**317**	*e*P	PKPab	04 00 28.0	+1.6
ESKT	**Eskisehir**	**149.86**	**308**	P	PKPdf	04 00 17.2	+5.9
ESKT	**Eskisehir**	**149.86**	**308**	*i* P	PKPdf	04 00 17.5	+6.2
OJC	**Ojcow**	**149.89**	**334**	*e*PKP	PKPdf	04 00 17.5	+6.5
AKMC	**Akamas**	**149.99**	**298**	⇓P	PKPdf	04 00 17.2	+5.6
AKMC	**Akamas**	**149.99**	**298**	⇓*e*P	PKPdf	04 00 17.2	+5.6
CRVS	**Cervenica-Dubn**	**150.19**	**331**	*i* PKP	PKPdf	04 00 18.4	+6.9
CRVS				*i*		04 00 28.5	
MLR	**Muntele Rosu**	**150.20**	**322**	⇑PKIKP	PKPdf	04 00 18.2	+6.6
MLR	**Muntele Rosu**	**150.20**	**322**	PKPbc	PKPdf	04 00 18.1	+6.5
	comp=Z,12nm,0.5s,baz=335,slow=4.8,SNR=14						
HRT	**Hereke**	**150.20**	**311**	*e*P	PKPdf	04 00 18.1	+6.4
NIE	**Niedzica**	**150.30**	**333**	*e*PKP	PKPdf	04 00 17.4	+5.8
SNX	**Sinaia**	**150.52**	**322**	PKHKP		04 00 21.2	
PRD	**Provadia**	**150.59**	**317**	*e*P	PKPab	04 00 30.0	+0.5
KSP	**Ksiaz**	**150.66**	**339**	*i* PKHKP		04 00 19.6	
KSP	**Ksiaz**	**150.66**	**339**	*e*PKPdf	PKPdf	04 00 19.6	+7.5
KSP				*e*PKPab	PKPab	04 00 28.8	-0.7
KSP				*e*pPKP		04 02 18.8	
KSP	**Ksiaz**	**150.66**	**339**	*e*PKP	PKPdf	04 00 19.7	+7.6
KSP				*e*		04 00 29.2	
ISP	**Isparta**	**150.68**	**305**	⇑PKIKP	PKPdf	04 00 19.0	+6.4
ISP	**Isparta**	**150.68**	**305**	*e*PKPbc	PKPdf	04 00 18.5	+5.9
OKC	**Ostrava-Krasne**	**150.83**	**335**	*i* PKHKP		04 00 19.8	
OKC				*e*		04 00 29.0	
OKC	**Ostrava-Krasne**	**150.83**	**335**	⇑*i*PKPB		04 00 19.8	
OKC				*e*PKPAB	PKPab	04 00 29.0	-1.3
OKC				*e*pPKP		04 02 19.6	
KECS	**Kecovo**	**150.94**	**331**	*i* PKP	PKPab	04 00 29.7	-1.1
UPC	**Upice**	**151.04**	**339**	*i* PKHKP		04 00 20.3	
UPC				*e*		04 00 30.7	
UPC	**Upice**	**151.04**	**339**	⇑*i*PKPB		04 00 20.3	
UPC				*e*PKPAB	PKPab	04 00 30.7	-0.4
UPC				*e*pPKP		04 02 18.6	
DPC	**Dobruska-Polom**	**151.07**	**338**	*i* PKHKP		04 00 20.6	
DPC				*e*		04 00 30.6	
DPC	**Dobruska-Polom**	**151.07**	**338**	⇑*i*PKPB		04 00 20.6	
DPC				*e*PKPAB	PKPab	04 00 30.6	-0.7
DPC				*e*pPKP		04 02 20.4	
MORC	**Moravsky Berou**	**151.11**	**336**	*e*PKPbc	PKPdf	04 00 20.3	+7.5
CLL	**Collm**	**151.24**	**343**	*i* PKHKP		04 00 20.4	
CLL				*i*		04 00 30.7	
CLL				pmax	pmax		
	comp=Z,37nm,0.7s						
CLL	**Collm**	**151.24**	**343**	⇓*i*PKP1	PKPdf	04 00 20.4	+7.4
CLL				*i* PKP2	PKPab	04 00 30.7	-1.3
CLL				*i* *PPKP		04 02 20.4	
CLL				*e**PPKP2		04 02 24.0	
CLL				*i*		04 02 31.9	
CLL				*e*		04 03 01.0	
CLL				*e*PP	PP	04 04 03.0	-2.5
BRG	**Berggiesshubel**	**151.37**	**341**	*i* PKHKP		04 00 20.8	
BRG				*i*		04 00 31.6	
BRG				pmax	pmax		
	comp=Z,28nm,1.1s						
BRG	**Berggiesshubel**	**151.37**	**341**	*i* P	PKPdf	04 00 20.8	+7.7
BRG				*i*		04 00 31.6	
BRG				*e*		04 02 20.9	
CLZ	**Clausthal**	**151.39**	**346**	*e*PKPbc	PKPdf	04 00 21.0	+7.9
CLZ				*e*PKPab	PKPab	04 00 31.3	-1.3
ELL	**Elmali**	**151.47**	**303**	*e*P	PKPdf	04 00 21.4	+7.7
PVCC	**Panska Ves**	**151.48**	**340**	*i* PKHKP		04 00 21.3	
PVCC				*e*		04 00 32.3	
PVCC	**Panska Ves**	**151.48**	**340**	⇑*i*PKPB		04 00 21.3	
PVCC				*e*PKPAB	PKPab	04 00 32.3	-0.7
PVCC				*e*pPKP		04 02 21.4	
BNT	**Bandirma**	**151.60**	**311**	*e*P	PKPdf	04 00 20.2	+6.4
PSZ	**Piszkesteto**	**151.62**	**331**	PKHKP		04 00 21.7	
PSZ	**Piszkesteto**	**151.62**	**331**	*e*PKPbc	PKPdf	04 00 21.2	+7.6
VYHS	**Vyhne**	**151.63**	**333**	*i* PKP	PKPdf	04 00 21.4	+7.8
VYHS				*i*		04 00 32.5	
BTOK	**Tokmak**	**151.78**	**310**	*i* P	PKPdf	04 00 21.6	+7.5
VRAC	**Vranov**	**151.85**	**337**	PKPbc	PKPdf	04 00 21.7	+7.9
	comp=Z,3.7nm,0.9s,baz=47,slow=4.4,SNR=3.8						
VRAC				PKPab	PKPab	04 00 34.1	-0.4
	comp=Z,24nm,0.8s,baz=35,slow=4.3,SNR=24						
MANT	**Manisa**	**151.90**	**307**	*i* P	PKPdf	04 00 22.5	+8.2
PRU	**Pruhonice**	**151.96**	**340**	*i* PKIKP	PKPdf	04 00 21.8	+7.8
PRU				*e*		04 00 34.2	
PRU				*e*		04 02 23.3	
PRU	**Pruhonice**	**151.96**	**340**	⇑*i*PKPB		04 00 21.8	
PRU				*e*PKPAB	PKPab	04 00 34.2	-0.8
PRU				*e*pPKP		04 02 23.3	
SMOL	**Smolenice**	**152.18**	**335**	*i* PKP	PKPab	04 00 36.0	0.0
MOX	**Moxa**	**152.21**	**344**	*e*PKIKP	PKPdf	04 00 21.1	+6.8
MOX				*e*		04 00 34.9	
MOX				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MOX	**Moxa**	**152.21**	**344**	PP2		04 00 21.0	
MOX				PKP2	PKPab	04 00 35.0	-1.0
MOX				pPKP		04 02 24.0	
NKC	**Novy Kostel**	**152.37**	**342**	*i* PKIKP	PKPdf	04 00 23.5	+8.9
NKC				*e*		04 00 35.0	
NKC				*e*		04 02 23.0	
NKC	**Novy Kostel**	**152.37**	**342**	⇑*i*PKPB		04 00 23.5	
NKC				*e*PKPAB	PKPab	04 00 35.0	-1.7
NKC				*e*pPKP		04 02 23.0	
SRO	**Srobarova**	**152.38**	**333**	*i* PKP	PKPab	04 00 36.3	-0.6
BZS	**Buzias**	**152.46**	**326**	⇑PKIKP	PKPdf	04 00 23.2	+8.4
ZST	**Bratislava**	**152.57**	**335**	*i* PKP	PKPab	04 00 35.2	-2.4
VKA	**Vienna**	**152.81**	**336**	⇑*i*P	PKPab	04 00 38.3	-0.4
KHC	**Kasperske Hory**	**153.02**	**340**	*i* PKIKP	PKPdf	04 00 24.7	+9.2
KHC				*e*		04 00 39.0	
KHC				*e*		04 02 24.2	
KHC	**Kasperske Hory**	**153.02**	**340**	⇑*i*PKPB		04 00 24.7	
KHC				*e*PKPAB	PKPab	04 00 39.0	-0.5
KHC				x	x	04 00 48.0	
KHC				*e*pPKP		04 02 24.2	
KHC				*e*x	x	04 02 38.0	
GEC2	**GERESS Array S**	**153.23**	**340**	*e*PKPab	PKPab	04 00 39.4	-1.0
GERES	**GERESS Array B**	**153.23**	**340**	PKP	PKPdf	04 00 15.9	+0.1
	comp=Z,0.3nm,0.5s,baz=90,slow=1.3,SNR=4.9						
GERES				PKPbc	PKPdf	04 00 24.8	+9.0
	comp=Z,1.9nm,0.6s,baz=40,slow=2.3,SNR=16						
GERES				PKPab	PKPab	04 00 39.1	-1.3
	comp=Z,6.6nm,0.9s,baz=34,slow=4.8,SNR=17						
GERES				pPKPbc		04 02 22.8	
	comp=Z,0.8nm,0.6s,baz=45,slow=1.9,SNR=3.6						
TNS	**Taunus Mts**	**153.32**	**348**	*e*PKPab	PKPab	04 00 39.6	-1.1
PKSM	**Moragy**	**153.47**	**330**	⇓PKIKP	PKPdf	04 00 25.1	+8.9
MOA	**Molln**	**153.91**	**338**	⇑*i*P	PKPab	04 00 42.9	-0.4
	comp=Z,15nm,0.9s						
ARSA	**Arzberg**	**153.95**	**335**	⇑*i*P	PKPab	04 00 42.9	-0.6
	comp=Z,13nm,1.1s						
GIVF	**Givet**	**154.00**	**353**	*e*PKP2	PKPab	04 00 41.0	-2.6
BAIF	**Baives**	**154.10**	**354**	*e*PKP2	PKPab	04 00 41.7	-2.3
	comp=Z,19nm,1.1s						
KOGS	**Kog**	**154.32**	**333**	*e*PKPab	PKPab	04 00 43.9	-1.1
DIVS	**Divcibare**	**154.34**	**325**	⇑*i*P	PKPdf	04 00 26.8	+9.4
FUR	**Furstenfeldbru**	**154.57**	**342**	*e*PKP2	PKPab	04 00 45.7	-0.3
KBA	**Koelnbreinsper**	**154.89**	**338**	⇑*i*P	PKPab	04 00 46.8	-0.6
	comp=Z,5.5nm,0.7s						
OBKA	**Obir**	**154.94**	**336**	⇑*i*P	PKPab	04 00 46.6	-1.1
	comp=Z,11nm,0.7s						
SANT	**Santorini**	**154.97**	**305**	*e*PKPab	PKPab	04 00 45.1	-3.0
BFO	**Black Forest**	**155.14**	**347**	*e*PKP2	PKPab	04 00 47.4	-1.0
WATA	**Walderalm**	**155.23**	**341**	⇑*i*P	PKPab	04 00 48.2	-0.7
	comp=Z,7.3nm,0.7s						
WLS	**Welschbruch**	**155.26**	**348**	PKP	PKPab	04 00 47.6	-1.3
WLS	**Welschbruch**	**155.26**	**348**	*e*P	PKPab	04 00 47.6	-1.3
CDF	**Champ du Feu**	**155.27**	**348**	*e*PKP2	PKPab	04 00 46.8	-2.2
	comp=Z,23nm,0.9s						
WTTA	**Wattenberg**	**155.28**	**341**	⇑*i*P	PKPab	04 00 48.8	-0.3
	comp=Z,15nm,0.7s						
LJU	**Ljubljana**	**155.34**	**335**	*e*PKPab	PKPab	04 00 48.1	-1.2
MOTA	**Moosalm**	**155.36**	**342**	⇑*i*P	PKPab	04 00 48.8	-0.6
	comp=Z,1.0nm,1.1s						
SQTA	**Sankt Quirin**	**155.44**	**341**	⇑*i*P	PKPab	04 00 49.2	-0.6
	comp=Z,23nm,1.1s						
ECH	**Echery**	**155.48**	**348**	PKP	PKPab	04 00 48.3	-1.6
ECH	**Echery**	**155.48**	**348**	*e*P	PKPab	04 00 48.3	-1.6
BOJS	**Bojanci**	**155.50**	**333**	*e*PKPab	PKPab	04 00 49.2	-0.8
BOJS				*e*pPKPbc		04 02 40.0	
MEZF	**Maizieres J'vi**	**155.54**	**352**	*e*PKP2	PKPab	04 00 48.0	-2.2
	comp=Z,22nm,0.8s						
VOY	**Vojsko**	**155.59**	**336**	*e*PKPab	PKPab	04 00 48.7	-1.8
FLN	**La Foliniere**	**155.62**	**1**	*e*PKP2	PKPab	04 00 47.5	-3.0
	comp=Z,45nm,1.2s						
FELD	**Feldberg**	**155.64**	**347**	*e*P	PKPab	04 00 49.2	-1.4
JAVS	**Javornik**	**155.64**	**336**	*e*PKPab	PKPab	04 00 49.1	-1.6
THEF	**They Montfort**	**155.67**	**350**	PKP	PKPab	04 00 49.5	-1.2
THEF	**They Montfort**	**155.67**	**350**	*e*P	PKPab	04 00 49.5	-1.2
DAVA	**Damuels**	**155.75**	**343**	⇑*i*P	PKPab	04 00 50.6	-0.5
	comp=Z,18nm,0.8s						
LDF	**La Druitiere**	**155.79**	**0**	*e*PKP2	PKPab	04 00 48.0	-3.2
	comp=Z,23nm,1.1s						
HAU	**Haudompre**	**155.83**	**349**	*e*PKP2	PKPab	04 00 49.1	-2.3
	comp=Z,26nm,0.8s						
ROSF	**Rostrenen**	**155.92**	**5**	*e*PKP2	PKPab	04 00 50.1	-1.7
	comp=Z,82nm,1.2s						
HINF	**Hinteralfeld**	**155.92**	**348**	*e*PKP2	PKPab	04 00 49.3	-2.5
	comp=Z,14nm,1.0s						
GRR	**Gorron**	**155.99**	**1**	*e*PKP2	PKPab	04 00 49.2	-2.9
SGMF	**Saint Gilles**	**156.05**	**4**	*e*PKP2	PKPab	04 00 50.7	-1.7
DAVOX	**Davos**	**156.22**	**343**	PKPbc	PKPdf	04 00 31.2	+11
	comp=Z,3.0nm,0.7s,baz=135,slow=10.0,SNR=4.3						
DAVOX				PKPab	PKPab	04 00 52.4	-0.7
	comp=Z,13nm,0.6s,baz=356,slow=1.8,SNR=13						
LOMF	**Lomont**	**156.38**	**348**	PKP	PKPab	04 00 52.7	-1.1
LOMF	**Lomont**	**156.38**	**348**	*e*P	PKPab	04 00 52.7	-1.1
SSF	**Saint Saulge**	**157.14**	**354**	*e*PKP2	PKPab	04 00 54.9	-2.2
	comp=Z,25nm,0.9s						
CABF	**La Chapelle**	**157.22**	**349**	*e*PKP2	PKPab	04 00 55.6	-1.9
	comp=Z,21nm,0.9s						
AVF	**Avril sur Loir**	**157.42**	**354**	*e*PKP2	PKPab	04 00 56.0	-2.3
	comp=Z,18nm,1.1s						
SMF	**Signal de Mont**	**157.51**	**353**	*e*PKP2	PKPab	04 00 56.5	-2.2
	comp=Z,42nm,0.9s						
BGF	**Bois d'Agland**	**157.70**	**355**	*e*PKP2	PKPab	04 00 57.1	-2.4
MFF	**Saint Martin d**	**157.78**	**0**	*e*PKP2	PKPab	04 00 57.3	-2.6
	comp=Z,8.6nm,0.8s						
TCF	**Toulx Ste Croi**	**158.02**	**356**	*e*PKP2	PKPab	04 00 58.5	-2.4
	comp=Z,15nm,1.1s						
LPL	**La Plagne**	**158.16**	**347**	*e*PKP2	PKPab	04 01 00.4	-1.1
	comp=Z,16nm,0.9s						
LPG	**La Plagne**	**158.17**	**347**	*e*PKP2	PKPab	04 01 00.6	-1.0
	comp=Z,30nm,1.1s						
AGO	**Saint Agoulin**	**158.18**	**354**	PKP	PKPab	04 01 03.3	+1.7
PLDF	**La Plantade**	**158.21**	**353**	PKP	PKPab	04 01 00.7	-1.0
ORIF	**Oris-en-Rattie**	**158.90**	**348**	*e*PKP2	PKPab	04 01 03.2	-1.5
	comp=Z,23nm,0.8s						
MBDF	**Montbardon**	**158.90**	**346**	*e*PKP2	PKPab	04 01 03.1	-1.6
	comp=Z,12nm,0.6s						
LBL	**Lubilhac**	**158.98**	**353**	PKP	PKPab	04 01 05.2	+0.2
RJF	**Les Rejaudoux**	**159.04**	**357**	*e*PKP2	PKPab	04 01 02.7	-2.6
	comp=Z,16nm,1.1s						
VIVF	**Saint-Julien-l**	**159.16**	**350**	*e*PKP2	PKPab	04 01 04.1	-1.8
	comp=Z,32nm,1.3s						
SAOF	**Saorge**	**159.42**	**344**	PKP	PKPab	04 01 05.9	-1.1
SAOF	**Saorge**	**159.42**	**344**	*e*P	PKPab	04 01 05.9	-1.1
LFF	**La Frestale**	**159.43**	**358**	*e*PKP2	PKPab	04 01 04.6	-2.4
	comp=Z,9.3nm,0.7s						
AUTN	**L'Aution**	**159.44**	**344**	PKP	PKPab	04 01 06.7	-0.4
AUTN	**L'Aution**	**159.44**	**344**	*e*P	PKPab	04 01 06.7	-0.4
TOUF	**Mont Tournerai**	**159.47**	**345**	PKP	PKPab	04 01 06.4	-0.8
TOUF	**Mont Tournerai**	**159.47**	**345**	*e*P	PKPab	04 01 06.4	-0.8
SBF	**Sospel**	**159.56**	**344**	*e*PKP2	PKPab	04 01 05.6	-2.0
	comp=Z,64nm,0.8s						
MVIF	**Mont Vial**	**159.60**	**345**	PKP	PKPab	04 01 06.7	-1.1
MVIF	**Mont Vial**	**159.60**	**345**	*e*P	PKPab	04 01 06.7	-1.1
REVF	**Revere**	**159.70**	**344**	PKP	PKPab	04 01 07.0	-1.2
REVF	**Revere**	**159.70**	**344**	*e*P	PKPab	04 01 07.0	-1.2
CALN	**Calern**	**159.80**	**345**	PKP	PKPab	04 01 07.7	-0.9
CALN	**Calern**	**159.80**	**345**	*e*P	PKPab	04 01 07.7	-0.9
SMRF	**Simiane la Rot**	**159.86**	**348**	*e*PKP2	PKPab	04 01 07.7	-1.2
	comp=Z,8.5nm,0.8s						
VILF	**Villemus**	**159.96**	**348**	PKP	PKPab	04 01 08.5	-0.8
VILF	**Villemus**	**159.96**	**348**	*e*P	PKPab	04 01 08.5	-0.8
FRF	**La Foret Royal**	**160.04**	**346**	*e*PKP2	PKPab	04 01 07.7	-2.0
	comp=Z,30nm,1.0s						
LASF	**Ste Croix**	**160.04**	**352**	*e*PKP2	PKPab	04 01 07.9	-1.8
TREF	**Trevaresse**	**160.24**	**348**	PKP	PKPab	04 01 09.3	-1.2
TREF	**Trevaresse**	**160.24**	**348**	*e*P	PKPab	04 01 09.3	-1.2
PUYF	**Puyloubier**	**160.27**	**347**	PKP	PKPab	04 01 10.0	-0.7
PUYF	**Puyloubier**	**160.27**	**347**	*e*P	PKPab	04 01 10.0	-0.7
LMR	**La Mourre**	**160.28**	**346**	*e*PKP2	PKPab	04 01 09.0	-1.7
	comp=Z,34nm,1.1s						
PGF	**Pioggiola**	**160.34**	**340**	*e*PKP2	PKPab	04 01 09.0	-2.0
	comp=Z,8.0nm,0.8s						
MTLF	**Montolieu**	**160.95**	**355**	*e*PKP2	PKPab	04 01 10.6	-3.0
SJPF	**Ste Jean**	**161.25**	**3**	*e*PKP2	PKPab	04 01 13.3	-1.6
EPF	**Esparros**	**161.35**	**359**	*e*PKP2	PKPab	04 01 12.7	-2.7
ETSF	**Etsaut**	**161.48**	**1**	*e*PKP2	PKPab	04 01 14.1	-1.8
	comp=Z,20nm,1.2s						
DBIC	**Dimbokro**	**161.85**	**165**	PKP	PKPdf	04 00 28.2	+1.0
	comp=Z,7.9nm,1.0s,baz=181,slow=2.7,SNR=6.7						
DBIC				PKPab	PKPab	04 01 17.6	-0.8
	comp=Z,14nm,0.9s,baz=194,slow=2.7,SNR=8.8						
EVO	**Evora**	**164.33**	**24**	*e*PKIKP	PKPdf	04 00 30.7	+1.7
	comp=Z,21nm,0.9s						
ESDC	**Sonseca Array**	**164.37**	**11**	PKPab	PKPab	04 01 26.9	-1.7
	comp=Z,2.9nm,0.9s,baz=340,slow=4.6,SNR=12						

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*MOS **16** 03:41:30.1±0.8, 47.36N×6.77E, h10km, mb3.8/1, Error ellipse: s-maj=6.4km s-min=3.9km az=80.5*

*NEIC **16** 03:41:31.7, 47.40N×7.00E, h8km, ML3.1(VIE), ML3.0(LDG), ML2.9(STR), ML2.8(LEDBW), ML2.7(ZUR), ML2.6(SZGRF), After ZUR.*

*LDG **16** 03:41:31.7±0.0, 47.38N×6.95E, h9km, Md3.3/3, Ml3.0/30, Error ellipse: s-maj=0.7km s-min=0.5km az=128.0*

*ZUR **16** 03:41:31.7, 47.39N×6.96E, h8km, ML2.7/29*

*CSEM **16** 03:41:31.5±0.0, 47.37N×6.97E, h15km, ML3.1/28, Error ellipse: s-maj=0.7km s-min=0.6km az=148.0*

*BGR **16** 03:41:32.1±0.5, 47.43N×6.97E, h10km, ML2.6/3, Error ellipse: s-maj=3.3km s-min=2.2km az=45.0*

*LEDBW **16** 03:41:32.0±0.2, 47.38N×6.96E, h10km, ML2.8, Error ellipse: s-maj=6.0km s-min=4.0km az=156.0*

STR 16 03:41:31.3±0.1**, 47.37N×6.95E, h5km±1km, Ml2.9, 20C-17D, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0, France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOMF	**Lomont**	**0.09**	**257**	⇑*i*Pg	Pg	03 41 34.7	+1.5
LOMF				Sg	Sg	03 41 36.4	+1.9
LOMF	**Lomont**	**0.09**	**257**	Pg	Pg	03 41 33.5	+0.3
LOMF				Sg	Sg	03 41 35.0	+0.5
LOMF	**Lomont**	**0.09**	**257**	Pg	Pg	03 41 34.7	+1.5
LOMF				Sg	Sg	03 41 36.4	+1.9
BOURR	**Bourrignon**	**0.19**	**83**	*e*Pg	Pg	03 41 36.1	+0.9
	SNR=628						
BOURR				*e*Sg	Sg	03 41 38.7	+0.8
	SNR=43						
BOURR	**Bourrignon**	**0.19**	**83**	*e*Sg	Sg	03 41 39.0	+1.1
BOURR	**Bourrignon**	**0.19**	**83**	⇓*i*Pg	Pg	03 41 36.1	+0.9
BBS	**Basel-Blauen**	**0.39**	**76**	⇑*e*Pg	Pg	03 41 39.6	+0.5
BBS	**Basel-Blauen**	**0.39**	**76**	Pg	Pg	03 41 39.5	+0.3
BBS				Sg	Sg	03 41 44.4	0.0
HINF	**Hinteralfeld**	**0.45**	**352**	*e*Pg	Pg	03 41 40.3	-0.1
HINF				*e*Pn	Pn	03 41 41.8	-2.2
HINF				*e*Sg	Sg	03 41 45.6	-0.8
	164nm,0.2s						
HINF	**Hinteralfeld**	**0.45**	**352**	*e*P	Pg	03 41 40.3	-0.1
HINF				*e*		03 41 45.6	
MOF	**Molkenrain**	**0.50**	**14**	⇑*i*Pg	Pg	03 41 41.5	+0.2
MOF	**Molkenrain**	**0.50**	**14**	Pg	Pg	03 41 41.4	+0.1
MOF				Sg	Sg	03 41 47.8	-0.1
BALST	**Balsthal**	**0.51**	**94**	⇓*i*Pg	Pg	03 41 41.8	+0.3
BALST				*i* Sg	Sg	03 41 48.7	+0.4
BRANT	**Les Verrieres**	**0.54**	**217**	⇑*i*Pg	Pg	03 41 42.9	+0.8
TORNY	**Torny**	**0.60**	**179**	*i* Sg	Sg	03 41 52.5	+1.3
TORNY	**Torny**	**0.60**	**179**	⇑*i*P	Pg	03 41 44.0	+0.8
TORNY				*i* S	Sg	03 41 52.5	+1.3
HAU	**Haudompre**	**0.76**	**328**	*e*Pg	Pg	03 41 46.0	-0.4
HAU				*e*Pn	Pn	03 41 46.9	-1.4
HAU				*e*Sg	Sg	03 41 55.2	-1.3
HAU				*e*Sn	Sn	03 41 57.6	-2.6
	487nm,0.3s						
HAU	**Haudompre**	**0.76**	**328**	*e*P	Pg	03 41 46.0	-0.4
HAU				*e*		03 41 57.6	
HAU	**Haudompre**	**0.76**	**328**	*e*Pn	Pn	03 41 46.9	-1.4
HAU				*e*Sg	Sg	03 41 55.2	-1.3
HAU				*e*Sn	Sn	03 41 57.6	-2.6
	243nm,0.3s						
SULZ	**Sulz-Cheisache**	**0.81**	**78**	*e*Pg	Pg	03 41 47.1	-0.3
	SNR=11						
SULZ				*e*Sg	Sg	03 41 57.7	-0.5
	SNR=14						
SULZ	**Sulz-Cheisache**	**0.81**	**78**	⇑*i*Pg	Pg	03 41 47.1	-0.3
WIMIS	**Wimmis**	**0.84**	**147**	⇓*i*Pg	Pg	03 41 48.3	+0.2
WIMIS				*e*Sg	Sg	03 41 59.8	+0.4
WIMIS	**Wimmis**	**0.84**	**147**	⇓*i*P	Pb	03 41 48.3	+0.3
WIMIS				*i* S	Sg	03 41 59.8	+0.4
ECH	**Echery**	**0.86**	**9**	⇓*i*Pg	Pg	03 41 48.1	-0.4
ECH				PmP		03 41 48.6	
ECH				Sg	Sg	03 41 58.9	-1.0
ECH	**Echery**	**0.86**	**9**	⇓*i*P	Pb	03 41 48.1	-0.2
ECH				S	Sb	03 41 58.9	-1.0
ECH	**Echery**	**0.86**	**9**	Pg	Pg	03 41 48.0	-0.5
ECH				Sg	Sg	03 41 58.9	-1.0
FELD	**Feldberg**	**0.87**	**54**	⇑*i*P	Pb	03 41 48.2	-0.4
FELD				⇑*e*P		03 41 48.3	
FELD				*e*S	Sb	03 42 00.7	+0.3
FELD	**Feldberg**	**0.87**	**54**	Pg	Pg	03 41 48.0	-0.8
FELD				Sg	Sg	03 41 59.6	-0.9
FBB	**Freiburg**	**0.88**	**44**	Pn	Pn	03 41 48.5	-1.6
KIZ	**Kirchzarten**	**0.88**	**48**	⇑*e*Pg	Pg	03 41 48.1	-0.8
KIZ				Sg	Sg	03 41 59.7	-0.9
KIZ				SmS		03 42 01.5	
KIZ	**Kirchzarten**	**0.88**	**48**	⇑*e*P	Pb	03 41 48.1	-0.5
KIZ				⇓*e*P		03 41 48.5	
KIZ				S	Sb	03 41 59.7	-0.8
KIZ				*e*S	Sb	03 42 00.4	-0.1
KIZ	**Kirchzarten**	**0.88**	**48**	⇑*e*P	Pb	03 41 48.1	-0.5
KIZ				S	Sb	03 41 59.7	-0.8
LIBD	**Limburg**	**0.90**	**29**	Pn	Pn	03 41 48.7	-1.6
LIBD				PmP		03 41 49.5	
LIBD	**Limburg**	**0.90**	**29**	Pg	Pg	03 41 49.2	0.0
LIBD				Sg	Sg	03 42 01.4	+0.2
GIMEL	**Gimel**	**0.96**	**210**	⇑*i*Pg	Pg	03 41 50.7	+0.2
CABF	**La Chapelle**	**0.96**	**218**	*e*Pg	Pg	03 41 50.4	-0.1
CABF				*e*Pn	Pn	03 41 50.8	-0.5
CABF				*e*Sg	Sg	03 42 03.0	-0.4
	30nm,0.2s						
CABF	**La Chapelle**	**0.96**	**218**	*e*Pg	Pg	03 41 50.4	-0.1
CABF				*e*Sg	Sg	03 42 03.0	-0.4
	15nm,0.2s						
HASLI	**Hasliberg**	**1.02**	**126**	⇓*i*Pg	Pg	03 41 51.6	-0.2
AIGLE	**Aigle**	**1.03**	**180**	⇓*i*Pg	Pg	03 41 51.8	-0.1
SENIN	**Lac Senin**	**1.03**	**166**	⇓*i*Pg	Pg	03 41 51.7	-0.3
CDF	**Champ du Feu**	**1.07**	**12**	*e*Pn	Pn	03 41 51.0	-1.8
CDF				*e*Pg	Pg	03 41 51.5	-1.1
CDF				*e*Sg	Sg	03 42 05.1	-1.7
	160nm,0.3s						
CDF	**Champ du Feu**	**1.07**	**12**	*e*P	Pb	03 41 51.0	-0.8
CDF				*e*		03 42 05.1	
CDF	**Champ du Feu**	**1.07**	**12**	*e*Pg	Pg	03 41 51.5	-1.1
CDF				*e*Sg	Sg	03 42 05.1	-1.7
	80nm,0.3s						
THEF	**They Montfort**	**1.08**	**323**	Pn	Pn	03 41 51.9	-1.0
THEF				PmP		03 41 52.4	
THEF				Sn	Sn	03 42 06.2	-2.2
THEF	**They Montfort**	**1.08**	**323**	P	Pb	03 41 51.9	-0.1
THEF				S	Sb	03 42 06.2	0.0
THEF	**They Montfort**	**1.08**	**323**	Pg	Pg	03 41 52.3	-0.5
THEF				Sn	Sn	03 42 06.2	-2.2
WLS	**Welschbruch**	**1.08**	**14**	⇑*e*Pn	Pn	03 41 51.3	-1.7
WLS				Sg	Sg	03 42 06.0	-1.2
WLS	**Welschbruch**	**1.08**	**14**	Pg	Pg	03 41 51.3	-1.6
WLS				Sg	Sg	03 42 06.2	-1.0
LKBD	**Leukerbad**	**1.09**	**154**	*e*P	Pb	03 41 52.9	+0.7
ZUR	**Zurich**	**1.11**	**89**	*e*Pn	Pn	03 41 52.4	-1.0
	SNR=1.7						
ZUR				*e*Pg	Pg	03 41 53.1	-0.3
	SNR=19						
ZUR				*e*Sg	Sg	03 42 06.7	-1.5
	SNR=16						
ZUR	**Zurich**	**1.11**	**89**	Pg	Pg	03 41 53.1	-0.3
	SNR=19						
ZUR				Sg	Sg	03 42 06.7	-1.5
	SNR=16						
SLE	**Schleitheim**	**1.12**	**69**	*e*Pg	Pg	03 41 52.8	-0.9
	SNR=90						
SLE				*e*Sg	Sg	03 42 06.4	-2.1
	SNR=10						
BNALP	**Bannalp**	**1.12**	**116**	⇓*i*P	Pb	03 41 53.3	+0.5
GRYON	**Gryon**	**1.12**	**174**	*e*P	Pb	03 41 53.3	+0.4
TRULL	**Truellikon**	**1.21**	**76**	⇑*i*P	Pb	03 41 53.0	-1.3
MUO	**Muotathal**	**1.22**	**109**	⇓*i*P	Pb	03 41 54.7	+0.2
SALAN	**Lac Salanfe**	**1.23**	**179**	*e*P	Pb	03 41 54.8	+0.2
EMV	**Vieux Emosson**	**1.31**	**182**	⇓*i*P	Pb	03 41 55.9	-0.1
DIX	**Grande Dixence**	**1.33**	**166**	*e*P	Pb	03 41 56.7	+0.4
DIX	**Grande Dixence**	**1.33**	**166**	*e*P	Pb	03 41 56.6	+0.3
WILA	**Wila**	**1.33**	**87**	*e*Pn	Pn	03 41 56.8	+0.3
	SNR=1.3						

WILA				ePg	Pg	03 41 57.1	-0.8
	SNR=20						
WILA				eSg	Sg	03 42 14.2	-1.4
	SNR=20						
WILA	Wila	1.33	87	eP	Pb	03 41 55.8	-0.6
WILA	Wila	1.33	87	Pn	Pn	03 41 56.8	+0.2
	SNR=1.3						
STEIN	Stein am Rhein	1.33	76	eP	Pb	03 41 55.5	-0.9
STEIN	Stein am Rhein	1.33	76	eP	Pb	03 41 55.6	-0.8
BFO	Black Forest	1.34	44⇑	ePn	Pn	03 41 54.3	-2.4
BFO				Pg	Pg	03 41 57.0	-1.0
BFO				Sn	Sn	03 42 11.3	-3.7
BFO				Sg	Sg	03 42 13.8	-2.1
BFO	Black Forest	1.34	44	eP	Pb	03 41 54.3	-2.2
BFO				e		03 42 13.0	
BFO	Black Forest	1.34	44	ePn	Pn	03 41 54.3	-2.3
BFO				ePg	Pg	03 41 56.9	-1.1
BFO				eSg	Sg	03 42 13.0	-2.8
BFO	Black Forest	1.34	44	ePg	Pg	03 41 56.9	-1.1
BFO				eS	Sb	03 42 13.0	-0.8
WEIN	Weingarten	1.39	83	eP	Pb	03 41 56.4	-1.0
SISB	Singen-Sch Ber	1.40	76	Pn	Pn	03 41 56.3	-1.3
SISB				Pg	Pg	03 41 58.4	-0.9
SISB				Sn	Sn	03 42 13.9	-2.7
SISB				Sg	Sg	03 42 16.5	-1.4
SPAK	Spaichingen	1.44	59	Pg	Pg	03 41 58.5	-1.6
SPAK	Spaichingen	1.44	59	Pg	Pg	03 41 58.5	-1.6
SPAK				Sg	Sg	03 42 18.0	-1.2
FUSIO	Fusio	1.49	127⇓	iP	Pn	03 41 59.2	+0.4
FUSIO	Fusio	1.49	127⇓	iP	Pn	03 41 59.1	+0.3
MMK	Mattmark	1.49	152⇑	iP	Pn	03 41 59.4	+0.5
LLS	Linth-Limmern	1.50	110⇓	iP	Pn	03 41 58.8	-0.2
SFTF	Sexfontaines	1.54	304	ePn	Pn	03 41 58.0	-1.5
	baz=120						
SFTF				ePg	Pg	03 42 00.2	-1.8
	baz=127						
SFTF				eSn	Sn	03 42 16.2	-3.9
SFTF				eSg	Sg	03 42 20.1	-2.4
	30nm,0.2s						
SFTF	Sexfontaines	1.54	304	ePg	Pg	03 42 00.2	-1.8
SFTF				eSn	Sn	03 42 16.2	-3.9
SFTF				eSg	Sg	03 42 20.1	-2.4
	15nm,0.2s						
MCGN	Macugnaga	1.58	153	ePn	Pn	03 42 00.8	+0.6
MCGN				eSn	Sn	03 42 23.1	+1.9
MCGN	Macugnaga	1.58	153	ePn	Pn	03 42 00.8	+0.6
RFYF	Reffroy	1.60	322	ePn	Pn	03 41 58.8	-1.7
	baz=138						
RFYF				ePg	Pg	03 42 01.3	-2.0
	baz=136						
RFYF				eSn	Sn	03 42 17.8	-3.9
RFYF				eSg	Sg	03 42 22.0	-2.7
	92nm,0.3s						
RFYF	Reffroy	1.60	322	ePg	Pg	03 42 01.3	-2.0
RFYF				eSn	Sn	03 42 17.8	-3.9
RFYF				eSg	Sg	03 42 22.0	-2.7
	46nm,0.3s						
GUT	Gutenstein	1.62	64	Pn	Pn	03 41 58.6	-2.1
GUT				Pg	Pg	03 42 01.9	-1.8
GUT				Sn	Sn	03 42 18.8	-3.4
GUT				Sg	Sg	03 42 22.4	-2.9
GUT	Gutenstein	1.62	64	P	Pn	03 41 58.6	-2.1
GUT				S	Sb	03 42 18.8	-3.2
PLONS	Plons	1.69	100⇓	iPn	Pn	03 42 01.2	-0.5
MEZF	Maizieres J'vi	1.71	312	ePn	Pn	03 42 00.6	-1.3
	baz=129						
MEZF				eP		03 42 01.9	
MEZF				ePg	Pg	03 42 03.3	-2.1
	baz=131						
MEZF				eSn	Sn	03 42 20.1	-4.3
MEZF				eSg	Sg	03 42 25.1	-3.0
	42nm,0.3s						
MEZF	Maizieres J'vi	1.71	312	ePg	Pg	03 42 03.3	-2.1
MEZF				eSn	Sn	03 42 20.1	-4.3
MEZF				eSg	Sg	03 42 25.1	-3.0
	21nm,0.3s						
LANF	Langenberg	1.71	19	Pg	Pg	03 42 02.9	-2.6
LANF	Langenberg	1.71	19	Pg	Pg	03 42 03.7	-1.8
LANF				Sg	Sg	03 42 26.7	-1.6
TUBL	Tuebingen Lnz	1.84	50	Pn	Pn	03 42 02.9	-0.9
TUBL				Pg	Pg	03 42 06.5	-1.5
TUBL				Sg	Sg	03 42 29.2	-3.4
TUBL	Tuebingen Lnz	1.84	50	P	Pn	03 42 06.5	+2.7
TUBL				S	Sn	03 42 29.2	+1.4
LPL	La Plagne	1.86	185	ePn	Pn	03 42 02.8	-1.3
LPL				ePg	Pg	03 42 06.9	-1.5
LPL				eSn	Sn	03 42 24.9	-3.4
LPL				eSg	Sg	03 42 30.8	-2.5
	12nm,0.2s						
LPL	La Plagne	1.86	185	eP	Pn	03 42 02.8	-1.3
LPL				e		03 42 24.9	
LPG	La Plagne	1.88	184	ePn	Pn	03 42 03.1	-1.3
LPG				ePg	Pg	03 42 07.4	-1.4
LPG				eSn	Sn	03 42 25.5	-3.2
LPG				eSg	Sg	03 42 31.0	-2.8
	21nm,0.3s						
LPG	La Plagne	1.88	184	eP	Pn	03 42 03.1	-1.3
LPG				e		03 42 25.5	
ORO	Oropa	1.88	157	ePn	Pn	03 42 05.5	+1.0
ORO				eSn	Sn	03 42 28.6	-0.2
ORO	Oropa	1.88	157	ePn	Pn	03 42 05.5	+1.0
ORO				eS	Sn	03 42 28.6	-0.3
BUCH	Bad Urach	1.94	55⇑	iPn	Pn	03 42 02.6	-2.7
BUCH				Pg	Pg	03 42 08.3	-1.9
BUCH				Sg	Sg	03 42 32.9	-3.2
BUCH	Bad Urach	1.94	55⇑	iP	Pn	03 42 02.6	-2.7
BUCH				Pg	Pg	03 42 08.3	-1.8
BUCH				Sg	Sg	03 42 32.9	-3.1
BUCH	Bad Urach	1.94	55	PG	Pg	03 42 08.3	-1.8
BUCH				SG	Sg	03 42 32.9	-3.1
BUCH	Bad Urach	1.94	55	Pg	Pg	03 42 08.3	-1.8
VAI	Varese	1.96	140	ePn	Pn	03 42 06.0	+0.5
DAVA	Damuels	2.00	91⇑	iPN	Pn	03 42 05.5	-0.6
DAVA				i PG	Pg	03 42 09.5	-1.6
DAVA				i SN	Sn	03 42 30.6	-1.1
DAVA				i SG	Sg	03 42 35.6	-2.1
	26nm,0.2s						
MUGIO	Muggio	2.04	134	ePn	Pn	03 42 06.7	-0.1
STU	Stuttgart	2.06	46	ePg	Pg	03 42 10.3	-2.1
	SNR=2.0						
STU				eSg	Sg	03 42 36.4	-3.4
	SNR=2.0						
DAVOX	Davos	2.09	105	ePn	Pn	03 42 07.6	+0.2
UBR	Uberruh	2.16	81	Pn	Pn	03 42 10.1	+1.6
UBR				Pg	Pg	03 42 13.1	-1.3
UBR				Sn	Sn	03 42 31.6	-4.4
UBR				Sg	Sg	03 42 40.2	-3.2
UBR	Uberruh	2.16	81	P	Pn	03 42 13.1	+4.7
UBR				S	Sn	03 42 40.2	+4.2
GDM	Grand'Maison	2.24	195	Pn	Pn	03 42 08.1	-1.5
SMF	Signal de Mont	2.25	252	ePn	Pn	03 42 07.5	-2.2
SMF				eP		03 42 09.9	
SMF				ePg	Pg	03 42 13.5	-2.7
SMF				eSn	Sn	03 42 33.7	-4.4
SMF				eSg	Sg	03 42 41.7	-4.4
	40nm,0.2s						
SMF	Signal de Mont	2.25	252	eP	Pn	03 42 07.5	-2.2
SMF				e		03 42 33.7	
GRN	Grenoble	2.29	202	Pn	Pn	03 42 08.1	-2.1
BERNI	Berninapass	2.31	113	ePn	Pn	03 42 11.6	+1.0
BNI	Bardonecchia	2.33	185	P	Pn	03 42 07.8	-3.0
RUP	Ruppelstein	2.33	2	Pg	Pg	03 42 15.4	-2.5
RUP	Ruppelstein	2.33	2	Pn	Pn	03 42 09.1	-1.8
WLF	Walferdange	2.36	347	ePg	Pg	03 42 16.0	-2.3
	SNR=1.8						
WLF				eSg	Sg	03 42 45.2	-4.6
	SNR=6.3						
WLF	Walferdange	2.36	347	eP	Sg	03 42 45.7	-4.1
SSF	Saint Saulge	2.37	264	ePn	Pn	03 42 09.6	-1.8
SSF				ePg	Pg	03 42 16.3	-2.3
SSF				eSn	Sn	03 42 36.3	-4.9
SSF				eSg	Sg	03 42 45.7	-4.4
	23nm,0.2s						
SSF	Saint Saulge	2.37	264	eP	Pn	03 42 09.6	-1.8
SSF				e		03 42 36.3	
SSF	Saint Saulge	2.37	264	ePg	Pg	03 42 16.3	-2.3
SSF				eSn	Sn	03 42 36.3	-4.9
SSF				eSg	Sg	03 42 45.7	-4.4
	12nm,0.2s						
SWS	Schriesheim	2.42	28	Pg	Pg	03 42 17.1	-2.4
SWS				Sg	Sg	03 42 49.4	-2.4
HDH	Heidenheim	2.50	60	Pg	Pg	03 42 18.3	-3.0
HDH				Sn	Sn	03 42 40.2	-4.5
HDH				Sg	Sg	03 42 49.7	-5.0
HDH	Heidenheim	2.50	60	Pg	Pg	03 42 18.3	-3.0
HDH				S	Sn	03 42 40.2	-4.4
HDH				Sg	Sg	03 42 49.7	-4.9
HDH	Heidenheim	2.50	60	S	Sn	03 42 40.2	-4.4
BRMO	Bormio	2.51	110	ePn	Pn	03 42 18.0	+4.5
AVF	Avril sur Loir	2.53	258	ePn	Pn	03 42 11.3	-2.4
AVF				eP		03 42 13.5	
AVF				ePg	Pg	03 42 18.4	-3.3
AVF				eSn	Sn	03 42 40.4	-4.8
AVF				eSg	Sg	03 42 50.9	-4.5
	11nm,0.2s						
AVF	Avril sur Loir	2.53	258	eP	Pn	03 42 11.3	-2.4
AVF				e		03 42 40.4	
ABH	Alteburg	2.54	9	Pg	Pg	03 42 18.2	-3.9
ABH	Alteburg	2.54	9	Pn	Pn	03 42 12.4	-1.5
ABH				Sg	Sg	03 42 54.2	-1.8
TOD	Tromm	2.56	28	Sg	Sg	03 42 53.4	-3.0
ORIF	Oris-en-Rattie	2.56	197	ePn	Pn	03 42 12.4	-1.8
ORIF				ePg	Pg	03 42 19.5	-3.0
ORIF				eSn	Sn	03 42 41.5	-4.6
ORIF				eSg	Sg	03 42 52.0	-4.6
	18nm,0.4s						
ORIF	Oris-en-Rattie	2.56	197	eP	Pn	03 42 12.4	-1.8
ORIF				e		03 42 41.5	
MBDF	Montbardon	2.65	183	ePn	Pn	03 42 13.0	-2.4
MBDF				ePg	Pg	03 42 21.1	-3.0
MBDF				eSn	Sn	03 42 43.3	-5.0
	6.5nm,0.3s						
MBDF	Montbardon	2.65	183	eP	Pn	03 42 13.0	-2.4
MBDF				e		03 42 43.3	
SIND	Sindeldorf	2.66	41	Pn	Pn	03 42 11.9	-3.6
SIND				Pg	Pg	03 42 21.3	-3.1
SIND				Sg	Sg	03 42 55.7	-4.0
SIND	Sindeldorf	2.66	41	P	Pn	03 42 11.9	-3.6
SIND				Pg	Pg	03 42 21.3	-3.0
SIND				Sg	Sg	03 42 55.7	-4.1
SURF	Saint Ours	2.89	182	Pn	Pn	03 42 15.5	-3.4
SQTA	Sankt Quirin	2.90	91⇑	iPN	Pn	03 42 19.9	+0.9
SQTA				i SG	Sg	03 43 03.3	-4.6
	15nm,0.3s						
BGF	Bois d'Agland	2.92	255	ePn	Pn	03 42 16.7	-2.7
BGF				ePg	Pg	03 42 25.8	-3.9
BGF				eSn	Sn	03 42 49.4	-5.9
BGF				eSg	Sg	03 43 03.0	-5.7
	33nm,0.3s						
BGF	Bois d'Agland	2.92	255	eP	Pn	03 42 16.7	-2.7
BGF				e		03 42 49.4	
HYF	Humbligny	2.93	270	ePn	Pn	03 42 16.9	-2.6
HYF				ePg	Pg	03 42 26.4	-3.5
HYF				eSg	Sg	03 43 04.4	-4.6
AGO	Saint Agoulin	2.94	245	Pn	Pn	03 42 17.2	-2.4
VIVF	Saint-Julien-l	2.97	213	ePn	Pn	03 42 17.0	-3.0
VIVF				ePg	Pg	03 42 26.8	-3.8
VIVF				eSn	Sn	03 42 51.3	-5.2
VIVF				eSg	Sg	03 43 04.6	-5.6
	9.5nm,0.2s						
VIVF	Saint-Julien-l	2.97	213	eP	Pn	03 42 17.0	-3.0
VIVF				e		03 42 51.3	
TNS	Taunus Mts	3.02	19	Pn	Pn	03 42 18.2	-2.5
TNS				eSg	Sg	03 43 05.8	-6.1
	SNR=2.6						
FUR	Furstenfeldbru	3.02	73	eSg	Sg	03 43 07.1	-4.9
	SNR=7.6						
GIVF	Givet	3.08	334	ePn	Pn	03 42 18.5	-3.0
GIVF				ePg	Pg	03 42 28.6	-4.1
GIVF				eSn	Sn	03 42 52.7	-6.4
GIVF				eSg	Sg	03 43 07.6	-6.1
	12nm,0.3s						
GIVF	Givet	3.08	334	eP	Pn	03 42 18.5	-3.0
GIVF				e		03 42 52.7	
WATA	Walderalm	3.15	89⇑	iPN	Pn	03 42 22.7	+0.2
WATA				i SG	Sg	03 43 12.2	-3.8
	3.8nm,0.2s						
WTTA	Wattenberg	3.19	90⇑	iPN	Pn	03 42 23.4	+0.3
WTTA				i SG	Sg	03 43 13.5	-4.0
	3.3nm,0.2s						
BAIF	Baives	3.25	327	eP	Pn	03 42 23.7	-0.2
BAIF				ePg	Pg	03 42 31.7	-4.4
BAIF				eSn	Sn	03 42 57.4	-6.1
BAIF				eSg	Sg	03 43 13.1	-6.3
	8.8nm,0.4s						
BAIF	Baives	3.25	327	eP	Pn	03 42 23.7	-0.2
BAIF				e		03 42 57.4	
LBL	Lubilhac	3.34	232	Pg	Pg	03 42 34.8	-3.2
LBL				Sg	Sg	03 43 19.8	-2.7
TCF	Toulx Ste Croi	3.43	253	ePn	Pn	03 42 23.1	-3.4
TCF				ePg	Pg	03 42 35.4	-4.4
TCF				eSn	Sn	03 43 01.9	-6.2
TCF				eSg	Sg	03 43 16.6	-8.9
	9.1nm,0.2s						
TCF	Toulx Ste Croi	3.43	253	eP	Pn	03 42 23.1	-3.4
TCF				e		03 43 01.9	
SBF	Sospel	3.52	174	ePg	Pg	03 42 36.7	-5.0
SBF				eSn	Sn	03 43 04.5	-6.0
	9.9nm,0.4s						
SMRF	Simiane la Rot	3.53	196	ePn	Pn	03 42 25.1	-2.8
SMRF				ePg	Pg	03 42 37.3	-4.4
SMRF				eSn	Sn	03 43 04.7	-5.9
	0.7nm,0.2s						
GRA1	Grafenberg Arr	3.67	49	ePg	Pg	03 42 40.2	-4.3
GRA1				eSg	Sg	03 43 28.2	-5.2
GRF	Grafenberg Arr	3.67	49	ePg	Pg	03 42 40.2	-4.3
GRF				eSg	Sg	03 43 28.2	-5.3
FRF	La Foret Royal	3.82	183	ePn	Pn	03 42 28.9	-3.1
FRF				ePg	Pg	03 42 42.5	-5.0
FRF				eSn	Sn	03 43 11.6	-6.3
	7.4nm,0.8s						
FRF	La Foret Royal	3.82	183	eP	Pn	03 42 28.9	-3.1
FRF				e		03 43 11.6	
LASF	Ste Croix	3.94	214	ePn	Pn	03 42 30.4	-3.4
LASF				ePg	Pg	03 42 44.5	-5.5
LASF				eSn	Sn	03 43 14.7	-6.4
LASF				eSg	Sg	03 43 34.7	-7.9
	4.4nm,0.3s						
LMR	La Mourre	4.05	185	ePg	Pg	03 42 46.4	-5.7
LMR				eSn	Sn	03 43 16.7	-7.1
LMR				eSg	Sg	03 43 39.7	-6.4
	2.9nm,0.5s						
CAF	Calviac	4.18	236	ePn	Pn	03 42 33.8	-3.4
CAF				ePg	Pg	03 42 48.7	-6.1
CAF				eSn	Sn	03 43 19.7	-7.5
CAF				eSg	Sg	03 43 42.7	-7.9
	5.5nm,0.4s						
CAF	Calviac	4.18	236	eP	Pn	03 42 33.8	-3.4
CAF				e		03 43 19.7	
RJF	Les Rejaudoux	4.29	243	ePn	Pn	03 42 35.3	-3.5
RJF				ePg	Pg	03 42 50.8	-6.2
RJF				eSn	Sn	03 43 22.0	-8.0
RJF				eSg	Sg	03 43 47.7	-6.5
	6.2nm,0.3s						
RJF	Les Rejaudoux	4.29	243	eP	Pn	03 42 35.3	-3.5
RJF				e		03 43 22.0	
WET	Wettzell	4.34	64	ePg	Pg	03 42 53.2	-4.7
	SNR=2.2						
WET				eSg	Sg	03 43 48.7	-7.1
	SNR=3.8						
MOX	Moxa	4.49	41	ePg	Pg	03 42 55.2	-5.8
	SNR=2.0						
MOX				eSg	Sg	03 43 53.0	-7.8
	SNR=2.3						
MOX	Moxa	4.49	41	ePg	Pg	03 42 55.2	-5.8
MOX				eSg	Sg	03 43 52.7	-8.1
NKC	Novy Kostel	4.63	50	ePG	Pg	03 42 58.1	-5.6
NKC				eSG	Sg	03 43 56.1	-9.2
GUNZ	Gunzen	4.65	48	ePg	Pg	03 42 58.0	-6.1
	SNR=2.6						
GUNZ				eSn	Sn	03 43 29.5	-9.4
	SNR=1.5						
WERD	Werda	4.69	47	ePg	Pg	03 42 59.0	-5.9
	SNR=2.4						
WERD				eSg	Sg	03 43 58.6	-8.7
	SNR=3.2						
TANN	Tannenbergstha	4.74	48	ePg	Pg	03 43 00.3	-5.7
	SNR=3.1						
GEC2	GERESS Array S	4.76	69	eSn	Sn	03 43 31.9	-10
	SNR=2.1						
GEC2				eSg	Sg	03 44 02.0	-7.7
	SNR=3.1						
KHC	Kasperske Hory	4.77	66	ePG	Pg	03 43 00.3	-6.1
KHC				ex	x	03 43 33.5	
KHC				eSG	Sg	03 44 01.0	-9.0
KHC	Kasperske Hory	4.77	66	ePg	Pg	03 43 00.3	-6.1
KHC				eSg	Sg	03 44 01.0	-9.0
LDF	La Druitiere	4.91	287	ePn	Pn	03 42 43.2	-4.3
LDF				ePg	Pg	03 43 02.4	-6.8
LDF				eSn	Sn	03 43 36.8	-8.6
LDF	La Druitiere	4.91	287	eP	Pn	03 42 43.2	-4.3
LDF				e		03 43 36.8	
MFF	Saint Martin d	4.92	264	ePn	Pn	03 42 43.4	-4.2
MFF				eSn	Sn	03 43 37.4	-8.3
MFF				eSg	Sg	03 44 06.8	-8.2
	7.4nm,0.4s						
FLN	La Foliniere	5.17	288	ePn	Pn	03 42 46.3	-5.0
FLN				eSn	Sn	03 43 43.0	-9.2
FLN				eSg	Sg	03 44 13.8	-10
	0.9nm,0.3s						
MTLF	Montolieu	5.23	221	ePn	Pn	03 42 47.8	-4.3
MTLF				ePg	Pg	03 43 08.4	-7.3
GRR	Gorron	5.35	284	ePn	Pn	03 42 50.5	-3.3
GRR				eSn	Sn	03 43 45.7	-11
GRR				eSg	Sg	03 44 19.8	-10
	4.9nm,0.3s						
PRU	Pruhonice	5.67	60	eSG	Sg	03 44 29.9	-10

IDC 16 03:57:39.4±6.4**, 22.38S**×**178.58W, mb4.0**/3**, mb1 4.2**/3**, mb1mx3.8**/14**, mbtmp4.0**/3**, Error ellipse: s-maj=172.2km s-min=101.4km az=143.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	36.52	246	P	P	04 04 45.5	-2.9
	0.9nm,0.5s,baz=96,slow=11,SNR=4.6						
ASAR	Alice Springs	43.59	259	P	P	04 05 45.5	-1.6
	0.7nm,0.4s,baz=96,slow=7.3,SNR=7.7						
WRA	Warramunga Arr	43.84	264	P	P	04 05 48.2	-1.0
	1.6nm,0.4s,baz=99,slow=8.3,SNR=40						
HFS	Hagfors	141.29	350	PKP	PKPdf	04 17 11.3	-2.3
	0.8nm,0.4s,baz=27,slow=3.2,SNR=7.6						

MEX 16 04:15:38.9±0.5**, 15.68N**×**95.48W, h15**^{km}±12^{km}**, MD3.9, Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.62	278	i P	Pb	04 15 49.1	-1.8
HUIG				i S	Sb	04 15 56.7	-2.2
CMIG	Matias Romero	1.51	22	i P	Pn	04 16 01.7	-3.9
CMIG				i S	Sb	04 16 20.1	-4.8
VHO	Vista Hermosa	1.84	319	eP	Pn	04 16 07.2	-3.0
VHO				i S	Sn	04 16 27.9	-5.3
OXX	Oaxaca	1.84	319	i P	Pn	04 16 07.0	-3.2
OXX				i S	Sn	04 16 27.8	-5.5

*ISK **16** 04:19:20.6, 39.40N×40.80E, h2^{km}, MD3.7*
*CSEM **16** 04:19:20.6, 39.40N×40.80E, h2^{km}, MD3.7, After ISK*
ISC 16 04:19:21.5±0.4**, 39.44N**±0.03×**40.82E**±0.04**, h2**^{km}**, n21,** σ**0**^{s}**91**/28**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.62	205	i PG	Pg	04 19 32.8	-1.0
EZM	Erzurum	0.63	42	i PG	Pg	04 19 34.3	+0.3
ERZM	Erzurum	0.63	42	i P	Pg	04 19 34.3	+0.3
ERZM				i S	Sg	04 19 40.4	-2.0
VRT	Varto	0.63	119	PG	Pg	04 19 33.6	-0.4
EZC	Erzincan	0.84	292	i PN	Pn	04 19 43.5	+3.5
PTK	Pertek	1.24	244	PN	Pn	04 19 44.9	-0.9
PTK				SN	Sn	04 20 02.3	-0.9
BTMT	Batman	1.35	157	PN	Pn	04 19 46.7	-0.6
GUMT	Gumushane	1.45	315	PN	Pn	04 19 49.6	+0.8
GUMT				SN	Sn	04 20 09.7	+1.0
BEST	Besiri	1.58	167	i P	Pn	04 19 50.9	+0.2
BEST				i S	Sb	04 20 12.9	+1.4
DIY	Diyarbakir	1.61	197	PN	Pn	04 19 51.4	+0.3
ELZG	Elazig	1.71	237	i P	Pn	04 19 53.5	+0.9
ELZG				i S	Sn	04 20 21.9	+6.6
BCA	Borcka	2.10	17	ePN	Pn	04 19 58.1	+0.1
KARS	Kars	2.10	55	PN	Pn	04 19 58.4	+0.3
VANB	Van	2.17	112	ePN	Pn	04 19 59.3	+0.2
MYA	Malataya	2.17	240	PN	Pn	04 19 58.6	-0.6
MALT	Malatya	2.18	240	PN	Pn	04 19 58.6	-0.6
TVAN	Van	2.21	113	i P	Pn	04 20 01.2	+1.6
TVAN				i S	Sn	04 20 34.3	+6.4
VANT	Van	2.23	116	ePN	Pn	04 19 59.0	-1.0
URFA	Urfa	2.54	219	ePN	Pn	04 20 03.6	-0.8
HKR	Hakkari	2.95	128	ePN	Pn	04 20 10.6	+0.4
GZT	Gaziantep	3.30	232	i P	Pn	04 20 25.0	+10
GZT				i S	Sn	04 21 08.0	+12

*NEIC **16** 04:26:04.2, 32.94S×71.59W, h38^{km}, MD3.6(GUC), After GUC.*
GUC 16 04:26:04.2±0.6**, 32.94S**×**71.59W, h38**^{km}±2^{km}**, MD3.6, ML2.5, 3C, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.10	205⇑	iP	P	04 26 10.7	+0.2
IHA				i S	S	04 26 15.2	+0.3
PACH	Papudo	0.42	18⇑	iP	P	04 26 14.2	+0.4
PACH				i S	S	04 26 21.4	+0.9
ROCH	El Roble	0.49	94	eP	P	04 26 15.0	+0.3
ROCH				i S	S	04 26 23.6	+1.5
LCCH	Las Cruces	0.54	178	eP	P	04 26 15.1	-0.2
LCCH				i S	S	04 26 23.4	+0.1
RCDM	Rinconada Maip	0.86	130	eP	P	04 26 20.0	+0.2
RCDM				i S	S	04 26 32.2	+0.9
RCDM				AMP		04 26 33.0	
	comp=N,555nm,0.1s						
JACH	Jahuel	0.88	73	eP	P	04 26 20.4	+0.3
JACH				i S	S	04 26 33.0	+1.1
TACH	Talagante	0.90	143	eP	P	04 26 20.6	+0.2
DSCH	Colegio Aleman	0.97	118	eP	P	04 26 22.3	+0.8
DSCH				i S	S	04 26 36.5	+2.2
DSCH				AMP		04 26 37.2	
	comp=N,448nm,0.2s						
CLCH	Cerro Calan	0.99	118	eP	P	04 26 22.7	+0.9
CLCH				i S	S	04 26 36.6	+1.7
CLCH				AMP		04 26 39.2	
	comp=N,177nm,0.6s						
ANTU	Antumapu	1.02	128	eP	P	04 26 22.9	+0.7
ANTU				i S	S	04 26 36.6	+1.0
ANTU				AMP		04 26 40.8	
	comp=E,202nm,0.3s						
LNV	Longovilo	1.02	172	eP	P	04 26 21.6	-0.6
LNV				i S	S	04 26 35.3	-0.3
CHNG	Los Chungos	1.06	4	eP	P	04 26 22.8	+0.1
CHNG				i S	S	04 26 37.2	+0.8
CHNG				AMP		04 26 38.1	
	comp=N,74nm,0.3s						
PCH	Pirque	1.13	127	eP	P	04 26 24.5	+0.8
PCH				i S	S	04 26 39.7	+1.4
FCH	Farellones	1.16	110	eP	P	04 26 25.4	+1.2
FCH				i S	S	04 26 41.3	+2.2
FCH				AMP		04 26 42.4	
	comp=N,209nm,0.2s						
CHCH	Chadas Angostu	1.27	142⇑	iP	P	04 26 26.4	+0.7
CHCH				i S	S	04 26 43.5	+1.7
LMEL	Las Melosas	1.47	128	eP	P	04 26 29.9	+1.2
LMEL				i S	S	04 26 49.4	+2.5
LMEL				AMP		04 26 52.5	
	comp=N,248nm,0.2s						
CICH	Cipreses	1.69	145	eP	P	04 26 32.8	+1.0

*IDC **16** 04:39:10.4±10.0, 35.61N×73.37E, mb3.8/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.8/4, Error ellipse: s-maj=263.9km s-min=71.5km az=18.0*
*NDI **16** 04:39:13.7±1.7, 34.72N×70.95E, h38^{km}±999^{km}, MD3.6*
ISC 16 04:39:17.4±0.8**, 36.2N**±0.3×**73.5E**±0.7**, h33**^{km}**, n7,** σ**1**^{s}**16**/9**, mb3.6**/4**, Northwestern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	Dalhousie	4.21	150	eP	P	04 40 22.0	+1.0
DLH				eS	S	04 41 11.0	+1.3
SDNR	Sundarnagar	5.54	147	eP	P	04 40 40.1	+0.5
SMLA	Simla	5.94	148	i P	P	04 40 42.9	-2.4
SMLA				i S	S	04 41 50.3	-2.9

FINES	**FINESS Array B**	**38.83**	**326**	P	**P**	**04 46 40.4**	**-0.2**
	0.4nm,0.5s,mb3.4,baz=111,slow=12,SNR=3.5						
ARCES	**ARCESS Array B**	**42.17**	**337**	P	**P**	**04 47 08.4**	**+0.4**
	0.6nm,0.4s,mb3.6,baz=117,slow=8.1,SNR=9.3						
HFS	**Hagfors**	**44.51**	**322**	P	**P**	**04 47 26.8**	**-0.3**
	1.4nm,0.7s,mb3.9,baz=98,slow=10,SNR=4.5						
YKA	**Yellowknife Ar**	**81.41**	**4**	P	**P**	**04 51 32.1**	**+0.3**
	0.3nm,0.4s,mb3.6,baz=347,slow=5.3,SNR=11						

IDC 16 04:53:56.3±12.0**, 5.77S**×**129.05E, mb4.4**/1**, mb1 4.0**/3**, mb1mx3.8**/11**, mbtmp3.8**/3**, ML3.5**/2**, Error ellipse: s-maj=182.6km s-min=142.1km az=130.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.67**	**154**	*e*P	Pn	04 55 57.1	+5.2
	23nm,0.5s						
KAKA				*e*S	Sn	04 57 05.7	-15
FITZ	**Fitzroy Crossi**	**12.70**	**195**	*e*P	P	04 56 55.4	-5.7
	15nm,1.6s						
FITZ				*e*S	S	04 58 49.2	-35
WRA	**Warramunga Arr**	**15.00**	**160**	Pn	P	04 57 28.6	-2.9
	0.2nm,0.3s,baz=343,slow=13,SNR=11						
WB2	**Warramunga Arr**	**15.00**	**160**	*e*P	P	04 57 29.0	-2.6
WB2				*e*S	S	04 59 45.2	-34
ASAR	**Alice Springs**	**18.40**	**166**	P	P	04 58 12.9	-1.8
	0.3nm,0.3s,baz=341,slow=10,SNR=9.5						
STKA	**Stephens Creek**	**28.50**	**157**	P	P	04 59 53.8	-1.8
	3.5nm,0.9s,baz=323,slow=10.0,SNR=2.8						

*IDC **16** 04:57:01.6±2.6, 11.91S×166.54E, mb4.2/5, mb1 4.4/5, mb1mx4.1/15, mbtmp4.2/5, MS3.9/8, Ms1 3.9/8, ms1mx3.8/17, Error ellipse: s-maj=76.3km s-min=36.6km az=125.0*
*BJI **16** 04:57:05.8, 11.70S×166.40E, h30^{km}, mb4.7*
*NEIC **16** 04:57:06.8±1.5, 11.68S×166.42E, h30^{km}, mb4.8/3, Error ellipse: s-maj=36.9km s-min=22.2km az=118.0*
ISC 16 04:57:06.5±1.3**, 11.7S**±0.2×**166.2E**±0.2**, h33**^{km}**, n27, σ0^{s}79**/18**, mb4.8**/15**, MS3.8**/7**, 1D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**18.86**	**275**	LR	LR	05 07 38.5	
	comp=Z,321nm,21.2s,baz=30,slow=33						
CTA	**Charters Tower**	**20.88**	**244**	P	**P**	**05 01 49.8**	**+1.3**
	2.4nm,0.5s,baz=66,slow=10,SNR=4.2						
CTA				LR	LR	05 08 55.1	
	comp=Z,242nm,20.9s,MS3.5,baz=49,slow=34						
CTAO	**Charters Tower**	**20.88**	**244**	P	**P**	**05 01 50.9**	**+2.4**
URZ	**Urewera**	**28.16**	**162**	LR	LR	05 12 18.3	
	comp=Z,223nm,21.9s,MS3.7,baz=347,slow=33						
STKA	**Stephens Creek**	**30.26**	**225**	LR	LR	05 15 11.2	
	comp=Z,206nm,18.1s,MS3.8,baz=28,slow=36						
WRA	**Warramunga Arr**	**31.67**	**251**	P	**P**	**05 03 28.5**	**-0.9**
	1.6nm,0.7s,mb4.0,baz=84,slow=8.4,SNR=5.4						
WRA				PcP	PcP	05 06 19.8	-1.0
	1.2nm,0.8s,baz=78,slow=3.3,SNR=6.3						
RPZ	**Rata Peaks**	**32.14**	**173**	LR	LR	05 14 23.5	
	comp=Z,193nm,20.4s,MS3.8,baz=158,slow=33						
ASAR	**Alice Springs**	**32.89**	**244**	P	**P**	**05 03 38.8**	**-1.2**
	2.0nm,0.7s,mb4.2,baz=72,slow=9.2,SNR=12						
ASAR				PcP	PcP	05 06 23.2	-0.9
	1.3nm,0.8s,baz=86,slow=2.2,SNR=6.3						
ASAR				LR	LR	05 17 01.6	
	comp=Z,101nm,18.3s,MS3.6,baz=9.1,slow=36						
ASAR	**Alice Springs**	**32.89**	**244**	P	**P**	**05 03 38.8**	**-1.2**
ASAR				PcP	PcP	05 06 23.2	-0.9
ASAR				LR	LR	05 17 01.6	
PPT	**Papeete**	**43.11**	**103**	*e*LR	LR	05 17 34.4	
	89nm,22.5s						
TBI	**Tubuai**	**43.67**	**112**	*e*LR	LR	05 17 47.3	
	171nm,27.0s						
RKT	**Rikitea**	**56.94**	**110**	*e*LR	LR	05 23 53.2	
	136nm,25.5s						
ASAJ	**Asahikawa**	**59.58**	**340**	LR	LR	05 30 02.2	
	comp=Z,92nm,19.2s,MS3.9,baz=222,slow=33						
ENH	**Enshi**	**68.67**	**309**	*e*P	**P**	**05 08 07.7**	**-1.3**
	14nm,1.1s,mb4.8						
ENH				*e*pP	pP	05 08 16.6	-2.7
XAN	**Xi'an**	**70.91**	**312**	P	**P**	**05 08 22.5**	**-0.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.5						
CMAR	**Chiang Mai Arr**	**72.79**	**294**	P	**P**	**05 08 35.1**	**+0.9**
	comp=Z,2.6nm,0.7s,mb4.2,baz=127,slow=4.6,SNR=12						
QSPA	**South Pole Qui**	**78.28**	**180**	⇓*i*P	**P**	**05 09 04.3**	**0.0**
	comp=Z,13nm,1.1s,mb4.8						
ULN	**Ulaanbaatar**	**79.11**	**324**	*e*P	**P**	**05 09 09.3**	**-0.1**
	comp=Z,7.2nm,1.1s,mb4.5						
SONM	**Songino Array**	**79.48**	**324**	P	**P**	**05 09 11.6**	**+0.1**
	comp=Z,1.6nm,0.8s,mb4.0,baz=124,slow=4.5,SNR=6.5						
GTA	**Gaotai**	**79.85**	**314**	P	**P**	**05 09 14.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
JIRN	**Jiri**	**86.70**	**299**	*e*P	**P**	**05 09 49.1**	**+0.3**
	comp=Z,9.4nm,0.7s,mb5.1						
GUN	**Gumba**	**87.03**	**299**	*e*P	**P**	**05 09 51.0**	**+0.6**
	comp=Z,21nm,0.9s,mb5.3						
PKI	**Pulchoki**	**87.35**	**299**	*e*P	**P**	**05 09 52.3**	**+0.3**
	comp=Z,30nm,1.0s,mb5.5						
DMN	**Daman**	**87.62**	**299**	*e*P	**P**	**05 09 53.7**	**+0.4**
	comp=Z,31nm,0.8s,mb5.6						
GKN	**Gorkha**	**88.12**	**299**	*e*P	**P**	**05 09 55.0**	**-0.6**
	comp=Z,32nm,0.9s,mb5.5						
KOLN	**Koldanda**	**88.96**	**298**	*e*P	**P**	**05 09 58.9**	**-0.8**
	comp=Z,14nm,0.9s,mb5.3						
TXAR	**Lajitas Array**	**95.77**	**61**	LR	LR	05 48 54.4	
	comp=Z,162nm,18.9s,MS4.5,baz=5.0,slow=33						

DJA 16 05:19:28.4±0.8**, 9.71S**×**113.83E, h33**^{km}**, MD5.3**/4**, ML4.1**/4**, 9C, Error ellipse: s-maj=18.1km s-min=11.5km az=42.0, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.27**	**14**	⇑*e*Pn	Pn	05 19 48.4	-1.7
	205nm,0.2s						
SRDI				⇑*e*Sn	Sn	05 20 02.9	-3.1
KELI	**Kelakatan**	**1.62**	**24**	⇑*e*Pn	Pn	05 19 54.6	-0.6
	108nm,0.2s						
KELI				⇑*e*Sn	Sn	05 20 12.0	-3.2
RATI	**Rata**	**1.95**	**60**	⇑*e*Pn	Pn	05 19 58.0	-1.9
	355nm,0.2s						
RATI	**Rata**	**1.95**	**60**	⇑*e*P	P	05 19 59.3	-0.4
RATI				⇑*e*Sn	Sn	05 20 20.1	-3.3
KEDI	**Kedomdong**	**2.56**	**62**	⇑*e*Pn	Pn	05 20 06.8	-1.9
	47nm,0.2s						
KEDI				⇑*e*Sn	Sn	05 20 35.8	-3.3

IDC 16 05:35:03.1±13.0**, 5.46S**×**128.75E, mb4.1**/1**, mb1 4.6**/3**, mb1mx4.1**/12**, mbtmp4.4**/3**, ML4.3**/2**, Error ellipse: s-maj=187.4km s-min=130.1km az=145.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.07**	**153**	*e*P	P	05 37 07.9	+3.5
	9.1nm,0.2s						
KAKA				*e*S	Sn	05 38 16.4	-21
FITZ	**Fitzroy Crossi**	**12.93**	**193**	*e*P	P	05 38 13.8	+2.9
	13nm,0.9s						
FITZ				*e*S	S	05 40 13.4	-23
WRA	**Warramunga Arr**	**15.39**	**160**	Pn	P	05 38 39.6	-3.8
	0.9nm,0.3s,baz=338,slow=11,SNR=28						
WRA				Sn	S	05 41 07.0	-28
	2.3nm,0.3s,baz=330,slow=21,SNR=9.2						
WB2	**Warramunga Arr**	**15.39**	**160**	*e*P	P	05 38 40.3	-3.1
WB2				*e*S	S	05 41 07.3	-28
ASAR	**Alice Springs**	**18.77**	**165**	P	P	05 39 24.8	-1.2
	4.4nm,0.3s,baz=340,slow=9.9,SNR=167						
ASAR				S	S	05 42 27.9	-25
	0.7nm,0.3s,baz=319,slow=13,SNR=5.0						
ASPA	**Alice Springs**	**18.77**	**165**	*e*P	P	05 39 25.0	-1.0
ASPA				*e*S	S	05 42 27.6	-25
STKA	**Stephens Creek**	**28.90**	**157**	P	P	05 41 03.9	-2.1
	1.2nm,0.6s,baz=340,slow=10,SNR=2.9						

*IDC **16** 05:44:16.4±2.5, 8.33N×93.71E, mb3.8/6, mb1 4.0/7, mb1mx3.9/16, mbtmp3.8/7, ML4.1/1, Error ellipse: s-maj=72.9km s-min=43.1km az=135.0*
*BJI **16** 05:44:16.5, 8.05N×93.39E, h51^{km}, mb4.3*
*NEIC **16** 05:44:22.2±1.0, 8.61N×93.69E, h30^{km}, mb4.3/6, Error ellipse: s-maj=25.2km s-min=16.9km az=124.0*
ISC 16 05:44:22.2±1.6**, 8.8N**±0.2×**93.7E**±0.1**, h33**^{km}**, n21, σ0^{s}73**/20**, mb4.0**/11**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.86**	**27**	Pn	**P**	**05 46 58.4**	**-0.1**
	0.3nm,0.3s,baz=212,slow=14,SNR=17						
JIRN	**Jiri**	**20.06**	**340**	*e*P	**P**	**05 48 55.6**	**+0.1**
	24nm,0.8s						
PKI	**Pulchoki**	**20.25**	**338**	*e*P	**P**	**05 48 57.3**	**-0.2**
	20nm,0.8s						
DMN	**Daman**	**20.39**	**338**	*e*P	**P**	**05 48 59.7**	**+0.7**
	30nm,0.9s						
KKN	**Kakani**	**20.49**	**338**	*e*P	**P**	**05 48 59.8**	**-0.3**
	37nm,1.1s						
LSA	**Lhasa**	**20.93**	**354**	P	**P**	**05 49 04.3**	**-0.2**
LSA	**Lhasa**	**20.93**	**354**	*e*P	**P**	**05 49 04.5**	**0.0**
	16nm,0.8s						
GKN	**Gorkha**	**20.93**	**337**	*e*P	**P**	**05 49 04.0**	**-0.6**
	19nm,0.7s						
KOLN	**Koldanda**	**21.14**	**334**	*e*P	**P**	**05 49 07.5**	**+0.8**
	14nm,0.7s,mb4.4						
ENH	**Enshi**	**25.95**	**33**	*e*P	**P**	**05 49 52.7**	**-0.9**
	8.5nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**37.69**	**337**	*e*P	**P**	**05 51 36.0**	**-0.3**
	3.2nm,0.9s,mb4.0						
SONM	**Songino Array**	**40.35**	**13**	P	**P**	**05 52 00.9**	**+2.5**
	0.6nm,0.7s,mb3.5,baz=188,slow=10,SNR=2.2						
KURK	**Kurchatov**	**43.61**	**346**	*e*P	**P**	**05 52 25.0**	**-0.1**
	5.0nm,1.3s,mb4.1						
CHKZ	**Chkalovo**	**48.46**	**342**	*e*P	**P**	**05 53 02.6**	**-0.8**
	2.2nm,0.7s,mb4.3						
FINES	**FINESS Array B**	**71.69**	**332**	P	**P**	**05 55 41.9**	**-0.6**
	0.7nm,0.7s,mb3.7,baz=117,slow=4.3,SNR=4.1						
ARCES	**ARCESS Array B**	**74.25**	**340**	P	**P**	**05 55 57.6**	**+0.3**
	4.2nm,1.2s,mb4.2,baz=73,slow=9.4,SNR=4.2						
GERES	**GERESS Array B**	**76.86**	**318**	P	**P**	**05 56 13.1**	**+0.5**
	0.6nm,0.8s,mb3.6,baz=79,slow=5.0,SNR=4.2						
NOA	**NORSAR Array B**	**78.72**	**331**	P	**P**	**05 56 22.4**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=95,slow=4.9,SNR=3.2						
IMA	**Indian Mountai**	**90.92**	**22**	*e*P	**P**	**05 57 24.8**	**+1.2**
	12nm,0.8s						
ILAR	**Eielson Array**	**94.05**	**22**	P	**P**	**05 57 37.1**	**-0.8**
	0.5nm,0.8s,mb4.0,baz=305,slow=4.5,SNR=7.5						
PLCA	**Paso Flores**	**145.26**	**201**	PKP	PKPdf	06 03 56.3	-0.6
	2.4nm,0.9s,baz=180,slow=2.0,SNR=3.1						

IDC 16 05:52:05.8±1.2**, 8.90N**×**94.38E, mb3.8**/3**, mb1 4.1**/4**, mb1mx3.8**/16**, mbtmp3.8**/4**, ML3.9**/1**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx3.5**/16**, Error ellipse: s-maj=68.1km s-min=28.4km az=58.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.49**	**25**	Pn	P	05 54 43.1	+2.6
	0.3nm,0.3s,baz=212,slow=14,SNR=16						
ZAL	**Zalesovo**	**45.57**	**352**	P	P	06 00 27.0	-2.2
	2.0nm,0.5s,baz=290,slow=5.1,SNR=9.8						
WRA	**Warramunga Arr**	**48.67**	**126**	P	P	06 00 52.1	-1.9
	0.5nm,0.5s,baz=305,slow=8.4,SNR=9.6						
ASAR	**Alice Springs**	**50.40**	**131**	LR	LR	06 25 51.9	
	comp=Z,78nm,18.3s,baz=15,slow=40						
KMBO	**Kilima Mbogo**	**57.77**	**263**	LR	LR	06 22 17.5	
	comp=Z,68nm,19.7s,baz=58,slow=31						
GERES	**GERESS Array B**	**77.22**	**318**	P	P	06 04 02.4	-1.0
	0.2nm,0.2s,baz=153,slow=6.0,SNR=4.4						
PLCA	**Paso Flores**	**145.58**	**200**	PKPbc	PKPbc	06 11 45.6	-1.4
	4.2nm,0.9s,baz=192,slow=4.3,SNR=8.4						

*IGQ **16** 06:17:55.7, 1.05S×78.32W, h15^{km}±1^{km}, mb4.5, Error ellipse: s-maj=1.5km s-min=0.4km az=12.6*
*IDC **16** 06:17:56.9±0.9, 1.00S×78.50W, mb3.9/7, mb1 4.1/10, mb1mx3.9/23, mbtmp3.9/10, ML3.1/3, MS3.7/3, Ms1 3.7/3, ms1mx2.8/25, Error ellipse: s-maj=24.6km s-min=16.5km az=90.0*
*NEIC **16** 06:17:57.7±0.7, 0.98S×78.58W, h10^{km}, mb3.8/2, MD4.3(IGQ), Error ellipse: s-maj=20.8km s-min=11.3km az=86.0*
NEIC Felt at Ambato.
ISC 16 06:17:56.3±0.4**, 1.05S**±0.03×**78.37W**±0.06**, h7**^{km}±3^{km}**, n46, σ0^{s}98**/46**, mb3.8**/8**, MS3.8**/1**, 7C-16D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.02**	**232**	⇓P	**Sg**	**06 17 59.2**	**+0.6**
TAMB	**Tambo**	**0.35**	**360**	⇑P	**Pg**	**06 18 03.6**	**+0.2**
RUN2	**Runtun**	**0.38**	**187**	⇓P	**Pg**	**06 18 03.9**	**-0.1**
RUN2				S	**Sg**	**06 18 09.1**	**0.0**
JUIV	**Juive**	**0.39**	**194**	⇓P	**Pg**	**06 18 04.0**	**-0.2**
VC1	**Cotopaxi 1**	**0.40**	**355**	⇓P	**Pg**	**06 18 04.7**	**+0.3**
ULBA	**Ulba**	**0.40**	**186**	⇓P	**Pg**	**06 18 04.0**	**-0.5**
CUSU	**Cusua**	**0.41**	**196**	⇑P	**Pg**	**06 18 04.5**	**-0.1**
RETU	**Refugio**	**0.41**	**191**	⇓P	**Pg**	**06 18 04.6**	**-0.1**
NAS1	**Nasa**	**0.42**	**345**	⇓P	**Pg**	**06 18 05.4**	**+0.5**
ARRY	**Arrayan**	**0.47**	**191**	⇓P	**Pg**	**06 18 05.1**	**-0.6**
IGUA	**Igualata**	**0.52**	**211**	⇓P	**Pg**	**06 18 07.1**	**+0.4**
ANTI	**Antisana**	**0.63**	**19**	⇑P	**Pg**	**06 18 07.7**	**-1.2**
JUA2	**San Juan 2**	**0.86**	**344**	⇓P	**Pb**	**06 18 13.0**	**-0.1**
PINO	**Pino**	**0.91**	**345**	⇓P	**Pb**	**06 18 14.1**	**0.0**
YANA	**Yana**	**0.94**	**348**	⇓P	**Pb**	**06 18 14.3**	**-0.3**
ELAGU	**Cayambe Volc**	**1.08**	**20**	⇓P	**Pb**	**06 18 16.3**	**-0.7**
ELAGU				S	**Sb**	**06 18 30.7**	**-0.4**
CAYR	**Refugio Cayamb**	**1.11**	**19**	⇓P	**Pb**	**06 18 17.1**	**-0.4**
CAYA	**Cayambe**	**1.17**	**19**	⇑P	**Pb**	**06 18 18.1**	**-0.4**
CONE	**Cono NE Rev Vo**	**1.21**	**37**	⇓P	**Pb**	**06 18 18.7**	**-0.5**
OTAV	**Otavalo**	**1.28**	**356**	*e*P	**Pb**	**06 18 19.4**	**-0.9**
COTA	**Cotacachi**	**1.37**	**1**	⇓P	**Pb**	**06 18 22.1**	**+0.2**
ECEN	**Cerro Negro**	**1.90**	**12**	⇑P	**Pn**	**06 18 31.2**	**+1.7**
HOJA	**Cerro de Hojas**	**2.18**	**270**	⇑P	**Pn**	**06 18 33.4**	**-0.1**
LORE	**San Lorenzo**	**2.37**	**348**	⇑P	**Pn**	**06 18 39.1**	**+2.8**
LORE				S	**Sn**	**06 19 10.8**	**+4.9**
ROSC	**El Rosal**	**7.12**	**35**	Pn	**Pn**	**06 19 44.4**	**+1.0**
	1.2nm,0.3s,baz=99,slow=23,SNR=10						
ROSC				Sn	**Sn**	**06 21 16.6**	**+11**
	1.6nm,0.3s,baz=83,slow=23,SNR=1.7						
ROSC				Lg		06 21 41.1	
	2.0nm,0.3s,baz=251,slow=22,SNR=6.1						
ROSC				LR	LR	06 23 01.6	
	comp=Z,554nm,19.6s,baz=203,slow=43						
NNA	**Nana**	**10.98**	**172**	*e*P	**P**	**06 20 33.4**	**-3.6**
	12nm,0.6s						
SDV	**Santo Domingo**	**12.52**	**38**	Pn	**P**	**06 20 58.0**	**+0.1**
	0.2nm,0.3s,baz=253,slow=13,SNR=5.2						
SDV				Sn	**S**	**06 23 25.0**	**+6.3**
	0.4nm,0.3s,baz=34,slow=17,SNR=2.3						
SDV				Lg		06 24 37.0	
	0.4nm,0.3s,baz=50,slow=7.1,SNR=3.1						
SDV	**Santo Domingo**	**12.52**	**38**	*e*P	**P**	**06 20 57.8**	**-0.1**
	5.0nm,0.8s						
JTS	**JuntasAbangare**	**13.03**	**330**	LR	LR	06 25 17.8	
	comp=Z,197nm,19.7s,baz=258,slow=34						
LPAZ	**La Paz**	**18.20**	**147**	P	**P**	**06 22 12.1**	**+0.7**
	0.1nm,0.3s,baz=340,slow=12,SNR=8.5						
LPAZ				Lg		06 27 45.3	
	0.0nm,0.3s,baz=144,slow=9.8,SNR=2.1						
LPAZ	**La Paz**	**18.20**	**147**	*e*P	**P**	**06 22 11.4**	**+0.1**
	3.0nm,0.8s						
LPAZ				Lg		06 27 45.3	
SJG	**San Juan**	**22.52**	**32**	P	**P**	**06 23 00.4**	**+2.1**
	10nm,0.8s,mb4.3,baz=59,slow=24,SNR=2.9						
LVC	**Limon Verde**	**23.33**	**157**	P	**P**	**06 23 09.4**	**+3.2**
	3.3nm,1.0s,mb3.7,baz=315,slow=8.6,SNR=2.8						
BDFB	**Brasilia**	**33.27**	**117**	LR	LR	06 38 50.5	
	comp=Z,207nm,20.0s,MS3.8,baz=325,slow=38						
JCT	**Junction City**	**37.41**	**329**	*e*P	**P**	**06 25 11.6**	**-0.3**
	1.7nm,0.5s,mb4.1						
TXAR	**Lajitas Array**	**38.70**	**323**	P	**P**	**06 25 22.8**	**0.0**
	1.0nm,0.9s,mb3.5,baz=139,slow=12,SNR=5.9						
PLCA	**Paso Flores**	**40.14**	**171**	P	**P**	**06 25 34.9**	**+0.3**
	2.7nm,0.9s,mb4.0,baz=304,slow=11,SNR=3.2						
CPRX	**Cap Rock**	**41.56**	**327**	*e*P	**P**	**06 25 48.0**	**+1.6**
ELK	**Elko**	**53.42**	**325**	P	**P**	**06 27 16.0**	**-3.2**
NVAR	**Mina Array Bea**	**53.78**	**321**	P	**P**	**06 27 22.3**	**+0.4**
	1.7nm,0.8s,mb4.0,baz=130,slow=7.5,SNR=12						
NVAR	**Mina Array Bea**	**53.78**	**321**	P	**P**	**06 27 22.3**	**+0.4**
YKA	**Yellowknife Ar**	**69.00**	**343**	P	**P**	**06 29 01.9**	**-2.4**
	0.3nm,0.5s,mb3.5,baz=166,slow=4.5,SNR=18						
ILAR	**Eielson Array**	**81.92**	**336**	P	**P**	**06 30 15.8**	**-2.0**
	0.6nm,1.0s,mb3.5,baz=180,slow=2.6,SNR=4.3						
ZAL	**Zalesovo**	**125.48**	**12**	PKP	PKPdf	06 36 58.7	-2.5
	0.6nm,0.3s,baz=296,slow=0.6,SNR=3.2						
ZAL	**Zalesovo**	**125.48**	**12**	PKP	PKPdf	06 36 58.7	-2.5
WRA	**Warramunga Arr**	**141.75**	**235**	PKP	PKPdf	06 37 31.7	-0.7
	0.3nm,0.5s,baz=112,slow=2.1,SNR=5.8						

*MOS **16** 06:39:47.0±1.0, 5.48N×94.47E, h33^{km}, mb5.6/50, MS4.8/17, Error ellipse: s-maj=9.1km s-min=4.6km az=120.4*
*NEIC **16** 06:39:48.3±0.1, 5.44N×94.43E, h30^{km}, mb5.3/127, MS5.1/74, Error ellipse: s-maj=4.6km s-min=2.7km az=32.0*
NEIC Felt [IV] at Banda Aceh.
*HRVD **16** 06:39:48.3±0.2, 5.37N×94.32E, h35^{km}, MW5.3/67, Centroid moment Tensor Solution. LP body waves: s61,c112;Mantle waves: s67,c135; Half duration: 1^{s}1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.67±.02; $M_{\theta\theta}$-0.12±.02; $M_{\phi\phi}$-0.55±.02; $M_{r\theta}$0.75±.02; $M_{\theta\phi}$0.42±.01; $M_{\phi r}$-0.54±.03; Best double couple: $M_0$1.188×10^{17} NP1: ϕ_s349°, δ23°, λ126°. NP2:ϕ_s131°, δ72°, λ76°. Principal axes: T 1.163, Plg61°, Azm20°; N .049, Plg13°, Azm135°; P -1.214, Plg25°, Azm231°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 06:39:48.5, 5.59N×94.33E, h23^{km}, mB5.4, mb5.7, Ms5.1, Msz4.9*
*IDC **16** 06:39:50.8±0.5, 5.50N×94.58E, h50^{km}±3^{km}, mb4.9/26, mb1 4.9/26, mb1mx4.9/28, mbtmp5.1/26, MS4.7/17, Ms1 4.7/17, ms1mx4.5/26, Error ellipse: s-maj=16.0km s-min=9.7km az=51.0*
*CSEM **16** 06:39:51.1, 6.35N×94.42E, h33^{km}, mb5.5*
ISC 16 06:39:48.8±0.1**, 5.40N**±0.03×**94.45E**±0.02**, h48**^{km}**, h48**^{km}±2.0^{km}**:pP-P, n621, σ1^{s}01**/547**, mb5.3**/187**, MS5.0**/110**, 50C-25D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.57**	**54**	P	**P**	**06 41 00.0**	**+2.8**
KULM	**Kulim**	**6.17**	**91**	*e*P	**P**	**06 41 19.7**	**0.0**
SNG	**Songkhla**	**6.38**	**74**	P	**P**	**06 41 23.0**	**+0.5**
	414nm,0.8s						
IPM	**Ipoh**	**6.60**	**97**	P	**P**	**06 41 26.4**	**+0.8**
KGM	**Kluang**	**9.46**	**110**	P	**P**	**06 42 05.2**	**-0.1**
BDT	**Bhumibol Dam**	**12.59**	**20**	P	**P**	**06 42 50.0**	**+2.3**
	82nm,0.6s						
KKTK	**Khon Kaen**	**13.62**	**36**	P	**P**	**06 43 06.5**	**+5.1**
	4µm,0.5s						
CM31	**Chiang Mai Arr**	**13.70**	**18**	*e*P	**P**	**06 43 04.8**	**+2.3**
	299nm,0.6s						
CMAR	**Chiang Mai Arr**	**13.70**	**18**	P	**P**	**06 43 04.0**	**+1.5**
	42nm,0.3s,baz=207,slow=14,SNR=218						
CMAR				LR	LR	06 48 08.6	
	comp=Z,2µm,21.2s,baz=205,slow=37						
CMAR				ScP		06 51 54.9	
	baz=236,slow=3.4,SNR=11						
CHG	**Chiang Mai**	**14.04**	**18**	⇓P	**P**	**06 43 08.0**	**+1.2**
	150nm,0.8s						
CHG				S	**S**	**06 46 02.4**	**+20**
PENI	**Pendagan**	**15.27**	**135**	⇑*i*P	**P**	**06 43 19.4**	**-3.6**
PENI				pmax	pmax		
	comp=Z,125nm,0.4s						
PENI	**Pendagan**	**15.27**	**135**	⇑*i*P	**P**	**06 43 19.4**	**-3.6**
	comp=Z,251nm,0.4s						
CHRT	**Chiangrai**	**15.29**	**19**	⇓P	**P**	**06 43 22.5**	**-0.7**
	comp=Z,860nm,0.8s						
KSM	**Kuching**	**16.30**	**103**	*e*P	**P**	**06 43 37.7**	**+1.6**
PASI	**Pasiripis**	**16.36**	**137**	*e*P	**P**	**06 43 32.7**	**-4.2**
PULI	**Pulasari**	**16.38**	**135**	*e*P	**P**	**06 43 36.2**	**-0.9**
HYB	**Hyderabad**	**19.61**	**309**	*i* P	**P**	**06 44 15.5**	**-0.6**
	comp=Z,62nm,0.8s						
HYB				*e*		06 44 25.0	
HYB				*e*S	**S**	**06 47 40.0**	**-9.4**
QIZ	**Qiongzhong**	**20.22**	**47**	P	**P**	**06 44 23.5**	**+1.0**
QIZ				PP	PP	06 44 43.6	+0.2
QIZ				S	**S**	**06 48 03.4**	**+1.7**
QIZ				XS		06 48 17.4	
QIZ				SS	SS	06 48 32.3	-0.2
QIZ				AMB	AMB		
	comp=Z,82nm,1.0s						
QIZ				LR	LR		
	comp=N,3µm,18.5s,MS4.9						
QIZ				LR	LR		
	comp=E,4µm,16.5s,MS4.9						
QIZ				LR	LR		
	comp=Z,4µm,18.2s,MS4.8						
QIZ	**Qiongzhong**	**20.22**	**47**	*e*P	**P**	**06 44 23.1**	**+0.6**
	comp=Z,111nm,0.9s						
QIZ				LR	LR		
	comp=Z,4µm,19.0s,MS4.8						
KMI	**Kunming**	**21.16**	**21**	P	**P**	**06 44 33.8**	**+1.6**
KMI				AP		06 44 42.1	
KMI				XP		06 44 45.5	
KMI				PP	PP	06 44 58.4	+2.0
KMI				S	**S**	**06 48 24.4**	**+4.6**
KMI				XS		06 48 37.3	
KMI				AMB	AMB		
	comp=Z,123nm,1.5s,mb5.0						
KMI				LR	LR		
	comp=N,2µm,18.9s,MS4.7						
KMI				LR	LR		
	comp=E,2µm,16.0s,MS4.7						
KMI				LR	LR		
	comp=Z,3µm,19.6s,MS4.6						
KMI	**Kunming**	**21.16**	**21**	P	**P**	**06 44 33.8**	**+1.6**
KMI				*SP		06 44 45.5	
KMI						06 44 58.4	
KMI				S	**S**	**06 48 24.4**	**+4.6**
KMI				*SS		06 48 37.3	
KMI				SS	SS	06 49 00.8	+5.5
KMI				pmax	pmax		
	comp=Z,123nm,1.5s,mb5.0						
KMI				MLR	MLR		
	comp=Z,3µm,19.6s,MS4.6						
KMI	**Kunming**	**21.16**	**21**	P	**P**	**06 44 33.8**	**+1.6**
	comp=Z,123nm,1.5s,mb5.0						
KMI				pP		06 44 42.1	
KMI				sP		06 44 45.5	
KMI				PP	PP	06 44 58.4	+2.0
KMI				S	**S**	**06 48 24.4**	**+4.6**
KMI				sS		06 48 37.3	
KMI				SS	SS	06 49 00.8	+5.5
KMI				LR	LR		
	comp=Z,3µm,19.6s,MS4.6						
KKM	**Kota Kinabalu**	**21.66**	**87**	*e*P	**P**	**06 44 37.6**	**+0.3**
KKM	**Kota Kinabalu**	**21.66**	**87**	P	**P**	**06 44 38.7**	**+1.4**
TSM	**Tawau**	**23.36**	**92**	P	**P**	**06 44 54.7**	**+0.6**
JIRN	**Jiri**	**23.49**	**341**	*e*P	**P**	**06 44 54.7**	**-0.5**
	comp=Z,537nm,0.7s,mb6.1						
PKI	**Pulchoki**	**23.67**	**340**	*e*P	**P**	**06 44 56.8**	**-0.1**
	comp=Z,190nm,0.5s,mb5.8						
DMN	**Daman**	**23.81**	**339**	*e*P	**P**	**06 44 58.3**	**0.0**
	comp=Z,221nm,0.7s,mb5.7						
KKN	**Kakani**	**23.91**	**340**	*e*P	**P**	**06 44 59.0**	**-0.3**
	comp=Z,285nm,0.8s,mb5.8						
GYA	**Guiyang**	**23.97**	**28**	⇑*i*P	**P**	**06 45 00.8**	**+0.9**
GYA				AP		06 45 10.1	
GYA				XP		06 45 14.3	
GYA				PP	PP	06 45 39.5	+4.5
GYA				PPP	PPP	06 45 50.8	+5.5
GYA				S	**S**	**06 49 21.3**	**+11**
GYA				AMB	AMB		
	comp=Z,430nm,0.6s,mb6.1						
GYA				AMB	AMB		
	comp=Z,610nm,4.2s						
GYA				LR	LR		
	comp=N,2µm,19.7s,MS4.8						
GYA				LR	LR		
	comp=E,2µm,16.4s,MS4.8						
GYA				LR	LR		
	comp=Z,4µm,21.8s						
SRDI	**Scrawed**	**23.99**	**125**	⇑*i*P	**P**	**06 45 01.9**	**+1.7**
KELI	**Kelakatan**	**24.13**	**124**	⇑*i*P	**P**	**06 45 02.6**	**+1.0**
GKN	**Gorkha**	**24.34**	**339**	*e*P	**P**	**06 45 03.5**	**+0.1**
	comp=Z,281nm,0.5s,mb5.9						
LSA	**Lhasa**	**24.37**	**353**	P	**P**	**06 45 03.4**	**-0.4**
LSA				AP		06 45 13.8	
LSA				XP		06 45 18.8	
LSA				S	**S**	**06 49 20.6**	**+3.5**
LSA				AMB	AMB		
	comp=Z,330nm,0.6s,mb5.9						
LSA				LR	LR		
	comp=N,1µm,30.7s						
LSA				LR	LR		
	comp=E,980nm,20.2s						

LSA LR LR
comp=Z,2μm,29.9s,MS4.4
LSA Lhasa 24.37 353 *eP* **P 06 45 04.1 +0.3**
LSA pmax pmax
comp=Z,254nm,0.6s,mb5.8
LSA MLR MLR
comp=Z,1μm,21.0s,MS4.3
LSA Lhasa 24.37 353 *eP* **P 06 45 04.1 +0.3**
comp=Z,254nm,0.6s,mb5.8
LSA LR LR
comp=Z,1μm,21.0s,MS4.3
KOLN Koldanda 24.52 336 *eP* **P 06 45 05.7 +0.4**
comp=Z,758nm,1.2s,mb6.1
RATI Rata 25.27 124⇑ *iP* **P 06 45 13.2 +0.7**
comp=Z,372nm,0.4s,mb6.0
GZH Guangzhou 25.33 44 P **P 06 45 19.1 +6.1**
GZH LR LR
comp=N,2μm,14.6s,MS5.0
GZH LR LR
comp=E,3μm,15.2s,MS5.0
GZH LR LR
comp=Z,5μm,14.3s,MS5.2
DGAR Diego Garcia 25.37 240 PFAKE 06 45 20.0 +6.5
DGAR LR LR
comp=Z,698nm,21.0s,MS4.2
KEDI Kedomdong 25.63 122⇑ *iP* **P 06 45 14.2 -1.7**
KEDI pmax pmax
comp=Z,69nm,0.5s,mb5.4
KEDI Kedomdong 25.63 122⇑ *iP* **P 06 45 14.2 -1.7**
comp=Z,68nm,0.5s,mb5.4
KEDI ⇑ *i*pP pP 06 45 16.2 -12
TANI Tanete Lipujan 26.40 109 *eP* **P 06 45 23.6 +0.5**
CD2 Chengdu 26.84 18⇓ *iP* **P 06 45 26.0 -1.0**
CD2 AMB AMB
comp=Z,114nm,1.0s,mb5.4
NINI Niniconang 27.09 111 *eP* **P 06 45 30.0 +0.6**
BUNI Buntu Taipa 27.36 109 *eP* **P 06 45 32.2 +0.3**
ENH Enshi 28.51 28 *eP* **P 06 45 40.3 -1.8**
comp=Z,95nm,0.7s,mb5.6
ENH LR LR
comp=Z,4μm,20.0s,MS5.0
QZH Quanzhou 30.23 48⇑ P **P 06 45 57.0 -0.4**
QZH S **S 06 51 03.0 +11**
QZH AMB AMB
comp=Z,80nm,0.5s,mb5.7
QZH LR LR
comp=N,3μm,15.1s,MS5.2
QZH LR LR
comp=E,910nm,11.6s,MS5.2
QZH LR LR
comp=Z,5μm,18.0s
WHN Wuhan 31.25 34⇑ P **P 06 46 06.5 +0.2**
WHN AMB AMB
comp=Z,112nm,1.2s,mb5.6
WHN LR LR
comp=Z,7μm,16.6s,MS5.4
XAN Xi'an 31.50 23 P **P 06 46 06.8 -1.7**
XAN PP PP 06 47 18.3 +4.6
XAN AMB AMB
comp=Z,234nm,0.8s,mb6.1
XAN AMB AMB
comp=Z,283nm,8.0s
XAN LR LR
comp=N,1μm,16.5s,MS4.8
XAN LR LR
comp=E,1μm,16.5s,MS4.8
XAN LR LR
comp=Z,3μm,19.4s,MS4.9
LZH Lanzhou 31.74 15⇓ P **P 06 46 09.5 -1.1**
LZH AP pP 06 46 18.5 -4.7
LZH XP sP 06 46 22.6 -6.7
LZH *e*PP PP 06 47 15.4 -1.3
LZH PCP PcP 06 49 00.0 -1.3
LZH *e*S **S 06 51 16.5 +0.7**
LZH SCP 06 52 40.5
LZH *e*SS SS 06 53 08.3 0.0
LZH SCS ScS 06 56 36.9 +0.9
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,237nm,5.3s
LZH LR LR
comp=E,2μm,13.3s
LZH LR LR
comp=Z,4μm,16.8s,MS5.2
LZH Lanzhou 31.74 15⇓ P **P 06 46 09.5 -1.1**
LZH *PP pP 06 46 18.5 -4.7
LZH *SP sP 06 46 22.6 -6.7
LZH *e* 06 47 15.4
LZH 06 49 00.0
LZH *e*S **S 06 51 16.5 +0.7**
LZH *SS 06 51 32.0
LZH *e*SS SS 06 53 08.3 0.0
LZH 06 56 36.9
LZH pmax pmax
comp=Z,83nm,1.5s,mb5.3
LZH MLR MLR
comp=Z,4μm,16.8s,MS5.2
LZH Lanzhou 31.74 15⇓ P **P 06 46 09.5 -1.1**
comp=Z,83nm,1.5s,mb5.3
LZH pP pP 06 46 18.5 -4.7
LZH sP sP 06 46 22.6 -6.7
LZH *e*PP PP 06 47 15.4 -1.3
LZH PcP PcP 06 49 00.0 -1.3
LZH *e*S **S 06 51 16.5 +0.7**
LZH sS 06 51 32.0
LZH ScP 06 52 40.5
LZH *e*SS SS 06 53 08.3 0.0
LZH ScS ScS 06 56 36.9 +0.9
LZH LR LR
comp=Z,4μm,16.8s,MS5.2
GTA Gaotai 34.20 7 P **P 06 46 30.9 -1.0**
GTA AP pP 06 46 40.5 -4.2
GTA XP sP 06 46 44.8 -6.0
GTA PP PP 06 47 45.3 -2.4
GTA PPP PPP 06 48 01.3 -4.5
GTA PCP PcP 06 49 09.1 +1.0
GTA S **S 06 51 52.3 -1.8**
GTA SCP 06 52 50.1
GTA SCS ScS 06 56 49.3 +0.6
GTA AMB AMB
comp=Z,118nm,0.9s,mb5.8
GTA AMB AMB
comp=Z,381nm,5.7s
GTA LR LR
comp=N,1μm,22.4s,MS4.6
GTA LR LR
comp=E,682nm,24.7s,MS4.6
GTA LR LR
comp=Z,1μm,25.1s,MS4.5
NJ2 Nanjing 34.99 38 *eP* **P 06 46 39.5 +0.8**
NJ2 AP pP 06 46 49.3 -2.2
NJ2 XP sP 06 46 53.1 -4.5
NJ2 PP PP 06 47 58.6 +0.7
NJ2 S **S 06 52 09.0 +2.7**
NJ2 XS 06 52 25.0
NJ2 AMB AMB
comp=Z,40nm,0.7s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,8.8s
NJ2 LR LR
comp=N,3μm,21.2s,MS5.1
NJ2 LR LR
comp=E,2μm,21.0s,MS5.1
NJ2 LR LR
comp=Z,860nm,24.7s,MS4.4
SSE Sheshan 35.82 41 P **P 06 46 45.1 -0.7**
SSE XP sP 06 46 57.6 -7.1
SSE PP PP 06 48 06.9 -1.1
SSE S **S 06 52 21.4 +2.2**
SSE XS 06 52 36.3
SSE AMB AMB
comp=Z,74nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,119nm,6.2s
SSE LR LR
comp=N,1μm,19.5s,MS4.8
SSE LR LR
comp=E,1μm,19.5s,MS4.8
SSE LR LR
comp=Z,3μm,14.6s,MS5.1
SSE Sheshan 35.82 41 P **P 06 46 45.1 -0.7**
comp=Z,74nm,0.7s,mb5.7
SSE sP sP 06 46 57.6 -7.1
SSE PP PP 06 48 06.9 -1.1
SSE S **S 06 52 21.4 +2.2**
SSE sS 06 52 36.3
SSE SS SS 06 54 59.1 +17
SSE LR LR
comp=Z,3μm,14.6s,MS5.1
MBWA Marble Bar 36.22 138 *eP* **P 06 46 48.2 -1.1**
MBWA LR LR
comp=Z,881nm,22.0s,MS4.5
TIA Tai'an 37.06 31 *eP* **P 06 46 55.8 -0.4**
TIA AMB AMB
comp=Z,124nm,1.0s,mb5.7
BTO Baotou 37.74 20 *eP* **P 06 47 01.6 -0.2**
BTO AMB AMB
comp=Z,83nm,0.5s,mb5.7
KSH Kashi 37.84 336 *eP* **P 06 47 01.0 -1.7**
KSH *e*AP pP 06 47 10.1 -5.5
KSH *e*XP sP 06 47 14.5 -7.0
KSH *e*PP PP 06 48 31.3 -1.4
KSH *e*PPP PPP 06 48 53.3 -1.6
KSH *e*PCP PcP 06 49 17.3 -1.6
KSH *e*S **S 06 52 50.6 +0.6**
KSH *e*SCP 06 53 00.3
KSH *e*PCS 06 53 04.1
KSH *e*XS 06 53 06.5
KSH *e*SS SS 06 55 28.5 +0.8
KSH *e*SCS ScS 06 57 08.0 -0.6
KSH AMB AMB
comp=Z,840nm,5.2s
KSH LR LR
comp=N,570nm,6.9s
KSH LR LR
comp=E,780nm,5.5s
WBK Wadi Bani Khal 38.29 300⇓ P **P 06 47 08.1 +1.5**
HHC Hu-ho-hao-te 38.49 21 *eP* **P 06 47 09.1 +1.1**
HHC AP pP 06 47 19.8 -1.1
HHC XP sP 06 47 22.3 -4.5
HHC PP PP 06 48 40.1 -0.1
HHC S **S 06 53 02.8 +3.0**
HHC XS 06 53 19.9
HHC SS SS 06 55 46.8 +4.9
HHC SCS ScS 06 57 16.4 +4.1
HHC AMB AMB
comp=Z,90nm,0.9s,mb5.5
HHC AMB AMB
comp=Z,281nm,4.2s
HHC LR LR
comp=N,2μm,20.2s,MS5.0
HHC LR LR
comp=E,2μm,19.6s,MS5.0
HHC LR LR
comp=Z,2μm,22.0s,MS4.8
FITZ Fitzroy Crossi 38.63 128 *eP* **P 06 47 08.6 -0.8**
comp=Z,46nm,0.8s,mb5.3
JOW Kunigami 38.64 53 P **P 06 47 09.9 +0.5**
comp=Z,87nm,0.5s,mb5.7,baz=224,slow=8.1
JOW LR LR 07 02 34.4
comp=Z,2μm,21.9s,MS4.9,baz=269,slow=35
WMQ Urumqi 38.73 352⇑ *iP* **P 06 47 10.4 +0.4**
WMQ AP pP 06 47 20.0 -2.9
WMQ XP sP 06 47 24.0 -4.8
WMQ PP PP 06 48 43.0 +0.1
WMQ PCP PcP 06 49 23.0 +1.4
WMQ S **S 06 53 04.5 +1.1**
WMQ XS 06 53 21.0
WMQ SS SS 06 55 47.0 -0.1
WMQ AMB AMB
comp=Z,154nm,0.8s,mb5.8
WMQ AMB AMB
comp=Z,511nm,3.7s
WMQ LR LR
comp=N,2μm,18.4s,MS5.2
WMQ LR LR
comp=E,3μm,19.0s,MS5.2
WMQ LR LR
comp=Z,2μm,27.6s
JMDO Jabal Madar 38.95 299⇑ P **P 06 47 13.3 +1.3**
SMDO Samad 39.24 300 P **P 06 47 17.0 +2.5**
SNR=8.0
BIDO Bidbid 39.34 301⇓ P **P 06 47 17.6 +2.3**
SNR=6.4
BJT Baijiatuau 39.63 26 *eP* **P 06 47 18.0 +0.5**
BJT pmax pmax
comp=Z,80nm,0.6s
BJT MLR MLR
comp=Z,2μm,21.0s
BJT Baijiatuau 39.63 26 *eP* **P 06 47 17.9 +0.4**
comp=Z,80nm,0.6s,mb5.6
BJT LR LR
comp=Z,2μm,21.0s,MS5.0
BJI Beijing 39.65 26 P **P 06 47 18.6 +0.9**
BJI AP pP 06 47 27.0 -3.6
BJI XP sP 06 47 29.8 -6.7
BJI S **S 06 53 23.8 +6.5**
BJI AMB AMB
comp=Z,132nm,0.9s,mb5.7
BJI AMB AMB
comp=Z,730nm,4.0s
BJI LR LR
comp=N,1μm,18.9s,MS4.8
BJI LR LR
comp=E,363nm,22.3s,MS4.8
BJI LR LR
comp=Z,2μm,21.6s,MS4.9
BJI Beijing 39.65 26 P **P 06 47 18.6 +0.9**
BJI *SP sP 06 47 29.8 -6.7
BJI S **S 06 53 23.8 +6.5**
BJI *SS 06 53 41.7
BJI SS SS 06 56 33.3 +26
BJI pmax pmax
comp=Z,132nm,0.9s,mb5.7
BJI MLR MLR
comp=Z,2μm,21.6s,MS4.9
BJI Beijing 39.65 26 P **P 06 47 18.6 +0.9**
comp=Z,132nm,0.9s,mb5.7
BJI pP pP 06 47 27.0 -3.6
BJI sP sP 06 47 29.8 -6.7
BJI PP PP 06 49 01.8 +8.8
BJI S **S 06 53 23.8 +6.5**
BJI sS 06 53 41.7
BJI SS SS 06 56 33.3 +26
BJI LR LR
comp=Z,2μm,21.6s,MS4.9
BSY Bisya 39.87 299⇓ P **P 06 47 22.1 +2.5**
SNR=12
ULHL Ulahol 40.11 339 P **P 06 47 21.5 +0.1**
SNR=51
KZA Kyzart 40.33 338 P **P 06 47 23.8 +0.6**
SNR=32
ARQ Araqi 40.66 300⇓ P **P 06 47 29.0 +2.8**
UCH Uchtor 40.73 337 P **P 06 47 27.1 +0.5**
SNR=54
TKM2 Tokmak 2 40.93 339 P **P 06 47 28.4 +0.2**
SNR=70
KBK Karagaybulak 40.94 338 P **P 06 47 29.2 +0.9**
SNR=77
AML Almayashu 40.98 336 P **P 06 47 29.3 +0.6**
SNR=210
AAK Ala-Archa 41.09 337 P **P 06 47 31.1 +1.6**
SNR=56
AAK Ala-Archa 41.09 337 P **P 06 47 30.2 +0.6**
comp=Z,287nm,0.5s,mb6.2,SNR=23
AAK Ala-Archa 41.09 337 *eP* **P 06 47 28.9 -0.6**
comp=Z,63nm,0.9s,mb5.2
AAK LR LR
comp=Z,243nm,20.0s,MS4.1
FRU Bishkek 41.21 338 *eP* **P 06 47 32.0 +1.4**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.2
FRU MLR MLR
comp=Z,1μm,20.0s,MS4.7
CHMS Chumysh 41.30 338 P **P 06 47 32.1 +0.8**
SNR=16
EKS2 Erkin-Say 41.39 337 P **P 06 47 32.6 +0.6**
SNR=46
DL2 Dalian 41.45 33 P **P 06 47 33.5 +0.9**
DL2 AMB AMB
comp=Z,90nm,0.7s,mb5.5
DL2 LR LR
comp=N,630nm,20.4s,MS4.6
DL2 LR LR
comp=E,580nm,18.8s,MS4.6
DL2 LR LR
comp=Z,970nm,17.8s,MS4.7
USP Ospenovka 41.63 338 P **P 06 47 34.0 0.0**
SNR=59
WHFO Wadi Hawf 41.63 291⇑ P **P 06 47 36.1 +1.8**
KAKA Kakadu 41.82 116 *eP* **P 06 47 34.5 -1.4**
comp=Z,34nm,0.6s,mb5.2
ABTO Aybut 41.96 290⇑ P **P 06 47 39.2 +2.2**
SNR=8.7
MKAR Makanchi Array 42.55 348 *i* P **P 06 47 41.2 -0.4**
MKAR pmax pmax
comp=Z,106nm,0.6s
MUN Mundaring 42.56 152 *eP* **P 06 47 43.1 +1.3**
comp=Z,13nm,0.5s,mb4.9
MUN Mundaring 42.56 152 *eP* **P 06 47 43.1 +1.3**
MUN pmax pmax
comp=Z,13nm,0.5s,mb4.9
INCN Inchon 43.37 38 *eP* **P 06 47 45.4 -2.9**
comp=Z,43nm,0.8s,mb5.2
INCN LR LR
comp=Z,3μm,19.0s,MS5.2
SONM Songino Array 43.50 12 P **P 06 47 48.6 -0.7**
comp=Z,41nm,0.7s,mb5.3,baz=194,slow=8.5,SNR=168
SONM pP pP 06 48 00.1 -2.2
comp=Z,15nm,0.7s,baz=193,slow=7.9,SNR=5.6
SONM PcP PcP 06 49 37.2 +0.1
comp=Z,17nm,0.5s,baz=190,slow=3.7,SNR=14
SONM pPcP 06 49 52.6
comp=Z,11nm,0.6s,baz=192,slow=3.3,SNR=5.2
SONM ScP 06 53 25.5
comp=Z,5.9nm,0.8s,baz=204,slow=3.7,SNR=8.7
ULN Ulaanbaatar 43.67 12 *eP* **P 06 47 49.3 -1.3**
ULN pmax pmax
comp=Z,44nm,0.6s,mb5.4
ULN Ulaanbaatar 43.67 12 *eP* **P 06 47 49.3 -1.3**
comp=Z,44nm,0.6s,mb5.4
NWAO Narrogin (SRO) 43.83 152 *eP* **P 06 47 53.2 +1.1**
NWAO pmax pmax
comp=Z,18nm,0.8s
NWAO MLR MLR
comp=Z,654nm,22.0s
NWAO Narrogin (SRO) 43.83 152 P **P 06 47 52.5 +0.4**
comp=Z,11nm,1.1s,mb4.5,baz=324,slow=16,SNR=2.9
NWAO pP pP 06 48 06.2 +1.1
comp=Z,20nm,0.7s,baz=324,slow=8.8,SNR=4.3
NWAO Narrogin (SRO) 43.83 152 *eP* **P 06 47 53.2 +1.0**
comp=Z,18nm,0.8s,mb4.9
NWAO LR LR
comp=Z,654nm,22.0s,MS4.5
KS15 Wonju Array Si 44.12 39 *eP* **P 06 47 54.0 -0.4**
SNY Shenyang 44.59 31⇑ P **P 06 47 57.4 -0.7**
SNY AP pP 06 48 07.3 -3.9
SNY XP sP 06 48 10.8 -6.1
SNY PP PP 06 49 41.3 -2.4
SNY AMB AMB
comp=Z,70nm,0.7s,mb5.6
SNY AMB AMB
comp=Z,320nm,5.4s
SNY LR LR
comp=N,1μm,16.9s,MS4.9
SNY LR LR
comp=E,700nm,19.2s,MS4.9
SNY LR LR
comp=Z,2μm,18.0s,MS5.0
ZAK Zakamensk 45.44 8 *i* P **P 06 48 03.8 -1.0**
ZAK pmax pmax
comp=Z,19nm,1.7s,mb4.7
ZAK pmax pmax
comp=Z,7.0nm,1.8s
MOY Mondy 46.44 6 *eP* **P 06 48 12.8 +0.2**
MOY pmax pmax
comp=Z,42nm,2.4s,mb4.9
WRA Warramunga Arr 46.61 124 P **P 06 48 13.5 -0.9**
comp=Z,70nm,0.7s,mb5.7,baz=302,slow=9.2,SNR=389
WRAB Tennant Creek 46.61 124 P **P 06 48 13.0 -1.4**
comp=Z,943nm,0.8s,SNR=45
WRAB Tennant Creek 46.61 124 *c iP* **P 06 48 14.4 0.0**
WRAB Tennant Creek 46.61 124 *eP* **P 06 48 13.4 -1.1**
comp=Z,167nm,0.8s,mb6.0
WB2 Warramunga Arr 46.62 124 *eP* **P 06 48 13.6 -0.9**
WB2 *e*S **S 06 54 58.9 -0.3**
TLY Talaya 46.76 8 *eP* **P 06 48 15.3 +0.1**
TLY pmax pmax
comp=Z,23nm,0.9s,mb5.1
TLY MLR MLR
comp=Z,1μm,19.0s,MS4.8
TLY Talaya 46.76 8 *eP* **P 06 48 14.9 -0.3**
comp=Z,28nm,0.9s,mb5.2
CN2 Changchun 46.97 31 *eP* **P 06 48 16.8 -0.1**
CN2 *e*XP sP 06 48 31.8 -3.9
CN2 PCP PcP 06 49 48.4 -0.8
CN2 PP PP 06 50 07.9 +0.6
CN2 *e*S **S 06 55 05.8 +2.0**
CN2 SS SS 06 58 26.0 +2.1
CN2 AMB AMB
comp=Z,80nm,0.6s,mb5.8
CN2 LR LR
comp=N,2μm,17.0s,MS5.2
CN2 LR LR
comp=E,1μm,17.0s,MS5.2
CN2 LR LR
comp=Z,1μm,17.0s,MS4.9
KURK Kurchatov 47.07 346 P **P 06 48 17.4 -0.2**
comp=Z,1μm,0.6s,SNR=66
KURK Kurchatov 47.07 346 *i* P **P 06 48 17.6 0.0**
KURK pmax pmax
comp=Z,38nm,0.6s,mb5.5
KURK Kurchatov 47.07 346 *eP* **P 06 48 17.0 -0.7**
comp=Z,179nm,0.8s,mb6.0
KURK LR LR
comp=Z,181nm,22.0s,MS4.0
IRK Irkutsk 47.40 8 *eP* **P 06 48 20.2 0.0**
IRK pmax pmax
comp=Z,88nm,2.2s,mb5.3
ASPA Alice Springs 48.12 129 *eP* **P 06 48 25.9 -0.3**
ASPA *e*S **S 06 55 19.4 -1.0**
ASAR Alice Springs 48.12 129 P **P 06 48 25.2 -1.0**
comp=Z,18nm,0.5s,mb5.3,baz=299,slow=7.8,SNR=222
ASAR LR LR 07 08 33.4
comp=Z,475nm,21.4s,MS4.4,baz=298,slow=36
FORT Forrest 48.23 140 *eP* **P 06 48 26.9 -0.1**
comp=Z,1μm,0.6s
HIA Hailar 48.68 22 *eP* **P 06 48 29.2 -1.0**
HIA pmax pmax
comp=Z,39nm,0.6s
HIA MLR MLR
comp=Z,3μm,20.0s
HIA Hailar 48.68 22 *eP* **P 06 48 29.2 -1.0**
comp=Z,39nm,0.6s,mb5.6
HIA LR LR
comp=Z,3μm,20.0s,MS5.3
ZAL Zalesovo 49.02 352 P **P 06 48 32.6 -0.2**
comp=Z,81nm,0.5s,mb6.0,baz=297,slow=7.0,SNR=290
MDJ Mudanjiang 49.69 33 P **P 06 48 38.8 +0.7**
MDJ AP pP 06 48 46.5 -4.7
MDJ XP sP 06 48 51.3 -5.6
MDJ PP PP 06 50 32.3 -1.2
MDJ S **S 06 55 45.3 +3.2**
MDJ XS 06 56 02.8
MDJ SS SS 06 59 11.4 +0.3
MDJ AMB AMB
comp=Z,54nm,1.0s,mb5.5
MDJ AMB AMB
comp=Z,287nm,3.9s
MDJ LR LR
comp=N,255nm,15.3s,MS4.9
MDJ LR LR
comp=E,1μm,17.1s,MS4.9
MDJ LR LR
comp=Z,1μm,19.2s,MS4.9
MDJ Mudanjiang 49.69 33 *eP* **P 06 48 38.0 -0.1**
comp=Z,90nm,1.3s,mb5.6
MDJ *e*sP sP 06 48 52.4 -4.5
MDJ LR LR
comp=Z,1μm,19.0s,MS4.9
NVS Novosibirsk 50.12 352⇑ *iP* **P 06 48 39.4 -1.8**
NVS *i* S **S 06 55 41.8 -6.1**
NVS pmax pmax
comp=N,110nm,1.3s
NVS pmax pmax
comp=Z,142nm,1.3s,mb5.8
NVS pmax pmax
comp=E,73nm,1.2s
NVS smax
comp=N,67nm,1.8s
NVS smax
comp=E,76nm,1.8s
CBIJ Chichi jima 50.26 59 LR LR 07 07 55.9
comp=E,324nm,18.8s,MS4.4,baz=288,slow=34
GUMO Guam 50.30 77 PFAKE 06 48 50.0 +6.8

GUMO LR LR
comp=Z,1µm,22.0s,MS4.8
MAJO Matsushiro 50.61 46 *e*P **P 06 48 45.2 0.0**
MAJO pmax pmax
comp=Z,15nm,0.8s,mb5.0
MAJO MLR MLR
comp=Z,1µm,21.0s,MS4.9
MAJO Matsushiro 50.61 46 *e*P **P 06 48 45.1 -0.1**
MAJO LR LR
comp=Z,1µm,21.0s,MS4.9
MAT Matsushiro 50.61 46 *e*P **P 06 48 45.0 -0.2**
MAT *e*S **S 06 55 55.0 +0.1**
MAT pmax pmax
comp=Z,182nm,2.0s,mb5.7
MAT MLR MLR
comp=Z,1µm,20.0s,MS4.8
MAT Matsushiro 50.61 46 *e*P **P 06 48 45.0 -0.2**
comp=Z,182nm,2.0s,mb5.7
MAT *e*S **S 06 55 55.0 +0.1**
MAT LR LR
comp=Z,1µm,20.0s,MS4.8
MAT Matsushiro 50.61 46 P **P 06 48 44.9 -0.3**
MAT S **S 06 55 54.8 -0.1**
BVA0 Borovoye Array 51.42 342 *i* P **P 06 48 49.9 -1.2**
BVA0 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CHKZ Chkalovo 51.91 342 P **P 06 48 54.1 -0.6**
CHKZ pmax pmax
comp=Z,56nm,0.6s,mb5.7
KLR Kul'dur 53.86 29⇓ *e*P **P 06 49 05.3 -4.0**
KLR *e* 06 50 09.8
KLR pmax pmax
comp=N,50nm,1.8s
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s,mb5.4
KLR MLR MLR
comp=N,3µm,17.0s,MS5.4
KLR MLR MLR
comp=E,800nm,17.0s,MS5.4
BOD Bodaibo 54.48 13 *e*P **P 06 49 11.7 -2.0**
BOD pmax pmax
comp=Z,71nm,0.9s,mb5.6
PMG Port Moresby 54.55 105 *e*P **P 06 49 13.2 -1.6**
PMG pmax pmax
comp=Z,79nm,0.8s
PMG MLR MLR
comp=Z,327nm,20.0s
PMG Port Moresby 54.55 105 *e*P **P 06 49 13.2 -1.6**
comp=Z,79nm,0.8s,mb5.8
PMG LR LR
comp=Z,327nm,20.0s,MS4.4
GNI Garni 56.39 315 P **P 06 49 27.3 -0.5**
comp=Z,11nm,0.6s,mb5.0,baz=353,slow=9.1,SNR=10
GNI Garni 56.39 315 *e*P **P 06 49 26.7 -1.1**
comp=Z,50nm,1.1s,mb5.5
GNI LR LR
comp=Z,265nm,20.0s,MS4.3
CLNS Chul'man 56.64 19 *e*P **P 06 49 27.8 -1.6**
CLNS *e* 06 50 23.9
CLNS *e* 06 51 30.2
CLNS *e*S **S 06 57 17.8 +1.6**
CLNS pmax pmax
comp=N,14nm,1.1s
CLNS pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLNS pmax pmax
comp=E,15nm,1.3s
CLNS pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax
comp=E,4.0nm,0.8s
CLNS smax
comp=N,3.0nm,0.9s
CLNS smax
comp=Z,3.0nm,0.9s
CLNS MLR MLR
comp=Z,2µm,21.0s,MS5.1
CLNS MLR MLR
comp=N,1µm,18.0s,MS5.0
CLNS MLR MLR
comp=E,200nm,17.0s,MS5.0
CTA Charters Tower 56.85 118 *e*P **P 06 49 29.9 -1.5**
comp=E,15nm,0.8s,mb5.1
CTA Charters Tower 56.85 118 *e*P **P 06 49 29.9 -1.5**
CTA pmax pmax
comp=Z,15nm,0.8s
CTA Charters Tower 56.85 118 LR LR 07 15 12.3
comp=Z,619nm,20.7s,MS4.7,baz=287,slow=37
CTAO Charters Tower 56.85 118 *e*P **P 06 49 29.7 -1.7**
CTAO pmax pmax
comp=Z,22nm,0.8s,mb5.2
CTAO MLR MLR
comp=Z,836nm,21.0s,MS4.8
CTAO Charters Tower 56.85 118 *e*P **P 06 49 29.7 -1.7**
comp=Z,22nm,0.8s,mb5.2
CTAO LR LR
comp=Z,836nm,21.0s,MS4.8
TI2 Plekhanov 57.05 317 *e*P **P 06 49 30.6 -1.9**
ASAJ Asahikawa 57.09 40 P **P 06 49 30.4 -2.4**
comp=Z,19nm,0.7s,mb5.2,baz=252,slow=11,SNR=14
ASAJ LR LR 07 15 46.0
comp=Z,884nm,18.4s,MS4.9,baz=298,slow=38
KMBO Kilima Mbogo 57.49 265 *e*P **P 06 49 36.8 +0.8**
KMBO *PP pP 06 49 47.0 -2.5
KMBO pmax pmax
comp=Z,20nm,1.1s
KMBO MLR MLR
comp=Z,1µm,22.0s
KMBO Kilima Mbogo 57.49 265 P **P 06 49 37.0 +1.1**
comp=Z,5.6nm,0.8s,mb4.6,baz=56,slow=9.9,SNR=18
KMBO LR LR 07 10 12.4
comp=Z,1µm,21.9s,MS4.9,baz=96,slow=32
KMBO Kilima Mbogo 57.49 265 *e*P **P 06 49 36.8 +0.8**
comp=Z,20nm,1.1s,mb5.1
KMBO pP pP 06 49 47.0 -2.5
KMBO LR LR
comp=Z,1µm,22.0s,MS5.0
SVE Sverdlovsk 57.80 339⇑ *i*P **P 06 49 36.1 -1.5**
SVE *e* pP 06 49 50.5 -0.5
SVE *e* 06 50 28.0
SVE *e* 06 51 50.0
SVE *e*PPP PPP 06 53 08.0 -2.0
SVE *e*S S **06 57 37.0 +5.6**
SVE *e*SSS SSS 07 03 40.0 -3.8
SVE pmax pmax
comp=Z,180nm,2.0s,mb5.8
SVE MLR MLR
comp=N,300nm,18.0s
SVE MLR MLR
comp=Z,500nm,18.0s,MS4.7
ZEI Tsey 58.06 318 *e*P **P 06 49 38.6 -0.9**
ZEI *i* 06 51 48.2
ZEI pmax pmax
comp=Z,12nm,0.8s,mb5.0
STKA Stephens Creek 58.20 133 P **P 06 49 39.4 -1.3**
comp=Z,10.0nm,0.6s,mb5.0,baz=308,slow=7.0,SNR=15
STKA pP pP 06 49 54.5 +0.3
comp=Z,26nm,0.7s,baz=299,slow=6.3,SNR=9.9
STKA LR LR 07 13 29.3
comp=Z,455nm,20.9s,MS4.6,baz=44,slow=35
STKA Stephens Creek 58.20 133 *e*P **P 06 49 39.7 -1.0**
VRT Varto 58.29 313 P **P 06 49 41.2 0.0**
YSS Yuzh-Sakhalins 58.55 37 *e*P **P 06 49 41.8 -1.1**
YSS *e* pP 06 49 55.0 -1.4
YSS *e* 06 50 32.0
YSS pmax pmax
comp=N,30nm,1.0s
YSS pmax pmax
comp=E,40nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS Yuzh-Sakhalins 58.55 37 *e*P **P 06 49 42.7 -0.2**
comp=Z,45nm,0.8s,mb5.5
KIV Kislovodsk 59.36 319 *e*P **P 06 49 46.8 -1.8**
KIV *i* pP 06 50 01.2 -0.8
KIV *e*S **S 06 57 57.1 +5.2**
KIV pmax pmax
comp=Z,38nm,0.8s,mb5.5
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.3
KIV Kislovodsk 59.36 319 *e*P **P 06 49 47.1 -1.5**
comp=Z,48nm,0.9s,mb5.5
KIV LR LR
comp=Z,92nm,19.0s,MS3.9
PTK Pertek 59.77 312 *e*P **P 06 49 49.7 -1.8**
ASF Jabal al Asfar 59.83 304 P **P 06 49 52.2 +0.2**
comp=Z,7.8nm,0.6s,mb4.9,baz=339,slow=9.1,SNR=11
ASF LR LR 07 18 17.8
comp=Z,674nm,18.1s,MS4.8,baz=143,slow=38
GUMT Gumushane 60.23 314 P **P 06 49 54.3 -0.3**
MALT Malatya 60.30 311 *e*P **P 06 49 54.0 -1.2**
comp=Z,27nm,1.2s,mb5.2
GAZ Gaziantep 60.88 310 *e*P **P 06 49 58.8 -0.3**
EIL Elat 60.93 301 *e*P **P 06 49 59.3 -0.2**
comp=Z,14nm,0.8s,mb5.2
SOC Sochi 61.19 317 *e*P **P 06 49 58.2 -2.9**
SOC *e*S **S 06 58 16.5 +1.1**
SOC pmax pmax
comp=Z,33nm,0.9s,mb5.5
SOC pmax pmax
comp=N,46nm,0.7s
SOC pmax pmax
comp=E,42nm,0.7s
SOKR Solikamsk 61.20 339⇑ *i*P **P 06 49 58.0 -2.9**
SOKR *e* pP 06 50 13.6 -0.9
SOKR pmax pmax
comp=Z,20nm,0.7s,mb5.4
SOKR MLR MLR
comp=Z,620nm,21.0s,MS4.7
YAK Yakutsk 62.23 18 *e*P **P 06 50 05.5 -2.3**
YAK *e* pP 06 50 16.2 -5.2
YAK pmax pmax
comp=Z,24nm,0.9s,mb5.3
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.2
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK MLR MLR
comp=Z,507nm,13.0s,MS4.9
YAK MLR MLR
comp=N,361nm,15.0s,MS4.9
YAK MLR MLR
comp=E,489nm,17.0s,MS4.9
YAK Yakutsk 62.23 18 P **P 06 50 06.4 -1.4**
comp=E,49nm,0.4s,mb6.0
BNN Bunyan 62.40 311 *e*P **P 06 50 08.7 -0.6**
ANN Anapa 63.16 318 *e*P **P 06 50 16.7 +2.5**
ANN *i* *PP pP 06 50 31.9 +4.0
ANN *e*S **S 06 58 49.4 +9.2**
ANN pmax pmax
comp=Z,20nm,1.0s,mb5.2
CSS Prodhromos 63.37 306 *e*P **P 06 50 14.9 -0.8**
comp=Z,44nm,0.9s,mb5.6
CORM Corum 63.67 312 *e*P **P 06 50 13.7 -4.0**
LEF Lefka 63.76 307 *e*P **P 06 50 15.7 -2.6**
TOO Toolangi 63.85 137 *e*P **P 06 50 19.9 +1.0**
comp=Z,0.7nm,0.7s
MBAR Mbarara 63.90 267 *e*P **P 06 50 20.0 +0.4**
comp=Z,25nm,1.5s,mb5.0
MBAR LR LR
comp=Z,363nm,21.0s,MS4.5
TOS Tosya 64.35 313 *e*P **P 06 50 20.8 -1.3**
CANT Cankiri 64.53 314 *e*P **P 06 50 22.6 -0.6**
BZK Bozkurt 64.63 314 P **P 06 50 23.2 -0.6**
VOR Voronezh 64.78 326 *e*P **P 06 50 23.5 -1.1**
VOR *e* *PP pP 06 50 37.0 -1.3
VOR pmax pmax
comp=Z,100nm,1.0s,mb5.8
ANTO Ankara 64.95 312⇑ P **P 06 50 24.7 -1.3**
SAFT Safranbolu 65.38 313 P **P 06 50 27.8 -1.0**
KIZT Kizilcal 65.39 310 P **P 06 50 26.9 -2.0**
SIM Simferopol' 65.44 317 *e*P **P 06 50 28.0 -1.0**
SIM pmax pmax
comp=Z,40nm,0.9s,mb5.5
ISP Isparta 66.21 309 *e*P **P 06 50 32.3 -1.8**
ISP Isparta 66.21 309‖ *e*P **P 06 50 34.3 +0.2**
MDU Mudurnu 66.27 312 P **P 06 50 33.1 -1.3**
ESKT Eskisehir 66.32 311 *e*P **P 06 50 33.7 -1.1**
ELL Elmali 66.46 308 P **P 06 50 35.9 +0.2**
FETY Fethiye 67.09 307 *e*P **P 06 50 37.9 -1.7**
MOS Moscow 67.34 329 *e*P **P 06 50 39.6 -1.3**
MOS *e* pP 06 50 52.9 -1.8
MOS *e* 06 51 08.7
MOS *e* 06 53 06.6
MOS *e*PPP PPP 06 54 49.6 +1.1
MOS *e*S S 06 59 26.8 -4.4
MOS *e* 06 59 55.4
MOS pmax pmax
comp=Z,200nm,0.8s,mb6.2
MOS pmax pmax
comp=Z,179nm,0.8s,mb6.2
DALT Dalyan (Mudla) 67.47 308 *e*P **P 06 50 39.1 -2.8**
OBN Obninsk 67.63 328 P **P 06 50 41.2 -1.5**
comp=Z,627nm,0.6s,SNR=7.6
OBN Obninsk 67.63 328*c* *i*P **P 06 50 41.6 -1.1**
OBN *i* *PP pP 06 50 55.9 -0.5
OBN *e* *SP sP 06 51 04.3 +2.6
OBN *i* S S 06 59 32.7 -1.9
OBN *e*SS SS 07 03 57.8 +0.2
OBN pmax pmax
comp=Z,61nm,0.7s,mb5.7
OBN MLR MLR
comp=Z,300nm,22.0s,MS4.5
OBN Obninsk 67.63 328 *e*P **P 06 50 41.4 -1.3**
comp=Z,73nm,0.7s,mb5.8
OBN LR LR
comp=Z,131nm,21.0s,MS4.1
SKR Severo-Kuril's 68.12 37 *e*P **P 06 50 43.0 -2.8**
SKR MLR MLR
comp=E,1µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s,MS5.6
BNT Bandirma 68.70 311 P **P 06 50 49.2 -0.4**
LSZ Lusaka 68.76 251 *e*P **P 06 50 49.9 -0.4**
comp=Z,9.2nm,0.9s,mb4.7
LSZ LR LR
comp=Z,1µm,20.0s,MS5.2
MA2 Magadan 68.81 27*c* *i*P **P 06 50 49.3 -0.6**
MA2 *e* *PP pP 06 51 01.6 -2.1
MA2 *e*S S 06 59 47.6 -1.1
MA2 *e* 07 00 45.6
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,1µm,22.5s,MS5.1
MA2 Magadan 68.81 27 *e*P **P 06 50 49.0 -0.9**
comp=Z,29nm,0.8s,mb5.3
MA2 LR LR
comp=Z,707nm,19.0s,MS4.9
IZM Izmir 68.83 309 P **P 06 50 50.3 -0.2**
MRMT Marmara Adasi 68.99 311 *e*P **P 06 50 49.1 -2.3**
TLCR 69.11 316⇑ P **P 06 50 51.5 -0.6**
TIRR Tirgusor 69.22 316⇓ P **P 06 50 50.8 -1.9**
KIS Kishinev 69.56 318 *e*P **P 06 50 52.0 -2.7**
KIS *i* pP 06 51 10.0 +1.4
CFR Carcaliu 69.58 316⇑ P **P 06 50 54.4 -0.5**
TIXI Tiksi 69.58 11⇑ *i*P **P 06 50 52.4 -2.1**
TIXI pmax pmax
comp=Z,70nm,0.7s,mb5.7
TIXI Tiksi 69.58 11⇑ *e*P **P 06 50 52.6 -1.9**
HARR Harsova 69.61 316⇓ P **P 06 50 54.4 -0.7**
HARR Harsova 69.61 316⇓ P **P 06 50 54.3 -0.8**
MATP Matopo 69.63 246 LR LR 07 17 54.4
comp=Z,2µm,20.1s,MS5.3,baz=81,slow=33
EDRB Edirne 69.86 313 *e*P **P 06 50 55.5 -1.2**
ALN Alexandroupoli 70.20 311 *e*P **P 06 50 58.1 -0.7**
PET Petropavlovsk 70.35 35⇓ *i*P **P 06 50 58.6 -0.9**
PET *e*S S 07 00 03.1 -3.8
PET *e*PS PS 07 00 34.2 -6.5
PET *e*SS SS 07 04 36.1 -3.7
PET pmax pmax
comp=Z,33nm,0.9s,mb5.3
PET Petropavlovsk 70.35 35⇑ *i*P **P 06 50 58.2 -1.3**
PET LR LR
comp=Z,887nm,22.0s,MS5.0
ISR Istrita 70.66 316⇑ P **P 06 51 02.5 +1.0**
VRI Vrincioaia 70.70 317⇓ P **P 06 51 01.9 +0.2**
DIM Dimitrovgrad 70.79 313 *e*P **P 06 51 12.0 +10**
GVD Gavdhos 70.83 305 *e*P **P 06 51 01.7 -1.1**
comp=Z,48nm,0.9s,mb5.4
PVL Pavlikeni 71.14 314 P **P 06 51 15.5 +11**
MLR Muntele Rosu 71.15 316 P **P 06 51 04.3 -0.1**
comp=Z,32nm,0.7s,mb5.4,baz=173,slow=4.1,SNR=32
MLR Muntele Rosu 71.15 316⇑ P **P 06 51 04.7 +0.2**
ZIMR 71.20 314⇑ P **P 06 51 05.0 +0.2**
ZIMR 71.20 314⇑ P **P 06 51 05.0 +0.2**
PAIG Paliouri 71.83 310 *e*P **P 06 51 08.0 -0.5**
MMB Musomiste 72.04 312 P **P 06 51 19.0 +9.2**
SRS Serrai 72.07 311 *e*P **P 06 51 08.6 -1.3**
BURAR Bucovina Array 72.08 318⇑ P **P 06 51 10.4 +0.4**
BURAR Bucovina Array 72.08 318⇑ P **P 06 51 10.4 +0.5**
MNK Minsk 72.16 326 *e*P **P 06 51 07.0 -3.3**
SOH Sokhos 72.20 311 *e*P **P 06 51 09.5 -1.3**
CASY Casey 72.45 173 P **P 06 51 12.0 +0.2**
comp=Z,19nm,0.6s,mb5.2
CASY *e*P pP 06 51 21.0 -4.7
CASY LR LR
comp=Z,1µm,22.0s,MS5.1
PUL Pulkovo 72.52 331 *i* P **P 06 51 12.2 -0.1**
KKB Krupnik 72.56 312 P **P 06 51 22.0 +9.1**
VTS Vitosha 72.58 313 P **P 06 51 12.5 -0.5**
VTS Vitosha 72.58 313 P **P 06 51 23.0 +10**
KNT Kendrikon 72.59 311 *e*P **P 06 51 12.1 -1.0**
AGG Agios Georgios 72.74 309 *e*P **P 06 51 10.0 -4.0**
LIT Litokhoron 72.76 310 *e*P **P 06 51 12.8 -1.4**
GRG Griva 72.94 311 *e*P **P 06 51 13.8 -1.4**
JOF Joensuu 73.20 335 *e*p **P 06 51 15.1 -1.2**
comp=Z,25nm,0.8s,mb5.2
JOF Joensuu 73.20 335 *e*P **P 06 51 15.1 -1.2**
JOF pmax pmax
comp=Z,25nm,0.8s,mb5.2
LVV L'vov 73.30 320 *e*P **P 06 51 16.2 -0.9**
LBTB Lobatse 73.35 242 *e*P **P 06 51 18.4 +0.5**
comp=Z,13nm,0.8s,mb4.9
LBTB LR LR
comp=Z,1µm,20.0s,MS5.2
FNA Florina 73.69 311 *e*P **P 06 51 18.1 -1.5**
SKO Skopje 73.79 312 *i* P **P 06 51 18.5 -1.6**
VSU Vasula 73.86 330*c* *i*P **P 06 51 19.5 -0.7**
VSU Vasula 73.86 330⇑ *i*P **P 06 51 19.5 -0.7**
LVZ Lovozero 73.98 340 *e*P **P 06 51 19.9 -0.8**
LVZ Lovozero 73.98 340⇓ *e*P **P 06 51 20.3 -0.4**
KWP Kalwaria 74.11 320 *e*P **P 06 51 21.6 -0.2**
KWP *e* pP 06 51 40.2 +4.4
BZS Buzias 74.17 316 P **P 06 51 22.8 +0.5**
BZS Buzias 74.17 316⇑ P **P 06 51 21.9 -0.3**
BZS Buzias 74.17 316⇑ P **P 06 51 21.9 -0.4**
APA Apatity 74.26 340⇓ *i*P **P 06 51 22.0 -0.3**
APA *i* pP 06 51 35.9 -0.3
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
APA MLR MLR
comp=Z,600nm,17.0s,MS5.0
KOLS Kolonicke sedl 74.26 319 *i* P **P 06 51 23.1 +0.4**
KOLS *i* 06 51 28.2
IGT Igoumenitsa 74.34 309 *e*P **P 06 51 21.7 -1.6**
BOSA Boshof 74.55 239 *e*P **P 06 51 24.9 +0.1**
comp=Z,13nm,0.8s,mb4.9
BOSA LR LR
comp=Z,841nm,20.0s,MS5.0
SUW Suwalki 74.69 325 *e*P **P 06 51 24.1 -1.0**
CRVS Cervenica-Dubn 74.79 319 *i* P **P 06 51 25.8 +0.1**
CRVS *e* 06 51 30.5
FINES FINESS Array B 75.03 332 P **P 06 51 26.3 -0.6**
comp=Z,8.8nm,0.4s,mb5.0,baz=88,slow=5.4,SNR=58
FINES pP pP 06 51 41.5 +0.7
comp=Z,6.6nm,0.4s,baz=97,slow=4.4,SNR=7.2
FINES LR LR 07 28 42.4
comp=Z,430nm,18.3s,MS4.8,baz=272,slow=39
DIVS Divcibare 75.11 314⇑ *i*P **P 06 51 27.0 -0.7**
KAF Kangasniemi 75.12 333 *ep* **P 06 51 26.2 -1.2**
comp=Z,9.0nm,0.6s,mb4.9,baz=122,slow=5.5
KAF Kangasniemi 75.12 333 *e*P **P 06 51 26.2 -1.2**
KAF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KECS Kecovo 75.36 319 *i* P **P 06 51 28.9 -0.1**
BBLS Bajina Basta - 75.50 314⇑ *i*P **P 06 51 29.5 -0.4**
NIE Niedzica 75.61 320 *e*P **P 06 51 29.1 -1.4**
PSZ Piszkesteto 75.67 318 *e*P **P 06 51 30.6 -0.3**
comp=Z,22nm,0.7s,mb5.2
PSZ Piszkesteto 75.67 318⇑ *e*P **P 06 51 31.0 +0.2**
OJC Ojcow 76.06 320 *e*P **P 06 51 32.7 -0.3**
MAW Mawson 76.19 192 LR LR 07 19 55.9
comp=Z,556nm,19.2s,MS4.9,baz=49,slow=32
PKSM Moragy 76.31 316⇓ P **P 06 51 33.9 -0.6**
LIKS Likavka 76.34 319 *i* P **P 06 51 34.6 0.0**
VYHS Vyhne 76.45 318 *i* P **P 06 51 35.0 -0.2**
VYHS *i* 06 51 39.6
SRO2 Moca 76.65 318 *i* P **P 06 51 37.7 +1.3**
SRO2 *i* 06 51 42.9
SRO Srobarova 76.71 318 *i* P **P 06 51 38.7 +1.9**
OKC Ostrava-Krasne 77.06 320 *e*P **P 06 51 38.5 -0.2**
OKC *e*x x 06 51 52.9
TIP Timpagrande 77.07 309 *e*P **P 06 51 38.2 -0.8**
KEV Kevo 77.26 341 *ep* **P 06 51 39.0 -0.4**
comp=Z,30nm,1.0s,mb5.2
KEV Kevo 77.26 341 *e*P **P 06 51 39.0 -0.4**
KEV pmax pmax
comp=Z,30nm,1.0s,mb5.2
MORC Moravsky Berou 77.45 320⇓ P **P 06 51 41.0 +0.2**
MORC Moravsky Berou 77.45 320 *e*P **P 06 51 40.3 -0.5**
comp=Z,25nm,0.7s,mb5.3
ZST Bratislava 77.56 318 *i* P **P 06 51 41.7 +0.2**
ZST *e* 06 51 45.0
ARCES ARCESS Array B 77.69 340 P **P 06 51 41.4 -0.4**
comp=Z,11nm,0.5s,mb5.1,baz=93,slow=5.2,SNR=115
ARCES pP pP 06 51 55.9 +0.2
comp=Z,13nm,0.7s,baz=97,slow=6.1,SNR=6.9
ARCES PP PP 06 54 41.8 +2.7
comp=Z,7.4nm,0.8s,baz=97,slow=9.8,SNR=4.3
ARCES LR LR 07 28 21.2
comp=Z,528nm,21.4s,MS4.8,baz=83,slow=38
ARE0 ARCESS Array S 77.69 340 *e*P **P 06 51 41.8 +0.1**
KOGS Kog 77.98 316 *e*P **P 06 51 44.0 +0.2**
KOGS *e* pP 06 51 59.1 +1.3
VRAC Vranov 78.01 319 P **P 06 51 44.7 +0.8**
VRAC Vranov 78.01 319 P **P 06 51 44.4 +0.5**
comp=Z,10.0nm,0.6s,mb4.9,baz=91,slow=7.4,SNR=8.2
VRAC pP pP 06 51 59.6 +1.7
comp=Z,9.1nm,0.6s,baz=109,slow=10,SNR=3.3
GKP Gorka Klasztor 78.05 323 *e*P **P 06 51 43.9 -0.2**
BILL Bilibino 78.26 21*c* *i*P **P 06 51 44.1 -0.8**
BILL *e* pP 06 51 53.3 -5.6
BILL *i* *PP pP 06 52 01.7 +2.8
BILL *e*S S 07 01 33.3 -1.5
BILL *e*SS SS 07 06 37.3 -3.3
BILL pmax pmax
comp=Z,19nm,0.5s,mb5.3
BILL MLR MLR
comp=Z,2µm,17.0s,MS5.4
BILL Bilibino 78.26 21 *e*P **P 06 51 44.2 -0.7**
comp=Z,27nm,0.6s,mb5.3
BILL LR LR
comp=Z,2µm,19.0s,MS5.4
DPC Dobruska-Polom 78.29 320 *e*P **P 06 51 45.8 +0.4**
DPC *e*x x 06 52 01.5
KTK1 Kautokeino 78.31 340 *e*P **P 06 51 45.8 +0.7**
comp=Z,70nm,1.9s,mb5.3
KTK1 Kautokeino 78.31 340 *e*P **P 06 51 45.8 +0.7**
KTK1 AMb AMB 06 51 54.5
comp=Z,70nm,1.9s,mb5.3
KSP Ksiaz 78.36 321 *e*P **P 06 51 45.8 0.0**
KSP *e* *PP pP 06 52 01.4 +1.6
KSP Ksiaz 78.36 321 *e*P **P 06 51 46.4 +0.6**
UPC Upice 78.50 320 *e*P **P 06 51 47.0 +0.4**
ARSA Arzberg 78.54 317⇑ *i*P **P 06 51 46.8 -0.1**
comp=Z,45nm,1.3s,mb5.2
BOJS Bojanci 78.60 315 *e*P **P 06 51 47.1 -0.1**
BOJS *e* pP 06 52 02.2 +1.0
PERS Pernice 78.77 316 *e*P **P 06 51 48.5 +0.4**
FX1 Attu Island--F 78.90 37 *e*P **P 06 51 48.9 +0.1**
DRV Dumont d'Urvil 78.93 163 S S 07 01 54.0 +12
LJU Ljubljana 79.14 316 *e*P **P 06 51 50.9 +0.7**
OBKA Obir 79.16 316⇑ *i*P **P 06 51 50.5 +0.2**
comp=Z,35nm,1.3s,mb5.1
SUR Sutherland 79.19 236 *e*P **P 06 51 50.4 -0.3**
comp=Z,30nm,0.9s,mb5.2
PRU Pruhonice 79.40 320 *e*P **P 06 51 51.7 +0.2**
PRU *e*x x 06 52 07.0
PVCC Panska Ves 79.42 320 *e*P **P 06 51 51.1 -0.5**

MOA Molln 79.43 318 ⇑ *i* P **P 06 51 51.3 -0.4**
comp=Z,19nm,1.1s,mb4.9
TSUM Tsumeb 79.44 249 P **P 06 51 53.6 +1.3**
comp=Z,4.3nm,0.7s,mb4.5,baz=40,slow=7.2,SNR=11
TSUM Tsumeb 79.44 249 *eP* **P 06 51 53.6 +1.2**
comp=Z,4.4nm,0.8s,mb4.4
TSUM LR LR
comp=Z,634nm,19.0s,MS5.0
SMY Shemya 79.45 37 PFAKE 06 52 00.0 +8.3
SMY LR LR
comp=Z,965nm,21.0s,MS5.1
VOY Vojsko 79.58 316 *eP* **P 06 51 51.8 -0.8**
VOY *e* pP 06 52 07.4 +0.8
BSD Bornholm Skovb 79.61 325 ⇑ *i* P **P 06 51 51.9 -0.6**
BSD pmax pmax
comp=Z,37nm,0.6s,mb5.5
BSD Bornholm Skovb 79.61 325 ⇑ *i* P **P 06 51 51.9 -0.6**
comp=Z,37nm,0.6s,mb5.5
PTQR Pietraquaria 79.76 312 *eP* **P 06 51 54.0 +0.4**
BRG Berggiesshubel 79.84 321 *i* P **P 06 51 53.8 -0.1**
BRG *i* pP 06 52 09.5 +1.6
BRG pmax pmax
comp=Z,29nm,0.7s,mb5.3
BRG Berggiesshubel 79.84 321 *i* P **P 06 51 53.8 -0.1**
comp=Z,29nm,0.7s,mb5.3
BRG *i* pP 06 52 09.5 +1.6
ROBS Robic 79.86 316 *eP* **P 06 51 54.0 0.0**
GEC2 GERESS Array S 79.87 319 *eP* **P 06 51 54.0 -0.1**
GEC2 pmax pmax
comp=Z,67nm,0.8s,mb5.6
GEC2 GERESS Array S 79.87 319 *eP* **P 06 51 54.0 -0.1**
comp=Z,67nm,0.8s,mb5.6
GERES GERESS Array B 79.87 319 P **P 06 51 54.0 0.0**
comp=Z,60nm,0.8s,mb5.6,baz=90,slow=5.3,SNR=221
TRO Tromso 79.94 340 *eP* **P 06 51 53.9 -0.1**
comp=Z,35nm,1.5s,mb5.1
TRO Tromso 79.94 340 *eP* **P 06 51 53.9 -0.1**
TRO AMb AMB 06 51 58.5
comp=Z,35nm,1.5s,mb5.1
TRO *es* sP 06 52 07.2 -6.2
KHC Kasperske Hory 79.97 319 *eP* **P 06 51 54.2 -0.4**
KHC *ex* x 06 52 08.9
PTCC Patocco-Chiusa 79.97 316 *eP* **P 06 51 54.7 +0.1**
NRCA Norcia 80.00 312 *eP* **P 06 51 54.6 -0.3**
KBA Koelnbreinsper 80.01 317 ⇑ *i* P **P 06 51 54.2 -0.7**
comp=Z,25nm,1.0s,mb5.1
GMNA Gemona 80.05 316 *eP* **P 06 51 55.5 +0.4**
RUE Ruedersdorf 80.06 322 *eP* **P 06 51 55.1 +0.1**
comp=Z,124nm,0.8s,mb5.9
SNTG Esanatoglia 80.14 313 *eP* **P 06 51 56.3 +0.6**
ARV Arcevia 80.15 313 *eP* **P 06 51 55.7 +0.1**
MNS Montasola 80.31 312 *eP* **P 06 51 55.7 -0.9**
FVI Forni Avoltri 80.38 316 *eP* **P 06 51 56.8 0.0**
WET Wettzell 80.43 319 *eP* **P 06 51 57.0 0.0**
WET pmax pmax
comp=Z,31nm,0.8s,mb5.3
WET Wettzell 80.43 319 *eP* **P 06 51 57.0 0.0**
comp=Z,31nm,0.8s,mb5.3
CLL Collm 80.46 321 *i* P **P 06 51 56.1 -1.1**
CLL *i* 06 52 02.1
CLL *i* pP 06 52 11.0 -0.2
CLL pmax pmax
comp=Z,21nm,0.9s,mb5.1
CLL Collm 80.46 321 *i* P **P 06 51 56.1 -1.1**
comp=Z,21nm,0.9s,mb5.1
CLL *i* 06 52 02.1
CLL *i* pP 06 52 11.0 -0.2
CLL Collm 80.46 321 P **P 06 51 56.1 -1.1**
comp=Z,logA/T=1.4,mb5.1
CLL *i* 06 52 02.1
CLL *e**PP pP 06 52 07.0 -4.2
CLL *i* pP 06 52 11.0 -0.2
RSM Repubblica di 80.52 313 *eP* **P 06 51 58.5 +0.8**
HFS Hagfors 80.74 330 P **P 06 51 57.8 -0.6**
comp=Z,6.5nm,0.5s,mb4.8,baz=104,slow=6.1,SNR=56
HFS pP pP 06 52 13.8 +1.3
comp=Z,9.8nm,0.5s,baz=124,slow=5.3,SNR=6.7
HFS Hagfors 80.74 330 P **P 06 51 57.8 -0.6**
HFS pP pP 06 52 13.8 +1.3
NKC Novy Kostel 80.76 320 *eP* **P 06 51 58.9 +0.1**
SFI Santa Sofia 80.95 313 *eP* **P 06 52 01.0 +1.1**
PGD Poggio Sodo 81.05 313 *eP* **P 06 52 01.6 +1.2**
MOR8 Moi Rana 81.05 336 *eP* **P 06 52 00.5 +0.6**
comp=Z,46nm,1.6s,mb5.2
MOR8 Moi Rana 81.05 336 *eP* **P 06 51 59.3 -0.7**
MOR8 AMb AMB 06 52 02.9
comp=Z,46nm,1.6s,mb5.2
CTI Castel Tesino 81.14 316 *eP* **P 06 52 01.4 +0.6**
VMG Vicchio 81.17 314 *eP* **P 06 52 02.0 +1.0**
WTTA Wattenberg 81.19 317 ⇑ *i* P **P 06 52 00.5 -0.6**
comp=Z,91nm,1.4s,mb5.5
WATA Walderalm 81.23 317 ⇓ *i* P **P 06 52 00.4 -0.9**
comp=Z,29nm,1.1s,mb5.1
MOX Moxa 81.31 320 *eP* **P 06 52 02.0 +0.4**
MOX pmax pmax
comp=Z,28nm,0.8s,mb5.2
MOX Moxa 81.31 320 *eP* **P 06 52 02.0 +0.4**
comp=Z,28nm,0.8s,mb5.2
MOX Moxa 81.31 320 *i* P **P 06 52 02.0 +0.4**
comp=Z,logA/T=1.5,mb5.2
SEI Searperia 81.31 314 *eP* **P 06 52 02.8 +1.0**
SQTA Sankt Quirin 81.47 317 ⇓ *i* P **P 06 52 02.1 -0.5**
comp=Z,22nm,0.8s,mb5.1
GRA1 Grafenberg Arr 81.53 319 *eP* **P 06 52 03.0 +0.2**
comp=Z,50nm,1.0s,mb5.4
GRA1 *ep* pP 06 52 19.1 +2.2
GRF Grafenberg Arr 81.53 319 *eP* **P 06 52 03.0 +0.2**
GRF *e**PP pP 06 52 19.1 +2.2
GRF pmax pmax
comp=Z,50nm,1.0s,mb5.4
GRF Grafenberg Arr 81.53 319 *eP* **P 06 52 03.0 +0.2**
comp=Z,50nm,1.0s,mb5.4
GRF *ep* pP 06 52 19.1 +2.2
MOTA Moosalm 81.55 317 ⇑ *i* P **P 06 52 02.9 -0.1**
GRFL Gerfalco 81.58 313 *eP* **P 06 52 02.6 -0.5**
ZCCA Zocca 81.59 314 *eP* **P 06 52 04.9 +1.7**
LOF Lofoten 81.63 338 *eP* **P 06 52 06.1 +3.1**
LOF AMb AMB 06 52 15.3
comp=Z,109nm,1.6s,mb5.5
GSCL Gusciola 81.87 314 *eP* **P 06 52 03.6 -1.0**
ERBM Eremo 81.99 314 *eP* **P 06 52 07.0 +1.6**
SARO Sassorosso 82.00 314 P **P 06 52 04.8 -0.6**
NB2 NORSAR Subarra 82.03 331 P **P 06 52 04.3 -0.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=97,slow=5.0
NB2 NORSAR Subarra 82.03 331 P **P 06 52 04.3 -0.8**
baz=97,slow=5.1
NOA NORSAR Array B 82.03 331 P **P 06 52 04.5 -0.6**
comp=Z,4.4nm,0.8s,mb4.5,baz=95,slow=5.5,SNR=12
NOA PP PP 06 55 15.5 +0.3
comp=Z,1.3nm,0.7s,baz=86,slow=9.9,SNR=3.3
NOA comp=Z,324nm,19.5s,MS4.7,baz=60,slow=38 LR LR 07 31 34.0
BRMO Bormio 82.04 316 *eP* **P 06 52 06.0 +0.5**
VALM 82.11 314 P **P 06 52 06.1 +0.2**
CLZ Clausthal 82.12 321 *eP* **P 06 52 06.0 +0.2**
comp=Z,37nm,0.7s,mb5.4
VINC Vinca 82.18 314 P **P 06 52 06.5 +0.3**
BSEG Bad Segeberg 82.21 324 *eP* **P 06 52 06.4 +0.2**
BACM 82.24 314 P **P 06 52 06.5 -0.1**
GRAM 82.24 314 P **P 06 52 07.4 +0.8**
DAVOX Davos 82.38 316 P **P 06 52 07.5 +0.2**
comp=Z,68nm,0.6s,mb5.8,baz=114,slow=5.4,SNR=99
DAVA Damuels 82.38 317 ⇑ *i* P **P 06 52 07.8 +0.6**
comp=Z,46nm,1.0s,mb5.4
CODM 82.40 314 P **P 06 52 07.2 -0.2**
BOB Bobbio (Coli) 82.68 314 *eP* **P 06 52 09.8 +1.0**
PGF Pioggiola 83.03 312 *eP* **P 06 52 10.8 +0.1**
comp=Z,22nm,0.8s,mb5.0
TOD Tromm 83.10 319 *eP* **P 06 52 11.4 +0.6**
SPAK Spaichingen 83.12 318 *eP* **P 06 52 11.6 +0.6**
VAI Varese 83.15 315 *eP* **P 06 52 10.7 -0.5**
TNS Taunus Mts 83.33 320 *eP* **P 06 52 12.6 +0.6**
PCP Pian Castagno 83.33 314 P **P 06 52 11.7 -0.5**
BFO Black Forest 83.42 318 P **P 06 52 12.7 +0.2**
comp=Z,225nm,0.7s,mb6.3,SNR=13
BFO Black Forest 83.42 318 *eP* **P 06 52 11.8 -0.7**
BFO pmax pmax
comp=Z,25nm,0.7s,mb5.3
BFO Black Forest 83.42 318 *eP* **P 06 52 11.8 -0.7**
comp=Z,25nm,0.7s,mb5.3
FIN Finale Ligure 83.58 314 *eP* **P 06 52 13.4 0.0**
FELD Feldberg 83.65 317 *eP* **P 06 52 13.7 0.0**
MCGN Macugnaga 83.70 316 *eP* **P 06 52 14.2 +0.2**
ORX Oropa 83.71 315 P **P 06 52 13.0 -1.1**

LANF Langenberg 83.76 319 *eP* **P 06 52 14.7 +0.5**
IMI Imperia 83.81 313 *eP* **P 06 52 14.8 +0.1**
MOL Molde 83.81 332 *eP* **P 06 52 16.3 +2.1**
MOL Molde 83.81 332 *eP* **P 06 52 16.1 +1.9**
MOL AMb AMB 06 52 27.3
comp=Z,92nm,1.9s,mb5.6
ROB Roburent 83.82 314 P **P 06 52 14.3 -0.3**
TRAV 83.88 315 P **P 06 52 13.9 -1.0**
MONE Monesi 83.91 314 P **P 06 52 15.1 0.0**
ABH Alteburg 83.91 319 *eP* **P 06 52 15.8 +0.8**
BBS Basel-Blauen 83.99 317 *eP* **P 06 52 15.6 +0.2**
SAOF Saorge 84.05 314 *eP* **P 06 52 16.4 +0.6**
WLS Welschbruch 84.07 318 *eP* **P 06 52 15.8 0.0**
RPZ Rata Peaks 84.09 135 P **P 06 52 16.1 0.0**
comp=Z,4.5nm,0.5s,mb4.9,baz=97,slow=8.4,SNR=3.2
CDF Champ du Feu 84.12 318 *eP* **P 06 52 15.8 -0.3**
comp=Z,28nm,0.7s,mb5.2
ENR Entracque 84.14 314 P **P 06 52 16.0 -0.2**
SBF Sospel 84.14 313 *eP* **P 06 52 16.4 +0.1**
comp=Z,115nm,0.8s,mb5.8
AUTN L'Aution 84.15 314 *eP* **P 06 52 17.2 +0.9**
ECH Echery 84.21 318 *eP* **P 06 52 17.0 +0.5**
STV2 Anna di Valdie 84.21 314 P **P 06 52 16.0 -0.6**
STV Sta Anna Valdi 84.21 314 P **P 06 52 16.0 -0.6**
RSP Reno Superiore 84.23 315 P **P 06 52 15.3 -1.4**
RUP Ruppelstein 84.23 319 *eP* **P 06 52 17.2 +0.6**
MOF Molkenrain 84.23 317 *eP* **P 06 52 17.0 +0.4**
BHB Bricherasio 84.24 314 P **P 06 52 15.8 -0.9**
TOUF Mont Tournerai 84.27 314 *eP* **P 06 52 18.0 +1.1**
LSD Ceresole Reale 84.29 315 P **P 06 52 17.4 +0.4**
MVIF Mont Vial 84.35 313 *eP* **P 06 52 17.4 +0.1**
PZZ Prazzo 84.36 314 P **P 06 52 16.1 -1.3**
FENE Fenestrelle 84.37 315 P **P 06 52 16.8 -0.7**
HINF Hinteralfeld 84.42 317 *eP* **P 06 52 17.5 -0.1**
comp=Z,14nm,0.6s,mb5.0
CMAH Djebel Manchou 84.43 306 P **P 06 52 19.0 +1.1**
LOMF Lomont 84.46 317 *eP* **P 06 52 17.7 -0.1**
CALN Calern 84.54 313 *eP* **P 06 52 17.3 -1.0**
SURF Saint Ours 84.57 314 *eP* **P 06 52 19.6 +1.2**
RRL Cesana Torines 84.57 315 P **P 06 52 17.7 -0.7**
LPG La Plagne 84.58 315 *eP* **P 06 52 18.9 +0.5**
comp=Z,60nm,0.7s,mb5.5
LPL La Plagne 84.59 315 *eP* **P 06 52 18.9 +0.4**
comp=Z,82nm,0.8s,mb5.6
MBDF Montbardon 84.59 314 *eP* **P 06 52 18.1 -0.4**
comp=Z,19nm,0.6s,mb5.1
BNI Bardonecchia 84.64 315 *eP* **P 06 52 18.6 -0.2**
comp=Z,31nm,0.9s,mb5.4
FRF La Foret Royal 84.73 313 *eP* **P 06 52 19.4 +0.2**
comp=Z,58nm,0.7s,mb5.5
HAU Haudompre 84.76 318 *eP* **P 06 52 19.0 -0.3**
comp=Z,86nm,0.7s,mb5.7
HAU *eR*
comp=Z,308nm,18.8s
KIWB Kanaga Island 84.80 39 *eP* **P 06 52 19.1 -0.3**
LMR La Mourre 84.84 313 *eP* **P 06 52 19.9 +0.1**
comp=Z,29nm,0.7s,mb5.2
CAEH `Ain El Ouahch 84.88 306 P **P 06 52 22.0 +1.8**
THEF They Montfort 84.99 318 *eP* **P 06 52 20.6 +0.2**
CABF La Chapelle 84.99 316 *eP* **P 06 52 20.8 +0.3**
comp=Z,48nm,0.7s,mb5.5
CKFL Kef-Lekhel 85.01 306 P **P 06 52 24.0 +3.2**
TAVF Tavernes 85.15 313 *eP* **P 06 52 21.7 +0.4**
CASM Ain Smara 85.20 306 P **P 06 52 26.0 +4.2**
ORIF Oris-en-Rattie 85.22 315 *eP* **P 06 52 21.6 0.0**
comp=Z,27nm,0.7s,mb5.2
ORIF *eR*
comp=Z,344nm,19.5s
STOF St-Etienne Org 85.24 314 *eP* **P 06 52 23.1 +1.3**
CTEI Djebel Teioual 85.28 306 P **P 06 52 25.0 +2.8**
GRN Grenoble 85.30 315 *eP* **P 06 52 22.2 +0.2**
VILF Villemus 85.39 313 *eP* **P 06 52 22.2 -0.3**
PUYF Puyloubier 85.42 313 *eP* **P 06 52 23.6 +1.0**
BERF Beagne 85.43 313 *eP* **P 06 52 23.4 +0.7**
SMRF Simiane la Rot 85.48 314 *eP* **P 06 52 23.7 +0.8**
comp=Z,21nm,0.7s,mb5.1
MEZF Maizieres J'vi 85.60 318 *eP* **P 06 52 23.4 0.0**
GIVF Givet 85.66 320 *eP* **P 06 52 23.9 +0.2**
DFRA Djebel Bou Aff 85.68 306 P **P 06 52 26.0 +1.9**
PRAF Pradon 85.78 313 *eP* **P 06 52 25.3 +0.9**
BAIF Baives 86.06 320 *eP* **P 06 52 26.0 +0.4**
comp=Z,50nm,0.7s,mb5.6
VIVF Saint-Julien-l 86.08 315 *eP* **P 06 52 26.0 +0.2**
comp=Z,33nm,0.8s,mb5.3
SNZO South Karori 86.24 132 PFAKE 06 52 40.0 +13
SNZO LR LR
comp=Z,546nm,20.0s,MS5.0
SMF Signal de Mont 86.53 316 *eP* **P 06 52 28.0 0.0**
comp=Z,52nm,0.7s,mb5.5
LASF Ste Croix 86.71 314 *eP* **P 06 52 29.4 +0.4**
comp=Z,24nm,0.9s,mb5.1
SSF Saint Saulge 86.73 317 *eP* **P 06 52 29.6 +0.6**
comp=Z,20nm,0.7s,mb5.1
PLDF La Plantade 86.74 316 *eP* **P 06 52 30.8 +1.8**
AVF Avril sur Loir 86.86 317 *eP* **P 06 52 29.6 0.0**
comp=Z,40nm,1.0s,mb5.3
LBL Lubilhac 87.06 315 *eP* **P 06 52 32.7 +2.1**
AGO Saint Agoulin 87.07 316 *eP* **P 06 52 32.5 +1.8**
BGF Bois d'Agland 87.23 316 *eP* **P 06 52 31.8 +0.4**
comp=Z,63nm,1.0s,mb5.5
HYF Humbligny 87.31 317 *eP* **P 06 52 32.5 +0.7**
URZ Urewera 87.56 129 P **P 06 52 32.6 -0.6**
comp=Z,9.1nm,0.7s,mb5.1,baz=20,slow=12,SNR=7.7
TCF Toulx Ste Croi 87.69 316 *eP* **P 06 52 34.0 +0.4**
comp=Z,16nm,0.8s,mb5.0
CAF Calviac 87.92 315 *eP* **P 06 52 35.4 +0.6**
comp=Z,23nm,1.0s,mb5.1
MTLF Montolieu 87.96 313 *eP* **P 06 52 35.5 +0.5**
comp=Z,38nm,1.1s,mb5.2
EMHD Djebel Mahouad 88.06 306 P **P 06 52 39.0 +3.3**
RJF Les Rejaudoux 88.27 315 *eP* **P 06 52 37.2 +0.8**
comp=Z,26nm,0.8s,mb5.2
RJF *eR*
comp=Z,317nm,18.8s
TNA Tin City 88.28 24 *eP* **P 06 52 35.6 -0.4**
comp=Z,14nm,0.7s,mb5.3
EMIR Miracle 88.61 312 P **P 06 52 39.6 +1.5**
comp=Z,15nm,0.6s,mb5.5
LFF La Frestale 88.85 315 *eP* **P 06 52 40.0 +0.8**
comp=Z,24nm,0.7s,mb5.3
EPOB Poblet 89.00 311 P **P 06 52 41.5 +1.4**
comp=Z,12nm,0.6s,mb5.4
LDF La Druitiere 89.02 319 *eP* **P 06 52 40.2 +0.3**
comp=Z,40nm,0.8s,mb5.5
FLN La Foliniere 89.23 319 *eP* **P 06 52 41.2 +0.3**
comp=Z,53nm,0.7s,mb5.7
FLN *eR*
comp=Z,393nm,20.0s
MFF Saint Martin d 89.27 317 *eP* **P 06 52 41.4 +0.2**
comp=Z,22nm,0.7s,mb5.3
ETRT Tiaret 89.47 305 P **P 06 52 42.0 -0.4**
GRR Gorron 89.53 318 *eP* **P 06 52 42.9 +0.6**
comp=Z,71nm,1.1s,mb5.6
EBIE Bielsa 89.54 313 P **P 06 52 44.3 +1.8**
comp=Z,5.1nm,0.6s,mb5.0
EANR `Ain N'Sour 89.58 306 P **P 06 52 41.0 -1.9**
ERTA Horta de San J 89.61 311 P **P 06 52 43.5 +0.6**
comp=Z,5.6nm,0.6s,mb5.1
EKA Eskdalemuir Ar 89.92 326 P **P 06 52 44.9 +0.9**
comp=Z,12nm,0.6s,mb5.4,baz=96,slow=5.5,SNR=31
DAG Danmarks Havn 89.94 348 ⇓ *eP* **P 06 52 43.4 -0.3**
DAG pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
DAG Danmarks Havn 89.94 348 ⇓ *eP* **P 06 52 43.4 -0.3**
comp=Z,4.2nm,0.5s,mb5.0
DAG Danmarks Havn 89.94 348 ⇓ *iP* **P 06 52 43.4 -0.3**
comp=Z,4.2nm,0.5s,mb5.0
ETSF Etsaut 90.03 313 *eP* **P 06 52 45.8 +1.0**
comp=Z,17nm,0.6s,mb5.2
EMOS Mosqueruela 90.29 310 P **P 06 52 48.7 +2.7**
comp=Z,16nm,0.7s,mb5.5
VNDA Vanda 90.46 168 P **P 06 52 47.0 +0.9**
comp=Z,0.9nm,0.6s,mb4.3,baz=302,slow=6.9,SNR=6.3
VNDA LR LR 07 29 19.4
comp=Z,536nm,18.8s,MS5.0,baz=298,slow=33
VNDA Vanda 90.46 168 *eP* **P 06 52 47.0 +0.9**
comp=Z,4.7nm,0.8s,mb4.9
SJPF Ste Jean 90.48 313 *eP* **P 06 52 47.9 +0.9**
comp=Z,25nm,1.0s,mb5.2
SGMF Saint Gilles 90.67 318 *eP* **P 06 52 47.9 +0.2**
comp=Z,41nm,0.9s,mb5.5
EALK Alkurruntz 90.67 313 P **P 06 52 49.8 +1.9**
comp=Z,37nm,0.5s,mb5.0
UNV Unalaska Valle 91.00 36 *eP* **P 06 52 49.7 +0.6**
QUIF Quistinic 91.12 318 *eP* **P 06 52 49.9 +0.1**
comp=Z,28nm,0.7s,mb5.4
ROSF Rostrenen 91.13 319 *eP* **P 06 52 50.1 +0.3**
comp=Z,21nm,0.7s,mb5.3
EMUR La Murta 91.21 308 P **P 06 52 52.6 +2.1**
comp=Z,5.2nm,0.6s,mb5.0
ETOB Tobarra 91.34 309 P **P 06 52 54.5 +3.4**
comp=Z,6.1nm,0.7s,mb5.0
SBA Scott Base 91.56 168 *eP* **P 06 52 53.0 +1.8**
comp=Z,158nm,2.1s,mb6.0
ALE Alert 91.58 357 P **P 06 52 51.0 -0.3**
comp=Z,152nm,0.6s,SNR=22
EVIA Vianos 92.08 309 P **P 06 52 57.6 +3.1**
comp=Z,6.1nm,0.6s,mb5.1
EBER Berja 92.64 307 P **P 06 52 58.7 +1.6**
comp=Z,7.2nm,1.1s,mb5.0
GUD Guadarrama 93.02 311 P **P 06 53 00.3 +1.6**
comp=Z,3.7nm,0.5s,mb5.1
ESDC Sonseca Array 93.04 310 P **P 06 52 59.7 +0.8**
comp=Z,1.9nm,0.5s,mb4.8,baz=65,slow=4.2,SNR=8.9
ESDC pP pP 06 53 13.4 +0.2
comp=Z,4.6nm,0.7s,baz=67,slow=4.2,SNR=5.9
ESDC Sonseca Array 93.04 310 P **P 06 52 59.5 +0.6**
comp=Z,2.5nm,0.5s,mb4.9
EARI Arriondas 93.33 314 P **P 06 52 59.5 -0.6**
comp=Z,0.1nm,0.2s
IMA Indian Mountai 93.78 22 *eP* **P 06 53 02.3 +0.8**
comp=Z,491nm,1.7s
QSPA South Pole Qui 95.32 180 *eP* **P 06 53 10.4 +2.1**
QSPA LR LR
comp=Z,1µm,20.0s,MS5.4
COLA College 96.49 22 *i* P **P 06 53 17.1 +3.2**
COLA College 96.49 22 *eP* **P 06 53 16.9 +3.1**
COLA LR LR
comp=Z,655nm,19.0s,MS5.1
MCK McKinley 96.59 24 *eP* **P 06 53 13.4 -0.9**
comp=Z,2.1nm,0.6s,mb4.7
MCK LR LR
comp=Z,356nm,19.0s,MS4.9
SUMG Summit 96.61 347 *eP* **P 06 53 16.3 +2.1**
comp=Z,5.2nm,0.6s,mb5.1
ILAR Eielson Array 96.91 22 P **P 06 53 14.9 -0.8**
comp=Z,2.9nm,0.5s,mb4.9,baz=315,slow=3.7,SNR=69
ILAR PP PP 06 57 09.2 -5.0
comp=Z,0.7nm,0.8s,baz=309,slow=8.6,SNR=4.5
ILAR PKKPbc 07 09 57.2
comp=Z,0.3nm,0.6s,baz=145,slow=2.9,SNR=5.7
ILAR LR LR 07 46 07.9
comp=Z,194nm,20.2s,MS4.6,baz=319,slow=41
FIB Fire Island 97.19 26 PFAKE 06 53 30.0 +13
FIB LR LR
comp=Z,1µm,22.0s,MS5.3
KDAK Kodiak Island 97.42 30 PFAKE 06 53 30.0 +12
KDAK LR LR
comp=Z,226nm,21.0s,MS4.6
SLKM Skilak Lake 97.44 27 *eP* **P 06 53 17.6 -0.7**
SML Sawmill 97.70 25 *eP* **P 06 53 19.1 -0.4**
DBIC Dimbokro 98.58 278 LR LR 07 34 27.2
comp=Z,431nm,21.6s,MS4.9,baz=62,slow=33
DBIC Dimbokro 98.58 278 PFAKE 06 53 40.0 +15
DBIC LR LR
comp=Z,624nm,20.0s,MS5.1
DIV Divide 99.11 25 PFAKE 06 53 40.0 +14
DIV LR LR
comp=Z,2µm,20.0s,MS5.6
INK Inuvik 99.27 16 *eP* **P 06 53 26.5 0.0**
comp=Z,6.8nm,0.6s,mb5.3
RES Resolute Bay 99.84 3 *eP* **P 06 53 29.4 +0.4**
comp=Z,9.1nm,0.6s,mb5.4
DAWY Dawson 100.04 21 *eP* P 06 53 29.1 -0.9
SIT Sitka 105.84 26 PFAKE 06 58 20.0
SIT LR LR
comp=Z,697nm,22.0s,MS5.2
YKA Yellowknife Ar 108.74 14 Pdiff Pdif 06 54 10.2 +1.6
comp=Z,0.8nm,0.6s,baz=326,slow=4.2,SNR=24
YKA PKiKP 06 58 13.5
comp=Z,0.7nm,0.6s,baz=355,slow=2.1,SNR=12
YKA PP PP 06 58 37.9 -6.0
comp=Z,3.6nm,0.7s,baz=335,slow=7.7,SNR=7.3
YKA PKKPbc 07 09 22.1
comp=Z,0.3nm,0.5s,baz=151,slow=3.6,SNR=11
YKA Yellowknife Ar 108.74 14 Pdif Pdif 06 54 10.2 +1.6
YKA PKPdf 06 58 13.5
YKA PP PP 06 58 37.9 -6.0
YKA PKKPbc 07 09 22.1
EDM Edmonton 117.06 18 *eP* PKPdf 06 58 30.0 +1.5
SCHQ Schefferville 117.99 348 PKP PKPdf 06 58 31.9 +1.6
comp=Z,3.5nm,0.6s,baz=69,slow=17,SNR=12
FFC Flin Flon 118.55 11 *eP* PKPdf 06 58 32.5 +1.2
FFC LR LR
comp=Z,268nm,19.0s,MS4.9
PMSA Palmer Station 118.78 190 PFAKE 06 58 40.0 +8.4
PMSA LR LR
comp=Z,713nm,19.0s,MS5.3
NEW Newport 119.82 24 PFAKE 06 58 50.0 +16
NEW LR LR
comp=Z,609nm,22.0s,MS5.2
HUMO Hull Mountain 121.39 32 *eP* PKPdf 06 58 38.7 +1.5
HUMO LR LR
comp=Z,481nm,19.0s,MS5.2
MSO Missoula 122.24 23 *eP* PKPdf 06 58 39.2 +0.4
MSO LR LR
comp=Z,472nm,20.0s,MS5.1
CHMT Chamberlain Mo 122.43 22 *eP* PKPdf 06 58 40.1 +1.0
BMO Blue Mountains 122.44 26 PFAKE 06 58 50.0 +11
BMO LR LR
comp=Z,452nm,20.0s,MS5.1
MOD Modoc 123.26 31 *eP* PKPdf 06 58 42.5 +1.6
WVOR Wild Horse Val 123.69 29 *eP* PKPdf 06 58 42.8 +1.1
ULM Lac du Bonnet 123.86 8 PKP PKPdf 06 58 42.4 +0.5
comp=Z,8.2nm,0.6s,baz=17,slow=2.0,SNR=22
ULM pPKP 06 58 56.6
comp=Z,5.6nm,0.6s,baz=358,slow=3.9,SNR=5.3
BOZ Bozeman (W) 124.10 22 PFAKE 06 59 00.0 +18
BOZ LR LR
comp=Z,702nm,19.0s,MS5.3
MCMT McKenzie Canyo 124.33 23 *eP* PKPdf 06 58 44.2 +1.4
NSHM Saint Helena R 124.42 35 *eP* PKPdf 06 58 45.1 +1.9
HLID Hailey 124.73 25 *e*PKPdf PKPdf 06 58 45.6 +1.9
QLMT Earthquake Lak 124.87 22 *e*PKPdf PKPdf 06 58 45.8 +1.8
LAO LASA Array 124.99 17 *e*PKPdf PKPdf 06 58 46.6 +2.5
YMR Madison River 125.18 22 *e*PKPdf PKPdf 06 58 47.0 +2.5
YFT Old Faithful 125.42 22 *e*PKPdf PKPdf 06 58 49.1 +4.2
LKWY Lake 125.48 22 PFAKE 06 59 00.0 +15
LKWY LR LR
comp=Z,1µm,19.0s,MS5.6
BMN Battle Mountai 125.90 30 PFAKE 06 59 00.0 +14
BMN LR LR
comp=Z,945nm,19.0s,MS5.5
RRI2 Red Ridge 126.17 23 *e*PKPdf PKPdf 06 58 48.0 +1.5
WUWY Wally Ulrich 126.23 23 *e*PKPdf PKPdf 06 58 48.9 +2.3
SNOW Snow King Moun 126.29 23 *e*PKPdf PKPdf 06 58 49.2 +2.5
ELK Elko 126.61 28 *e*PKPdf PKPdf 06 58 49.8 +2.4
ELK LR LR
comp=Z,289nm,19.0s,MS5.0
EYMN Ely 126.62 5 *e*PKPdf PKPdf 06 58 48.0 +0.8
NVAR Mina Array Bea 126.85 32 PKP PKPdf 06 58 49.6 +1.6
comp=Z,6.4nm,0.6s,baz=344,slow=1.5,SNR=60
MNV Mina 126.93 32 *eP* PKPdf 06 58 50.9 +2.8
BW06 Boulder Array 127.34 22 PFAKE 06 59 00.0 +11
BW06 LR LR
comp=Z,520nm,19.0s,MS5.2
PDAR Pinedale Array 127.34 22 PKP PKPdf 06 58 49.1 +0.4
comp=Z,1.0nm,0.6s,baz=116,slow=3.7,SNR=5.0
MTUM Tungsten Hills 127.50 33 *e*PKPdf PKPdf 06 58 52.3 +3.0
HWUT Hardware Ranch 127.53 25 *e*PKPdf PKPdf 06 58 51.2 +2.0
HWUT LR LR
comp=Z,504nm,19.0s,MS5.2
EMMW East Machias 127.54 344 PFAKE 06 59 00.0 +11
EMMW LR LR
comp=Z,5µm,20.0s
DUG Dugway 128.16 27 *e*PKPdf PKPdf 06 58 52.6 +2.2
DUG LR LR
comp=Z,675nm,21.0s,MS5.3
WVL Waterville 128.25 346 PFAKE 06 59 00.0 +10
WVL LR LR
comp=Z,10µm,22.0s
TRCR Troy Canyon 128.31 30 *e*PKPdf PKPdf 06 58 53.8 +3.0
JLU Jordanelle 128.41 25 *e*PKPdf PKPdf 06 58 52.4 +1.5
DAC Darwin (Calif) 128.82 33 PFAKE 06 59 10.0 +18
DAC LR LR
comp=Z,542nm,21.0s,MS5.2
TMUT Trail Mountain 129.60 26 *eP* PKPdf 06 58 56.6 +3.5
MVU Marysvale 129.80 27 *eP* PKPdf 06 58 56.6 +3.0
MVU LR LR
comp=Z,764nm,20.0s,MS5.4

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSU	**Marysvale**	**129.81**	**27**	*e*PKPdf	PKPdf	06 58 56.6	+3.0
SRU	**San Rafael**	**130.05**	**25**	*e*P	PKPdf	06 58 56.4	+2.3
RCBR	**Riachuelo**	**130.60**	**267**	PFAKE		06 59 10.0	+14
RCBR				LR	LR		
	comp=Z,393nm,19.0s,MS5.1						
PV10	**Paradox Valley**	**131.29**	**25**	*e*P	PKPdf	06 58 58.7	+2.3
PV01	**Paradox Valley**	**131.69**	**24**	*e*PKPdf	PKPdf	06 59 00.5	+3.3
AAM	**Ann Arbor**	**132.50**	**358**	PFAKE		06 59 10.0	+11
AAM				LR	LR		
	comp=Z,737nm,19.0s,MS5.4						
SDCO	**Great Sand Dun**	**133.23**	**22**	PFAKE		06 59 10.0	+10
SDCO				LR	LR		
	comp=Z,635nm,20.0s,MS5.3						
MVL	**Millersville**	**134.04**	**350**	*e*PKPdf	PKPdf	06 59 03.3	+1.8
ACSO	**Alum Creek Sta**	**134.53**	**357**	PFAKE		06 59 20.0	+18
ACSO				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
MCWV	**Mont Chateau**	**134.86**	**354**	PFAKE		06 59 20.0	+17
MCWV				LR	LR		
	comp=Z,3μm,20.0s,MS6.0						
ANMO	**Albuquerque**	**135.29**	**25**	*e*PKPdf	PKPdf	06 59 06.4	+2.5
LENM	**Lemitar**	**135.75**	**26**	*e*PKPdf	PKPdf	06 59 07.8	+3.0
LPM	**Los Pinos Moun**	**135.77**	**25**	*e*PKPdf	PKPdf	06 59 06.2	+1.3
FWV	**Forest Hill**	**137.01**	**354**	*e*PKPdf	PKPdf	06 59 06.7	-0.4
CPRX	**Cap Rock**	**138.01**	**23**	*e*PKPpre		06 59 01.3	
GDL2	**Guadalupe Moun**	**138.54**	**24**	*e*PKPdf	PKPdf	06 59 10.8	+0.8
MNTX	**Cornudas Mount**	**138.54**	**26**	*e*PKPpre		06 59 03.2	
WVT	**Waverly**	**138.63**	**3**	*e*PKPpre		06 58 59.4	
CLNB	**Carlsbad**	**138.68**	**24**	*e*PKPdf	PKPdf	06 59 12.1	+1.8
MIAR	**Mount Ida**	**139.56**	**10**	*e*PKPpre		06 59 04.4	
MIAR				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
PLAL	**Pickwick Lake**	**139.76**	**3**	*e*PKPpre		06 59 04.0	
PLAL				LR	LR		
	comp=Z,644nm,20.0s,MS5.4						
OXF	**Oxford**	**140.14**	**5**	PFAKE		06 59 30.0	+17
OXF				LR	LR		
	comp=Z,944nm,22.0s,MS5.5						
TRQA	**Tornquist**	**141.06**	**210**	*e*PKPpre		06 59 06.9	
LTX	**Lajitas**	**141.32**	**26**	*e*PKPpre		06 59 10.1	
LTX				LR	LR		
	comp=Z,923nm,20.0s,MS5.5						
TXAR	**Lajitas Array**	**141.32**	**26**	PKhKP		06 59 10.4	
	comp=Z,4.5nm,0.5s,baz=166,slow=1.8,SNR=29						
TXAR				PKP	PKPdf	06 59 15.3	+0.2
	comp=Z,8.6nm,0.7s,baz=25,slow=0.7,SNR=24						
TXAR				PP	PP	07 02 17.0	-4.6
	comp=Z,1.5nm,0.7s,slow=2.5,SNR=4.6						
TXAR				SKPbc		07 02 51.6	
	comp=Z,1.5nm,0.7s,baz=286,slow=1.4,SNR=3.4						
TXAR	**Lajitas Array**	**141.32**	**26**	PKP	PKPdf	06 59 10.4	-4.7
TXAR				PKP	PKPdf	06 59 15.3	+0.2
TXAR				PP	PP	07 02 17.0	-4.6
TXAR				SKPbc		07 02 51.6	
GOGA	**Godfrey**	**141.35**	**357**	PFAKE		06 59 30.0	+15
GOGA				LR	LR		
	comp=Z,841nm,19.0s,MS5.5						
LRAL	**Lakeview Retre**	**141.75**	**2**	*e*PKPpre		06 59 10.8	
BDFB	**Brasilia**	**141.78**	**252**	PKhKP		06 59 12.7	
	comp=Z,1.9nm,0.6s,baz=53,slow=7.8,SNR=4.3						
JCT	**Junction City**	**141.80**	**20**	*e*PKPpre		06 59 11.1	
JCT				LR	LR		
	comp=Z,625nm,19.0s,MS5.4						
PLCA	**Paso Flores**	**142.33**	**199**	PKhKP		06 59 14.3	
	comp=Z,1.1nm,0.5s,baz=166,slow=3.7,SNR=10						
PLCA	**Paso Flores**	**142.33**	**199**	PKP	PKPdf	06 59 14.3	-2.2
HKT	**Hockley**	**143.50**	**15**	PFAKE		06 59 30.0	+13
HKT				LR	LR		
	comp=Z,611nm,22.0s,MS5.3						
DWPF	**Disney**	**146.45**	**353**	PFAKE		06 59 40.0	+16
DWPF				LR	LR		
	comp=Z,676nm,19.0s,MS5.5						
BBL	**Barber's Block**	**148.36**	**311**	*e*P	PKPdf	06 59 33.4	+6.0
CJM	**Chamela**	**148.69**	**37**	*i* P	PKPdf	06 59 33.6	+5.8
COLM	**Colima**	**149.74**	**36**	*i* P	PKPdf	06 59 37.2	+7.6
SJG	**San Juan**	**149.80**	**321**	*e*PKPdf	PKPdf	06 59 31.7	+2.0
SJG				*e*PKPbc	PKPdf	06 59 36.0	+6.4
SJG				LR	LR		
	comp=Z,364nm,21.0s,MS5.2						
MOIG	**Morelia**	**150.71**	**31**	*i* P	PKPdf	06 59 39.0	+8.0
YAIG	**Yautepec**	**152.46**	**29**	*i* P	PKPdf	06 59 42.4	+8.7
PPM	**Popocatepetl**	**152.49**	**28**	*i* P	PKPdf	06 59 43.9	+10
TEIG	**Tepich**	**154.40**	**6**	*e*PKPbc	PKPdf	06 59 45.4	+9.1
TEIG				LR	LR		
	comp=Z,234nm,20.0s,MS5.0						
SDV	**Santo Domingo**	**159.45**	**314**	PFAKE		07 00 00.0	+17
SDV				LR	LR		
	comp=Z,372nm,20.0s,MS5.2						
LPAZ	**La Paz**	**159.78**	**236**	PKP	PKPdf	06 59 46.0	+2.9
	comp=Z,1.6nm,0.8s,baz=54,slow=7.8,SNR=7.0						
LPAZ				PKPab	PKPab	07 00 25.8	+1.2
	comp=Z,3.8nm,0.9s,baz=153,slow=4.5,SNR=5.5						
LPAZ	**La Paz**	**159.78**	**236**	*e*PKPdf	PKPdf	06 59 46.1	+3.0
LPAZ				LR	LR		
	comp=Z,492nm,22.0s,MS5.3						
JTS	**JuntasAbangare**	**164.40**	**358**	PFAKE		07 00 00.0	+12
JTS				LR	LR		
	comp=Z,157nm,22.0s						
ROSC	**El Rosal**	**164.86**	**312**	PKP	PKPdf	06 59 51.6	+3.2
	comp=Z,7.2nm,0.9s,baz=126,slow=5.6,SNR=6.8						
ROSC				pPKP		07 00 05.1	
	comp=Z,8.1nm,0.8s,baz=86,slow=14,SNR=5.9						
NNA	**Nana**	**169.19**	**232**	PFAKE		07 00 00.0	+8.6
NNA				LR	LR		
	comp=Z,151nm,21.0s						
OTAV	**Otavalo**	**170.97**	**308**	*e*PKPdf	PKPdf	06 59 54.8	+2.3
OTAV				LR	LR		
	comp=Z,598nm,22.0s						
PAYG	**Puerto Ayora**	**173.34**	**45**	PFAKE		07 00 10.0	+16
PAYG				LR	LR		
	comp=Z,472nm,20.0s						

*MAN **16** 07:08:42.5, 5.76N×125.43E, h93km, mb5.2, ML4.1, MS4.3*
MAN General Santos City Intensity III.
*BJI **16** 07:08:42.2, 5.65N×125.63E, h104km, mB5.2, mb4.7*
*NEIC **16** 07:08:47.9±2.6, 5.79N×125.46E, h128km±26km, mb4.6/13, Error ellipse: s-maj=15.2km s-min=7.1km az=70.0*
NEIC Felt [III PIVS] at General Santos.
*IDC **16** 07:08:47.3±2.9, 5.86N×125.63E, h119km±27km, mb4.1/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.5/14, MS3.9/1, Ms1 3.9/1, ms1mx2.7/27, Error ellipse: s-maj=24.4km s-min=11.4km az=83.0*
ISC 16 07:08:42.9±0.6**, 5.81N**±0.04**×125.53E**±0.05**, h94**km±5km**, n56,** σ1**ˢ06**/61**, mb4.5**/32**, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.25**	**2**⇑	*e*P	**P**	**07 09 06.8**	**+0.6**
KCP	**Kidapawan**	**1.27**	**340**⇓	*i*P	**P**	**07 09 06.5**	**0.0**
KCP				*i* S	**S**	**07 09 24.4**	**+0.5**
MATI	**Mati**	**1.34**	**33**	*e*P	**P**	**07 09 06.0**	**-1.2**
MATI				*e*S	**S**	**07 09 21.0**	**-4.3**
BUKP	**Musuan**	**2.10**	**347**	*e*P	**P**	**07 09 18.1**	**+0.9**
BIPH	**Bislig**	**2.49**	**19**⇓	*i*P	**P**	**07 09 22.1**	**-0.4**
BIPH				*i* S	**S**	**07 09 50.3**	**-1.9**
CGP	**Cagayan de Oro**	**2.75**	**342**⇑	*e*P	**P**	**07 09 28.3**	**+2.1**
CGP				*e*S	**S**	**07 10 01.5**	**+3.0**
PAGZ	**Pagadian**	**2.94**	**314**	*e*P	**P**	**07 09 27.4**	**-1.3**
BUTP	**Butuan**	**3.13**	**2**	*e*P	**P**	**07 09 32.3**	**+0.9**
DCPH	**Dipolog City**	**3.50**	**322**	*e*P	**P**	**07 09 46.0**	**+10**
DCPH				*i* S	x	07 10 37.2	
ZMPH	**Zamboanga City**	**3.63**	**288**	*e*P	**P**	**07 09 37.2**	**-1.0**
ZMPH				*i* S	**S**	**07 10 17.3**	**-2.8**
SCPH	**Surigao**	**3.94**	**359**	*e*P	**P**	**07 09 43.5**	**+1.0**
SCPH				*e*S	x	07 10 06.0	
SNPH	**Sibulan**	**4.18**	**327**	*e*P	**P**	**07 09 46.0**	**+0.3**
TBP	**Tagbilaran**	**4.19**	**337**	*e*P	**P**	**07 09 44.5**	**-1.4**
KSM	**Kuching**	**15.79**	**255**	*e*P	**P**	**07 12 21.2**	**+0.1**
KAKA	**Kakadu**	**19.64**	**160**	*e*P	**P**	**07 13 06.7**	**0.0**
	24nm,0.6s						
JOW	**Kunigami**	**21.06**	**7**	P	**P**	**07 13 22.6**	**+1.4**
	55nm,0.7s,mb5.0,baz=182,slow=6.6,SNR=14						
JOW				LR	LR	07 21 00.2	
	comp=Z,294nm,20.0s,baz=209,slow=35						
FITZ	**Fitzroy Crossi**	**23.76**	**180**	*e*P	**P**	**07 13 49.1**	**+1.4**
	15nm,0.5s,mb4.6						
PMG	**Port Moresby**	**26.33**	**125**	P	**P**	**07 14 11.5**	**-0.5**
	6.4nm,0.5s,mb4.3,baz=315,slow=11,SNR=3.5						
CBIJ	**Chichi jima**	**26.45**	**35**	P	**P**	**07 14 11.7**	**-1.3**
	57nm,0.5s,mb5.3,baz=257,slow=11,SNR=10						
WRAB	**Tennant Creek**	**27.02**	**161**	*e*P	**P**	**07 14 17.8**	**-0.5**
	10nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**27.02**	**162**	P	**P**	**07 14 17.3**	**-1.1**
	3.0nm,0.5s,mb4.0,baz=334,slow=11,SNR=41						
WB2	**Warramunga Arr**	**27.02**	**161**	*e*P	**P**	**07 14 17.9**	**-0.5**
ENH	**Enshi**	**28.64**	**330**	P	**P**	**07 14 32.1**	**-0.7**
	7.0nm,0.7s,mb4.4						
CMAR	**Chiang Mai Arr**	**28.82**	**298**	P	**P**	**07 14 36.6**	**+2.1**
	0.6nm,0.4s,mb3.6,baz=106,slow=7.5,SNR=4.8						
ASAR	**Alice Springs**	**30.42**	**165**	P	**P**	**07 14 48.8**	**0.0**
	2.2nm,0.4s,mb4.1,baz=342,slow=7.1,SNR=35						
ASAR				PcP	PcP	07 17 46.0	-0.1
	0.7nm,0.3s,baz=352,slow=2.4,SNR=4.9						
ASAR				ScP		07 21 18.6	
	0.6nm,0.5s,baz=340,slow=2.7,SNR=3.9						
XAN	**Xi'an**	**32.03**	**333**	P	**P**	**07 15 01.6**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
FORT	**Forrest**	**36.47**	**176**	*e*P	**P**	**07 15 41.1**	**+0.4**
	comp=Z,444nm,0.7s						
HHC	**Hu-ho-hao-te**	**37.06**	**342**	*e*P	**P**	**07 15 49.3**	**+3.7**
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,221nm,5.7s						
MDJ	**Mudanjiang**	**38.81**	**5**	P	**P**	**07 16 00.8**	**+0.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,148nm,5.9s						
MDJ	**Mudanjiang**	**38.81**	**5**	*e*P	**P**	**07 16 01.0**	**+1.0**
	comp=Z,11nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**39.33**	**191**	P	**P**	**07 16 05.2**	**+0.7**
	comp=Z,21nm,0.9s,mb5.0,baz=42,slow=7.2,SNR=5.7						
NWAO	**Narrogin (SRO)**	**39.33**	**191**	*e*P	**P**	**07 16 04.7**	**+0.3**
	comp=Z,9.8nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**40.49**	**159**	P	**P**	**07 16 15.9**	**+1.8**
	comp=Z,5.8nm,0.7s,mb4.5,baz=344,slow=6.9,SNR=9.1						
STKA	**Stephens Creek**	**40.49**	**159**	*e*P	**P**	**07 16 15.5**	**+1.4**
GTA	**Gaotai**	**40.71**	**329**	P	**P**	**07 16 14.9**	**-0.9**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.3						
ASAJ	**Asahikawa**	**40.99**	**19**	P	**P**	**07 16 19.4**	**+1.4**
	comp=Z,6.5nm,0.4s,mb4.8,baz=175,slow=11,SNR=5.5						
JIRN	**Jiri**	**43.20**	**305**	*e*P	**P**	**07 16 37.2**	**+0.8**
	comp=Z,22nm,0.7s,mb5.0						
PKI	**Pulchoki**	**43.80**	**304**	*e*P	**P**	**07 16 41.5**	**+0.2**
	comp=Z,6.1nm,0.6s,mb4.5						
KKN	**Kakani**	**43.99**	**304**	*e*P	**P**	**07 16 43.0**	**+0.1**
	comp=Z,15nm,0.8s,mb4.8						
DMN	**Daman**	**44.07**	**304**	*e*P	**P**	**07 16 43.9**	**+0.4**
	comp=Z,12nm,0.6s,mb4.8						
GKN	**Gorkha**	**44.60**	**304**	*e*P	**P**	**07 16 48.1**	**+0.4**
SONM	**Songino Array**	**44.95**	**342**	P	**P**	**07 16 49.5**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=153,slow=8.3,SNR=3.6						
KOLN	**Koldanda**	**45.37**	**304**	*e*P	**P**	**07 16 54.4**	**+0.6**
	comp=Z,15nm,0.5s,mb5.0						
MA2	**Magadan**	**57.00**	**15**	*e*P	**P**	**07 18 21.0**	**0.0**
	comp=Z,7.4nm,0.8s,mb4.8						
KURK	**Kurchatov**	**59.35**	**327**	*e*P	**P**	**07 18 35.7**	**-1.7**
	comp=Z,2.9nm,0.4s,mb4.7						
BRVK	**Borovoye**	**65.00**	**327**	P	**P**	**07 19 13.2**	**-1.8**
	comp=Z,1.8nm,0.4s,mb4.2						
MCK	**McKinley**	**82.84**	**27**	*e*P	**P**	**07 20 58.3**	**+0.3**
	comp=Z,2.0nm,0.7s,mb4.1						
COLA	**College**	**83.33**	**25**	*e*P	**P**	**07 21 01.2**	**+0.7**
	comp=Z,3.6nm,1.0s,mb4.2						
ILAR	**Eielson Array**	**83.75**	**26**	P	**P**	**07 21 02.2**	**-0.3**
	comp=Z,2.1nm,0.6s,mb4.1,baz=244,slow=4.9,SNR=40						
ARCES	**ARCESS Array B**	**88.09**	**340**	P	**P**	**07 21 22.7**	**-0.9**
	comp=Z,3.9nm,0.9s,mb4.4,baz=90,slow=7.3,SNR=9.0						
INK	**Inuvik**	**88.67**	**21**	P	**P**	**07 21 26.8**	**+0.4**
	comp=Z,1.2nm,0.6s,mb4.1,baz=269,slow=5.6,SNR=11						
INK	**Inuvik**	**88.67**	**21**	*e*P	**P**	**07 21 27.1**	**+0.6**
	comp=Z,1.5nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**89.44**	**332**	P	**P**	**07 21 28.8**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=27,slow=4.3,SNR=9.4						
RES	**Resolute Bay**	**95.98**	**10**	*e*P	**P**	**07 22 00.9**	**+1.0**
	comp=Z,3.0nm,1.1s,mb4.6						
YKA	**Yellowknife Ar**	**98.10**	**24**	P	**P**	**07 22 09.0**	**-0.8**
	comp=Z,0.6nm,0.8s,mb4.2,baz=301,slow=4.9,SNR=12						
YKA	**Yellowknife Ar**	**98.10**	**24**	P	**P**	**07 22 09.0**	**-0.8**

*IDC **16** 07:13:38.5±2.0, 5.83S×152.39E, mb4.0/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.2/1, Error ellipse: s-maj=124.8km s-min=25.4km az=132.0*
ISC 16 07:13:41.3±1.3**, 6.1S**±0.4**×152.6E**±0.3**, h33**km**, n6,** σ1**ˢ21**/7**, mb3.9**/3**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.35**	**238**	Pn	**Pn**	**07 15 13.7**	**-1.6**
	3.3nm,0.3s,baz=36,slow=11,SNR=7.8						
PMG				Sn	**Sn**	**07 16 28.5**	**+1.1**
	2.9nm,0.3s,baz=312,slow=23,SNR=3.2						
WB2	**Warramunga Arr**	**22.48**	**231**	*e*P	**P**	**07 18 37.9**	**-1.4**
WRA	**Warramunga Arr**	**22.49**	**231**	P	**P**	**07 18 38.3**	**-1.0**
	3.2nm,0.6s,mb3.9,baz=53,slow=9.8,SNR=13						
ASAR	**Alice Springs**	**25.11**	**224**	P	**P**	**07 19 05.4**	**+0.5**
	7.6nm,0.7s,mb4.3,baz=57,slow=9.0,SNR=33						
ASPA	**Alice Springs**	**25.11**	**224**	*e*P	**P**	**07 19 06.7**	**+1.8**
ILAR	**Eielson Array**	**83.40**	**22**	P	**P**	**07 26 07.0**	**+0.6**
	0.2nm,0.5s,mb3.4,baz=252,slow=5.2,SNR=5.2						

IDC 16 07:34:06.1±10.0**, 12.71N×93.09E, mb3.5**/2**, mb1 3.7**/3**, mb1mx3.6**/16**, mbtmp3.4**/3**, ML3.9**/1**, Error ellipse: s-maj=229.0km s-min=46.3km az=104.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.03**	**44**	Pn	P	07 36 03.8	-3.0
	0.4nm,0.3s,baz=237,slow=14,SNR=4.8						
WRA	**Warramunga Arr**	**51.97**	**128**	P	P	07 43 17.2	-2.3
	0.3nm,0.3s,baz=305,slow=9.5,SNR=7.6						
ASAR	**Alice Springs**	**53.85**	**132**	P	P	07 43 31.4	-2.0
	0.3nm,0.5s,baz=313,slow=6.9,SNR=9.0						

*MOS **16** 07:40:02.3±1.0, 7.88S×117.61E, h33km, mb5.1/19, Error ellipse: s-maj=9.4km s-min=7.3km az=103.8*
*NEIC **16** 07:40:03.7±1.5, 7.91S×117.58E, h28km±12km, mb4.9/19, Error ellipse: s-maj=5.7km s-min=4.7km az=47.0*
NEIC Felt [II] at Makassar, Sulawesi.
*HRVD **16** 07:40:03.7±0.6, 7.99S×117.44E, h28km±1km, MW4.8/39, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s39,c57; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.73±.23; Mθθ-1.60±.13; Mφφ-0.12±.15; Mrθ0.01±.19; Mθφ-0.49±.08; Mφr-0.66±.35; Best double couple: M0 1.852×10^16 NP1:φs90°, δ45°, λ116°. NP2:φs236°, δ51°, λ66°. Principal axes: T 1.946, Plg72°, Azm82°; N -.187, Plg18°, Azm251°; P -1.757, Plg3°, Azm342°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*DJA **16** 07:40:03.6±1.3, 7.87S×117.57E, h70km±43km, MD4.7/4, ML5.2/4 Error ellipse: s-maj=42.6km s-min=5.9km az=148.0*
*BJI **16** 07:40:03.6, 7.90S×117.60E, h28km, mB5.3, mb4.8, Ms4.4, Msz4.4*
*IDC **16** 07:40:08.3±4.0, 7.95S×117.61E, h68km±36km, mb4.3/11, mb1 4.4/11, mb1mx4.3/17, mbtmp4.6/11, MS3.9/8, Ms1 3.9/8, ms1mx3.5/25, Error ellipse: s-maj=26.8km s-min=9.7km az=47.0*
ISC 16 07:40:02.4±0.2**, 7.92S**±0.04**×117.59E**±0.04**, h33**km**, (h20**km±3.9km**:pP-P), n104,** σ0**ˢ89**/105**, mb4.9**/41**, MS4.0**/10**, 8C-3D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.57**	**249**⇓	*e*Pn	**Pn**	**07 40 29.6**	**+1.2**
	4μm,0.2s						
RATI	**Rata**	**2.19**	**248**⇑	*e*Pn	**Pn**	**07 40 37.3**	**0.0**
	2μm,0.2s						
KELI	**Kelakatan**	**3.08**	**264**⇑	*e*Pn	**Pn**	**07 40 50.3**	**+0.2**
	223nm,0.1s						
MKS	**Makassar**	**3.27**	**35**	*e*Pn	**Pn**	**07 40 52.0**	**-0.7**
SRDI	**Scrawed**	**3.46**	**260**⇓	*e*Pn	**Pn**	**07 40 55.0**	**-0.4**
	1μm,0.2s						
SRDI				*e*Sn	**Sn**	**07 41 32.8**	**-2.9**
NINI	**Niniconang**	**4.08**	**32**	*e*Pn	**Pn**	**07 41 04.4**	**+0.1**
TANI	**Tanete Lipujan**	**4.79**	**22**	*e*Pn	**Pn**	**07 41 13.6**	**-0.8**
BUNI	**Buntu Taipa**	**5.03**	**33**	*e*Pn	**Pn**	**07 41 17.6**	**0.0**
FITZ	**Fitzroy Crossi**	**12.80**	**143**	*e*P	**P**	**07 43 05.3**	**+0.4**
	16nm,0.5s						
MBWA	**Marble Bar**	**13.33**	**171**	*e*P	**P**	**07 43 07.1**	**-4.7**
	20nm,0.6s						
KAKA	**Kakadu**	**15.36**	**109**	*e*P	**P**	**07 43 37.1**	**-1.5**
	11nm,0.3s						
WRA	**Warramunga Arr**	**20.15**	**128**	P	**P**	**07 44 35.7**	**-1.0**
	3.9nm,0.6s,baz=302,slow=12,SNR=42						
WRA				S	**S**	**07 48 17.2**	**+1.0**
	2.0nm,0.9s,baz=315,slow=21,SNR=4.3						
WRAB	**Tennant Creek**	**20.16**	**128**	*e*P	**P**	**07 44 35.8**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,40nm,0.7s						
WRAB	**Tennant Creek**	**20.16**	**128**	*e*P	**P**	**07 44 35.8**	**-1.0**
	comp=Z,40nm,0.7s						
WB2	**Warramunga Arr**	**20.16**	**128**	*e*P	**P**	**07 44 35.6**	**-1.3**
KULM	**Kulim**	**21.39**	**307**	*e*P	**P**	**07 44 50.7**	**+1.2**
ASPA	**Alice Springs**	**22.13**	**137**	*e*P	**P**	**07 44 57.6**	**+0.8**
ASPA				*e*S	**S**	**07 49 00.4**	**+6.7**
ASAR	**Alice Springs**	**22.13**	**137**	P	**P**	**07 44 57.6**	**+0.8**
	comp=Z,14nm,0.7s,mb4.5,baz=307,slow=9.2,SNR=95						
ASAR				S	**S**	**07 48 59.7**	**+5.9**
	comp=Z,4.3nm,1.1s,baz=294,slow=11,SNR=5.1						
ASAR				LR	LR	07 55 11.0	
	comp=Z,108nm,18.2s,MS3.3,baz=315,slow=41						
MUN	**Mundaring**	**23.98**	**183**	*e*P	**P**	**07 45 32.5**	**+18**
	comp=Z,9.3nm,0.5s,mb4.5						
MUN				*e*S	**S**	**07 49 34.6**	**+8.1**
FORT	**Forrest**	**24.76**	**158**	*e*P	**P**	**07 45 23.7**	**+1.1**
	comp=Z,950nm,0.6s						
NWAO	**Narrogin (SRO)**	**24.89**	**181**	*e*P	**P**	**07 45 23.9**	**+0.1**
NWAO				pmax	pmax		
	comp=Z,22nm,0.8s						
NWAO	**Narrogin (SRO)**	**24.89**	**181**	P	**P**	**07 45 24.3**	**+0.5**
	comp=Z,21nm,1.0s,mb4.6,baz=11,slow=10,SNR=4.0						
NWAO	**Narrogin (SRO)**	**24.89**	**181**	*e*P	**P**	**07 45 23.9**	**+0.1**
	comp=Z,22nm,0.8s,mb4.7						
PMG	**Port Moresby**	**29.26**	**95**	LR	LR	08 00 50.4	
	comp=Z,233nm,18.9s,MS3.8,baz=50,slow=42						
CTA	**Charters Tower**	**30.27**	**117**	*e*P	**P**	**07 46 13.7**	**+0.8**
	comp=Z,12nm,1.1s,mb4.5						
CTA	**Charters Tower**	**30.27**	**117**	*e*P	**P**	**07 46 13.7**	**+0.8**
CTA				pmax	pmax		
	comp=Z,12nm,1.1s						
CTA	**Charters Tower**	**30.27**	**117**	P	**P**	**07 46 13.3**	**+0.4**
	comp=Z,4.1nm,0.8s,mb4.2,baz=306,slow=11,SNR=3.5						
CTA				LR	LR	08 00 28.7	
	comp=Z,346nm,18.3s,MS4.0,baz=294,slow=40						
CTAO	**Charters Tower**	**30.27**	**117**	*e*P	**P**	**07 46 13.7**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,27nm,1.2s,mb4.8						
CTAO	**Charters Tower**	**30.27**	**117**	*e*P	**P**	**07 46 13.7**	**+0.8**
	comp=Z,27nm,1.2s,mb4.8						
CM31	**Chiang Mai Arr**	**32.02**	**325**	P	**P**	**07 46 29.0**	**+0.6**
	comp=Z,12nm,1.0s,mb4.7						
CMAR	**Chiang Mai Arr**	**32.02**	**325**	P	**P**	**07 46 28.8**	**+0.4**
	comp=Z,5.7nm,1.0s,mb4.4,baz=152,slow=6.1,SNR=12						
CMAR				LR	LR	08 00 33.9	
	comp=Z,155nm,19.8s,MS3.7,baz=150,slow=38						
STKA	**Stephens Creek**	**32.67**	**140**	P	**P**	**07 46 35.2**	**+1.3**
	comp=Z,4.4nm,0.7s,mb4.5,baz=311,slow=9.7,SNR=7.9						
STKA				LR	LR	08 01 44.7	
	comp=Z,139nm,19.3s,MS3.7,baz=206,slow=40						
STKA	**Stephens Creek**	**32.67**	**140**	*e*P	**P**	**07 46 34.2**	**+0.3**
ENH	**Enshi**	**38.76**	**349**	*e*P	**P**	**07 47 25.7**	**+0.1**
	comp=Z,4.6nm,0.5s,mb4.5						
SSE	**Sheshan**	**38.94**	**5**	P	**P**	**07 47 28.0**	**+0.9**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,51nm,4.0s						
SSE	**Sheshan**	**38.94**	**5**	P	**P**	**07 47 28.0**	**+0.9**
	comp=Z,28nm,0.7s,mb5.1						
NJ2	**Nanjing**	**39.76**	**2**	*e*P	**P**	**07 47 37.5**	**+3.6**
NJ2				PP	PP	07 49 16.3	+7.1
NJ2				S	**S**	**07 53 29.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2				AMB	AMB		
	comp=Z,1μm,4.8s						
NJ2				LR	LR		
	comp=N,250nm,24.8s,MS4.2						
NJ2				LR	LR		
	comp=E,330nm,25.0s,MS4.2						
NJ2				LR	LR		
	comp=Z,860nm,24.2s,MS4.5						
LSA	**Lhasa**	**45.23**	**327**	P	**P**	**07 48 20.0**	**+1.4**
LSA	**Lhasa**	**45.23**	**327**	*e*P	**P**	**07 48 19.7**	**+1.1**
LSA				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.1						
LSA	**Lhasa**	**45.23**	**327**	*e*P	**P**	**07 48 19.7**	**+1.1**
	comp=Z,33nm,1.1s,mb5.1						
LZH	**Lanzhou**	**45.64**	**344**	⇑P	**P**	**07 48 23.3**	**+1.5**
LZH				AP	pP	07 48 30.5	-1.2
LZH				XP	sP	07 48 35.1	-0.7
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
LZH				LR	LR		
	comp=N,203nm,12.9s						
LZH				LR	LR		
	comp=Z,319nm,16.7s,MS4.3						
LZH	**Lanzhou**	**45.64**	**344**	⇑P	**P**	**07 48 23.2**	**+1.4**
LZH				*SP	sP	07 48 35.1	-0.7
LZH				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
LZH				MLR	MLR		
	comp=Z,320nm,16.7s,MS4.3						
LZH	**Lanzhou**	**45.64**	**344**	⇑P	**P**	**07 48 23.2**	**+1.4**
	comp=Z,27nm,1.4s,mb5.0						
LZH				pP	pP	07 48 30.5	-1.2
LZH				sP	sP	07 48 35.1	-0.7
LZH				LR	LR		
	comp=Z,320nm,16.7s,MS4.3						
JIRN	**Jiri**	**46.62**	**321**	*e*P	**P**	**07 48 30.5**	**+0.8**
	comp=Z,57nm,0.6s,mb5.7						
PKI	**Pulchoki**	**47.06**	**320**	*e*P	**P**	**07 48 33.2**	**+0.1**
	comp=Z,86nm,1.2s,mb5.5						
DMN	**Daman**	**47.28**	**320**	*e*P	**P**	**07 48 35.2**	**+0.4**
	comp=Z,111nm,1.1s,mb5.7						
KKN	**Kakani**	**47.29**	**320**	*e*P	**P**	**07 48 35.3**	**+0.4**
	comp=Z,44nm,1.0s,mb5.3						
BJT	**Baijiatuau**	**47.71**	**359**	*e*P	**P**	**07 48 38.0**	**-0.1**
BJT				pmax	pmax		
	comp=Z,12nm,0.9s						
BJT	**Baijiatuau**	**47.71**	**359**	*e*P	**P**	**07 48 38.0**	**-0.1**
	comp=Z,12nm,0.9s,mb4.9						
BJI	**Beijing**	**47.73**	**359**	P	**P**	**07 48 37.9**	**-0.3**
BJI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.9						
BJI	**Beijing**	**47.73**	**359**	P	**P**	**07 48 37.9**	**-0.3**
	comp=Z,15nm,1.3s,mb4.9						
GKN	**Gorkha**	**47.85**	**320**	*e*P	**P**	**07 48 39.4**	**+0.1**
	comp=Z,116nm,1.1s,mb5.8						
KOLN	**Koldanda**	**48.37**	**318**	*e*P	**P**	**07 48 43.0**	**-0.3**
	comp=Z,72nm,0.9s,mb5.7						
HHC	**Hu-ho-hao-te**	**48.84**	**354**	*e*P	**P**	**07 48 49.0**	**+2.2**
HHC				AMB	AMB		
	comp=Z,14nm,0.5s,mb5.2						
GTA	**Gaotai**	**49.89**	**342**	P	**P**	**07 48 56.0**	**+1.1**
GTA				AP	pP	07 49 02.8	-2.0
GTA				XP	sP	07 49 06.6	-2.3
GTA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MDJ	**Mudanjiang**	**53.40**	**11**	P	**P**	**07 49 18.6**	**-2.6**
MDJ				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,84nm,3.7s						
MDJ	**Mudanjiang**	**53.40**	**11**	*e*P	**P**	**07 49 18.6**	**-2.6**
	comp=Z,16nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**56.32**	**351**	*e*P	**P**	**07 49 42.2**	**-0.2**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
ULN	**Ulaanbaatar**	**56.32**	**351**	*e*P	**P**	**07 49 42.2**	**-0.2**
	comp=Z,12nm,1.0s,mb4.9						
SONM	**Songino Array**	**56.39**	**351**	P	**P**	**07 49 43.1**	**+0.2**
	comp=Z,9.0nm,0.8s,mb4.8,baz=172,slow=8.7,SNR=35						
HIA	**Hailar**	**56.97**	**2**	*e*P	**P**	**07 49 46.4**	**-0.7**
HIA				pmax	pmax		
	comp=Z,11nm,1.4s						
HIA	**Hailar**	**56.97**	**2**	*e*P	**P**	**07 49 46.4**	**-0.7**
	comp=Z,11nm,1.4s,mb4.7						
WMQ	**Urumqi**	**58.18**	**335**	*e*P	**P**	**07 49 55.0**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,165nm,3.9s						
RPZ	**Rata Peaks**	**58.54**	**137**	P	**P**	**07 49 58.9**	**+0.7**

	comp=Z,18nm,0.9s,mb5.1,baz=329,slow=9.4,SNR=5.3						
RPZ				LR	LR	08 14 37.5	
	comp=Z,138nm,18.7s,MS4.1,baz=191,slow=35						
ZAK	**Zakamensk**	**59.38**	**349**	eP	**P**	**07 50 03.4**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
TLY	**Talaya**	**60.56**	**350**⇓	eP	**P**	**07 50 12.6**	**+0.6**
MKAR	**Makanchi Array**	**62.87**	**334**	iP	**P**	**07 50 26.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
KZA	**Kyzart**	**63.02**	**326**	P	**P**	**07 50 29.2**	**+0.6**
	SNR=21						
TKM2	**Tokmak 2**	**63.39**	**327**	P	**P**	**07 50 30.7**	**-0.3**
	SNR=12						
UCH	**Uchtor**	**63.53**	**325**	P	**P**	**07 50 32.8**	**+0.8**
	SNR=9.2						
KBK	**Karagaybulak**	**63.57**	**326**	P	**P**	**07 50 33.0**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**63.80**	**326**	P	**P**	**07 50 33.9**	**+0.1**
	SNR=18						
AAK	**Ala-Archa**	**63.80**	**326**	P	**P**	**07 50 33.8**	**0.0**
	comp=Z,108nm,1.0s,mb5.8,SNR=21						
AAK	**Ala-Archa**	**63.80**	**326**	eP	**P**	**07 50 32.6**	**-1.2**
AAK				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
AAK	**Ala-Archa**	**63.80**	**326**	eP	**P**	**07 50 32.6**	**-1.1**
	comp=Z,21nm,1.1s,mb5.1						
AML	**Almayashu**	**63.93**	**325**	P	**P**	**07 50 34.9**	**+0.3**
	SNR=29						
USP	**Ospenovka**	**64.22**	**326**	P	**P**	**07 50 36.0**	**-0.5**
	SNR=13						
EKS2	**Erkin-Say**	**64.22**	**325**	P	**P**	**07 50 37.2**	**+0.7**
	SNR=21						
BOD	**Bodaibo**	**65.58**	**358**	eP	**P**	**07 50 44.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6						
KURK	**Kurchatov**	**67.42**	**334**	P	**P**	**07 50 56.6**	**-0.1**
	comp=Z,101nm,1.0s,mb5.8,SNR=20						
KURK	**Kurchatov**	**67.42**	**334**	iP	**P**	**07 50 55.9**	**-0.8**
KURK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
KURK	**Kurchatov**	**67.42**	**334**	eP	**P**	**07 50 56.0**	**-0.7**
	comp=Z,50nm,1.4s,mb5.3						
ZAL	**Zalesovo**	**67.54**	**340**	P	**P**	**07 50 57.1**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.4,baz=322,slow=3.2,SNR=18						
NVS	**Novosibirsk**	**68.81**	**340**	iP	**P**	**07 51 04.0**	**-1.4**
NVS				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.8						
NVS				pmax	pmax		
	comp=N,16nm,1.7s						
NVS				pmax	pmax		
	comp=E,9.0nm,1.4s						
YAK	**Yakutsk**	**70.37**	**6**c	iP	**P**	**07 51 14.7**	**0.0**
MA2	**Magadan**	**72.29**	**17**	eP	**P**	**07 51 27.0**	**+0.7**
MA2				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.2						
MA2	**Magadan**	**72.29**	**17**	eP	**P**	**07 51 27.0**	**+0.7**
	comp=Z,41nm,1.4s,mb5.2						
CHKZ	**Chkalovo**	**73.01**	**333**	P	**P**	**07 51 29.9**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,27nm,1.3s,mb5.0						
SEY	**Seymchan**	**75.49**	**16**	eP	**P**	**07 51 48.0**	**+3.1**
SVE	**Sverdlovsk**	**79.47**	**332**	eP	**P**	**07 52 06.0**	**-1.1**
TIXI	**Tiksi**	**79.75**	**4**⇑	eP	**P**	**07 52 07.8**	**-0.6**
KMBO	**Kilima Mbogo**	**80.28**	**270**	P	**P**	**07 52 11.8**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=50,slow=12,SNR=6.5						
KMBO				LR	LR	08 22 34.5	
	comp=Z,93nm,20.2s,MS4.1,baz=92,slow=32						
KMBO	**Kilima Mbogo**	**80.28**	**270**	P	**P**	**07 52 11.8**	**-0.5**
KMBO				LR	LR	08 22 34.5	
BILL	**Bilibino**	**83.15**	**17**	eP	**P**	**07 52 25.8**	**-0.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
GOF	**Gofitskoye**	**84.81**	**317**	eP	**P**	**07 52 31.4**	**-3.6**
MATP	**Matopo**	**86.43**	**250**	P	**P**	**07 52 42.8**	**-0.7**
	comp=Z,3.4nm,0.9s,mb4.6,baz=140,slow=5.6,SNR=6.1						
MBAR	**Mbarara**	**86.80**	**270**c	iP	**P**	**07 52 44.3**	**-1.2**
LSZ	**Lusaka**	**87.38**	**255**	eP	**P**	**07 52 47.5**	**-0.7**
LSZ				e*PP	pP	07 52 54.9	-3.9
LSZ				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb5.1						
LSZ	**Lusaka**	**87.38**	**255**	eP	**P**	**07 52 47.5**	**-0.7**
	comp=Z,6.6nm,0.6s,mb5.0						
LSZ				epP	pP	07 52 54.9	-3.9
LBTB	**Lobatse**	**88.50**	**245**	LR	LR	08 24 51.2	
	comp=Z,116nm,20.2s,MS4.3,baz=334,slow=30						
OBN	**Obninsk**	**91.33**	**325**	eP	**P**	**07 53 05.5**	**-0.5**
OBN				e		07 56 44.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
LVC	**Limon Verde**	**149.00**	**168**	PKPbc	PKPdf	07 59 50.9	+7.1
	comp=Z,2.2nm,0.8s,baz=87,slow=7.5,SNR=2.6						
BDFB	**Brasilia**	**152.59**	**211**	PKPbc	PKPdf	07 59 58.1	+8.7
	comp=Z,0.8nm,0.4s,baz=200,slow=4.8,SNR=4.0						
LPAZ	**La Paz**	**155.29**	**167**	PKPab	PKPab	08 00 22.2	+1.6
	comp=Z,1.1nm,0.7s,baz=122,slow=8.0,SNR=4.5						

WEL 16 07:47:45.8±1.8**, 35.47S**×**178.16E, h33**km**, ML4.3**/3**, Error ellipse: s-maj=22.1km s-min=13.2km az=90.0, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.60**	**178**	PN	Pn	07 48 25.0	-1.7
PUZ				eSN	Sn	07 48 54.7	-2.7
PUZ				T		07 50 23.6	
URZ	**Urewera**	**2.91**	**196**	P*	Pb	07 48 28.5	-8.4
URZ				S*	Sb	07 49 01.6	-11
URZ				eS*	Sb	07 49 02.2	-10
URZ				T		07 50 41.6	
BKZ	**Black Stump Fm**	**3.92**	**199**	P*	Pb	07 48 45.2	-8.9
BKZ				eS*	Sb	07 49 30.3	-11

*NEIC **16** 07:49:33.5, 37.48N×21.29E, h41km, MD3.5(ATH), After ATH.*
*CSEM **16** 07:49:33.5, 37.48N×21.29E, h41km, MD3.5/10, After ATH*
ATH 16 07:49:33.5, 37.48N×21.29E, h41km±4km**, MD3.5**/10**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.59**	**120**	eP	P	07 49 46.0	+0.5
RLS	**Riolos of Patr**	**0.59**	**14**	eP	P	07 49 46.5	+1.0
VLS	**Valsamata**	**0.89**	**322**	eP	P	07 49 50.5	+0.8
VLS				eS	S	07 50 04.5	+2.9
EVR	**Evrytania**	**1.49**	**16**	eP	P	07 50 00.0	+1.7
VLI	**Veliai**	**1.52**	**120**	eP	P	07 50 00.3	+1.6
NAIG	**Nisos Aigina**	**1.77**	**80**	eP	P	07 50 02.5	+0.3
NSAL	**Nisos Salamina**	**1.78**	**75**	eP	P	07 50 02.5	+0.2
LKR	**Lokris**	**1.79**	**49**	eP	P	07 50 03.7	+1.3
KYTH	**Kithira**	**1.84**	**130**	eP	P	07 50 05.0	+1.7
KEK	**Kerkira**	**2.52**	**333**	eP	P	07 50 13.0	+0.1

*IDC **16** 07:50:54.2±2.4, 7.55S×117.75E, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=157.0km s-min=23.5km az=54.0*
*DJA **16** 07:50:54.3±0.9, 8.22S×117.71E, h102km±15km, MD4.8/4, ML4.5/4, Error ellipse: s-maj=74.1km s-min=20.1km az=1.0*
ISC 16 07:50:55.3±3.6**, 7.8S**±0.1×**117.51E**±0.06**, h25**km±28km**, n8,** σ**0**^{s}**67**/12**, mb3.8**/3**, 6C-2D, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.56**	**242**⇑	ePn	**Pn**	**07 51 22.6**	**+0.8**
	394nm,0.2s						
KEDI			⇑	eSn	**Sn**	**07 51 42.3**	**+1.0**
RATI	**Rata**	**2.18**	**244**⇑	ePn	**Pn**	**07 51 30.0**	**-0.7**
	411nm,0.2s						
RATI			⇓	eSn	**Sn**	**07 51 55.6**	**-1.5**
KELI	**Kelakatan**	**3.02**	**261**⇑	ePn	**Pn**	**07 51 43.0**	**+0.3**
	108nm,0.2s						
KELI			⇓	eSn	**Sn**	**07 52 18.9**	**+0.4**
SRDI	**Scrawed**	**3.41**	**258**⇑	ePn	**Pn**	**07 51 47.8**	**-0.4**
	173nm,0.2s						
SRDI			⇑	eSn	**Sn**	**07 52 28.3**	**0.0**
WRA	**Warramunga Arr**	**20.31**	**128**	P	**P**	**07 55 31.7**	**-0.6**
	1.0nm,0.6s,baz=301,slow=12,SNR=7.8						
ASAR	**Alice Springs**	**22.30**	**137**	P	**P**	**07 55 53.1**	**+0.7**
	0.9nm,0.6s,mb3.4,baz=319,slow=10,SNR=9.7						
SONM	**Songino Array**	**56.22**	**351**	P	**P**	**08 00 35.5**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=172,slow=8.7,SNR=4.6						
BVAR	**Borovoye Array**	**72.52**	**332**	P	**P**	**08 02 22.0**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=127,slow=7.4,SNR=6.8						

*IDC **16** 07:56:48.0±8.2, 24.77N×127.11E, h32km±62km, mb3.2/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.4/4, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/9, Error ellipse: s-maj=48.2km s-min=24.9km az=90.0*
ISC 16 07:56:46.3±7.2**, 24.8N**±0.1×**127.1E**±0.3**, h33**km±53km**, n5,** σ**1**^{s}**60**/5**, mb3.3**/3**, MS3.0**/1**, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOW	**Kunigami**	**2.30**	**26**	Pn	**Pn**	**07 57 23.2**	**+0.4**
	4.3nm,0.3s,baz=122,slow=27,SNR=6.9						
JOW				Sn	**Sn**	**07 57 49.8**	**-0.6**
	15nm,0.3s,baz=93,slow=26,SNR=5.6						
ASAJ	**Asahikawa**	**23.07**	**29**	LR	LR	08 10 50.2	
	comp=Z,55nm,19.8s,MS3.0,baz=125,slow=36						
SONM	**Songino Array**	**28.27**	**330**	P	**P**	**08 02 38.2**	**-0.4**
	0.5nm,0.4s,mb3.5,baz=147,slow=9.4,SNR=4.4						
WRA	**Warramunga Arr**	**44.99**	**170**	P	**P**	**08 05 00.0**	**-0.6**
	0.3nm,0.5s,mb3.4,baz=350,slow=8.9,SNR=6.2						
YKA	**Yellowknife Ar**	**80.27**	**25**	P	**P**	**08 08 56.2**	**+1.3**
	0.2nm,0.8s,mb3.1,baz=301,slow=5.5,SNR=3.3						

*NEIC **16** 08:15:56.3, 63.79N×149.13W, h112km, MG3.6(AEIC), After AEIC.*
*IDC **16** 08:15:57.7±2.7, 64.00N×149.14W, h116km±19km, mb3.3/5, mb1 3.6/8, mb1mx3.5/17, mbtmp3.8/8, Error ellipse: s-maj=39.3km s-min=17.4km az=53.0*
ISC 16 08:15:54.9±0.3**, 63.79N**±0.02×**149.09W**±0.06**, h121**km±3km**, n93,** σ**0**^{s}**66**/98**, mb3.6**/5**, Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.09**	**130**	P	**P**	**08 16 11.4**	**-0.2**
MCK				S	**S**	**08 16 23.7**	**-0.3**
RND	**Reindeer**	**0.40**	**164**	P	**P**	**08 16 12.8**	**+0.3**
BWN	**Browne**	**0.42**	**337**	P	**P**	**08 16 13.1**	**+0.5**
TRF	**Thorofare Moun**	**0.63**	**238**	P	**P**	**08 16 14.6**	**+0.7**
TRF				S	**S**	**08 16 28.4**	**-0.1**
NEA	**Nenana**	**0.79**	**0**	P	**P**	**08 16 15.6**	**+0.3**
KTH	**Kantishna Hill**	**0.85**	**255**	P	**P**	**08 16 16.1**	**+0.3**
KTH				S	**S**	**08 16 31.1**	**-0.4**
HUR	**Hurricane**	**0.85**	**197**	P	**P**	**08 16 16.1**	**+0.3**
HUR				S	**S**	**08 16 31.2**	**-0.3**
CCB	**Clear Creek Bu**	**1.03**	**33**	P	**P**	**08 16 17.9**	**+0.3**
HDA	**Harding Lake**	**1.12**	**56**	P	**P**	**08 16 19.1**	**+0.5**
COLA	**College**	**1.22**	**26**	P	**P**	**08 16 20.0**	**+0.4**
COLA				S	**S**	**08 16 37.7**	**-0.4**
MDM	**Murphy Dome**	**1.23**	**17**	P	**P**	**08 16 20.3**	**+0.5**
IL1	**Eielson Array**	**1.38**	**43**	P	**P**	**08 16 21.6**	**+0.1**
ILAR	**Eielson Array**	**1.38**	**43**	P	**P**	**08 16 21.2**	**-0.2**
	56nm,0.3s,baz=228,slow=11,SNR=4769						
ILAR				S	**S**	**08 16 40.5**	**-1.0**
	32nm,0.3s,baz=220,slow=17,SNR=22						
GLM	**Gilmore Dome**	**1.41**	**31**	P	**P**	**08 16 22.2**	**+0.4**
DDM	**Donnelly Dome**	**1.43**	**89**	P	**P**	**08 16 22.8**	**+0.7**
MLY	**Manley**	**1.44**	**331**	P	**P**	**08 16 22.3**	**+0.2**
CUT	**Chulitna**	**1.49**	**202**	P	**P**	**08 16 22.9**	**+0.2**
THY	**Trims Highway**	**1.54**	**103**	P	**P**	**08 16 24.2**	**+1.0**
PAX	**Paxson**	**1.83**	**115**	P	**P**	**08 16 27.5**	**+0.8**
SML	**Sawmill**	**2.02**	**170**	P	**P**	**08 16 29.5**	**+0.4**
GHO	**Glory Hole Cre**	**2.03**	**178**	P	**P**	**08 16 29.8**	**+0.6**
SCM	**Sheep Creek Mo**	**2.12**	**157**	P	**P**	**08 16 30.9**	**+0.4**
PWA	**Palmer West**	**2.18**	**190**	P	**P**	**08 16 31.8**	**+0.6**
PMR	**Palmer**	**2.21**	**181**	P	**P**	**08 16 31.7**	**+0.1**
DOT	**Dot Lake**	**2.24**	**91**	P	**P**	**08 16 32.1**	**+0.1**
KNK	**Knik Glacier**	**2.41**	**173**	P	**P**	**08 16 34.6**	**+0.4**
TZL	**Tazlina**	**2.43**	**135**	P	**P**	**08 16 35.1**	**+0.7**
MENT	**Mentasta**	**2.57**	**107**	P	**P**	**08 16 35.8**	**-0.6**
STLK	**Strandline Lak**	**2.62**	**210**	P	**P**	**08 16 36.9**	**-0.2**
FIB	**Fire Island**	**2.68**	**191**	P	**P**	**08 16 38.7**	**+0.8**
RC01	**Rabbit Creek A**	**2.73**	**187**	P	**P**	**08 16 38.7**	**+0.2**
CGLM	**Capps Glacier**	**2.83**	**210**	P	**P**	**08 16 39.9**	**0.0**
VOGL	**Vogel Lake**	**2.87**	**193**	P	**P**	**08 16 41.6**	**+1.1**
CKN	**Chakachatna No**	**2.95**	**210**	P	**P**	**08 16 41.4**	**-0.1**
VLZ	**Valdez**	**2.96**	**153**	P	**P**	**08 16 40.5**	**-1.1**
BGL	**Barrier Glacie**	**2.96**	**213**	P	**P**	**08 16 41.7**	**+0.1**
PWL	**Port Wells**	**2.96**	**173**	P	**P**	**08 16 41.6**	**0.0**
IM3	**Indian Mountai**	**2.97**	**320**	P	**P**	**08 16 41.3**	**-0.4**
JPK	**Jack Peak**	**2.98**	**156**	P	**P**	**08 16 41.2**	**-0.7**
IMA	**Indian Mountai**	**3.01**	**322**	eP	**P**	**08 16 42.0**	**-0.2**
GLI	**Glacier Island**	**3.07**	**161**	P	**P**	**08 16 42.4**	**-0.7**
DIV	**Divide**	**3.08**	**149**	P	**P**	**08 16 42.6**	**-0.7**
NKA	**Nikishka**	**3.22**	**199**	P	**P**	**08 16 47.4**	**+2.3**
TT01	**Tatalina**	**3.25**	**257**	P	**P**	**08 16 44.8**	**-0.7**
FID	**Port Fidalgo**	**3.29**	**157**	P	**P**	**08 16 45.4**	**-0.6**
SLKM	**Skilak Lake**	**3.34**	**190**	P	**P**	**08 16 46.9**	**+0.2**
BCA3	**Beaver Creek A**	**3.36**	**99**	P	**P**	**08 16 46.8**	**-0.2**
GLB	**Gilahina Butte**	**3.39**	**132**	P	**P**	**08 16 47.5**	**+0.1**
COLD	**Coldfoot**	**3.48**	**353**	P	**P**	**08 16 48.6**	**0.0**
GCSA	**Galena City Sc**	**3.53**	**289**	P	**P**	**08 16 49.0**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.61**	**153**	P	**P**	**08 16 49.7**	**-0.6**
CVA	**Cordova**	**3.61**	**153**	P	**P**	**08 16 49.7**	**-0.6**
HIN	**Hinchinbrook I**	**3.62**	**159**	P	**P**	**08 16 49.6**	**-0.8**
DFR	**Drift River**	**3.62**	**209**	P	**P**	**08 16 50.6**	**+0.1**
RDN	**Redoubt North**	**3.71**	**209**	P	**P**	**08 16 51.9**	**+0.2**
LTI	**Latouche**	**3.81**	**171**	P	**P**	**08 16 51.9**	**-1.0**
NNL	**Ninilchik**	**3.90**	**196**	P	**P**	**08 16 55.5**	**+1.3**
SVW2	**Sparrevohn**	**4.05**	**231**	P	**P**	**08 16 55.6**	**-0.6**
BM3	**Burnt Mountain**	**4.09**	**25**	P	**P**	**08 16 56.6**	**-0.2**
BRLK	**Bradley Lake**	**4.13**	**193**	P	**P**	**08 16 56.9**	**-0.4**
ILIM	**Iliamna**	**4.15**	**208**	P	**P**	**08 16 57.2**	**-0.3**
BALM	**Baldy**	**4.18**	**128**	P	**P**	**08 16 57.9**	**-0.1**
INE	**Iliamna NE**	**4.19**	**208**	P	**P**	**08 16 58.0**	**-0.1**
ILW	**Iliamna West**	**4.20**	**209**	P	**P**	**08 16 58.3**	**0.0**
DAWY	**Dawson**	**4.29**	**82**	P	**P**	**08 16 59.0**	**-0.5**
HOM	**Homer**	**4.32**	**197**	P	**P**	**08 16 59.8**	**0.0**
CNPM	**China Poot**	**4.40**	**194**	P	**P**	**08 17 00.7**	**-0.3**
KAIM	**Kayak Island**	**4.46**	**148**	P	**P**	**08 17 01.2**	**-0.6**
XLV	**Seldovia**	**4.53**	**197**	P	**P**	**08 17 02.6**	**-0.1**
CTGM	**Chitina Glacie**	**4.59**	**125**	P	**P**	**08 17 03.8**	**+0.3**
OPT	**Oil Point**	**4.59**	**207**	P	**P**	**08 17 03.7**	**+0.1**
YAH	**Yahtse**	**4.87**	**132**	P	**P**	**08 17 06.9**	**-0.4**
AUW	**Augustine West**	**4.90**	**207**	P	**P**	**08 17 07.8**	**0.0**
MCNL	**McNeil River**	**5.26**	**211**	P	**P**	**08 17 12.3**	**-0.2**
PCA	**Pinnacle**	**5.58**	**128**	P	**P**	**08 17 16.1**	**-0.7**
KAPH	**Katmai Pasha**	**5.80**	**208**	P	**P**	**08 17 19.5**	**-0.2**
KAHC	**Katmai Hardscr**	**5.89**	**212**	P	**P**	**08 17 20.8**	**-0.3**
KAWH	**Katmai**	**6.09**	**210**	P	**P**	**08 17 23.2**	**-0.6**
PNL	**Peninsula**	**6.19**	**128**	P	**P**	**08 17 23.8**	**-1.2**
KDAK	**Kodiak Island**	**6.26**	**197**	Pn	**P**	**08 17 26.0**	**-0.1**
	237nm,0.6s,SNR=32						
KDAK	**Kodiak Island**	**6.26**	**197**	P	**P**	**08 17 25.0**	**-1.2**
WHY	**Whitehorse**	**7.34**	**109**	P	**P**	**08 17 39.9**	**-0.9**
INK	**Inuvik**	**7.78**	**48**	P	**P**	**08 17 46.2**	**-0.5**
	1.5nm,0.3s,baz=240,slow=15,SNR=151						
INK	**Inuvik**	**7.78**	**48**	P	**P**	**08 17 46.2**	**-0.5**
DLBC	**Dease Lake**	**10.64**	**112**	P	**P**	**08 18 27.1**	**+2.3**
	0.6nm,0.3s,baz=96,slow=27,SNR=2.7						
YKA	**Yellowknife Ar**	**15.53**	**79**	P	**P**	**08 19 27.9**	**+0.1**
	0.3nm,0.3s,baz=292,slow=13,SNR=24						
YKA				PcP	PcP	08 24 25.6	+1.8
	0.1nm,0.3s,baz=297,slow=1.3,SNR=5.4						
YKA	**Yellowknife Ar**	**15.53**	**79**	P	**P**	**08 19 27.9**	**+0.1**
YKA				PcP	PcP	08 24 25.6	+1.8
PDAR	**Pinedale Array**	**30.86**	**114**	P	**P**	**08 22 04.3**	**+2.8**
	0.3nm,0.8s,mb3.1,baz=329,slow=5.3,SNR=2.3						
PDAR				pP	pP	08 22 22.8	-5.2
	0.4nm,0.6s,baz=357,slow=6.4,SNR=3.0						
NVAR	**Mina Array Bea**	**31.33**	**129**	P	**P**	**08 22 07.7**	**+2.1**
	0.1nm,0.3s,mb3.0,baz=337,slow=6.9,SNR=2.8						
TXAR	**Lajitas Array**	**44.86**	**118**	pP	pP	08 24 17.8	-8.4
	0.2nm,0.5s,baz=326,slow=7.2,SNR=2.9						
ARCES	**ARCESS Array B**	**46.90**	**3**	P	**P**	**08 24 13.9**	**-0.1**
	3.5nm,1.0s,mb4.0,slow=8.5,SNR=6.0						
SONM	**Songino Array**	**54.05**	**306**	P	**P**	**08 25 08.7**	**+0.2**
	1.0nm,0.5s,mb4.1,baz=10,slow=5.6,SNR=4.7						
FINES	**FINESS Array B**	**55.03**	**3**	P	**P**	**08 25 14.1**	**-1.3**
	0.6nm,0.5s,mb3.9,baz=353,slow=11,SNR=5.5						

IDC 16 08:28:24.3±4.4**, 6.06S**×**127.21E, h528**km±85km**, mb2.9**/1**, mb1 3.2**/3**, mb1mx2.9**/12**, mbtmp4.0**/3**, Error ellipse: s-maj=176.9km s-min=84.0km az=69.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.38**	**142**	eP	P	08 30 30.2	+4.0
	10.0nm,0.6s						
WRA	**Warramunga Arr**	**15.44**	**154**	P	P	08 31 38.6	+0.2
	1.0nm,0.3s,baz=334,slow=9.4,SNR=72						
WRA				S	S	08 34 21.6	+6.6
	0.1nm,0.3s,baz=326,slow=17,SNR=4.4						
WB2	**Warramunga Arr**	**15.45**	**154**	eP	P	08 31 38.4	0.0
ASAR	**Alice Springs**	**18.65**	**160**	P	P	08 32 08.4	-1.1
	0.5nm,0.3s,baz=333,slow=9.0,SNR=29						
ASAR				S	S	08 35 13.0	+2.0
	0.1nm,0.3s,baz=344,slow=20,SNR=4.5						
STKA	**Stephens Creek**	**28.99**	**154**	P	P	08 33 41.6	-1.1
	0.6nm,0.3s,baz=343,slow=9.8,SNR=5.9						

IDC 16 08:43:24.5±6.0**, 4.65S**×**151.56E, h53**km±55km**, mb3.6**/4**, mb1 3.9**/5**, mb1mx3.7**/14**, mbtmp3.9**/5**, ML2.8**/1**, MS3.2**/1**, Ms1 3.2**/1**, ms1mx2.8**/13**, Error ellipse: s-maj=123.1km s-min=29.6km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.43**	**222**	P	P	08 44 57.3	-1.6
	1.1nm,0.3s,baz=9.0,slow=7.2,SNR=8.1						
PMG				S	S	08 46 09.2	-2.6
	4.4nm,0.3s,baz=155,slow=23,SNR=8.6						
CTA	**Charters Tower**	**16.19**	**198**	LR	LR	08 52 29.5	
	comp=Z,74nm,19.3s,baz=240,slow=34						
WB2	**Warramunga Arr**	**22.62**	**226**	eP	P	08 48 21.7	-0.3
WRA	**Warramunga Arr**	**22.63**	**226**	P	P	08 48 21.4	-0.7
	2.2nm,0.7s,baz=52,slow=10,SNR=11						
ASAR	**Alice Springs**	**25.44**	**220**	P	P	08 48 47.4	-1.9
	2.1nm,0.8s,baz=57,slow=8.9,SNR=14						
ILAR	**Eielson Array**	**82.49**	**22**	P	P	08 55 40.8	-1.7
	1.3nm,0.8s,baz=246,slow=5.5,SNR=21						
YKA	**Yellowknife Ar**	**95.87**	**28**	P	P	08 56 45.5	-0.6
	0.3nm,0.6s,baz=270,slow=4.8,SNR=9.7						

IDC 16 08:59:43.5±3.2**, 52.19N**×**36.21E, mb3.2**/1**, mb1 3.7**/4**, mb1mx3.5**/18**, mbtmp3.6**/4**, ML3.3**/3**, MS3.5**/1**, Ms1 3.5**/1**, ms1mx2.7**/13**, Error ellipse: s-maj=66.7km s-min=33.5km az=56.0, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FINES	**FINESS Array B**	**10.79**	**333**	Pn	P	09 02 14.1	-8.1
	0.2nm,0.3s,baz=150,slow=13,SNR=5.1						
FINES				Sn	S	09 04 10.4	-15
	0.3nm,0.3s,baz=150,slow=22,SNR=4.3						
HFS	**Hagfors**	**14.79**	**311**	Pn	P	09 03 04.9	-11
	0.1nm,0.3s,baz=112,slow=16,SNR=3.3						
ARCES	**ARCESS Array B**	**18.11**	**348**	P	P	09 03 56.3	-1.4
	0.3nm,0.3s,baz=159,slow=10,SNR=12						
VAE	**Valguarnera**	**21.22**	**235**	LR	LR	09 13 47.1	
	comp=Z,116nm,19.0s,baz=325,slow=40						
YKA	**Yellowknife Ar**	**63.36**	**345**	P	P	09 10 13.8	-2.3
	0.2nm,0.6s,baz=14,slow=6.6,SNR=4.4						

*IDC **16** 09:26:00.9±1.0, 11.00N×92.00E, mb4.1/10, mb1 4.3/11, mb1mx4.2/17, mbtmp4.1/11, ML4.3/1, MS2.9/1, Ms1 3.1/1, ms1mx2.6/24, Error ellipse: s-maj=40.6km s-min=17.5km az=58.0*
*BJI **16** 09:26:02.5, 10.71N×92.32E, h38km, mB5.1, mb4.5*
*NEIC **16** 09:26:05.0±0.6, 11.04N×92.19E, mb4.8/7, Error ellipse: s-maj=16.9km s-min=9.5km az=66.0*
ISC 16 09:26:04.4±0.6**, 11.06N**±0.08×**92.22E**±0.10**, h33**km**, n26,** σ**0**^{s}**88**/27**, mb4.4**/18**, 1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.82**	**41**	Pn	**P**	**09 28 25.0**	**-1.4**
	0.7nm,0.3s,baz=234,slow=14,SNR=8.5						
CMAR				LR	LR	09 32 21.3	
	comp=Z,67nm,18.5s,baz=230,slow=38						
VIS	**Vishakhapatnam**	**10.86**	**309**	eP	**P**	**09 28 39.1**	**-1.7**
VIS				eS	**S**	**09 30 28.0**	**-14**
LSA	**Lhasa**	**18.58**	**357**	eP	**P**	**09 30 22.6**	**+1.5**
	6.2nm,0.5s						
GYA	**Guiyang**	**20.50**	**40**⇑	iP	**P**	**09 30 41.5**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s						
ENH	**Enshi**	**24.96**	**37**	eP	**P**	**09 31 25.5**	**-1.1**
	comp=Z,20nm,0.5s,mb4.9						
GTA	**Gaotai**	**29.03**	**12**	P	**P**	**09 32 05.1**	**+1.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.3						
BJT	**Baijiatuau**	**35.80**	**32**	eP	**P**	**09 33 02.8**	**+0.1**
	comp=Z,12nm,0.7s,mb4.9						
BJI	**Beijing**	**35.82**	**32**	P	**P**	**09 33 03.1**	**+0.2**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s,mb5.0						
BJI	**Beijing**	**35.82**	**32**	P	**P**	**09 33 03.1**	**+0.2**
	comp=Z,13nm,0.7s,mb5.0						
SONM	**Songino Array**	**38.55**	**15**	P	**P**	**09 33 26.3**	**+0.6**
	comp=Z,1.0nm,0.4s,mb3.9,baz=196,slow=9.0,SNR=7.8						
KURK	**Kurchatov**	**41.09**	**347**	eP	**P**	**09 33 47.1**	**+0.4**
	comp=Z,6.7nm,1.1s,mb4.2						
KURK				epP	pP	09 33 54.3	-2.2
ZAL	**Zalesovo**	**43.18**	**354**	P	**P**	**09 34 04.7**	**+0.9**
	comp=Z,1.5nm,0.6s,mb3.9,baz=308,slow=8.6,SNR=7.0						
CN2	**Changchun**	**43.45**	**35**	eP	**P**	**09 34 05.5**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**45.88**	**342**	eP	**P**	**09 34 25.9**	**+0.5**
	comp=Z,36nm,0.7s,mb5.4						
CHKZ				epP	pP	09 34 32.8	-2.6
WRA	**Warramunga Arr**	**51.65**	**126**	P	**P**	**09 35 10.7**	**+0.2**
	comp=Z,3.3nm,0.6s,mb4.5,baz=306,slow=8.4,SNR=64						
WRAB	**Tennant Creek**	**51.66**	**126**	eP	**P**	**09 35 10.2**	**-0.3**
	comp=Z,6.9nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**51.66**	**126**	eP	**P**	**09 35 10.6**	**0.0**
ASAR	**Alice Springs**	**53.41**	**131**	P	**P**	**09 35 23.6**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.2,baz=305,slow=6.7,SNR=28						
STKA	**Stephens Creek**	**63.66**	**134**	P	**P**	**09 36 35.6**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.3,baz=135,slow=18,SNR=4.6						
STKA	**Stephens Creek**	**63.66**	**134**	eP	**P**	**09 36 35.4**	**+0.4**
FINES	**FINESS Array B**	**69.03**	**332**	P	**P**	**09 37 09.0**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=135,slow=5.9,SNR=3.2						
ARCES	**ARCESS Array B**	**71.65**	**340**	P	**P**	**09 37 24.3**	**-0.1**
	comp=Z,2.7nm,1.0s,mb4.1,baz=72,slow=3.8,SNR=4.2						
GERES	**GERESS Array B**	**74.21**	**318**	P	**P**	**09 37 37.8**	**-1.9**
	comp=Z,0.3nm,0.2s,mb3.9,baz=132,slow=12,SNR=3.0						
ILAR	**Eielson Array**	**92.51**	**22**	P	**P**	**09 39 13.1**	**-0.1**
	comp=Z,0.5nm,0.7s,mb4.0,baz=297,slow=4.3,SNR=8.3						
INK	**Inuvik**	**94.46**	**15**	P	**P**	**09 39 23.0**	**+1.0**
	comp=Z,0.4nm,0.4s,mb4.2,baz=319,slow=4.2,SNR=4.6						
INK	**Inuvik**	**94.46**	**15**	P	**P**	**09 39 23.0**	**+1.0**

*MOS **16** 09:32:32.3±1.5, 34.94S×179.69E, h33km, mb5.4/12, MS4.6/5, Error ellipse: s-maj=15.8km s-min=12.4km az=43.0*
*CSEM **16** 09:32:32.7, 34.96S×179.53E, h33km, mb5.6*
*NEIC **16** 09:32:39.3±0.9, 35.16S×179.65E, h85km±7km, mb5.4/23, Error ellipse: s-maj=9.8km s-min=7.8km az=48.0*
*BJI **16** 09:32:39.9, 35.20S×179.60E, h131km, mB5.4, mb5.1*
*HRVD **16** 09:32:39.9±0.2, 35.24S×179.65E, h49km±1km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s56,c94; Mantle waves: s66,c113; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.61±.25; $M_{\theta\theta}$-0.57±.17; $M_{\phi\phi}$-4.04±.17; $M_{r\theta}$0.18±.14; $M_{\theta\phi}$-2.17±.17; $M_{\phi r}$3.23±.14; Best double couple: $M_0$5.839×10^{16} NP1: ϕ_s219°, δ31°, λ113°. NP2: ϕ_s13°, δ62°, λ77°. Principal axes: T 5.727, Plg70°, Azm255°; N .221, Plg11°, Azm19°; P -5.95, Plg16°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **16** 09:32:50.2±2.4, 35.04S×179.38E, h173km±20km, mb4.5/17, mb1 4.6/19, mb1mx4.5/21, mbtmp4.9/19, MS4.4/11, Ms1 4.4/11, ms1mx4.0/15 Error ellipse: s-maj=14.7km s-min=13.1km az=32.0*
ISC 16 09:32:41.4±0.7**, 35.48S**±0.04×**179.50E**±0.07**, h117**km±5km**, h104**km±2.0km**: pP-P, n392,** σ**1**^{s}**31**/285**, mb5.2**/45**, 20C-18D, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.29**	**204**	P	**P**	**09 33 18.9**	**-0.1**
MXZ	**Matakaoa Point**	**2.29**	**204**	PN	**P**	**09 33 18.8**	**-0.2**
MXZ				SN	**S**	**09 33 52.1**	**+4.7**
MXZ				T		09 35 36.7	

MXZ	Matakaoa Point	2.29	204	PN	P	09 33 18.8	-0.2
MXZ				SN	S	09 33 52.1	+4.7
MXZ				T		09 35 36.7	
WIZ	White Island	2.76	222	P	P	09 33 25.5	+0.1
WIZ	White Island	2.76	222	ePN	P	09 33 25.7	+0.4
WIZ	White Island	2.76	222	ePN	P	09 33 25.7	+0.4
PUZ	Puketiti	2.77	201	P	P	09 33 25.3	-0.2
PUZ	Puketiti	2.77	201	PN	P	09 33 25.3	-0.2
PUZ				SN	S	09 34 00.3	+1.4
PUZ	Puketiti	2.77	201	PN	P	09 33 25.3	-0.2
PUZ				SN	S	09 34 00.3	+1.4
MYRZ	Mayor Island	3.18	235	PN	P	09 33 32.3	+1.2
MYRZ	Mayor Island	3.18	235	PN	P	09 33 32.3	+1.2
MWZ	Matawai	3.26	208	PN	P	09 33 31.7	-0.3
MWZ				eSN	S	09 34 15.2	+4.8
MWZ	Matawai	3.26	208	PN	P	09 33 31.7	-0.3
KUZ	Kuaotunu	3.31	246	eP	P	09 33 33.1	+0.4
KUZ	Kuaotunu	3.31	246	PN	P	09 33 33.1	+0.4
KUZ	Kuaotunu	3.31	246	PN	P	09 33 33.1	+0.4
URZ	Urewera	3.37	214	P	P	09 33 33.8	+0.3
	172nm,0.3s,baz=24,slow=4.3,SNR=360						
URZ				S	S	09 34 20.9	+7.8
	367nm,0.3s,baz=123,slow=19,SNR=5.8						
URZ	Urewera	3.37	214	eP	P	09 33 33.3	-0.2
URZ	Urewera	3.37	214	PN	P	09 33 33.2	-0.3
URZ				eSN	S	09 34 15.3	+2.1
URZ	Urewera	3.37	214	PN	P	09 33 33.2	-0.3
URZ				eSN	S	09 34 15.3	+2.1
MARZ	Manawahe	3.38	221	P	P	09 33 34.4	+0.8
EDRZ	Edgecumbe	3.43	219	P	P	09 33 35.3	+0.9
TGRZ	Tauranga	3.44	228	P	P	09 33 35.5	+1.0
TGRZ				S	Px	09 33 42.9	
TGRZ	Tauranga	3.44	228	ePN	P	09 33 35.5	+1.0
TGRZ	Tauranga	3.44	228	ePN	P	09 33 35.5	+1.0
LIRZ	Lichensteins R	3.55	224	P	P	09 33 37.6	+1.7
LIRZ	Lichensteins R	3.55	224	ePN	P	09 33 37.0	+1.0
LIRZ	Lichensteins R	3.55	224	ePN	P	09 33 37.0	+1.0
MKRZ	Makatiti	3.60	222	P	P	09 33 38.4	+1.8
TAZ	Tarawera	3.65	220	P	P	09 33 38.6	+1.4
KNZ	Kokohu	3.82	202	eP	P	09 33 37.6	-2.0
KNZ	Kokohu	3.82	202	ePN	P	09 33 37.5	-2.1
KNZ	Kokohu	3.82	202	ePN	P	09 33 37.5	-2.1
PATZ	Paeroa	3.89	221	P	P	09 33 42.0	+1.5
TOZ	Tahuroa Road	3.92	234	P	P	09 33 42.7	+1.7
TOZ	Tahuroa Road	3.92	234	PN	P	09 33 42.7	+1.7
TOZ	Tahuroa Road	3.92	234	PN	P	09 33 42.7	+1.7
MTAZ	Motutapu	3.94	249	P	P	09 33 42.3	+1.2
MTAZ	Motutapu	3.94	249	PN	P	09 33 42.3	+1.1
MTAZ	Motutapu	3.94	249	PN	P	09 33 42.3	+1.1
OTAZ	Otara	3.98	247	P	P	09 33 43.4	+1.7
OTAZ	Otara	3.98	247	⇓PN	P	09 33 43.3	+1.6
OTAZ	Otara	3.98	247	⇓PN	P	09 33 43.3	+1.6
WCZ	Waipu Caves	4.22	262	PN	P	09 33 44.7	-0.3
WCZ	Waipu Caves	4.22	262	PN	P	09 33 44.7	-0.3
WTAZ	Waiatarua	4.24	249	P	P	09 33 47.3	+2.1
BKZ	Black Stump Fm	4.39	212	eP	P	09 33 46.2	-1.1
BKZ	Black Stump Fm	4.39	212	PN	P	09 33 45.8	-1.5
BKZ	Black Stump Fm	4.39	212	PN	P	09 33 45.8	-1.5
WATZ	Wairara	4.41	222	P	P	09 33 48.4	+0.8
RATZ	Rangitukua	4.50	220	P	P	09 33 49.0	+0.2
RITZ	Rihia Road	4.54	219	P	P	09 33 49.3	0.0
MGZ	Maungaku	4.72	221	P	P	09 33 52.0	+0.2
MGZ	Maungaku	4.72	221	PN	P	09 33 52.0	+0.2
MGZ	Maungaku	4.72	221	PN	P	09 33 52.0	+0.2
WTVZ	West Tongariro	4.78	219	P	P	09 33 52.3	-0.3
HIZ	Hauiti	4.79	229	P	P	09 33 54.3	+1.6
HIZ	Hauiti	4.79	229	ePN	P	09 33 54.2	+1.5
HIZ	Hauiti	4.79	229	ePN	P	09 33 54.2	+1.5
NGZ	Ngauruhoe	4.82	219	P	P	09 33 52.8	-0.3
OUZ	Omahuta	4.83	271	eP	P	09 33 51.6	-1.6
OUZ	Omahuta	4.83	271	⇓PN	P	09 33 51.6	-1.7
OUZ	Omahuta	4.83	271	⇓PN	P	09 33 51.6	-1.7
TUVZ	Tukino	4.87	218	P	P	09 33 52.8	-0.9
CNZ	Chateau	4.87	219	P	P	09 33 53.7	0.0
CNZ	Chateau	4.87	219	ePN	P	09 33 53.5	-0.3
CNZ	Chateau	4.87	219	ePN	P	09 33 53.5	-0.3
WPVZ	Whakapapa	4.87	219	P	P	09 33 53.7	-0.1
FWVZ	Far West T-bar	4.91	219	P	P	09 33 53.8	-0.5
FWVZ	Far West T-bar	4.91	219	PN	P	09 33 53.7	-0.6
FWVZ	Far West T-bar	4.91	219	PN	P	09 33 53.7	-0.6
DRZ	Dome Shelter	4.92	218	P	P	09 34 03.3	+8.9
MOVZ	Moawhango	4.92	216	P	P	09 33 52.6	-1.9
WNVZ	Wahianoa	4.94	218	P	P	09 33 54.0	-0.7
PWZ	Pawanui	5.00	204	eP	P	09 33 52.7	-2.8
PWZ	Pawanui	5.00	204	ePN	P	09 33 52.2	-3.4
PWZ	Pawanui	5.00	204	ePN	P	09 33 52.2	-3.4
PKVZ	Pokaka	5.04	220	PN	P	09 33 55.7	-0.4
PKVZ	Pokaka	5.04	220	PN	P	09 33 55.7	-0.4
MTVZ	Mangateitei	5.05	218	ePN	P	09 33 55.7	-0.5
MTVZ	Mangateitei	5.05	218	ePN	P	09 33 55.7	-0.5
VRZ	Vera Road	5.25	225	eP	P	09 33 59.0	+0.2
VRZ	Vera Road	5.25	225	ePN	P	09 33 58.8	-0.1
VRZ	Vera Road	5.25	225	ePN	P	09 33 58.8	-0.1
TSZ	Takapari Road	5.36	210	eP	P	09 33 57.8	-2.6
TSZ	Takapari Road	5.36	210	PN	P	09 33 57.8	-2.6
TSZ	Takapari Road	5.36	210	PN	P	09 33 57.8	-2.6
RAEZ	Rainy Point	5.56	225	P	P	09 34 04.5	+1.4
WAZ	Wanganui	5.57	219	P	P	09 34 02.5	-0.7
WAZ	Wanganui	5.57	219	PN	P	09 34 01.9	-1.4
WAZ	Wanganui	5.57	219	PN	P	09 34 01.9	-1.4
NEZ	North Egmont	5.73	227	P	P	09 34 06.9	+1.6
NEZ	North Egmont	5.73	227	PN	P	09 34 06.9	+1.6
NEZ	North Egmont	5.73	227	PN	P	09 34 06.9	+1.6
PKE	Pukeiti	5.75	228	ePN	P	09 34 06.7	+1.1
PKE	Pukeiti	5.75	228	ePN	P	09 34 06.7	+1.1
BFZ	Birch Farm	5.79	205	eP	P	09 34 02.4	-3.8
BFZ	Birch Farm	5.79	205	ePN	P	09 34 02.4	-3.8
BFZ	Birch Farm	5.79	205	ePN	P	09 34 02.4	-3.8
NRZ	Ngariki Road	5.87	227	P	P	09 34 10.7	+3.5
NWEZ	Newall Road	5.87	228	P	P	09 34 14.0	+6.8
MRZ	Mangatainoka R	6.03	210	eP	P	09 34 06.2	-3.2
MRZ				S	S	09 35 17.2	-0.4
MRZ	Mangatainoka R	6.03	210	ePN	P	09 34 05.6	-3.8
MRZ				eSN	S	09 35 17.2	-0.4
MRZ	Mangatainoka R	6.03	210	ePN	P	09 34 05.6	-3.8
MRZ				eSN	S	09 35 17.2	-0.4
KIW	Kapiti Island	6.47	213	P	P	09 34 12.1	-3.5
KIW	Kapiti Island	6.47	213	PN	P	09 34 12.0	-3.6
KIW				eSN	S	09 35 26.8	-1.7
KIW	Kapiti Island	6.47	213	PN	P	09 34 12.0	-3.6
KIW				eSN	S	09 35 26.8	-1.7
MTW	Mount Morrison	6.48	208	P	P	09 34 12.0	-3.7
MTW	Mount Morrison	6.48	208	ePN	P	09 34 11.7	-3.9
MTW	Mount Morrison	6.48	208	ePN	P	09 34 11.7	-3.9
CAW	Cannon Point	6.61	210	P	P	09 34 13.3	-4.1
MSWZ	Moikau Station	6.80	208	P	P	09 34 15.9	-4.1
MRW	Makara Radio	6.87	212	P	P	09 34 16.9	-4.0
MRW	Makara Radio	6.87	212	ePN	P	09 34 16.4	-4.5
MRW				eSN	S	09 35 36.9	-1.2
MRW	Makara Radio	6.87	212	ePN	P	09 34 16.4	-4.5
MRW				eSN	S	09 35 36.9	-1.2
SNZO	South Karori	6.93	211	eP	P	09 34 17.3	-4.5
BHW	Baring Head	6.94	210	P	P	09 34 17.5	-4.5
NNZ	Nelson	7.48	218	eP	P	09 34 25.0	-4.2
NNZ	Nelson	7.48	218	ePN	P	09 34 24.9	-4.3
NNZ				eSN	S	09 35 51.7	-1.2
NNZ	Nelson	7.48	218	ePN	P	09 34 24.9	-4.3
NNZ				eSN	S	09 35 51.7	-1.2
BSWZ	Blackbirch Sta	7.62	214	P	P	09 34 27.2	-4.0
QRZ	Quartz Range	7.66	224	eP	P	09 34 27.3	-4.3
QRZ	Quartz Range	7.66	224	ePN	P	09 34 27.0	-4.7
QRZ	Quartz Range	7.66	224	ePN	P	09 34 27.0	-4.7
THZ	Tophouse	8.12	217	eP	P	09 34 33.0	-4.9
THZ	Tophouse	8.12	217	ePN	P	09 34 32.8	-5.1
THZ				SN	S	09 36 08.3	-0.3
THZ	Tophouse	8.12	217	ePN	P	09 34 32.8	-5.1
THZ				SN	S	09 36 08.3	-0.3
KHZ	Kahutara	8.34	212	eP	P	09 34 35.8	-5.0
KHZ	Kahutara	8.34	212	ePN	P	09 34 35.7	-5.1
KHZ				SN	S	09 36 09.0	-4.8
KHZ	Kahutara	8.34	212	ePN	P	09 34 35.7	-5.1
KHZ				SN	S	09 36 09.0	-4.8
DSZ	Denniston Nort	8.68	222	eP	P	09 34 39.8	-5.6
DSZ	Denniston Nort	8.68	222	ePN	P	09 34 39.7	-5.7
DSZ				SN	S	09 36 19.1	-3.0
DSZ	Denniston Nort	8.68	222	ePN	P	09 34 39.7	-5.7
DSZ				SN	S	09 36 19.1	-3.0
LTZ	Lake Taylor	9.20	215	eP	P	09 34 46.4	-6.0
LTZ	Lake Taylor	9.20	215	PN	P	09 34 46.4	-6.0
LTZ				eSN	S	09 36 30.6	-4.0
LTZ	Lake Taylor	9.20	215	PN	P	09 34 46.4	-6.0
LTZ				eSN	S	09 36 30.6	-4.0
MQZ	McQueen's Vall	9.76	211	eP	P	09 34 53.9	-6.0
MQZ	McQueen's Vall	9.76	211	PN	P	09 34 53.9	-5.9
MQZ				SN	S	09 36 42.2	-5.9
MQZ	McQueen's Vall	9.76	211	PN	P	09 34 53.9	-5.9
MQZ				SN	S	09 36 42.2	-5.9
WVZ	Waitaha Valley	10.18	219	eP	P	09 35 03.2	-2.2
RPZ	Rata Peaks	10.49	216	P	P	09 35 04.5	-5.0
	4.5nm,0.3s,baz=76,slow=2.4,SNR=20						
RPZ				S	S	09 37 00.3	-5.0
	22nm,0.3s,baz=36,slow=15,SNR=7.0						
RPZ	Rata Peaks	10.49	216	eP	P	09 35 04.7	-4.8
RPZ	Rata Peaks	10.49	216	PN	P	09 35 03.9	-5.6
RPZ				eSN	S	09 36 57.5	-7.9
RPZ	Rata Peaks	10.49	216	PN	P	09 35 03.9	-5.6
RPZ				eSN	S	09 36 57.5	-7.9
FOZ	Fox Glacier	11.06	220	ePN	P	09 35 11.7	-5.4
FOZ	Fox Glacier	11.06	220	ePN	P	09 35 11.7	-5.4
LBZ	Lake Benmore	11.40	216	eP	P	09 35 17.0	-4.7
LBZ	Lake Benmore	11.40	216	ePN	P	09 35 15.8	-5.9
LBZ	Lake Benmore	11.40	216	ePN	P	09 35 15.8	-5.9
ODZ	Otahua Downs	11.70	213	eP	P	09 35 20.0	-5.5
ODZ	Otahua Downs	11.70	213	PN	P	09 35 20.0	-5.5
ODZ	Otahua Downs	11.70	213	PN	P	09 35 20.0	-5.5
JCZ	Jackson Bay	11.90	221	eP	P	09 35 24.3	-4.0
JCZ	Jackson Bay	11.90	221	ePN	P	09 35 23.5	-4.8
JCZ	Jackson Bay	11.90	221	ePN	P	09 35 23.5	-4.8
WKZ	Wanaka	12.30	217	eP	P	09 35 30.6	-2.8
WKZ	Wanaka	12.30	217	ePN	P	09 35 29.6	-3.8
WKZ	Wanaka	12.30	217	ePN	P	09 35 29.6	-3.8
MSZ	Milford Sound	12.75	220	ePN	P	09 35 37.2	-2.2
MSZ	Milford Sound	12.75	220	ePN	P	09 35 37.2	-2.2
TUZ	Tuapeka	12.85	212	eP	P	09 35 39.4	-1.3
DZM	Mont Dzumac	17.57	316	eP	P	09 36 38.2	-2.1
DZM	Mont Dzumac	17.57	316	eP	P	09 36 38.2	-2.1
NOUC	Port Laguerre	17.62	316	eP	P	09 36 39.4	-1.7
NOUC	Port Laguerre	17.62	316	eP	P	09 36 39.4	-1.7
RAR	Rarotonga	23.06	57	P	P	09 37 36.0	-1.2
	32nm,1.1s,mb4.6,baz=165,slow=1.8,SNR=4.0						
RAR				LR	LR	09 44 29.8	
	comp=Z,743nm,19.1s,baz=224,slow=30						
CNB	Canberra Magne	24.52	262	eP	P	09 37 57.9	+6.7
	323nm,0.6s,mb5.9						
TBI	Tubuai	29.50	74	eP	P	09 38 46.7	+10
	96nm,1.3s,mb5.3						
TBI				eLR	LR	09 45 39.6	
	2μm,27.2s,baz=232						
STKA	Stephens Creek	31.62	266	P	P	09 38 56.2	+0.8
	11nm,0.4s,mb4.9,baz=97,slow=9.4,SNR=31						
STKA				LR	LR	09 51 01.1	
	comp=Z,963nm,19.1s,baz=56,slow=35						
STKA	Stephens Creek	31.62	266	eP	P	09 38 57.4	+2.0
PAE	Paea	32.67	65	eP	P	09 39 11.0	+6.4
	95nm,1.3s,mb5.5						
PPT	Papeete	32.73	65	eP	P	09 39 11.7	+6.6
	56nm,1.3s,mb5.2						
TVO	Taravao	32.84	66	eP	P	09 39 12.6	+6.5
	46nm,1.0s,mb5.2						
TIAR	Tiarei	32.91	65	eP	P	09 39 13.4	+6.7
	97nm,0.9s,mb5.7						
CTA	Charters Tower	32.98	289	eP	P	09 39 09.2	+1.9
	37nm,0.9s,mb5.2						
CTA	Charters Tower	32.98	289	eP	P	09 39 09.2	+1.9
CTA				pmax	pmax		
	comp=Z,37nm,0.9s						
CTA	Charters Tower	32.98	289	P	P	09 39 08.2	+0.9
	comp=Z,30nm,0.4s,mb5.4,baz=120,slow=10.0,SNR=55						
CTA				LR	LR	09 51 57.9	
	comp=Z,352nm,18.2s,baz=61,slow=35						
CTAO	Charters Tower	32.98	289	eP	P	09 39 08.1	+0.8
CTAO				pmax	pmax		
	comp=Z,51nm,0.8s,mb5.4						
CTAO	Charters Tower	32.98	289	eP	P	09 39 08.1	+0.8
	comp=Z,51nm,0.8s,mb5.4						
MEH	Mehetia	33.67	67	eP	P	09 39 20.1	+6.9
	comp=Z,51nm,1.3s,mb5.2						
PMOR	Pomariorio Ree	35.61	63	eP	P	09 39 36.5	+6.8
	comp=Z,49nm,1.1s,mb5.3						
PMG	Port Moresby	39.26	303	eP	P	09 39 58.2	-2.0
PMG				pmax	pmax		
	comp=Z,8.0nm,0.6s						
PMG	Port Moresby	39.26	303	P	P	09 40 01.2	+0.9
	comp=Z,9.1nm,0.6s,mb4.8,baz=91,slow=3.7,SNR=9.0						
PMG				LR	LR	09 53 12.9	
	comp=Z,998nm,21.9s,baz=328,slow=31						
PMG	Port Moresby	39.26	303	eP	P	09 39 58.2	-2.0
	comp=Z,8.4nm,0.6s,mb4.8						
ASAR	Alice Springs	41.04	274	P	P	09 40 13.8	-0.9
	comp=Z,149nm,0.4s,mb6.2,baz=116,slow=6.8,SNR=323						
ASAR				PKiKP		09 49 19.7	
	comp=Z,0.8nm,0.6s,baz=86,slow=1.1,SNR=7.9						
ASAR				LR	LR	09 57 13.1	
	comp=Z,766nm,19.6s,baz=129,slow=36						
ASPA	Alice Springs	41.04	274	eP	P	09 40 16.4	+1.6
WB2	Warramunga Arr	42.48	279	eP	P	09 40 25.5	-1.2
WRAB	Tennant Creek	42.49	279	P	P	09 40 27.0	+0.3
	comp=Z,1μm,0.5s						
WRAB	Tennant Creek	42.49	279	c iP	P	09 40 27.7	+1.0
WRAB	Tennant Creek	42.49	279	eP	P	09 40 25.9	-0.8
	comp=Z,179nm,0.6s,mb6.0						
WRA	Warramunga Arr	42.49	279	P	P	09 40 26.1	-0.7
	comp=Z,91nm,0.4s,mb5.8,baz=118,slow=7.7,SNR=378						
WRA				PKiKP		09 49 21.0	
	comp=Z,1.1nm,0.5s,baz=117,slow=0.4,SNR=15						
SBA	Scott Base	42.83	184	eP	P	09 40 34.1	+5.3
SBA				e		09 42 18.7	
SBA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
SBA	Scott Base	42.83	184	eP	P	09 40 34.1	+5.3
	comp=Z,12nm,0.7s,mb4.7						
SBA				ePP	PP	09 42 18.6	+6.3
VNDA	Vanda	42.85	186	eP	P	09 40 33.8	+4.9
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
VNDA	Vanda	42.85	186	P	P	09 40 34.1	+5.1
	comp=Z,3.0nm,0.7s,mb4.2,baz=10,slow=6.9,SNR=19						
VNDA				PcP	PcP	09 42 21.0	+2.5
	comp=Z,7.1nm,1.0s,baz=353,slow=7.6,SNR=3.8						
VNDA				LR	LR	09 54 35.6	
	comp=Z,324nm,21.0s,baz=48,slow=30						
VNDA	Vanda	42.85	186	eP	P	09 40 33.8	+4.9
	comp=Z,4.4nm,0.8s,mb4.2						
FORT	Forrest	42.94	261	eP	P	09 40 32.0	+1.7
	comp=Z,1μm,0.5s						
KAKA	Kakadu	48.02	286	eP	P	09 41 10.7	0.0
	comp=Z,18nm,0.4s,mb5.3						
CASY	Casey	49.69	210	eP	P	09 41 24.9	+2.0
FITZ	Fitzroy Crossi	50.48	275	eP	P	09 41 30.9	+1.3
	comp=Z,134nm,0.7s,mb6.0						
NWAO	Narrogin (SRO)	50.80	254	eP	P	09 41 31.9	+0.1
NWAO				pmax	pmax		
	comp=Z,17nm,0.7s						
NWAO	Narrogin (SRO)	50.80	254	P	P	09 41 32.3	+0.5
	comp=Z,20nm,0.6s,mb5.3,baz=111,slow=6.9,SNR=24						
NWAO	Narrogin (SRO)	50.80	254	eP	P	09 41 31.9	+0.1
	comp=Z,17nm,0.7s,mb5.2						
KLBR	Kellerberrin	50.88	256	eP	P	09 41 32.6	+0.2
	comp=Z,455nm,0.7s						
MUN	Mundaring	51.95	255	eP	P	09 41 41.1	+0.6
	comp=Z,34nm,0.6s,mb5.6						
MUN	Mundaring	51.95	255	eP	P	09 41 41.1	+0.6
MUN				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.5						
MBWA	Marble Bar	53.78	268	eP	P	09 41 54.1	0.0
	comp=Z,69nm,0.7s,mb5.8						
QSPA	South Pole Qui	54.64	180	⇑iP	P	09 42 04.7	+5.0
	comp=Z,72nm,0.7s,mb5.8						
MAW	Mawson	66.83	202	eP	P	09 43 25.1	+2.9
	comp=Z,50nm,1.0s,mb5.3						
MAW	Mawson	66.83	202	eP	P	09 43 25.1	+2.9
MAW				pmax	pmax		
	comp=Z,50nm,1.0s						
MAW	Mawson	66.83	202	P	P	09 43 25.2	+3.0
	comp=Z,47nm,0.8s,mb5.4,baz=113,slow=7.5,SNR=32						
MAW				LR	LR	10 12 13.5	
	comp=Z,317nm,19.1s,baz=94,slow=35						
SYO	Syowa Base	71.70	194	⇑P	P	09 43 54.0	+2.1
SYO	Syowa Base	71.70	194	⇑PcP	PcP	09 44 10.4	-0.1
KKM	Kota Kinabalu	72.27	291	eP	P	09 43 55.2	-1.0
SNAA	Sanae	73.14	179	⇑iP	P	09 44 03.8	+3.7
SNAA				e		09 44 20.5	
SNAA				e		09 46 52.3	
SNAA				eS	S	09 53 23.5	+6.7
SNAA				e		09 54 05.6	
SNAA				e		09 54 09.5	
SNAA	Sanae	73.14	179	⇑iP	P	09 44 03.8	+3.7
SNAA				e		09 44 20.5	
SNAA				e	pP	09 44 31.0	+1.4
SNAA				e		09 44 50.9	
SNAA				e		09 46 52.3	
SNAA				eS	S	09 53 23.5	+6.7
SNAA				e		09 54 05.6	
SNAA				e		09 54 09.5	
VNA3	Neumayer Olymp	73.38	177	e	P	09 44 21.7	+20
VNA3	Neumayer Olymp	73.38	177	e	SS	09 58 14.8	+8.3
VNA3	Neumayer Olymp	73.38	177	⇑iP	P	09 44 05.2	+3.6
VNA3				e		09 44 21.7	
VNA3				e	pP	09 44 32.4	+1.3
VNA3				e		09 44 52.2	
VNA3				e		09 46 54.6	
VNA3				e		09 53 20.1	
VNA3				eS	S	09 53 28.6	+9.1
VNA3				e		09 54 06.6	
VNA3				e		09 54 11.1	
VNA3				e		09 54 21.0	
VNA3				e		09 54 26.9	
VNA3				e		09 58 14.8	
MAIT	Maitri	73.68	184	eP	P	09 44 07.1	+3.7
NVL	N'lazarevskaya	73.68	184	⇓iP	P	09 44 04.9	+1.5
NVL				i *PP	pP	09 44 22.5	-10
VNA2	Neumayer--Watz	73.78	178	e	SS	09 58 15.4	+2.8
VNA2	Neumayer--Watz	73.78	178	⇑iP	P	09 44 07.9	+4.0
VNA2				e		09 44 24.7	
VNA2				e	pP	09 44 35.1	+1.6
VNA2				e		09 44 54.1	
VNA2				e		09 46 56.0	
VNA2				e		09 53 21.8	
VNA2				eS	S	09 53 29.2	+5.1
VNA2				e		09 54 07.6	
VNA2				e		09 54 12.2	
VNA2				e		09 54 21.8	
VNA2				e		09 54 28.9	
VNA2				e		09 58 15.4	
VNA1	Neumayer--Stat	74.03	177	e	P	09 44 25.6	+20
VNA1	Neumayer--Stat	74.03	177	⇑iP	P	09 44 09.6	+4.2
VNA1				e		09 44 25.6	
VNA1				e	pP	09 44 37.0	+2.1
KSM	Kuching	74.03	284	eP	P	09 44 05.6	-0.9
PLCA	Paso Flores	80.56	134	P	P	09 44 45.3	+3.2
	comp=Z,6.1nm,0.6s,mb4.6,baz=241,slow=4.7,SNR=48						
PLCA				LR	LR	10 12 20.4	
	comp=Z,169nm,19.6s,baz=217,slow=29						
PLCA	Paso Flores	80.56	134	P	P	09 44 45.3	+3.2
PLCA				LR	LR	10 12 20.4	
SSE	Sheshan	85.94	313	P	P	09 45 10.9	+1.3
SSE				PP	PP	09 48 30.9	-1.2
SSE				S	S	09 55 31.3	-0.3
SSE				SS	SS	10 01 11.3	-3.8
SSE				AMB	AMB		
	comp=Z,45nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,77nm,5.9s						
SSE				LR	LR		
	comp=N,66nm,29.3s						
SSE				LR	LR		
	comp=E,55nm,29.2s						
SSE				LR	LR		
	comp=Z,103nm,23.2s						
SSE	Sheshan	85.94	313	P	P	09 45 10.9	+1.3
	comp=Z,45nm,0.7s,mb5.5						
SSE				PP	PP	09 48 30.9	-1.2
SSE				S	S	09 55 31.3	-0.3
SSE				SS	SS	10 01 11.3	-3.8
SSE				LR	LR		
	comp=Z,100nm,23.2s						
ASAJ	Asahikawa	86.03	334	P	P	09 45 09.4	-0.2
	comp=Z,12nm,0.8s,mb4.8,baz=249,slow=8.8,SNR=9.9						
NJ2	Nanjing	88.02	312	eP	P	09 45 19.5	-0.1
NJ2				AP	pP	09 45 45.3	-4.8
NJ2				PP	PP	09 48 49.6	-0.1
NJ2				S	S	09 55 53.0	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,1μm,5.9s						
NJ2				LR	LR		
	comp=N,150nm,20.6s						
NJ2				LR	LR		
	comp=E,270nm,25.7s						
NJ2				LR	LR		
	comp=Z,180nm,26.1s						
YSS	Yuzh-Sakhalins	88.45	336	⇑eP	P	09 45 19.8	-1.5
YSS				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,200nm,22.0s						
YSS	Yuzh-Sakhalins	88.45	336	⇑eP	P	09 45 19.8	-1.5
	comp=Z,22nm,1.0s,mb5.1						
YSS				LR	LR		
	comp=Z,200nm,22.0s						
PET	Petropavlovsk	89.98	348	i P	P	09 45 26.5	-1.8
NST	Nakhon Sawan	90.57	289	P	P	09 45 32.8	+0.9
MDJ	Mudanjiang	91.66	327	P	P	09 45 35.5	-0.9
MDJ				PP	PP	09 49 12.1	-6.4
MDJ				S	S	09 56 15.9	-8.0
MDJ				PS	PS	09 57 53.9	-0.1
MDJ				SS	SS	10 02 30.3	-6.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,121nm,3.5s						
MDJ				LR	LR		
	comp=N,85nm,21.5s						
MDJ				LR	LR		
	comp=E,67nm,24.5s						
MDJ				LR	LR		
	comp=Z,134nm,21.5s						
CMB	Columbia Colle	91.92	43	eP	P	09 45 36.7	-1.0
	comp=Z,8.6nm,1.1s,mb4.9						
GYA	Guiyang	92.30	301	⇓iP	P	09 45 39.6	-0.1
GYA				AP	pP	09 46 15.8	+5.4
GYA				XP	sP	09 46 30.3	+7.3
GYA				PP	PP	09 49 22.8	-1.2
GYA				S	S	09 56 25.4	-4.5
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.4						
GYA				AMB	AMB		
	comp=Z,90nm,3.8s						
ENH	Enshi	92.78	306	eP	P	09 45 41.0	-0.9
	comp=Z,50nm,1.1s,mb5.8						
CN2	Changchun	92.96	324	eP	P	09 45 40.8	-1.5
CN2				eS	S	09 56 27.5	-7.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb5.0						
CN2				AMB	AMB		
	comp=Z,140nm,5.0s						
LDFC	Landfair	92.97	48	P	P	09 45 43.6	+0.9
CMAR	Chiang Mai Arr	93.14	290	P	P	09 45 44.0	+0.3
	comp=Z,11nm,0.8s,mb5.2,baz=146,slow=3.7,SNR=22						
CMAR				PP	PP	09 49 29.8	-1.1
	comp=Z,1.4nm,0.4s,baz=118,slow=6.9,SNR=5.1						
LVC	Limon Verde	93.25	121	eP	P	09 45 47.9	+3.8
	comp=Z,30nm,1.5s,mb5.4						
LVC				e		09 46 01.7	
YBH	Yreka Blue Hor	93.30	39	P	P	09 45 43.9	0.0
	comp=Z,3.2nm,0.8s,mb4.7,baz=180,slow=6.1,SNR=7.3						
CHG	Chiang Mai	93.34	291	⇓P	P	09 45 45.1	+0.4
	comp=Z,11nm,0.8s,mb5.2						
NVAR	Mina Array Bea	93.36	44	P	P	09 45 44.1	-0.3
	comp=Z,3.7nm,0.8s,mb4.8,baz=227,slow=10,SNR=20						
NVAR				LR	LR	10 16 54.3	
	comp=Z,219nm,21.0s,baz=265,slow=28						
HUMO	Hull Mountain	93.81	39	eP	P	09 45 45.6	-0.6
	comp=Z,3.0nm,0.7s,mb4.7						
KMI	Kunming	94.27	298	P	P	09 45 50.5	+1.8
KMI				S	S	09 56 47.0	+0.1
KMI				LR	LR		
	comp=Z,161nm,28.1s						
MOD	Modoc	94.68	41	eP	P	09 45 48.9	-1.3
	comp=Z,6.9nm,1.0s,mb5.0						
BJI	Beijing	95.10	316	P	P	09 45 52.8	+0.6
BJI				S	S	09 56 47.4	-6.2
BJI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb5.0						
BJI				LR	LR		
	comp=N,102nm,18.8s						
BJI				LR	LR		

	comp=E,116nm,18.8s						
BJI				LR	LR		
	comp=Z,199nm,26.7s						
BJI	Beijing	95.10	316	P	P	09 45 52.7	+0.5
BJI				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb5.0						
BJI				MLR	MLR		
	comp=Z,200nm,26.7s						
BJI	Beijing	95.10	316	P	P	09 45 52.8	+0.6
	comp=Z,6.0nm,1.0s,mb5.0						
BJI				S	S	09 56 47.4	-6.2
BJI				LR	LR		
	comp=Z,200nm,26.7s						
ELK	Elko	96.67	44	P	P	09 45 59.0	-0.3
	comp=Z,0.6nm,0.4s,mb4.4,baz=243,slow=11,SNR=3.9						
ELK				PKKPbc		10 02 44.8	
	comp=Z,1.8nm,0.6s,baz=175,slow=1.3,SNR=12						
TXAR	Lajitas Array	96.85	59	P	P	09 45 59.8	-0.6
	comp=Z,0.5nm,0.7s,baz=221,slow=8.0,SNR=5.5						
TXAR				PKKPbc		10 02 44.2	
	comp=Z,0.4nm,0.5s,baz=74,slow=5.1,SNR=6.5						
TXAR				LR	LR	10 22 13.7	
	comp=Z,244nm,20.6s,baz=185,slow=31						
LPAZ	La Paz	97.89	116	P	P	09 46 08.3	+2.9
	comp=Z,0.6nm,0.6s,mb4.3,baz=293,slow=7.7,SNR=4.9						
LPAZ				LR	LR	10 20 13.2	
	comp=Z,68nm,18.6s,baz=31,slow=29						
LPAZ	La Paz	97.89	116	P	P	09 46 08.3	+2.9
LPAZ				LR	LR	10 20 13.2	
ANMO	Albuquerque	98.35	53	P	P	09 46 07.4	+0.4
	comp=Z,0.8nm,0.8s,mb4.3,baz=226,slow=9.7,SNR=4.0						
LZH	Lanzhou	100.08	307	eP	P	09 46 16.5	+1.6
LZH				PP	PP	09 50 26.1	+2.3
LZH				AMB	AMB		
	comp=Z,25nm,1.3s						
LZH				AMB	AMB		
	comp=Z,139nm,6.5s						
LZH				LR	LR		
	comp=N,264nm,14.7s						
LZH				LR	LR		
	comp=Z,491nm,17.7s						
LZH	Lanzhou	100.08	307	eP	P	09 46 16.5	+1.6
	comp=Z,25nm,1.3s						
LZH				PP	PP	09 50 26.1	+2.3
LZH				LR	LR		
	comp=Z,490nm,17.7s						
PDAR	Pinedale Array	101.23	45	P	P	09 46 19.8	-0.1
	comp=Z,0.6nm,0.7s,baz=174,slow=2.5,SNR=5.1						
PDAR				PKKPbc		10 02 30.8	
	comp=Z,1.4nm,0.8s,baz=104,slow=4.7,SNR=10						
MCK	McKinley	102.01	14	ePdif	Pdif	09 46 22.1	-0.7
	comp=Z,3.2nm,1.0s						
DLBC	Dease Lake	102.60	25	P	Pdif	09 46 25.1	-0.4
	comp=Z,1.9nm,0.8s,baz=196,slow=4.3,SNR=4.3						
COLA	College	103.24	14	eP	Pdif	09 46 28.1	-0.1
COLA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
COLA	College	103.24	14	ePdif	Pdif	09 46 28.1	-0.1
	comp=Z,4.5nm,1.0s						
ILAR	Eielson Array	103.34	14	P	Pdif	09 46 26.1	-2.5
	comp=Z,1.2nm,0.9s,baz=230,slow=5.3,SNR=12						
ILAR				PKiKP		09 50 46.4	
	comp=Z,4.3nm,0.8s,baz=310,slow=3.1,SNR=45						
ILAR				PKKPbc		10 02 21.6	
	comp=Z,0.3nm,0.6s,baz=35,slow=3.2,SNR=4.9						
BILL	Bilibino	103.68	355	eP	Pdif	09 46 26.0	-4.1
BILL				eSS	SS	10 05 23.7	-1.0
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s						
SONM	Songino Array	105.49	318	PKiKP		09 50 53.2	
	comp=Z,0.4nm,0.5s,baz=115,slow=2.9,SNR=3.8						
SONM				PKKPbc		10 02 18.5	
	comp=Z,1.0nm,0.8s,baz=261,slow=3.5,SNR=5.9						
INK	Inuvik	109.23	17	Pdiff	Pdif	09 46 55.7	+1.2
	comp=Z,0.8nm,1.0s,baz=266,slow=9.1,SNR=2.2						
INK				PKiKP		09 50 57.4	
	comp=Z,7.6nm,0.7s,baz=202,slow=1.5,SNR=68						
INK				PKKPbc		10 02 04.5	
	comp=Z,0.7nm,0.6s,baz=45,slow=2.9,SNR=5.8						
INK	Inuvik	109.23	17	Pdif	Pdif	09 46 55.7	+1.2
INK				ePKPdf		09 50 57.0	
YKA	Yellowknife Ar	110.92	27	Pdiff	Pdif	09 47 05.1	+3.1
	comp=Z,0.3nm,0.7s,baz=240,slow=4.6,SNR=8.1						
YKA				PKiKP		09 51 00.4	
	comp=Z,2.2nm,0.6s,baz=254,slow=1.6,SNR=65						
YKA				PKKPbc		10 01 58.3	
	comp=Z,1.4nm,0.6s,baz=41,slow=3.4,SNR=23						
YKA	Yellowknife Ar	110.92	27	Pdif	Pdif	09 47 05.1	+3.1
YKA				PKPdf	PKPdf	09 51 00.4	+0.5
YKA				PKKPbc		10 01 58.4	
YKW3	Yellowknife Ar	110.95	27	ePKiKP		09 51 00.6	
BDFB	Brasilia	112.11	130	PKKPab		10 02 05.4	
	comp=Z,3.0nm,0.7s,baz=91,slow=2.9,SNR=4.5						
ULM	Lac du Bonnet	113.20	44	PKiKP		09 51 04.5	
	comp=Z,1.4nm,0.5s,baz=252,slow=2.4,SNR=5.1						
ULM				PKKPbc		10 01 52.6	
	comp=Z,1.9nm,0.7s,baz=28,slow=1.8,SNR=5.1						
WMQ	Urumqi	114.66	307	PKP	PKPdf	09 51 07.9	+0.1
WMQ				PP	PP	09 52 11.0	-0.6
WMQ				PPP	PPP	09 54 37.0	-1.0
WMQ				PKS	PKS	09 54 43.0	-0.4
WMQ				SKKS		09 58 43.0	
WMQ				PP	PP		
	comp=Z,117nm,10.4s						
LBTB	Lobatse	114.96	206	PKP	PKPdf	09 51 11.7	+2.9
	comp=Z,2.4nm,0.6s,baz=214,slow=1.5,SNR=5.7						
FCC	Fort Churchill	117.81	36	ePKiKP		09 51 13.0	
MATP	Matopo	117.97	211	PKP	PKPdf	09 51 17.0	+2.4
	comp=Z,6.9nm,0.6s,baz=108,slow=2.2,SNR=16						
MK02	Makanchi Array	119.33	309	PKIKP	PKPdf	09 51 16.1	-0.5
MK02				pmax	pmax		
	comp=Z,3.0nm,0.6s						
ZAL	Zalesovo	120.37	317	PKP	PKPdf	09 51 18.4	-0.1
	comp=Z,3.2nm,0.4s,baz=331,slow=2.0,SNR=13						
NVS	Novosibirsk	121.52	318	i PKIKP	PKPdf	09 51 19.7	-1.0
KZA	Kyzart	122.36	301	P	PKPdf	09 51 24.2	+1.6
	SNR=16						
TKM2	Tokmak 2	122.42	302	P	PKPdf	09 51 20.0	-2.7
	SNR=26						
LSZ	Lusaka	122.66	213	ePKPdf	PKPdf	09 51 26.8	+3.0
RES	Resolute Bay	122.71	18	ePKPdf	PKPdf	09 51 22.1	-0.5
KBK	Karagaybulak	122.78	302	P	PKPdf	09 51 24.3	+0.9
	SNR=8.4						
UCH	Uchtor	122.93	301	P	PKPdf	09 51 24.8	+1.1
	SNR=27						
KURK	Kurchatov	122.95	312	d iPKIKP	PKPdf	09 51 22.9	-0.6
KURK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KURK	Kurchatov	122.95	312	i PKPdfr		09 51 22.9	
TSUM	Tsumeb	122.98	200	PKP	PKPdf	09 51 27.7	+3.3
	comp=Z,8.3nm,0.5s,baz=146,slow=3.2,SNR=66						
TSUM	Tsumeb	122.98	200	ePKPdf	PKPdf	09 51 27.1	+2.7
CHMS	Chumysh	123.03	302	P	PKPdf	09 51 24.4	+0.5
	SNR=17						
AAK	Ala-Archa	123.08	302	P	PKPdf	09 51 24.9	+0.9
	SNR=9.5						
AAK	Ala-Archa	123.08	302	c iPKIKP	PKPdf	09 51 23.4	-0.6
AAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AAK	Ala-Archa	123.08	302	⇑iPKPdf	PKPdf	09 51 23.4	-0.6
USP	Ospenovka	123.29	302	P	PKPdf	09 51 24.5	+0.1
	SNR=24						
AML	Almayashu	123.47	301	P	PKPdf	09 51 26.2	+1.4
	SNR=54						
EKS2	Erkin-Say	123.59	302	P	PKPdf	09 51 26.0	+1.0
	SNR=9.9						
NCB	Newcomb	124.40	57	ePKPdf	PKPdf	09 51 27.2	+0.6
MIV	Mineville/With	124.91	57	ePKPdf	PKPdf	09 51 28.4	+1.0
JMDO	Jabal Madar	127.75	272	⇓P	PKPdf	09 51 34.6	+1.1
SMDO	Samad	128.11	273	⇑P	PKPdf	09 51 35.6	+1.4
	SNR=6.9						
CHKZ	Chkalovo	128.43	314	ePKIKP	PKPdf	09 51 33.7	-0.3
BVA0	Borovoye Array	128.45	313	i PKIKP	PKPdf	09 51 34.0	-0.1
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRVK	Borovoye	128.52	313	⇑iPKIKP	PKPdf	09 51 34.3	+0.1
BSY	Bisya	128.66	272	⇑P	PKPdf	09 51 36.1	+0.8
	SNR=7.9						
WHFO	Wadi Hawf	129.08	265	⇓P	PKPdf	09 51 36.6	+0.4
	SNR=6.6						
ABTO	Aybut	129.17	264	P	PKPdf	09 51 37.7	+1.3
	SNR=13						
KMBO	Kilima Mbogo	129.34	232	PKP	PKPdf	09 51 40.3	+3.5
	comp=Z,6.0nm,0.8s,baz=34,slow=2.3,SNR=17						
KMBO	Kilima Mbogo	129.34	232	ePKPdf	PKPdf	09 51 39.8	+3.0
ARQ	Araqi	129.49	272	P	PKPdf	09 51 38.2	+1.3
	SNR=6.0						
ASHO	Ashiyiah	130.47	274	⇓P	PKPdf	09 51 39.0	+0.3
	SNR=8.5						
SCHQ	Schefferville	131.37	45	PKP	PKPdf	09 51 41.7	+2.2
	comp=Z,2.3nm,0.5s,baz=175,slow=3.6,SNR=6.0						
SCHQ				SKP		09 54 58.8	
	comp=Z,4.4nm,0.8s,baz=243,slow=4.5,SNR=5.6						
SUMG	Summit	138.15	16	ePKPpre		09 51 43.0	
LVZ	Lovozero	141.94	339	i PKIKP	PKPdf	09 51 55.2	-3.2
LVZ				pmax	pmax		
	comp=Z,46nm,2.3s						
APA	Apatity	142.52	339	⇓ePKIKP	PKPdf	09 51 57.7	-1.7
APA				i		09 52 02.6	
APA				pmax	pmax		
	comp=Z,13nm,0.7s						
KEV	Kevo	142.53	345	epkp	PKPdf	09 51 54.7	-4.7
ARCES	ARCESS Array B	143.02	345	PKhKP		09 51 56.9	
	comp=Z,16nm,0.6s,baz=52,slow=2.4,SNR=28						
ARE0	ARCESS Array S	143.02	345	ePKPpre		09 51 57.4	
GNI	Garni	144.25	291	ePKIKP	PKPdf	09 52 02.2	-1.0
TI2	Plekhanov	144.41	294	i PKIKP	PKPdf	09 52 02.6	-0.9
HKR	Hakkari	144.63	287	P	PKPbc	09 52 04.2	+0.3
VANB	Van	145.07	288	eP	PKPdf	09 52 09.5	+4.8
ZEI	Tsey	145.12	296	ePKIKP	PKPdf	09 52 05.8	+1.1
GOF	Gofitskoye	145.79	300	⇓iPKIKP	PKPdf	09 52 06.4	+0.6
GOF				pmax	pmax		
	comp=Z,210nm,1.3s						
KIV	Kislovodsk	146.04	298	i PKP2	PKPab	09 52 08.7	-1.5
JOF	Joensuu	146.22	334	epkp	PKPdf	09 52 05.9	0.0
VRT	Varto	146.58	289	P	PKPdf	09 52 10.4	+3.1
EZM	Erzurum	146.80	290	P	PKPdf	09 52 12.4	+4.8
MOS	Moscow	147.10	320	ePKIKP	PKPdf	09 52 07.3	-0.3
MOS				e		09 55 42.4	
MOS				pmax	pmax		
	comp=Z,116nm,0.7s						
BINT	Bingol	147.36	288	P	PKPdf	09 52 12.2	+3.6
OBN	Obninsk	147.90	319	⇑iPKIKP	PKPdf	09 52 10.5	+1.6
OBN				e		09 55 40.5	
OBN				e		09 59 07.7	
OBN				eSS	SS	10 14 37.7	+0.2
OBN				pmax	pmax		
	comp=Z,42nm,0.9s						
SOC	Sochi	148.19	297	i PKP2	PKPab	09 52 14.2	-4.5
SOC				eSSS	SSS	10 20 28.1	+10
SOC				pmax	pmax		
	comp=Z,51nm,0.7s						
SOC				pmax	pmax		
	comp=N,31nm,1.0s						
SOC				pmax	pmax		
	comp=E,8.0nm,0.7s						
PTK	Pertek	148.21	288	P	PKPdf	09 52 14.2	+4.2
GUMT	Gumushane	148.28	291	eP	PKPdf	09 52 15.3	+5.2
KAF	Kangasniemi	148.48	336	epkp	PKPdf	09 52 12.7	+3.1
	baz=36,slow=3.3						
ASF	Jabal al Asfar	148.88	275	PKP	PKPdf	09 52 12.7	+1.5
	comp=E,12nm,0.9s,baz=347,slow=2.3,SNR=8.3						
ASF				PKPbc	PKPdf	09 52 17.3	+6.0
	comp=E,12nm,0.9s,baz=345,slow=3.6,SNR=7.9						
MALT	Malatya	148.89	287	ePKPdf	PKPdf	09 52 12.1	+1.0
FINES	FINESS Array B	149.03	335	PKP	PKPdf	09 52 11.5	+0.9
	comp=E,22nm,0.7s,baz=90,slow=1.9,SNR=60						
FINES				PKPbc	PKPdf	09 52 14.6	+4.0
	comp=E,16nm,0.5s,baz=58,slow=2.7,SNR=69						
EIL	Elat	149.68	269	ePKPbc	PKPdf	09 52 19.0	+6.4
ANN	Anapa	149.77	300	i PKIKP	PKPdf	09 52 09.2	-3.0
ANN				e		09 59 14.4	
ANN				pmax	pmax		
	comp=Z,131nm,0.9s						
VSU	Vasula	150.81	330	d iPKIKP	PKPdf	09 52 19.3	+6.0
BNN	Bunyan	150.96	288	P	PKPdf	09 52 21.3	+7.1
DBIC	Dimbokro	151.05	171	ePKIKP	PKPdf	09 52 18.5	+3.4
DBIC				e		09 52 24.2	
DBIC	Dimbokro	151.05	171	PKP	PKPdf	09 52 18.4	+3.4
	comp=Z,8.6nm,0.7s,baz=172,slow=1.4,SNR=15						
DBIC				PKPbc	PKPdf	09 52 24.6	+10
	comp=Z,109nm,0.7s,baz=162,slow=2.7,SNR=140						
CORM	Corum	151.97	290	P	PKPdf	09 52 24.1	+8.4
SIM	Simferopol'	152.10	300	d iPKIKP	PKPdf	09 52 24.5	+8.8
SIM				pmax	pmax		
	comp=Z,60nm,0.6s						
CSS	Prodhromos	152.43	279	ePKPbc	PKPdf	09 52 24.7	+8.2
BZK	Bozkurt	152.44	294	P	PKPdf	09 52 24.8	+8.5
TOS	Tosya	152.44	292	eP	PKPdf	09 52 23.5	+7.1
KAMT	Kaman	152.65	288	eP	PKPdf	09 52 25.2	+8.5
LEF	Lefka	152.81	279	eP	PKPdf	09 52 25.1	+8.1
NB2	NORSAR Subarra	153.34	347	PKPabc	PKPdf	09 52 25.1	+8.2
	comp=Z,8.8nm,0.6s,baz=17,slow=2.6						
NOA	NORSAR Array B	153.34	347	PKP	PKPdf	09 52 17.6	+0.7
	comp=Z,4.2nm,0.7s,baz=166,slow=20,SNR=15						
NOA				PKPbc	PKPdf	09 52 25.4	+8.5
	comp=Z,16nm,0.7s,baz=31,slow=2.0,SNR=37						
SAFT	Safranbolu	153.45	293	eP	PKPdf	09 52 26.0	+8.3
NAO01	NORSAR Array S	153.59	347	ePKPdf	PKPdf	09 52 17.0	-0.2
KIZT	Kizilcal	154.05	287	P	PKPdf	09 52 27.9	+9.3
CFR	Carcaliu	156.22	303	⇓P	PKPab	09 52 51.8	-0.5
VRI	Vrincioaia	156.99	305	⇑P	PKPab	09 52 55.3	-0.3
MLR	Muntele Rosu	157.63	305	⇓P	PKPab	09 52 57.8	-0.5
KOLS	Kolonicke sedl	158.53	316	ePKP	PKPdf	09 52 28.0	+3.9
KOLS				e		09 52 35.1	
CRVS	Cervenica-Dubn	159.01	316	i PKP	PKPab	09 53 02.2	-1.9
BZS	Buzias	160.44	308	⇓P	PKPdf	09 52 27.2	+0.9
VYHS	Vyhne	160.69	318	ePKP	PKPdf	09 52 29.0	+2.5
VYHS				e		09 53 09.0	
VYHS				e		09 53 10.0	
CLL	Collm	161.43	333	ePKP2	PKPab	09 53 12.0	-2.5
DIVS	Divcibare	162.09	305	⇑iPKP	PKPdf	09 52 29.4	+1.3
KHC	Kasperske Hory	162.88	327	⇑iPKIKP	PKPdf	09 52 29.5	+0.8
KHC	Kasperske Hory	162.88	327	ePKPDF	PKPdf	09 52 28.5	-0.2
GERES	GERESS Array B	163.03	326	PKP	PKPdf	09 52 28.7	-0.1
	comp=Z,1.6nm,0.8s,baz=90,slow=1.3,SNR=9.0						
GERES				PKPab	PKPab	09 53 19.8	-1.7
	comp=Z,1.3nm,0.7s,baz=34,slow=4.8,SNR=6.5						
GRA1	Grafenberg Arr	163.41	332	ePKPdf	PKPdf	09 52 30.9	+1.7
GRA1				ePKPab	PKPab	09 53 20.5	-2.7
GRF	Grafenberg Arr	163.41	332	ePKIKP	PKPdf	09 52 30.9	+1.7
CABF	La Chapelle	167.82	338	ePKIKP	PKPdf	09 52 34.5	+1.5
SSF	Saint Saulge	168.04	347	ePKIKP	PKPdf	09 52 35.3	+2.2
LPL	La Plagne	168.57	333	ePKIKP	PKPdf	09 52 36.6	+3.1
LPG	La Plagne	168.58	333	ePKIKP	PKPdf	09 52 36.7	+3.2
	comp=Z,10nm,0.8s						
MFF	Saint Martin d	168.88	359	ePKIKP	PKPdf	09 52 36.8	+3.2
TCF	Toulx Ste Croi	169.01	350	ePKIKP	PKPdf	09 52 36.1	+2.4
MBDF	Montbardon	169.22	331	ePKIKP	PKPdf	09 52 35.6	+1.7
	comp=Z,14nm,0.9s						
ORIF	Oris-en-Rattie	169.39	335	ePKIKP	PKPdf	09 52 35.7	+1.7
SBF	Sospel	169.64	326	ePKIKP	PKPdf	09 52 35.4	+1.3
	comp=Z,36nm,1.0s						
PGF	Pioggiola	169.78	317	ePKIKP	PKPdf	09 52 35.7	+1.4
	comp=Z,32nm,1.4s						
VIVF	Saint-Julien-l	169.84	339	ePKIKP	PKPdf	09 52 36.0	+1.8
FRF	La Foret Royal	170.22	328	ePKIKP	PKPdf	09 52 35.9	+1.4
	comp=Z,41nm,1.2s						
SMRF	Simiane la Rot	170.31	333	ePKIKP	PKPdf	09 52 36.6	+2.1
LMR	La Mourre	170.47	327	ePKIKP	PKPdf	09 52 35.9	+1.2
	comp=Z,21nm,1.1s						
LASF	Ste Croix	170.78	340	ePKIKP	PKPdf	09 52 36.5	+1.7
SJPF	Ste Jean	172.36	4	ePKIKP	PKPdf	09 52 40.0	+4.3
EPF	Esparros	172.43	355	ePKIKP	PKPdf	09 52 38.1	+2.3
ETSF	Etsaut	172.59	0	ePKIKP	PKPdf	09 52 38.8	+3.0
EVO	Evora	173.26	61	ePKIKP	PKPdf	09 52 38.9	+2.6
	comp=Z,52nm,1.4s						
ESDC	Sonseca Array	174.99	32	PKP	PKPdf	09 52 39.4	+2.6
	comp=Z,0.3nm,0.3s,baz=344,slow=2.4,SNR=13						
ESDC				PKPab	PKPab	09 54 13.1	-1.4
	comp=Z,0.4nm,0.4s,baz=333,slow=4.9,SNR=5.2						

IDC 16 09:40:20.4±2.1, 6.09S×152.22E, mb3.8/3, mb1 4.1/4, mb1mx3.9/13, mbtmp3.9/4, ML3.1/1, Error ellipse: s-maj=137.9km s-min=26.1km az=133.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	6.00	236	Pn	Pn	09 41 51.8	-0.8
	3.1nm,0.3s,baz=53,slow=8.7,SNR=9.0						
PMG				Sn	Sn	09 42 59.5	-3.5
	2.7nm,0.3s,baz=197,slow=23,SNR=5.7						
WRA	Warramunga Arr	22.17	230	P	P	09 45 18.6	-1.2
	1.2nm,0.5s,baz=55,slow=9.9,SNR=3.6						
ASAR	Alice Springs	24.82	223	P	P	09 45 44.1	-1.7
	2.2nm,0.8s,baz=54,slow=9.1,SNR=5.6						

ILAR	Eielson Array	83.56	22	P	P	09 52 50.2	-1.2
	0.9nm,0.9s,baz=256,slow=5.1,SNR=4.8						

*NEIC **16** 09:52:47.9, 60.02N×153.37W, h141km, MG3.4(AEIC), After AEIC.*
*IDC **16** 09:52:50.5±6.8, 60.33N×153.09W, h146km±58km, mb3.1/5, mb1 3.5/9, mb1mx3.3/22, mbtmp3.6/9, Error ellipse: s-maj=63.3km s-min=42.8km az=65.0*
ISC 16 09:52:46.1±0.3, 60.05N±0.03×153.37W±0.07, h144km±3km, n95, σ0s83/103, mb3.4/5, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ILW	Iliamna West	0.12	86	P	P	09 53 06.3	+0.4
ILW				S	S	09 53 21.3	+0.3
INE	Iliamna NE	0.16	86	P	P	09 53 06.4	+0.4
INE				S	S	09 53 21.5	+0.3
ILIM	Iliamna	0.21	82	P	P	09 53 06.4	+0.2
ILIM				S	S	09 53 21.2	-0.3
OPT	Oil Point	0.41	170	P	P	09 53 07.1	+0.2
OPT				S	S	09 53 21.5	-1.3
RDN	Redoubt North	0.55	33	P	P	09 53 08.3	+0.7
RDN				S	S	09 53 24.2	+0.1
NCT	North Crescent	0.56	23	P	P	09 53 08.2	+0.5
NCT				S	S	09 53 23.8	-0.3
DFR	Drift River	0.64	32	P	P	09 53 08.6	+0.5
AUW	Augustine West	0.69	184	P	P	09 53 08.7	+0.3
AUE	Augustine Isla	0.69	180	P	P	09 53 08.5	+0.1
AUI	Augustine Isla	0.72	182	P	P	09 53 08.7	+0.1
HOM	Homer	0.96	114	P	P	09 53 11.1	+0.9
HOM				S	S	09 53 28.7	0.0
MCNL	McNeil River	1.00	210	P	P	09 53 10.8	+0.3
XLV	Seldovia	1.03	125	P	P	09 53 11.0	+0.2
NNL	Ninilchik	1.04	90	P	P	09 53 12.9	+2.0
CNPM	China Poot	1.20	115	P	P	09 53 12.9	+0.4
NKA	Nikishka	1.27	56	P	P	09 53 15.6	+2.4
BRLK	Bradley Lake	1.28	102	P	P	09 53 14.0	+0.7
SPU	Mount Spurr	1.31	29	P	P	09 53 14.7	+1.0
CKN	Chakachatna No	1.31	26	P	P	09 53 14.7	+1.0
SVW2	Sparrevohn	1.51	315	P	P	09 53 16.1	+0.4
SYI	Shuyak Island	1.53	160	P	P	09 53 15.7	-0.3
KAPH	Katmai Pasha	1.54	199	P	P	09 53 16.2	+0.1
SLKM	Skilak Lake	1.64	72	P	P	09 53 17.5	+0.4
KAHC	Katmai Hardscr	1.64	211	P	P	09 53 17.1	-0.1
STLK	Strandline Lak	1.64	27	P	P	09 53 18.3	+1.2
VOGL	Vogel Lake	1.74	56	P	P	09 53 20.1	+1.8
KAWH	Katmai	1.83	204	P	P	09 53 19.2	-0.1
FIB	Fire Island	1.93	53	P	P	09 53 21.9	+1.4
RC01	Rabbit Creek A	2.08	58	P	P	09 53 22.2	0.0
KDAK	Kodiak Island	2.31	169	Pn	P	09 53 23.9	-1.3
	643nm,0.4s						
KDAK	Kodiak Island	2.31	169	P	P	09 53 23.4	-1.8
PWA	Palmer West	2.34	45	P	P	09 53 25.7	0.0
PMR	Palmer	2.59	52	P	P	09 53 27.9	-0.9
PWL	Port Wells	2.62	70	P	P	09 53 28.3	-0.9
LTI	Latouche	2.77	88	P	P	09 53 30.9	-0.1
KNK	Knik Glacier	2.77	58	P	P	09 53 30.5	-0.6
GHO	Glory Hole Cre	2.77	50	P	P	09 53 30.5	-0.6
CUT	Chulitna	2.80	31	P	P	09 53 31.8	+0.3
SML	Sawmill	3.03	52	P	P	09 53 33.6	-0.8
TT01	Tatalina	3.13	337	P	P	09 53 35.9	+0.1
GLI	Glacier Island	3.22	72	P	P	09 53 36.3	-0.5
HUR	Hurricane	3.44	30	P	P	09 53 39.9	+0.1
HIN	Hinchinbrook I	3.44	81	P	P	09 53 38.9	-0.9
SCM	Sheep Creek Mo	3.45	56	P	P	09 53 39.2	-0.7
FID	Port Fidalgo	3.49	75	P	P	09 53 38.7	-1.8
JPK	Jack Peak	3.49	70	P	P	09 53 39.6	-0.8
MID	Middleton Isla	3.62	97	P	P	09 53 41.5	-0.6
VLZ	Valdez	3.64	70	P	P	09 53 41.4	-1.0
KTH	Kantishna Hill	3.70	17	P	P	09 53 43.4	+0.2
TRF	Thorofare Moun	3.71	22	P	P	09 53 43.7	+0.4
CVA	Cordova	3.83	79	P	P	09 53 44.7	-0.1
EYAK	Cordova Ski Ar	3.83	79	P	P	09 53 43.5	-1.3
DIV	Divide	3.90	71	P	P	09 53 45.0	-0.9
RND	Reindeer	3.99	31	P	P	09 53 47.2	+0.1
MCK	McKinley	4.25	28	P	P	09 53 50.7	+0.3
TZL	Tazlina	4.35	59	P	P	09 53 51.4	-0.4
KAIM	Kayak Island	4.50	88	P	P	09 53 53.5	-0.2
BWN	Browne	4.52	22	P	P	09 53 54.5	+0.4
PAX	Paxson	4.79	49	P	P	09 53 57.4	-0.1
GLB	Gilahina Butte	4.89	69	P	P	09 53 58.5	-0.5
THY	Trims Highway	4.95	44	P	P	09 53 59.9	+0.1
NEA	Nenana	4.96	22	P	P	09 53 59.6	-0.3
GCSA	Galena City Sc	4.99	342	P	P	09 53 59.5	-0.7
CCB	Clear Creek Bu	5.29	27	P	P	09 54 03.8	-0.5
HDA	Harding Lake	5.30	32	P	P	09 54 04.2	-0.2
MENT	Mentasta	5.45	54	P	P	09 54 06.1	-0.3
MDM	Murphy Dome	5.47	24	P	P	09 54 06.5	-0.1
COLA	College	5.47	26	P	P	09 54 06.2	-0.4
BALM	Baldy	5.53	75	P	P	09 54 07.3	-0.1
ILAR	Eielson Array	5.61	30	P	P	09 54 07.9	-0.6
	5.6nm,0.3s,baz=216,slow=13,SNR=554						
ILAR				S	S	09 55 06.9	-5.5
	3.4nm,0.3s,baz=209,slow=17,SNR=8.8						
IL1	Eielson Array	5.61	30	P	P	09 54 08.0	-0.6
GLM	Gilmore Dome	5.67	27	P	P	09 54 09.2	-0.1
DOT	Dot Lake	5.69	47	P	P	09 54 09.3	-0.3
YAH	Yahtse	5.81	82	P	P	09 54 10.4	-0.7
IM3	Indian Mountai	5.96	359	P	P	09 54 13.2	+0.1
CTGM	Chitina Glacie	6.02	76	P	P	09 54 13.9	-0.1
IMA	Indian Mountai	6.04	359	eP	P	09 54 15.2	+0.9
SDPT	Sand Point	6.06	222	P	P	09 54 12.8	-1.7
BCA3	Beaver Creek A	6.31	56	P	P	09 54 17.6	-0.2
DT1	Dutton Round H	6.89	228	P	P	09 54 24.7	-1.1
PNL	Peninsula	7.05	87	P	P	09 54 27.6	-0.3
COLD	Coldfoot	7.34	10	P	P	09 54 31.3	-0.5
DAWY	Dawson	7.70	52	P	P	09 54 35.5	-1.1
BM3	Burnt Mountain	8.35	24	P	P	09 54 43.8	-1.4
UNV	Unalaska Valle	9.48	235	P	P	09 54 59.0	-1.2
INK	Inuvik	11.91	38	P	P	09 55 32.6	+0.6
	0.5nm,0.3s,baz=251,slow=14,SNR=17						
DLBC	Dease Lake	12.04	88	P	P	09 55 37.2	+3.5
	0.4nm,0.3s,baz=280,slow=9.6,SNR=16						
DLBC	Dease Lake	12.04	88	P	P	09 55 37.2	+3.5
YKA	Yellowknife Ar	18.60	66	P	P	09 56 54.3	-0.1
	0.2nm,0.3s,baz=277,slow=10,SNR=24						
YKA	Yellowknife Ar	18.60	66	P	P	09 56 54.3	-0.1
NEW	Newport	23.95	103	P	P	09 57 50.4	+2.8
	1.9nm,0.7s,mb3.8,baz=343,slow=7.9,SNR=4.6						
NVAR	Mina Array Bea	30.91	119	P	P	09 58 52.4	+1.4
	0.4nm,0.6s,mb3.3,baz=310,slow=11,SNR=4.3						
PDAR	Pinedale Array	31.59	103	P	P	09 58 58.8	+1.9
	0.4nm,0.4s,mb3.5,baz=348,slow=3.5,SNR=7.2						
ANMO	Albuquerque	39.21	108	P	P	10 00 03.5	+2.2
	0.2nm,0.3s,mb3.2,slow=10,SNR=3.2						
TXAR	Lajitas Array	45.17	110	P	P	10 00 51.9	+2.1
	0.2nm,0.5s,mb3.0,baz=333,slow=6.0,SNR=3.6						

*CSEM **16** 09:53:38.3±0.6, 68.79N×12.49E, h2km, ML2.5, Error ellipse: s-maj=14.2km s-min=6.3km az=120.0, Suspected Mining explosion.*
*UPP **16** 09:53:40.2, 69.01N×12.32E, h19km, ML2.0, Suspected Mining explosion.*
BER 16 09:53:40.4±2.7, 69.05N×12.24E, h10km, MD2.6, ML2.5, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOF	Lofoten	1.04	152	eP	Pb	09 53 59.2	-0.8
LOF				eS	Sb	09 54 12.3	-1.2
LOF				AML	AML	09 54 13.4	
	comp=Z,152nm,0.5s						
LOF	Lofoten	1.04	152	eP	Pb	09 53 59.2	-0.8
	SNR=70						
LOF				eS	Sb	09 54 12.4	-1.1
	comp=Z,152nm,0.5s,SNR=70						
TRO	Tromso	2.44	73	eS	Sn	09 54 44.4	-6.8
NIKU	Nikkaluokta	2.77	112	P	Pn	09 54 23.3	-2.5
NIKU				S	Sn	09 54 55.5	-4.1
SALU	Saltoluokta	2.88	123	P	Pn	09 54 24.4	-2.8
MOR8	Moi Rana	3.01	163	eP	Pn	09 54 24.4	-4.8
MOR8				eS	Sn	09 54 58.0	-7.7
DUNU	Dundret	3.67	118	P	Pn	09 54 34.9	-3.6
LANU	Lannavaara	3.72	101	P	Pn	09 54 35.8	-3.4
KTK1	Kautokeino	3.95	85	eP	Pn	09 54 40.9	-1.6
KTK1				eS	Sn	09 55 24.0	-5.5
MASU	Masugnsbyn	3.97	109	P	Pn	09 54 39.2	-3.5
ERTU	Ertsjaerv	4.53	119	P	Pn	09 54 46.4	-4.3
PAJU	Pajala	4.56	111	P	Pn	09 54 47.0	-4.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SJUU	**Sjulsmark**	**5.08**	**130**	P	Pn	09 54 53.9	-4.6

BJI 16 10:06:47.8, 34.23N×121.22E, h27km, ML3.6, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**2.94**	**223**	eP	Pn	10 07 31.1	-2.9
NJ2				PG	Pn	10 07 39.5	+5.5
NJ2				SG	Sn	10 08 17.5	+8.7
NJ2				Smax			
	comp=N,410nm,0.5s						
NJ2				Smax			
	comp=E,300nm,0.5s						
TIA	**Tai'an**	**3.89**	**302**	P	Pn	10 07 46.8	-0.6
TIA				PG	Pn	10 07 54.3	+6.9
TIA				SG	Sn	10 08 50.0	+17
TIA				Smax			
	comp=N,263nm,0.4s						
TIA				Smax			
	comp=E,240nm,1.1s						
DL2	**Dalian**	**4.68**	**4**	eP	Pn	10 07 59.1	+0.5
DL2				eS	Sn	10 08 49.8	-2.9
DL2				Smax			
	comp=N,50nm,0.6s						
DL2				Smax			
	comp=E,40nm,0.6s						
BJI	**Beijing**	**7.06**	**327**	P	Pn	10 08 31.6	-0.6
BJI				Smax			
	comp=N,16nm,0.8s						
BJI				Smax			
	comp=E,6.0nm,0.8s						

DJA 16 10:28:05.5±1.0**, 9.29S×116.85E, h15km, MD4.7**/3**, ML3.9**/3**, 6C-1D, Error ellipse: s-maj=23.2km s-min=21.0km az=23.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.08**	**318**	⇑ePn	Pn	10 28 23.9	-2.1
	143nm,0.2s						
KEDI				⇓eSn	Sn	10 28 37.5	-3.2
RATI	**Rata**	**1.42**	**293**	⇑ePn	Pn	10 28 28.6	-2.3
	165nm,1.2s						
RATI	**Rata**	**1.42**	**293**	⇑iP	Pn	10 28 30.6	-0.3
RATI				⇑eSn	Sn	10 28 44.8	-4.5
SRDI	**Scrawed**	**2.79**	**287**	⇑ePn	Pn	10 28 48.1	-2.4
	30nm,0.2s						
SRDI				⇑eSn	Sn	10 29 19.0	-5.2

*MOS **16** 10:41:10.7±3.4, 42.58N×40.08E, h10km, mb3.4/1, Error ellipse: s-maj=15.5km s-min=12.9km az=108.0*
*CSEM **16** 10:41:14.0±0.5, 42.44N×40.20E, h30km, ML4.8/1, Error ellipse: s-maj=16.0km s-min=9.0km az=25.0*
ISC 16 10:41:11.0±1.9**, 42.62N**±0.09×**40.13E**±0.06**, h10**km±9km**, n15, σ1§31**/21**, 1C, Black Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOC	**Sochi**	**1.01**	**343**	i PG	**Pg**	**10 41 29.5**	**-1.7**
SOC				e		10 41 45.9	
SOC				pmax	pmax		
	comp=Z,350nm,0.7s						
SOC				pmax	pmax		
	comp=N,71nm,0.3s						
SOC				pmax	pmax		
	comp=E,71nm,0.2s						
SOC				smax			
	comp=N,1μm,0.3s						
SOC	**Sochi**	**1.01**	**343**	eSg	**Sg**	**10 41 45.9**	**+1.2**
	comp=N,1μm,0.3s						
SHAR	**Shatzhatmas**	**2.17**	**58**	ePN	**Pn**	**10 41 46.8**	**-0.9**
SHAR				eS	**Sn**	**10 42 14.2**	**-0.6**
KIV	**Kislovodsk**	**2.29**	**54**	c ePN	**Pn**	**10 41 49.5**	**+0.1**
KIV				eS	**Sn**	**10 42 18.2**	**+0.2**
KIV				pmax	pmax		
	comp=Z,34nm,0.9s						
KIV	**Kislovodsk**	**2.29**	**54**	ePn	**Pn**	**10 41 49.5**	**+0.1**
	comp=Z,34nm,0.9s						
KIV				eSn	**Sn**	**10 42 18.2**	**+0.2**
ZEI	**Tsey**	**2.78**	**86**	ePN	**Pn**	**10 41 55.6**	**-0.8**
ZEI				e		10 42 32.4	
ANN	**Anapa**	**2.93**	**319**	ePN	**Pn**	**10 42 00.3**	**+1.8**
ANN				e		10 42 58.9	
ANN				pmax	pmax		
	comp=Z,21nm,0.5s						
ANN				pmax	pmax		
	comp=N,80nm,0.5s						
ANN				pmax	pmax		
	comp=E,51nm,0.5s						
ANN				pmax	pmax		
	comp=Z,51nm,0.5s						
ANN	**Anapa**	**2.93**	**319**	ePn	**Pn**	**10 42 00.3**	**+1.8**
	comp=Z,21nm,0.5s						
GOF	**Gofitskoye**	**3.22**	**40**	ePN	**Pn**	**10 42 10.2**	**+7.6**
GOF				i S	**Sn**	**10 42 47.6**	**+6.2**
GOF				pmax	pmax		
	comp=Z,50nm,1.0s						
GOF				smax			
	comp=N,150nm,1.8s						
DUS	**Dusheti**	**3.43**	**97**	P	**Pn**	**10 42 09.4**	**+3.8**
DUS				S	**Sn**	**10 42 53.0**	**+6.3**
TBLG	**Delisi**	**3.54**	**103**	S	**Sn**	**10 42 54.4**	**+4.9**
TI2	**Plekhanov**	**3.55**	**103**	ePN	**Pn**	**10 42 04.0**	**-3.3**
TI2				e		10 42 47.6	
GNI	**Garni**	**4.26**	**124**	i Pn	**Pn**	**10 42 22.7**	**+5.3**
SIM	**Simferopol'**	**4.94**	**300**	ePN	**Pn**	**10 42 26.2**	**-0.8**
SIM				eS	**Sn**	**10 43 24.6**	**-0.3**
FINES	**FINESS Array B**	**20.65**	**341**	i P	**P**	**10 45 52.9**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						

NEIC 16 10:53:51.5, 61.32N×149.85W, h34km, ML3.6(PMR)**, ML3.3**(AEIC)**, After AEIC., Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	**Fire Island**	**0.22**	**225**	P	P	10 53 58.4	0.0
RC01	**Rabbit Creek A**	**0.24**	**166**	P	P	10 53 57.4	-1.2
RC01				S	S	10 54 04.0	+0.4
PWA	**Palmer West**	**0.33**	**358**	P	P	10 53 58.7	-1.0
VOGL	**Vogel Lake**	**0.43**	**221**	P	P	10 54 01.1	+0.1
VOGL				S	S	10 54 09.2	+1.4
PMR	**Palmer**	**0.44**	**52**	P	P	10 53 59.7	-1.4
PMR				S	S	10 54 07.6	-0.5
GHO	**Glory Hole Cre**	**0.63**	**44**	P	P	10 54 02.7	-1.2
GHO				S	S	10 54 12.9	0.0
KNK	**Knik Glacier**	**0.68**	**82**	P	P	10 54 03.7	-0.9
SLKM	**Skilak Lake**	**0.84**	**193**	P	P	10 54 05.5	-1.3
MPA	**Moose Pass**	**0.87**	**164**	P	P	10 54 06.8	-0.5
PWL	**Port Wells**	**0.87**	**122**	P	P	10 54 06.5	-0.8
SML	**Sawmill**	**0.88**	**56**	P	P	10 54 06.1	-1.2
SML				S	S	10 54 18.8	-0.3
NKA	**Nikishka**	**0.89**	**230**	P	P	10 54 07.9	+0.3
STLK	**Strandline Lak**	**0.97**	**281**	P	P	10 54 07.8	-1.0
SPU	**Mount Spurr**	**1.07**	**263**	eP	P	10 54 08.5	-1.7
CUT	**Chulitna**	**1.10**	**350**	P	P	10 54 09.3	-1.3
CRP	**Crater Peak**	**1.11**	**268**	P	P	10 54 09.8	-0.9
CRP				S	S	10 54 24.8	-0.4
CKN	**Chakachatna No**	**1.13**	**266**	P	P	10 54 10.0	-1.0
SCM	**Sheep Creek Mo**	**1.31**	**66**	P	P	10 54 13.1	-0.6
GLI	**Glacier Island**	**1.41**	**107**	P	P	10 54 14.0	-1.1
NNL	**Ninilchik**	**1.47**	**210**	P	P	10 54 15.9	0.0
DFR	**Drift River**	**1.56**	**243**	P	P	10 54 16.1	-1.2
JPK	**Jack Peak**	**1.60**	**98**	P	P	10 54 17.1	-0.7
LTI	**Latouche**	**1.62**	**142**	P	P	10 54 16.0	-2.1
RDN	**Redoubt North**	**1.64**	**242**	P	P	10 54 16.9	-1.4
BRLK	**Bradley Lake**	**1.65**	**199**	P	P	10 54 17.1	-1.4
HUR	**Hurricane**	**1.66**	**3**	P	P	10 54 18.2	-0.5
NCT	**North Crescent**	**1.69**	**244**	P	P	10 54 17.8	-1.2
VLZ	**Valdez**	**1.71**	**95**	P	P	10 54 18.4	-1.0
FID	**Port Fidalgo**	**1.74**	**108**	P	P	10 54 18.0	-1.8
HIN	**Hinchinbrook I**	**1.89**	**118**	P	P	10 54 20.2	-1.6
HOM	**Homer**	**1.89**	**209**	P	P	10 54 21.1	-0.9
CNPM	**China Poot**	**1.93**	**201**	P	P	10 54 21.0	-1.5
ILIM	**Iliamna**	**1.97**	**232**	P	P	10 54 22.1	-1.0
DIV	**Divide**	**1.98**	**94**	P	P	10 54 22.0	-1.3
INE	**Iliamna NE**	**2.02**	**233**	P	P	10 54 22.8	-1.1
ILW	**Iliamna West**	**2.05**	**233**	P	P	10 54 23.3	-0.9
RND	**Reindeer**	**2.14**	**12**	P	P	10 54 24.9	-0.6
TRF	**Thorofare Moun**	**2.15**	**355**	P	P	10 54 24.6	-1.0
EYAK	**Cordova Ski Ar**	**2.15**	**109**	P	P	10 54 23.8	-1.8
CVA	**Cordova**	**2.15**	**109**	P	P	10 54 23.9	-1.8
TZL	**Tazlina**	**2.23**	**69**	P	P	10 54 26.1	-0.7
KTH	**Kantishna Hill**	**2.29**	**348**	P	P	10 54 26.5	-1.2
OPT	**Oil Point**	**2.37**	**226**	P	P	10 54 27.9	-0.9
MCK	**McKinley**	**2.46**	**10**	P	P	10 54 29.0	-1.0
AUE	**Augustine Isla**	**2.63**	**223**	P	P	10 54 31.3	-1.3
PAX	**Paxson**	**2.64**	**49**	P	P	10 54 32.2	-0.5
AUW	**Augustine West**	**2.66**	**224**	P	P	10 54 31.9	-1.0
SVW2	**Sparrevohn**	**2.78**	**268**	P	P	10 54 32.8	-1.8
THY	**Trims Highway**	**2.84**	**40**	eP	P	10 54 35.9	+0.4
GLB	**Gilahina Butte**	**2.91**	**85**	P	P	10 54 34.6	-1.9
MCNL	**McNeil River**	**3.10**	**228**	P	P	10 54 37.4	-1.8
MENT	**Mentasta**	**3.31**	**58**	P	P	10 54 40.5	-1.6
TT01	**Tatalina**	**3.31**	**301**	P	P	10 54 40.0	-2.1
CCB	**Clear Creek Bu**	**3.46**	**15**	P	P	10 54 42.6	-1.8
KAPH	**Katmai Pasha**	**3.55**	**222**	P	P	10 54 43.7	-1.9
DOT	**Dot Lake**	**3.56**	**46**	P	P	10 54 44.3	-1.4
BALM	**Baldy**	**3.65**	**91**	P	P	10 54 44.6	-2.4
COLA	**College**	**3.68**	**13**	P	P	10 54 44.9	-2.5
IL1	**Eielson Array**	**3.72**	**20**	P	P	10 54 46.9	-1.1
MDM	**Murphy Dome**	**3.72**	**11**	P	P	10 54 46.1	-2.0
KAHC	**Katmai Hardscr**	**3.73**	**226**	P	P	10 54 45.8	-2.3
KDAK	**Kodiak Island**	**3.81**	**203**	Pn	P	10 54 48.4	-1.0
	266nm,0.6s,SNR=38						
YAH	**Yahtse**	**4.08**	**100**	P	P	10 54 50.6	-2.6
CTGM	**Chitina Glacie**	**4.15**	**91**	P	P	10 54 52.1	-2.0
BCA3	**Beaver Creek A**	**4.16**	**62**	P	P	10 54 52.5	-1.9
GCSA	**Galena City Sc**	**4.69**	**320**	P	P	10 54 59.0	-2.8
PCA	**Pinnacle**	**4.87**	**100**	P	P	10 55 00.9	-3.5
IM3	**Indian Mountai**	**4.99**	**341**	P	P	10 55 02.9	-3.1
IMA	**Indian Mountai**	**5.06**	**342**	eP	P	10 55 04.7	-2.3
PNL	**Peninsula**	**5.43**	**103**	P	P	10 55 08.9	-3.3
DAWY	**Dawson**	**5.55**	**56**	P	P	10 55 11.2	-2.6
COLD	**Coldfoot**	**5.93**	**359**	P	P	10 55 16.5	-2.7
BM3	**Burnt Mountain**	**6.53**	**18**	P	P	10 55 24.5	-3.1
WHY	**Whitehorse**	**7.31**	**89**	P	P	10 55 34.3	-4.4
INK	**Inuvik**	**9.84**	**38**	eP	P	10 56 12.3	-1.2

*BJI **16** 11:08:42.1, 85.30N×91.60E, h10km, mB5.2, mb4.8, Ms4.9, Msz4.6*
*MOS **16** 11:08:43.1±1.0, 85.19N×91.66E, h10km, mb5.2/59, MS4.5/27, Error ellipse: s-maj=48.3km s-min=5.8km az=88.9*
*IDC **16** 11:08:43.4±0.5, 85.25N×91.81E, mb4.3/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.3/21, ML4.2/1, MS4.4/9, Ms1 4.4/9, ms1mx4.2/16, Error ellipse: s-maj=18.7km s-min=10.9km az=131.0*
*NEIC **16** 11:08:45.1±0.1, 85.26N×91.59E, h10km, mb5.0/56, MS4.7/91, Error ellipse: s-maj=4.3km s-min=2.8km az=152.0*
*HRVD **16** 11:08:45.1±0.2, 85.21N×91.26E, h12km, MW5.0/69, Centroid moment Tensor Solution. LP body waves: s36,c49; Mantle waves: s69,c132; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-4.29±.11; Mθθ3.60±.10; Mφφ0.69±.12; Mrθ-1.23±.29; Mθφ-1.62±.10; Mφr0.65±.45; Best double couple: Mo4.525×10^16 NP1: φs293°, δ36°, λ-92°. NP2: φs115°, δ54°, λ-89°. Principal axes: T 4.541, Plg9°, Azm204°; N -.03, Plg1°, Azm294°; P -4.51, Plg81°, Azm31°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 16 11:08:44.2±1.5**, 85.23N**±0.03×**91.8E**±0.3**, h17**km±11km**, h18**km±1.3km**:pP-P, n335, σ1§00**/270**, mb4.8**/101**, MS4.7**/117**, 12C-3D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**14.91**	**132**	i P	**P**	**11 12 17.4**	**+2.0**
TIXI				pmax	pmax		
	comp=Z,19nm,1.6s						
ARCES	**ARCESS Array B**	**19.15**	**259**	P	**P**	**11 13 06.4**	**-2.4**
	comp=Z,1.0nm,0.3s,baz=22,slow=11,SNR=30						
ARCES				LR	LR	11 21 24.5	
	comp=Z,1000nm,19.9s,baz=15,slow=40						
ARE0	**ARCESS Array S**	**19.15**	**259**	eP	**P**	**11 13 07.0**	**-1.7**
LVZ	**Lovozero**	**20.02**	**248**	eP	**P**	**11 13 16.6**	**-1.9**
LVZ				eS	**S**	**11 17 05.5**	**+8.2**
LVZ				pmax	pmax		
	comp=Z,92nm,1.7s						
LVZ				pmax	pmax		
	comp=N,61nm,1.3s						
LVZ				pmax	pmax		
	comp=E,7.0nm,0.6s						
LVZ				smax			
	comp=N,437nm,2.7s						
LVZ				smax			
	comp=E,170nm,2.4s						
APA	**Apatity**	**20.44**	**249**	⇑iP	**P**	**11 13 22.4**	**-0.5**
APA				i		11 13 43.0	
APA				eS	**S**	**11 17 00.0**	**-6.0**
APA				pmax	pmax		
	comp=Z,58nm,1.5s						
APA				MLR	MLR		
	comp=Z,900nm,17.0s,MS4.2						
SUMG	**Summit**	**20.95**	**320**	eP	**P**	**11 13 29.6**	**+1.4**
	comp=Z,120nm,1.3s						
BILL	**Bilibino**	**21.30**	**94**	⇑eP	**P**	**11 13 33.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,75nm,1.3s,mb4.9						
BILL	**Bilibino**	**21.30**	**94**	eP	**P**	**11 13 32.7**	**+1.0**
	comp=Z,149nm,1.4s,mb5.1						
BILL				LR	LR		
	comp=Z,494nm,19.0s,MS3.9						
SCO	**Scoresbysund**	**22.00**	**305**	eP	**P**	**11 13 39.2**	**+0.5**
SCO	**Scoresbysund**	**22.00**	**305**	i P	**P**	**11 13 39.2**	**+0.5**
YAK	**Yakutsk**	**24.50**	**136**	eP	**P**	**11 14 04.1**	**+1.1**
YAK				eS	**S**	**11 18 14.2**	**-5.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.6						
YAK				pmax	pmax		
	comp=N,9.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
YAK				smax			
	comp=E,1.0nm,0.9s						
YAK				smax			
	comp=Z,1.0nm,1.0s						
YAK				smax			
	comp=N,2.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,253nm,16.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,213nm,17.0s,MS3.8						
YAK				MLR	MLR		
	comp=E,124nm,15.0s,MS3.8						
YAK	**Yakutsk**	**24.50**	**136**	eP	**P**	**11 14 04.0**	**+0.9**
	comp=E,11nm,0.6s,mb4.5						
YAK				LR	LR		
	comp=Z,685nm,19.0s,MS4.2						
SEY	**Seymchan**	**25.19**	**111**	eP	**P**	**11 14 13.6**	**+4.0**
SEY				*SP	sP	11 14 17.9	+1.0
SEY				e		11 14 53.2	
SEY				ePPP	PPP	11 15 04.8	+5.7
SEY				eS	**S**	**11 18 38.1**	**+6.9**
SEY				*SS		11 18 45.2	
SEY				eSS	SS	11 19 33.7	+1.8
SEY				pmax	pmax		
	comp=Z,190nm,1.1s,mb5.5						
SEY				pmax	pmax		
	comp=N,90nm,1.2s						
SEY				pmax	pmax		
	comp=E,20nm,0.9s						
SEY				MLR	MLR		
	comp=Z,1μm,20.0s,MS4.3						
SEY				MLR	MLR		
	comp=N,600nm,17.0s,MS4.3						
SEY				MLR	MLR		
	comp=E,500nm,14.0s,MS4.3						
INK	**Inuvik**	**25.42**	**38**	eP	**P**	**11 14 11.6**	**-0.1**
INK				pmax	pmax		
	comp=Z,76nm,1.3s						
INK	**Inuvik**	**25.42**	**38**	P	**P**	**11 14 11.5**	**-0.2**
	comp=Z,40nm,1.1s,mb4.8,baz=3.3,slow=11,SNR=59						
INK				LR	LR	11 23 42.6	
	comp=Z,608nm,20.8s,MS4.1,baz=19,slow=35						
INK	**Inuvik**	**25.42**	**38**	eP	**P**	**11 14 11.6**	**-0.2**
	comp=Z,76nm,1.3s,mb5.1						
TNA	**Tin City**	**25.85**	**70**	eP	**P**	**11 14 17.2**	**+1.5**
	comp=Z,12nm,1.1s,mb4.3						
IMA	**Indian Mountai**	**26.41**	**57**	eP	**P**	**11 14 22.5**	**+1.6**
SOKR	**Solikamsk**	**26.79**	**220**	eP	**P**	**11 14 21.9**	**-2.6**
SOKR				MLR	MLR		
	comp=Z,970nm,18.0s,MS4.4						
FINES	**FINESS Array B**	**27.07**	**254**	P	**P**	**11 14 26.4**	**-0.6**
	comp=Z,6.1nm,0.6s,mb4.3,baz=18,slow=11,SNR=28						
FINES				LR	LR	11 26 04.2	
	comp=Z,351nm,19.4s,MS3.9,baz=17,slow=38						
BORG	**Borgarnes**	**27.62**	**302**	LR	LR	11 24 22.9	
	comp=Z,514nm,18.1s,MS4.2,baz=206,slow=34						
BOD	**Bodaibo**	**27.96**	**154**	eP	**P**	**11 14 33.8**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.8s,mb4.2						
COLA	**College**	**27.99**	**52**	eP	**P**	**11 14 36.7**	**+1.4**
COLA				MLR	MLR		
	comp=Z,800nm,20.0s,MS4.3						
ILAR	**Eielson Array**	**28.16**	**51**	P	**P**	**11 14 37.6**	**+0.8**
	comp=Z,3.8nm,0.8s,mb4.1,baz=353,slow=9.7,SNR=31						
ILAR				LR	LR	11 25 42.9	
	comp=Z,551nm,18.8s,MS4.2,baz=14,slow=36						
MA2	**Magadan**	**28.39**	**113**	eP	**P**	**11 14 40.7**	**+1.7**
MA2				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.7						
MA2	**Magadan**	**28.39**	**113**	eP	**P**	**11 14 40.3**	**+1.3**
	comp=Z,60nm,1.6s,mb5.0						
MA2				LR	LR		
	comp=Z,301nm,20.0s,MS3.9						
NB2	**NORSAR Subarra**	**28.70**	**269**	P	**P**	**11 14 41.1**	**-0.6**
	comp=Z,35nm,1.4s,mb4.9,baz=10.0,slow=8.6						
NB2	**NORSAR Subarra**	**28.70**	**269**	P	**P**	**11 14 41.1**	**-0.6**
NB2				pmax	pmax		
	comp=Z,35nm,1.4s,mb4.9						
NB2	**NORSAR Subarra**	**28.70**	**269**	P	**P**	**11 14 41.1**	**-0.6**
	baz=9.7,slow=9.3						
NOA	**NORSAR Array B**	**28.70**	**269**	P	**P**	**11 14 41.2**	**-0.5**
	comp=Z,2.0nm,0.9s,mb3.8,baz=8.4,slow=11,SNR=3.9						
NOA				LR	LR	11 26 10.4	
	comp=Z,264nm,21.1s,MS3.8,baz=15,slow=36						
MCK	**McKinley**	**29.05**	**53**	PFAKE		11 15 00.0	+15
MCK				LR	LR		
	comp=Z,582nm,20.0s,MS4.2						
DAWY	**Dawson**	**29.32**	**44**	eP	**P**	**11 14 46.4**	**-1.0**
SVE	**Sverdlovsk**	**29.33**	**215**	eP	**P**	**11 14 46.5**	**-1.0**
SVE				pmax	pmax		
	comp=Z,160nm,1.0s,mb5.7						
SVE				MLR	MLR		
	comp=N,1μm,19.0s,MS4.5						
SVE				MLR	MLR		
	comp=E,500nm,19.0s,MS4.5						
SVE				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6						
HFS	**Hagfors**	**29.38**	**266**	P	**P**	**11 14 47.4**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.0,baz=29,slow=18,SNR=3.6						
CLNS	**Chul'man**	**29.42**	**142**	eP	**P**	**11 14 47.7**	**-0.6**
CLNS				e*PP	pP	11 14 54.4	+1.0
CLNS				ePPP	PPP	11 15 44.6	-13
CLNS				e		11 17 50.6	
CLNS				eS	**S**	**11 19 39.0**	**-1.1**
CLNS				pmax	pmax		
	comp=N,3.0nm,1.0s						
CLNS				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				smax			
	comp=N,154nm,12.6s						
CLNS				smax			
	comp=Z,105nm,13.3s						
CLNS				smax			
	comp=E,19nm,13.5s						
CLNS				MLR	MLR		
	comp=Z,700nm,16.0s,MS4.4						
CLNS				MLR	MLR		
	comp=N,400nm,15.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s,MS4.2						
VSU	**Vasula**	**29.97**	**253**	⇓eP	**P**	**11 14 52.3**	**-0.9**
MENT	**Mentasta**	**30.18**	**49**	eP	**P**	**11 14 55.9**	**+0.9**
NVS	**Novosibirsk**	**30.60**	**190**	⇑iP	**P**	**11 14 57.5**	**-1.3**
NVS				pmax	pmax		
	comp=Z,51nm,1.8s,mb5.0						
NVS				pmax	pmax		
	comp=N,47nm,2.2s						
PWA	**Palmer West**	**31.05**	**55**	eP	**P**	**11 15 02.5**	**-0.2**
ZAL	**Zalesovo**	**31.49**	**188**	P	**P**	**11 15 06.1**	**-0.5**
	comp=N,2.3nm,0.6s,mb4.2,baz=103,slow=12,SNR=16						
FIB	**Fire Island**	**31.52**	**55**	PFAKE		11 15 20.0	+13
FIB				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
MOS	**Moscow**	**31.84**	**240**	eP	**P**	**11 15 09.0**	**-0.7**
MOS				e	pP	11 15 14.5	-0.3
MOS				e		11 16 16.7	
MOS				eS	**S**	**11 20 20.1**	**+1.9**
MOS				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.4						
YKW3	**Yellowknife Ar**	**31.96**	**23**	eP	**P**	**11 15 09.0**	**-1.7**
YKA	**Yellowknife Ar**	**32.03**	**23**	P	**P**	**11 15 09.9**	**-1.4**
	comp=Z,3.5nm,0.8s,mb4.2,baz=355,slow=8.1,SNR=63						
YKA				PcP	PcP	11 17 59.7	-1.3
	comp=Z,1.5nm,0.7s,baz=333,slow=3.6,SNR=5.8						
YKA				LR	LR	11 28 15.6	
	comp=Z,1μm,19.1s,MS4.7,baz=355,slow=37						
YKA	**Yellowknife Ar**	**32.03**	**23**	P	**P**	**11 15 09.9**	**-1.4**
YKA				PcP	PcP	11 17 59.7	-1.3
YKA				LR	LR	11 28 15.6	
CHKZ	**Chkalovo**	**32.07**	**204**	eP	**P**	**11 15 10.0**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,44nm,1.1s,mb5.2						
CHKZ	**Chkalovo**	**32.07**	**204**	eP	**P**	**11 15 10.0**	**-1.7**
	comp=Z,44nm,1.1s,mb5.2						
EYAK	**Cordova Ski Ar**	**32.43**	**51**	eP	**P**	**11 15 14.6**	**-0.1**
OBN	**Obninsk**	**32.54**	**241**	eP	**P**	**11 15 15.3**	**-0.5**
OBN				e	pP	11 15 21.9	+1.0
OBN				e		11 16 24.8	
OBN				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
OBN	**Obninsk**	**32.54**	**241**	PFAKE		11 15 30.0	+14
OBN				LR	LR		
	comp=Z,188nm,21.0s,MS3.8						
IRK	**Irkutsk**	**33.27**	**166**	eP	**P**	**11 15 18.6**	**-3.6**
IRK				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
MOY	**Mondy**	**33.79**	**170**	eP	**P**	**11 15 27.4**	**+0.7**
MOY				pmax	pmax		
	comp=Z,57nm,1.6s,mb5.2						
MNK	**Minsk**	**33.81**	**250**	eP	**P**	**11 15 24.0**	**-2.9**
TLY	**Talaya**	**33.82**	**167**	eP	**P**	**11 15 26.1**	**-0.9**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
TLY				MLR	MLR		
	comp=Z,749nm,20.0s,MS4.4						
TLY	**Talaya**	**33.82**	**167**	PFAKE		11 15 40.0	+13
TLY				LR	LR		
	comp=Z,200nm,21.0s,MS3.8						
SUW	**Suwalki**	**34.67**	**255**	eP	**P**	**11 15 34.8**	**+0.5**
KURK	**Kurchatov**	**34.81**	**195**	P	**P**	**11 15 34.7**	**-0.8**
	comp=Z,59nm,1.2s,mb5.4,SNR=9.8						
KURK	**Kurchatov**	**34.81**	**195**	eP	**P**	**11 15 33.6**	**-1.9**
KURK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
KURK				MLR	MLR		
	comp=Z,559nm,22.0s,MS4.3						
KURK	**Kurchatov**	**34.81**	**195**	eP	**P**	**11 15 33.6**	**-1.9**
	comp=Z,12nm,1.1s,mb4.8						
KURK				LR	LR		
	comp=Z,559nm,22.0s,MS4.3						
ZAK	**Zakamensk**	**35.11**	**167**	eP	**P**	**11 15 37.8**	**-0.3**
ZAK				e		11 18 06.4	
DLBC	**Dease Lake**	**35.44**	**37**	P	**P**	**11 15 41.4**	**+0.6**
	comp=Z,8.8nm,1.0s,mb4.7,baz=358,slow=9.2,SNR=12						
DLBC	**Dease Lake**	**35.44**	**37**	eP	**P**	**11 15 42.2**	**+1.3**
PET	**Petropavlovsk**	**35.51**	**107**	eP	**P**	**11 15 36.1**	**-5.4**
PET				MLR	MLR		
	comp=Z,600nm,18.0s,MS4.4						
PET	**Petropavlovsk**	**35.51**	**107**	PFAKE		11 15 50.0	+8.5
PET				LR	LR		
	comp=Z,505nm,21.0s,MS4.2						
VOR	**Voronezh**	**35.71**	**238**	P	**P**	**11 15 42.0**	**-1.2**
VOR				e	pP	11 15 48.5	+0.2
VOR				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						

SIT	**Sitka**	**36.54**	**42**	PFAKE		11 16 00.0	+10
SIT				LR	LR		
	comp=Z,1µm,22.0s,MS4.6						
HIA	**Hailar**	**36.74**	**149**	*e*P	**P**	**11 15 52.8**	**+0.9**
HIA				pmax	pmax		
	comp=Z,27nm,1.7s						
HIA				MLR	MLR		
	comp=Z,645nm,22.0s						
HIA	**Hailar**	**36.74**	**149**	*e*P	**P**	**11 15 52.8**	**+0.9**
	comp=Z,27nm,1.7s,mb4.8						
HIA				LR	LR		
	comp=Z,645nm,22.0s,MS4.4						
KLR	**Kul'dur**	**37.39**	**136**	*e*P	**P**	**11 15 55.1**	**-2.2**
KLR				MLR	MLR		
	comp=E,500nm,17.0s						
KLR				MLR	MLR		
	comp=Z,1µm,17.0s,MS4.8						
ULN	**Ulaanbaatar**	**37.71**	**163**	*e*P	**P**	**11 16 00.5**	**+0.5**
ULN				pmax	pmax		
	comp=Z,42nm,1.7s,mb4.9						
ULN				MLR	MLR		
	comp=Z,489nm,21.0s,MS4.3						
ULN	**Ulaanbaatar**	**37.71**	**163**	*e*P	**P**	**11 16 00.5**	**+0.4**
	comp=Z,42nm,1.7s,mb4.9						
ULN				LR	LR		
	comp=Z,489nm,21.0s,MS4.3						
SONM	**Songino Array**	**37.73**	**164**	P	**P**	**11 16 00.0**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.3,baz=348,slow=8.4,SNR=30						
CLL	**Collm**	**38.19**	**265**	*i* P	**P**	**11 16 05.2**	**+1.2**
CLL				*i*	pP	11 16 10.9	+1.7
CLL				*e*		11 17 39.0	
CLL				pmax	pmax		
	comp=Z,31nm,1.8s,mb4.7						
CLL	**Collm**	**38.19**	**265**	*i* P	**P**	**11 16 05.2**	**+1.2**
	comp=Z,31nm,1.8s,mb4.7						
CLL				*i*	pP	11 16 10.9	+1.7
CLL				*e*		11 17 39.0	
CLL	**Collm**	**38.19**	**265**	P	**P**	**11 16 05.2**	**+1.2**
	comp=Z,logA/T=1.2,mb4.7						
CLL				*i*	pP	11 16 10.9	+1.7
CLL				*e*PP	PP	11 17 35.0	+0.2
CLL				*i*		11 18 20.9	
CLL				*e*		11 18 30.0	
KSP	**Ksiaz**	**38.38**	**261**	*e*P	**P**	**11 16 05.6**	**0.0**
KSP				*e**PP	pP	11 16 12.2	+1.4
KSP	**Ksiaz**	**38.38**	**261**	*e*P	**P**	**11 16 06.1**	**+0.5**
BRG	**Berggiesshubel**	**38.54**	**264**	*e*P	**P**	**11 16 09.6**	**+2.6**
BRG				*e*	pP	11 16 14.3	+2.1
BRG				*e*		11 17 57.2	
BRG				pmax	pmax		
	comp=Z,35nm,1.9s,mb4.8						
BRG	**Berggiesshubel**	**38.54**	**264**	*e*P	**P**	**11 16 09.6**	**+2.6**
	comp=Z,35nm,1.9s,mb4.8						
BRG				*e*	pP	11 16 14.3	+2.1
BRG				*e*		11 16 27.3	
BRG				*e*		11 17 57.2	
MK02	**Makanchi Array**	**38.69**	**190**	P	**P**	**11 16 07.1**	**-1.2**
MK02				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
OJC	**Ojcow**	**38.71**	**258**	*e*P	**P**	**11 16 08.3**	**-0.1**
UPC	**Upice**	**38.73**	**262**	*e*P	**P**	**11 16 09.0**	**+0.4**
LVV	**L'vov**	**38.77**	**253**	*e*P	**P**	**11 16 15.0**	**+6.1**
DPC	**Dobruska-Polom**	**38.87**	**261**	*e*P	**P**	**11 16 09.5**	**-0.2**
MOX	**Moxa**	**38.97**	**266**	*e*P	**P**	**11 16 10.2**	**-0.3**
MOX				*e*		11 16 17.6	
MOX				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.0						
MOX	**Moxa**	**38.97**	**266**	*e*P	**P**	**11 16 10.2**	**-0.3**
	comp=Z,45nm,1.5s,mb5.0						
MOX				*e*		11 16 17.6	
MOX	**Moxa**	**38.97**	**266**	*i* P	**P**	**11 16 10.2**	**-0.3**
MOX				pP	pP	11 16 18.0	+2.3
KWP	**Kalwaria**	**39.06**	**255**	*e*P	**P**	**11 16 11.9**	**+0.6**
OKC	**Ostrava-Krasne**	**39.22**	**259**	*e*P	**P**	**11 16 13.1**	**+0.4**
OKC				*e*x	x	11 16 19.9	
NKC	**Novy Kostel**	**39.30**	**265**	*e*P	**P**	**11 16 13.6**	**+0.2**
MORC	**Moravsky Berou**	**39.33**	**260**	P	**P**	**11 16 14.2**	**+0.6**
MORC				pmax	pmax		
	comp=Z,31nm,1.3s,mb4.9						
MORC	**Moravsky Berou**	**39.33**	**260**	P	**P**	**11 16 14.2**	**+0.6**
	comp=Z,31nm,1.3s,mb4.9						
PRU	**Pruhonice**	**39.37**	**263**	*e*P	**P**	**11 16 04.2**	**-10**
NIE	**Niedzica**	**39.46**	**257**	*e*P	**P**	**11 16 14.0**	**-0.7**
KOLS	**Kolonicke sedl**	**39.79**	**255**	*e*P	**P**	**11 16 14.4**	**-3.0**
KOLS				*e*	pP	11 16 17.7	-4.8
KOLS				*e*		11 16 25.5	
KOLS	**Kolonicke sedl**	**39.79**	**255**	*e*E		11 16 14.4	
KOLS	**Kolonicke sedl**	**39.79**	**255**	*e*P	**P**	**11 16 17.7**	**+0.3**
KOLS				*e*		11 16 25.5	
CRVS	**Cervenica-Dubn**	**39.88**	**256**	*i* P	**P**	**11 16 18.0**	**-0.2**
CRVS				*e*	pP	11 16 24.1	+0.8
CRVS				*e*		11 17 54.2	
CRVS				*e*		11 18 15.4	
CRVS	**Cervenica-Dubn**	**39.88**	**256**	*i* P	**P**	**11 16 18.0**	**-0.2**
CRVS				*e*	pP	11 16 24.1	+0.8
CRVS				*i*		11 16 26.0	
CRVS				*e*PP	PP	11 17 54.2	+0.4
CRVS				*e*		11 18 15.4	
GRA1	**Grafenberg Arr**	**39.94**	**266**	*e*P	**P**	**11 16 19.3**	**+0.6**
	comp=Z,14nm,1.1s,mb4.6						
GRA1				*e*pP	pP	11 16 26.3	+2.5
GRF	**Grafenberg Arr**	**39.94**	**266**	*e*P	**P**	**11 16 19.3**	**+0.6**
GRF				*e**PP	pP	11 16 26.3	+2.5
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**39.94**	**266**	*e*P	**P**	**11 16 19.3**	**+0.6**
GRF				*e**PP	pP	11 16 26.3	+2.5
GRF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**39.94**	**266**	*e*P	**P**	**11 16 19.3**	**+0.6**
	comp=Z,14nm,1.1s,mb4.6						
GRF				*e*pP	pP	11 16 26.3	+2.5
GIVF	**Givet**	**40.07**	**273**	*e*P	**P**	**11 16 19.7**	**0.0**
	comp=Z,49nm,1.1s,mb4.9						
GIVF	**Givet**	**40.07**	**273**	*e*P	**P**	**11 16 19.7**	**0.0**
GIVF				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.9						
FFC	**Flin Flon**	**40.13**	**12**	PFAKE		11 16 30.0	+10
FFC				LR	LR		
	comp=Z,263nm,19.0s,MS4.1						
BAIF	**Baives**	**40.17**	**273**	*e*P	**P**	**11 16 20.9**	**+0.4**
	comp=Z,141nm,1.5s,mb5.2						
BAIF	**Baives**	**40.17**	**273**	*e*P	**P**	**11 16 20.9**	**+0.4**
BAIF				pmax	pmax		
	comp=Z,71nm,1.5s,mb5.2						
KHC	**Kasperske Hory**	**40.30**	**264**	*e*P	**P**	**11 16 21.8**	**+0.2**
KHC				*e*x	x	11 16 29.7	
YSS	**Yuzh-Sakhalins**	**40.35**	**125**⇑	*e*P	**P**	**11 16 23.5**	**+1.4**
YSS				pmax	pmax		
	comp=Z,34nm,1.5s,mb4.9						
YSS	**Yuzh-Sakhalins**	**40.35**	**125**	*e*P	**P**	**11 16 23.3**	**+1.3**
	comp=Z,44nm,1.3s,mb5.0						
YSS				LR	LR		
	comp=Z,420nm,21.0s,MS4.3						
VYHS	**Vyhne**	**40.50**	**258**	*e*P	**P**	**11 16 23.5**	**+0.3**
VYHS				*e*	pP	11 16 29.9	+1.5
VYHS				*e*PcP	PcP	11 18 13.9	-12
VYHS				*e*PP	PP	11 18 14.7	+15
VYHS	**Vyhne**	**40.50**	**258**	*e*P	**P**	**11 16 23.5**	**+0.3**
VYHS				*e*sP	sP	11 16 29.9	-0.7
VYHS				*i*	pP	11 16 30.0	+1.6
VYHS				*e*		11 18 13.9	
VYHS				*e*PP	PP	11 18 14.7	+15
GERES	**GERESS Array B**	**40.58**	**264**	P	**P**	**11 16 24.8**	**+1.0**
	comp=Z,1.8nm,0.7s,mb3.8,baz=9.5,slow=8.1,SNR=10						
ZST	**Bratislava**	**40.94**	**260**	*e*P	**P**	**11 16 34.6**	**+7.8**
ZST	**Bratislava**	**40.94**	**260**	*e*	**P**	**11 16 34.6**	**+7.8**
PSZ	**Piszkesteto**	**40.99**	**257**	*e*P	**P**	**11 16 27.5**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.8						
PSZ	**Piszkesteto**	**40.99**	**257**	*e*P	**P**	**11 16 27.5**	**+0.3**
	comp=Z,30nm,1.2s,mb4.8						
PSZ	**Piszkesteto**	**40.99**	**257**	*e*P	**P**	**11 16 28.0**	**+0.8**
KIS	**Kishinev**	**41.19**	**248**	*e*P	**P**	**11 16 34.0**	**+5.1**
KIS				*e*S	**S**	**11 22 42.0**	**+0.6**
KIS				MLR	MLR		
	comp=Z,600nm,15.0s,MS4.6						
EDM	**Edmonton**	**41.35**	**23**	*e*P	**P**	**11 16 29.5**	**-0.7**
CDF	**Champ du Feu**	**41.54**	**270**	*e*P	**P**	**11 16 32.4**	**+0.8**
	comp=Z,44nm,1.2s,mb4.7						
CDF	**Champ du Feu**	**41.54**	**270**	*e*P	**P**	**11 16 32.4**	**+0.8**
CDF				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.7						
WMQ	**Urumqi**	**41.58**	**184**	P	**P**	**11 16 32.8**	**+0.8**
WMQ				PP	PP	11 18 12.0	+0.7
WMQ				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,217nm,4.8s						
WMQ				LR	LR		
	comp=N,1µm,22.2s,MS4.9						
WMQ				LR	LR		
	comp=E,678nm,18.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,1µm,22.2s,MS4.8						
MDJ	**Mudanjiang**	**41.87**	**139**	P	**P**	**11 16 34.8**	**+0.5**
MDJ				AP	pP	11 16 39.0	-0.5
MDJ				XP	sP	11 16 42.0	+0.4
MDJ				AMB	AMB		
	comp=Z,19nm,1.1s,mb4.6						
MDJ				LR	LR		
	comp=E,200nm,25.4s						
MDJ				LR	LR		
	comp=Z,140nm,17.4s						
MDJ	**Mudanjiang**	**41.87**	**139**	*e*P	**P**	**11 16 34.8**	**+0.5**
	comp=Z,27nm,1.2s,mb4.8						
HAU	**Haudompre**	**42.02**	**271**	*e*P	**P**	**11 16 36.2**	**+0.6**
HAU				*e*R			
	comp=Z,408nm,22.5s						
GOF	**Gofitskoye**	**42.09**	**233**	*i* P	**P**	**11 16 37.6**	**+1.5**
GOF				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.0						
HINF	**Hinteralfeld**	**42.17**	**270**	*e*P	**P**	**11 16 37.1**	**+0.3**
GRR	**Gorron**	**42.25**	**278**	*e*P	**P**	**11 16 37.0**	**-0.4**
	comp=Z,55nm,1.1s,mb4.8						
GRR	**Gorron**	**42.25**	**278**	*e*P	**P**	**11 16 37.0**	**-0.4**
GRR				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.8						
CN2	**Changchun**	**42.46**	**144**	*e*P	**P**	**11 16 39.5**	**+0.3**
CN2				*e*XP	sP	11 16 47.4	+0.9
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
CN2				LR	LR		
	comp=N,300nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS4.5						
CN2				LR	LR		
	comp=Z,700nm,17.0s,MS4.6						
SGMF	**Saint Gilles**	**42.52**	**280**	*e*P	**P**	**11 16 39.6**	**0.0**
	comp=Z,141nm,1.4s,mb5.2						
SGMF	**Saint Gilles**	**42.52**	**280**	*e*P	**P**	**11 16 39.6**	**0.0**
SGMF				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.2						
ANN	**Anapa**	**42.73**	**238**	*e*P	**P**	**11 16 48.5**	**+7.1**
ANN				*i* *PP	pP	11 16 52.1	+5.5
ANN				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.2						
ANN				MLR	MLR		
	comp=N,688nm,16.0s						
ANN				MLR	MLR		
	comp=Z,454nm,16.0s,MS4.5						
ANN				MLR	MLR		
	comp=E,117nm,8.0s						
FRU	**Bishkek**	**42.79**	**199**	*e*P	**P**	**11 16 42.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,80nm,2.0s,mb5.1						
FRU				MLR	MLR		
	comp=Z,3µm,16.0s,MS5.3						
SIM	**Simferopol'**	**42.83**	**242**	*e*P	**P**	**11 16 43.1**	**+0.9**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.8						
SIM				MLR	MLR		
	comp=Z,470nm,16.7s,MS4.5						
FVI	**Forni Avoltri**	**42.89**	**264**	*e*P	**P**	**11 16 43.9**	**+1.3**
AAK	**Ala-Archa**	**42.99**	**199**	P	**P**	**11 16 44.7**	**+1.1**
	comp=Z,68nm,1.5s,mb5.2,SNR=14						
AAK	**Ala-Archa**	**42.99**	**199**⇓	*e*P	**P**	**11 16 44.4**	**+0.8**
AAK				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.7						
AAK	**Ala-Archa**	**42.99**	**199**	*e*P	**P**	**11 16 43.5**	**-0.1**
	comp=Z,36nm,1.4s,mb4.9						
AAK				LR	LR		
	comp=Z,420nm,20.0s,MS4.3						
ROBS	**Robic**	**43.18**	**263**	*e*P	**P**	**11 16 45.2**	**+0.2**
SSF	**Saint Saulge**	**43.20**	**273**	*e*P	**P**	**11 16 45.1**	**-0.1**
SSF				pmax	pmax		
	comp=Z,30nm,1.6s,mb4.8						
SSF	**Saint Saulge**	**43.20**	**273**	*e*P	**P**	**11 16 45.1**	**-0.1**
	comp=Z,30nm,1.6s,mb4.8						
KIV	**Kislovodsk**	**43.21**	**233**	*e*P	**P**	**11 16 45.6**	**+0.3**
KIV				*e*S	**S**	**11 23 20.9**	**+10**
KIV				*e*SS	SS	11 26 24.7	+7.2
KIV				pmax	pmax		
	comp=Z,41nm,1.4s,mb5.0						
KIV				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.3						
KIV	**Kislovodsk**	**43.21**	**233**	PFAKE		11 17 00.0	+15
KIV				LR	LR		
	comp=Z,123nm,20.0s,MS3.8						
CABF	**La Chapelle**	**43.43**	**271**	*e*P	**P**	**11 16 47.4**	**+0.3**
	comp=Z,38nm,1.4s,mb4.6						
CABF	**La Chapelle**	**43.43**	**271**	*e*P	**P**	**11 16 47.4**	**+0.3**
CABF				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.6						
AVF	**Avril sur Loir**	**43.48**	**273**	*e*P	**P**	**11 16 47.5**	**0.0**
	comp=Z,54nm,1.5s,mb4.8						
AVF	**Avril sur Loir**	**43.48**	**273**	*e*P	**P**	**11 16 47.5**	**0.0**
AVF				pmax	pmax		
	comp=Z,27nm,1.5s,mb4.8						
VISS	**Visnje**	**43.50**	**262**	*e*P	**P**	**11 16 54.8**	**+7.1**
SMF	**Signal de Mont**	**43.59**	**273**	*e*P	**P**	**11 16 48.0**	**-0.3**
BGF	**Bois d'Agland**	**43.76**	**274**	*e*P	**P**	**11 16 49.8**	**+0.1**
	comp=Z,78nm,1.2s,mb5.0						
BGF	**Bois d'Agland**	**43.76**	**274**	*e*P	**P**	**11 16 49.8**	**+0.1**
BGF				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.0						
MFF	**Saint Martin d**	**43.96**	**277**	*e*P	**P**	**11 16 51.4**	**+0.1**
	comp=Z,62nm,1.5s,mb4.8						
MFF	**Saint Martin d**	**43.96**	**277**	*e*P	**P**	**11 16 51.4**	**+0.1**
MFF				pmax	pmax		
	comp=Z,31nm,1.5s,mb4.8						
TCF	**Toulx Ste Croi**	**44.08**	**275**	*e*P	**P**	**11 16 52.2**	**-0.1**
	comp=Z,32nm,1.1s,mb4.7						
TCF	**Toulx Ste Croi**	**44.08**	**275**	*e*P	**P**	**11 16 52.2**	**-0.1**
TCF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.7						
SNY	**Shenyang**	**44.34**	**146**	⇑P	**P**	**11 16 55.3**	**+0.8**
SNY				AP	pP	11 17 01.8	+2.1
SNY				XP	sP	11 17 06.3	+4.5
SNY				SS	SS	11 26 44.5	+6.6
SNY				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.5						
SNY				LR	LR		
	comp=N,300nm,22.0s						
SNY				LR	LR		
	comp=Z,340nm,19.0s,MS4.3						
LPL	**La Plagne**	**44.47**	**270**	*e*P	**P**	**11 16 56.4**	**+0.9**
LPG	**La Plagne**	**44.48**	**270**	*e*P	**P**	**11 16 56.9**	**+1.3**
ULM	**Lac du Bonnet**	**44.70**	**7**	P	**P**	**11 16 56.1**	**-1.2**
	comp=Z,1.1nm,0.4s,mb4.0,baz=359,slow=8.1,SNR=3.2						
ULM				LR	LR	11 36 00.8	
	comp=Z,859nm,20.0s,MS4.7,baz=145,slow=37						
HHC	**Hu-ho-hao-te**	**44.85**	**159**	*e*P	**P**	**11 17 00.0**	**+1.4**
HHC				AP	pP	11 17 03.9	+0.1
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,341nm,7.2s						
HHC				LR	LR		
	comp=N,265nm,19.6s,MS4.7						
HHC				LR	LR		
	comp=E,752nm,19.0s,MS4.7						
HHC				LR	LR		
	comp=Z,281nm,21.4s,MS4.2						
RJF	**Les Rejaudoux**	**45.11**	**275**	*e*P	**P**	**11 17 00.6**	**0.0**
	comp=Z,91nm,1.5s,mb5.1						
RJF				*e*R			
	comp=Z,369nm,20.5s						
RJF	**Les Rejaudoux**	**45.11**	**275**	*e*P	**P**	**11 17 00.6**	**0.0**
RJF				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.1						
RJF				MLR	MLR		
	comp=Z,370nm,20.5s,MS4.3						
ORIF	**Oris-en-Rattie**	**45.13**	**271**	*e*P	**P**	**11 17 01.3**	**+0.5**
ORIF				*e*R			
	comp=Z,245nm,17.8s						
MBDF	**Montbardon**	**45.25**	**270**	*e*P	**P**	**11 17 02.7**	**+1.0**
	comp=Z,36nm,1.3s,mb4.8						
MBDF	**Montbardon**	**45.25**	**270**	*e*P	**P**	**11 17 02.7**	**+1.0**
MBDF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.7						
TI2	**Plekhanov**	**45.29**	**230**	*i* P	**P**	**11 17 02.0**	**-0.1**
VIVF	**Saint-Julien-l**	**45.29**	**272**	*e*P	**P**	**11 17 02.5**	**+0.4**
	comp=Z,53nm,1.5s,mb4.8						
VIVF	**Saint-Julien-l**	**45.29**	**272**	*e*P	**P**	**11 17 02.5**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.8						
LFF	**La Frestale**	**45.54**	**276**	*e*P	**P**	**11 17 04.3**	**+0.3**
VMG	**Vicchio**	**45.61**	**265**	*e*P	**P**	**11 17 05.6**	**+1.1**
SFI	**Santa Sofia**	**45.64**	**265**	*e*P	**P**	**11 17 06.2**	**+1.4**
PGD	**Poggio Sodo**	**45.68**	**265**	*e*P	**P**	**11 17 07.7**	**+2.6**
BJI	**Beijing**	**45.81**	**154**	P	**P**	**11 17 07.8**	**+1.6**
BJI				AMB	AMB		
	comp=Z,23nm,1.7s,mb4.8						
BJI				AMB	AMB		
	comp=Z,448nm,5.5s						
BJI				LR	LR		
	comp=N,642nm,18.2s,MS4.6						
BJI				LR	LR		
	comp=E,181nm,18.2s,MS4.6						
BJI				LR	LR		
	comp=Z,689nm,20.2s,MS4.6						
BJI	**Beijing**	**45.81**	**154**	P	**P**	**11 17 07.7**	**+1.5**
BJI				*SP	sP	11 17 12.4	-1.2
BJI				S	**S**	**11 23 53.5**	**+5.0**
BJI				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.8						
BJI				MLR	MLR		
	comp=Z,690nm,20.2s,MS4.6						
BJI	**Beijing**	**45.81**	**154**	P	**P**	**11 17 07.7**	**+1.5**
	comp=Z,23nm,1.7s,mb4.8						
BJI				sP	sP	11 17 12.4	-1.2
BJI				S	**S**	**11 23 53.5**	**+5.0**
BJI				LR	LR		
	comp=Z,690nm,20.2s,MS4.6						
BJT	**Baijiatuau**	**45.83**	**154**	*e*P	**P**	**11 17 07.6**	**+1.2**
BJT				pmax	pmax		
	comp=Z,85nm,1.8s						
BJT				MLR	MLR		
	comp=Z,974nm,20.0s						
BJT	**Baijiatuau**	**45.83**	**154**	*e*P	**P**	**11 17 07.6**	**+1.2**
	comp=Z,85nm,1.8s,mb5.4						
BJT				LR	LR		
	comp=Z,974nm,20.0s,MS4.8						
GTA	**Gaotai**	**46.03**	**171**	P	**P**	**11 17 08.8**	**+0.8**
GTA				AP	pP	11 17 12.5	-0.7
GTA				XP	sP	11 17 16.1	+0.8
GTA				AMB	AMB		
	comp=Z,7.0nm,1.7s,mb4.3						
GTA				AMB	AMB		
	comp=Z,128nm,5.4s						
GTA				LR	LR		
	comp=N,1µm,20.2s,MS4.9						
GTA				LR	LR		
	comp=E,710nm,18.4s,MS4.9						
GTA				LR	LR		
	comp=Z,2µm,18.3s,MS5.0						
SBF	**Sospel**	**46.05**	**269**	*e*P	**P**	**11 17 08.0**	**-0.1**
	comp=Z,18nm,0.8s,mb4.7						
SBF	**Sospel**	**46.05**	**269**	*e*P	**P**	**11 17 08.0**	**-0.1**
SBF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
LASF	**Ste Croix**	**46.14**	**273**	*e*P	**P**	**11 17 09.5**	**+0.7**
	comp=Z,52nm,1.3s,mb5.0						
NEW	**Newport**	**46.18**	**27**	*e*P	**P**	**11 17 10.0**	**+1.0**
	comp=Z,21nm,1.2s,mb4.9						
NEW				LR	LR		
	comp=Z,2µm,19.0s,MS5.0						
FRF	**La Foret Royal**	**46.41**	**270**	*e*P	**P**	**11 17 10.8**	**-0.2**
	comp=Z,34nm,1.1s,mb4.9						
FRF	**La Foret Royal**	**46.41**	**270**	*e*P	**P**	**11 17 10.8**	**-0.2**
FRF				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
NRCA	**Norcia**	**46.60**	**263**	*e*P	**P**	**11 17 12.9**	**+0.5**
LMR	**La Mourre**	**46.65**	**270**	*e*P	**P**	**11 17 12.9**	**+0.1**
	comp=Z,47nm,1.5s,mb4.9						
LMR	**La Mourre**	**46.65**	**270**	*e*P	**P**	**11 17 12.9**	**+0.1**
LMR				pmax	pmax		
	comp=Z,24nm,1.5s,mb4.9						
GNI	**Garni**	**46.87**	**230**	*e*P	**P**	**11 17 15.1**	**+0.5**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.7s						
GNI				MLR	MLR		
	comp=Z,537nm,20.0s						
GNI	**Garni**	**46.87**	**230**	P	**P**	**11 17 16.2**	**+1.7**
	comp=Z,3.9nm,0.4s,mb4.7,baz=18,slow=19,SNR=5.0						
GNI	**Garni**	**46.87**	**230**	*e*P	**P**	**11 17 15.1**	**+0.6**
	comp=Z,6.4nm,0.7s,mb4.7						
GNI				LR	LR		
	comp=Z,537nm,20.0s,MS4.5						
MTLF	**Montolieu**	**47.00**	**274**	*e*P	**P**	**11 17 16.0**	**+0.4**
AQU	**L'Aquila**	**47.05**	**263**	P	**P**	**11 17 16.0**	**0.0**
AQU				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.1						
AQU	**L'Aquila**	**47.05**	**263**	P	**P**	**11 17 16.0**	**0.0**
	comp=Z,8.2nm,0.3s,mb5.1						
PGF	**Pioggiola**	**47.22**	**267**	*e*P	**P**	**11 17 17.3**	**-0.1**
	comp=Z,32nm,1.1s,mb4.9						
PGF	**Pioggiola**	**47.22**	**267**	*e*P	**P**	**11 17 17.3**	**-0.1**
PGF				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
EPF	**Esparros**	**47.47**	**276**	*e*P	**P**	**11 17 18.9**	**-0.4**
	comp=Z,53nm,1.5s,mb5.0						
EPF	**Esparros**	**47.47**	**276**	*e*P	**P**	**11 17 18.9**	**-0.4**
EPF				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.9						
SJPF	**Ste Jean**	**47.52**	**277**	*e*P	**P**	**11 17 19.2**	**-0.5**
CHMT	**Chamberlain Mo**	**47.66**	**23**	*e*P	**P**	**11 17 20.9**	**0.0**
MSO	**Missoula**	**47.73**	**24**	PFAKE		11 17 30.0	+8.7
MSO				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
HRY	**Holter Researc**	**47.91**	**22**	*e*P	**P**	**11 17 21.5**	**-1.2**
LAO	**LASA Array**	**48.09**	**17**	PFAKE		11 17 40.0	+16
LAO				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
INCN	**Inchon**	**48.82**	**143**	PFAKE		11 17 40.0	+10
INCN				LR	LR		
	comp=Z,476nm,19.0s,MS4.5						
MALT	**Malatya**	**49.12**	**237**	*e*P	**P**	**11 17 33.2**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.3						
LZH	**Lanzhou**	**49.41**	**167**	⇑P	**P**	**11 17 35.6**	**+1.2**
LZH				AP	pP	11 17 38.9	-0.8
LZH				XP	sP	11 17 40.3	-1.5
LZH				AMB	AMB		
	comp=Z,51nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,149nm,5.9s						
LZH				LR	LR		
	comp=N,1µm,14.9s						
LZH				LR	LR		
	comp=Z,1µm,17.8s,MS5.0						
LZH	**Lanzhou**	**49.41**	**167**	⇑P	**P**	**11 17 35.6**	**+1.2**
LZH				*PP	pP	11 17 38.9	-0.8
LZH				*SP	sP	11 17 40.2	-1.6
LZH				*e*		11 19 29.6	
LZH				*e*S	**S**	**11 24 40.5**	**+1.1**
LZH				*SS		11 24 47.4	
LZH				SS	SS	11 28 07.6	+0.2
LZH				pmax	pmax		
	comp=Z,51nm,1.5s,mb5.3						
LZH				MLR	MLR		
	comp=Z,1µm,17.8s,MS5.0						
LZH	**Lanzhou**	**49.41**	**167**	⇑P	**P**	**11 17 35.6**	**+1.2**
	comp=Z,51nm,1.5s,mb5.3						
LZH				pP	pP	11 17 38.9	-0.8
LZH				sP	sP	11 17 40.2	-1.6
LZH				*e*PP	PP	11 19 29.6	+0.5
LZH				*e*S	**S**	**11 24 40.5**	**+1.1**
LZH				sS		11 24 47.4	
LZH				SS	SS	11 28 07.6	+0.2
LZH				LR	LR		
	comp=Z,1µm,17.8s,MS5.0						
BMO	**Blue Mountains**	**49.58**	**27**	PFAKE		11 17 50.0	+14
BMO				LR	LR		
	comp=Z,1µm,22.0s,MS4.8						
COR	**Corvallis**	**49.60**	**33**	PFAKE		11 17 50.0	+14
COR				LR	LR		
	comp=Z,706nm,19.0s,MS4.7						
TIA	**Tai'an**	**49.66**	**153**	⇓P	**P**	**11 17 36.6**	**+0.2**
TIA				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.5						
MCMT	**McKenzie Canyo**	**49.76**	**23**	*e*P	**P**	**11 17 36.0**	**-1.0**
QLMT	**Earthquake Lak**	**49.80**	**22**	*e*P	**P**	**11 17 37.7**	**+0.4**
LKWY	**Lake**	**50.10**	**21**	PFAKE		11 17 50.0	+10
LKWY				LR	LR		

comp=Z,2µm,19.0s,MS5.2
MOOW Moose Ponds 50.91 21 *e*P **P 11 17 46.5 +0.7**
HLID Hailey 50.97 24 PFAKE 11 18 00.0 +14
HLID LR LR
comp=Z,1µm,19.0s,MS5.0
MUDI Mud Lake 51.02 21 *e*P **P 11 17 47.0 +0.3**
ESDC Sonseca Array 51.16 280 P **P 11 17 47.5 -0.2**
comp=Z,0.6nm,0.4s,mb3.8,slow=6.4,SNR=3.7
RRI2 Red Ridge 51.29 22 *e*P **P 11 17 49.4 +0.7**
XAN Xi'an 51.56 162 P **P 11 17 50.9 0.0**
XAN AP pP 11 17 56.9 +0.7
XAN AMB AMB
comp=Z,11nm,1.6s,mb4.5
HUMO Hull Mountain 51.59 32 PFAKE 11 18 00.0 +9.1
HUMO LR LR
comp=Z,1µm,21.0s,MS4.8
BW06 Boulder Array 51.92 20 PFAKE 11 18 10.0 +17
BW06 LR LR
comp=Z,2µm,19.0s,MS5.1
PDAR Pinedale Array 51.92 20 P **P 11 17 53.0 -0.4**
comp=Z,1.1nm,1.0s,baz=346,slow=6.1,SNR=5.4
PDAR LR LR 11 40 36.2
comp=Z,982nm,20.7s,baz=5.3,slow=37
WVOR Wild Horse Val 51.94 28 *e*P **P 11 17 54.1 +0.5**
WVOR pmax pmax
comp=Z,58nm,1.8s,mb5.2
WVOR MLR MLR
comp=Z,1µm,20.0s,MS4.9
WVOR Wild Horse Val 51.94 28 *e*P **P 11 17 54.1 +0.5**
comp=Z,58nm,1.8s,mb5.2
WVOR LR LR
comp=Z,1µm,20.0s,MS4.9
MOD Modoc 52.40 30 PFAKE 11 18 10.0 +13
MOD LR LR
comp=Z,471nm,20.0s,MS4.5
YBH Yreka Blue Hor 52.47 32 PFAKE 11 18 10.0 +12
YBH LR LR
comp=Z,904nm,20.0s,MS4.8
ERPA Erie 52.83 352 PFAKE 11 18 10.0 +10
ERPA LR LR
comp=Z,1µm,19.0s,MS5.0
HWUT Hardware Ranch 53.02 22 *e*P **P 11 18 01.0 -0.7**
comp=Z,56nm,1.6s,mb5.2
HWUT LR LR
comp=Z,922nm,22.0s,MS4.8
ALLY Alegheny Colle 53.30 352 P **P 11 18 03.6 -0.2**
ELK Elko 53.76 25 PFAKE 11 18 20.0 +13
ELK LR LR
comp=Z,1µm,22.0s,MS5.0
NJ2 Nanjing 53.88 151 *e*P **P 11 18 08.1 0.0**
NJ2 AP pP 11 18 12.8 -0.6
NJ2 XP sP 11 18 15.1 -0.3
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1µm,5.2s
NJ2 LR LR
comp=N,700nm,24.5s,MS4.8
NJ2 LR LR
comp=E,650nm,23.1s,MS4.8
NJ2 LR LR
comp=Z,320nm,22.9s,MS4.3
BMN Battle Mountai 54.00 27 PFAKE 11 18 20.0 +11
BMN LR LR
comp=Z,771nm,19.0s,MS4.8
JLU Jordanelle 54.03 22 *e*P **P 11 18 08.6 -0.5**
SSPA Standing Stone 54.28 350 PFAKE 11 18 20.0 +9.0
SSPA LR LR
comp=Z,789nm,19.0s,MS4.8
DUG Dugway 54.39 23 PFAKE 11 18 20.0 +8.2
DUG LR LR
comp=Z,1µm,20.0s,MS5.0
ACSO Alum Creek Sta 54.74 355 PFAKE 11 18 30.0 +16
ACSO LR LR
comp=Z,1µm,19.0s,MS5.0
SSE Sheshan 54.92 149 P **P 11 18 14.3 -1.6**
SSE AP pP 11 18 17.6 -3.6
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.3
SSE LR LR
comp=N,67nm,25.2s,MS4.2
SSE LR LR
comp=E,237nm,25.2s,MS4.2
SSE LR LR
comp=Z,150nm,18.9s
SSE Sheshan 54.92 149 P **P 11 18 14.3 -1.6**
comp=Z,24nm,0.7s,mb5.3
SSE pP pP 11 18 17.6 -3.6
SSE PP PP 11 20 16.2 -4.2
SSE S **S 11 25 54.5 -0.4**
SSE sS 11 25 59.3
SSE SS SS 11 29 37.6 -0.7
SSE LR LR
comp=Z,150nm,18.9s,MS4.1
ISCO Idaho Springs 54.99 16 PFAKE 11 18 30.0 +14
ISCO LR LR
comp=Z,1µm,20.0s,MS5.1
HOPS Hopland 55.19 33 PFAKE 11 18 30.0 +12
HOPS LR LR
comp=Z,593nm,22.0s,MS4.6
DDI Dehra Dun 55.19 194 *e* **P 11 18 18.0 +0.2**
WHN Wuhan 55.21 156 *e*P **P 11 18 18.0 0.0**
MCWV Mont Chateau 55.28 352 PFAKE 11 18 30.0 +12
MCWV LR LR
comp=Z,1µm,20.0s,MS5.0
ASF Jabal al Asfar 55.33 237 P **P 11 18 19.1 +0.3**
comp=Z,1.5nm,0.3s,mb4.4,baz=254,slow=0.1,SNR=4.9
ENH Enshi 55.33 161 *e*P **P 11 18 18.2 -0.6**
comp=Z,92nm,1.5s,mb5.6
ENH LR LR
comp=Z,337nm,22.0s,MS4.4
LSA Lhasa 55.66 181 P **P 11 18 19.0 -2.2**
LSA Lhasa 55.66 181 PFAKE 11 18 30.0 +8.8
LSA LR LR
comp=Z,352nm,20.0s,MS4.4
NVAR Mina Array Bea 55.95 28 P **P 11 18 23.3 +0.1**
comp=Z,1.4nm,0.9s,mb4.0,baz=14,slow=4.8,SNR=10
NVAR Mina Array Bea 55.95 28 P **P 11 18 23.3 +0.1**
MNV Mina 55.95 28 *e*P **P 11 18 23.5 +0.3**
MNV pmax pmax
comp=Z,17nm,1.4s,mb4.9
MNV Mina 55.95 28 *e*P **P 11 18 23.5 +0.3**
comp=Z,18nm,1.4s,mb4.9
CBKS Cedar Bluff 56.09 11 PFAKE 11 18 40.0 +16
CBKS LR LR
comp=Z,607nm,20.0s,MS4.7
MSU Marysvale 56.09 23 *e*P **P 11 18 24.5 +0.4**
MVU Marysvale 56.09 23 PFAKE 11 18 40.0 +16
MVU LR LR
comp=Z,826nm,19.0s,MS4.8
TRCR Troy Canyon 56.13 26 *e*P **P 11 18 24.8 +0.4**
CMB Columbia Colle 56.26 30 PFAKE 11 18 40.0 +15
CMB LR LR
comp=Z,441nm,20.0s,MS4.5
PV10 Paradox Valley 56.32 20 *e*P **P 11 18 26.5 +0.7**
TPH Tonopah 56.35 27 PFAKE 11 18 40.0 +14
TPH LR LR
comp=Z,656nm,22.0s,MS4.7
PV01 Paradox Valley 56.57 19 *e*P **P 11 18 27.5 -0.2**
CBN Corbin 56.70 350 PFAKE 11 18 40.0 +11
CBN LR LR
comp=Z,1µm,19.0s,MS5.0
OMM Old Mammoth Mi 56.73 29 *e*P **P 11 18 29.7 +0.9**
WCI Wyandotte Cave 56.76 358 PFAKE 11 18 40.0 +11
WCI LR LR
comp=Z,1µm,19.0s,MS5.0
CCM Cathedral Cave 56.93 3 *e*P **P 11 18 27.3 -2.9**
CCM pmax pmax
comp=Z,28nm,1.3s,mb5.1
CCM MLR MLR
comp=Z,937nm,21.0s,MS4.9
CCM Cathedral Cave 56.93 3 *e*P **P 11 18 27.3 -2.9**
comp=Z,28nm,1.3s,mb5.1
CCM LR LR
comp=Z,937nm,21.0s,MS4.9
SDCO Great Sand Dun 57.04 16 PFAKE 11 18 40.0 +9.0
SDCO LR LR
comp=Z,2µm,19.0s,MS5.2
GKN Gorkha 57.40 187 *e*P **P 11 18 32.4 -1.2**
comp=Z,104nm,1.2s,mb5.7
KKN Kakani 57.60 187 *e*P **P 11 18 31.6 -3.5**
comp=Z,100nm,1.4s,mb5.7
KOLN Koldanda 57.64 189 *e*P **P 11 18 32.0 -3.3**
comp=Z,44nm,1.1s,mb5.4
JIRN Jiri 57.72 186 *e*P **P 11 18 33.9 -2.0**
comp=Z,46nm,1.2s,mb5.4

LRV Little Rabbit 57.84 31 P **P 11 18 36.2 -0.4**
DAC Darwin (Calif) 58.12 28 PFAKE 11 18 50.0 +11
DAC LR LR
comp=Z,979nm,21.0s,MS4.9
WVT Waverly 58.85 360 PFAKE 11 19 00.0 +16
WVT LR LR
comp=Z,625nm,20.0s,MS4.7
GYA Guiyang 59.06 164⇑ *i*P **P 11 18 45.3 0.0**
GYA AP pP 11 18 49.8 -0.9
GYA XP sP 11 18 52.0 -0.6
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.2
GYA AMB AMB
comp=Z,240nm,4.5s
GYA LR LR
comp=N,430nm,17.3s,MS4.8
GYA LR LR
comp=E,420nm,17.5s,MS4.8
GYA LR LR
comp=Z,380nm,18.0s,MS4.6
WUAZ Wupatki 59.10 22 PFAKE 11 19 00.0 +15
WUAZ LR LR
comp=Z,969nm,21.0s,MS4.9
LDFC Landfair 59.41 26 P **P 11 18 46.0 -1.6**
ANMO Albuquerque 59.80 17⇑ *e*P **P 11 18 49.8 -0.5**
ANMO Albuquerque 59.80 17 P **P 11 18 49.7 -0.6**
comp=Z,5.1nm,1.1s,mb4.5,baz=345,slow=6.4,SNR=11
ANMO Albuquerque 59.80 17 P **P 11 18 49.7 -0.6**
ANMO LR LR
comp=Z,2µm,19.0s,MS5.2
AMTX Amarillo 59.97 13 PFAKE 11 19 00.0 +8.5
AMTX LR LR
comp=Z,1µm,20.0s,MS5.0
MWC Mount Wilson 60.15 28 *e*P **P 11 18 52.9 +0.2**
WMOK Wichita Mounta 60.17 10 PFAKE 11 19 00.0 +7.2
WMOK LR LR
comp=Z,904nm,19.0s,MS4.9
KMI Kunming 60.31 169⇑ P **P 11 18 54.3 +0.4**
KMI AP pP 11 18 57.3 -2.0
KMI AMB AMB
comp=Z,20nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,161nm,4.3s
KMI LR LR
comp=N,601nm,19.6s,MS4.8
KMI LR LR
comp=E,423nm,19.7s,MS4.8
KMI LR LR
comp=Z,643nm,15.7s,MS4.9
KMI Kunming 60.31 169⇑ P **P 11 18 54.3 +0.4**
comp=Z,20nm,1.4s,mb5.0
KMI pP pP 11 18 57.3 -2.0
KMI PP PP 11 21 09.4 +0.4
KMI S **S 11 27 04.7 -1.0**
KMI SS SS 11 31 08.3 +3.7
KMI LR LR
comp=Z,640nm,15.7s,MS4.9
LAZ Ladron 60.33 18 *e*P **P 11 18 53.5 -0.4**
MIAR Mount Ida 60.42 5 P **P 11 18 52.3 -2.2**
MIAR pmax pmax
comp=Z,34nm,1.3s,mb5.2
MIAR MLR MLR
comp=Z,930nm,21.0s,MS4.9
MIAR Mount Ida 60.42 5 P **P 11 18 52.3 -2.2**
comp=Z,34nm,1.3s,mb5.2
MIAR LR LR
comp=Z,930nm,21.0s,MS4.9
LPM Los Pinos Moun 60.44 17 P **P 11 18 53.8 -0.8**
OXF Oxford 60.47 1 PFAKE 11 19 10.0 +15
OXF LR LR
comp=Z,753nm,19.0s,MS4.9
JSC Jenkinsville 60.67 353 P **P 11 18 54.5 -1.7**
PFO Pinyon Flat Ob 60.83 27 PFAKE 11 19 10.0 +13
PFO LR LR
comp=Z,190nm,19.0s,MS4.3
GOGA Godfrey 61.55 355 PFAKE 11 19 10.0 +7.8
GOGA LR LR
comp=Z,779nm,19.0s,MS4.9
TUC Tucson 62.32 22 PFAKE 11 19 20.0 +13
TUC LR LR
comp=Z,835nm,19.0s,MS4.9
CLNB Carlsbad 62.54 15 *e*P **P 11 19 06.8 -2.0**
MNTX Cornudas Mount 63.07 16 PFAKE 11 19 20.0 +7.7
MNTX LR LR
comp=Z,1µm,19.0s,MS5.0
NATX Nacogdoches 63.19 6 PFAKE 11 19 20.0 +6.9
NATX LR LR
comp=Z,1µm,21.0s,MS5.1
JCT Junction City 64.40 11 *e*P **P 11 19 19.2 -1.8**
JCT pmax pmax
comp=Z,39nm,1.3s,mb5.3
JCT MLR MLR
comp=Z,875nm,20.0s,MS4.9
JCT Junction City 64.40 11 *e*P **P 11 19 19.2 -1.8**
comp=Z,39nm,1.3s,mb5.3
JCT LR LR
comp=Z,875nm,20.0s,MS4.9
HKT Hockley 64.98 7 PFAKE 11 19 40.0 +15
HKT LR LR
comp=Z,976nm,19.0s,MS5.0
LTX Lajitas 65.47 15 PFAKE 11 19 40.0 +12
LTX LR LR
comp=Z,1µm,19.0s,MS5.2
TXAR Lajitas Array 65.47 15 P **P 11 19 26.9 -0.9**
comp=Z,1.4nm,0.5s,mb4.2,baz=0.6,slow=3.5,SNR=15
QIZ Qiongzhong 66.53 161 PFAKE 11 19 50.0 +15
QIZ LR LR
comp=Z,359nm,19.0s,MS4.6
DWPF Disney 66.82 353 PFAKE 11 19 50.0 +13
DWPF LR LR
comp=Z,1µm,19.0s,MS5.1
CM31 Chiang Mai Arr 66.90 173 *e*P **P 11 19 35.9 -1.3**
CMAR Chiang Mai Arr 66.90 173 P **P 11 19 36.5 -0.7**
comp=Z,2.0nm,0.8s,mb4.2,baz=352,slow=6.9,SNR=16
WAKE Wake Island 69.65 103 PFAKE 11 20 10.0 +16
WAKE LR LR
comp=Z,93µm,19.0s
GUMO Guam 73.65 126 PFAKE 11 20 30.0 +12
GUMO LR LR
comp=Z,949nm,22.0s,MS5.0
TEIG Tepich 74.70 0 PFAKE 11 20 40.0 +16
TEIG LR LR
comp=Z,305nm,21.0s,MS4.6
SJG San Juan 76.46 338 PFAKE 11 20 50.0 +16
SJG LR LR
comp=Z,408nm,22.0s,MS4.7
DBIC Dimbokro 83.95 277 PFAKE 11 21 30.0 +16
DBIC LR LR
comp=Z,273nm,19.0s,MS4.7
JTS JuntasAbangare 84.57 357 PFAKE 11 21 30.0 +13
JTS LR LR
comp=Z,159nm,22.0s,MS4.4
SDV Santo Domingo 85.75 343 P **P 11 21 25.6 +2.4**
comp=Z,1.7nm,0.6s,mb4.5,baz=9.0,slow=4.7,SNR=5.8
SDV Santo Domingo 85.75 343 P **P 11 21 25.6 +2.4**
SDV LR LR
comp=Z,357nm,21.0s,MS4.7
MBAR Mbarara 88.27 241 PFAKE 11 21 50.0 +15
MBAR LR LR
comp=Z,36nm,20.0s,MS3.8
KMBO Kilima Mbogo 88.33 235 PFAKE 11 21 50.0 +14
KMBO LR LR
comp=Z,180nm,21.0s,MS4.5
OTAV Otavalo 94.50 350 PFAKE 11 22 20.0 +16
OTAV LR LR
comp=Z,279nm,19.0s,MS4.8
PMG Port Moresby 96.60 125 PFAKE 11 22 30.0 +16
PMG LR LR
comp=Z,611nm,20.0s,MS5.1
HNR Honiara 97.56 112 PFAKE 11 22 30.0 +12
HNR LR LR
comp=Z,463nm,20.0s,MS5.0
RCBR Riachuelo 98.71 307 PFAKE 11 22 40.0 +17
RCBR LR LR
comp=Z,286nm,21.0s,MS4.7
LSZ Lusaka 103.00 243 PFAKE 11 22 50.0 +7.3
LSZ LR LR
comp=Z,183nm,21.0s,MS4.6
WRAB Tennant Creek 106.24 138 PFAKE 11 27 20.0
WRAB LR LR
comp=Z,174nm,19.0s,MS4.6
WRA Warramunga Arr 106.25 138 Pdiff Pdiff 11 22 59.0 +2.1
comp=Z,0.4nm,0.8s,baz=355,slow=7.5,SNR=2.9
CTAO Charters Tower 107.13 127 PFAKE 11 27 20.0
CTAO LR LR
comp=Z,212nm,21.0s,MS4.7
TSUM Tsumeb 107.71 253 PFAKE 11 27 20.0
TSUM LR LR
comp=Z,197nm,21.0s,MS4.7
PPT Papeete 109.71 63 *e*LR LR 11 59 47.2
comp=Z,396nm,25.5s
TBI Tubuai 115.45 63 *e*LR LR 12 02 26.8
comp=Z,315nm,25.5s
RKT Rikitea 116.22 48 *e*LR LR 12 02 49.4
comp=Z,242nm,36.8s
PLCA Paso Flores 135.10 341 PKP PKPdf 11 28 05.3 -0.2
comp=Z,3.8nm,1.1s,baz=278,slow=7.1,SNR=2.6
CASY Casey 151.55 164 PFAKE 11 28 40.0 +7.4
CASY LR LR
comp=Z,443nm,19.0s,MS5.3
PMSA Palmer Station 158.92 331 PFAKE 11 28 50.0 +7.5
PMSA LR LR
comp=Z,1µm,19.0s,MS5.7
VNDA Vanda 165.11 127 PFAKE 11 29 00.0 +11
VNDA LR LR
comp=Z,253nm,20.0s
SBA Scott Base 165.76 124 PFAKE 11 29 00.0 +11
SBA LR LR
comp=Z,534nm,19.0s
QSPA South Pole Qui 175.16 179 PFAKE 11 29 00.0 +5.9
QSPA LR LR
comp=Z,554nm,20.0s

BJI ***16*** *11:10:24.2,85.20N×90.90E,h10km,mB5.2,mb4.7,Ms4.9, Msz4.6*
MOS ***16*** *11:10:27.2±0.9,85.19N×91.23E,h10km,mb5.1/41, MS4.1/5,Error ellipse: s-maj=55.7km s-min=7.8km az=88.1*
IDC ***16*** *11:10:28.1±0.7,85.21N×91.06E,mb4.3/18,mb1 4.5/19, mb1mx4.4/24,mbtmp4.3/19,ML3.7/1,Error ellipse: s-maj=23.0km s-min=12.3km az=138.0*
NEIC ***16*** *11:10:29.3±0.2,85.21N×90.95E,h10km,mb4.9/45,Error ellipse: s-maj=5.7km s-min=3.6km az=155.0*
HRVD ***16*** *11:10:29.3±0.5,85.21N×94.41E,h12km,MW5.0/55, Centroid moment Tensor Solution. LP body waves: s13,c14;Mantle waves: s55,c90; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.06±.17; $M_{\theta\theta}$1.95±.14; $M_{\phi\phi}$0.11±.18; $M_{r\theta}$0.39±.43; $M_{r\phi}$-0.81±.14; $M_{\theta\phi}$-2.96±.67; Best double couple: M_o3.546×10^{16} NP1:ϕ_s94°,δ29°, λ-144°. NP2:ϕ_s332°,δ74°,λ-66°. Principal axes: T 2.962, Plg25°, Azm43°; N 1.171, Plg23°, Azm145°; P -4.13, Plg55°, Azm272°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 16 11:10:28.5±1.5, 85.22N±0.04×91.0E±0.4, h17km±10km, h19km±1.4km:pP-P,n180,σ0:96/195,mb4.7/78,MS4.5/13, 10C-3D,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIXI	**Tiksi**	**14.95**	**131**	*e*P	**P**	**11 14 06.0**	**+5.7**
TIXI				pmax	pmax		
	comp=Z,23nm,1.1s						
ARCES	**ARCESS Array B**	**19.08**	**258**	P	**P**	**11 14 52.3**	**0.0**
	comp=Z,0.3nm,0.3s,baz=22,slow=9.7,SNR=4.3						
ARE0	**ARCESS Array S**	**19.08**	**258**	P	**P**	**11 14 51.6**	**-0.7**
LVZ	**Lovozero**	**19.95**	**247**	*e*P	**P**	**11 15 00.8**	**-1.4**
LVZ				pmax	pmax		
	comp=Z,108nm,1.4s						
APA	**Apatity**	**20.38**	**249**⇑	*i*P	**P**	**11 15 08.0**	**+1.4**
APA				*i*		11 15 25.0	
APA				*e*S	**S**	**11 18 58.0**	**+9.0**
APA				pmax	pmax		
	comp=Z,43nm,1.3s						
SUMG	**Summit**	**20.92**	**319**	*e*P	**P**	**11 15 13.5**	**+1.3**
	comp=Z,95nm,1.4s						
BILL	**Bilibino**	**21.36**	**93**	*i*P	**P**	**11 15 15.8**	**-0.9**
BILL				*e*S	**S**	**11 19 12.0**	**+3.8**
BILL				*e*SS	SS	11 19 35.5	-7.4
BILL				pmax	pmax		
	comp=Z,42nm,2.4s,mb4.3						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.8						
BILL	**Bilibino**	**21.36**	**93**	*e*P	**P**	**11 15 17.2**	**+0.5**
	comp=Z,77nm,1.2s,mb4.9						
YAK	**Yakutsk**	**24.54**	**135**⇑	*e*P	**P**	**11 15 47.9**	**+0.2**
YAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.6						
YAK	**Yakutsk**	**24.54**	**135**	*e*P	**P**	**11 15 48.0**	**+0.2**
	comp=Z,22nm,0.6s,mb4.9						
SEY	**Seymchan**	**25.25**	**110**	*e*P	**P**	**11 15 59.2**	**+4.7**
SEY				*e*		11 20 14.2	
INK	**Inuvik**	**25.47**	**37**	P	**P**	**11 15 57.3**	**+0.7**
INK				pmax	pmax		
	comp=Z,23nm,1.1s						
INK	**Inuvik**	**25.47**	**37**	P	**P**	**11 15 57.2**	**+0.7**
	comp=Z,23nm,1.1s,mb4.6,baz=357,slow=12,SNR=4.3						
INK	**Inuvik**	**25.47**	**37**	*e*P	**P**	**11 15 56.0**	**-0.6**
	comp=Z,74nm,1.2s,mb5.1						
TNA	**Tin City**	**25.92**	**69**	*e*P	**P**	**11 16 02.6**	**+1.9**
	comp=Z,14nm,1.0s,mb4.4						
IMA	**Indian Mountai**	**26.47**	**56**	*e*P	**P**	**11 16 07.9**	**+2.0**
IMA				pmax	pmax		
	comp=Z,153nm,1.3s,mb5.4						
IMA	**Indian Mountai**	**26.47**	**56**	*e*P	**P**	**11 16 07.9**	**+2.0**
	comp=Z,152nm,1.3s,mb5.4						
FINES	**FINESS Array B**	**27.00**	**253**	P	**P**	**11 16 10.3**	**-0.4**
	comp=Z,5.2nm,0.7s,mb4.2,baz=22,slow=10,SNR=5.6						
COLA	**College**	**28.05**	**51**	*e*P	**P**	**11 16 20.8**	**+0.6**
COLA				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.8						
COLA	**College**	**28.05**	**51**	*e*P	**P**	**11 16 20.8**	**+0.5**
	comp=Z,26nm,1.0s,mb4.8						
ILAR	**Eielson Array**	**28.21**	**50**	P	**P**	**11 16 20.9**	**-0.9**
	comp=Z,5.2nm,1.1s,mb4.1,baz=355,slow=7.2,SNR=4.5						
MA2	**Magadan**	**28.45**	**113**	*e*P	**P**	**11 16 23.8**	**0.0**
MA2				pmax	pmax		
	comp=Z,20nm,1.8s,mb4.5						
MA2	**Magadan**	**28.45**	**113**	*e*P	**P**	**11 16 21.6**	**-2.2**
	comp=Z,37nm,1.5s,mb4.8						
NB2	**NORSAR Subarra**	**28.63**	**268**	P	**P**	**11 16 25.0**	**-0.5**
	comp=Z,28nm,1.4s,mb4.8,baz=10.0,slow=8.6						
NB2	**NORSAR Subarra**	**28.63**	**268**	P	**P**	**11 16 25.0**	**-0.5**
NB2				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.8						
NB2	**NORSAR Subarra**	**28.63**	**268**	P	**P**	**11 16 25.0**	**-0.5**
	baz=9.7,slow=9.3						
NOA	**NORSAR Array B**	**28.63**	**268**	P	**P**	**11 16 25.5**	**0.0**
	comp=Z,4.6nm,1.0s,mb4.2,baz=14,slow=8.6,SNR=2.9						
HFS	**Hagfors**	**29.32**	**266**	P	**P**	**11 16 31.1**	**-0.6**
	comp=Z,4.8nm,1.0s,mb4.2,baz=45,slow=8.2,SNR=2.1						
DAWY	**Dawson**	**29.38**	**44**	*e*P	**P**	**11 16 31.5**	**-0.7**
CLNS	**Chul'man**	**29.45**	**141**	*e*P	**P**	**11 16 32.7**	**-0.3**
CLNS				*e**PP	pP	11 16 38.6	+0.8
CLNS				*e*PPP	PPP	11 17 33.7	-8.4
CLNS				*e*		11 19 36.0	
CLNS				*e*S	**S**	**11 21 26.7**	**+1.7**
CLNS				*e*SS	SS	11 22 58.6	+0.9
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
CLNS				pmax	pmax		
	comp=N,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.9s						
CLNS				MLR	MLR		
	comp=Z,800nm,18.0s,MS4.4						
CLNS				MLR	MLR		
	comp=N,300nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=E,100nm,12.0s,MS4.1						
VSU	**Vasula**	**29.90**	**252**	*i*P	**P**	**11 16 37.5**	**+0.5**
NVS	**Novosibirsk**	**30.58**	**189**	*e*P	**P**	**11 16 41.0**	**-1.9**
MOS	**Moscow**	**31.78**	**240**	*e*P	**P**	**11 16 54.7**	**+1.2**
MOS				*e*	pP	11 16 57.9	-0.5
MOS				*e*		11 18 02.9	
MOS				*e*PPP	PPP	11 18 11.6	-2.3
MOS				pmax	pmax		
	comp=Z,71nm,0.7s,mb5.6						
MOS				MLR	MLR		
	comp=Z,800nm,17.8s,MS4.5						
YKW3	**Yellowknife Ar**	**32.00**	**22**	*e*P	**P**	**11 16 53.9**	**-1.5**
CHKZ	**Chkalovo**	**32.03**	**203**	*e*P	**P**	**11 16 55.7**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.1						
CHKZ	**Chkalovo**	**32.03**	**203**	*e*P	**P**	**11 16 55.7**	**-0.1**
	comp=Z,36nm,1.1s,mb5.1						
YKA	**Yellowknife Ar**	**32.07**	**22**	P	**P**	**11 16 54.3**	**-1.7**
	comp=Z,9.4nm,1.1s,mb4.5,baz=355,slow=8.3,SNR=5.4						

YKA PcP PcP 11 19 44.1 -1.4
comp=Z,2.6nm,0.7s,baz=339,slow=3.3,SNR=11
OBN Obninsk 32.47 241 *e*P **P** **11 16 59.4 -0.2**
OBN *e* pP 11 17 04.1 -0.4
OBN *e* 11 18 06.1
OBN *e* 11 19 45.7
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
OBN MLR MLR
comp=Z,500nm,22.0s,MS4.2
EYAK Cordova Ski Ar 32.48 50 *e*P **P** **11 17 00.2 +0.6**
DLBC Dease Lake 35.49 36 P **P** **11 17 27.0 +1.4**
comp=Z,5.0nm,0.8s,mb4.5,baz=2.2,slow=11,SNR=6.7
DLBC Dease Lake 35.49 36 *e*P **P** **11 17 25.9 +0.2**
VOR Voronezh 35.65 237 *e*P **P** **11 17 26.5 -0.5**
VOR *e* pP 11 17 33.0 +1.1
VOR pmax pmax
comp=Z,80nm,1.4s,mb5.5
ULN Ulaanbaatar 37.72 162⇓ *e*P **P** **11 17 45.0 +0.6**
ULN Ulaanbaatar 37.72 162 *e*P **P** **11 17 42.3 -2.1**
comp=Z,15nm,1.3s,mb4.6
SONM Songino Array 37.73 163 P **P** **11 17 45.6 +1.0**
comp=Z,7.0nm,1.0s,mb4.3,baz=339,slow=7.2,SNR=4.5
CLL Collm 38.12 264 P **P** **11 17 47.9 +0.1**
comp=Z,logA/T=1.0,mb4.5
CLL *i* 11 17 54.9
KSP Ksiaz 38.31 261 *e*P **P** **11 17 49.5 +0.1**
KSP *e**PP pP 11 17 54.8 +0.4
KSP Ksiaz 38.31 261 *e*P **P** **11 17 56.6 +7.2**
DPC Dobruska-Polom 38.80 260 *e*P **P** **11 17 54.1 +0.6**
DPC *e*pP pP 11 18 01.0 +2.5
MOX Moxa 38.90 265 *e*P **P** **11 17 55.1 +0.8**
MOX *e* pP 11 18 01.7 +2.4
MOX pmax pmax
comp=Z,43nm,1.5s,mb5.0
MOX Moxa 38.90 265 *e*P **P** **11 17 55.1 +0.8**
comp=Z,43nm,1.5s,mb5.0
MOX *e* pP 11 18 01.7 +2.4
MOX Moxa 38.90 265 *i* P **P** **11 17 55.1 +0.8**
MOX pP pP 11 18 02.0 +2.7
KWP Kalwaria 38.99 254 *e*P **P** **11 17 56.2 +1.1**
OKC Ostrava-Krasne 39.16 258 *e*P **P** **11 17 57.3 +0.8**
OKC *e*pP pP 11 18 04.0 +2.5
NKC Novy Kostel 39.24 264 *e*P **P** **11 17 57.8 +0.6**
NKC *e*pP pP 11 18 04.8 +2.7
HGN Heimansgroeve 39.26 271 *e*P **P** **11 18 03.8 +6.5**
comp=Z,14nm,2.1s,mb4.3
MORC Moravsky Berou 39.27 259 *e*P **P** **11 17 57.0 -0.4**
MORC pmax pmax
comp=Z,14nm,1.1s,mb4.6
MORC Moravsky Berou 39.27 259 *e*P **P** **11 17 57.0 -0.5**
comp=Z,14nm,1.1s,mb4.6
PRU Pruhonice 39.31 262 *e*P **P** **11 17 57.5 -0.2**
PRU *e*pP pP 11 18 05.2 +2.5
GRA1 Grafenberg Arr 39.88 265 *e*P **P** **11 18 03.8 +1.3**
comp=Z,30nm,1.2s,mb4.9
GRA1 *e*pP pP 11 18 10.5 +3.1
GRF Grafenberg Arr 39.88 265 *e*P **P** **11 18 03.8 +1.3**
GRF *e**PP pP 11 18 10.5 +3.1
GRF pmax pmax
comp=Z,30nm,1.2s,mb4.9
GRF Grafenberg Arr 39.88 265 *e*P **P** **11 18 03.8 +1.3**
GRF *e**PP pP 11 18 10.5 +3.1
GRF pmax pmax
comp=Z,30nm,1.2s,mb4.9
GRF Grafenberg Arr 39.88 265 *e*P **P** **11 18 03.8 +1.3**
comp=Z,30nm,1.2s,mb4.9
GRF *e*pP pP 11 18 10.5 +3.1
GIVF Givet 40.01 272 *e*P **P** **11 18 03.2 -0.3**
comp=Z,32nm,1.0s,mb4.7
GIVF Givet 40.01 272 *e*P **P** **11 18 03.2 -0.3**
GIVF pmax pmax
comp=Z,16nm,1.0s,mb4.7
BAIF Baives 40.10 273 *e*P **P** **11 18 04.3 0.0**
KHC Kasperske Hory 40.24 263⇑ *e*P **P** **11 18 06.9 +1.5**
KHC Kasperske Hory 40.24 263 *ex* **P** **11 18 06.7 +1.3**
YSS Yuzh-Sakhalins 40.40 124⇑ *e*P **P** **11 18 07.4 +0.6**
YSS Yuzh-Sakhalins 40.40 124 *e*P **P** **11 18 07.1 +0.3**
comp=Z,17nm,1.1s,mb4.7
GERES GERESS Array B 40.51 263 P **P** **11 18 09.2 +1.5**
comp=Z,2.5nm,0.8s,mb3.9,baz=9.5,slow=8.1,SNR=4.8
GERES PP PP 11 19 42.0 -2.5
comp=Z,0.8nm,0.8s,baz=21,slow=8.4,SNR=3.0
PSZ Piszkesteto 40.92 256 *e*P **P** **11 18 12.5 +1.4**
PSZ pmax pmax
comp=Z,27nm,1.2s,mb4.8
PSZ Piszkesteto 40.92 256 *e*P **P** **11 18 12.5 +1.5**
comp=Z,27nm,1.2s,mb4.8
CDF Champ du Feu 41.48 269 *e*P **P** **11 18 15.8 +0.2**
comp=Z,28nm,0.8s,mb4.6
CDF Champ du Feu 41.48 269 *e*P **P** **11 18 15.8 +0.2**
CDF pmax pmax
comp=Z,14nm,0.8s,mb4.6
WMQ Urumqi 41.56 184 P **P** **11 18 17.5 +1.3**
WMQ XP sP 11 18 24.0 +0.8
WMQ PP PP 11 19 56.0 +0.5
WMQ PPP PPP 11 20 26.0 -0.1
WMQ PCS 11 24 04.0
WMQ S **S** **11 24 34.0 +2.8**
WMQ AMB AMB
comp=Z,13nm,1.2s,mb4.4
WMQ AMB AMB
comp=Z,130nm,4.5s
WMQ LR LR
comp=N,857nm,16.3s,MS4.8
WMQ LR LR
comp=E,532nm,15.2s,MS4.8
WMQ LR LR
comp=Z,718nm,20.2s,MS4.5
MDJ Mudanjiang 41.90 138 P **P** **11 18 19.0 +0.1**
MDJ AP pP 11 18 22.9 -1.0
MDJ XP sP 11 18 26.0 +0.1
MDJ PP PP 11 19 53.9 -5.2
MDJ S **S** **11 24 37.5 +1.4**
MDJ XS 11 24 44.1
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,93nm,4.4s
MDJ LR LR
comp=E,173nm,19.0s
MDJ Mudanjiang 41.90 138 *e*P **P** **11 18 09.8 -9.1**
HAU Haudompre 41.96 270 *e*P **P** **11 18 19.6 +0.2**
comp=E,61nm,1.0s,mb4.9
HAU Haudompre 41.96 270 *e*P **P** **11 18 19.6 +0.2**
HAU pmax pmax
comp=Z,30nm,1.0s,mb4.9
GOF Gofitskoye 42.03 232⇓ *i* P **P** **11 18 19.2 -0.8**
GOF pmax pmax
comp=Z,40nm,1.3s,mb4.9
HINF Hinteralfeld 42.11 269 *e*P **P** **11 18 20.5 -0.1**
comp=Z,21nm,1.1s,mb4.4
HINF Hinteralfeld 42.11 269 *e*P **P** **11 18 20.5 -0.1**
HINF pmax pmax
comp=Z,11nm,1.0s,mb4.4
GRR Gorron 42.18 277 *e*P **P** **11 18 20.4 -0.8**
comp=Z,130nm,1.6s,mb5.0
GRR Gorron 42.18 277 *e*P **P** **11 18 20.4 -0.8**
GRR pmax pmax
comp=Z,65nm,1.6s,mb5.0
SGMF Saint Gilles 42.46 279 *e*P **P** **11 18 23.0 -0.5**
comp=Z,361nm,1.7s,mb5.4
SGMF Saint Gilles 42.46 279 *e*P **P** **11 18 23.0 -0.5**
SGMF pmax pmax
comp=Z,181nm,1.7s,mb5.4
CN2 Changchun 42.49 143 *e*P **P** **11 18 23.6 -0.2**
CN2 *e*XP sP 11 18 31.4 +0.6
CN2 *e*S **S** **11 24 42.5 -2.3**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 LR LR
comp=N,300nm,18.0s,MS4.5
CN2 LR LR
comp=E,500nm,18.0s,MS4.5
CN2 LR LR
comp=Z,700nm,17.0s,MS4.6
ANN Anapa 42.67 238 *e*P **P** **11 18 31.2 +5.9**
ANN *i* *PP pP 11 18 37.9 +7.7
ANN pmax pmax
comp=Z,43nm,1.3s,mb5.0
AAK Ala-Archa 42.96 198⇓ *e*P **P** **11 18 28.0 +0.4**
AAK pmax pmax
comp=Z,12nm,1.1s,mb4.5
AAK Ala-Archa 42.96 198 *e*P **P** **11 18 23.5 -4.1**
comp=Z,33nm,1.3s,mb4.9

SSF Saint Saulge 43.14 273 *e*P **P** **11 18 28.5 -0.5**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SSF Saint Saulge 43.14 273 *e*P **P** **11 18 28.5 -0.5**
comp=Z,7.2nm,0.9s,mb4.4
KIV Kislovodsk 43.15 232 *e*P **P** **11 18 22.1 -7.1**
KIV *e* 11 20 10.8
KIV pmax pmax
comp=Z,68nm,1.4s,mb5.2
CABF La Chapelle 43.37 270 *e*P **P** **11 18 31.1 +0.2**
comp=Z,95nm,1.7s,mb5.0
CABF La Chapelle 43.37 270 *e*P **P** **11 18 31.1 +0.2**
CABF pmax pmax
comp=Z,47nm,1.7s,mb4.9
AVF Avril sur Loir 43.42 273 *e*P **P** **11 18 30.8 -0.5**
SMF Signal de Mont 43.52 272 *e*P **P** **11 18 31.5 -0.7**
BGF Bois d'Agland 43.69 273 *e*P **P** **11 18 33.2 -0.3**
MFF Saint Martin d 43.90 276 *e*P **P** **11 18 34.9 -0.3**
TCF Toulx Ste Croi 44.01 274 *e*P **P** **11 18 35.6 -0.5**
ZEI Tsey 44.25 231 *i* P **P** **11 18 46.2 +8.1**
ZEI pmax pmax
comp=Z,13nm,1.2s,mb4.5
LPL La Plagne 44.40 269 *e*P **P** **11 18 39.9 +0.6**
LPG La Plagne 44.42 269 *e*P **P** **11 18 40.2 +0.8**
ULM Lac du Bonnet 44.73 6 P **P** **11 18 43.1 +1.2**
comp=Z,2.1nm,0.7s,mb4.1,baz=336,slow=1.9,SNR=3.3
BOLS Boljevac 44.81 254⇑ *i* P **P** **11 18 40.8 -1.9**
HHC Hu-ho-hao-te 44.86 158 *e*P **P** **11 18 43.8 +0.7**
HHC XP sP 11 18 50.6 +0.5
HHC S **S** **11 25 17.4 -1.9**
HHC SS SS 11 28 29.4 -2.7
HHC AMB AMB
comp=Z,14nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,218nm,5.6s
HHC LR LR
comp=E,747nm,19.0s
HHC LR LR
comp=Z,761nm,17.2s,MS4.7
RJF Les Rejaudoux 45.05 274 *e*P **P** **11 18 44.0 -0.5**
comp=Z,56nm,1.1s,mb5.0
RJF Les Rejaudoux 45.05 274 *e*P **P** **11 18 44.0 -0.5**
RJF pmax pmax
comp=Z,28nm,1.1s,mb5.0
ORIF Oris-en-Rattie 45.07 270 *e*P **P** **11 18 44.8 +0.1**
comp=Z,35nm,1.2s,mb4.8
ORIF Oris-en-Rattie 45.07 270 *e*P **P** **11 18 44.8 +0.1**
ORIF pmax pmax
comp=Z,17nm,1.2s,mb4.8
MBDF Montbardon 45.18 269 *e*P **P** **11 18 46.2 +0.6**
comp=Z,22nm,0.9s,mb4.7
MBDF Montbardon 45.18 269 *e*P **P** **11 18 46.2 +0.6**
MBDF pmax pmax
comp=Z,11nm,0.9s,mb4.7
VIVF Saint-Julien-l 45.23 271 *e*P **P** **11 18 45.7 -0.2**
LFF La Frestale 45.48 275 *e*P **P** **11 18 48.0 +0.1**
BJI Beijing 45.83 153 P **P** **11 18 51.3 +0.6**
BJI AMB AMB
comp=Z,15nm,2.0s,mb4.6
BJI LR LR
comp=N,340nm,15.4s,MS4.5
BJI LR LR
comp=E,204nm,15.4s,MS4.5
BJI LR LR
comp=Z,272nm,22.3s
BJI Beijing 45.83 153 P **P** **11 18 51.3 +0.6**
comp=Z,15nm,2.0s,mb4.6
BJI S tx 11 27 10.6
BJI LR LR
comp=Z,270nm,22.3s,MS4.1
SBF Sospel 45.98 268 *e*P **P** **11 18 51.4 -0.5**
comp=Z,71nm,1.2s,mb5.2
SBF Sospel 45.98 268 *e*P **P** **11 18 51.4 -0.5**
SBF pmax pmax
comp=Z,35nm,1.2s,mb5.2
GTA Gaotai 46.02 171 P **P** **11 18 51.6 -0.7**
GTA AP pP 11 18 57.4 +0.1
GTA XP sP 11 19 00.0 +0.7
GTA PP PP 11 20 39.9 -0.7
GTA PPP PPP 11 21 23.3 -0.9
GTA S **S** **11 25 36.0 0.0**
GTA SS SS 11 28 52.6 -0.7
GTA AMB AMB
comp=Z,10.0nm,2.1s,mb4.4
GTA AMB AMB
comp=Z,210nm,8.8s
GTA LR LR
comp=N,1μm,20.2s,MS4.9
GTA LR LR
comp=E,710nm,19.1s,MS4.9
GTA LR LR
comp=Z,2μm,18.3s,MS5.0
SMRF Simiane la Rot 46.03 270 *e*P **P** **11 18 52.3 0.0**
LASF Ste Croix 46.07 272 *e*P **P** **11 18 53.0 +0.4**
comp=Z,65nm,1.2s,mb5.1
FRF La Foret Royal 46.35 269 *e*P **P** **11 18 54.3 -0.5**
comp=Z,35nm,1.0s,mb5.0
FRF La Foret Royal 46.35 269 *e*P **P** **11 18 54.3 -0.5**
FRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
LMR La Mourre 46.59 269 *e*P **P** **11 18 56.1 -0.6**
SKO Skopje 46.70 254 *e*P **P** **11 18 51.5 -6.1**
GNI Garni 46.81 229 *i* P **P** **11 18 59.1 +0.6**
GNI pmax pmax
comp=Z,12nm,1.2s
MTLF Montolieu 46.94 273 *e*P **P** **11 18 59.4 -0.1**
comp=Z,41nm,1.4s,mb4.8
MTLF Montolieu 46.94 273 *e*P **P** **11 18 59.4 -0.1**
MTLF pmax pmax
comp=Z,20nm,1.4s,mb4.8
PGF Pioggiola 47.16 266 *e*P **P** **11 19 00.8 -0.4**
comp=Z,40nm,1.3s,mb4.9
PGF Pioggiola 47.16 266 *e*P **P** **11 19 00.8 -0.4**
PGF pmax pmax
comp=Z,20nm,1.3s,mb4.9
EPF Esparros 47.40 275 *e*P **P** **11 19 02.2 -1.0**
SJPF Ste Jean 47.45 277 *e*P **P** **11 19 02.8 -0.8**
CHMT Chamberlain Mo 47.70 22 *e*P **P** **11 18 58.1 -7.4**
MALT Malatya 49.05 236 *e*P **P** **11 19 17.4 +1.4**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MALT Malatya 49.05 236 *e*P **P** **11 19 17.4 +1.3**
comp=Z,5.0nm,0.8s,mb4.6
LZH Lanzhou 49.41 166 ⇑P **P** **11 19 19.3 +0.5**
LZH AP pP 11 19 22.5 -1.4
LZH XP sP 11 19 23.9 -2.0
LZH *e*PP PP 11 21 13.5 0.0
LZH *e*S **S** **11 26 23.3 -0.6**
LZH XS 11 26 30.5
LZH SS SS 11 29 50.3 -1.6
LZH AMB AMB
comp=Z,39nm,1.4s,mb5.2
LZH AMB AMB
comp=Z,116nm,6.0s
LZH LR LR
comp=N,877nm,15.0s
LZH LR LR
comp=Z,983nm,17.5s,MS4.9
LZH Lanzhou 49.41 166 ⇑P **P** **11 19 19.3 +0.5**
LZH *PP pP 11 19 22.5 -1.4
LZH *SP sP 11 19 23.9 -2.0
LZH *e* 11 21 13.5
LZH *eS* **S** **11 26 23.2 -0.7**
LZH *SS 11 26 30.5
LZH SS SS 11 29 50.3 -1.6
LZH pmax pmax
comp=Z,39nm,1.4s,mb5.2
LZH MLR MLR
comp=Z,980nm,17.5s,MS4.9
LZH Lanzhou 49.41 166 ⇑P **P** **11 19 19.3 +0.5**
comp=Z,39nm,1.4s,mb5.2
LZH pP pP 11 19 22.5 -1.4
LZH sP sP 11 19 23.9 -2.0
LZH *e*PP PP 11 21 13.5 0.0
LZH *eS* **S** **11 26 23.2 -0.7**
LZH sS 11 26 30.5
LZH SS SS 11 29 50.3 -1.6
LZH LR LR
comp=Z,980nm,17.5s,MS4.9
TIA Tai'an 49.68 152 *e*P **P** **11 19 20.8 -0.1**
TIA AMB AMB
comp=Z,40nm,1.4s,mb5.3
QLMT Earthquake Lak 49.84 21 *e*P **P** **11 19 24.3 +2.3**
MUDI Mud Lake 51.06 21 *e*P **P** **11 19 31.4 +0.1**
ESDC Sonseca Array 51.10 279 P **P** **11 19 31.6 0.0**
comp=Z,0.3nm,0.3s,mb3.6,baz=9.8,slow=7.9,SNR=3.2
RRI2 Red Ridge 51.33 21 *e*P **P** **11 19 31.2 -2.1**
PDAR Pinedale Array 51.96 19 P **P** **11 19 39.4 +1.3**
comp=Z,0.9nm,0.9s,mb3.7,baz=18,slow=2.9,SNR=3.2
WVOR Wild Horse Val 51.98 28 *e*P **P** **11 19 39.4 +1.1**
WVOR pmax pmax
comp=Z,17nm,1.4s,mb4.8
WVOR Wild Horse Val 51.98 28 *e*P **P** **11 19 39.4 +1.1**
comp=Z,17nm,1.4s,mb4.8
HWUT Hardware Ranch 53.06 21 *e*P **P** **11 19 46.5 +0.2**
comp=Z,12nm,1.2s,mb4.7
ALLY Alegheny Colle 53.30 352 P **P** **11 19 47.8 -0.4**
NJ2 Nanjing 53.89 151 *e*P **P** **11 19 52.0 -0.6**
NJ2 AP pP 11 19 56.6 -1.1
NJ2 XP sP 11 19 59.0 -0.6
NJ2 PP PP 11 21 54.6 -0.9
NJ2 S **S** **11 27 24.0 -1.5**
NJ2 XS 11 27 32.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1μm,5.4s
NJ2 LR LR
comp=N,940nm,17.0s
NJ2 LR LR
comp=E,810nm,27.8s
NJ2 LR LR
comp=Z,580nm,18.3s,MS4.7
SSE Sheshan 54.95 148 P **P** **11 19 58.6 -1.8**
SSE AMB AMB
comp=Z,28nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,100nm,5.7s
SSE Sheshan 54.95 148 P **P** **11 19 58.6 -1.8**
comp=Z,28nm,0.8s,mb5.3
ASF Jabal al Asfar 55.27 237 P **P** **11 20 03.4 +0.7**
comp=Z,2.1nm,0.4s,mb4.5,baz=9.6,slow=1.9,SNR=3.3
ENH Enshi 55.34 161 *e*P **P** **11 20 02.6 -0.7**
comp=Z,7.4nm,0.7s,mb4.8
NVAR Mina Array Bea 55.99 28 P **P** **11 20 09.8 +2.0**
comp=Z,1.5nm,0.9s,mb4.0,baz=342,slow=2.9,SNR=2.6
MNV Mina 56.00 27 *e*P **P** **11 20 08.3 +0.5**
MNV pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
MNV Mina 56.00 27 *e*P **P** **11 20 08.3 +0.4**
comp=Z,8.7nm,1.1s,mb4.7
MSU Marysvale 56.12 22 *e*P **P** **11 20 08.2 -0.6**
TRCR Troy Canyon 56.17 25 *e*P **P** **11 20 09.3 +0.1**
PV10 Paradox Valley 56.35 19 P **P** **11 20 11.4 +0.9**
PV01 Paradox Valley 56.61 18 *e*P **P** **11 20 12.3 0.0**
OMM Old Mammoth Mi 56.77 28 *e*P **P** **11 20 13.8 +0.3**
CCM Cathedral Cave 56.94 2 *e*P **P** **11 20 12.4 -2.3**
CCM pmax pmax
comp=Z,17nm,1.1s,mb5.0
CCM Cathedral Cave 56.94 2 *e*P **P** **11 20 12.4 -2.3**
comp=Z,17nm,1.1s,mb5.0
GYA Guiyang 59.07 164⇑ *i* P **P** **11 20 29.6 -0.1**
GYA AP pP 11 20 33.8 -1.0
GYA XP sP 11 20 36.8 +0.1
GYA PP PP 11 22 41.8 -0.3
GYA S **S** **11 28 34.0 -0.1**
GYA PS PS 11 28 50.3 -0.2
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,210nm,4.2s
GYA LR LR
comp=N,320nm,17.0s,MS4.7
GYA LR LR
comp=E,380nm,17.2s,MS4.7
GYA LR LR
comp=Z,290nm,17.8s,MS4.5
ANMO Albuquerque 59.84 17⇑ *e*P **P** **11 20 35.0 +0.1**
ANMO Albuquerque 59.84 17 P **P** **11 20 34.3 -0.6**
comp=Z,5.5nm,1.1s,mb4.5,baz=356,slow=7.3,SNR=5.7
MWC Mount Wilson 60.20 28 *e*P **P** **11 20 37.4 0.0**
KMI Kunming 60.31 168 P **P** **11 20 37.9 -0.4**
KMI AP pP 11 20 41.5 -2.0
KMI XP sP 11 20 42.9 -2.4
KMI S **S** **11 28 52.1 +1.9**
KMI AMB AMB
comp=Z,13nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,90nm,3.6s
KMI LR LR
comp=N,353nm,17.9s,MS4.7
KMI LR LR
comp=E,318nm,14.3s,MS4.7
KMI LR LR
comp=Z,249nm,17.9s,MS4.4
KMI Kunming 60.31 168 P **P** **11 20 37.9 -0.4**
comp=Z,13nm,0.9s,mb5.0
KMI pP pP 11 20 41.5 -2.0
KMI sP sP 11 20 42.9 -2.4
KMI S **S** **11 28 52.1 +1.9**
KMI LR LR
comp=Z,250nm,17.9s,MS4.4
LAZ Ladron 60.37 17 P **P** **11 20 38.6 +0.1**
MIAR Mount Ida 60.44 4 *e*P **P** **11 20 36.9 -2.1**
MIAR pmax pmax
comp=Z,39nm,1.4s,mb5.2
MIAR Mount Ida 60.44 4 *e*P **P** **11 20 36.9 -2.1**
comp=Z,39nm,1.4s,mb5.2
LPM Los Pinos Moun 60.47 17 P **P** **11 20 37.0 -2.3**
CLNB Carlsbad 62.57 14 *e*P **P** **11 20 52.9 -0.6**
JCT Junction City 64.42 10 *e*P **P** **11 21 03.9 -1.6**
JCT pmax pmax
comp=Z,18nm,1.2s,mb5.0
JCT Junction City 64.42 10 *e*P **P** **11 21 03.9 -1.6**
comp=Z,18nm,1.2s,mb5.0
TXAR Lajitas Array 65.50 14 P **P** **11 21 11.4 -1.0**
comp=Z,1.5nm,0.6s,mb4.2,baz=9.4,slow=4.4,SNR=9.0
CMAR Chiang Mai Arr 66.89 172 P **P** **11 21 20.7 -0.8**
comp=Z,2.7nm,0.8s,mb4.3,baz=347,slow=7.6,SNR=5.0
SDV Santo Domingo 85.75 342 P **P** **11 23 09.1 +1.6**
comp=Z,2.1nm,0.5s,mb4.6,baz=49,slow=5.6,SNR=3.2

BJI ***16*** *11:59:42.6, 6.59S×152.00E, h66km, mB5.2, mb4.4, Ms4.6, Msz4.4*
NEIC ***16*** *11:59:49.5±1.8, 5.85S×151.53E, h66km±16km, mb4.8/14, Error ellipse: s-maj=14.0km s-min=9.0km az=113.0*
IDC ***16*** *11:59:50.7±5.0, 5.86S×151.51E, h78km±45km, mb4.1/10, mb1 4.3/12, mb1mx4.2/15, mbtmp4.4/12, ML3.5/2, MS3.6/5, Ms1 3.6/5, ms1mx3.2/19, Error ellipse: s-maj=36.3km s-min=21.4km az=98.0*

ISC 16 11:59:48.9±2.7, 5.86S±0.08×151.5E±0.1, h72km±24km, n42, σ0s87/40, mb4.4/23, 1C, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.57**	**230**	P	**P**	**12 01 10.6**	**-0.3**
	9.6nm,0.3s,baz=36,slow=8.6,SNR=30						
PMG				S	**S**	**12 02 15.2**	**+0.9**
	8.6nm,0.3s,baz=53,slow=16,SNR=9.4						
PMG	**Port Moresby**	**5.57**	**230**	*e*P	**P**	**12 01 09.3**	**-1.7**
	84nm,0.8s						
CTA	**Charters Tower**	**15.04**	**199**	P	**P**	**12 03 19.7**	**+1.0**
	0.2nm,0.3s,baz=32,slow=15,SNR=4.6						
CTA				LR	LR	12 08 05.3	
	comp=Z,297nm,19.7s,baz=24,slow=33						
KAKA	**Kakadu**	**20.01**	**249**	*e*P	**P**	**12 04 17.3**	**-1.0**
	29nm,0.9s						
WRAB	**Tennant Creek**	**21.77**	**228**	*e*P	**P**	**12 04 37.6**	**+1.4**
	29nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**21.78**	**228**	*e*P	**P**	**12 04 36.1**	**-0.1**
WRA	**Warramunga Arr**	**21.79**	**228**	P	**P**	**12 04 35.4**	**-0.9**
	13nm,1.0s,mb4.2,baz=54,slow=9.8,SNR=20						
ASAR	**Alice Springs**	**24.51**	**222**	P	**P**	**12 05 03.0**	**+0.1**
	11nm,0.8s,mb4.4,baz=57,slow=9.0,SNR=51						
ASPA	**Alice Springs**	**24.51**	**222**	*e*P	**P**	**12 05 03.3**	**+0.4**
STKA	**Stephens Creek**	**27.50**	**199**	P	**P**	**12 05 29.7**	**-1.0**
	4.6nm,0.8s,mb4.0,baz=27,slow=12,SNR=4.3						
STKA				LR	LR	12 17 22.6	
	comp=Z,235nm,18.3s,baz=208,slow=38						
STKA	**Stephens Creek**	**27.50**	**199**	*e*P	**P**	**12 05 29.1**	**-1.5**
FITZ	**Fitzroy Crossi**	**28.03**	**242**	*e*P	**P**	**12 05 35.1**	**-0.5**
	22nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**34.34**	**241**	*e*P	**P**	**12 06 30.8**	**0.0**
	54nm,1.5s,mb5.2						
JHJ	**Hachijo jima 2**	**40.33**	**345**	LR	LR	12 22 28.1	
	comp=Z,113nm,19.1s,baz=320,slow=34						
RPZ	**Rata Peaks**	**41.44**	**159**	LR	LR	12 20 50.9	
	comp=Z,345nm,20.1s,baz=140,slow=30						
JNU	**Nakatsue**	**43.43**	**335**	LR	LR	12 23 50.3	

	comp=Z,3.5nm,20.9s,baz=174,slow=33						
MDJ	Mudanjiang	53.97	341	P	P	12 09 07.5	-0.2
MDJ				S	S	12 16 42.1	+6.0
MDJ				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,88nm,3.9s						
MDJ				LR	LR		
	comp=E,41nm,16.4s						
MDJ				LR	LR		
	comp=Z,51nm,16.4s						
CN2	Changchun	54.75	337	eP	P	12 09 14.5	+1.1
KMI	Kunming	56.53	305	P	P	12 09 25.9	-0.5
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
KMI	Kunming	56.53	305	P	P	12 09 25.9	-0.5
	comp=Z,10.0nm,0.7s,mb5.0						
HHC	Hu-ho-hao-te	59.17	325	eP	P	12 09 46.1	+1.4
HHC				AMB	AMB		
	comp=Z,197nm,5.5s						
HIA	Hailar	61.48	337	P	P	12 09 58.8	-1.6
	comp=Z,2.6nm,0.6s,mb4.4						
SONM	Songino Array	66.54	329	P	P	12 10 33.0	-0.4
	comp=Z,1.9nm,1.0s,mb3.9,baz=135,slow=5.2,SNR=9.2						
VNDA	Vanda	71.83	178	P	P	12 11 04.9	-0.4
	comp=Z,2.6nm,0.9s,mb4.1,baz=308,slow=7.2,SNR=5.9						
VNDA	Vanda	71.83	178	eP	P	12 11 03.3	-2.0
	comp=Z,5.3nm,1.1s,mb4.3						
BILL	Bilibino	74.46	6	eP	P	12 11 20.9	+0.1
	comp=Z,3.6nm,0.9s,mb4.1						
WMQ	Urumqi	75.65	318	eP	P	12 11 29.5	+1.4
WMQ				AP	pP	12 11 44.0	-3.7
WMQ				XP	sP	12 11 50.0	-5.6
WMQ				eS	S	12 21 07.0	+4.9
WMQ				PS	PS	12 21 51.0	+1.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,68nm,5.4s						
WMQ				LR	LR		
	comp=N,125nm,25.6s						
WMQ				LR	LR		
	comp=E,149nm,20.8s						
WMQ				LR	LR		
	comp=Z,84nm,18.6s						
SLKM	Skilak Lake	80.17	25	eP	P	12 11 53.1	+0.4
ZAL	Zalesovo	81.33	327	P	P	12 11 58.4	-0.5
	comp=Z,1.0nm,0.3s,mb4.2,baz=17,slow=3.2,SNR=4.7						
ZAL	Zalesovo	81.33	327	P	P	12 11 58.4	-0.5
SML	Sawmill	81.61	25	eP	P	12 12 00.2	0.0
IMA	Indian Mountai	81.88	20	eP	P	12 12 02.3	+0.8
	comp=Z,21nm,0.9s,mb5.0						
MCK	McKinley	82.33	23	eP	P	12 12 03.4	-0.5
	comp=Z,12nm,1.0s,mb4.7						
COLA	College	83.31	22	eP	P	12 12 07.7	-1.1
	comp=Z,14nm,1.0s,mb4.7						
ILAR	Eielson Array	83.62	22	P	P	12 12 09.4	-1.0
	comp=Z,6.6nm,0.8s,mb4.5,baz=256,slow=5.2,SNR=67						
KURK	Kurchatov	83.81	322	eP	P	12 12 11.6	0.0
	comp=Z,0.9nm,0.6s,mb3.8						
QSPA	South Pole Qui	84.11	180	⇑iP	P	12 12 13.3	+0.8
	comp=Z,8.4nm,0.9s,mb4.6						
INK	Inuvik	89.90	21	P	P	12 12 41.1	+0.3
	comp=Z,5.4nm,1.1s,mb4.6,baz=236,slow=5.6,SNR=11						
INK	Inuvik	89.90	21	eP	P	12 12 40.2	-0.5
	comp=Z,10nm,1.2s,mb4.8						
NVAR	Mina Array Bea	93.74	52	P	P	12 13 00.5	+1.3
	comp=Z,1.2nm,0.9s,mb4.2,baz=263,slow=3.0,SNR=7.5						
YKA	Yellowknife Ar	96.95	28	P	P	12 13 13.8	+0.6
	comp=Z,0.9nm,0.9s,mb4.2,baz=274,slow=4.8,SNR=15						
PDAR	Pinedale Array	100.50	48	P	P	12 13 28.0	-1.8
	comp=Z,0.6nm,1.0s,baz=270,slow=1.8,SNR=3.3						

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*NEIC **16** 12:06:48.0±1.1, 2.51S×136.47E, h45km, mb4.2/2, Error ellipse: s-maj=42.2km s-min=14.3km az=88.0*
*IDC **16** 12:06:50.2±5.1, 2.72S×135.42E, h53km±50km, mb3.8/6, mb1 4.1/7, mb1mx3.9/13, mbtmp4.1/7, ML4.2/1, MS3.4/1, Ms1 3.6/1, ms1mx2.7/18, Error ellipse: s-maj=70.1km s-min=14.0km az=83.0*
ISC 16 12:06:40.8±3.0**, 2.61S**±0.08×**135.7E**±0.2**, h0**km±19km**, n15, σ1^{s}06**/18**, mb4.1**/5**, MS3.4**/1**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	10.54	198	eP	P	12 09 20.2	+3.9
	24nm,0.6s						
KAKA				eS	S	12 11 16.7	+0.4
WRAB	Tennant Creek	17.27	184	eP	P	12 10 44.0	-1.1
	16nm,0.7s						
WB2	Warramunga Arr	17.28	184	eP	P	12 10 43.5	-1.7
WRA	Warramunga Arr	17.28	184	P	P	12 10 44.9	-0.3
	0.9nm,0.3s,baz=13,slow=13,SNR=24						
WRA				S	S	12 13 46.7	-10
	0.5nm,0.3s,baz=360,slow=23,SNR=7.4						
FITZ	Fitzroy Crossi	18.28	212	eP	P	12 11 07.3	+10
	14nm,1.2s						
CTA	Charters Tower	20.21	150	P	P	12 11 22.1	+1.9
	2.4nm,0.6s,baz=326,slow=11,SNR=5.3						
CTAO	Charters Tower	20.21	150	eP	P	12 11 21.2	+1.0
ASAR	Alice Springs	21.01	185	P	P	12 11 28.8	+0.4
	5.4nm,0.7s,mb4.0,baz=11,slow=12,SNR=45						
ASAR				S	S	12 15 19.2	+0.7
	2.5nm,0.8s,baz=7.9,slow=26,SNR=6.2						
ASPA	Alice Springs	21.01	185	eP	P	12 11 29.5	+1.1
ASPA				eS	S	12 15 17.3	-1.2
MBWA	Marble Bar	24.11	219	eP	P	12 12 06.7	+7.4
STKA	Stephens Creek	29.64	170	P	P	12 12 50.0	-0.3
	1.6nm,0.5s,mb4.1,baz=326,slow=7.2,SNR=4.3						
CMAR	Chiang Mai Arr	41.78	302	LR	LR	12 31 59.8	
	comp=Z,44nm,18.3s,MS3.4,baz=105,slow=36						
SONM	Songino Array	56.38	337	P	P	12 16 26.2	0.0
	0.3nm,0.6s,mb3.5,baz=146,slow=5.2,SNR=2.4						
ZAL	Zalesovo	70.35	331	P	P	12 17 58.5	+0.2
	1.6nm,0.2s,mb4.7,baz=40,slow=3.5,SNR=3.1						
VNDA	Vanda	76.17	174	P	P	12 18 31.1	-0.9
	1.0nm,0.5s,mb4.2,baz=273,slow=7.2,SNR=7.2						

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*IDC **16** 12:06:51.5±6.1, 5.86S×151.56E, h77km±55km, mb3.6/6, mb1 3.9/7, mb1mx3.8/14, mbtmp4.0/7, ML3.4/1, Error ellipse: s-maj=60.7km s-min=32.7km az=121.0*
ISC 16 12:06:50.0±4.7**, 5.8S**±0.3×**151.5E**±0.4**, h73**km±41km**, n7, σ1^{s}14**/8**, mb3.8**/6**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.59	230	P	P	12 08 12.1	-0.3
	7.2nm,0.3s,baz=38,slow=8.1,SNR=22						
PMG				S	S	12 09 16.6	+0.6
	4.3nm,0.3s,baz=112,slow=17,SNR=7.8						
WRA	Warramunga Arr	21.81	228	P	P	12 11 37.3	-0.4
	1.5nm,0.3s,mb3.8,baz=53,slow=10.0,SNR=4.9						
ASAR	Alice Springs	24.55	222	P	P	12 12 03.9	-0.4
	5.3nm,0.7s,mb4.1,baz=14,slow=11,SNR=4.7						
SONM	Songino Array	66.45	329	P	P	12 17 33.6	-0.2
	0.6nm,0.7s,mb3.6,baz=153,slow=3.2,SNR=3.6						
ILAR	Eielson Array	83.55	22	P	P	12 19 09.7	-1.3
	1.7nm,0.8s,mb3.9,baz=249,slow=5.3,SNR=20						
INK	Inuvik	89.83	21	P	P	12 19 42.1	+0.6
	0.8nm,0.9s,mb3.8,baz=179,slow=12,SNR=4.2						
YKA	Yellowknife Ar	96.90	28	P	P	12 20 15.6	+1.6
	0.3nm,0.9s,mb3.7,baz=267,slow=4.7,SNR=5.2						

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*CSEM **16** 12:27:00.6, 56.21S×26.43W, h33km, mb5.6*
*NEIC **16** 12:27:06.9±1.6, 56.25S×26.78W, h70km±13km, mb5.1/16, Error ellipse: s-maj=10.1km s-min=6.8km az=222.0*
*IDC **16** 12:27:06.2±2.2, 56.28S×26.86W, h62km±18km, mb4.6/18, mb1 4.6/19, mb1mx4.5/22, mbtmp4.8/19, MS4.1/10, Ms1 4.1/10, ms1mx3.7/20, Error ellipse: s-maj=15.6km s-min=12.2km az=41.0*
*HRVD **16** 12:27:06.9±0.5, 56.26S×26.30W, h44km±1km, MW5.0/32, Centroid moment Tensor Solution. LP body waves: s29,c38;Mantle waves: s32,c46; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.07±.20; $M_{\theta\theta}$-1.03±.18; $M_{\phi\phi}$-2.03±.15; $M_{r\theta}$-0.13±.22; $M_{\theta\phi}$1.67±.11; $M_{\phi r}$0.76±.14; Best double couple: $M_0$3.266×10^{16} NP1:ϕ_s136°, δ39°, λ79°. NP2:ϕ_s330°, δ51°, λ99°. Principal axes: T 3.185, Plg81°, Azm282°; N .172, Plg7°, Azm145°; P -3.347, Plg6°, Azm54°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **16** 12:27:07.0, 56.20S×26.80W, h70km, mB5.3, Ms5.5, Msz5.2*
ISC 16 12:27:04.7±2.5**, 56.22S**±0.07×**26.7W**±0.1**, h62**km±22km**, n148, σ1^{s}02**/59**, mb5.0**/28**, 5C-1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	16.54	158	e	P	12 30 57.5	+4.0
VNA1	Neumayer--Stat	16.54	158	e	Px	12 31 05.2	
VNA1	Neumayer--Stat	16.54	158	e	Px	12 31 08.9	
VNA1	Neumayer--Stat	16.54	158	e	Px	12 31 12.9	
VNA1	Neumayer--Stat	16.54	158	e		12 47 00.3	
VNA1	Neumayer--Stat	16.54	158	⇑iPn	P	12 30 55.6	+2.1
VNA1				e		12 30 57.5	
VNA1				e		12 31 05.2	
VNA1				e		12 31 08.9	
VNA1				e		12 31 12.9	
VNA1				e		12 35 38.1	
VNA1				e		12 47 00.3	
VNA3	Neumayer Olymp	16.75	161	e	P	12 30 58.0	+2.0
VNA3	Neumayer Olymp	16.75	161	e	Px	12 31 05.9	
VNA3	Neumayer Olymp	16.75	161	e	Px	12 31 08.7	
VNA3	Neumayer Olymp	16.75	161	e	Px	12 31 13.5	
VNA3	Neumayer Olymp	16.75	161	eS	S	12 34 09.9	+11
VNA3	Neumayer Olymp	16.75	161	eS	Sx	12 34 28.3	
VNA3	Neumayer Olymp	16.75	161	e		12 47 01.4	
VNA3	Neumayer Olymp	16.75	161	⇑iPn	P	12 30 56.4	+0.4
VNA3				e		12 30 58.0	
VNA3				e		12 31 05.9	
VNA3				e		12 31 08.7	
VNA3				e		12 31 13.5	
VNA3				eS	S	12 34 09.9	+11
VNA3				eS	S	12 34 28.3	+29
VNA3				e		12 35 40.5	
VNA3				e		12 39 11.9	
VNA3				e		12 39 15.7	
VNA3				e		12 47 01.4	
VNA2	Neumayer--Watz	16.94	158	e	P	12 30 59.9	+1.5
VNA2	Neumayer--Watz	16.94	158	e	Px	12 31 07.7	
VNA2	Neumayer--Watz	16.94	158	e	Px	12 31 10.6	
VNA2	Neumayer--Watz	16.94	158	e	Px	12 31 14.3	
VNA2	Neumayer--Watz	16.94	158	eS	Px	12 34 12.4	
VNA2	Neumayer--Watz	16.94	158	eS	Sx	12 34 31.1	
VNA2	Neumayer--Watz	16.94	158	e		12 47 02.2	
VNA2	Neumayer--Watz	16.94	158	⇑iPn	P	12 30 58.8	+0.4
VNA2				e		12 30 59.9	
VNA2				e		12 31 07.7	
VNA2				e		12 31 10.6	
VNA2				e		12 31 14.3	
VNA2				eS	S	12 34 12.4	+9.0
VNA2				eS	S	12 34 31.1	+28
VNA2				e		12 35 42.2	
VNA2				e		12 39 12.7	
VNA2				e		12 39 16.3	
VNA2				e		12 47 02.2	
SNAA	Sanae	18.48	156	e	P	12 31 17.3	-0.2
SNAA	Sanae	18.48	156	e	Px	12 31 24.0	
SNAA	Sanae	18.48	156	e	Px	12 31 26.6	
SNAA	Sanae	18.48	156	e	Px	12 31 30.9	
SNAA	Sanae	18.48	156	P	P	12 31 16.1	-1.4
	1.1nm,0.3s,baz=308,slow=9.4,SNR=51						
SNAA				LR	LR	12 36 31.7	
	comp=Z,188nm,21.4s,baz=18,slow=31						
SNAA	Sanae	18.48	156	⇑iPn	P	12 31 15.6	-1.9
SNAA				e		12 31 17.3	
SNAA				e		12 31 24.0	
SNAA				e		12 31 26.6	
SNAA				e		12 31 30.9	
SNAA				e		12 35 44.4	
SNAA				e		12 39 16.9	
SNAA				e		12 39 21.5	
PMSA	Palmer Station	19.98	229	eP	P	12 31 34.4	+0.3
	107nm,0.8s						
MAIT	Maitri	21.95	147	eP	P	12 31 51.5	-2.6
USHA	Ushuaia	23.39	256	P	P	12 32 07.9	-0.2
	11nm,0.6s,mb4.5,baz=85,slow=9.2,SNR=9.7						
TRQA	Tornquist	29.63	293	eP	P	12 33 03.6	-2.4
	5.2nm,0.5s,mb4.5						
SYO	Syowa Base	31.29	141	⇓P	P	12 33 19.5	-0.9
SYO	Syowa Base	31.29	141	⇑sP	sP	12 33 34.0	-9.3
PLCA	Paso Flores	32.28	280	P	P	12 33 28.2	-1.2
	2.0nm,0.8s,mb4.0,baz=152,slow=14,SNR=4.6						
PLCA				PcP	PcP	12 36 14.9	-1.5
	5.9nm,0.7s,baz=132,slow=2.8,SNR=11						
PLCA				ScP		12 39 53.0	
	1.2nm,0.5s,baz=79,slow=0.5,SNR=3.7						
PLCA				LR	LR	12 45 22.5	
	comp=Z,298nm,19.3s,baz=169,slow=34						
PLCA	Paso Flores	32.28	280	eP	P	12 33 26.4	-3.0
QSPA	South Pole Qui	34.03	180	eP	P	12 33 44.0	-0.1
	71nm,0.6s,mb5.8						
CFAA	Coronel Fontan	37.87	293	P	P	12 34 14.9	-2.1
	1.9nm,0.6s,mb4.0,baz=144,slow=8.0,SNR=23						
CFAA				PcP	PcP	12 36 32.0	-0.8
	3.4nm,0.6s,baz=148,slow=3.2,SNR=16						
MAW	Mawson	39.86	143	P	P	12 34 33.2	0.0
	11nm,0.6s,mb4.8,baz=214,slow=6.1,SNR=14						
MAW				LR	LR	12 47 56.8	
	comp=Z,342nm,20.1s,baz=238,slow=31						
MAW	Mawson	39.86	143	eP	P	12 34 31.3	-1.8
	12nm,0.7s,mb4.8						
BAO	Brasilia Array	43.64	330	P	P	12 35 05.4	+0.7
BDFB	Brasilia	43.64	330	P	P	12 35 05.8	+1.2
	13nm,0.6s,mb4.8,baz=170,slow=4.8,SNR=17						
BDFB				LR	LR	12 49 49.7	
	comp=Z,250nm,20.6s,baz=342,slow=31						
LVC	Limon Verde	45.61	300	P	P	12 35 20.8	+0.5
	46nm,0.6s,mb5.6,baz=152,slow=3.6,SNR=133						
LVC				PcP	PcP	12 36 59.1	+0.8
	26nm,0.7s,baz=264,slow=1.9,SNR=6.9						
LVC	Limon Verde	45.61	300	eP	P	12 35 20.5	+0.2
	50nm,0.6s,mb5.6						
LVC				e		12 36 58.7	
SBA	Scott Base	45.93	184	eP	P	12 35 22.4	+0.2
	14nm,0.8s,mb4.9						
VNDA	Vanda	46.42	183	P	P	12 35 26.2	+0.1
	17nm,0.6s,mb5.2,baz=187,slow=6.5,SNR=52						
VNDA				LR	LR	12 53 56.8	
	comp=Z,116nm,21.1s,baz=182,slow=35						
VNDA	Vanda	46.42	183	eP	P	12 35 26.0	0.0
	20nm,0.7s,mb5.2						
LBTB	Lobatse	48.81	73	P	P	12 35 45.4	0.0
	3.0nm,0.4s,mb4.7,baz=304,slow=22,SNR=6.6						
LBTB	Lobatse	48.81	73	eP	P	12 35 45.2	-0.2
	8.5nm,0.9s,mb4.8						
TSUM	Tsumeb	49.54	60	P	P	12 35 51.3	+0.2
	1.8nm,0.5s,mb4.3,baz=201,slow=8.2,SNR=6.9						
TSUM	Tsumeb	49.54	60	eP	P	12 35 51.2	+0.2
	6.5nm,1.0s,mb4.6						
LPAZ	La Paz	50.69	305	PcP	PcP	12 37 17.5	+0.9
	baz=183,slow=4.0						
LPAZ				LR	LR	12 56 12.4	
	comp=Z,80nm,19.8s,baz=250,slow=34						
LPAZ	La Paz	50.69	305	eP	P	12 36 00.2	+0.3
	38nm,0.7s,mb5.4						
LPAZ				e		12 37 17.0	
ARE	Arequipa	52.11	301	eP	P	12 36 11.0	+0.4
LSZ	Lusaka	58.19	68	P	P	12 36 52.7	-1.9
	6.4nm,0.8s,mb4.7						
DBIC	Dimbokro	65.22	24	P	P	12 37 41.2	-0.5
	7.3nm,0.5s,mb5.0,baz=177,slow=7.8,SNR=19						
DBIC				LR	LR	12 58 46.4	
	comp=Z,236nm,21.4s,baz=236,slow=29						
DBIC	Dimbokro	65.22	24	eP	P	12 37 40.7	-1.1
	8.3nm,0.8s,mb4.8						
OTAV	Otavalo	69.96	303	eP	P	12 38 11.6	+0.2
	25nm,0.7s,mb5.2						
ROSC	El Rosal	72.21	309	P	P	12 38 24.8	0.0
	19nm,0.8s,mb5.1,baz=128,slow=3.2,SNR=8.5						
SDV	Santo Domingo	74.31	315	eP	P	12 38 37.1	0.0
	48nm,0.8s,mb5.5						
KMBO	Kilima Mbogo	74.86	69	P	P	12 38 42.3	+2.0
	0.5nm,0.3s,mb4.0,baz=13,slow=24,SNR=3.1						
KMBO				LR	LR	13 08 34.6	
	comp=Z,162nm,20.1s,baz=25,slow=33						
MSZ	Milford Sound	78.72	191	ePN	P	12 39 01.6	+0.3
MSZ	Milford Sound	78.72	191	ePN	P	12 39 01.6	+0.3
RPZ	Rata Peaks	79.31	193	P	P	12 39 04.7	+0.1
	18nm,0.8s,mb5.0,baz=187,slow=5.2,SNR=8.6						
RPZ				LR	LR	13 07 55.8	
	comp=Z,164nm,21.0s,baz=337,slow=31						
THZ	Tophouse	80.98	195	PN	P	12 39 12.7	-0.8
THZ	Tophouse	80.98	195	PN	P	12 39 12.7	-0.8
TAU	Tasmania Unive	81.11	176	P	P	12 39 14.6	+0.4
	403nm,0.7s,mb6.5,SNR=15						
TAU	Tasmania Unive	81.11	176	eP	P	12 39 13.5	-0.7
	54nm,0.8s,mb5.5						
SJG	San Juan	81.14	322	P	P	12 39 16.1	+1.4
	11nm,0.3s,mb5.3,baz=349,slow=22,SNR=3.7						
JTS	JuntasAbangare	81.82	302	P	P	12 39 19.1	+0.7
	12nm,0.4s,mb5.1,baz=236,slow=7.4,SNR=12						
JTS				LR	LR	13 17 29.6	
	comp=Z,153nm,18.4s,baz=201,slow=37						
JTS	JuntasAbangare	81.82	302	eP	P	12 39 18.9	+0.5
	18nm,0.7s,mb5.1						
URZ	Urewera	83.73	199	P	P	12 39 28.0	+0.5
	15nm,0.8s,mb5.2,baz=143,slow=6.3,SNR=5.3						
STKA	Stephens Creek	91.69	170	P	P	12 40 06.8	+0.8
	8.2nm,0.7s,mb5.2,baz=158,slow=4.1,SNR=12						
STKA				PP	PP	12 43 42.9	-4.7
	2.7nm,0.8s,baz=151,slow=9.9,SNR=4.2						
STKA	Stephens Creek	91.69	170	eP	P	12 40 06.3	+0.2
TVO	Taravao	91.97	234	eP	P	12 40 08.1	+0.5
	39nm,0.9s,mb5.8						
TIAR	Tiarei	92.21	234	eP	P	12 40 09.2	+0.5
	34nm,0.8s,mb5.7						
ASAR	Alice Springs	98.75	162	P	P	12 40 38.0	-0.3
	3.1nm,0.6s,mb5.0,baz=181,slow=4.1,SNR=34						
ASAR				PP	PP	12 44 37.6	-4.9
	1.1nm,0.7s,baz=190,slow=6.9,SNR=4.6						
ASAR				PKiKP		12 45 08.8	
	0.4nm,0.7s,baz=178,slow=1.8,SNR=5.1						
WRA	Warramunga Arr	102.47	162	P	Pdif	12 40 54.5	-0.6
	1.0nm,0.5s,baz=195,slow=4.4,SNR=19						
WRA				PP	PP	12 45 04.4	-6.6
	0.7nm,0.7s,baz=187,slow=5.9,SNR=4.7						
WRA				PKiKP		12 45 14.9	
	0.7nm,0.8s,baz=224,slow=1.5,SNR=6.5						
TXAR	Lajitas Array	107.10	297	PKKPab		12 56 57.5	
	0.3nm,0.6s,baz=315,slow=3.5,SNR=3.8						
SCHQ	Schefferville	115.42	336	PKP	PKPdf	12 45 38.8	+0.3
	1.7nm,0.8s,baz=292,slow=14,SNR=4.7						
SRU	San Rafael	118.30	299	ePKPdf	PKPdf	12 45 44.8	+0.4
MSU	Marysvale	118.66	297	ePKPdf	PKPdf	12 45 46.8	+1.7
MVU	Marysvale	118.67	297	ePKPdf	PKPdf	12 45 46.9	+1.7
NLU	North Lily Min	119.72	298	ePKPdf	PKPdf	12 45 48.7	+1.5
TCUT	Toone Canyon	120.28	299	ePKPdf	PKPdf	12 45 49.8	+1.6
ULM	Lac du Bonnet	120.55	316	PKP	PKPdf	12 45 48.4	-0.1
	4.6nm,0.6s,baz=157,slow=0.8,SNR=13						
ULM				PP	PP	12 47 15.1	-5.3
	0.8nm,0.3s,baz=144,slow=8.3,SNR=4.0						
PDAR	Pinedale Array	120.65	302	PKP	PKPdf	12 45 49.2	+0.3
	1.8nm,0.5s,baz=135,slow=4.9,SNR=34						
PDAR				PKKPbc		12 55 54.2	
	0.4nm,0.6s,baz=355,slow=1.3,SNR=5.1						
NB2	NORSAR Subarra	120.67	20	PKPdf	PKPdf	12 45 49.1	+0.6
	0.6nm,0.5s,baz=202,slow=1.9						
NOA	NORSAR Array B	120.67	20	PKP	PKPdf	12 45 49.6	+1.1
	1.5nm,0.6s,baz=204,slow=2.0,SNR=6.2						
NOA				PKKPbc		12 55 53.0	
	1.2nm,0.8s,baz=22,slow=2.7,SNR=3.9						
HWUT	Hardware Ranch	120.73	300	ePKPdf	PKPdf	12 45 49.9	+0.8
NVAR	Mina Array Bea	121.70	293	PKP	PKPdf	12 45 53.2	+2.2
	1.4nm,0.6s,baz=124,slow=3.3,SNR=17						
LOHW	Long Hollow	121.79	302	ePKPdf	PKPdf	12 45 52.1	+1.1
TPAW	Teton Pass	121.86	302	ePKPdf	PKPdf	12 45 52.5	+1.3
IMW	Indian Meadow	122.17	302	ePKPdf	PKPdf	12 45 52.2	+0.4
FINES	FINESS Array B	124.41	28	PKP	PKPdf	12 45 56.4	+0.7
	5.9nm,0.5s,baz=143,slow=1.6,SNR=52						
FINES	FINESS Array B	124.41	28	PKP	PKPdf	12 45 56.4	+0.7
HRY	Holter Researc	124.68	304	ePKPdf	PKPdf	12 45 57.9	+1.4
CMAR	Chiang Mai Arr	124.76	110	PKP	PKPdf	12 45 58.5	+1.2
	3.2nm,0.8s,baz=230,slow=3.5,SNR=18						
WVOR	Wild Horse Val	124.85	296	ePKPdf	PKPdf	12 45 58.8	+1.9
KAF	Kangasniemi	125.04	27	ep	PKPdf	12 45 56.1	-0.6
	7.4nm,0.6s						
CHMT	Chamberlain Mo	125.50	303	ePKPdf	PKPdf	12 45 60.0	+2.0
MSO	Missoula	125.76	302	ePKPdf	PKPdf	12 45 59.5	+1.0
BMO	Blue Mountains	125.95	299	ePKPdf	PKPdf	12 45 59.8	+0.9
JOF	Joensuu	127.02	29	ep	PKPdf	12 46 00.9	+0.4
	5.7nm,0.5s						
HUMO	Hull Mountain	127.17	293	ePKPdf	PKPdf	12 46 03.0	+1.7
AAK	Ala-Archa	129.79	70	ePKPdf	PKPdf	12 46 07.0	+0.6
AAK				LR	LR		
	comp=Z,365nm,19.0s						
EDM	Edmonton	130.01	308	ePKPdf	PKPdf	12 46 06.9	+0.4
ARCES	ARCESS Array B	131.00	22	PKP	PKPdf	12 46 09.1	+1.1
	comp=Z,4.3nm,0.5s,baz=187,slow=1.6,SNR=51						
ARE0	ARCESS Array S	131.00	22	ePKPdf	PKPdf	12 46 09.0	+1.0
KMI	Kunming	132.23	109	PKP	PKPdf	12 46 12.8	+1.3
KMI				PP	PP	12 48 43.1	+4.7
KMI				PP	PP		
	comp=Z,154nm,5.0s						
KMI				LR	LR		
	comp=Z,196nm,30.7s						
KMI	Kunming	132.23	109	PKP	PKPdf	12 46 12.7	+1.2
KMI				PP	PP	12 48 43.1	+4.7
KMI				LR	LR		
	comp=Z,200nm,30.7s						
CHKZ	Chkalovo	135.17	57	ePKPpre		12 46 10.4	
YKA	Yellowknife Ar	136.47	318	PKP	PKPdf	12 46 19.2	+1.0
	comp=Z,6.3nm,0.6s,baz=127,slow=2.4,SNR=62						
YKA				PP	PP	12 48 60.0	-3.6
	comp=Z,1.6nm,0.7s,baz=120,slow=6.5,SNR=9.6						
YKA				SKPbc		12 49 45.3	
	comp=Z,1.9nm,0.9s,baz=130,slow=3.5,SNR=4.0						
YKA	Yellowknife Ar	136.47	318	PKP	PKPdf	12 46 19.2	+1.0
YKA				PP	PP	12 48 60.0	-3.6
YKA				SKPbc		12 49 45.4	
YKW3	Yellowknife Ar	136.51	318	ePKPdf	PKPdf	12 46 18.7	+0.3
WMQ	Urumqi	137.69	78	ePKP	PKPdf	12 46 23.0	+1.9
WMQ				ePP	PP	12 49 14.0	+1.9
WMQ				PPP		12 49 52.1	
WMQ				PKS	PKS	12 49 58.0	+1.8
WMQ				PPP	PPP	12 52 15.0	+1.5
WMQ				PP	PP		
	comp=Z,203nm,6.6s						
WMQ				LR	LR		
	comp=N,123nm,18.5s						
WMQ				LR	LR		
	comp=E,106nm,19.1s						
WMQ				LR	LR		
	comp=Z,139nm,20.3s						
RES	Resolute Bay	138.11	338	ePKPpre		12 46 13.2	
LZH	Lanzhou	141.32	100	ePKP	PKPdf	12 46 28.9	+1.2
LZH				ePP	PP	12 49 36.1	+1.8
LZH				PKS	PKS	12 50 03.5	+1.0
LZH				SKKS		12 56 19.8	
LZH				SS	SS	13 07 59.8	+3.4
LZH				PP	PP		
	comp=Z,118nm,8.2s						
LZH				LR	LR		
	comp=N,203nm,18.1s						
LZH				LR	LR		
	comp=Z,398nm,20.0s						
LZH	Lanzhou	141.32	100	ePKP	PKPdf	12 46 28.9	+1.2
LZH				pPKP		12 46 43.0	
LZH				sPKP		12 46 48.5	
LZH				ePP	PP	12 49 36.1	+1.8
LZH				PKS	PKS	12 50 03.5	+1.0
LZH				SKKS		12 56 19.8	
LZH				SS	SS	13 07 59.7	+3.3
LZH				LR	LR		
	comp=Z,400nm,20.0s						
GTA	Gaotai	141.46	93	PKP	PKPdf	12 46 30.5	+2.6
GTA				XPKP		12 46 54.1	
GTA				PP	PP	12 49 37.3	+2.3
GTA				SKKS		12 56 23.0	
GTA				SS	SS	13 08 02.3	+4.4
GTA				PP	PP		
	comp=Z,170nm,9.9s						
GTA				LR	LR		
	comp=N,354nm,27.5s						
GTA				LR	LR		
	comp=E,479nm,24.8s						
GTA				LR	LR		
	comp=Z,453nm,24.8s						
ZAL	Zalesovo	142.20	64	PKhKP		12 46 26.2	
	comp=Z,1.2nm,0.4s,baz=257,slow=3.2,SNR=5.2						
ZAL				PKiKP		12 46 33.1	
	comp=Z,2.3nm,0.3s,baz=303,slow=2.6,SNR=7.2						
ZAL	Zalesovo	142.20	64	PKP	PKPdf	12 46 26.2	-2.5
ZAL				PKPdf	PKPdf	12 46 33.1	+4.5
XAN	Xi'an	142.54	107	PKP	PKPdf	12 46 27.3	-2.6
NJ2	Nanjing	146.03	121	ePKP	PKPdf	12 46 38.6	+2.6
NJ2				PKP2	PKPab	12 46 41.8	+2.1
NJ2				PP	PP	12 50 06.0	+3.4
NJ2				PKS	PKS	12 50 14.0	+3.6
NJ2				SKS	SKS	12 53 42.0	+5.3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NJ2				SKKS		12 56 50.0	
NJ2				PP	PP		
	comp=Z,70nm,12.0s						
NJ2				LR	LR		
	comp=N,240nm,20.8s						
NJ2				LR	LR		
	comp=E,250nm,24.4s						
NJ2				LR	LR		
	comp=Z,130nm,27.6s						
INK	Inuvik	146.10	320	ePKPdf	PKPdf	12 46 34.3	-0.6
SSE	Sheshan	146.33	125	PKP	PKPdf	12 46 40.1	+3.6
DAWY	Dawson	147.10	312	ePKPbc	PKPdf	12 46 40.3	+3.6
TIA	Tai'an	148.50	114	PKP	PKPdf	12 46 44.6	+4.7
MENT	Mentasta	148.60	309	eP	PKPdf	12 46 44.4	+5.2
EYAK	Cordova Ski Ar	148.76	304	ePKPbc	PKPdf	12 46 45.4	+5.8
DIV	Divide	148.96	305	ePKPbc	PKPdf	12 46 45.9	+6.1
THY	Trims Highway	149.62	309	ePKPbc	PKPdf	12 46 47.9	+7.0
SML	Sawmill	150.34	305	ePKPbc	PKPdf	12 46 49.1	+7.1
ILAR	Eielson Array	150.42	311	PKP	PKPdf	12 46 41.6	-0.4
	comp=Z,1.1nm,0.6s,baz=280,slow=0.8,SNR=27						
ILAR				PKPbc	PKPdf	12 46 48.1	+6.1
	comp=Z,21nm,0.7s,baz=323,slow=0.3,SNR=302						
SONM	Songino Array	150.48	86	PKP	PKPdf	12 46 43.1	+0.4
	comp=Z,13nm,0.8s,baz=90,slow=1.2,SNR=45						
SONM				PKPbc	PKPdf	12 46 49.9	+7.3
	comp=Z,13nm,0.7s,baz=223,slow=2.9,SNR=90						
PMR	Palmer	150.65	305	eP	PKPdf	12 46 49.8	+7.3
PMR				LR	LR		
	comp=Z,1µm,21.0s						
COLA	College	150.85	311	eP	PKPdf	12 46 49.5	+6.8
COLA				LR	LR		
	comp=Z,900nm,21.0s						
SLKM	Skilak Lake	150.85	302	ePKPbc	PKPdf	12 46 50.3	+7.5
BJT	Baijiatuau	150.85	108	ePKPbc	PKPdf	12 46 50.7	+7.3
ULN	Ulaanbaatar	150.86	87	ePKPbc	PKPdf	12 46 49.1	+5.9
BJI	Beijing	150.87	108	PKP	PKPdf	12 46 50.8	+7.3
TLY	Talaya	150.97	78	ePKPbc	PKPdf	12 46 50.8	+7.5
FIB	Fire Island	151.01	303	ePKPbc	PKPdf	12 46 51.8	+8.8
MCK	McKinley	151.08	309	ePKPbc	PKPdf	12 46 50.6	+7.6
KDAK	Kodiak Island	151.12	296	ePKPbc	PKPdf	12 46 51.0	+7.7
IMA	Indian Mountai	153.41	313	eP	PKPdf	12 46 56.2	+10
CN2	Changchun	158.40	113	ePKP	PKPdf	12 46 57.6	+4.0
MDJ	Mudanjiang	161.07	118	PKP	PKPdf	12 46 59.3	+2.9

OTT 16 12:27:14.5±0.7**,76.93N×115.66W,h18**^{km}**,ML3.1**/9**, 123km northeast from Mould Bay, Nt Sverdrup Seismic Zone.,Queen Elizabeth Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	5.56	103	PN	Pn	12 28 37.4	-1.1
RES				SN	Sn	12 29 35.5	-7.3
RES				Trac		12 29 48.2	
	comp=Z,1.3nm,0.2s						
INK	Inuvik	10.10	221	PN	P	12 29 35.4	-6.2
INK				SN	S	12 31 22.8	-13
INK				Trac		12 31 29.5	
	comp=Z,0.5nm,0.2s						
LUPN	Lupin Mine	11.33	171	PN	P	12 29 54.3	-4.1
LUPN				SN	S	12 31 52.9	-13
LUPN				Trac		12 32 20.3	
	comp=Z,0.8nm,0.3s						
ACKN	Achilles Lake	12.09	170	PN	P	12 30 05.4	-3.3
ACKN				Trac		12 31 48.3	
	comp=Z,0.3nm,0.1s						
YMBN	Yamba Lake	12.18	172	PN	P	12 30 05.6	-4.4
YMBN				SN	S	12 32 08.0	-18
YMBN				Trac		12 32 35.6	
	comp=Z,0.5nm,0.3s						
QILN	Qililugaq Expl	13.54	124	PN	P	12 30 23.3	-4.5
QILN				SN	S	12 32 46.5	-12
QILN				Trac		12 32 55.9	
	comp=Z,0.3nm,0.3s						
SNPN	Snap Lake	13.56	171	PN	P	12 30 24.7	-3.4
YKW3	Yellowknife Ar	14.44	178	PN	P	12 30 34.9	-4.8
YKW3				SN	S	12 33 06.2	-14
YKW3				Trac		12 33 56.8	
	comp=Z,0.4nm,0.3s						
DAWY	Dawson	14.94	223	PN	P	12 30 39.8	-6.3
DAWY				SN	S	12 33 18.6	-13
DAWY				Trac		12 33 35.1	
	comp=Z,0.1nm,0.1s						
YRTN	Rankin Inlet	16.10	139	PN	P	12 30 58.2	-2.9
YRTN				SN	S	12 33 48.4	-11
YRTN				Trac		12 33 50.8	
	comp=Z,0.3nm,0.3s						
WHY	Whitehorse	17.57	212	PN	P	12 31 07.8	-12
FCC	Fort Churchill	19.71	145	PN	P	12 31 54.3	+8.8
FRB	Frobisher Bay	19.77	106	PN	P	12 32 10.4	+24

IDC 16 12:55:42.1±4.4**,7.02S×148.15E,mb3.8**/3**,mb1 3.9**/5**, mb1mx3.7**/13**,mbtmp3.8**/5**,ML3.3**/2**,Error ellipse: s-maj=86.0km s-min=49.3km az=152.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.56	203	Pn	Pn	12 56 25.3	-0.2
	9.4nm,0.3s,baz=359,slow=8.2,SNR=42						
PMG				Lg		12 56 55.3	
	50nm,0.3s,baz=334,slow=16,SNR=20						
WRA	Warramunga Arr	18.56	225	P	P	12 59 58.9	-3.7
	0.3nm,0.3s,baz=52,slow=11,SNR=25						
ASAR	Alice Springs	21.48	218	P	P	13 00 31.6	-3.0
	2.9nm,0.5s,baz=55,slow=9.4,SNR=80						
STKA	Stephens Creek	25.47	193	P	P	13 01 12.8	-0.8
	1.2nm,0.6s,baz=2.4,slow=8.8,SNR=4.4						
VNDA	Vanda	70.83	177	P	P	13 07 00.9	-1.4
	1.2nm,1.1s,baz=1.5,slow=4.2,SNR=3.0						

ISC 16 13:00:18.6±1.0**,46.09N**±0.07×**13.62E**±0.09**,n8,**σ**0^{s}47**/10**, 1C-1D,Austria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	Drenchia	0.09	10	⇑ePg	Pg	13 00 20.5	+0.1
CADS	Cadrg	0.16	29	i Pg	Pg	13 00 22.0	+0.1
COLI	Coloredo	0.17	286	⇓iPg	Pg	13 00 22.2	+0.1
ROBS	Robic	0.18	334	i Pg	Pg	13 00 22.4	+0.3
VOJS	Vojsko	0.19	106	i Pg	Pg	13 00 21.9	-0.6
VOY	Vojsko	0.20	106	e	Pg	13 00 22.7	+0.2
VOY				eSg	Sg	13 00 25.3	+0.1
GORS	Gorjuse	0.35	48	i Pg	Pg	13 00 25.2	-0.3
	comp=Z,7.0nm,0.1s						
JAVS	Javornik	0.36	122	i Pg	Pg	13 00 24.9	-0.9
JAVS				i Sg	Sg	13 00 31.6	+0.9

IDC 16 13:12:05.5±5.9**,12.00N×86.67W,h82**^{km}±96^{km}**,mb2.9**/3**, mb1 3.3**/4**,mb1mx3.1**/19**,mbtmp3.2**/4**,ML2.8**/1**,Error ellipse: s-maj=90.2km s-min=54.2km az=26.0,Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	2.39	135	P	P	13 12 43.8	+0.3
	2.0nm,0.3s,baz=317,slow=19,SNR=6.9						
JTS				S	S	13 13 11.8	0.0
	4.9nm,0.3s,baz=272,slow=16,SNR=8.0						
TXAR	Lajitas Array	23.41	320	P	P	13 17 06.4	-1.5
	0.4nm,0.6s,baz=156,slow=11,SNR=4.4						
PDAR	Pinedale Array	36.53	331	P	P	13 19 03.6	-1.3
	0.3nm,0.9s,baz=127,slow=9.0,SNR=3.0						
YKA	Yellowknife Ar	54.25	344	P	P	13 21 22.9	-2.1
	0.1nm,0.5s,baz=136,slow=7.9,SNR=6.2						

*NIED **16** 13:13:00,32.20N×132.10E,h26^{km},Mw3.6 Best double couple: $M_0$3.19×10^{14} NP1:ϕ_s174°,δ56°,λ-63°. NP2: ϕ_s312°,δ42°,λ-124°.*
*JMA **16** 13:13:37.6±0.1,32.16N×132.10E,h24^{km}±2^{km},M3.7 Broadband fault plane solution: P waves. NP1:ϕ_s291°, δ33°,λ-129°. NP2:ϕ_s155°,δ65°,λ-68°. Principal axes: T Plg17°, Azm229°; N Plg20°, Azm325°; P Plg63°, Azm102°;*
JMA Felt I J1.
*IDC **16** 13:13:37.2±1.5,31.57N×132.45E,mb3.4/3,mb1 3.7/4, mb1mx3.5/21,mbtmp3.7/4,ML4.2/1 Error ellipse: s-maj=40.9km s-min=29.2km az=66.0*
ISC 16 13:13:37.4±0.6**,32.16N**±0.05×**132.13E**±0.06**,h43**^{km}±14^{km}**, n13,**σ**0^{s}86**/20**,mb3.6**/2**,6C-1D,Shikoku**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	Tsuno	0.54	280	P	P	13 13 47.4	-1.4
JTSN				S	S	13 13 54.7	-2.2
JKIT	Kitakata	0.74	309	⇓P	P	13 13 51.3	-0.2
JKIT				S	S	13 14 01.4	-0.4
JTO	Tosashimizu	0.90	39	⇑P	P	13 13 54.0	+0.2
JTO				S	S	13 14 05.5	-0.3
JTZ	Takazaki	0.92	254	⇑P	P	13 13 53.8	-0.2
JTZ				S	S	13 14 06.8	+0.5
JUS	Usuki	0.96	341	⇑P	P	13 13 55.4	+0.8
JUS				S	S	13 14 08.1	+0.8
JNAR	Kushima--Naru	0.96	230	⇑P	P	13 13 55.2	+0.6
JNAR				S	S	13 14 08.6	+1.2
UWA2	Uwa jima 2	1.13	21	⇑P	P	13 13 57.5	+0.5
UWA2				S	S	13 14 11.5	-0.1
JIU2	Izumi 2	1.18	290	⇑P	P	13 13 58.2	+0.5
JIU2				eS	S	13 14 13.3	+0.5
JHJ	Hachijo jima 2	6.53	80	Pn	P	13 15 13.0	-0.3
	16nm,0.3s,baz=239,slow=22,SNR=10.0						
MAT	Matsushiro	6.66	47	P	P	13 15 15.5	+0.3
SONM	Songino Array	25.02	316	P	pP	13 19 08.5	-1.4
	0.6nm,0.8s,baz=135,slow=8.7,SNR=5.1						
WRA	Warramunga Arr	51.84	177	P	P	13 22 41.4	-2.2
	0.5nm,0.6s,mb3.6,baz=353,slow=8.0,SNR=7.7						
ASAR	Alice Springs	55.53	178	P	P	13 23 11.4	+0.7
	0.3nm,0.5s,mb3.6,baz=12,slow=13,SNR=5.2						

*NIED **16** 13:23:00,43.40N×146.60E,h35^{km},Mw5.3 Best double couple: $M_0$1.06×10^{17} NP1:ϕ_s17°,δ71°,λ65°. NP2:ϕ_s252°, δ30°,λ141°.*
*BJI **16** 13:23:29.6,43.47N×146.92E,h39^{km},mB5.5,mb5.6, Ms5.0,Msz4.9*
*CSEM **16** 13:23:30.7,43.61N×146.87E,h33^{km},mb5.8*
*MOS **16** 13:23:31.9±0.9,43.64N×146.91E,h39^{km},mb5.8/108, MS5.0/64,Error ellipse: s-maj=6.6km s-min=3.3km az=106.5*
MOS Felt (III) at Malokuril'skoe.
*SKHL **16** 13:23:31.1±0.3,43.56N×147.13E,h47^{km}±16^{km},mb5.9/6, mbh5.7/6,Ms5.1/7,msh5.5/5*
SKHL Felt (III) at Malokurilskoe, (II) at Yushno-Kurilsk.
*NEIC **16** 13:23:32.6±0.1,43.47N×146.89E,mb5.6/170,MS5.0/106, MW5.4,Error ellipse: s-maj=3.4km s-min=2.2km az=165.0, Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}1.25; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.31; $M_{r\theta}$0.27; $M_{\theta\phi}$-0.40; $M_{\phi r}$0.30; Best double couple: $M_0$1.4×10^{17} NP1:ϕ_s186°, δ38°,λ76°. NP2:ϕ_s24°,δ53°,λ101°. Principal axes: T 1.33, Plg78°, Azm335°; N .14, Plg9°, Azm197°; P -1.46, Plg8°, Azm106°;*
NEIC Felt [III] on Shikotan and at Yuzhno-Kuril'sk, Kunashir. Recorded [2 JMA] in the Bekkai area and [1 JMA] in eastern and south-central Hokkaido.
*HRVD **16** 13:23:32.6±0.1,43.49N×147.02E,h29^{km},MW5.4/78, Centroid moment Tensor Solution. LP body waves: s68,c137;Mantle waves: s78,c162; Half duration: 1^{s}2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81±.02; $M_{\theta\theta}$-0.10±.02; $M_{\phi\phi}$-0.70±.02; $M_{r\theta}$0.27±.03; $M_{\theta\phi}$-0.72±.01; $M_{\phi r}$1.24±.03; Best double couple: $M_0$1.636×10^{17} NP1: ϕ_s240°,δ24°,λ133°. NP2:ϕ_s15°,δ72°,λ73°. Principal axes: T 1.515, Plg59°, Azm261°; N .24, Plg16°, Azm20°; P -1.756, Plg25°, Azm118°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **16** 13:23:33.3±0.5,43.52N×146.93E,h43^{km}±3^{km},mb5.2/29, mb1 5.3/32,mb1mx5.3/33,mbtmp5.5/32,ML4.6/3,MS4.7/19, Ms1 4.7/19,ms1mx4.5/25 Error ellipse: s-maj=11.3km s-min=9.2km az=126.0*
*JMA **16** 13:23:35.1±0.3,43.39N×146.57E,h46^{km}±2^{km},M5.3*
JMA Felt II J1.
ISC 16 13:23:30.7±0.1**,43.42N**±0.02×**146.93E**±0.02**,h37**^{km}**, h37**^{km}±1.1^{km}**:pP-P,n981,**σ**0^{s}89**/960**,mb5.6**/244**,MS5.0**/143**, 222C-41D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.87	267	⇓P	P	13 23 47.4	+0.9
NEM2				eS	S	13 23 56.9	-1.2
YUK	Yuzh-Kuril'sk	0.99	309	⇓iPN	P	13 23 48.5	+0.2
YUK				eS	S	13 24 01.8	+0.5
YUK				pmax	pmax		
	comp=Z,142µm,1.0s						
YUK				pmax	pmax		
	comp=N,132µm,2.0s						
YUK				pmax	pmax		
	comp=E,172µm,2.0s						
YUK	Yuzh-Kuril'sk	0.99	309	i P	P	13 23 48.5	+0.2
YUK				⇓iP		13 23 48.5	
YUK				AMB	AMB	13 23 50.5	
	comp=E,132µm,2.0s						
YUK				AMB	AMB	13 23 50.5	
	comp=E,172µm,2.0s						
YUK				AMB	AMB	13 23 50.5	
	comp=E,142µm,2.0s						
YUK				eS	S	13 24 01.8	+0.5
JRA	Rausu	1.41	292	⇓P	P	13 23 55.5	+1.2
JRA				eS	S	13 24 09.4	-2.5
JNK	Nakash	1.62	277	⇓P	P	13 23 58.0	+0.7
JAK	Akkeshi	1.69	256	⇓P	P	13 23 58.7	+0.5
KUR	Kuril'sk	1.94	20	⇑iPN	P	13 23 59.0	-2.8
KUR				i S	S	13 24 18.0	-7.1
KUR				pmax	pmax		
	comp=N,20µm,1.5s						
KUR				pmax	pmax		
	comp=E,12µm,1.5s						
KUR				pmax	pmax		
	comp=Z,34µm,1.5s						
KUR				pmax	pmax		
	comp=N,4µm,0.7s						
KUR				pmax	pmax		
	comp=E,2µm,0.7s						
KUR				pmax	pmax		
	comp=Z,7µm,0.7s						
KUR				smax			
	comp=N,40µm,2.0s						
KUR				smax			
	comp=E,72µm,2.0s						
KUR	Kuril'sk	1.94	20	i P	P	13 23 59.0	-2.8
KUR				AMB	AMB	13 24 14.4	
	comp=E,4µm,0.7s						
KUR				AMB	AMB	13 24 14.4	
	comp=E,2µm,0.7s						
KUR				AMB	AMB	13 24 14.4	
	comp=E,7µm,0.7s						
KUR				AMB	AMB	13 24 14.4	
	comp=E,20µm,1.5s						
KUR				AMB	AMB	13 24 14.4	
	comp=E,12µm,1.5s						
KUR				AMB	AMB	13 24 14.4	
	comp=E,34µm,1.5s						
KUR				AMB	AMB	13 24 14.8	
	comp=E,25µm,1.5s						
KUR				i S	S	13 24 18.0	-7.1
KUR				A		13 24 24.0	
	comp=E,60µm,2.0s						
KUR				A		13 24 26.0	
	comp=E,40µm,2.0s						
KUR				A		13 24 26.0	
	comp=E,72µm,2.0s						
JTKR	Abashiri--Toko	2.26	285	⇓P	P	13 24 08.3	+1.9
JAR	Ashorobuto	2.31	268	P	P	13 24 08.1	+1.0
JAR				eS	S	13 24 32.5	-2.1
JOB	Onbets	2.32	258	P	P	13 24 07.9	+0.6
JMP	Maruseppu	2.66	284	⇓P	P	13 24 13.9	+1.8
JCH	Churui	2.74	254	⇓P	P	13 24 13.1	-0.2
JCH				eS	S	13 24 44.4	-1.1
JKK2	Kamakawa 2	3.07	280	⇓P	P	13 24 19.8	+1.8
ERM	Erimo	3.11	245	Pn	P	13 24 22.8	+4.2
	comp=E,34µm,0.7s						
JFR	Furan	3.18	267	⇓P	P	13 24 20.8	+1.3
ASAJ	Asahikawa	3.22	284	P	P	13 24 22.1	+2.1
	comp=E,51nm,0.3s,baz=101,slow=13,SNR=204						
ASAJ				S	S	13 24 47.3	-10
	comp=E,195nm,0.3s,baz=106,slow=23,SNR=6.4						
ASAJ				LR	LR	13 25 49.0	
	comp=E,36µm,18.7s,baz=115,slow=42						
ASAJ	Asahikawa	3.22	284	⇓P	P	13 24 22.0	+1.9
JNBK	Urakawa-nobuka	3.27	251	⇓P	P	13 24 20.5	-0.4
JSE	Soyaes	3.48	298	⇓P	P	13 24 25.0	+1.1
JWK2	Keihoku	4.08	299	⇓P	P	13 24 34.6	+2.3
YSS	Yuzh-Sakhalins	4.61	322κ	iPN	P	13 24 40.2	+0.4
YSS				i S	S	13 25 28.8	-4.0
YSS				pmax	pmax		
	comp=Z,600nm,0.6s						
YSS				pmax	pmax		
	comp=N,410nm,0.7s						
YSS				pmax	pmax		
	comp=E,580nm,0.7s						
YSS				smax			
	comp=N,1µm,0.9s						
YSS				smax			
	comp=E,1µm,1.0s						
YSS				MLR	MLR		
	comp=N,10µm,16.0s						
YSS				MLR	MLR		
	comp=E,10µm,17.0s						
YSS				MLR	MLR		
	comp=Z,15µm,17.0s						
YSS	Yuzh-Sakhalins	4.61	322	⇓iP	P	13 24 40.3	+0.5
YSS	Yuzh-Sakhalins	4.61	322	⇓iP	P	13 24 40.2	+0.4
YSS				⇓iP		13 24 40.2	
YSS				AMB	AMB	13 24 41.0	
	comp=Z,410nm,0.7s						
YSS				AMB	AMB	13 24 41.0	
	comp=Z,580nm,0.7s						
YSS				AMB	AMB	13 24 41.0	
	comp=Z,600nm,0.7s						
YSS				i S	S	13 25 28.8	-4.0
YSS				A		13 25 30.0	
	comp=Z,1µm,1.0s						
YSS				A		13 25 30.0	
	comp=Z,1µm,1.0s						
YSS				AMS	AMS	13 26 38.0	
	comp=Z,9µm,17.0s						
YSS				AMS	AMS	13 26 38.0	
	comp=Z,11µm,17.0s						
YSS				AMS	AMS	13 26 38.0	
	comp=Z,18µm,17.0s						
YSS				AMS	AMS	13 26 38.0	
	comp=Z,18µm,16.0s						
JAH	Hinai	5.70	238	P	P	13 24 54.9	-0.3
JOM	Ohasama	5.79	229	P	P	13 24 55.2	-1.1
UGL	Uglegorsk	6.59	331	i PN	P	13 25 04.5	-3.2
UGL				i		13 26 24.5	
UGL				pmax	pmax		
	comp=Z,220nm,1.0s						
UGL				pmax	pmax		
	comp=N,2µm,4.0s						
UGL				pmax	pmax		
	comp=E,800nm,4.0s						
UGL				pmax	pmax		
	comp=Z,2µm,4.0s						
UGL				smax			
	comp=N,4µm,4.0s						
UGL				smax			
	comp=E,2µm,4.0s						
UGL				smax			
	comp=Z,3µm,4.0s						
UGL				smax			
	comp=N,1µm,1.2s						
UGL				smax			
	comp=E,670nm,1.0s						
UGL				smax			
	comp=Z,660nm,1.1s						
UGL				MLR	MLR		
	comp=N,6µm,14.0s						
UGL				MLR	MLR		
	comp=E,5µm,14.0s						
UGL				MLR	MLR		
	comp=Z,7µm,14.0s						
UGL	Uglegorsk	6.59	331	⇓iP	P	13 25 04.5	-3.2
UGL				eP		13 25 05.0	
UGL				AMB	AMB	13 25 07.5	
	comp=Z,220nm,1.0s						
UGL				AMB	AMB	13 25 10.0	
	comp=Z,2µm,4.0s						
UGL				AMB	AMB	13 25 10.0	
	comp=Z,800nm,4.0s						
UGL				AMB	AMB	13 25 10.0	
	comp=Z,2µm,4.0s						
UGL				A		13 26 30.0	
	comp=Z,4µm,4.0s						
UGL				A		13 26 30.0	
	comp=Z,2µm,4.0s						
UGL				A		13 26 30.0	
	comp=Z,3µm,4.0s						
UGL				A		13 26 33.0	
	comp=Z,1µm,1.2s						
UGL				A		13 26 33.0	
	comp=Z,670nm,1.2s						
UGL				A		13 26 33.0	
	comp=Z,660nm,1.2s						
UGL				AMS	AMS	13 28 00.0	
	comp=Z,6µm,14.0s						
UGL				AMS	AMS	13 28 00.0	
	comp=Z,5µm,14.0s						
UGL				AMS	AMS	13 28 00.0	
	comp=Z,7µm,14.0s						
TEY	Ternei	7.59	286	eP	P	13 25 24.0	+2.3
TEY				AMB	AMB	13 25 25.0	
	comp=Z,2µm,1.8s						
TEY				AMB	AMB	13 25 25.0	
	comp=Z,2µm,1.8s						
TEY				AMS	AMS	13 28 30.0	
	comp=Z,10µm,15.0s						
TEY				AMS	AMS	13 28 30.0	
	comp=Z,16µm,15.0s						
TYV	Tymovskoe	8.00	340	ePN	P	13 25 24.2	-3.1
TYV				eS	S	13 26 56.0	-1.5
TYV				pmax	pmax		
	comp=Z,1µm,6.0s						
TYV				pmax	pmax		
	comp=Z,92nm,1.0s						
TYV				smax			
	comp=E,2µm,4.0s						
TYV				MLR	MLR		
	comp=Z,12µm,17.0s						
TYV	Tymovskoe	8.00	340	eP	P	13 25 24.2	-3.1
TYV				AMB	AMB	13 25 28.0	
	comp=Z,1µm,5.0s						
TYV				AMB	AMB	13 25 28.0	
	comp=Z,1µm,5.0s						
TYV				AMB	AMB	13 25 29.5	
	comp=Z,92nm,1.0s						
TYV				eS	S	13 26 53.5	-4.0
TYV				A		13 26 54.0	
	comp=Z,176nm,0.9s						
TYV				A		13 27 20.0	
	comp=Z,2µm,4.0s						
TYV				AMS	AMS	13 28 38.0	
	comp=Z,10µm,17.0s						
TYV				AMS	AMS	13 28 38.0	
	comp=Z,12µm,17.0s						
JHK	Hiroka	8.63	227	P	P	13 25 34.5	-1.5
JAG	Ashikaga	9.04	222	P	P	13 25 39.3	-2.4
JSZ	Suzu	9.42	234	P	P	13 25 46.3	-0.7
MAJO	Matsushiro	9.59	227	ePN	P	13 25 47.7	-1.5
MAJO				pmax	pmax		
	comp=Z,143nm,0.8s						
MAJO	Matsushiro	9.59	227	eP	P	13 25 47.7	-1.6
	comp=Z,143nm,0.8s						
MAT	Matsushiro	9.59	227	ePN	P	13 25 47.0	-2.2
MAT				pmax	pmax		
	comp=Z,95nm,1.0s						
MAT	Matsushiro	9.59	227	eP	P	13 25 47.0	-2.2
	comp=Z,95nm,1.0s						
MAT				eS	S	13 27 32.0	-4.9
MAT	Matsushiro	9.59	227	P	P	13 25 47.4	-1.8
MAT				S	S	13 27 31.8	-5.1
MAT	Matsushiro	9.59	227	P	P	13 25 47.6	-1.6
SKR	Severo-Kuril's	9.59	38	ePN	P	13 25 44.0	-5.3
SKR				pmax	pmax		
	comp=Z,190nm,0.7s						
SKR				pmax	pmax		
	comp=N,310nm,1.0s						
SKR				pmax	pmax		
	comp=E,220nm,1.0s						
SKR				pmax	pmax		
	comp=Z,2µm,6.0s						
SKR				pmax	pmax		
	comp=N,250nm,2.0s						
SKR				MLR	MLR		
	comp=Z,5µm,22.0s						
SKR				MLR	MLR		
	comp=N,6µm,16.0s						
SKR				MLR	MLR		
	comp=E,6µm,20.0s						

JNG	**Nsakai**	**9.74**	**227**	P	**P**	**13 25 49.9**	**-1.5**
JGN	**Niukaw**	**10.30**	**229**	P	**P**	**13 25 58.0**	**-1.1**
OKH	**Okha**	**10.48**	**347**	*i* PN	**P**	**13 26 00.0**	**-1.5**
OKH				*i* S	**S**	**13 28 06.2**	**+7.5**
OKH				pmax	pmax		
	comp=Z,3μm,5.0s						
OKH				smax			
	comp=N,2μm,5.3s						
OKH				smax			
	comp=E,2μm,5.3s						
OKH	**Okha**	**10.48**	**347**	*i* P	**P**	**13 26 00.0**	**-1.5**
OKH				AMB	AMB	13 26 01.2	
	comp=E,1μm,5.0s						
OKH				AMB	AMB	13 26 01.2	
	comp=E,3μm,5.0s						
OKH				AMB	AMB	13 26 02.0	
	comp=E,800nm,1.0s						
OKH				A		13 28 09.6	
	comp=E,2μm,5.6s						
OKH				A		13 28 09.6	
	comp=E,2μm,5.6s						
OKH				AMS	AMS	13 30 42.0	
	comp=E,6μm,17.0s						
OKH				AMS	AMS	13 30 42.0	
	comp=E,7μm,17.0s						
OKH				AMS	AMS	13 30 42.0	
	comp=E,6μm,17.0s						
NKL	**Nikolayevsk**	**10.59**	**339**	*e*P	**P**	**13 25 59.0**	**-3.9**
NKL				AMB	AMB	13 26 02.0	
	comp=E,1μm,4.0s						
NKL				AMB	AMB	13 26 02.0	
	comp=E,1μm,4.0s						
NKL				AMB	AMB	13 26 02.8	
	comp=E,190nm,1.0s						
NKL				AMB	AMB	13 26 02.8	
	comp=E,110nm,1.0s						
NKL				AMB	AMB	13 26 02.8	
	comp=E,370nm,1.0s						
NKL				AMS	AMS	13 30 21.0	
	comp=E,3μm,16.0s						
NKL				AMS	AMS	13 30 21.0	
	comp=E,4μm,16.0s						
NKL				AMS	AMS	13 30 21.0	
	comp=E,6μm,16.0s						
JNY	**Yasuok**	**10.67**	**224**	P	**P**	**13 26 02.6**	**-1.6**
VLA	**Vladivostok**	**10.97**	**274***c*	*i* PN	**P**	**13 26 09.0**	**+0.8**
VLA				pmax	pmax		
	comp=E,2μm,5.0s						
VLA				pmax	pmax		
	comp=Z,1μm,5.0s						
VLA				MLR	MLR		
	comp=Z,2μm,16.0s						
VLA				MLR	MLR		
	comp=N,1μm,15.0s						
VLA				MLR	MLR		
	comp=E,2μm,17.0s						
VLA	**Vladivostok**	**10.97**	**274**	*i* P	**P**	**13 26 09.0**	**+0.8**
VLA				AMB	AMB	13 26 17.0	
	comp=E,2μm,5.0s						
VLA				AMB	AMB	13 26 17.0	
	comp=E,1μm,5.0s						
VLA				*i* S	**S**	**13 28 11.0**	**+0.2**
VLA				A		13 28 26.0	
	comp=E,1μm,10.0s						
VLA				A		13 28 26.0	
	comp=E,2μm,10.0s						
VLA				AMS	AMS	13 32 39.0	
	comp=E,1μm,16.0s						
VLA				AMS	AMS	13 32 39.0	
	comp=E,2μm,16.0s						
VLA				AMS	AMS	13 32 39.0	
	comp=E,2μm,16.0s						
JHJ	**Hachijo jima 2**	**11.71**	**211**	P	**P**	**13 26 18.1**	**-0.1**
	comp=E,13nm,0.3s,baz=267,slow=14,SNR=15						
JHJ				S	**S**	**13 28 19.2**	**-10**
	comp=E,50nm,0.3s,baz=236,slow=22,SNR=8.9						
JHJ				LR	LR	13 31 21.5	
	comp=E,646nm,18.5s,baz=130,slow=40						
JKY	**Yasaka**	**11.99**	**234**	P	**P**	**13 26 21.0**	**-0.9**
KLR	**Kul'dur**	**11.99**	**304**	*e*PN	**P**	**13 26 20.3**	**-1.6**
KLR				*e*		13 28 40.0	
KLR				pmax	pmax		
	comp=N,130nm,1.6s						
KLR				pmax	pmax		
	comp=E,300nm,1.6s						
KLR				pmax	pmax		
	comp=Z,130nm,1.6s						
KLR				MLR	MLR		
	comp=E,8μm,15.0s						
KLR				MLR	MLR		
	comp=Z,12μm,15.0s						
KLR	**Kul'dur**	**11.99**	**304**	*e*P	**P**	**13 26 20.3**	**-1.6**
KLR				*e*P		13 26 20.5	
KLR				AMB	AMB	13 26 24.6	
	comp=Z,300nm,1.6s						
KLR				AMB	AMB	13 26 24.6	
	comp=Z,130nm,1.6s						
JWT	**Wachi**	**12.06**	**232**	P	**P**	**13 26 22.0**	**-0.9**
PET	**Petropavlovsk**	**12.37**	**35**	*e*PN	**P**	**13 26 25.1**	**-2.0**
PET				pmax	pmax		
	comp=Z,33nm,0.7s						
PET				MLR	MLR		
	comp=Z,4μm,19.0s						
PET				MLR	MLR		
	comp=Z,4μm,18.0s						
MDJ	**Mudanjiang**	**12.54**	**281**	P	**P**	**13 26 29.4**	**0.0**
MDJ				AP		13 26 37.4	
MDJ				PP	PP	13 26 39.3	+0.1
MDJ				XP		13 26 42.0	
MDJ				S	**S**	**13 28 48.9**	**+0.1**
MDJ				SS	SS	13 29 03.8	-0.1
MDJ				AMB	AMB		
	comp=Z,263nm,1.0s						
MDJ				LR	LR		
	comp=E,5μm,16.7s						
MDJ				LR	LR		
	comp=Z,7μm,16.7s						
MDJ	**Mudanjiang**	**12.54**	**281**	*e*P	**P**	**13 26 28.8**	**-0.6**
	comp=Z,299nm,1.1s						
JAD	**Aida**	**13.01**	**234**	P	**P**	**13 26 34.5**	**-1.2**
EKMR	**Ekimchan**	**13.39**	**321**	*e*P	**P**	**13 26 37.8**	**-2.8**
JKU	**Kubokawa**	**14.82**	**232**	P	**P**	**13 26 57.2**	**-2.1**
UWA2	**Uwa jima 2**	**15.14**	**232**	P	**P**	**13 27 02.1**	**-1.4**
CN2	**Changchun**	**15.56**	**279**	*e*P	**P**	**13 27 07.1**	**-1.8**
CN2				*e*AP		13 27 14.8	
CN2				*e*S	**S**	**13 29 58.0**	**-2.4**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,15.0s						
CN2				LR	LR		
	comp=E,5μm,15.0s						
CN2				LR	LR		
	comp=Z,6μm,16.0s						
KS15	**Wonju Array Si**	**15.67**	**254**	*e*P	**P**	**13 27 09.1**	**-1.3**
YASR	**Yasnyy**	**15.96**	**315**	*i* P	**P**	**13 27 10.7**	**-3.2**
YASR				AMB	AMB	13 27 14.7	
	comp=Z,90nm,1.0s						
YASR				AMB	AMB	13 27 14.7	
	comp=Z,210nm,1.0s						
YASR				AMB	AMB	13 27 14.7	
	comp=Z,320nm,1.0s						
BMKR	**Bomnak**	**16.32**	**320**	*e*P	**P**	**13 27 15.8**	**-2.6**
BMKR				AMB	AMB	13 27 18.4	
	comp=Z,179nm,1.0s						
MA2	**Magadan**	**16.35**	**7***c*	*i* P	**P**	**13 27 16.9**	**-1.9**
MA2				*e*S	**S**	**13 30 20.5**	**+2.0**
MA2				pmax	pmax		
	comp=Z,100nm,1.7s						
MA2				pmax	pmax		
	comp=E,20nm,1.2s						
MA2				pmax	pmax		
	comp=N,80nm,1.4s						
MA2				MLR	MLR		
	comp=Z,5μm,21.9s						
MA2	**Magadan**	**16.35**	**7**	*e*P	**P**	**13 27 16.7**	**-2.1**
	comp=Z,86nm,0.9s						
INCN	**Inchon**	**16.53**	**256**	*e*P	**P**	**13 27 20.3**	**-0.9**
	comp=Z,84nm,0.9s						
ZEA	**Zeya**	**16.56**	**315**	*e*P	**P**	**13 27 17.2**	**-4.3**
ZEA				AMB	AMB	13 27 24.4	
	comp=Z,170nm,1.2s						
ZEA				AMB	AMB	13 27 24.4	
	comp=Z,240nm,1.2s						
ZEA				AMB	AMB	13 27 30.0	
	comp=Z,800nm,4.0s						
ZEA				AMB	AMB	13 27 30.0	
	comp=Z,1μm,4.0s						
ZEA				AMB	AMB	13 27 30.0	
	comp=Z,1μm,4.0s						
ZEA				*e*S	**S**	**13 30 19.0**	**-4.4**
ZEA				A		13 30 37.0	
	comp=Z,1μm,9.0s						
ZEA				AMS	AMS	13 34 22.0	
	comp=Z,5μm,16.0s						
ZEA				AMS	AMS	13 34 22.0	
	comp=Z,5μm,16.0s						
ZEA				AMS	AMS	13 34 22.0	
	comp=Z,7μm,16.0s						
CBIJ	**Chichi jima**	**16.73**	**195**	P	**P**	**13 27 26.3**	**+2.4**
	comp=Z,6.7nm,0.3s,baz=206,slow=7.9,SNR=3.9						
CBIJ				S	**S**	**13 30 15.8**	**-12**
	comp=Z,12nm,0.3s,baz=283,slow=21,SNR=5.4						
CBIJ				LR	LR	13 32 53.9	
	comp=Z,1μm,20.7s,baz=90,slow=33						
KROS	**Kirovskiy**	**17.07**	**317**	*e*P	**P**	**13 27 25.6**	**-2.2**
KROS				AMB	AMB	13 27 29.4	
	comp=Z,62nm,0.9s						
KROS				AMB	AMB	13 27 29.4	
	comp=Z,160nm,0.9s						
KROS				AMB	AMB	13 27 29.4	
	comp=Z,180nm,0.9s						
SNY	**Shenyang**	**17.25**	**273**	⇓P	**P**	**13 27 31.3**	**+1.0**
SNY				AP		13 27 37.8	
SNY				XP		13 27 41.9	
SNY				S	**S**	**13 30 40.0**	**+0.7**
SNY				AMB	AMB		
	comp=Z,110nm,1.1s						
SNY				LR	LR		
	comp=N,1μm,17.5s						
SNY				LR	LR		
	comp=E,3μm,19.1s						
SNY				LR	LR		
	comp=Z,3μm,20.7s						
CLNS	**Chul'man**	**19.37**	**322**	*e*P	**P**	**13 27 53.5**	**-2.4**
CLNS				pmax	pmax		
	comp=N,23nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,40nm,0.9s						
CLNS				pmax	pmax		
	comp=E,19nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,131nm,1.2s						
CLNS				pmax	pmax		
	comp=N,193nm,0.9s						
CLNS				pmax	pmax		
	comp=E,107nm,1.1s						
CLNS				MLR	MLR		
	comp=Z,4μm,19.0s						
CLNS				MLR	MLR		
	comp=N,3μm,17.0s						
CLNS				MLR	MLR		
	comp=E,500nm,14.0s						
DL2	**Dalian**	**19.55**	**265**	⇑*i* P	**P**	**13 27 57.4**	**-0.5**
DL2				S	**S**	**13 31 29.8**	**-1.3**
DL2				AMB	AMB		
	comp=Z,130nm,1.0s						
DL2				LR	LR		
	comp=N,520nm,14.4s						
DL2				LR	LR		
	comp=E,790nm,21.3s						
DL2				LR	LR		
	comp=Z,790nm,19.6s						
HIA	**Hailar**	**19.60**	**297**	*e*P	**P**	**13 27 54.2**	**-4.2**
HIA				pmax	pmax		
	comp=Z,56nm,0.6s						
HIA	**Hailar**	**19.60**	**297**	*e*P	**P**	**13 27 54.2**	**-4.3**
	comp=Z,56nm,0.6s						
FX1	**Attu Island--F**	**19.80**	**52**	*e*P	**P**	**13 27 59.8**	**-0.7**
SEY	**Seymchan**	**19.81**	**7**	*e*P	**P**	**13 27 58.6**	**-2.0**
SEY				*e*S	**S**	**13 31 24.1**	**-12**
SEY				pmax	pmax		
	comp=Z,300nm,0.9s						
SEY				pmax	pmax		
	comp=N,50nm,0.6s						
SEY				MLR	MLR		
	comp=Z,10μm,19.0s						
SEY				MLR	MLR		
	comp=E,2μm,16.0s						
SMY	**Shemya**	**20.30**	**53**	*e*P	**P**	**13 28 04.5**	**-1.3**
SMY				pmax	pmax		
	comp=Z,361nm,1.2s						
SMY				MLR	MLR		
	comp=Z,5μm,22.0s,MS4.8						
SMY	**Shemya**	**20.30**	**53**	*e*P	**P**	**13 28 04.5**	**-1.4**
	comp=Z,361nm,1.2s						
SMY				LR	LR		
	comp=Z,5μm,22.0s,MS4.8						
YAK	**Yakutsk**	**21.24**	**337**	*e*P	**P**	**13 28 11.9**	**-3.6**
YAK				*e*		13 28 25.7	
YAK				*e*S	**S**	**13 32 03.5**	**-1.0**
YAK				pmax	pmax		
	comp=N,12nm,0.8s						
YAK				pmax	pmax		
	comp=Z,19nm,0.8s						
YAK				pmax	pmax		
	comp=E,18nm,1.1s						
YAK				smax			
	comp=N,74nm,1.4s						
YAK				smax			
	comp=Z,25nm,1.0s						
YAK				smax			
	comp=E,59nm,1.1s						
YAK				MLR	MLR		
	comp=Z,2μm,21.0s,MS4.5						
YAK				MLR	MLR		
	comp=N,2μm,20.0s,MS4.6						
YAK				MLR	MLR		
	comp=E,2μm,16.0s,MS4.6						
YAK	**Yakutsk**	**21.24**	**337**	*e*P	**P**	**13 28 10.3**	**-5.2**
	comp=E,146nm,0.8s,mb5.4						
YAK				LR	LR		
	comp=Z,2μm,21.0s,MS4.5						
JOW	**Kunigami**	**22.43**	**229**	P	**P**	**13 28 29.1**	**+1.6**
	comp=Z,393nm,1.0s,mb5.8,baz=31,slow=9.8,SNR=43						
JOW				LR	LR	13 38 25.8	
	comp=Z,3μm,19.6s,MS4.7,baz=197,slow=40						
BJI	**Beijing**	**23.13**	**272**	P	**P**	**13 28 33.5**	**-0.8**
BJI				AP		13 28 44.9	
BJI				S	**S**	**13 32 41.9**	**+2.8**
BJI				AMB	AMB		
	comp=Z,57nm,0.8s,mb5.0						
BJI				AMB	AMB		
	comp=Z,789nm,6.3s						
BJI				LR	LR		
	comp=N,1μm,17.7s,MS4.7						
BJI				LR	LR		
	comp=E,2μm,17.8s,MS4.7						
BJI				LR	LR		
	comp=Z,2μm,22.4s,MS4.6						
BJI	**Beijing**	**23.13**	**272**	P	**P**	**13 28 33.5**	**-0.8**
	comp=Z,57nm,0.8s,mb5.0						
BJI				pP		13 28 44.9	
BJI				S	**S**	**13 32 41.9**	**+2.8**
BJI				LR	LR		
	comp=Z,2μm,22.4s,MS4.6						
BJT	**Baijiatuau**	**23.15**	**272**	*e*P	**P**	**13 28 33.6**	**-0.8**
BJT				pmax	pmax		
	comp=Z,154nm,0.8s						
BJT				MLR	MLR		
	comp=Z,3μm,19.0s						
BJT	**Baijiatuau**	**23.15**	**272**	*e*P	**P**	**13 28 33.6**	**-0.9**
	comp=Z,154nm,0.8s,mb5.5						
BJT				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
SSE	**Sheshan**	**23.79**	**247**	P	**P**	**13 28 43.3**	**+2.5**
SSE				AP		13 28 53.4	
SSE				XP		13 28 58.1	
SSE				S	**S**	**13 32 54.3**	**+3.5**
SSE				XS		13 33 11.8	
SSE				AMB	AMB		
	comp=Z,108nm,0.9s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,7.4s						
SSE				LR	LR		
	comp=N,1μm,19.9s,MS4.5						
SSE				LR	LR		
	comp=E,906nm,19.9s,MS4.5						
SSE				LR	LR		
	comp=Z,2μm,18.3s,MS4.7						
SSE	**Sheshan**	**23.79**	**247**	P	**P**	**13 28 43.3**	**+2.5**
SSE				pP		13 28 53.4	
SSE				sP		13 28 58.1	
SSE				S	**S**	**13 32 54.2**	**+3.4**
SSE				sS		13 33 11.7	
SSE				LR	LR		
	comp=Z,2μm,18.3s,MS4.7						
TIA	**Tai'an**	**23.91**	**263**	⇑P	**P**	**13 28 41.5**	**-0.4**
TIA				S	**S**	**13 32 56.0**	**+3.2**
TIA				AMB	AMB		
	comp=Z,1μm,11.0s						
TIA				LR	LR		
	comp=E,955nm,14.0s						
NJ2	**Nanjing**	**24.82**	**252**	*e*P	**P**	**13 28 52.3**	**+1.5**
NJ2				AP		13 29 01.5	
NJ2				XP		13 29 05.5	
NJ2				S	**S**	**13 33 09.0**	**+0.7**
NJ2				XS		13 33 24.0	
NJ2				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,1μm,6.2s						
NJ2				LR	LR		
	comp=N,5μm,17.4s,MS5.3						
NJ2				LR	LR		
	comp=E,6μm,16.7s,MS5.3						
NJ2				LR	LR		
	comp=Z,4μm,17.4s,MS5.0						
BOD	**Bodaibo**	**25.06**	**317**	*e*P	**P**	**13 28 48.6**	**-4.2**
BOD				pmax	pmax		
	comp=Z,52nm,1.3s,mb4.9						
HHC	**Hu-ho-hao-te**	**26.23**	**277**	*e*P	**P**	**13 29 04.4**	**+0.4**
HHC				AP	pP	13 29 15.3	+1.2
HHC				XP	sP	13 29 18.6	+0.1
HHC				PP	PP	13 29 46.6	-0.1
HHC				PCP	PcP	13 32 32.5	+2.0
HHC				S	**S**	**13 33 33.8**	**+2.2**
HHC				XS		13 33 49.8	
HHC				SS	SS	13 34 42.8	+1.8
HHC				AMB	AMB		
	comp=Z,93nm,1.3s,mb5.2						
HHC				LR	LR		
	comp=N,2μm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,2μm,19.0s,MS4.8						
HHC				LR	LR		
	comp=Z,2μm,20.8s,MS4.7						
BILL	**Bilibino**	**26.72**	**16**⇑	*e*P	**P**	**13 29 04.8**	**-3.4**
BILL				*e*SS	SS	13 34 47.0	-5.4
BILL				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.7						
BILL				MLR	MLR		
	comp=Z,3μm,21.0s,MS4.9						
BILL	**Bilibino**	**26.72**	**16**	*e*P	**P**	**13 29 04.7**	**-3.6**
	comp=Z,859nm,3.0s						
BILL				LR	LR		
	comp=Z,4μm,19.0s,MS5.0						
BTO	**Baotou**	**27.43**	**277**	*e*P	**P**	**13 29 14.8**	**-0.1**
BTO				S	**S**	**13 33 54.3**	**+3.3**
BTO				AMB	AMB		
	comp=Z,152nm,0.8s,mb5.6						
BTO				LR	LR		
	comp=N,318nm,4.5s						
BTO				LR	LR		
	comp=E,1μm,12.9s						
TATO	**Taipei**	**27.78**	**237**	*e*P	**P**	**13 29 28.2**	**+10**
TATO				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
ULN	**Ulaanbaatar**	**28.01**	**293**	*e*P	**P**	**13 29 19.3**	**-0.8**
ULN				pmax	pmax		
	comp=Z,226nm,1.0s,mb5.8						
ULN				MLR	MLR		
	comp=Z,6μm,20.0s,MS5.2						
ULN	**Ulaanbaatar**	**28.01**	**293**	*e*P	**P**	**13 29 19.3**	**-0.8**
	comp=Z,226nm,1.0s,mb5.8						
ULN				LR	LR		
	comp=Z,6μm,20.0s,MS5.2						
YHNB	**Yeheng**	**28.07**	**237**	*e*P	**P**	**13 29 19.8**	**-1.2**
SONM	**Songino Array**	**28.45**	**293**	P	**P**	**13 29 23.4**	**-0.7**
	comp=Z,86nm,0.6s,mb5.5,baz=88,slow=7.9,SNR=322						
SONM				pP	pP	13 29 34.9	+0.6
	comp=Z,110nm,0.9s,baz=87,slow=4.1,SNR=16						
WHN	**Wuhan**	**28.83**	**254**	⇑P	**P**	**13 29 27.5**	**-0.1**
WHN				AP	pP	13 29 38.0	+0.1
WHN				S	**S**	**13 34 18.0**	**+4.3**
WHN				AMB	AMB		
	comp=Z,118nm,1.0s,mb5.6						
WHN				LR	LR		
	comp=Z,6μm,11.6s,MS5.4						
WAKE	**Wake Island**	**29.22**	**139**	PFAKE		13 29 40.0	+8.8
WAKE				LR	LR		
	comp=Z,45μm,20.0s						
IRK	**Irkutsk**	**29.59**	**302**	*e*P	**P**	**13 29 30.6**	**-3.5**
IRK				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.0						
QZH	**Quanzhou**	**29.61**	**241**⇑	*i* P	**P**	**13 29 35.8**	**+1.2**
QZH				AP	pP	13 29 45.9	+1.0
QZH				S	**S**	**13 34 30.5**	**+4.4**
QZH				XS		13 34 47.5	
QZH				AMB	AMB		
	comp=Z,190nm,1.0s,mb5.8						
QZH				AMB	AMB		
	comp=Z,900nm,4.5s						
QZH				LR	LR		
	comp=N,800nm,13.0s,MS4.9						
QZH				LR	LR		
	comp=E,2μm,14.1s,MS4.9						
QZH				LR	LR		
	comp=Z,3μm,16.3s,MS5.0						
TIXI	**Tiksi**	**29.65**	**349**	*e*P	**P**	**13 29 28.8**	**-5.7**
TIXI				*e**PP	pP	13 29 46.8	+2.0
TIXI				*e*		13 30 24.4	
TIXI				*e*S	**S**	**13 34 16.1**	**-10**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,1μm,15.0s,MS4.6						
TIXI	**Tiksi**	**29.65**	**349**	PFAKE		13 29 50.0	+15
TIXI				LR	LR		
	comp=Z,1μm,19.0s,MS4.5						
GUMO	**Guam**	**29.78**	**184**	PFAKE		13 29 50.0	+14
GUMO				LR	LR		
	comp=Z,1μm,21.0s,MS4.5						
TLY	**Talaya**	**29.98**	**301**⇓	*e*P	**P**	**13 29 35.1**	**-2.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s						
TLY				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.2						
TLY	**Talaya**	**29.98**	**301**	*e*P	**P**	**13 29 35.1**	**-2.5**
	comp=Z,12nm,0.9s,mb4.6						
TLY				LR	LR		
	comp=Z,689nm,19.0s,MS4.3						
ZAK	**Zakamensk**	**30.27**	**299**	*e*P	**P**	**13 29 38.0**	**-2.2**
ZAK				*e*		13 32 39.9	
ZAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.8						
XAN	**Xi'an**	**30.87**	**265**	P	**P**	**13 29 44.9**	**-0.8**
XAN				AP	pP	13 30 00.9	+4.8
XAN				S	**S**	**13 34 52.8**	**+7.0**
XAN				AMB	AMB		
	comp=Z,54nm,1.1s,mb5.3						
XAN				LR	LR		
	comp=N,663nm,26.6s,MS4.3						
XAN				LR	LR		
	comp=E,678nm,29.5s,MS4.3						
XAN				LR	LR		
	comp=Z,1μm,29.5s,MS4.3						
MOY	**Mondy**	**31.63**	**301**	*e*P	**P**	**13 29 52.3**	**0.0**
MOY				pmax	pmax		
	comp=Z,31nm,2.1s,mb4.8						
ENH	**Enshi**	**32.43**	**259**	*e*P	**P**	**13 29 58.5**	**-1.0**
	comp=Z,196nm,1.3s,mb5.8						
ENH				LR	LR		
	comp=Z,1μm,20.0s,MS4.6						
TNA	**Tin City**	**33.22**	**33**	*e*P	**P**	**13 30 04.9**	**-1.0**
	comp=Z,87nm,1.0s,mb5.6						
TNA				LR	LR		
	comp=Z,744nm,19.0s,MS4.4						
LZH	**Lanzhou**	**33.62**	**272**⇑	*i* P	**P**	**13 30 10.0**	**+0.3**
LZH				AP	pP	13 30 19.8	-0.3
LZH				XP	sP	13 30 24.5	-0.4
LZH				PP	PP	13 31 22.0	-0.9
LZH				S	**S**	**13 35 27.9**	**-1.0**
LZH				XS		13 35 44.3	
LZH				SS	SS	13 37 33.4	-1.3

LZH AMB AMB
comp=Z,95nm,1.3s,mb5.6
LZH AMB AMB
comp=Z,394nm,5.6s
LZH LR LR
comp=N,3μm,13.0s
LZH LR LR
comp=Z,4μm,16.7s,MS5.2
LZH Lanzhou 33.62 272 ⇑*i* P **P 13 30 10.0 +0.3**
LZH *PP pP 13 30 19.8 -0.3
LZH *SP sP 13 30 24.5 -0.4
LZH 13 31 22.0
LZH S **S 13 35 27.9 -1.0**
LZH *SS 13 35 44.2
LZH SS SS 13 37 33.4 -1.3
LZH pmax pmax
comp=Z,95nm,1.3s,mb5.6
LZH MLR MLR
comp=Z,4μm,16.7s,MS5.2
LZH Lanzhou 33.62 272 ⇑*i* P **P 13 30 10.0 +0.3**
comp=Z,95nm,1.3s,mb5.6
LZH pP pP 13 30 19.8 -0.3
LZH sP sP 13 30 24.5 -0.4
LZH PP PP 13 31 22.0 -0.9
LZH S **S 13 35 27.9 -1.0**
LZH sS 13 35 44.2
LZH SS SS 13 37 33.4 -1.3
LZH LR LR
comp=Z,4μm,16.7s,MS5.2
GZH Guangzhou 34.31 245 P **P 13 30 11.1 -4.7**
GZH S **S 13 35 35.6 -4.0**
GZH LR LR
comp=N,1μm,18.7s,MS4.8
GZH LR LR
comp=E,1μm,18.3s,MS4.8
GZH LR LR
comp=Z,2μm,19.6s,MS4.9
GTA Gaotai 35.19 280 P **P 13 30 23.3 +0.1**
GTA AP pP 13 30 33.9 +0.3
GTA XP sP 13 30 38.8 +0.5
GTA PCP PcP 13 32 54.3 +0.3
GTA S **S 13 35 54.6 +1.5**
GTA XS 13 36 11.1
GTA SCP 13 36 36.9
GTA PCS 13 36 41.0
GTA SS SS 13 38 12.5 +1.8
GTA SCS ScS 13 40 39.9 +1.8
GTA AMB AMB
comp=Z,39nm,1.2s,mb5.2
GTA AMB AMB
comp=Z,316nm,9.2s
GTA LR LR
comp=N,1μm,18.3s,MS5.0
GTA LR LR
comp=E,2μm,16.8s,MS5.0
GTA LR LR
comp=Z,2μm,16.8s,MS5.0
CD2 Chengdu 36.21 264 ⇑*i* P **P 13 30 31.6 -0.3**
CD2 AMB AMB
comp=Z,225nm,0.8s,mb6.2
GYA Guiyang 36.69 256 ⇑*i* P **P 13 30 35.6 -0.3**
GYA AP pP 13 30 45.8 -0.6
GYA PP PP 13 32 03.3 +1.9
GYA S **S 13 36 20.6 +4.4**
GYA SCP 13 36 38.4
GYA AMB AMB
comp=Z,80nm,0.9s,mb5.5
GYA LR LR
comp=N,1μm,18.3s,MS4.9
GYA LR LR
comp=E,1μm,17.1s,MS4.9
GYA LR LR
comp=Z,2μm,17.4s,MS4.9
SVW2 Sparrevohn 37.92 42 *e*P **P 13 30 46.5 +0.6**
IMA Indian Mountai 39.05 34 *e*P **P 13 30 55.2 0.0**
QIZ Qiongzhong 39.48 244 P **P 13 31 01.0 +1.7**
QIZ AP pP 13 31 11.6 +1.8
QIZ S **S 13 37 01.4 +2.7**
QIZ XS 13 37 18.5
QIZ AMB AMB
comp=Z,270nm,8.4s
QIZ LR LR
comp=E,945nm,21.4s
QIZ LR LR
comp=Z,1μm,23.6s,MS4.7
QIZ Qiongzhong 39.48 244 PFAKE 13 31 10.0 +11
QIZ LR LR
comp=Z,1μm,22.0s,MS4.7
KDAK Kodiak Island 39.59 47 *e*P **P 13 30 59.1 -0.7**
KDAK LR LR
comp=Z,2μm,22.0s,MS4.9
KMI Kunming 40.29 258 ⇑P **P 13 31 06.8 +0.8**
KMI AP pP 13 31 17.0 +0.5
KMI XP sP 13 31 21.8 +0.7
KMI PP PP 13 32 42.8 +0.5
KMI S **S 13 37 10.1 -0.7**
KMI XS 13 37 28.3
KMI SS SS 13 40 03.8 -0.7
KMI AMB AMB
comp=Z,86nm,1.0s,mb5.4
KMI LR LR
comp=N,796nm,21.0s,MS4.9
KMI LR LR
comp=E,1μm,17.2s,MS4.9
KMI LR LR
comp=Z,1μm,17.9s,MS4.8
KMI Kunming 40.29 258 P **P 13 31 06.7 +0.7**
KMI pP pP 13 31 16.5 0.0
KMI Kunming 40.29 258 ⇑P **P 13 31 06.8 +0.8**
KMI *PP pP 13 31 17.0 +0.5
KMI *SP sP 13 31 21.8 +0.7
KMI 13 32 42.7
KMI S **S 13 37 10.1 -0.7**
KMI *SS 13 37 28.2
KMI SS SS 13 40 03.8 -0.7
KMI pmax pmax
comp=Z,86nm,1.0s,mb5.4
KMI MLR MLR
comp=Z,1μm,17.9s,MS4.8
KMI Kunming 40.29 258 ⇑P **P 13 31 06.8 +0.8**
comp=Z,86nm,1.0s,mb5.4
KMI pP pP 13 31 17.0 +0.5
KMI sP sP 13 31 21.8 +0.7
KMI PP PP 13 32 42.7 +0.4
KMI PcS 13 37 03.1
KMI S **S 13 37 10.1 -0.7**
KMI sS 13 37 28.2
KMI SS SS 13 40 03.8 -0.7
KMI LR LR
comp=Z,1μm,17.9s,MS4.8
FIB Fire Island 40.54 42 PFAKE 13 31 20.0 +12
FIB LR LR
comp=Z,1μm,22.0s,MS4.7
SLKM Skilak Lake 40.56 43 *e*P **P 13 31 06.7 -1.2**
PWA Palmer West 40.65 41 *e*P **P 13 31 08.7 +0.1**
MCK McKinley 40.99 38 *e*P **P 13 31 11.1 -0.3**
MCK pmax pmax
comp=Z,57nm,1.2s,mb5.1
MCK MLR MLR
comp=Z,559nm,20.0s,MS4.4
MCK McKinley 40.99 38 *e*P **P 13 31 11.1 -0.3**
comp=Z,57nm,1.2s,mb5.1
MCK LR LR
comp=Z,559nm,20.0s,MS4.4
PMR Palmer 41.01 41 *e*P **P 13 31 10.6 -1.0**
PMR MLR MLR
comp=Z,1μm,21.0s,MS4.7
ZAL Zalesovo 41.09 307 PcP PcP 13 33 11.2 -0.9
baz=40,slow=4.5
SML Sawmill 41.38 41 *e*P **P 13 31 14.0 -0.5**
COLA College 41.44 36 *e*P **P 13 31 15.1 +0.1**
COLA pmax pmax
comp=Z,88nm,0.9s,mb5.4
COLA College 41.44 36 *e*P **P 13 31 15.3 +0.3**
COLA LR LR
comp=Z,900nm,21.0s,MS4.6
NVS Novosibirsk 41.80 309 *e*P **P 13 31 15.5 -2.5**
NVS *e*PPP PPP 13 33 00.3 -29
NVS *e*SS 13 37 27.5
NVS pmax pmax
comp=Z,30nm,1.2s,mb4.8
NVS pmax pmax
comp=E,31nm,1.1s
ILAR Eielson Array 41.85 36 P **P 13 31 17.6 -0.6**
comp=E,26nm,0.8s,mb4.9,baz=255,slow=6.3,SNR=175
ILAR ScP 13 36 58.5
comp=E,2.3nm,0.9s,baz=300,slow=4.8,SNR=5.7
ILAR LR LR 13 48 56.2
comp=E,629nm,20.6s,MS4.5,baz=284,slow=36
WMQ Urumqi 42.07 292 ⇑*i* P **P 13 31 20.8 +0.4**
WMQ AP pP 13 31 30.5 -0.5
WMQ XP sP 13 31 34.5 -1.0
WMQ PCP PcP 13 33 16.0 +0.6
WMQ PCS 13 37 06.0
WMQ S **S 13 37 38.0 +1.1**
WMQ XS 13 37 54.0
WMQ SS SS 13 40 41.0 +1.6
WMQ AMB AMB
comp=Z,199nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,994nm,4.2s
WMQ LR LR
comp=N,2μm,15.0s,MS5.6
WMQ LR LR
comp=E,6μm,16.2s,MS5.6
WMQ LR LR
comp=Z,4μm,17.6s,MS5.4
THY Trims Highway 42.43 38 *e*P **P 13 31 23.2 +0.1**
DIV Divide 42.67 41 *e*P **P 13 31 25.0 -0.1**
comp=Z,307nm,1.1s,mb6.0
DIV LR LR
comp=Z,4μm,21.0s,MS5.3
EYAK Cordova Ski Ar 42.76 42 *e*P **P 13 31 25.8 +0.1**
MENT Mentasta 43.40 39 *e*P **P 13 31 31.4 +0.4**
MKAR Makanchi Array 44.60 298 *i* P **P 13 31 40.1 -0.7**
MKAR pmax pmax
comp=Z,50nm,0.6s
DAWY Dawson 45.16 37 *e*P **P 13 31 44.6 -0.5**
KURK Kurchatov 45.58 304 P **P 13 31 46.8 -1.9**
comp=Z,463nm,0.8s,mb6.5,SNR=64
KURK Kurchatov 45.58 304⇓*e*P **P 13 31 46.9 -1.8**
KURK pmax pmax
comp=Z,74nm,1.7s,mb5.3
KURK Kurchatov 45.58 304 *e*P **P 13 31 46.6 -2.1**
comp=Z,49nm,0.8s,mb5.5
KURK LR LR
comp=Z,396nm,22.0s,MS4.3
NANT Nan 45.82 253 ⇑P **P 13 31 51.5 +0.5**
comp=Z,788nm,0.7s
KKM Kota Kinabalu 46.00 225 P **P 13 31 53.5 +1.0**
LSA Lhasa 46.04 272 P **P 13 31 53.8 +1.2**
LSA AP pP 13 32 02.4 -0.9
LSA XP sP 13 32 06.4 -1.3
LSA PCP PcP 13 33 31.8 +2.7
LSA PP PP 13 33 40.8 0.0
LSA PCS 13 37 25.9
LSA S **S 13 38 30.4 -4.2**
LSA XS 13 38 49.3
LSA AMB AMB
comp=Z,140nm,1.0s,mb5.8
LSA AMB AMB
comp=Z,250nm,5.7s
LSA LR LR
comp=N,440nm,23.9s,MS4.6
LSA LR LR
comp=E,780nm,23.9s,MS4.6
LSA LR LR
comp=Z,1μm,22.9s,MS4.7
LSA Lhasa 46.04 272 *e*P **P 13 31 53.3 +0.7**
LSA pmax pmax
comp=Z,107nm,0.9s,mb5.8
LSA MLR MLR
comp=Z,1μm,22.0s,MS4.7
LSA Lhasa 46.04 272 *e*P **P 13 31 53.3 +0.7**
comp=Z,107nm,0.9s,mb5.8
LSA LR LR
comp=Z,1μm,22.0s,MS4.7
KKTK Khon Kaen 46.07 248 P **P 13 31 53.4 +0.4**
INK Inuvik 46.77 30 *e*P **P 13 31 57.2 -0.6**
INK pmax pmax
comp=Z,140nm,0.9s
INK Inuvik 46.77 30 P **P 13 31 57.4 -0.4**
comp=Z,100nm,0.8s,mb5.8,baz=292,slow=7.2,SNR=530
INK Inuvik 46.77 30 *e*P **P 13 31 57.2 -0.6**
comp=Z,140nm,0.9s,mb5.9
CHG Chiang Mai 47.04 254 ⇑P **P 13 32 01.1 +0.6**
comp=Z,61nm,0.9s,mb5.5
CM31 Chiang Mai Arr 47.28 254 *e*P **P 13 32 03.1 +0.7**
comp=Z,44nm,0.8s,mb5.4
CM31 LR LR
comp=Z,1μm,20.0s,MS4.8
CMAR Chiang Mai Arr 47.28 254 P **P 13 32 03.0 +0.6**
comp=Z,15nm,0.8s,mb5.0,baz=39,slow=8.1,SNR=107
CMAR pP pP 13 32 13.7 +0.6
comp=Z,23nm,0.8s,baz=43,slow=7.0,SNR=20
CMAR PcP PcP 13 33 34.0 +0.5
comp=Z,12nm,0.9s,baz=13,slow=2.7,SNR=5.9
CMAR LR LR 13 54 02.9
comp=Z,853nm,18.1s,MS4.8,baz=55,slow=39
BDT Bhumibol Dam 48.06 252 P **P 13 32 09.0 +0.4**
NST Nakhon Sawan 48.37 250 P **P 13 32 12.0 +1.0**
comp=Z,75nm,1.0s,mb5.7
SIT Sitka 48.84 45 P **P 13 32 12.0 -2.1**
SIT pmax pmax
comp=Z,139nm,1.4s,mb5.8
SIT MLR MLR
comp=Z,2μm,19.0s,MS5.1
SIT Sitka 48.84 45 P **P 13 32 12.0 -2.1**
comp=Z,139nm,1.4s,mb5.8
SIT LR LR
comp=Z,2μm,19.0s,MS5.1
CHKZ Chkalovo 49.23 310 P **P 13 32 15.1 -2.0**
CHKZ pmax pmax
comp=Z,40nm,0.9s,mb5.5
AGT Agartala 49.32 265 *i* P **P 13 32 19.0 +0.7**
AGT *i* S pP 13 32 29.0 +0.1
BVA0 Borovoye Array 49.59 310 P **P 13 32 18.9 -1.0**
ULHL Ulahol 50.38 295 P **P 13 32 26.4 +0.3**
SNR=11
TKM2 Tokmak 2 50.51 296 P **P 13 32 27.4 +0.3**
SNR=132
JIRN Jiri 50.79 273 *e*P **P 13 32 29.7 +0.3**
comp=Z,658nm,1.1s,mb6.5
NNT Nongplab 50.83 248 P **P 13 32 31.0 +1.2**
CHMS Chumysh 51.02 296 P **P 13 32 30.6 -0.4**
SNR=13
DLBC Dease Lake 51.03 42 *e*P **P 13 32 31.4 +0.5**
KBK Karagaybulak 51.05 296 P **P 13 32 31.4 +0.2**
SNR=163
USP Ospenovka 51.07 296 P **P 13 32 31.1 -0.2**
SNR=82
KZA Kyzart 51.12 295 P **P 13 32 32.8 +1.1**
SNR=97
FRU Bishkek 51.19 296 *i* P **P 13 32 32.0 -0.2**
FRU *i* pP 13 32 40.0 -2.9
FRU pmax pmax
comp=Z,180nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,2μm,16.0s,MS5.1
AAK Ala-Archa 51.36 296 P **P 13 32 33.4 -0.1**
SNR=52
AAK Ala-Archa 51.36 296 P **P 13 32 32.9 -0.6**
comp=Z,337nm,0.6s,mb6.5,SNR=61
AAK Ala-Archa 51.36 296*c* *i*P **P 13 32 32.3 -1.2**
AAK pmax pmax
comp=Z,18nm,0.5s,mb5.3
AAK MLR MLR
comp=Z,2μm,17.0s,MS5.1
AAK Ala-Archa 51.36 296 *e*P **P 13 32 32.1 -1.4**
comp=Z,54nm,0.8s,mb5.5
AAK LR LR
comp=Z,365nm,19.0s,MS4.4
KKN Kakani 51.38 274 *e*P **P 13 32 33.7 -0.2**
comp=Z,680nm,1.1s,mb6.5
PKI Pulchoki 51.41 273 *e*P **P 13 32 34.0 -0.1**
comp=Z,501nm,1.1s,mb6.4
UCH Uchtor 51.53 295 P **P 13 32 35.1 +0.3**
SNR=22
DMN Daman 51.61 274 *e*P **P 13 32 35.8 +0.2**
comp=Z,786nm,0.9s,mb6.6
GKN Gorkha 51.73 274 *e*P **P 13 32 36.4 -0.1**
comp=Z,574nm,1.1s,mb6.4
EKS2 Erkin-Say 51.82 296 P **P 13 32 36.9 0.0**
SNR=57
KSH Kashi 51.83 292 ⇑*i* P **P 13 32 38.0 +0.9**
KSH AP pP 13 32 48.3 +0.4
KSH XP sP 13 32 51.4 -0.9
KSH PCP PcP 13 33 51.4 +1.5
KSH PP PP 13 34 36.3 +0.6
KSH PPP PPP 13 35 39.1 -0.1
KSH SCP 13 37 43.4
KSH PCS 13 37 47.3
KSH S **S 13 39 56.1 +0.6**
KSH PS PS 13 40 10.3 +0.3
KSH XS 13 40 13.3
KSH SCS ScS 13 42 22.1 +1.1
KSH SS SS 13 43 31.0 +0.7
KSH LR LR
comp=N,3μm,14.6s,MS5.5
KSH LR LR
comp=E,2μm,12.0s,MS5.5
AML Almayashu 52.12 296 P **P 13 32 39.8 +0.6**
SNR=67
PMG Port Moresby 52.57 180 PKPPKP 14 03 06.5
comp=E,16nm,1.3s,baz=221,slow=8.8,SNR=3.8
PMG Port Moresby 52.57 180 PFAKE 13 32 50.0 +7.0
PMG LR LR
comp=Z,557nm,22.0s,MS4.6
KOLN Koldanda 52.61 275 *e*P **P 13 32 43.1 0.0**
comp=Z,824nm,1.1s,mb6.6
KSM Kuching 52.98 228 *e*P **P 13 32 46.5 +0.5**
SVE Sverdlovsk 53.27 317⇓*i*P **P 13 32 46.8 -0.8**
SVE *e* 13 33 54.0
SVE *e* 13 40 24.0
SVE *e*SSS SSS 13 45 44.0 -0.3
SVE pmax pmax
comp=Z,172nm,1.0s,mb5.9
SVE MLR MLR
comp=N,600nm,17.0s,MS5.2
SVE MLR MLR
comp=E,2μm,17.0s,MS5.2
SVE MLR MLR
comp=Z,3μm,17.0s,MS5.4
ALE Alert 53.45 5 P **P 13 32 45.0 -3.7**
comp=Z,206nm,1.0s,mb6.0,SNR=38
HNR Honiara 53.91 164 PFAKE 13 33 00.0 +7.0
HNR LR LR
comp=Z,749nm,21.0s,MS4.7
SOKR Solikamsk 53.94 321 ⇑*i* P **P 13 32 49.0 -3.5**
SOKR pmax pmax
comp=Z,90nm,0.8s,mb5.8
SOKR MLR MLR
comp=Z,1μm,20.0s,MS5.0
PTH Pithoragarh 54.05 279 *e*PN **P 13 32 54.4 +0.6**
PTH *e*SN PcP 13 33 53.0 -5.3
LGTI Lohaghat 54.09 279 *i* P **P 13 32 54.5 +0.5**
DDI Dehra Dun 55.17 281 *e*P **P 13 33 00.0 -1.9**
DDI *e* 13 40 46.1
SDNR Sundarnagar 55.29 283 *e*P **P 13 33 01.9 -0.9**
RES Resolute Bay 55.33 17 *e*P **P 13 32 59.7 -2.8**
RES pmax pmax
comp=Z,65nm,0.8s,mb5.7
RES Resolute Bay 55.33 17 *e*P **P 13 32 59.7 -2.8**
comp=Z,65nm,0.8s,mb5.7
DLH Dalhousie 55.43 284 *e*P **P 13 33 02.0 -1.8**
KULM Kulim 55.65 241 *e*P **P 13 33 05.8 +0.2**
KULM *e*pP pP 13 33 17.1 +0.6
BHK Bhakra 55.73 283 *e* **P 13 33 10.6 +4.6**
BHK *e* 13 40 50.0
PONG Pong 55.77 284 *e*P **P 13 33 06.0 -0.2**
IPM Ipoh 55.96 240 P **P 13 33 08.6 +0.8**
YKW3 Yellowknife Ar 56.13 33 *e*P **P 13 33 07.1 -1.2**
YKA Yellowknife Ar 56.17 34 P **P 13 33 07.6 -1.0**
comp=Z,13nm,0.6s,mb5.2,baz=301,slow=6.7,SNR=282
YKA PcP PcP 13 34 04.7 -1.3
comp=Z,3.6nm,0.7s,baz=300,slow=6.7,SNR=1.8
YKA ScP 13 38 01.0
comp=Z,1.3nm,0.8s,baz=299,slow=4.7,SNR=3.7
YKA LR LR 13 59 10.0
comp=Z,494nm,20.9s,MS4.6,baz=295,slow=38
YKA PKPPKP 14 03 02.3
comp=Z,0.2nm,0.7s,baz=146,slow=2.7,SNR=4.0
YKA Yellowknife Ar 56.17 34 P **P 13 33 07.6 -1.0**
YKA PcP PcP 13 34 04.7 -1.3
YKA ScP 13 38 01.0
YKA LR LR 13 59 10.0
YKA P'P' 14 03 02.3
KGM Kluang 56.55 236 P **P 13 33 13.5 +1.4**
NDI New Delhi 56.70 280 *e*P **P 13 33 10.5 -2.5**
NDI *e*S **S 13 41 01.0 -0.2**
BLSP Bilaspur 57.03 270 *e*P **P 13 33 14.0 -1.4**
KAKA Kakadu 57.41 197 *e*P **P 13 33 17.1 -1.0**
comp=Z,38nm,1.0s,mb5.4
KAKA *e*pP pP 13 33 28.6 -0.4
LVZ Lovozero 58.04 336 *e*P **P 13 33 20.6 -1.2**
LVZ pmax pmax
comp=Z,30nm,1.0s,mb5.3
LVZ MLR MLR
comp=Z,840nm,18.0s,MS4.9
LVZ MLR MLR
comp=N,336nm,12.0s
APA Apatity 58.61 336 ⇑*i* P **P 13 33 24.7 -1.2**
APA *i* pP 13 33 33.5 -3.3
APA pmax pmax
comp=Z,24nm,0.8s,mb5.3
APA MLR MLR
comp=Z,1μm,18.0s,MS5.0
VIS Vishakhapatnam 58.94 265 *e* **P 13 33 27.0 -1.8**
KEV Kevo 58.97 339 *e*p **P 13 33 24.9 -3.4**
comp=Z,26nm,0.6s,mb5.4
KEV Kevo 58.97 339 *e*P **P 13 33 24.9 -3.4**
KEV pmax pmax
comp=Z,26nm,0.6s,mb5.4
ARCES ARCESS Array B 59.50 340 P **P 13 33 30.5 -1.5**
comp=Z,27nm,0.8s,mb5.3,baz=43,slow=5.9,SNR=59
ARCES pP pP 13 33 43.4 +0.4
comp=Z,4.4nm,0.5s,baz=22,slow=6.5,SNR=3.3
ARCES PcP PcP 13 34 17.4 -1.6
comp=Z,7.3nm,0.6s,baz=63,slow=8.1,SNR=4.6
ARCES LR LR 14 05 57.9
comp=Z,713nm,18.7s,MS4.8,baz=33,slow=43
ARE0 ARCESS Array S 59.50 340 *e*P **P 13 33 30.2 -1.8**
DAG Danmarks Havn 59.74 356⇓*e*P **P 13 33 30.1 -3.5**
DAG pmax pmax
comp=Z,20nm,0.4s,mb5.5
DAG Danmarks Havn 59.74 356⇓*i*P **P 13 33 30.1 -3.5**
comp=Z,20nm,0.4s,mb5.5
AJM Ajmer 59.84 279 ⇑*i* P **P 13 33 33.0 -1.9**
KTK1 Kautokeino 60.45 340 *e*P **P 13 33 37.4 -1.1**
KTK1 Kautokeino 60.45 340 ⇑*i*P **P 13 33 37.5 -0.9**
TRO Tromso 61.02 342 *e*P **P 13 33 39.6 -2.7**
comp=Z,118nm,1.2s,mb5.9
TRO Tromso 61.02 342 *e*P **P 13 33 39.6 -2.7**
TRO AMb AMB 13 33 41.5
comp=Z,118nm,1.2s,mb5.9
COR Corvallis 61.23 55 PFAKE 13 34 00.0 +16
COR LR LR
comp=Z,1μm,19.0s,MS5.0
ETW Entiat 61.27 50 P **P 13 33 44.0 -0.3**
EBG Ellensburg 61.53 51 P **P 13 33 46.2 +0.2**
EDM Edmonton 61.76 42 *e*P **P 13 33 46.3 -1.2**
EPH Ephrata 61.83 50 P **P 13 33 47.5 -0.6**
MXC Moxie City 61.87 51 P **P 13 33 48.5 +0.2**
VFP Flag Point 61.91 53 P **P 13 33 48.8 +0.1**
JOF Joensuu 62.31 332 *e*p **P 13 33 48.4 -2.7**
comp=Z,92nm,0.6s,mb6.1
WRD Warden 62.39 51 P **P 13 33 51.0 -0.9**
HUMO Hull Mountain 62.56 56 PFAKE 13 34 00.0 +7.0
HUMO LR LR
comp=Z,985nm,19.0s,MS5.0
HYB Hyderabad 62.61 268 ⇑*i*P **P 13 32 52.5 -1.2**
comp=Z,200nm,1.0s,mb6.2
HYB *e*pP pP 13 34 02.5 -2.2
HYB *e*sP sP 13 34 09.0 +0.1
NEW Newport 62.67 48 *e*P **P 13 33 52.3 -1.4**
NEW pmax pmax
comp=Z,70nm,1.3s
NEW Newport 62.67 48 *e*P **P 13 33 52.3 -1.4**
comp=Z,70nm,1.3s,mb5.6
CTAO Charters Tower 63.19 181 PFAKE 13 34 10.0 +12
CTAO LR LR
comp=Z,492nm,21.0s,MS4.7
YBH Yreka Blue Hor 63.21 57 *e*P **P 13 33 57.3 -0.1**
YBH pmax pmax
comp=Z,36nm,1.3s
YBH MLR MLR
comp=Z,729nm,19.0s
YBH Yreka Blue Hor 63.21 57 *e*P **P 13 33 57.3 -0.1**
comp=Z,36nm,1.3s,mb5.3
YBH LR LR
comp=Z,729nm,19.0s,MS4.9
LATR Latur 63.42 271 *i* P **P 13 33 58.0 -1.1**
LOF Lofoten 63.42 342 *e*P **P 13 33 58.7 +0.3**
WALA Waterton Lakes 63.92 46 *e*P **P 13 34 01.4 -0.4**
comp=Z,43nm,1.2s,mb5.4

WRAB Tennant Creek 64.09 193 P **P** **13 34 02.0 -1.4**
comp=Z,304nm,1.1s,mb6.2,SNR=19
WRAB Tennant Creek 64.09 193 *eP* **P** **13 34 02.1 -1.3**
WRAB pmax pmax
comp=Z,115nm,1.2s,mb5.8
WRAB MLR MLR
comp=Z,214nm,21.0s,MS4.3
WRAB Tennant Creek 64.09 193 *eP* **P** **13 34 02.1 -1.3**
comp=Z,115nm,1.2s,mb5.8
WRAB LR LR
comp=Z,214nm,21.0s,MS4.3
WB2 Warramunga Arr 64.10 193⇑*iP* **P** **13 34 02.1 -1.3**
WB2 *e*pP pP 13 34 13.6 -0.9
WRA Warramunga Arr 64.10 193 P **P** **13 34 02.3 -1.2**
comp=Z,54nm,1.1s,mb5.5,baz=9.4,slow=6.7,SNR=65
WRA PcP PcP 13 34 38.6 +0.4
comp=Z,14nm,0.9s,baz=11,slow=5.8,SNR=6.4
WRA PKPPKP 14 02 53.5
comp=Z,1.4nm,0.9s,baz=202,slow=2.4,SNR=7.3
SUMG Summit 64.25 2 *eP* **P** **13 34 02.1 -1.5**
comp=Z,201nm,1.1s,mb6.1
FITZ Fitzroy Crossi 64.26 203 *eP* **P** **13 34 04.3 -0.2**
comp=Z,51nm,0.9s,mb5.5
FITZ *e*pP pP 13 34 15.9 +0.3
KAF Kangasniemi 64.54 333 *ep* **P** **13 34 02.9 -2.7**
comp=Z,88nm,0.7s,mb5.9
KAF Kangasniemi 64.54 333 *eP* **P** **13 34 02.9 -2.7**
KAF pmax pmax
comp=Z,88nm,0.7s,mb5.9
MOD Modoc 64.57 56 *eP* **P** **13 34 06.0 -0.1**
comp=Z,27nm,1.2s,mb5.2
MOD LR LR
comp=Z,732nm,22.0s,MS4.8
BMO Blue Mountains 64.58 52 *eP* **P** **13 34 05.7 -0.4**
comp=Z,23nm,1.3s,mb5.0
BMO LR LR
comp=Z,845nm,21.0s,MS4.9
HOPS Hopland 64.58 60 PFAKE 13 34 20.0 +14
HOPS LR LR
comp=Z,879nm,20.0s,MS5.0
MOS Moscow 64.62 324 *eP* **P** **13 34 03.3 -3.0**
MOS *e* 13 34 21.6
MOS *e* 13 34 38.4
MOS pmax pmax
comp=Z,222nm,1.6s,mb5.9
MOS MLR MLR
comp=Z,1μm,20.5s,MS5.0
MOR8 Moi Rana 64.80 341 *eP* **P** **13 34 03.8 -3.4**
comp=Z,255nm,0.6s,mb6.4
MOR8 Moi Rana 64.80 341 *eP* **P** **13 34 03.6 -3.6**
MOR8 AMb AMB 13 34 05.3
comp=Z,255nm,0.7s,mb6.4
FINES FINESS Array B 65.10 333 P **P** **13 34 07.6 -1.6**
comp=Z,144nm,0.6s,mb6.2,baz=45,slow=8.1,SNR=461
FINES pP pP 13 34 21.1 +0.8
comp=Z,19nm,0.6s,baz=45,slow=8.1,SNR=4.0
FINES LR LR 14 07 18.2
comp=Z,551nm,18.6s,MS4.8,baz=49,slow=40
WVOR Wild Horse Val 65.25 54 *eP* **P** **13 34 10.2 -0.3**
WVOR pmax pmax
comp=Z,29nm,1.1s,mb5.2
WVOR MLR MLR
comp=Z,947nm,19.0s,MS5.0
WVOR Wild Horse Val 65.25 54 *eP* **P** **13 34 10.2 -0.4**
comp=Z,29nm,1.1s,mb5.2
WVOR LR LR
comp=Z,947nm,19.0s,MS5.0
MSO Missoula 65.26 48 *eP* **P** **13 34 09.7 -0.9**
comp=Z,58nm,1.3s,mb5.5
POO Poona 65.32 273⇑*iP* **P** **13 34 09.0 -2.4**
OBN Obninsk 65.49 324 P **P** **13 34 09.3 -2.5**
comp=Z,852nm,0.7s,SNR=8.4
OBN Obninsk 65.49 324*c iP* **P** **13 34 10.3 -1.5**
OBN *e* 13 34 42.7
OBN pmax pmax
comp=Z,190nm,1.0s,mb6.1
OBN MLR MLR
comp=Z,600nm,16.0s,MS4.9
OBN Obninsk 65.49 324 *eP* **P** **13 34 10.6 -1.3**
comp=Z,89nm,0.7s,mb5.9
OBN LR LR
comp=Z,249nm,20.0s,MS4.4
CHMT Chamberlain Mo 65.58 48 *eP* **P** **13 34 11.9 -0.6**
KAD Karad 65.86 271 *eP* **P** **13 34 13.8 -1.1**
FFC Flin Flon 66.06 36 P **P** **13 34 15.9 +0.4**
comp=Z,305nm,1.2s,mb6.2,SNR=49
FFC Flin Flon 66.06 36 *eP* **P** **13 34 14.9 -0.6**
FFC pmax pmax
comp=Z,33nm,0.8s,mb5.4
FFC MLR MLR
comp=Z,115nm,19.0s,MS4.1
FFC Flin Flon 66.06 36 *eP* **P** **13 34 14.9 -0.6**
comp=Z,33nm,0.8s,mb5.4
FFC LR LR
comp=Z,115nm,19.0s,MS4.1
SCO Scoresbysund 66.13 356 *i* P **P** **13 34 14.0 -1.7**
SCO pmax pmax
comp=Z,37nm,0.8s,mb5.5
SCO Scoresbysund 66.13 356 *i* P **P** **13 34 14.0 -1.7**
comp=Z,37nm,0.8s,mb5.5
FCC Fort Churchill 66.39 30 *eP* **P** **13 34 16.2 -1.3**
comp=Z,38nm,0.8s,mb5.5
WCN Washoe City 66.46 58 *eP* **P** **13 34 18.5 +0.2**
WCN pmax pmax
comp=Z,45nm,1.1s,mb5.4
WCN Washoe City 66.46 58 *eP* **P** **13 34 18.5 +0.1**
comp=Z,45nm,1.1s,mb5.4
HRY Holter Researc 66.47 47 *eP* **P** **13 34 18.1 -0.1**
NSS Namsos 66.74 341 *eP* **P** **13 34 16.9 -2.8**
comp=Z,97nm,1.0s,mb5.8
NSS Namsos 66.74 341 *eP* **P** **13 34 16.9 -2.8**
NSS AMb AMB 13 34 18.9
comp=Z,97nm,1.0s,mb5.8
CMB Columbia Colle 66.84 59 *eP* **P** **13 34 20.6 -0.1**
CMB pmax pmax
comp=Z,40nm,1.1s,mb5.4
CMB MLR MLR
comp=Z,941nm,19.0s,MS5.0
CMB Columbia Colle 66.84 59 *eP* **P** **13 34 20.6 -0.1**
comp=Z,40nm,1.1s,mb5.4
CMB LR LR
comp=Z,941nm,19.0s,MS5.0
SAO San Andreas Ge 66.95 61 PFAKE 13 34 30.0 +8.6
SAO LR LR
comp=Z,565nm,20.0s,MS4.8
HLID Hailey 67.01 51 *eP* **P** **13 34 21.6 -0.1**
comp=Z,24nm,1.2s,mb5.1
HLID LR LR
comp=Z,1μm,22.0s,MS5.0
MCMT McKenzie Canyo 67.10 49 *eP* **P** **13 34 21.4 -0.9**
BOZ Bozeman (W) 67.25 48 *eP* **P** **13 34 23.1 -0.1**
BOZ pmax pmax
comp=Z,29nm,0.8s,mb5.4
BOZ MLR MLR
comp=Z,883nm,19.0s,MS5.0
BOZ Bozeman (W) 67.25 48 *eP* **P** **13 34 23.1 -0.1**
comp=Z,29nm,0.8s,mb5.3
BOZ LR LR
comp=Z,883nm,19.0s,MS5.0
BMN Battle Mountai 67.31 55 *eP* **P** **13 34 23.9 +0.3**
BMN pmax pmax
comp=Z,33nm,1.1s,mb5.3
BMN MLR MLR
comp=Z,686nm,19.0s,MS4.9
BMN Battle Mountai 67.31 55 *eP* **P** **13 34 23.9 +0.2**
comp=Z,33nm,1.1s,mb5.3
BMN LR LR
comp=Z,686nm,19.0s,MS4.9
ASAR Alice Springs 67.82 193 P **P** **13 34 27.1 -0.1**
comp=Z,25nm,0.9s,mb5.3,baz=13,slow=5.9,SNR=142
ASAR pP pP 13 34 40.8 +2.5
comp=Z,22nm,0.8s,baz=13,slow=5.5,SNR=17
ASAR PcP PcP 13 34 52.9 -0.8
comp=Z,15nm,0.8s,baz=11,slow=5.4,SNR=7.6
ASAR LR LR 14 02 34.3
comp=Z,153nm,18.3s,MS4.3,baz=5.0,slow=34
ASAR PKPPKP 14 02 48.5
comp=Z,2.4nm,0.9s,baz=179,slow=3.2,SNR=16
ASPA Alice Springs 67.82 193 *eP* **P** **13 34 26.9 -0.2**
ASPA *e*pP pP 13 34 39.7 +1.4
QLMT Earthquake Lak 67.88 49 *eP* **P** **13 34 27.2 +0.1**
NVAR Mina Array Bea 67.89 58 P **P** **13 34 27.7 +0.4**
comp=Z,8.0nm,0.7s,mb4.8,baz=302,slow=5.2,SNR=71
NVAR pP pP 13 34 40.0 +1.5
comp=Z,22nm,0.9s,baz=290,slow=7.7,SNR=18
NVAR PcP PcP 13 34 54.0 +0.3
comp=Z,8.6nm,0.8s,baz=300,slow=4.2,SNR=6.5
NVAR PKPPKP 14 02 46.6
comp=Z,0.9nm,0.9s,baz=140,slow=2.8,SNR=4.3
NVAR Mina Array Bea 67.89 58 P **P** **13 34 27.7 +0.4**
NVAR pP pP 13 34 40.0 +1.6
NVAR PcP PcP 13 34 54.0 +0.2
NVAR P'P' 14 02 46.6
OMM Old Mammoth Mi 67.97 59 *eP* **P** **13 34 27.7 -0.2**
MNV Mina 67.98 58 *eP* **P** **13 34 28.0 +0.1**
MNV pmax pmax
comp=Z,28nm,1.2s,mb5.2
MNV MLR MLR
comp=Z,853nm,19.0s,MS5.0
MNV Mina 67.98 58 *eP* **P** **13 34 28.0 +0.1**
comp=Z,28nm,1.2s,mb5.2
MNV LR LR
comp=Z,853nm,19.0s,MS5.0
YMR Madison River 68.24 49 *eP* **P** **13 34 29.7 +0.3**
ELK Elko 68.29 54 P **P** **13 34 30.0 +0.2**
ELK *PP pP 13 34 42.6 +1.6
ELK 13 34 57.4
ELK MLR MLR
comp=Z,1μm,21.0s
ELK Elko 68.29 54 P **P** **13 34 30.0 +0.2**
comp=Z,2.2nm,0.8s,baz=288,slow=6.4,SNR=12
ELK pP pP 13 34 42.5 +1.6
comp=Z,5.3nm,0.8s,baz=274,slow=5.4,SNR=8.5
ELK PcP PcP 13 34 57.4 +2.1
comp=Z,6.2nm,1.0s,baz=283,slow=6.3,SNR=4.3
MTUM Tungsten Hills 68.40 59 *eP* **P** **13 34 31.8 +1.2**
YFT Old Faithful 68.45 49 *eP* **P** **13 34 32.5 +1.8**
LKWY Lake 68.61 49 *eP* **P** **13 34 33.4 +1.7**
LKWY pmax pmax
comp=Z,20nm,1.0s,mb5.0
LKWY MLR MLR
comp=Z,2μm,21.0s,MS5.3
LKWY Lake 68.61 49 *eP* **P** **13 34 33.4 +1.7**
comp=Z,20nm,1.0s,mb5.0
LKWY LR LR
comp=Z,2μm,21.0s,MS5.3
IMW Indian Meadow 68.75 49 *eP* **P** **13 34 33.4 +0.8**
TPH Tonopah 68.78 57 *eP* **P** **13 34 33.2 +0.4**
TPH pmax pmax
comp=Z,39nm,1.1s,mb5.2
TPH MLR MLR
comp=Z,552nm,19.0s,MS4.8
TPH Tonopah 68.78 57 *eP* **P** **13 34 33.1 +0.3**
comp=Z,39nm,1.1s,mb5.2
TPH LR LR
comp=Z,552nm,19.0s,MS4.8
MUDI Mud Lake 68.85 50 *eP* **P** **13 34 32.8 -0.4**
RRI2 Red Ridge 68.89 50 *eP* **P** **13 34 34.1 +0.7**
MOOW Moose Ponds 68.95 49 *eP* **P** **13 34 34.3 +0.5**
MBWA Marble Bar 68.95 207 *eP* **P** **13 34 33.8 -0.3**
comp=Z,80nm,1.3s,mb5.5
GOF Gofitskoye 68.95 313⇑*iP* **P** **13 34 33.8 0.0**
GOF *i* pP 13 34 44.4 -0.6
GOF *i* 13 34 51.5
GOF *i* S S 13 43 35.8 +1.4
GOF smax
comp=E,490nm,2.5s
TPAW Teton Pass 69.00 50 *eP* **P** **13 34 35.0 +0.9**
WUWY Wally Ulrich 69.09 50 *eP* **P** **13 34 34.7 +0.1**
SFJ Sondre 69.10 7 *eP* **P** **13 34 32.8 -1.6**
comp=E,56nm,1.0s,mb5.5
SFJ LR LR
comp=Z,841nm,21.0s,MS5.0
SFJD Kangerlussuaq 69.10 7⇑*iP* **P** **13 34 33.0 -1.3**
comp=Z,61nm,1.0s,mb5.5
comp=Z,700nm,22.0s
SNOW Snow King Moun 69.13 50 *eP* **P** **13 34 35.8 +0.8**
IZAR Zarasai 69.23 329 *eP* **P** **13 34 34.5 -0.7**
IZAR AMb AMB 13 34 35.7
comp=Z,56nm,0.8s,mb5.5
IDID Didziasalis 69.36 328 *i* P **P** **13 34 35.5 -0.6**
IDID AMb AMB 13 34 37.2
comp=Z,98nm,1.1s,mb5.6
AHID Auburn Hatcher 69.39 50 PFAKE 13 34 50.0 +13
AHID LR LR
comp=Z,640nm,21.0s,MS4.8
ISAL Salakas 69.41 329 *i* P **P** **13 34 35.7 -0.7**
ISAL AMb AMB 13 34 37.5
comp=Z,109nm,1.0s,mb5.8
ISAL *e*pP pP 13 34 46.7 -0.9
LAO LASA Array 69.43 45 *eP* **P** **13 34 36.7 0.0**
comp=Z,77nm,1.3s,mb5.5
LAO LR LR
comp=Z,1μm,21.0s,MS5.2
MOL Molde 69.46 341 *eP* **P** **13 34 37.2 +0.6**
comp=Z,126nm,1.7s,mb5.6
MOL Molde 69.46 341 *eP* **P** **13 34 37.2 +0.6**
MOL AMb AMB 13 34 41.5
comp=Z,126nm,1.7s,mb5.6
IIGN Ignalina 69.53 328 *i* P **P** **13 34 36.7 -0.5**
IIGN AMb AMB 13 34 38.4
comp=Z,136nm,1.3s,mb5.7
MNK Minsk 69.54 327⇑*iP* **P** **13 34 34.0 -3.2**
DOMB Dombas 69.55 340 *eP* **P** **13 34 36.2 -0.9**
comp=Z,244nm,0.9s,mb6.1
DOMB Dombas 69.55 340⇑*iP* **P** **13 34 36.2 -0.9**
DOMB AMb AMB 13 34 38.1
comp=Z,244nm,0.9s,mb6.1
DAC Darwin (Calif) 69.68 59 PFAKE 13 34 50.0 +12
DAC LR LR
comp=Z,761nm,19.0s,MS5.0
NB2 NORSAR Subarra 69.86 339 P **P** **13 34 38.1 -0.9**
comp=Z,247nm,0.8s,mb6.2,baz=32,slow=6.2
NB2 NORSAR Subarra 69.86 339 P **P** **13 34 38.1 -0.9**
NB2 pmax pmax
comp=Z,247nm,0.8s,mb6.2
NB2 NORSAR Subarra 69.86 339 P **P** **13 34 38.1 -0.9**
baz=32,slow=6.5
NOA NORSAR Array B 69.86 339 P **P** **13 34 37.7 -1.4**
comp=Z,202nm,0.8s,mb6.1,baz=34,slow=6.1,SNR=485
NOA LR LR 14 08 22.0
comp=Z,393nm,21.8s,MS4.6,baz=40,slow=38
NOA NORSAR Array B 69.86 339 P **P** **13 34 37.7 -1.4**
NOA LR LR 14 08 22.0
KIV Kislovodsk 69.87 312 *eP* **P** **13 34 39.6 +0.2**
KIV *e* 13 35 01.7
KIV *e*S S 13 43 48.9 +3.8
KIV MLR MLR
comp=Z,2μm,16.0s,MS5.4
KIV Kislovodsk 69.87 312 *eP* **P** **13 34 39.8 +0.4**
comp=Z,529nm,0.8s,mb6.5
KIV LR LR
comp=Z,591nm,20.0s,MS4.8
HWUT Hardware Ranch 69.88 52 *eP* **P** **13 34 39.4 -0.1**
comp=Z,28nm,1.2s,mb5.1
HWUT LR LR
comp=Z,593nm,19.0s,MS4.9
HFA0 Hagfors New Ar 69.93 337 P **P** **13 34 37.6 -1.9**
HFS Hagfors 69.94 337 P **P** **13 34 38.3 -1.2**
comp=Z,246nm,0.7s,mb6.2,baz=45,slow=6.3,SNR=283
DUS Dusheti 69.97 309 P **P** **13 34 40.4 +0.3**
ZEI Tsey 69.98 310 *i* P **P** **13 34 39.8 -0.3**
ZEI *i* *PP pP 13 34 47.4 -3.8
ZEI *e*S S 13 43 43.3 -3.2
NAO01 NORSAR Array S 70.11 339 *eP* **P** **13 34 39.3 -1.3**
comp=Z,218nm,0.9s,mb6.1
NOQ North Oquirrh 70.18 53 P **P** **13 34 40.5 -0.8**
TI2 Plekhanov 70.18 309⇑*iP* **P** **13 34 42.0 +0.7**
TI2 *e*S S 13 43 51.0 +2.2
MTA Mtatsminda 70.18 309 P **P** **13 34 41.6 +0.3**
TBLG Delisi 70.19 309 P **P** **13 34 41.9 +0.6**
BW06 Boulder Array 70.25 50 PFAKE 13 34 50.0 +8.3
BW06 LR LR
comp=Z,674nm,19.0s,MS4.9
PDAR Pinedale Array 70.25 50 P **P** **13 34 40.9 -0.9**
comp=Z,8.2nm,0.8s,mb4.7,baz=273,slow=2.2,SNR=63
PDAR PKPPKP 14 02 38.1
comp=Z,1.1nm,1.1s,baz=207,slow=6.6,SNR=5.3
PDAR LR LR 14 05 25.5
comp=Z,494nm,18.9s,MS4.8,baz=110,slow=36
TCUT Toone Canyon 70.28 52 *eP* **P** **13 34 42.1 +0.1**
JLU Jordanelle 70.60 52 *eP* **P** **13 34 43.6 -0.3**
NLU North Lily Min 70.66 53 *eP* **P** **13 34 44.7 +0.4**
MWC Mount Wilson 70.69 61 *eP* **P** **13 34 44.4 -0.2**
DAU Daniels Canyon 70.83 52 *eP* **P** **13 34 45.9 +0.6**
MPU Maple Canyon 70.87 53 *eP* **P** **13 34 44.4 -1.2**
GNI Garni 71.22 308 P **P** **13 34 48.5 +0.9**
GNI Garni 71.22 308 P **P** **13 34 49.2 +1.5**
GNI pmax pmax
comp=Z,34nm,0.8s
GNI MLR MLR
comp=Z,1μm,18.8s
GNI Garni 71.22 308 P **P** **13 34 49.2 +1.5**
comp=Z,34nm,0.8s,mb5.3,baz=217,slow=1.0,SNR=33
GNI LR LR 14 09 27.3
comp=Z,1μm,18.8s,MS5.1,baz=228,slow=39
GNI Garni 71.22 308 *eP* **P** **13 34 49.1 +1.4**
comp=Z,307nm,1.6s,mb6.0
GNI LR LR
comp=Z,1μm,21.0s,MS5.1
ARUT Antelope Range 71.26 56 *eP* **P** **13 34 47.9 -0.1**
KONO Kongsberg 71.47 339 *eP* **P** **13 34 48.0 -0.7**
KONO LR LR
comp=Z,1μm,19.0s,MS5.2
KONO Kongsberg 71.47 339⇑*iP* **P** **13 34 48.0 -0.8**
MVU Marysvale 71.52 54 *eP* **P** **13 34 50.1 +0.6**
comp=Z,12nm,1.1s,mb4.7
MVU LR LR
comp=Z,704nm,22.0s,MS4.9
MSU Marysvale 71.54 54 *eP* **P** **13 34 50.3 +0.7**
TMUT Trail Mountain 71.59 53 *eP* **P** **13 34 50.1 +0.2**
SUW Suwalki 71.70 329 *eP* **P** **13 34 49.3 -1.0**
SUW pmax pmax
comp=Z,540nm,1.1s,mb6.4
SUW Suwalki 71.70 329⇑*eP* **P** **13 34 49.4 -0.9**
SUW Suwalki 71.70 329⇑*eP* **P** **13 34 49.4 -0.9**
SUW MLR MLR 14 06 38.0
comp=Z,1μm,23.9s,MS5.0
SOC Sochi 71.71 313 *i* P **P** **13 34 50.4 -0.1**
SOC *e* 13 35 07.1
SOC *e*PPP PPP 13 39 16.5 +3.0
SOC *e*S S 13 43 55.4 -11
SOC *e* 13 44 48.2
SOC *e*SS SS 13 48 43.0 -1.5
SOC pmax pmax
comp=Z,127nm,0.6s,mb6.0
SOC pmax pmax
comp=N,11nm,0.7s
SOC pmax pmax
comp=E,26nm,0.9s
KIEV Kiev 71.77 324 P **P** **13 34 49.9 -0.8**
BORG Borgarnes 71.78 355 P **P** **13 34 51.7 +1.2**
comp=E,47nm,0.8s,mb5.5,baz=13,slow=4.1,SNR=8.6
ULM Lac du Bonnet 71.86 37 P **P** **13 34 50.3 -1.0**
comp=E,13nm,0.9s,mb4.9,baz=315,slow=7.6,SNR=23
ULM LR LR 14 10 46.9
comp=E,325nm,18.8s,MS4.6,baz=325,slow=40
LDFC Landfair 72.00 59 *eP* **P** **13 34 52.5 +0.1**
ANN Anapa 72.07 315*c iP* **P** **13 34 52.2 -0.4**
ANN *i* *PP pP 13 35 18.6 +15
ANN *e*S S 13 44 05.9 -4.8
ANN pmax pmax
comp=Z,178nm,0.7s,mb6.1
PFO Pinyon Flat Ob 72.11 61 *eP* **P** **13 34 52.8 -0.2**
comp=Z,5.6nm,1.0s
PFO LR LR
comp=Z,270nm,21.0s
SRU San Rafael 72.11 53 *eP* **P** **13 34 52.9 -0.1**
BCA Borcka 72.12 310 P **P** **13 34 53.0 0.0**
BLS5 Blasjo 72.47 340⇑*iP* **P** **13 34 55.1 +0.4**
comp=Z,124nm,1.2s,mb5.7
BLS5 Blasjo 72.47 340⇑*iP* **P** **13 34 55.1 +0.4**
BLS5 AMb AMB 13 34 57.1
comp=Z,124nm,1.2s,mb5.7
BAR Barrett 72.57 61 *eP* **P** **13 34 55.7 -0.1**
VANB Van 73.04 307 P **P** **13 34 59.5 +1.0**
BANOM Banah 73.11 290 ⇑P **P** **13 34 59.3 +0.1**
SNR=56
WBK Wadi Bani Khal 73.40 285 P **P** **13 35 01.9 +1.0**
SNR=25
BIDO Bidbid 73.40 287 ⇓P **P** **13 35 02.0 +1.1**
SNR=8.6
PV10 Paradox Valley 73.47 53 *eP* **P** **13 35 01.5 +0.5**
HKR Hakkari 73.51 306 *eP* **P** **13 35 01.8 +0.5**
SIM Simferopol' 73.65 317*c iP* **P** **13 35 01.7 -0.2**
SIM *e* 13 35 17.0
SIM pmax pmax
comp=Z,200nm,0.9s,mb6.0
SIM MLR MLR
comp=Z,970nm,17.4s,MS5.2
BSD Bornholm Skovb 73.72 334⇑*iP* **P** **13 35 01.2 -0.9**
comp=Z,282nm,1.0s,mb6.2
comp=Z,800nm,18.0s
VRT Varto 73.74 309 P **P** **13 35 04.2 +1.6**
SMDO Samad 73.75 286 ⇑P **P** **13 35 03.5 +0.5**
WAR Warsaw 73.90 329 *eP* **P** **13 35 03.8 +0.6**
comp=Z,0.5nm,0.5s
WAR LR LR
comp=Z,1μm,30.2s
WAR Warsaw 73.90 329 *eP* **P** **13 35 03.8 +0.6**
comp=Z,500nm,0.5s,mb6.7
WAR MLR MLR 14 08 31.6
comp=Z,1μm,30.2s,MS5.0
PV01 Paradox Valley 73.90 53 *eP* **P** **13 35 03.7 +0.2**
GUMT Gumushane 73.98 311 P **P** **13 35 05.0 +1.1**
WUAZ Wupatki 74.00 56 *eP* **P** **13 35 05.0 +0.8**
comp=Z,101nm,0.4s,mb6.1
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.3
COP Copenhagen 74.03 335⇑*iP* **P** **13 35 03.6 -0.2**
COP pmax pmax
comp=Z,177nm,0.9s,mb6.0
COP Copenhagen 74.03 335⇑*iP* **P** **13 35 03.6 -0.2**
comp=Z,177nm,0.9s,mb6.0
ASHO Ashiyiah 74.08 289 ⇑P **P** **13 35 04.9 +0.1**
SNR=54
JMDO Jabal Madar 74.16 286 ⇓P **P** **13 35 05.6 +0.3**
SNR=36
MUD Monsted U'grnd 74.33 337⇑*iP* **P** **13 35 05.4 -0.2**
comp=Z,141nm,0.9s,mb5.9
MUD *i* pP 13 35 18.5 +1.8
comp=Z,880nm,19.0s
BTMT Batman 74.41 308 P **P** **13 35 07.7 +1.3**
ISCO Idaho Springs 74.44 50 *eP* **P** **13 35 07.2 +0.6**
ISCO pmax pmax
comp=Z,39nm,1.3s,mb5.2
ISCO MLR MLR
comp=Z,868nm,21.0s,MS5.0
ISCO Idaho Springs 74.44 50 *eP* **P** **13 35 07.2 +0.6**
comp=Z,39nm,1.3s,mb5.2
ISCO LR LR
comp=Z,868nm,21.0s,MS5.0
GKP Gorka Klasztor 74.45 331⇑*eP* **P** **13 35 06.2 -0.2**
comp=Z,0.3nm,0.7s
GKP *e*pP pP 13 35 16.6 -0.9
GKP LR LR
comp=Z,800nm,23.4s,MS4.9
GKP Gorka Klasztor 74.45 331⇑*eP* **P** **13 35 06.2 -0.2**
comp=Z,300nm,0.7s,mb6.3
GKP *e*pP pP 13 35 16.6 -0.9
GKP MLR MLR 14 08 40.8
comp=Z,800nm,23.4s,MS4.9
BINT Bingol 74.51 309 *eP* **P** **13 35 08.3 +1.3**
BSY Bisya 74.55 287 ⇑P **P** **13 35 08.1 +0.6**
SNR=26
LVV L'vov 74.61 326 *eP* **P** **13 35 07.2 -0.1**
LVV *e* 13 35 21.8
ARQ Araqi 74.63 288 ⇓P **P** **13 35 08.3 +0.3**
SNR=15
KIS Kishinev 74.68 321*α iP* **P** **13 35 06.0 -1.8**
KIS *e* 13 39 42.0
KIS *e*S S 13 44 36.0 -3.9
KIS *e* 13 45 22.0
KIS *e* 13 45 36.0
KIS pmax pmax
comp=Z,700nm,1.0s,mb6.5
KIS pmax pmax
comp=Z,1μm,2.0s,mb6.5
KIS MLR MLR
comp=Z,1μm,19.0s,MS5.2
KIS MLR MLR
comp=N,600nm,17.0s
MSL Mosul 74.77 306 *eP* **P** **13 35 09.5 +0.9**
STKA Stephens Creek 75.09 185 P **P** **13 35 11.1 +0.5**
comp=N,18nm,0.9s,mb5.0,baz=354,slow=5.5,SNR=17
STKA LR LR 14 04 36.2
comp=N,344nm,21.4s,MS4.6,baz=6.4,slow=33
STKA Stephens Creek 75.09 185 *eP* **P** **13 35 10.7 +0.2**
IAS Iasi 75.10 322 P **P** **13 35 10.3 +0.1**
PTK Pertek 75.11 310 P **P** **13 35 12.2 +1.6**
KWP Kalwaria 75.30 326⇑*eP* **P** **13 35 11.9 +0.6**
comp=N,900nm,0.9s,mb6.7
KWP MLR MLR 14 10 28.2
comp=N,1μm,22.3s,MS5.2
KVT Kavak 75.41 313 *eP* **P** **13 35 13.1 +1.0**
EYMN Ely 75.50 36 *eP* **P** **13 35 11.4 -1.1**
comp=N,45nm,1.0s,mb5.3
TOKT Tokat 75.68 312 *eP* **P** **13 35 14.3 +0.6**

BURAR **Bucovina Array** 75.81 324 P P 13 35 14.6 +0.3
FORT Forrest 75.84 197 eP P 13 35 12.9 -1.9
comp=N,903nm,0.7s
BZK Bozkurt 75.85 315 P P 13 35 15.4 +0.8
SDCO Great Sand Dun 75.93 51 eP P 13 35 15.2 +0.1
comp=N,12nm,1.0s,mb4.8
SDCO LR LR
comp=Z,1μm,19.0s,MS5.2
OJC Ojcow 75.98 328 eP P 13 35 15.4 +0.2
KOLS Kolonicke sedl 76.02 326 i P P 13 35 15.6 +0.2
MYA Malataya 76.05 310 P P 13 35 17.2 +1.4
BSEG Bad Segeberg 76.16 335 eP P 13 35 16.3 +0.2
RUE Ruedersdorf 76.29 333 eP P 13 35 16.4 -0.5
comp=Z,206nm,1.1s,mb6.0
CFR Carcaliu 76.36 320 P P 13 35 17.6 +0.2
CFR Carcaliu 76.36 320 ⇑P P 13 35 17.5 +0.1
CRVS Cervenica-Dubn 76.37 326 i P P 13 35 17.8 +0.3
NIE Niedzica 76.42 327 eP P 13 35 16.6 -1.1
URFA Urfa 76.45 309 eP P 13 35 19.9 +1.7
VRI Vrincioaia 76.48 322 P P 13 35 18.6 +0.5
VRI Vrincioaia 76.48 322 ⇑P P 13 35 18.7 +0.6
TOS Tosya 76.51 314 P P 13 35 19.7 +1.4
TUC Tucson 76.53 58 PFAKE 13 35 30.0 +11
TUC LR LR
comp=Z,788nm,20.0s,MS5.0
BRD Bordesti 76.58 321 ⇓iP P 13 35 20.8 +2.1
RAC Raciborz 76.70 329 eP P 13 35 19.9 +0.6
RAC MLR MLR 14 10 46.3
comp=Z,1μm,23.7s,MS5.0
KSP Ksiaz 76.78 330⇑eP P 13 35 19.7 0.0
KSP e*PP pP 13 35 28.4 -2.5
KSP MLR MLR
comp=Z,2μm,21.4s,MS5.4
KSP Ksiaz 76.78 330⇑eP P 13 35 19.9 +0.2
comp=Z,400nm,0.9s,mb6.3
KSP epP pP 13 35 28.5 -2.4
KSP MLR MLR 14 09 08.3
comp=Z,2μm,24.9s,MS5.2
CORM Corum 76.81 313 P P 13 35 21.6 +1.4
HARR Harsova 76.82 320 P P 13 35 20.3 +0.2
HARR Harsova 76.82 320⇑iP P 13 35 20.4 +0.3
OKC Ostrava-Krasne 76.92 329⇑iP P 13 35 20.6 +0.1
OKC AMS AMS 14 19 10.0
comp=Z,1μm,19.9s
SAFT Safranbolu 77.05 315 P P 13 35 22.2 +0.7
KECS Kecovo 77.10 327 eP P 13 35 21.7 +0.1
BNN Bunyan 77.10 312 P P 13 35 22.4 +0.5
MLR Muntele Rosu 77.12 322 P P 13 35 22.0 +0.2
MLR pmax pmax
comp=Z,86nm,0.9s
MLR Muntele Rosu 77.12 322 P P 13 35 22.0 +0.2
comp=Z,86nm,0.9s,mb5.7,baz=358,slow=1.3,SNR=90
MLR Muntele Rosu 77.12 322 P P 13 35 22.1 +0.3
MLR Muntele Rosu 77.12 322⇑iP P 13 35 22.1 +0.3
ISR Istrita 77.13 321 P P 13 35 23.2 +1.3
ISR Istrita 77.13 321 ⇓iP P 13 35 23.0 +1.1
UPC Upice 77.16 330⇑iP P 13 35 21.7 -0.1
DPC Dobruska-Polom 77.17 330⇑iP P 13 35 22.5 +0.6
DPC AMS AMS 14 11 00.0
comp=Z,1μm,23.6s
LIKS Likavka 77.19 328 eP P 13 35 23.1 +1.0
MORC Moravsky Berou 77.19 329 eP P 13 35 22.2 +0.1
MORC pmax pmax
comp=Z,157nm,1.0s,mb5.9
MORC Moravsky Berou 77.19 329 eP P 13 35 22.1 +0.1
comp=Z,157nm,1.0s,mb5.9
LAZ Ladron 77.30 55 eP P 13 35 24.1 +1.1
ANMO Albuquerque 77.32 54⇑eP P 13 35 23.9 +0.8
SNX Sinaia 77.42 322 P P 13 35 24.4 +1.0
PSN Preselentsi 77.46 319 P P 13 35 36.0 +12
CLL Collm 77.54 332⇑iP P 13 35 23.5 -0.4
CLL e pP 13 35 36.0 +0.9
CLL pmax pmax
comp=Z,286nm,0.9s,mb6.2
CLL Collm 77.54 332⇑iP P 13 35 23.5 -0.4
comp=Z,286nm,0.9s,mb6.2
CLL e pP 13 35 36.0 +0.9
CLL Collm 77.54 332 ⇑P P 13 35 23.5 -0.4
comp=Z,logA/T=2.5,mb6.2
CLL e*SP sP 13 35 36.0 -3.2
GAZ Gaziantep 77.55 310 P P 13 35 25.8 +1.5
BRG Berggiesshubel 77.58 332⇑iP P 13 35 23.9 -0.3
BRG pmax pmax
comp=Z,90nm,1.1s,mb5.6
BRG Berggiesshubel 77.58 332⇑iP P 13 35 23.9 -0.3
comp=Z,90nm,1.1s,mb5.6
PVCC Panska Ves 77.65 331⇑iP P 13 35 24.8 +0.2
BR131 Keskin Array S 77.66 314 PFAKE 13 35 40.0 +15
BR131 LR LR
comp=Z,813nm,20.0s,MS5.0
LPM Los Pinos Moun 77.67 54 eP P 13 35 24.5 -0.5
MTUR Matau 77.72 322 P P 13 35 32.0 +6.9
VYHS Vyhne 77.74 328 i P P 13 35 25.6 +0.5
VYHS es sP sP 13 35 40.8 +0.4
PSZ Piszkesteto 77.79 327 eP P 13 35 25.8 +0.4
PSZ pmax pmax
comp=Z,121nm,0.9s,mb5.8
PSZ Piszkesteto 77.79 327 eP P 13 35 25.8 +0.4
comp=Z,121nm,0.9s,mb5.8
PSZ Piszkesteto 77.79 327⇑eP P 13 35 26.0 +0.6
KOLL Kolacno 77.84 328 i P P 13 35 26.2 +0.5
KAMT Kaman 77.88 313 P P 13 35 26.5 +0.5
JAVC Velka Javorina 77.89 328 P P 13 35 27.0 +1.1
VRAC Vranov 77.93 329 P P 13 35 26.6 +0.5
comp=Z,114nm,0.9s,mb5.8,baz=38,slow=6.3,SNR=80
CLZ Clausthal 77.94 334 eP P 13 35 26.4 +0.3
comp=Z,267nm,1.2s,mb6.0
SCHQ Schefferville 77.99 19 P P 13 35 26.1 -0.3
comp=Z,33nm,0.8s,mb5.3,baz=353,slow=6.1,SNR=31
SCHQ LR LR 14 11 35.6
comp=Z,797nm,19.3s,MS5.1,baz=188,slow=37
ANTO Ankara 78.00 314 P P 13 35 26.8 +0.1
ANTO Ankara 78.00 314 P P 13 35 27.6 +0.9
LOD Lodumlu 78.00 314 eP P 13 35 27.6 +0.9
PRU Pruhonice 78.11 331 P P 13 35 27.2 +0.1
PRU Pruhonice 78.11 331 ⇑AMS AMS 14 10 40.0
comp=Z,1μm,23.6s
PRD Provadia 78.20 319 eP Px 13 35 40.0
KRUC Moravsky 78.21 329 P P 13 35 27.9 +0.2
WIT Witteveen 78.22 337⇑iP P 13 35 28.4 +0.7
comp=Z,507nm,0.6s,mb6.6
SMOL Smolenice 78.27 328 eP P 13 35 28.8 +0.8
CBKS Cedar Bluff 78.34 47 eP P 13 35 27.4 -1.2
CBKS pmax pmax
comp=Z,27nm,0.8s,mb5.2
CBKS MLR MLR
comp=Z,485nm,20.0s,MS4.8
CBKS Cedar Bluff 78.34 47 eP P 13 35 27.4 -1.3
comp=Z,27nm,0.8s,mb5.2
CBKS LR LR
comp=Z,485nm,20.0s,MS4.8
MDU Mudurnu 78.38 315 P P 13 35 29.4 +0.6
EKA Eskdalemuir Ar 78.40 343 P P 13 35 28.4 -0.2
comp=Z,22nm,0.6s,mb5.3,baz=23,slow=5.5,SNR=66
BUD Budapest 78.49 327 P P 13 35 30.1 +0.9
BUD Budapest 78.49 327⇑eP P 13 35 29.5 +0.3
SRO Srobarova 78.50 327 eP P 13 35 30.5 +1.2
SRO2 Moca 78.51 327 eP P 13 35 30.0 +0.7
MOX Moxa 78.56 333 eP P 13 35 29.4 -0.2
MOX pmax pmax
comp=Z,126nm,1.3s,mb5.7
MOX MLR MLR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 78.56 333 eP P 13 35 29.4 -0.2
comp=Z,126nm,1.3s,mb5.7
MOX LR LR
comp=Z,1μm,19.0s,MS5.2
MOX Moxa 78.56 333 i P P 13 35 29.4 -0.2
comp=Z,logA/T=2.0,mb5.7
MOX L 14 14 55.0
SRO1 Iza 78.57 328 eP P 13 35 30.4 +0.7
NKC Novy Kostel 78.63 332⇑iP P 13 35 29.9 -0.1
ZST Bratislava 78.65 328 eP P 13 35 30.8 +0.7
EYL Eskiyayla 78.84 316 P P 13 35 32.1 +0.8
SZH Strazhica 78.84 320 P Px 13 35 43.0
HRT Hereke 78.89 317 P P 13 35 32.2 +0.6
VKA Vienna 78.89 329⇑iP P 13 35 31.7 +0.2
comp=Z,300nm,1.0s,mb6.2
VKA Vienna 78.89 329⇑iP P 13 35 31.7 +0.2
VKA pmax pmax
comp=Z,300nm,1.0s,mb6.2
BZS Buzias 78.92 324 P P 13 35 31.6 0.0
WTSB Winterswijk 78.93 336⇑iP P 13 35 31.2 -0.3
comp=Z,128nm,1.1s,mb5.8

BADT Buyukada 79.14 317 eP P 13 35 33.5 +0.5
KHC Kasperske Hory 79.17 331⇑iP P 13 35 33.2 +0.2
KHC e 13 35 50.0
KHC MLR MLR
comp=Z,1μm,19.5s,MS5.2
KHC Kasperske Hory 79.17 331⇑iP P 13 35 33.2 +0.2
KHC e 13 35 50.0
KHC e 13 35 58.5
KHC LR LR
comp=Z,1μm,19.5s,MS5.2
KHC Kasperske Hory 79.17 331⇑iP P 13 35 33.2 +0.2
KHC ex x 13 35 50.0
KHC x x 13 35 58.5
KHC AMS AMS 14 12 00.0
comp=Z,1μm,19.5s
KIZT Kizilcal 79.20 314 P P 13 35 33.9 +0.6
CTT Catalca 79.26 318 P P 13 35 33.8 +0.2
ESKT Eskisehir 79.26 315 eP P 13 35 33.9 +0.2
SOP Sopron 79.28 328⇑iP P 13 35 34.4 +0.8
KLBR Kellerberrin 79.28 205 eP P 13 35 33.9 -0.1
comp=Z,270nm,1.0s,mb6.1
GEC2 GERESS Array S 79.37 331 eP P 13 35 33.9 -0.1
GEC2 pmax pmax
comp=Z,53nm,1.1s,mb5.4
GEC2 GERESS Array S 79.37 331 eP P 13 35 33.9 -0.1
comp=Z,53nm,1.1s,mb5.4
GERES GERESS Array B 79.37 331 P P 13 35 33.9 -0.1
comp=Z,28nm,0.8s,mb5.2,baz=34,slow=4.8,SNR=142
WET Wettzell 79.41 331 eP P 13 35 34.6 +0.4
WET pmax pmax
comp=Z,131nm,1.0s,mb5.8
WET Wettzell 79.41 331 eP P 13 35 34.6 +0.4
comp=Z,131nm,1.0s,mb5.8
GRA1 Grafenberg Arr 79.51 333 eP P 13 35 35.2 +0.4
comp=Z,242nm,1.0s,mb6.1
GRA1 LR LR
comp=Z,700nm,20.7s,MS5.0
GRF Grafenberg Arr 79.51 333 eP P 13 35 35.2 +0.4
GRF pmax pmax
comp=Z,242nm,1.0s,mb6.1
GRF MLR MLR
comp=Z,700nm,20.7s,MS5.0
GRF Grafenberg Arr 79.51 333 eP P 13 35 35.2 +0.4
GRF pmax pmax
comp=Z,242nm,1.0s,mb6.1
GRF MLR MLR
comp=Z,700nm,20.7s,MS5.0
GRF Grafenberg Arr 79.51 333 eP P 13 35 35.2 +0.4
comp=Z,242nm,1.0s,mb6.1
GRF LR LR
comp=Z,700nm,20.7s,MS5.0
EDRB Edirne 79.55 319 eP P 13 35 35.2 +0.1
KONT Konya--Tatoy 79.64 313 eP P 13 35 36.1 +0.3
PKSM Moragy 79.67 326 P P 13 35 35.0 -0.7
KSU1 Kansas State U 79.77 45 eP P 13 35 35.2 -1.2
JFWS Jewell Farm 79.95 39 PFAKE 13 35 50.0 +13
JFWS LR LR
comp=Z,1μm,21.0s,MS5.3
TNS Taunus Mts 79.95 334 eP P 13 35 37.1 -0.1
TNS pmax pmax
comp=Z,97nm,1.2s,mb5.6
TNS Taunus Mts 79.95 334 eP P 13 35 37.1 -0.1
comp=Z,97nm,1.2s,mb5.6
ALT Altintas 79.99 315 P P 13 35 38.0 +0.4
MOA Molln 80.00 330⇑iP P 13 35 37.6 +0.1
comp=Z,36nm,0.8s,mb5.4
ARSA Arzberg 80.04 329⇑iP P 13 35 38.1 +0.4
comp=Z,41nm,1.1s,mb5.3
BEO Belgrade 80.05 324⇑iP P 13 35 37.8 0.0
MRMT Marmara Adasi 80.08 318 eP P 13 35 38.4 +0.3
MFT Murefte 80.10 318 P P 13 35 38.3 +0.2
FKH Fakeheh 80.11 308 eP P 13 35 39.2 +0.9
BNT Bandirma 80.11 317 P P 13 35 39.1 +0.9
RBK Rabkut 80.12 285 ⇑P P 13 35 37.9 -0.7
SNR=13
AMTX Amarillo 80.13 51 eP P 13 35 38.6 +0.2
comp=Z,22nm,0.9s,mb5.1
AMTX epP pP 13 35 49.6 -0.1
MUN Mundaring 80.13 206 eP P 13 35 38.3 -0.2
comp=Z,21nm,1.2s,mb5.0
MUN Mundaring 80.13 206 eP P 13 35 38.3 -0.2
MUN pmax pmax
comp=Z,21nm,1.2s,mb4.9
SVIS Svilajnac 80.14 324 eP P 13 35 37.6 -0.7
WHFO Wadi Hawf 80.14 285 ⇓P P 13 35 37.8 -1.0
SNR=36
BOLS Boljevac 80.19 323 ⇓iP P 13 35 37.9 -0.7
CPRX Cap Rock 80.20 54 eP P 13 35 38.9 +0.1
PGB Panagyurishte 80.21 321 P Px 13 35 51.0
HGN Heimansgroeve 80.25 336⇑iP P 13 35 38.4 -0.3
comp=Z,107nm,1.4s,mb5.6
MNTX Cornudas Mount 80.25 55 eP P 13 35 39.2 +0.1
comp=Z,14nm,0.9s,mb4.9
PLD Plovdiv 80.31 320 P Px 13 35 52.0
SIND Sindeldorf 80.34 333 P P 13 35 39.4 +0.2
SIND Sindeldorf 80.34 333⇑eP P 13 35 39.0 -0.2
TOD Tromm 80.38 334⇑eP P 13 35 39.4 0.0
KOGS Kog 80.42 328 eP P 13 35 39.7 -0.1
GDL2 Guadalupe Moun 80.50 55 eP P 13 35 40.8 +0.3
SWS Schriesheim 80.52 334 P P 13 35 40.3 +0.1
SWS Schriesheim 80.52 334⇑eP P 13 35 39.9 -0.3
ABH Alteburg 80.53 335⇑eP P 13 35 40.2 0.0
ALN Alexandroupoli 80.61 319 eP P 13 35 41.3 +0.4
VTS Vitosha 80.61 321 P P 13 35 41.6 +0.8
RZN Rozhen 80.63 320 P P 13 35 53.9 +13
RDO Rodhopi 80.66 319 P P 13 35 41.7 +0.6
GRUS Gruza 80.69 324⇓iP P 13 35 41.0 -0.2
NWAO Narrogin (SRO) 80.69 205 eP P 13 35 41.0 -0.4
NWAO pmax pmax
comp=Z,53nm,1.2s
NWAO Narrogin (SRO) 80.69 205 eP P 13 35 41.0 -0.4
comp=Z,53nm,1.2s,mb5.3
ISP Isparta 80.69 314 eP P 13 35 41.3 -0.1
ISP pmax pmax
comp=Z,54nm,0.9s,mb5.5
ISP Isparta 80.69 314 eP P 13 35 41.3 0.0
comp=Z,54nm,0.9s,mb5.5
PERS Pernice 80.70 329 i P P 13 35 41.2 0.0
CLNB Carlsbad 80.74 54 eP P 13 35 41.8 +0.1
BHL Bhannes 80.77 308 eP P 13 35 42.2 +0.3
FUR Furstenfeldbru 80.80 332 eP P 13 35 41.9 +0.2
FUR pmax pmax
comp=Z,183nm,1.1s,mb5.9
FUR Furstenfeldbru 80.80 332 eP P 13 35 41.9 +0.2
comp=Z,183nm,1.1s,mb5.9
HDH Heidenheim 80.80 333 P P 13 35 41.9 +0.2
HDH Heidenheim 80.80 333⇑eP P 13 35 41.4 -0.3
DIVS Divcibare 80.83 324 ⇓iP P 13 35 41.8 -0.2
RUP Ruppelstein 80.84 335⇑eP P 13 35 41.7 -0.2
KHL Karahalli 80.84 315 eP P 13 35 42.5 +0.3
ABTO Aybut 80.86 285 P P 13 35 42.4 -0.2
SNR=18
KTD Kalmit 80.86 334 P P 13 35 42.8 +0.8
KTD Kalmit 80.86 334 eP P 13 35 41.7 -0.3
PHNC Paralimni 80.89 310 P P 13 35 41.8 -0.6
STU Stuttgart 80.98 333 eP P 13 35 42.6 0.0
STU pmax pmax
comp=Z,157nm,1.1s,mb5.8
STU Stuttgart 80.98 333 eP P 13 35 42.6 0.0
comp=Z,157nm,1.1s,mb5.8
KBA Koelnbreinsper 80.99 330⇑iP P 13 35 43.1 +0.4
comp=Z,102nm,0.8s,mb5.8
KBA Koelnbreinsper 80.99 330⇑iP P 13 35 43.1 +0.4
KBA pmax pmax
comp=Z,102nm,0.8s,mb5.8
DLF Lyons Farm 81.00 344 eP P 13 35 42.8 +0.2
OBKA Obir 81.02 329⇑iP P 13 35 42.8 -0.1
comp=Z,36nm,0.7s,mb5.4
DCN Croghan 81.10 345 eP P 13 35 43.2 +0.1
WLF Walferdange 81.16 335 eP P 13 35 43.5 0.0
WLF pmax pmax
comp=Z,61nm,1.2s,mb5.4
WLF Walferdange 81.16 335 eP P 13 35 43.5 -0.1
comp=Z,62nm,1.2s,mb5.4
GIVF Givet 81.16 336⇑iP P 13 35 43.0 -0.5
MMB Musomiste 81.17 321 P Px 13 35 56.0
LBG Lerchenberg 81.20 333 P P 13 35 44.3 +0.5
LBG Lerchenberg 81.20 333 eP P 13 35 43.9 +0.1
BUCH Bad Urach 81.21 333 P P 13 35 44.4 +0.6
BUCH Bad Urach 81.21 333⇑eP P 13 35 44.1 +0.3
KKB Krupnik 81.24 321 P Px 13 35 57.0
LANF Langenberg 81.24 334⇑eP P 13 35 44.1 +0.1
BBLS Bajina Basta - 81.26 325 ⇓iP P 13 35 44.3 +0.1
ASF Jabal al Asfar 81.30 306 P P 13 35 45.8 +1.1
comp=Z,100nm,1.0s,mb5.7,baz=276,slow=3.7,SNR=84
ASF LR LR 14 17 51.8
comp=Z,525nm,20.0s,MS4.9,baz=264,slow=40
EZN Ezine 81.30 318 eP P 13 35 44.2 -0.3
CSS Prodhromos 81.31 310 ⇑P P 13 35 44.9 +0.2
BAIF Baives 81.38 337⇑iP P 13 35 44.4 -0.3
comp=Z,88nm,1.1s,mb5.3
BAIF Baives 81.38 337⇑iP P 13 35 44.4 -0.3
BAIF pmax pmax
comp=Z,44nm,1.1s,mb5.3
WATA Walderalm 81.41 331⇑iP P 13 35 45.2 +0.3
comp=Z,68nm,1.0s,mb5.5
WATA Walderalm 81.41 331⇑iP P 13 35 45.2 +0.3
WATA pmax pmax
comp=Z,68nm,1.0s,mb5.5
LJU Ljubljana 81.42 329 eP P 13 35 44.0 -0.9
LEF Lefka 81.44 311 P P 13 35 44.7 -0.6
WTTA Wattenberg 81.45 331⇑iP P 13 35 45.6 +0.5
comp=Z,86nm,0.8s,mb5.7
WTTA Wattenberg 81.45 331⇑iP P 13 35 45.6 +0.5
WTTA pmax pmax
comp=Z,86nm,0.8s,mb5.7
MENF Mencas 81.50 338 eP P 13 35 45.4 +0.1
VISS Visnje 81.50 328 i P P 13 35 44.9 -0.5
DENT Denizli 81.53 315 eP P 13 35 46.0 +0.3
PTCC Patocco-Chiusa 81.56 330 eP P 13 35 44.7 -1.0
MOTA Moosalm 81.56 331⇑iP P 13 35 46.0 +0.3
ALFC Alevga 81.57 311 ⇑P P 13 35 45.5 -0.5
comp=Z,1.5nm,0.5s
ALFC Alevga 81.57 311⇑eP P 13 35 45.5 -0.5
BOJS Bojanci 81.60 328 eP P 13 35 45.6 -0.3
FVI Forni Avoltri 81.61 330 eP P 13 35 45.4 -0.5
GUT Gutenstein 81.61 333 P P 13 35 46.2 +0.3
GUT Gutenstein 81.61 333⇑eP P 13 35 46.0 +0.1
UBR Uberruh 81.62 332 P P 13 35 46.2 +0.2
UBR Uberruh 81.62 332 eP P 13 35 45.9 -0.1
SQTA Sankt Quirin 81.63 331 ⇓iP P 13 35 46.4 +0.3
comp=Z,58nm,1.0s,mb5.5
SQTA Sankt Quirin 81.63 331 ⇓iP P 13 35 46.4 +0.3
SQTA pmax pmax
comp=Z,58nm,1.0s,mb5.5
ROBS Robic 81.64 329 i P P 13 35 45.1 -1.0
BFO Black Forest 81.64 334 P P 13 35 46.7 +0.6
comp=Z,383nm,0.9s,mb6.3,SNR=23
BFO Black Forest 81.64 334 eP P 13 35 46.0 -0.1
BFO pmax pmax
comp=Z,70nm,1.0s,mb5.5
BFO Black Forest 81.64 334 eP P 13 35 46.0 -0.1
comp=Z,70nm,1.0s,mb5.5
VOY Vojsko 81.67 329 eP P 13 35 44.9 -1.4
SPAK Spaichingen 81.69 333 eP P 13 35 46.7 +0.3
SPAK Spaichingen 81.69 333 eP P 13 35 46.5 +0.1
PLE Pljevlja 81.70 324⇑iP P 13 35 47.3 +0.8
GMNA Gemona 81.71 330 eP P 13 35 45.4 -1.1
LOS Limnos 81.82 319 eP P 13 35 47.7 +0.5
ELL Elmali 81.83 314 P P 13 35 47.3 0.0
IVA Berane 81.86 324⇑iP P 13 35 47.6 +0.3
WMOK Wichita Mounta 81.86 49 eP P 13 35 47.2 -0.3
WMOK pmax pmax
comp=Z,19nm,1.1s,mb4.9
WMOK MLR MLR
comp=Z,1μm,19.0s,MS5.2
WMOK Wichita Mounta 81.86 49 eP P 13 35 47.2 -0.3
comp=Z,19nm,1.1s,mb4.9
WMOK LR LR
comp=Z,1μm,19.0s,MS5.2
KNT Kendrikon 81.89 321 eP sP 13 36 03.5 +0.7
WLS Welschbruch 81.89 334⇑eP P 13 35 47.4 +0.1
BRES Bressanone 81.89 331 P P 13 35 47.2 -0.2
SKO Skopje 81.90 322⇑iP P 13 35 48.4 +0.8
SKO pmax pmax
comp=Z,142nm,0.8s,mb6.0
SKO Skopje 81.90 322⇑iP P 13 35 48.4 +0.8
comp=Z,0.1nm,0.8s
VAY Valandovo 81.91 321⇑iP P 13 35 48.2 +0.6
CDF Champ du Feu 81.91 334⇑iP P 13 35 47.4 -0.1
comp=Z,185nm,1.0s,mb5.7
CDF Champ du Feu 81.91 334⇑iP P 13 35 47.4 -0.1
CDF pmax pmax
comp=Z,93nm,1.0s,mb5.7
PPCY Paphos 81.91 311 ⇑P P 13 35 47.7 -0.1
PPCY Paphos 81.91 311⇑eP P 13 35 47.7 -0.1
SOH Sokhos 81.94 320 eP P 13 35 47.7 -0.2
TRI Trieste 81.99 329 eP P 13 35 46.8 -1.2
SISB Singen-Sch Ber 82.00 333 P P 13 35 48.3 +0.4
UPM Unac-Piva 82.01 324⇑iP P 13 35 47.5 -0.6
OUR Ouranopolis 82.03 320 eP P 13 35 48.5 +0.2
DAVA Damuels 82.04 332⇑iP P 13 35 48.4 +0.3
comp=Z,125nm,1.3s,mb5.7
LIBD Limburg 82.04 334 eP P 13 35 48.4 +0.3
PVY Plav 82.05 323⇑iP P 13 35 47.7 -0.6
KIZ Kirchzarten 82.11 334 P P 13 35 48.3 -0.2
KIZ Kirchzarten 82.11 334⇑eP P 13 35 48.2 -0.3
ECH Echery 82.12 334⇑eP P 13 35 48.4 -0.2
FELD Feldberg 82.15 330⇑eP P 13 35 48.7 0.0
WILA Wila 82.25 333 ⇑P P 13 35 49.0 -0.3
THE Thessaloniki 82.28 320 eP P 13 35 49.3 -0.2
GRG Griva 82.28 321 eP P 13 35 50.0 +0.5
NKY Niksic 82.29 324⇑iP P 13 35 48.7 -0.8
FETY Fethiye 82.35 314 eP P 13 35 50.2 +0.2
ZUR Zurich 82.40 333 ⇑P P 13 35 50.3 +0.3
BRY Bratogost 82.41 324⇑iP P 13 35 49.4 -0.8
SULZ Sulz-Cheisache 82.42 333 ⇑P P 13 35 50.2 +0.1
MOF Molkenrain 82.45 334⇑eP P 13 35 50.0 -0.3
DAVOX Davos 82.47 332 P P 13 35 50.8 +0.4
comp=Z,25nm,0.7s,mb5.3,baz=26,slow=2.2,SNR=25
THEF They Montfort 82.48 335⇑eP P 13 35 50.3 -0.1
DALT Dalyan (Mudla) 82.48 315 eP P 13 35 51.6 +1.0
CTI Castel Tesino 82.48 330 eP P 13 35 49.6 -0.9
TTG Podgorica 82.49 324⇑iP P 13 35 49.9 -0.7
PAIG Paliouri 82.50 320 eP P 13 35 50.5 -0.2
MEZF Maizieres J'vi 82.52 336⇑iP P 13 35 50.7 +0.1
comp=Z,116nm,0.8s,mb5.6
HAU Haudompre 82.56 335⇑iP P 13 35 50.5 -0.3
comp=Z,93nm,1.0s,mb5.5
HAU eR
comp=Z,1μm,20.0s
HAU Haudompre 82.56 335⇑iP P 13 35 50.5 -0.3
HAU pmax pmax
comp=Z,46nm,1.0s,mb5.5
HAU MLR MLR
comp=Z,1μm,20.0s,MS5.3
BRMO Bormio 82.57 331 eP P 13 35 51.4 +0.6
HINF Hinteralfeld 82.57 334⇑iP P 13 35 50.4 -0.5
comp=Z,37nm,0.8s,mb5.2
HINF Hinteralfeld 82.57 334⇑iP P 13 35 50.4 -0.5
HINF pmax pmax
comp=Z,19nm,0.8s,mb5.2
BBS Basel-Blauen 82.67 334 P P 13 35 51.9 +0.5
BBS Basel-Blauen 82.67 334⇑eP P 13 35 51.4 0.0
LLS Linth-Limmern 82.71 332 ⇓P P 13 35 51.4 -0.2
MUO Muotathal 82.73 333 ⇑P P 13 35 52.0 +0.3
BUM Brajici-Budva 82.75 324⇑iP P 13 35 51.6 -0.3
HCY Herceg Novi 82.80 324⇑iP P 13 35 51.4 -0.8
VDL Val di Lei 82.87 332 ⇑P P 13 35 52.8 +0.4
ULC Ulcinj 82.87 323⇑iP P 13 35 52.3 -0.2
OHR Ohrid 82.88 322⇑iP P 13 35 52.7 +0.1
OHR i 13 35 58.0
LIT Litokhoron 82.92 320 eP P 13 35 51.9 -0.9
BODT Bodrum 82.94 316 eP P 13 35 53.9 +0.9
LTX Lajitas 82.97 56 eP P 13 35 53.8 +0.5
LTX pmax pmax
comp=Z,45nm,1.3s,mb5.3
LTX MLR MLR
comp=Z,884nm,20.0s,MS5.1
LTX Lajitas 82.97 56 eP P 13 35 53.8 +0.5
comp=Z,45nm,1.3s,mb5.3
LTX LR LR
comp=Z,884nm,20.0s,MS5.1
TXAR Lajitas Array 82.97 56 P P 13 35 54.0 +0.7
comp=Z,19nm,0.9s,mb5.1,baz=288,slow=4.0,SNR=84
TXAR PKKPbc 13 54 16.9
comp=Z,1.6nm,0.9s,baz=153,slow=2.8,SNR=7.7
TXAR LR LR 14 08 51.8
comp=Z,424nm,21.9s,MS4.8,baz=255,slow=33
TXAR Lajitas Array 82.97 56 P P 13 35 54.0 +0.7
TXAR PKKPbc 13 54 16.9
TXAR LR LR 14 08 51.8
LOMF Lomont 82.99 334⇑eP P 13 35 53.2 +0.2
AOS Alonnisos 83.00 319 eP P 13 35 53.8 +0.6
SADO Sadowa 83.07 31 P P 13 35 52.9 -0.6
comp=Z,17nm,1.1s,mb5.0,baz=342,slow=7.8,SNR=6.5
TIR Tirane 83.11 323 P P 13 35 54.1 +0.4

ARG Arkhangelos 83.17 314 P **P** 13 35 54.7 +0.5
SAL Salo 83.26 331 *e*P **P** 13 35 54.0 -0.4
CCM Cathedral Cave 83.28 42 *e*P **P** 13 35 53.8 -0.9
CCM pmax pmax
comp=Z,26nm,0.9s,mb5.3
CCM Cathedral Cave 83.28 42 *e*P **P** 13 35 53.8 -0.9
comp=Z,26nm,0.9s,mb5.3
SLM Saint Louis 83.31 41 *e*P **P** 13 35 54.5 -0.4
LKBD Leukerbad 83.58 333 ⇑P **P** 13 35 56.3 +0.3
VAI Varese 83.65 332 *e*P **P** 13 35 56.0 -0.3
FVM French Village 83.73 42 *e*P **P** 13 35 56.9 -0.1
FVM pmax pmax
comp=Z,25nm,1.1s,mb5.3
FVM French Village 83.73 42 *e*P **P** 13 35 56.9 0.0
comp=Z,25nm,1.1s,mb5.3
MMK Mattmark 83.76 333 ⇑P **P** 13 35 57.6 +0.7
APE Apeiranthos 83.83 317 P **P** 13 35 57.2 -0.3
MCGN Macugnaga 83.83 333 *e*P **P** 13 35 57.7 +0.4
PESA Pesaro 83.84 329 P **P** 13 35 57.9 +0.6
FLN La Foliniere 83.84 339⇑*i*P **P** 13 35 57.2 0.0
comp=Z,145nm,1.1s,mb5.7
FLN *e*R
comp=Z,776nm,21.2s
FLN La Foliniere 83.84 339⇑*i*P **P** 13 35 57.2 0.0
FLN pmax pmax
comp=Z,72nm,1.1s,mb5.7
FLN MLR MLR
comp=Z,780nm,21.3s,MS5.1
AGG Agios Georgios 83.85 320 *e*P **P** 13 35 56.3 -1.2
CABF La Chapelle 83.88 334⇑*i*P **P** 13 35 57.6 +0.1
comp=Z,64nm,1.0s,mb5.4
CABF La Chapelle 83.88 334⇑*i*P **P** 13 35 57.6 +0.1
CABF pmax pmax
comp=Z,32nm,1.0s,mb5.4
LDF La Druitiere 83.90 339⇑P **P** 13 35 57.4 -0.2
comp=Z,111nm,0.9s,mb5.7
LDF La Druitiere 83.90 339⇑*i*P **P** 13 35 57.4 -0.2
LDF pmax pmax
comp=Z,55nm,0.9s,mb5.7
DIX Grande Dixence 83.92 333 ⇑P **P** 13 35 58.5 +0.8
DGAR Diego Garcia 83.94 254 PFAKE 13 36 10.0 +11
DGAR LR LR
comp=Z,85nm,19.0s,MS4.1
RSM Repubblica di 84.00 329 *e*P **P** 13 35 59.1 +1.0
EMV Vieux Emosson 84.10 333 ⇑P **P** 13 35 59.2 +0.6
ORX Oropa 84.12 332 P **P** 13 35 59.1 +0.4
ORO Oropa 84.13 332 *e*P **P** 13 35 58.7 -0.1
ARV Arcevia 84.18 328 *e*P **P** 13 35 59.3 +0.2
ZCCA Zocca 84.18 330 *e*P **P** 13 36 00.7 +1.6
SFI Santa Sofia 84.24 329 *e*P **P** 13 36 00.4 +1.0
EIL Elat 84.27 306 *e*P **P** 13 36 00.7 +0.9
comp=Z,195nm,0.9s,mb6.2
SSF Saint Saulge 84.28 336⇑*i*P **P** 13 35 59.5 0.0
SSF pmax pmax
comp=Z,42nm,0.8s,mb5.6
SSF Saint Saulge 84.28 336⇑*i*P **P** 13 35 59.5 0.0
comp=Z,42nm,0.8s,mb5.6
GRR Gorron 84.29 339⇑*i*P **P** 13 35 59.7 +0.2
comp=Z,381nm,1.2s,mb6.1
GRR Gorron 84.29 339⇑*i*P **P** 13 35 59.7 +0.2
GRR pmax pmax
comp=Z,190nm,1.2s,mb6.1
SEI Scarperia 84.30 330 *e*P **P** 13 36 00.9 +1.2
TRAV 84.31 332 P **P** 13 35 59.3 -0.4
VMG Vicchio 84.31 329 *e*P **P** 13 36 01.2 +1.5
PGD Poggio Sodo 84.32 329 *e*P **P** 13 36 01.1 +1.3
GSCL Gusciola 84.33 330 *e*P **P** 13 36 00.8 +1.0
ERBM Eremo 84.33 330 *e*P **P** 13 36 01.1 +1.3
HYF Humbligny 84.34 336⇑P **P** 13 36 00.1 +0.3
BOB Bobbio (Coli) 84.37 331 *e*P **P** 13 36 00.4 +0.4
SNTG Esanatoglia 84.38 328 *e*P **P** 13 36 00.4 +0.3
GRAM 84.39 331 P **P** 13 35 59.9 -0.2
JCT Junction City 84.42 53 *e*P **P** 13 36 00.8 +0.2
JCT pmax pmax
comp=Z,27nm,0.3s,mb5.8
JCT MLR MLR
comp=Z,739nm,20.0s,MS5.1
JCT Junction City 84.42 53 *e*P **P** 13 36 00.8 +0.2
comp=Z,26nm,0.3s,mb5.8
JCT LR LR
comp=Z,739nm,20.0s,MS5.1
VALM 84.45 330 P **P** 13 36 00.5 +0.1
KEK Kerkira 84.46 322 P **P** 13 36 00.9 +0.3
FGMS Monte Sant'Ang 84.48 325 *e*P **P** 13 36 00.4 -0.3
SARO Sassorosso 84.53 330 P **P** 13 36 01.0 +0.1
MURB Monte Urbino 84.54 328 P **P** 13 36 01.7 +0.8
SMF Signal de Mont 84.55 335⇑*i*P **P** 13 36 01.0 +0.1
comp=Z,243nm,0.9s,mb6.0
SMF Signal de Mont 84.55 335⇑*i*P **P** 13 36 01.0 +0.1
SMF pmax pmax
comp=Z,121nm,0.9s,mb6.0
LSD Ceresole Reale 84.55 333 P **P** 13 36 01.8 +0.9
CODM 84.56 331 P **P** 13 36 00.8 -0.2
VLC Villacollemand 84.56 330 *e*P **P** 13 36 00.2 -0.8
comp=Z,124nm,1.3s,mb5.9
AVF Avril sur Loir 84.56 336⇑*i*P **P** 13 36 01.1 +0.2
comp=Z,132nm,0.8s,mb5.8
AVF Avril sur Loir 84.56 336⇑*i*P **P** 13 36 01.1 +0.2
AVF pmax pmax
comp=Z,66nm,0.8s,mb5.8
BDI Bagni Di Lucca 84.57 330 *e*P **P** 13 36 01.0 0.0
BACM 84.57 330 P **P** 13 36 00.9 -0.1
OG05 Jujurieux 84.59 334 *e*P **P** 13 36 01.6 +0.5
LPL La Plagne 84.64 333⇑*i*P **P** 13 36 02.0 +0.7
comp=Z,105nm,0.8s,mb5.7
LPL La Plagne 84.64 333⇑*i*P **P** 13 36 02.0 +0.7
LPL pmax pmax
comp=Z,53nm,0.8s,mb5.7
LPG La Plagne 84.65 333⇑*i*P **P** 13 36 02.3 +0.9
comp=Z,116nm,0.8s,mb5.8
LPG La Plagne 84.65 333⇑*i*P **P** 13 36 02.3 +0.9
LPG pmax pmax
comp=Z,58nm,0.8s,mb5.8
RGNG Rignano Grg 84.66 326 P **P** 13 36 01.3 -0.2
TERO Teramo 84.66 327 P **P** 13 36 01.7 +0.2
VINC Vinca 84.66 330 P **P** 13 36 00.6 -0.9
NRCA Norcia 84.67 328 *e*P **P** 13 36 02.1 +0.6
RSP Reno Superiore 84.79 333 P **P** 13 36 02.7 +0.6
MIAR Mount Ida 84.81 46 *e*P **P** 13 36 02.6 +0.1
MIAR *e**PP pP 13 36 13.4 -0.4
MIAR pmax pmax
comp=Z,32nm,0.8s,mb5.5
MIAR MLR MLR
comp=Z,2µm,19.0s,MS5.5
MIAR Mount Ida 84.81 46 *e*P **P** 13 36 02.6 +0.1
comp=Z,32nm,0.8s,mb5.5
MIAR *e*pP pP 13 36 13.4 -0.4
MIAR LR LR
comp=Z,2µm,19.0s,MS5.5
SGMF Saint Gilles 84.84 340⇑*i*P **P** 13 36 02.9 +0.6
comp=Z,334nm,1.0s,mb6.1
SGMF Saint Gilles 84.84 340⇑*i*P **P** 13 36 02.9 +0.6
SGMF pmax pmax
comp=Z,167nm,1.0s,mb6.1
PCP Pian Castagno 84.88 332 P **P** 13 36 03.3 +0.7
PII Pisa 84.89 330 P **P** 13 36 01.8 -0.8
BGF Bois d'Agland 84.93 336⇑*i*P **P** 13 36 03.0 +0.3
comp=Z,66nm,0.8s,mb5.5
BGF Bois d'Agland 84.93 336⇑*i*P **P** 13 36 03.0 +0.3
BGF pmax pmax
comp=Z,33nm,0.8s,mb5.5
ROSF Rostrenen 84.94 341⇑*i*P **P** 13 36 03.5 +0.7
comp=Z,341nm,1.0s,mb6.2
ROSF Rostrenen 84.94 341⇑*i*P **P** 13 36 03.5 +0.7
ROSF pmax pmax
comp=Z,170nm,1.0s,mb6.1
CIGN Sant'Elia a Pi 84.96 326 P **P** 13 36 03.4 +0.4
FENE Fenestrelle 84.96 333 P **P** 13 36 03.0 0.0
AQU L'Aquila 84.97 327 *e*P **P** 13 36 03.5 +0.5
AQU pmax pmax
comp=Z,110nm,1.0s,mb5.9
AQU L'Aquila 84.97 327 *e*P **P** 13 36 03.9 +0.8
ERPA Erie 84.99 33 *e*P **P** 13 36 03.2 +0.1
comp=Z,22nm,0.7s,mb5.4
ERPA *e*pP pP 13 36 13.3 -1.2
BHB Bricherasio 85.06 332 P **P** 13 36 02.7 -0.7
INTR Introdacqua 85.06 327 P **P** 13 36 03.4 -0.1
PQI Presque Isle 85.11 23 PFAKE 13 36 20.0 +16
PQI LR LR
comp=Z,10µm,21.0s
FG5 Orsara di Pugl 85.12 326 *e*P **P** 13 36 04.4 +0.6
CII Carovilli 85.14 326 *e*P **P** 13 36 04.1 +0.2
FG4 Candela 85.14 325 P **P** 13 36 04.3 +0.4
RRL Cesana Torines 85.15 333 P **P** 13 36 04.4 +0.5

FIAM Fiamignano 85.15 327 P **P** 13 36 04.3 +0.3
GRFL Gerfalco 85.22 329 *e*P **P** 13 36 03.9 -0.4
PLDF La Plantade 85.22 335 *e*P **P** 13 36 05.0 +0.8
MIDA Miranda 85.23 326 P **P** 13 36 04.8 +0.4
PTQR Pietraquaria 85.25 327 *e*P **P** 13 36 04.7 +0.2
GENY Geneseo 85.28 31 *e*P **P** 13 36 03.6 -1.0
VVLD Villa Vallelon 85.29 327 P **P** 13 36 04.4 -0.3
FIN Finale Ligure 85.29 332 *e*P **P** 13 36 03.9 -0.7
AGO Saint Agoulin 85.30 336 *e*P **P** 13 36 05.5 +0.9
QUIF Quistinic 85.31 340⇑*i*P **P** 13 36 05.0 +0.4
comp=Z,134nm,0.9s,mb5.8
QUIF Quistinic 85.31 340⇑*i*P **P** 13 36 05.0 +0.4
QUIF pmax pmax
comp=Z,67nm,0.9s,mb5.8
ALLY Alegheny Colle 85.33 33 *e*P **P** 13 36 04.9 +0.1
ALLY *e*pP pP 13 36 16.1 -0.1
MBDF Montbardon 85.33 333⇑*i*P **P** 13 36 04.9 +0.1
comp=Z,62nm,0.8s,mb5.5
MBDF Montbardon 85.33 333⇑*i*P **P** 13 36 04.9 +0.1
MBDF pmax pmax
comp=Z,31nm,0.8s,mb5.5
ACSO Alum Creek Sta 85.33 36 *e*P **P** 13 36 04.7 -0.3
comp=Z,43nm,0.8s,mb5.6
ACSO LR LR
comp=Z,16µm,20.0s
ROB Roburent 85.33 332 P **P** 13 36 03.9 -0.9
SDI San Donato 85.35 327 *e*P **P** 13 36 04.7 -0.3
TCF Toulx Ste Croi 85.36 336⇑*i*P **P** 13 36 05.5 +0.6
comp=Z,140nm,1.0s,mb5.7
TCF Toulx Ste Croi 85.36 336⇑*i*P **P** 13 36 05.5 +0.6
TCF pmax pmax
comp=Z,70nm,1.0s,mb5.8
DOI San Damiano 85.36 332 *e*P **P** 13 36 03.7 -1.2
PZZ Prazzo 85.41 332 P **P** 13 36 04.4 -0.8
ORIF Oris-en-Rattie 85.45 333⇑*i*P **P** 13 36 06.0 +0.6
comp=Z,110nm,1.0s,mb5.6
ORIF *e*R
comp=Z,837nm,21.0s
MRLC Muro Lucano 85.47 325 *e*P **P** 13 36 05.3 -0.2
WCI Wyandotte Cave 85.50 39 *e*P **P** 13 36 06.2 +0.4
WCI pmax pmax
comp=Z,26nm,0.8s,mb5.4
WCI MLR MLR
comp=Z,982nm,20.0s,MS5.2
WCI Wyandotte Cave 85.50 39 *e*P **P** 13 36 06.2 +0.4
comp=Z,26nm,0.8s,mb5.4
WCI LR LR
comp=Z,982nm,20.0s,MS5.2
ITM Ithomi 85.51 319 P **P** 13 36 05.5 -0.4
NCB Newcomb 85.54 28 *e*P **P** 13 36 05.1 -0.7
comp=Z,53nm,1.4s,mb5.6
ENR Entracque 85.55 332 P **P** 13 36 04.6 -1.3
IDI Anoyia 85.55 316 P **P** 13 36 05.3 -0.8
comp=Z,88nm,0.7s,mb6.1,baz=21,slow=9.0,SNR=37
MONE Monesi 85.56 332 P **P** 13 36 05.1 -0.8
STV2 Ana di Valdie 85.56 332 P **P** 13 36 04.2 -1.7
STV Sta Anna Valdi 85.56 332 P **P** 13 36 04.6 -1.3
CSSN Cassano Irpino 85.57 326 *e*P **P** 13 36 05.5 -0.6
COLF Collangettes 85.61 335⇑*e*P **P** 13 36 07.1 +1.0
IMI Imperia 85.67 332 *e*P **P** 13 36 06.2 -0.2
SGO Sicignano 85.71 325 *e*P **P** 13 36 06.5 -0.2
SAOF Saorge 85.71 332⇑*e*P **P** 13 36 06.6 -0.1
MFF Saint Martin d 85.74 338⇑*i*P **P** 13 36 07.5 +0.8
comp=Z,255nm,1.0s,mb6.1
MFF Saint Martin d 85.74 338⇑*i*P **P** 13 36 07.5 +0.8
MFF pmax pmax
comp=Z,128nm,1.0s,mb6.1
AUTN L'Aution 85.75 332 *e*P **P** 13 36 07.6 +0.8
TOLF Tolfa 85.75 328 P **P** 13 36 07.8 +0.9
URZ Urewera 85.78 157 LR LR 14 06 57.3
comp=Z,411nm,21.1s,MS4.8,baz=85,slow=30
TOUF Mont Tournerai 85.79 332⇑*e*P **P** 13 36 07.3 +0.2
UTMT University of 85.79 42 *e*P **P** 13 36 08.8 +1.5
LCHF La Chataignera 85.84 338 *e*P **P** 13 36 08.6 +1.4
SBF Sospel 85.86 332⇑*i*P **P** 13 36 07.2 -0.2
comp=Z,175nm,0.9s,mb6.0
SBF Sospel 85.86 332⇑*i*P **P** 13 36 07.2 -0.2
SBF pmax pmax
comp=Z,87nm,0.9s,mb6.0
OG25 Le Caire 85.87 333 *e*P **P** 13 36 08.0 +0.6
VIVF Saint-Julien-l 85.89 334⇑*i*P **P** 13 36 08.2 +0.7
comp=Z,150nm,1.1s,mb5.9
VIVF Saint-Julien-l 85.89 334⇑*i*P **P** 13 36 08.2 +0.7
VIVF pmax pmax
comp=Z,75nm,1.0s,mb5.9
MVIF Mont Vial 85.93 332 *e*P **P** 13 36 07.9 +0.2
OCF Saint Nazaire 85.94 334 *e*P **P** 13 36 08.8 +1.0
OG26 St.-Nazaire-De 85.94 334 *e*P **P** 13 36 08.8 +1.0
CUC Castrocucco 85.97 325 P **P** 13 36 07.6 -0.4
REVF Revere 85.99 332 *e*P **P** 13 36 08.0 0.0
LBL Lubilhac 86.00 335⇑*e*P **P** 13 36 09.2 +1.2
FRNF Fournols 86.07 336 *e*P **P** 13 36 10.6 +2.2
CALN Calern 86.15 332 *e*P **P** 13 36 09.0 +0.2
TIP Timpagrande 86.24 323 *e*P **P** 13 36 09.6 +0.2
GVD Gavdhos 86.31 316 *e*P **P** 13 36 09.7 -0.1
comp=Z,207nm,1.1s,mb6.3
NATX Nacogdoches 86.36 49 PFAKE 13 36 20.0 +10
NATX LR LR
comp=Z,1µm,19.0s,MS5.3
SMRF Simiane la Rot 86.39 333⇑*i*P **P** 13 36 10.4 +0.4
comp=Z,145nm,1.4s,mb5.7
FRF La Foret Royal 86.40 332⇑*i*P **P** 13 36 10.0 0.0
VILF Villemus 86.45 333 *e*P **P** 13 36 11.2 +0.9
RJF Les Rejaudoux 86.45 336⇑*i*P **P** 13 36 10.9 +0.6
comp=Z,204nm,1.1s,mb6.0
RJF *e*R
comp=Z,889nm,21.0s
RJF Les Rejaudoux 86.45 336⇑*i*P **P** 13 36 10.9 +0.6
RJF pmax pmax
comp=Z,102nm,1.1s,mb6.0
RJF MLR MLR
comp=Z,890nm,21.0s,MS5.1
PGF Pioggiola 86.46 330⇑*i*P **P** 13 36 10.1 -0.3
comp=Z,125nm,1.1s,mb5.7
PGF Pioggiola 86.46 330⇑*i*P **P** 13 36 10.1 -0.3
PGF pmax pmax
comp=Z,63nm,1.1s,mb5.8
WVT Waverly 86.47 41 *e*P **P** 13 36 10.8 +0.3
WVT pmax pmax
comp=Z,35nm,1.2s,mb5.5
WVT MLR MLR
comp=Z,953nm,20.0s,MS5.2
WVT Waverly 86.47 41 *e*P **P** 13 36 10.8 +0.2
comp=Z,35nm,1.2s,mb5.5
WVT LR LR
comp=Z,953nm,20.0s,MS5.2
WVL Waterville 86.52 25 PFAKE 13 36 20.0 +9.4
WVL LR LR
comp=Z,10µm,21.0s
TAVF Tavernes 86.55 333⇑*e*P **P** 13 36 11.5 +0.7
CAF Calviac 86.64 336⇑*i*P **P** 13 36 12.4 +1.2
comp=Z,310nm,1.1s,mb6.2
CAF Calviac 86.64 336⇑*i*P **P** 13 36 12.4 +1.2
CAF pmax pmax
comp=Z,155nm,1.1s,mb6.2
LMR La Mourre 86.65 332⇑*i*P **P** 13 36 11.3 +0.1
comp=Z,282nm,1.1s,mb6.1
LMR La Mourre 86.65 332⇑*i*P **P** 13 36 11.3 +0.1
LMR pmax pmax
comp=Z,141nm,1.1s,mb6.1
PRAF Pradon 86.67 333⇑*e*P **P** 13 36 12.4 +1.0
GRI Girifalco 86.68 323 P **P** 13 36 11.7 +0.1
PUYF Puyloubier 86.74 333⇑*e*P **P** 13 36 12.5 +0.8
TREF Trevaresse 86.76 333⇑*e*P **P** 13 36 13.0 +1.2
LASF Ste Croix 86.85 334⇑*i*P **P** 13 36 13.1 +0.9
comp=Z,151nm,1.1s,mb5.8
BERF Bertagne 86.94 333⇑*e*P **P** 13 36 13.5 +0.8
GELF Grande-Etoile 86.96 333 *e*P **P** 13 36 13.6 +0.8
OXF Oxford 86.98 43 *e*P **P** 13 36 13.3 +0.2
OXF pmax pmax
comp=Z,101nm,1.2s,mb5.9
OXF MLR MLR
comp=Z,797nm,20.0s,MS5.1
OXF Oxford 86.98 43 *e*P **P** 13 36 13.3 +0.2
comp=Z,101nm,1.2s,mb5.9
OXF LR LR
comp=Z,797nm,20.0s,MS5.1
LFF La Frestale 87.01 337⇑*i*P **P** 13 36 14.1 +1.1
comp=Z,220nm,1.1s,mb6.0
LFF La Frestale 87.01 337⇑*i*P **P** 13 36 14.1 +1.1
LFF pmax pmax
comp=Z,110nm,1.1s,mb6.0
SSPA Standing Stone 87.08 32 *e*P **P** 13 36 13.6 +0.2
comp=Z,36nm,1.1s,mb5.5
HKT Hockley 87.09 51 PFAKE 13 36 30.0 +16
HKT LR LR
comp=Z,625nm,19.0s,MS5.0
MCWV Mont Chateau 87.13 34 *e*P **P** 13 36 14.0 +0.3
comp=Z,64nm,1.2s,mb5.7
MCWV LR LR
comp=Z,2µm,19.0s,MS5.4
PLAL Pickwick Lake 87.26 42 *e*P **P** 13 36 14.2 -0.3
comp=Z,16nm,0.8s,mb5.3
PLAL LR LR
comp=Z,945nm,20.0s,MS5.2
CEL Celeste 87.38 324 P **P** 13 36 15.2 +0.2
SOI Samo 87.47 323 *e*P **P** 13 36 15.0 -0.4
WES Weston 87.94 27 PFAKE 13 36 30.0 +12
WES LR LR
comp=Z,3µm,19.0s,MS5.7
MTLF Montolieu 88.03 335⇑*i*P **P** 13 36 18.9 +1.0
comp=Z,114nm,1.1s,mb5.7
MTLF Montolieu 88.03 335⇑*i*P **P** 13 36 18.9 +1.0
MTLF pmax pmax
comp=Z,57nm,1.1s,mb5.7
SWET Sewanee 88.11 41 *e*P **P** 13 36 18.2 -0.3
TZTN Tazewell 88.13 38 *e*P **P** 13 36 18.7 +0.1
MVL Millersville 88.22 32 *e*P **P** 13 36 19.1 +0.2
MVL *e*pP pP 13 36 30.9 +0.5
LRDF Laroque-de-Fa 88.29 335⇑*e*P **P** 13 36 20.4 +1.2
FWV Forest Hill 88.47 36 *e*P **P** 13 36 20.4 +0.2
CPCT Cooper Cave 88.58 40 *e*P **P** 13 36 20.4 -0.4
SJAF Saint Jean de 88.59 334 *e*P **P** 13 36 21.1 +0.4
EJON La Jonquera 88.62 334 P **P** 13 36 23.9 +3.1
comp=Z,18nm,1.0s,mb5.4
SSY Sortino 88.66 323 P **P** 13 36 20.9 -0.2
MLS Moulis 88.72 336⇑*e*P **P** 13 36 22.0 +0.8
EPF Esparros 88.88 336⇑*i*P **P** 13 36 22.1 +0.1
comp=Z,34nm,0.8s,mb5.4
EPF Esparros 88.88 336⇑*i*P **P** 13 36 22.1 +0.1
EPF pmax pmax
comp=Z,17nm,0.8s,mb5.4
VALF Valcebollere 88.94 335⇑*e*P **P** 13 36 23.5 +1.2
BLA Blacksburg 88.95 36 *e*P **P** 13 36 22.7 +0.2
BLA pmax pmax
comp=Z,30nm,0.9s,mb5.6
BLA Blacksburg 88.95 36 *e*P **P** 13 36 22.7 +0.2
comp=Z,30nm,0.9s,mb5.6
RESF Ens 89.08 336 *e*P **P** 13 36 24.3 +1.3
EBIE Bielsa 89.25 336 P **P** 13 36 25.0 +1.2
comp=Z,26nm,0.8s,mb5.6
SJPF Ste Jean 89.25 337 *e*P **P** 13 36 24.4 +0.6
ETSF Etsaut 89.26 337⇑*i*P **P** 13 36 24.5 +0.7
comp=Z,42nm,0.8s,mb5.5
ETSF Etsaut 89.26 337⇑*i*P **P** 13 36 24.5 +0.7
ETSF pmax pmax
comp=Z,21nm,0.8s,mb5.5
FDAF Les Forges d'A 89.33 337 *e*P **P** 13 36 24.9 +0.7
LRAL Lakeview Retre 89.36 43 PFAKE 13 36 40.0 +15
LRAL LR LR
comp=Z,2µm,19.0s,MS5.4
EMIR Miracle 89.54 335 P **P** 13 36 25.8 +0.7
comp=Z,17nm,0.8s,mb5.4
EPOB Poblet 90.19 335 P **P** 13 36 28.5 +0.3
comp=Z,34nm,0.9s,mb5.7
ESAC San Caprasio 90.31 336 P **P** 13 36 29.8 +1.0
comp=Z,128nm,1.0s,mb6.2
GOGA Godfrey 90.76 40 PFAKE 13 36 40.0 +8.9
GOGA LR LR
comp=Z,1µm,19.0s,MS5.4
ERTA Horta de San J 90.78 335 P **P** 13 36 31.3 +0.4
comp=Z,26nm,1.1s,mb5.5
EBR Ebro Roquetas 90.85 335 *e*P **P** 13 36 31.5 +0.2
ETOS Mallorca 91.07 333 P **P** 13 36 32.6 +0.2
comp=Z,22nm,0.8s,mb5.5
EMOS Mosqueruela 91.56 336 P **P** 13 36 35.6 +1.0
comp=Z,22nm,0.8s,mb5.5
NHSC New Hope 92.52 38 PFAKE 13 36 50.0 +11
NHSC LR LR
comp=Z,978nm,21.0s,MS5.2
ESDC Sonseca Array 93.20 338 P **P** 13 36 42.2 0.0
comp=Z,2.7nm,0.5s,mb4.9,baz=18,slow=3.5,SNR=33
ESDC Sonseca Array 93.20 338 P **P** 13 36 41.9 -0.3
comp=Z,7.6nm,0.8s,mb5.2
ESLA Sonseca Array 93.20 338 *e*P **P** 13 36 42.0 -0.2
comp=Z,15nm,1.5s,mb5.2
ESLA LR LR
comp=Z,5µm,21.0s,MS5.9
ETOB Tobarra 93.47 336 P **P** 13 36 45.1 +1.7
comp=Z,6.8nm,0.7s,mb5.2
EVIA Vianos 93.75 336 P **P** 13 36 45.2 +0.5
EVIA pmax pmax
comp=Z,25nm,0.8s,mb5.7
EVIA Vianos 93.75 336 P **P** 13 36 45.2 +0.5
comp=Z,25nm,0.8s,mb5.7
EQES Quesada 94.69 337 P **P** 13 36 50.7 +1.7
comp=Z,9.8nm,0.8s,mb5.3
ELUQ Luque 95.26 337 P **P** 13 36 52.3 +0.7
ELUQ pmax pmax
comp=Z,12nm,0.7s,mb5.4
ELUQ Luque 95.26 337 P **P** 13 36 52.3 +0.7
comp=Z,12nm,0.7s,mb5.4
DWPF Disney 96.12 42 PFAKE 13 37 10.0 +14
DWPF LR LR
comp=Z,673nm,20.0s,MS5.1
TEIG Tepich 98.92 51 PFAKE 13 37 20.0 +11
TEIG LR LR
comp=Z,243nm,19.0s,MS4.7
KMBO Kilima Mbogo 104.99 283 P Pdif 13 37 37.8 +2.0
KMBO 13 41 57.1
KMBO MLR MLR
comp=Z,542nm,20.0s
KMBO Kilima Mbogo 104.99 283 Pdiff Pdif 13 37 37.8 +2.0
comp=Z,1.5nm,0.7s,baz=48,slow=14,SNR=5.6
KMBO PP PP 13 41 57.1 -2.5
comp=Z,2.6nm,1.0s,baz=39,slow=13,SNR=4.1
JTS JuntasAbangare 108.73 55 PFAKE 13 42 10.0
JTS LR LR
comp=Z,120nm,21.0s,MS4.4
MBAR Mbarara 109.19 288 PFAKE 13 42 10.0
MBAR LR LR
comp=Z,108nm,19.0s,MS4.4
SJG San Juan 111.66 34 PFAKE 13 42 10.0 +8.5
SJG LR LR
comp=Z,563nm,20.0s,MS5.2
CASY Casey 112.89 195 PFAKE 13 42 20.0 +17
CASY LR LR
comp=Z,548nm,22.0s,MS5.1
SDV Santo Domingo 117.75 43 *e*PKiKP 13 42 14.3
SDV LR LR
comp=Z,309nm,20.0s,MS4.9
VNDA Vanda 121.02 176 PKP PKPdf 13 42 18.8 +0.4
comp=Z,2.3nm,0.8s,baz=296,slow=4.8,SNR=9.0
LSZ Lusaka 121.16 279 *e*PKiKP PKPdf 13 42 21.2 +1.1
LSZ MLR MLR
comp=Z,554nm,19.0s,MS5.2
DBIC Dimbokro 123.97 326 PKP PKPdf 13 42 25.5 -0.1
comp=Z,9.0nm,0.9s,baz=149,slow=0.6,SNR=9.1
DBIC PP PP 13 44 02.7 -12
comp=Z,10.0nm,0.9s,baz=347,slow=11,SNR=3.4
DBIC Dimbokro 123.97 326 PKP PKPdf 13 42 25.5 -0.1
DBIC PP PP 13 44 02.7 -12
DBIC LR LR
comp=Z,465nm,20.0s,MS5.1
LBTB Lobatse 129.18 271 PFAKE 13 42 50.0 +15
LBTB LR LR
comp=Z,329nm,20.0s,MS5.0
TSUM Tsumeb 131.34 283 PFAKE 13 42 50.0 +10
TSUM LR LR
comp=Z,291nm,20.0s,MS5.0
BOSA Boshof 131.50 268 PFAKE 13 42 50.0 +10
BOSA LR LR
comp=Z,378nm,19.0s,MS5.1
QSPA South Pole Qui 133.15 180 *e*PKPdf PKPdf 13 42 40.9 -0.5
LPAZ La Paz 139.79 59 *e*PKHKP 13 42 49.0
LPAZ 13 42 57.3
LPAZ MLR MLR
comp=Z,254nm,19.0s
LPAZ La Paz 139.79 59 PKhKP 13 42 51.2
comp=Z,2.9nm,0.9s,baz=17,slow=5.6,SNR=11
LPAZ PKP PKPdf 13 42 57.3 +2.1
comp=Z,6.0nm,0.8s,baz=3.6,slow=6.2,SNR=16
LPAZ SKPbc 13 46 30.1
comp=Z,4.7nm,0.9s,baz=24,slow=12,SNR=8.0
LPAZ La Paz 139.79 59 *e*PKPpre 13 42 49.0
LPAZ PKP PKPdf 13 42 57.3 +2.1
LPAZ SKPbc 13 46 30.1
LPAZ LR LR
comp=Z,254nm,19.0s,MS5.0
RCBR Riachuelo 142.48 5 PFAKE 13 43 10.0 +10
RCBR LR LR

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,296nm,20.0s,MS5.0						
LVC	Limon Verde	143.87	67	ePKPdf	PKPdf	13 43 02.8	+0.6
NVL	N'lazarevskaya	144.81	204⇓	iPKP2	PKPab	13 43 03.1	-0.2
MAIT	Maitri	144.83	204	ePKP	PKPdf	13 43 04.1	+1.7
SNAA	Sanae	148.09	198⇑	i	PKPdf	13 43 13.0	+5.2
SNAA	Sanae	148.09	198	ePKP2	PKPab	13 43 12.3	-3.7
BDFB	Brasilia	149.52	29	PKP	PKPdf	13 43 13.4	+1.7
	comp=Z,36nm,0.9s,baz=216,slow=1.8,SNR=5.4						
BDFB				PKPbc	PKPdf	13 43 18.0	+6.2
	comp=Z,36nm,0.9s,baz=333,slow=1.4,SNR=38						
BAO	Brasilia Array	149.52	29	P	PKPdf	13 43 17.0	+5.3
BAO				e		13 43 29.2	
VNA2	Neumayer--Watz	149.62	196⇑	i	PKPdf	13 43 17.9	+7.6
VNA3	Neumayer Olymp	149.81	195⇑	i	PKPdf	13 43 18.0	+7.4
VNA1	Neumayer--Stat	150.02	196⇑	i	PKPdf	13 43 19.0	+8.1
PLCA	Paso Flores	152.20	97	PKIKP	PKPdf	13 43 17.6	+2.5
PLCA						13 43 24.0	
PLCA						13 43 33.8	
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
PLCA				pmax	pmax		
	comp=Z,19nm,0.9s						
PLCA	Paso Flores	152.20	97	PKP	PKPdf	13 43 17.6	+2.4
	comp=Z,4.8nm,1.0s,baz=259,slow=4.3,SNR=6.8						
PLCA				PKPbc	PKPdf	13 43 23.9	+8.8
	comp=Z,4.4nm,0.6s,baz=282,slow=3.8,SNR=9.8						
PLCA				PKPab	PKPab	13 43 33.8	-0.2
	comp=Z,19nm,0.9s,baz=238,slow=3.0,SNR=14						
PLCA	Paso Flores	152.20	97	ePKPdf	PKPdf	13 43 17.1	+2.0
PLCA				LR	LR		
	comp=Z,333nm,20.0s,MS5.1						
CPUP	Villa Florida	153.94	57	PKPdf	PKPdf	13 43 20.2	+2.2
CPUP				PKPbc	PKPdf	13 43 27.5	+10
CPUP				sPKPdf		13 43 41.0	
TRQA	Tornquist	157.51	86	PFAKE		13 43 40.0	+18
TRQA				LR	LR		
	comp=Z,532nm,21.0s,MS5.3						
KIZT	Kizilcal	5.31	102	ePN	Pn	13 55 04.9	+0.2
MLR	Muntele Rosu	5.35	5	Pn	Pn	13 55 04.6	-0.7
	3.2nm,0.3s,baz=180,slow=8.1,SNR=47						
MLR	Muntele Rosu	5.35	5	P	Pn	13 55 04.8	-0.6
MLR	Muntele Rosu	5.35	5⇑	iP	Pn	13 55 04.7	-0.6
MLR	Muntele Rosu	5.35	5	P	Pn	13 55 04.8	-0.5
CFR	Carcaliu	5.46	22⇑	iP	Pn	13 55 05.0	-1.8
VRI	Vrincioaia	5.81	10	P	Pn	13 55 11.3	-0.5
VRI	Vrincioaia	5.81	10⇑	iP	Pn	13 55 11.6	-0.2
VRI	Vrincioaia	5.81	10	P	Pn	13 55 11.3	-0.5
BZS	Buzias	6.06	335	P	Pn	13 55 12.7	-2.6
BZS	Buzias	6.06	335	P	Pn	13 55 12.7	-2.6
BRTR	Keskin Array B	6.49	91	Pn	Pn	13 55 20.7	-0.6
	1.3nm,0.3s,baz=267,slow=11,SNR=22						
BURAR	Bucovina Array	7.45	0	P	Pn	13 55 33.8	-1.1
BURAR	Bucovina Array	7.45	0	P	Pn	13 55 33.8	-1.1
VAE	Valguarnera	8.85	256	Pn	P	13 56 04.1	+10
	4.4nm,0.3s,baz=40,slow=13,SNR=2.7						
GERES	GERESS Array B	11.94	320	Pn	P	13 56 42.3	+5.6
	0.1nm,0.3s,baz=128,slow=11,SNR=2.8						
DAVOX	Davos	12.95	306	Pn	P	13 56 54.7	+4.6
	0.2nm,0.3s,baz=122,slow=17,SNR=4.4						
MBDF	Montbardon	14.36	295	eP	P	13 57 16.4	+7.7
	16nm,0.9s						
LPL	La Plagne	14.57	298	eP	P	13 57 17.2	+5.7
CDF	Champ du Feu	15.24	309	eP	P	13 57 22.6	+2.3
SMF	Signal de Mont	16.81	300	eP	P	13 57 45.3	+4.9
	11nm,0.8s						
AVF	Avril sur Loir	17.17	300	eP	P	13 57 51.9	+7.0
FINES	FINESS Array B	21.32	1	P	P	13 58 31.8	-0.8
	1.3nm,0.6s,mb3.4,baz=180,slow=7.6,SNR=5.4						
FINES	FINESS Array B	21.32	1	P	P	13 58 31.8	-0.8
NOA	NORSAR Array B	22.62	342	P	P	13 58 48.0	+2.5
	1.5nm,0.7s,mb3.5,baz=155,slow=12,SNR=3.6						
NOA	NORSAR Array B	22.62	342	P	P	13 58 48.0	+2.5
YKA	Yellowknife Ar	72.72	342	P	P	14 05 16.1	+2.9
	0.4nm,0.6s,mb3.5,baz=32,slow=5.3,SNR=7.7						

ATH ***16*** *13:53:43.3, 40.20N×25.15E, h23km±5km, MD3.8/16, ML3.8*
ISK ***16*** *13:53:43.2, 40.20N×25.01E, h32km, ML4.3*
NEIC ***16*** *13:53:43.3, 40.20N×25.15E, h23km, mb3.7/1, ML3.8(ATH), After ATH.*
THE ***16*** *13:53:43.5, 40.11N×25.21E, h10km, ML3.9*
CSEM ***16*** *13:53:43.6±0.1, 40.18N×25.22E, h15km, ML3.9, Error ellipse: s-maj=1.7km s-min=1.2km az=165.0*
IDC ***16*** *13:53:48.3±2.2, 40.53N×25.78E, mb3.4/3, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.7/6, Error ellipse: s-maj=30.0km s-min=26.1km az=174.0*
SOF ***16*** *13:53:54.1, 40.20N×25.18E, h10km, MD3.6*
ISC 16 13:53:42.6±0.5**, 40.16N**±0.02×**25.22E**±0.02**, h3**km±4km**, n103, σ1.09**/127**, mb3.5**/3**, 4C-3D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	Limnos	0.25	205	ePg	Pg	13 53 48.0	+0.4
LOS				eSg	Sg	13 53 50.7	-0.2
LIA	Limnos Island	0.26	186	ePB	Pb	13 53 50.3	+0.7
EZN	Ezine	0.92	111	i PG	Pg	13 54 02.2	+1.4
EZN				i SG	Sg	13 54 15.7	+2.7
OUR	Ouranopolis	0.96	281	ePg	Pg	13 54 01.8	0.0
OUR				eSg	Sg	13 54 15.6	+1.1
ALN	Alexandroupoli	0.97	40	ePg	Pg	13 54 02.3	+0.4
ALN				eSg	Sg	13 54 17.3	+2.4
RDO	Rodhopi	1.01	14	ePN	Pn	13 54 02.3	-1.3
LPK	Lapseki	1.20	79	PN	Pn	13 54 07.0	+0.8
PAIG	Paliouri	1.20	259	ePb	Pb	13 54 05.3	-0.3
PAIG				eSb	Sb	13 54 23.0	+1.5
PAIG	Paliouri	1.20	259	ePb	Pb	13 54 05.3	-0.4
PAIG				eSb	Sb	13 54 23.0	+1.5
PRK	Paraskevi	1.22	138	ePN	Pn	13 54 07.5	+0.9
PRK				eSN	Sn	13 54 26.0	+2.2
AOS	Alonnisos	1.43	227	ePb	Pb	13 54 08.9	-0.7
AOS				eSb	Sb	13 54 28.6	+0.5
KDZ	Kurdzhali	1.50	6	P	Pn	13 54 21.0	+11
KDZ				Pg	Pg	13 54 23.4	+11
SOH	Sokhos	1.57	296	ePb	Pb	13 54 11.3	-0.6
SOH				eSb	Sb	13 54 34.0	+1.9
NVR	Nevrokopi	1.57	320	ePN	Pn	13 54 10.8	-0.7
RZN	Rozhen	1.57	346	P	Pn	13 54 23.0	+11
MFT	Murefte	1.69	68	PN	Pn	13 54 13.1	-0.2
MFT				SN	Sn	13 54 35.6	-0.2
THE	Thessaloniki	1.78	286	ePb	Pb	13 54 15.5	-0.1
THE				eSb	Sb	13 54 40.1	+1.8
MMB	Musomiste	1.82	322	P	Pn	13 54 26.0	+11
MMB				Pg	Pg	13 54 29.0	+10
MRMT	Marmara Adasi	1.87	76	PN	Pn	13 54 15.3	-0.5
MRMT				SN	Sn	13 54 39.8	-0.5
DIM	Dimitrovgrad	1.90	7	P	Pn	13 54 27.6	+11
PLD	Plovdiv	1.98	349	P	Pn	13 54 29.5	+12
PLD				Pg	Pg	13 54 33.5	+11
KNT	Kendrikon	2.03	300	ePn	Pn	13 54 17.9	-0.2
KNT				eSn	Sn	13 54 46.0	+1.7
EDRB	Edirne	2.04	34	PN	Pn	13 54 16.5	-1.8
EDRB				SN	Sn	13 54 41.5	-3.1
BNT	Bandirma	2.08	84	PN	Pn	13 54 18.8	0.0
LIT	Litokhoron	2.09	269	ePn	Pn	13 54 18.8	-0.2
LIT				eSn	Sn	13 54 46.2	+0.3
BALB	Balikesir	2.11	103	PN	Pn	13 54 19.2	-0.1
BLCB	Balcova	2.27	141	PN	Pn	13 54 21.9	+0.4
LKR	Lokris	2.29	229	ePN	Pn	13 54 20.7	-1.1
GRG	Griva	2.29	291	ePn	Pn	13 54 22.0	+0.2
GRG				eSn	Sn	13 54 52.0	+1.1
MPAR	Parnis Oros	2.31	210	ePN	Pn	13 54 21.5	-0.7
KKB	Krupnik	2.35	317	P	Pn	13 54 33.4	+11
KKB				Pg	Pg	13 54 38.5	+9.1
PTL	Penteli	2.36	207	ePN	Pn	13 54 22.5	-0.3
IZM	Izmir	2.37	137	ePN	Pn	13 54 23.3	+0.3
KCT	Karacabey	2.41	87	ePN	Pn	13 54 23.8	+0.3
ATH	Athens Observa	2.48	209	ePB	Pb	13 54 25.6	-1.9
AGG	Agios Georgios	2.50	244	ePn	Pn	13 54 23.9	-1.0
AGG				eSn	Sn	13 54 56.9	+0.5
PGB	Panagyurishte	2.51	342	P	Pn	13 54 36.0	+11
NSAL	Nisos Salamina	2.63	212	ePN	Pn	13 54 26.0	-0.7
CTT	Catalca	2.63	67	ePN	Pn	13 54 25.9	-0.9
DST	Dursunbey	2.68	101	ePN	Pn	13 54 28.0	+0.6
NAIG	Nisos Aigina	2.75	210	ePN	Pn	13 54 27.5	-0.9
SMG	Samos	2.76	152	ePN	Pn	13 54 28.5	0.0
SMG	Samos	2.76	152	ePn	Pn	13 54 28.0	-0.5
ORLT	Orhaneli	2.82	91	ePN	Pn	13 54 30.0	+0.5
VTS	Vitosha	2.86	329	P	Pn	13 54 41.0	+11
EVR	Evrytania	2.91	246	ePN	Pn	13 54 30.5	-0.2
FNA	Florina	3.00	283	ePn	Pn	13 54 31.5	-0.4
FNA				eSn	Sn	13 55 09.5	+0.7
BADT	Buyukada	3.05	76	ePN	Pn	13 54 32.5	-0.2
PVL	Pavlikeni	3.05	2	P	Pn	13 54 43.0	+10
ISK	Istanbul-Kandi	3.06	72	ePN	Pn	13 54 33.0	+0.2
APE	Apeiranthos	3.10	175	ePN	Pn	13 54 32.0	-1.4
YLV	Yalova	3.20	81	ePN	Pn	13 54 35.3	+0.5
SKO	Skopje	3.38	304	ePn	Pn	13 54 36.5	-0.9
SKO				i		13 54 40.0	
JAN	Janina	3.40	263	ePB	Pb	13 54 40.5	-2.7
PRD	Provadia	3.45	28	P	Pn	13 54 49.0	+11
HRT	Hereke	3.46	78	ePN	Pn	13 54 38.6	+0.1
BODT	Bodrum	3.50	151	ePN	Pn	13 54 39.0	-0.1
BARS	Barje	3.68	317⇑	iPn	Pn	13 54 40.3	-1.3
BARS				Sn	Sn	13 55 25.8	-0.4
IGT	Igoumenitsa	3.81	262	ePn	Pn	13 54 43.1	-0.4
DENT	Denizli	3.83	128	ePN	Pn	13 54 43.6	-0.1
VLI	Veliai	3.88	208	ePN	Pn	13 54 43.0	-1.4
ITM	Ithomi	3.94	222	ePN	Pn	13 54 45.5	+0.2
ALT	Altintas	3.94	105	ePN	Pn	13 54 45.5	+0.2
PSN	Preselentsi	4.16	31	eP	Pn	13 54 58.0	+10
DALT	Dalyan (Mudla)	4.32	141	ePN	Pn	13 54 51.1	+0.4
ESKT	Eskisehir	4.38	97	ePN	Pn	13 54 51.8	+0.2
BOLS	Boljevac	4.40	328⇓	iPn	Pn	13 54 50.5	-1.3
BOLS	Boljevac	4.40	328	Pn	Pn	13 54 50.5	-1.3
MDU	Mudurnu	4.59	84	ePN	Pn	13 54 55.1	+0.5
FETY	Fethiye	4.65	138	ePN	Pn	13 54 55.2	-0.2
IDI	Anoyia	4.87	183	Pn	Pn	13 54 55.8	-2.8
	1.5nm,0.3s,baz=331,slow=12,SNR=7.6						
IDI				Sn	Sn	13 55 58.4	+2.1
	1.0nm,0.3s,baz=357,slow=11,SNR=3.7						
HARR	Harsova	4.95	23	P	Pn	13 54 58.5	-1.2
HARR	Harsova	4.95	23⇓	iP	Pn	13 54 58.5	-1.2
GRUS	Gruza	5.01	319	?		13 56 21.4	
ISR	Istrita	5.05	11⇓	iP	Pn	13 55 03.4	+2.3
SVIS	Svilajnac	5.09	326	ePn	Pn	13 55 01.8	+0.2
SVIS				Sn	Sn	13 55 56.7	-5.0

IDC ***16*** *13:55:43.4±0.5, 4.42N×93.21E, mb4.5/19, mb1 4.5/20, mb1mx4.5/25, mbtmp4.5/20, ML3.9/1, MS3.7/3, Ms1 3.8/3, ms1mx3.4/22, Error ellipse: s-maj=19.5km s-min=15.0km az=46.0*
MOS ***16*** *13:55:47.6±0.7, 4.58N×93.09E, h33km, mb4.9/12, Error ellipse: s-maj=20.9km s-min=8.4km az=117.4*
BJI ***16*** *13:55:47.3, 4.28N×93.00E, h48km, mB5.0, mb4.6, Ms4.4, Msz4.2*
NEIC ***16*** *13:55:48.7±1.3, 4.40N×93.23E, h37km±11km, mb4.6/16, Error ellipse: s-maj=8.6km s-min=5.0km az=54.0*
ISC 16 13:55:45.1±1.9**, 4.37N**±0.05×**93.19E**±0.04**, h25**km±13km**, h31**km±3.2km**: pP-P, n122, σ0.80**/126**, mb4.6**/53**, MS4.2**/11**, 8C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	Kulim	7.49	83	eP	Pn	13 57 35.1	-0.6
CM31	Chiang Mai Arr	15.09	21	eP	P	13 59 18.3	-0.5
	6.4nm,0.8s						
CMAR	Chiang Mai Arr	15.09	21	i P	P	13 59 18.9	+0.2
CMAR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CMAR	Chiang Mai Arr	15.09	21	Pn	P	13 59 18.9	+0.1
	comp=Z,0.2nm,0.3s,baz=219,slow=14,SNR=57						
CMAR				Sn	S	14 01 57.0	-8.8
	baz=243,slow=28,SNR=4.2						
CMAR				LR	LR	14 04 12.3	
	comp=Z,200nm,21.8s,baz=235,slow=34						
VIS	Vishakhapatnam	16.41	325	i P	P	13 59 32.5	-3.2
VIS				e		14 02 02.1	
HYB	Hyderabad	19.33	313⇓	iP	P	14 00 11.0	-0.7
	comp=Z,40nm,1.0s						
HYB				eS	S	14 03 43.0	0.0
QIZ	Qiongzhong	21.84	47	P	P	14 00 38.5	+0.7
QIZ				XP		14 00 55.1	
QIZ				S	S	14 04 32.0	-0.8
QIZ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
QIZ				LR	LR		
	comp=N,311nm,19.9s,MS4.1						
QIZ				LR	LR		
	comp=E,604nm,19.4s,MS4.1						
QIZ	Qiongzhong	21.84	47	P	P	14 00 36.5	-1.3
	comp=E,40nm,1.4s,mb4.7						
KMI	Kunming	22.59	23	P	P	14 00 47.4	+2.1
KMI				AP		14 01 02.3	
KMI				PP	PP	14 01 13.1	-0.6
KMI				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.2						
KMI				AMB	AMB		
	comp=Z,134nm,6.9s						
KMI				LR	LR		
	comp=N,310nm,14.4s,MS4.0						
KMI				LR	LR		
	comp=E,393nm,18.7s,MS4.0						
KMI				LR	LR		
	comp=Z,423nm,12.1s						
KMI	Kunming	22.59	23	P	P	14 00 47.4	+2.1
	comp=Z,12nm,1.2s,mb4.2						
KMI				pP		14 01 02.3	
KMI				sP		14 01 10.7	
KMI				PP	PP	14 01 13.1	-0.6
KMI				S	S	14 04 33.8	-13
KMI				sS		14 04 59.2	
KMI				LR	LR		
	comp=Z,420nm,12.1s,MS4.1						
POO	Poona	23.57	308⇑	iP	P	14 00 55.0	+0.1
POO				i S	S	14 05 11.0	+7.0
JIRN	Jiri	24.10	345	eP	P	14 01 00.9	+0.8
	comp=Z,21nm,0.4s,mb4.9						
PKI	Pulchoki	24.24	343	eP	P	14 01 01.9	+0.5
	comp=Z,48nm,1.0s,mb4.9						
KKN	Kakani	24.48	343	eP	P	14 01 04.2	+0.4
	comp=Z,62nm,0.9s,mb5.0						
GKN	Gorkha	24.88	342	eP	P	14 01 07.9	+0.3
	comp=Z,174nm,1.2s,mb5.5						
KOLN	Koldanda	25.00	340	eP	P	14 01 08.9	+0.1
	comp=Z,47nm,0.8s,mb5.1						
LSA	Lhasa	25.27	356	P	P	14 01 12.8	+1.5
LSA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
LSA	Lhasa	25.27	356	eP	P	14 01 12.8	+1.6
	comp=Z,9.8nm,0.5s,mb4.6						
GYA	Guiyang	25.47	29⇑	iP	P	14 01 14.8	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2	Chengdu	28.22	19	eP	P	14 01 38.0	-0.3
CD2				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
NDI	New Delhi	28.55	330	eP	P	14 01 40.0	-1.3
DDI	Dehra Dun	29.51	333	eP	P	14 01 51.1	+1.2
ENH	Enshi	30.01	29	P	P	14 01 53.0	-1.5
XAN	Xi'an	32.95	24	P	P	14 02 18.8	-1.3
XAN				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.7						
XAN				LR	LR		
	comp=E,285nm,14.7s						
GTA	Gaotai	35.40	9	P	P	14 02 41.3	+0.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.7						
NJ2	Nanjing	36.57	38	eP	P	14 02 57.1	+6.0
NJ2				AP	pP	14 03 06.8	+8.3
NJ2				XP	sP	14 03 10.8	+9.2
NJ2				PP	PP	14 04 21.1	+5.3
NJ2				S	S	14 08 36.0	+4.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,1µm,6.5s						
NJ2				LR	LR		
	comp=N,4µm,23.8s,MS5.3						
NJ2				LR	LR		
	comp=E,4µm,21.4s,MS5.3						
NJ2				LR	LR		
	comp=Z,2µm,20.9s,MS4.8						
SSE	Sheshan	37.42	42	P	P	14 03 02.4	+4.1
SSE				AP	pP	14 03 11.0	+5.3
SSE				XP	sP	14 03 15.1	+6.3
SSE				PP	PP	14 04 28.8	+2.3
SSE				S	S	14 08 48.3	+3.5
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,180nm,11.4s						
SSE				LR	LR		
	comp=N,113nm,24.3s,MS3.8						
SSE				LR	LR		
	comp=E,170nm,24.3s,MS3.8						
SSE				LR	LR		
	comp=Z,102nm,15.6s						
SSE	Sheshan	37.42	42	P	P	14 03 02.4	+4.1
	comp=Z,37nm,0.7s,mb5.3						
SSE				pP	pP	14 03 11.0	+5.3
SSE				sP	sP	14 03 15.1	+6.3
SSE				PP	PP	14 04 28.8	+2.3
SSE				S	S	14 08 48.2	+3.4
SSE				sS		14 09 04.0	
SSE				LR	LR		
	comp=Z,100nm,15.6s,MS3.7						
FITZ	Fitzroy Crossi	39.02	126	eP	P	14 03 11.3	-0.5
	comp=Z,16nm,1.4s,mb4.6						
WMQ	Urumqi	39.59	354	P	P	14 03 17.3	+1.0
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,107nm,3.9s						
WMQ				LR	LR		
	comp=Z,132nm,20.0s,MS3.8						
HHC	Hu-ho-hao-te	39.90	22	eP	P	14 03 19.8	+0.9
HHC				AP	pP	14 03 30.8	+4.5
HHC				XP	sP	14 03 35.8	+6.4
HHC				PP	PP	14 04 58.4	+3.9
HHC				PCP	PcP	14 05 20.8	-4.1
HHC				S	S	14 09 22.4	+0.3
HHC				XS		14 09 45.9	
HHC				SCS	ScS	14 13 15.8	-6.7
HHC				AMB	AMB		
	comp=Z,200nm,7.9s						
HHC				LR	LR		
	comp=N,333nm,25.0s,MS4.5						
HHC				LR	LR		
	comp=E,817nm,26.2s,MS4.5						
HHC				LR	LR		
	comp=Z,233nm,17.8s						
JOW	Kunigami	40.27	53	LR	LR	14 22 09.8	
	comp=Z,143nm,19.8s,MS3.8,baz=285,slow=39						
AAK	Ala-Archa	41.57	339⇑	eP	P	14 03 32.9	+0.2
AAK				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.2						
AAK	Ala-Archa	41.57	339	eP	P	14 03 32.7	0.0
	comp=Z,9.0nm,1.2s,mb4.3						
MK02	Makanchi Array	43.28	349	P	P	14 03 46.3	-0.2
MK02				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
SONM	Songino Array	44.77	13	P	P	14 03 59.4	+0.8
	comp=Z,1.2nm,0.7s,mb3.9,baz=196,slow=8.5,SNR=11						
SONM				PcP	PcP	14 05 41.1	+0.2
	comp=Z,1.1nm,0.6s,baz=192,slow=3.8,SNR=4.7						
WRA	Warramunga Arr	47.10	122	P	P	14 04 17.1	-0.3
	comp=Z,1.0nm,0.5s,mb4.0,baz=302,slow=9.0,SNR=19						
WRAB	Tennant Creek	47.11	122	eP	P	14 04 17.3	-0.2
WB2	Warramunga Arr	47.11	122⇓	iP	P	14 04 17.5	0.0
KURK	Kurchatov	47.78	348	P	P	14 04 22.8	+0.4
	comp=Z,86nm,0.8s,mb5.8,SNR=16						
KURK	Kurchatov	47.78	348	P	P	14 04 22.0	-0.4
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
KURK	Kurchatov	47.78	348	eP	P	14 04 22.1	-0.3
	comp=Z,14nm,0.9s,mb5.0						
ASPA	Alice Springs	48.49	127	eP	P	14 04 28.1	-0.1
ASAR	Alice Springs	48.49	127	P	P	14 04 28.1	-0.2
	comp=Z,0.4nm,0.4s,mb3.8,baz=296,slow=7.8,SNR=10						
ASAR				PcP	PcP	14 05 54.4	-0.1
	comp=Z,0.9nm,0.6s,baz=302,slow=3.5,SNR=4.6						
ASAR				LR	LR	14 24 15.1	
	comp=Z,90nm,19.2s,MS3.8,baz=277,slow=35						
CN2	Changchun	48.49	31	eP	P	14 04 28.3	+0.3
ZAL	Zalesovo	49.89	354	P	P	14 04 39.0	+0.5
	comp=Z,8.8nm,0.5s,mb5.0,baz=309,slow=6.3,SNR=29						
HIA	Hailar	50.10	22	eP	P	14 04 40.2	0.0
	comp=Z,3.1nm,0.6s,mb4.5						
NVS	Novosibirsk	50.96	353	eP	P	14 04 45.4	-1.3
NVS				eS	S	14 11 59.3	-1.4
NVS				pmax	pmax		
	comp=N,12nm,0.8s						
NVS				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
NVS				pmax	pmax		
	comp=E,6.0nm,0.7s						
NVS				smax			
	comp=E,17nm,1.6s						
MDJ	Mudanjiang	51.23	33	P	P	14 04 49.9	+0.9
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,88nm,5.0s						
BVA0	Borovoye Array	52.01	343	P	P	14 04 53.2	-1.5
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
KLR	Kul'dur	55.37	30	eP	P	14 05 14.8	-4.8
KMBO	Kilima Mbogo	56.16	266	P	P	14 05 26.0	+0.3
	comp=Z,3.7nm,0.8s,mb4.5,baz=60,slow=9.9,SNR=13						
KMBO	Kilima Mbogo	56.16	266	eP	P	14 05 26.0	+0.3
	comp=Z,3.2nm,0.9s,mb4.3						
GNI	Garni	56.25	316⇑	eP	P	14 05 25.6	-0.4
GNI				pmax	pmax		
	comp=Z,14nm,1.2s						
GNI	Garni	56.25	316	P	P	14 05 26.7	+0.7
	comp=Z,5.5nm,0.6s,mb4.8,baz=328,slow=23,SNR=3.4						
SVE	Sverdlovsk	58.31	340⇓	eP	P	14 05 39.0	-1.3
SVE				pmax	pmax		
	comp=Z,40nm,1.2s,mb5.3						
SVE				MLR	MLR		
	comp=N,200nm,20.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,200nm,20.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,200nm,20.0s,MS4.2						
STKA	Stephens Creek	58.44	132	P	P	14 05 41.9	+0.3
	comp=Z,0.7nm,0.3s,mb4.1,baz=317,slow=20,SNR=3.5						
KIV	Kislovodsk	59.31	320	eP	P	14 05 46.5	-1.0
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
ASF	Jabal al Asfar	59.38	305	P	P	14 05 49.2	+1.1
	comp=Z,2.2nm,0.5s,mb4.4,baz=63,slow=5.4,SNR=4.5						
YSS	Yuzh-Sakhalins	60.12	37	eP	P	14 05 53.3	+0.3
EIL	Elat	60.39	302	P	P	14 05 55.1	0.0
	comp=Z,13nm,0.7s,mb5.1,baz=49,slow=6.4,SNR=9.8						
ANN	Anapa	63.09	319	eP	P	14 06 15.3	+2.3
ANN				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.4						
ANN				pmax	pmax		
	comp=Z,28nm,1.3s,mb5.2						
YAK	Yakutsk	63.60	18	i P	P	14 06 22.1	+6.0
YAK				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
YAK				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.1						
SIM	Simferopol'	65.34	318	eP	P	14 06 27.1	-0.6
SIM				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.3						
OBN	Obninsk	67.84	329⇓	eP	P	14 06 42.1	-1.3
OBN				e		14 09 08.1	
OBN				eS	S	14 15 39.0	+0.4
OBN				pmax	pmax		
	comp=Z,23nm,1.6s,mb5.0						
OBN				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.4						
MATP	Matopo	68.06	246	P	P	14 06 46.6	+1.2
	comp=Z,4.5nm,1.1s,mb4.4,baz=68,slow=4.1,SNR=6.8						
TIRR	Tirgusor	69.08	316	⇓P	P	14 06 50.3	-0.9
TIRR	Tirgusor	69.08	316	⇓P	P	14 06 50.3	-1.0
CFR	Carcaliu	69.45	317	P	P	14 06 53.1	-0.5
CFR	Carcaliu	69.45	317	⇑P	P	14 06 52.6	-1.0
HARR	Harsova	69.47	316	P	P	14 06 53.4	-0.3
HARR	Harsova	69.47	316	⇑P	P	14 06 53.0	-0.7
KIS	Kishinev	69.49	319	eP	P	14 06 52.0	-1.7
IDI	Anoyia	69.81	306	P	P	14 06 55.8	-0.1
	comp=Z,15nm,0.6s,mb5.1,baz=96,slow=7.5,SNR=15						
VRI	Vrincioaia	70.59	317	⇑P	P	14 07 00.6	+0.2
TIXI	Tiksi	70.83	11	eP	P	14 07 01.8	+0.3
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
MLR	Muntele Rosu	71.03	317	P	P	14 07 03.5	+0.4
MLR	Muntele Rosu	71.03	317	⇑P	P	14 07 03.4	+0.3
LBTB	Lobatse	71.76	242	P	P	14 07 08.4	+0.6
	comp=Z,5.2nm,0.8s,mb4.5,baz=112,slow=4.3,SNR=5.8						
LBTB	Lobatse	71.76	242	eP	P	14 07 07.6	-0.2
	comp=Z,6.0nm,0.9s,mb4.5						
BOSA	Boshof	72.94	238	eP	P	14 07 14.8	-0.1
	comp=Z,4.3nm,0.8s,mb4.4						

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KWP	Kalwaria	74.09	320	eP	P	14 07 20.9	-0.2
KOLS	Kolonicke sedl	74.22	320	eP	P	14 07 22.3	+0.4
CRVS	Cervenica-Dubn	74.74	319	eP	P	14 07 26.1	+1.2
SUW	Suwalki	74.79	325	eP	P	14 07 24.1	-1.0
FINES	FINESS Array B	75.36	333	i P	P	14 07 27.2	-1.0
FINES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
FINES	FINESS Array B	75.36	333	P	P	14 07 27.2	-1.0
	comp=Z,3.1nm,0.8s,mb4.3,baz=135,slow=5.4,SNR=11						
FINES	FINESS Array B	75.36	333	P	P	14 07 27.2	-1.0
OJC	Ojcow	76.05	321	eP	P	14 07 32.4	+0.1
VYHS	Vyhne	76.39	319	eP	P	14 07 34.1	-0.2
VYHS				e	pP	14 07 40.0	-2.1
OKC	Ostrava-Krasne	77.04	320	eP	P	14 07 38.5	+0.6
ZST	Bratislava	77.49	318	eP	P	14 07 40.4	0.0
ZST				epP	pP	14 07 52.1	+3.9
TSUM	Tsumeb	77.90	249	P	P	14 07 43.9	+0.6
	comp=Z,0.7nm,0.4s,mb4.0,baz=85,slow=8.4,SNR=3.7						
ARCES	ARCESS Array B	78.23	341	P	P	14 07 43.9	-0.1
	comp=Z,6.8nm,0.9s,mb4.6,baz=90,slow=3.6,SNR=8.7						
ARCES	ARCESS Array B	78.23	341	P	P	14 07 43.9	-0.1
DPC	Dobruska-Polom	78.27	320	eP	P	14 07 44.9	+0.2
KSP	Ksiaz	78.36	321	eP	P	14 07 45.7	+0.6
KSP	Ksiaz	78.36	321	eP	P	14 07 46.0	+0.9
BOJS	Bojanci	78.44	315	eP	P	14 07 45.5	-0.2
UPC	Upice	78.49	321	eP	P	14 07 46.1	+0.3
PERS	Pernice	78.65	317	eP	P	14 07 47.0	+0.2
VISS	Visnje	78.76	316	eP	P	14 07 47.1	-0.4
PRU	Pruhonice	79.37	320	eP	P	14 07 50.9	+0.2
ROBS	Robic	79.72	316	eP	P	14 07 52.2	-0.4
GERES	GERESS Array B	79.81	319	P	P	14 07 53.6	+0.6
	comp=Z,8.8nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=43						
BRG	Berggiesshubel	79.84	321	eP	P	14 07 53.4	+0.2
BRG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
BRG	Berggiesshubel	79.84	321	eP	P	14 07 53.4	+0.2
	comp=Z,6.4nm,0.9s,mb4.5						
KHC	Kasperske Hory	79.91	319	eP	P	14 07 53.6	0.0
CLL	Collm	80.47	321	eP	P	14 07 56.0	-0.5
CLL	Collm	80.47	321	P	P	14 07 56.0	-0.5
HFS	Hagfors	81.00	330	P	P	14 07 58.7	-0.4
	comp=Z,3.7nm,0.8s,mb4.3,baz=166,slow=5.9,SNR=3.4						
GRA1	Grafenberg Arr	81.49	319	eP	P	14 08 02.3	+0.4
	comp=Z,10.0nm,1.3s,mb4.6						
GRF	Grafenberg Arr	81.49	319	eP	P	14 08 02.3	+0.4
GRF				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
GRF	Grafenberg Arr	81.49	319	eP	P	14 08 02.3	+0.4
	comp=Z,10.0nm,1.3s,mb4.6						
DAVOX	Davos	82.25	316	P	P	14 08 06.5	+0.6
	comp=Z,15nm,0.6s,mb5.1,baz=112,slow=6.9,SNR=16						
NOA	NORSAR Array B	82.31	331	P	P	14 08 05.6	-0.3
	comp=Z,1.4nm,0.9s,mb3.9,baz=192,slow=19,SNR=3.1						
LPG	La Plagne	84.41	315	eP	P	14 08 16.9	-0.1
	comp=Z,17nm,0.8s,mb4.9						
YKA	Yellowknife Ar	110.03	13	PP	PP	14 14 52.2	-0.3
	comp=Z,0.1nm,0.5s,baz=337,slow=7.0,SNR=3.9						
NVAR	Mina Array Bea	128.39	32	PKP	PKPdf	14 14 53.3	-1.8
	comp=Z,0.5nm,0.6s,baz=358,slow=2.5,SNR=4.7						
ANMO	Albuquerque	136.74	24	PKP	PKPdf	14 15 08.6	-2.1
	comp=Z,0.4nm,0.5s,baz=64,slow=16,SNR=3.5						
LPAZ	La Paz	158.16	236	PKP	PKPdf	14 15 44.5	-1.0
	comp=Z,1.1nm,0.7s,baz=90,slow=0.5,SNR=5.9						
LPAZ				PKPab	PKPab	14 16 18.4	+1.3
	comp=Z,0.4nm,0.3s,baz=145,slow=6.0,SNR=6.7						
LPAZ	La Paz	158.16	236	PKP	PKPdf	14 15 44.5	-1.0
LPAZ				PKPab	PKPab	14 16 18.4	+1.3

MEX 16 13:56:46.0±1.0, 16.61N×100.52W, h5km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.49	29	i P	Pg	13 56 54.9	-1.0
CAIG				i S	Sg	13 57 02.0	-0.5
ACX	Acapulco	0.63	66	i P	Pg	13 56 56.7	-1.9
ACX				i S	Sg	13 57 06.8	-0.1
PLIG	Platanillo	2.02	29	i P	Pn	13 57 18.4	-2.6
PLIG				i S	Sn	13 57 43.0	-3.9

IDC 16 14:25:24.9±8.7, 33.84S×56.88E, mb3.8/2, mb1 4.0/2, mb1mx3.5/16, mbtmp3.8/2, Error ellipse: s-maj=630.4km s-min=49.7km az=30.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	66.88	104	P	P	14 36 19.1	-2.1
	0.5nm,0.4s,baz=238,slow=5.7,SNR=24						
WRA	Warramunga Arr	69.03	100	P	P	14 36 32.8	-1.8
	0.4nm,0.4s,baz=240,slow=5.5,SNR=13						
YKA	Yellowknife Ar	150.82	352	PKPbc	PKPdf	14 45 18.1	+3.7
	0.3nm,0.6s,baz=7.9,slow=2.3,SNR=7.7						

*INMG **16** 14:51:07.4±0.8, 35.74N×8.80W, h31km, ML2.2, Error ellipse: s-maj=4.9km s-min=3.5km az=60.0*
*CSEM **16** 14:51:07.6±0.5, 35.88N×8.56W, h10km, ML3.3/11, Error ellipse: s-maj=9.0km s-min=5.8km az=19.0*
MDD 16 14:51:06.4±1.7, 35.73N×8.78W, h69km±54km, mb3.6/7, 1C, Error ellipse: s-maj=17.3km s-min=10.9km az=31.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	Sao Teotonio	1.81	2	ePn	P	14 51 34.5	-1.5
PTEO				eSn	S	14 51 55.1	-2.8
	11nm,0.1s						
PTEO	Sao Teotonio	1.81	2	ePn	P	14 51 34.5	-1.5
PTEO				eSn	S	14 51 55.1	-2.8
	11nm,0.1s						
PALC	Alcoutim	2.02	31	ePn	P	14 51 38.0	-1.0
PALC				eSn	S	14 52 00.7	-2.3
	9.2nm,0.1s						
PALC	Alcoutim	2.02	31	ePn	P	14 51 38.0	-1.0
PALC				eSn	S	14 52 00.7	-2.3
	9.2nm,0.1s						
EGRO	El Granado	2.08	30	⇑P	P	14 51 38.8	-1.0
	9.1nm,0.1s,SNR=18						
EGRO				S	S	14 52 01.9	-2.5
	11nm,0.1s,SNR=6.7						
EGRO	El Granado	2.08	30	Pn	P	14 51 38.8	-1.0
	9.1nm,0.1s,SNR=18						
EGRO				Sn	S	14 52 01.9	-2.6
	11nm,0.1s,SNR=6.7						
PBEJ	Beja	2.41	18	ePn	P	14 51 42.7	-1.7
PBEJ				eSn	S	14 52 09.6	-3.1
	5.0nm,0.1s						
PBEJ	Beja	2.41	18	ePn	P	14 51 42.7	-1.7
PBEJ				eSn	S	14 52 09.6	-3.1
	5.0nm,0.1s						
ESPR	Espera	2.62	64	P	P	14 51 46.3	-1.1
	5.6nm,0.1s,SNR=5.9						
ESPR				S	S	14 52 15.5	-2.6
	12nm,0.2s,SNR=7.9						
ESPR	Espera	2.62	64	Pn	P	14 51 46.3	-1.1
	5.6nm,0.1s,SNR=5.9						
ESPR				Sn	S	14 52 15.5	-2.7
	12nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	2.65	39	P	P	14 51 46.1	-1.7
	1.9nm,0.1s,SNR=16						
EMIN				S	S	14 52 15.2	-3.5
	6.0nm,0.1s,SNR=6.8						
EMIN	Mina Concepcio	2.65	39	Pn	P	14 51 46.1	-1.7
	1.9nm,0.1s,SNR=16						
EMIN				Sn	S	14 52 15.2	-3.5
	6.0nm,0.1s,SNR=6.8						
EJIF	Jimena Fronter	2.78	74	P	P	14 51 47.3	-2.3
	3.3nm,0.2s,SNR=7.9						
EJIF				S	S	14 52 18.7	-3.4
	3.3nm,0.3s,SNR=7.9						
MOE	Montemor	2.81	7	ePn	P	14 51 48.4	-1.6
MOE				eSn	S	14 52 19.8	-3.0
EBAD	Badajoz	3.33	25	P	P	14 51 55.5	-1.9
	2.0nm,0.1s,SNR=9.8						
EBAD				S	S	14 52 32.1	-3.9
	7.0nm,0.2s						
EBAD	Badajoz	3.33	25	Pn	P	14 51 55.5	-1.9
	2.0nm,0.1s,SNR=9.8						
EBAD				Sn	S	14 52 32.1	-3.9
	7.0nm,0.2s						
ECAB	El Cabril	3.57	48	P	P	14 51 59.2	-1.5
	2.3nm,0.1s,SNR=7.9						
ECAB				S	S	14 52 37.3	-4.6
	2.0nm,0.2s,SNR=7.9						
ECAB	El Cabril	3.57	48	Pn	P	14 51 59.2	-1.5
	2.3nm,0.1s,SNR=7.9						
ECAB				Sn	S	14 52 37.3	-4.6
	2.0nm,0.2s,SNR=7.9						
PTOM	Tomar	3.89	4	ePn	P	14 52 03.5	-1.7
PTOM				eSn	S	14 52 45.0	-4.9
	8.1nm,0.1s						
PTOM	Tomar	3.89	4	P	P	14 52 03.5	-1.7
PTOM				S	S	14 52 45.0	-4.9
	4.1nm,0.1s						
EADA	Adamuz	4.15	53	P	P	14 52 07.2	-1.7
	2.4nm,0.2s,SNR=10.0						
EADA				S	S	14 52 50.1	-6.4
	9.4nm,0.1s,SNR=13						
EADA	Adamuz	4.15	53	Pn	P	14 52 07.2	-1.7
	2.4nm,0.2s,SNR=10.0						
EADA				Sn	S	14 52 50.1	-6.5
	9.4nm,0.1s,SNR=13						
PCBR	Castelo Branco	4.23	14	eSn	S	14 52 53.0	-5.4
	4.3nm,0.2s						
PCBR	Castelo Branco	4.23	14	S	S	14 52 53.0	-5.4
	2.2nm,0.2s						
EBAN	Banos Encina	4.68	57	P	P	14 52 13.7	-2.6
	1.4nm,0.1s,SNR=7.9						
EBAN				S	S	14 53 03.0	-6.8
	1.8nm,0.2s,SNR=7.9						
MTE	Manteigas	4.76	11	eSn	S	14 53 06.3	-5.4
	3.4nm,0.3s						
MTE	Manteigas	4.76	11	S	S	14 53 06.3	-5.4
	1.7nm,0.3s						
EQES	Quesada	5.03	64	P	P	14 52 17.6	-3.5
	0.8nm,0.3s,SNR=7.9						
EQES				S	S	14 53 12.1	-6.3
	1.3nm,0.1s,SNR=7.9						
EQES	Quesada	5.03	64	Pn	P	14 52 17.6	-3.5
	0.8nm,0.3s,SNR=7.9						
EQES				Sn	S	14 53 12.1	-6.4
	1.3nm,0.1s,SNR=7.9						
ESDC	Sonseca Array	5.49	43	P	P	14 52 24.5	-2.8
	baz=236,slow=12,SNR=7.9						
ESDC				S	S	14 53 22.5	-7.3
	baz=228,slow=22,SNR=7.9						
ESDC	Sonseca Array	5.49	43	Pn	P	14 52 24.5	-2.8
	SNR=7.9						
ESDC				Sn	S	14 53 22.5	-7.3
	SNR=7.9						
ELOB	Lobios	6.15	5	P	P	14 52 33.8	-2.8
	0.3nm,0.1s,SNR=7.9						
ELOB				S	S	14 53 37.8	-8.5
	0.7nm,0.1s,SNR=7.9						
ELOB	Lobios	6.15	5	Pn	P	14 52 33.8	-2.8
	0.3nm,0.1s,SNR=7.9						

IGQ 16 14:52:51.1, 1.03S×78.29W, h5km±2km, mb4.0, 9C-8D, Error ellipse: s-maj=1.6km s-min=0.5km az=13.5, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	Pisayambo	0.10	256	⇓P	Pg	14 52 53.9	+0.6
TAMB	Tambo	0.35	347	⇑P	Pg	14 52 58.9	+0.9
RUN2	Runtun	0.40	197	⇓P	Pg	14 52 59.8	+0.6
VC1	Cotopaxi 1	0.41	344	⇑P	Pg	14 53 00.1	+0.9
JUIV	Juive	0.42	204	⇓P	Pg	14 52 59.8	+0.2
ULBA	Ulba	0.43	196	⇑P	Pg	14 52 59.7	+0.1
NAS1	Nasa	0.44	335	⇑P	Pg	14 53 00.8	+0.9
RETU	Refugio	0.44	200	⇓P	Pg	14 53 00.4	+0.4
RETU				S	Sg	14 53 06.3	+0.4
CUSU	Cusua	0.45	205	P	Pg	14 53 00.2	+0.2
CUSU				S	Sg	14 53 05.9	-0.2
ARRY	Arrayan	0.50	199	⇑P	Pg	14 53 00.8	-0.2
IGUA	Igualata	0.57	217	⇑P	Pg	14 53 02.8	+0.3
IGUA				S	Sg	14 53 10.2	+0.1
ANTI	Antisana	0.60	13	⇑P	Pg	14 53 03.1	+0.1
JUA2	San Juan 2	0.87	339	P	Pb	14 53 08.6	+0.3
JUA2				S	Sb	14 53 20.4	+0.3
GGP	Refugio Guagua	0.91	341	P	Pb	14 53 10.3	+1.4
TERV	Terraza Guagua	0.91	340	⇓P	Pb	14 53 09.4	+0.5
TERV				S	Sb	14 53 22.5	+1.4
PINO	Pino	0.93	340	⇑P	Pb	14 53 09.7	+0.5
YANA	Yana	0.95	343	⇑P	Pb	14 53 09.8	+0.1
YANA				S	Sb	14 53 22.8	+0.5
ELAGU	Cayambe Volc	1.05	17	⇓P	Pb	14 53 11.5	+0.2
ELAGU				S	Sb	14 53 25.6	+0.5
CAYR	Refugio Cayamb	1.08	15	P	Pb	14 53 12.3	+0.5
CAYR				S	Sb	14 53 26.9	+0.8
CAYA	Cayambe	1.14	15	P	Pb	14 53 13.3	+0.5
CONE	Cono NE Rev Vo	1.16	34	⇓P	Pb	14 53 14.1	+1.0
CONE				S	Sb	14 53 29.5	+1.2
COTA	Cotacachi	1.36	358	P	Pb	14 53 17.2	+0.5
COTA				S	Sb	14 53 40.5	+6.3
ECEN	Cerro Negro	1.87	10	⇓P	Pn	14 53 26.9	+2.8
ECEN				S	Sn	14 53 52.8	+4.5
HOJA	Cerro de Hojas	2.25	270	P	Pn	14 53 30.5	+0.9
HOJA				S	Sn	14 53 56.4	-1.6

PRE 16 14:56:11.7±0.6, 26.18S×29.15E, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	Silverton	0.90	299	eP	Pg	14 56 28.1	-1.5
SLR				eS	Sg	14 56 39.5	-2.0
SLR				e		14 56 51.2	
	comp=Z,337nm,0.5s						
KSR	Koster	2.05	279	eP	Pn	14 55 58.3	-50
KSR				eS	Sn	14 56 14.1	-60
KSR				e		14 56 16.8	
	comp=Z,2μm,0.3s						
POG	Pongola	2.50	119	eP	Pn	14 56 53.6	-0.7
POG				eS	Sn	14 57 24.7	-1.3
POG				e		14 57 32.9	
	comp=Z,170nm,0.5s						
SEK	Senekal	2.53	212	eS	Sn	14 57 24.1	-2.6
SEK				e		14 57 44.4	
	comp=Z,186nm,0.7s						
BOSA	Boshof	4.23	234	eP	Pn	14 57 32.4	+14
BOSA				eS	Sn	14 58 20.2	+11

*BJI **16** 14:56:26.1, 7.70N×92.35E, h49km, mb4.4*
*NEIC **16** 14:56:28.3±1.0, 8.14N×92.00E, mb4.2/3, Error ellipse: s-maj=28.2km s-min=16.3km az=68.0*
*IDC **16** 14:56:28.2±1.1, 8.14N×91.89E, h30km±4km, mb3.7/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.8/6, ML4.0/1, Error ellipse: s-maj=37.6km s-min=17.0km az=62.0*
ISC 16 14:56:26.8±0.9, 8.2N±0.1×92.1E±0.1, h29km, h29km±.8km:pP-P, n20, σ1§05/20, mb4.1/11, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.21	32	Pn	P	14 59 20.5	-1.4
	0.2nm,0.3s,baz=229,slow=15,SNR=8.3						
VIS	Vishakhapatnam	12.76	319	eP	P	14 59 23.5	-5.7
VIS				eS	Sx	15 01 20.0	
HYB	Hyderabad	16.07	306	i P	P	15 00 14.0	+1.5
JIRN	Jiri	20.17	345	eP	P	15 01 02.2	+0.3
	14nm,0.4s						
PKI	Pulchoki	20.30	343	eP	P	15 01 03.5	+0.2
	15nm,0.4s						
DMN	Daman	20.43	342	eP	P	15 01 04.8	+0.2
	26nm,0.7s						
KKN	Kakani	20.55	343	eP	P	15 01 05.6	-0.2
	9.3nm,0.4s						
GKN	Gorkha	20.94	341	eP	P	15 01 08.6	-1.3
KOLN	Koldanda	21.08	339	eP	P	15 01 10.5	-0.8
	16nm,0.7s,mb4.5						
LSA	Lhasa	21.44	358	P	P	15 01 17.4	+2.5
LSA				AMB	AMB		
	comp=Z,50nm,1.0s,mb4.8						
LSA	Lhasa	21.44	358	eP	P	15 01 17.3	+2.5
	comp=Z,6.6nm,0.8s,mb4.0						
GYA	Guiyang	22.87	36	⇓iP	P	15 01 31.3	+2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
GTA	Gaotai	31.87	11	P	P	15 02 52.4	+0.6
GTA				AP	pP	15 03 00.8	+0.4
GTA				XP	sP	15 03 05.6	+1.4
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4						
SONM	Songino Array	41.36	15	P	P	15 04 12.3	+0.5
	comp=Z,2.6nm,0.7s,mb4.0,baz=197,slow=7.8,SNR=26						
SONM				pP	pP	15 04 21.6	+1.0
	comp=Z,2.4nm,0.8s,baz=196,slow=9.4,SNR=8.9						
SONM				sP	sP	15 04 25.3	+1.0
	comp=Z,2.3nm,0.8s,baz=194,slow=7.1,SNR=9.3						
KURK	Kurchatov	43.86	348	eP	P	15 04 31.1	-1.2
	comp=Z,1.4nm,0.3s,mb4.2						
CHKZ	Chkalovo	48.58	343	eP	P	15 05 08.1	-1.4
	comp=Z,1.8nm,0.6s,mb4.3						
WRA	Warramunga Arr	50.10	124	P	P	15 05 21.3	-0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=304,slow=8.6,SNR=11						
WRA				pP	pP	15 05 31.0	+0.3
	comp=Z,1.7nm,0.7s,baz=304,slow=8.5,SNR=6.5						
ASAR	Alice Springs	51.68	129	P	P	15 05 34.1	+0.4
	comp=Z,0.6nm,0.7s,mb3.6,baz=288,slow=6.5,SNR=6.4						
ASAR				pP	pP	15 05 43.4	+0.8
	comp=Z,1.0nm,0.7s,baz=302,slow=7.4,SNR=6.9						
GERES	GERESS Array B	76.25	318	P	P	15 08 14.0	-0.5
	comp=Z,0.2nm,0.2s,mb3.6,baz=32,slow=13,SNR=2.5						
GERES				pP	pP	15 08 22.4	-1.3
	comp=Z,0.2nm,0.3s,baz=101,slow=6.8,SNR=1.9						
ILAR	Eielson Array	95.23	22	P	P	15 09 48.6	-0.1
	comp=Z,0.2nm,0.7s,mb3.6,baz=288,slow=2.9,SNR=3.6						
ILAR				pP	pP	15 09 57.5	-0.6
	comp=Z,0.4nm,0.7s,baz=302,slow=4.3,SNR=4.8						

IDC 16 14:58:17.4±1.0, 8.13N×91.93E, h28km±4km, mb3.5/5, mb1 3.8/6, mb1mx3.7/14, mbtmp3.6/6, Error ellipse: s-maj=37.4km s-min=16.5km az=62.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	12.33	33	Pn	P	15 01 09.0	-5.2
	baz=212,slow=14,SNR=2.9						
SONM	Songino Array	41.44	15	P	P	15 06 02.0	-1.3
	0.8nm,0.7s,baz=191,slow=7.9,SNR=3.7						
SONM				pP	pP	15 06 09.9	-1.6
	2.3nm,0.7s,baz=195,slow=8.3,SNR=12						
SONM				sP	sP	15 06 14.3	-0.6
	2.3nm,0.8s,baz=198,slow=7.6,SNR=8.1						
WRA	Warramunga Arr	50.20	124	P	P	15 07 10.8	-2.4
	0.6nm,0.6s,baz=304,slow=8.7,SNR=5.3						
WRA				pP	pP	15 07 19.4	-2.3
	1.7nm,0.7s,baz=304,slow=8.7,SNR=6.8						
ASAR	Alice Springs	51.77	129	P	P	15 07 23.1	-2.1
	0.5nm,0.8s,baz=309,slow=5.8,SNR=2.7						
ASAR				pP	pP	15 07 31.1	-2.4
	1.4nm,0.8s,baz=302,slow=8.0,SNR=5.8						
STKA	Stephens Creek	61.88	133	pP	pP	15 08 43.5	-2.1
	1.7nm,0.9s,baz=350,slow=11,SNR=1.5						
GERES	GERESS Array B	76.18	318	P	P	15 10 03.1	-1.8
	0.3nm,0.2s,baz=45,slow=5.6,SNR=3.0						
GERES				pP	pP	15 10 11.6	-2.0
	0.3nm,0.3s,baz=90,slow=5.3,SNR=3.1						
ILAR	Eielson Array	95.33	22	P	P	15 11 38.2	-1.7
	0.2nm,0.8s,baz=304,slow=3.3,SNR=2.8						
ILAR				pP	pP	15 11 47.8	-1.0
	0.5nm,0.8s,baz=299,slow=5.1,SNR=5.3						
PDAR	Pinedale Array	125.69	19	PKP	PKPdf	15 17 17.4	-4.3
	0.2nm,0.4s,baz=207,slow=2.0,SNR=2.7						
PDAR				pPKP		15 17 25.3	
	0.6nm,0.8s,baz=90,slow=1.5,SNR=3.3						

*CSEM **16** 15:33:39.2±0.1, 35.25N×27.21E, h80km, mb3.9/2, Error ellipse: s-maj=2.8km s-min=1.3km az=36.0*
*ATH **16** 15:33:41.6, 35.45N×27.10E, h78km±4km, ML4.2*
*ISK **16** 15:33:41.8, 35.47N×27.08E, h85km, MD3.6*
*NEIC **16** 15:33:41.5, 35.40N×27.05E, h74km, mb4.0/2, After ATH.*
*IDC **16** 15:33:45.0±2.0, 35.58N×26.79E, h99km±16km, mb3.7/10, mb1 3.8/13, mb1mx3.6/22, mbtmp4.0/13, Error ellipse: s-maj=26.2km s-min=17.1km az=133.0*
ISC 16 15:33:40.1±0.3, 35.29N±0.03×27.20E±0.03, h97km±4km, n88, σ1§14/97, mb3.9/12, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.26	353	eP	P	15 33 52.7	-1.5
ARG	Arkhangelos	1.20	39	eP	P	15 34 04.4	+1.5
ARG	Arkhangelos	1.20	39	eP	P	15 34 04.2	+1.3
NPS	Neapolis	1.30	269	eP	P	15 34 05.2	+1.1
XRY	Khrisi	1.30	252	eP	P	15 34 05.2	+1.1
NISR	Nisiros	1.32	357	eP	P	15 34 04.0	-0.4
BODT	Bodrum	1.78	3	PN	P	15 34 10.0	-0.1
BODT				SN	S	15 34 29.6	-2.6
THR1	Thera Island	1.78	308	eP	P	15 34 09.2	-1.0
THR6	Thira Island,	1.81	307	eS	S	15 34 35.6	+2.5
THR4	Thira Island,	1.88	309	eP	P	15 34 10.8	-0.6
THR5	Thira Island,	1.88	307	eP	P	15 34 10.8	-0.7
DALT	Dalyan (Mudla)	1.88	38	PN	P	15 34 13.1	+1.6
IDI	Anoyia	1.89	271	P	P	15 34 12.2	+0.7
	90nm,0.3s,baz=102,slow=11,SNR=260						
IDI				S	S	15 34 32.9	-1.9
	104nm,0.3s,baz=306,slow=16,SNR=21						
FETY	Fethiye	2.04	48	PN	P	15 34 14.6	+1.1
YER	Yerkesik	2.04	25	PN	P	15 34 14.5	+0.9
KSL	Kastellorizon	2.12	65	eP	P	15 34 16.5	+1.8
APE	Apeiranthos	2.23	323	PN	P	15 34 15.1	-1.1
APE	Apeiranthos	2.23	323	eP	P	15 34 15.2	-1.0
SMG	Samos	2.44	353	eP	P	15 34 18.7	-0.3
VAM	Vamos	2.46	274	eP	P	15 34 19.9	+0.6
GVD	Gavdhos	2.59	261	eP	P	15 34 22.6	+1.4
ELL	Elmali	2.64	56	PN	P	15 34 23.5	+1.7
DENT	Denizli	2.87	30	ePN	P	15 34 25.7	+0.7
BLCB	Balcova	3.10	358	PN	P	15 34 27.8	-0.3
IZM	Izmir	3.11	1	PN	P	15 34 27.9	-0.4
BCK	Bucak	3.49	51	ePN	P	15 34 34.4	+0.9
KYTH	Kithira	3.53	288	eP	P	15 34 33.2	-0.8
KHL	Karahalli	3.56	31	ePN	P	15 34 34.5	+0.1
ISP	Isparta	3.69	45	ePN	P	15 34 37.1	+0.9
VLI	Veliai	3.74	294	eP	P	15 34 36.0	-0.9
PTL	Penteli	3.85	317	eP	P	15 34 38.2	-0.2
NAIG	Nisos Aigina	3.88	311	eP	P	15 34 38.7	-0.1
ATH	Athens Observa	3.88	315	eP	P	15 34 37.5	-1.3
NSAL	Nisos Salamina	3.99	312	eP	P	15 34 39.5	-0.8
PRK	Paraskevi	4.02	350	eP	P	15 34 40.0	-0.8
LEF	Lefka	4.66	90	ePN	P	15 34 52.3	+2.8
ITM	Ithomi	4.66	295	eP	P	15 34 49.5	-0.1
CSS	Prodhromos	5.03	92	P	P	15 34 54.1	-0.6
	34nm,0.4s						
CSS	Prodhromos	5.03	92	P	P	15 34 54.1	-0.5
	34nm,0.4s						
ESKT	Eskisehir	5.13	33	ePN	P	15 34 55.7	-0.2
KIZT	Kizilcal	5.18	45	ePN	P	15 34 57.4	+0.8
AGG	Agios Georgios	5.39	315	eP	P	15 34 59.8	+0.3
PAIG	Paliouri	5.41	330	eP	P	15 34 59.4	-0.4
OUR	Ouranopolis	5.65	334	eP	P	15 35 02.5	-0.5
ALN	Alexandroupoli	5.68	351	eP	P	15 35 02.9	-0.4
LIT	Litokhoron	6.09	324	eP	P	15 35 09.2	+0.2
THE	Thessaloniki	6.30	329	eP	P	15 35 12.5	+0.6
BRTR	Keskin Array B	6.77	47	P	P	15 35 13.9	-4.6
	0.1nm,0.3s,baz=353,slow=31,SNR=2.5						
KNT	Kendrikon	6.77	331	eP	P	15 35 19.4	+0.8
GRG	Griva	6.81	328	eP	P	15 35 19.2	+0.2
GRG	Griva	6.81	328	eP	P	15 35 19.2	+0.2
HNTI	Hanita	6.96	106	Sn	S	15 36 35.9	-3.4
OFRI	‘Ofer	6.99	110	Sn	S	15 36 37.1	-3.0
FNA	Florina	7.16	322	eP	P	15 35 24.4	+0.6
MMLI	Mount Malkishu	7.40	110	Sn	S	15 36 45.8	-4.4
KZIT	Kziot	7.45	124	Pn	P	15 35 27.3	-0.5
KZIT				Sn	S	15 36 46.1	-5.2
KSHT	Keshet	7.50	105	Sn	S	15 36 50.6	-1.9
HMDT	Nahal Hemdat	7.56	111	Pn	P	15 35 30.3	+1.0
HMDT				Sn	S	15 36 51.2	-2.8
RTMM	Retamin	7.56	122	Sn	S	15 36 48.4	-5.7
MZDA	Masada	7.90	118	Pn	P	15 35 34.3	+0.4
MZDA				Sn	S	15 36 57.7	-4.6
KMTI	Karmit	8.18	127	Pn	P	15 35 37.7	0.0
KMTI				Sn	S	15 37 03.0	-6.1
ZFRI	Zfri	8.20	123	Pn	P	15 35 37.8	-0.1
ZFRI				Sn	S	15 37 04.7	-4.9
PRNI	Paran	8.20	125	Pn	P	15 35 38.0	0.0
PRNI				Sn	S	15 37 04.0	-5.8
QSH	Qafa e Shtames	8.46	320	i Sg	S	15 37 11.2	-4.8
MBH	Mount Berech	8.51	128	Pn	P	15 35 42.9	+0.8
EIL	Elat	8.61	128	P	P	15 35 44.2	+0.7
	2.7nm,0.3s,baz=6.7,slow=19,SNR=41						
EIL				S	S	15 37 13.9	-5.8
	13nm,0.3s,baz=3.4,slow=24,SNR=14						
EIL	Elat	8.61	128	Pn	P	15 35 44.0	+0.5

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASF	Jabal al Asfar	8.65	108	S	S	15 37 20.6	-0.1
	0.9nm,0.3s,baz=272,slow=20,SNR=3.3						
MLR	Muntele Rosu	10.24	355	P	P	15 36 05.9	+0.4
	0.1nm,0.3s,baz=239,slow=11,SNR=3.8						
GERES	GERESS Array B	16.82	328	P	P	15 37 29.9	-0.7
	0.2nm,0.3s,baz=146,slow=14,SNR=6.6						
KHC	Kasperske Hory	17.09	328	eP	P	15 37 32.0	-2.0
MOX	Moxa	19.06	328	eP	P	15 37 58.0	+0.9
FINES	FINESS Array B	26.19	359	P	P	15 39 06.5	-0.5
	1.1nm,0.3s,mb3.7,baz=159,slow=9.5,SNR=21						
HFS	Hagfors	26.36	345	P	P	15 39 07.4	-1.3
	1.3nm,0.3s,mb3.8,baz=173,slow=12,SNR=11						
KAF	Kangasniemi	26.86	359	ep	P	15 39 12.2	-0.9
NB2	NORSAR Subarra	27.73	343	P	P	15 39 19.7	-1.5
	1.3nm,0.5s,mb3.7,baz=149,slow=8.6						
NOA	NORSAR Array B	27.73	343	P	P	15 39 19.7	-1.4
	0.9nm,0.5s,mb3.6,baz=146,slow=9.1,SNR=6.0						
JOF	Joensuu	27.78	4	ep	P	15 39 20.6	-0.9
	0.7nm,0.2s,mb3.8						
EKA	Eskdalemuir Ar	28.92	323	P	P	15 39 31.1	-0.7
	1.3nm,0.5s,mb3.8,baz=125,slow=10,SNR=4.8						
EKA	Eskdalemuir Ar	28.92	323	P	P	15 39 31.1	-0.7
ARCES	ARCESS Array B	34.32	359	P	P	15 40 18.4	-0.3
	1.8nm,0.6s,mb4.1,baz=173,slow=8.0,SNR=19						
CHKZ	Chkalovo	35.34	45	eP	P	15 40 30.4	+2.8
	1.4nm,0.5s,mb4.0						
DBIC	Dimbokro	40.97	234	P	P	15 41 16.6	+1.8
	2.6nm,0.5s,mb4.3,baz=18,slow=8.8,SNR=8.0						
DBIC	Dimbokro	40.97	234	P	P	15 41 16.6	+1.7
ZAL	Zalesovo	43.70	46	P	P	15 41 40.0	+3.3
	1.6nm,0.5s,mb4.0,baz=196,slow=8.4,SNR=9.3						
SONM	Songino Array	58.11	51	P	P	15 43 29.0	+3.5
	0.6nm,0.4s,mb4.0,baz=282,slow=7.0,SNR=9.4						
SCHQ	Schefferville	64.17	320	P	P	15 44 07.8	+1.6
	0.8nm,0.5s,mb3.8,baz=58,slow=9.5,SNR=4.6						
YKA	Yellowknife Ar	77.83	343	P	P	15 45 29.1	+1.3
	0.5nm,0.6s,mb3.5,baz=33,slow=5.6,SNR=14						

DJA 16 15:47:01.5±1.3, 9.46S×116.13E, h5km±6km, ML4.2/2, 5C-1D, Error ellipse: s-maj=24.1km s-min=13.9km az=131.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	Rata	0.94	321	⇑ePg	Pg	15 47 17.9	-2.4
RATI				⇑eSg	Sg	15 47 29.8	-3.0
KEDI	Kedomdong	0.97	359	⇑ePn	Pn	15 47 18.8	-2.8
	739nm,0.2s						
KEDI				⇑eSn	Sn	15 47 31.3	-4.6
KELI	Kelakatan	2.04	307	⇑ePn	Pn	15 47 34.8	-2.1
SRDI	Scrawed	2.19	296	⇓ePn	Pn	15 47 35.4	-3.7
	80nm,0.2s						

IDC 16 15:55:50.9±4.0, 29.57S×178.61W, mb3.6/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=78.8km s-min=52.7km az=85.0

ISC 16 15:56:05.1±3.8, 30.6S±0.1×178.5W±0.6, h150km, n10, σ1s22/10, mb3.4/2, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	8.35	202	ePN	P	15 58 06.0	+1.9
MWZ				eSN	S	15 59 37.4	+0.3
URZ	Urewera	8.43	204	Pn	P	15 58 07.6	+2.5
	0.5nm,0.3s,baz=128,slow=19,SNR=8.7						
URZ	Urewera	8.43	204	ePN	P	15 58 05.6	+0.5
BKZ	Black Stump Fm	9.45	204	ePN	P	15 58 18.7	0.0
MRZ	Mangatainoka R	11.10	204	ePN	P	15 58 38.0	-2.4
QRZ	Quartz Range	12.50	213	ePN	P	15 58 58.3	-0.3
THZ	Tophouse	13.09	210	ePN	P	15 59 04.5	-1.6
ASAR	Alice Springs	42.66	267	P	P	16 03 48.5	0.0
	0.2nm,0.4s,mb3.1,baz=104,slow=7.3,SNR=5.6						
WRA	Warramunga Arr	43.67	273	P	P	16 03 57.1	+0.5
	0.6nm,0.3s,mb3.7,baz=111,slow=8.1,SNR=24						
FINES	FINESS Array B	145.21	339	PKP	PKPdf	16 15 27.5	+3.6
	0.9nm,0.5s,baz=63,slow=3.1,SNR=12						

IDC 16 16:12:10.1±6.8, 3.12N×127.22E, mb3.7/3, mb1 3.9/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=162.6km s-min=107.6km az=75.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.96	163	P	P	16 17 26.7	-0.5
	0.4nm,0.4s,baz=342,slow=10,SNR=16						
ASAR	Alice Springs	27.41	167	P	P	16 17 58.2	-1.4
	0.5nm,0.4s,baz=352,slow=7.3,SNR=27						
STKA	Stephens Creek	37.39	160	P	P	16 19 23.7	-2.9
	2.3nm,1.0s,baz=336,slow=12,SNR=3.7						

ATH 16 16:16:00.8, 38.59N×21.25E, h10km, MD3.0/3
NEIC 16 16:16:00.4, 38.55N×21.28E, h28km, ML3.5(ATH), After ATH.
CSEM 16 16:16:01.9±0.1, 38.55N×21.48E, h30km, ML3.5, Error ellipse: s-maj=1.4km s-min=1.2km az=68.0

ISC 16 16:16:01.4±0.9, 38.48N±0.08×21.39E±0.09, h35km±47km, n21, σ1s41/21, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	Riolos of Patr	0.43	172	ePB	P	16 16 11.6	+0.6
EVR	Evrytania	0.54	37	ePB	P	16 16 11.4	-1.2
VLS	Valsamata	0.70	244	ePB	P	16 16 13.8	-1.0
AGG	Agios Georgios	0.91	53	eP	P	16 16 19.0	+1.2
LKR	Lokris	1.27	82	ePB	P	16 16 23.0	0.0
IGT	Igoumenitsa	1.33	322	eP	P	16 16 24.7	+0.8
NEO	Neokhori	1.65	59	⇑iPG	P	16 16 27.0	-1.4
NEO	Neokhori	1.65	59	ePn	P	16 16 27.0	-1.4
XOR	Xorichti	1.66	57	eP	P	16 16 27.1	-1.5
NSAL	Nisos Salamina	1.73	109	ePB	P	16 16 31.0	+1.4
NAIG	Nisos Aigina	1.81	113	ePB	P	16 16 34.0	+3.4
LIT	Litokhoron	1.83	27	eP	P	16 16 34.3	+3.3
MPAR	Parnis Oros	1.87	99	ePB	P	16 16 27.0	-4.6
ATH	Athens Observa	1.90	105	ePG	P	16 16 30.0	-2.0
PTL	Penteli	2.00	102	ePB	P	16 16 29.2	-4.2
PAIG	Paliouri	2.29	50	eP	P	16 16 36.9	-0.7
PLG	Polygyros	2.47	39	ePB	P	16 16 43.2	+3.0
OUR	Ouranopolis	2.73	47	eP	P	16 16 43.1	-0.7
LIA	Limnos Island	3.27	63	ePn	P	16 16 53.3	+1.8
RDO	Rodhopi	4.16	49	ePB	P	16 17 05.3	+1.2
ALN	Alexandroupoli	4.33	55	eP	P	16 17 05.3	-1.3

IDC 16 16:19:45.0±4.1, 37.35N×137.79E, h204km±48km, mb3.1/3, mb1 3.2/5, mb1mx3.0/22, mbtmp3.8/5, Error ellipse: s-maj=121.3km s-min=16.2km az=87.0
JMA 16 16:19:47.4±0.2, 37.23N×138.01E, h232km±2km, M3.0

ISC 16 16:19:46.1±0.7, 37.27N±0.05×137.96E±0.09, h234km±4km, n16, σ0s80/27, mb3.2/3, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	Nakama	0.23	135	P	P	16 20 17.7	+0.9
JJN				eS	S	16 20 41.5	+0.9
JSZ	Suzu	0.51	291	P	P	16 20 17.9	+0.4
JSZ				eS	S	16 20 40.7	-1.2
MAT	Matsushiro	0.75	165	P	P	16 20 18.5	+0.1
MAT				S	S	16 20 43.8	+0.2
MAT	Matsushiro	0.75	165	P	P	16 20 18.9	+0.5
MAT				eS	S	16 20 43.6	0.0
JRY	Ryogami san	1.46	148	P	P	16 20 23.2	+0.2
JRY				eS	S	16 20 50.5	-1.1
JAG	Ashikaga	1.47	125	P	P	16 20 23.4	+0.4
JYN	Shimob	1.83	165	P	P	16 20 26.2	+0.1
JYN				S	S	16 20 57.6	+0.6
JOD2	Odawara 2	2.20	155	P	P	16 20 29.7	+0.1
JOD2				S	S	16 21 01.9	-1.4
JMM	Marumori	2.33	74	P	P	16 20 31.6	+0.7
JMM				eS	S	16 21 05.8	+0.2
JYK	Kaneyama	2.51	48	P	P	16 20 33.7	+0.9
JYK				eS	S	16 21 08.3	-0.6
JMK	Ichinoseki	3.07	56	P	P	16 20 39.5	+0.6
JMK				eS	S	16 21 19.9	0.0
JHJ	Hachijo jima 2	4.40	160	P	P	16 20 54.9	+0.2
	2.3nm,0.3s,baz=55,slow=19,SNR=12						
JHJ				S	S	16 21 47.4	-0.6
	5.8nm,0.3s,baz=66,slow=19,SNR=6.0						
ASAJ	Asahikawa	7.69	26	P	P	16 21 34.0	-2.2
	0.8nm,0.3s,baz=333,slow=25,SNR=6.5						
WRA	Warramunga Arr	57.01	184	P	P	16 29 09.0	-0.5
	0.4nm,0.6s,mb3.2,baz=360,slow=7.5,SNR=6.3						
ASAR	Alice Springs	60.73	184	P	P	16 29 36.5	+1.4
	0.2nm,0.6s,mb3.0,baz=15,slow=14,SNR=3.1						
FINES	FINESS Array B	67.30	331	P	P	16 30 16.1	-0.8
	1.2nm,1.0s,mb3.5,baz=34,slow=5.0,SNR=3.6						

BJI 16 16:22:54.5, 6.36S×102.74E, h30km, mB5.6, mb5.1, Ms5.7, Msz5.5
MOS 16 16:23:01.5±0.8, 5.44S×102.90E, h33km, mb5.3/28, MS5.3/14, Error ellipse: s-maj=16.2km s-min=7.7km az=110.3
NEIC 16 16:23:02.5±0.2, 5.64S×102.75E, h30km, mb5.2/45, MS5.4/117, Error ellipse: s-maj=6.9km s-min=4.8km az=58.0
CSEM 16 16:23:02.0, 5.56S×102.86E, h33km, mb5.7
IDC 16 16:23:02.7±2.3, 5.65S×102.77E, h29km±15km, mb4.8/19, mb1 4.8/19, mb1mx4.8/19, mbtmp4.9/19, MS5.1/16, Ms1 5.1/16, ms1mx5.0/21, Error ellipse: s-maj=17.4km s-min=10.6km az=47.0
HRVD 16 16:23:02.5±0.2, 6.13S×102.44E, h30km, MW5.5/70, Centroid moment Tensor Solution. LP body waves: s64,c127;Mantle waves: s70,c140; Half duration: 1s4 Moment tensor: Scale 10^17Nm; Mrr1.43±.04; Mθθ-0.99±.03; Mφφ-0.43±.04; Mrθ1.74±.05; Mθφ0.83±.02; Mφr-1.10±.07; Best double couple: M0 2.552×10^17 NP1: φs309°, δ18°, λ96°. NP2: φs123°, δ72°, λ88°. Principal axes: T 2.476, Plg63°, Azm30°; N .156, Plg2°, Azm124°; P -2.628, Plg27°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 16 16:23:00.8±0.8, 5.61S±0.03×102.79E±0.03, h31km±5km, h31km±.9km:pP-P, n362, σ1s06/271, mb5.2/103, MS5.4/149, 35C-21D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	1.96	354	ePn	Pn	16 23 31.5	-1.0
PENI	Pendagan	2.37	89	⇓ePn	Pn	16 23 40.7	+2.3
PENI	Pendagan	2.37	89	⇓ePn	Pn	16 23 40.7	+2.3
	6µm,0.5s						
PULI	Pulasari	3.25	103	⇓ePn	Pn	16 23 52.4	+1.5
PULI				⇓eP		16 23 54.3	
PULI	Pulasari	3.25	103	⇓ePn	Pn	16 23 52.4	+1.5
	2µm,0.2s						
PULI	Pulasari	3.25	103	⇓eP	Pn	16 23 54.3	+3.4
PPI	Padang Panjang	5.65	335	eP	Pn	16 24 26.0	+1.1
PPI	Padang Panjang	5.65	335	eP	Pn	16 24 26.0	+1.1
KGM	Kluang	7.59	4	P	Pn	16 24 54.2	+2.0
IPM	Ipoh	10.28	350	P	P	16 25 31.1	+1.7
KSM	Kuching	10.29	47	eP	P	16 25 32.1	+2.5
KSM	Kuching	10.29	47	eP	P	16 25 20.2	-9.4
KULM	Kulim	11.04	349	eP	P	16 25 39.5	-0.4
SRDI	Scrawed	11.62	105	⇑eP	P	16 25 47.6	-0.1
SRDI				eS	S	16 27 52.7	-4.6
SRDI	Scrawed	11.62	105	⇑eP	P	16 25 47.6	-0.1
SRDI				⇑eS	S	16 27 52.7	-4.6
KELI	Kelakatan	11.90	103	⇑eP	P	16 25 51.0	-0.5
KELI				eS	S	16 27 57.8	-6.3
KELI	Kelakatan	11.90	103	⇑eP	P	16 25 51.0	-0.5
	414nm,0.3s						
KELI				⇓eS	S	16 27 57.8	-6.3
RATI	Rata	13.01	104	⇓eP	P	16 26 05.0	-1.3
RATI				eS	S	16 28 26.0	-5.0
RATI	Rata	13.01	104	⇓eP	P	16 26 05.0	-1.3
	3µm,0.2s						
RATI				⇓eS	S	16 28 26.0	-5.0
KEDI	Kedomdong	13.52	103	⇓eP	P	16 26 11.5	-1.7
KEDI				eS	S	16 28 36.7	-6.7
KEDI	Kedomdong	13.52	103	⇓eP	P	16 26 11.5	-1.7
	216nm,0.3s						
KEDI				⇓eS	S	16 28 36.7	-6.7
KKM	Kota Kinabalu	17.71	49	eP	P	16 27 09.7	+2.7
KKM	Kota Kinabalu	17.71	49	P	P	16 27 08.7	+1.7
TSM	Tawau	17.99	57	P	P	16 27 14.4	+3.9
NNT	Nongplab	18.34	350	P	P	16 27 15.0	+0.2
NST	Nakhon Sawan	21.31	353	P	P	16 27 46.4	-1.0
	66nm,0.7s,mb5.1						
KKTK	Khon Kaen	21.81	0	⇑P	P	16 27 53.5	+1.1
	556nm,0.9s,mb6.0						
MBWA	Marble Bar	22.55	135	eP	P	16 28 01.2	+1.4
	57nm,1.0s,mb5.0						
MBWA				LR	LR		
	comp=Z,7µm,19.0s,MS5.1						
BDT	Bhumibol Dam	23.02	351	P	P	16 28 04.0	-0.5
	comp=Z,36nm,0.7s,mb4.9						
CM31	Chiang Mai Arr	24.22	351	eP	P	16 28 15.9	-0.3
	comp=Z,105nm,0.7s,mb5.4						
CM31				LR	LR		
	comp=Z,7µm,20.0s,MS5.1						
CMAR	Chiang Mai Arr	24.22	351	i P	P	16 28 16.1	0.0
CMAR				pmax	pmax		
	comp=Z,77nm,0.7s						
CMAR	Chiang Mai Arr	24.22	351	P	P	16 28 15.8	-0.3
	comp=Z,77nm,0.7s,mb5.3,baz=182,slow=8.9,SNR=413						
CMAR				LR	LR	16 39 23.2	
	comp=Z,7µm,18.5s,MS5.2,baz=175,slow=40						
NANT	Nan	24.34	355	⇑P	P	16 28 18.0	+0.6
	comp=Z,188nm,0.9s,mb5.5						
CHG	Chiang Mai	24.57	351	⇑P	P	16 28 45.5	+26
	comp=Z,102nm,0.8s						
CHG				S	S	16 32 45.5	+10
QIZ	Qiongzhong	25.45	16	P	P	16 28 28.8	+0.9
QIZ				XP	sP	16 28 42.3	+1.4
QIZ				S	S	16 32 51.0	+0.7
QIZ				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,660nm,9.5s						
QIZ				LR	LR		
	comp=N,3µm,13.9s,MS5.2						
QIZ				LR	LR		
	comp=E,5µm,16.3s,MS5.2						
QIZ				LR	LR		
	comp=Z,6µm,16.4s,MS5.2						
QIZ	Qiongzhong	25.45	16	eP	P	16 28 29.9	+2.0
	comp=Z,34nm,1.0s,mb4.8						
QIZ				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
CHRT	Chiangrai	25.50	353	⇑P	P	16 28 27.5	-0.8
	comp=Z,250nm,1.1s,mb5.7						
FITZ	Fitzroy Crossi	25.53	121	eP	P	16 28 28.5	-0.1
	comp=Z,60nm,0.9s,mb5.1						
TRD	Trivandrum	29.33	298	e	P	16 29 19.2	+16
TRD				i		16 34 06.2	
KAKA	Kakadu	30.08	106	eP	P	16 29 09.3	-0.7
	comp=Z,36nm,0.8s,mb5.2						
DGAR	Diego Garcia	30.20	265	PFAKE		16 29 20.0	+9.0
DGAR				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
NWAO	Narrogin (SRO)	30.33	155	P	P	16 29 12.2	+0.2
	comp=Z,15nm,0.9s,mb4.7,baz=319,slow=14,SNR=4.6						
NWAO				LR	LR	16 40 34.6	
	comp=Z,48nm,18.4s,baz=339,slow=35						
NWAO	Narrogin (SRO)	30.33	155	eP	P	16 29 11.2	-0.8
	comp=Z,19nm,1.1s,mb4.8						
NWAO				LR	LR		
	comp=Z,7µm,20.0s,MS5.3						
KMI	Kunming	30.55	360	⇑P	P	16 29 13.4	-0.6
KMI				AP	pP	16 29 21.5	-1.6
KMI				XP	sP	16 29 25.3	-1.8
KMI				PP	PP	16 30 14.3	-0.2
KMI				S	S	16 34 14.8	+2.3
KMI				AMB	AMB		
	comp=Z,555nm,7.6s						
KMI				LR	LR		
	comp=N,13µm,15.4s,MS5.7						
KMI				LR	LR		
	comp=E,10µm,19.0s,MS5.7						
KMI				LR	LR		
	comp=Z,14µm,17.0s,MS5.7						
KMI	Kunming	30.55	360	⇑P	P	16 29 13.4	-0.6
	comp=Z,0.6nm,7.6s						
KMI				pP	pP	16 29 21.5	-1.6
KMI				sP	sP	16 29 25.3	-1.8
KMI				PP	PP	16 30 14.2	-0.3
KMI				S	S	16 34 14.8	+2.3
KMI				sS		16 34 27.8	
KMI				SS	SS	16 35 56.0	+1.9
KMI				LR	LR		
	comp=Z,14µm,17.0s,MS5.7						
GYA	Guiyang	32.10	7	⇓iP	P	16 29 28.6	+1.0
GYA				AP	pP	16 29 39.6	+2.9
GYA				XP	sP	16 29 41.8	+1.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,360nm,6.0s						
GYA				LR	LR		
	comp=N,9µm,19.8s,MS5.6						
GYA				LR	LR		
	comp=E,7µm,18.9s,MS5.6						
GYA				LR	LR		
	comp=Z,5µm,18.0s,MS5.2						
SHL	Shillong	32.75	342	eP	P	16 29 33.0	-0.3
	comp=Z,18nm,0.7s,mb5.1						
SHL				eS	S	16 34 47.0	0.0
HYB	Hyderabad	33.12	314	i P	P	16 29 36.0	-0.6
WRA	Warramunga Arr	33.81	118	P	P	16 29 42.3	-0.3
	comp=Z,23nm,0.9s,mb5.1,baz=292,slow=10,SNR=49						
WRA				S	S	16 35 05.0	+1.7
	comp=Z,8.9nm,1.1s,baz=291,slow=16,SNR=4.1						
WRAB	Tennant Creek	33.82	118	P	P	16 29 42.0	-0.6
	comp=Z,204nm,0.8s,mb6.1,SNR=11						
WRAB	Tennant Creek	33.82	118	d iP	P	16 29 41.9	-0.7
WRAB	Tennant Creek	33.82	118	eP	P	16 29 42.4	-0.3
	comp=Z,58nm,0.7s,mb5.6						
WRAB				LR	LR		
	comp=Z,2µm,22.0s,MS4.7						
WB2	Warramunga Arr	33.82	118	⇑iP	P	16 29 42.3	-0.3
WB2				i S	S	16 35 01.6	-1.9
QZH	Quanzhou	34.04	26	⇑iP	P	16 29 44.5	0.0
QZH				S	S	16 35 05.5	-1.4
QZH				AMB	AMB		
	comp=Z,720nm,5.2s						
QZH				LR	LR		
	comp=N,2µm,15.4s,MS5.5						
QZH				LR	LR		
	comp=E,5µm,14.1s,MS5.5						
QZH				LR	LR		
	comp=Z,7µm,17.1s,MS5.5						
ASPA	Alice Springs	34.91	124	⇑iP	P	16 29 51.9	-0.1
ASPA				eS	S	16 35 19.1	-1.2
ASAR	Alice Springs	34.91	124	P	P	16 29 52.0	0.0
	comp=Z,5.6nm,0.5s,mb4.8,baz=306,slow=8.3,SNR=79						
ASAR				S	S	16 35 20.8	+0.4
	comp=Z,11nm,1.1s,baz=293,slow=14,SNR=5.5						
ASAR				LR	LR	16 44 52.3	
	comp=Z,2µm,21.5s,MS4.9,baz=292,slow=38						
YHNB	Yeheng	35.12	30	eP	P	16 29 54.4	+0.7
TATO	Taipei	35.43	30	PFAKE		16 30 10.0	+14
TATO				LR	LR		
	comp=Z,4µm,20.0s,MS5.2						
ENH	Enshi	36.25	10	eP	P	16 30 02.6	-0.7
	comp=Z,45nm,0.8s,mb5.5						
ENH				LR	LR		
	comp=Z,4µm,19.0s,MS5.2						
CD2	Chengdu	36.33	1	⇓iP	P	16 30 04.0	+0.1
CD2				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.5						
JIRN	Jiri	36.76	335	eP	P	16 30 08.4	+0.8
	comp=Z,170nm,0.7s,mb6.0						
LSA	Lhasa	36.85	343	P	P	16 30 08.6	+0.3
LSA				AP	pP	16 30 18.9	+1.4
LSA				XP	sP	16 30 24.0	+2.7
LSA				PP	PP	16 31 33.4	-0.9
LSA				PCP	PcP	16 32 27.4	-2.7
LSA				S	S	16 35 48.0	-2.1
LSA				XS		16 36 11.1	
LSA				SCS	ScS	16 40 18.0	-1.1
LSA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3						
LSA				LR	LR		
	comp=N,2µm,23.3s,MS5.1						
LSA				LR	LR		
	comp=E,3µm,27.3s,MS5.1						
LSA				LR	LR		
	comp=Z,3µm,24.2s,MS5.0						
LSA	Lhasa	36.85	343	eP	P	16 30 09.1	+0.8
	comp=Z,47nm,0.8s,mb5.4						
LSA				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
PKI	Pulchoki	37.02	334	eP	P	16 30 10.2	+0.4
	comp=Z,30nm,0.6s,mb5.3						
DMN	Daman	37.19	334	eP	P	16 30 11.6	+0.4
	comp=Z,74nm,0.8s,mb5.6						
KKN	Kakani	37.27	334	eP	P	16 30 12.3	+0.5
	comp=Z,111nm,0.8s,mb5.8						
WHN	Wuhan	37.61	16	⇓P	P	16 30 16.0	+1.3
WHN				PP	PP	16 31 44.0	+0.3
WHN				S	S	16 36 01.0	-0.9
WHN				LR	LR		
	comp=Z,13µm,18.0s,MS5.8						
GKN	Gorkha	37.73	333	eP	P	16 30 16.1	+0.3
	comp=Z,181nm,0.9s,mb5.8						
BHPL	Bhopal	37.90	320	eP	P	16 30 15.2	-2.0
BHPL				AMb	AMB	16 30 19.6	
	comp=Z,31nm,1.3s,mb4.9						
KOLN	Koldanda	38.01	332	eP	P	16 30 18.6	+0.5
	comp=Z,109nm,0.8s,mb5.6						
BOM	Bombay	38.28	310	e	P	16 30 34.3	+14
	comp=Z,322nm,21.0s						
BOM				eS	S	16 36 14.4	+2.2
XAN	Xi'an	39.86	8	P	P	16 30 33.0	-0.5
XAN				PP	PP	16 32 07.3	-1.5
XAN				S	S	16 36 34.3	-1.5
XAN				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.5						
XAN				LR	LR		
	comp=N,2µm,20.3s,MS5.5						
XAN				LR	LR		
	comp=E,7µm,19.0s,MS5.5						
XAN				LR	LR		
	comp=Z,7µm,19.0s,MS5.5						
NJ2	Nanjing	40.46	21	eP	P	16 30 40.3	+1.9
NJ2				AP	pP	16 30 50.1	+2.5
NJ2				XP	sP	16 30 54.1	+2.7
NJ2				PP	PP	16 32 18.0	+3.1
NJ2				S	S	16 36 47.0	+2.2
NJ2				XS		16 37 02.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,510nm,10.0s						
NJ2				LR	LR		
	comp=N,9µm,17.6s,MS5.9						
NJ2				LR	LR		
	comp=E,11µm,16.9s,MS5.9						
NJ2				LR	LR		
	comp=Z,4µm,20.2s,MS5.3						
SSE	Sheshan	40.51	25	P	P	16 30 40.3	+1.4
SSE				XP	sP	16 30 52.8	+0.9
SSE				PP	PP	16 32 14.6	-0.9
SSE				S	S	16 36 47.9	+2.3
SSE				XS		16 37 03.6	
SSE				SS	SS	16 39 48.4	+7.9
SSE				AMB	AMB		
	comp=Z,45nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,291nm,9.2s						
SSE				LR	LR		
	comp=N,1µm,21.8s,MS4.9						
SSE				LR	LR		
	comp=E,1µm,21.9s,MS4.9						
SSE				LR	LR		
	comp=Z,2µm,18.5s,MS5.1						
SSE	Sheshan	40.51	25	P	P	16 30 40.2	+1.3
	comp=Z,45nm,0.8s,mb5.2						
SSE				sP	sP	16 30 52.8	+0.9
SSE				PP	PP	16 32 14.6	-0.9
SSE				S	S	16 36 47.9	+2.3
SSE				sS		16 37 03.6	
SSE				SS	SS	16 39 48.4	+7.9
SSE				LR	LR		
	comp=Z,2µm,18.5s,MS5.1						
JOW	Kunigami	40.60	36	P	P	16 30 40.9	+1.3
	comp=Z,13nm,0.4s,mb4.9,baz=237,slow=4.7,SNR=12						
JOW				LR	LR	16 48 17.8	
	comp=Z,2µm,19.4s,MS5.0,baz=85,slow=37						
LGTI	Lohaghat	41.04	329	eP	P	16 30 44.0	+0.8
LZH	Lanzhou	41.49	1	⇑P	P	16 30 47.6	+0.8
LZH				AP	pP	16 30 56.8	+0.8
LZH				XP	sP	16 31 01.3	+1.5
LZH				PP	PP	16 32 27.5	+1.8
LZH				S	S	16 37 02.8	+2.8
LZH				XS		16 37 18.5	

LZH SS SS 16 40 03.9 +3.8
LZH AMB AMB
comp=Z,97nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,331nm,6.0s
LZH LR LR
comp=N,4μm,14.3s
LZH LR LR
comp=Z,6μm,17.5s,MS5.5
LZH Lanzhou 41.49 1 ⇑P **P 16 30 47.6 +0.8**
comp=Z,97nm,1.5s,mb5.2
LZH pP pP 16 30 56.7 +0.7
LZH sP sP 16 31 01.2 +1.4
LZH PP PP 16 32 27.5 +1.8
LZH S **S 16 37 02.8 +2.8**
LZH sS 16 37 18.5
LZH SS SS 16 40 03.9 +3.8
LZH LR LR
comp=Z,6μm,17.5s,MS5.5
AJM Ajmer 41.97 321 ⇑*iP* **P 16 30 51.0 0.0**
NDI New Delhi 42.06 326 *eP* **P 16 30 49.5 -2.2**
comp=Z,53nm,0.7s,mb5.3
NDI *e* 16 37 36.0
DDI Dehra Dun 42.88 328 *e* **P 16 30 52.2 -6.1**
DDI *e* 16 37 31.2
TIA Tai'an 43.72 17 P **P 16 31 04.8 -0.3**
SMLA Simla 43.98 328 *i* P **P 16 31 15.4 +8.1**
SMLA *i* S **S 16 37 32.4 -4.2**
PMG Port Moresby 44.12 98*c iP* **P 16 31 08.7 +0.1**
PMG Port Moresby 44.12 98 P **P 16 31 08.8 +0.2**
comp=Z,20nm,0.6s,mb5.0,baz=308,slow=6.0,SNR=14
PMG Port Moresby 44.12 98 *eP* **P 16 31 08.5 -0.1**
comp=Z,81nm,0.8s,mb5.5
PMG LR LR
comp=Z,2μm,22.0s,MS5.0
SDNR Sundarnagar 44.38 328 *eP* **P 16 31 10.5 0.0**
CTA Charters Tower 44.59 113 *eP* **P 16 31 13.1 +0.8**
comp=Z,26nm,0.8s,mb5.1
CTA *eS* **S 16 37 46.8 +1.3**
CTA *e*SS SS 16 41 12.1 +15
CTA Charters Tower 44.59 113 P **P 16 31 12.6 +0.2**
comp=Z,36nm,1.0s,mb5.2,baz=288,slow=9.3,SNR=12
CTAO Charters Tower 44.59 113 *eP* **P 16 31 13.1 +0.8**
comp=Z,39nm,0.8s,mb5.3
CTAO LR LR
comp=Z,3μm,20.0s,MS5.1
STKA Stephens Creek 44.69 131 P **P 16 31 13.3 +0.3**
comp=Z,13nm,0.6s,mb4.9,baz=305,slow=7.4,SNR=33
STKA LR LR 16 50 45.7
comp=Z,4μm,20.5s,MS5.3,baz=294,slow=37
STKA Stephens Creek 44.69 131 *eP* **P 16 31 13.1 +0.1**
GTA Gaotai 44.88 357 P **P 16 31 15.1 +0.7**
GTA AP pP 16 31 24.5 +0.8
GTA XP sP 16 31 28.3 +0.8
GTA PCP PcP 16 32 55.9 -0.2
GTA PP PP 16 33 01.5 +1.4
GTA SCP 16 36 45.6
GTA S **S 16 37 51.8 +2.3**
GTA XS 16 38 08.0
GTA SS SS 16 41 06.6 +4.3
GTA AMB AMB
comp=Z,37nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,607nm,7.6s
GTA LR LR
comp=N,10μm,18.3s,MS5.8
GTA LR LR
comp=E,4μm,17.2s,MS5.8
GTA LR LR
comp=Z,12μm,18.7s,MS5.9
PONG Pong 45.27 327 *eP* **P 16 31 18.0 +0.4**
THN Thein Dam 45.77 328 *eP* **P 16 31 19.7 -1.8**
GUMO Guam 45.92 65 PFAKE 16 31 40.0 +17
GUMO LR LR
comp=Z,2μm,20.0s,MS5.0
BTO Baotou 46.47 8 *eP* **P 16 31 26.4 -0.5**
BTO LR LR
comp=E,3μm,16.4s
HHC Hu-ho-hao-te 46.93 9 *eP* **P 16 31 31.5 +0.9**
HHC AP pP 16 31 40.8 +0.9
HHC XP sP 16 31 44.8 +1.2
HHC PCP PcP 16 33 00.8 -2.5
HHC PP PP 16 33 22.8 +2.2
HHC PCS 16 36 56.3
HHC S **S 16 38 19.5 +0.7**
HHC SS SS 16 41 41.8 +3.5
HHC AMB AMB
comp=Z,50nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,672nm,5.2s
HHC LR LR
comp=N,7μm,22.0s,MS5.7
HHC LR LR
comp=E,5μm,21.4s,MS5.7
HHC LR LR
comp=Z,6μm,20.2s,MS5.6
BJT Baijiatuau 47.05 14 *eP* **P 16 31 32.4 +0.8**
comp=Z,41nm,1.1s,mb5.3
BJT LR LR
comp=Z,8μm,19.0s,MS5.7
BJI Beijing 47.07 14 P **P 16 31 31.8 +0.1**
BJI AP pP 16 31 40.8 -0.2
BJI XP sP 16 31 44.6 -0.2
BJI PP PP 16 33 24.8 +2.9
BJI S **S 16 38 19.3 -1.4**
BJI XS 16 38 37.9
BJI SS SS 16 41 51.8 +11
BJI AMB AMB
comp=Z,33nm,1.3s,mb5.1
BJI AMB AMB
comp=Z,649nm,6.7s
BJI LR LR
comp=N,7μm,17.8s,MS5.7
BJI LR LR
comp=E,1μm,18.0s,MS5.7
BJI LR LR
comp=Z,6μm,18.1s,MS5.6
BJI Beijing 47.07 14 P **P 16 31 31.7 0.0**
comp=Z,33nm,1.3s,mb5.1
BJI pP pP 16 31 40.7 -0.3
BJI sP sP 16 31 44.6 -0.2
BJI PP PP 16 33 24.8 +2.9
BJI S **S 16 38 19.2 -1.5**
BJI sS 16 39 37.9
BJI SS SS 16 41 51.7 +11
BJI LR LR
comp=Z,6μm,18.1s,MS5.6
DL2 Dalian 47.61 20 *eP* **P 16 31 33.6 -2.4**
DL2 S **S 16 38 25.9 -2.4**
DL2 AMB AMB
comp=Z,290nm,6.5s
DL2 LR LR
comp=N,1μm,18.9s,MS5.1
DL2 LR LR
comp=E,1μm,17.6s,MS5.1
DL2 LR LR
comp=Z,1μm,21.3s,MS4.9
INCN Inchon 48.29 26 PFAKE 16 31 50.0 +8.7
INCN LR LR
comp=Z,2μm,20.0s,MS5.0
KS15 Wonju Array Si 48.80 27 *eP* **P 16 31 46.1 +0.8**
SNY Shenyang 50.88 20 ⇑P **P 16 32 00.1 -1.0**
SNY XP sP 16 32 12.4 -1.8
SNY AMB AMB
comp=Z,10.0nm,1.5s,mb4.5
SNY LR LR
comp=N,3μm,18.0s,MS5.5
SNY LR LR
comp=E,3μm,17.6s,MS5.5
SNY LR LR
comp=Z,2μm,21.6s,MS5.2
WMQ Urumqi 51.06 346 ⇑*iP* **P 16 32 02.8 +0.4**
WMQ AP pP 16 32 12.5 +0.7
WMQ PCP PcP 16 33 19.0 +0.8
WMQ PP PP 16 34 00.0 +0.2
WMQ SCP 16 37 11.0
WMQ S **S 16 39 16.0 -0.4**
WMQ XS 16 39 33.0
WMQ SCS ScS 16 41 47.0 -0.4
WMQ SS SS 16 42 49.0 -0.4
WMQ AMB AMB
comp=Z,85nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,710nm,4.7s
WMQ LR LR
comp=N,2μm,15.2s,MS5.5
WMQ LR LR
comp=E,3μm,18.0s,MS5.5
WMQ LR LR
comp=Z,2μm,23.4s
CN2 Changchun 53.27 20 ⇑P **P 16 32 17.9 -1.1**
CN2 *e*AP pP 16 32 28.0 -0.4
CN2 *e*S **S 16 39 46.8 +0.2**
CN2 AMB AMB
comp=Z,50nm,0.8s,mb5.5
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,4μm,18.0s,MS5.6
CN2 LR LR
comp=E,3μm,18.0s,MS5.6
CN2 LR LR
comp=Z,4μm,21.0s,MS5.5
SONM Songino Array 53.31 3 P **P 16 32 19.9 +0.7**
comp=Z,99nm,0.8s,mb5.8,baz=182,slow=8.9,SNR=918
ULN Ulaanbaatar 53.38 4*c iP* **P 16 32 20.4 +0.6**
ULN Ulaanbaatar 53.38 4 *eP* **P 16 32 20.1 +0.3**
comp=Z,69nm,0.9s,mb5.6
ULN LR LR
comp=Z,5μm,19.0s,MS5.6
MAJO Matsushiro 53.44 36 *eP* **P 16 32 18.5 -1.8**
comp=Z,16nm,0.9s,mb4.9
MAJO LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 53.44 36 *eP* **P 16 32 18.0 -2.4**
comp=Z,19nm,1.0s,mb5.0
MAT *eS* **S 16 39 49.0 0.0**
MAT LR LR
comp=Z,1μm,20.0s,MS4.9
MAT Matsushiro 53.44 36 P **P 16 32 18.3 -2.1**
MAT S **S 16 39 49.0 0.0**
KZA Kyzart 53.69 335 P **P 16 32 22.2 +0.1**
SNR=12
TAU Tasmania Unive 54.04 140 PFAKE 16 32 40.0 +15
TAU LR LR
comp=Z,624nm,19.0s,MS4.7
UCH Uchtor 54.13 334 P **P 16 32 25.2 -0.1**
SNR=9.9
TKM2 Tokmak 2 54.24 336 P **P 16 32 25.6 -0.5**
SNR=23
KBK Karagaybulak 54.30 335 P **P 16 32 26.7 +0.2**
SNR=14
AML Almayashu 54.41 334 P **P 16 32 27.3 -0.1**
SNR=27
AAK Ala-Archa 54.47 335 P **P 16 32 26.2 -1.6**
comp=Z,54nm,1.0s,mb5.4,SNR=8.8
AAK Ala-Archa 54.47 335*c iP* **P 16 32 26.9 -0.9**
AAK pmax pmax
comp=Z,20nm,1.8s,mb4.8
AAK MLR MLR
comp=Z,3μm,20.0s,MS5.3
AAK Ala-Archa 54.47 335 *eP* **P 16 32 26.4 -1.5**
comp=Z,34nm,1.3s,mb5.1
AAK LR LR
comp=Z,634nm,19.0s,MS4.7
FRU Bishkek 54.58 335 *eP* **P 16 32 27.0 -1.6**
FRU *e* pP 16 32 37.0 -1.0
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.3
CHMS Chumysh 54.66 335 P **P 16 32 28.3 -0.9**
SNR=5.8
EKS2 Erkin-Say 54.80 334 P **P 16 32 29.7 -0.6**
SNR=43
USP Ospenovka 54.98 335 P **P 16 32 30.8 -0.8**
SNR=14
VLA Vladivostok 55.21 26 *eP* **P 16 32 33.0 -0.2**
VLA *eS* 16 40 27.0
VLA pmax pmax
comp=Z,500nm,7.0s
VLA smax
comp=N,500nm,10.0s
VLA smax
comp=E,500nm,8.0s
VLA MLR MLR
comp=Z,2μm,14.0s,MS5.3
VLA MLR MLR
comp=N,2μm,15.0s,MS5.4
VLA MLR MLR
comp=E,2μm,15.0s,MS5.4
MK02 Makanchi Array 55.23 343 P **P 16 32 32.2 -1.1**
MK02 pmax pmax
comp=Z,22nm,0.6s,mb5.4
MDJ Mudanjiang 55.49 23 P **P 16 32 34.6 -0.7**
MDJ AP pP 16 32 45.8 +1.1
MDJ XP sP 16 32 51.8 +3.5
MDJ PP PP 16 34 43.3 +2.6
MDJ S **S 16 40 18.4 +1.9**
MDJ AMB AMB
comp=Z,15nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,317nm,4.4s
MDJ LR LR
comp=N,2μm,15.1s,MS5.4
MDJ LR LR
comp=E,582nm,13.7s,MS5.4
MDJ LR LR
comp=Z,3μm,13.7s,MS5.5
MDJ Mudanjiang 55.49 23 *eP* **P 16 32 34.6 -0.7**
comp=Z,15nm,0.8s,mb5.1
MDJ LR LR
comp=Z,360nm,20.0s,MS4.5
ZAK Zakamensk 55.77 0⇓*iP* **P 16 32 36.7 -0.5**
ZAK pmax pmax
comp=Z,14nm,1.1s,mb4.9
HIA Hailar 56.62 13 *eP* **P 16 32 42.0 -1.3**
comp=Z,14nm,0.8s,mb5.0
HIA LR LR
comp=Z,5μm,21.0s,MS5.5
HNR Honiara 56.74 98 PFAKE 16 33 00.0 +15
HNR LR LR
comp=Z,1μm,22.0s,MS4.9
TLY Talaya 57.07 1 *eP* **P 16 32 46.9 +0.4**
TLY *eS* **S 16 40 29.0 -8.3**
TLY pmax pmax
comp=Z,27nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,3μm,16.0s,MS5.5
TLY Talaya 57.07 1 *eP* **P 16 32 46.6 +0.1**
comp=Z,26nm,0.9s,mb5.3
TLY LR LR
comp=Z,747nm,19.0s,MS4.8
MOY Mondy 57.07 359 *eP* **P 16 32 46.3 -0.2**
MOY pmax pmax
comp=Z,63nm,1.9s,mb5.3
IRK Irkutsk 57.64 1 *eP* **P 16 32 50.1 -0.4**
IRK pmax pmax
comp=Z,66nm,2.8s,mb5.2
KURK Kurchatov 59.85 342 P **P 16 33 04.8 -1.0**
comp=Z,306nm,0.7s,SNR=43
KURK Kurchatov 59.85 342 *i* P **P 16 33 04.7 -1.1**
KURK pmax pmax
comp=Z,15nm,0.8s,mb5.1
KURK Kurchatov 59.85 342 *eP* **P 16 33 04.6 -1.2**
comp=Z,38nm,0.8s,mb5.5
KURK LR LR
comp=Z,811nm,20.0s,MS4.9
ERM Erimo 59.98 34 PFAKE 16 33 20.0 +13
ERM LR LR
comp=Z,4.0nm,20.0s
KLR Kul'dur 60.16 21 *eP* **P 16 33 04.2 -3.8**
KLR *e* 16 41 25.5
KLR MLR MLR
comp=E,3μm,19.0s
CASY Casey 60.80 176 *eP* **P 16 33 12.7 +0.6**
ASAJ Asahikawa 61.09 32 P **P 16 33 13.5 -0.9**
comp=E,15nm,0.7s,mb5.2,baz=247,slow=8.7,SNR=14
ASAJ LR LR 17 00 41.9
comp=E,1μm,20.3s,MS5.1,baz=70,slow=37
ZAL Zalesovo 61.23 348 P **P 16 33 14.6 -0.6**
comp=E,22nm,0.4s,mb5.6,baz=296,slow=4.8,SNR=76
ZAL LR LR 17 03 56.0
comp=E,6μm,18.7s,MS5.8,baz=309,slow=40
ZAL Zalesovo 61.23 348 P **P 16 33 14.6 -0.6**
ZAL LR LR 17 03 56.0
NVS Novosibirsk 62.40 347⇑*iP* **P 16 33 20.4 -2.7**
NVS *eS* **S 16 41 44.7 -1.3**
NVS pmax pmax
comp=N,27nm,1.4s
NVS pmax pmax
comp=Z,37nm,1.4s,mb5.3
NVS pmax pmax
comp=E,20nm,1.6s
NVS smax
comp=N,31nm,1.8s
NVS smax
comp=E,29nm,1.7s
YSS Yuzh-Sakhalins 63.14 30⇑*eP* **P 16 33 27.0 -1.0**
YSS *e**PP pP 16 33 38.0 +0.4
YSS *e*SP sP 16 33 45.2 +4.1
YSS S **S 16 41 47.0 -8.4**
YSS *e*PPS 16 42 13.0
YSS pmax pmax
comp=Z,40nm,1.1s,mb5.5
YSS Yuzh-Sakhalins 63.14 30 *eP* **P 16 33 27.3 -0.7**
comp=Z,43nm,1.0s,mb5.5
YSS LR LR
comp=Z,967nm,21.0s,MS5.0
BOD Bodaibo 63.87 7 *eP* **P 16 33 30.9 -1.8**
BOD pmax pmax
comp=Z,23nm,1.1s,mb5.1
BVA0 Borovoye Array 64.52 339 *i* P **P 16 33 35.7 -1.3**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CLNS Chul'man 64.81 13 *eP* **P 16 33 37.4 -1.4**
CLNS *e* 16 34 10.5
CLNS *e* 16 35 56.9
CLNS *e*PPP PPP 16 37 29.3 -7.6
CLNS *e*S **S 16 42 17.0 +1.1**
CLNS *e* 16 43 27.9
CLNS pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=N,7.0nm,1.0s
CLNS pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS smax
comp=N,275nm,12.1s
CLNS smax
comp=Z,80nm,10.3s
CLNS smax
comp=E,59nm,14.7s
CLNS MLR MLR
comp=Z,3μm,19.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,16.0s,MS5.4
CLNS MLR MLR
comp=E,500nm,17.0s,MS5.4
CHKZ Chkalovo 64.97 340 P **P 16 33 38.7 -1.2**
CHKZ pmax pmax
comp=Z,22nm,0.8s,mb5.2
CHKZ Chkalovo 64.97 340 *eP* **P 16 33 38.8 -1.1**
comp=Z,37nm,0.7s,mb5.5
KMBO Kilima Mbogo 65.55 271 *i* P **P 16 33 45.0 +0.7**
KMBO pmax pmax
comp=Z,2.0nm,0.7s
KMBO Kilima Mbogo 65.55 271 P **P 16 33 43.6 -0.7**
comp=Z,1.8nm,0.7s,mb4.2,baz=52,slow=8.8,SNR=6.8
KMBO LR LR 16 59 14.0
comp=Z,2μm,19.1s,MS5.2,baz=97,slow=33
KMBO Kilima Mbogo 65.55 271 *eP* **P 16 33 46.2 +1.9**
comp=Z,205nm,1.8s,mb5.9
KMBO LR LR
comp=Z,2μm,20.0s,MS5.2
DRV Dumont d'Urvil 66.12 165 S S 16 42 36.0 +4.1
WAKE Wake Island 67.52 67 PFAKE 16 34 10.0 +13
WAKE LR LR
comp=Z,54μm,19.0s
MAW Mawson 67.53 195 P **P 16 33 59.0 +3.0**
comp=Z,14nm,0.9s,mb5.0,baz=97,slow=8.1,SNR=3.9
MAW LR LR 17 00 33.1
comp=Z,3μm,18.0s,MS5.6,baz=35,slow=33
GNI Garni 70.04 316⇓*eP* **P 16 34 12.0 0.0**
GNI pmax pmax
comp=Z,20nm,1.3s
GNI MLR MLR
comp=Z,600nm,17.0s
GNI Garni 70.04 316 *eP* **P 16 34 11.8 -0.2**
comp=Z,34nm,1.1s,mb5.2
GNI LR LR
comp=Z,760nm,21.0s,MS4.9
YAK Yakutsk 70.56 13 *eP* **P 16 34 13.0 -1.7**
YAK *e* 16 34 29.5
YAK *e* 16 36 49.8
YAK *e*S S 16 43 25.6 +0.8
YAK pmax pmax
comp=Z,22nm,1.1s,mb5.0
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,2.0nm,0.9s
YAK smax
comp=E,15nm,6.2s
YAK smax
comp=Z,36nm,8.0s
YAK smax
comp=N,86nm,9.5s
YAK MLR MLR
comp=Z,1μm,15.0s,MS5.2
YAK MLR MLR
comp=N,1μm,18.0s,MS5.4
YAK MLR MLR
comp=E,1μm,15.0s,MS5.4
YAK Yakutsk 70.56 13 *eP* **P 16 34 12.9 -1.8**
comp=E,35nm,0.6s,mb5.5
YAK LR LR
comp=Z,3μm,19.0s,MS5.5
TI2 Plekhanov 70.74 318 *eP* **P 16 34 15.4 -0.8**
SVE Sverdlovsk 71.07 337⇑*iP* **P 16 34 17.6 -0.3**
SVE *e*S S 16 43 36.0 +5.2
SVE *e* 16 44 08.0
SVE pmax pmax
comp=Z,96nm,1.8s,mb5.4
SVE MLR MLR
comp=N,2μm,20.0s,MS5.3
SVE MLR MLR
comp=E,800nm,20.0s,MS5.3
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.4
ZEI Tsey 71.77 318 *eP* **P 16 34 22.4 +0.1**
ZEI *i* *PP pP 16 34 29.4 -2.6
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MBAR Mbarara 72.08 271 PFAKE 16 34 40.0 +15
MBAR LR LR
comp=Z,515nm,20.0s,MS4.8
SNZO South Karori 72.74 131 PFAKE 16 34 40.0 +12
SNZO LR LR
comp=Z,3μm,21.0s,MS5.6
KIV Kislovodsk 73.08 319 *eP* **P 16 34 29.6 -0.5**
KIV *e* 16 34 49.0
KIV *i* S S 16 43 54.9 +0.9
KIV pmax pmax
comp=Z,19nm,1.1s,mb4.9
KIV Kislovodsk 73.08 319 *eP* **P 16 34 29.4 -0.7**
comp=Z,34nm,1.0s,mb5.2
KIV LR LR
comp=Z,167nm,19.0s,MS4.3
GOF Gofitskoye 73.34 320⇑*iP* **P 16 34 31.3 -0.3**
GOF *i* 16 34 47.1
GOF pmax pmax
comp=Z,30nm,1.3s,mb5.1
MATP Matopo 73.36 250 P **P 16 34 31.2 -1.0**
comp=Z,2.7nm,0.6s,mb4.3,baz=93,slow=7.5,SNR=6.7
MATP Matopo 73.36 250 P **P 16 34 31.2 -1.0**
LSZ Lusaka 73.72 256 *eP* **P 16 34 35.0 +0.7**
comp=Z,7.2nm,0.9s,mb4.6
LSZ LR LR
comp=Z,2μm,22.0s,MS5.4
EIL Elat 73.81 303 *eP* **P 16 34 34.2 -0.5**
comp=Z,23nm,0.9s,mb5.1
MALT Malatya 73.81 312 *eP* **P 16 34 33.9 -0.6**
comp=Z,22nm,1.6s,mb4.8
URZ Urewera 74.23 128 LR LR 17 07 24.4
comp=Z,3μm,20.9s,MS5.5,baz=103,slow=36
SOKR Solikamsk 74.44 338⇑*iP* **P 16 34 36.6 -1.0**
SOKR *i* S S 16 44 07.8 -1.1
SOKR *i* SS SS 16 48 56.2 -1.5
SOKR pmax pmax

comp=Z,10.0nm,0.8s,mb4.8
SOKR MLR MLR
comp=Z,2µm,23.0s,MS5.3
SOC Sochi 74.89 318 *e*P **P 16 34 38.2 -2.4**
SOC *e* 16 37 23.3
SOC *e*S S 16 44 10.7 -3.5
SOC *e* 16 44 45.1
SOC pmax pmax
comp=Z,27nm,1.3s,mb5.0
SOC pmax pmax
comp=N,14nm,0.9s
SOC pmax pmax
comp=E,17nm,1.3s
PET Petropavlovsk 74.93 31 *e*P **P 16 34 39.2 -1.4**
PET *e*S S 16 44 13.7 -0.8
PET *e*PS PS 16 44 52.5 -1.6
PET *e*SS SS 16 49 02.6 -2.7
PET *e*SSS SSS 16 52 20.6 +1.5
PET pmax pmax
comp=Z,56nm,1.2s,mb5.4
PET pmax pmax
comp=Z,400nm,11.4s
PET MLR MLR
comp=Z,1µm,13.0s,MS5.3
PET Petropavlovsk 74.93 31 16 34 50.0 +9.4
PET LR LR
comp=Z,1µm,20.0s,MS5.2
MA2 Magadan 75.20 23*c i*P **P 16 34 42.2 +0.2**
MA2 *e*S S 16 44 17.5 +0.2
MA2 *e* 16 44 36.4
MA2 *e*PS PS 16 45 07.5 +10
MA2 *e*SS SS 16 49 03.4 -5.9
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 MLR MLR
comp=Z,2µm,20.0s,MS5.4
MA2 Magadan 75.20 23 *e*P **P 16 34 42.0 0.0**
comp=Z,12nm,0.8s,mb4.9
MA2 LR LR
comp=Z,1µm,20.0s,MS5.2
LBTB Lobatse 76.06 246 PFAKE 16 35 00.0 +12
LBTB LR LR
comp=Z,2µm,21.0s,MS5.5
BOSA Boshof 76.40 242 PFAKE 16 35 00.0 +10
BOSA LR LR
comp=Z,2µm,19.0s,MS5.5
BR131 Keskin Array S 77.80 312 PFAKE 16 35 10.0 +13
BR131 LR LR
comp=Z,238nm,20.0s,MS4.5
SEY Seymchan 77.95 21 *e*P **P 16 34 59.6 +2.3**
SEY pP 16 35 09.9 +2.8
SEY 16 37 55.6
SEY *e*PPP PPP 16 39 43.7 -0.7
SEY *e*S S 16 44 51.1 +3.9
SEY 16 45 17.2
SEY *e*SSS SSS 16 53 12.8 +3.6
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SEY smax
comp=N,600nm,17.0s
SEY smax
comp=E,700nm,22.0s
VNDA Vanda 78.10 169 P **P 16 34 57.9 -0.1**
comp=E,3.3nm,0.8s,mb4.3,baz=295,slow=9.2,SNR=6.2
VNDA LR LR 17 05 26.4
comp=E,2µm,19.2s,MS5.5,baz=312,slow=33
VNDA Vanda 78.10 169 *e*P **P 16 34 57.4 -0.6**
comp=E,13nm,1.0s,mb4.8
VNDA LR LR
comp=Z,2µm,19.0s,MS5.6
TIXI Tiksi 78.99 8 *e*P **P 16 35 01.6 -1.3**
TIXI *e*S S 16 44 49.9 -8.3
TIXI pmax pmax
comp=Z,18nm,0.9s,mb5.0
TIXI Tiksi 78.99 8 PFAKE 16 35 10.0 +7.1
TIXI LR LR
comp=Z,3µm,20.0s,MS5.7
SIM Simferopol' 79.13 318 *e*P **P 16 35 04.9 +0.7**
SIM *e* 16 35 22.0
SIM *e*S S 16 45 04.5 +4.3
SIM pmax pmax
comp=Z,10.0nm,1.3s,mb4.6
SBA Scott Base 79.19 169 P **P 16 35 09.0 +5.0**
comp=Z,49nm,1.6s,mb5.2
SBA LR LR
comp=Z,2µm,19.0s,MS5.6
SUR Sutherland 80.26 238 LR LR 17 04 38.6
comp=Z,482nm,18.4s,MS4.9,baz=110,slow=31
SUR Sutherland 80.26 238 PFAKE 16 35 20.0 +9.5
SUR LR LR
comp=Z,244nm,19.0s,MS4.6
MOS Moscow 81.01 329 *e*P **P 16 35 14.3 +0.3**
MOS *e* 16 35 21.6
MOS pmax pmax
comp=Z,49nm,0.7s,mb5.5
OBN Obninsk 81.31 328⇑ *e*P **P 16 35 15.9 +0.3**
OBN *i* 16 35 29.2
OBN *e* 16 38 20.9
OBN pmax pmax
comp=Z,56nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,1µm,18.0s,MS5.2
OBN Obninsk 81.31 328 *e*P **P 16 35 15.7 +0.2**
comp=Z,16nm,0.4s,mb5.3
OBN LR LR
comp=Z,408nm,22.0s,MS4.7
KIS Kishinev 83.27 319 *e*P **P 16 35 20.0 -5.9**
KIS *e*PS SKS 16 45 38.0 -12
KIS MLR MLR
comp=Z,1µm,17.0s,MS5.3
TSUM Tsumeb 83.67 251 *e*P **P 16 35 28.1 -0.4**
comp=Z,4.9nm,0.7s,mb4.8
TSUM LR LR
comp=Z,3µm,20.0s,MS5.6
QSPA South Pole Qui 84.37 180 *e*P **P 16 35 30.8 0.0**
comp=Z,14nm,0.9s,mb5.1
NVL N'lazarevskaya 85.06 199⇑ *i*P **P 16 35 45.2 +11**
NVL *i* *PP pP 16 35 54.3 +10
NVL *i* 16 36 02.7
NVL MLR MLR
comp=Z,2µm,15.4s,MS5.5
BILL Bilibino 85.57 20 *i*P **P 16 35 37.4 +0.4**
BILL *i* *PP pP 16 35 46.6 -0.3
BILL *e**SP sP 16 35 52.1 +2.0
BILL *e* 16 38 55.1
BILL *e*S S 16 45 58.1 -7.0
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BILL MLR MLR
comp=Z,6µm,21.0s,MS5.9
JOF Joensuu 86.66 334 *e*p **P 16 35 42.8 +0.3**
comp=Z,9.4nm,0.9s,mb5.0
JOF Joensuu 86.66 334 *e*P **P 16 35 42.8 +0.3**
JOF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
LVZ Lovozero 87.12 339 *e*P **P 16 35 44.5 -0.1**
LVZ *e*S S 16 46 24.2 +4.3
LVZ pmax pmax
comp=Z,34nm,1.6s,mb5.3
LVZ smax
comp=N,479nm,4.3s
LVZ smax
comp=E,428nm,6.2s
SKO Skopje 87.31 312 *e*P **P 16 35 49.4 +3.2**
APA Apatity 87.44 339⇑ *e*P **P 16 35 41.7 -4.4**
APA *e*S S 16 46 22.0 -0.9
APA *e*SS SS 16 52 15.0 +3.5
APA pmax pmax
comp=Z,22nm,1.3s,mb5.2
APA MLR MLR
comp=Z,2µm,19.0s,MS5.4
VSU Vasula 87.51 329⇓ *e*P **P 16 35 47.7 +1.0**
KWP Kalwaria 87.84 320 *e*P **P 16 35 49.7 +1.2**
KOLS Kolonicke sedl 87.99 319 *e*P **P 16 35 50.7 +1.5**
SUW Suwalki 88.42 324 *e*P **P 16 35 52.0 +0.8**
SUW Suwalki 88.42 324 *e*P **P 16 35 52.0 +0.8**
CRVS Cervenica-Dubn 88.51 319 *e*P **P 16 35 55.2 +3.5**
FINES FINESS Array B 88.58 332 *i*P **P 16 35 52.6 +0.8**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 88.58 332 P **P 16 35 52.0 +0.3**
comp=Z,6.2nm,0.7s,mb5.0,baz=98,slow=4.5,SNR=44
FINES LR LR 17 20 43.6
comp=Z,1µm,21.4s,MS5.2,baz=360,slow=39
KAF Kangasniemi 88.65 333 *ep* **P 16 35 52.5 +0.5**
comp=Z,15nm,0.8s,mb5.4
KAF Kangasniemi 88.65 333 *e*P **P 16 35 52.5 +0.5**
KAF pmax pmax
comp=Z,15nm,0.8s,mb5.4
DIVS Divcibare 88.71 314 *e*P **P 16 35 53.1 +0.3**
KECS Kecovo 89.08 319 *e*P **P 16 35 54.4 0.0**
NIE Niedzica 89.34 320 *e*P **P 16 35 56.0 +0.3**
PSZ Piszkesteto 89.38 318 *e*P **P 16 35 56.5 +0.6**
comp=Z,8.1nm,0.8s,mb5.1
SNAA Sanae 89.58 198⇑ *i*P **P 16 35 57.4 +1.1**
SNAA Sanae 89.58 198⇑ *i* pP 16 36 07.7 +1.5
OJC Ojcow 89.80 320 *e*P **P 16 35 57.4 -0.4**
VYHS Vyhne 90.16 319 *e*P **P 16 36 00.0 +0.5**
VYHS *e* 16 36 29.4
KEV Kevo 90.34 340 *ep* **P 16 35 53.0 -6.9**
comp=Z,28nm,1.9s,mb5.3
KEV Kevo 90.34 340 *e*P **P 16 35 53.0 -6.9**
KEV pmax pmax
comp=Z,28nm,1.9s,mb5.3
ARCES ARCESS Array B 90.80 340 P **P 16 36 02.8 +0.8**
comp=Z,4.2nm,0.8s,mb4.8,baz=107,slow=4.3,SNR=19
ARCES LR LR 17 21 50.0
comp=Z,2µm,21.2s,MS5.5,baz=109,slow=39
OKC Ostrava-Krasne 90.80 320 *e*P **P 16 36 03.4 +1.0**
MORC Moravsky Berou 91.18 320 *e*P **P 16 36 04.9 +0.8**
comp=Z,7.7nm,1.0s,mb5.0
VNA2 Neumayer--Watz 91.21 198⇑ *i*P **P 16 36 03.3 -0.5**
VNA2 Neumayer--Watz 91.21 198⇓ *i* pP 16 36 15.8 +2.1
ZST Bratislava 91.27 318 *e*P **P 16 36 05.2 +0.6**
VNA1 Neumayer--Stat 91.58 198⇓ *i*P pP 16 36 17.7 +2.3
GKP Gorka Klasztor 91.80 323 *e*P **P 16 36 07.9 +1.0**
GKP Gorka Klasztor 91.80 323 *e*P **P 16 36 07.9 +1.0**
DPC Dobruska-Polom 92.03 320 *e*P **P 16 36 09.6 +1.6**
DPC AMS AMS 17 27 00.0
comp=Z,2µm,21.8s
KSP Ksiaz 92.10 321 *e*P **P 16 36 09.5 +1.2**
KSP *e*S S 16 47 08.0 +2.3
KSP LR LR
comp=Z,2µm,20.5s,MS5.5
KSP Ksiaz 92.10 321 *e*P **P 16 36 10.0 +1.7**
PRU Pruhonice 93.13 320 *e*P **P 16 36 15.1 +2.0**
PRU AMS AMS 17 27 40.0
comp=Z,1µm,18.7s
BRG Berggiesshubel 93.58 321 *e*P **P 16 36 15.9 +0.7**
comp=Z,12nm,1.4s,mb5.1
GERES GERESS Array B 93.58 319 P **P 16 36 16.2 +1.0**
comp=Z,1.9nm,0.8s,mb4.6,baz=90,slow=5.3,SNR=15
KHC Kasperske Hory 93.69 319 *e*P **P 16 36 20.5 +4.8**
KHC AMS AMS 17 28 00.0
comp=Z,2µm,20.3s
CLL Collm 94.21 321 *e*P **P 16 36 18.0 0.0**
comp=Z,6.0nm,0.6s,mb5.2
CLL Collm 94.21 321 P **P 16 36 18.0 0.0**
comp=Z,logA/T=1.0,mb5.2
NKC Novy Kostel 94.49 320 AMS AMS 17 28 30.0
comp=Z,900nm,19.8s
RAR Rarotonga 94.89 112 LR LR 17 18 08.8
comp=Z,628nm,18.8s,MS5.1,baz=347,slow=35
MOX Moxa 95.05 320 *e*P **P 16 36 20.0 -1.9**
NB2 NORSAR Subarra 95.64 331 P **P 16 36 23.8 -0.6**
comp=Z,3.1nm,1.0s,mb4.7,baz=91,slow=4.8
NOA NORSAR Array B 95.64 331 P **P 16 36 24.2 -0.1**
comp=Z,1.9nm,0.8s,mb4.6,baz=95,slow=4.6,SNR=5.8
NOA LR LR 17 27 07.3
comp=Z,752nm,20.8s,MS5.2,baz=70,slow=40
KDAK Kodiak Island 102.51 32 PFAKE 16 37 10.0 +15
KDAK LR LR
comp=Z,215nm,19.0s,MS4.7
MCK McKinley 103.05 26 PFAKE 16 37 10.0 +12
MCK LR LR
comp=Z,473nm,19.0s,MS5.0
FIB Fire Island 103.08 28 PFAKE
FIB LR LR 16 37 10.0 +12
comp=Z,1µm,22.0s,MS5.4
COLA College 103.22 24 PFAKE 16 37 10.0 +12
COLA LR LR
comp=Z,831nm,19.0s,MS5.3
ILAR Eielson Array 103.64 24 PP PP 16 41 19.1 -0.3
comp=Z,1.1nm,0.9s,baz=276,slow=6.4,SNR=5.4
ILAR PKKPbc 16 52 56.5
comp=Z,0.3nm,0.8s,baz=162,slow=2.9,SNR=2.8
TBI Tubuai 103.92 116 *e*PP PP 16 41 17.2 -5.1
TBI *e*PS PS 16 50 31.1 +0.1
TBI *e*SS SS 16 56 09.1 +4.1
TBI *e*LR LR 17 11 11.3
comp=Z,1µm,27.2s
INK Inuvik 107.18 19 PKKPbc 16 52 48.7
comp=Z,0.7nm,0.8s,baz=99,slow=1.7,SNR=4.3
PMSA Palmer Station 109.12 186 PFAKE 16 41 40.0
PMSA LR LR
comp=Z,2µm,20.0s,MS5.7
SIT Sitka 111.63 30 PFAKE
SIT LR LR 16 41 50.0 +13
comp=Z,834nm,21.0s,MS5.3
YKA Yellowknife Ar 116.94 18 PKP PKPdf 16 41 43.2 -4.3
comp=Z,0.9nm,0.7s,baz=322,slow=1.7,SNR=18
YKA PP PP 16 42 53.4 -3.1
comp=Z,0.2nm,0.5s,baz=319,slow=6.6,SNR=3.0
YKA PKKPab 16 52 16.3
comp=Z,0.2nm,0.5s,baz=138,slow=4.0,SNR=5.6
YKA Yellowknife Ar 116.94 18 PKP PKPdf 16 41 43.2 -4.3
YKA PP PP 16 42 53.4 -3.1
YKA PKKPab 16 52 16.3
COR Corvallis 124.13 38 PFAKE 16 42 10.0 +8.1
COR LR LR
comp=Z,714nm,19.0s,MS5.3
HUMO Hull Mountain 125.33 40 PFAKE 16 42 10.0 +5.7
HUMO LR LR
comp=Z,648nm,21.0s,MS5.3
NEW Newport 125.61 32 PKP PKPdf 16 42 02.9 -1.8
comp=Z,2.5nm,0.7s,baz=333,slow=2.3,SNR=3.3
NEW Newport 125.61 32 PKP PKPdf 16 42 02.9 -1.8
NEW LR LR
comp=Z,1µm,19.0s,MS5.5
YBH Yreka Blue Hor 125.91 41 PKP PKPdf 16 42 03.3 -2.1
comp=Z,2.1nm,0.8s,baz=329,slow=5.9,SNR=4.6
YBH Yreka Blue Hor 125.91 41 PKP PKPdf 16 42 03.3 -2.1
YBH LR LR
comp=Z,809nm,19.0s,MS5.4
HOPS Hopland 126.94 44 PFAKE 16 42 20.0 +13
HOPS LR LR
comp=Z,711nm,19.0s,MS5.4
FFC Flin Flon 127.11 18 PFAKE 16 42 20.0 +13
FFC LR LR
comp=Z,318nm,19.0s,MS5.0
MOD Modoc 127.38 40 *e*PKPdf PKPdf 16 42 05.6 -2.7
MOD LR LR
comp=Z,877nm,19.0s,MS5.5
BMO Blue Mountains 127.57 35 PFAKE 16 42 20.0 +11
BMO LR LR
comp=Z,940nm,19.0s,MS5.5
WVOR Wild Horse Val 128.15 39 PFAKE 16 42 20.0 +10
WVOR LR LR
comp=Z,856nm,20.0s,MS5.4
MSO Missoula 128.19 32 PFAKE 16 42 20.0 +10
MSO LR LR
comp=Z,791nm,19.0s,MS5.4
CHMT Chamberlain Mo 128.49 31 *e*PKPdf PKPdf 16 42 06.6 -3.7
SAO San Andreas Ge 129.08 46 PFAKE 16 42 20.0 +8.3
SAO LR LR
comp=Z,633nm,19.0s,MS5.3
CMB Columbia Colle 129.25 44 PFAKE 16 42 20.0 +8.1
CMB LR LR
comp=Z,570nm,21.0s,MS5.2
HLID Hailey 130.01 35 PFAKE 16 42 20.0 +6.8
HLID LR LR
comp=Z,988nm,19.0s,MS5.5
BMN Battle Mountai 130.13 40 PFAKE 16 42 20.0 +6.4
BMN LR LR
comp=Z,733nm,20.0s,MS5.4
BOZ Bozeman (W) 130.18 31 PFAKE 16 42 20.0 +6.5
BOZ LR LR
comp=Z,868nm,21.0s,MS5.4
NVAR Mina Array Bea 130.48 43 PKP PKPdf 16 42 12.8 -1.5
comp=Z,1.8nm,0.7s,baz=288,slow=2.4,SNR=10
NVAR SKPbc 16 45 33.4
comp=Z,2.9nm,0.8s,baz=277,slow=3.6,SNR=10
NVAR Mina Array Bea 130.48 43 PKP PKPdf 16 42 12.8 -1.5
NVAR SKPbc 16 45 33.4
MNV Mina 130.58 43 PFAKE 16 42 20.0 +5.5
MNV LR LR
comp=Z,597nm,19.0s,MS5.3
QLMT Earthquake Lak 130.83 32 *e*PKPdf PKPdf 16 42 12.7 -2.0
ELK Elko 131.21 38 PFAKE 16 42 20.0 +4.4
ELK LR LR
comp=Z,998nm,20.0s,MS5.5
TPH Tonopah 131.39 43 PFAKE 16 42 20.0 +4.0
TPH LR LR
comp=Z,642nm,19.0s,MS5.3
LKWY Lake 131.55 32 PFAKE 16 42 20.0 +3.9
LKWY LR LR
comp=Z,1µm,19.0s,MS5.7
LAO LASA Array 132.04 27 PFAKE 16 42 30.0 +13
LAO LR LR
comp=Z,1µm,21.0s,MS5.5
DAC Darwin (Calif) 132.05 45 PFAKE 16 42 30.0 +13
DAC LR LR
comp=Z,473nm,19.0s,MS5.2
AHID Auburn Hatcher 132.38 34 PFAKE 16 42 30.0 +12
AHID LR LR
comp=Z,819nm,20.0s,MS5.4
ULM Lac du Bonnet 132.83 16 PKP PKPdf 16 42 14.5 -3.9
comp=Z,4.4nm,0.7s,baz=331,slow=2.4,SNR=12
ULM SKP 16 45 54.4
comp=Z,4.8nm,1.1s,baz=329,slow=5.9,SNR=2.9
HWUT Hardware Ranch 132.88 35 *e*PKPdf PKPdf 16 42 15.5 -3.2
HWUT LR LR
comp=Z,1µm,19.0s,MS5.6
DUG Dugway 133.02 38 PFAKE 16 42 30.0 +11
DUG LR LR
comp=Z,673nm,20.0s,MS5.3
BW06 Boulder Array 133.22 33 PFAKE 16 42 30.0 +11
BW06 LR LR
comp=Z,1µm,20.0s,MS5.5
PDAR Pinedale Array 133.22 33 PKP PKPdf 16 42 15.8 -3.5
comp=Z,1.0nm,0.7s,baz=156,slow=2.8,SNR=9.1
PDAR SKP 16 45 56.9
comp=Z,1.3nm,1.0s,SNR=3.7
PFO Pinyon Flat Ob 134.16 47 PFAKE 16 42 30.0 +8.7
PFO LR LR
comp=Z,141nm,19.0s,MS4.7
TRQA Tornquist 134.31 197 PFAKE 16 42 30.0 +8.5
TRQA LR LR
comp=Z,1µm,19.0s,MS5.7
MVU Marysvale 134.41 39 *e*PKPdf PKPdf 16 42 20.0 -1.7
MVU LR LR
comp=Z,923nm,20.0s,MS5.5
MSU Marysvale 134.43 39 *e*PKPdf PKPdf 16 42 19.4 -2.3
EYMN Ely 136.08 14 PFAKE 16 42 30.0 +5.6
EYMN LR LR
comp=Z,1µm,21.0s,MS5.6
PV10 Paradox Valley 136.44 37 *e*PKPdf PKPdf 16 42 23.1 -2.2
WUAZ Wupatki 136.72 42 PFAKE 16 42 30.0 +4.1
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.7
PV01 Paradox Valley 136.88 37 *e*PKPdf PKPdf 16 42 23.5 -2.6
RCBR Riachuelo 137.23 255 PFAKE 16 42 40.0 +13
RCBR LR LR
comp=Z,1µm,19.0s,MS5.7
ISCO Idaho Springs 137.42 33 PFAKE 16 42 40.0 +13
ISCO LR LR
comp=Z,1µm,20.0s,MS5.6
TUC Tucson 138.92 45 PFAKE 16 42 40.0 +10
TUC LR LR
comp=Z,1µm,22.0s,MS5.5
SDCO Great Sand Dun 138.93 35 PFAKE 16 42 40.0 +10
SDCO LR LR
comp=Z,1µm,22.0s,MS5.6
ANMO Albuquerque 140.24 39 PFAKE 16 42 40.0 +7.6
ANMO LR LR
comp=Z,939nm,19.0s,MS5.6
JFWS Jewell Farm 141.10 15 PFAKE 16 42 40.0 +6.3
JFWS LR LR
comp=Z,1µm,19.0s,MS5.8
CBKS Cedar Bluff 141.15 29 PFAKE 16 42 40.0 +6.0
CBKS LR LR
comp=Z,2µm,22.0s,MS5.8
NCB Newcomb 141.71 357 PFAKE 16 42 40.0 +5.3
NCB LR LR
comp=Z,2µm,19.0s,MS5.8
HRV Harvard--Oak R 142.92 353 PFAKE 16 42 50.0 +13
HRV LR LR
comp=Z,455nm,20.0s,MS5.2
MNTX Cornudas Mount 143.00 42 PFAKE 16 42 50.0 +13
MNTX LR LR
comp=Z,516nm,21.0s,MS5.3
AAM Ann Arbor 143.02 8 PFAKE 16 42 50.0 +20
AAM LR LR
comp=Z,1µm,20.0s,MS5.8
AMTX Amarillo 143.13 35 PFAKE 16 42 50.0 +20
AMTX LR LR
comp=Z,921nm,19.0s,MS5.6
GDL2 Guadalupe Moun 143.35 40 *e*PKPdf PKPdf 16 42 32.6 -5.3
ERPA Erie 143.56 3 PFAKE 16 42 50.0 +19
ERPA LR LR
comp=Z,1µm,19.0s,MS5.8
CLNB Carlsbad 143.62 40 *e*PKPdf PKPdf 16 42 33.5 -4.9
BDFB Brasilia 144.20 233 PKP PKPdf 16 42 35.5 -4.3
comp=Z,1.6nm,0.6s,baz=120,slow=8.1,SNR=2.5
WMOK Wichita Mounta 144.82 32 *e*PKPdf PKPdf 16 42 35.5 -5.0
WMOK LR LR
comp=Z,2µm,22.0s,MS5.9
SLM Saint Louis 145.06 18 *e*PKPdf PKPdf 16 42 36.5 -4.2
SSPA Standing Stone 145.12 1 *e*PKPdf PKPdf 16 42 36.0 -4.7
SSPA LR LR
comp=Z,807nm,19.0s,MS5.5
ACSO Alum Creek Sta 145.14 8 PFAKE 16 42 50.0 +14
ACSO LR LR
comp=Z,1µm,20.0s,MS5.8
CCM Cathedral Cave 145.27 20 *e*PKPdf PKPdf 16 42 36.6 -4.5
CCM LR LR
comp=Z,1µm,20.0s,MS5.7
BLO Bloomington 145.54 13 *e*PKPdf PKPdf 16 42 38.1 -3.5
FVM French Village 145.60 19 *e*PKPdf PKPdf 16 42 37.6 -4.0
LTX Lajitas 145.62 44 *e*PKPdf PKPdf 16 42 39.9 -2.1
LTX LR LR
comp=Z,1µm,20.0s,MS5.7
TXAR Lajitas Array 145.62 44 PKPbc PKPbc 16 42 40.0 +2.5
comp=Z,43nm,0.7s,baz=297,slow=1.7,SNR=286
MVL Millersville 145.76 359 *e*PKPdf PKPdf 16 42 38.6 -3.2
MCWV Mont Chateau 146.02 4 PFAKE 16 42 50.0 +12
MCWV LR LR
comp=Z,2µm,20.0s,MS5.9
WCI Wyandotte Cave 146.50 13 *e*PKPdf PKPdf 16 42 38.8 -4.4
WCI LR LR
comp=Z,1µm,20.0s,MS5.6
JCT Junction City 147.38 38 *e*PKPdf PKPdf 16 42 42.9 -2.0
JCT LR LR
comp=Z,1µm,21.0s,MS5.7
MIAR Mount Ida 147.47 26 *e*PKPbc PKPdf 16 42 43.8 -1.1
MIAR LR LR
comp=Z,1µm,19.0s,MS5.8
CBN Corbin 147.56 0 PFAKE 16 42 50.0 +5.1
CBN LR LR
comp=Z,2µm,21.0s,MS5.9
FWV Forest Hill 148.01 5 *e*PKPdf PKPdf 16 42 44.3 -1.3
WVT Waverly 148.10 16 *e*PKPbc PKPdf 16 42 44.7 -1.2
WVT LR LR
comp=Z,1µm,21.0s,MS5.7
ELN Prospectdale 148.37 5 *e*PKPbc PKPdf 16 42 45.6 -0.6
BLA Blacksburg 148.41 5 PFAKE 16 42 50.0 +3.7
BLA LR LR
comp=Z,1µm,19.0s,MS5.7
TZTN Tazewell 148.67 10 *e*PKPbc PKPdf 16 42 46.7 -0.1
PLAL Pickwick Lake 149.10 18 *e*PKPbc PKPdf 16 42 46.8 -0.7
OXF Oxford 149.10 20 PFAKE 16 43 00.0 +12
OXF LR LR
comp=Z,2µm,19.0s,MS5.9
NATX Nacogdoches 149.28 30 *e*PKPbc PKPdf 16 42 49.2 +1.4
NATX LR LR
comp=Z,723nm,19.0s,MS5.5
SWET Sewanee 149.46 14 *e*PKPbc PKPdf 16 42 48.6 +0.5
CPCT Cooper Cave 149.55 12 *e*PKPbc PKPdf 16 42 48.8 +0.6
HKT Hockley 150.09 34 *e*PKPbc PKPdf 16 42 51.8 +2.6
HKT LR LR
comp=Z,1µm,19.0s,MS5.7
LVC Limon Verde 150.80 196 PKPbc PKPdf 16 42 53.5 +3.0
comp=Z,3.9nm,0.7s,baz=257,slow=4.1,SNR=8.3
LVC PKPab PKPab 16 43 02.2 +1.8
comp=Z,12nm,0.8s,baz=273,slow=1.8,SNR=7.2
LVC Limon Verde 150.80 196 *e*PKPbc PKPdf 16 42 53.2 +2.7
LVC LR LR
comp=Z,1µm,20.0s,MS5.6
BBSR BB Station 150.93 338 PFAKE 16 43 00.0 +10
BBSR LR LR
comp=Z,1µm,20.0s,MS5.7
JSC Jenkinsville 151.23 7 *e*PKPbc PKPdf 16 42 53.0 +2.2
LRAL Lakeview Retre 151.23 17 PFAKE 16 43 00.0 +9.2
LRAL LR LR
comp=Z,1µm,19.0s,MS5.8

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOGA	Godfrey	151.73	11	PFAKE		16 43 00.0	+8.4
GOGA				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
LPAZ	La Paz	156.46	202	PKP	PKPdf	16 42 55.5	-2.9
	comp=Z,0.5nm,0.6s,baz=243,slow=2.3,SNR=4.5						
DWPF	Disney	157.27	10	PFAKE		16 43 10.0	+11
DWPF				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
TEIG	Tepich	161.92	36	PFAKE		16 43 10.0	+5.3
TEIG				LR	LR		
	comp=Z,481nm,19.0s						
NNA	Nana	162.51	181	PFAKE		16 43 10.0	+4.6
NNA				LR	LR		
	comp=Z,196nm,20.0s						
SJG	San Juan	163.54	320	PFAKE		16 43 10.0	+3.7
SJG				LR	LR		
	comp=Z,882nm,21.0s						
PAYG	Puerto Ayora	165.52	115	PFAKE		16 43 20.0	+12
PAYG				LR	LR		
	comp=Z,711nm,19.0s						
JTS	JuntasAbangare	171.03	58	PFAKE		16 43 20.0	+8.1
JTS				LR	LR		
	comp=Z,241nm,21.0s						
SDV	Santo Domingo	172.71	297	PFAKE		16 43 20.0	+7.1
SDV				LR	LR		
	comp=Z,1µm,22.0s						
OTAV	Otavalo	174.52	167	PFAKE		16 43 20.0	+6.5
OTAV				LR	LR		
	comp=Z,1µm,21.0s						

IDC 16 16:30:21.4±6.2**,5.49S**×**103.04E,mb3.8**/2**,mb1 3.9**/2**, mb1mx3.7**/13**,mbtmp3.8**/2**,Error ellipse: s-maj=269.0km s-min=62.6km az=65.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.13	350	P	P	16 35 38.9	-1.2
	1.2nm,0.7s,baz=182,slow=8.3,SNR=8.9						
SONM	Songino Array	53.17	3	P	P	16 39 41.3	-2.1
	1.4nm,0.8s,baz=180,slow=8.7,SNR=6.2						
TXAR	Lajitas Array	145.36	44	PKPbc	PKPbc	16 50 01.4	-1.0
	0.5nm,0.6s,baz=270,slow=1.8,SNR=4.3						

*NEIC **16** 16:33:50.1,19.65N×68.85W,h128^{km},MD3.9(RSPR), After RSPR.*
RSPR 16 16:33:50.1,19.65N×**68.85W,h128**^{km}±15^{km}**,MD3.9**/13**, MD3.9**/13**,13C,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSP	Las Mesas	2.22	131	⇑eP	P	16 34 26.0	-1.2
LSP				eS	S	16 34 55.0	-0.4
CRPR	Cabo Rojo, PR	2.32	135	⇑eP	P	16 34 26.8	-1.8
CRPR				eS	S	16 34 57.8	0.0
LRS	Lares	2.33	125	⇑eP	P	16 34 27.8	-0.8
LRS				eS	S	16 34 57.5	-0.3
MGP	Maguayo	2.33	134	⇑eP	P	16 34 27.8	-0.9
MGP				eS	S	16 34 57.2	-0.9
AOPR	Arecibo Observ	2.37	123	⇑eP	P	16 34 28.4	-0.8
AOPR				eS	S	16 34 58.7	-0.2
PORP	Portuguez	2.63	127	⇑eP	P	16 34 32.1	-0.5
PORP				eS	S	16 35 04.7	-0.1
CELP	Cerrillos	2.66	126	⇑eP	P	16 34 32.5	-0.5
CELP				eS	S	16 35 05.7	+0.1
CSB	Colonia Sabana	2.88	118	⇑eP	P	16 34 35.3	-0.6
CSB				eS	S	16 35 10.4	-0.4
SJG	San Juan	2.98	121	⇑eP	P	16 34 36.5	-0.7
SJG				eS	S	16 35 11.9	-1.0
CBYP	Canovanas	3.15	115	⇑eP	P	16 34 39.3	-0.1
CBYP				eS	S	16 35 15.9	-1.0
CPD	Cerro la Pandu	3.21	120	⇑eP	P	16 34 40.1	-0.1
CPD				eS	S	16 35 17.5	-0.9
HUMP	Col San Antoni	3.21	117	⇑eP	P	16 34 38.7	-1.5
HUMP				eS	S	16 35 18.2	-0.3
MTP	Monte Pirata	3.48	116	⇑eP	P	16 34 43.3	-0.5
MTP				eS	S	16 35 25.2	+0.4

IDC 16 16:58:29.8±1.9**,11.77N**×**143.84E,mb3.5**/3**,mb1 3.8**/3**, mb1mx3.5**/17**,mbtmp3.5**/3**,Error ellipse: s-maj=267.3km s-min=29.2km az=110.0,South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	32.87	197	P	P	17 05 05.0	-2.8
	0.5nm,0.5s,baz=19,slow=9.7,SNR=6.7						
ASAR	Alice Springs	36.54	195	P	P	17 05 38.1	-1.2
	0.2nm,0.7s,baz=17,slow=11,SNR=4.0						
ILAR	Eielson Array	70.63	25	P	P	17 09 47.0	-1.9
	0.2nm,0.6s,baz=260,slow=4.6,SNR=4.2						

*IDC **16** 17:12:04.4±0.8,67.18N×21.06E,mb1 2.8/4, mb1mx2.8/18,mbtmp2.8/4,ML2.3/4,Error ellipse: s-maj=15.7km s-min=6.9km az=115.0*
*NAO **16** 17:12:07.8±1.4,67.05N×20.98E,ML2.1*
*HEL **16** 17:12:07.6±0.3,67.04N×20.89E,ML1.9,ML1.6(UPP), ML1.7(BER),Explosion*
*BER **16** 17:12:10.4±4.5,67.05N×20.95E,ML1.7,ML2.1(NAO), Suspected explosion*
ISC 16 17:12:06.0±0.4**,66.98N**±0.03×**20.94E**±0.08**,n29,**σ**1**^{s}**29**/49**, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	Dundret	0.20	315	i P	Pg	17 12 09.6	-0.4
MASU	Masugnsbyn	0.63	40	i P	Pg	17 12 17.4	-1.2
ERTU	Ertsjaerv	0.66	130	i P	Pg	17 12 18.9	-0.2
PAJU	Pajala	0.86	86	i P	Pg	17 12 21.7	-1.3
LANU	Lannavaara	1.15	20	eP	Pb	17 12 26.1	-2.3
KIF	Kilpisjarvi	2.04	359	eP	Pn	17 12 42.5	+0.7
KIF				eS	Sn	17 13 07.3	-1.1
KTK1	Kautokeino	2.22	22	eP	Pn	17 12 47.1	+2.7
KTK1				AML	AML	17 13 22.5	
	comp=Z,12nm,0.3s						
SGF	Sodankyl	2.23	75	eP	Pn	17 12 45.0	+0.4
SGF				eS	Sn	17 13 14.1	+0.9
MOR8	Moi Rana	2.72	256	eP	Pn	17 12 52.9	+1.2
TRO	Tromso	2.77	345	eP	Pn	17 12 53.9	+1.6
TRO				AML	AML	17 13 38.8	
	comp=Z,5.3nm,0.2s						
OUL	Oulu	2.78	131	eP	Pn	17 12 54.3	+1.8
OUL				eS	Sn	17 13 30.0	+2.8
LOF	Lofoten	3.06	296	eP	Pn	17 12 58.1	+1.5
ARA0	ARCESS Array S	3.08	31	Pn	Pn	17 12 56.0	-0.7
	baz=206,slow=16						
ARA0				Sn	Sn	17 13 34.7	-0.2
	baz=210,slow=28						
ARA0	ARCESS Array S	3.08	31	eP	Pn	17 12 56.0	-0.7
ARA0				eS	Sn	17 13 34.7	-0.2
ARCES	ARCESS Array B	3.08	31	Pn	Pn	17 12 49.8	-7.0
	comp=Z,0.2nm,0.3s,baz=221,slow=17,SNR=10						
ARCES				Pg	Pg	17 12 56.4	-11
	comp=Z,0.5nm,0.3s,baz=215,slow=14,SNR=17						
ARCES				Sn	Sn	17 13 23.1	-12
	comp=Z,0.5nm,0.3s,baz=212,slow=14,SNR=3.7						
ARCES				Lg		17 13 35.9	
	comp=Z,1.2nm,0.3s,baz=212,slow=26,SNR=9.6						
STOK	Stokkvaagen	3.22	262	eP	Pn	17 12 58.5	-0.2
MSF	Maaselka	3.43	105	eP	Pn	17 13 04.2	+2.5
MSF				eS	Sn	17 13 44.8	+1.2
MSF				eSG	Sg	17 13 57.0	-3.0
MSF				MSG		17 13 58.3	
	comp=Z,2.7nm,0.3s						
KU4	Liikasenvaara	3.49	96	eP	Pn	17 13 04.2	+1.5
KU4				eS	Sn	17 13 45.9	+0.5
KEV	Kevo	3.58	36	eP	Pn	17 13 04.2	+0.3
KEV				eS	Sn	17 13 46.9	-0.7
KEV				eSG	Sg	17 13 58.0	-7.2
KJN	Kajaani	4.05	133	eP	Pn	17 13 10.4	-0.2
KJN				eS	Sn	17 13 59.2	-0.1
KJN				eSG	Sg	17 14 15.3	-5.4
KJN				MSG		17 14 19.0	
	comp=Z,2.1nm,0.2s						
APA0	Apatity Array	4.71	77	eP	Pn	17 13 19.6	-0.5
APA0				eSG	Sg	17 14 33.4	-10
APA0	Apatity Array	4.71	77	Pn	Pn	17 13 19.6	-0.5
	baz=265,slow=12						
APA0				Lg		17 14 33.4	
	baz=288,slow=28						
FIA0	FINESS Array S	5.99	156	Pn	Pn	17 13 36.9	-1.1
	baz=353,slow=14						
FIA0				Sn	Sn	17 14 47.1	-1.2
	baz=343,slow=28						
FIA0				Lg		17 15 19.2	
	baz=348,slow=28						
FIA0	FINESS Array S	5.99	156	eP	Pn	17 13 36.9	-1.1
FIA0				eS	Sn	17 14 47.1	-1.2
FIA0				e		17 15 19.2	
FINES	FINESS Array B	5.99	156	Pn	Pn	17 13 37.4	-0.7
	comp=Z,0.1nm,0.3s,baz=345,slow=14,SNR=5.8						
FINES				Sn	Sn	17 14 45.7	-2.7
	comp=Z,0.2nm,0.3s,baz=355,slow=20,SNR=3.3						
FINES				Lg		17 15 19.0	
	comp=Z,0.3nm,0.3s,baz=343,slow=25,SNR=3.9						
NOA	NORSAR Array B	7.33	220	Pn	Pn	17 13 55.1	-1.7
	comp=Z,0.1nm,0.3s,baz=320,slow=20,SNR=2.7						
NOA				Sn	Sn	17 15 15.1	-6.7
	comp=Z,0.1nm,0.3s,baz=117,slow=20,SNR=2.4						
HFS	Hagfors	7.59	209	eP	Pn	17 13 59.2	-1.4
HFS	Hagfors	7.59	209	Pn	Pn	17 13 56.5	-4.0
	comp=Z,0.0nm,0.3s,baz=32,slow=14,SNR=2.1						
HFS				Sn	Sn	17 15 23.4	-4.9
	comp=Z,0.0nm,0.3s,baz=124,slow=5.3,SNR=2.8						
HFS	Hagfors	7.59	209	Pn	Pn	17 13 59.2	-1.4
	baz=16,slow=18						

IDC 16 17:22:30.2±2.5**,5.30S**×**103.52E,h39**^{km}±9^{km}**,mb3.5**/4**, mb1 3.7**/4**,mb1mx3.5**/13**,mbtmp3.7**/4**,Error ellipse: s-maj=98.3km s-min=19.8km az=61.0,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	24.03	349	P	P	17 27 40.5	-2.2
	1.4nm,0.7s,baz=181,slow=9.1,SNR=19						
CMAR				pP		17 27 52.0	
	1.4nm,0.6s,baz=180,slow=9.1,SNR=10						
WRA	Warramunga Arr	33.32	119	P	P	17 29 05.0	-1.8
	0.3nm,0.7s,baz=292,slow=11,SNR=3.1						
ASAR	Alice Springs	34.49	125	P	P	17 29 14.6	-2.2
	0.5nm,0.9s,baz=300,slow=8.3,SNR=5.3						
SONM	Songino Array	52.96	2	P	P	17 31 43.5	-1.6
	2.0nm,0.7s,baz=183,slow=9.1,SNR=24						
SONM				pP	pP	17 31 55.2	-1.2
	2.3nm,0.8s,baz=180,slow=8.5,SNR=14						
TXAR	Lajitas Array	144.90	44	PKP	PKPdf	17 42 03.0	-0.8
	1.1nm,0.7s,baz=270,slow=0.9,SNR=9.6						
TXAR				pPKP		17 42 14.4	
	1.0nm,0.8s,baz=315,slow=1.3,SNR=4.8						

*CASC **16** 17:50:44.7±2.0,8.03N×83.10W,MD4.2*
*IDC **16** 17:50:45.9±2.5,7.55N×85.43W,mb3.3/2,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,ML4.0/2,Error ellipse: s-maj=53.6km s-min=42.4km az=108.0*
*NEIC **16** 17:50:46.1,8.07N×82.99W,h9^{km},MD4.1(CASC),After CASC.*
ISC 16 17:50:42.8±0.9**,7.87N**±0.06×**83.16W**±0.05**,n36,**σ**1**^{s}**13**/47**, mb3.4**/2**,5C-5D,Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACR	Cerro Adams	0.78	359	⇓iP	Pg	17 50 57.6	-0.8
ACR	Cerro Adams	0.78	359	⇓iP	Pg	17 50 57.6	-0.8
ACR				eS	Sg	17 51 08.1	-0.7
PTP1	Petroterminal	0.79	65	⇓iP	Pg	17 50 52.2	-6.5
DVD	David	0.90	51	eP	Pg	17 50 58.8	-1.9
DVD				⇑iP		17 50 58.8	
CNI	Changuinola	1.66	22	⇑iP	Pn	17 51 12.5	-0.9
CNI				eP		17 51 12.7	
BUS	Buena Vista	1.78	340	eP	Pn	17 51 14.8	-0.2
BUS				eS	Sn	17 51 38.1	-0.6
BUS	Buena Vista	1.78	340	⇓eP	Pn	17 51 15.1	+0.1
BUS				eS	Sn	17 51 38.4	-0.3
QCR	Quepos	1.84	327	eP	Pn	17 51 16.6	+0.7
LCR2	La Lucha 2	2.04	336	eP	Pn	17 51 18.8	0.0
LCR2	La Lucha 2	2.04	336	⇑eP	Pn	17 51 19.1	+0.3
LCR2				eS	Sn	17 51 45.3	0.0
LAJ	Bijagual	2.20	334	eP	Pn	17 51 21.7	+0.6
LAJ	Bijagual	2.20	334	⇑eP	Pn	17 51 21.6	+0.5
ICR	Volcan Irazu	2.20	342	⇑eP	Pn	17 51 21.5	+0.4
ICR	Volcan Irazu	2.20	342	⇓eP	Pn	17 51 21.4	+0.3
SJS	Escuela Geolog	2.24	337	eP	Pn	17 51 22.3	+0.7
SJS				eS	Sn	17 51 49.0	-1.4
SJS	Escuela Geolog	2.24	337	eP	Pn	17 51 22.3	+0.6
SJS				eS	Sn	17 51 49.7	-0.8
PRS1	Puriscal	2.39	332	eP	Pn	17 51 22.5	-1.3
PRS1	Puriscal	2.39	332	eP	Pn	17 51 22.5	-1.4
CGA2	Cerro Gallo 2	2.50	329	eP	Pn	17 51 25.4	+0.1
CGA2				eS	Sn	17 51 59.2	+2.3
CGA2	Cerro Gallo 2	2.50	329	eP	Pn	17 51 24.9	-0.4
VPS2	Volcan Poas 2	2.54	335	eP	Pn	17 51 27.3	+1.3
VPS2	Volcan Poas 2	2.54	335	eP	Pn	17 51 27.1	+1.2
VPS2				eS	Sn	17 52 00.1	+2.1
TRTC	Tortuguero	2.75	348	eP	Pn	17 51 28.9	0.0
TRTC	Tortuguero	2.75	348	eP	Pn	17 51 28.7	-0.2
TRTC				eS	Sn	17 52 04.4	+1.1
AZU	Azuero	2.86	91	eP	Pn	17 51 31.1	+0.6
FORC	Fortuna	2.99	330	eP	Pn	17 51 33.6	+1.3
FORC				eS	Sn	17 52 09.1	-0.3
FORC	Fortuna	2.99	330	eP	Pn	17 51 34.6	+2.3
JTS	JuntasAbangare	2.99	324	Pn	Pn	17 51 33.0	+0.6
	527nm,0.4s,SNR=13						
JTS	JuntasAbangare	2.99	324	Pn	Pn	17 51 31.6	-0.7
	25nm,0.3s,baz=105,slow=8.1,SNR=34						
JTS				Sn	Sn	17 52 06.6	-2.9
	23nm,0.3s,baz=329,slow=22,SNR=10						
VCR	Vista de Mar	3.32	313	eP	Pn	17 51 36.8	-0.2
VCR	Vista de Mar	3.32	313	eP	Pn	17 51 36.8	-0.2
UPA	Univ. de Panam	3.75	73	eP	Pn	17 51 43.9	+0.7
UPA				eS	Sn	17 52 29.9	+1.2
YKA	Yellowknife Ar	59.15	344	P	P	18 00 46.0	-1.4
	0.1nm,0.4s,mb3.2,baz=141,slow=7.0,SNR=4.1						
YKA	Yellowknife Ar	59.15	344	P	P	18 00 46.0	-1.5
ILAR	Eielson Array	71.89	336	P	P	18 02 07.0	-2.5
	0.4nm,0.7s,mb3.6,baz=126,slow=4.0,SNR=5.0						
ASAR	Alice Springs	141.19	242	PKP	PKPdf	18 10 14.8	-3.3
	0.3nm,0.7s,baz=104,slow=3.7,SNR=4.1						

*TAP **16** 17:51:34.2,24.82N×122.22E,h3^{km}±1^{km},ML2.7*
JMA 16 17:51:32.9±0.1**,25.14N**×**122.66E,M2.2,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.75	155	P	Pg	17 51 47.6	-0.2
YOJ				S	Sg	17 51 57.9	+0.1
IRIF	Iriomote-Funau	1.26	129	P	Pb	17 51 56.9	-0.3
IRIF				eS	Sb	17 52 13.9	0.0
HATJ	Hateruma jima	1.50	136	eS	Sb	17 52 21.4	+0.6
JKRS	Kuro-shima	1.52	126	P	Pn	17 52 01.2	-0.3
JKRS				S	Sb	17 52 21.3	-0.2
JIJ	Ishigaki jima	1.55	120	P	Pn	17 52 02.0	+0.1

OTT 16 18:01:32.4±1.1**,44.56N**×**56.16W,h18**^{km}**,ML2.9**/3**, Laurentian Slope Seismic Zone. 284km south from Grand Bank, Nl,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRLN	Deer Lake	4.79	349	PN	Pn	18 02 43.0	-2.5
DRLN				SN	Sn	18 03 34.5	-6.7
DRLN				Trac		18 03 36.3	
	comp=Z,319nm,1.4s						
HAL	Halifax	5.30	273	PN	Pn	18 02 51.2	-1.7
HAL				SN	Sn	18 03 46.5	-7.8
HAL				Trac		18 03 50.5	
	comp=Z,3.6nm,0.0s						
LMN	Caledonia Moun	6.24	285	PN	Pn	18 03 03.6	-2.4
LMN				SN	Sn	18 04 10.1	-7.6
LMN				Trac		18 04 14.0	
	comp=Z,65nm,1.0s						
GGN	Saint George	7.61	278	PN	Pn	18 03 21.6	-3.7
GGN				SN	Sn	18 04 40.5	-11
GSQ	Grosses Roches	8.68	304	PN	P	18 03 36.0	-4.2
GSQ				SN	Sn	18 05 10.4	-8.3
GSQ				Trac		18 05 13.0	
	comp=Z,0.5nm,0.1s						
ICQ	Pointe Anglais	9.06	307	PN	P	18 03 41.0	-4.4
ICQ				SN	Sn	18 05 16.7	-11
SMQ	Clarke City	9.12	312	PN	P	18 03 37.2	-9.0
SMQ				SN	Sn	18 05 17.5	-12
SMQ				Trac		18 05 18.6	
	comp=Z,0.6nm,0.1s						
CNQ	Baie Comeau	9.43	304	PN	P	18 03 46.1	-4.3
A21	Saint Andre	9.90	293	PN	P	18 03 51.6	-5.3
A21				SN	Sn	18 05 37.2	-11
LMQ	La Malbaie	10.29	292	PN	P	18 03 57.0	-5.2
LMQ				SN	S	18 05 45.8	-12
SCHQ	Schefferville	12.37	330	PN	P	18 04 24.2	-6.2
SCHQ				SN	S	18 06 33.2	-16

*ATH **16** 18:03:12.6,40.19N×25.15E,h23^{km},MD3.0/3*
*NEIC **16** 18:03:12.6,40.19N×25.15E,h23^{km},MD3.0(ATH),After ATH.*
*THE **16** 18:03:13.1,40.14N×25.22E,h10^{km},ML2.9*
*CSEM **16** 18:03:13.2±0.3,40.12N×25.25E,h2^{km},ML2.9,Error ellipse: s-maj=5.6km s-min=5.1km az=142.0*
ISC 16 18:03:12.4±0.7**,40.15N**±0.04×**25.25E**±0.05**,h4**^{km}±7^{km}**, n16,**σ**1**^{s}**00**/24**,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.25	211	ePg	Pg	18 03 18.4	+1.1
LOS				eSg	Sg	18 03 21.1	+0.4
LIA	Limnos Island	0.25	192	ePB	Pb	18 03 19.4	+0.3
ALN	Alexandroupoli	0.96	39	ePg	Pg	18 03 31.3	-0.3
ALN				eSg	Sg	18 03 46.0	+1.5
OUR	Ouranopolis	0.99	281	ePg	Pg	18 03 31.0	-1.1
OUR				eSg	Sg	18 03 45.4	+0.1
RDO	Rodhopi	1.02	12	ePN	Pn	18 03 31.7	-1.6
PRK	Paraskevi	1.20	138	ePN	Pn	18 03 36.9	+1.1
PLG	Polygyros	1.40	280	ePN	Pn	18 03 37.1	-1.6
AOS	Alonnisos	1.44	228	ePb	Pb	18 03 38.5	-0.9
SRS	Serrai	1.59	308	ePb	Pb	18 03 41.6	-0.4
SRS				eSb	Sb	18 04 03.8	+1.4
RZN	Rozhen	1.59	345	P	Pn	18 03 53.0	+12
SOH	Sokhos	1.59	296	ePb	Pb	18 03 41.6	-0.5
SOH				eSb	Sb	18 04 04.2	+1.7
SOH	Sokhos	1.59	296	ePb	Pb	18 03 41.6	-0.5
SOH				eSb	Sb	18 04 04.2	+1.7
NVR	Nevrokopi	1.60	319	ePN	Pn	18 03 40.1	-1.5
KNT	Kendrikon	2.06	300	ePn	Pn	18 03 47.7	-0.5
KNT				eSn	Sn	18 04 15.2	+0.7
GRG	Griva	2.32	291	ePn	Pn	18 03 51.5	-0.3
GRG				eSn	Sn	18 04 21.6	+0.5
KKB	Krupnik	2.37	317	eP	Pn	18 04 04.0	+11

IDC 16 18:12:31.2±2.2**,5.21S**×**152.54E,mb3.7**/3**,mb1 3.9**/4**, mb1mx3.7**/13**,mbtmp3.7**/4**,ML2.7**/1**,MS3.1**/2**,Ms1 3.1**/2**, ms1mx2.8**/16**,Error ellipse: s-maj=161.7km s-min=26.3km az=129.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.77	232	Pn	Pn	18 14 12.8	-1.5
	0.9nm,0.3s,baz=61,slow=11,SNR=5.7						
PMG				Sn	Sn	18 15 25.5	-7.6
	2.0nm,0.3s,baz=327,slow=22,SNR=6.0						
PMG				LR	LR	18 16 44.7	
	comp=Z,90nm,21.3s,baz=104,slow=37						
CTA	Charters Tower	16.00	202	LR	LR	18 21 55.3	
	comp=Z,115nm,18.5s,baz=1.2,slow=35						
WRA	Warramunga Arr	22.98	229	P	P	18 17 36.3	-2.5
	1.0nm,0.7s,baz=54,slow=9.8,SNR=7.4						
ASAR	Alice Springs	25.68	223	P	P	18 18 03.6	-1.0
	1.5nm,0.8s,baz=55,slow=9.2,SNR=17						
ILAR	Eielson Array	82.63	22	P	P	18 24 56.2	-1.2
	0.7nm,0.8s,baz=253,slow=5.2,SNR=6.8						

*IDC **16** 18:16:02.9±1.0,9.47N×93.11E,mb4.3/11,mb1 4.4/12, mb1mx4.3/19,mbtmp4.2/12,ML4.4/1,MS2.9/1,Ms1 3.1/1, ms1mx2.5/20,Error ellipse: s-maj=41.5km s-min=17.1km az=57.0*
*BJI **16** 18:16:06.9,9.46N×93.17E,h35^{km},mB5.1,mb4.4,Ms4.6, Msz4.1*
*NEIC **16** 18:16:08.1±0.5,9.52N×93.25E,h30^{km},mb4.4/8,Error ellipse: s-maj=18.9km s-min=8.3km az=65.0*
ISC 16 18:16:03.7±6.3**,9.39N**±0.09×**93.18E**±0.10**,h15**^{km}±40^{km}**, h28**^{km}±1.4^{km}**:pP-P,n46,**σ**0**^{s}**83**/47**,mb4.3**/23**,1C,Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.60	31	Pn	P	18 18 43.5	+5.2
	0.8nm,0.3s,baz=221,slow=14,SNR=26						
CMAR				LR	LR	18 23 20.1	
	comp=Z,59nm,18.2s,baz=215,slow=41						
VIS	Vishakhapatnam	12.66	312	eP	P	18 19 04.9	-1.2
VIS				eS	S	18 21 12.1	-16
JIRN	Jiri	19.33	341	eP	P	18 20 32.1	+0.8
	12nm,0.3s						
PKI	Pulchoki	19.52	339	eP	P	18 20 33.1	-0.3
	5.1nm,0.3s						
DMN	Daman	19.66	338	eP	P	18 20 34.6	-0.4
	12nm,0.8s						
KKN	Kakani	19.76	339	eP	P	18 20 35.3	-0.9
	7.0nm,0.5s						
GKN	Gorkha	20.19	338	eP	P	18 20 40.7	0.0
	9.3nm,0.4s						
LSA	Lhasa	20.29	355	P	P	18 20 41.6	-0.2
LSA	Lhasa	20.29	355	eP	P	18 20 41.4	-0.4
	7.6nm,0.5s						
KOLN	Koldanda	20.39	335	eP	P	18 20 43.4	+0.5
	9.7nm,0.7s						
GYA	Guiyang	21.24	35	⇑iP	P	18 20 52.6	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.2						
ENH	Enshi	25.76	34	eP	P	18 21 35.0	-0.6
	comp=Z,6.6nm,1.0s,mb4.1						
GTA	Gaotai	30.48	10	P	P	18 22 18.4	+0.1
GTA				AP	pP	18 22 27.3	+4.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WMQ	Urumqi	34.63	353	eP	P	18 22 55.0	+0.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,87nm,3.7s						
HHC	Hu-ho-hao-te	35.31	24	eP	P	18 23 00.5	+0.2
HHC				AP	pP	18 23 09.3	+4.5
HHC				XP	sP	18 23 13.5	+6.8
HHC				PP	PP	18 24 20.8	+1.0
HHC				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,94nm,4.3s						
TKM2	Tokmak 2	36.78	338	P	P	18 23 13.6	+1.0
	SNR=5.1						
KBK	Karagaybulak	36.79	337	P	P	18 23 14.2	+1.4
	SNR=13						
AML	Almayashu	36.84	336	P	P	18 23 14.6	+1.4
	SNR=17						
AAK	Ala-Archa	36.95	337	P	P	18 23 15.5	+1.4
	SNR=5.8						
AAK	Ala-Archa	36.95	337	eP	P	18 23 14.4	+0.3
	comp=Z,4.0nm,0.7s,mb4.4						
EKS2	Erkin-Say	37.25	336	P	P	18 23 18.1	+1.5
	SNR=11						
USP	Ospenovka	37.48	337	P	P	18 23 19.3	+0.7
	SNR=5.5						
SONM	Songino Array	39.91	14	P	P	18 23 38.7	-0.1
	comp=Z,3.7nm,0.9s,mb4.1,baz=202,slow=6.5,SNR=28						
SONM				PcP	PcP	18 25 44.9	0.0
	comp=Z,1.0nm,0.7s,baz=213,slow=3.8,SNR=6.9						
ULN	Ulaanbaatar	40.10	15	eP	P	18 23 40.0	-0.4
	comp=Z,3.0nm,0.9s,mb4.0						
KURK	Kurchatov	42.92	346	eP	P	18 24 02.9	-0.6
	comp=Z,0.8nm,0.5s,mb3.7						
CN2	Changchun	44.28	34	eP	P	18 24 15.8	+1.2
ZAL	Zalesovo	44.93	353	P	P	18 24 19.7	0.0
	comp=Z,0.6nm,0.4s,mb3.8,baz=294,slow=9.8,SNR=3.7						
ZAL	Zalesovo	44.93	353	P	P	18 24 19.7	0.0
HIA	Hailar	45.52	24	P	P	18 24 25.0	+0.5
MDJ	Mudanjiang	47.11	35	P	P	18 24 36.3	-0.7
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.1						
CHKZ	Chkalovo	47.75	342	eP	P	18 24 41.2	-0.8
	comp=Z,5.1nm,0.7s,mb4.7						
WRA	Warramunga Arr	49.91	126	P	P	18 24 59.3	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,2.0nm,0.5s,mb4.4,baz=303,slow=8.9,SNR=31						
WRA				PcP	PcP	18 26 19.8	+0.1
	comp=Z,0.5nm,0.5s,baz=318,slow=2.9,SNR=9.2						
WB2	**Warramunga Arr**	**49.92**	**126**	eP	**P**	**18 24 59.4**	**+0.2**
ASPA	**Alice Springs**	**51.61**	**130**	eP	**P**	**18 25 11.7**	**-0.3**
ASAR	**Alice Springs**	**51.61**	**130**	P	**P**	**18 25 11.6**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=305,slow=7.3,SNR=34						
ASAR				PcP	PcP	18 26 26.5	+0.5
	comp=Z,1.0nm,0.6s,baz=308,slow=3.2,SNR=9.9						
ASAJ	**Asahikawa**	**54.91**	**42**	P	**P**	**18 25 34.9**	**-1.4**
	comp=Z,3.1nm,0.5s,mb4.6,baz=14,slow=27,SNR=3.6						
YAK	**Yakutsk**	**58.87**	**19**	eP	**P**	**18 26 02.7**	**-1.4**
	comp=Z,8.5nm,0.9s,mb4.8						
CTA	**Charters Tower**	**59.87**	**120**	P	**P**	**18 26 12.1**	**+0.5**
	comp=Z,6.7nm,1.1s,mb4.6,baz=284,slow=4.2,SNR=3.5						
FINES	**FINESS Array B**	**70.94**	**332**	P	**P**	**18 27 20.4**	**-1.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=1.9,SNR=6.5						
ARCES	**ARCESS Array B**	**73.53**	**340**	P	**P**	**18 27 36.5**	**-0.9**
	comp=Z,2.3nm,0.9s,mb4.1,baz=59,slow=7.1,SNR=4.3						
GERES	**GERESS Array B**	**76.07**	**318**	P	**P**	**18 27 52.2**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=4.0,SNR=8.8						
CLL	**Collm**	**76.60**	**321**	P	**P**	**18 27 55.0**	**-0.3**
CLL				e*PP	pP	18 28 03.0	+2.9
MAW	**Mawson**	**79.82**	**191**	eP	**P**	**18 28 16.1**	**+3.4**
	comp=Z,75nm,1.2s,mb5.5						
ILAR	**Eielson Array**	**93.70**	**22**	P	**P**	**18 29 20.3**	**-0.4**
	comp=Z,1.0nm,0.8s,mb4.3,baz=294,slow=4.0,SNR=11						
INK	**Inuvik**	**95.80**	**16**	P	**P**	**18 29 30.2**	**0.0**
	comp=Z,1.5nm,0.5s,mb4.7,baz=313,slow=2.4,SNR=11						
INK	**Inuvik**	**95.80**	**16**	eP	**P**	**18 29 30.2**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.6						

*NEIC **16** 18:24:59.4, 38.34S×176.07E, h153^{km}, MG3.8(WEL), After WEL.*
WEL 16 18:24:59.1±0.3**, 38.32S**×**176.07E, h155**^{km}±2^{km}**, ML3.7**/11**, 6C, Error ellipse: s-maj=2.4km s-min=1.9km az=0.0, North Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MGZ	**Maungaku**	**0.80**	**211**	P	P	18 25 23.0	0.0
MGZ	**Maungaku**	**0.80**	**211**	⇑PN	P	18 25 23.0	0.0
URZ	**Urewera**	**0.82**	**86**	P	P	18 25 22.8	-0.4
URZ	**Urewera**	**0.82**	**86**	PN	P	18 25 22.7	-0.5
URZ				SN	S	18 25 40.8	-0.9
WTVZ	**West Tongariro**	**0.88**	**205**	P	P	18 25 23.4	-0.2
WTVZ	**West Tongariro**	**0.88**	**205**	PN	P	18 25 23.4	-0.1
TWVZ	**Taurewa**	**0.90**	**213**	P	P	18 25 23.5	-0.2
TWVZ	**Taurewa**	**0.90**	**213**	⇑PN	P	18 25 23.5	-0.1
OTVZ	**Oturere**	**0.90**	**200**	PN	P	18 25 24.0	+0.3
BKZ	**Black Stump Fm**	**0.91**	**159**	P	P	18 25 23.8	0.0
BKZ				S	S	18 25 42.1	-0.7
BKZ	**Black Stump Fm**	**0.91**	**159**	PN	P	18 25 23.8	0.0
BKZ				SN	S	18 25 42.1	-0.7
NGZ	**Ngauruhoe**	**0.93**	**203**	P	P	18 25 23.9	0.0
NGZ	**Ngauruhoe**	**0.93**	**203**	PN	P	18 25 23.9	0.0
CNZ	**Chateau**	**0.97**	**205**	P	P	18 25 24.2	0.0
CNZ	**Chateau**	**0.97**	**205**	PN	P	18 25 24.1	-0.1
WPVZ	**Whakapapa**	**0.97**	**205**	eP	P	18 25 24.2	0.0
WPVZ	**Whakapapa**	**0.97**	**205**	PN	P	18 25 24.2	0.0
TUVZ	**Tukino**	**1.00**	**199**	P	P	18 25 24.5	+0.1
TUVZ	**Tukino**	**1.00**	**199**	PN	P	18 25 24.5	0.0
TUVZ				eSN	S	18 25 44.1	+0.2
FWVZ	**Far West T-bar**	**1.02**	**203**	eP	P	18 25 24.8	+0.2
FWVZ	**Far West T-bar**	**1.02**	**203**	PN	P	18 25 24.6	0.0
TRVZ	**Turoa**	**1.06**	**202**	PN	P	18 25 25.0	0.0
WNVZ	**Wahianoa**	**1.07**	**200**	P	P	18 25 25.0	-0.1
WNVZ	**Wahianoa**	**1.07**	**200**	PN	P	18 25 25.0	-0.1
MOVZ	**Moawhango**	**1.11**	**193**	P	P	18 25 25.0	-0.5
MOVZ	**Moawhango**	**1.11**	**193**	⇑PN	P	18 25 24.9	-0.5
MOVZ				SN	S	18 25 44.6	-1.3
PKVZ	**Pokaka**	**1.12**	**210**	⇑PN	P	18 25 25.2	-0.4
MWZ	**Matawai**	**1.15**	**91**	eP	P	18 25 25.9	+0.1
MWZ	**Matawai**	**1.15**	**91**	PN	P	18 25 25.8	-0.1
MWZ				SN	S	18 25 46.0	-0.5
MTVZ	**Mangateitei**	**1.16**	**203**	PN	P	18 25 25.5	-0.5
MTVZ				SN	S	18 25 46.6	0.0
KNZ	**Kokohu**	**1.44**	**120**	eP	P	18 25 28.8	+0.1
KNZ	**Kokohu**	**1.44**	**120**	PN	P	18 25 28.7	0.0
KNZ				SN	S	18 25 50.6	-1.0
TSZ	**Takapari Road**	**1.74**	**183**	eP	P	18 25 31.0	-0.9
TSZ	**Takapari Road**	**1.74**	**183**	PN	P	18 25 31.0	-0.8
PWZ	**Pawanui**	**1.81**	**160**	eP	P	18 25 32.3	-0.4
PWZ	**Pawanui**	**1.81**	**160**	PN	P	18 25 32.2	-0.5
BFZ	**Birch Farm**	**2.36**	**177**	PN	P	18 25 37.4	-1.9
MRZ	**Mangatainoka R**	**2.37**	**189**	eP	P	18 25 37.1	-2.2
MRZ	**Mangatainoka R**	**2.37**	**189**	⇑PN	P	18 25 37.1	-2.3
MRZ				SN	S	18 26 06.4	-3.9
KIW	**Kapiti Island**	**2.69**	**199**	P	P	18 25 40.3	-3.1
KIW	**Kapiti Island**	**2.69**	**199**	PN	P	18 25 40.3	-3.1
MTW	**Mount Morrison**	**2.87**	**189**	P	P	18 25 42.3	-3.3
MTW	**Mount Morrison**	**2.87**	**189**	PN	P	18 25 42.2	-3.4
MTW				SN	S	18 26 16.1	-5.1
CAW	**Cannon Point**	**2.89**	**195**	P	P	18 25 42.6	-3.3
CAW	**Cannon Point**	**2.89**	**195**	PN	P	18 25 42.6	-3.3
CAW				SN	S	18 26 18.0	-3.7
DUWZ	**D'Urville Isla**	**2.98**	**213**	SN	S	18 26 19.6	-4.2
MRW	**Makara Radio**	**3.09**	**199**	P	P	18 25 43.4	-5.1
MRW	**Makara Radio**	**3.09**	**199**	PN	P	18 25 44.8	-3.7
PAWZ	**Paruwai Farm**	**3.10**	**189**	PN	P	18 25 45.1	-3.5
MSWZ	**Moikau Station**	**3.15**	**191**	P	P	18 25 45.7	-3.6
MSWZ	**Moikau Station**	**3.15**	**191**	⇑PN	P	18 25 45.6	-3.7
MSWZ				SN	S	18 26 21.0	-6.7
BHW	**Baring Head**	**3.22**	**196**	P	P	18 25 46.2	-3.9
BHW	**Baring Head**	**3.22**	**196**	PN	P	18 25 46.1	-4.0
NNZ	**Nelson**	**3.56**	**215**	PN	P	18 25 50.2	-4.3
NNZ				SN	S	18 26 31.4	-5.6
QRZ	**Quartz Range**	**3.71**	**226**	PN	P	18 25 50.9	-5.6
KHZ	**Kahutara**	**4.52**	**204**	PN	P	18 26 02.4	-4.8
MQZ	**McQueen's Vall**	**5.97**	**205**	SN	S	18 27 22.4	-12

IDC 16 18:42:00.6±25.0**, 19.04S**×**173.14W, mb4.3**/4**, mb1 4.5**/4**, mb1mx3.9**/18**, mbtmp4.3**/4**, Error ellipse: s-maj=470.4km s-min=160.0km az=73.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.21**	**261**	P	P	18 49 23.1	-1.1
	3.8nm,0.4s,baz=96,slow=11,SNR=9.2						
STKA	**Stephens Creek**	**42.54**	**243**	P	P	18 49 58.0	-1.8
	1.2nm,0.8s,baz=82,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**49.31**	**255**	P	P	18 50 51.5	-2.2
	3.1nm,0.6s,baz=94,slow=7.2,SNR=102						
ASPA	**Alice Springs**	**49.32**	**255**	eP	P	18 50 51.5	-2.2
WB2	**Warramunga Arr**	**49.34**	**260**	eP	P	18 50 51.8	-2.1
WRA	**Warramunga Arr**	**49.35**	**260**	P	P	18 50 51.9	-2.2
	1.4nm,0.3s,baz=97,slow=7.5,SNR=144						
KAKA	**Kakadu**	**52.56**	**268**	eP	P	18 51 18.6	+0.1
	69nm,1.8s						
FITZ	**Fitzroy Crossi**	**57.77**	**260**	eP	P	18 51 56.3	+0.1
	13nm,1.6s						

*STR **16** 18:42:30.8±0.4, 45.72N×1.28W, h5^{km}±1^{km}, Ml2.6, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **16** 18:42:30.7, 45.71N×1.24W, h10^{km}, ML2.8(STR), ML2.6(LDG), After LDG.*
*LDG **16** 18:42:30.7±0.0, 45.71N×1.24W, h10^{km}, Md2.7/2, Ml2.6/20, Error ellipse: s-maj=0.9km s-min=0.6km az=64.0*
*CSEM **16** 18:42:30.5±0.1, 45.70N×1.25W, h10^{km}, ML2.6/19, Error ellipse: s-maj=1.4km s-min=0.7km az=48.0*
ISC 16 18:42:26.9±0.4**, 45.72N**±0.01×**1.21W**±0.03**, h11**^{km}±2^{km}**, n26,** σ**1^{s}47**/82**, France**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OLEF	**Ile d'Oleron**	**0.24**	**337**	Pg	**Pg**	**18 42 35.5**	**+3.3**
OLEF				Sg	**Sg**	**18 42 39.3**	**+3.6**
MATF	**Mathat**	**0.66**	**80**	Pg	**Pg**	**18 42 44.1**	**+4.0**
CHIF	**Chize**	**0.70**	**53**	Pg	**Pg**	**18 42 44.7**	**+3.7**
CHIF				Sg	**Sg**	**18 42 55.0**	**+4.7**
LRYF	**La Roche-sur-Y**	**0.89**	**345**	Pg	**Pg**	**18 42 47.4**	**+2.6**
LRYF				Sg	**Sg**	**18 42 59.5**	**+2.8**
LCHF	**La Chataignera**	**1.00**	**19**	Pg	**Pg**	**18 42 50.8**	**+3.7**
MFF	**Saint Martin d**	**1.15**	**40**	ePn	**Pn**	**18 42 51.7**	**+2.7**
MFF				ePg	**Pg**	**18 42 52.4**	**+2.4**
MFF				eSn	**Sn**	**18 43 06.7**	**+1.9**
MFF				eSg	**Sg**	**18 43 08.0**	**+2.6**
	13nm,0.2s						
LFF	**La Frestale**	**1.58**	**119**	ePn	**Pn**	**18 42 57.2**	**+2.1**
LFF				ePg	**Pg**	**18 42 59.9**	**+1.3**
LFF				eSn	**Sn**	**18 43 16.4**	**+0.7**
LFF				eSg	**Sg**	**18 43 21.1**	**+1.4**
	20nm,0.3s						
RJF	**Les Rejaudoux**	**1.96**	**101**	ePn	**Pn**	**18 43 02.3**	**+1.7**
RJF				ePg	**Pg**	**18 43 06.8**	**+0.7**
RJF				eSn	**Sn**	**18 43 25.7**	**+0.3**
RJF				eSg	**Sg**	**18 43 33.1**	**+0.8**
	9.9nm,0.2s						
CAF	**Calviac**	**2.44**	**108**	ePn	**Pn**	**18 43 09.2**	**+1.8**
CAF				ePg	**Pg**	**18 43 16.0**	**+0.3**
CAF				eSn	**Sn**	**18 43 37.3**	**-0.3**
CAF				eSg	**Sg**	**18 43 48.2**	**-0.1**
	6.1nm,0.2s						
TCF	**Toulx Ste Croi**	**2.45**	**75**	ePn	**Pn**	**18 43 09.7**	**+2.1**
TCF				ePg	**Pg**	**18 43 16.7**	**+0.8**
TCF				eSn	**Sn**	**18 43 37.7**	**-0.1**
TCF				eSg	**Sg**	**18 43 48.3**	**-0.3**
	5.3nm,0.3s						
QUIF	**Quistinic**	**2.58**	**329**	ePn	**Pn**	**18 43 10.5**	**+1.2**
QUIF				ePg	**Pg**	**18 43 18.1**	**-0.2**
QUIF				eSn	**Sn**	**18 43 39.8**	**-1.1**
QUIF				eSg	**Sg**	**18 43 51.0**	**-1.7**
	4.0nm,0.2s						
SJPF	**Ste Jean**	**2.61**	**180**	ePn	**Pn**	**18 43 11.4**	**+1.6**
SJPF				ePg	**Pg**	**18 43 19.1**	**+0.1**
SJPF				eSn	**Sn**	**18 43 40.4**	**-1.3**
SJPF				eSg	**Sg**	**18 43 52.1**	**-1.6**
	4.0nm,0.3s						
GRR	**Gorron**	**2.68**	**5**	ePg	**Pg**	**18 43 20.5**	**0.0**
GRR				eSn	**Sn**	**18 43 43.0**	**-0.6**
GRR				eSg	**Sg**	**18 43 54.5**	**-1.7**
	7.1nm,0.3s						
SGMF	**Saint Gilles**	**2.70**	**341**	ePn	**Pn**	**18 43 12.4**	**+1.3**
SGMF				ePg	**Pg**	**18 43 20.6**	**-0.2**
SGMF				eSn	**Sn**	**18 43 43.4**	**-0.6**
SGMF				eSg	**Sg**	**18 43 54.9**	**-1.9**
	4.5nm,0.2s						
ETSF	**Etsaut**	**2.86**	**170**	ePn	**Pn**	**18 43 14.6**	**+1.2**
ETSF				ePg	**Pg**	**18 43 24.0**	**0.0**
ETSF				eSn	**Sn**	**18 43 46.7**	**-1.4**
ETSF				eSg	**Sg**	**18 44 00.2**	**-2.0**
	2.0nm,0.3s						
EPF	**Esparros**	**2.91**	**157**	ePn	**Pn**	**18 43 15.4**	**+1.3**
EPF				ePg	**Pg**	**18 43 24.4**	**-0.6**
EPF				eSn	**Sn**	**18 43 48.0**	**-1.4**
EPF				eSg	**Sg**	**18 44 02.1**	**-1.7**
	4.0nm,0.4s						
BGF	**Bois d'Agland**	**2.94**	**72**	ePn	**Pn**	**18 43 16.7**	**+2.1**
BGF				ePg	**Pg**	**18 43 25.7**	**0.0**
BGF				eSn	**Sn**	**18 43 49.5**	**-0.8**
BGF				eSg	**Sg**	**18 44 03.9**	**-1.1**
	21nm,0.3s						
LDF	**La Druitiere**	**2.97**	**14**	ePn	**Pn**	**18 43 16.3**	**+1.4**
LDF				eSn	**Sn**	**18 43 49.7**	**-1.2**
LDF				eSg	**Sg**	**18 44 04.1**	**-1.7**
	4.6nm,0.3s						
ROSF	**Rostrenen**	**2.97**	**332**	ePn	**Pn**	**18 43 16.4**	**+1.4**
ROSF				ePg	**Pg**	**18 43 25.6**	**-0.7**
ROSF				eSn	**Sn**	**18 43 50.2**	**-0.8**
ROSF				eSg	**Sg**	**18 44 04.2**	**-1.7**
	2.6nm,0.3s						
HYF	**Humbligny**	**3.08**	**58**	ePg	**Pg**	**18 43 28.2**	**-0.2**
FLN	**La Foliniere**	**3.08**	**9**	eSn	**Sn**	**18 43 52.7**	**-1.1**
FLN				eSg	**Sg**	**18 44 07.5**	**-2.1**
	3.6nm,0.2s						
AVF	**Avril sur Loir**	**3.34**	**70**	ePn	**Pn**	**18 43 21.8**	**+1.6**
AVF				ePg	**Pg**	**18 43 32.7**	**-1.0**
AVF				eSn	**Sn**	**18 43 59.1**	**-1.3**
AVF				eSg	**Sg**	**18 44 15.1**	**-3.1**
	2.5nm,0.3s						
MTLF	**Montolieu**	**3.42**	**133**	ePn	**Pn**	**18 43 23.2**	**+1.9**
MTLF				ePg	**Pg**	**18 43 34.0**	**-1.1**
MTLF				eSn	**Sn**	**18 44 00.0**	**-2.2**
MTLF				eSg	**Sg**	**18 44 18.2**	**-2.5**
	0.9nm,0.2s						
SSF	**Saint Saulge**	**3.53**	**66**	ePn	**Pn**	**18 43 24.3**	**+1.4**
SSF				ePg	**Pg**	**18 43 35.8**	**-1.6**
SSF				eSn	**Sn**	**18 44 03.2**	**-1.9**
SSF				eSg	**Sg**	**18 44 21.9**	**-2.6**
	1.8nm,0.3s						
SMF	**Signal de Mont**	**3.63**	**73**	ePn	**Pn**	**18 43 25.5**	**+1.2**
SMF				ePg	**Pg**	**18 43 38.1**	**-1.3**
SMF				eSn	**Sn**	**18 44 06.0**	**-1.6**
SMF				eSg	**Sg**	**18 44 24.4**	**-3.4**
	1.3nm,0.2s						
VIVF	**Saint-Julien-l**	**4.24**	**100**	ePn	**Pn**	**18 43 33.8**	**+0.8**

MDD 16 18:45:43.4±1.2**, 36.78N**×**6.87W, h45**^{km}±26^{km}**, mb3.5**/5**, 1D, Error ellipse: s-maj=13.0km s-min=5.9km az=21.0, PRXIMO, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ERIP	**Rio Piedras**	**0.66**	**333**	⇓P	P	18 45 55.9	-0.6
	6.7nm,0.1s,SNR=18						
ERIP				S	S	18 46 05.3	-0.8
	36nm,0.1s,SNR=18						
ESPR	**Espera**	**0.82**	**84**	P	P	18 45 57.8	-0.9
	6.8nm,0.1s,SNR=7.4						
ESPR				S	S	18 46 09.0	-0.9
	27nm,0.2s,SNR=7.9						
PALC	**Alcoutim**	**0.83**	**325**	ePg	P	18 45 58.1	-0.8
PALC				eSg	S	18 46 09.3	-0.9
	9.6nm,0.1s						
PALC	**Alcoutim**	**0.83**	**325**	P	P	18 45 58.1	-0.8
PALC				S	S	18 46 09.3	-0.9
	4.8nm,0.1s						
EGRO	**El Granado**	**0.89**	**327**	P	P	18 45 59.0	-0.8
	6.5nm,0.1s,SNR=68						
EGRO				S	S	18 46 10.4	-1.4
	12nm,0.1s,SNR=13						
EMIN	**Mina Concepcio**	**0.99**	**9**	P	P	18 46 00.3	-0.8
	0.6nm,0.1s,SNR=7.5						
EMIN				S	S	18 46 12.7	-1.6
	2.9nm,0.1s,SNR=16						
PTEO	**Sao Teotonio**	**1.66**	**298**	eP	P	18 46 09.4	-1.3
PTEO				eS	S	18 46 29.2	-1.7
EBAD	**Badajoz**	**1.97**	**357**	P	P	18 46 13.8	-1.2
	0.4nm,0.1s,SNR=7.9						
EBAD				S	S	18 46 35.5	-3.1
	1.6nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**2.29**	**52**	S	S	18 46 44.1	-2.5
	0.1nm,0.1s,SNR=4.0						
PCBR	**Castelo Branco**	**3.09**	**351**	eSn	S	18 47 03.1	-3.9

GUC 16 18:48:03.4±0.8**, 27.52S**×**70.02W, h79**^{km}±9^{km}**, ML4.3, 1D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**0.34**	**299**	eP	P	18 48 16.3	+0.4
CPCH				i S	S	18 48 25.5	+0.2
CPCH				AMP		18 48 28.5	
	comp=E,27μm,0.1s						
LCO	**Las Campanas**	**1.60**	**202**	⇓eP	P	18 48 31.1	+0.6
LCO				i S	S	18 48 51.5	+1.0
LCO				AMP		18 48 54.0	
	comp=E,3μm,0.3s						
LSCH	**La Serena**	**2.61**	**204**	eP	P	18 48 43.8	-0.6
LSCH				i S	S	18 49 14.9	-0.1
LSCH				AMP		18 49 19.6	
	comp=E,2μm,0.5s						
CPN1	**Cerro Paranal**	**2.91**	**353**	eP	P	18 48 48.7	+0.1
CPN1				i S	S	18 49 23.1	+0.6
CPN1				AMP		18 49 40.9	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**4.99**	**12**	eP	P	18 49 18.3	+0.8
FCH	**Farellones**	**5.79**	**182**	eP	P	18 49 32.0	+3.7

*ATH **16** 18:50:11.0, 39.27N×24.40E, h5^{km}, MD3.2/4*
*CSEM **16** 18:50:20.8±0.1, 39.64N×23.75E, h8^{km}, MD3.2, Error ellipse: s-maj=2.9km s-min=2.9km az=64.0*
*THE **16** 18:50:21.3, 39.59N×23.75E, h19^{km}, ML2.7*
ISC 16 18:50:20.7±0.5**, 39.60N**±0.03×**23.73E**±0.04**, h30**^{km}±6^{km}**, n20,** σ**0^{s}90**/28**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.45**	**165**	ePg	**Pb**	**18 50 29.3**	**-0.9**
AOS				eSg	**Sb**	**18 50 36.5**	**-0.3**
XOR	**Xorichti**	**0.48**	**241**	ePg	**Pb**	**18 50 31.2**	**+0.5**
XOR				eSg	**Sb**	**18 50 38.8**	**+1.1**
NEO	**Neokhori**	**0.49**	**233**	ePN	**Pn**	**18 50 29.0**	**-2.6**
OUR	**Ouranopolis**	**0.76**	**15**	ePg	**Pb**	**18 50 35.3**	**0.0**
PLG	**Polygyros**	**0.80**	**344**	ePN	**Pn**	**18 50 34.8**	**-1.3**
LIT	**Litokhoron**	**1.08**	**298**	ePg	**Pn**	**18 50 40.5**	**+0.5**
LIT				eSg	**Sb**	**18 50 55.0**	**+0.6**
LOS	**Limnos**	**1.09**	**72**	ePg	**Pn**	**18 50 41.0**	**+0.8**
LOS				eSg	**Sb**	**18 50 55.8**	**+1.0**
THE	**Thessaloniki**	**1.19**	**331**	ePb	**Pb**	**18 50 42.1**	**-0.4**
THE				eSb	**Sb**	**18 50 58.5**	**+1.0**
AGG	**Agios Georgios**	**1.23**	**242**	ePb	**Pb**	**18 50 42.4**	**-0.8**
AGG				eSb	**Sb**	**18 50 60.0**	**+1.2**
SOH	**Sokhos**	**1.25**	**347**	ePb	**Pb**	**18 50 43.3**	**-0.3**
SOH				eSb	**Sb**	**18 51 00.5**	**+1.1**
SRS	**Serrai**	**1.52**	**356**	ePb	**Pb**	**18 50 46.8**	**-1.3**
SRS				eSb	**Sb**	**18 51 07.2**	**+0.1**
PTL	**Penteli**	**1.55**	**176**	ePG	**Pn**	**18 50 35.0**	**-12**
KNT	**Kendrikon**	**1.68**	**338**	ePb	**Pb**	**18 50 49.8**	**-1.2**
KNT				eSb	**Sb**	**18 51 11.5**	**-0.3**
GRG	**Griva**	**1.69**	**324**	ePb	**Pb**	**18 50 49.9**	**-1.2**
GRG				eSb	**Sb**	**18 51 11.3**	**-0.8**
NVR	**Nevrokopi**	**1.75**	**3**	ePG	**Pn**	**18 50 50.7**	**+1.1**
MMB	**Musomiste**	**1.99**	**360**	P	Px	18 51 06.0	
FNA	**Florina**	**2.16**	**304**	ePn	**Pn**	**18 50 56.2**	**+0.7**
ALN	**Alexandroupoli**	**2.19**	**53**	ePn	**Pn**	**18 50 56.0**	**0.0**
ALN				eSn	**Sn**	**18 51 22.8**	**+0.4**
RZN	**Rozhen**	**2.22**	**19**	eP	Px	18 51 10.0	
KKB	**Krupnik**	**2.32**	**348**	P	Px	18 51 10.9	

*TEH **16** 19:03:51.6, 31.52N×50.18E, h2^{km}, Mn3.0*
*THR **16** 19:03:51.7±0.5, 31.61N×50.24E, h14^{km}±5^{km}, ML3.0*
*CSEM **16** 19:03:52.5±0.1, 31.66N×50.23E, h16^{km}, ML3.0, Error ellipse: s-maj=2.3km s-min=1.3km az=123.0*
ISC 16 19:03:51.2±1.2**, 31.67N**±0.03×**50.22E**±0.05**, h3**^{km}±8^{km}**, n19,** σ**1^{s}02**/27**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.28**	**290**	ePG	**Pg**	**19 04 15.9**	**-0.9**
SHGR				eSG	**Sg**	**19 04 34.0**	**+0.2**
SHGR				AML	AML	19 04 51.4	
	comp=N,335nm,0.5s						
SHGR	**Shooshtar-Gavs**	**1.28**	**290**	ePg	**Pg**	**19 04 15.9**	**-0.9**
	SNR=90						
SHGR				eSg	**Sg**	**19 04 34.0**	**+0.2**
	SNR=90						
NASN	**Na'in**	**2.47**	**62**	ePN	**Pn**	**19 04 34.2**	**+1.2**
NASN				eSG	**Sg**	**19 05 09.9**	**-3.4**
ASAO	**Ashtian**	**2.87**	**357**	ePN	**Pn**	**19 04 40.1**	**+1.4**
ASAO				AML	AML	19 05 36.1	
	comp=N,34nm,0.7s						
IPAR	**Pars**	**3.04**	**126**	Pn	**Pn**	**19 04 39.5**	**-1.7**
IQOM	**Qom**	**3.24**	**13**	Pn	**Pn**	**19 04 45.0**	**+1.0**
IQOM				Sn	**Sn**	**19 05 24.7**	**+1.1**
IKOM	**Komasi**	**3.38**	**318**	Pn	**Pn**	**19 04 45.8**	**-0.1**
IMOK	**Mook**	**3.39**	**140**	Pn	**Pn**	**19 04 46.7**	**+0.5**
RST	**Umm Al-Ruwaisa**	**3.52**	**233**	eP	**Pn**	**19 04 48.2**	**+0.2**
NAY	**Al-Naaiem**	**3.53**	**228**	eP	**Pn**	**19 04 49.0**	**+0.9**
NAY				eS	**Sn**	**19 05 31.8**	**+0.9**
IVRN	**Varamin**	**3.55**	**20**	Pn	**Pn**	**19 04 49.2**	**+0.8**
RDF	**Al-Radifah**	**3.58**	**221**	eP	**Pn**	**19 04 49.1**	**+0.3**
RDF				eS	**Sn**	**19 05 30.9**	**-1.3**
IRAZ	**Razeghan**	**3.73**	**356**	Pn	**Pn**	**19 04 51.6**	**+0.7**
IRAZ				Sn	**Sn**	**19 05 36.1**	**+0.1**
IVIS	**Veys**	**4.01**	**316**	Pn	**Pn**	**19 04 53.3**	**-1.6**
IDMV	**Damavand**	**4.18**	**21**	Pn	**Pn**	**19 04 57.6**	**+0.3**
IAFJ	**Afjeh**	**4.35**	**16**	Pn	**Pn**	**19 04 57.5**	**-2.3**
IAFJ	**Afjeh**	**4.35**	**16**	Sn	**Sn**	**19 05 51.0**	**-0.8**
IDHR	**Dehrash**	**4.41**	**314**	Pn	**Pn**	**19 05 00.0**	**-0.6**
IFIR	**Firoozkooh**	**4.49**	**27**	Pn	**Pn**	**19 05 02.2**	**+0.5**
IFIR				Sn	**Sn**	**19 05 53.9**	**-1.3**

*NEIC **16** 19:07:24.6±3.8, 4.79S×151.83E, h38^{km}±33^{km}, mb4.3/3, Error ellipse: s-maj=50.0km s-min=23.1km az=128.0*
*IDC **16** 19:07:25.8±5.5, 4.59S×151.47E, h50^{km}±52^{km}, mb3.4/5, mb1 3.6/6, mb1mx3.5/14, mbtmp3.6/6, ML2.5/1, MS3.7/1, Ms1 3.6/1, ms1mx2.6/9, Error ellipse: s-maj=80.7km s-min=28.7km az=118.0*
ISC 16 19:07:23.3±1.0**, 4.8S**±0.2×**151.8E**±0.3**, h38**^{km}**, n11,** σ**0^{s}87**/12**, mb3.7**/7**, MS3.6**/1**, New Britain region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.45**	**225**	P	**P**	**19 08 58.0**	**-0.3**
	0.6nm,0.3s,baz=35,slow=11,SNR=3.3						
PMG				S	**S**	**19 10 10.8**	**-0.7**
	7.1nm,0.3s,baz=164,slow=23,SNR=9.6						
KAKA	**Kakadu**	**20.63**	**246**	eP	**P**	**19 12 03.5**	**+1.3**
	15nm,1.0s						
WRAB	**Tennant Creek**	**22.65**	**227**	eP	**P**	**19 12 22.8**	**+0.3**
	5.2nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**22.65**	**227**	eP	**P**	**19 12 22.9**	**+0.3**
WRA	**Warramunga Arr**	**22.66**	**227**	P	**P**	**19 12 22.7**	**+0.1**
	0.8nm,0.6s,mb3.3,baz=53,slow=10.0,SNR=7.9						
ASAR	**Alice Springs**	**25.44**	**221**	P	**P**	**19 12 47.6**	**-1.9**
	0.5nm,0.6s,mb3.2,baz=54,slow=9.2,SNR=9.6						
STKA	**Stephens Creek**	**28.55**	**198**	P	**P**	**19 13 19.1**	**+1.3**
	0.4nm,0.4s,mb3.5,baz=355,slow=12,SNR=2.7						
STKA				LR	LR	19 25 16.6	
	comp=Z,136nm,18.7s,MS3.6,baz=206,slow=37						
FITZ	**Fitzroy Crossi**	**28.75**	**241**	eP	**P**	**19 13 20.1**	**+0.4**
	9.7nm,1.2s,mb4.4						
ILAR	**Eielson Array**	**82.58**	**22**	P	**P**	**19 19 42.6**	**-0.9**
	0.6nm,0.6s,mb3.8,baz=250,slow=5.1,SNR=8.1						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**19 20 47.0**	**0.0**
	0.2nm,0.6s,mb3.7,baz=268,slow=4.7,SNR=4.8						
YKA	**Yellowknife Ar**	**95.93**	**28**	P	**P**	**19 20 47.0**	**0.0**

*NAO **16** 19:19:16.3±3.1, 55.93N×10.92E, ML2.6*
*CSEM **16** 19:19:16.8±0.2, 55.80N×10.98E, h20^{km}, ML2.6, Error ellipse: s-maj=5.7km s-min=3.0km az=39.0*
*BER **16** 19:19:17.9±3.5, 55.84N×11.04E, h15^{km}±17^{km}, ML2.6(NAO)*
*NEIC **16** 19:19:17.0, 55.80N×11.05E, h14^{km}, ML2.6(BER), After BER.*
ISC 16 19:19:17.8±0.8**, 56.09N**±0.05×**11.21E**±0.09**, h10**^{km}**, n10,** σ**1^{s}30**/18**, Denmark**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
COP	**Copenhagen**	**0.80**	**120**	i P	**Pb**	**19 19 33.2**	**0.0**
COP				eS	**Sb**	**19 19 45.2**	**+1.4**
MUD	**Monsted U'grnd**	**1.20**	**289**	i P	**Pb**	**19 19 38.9**	**-1.2**
MUD				i		19 19 40.0	
MUD				i S	**Sb**	**19 19 57.1**	**+1.7**
MUD	**Monsted U'grnd**	**1.20**	**289**	i P	**Pb**	**19 19 38.9**	**-1.2**
MUD				i S	**Sb**	**19 19 57.1**	**+1.7**
BSD	**Bornholm Skovb**	**2.32**	**113**	i P	**Pn**	**19 19 55.2**	**-1.4**
BSD				i S	**Sn**	**19 20 31.4**	**+6.0**
HFS	**Hagfors**	**4.27**	**17**	Pn	**Pn**	**19 20 25.1**	**+0.7**
	baz=200,slow=12						
HFS				Pg	**Pb**	**19 20 34.3**	**+1.7**
	baz=205,slow=11						
HFS				Sn	**Sn**	**19 21 16.1**	**+1.3**
	baz=216,slow=28						
HFS				Lg		19 21 36.3	
	baz=191,slow=28						
HFS	**Hagfors**	**4.27**	**17**	Pg	**Pb**	**19 20 34.3**	**+1.7**
	SNR=2.6						
HFS				Sn	**Sn**	**19 21 16.1**	**+1.3**
	SNR=4.6						
NC6	**NORSAR Subarra**	**4.68**	**1**	Pn	**Pn**	**19 20 29.8**	**-0.3**
NC6				Sn	**Sn**	**19 21 23.7**	**-1.5**
NC6				Lg		19 21 50.2	
NB2	**NORSAR Subarra**	**4.97**	**0**	Pn	**Pn**	**19 20 33.8**	**-0.5**
NB2				Lg		19 21 58.6	
FIA0	**FINESS Array S**	**9.39**	**49**	Pn	**P**	**19 21 33.7**	**-2.6**
ARA0	**ARCESS Array S**	**14.93**	**20**	Pn	**P**	**19 22 45.5**	**-4.7**
	baz=205,slow=14						

GUC 16 19:29:12.6±0.7**, 33.24S**×**70.23W, h10**^{km}±1^{km}**, MD3.6, ML2.2, 2C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.10**	**212**	⇑i P	Pg	19 29 16.0	+0.7
FCH				i S	Sg	19 29 18.6	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
FCH				AMP		19 29 19.4	
	comp=E,832nm,0.3s						
CLCH	Cerro Calan	0.30	240	⇑iP	Pg	19 29 19.1	+0.3
CLCH				iS	Sg	19 29 24.0	+1.0
CLCH				AMP		19 29 26.1	
	comp=E,605nm,0.3s						
PCH	Pirque	0.45	212	⇓iP	Pg	19 29 22.3	+0.7
PCH				iS	Sg	19 29 29.2	+1.5
JACH	Jahuel	0.64	331	iP	Pb	19 29 22.2	-3.2
TACH	Talagante	0.72	235	⇓iP	Pb	19 29 26.0	-0.8
CHCH	Chadas Angostu	0.77	207	eP	Pb	19 29 27.7	0.0
CHCH				iS	Sb	19 29 38.4	+0.4
CACH	El Canelo	0.92	200	eP	Pb	19 29 31.0	+0.8
CACH				iS	Sb	19 29 44.9	+2.5
LNV	Longovilo	1.22	234	eP	Pb	19 29 34.4	-0.9
SFDO	San Fernando	1.52	205	eP	Pn	19 29 39.1	-0.9

*IDC **16** 19:49:25.4±4.8, 48.91S×161.24E, mb3.8/3, mb1 4.0/4, mb1mx3.8/10, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=113.5km s-min=31.0km az=169.0*

ISC 16 19:49:26.3±2.0**, 48.8S**±0.3×**161.2E**±0.1**, h10^{km}, n11, σ1^{s}34**/12**, mb3.6**/3**, North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	5.44	61	PN	Pn	19 50 50.6	+1.2
MLZ	Mavora Lakes	5.89	57	PN	Pn	19 50 57.4	+1.6
TUZ	Tuapeka	6.41	67	PN	Pn	19 51 02.7	-0.4
EAZ	Earnscleugh	6.60	61	PN	Pn	19 51 06.0	+0.1
WKZ	Wanaka	6.68	57	PN	Pn	19 51 09.4	+2.4
JCZ	Jackson Bay	7.04	51	PN	Pn	19 51 15.5	+3.5
ODZ	Otahua Downs	7.49	64	ePN	Pn	19 51 16.3	-2.0
RPZ	Rata Peaks	8.52	57	Pn	P	19 51 30.3	-2.3
	2.0nm,0.3s,baz=167,slow=22,SNR=9.6						
RPZ				Sn	Sn	19 53 09.0	-0.8
	0.3nm,0.3s,baz=248,slow=23,SNR=2.6						
ASAR	Alice Springs	33.00	310	P	P	19 56 03.5	-0.1
	0.8nm,0.6s,mb3.9,baz=144,slow=8.2,SNR=20						
WRA	Warramunga Arr	35.93	314	P	P	19 56 28.3	-0.4
	1.0nm,0.8s,mb3.8,baz=148,slow=9.0,SNR=11						
CMAR	Chiang Mai Arr	86.74	303	P	P	20 02 11.8	0.0
	0.1nm,0.6s,mb3.2,baz=146,slow=3.3,SNR=5.0						

*IDC **16** 20:04:19.6±2.8, 28.43N×140.97E, mb3.5/5, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=89.0km s-min=24.4km az=69.0*

*JMA **16** 20:05:07.6±0.2, 28.32N×139.56E, h414^{km}, M3.3*

ISC 16 20:05:05.6±0.7**, 28.31N**±0.08×**140.4E**±0.4**, h469**^{km}±17^{km}**, n9, σ0^{s}91**/12**, mb2.9**/5**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	2.02	126	P	P	20 06 09.3	+0.8
CBIJ				S	S	20 06 57.9	-0.3
JHHJ	Haha-jima-NKT	2.32	136	S	S	20 07 00.9	-0.5
JAG	Ashikaga	8.13	355	P	P	20 07 04.5	+0.5
JAG				eS	S	20 08 35.8	-2.0
JHO	Hitachi	8.28	1	P	P	20 07 07.2	+1.5
JHO				eS	S	20 08 41.3	+0.5
SONM	Songino Array	32.72	316	P	P	20 10 58.1	-1.1
	0.2nm,0.4s,mb2.9,baz=120,slow=8.5,SNR=5.5						
CMAR	Chiang Mai Arr	39.10	265	P	P	20 11 53.5	+1.0
	0.2nm,0.7s,mb2.7,baz=309,slow=26,SNR=3.1						
WRA	Warramunga Arr	48.32	188	P	P	20 13 04.6	-0.4
	0.5nm,0.3s,mb3.3,baz=5.1,slow=7.6,SNR=23						
ASAR	Alice Springs	52.05	188	P	P	20 13 32.2	-0.4
	0.4nm,0.6s,mb2.9,baz=0.9,slow=6.2,SNR=8.0						
BVAR	Borovoye Array	56.06	317	P	P	20 14 00.8	+0.1
	0.2nm,0.4s,mb2.8,baz=99,slow=8.6,SNR=4.1						

SKHL 16 20:14:32.8±0.5**, 52.73N×138.06E, h10**^{km}**, mb3.9**/5**, Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKL	Nikolayevsk	1.64	74	iPg	Pg	20 15 01.7	-3.9
NKL				AMB	AMB	20 15 02.2	
	140nm,0.3s						
NKL				eSg	Sg	20 15 23.0	-4.5
NKL				A		20 15 26.0	
	190nm,0.4s						
GRNR	Gornyy	2.21	208	ePn	Pn	20 15 09.0	-1.1
GRNR				ePg	Pg	20 15 13.0	-4.0
GRNR				AMB	AMB	20 15 15.8	
	95nm,0.5s						
GRNR				erx	rx	20 15 40.1	
GRNR				eSg	Sg	20 15 41.3	-5.2
GRNR				A		20 15 41.4	
	290nm,0.5s						
GRNR				A		20 15 41.4	
	190nm,0.5s						
OKH	Okha	3.05	72	ePg	Pg	20 15 27.9	-5.8
OKH				eSg	Sg	20 16 08.0	-6.3
OKH				A		20 16 14.6	
	200nm,0.9s						
EKMR	Ekimchan	3.11	278	ePn	Pn	20 15 21.5	-1.5
EKMR				ePg	Pg	20 15 28.6	-6.4
EKMR				AMB	AMB	20 15 34.0	
	7.0nm,0.6s						
EKMR				AMB	AMB	20 15 34.0	
	16nm,0.6s						
EKMR				erx	rx	20 16 08.0	
EKMR				eSg	Sg	20 16 09.6	-6.9
EKMR				A		20 16 15.6	
	99nm,0.5s						
EKMR				A		20 16 15.6	
	45nm,0.5s						
EKMR				A		20 16 15.6	
	59nm,0.5s						
TYV	Tymovskoe	3.41	121	ePg	Pg	20 15 35.2	-5.7
TYV				AMB	AMB	20 15 41.8	
	5.0nm,0.7s						
TYV				eSg	Sg	20 16 19.3	-7.1
TYV				A		20 16 30.3	
	18nm,0.8s						
KLR	Kul'dur	5.31	231	ePg	Pg	20 16 07.8	-11
KLR				eSg	Sg	20 17 16.2	-13
BMKR	Bomnak	5.82	294	erx	rx	20 16 12.9	
BMKR				ePg	Pg	20 16 17.5	-12
BMKR				AMB	AMB	20 16 21.5	
	3.0nm,0.4s						
BMKR				erx	rx	20 17 17.7	
BMKR				eSg	Sg	20 17 33.2	-13
BMKR				A		20 17 41.5	
	14nm,0.8s						
YASR	Yasnyy	6.11	279	erx	rx	20 16 25.4	
YASR				eSg	Sg	20 17 42.5	-14
YASR				A		20 17 50.8	
	16nm,0.6s						
YASR				A		20 17 50.8	
	8.0nm,0.6s						
YASR				A		20 17 50.8	
	9.0nm,0.6s						
ZEA	Zeya	6.57	283	erx	rx	20 18 02.2	
KROS	Kirovskiy	6.82	289	erx	rx	20 16 41.4	
KROS				eSg	Sg	20 18 05.6	-14
KROS				A		20 18 12.1	
	6.0nm,0.6s						

IDC 16 20:17:28.5±20.0**, 20.05S**×**176.69W, h368**^{km}±187^{km}**, mb3.0**/4**, mb1 3.4**/4**, mb1mx3.1**/14**, mbtmp3.7**/4**, Error ellipse: s-maj=200.5km s-min=64.3km az=143.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.82	256	P	P	20 25 15.6	-1.4
	1.2nm,0.4s,baz=89,slow=7.6,SNR=35						
ASAR				pP	pP	20 26 09.8	-21
	0.7nm,0.9s,baz=79,slow=7.3,SNR=3.6						
WRA	Warramunga Arr	45.88	261	P	P	20 25 15.4	-2.1
	0.6nm,0.3s,baz=98,slow=7.8,SNR=38						
WRA				pP	pP	20 26 10.6	-21
	0.2nm,0.4s,baz=98,slow=8.4,SNR=2.6						
ILAR	Eielson Array	87.61	12	P	P	20 29 35.7	-0.7
	0.2nm,0.5s,baz=230,slow=5.1,SNR=5.3						
CMAR	Chiang Mai Arr	91.12	289	P	P	20 29 54.2	+0.4
	0.2nm,0.6s,baz=119,slow=4.1,SNR=4.4						
GERES	GERESS Array B	150.08	346	PKPbc	PKPdf	20 36 35.0	+4.6
	0.3nm,0.5s,slow=1.0,SNR=5.4						

MAN 16 20:32:20.9, 16.81N×120.40E, h7^{km}**, mb4.5, ML3.4, MS3.2, 2C-1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.46	158	⇑iP	Pg	20 32 30.1	0.0
BCPH				iS	Sg	20 32 36.5	+0.2
BOLP	Bolinao	0.63	228	eP	Pg	20 32 33.9	+0.3
BOLP				eS	Sg	20 32 42.7	+0.7
ABRA	Dolores	0.89	19	eP	Pb	20 32 38.1	-0.2
SCZP	Santa Cruz	1.13	205	eP	Pb	20 32 41.5	-0.9
APYP	Conner	1.32	37	eP	Pb	20 32 44.7	-1.0
CAUP	Cauayan	1.37	84	eP	Pb	20 32 48.5	+2.0
PCPH	Palayan	1.41	152	⇓eP	Pn	20 32 45.8	-1.2
BALP	Baler	1.55	133	eP	Pn	20 32 48.3	-0.8
CVP	Callao Caves	1.62	56	⇑eP	Pn	20 32 50.2	0.0
CVP				eS	Sb	20 33 15.0	+3.5
PALP	Palanan	1.95	82	eP	Pn	20 32 54.6	-0.3
LUBP	Lubang	3.06	183	eP	Pn	20 33 10.9	+0.3
LUBP	Lubang	3.06	183	eP	Pn	20 33 11.0	+0.3

*IDC **16** 21:05:20.6±7.2, 5.66S×151.54E, h69^{km}±60^{km}, mb3.4/3, mb1 3.7/4, mb1mx3.5/12, mbtmp3.8/4, ML2.9/1, Error ellipse: s-maj=137.2km s-min=34.4km az=126.0*

ISC 16 21:05:16.9±5.6**, 5.4S**±0.7×**151.4E**±0.8**, h39**^{km}±44^{km}**, n7, σ1^{s}67**/8**, mb3.9**/4**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	5.79	226	P	P	21 06 42.7	+0.2
	2.3nm,0.3s,baz=35,slow=2.9,SNR=7.3						
PMG				S	S	21 07 48.1	-0.5
	1.7nm,0.3s,baz=132,slow=18,SNR=3.9						
WB2	Warramunga Arr	22.00	227	eP	P	21 10 10.1	+0.6
WRA	Warramunga Arr	22.01	227	P	P	21 10 08.5	-1.0
	1.0nm,0.5s,mb3.5,baz=53,slow=9.5,SNR=20						
ASAR	Alice Springs	24.77	221	P	P	21 10 35.4	-1.4
	1.5nm,0.6s,mb3.7,baz=55,slow=8.3,SNR=16						
ASPA	Alice Springs	24.78	221	eP	P	21 10 38.7	+2.0
FITZ	Fitzroy Crossi	28.15	241	eP	P	21 11 11.9	+4.0
	21nm,1.6s,mb4.5						
ILAR	Eielson Array	83.24	22	P	P	21 17 40.0	-0.4
	0.9nm,1.0s,mb3.8,baz=255,slow=4.1,SNR=4.9						

*CSEM **16** 21:07:02.7±0.2, 41.94N×23.13E, h2^{km}, ML3.2, Error ellipse: s-maj=4.9km s-min=2.7km az=60.0*

*BEO **16** 21:07:03.2±0.1, 41.96N×23.14E, h11^{km}*

*THE **16** 21:07:05.1, 41.80N×23.08E, h4^{km}, ML3.2*

*ATH **16** 21:07:13.2, 41.24N×23.83E, h17^{km}, MD3.3/3*

*SOF **16** 21:07:14.6, 41.98N×23.25E, h8^{km}, MD3.1*

ISC 16 21:07:01.8±0.8**, 41.92N**±0.03×**23.10E**±0.05**, h0**^{km}±6^{km}**, n22, σ0^{s}91**/33**, 3C, Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KKB	Krupnik	0.05	192	Pg	Px	21 07 18.2	
MMB	Musomiste	0.57	125	Pg	Px	21 07 26.0	
VAY	Valandovo	0.71	214	iPg	Pg	21 07 17.4	+1.4
VAY				i		21 07 19.0	
VAY				⇑iSg	Sg	21 07 28.3	+2.7
VAY	Valandovo	0.71	214	iPg	Pg	21 07 17.4	+1.4
VAY				⇑iSg	Sg	21 07 28.3	+2.7
KNT	Kendrikon	0.77	191	ePg	Pg	21 07 17.4	+0.2
KNT				eSg	Sg	21 07 27.0	-0.4
NVR	Nevrokopi	0.81	134	ePB	Pb	21 07 16.9	-1.4
SRS	Serrai	0.88	155	ePg	Pg	21 07 18.8	-0.5
SRS				eSg	Sg	21 07 31.6	+0.5
GRG	Griva	1.09	209	ePg	Pg	21 07 23.9	+0.3
GRG				eSg	Sg	21 07 37.7	-0.4
SOH	Sokhos	1.11	170	ePg	Pg	21 07 23.3	-0.6
SOH				eSg	Sg	21 07 38.5	-0.3
RZN	Rozhen	1.23	100	Pg	Px	21 07 37.6	
SKO	Skopje	1.24	273	ePn	Pn	21 07 26.3	+0.1
THE	Thessaloniki	1.29	184	ePb	Pb	21 07 27.1	+0.6
THE				eSb	Sb	21 07 44.6	+1.1
BARS	Barje	1.30	314	⇑iPg	Pg	21 07 27.2	-0.6
BARS				Sg	Sg	21 07 45.2	0.0
BARS	Barje	1.30	314	Pg	Pg	21 07 27.2	-0.6
BARS				Sg	Sg	21 07 45.2	0.0
PLG	Polygyros	1.56	170	ePN	Pn	21 07 30.2	-0.7
OUR	Ouranopolis	1.72	157	ePb	Pb	21 07 33.0	-0.8
OUR				eSb	Sb	21 07 55.6	-0.3
OUR	Ouranopolis	1.72	157	ePb	Pb	21 07 33.0	-0.9
OUR				eSb	Sb	21 07 55.7	-0.2
FNA	Florina	1.72	229	ePb	Pb	21 07 33.8	-0.2
FNA				eSb	Sb	21 07 56.1	+0.1
LIT	Litokhoron	1.87	194	ePb	Pb	21 07 36.0	-0.6
LIT				eSb	Sb	21 07 59.1	-1.4
RDO	Rodhopi	1.99	112	ePN	Pn	21 07 37.6	+0.7
ALN	Alexandroupoli	2.44	114	ePn	Pn	21 07 45.9	+2.4
ALN				eSn	Sn	21 08 15.5	+1.1
LIA	Limnos Island	2.56	141	ePN	Pn	21 07 44.1	-1.1

*MOS **16** 21:14:40.5±0.9, 53.18N×168.94E, h17^{km}, mb5.0/56, Error ellipse: s-maj=6.9km s-min=4.9km az=98.6*

*BJI **16** 21:14:41.1, 53.70N×169.07E, h26^{km}, mB5.1, mb4.6, Ms4.6, Msz4.2*

*NEIC **16** 21:14:44.0±1.2, 53.25N×169.01E, h27^{km}±8^{km}, mb4.8/66, Error ellipse: s-maj=6.2km s-min=2.9km az=184.0*

*IDC **16** 21:14:45.5±1.8, 53.24N×169.09E, h44^{km}±17^{km}, mb4.4/24, mb1 4.5/25, mb1mx4.5/26, mbtmp4.6/25, ML4.3/2, MS3.9/10, Ms1 3.9/10, ms1mx3.7/21, Error ellipse: s-maj=16.7km s-min=9.7km az=163.0*

*KRSC **16** 21:14:46.5±0.9, 53.20N×168.50E, h54^{km}±33^{km}, ML5.7*

ISC 16 21:14:42.3±0.2**, 53.19N**±0.04×**168.95E**±0.03**, h30**^{km}**, h30**^{km}±2.4^{km}**:pP-P, n319, σ0^{s}96**/380**, mb4.7**/106**, MS4.0**/27**, 16C-10D, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FX1	Attu Island--F	2.57	95	PN	Pn	21 15 23.3	+0.5
FX1				S	Sn	21 15 51.6	-1.8
FX1				pmax	pmax		
	comp=Z,609nm,0.3s						
FX1	Attu Island--F	2.57	95	P	Pn	21 15 23.3	+0.5
	comp=Z,609nm,0.3s,baz=297,slow=4.7,SNR=5727						
FX1				S	Sn	21 15 51.6	-1.7
FX1	Attu Island--F	2.57	95	⇑iP	Pn	21 15 22.7	-0.2
SMY	Shemya	3.15	96	⇑ePN	Pn	21 15 30.3	-0.8
SMY	Shemya	3.15	96	eP	Pn	21 15 30.4	-0.7
KBTR	Krutoberegovo	4.67	313	P	Pn	21 15 51.2	-1.5
KBTR				S	Sn	21 16 36.5	-10
KBTR	Krutoberegovo	4.67	313	eP	Pn	21 15 52.4	-0.3
KBTR				eS	Sn	21 16 40.5	-6.1
KBG	Krutoberegovo	4.75	313	eP	Pn	21 15 53.1	-0.7
KBG				eS	Sn	21 16 42.2	-6.3
KBG				Smax			
	comp=Z,4μm,0.8s						
SPN	Mys Shipunski	5.37	273	P	Pn	21 16 01.9	-0.7
SPN				S	Sn	21 16 56.1	-8.1
SPN	Mys Shipunski	5.37	273	iP	Pn	21 16 01.8	-0.8
SPN				iS	Sn	21 16 56.8	-7.4
ZLN	Zelenaya	5.52	304	eP	Pn	21 16 04.5	-0.1
ZLN				eS	Sn	21 17 02.2	-5.6
TUMR	Tumrok	5.57	296	iP	Pn	21 16 05.6	+0.2
TUMR				eS	Sn	21 17 02.9	-6.3
SVLR	Shiveluch	5.60	310	eS	Sn	21 17 05.4	-4.7
KMNR	Kamenistaya	5.69	300	eP	Pn	21 16 07.1	0.0
KMNR				eS	Sn	21 17 05.0	-7.3
KII	Karymskiy	5.72	282	P	Pn	21 16 07.1	-0.4
KII				S	Sn	21 17 05.8	-7.1
KII	Karymskiy	5.72	282	iP	Pn	21 16 07.0	-0.5
KII				eS	Sn	21 17 05.8	-7.1
KRSR	Krestovskiy	5.73	305	eP	Pn	21 16 08.1	+0.5
KRSR				iS	Sn	21 17 07.0	-6.2
KLY	Klyuchi	5.73	306	P	Pn	21 16 07.6	-0.1
KLY				S	Sn	21 17 06.0	-7.3
KLY	Klyuchi	5.73	306	eP	Pn	21 16 07.4	-0.3
KLY				eS	Sn	21 17 06.2	-7.1
NLC	Nalytchevo	5.77	274	P	Pn	21 16 07.7	-0.6
NLC				S	Sn	21 17 07.2	-7.1
NLC	Nalytchevo	5.77	274	iP	Pn	21 16 07.6	-0.7
NLC				iS	Sn	21 17 07.3	-7.0
KPT	Kopyto	5.79	302	eP	Pn	21 16 09.0	+0.5
KPT				eS	Sn	21 17 08.6	-6.0
KOZR	Kozyr	6.00	302	PN	Pn	21 16 12.9	+1.5
KOZ	Kozyrevsk	6.00	302	P	Pn	21 16 12.9	+1.4
KOZ				S	Sn	21 17 14.6	-5.4
KOZ	Kozyrevsk	6.00	302	eP	Pn	21 16 12.7	+1.2
KOZ				eS	Sn	21 17 14.5	-5.5
SDLR	Sedlovina	6.04	275	eP	Pn	21 16 11.3	-0.8
SDLR				eS	Sn	21 17 11.9	-9.1
UGLR	Uglovaya	6.08	274	iP	Pn	21 16 12.5	-0.2
UGLR				eS	Sn	21 17 15.2	-6.9
SMAR	Somma	6.09	275	iP	Pn	21 16 12.3	-0.5
SMAR				eS	Sn	21 17 15.0	-7.3
AVH	Avacha	6.13	275	iP	Pn	21 16 13.0	-0.4
AVH				eS	Sn	21 17 16.5	-6.8
KOK	Koryaka	6.19	275	eP	Pn	21 16 13.8	-0.4
KOK				eS	Sn	21 17 18.5	-6.2
SRDR	Sredinnyy	6.19	304	eP	Pn	21 16 15.5	+1.3
SRDR				eS	Sn	21 17 19.4	-5.4
PET	Petropavlovsk	6.20	273	P	Pn	21 16 14.2	-0.1
PET				S	Sn	21 17 18.1	-6.9
PET	Petropavlovsk	6.20	273	eP	Pn	21 16 13.4	-0.9
	comp=Z,305nm,0.4s						
PET	Petropavlovsk	6.20	273	iP	Pn	21 16 13.8	-0.5
PET				eS	Sn	21 17 17.8	-7.2
RUS	Russkaya	6.37	267	P	Pn	21 16 15.8	-0.9
RUS				S	Sn	21 17 20.6	-8.6
RUS	Russkaya	6.37	267	eP	Pn	21 16 15.8	-0.9
RUS				eS	Sn	21 17 20.7	-8.5
KRMR	Karymshinskiy	6.54	271	iP	Pn	21 16 17.3	-1.8
KRMR				iS	Sn	21 17 24.1	-9.3
ESO	Esso	6.56	299	iP	Pn	21 16 19.0	-0.4
ESO				iS	Sn	21 17 27.5	-6.4
ESO				Smax			
	comp=Z,620nm,0.8s						
GNL	Ganaly	6.60	279	iP	Pn	21 16 19.7	-0.2
GNL				eS	Sn	21 17 27.5	-7.3
GRL	Gorelyy	6.62	269	iP	Pn	21 16 20.4	+0.3
GRL				eS	Sn	21 17 29.0	-6.3
OSSR	Ossora	6.90	334	eS	Sn	21 17 36.0	-6.6
OSSR				Smax			
	comp=Z,200nm,0.9s						
APC	Apacha	7.11	273	iP	Pn	21 16 27.2	+0.1
APC				eS	Sn	21 17 40.9	-6.9
APC				Smax			
	comp=Z,780nm,0.9s						
PAU	Pauzhetka	7.63	262	iP	Pn	21 16 33.5	-0.9
PAU				Smax			
	comp=Z,500nm,0.8s						
SKR	Severo-Kuril's	8.32	258	ePN	P	21 16 37.9	-6.0
SKR				pmax	pmax		
	comp=Z,260nm,0.5s						
SKR				pmax	pmax		
	comp=N,450nm,1.0s						
ALID	Alaid	8.58	260	eP	P	21 16 46.8	-0.8
ALID				eS	Sn	21 18 13.1	-11
KIWB	Kanaga Island	8.59	93	eP	P	21 16 45.0	-2.6
GSTR	Great Sitkin T	9.19	91	eP	P	21 16 53.1	-2.8
MA2	Magadan	11.91	310	dePN	P	21 17 34.1	+1.1
MA2				e		21 19 54.9	
MA2				pmax	pmax		
	comp=E,10.0nm,0.9s						
MA2				pmax	pmax		
	comp=Z,20nm,0.9s						
MA2				pmax	pmax		
	comp=N,6.0nm,0.8s						
MA2				MLR	MLR		
	comp=N,500nm,21.0s						
MA2	Magadan	11.91	310	eP	P	21 17 33.8	+0.8
	comp=N,29nm,0.9s						
SEY	Seymchan	13.08	325	ePN	P	21 17 52.3	+3.7
SEY				eS	S	21 20 18.9	+4.9
SEY				pmax	pmax		
	comp=N,30nm,0.9s						
SEY				pmax	pmax		
	comp=E,60nm,0.9s						
SEY				pmax	pmax		
	comp=Z,70nm,0.9s						
SEY				MLR	MLR		
	comp=Z,1μm,17.0s						
SEY				MLR	MLR		
	comp=N,300nm,19.0s						
SEY				MLR	MLR		
	comp=E,800nm,16.0s						
UNV	Unalaska Valle	14.60	78	eP	P	21 18 08.6	0.0
	comp=E,2μm,1.0s						
BILL	Bilibino	14.96	356	diP	P	21 18 14.5	+1.5
BILL				eS	S	21 20 57.2	-1.2
BILL				pmax	pmax		
	comp=Z,193nm,1.4s						
BILL				MLR	MLR		
	comp=Z,200nm,12.0s						
BILL	Bilibino	14.96	356	eP	P	21 18 14.8	+1.7
	comp=Z,126nm,1.0s						
AKUT	Akutan	15.00	76	eP	P	21 18 13.6	0.0
KUR	Kuril'sk	15.87	248	eP	P	21 18 23.0	-2.0
KUR				pmax	pmax		
	comp=Z,190nm,1.0s						
UGL	Uglegorsk	17.32	267	eP	P	21 18 43.0	-0.3
UGL				pmax	pmax		
	comp=Z,100nm,1.0s						
UGL				pmax	pmax		
	comp=Z,500nm,1.0s						
YSS	Yuzh-Sakhalins	17.87	260	eP	P	21 18 51.7	+1.5
YSS				pmax	pmax		
	comp=Z,58nm,1.2s						
YSS	Yuzh-Sakhalins	17.87	260	eP	P	21 18 51.6	+1.5
	comp=Z,58nm,1.2s						
ASAJ	Asahikawa	19.53	253	P	P	21 19 09.3	-0.8
	comp=Z,0.6nm,0.3s,baz=195,slow=24,SNR=3.4						
ASAJ				LR	LR	21 26 08.5	
	comp=Z,325nm,18.1s,baz=25,slow=35						
SVW2	Sparrevohn	20.58	53	eP	P	21 19 20.1	-1.0
KDAK	Kodiak Island	22.06	63	eP	P	21 19 33.8	-2.2
	comp=Z,35nm,0.8s,mb4.8						
IMA	Indian Mountai	22.44	40	eP	P	21 19 39.2	-0.6
IMA	Indian Mountai	22.44	40	eP	P	21 19 38.8	-1.0
YAK	Yakutsk	22.48	309	eP	P	21 19 41.1	+0.9
YAK				eS	S	21 23 41.7	+1.4
YAK				eSS	S	21 23 52.7	+12
YAK				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
YAK				pmax	pmax		
	comp=N,3.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,30nm,1.3s						
YAK				smax			
	comp=N,11nm,1.2s						
YAK				smax			
	comp=E,9.0nm,1.2s						
YAK				smax			
	comp=Z,4.0nm,1.1s						
YAK				MLR	MLR		
	comp=Z,152nm,19.0s,MS3.5						
YAK				MLR	MLR		
	comp=N,254nm,18.0s						
YAK				MLR	MLR		
	comp=E,224nm,25.0s						
YAK	Yakutsk	22.48	309	eP	P	21 19 40.8	+0.6
	comp=E,59nm,0.8s,mb5.1						
SLKM	Skilak Lake	23.17	55	P	P	21 19 46.8	0.0
SLKM	Skilak Lake	23.17	55	eP	P	21 19 46.3	-0.5
FIB	Fire Island	23.20	54	P	P	21 19 48.2	+1.1
FIB	Fire Island	23.20	54	eP	P	21 19 47.7	+0.6
KLR	Kul'dur	23.46	275	eP	P	21 19 48.0	-1.7
KLR				eS	S	21 24 05.0	+7.5
PMR	Palmer	23.72	53	eP	P	21 19 51.9	-0.2
PMR				LR	LR		
	comp=Z,300nm,19.0s,MS3.8						
MCK	McKinley	23.96	47	eP	P	21 19 53.7	-0.7
MCK				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.4						
MCK	McKinley	23.96	47	eP	P	21 19 53.6	-0.7
	comp=Z,10nm,0.6s,mb4.4						
SML	Sawmill	24.10	52	eP	P	21 19 55.5	-0.4
COLA	College	24.57	45	P	P	21 20 00.2	-0.1
COLA				pmax	pmax		
	comp=Z,66nm,0.8s,mb5.2						
COLA	College	24.57	45	eP	P	21 20 00.1	-0.2
COLA				LR	LR		
	comp=Z,300nm,17.0s,MS3.9						
ILAR	Eielson Array	24.96	45	P	P	21 20 02.6	-1.4
	comp=Z,25nm,0.7s,mb4.8,baz=250,slow=6.7,SNR=285						
ILAR				S	S	21 24 19.4	-3.6
	comp=Z,1.6nm,1.0s,baz=240,slow=14,SNR=4.3						
ILAR				LR	LR	21 30 02.7	
	comp=Z,143nm,19.7s,MS3.5,baz=93,slow=37						

CLNS Chul'man 25.19 296 *eP* **P** **21 20 21.2 +15**
CLNS pmax pmax
comp=Z,17nm,0.8s,mb4.6
CLNS pmax pmax
comp=N,11nm,0.7s
CLNS pmax pmax
comp=E,21nm,1.0s
DIV Divide 25.34 54 *eP* **P** **21 20 06.6 -1.1**
comp=E,90nm,0.8s,mb5.3
THY Trims Highway 25.35 48 *eP* **P** **21 20 07.4 -0.4**
EYAK Cordova Ski Ar 25.38 55 *eP* **P** **21 20 07.1 -1.0**
TIXI Tiksi 25.39 332 ⇓ *iP* **P** **21 20 08.0 -0.1**
TIXI *eS* **S** **21 24 35.4 +5.2**
TIXI pmax pmax
comp=Z,114nm,0.9s,mb5.4
TIXI MLR MLR
comp=Z,96nm,16.0s,MS3.4
MENT Mentasta 26.27 49 *eP* **P** **21 20 15.7 -0.6**
MDJ Mudanjiang 26.96 267 P **P** **21 20 24.0 +1.2**
MDJ AP pP 21 20 33.8 +2.3
MDJ XP sP 21 20 39.0 +3.6
MDJ PP PP 21 21 09.3 +0.5
MDJ S **S** **21 24 59.5 +3.3**
MDJ AMB AMB
comp=Z,5.0nm,0.8s,mb4.1
MDJ AMB AMB
comp=Z,126nm,4.0s
MDJ LR LR
comp=N,244nm,17.5s,MS3.8
MDJ LR LR
comp=E,101nm,19.3s,MS3.8
MDJ LR LR
comp=Z,217nm,20.3s,MS3.7
MAJO Matsushiro 27.12 245 P **P** **21 20 28.8 +4.4**
MAJO pmax pmax
comp=Z,23nm,0.8s,mb4.8
MAJO Matsushiro 27.12 245 P **P** **21 20 28.8 +4.4**
comp=Z,23nm,0.8s,mb4.8
MAT Matsushiro 27.12 245 *eP* **P** **21 20 26.0 +1.6**
MAT pmax pmax
comp=Z,7.0nm,0.7s,mb4.3
MAT Matsushiro 27.12 245 *eP* **P** **21 20 26.0 +1.6**
comp=Z,6.8nm,0.7s,mb4.3
MAT *eS* **S** **21 25 18.0 +19**
MAT Matsushiro 27.12 245 P **P** **21 20 26.2 +1.8**
MAT S **S** **21 25 17.0 +18**
CN2 Changchun 29.89 269 *eP* **P** **21 20 48.3 -1.0**
CN2 *eA* P pP 21 20 54.8 -3.3
CN2 *eS* **S** **21 25 43.0 -0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,16.0s,MS4.3
CN2 LR LR
comp=E,400nm,16.0s,MS4.3
CN2 LR LR
comp=Z,700nm,18.0s,MS4.3
INK Inuvik 30.51 38 *eP* **P** **21 20 53.3 -1.2**
INK Inuvik 30.51 38 P **P** **21 20 53.6 -0.9**
comp=Z,5.4nm,0.8s,mb4.5,baz=280,slow=7.2,SNR=16
BOD Bodaibo 30.72 301 *eP* **P** **21 20 54.7 -1.8**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
DLBC Dease Lake 33.64 56 P **P** **21 21 22.6 +0.6**
comp=Z,32nm,0.7s,mb5.4,baz=289,slow=9.3,SNR=89
DLBC LR LR 21 35 15.5
comp=Z,404nm,18.6s,MS4.2,baz=69,slow=37
DLBC Dease Lake 33.64 56 *eP* **P** **21 21 23.1 +1.2**
BBB Bella Bella 37.07 65 P **P** **21 21 52.1 +0.9**
comp=Z,20nm,0.7s,mb5.0,baz=276,slow=9.6,SNR=5.4
BBB LR LR 21 33 59.5
comp=Z,260nm,21.6s,MS4.0,baz=177,slow=31
BJI Beijing 37.69 271 P **P** **21 21 57.6 +1.0**
BJI AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
BJI LR LR
comp=N,283nm,17.5s,MS4.3
BJI LR LR
comp=E,358nm,17.5s,MS4.3
BJI LR LR
comp=Z,172nm,21.3s,MS3.8
BJI Beijing 37.69 271 P **P** **21 21 57.6 +1.0**
comp=Z,3.0nm,0.8s,mb4.1
BJI S **S** **21 27 56.7 +12**
BJI LR LR
comp=Z,170nm,21.3s,MS3.8
TLY Talaya 38.60 295 *eP* **P** **21 22 04.5 +0.4**
TLY pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
TLY MLR MLR
comp=Z,228nm,23.0s,MS3.9
ULN Ulaanbaatar 38.61 288 *eP* **P** **21 22 05.1 +0.9**
ULN pmax pmax
comp=Z,10.0nm,1.1s,mb4.5
ULN Ulaanbaatar 38.61 288 *eP* **P** **21 22 05.1 +0.9**
comp=Z,9.7nm,1.1s,mb4.5
ULN *e* 21 22 19.9
SONM Songino Array 39.01 288 P **P** **21 22 08.0 +0.5**
comp=Z,1.4nm,0.8s,mb3.8,baz=58,slow=8.6,SNR=15
SONM PcP PcP 21 24 16.7 -1.2
comp=Z,2.9nm,0.7s,baz=70,slow=1.8,SNR=7.6
YKA Yellowknife Ar 39.39 45 P **P** **21 22 10.2 -0.4**
comp=Z,6.0nm,0.7s,mb4.4,baz=292,slow=7.8,SNR=64
ZAK Zakamensk 39.44 293 *eP* **P** **21 22 11.2 +0.1**
ZAK *e* 21 24 18.9
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb3.7
HHC Hu-ho-hao-te 39.96 276 *eP* **P** **21 22 16.1 +0.6**
HHC AP pP 21 22 22.8 -1.6
HHC XP sP 21 22 26.3 -1.8
HHC PP PP 21 23 51.8 +0.7
HHC S **S** **21 28 18.8 +0.1**
HHC XS 21 28 30.3
HHC SCS ScS 21 32 19.4 +1.2
HHC AMB AMB
comp=Z,13nm,0.5s,mb4.9
HHC LR LR
comp=N,319nm,20.2s,MS4.5
HHC LR LR
comp=E,586nm,20.2s,MS4.5
HHC LR LR
comp=Z,302nm,22.6s,MS4.1
MOY Mondy 40.05 296 *eP* **P** **21 22 16.7 +0.6**
SSE Sheshan 40.76 257 P **P** **21 22 23.5 +1.4**
SSE XP sP 21 22 36.3 +1.6
SSE PP PP 21 23 59.5 +0.3
SSE S **S** **21 28 31.9 +1.3**
SSE XS 21 28 47.1
SSE AMB AMB
comp=Z,40nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,79nm,6.3s
SSE LR LR
comp=Z,66nm,23.3s,MS3.4
SSE Sheshan 40.76 257 P **P** **21 22 23.5 +1.4**
comp=Z,40nm,0.7s,mb5.2
SSE sP sP 21 22 36.3 +1.6
SSE PP PP 21 23 59.5 +0.3
SSE S **S** **21 28 31.9 +1.3**
SSE sS 21 28 47.1
SSE SS SS 21 31 34.0 +6.9
SSE LR LR
comp=Z,70nm,23.3s,MS3.5
RES Resolute Bay 41.17 24 *eP* **P** **21 22 23.5 -1.6**
RES pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
RES Resolute Bay 41.17 24 *eP* **P** **21 22 23.4 -1.6**
comp=Z,8.8nm,1.0s,mb4.3
NJ2 Nanjing 41.44 260 *eP* **P** **21 22 27.0 -0.7**
NJ2 AP pP 21 22 39.3 +2.7
NJ2 XP sP 21 22 44.8 +4.5
NJ2 PP PP 21 24 06.5 0.0
NJ2 S **S** **21 28 38.0 -2.7**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,510nm,5.2s
NJ2 LR LR
comp=N,220nm,13.6s,MS4.3
NJ2 LR LR
comp=E,240nm,18.0s,MS4.3
NJ2 LR LR
comp=Z,420nm,22.2s,MS4.3

ALE Alert 42.07 9 P **P** **21 22 32.0 -0.2**
comp=Z,109nm,0.9s,mb5.5,SNR=17
NLW Nelson Butte 43.47 67 P **P** **21 22 45.1 +1.1**
WPW White Pass 43.58 69 P **P** **21 22 45.9 +1.0**
TWW Teanaway 43.71 68 P **P** **21 22 47.2 +1.3**
SSOR Sweet Springs 44.14 72 P **P** **21 22 50.6 +1.1**
EDM Edmonton 44.34 57 P **P** **21 22 51.4 +0.4**
EDM Edmonton 44.34 57 *eP* **P** **21 22 50.6 -0.4**
RSW Rattlesnake Hi 44.86 68 P **P** **21 22 56.0 +0.7**
NEW Newport 45.13 65 P **P** **21 22 56.4 -1.0**
comp=Z,9.3nm,0.9s,mb4.6,baz=314,slow=5.5,SNR=7.6
BUOR Burton Butte 45.84 75 P **P** **21 23 04.2 +1.1**
YBH Yreka Blue Hor 45.91 76 P **P** **21 23 04.9 +1.3**
YBH pmax pmax
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 45.91 76 P **P** **21 23 03.5 -0.1**
comp=Z,15nm,0.9s,mb4.9,baz=291,slow=3.2,SNR=24
YBH Yreka Blue Hor 45.91 76 *eP* **P** **21 23 04.8 +1.2**
comp=Z,20nm,1.0s,mb5.0
WALA Waterton Lakes 46.40 62 *eP* **P** **21 23 07.3 -0.1**
comp=Z,32nm,1.0s,mb5.2
BMO Blue Mountains 47.07 69 *eP* **P** **21 23 12.4 -0.3**
comp=Z,33nm,1.6s,mb5.0
LBCM Butte Creek Ri 47.27 76 P **P** **21 23 15.2 +0.8**
NVS Novosibirsk 47.35 308 *eP* **P** **21 23 12.1 -2.8**
NVS *e* 21 25 02.4
NVS *eS* **S** **21 30 03.2 -2.5**
NVS pmax pmax
comp=Z,36nm,1.8s,mb5.0
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,16nm,1.5s
NVS smax
comp=E,40nm,3.2s
HOPS Hopland 47.45 79 *eP* **P** **21 23 15.0 -0.8**
comp=E,37nm,1.4s,mb5.1
LZH Lanzhou 47.66 276 ⇓ P **P** **21 23 18.6 +1.0**
LZH AP pP 21 23 26.1 -0.5
LZH XP sP 21 23 29.5 -0.7
LZH PP PP 21 25 09.8 +1.4
LZH *eS* **S** **21 30 11.5 +1.2**
LZH XS 21 30 24.3
LZH AMB AMB
comp=Z,27nm,1.4s,mb5.1
LZH AMB AMB
comp=Z,125nm,6.2s
LZH LR LR
comp=N,726nm,15.0s
LZH LR LR
comp=Z,987nm,17.6s,MS4.8
LZH Lanzhou 47.66 276 ⇓ P **P** **21 23 18.6 +1.0**
LZH *PP pP 21 23 26.1 -0.5
LZH 21 25 09.7
LZH *eS* **S** **21 30 11.5 +1.2**
LZH *SS 21 30 24.3
LZH SS SS 21 33 33.4 +0.8
LZH pmax pmax
comp=Z,27nm,1.4s,mb5.1
LZH MLR MLR
comp=Z,990nm,17.6s,MS4.8
LZH Lanzhou 47.66 276 ⇓ P **P** **21 23 18.6 +1.0**
comp=Z,27nm,1.4s,mb5.1
LZH pP pP 21 23 26.1 -0.5
LZH sP sP 21 23 29.5 -0.7
LZH PP PP 21 25 09.7 +1.3
LZH *eS* **S** **21 30 11.5 +1.2**
LZH sS 21 30 24.3
LZH SS SS 21 33 33.4 +0.8
LZH LR LR
comp=Z,990nm,17.6s,MS4.8
MSO Missoula 47.72 65 *eP* **P** **21 23 17.4 -0.5**
comp=Z,5.6nm,0.9s,mb4.6
GTA Gaotai 47.85 282 *eP* **P** **21 23 17.9 -1.1**
GTA AP pP 21 23 24.5 -3.5
GTA XP sP 21 23 28.1 -3.5
GTA PP PP 21 25 07.4 -2.7
GTA S **S** **21 30 08.8 -4.2**
GTA AMB AMB
comp=Z,7.0nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,209nm,6.5s
GTA LR LR
comp=N,222nm,18.3s,MS4.4
GTA LR LR
comp=E,269nm,17.2s,MS4.4
GTA LR LR
comp=Z,324nm,19.5s,MS4.3
HRY Holter Researc 48.93 64 *eP* **P** **21 23 27.2 -0.1**
HLID Hailey 49.49 68 *eP* **P** **21 23 31.5 -0.2**
comp=Z,9.8nm,1.1s,mb4.8
CMB Columbia Colle 49.66 78 P **P** **21 23 33.6 +0.6**
CMB pmax pmax
comp=Z,18nm,1.1s,mb5.0
CMB Columbia Colle 49.66 78 *eP* **P** **21 23 33.0 0.0**
comp=Z,24nm,1.3s,mb5.1
BOZ Bozeman (W) 49.71 65 P **P** **21 23 33.2 -0.1**
BOZ pmax pmax
comp=Z,11nm,0.8s,mb4.9
BOZ Bozeman (W) 49.71 65 *eP* **P** **21 23 32.9 -0.4**
comp=Z,14nm,0.9s,mb5.0
BMN Battle Mountai 49.92 73 P **P** **21 23 35.9 +0.9**
BMN pmax pmax
comp=Z,29nm,1.0s,mb5.3
BMN Battle Mountai 49.92 73 *eP* **P** **21 23 35.2 +0.3**
comp=Z,19nm,0.8s,mb5.2
FCC Fort Churchill 49.94 43 P **P** **21 23 34.5 -0.3**
FCC pmax pmax
comp=Z,13nm,0.6s,mb5.1
FCC Fort Churchill 49.94 43 *eP* **P** **21 23 34.4 -0.4**
comp=Z,13nm,0.6s,mb5.1
QLMT Earthquake Lak 50.34 65 *eP* **P** **21 23 38.2 +0.1**
NVAR Mina Array Bea 50.62 76 P **P** **21 23 40.8 +0.5**
comp=Z,15nm,0.8s,mb4.9,baz=299,slow=7.0,SNR=54
NVAR LR LR 21 41 27.8
comp=Z,194nm,21.2s,MS4.1,baz=30,slow=32
MNV Mina 50.70 76 P **P** **21 23 41.7 +0.8**
MNV pmax pmax
comp=Z,19nm,1.2s,mb4.9
MNV Mina 50.70 76 *eP* **P** **21 23 40.9 -0.1**
comp=Z,19nm,1.2s,mb4.9
YNR Norris Junctio 50.82 65 *eP* **P** **21 23 42.1 +0.4**
ELK Elko 50.85 72 P **P** **21 23 41.5 -0.5**
comp=Z,5.8nm,0.7s,mb4.6,baz=303,slow=8.4,SNR=20
MTUM Tungsten Hills 51.19 77 *eP* **P** **21 23 45.1 +0.4**
IMW Indian Meadow 51.21 66 *eP* **P** **21 23 45.0 +0.3**
TPH Tonopah 51.49 76 P **P** **21 23 47.4 +0.5**
TPH pmax pmax
comp=Z,40nm,1.1s,mb5.3
TPH Tonopah 51.49 76 *eP* **P** **21 23 47.1 +0.2**
comp=Z,23nm,0.8s,mb5.2
LOHW Long Hollow 51.58 66 *eP* **P** **21 23 47.4 -0.1**
comp=Z,6.4nm,0.6s,mb4.7
WMQ Urumqi 51.88 295 *eP* **P** **21 23 50.5 +0.7**
WMQ AP pP 21 23 58.0 -0.9
WMQ XP sP 21 24 01.0 -1.4
WMQ PCP PcP 21 25 03.0 +0.6
WMQ PCS 21 28 59.0
WMQ *eS* **S** **21 31 11.0 +2.1**
WMQ SCS ScS 21 33 36.0 +1.6
WMQ AMB AMB
comp=Z,19nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,191nm,5.2s
WMQ LR LR
comp=N,570nm,22.5s,MS4.7
WMQ LR LR
comp=E,515nm,25.6s,MS4.7
WMQ LR LR
comp=Z,322nm,21.2s,MS4.3
LAO LASA Array 51.93 61 *eP* **P** **21 23 49.4 -0.8**
comp=Z,18nm,0.9s,mb5.0
KURK Kurchatov 52.10 306 P **P** **21 23 49.8 -1.5**
comp=Z,193nm,0.9s,SNR=42
KURK Kurchatov 52.10 306 *eP* **P** **21 23 49.7 -1.6**
KURK pmax pmax
comp=Z,44nm,1.1s,mb5.3
KURK Kurchatov 52.10 306 *eP* **P** **21 23 49.7 -1.6**
comp=Z,44nm,1.1s,mb5.3
PDAR Pinedale Array 52.71 66 P **P** **21 23 55.9 -0.2**
comp=Z,14nm,0.9s,mb4.9,baz=302,slow=3.8,SNR=60
PDAR LR LR 21 44 04.0
comp=Z,82nm,21.3s,MS3.7,baz=66,slow=33
GYA Guiyang 52.78 265 ⇑ *iP* **P** **21 23 57.0 +0.2**
GYA AP pP 21 24 04.6 -1.3
GYA XP sP 21 24 07.8 -1.6
GYA PP PP 21 25 57.1 -0.4
GYA S **S** **21 31 21.3 -0.2**
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.9
GYA AMB AMB
comp=Z,100nm,4.2s
GYA LR LR
comp=N,230nm,16.8s,MS4.5
GYA LR LR
comp=E,280nm,17.2s,MS4.5
GYA LR LR
comp=Z,240nm,17.6s,MS4.3
SUMG Summit 53.09 10 *eP* **P** **21 23 58.0 -0.5**
comp=Z,5.1nm,0.8s,mb4.5
DAU Daniels Canyon 53.34 70 *eP* **P** **21 24 01.8 +1.1**
DAU Daniels Canyon 53.34 70 *eP* **P** **21 24 01.3 +0.6**
MPU Maple Canyon 53.39 70 *eP* **P** **21 24 01.5 +0.4**
MWC Mount Wilson 53.63 80 P **P** **21 24 03.0 0.0**
MWC Mount Wilson 53.63 80 *eP* **P** **21 24 02.9 -0.1**
CHKZ Chkalovo 53.84 313 *eP* **P** **21 24 02.3 -1.8**
CHKZ pmax pmax
comp=Z,27nm,1.0s,mb5.1
CHKZ Chkalovo 53.84 313 *eP* **P** **21 24 02.3 -1.8**
comp=Z,27nm,1.0s,mb5.1
MSU Marysvale 54.10 72 P **P** **21 24 07.1 +0.8**
MSU Marysvale 54.10 72 *eP* **P** **21 24 07.0 +0.7**
TMUT Trail Mountain 54.12 71 *eP* **P** **21 24 06.7 +0.3**
KEV Kevo 54.28 345 *ep* **P** **21 24 05.6 -1.6**
comp=Z,9.4nm,1.1s,mb4.6
KEV Kevo 54.28 345 *eP* **P** **21 24 05.6 -1.6**
KEV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
LVZ Lovozero 54.53 341 *eP* **P** **21 24 07.7 -1.4**
SRU San Rafael 54.63 70 *eP* **P** **21 24 10.7 +0.5**
SRU San Rafael 54.63 70 *eP* **P** **21 24 10.4 +0.2**
ARCES ARCESS Array B 54.72 345 P **P** **21 24 09.1 -1.3**
comp=Z,12nm,0.7s,mb5.0,baz=29,slow=10.0,SNR=18
ARCES LR LR 21 50 14.9
comp=Z,126nm,19.6s,MS4.0,baz=202,slow=39
APA Apatity 55.06 341 ⇑ *iP* **P** **21 24 11.0 -2.0**
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
SVE Sverdlovsk 55.72 321 *eP* **P** **21 24 16.4 -1.5**
SVE *e* 21 25 13.0
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.3
PV10 Paradox Valley 55.98 70 *eP* **P** **21 24 20.2 +0.2**
KMI Kunming 56.13 267 P **P** **21 24 25.9 +4.7**
KMI S **S** **21 32 08.3 +1.8**
KMI AMB AMB
comp=Z,3.0nm,0.9s,mb4.3
KMI LR LR
comp=N,155nm,16.3s,MS4.3
KMI LR LR
comp=E,101nm,12.9s,MS4.3
KMI LR LR
comp=Z,177nm,20.7s
KMI Kunming 56.13 267 P **P** **21 24 25.9 +4.7**
comp=Z,3.0nm,0.9s,mb4.3
KMI S **S** **21 32 08.3 +1.8**
KMI LR LR
comp=Z,180nm,20.7s,MS4.1
PV01 Paradox Valley 56.41 70 *eP* **P** **21 24 22.9 -0.2**
WUAZ Wupatki 56.64 74 *eP* **P** **21 24 24.9 +0.1**
RW3 Ridgway 56.83 69 *eP* **P** **21 24 26.9 +0.8**
RW3 Ridgway 56.83 69 *eP* **P** **21 24 26.1 0.0**
EYMN Ely 58.40 51 *eP* **P** **21 24 36.0 -0.9**
comp=Z,18nm,0.8s,mb5.2
TKM2 Tokmak 2 58.93 301 P **P** **21 24 39.9 -0.9**
SNR=10
USP Ospenovka 59.24 302 P **P** **21 24 42.0 -0.9**
SNR=19
TUC Tucson 59.27 76 *eP* **P** **21 24 43.8 +0.5**
TUC pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
TUC Tucson 59.27 76 *eP* **P** **21 24 43.1 -0.2**
comp=Z,3.5nm,0.7s,mb4.5
CHMS Chumysh 59.31 302 P **P** **21 24 42.4 -0.9**
SNR=5.3
KBK Karagaybulak 59.45 301 P **P** **21 24 43.6 -0.8**
SNR=14
JOF Joensuu 59.56 339 *ep* **P** **21 24 42.9 -1.9**
comp=Z,22nm,0.8s,mb5.2
AAK Ala-Archa 59.70 302 P **P** **21 24 44.9 -1.2**
comp=Z,84nm,0.9s,mb5.8,SNR=12
AAK Ala-Archa 59.70 302 *eP* **P** **21 24 44.2 -1.9**
AAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
AAK Ala-Archa 59.70 302 *eP* **P** **21 24 44.2 -1.9**
comp=Z,13nm,0.9s,mb5.0
LSA Lhasa 59.71 280 P **P** **21 24 47.0 +0.7**
KZA Kyzart 59.71 301 P **P** **21 24 45.9 -0.3**
SNR=9.1
ANMO Albuquerque 59.87 71 ⇑ *eP* **P** **21 24 47.5 +0.2**
ANMO Albuquerque 59.87 71 P **P** **21 24 46.8 -0.6**
comp=Z,3.0nm,0.8s,mb4.6,baz=282,slow=8.6,SNR=5.0
LAZ Ladron 59.87 72 *eP* **P** **21 24 48.1 +0.7**
EKS2 Erkin-Say 60.05 302 P **P** **21 24 47.6 -0.8**
SNR=29
KAF Kangasniemi 61.32 341 *ep* **P** **21 24 53.9 -2.9**
comp=Z,12nm,0.7s,mb5.1
KAF Kangasniemi 61.32 341 *eP* **P** **21 24 53.9 -2.9**
KAF pmax pmax
comp=Z,12nm,0.7s,mb5.1
FINES FINESS Array B 61.97 341 *i P* **P** **21 25 00.3 -1.0**
FINES pmax pmax
comp=Z,13nm,0.8s
FINES FINESS Array B 61.97 341 P **P** **21 24 59.5 -1.8**
comp=Z,13nm,0.8s,mb5.2,baz=27,slow=8.5,SNR=44
FINES LR LR 21 56 51.8
comp=Z,106nm,19.9s,MS4.0,baz=248,slow=41
MNTX Cornudas Mount 62.85 73 *eP* **P** **21 25 07.0 -0.4**
comp=Z,14nm,0.9s,mb5.1
MNTX *e* 21 25 21.0
SCHQ Schefferville 62.90 33 P **P** **21 25 04.5 -2.9**
comp=Z,4.6nm,0.8s,mb4.6,baz=195,slow=18,SNR=5.6
CMAR Chiang Mai Arr 63.47 266 P **P** **21 25 10.8 -0.9**
comp=Z,1.7nm,0.8s,mb4.2,baz=24,slow=7.1,SNR=12
CMAR LR LR 21 57 47.3
comp=Z,74nm,18.3s,MS3.9,baz=320,slow=41
VSU Vasula 64.57 339 *i P* **P** **21 25 18.3 +0.1**
NB2 NORSAR Subarra 64.75 348 P **P** **21 25 18.4 -0.9**
comp=Z,21nm,0.9s,mb5.2,baz=16,slow=6.5
NB2 NORSAR Subarra 64.75 348 P **P** **21 25 18.4 -0.9**
NB2 pmax pmax
comp=Z,21nm,0.9s,mb5.2
NB2 NORSAR Subarra 64.75 348 P **P** **21 25 18.4 -0.9**
baz=16,slow=6.9
NOA NORSAR Array B 64.75 348 P **P** **21 25 18.4 -0.9**
comp=Z,11nm,0.8s,mb5.0,baz=16,slow=6.6,SNR=32
NOA LR LR 21 58 39.7
comp=Z,43nm,18.3s,MS3.7,baz=325,slow=41
OBN Obninsk 65.12 332 ‖ *eP* **P** **21 25 21.0 -0.9**
OBN *e* *PP pP 21 25 32.8 +1.7
OBN *e* 21 25 53.8
OBN *e* 21 27 46.6
OBN *eS* S 21 34 00.2 -0.7
OBN pmax pmax
comp=Z,19nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
LTX Lajitas 65.59 73 P **P** **21 25 25.6 +0.3**
LTX pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LTX Lajitas 65.59 73 *eP* **P** **21 25 24.9 -0.4**
comp=Z,10.0nm,0.7s,mb5.0
TXAR Lajitas Array 65.59 73 P **P** **21 25 25.4 0.0**
comp=Z,4.3nm,0.6s,mb4.7,baz=303,slow=4.4,SNR=32
SUW Suwalki 69.45 339 *eP* **P** **21 25 48.3 -0.8**
GOF Gofitskoye 71.75 323 ⇑ *iP* **P** **21 26 03.5 +0.3**
GOF *i* 21 26 20.0
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.2
BSEG Bad Segeberg 71.78 347 *eP* **P** **21 26 03.5 +0.3**
KIV Kislovodsk 72.82 322 *eP* **P** **21 26 17.6 +8.1**
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.1
KWP Kalwaria 73.65 338 *eP* **P** **21 26 15.1 +0.9**
OJC Ojcow 73.73 340 *eP* **P** **21 26 15.2 +0.6**
CLZ Clausthal 73.81 346 *eP* **P** **21 26 15.7 +0.7**
comp=Z,11nm,1.2s,mb4.7
KSP Ksiaz 73.82 342 *eP* **P** **21 26 15.0 -0.1**

KSP	Ksiaz	73.82	342	eP	P	21 26 15.2	+0.1
CLL	Collm	73.93	345	eP	P	21 26 16.0	+0.2
CLL	Collm	73.93	345	P	P	21 26 16.0	+0.2
UPC	Upice	74.19	342	eP	P	21 26 17.3	0.0
BRG	Berggiesshubel	74.20	344	eP	P	21 26 17.4	+0.1
BRG				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
BRG	Berggiesshubel	74.20	344	eP	P	21 26 17.4	+0.1
	comp=Z,10nm,1.1s,mb4.7						
DPC	Dobruska-Polom	74.28	342	eP	P	21 26 18.5	+0.7
DPC				ex	x	21 26 33.2	
KOLS	Kolonicke sedl	74.41	338	eP	P	21 26 17.1	-1.5
OKC	Ostrava-Krasne	74.42	341	eP	P	21 26 11.0	-7.6
OKC				e	pP	21 26 19.2	-8.8
OKC	Ostrava-Krasne	74.42	341	eP	P	21 26 19.2	+0.6
MOX	Moxa	74.79	345	eP	P	21 26 21.0	+0.2
MOX				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
MOX	Moxa	74.79	345	eP	P	21 26 21.0	+0.2
	comp=Z,17nm,1.4s,mb4.8						
MOX	Moxa	74.79	345	iP	P	21 26 21.0	+0.2
	comp=Z,logA/T=1.1,mb4.8						
BURAR	Bucovina Array	74.94	336	⇑P	P	21 26 21.6	0.0
BURAR	Bucovina Array	74.94	336	⇑P	P	21 26 21.6	-0.1
PRU	Pruhonice	74.95	343	eP	P	21 26 22.1	+0.4
PRU				epP	pP	21 26 35.4	+4.4
NKC	Novy Kostel	75.06	345	eP	P	21 26 22.4	+0.1
NKC				epP	pP	21 26 32.5	+0.8
GNI	Garni	75.31	319c	iP	P	21 26 25.8	+1.8
GNI				pmax	pmax		
	comp=Z,21nm,1.6s						
GNI				MLR	MLR		
	comp=Z,200nm,18.0s						
GRA1	Grafenberg Arr	75.78	345	eP	P	21 26 27.0	+0.6
	comp=Z,21nm,1.3s,mb4.9						
GRF	Grafenberg Arr	75.78	345	eP	P	21 26 27.0	+0.6
GRF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
GRF	Grafenberg Arr	75.78	345	eP	P	21 26 27.0	+0.6
GRF				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
GRF	Grafenberg Arr	75.78	345	eP	P	21 26 27.0	+0.6
	comp=Z,21nm,1.3s,mb4.9						
KHC	Kasperske Hory	75.94	344	eP	P	21 26 27.8	+0.4
KHC				epP	pP	21 26 41.4	+4.7
WET	Wettzell	76.05	344	eP	P	21 26 28.5	+0.5
WET				pmax	pmax		
	comp=Z,37nm,1.8s,mb5.0						
WET	Wettzell	76.05	344	eP	P	21 26 28.5	+0.5
	comp=Z,37nm,1.8s,mb5.0						
GEC2	GERESS Array S	76.20	343	eP	P	21 26 29.2	+0.4
GEC2				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.8						
GEC2	GERESS Array S	76.20	343	eP	P	21 26 29.2	+0.4
	comp=Z,16nm,1.4s,mb4.8						
GERES	GERESS Array B	76.20	343	P	P	21 26 28.6	-0.2
	comp=Z,2.9nm,0.7s,mb4.3,baz=32,slow=5.1,SNR=25						
ZST	Bratislava	76.20	341	eP	P	21 26 30.1	+1.3
BAIF	Baives	76.32	350	eP	P	21 26 29.8	+0.3
CFR	Carcaliu	76.43	333	⇑P	P	21 26 31.8	+1.6
MLR	Muntele Rosu	76.73	334	⇓P	P	21 26 33.7	+1.9
ARSA	Arzberg	77.41	342	⇑iP	P	21 26 36.7	+1.1
	comp=Z,4.8nm,1.1s,mb4.3						
KBA	Koelnbreinsper	77.97	343	⇓iP	P	21 26 40.2	+1.6
	comp=Z,17nm,0.9s,mb5.0						
KBA	Koelnbreinsper	77.97	343	⇓iP	P	21 26 40.2	+1.6
KBA				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
FLN	La Foliniere	78.03	353	eP	P	21 26 39.1	+0.1
WTTA	Wattenberg	78.08	344	⇑iP	P	21 26 40.1	+0.9
	comp=Z,6.8nm,1.0s,mb4.5						
WTTA	Wattenberg	78.08	344	⇑iP	P	21 26 40.1	+0.9
WTTA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
HAU	Haudompre	78.10	348	eP	P	21 26 39.3	-0.1
LDF	La Druitiere	78.17	353	eP	P	21 26 39.7	0.0
SQTA	Sankt Quirin	78.19	345	⇑iP	P	21 26 40.9	+1.1
	comp=Z,8.6nm,1.2s,mb4.6						
SQTA	Sankt Quirin	78.19	345	⇑iP	P	21 26 40.9	+1.1
SQTA				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
OBKA	Obir	78.30	342	⇓iP	P	21 26 41.0	+0.5
	comp=Z,11nm,0.8s,mb4.8						
GRR	Gorron	78.43	353	eP	P	21 26 40.8	-0.4
WRA	Warramunga Arr	78.74	213	P	P	21 26 42.5	-1.0
	comp=Z,2.6nm,0.9s,mb4.2,baz=26,slow=6.1,SNR=14						
SSF	Saint Saulge	79.36	350	eP	P	21 26 46.1	-0.2
SSF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
SSF	Saint Saulge	79.36	350	eP	P	21 26 46.1	-0.2
	comp=Z,5.8nm,0.9s,mb4.5						
CABF	La Chapelle	79.51	348	eP	P	21 26 47.4	+0.3
	comp=Z,11nm,1.0s,mb4.5						
CABF	La Chapelle	79.51	348	eP	P	21 26 47.4	+0.3
CABF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AVF	Avril sur Loir	79.64	350	eP	P	21 26 47.7	-0.1
	comp=Z,21nm,1.1s,mb4.7						
AVF	Avril sur Loir	79.64	350	eP	P	21 26 47.7	-0.1
AVF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BRTR	Keskin Array B	79.72	327	P	P	21 26 49.0	+0.6
	comp=Z,1.8nm,0.7s,mb4.1,baz=74,slow=2.3,SNR=12						
SMF	Signal de Mont	79.74	350	eP	P	21 26 48.1	-0.2
	comp=Z,24nm,1.2s,mb4.7						
SMF	Signal de Mont	79.74	350	eP	P	21 26 48.1	-0.2
SMF				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BGF	Bois d'Agland	79.93	350	eP	P	21 26 50.4	+1.1
TCF	Toulx Ste Croi	80.26	351	eP	P	21 26 51.6	+0.5
LPL	La Plagne	80.50	347	eP	P	21 26 53.5	+1.1
	comp=Z,9.7nm,0.9s,mb4.4						
LPL	La Plagne	80.50	347	eP	P	21 26 53.5	+1.1
LPL				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
LPG	La Plagne	80.52	347	eP	P	21 26 53.9	+1.4
	comp=Z,10nm,0.9s,mb4.5						
LPG	La Plagne	80.52	347	eP	P	21 26 53.9	+1.4
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ORIF	Oris-en-Rattie	81.20	348	eP	P	21 26 57.1	+1.0
	comp=Z,14nm,0.9s,mb4.6						
ORIF	Oris-en-Rattie	81.20	348	eP	P	21 26 57.1	+1.0
ORIF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
MBDF	Montbardon	81.27	347	eP	P	21 26 58.2	+1.7
	comp=Z,4.9nm,0.7s,mb4.2						
MBDF	Montbardon	81.27	347	eP	P	21 26 58.2	+1.7
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
RJF	Les Rejaudoux	81.30	351	eP	P	21 26 57.3	+0.7
PGD	Poggio Sodo	81.35	344	eP	P	21 26 59.0	+2.1
VIVF	Saint-Julien-l	81.41	349	eP	P	21 26 57.8	+0.6
	comp=Z,7.0nm,0.7s,mb4.4						
VIVF	Saint-Julien-l	81.41	349	eP	P	21 26 57.8	+0.6
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
CAF	Calviac	81.62	351	eP	P	21 26 58.9	+0.6
	comp=Z,37nm,1.4s,mb4.8						
CAF	Calviac	81.62	351	eP	P	21 26 58.9	+0.6
CAF				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.8						
LFF	La Frestale	81.73	352	eP	P	21 26 59.2	+0.4
SBF	Sospel	82.03	347	eP	P	21 27 00.7	+0.3
NRCA	Norcia	82.12	342	eP	P	21 27 02.3	+1.4
SMRF	Simiane la Rot	82.17	348	eP	P	21 27 02.7	+1.6
	comp=Z,27nm,1.4s,mb4.7						
LASF	Ste Croix	82.27	349	eP	P	21 27 02.5	+0.8
ASAR	Alice Springs	82.36	212	P	P	21 27 03.0	+0.5
	comp=Z,2.3nm,0.7s,mb4.2,baz=20,slow=5.4,SNR=27						
FRF	La Foret Royal	82.44	347	eP	P	21 27 02.8	+0.3
LMR	La Mourre	82.68	347	eP	P	21 27 04.3	+0.5
	comp=Z,9.8nm,0.9s,mb4.5						
LMR	La Mourre	82.68	347	eP	P	21 27 04.3	+0.5
LMR				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
PGF	Pioggiola	83.09	345	eP	P	21 27 06.4	+0.5
	comp=Z,13nm,0.8s,mb4.7						
PGF	Pioggiola	83.09	345	eP	P	21 27 06.4	+0.5
PGF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MTLF	Montolieu	83.17	350	eP	P	21 27 07.2	+0.8
	comp=Z,12nm,1.1s,mb4.5						
MTLF	Montolieu	83.17	350	eP	P	21 27 07.2	+0.8
MTLF				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
EPF	Esparros	83.66	352	eP	P	21 27 08.8	+0.1
SJPF	Ste Jean	83.70	353	eP	P	21 27 10.7	+1.7
	comp=Z,9.8nm,0.9s,mb4.6						
SJPF	Ste Jean	83.70	353	eP	P	21 27 10.7	+1.7
SJPF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6						
ETSF	Etsaut	83.87	352	eP	P	21 27 10.8	+1.0
	comp=Z,8.2nm,0.8s,mb4.6						
ETSF	Etsaut	83.87	352	eP	P	21 27 10.8	+1.0
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.6						
ESDC	Sonseca Array	87.31	355	P	P	21 27 24.6	-2.3
	comp=Z,0.5nm,0.6s,mb3.9,baz=4.0,slow=6.1,SNR=4.3						
STKA	Stephens Creek	87.99	203	P	P	21 27 30.2	-0.2
	comp=Z,1.5nm,0.5s,mb4.5,baz=286,slow=14,SNR=4.3						

NDI 16 21:16:04.1±2.2, 17.18N×73.79E, h5km, MD3.4, ML3.6, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAD	Karad	0.40	71	eP	Pg	21 16 11.8	-0.4
KAD				eS	Sg	21 16 17.5	0.0
KAD				e		21 16 17.7	
	comp=N,2μm,0.2s						
KAD				e		21 16 17.7	
	comp=E,884nm,0.2s						
POO	Poona	1.34	3	eP	Pb	21 16 27.0	-2.4
POO				eS	Sb	21 16 45.0	-1.8
GOA	Goa	1.68	179	iP	Pn	21 16 30.3	-4.1
GOA				iS	Sn	21 16 52.1	-4.3
BOM	Bombay	1.94	332	eP	Pn	21 16 38.6	+0.5
BOM				eS	Sn	21 17 02.1	-1.1
LATR	Latur	2.92	65	eP	Pn	21 16 50.9	-1.1
LATR				eS	Sn	21 17 25.3	-2.6
MNGI	Mangalore	4.33	166	e	Sn	21 18 02.6	-1.0
MNGI				e		21 18 18.5	
	comp=E,271nm,0.3s						
MNGI				e		21 18 18.5	
	comp=N,198nm,0.5s						
BHPL	Bhopal	6.93	29	eS	Sn	21 19 01.3	-7.7
BHPL				e		21 19 41.5	
	comp=N,264nm,0.3s						
BHPL				e		21 19 42.4	
	comp=E,212nm,0.3s						
MDRS	Chennai	7.46	122	e	Pn	21 18 09.0	+13

IDC 16 21:27:52.6±6.4, 4.29N×92.81E, mb3.5/2, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, ML3.8/1, Error ellipse: s-maj=183.7km s-min=35.8km az=72.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	15.30	23	Pn	P	21 31 31.4	-0.4
	0.1nm,0.3s,baz=210,slow=11,SNR=12						
SONM	Songino Array	44.93	13	P	P	21 36 08.9	-2.1
	0.5nm,0.8s,baz=218,slow=8.6,SNR=5.3						
WRA	Warramunga Arr	47.38	122	P	P	21 36 28.9	-1.9
	1.0nm,0.8s,baz=304,slow=8.8,SNR=6.3						

*NEIC **16** 21:31:06.4, 36.58S×178.13E, h197km, MG3.9(WEL), After WEL.*

WEL 16 21:30:59.2±0.3, 36.14S×178.40E, h226km±7km, ML3.9/11, Error ellipse: s-maj=9.3km s-min=5.6km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PUZ	Puketiti	1.93	183	eP	P	21 31 39.7	+0.3
PUZ	Puketiti	1.93	183	PN	P	21 31 39.3	-0.1
PUZ				SN	S	21 32 09.2	-1.3
MWZ	Matawai	2.30	197	eP	P	21 31 43.0	-0.1
MWZ	Matawai	2.30	197	PN	P	21 31 42.9	-0.2
MWZ				SN	S	21 32 17.0	-0.1
URZ	Urewera	2.35	206	eP	P	21 31 43.0	-0.7
URZ	Urewera	2.35	206	PN	P	21 31 42.9	-0.8
URZ				SN	S	21 32 17.6	-0.6
KNZ	Kokohu	2.93	191	P	P	21 31 49.6	-0.4
KNZ	Kokohu	2.93	191	PN	P	21 31 49.6	-0.3
BKZ	Black Stump Fm	3.38	206	eP	P	21 31 54.6	-0.6
BKZ	Black Stump Fm	3.38	206	PN	P	21 31 54.3	-0.9
MGZ	Maungaku	3.65	218	P	P	21 31 58.4	0.0
MGZ	Maungaku	3.65	218	PN	P	21 31 58.3	-0.1
TUVZ	Tukino	3.81	214	P	P	21 31 59.7	-0.6
TUVZ	Tukino	3.81	214	PN	P	21 31 59.7	-0.6
FWVZ	Far West T-bar	3.84	215	eP	P	21 32 00.3	-0.4
FWVZ	Far West T-bar	3.84	215	PN	P	21 32 00.2	-0.5
MOVZ	Moawhango	3.88	212	P	P	21 31 52.3	-8.8
WNVZ	Wahianoa	3.88	214	P	P	21 32 00.4	-0.7
WNVZ	Wahianoa	3.88	214	PN	P	21 32 00.4	-0.8
BFZ	Birch Farm	4.84	200	PN	P	21 32 11.5	-1.4
MRZ	Mangatainoka R	5.03	205	P	P	21 32 12.9	-2.4
MRZ	Mangatainoka R	5.03	205	ePN	P	21 32 12.6	-2.7
MRZ				SN	S	21 33 10.9	-3.6
KIW	Kapiti Island	5.45	209	P	P	21 32 18.1	-2.5
KIW	Kapiti Island	5.45	209	PN	P	21 32 18.1	-2.6
MTW	Mount Morrison	5.50	203	P	P	21 32 18.7	-2.5
MTW	Mount Morrison	5.50	203	PN	P	21 32 18.7	-2.6
CAW	Cannon Point	5.61	207	P	P	21 32 19.5	-3.1
CAW	Cannon Point	5.61	207	ePN	P	21 32 19.5	-3.0
PAWZ	Paruwai Farm	5.73	203	PN	P	21 32 21.4	-2.7
MSWZ	Moikau Station	5.81	204	P	P	21 32 22.5	-2.7
MSWZ	Moikau Station	5.81	204	PN	P	21 32 22.4	-2.8
MRW	Makara Radio	5.85	209	P	P	21 32 22.7	-3.0
MRW	Makara Radio	5.85	209	PN	P	21 32 22.7	-3.0
SNZO	South Karori	5.92	208	eP	P	21 32 23.5	-3.0
SNZO	South Karori	5.92	208	PN	P	21 32 23.2	-3.3
QRZ	Quartz Range	6.57	223	ePN	P	21 32 30.8	-4.0
THZ	Tophouse	7.06	216	ePN	P	21 32 37.9	-3.2
MQZ	McQueen's Vall	8.75	209	eSN	S	21 34 33.3	-6.4

*IDC **16** 21:35:55.8±2.2, 22.32N×143.66E, h92km±19km, mb3.7/11, mb1 3.9/12, mb1mx3.8/19, mbtmp4.1/12, Error ellipse: s-maj=23.7km s-min=12.0km az=90.0*

*NEIC **16** 21:35:58.7±2.2, 22.27N×143.71E, h118km±20km, mb4.4/11, Error ellipse: s-maj=14.3km s-min=7.1km az=90.0*

*BJI **16** 21:35:58.7, 22.30N×143.70E, h117km, mB5.1, mb4.5*

ISC 16 21:35:53.6±1.9, 22.27N±0.06×143.8E±0.1, h85km±17km, n41, σ1s07/39, mb4.2/23, 1C, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.01	344	P	P	21 37 08.3	+0.4
	29nm,0.3s,baz=273,slow=21,SNR=27						
CBIJ				S	S	21 38 02.9	-2.2
	150nm,0.3s,baz=120,slow=24,SNR=17						
MAJO	Matsushiro	15.02	342	P	P	21 39 26.4	+4.0
	7.9nm,0.6s						
MAT	Matsushiro	15.02	342	P	P	21 39 23.0	+0.6
MAT	Matsushiro	15.02	342	P	P	21 39 23.3	+0.9
MDJ	Mudanjiang	25.16	336	P	P	21 41 14.3	+1.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,137nm,4.2s						
CN2	Changchun	26.29	329	eP	P	21 41 25.6	+2.7
HIA	Hailar	32.98	331	eP	P	21 42 21.8	-0.5
	comp=Z,5.7nm,0.7s,mb4.5						
GYA	Guiyang	33.98	285	⇑iP	P	21 42 31.3	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
ULN	Ulaanbaatar	38.87	320	eP	P	21 43 12.3	+0.2
	comp=Z,2.1nm,0.7s,mb4.1						
SONM	Songino Array	39.25	320	P	P	21 43 15.4	+0.1
	comp=Z,1.2nm,0.3s,mb4.1,baz=126,slow=8.7,SNR=30						
CMAR	Chiang Mai Arr	42.09	273	P	P	21 43 39.2	+0.3
	comp=Z,0.4nm,0.4s,mb3.5,baz=66,slow=6.7,SNR=7.0						
CTA	Charters Tower	42.17	177	P	P	21 43 39.6	0.0
	comp=Z,4.6nm,0.6s,mb4.4,baz=349,slow=9.4,SNR=8.8						
CTAO	Charters Tower	42.17	177	eP	P	21 43 39.2	-0.4
	comp=Z,3.9nm,0.6s,mb4.3						
WRAB	Tennant Creek	42.95	193	eP	P	21 43 46.0	0.0
	comp=Z,2.7nm,0.5s,mb4.2						
WB2	Warramunga Arr	42.95	193	eP	P	21 43 46.1	0.0
WRA	Warramunga Arr	42.96	193	P	P	21 43 45.1	-1.0
	comp=Z,1.2nm,0.3s,mb4.1,baz=14,slow=8.3,SNR=69						
WRA					ScP	21 49 15.6	
	comp=Z,1.6nm,0.8s,baz=5.7,slow=4.3,SNR=12						
FITZ	Fitzroy Crossi	43.87	205	eP	P	21 43 55.0	+1.5
	comp=Z,15nm,1.6s,mb4.5						
ASAR	Alice Springs	46.66	192	P	P	21 44 15.8	+0.2
	comp=Z,0.6nm,0.5s,mb3.6,baz=13,slow=12,SNR=8.6						
LSA	Lhasa	47.55	290	P	P	21 44 24.0	+1.5
LSA	Lhasa	47.55	290	eP	P	21 44 24.2	+1.6
	comp=Z,6.4nm,0.7s,mb4.6						
WMQ	Urumqi	50.64	309	eP	P	21 44 46.4	+0.2
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.6						
STKA	Stephens Creek	53.88	182	P	P	21 45 09.3	-1.2
	comp=Z,1.8nm,0.4s,mb4.5,baz=8.9,slow=7.0,SNR=12						
STKA	Stephens Creek	53.88	182	eP	P	21 45 09.1	-1.4
KURK	Kurchatov	57.43	317	P	P	21 45 34.1	-1.6
	comp=Z,62nm,0.4s,SNR=12						
KURK	Kurchatov	57.43	317	eP	P	21 45 34.6	-1.1
	comp=Z,5.0nm,0.5s,mb4.8						
SML	Sawmill	60.19	30	P	P	21 45 54.8	+0.2
NWAO	Narrogin (SRO)	60.46	206	eP	P	21 45 56.1	-0.8
	comp=Z,3.1nm,0.7s,mb4.5						
ILAR	Eielson Array	61.28	27	P	P	21 46 00.6	-1.4
	comp=Z,0.3nm,0.4s,mb3.6,baz=259,slow=5.4,SNR=5.8						
CHKZ	Chkalovo	62.45	320	eP	P	21 46 08.8	-1.1
	comp=Z,3.5nm,0.7s,mb4.5						
YKA	Yellowknife Ar	75.69	28	P	P	21 47 31.3	+0.3
	comp=Z,0.2nm,0.5s,baz=290,slow=5.3,SNR=6.0						
YKA	Yellowknife Ar	75.69	28	P	P	21 47 31.3	+0.3
ARCES	ARCESS Array B	78.55	342	P	P	21 47 46.1	-0.7
	comp=Z,2.3nm,0.7s,mb4.1,baz=74,slow=8.8,SNR=6.5						
JOF	Joensuu	80.03	335	ep	P	21 47 54.0	-1.0
	comp=Z,0.7nm,0.3s,mb4.0						
NVAR	Mina Array Bea	82.36	52	P	P	21 48 09.6	+1.9
	comp=Z,1.3nm,0.6s,mb3.9,baz=288,slow=4.6,SNR=11						
NVAR	Mina Array Bea	82.36	52	P	P	21 48 09.6	+1.9
MNV	Mina	82.47	52	P	P	21 48 09.1	+0.9
	comp=Z,0.6nm,0.5s,mb3.7						
FINES	FINESS Array B	82.90	335	P	P	21 48 08.6	-1.4
	comp=Z,0.9nm,0.3s,mb4.0,baz=68,slow=4.6,SNR=12						
FINES	FINESS Array B	82.90	335	P	P	21 48 08.6	-1.4
PLCA	Paso Flores	145.72	130	PKPbc	PKPbc	21 55 24.6	+1.4
	comp=Z,3.6nm,0.5s,baz=231,slow=3.4,SNR=11						
LPAZ	La Paz	149.34	84	PKPbc	PKPdf	21 55 35.4	+6.5
	comp=Z,1.9nm,0.5s,baz=25,slow=3.9,SNR=6.4						
LPAZ	La Paz	149.34	84	ePKPbc	PKPdf	21 55 36.4	+7.5

ISC 16 21:40:29.9±1.0, 37.75N±0.04×74.4E±0.2, h33km, n18, σ1s25/21, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KZA	Kyzart	4.38	8	P	P	21 41 37.2	+1.5
	SNR=6.8						
ULHL	Ulahol	4.71	17	P	P	21 41 44.3	+3.8
	SNR=8.7						
KBK	Karagaybulak	4.92	5	P	P	21 41 43.8	+0.3
	SNR=17						
EKS2	Erkin-Say	4.93	355	P	P	21 41 39.3	-4.3
	SNR=22						
TKM2	Tokmak 2	5.25	10	P	P	21 41 49.5	+1.5
	SNR=15						
CHMS	Chumysh	5.25	3	P	P	21 41 46.5	-1.6
	SNR=9.9						
DLH	Dalhousie	5.35	166	eP	P	21 41 50.0	+0.5
THN	Thein Dam	5.41	168	eP	P	21 41 47.6	-2.7
	117nm,0.2s						
THN				eS	S	21 42 52.2	-0.1
USP	Ospenovka	5.51	1	P	P	21 41 48.5	-3.3
	SNR=9.5						
PONG	Pong	5.92	167	eP	P	21 41 58.0	+0.6
PONG				eS	S	21 43 07.0	+2.0
SDNR	Sundarnagar	6.58	160	e	P	21 43 08.5	+62
SDNR				eS	S	21 43 22.1	+0.5
SMLA	Simla	6.99	160	iP	P	21 42 08.8	-3.7
SMLA				iS	S	21 43 27.9	-3.7
KOLN	Koldanda	12.60	139	eP	P	21 43 29.1	-0.4
	3.9nm,0.2s						
GKN	Gorkha	12.97	136	eP	P	21 43 34.4	-0.1
	8.7nm,0.3s						
KKN	Kakani	13.49	134	eP	P	21 43 40.7	-0.7
	6.0nm,0.4s						
DMN	Daman	13.54	135	eP	P	21 43 41.5	-0.4
	7.3nm,0.4s						
PKI	Pulchoki	13.73	134	eP	P	21 43 44.3	-0.2
	6.6nm,0.4s						
JIRN	Jiri	14.12	132	eP	P	21 43 50.0	+0.4
	12nm,0.4s						

*NEIC **16** 22:01:36.4, 32.66S×71.75W, h26km, ML3.3(GUC), After GUC.*

GUC 16 22:01:36.4±0.7, 32.66S×71.75W, h26km±4km, MD3.7, ML3.3, 11C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PACH	Papudo	0.29	65	⇓iP	Pb	22 01 43.5	+0.2
PACH				iS	Sb	22 01 48.5	+0.5
IHA	Instituto Hidr	0.38	166	⇑iP	Pb	22 01 44.2	-0.4
IHA				iS	Sb	22 01 50.7	+0.3
ROCH	El Roble	0.69	117	⇑iP	Pb	22 01 49.6	-0.2
ROCH				iS	Sb	22 01 59.5	+0.5
CHNG	Los Chungos	0.80	15	⇓iP	Pb	22 01 50.9	-0.7
CHNG				iS	Sb	22 02 01.8	-0.2
CHNG				AMP		22 02 02.2	
	comp=E,685nm,0.3s						
LCCH	Las Cruces	0.83	170	⇑iP	Pb	22 01 51.3	-0.8
LCCH				iS	Sb	22 02 02.2	-0.6
JACH	Jahuel	0.97	92	⇑iP	Pn	22 01 53.7	-0.8
JACH				iS	Sb	22 02 07.0	0.0
PEL	Peldehue	1.01	119	⇑iP	Pn	22 01 54.9	-0.2
PEL				iS	Sb	22 02 08.5	+0.3
PUEX	Pudahuel	1.14	134	⇑iP	Pn	22 01 56.8	0.0
PUEX				iS	Sn	22 02 11.9	+0.2
PUEX				AMP		22 02 17.3	
	comp=N,2μm,0.5s						
RCDM	Rinconada Maip	1.14	137	⇓iP	Pn	22 01 56.3	-0.6
RCDM				iS	Sn	22 02 11.3	-0.5
RCDM				AMP		22 02 12.1	
	comp=E,1μm,0.2s						
TACH	Talagante	1.20	146	⇑iP	Pn	22 01 57.4	-0.3
TACH				iS	Sn	22 02 12.7	-0.6
SAN	Santiago	1.21	131	iS	Sn	22 02 13.5	+0.1
SAN				AMP		22 02 16.1	
	comp=E,929nm,0.4s						
DSCH	Colegio Aleman	1.23	127	⇑iP	Pn	22 01 58.1	-0.1
DSCH				iS	Sn	22 02 14.4	+0.3
DSCH				AMP		22 02 15.7	
	comp=E,2μm,0.2s						
CLCH	Cerro Calan	1.25	126	⇓iP	Pn	22 01 58.3	-0.1
CLCH				iS	Sn	22 02 14.9	+0.3
CLCH				AMP		22 02 16.4	
	comp=E,1μm,0.3s						
CLCH				AMP		22 02 17.0	
	comp=E,1μm,0.2s						
ANTU	Antumapu	1.30	135	⇑iP	Pn	22 01 59.3	+0.2
ANTU				iS	Sn	22 02 16.2	+0.3
ANTU				AMP		22 02 19.1	
	comp=N,813nm,0.2s						
LNV	Longovilo	1.32	168	eP	Pn	22 01 58.2	-1.3
LNV				iS	Sn	22 02 15.6	-0.8
FCH	Farellones	1.39	119	⇓iP	Pn	22 02 00.5	0.0
FCH				iS	Sn	22 02 19.1	+0.9
FCH				AMP		22 02 20.4	
	comp=E,876nm,0.2s						
PCH	Pirque	1.41	133	⇓iP	Pn	22 02 01.0	+0.3
PCH				iS	Sn	22 02 19.8	+1.2
CHCH	Chadas Angostu	1.57	145	⇑iP	Pn	22 02 03.6	+0.6
CHCH				iS	Sn	22 02 23.8	+1.2
CACH	El Canelo	1.74	147	iP	Pn	22 02 06.7	+1.2
LMEL	Las Melosas	1.75	133	⇑iP	Pn	22 02 06.5	+0.9
LMEL				iS	Sn	22 02 29.4	+2.1
LMEL				AMP		22 02 31.1	
	comp=N,882nm,0.2s						
CICH	Cipreses	1.99	147	eP	Pn	22 02 09.7	+0.7
CICH				iS	Sn	22 02 35.1	+1.7
ZON	Zonda	2.83	68	eP	Pn	22 02 24.0	+3.0
ZON				eS	Sn	22 03 04.0	+9.4

IDC 16 22:11:05.8±1.7, 7.01N×93.20E, mb3.5/4, mb1 3.8/5, mb1mx3.6/16, mbtmp3.5/5, ML3.5/1, Error ellipse:

s-maj=75.3km s-min=29.9km az=49.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.68**	**26**	Pn	P	22 14 13.0	+2.6
	0.1nm,0.3s,baz=228,slow=14,SNR=10						
SONM	**Songino Array**	**42.21**	**13**	P	P	22 19 00.8	-1.3
	0.1nm,0.4s,baz=198,slow=8.4,SNR=1.8						
WRA	**Warramunga Arr**	**48.53**	**124**	P	P	22 19 51.0	-2.0
	0.6nm,0.5s,baz=304,slow=8.4,SNR=11						
FINES	**FINESS Array B**	**73.04**	**332**	P	P	22 22 37.2	-2.1
	0.8nm,0.8s,baz=102,slow=13,SNR=1.6						
GERES	**GERESS Array B**	**77.84**	**318**	P	P	22 23 05.7	-1.2
	0.3nm,0.6s,baz=68,slow=7.2,SNR=4.1						

WEL 16 22:14:34.1±0.2, 40.14S×176.48E, h62^{km}±2^{km}, ML3.5/4, 4C-1D, Error ellipse: s-maj=1.5km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWZ	**Pawanui**	**0.31**	**70**	⇑PN	P	22 14 44.3	-0.3
PWZ				SN	S	22 14 51.7	-0.6
PWZ				SN	S	22 14 52.3	0.0
BFZ	**Birch Farm**	**0.57**	**198**	⇑PN	P	22 14 46.9	-0.2
BFZ				SN	S	22 14 56.1	-0.5
BFZ				SN	S	22 14 56.5	0.0
MRZ	**Mangatainoka R**	**0.86**	**232**	PN	P	22 14 49.6	-1.0
MRZ				SN	S	22 15 01.6	-1.3
MOVZ	**Moawhango**	**0.92**	**322**	PN	P	22 14 49.8	-1.5
MOVZ				SN	S	22 15 01.1	-3.0
BKZ	**Black Stump Fm**	**0.97**	**1**	⇓PN	P	22 14 51.4	-0.6
BKZ				SN	S	22 15 04.1	-1.3
WNVZ	**Wahianoa**	**1.05**	**320**	PN	P	22 14 52.5	-0.7
WNVZ				SN	S	22 15 05.9	-1.4
TUVZ	**Tukino**	**1.08**	**324**	⇑PN	P	22 14 53.0	-0.5
TUVZ				SN	S	22 15 06.3	-1.5
MTVZ	**Mangateitei**	**1.08**	**314**	PN	P	22 14 52.8	-0.7
MTVZ				SN	S	22 15 06.8	-1.1
TRVZ	**Turoa**	**1.10**	**319**	PN	P	22 14 53.3	-0.5
TRVZ				SN	S	22 15 06.8	-1.6
DRZ	**Dome Shelter**	**1.11**	**320**	PN	P	22 14 53.6	-0.4
FWVZ	**Far West T-bar**	**1.13**	**321**	PN	P	22 14 53.7	-0.5
FWVZ				SN	S	22 15 06.9	-2.3
OTVZ	**Oturere**	**1.16**	**327**	PN	P	22 14 54.2	-0.3
OTVZ				SN	S	22 15 08.2	-1.6
NGZ	**Ngauruhoe**	**1.17**	**325**	PN	P	22 14 54.5	-0.3
NGZ				*e*SN	S	22 15 09.3	-0.9
WPVZ	**Whakapapa**	**1.18**	**322**	PN	P	22 14 54.3	-0.4
WPVZ				SN	S	22 15 09.4	-0.9
CNZ	**Chateau**	**1.18**	**322**	PN	P	22 14 54.5	-0.3
WAZ	**Wanganui**	**1.21**	**288**	PN	P	22 14 55.2	0.0
WAZ				SN	S	22 15 10.9	-0.1
PKVZ	**Pokaka**	**1.22**	**314**	PN	P	22 14 54.7	-0.6
PKVZ				SN	S	22 15 10.1	-1.1
WTVZ	**West Tongariro**	**1.23**	**326**	⇑PN	P	22 14 55.2	-0.3
WTVZ				SN	S	22 15 10.0	-1.5
MTW	**Mount Morrison**	**1.26**	**216**	PN	P	22 14 55.0	-1.0
KATZ	**Kakaramea**	**1.31**	**332**	PN	P	22 14 56.4	-0.4
KATZ				SN	S	22 15 13.7	+0.2
TWVZ	**Taurewa**	**1.33**	**323**	PN	P	22 14 56.5	-0.6
MGZ	**Maungaku**	**1.35**	**327**	PN	P	22 14 56.4	-0.9
RATZ	**Rangitukua**	**1.38**	**336**	PN	P	22 14 56.8	-1.0
KIW	**Kapiti Island**	**1.40**	**238**	PN	P	22 14 56.9	-1.0
PAWZ	**Paruwai Farm**	**1.48**	**212**	PN	P	22 14 58.0	-1.1
MSWZ	**Moikau Station**	**1.58**	**216**	PN	P	22 14 58.6	-1.9

*NEIC **16** 22:41:14.3±0.6, 52.36S×159.58E, h10^{km}, mb5.0/8, MS5.2/115, Error ellipse: s-maj=32.6km s-min=11.1km az=65.0*

*IDC **16** 22:41:14.6±1.3, 51.17S×160.45E, mb4.3/5, mb1 4.6/7, mb1mx4.4/12, mbtmp4.5/7, ML4.5/2, MS5.0/14, Ms1 5.0/14, ms1mx4.6/20, Error ellipse: s-maj=44.5km s-min=26.5km az=177.0*

*HRVD **16** 22:41:14.3±0.1, 52.14S×160.43E, h12^{km}, MW5.7/73, Centroid moment Tensor Solution. LP body waves: s71,c129;Mantle waves: s73,c151; Half duration: 1s7 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.04; $M_{\theta\theta}$2.98±.04; $M_{\phi\phi}$-3.04±.04; $M_{r\theta}$-1.35±.12; $M_{\theta\phi}$1.21±.04; $M_{\phi r}$0.95±.12; Best double couple: $M_0$3.64×10^{17} NP1:ϕ_s214°,δ63°,λ180°. NP2:ϕ_s304°,δ90°,λ27°. Principal axes: T 3.607, Plg19°, Azm172°; N .071, Plg63°, Azm305°; P -3.673, Plg19°, Azm76°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **16** 22:41:14.2, 52.40S×159.60E, h20^{km}, mB5.7, mb5.5, Ms5.2, Msz4.9*

ISC 16 22:41:10.5±0.4**, 51.95S**±0.05×**161.30E**±0.09**, h10^{km}, n208, σ1s44**/73**, mb4.9**/14**, MS5.1**/126**, 10C-4D, North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**7.48**	**38**	PN	**Pn**	**22 43 02.4**	**+0.1**
WHZ				*e*SN	**Sn**	**22 44 27.9**	**-0.2**
WHZ	**Wether Hill Ro**	**7.48**	**38**	PN	**Pn**	**22 43 02.4**	**+0.1**
WHZ				*e*SN	**Sn**	**22 44 27.9**	**-0.2**
MLZ	**Mavora Lakes**	**8.02**	**37**	PN	**P**	**22 43 10.1**	**+0.2**
MLZ	**Mavora Lakes**	**8.02**	**37**	PN	**P**	**22 43 10.1**	**+0.2**
TUZ	**Tuapeka**	**8.13**	**46**	PN	**P**	**22 43 11.0**	**-0.4**
TUZ				SN	**Sn**	**22 44 39.7**	**-4.6**
TUZ	**Tuapeka**	**8.13**	**46**	PN	**P**	**22 43 11.0**	**-0.4**
TUZ				SN	**Sn**	**22 44 39.7**	**-4.6**
MSZ	**Milford Sound**	**8.52**	**34**	PN	**P**	**22 43 20.5**	**+3.7**
MSZ	**Milford Sound**	**8.52**	**34**	PN	**P**	**22 43 20.5**	**+3.7**
EAZ	**Earnscleugh**	**8.56**	**41**	PN	**P**	**22 43 17.2**	**-0.2**
EAZ				*e*SN	**Sn**	**22 44 53.3**	**-1.8**
EAZ	**Earnscleugh**	**8.56**	**41**	PN	**P**	**22 43 17.2**	**-0.2**
EAZ				*e*SN	**Sn**	**22 44 53.3**	**-1.8**
WKZ	**Wanaka**	**8.78**	**39**	PN	**P**	**22 43 21.3**	**+0.8**
WKZ				SN	**Sn**	**22 45 00.5**	**-0.1**
WKZ	**Wanaka**	**8.78**	**39**	PN	**P**	**22 43 21.3**	**+0.8**
WKZ				SN	**Sn**	**22 45 00.5**	**-0.1**
ODZ	**Otahua Downs**	**9.28**	**46**	PN	**P**	**22 43 26.5**	**-0.9**
ODZ	**Otahua Downs**	**9.28**	**46**	PN	**P**	**22 43 26.5**	**-0.9**
JCZ	**Jackson Bay**	**9.33**	**35**	PN	**P**	**22 43 28.9**	**+0.9**
JCZ				*e*SN	**Sn**	**22 45 13.7**	**-0.4**
JCZ	**Jackson Bay**	**9.33**	**35**	PN	**P**	**22 43 28.9**	**+0.9**
JCZ				*e*SN	**Sn**	**22 45 13.7**	**-0.4**
LBZ	**Lake Benmore**	**9.62**	**42**	PN	**P**	**22 43 31.0**	**-0.9**
LBZ	**Lake Benmore**	**9.62**	**42**	PN	**P**	**22 43 31.0**	**-0.9**
FOZ	**Fox Glacier**	**10.11**	**37**	PN	**P**	**22 43 40.8**	**+2.0**
FOZ	**Fox Glacier**	**10.11**	**37**	PN	**P**	**22 43 40.8**	**+2.0**
RPZ	**Rata Peaks**	**10.52**	**42**	Pn	**P**	**22 43 43.6**	**-0.8**
	6.2nm,0.3s,baz=173,slow=1.6,SNR=19						
RPZ				Sn	**S**	**22 45 40.4**	**-3.0**
	7.2nm,0.3s,baz=344,slow=24,SNR=4.8						
RPZ				LR	LR	22 47 31.5	
	comp=Z,23µm,19.5s,baz=201,slow=36						
MQZ	**McQueen's Vall**	**11.23**	**47**	PN	**P**	**22 43 54.2**	**+0.2**
MQZ	**McQueen's Vall**	**11.23**	**47**	PN	**P**	**22 43 54.2**	**+0.2**
TAU	**Tasmania Unive**	**13.07**	**308**	*e*P	**P**	**22 44 13.3**	**-5.5**
	68nm,0.7s						
SNZO	**South Karori**	**14.05**	**46**	P	**P**	**22 44 29.1**	**-2.5**
URZ	**Urewera**	**17.61**	**45**	P	**P**	**22 45 20.8**	**+3.4**
	1.0nm,0.3s,baz=212,slow=6.6,SNR=6.9						
DRV	**Dumont d'Urvil**	**18.16**	**208**	P	**P**	**22 45 24.0**	**-0.1**
DRV				S	**S**	**22 48 36.0**	**-7.9**
DRV				R		22 49 00.0	
TOO	**Toolangi**	**18.18**	**316**	*e*P	**P**	**22 45 23.3**	**-1.2**
	2.5nm,1.4s						
CNB	**Canberra Magne**	**18.70**	**328**	*e*P	**P**	**22 45 33.0**	**+2.1**
	2µm,1.6s						
STKA	**Stephens Creek**	**24.70**	**317**	P	**P**	**22 46 32.3**	**-0.5**
	9.8nm,0.9s,mb4.3,baz=147,slow=9.6,SNR=10						
STKA				LR	LR	22 54 12.8	
	comp=Z,7µm,20.5s,MS5.1,baz=293,slow=33						
STKA	**Stephens Creek**	**24.70**	**317**	*e*P	**P**	**22 46 31.8**	**-1.0**
VNDA	**Vanda**	**25.67**	**180**	LR	LR	22 54 41.4	
	comp=Z,5µm,19.9s,MS5.0,baz=2.1,slow=30						
SBA	**Scott Base**	**26.08**	**177**	*e*P	**P**	**22 46 43.4**	**-2.0**
	13nm,1.1s,mb4.4						
SBA				LR	LR		
	comp=Z,6µm,19.0s,MS5.2						
RAO	**Raoul Island**	**27.44**	**42**	PFAKE		22 47 20.0	+22
RAO				LR	LR		
	comp=Z,5µm,19.0s,MS5.1						
CASY	**Casey**	**28.75**	**221**	PFAKE		22 47 10.0	+0.3
CASY				LR	LR		
	comp=Z,1µm,19.0s,MS4.6						
CTA	**Charters Tower**	**33.91**	**334**	*e*P	**P**	**22 47 55.4**	**-0.2**
	comp=Z,11nm,1.0s,mb4.7						
CTA	**Charters Tower**	**33.91**	**334**	P	**P**	**22 47 55.2**	**-0.4**
	comp=Z,9.1nm,1.0s,mb4.7,baz=192,slow=8.2,SNR=4.7						
CTA				LR	LR	22 59 18.3	
	comp=Z,4µm,19.6s,MS5.1,baz=157,slow=33						
CTAO	**Charters Tower**	**33.91**	**334**	*e*P	**P**	**22 47 55.6**	**+0.1**
	comp=Z,21nm,1.1s,mb5.0						
CTAO				LR	LR		
	comp=Z,4µm,19.0s,MS5.1						
ASAR	**Alice Springs**	**35.18**	**313**	P	**P**	**22 48 02.5**	**-4.0**
	comp=Z,6.4nm,1.0s,mb4.5,baz=147,slow=8.0,SNR=20						
ASAR				LR	LR	23 01 16.9	
	comp=Z,3µm,18.1s,MS5.0,baz=152,slow=35						
ASPA	**Alice Springs**	**35.18**	**313**	*e*P	**P**	**22 48 07.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**36.97**	**283**	PFAKE		22 48 30.0	+8.5
NWAO				LR	LR		
	comp=Z,710nm,22.0s,MS4.4						
WB2	**Warramunga Arr**	**38.25**	**316**	*e*P	**P**	**22 48 29.1**	**-3.3**
WRA	**Warramunga Arr**	**38.25**	**316**	P	**P**	**22 48 28.0**	**-4.4**
	comp=Z,1.8nm,0.5s,mb4.0,baz=141,slow=9.5,SNR=20						
WRAB	**Tennant Creek**	**38.26**	**316**	*e*P	**P**	**22 48 29.3**	**-3.1**
	comp=Z,54nm,1.1s,mb5.2						
WRAB				LR	LR		
	comp=Z,974nm,21.0s,MS4.6						
HNR	**Honiara**	**42.41**	**358**	PFAKE		22 49 20.0	+13
HNR				LR	LR		
	comp=Z,3µm,21.0s,MS5.2						
RAR	**Rarotonga**	**42.97**	**59**	LR	LR	23 03 33.1	
	comp=Z,1µm,18.7s,MS4.9,baz=193,slow=31						
RAR	**Rarotonga**	**42.97**	**59**	PFAKE		22 49 30.0	+19
RAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.1						
PMG	**Port Moresby**	**43.97**	**340**	LR	LR	23 05 00.2	
	comp=Z,3µm,18.6s,MS5.3,baz=344,slow=33						
PMG	**Port Moresby**	**43.97**	**340**	*e*P	**P**	**22 49 21.3**	**+1.8**
	comp=Z,19nm,1.0s,mb4.8						
PMG				LR	LR		
	comp=Z,3µm,19.0s,MS5.2						
MBWA	**Marble Bar**	**44.43**	**298**	*e*P	**P**	**22 49 18.9**	**-4.3**
MBWA				LR	LR		
	comp=Z,2µm,20.0s,MS5.0						
MAW	**Mawson**	**46.31**	**212**	LR	LR	23 07 04.6	
	comp=Z,1µm,18.9s,MS4.9,baz=297,slow=33						
TBI	**Tubuai**	**47.09**	**72**	*e*SS	SS	23 00 20.4	+25
TBI				*e*LR	LR	23 02 59.1	
	comp=Z,5µm,37.0s,baz=224						
PPT	**Papeete**	**51.54**	**67**	*e*P	**P**	**22 50 20.5**	**+1.9**
	comp=Z,23nm,1.3s,mb5.0						
PPT	**Papeete**	**51.54**	**67**	*e*SS	SS	23 01 27.8	+16
PPT				*e*LR	LR	23 05 00.4	
	comp=Z,4µm,31.0s,baz=227						
TVO	**Taravao**	**51.55**	**68**	*e*P	**P**	**22 50 20.6**	**+1.9**
	comp=Z,73nm,1.1s,mb5.5						
TIAR	**Tiarei**	**51.68**	**67**	*e*P	**P**	**22 50 21.6**	**+2.0**
	comp=Z,86nm,0.9s,mb5.7						
SYO	**Syowa Base**	**52.01**	**203**	⇑P	**P**	**22 50 17.0**	**-4.5**
PMOR	**Pomariorio Ree**	**54.55**	**67**	*e*P	**P**	**22 50 42.9**	**+1.9**
	comp=Z,48nm,1.1s,mb5.4						
RKT	**Rikitea**	**56.02**	**85**	*e*SS	SS	23 02 32.0	+7.6
RKT				*e*LQ		23 04 48.2	
RKT				*e*LR	LR	23 07 09.6	
	comp=Z,3µm,35.0s,baz=220						
SNAA	**Sanae**	**56.17**	**186**		**P**	**22 50 59.3**	**+7.3**
SNAA	**Sanae**	**56.17**	**186**	⇑*i*P	**P**	**22 50 49.8**	**-2.2**
SNAA				P		22 50 59.3	
VNA3	**Neumayer Olymp**	**56.94**	**183**	⇑*i*	**P**	**22 50 55.7**	**-1.8**
VNA2	**Neumayer--Watz**	**57.16**	**184**	⇑*i*	**P**	**22 50 58.5**	**-0.6**
VNA2	**Neumayer--Watz**	**57.16**	**184**	⇑*i*	**P**	**22 51 05.6**	**+6.5**
VNA2	**Neumayer--Watz**	**57.16**	**184**	⇑*i*P	**P**	**22 50 54.8**	**-4.3**
VNA2				⇑*i*P	pP	22 50 58.5	-3.7
VNA2				⇑*i*P		22 51 05.6	
VNA1	**Neumayer--Stat**	**57.47**	**184**	⇑*i*	**P**	**22 51 01.7**	**+0.4**
PMSA	**Palmer Station**	**58.45**	**159**	PFAKE		22 51 20.0	+12
PMSA				LR	LR		
	comp=Z,859nm,19.0s,MS4.9						
KWAJ	**Kwajalein Atol**	**60.75**	**7**	PFAKE		22 51 40.0	+15
KWAJ				LR	LR		
	comp=Z,635nm,21.0s,MS4.7						
GUMO	**Guam**	**66.81**	**343**	PFAKE		22 52 20.0	+16
GUMO				LR	LR		
	comp=Z,1µm,19.0s,MS5.1						
WAKE	**Wake Island**	**71.08**	**5**	PFAKE		22 52 50.0	+19
WAKE				LR	LR		
	comp=Z,34µm,21.0s						
PLCA	**Paso Flores**	**77.29**	**142**	LR	LR	23 20 50.7	
	comp=Z,520nm,18.1s,MS4.9,baz=210,slow=30						
PLCA	**Paso Flores**	**77.29**	**142**	PFAKE		22 53 20.0	+14
PLCA				LR	LR		
	comp=Z,947nm,22.0s,MS5.1						
TRQA	**Tornquist**	**82.73**	**147**	PFAKE		22 53 50.0	+15
TRQA				LR	LR		
	comp=Z,858nm,20.0s,MS5.1						
JOW	**Kunigami**	**83.62**	**331**	LR	LR	23 25 53.8	
	comp=Z,320nm,20.2s,MS4.7,baz=123,slow=32						
QIZ	**Qiongzhong**	**83.67**	**312**	PFAKE		22 53 50.0	+9.4
QIZ				LR	LR		
	comp=Z,438nm,21.0s,MS4.8						
TATO	**Taipei**	**84.17**	**324**	PFAKE		22 54 00.0	+17
TATO				LR	LR		
	comp=Z,521nm,20.0s,MS4.9						
CM31	**Chiang Mai Arr**	**88.54**	**303**	PFAKE		22 54 20.0	+15
CM31				LR	LR		
	comp=Z,325nm,19.0s,MS4.8						
CMAR	**Chiang Mai Arr**	**88.54**	**303**	P	**P**	**22 54 05.3**	**+0.7**
	comp=Z,0.8nm,0.5s,mb4.3,baz=162,slow=3.5,SNR=6.8						
CMAR				LR	LR	23 38 02.7	
	comp=Z,222nm,18.2s,MS4.6,baz=150,slow=39						
SUR	**Sutherland**	**89.16**	**213**	LR	LR	23 32 57.1	
	comp=Z,470nm,19.8s,MS4.9,baz=156,slow=35						
SUR	**Sutherland**	**89.16**	**213**	PFAKE		22 54 20.0	+13
SUR				LR	LR		
	comp=Z,167nm,19.0s,MS4.5						
SSE	**Sheshan**	**89.86**	**326**	P	**P**	**22 54 13.5**	**+2.9**
SSE				PP	PP	22 57 45.1	-0.4
SSE				S	S	23 05 04.6	+4.1
SSE				XS		23 05 11.5	
SSE				SS	SS	23 11 02.5	+0.8
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.8						
SSE				AMB	AMB		
	comp=Z,92nm,6.7s						
SSE				LR	LR		
	comp=N,115nm,27.2s,MS4.9						
SSE				LR	LR		
	comp=E,598nm,27.2s,MS4.9						
SSE				LR	LR		
	comp=Z,352nm,28.6s,MS4.6						
SSE	**Sheshan**	**89.86**	**326**	P	**P**	**22 54 13.5**	**+2.9**
	comp=Z,35nm,0.7s,mb5.8						
SSE				sP	sP	22 54 18.3	+3.5
SSE				PP	PP	22 57 45.1	-0.4
SSE				S	S	23 05 04.6	+4.1
SSE				sS		23 05 11.5	
SSE				SS	SS	23 11 02.5	+0.8
SSE				LR	LR		
	comp=Z,350nm,28.6s,MS4.6						
MAJO	**Matsushiro**	**90.41**	**342**	PFAKE		22 54 30.0	+17
MAJO				LR	LR		
	comp=Z,574nm,19.0s,MS5.0						
MAT	**Matsushiro**	**90.41**	**342**	P	**P**	**22 54 18.8**	**+5.8**
MAT				S	S	23 04 52.0	-13
BOSA	**Boshof**	**91.00**	**218**	PFAKE		22 54 30.0	+14
BOSA				LR	LR		
	comp=Z,573nm,20.0s,MS5.0						
ENH	**Enshi**	**93.61**	**317**	PFAKE		22 54 40.0	+12
ENH				LR	LR		
	comp=Z,335nm,21.0s,MS4.8						
LVC	**Limon Verde**	**93.77**	**135**	PFAKE		22 54 50.0	+21
LVC				LR	LR		
	comp=Z,534nm,19.0s,MS5.0						
INCN	**Inchon**	**94.07**	**333**	PFAKE		22 54 40.0	+10
INCN				LR	LR		
	comp=Z,538nm,19.0s,MS5.0						
LBTB	**Lobatse**	**94.10**	**219**	LR	LR	23 29 49.0	
	comp=Z,476nm,19.8s,MS5.0,baz=162,slow=31						
LBTB	**Lobatse**	**94.10**	**219**	PFAKE		22 54 40.0	+10
LBTB				LR	LR		
	comp=Z,667nm,21.0s,MS5.1						
ERM	**Erimo**	**94.91**	**347**	PFAKE		22 54 50.0	+17
ERM				LR	LR		
	comp=Z,7.0nm,19.0s						
MATP	**Matopo**	**97.00**	**224**	LR	LR	23 33 55.6	
	comp=Z,409nm,18.6s,MS4.9,baz=178,slow=32						
LPAZ	**La Paz**	**99.65**	**132**	PFAKE		22 55 10.0	+14
LPAZ				LR	LR		
	comp=Z,411nm,21.0s,MS4.9						
BJT	**Baijiatuau**	**99.66**	**326**	PFAKE		22 55 10.0	+15
BJT				LR	LR		
	comp=Z,433nm,19.0s,MS5.0						
BJI	**Beijing**	**99.67**	**327**	P	**P**	**22 55 01.4**	**+6.2**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,451nm,21.9s,MS5.0						
BJI				LR	LR		
	comp=E,209nm,21.9s,MS5.0						
BJI				LR	LR		
	comp=Z,427nm,25.4s,MS4.8						
BJI	**Beijing**	**99.67**	**327**	P	**P**	**22 55 01.4**	**+6.2**
	comp=Z,3.0nm,0.9s,mb4.7						
BJI				SKS	SKS	23 05 33.1	-4.3
BJI				S	S	23 06 41.9	+17
BJI				SS	SS	23 13 26.0	+6.0
BJI				LR	LR		
	comp=Z,430nm,25.4s,MS4.8						
YSS	**Yuzh-Sakhalins**	**99.80**	**347**	PFAKE		22 55 10.0	+14
YSS				LR	LR		
	comp=Z,917nm,22.0s,MS5.2						
MDJ	**Mudanjiang**	**100.01**	**338**	P	**P**	**22 55 01.8**	**+5.2**
MDJ				PP	PP	22 59 07.1	+2.8
MDJ				SKS	SKS	23 05 38.5	-0.4
MDJ				S	S	23 06 36.3	+8.9
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.6s						
MDJ				LR	LR		
	comp=E,477nm,25.5s						
MDJ				LR	LR		
	comp=Z,624nm,33.0s						
MDJ	**Mudanjiang**	**100.01**	**338**	PFAKE		22 55 10.0	+13
MDJ				LR	LR		
	comp=Z,414nm,20.0s,MS4.9						
LSZ	**Lusaka**	**101.68**	**226**	PFAKE		22 55 10.0	+5.2
LSZ				LR	LR		
	comp=Z,933nm,20.0s,MS5.3						
LSA	**Lhasa**	**101.79**	**303**	PFAKE		22 55 20.0	+15
LSA				LR	LR		
	comp=Z,312nm,20.0s,MS4.8						
HHC	**Hu-ho-hao-te**	**102.02**	**324**	*e*P	Pdif	22 55 07.6	+1.8
HHC				AP		22 55 11.3	
HHC				PP	PP	22 59 21.5	+1.9
HHC				SKS	SKS	23 05 46.3	-2.5
HHC				S	S	23 06 44.8	+0.5
HHC				PS	PS	23 08 24.3	+1.6
HHC				SS	SS	23 13 52.8	0.0
HHC				AMB	AMB		
	comp=Z,117nm,6.1s						
HHC				LR	LR		
	comp=N,197nm,26.8s,MS4.7						
HHC				LR	LR		
	comp=E,192nm,26.8s,MS4.7						
HHC				LR	LR		
	comp=Z,358nm,29.7s,MS4.7						
TSUM	**Tsumeb**	**102.39**	**215**	PFAKE		22 55 20.0	+12
TSUM				LR	LR		
	comp=Z,561nm,19.0s,MS5.1						
PET	**Petropavlovsk**	**104.63**	**358**	PFAKE		22 59 50.0	
PET				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
SMY	**Shemya**	**104.86**	**8**	PFAKE		22 59 50.0	
SMY				LR	LR		
	comp=Z,2µm,21.0s,MS5.6						
HIA	**Hailar**	**106.86**	**333**	PFAKE		22 59 50.0	
HIA				LR	LR		
	comp=Z,442nm,20.0s,MS5.0						
OTAV	**Otavalo**	**108.36**	**114**	PFAKE		23 00 00.0	
OTAV				LR	LR		
	comp=Z,280nm,20.0s,MS4.8						
KMBO	**Kilima Mbogo**	**109.33**	**241**	PFAKE		22 59 50.0	
KMBO				LR	LR		
	comp=Z,260nm,20.0s,MS4.8						
ULN	**Ulaanbaatar**	**109.71**	**325**	*e*PKiKP		22 59 45.7	
ULN				LR	LR		
	comp=Z,355nm,21.0s,MS4.9						
SAO	**San Andreas Ge**	**111.01**	**57**	PFAKE		23 00 00.0	+13
SAO				LR	LR		
	comp=Z,415nm,20.0s,MS5.0						
PFO	**Pinyon Flat Ob**	**111.29**	**63**	PFAKE		23 00 00.0	+13
PFO				LR	LR		
	comp=Z,222nm,20.0s,MS4.7						
MA2	**Magadan**	**111.50**	**354**	PFAKE		23 00 00.0	+13
MA2				LR	LR		
	comp=Z,720nm,22.0s,MS5.2						
HOPS	**Hopland**	**111.87**	**54**	PFAKE		23 00 00.0	+12
HOPS				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
CMB	**Columbia Colle**	**112.52**	**57**	PFAKE		23 00 00.0	+11
CMB				LR	LR		
	comp=Z,515nm,19.0s,MS5.1						
JTS	**JuntasAbangare**	**112.63**	**103**	PFAKE		23 00 00.0	+10
JTS				LR	LR		
	comp=Z,125nm,21.0s,MS4.5						
DAC	**Darwin (Calif)**	**112.67**	**60**	PFAKE		23 00 00.0	+10
DAC				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
MBAR	**Mbarara**	**113.22**	**236**	PFAKE		23 00 00.0	+8.6
MBAR				LR	LR		
	comp=Z,98nm,19.0s,MS4.4						
TUC	**Tucson**	**113.50**	**67**	PFAKE		23 00 10.0	+18
TUC				LR	LR		
	comp=Z,691nm,19.0s,MS5.3						
MNV	**Mina**	**113.98**	**58**	PFAKE		23 00 10.0	+18
MNV				LR	LR		
	comp=Z,579nm,20.0s,MS5.2						
TLY	**Talaya**	**114.11**	**325**	PFAKE		23 00 00.0	+7.8
TLY				LR	LR		
	comp=Z,90nm,20.0s,MS4.4						
YBH	**Yreka Blue Hor**	**114.13**	**53**	PFAKE		23 00 10.0	+17
YBH				LR	LR		
	comp=Z,629nm,19.0s,MS5.2						
TPH	**Tonopah**	**114.21**	**59**	PFAKE		23 00 10.0	+17
TPH				LR	LR		
	comp=Z,369nm,19.0s,MS5.0						
WMQ	**Urumqi**	**114.55**	**310**	PKP	PKPdf	22 59 53.3	+0.1
WMQ				PP	PP	23 00 52.0	-0.2
WMQ				PPP	PPP	23 03 15.6	-1.7
WMQ				PKS	PKS	23 03 28.6	+2.7
WMQ				SKKS		23 07 44.0	
WMQ				PP	PP		
	comp=Z,107nm,4.0s						
WMQ				LR	LR		
	comp=N,2µm,29.4s,MS5.5						
WMQ				LR	LR		
	comp=E,1µm,32.9s,MS5.5						
WMQ				LR	LR		
	comp=Z,637nm,29.5s,MS5.0						
HUMO	**Hull Mountain**	**114.67**	**52**	PFAKE		23 00 10.0	+17
HUMO				LR	LR		
	comp=Z,496nm,20.0s,MS5.1						
MOD	**Modoc**	**115.45**	**54**	PFAKE		23 00 10.0	+15
MOD				LR	LR		
	comp=Z,741nm,20.0s,MS5.3						
LTX	**Lajitas**	**115.48**	**74**	PFAKE		23 00 10.0	+15
LTX				LR	LR		
	comp=Z,886nm,19.0s,MS5.4						
WUAZ	**Wupatki**	**115.52**	**65**	PFAKE		23 00 10.0	+15
WUAZ				LR	LR		
	comp=Z,1µm,21.0s,MS5.5						
KDAK	**Kodiak Island**	**115.69**	**25**	PFAKE		23 00 10.0	+15
KDAK				LR	LR		
	comp=Z,231nm,21.0s,MS4.8						
BMN	**Battle Mountai**	**115.94**	**57**	PFAKE		23 00 10.0	+14
BMN				LR	LR		
	comp=Z,798nm,19.0s,MS5.3						
COR	**Corvallis**	**115.98**	**50**	PFAKE		23 00 10.0	+14
COR				LR	LR		
	comp=Z,1µm,20.0s,MS5.4						
MNTX	**Cornudas Mount**	**116.19**	**71**	PFAKE		23 00 10.0	+13
MNTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
YAK	**Yakutsk**	**116.37**	**344**	PFAKE		23 00 10.0	+14
YAK				LR	LR		
	comp=Z,505nm,21.0s,MS5.1						
WVOR	**Wild Horse Val**	**116.68**	**55**	PFAKE		23 00 10.0	+13
WVOR				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
ELK	**Elko**	**117.20**	**58**	PFAKE		23 00 10.0	+11
ELK				LR	LR		
	comp=Z,654nm,20.0s,MS5.2						
MVU	**Marysvale**	**117.21**	**62**	PFAKE		23 00 10.0	+11

MVU LR LR
comp=Z,932nm,19.0s,MS5.4
ANMO Albuquerque 117.89 68 PFAKE 23 00 10.0 +10
ANMO LR LR
comp=Z,759nm,20.0s,MS5.3
DUG Dugway 118.10 60 PFAKE 23 00 10.0 +10
DUG LR LR
comp=Z,798nm,19.0s,MS5.4
TEIG Tepich 118.22 93 PFAKE 23 00 20.0 +19
TEIG LR LR
comp=Z,199nm,21.0s,MS4.7
JCT Junction City 118.63 76 PFAKE 23 00 20.0 +18
JCT LR LR
comp=Z,673nm,19.0s,MS5.3
BMO Blue Mountains 119.09 54 PFAKE 23 00 20.0 +18
BMO LR LR
comp=Z,694nm,20.0s,MS5.3
FIB Fire Island 119.23 25 PFAKE 23 00 20.0 +18
FIB LR LR
comp=Z,1μm,21.0s,MS5.6
TNA Tin City 119.54 14 PFAKE 23 00 20.0 +18
TNA LR LR
comp=Z,453nm,20.0s,MS5.1
HLID Hailey 119.64 56 PFAKE 23 00 20.0 +17
HLID LR LR
comp=Z,583nm,19.0s,MS5.2
BILL Bilibino 119.73 2 PFAKE 23 00 20.0 +17
BILL LR LR
comp=Z,622nm,21.0s,MS5.2
HWUT Hardware Ranch 119.76 60 PFAKE 23 00 20.0 +17
HWUT LR LR
comp=Z,977nm,19.0s,MS5.5
SDV Santo Domingo 119.84 116 PFAKE 23 00 20.0 +16
SDV LR LR
comp=Z,408nm,20.0s,MS5.1
AAK Ala-Archa 120.30 301 PFAKE 23 00 20.0 +16
AAK LR LR
comp=Z,70nm,20.0s,MS4.3
DIV Divide 120.38 27 PFAKE 23 00 20.0 +16
DIV LR LR
comp=Z,3μm,20.0s,MS5.9
SDCO Great Sand Dun 120.41 67 PFAKE 23 00 20.0 +15
SDCO LR LR
comp=Z,703nm,21.0s,MS5.3
SIT Sitka 120.42 35 PFAKE 23 00 20.0 +16
SIT LR LR
comp=Z,1μm,20.0s,MS5.6
RCBR Riachuelo 120.60 160 PFAKE 23 00 20.0 +14
RCBR LR LR
comp=Z,371nm,19.0s,MS5.0
AMTX Amarillo 120.62 71 PFAKE 23 00 20.0 +15
AMTX LR LR
comp=Z,1μm,20.0s,MS5.5
HKT Hockley 120.65 80 PFAKE 23 00 20.0 +15
HKT LR LR
comp=Z,627nm,19.0s,MS5.3
AHID Auburn Hatcher 120.82 59 PFAKE 23 00 20.0 +14
AHID LR LR
comp=Z,690nm,20.0s,MS5.3
NEW Newport 121.59 51 PFAKE 23 00 20.0 +13
NEW LR LR
comp=Z,1μm,22.0s,MS5.6
BW06 Boulder Array 121.64 60 PFAKE 23 00 20.0 +13
BW06 LR LR
comp=Z,985nm,21.0s,MS5.4
MCK McKinley 121.71 24 PFAKE 23 00 20.0 +13
MCK LR LR
comp=Z,706nm,21.0s,MS5.3
ISCO Idaho Springs 121.77 65 PFAKE 23 00 20.0 +13
ISCO LR LR
comp=Z,1μm,20.0s,MS5.5
MSO Missoula 122.16 54 PFAKE 23 00 20.0 +12
MSO LR LR
comp=Z,594nm,20.0s,MS5.2
WMOK Wichita Mounta 122.23 74 PFAKE 23 00 20.0 +12
WMOK LR LR
comp=Z,769nm,19.0s,MS5.4
LKWY Lake 122.43 58 PFAKE 23 00 20.0 +12
LKWY LR LR
comp=Z,1μm,19.0s,MS5.5
BOZ Bozeman (W) 122.52 56 PFAKE 23 00 20.0 +11
BOZ LR LR
comp=Z,461nm,20.0s,MS5.1
COLA College 122.92 23 PFAKE 23 00 20.0 +11
COLA LR LR
comp=Z,1μm,21.0s,MS5.5
ILAR Eielson Array 123.07 24 PKP PKPdf 23 00 10.4 +1.2
comp=Z,1.6nm,1.0s,baz=285,slow=3.1,SNR=5.6
KURK Kurchatov 123.79 311 PFAKE 23 00 20.0 +9.0
KURK LR LR
comp=Z,86nm,21.0s,MS4.4
CBKS Cedar Bluff 124.45 69 PFAKE 23 00 30.0 +17
CBKS LR LR
comp=Z,938nm,21.0s,MS5.4
MIAR Mount Ida 125.22 77 PFAKE 23 00 30.0 +16
MIAR LR LR
comp=Z,577nm,20.0s,MS5.2
TIXI Tiksi 125.42 348 PFAKE 23 00 30.0 +16
TIXI LR LR
comp=Z,494nm,20.0s,MS5.2
OXF Oxford 127.72 80 PFAKE 23 00 30.0 +11
OXF LR LR
comp=Z,726nm,21.0s,MS5.3
LRAL Lakeview Retre 128.20 83 PFAKE 23 00 30.0 +10
LRAL LR LR
comp=Z,730nm,20.0s,MS5.4
PLAL Pickwick Lake 128.85 81 PFAKE 23 00 40.0 +19
PLAL LR LR
comp=Z,900nm,19.0s,MS5.5
CCM Cathedral Cave 128.96 76 PFAKE 23 00 40.0 +19
CCM LR LR
comp=Z,715nm,20.0s,MS5.4
INK Inuvik 129.24 26 PKP PKPdf 23 00 23.0 +2.0
comp=Z,1.4nm,0.9s,baz=191,slow=3.2,SNR=3.5
INK Inuvik 129.24 26 *e*PKPdf PKPdf 23 00 23.3 +2.4
CHKZ Chkalovo 129.47 310 PKPdf PKPdf 23 00 22.2 +0.4
SJG San Juan 129.85 114 PFAKE 23 00 40.0 +17
SJG LR LR
comp=Z,226nm,20.0s,MS4.9
YKA Yellowknife Ar 131.77 38 PKP PKPdf 23 00 26.8 +1.0
comp=Z,0.4nm,0.7s,baz=241,slow=1.7,SNR=7.5
YKA Yellowknife Ar 131.77 38 PKP PKPdf 23 00 26.8 +1.0
JFWS Jewell Farm 132.60 71 PFAKE 23 00 40.0 +12
JFWS LR LR
comp=Z,1μm,19.0s,MS5.6
FFC Flin Flon 132.99 52 PFAKE 23 00 40.0 +12
FFC LR LR
comp=Z,157nm,20.0s,MS4.7
DBIC Dimbokro 133.43 199 PFAKE 23 00 40.0 +10
DBIC LR LR
comp=Z,712nm,21.0s,MS5.4
EYMN Ely 134.79 65 PFAKE 23 00 50.0 +18
EYMN LR LR
comp=Z,843nm,19.0s,MS5.5
ACSO Alum Creek Sta 135.31 79 PFAKE 23 00 50.0 +17
ACSO LR LR
comp=Z,1μm,19.0s,MS5.7
GNI Garni 135.77 281 PFAKE 23 00 40.0 +6.0
GNI LR LR
comp=Z,245nm,22.0s,MS4.9
AAM Ann Arbor 136.14 76 PFAKE 23 00 50.0 +15
AAM LR LR
comp=Z,993nm,20.0s,MS5.5
MCWV Mont Chateau 136.88 82 PFAKE 23 00 50.0 +14
MCWV LR LR
comp=Z,2μm,20.0s,MS5.7
CBN Corbin 137.50 85 PFAKE 23 00 50.0 +13
CBN LR LR
comp=Z,804nm,19.0s,MS5.5
ERPA Erie 138.25 79 PFAKE 23 00 50.0 +12
ERPA LR LR
comp=Z,491nm,20.0s,MS5.2
KIV Kislovodsk 139.23 284 PFAKE 23 00 50.0 +10
KIV LR LR
comp=Z,74nm,20.0s,MS4.4
BRTR Keskin Array B 142.34 272 PKP PKPdf 23 00 44.9 -0.8
comp=Z,0.3nm,0.4s,baz=146,slow=8.9,SNR=3.6
NCB Newcomb 142.79 80 PFAKE 23 01 00.0 +14
NCB LR LR
comp=Z,1μm,19.0s,MS5.7
RES Resolute Bay 142.79 25 *e*PKPpre 23 00 43.3
WES Weston 143.70 84 PFAKE 23 01 00.0 +16
WES LR LR
comp=Z,2μm,21.0s,MS5.8
WVL Waterville 145.89 82 PFAKE 23 01 10.0 +20
WVL LR LR
comp=Z,6μm,20.0s
EMMW East Machias 147.31 83 PFAKE 23 01 10.0 +16
EMMW LR LR
comp=Z,5μm,20.0s
OBN Obninsk 147.72 298 *e*PKPbc PKPdf 23 00 56.7 +2.3
OBN LR LR
comp=Z,103nm,19.0s,MS4.6
PQI Presque Isle 147.93 80 PFAKE 23 01 10.0 +15
PQI LR LR
comp=Z,8μm,21.0s
CFR Carcaliu 148.73 276 ⇓P PKPdf 23 01 00.9 +4.6
VRI Vrincioaia 149.93 277 ⇓P PKPdf 23 01 03.0 +4.8
MLR Muntele Rosu 150.23 275 ⇓P PKPdf 23 01 00.1 +1.5
MLR Muntele Rosu 150.23 275 ⇓P PKPdf 23 01 00.2 +1.5
SKO Skopje 151.18 266 *e*PKP PKPdf 23 01 05.0 +4.8
SCHQ Schefferville 151.60 65 PFAKE 23 01 10.0 +10
SCHQ LR LR
comp=Z,1μm,20.0s,MS5.7
BURAR Bucovina Array 151.64 279 ⇑P PKPdf 23 01 10.6 +10
FRB Frobisher Bay 151.77 46 PKPbc PKPdf 23 01 08.9 +8.6
comp=Z,3.1nm,0.7s,baz=280,slow=3.3,SNR=4.3
ARCES ARCESS Array B 153.04 327 PKPbc PKPdf 23 01 10.1 +8.1
comp=Z,6.2nm,1.0s,baz=63,slow=2.0,SNR=21
FINES FINESS Array B 154.15 309 PKPbc PKPdf 23 01 12.4 +8.6
comp=Z,2.7nm,1.1s,baz=45,slow=5.4,SNR=3.8
KHC Kasperske Hory 159.38 275 *e*PKPab PKPab 23 01 50.0 +2.1

NIED ***16*** *22:41:00,34.80N×139.70E,h116km,Mw4.4 Best double couple: M₀3.96×10¹⁵ NP1:φ₈348°,δ81°,λ93°. NP2:φ₈151°,δ9°,λ73°.*
MOS ***16*** *22:41:12.8±0.9,34.71N×139.52E,h138km,mb4.7/24, Error ellipse: s-maj=12.7km s-min=7.2km az=117.9*
BJI ***16*** *22:41:12.5,34.69N×139.60E,h146km,mB4.8,mb4.7*
NEIC ***16*** *22:41:13.9±0.7,34.71N×139.49E,h131km±6km,mb4.6/23, MW4.3(NIED),Error ellipse: s-maj=6.6km s-min=5.4km az=116.0*
NEIC Recorded [2 JMA] in Chiba, Kanagawa and Tokyo; [1 JMA] in Ibaraki, Saitama and Shizuoka Prefectures. Also recorded [1 JMA] on Hachijo-jima, Miyake-jima and O-shima.
JMA ***16*** *22:41:13.5±0.2,34.79N×139.69E,h134km±2km,M4.5 Broadband fault plane solution: P waves. NP1:φ₈154°, δ13°,λ61°. NP2:φ₈5°,δ78°,λ97°. Principal axes: T Plg56°, Azm283°; N Plg7°, Azm183°; P Plg33°, Azm89°;*
JMA Felt II J1.
IDC ***16*** *22:41:14.1±0.9,34.75N×139.55E,h130km±9km,mb4.1/21, mb1 4.3/23,mb1mx4.2/26,mbtmp4.5/23 Error ellipse: s-maj=14.6km s-min=10.8km az=101.0*
ISC 16 22:41:12.8±0.2,34.73N±0.03×139.59E±0.04,h136km±1km, n150,σ1$00/171,mb4.6/59,14C-9D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
JIM2	**Oshima 3**	**0.13**	**264**	⇑P	**P**	**22 41 31.7**	**0.0**
JIM2				*e*S	**S**	**22 41 45.5**	**-0.5**
TATJ	**Tateyama 2**	**0.39**	**39**	⇑P	**P**	**22 41 32.7**	**+0.1**
TATJ				*e*S	**S**	**22 41 47.3**	**-0.5**
JIZS	**Izushimoda**	**0.59**	**269**	⇓P	**P**	**22 41 34.6**	**+0.9**
JIZS				*e*S	**S**	**22 41 50.1**	**+0.5**
JMY	**Miyakejima3**	**0.66**	**186**	P	**P**	**22 41 34.9**	**+0.8**
BSO4	**Boso 4**	**0.66**	**67**	⇑P	**P**	**22 41 34.3**	**+0.2**
BSO4				*e*S	**S**	**22 41 50.2**	**-0.2**
JOD2	**Odawara 2**	**0.67**	**322**	⇓P	**P**	**22 41 34.2**	**0.0**
JOD2				*e*S	**S**	**22 41 49.5**	**-1.0**
KTR	**Katsuura**	**0.72**	**55**	⇑P	**P**	**22 41 34.3**	**-0.2**
KTR				*e*S	**S**	**22 41 49.9**	**-1.2**
BSO3	**Boso 3**	**0.76**	**85**	⇑P	**P**	**22 41 34.4**	**-0.3**
BSO1	**Boso 1**	**1.14**	**94**	⇑P	**P**	**22 41 37.2**	**-0.8**
JYN	**Shimob**	**1.15**	**312**	⇓P	**P**	**22 41 38.9**	**+0.9**
JYN				*e*S	**S**	**22 41 59.1**	**+1.7**
JRY	**Ryogami san**	**1.40**	**336**	⇓P	**P**	**22 41 41.2**	**+0.5**
JRY				*e*S	**S**	**22 42 01.7**	**-0.3**
JHJ	**Hachijo jima 2**	**1.62**	**174**	P	**P**	**22 41 44.1**	**+1.1**
	445nm,0.3s,baz=334,slow=4.4,SNR=318						
JHJ				S	**S**	**22 42 06.5**	**+0.3**
	947nm,0.3s,baz=240,slow=23,SNR=45						
JHJ2	**Mitsune**	**1.63**	**173**	⇑P	**P**	**22 41 44.3**	**+1.1**
JHJ2				*e*S	**S**	**22 42 06.9**	**+0.5**
JAG	**Ashikaga**	**1.69**	**356**	⇑P	**P**	**22 41 43.4**	**-0.5**
JAG				*e*S	**S**	**22 42 05.1**	**-2.6**
TK01	**Tokai 1**	**1.92**	**240**	P	**P**	**22 41 48.4**	**+1.9**
MAJO	**Matsushiro**	**2.13**	**328**	*e*P	**P**	**22 41 49.3**	**+0.1**
MAT	**Matsushiro**	**2.13**	**328**	*e*P	**P**	**22 41 50.0**	**+0.8**
MAT				*e*S	**S**	**22 42 16.0**	**-0.9**
MAT	**Matsushiro**	**2.13**	**328**	P	**P**	**22 41 49.5**	**+0.3**
MAT				S	**S**	**22 42 16.3**	**-0.6**
MAT	**Matsushiro**	**2.13**	**328**	P	**P**	**22 41 49.5**	**+0.3**
MAT				*e*S	**S**	**22 42 17.0**	**+0.1**
CBIJ	**Chichi jima**	**7.93**	**163**	P	**P**	**22 43 02.4**	**-4.0**
	12nm,0.3s,baz=307,slow=21,SNR=12						
CBIJ				S	**S**	**22 44 24.8**	**-10**
	17nm,0.3s,baz=288,slow=19,SNR=3.9						
ASAJ	**Asahikawa**	**9.65**	**13**	P	**P**	**22 43 25.6**	**-3.7**
ASAJ				S	**S**	**22 45 07.8**	**-8.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ	**Asahikawa**	**9.65**	**13**	P	**P**	**22 43 25.6**	**-3.7**
	comp=N,3.3nm,0.3s,baz=206,slow=15,SNR=5.2						
ASAJ				S	**S**	**22 45 07.8**	**-8.4**
	comp=N,2.9nm,0.3s,baz=121,slow=30,SNR=5.8						
KS15	**Wonju Array Si**	**9.85**	**289**	*e*P	**P**	**22 43 34.8**	**+2.8**
YUK	**Yuzh-Kuril'sk**	**10.47**	**26**	*e*P	**P**	**22 43 52.0**	**+12**
MDJ	**Mudanjiang**	**12.51**	**325**	P	**P**	**22 44 07.3**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,13nm,0.7s						
CN2	**Changchun**	**14.20**	**314**	*e*P	**P**	**22 44 28.8**	**+0.3**
CN2				*e*S	**S**	**22 47 02.8**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
SNY	**Shenyang**	**14.43**	**304**	⇑P	**P**	**22 44 34.8**	**+3.4**
KLR	**Kul'dur**	**15.60**	**341**	*e*P	**P**	**22 44 41.0**	**-5.2**
SSE	**Sheshan**	**15.88**	**262**	P	**P**	**22 44 47.8**	**-2.0**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s						
SSE				AMB	AMB		
	comp=Z,104nm,6.5s						
SSE	**Sheshan**	**15.88**	**262**	P	**P**	**22 44 47.8**	**-2.0**
	comp=Z,29nm,0.8s						
NJ2	**Nanjing**	**17.52**	**267**	*e*P	**P**	**22 45 10.1**	**+0.1**
NJ2				XP		22 45 49.9	
NJ2				S	**S**	**22 48 18.0**	**-0.3**
NJ2				PCP	PcP	22 49 43.6	+0.4
NJ2				SCP		22 53 04.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
NJ2				LR	LR		
	comp=N,290nm,20.9s						
NJ2				LR	LR		
	comp=E,1μm,16.5s						
NJ2				LR	LR		
	comp=Z,130nm,14.1s						
BJI	**Beijing**	**19.33**	**293**	P	**P**	**22 45 29.4**	**-0.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s						
BJI	**Beijing**	**19.33**	**293**	P	**P**	**22 45 29.4**	**-0.2**
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuan**	**19.33**	**293**	P	**P**	**22 45 28.9**	**-0.7**
BJT				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BJT	**Baijiatuan**	**19.33**	**293**	P	**P**	**22 45 28.9**	**-0.7**
	comp=Z,9.8nm,0.6s						
HIA	**Hailar**	**20.61**	**321**	*e*P	**P**	**22 45 39.7**	**-3.0**
HIA				pmax	pmax		
	comp=Z,13nm,0.8s						
HIA	**Hailar**	**20.61**	**321**	*e*P	**P**	**22 45 39.7**	**-3.0**
	comp=Z,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**22.92**	**294**	*e*P	**P**	**22 46 07.3**	**+1.9**
HHC				AP		22 46 32.0	
HHC				PP	PP	22 46 40.9	+1.1
HHC				XP		22 46 47.5	
HHC				S	**S**	**22 50 03.8**	**+2.5**
HHC				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.5						
HHC				AMB	AMB		
	comp=Z,201nm,6.5s						
XAN	**Xi'an**	**25.28**	**277**	P	**P**	**22 46 26.8**	**-1.1**
XAN				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.5						
ENH	**Enshi**	**25.73**	**268**	*e*P	**P**	**22 46 30.4**	**-1.7**
	comp=Z,48nm,0.8s,mb5.2						
MA2	**Magadan**	**25.92**	**13**	*e*P	**P**	**22 46 33.6**	**0.0**
MA2				*e**PP	pP	22 47 03.7	+1.6
MA2				*e*S	**S**	**22 50 51.0**	**-0.5**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
MA2				pmax	pmax		
	comp=N,2.0nm,0.6s						
MA2	**Magadan**	**25.92**	**13**	*e*P	**P**	**22 46 33.7**	**+0.1**
	comp=N,9.7nm,0.7s,mb4.5						
ULN	**Ulaanbaatar**	**27.52**	**308**	*e*P	**P**	**22 46 47.8**	**-0.6**
ULN				pmax	pmax		
	comp=Z,22nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**27.52**	**308**	*e*P	**P**	**22 46 47.8**	**-0.6**
	comp=Z,22nm,0.9s,mb4.9						
SONM	**Songino Array**	**27.94**	**308**	P	**P**	**22 46 51.8**	**-0.4**
	comp=Z,16nm,0.8s,mb4.8,baz=109,slow=8.2,SNR=118						
SONM				PcP	PcP	22 50 04.3	0.0
	comp=Z,0.8nm,0.5s,baz=132,slow=1.9,SNR=9.3						
SONM				ScP		22 53 31.7	
	comp=Z,1.1nm,1.0s,baz=121,slow=2.4,SNR=5.6						
BOD	**Bodaibo**	**28.76**	**331**	*e*P	**P**	**22 46 57.5**	**-1.9**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
GYA	**Guiyang**	**29.42**	**263**	⇑*i*P	**P**	**22 47 03.3**	**-2.3**
GYA				AMB	AMB		
	comp=Z,40nm,0.5s,mb5.4						
CD2	**Chengdu**	**30.26**	**273**	⇑*i*P	**P**	**22 47 11.0**	**-2.0**
CD2				AMB	AMB		
	comp=Z,69nm,0.6s,mb5.6						
ZAK	**Zakamensk**	**30.62**	**312**	*e*P	**P**	**22 47 15.1**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
TLY	**Talaya**	**30.80**	**314**	*c i*P	**P**	**22 47 18.2**	**+0.6**
TLY				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.7						
GTA	**Gaotai**	**31.90**	**290**	P	**P**	**22 47 26.8**	**-0.5**
GTA				AMB	AMB		
	comp=Z,22nm,0.8s,mb4.9						
KMI	**Kunming**	**33.19**	**263**	P	**P**	**22 47 36.9**	**-1.6**
KMI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,98nm,6.8s						
KMI				LR	LR		
	comp=N,312nm,27.6s						
KMI				LR	LR		
	comp=E,441nm,21.4s						
KMI				LR	LR		
	comp=Z,475nm,24.9s						
CMAR	**Chiang Mai Arr**	**39.50**	**256**	P	**P**	**22 48 30.9**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.2,baz=47,slow=7.2,SNR=26						
CMAR				PcP	PcP	22 50 38.0	+0.8
	comp=Z,1.1nm,0.6s,baz=22,slow=2.1,SNR=6.9						
WMQ	**Urumqi**	**40.61**	**299**	⇑*i*P	**P**	**22 48 41.6**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,22nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,173nm,6.6s						
LSA	**Lhasa**	**40.98**	**277**	*e*P	**P**	**22 48 44.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.4						
LSA	**Lhasa**	**40.98**	**277**	*e*P	**P**	**22 48 44.2**	**+0.6**
	comp=Z,8.6nm,0.9s,mb4.4						
NVS	**Novosibirsk**	**43.40**	**316**	*e*P	**P**	**22 49 02.4**	**-0.6**
NVS				*e*		22 55 21.1	
NVS				pmax	pmax		
	comp=E,18nm,1.0s						
NVS				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.7						
MK02	**Makanchi Array**	**44.12**	**304**	P	**P**	**22 49 09.4**	**+0.5**
MK02				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
JIRN	**Jiri**	**45.78**	**276**	*e*P	**P**	**22 49 22.7**	**+0.3**
	comp=Z,177nm,0.5s						
KURK	**Kurchatov**	**46.22**	**310**	P	**P**	**22 49 25.0**	**-0.6**
	comp=Z,256nm,0.8s,SNR=47						
KURK	**Kurchatov**	**46.22**	**310**	*e*P	**P**	**22 49 25.4**	**-0.2**
KURK				pmax	pmax		
	comp=Z,32nm,0.8s,mb5.0						
KURK	**Kurchatov**	**46.22**	**310**	*e*P	**P**	**22 49 25.4**	**-0.2**
	comp=Z,32nm,0.8s,mb5.0						
PKI	**Pulchoki**	**46.45**	**277**	*e*P	**P**	**22 49 27.2**	**-0.5**
	comp=Z,48nm,0.6s,mb5.3						
KKN	**Kakani**	**46.47**	**277**	*e*P	**P**	**22 49 27.5**	**-0.4**
	comp=Z,58nm,0.6s,mb5.4						
DMN	**Daman**	**46.69**	**277**	*e*P	**P**	**22 49 28.9**	**-0.6**
	comp=Z,29nm,0.6s,mb5.1						
GKN	**Gorkha**	**46.92**	**278**	*e*P	**P**	**22 49 30.9**	**-0.4**
	comp=Z,118nm,0.9s,mb5.5						
KOLN	**Koldanda**	**47.85**	**278**	*e*P	**P**	**22 49 38.3**	**-0.3**
	comp=Z,8.8nm,0.3s,mb4.8						
TKM2	**Tokmak 2**	**49.45**	**300**	P	**P**	**22 49 52.0**	**+1.2**
	SNR=34						
KZA	**Kyzart**	**49.90**	**299**	P	**P**	**22 49 56.1**	**+1.9**
	SNR=13						
KBK	**Karagaybulak**	**49.98**	**299**	P	**P**	**22 49 55.7**	**+0.9**
	SNR=23						
CHMS	**Chumysh**	**50.04**	**300**	P	**P**	**22 49 55.7**	**+0.4**
	SNR=6.0						
USP	**Ospenovka**	**50.16**	**300**	P	**P**	**22 49 56.5**	**+0.4**
	SNR=19						
AAK	**Ala-Archa**	**50.31**	**300**	P	**P**	**22 49 57.6**	**+0.4**
	SNR=12						
AAK	**Ala-Archa**	**50.31**	**300**	P	**P**	**22 49 56.7**	**-0.6**
	comp=Z,52nm,0.7s,mb5.3,SNR=13						
AAK	**Ala-Archa**	**50.31**	**300**	*e*P	**P**	**22 49 56.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**50.31**	**300**	*e*P	**P**	**22 49 56.3**	**-1.0**
	comp=Z,7.8nm,0.9s,mb4.3						
UCH	**Uchtor**	**50.39**	**299**	P	**P**	**22 49 59.4**	**+1.4**
	SNR=6.3						
EKS2	**Erkin-Say**	**50.81**	**300**	P	**P**	**22 50 01.5**	**+0.4**
	SNR=12						
CHKZ	**Chkalovo**	**50.83**	**314**	*e*P	**P**	**22 50 00.1**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.5						
CHKZ	**Chkalovo**	**50.83**	**314**	*e*P	**P**	**22 50 00.1**	**-1.0**
	comp=Z,7.9nm,0.7s,mb4.5						
AML	**Almayashu**	**51.01**	**299**	P	**P**	**22 50 04.0**	**+1.4**
	SNR=67						
BVA0	**Borovoye Array**	**51.05**	**313**	*i* P	**P**	**22 50 02.3**	**-0.5**
MCK	**McKinley**	**51.36**	**33**	*e*P	**P**	**22 50 04.9**	**-0.1**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
MCK	**McKinley**	**51.36**	**33**	*e*P	**P**	**22 50 04.9**	**-0.1**
	comp=Z,1.9nm,0.8s,mb3.8						
SML	**Sawmill**	**51.72**	**35**	*e*P	**P**	**22 50 06.8**	**-0.9**
ILAR	**Eielson Array**	**52.23**	**31**	P	**P**	**22 50 10.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb3.9,baz=282,slow=6.3,SNR=23						
FITZ	**Fitzroy Crossi**	**54.19**	**196**	*e*P	**P**	**22 50 25.7**	**-0.8**
	comp=Z,19nm,1.3s,mb4.7						
WRAB	**Tennant Creek**	**54.59**	**186**	*e*P	**P**	**22 50 28.1**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,21nm,0.5s,mb5.1						
WRAB	**Tennant Creek**	**54.59**	**186**	*e*P	**P**	**22 50 28.1**	**-1.3**
	comp=Z,21nm,0.5s,mb5.1						
WB2	**Warramunga Arr**	**54.60**	**186**	*e*P	**P**	**22 50 28.3**	**-1.1**
WRA	**Warramunga Arr**	**54.60**	**186**	P	**P**	**22 50 28.3**	**-1.2**
	comp=Z,14nm,0.3s,mb5.1,baz=0.3,slow=7.6,SNR=295						
HYB	**Hyderabad**	**56.67**	**269**	*i* P	**P**	**22 50 43.5**	**-0.8**
INK	**Inuvik**	**57.10**	**26**	P	**P**	**22 50 46.4**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.3,baz=287,slow=6.7,SNR=9.8						
ASAR	**Alice Springs**	**58.33**	**186**	P	**P**	**22 50 56.0**	**+0.2**
	comp=Z,3.1nm,0.3s,mb4.6,baz=22,slow=11,SNR=20						
MBWA	**Marble Bar**	**58.70**	**202**	*e*P	**P**	**22 50 56.8**	**-1.7**
	comp=Z,11nm,0.6s,mb4.8						
KEV	**Kevo**	**65.07**	**339**	*e*p	**P**	**22 51 39.2**	**-1.0**
ARCES	**ARCESS Array B**	**65.63**	**339**	P	**P**	**22 51 43.4**	**-0.4**
	comp=Z,1.9nm,0.4s,mb4.3,baz=50,slow=7.0,SNR=41						
FORT	**Forrest**	**66.06**	**191**	*e*P	**P**	**22 51 46.8**	**-0.4**
	comp=Z,748nm,0.6s						
STKA	**Stephens Creek**	**66.28**	**178**	P	**P**	**22 51 48.5**	**-0.1**
	comp=Z,2.9nm,0.6s,mb4.3,baz=65,slow=3.6,SNR=6.9						
STKA	**Stephens Creek**	**66.28**	**178**	*e*P	**P**	**22 51 47.4**	**-1.3**
YKA	**Yellowknife Ar**	**66.54**	**29**	P	**P**	**22 51 49.1**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=299,slow=6.3,SNR=31						
JOF	**Joensuu**	**67.29**	**332**	*e*p	**P**	**22 51 52.9**	**-1.5**
	comp=Z,4.3nm,0.3s,mb4.8						
OBN	**Obninsk**	**69.05**	**323**	⇓*e*P	**P**	**22 52 05.3**	**0.0**
OBN				*e**PP	pP	22 52 39.9	+1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OBN				i		22 54 38.1	
OBN				eS	S	23 00 58.8	+1.0
OBN				eSS	SS	23 05 30.0	+1.7
OBN				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
KLBR	**Kellerberrin**	**69.10**	**200**	eP	**P**	**22 52 05.3**	**-0.8**
	comp=Z,111nm,0.9s,mb5.6						
KAF	**Kangasniemi**	**69.67**	**333**	ep	**P**	**22 52 07.7**	**-1.3**
	comp=Z,3.0nm,0.3s,mb4.5						
KAF	**Kangasniemi**	**69.67**	**333**	eP	**P**	**22 52 07.7**	**-1.3**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.5						
FINES	**FINESS Array B**	**70.16**	**332**	P	**P**	**22 52 11.6**	**-0.4**
	comp=Z,3.2nm,0.3s,mb4.5,baz=55,slow=6.3,SNR=86						
BIDO	**Bidbid**	**70.29**	**285**	P	**P**	**22 52 14.3**	**+0.9**
	SNR=5.9						
NWAO	**Narrogin (SRO)**	**70.50**	**200**	P	**P**	**22 52 14.4**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,13nm,0.6s						
NWAO	**Narrogin (SRO)**	**70.50**	**200**	P	**P**	**22 52 14.4**	**-0.1**
	comp=Z,13nm,0.6s,mb4.8,baz=42,slow=7.0,SNR=11						
NWAO	**Narrogin (SRO)**	**70.50**	**200**	eP	**P**	**22 52 14.1**	**-0.5**
	comp=Z,11nm,0.8s,mb4.7						
GOF	**Gofitskoye**	**70.52**	**312**	i P	**P**	**22 52 14.8**	**+0.3**
GOF				pmax	pmax		
	comp=Z,30nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**71.29**	**311**	eP	**P**	**22 52 19.7**	**+0.6**
KIV				e		22 52 40.3	
KIV				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**71.29**	**311**	eP	**P**	**22 52 19.3**	**+0.2**
	comp=Z,21nm,0.8s,mb4.9						
ASHO	**Ashiyiah**	**71.34**	**287**	⇓P	**P**	**22 52 20.1**	**+0.4**
BSY	**Bisya**	**71.42**	**285**	P	**P**	**22 52 20.8**	**+0.6**
	SNR=16						
ARQ	**Araqi**	**71.66**	**286**	⇓P	**P**	**22 52 22.1**	**+0.5**
	SNR=7.0						
GNI	**Garni**	**71.89**	**307**⇑	eP	**P**	**22 52 23.0**	**+0.3**
GNI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GNI	**Garni**	**71.89**	**307**	P	**P**	**22 52 24.2**	**+1.6**
	comp=Z,3.4nm,0.5s,mb4.3,baz=269,slow=5.5,SNR=6.1						
NEW	**Newport**	**72.81**	**43**	P	**P**	**22 52 29.1**	**+1.1**
	comp=Z,1.9nm,0.5s,mb4.1,baz=322,slow=7.9,SNR=4.0						
SOC	**Sochi**	**73.32**	**312**	eP	**P**	**22 52 30.1**	**-0.9**
SOC				ePPP	PPP	22 56 59.4	-2.7
SOC				eS	S	23 01 47.9	+0.9
SOC				eSS	SS	23 06 33.6	-0.6
SOC				eSSS	SSS	23 09 45.6	-0.9
SOC				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.7						
SOC				pmax	pmax		
	comp=N,15nm,1.2s						
SOC				pmax	pmax		
	comp=E,11nm,1.1s						
ANN	**Anapa**	**74.05**	**314**	eP	**P**	**22 52 34.3**	**-0.9**
ANN				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
NB2	**NORSAR Subarra**	**75.72**	**337**	P	**P**	**22 52 44.2**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.1,baz=42,slow=5.6						
NB2	**NORSAR Subarra**	**75.72**	**337**	P	**P**	**22 52 44.2**	**-0.1**
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
NOA	**NORSAR Array B**	**75.72**	**337**	P	**P**	**22 52 44.6**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.2,baz=42,slow=5.7,SNR=17						
RBK	**Rabkut**	**76.54**	**282**	P	**P**	**22 52 49.7**	**-0.1**
	SNR=6.1						
WHFO	**Wadi Hawf**	**76.67**	**283**	⇓P	**P**	**22 52 50.1**	**-0.4**
	SNR=15						
MALT	**Malatya**	**77.02**	**308**	eP	**P**	**22 52 53.1**	**+1.0**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.2						
MALT	**Malatya**	**77.02**	**308**	eP	**P**	**22 52 53.1**	**+1.0**
	comp=Z,6.1nm,1.0s,mb4.2						
ABTO	**Aybut**	**77.35**	**282**	P	**P**	**22 52 54.2**	**-0.2**
	SNR=6.4						
NVAR	**Mina Array Bea**	**77.56**	**52**	P	**P**	**22 52 56.8**	**+1.7**
	comp=Z,2.4nm,0.7s,mb3.9,baz=293,slow=3.7,SNR=12						
ELK	**Elko**	**78.17**	**49**	eP	**P**	**22 53 00.1**	**+1.7**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ELK	**Elko**	**78.17**	**49**	eP	**P**	**22 53 00.1**	**+1.7**
	comp=Z,1.6nm,0.6s,mb3.8						
BRTR	**Keskin Array B**	**79.26**	**311**	P	**P**	**22 53 05.3**	**+1.0**
	comp=Z,3.2nm,0.5s,mb4.2,baz=104,slow=4.2,SNR=18						
DUG	**Dugway**	**79.99**	**48**	P	**P**	**22 53 09.7**	**+1.5**
PDAR	**Pinedale Array**	**80.34**	**44**	P	**P**	**22 53 11.1**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=269,slow=1.7,SNR=9.3						
ASF	**Jabal al Asfar**	**81.55**	**303**	P	**P**	**22 53 17.7**	**+1.1**
	comp=Z,1.3nm,0.4s,mb4.0,baz=306,slow=7.7,SNR=7.9						
CLL	**Collm**	**82.34**	**329**	P	**P**	**22 53 21.0**	**+0.7**
PV10	**Paradox Valley**	**83.41**	**47**	eP	**P**	**22 53 27.5**	**+1.5**
KHC	**Kasperske Hory**	**83.71**	**328**⇓	eP	**P**	**22 53 28.6**	**+1.4**
GERES	**GERESS Array B**	**83.87**	**327**	P	**P**	**22 53 28.6**	**+0.6**
	comp=Z,1.3nm,0.6s,mb3.8,baz=40,slow=6.1,SNR=15						
GRA1	**Grafenberg Arr**	**84.31**	**329**	eP	**P**	**22 53 30.9**	**+0.8**
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**84.31**	**329**	eP	**P**	**22 53 30.9**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**84.31**	**329**	eP	**P**	**22 53 30.9**	**+0.8**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
GRF	**Grafenberg Arr**	**84.31**	**329**	eP	**P**	**22 53 30.9**	**+0.8**
	comp=Z,6.0nm,1.2s,mb4.2						
RW3	**Ridgway**	**84.31**	**47**	P	**P**	**22 53 32.7**	**+2.2**
EIL	**Elat**	**84.37**	**302**	P	**P**	**22 53 31.7**	**+0.7**
	comp=Z,6.9nm,0.7s,mb4.5,baz=42,slow=3.0,SNR=8.0						
EIL	**Elat**	**84.37**	**302**	P	**P**	**22 53 31.7**	**+0.7**
TXAR	**Lajitas Array**	**92.70**	**51**	P	**P**	**22 54 10.8**	**+0.2**
	comp=Z,0.4nm,0.6s,mb3.8,baz=288,slow=4.0,SNR=4.2						
TXAR	**Lajitas Array**	**92.70**	**51**	P	**P**	**22 54 10.8**	**+0.2**

WEL 16 22:46:01.2±0.5, 36.30S×178.07E, h130km±8km, ML4.1/6, Error ellipse: s-maj=10.1km s-min=6.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.27**	**172**	ePN	P	22 46 26.7	-0.4
MXZ				SN	S	22 46 45.8	-1.0
PUZ	**Puketiti**	**1.77**	**175**	PN	P	22 46 32.6	-0.2
PUZ				SN	S	22 46 56.0	-0.9
MWZ	**Matawai**	**2.07**	**192**	PN	P	22 46 36.3	-0.2
MWZ				eSN	S	22 47 04.2	+0.9
URZ	**Urewera**	**2.10**	**201**	PN	P	22 46 36.6	-0.3
URZ				SN	S	22 47 03.7	-0.2
KNZ	**Kokohu**	**2.73**	**187**	PN	P	22 46 43.6	-1.5
KNZ				eSN	S	22 47 16.0	-2.4
BKZ	**Black Stump Fm**	**3.12**	**203**	PN	P	22 46 49.0	-1.2
BKZ				eSN	S	22 47 25.8	-1.8
OTVZ	**Oturere**	**3.43**	**213**	PN	P	22 46 54.8	+0.4
TUVZ	**Tukino**	**3.53**	**212**	ePN	P	22 46 55.5	-0.1
FWVZ	**Far West T-bar**	**3.56**	**213**	PN	P	22 46 57.0	+1.0
WNVZ	**Wahianoa**	**3.60**	**212**	ePN	P	22 46 54.9	-1.7
PWZ	**Pawanui**	**3.84**	**194**	ePN	P	22 46 56.3	-3.5
PWZ				eSN	S	22 47 40.8	-3.9
BFZ	**Birch Farm**	**4.60**	**198**	PN	P	22 47 06.2	-3.8
BFZ				SN	S	22 47 58.2	-4.6
MRZ	**Mangatainoka R**	**4.77**	**203**	ePN	P	22 47 07.5	-4.8
MRZ				eSN	S	22 48 00.9	-6.1
KIW	**Kapiti Island**	**5.18**	**208**	PN	P	22 47 14.0	-3.8
MTW	**Mount Morrison**	**5.25**	**202**	ePN	P	22 47 11.6	-7.0
CAW	**Cannon Point**	**5.34**	**205**	ePN	P	22 47 14.5	-5.4
THZ	**Tophouse**	**6.77**	**215**	ePN	P	22 47 36.4	-2.9
MQZ	**McQueen's Vall**	**8.48**	**208**	eSN	S	22 49 25.2	-12

*BJI **16** 22:50:55.3, 0.88S×124.36E, h114km, mB5.1, mb4.9*
*MOS **16** 22:51:01.2±0.8, 0.05S×123.37E, h104km, mb4.9/16, Error ellipse: s-maj=22.1km s-min=8.4km az=103.5*
*IDC **16** 22:51:03.7±2.0, 0.08S×123.63E, h100km±16km, mb4.4/15, mb1 4.4/15, mb1mx4.3/19, mbtmp4.6/15, Error ellipse: s-maj=22.9km s-min=10.9km az=72.0*
*NEIC **16** 22:51:04.2±1.5, 0.11S×123.58E, h114km±15km, mb4.9/16, Error ellipse: s-maj=14.2km s-min=6.6km az=61.0*
*HRVD **16** 22:51:04.2±1.6, 0.16N×123.83E, h138km±9km, MW5.0/30, Centroid moment Tensor Solution. LP body waves: s7,c8; Mantle waves: s30,c36; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.14±.49; $M_{\theta\theta}$0.72±.38; $M_{\phi\phi}$-0.58±.45; $M_{r\theta}$2.44±.29; $M_{\theta\phi}$-1.11±.36; $M_{\phi r}$-2.94±.38; Best double couple: $M_0$3.964×10^{16} NP1:ϕ_s69°,δ14°,λ-165°. NP2: ϕ_s324°,δ86°,λ-76°. Principal axes: T 4.395, Plg40°, Azm41°; N -.863, Plg14°, Azm143°; P -3.532, Plg47°, Azm248°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 16 22:51:03.7±0.8, 0.07S±0.04×123.66E±0.05, h121km±8km, n102, σ1§19/102, mb4.8/49, 2C-6D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**7.17**	**11**⇓	eP	**P**	**22 52 47.9**	**+0.5**
TSM	**Tawau**	**7.23**	**307**	P	**P**	**22 52 44.9**	**-3.2**
MATI	**Mati**	**7.43**	**20**	eP	**P**	**22 52 50.2**	**-0.6**
PAGZ	**Pagadian**	**7.87**	**358**	eP	**P**	**22 52 56.5**	**-0.2**
BUKP	**Musuan**	**8.02**	**10**	eP	**P**	**22 52 59.4**	**+0.7**
DCPH	**Dipolog City**	**8.60**	**358**	eP	**P**	**22 53 07.2**	**+0.7**
KKM	**Kota Kinabalu**	**9.60**	**309**	eP	**P**	**22 53 19.3**	**-0.7**
KKM	**Kota Kinabalu**	**9.60**	**309**	P	**P**	**22 53 20.0**	**+0.1**
MSLP	**Maasin**	**10.21**	**7**	eP	**P**	**22 53 32.0**	**+4.0**
KSM	**Kuching**	**13.44**	**277**	eP	**P**	**22 54 08.7**	**-1.8**
LUBP	**Lubang**	**14.13**	**346**	eP	**P**	**22 54 26.6**	**+7.1**
KAKA	**Kakadu**	**15.28**	**146**	eP	**P**	**22 54 32.3**	**-1.8**
	35nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.02**	**174**	eP	**P**	**22 55 04.7**	**-3.1**
	23nm,0.9s						
KGM	**Kluang**	**20.44**	**276**	P	**P**	**22 55 33.9**	**+0.4**
MBWA	**Marble Bar**	**21.31**	**190**	eP	**P**	**22 55 41.2**	**-0.9**
	12nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**22.34**	**153**	P	**P**	**22 55 52.0**	**-0.3**
	118nm,0.6s,mb5.4,SNR=12						
WRAB	**Tennant Creek**	**22.34**	**153**	eP	**P**	**22 55 51.4**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,42nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**22.34**	**153**	eP	**P**	**22 55 51.4**	**-0.9**
	comp=Z,42nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**22.35**	**153**	P	**P**	**22 55 51.9**	**-0.4**
	comp=Z,14nm,0.8s,mb4.3,baz=333,slow=9.8,SNR=50						
WRA				S	**S**	**22 59 49.1**	**+4.2**
	comp=Z,5.7nm,1.1s,baz=338,slow=16,SNR=5.3						
WRA				ScP		23 03 15.6	
	comp=Z,2.5nm,0.8s,baz=335,slow=2.6,SNR=7.9						
WB2	**Warramunga Arr**	**22.35**	**153**	eP	**P**	**22 55 53.5**	**+1.2**
IPM	**Ipoh**	**23.08**	**282**	P	**P**	**22 56 00.9**	**+1.3**
QIZ	**Qiongzhong**	**23.33**	**325**	P	**P**	**22 56 05.3**	**+3.4**
KULM	**Kulim**	**23.59**	**283**	eP	**P**	**22 56 04.7**	**+0.3**
PMG	**Port Moresby**	**25.16**	**112**	P	**P**	**22 56 21.0**	**+1.5**
	comp=Z,10nm,0.6s,mb4.4,baz=307,slow=14,SNR=5.3						
ASPA	**Alice Springs**	**25.48**	**158**	eP	**P**	**22 56 23.6**	**+1.3**
ASAR	**Alice Springs**	**25.48**	**158**	P	**P**	**22 56 23.9**	**+1.6**
	comp=Z,6.0nm,0.8s,mb4.0,baz=353,slow=16,SNR=23						
ASAR				PcP	PcP	22 59 51.8	+0.1
	comp=Z,3.8nm,0.4s,baz=343,slow=2.2,SNR=10						
ASAR				ScP		23 03 23.0	
	comp=Z,1.6nm,0.6s,baz=341,slow=2.9,SNR=7.7						
JOW	**Kunigami**	**27.11**	**9**	P	**P**	**22 56 38.4**	**+1.0**
	comp=Z,17nm,0.9s,mb4.6,baz=170,slow=8.8,SNR=3.8						
CMAR	**Chiang Mai Arr**	**30.48**	**309**	P	**P**	**22 57 08.4**	**+0.9**
	comp=Z,7.1nm,0.8s,mb4.4,baz=132,slow=7.0,SNR=28						
CMAR				PcP	PcP	23 00 04.7	+0.8
	comp=Z,1.6nm,0.8s,baz=156,slow=1.8,SNR=6.8						
CMAR				ScP		23 03 37.5	
	comp=Z,1.7nm,0.9s,baz=162,slow=2.6,SNR=5.8						
FORT	**Forrest**	**30.82**	**173**	eP	**P**	**22 57 15.4**	**+4.9**
	comp=Z,276nm,0.6s						
GYA	**Guiyang**	**31.05**	**329**⇓	iP	**P**	**22 57 14.5**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CBIJ	**Chichi jima**	**32.35**	**32**	P	**P**	**22 57 23.6**	**-0.2**
	comp=Z,191nm,0.5s,baz=199,slow=2.2,SNR=27						
ENH	**Enshi**	**33.05**	**337**	eP	**P**	**22 57 30.7**	**+0.9**
STKA	**Stephens Creek**	**35.90**	**153**	P	**P**	**22 57 53.9**	**0.0**
	comp=Z,2.8nm,0.3s,mb4.6,baz=335,slow=9.4,SNR=14						
STKA				PcP	PcP	23 00 19.1	+0.2
	comp=Z,5.5nm,0.5s,baz=2.4,slow=3.7,SNR=5.9						
STKA	**Stephens Creek**	**35.90**	**153**	eP	**P**	**22 57 53.7**	**-0.3**
CD2	**Chengdu**	**36.15**	**330**	P	**P**	**22 57 57.3**	**+1.2**
CD2				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
XAN	**Xi'an**	**36.64**	**339**	P	**P**	**22 58 00.4**	**+0.2**
XAN				AMB	AMB		
	comp=Z,16nm,0.9s,mb5.0						
HNR	**Honiara**	**37.30**	**105**	eP	**P**	**22 58 06.6**	**+0.7**
	comp=Z,52nm,0.8s,mb5.5						
MAJO	**Matsushiro**	**38.85**	**19**	eP	**P**	**22 58 18.1**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.1						
MAJO	**Matsushiro**	**38.85**	**19**	eP	**P**	**22 58 18.1**	**-0.5**
	comp=Z,29nm,0.9s,mb5.1						
MAT	**Matsushiro**	**38.85**	**19**	eP	**P**	**22 58 18.0**	**-0.6**
MAT	**Matsushiro**	**38.85**	**19**	P	**P**	**22 58 18.4**	**-0.2**
LZH	**Lanzhou**	**40.42**	**335**	⇓P	**P**	**22 58 33.4**	**+1.9**
LZH				AMB	AMB		
	comp=Z,35nm,1.4s,mb5.0						
LZH				LR	LR		
	comp=N,179nm,12.8s						
LZH				LR	LR		
	comp=Z,395nm,17.3s						
LZH	**Lanzhou**	**40.42**	**335**	⇓P	**P**	**22 58 33.4**	**+1.9**
	comp=Z,35nm,1.4s,mb5.0						
LZH				pP	pP	22 58 43.5	-16
LZH				sP	sP	22 58 47.6	-26
LZH				PP	PP	23 00 05.0	-4.7
LZH				LR	LR		
	comp=Z,400nm,17.3s						
BJT	**Baijiatuau**	**40.48**	**351**	eP	**P**	**22 58 31.1**	**-0.9**
BJT				pmax	pmax		
	comp=Z,15nm,1.2s						
BJT	**Baijiatuau**	**40.48**	**351**	eP	**P**	**22 58 31.1**	**-0.9**
	comp=Z,16nm,1.2s,mb4.7						
BJI	**Beijing**	**40.50**	**351**	P	**P**	**22 58 31.0**	**-1.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.4						
BJI	**Beijing**	**40.50**	**351**	P	**P**	**22 58 31.0**	**-1.2**
	comp=Z,8.0nm,1.4s,mb4.4						
LSA	**Lhasa**	**42.85**	**317**	P	**P**	**22 58 54.3**	**+2.7**
LSA	**Lhasa**	**42.85**	**317**	eP	**P**	**22 58 54.0**	**+2.4**
CN2	**Changchun**	**43.71**	**2**	eP	**P**	**22 58 56.8**	**-1.5**
MDJ	**Mudanjiang**	**44.80**	**6**	eP	**P**	**22 59 06.7**	**-0.5**
GTA	**Gaotai**	**44.94**	**334**	P	**P**	**22 59 10.6**	**+2.3**
GTA				AP	pP	22 59 36.4	+0.2
GTA				XP	sP	22 59 48.9	-1.3
GTA				S	**S**	**23 05 41.4**	**+4.9**
GTA				SCS	ScS	23 08 52.6	+2.3
GTA				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,173nm,6.9s						
GTA				LR	LR		
	comp=N,197nm,14.5s						
GTA				LR	LR		
	comp=E,183nm,17.2s						
GTA				LR	LR		
	comp=Z,189nm,17.2s						
JIRN	**Jiri**	**45.30**	**311**	eP	**P**	**22 59 12.4**	**+1.1**
	comp=Z,21nm,0.4s,mb5.2						
PKI	**Pulchoki**	**45.85**	**310**	eP	**P**	**22 59 16.2**	**+0.6**
	comp=Z,12nm,0.4s,mb4.9						
KKN	**Kakani**	**46.06**	**310**	eP	**P**	**22 59 18.3**	**+1.0**
	comp=Z,14nm,0.5s,mb5.0						
DMN	**Daman**	**46.10**	**310**	eP	**P**	**22 59 18.6**	**+1.0**
	comp=Z,19nm,0.6s,mb5.0						
GKN	**Gorkha**	**46.66**	**310**	eP	**P**	**22 59 22.5**	**+0.5**
	comp=Z,20nm,0.4s,mb5.2						
ASAJ	**Asahikawa**	**47.12**	**19**	P	**P**	**22 59 26.4**	**+1.0**
	comp=Z,35nm,0.8s,mb5.2,baz=236,slow=12,SNR=20						
KOLN	**Koldanda**	**47.34**	**309**	eP	**P**	**22 59 28.1**	**+0.7**
	comp=Z,29nm,0.6s,mb5.2						
HYB	**Hyderabad**	**47.67**	**294**	i P	**P**	**22 59 31.0**	**+1.0**
HIA	**Hailar**	**49.26**	**357**	eP	**P**	**22 59 41.4**	**-0.5**
HIA				pmax	pmax		
	comp=Z,14nm,1.1s						
HIA	**Hailar**	**49.26**	**357**	eP	**P**	**22 59 41.4**	**-0.5**
	comp=Z,14nm,1.1s,mb4.8						
YSS	**Yuzh-Sakhalins**	**49.72**	**17**⇓	eP	**P**	**22 59 45.7**	**+0.2**
YSS				pmax	pmax		
	comp=Z,47nm,1.5s,mb5.2						
ULN	**Ulaanbaatar**	**49.88**	**345**⇑	eP	**P**	**22 59 46.3**	**-0.4**
SONM	**Songino Array**	**50.02**	**345**	P	**P**	**22 59 47.5**	**-0.2**
	comp=Z,8.4nm,0.7s,mb4.8,baz=160,slow=8.4,SNR=69						
SONM				ScP		23 04 51.5	
	comp=Z,0.9nm,0.9s,baz=166,slow=3.9,SNR=3.5						
ZAK	**Zakamensk**	**53.19**	**344**	eP	**P**	**23 00 09.8**	**-1.7**
ZAK				e		23 01 17.6	
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
SDNR	**Sundarnagar**	**54.18**	**310**	eP	**P**	**23 00 19.5**	**+0.5**
TLY	**Talaya**	**54.26**	**345**	eP	**P**	**23 00 18.2**	**-1.1**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
TLY	**Talaya**	**54.26**	**345**	eP	**P**	**23 00 18.2**	**-1.1**
	comp=Z,2.7nm,0.6s,mb4.5						
MOY	**Mondy**	**54.99**	**343**	eP	**P**	**23 00 24.0**	**-0.6**
BOD	**Bodaibo**	**58.23**	**354**	eP	**P**	**23 00 45.5**	**-1.9**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
RPZ	**Rata Peaks**	**60.55**	**142**	P	**P**	**23 01 04.2**	**+0.6**
	comp=Z,16nm,0.8s,mb5.1,baz=264,slow=4.1,SNR=6.5						
AAK	**Ala-Archa**	**61.20**	**320**⇑	eP	**P**	**23 01 06.8**	**-1.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
AAK	**Ala-Archa**	**61.20**	**320**	eP	**P**	**23 01 06.6**	**-1.5**
URZ	**Urewera**	**61.99**	**134**	P	**P**	**23 01 13.3**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9,baz=240,slow=8.1,SNR=5.1						
YAK	**Yakutsk**	**62.11**	**3**	eP	**P**	**23 01 13.5**	**-0.3**
YAK				pmax	pmax		
	comp=Z,56nm,0.7s,mb5.7						
YAK	**Yakutsk**	**62.11**	**3**	eP	**P**	**23 01 13.5**	**-0.4**
	comp=Z,56nm,0.7s,mb5.7						
MA2	**Magadan**	**63.13**	**15**	eP	**P**	**23 01 21.3**	**+0.7**
MA2				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.3						
MA2	**Magadan**	**63.13**	**15**	eP	**P**	**23 01 21.3**	**+0.7**
	comp=Z,30nm,0.8s,mb5.3						
KURK	**Kurchatov**	**63.37**	**330**	P	**P**	**23 01 20.1**	**-2.2**
	comp=Z,334nm,0.5s,SNR=28						
KURK	**Kurchatov**	**63.37**	**330**	eP	**P**	**23 01 20.4**	**-1.9**
KURK				pmax	pmax		
	comp=Z,25nm,0.5s,mb5.4						
KURK	**Kurchatov**	**63.37**	**330**	eP	**P**	**23 01 20.4**	**-2.0**
	comp=Z,25nm,0.5s,mb5.4						
NVS	**Novosibirsk**	**63.94**	**335**	eP	**P**	**23 01 23.7**	**-2.3**
NVS				eS	**S**	**23 09 50.7**	**+0.4**
NVS				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
NVS				pmax	pmax		
	comp=N,6.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,6.0nm,0.5s						
NVS				smax			
	comp=E,17nm,1.6s						
NVS				smax			
	comp=N,14nm,1.7s						
SEY	**Seymchan**	**66.42**	**14**	eP	**P**	**23 01 44.5**	**+2.7**
SEY				e		23 10 11.9	
SEY				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
CHKZ	**Chkalovo**	**69.10**	**329**	eP	**P**	**23 01 56.8**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.1						
CHKZ	**Chkalovo**	**69.10**	**329**	eP	**P**	**23 01 56.8**	**-1.8**
	comp=Z,27nm,0.8s,mb5.1						
TIXI	**Tiksi**	**71.68**	**2**⇓	iP	**P**	**23 02 12.0**	**-1.8**
TIXI				eS	S	23 11 19.2	-3.0
TIXI				pmax	pmax		
	comp=Z,29nm,1.1s,mb5.0						
BILL	**Bilibino**	**74.00**	**15**	eP	**P**	**23 02 28.3**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BILL				MLR	MLR		
	comp=Z,400nm,22.0s						
VNDA	**Vanda**	**80.09**	**172**	P	**P**	**23 03 01.8**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.9,baz=311,slow=7.3,SNR=8.9						
OBN	**Obninsk**	**88.39**	**325**	eP	**P**	**23 03 41.8**	**-1.2**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
ILAR	**Eielson Array**	**89.83**	**25**	P	**P**	**23 03 49.2**	**-0.3**
	comp=Z,1.0nm,0.5s,mb4.2,baz=247,slow=5.1,SNR=24						
JOF	**Joensuu**	**91.14**	**333**	ep	**P**	**23 03 53.5**	**-2.2**
	comp=Z,2.7nm,0.4s,mb4.7						
ARCES	**ARCESS Array B**	**92.93**	**340**	P	**P**	**23 04 02.5**	**-1.3**
	comp=Z,3.2nm,0.7s,mb4.8,baz=90,slow=4.9,SNR=7.2						
DAWY	**Dawson**	**93.11**	**26**	eP	**P**	**23 04 05.6**	**+0.8**
KAF	**Kangasniemi**	**93.51**	**332**	ep	**P**	**23 04 04.8**	**-1.8**
	comp=Z,6.6nm,1.5s,mb4.7						
KAF	**Kangasniemi**	**93.51**	**332**	eP	**P**	**23 04 04.8**	**-1.8**
KAF				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.8						
FINES	**FINESS Array B**	**93.70**	**331**	P	**P**	**23 04 05.8**	**-1.6**
	comp=Z,1.0nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=4.5						
INK	**Inuvik**	**94.80**	**21**	eP	**P**	**23 04 12.6**	**+0.3**
MATP	**Matopo**	**94.82**	**250**	P	**P**	**23 04 13.7**	**+0.2**
	comp=Z,3.2nm,0.7s,mb4.9,baz=123,slow=5.5,SNR=8.4						
YKA	**Yellowknife Ar**	**104.20**	**24**	PKiKP		23 09 12.4	
	comp=Z,0.2nm,0.5s,baz=298,slow=1.7,SNR=4.9						
SCHQ	**Schefferville**	**124.74**	**7**	PKP	PKPdf	23 09 50.8	+1.7
	comp=Z,4.0nm,0.7s,baz=331,slow=3.1,SNR=10						
LPAZ	**La Paz**	**160.01**	**145**	PKPab	PKPab	23 11 34.4	+2.7
	comp=Z,1.8nm,0.8s,baz=260,slow=1.1,SNR=5.7						

MDD 16 23:10:17.1±4.0, 34.40N×5.71W, mb3.7/4, Error ellipse: s-maj=38.3km s-min=34.5km az=58.0, PRXIMO SIN SOLUCIN, Morocco

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EGRO	**El Granado**	**3.44**	**336**	P	Pn	23 11 10.7	-2.4
	2.2nm,0.1s,SNR=20						
EGRO				S	Sn	23 11 50.9	-4.3
	2.0nm,0.1s,SNR=5.5						
EGRO	**El Granado**	**3.44**	**336**	Pn	Pn	23 11 10.7	-2.4
	2.2nm,0.1s,SNR=20						
EGRO				Sn	Sn	23 11 50.9	-4.3
	2.0nm,0.1s,SNR=5.5						
EMIN	**Mina Concepcio**	**3.45**	**347**	P	Pn	23 11 10.4	-2.8
	0.6nm,0.1s,SNR=7.9						
EMIN				S	Sn	23 11 50.1	-5.2
	0.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.45**	**347**	Pn	Pn	23 11 10.4	-2.8
	0.6nm,0.1s,SNR=7.9						
EMIN				Sn	Sn	23 11 50.1	-5.3
	0.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.87**	**13**	P	Pn	23 11 16.8	-2.3
	0.6nm,0.2s,SNR=7.9						
EADA				S	Sn	23 12 00.5	-5.4
	0.8nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.87**	**13**	Pn	Pn	23 11 16.8	-2.3
	0.6nm,0.2s,SNR=7.9						
EADA				Sn	Sn	23 12 00.5	-5.4
	0.8nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.47**	**347**	P	Pn	23 11 25.6	-2.1
	1.3nm,0.1s,SNR=7.4						
EBAD				S	Sn	23 12 14.9	-6.3
	SNR=7.9						
EBAD	**Badajoz**	**4.47**	**347**	Pn	Pn	23 11 25.6	-2.1
	1.3nm,0.1s,SNR=7.4						
EBAD				Sn	Sn	23 12 14.9	-6.3
	1.2nm,0.2s,SNR=7.9						

*PDG **16** 23:31:05.7±0.2, 38.26N×20.35E, h19km±4km*
*ATH **16** 23:31:06.1, 38.25N×20.41E, h7km±6km, MD3.8/16, ML3.7*
*IDC **16** 23:31:06.3±1.6, 38.57N×20.64E, mb3.6/4, mb1 3.7/8, mb1mx3.5/23, mbtmp3.6/8, ML3.5/3, Error ellipse: s-maj=28.4km s-min=19.1km az=55.0*
*NEIC **16** 23:31:06.3, 38.28N×20.40E, h19km, MD3.7(PDG), ML3.7(ATH), After ATH.*
*THE **16** 23:31:08.1, 38.36N×20.34E, h5km, ML3.8*
*CSEM **16** 23:31:09.5±0.1, 38.26N×20.47E, h60km, ML3.7, Error ellipse: s-maj=2.3km s-min=1.3km az=23.0*

ISC 16 23:31:06.2±0.5, 38.33N±0.02×20.37E±0.03, h10km±4km, n105, σ1§33/145, mb3.5/4, 14C-1D, Greece

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**131**	ePb	**Pb**	**23 31 11.0**	**-1.0**
VLS	**Valsamata**	**0.23**	**131**	ePG	**Pg**	**23 31 10.6**	**-0.6**
IGT	**Igoumenitsa**	**1.20**	**359**	ePg	**Pg**	**23 31 30.5**	**+0.2**
IGT				eSg	**Sg**	**23 31 46.7**	**+0.3**
EVR	**Evrytania**	**1.27**	**62**	ePG	**Pg**	**23 31 29.9**	**-1.8**
JAN	**Janina**	**1.38**	**16**	ePB	**Pb**	**23 31 33.5**	**+1.9**
KEK	**Kerkira**	**1.45**	**342**	ePG	**Pg**	**23 31 34.2**	**-1.1**
SRN	**Sarande**	**1.57**	**350**	i Pn	**Pn**	**23 31 36.9**	**+2.5**
SRN				i Sn	**Sn**	**23 32 02.8**	**+7.9**
AGG	**Agios Georgios**	**1.69**	**65**	ePb	**Pb**	**23 31 37.7**	**+0.8**
AGG				eSb	**Sb**	**23 32 01.5**	**+3.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	Ithomi	1.69	132	ePB	Pb	23 31 36.5	-0.4
LSK	Leskovik	1.83	6	i Pn	Pn	23 31 40.0	+2.0
LSK				i Sn	Sn	23 32 10.8	+9.5
LSK	Leskovik	1.83	6	ePn	Pn	23 31 40.0	+2.0
KZN	Kozani	2.25	28	ePG	Pg	23 31 49.7	-1.6
KZN	Kozani	2.25	28	ePb	Pb	23 31 43.6	-3.0
MGER	Gerania Oros	2.31	98	ePN	Pn	23 31 45.5	+0.6
LIT	Litokhoron	2.42	42	ePn	Pn	23 31 48.1	+1.6
NEO	Neokhori	2.44	65	ePN	Pn	23 31 48.0	+1.3
NSAL	Nisos Salamina	2.48	99	ePB	Pb	23 31 47.0	-3.5
NAIG	Nisos Aigina	2.53	102	ePB	Pb	23 31 47.5	-3.8
FNA	Florina	2.57	17	ePn	Pn	23 31 50.4	+1.7
FNA				eSn	Sn	23 32 21.5	+1.2
VLI	Veliai	2.60	127	ePG	Pg	23 31 52.7	-5.5
MPAR	Parnis Oros	2.66	93	ePB	Pb	23 31 50.2	-3.3
LCI	Lecce	2.66	320	ePn	Pn	23 31 51.7	+1.8
LCI	Lecce	2.66	320	ePn	Pn	23 31 51.7	+1.8
ATH	Athens Observa	2.67	97	ePB	Pb	23 31 50.5	-3.1
PTL	Penteli	2.77	95	ePB	Pb	23 31 51.0	-4.5
OHR	Ohrid	2.80	7	i Pn	Pn	23 31 54.2	+2.3
OHR				i		23 31 56.0	
OHR				i Sn	Sn	23 32 28.4	+2.4
OHR	Ohrid	2.80	7	i Pn	Pn	23 31 54.2	+2.3
OHR				i Sn	Sn	23 32 28.4	+2.4
TIP	Timpagrande	2.95	288	eP	Pn	23 31 54.6	+0.6
TIP	Timpagrande	2.95	288	eP	Pn	23 31 54.6	+0.6
KYTH	Kithira	2.95	133	ePN	Pn	23 31 55.0	+0.9
PAIG	Paliouri	3.03	57	ePn	Pn	23 31 55.0	-0.2
THE	Thessaloniki	3.05	40	ePn	Pn	23 31 57.3	+1.7
THE				eSn	Sn	23 32 33.5	+1.0
GRG	Griva	3.06	30	ePn	Pn	23 31 55.9	+0.3
GRG				eSn	Sn	23 32 34.2	+1.6
PLG	Polygyros	3.14	48	ePN	Pn	23 31 58.0	+1.2
QSH	Qafa e Shtames	3.21	354	i Pn	Pn	23 31 59.6	+1.9
QSH				i Sn	Sn	23 32 45.6	+9.2
SOH	Sokhos	3.39	42	ePn	Pn	23 32 01.4	+1.0
SOI	Samo	3.41	267	ePn	Pn	23 32 01.3	+0.8
SOI	Samo	3.41	267	ePn	Pn	23 32 01.3	+0.8
KNT	Kendrikon	3.44	34	ePn	Pn	23 32 02.0	+1.0
OUR	Ouranopolis	3.44	53	ePn	Pn	23 32 01.3	+0.2
LTRZ	Laterza	3.56	311	ePn	Pn	23 32 04.3	+1.6
LTRZ	Laterza	3.56	311	ePn	Pn	23 32 04.3	+1.5
MTTG	Motta San Giov	3.70	266	ePn	Pn	23 32 05.0	+0.3
MTTG				eSn	Sn	23 32 47.6	-1.1
MTTG	Motta San Giov	3.70	266	ePn	Pn	23 32 05.0	+0.3
MTTG				eSn	Sn	23 32 47.7	-1.1
PUK	Puka	3.73	355	i Pn	Pn	23 32 05.3	+0.2
PUK				i Sn	Sn	23 32 49.9	+0.4
ULC	Ulcinj	3.73	347	⇑iPn	Pn	23 32 04.7	-0.4
ULC				eSn	Sn	23 32 49.0	-0.6
SKO	Skopje	3.73	12	ePn	Pn	23 32 06.0	+0.9
SKO				i		23 32 17.3	
SKO				i		23 32 49.0	
SRS	Serrai	3.73	41	ePn	Pn	23 32 05.7	+0.5
SRS				eSn	Sn	23 32 51.4	+1.7
SG1	Sgolgore (BA)	3.79	312	ePn	Pn	23 32 07.1	+1.0
BAI	Bari	3.86	317	ePn	Pn	23 32 07.9	+0.9
KKB	Krupnik	4.10	30	P	Pn	23 32 24.0	+14
BUM	Brajici-Budva	4.12	345	⇑iPn	Pn	23 32 09.9	-0.8
BUM				eSn	Sn	23 32 58.8	-0.8
MMB	Musomiste	4.16	37	P	Pn	23 32 27.0	+16
TTG	Podgorica	4.18	349	⇑iPn	Pn	23 32 11.2	-0.4
TTG				eSn	Sn	23 33 00.4	-0.7
TTG	Podgorica	4.18	349	⇑iPn	Pn	23 32 11.1	-0.5
TTG				eSn	Sn	23 33 00.4	-0.7
CDT	Castel del Mon	4.19	312	ePn	Pn	23 32 12.2	+0.6
PVY	Plav	4.27	356	ePn	Pn	23 32 12.7	-0.1
PVY				eSn	Sn	23 33 02.3	-1.0
SLNA	Salina	4.35	275	ePn	Pn	23 32 14.9	+0.9
SLNA	Salina	4.35	275	ePn	Pn	23 32 14.9	+0.9
HCY	Herceg Novi	4.35	341	⇑iPn	Pn	23 32 12.7	-1.3
HCY				eSn	Sn	23 33 04.5	-0.9
MRLC	Muro Lucano	4.48	304	ePn	Pn	23 32 17.3	+1.4
MRLC	Muro Lucano	4.48	304	ePn	Pn	23 32 17.3	+1.5
SGO	Sicignano	4.51	301	ePn	Pn	23 32 18.4	+2.3
SGO				eSn	Sn	23 33 10.6	+1.3
SGO	Sicignano	4.51	301	ePn	Pn	23 32 18.5	+2.3
SGO				eSn	Sn	23 33 10.6	+1.3
IVA	Berane	4.55	356	⇑iPn	Pn	23 32 16.7	-0.1
IVA				eSn	Sn	23 33 08.9	-1.5
IVA	Berane	4.55	356	⇑iPn	Pn	23 32 16.7	-0.1
IVA				eSn	Sn	23 33 08.9	-1.5
NKY	Niksic	4.60	347	⇑iPn	Pn	23 32 16.9	-0.6
NKY				eSn	Sn	23 33 10.3	-1.3
IDI	Anoyia	4.73	129	Pn	Pn	23 32 17.7	-1.7
	0.9nm,0.3s,baz=256,slow=9.0,SNR=16						
IDI				Sn	Sn	23 33 14.0	-0.9
	4.5nm,0.3s,baz=162,slow=23,SNR=23						
IDI	Anoyia	4.73	129	Pn	Pn	23 32 17.6	-1.8
RZN	Rozhen	4.73	44	eP	Pn	23 32 35.0	+16
BRY	Bratogost	4.77	344	ePn	Pn	23 32 18.5	-1.5
BRY				eSn	Sn	23 33 14.6	-1.4
VTS	Vitosha	4.78	26	eP	Pn	23 32 34.0	+14
FGMS	Monte Sant'Ang	4.78	316	ePn	Pn	23 32 21.0	+0.9
FGMS	Monte Sant'Ang	4.78	316	ePn	Pn	23 32 21.0	+0.9
MS1	Monte Sant'Ang	4.79	316	ePn	Pn	23 32 20.2	+0.1
VAE	Valguarnera	4.79	262	Pn	Pn	23 32 25.3	+5.2
	1.4nm,0.3s,baz=154,slow=5.6,SNR=7.6						
VAE				Sn	Sn	23 33 21.9	+5.6
	1.1nm,0.3s,baz=101,slow=23,SNR=4.3						
FG5	Orsara di Pugl	4.91	309	ePn	Pn	23 32 23.9	+2.0
FG5	Orsara di Pugl	4.91	309	ePn	Pn	23 32 23.9	+2.0
STON	Ston	4.97	337	i Pn	Pn	23 32 21.5	-1.3
STON				i Sn	Sn	23 33 16.3	-4.7
STON	Ston	4.97	337	i Pn	Pn	23 32 21.4	-1.3
STON				i Sn	Sn	23 33 16.3	-4.7
UPM	Unac-Piva	4.99	348	⇑iPn	Pn	23 32 22.5	-0.6
UPM				eSn	Sn	23 33 20.1	-1.4
PLE	Pljevlja	5.05	352	⇑iPn	Pn	23 32 23.7	-0.1
PLE				eSn	Sn	23 33 21.1	-1.9
ALN	Alexandroupoli	5.08	58	ePn	Pn	23 32 23.7	-0.6
CII	Carovilli	5.76	308	ePn	Pn	23 32 35.8	+1.9
CII	Carovilli	5.76	308	ePn	Pn	23 32 35.8	+2.0
SDI	San Donato	6.06	306	ePn	Pn	23 32 38.7	+0.6
SDI	San Donato	6.06	306	ePn	Pn	23 32 38.7	+0.6
NRCA	Norcia	7.12	311	ePn	Pn	23 32 54.1	+1.1
NRCA	Norcia	7.12	311	ePn	Pn	23 32 54.1	+1.1
MNS	Montasola	7.13	307	ePn	Pn	23 32 54.0	+0.8
MNS	Montasola	7.13	307	ePn	Pn	23 32 54.0	+0.8
SNTG	Esanatoglia	7.48	313	ePn	Pn	23 32 58.6	+0.5
ARV	Arcevia	7.63	315	ePn	Pn	23 33 00.0	-0.2
VOY	Vojsko	9.07	330	ePn	P	23 33 18.2	-2.0
VOY				eSn	Sn	23 34 55.0	-8.4
OBKA	Obir	9.23	334	⇓iPN	P	23 33 20.2	-2.3
OBKA				i SN	Sn	23 34 58.8	-8.7
ARSA	Arzberg	9.60	340	⇑iPN	P	23 33 24.6	-2.8
ARSA				i SN	Sn	23 35 08.5	-7.9
KBA	Koelnbreinsper	10.15	332	⇑iPN	P	23 33 32.9	-2.2
KBA				i SN	S	23 35 23.1	-6.9
MOA	Molln	10.51	337	⇑iPN	P	23 33 37.2	-2.7
MOA				i SN	S	23 35 31.0	-7.7
WTTA	Wattenberg	10.99	327	⇑iPN	P	23 33 44.9	-1.6
WTTA				i SN	S	23 35 43.7	-6.8
DAVOX	Davos	11.44	321	Pn	P	23 33 51.5	-1.2
	baz=162,slow=19						
DAVOX				Sn	S	23 35 55.3	-6.3
	0.2nm,0.3s,baz=124,slow=23,SNR=3.1						
GERES	GERESS Array B	11.56	338	Pn	P	23 33 50.8	-3.5
	0.2nm,0.3s,baz=156,slow=14,SNR=7.1						
GERES				Sn	S	23 35 57.3	-7.2
	0.3nm,0.3s,baz=156,slow=23,SNR=4.4						
HFS	Hagfors	22.23	351	P	P	23 36 02.3	-2.1
	1.4nm,0.4s,mb3.7,baz=157,slow=11,SNR=7.9						
FINES	FINESS Array B	23.41	7	P	P	23 36 14.2	-1.6
	0.4nm,0.3s,mb3.3,baz=180,slow=7.6,SNR=5.1						
NOA	NORSAR Array B	23.45	349	P	P	23 36 15.1	-1.1
	0.5nm,0.6s,mb3.1,baz=163,slow=12,SNR=2.6						
ARCES	ARCESS Array B	31.39	3	P	P	23 37 27.4	-1.6
	2.0nm,0.8s,mb4.0,baz=194,slow=11,SNR=3.4						

*NNC **16** 23:37:00.4±5.9, 41.81N×79.27E, h5km±19km, mpv3.5, Error ellipse: s-maj=30.9km s-min=20.0km az=171.0*

BJI 16 23:36:58.9, 41.63N×79.65E, h15km, ML3.6, 5C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	3.51	234	P	Pn	23 37 53.4	-0.7
KSH				S	Sn	23 38 37.4	+1.7
KSH				Smax			
	comp=N,60nm,0.7s						
KSH				Smax			
	comp=E,100nm,0.8s						
MK02	Makanchi Array	5.48	19	⇑Pn	Pn	23 38 21.7	-0.3
	comp=E,2.2nm,0.3s,baz=201,slow=13						
MK02				⇑Sn	Sn	23 39 25.7	+0.1
	comp=E,8.5nm,0.7s,baz=203,slow=16						
MK02				⇑Lg		23 39 52.7	
	comp=E,7.8nm,0.6s,baz=209,slow=29						
WMQ	Urumqi	6.32	67	ePG	Pg	23 38 45.8	-19
WMQ				Smax			
	comp=N,25nm,1.0s						
WMQ				Smax			
	comp=E,35nm,1.0s						
KURK	Kurchatov	9.12	356	⇑Lg		23 41 39.7	
	comp=E,11nm,0.8s,baz=91,slow=12,SNR=11						
BVA0	Borovoye Array	13.00	334	⇓Lg		23 43 39.4	
	comp=E,0.5nm,0.8s,baz=144,slow=24,SNR=4.0						
CHKZ	Chkalovo	13.49	336	⇑Lg		23 44 01.2	
	comp=E,6.7nm,2.3s						

*PGC **16** 23:49:06.7, 48.73N×128.66W, h10km, Mw4.5, West of Vancouver Island, British Columbia*
*NEIC **16** 23:49:07.0, 48.73N×128.66W, h10km, mb4.2/3, ML4.5(PGC), After PGC.*
*IDC **16** 23:49:07.8±1.4, 48.85N×128.37W, mb3.4/2, mb1 3.9/10, mb1mx3.7/23, mbtmp3.6/10, ML3.5/7, MS3.3/1, Ms1 3.3/1, ms1mx3.0/17, Error ellipse: s-maj=34.3km s-min=9.2km az=68.0*

ISC 16 23:49:07.4±0.5, **48.88N**±0.03×**128.39W**±0.04, **h10km**, **n55**, σ**0ˢ97**/80, **mb3.6**/3, **1C-7D, Vancouver Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDB	Eliza Dome	1.29	39	⇓Pn	Pn	23 49 31.6	0.0
ETB	Estevan Point	1.31	67	⇓Pn	Pn	23 49 32.4	+0.6
BPBC	Brooks Peninsu	1.34	17	⇓Pn	Pn	23 49 31.9	-0.3
BPBC				Sn	Sn	23 49 50.9	+0.8
	comp=Z,294nm,0.2s						
BPBC				Trac		23 49 52.8	
	comp=Z,294nm,0.2s						
MAYB	Maynard	1.71	27	Pn	Pn	23 49 37.9	+0.4
MAYB				Sn	Sn	23 50 00.5	+0.8
	comp=Z,136nm,0.2s						
MAYB				Trac		23 50 02.3	
	comp=Z,136nm,0.2s						
WOSB	Woss	1.74	42	⇓Pn	Pn	23 49 38.6	+0.6
HOLB	Holberg	1.77	5	Pn	Pn	23 49 37.7	-0.6
HOLB				Sn	Sn	23 49 60.0	-1.0
	comp=Z,154nm,0.2s						
HOLB				Trac		23 50 05.6	
	comp=Z,154nm,0.2s						
GDR	Gold River	1.78	59	⇓Pn	Pn	23 49 38.7	+0.1
PHC	Port Hardy	1.93	18	Pn	Pn	23 49 40.4	-0.2
PHC				Sn	Sn	23 50 04.8	-0.3
PHC				Trac		23 50 06.1	
	comp=Z,59nm,0.2s						
BTB	Buttle Lake	1.97	72	⇓Pn	Pn	23 49 41.5	+0.2
BTB				Sn	Sn	23 50 06.3	+0.1
	comp=Z,358nm,0.4s						
BTB				Trac		23 50 08.0	
	comp=Z,358nm,0.4s						
NCRB	Newcastle Ridg	2.15	44	⇓Pn	Pn	23 49 44.8	+1.0
CBB	Campbell River	2.28	59	Pn	Pn	23 49 46.4	+0.7
CBB				Sn	Sn	23 50 15.2	+1.1
	comp=Z,41nm,0.3s						
CBB				Trac		23 50 16.3	
	comp=Z,41nm,0.3s						
ALB	Alberni	2.37	79	Pn	Pn	23 49 46.3	-0.7
ALB				Sn	Sn	23 50 15.4	-1.0
	comp=Z,28nm,0.2s						
ALB				Trac		23 50 17.0	
	comp=Z,28nm,0.2s						
MGB	Mount Grey	2.44	86	Pn	Pn	23 49 46.8	-1.1
MGB				Sn	Sn	23 50 16.9	-1.2
	comp=Z,68nm,0.3s						
MGB				Trac		23 50 17.6	
	comp=Z,68nm,0.3s						
PFB	Port Renfrew	2.63	95	Pn	Pn	23 49 49.2	-1.5
PFB				Sn	Sn	23 50 20.2	-2.8
PFB				Trac		23 50 24.5	
	comp=Z,35nm,0.3s						
TXB	Texada	2.71	71	Pn	Pn	23 49 52.2	+0.3
TXB				Sn	Sn	23 50 26.3	+1.3
	comp=Z,86nm,0.3s						
TXB				Trac		23 50 28.9	
	comp=Z,86nm,0.3s						
NLLB	Nanaimo Lost L	2.92	82	Pn	Pn	23 49 55.0	+0.3
NLLB				Sn	Sn	23 50 30.4	+0.3
NLLB				Trac		23 50 33.1	
	comp=Z,46nm,0.3s						
LZB	Mount Lazard	3.03	93	Pn	Pn	23 49 55.4	-1.0
LZB				Sn	Sn	23 50 31.1	-2.1
LZB				Trac		23 50 33.2	
	comp=Z,7.0nm,0.3s						
SHB	Sechelt	3.04	75	Pn	Pn	23 49 56.8	+0.2
SHB				Sn	Sn	23 50 34.4	+1.0
	comp=Z,51nm,0.3s						
SHB				Trac		23 50 37.0	
	comp=Z,51nm,0.3s						
GOBB	Galiano Island	3.22	87	Pn	Pn	23 49 58.7	-0.3
GOBB				Sn	Sn	23 50 39.9	+2.1
	comp=Z,64nm,0.7s						
GOBB				Trac		23 50 44.2	
	comp=Z,64nm,0.7s						
PGC	Sidney	3.27	92	eP	Pn	23 49 58.8	-1.1
PGC	Sidney	3.27	92	Pn	Pn	23 49 57.4	-2.5
PGC				Sn	Sn	23 50 38.2	-1.1
PGC				Trac		23 50 42.9	
	comp=Z,20nm,0.3s						
BBB	Bella Bella	3.31	3	Pn	Pn	23 49 60.0	-0.4
	32nm,0.3s,baz=192,slow=9.9,SNR=208						
BBB				Sn	Sn	23 50 39.2	-1.0
	32nm,0.3s,baz=290,slow=22,SNR=12						
BBB				LR	LR	23 51 12.6	
	comp=Z,382nm,18.4s,baz=188,slow=37						
BBB	Bella Bella	3.31	3	Pn	Pn	23 49 59.9	-0.4
BBB				Sn	Sn	23 50 38.8	-1.4
	comp=Z,103nm,0.2s						
BBB				Trac		23 50 41.1	
	comp=Z,103nm,0.2s						
BIB	Bowen Island	3.38	79	Pn	Pn	23 50 01.3	0.0
BIB				Sn	Sn	23 50 42.7	+0.8
	comp=Z,28nm,0.5s						
BIB				Trac		23 50 48.8	
	comp=Z,28nm,0.5s						
VGZ	Gonzales	3.39	96	Trac		23 50 44.0	
	comp=Z,82nm,0.5s						
VGZ	Gonzales	3.39	96	Sn	Sn	23 50 39.7	-2.5
SNB	Saturna Island	3.45	90	Pn	Pn	23 50 02.1	-0.2
SNB				Sn	Sn	23 50 43.5	-0.2
SNB				Trac		23 50 48.0	
	comp=Z,19nm,0.3s						
WPB	Watts Point	3.48	75	Pn	Pn	23 50 03.1	+0.4
WPB				Sn	Sn	23 50 44.8	+0.4
	comp=Z,10.0nm,0.3s						
WPB				Trac		23 50 47.2	
	comp=Z,10.0nm,0.3s						
WSLR	Whistler	3.77	69	Pn	Pn	23 50 07.8	+0.9
WSLR				Sn	Sn	23 50 52.9	+1.0
WSLR				Trac		23 50 59.0	
	comp=Z,15nm,0.4s						
HNB	Haney	3.84	82	Pn	Pn	23 50 07.5	-0.3
HNB				Sn	Sn	23 50 53.4	-0.2
HNB				Trac		23 50 55.7	
	comp=Z,18nm,0.2s						
VDB	Vedder Mountai	4.14	86	Pn	Pn	23 50 11.9	-0.3
VDB				Sn	Sn	23 51 01.0	-0.3
	comp=Z,8.1nm,0.3s						
VDB				Trac		23 51 02.2	
	comp=Z,8.1nm,0.3s						
BNB	Barry Inlet	4.27	331	Pn	Pn	23 50 14.2	+0.2
LLLB	Lillooet	4.56	65	⇑Pn	Pn	23 50 18.9	+0.8
RUBB	Prince Rupert	5.57	349	Pn	Pn	23 50 33.0	+0.6
RUBB				Sn	Sn	23 51 32.9	-4.4
RUBB				Trac		23 51 39.7	
	comp=Z,37nm,0.6s						
PNT	Penticton	5.78	82	Pn	Pn	23 50 36.4	+1.1
PNT				Sn	Sn	23 51 42.8	+0.3
FSB	Fort Saint Jam	6.14	23	Pn	Pn	23 50 44.9	+4.5
BMBC	Bull Mountain	8.12	26	Pn	P	23 51 09.1	+0.8
YBH	Yreka Blue Hor	8.19	149	Pn	P	23 51 09.6	+0.4
	0.2nm,0.3s,baz=263,slow=2.5,SNR=8.9						
WALA	Waterton Lakes	9.53	83	P	P	23 51 24.4	-3.2
DLBC	Dease Lake	9.62	355	Pn	P	23 51 29.8	+0.9
	0.2nm,0.3s,baz=186,slow=11,SNR=6.9						
DLBC				Sn	Sn	23 53 16.8	-1.3
	0.3nm,0.3s,baz=84,slow=18,SNR=3.3						
DLBC	Dease Lake	9.62	355	P	P	23 51 28.6	-0.2
ELK	Elko	12.37	126	Pn	P	23 52 07.8	+1.4
	0.1nm,0.3s,baz=312,slow=13,SNR=4.5						
NVAR	Mina Array Bea	12.73	141	Pn	P	23 52 12.5	+1.2
	0.4nm,0.3s,baz=315,slow=12,SNR=4.0						
PDAR	Pinedale Array	14.47	108	Pn	P	23 52 35.8	+1.8
	baz=320,slow=12,SNR=4.1						
YKA	Yellowknife Ar	15.64	24	Pn	P	23 52 48.6	-0.6
	0.1nm,0.3s,baz=205,slow=13,SNR=20						
DAWY	Dawson	16.34	343	P	P	23 52 59.0	+0.8
FFC	Flin Flon	17.29	60	eP	P	23 53 07.6	-2.6
	24nm,0.8s						
PV10	Paradox Valley	17.46	120	eP	P	23 53 13.0	+0.5
PV01	Paradox Valley	17.89	120	P	P	23 53 17.2	-0.6
MCK	McKinley	18.60	331	P	P	23 53 25.4	-1.1
	4.2nm,1.2s						
ILAR	Eielson Array	18.74	335	P	P	23 53 28.9	+0.8
	0.0nm,0.3s,baz=143,slow=11,SNR=13						
FCC	Fort Churchill	22.29	51	eP	P	23 54 06.4	+0.4
	11nm,0.9s,mb4.3						
MNTX	Cornudas Mount	24.40	126	eP	P	23 54 26.2	-0.6
TXAR	Lajitas Array	27.17	127	P	P	23 54 54.0	+1.3
	0.2nm,0.3s,mb3.1,baz=326,slow=6.5,SNR=3.7						
SONM	Songino Array	72.63	325	P	P	00 00 35.3	-1.1
	0.4nm,0.8s,mb3.4,baz=38,slow=5.3,SNR=3.5						

IDC 17 00:04:36.2±1.1, **28.67N**×**43.62W**, **mb3.8**/11, **mb1 4.1**/11, **mb1mx3.8**/24, **mbtmp3.8**/11, **MS4.0**/1, **Ms1 4.0**/1, **ms1mx2.6**/25, **Error ellipse: s-maj=31.0km s-min=21.3km az=163.0, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GERES	GERESS Array B	47.80	49	P	P	00 13 15.6	-1.6
	0.1nm,0.3s,baz=264,slow=9.9,SNR=3.9						
LPAZ	La Paz	50.59	211	P	P	00 13 37.1	-1.9
	1.4nm,0.8s,baz=4.9,slow=6.2,SNR=7.1						
TXAR	Lajitas Array	52.00	286	P	P	00 13 47.7	-1.9
	0.4nm,0.3s,baz=100,slow=7.6,SNR=6.2						
ANMO	Albuquerque	53.01	294	P	P	00 13 56.3	-0.8
	0.7nm,0.6s,baz=21,slow=8.6,SNR=2.1						
PDAR	Pinedale Array	54.08	304	P	P	00 14 02.6	-2.1
	2.1nm,0.8s,baz=85,slow=8.2,SNR=20						
FINES	FINESS Array B	55.59	33	P	P	00 14 12.9	-2.7
	0.6nm,0.7s,baz=207,slow=4.3,SNR=4.2						
YKA	Yellowknife Ar	56.25	328	P	P	00 14 17.4	-2.9
	0.1nm,0.3s,baz=90,slow=7.6,SNR=7.5						
YKA				LR	LR	00 34 05.3	
	comp=Z,164nm,21.8s,baz=80,slow=32						
NEW	Newport	58.55	311	P	P	00 14 34.5	-2.2
	2.0nm,0.8s,baz=90,slow=11,SNR=3.2						
BRTR	Keskin Array B	63.04	58	P	P	00 15 05.8	-1.6
	1.4nm,0.8s,baz=270,slow=4.9,SNR=6.6						
INK	Inuvik	63.66	335	P	P	00 15 08.7	-2.4
	0.5nm,0.3s,baz=51,slow=6.0,SNR=4.2						
ILAR	Eielson Array	69.83	334	P	P	00 15 48.0	-2.2
	1.1nm,0.9s,baz=49,slow=2.3,SNR=7.2						

*BJI **17** 00:26:31.2, 37.18N×71.60E, h128km, mb4.0*
*MOS **17** 00:26:32.6±1.2, 37.09N×71.70E, h135km, mb4.0/2, Error ellipse: s-maj=19.2km s-min=12.9km az=81.0*
*NEIC **17** 00:26:33.2±2.0, 37.05N×71.67E, h124km±17km, mb3.9/3, Error ellipse: s-maj=17.8km s-min=10.5km az=189.0*
*IDC **17** 00:26:38.8±4.3, 37.45N×71.62E, h158km±43km, mb3.4/6, mb1 3.5/8, mb1mx3.3/20, mbtmp4.0/8, MS3.3/1, Ms1 3.5/1, ms1mx2.7/13, Error ellipse: s-maj=30.1km s-min=17.0km az=152.0*
*NNC **17** 00:26:48.9±20.0, 38.67N×72.78E, Error ellipse: s-maj=222.5km s-min=108.3km az=43.0*

ISC 17 00:26:31.2±0.6, **36.88N**±0.03×**71.89E**±0.08, **h138km**±8km, **n55**, σ**1ˢ17**/74, **mb3.6**/9, **Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	4.16	50	P	P	00 27 37.3	+3.1
KSH				S	S	00 28 24.8	+2.3
AML	Almayashu	5.42	14	P	P	00 27 50.5	-0.5
	SNR=115						
THN	Thein Dam	5.45	143	eP	P	00 27 52.7	+1.4
THN				eS	S	00 28 52.5	-0.9
DLH	Dalhousie	5.48	141	eP	P	00 27 54.0	+2.2
DLH				eS	S	00 28 55.0	+0.7
UCH	Uchtor	5.71	20	P	P	00 27 56.0	+1.1
	SNR=8.6						
KZA	Kyzart	5.80	26	P	P	00 27 55.9	-0.2
	SNR=38						
EKS2	Erkin-Say	5.95	14	P	P	00 27 57.5	-0.6
	SNR=57						
PONG	Pong	5.96	145	eP	P	00 28 00.0	+1.9
PONG				eS	S	00 29 05.0	-0.7
AAK	Ala-Archa	6.08	18	Pn	P	00 27 58.6	-1.3
	691nm,0.4s						
AAK	Ala-Archa	6.08	18	ePn	P	00 27 58.8	-1.1
AAK				eS	S	00 29 04.2	-4.6
KBK	Karagaybulak	6.23	21	P	P	00 28 01.9	0.0
	SNR=31						
ULHL	Ulahol	6.32	31	P	P	00 28 03.0	-0.2
	SNR=10						
CHMS	Chumysh	6.49	19	P	P	00 28 04.9	-0.6
	SNR=40						
BHK	Bhakra	6.62	144	e	S	00 29 22.0	+0.3
TKM2	Tokmak 2	6.67	24	P	P	00 28 07.5	-0.3
	SNR=117						
USP	Ospenovka	6.68	17	P	P	00 28 06.6	-1.4
	SNR=44						
SDNR	Sundarnagar	6.82	140	eP	P	00 28 10.7	+0.7
SDNR				eS	S	00 29 22.5	-4.1
SMLA	Simla	7.22	141	i P	P	00 28 15.4	+0.1
SMLA				i S	S	00 29 33.8	-2.5
KLP	Kalpa	7.50	134	eP	P	00 28 19.4	+0.4
KLP				eS	S	00 29 39.7	-3.3
KLP				AML	AML	00 29 45.1	
	comp=E,121nm,0.5s						
KLP				AML	AML	00 29 49.0	
	comp=N,189nm,0.8s						
DDI	Dehra Dun	8.32	140	eP	P	00 28 31.7	+1.7
DDI				e		00 30 06.4	
NDI	New Delhi	9.32	150	eP	P	00 28 43.0	-0.4
NDI				eP		00 28 43.0	
NDI				eS	S	00 30 22.5	-4.2
NDI				eS	S	00 30 22.5	-4.2
KHET	Khetri	9.39	158	eP	P	00 28 44.0	-0.2
KHET				eS	S	00 30 22.8	-5.3
KHET				e		00 30 28.8	
	comp=N,31nm,0.3s						
KHET				e		00 30 28.9	
	comp=E,42nm,0.4s						
AYAN	Aya Nagar	9.47	151	eP	P	00 28 45.7	+0.4
AYAN				eS	S	00 30 25.3	-4.8
AYAN				e		00 30 29.3	
	comp=Z,6.2nm,0.4s						
KUDL	Kundal	9.54	155	eP	P	00 28 45.6	-0.6
KUDL				eS	S	00 30 26.3	-5.5
SONA	Sohna	9.66	152	eS	S	00 30 28.9	-5.7
SONA				e		00 30 35.0	
	comp=N,16nm,0.3s						
SONA				e		00 30 35.2	
	comp=E,35nm,0.5s						
MK01	Makanchi Array	12.55	35	P	P	00 29 24.7	-1.1
	comp=E,4.5nm,0.8s,baz=221,slow=14						
KOLN	Koldanda	13.43	129	eP	P	00 29 36.8	-0.3
	comp=E,36nm,0.4s						
KOLN				eS	S	00 31 58.4	-5.0
GKN	Gorkha	13.93	126	eP	P	00 29 43.2	-0.3
	comp=E,30nm,0.3s						
KKN	Kakani	14.49	125	eP	P	00 29 49.9	-0.8
	comp=E,9.8nm,0.2s						
KKN				eS	S	00 32 23.5	-4.5
DMN	Daman	14.50	126	eP	P	00 29 51.2	+0.4
	comp=E,16nm,0.3s						
KURK	Kurchatov	14.65	17	P	P	00 29 54.8	+2.3
	comp=E,4.9nm,0.9s,baz=198,slow=9.4,SNR=21						
KURK	Kurchatov	14.65	17	P	P	00 29 55.1	+2.6
	comp=E,63nm,0.9s,SNR=15						
KURK	Kurchatov	14.65	17	eP	P	00 29 54.3	+1.8
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KURK	Kurchatov	14.65	17	eP	P	00 29 54.3	+1.8
	comp=Z,8.3nm,0.8s						
PKI	Pulchoki	14.72	125	eP	P	00 29 53.3	-0.3
	comp=Z,28nm,0.4s						
JIRN	Jiri	15.18	123	eP	P	00 29 59.0	-0.4
	comp=Z,39nm,0.3s						
JIRN				eS	S	00 32 38.8	-5.0
BVA0	Borovoye Array	16.18	357	P	P	00 30 11.7	+0.1
	comp=Z,0.7nm,0.9s,baz=162,slow=13,SNR=8.6						
BVA0				S	S	00 32 57.7	-8.4
	comp=Z,0.9nm,1.2s,baz=170,slow=21,SNR=9.2						
BVAR	Borovoye Array	16.18	357	P	P	00 30 11.1	-0.5
	comp=Z,0.5nm,0.3s,baz=160,slow=13,SNR=9.0						
BVAR				S	S	00 32 59.0	-7.1
	comp=Z,0.2nm,0.3s,baz=166,slow=24,SNR=7.0						
CHKZ	Chkalovo	16.82	357	P	P	00 30 17.8	-1.7
	comp=Z,2.7nm,1.3s						
CHKZ				S	S	00 33 11.9	-8.6
	comp=Z,2.0nm,0.9s						
LSA	Lhasa	17.61	108	eP	P	00 30 32.6	+3.3
LSA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
LSA	Lhasa	17.61	108	eP	P	00 30 32.6	+3.3
	comp=Z,7.2nm,1.1s						
ZAL	Zalesovo	19.26	24	P	P	00 30 46.7	-0.3
	comp=Z,3.0nm,0.3s,baz=261,slow=6.2,SNR=27						
ZAL				S	S	00 34 12.6	0.0
	comp=Z,0.1nm,0.3s,baz=149,slow=18,SNR=2.3						
NVS	Novosibirsk	19.57	20	eP	P	00 30 49.0	-1.3
NVS				pmax	pmax		
	comp=N,9.0nm,1.1s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s						
GNI	Garni	21.46	287	P	P	00 31 10.3	+0.9
	comp=Z,2.3nm,0.6s,mb3.7,baz=288,slow=3.2,SNR=3.9						
GTA	Gaotai	22.08	75	P	P	00 31 20.8	+5.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.0						
ZAK	Zakamensk	26.20	49	eP	P	00 31 57.0	+2.5
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
MALT	Malatya	26.47	283	eP	P	00 31 57.2	+0.1
SONM	Songino Array	27.53	56	P	P	00 32 09.4	+2.7
	comp=Z,0.8nm,0.5s,mb3.7,baz=266,slow=8.7,SNR=11						
ULN	Ulaanbaatar	27.97	56	eP	P	00 32 12.8	+2.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
ULN	Ulaanbaatar	27.97	56	eP	P	00 32 12.8	+2.1
	comp=Z,1.8nm,0.8s,mb3.9						
CMAR	Chiang Mai Arr	30.02	120	LR	LR	00 47 00.8	
	comp=Z,49nm,18.1s,baz=135,slow=40						
FINES	FINESS Array B	37.57	326	P	P	00 33 33.0	-0.3
	comp=Z,0.3nm,0.4s,mb3.3,baz=104,slow=7.9,SNR=3.9						
HFS	Hagfors	43.21	322	P	P	00 34 19.6	0.0
	comp=Z,1.1nm,0.5s,mb3.8,baz=97,slow=12,SNR=6.1						
NOA	NORSAR Array B	44.51	323	P	P	00 34 29.1	-1.0
	comp=Z,0.4nm,0.7s,mb3.1,baz=101,slow=8.3,SNR=2.5						
YKA	Yellowknife Ar	80.83	3	P	P	00 38 31.3	+1.0
	comp=Z,0.3nm,0.5s,mb3.2,baz=352,slow=5.5,SNR=11						

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*CSEM **17** 00:28:27.8±0.2, 39.32N×20.42E, h2km, ML3.3, Error ellipse: s-maj=5.4km s-min=2.8km az=89.0*
*THE **17** 00:28:28.4, 39.28N×20.52E, h10km, ML3.3*
*ATH **17** 00:28:29.3, 39.37N×20.63E, h5km, MD3.3/5*
*NEIC **17** 00:28:29.0, 39.38N×20.58E, h5km, MD3.2(ATH), After ATH.*
ISC 17 00:28:28.6±0.7**, 39.29N**±0.04×**20.55E**±0.04**, h5km, n20, σ1s26**/33**, 1D, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.29	326	ePg	Pg	00 28 34.0	-0.6
JAN	Janina	0.44	33	⇓iPG	Pg	00 28 35.5	-1.9
JAN				eSB	Sb	00 28 41.5	-3.4
JAN	Janina	0.44	33	ePg	Pg	00 28 35.5	-1.9
JAN				eSb	Sb	00 28 41.5	-3.4
KEK	Kerkira	0.72	307	ePB	Pb	00 28 42.2	-0.9
KEK				eSB	Sb	00 28 55.0	+2.0
SRN	Sarande	0.73	325	i Pg	Pg	00 28 45.6	+2.5
LSK	Leskovik	0.86	3	ePg	Pg	00 28 43.9	-1.9
LSK				i Sg	Sg	00 28 57.8	+0.5
EVR	Evrytania	1.05	110	ePN	Pn	00 28 49.2	-0.6
VLS	Valsamata	1.11	178	ePn	Pn	00 28 51.0	+0.3
VLS				eSb	Sb	00 29 10.5	+6.1
VLS	Valsamata	1.11	178	ePN	Pn	00 28 51.0	+0.3
VLS				eSB	Sb	00 29 10.2	+5.8
AGG	Agios Georgios	1.41	100	ePb	Pb	00 28 54.6	-0.4
AGG				eSb	Sb	00 29 15.8	+2.6
FNA	Florina	1.62	23	ePb	Pb	00 28 57.8	-0.9
FNA				eSb	Sb	00 29 20.7	+1.3
LIT	Litokhoron	1.71	61	ePb	Pb	00 28 59.0	-1.0
NEO	Neokhori	2.08	89	ePN	Pn	00 29 07.0	+2.5
GRG	Griva	2.19	40	ePn	Pn	00 29 05.8	-0.4
GRG				eSn	Sn	00 29 34.7	+0.7
PAIG	Paliouri	2.50	74	ePn	Pn	00 29 10.0	-0.7
PAIG				eSn	Sn	00 29 42.1	+0.2
KNT	Kendrikon	2.60	43	ePn	Pn	00 29 11.8	-0.2
KNT				eSn	Sn	00 29 45.1	+0.9
SKO	Skopje	2.77	14	ePn	Pn	00 29 18.5	+4.1
OUR	Ouranopolis	2.85	67	ePn	Pn	00 29 14.8	-0.7
SRS	Serrai	2.96	51	ePn	Pn	00 29 16.6	-0.6
SRS				eSn	Sn	00 29 54.3	+0.7
STON	Ston	4.18	330	i Pn	Pn	00 29 30.8	-3.6
STON				i Sn	Sn	00 30 16.0	-8.2

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*JSN **17** 00:34:02.0±1.0, 15.29N×74.25W, h15km±999km, MW4.7*
*IDC **17** 00:34:03.5±0.5, 21.04N×75.22W, mb4.0/14, mb1 4.2/18, mb1mx4.1/22, mbtmp4.0/18, ML3.7/3, Error ellipse: s-maj=17.8km s-min=14.6km az=54.0*
*NEIC **17** 00:34:05.0±0.3, 21.09N×75.18W, h10km, mb4.4/14, Error ellipse: s-maj=7.5km s-min=5.6km az=50.0*
*BJI **17** 00:34:04.9, 21.10N×75.20W, h10km, mB4.7, Ms4.6, Msz4.3*
ISC 17 00:34:03.3±0.3**, 21.12N**±0.04×**75.17W**±0.06**, h10km, n56, σ1s06**/55**, mb4.2**/25**, 1C-1D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GWJ	Greenwich	3.37	206	⇑eP	Pn	00 34 57.1	0.0
STH	Stony Hill	3.40	207	⇓eP	Pn	00 34 57.3	-0.2
STH				i S	Sn	00 35 39.8	+1.4
MCJ	Malvern	3.96	217	eP	Pn	00 35 06.5	+0.9
MCJ				eS	Sn	00 35 51.6	-1.1
DWPF	Disney	9.00	322	ePn	P	00 36 25.8	+9.4
SJG	San Juan	9.01	108	Pn	P	00 36 13.9	-2.5
	1.1nm,0.3s,baz=324,slow=19,SNR=3.1						
SJG				Sn	Sn	00 37 48.5	-10
	2.1nm,0.3s,baz=306,slow=19,SNR=3.0						
SJG	San Juan	9.01	108	P	P	00 36 13.4	-3.0
SJG				eSn	Sn	00 37 43.8	-15
TEIG	Tepich	12.31	268	eP	P	00 36 59.1	-2.5
SDV	Santo Domingo	12.92	160	Pn	P	00 37 09.2	-0.7
	1.1nm,0.3s,baz=52,slow=4.7,SNR=12						
SDV				Sn	S	00 39 26.0	-8.7
	0.3nm,0.3s,baz=323,slow=15,SNR=2.2						
SDV	Santo Domingo	12.92	160	eP	P	00 37 08.9	-1.0
	13nm,0.6s						
JTS	JuntasAbangare	14.29	223	Pn	P	00 37 30.6	+2.5
	0.5nm,0.3s,baz=322,slow=19,SNR=2.5						
JTS	JuntasAbangare	14.29	223	eP	P	00 37 27.4	-0.7
	21nm,1.2s						
ROSC	El Rosal	16.18	177	Pn	P	00 37 59.2	+6.6
	1.9nm,0.3s,baz=75,slow=22,SNR=15						
WVT	Waverly	18.61	326	eP	P	00 38 23.3	+0.4
	7.4nm,1.0s						
OTAV	Otavalo	21.00	189	eP	P	00 38 50.9	+1.4
	10.0nm,0.8s						
MIAR	Mount Ida	21.03	313	eP	P	00 38 49.4	-0.3
	7.4nm,1.1s,mb3.9						
JCT	Junction City	24.02	298	P	P	00 39 19.1	-0.2
	11nm,1.2s,mb4.2						
WMOK	Wichita Mounta	24.81	308	eP	P	00 39 26.7	-0.3
	18nm,1.3s,mb4.5						
KSU1	Kansas State U	25.69	319	eP	P	00 39 35.5	+0.2
LTX	Lajitas	27.00	293	P	P	00 39 47.9	+0.5
	1.7nm,0.7s,mb3.7						
TXAR	Lajitas Array	27.00	293	P	P	00 39 48.0	+0.6
	1.5nm,0.8s,mb3.6,baz=110,slow=8.8,SNR=12						
TXAR				PcP	PcP	00 43 09.5	+0.1
	0.2nm,0.5s,baz=115,slow=3.8,SNR=5.2						
TXAR	Lajitas Array	27.00	293	P	P	00 39 48.0	+0.6
TXAR				PcP	PcP	00 43 09.5	+0.1
MNTX	Cornudas Mount	28.96	298	eP	P	00 40 04.3	-0.8
SAML	Samuel	32.11	157	eP	P	00 40 32.1	-1.1
	14nm,0.6s,mb5.0						
SCHQ	Schefferville	34.25	9	P	P	00 40 51.8	+0.4
	5.4nm,1.1s,mb4.4,baz=203,slow=15,SNR=2.7						
SCHQ				PcP	PcP	00 43 27.0	-1.1
	1.6nm,0.6s,baz=232,slow=12,SNR=3.7						
PDAR	Pinedale Array	35.94	315	P	P	00 41 06.2	+0.3
	0.5nm,0.6s,mb3.6,baz=116,slow=8.7,SNR=4.4						
BW06	Boulder Array	35.94	315	eP	P	00 41 05.3	-0.6
LPAZ	La Paz	37.80	169	P	P	00 41 22.9	+1.0
	0.7nm,0.6s,mb3.6,baz=26,slow=14,SNR=4.7						
LPAZ	La Paz	37.80	169	eP	P	00 41 17.2	-4.7
	1.8nm,1.0s,mb3.8						
FFC	Flin Flon	39.19	336	P	P	00 41 32.1	-1.0
FCC	Fort Churchill	40.01	345	eP	P	00 41 38.8	-1.0
	4.8nm,1.2s,mb4.1						
NVAR	Mina Array Bea	40.82	305	P	P	00 41 48.3	+1.6
	0.2nm,0.3s,mb3.2,baz=90,slow=4.5,SNR=3.0						
BDFB	Brasilia	45.21	142	P	P	00 42 21.8	-1.0
	2.1nm,0.6s,mb4.1,baz=292,slow=5.4,SNR=4.0						
YKA	Yellowknife Ar	49.31	337	P	P	00 42 53.7	-0.5
	1.4nm,0.6s,mb4.2,baz=128,slow=8.7,SNR=33						
YKA	Yellowknife Ar	49.31	337	P	P	00 42 53.7	-0.5
DLBC	Dease Lake	54.04	328	eP	P	00 43 30.6	+0.7
RES	Resolute Bay	54.63	354	eP	P	00 43 31.7	-2.4
	2.4nm,1.0s,mb4.2						
SUMG	Summit	55.46	13	eP	P	00 43 40.5	+0.3
	8.2nm,1.1s,mb4.7						
PLCA	Paso Flores	61.68	176	P	P	00 44 22.9	-1.0
	1.6nm,0.7s,mb4.3,baz=334,slow=9.6,SNR=4.9						
ESDC	Sonseca Array	62.62	55	P	P	00 44 30.9	+0.6
	0.7nm,0.6s,mb3.9,baz=281,slow=6.8,SNR=4.8						
ILAR	Eielson Array	63.32	333	P	P	00 44 33.9	-0.6
	0.8nm,0.6s,mb4.0,baz=115,slow=3.3,SNR=17						
IMA	Indian Mountai	66.25	334	eP	P	00 44 53.2	-0.2
	16nm,1.0s,mb5.0						
DBIC	Dimbokro	69.28	91	P	P	00 45 13.2	-0.1
	1.9nm,0.6s,mb4.2,baz=312,slow=9.1,SNR=4.4						
DBIC	Dimbokro	69.28	91	eP	P	00 45 12.9	-0.4
	17nm,1.3s,mb4.8						
KHC	Kasperske Hory	73.53	43	eP	P	00 45 39.0	+0.8
GERES	GERESS Array B	73.68	43	P	P	00 45 40.1	+1.1
	0.9nm,0.7s,mb3.8,baz=288,slow=4.2,SNR=9.9						
ARCES	ARCESS Array B	74.07	21	P	P	00 45 41.0	+0.1
	4.5nm,1.0s,mb4.4,baz=301,slow=7.1,SNR=5.0						
ARCES	ARCESS Array B	74.07	21	P	P	00 45 41.0	+0.1
FINES	FINESS Array B	76.90	29	P	P	00 45 58.3	+1.1
	1.4nm,0.5s,mb4.1,baz=282,slow=4.5,SNR=17						
IDI	Anoyia	85.84	54	P	P	00 46 46.5	+1.8
	24nm,1.2s,mb5.3,baz=318,slow=12,SNR=2.9						
TSUM	Tsumeb	99.17	107	P	P	00 47 49.7	+2.8
	2.2nm,0.9s,mb4.7						
CN2	Changchun	112.69	344	ePKP	PKPdf	00 52 42.9	-0.3
WMQ	Urumqi	113.50	13	ePKP	PKPdf	00 52 44.0	-0.9
BJI	Beijing	118.25	350	PKP	PKPdf	00 52 53.0	-1.2
STKA	Stephens Creek	145.55	244	PKPbc	PKPbc	00 53 43.6	+0.7
	4.3nm,0.8s,baz=344,slow=3.1,SNR=6.9						
WRA	Warramunga Arr	152.36	267	PKP	PKPdf	00 53 54.8	-1.6
	0.6nm,0.8s,baz=74,slow=1.8,SNR=4.5						
WRA				PKPbc	PKPdf	00 54 01.1	+4.7
	2.0nm,0.5s,baz=83,slow=2.9,SNR=29						
WRA				PKPab	PKPab	00 54 10.5	-2.2
	1.5nm,0.6s,baz=84,slow=3.6,SNR=8.9						
ASAR	Alice Springs	153.02	259	PKP	PKPdf	00 53 55.9	-1.3
	0.6nm,0.6s,baz=95,slow=1.7,SNR=8.6						
ASAR				PKPbc	PKPdf	00 54 02.4	+5.1
	1.2nm,0.6s,baz=75,slow=2.2,SNR=11						
ASAR				PKPab	PKPab	00 54 14.2	-1.2
	1.4nm,0.8s,baz=102,slow=4.9,SNR=8.1						

MEX 17 00:55:15.5±1.2**, 17.17N**×**94.38W, h151km**±14km**, MD3.9, 1C, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.49	260	⇑iP	P	00 55 35.8	-1.6
CMIG				i S	S	00 55 50.8	-3.3
HUIG	Huatulco	2.17	230	i P	P	00 55 50.1	-2.9
HUIG				i S	S	00 56 19.8	-2.1
OXX	Oaxaca	2.24	268	eP	P	00 55 51.5	-2.5
OXX				i S	S	00 56 20.0	-3.5
VHO	Vista Hermosa	2.25	268	i P	P	00 55 53.3	-0.8
VHO				i S	S	00 56 22.0	-1.7

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*IDC **17** 01:08:26.3±1.1, 13.10N×92.59E, mb3.8/9, mb1 4.0/10, mb1mx3.9/18, mbtmp3.8/10, ML4.1/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/22, Error ellipse: s-maj=37.8km s-min=21.6km az=50.0*
ISC 17 01:08:29.0±0.9**, 13.0N**±0.2×**92.4E**±0.2**, h33km, n12, σ0s86**/12**, mb3.8**/9**, MS3.5**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	8.31	48	Pn	P	01 10 24.2	-5.7
	0.7nm,0.3s,baz=236,slow=15,SNR=22						
CMAR				LR	LR	01 13 05.0	
	comp=Z,104nm,19.4s,baz=240,slow=34						
VIS	Vishakhapatnam	9.96	299	eP	P	01 10 52.0	-0.8
VIS				eS	S	01 12 36.7	-7.9
SONM	Songino Array	36.65	16	P	P	01 15 33.0	-1.3
	0.4nm,0.6s,mb3.4,baz=196,slow=10,SNR=3.4						
ZAL	Zalesovo	41.30	353	P	P	01 16 13.9	+1.0
	0.9nm,0.6s,mb3.6,baz=322,slow=8.8,SNR=5.2						
BVAR	Borovoye Array	43.64	341	P	P	01 16 32.9	+0.9
	0.2nm,0.4s,mb3.2,baz=121,slow=8.6,SNR=3.6						
GNI	Garni	49.73	312	LR	LR	01 39 27.3	
	comp=Z,48nm,19.6s,MS3.5,baz=199,slow=37						
WRA	Warramunga Arr	52.65	128	P	P	01 17 42.4	-0.1
	2.4nm,0.9s,mb4.2,baz=340,slow=11,SNR=2.8						
ASAR	Alice Springs	54.52	132	P	P	01 17 56.2	0.0
	1.2nm,0.6s,mb4.1,baz=310,slow=7.0,SNR=4.6						
BRTR	Keskin Array B	57.88	309	P	P	01 18 20.4	+0.3
	0.6nm,0.7s,mb3.7,baz=108,slow=7.8,SNR=5.3						
FINES	FINESS Array B	67.44	332	P	P	01 19 24.1	+0.9
	1.5nm,0.7s,mb4.1,baz=108,slow=12,SNR=5.1						
ARCES	ARCESS Array B	69.92	340	P	P	01 19 37.0	-1.4
	1.2nm,0.8s,mb3.9,baz=104,slow=7.4,SNR=2.3						
GERES	GERESS Array B	72.93	317	P	P	01 19 57.2	+0.4
	0.7nm,0.7s,mb3.7,baz=63,slow=3.0,SNR=4.1						

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*NEIC **17** 01:11:28.0±2.3, 2.81N×125.65E, h191km±22km, mb4.4/8, Error ellipse: s-maj=18.1km s-min=6.0km az=60.0*
*IDC **17** 01:11:28.8±2.3, 2.78N×125.58E, h194km±20km, mb3.8/12, mb1 3.9/12, mb1mx3.8/18, mbtmp4.3/12, Error ellipse: s-maj=44.4km s-min=9.2km az=69.0*
ISC 17 01:11:25.0±2.2**, 2.86N**±0.08×**125.7E**±0.1**, h177km**±20km**, n42, σ0s74**/44**, mb4.3**/25**, 2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	Kuching	15.46	265	eP	P	01 14 55.9	+0.6
FITZ	Fitzroy Crossi	20.83	180	eP	P	01 15 53.9	-0.2
	8.8nm,0.4s						
WRAB	Tennant Creek	24.18	160	P	P	01 16 26.0	-0.6
	130nm,0.4s,SNR=56						
WRAB	Tennant Creek	24.18	160	eP	P	01 16 26.4	-0.2
	17nm,0.5s,mb4.8						
WRA	Warramunga Arr	24.19	160	P	P	01 16 26.8	+0.1
	9.0nm,0.5s,mb4.6,baz=334,slow=11,SNR=65						
WRA				PP	PP	01 17 00.1	-8.0
	3.0nm,0.5s,baz=340,slow=11,SNR=4.9						
WRA				PcP	PcP	01 20 04.4	+1.0
	0.2nm,0.3s,baz=321,slow=2.3,SNR=3.4						
WRA				S	S	01 20 29.8	+0.7
	1.4nm,0.8s,baz=333,slow=18,SNR=4.2						
WRA				ScP		01 23 24.7	
	1.0nm,0.8s,baz=342,slow=2.9,SNR=5.7						
WB2	Warramunga Arr	24.20	160	eP	P	01 16 26.7	0.0
WB2				eS	S	01 20 28.9	-0.2
MBWA	Marble Bar	24.58	194	eP	P	01 16 28.8	-1.6
	7.2nm,0.8s,mb4.2						
ASPA	Alice Springs	27.55	164	eP	P	01 16 57.4	-0.1
ASAR	Alice Springs	27.55	164	P	P	01 16 57.2	-0.3
	1.3nm,0.5s,mb3.9,baz=349,slow=14,SNR=19						
ASAR				PP	PP	01 17 43.5	-9.2
	1.6nm,0.8s,baz=336,slow=9.6,SNR=4.3						
ASAR				PcP	PcP	01 20 11.4	+0.4
	0.6nm,0.6s,baz=1.0,slow=2.0,SNR=4.3						
ASAR				S	S	01 21 23.7	-0.3
	1.2nm,0.9s,baz=355,slow=23,SNR=2.3						
ASAR	Alice Springs	27.55	164	P	P	01 16 57.2	-0.3
ASAR				PP	PP	01 17 43.5	-9.2
ASAR				PcP	PcP	01 20 11.4	+0.4
ASAR				S	S	01 21 23.7	-0.3
CTAO	Charters Tower	30.44	139	P	P	01 17 24.3	+1.1
ENH	Enshi	31.30	332	eP	P	01 17 30.1	-0.6
NWAO	Narrogin (SRO)	36.49	192	P	P	01 18 14.4	-0.6
	2.9nm,0.3s,mb4.3,baz=16,slow=7.4,SNR=6.6						
STKA	Stephens Creek	37.70	158	P	P	01 18 26.1	+1.0
	3.3nm,0.5s,mb4.2,baz=333,slow=7.6,SNR=16						
STKA	Stephens Creek	37.70	158	eP	P	01 18 25.7	+0.7
LSA	Lhasa	42.27	313	eP	P	01 19 04.6	+1.8
	6.5nm,0.6s,mb4.4						
JIRN	Jiri	45.08	307	eP	P	01 19 25.4	+0.1
	47nm,1.0s,mb5.1						
PKI	Pulchoki	45.66	307	eP	P	01 19 29.4	-0.5
	16nm,0.8s,mb4.7						
KKN	Kakani	45.86	307	eP	P	01 19 31.3	-0.2
	14nm,0.6s,mb4.8						
DMN	Daman	45.92	306	eP	P	01 19 31.8	-0.2
	23nm,0.8s,mb4.9						
GKN	Gorkha	46.46	307	eP	P	01 19 35.7	-0.5
	42nm,1.1s,mb5.0						
KOLN	Koldanda	47.20	306	eP	P	01 19 41.9	0.0
	37nm,0.7s,mb5.1						
ULN	Ulaanbaatar	47.64	343	eP	P	01 19 45.3	+0.2
	1.5nm,0.8s,mb3.7						
SONM	Songino Array	47.80	342	P	P	01 19 46.5	+0.2
	1.5nm,0.9s,mb3.6,baz=160,slow=8.3,SNR=13						
SONM				PcP	PcP	01 21 13.2	+0.5
	0.7nm,0.8s,baz=162,slow=4.4,SNR=4.1						
AAK	Ala-Archa	60.33	319	P	P	01 21 17.4	0.0
ZAL	Zalesovo	60.91	334	P	P	01 21 20.1	-1.0
	0.8nm,0.4s,mb3.9,baz=324,slow=12,SNR=3.8						
KURK	Kurchatov	61.93	328	P	P	01 21 26.8	-1.3
	99nm,0.5s,SNR=22						
KURK	Kurchatov	61.93	328	eP	P	01 21 26.6	-1.5
	8.3nm,0.6s,mb4.7						
BVAR	Borovoye Array	67.50	327	P	P	01 22 03.2	-0.7
	1.7nm,0.6s,mb3.9,baz=101,slow=7.6,SNR=14						
ASF	Jabal al Asfar	87.50	302	P	P	01 23 55.6	+1.4
	2.9nm,0.7s,mb4.2,baz=329,slow=4.0,SNR=4.1						
KMBO	Kilima Mbogo	88.53	269	P	P	01 24 00.7	+1.2
	0.6nm,0.6s,mb3.7,baz=51,slow=11,SNR=3.8						
KMBO	Kilima Mbogo	88.53	269	eP	P	01 24 00.3	+0.9
	3.3nm,1.1s,mb4.2						
JOF	Joensuu	89.49	333	ep	P	01 24 03.0	+0.2
	0.9nm,0.4s,mb4.0						
BRTR	Keskin Array B	89.80	310	P	P	01 24 04.4	-0.4
	0.5nm,0.8s,mb3.5,baz=146,slow=7.8,SNR=3.6						
ARCES	ARCESS Array B	90.91	340	P	P	01 24 09.4	+0.1
	4.7nm,1.1s,mb4.5,baz=76,slow=7.4,SNR=3.4						
KAF	Kangasniemi	91.89	332	ep	P	01 24 12.8	-1.2
	0.6nm,0.3s,mb4.1						
FINES	FINESS Array B	92.12	332	P	P	01 24 15.1	0.0
	0.9nm,0.5s,mb4.1,baz=69,slow=4.6,SNR=12						
FINES	FINESS Array B	92.12	332	P	P	01 24 15.1	0.0
MLR	Muntele Rosu	94.82	316	⇑P	P	01 24 28.8	+1.0
BURAR	Bucovina Array	94.97	318	⇑P	P	01 24 29.5	+1.1
GERES	GERESS Array B	102.13	321	P	Pdif	01 25 01.4	+0.6
	0.1nm,0.3s,baz=76,slow=8.1,SNR=4.0						
CFAA	Coronel Fontan	148.53	157	PKPbc	PKPdf	01 30 53.6	+6.2
	0.5nm,0.6s,baz=229,slow=6.2,SNR=9.0						

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*NEIC **17** 01:16:31.8, 32.69S×71.62W, h31km, ML2.5(GUC), After GUC.*
GUC 17 01:16:31.8±0.5**, 32.69S**×**71.62W, h31km**±5km**, MD3.5, ML2.5, 2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	Papudo	0.22	46	⇓iP	Pb	01 16 38.4	+0.1
PACH				i S	Sb	01 16 43.2	+0.5
ROCH	El Roble	0.59	119	i P	Pb	01 16 43.7	0.0
ROCH				i S	Sb	01 16 53.0	+1.2
LCCH	Las Cruces	0.79	177	eP	Pn	01 16 46.2	-0.6
JACH	Jahuel	0.87	90	eP	Pn	01 16 47.9	-0.1
TACH	Talagante	1.12	149	eP	Pn	01 16 51.9	+0.3
CLCH	Cerro Calan	1.15	128	eP	Pn	01 16 51.6	-0.4
CLCH				i S	Sn	01 17 07.6	+0.7
FCH	Farellones	1.29	120	⇓iP	Pn	01 16 54.9	+0.9
FCH				i S	Sn	01 17 12.5	+2.2
FCH				AMP		01 17 13.6	
	comp=E,112nm,0.2s						
PCH	Pirque	1.31	135	eP	Pn	01 16 55.0	+0.6
LMEL	Las Melosas	1.66	135	eP	Pn	01 17 00.6	+1.4
LMEL				AMP		01 17 26.3	
	comp=N,121nm,0.2s						

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*NEIC **17** 01:18:04.3, 35.72N×32.22E, h25km, ML3.1(NIC), After NIC.*
*NIC **17** 01:18:04.3±0.3, 35.72N×32.22E, h25km, ML3.1, MW3.0*
*ISK **17** 01:18:05.5, 35.52N×32.17E, h32km, MD3.6*
*CSEM **17** 01:18:05.3±0.2, 35.52N×32.17E, h30km, ML3.1, Error ellipse: s-maj=7.1km s-min=2.6km az=66.0*
ISC 17 01:18:06.1±0.7**, 35.54N**±0.03×**32.16E**±0.06**, h33km, n16, σ0s89**/27**, 2C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALFC	Alevga	0.52	137	⇑eP	P	01 18 16.6	-0.3
	26nm,0.2s						
ALFC				S	S	01 18 24.7	+0.1
AKMC	Akamas	0.53	165	⇑eP	P	01 18 16.8	-0.1
PPCY	Paphos	0.67	167	P	P	01 18 18.9	-0.1
PPCY				S	S	01 18 29.9	+1.5
LEF	Lefka	0.73	125	PG	P	01 18 19.7	-0.2
LEF				SG	S	01 18 29.7	-0.2
MAMC	Mammari	0.94	113	P	P	01 18 19.0	-3.8
SZAC	Souni-Zanaja	0.98	143	P	P	01 18 22.1	-1.4
	5.4nm,0.2s						
SZAC				S	S	01 18 37.6	+1.3
CSS	Prodhromos	1.12	121	P	P	01 18 23.4	-2.0
	1.3nm,0.4s						
CSS				S	S	01 18 39.0	-0.8
CSS	Prodhromos	1.12	121	ePn	Pn	01 18 18.8	-6.8
CSS				P		01 18 23.4	
CSS				eSn	Sn	01 18 35.8	-4.1
CSS				S	S	01 18 39.0	-0.8
CSS	Prodhromos	1.12	121	ePn	Pn	01 18 18.8	-6.8
CSS	Prodhromos	1.12	121	P	P	01 18 23.4	-2.0
	1.3nm,0.4s						
CSS				S	S	01 18 39.0	-0.8
HDMB	Hadim	1.45	10	ePN	Pn	01 18 30.9	+0.6
HDMB				eSN	Sn	01 18 47.9	-0.4
MEST	Erdemli	1.92	56	i P	P	01 18 38.0	+1.1
MEST				i S	S	01 18 59.8	-0.3
BCK	Bucak	2.30	327	ePN	Pn	01 18 42.0	-0.5
KONT	Konya--Tatoy	2.41	4	ePN	Pn	01 18 44.4	+0.3
COBT	Iskenderun	3.46	72	i P	P	01 19 00.3	+1.4
COBT				i S	S	01 19 39.7	+0.5
ESKT	Eskisehir	4.11	346	ePN	Pn	01 19 08.3	0.0

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*NEIC **17** 01:19:37.0±0.4, 52.22S×160.82E, h10km, mb5.0/16, MS4.5/6, Error ellipse: s-maj=12.2km s-min=9.2km az=81.0*
*IDC **17** 01:19:36.1±0.8, 52.20S×160.73E, mb4.5/10, mb1 4.6/12, mb1mx4.4/16, mbtmp4.5/12, ML3.9/2, MS4.6/10, Ms1 4.6/10, ms1mx4.2/14, Error ellipse: s-maj=27.1km s-min=17.2km az=80.0*
*HRVD **17** 01:19:37.0±0.2, 52.21S×160.30E, h12km, MW5.2/66, Centroid moment Tensor Solution. LP body waves: s56,c81; Mantle waves: s66,c118; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03±.02; $M_{\theta\theta}$0.69±.02; $M_{\phi\phi}$-0.71±.02; $M_{r\theta}$-0.39±.06; $M_{\theta\phi}$0.41±.02; $M_{\phi r}$0.20±.06; Best double couple: M_0.919×10^{17} NP1:ϕ_s209°,δ62°,λ178°. NP2:ϕ_s300°,δ88°,λ28°. Principal axes: T .919, Plg21°, Azm168°; N -.002, Plg62°, Azm303°; P -.918, Plg18°, Azm71°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 01:19:34.9±2.1**, 52.09S**±0.05×**160.82E**±0.08**, h8km**±14km**, h7km**±.2km**: pP-P, n107, σ1s37**/97**, mb4.9**/26**, MS4.5**/13**, 9C-4D, Macquarie Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	7.77	40	SN	Sn	01 22 58.5	-1.7
WHZ	Wether Hill Ro	7.77	40	SN	Sn	01 22 58.5	-1.7
MLZ	Mavora Lakes	8.31	39	PN	P	01 21 37.8	-0.8

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLZ				SN	Sn	01 23 10.5	-3.2
MLZ	Mavora Lakes	8.31	39	PN	P	01 21 37.8	-0.8
MLZ				SN	Sn	01 23 10.5	-3.2
TUZ	Tuapeka	8.43	47	PN	P	01 21 39.0	-1.4
TUZ				SN	Sn	01 23 11.0	-5.8
TUZ	Tuapeka	8.43	47	PN	P	01 21 39.0	-1.4
TUZ				SN	Sn	01 23 11.0	-5.8
MSZ	Milford Sound	8.80	35	PN	P	01 21 48.1	+2.8
MSZ	Milford Sound	8.80	35	PN	P	01 21 48.1	+2.8
EAZ	Earnscleugh	8.86	43	PN	P	01 21 45.3	-1.0
EAZ	Earnscleugh	8.86	43	PN	P	01 21 45.3	-1.0
ODZ	Otahua Downs	9.59	47	PN	P	01 21 54.4	-1.9
ODZ				SN	Sn	01 23 39.8	-5.6
ODZ	Otahua Downs	9.59	47	PN	P	01 21 54.4	-1.9
ODZ				SN	Sn	01 23 39.8	-5.6
JCZ	Jackson Bay	9.61	37	PN	P	01 21 57.2	+0.6
JCZ				eSN	Sn	01 23 46.2	+0.2
JCZ	Jackson Bay	9.61	37	PN	P	01 21 57.2	+0.6
JCZ				eSN	Sn	01 23 46.2	+0.2
LBZ	Lake Benmore	9.91	43	PN	P	01 21 59.2	-1.5
LBZ	Lake Benmore	9.91	43	PN	P	01 21 59.2	-1.5
FOZ	Fox Glacier	10.40	38	PN	P	01 22 08.7	+1.3
FOZ	Fox Glacier	10.40	38	PN	P	01 22 08.7	+1.3
RPZ	Rata Peaks	10.82	43	Pn	P	01 22 12.8	-0.4
	1.0nm,0.3s,baz=172,slow=2.6,SNR=9.5						
RPZ				LR	LR	01 25 59.7	
	comp=Z,5µm,20.9s,baz=200,slow=35						
MQZ	McQueen's Vall	11.54	48	PN	P	01 22 22.4	-0.5
MQZ	McQueen's Vall	11.54	48	PN	P	01 22 22.4	-0.5
DSZ	Denniston Nort	12.77	40	PN	P	01 22 39.1	-0.4
DSZ	Denniston Nort	12.77	40	PN	P	01 22 39.1	-0.4
TAU	Tasmania Unive	12.93	310	Pn	P	01 22 39.0	-2.6
	302nm,0.6s,SNR=18						
TAU	Tasmania Unive	12.93	310	eP	P	01 22 39.4	-2.2
	83nm,0.7s						
TAU				eS	S	01 24 51.9	-15
KHZ	Kahutara	12.95	47	ePN	P	01 22 42.1	+0.2
KHZ	Kahutara	12.95	47	ePN	P	01 22 42.1	+0.2
THZ	Tophouse	13.20	43	PN	P	01 22 45.7	+0.5
THZ	Tophouse	13.20	43	PN	P	01 22 45.7	+0.5
URZ	Urewera	17.91	46	P	P	01 23 47.8	+1.9
	0.4nm,0.3s,baz=290,slow=1.8,SNR=6.3						
URZ				LR	LR	01 30 58.5	
	comp=Z,5µm,18.3s,baz=41,slow=38						
TOO	Toolangi	18.08	317	eP	P	01 23 50.4	+2.4
	0.9nm,0.5s						
STKA	Stephens Creek	24.60	318	P	P	01 25 00.1	+3.6
	3.3nm,0.7s,mb4.0,baz=127,slow=8.5,SNR=5.5						
STKA				LR	LR	01 32 39.3	
	comp=Z,2µm,20.8s,MS4.5,baz=298,slow=32						
STKA	Stephens Creek	24.60	318	eP	P	01 24 59.9	+3.3
STKA				LR	LR	01 32 39.3	
VNDA	Vanda	25.54	179	P	P	01 25 05.0	-0.1
	17nm,0.8s,mb4.6,baz=347,slow=9.7,SNR=38						
VNDA				LR	LR	01 33 06.2	
	comp=Z,2µm,19.0s,MS4.6,baz=360,slow=32						
SBA	Scott Base	25.96	177	eP	P	01 25 10.1	+1.0
	56nm,1.3s,mb4.9						
CASY	Casey	28.46	221	eP	P	01 25 31.3	-0.6
	15nm,1.1s,mb4.5						
CASY				LR	LR		
	comp=Z,861nm,20.0s,MS4.3						
FORT	Forrest	32.08	299	eP	P	01 26 09.0	+4.6
	comp=Z,345nm,0.6s						
CTA	Charters Tower	33.90	335	eP	P	01 26 25.1	+4.8
	comp=Z,6.2nm,0.9s,mb4.5						
CTA	Charters Tower	33.90	335	P	P	01 26 24.8	+4.5
	comp=Z,7.8nm,1.0s,mb4.6,baz=173,slow=5.5,SNR=5.2						
CTAO	Charters Tower	33.90	335	eP	P	01 26 25.1	+4.7
	comp=Z,13nm,1.0s,mb4.8						
CTAO				LR	LR		
	comp=Z,869nm,20.0s,MS4.5						
ASAR	Alice Springs	35.06	314	P	P	01 26 30.9	+0.6
	comp=Z,2.4nm,0.8s,mb4.2,baz=148,slow=8.3,SNR=29						
ASAR				PcP	PcP	01 29 04.2	+1.8
	comp=Z,1.2nm,0.9s,baz=153,slow=4.0,SNR=3.1						
ASAR				LR	LR	01 39 52.8	
	comp=Z,673nm,18.8s,MS4.4,baz=153,slow=35						
ASPA	Alice Springs	35.06	314	eP	P	01 26 39.8	+10
NWAO	Narrogin (SRO)	36.71	284	P	P	01 26 43.6	-0.5
	comp=Z,5.8nm,0.9s,mb4.4,baz=104,slow=15,SNR=2.3						
NWAO	Narrogin (SRO)	36.71	284	P	P	01 26 43.4	-0.8
	comp=Z,33nm,1.3s,mb5.0						
KLBR	Kellerberrin	37.35	286	eP	P	01 26 49.5	0.0
	comp=Z,126nm,0.8s,mb5.8						
QSPA	South Pole Qui	38.03	180	⇓iP	P	01 26 55.7	+0.9
	comp=Z,41nm,1.1s,mb5.1						
QSPA				LR	LR		
	comp=Z,2µm,20.0s,MS4.9						
WB2	Warramunga Arr	38.14	317	eP	P	01 26 56.0	-0.3
WRA	Warramunga Arr	38.15	317	P	P	01 26 55.8	-0.6
	comp=Z,2.7nm,0.8s,mb4.0,baz=153,slow=7.4,SNR=18						
WRA				PcP	PcP	01 29 14.2	+2.5
	comp=Z,1.9nm,0.9s,baz=165,slow=2.6,SNR=3.0						
WRAB	Tennant Creek	38.15	317	eP	P	01 26 55.8	-0.6
	comp=Z,24nm,1.1s,mb4.8						
FITZ	Fitzroy Crossi	43.72	308	eP	P	01 27 46.6	+4.4
	comp=Z,14nm,0.8s,mb4.7						
AFI	Afiamalu	43.95	40	P	P	01 27 46.4	+2.2
	comp=Z,75nm,1.3s,mb5.3						
PMG	Port Moresby	43.99	340	LR	LR	01 43 27.5	
	comp=Z,854nm,18.7s,MS4.7,baz=328,slow=32						
PMG	Port Moresby	43.99	340	P	P	01 27 45.0	+0.5
	comp=Z,11nm,0.8s,mb4.6						
PMG				LR	LR		
	comp=Z,571nm,19.0s,MS4.5						
MBWA	Marble Bar	44.23	298	eP	P	01 27 45.7	-0.7
	comp=Z,17nm,0.9s,mb4.8						
MAW	Mawson	46.04	212	P	P	01 28 00.7	+0.5
	comp=Z,11nm,0.7s,mb4.9,baz=160,slow=12,SNR=3.5						
MAW				LR	LR	01 46 26.1	
	comp=Z,661nm,18.3s,MS4.6,baz=296,slow=35						
TBI	Tubuai	47.41	72	eS	S	01 35 09.5	+4.5
TBI				eLR	LR	01 41 27.2	
	comp=Z,754nm,34.0s,baz=222						
SYO	Syowa Base	51.77	203	⇓P	P	01 28 42.5	-2.0
SYO	Syowa Base	51.77	203	⇑P	P	01 28 43.7	-0.8
PAE	Paea	51.79	68	eP	P	01 28 46.7	+1.4
	comp=Z,37nm,1.1s,mb5.2						
PPT	Papeete	51.87	67	eP	P	01 28 47.7	+1.9
	comp=Z,34nm,1.2s,mb5.1						
PPT	Papeete	51.87	67	eS	S	01 36 12.0	+4.9
PPT				eLQ		01 41 15.5	
PPT				eLR	LR	01 43 28.0	
	comp=Z,828nm,27.5s,baz=227						
TVO	Taravao	51.88	68	eP	P	01 28 47.9	+1.9
	comp=Z,75nm,1.2s,mb5.5						
TIAR	Tiarei	52.00	68	eP	P	01 28 48.8	+1.9
	comp=Z,124nm,0.9s,mb5.8						
MEH	Mehetia	52.49	69	eP	P	01 28 52.1	+1.6
	comp=Z,16nm,0.9s,mb4.9						
SNAA	Sanae	56.00	186	⇑i	P	01 29 13.8	-1.8
SNAA	Sanae	56.00	186	e	P	01 29 15.8	+0.2
SNAA	Sanae	56.00	186	e	P	01 29 20.9	+5.3
SNAA	Sanae	56.00	186	e	P	01 29 24.3	+8.7
SNAA	Sanae	56.00	186	P	P	01 29 14.1	-1.5
	comp=Z,5.2nm,1.0s,mb4.5,baz=182,slow=4.1,SNR=8.1						
SNAA	Sanae	56.00	186	eP	P	01 29 13.5	-2.1
	comp=Z,28nm,1.1s,mb5.2						
RKT	Rikitea	56.33	85	eS	S	01 37 12.4	+5.1
RKT				eSS	SS	01 40 43.9	-11
RKT				eLQ		01 43 13.3	
RKT				eLR	LR	01 45 35.2	
	comp=Z,468nm,31.0s,baz=226						
VNA3	Neumayer Olymp	56.79	184	e	P	01 29 20.5	-0.7
VNA3	Neumayer Olymp	56.79	184	e	P	01 29 27.4	+6.2
VNA3	Neumayer Olymp	56.79	184	e	P	01 29 31.0	+10
VNA3	Neumayer Olymp	56.79	184	⇑iP	P	01 29 18.5	-2.7
VNA3				e	pP	01 29 20.5	-3.1
VNA3				e		01 29 27.4	
VNA3				e		01 29 31.0	
VNA2	Neumayer--Watz	57.00	185	e	P	01 29 21.1	-1.7
VNA2	Neumayer--Watz	57.00	185	e	P	01 29 28.2	+5.4
VNA2	Neumayer--Watz	57.00	185	e	P	01 29 31.3	+8.5
VNA2	Neumayer--Watz	57.00	185	⇑iP	P	01 29 18.9	-3.9
VNA2				e	pP	01 29 21.1	-4.0
VNA2				e		01 29 28.2	
VNA2				e		01 29 31.3	
VNA1	Neumayer--Stat	57.32	184	e	P	01 29 24.6	-0.4
VNA1	Neumayer--Stat	57.32	184	e	P	01 29 29.2	+4.2
VNA1	Neumayer--Stat	57.32	184	e	P	01 29 33.0	+8.0
VNA1	Neumayer--Stat	57.32	184	⇑iP	P	01 29 22.7	-2.3
VNA1				e	pP	01 29 24.6	-2.8
VNA1				e		01 29 29.2	
VNA1				e		01 29 33.0	
PTCN	Pitcairn Islan	57.90	90	eP	P	01 29 27.1	-2.6
	comp=Z,152nm,0.6s						
PMSA	Palmer Station	58.43	159	eP	P	01 29 30.7	-2.1
	comp=Z,59nm,1.1s,mb5.5						
GUMO	Guam	66.85	343	PFAKE		01 30 40.0	+10
GUMO				LR	LR		
	comp=Z,1µm,21.0s,MS5.1						
PLCA	Paso Flores	77.36	143	LR	LR	01 58 00.6	
	comp=Z,206nm,19.6s,MS4.5,baz=207,slow=30						
TRQA	Tornquist	82.78	147	eP	P	01 31 59.5	-1.0
	comp=Z,4.8nm,1.0s,mb4.5						
CMAR	Chiang Mai Arr	88.37	303	P	P	01 32 31.4	+2.9
	comp=Z,0.5nm,0.3s,mb4.2,baz=162,slow=3.5,SNR=4.5						
CMAR				LR	LR	02 08 50.6	
	comp=Z,88nm,21.7s,MS4.1,baz=140,slow=33						
SUR	Sutherland	88.89	213	P	P	01 32 30.7	-0.1
	comp=Z,5.8nm,1.0s,mb4.8,baz=197,slow=7.6,SNR=4.3						
SUR	Sutherland	88.89	213	eP	P	01 32 30.1	-0.6
	comp=Z,14nm,1.1s,mb5.2						
LPAZ	La Paz	99.78	133	LR	LR	02 08 52.2	
	comp=Z,66nm,19.6s,MS4.2,baz=35,slow=30						
HIA	Hailar	106.85	333	PFAKE		01 38 10.0	
HIA				LR	LR		
	comp=Z,119nm,20.0s,MS4.4						
MCK	McKinley	121.95	24	ePKPdf	PKPdf	01 38 31.9	+0.2
IMA	Indian Mountai	122.82	20	PKPdf	PKPdf	01 38 35.2	+2.0
ILAR	Eielson Array	123.32	24	PKP	PKPdf	01 38 34.9	+0.6
	comp=Z,0.3nm,0.8s,baz=214,slow=3.3,SNR=4.0						
YKA	Yellowknife Ar	132.06	39	PKP	PKPdf	01 38 48.2	-2.7
	comp=Z,0.1nm,0.6s,baz=248,slow=3.0,SNR=4.4						
YKA	Yellowknife Ar	132.06	39	PKP	PKPdf	01 38 48.2	-2.7
TIRR	Tirgusor	147.91	275	⇑P	PKPdf	01 39 21.0	+1.5
CFR	Carcaliu	148.45	276	⇓P	PKPdf	01 39 22.9	+2.5
VRI	Vrincioaia	149.65	277	⇑P	PKPdf	01 39 26.9	+4.6
MLR	Muntele Rosu	149.95	276	⇓P	PKPdf	01 39 26.2	+3.4
BURAR	Bucovina Array	151.37	279	⇑P	PKPdf	01 39 37.5	+13
BURAR	Bucovina Array	151.37	279	⇑P	PKPdf	01 39 37.5	+13
ARCES	ARCESS Array B	152.99	327	PKPbc	PKPdf	01 39 34.0	+7.5
	comp=Z,6.1nm,1.0s,baz=93,slow=3.7,SNR=2.9						
ARCES				PKPab	PKPab	01 39 42.7	-2.2
	comp=Z,4.1nm,0.8s,baz=90,slow=6.3,SNR=5.4						
FINES	FINESS Array B	154.00	309	PKPbc	PKPdf	01 39 38.6	+11
	comp=Z,1.9nm,0.8s,baz=90,slow=1.9,SNR=5.3						
FINES				PKPab	PKPab	01 39 47.5	-1.8
	comp=Z,1.8nm,0.7s,baz=90,slow=5.7,SNR=7.9						
FINES	FINESS Array B	154.00	309	PKPbc	PKPdf	01 39 38.6	+11
FINES				PKPab	PKPab	01 39 47.5	-1.8

*DJA **17** 01:29:23.0±1.0, 4.15S×101.35E, h80^{km}, mb4.5/3, MD4.2/1, ML4.8/2, Error ellipse: s-maj=28.3km s-min=14.8km az=64.0*

*NEIC **17** 01:29:31.5±0.4, 4.36S×102.01E, h30^{km}, mb4.3/3, Error ellipse: s-maj=17.0km s-min=9.0km az=60.0*

*IDC **17** 01:29:31.5±0.7, 4.29S×102.04E, h28^{km}±4^{km}, mb4.0/12, mb1 4.1/12, mb1mx4.1/17, mbtmp4.2/12, MS3.2/1, Ms1 3.4/1, ms1mx3.1/18, Error ellipse: s-maj=24.8km s-min=13.2km az=47.0*

ISC 17 01:29:30.0±0.5**, 4.29S**±0.08×**102.03E**±0.08**, h31**^{km}±1.8^{km}**:pP-P, n30,** σ**0**^{s}**90**/27**, mb4.2**/15**, MS3.1**/1**, 5C-3D, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSI	Kapahiang	0.85	42	ePn	Pn	01 29 46.0	+0.1
PENI	Pendagan	3.38	112	⇑ePn	Pn	01 30 24.0	+1.9
	179nm,0.3s						
PENI				⇑eSn	Sn	01 31 08.3	+6.7
PULI	Pulasari	4.43	118	⇓ePn	Pn	01 30 38.1	+1.1
	150nm,0.2s						
PULI	Pulasari	4.43	118	⇑eP	Pn	01 30 39.1	+2.1
PULI				⇑eSn	Sn	01 31 33.2	+5.0
KULM	Kulim	9.61	352	eP	P	01 31 50.5	+1.0
SRDI	Scrawed	12.74	110	⇓eP	P	01 32 31.5	-0.5
	54nm,0.2s						
KELI	Kelakatan	12.99	108	⇓eP	P	01 32 35.2	-0.1
	38nm,0.2s						
RATI	Rata	14.12	109	⇑eP	P	01 32 48.8	-1.6
	109nm,0.3s						
CMAR	Chiang Mai Arr	22.80	352	P	P	01 34 31.4	-0.2
	1.7nm,0.6s,mb3.7,baz=184,slow=8.6,SNR=5.5						
CMAR				LR	LR	01 43 35.4	
	comp=Z,62nm,18.5s,MS3.1,baz=336,slow=37						
WRA	Warramunga Arr	35.11	119	P	P	01 36 21.9	-1.1
	2.2nm,0.8s,mb4.1,baz=290,slow=11,SNR=9.7						
WRA				pP	pP	01 36 31.3	-0.7
	0.7nm,0.4s,baz=305,slow=8.8,SNR=4.2						
WRA				PcP	PcP	01 38 54.5	+0.1
	0.6nm,0.7s,baz=292,slow=2.0,SNR=4.2						
WRAB	Tennant Creek	35.12	119	eP	P	01 36 22.7	-0.4
	11nm,1.1s,mb4.7						
ASAR	Alice Springs	36.28	125	P	P	01 36 32.5	-0.4
	2.4nm,0.8s,mb4.2,baz=300,slow=7.4,SNR=15						
ASAR				pP	pP	01 36 39.7	-2.3
	0.8nm,0.4s,baz=300,slow=7.7,SNR=4.4						
ASAR				PcP	PcP	01 38 57.3	-0.5
	1.2nm,0.8s,baz=309,slow=3.7,SNR=6.7						
STKA	Stephens Creek	46.13	131	P	P	01 37 53.7	+0.1
	4.6nm,0.7s,mb4.5,baz=276,slow=7.5,SNR=9.3						
STKA	Stephens Creek	46.13	131	eP	P	01 37 53.1	-0.6
SONM	Songino Array	52.04	4	P	P	01 38 39.6	+0.5
	1.8nm,0.7s,mb4.1,baz=186,slow=9.4,SNR=17						
SONM				PcP	PcP	01 39 50.5	-0.5
	0.9nm,0.5s,baz=184,slow=4.4,SNR=6.2						
ULN	Ulaanbaatar	52.12	4	eP	P	01 38 40.3	+0.6
	5.2nm,1.5s,mb4.2						
AAK	Ala-Archa	52.95	335	eP	P	01 38 45.5	-0.5
	1.1nm,0.6s,mb4.0						
ZAL	Zalesovo	59.78	348	P	P	01 39 33.9	-0.7
	1.7nm,0.3s,mb4.5,baz=322,slow=5.7,SNR=6.3						
BVAR	Borovoye Array	63.02	339	P	P	01 39 54.9	-1.5
	0.7nm,0.5s,mb4.1,baz=141,slow=9.8,SNR=7.2						
MATP	Matopo	73.08	250	P	P	01 41 00.1	+0.2
	4.6nm,0.8s,mb4.4,baz=100,slow=6.9,SNR=8.4						
BRTR	Keskin Array B	76.35	312	P	P	01 41 17.4	-0.8
	1.4nm,0.8s,mb3.9,baz=135,slow=6.9,SNR=7.9						
BRTR				pP	pP	01 41 27.9	0.0
	2.6nm,0.9s,baz=127,slow=6.2,SNR=8.8						
SUR	Sutherland	80.30	238	P	P	01 41 41.3	+1.3
	4.5nm,1.0s,mb4.4,baz=92,slow=10,SNR=5.6						
FINES	FINESS Array B	87.06	332	P	P	01 42 14.3	+0.6
	1.8nm,1.0s,mb4.3,baz=90,slow=4.2,SNR=3.2						
FINES	FINESS Array B	87.06	332	P	P	01 42 14.3	+0.6
GERES	GERESS Array B	92.09	319	P	P	01 42 38.1	+0.5
	0.5nm,0.7s,mb4.0,baz=153,slow=3.0,SNR=3.6						
GERES				pP	pP	01 42 48.5	+1.1
	0.4nm,0.6s,baz=76,slow=5.5,SNR=3.1						
BDFB	Brasilia	144.34	236	PKP	PKPdf	01 49 05.0	-4.3
	3.7nm,0.7s,baz=91,slow=1.8,SNR=6.8						
TXAR	Lajitas Array	145.17	42	PKPbc	PKPbc	01 49 07.1	+1.4
	10.0nm,0.7s,baz=293,slow=1.2,SNR=99						
TXAR	Lajitas Array	145.17	42	PKPbc	PKPbc	01 49 07.1	+1.4
WCI	Wyandotte Cave	145.37	12	ePKPdf	PKPdf	01 49 06.3	-4.2
JCT	Junction City	146.79	36	ePKPdf	PKPdf	01 49 11.4	-1.8

*IDC **17** 02:09:46.6±1.1, 1.58N×127.09E, mb4.0/5, mb1 4.2/5, mb1mx3.9/15, mbtmp4.0/5, Error ellipse: s-maj=120.0km s-min=18.7km az=69.0*

*NEIC **17** 02:09:50.9±0.7, 1.62N×127.08E, h30^{km}, mb4.5/5, Error ellipse: s-maj=50.1km s-min=10.0km az=70.0*

ISC 17 02:09:49.6±0.7**, 1.6N**±0.1×**127.0E**±0.3**, h33**^{km}**, n16,** σ**0**^{s}**71**/16**, mb4.3**/8**, Halmahera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	15.20	159	eP	P	02 13 29.0	+5.3
	15nm,0.6s						
FITZ	Fitzroy Crossi	19.62	184	eP	P	02 14 19.3	+1.0
	13nm,1.6s						
WRAB	Tennant Creek	22.58	162	P	P	02 14 49.0	+0.4
	143nm,1.0s,mb5.4,SNR=30						
WRAB	Tennant Creek	22.58	162	eP	P	02 14 48.6	0.0
	26nm,0.8s,mb4.7						
WRAB				e		02 14 55.3	
WRA	Warramunga Arr	22.58	162	P	P	02 14 49.0	+0.3
	5.1nm,0.5s,mb4.2,baz=342,slow=11,SNR=42						
WB2	Warramunga Arr	22.59	162	eP	P	02 14 48.8	+0.1
ASPA	Alice Springs	25.99	165	eP	P	02 15 21.9	+0.4
ASAR	Alice Springs	25.99	165	P	P	02 15 20.8	-0.7
	0.9nm,0.6s,mb3.5,baz=351,slow=7.6,SNR=16						
STKA	Stephens Creek	36.05	159	P	P	02 16 49.1	-1.0
	2.6nm,0.7s,mb4.3,baz=325,slow=5.9,SNR=6.8						
STKA	Stephens Creek	36.05	159	eP	P	02 16 48.9	-1.2
ULN	Ulaanbaatar	49.22	342	eP	P	02 18 36.5	-0.4
	4.8nm,1.2s,mb4.4						
SONM	Songino Array	49.40	342	P	P	02 18 39.5	+1.3
	0.8nm,0.6s,mb3.9,baz=157,slow=8.1,SNR=9.6						
KURK	Kurchatov	63.68	328	P	P	02 20 20.6	+0.6
	33nm,1.0s,mb5.3,SNR=7.6						
KURK	Kurchatov	63.68	328	eP	P	02 20 19.5	-0.6
	3.5nm,0.7s,mb4.5						
BVAR	Borovoye Array	69.25	327	P	P	02 20 55.1	-0.2
	0.6nm,0.5s,mb3.8,baz=127,slow=7.4,SNR=7.6						
KMBO	Kilima Mbogo	89.79	269	eP	P	02 22 46.1	-0.9

*IDC **17** 02:15:48.1±0.8, 51.94S×139.91E, mb4.1/7, mb1 4.3/7, mb1mx4.2/11, mbtmp4.1/7, MS4.0/7, Ms1 3.9/7, ms1mx3.6/16, Error ellipse: s-maj=31.8km s-min=21.9km az=74.0*

*NEIC **17** 02:15:49.3±0.6, 51.93S×139.95E, h10^{km}, mb4.9/3, Error ellipse: s-maj=20.1km s-min=13.9km az=68.0*

ISC 17 02:15:47.5±0.9**, 51.9S**±0.1×**140.1E**±0.3**, h10**^{km}**, n46,** σ**0**^{s}**74**/12**, mb4.4**/9**, MS3.9**/7**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	20.02	4	P	P	02 20 21.4	-1.8
	1.0nm,0.6s,baz=326,slow=24,SNR=2.6						
STKA				LR	LR	02 26 47.2	
	comp=Z,173nm,19.0s,MS3.4,baz=196,slow=33						
STKA	Stephens Creek	20.02	4	eP	P	02 20 21.1	-2.0
RPZ	Rata Peaks	22.22	81	P	P	02 20 46.2	+0.7
	11nm,1.0s,mb4.2,baz=205,slow=16,SNR=2.4						
RPZ				LR	LR	02 26 45.5	
	comp=Z,388nm,19.6s,MS3.8,baz=163,slow=29						
NWAO	Narrogin (SRO)	25.18	310	P	P	02 21 14.6	+0.2
	8.7nm,1.0s,mb4.3,baz=114,slow=12,SNR=2.2						
NWAO	Narrogin (SRO)	25.18	310	P	P	02 21 14.6	+0.2
VNDA	Vanda	26.99	170	P	P	02 21 30.1	-0.6
	1.6nm,0.9s,mb3.6,baz=317,slow=11,SNR=4.6						
ASAR	Alice Springs	28.56	348	P	P	02 21 45.7	+0.2
	2.5nm,0.8s,mb4.0,baz=166,slow=9.6,SNR=7.7						
ASAR				PcP	PcP	02 24 58.1	+1.0
	0.8nm,0.8s,baz=128,slow=3.5,SNR=4.7						
URZ	Urewera	29.14	77	LR	LR	02 30 35.3	
	comp=Z,296nm,19.6s,MS3.9,baz=244,slow=30						
CTA	Charters Tower	32.09	11	LR	LR	02 34 59.0	
	comp=Z,198nm,19.2s,MS3.8,baz=219,slow=36						
CTAO	Charters Tower	32.09	11	P	P	02 22 24.1	+7.3
	10nm,1.2s,mb4.5						
WRA	Warramunga Arr	32.19	350	P	P	02 22 17.9	+0.3
	14nm,0.9s,mb4.8,baz=174,slow=7.2,SNR=18						
WRA				PcP	PcP	02 25 08.1	+1.5
	0.6nm,0.6s,baz=182,slow=2.3,SNR=4.7						
WRAB	Tennant Creek	32.20	350	eP	P	02 22 18.1	+0.4
	41nm,1.0s,mb5.2						
MAW	Mawson	38.98	216	LR	LR	02 37 14.5	
	comp=Z,322nm,20.2s,MS4.1,baz=301,slow=33						
PMG	Port Moresby	42.74	10	LR	LR	02 41 43.4	
	comp=Z,120nm,20.3s,MS3.8,baz=216,slow=36						
SNAA	Sanae	53.99	194	P	P	02 25 06.5	-6.6
	12nm,1.3s,mb4.7						
CBIJ	Chichi jima	78.65	2	LR	LR	03 00 24.6	
	comp=Z,164nm,20.7s,MS4.3,baz=64,slow=34						
CMAR	Chiang Mai Arr	78.68	320	P	P	02 27 51.6	+0.3
	1.1nm,0.4s,mb4.2,baz=184,slow=4.3,SNR=6.6						
ILAR	Eielson Array	129.16	32	PKP	PKPdf	02 34 58.3	+0.5
	0.5nm,0.8s,baz=229,slow=3.3,SNR=5.1						
INK	Inuvik	135.56	32	PKP	PKPdf	02 35 09.9	+0.1
	0.7nm,0.8s,baz=213,slow=1.4,SNR=4.0						
YKA	Yellowknife Ar	140.44	45	PKP	PKPdf	02 35 17.4	-1.4
	0.1nm,0.6s,baz=236,slow=2.2,SNR=3.5						
ARCES	ARCESS Array B	145.61	326	PKPbc	PKPbc	02 35 26.6	+1.5
	8.2nm,1.1s,baz=90,slow=2.7,SNR=4.6						
PGF	Pioggiola	146.06	274	ePKP1	PKPbc	02 35 26.8	-0.2
	28nm,1.2s						
GERES	GERESS Array B	146.30	287	PKPbc	PKPbc	02 35 27.5	+0.2
	0.7nm,0.7s,baz=135,slow=3.8,SNR=11						
KHC	Kasperske Hory	146.50	287	ePKP	PKPdf	02 35 28.0	-1.5
SBF	Sospel	147.73	275	ePKP1	PKPdf	02 35 31.5	-0.2
LMR	La Mourre	148.03	273	ePKP1	PKPdf	02 35 32.5	+0.3
	8.8nm,1.0s						
FRF	La Foret Royal	148.06	274	ePKP1	PKPdf	02 35 32.6	+0.3
	7.6nm,0.8s						
GRA1	Grafenberg Arr	148.13	287	ePKP	PKPdf	02 35 33.9	+1.7
GRF	Grafenberg Arr	148.13	287	ePKP	PKPdf	02 35 33.9	+1.7
MBDF	Montbardon	148.58	276	ePKP1	PKPdf	02 35 34.2	+1.1
	17nm,1.3s						
LPL	La Plagne	149.00	277	ePKP1	PKPdf	02 35 34.9	+1.2
ORIF	Oris-en-Rattie	149.23	275	ePKP1	PKPdf	02 35 35.4	+1.3
CABF	La Chapelle	149.91	278	ePKP1	PKPdf	02 35 37.2	+2.1
CDF	Champ du Feu	149.97	282	ePKP1	PKPdf	02 35 36.5	+1.3
LASF	Ste Croix	150.06	272	ePKP1	PKPdf	02 35 37.8	+2.4
HAU	Haudompre	150.36	281	ePKP1	PKPdf	02 35 37.9	+2.1
MTLF	Montolieu	150.69	270	ePKP1	PKPdf	02 35 39.0	+2.6
	7.9nm,0.9s						
NOA	NORSAR Array B	151.02	309	PKPbc	PKPdf	02 35 39.9	+3.5
	2.0nm,1.0s,baz=120,slow=4.8,SNR=3.5						
SMF	Signal de Mont	151.30	277	ePKP1	PKPdf	02 35 40.2	+3.0
	24nm,1.2s						
AVF	Avril sur Loir	151.67	277	ePKP1	PKPdf	02 35 41.2	+3.4
EPF	Esparros	151.69	268	ePKP1	PKPdf	02 35 43.2	+5.3
SSF	Saint Saulge	151.69	278	ePKP1	PKPdf	02 35 41.2	+3.4
	58nm,1.6s						
BGF	Bois d'Agland	151.88	276	ePKP1	PKPdf	02 35 42.0	+3.9
	30nm,1.2s						
RJF	Les Rejaudoux	152.11	273	ePKP1	PKPdf	02 35 42.5	+4.0
ESDC	Sonseca Array	152.40	258	PKPbc	PKPdf	02 35 43.6	+4.5
	1.3nm,0.6s,baz=108,slow=1.7,SNR=5.4						
ESDC				PKPab	PKPab	02 35 56.2	+0.8
	0.9nm,0.8s,baz=128,slow=4.2,SNR=4.3						
ESDC	Sonseca Array	152.40	258	PKPbc	PKPdf	02 35 43.6	+4.5
ESDC				PKPab	PKPab	02 35 56.2	+0.8

*NEIC **17** 02:20:53.8±1.6, 52.06S×138.48E, h10^{km}, mb4.8/3, Error ellipse: s-maj=81.9km s-min=13.3km az=106.0*

*IDC **17** 02:20:54.1±2.4, 51.92S×138.15E, mb4.0/4, mb1 4.2/4, mb1mx4.1/9, mbtmp4.0/4, Error ellipse: s-maj=112.3km s-min=36.6km az=102.0*

ISC 17 02:20:49.9±2.7**, 52.2S**±0.2×**13 9E**± **, h10**^{km}**, n32,** σ**0**^{s}**59**/9**, mb4.4**/5**, West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CASY	Casey	20.14	215	eP	P	02 25 26.6	+0.1
	26nm,1.4s						
STKA	Stephens Creek	20.39	5	P	P	02 25 29.4	0.0
	0.9nm,0.6s,baz=142,slow=12,SNR=3.2						
STKA	Stephens Creek	20.39	5	eP	P	02 25 30.1	+0.7
ASAR	Alice Springs	28.82	349	P	P	02 26 49.5	-0.7
	2.0nm,0.8s,mb3.9,baz=164,slow=10.0,SNR=8.4						
ASAR				PcP	PcP	02 30 04.3	+4.1
	0.5nm,0.7s,baz=175,slow=2.0,SNR=5.1						
WRA	Warramunga Arr	32.45	351	P	P	02 27 22.8	+0.4
	7.3nm,0.8s,mb4.5,baz=175,slow=7.7,SNR=17						
WRAB	Tennant Creek	32.46	351	eP	P	02 27 21.7	-0.8
	19nm,0.9s,mb4.9						
CMAR	Chiang Mai Arr	78.69	321	P	P	02 32 54.8	+1.0
	0.7nm,0.5s,mb3.9,baz=170,slow=4.0,SNR=3.4						
SUR	Sutherland	80.16	229	eP	P	02 33 01.0	-0.5
	15nm,1.2s,mb4.8						
KS15	Wonju Array Si	89.85	351	P	P	02 33 50.0	+0.2
ARCES	ARCESS Array B	145.66	325	PKP	PKPdf	02 40 28.9	-1.1
	4.6nm,0.8s,baz=90,slow=2.7,SNR=4.0						
PGF	Pioggiola	145.68	274	ePKP1	PKPbc	02 40 29.0	+0.5
	11nm,1.1s						
GERES	GERESS Array B	146.01	286	PKPbc	PKPbc	02 40 30.2	+1.1
	0.5nm,0.6s,baz=146,slow=4.8,SNR=6.7						
SBF	Sospel	147.36	275	ePKP1	PKPdf	02 40 33.8	+0.3
FRF	La Foret Royal	147.68	274	ePKP1	PKPdf	02 40 34.8	+0.7
	8.5nm,0.9s						
MBDF	Montbardon	148.22	276	ePKP1	PKPdf	02 40 36.3	+1.4
	6.2nm,0.9s						
SMRF	Simiane la Rot	148.56	273	ePKP1	PKPdf	02 40 37.6	+2.1
	7.4nm,0.9s						
LPG	La Plagne	148.62	277	ePKP1	PKPdf	02 40 37.2	+1.7
LPL	La Plagne	148.64	277	ePKP1	PKPdf	02 40 37.2	+1.7
CABF	La Chapelle	149.56	278	ePKP1	PKPdf	02 40 39.5	+2.5
HFS	Hagfors	149.58	307	PKPbc	PKPdf	02 40 42.3	+5.7
	5.3nm,1.0s,baz=180,slow=7.2,SNR=3.7						
CDF	Champ du Feu	149.65	282	ePKP1	PKPdf	02 40 38.7	+1.6
LASF	Ste Croix	149.67	272	ePKP1	PKPdf	02 40 39.9	+2.7
HAU	Haudompre	150.03	281	ePKP1	PKPdf	02 40 40.1	+2.4
MTLF	Montolieu	150.29	270	ePKP1	PKPdf	02 40 41.1	+2.9
NOA	NORSAR Array B	150.91	308	PKPbc	PKPdf	02 40 44.5	+6.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	2.3nm,0.8s,baz=90,slow=3.9,SNR=3.0						
SMF	Signal de Mont	150.94	277	ePKP1	PKPdf	02 40 42.3	+3.2
CAF	Calviac	151.20	273	ePKP1	PKPdf	02 40 43.6	+4.1
SSF	Saint Saulge	151.34	277	ePKP1	PKPdf	02 40 43.4	+3.7
BGF	Bois d'Agland	151.51	276	ePKP1	PKPdf	02 40 44.2	+4.3
RJF	Les Rejaudoux	151.73	273	ePKP1	PKPdf	02 40 44.6	+4.3
LFF	La Frestale	152.03	272	ePKP1	PKPdf	02 40 46.7	+5.9
SJPF	Ste Jean	152.28	267	ePKP1	PKPdf	02 40 46.4	+5.2

IDC 17 03:22:59.1±47.0**, 16.70S**×**177.09W, mb4.3**/3**, mb1 4.5**/3**, mb1mx3.8**/14**, mbtmp4.3**/3**, Error ellipse: s-maj=870.0km s-min=157.5km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.32	240	P	P	03 30 38.3	-1.7
	1.4nm,0.7s,baz=79,slow=7.4,SNR=5.1						
WB2	Warramunga Arr	46.09	258	eP	P	03 31 25.2	-1.8
WRA	Warramunga Arr	46.10	258	P	P	03 31 25.4	-1.6
	1.3nm,0.4s,baz=94,slow=7.1,SNR=44						
ASAR	Alice Springs	46.34	253	P	P	03 31 26.9	-2.0
	4.6nm,0.6s,baz=87,slow=8.8,SNR=58						
ASPA	Alice Springs	46.34	253	eP	P	03 31 26.5	-2.4

ROM 17 03:37:12.3±0.1, 44.81N×8.35E, h13km±1km, MD2.5/6, ML1.7/4, Error ellipse: s-maj=1.8km s-min=0.6km az=90.0
NEIC 17 03:37:12.9, 44.83N×8.42E, h10km, MD2.5(ROM), ML2.7(GEN), ML2.4(LDG), ML2.3(STR), After GEN.
CSEM 17 03:37:12.6±0.1, 44.87N×8.40E, h25km, ML2.6/4, Error ellipse: s-maj=1.3km s-min=1.0km az=122.0
GEN 17 03:37:12.9, 44.83N×8.42E, h10km, ML2.7
LDG 17 03:37:13.2±0.1, 44.77N×8.48E, h10km, Ml2.4/12, Error ellipse: s-maj=2.0km s-min=1.1km az=100.0
STR 17 03:37:14.1±0.5, 44.85N×8.24E, h10km±1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 17 03:37:12.0±0.3**, 44.82N**±0.01×**8.40E**±0.03**, h12**km±2km**, n81, σ0.84**/141**, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCP	Pian Castagno	0.29	159	P	Pg	03 37 18.8	+0.5
PCP				S	Sg	03 37 23.1	+0.6
FIN	Finale Ligure	0.62	193	ePG	Pg	03 37 24.7	0.0
FIN				SG	Sg	03 37 33.7	+0.6
	63nm,0.3s						
FIN	Finale Ligure	0.62	193	ePg	Pg	03 37 24.7	0.0
FIN				eSg	Sg	03 37 33.7	+0.6
FIN	Finale Ligure	0.62	193	ePg	Pg	03 37 24.7	0.0
	63nm,0.3s						
FIN				Sg	Sg	03 37 33.7	+0.6
ROB	Roburent	0.65	216	P	Pb	03 37 25.1	+0.4
ROB				S	Sb	03 37 33.9	+0.5
ROB	Roburent	0.65	216	P	Pb	03 37 25.1	+0.4
BHB	Bricherasio	0.81	272	P	Pb	03 37 27.8	+0.3
BHB				S	Sb	03 37 38.3	+0.3
BHB	Bricherasio	0.81	272	P	Pb	03 37 27.8	+0.3
BHB				S	Sb	03 37 38.3	+0.2
TRAV		0.83	327	P	Pb	03 37 28.2	+0.3
TRAV				S	Sb	03 37 38.6	-0.2
TRAV		0.83	327	P	Pb	03 37 28.2	+0.3
TRAV				S	Sb	03 37 38.6	-0.2
ORO	Oropa	0.86	340	ePG	Pg	03 37 29.6	+0.2
ORO				SG	Sg	03 37 41.9	+1.0
	26nm,0.2s						
ORO	Oropa	0.86	340	ePg	Pg	03 37 29.6	+0.3
ORO				eSg	Sg	03 37 41.9	+0.9
ORO	Oropa	0.86	340	ePg	Pg	03 37 29.6	+0.2
	26nm,0.2s						
ORO				Sg	Sg	03 37 41.9	+1.0
ORX	Oropa	0.87	340	P	Pb	03 37 29.0	+0.6
ORX				S	Sb	03 37 40.0	+0.2
ORX	Oropa	0.87	340	P	Pb	03 37 29.0	+0.5
ORX				S	Sb	03 37 40.0	+0.3
MONE	Monesi	0.87	212	P	Pb	03 37 29.3	+0.8
MONE				S	Sb	03 37 40.3	+0.5
RSP	Reno Superiore	0.88	293	P	Pb	03 37 28.7	+0.1
RSP				S	Sb	03 37 40.0	0.0
RSP	Reno Superiore	0.88	293	P	Pb	03 37 28.7	+0.1
RSP				S	Sb	03 37 40.0	0.0
DOI	San Damiano	0.88	250	ePG	Pg	03 37 29.4	-0.3
DOI				SG	Sg	03 37 40.8	-0.8
	40nm,0.2s						
DOI	San Damiano	0.88	250	ePg	Pg	03 37 29.4	-0.3
DOI				eSg	Sg	03 37 40.9	-0.7
DOI	San Damiano	0.88	250	ePg	Pg	03 37 29.4	-0.3
	40nm,0.2s						
DOI				Sg	Sg	03 37 40.8	-0.8
ENR	Entracque	0.92	230	P	Pb	03 37 30.3	+1.0
ENR				S	Sb	03 37 41.5	+0.3
ENR	Entracque	0.92	230	P	Pb	03 37 30.3	+1.0
ENR				S	Sb	03 37 41.5	+0.3
STV2	Anna di Valdie	0.96	234	P	Pb	03 37 31.0	+1.0
STV2				S	Sb	03 37 43.0	+0.6
STV2	Anna di Valdie	0.96	234	P	Pb	03 37 31.0	+1.0
STV2				S	Sb	03 37 43.0	+0.6
STV	Sta Anna Valdi	0.96	234	P	Pb	03 37 31.1	+1.1
STV				S	Sb	03 37 43.0	+0.6
STV	Sta Anna Valdi	0.96	234	P	Pb	03 37 31.1	+1.1
STV				S	Sb	03 37 43.0	+0.6
FENE	Fenestrelle	0.97	283	P	Pb	03 37 30.6	+0.3
FENE	Fenestrelle	0.97	283	P	Pb	03 37 30.6	+0.3
PZZ	Prazzo	0.98	252	P	Pb	03 37 31.0	+0.6
PZZ				S	Sb	03 37 43.2	+0.2
PZZ	Prazzo	0.98	252	P	Pb	03 37 31.0	+0.6
PZZ				S	Sb	03 37 43.2	+0.2
IMI	Imperia	0.98	202	ePG	Pg	03 37 31.6	-0.1
IMI				SG	Sg	03 37 45.4	+0.6
	19nm,0.4s						
IMI	Imperia	0.98	202	ePg	Pg	03 37 31.6	0.0
IMI				eSg	Sg	03 37 45.4	+0.6
IMI	Imperia	0.98	202	P	Pb	03 37 30.8	+0.4
IMI	Imperia	0.98	202	ePg	Pg	03 37 31.6	-0.1
	19nm,0.4s						
IMI				Sg	Sg	03 37 45.4	+0.6
SAOF	Saorge	1.03	216	Pg	Pg	03 37 32.4	-0.3
SAOF				Sg	Sg	03 37 46.3	-0.1
AUTN	L'Aution	1.08	221	Pg	Pg	03 37 33.5	-0.1
AUTN				Sg	Sg	03 37 48.2	+0.1
VAI	Varese	1.08	14	ePN	Pn	03 37 32.9	0.0
VAI				SN	Sn	03 37 48.6	+0.8
	9.0nm,0.3s						
VAI	Varese	1.08	14	ePg	Pn	03 37 32.9	0.0
VAI				eSg	Sg	03 37 48.6	+0.4
VAI	Varese	1.08	14	ePn	Pn	03 37 32.9	0.0
	9.0nm,0.3s						
VAI				Sn	Sn	03 37 48.6	+0.8
LSD	Ceresole Reale	1.09	306	P	Pb	03 37 32.5	+0.3
LSD	Ceresole Reale	1.09	306	P	Pb	03 37 32.5	+0.2
CODM		1.12	112	P	Pb	03 37 33.5	+0.7
CODM		1.12	112	P	Pb	03 37 33.5	+0.7
TOUF	Mont Tournerai	1.15	226	Pg	Pg	03 37 35.0	-0.1
RRL	Cesana Torines	1.15	276	P	Pb	03 37 34.4	+1.0
RRL	Cesana Torines	1.15	276	P	Pb	03 37 34.4	+1.0
MBDF	Montbardon	1.16	266	ePn	Pn	03 37 34.1	+0.1
MBDF				ePg	Pg	03 37 36.4	+1.1
MBDF				eSn	Sn	03 37 50.2	+0.4
MBDF				eSg	Sg	03 37 52.8	+1.9
	18nm,0.5s						
MCGN	Macugnaga	1.18	346	ePN	Pn	03 37 33.9	-0.3
MCGN				SN	Sn	03 37 50.1	-0.1
	6.0nm,0.3s						
MCGN	Macugnaga	1.18	346	ePg	Pg	03 37 33.9	-1.7
MCGN				eSg	Sg	03 37 50.1	-1.2
MCGN	Macugnaga	1.18	346	ePn	Pn	03 37 33.9	-0.3
	6.0nm,0.3s						
MCGN				Sn	Sn	03 37 50.1	-0.1
SBF	Sospel	1.18	216	ePn	Pn	03 37 34.2	-0.1
SBF				ePg	Pg	03 37 35.2	-0.4
SBF				eSn	Sn	03 37 49.4	-0.8
SBF				eSg	Sg	03 37 50.7	-0.7
	36nm,0.3s						
GRAM		1.23	105	P	Pb	03 37 35.0	+0.3
GRAM		1.23	105	P	Pb	03 37 35.0	+0.3
MVIF	Mont Vial	1.28	225	Pg	Pg	03 37 37.4	-0.3
REVF	Revere	1.31	215	Pg	Pg	03 37 38.6	+0.4
REVF				Sg	Sg	03 37 56.7	+1.0
BACM		1.31	114	P	Pb	03 37 36.3	+0.2
BACM		1.31	114	P	Pb	03 37 36.3	+0.2
LPG	La Plagne	1.35	301	ePn	Pn	03 37 37.1	+0.4
LPG				eSg	Sg	03 37 59.1	+2.0
	4.5nm,0.3s						
LPL	La Plagne	1.37	301	ePn	Pn	03 37 37.6	+0.6
LPL				eSg	Sg	03 37 58.8	+1.0
	8.1nm,0.5s						
VALM		1.40	109	P	Pn	03 37 37.1	-0.3
VALM		1.40	109	P	Pn	03 37 37.1	-0.3
CALN	Calern	1.52	226	Pg	Pg	03 37 41.9	-0.5
CALN				Sg	Sg	03 38 02.0	-0.8
SARO	Sassorosso	1.57	113	P	Pn	03 37 39.6	-0.2
SARO	Sassorosso	1.57	113	P	Pn	03 37 39.6	-0.2
SARO	Sassorosso	1.57	113	P	Pn	03 37 39.6	-0.2
FRF	La Foret Royal	1.78	226	ePn	Pn	03 37 42.5	-0.4
FRF				ePg	Pg	03 37 46.5	-1.1
FRF				eSg	Sg	03 38 09.6	-1.8
	8.1nm,0.2s						
ORIF	Oris-en-Rattie	1.79	274	ePn	Pn	03 37 43.7	+0.6
ORIF				eP		03 37 45.6	
ORIF				eSg	Sg	03 38 12.0	+0.1
	7.9nm,0.4s						
ORIF	Oris-en-Rattie	1.79	274	ePn	Pn	03 37 43.7	+0.6
ORIF				eSg	Sg	03 38 12.0	+0.1
	4.0nm,0.4s						
LMR	La Mourre	2.01	223	ePn	Pn	03 37 45.8	-0.4
LMR				eP		03 37 48.0	
LMR				ePg	Pg	03 37 50.1	-2.2
LMR				eSg	Sg	03 38 16.5	-2.7
	12nm,0.3s						
SMRF	Simiane la Rot	2.19	248	ePg	Pg	03 37 54.6	-1.2
SMRF				eSg	Sg	03 38 23.0	-2.1
	2.6nm,0.3s						
PGF	Pioggiola	2.31	169	ePn	Pn	03 37 49.1	-1.3
CABF	La Chapelle	2.42	319	ePn	Pn	03 37 52.2	+0.2
VIVF	Saint-Julien-l	2.65	272	ePn	Pn	03 37 55.7	+0.4
VIVF				eSn	Sn	03 38 26.2	-1.5
	1.8nm,0.2s						
HINF	Hinteralfeld	3.19	341	ePn	Pn	03 38 02.1	-0.8
HINF				eSn	Sn	03 38 38.9	-2.3
	1.7nm,0.4s						
LASF	Ste Croix	3.34	259	ePn	Pn	03 38 05.2	+0.1
HAU	Haudompre	3.49	337	ePn	Pn	03 38 07.2	-0.1
HAU				eSn	Sn	03 38 46.3	-2.6
	4.4nm,0.3s						
CDF	Champ du Feu	3.68	348	ePn	Pn	03 38 09.3	-0.6
CDF				eSn	Sn	03 38 50.2	-3.4
	1.3nm,0.3s						
SMF	Signal de Mont	3.68	301	ePn	Pn	03 38 10.2	+0.3
AVF	Avril sur Loir	4.04	301	ePn	Pn	03 38 15.2	+0.1
BGF	Bois d'Agland	4.26	296	ePn	Pn	03 38 18.1	-0.1

IDC 17 03:39:00.6±1.4**, 48.02S**×**103.96E, mb3.9**/3**, mb1 4.2**/3**, mb1mx3.9**/10**, mbtmp3.9**/3**, MS3.7**/2**, Ms1 3.7**/2**, ms1mx3.0**/13**, Error ellipse: s-maj=53.2km s-min=41.3km az=129.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	Mawson	28.55	212	LR	LR	03 54 22.7	
	comp=Z,87nm,19.8s,baz=257,slow=32						
ASAR	Alice Springs	33.98	55	P	P	03 45 45.6	-2.2
	1.5nm,0.9s,baz=219,slow=7.8,SNR=6.8						
WRA	Warramunga Arr	37.23	52	P	P	03 46 13.7	-1.8
	2.6nm,0.9s,baz=214,slow=8.6,SNR=11						
CMAR	Chiang Mai Arr	66.32	355	P	P	03 49 50.9	-2.2
	0.6nm,0.4s,baz=199,slow=5.0,SNR=5.9						
PLCA	Paso Flores	91.50	184	LR	LR	04 31 51.6	
	comp=Z,72nm,20.6s,baz=212,slow=35						
NVAR	Mina Array Bea	148.10	92	PKPbc	PKPdf	03 58 48.0	+1.8
	0.5nm,0.6s,baz=219,slow=4.2,SNR=4.2						
TXAR	Lajitas Array	151.72	121	PKP	PKPdf	03 58 49.6	-2.4
	0.3nm,0.9s,baz=225,slow=5.1,SNR=2.7						
TXAR				PKPbc	PKPdf	03 58 56.6	+4.5
	1.0nm,1.1s,baz=180,slow=2.5,SNR=3.8						
YKA	Yellowknife Ar	154.17	42	PKP	PKPdf	03 58 52.9	-1.6
	0.1nm,0.3s,baz=299,slow=5.1,SNR=4.3						
YKA				PKPbc	PKPdf	03 59 00.2	+5.8
	0.1nm,0.4s,baz=283,slow=2.2,SNR=4.7						

ISK 17 03:39:06.1, 36.21N×31.30E, h75km, MD3.5
CSEM 17 03:39:07.0±0.1, 36.22N×31.23E, h30km, MD3.5, Error ellipse: s-maj=2.7km s-min=1.6km az=32.0
NEIC 17 03:39:11.2, 36.17N×31.51E, h23km, ML3.5(NIC), After NIC.
NIC 17 03:39:11.2±0.3, 36.17N×31.51E, h23km, ML3.5, MW3.1
ISC 17 03:39:06.6±0.7**, 36.21N**±0.04×**31.25E**±0.04**, h78**km±19km**, n31, σ0.87**/42**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTB	Antalya	0.84	325	PG	P	03 39 24.4	+0.5
ELL	Elmali	1.21	297	PN	P	03 39 29.5	+1.0
HDMB	Hadim	1.24	52	ePN	P	03 39 29.4	+0.5
HDMB				eSN	S	03 39 44.9	-0.7
BCK	Bucak	1.36	337	PN	P	03 39 30.5	0.0
AKMC	Akamas	1.47	143	P	P	03 39 32.8	+0.8
ALFC	Alevga	1.52	133⥣	iP	P	03 39 32.6	0.0
	23nm,0.1s						
ALFC				S	S	03 39 50.2	-1.6
PPCY	Paphos	1.59	146	P	P	03 39 34.9	+1.3
LEF	Lefka	1.72	129	PN	P	03 39 34.7	-0.6
ISP	Isparta	1.73	340	ePN	P	03 39 35.1	-0.4
ISP	Isparta	1.73	340	ePn	P	03 39 34.6	-0.9
ISP				eSn	S	03 39 47.2	-10
FETY	Fethiye	1.80	284	PN	P	03 39 36.8	+0.4
MAMC	Mammari	1.91	122	P	P	03 39 38.4	+0.6
KONT	Konya--Tatoy	1.94	27	ePN	P	03 39 39.0	+0.7
SZAC	Souni-Zanaja	1.97	137	P	P	03 39 42.2	+3.6
	5.0nm,0.3s						
SZAC				S	S	03 40 09.2	+7.0
CSS	Prodhromos	2.10	126	P	P	03 39 41.1	+0.6
	2.1nm,0.4s						
CSS				S	S	03 40 04.4	-1.1
CSS	Prodhromos	2.10	126	ePn	P	03 39 39.4	-1.1
CSS				S	S	03 40 04.4	-1.1
CSS	Prodhromos	2.10	126	ePn	P	03 39 39.4	-1.1
CSS	Prodhromos	2.10	126	P	P	03 39 41.1	+0.6
	2.1nm,0.4s						
CSS				S	S	03 40 04.4	-1.1
DALT	Dalyan (Mudla)	2.18	286	ePN	P	03 39 41.8	+0.2
DNZL	Cakiroluk	2.30	311	iP	P	03 39 46.7	+3.4
DNZL				iS	S	03 40 10.9	+0.4
DENT	Denizli	2.35	312	ePN	P	03 39 45.1	+1.1
MEST	Erdemli	2.36	80	iP	P	03 39 44.5	+0.3
MEST				iS	S	03 40 16.1	+4.0
YER	Yerkesik	2.56	292	PN	P	03 39 47.3	+0.4
KIZT	Kizilcal	2.71	10	PN	P	03 39 48.6	-0.5
ALT	Altintas	2.98	343	PN	P	03 39 52.7	-0.1
AYDN	Tasoluk	3.07	299	iP	P	03 39 53.7	-0.3
AYDN				iS	S	03 40 28.7	-1.0
BDRM	Kayabasi	3.18	287	iP	P	03 39 55.4	-0.2
BDRM				iS	S	03 40 30.3	-2.2
BODT	Bodrum	3.28	286	ePN	P	03 39 56.8	-0.2
ESKT	Eskisehir	3.32	355	ePN	P	03 39 56.9	-0.6
KAMT	Kaman	3.71	31	PN	P	03 40 02.7	-0.2
KCT	Karacabey	4.65	331	ePN	P	03 40 16.2	+0.3

IDC 17 03:44:41.5±0.7, 2.97S×128.24E, mb4.3/9, mb1 4.5/10, mb1mx4.4/17, mbtmp4.3/10, ML4.5/1, Error ellipse: s-maj=48.3km s-min=10.1km az=70.0
BJI 17 03:44:46.6, 3.13S×128.24E, h69km, mB5.1, mb4.3
NEIC 17 03:44:49.7±1.9, 2.99S×128.16E, h63km±19km, mb4.5/10, Error ellipse: s-maj=17.0km s-min=7.8km az=56.0
ISC 17 03:44:45.2±0.4**, 2.85S**±0.06×**128.2E**±0.1**, h33**km**, n39, σ1.05**/44**, mb4.3**/16**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.65	157	eP	P	03 47 18.6	-0.1
	26nm,0.7s						
KAKA				eS	S	03 49 20.4	+2.5
FITZ	Fitzroy Crossi	15.37	189	eP	P	03 48 26.3	+4.9
	13nm,0.6s						
WRAB	Tennant Creek	18.01	161	P	P	03 48 53.0	-1.7
	144nm,0.5s,SNR=35						
WRAB	Tennant Creek	18.01	161	eP	P	03 48 53.8	-0.9
	36nm,0.8s						
WRA	Warramunga Arr	18.01	161	P	P	03 48 53.8	-1.0
	1.7nm,0.3s,baz=340,slow=12,SNR=54						
WRA				S	S	03 52 12.9	+1.3
	0.2nm,0.3s,baz=337,slow=21,SNR=3.3						
WRA	Warramunga Arr	18.01	161	P	P	03 48 53.8	-1.0
WRA				S	S	03 52 12.9	+1.2
WB2	Warramunga Arr	18.02	161	eP	P	03 48 53.8	-1.0
WB2				eS	S	03 52 12.1	+0.4
KSM	Kuching	18.41	283	eP	P	03 48 59.7	-0.2
MBWA	Marble Bar	19.99	204	P	P	03 49 14.4	-3.3
	14nm,0.9s						
ASAR	Alice Springs	21.41	166	P	P	03 49 31.7	-0.7
	52nm,0.8s,mb4.9,baz=345,slow=11,SNR=161						
ASAR				S	S	03 53 27.3	+4.1
	4.9nm,0.9s,baz=352,slow=22,SNR=6.6						
ASAR				ScP		03 57 10.8	
	0.6nm,0.7s,baz=342,slow=2.1,SNR=3.9						
ASPA	Alice Springs	21.41	166	eP	P	03 49 31.5	-0.9
ASPA				eS	S	03 53 26.3	+3.1
CTA	Charters Tower	24.57	136	eP	P	03 50 11.9	+8.4
	6.6nm,0.9s,mb4.2						
CTA	Charters Tower	24.57	136	P	P	03 50 03.6	+0.1
	2.2nm,0.7s,mb3.8,baz=297,slow=6.8,SNR=2.8						
CTAO	Charters Tower	24.57	136	P	P	03 50 06.4	+2.8
	16nm,1.0s,mb4.5						
STKA	Stephens Creek	31.50	158	P	P	03 51 04.5	-1.9
	2.7nm,0.7s,mb4.2,baz=326,slow=8.2,SNR=4.7						
STKA	Stephens Creek	31.50	158	eP	P	03 51 04.4	-2.0
CMAR	Chiang Mai Arr	35.77	307	P	P	03 51 43.7	+0.4
	0.6nm,0.3s,mb4.0,baz=142,slow=8.5,SNR=4.4						
MDJ	Mudanjiang	47.27	1	P	P	03 53 16.9	-0.3
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,87nm,5.8s						
MDJ	Mudanjiang	47.27	1	P	P	03 53 17.2	0.0
	comp=Z,14nm,1.5s,mb4.7						
LSA	Lhasa	48.01	315	eP	P	03 53 25.4	+2.1
	comp=Z,8.3nm,0.9s,mb4.8						
GTA	Gaotai	49.50	331	P	P	03 53 34.9	+0.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.2						
ULN	Ulaanbaatar	53.79	342	eP	P	03 54 05.6	-1.3
	comp=Z,3.5nm,0.9s,mb4.3						
SONM	Songino Array	53.97	342	P	P	03 54 07.8	-0.3
	comp=Z,2.7nm,1.0s,mb4.1,baz=161,slow=5.8,SNR=13						
TKM2	Tokmak 2	65.67	320	P	P	03 55 29.1	+0.5
	SNR=6.2						
UCH	Uchtor	66.04	319	P	P	03 55 32.3	+1.3
	SNR=5.6						
AAK	Ala-Archa	66.25	319	eP	P	03 55 30.9	-1.3
	comp=Z,2.2nm,1.0s,mb4.1						
AML	Almayashu	66.53	319	P	P	03 55 34.9	+0.8
	SNR=7.0						
USP	Ospenovka	66.55	320	P	P	03 55 34.1	0.0
	SNR=7.3						
EKS2	Erkin-Say	66.73	319	P	P	03 55 36.2	+0.9
	SNR=5.7						
ZAL	Zalesovo	67.10	334	P	P	03 55 37.7	+0.3
	comp=Z,0.7nm,0.3s,mb4.2,baz=325,slow=14,SNR=5.4						
ZAL	Zalesovo	67.10	334	P	P	03 55 37.7	+0.3
KURK	Kurchatov	68.07	329	P	P	03 55 43.9	+0.3
	comp=Z,59nm,0.9s,SNR=13						
KURK	Kurchatov	68.07	329	eP	P	03 55 42.9	-0.7
	comp=Z,16nm,1.1s,mb5.0						
BVAR	Borovoye Array	73.63	328	P	P	03 56 17.2	+0.1
	comp=Z,3.9nm,1.0s,mb4.3,baz=135,slow=6.3,SNR=14						
CHKZ	Chkalovo	73.82	328	eP	P	03 56 17.5	-0.6
	comp=Z,4.3nm,1.0s,mb4.3						
ILAR	Eielson Array	90.37	25	P	P	03 57 44.2	+0.2
	comp=Z,1.1nm,1.1s,mb4.1,baz=271,slow=3.8,SNR=4.5						
INK	Inuvik	95.69	22	P	P	03 58 08.8	+0.4
	comp=Z,1.5nm,0.9s,mb4.4,baz=276,slow=2.6,SNR=5.0						
INK	Inuvik	95.69	22	P	P	03 58 08.8	+0.4
PLCA	Paso Flores	133.36	160	PKP	PKPdf	04 04 00.8	+2.2
	comp=Z,0.4nm,0.4s,baz=216,slow=6.3,SNR=3.8						

IDC 17 03:44:47.0±0.9, 17.46S×172.64W, mb4.0/8, mb1 4.3/8, mb1mx4.2/18, mbtmp4.0/8, Error ellipse: s-maj=55.2km s-min=22.8km az=135.0
ISC 17 03:44:50.3±0.8**, 17.4S**±0.2×**172.8W**±0.3**, h33**km**, n10, σ0.20**/8**, mb4.0**/8**, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	22.57	201	P	P	03 49 49.2	+0.1
	12nm,0.7s,mb4.5,baz=334,slow=8.5,SNR=4.1						
ASAR	Alice Springs	50.07	253	P	P	03 53 44.2	-0.2
	7.2nm,0.7s,mb4.8,baz=88,slow=8.5,SNR=22						
NVAR	Mina Array Bea	75.44	41	P	P	03 56 32.9	0.0
	1.4nm,0.8s,mb3.9,baz=226,slow=7.3,SNR=7.0						
TXAR	Lajitas Array	81.25	56	P	P	03 57 04.8	-0.2
	0.7nm,1.0s,mb3.6,baz=211,slow=7.3,SNR=5.4						
PDAR	Pinedale Array	83.38	41	P	P	03 57 15.5	-0.1
	0.8nm,0.9s,mb3.7,baz=198,slow=4.7,SNR=4.8						
ILAR	Eielson Array	84.30	11	P	P	03 57 20.1	+0.3
	0.7nm,0.7s,mb3.9,baz=228,slow=5.8,SNR=8.3						
INK	Inuvik	90.08	14	P	P	03 57 47.5	-0.2
	0.7nm,0.9s,mb4.0,baz=246,slow=4.7,SNR=4.1						
YKA	Yellowknife Ar	91.71	23	P	P	03 57 55.7	+0.3
	0.1nm,0.3s,mb3.6,baz=229,slow=5.5,SNR=3.9						
BRTR	Keskin Array B	148.07	320	PKPbc	PKPdf	04 04 35.6	+6.1
	0.6nm,0.6s,baz=135,slow=3.5,SNR=5.0						
GERES	GERESS Array B	148.21	352	PKPbc	PKPdf	04 04 36.4	+6.9
	0.9nm,0.8s,baz=45,slow=3.8,SNR=7.5						

MOS 17 04:53:56.8±0.7, 47.79N×147.74E, h400km, mb3.7/4, Error ellipse: s-maj=47.7km s-min=25.0km az=84.7
IDC 17 04:53:59.0±2.2, 47.75N×147.37E, h398km±25km, mb3.1/11, mb1 3.4/12, mb1mx3.2/21, mbtmp3.9/12, Error ellipse: s-maj=20.0km s-min=14.5km az=115.0
ISC 17 04:53:57.8±0.6**, 47.36N**±0.09×**147.3E**±0.2**, h418**km±9km**, n30, σ1.34**/37**, mb3.4**/11**, 1C, Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	3.14	264⥣	ePN	P	04 55 05.0	+1.1
JRA	Rausu	3.75	205	P	P	04 55 09.8	+0.6
JSE	Soyaes	4.07	236	P	P	04 55 14.9	+2.8
NEM2	Nemuro 2	4.14	196	P	P	04 55 11.1	-1.7
NEM2				eS	S	04 56 09.1	-2.8
JTKR	Abashiri--Toko	4.14	216	P	P	04 55 14.5	+1.6
JTKR				eS	S	04 56 15.8	+3.9
ASAJ	Asahikawa	4.63	227	PN	P	04 55 20.5	+2.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	4.63	227	P	P	04 55 20.5	+2.9
	comp=Z,0.8nm,0.3s,baz=122,slow=25,SNR=4.2						
JAK	Akkeshi	4.74	204	P	P	04 55 18.4	-0.3
JAK				eS	S	04 56 21.3	-0.8
JAR	Ashorobuto	4.77	213	P	P	04 55 20.2	+1.2
JCH	Churui	5.51	212	P	P	04 55 26.5	0.0
JCH				eS	S	04 56 35.7	-0.5
JNBK	Urakawa-nobuka	6.03	214	P	P	04 55 31.9	0.0
JNBK				eS	S	04 56 43.6	-2.4
JKB	Kayabe	7.07	222	P	P	04 55 44.4	+0.9
JKB				eS	S	04 57 06.7	-0.2
JOT	Ohata	7.47	219	P	P	04 55 48.5	+0.5
JOT				eS	S	04 57 13.5	-1.5
JANG	Nango	8.14	213	eS	S	04 57 27.5	-1.0
JOM	Ohasama	9.02	211	eS	S	04 57 48.1	+1.7
ILAR	Eielson Array	38.55	39	P	P	05 00 41.6	-1.6
	comp=Z,1.3nm,0.7s,mb3.4,baz=268,slow=7.7,SNR=20						
YKA	Yellowknife Ar	52.76	35	P	P	05 02 31.6	-1.7
	comp=Z,0.6nm,0.5s,mb3.1,baz=303,slow=7.0,SNR=15						
ARCES	ARCESS Array B	55.92	339	P	P	05 02 54.5	-1.2
ARCES				pmax	pmax		
	comp=Z,5.0nm,0.9s						
ARCES	ARCESS Array B	55.92	339	P	P	05 02 54.5	-1.3
	comp=Z,5.2nm,0.9s,mb3.9,baz=45,slow=8.6,SNR=3.7						
FINES	FINESS Array B	61.73	332	P	P	05 03 34.0	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	61.73	332	P	P	05 03 34.0	-1.0
	comp=Z,1.2nm,0.6s,mb3.6,baz=37,slow=9.5,SNR=8.3						
NVAR	Mina Array Bea	65.60	59	P	P	05 04 01.2	+1.1
	comp=Z,0.1nm,0.3s,mb2.9,baz=294,slow=3.8,SNR=5.7						
NOA	NORSAR Array B	66.29	338	P	P	05 04 03.7	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	66.29	338	P	P	05 04 03.7	-0.2
	comp=Z,0.5nm,0.8s,mb3.2,baz=39,slow=3.5,SNR=2.9						
HFS	Hagfors	66.42	337	P	P	05 04 04.0	-0.8
HFS				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HFS	Hagfors	66.42	337	P	P	05 04 04.0	-0.7

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,3.5nm,1.0s,mb3.9,baz=45,slow=2.1,SNR=6.6						
PDAR	**Pinedale Array**	**67.52**	**51**	P	**P**	**05 04 12.3**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=334,slow=1.5,SNR=8.0						
WRA	**Warramunga Arr**	**68.00**	**193**	P	**P**	**05 04 18.2**	**+3.0**
	comp=Z,0.3nm,0.6s,mb3.1,baz=6.6,slow=6.4,SNR=4.9						
ASAR	**Alice Springs**	**71.72**	**193**	P	**P**	**05 04 41.9**	**+4.6**
	comp=Z,0.2nm,0.4s,mb3.0,baz=8.1,slow=6.4,SNR=2.7						
TXAR	**Lajitas Array**	**80.56**	**57**	P	**P**	**05 05 27.1**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.4,baz=303,slow=3.5,SNR=7.0						

*NEIC **17** 05:01:37.0, 37.83N×26.94E, h5km, mb3.8/1, ML3.8(ATH), After ATH.*
NEIC Felt on Fourni, Ikaria, Patmos and Samos. Also felt along the west coast of Turkey.
*ATH **17** 05:01:38.4, 37.82N×26.89E, h16km±3km, MD3.9/13, ML3.7*
*ISK **17** 05:01:38.4, 37.77N×26.81E, h14km, ML4.2*
*CSEM **17** 05:01:39.4±0.1, 37.78N×27.00E, h8km, ML3.8, Error ellipse: s-maj=1.5km s-min=1.2km az=26.0*
*IDC **17** 05:01:40.3±1.1, 37.76N×27.02E, mb3.5/3, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, ML3.4/5, MS3.5/2, Ms1 3.5/2, ms1mx3.0/17, Error ellipse: s-maj=18.0km s-min=12.4km az=125.0*
*THE **17** 05:01:41.9, 37.91N×26.86E, h10km, ML4.1*
ISC 17 05:01:38.4±0.2**, 37.77N**±0.02×**26.90E**±0.02**, h5km, n122, σ1§14**/150**, mb3.5**/4**, MS3.6**/1**, 7C-2D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.08**	**218**	*e*PB	**Pb**	**05 01 41.5**	**-0.6**
BLCB	**Balcova**	**0.62**	**10**	*i* PG	**Pg**	**05 01 51.7**	**+0.8**
IZM	**Izmir**	**0.69**	**25**	*i* PG	**Pg**	**05 01 52.5**	**+0.3**
KDAG	**Bornova**	**0.69**	**25**	*i* P	**Pg**	**05 01 52.3**	**0.0**
KDAG				*i* S	**Sg**	**05 02 00.2**	**-1.3**
BODT	**Bodrum**	**0.78**	**155**	*i* PG	**Pg**	**05 01 54.7**	**+0.7**
AYDN	**Tasoluk**	**0.79**	**98**	*i* P	**Pg**	**05 01 54.0**	**-0.1**
AYDN				*i* S	**Sg**	**05 02 04.1**	**-0.4**
BDRM	**Kayabasi**	**0.83**	**148**	*i* P	**Pb**	**05 01 55.1**	**+0.3**
BDRM				*i* S	**Sg**	**05 02 06.4**	**+0.4**
NISR	**Nisiros**	**1.17**	**171**	*e*PN	**Pn**	**05 02 01.5**	**+0.1**
YER	**Yerkesik**	**1.27**	**120**	*i* PN	**Pn**	**05 02 02.8**	**0.0**
APE	**Apeiranthos**	**1.30**	**238**	*e*PN	**Pn**	**05 02 01.5**	**-1.7**
APE				*e*SN	**Sn**	**05 02 19.0**	**-2.1**
APE	**Apeiranthos**	**1.30**	**238**	*e*Pb	**Pb**	**05 02 03.5**	**+0.6**
APE				*e*Sn	**Sn**	**05 02 19.0**	**-2.1**
MANT	**Manisa**	**1.49**	**61**	*i* P	**Pn**	**05 02 07.8**	**+1.8**
MANT				*i* S	**Sb**	**05 02 24.8**	**-0.5**
AYVA	**Ayvalik**	**1.54**	**354**	*i* P	**Pn**	**05 02 06.5**	**-0.2**
AYVA				*i* S	**Sb**	**05 02 31.2**	**+4.4**
PRK	**Paraskevi**	**1.55**	**342**	*e*PN	**Pn**	**05 02 07.0**	**+0.2**
DENT	**Denizli**	**1.69**	**90**	PN	**Pn**	**05 02 09.2**	**+0.4**
DNZL	**Cakiroluk**	**1.70**	**92**	*i* P	**Pn**	**05 02 09.1**	**+0.1**
DNZL				*i* S	**Sn**	**05 02 34.9**	**+3.5**
SANT	**Santorini**	**1.81**	**220**	*e*Pn	**Pn**	**05 02 10.7**	**+0.2**
SANT				*e*Pb	**Pb**	**05 02 12.9**	**+1.2**
SANT				*e*Pg	**Pg**	**05 02 14.4**	**-0.2**
SANT				*e*Sn	**Sn**	**05 02 33.4**	**-0.7**
SANT	**Santorini**	**1.81**	**220**	*i* P	**Pn**	**05 02 10.3**	**-0.2**
SANT				*i* S	**Sn**	**05 02 36.9**	**+2.7**
SANT	**Santorini**	**1.81**	**220**	*e*Pn	**Pn**	**05 02 10.7**	**+0.1**
SANT	**Santorini**	**1.81**	**220**	*e*Pb	**Pb**	**05 02 12.9**	**+1.2**
THR1	**Thera Island**	**1.81**	**220**	*e*Pb	**Pb**	**05 02 14.3**	**+2.5**
THR5	**Thira Island,**	**1.83**	**223**	*e*Pb	**Pb**	**05 02 14.9**	**+2.8**
ARG	**Arkhangelos**	**1.84**	**147**	*e*PB	**Pb**	**05 02 10.5**	**-1.6**
THR6	**Thira Island,**	**1.85**	**221**	*e*Pb	**Pb**	**05 02 15.6**	**+3.1**
BALB	**Balikesir**	**2.02**	**22**	*e*PN	**Pn**	**05 02 13.3**	**-0.2**
FETY	**Fethiye**	**2.08**	**122**	PN	**Pn**	**05 02 14.9**	**+0.5**
EZN	**Ezine**	**2.10**	**348**	*e*PN	**Pn**	**05 02 13.8**	**-0.9**
KHL	**Karahalli**	**2.14**	**74**	*e*PN	**Pn**	**05 02 16.2**	**+0.9**
BTOK	**Tokmak**	**2.17**	**24**	*i* P	**Pn**	**05 02 15.5**	**-0.3**
BTOK				*i* S	**Sn**	**05 02 48.5**	**+5.1**
KARP	**Karpathos**	**2.23**	**175**	*e*PB	**Pb**	**05 02 16.0**	**-2.9**
DST	**Dursunbey**	**2.28**	**36**	*e*PN	**Pn**	**05 02 17.8**	**+0.6**
PTL	**Penteli**	**2.42**	**277**	*e*PB	**Pb**	**05 02 19.4**	**-2.7**
ATH	**Athens Observa**	**2.53**	**276**	*e*PN	**Pn**	**05 02 21.0**	**+0.2**
LOS	**Limnos**	**2.58**	**327**	*e*Pn	**Pn**	**05 02 21.6**	**0.0**
LOS				*e*Sn	**Sn**	**05 02 53.6**	**-0.2**
LPK	**Lapseki**	**2.60**	**358**	*e*PN	**Pn**	**05 02 21.7**	**-0.1**
ELL	**Elmali**	**2.61**	**112**	*e*PN	**Pn**	**05 02 22.5**	**+0.5**
KSL	**Kastellorizon**	**2.69**	**126**	*e*PB	**Pb**	**05 02 24.5**	**-2.2**
BNT	**Bandirma**	**2.70**	**17**	*e*PN	**Pn**	**05 02 22.8**	**-0.5**
NAIG	**Nisos Aigina**	**2.70**	**271**	*e*PB	**Pb**	**05 02 23.8**	**-3.2**
NPS	**Neapolis**	**2.71**	**203**	*e*Pb	**Pb**	**05 02 22.5**	**-4.6**
NPS	**Neapolis**	**2.71**	**203**	*e*PN	**Pn**	**05 02 23.0**	**-0.4**
NSAL	**Nisos Salamina**	**2.72**	**274**	*e*PB	**Pb**	**05 02 24.5**	**-2.8**
KCT	**Karacabey**	**2.74**	**24**	*e*PN	**Pn**	**05 02 23.0**	**-0.8**
AOS	**Alonnisos**	**2.75**	**301**	*e*Pn	**Pn**	**05 02 24.5**	**+0.5**
ORLT	**Orhaneli**	**2.75**	**34**	*e*PN	**Pn**	**05 02 24.2**	**+0.2**
ALT	**Altintas**	**2.83**	**62**	*e*PN	**Pn**	**05 02 25.3**	**+0.2**
ISP	**Isparta**	**2.86**	**87**	*e*PN	**Pn**	**05 02 26.1**	**+0.6**
ISP	**Isparta**	**2.86**	**87**	*e*Pn	**Pn**	**05 02 25.4**	**-0.1**
ISP				*e*Pb	**Pb**	**05 02 30.2**	**+0.6**
ISP				*e*Pg	**Pg**	**05 02 34.6**	**-0.9**
MRMT	**Marmara Adasi**	**2.88**	**11**	*e*PN	**Pn**	**05 02 25.6**	**-0.2**
MGER	**Gerania Oros**	**2.89**	**275**	*e*PN	**Pn**	**05 02 26.5**	**+0.6**
SART	**Tekirdag**	**2.92**	**4**	*i* P	**Pn**	**05 02 25.6**	**-0.8**
SART				*i* S	**Sn**	**05 03 12.0**	**+10**
ULDT	**Uludag**	**2.94**	**36**	*i* P	**Pn**	**05 02 28.0**	**+1.4**
ULDT				*i* S	**Sn**	**05 03 09.1**	**+6.3**
BCK	**Bucak**	**2.95**	**95**	*e*PN	**Pn**	**05 02 26.5**	**-0.3**
IDI	**Anoyia**	**2.96**	**214**	Pn	**Pn**	**05 02 27.3**	**+0.3**
	1.9nm,0.3s,baz=31,slow=12,SNR=14						
IDI				Pg	**Pg**	**05 02 36.5**	**-1.0**
	7.6nm,0.3s,baz=34,slow=16,SNR=21						
IDI				Sn	**Sn**	**05 03 05.2**	**+1.9**
	7.6nm,0.3s,baz=336,slow=21,SNR=4.0						
IDI				Lg		05 03 16.1	
	9.6nm,0.3s,baz=150,slow=23,SNR=5.5						
IDI	**Anoyia**	**2.96**	**214**	Pg	**Pg**	**05 02 36.5**	**-1.0**
MFT	**Murefte**	**3.02**	**5**	*e*PN	**Pn**	**05 02 27.1**	**-0.8**
XRY	**Khrisi**	**3.05**	**199**	*e*PB	**Pb**	**05 02 31.0**	**-1.9**
ANTB	**Antalya**	**3.12**	**105**	*e*PN	**Pn**	**05 02 29.7**	**+0.5**
ALN	**Alexandroupoli**	**3.19**	**348**	*e*Pn	**Pn**	**05 02 29.6**	**-0.6**
ALN				*e*Sn	**Sn**	**05 03 08.4**	**-0.8**
PAIG	**Paliouri**	**3.31**	**312**	*e*Pn	**Pn**	**05 02 32.2**	**+0.2**
PAIG				*e*Sn	**Sn**	**05 03 11.8**	**-0.4**
VLI	**Veliai**	**3.33**	**253**	*e*PN	**Pn**	**05 02 33.0**	**+0.7**
YLV	**Yalova**	**3.39**	**34**	*e*PN	**Pn**	**05 02 33.1**	**0.0**
OUR	**Ouranopolis**	**3.42**	**319**	*e*Pn	**Pn**	**05 02 33.4**	**-0.1**
OUR				*e*Sn	**Sn**	**05 03 13.3**	**-1.7**
BADT	**Buyukada**	**3.52**	**29**	*e*PN	**Pn**	**05 02 35.1**	**+0.1**
RDO	**Rodhopi**	**3.53**	**343**	*e*PN	**Pn**	**05 02 33.5**	**-1.6**
ESKT	**Eskisehir**	**3.55**	**59**	*i* P	**Pn**	**05 02 36.2**	**+0.9**
ESKT				*i* S	**Sn**	**05 03 29.8**	**+12**
ESKT	**Eskisehir**	**3.55**	**59**	*e*Pn	**Pn**	**05 02 36.3**	**+0.9**
CTT	**Catalca**	**3.57**	**19**	*e*PN	**Pn**	**05 02 35.2**	**-0.5**
ISK	**Istanbul-Kandi**	**3.69**	**26**	*e*PN	**Pn**	**05 02 37.5**	**+0.2**
GVD	**Gavdhos**	**3.71**	**219**	Pn	**Pn**	**05 02 33.0**	**-4.5**
GVD	**Gavdhos**	**3.71**	**219**	Pn	**Pn**	**05 02 33.0**	**-4.5**
HRT	**Hereke**	**3.73**	**34**	PN	**Pn**	**05 02 38.7**	**+0.8**
AGG	**Agios Georgios**	**3.80**	**291**	*e*Pn	**Pn**	**05 02 39.8**	**+0.9**
AGG				*e*Sn	**Sn**	**05 03 25.6**	**+1.1**
KIZT	**Kizilcal**	**4.07**	**73**	*e*PN	**Pn**	**05 02 43.2**	**+0.5**
EDRB	**Edirne**	**4.07**	**358**	*e*PN	**Pn**	**05 02 42.4**	**-0.4**
SRS	**Serrai**	**4.21**	**324**	*e*Pn	**Pn**	**05 02 44.5**	**-0.2**
SRS	**Serrai**	**4.21**	**324**	*e*Pn	**Pn**	**05 02 44.5**	**-0.2**
RZN	**Rozhen**	**4.26**	**337**	*i* P	**Pg**	**05 02 58.5**	**-4.9**
MDU	**Mudurnu**	**4.30**	**50**	*e*PN	**Pn**	**05 02 46.7**	**+0.7**
KONT	**Konya--Tatoy**	**4.33**	**86**	*e*PN	**Pn**	**05 02 47.4**	**+1.0**
MMB	**Musomiste**	**4.53**	**328**	*i* P	**Pg**	**05 03 02.0**	**-6.8**
GRG	**Griva**	**4.72**	**314**	*e*Pn	**Pn**	**05 02 53.3**	**+1.4**
VAY	**Valandovo**	**4.87**	**318**	*i* Pn	**Pg**	**05 03 12.1**	**-3.6**
SGKT	**Sivrigoynuk**	**4.89**	**53**	*i* P	**Pn**	**05 03 00.6**	**+6.3**
SGKT				*i* S	**Sn**	**05 04 08.5**	**+16**
KKB	**Krupnik**	**5.04**	**325**	*i* P	**Pn**	**05 03 10.2**	**+14**
ANTO	**Ankara**	**5.06**	**64**	*e*PN	**Pn**	**05 02 57.4**	**+0.7**
KAMT	**Kaman**	**5.57**	**71**	*e*PN	**Pn**	**05 03 03.8**	**-0.2**
VTS	**Vitosha**	**5.58**	**331**	*i* P	**Pn**	**05 03 18.0**	**+14**
BRTR	**Keskin Array B**	**5.62**	**68**	Pn	**Pn**	**05 03 04.3**	**-0.3**
	0.8nm,0.3s,baz=254,slow=15,SNR=14						
BRTR				Pg	**Pg**	**05 03 20.0**	**-11**
	0.4nm,0.3s,baz=238,slow=16,SNR=5.4						
BRTR				Sn	**Sn**	**05 04 08.6**	**-1.8**
	0.0nm,0.3s,baz=261,slow=19,SNR=3.0						
BRTR				Lg		05 04 36.2	
	baz=255,slow=19,SNR=1.7						
BRTR	**Keskin Array B**	**5.62**	**68**	Pn	**Pn**	**05 03 04.3**	**-0.3**
CSS	**Prodhromos**	**5.90**	**116**	*e*Pn	**Pn**	**05 03 07.0**	**-1.6**
CSS	**Prodhromos**	**5.90**	**116**	*e*Pn	**Pn**	**05 03 07.0**	**-1.6**
TIRR	**Tirgusor**	**6.78**	**9**	⇑P	**Pn**	**05 03 23.7**	**+2.7**
TIRR	**Tirgusor**	**6.78**	**9**	⇑P	**Pn**	**05 03 23.7**	**+2.7**
CFR	**Carcaliu**	**7.46**	**7**	⇑P	**Pn**	**05 03 31.3**	**+0.8**
CFR	**Carcaliu**	**7.46**	**7**	⇑P	**Pn**	**05 03 31.3**	**+0.8**
MLR	**Muntele Rosu**	**7.75**	**355**	Pn	**Pn**	**05 03 34.0**	**-0.6**
	0.3nm,0.3s,baz=233,slow=16,SNR=5.3						
MLR				LR	LR	05 06 55.2	
	comp=Z,190nm,19.9s,baz=256,slow=40						
MLR	**Muntele Rosu**	**7.75**	**355**	Pn	**Pn**	**05 03 34.0**	**-0.6**
MLR				⇓P		05 03 41.2	
MLR				LR	LR	05 06 55.2	
MLR	**Muntele Rosu**	**7.75**	**355**	⇓P	**Pn**	**05 03 41.2**	**+6.6**
TIP	**Timpagrande**	**8.08**	**283**	*e*Pn	**P**	**05 03 38.1**	**-1.1**
VRI	**Vrincioaia**	**8.09**	**359**	⇑P	**P**	**05 03 51.3**	**+12**
BURAR	**Bucovina Array**	**9.91**	**353**	⇑P	**P**	**05 04 04.1**	**-0.5**
BURAR	**Bucovina Array**	**9.91**	**353**	⇑P	**P**	**05 04 04.1**	**-0.5**
ASF	**Jabal al Asfar**	**9.92**	**121**	Pn	**P**	**05 04 02.1**	**-2.6**
	0.8nm,0.3s,baz=316,slow=2.4,SNR=3.1						
ASF				Sn	**Sn**	**05 05 56.6**	**-1.0**
	0.5nm,0.3s,baz=164,slow=23,SNR=4.1						
EIL	**Elat**	**10.49**	**138**	*e*Pn	**P**	**05 04 07.1**	**-5.5**
ALWS	**Ilw as Safayha**	**10.84**	**139**	P	**P**	**05 04 20.3**	**+3.0**
HAQS	**Haql**	**10.98**	**140**	P	**P**	**05 04 16.2**	**-3.0**
JMOS	**Jabal al Moall**	**10.98**	**139**	P	**P**	**05 04 18.9**	**-0.3**
TAYS	**Tayyib Ism**	**11.36**	**142**	P	**P**	**05 04 19.3**	**-5.1**
BDAS	**Al Bad‘**	**11.57**	**141**	P	**P**	**05 04 22.4**	**-4.9**
JMQS	**Jabal Moqyreh**	**11.61**	**137**	P	**P**	**05 04 28.8**	**+1.0**
AYUS	**‘Aynunah**	**11.85**	**141**	P	**P**	**05 04 27.2**	**-3.9**
KWP	**Kalwaria**	**12.23**	**347**	P	**P**	**05 04 29.6**	**-6.6**
MORC	**Moravsky Berou**	**13.76**	**334**	P	**P**	**05 04 50.7**	**-5.7**
	2.5nm,1.0s						
GERES	**GERESS Array B**	**14.63**	**323**	Pn	**P**	**05 05 11.6**	**+3.8**
	0.1nm,0.3s,baz=135,slow=11,SNR=6.2						
KHC	**Kasperske Hory**	**14.89**	**324**	*e*P	**P**	**05 05 13.8**	**+2.6**
HFS	**Hagfors**	**23.91**	**344**	P	**P**	**05 06 54.9**	**+1.3**
	3.7nm,1.0s,mb3.8,baz=146,slow=16,SNR=3.9						
NOA	**NORSAR Array B**	**25.29**	**342**	P	**P**	**05 07 09.5**	**+2.6**
	0.9nm,0.7s,mb3.4,baz=159,slow=9.3,SNR=4.1						
NOA	**NORSAR Array B**	**25.29**	**342**	P	**P**	**05 07 09.5**	**+2.6**
ARCES	**ARCESS Array B**	**31.83**	**359**	LR	LR	05 21 30.4	
	comp=Z,120nm,19.8s,MS3.6,baz=20,slow=37						
AAK	**Ala-Archa**	**36.30**	**67**	P	**P**	**05 08 44.9**	**+0.3**
	1.2nm,0.7s,mb3.9						
YKA	**Yellowknife Ar**	**75.39**	**343**	P	**P**	**05 13 27.0**	**+2.9**
	0.1nm,0.4s,mb3.1,baz=34,slow=6.7,SNR=5.7						

*ATH **17** 05:03:53.4, 37.83N×26.94E, h14km±2km, MD3.9/15, ML3.8*
*MOS **17** 05:03:53.8±1.9, 37.49N×26.96E, h10km, mb4.0/1, Error ellipse: s-maj=12.2km s-min=9.6km az=100.5*
*ISK **17** 05:03:53.8, 37.76N×26.84E, h14km, ML4.3*
*BJI **17** 05:03:53.7, 37.80N×26.90E, h20km, mB5.0, mb4.5*
*NEIC **17** 05:03:53.7, 37.80N×26.91E, h20km, mb3.9/1, ML3.8(ATH), After ATH.*
NEIC Felt on Fourni, Ikaria, Patmos and Samos. Also felt along the west coast of Turkey.
*CSEM **17** 05:03:54.7±0.1, 37.77N×27.00E, h10km, mb3.9/1, Error ellipse: s-maj=1.5km s-min=1.0km az=36.0*
*IDC **17** 05:03:55.5±1.3, 37.69N×27.06E, mb3.6/2, mb1 3.9/7, mb1mx3.6/22, mbtmp3.7/7, ML3.6/5, Error ellipse: s-maj=23.2km s-min=13.3km az=125.0*
*THE **17** 05:03:59.4, 37.87N×26.72E, h15km, ML4.0*
ISC 17 05:03:53.7±0.5**, 37.80N**±0.02×**26.90E**±0.02**, h7km±3km, n113, σ1§19**/142**, mb3.7**/3**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.10**	**207**	*e*PG	**Pg**	**05 03 57.5**	**+1.4**
BLCB	**Balcova**	**0.59**	**11**	*i* PG	**Pg**	**05 04 07.0**	**+1.4**
IZM	**Izmir**	**0.66**	**26**	*i* PG	**Pg**	**05 04 07.8**	**+0.8**
KDAG	**Bornova**	**0.67**	**26**	*i* P	**Pg**	**05 04 07.5**	**+0.5**
KDAG				*i* S	**Sg**	**05 04 17.2**	**+1.2**
AYDN	**Tasoluk**	**0.79**	**100**	*i* P	**Pb**	**05 04 09.4**	**0.0**
AYDN				*i* S	**Sg**	**05 04 19.9**	**-0.2**
BODT	**Bodrum**	**0.81**	**156**	*i* PG	**Pg**	**05 04 09.5**	**-0.4**
BDRM	**Kayabasi**	**0.85**	**149**	*i* P	**Pb**	**05 04 09.8**	**-0.7**
BDRM				*i* S	**Sb**	**05 04 21.5**	**-0.4**
NISR	**Nisiros**	**1.20**	**171**	*e*PB	**Pb**	**05 04 17.0**	**+0.6**
YER	**Yerkesik**	**1.29**	**121**	*i* PN	**Pn**	**05 04 18.3**	**+0.2**
APE	**Apeiranthos**	**1.31**	**236**	PN	**Pn**	**05 04 18.0**	**-0.4**
APE				SN	**Sn**	**05 04 34.3**	**-2.0**
MANT	**Manisa**	**1.48**	**62**	*i* P	**Pn**	**05 04 21.1**	**+0.2**
MANT				*i* S	**Sb**	**05 04 40.5**	**+0.5**
AYVA	**Ayvalik**	**1.51**	**354**	*i* P	**Pn**	**05 04 23.9**	**+2.6**
AYVA				*i* S	**Sb**	**05 04 47.8**	**+6.9**
PRK	**Paraskevi**	**1.52**	**341**	*e*PG	**Pg**	**05 04 21.5**	**-2.6**
DENT	**Denizli**	**1.69**	**91**	*i* PN	**Pn**	**05 04 24.2**	**+0.3**
DNZL	**Cakiroluk**	**1.71**	**93**	*i* P	**Pn**	**05 04 24.4**	**+0.2**
DNZL				*i* S	**Sn**	**05 04 50.0**	**+3.6**
SANT	**Santorini**	**1.83**	**219**	*e*Pn	**Pn**	**05 04 25.0**	**-0.9**
SANT				*e*Pb	**Pb**	**05 04 28.8**	**+1.6**
SANT				*e*Sn	**Sn**	**05 04 49.4**	**-0.2**
SANT	**Santorini**	**1.83**	**219**	*i* P	**Pn**	**05 04 25.6**	**-0.3**
SANT				*i* S	**Sn**	**05 04 56.0**	**+6.3**
SANT	**Santorini**	**1.83**	**219**	*e*Pn	**Pn**	**05 04 25.0**	**-0.9**
SANT	**Santorini**	**1.83**	**219**	*e*Pb	**Pb**	**05 04 28.8**	**+1.6**
THR1	**Thera Island**	**1.83**	**219**	*e*Pb	**Pb**	**05 04 27.9**	**+0.7**
THR3	**Thira Island,**	**1.83**	**221**	*e*Pb	**Pb**	**05 04 28.4**	**+1.2**
THR5	**Thira Island,**	**1.86**	**222**	*e*Pb	**Pb**	**05 04 29.1**	**+1.6**
ARG	**Arkhangelos**	**1.86**	**148**	*e*PB	**Pb**	**05 04 26.3**	**-1.4**
ARG	**Arkhangelos**	**1.86**	**148**	*e*Pb	**Pb**	**05 04 24.5**	**-3.2**
THR6	**Thira Island,**	**1.88**	**220**	*e*Pb	**Pb**	**05 04 30.1**	**+2.2**
BALB	**Balikesir**	**1.99**	**22**	*e*PN	**Pn**	**05 04 28.5**	**+0.3**
EZN	**Ezine**	**2.07**	**348**	PN	**Pn**	**05 04 29.5**	**+0.2**
FETY	**Fethiye**	**2.10**	**123**	PN	**Pn**	**05 04 29.8**	**+0.1**
KHL	**Karahalli**	**2.14**	**75**	*e*PN	**Pn**	**05 04 30.2**	**-0.1**
BTOK	**Tokmak**	**2.15**	**24**	*i* P	**Pg**	**05 04 33.9**	**-2.7**
BTOK				*i* S	**Sg**	**05 05 03.6**	**-1.7**
DST	**Dursunbey**	**2.25**	**36**	*e*PN	**Pn**	**05 04 32.6**	**+0.7**
KARP	**Karpathos**	**2.26**	**175**	*e*PN	**Pn**	**05 04 30.0**	**-2.0**
KARP	**Karpathos**	**2.26**	**175**	*e*Pb	**Pb**	**05 04 30.5**	**-4.0**
PTL	**Penteli**	**2.41**	**277**	*e*PN	**Pn**	**05 04 34.8**	**+0.6**
ATH	**Athens Observa**	**2.52**	**275**	*e*PN	**Pn**	**05 04 33.7**	**-2.1**
ATH	**Athens Observa**	**2.52**	**275**	*e*Pn	**Pn**	**05 04 34.2**	**-1.6**
LOS	**Limnos**	**2.56**	**327**	*e*Pn	**Pn**	**05 04 37.3**	**+1.0**
LOS				*e*Sn	**Sn**	**05 05 06.7**	**-1.3**
LPK	**Lapseki**	**2.57**	**358**	*e*PN	**Pn**	**05 04 36.4**	**-0.1**
ELL	**Elmali**	**2.62**	**113**	*e*PN	**Pn**	**05 04 37.2**	**0.0**
BNT	**Bandirma**	**2.67**	**17**	*e*PN	**Pn**	**05 04 38.5**	**+0.6**
NAIG	**Nisos Aigina**	**2.70**	**270**	*e*PN	**Pn**	**05 04 38.5**	**+0.2**
KCT	**Karacabey**	**2.71**	**24**	*e*PN	**Pn**	**05 04 38.9**	**+0.4**
KSL	**Kastellorizon**	**2.71**	**127**	*e*PB	**Pb**	**05 04 39.0**	**-3.2**
NSAL	**Nisos Salamina**	**2.72**	**273**	*e*PB	**Pb**	**05 04 40.5**	**-1.8**
NSAL	**Nisos Salamina**	**2.72**	**273**	*e*Pb	**Pb**	**05 04 41.5**	**-0.8**
ORLT	**Orhaneli**	**2.73**	**34**	*e*PN	**Pn**	**05 04 39.6**	**+0.9**
AOS	**Alonnisos**	**2.73**	**301**	*e*Pn	**Pn**	**05 04 40.1**	**+1.3**
AOS				*e*Sn	**Sn**	**05 05 10.5**	**-2.0**
NPS	**Neapolis**	**2.74**	**203**	*e*PB	**Pb**	**05 04 41.0**	**-1.7**
NPS	**Neapolis**	**2.74**	**203**	*e*P	**Pn**	**05 04 33.5**	**-5.4**
ALT	**Altintas**	**2.82**	**63**	*e*PN	**Pn**	**05 04 40.7**	**+0.7**
MRMT	**Marmara Adasi**	**2.85**	**11**	*e*PN	**Pn**	**05 04 40.9**	**+0.4**
ISP	**Isparta**	**2.86**	**88**	*e*P	**Pn**	**05 04 40.3**	**-0.3**
ISP				*e*S	**Sn**	**05 05 24.5**	**+8.8**
ISP	**Isparta**	**2.86**	**88**	*e*Pn	**Pn**	**05 04 40.3**	**-0.3**
ISP				*e*Pg	**Pg**	**05 04 48.3**	**-2.6**
ISP				*e*S	**Sn**	**05 05 24.5**	**+8.8**
MGER	**Gerania Oros**	**2.88**	**275**	*e*PN	**Pn**	**05 04 42.0**	**+1.1**
SART	**Tekirdag**	**2.89**	**4**	*i* P	**Pg**	**05 04 49.7**	**-1.7**
SART				*i* S	**Sg**	**05 05 25.8**	**-4.2**
ULDT	**Uludag**	**2.92**	**36**	*i* P	**Pg**	**05 04 49.4**	**-2.6**
ULDT				*i* S	**Sg**	**05 05 27.3**	**-3.5**
BCK	**Bucak**	**2.95**	**96**	*e*PN	**Pn**	**05 04 42.1**	**+0.2**
IDI	**Anoyia**	**2.98**	**213**	Pn	**Pn**	**05 04 42.3**	**-0.1**
	2.5nm,0.3s,baz=29,slow=13,SNR=6.8						
IDI				Pg	**Pg**	**05 04 50.3**	**-3.0**
	9.6nm,0.3s,baz=41,slow=17,SNR=7.8						
IDI				Sn	**Sn**	**05 05 20.1**	**+1.3**
	9.2nm,0.3s,baz=277,slow=20,SNR=3.1						
IDI				Lg		05 05 31.2	
	28nm,0.3s,baz=303,slow=21,SNR=8.3						
MFT	**Murefte**	**3.00**	**6**	*e*PN	**Pn**	**05 04 43.1**	**+0.6**
XRY	**Khrisi**	**3.08**	**199**	*e*PN	**Pn**	**05 04 44.2**	**+0.5**
ANTB	**Antalya**	**3.13**	**106**	*e*PN	**Pn**	**05 04 44.5**	**+0.1**
ALN	**Alexandroupoli**	**3.16**	**348**	*e*Pn	**Pn**	**05 04 45.2**	**+0.3**
ALN				*e*Sn	**Sn**	**05 05 23.6**	**+0.4**
PAIG	**Paliouri**	**3.29**	**311**	*e*Pn	**Pn**	**05 04 47.3**	**+0.6**
PAIG				*e*Sn	**Sn**	**05 05 25.2**	**-1.2**
PAIG	**Paliouri**	**3.29**	**311**	*e*Pn	**Pn**	**05 04 47.3**	**+0.6**
PAIG				*e*Sn	**Sn**	**05 05 25.2**	**-1.3**
XOR	**Xorichti**	**3.30**	**299**	*e*Pn	**Pn**	**05 04 47.8**	**+1.0**
VLI	**Veliai**	**3.34**	**252**	*e*PN	**Pn**	**05 04 49.0**	**+1.6**
YLV	**Yalova**	**3.37**	**34**	*e*PN	**Pn**	**05 04 48.7**	**+0.9**
OUR	**Ouranopolis**	**3.40**	**319**	*e*Pn	**Pn**	**05 04 48.6**	**+0.4**
OUR				*e*Sn	**Sn**	**05 05 27.5**	**-1.7**
RDO	**Rodhopi**	**3.50**	**343**	*e*PN	**Pn**	**05 04 50.5**	**+0.8**
RDO	**Rodhopi**	**3.50**	**343**	*e*Pn	**Pn**	**05 04 50.0**	**+0.3**
ESKT	**Eskisehir**	**3.54**	**60**	*e*PN	**Pn**	**05 04 51.0**	**+0.8**
ESKT	**Eskisehir**	**3.54**	**60**	*i* P	**Pg**	**05 05 01.1**	**-3.3**
ESKT				*i* S	**Sg**	**05 05 51.6**	**+0.1**
CTT	**Catalca**	**3.54**	**19**	*e*PN	**Pn**	**05 04 50.8**	**+0.5**
GPA	**Golpazari**	**3.64**	**46**	*e*PN	**Pn**	**05 04 52.6**	**+1.0**
ISK	**Istanbul-Kandi**	**3.66**	**27**	*e*PN	**Pn**	**05 04 52.8**	**+0.8**
HRT	**Hereke**	**3.70**	**35**	PN	**Pn**	**05 04 53.7**	**+1.1**
GVD	**Gavdhos**	**3.73**	**218**	*e*P	**Pn**	**05 04 54.9**	**+1.9**
GVD	**Gavdhos**	**3.73**	**218**	*e*P	**Pn**	**05 04 54.9**	**+2.0**
AGG	**Agios Georgios**	**3.79**	**290**	*e*Pn	**Pn**	**05 04 55.0**	**+1.2**
AGG				*e*Sn	**Sn**	**05 05 36.4**	**-2.7**
EDRB	**Edirne**	**4.04**	**358**	PN	**Pn**	**05 04 57.3**	**-0.1**
KIZT	**Kizilcal**	**4.06**	**73**	*e*PN	**Pn**	**05 04 58.1**	**+0.4**
SOH	**Sokhos**	**4.08**	**319**	*e*Pn	**Pn**	**05 04 58.5**	**+0.6**
LIT	**Litokhoron**	**4.13**	**305**	*e*Pn	**Pn**	**05 04 59.0**	**+0.3**
LIT				*e*Sn	**Sn**	**05 05 46.2**	**-1.6**
MDU	**Mudurnu**	**4.28**	**50**	*e*PN	**Pn**	**05 05 01.1**	**+0.3**
KONT	**Konya--Tatoy**	**4.33**	**86**	*e*PN	**Pn**	**05 05 01.8**	**+0.4**
HENT	**Hendek**	**4.33**	**45**	*i* P	**Pn**	**05 05 13.8**	**+12**
HENT				*i* S	**Sn**	**05 06 12.3**	**+19**
GRG	**Griva**	**4.70**	**314**	*e*Pn	**Pn**	**05 05 07.3**	**+0.7**
GRG	**Griva**	**4.70**	**314**	*e*Pn	**Pn**	**05 05 07.3**	**+0.6**
SGKT	**Sivrigoynuk**	**4.87**	**54**	*i* P	**Pn**	**05 05 27.8**	**+19**
SGKT				*i* S	Sn	05 06 36.3	+30
BRTR	**Keskin Array B**	**5.61**	**68**	Pn	**Pn**	**05 05 19.6**	**0.0**
	1.0nm,0.3s,baz=246,slow=14,SNR=19						
BRTR				Lg		05 06 53.0	
	baz=253,slow=26,SNR=1.7						
BRTR	**Keskin Array B**	**5.61**	**68**	Pn	**Pn**	**05 05 19.5**	**-0.1**
CSS	**Prodhromos**	**5.91**	**117**	Pn	**Pn**	**05 05 21.4**	**-2.4**
CSS				*e*Sn	**Sn**	**05 06 25.0**	**-7.8**
CSS	**Prodhromos**	**5.91**	**117**	Pn	**Pn**	**05 05 21.4**	**-2.5**
BALT	**Daday**	**6.24**	**51**	*i* P	**Pn**	**05 05 48.6**	**+20**
BALT				*i* S	Sn	05 07 12.2	+31
MLR	**Muntele Rosu**	**7.71**	**355**	Pn	**Pn**	**05 05 56.6**	**+7.4**
	0.5nm,0.3s,baz=150,slow=21,SNR=4.5						
TIP	**Timpagrande**	**8.07**	**283**	*e*Pn	**P**	**05 05 53.6**	**-0.6**
TIP	**Timpagrande**	**8.07**	**283**	*e*Pn	**P**	**05 05 53.6**	**-0.5**
MALT	**Malatya**	**9.11**	**83**	P	**P**	**05 06 08.0**	**-0.6**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MALT	**Malatya**	**9.11**	**83**	P	**P**	**05 06 08.0**	**-0.6**
	comp=Z,2.1nm,0.8s						
MALT	**Malatya**	**9.11**	**83**	P	**P**	**05 06 08.0**	**-0.6**
	comp=Z,2.1nm,0.8s						
ASF	**Jabal al Asfar**	**9.94**	**121**	Pn	**P**	**05 06 17.2**	**-2.9**
	comp=Z,1.0nm,0.3s,baz=158,slow=14,SNR=3.2						
MORC	**Moravsky Berou**	**13.73**	**334**	P	**P**	**05 07 08.4**	**-2.7**
GERES	**GERESS Array B**	**14.61**	**323**	Pn	**P**	**05 07 28.7**	**+6.2**
	comp=Z,0.1nm,0.3s,baz=135,slow=9.4,SNR=4.0						
KHC	**Kasperske Hory**	**14.86**	**324**	*e*P	**P**	**05 07 32.3**	**+6.4**
FINES	**FINESS Array B**	**23.67**	**359**	P	**P**	**05 09 10.8**	**+4.5**
	comp=Z,3.1nm,1.0s,mb3.7,baz=180,slow=9.7,SNR=4.8						
NOA	**NORSAR Array B**	**25.26**	**342**	P	**P**	**05 09 22.5**	**+0.9**
	comp=Z,0.8nm,0.8s,mb3.3,baz=144,slow=12,SNR=2.9						
CHKZ	**Chkalovo**	**33.78**	**48**	P	**P**	**05 10 37.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
CHKZ	**Chkalovo**	**33.78**	**48**	P	**P**	**05 10 37.5**	**-0.5**
	comp=Z,1.7nm,1.0s,mb3.9						
CHKZ	**Chkalovo**	**33.78**	**48**	P	**P**	**05 10 37.5**	**-0.5**
	comp=Z,1.7nm,1.0s,mb3.9						
WMQ	**Urumqi**	**45.50**	**62**	*e*P	**P**	**05 12 15.0**	**-0.3**
BJI	**Beijing**	**66.50**	**57**	P	**P**	**05 14 47.1**	**+1.1**
MDJ	**Mudanjiang**	**72.37**	**47**	P	**P**	**05 15 19.6**	**-2.4**
MDJ				AMB	AMB		
	comp=Z,107nm,5.6s						
NJ2	**Nanjing**	**72.58**	**63**	*e*P	**P**	**05 15 22.6**	**-0.9**

*NEIC **17** 05:13:18.0, 32.43S×71.35W, h45km, MD3.8(GUC), After GUC.*
GUC 17 05:13:18.0±0.7**, 32.43S×71.35W, h45km**±2km**, MD3.8, ML2.8, 4C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.13**	**215**	⇑*i*P	P	05 13 25.8	+0.5
PACH				*i* S	S	05 13 31.4	+0.9
CHNG	**Los Chungos**	**0.56**	**347**	⇑*i*P	P	05 13 30.0	+0.2
CHNG				*i* S	S	05 13 38.8	+0.5
CHNG				AMP		05 13 39.3	
	comp=N,344nm,0.2s						
ROCH	**El Roble**	**0.61**	**152**	*e*P	P	05 13 30.8	+0.4
JACH	**Jahuel**	**0.69**	**111**	⇑*i*P	P	05 13 32.3	+0.9
JACH				*i* S	S	05 13 42.5	+1.2
PUEX	**Pudahuel**	**1.12**	**154**	*e*P	P	05 13 37.6	+0.1
PUEX				*i* S	S	05 13 53.3	+1.3
PUEX				AMP		05 14 03.8	
	comp=E,407nm,0.5s						
RCDM	**Rinconada Maip**	**1.15**	**157**	*e*P	P	05 13 38.1	+0.3
RCDM				*i* S	S	05 13 53.5	+0.8
RCDM				AMP		05 13 56.4	
	comp=E,535nm,0.1s						
STL	**Santa Lucia**	**1.16**	**149**	*e*P	P	05 13 38.5	+0.4
STL				*i* S	S	05 13 54.3	+1.2
DSCH	**Colegio Aleman**	**1.17**	**146**	⇓*i*P	P	05 13 38.8	+0.7
DSCH				*i* S	S	05 13 54.6	+1.5
DSCH				AMP		05 13 55.8	
	comp=E,542nm,0.2s						
CLCH	**Cerro Calan**	**1.18**	**145**	⇑*e*P	P	05 13 39.1	+0.8
CLCH				*i* S	S	05 13 54.6	+1.2
CLCH				AMP		05 14 02.0	
	comp=E,174nm,0.3s						
FCH	**Farellones**	**1.26**	**135**	⇓*e*P	P	05 13 40.4	+0.8
FCH				*i* S	S	05 13 57.4	+1.8
FCH				AMP		05 13 58.6	
	comp=E,306nm,0.2s						
TACH	**Talagante**	**1.27**	**164**	*e*P	P	05 13 39.9	+0.3
TACH				*i* S	S	05 13 56.4	+0.7
PCH	**Pirque**	**1.38**	**150**	*e*P	P	05 13 41.4	+0.2
SJCH	**San Jose de Ma**	**1.47**	**145**	*e*P	P	05 13 42.8	+0.3
SJCH				*i* S	S	05 14 01.7	+1.0
SJCH				AMP		05 14 03.3	
	comp=N,127nm,0.1s						
LNV	**Longovilo**	**1.52**	**182**	*e*P	P	05 13 42.5	-0.8
CHCH	**Chadas Angostu**	**1.61**	**159**	*e*P	P	05 13 44.9	+0.5
CHCH				*i* S	S	05 14 05.3	+1.2
LMEL	**Las Melosas**	**1.71**	**146**	*e*P	P	05 13 46.8	+0.9
LMEL				*i* S	S	05 14 08.1	+1.5
LMEL				AMP		05 14 14.6	
	comp=N,381nm,0.1s						
CICH	**Cipreses**	**2.04**	**158**	*e*P	P	05 13 51.6	+1.1
SFDO	**San Fernando**	**2.19**	**173**	*e*P	P	05 13 52.9	+0.2

*IDC **17** 05:28:43.8±0.9, 10.15N×93.64E, mb4.0/8, mb1 4.1/9, mb1mx4.0/17, mbtmp3.9/9, ML3.8/1, MS3.6/6, Ms1 3.6/6, ms1mx3.4/18, Error ellipse: s-maj=47.9km s-min=19.1km az=56.0*
*NEIC **17** 05:28:48.2±0.5, 10.27N×93.80E, h30km, mb4.5/7, Error ellipse: s-maj=22.2km s-min=9.6km az=56.0*
*BJI **17** 05:28:50.1, 10.17N×93.71E, h40km, mb4.0*
ISC 17 05:28:47.0±0.6**, 10.18N**±0.10×**93.86E**±0.08**, h33km, n26, σ1§27**/22**, mb4.2**/14**, MS3.7**/5**, 1C, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**9.59**	**30**	Pn	**P**	**05 31 09.1**	**+3.2**
	0.3nm,0.3s,baz=227,slow=14,SNR=18						
CMAR				LR	LR	05 34 37.4	
	comp=Z,116nm,19.5s,baz=230,slow=36						
HYB	**Hyderabad**	**16.51**	**298**	*e*P	**P**	**05 32 40.0**	**+2.2**
HYB				*e*S	**S**	**05 35 40.0**	**+0.7**
LSA	**Lhasa**	**19.59**	**353**	P	**P**	**05 33 18.3**	**+3.1**
LSA	**Lhasa**	**19.59**	**353**	P	**P**	**05 33 09.2**	**-6.0**
	20nm,1.2s						
LSA				*e*S	**S**	**05 37 03.5**	**+15**
GYA	**Guiyang**	**20.22**	**35**	⇑*i*P	**P**	**05 33 22.5**	**+0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s						
ENH	**Enshi**	**24.73**	**34**	P	**P**	**05 34 06.2**	**-0.7**
	comp=Z,19nm,1.1s,mb4.5						
DDI	**Dehra Dun**	**24.87**	**326**	*e*	**P**	**05 34 16.0**	**+7.8**

AAK	Ala-Archa	36.50	336	eP	P	05 35 49.6	-1.5
	comp=Z,7.5nm,1.1s,mb4.4						
SONM	Songino Array	38.99	13	P	P	05 36 12.6	+0.7
	comp=Z,0.2nm,0.4s,mb3.2,baz=198,slow=7.8,SNR=4.8						
KURK	Kurchatov	42.33	346	P	P	05 36 37.0	-2.4
	comp=Z,9.1nm,1.3s,mb4.2						
ZAL	Zalesovo	44.24	352	P	P	05 36 55.3	+0.4
	comp=Z,1.7nm,0.4s,mb4.2,baz=310,slow=4.7,SNR=5.5						
CHKZ	Chkalovo	47.22	341	eP	P	05 37 17.3	-1.2
	comp=Z,12nm,1.2s,mb4.7						
CHKZ				e		05 37 25.1	
WRA	Warramunga Arr	49.84	127	P	P	05 37 39.8	+0.5
	comp=Z,0.7nm,0.5s,mb4.0,baz=305,slow=8.7,SNR=7.9						
WRAB	Tennant Creek	49.84	127	eP	P	05 37 39.9	+0.6
	comp=Z,4.7nm,0.9s,mb4.5						
ASAR	Alice Springs	51.61	131	P	P	05 37 53.1	+0.4
	comp=Z,0.8nm,0.9s,mb3.7,baz=313,slow=7.4,SNR=7.6						
GNI	Garni	52.66	313	LR	LR	06 01 38.2	
	comp=Z,47nm,19.9s,MS3.5,baz=158,slow=38						
PMG	Port Moresby	56.49	108	P	P	05 38 27.2	-1.4
	comp=Z,25nm,1.2s,mb5.1						
ASF	Jabal al Asfar	56.76	302	LR	LR	06 03 29.4	
	comp=Z,37nm,18.5s,MS3.5,baz=113,slow=37						
KMBO	Kilima Mbogo	57.44	262	LR	LR	06 00 53.3	
	comp=Z,76nm,18.5s,MS3.8,baz=86,slow=34						
CTA	Charters Tower	59.69	120	LR	LR	06 04 49.9	
	comp=Z,48nm,20.1s,MS3.6,baz=48,slow=36						
BRTR	Keskin Array B	60.74	310	P	P	05 38 56.0	-1.9
	comp=Z,0.7nm,0.6s,mb4.0,baz=123,slow=9.1,SNR=4.1						
STKA	Stephens Creek	61.89	134	P	P	05 39 06.6	+0.8
	comp=Z,0.9nm,0.5s,mb4.2,baz=340,slow=12,SNR=3.0						
ARCES	ARCESS Array B	73.02	340	P	P	05 40 14.4	-0.6
	comp=Z,2.6nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=4.1						
ARCES				LR	LR	06 15 18.3	
	comp=Z,112nm,18.9s,MS4.2,baz=168,slow=38						
GERES	GERESS Array B	75.94	318	P	P	05 40 32.0	-0.2
	comp=Z,0.5nm,0.7s,mb3.5,baz=104,slow=8.1,SNR=2.7						
TXAR	Lajitas Array	137.24	23	PKP	PKPdf	05 48 10.4	+2.6
	comp=Z,0.2nm,0.5s,baz=56,slow=1.8,SNR=5.4						
PLCA	Paso Flores	146.59	202	PKPbc	PKPbc	05 48 27.6	+2.3
	comp=Z,0.9nm,0.6s,baz=180,slow=10,SNR=3.1						

IDC 17 05:43:56.4±2.1, 5.97N×93.01E, mb3.9/3, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=83.5km s-min=29.9km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	13.70	24	Pn	P	05 47 12.6	-2.0
	0.5nm,0.3s,baz=224,slow=14,SNR=4.8						
WRA	Warramunga Arr	48.11	123	P	P	05 52 38.2	-2.1
	0.6nm,0.7s,baz=303,slow=9.0,SNR=3.3						
ASAR	Alice Springs	49.59	128	P	P	05 52 49.9	-1.8
	0.3nm,0.5s,baz=305,slow=7.9,SNR=5.4						
ARCES	ARCESS Array B	76.67	340	P	P	05 55 49.0	-1.7
	3.1nm,0.9s,baz=97,slow=7.3,SNR=5.2						

IDC 17 05:51:28.6±7.1, 2.69N×95.45E, mb3.8/3, mb1 4.0/4, mb1mx3.8/17, mbtmp3.8/4, MS2.9/1, Ms1 3.1/1, ms1mx2.6/23, Error ellipse: s-maj=221.5km s-min=28.4km az=70.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	16.04	12	Pn	P	05 55 17.4	0.0
	baz=180,slow=14,SNR=3.2						
CMAR				LR	LR	06 01 29.7	
	comp=Z,39nm,20.2s,baz=180,slow=38						
WRA	Warramunga Arr	44.30	122	P	P	05 59 40.2	-2.1
	3.0nm,0.5s,baz=300,slow=9.2,SNR=16						
ASAR	Alice Springs	45.68	127	P	P	05 59 51.9	-1.4
	1.1nm,0.6s,baz=300,slow=8.1,SNR=7.6						
SONM	Songino Array	45.95	10	P	P	05 59 52.9	-2.2
	0.3nm,0.4s,baz=190,slow=9.3,SNR=5.0						

IDC 17 05:58:54.5±6.0, 5.34S×151.32E, h85km±52km, mb3.6/4, mb1 3.9/5, mb1mx3.7/13, mbtmp4.0/5, ML3.2/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/17, Error ellipse: s-maj=55.6km s-min=32.0km az=112.0

ISC 17 05:58:52.2±4.5, 5.3S±0.3×151.3E±0.3, h78km±38km, n6, σ0^{s}49/7, mb3.8/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.81	225	P	P	06 00 17.2	-0.2
	4.1nm,0.3s,baz=33,slow=11,SNR=7.4						
PMG				S	S	06 01 23.8	+0.4
	4.4nm,0.3s,baz=137,slow=18,SNR=3.9						
PMG				LR	LR	06 02 28.5	
	comp=Z,79nm,18.7s,baz=226,slow=37						
WB2	Warramunga Arr	22.02	227	eP	P	06 03 40.8	-0.6
WRA	Warramunga Arr	22.02	227	P	P	06 03 41.9	+0.4
	2.7nm,0.5s,mb3.8,baz=52,slow=10,SNR=20						
ASAR	Alice Springs	24.80	221	P	P	06 04 08.4	-0.2
	2.4nm,0.4s,mb4.0,baz=54,slow=9.2,SNR=31						
SONM	Songino Array	65.97	329	P	P	06 09 32.5	0.0
	0.4nm,0.6s,mb3.5,baz=141,slow=6.6,SNR=3.6						
NVAR	Mina Array Bea	93.54	52	P	P	06 12 01.3	+0.3
	0.4nm,0.5s,mb4.0,baz=262,slow=6.4,SNR=4.1						

IDC 17 06:03:43.3±5.6, 31.60S×179.96E, h478km±69km, mb3.0/4, mb1 3.2/5, mb1mx3.1/15, mbtmp4.0/5, Error ellipse: s-maj=74.3km s-min=35.8km az=12.0

ISC 17 06:03:41.9±2.9, 31.71S±0.10×179.8W±0.4, h500km, n9, σ0^{s}69/12, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWZ	Matawai	6.97	198	PN	P	06 05 28.7	-0.1
MWZ				SN	S	06 06 53.5	-0.1
MWZ				SN	S	06 06 53.8	+0.2
URZ	Urewera	7.02	200	P	P	06 05 30.5	+1.2
	3.0nm,0.3s,baz=351,slow=2.5,SNR=50						
URZ				S	S	06 06 54.1	-0.4
	7.0nm,0.3s,baz=130,slow=16,SNR=22						
URZ	Urewera	7.02	200	PN	P	06 05 28.2	-1.0
BKZ	Black Stump Fm	8.04	201	PN	P	06 05 40.0	+0.2
BKZ				SN	S	06 07 13.5	0.0
CTA	Charters Tower	32.54	283	P	P	06 09 31.9	-0.3
	0.8nm,0.3s,mb3.6,baz=120,slow=14,SNR=2.7						
STKA	Stephens Creek	32.71	259	P	P	06 09 35.2	+1.6
	2.7nm,1.0s,mb3.6,baz=111,slow=10,SNR=7.8						
ASAR	Alice Springs	41.53	269	P	P	06 10 45.9	-0.3
	0.7nm,0.7s,mb3.2,baz=104,slow=7.5,SNR=8.4						
WRA	Warramunga Arr	42.65	275	P	P	06 10 54.2	-0.8
	0.7nm,0.6s,mb3.3,baz=111,slow=8.1,SNR=7.0						
FINES	FINESS Array B	145.81	338	PKPbc	PKPbc	06 22 26.2	+2.9
	0.3nm,0.3s,baz=72,slow=4.4,SNR=4.3						

IDC 17 06:06:49.0±1.7, 9.70N×92.78E, mb3.7/3, mb1 4.0/4, mb1mx3.7/17, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=55.1km s-min=29.5km az=72.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.56	34	Pn	P	06 09 21.7	-3.0
	0.3nm,0.3s,baz=228,slow=14,SNR=7.0						
ZAL	Zalesovo	44.58	353	P	P	06 15 02.7	-1.8
	1.4nm,0.3s,baz=268,slow=2.0,SNR=3.3						
WRA	Warramunga Arr	50.41	126	P	P	06 15 46.5	-4.0
	0.3nm,0.6s,baz=307,slow=8.7,SNR=4.4						
ASAR	Alice Springs	52.11	130	P	P	06 16 02.9	-0.5
	0.5nm,0.7s,baz=297,slow=6.7,SNR=5.1						
PLCA	Paso Flores	145.74	203	PKPbc	PKPbc	06 26 29.6	-0.9
	1.0nm,0.9s,baz=141,slow=6.5,SNR=2.9						

SKHL 17 06:07:20.1±0.5, 55.24N×122.89E, h23km±2km, mb3.9/5, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUP	Tupik	1.89	246	ePn	Pn	06 07 52.9	+1.4
TUP				ePg	Pn	06 07 54.6	+3.1
TUP				AMB	AMB	06 07 57.0	
	49nm,0.2s						
TUP				eSg	Sn	06 08 20.1	+5.4
TUP				A		06 08 27.9	
	128nm,0.4s						
KROS	Kirovskiy	2.50	107	ePn	Pn	06 07 58.9	-1.3
KROS				ePg	Pn	06 08 05.0	+4.8
KROS				AMB	AMB	06 08 08.3	
	8.0nm,0.4s						
KROS				AMB	AMB	06 08 08.3	
	14nm,0.4s						
KROS				AMB	AMB	06 08 08.3	
	15nm,0.4s						
KROS				pPg		06 08 13.1	
KROS				eSn	Sn	06 08 30.5	+0.2
KROS				erx	rx	06 08 36.2	
KROS				i Sg	Sn	06 08 38.0	+7.7
KROS				A		06 08 39.9	
	170nm,0.3s						
KROS				A		06 08 39.9	
	190nm,0.3s						
KROS				A		06 08 39.9	
	140nm,0.3s						
ZEA	Zeya	2.96	119	erx	rx	06 08 09.1	
ZEA				ePg	Pn	06 08 14.5	+7.7
ZEA				AMB	AMB	06 08 15.6	
	20nm,0.3s						
ZEA				sPg		06 08 21.7	
ZEA				eSg	Sn	06 08 53.7	+12
ZEA				A		06 08 54.7	
	140nm,0.4s						
BMKR	Bomnak	3.47	96	ePn	Pn	06 08 12.4	-1.7
BMKR				pPn		06 08 19.5	
BMKR				ePg	Pn	06 08 22.6	+8.5
BMKR				AMB	AMB	06 08 23.1	
	8.0nm,0.4s						
BMKR				erx	rx	06 08 27.0	
BMKR				eSg	Sn	06 09 08.9	+14
BMKR				A		06 09 11.5	
	90nm,0.5s						
BMKR				A		06 09 11.5	
	44nm,0.5s						
YASR	Yasnyy	3.57	121	ePn	Pn	06 08 14.6	-0.9
YASR				i rx	rx	06 08 52.4	
YASR				erx	rx	06 09 09.5	
YASR				eSg	Sn	06 09 12.6	+15
YASR				A		06 09 16.6	
	16nm,0.5s						
YASR				A		06 09 16.6	
	56nm,0.5s						
EKMR	Ekimchan	6.30	106	ePn	Pn	06 08 51.1	-3.0
EKMR				AMB	AMB	06 08 51.5	
	3.0nm,0.5s						
EKMR				AMB	AMB	06 08 51.5	
	4.0nm,0.5s						
EKMR				eSg	Sn	06 10 37.5	+31
EKMR				A		06 10 46.7	
	9.0nm,0.5s						
EKMR				A		06 10 46.7	
	8.0nm,0.5s						
KLR	Kul'dur	8.11	134	eSg	Sn	06 11 36.2	+45

NEIC 17 06:08:33.1, 31.18S×68.64W, h18km, ML3.3(GUC), After GUC.

GUC 17 06:08:33.1±0.7, 31.18S×68.64W, h18km±73km, MD3.5, ML3.3, 1D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	2.24	227	eP	Pn	06 09 10.8	+0.8
JACH				i S	Sn	06 09 41.8	+4.4
CHNG	Los Chungos	2.54	253	eP	Pn	06 09 14.6	+0.2
CHNG				i S	Sn	06 09 45.9	+0.8
CHNG				AMP		06 09 54.5	
	comp=E,87nm,0.3s						
FCH	Farellones	2.56	213	eP	Pn	06 09 15.9	+1.3
FCH				AMP		06 09 56.3	
	comp=E,98nm,0.3s						
ROCH	El Roble	2.69	228	eP	Pn	06 09 16.9	+0.4
ROCH				i S	Sn	06 09 50.7	+1.7
CLCH	Cerro Calan	2.73	216	eP	Pn	06 09 17.8	+0.7
CLCH				i S	Sn	06 09 50.7	+0.7
PACH	Papudo	2.74	240	eP	Pn	06 09 17.2	0.0
PACH				i S	Sn	06 09 50.8	+0.6
DSCH	Colegio Aleman	2.75	216	i P	Pn	06 09 18.6	+1.3
DSCH				i S	Sn	06 09 52.8	+2.3
PCH	Pirque	2.91	213	eP	Pn	06 09 20.1	+0.5
RCDM	Rinconada Maip	2.95	218	eP	Pn	06 09 20.2	+0.1
RCDM				i S	Sn	06 09 55.0	-0.3
RCDM				AMP		06 10 00.1	
	comp=E,243nm,0.1s						
TACH	Talagante	3.14	218	eP	Pn	06 09 22.4	-0.5
CHCH	Chadas Angostu	3.23	211	i P	Pn	06 09 24.0	-0.1
CACH	El Canelo	3.37	209	eP	Pn	06 09 26.4	+0.3
CICH	Cipreses	3.47	205	eP	Pn	06 09 27.6	0.0
LNV	Longovilo	3.63	219⇓	iP	Pn	06 09 27.4	-2.4

IDC 17 06:22:34.0±1.0, 6.18S×152.75E, mb4.1/8, mb1 4.4/9, mb1mx4.3/15, mbtmp4.1/9, ML3.4/1, MS3.6/2, Ms1 3.5/2, ms1mx3.3/15, Error ellipse: s-maj=46.7km s-min=17.4km az=128.0

NEIC 17 06:22:38.9±2.6, 6.18S×152.65E, h36km±23km, mb4.7/12, Error ellipse: s-maj=22.6km s-min=11.7km az=118.0

ISC 17 06:22:38.0±3.7, 6.1S±0.1×152.6E±0.2, h39km±31km, n30, σ0^{s}92/31, mb4.4/18, MS3.5/1, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.29	238	Pn	P	06 24 10.6	0.0
	5.6nm,0.3s,baz=61,slow=6.0,SNR=12						
PMG				Sn	S	06 25 24.5	+2.3
	9.6nm,0.3s,baz=87,slow=20,SNR=7.6						
PMG	Port Moresby	6.29	238	ePn	P	06 24 09.6	-1.0
PMG				eSn	S	06 25 22.2	0.0
CTA	Charters Tower	15.19	203	LR	LR	06 31 11.7	
	comp=Z,198nm,20.7s,baz=43,slow=34						
CTAO	Charters Tower	15.19	203	P	P	06 26 15.6	+4.0
	17nm,1.4s						
KAKA	Kakadu	20.91	250	eP	P	06 27 19.3	-0.4
	23nm,0.6s						
WRAB	Tennant Creek	22.41	231	eP	P	06 27 34.5	-0.2
	19nm,1.2s,mb4.4						
WB2	Warramunga Arr	22.42	230	eP	P	06 27 34.5	-0.3
WRA	Warramunga Arr	22.43	231	P	P	06 27 35.1	+0.3
	2.9nm,0.6s,mb3.9,baz=56,slow=10,SNR=11						
ASAR	Alice Springs	25.05	224	P	P	06 28 00.9	+0.6
	2.4nm,0.7s,mb3.9,baz=54,slow=9.6,SNR=19						
ASPA	Alice Springs	25.05	224	eP	P	06 28 01.3	+0.9
STKA	Stephens Creek	27.61	200	P	P	06 28 22.9	-1.2
	2.9nm,0.7s,mb4.0,baz=37,slow=14,SNR=5.0						
STKA				LR	LR	06 39 10.6	
	comp=Z,116nm,19.1s,MS3.5,baz=23,slow=36						
STKA	Stephens Creek	27.61	200	eP	P	06 28 21.3	-2.8
STKA				LR	LR	06 39 10.6	
FITZ	Fitzroy Crossi	28.86	243	eP	P	06 28 34.5	-0.8
	14nm,0.6s,mb4.9						
MBWA	Marble Bar	35.14	242	P	P	06 29 29.3	-0.9
	20nm,1.2s,mb4.9						
CASY	Casey	66.70	197	P	P	06 33 19.9	-7.0
	75nm,1.9s,mb5.4						
SONM	Songino Array	67.31	328	P	P	06 33 32.0	+1.0
	1.2nm,1.0s,mb3.9,baz=153,slow=5.5,SNR=6.4						
BILL	Bilibino	74.61	5	eP	P	06 34 14.0	-0.6
	3.9nm,0.8s,mb4.4						
HYB	Hyderabad	76.71	289	eP	P	06 34 20.0	-7.6
HYB	Hyderabad	76.71	289	i P	P	06 34 20.0	-7.6
MCK	McKinley	82.15	23	eP	P	06 34 55.9	-0.1
	6.3nm,1.0s,mb4.5						
COLA	College	83.14	22	eP	P	06 34 59.1	-2.0
	7.6nm,0.9s,mb4.7						
ILAR	Eielson Array	83.45	22	P	P	06 35 02.2	-0.4
	3.9nm,0.9s,mb4.4,baz=256,slow=5.5,SNR=25						
QSPA	South Pole Qui	83.86	180	eP	P	06 35 04.5	+0.1
	6.8nm,1.0s,mb4.7						
KURK	Kurchatov	84.66	322	eP	P	06 35 09.5	+0.5
	4.5nm,1.0s,mb4.5						
AAK	Ala-Archa	85.40	314	P	P	06 35 12.6	-0.3
	3.0nm,0.9s,mb4.4						
INK	Inuvik	89.75	21	P	P	06 35 33.7	+0.4
	1.7nm,1.1s,mb4.3,baz=183,slow=2.3,SNR=4.3						
INK	Inuvik	89.75	21	P	P	06 35 33.7	+0.4
NVAR	Mina Array Bea	93.06	52	P	P	06 35 50.8	+1.5
	1.1nm,0.7s,mb4.4,baz=245,slow=5.6,SNR=9.6						
YKA	Yellowknife Ar	96.68	28	P	P	06 36 06.2	+1.1
	0.1nm,0.3s,mb3.7,baz=273,slow=4.9,SNR=5.4						
YKA	Yellowknife Ar	96.68	28	P	P	06 36 06.2	+1.1

FUNV 17 06:23:45.5, 11.20N×61.71W, h47km, MW2.9

NEIC 17 06:23:47.5, 11.27N×61.77W, h16km, MD3.4(TRN), After TRN.

TRN 17 06:23:47.5, 11.27N×61.77W, h17km, MD3.4

ISC 17 06:23:47.4±0.4, 11.21N±0.03×61.97W±0.03, h33km, n16, σ1^{s}37/33, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.62	204	eP	P	06 23 59.6	0.0
GUIV				eS	S	06 24 10.0	+1.5
TRN	Trinidad (W)	0.79	135⇑	iP	P	06 24 01.4	-0.7
TRN				eS	S	06 24 11.5	-1.3
GRW	Mount Saint Ca	0.99	18⇑	iP	P	06 24 05.5	+0.5
GRW				eS	S	06 24 20.9	+3.0
TPP	Pointe-a-Pierr	1.02	150	eP	P	06 24 07.4	+1.9
TPP				eS	S	06 24 20.1	+1.2
GRHS	Sauteurs	1.05	17	eP	P	06 24 04.9	-1.0
GRHS				eS	S	06 24 18.8	-0.8
GRHS				eS	S	06 24 20.4	+0.9
TBH	Brigand Hill	1.14	129⇓	iP	P	06 24 08.8	+1.7
TBH				eS	S	06 24 21.6	-0.2
ITEV	Isla Los Testi	1.15	277	eP	P	06 24 08.2	+0.9
ITEV				eS	S	06 24 24.9	+2.8
BOT	Bacolet	1.22	92	eP	P	06 24 08.6	+0.4
BOT				eS	S	06 24 22.1	-1.8
CRUV	Carupano	1.36	247	eP	P	06 24 10.4	+0.1
CRUV				eS	S	06 24 28.9	+1.6
GUNV	Guanoco	1.42	223	eP	P	06 24 11.0	-0.2
GUNV				eS	S	06 24 29.4	+0.6
IBAV	Isla La Blanqu	2.63	284	eP	P	06 24 27.9	-0.5
IBAV				eS	S	06 24 59.4	-0.2
PCRV	Puerto La Cruz	2.82	249	eP	P	06 24 29.9	-1.3
PCRV				eS	S	06 25 02.6	-1.8
MERV	Las Mercedes	4.69	246	eP	P	06 24 55.3	-2.5
MERV				eS	S	06 25 47.1	-4.6
LUEV	Luepa	5.36	175	eP	P	06 25 01.3	-5.9
LUEV				eS	S	06 25 56.6	-12
CAOV	Caicara del Or	5.78	228	eP	P	06 25 09.3	-3.8
CAOV				eS	S	06 26 11.4	-7.7
BAUV	El Baul	6.39	250	eP	P	06 25 18.2	-3.5
BAUV				eS	S	06 26 26.9	-7.6

NEIC 17 06:29:42.6±0.9, 15.64S×177.60W, h395km±9km, mb4.3/17, Error ellipse: s-maj=13.4km s-min=6.3km az=139.0

BJI 17 06:29:44.0, 15.60S×177.60W, h394km, mB4.5, mb4.0

IDC 17 06:29:49.2±2.6, 16.05S×177.36W, h471km±30km, mb3.7/13, mb1 3.9/13, mb1mx3.8/19, mbtmp4.5/13, Error ellipse: s-maj=27.6km s-min=11.4km az=152.0

ISC 17 06:29:41.1±1.0, 15.7S±0.1×177.61W±0.09, h392km±11km, n90, σ0^{s}90/47, mb4.1/27, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.91	74	ePn	P	06 31 14.3	+1.4
AFI				eSn	S	06 32 23.8	-1.3
URZ	Urewera	22.98	191	P	P	06 34 13.1	-1.4
	13nm,0.7s,mb4.5,baz=86,slow=1.8,SNR=6.1						
CTA	Charters Tower	34.63	257⇑	iP	P	06 36 00.6	+3.9
	8.4nm,0.6s,mb4.2						
CTA	Charters Tower	34.63	257	P	P	06 36 00.8	+4.1
	10nm,0.6s,mb4.3,baz=85,slow=11,SNR=18						
CTAO	Charters Tower	34.63	257	eP	P	06 36 00.5	+3.8
	16nm,0.8s,mb4.4						
PMG	Port Moresby	34.91	276	P	P	06 36 04.0	+4.9
	11nm,0.6s,mb4.4,baz=131,slow=3.5,SNR=6.0						
PMG	Port Moresby	34.91	276	eP	P	06 36 03.9	+4.8
	13nm,0.7s,mb4.4						
STKA	Stephens Creek	40.40	239	P	P	06 36 45.2	+0.9
	5.3nm,0.6s,mb4.0,baz=86,slow=8.3,SNR=14						
STKA	Stephens Creek	40.40	239	eP	P	06 36 44.8	+0.5
WB2	Warramunga Arr	45.82	257	eP	P	06 37 27.4	-0.2
WRAB	Tennant Creek	45.82	257	eP	P	06 37 27.5	-0.1
	9.2nm,0.9s,mb4.1						
WRA	Warramunga Arr	45.83	257	P	P	06 37 28.0	+0.3
	1.5nm,0.3s,mb3.8,baz=88,slow=8.4,SNR=25						
WRA				PcP	PcP	06 38 57.3	-0.7
	1.0nm,0.6s,baz=86,slow=3.3,SNR=4.6						
ASAR	Alice Springs	46.17	252	P	P	06 37 30.8	+0.5
	39nm,0.6s,mb5.0,baz=86,slow=8.1,SNR=171						
ASAR				S	S	06 43 43.8	-2.3
	1.2nm,0.9s,baz=82,slow=16,SNR=4.2						
ASPA	Alice Springs	46.17	252	eP	P	06 37 30.6	+0.3
ASPA				i		06 37 34.0	
KAKA	Kakadu	48.43	267	eP	P	06 37 52.5	+4.8
	9.4nm,0.3s,mb4.6						
FORT	Forrest	51.68	243	eP	P	06 38 11.1	-0.7
	620nm,0.6s						
FITZ	Fitzroy Crossi	54.18	259	eP	P	06 38 35.0	+4.9
	26nm,1.9s,mb4.1						
MBWA	Marble Bar	59.38	254	eP	P	06 39 09.7	+3.7
	13nm,1.0s,mb4.2						
SBA	Scott Base	62.69	184	eP	P	06 39 27.8	+0.7
	8.5nm,1.0s,mb4.2						
VNDA	Vanda	62.73	185	P	P	06 39 27.0	-0.4
	11nm,1.6s,mb4.1						
QSPA	South Pole Qui	74.37	180⇑	iP	P	06 40 38.0	+0.1
	10.0nm,0.8s,mb4.5						
CMB	Columbia Colle	75.69	43	eP	P	06 40 45.3	-0.8
	3.3nm,0.9s,mb4.0						
MDJ	Mudanjiang	76.81	324	P	P	06 40 53.8	+1.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,2.2s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,145nm,6.4s						
NVAR	Mina Array Bea	77.29	44	P	P	06 40 55.5	+0.5
	comp=Z,3.1nm,0.8s,mb4.0,baz=220,slow=7.4,SNR=21						
NVAR	Mina Array Bea	77.29	44	P	P	06 40 55.5	+0.5
CN2	Changchun	78.73	322	eP	P	06 41 01.1	-1.4
MSU	Marysvale	81.50	46	eP	P	06 41 18.3	+1.1
MCK	McKinley	82.20	12	eP	P	06 41 18.6	-1.5
	comp=Z,2.0nm,0.9s,mb3.9						
TMUT	Trail Mountain	82.53	46	eP	P	06 41 23.4	+1.0
NEW	Newport	83.26	36	P	P	06 41 25.6	-0.3
COLA	College	83.44	12	eP	P	06 41 25.0	-1.4
	comp=Z,6.2nm,0.7s,mb4.5						
DLBC	Dease Lake	83.48	23	P	P	06 41 27.2	+0.5
	comp=Z,1.4nm,0.8s,mb3.8,baz=167,slow=14,SNR=3.9						
ILAR	Eielson Array	83.55	13	P	P	06 41 26.4	-0.6
	comp=Z,2.1nm,0.5s,mb4.2,baz=244,slow=4.0,SNR=33						
PV10	Paradox Valley	83.65	47	eP	P	06 41 28.2	+0.1
MCMT	McKenzie Canyo	84.05	40	eP	P	06 41 30.6	+0.7
ANMO	Albuquerque	84.11	51	eP	P	06 41 30.7	+0.2
	comp=Z,2.9nm,0.9s,mb4.0						
TXAR	Lajitas Array	84.16	58	P	P	06 41 32.0	+1.2
	comp=Z,3.1nm,0.8s,mb4.1,baz=220,slow=7.1,SNR=35						
BILL	Bilibino	84.30	354	eP	P	06 41 30.4	-0.2
	comp=Z,7.9nm,0.9s,mb4.4						
DAWY	Dawson	84.74	16	eP	P	06 41 32.8	-0.1
PDAR	Pinedale Array	85.21	43	P	P	06 41 35.6	0.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=193,slow=3.3,SNR=7.0						
SDCO	Great Sand Dun	85.93	49	eP	P	06 41 39.3	+0.1
	comp=Z,1.6nm,0.9s,mb3.8						
INK	Inuvik	89.54	15	P	P	06 41 55.3	-0.2
	comp=Z,0.6nm,0.8s,mb3.5,baz=132,slow=10.0,SNR=4.9						
INK	Inuvik	89.54	15	eP	P	06 41 55.0	-0.5
	comp=Z,1.0nm,0.9s,mb3.6						
YKA	Yellowknife Ar	91.99	24	P	P	06 42 06.8	-0.2
	comp=Z,0.9nm,0.6s,mb3.9,baz=244,slow=4.4,SNR=20						
YKA	Yellowknife Ar	91.99	24	P	P	06 42 06.8	-0.2
ARCES	ARCESS Array B	124.25	350	PKP	PKPdf	06 47 53.6	+0.1
	comp=Z,3.8nm,0.8s,baz=23,slow=0.8,SNR=22						
FINES	FINESS Array B	131.25	345	PKP	PKPdf	06 48 07.8	+0.8
	comp=Z,0.3nm,0.3s,SNR=5.1						
CLL	Collm	143.44	349	ePKIKP	PKPdf	06 48 30.0	+0.7
BRTR	Keskin Array B	143.71	317	PKP	PKPdf	06 48 30.5	+0.4
	comp=Z,8.6nm,0.8s,baz=90,slow=2.5,SNR=41						
KECS	Kecovo	144.06	339	ePKP	PKPdf	06 48 31.6	+1.2
MLR	Muntele Rosu	144.28	331	PKP	PKPdf	06 48 32.8	+1.9
	comp=Z,5.4nm,0.5s,baz=283,slow=4.1,SNR=5.2						
MLR	Muntele Rosu	144.28	331	PKP	PKPdf	06 48 32.8	+1.9
PRU	Pruhonice	144.38	347	ePKP	PKPdf	06 48 31.9	+1.0
VYHS	Vyhne	144.59	341	ePKP	PKPdf	06 48 33.1	+1.8
TNS	Taunus Mts	145.19	353	ePKP	PKPdf	06 48 34.5	+2.2
GRA1	Grafenberg Arr	145.31	350	ePKP	PKPdf	06 48 35.5	+3.0
GRF	Grafenberg Arr	145.31	350	ePKP	PKPdf	06 48 35.5	+3.0
KHC	Kasperske Hory	145.40	347	ePKP	PKPdf	06 48 34.0	+1.3
GEC2	GERESS Array S	145.64	347	ePKP	PKPdf	06 48 35.8	+2.7
GERES	GERESS Array B	145.64	347	PKPbc	PKPbc	06 48 35.7	+1.4
	comp=Z,1.9nm,0.5s,baz=27,slow=3.0,SNR=14						
FLN	La Foliniere	146.91	3	ePKP1	PKPbc	06 48 38.7	+1.4
	comp=Z,33nm,0.8s						

EIL	**Elat**	**147.01**	**301**	*e*PKPbc	PKPdf	06 48 39.6	+3.5
BFO	**Black Forest**	**147.07**	**353**	*e*PKP	PKPdf	06 48 39.6	+4.1
ROSF	**Rostrenen**	**147.09**	**7**	*e*PKP1	PKPdf	06 48 39.0	+3.4
	comp=Z,12nm,0.7s						
CDF	**Champ du Feu**	**147.10**	**354**	*e*PKP1	PKPdf	06 48 39.7	+4.1
LDF	**La Druitiere**	**147.10**	**3**	*e*PKP1	PKPdf	06 48 39.2	+3.6
	comp=Z,5.2nm,0.5s						
SGMF	**Saint Gilles**	**147.25**	**6**	*e*PKP1	PKPdf	06 48 39.6	+3.8
	comp=Z,23nm,0.6s						
GRR	**Gorron**	**147.26**	**4**	*e*PKP1	PKPdf	06 48 39.9	+4.1
	comp=Z,20nm,0.5s						
HAU	**Haudompre**	**147.59**	**355**	*e*PKP1	PKPdf	06 48 41.2	+4.8
HINF	**Hinteralfeld**	**147.73**	**354**	*e*PKP1	PKPdf	06 48 41.1	+4.5
SSF	**Saint Saulge**	**148.69**	**359**	*e*PKP1	PKPdf	06 48 44.0	+5.8
	comp=Z,19nm,0.9s						
AVF	**Avril sur Loir**	**148.96**	**359**	*e*PKP1	PKPdf	06 48 44.2	+5.6
	comp=Z,4.2nm,0.5s						
CABF	**La Chapelle**	**149.00**	**355**	*e*PKP1	PKPdf	06 48 45.3	+6.6
	comp=Z,22nm,0.9s						
SMF	**Signal de Mont**	**149.09**	**358**	*e*PKP1	PKPdf	06 48 44.6	+5.8
BGF	**Bois d'Agland**	**149.20**	**359**	*e*PKP1	PKPdf	06 48 45.1	+6.1
TCF	**Toulx Ste Croi**	**149.47**	**0**	*e*PKP1	PKPdf	06 48 45.6	+6.1
LPL	**La Plagne**	**150.02**	**354**	*e*PKP1	PKPdf	06 48 48.1	+7.8
	comp=Z,16nm,0.8s						
LPG	**La Plagne**	**150.04**	**354**	*e*PKP1	PKPdf	06 48 48.2	+7.8
	comp=Z,20nm,0.9s						
RJF	**Les Rejaudoux**	**150.45**	**1**	*e*PKP1	PKPdf	06 48 48.0	+7.0
BNI	**Bardonecchia**	**150.49**	**354**	*e*PKPbc	PKPdf	06 48 48.9	+7.8
ORIF	**Oris-en-Rattie**	**150.70**	**355**	*e*PKP1	PKPdf	06 48 49.0	+7.6
	comp=Z,9.1nm,0.7s						
LFF	**La Frestale**	**150.79**	**2**	*e*PKP1	PKPdf	06 48 48.8	+7.3
MBDF	**Montbardon**	**150.80**	**354**	*e*PKP1	PKPdf	06 48 49.3	+7.8
	comp=Z,16nm,0.6s						
CAF	**Calviac**	**150.84**	**0**	*e*PKP1	PKPdf	06 48 49.1	+7.5
	comp=Z,8.3nm,0.6s						
VIVF	**Saint-Julien-l**	**150.84**	**357**	*e*PKP1	PKPdf	06 48 49.4	+7.8
	comp=Z,7.8nm,0.7s						
SBF	**Sospel**	**151.57**	**352**	*e*PKP1	PKPdf	06 48 50.3	+7.6
SMRF	**Simiane la Rot**	**151.66**	**355**	*e*PKP1	PKPdf	06 48 51.5	+8.7
	comp=Z,12nm,0.8s						
LASF	**Ste Croix**	**151.66**	**358**	*e*PKP1	PKPdf	06 48 51.2	+8.4
PGF	**Pioggiola**	**152.62**	**349**	*e*PKP1	PKPdf	06 48 52.8	+8.6
	comp=Z,9.5nm,1.0s						
ETSF	**Etsaut**	**152.75**	**5**	*e*PKP1	PKPdf	06 48 53.6	+9.2

*IDC **17** 06:56:16.3±0.4, 15.75S×172.02W, mb4.9/21, mb1 5.1/22, mb1mx5.1/24, mbtmp5.0/22, ML5.4/1, MS4.5/18, Ms1 4.5/18, ms1mx4.3/27, Error ellipse: s-maj=19.3km s-min=11.0km az=132.0*

*NEIC **17** 06:56:19.4±2.1, 15.82S×172.04W, h22km±14km, mb5.2/46, MS5.0/85, Error ellipse: s-maj=6.6km s-min=3.3km az=141.0*

NEIC Felt at Pago Pago, American Samoa. Also felt in parts of Western Samoa.

*HRVD **17** 06:56:19.4±0.2, 16.02S×171.58W, h46km±2km, MW5.2/65, Centroid moment Tensor Solution. LP body waves: s52,c88;Mantle waves: s65,c119; Half duration: 1.0s Moment tensor: Scale 10^{16}Nm; M_{rr}3.64±.23; $M_{\theta\theta}$0.46±.20; $M_{\phi\phi}$-4.10±.20; $M_{r\theta}$3.10±.18; $M_{\theta\phi}$0.36±.14; $M_{\phi r}$-6.56±.28; Best double couple: $M_0$8.241×10^{16} NP1:ϕ_s14°,δ17°,λ126°. NP2:ϕ_s157°,δ77°,λ80°. Principal axes: T 8.222, Plg57°, Azm54°; N .035, Plg10°, Azm160°; P -8.259, Plg31°, Azm255°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **17** 06:56:19.3, 15.80S×172.00W, h21km, mB5.6, mb4.9, Ms5.3, Msz4.6*

*MOS **17** 06:56:21.5±1.5, 15.40S×172.29W, h33km, mb5.2/4, Error ellipse: s-maj=24.3km s-min=21.6km az=118.5*

ISC 17 06:56:17.1±3.2**, 15.84S**±0.05×**172.05W**±0.04**, h17**km±22km**, h21**km±2.8km**:pP-P, n322,** σ0.71/178**, mb5.1**/69**, MS4.8**/104**, 7C-3D, Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.94**	**8**	*e*Pn	**Pn**	**06 56 49.9**	**+0.2**
AFI				*e*Sn	**Sn**	**06 57 08.6**	**-5.3**
RAR	**Rarotonga**	**12.81**	**116**	Pn	**P**	**06 59 15.0**	**-6.3**
	22nm,0.3s,baz=261,slow=7.7,SNR=44						
RAR				Sn	**S**	**07 01 27.7**	**-17**
	14nm,0.3s,baz=355,slow=22,SNR=6.2						
RAR				LR	LR	07 02 48.1	
	comp=Z,2μm,21.5s,baz=304,slow=30						
RAR	**Rarotonga**	**12.81**	**116**	*e*P	**P**	**06 59 14.2**	**-7.1**
RAR				*e*S	S	07 01 24.6	-20
PAE	**Paea**	**21.59**	**98**	*e*P	**P**	**07 01 08.0**	**-0.2**
	117nm,1.0s,mb5.3						
PPT	**Papeete**	**21.59**	**98**	*e*P	**P**	**07 01 08.2**	**-0.1**
	85nm,1.1s,mb5.1						
PPT	**Papeete**	**21.59**	**98**	*e*LQ		07 05 06.8	
PPT				*e*LR	LR	07 05 42.9	
	4μm,26.8s,baz=268						
PPT	**Papeete**	**21.59**	**98**	P	**P**	**07 01 09.0**	**+0.7**
	66nm,0.9s,mb5.1,baz=79,slow=1.9,SNR=6.2						
TIAR	**Tiarei**	**21.81**	**98**	*e*P	**P**	**07 01 10.3**	**-0.2**
	127nm,0.9s,mb5.3						
TVO	**Taravao**	**21.91**	**98**	*e*P	**P**	**07 01 11.3**	**-0.1**
	120nm,0.9s,mb5.3						
TBI	**Tubuai**	**22.53**	**113**	*e*P	**P**	**07 01 18.1**	**+0.4**
	193nm,1.1s,mb5.4						
TBI				*e*LQ		07 05 30.5	
TBI				*e*LR	LR	07 06 14.6	
	4μm,27.8s,baz=288						
PMOR	**Pomariorio Ree**	**23.30**	**91**	*e*P	**P**	**07 01 25.0**	**-0.2**
	142nm,1.3s,mb5.2						
MWZ	**Matawai**	**24.22**	**200**	PN	**P**	**07 01 40.4**	**+6.5**
MWZ	**Matawai**	**24.22**	**200**	PN	**P**	**07 01 40.4**	**+6.5**
URZ	**Urewera**	**24.29**	**201**	P	**P**	**07 01 35.2**	**+0.5**
	6.1nm,0.4s,mb4.4,baz=153,slow=22,SNR=3.9						
URZ				S	**S**	**07 05 59.5**	**+10**
	14nm,0.7s,baz=241,slow=22,SNR=7.2						
URZ	**Urewera**	**24.29**	**201**	PN	**P**	**07 01 39.7**	**+5.0**
URZ	**Urewera**	**24.29**	**201**	PN	**P**	**07 01 39.7**	**+5.0**
BKZ	**Black Stump Fm**	**25.32**	**201**	PN	**P**	**07 01 50.0**	**+5.5**
BKZ	**Black Stump Fm**	**25.32**	**201**	PN	**P**	**07 01 50.0**	**+5.5**
HNR	**Honiara**	**28.04**	**280**	PFAKE		07 02 20.0	+10
HNR				LR	LR		
	comp=Z,1μm,22.0s,MS4.5						
RPZ	**Rata Peaks**	**31.29**	**204**	P	**P**	**07 02 44.3**	**+5.9**
	comp=Z,15nm,0.5s,mb5.1,baz=6.1,slow=4.8,SNR=10						
RKT	**Rikitea**	**35.62**	**108**	*e*LR	LR	07 12 16.0	
	comp=Z,2μm,28.0s,baz=278						
CNB	**Canberra Magne**	**39.52**	**233**	*e*P	**P**	**07 03 49.5**	**+0.7**
	comp=Z,2μm,1.6s						
CTA	**Charters Tower**	**39.81**	**258**	*e*P	**P**	**07 03 52.2**	**+0.8**
	comp=Z,9.7nm,1.5s,mb4.3						
CTA	**Charters Tower**	**39.81**	**258**	P	**P**	**07 03 52.1**	**+0.7**
	comp=Z,4.8nm,0.6s,mb4.4,baz=80,slow=9.1,SNR=7.9						
CTA				LR	LR	07 18 15.2	
	comp=Z,562nm,20.2s,MS4.4,baz=58,slow=33						
CTAO	**Charters Tower**	**39.81**	**258**	*e*P	**P**	**07 03 52.1**	**+0.8**
	comp=Z,43nm,1.4s,mb5.0						
CTAO				LR	LR		
	comp=Z,939nm,21.0s,MS4.6						
PMG	**Port Moresby**	**40.26**	**274**	*i* P	**P**	**07 03 55.0**	**-0.1**
PMG	**Port Moresby**	**40.26**	**274**	P	**P**	**07 03 56.3**	**+1.2**
	comp=Z,11nm,0.8s,mb4.7,baz=150,slow=10,SNR=3.7						
PMG	**Port Moresby**	**40.26**	**274**	*e*P	**P**	**07 03 55.4**	**+0.3**
	comp=Z,22nm,1.0s,mb4.8						
PMG				LR	LR		
	comp=Z,341nm,21.0s,MS4.2						
WAKE	**Wake Island**	**40.71**	**328**	PFAKE		07 04 10.0	+11
WAKE				LR	LR		
	comp=Z,23μm,21.0s						
TOO	**Toolangi**	**43.20**	**232**	*e*P	**P**	**07 04 19.4**	**+0.4**
	comp=Z,2.4nm,1.3s						
TAU	**Tasmania Unive**	**43.89**	**224**	*e*P	**P**	**07 04 24.5**	**+0.1**
	comp=Z,58nm,1.3s,mb5.2						
MIDW	**Midway**	**44.10**	**353**	PFAKE		07 04 40.0	+14
MIDW				LR	LR		
	comp=Z,3μm,22.0s,MS5.1						
STKA	**Stephens Creek**	**44.95**	**241**	P	**P**	**07 04 33.6**	**+0.4**
	comp=Z,58nm,1.0s,mb5.3,baz=79,slow=7.9,SNR=47						
STKA				LR	LR	07 20 57.0	
	comp=Z,378nm,18.7s,MS4.3,baz=267,slow=33						
STKA	**Stephens Creek**	**44.95**	**241**	*e*P	**P**	**07 04 33.4**	**+0.2**
WB2	**Warramunga Arr**	**51.00**	**257**	*e*P	**P**	**07 05 19.8**	**-0.6**
WRAB	**Tennant Creek**	**51.00**	**257**	P	**P**	**07 05 20.9**	**+0.5**
	comp=Z,428nm,1.7s,mb6.1,SNR=24						
WRAB	**Tennant Creek**	**51.00**	**257**	*d i*P	**P**	**07 05 19.8**	**-0.6**
WRAB	**Tennant Creek**	**51.00**	**257**	*e*P	**P**	**07 05 20.1**	**-0.3**
	comp=Z,387nm,1.5s,mb6.1						
WRAB				LR	LR		
	comp=Z,420nm,21.0s,MS4.4						
WRA	**Warramunga Arr**	**51.01**	**257**	P	**P**	**07 05 19.9**	**-0.6**
	comp=Z,46nm,1.1s,mb5.3,baz=90,slow=7.1,SNR=117						
ASAR	**Alice Springs**	**51.21**	**252**	P	**P**	**07 05 21.6**	**-0.4**
	comp=Z,124nm,1.0s,mb5.8,baz=85,slow=8.1,SNR=273						
ASAR				LR	LR	07 25 53.6	
	comp=Z,549nm,19.4s,MS4.6,baz=90,slow=35						
ASPA	**Alice Springs**	**51.22**	**252**	⇓*i*P	**P**	**07 05 21.5**	**-0.5**
GUMO	**Guam**	**51.67**	**302**	PFAKE		07 05 40.0	+14
GUMO				LR	LR		
	comp=Z,998nm,19.0s,MS4.9						
KAKA	**Kakadu**	**53.76**	**266**	*e*P	**P**	**07 05 41.3**	**+0.1**
	comp=Z,31nm,0.8s,mb5.3						
FORT	**Forrest**	**56.38**	**243**	*e*P	**P**	**07 06 00.0**	**0.0**
	comp=Z,2μm,1.3s						
FITZ	**Fitzroy Crossi**	**59.39**	**258**	*e*P	**P**	**07 06 21.1**	**-0.2**
CBIJ	**Chichi jima**	**61.60**	**313**	LR	LR	07 28 04.8	
	comp=Z,186nm,19.8s,MS4.2,baz=71,slow=31						
SBA	**Scott Base**	**62.92**	**185**	*e*P	**P**	**07 06 44.4**	**0.0**
	comp=Z,9.6nm,0.8s,mb5.0						
VNDA	**Vanda**	**63.08**	**186**	P	**P**	**07 06 44.7**	**-0.7**
	comp=Z,2.2nm,0.8s,mb4.3,baz=356,slow=6.1,SNR=8.9						
VNDA				LR	LR	07 30 36.9	
	comp=Z,188nm,18.3s,MS4.3,baz=22,slow=33						
VNDA	**Vanda**	**63.08**	**186**	*e*P	**P**	**07 06 44.5**	**-0.9**
	comp=Z,28nm,1.5s,mb5.2						
VNDA				*e*		07 06 54.9	
MBWA	**Marble Bar**	**64.49**	**254**	*e*P	**P**	**07 06 54.0**	**-1.5**
	comp=Z,135nm,1.6s,mb5.7						
MBWA				LR	LR		
	comp=Z,789nm,21.0s,MS4.9						
KLBR	**Kellerberrin**	**65.18**	**242**	*e*P	**P**	**07 06 59.6**	**-0.3**
	comp=Z,267nm,0.8s						
NWAO	**Narrogin (SRO)**	**65.54**	**241**	P	**P**	**07 07 00.1**	**-2.0**
	comp=Z,46nm,1.4s,mb5.3						
NWAO				LR	LR		
	comp=Z,376nm,20.0s,MS4.6						
MUN	**Mundaring**	**66.47**	**242**	*e*P	**P**	**07 07 08.4**	**+0.3**
	comp=Z,20nm,1.3s,mb5.0						
MAJO	**Matsushiro**	**70.12**	**319**	PFAKE		07 07 40.0	+9.3
MAJO				LR	LR		
	comp=Z,320nm,22.0s,MS4.5						
SAO	**San Andreas Ge**	**70.80**	**41**	*e*P	**P**	**07 07 34.5**	**-0.4**
	comp=Z,25nm,1.0s,mb5.1						
SAO				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
ERM	**Erimo**	**70.84**	**326**	PFAKE		07 07 50.0	+15
ERM				LR	LR		
	comp=Z,5.0nm,20.0s						
LRV	**Little Rabbit**	**70.86**	**42**	*e*P	**P**	**07 07 35.4**	**+0.2**
NSHM	**Saint Helena R**	**71.17**	**39**	*e*P	**P**	**07 07 36.7**	**-0.4**
HOPS	**Hopland**	**71.20**	**38**	PFAKE		07 07 50.0	+13
HOPS				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
CMB	**Columbia Colle**	**72.24**	**41**	*e*P	**P**	**07 07 42.9**	**-0.6**
	comp=Z,18nm,1.0s,mb5.0						
CMB				LR	LR		
	comp=Z,872nm,20.0s,MS5.0						
OMM	**Old Mammoth Mi**	**72.87**	**42**	*e*P	**P**	**07 07 46.7**	**-0.6**
DAC	**Darwin (Calif)**	**73.00**	**43**	PFAKE		07 08 00.0	+12
DAC				LR	LR		
	comp=Z,774nm,20.0s,MS5.0						
PET	**Petropavlovsk**	**73.09**	**342**	*e*P	**P**	**07 07 58.6**	**+10**
YBH	**Yreka Blue Hor**	**73.17**	**36**	P	**P**	**07 07 49.3**	**+0.4**
	comp=Z,19nm,0.8s,mb5.1,baz=188,slow=0.9,SNR=42						
YBH	**Yreka Blue Hor**	**73.17**	**36**	*e*P	**P**	**07 07 49.0**	**+0.1**
	comp=Z,25nm,0.9s,mb5.2						
YBH				LR	LR		
	comp=Z,934nm,22.0s,MS5.0						
HUMO	**Hull Mountain**	**73.60**	**36**	PFAKE		07 08 00.0	+8.6
HUMO				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
NVAR	**Mina Array Bea**	**73.79**	**41**	P	**P**	**07 07 52.6**	**0.0**
	comp=Z,10nm,0.8s,mb4.8,baz=220,slow=8.9,SNR=70						
NVAR				LR	LR	07 35 18.7	
	comp=Z,716nm,18.5s,MS5.0,baz=180,slow=32						
MNV	**Mina**	**73.89**	**41**	*e*P	**P**	**07 07 52.4**	**-0.8**
	comp=Z,52nm,1.4s,mb5.3						
MNV				LR	LR		
	comp=Z,861nm,19.0s,MS5.1						
LDFC	**Landfair**	**74.01**	**46**	*e*P	**P**	**07 07 53.7**	**-0.2**
QSPA	**South Pole Qui**	**74.21**	**180**	*e*P	**P**	**07 07 53.9**	**-0.3**
	comp=Z,23nm,0.8s,mb5.2						
TPH	**Tonopah**	**74.28**	**42**	*e*P	**P**	**07 07 54.9**	**-0.6**
	comp=Z,57nm,1.3s,mb5.3						
TPH				LR	LR		
	comp=Z,769nm,19.0s,MS5.0						
YSS	**Yuzh-Sakhalins**	**74.51**	**330**	*e*P	**P**	**07 07 56.9**	**+0.3**
YSS				*e*		07 08 08.0	
MOD	**Modoc**	**74.67**	**37**	PFAKE		07 08 10.0	+12
MOD				LR	LR		
	comp=Z,924nm,20.0s,MS5.1						
COR	**Corvallis**	**74.71**	**34**	PFAKE		07 08 10.0	+12
COR				LR	LR		
	comp=Z,1μm,20.0s,MS5.1						
KDAK	**Kodiak Island**	**75.10**	**11**	*e*P	**P**	**07 07 59.1**	**-0.7**
	comp=Z,86nm,1.2s,mb5.6						
KDAK				LR	LR		
	comp=Z,173nm,20.0s,MS4.3						
BMN	**Battle Mountai**	**75.64**	**40**	*e*P	**P**	**07 08 02.9**	**-0.3**
	comp=Z,19nm,0.9s,mb5.0						
BMN				*e*		07 08 15.7	
BMN				LR	LR		
	comp=Z,870nm,20.0s,MS5.1						
TUC	**Tucson**	**75.67**	**50**	*e*P	**P**	**07 08 03.5**	**0.0**
	comp=Z,50nm,1.5s,mb5.2						
TUC				*e*		07 08 14.8	
TUC				LR	LR		
	comp=Z,564nm,19.0s,MS4.9						
WVOR	**Wild Horse Val**	**75.97**	**38**	PFAKE		07 08 20.0	+15
WVOR				LR	LR		
	comp=Z,1μm,20.0s,MS5.2						
CROR	**Criterion Ridg**	**76.22**	**35**	P	**P**	**07 08 06.6**	**+0.2**
ARUT	**Antelope Range**	**76.60**	**44**	*e*P	**P**	**07 08 09.7**	**+1.0**
WUAZ	**Wupatki**	**76.84**	**47**	*e*P	**P**	**07 08 10.6**	**+0.6**
	comp=Z,44nm,1.4s,mb5.2						
WUAZ				LR	LR		
	comp=Z,978nm,20.0s,MS5.1						
ELK	**Elko**	**77.06**	**41**	LR	LR	07 34 38.8	
	comp=Z,732nm,21.2s,MS5.0,baz=69,slow=30						
ELK	**Elko**	**77.06**	**41**	*e*P	**P**	**07 08 10.6**	**-0.6**
	comp=Z,15nm,1.0s,mb4.9						
ELK				*e*		07 08 21.7	
ELK				LR	LR		
	comp=Z,864nm,19.0s,MS5.1						
TTW	**Tolt Reservoir**	**77.60**	**32**	P	**P**	**07 08 14.2**	**+0.3**
JCW	**Jim Creek**	**77.80**	**32**	P	**P**	**07 08 15.6**	**+0.5**
SVW2	**Sparrevohn**	**77.80**	**8**	*e*P	**P**	**07 08 14.3**	**-0.5**
MVU	**Marysvale**	**77.80**	**44**	*e*P	**P**	**07 08 16.1**	**+0.8**
	comp=Z,31nm,1.1s,mb5.2						
MVU				LR	LR		
	comp=Z,711nm,22.0s,MS5.0						
MSU	**Marysvale**	**77.83**	**44**	*e*P	**P**	**07 08 15.7**	**+0.2**
REDWA	**Red Mountain**	**77.89**	**34**	P	**P**	**07 08 16.0**	**+0.4**
GBB	**Gable Butte**	**77.98**	**34**	P	**P**	**07 08 16.5**	**+0.4**
GBL	**Gable Mountain**	**78.07**	**34**	P	**P**	**07 08 17.1**	**+0.5**
BMO	**Blue Mountains**	**78.20**	**36**	*e*P	**P**	**07 08 16.9**	**-0.4**
	comp=Z,18nm,1.0s,mb4.9						
BMO				*e*		07 08 29.2	
BMO				LR	LR		
	comp=Z,833nm,20.0s,MS5.1						
ETW	**Entiat**	**78.24**	**33**	P	**P**	**07 08 17.9**	**+0.4**
DUG	**Dugway**	**78.30**	**42**	*e*P	**P**	**07 08 17.5**	**-0.5**
	comp=Z,31nm,1.3s,mb5.1						
DUG				LR	LR		
	comp=Z,644nm,19.0s,MS5.0						
KSM	**Kuching**	**78.52**	**275**	*e*P	**P**	**07 08 21.7**	**+1.9**
FIB	**Fire Island**	**78.71**	**11**	*e*P	**P**	**07 08 20.1**	**+0.3**
FIB				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
TMUT	**Trail Mountain**	**78.89**	**44**	*e*P	**P**	**07 08 22.2**	**+1.0**
EYAK	**Cordova Ski Ar**	**79.01**	**13**	*e*P	**P**	**07 08 21.0**	**-0.4**
HLID	**Hailey**	**79.15**	**39**	*e*P	**P**	**07 08 22.6**	**+0.1**
	comp=Z,31nm,1.1s,mb5.2						
HLID				LR	LR		
	comp=Z,853nm,21.0s,MS5.1						
HVU	**Hansel Valley**	**79.18**	**41**	*e*P	**P**	**07 08 22.7**	**-0.1**
SRU	**San Rafael**	**79.25**	**44**	*e*P	**P**	**07 08 23.4**	**+0.2**
SRU				*e*		07 08 35.5	
SSE	**Sheshan**	**79.26**	**307**	*e*P	**P**	**07 08 21.9**	**-1.5**
SSE				AP	pP	07 08 31.4	+2.5
SSE				S	S	07 18 20.6	-0.9
SSE				XS		07 18 38.3	
SSE				SS	SS	07 23 27.8	-3.5
SSE				AMB	AMB		
	comp=Z,44nm,0.7s,mb5.5						
SSE				LR	LR		
	comp=Z,120nm,33.2s,MS4.0						
SSE	**Sheshan**	**79.26**	**307**	*e*P	**P**	**07 08 21.9**	**-1.5**
	comp=Z,44nm,0.7s,mb5.5						
SSE				pP	pP	07 08 31.4	+2.5
SSE				S	S	07 18 20.6	-0.9
SSE				sS		07 18 38.2	
SSE				SS	SS	07 23 27.7	-3.6
SSE				LR	LR		
	comp=Z,120nm,33.2s,MS4.0						
PMR	**Palmer**	**79.30**	**11**	*e*P	**P**	**07 08 21.9**	**-1.1**
LENM	**Lemitar**	**79.36**	**50**	*e*P	**P**	**07 08 23.7**	**-0.2**
LENM				*e*		07 08 39.6	
JLU	**Jordanelle**	**79.40**	**42**	*e*P	**P**	**07 08 23.9**	**-0.1**
MNTX	**Cornudas Mount**	**79.45**	**53**	*e*P	**P**	**07 08 24.0**	**-0.5**
	comp=Z,34nm,1.0s,mb5.2						
MNTX				LR	LR		
	comp=Z,576nm,20.0s,MS4.9						
DIV	**Divide**	**79.53**	**13**	*e*P	**P**	**07 08 23.6**	**-0.6**
	comp=Z,204nm,0.8s,mb6.1						
DIV				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
SML	**Sawmill**	**79.64**	**11**	*e*P	**P**	**07 08 24.4**	**-0.5**
LPM	**Los Pinos Moun**	**79.68**	**50**	*e*P	**P**	**07 08 26.0**	**+0.4**
LTX	**Lajitas**	**79.78**	**56**	*e*P	**P**	**07 08 26.6**	**+0.3**
	comp=Z,41nm,1.2s,mb5.2						
LTX				LR	LR		
	comp=Z,571nm,19.0s,MS4.9						
TXAR	**Lajitas Array**	**79.78**	**56**	P	**P**	**07 08 26.8**	**+0.5**
	comp=Z,10nm,0.8s,mb4.8,baz=218,slow=8.9,SNR=110						
TXAR				LR	LR	07 35 51.9	
	comp=Z,417nm,20.4s,MS4.8,baz=190,slow=30						
TXAR	**Lajitas Array**	**79.78**	**56**	P	**P**	**07 08 26.8**	**+0.5**
TXAR				LR	LR	07 35 51.9	
HWUT	**Hardware Ranch**	**79.85**	**42**	*e*P	**P**	**07 08 25.6**	**-0.8**
	comp=Z,28nm,1.3s,mb5.0						
HWUT				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
PV10	**Paradox Valley**	**79.89**	**45**	*e*P	**P**	**07 08 26.5**	**-0.2**
PV01	**Paradox Valley**	**80.09**	**46**	*e*P	**P**	**07 08 28.1**	**+0.4**
ANMO	**Albuquerque**	**80.09**	**49**	*c i*P	**P**	**07 08 28.1**	**+0.3**
ANMO	**Albuquerque**	**80.09**	**49**	*e*P	**P**	**07 08 27.9**	**+0.1**
	comp=Z,20nm,0.9s,mb5.0						
ANMO				LR	LR		
	comp=Z,616nm,20.0s,MS5.0						
MDJ	**Mudanjiang**	**80.17**	**322**	P	**P**	**07 08 29.6**	**+1.6**
MDJ				S	S	07 18 37.8	+7.1
MDJ				XS		07 18 46.5	
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,112nm,7.0s						
MDJ				LR	LR		
	comp=N,119nm,28.0s,MS4.2						
MDJ				LR	LR		
	comp=E,66nm,25.7s,MS4.2						
MDJ				LR	LR		
	comp=Z,135nm,24.5s,MS4.2						
MDJ	**Mudanjiang**	**80.17**	**322**	PFAKE		07 08 40.0	+12
MDJ				LR	LR		
	comp=Z,236nm,21.0s,MS4.5						
NEW	**Newport**	**80.34**	**34**	P	**P**	**07 08 28.4**	**-0.5**
	comp=Z,4.6nm,0.6s,mb4.6,baz=225,slow=4.3,SNR=13						
NEW				LR	LR	07 36 15.9	
	comp=Z,559nm,21.9s,MS4.9,baz=236,slow=30						
NEW	**Newport**	**80.34**	**34**	*e*P	**P**	**07 08 27.5**	**-1.4**
	comp=Z,25nm,1.3s,mb5.0						
NEW				LR	LR		
	comp=Z,932nm,20.0s,MS5.1						
GDL2	**Guadalupe Moun**	**80.45**	**53**	*e*P	**P**	**07 08 30.1**	**+0.3**
AHID	**Auburn Hatcher**	**80.75**	**41**	*e*P	**P**	**07 08 30.5**	**-0.7**
	comp=Z,22nm,1.1s,mb5.0						
AHID				LR	LR		
	comp=Z,859nm,22.0s,MS5.1						
RW3	**Ridgway**	**80.76**	**46**	*e*P	**P**	**07 08 31.4**	**+0.1**
MCMT	**McKenzie Canyo**	**80.79**	**38**	*e*P	**P**	**07 08 31.4**	**+0.1**
CLNB	**Carlsbad**	**80.84**	**53**	*e*P	**P**	**07 08 31.7**	**-0.1**
CLNB				*e*		07 08 44.4	
RRI2	**Red Ridge**	**80.92**	**40**	*e*P	**P**	**07 08 31.2**	**-0.8**
MA2	**Magadan**	**80.98**	**342**	*e*P	**P**	**07 08 31.0**	**-1.0**
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
CPRX	**Cap Rock**	**81.18**	**52**	*e*P	**P**	**07 08 33.5**	**-0.1**
TNA	**Tin City**	**81.22**	**2**	*e*P	**P**	**07 08 33.8**	**+0.7**
	comp=Z,20nm,0.9s,mb5.1						
TNA				LR	LR		
	comp=Z,230nm,22.0s,MS4.5						
MUDI	**Mud Lake**	**81.22**	**40**	*e*P	**P**	**07 08 32.9**	**-0.7**
TPAW	**Teton Pass**	**81.23**	**40**	*e*P	**P**	**07 08 34.1**	**+0.5**
MSO	**Missoula**	**81.26**	**36**	PFAKE		07 08 50.0	+16
MSO				LR	LR		
	comp=Z,665nm,20.0s,MS5.0						
MCK	**McKinley**	**81.32**	**10**	*e*P	**P**	**07 08 33.2**	**-0.5**
	comp=Z,52nm,0.9s,mb5.5						
MCK				LR	LR		
	comp=Z,171nm,20.0s,MS4.4						
SNOW	**Snow King Moun**	**81.33**	**40**	*e*P	**P**	**07 08 34.6**	**+0.4**
IMW	**Indian Meadow**	**81.45**	**40**	*e*P	**P**	**07 08 35.2**	**+0.4**
NJ2	**Nanjing**	**81.47**	**307**	*e*P	**P**	**07 08 36.8**	**+1.7**
NJ2				AP	pP	07 08 41.8	+1.2
NJ2				XP	sP	07 08 43.9	+1.5
NJ2				PP	PP	07 11 45.6	+2.0
NJ2				S	S	07 18 46.0	+1.6
NJ2				XS		07 18 56.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,110nm,5.6s						
NJ2				LR	LR		
	comp=N,840nm,27.0s,MS5.0						
NJ2				LR	LR		
	comp=E,590nm,28.7s,MS5.0						
NJ2				LR	LR		
	comp=Z,640nm,29.6s,MS4.8						
MENT	**Mentasta**	**81.59**	**13**	*e*P	**P**	**07 08 35.5**	**+0.4**
THY	**Trims Highway**	**81.61**	**12**	*e*P	**P**	**07 08 35.0**	**-0.2**
QLMT	**Earthquake Lak**	**81.64**	**39**	*e*P	**P**	**07 08 36.6**	**+0.9**
DLBC	**Dease Lake**	**81.64**	**21**	P	**P**	**07 08 36.4**	**+0.9**
	comp=Z,5.7nm,0.9s,mb4.5,baz=209,slow=6.8,SNR=15						
DLBC	**Dease Lake**	**81.64**	**21**	*e*P	**P**	**07 08 35.8**	**+0.3**
CHMT	**Chamberlain Mo**	**81.70**	**36**	*e*P	**P**	**07 08 35.6**	**-0.5**
BW06	**Boulder Array**	**81.73**	**41**	PFAKE		07 08 50.0	+14
BW06				LR	LR		
	comp=Z,838nm,19.0s,MS5.1						
PDAR	**Pinedale Array**	**81.73**	**41**	P	**P**	**07 08 36.2**	**-0.1**
	comp=Z,5.7nm,0.8s,mb4.5,baz=214,slow=3.1,SNR=41						
PDAR				LR	LR	07 38 38.9	
	comp=Z,469nm,18.4s,MS4.9,baz=252,slow=31						
YMR	**Madison River**	**81.83**	**39**	*e*P	**P**	**07 08 37.8**	**+1.0**
LCCM	**Lewis and Clar**	**81.91**	**38**	P	**P**	**07 08 37.6**	**+0.4**
BOZ	**Bozeman (W)**	**81.95**	**38**	PFAKE		07 08 50.0	+13
BOZ				LR	LR		
	comp=Z,887nm,22.0s,MS5.1						
YNR	**Norris Junctio**	**82.03**	**39**	P	**P**	**07 08 38.8**	**+1.0**
SDCO	**Great Sand Dun**	**82.05**	**47**	PFAKE		07 08 50.0	+12
SDCO				LR	LR		
	comp=Z,645nm,19.0s,MS5.0						
LKWY	**Lake**	**82.12**	**39**	PFAKE		07 08 50.0	+12
LKWY				LR	LR		
	comp=Z,950nm,19.0s,MS5.2						
CN2	**Changchun**	**82.26**	**320**	*e*P	**P**	**07 08 39.3**	**+0.3**
CN2				*e*XP	sP	07 08 48.0	+1.8
CN2				*e*S	S	07 18 55.6	+3.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,5.0s						
CN2				LR	LR		
	comp=N,700nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=E,500nm,19.0s,MS5.1						
CN2				LR	LR		
	comp=Z,900nm,21.0s,MS5.1						
HRY	**Holter Researc**	**82.41**	**37**	*e*P	**P**	**07 08 39.4**	**-0.3**
HRY				*e*		07 08 53.2	
WALA	**Waterton Lakes**	**82.54**	**34**	*e*P	**P**	**07 08 39.8**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0						
COLA	**College**	**82.56**	**10**	*e*P	**P**	**07 08 39.3**	**-0.8**
ILAR	**Eielson Array**	**82.63**	**11**	P	**P**	**07 08 40.0**	**-0.5**
	comp=Z,18nm,0.7s,mb5.2,baz=223,slow=6.0,SNR=240						
ILAR				LR	LR	07 39 36.9	
	comp=Z,177nm,21.2s,MS4.4,baz=20,slow=32						
IMA	**Indian Mountai**	**82.82**	**7**	*e*P	**P**	**07 08 42.1**	**+0.6**
ISCO	**Idaho Springs**	**82.91**	**45**	*e*P	**P**	**07 08 43.0**	**+0.6**

comp=Z,12nm,0.8s,mb5.0
ISCO LR LR
comp=Z,447nm,22.0s,MS4.8
GCMT Greycliff 83.20 39 *e*P **P 07 08 44.3 +0.5**
JCT Junction City 83.31 56 *e*P **P 07 08 43.7 -1.0**
comp=Z,17nm,1.1s,mb5.0
JCT LR LR
comp=Z,515nm,21.0s,MS4.9
DAWY Dawson 83.53 14 *e*P **P 07 08 45.2 +0.1**
AMTX Amarillo 83.60 51 *e*P **P 07 08 45.7 -0.5**
comp=Z,45nm,0.9s,mb5.6
AMTX *e* 07 09 01.2
AMTX LR LR
comp=Z,730nm,22.0s,MS5.0
PHWY Pilot Hill 83.70 44 *e*P **P 07 08 46.6 +0.1**
QIZ Qiongzhong 84.28 292 PFAKE 07 09 00.0 +10
QIZ LR LR
comp=Z,197nm,22.0s,MS4.5
BILL Bilibino 85.12 352*c i*P **P 07 08 53.0 0.0**
BILL *i* *PP pP 07 09 03.6 +5.1
BILL *e* 07 12 07.9
BILL *e*S S 07 19 22.0 +1.7
BILL pmax pmax
comp=Z,29nm,1.5s,mb5.2
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.2
BILL Bilibino 85.12 352 *e*P **P 07 08 53.3 +0.3**
comp=Z,30nm,1.1s,mb5.3
BILL *e* 07 09 04.1
BILL LR LR
comp=Z,378nm,20.0s,MS4.8
EDM Edmonton 85.19 31 *e*P **P 07 08 53.1 -0.6**
EDM *e* 07 09 05.9
LAO LASA Array 85.72 39 PFAKE 07 09 10.0 +14
LAO LR LR
comp=Z,860nm,20.0s,MS5.1
WMOK Wichita Mounta 85.74 52 PFAKE 07 09 10.0 +13
WMOK LR LR
comp=Z,586nm,19.0s,MS5.0
HKT Hockley 86.31 58 PFAKE 07 09 10.0 +10
HKT LR LR
comp=Z,560nm,19.0s,MS5.0
BJT Baijiatuau 86.71 313 PFAKE 07 09 10.0 +8.4
BJT LR LR
comp=Z,183nm,21.0s,MS4.5
BJI Beijing 86.72 313 P **P 07 09 04.3 +2.7**
BJI AP pP 07 09 09.9 +2.8
BJI S S 07 19 38.6 +2.2
BJI SS SS 07 25 27.1 +5.9
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.8
BJI LR LR
comp=N,191nm,14.3s,MS4.8
BJI LR LR
comp=E,201nm,11.9s,MS4.8
BJI LR LR
comp=Z,106nm,30.5s
BJI Beijing 86.72 313 P **P 07 09 04.2 +2.6**
comp=Z,4.0nm,0.7s,mb4.8
BJI pP pP 07 09 09.9 +2.8
BJI sP tx 07 12 32.7
BJI S S 07 19 38.6 +2.2
BJI SS tx 07 26 27.1
BJI LR LR
comp=Z,110nm,30.5s,MS4.1
MAW Mawson 87.79 198 LR LR 07 48 33.8
comp=Z,218nm,18.2s,MS4.6,baz=317,slow=36
NATX Nacogdoches 87.88 56 PFAKE 07 09 20.0 +13
NATX LR LR
comp=Z,510nm,21.0s,MS4.9
PLCA Paso Flores 88.25 132 P **P 07 09 09.9 +0.9**
comp=Z,11nm,1.0s,mb5.0,baz=242,slow=4.4,SNR=17
PLCA LR LR 07 39 46.0
comp=Z,204nm,18.1s,MS4.6,baz=212,slow=30
ENH Enshi 88.25 302 PFAKE 07 09 20.0 +11
ENH LR LR
comp=Z,113nm,20.0s,MS4.3
HIA Hailar 88.33 323 PFAKE 07 09 20.0 +11
HIA LR LR
comp=Z,219nm,19.0s,MS4.6
INK Inuvik 88.39 13 P **P 07 09 08.9 0.0**
comp=Z,12nm,0.9s,mb5.1,baz=209,slow=6.1,SNR=43
INK Inuvik 88.39 13 *e*P **P 07 09 08.8 -0.1**
comp=Z,26nm,1.1s,mb5.4
INK *e* 07 09 20.4
MIAR Mount Ida 89.68 54 PFAKE 07 09 30.0 +14
MIAR LR LR
comp=Z,627nm,21.0s,MS5.0
YKA Yellowknife Ar 89.99 23 P **P 07 09 16.5 -0.1**
comp=Z,10nm,0.8s,mb5.2,baz=235,slow=4.5,SNR=190
YKA LR LR 07 42 03.3
comp=Z,220nm,21.5s,MS4.5,baz=255,slow=31
JTS JuntasAbangare 90.01 79 P **P 07 09 19.1 +1.2**
comp=Z,251nm,1.0s,SNR=17
JTS JuntasAbangare 90.01 79*c i*P **P 07 09 18.6 +0.7**
JTS JuntasAbangare 90.01 79 *e*P **P 07 09 17.1 -0.8**
comp=Z,58nm,1.1s,mb5.8
JTS *e* 07 09 29.9
JTS LR LR
comp=Z,79nm,20.0s,MS4.1
YKW3 Yellowknife Ar 90.02 23 *e*P **P 07 09 16.7 -0.1**
NNA Nana 91.69 103 PFAKE 07 09 40.0 +14
NNA LR LR
comp=Z,97nm,19.0s,MS4.3
FFC Flin Flon 91.76 33 PFAKE 07 09 40.0 +15
FFC LR LR
comp=Z,147nm,20.0s,MS4.4
VNA3 Neumayer Olymp 92.30 174 *e* **P 07 09 28.5 +1.4**
VNA3 Neumayer Olymp 92.30 174 *e* **P 07 09 33.6 +6.5**
VNA3 Neumayer Olymp 92.30 174 *e* **P 07 09 36.5 +9.4**
VNA3 Neumayer Olymp 92.30 174⇑ *i*P **P 07 09 27.2 +0.1**
VNA3 *e* 07 09 28.5
VNA3 *e* pP 07 09 33.6 +1.0
VNA3 *e* 07 09 36.5
VNA3 *e* 07 14 17.3
VNA3 *e* 07 14 20.2
KMI Kunming 92.39 295 P **P 07 09 28.0 -0.6**
KMI S S 07 20 31.9 +3.4
KMI LR LR
comp=Z,150nm,35.3s,MS4.2
SYO Syowa Base 92.42 191⇑ sP sP 07 09 38.0 +3.1
CCM Cathedral Cave 92.58 51 PFAKE 07 09 40.0 +11
CCM LR LR
comp=Z,786nm,19.0s,MS5.2
VNA2 Neumayer--Watz 92.81 175 *e* **P 07 09 29.4 0.0**
VNA2 Neumayer--Watz 92.81 175 *e* **P 07 09 34.0 +4.6**
VNA2 Neumayer--Watz 92.81 175 *e* **P 07 09 36.9 +7.5**
VNA2 Neumayer--Watz 92.81 175⇑ *i*P **P 07 09 28.2 -1.2**
VNA2 *e* 07 09 29.4
VNA2 *e* pP 07 09 34.0 -0.9
VNA2 *e* 07 09 36.9
VNA2 *e* 07 14 18.6
VNA2 *e* 07 14 22.1
OXF Oxford 92.93 55 PFAKE 07 09 40.0 +9.1
OXF LR LR
comp=Z,743nm,19.0s,MS5.2
VNA1 Neumayer--Stat 93.00 175 *e* **P 07 09 28.9 -1.4**
VNA1 Neumayer--Stat 93.00 175 *e* **P 07 09 34.1 +3.8**
VNA1 Neumayer--Stat 93.00 175 *e* **P 07 09 36.7 +6.4**
VNA1 Neumayer--Stat 93.00 175⇑ *i*P **P 07 09 27.8 -2.5**
VNA1 *e* 07 09 28.9
VNA1 *e* pP 07 09 34.1 -1.7
VNA1 *e* 07 09 36.7
CMAR Chiang Mai Arr 93.99 288 P **P 07 09 38.5 +2.5**
comp=Z,0.8nm,0.6s,mb4.3,baz=79,slow=4.6,SNR=3.2
CMAR LR LR 07 44 43.4
comp=Z,122nm,21.7s,MS4.3,baz=105,slow=31
PLAL Pickwick Lake 94.12 55 PFAKE 07 09 50.0 +14
PLAL LR LR
comp=Z,466nm,19.0s,MS5.0
JFWS Jewell Farm 94.77 47 PFAKE 07 09 50.0 +11
JFWS LR LR
comp=Z,447nm,20.0s,MS4.9
ULN Ulaanbaatar 95.62 318 *i* P **P 07 09 41.8 -1.1**
ULN Ulaanbaatar 95.62 318 PFAKE 07 09 50.0 +7.1
ULN LR LR
comp=Z,160nm,20.0s,MS4.5
TIXI Tiksi 95.78 344 *i* P **P 07 09 41.5 -1.6**
TIXI pmax pmax
comp=Z,6.0nm,1.7s,mb4.8
TIXI Tiksi 95.78 344 PFAKE 07 09 50.0 +6.9
TIXI LR LR
comp=Z,149nm,19.0s,MS4.5
SONM Songino Array 96.04 318 P **P 07 09 46.2 +1.3**
comp=Z,0.3nm,0.6s,baz=127,slow=7.3,SNR=3.5
FCC Fort Churchill 97.29 31 *e*P **P 07 09 49.3 -0.9**
comp=Z,8.2nm,1.0s,mb5.1
LPAZ La Paz 98.44 110 P **P 07 09 57.7 +1.4**
comp=Z,1.7nm,0.9s,mb4.6,baz=219,slow=7.0,SNR=6.3
LPAZ LR LR 07 44 37.2
comp=Z,169nm,20.5s,MS4.5,baz=286,slow=30
LPAZ La Paz 98.44 110 P **P 07 09 57.7 +1.4**
LPAZ LR LR 07 44 37.2
ROSC El Rosal 98.72 87 LR LR 07 44 21.4
comp=Z,203nm,20.3s,MS4.6,baz=142,slow=29
TLY Talaya 98.79 321 PFAKE 07 10 10.0 +13
TLY LR LR
comp=Z,33nm,20.0s,MS3.8
ACSO Alum Creek Sta 99.35 51 PFAKE 07 10 10.0 +10
ACSO LR LR
comp=Z,1μm,19.0s,MS5.4
MCWV Mont Chateau 101.60 52 PFAKE 07 10 20.0 +10
MCWV LR LR
comp=Z,4μm,22.0s,MS5.9
RES Resolute Bay 101.81 15 *e*Pdif P 07 10 09.8 -0.5
comp=Z,7.1nm,1.4s
ERPA Erie 101.95 49 PFAKE 07 10 20.0 +8.4
ERPA LR LR
comp=Z,784nm,19.0s,MS5.2
CBN Corbin 103.23 54 PFAKE 07 10 30.0 +13
CBN LR LR
comp=Z,965nm,21.0s,MS5.3
SDV Santo Domingo 103.29 84 PFAKE 07 10 30.0 +12
SDV LR LR
comp=Z,188nm,20.0s,MS4.6
LSA Lhasa 103.47 297 PFAKE 07 10 30.0 +11
LSA LR LR
comp=Z,147nm,22.0s,MS4.5
NCB Newcomb 106.40 48 PFAKE 07 14 50.0
NCB LR LR
comp=Z,718nm,20.0s,MS5.2
LSCT Lakeside 106.88 51 PFAKE 07 15 00.0
LSCT LR LR
comp=Z,6.0nm,22.0s
HRV Harvard--Oak R 108.19 50 PFAKE 07 15 00.0
HRV LR LR
comp=Z,577nm,19.0s,MS5.2
WES Weston 108.36 50 PFAKE 07 15 00.0
WES LR LR
comp=Z,1μm,20.0s,MS5.5
SJG San Juan 109.55 76 PFAKE 07 15 00.0
SJG LR LR
comp=Z,278nm,22.0s,MS4.8
WVL Waterville 109.72 48 PFAKE 07 15 00.0
WVL LR LR
comp=Z,6μm,20.0s
PQI Presque Isle 110.94 46 PFAKE 07 15 00.0 +6.8
PQI LR LR
comp=Z,8μm,19.0s
EMMW East Machias 111.29 48 PFAKE 07 15 00.0 +6.1
EMMW LR LR
comp=Z,5μm,21.0s
KURK Kurchatov 114.33 319 PFAKE 07 15 10.0 +10
KURK LR LR
comp=Z,21nm,19.0s,MS3.8
AAK Ala-Archa 117.76 310 PFAKE 07 15 20.0 +13
AAK LR LR
comp=Z,30nm,20.0s,MS3.9
ARCES ARCESS Array B 125.22 353 PKhKP 07 15 14.0
comp=Z,2.5nm,0.7s,baz=297,slow=2.7,SNR=7.3
ARCES PKP PKPdf 07 15 17.4 -2.9
comp=Z,2.1nm,0.7s,baz=63,slow=4.0,SNR=7.2
RCBR Riachuelo 131.54 113 PFAKE 07 15 40.0 +6.0
RCBR LR LR
comp=Z,283nm,21.0s,MS5.0
FINES FINESS Array B 132.64 348 PKP PKPdf 07 15 32.3 -2.5
comp=Z,0.5nm,0.5s,baz=315,slow=2.7,SNR=3.9
LBTB Lobatse 135.90 203 PFAKE 07 15 50.0 +8.3
LBTB LR LR
comp=Z,157nm,20.0s,MS4.7
SOC Sochi 141.35 322 *i* PKIKP PKPdf 07 15 49.7 -1.4
SOC *e* 07 18 46.1
SOC *e*PPP PPP 07 21 58.8 -2.7
SOC *e* 07 22 58.3
SOC *e*SS SS 07 37 16.2 -3.7
SOC *e*SSS SSS 07 42 29.9 -7.6
SOC pmax pmax
comp=Z,5.0nm,0.5s
SOC pmax pmax
comp=N,3.0nm,0.4s
SOC pmax pmax
comp=E,7.0nm,0.5s
LSZ Lusaka 143.18 214 PFAKE 07 16 00.0 +11
LSZ LR LR
comp=Z,230nm,19.0s,MS5.0
TSUM Tsumeb 143.91 196 *e*PKPdf PKPdf 07 15 51.4 -4.8
TSUM *e* 07 16 01.9
CLZ Clausthal 144.03 357 *e*PKPbc PKPbc 07 15 51.3 +0.4
CLL Collm 144.39 355 *e*PKIKP PKPdf 07 15 51.0 -5.1
OJC Ojcow 144.39 347 *e*PKP PKPdf 07 15 51.9 -4.2
BRG Berggiesshubel 144.72 353 *e*PKIKP PKPdf 07 16 02.9 +6.2
BRG pmax pmax
comp=Z,3.0nm,0.6s
UPC Upice 144.81 351 *e*PKP PKPdf 07 15 53.1 -3.8
UPC *ep*PKP 07 16 04.5
DPC Dobruska-Polom 144.92 351 *e*PKP PKPdf 07 15 54.2 -2.9
DPC *ep*PKP 07 16 05.0
KOLS Kolonicke sedl 144.98 343 *e*PKP PKPdf 07 15 53.8 -3.4
KOLS *e* 07 16 04.6
MALT Malatya 145.09 316 *e*PKPdf PKPdf 07 15 56.0 -1.8
MALT *e* 07 16 07.5
OKC Ostrava-Krasne 145.09 348 *e*PKP PKPdf 07 15 54.2 -3.2
OKC *ep*PKP 07 16 05.8
MOX Moxa 145.16 356 *e*PKIKP PKPdf 07 15 54.6 -2.9
MOX pmax pmax
comp=Z,22nm,1.3s
MOX Moxa 145.16 356 *i* P PKPbc 07 15 54.6 +0.6
comp=Z,logA/T=1.2
MOX pPKP 07 16 06.0
CRVS Cervenica-Dubn 145.22 344 *e*PKP PKPdf 07 15 54.9 -2.7
CRVS *i* 07 16 06.0
CRVS *e* 07 16 10.1
MORC Moravsky Berou 145.27 349 *e*PKPdf PKPdf 07 15 54.0 -3.7
NKC Novy Kostel 145.50 355 *e*PKP PKPdf 07 15 55.9 -2.2
NKC *ep*PKP 07 16 07.2
PRU Pruhonice 145.52 352 *e*PKP PKPdf 07 15 55.9 -2.2
PRU *ep*PKP 07 16 06.7
TNS Taunus Mts 145.71 359 *e*PKIKP PKPdf 07 15 56.1 -2.3
GIVF Givet 145.73 4 *e*PKP1 PKPbc 07 15 56.2 +0.7
comp=Z,40nm,0.9s
BAIF Baives 145.74 4 *e*PKP1 PKPbc 07 15 56.4 +0.9
comp=Z,66nm,1.1s
KECS Kecovo 145.86 345 *i* PKP PKPdf 07 16 09.0 +10
GRA1 Grafenberg Arr 146.13 356 *e*PKPbc PKPbc 07 15 58.2 +1.7
GRF Grafenberg Arr 146.13 356 *e*PKP2 PKPab 07 15 58.2 -0.9
VYHS Vyhne 146.23 347 *e*PKP PKPdf 07 15 58.0 -1.4
VYHS *e* 07 16 09.8
VYHS *i* 07 16 10.0
ROSF Rostrenen 146.31 14 *e*PKP1 PKPbc 07 15 57.5 +0.6
comp=Z,64nm,1.2s
FLN La Foliniere 146.45 10 *e*PKP1 PKPbc 07 15 58.1 +0.9
comp=Z,56nm,1.0s
FLN *e*R
comp=Z,380nm,21.8s
KHC Kasperske Hory 146.48 353 *e*PKP PKPdf 07 15 59.0 -0.8
KHC *e* 07 16 10.2
KHC *e* 07 16 18.0
KHC Kasperske Hory 146.48 353 *e*PKP PKPdf 07 15 59.0 -0.8
KHC *ep*PKP 07 16 10.2
KHC x x 07 16 18.0
KMBO Kilima Mbogo 146.50 242 PKPbc PKPbc 07 16 01.0 +2.6
comp=Z,2.4nm,0.6s,baz=59,slow=6.4,SNR=9.9
KMBO Kilima Mbogo 146.50 242 *e*PKPbc PKPbc 07 16 00.5 +2.1
KMBO *e* 07 16 11.8
KMBO LR LR
comp=Z,177nm,21.0s,MS4.8
SGMF Saint Gilles 146.54 13 *e*PKP1 PKPbc 07 15 58.3 +0.9
comp=Z,108nm,1.2s
WET Wettzell 146.54 354 *e*PKP2 PKPab 07 15 59.2 -1.5
LDF La Druitiere 146.67 10 *e*PKP1 PKPbc 07 15 58.6 +0.9
comp=Z,20nm,0.9s
QUIF Quistinic 146.72 14 *e*PKP1 PKPbc 07 15 58.9 +1.0
comp=Z,57nm,1.1s
GRR Gorron 146.75 11 *e*PKP1 PKPbc 07 15 59.2 +1.3
comp=Z,61nm,1.0s
GEC2 GERESS Array S 146.75 353 *e*PKPbc PKPbc 07 15 59.4 +1.5
GEC2 *ep*PKPbc 07 16 11.1
GERES GERESS Array B 146.75 353 PKPbc PKPbc 07 15 59.8 +1.9
comp=Z,1.7nm,0.7s,baz=27,slow=3.0,SNR=8.0
SRO Srobarova 146.99 347 *e*PKP PKPdf 07 16 12.0 +11
BRTR Keskin Array B 147.31 322 PKPbc PKPdf 07 16 01.2 -0.3
comp=Z,8.3nm,0.8s,baz=135,slow=1.7,SNR=38
MEZF Maizieres J'vi 147.34 4 *e*PKP1 PKPdf 07 16 01.2 0.0
CDF Champ du Feu 147.51 1 *e*PKP1 PKPdf 07 16 01.6 +0.1
comp=Z,28nm,1.0s
BFO Black Forest 147.60 360 *e*PKP2 PKPab 07 16 01.8 -3.0
FUR Furstenfeldbru 147.65 356 *e*PKP2 PKPab 07 16 02.2 -2.8
HAU Haudompre 147.90 2 *e*PKP1 PKPdf 07 16 02.6 +0.5
comp=Z,33nm,1.0s
HAU *e*R
comp=Z,259nm,20.0s
HINF Hinteralfeld 148.10 1 *e*PKP1 PKPdf 07 16 02.9 +0.4
MFF Saint Martin d 148.60 11 *e*PKP1 PKPdf 07 16 04.2 +0.9
comp=Z,60nm,1.2s
SSF Saint Saulge 148.65 6 *e*PKP1 PKPdf 07 16 04.8 +1.4
comp=Z,110nm,1.5s
AVF Avril sur Loir 148.91 6 *e*PKP1 PKPdf 07 16 05.0 +1.2
comp=Z,27nm,1.1s
BGF Bois d'Agland 149.08 7 *e*PKP1 PKPdf 07 16 05.7 +1.6
comp=Z,70nm,1.3s
SMF Signal de Mont 149.10 6 *e*PKP1 PKPdf 07 16 05.6 +1.5
comp=Z,28nm,1.0s
TCF Toulx Ste Croi 149.27 8 *e*PKP1 PKPdf 07 16 06.0 +1.6
comp=Z,100nm,1.7s
CABF La Chapelle 149.28 3 *e*PKP1 PKPdf 07 16 06.9 +2.5
comp=Z,78nm,1.2s
PDKS Podkum 149.30 350 *e*PKPbc PKPdf 07 16 06.1 +1.7
ULDT Uludag 149.56 327 *i* P PKPdf 07 16 07.1 +2.0
VISS Visnje 149.57 350 *e*PKPbc PKPdf 07 16 06.2 +1.3
BOJS Bojanci 149.80 350 *e*PKPbc PKPdf 07 16 07.5 +2.3
BOJS *e* 07 16 19.3
DIVS Divcibare 150.03 342⇓ *i*PKP PKPdf 07 16 08.2 +2.6
RJF Les Rejaudoux 150.13 9 *e*PKP1 PKPdf 07 16 08.3 +2.5
comp=Z,80nm,1.5s
RJF *e*R
comp=Z,356nm,20.5s
LFF La Frestale 150.36 10 *e*PKP1 PKPdf 07 16 08.7 +2.5
LPL La Plagne 150.40 2 *e*PKP1 PKPdf 07 16 10.0 +3.8
comp=Z,14nm,0.9s
BTOK Toknak 150.42 328 *i* P PKPdf 07 16 08.2 +1.7
LPG La Plagne 150.42 2 *e*PKP1 PKPdf 07 16 10.2 +4.0
comp=Z,18nm,0.8s
CAF Calviac 150.58 9 *e*PKP1 PKPdf 07 16 09.5 +3.0
BNI Bardonecchia 150.86 2 *e*PKPbc PKPdf 07 16 11.2 +4.3
VIVF Saint-Julien-l 150.94 5 *e*PKP1 PKPdf 07 16 10.7 +3.7
comp=Z,38nm,1.2s
ORIF Oris-en-Rattie 150.96 3 *e*PKP1 PKPdf 07 16 10.8 +3.8
ORIF *e*R
comp=Z,336nm,22.0s
MBDF Montbardon 151.19 2 *e*PKP1 PKPdf 07 16 11.4 +4.0
comp=Z,15nm,0.8s
AYVA Ayvalik 151.44 329 *i* P PKPdf 07 16 22.1 +14
LASF Ste Croix 151.64 6 *e*PKP1 PKPdf 07 16 12.3 +4.2
SJPF Ste Jean 151.71 14 *e*PKP1 PKPdf 07 16 12.4 +4.2
SMRF Simiane la Rot 151.88 4 *e*PKP1 PKPdf 07 16 13.2 +4.7
comp=Z,11nm,0.7s
ETSF Etsaut 152.07 13 *e*PKP1 PKPdf 07 16 13.4 +4.6
comp=Z,49nm,1.4s
SBF Sospel 152.07 1 *e*PKP1 PKPdf 07 16 12.5 +3.8
MTLF Montolieu 152.16 9 *e*PKP1 PKPdf 07 16 13.0 +4.1
MBAR Mbarara 152.19 236 PFAKE 07 16 20.0 +10
MBAR LR LR
comp=Z,61nm,19.0s,MS4.4
FRF La Foret Royal 152.35 2 *e*PKP1 PKPdf 07 16 13.3 +4.2
LMR La Mourre 152.57 2 *e*PKP1 PKPdf 07 16 13.8 +4.3
PGF Pioggiola 153.37 358 *e*PKP1 PKPdf 07 16 15.4 +4.8
comp=Z,6.7nm,0.7s
EVO Evora 153.39 29 *e*PKP2 PKPab 07 16 26.7 -2.5
comp=Z,59nm,1.1s
EVO *e*R
comp=Z,483nm,21.5s
ESDC Sonseca Array 154.07 21 PKPbc PKPdf 07 16 17.7 +6.1
comp=Z,0.2nm,0.3s,baz=333,slow=3.3,SNR=4.6
ESDC PKPab PKPab 07 16 30.9 -1.1
comp=Z,3.8nm,0.8s,baz=323,slow=3.7,SNR=11
ESLA Sonseca Array 154.07 21 PFAKE 07 16 20.0 +8.3
ESLA LR LR
comp=Z,4μm,19.0s
DBIC Dimbokro 164.49 125 PFAKE 07 16 30.0 +5.6
DBIC LR LR
comp=Z,390nm,19.0s

ATH 17 07:00:06.8,38.92N×23.88E,h40km±5km,MD2.8/6,ML3.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.64**	**307**	*e*P		P	07 00 20.2	+0.8
MPAR	**Parnis Oros**	**0.78**	**188**	*e*P		P	07 00 22.5	+1.2
MPAR	**Parnis Oros**	**0.78**	**188**	*e*Pn		P	07 00 22.0	+0.7
PTL	**Penteli**	**0.87**	**181**	*e*P		P	07 00 23.0	+0.3
PTL	**Penteli**	**0.87**	**181**	*e*Pn		P	07 00 22.0	-0.7
ATH	**Athens Observa**	**0.95**	**188**	*e*P		P	07 00 25.7	+1.8
NSAL	**Nisos Salamina**	**1.06**	**198**	*e*P		P	07 00 26.7	+1.3
NSAL	**Nisos Salamina**	**1.06**	**198**	*e*Pn		P	07 00 26.5	+1.1
NAIG	**Nisos Aigina**	**1.20**	**195**	*e*P		P	07 00 28.3	+1.0
NAIG	**Nisos Aigina**	**1.20**	**195**	*e*Pn		P	07 00 28.5	+1.2

*THR **17** 07:05:13.9±0.5,30.30N×52.56E,h17km±4km, ML3.5*
*CSEM **17** 07:05:14.0±0.1,30.31N×52.56E,h16km, ML3.2, Error ellipse: s-maj=4.7km s-min=2.3km az=79.0*
*TEH **17** 07:05:18.3,30.05N×52.20E,h12km, Mn3.2*
ISC 17 07:05:15.4±1.0,30.24N±0.05×52.60E±0.10,h17km±15km, n12,σ1°30/13, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IPAR	**Pars**	**0.55**	**136**		Pg	**Sb**	**07 05 32.2**	**-1.5**
SHI	**Shiraz**	**0.60**	**187**		Pg	**Pb**	**07 05 27.4**	**+0.4**
IMOK	**Mook**	**1.19**	**175**		Pn	**Pn**	**07 05 39.6**	**+2.2**
GHIR	**Ghir-Karzin**	**1.98**	**170**	*e*PG		**Pb**	**07 05 51.1**	**+0.6**
GHIR					AML	AML	07 06 34.1	
	comp=N,292nm,0.5s							
NASN	**Na'in**	**2.56**	**4**	*e*PN		**Pn**	**07 05 56.3**	**-0.6**
NASN				*e*SG		**Sb**	**07 06 32.6**	**+0.9**
KRBR	**Kerman**	**3.61**	**93**	*e*PN		**Pn**	**07 06 12.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**3.75**	**301**	*e*PN		**Pn**	**07 06 12.4**	**-1.5**
SHGR					AML	AML	07 07 08.5	
	comp=N,203nm,0.6s							
IQOM	**Qom**	**4.77**	**345**	Sn		**Sn**	**07 07 24.6**	**+0.8**
IQOM	**Qom**	**4.77**	**345**	Pn		**Pn**	**07 06 25.3**	**-3.0**
ASAO	**Ashtian**	**4.82**	**334**	*e*PN		**Pn**	**07 06 26.8**	**-2.2**
ASAO					AML	AML	07 07 21.3	
	comp=N,21nm,0.7s							
IFIR	**Firoozkooh**	**5.39**	**1**	Pn		**Pn**	**07 06 37.9**	**+0.8**
IRAZ	**Razeghan**	**5.62**	**337**	Pn		**Pn**	**07 06 41.5**	**+1.2**

*NEIC **17** 07:06:27.1, 19.49N×68.50W, h157km, MD3.9(RSPR), After RSPR.*
RSPR 17 07:06:27.1,19.49N×68.50W,h157km±14km,MD3.9/8, MD3.9/8,8C,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSP	**Las Mesas**	**1.86**	**134**	*e*S		S	07 07 28.3	+0.4
LRS	**Lares**	**1.96**	**127**⇑	*e*P		P	07 07 01.4	-1.1
LRS				*e*S		S	07 07 30.5	+0.6
MGP	**Maguayo**	**1.98**	**138**⇑	*e*P		P	07 07 01.7	-1.1
AOPR	**Arecibo Observ**	**2.00**	**124**⇑	*e*P		P	07 07 02.9	-0.1
AOPR				*e*S		S	07 07 30.0	-0.7
PORP	**Portuguez**	**2.26**	**129**	*e*S		S	07 07 36.6	+0.4
CELP	**Cerrillos**	**2.29**	**127**⇑	*e*P		P	07 07 06.4	-0.2
CELP				*e*S		S	07 07 36.1	-0.8
CBYP	**Canovanas**	**2.77**	**115**⇑	*e*P		P	07 07 12.6	0.0
CBYP				*e*S		S	07 07 47.4	-0.1
CPD	**Cerro la Pandu**	**2.84**	**120**⇑	*e*P		P	07 07 13.5	+0.1
CPD				*e*S		S	07 07 48.8	0.0
HUMP	**Col San Antoni**	**2.84**	**118**⇑	*e*P		P	07 07 13.3	-0.1
HUMP				*e*S		S	07 07 48.4	-0.5
MTP	**Monte Pirata**	**3.11**	**116**⇑	*e*P		P	07 07 17.1	+0.3

*NNC **17** 07:33:29.2±4.8,43.00N×77.30E,mpv3.2, Error ellipse: s-maj=159.0km s-min=15.4km az=155.0*
*KNET **17** 07:33:29.7±0.5,43.26N×77.02E,h5km±3km,ml2.1, Error ellipse: s-maj=4.9km s-min=3.1km az=0.0*
ISC 17 07:33:30.2±1.0,43.2N±0.1×77.23E±0.09,h10km,n11, σ0°97/17,9C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	Ulahol	1.22	217	⇑P	Pb	07 33 51.7	-1.2
	3.7nm,0.3s,SNR=10						
TKM2	Tokmak 2	1.23	256	⇑P	Pb	07 33 51.0	-2.1
	19nm,0.3s,SNR=25						
TKM2				⇓S	Sb	07 34 07.6	-1.3
	6.1nm,0.1s						
KBK	Karagaybulak	1.77	252	⇓P	Pn	07 34 01.0	-0.1
	34nm,0.4s,SNR=34						
KBK				⇑S	Sn	07 34 24.8	+1.0
	26nm,0.3s						
CHMS	Chumysh	1.83	264	⇑P	Pn	07 34 01.4	-0.6
	6.6nm,0.3s						
CHMS				⇑S	Sn	07 34 25.5	+0.2
	18nm,0.3s						
KZA	Kyzart	1.86	233	⇑P	Pn	07 34 03.0	+0.6
	7.6nm,0.4s,SNR=7.4						
USP	Ospenovka	1.99	272	P	Pn	07 34 03.6	-0.7
	14nm,0.3s,SNR=26						
USP				⇑S	Sn	07 34 29.5	-0.1
	9.4nm,0.3s						
AAK	Ala-Archa	2.09	255	⇑P	Pn	07 34 06.0	+0.2
	12nm,0.3s,SNR=19						
AAK				⇑S	Sn	07 34 33.8	+1.7
	10.0nm,0.4s						
AAK	Ala-Archa	2.09	255	⇓P	Pn	07 34 05.9	+0.1
	12nm,0.3s,baz=220,slow=30						
AAK				⇓S	Sn	07 34 33.8	+1.7
	9.4nm,0.4s,baz=220,slow=30						
UCH	Uchtor	2.23	244	⇓P	Pn	07 34 09.2	+1.4
	20nm,0.4s,SNR=45						
EKS2	Erkin-Say	2.59	259	⇓P	Pn	07 34 13.6	+0.7
	6.2nm,0.4s,SNR=19						
MK31	Makanchi Array	5.06	43	P	Pn	07 34 48.2	+0.2
	0.7nm,0.3s,baz=222,slow=14,SNR=20						

*CSEM **17** 08:03:23.6±0.1, 40.17N×25.28E, h12km, ML3.4, Error ellipse: s-maj=2.3km s-min=1.2km az=172.0*
*ATH **17** 08:03:24.0, 40.19N×25.16E, h9km, MD3.4/10*
*NEIC **17** 08:03:24.0, 40.19N×25.16E, h9km, MD3.4(ATH), After ATH.*
*THE **17** 08:03:24.9, 40.14N×25.19E, h16km, ML3.4*
*ISK **17** 08:03:25.9, 40.01N×25.39E, h87km, MD3.4*
*SOF **17** 08:03:35.8, 40.15N×25.14E, h2km, MD3.0*
ISC 17 08:03:23.8±0.4**, 40.17N**±0.02×**25.18E**±0.02**, h13**km±3km**, n55,** σ1§**19**/71**, 2C-9D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	Limnos	0.25	197	ePg	Pg	08 03 30.0	+0.7
LOS				eSg	Sg	08 03 33.7	+0.7
LIA	Limnos Island	0.28	179	ePG	Pg	08 03 30.9	+1.1
OUR	Ouranopolis	0.93	280	ePg	Pg	08 03 42.2	-0.3
OUR				eSg	Sg	08 03 56.1	+1.2
EZN	Ezine	0.95	111	PG	Pg	08 03 43.4	+0.5
EZN				SG	Sg	08 03 56.1	+0.4
ALN	Alexandroupoli	0.98	42	ePg	Pg	08 03 42.6	-0.9
ALN				eSg	Sg	08 03 57.3	+0.5
RDO	Rodhopi	1.01	16	ePB	Pb	08 03 43.0	+0.3
PAIG	Paliouri	1.17	258	ePb	Pb	08 03 45.8	+0.3
PAIG				eSb	Sb	08 04 01.8	+1.4
LPK	Lapseki	1.23	80	PN	Pn	08 03 47.4	+0.7
PRK	Paraskevi	1.25	137	ePB	Pb	08 03 48.1	+1.3
PRK				eSB	Sb	08 04 05.1	+2.4
PLG	Polygyros	1.34	279	ePB	Pb	08 03 48.4	+0.1
AOS	Alonnisos	1.42	225	ePb	Pb	08 03 49.2	-0.4
AOS				eSb	Sb	08 04 07.7	+0.3
AYVA	Ayvalik	1.45	126	i P	Pn	08 03 51.0	+1.1
AYVA				i S	Sb	08 04 07.5	-1.0
KDZ	Kurdzhali	1.49	7	i P	Pn	08 04 05.0	+15
SRS	Serrai	1.53	309	ePb	Pb	08 03 50.9	-0.7
SRS				eSb	Sb	08 04 11.2	+0.6
SRS	Serrai	1.53	309	ePb	Pb	08 03 50.9	-0.7
SRS				eSb	Sb	08 04 11.2	+0.5
SOH	Sokhos	1.53	296	ePb	Pb	08 03 51.1	-0.5
NVR	Nevrokopi	1.54	320	ePN	Pn	08 03 51.3	+0.1
NVR				eSB	Sb	08 04 13.9	+2.9
RZN	Rozhen	1.55	347	i P	Pn	08 04 06.5	+15
SART	Tekirdag	1.61	71	i P	Pn	08 03 52.1	-0.1
SART				i S	Sn	08 04 15.3	+2.3
MFT	Murefte	1.72	68	PN	Pn	08 03 55.1	+1.4
MFT				SN	Sn	08 04 15.3	-0.3
NEO	Neokhori	1.74	241	ePN	Pn	08 03 53.5	-0.5
MMB	Musomiste	1.79	323	i P	Pn	08 04 08.5	+14
DIM	Dimitrovgrad	1.89	8	i P	Pn	08 04 14.0	+18
MRMT	Marmara Adasi	1.90	76	ePN	Pn	08 03 55.7	-0.6
PLD	Plovdiv	1.96	350	i P	Pn	08 04 17.5	+20
KNT	Kendrikon	1.99	300	ePn	Pn	08 03 57.9	+0.3
EDRB	Edirne	2.05	35	ePN	Pn	08 04 01.0	+2.5
LIT	Litokhoron	2.06	269	ePn	Pn	08 03 58.1	-0.5
LIT				eSn	Sn	08 04 23.9	-0.4
BNT	Bandirma	2.11	84	ePN	Pn	08 03 58.2	-1.1
BALB	Balikesir	2.15	103	ePN	Pn	08 03 57.7	-2.2
BTOK	Tokmak	2.23	100	i P	Pn	08 04 03.3	+2.2
BTOK				i S	Sn	08 04 35.7	+7.0
GRG	Griva	2.25	291	ePn	Pn	08 04 01.6	+0.2
GRG				eSn	Sn	08 04 29.0	-0.2
MPAR	Parnis Oros	2.31	209	ePG	Pg	08 04 07.5	-2.5
KKB	Krupnik	2.32	318	i P	Pn	08 04 16.5	+14
PTL	Penteli	2.35	206	ePG	Pg	08 04 07.0	-3.9
KCT	Karacabey	2.44	87	ePN	Pn	08 04 02.6	-1.4
PGB	Panagyurishte	2.49	343	P	Pn	08 04 19.0	+14
NSAL	Nisos Salamina	2.63	211	ePB	Pb	08 04 07.5	-2.8
CTT	Catalca	2.66	67	ePN	Pn	08 04 06.5	-0.7
NAIG	Nisos Aigina	2.75	209	ePG	Pg	08 04 16.5	-2.2
VTS	Vitosha	2.83	329	i P	Pn	08 04 24.5	+15
BADT	Buyukada	3.08	76	ePN	Pn	08 04 11.8	-1.4
ISK	Istanbul-Kandi	3.09	72	ePN	Pn	08 04 12.7	-0.6
HRT	Hereke	3.49	78	ePN	Pn	08 04 18.3	-0.6
TIRR	Tirgusor	4.91	28	⇑P	Pn	08 04 33.3	-5.9
TIRR	Tirgusor	4.91	28	⇑P	Pn	08 04 33.3	-5.8
MLR	Muntele Rosu	5.34	6	⇓P	Pn	08 04 43.6	-1.6
MLR	Muntele Rosu	5.34	6	⇓P	Pn	08 04 43.7	-1.6
MLR	Muntele Rosu	5.34	6	⇓P	Pn	08 04 43.6	-1.7
CFR	Carcaliu	5.46	23	⇓P	Pn	08 04 43.6	-3.2
CFR	Carcaliu	5.46	23	⇓P	Pn	08 04 43.6	-3.3
VRI	Vrincioaia	5.80	11	⇓P	Pn	08 04 52.4	+0.6
VRI	Vrincioaia	5.80	11	⇓P	Pn	08 04 52.4	+0.7
BURAR	Bucovina Array	7.44	0	⇓P	Pn	08 05 13.2	-1.6
BURAR	Bucovina Array	7.44	0	⇓P	Pn	08 05 13.2	-1.6

IDC 17 08:11:14.2±29.0**, 19.39S**×**178.82W, h659**km±318km**, mb2.8**/4**, mb1 3.0**/4**, mb1mx2.8**/15**, mbtmp3.9**/4**, Error ellipse: s-maj=306.6km s-min=82.3km az=129.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CTA	Charters Tower	32.84	263	P	P	08 16 57.2	-1.3
	2.5nm,0.5s,baz=75,slow=13,SNR=6.1						
WRA	Warramunga Arr	44.00	261	P	P	08 18 26.2	-2.2
	0.4nm,0.3s,baz=97,slow=7.5,SNR=8.2						
ASAR	Alice Springs	44.03	256	P	P	08 18 27.2	-1.3
	1.2nm,0.6s,baz=96,slow=8.1,SNR=20						
ILAR	Eielson Array	87.41	13	P	P	08 22 53.2	-1.2
	0.4nm,0.8s,baz=225,slow=3.8,SNR=5.4						

IDC 17 08:35:35.5±8.8**, 8.34N**×**85.16W, mb3.2**/2**, mb1 3.8**/3**, mb1mx3.4**/18**, mbtmp3.6**/3**, ML3.0**/1**, Error ellipse: s-maj=314.5km s-min=36.9km az=32.0, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ROSC	El Rosal	11.30	107	Pn	P	08 38 19.0	-2.5
	2.3nm,0.3s,baz=306,slow=9.3,SNR=6.6						
TXAR	Lajitas Array	27.18	323	P	P	08 41 21.2	-1.6
	0.1nm,0.6s,baz=130,slow=9.8,SNR=3.5						
YKA	Yellowknife Ar	58.15	344	P	P	08 45 30.6	-2.6
	0.1nm,0.5s,baz=147,slow=7.0,SNR=3.8						

IDC 17 08:55:36.3±4.2**, 9.78N**×**94.39E, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.6**/17**, mbtmp3.5**/4**, ML3.7**/1**, MS2.7**/1**, Ms1 2.9**/1**, ms1mx2.5**/15**, Error ellipse: s-maj=124.3km s-min=27.3km az=78.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	9.69	27	Pn	P	08 57 57.6	-2.5
	0.2nm,0.3s,baz=216,slow=16,SNR=3.1						
CMAR				LR	LR	09 02 02.4	
	comp=Z,39nm,19.0s,baz=300,slow=40						
SONM	Songino Array	39.26	13	P	P	09 03 06.3	-2.0
	1.1nm,0.9s,baz=190,slow=7.5,SNR=7.5						
WRA	Warramunga Arr	49.19	127	P	P	09 04 26.6	-1.9
	0.3nm,0.6s,baz=307,slow=8.4,SNR=3.9						
ASAR	Alice Springs	50.97	131	P	P	09 04 40.1	-1.9
	1.0nm,0.7s,baz=299,slow=7.2,SNR=5.2						

*BJI **17** 09:02:41.6, 53.24N×160.63E, h70km, mB4.9, mb4.4, Ms4.0, Msz3.9*
*MOS **17** 09:02:42.7±1.2, 53.05N×160.42E, h60km, mb4.6/15, Error ellipse: s-maj=10.8km s-min=6.3km az=88.3*
MOS Felt (II) at Petropavlovsk-Kamchatskii.
*IDC **17** 09:02:43.7±0.6, 53.17N×160.24E, h47km±4km, mb3.8/19, mb1 4.0/20, mb1mx4.0/24, mbtmp4.1/20, MS3.3/3, Ms1 3.4/3, ms1mx2.8/26, Error ellipse: s-maj=16.4km s-min=12.3km az=157.0*
*KRSC **17** 09:02:44.8±0.5, 53.10N×160.44E, h44km±4km, ML4.8*
*NEIC **17** 09:02:44.2±0.9, 53.13N×160.30E, h54km±8km, mb4.6/20, Error ellipse: s-maj=8.4km s-min=5.4km az=144.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
ISC 17 09:02:42.6±0.3**, 53.02N**±0.02×**160.61E**±0.03**, h54**km**, h54**km±4.9km**:pP-P, n135,** σ1§**25**/174**, mb4.3**/43**, MS3.6**/6**, 3C-4D, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.36	283	P	P	09 02 53.4	+0.6
SPN	Mys Shipunski	0.36	283	i P	P	09 02 53.5	+0.7
SPN				eS	S	09 02 59.9	-0.3
NLC	Nalytchevo	0.78	282	i P	P	09 02 58.3	+0.7
NLC				eS	S	09 03 08.4	-0.3
SDLR	Sedlovina	1.07	285	i P	P	09 03 02.7	+1.0
SDLR				eS	S	09 03 16.7	+0.9
UGLR	Uglovaya	1.09	281	i P	P	09 03 03.3	+1.3
UGLR				eS	S	09 03 16.6	+0.3
SMAR	Somma	1.12	283	i P	P	09 03 03.2	+0.9
SMAR				eS	S	09 03 17.2	+0.3
AVH	Avacha	1.16	283	i P	P	09 03 04.1	+1.4
AVH				eS	S	09 03 18.4	+0.6
PET	Petropavlovsk	1.18	271κ	iPN	P	09 03 03.9	+0.8
PET				eS	S	09 03 18.5	+0.1
PET				pmax	pmax		
	comp=Z,6μm,0.5s						
PET				pmax	pmax		
	comp=Z,7μm,0.4s						
PET				smax			
	comp=E,13μm,1.1s						
PET				smax			
	comp=N,14μm,1.0s						
PET				smax			
	comp=E,15μm,0.9s						
PET				smax			
	comp=N,14μm,0.8s						
PET	Petropavlovsk	1.18	271	ePn	P	09 03 03.5	+0.3
PET				eSn	S	09 03 17.2	-1.2
PET	Petropavlovsk	1.18	271	i P	P	09 03 03.8	+0.7
PET				eS	S	09 03 17.9	-0.5
KOK	Koryaka	1.22	284	i P	P	09 03 04.7	+1.0
KOK				eS	S	09 03 19.7	+0.3
KII	Karymskiy	1.23	326	P	P	09 03 04.1	+0.2
KII	Karymskiy	1.23	326	i P	P	09 03 04.0	+0.1
KII				eS	S	09 03 17.8	-1.9
RUS	Russkaya	1.40	246	i P	P	09 03 07.2	+0.8
RUS				eS	S	09 03 24.1	+0.1
KRMR	Karymshinskiy	1.51	264	i P	P	09 03 07.8	-0.1
KRMR				i S	S	09 03 25.1	-1.5
GRL	Gorelyy	1.61	254	i P	P	09 03 10.9	+1.7
GRL				i S	S	09 03 30.3	+1.4
GNL	Ganaly	1.74	294	i P	P	09 03 11.9	+0.9
GNL				eS	S	09 03 32.0	0.0
APC	Apacha	2.09	269	eP	P	09 03 17.8	+1.9
APC				i S	S	09 03 42.2	+1.5
APC				Smax			
	comp=N,10μm,0.9s						
TUMR	Tumrok	2.29	353	i P	P	09 03 20.1	+1.4
TUMR				i S	S	09 03 45.6	-0.1
KMNR	Kamenistaya	2.75	356	eP	P	09 03 26.8	+1.4
KMNR				eS	S	09 03 58.2	+0.7
PAU	Pauzhetka	2.81	238	i P	P	09 03 27.2	+1.1
PAU				eS	S	09 03 59.2	+0.3
PAU				Smax			
	comp=N,1μm,0.7s						
KPT	Kopyto	2.96	356	eP	P	09 03 30.7	+2.4
KPT				eS	S	09 04 04.2	+1.3
ZLN	Zelenaya	3.01	2	eS	S	09 04 05.1	+1.1
KOZ	Kozyrevsk	3.08	352	P	P	09 03 31.1	+1.2
KOZ				S	S	09 04 05.0	-0.7
KOZ	Kozyrevsk	3.08	352	eP	P	09 03 31.0	+1.1
KOZ				eS	S	09 04 05.0	-0.7
KOZR	Kozyr	3.08	353	PN	P	09 03 31.1	+1.1
KOZR				S	S	09 04 05.0	-0.9
ESO	Esso	3.12	340	i P	P	09 03 31.0	+0.5
ESO				eS	S	09 04 04.7	-2.1
ESO				Smax			
	comp=N,630nm,1.1s						
KRSR	Krestovskiy	3.21	360	eP	P	09 03 34.5	+2.7
KRSR				eS	S	09 04 10.6	+1.6
KLY	Klyuchi	3.30	0	P	P	09 03 34.5	+1.4
KLY				S	S	09 04 10.7	-0.7
KLY	Klyuchi	3.30	0	eP	P	09 03 34.4	+1.3
KLY				eS	S	09 04 10.7	-0.7
SRDR	Sredinnyy	3.35	351	i P	P	09 03 34.2	+0.5
SRDR				eS	S	09 04 10.6	-1.9
KBTR	Krutoberegovo	3.44	21	P	P	09 03 35.1	0.0
KBTR				S	S	09 04 11.8	-3.2
KBTR	Krutoberegovo	3.44	21	eP	P	09 03 35.2	+0.1
KBTR				eS	S	09 04 14.2	-0.8
KBG	Krutoberegovo	3.46	20	eP	P	09 03 36.1	+0.7
KBG				eS	S	09 04 14.5	-1.0
KBG				Smax			
	comp=N,1μm,1.0s						
SKR	Severo-Kuril's	3.64	232	ePN	P	09 03 35.2	-2.6
SKR				i S	S	09 04 14.1	-5.8
SKR				pmax	pmax		
	comp=Z,90nm,0.5s						
SKR				pmax	pmax		
	comp=N,40nm,0.3s						
SKR				smax			
	comp=E,880nm,0.5s						
SKR				smax			
	comp=N,2μm,0.3s						
SKR	Severo-Kuril's	3.64	232	eP	P	09 03 42.6	+4.8
SKR				i S	S	09 04 21.5	+1.6
ALID	Alaid	3.80	238	eP	P	09 03 41.1	+1.0
ALID				eS	S	09 04 22.1	-1.9
BKI	Bering	3.84	53	i P	P	09 03 40.4	-0.3
OSSR	Ossora	6.39	11	P	P	09 04 18.0	+1.6
FX1	Attu Island--F	7.59	86	P	P	09 04 32.9	-0.1
	comp=N,43nm,0.3s,baz=294,slow=4.9,SNR=523						
FX1				S	S	09 05 50.5	-8.0
	comp=N,197nm,0.3s,baz=126,slow=23,SNR=20						
FX1	Attu Island--F	7.59	86	ePn	P	09 04 32.6	-0.4
FX1				eSn	S	09 05 50.9	-7.6
MA2	Magadan	8.54	324	dePN	P	09 04 45.4	-0.8
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MA2				pmax	pmax		
	comp=N,4.0nm,1.0s						
MA2	Magadan	8.54	324	ePn	P	09 04 45.0	-1.2
	comp=N,14nm,0.9s						
ASAJ	Asahikawa	14.85	240	P	P	09 06 08.6	-1.9
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,56nm,21.7s						
ASAJ	Asahikawa	14.85	240	P	P	09 06 08.6	-1.9
	comp=Z,3.4nm,0.3s,baz=80,slow=12,SNR=40						
ASAJ				LR	LR	09 11 23.4	
	comp=Z,56nm,21.7s,baz=325,slow=35						
BILL	Bilibino	15.31	8	⇓eP	P	09 06 15.4	-0.9
BILL				eS	S	09 09 11.1	+6.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BILL	Bilibino	15.31	8	eP	P	09 06 16.0	-0.3
	comp=Z,9.5nm,1.1s						
YAK	Yakutsk	18.72	311	eP	P	09 06 54.0	-4.9
YAK				eS	S	09 10 22.0	-0.3
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				smax			
	comp=E,7.0nm,1.0s						
YAK				smax			
	comp=N,4.0nm,0.9s						
MDJ	Mudanjiang	21.94	260	P	P	09 07 30.4	-2.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb3.8						
MDJ				AMB	AMB		
	comp=Z,94nm,6.1s						
MDJ				LR	LR		
	comp=N,44nm,25.3s,MS3.1						
MDJ				LR	LR		
	comp=E,74nm,24.1s,MS3.1						
MDJ				LR	LR		
	comp=Z,69nm,20.7s,MS3.0						
MAJO	Matsushiro	22.75	233	eP	P	09 07 41.4	+0.7
MAJO				pmax	pmax		
	comp=Z,37nm,0.7s,mb4.9						
MAJO	Matsushiro	22.75	233	eP	P	09 07 41.4	+0.7
	comp=Z,37nm,0.7s,mb4.9						
MAT	Matsushiro	22.75	233	eP	P	09 07 41.0	+0.3
MAT				pmax	pmax		
	comp=Z,27nm,0.6s,mb4.8						
MAT	Matsushiro	22.75	233	eP	P	09 07 41.0	+0.3
	comp=Z,27nm,0.6s,mb4.8						
MAT	Matsushiro	22.75	233	P	P	09 07 41.3	+0.6
TIXI	Tiksi	23.28	335	⇑iP	P	09 07 43.5	-2.0
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,77nm,17.0s,MS3.2						
CN2	Changchun	24.87	262	eP	P	09 08 00.8	-0.4
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HIA	Hailar	25.66	278	P	P	09 08 05.0	-3.6
HIA				pmax	pmax		
	comp=Z,4.0nm,0.4s						
HIA	Hailar	25.66	278	P	P	09 08 05.0	-3.6
	comp=Z,4.2nm,0.4s,mb4.3						
IMA	Indian Mountai	25.89	42	P	P	09 08 11.9	+1.4
IMA				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
IMA	Indian Mountai	25.89	42	P	P	09 08 11.9	+1.4
	comp=Z,27nm,1.1s,mb4.7						
BOD	Bodaibo	26.46	299	eP	P	09 08 12.6	-3.3
BOD				e	pP	09 08 29.5	+0.2
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BOD				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb3.7						
SML	Sawmill	28.16	52	eP	P	09 08 30.9	-0.5
ILAR	Eielson Array	28.65	45	P	P	09 08 35.4	-0.3
	comp=Z,0.5nm,0.4s,mb3.6,baz=258,slow=7.9,SNR=8.1						
ILAR				LR	LR	09 19 36.8	
	comp=Z,58nm,20.1s,MS3.2,baz=263,slow=35						
ILAR	Eielson Array	28.65	45	P	P	09 08 35.4	-0.3
ILAR				LR	LR	09 19 36.8	
BJI	Beijing	32.67	265	P	P	09 09 11.1	-0.3
BJI				AP	pP	09 09 26.0	+0.7
BJI				XP	sP	09 09 33.3	+1.2
BJI				S	S	09 14 21.1	-1.5
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.5						
BJI	Beijing	32.67	265	P	P	09 09 11.1	-0.3
	comp=Z,4.0nm,0.6s,mb4.5						
BJI				pP	pP	09 09 26.0	+0.7
BJI				sP	sP	09 09 33.3	+1.2
BJI				S	S	09 14 21.1	-1.5
INK	Inuvik	33.74	38	eP	P	09 09 20.4	0.0
INK				e		09 11 54.6	
INK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
INK	Inuvik	33.74	38	P	P	09 09 21.1	+0.7
	comp=Z,0.5nm,0.3s,mb3.9,baz=275,slow=5.1,SNR=8.3						
INK	Inuvik	33.74	38	eP	P	09 09 20.4	+0.1
	comp=Z,2.4nm,0.9s,mb4.1						
INK				ePcP	PcP	09 11 54.6	-4.5
ULN	Ulaanbaatar	33.82	283	i P	P	09 09 19.9	-1.4
SONM	Songino Array	34.22	284	P	P	09 09 22.6	-2.1
	comp=Z,0.3nm,0.3s,mb3.7,baz=68,slow=7.5,SNR=3.0						
SONM				PcP	PcP	09 11 59.8	-0.8
	comp=Z,0.9nm,0.6s,baz=83,slow=1.4,SNR=8.4						
HHC	Hu-ho-hao-te	34.96	270	eP	P	09 09 32.5	+1.4
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,125nm,6.6s						
SSE	Sheshan	35.92	248	eP	P	09 09 36.4	-3.0
SSE				AMB	AMB		
	comp=Z,134nm,3.6s						
SSE	Sheshan	35.92	248	eP	P	09 09 36.4	-3.0
	comp=Z,53nm,0.7s						
NJ2	Nanjing	36.53	252	eP	P	09 09 43.8	-0.7
NJ2				AP	pP	09 09 59.8	+1.2
NJ2				XP	sP	09 10 07.3	+2.0
NJ2				PP	PP	09 11 09.4	-0.4
NJ2				S	S	09 15 22.0	-0.3
NJ2				XS		09 15 48.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,130nm,5.3s						
NJ2				LR	LR		
	comp=N,590nm,21.9s,MS4.5						
NJ2				LR	LR		
	comp=E,550nm,18.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,170nm,15.6s,MS3.9						
DLBC	Dease Lake	37.84	53	P	P	09 09 55.0	-0.2
	comp=Z,1.1nm,0.8s,mb3.6,baz=279,slow=6.0,SNR=4.1						
DLBC	Dease Lake	37.84	53	P	P	09 09 56.4	+1.3
WHN	Wuhan	40.24	255	eP	P	09 10 14.0	-1.4
YKA	Yellowknife Ar	43.01	43	P	P	09 10 38.7	+1.1
YKA				*SP	sP	09 10 55.5	-2.9
YKA	Yellowknife Ar	43.01	43	P	P	09 10 38.6	+1.0
	comp=Z,0.6nm,0.7s,mb3.4,baz=300,slow=8.2,SNR=11						
YKA				sP	sP	09 10 55.5	-2.9
	comp=Z,0.7nm,0.6s,baz=299,slow=8.1,SNR=7.3						
ZAL	Zalesovo	43.10	303	P	P	09 10 35.6	-2.8
	comp=Z,1.0nm,0.4s,mb3.9,baz=47,slow=7.7,SNR=4.2						
ZAL				LR	LR	09 30 24.8	
	comp=Z,99nm,19.4s,MS3.7,baz=82,slow=39						
RES	Resolute Bay	43.28	22	eP	P	09 10 39.1	-0.6
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
RES	Resolute Bay	43.28	22	eP	P	09 10 39.1	-0.6
	comp=Z,1.6nm,0.5s,mb4.0						
NVS	Novosibirsk	43.41	305	eP	P	09 10 37.7	-3.4
WMQ	Urumqi	47.29	290	eP	P	09 11 11.5	-0.6
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,169nm,6.6s						
WMQ				LR	LR		
	comp=Z,143nm,18.6s,MS4.0						
KURK	Kurchatov	48.04	302	P	P	09 11 14.3	-3.5
	comp=Z,78nm,0.4s,SNR=19						
KURK	Kurchatov	48.04	302	eP	P	09 11 14.7	-3.1
KURK				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb5.0						
KURK	Kurchatov	48.04	302	eP	P	09 11 14.7	-3.2
	comp=Z,8.7nm,0.6s,mb5.0						
BVAR	Borovoye Array	50.68	309	P	P	09 11 35.3	-2.8
	comp=Z,1.5nm,0.4s,mb4.3,baz=59,slow=8.6,SNR=13						
QIZ	Qiongzhong	51.70	249	eP	P	09 11 44.9	-1.3
	comp=Z,19nm,1.2s,mb4.9						
FCC	Fort Churchill	53.34	39	eP	P	09 11 56.3	-1.7
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
FCC	Fort Churchill	53.34	39	eP	P	09 11 56.3	-1.7
	comp=Z,2.0nm,0.6s,mb4.2						
ARCES	ARCESS Array B	53.46	342	P	P	09 11 56.6	-2.1
	comp=Z,3.0nm,0.8s,mb4.3,baz=24,slow=7.9,SNR=5.3						
SUMG	Summit	54.00	7	eP	P	09 12 03.2	+0.6
	comp=Z,11nm,0.8s,mb4.8						
AAK	Ala-Archa	55.39	297	eP	P	09 12 10.2	-3.0
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AAK	Ala-Archa	55.39	297	eP	P	09 12 10.2	-3.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,1.7nm,0.7s,mb4.2						
NVAR	Mina Array Bea	55.47	70	P	P	09 12 15.6	+1.7
	comp=Z,0.9nm,0.7s,mb3.9,baz=305,slow=6.1,SNR=3.9						
NVAR				sP	sP	09 12 34.0	-0.8
	comp=Z,1.2nm,0.6s,baz=291,slow=7.4,SNR=6.7						
PDAR	Pinedale Array	57.29	61	P	P	09 12 27.6	+0.9
	comp=Z,0.5nm,0.7s,mb3.7,baz=326,slow=3.6,SNR=4.7						
PDAR				sP	sP	09 12 46.5	-1.2
	comp=Z,1.6nm,0.6s,baz=298,slow=2.5,SNR=9.4						
JOF	Joensuu	57.77	335	ep	P	09 12 26.8	-3.0
	comp=Z,0.4nm,0.3s,mb3.9						
KAF	Kangasniemi	59.68	337	ep	P	09 12 40.0	-3.0
	comp=Z,1.0nm,0.4s,mb4.2						
KAF	Kangasniemi	59.68	337	eP	P	09 12 40.0	-3.0
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
FINES	FINESS Array B	60.31	337	P	P	09 12 45.2	-2.2
	comp=Z,1.1nm,0.5s,mb4.2,baz=30,slow=7.9,SNR=9.9						
FINES				pP	pP	09 12 59.3	-3.0
	comp=Z,0.4nm,0.3s,baz=34,slow=6.9,SNR=2.1						
PV10	Paradox Valley	60.67	64	P	P	09 12 46.9	-3.3
NB2	NORSAR Subarra	63.70	344	P	P	09 13 07.9	-2.0
	comp=Z,3.0nm,0.7s,mb4.4,baz=20,slow=6.5						
NB2	NORSAR Subarra	63.70	344	P	P	09 13 07.9	-2.0
NB2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NOA	NORSAR Array B	63.70	344	P	P	09 13 08.4	-1.5
	comp=Z,2.1nm,0.7s,mb4.3,baz=21,slow=6.7,SNR=7.6						
NOA				pP	pP	09 13 21.6	-3.3
	comp=Z,2.3nm,0.8s,baz=23,slow=6.9,SNR=5.3						
SCHQ	Schefferville	65.57	28	P	P	09 13 22.7	+0.6
	comp=Z,1.1nm,0.6s,mb4.0,baz=310,slow=8.3,SNR=3.8						
SCHQ	Schefferville	65.57	28	P	P	09 13 22.7	+0.6
TXAR	Lajitas Array	70.38	67	P	P	09 13 53.7	+1.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=292,slow=4.5,SNR=12						
TXAR				pP	pP	09 14 06.4	-1.3
	comp=Z,0.7nm,0.6s,baz=291,slow=5.0,SNR=6.0						
TXAR	Lajitas Array	70.38	67	P	P	09 13 53.7	+1.3
TXAR				pP	pP	09 14 06.4	-1.3
BURAR	Bucovina Array	72.80	330	⇑P	P	09 14 05.4	-1.0
MLR	Muntele Rosu	74.47	329	⇑P	P	09 14 16.9	+0.6
GERES	GERESS Array B	74.70	338	P	P	09 14 16.9	-0.6
	comp=Z,0.7nm,0.5s,mb3.8,baz=22,slow=7.2,SNR=3.9						
GIVF	Givet	75.24	344	eP	P	09 14 24.5	+4.0
WRAB	Tennant Creek	76.13	205	i P	P	09 14 26.4	+0.1
WRAB	Tennant Creek	76.13	205	eP	P	09 14 25.6	-0.7
	comp=Z,28nm,1.2s,mb5.1						
WB2	Warramunga Arr	76.14	205	eP	P	09 14 26.1	-0.2
WB2	Warramunga Arr	76.14	205	eP	sP	09 14 46.0	-1.6
WRA	Warramunga Arr	76.14	205	P	P	09 14 26.1	-0.2
	comp=Z,3.2nm,0.5s,mb4.5,baz=19,slow=6.2,SNR=41						
WRA				sP	sP	09 14 46.8	-0.9
	comp=Z,1.4nm,0.4s,baz=20,slow=12,SNR=7.1						
BRTR	Keskin Array B	76.88	321	P	P	09 14 29.6	-0.5
	comp=Z,1.5nm,0.6s,mb4.1,baz=52,slow=2.7,SNR=7.2						
FITZ	Fitzroy Crossi	77.01	214	eP	P	09 14 31.8	+0.6
	comp=Z,7.3nm,0.6s,mb4.8						
LDF	La Druitiere	77.45	347	eP	P	09 14 35.8	+2.7
LPL	La Plagne	79.32	342	eP	P	09 14 44.4	+1.0
LPG	La Plagne	79.34	342	eP	P	09 14 44.6	+1.1
	comp=Z,6.9nm,0.6s,mb4.4						
LPG	La Plagne	79.34	342	eP	P	09 14 44.6	+1.1
LPG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ASAR	Alice Springs	79.82	205	P	P	09 14 47.2	+0.7
	comp=Z,4.3nm,0.6s,mb4.6,baz=16,slow=4.9,SNR=77						
ASPA	Alice Springs	79.82	205	eP	P	09 14 47.4	+0.9
ORIF	Oris-en-Rattie	80.06	342	eP	P	09 14 47.1	-0.3
MBDF	Montbardon	80.08	341	eP	P	09 14 47.7	+0.2
MBWA	Marble Bar	81.93	218	P	P	09 14 57.1	-0.6
	comp=Z,14nm,1.0s,mb4.8						
ASF	Jabal al Asfar	82.08	315	P	P	09 14 57.7	-0.5
	comp=Z,3.7nm,0.8s,mb4.4,baz=34,slow=7.3,SNR=5.2						
SJPF	Ste Jean	82.98	347	eP	P	09 15 06.4	+3.8
ETSF	Etsaut	83.09	346	eP	P	09 15 08.4	+5.2
STKA	Stephens Creek	86.15	196	P	P	09 15 18.4	-0.2
QSPA	South Pole Qui	142.76	180	ePKPdf	PKPdf	09 22 05.1	-2.8

NIED 17 09:07:00, 31.70N×129.00E, h5km, Mw4.0 Best double couple: $M_0$1.11×10^{15} NP1:ϕ_s214°, δ65°, λ-115°. NP2: ϕ_s82°, δ35°, λ-48°.

JMA 17 09:07:08.6±0.1, 31.73N×129.04E, h17km±1km, M4.0, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JSJ	Shimokoshiki	0.58	95	⇑P	Pb	09 07 19.6	-0.3
JSJ				S	Sb	09 07 27.3	-0.3
JFU	Fukue jima 2	0.95	345	P	Pb	09 07 26.4	+0.1
JFU				S	Sb	09 07 39.5	+1.0
NGSJ	Nagasakinomoza	1.11	35	P	Pb	09 07 29.3	+0.4
NGSJ				S	Sb	09 07 43.8	+0.9
JHD	Hondo	1.19	52	P	Pb	09 07 29.8	-0.4
JHD				eS	Sb	09 07 46.1	+1.0
JIU2	Izumi 2	1.71	61	P	Pn	09 07 37.4	-0.6
JTZ	Takazaki	1.75	84	⇓P	Pn	09 07 38.0	-0.6
JTZ				eS	Sn	09 08 01.4	+0.8
JTN	Tanegashima 3	1.98	122	P	Pn	09 07 41.8	0.0

IDC 17 09:20:46.6±8.2, 16.44S×173.39W, mb3.9/3, mb1 4.2/3, mb1mx3.7/15, mbtmp3.9/3, Error ellipse: s-maj=359.4km s-min=36.2km az=140.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	49.62	258	P	P	09 29 39.7	-2.3
	0.4nm,0.6s,baz=95,slow=8.1,SNR=12						
ASAR	Alice Springs	49.80	253	P	P	09 29 41.9	-1.6
	6.0nm,0.7s,baz=87,slow=7.7,SNR=75						
ILAR	Eielson Array	83.46	11	P	P	09 33 15.7	-1.4
	0.2nm,0.5s,baz=219,slow=5.8,SNR=6.6						

IDC 17 09:34:34.9±10.0, 4.04N×95.46E, mb3.6/3, mb1 3.9/4, mb1mx3.7/17, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=337.8km s-min=34.4km az=68.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	14.73	13	Pn	P	09 38 09.5	+2.9
	0.3nm,0.3s,baz=201,slow=13,SNR=4.9						
SONM	Songino Array	44.63	10	P	P	09 42 49.1	-1.8
	0.2nm,0.4s,baz=183,slow=10.0,SNR=3.2						
WRA	Warramunga Arr	45.03	123	P	P	09 42 52.6	-1.9
	1.7nm,0.6s,baz=302,slow=9.2,SNR=22						
ASAR	Alice Springs	46.50	128	P	P	09 43 04.3	-1.7
	0.3nm,0.3s,baz=295,slow=7.3,SNR=4.8						

IDC 17 09:39:38.0±7.5, 5.10S×153.66E, h181km±61km, mb3.1/3, mb1 3.4/4, mb1mx3.2/14, mbtmp3.6/4, Error ellipse: s-maj=142.7km s-min=30.2km az=125.0, New Ireland region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.74	236	P	P	09 41 27.1	-1.6
	0.8nm,0.3s,baz=51,slow=13,SNR=3.1						
PMG				S	S	09 42 57.2	+2.0
	1.2nm,0.3s,baz=270,slow=20,SNR=3.3						
WRA	Warramunga Arr	23.91	230	P	P	09 44 35.7	-0.9
	2.0nm,0.7s,baz=54,slow=9.7,SNR=25						
ASAR	Alice Springs	26.52	224	P	P	09 44 58.6	-2.3
	0.3nm,0.4s,baz=57,slow=9.4,SNR=4.6						
ILAR	Eielson Array	82.11	22	P	P	09 51 38.2	-1.1
	0.2nm,0.8s,baz=250,slow=4.5,SNR=4.7						

CASC 17 09:46:26.2±1.4, 12.96N×88.66W, h36km±465km, MD3.6, ML3.6, 2C-6D, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BLLM	Bellamira	0.63	41	⇓eP	P	09 46 38.9	+0.3
BLLM				eS	S	09 46 48.7	+1.1
SNVI	San Vicente	0.67	345	⇓eP	P	09 46 39.9	+0.7
SNVI				eS	S	09 46 49.4	+0.9
LCBS	La Ceiba	0.75	336	⇓eP	P	09 46 40.8	+0.4
LCBS				eS	S	09 46 50.6	-0.1
LFRS	El Faro	0.76	329	⇓eP	P	09 46 40.9	+0.4
LFRS				eS	S	09 46 51.5	+0.6
LBRS	Las Brisas	0.85	334	eP	P	09 46 42.0	+0.2
LBRS				eS	S	09 46 54.2	+0.9
CNCH	Conchagua	0.86	69	⇑eP	P	09 46 41.2	-0.7
CNCH				eS	S	09 46 53.7	+0.2
SNET	Serv Nac Est T	0.91	322	eP	P	09 46 41.9	-0.7
SNET				eS	S	09 46 54.7	+0.1
SNET				i		09 46 57.8	
	comp=Z,2μm,0.3s						
CAHU	Cacacuatique	0.91	29	⇑eP	P	09 46 43.1	+0.5
CAHU				eS	S	09 46 56.2	+1.4
BOQS	Boqueron	0.97	322	⇓eP	P	09 46 43.9	+0.4
BOQS				eS	S	09 46 57.8	+1.4
SBLS	San Blas	1.28	313	eP	P	09 46 48.0	+0.2
SBLS				eS	S	09 47 05.0	+1.0
RTR	El Retiro	1.33	314	eP	P	09 46 48.9	+0.2
RTR				eS	S	09 47 05.9	+0.4
RBDL	Robledal	1.52	319	eP	P	09 46 51.4	+0.1
MTO2	Montecristo 2	1.58	335	eP	P	09 46 52.0	-0.2
IXG	Ixpaco	2.12	305	⇓eP	P	09 46 59.1	-0.8
IXG				eS	S	09 47 24.2	-1.1
JAT	Jato	3.19	295	eS	S	09 47 51.8	-0.7

STR 17 10:18:06.9±0.2, 42.62N×0.83E, h5km±1km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 17 10:18:06.9, 42.62N×0.83E, h5km, ML2.5(STR), ML2.5(LDG), MN1.8(MDD), After STR.
LDG 17 10:18:07.0±0.1, 42.62N×0.82E, h7km, Md2.3/2, Ml2.5/7, Error ellipse: s-maj=0.9km s-min=0.7km az=32.0
MDD 17 10:18:07.4±0.3, 42.61N×0.83E, h8km±7km, mbLg1.8/17, Error ellipse: s-maj=1.9km s-min=1.2km az=19.0, PRXIMO
CSEM 17 10:18:07.1±0.1, 42.62N×0.82E, h10km, ML2.6/7, Error ellipse: s-maj=1.1km s-min=0.9km az=159.0

ISC 17 10:18:05.8±0.3, 42.61N±0.02×0.83E±0.02, h5km, n52, σ1s23/61, Pyrenees

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MELF	Melles	0.27	349	Pg	Pg	10 18 12.8	+1.6
MELF				Sg	Sg	10 18 16.5	+1.7
MELF	Melles	0.27	349	Pg	Pg	10 18 12.8	+1.6
MELF				Lg		10 18 16.6	
SALF	Salau	0.30	61	Pg	Pg	10 18 13.2	+1.3
SALF				Sg	Sg	10 18 17.2	+1.2
SALF	Salau	0.30	61	Pg	Pg	10 18 13.2	+1.3
SALF				Lg		10 18 17.2	
CSOR	Sort	0.33	136	Pg	Pg	10 18 13.4	+1.0
CSOR				Lg		10 18 18.0	
	12nm,0.1s						
MLS	Moulis	0.40	29	Pg	Pg	10 18 14.9	+1.1
MLS				Sg	Sg	10 18 20.0	+0.9
MLS	Moulis	0.40	29	Pg	Pg	10 18 15.0	+1.2
MLS				Lg		10 18 20.4	
RESF	Ens	0.41	299	Pg	Pg	10 18 15.2	+1.1
RESF				Sg	Sg	10 18 20.7	+1.1
RESF	Ens	0.41	299	Pg	Pg	10 18 15.3	+1.2
RESF				Lg		10 18 20.7	
EBIE	Bielsa	0.51	279	Pg	Pg	10 18 16.9	+0.8
	3.8nm,0.3s,SNR=25						
EBIE				Lg		10 18 23.7	
	20nm,0.4s,SNR=44						
EBIE	Bielsa	0.51	279	Pg	Pg	10 18 16.9	+0.8
	3.8nm,0.3s,SNR=25						
CORG	Organya	0.53	136	Pg	Pg	10 18 17.2	+0.9
CORG				Lg		10 18 24.3	
	3.5nm,0.1s						
PAND	Andorre	0.54	99	Lg		10 18 23.7	
EPF	Esparros	0.55	320	ePg	Pg	10 18 17.6	+0.7
EPF				eSg	Sg	10 18 24.2	-0.1
	32nm,0.3s						
GRBF	Gourbit	0.57	66	Pg	Pg	10 18 18.1	+0.9
GRBF				Lg		10 18 25.3	
VIEF	Viey	0.65	295	Pg	Pg	10 18 19.3	+0.4
VIEF				Sg	Sg	10 18 27.6	0.0
VIEF	Viey	0.65	295	Pg	Pg	10 18 19.4	+0.6
VIEF				Lg		10 18 28.0	
LABF	Labassere	0.71	308	Pg	Pg	10 18 20.8	+0.8
LABF				Lg		10 18 30.3	
CAVN	Les Avellanes	0.73	185	Pg	Pg	10 18 21.0	+0.6
CAVN				Lg		10 18 31.7	
	12nm,0.1s						
CLLI	Llivia	0.86	98	Pg	Pg	10 18 23.3	+0.4
CLLI				Lg		10 18 34.8	
	2.7nm,0.1s						
EMIR	Miracle	0.87	143	Pg	Pg	10 18 24.2	+1.0
	5.1nm,0.3s,SNR=7.6						
EMIR				Lg		10 18 36.0	
	6.3nm,0.3s,SNR=6.3						
EMIR	Miracle	0.87	143	Pg	Pg	10 18 24.2	+1.1
	5.1nm,0.3s,SNR=7.6						
VALF	Valcebollere	0.90	103	Lg		10 18 35.2	
CARF	Carcanieres	0.95	83	Pg	Pg	10 18 25.0	+0.3
CARF				Sg	Sg	10 18 37.4	0.0
CARF	Carcanieres	0.95	83	Pg	Pg	10 18 25.1	+0.3
CARF				Lg		10 18 37.4	
ETSF	Etsaut	1.06	286	ePg	Pg	10 18 26.5	-0.5
ETSF				eSg	Sg	10 18 40.7	-0.5
	18nm,0.2s						
ATE	Arette	1.22	293	Lg		10 18 46.0	
MTLF	Montolieu	1.25	54	ePg	Pg	10 18 30.6	-0.2
MTLF				eSg	Sg	10 18 47.0	-0.5
	6.8nm,0.3s						
EPOB	Poblet	1.27	172	Pg	Pg	10 18 30.6	-0.6
	1.5nm,0.3s,SNR=13						
EPOB				Lg		10 18 47.4	
	7.3nm,0.3s,SNR=14						
EPOB	Poblet	1.27	172	Pg	Pg	10 18 30.6	-0.6
	1.5nm,0.3s,SNR=13						
FILF	Fillols	1.28	92	Pg	Pg	10 18 29.1	-2.3
FILF	Fillols	1.28	92	Pg	Pg	10 18 29.6	-1.7
FILF				Lg		10 18 44.8	
ESAC	San Caprasio	1.31	228	Pg	Pg	10 18 32.5	+0.4
	24nm,0.3s,SNR=12						
ESAC				Lg		10 18 50.5	
	86nm,0.3s,SNR=25						
ESAC	San Caprasio	1.31	228	Pg	Pg	10 18 32.5	+0.5
	24nm,0.3s,SNR=12						
CGAR	Garraf	1.34	170	Lg		10 18 56.8	
	3.2nm,0.1s						
LARF	Larrau	1.40	288	Lg		10 18 52.2	
CFON	Fontmartina	1.47	125	Pg	Pg	10 18 34.5	-0.5
CFON				Lg		10 18 53.6	
	21nm,0.2s						
EJON	La Jonquera	1.53	95	Pg	Pg	10 18 36.3	-0.1
	SNR=7.9						
EJON				Lg		10 18 57.0	
	3.5nm,0.3s,SNR=7.9						
EJON	La Jonquera	1.53	95	Pg	Pg	10 18 36.3	-0.1
	SNR=7.9						
SJPF	Ste Jean	1.59	289	ePg	Pg	10 18 36.3	-1.3
SJPF				eSg	Sg	10 18 56.7	-2.1
	18nm,0.4s						
ERTA	Horta de San J	1.69	193	Pn	Pn	10 18 35.7	-0.6
ERTA				Lg		10 19 00.4	
ERTA	Horta de San J	1.69	193	Pn	Pn	10 18 35.7	-0.6
	SNR=7.9						
ERTA				Lg		10 19 01.0	
	6.5nm,0.4s,SNR=7.9						
ERTA	Horta de San J	1.69	193	Pn	Pn	10 18 35.7	-0.6
	SNR=7.9						
EALK	Alkurruntz	1.82	290	Pg	Pg	10 18 42.5	+0.4
EALK				Lg		10 19 06.5	
EALK	Alkurruntz	1.82	290	Pg	Pg	10 18 42.0	-0.1
	0.3nm,0.2s,SNR=7.9						
EALK				Lg		10 19 06.5	
	15nm,0.3s,SNR=7.9						
EALK	Alkurruntz	1.82	290	Pg	Pg	10 18 42.5	+0.3
	0.3nm,0.2s,SNR=7.9						
LFF	La Frestale	2.33	358	eSg	Sg	10 19 19.6	-3.7
	14nm,0.4s						
EMOS	Mosqueruela	2.45	204	Pg	Pg	10 18 52.1	-2.5
	SNR=7.9						
EMOS				Lg		10 19 23.8	
	1.9nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	2.45	204	Pg	Pg	10 18 52.2	-2.5
CAF	Calviac	2.48	21	ePn	Pn	10 18 46.2	-1.3
CAF				ePg	Pg	10 18 52.6	-2.7
CAF				eSg	Sg	10 19 24.6	-3.8
	3.0nm,0.2s						
LASF	Ste Croix	2.65	55	ePg	Pg	10 18 56.1	-2.6
LASF				eSg	Sg	10 19 30.3	-3.7
	1.9nm,0.2s						
RJF	Les Rejaudoux	2.74	10	ePg	Pg	10 18 57.5	-3.0
RJF				eSg	Sg	10 19 32.5	-4.4
	3.7nm,0.2s						

IDC 17 10:30:14.3±1.2, 3.02S×142.15E, mb3.8/3, mb1 4.1/4, mb1mx3.9/12, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=127.8km s-min=26.3km az=113.0

ISC 17 10:30:17.9±1.1, 2.9S±0.2×141.7E±0.4, h33km, n9, σ0s39/7, mb3.8/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.34	223	eP	P	10 33 27.3	-0.2
	10nm,0.4s						
WB2	Warramunga Arr	18.37	202	eP	P	10 34 32.2	+0.2
WRA	Warramunga Arr	18.38	202	P	P	10 34 32.5	+0.4
	0.4nm,0.3s,baz=25,slow=12,SNR=27						
FITZ	Fitzroy Crossi	21.78	225	eP	P	10 35 09.1	+0.2
	11nm,1.5s,mb4.1						
ASAR	Alice Springs	21.95	199	P	P	10 35 09.9	-0.6
	1.0nm,0.8s,mb3.3,baz=31,slow=10,SNR=11						
ILAR	Eielson Array	84.80	24	P	P	10 42 49.6	-0.4
	1.4nm,0.6s,mb4.3,baz=273,slow=4.2,SNR=19						
YKA	Yellowknife Ar	98.90	27	P	P	10 43 56.2	+0.5
	0.1nm,0.7s,mb3.5,baz=283,slow=4.9,SNR=4.3						
LPAZ	La Paz	144.92	124	PKP	PKPdf	10 49 54.2	+1.6
	1.6nm,0.7s,baz=253,slow=4.9,SNR=9.1						
DBIC	Dimbokro	146.43	278	PKPbc	PKPbc	10 49 59.2	+2.6
	5.8nm,1.1s,baz=327,slow=6.0,SNR=3.6						

NEIC 17 10:34:14.8±4.4, 22.10S×178.75W, h550km±52km, mb4.6/2, Error ellipse: s-maj=27.2km s-min=16.0km az=201.0
IDC 17 10:34:14.3±6.8, 22.04S×178.71W, h540km±82km, mb3.2/7, mb1 3.4/8, mb1mx3.3/16, mbtmp4.1/8, Error ellipse: s-maj=52.7km s-min=27.1km az=171.0

ISC 17 10:34:14.4±4.9, 22.0S±0.3×178.8W±0.2, h553km±64km, n16, σ0s58/15, mb3.8/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.54	191	P	P	10 37 38.2	-0.2
	0.2nm,0.3s,baz=100,slow=6.1,SNR=3.0						
CTA	Charters Tower	32.61	267	P	P	10 40 02.6	+0.4
	1.4nm,0.3s,mb3.9,baz=82,slow=13,SNR=4.9						
STKA	Stephens Creek	36.45	246	P	P	10 40 35.6	+1.6
	1.0nm,0.4s,mb3.7,baz=83,slow=4.3,SNR=3.9						
STKA	Stephens Creek	36.45	246	eP	P	10 40 33.5	-0.5
ASAR	Alice Springs	43.44	258	P	P	10 41 30.8	+0.5
	3.0nm,0.6s,mb4.0,baz=93,slow=8.1,SNR=41						
ASAR				PcP	PcP	10 43 06.4	-0.1
	0.6nm,0.6s,baz=103,slow=4.0,SNR=4.6						
ASPA	Alice Springs	43.44	258	eP	P	10 41 30.9	+0.6
WB2	Warramunga Arr	43.64	264	eP	P	10 41 31.5	-0.4
WRAB	Tennant Creek	43.64	264	eP	P	10 41 31.3	-0.6
	6.7nm,0.8s,mb4.2						
WRA	Warramunga Arr	43.65	264	P	P	10 41 31.6	-0.4
	1.1nm,0.3s,mb3.9,baz=96,slow=7.6,SNR=86						
MBWA	Marble Bar	56.78	259	eP	P	10 43 07.6	-0.6
PMSA	Palmer Station	80.19	157	eP	P	10 45 28.2	+0.2
	44nm,0.9s,mb4.8						
NVAR	Mina Array Bea	82.66	44	P	P	10 45 42.0	+0.9
	0.4nm,0.5s,mb3.2,baz=219,slow=7.2,SNR=5.5						
NVAR	Mina Array Bea	82.66	44	P	P	10 45 42.0	+0.9
TXAR	Lajitas Array	88.53	58	P	P	10 46 08.9	-0.7
	0.6nm,1.0s,mb3.4,baz=270,slow=3.8,SNR=3.7						
PDAR	Pinedale Array	90.60	44	P	P	10 46 18.6	-0.2
	0.5nm,0.8s,mb3.5,baz=225,slow=2.1,SNR=3.7						
ARCES	ARCESS Array B	130.28	349	PKP	PKPdf	10 52 21.2	-0.1
	2.0nm,0.9s,baz=315,slow=2.6,SNR=3.6						

NEIC 17 10:40:21.6±0.6, 5.18S×152.29E, h35km, mb4.6/7, Error ellipse: s-maj=23.6km s-min=8.1km az=124.0
IDC 17 10:40:22.7±5.8, 5.26S×152.35E, h43km±55km, mb3.7/5, mb1 3.9/7, mb1mx3.9/14, mbtmp3.9/7, ML3.2/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/12, Error ellipse: s-maj=54.2km s-min=30.9km az=122.0

ISC 17 10:40:21.1±3.4, 5.3S±0.1×152.3E±0.2, h44km±30km, n21, σ0s99/22, mb4.1/9, New Britain region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.55	231	P	P	10 41 58.1	+0.7
	1.2nm,0.3s,baz=54,slow=1.9,SNR=3.9						
PMG				S	S	10 43 10.7	-0.9
	6.0nm,0.3s,baz=103,slow=14,SNR=9.0						
PMG	Port Moresby	6.55	231	ePn	P	10 41 56.8	-0.5
PMG				eSn	S	10 43 05.3	-6.3
PMG				S	S	10 43 10.7	-0.9
CTA	Charters Tower	15.87	201	P	P	10 44 02.9	-0.2
	0.1nm,0.3s,baz=32,slow=13,SNR=2.6						
CTA				LR	LR	10 49 29.6	
	comp=Z,160nm,18.9s,baz=43,slow=34						
CTA	Charters Tower	15.87	201	P	P	10 44 02.9	-0.2
CTA				LR	LR	10 49 29.6	
GUMO	Guam	20.12	339	P	P	10 44 57.1	+2.9
	237nm,1.0s						
KAKA	Kakadu	20.95	248	eP	P	10 45 00.9	-1.9
	6.7nm,0.4s						
WRAB	Tennant Creek	22.75	229	eP	P	10 45 21.4	+0.6
	7.4nm,0.7s,mb4.2						
WB2	Warramunga Arr	22.75	229	eP	P	10 45 22.2	+1.4
WRA	Warramunga Arr	22.76	229	P	P	10 45 21.7	+0.7
	1.9nm,0.6s,mb3.7,baz=52,slow=9.8,SNR=13						
ASAR	Alice Springs	25.47	222	P	P	10 45 47.9	+0.8
	1.9nm,0.7s,mb3.7,baz=56,slow=9.3,SNR=22						
ASPA	Alice Springs	25.47	222	eP	P	10 45 47.5	+0.4
STKA	Stephens Creek	28.31	199	P	P	10 46 13.1	+0.1
FITZ	Fitzroy Crossi	29.00	242	eP	P	10 46 17.9	-1.3
	5.8nm,0.5s,mb4.6						
CMAR	Chiang Mai Arr	57.62	296	pP	pP	10 50 22.1	0.0
	0.5nm,0.4s,baz=120,slow=7.3,SNR=4.0						
SONM	Songino Array	66.44	328	P	P	10 51 08.5	+0.3
	0.6nm,0.6s,mb3.8,baz=142,slow=4.1,SNR=5.3						
MCK	McKinley	81.48	23	eP	P	10 52 34.2	-0.9
	8.1nm,1.1s,mb4.6						
COLA	College	82.46	22	eP	P	10 52 39.4	-0.7
	6.2nm,1.0s,mb4.5						
ILAR	Eielson Array	82.77	22	P	P	10 52 40.8	-0.9
	1.8nm,0.8s,mb4.1,baz=246,slow=5.2,SNR=25						
YKA	Yellowknife Ar	96.07	28	P	P	10 53 45.5	+0.7
	0.3nm,0.7s,mb3.9,baz=268,slow=4.7,SNR=11						
YKA	Yellowknife Ar	96.07	28	P	P	10 53 45.5	+0.7
SNAA	Sanae	101.51	188	ePdif	P	10 54 07.5	-1.9
	16nm,1.3s						

NNC 17 11:06:21.3±4.1, 43.16N×74.55E, mpv2.7, Error ellipse: s-maj=99.1km s-min=10.0km az=106.0
KNET 17 11:06:21.4±0.4, 43.01N×74.90E, h12km±3km, ml1.7, Error ellipse: s-maj=2.7km s-min=2.3km az=32.0

ISC 17 11:06:21.6±0.7, 43.06N±0.04×74.91E±0.04, h6km±5km, n12, σ0s40/22, 14C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHMS	Chumysh	0.13	244	⇑P	Pg	11 06 24.3	-0.2
	162nm,0.2s,SNR=181						
CHMS				⇑S	Sg	11 06 26.1	-0.2
	210nm,0.2s						
USP	Ospenovka	0.37	305	P	Pg	11 06 29.1	+0.1
	59nm,0.1s,SNR=131						
USP				⇓S	Sg	11 06 34.6	+0.6
	127nm,0.2s						
KBK	Karagaybulak	0.40	176	P	Pg	11 06 29.8	+0.1
	137nm,0.2s,SNR=163						
KBK				⇑S	Sg	11 06 36.0	+0.9
	325nm,0.4s						
TKM2	Tokmak 2	0.52	105	⇑P	Pg	11 06 31.6	-0.4
	13nm,0.1s,SNR=63						
TKM2				⇓S	Sg	11 06 39.0	0.0
	80nm,0.1s						
AAK	Ala-Archa	0.52	216	⇑P	Pg	11 06 31.7	-0.4
	15nm,0.2s,SNR=6.2						
AAK				⇓S	Sg	11 06 39.0	-0.1
	67nm,0.3s						
AAK	Ala-Archa	0.52	216	⇑P	Pg	11 06 31.6	-0.5
	5.0nm,0.3s						
AAK				⇓S	Sg	11 06 39.0	-0.1
	24nm,0.3s						
UCH	Uchtor	0.88	200	P	Pb	11 06 38.2	-0.6
	5.2nm,0.2s,SNR=24						
UCH				⇑S	Sb	11 06 50.0	-0.6
	9.7nm,0.2s						
EKS2	Erkin-Say	0.93	245	⇑P	Pb	11 06 39.3	-0.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	12nm,0.1s,SNR=50						
EKS2				⇑S	Sb	11 06 52.0	+0.1
	10.0nm,0.2s						
KZA	Kyzart	1.01	166	⇑P	Pb	11 06 41.0	-0.1
	8.4nm,0.2s,SNR=22						
KZA				⇑S	Sb	11 06 55.1	+0.7
	13nm,0.2s						
ULHL	Ulahol	1.27	129	⇓P	Pb	11 06 45.4	-0.2
	2.5nm,0.1s,SNR=22						
AML	Almayashu	1.29	225	⇑P	Pb	11 06 45.9	0.0
	6.5nm,0.2s,SNR=30						
AML				⇑S	Sb	11 07 03.0	+0.4
	16nm,0.2s						
MK31	Makanchi Array	6.43	52	⇑P	Pn	11 07 59.4	+0.2
	0.6nm,0.6s,baz=237,slow=14,SNR=6.2						

IDC 17 11:10:16.3±7.6, 6.25S×146.72E, h54km±60km, mb3.5/2, mb1 3.9/4, mb1mx3.6/13, mbtmp4.0/4, ML3.6/2, Error ellipse: s-maj=68.2km s-min=49.0km az=66.0

ISC 17 11:10:18.9±5.2, 6.4S±0.3×146.7E±0.3, h83km±29km, n8, σ0.55/9, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	2.99	170	P	P	11 11 04.9	-0.3
	14nm,0.3s,baz=1.6,slow=12,SNR=92						
PMG				S	S	11 11 40.4	+0.3
	30nm,0.3s,baz=208,slow=20,SNR=6.2						
KAKA	Kakadu	15.33	245	eP	P	11 13 52.9	+1.0
	11nm,0.4s						
WB2	Warramunga Arr	17.97	221	eP	P	11 14 24.2	-0.6
WRA	Warramunga Arr	17.97	221	P	P	11 14 24.1	-0.8
	0.5nm,0.3s,baz=39,slow=11,SNR=40						
ASAR	Alice Springs	21.06	214	P	P	11 14 57.7	-0.5
	1.7nm,0.3s,mb3.8,baz=46,slow=9.1,SNR=48						
ASPA	Alice Springs	21.06	214	eP	P	11 14 58.3	+0.1
FITZ	Fitzroy Crossi	23.54	239	eP	P	11 15 22.6	+0.1
	17nm,0.6s,mb4.5						
STKA	Stephens Creek	25.74	190	P	P	11 15 44.1	+0.6
	0.9nm,0.4s,mb3.6,baz=5.2,slow=11,SNR=5.5						

NEIC 17 11:16:30.6±0.8, 10.22S×161.55E, mb4.1/5, Error ellipse: s-maj=21.4km s-min=13.7km az=138.0
IDC 17 11:16:30.2±1.6, 10.24S×161.57E, h78km±7km, mb3.4/5, mb1 3.7/6, mb1mx3.6/15, mbtmp3.8/6, MS3.2/3, Ms1 3.2/3, ms1mx2.9/11, Error ellipse: s-maj=60.6km s-min=18.7km az=135.0

ISC 17 11:16:29.0±0.8, 10.3S±0.1×161.47E±0.09, h79km, h79km±3.5km:pP-P, n15, σ0.74/15, mb3.7/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.74	300	ePn	P	11 16 59.5	+1.6
HNR				eSn	S	11 17 18.5	-0.6
PMG	Port Moresby	14.13	272	LR	LR	11 24 31.5	
	comp=Z,125nm,19.6s,baz=280,slow=34						
CTA	Charters Tower	17.60	235	eP	P	11 20 34.6	+4.0
	3.9nm,0.6s						
CTA	Charters Tower	17.60	235	P	P	11 20 34.5	+3.9
	0.4nm,0.3s,baz=61,slow=13,SNR=10						
CTA				LR	LR	11 26 14.5	
	comp=Z,60nm,18.7s,baz=47,slow=33						
CTAO	Charters Tower	17.60	235	eP	P	11 20 34.3	+3.7
	4.1nm,0.8s						
WRAB	Tennant Creek	27.84	247	eP	P	11 22 12.7	-0.6
	15nm,1.3s,mb4.4						
WRAB				e	pP	11 22 32.9	+1.3
WB2	Warramunga Arr	27.84	247	eP	P	11 22 13.3	0.0
WRA	Warramunga Arr	27.85	247	P	P	11 22 13.1	-0.3
	1.0nm,0.5s,mb3.6,baz=77,slow=9.0,SNR=13						
WRA				pP	pP	11 22 33.0	+1.3
	1.7nm,0.6s,baz=76,slow=9.0,SNR=8.0						
ASAR	Alice Springs	29.45	240	P	P	11 22 27.2	-0.4
	0.4nm,0.7s,mb3.2,baz=68,slow=9.7,SNR=3.7						
ASAR				pP	pP	11 22 47.3	+1.2
	0.4nm,0.6s,baz=69,slow=10,SNR=2.4						
ASAR				LR	LR	11 32 59.5	
	comp=Z,42nm,21.3s,baz=185,slow=34						
SONM	Songino Array	75.63	325	P	P	11 28 07.4	+0.3
	0.6nm,0.7s,mb3.5,baz=135,slow=4.1,SNR=4.8						
SONM				pP	pP	11 28 26.8	-1.5
	1.0nm,0.6s,baz=136,slow=4.7,SNR=6.7						
QSPA	South Pole Qui	79.69	180	eP	P	11 28 29.6	+0.6
	6.8nm,1.1s,mb4.4						
MCK	McKinley	82.84	20	eP	P	11 28 45.0	-0.8
	1.7nm,0.9s,mb3.9						
ILAR	Eielson Array	84.19	20	P	P	11 28 52.4	-0.1
	0.2nm,0.5s,mb3.2,baz=243,slow=5.3,SNR=7.2						
ILAR				pP	pP	11 29 13.1	-0.9
	0.3nm,0.8s,baz=244,slow=4.6,SNR=2.6						
YKA	Yellowknife Ar	96.26	28	P	P	11 29 49.4	+0.1
	0.2nm,0.6s,mb3.7,baz=258,slow=4.5,SNR=8.8						
YKA				pP	pP	11 30 09.7	-1.5
	0.2nm,0.7s,baz=260,slow=4.4,SNR=2.5						
YKA	Yellowknife Ar	96.26	28	P	P	11 29 49.4	+0.1
YKA				pP	pP	11 30 09.7	-1.5

IDC 17 11:31:28.1±1.0, 2.77N×128.50E, mb3.8/6, mb1 4.0/6, mb1mx3.9/15, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.5/25, Error ellipse: s-maj=57.0km s-min=18.8km az=70.0
NEIC 17 11:31:30.2±0.6, 2.85N×128.46E, h20km, mb4.4/5, Error ellipse: s-maj=34.9km s-min=10.4km az=74.0
BJI 17 11:31:30.0, 2.80N×128.50E, h20km, mB5.3, mb4.0

ISC 17 11:31:30.7±0.8, 2.8N±0.1×128.3E±0.3, h33km, n15, σ0.85/14, mb4.2/10, MS3.4/1, Halmahera

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	20.91	187	eP	P	11 36 12.0	-0.9
	17nm,1.5s						
PMG	Port Moresby	22.36	123	LR	LR	11 44 59.3	
	comp=Z,131nm,19.8s,MS3.4,baz=279,slow=37						
WRAB	Tennant Creek	23.34	165	eP	P	11 36 37.2	0.0
	48nm,1.4s,mb4.7						
WRA	Warramunga Arr	23.34	165	P	P	11 36 37.3	0.0
	5.9nm,0.7s,mb4.1,baz=343,slow=10,SNR=41						
WB2	Warramunga Arr	23.35	165	eP	P	11 36 37.6	+0.3
ASAR	Alice Springs	26.84	169	P	P	11 37 10.4	0.0
	1.0nm,0.6s,mb3.5,baz=357,slow=8.2,SNR=15						
ASAR				PcP	PcP	11 40 32.3	-0.6
	0.4nm,0.6s,baz=351,slow=2.3,SNR=4.6						
ASPA	Alice Springs	26.84	169	eP	P	11 37 11.0	+0.6
CMAR	Chiang Mai Arr	32.69	301	P	P	11 38 04.0	+1.4
	0.4nm,0.4s,mb3.7,baz=113,slow=7.1,SNR=4.3						
KMI	Kunming	33.15	314	P	P	11 38 11.8	+5.3
KMI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.8						
STKA	Stephens Creek	36.71	161	P	P	11 38 36.6	-0.1
	comp=Z,3.2nm,0.8s,mb4.2,baz=333,slow=9.0,SNR=11						
LZH	Lanzhou	40.11	329	eP	P	11 39 03.9	-1.2
LZH				AP	pP	11 39 13.5	-1.4
LZH				XP	sP	11 39 18.0	-1.1
LZH				AMB	AMB		
	comp=Z,38nm,1.5s,mb4.9						
LZH	Lanzhou	40.11	329	eP	P	11 39 03.9	-1.2
	comp=Z,38nm,1.5s,mb4.9						
LZH				pP	pP	11 39 13.5	-1.4
LZH				sP	sP	11 39 18.0	-1.1
GTA	Gaotai	44.71	328	P	P	11 39 41.1	-1.6
GTA				AP	pP	11 39 54.1	+1.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.0						
ULN	Ulaanbaatar	48.51	341	P	P	11 40 12.7	+0.2
	comp=Z,2.7nm,0.9s,mb4.3						
SONM	Songino Array	48.70	340	P	P	11 40 15.2	+1.2
	comp=Z,0.2nm,0.5s,mb3.4,baz=154,slow=6.8,SNR=3.5						

PRU 17 11:44:06.5, 50.35N×18.85E

WAR 17 11:44:06.9, 50.26N×18.93E, h1km, MW2.5, Mw2.4, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.56	94	ePg	Pg	11 44 17.7	-0.4
OJC				eSg	Sg	11 44 25.9	+0.3
OKC	Ostrava-Krasne	0.66	230	ePG	Pg	11 44 19.5	-0.6
NIE	Niedzica	1.23	133	ePg	Pg	11 44 28.3	-3.2
NIE				eSg	Sg	11 44 45.9	-2.0
DPC	Dobruska-Polom	1.67	274	ePG	Pg	11 44 36.1	-4.3
DPC				eSG	Sg	11 44 58.2	-4.5
VYHS	Vyhne	1.77	182	ePN	Pn	11 44 39.8	+0.8
VYHS				eSN	Sn	11 45 01.7	-0.7
CRVS	Cervenica-Dubn	2.14	129	ePN	Pn	11 44 45.6	+1.4
CRVS				eSN	Sn	11 45 10.9	-0.8
KOLS	Kolonicke sedl	2.55	120	eSN	Sn	11 45 21.0	-1.2

IDC 17 11:45:29.3±4.3, 61.71S×154.26E, mb4.2/3, mb1 4.3/4, mb1mx4.0/10, mbtmp4.1/4, ML3.5/1, MS4.3/9, Ms1 4.3/9, ms1mx3.9/14, Error ellipse: s-maj=286.0km s-min=38.8km az=76.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VNDA	Vanda	16.07	174	Pn	P	11 49 15.9	-1.8
	0.2nm,0.3s,baz=345,slow=14,SNR=10						
VNDA				LR	LR	11 55 03.1	
	comp=Z,929nm,18.8s,baz=347,slow=36						
RPZ	Rata Peaks	20.58	37	LR	LR	11 55 58.2	
	comp=Z,1μm,21.1s,baz=180,slow=31						
URZ	Urewera	27.40	42	LR	LR	12 01 53.3	
	comp=Z,522nm,18.1s,baz=216,slow=36						
STKA	Stephens Creek	30.96	339	P	P	11 51 46.7	-3.3
	4.0nm,1.0s,baz=150,slow=9.1,SNR=3.9						
MAW	Mawson	36.13	221	LR	LR	12 07 10.0	
	comp=Z,538nm,18.9s,baz=110,slow=36						
ASAR	Alice Springs	40.50	331	P	P	11 53 08.9	-2.4
	1.4nm,0.9s,baz=168,slow=9.3,SNR=8.6						
ASAR				LR	LR	12 07 15.9	
	comp=Z,122nm,18.8s,baz=46,slow=32						
WRA	Warramunga Arr	43.99	333	P	P	11 53 39.5	-0.3
	2.4nm,0.4s,baz=164,slow=7.4,SNR=8.4						
SNAA	Sanae	45.95	190	LR	LR	12 14 02.0	
	comp=Z,292nm,18.8s,baz=353,slow=37						
RAR	Rarotonga	51.30	59	LR	LR	12 11 07.3	
	comp=Z,2μm,19.4s,baz=345,slow=30						
PMG	Port Moresby	52.47	351	LR	LR	12 13 56.9	
	comp=Z,224nm,18.3s,baz=341,slow=32						
TBI	Tubuai	53.88	71	eLR	LR	12 09 34.1	
	85nm,31.0s						
PPT	Papeete	58.88	68	eLR	LR	12 11 53.3	
	143nm,23.5s						
RKT	Rikitea	60.81	85	eLR	LR	12 12 45.1	
	169nm,26.5s						
CMAR	Chiang Mai Arr	91.11	309	LR	LR	12 34 15.6	
	comp=Z,74nm,19.6s,baz=155,slow=32						

IDC 17 12:00:01.5±25.0, 26.07S×72.88E, mb4.0/3, mb1 4.3/3, mb1mx3.9/14, mbtmp4.0/3, MS4.0/1, Ms1 3.9/1, ms1mx2.9/14, Error ellipse: s-maj=597.1km s-min=48.0km az=68.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MAW	Mawson	42.00	186	LR	LR	12 20 46.3	
	comp=Z,180nm,20.2s,baz=58,slow=30						
CMAR	Chiang Mai Arr	51.00	32	P	P	12 09 05.2	-2.3
	1.7nm,0.9s,baz=215,slow=7.6,SNR=8.8						
ASAR	Alice Springs	54.98	102	P	P	12 09 34.9	-2.2
	1.5nm,0.9s,baz=253,slow=6.7,SNR=12						
WRA	Warramunga Arr	56.47	97	P	P	12 09 45.7	-2.1
	1.3nm,0.9s,baz=251,slow=7.6,SNR=6.6						

NEIC 17 12:12:48.9, 35.09S×70.46W, h1km, ML2.7(GUC), After GUC.

GUC 17 12:12:48.9±0.6, 35.09S×70.46W, h1km±2km, MD3.8, ML2.7, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SFDO	San Fernando	0.66	316	⇑iP	Pg	12 13 02.2	+0.2
SFDO				iS	Sg	12 13 12.3	+1.6
CICH	Cipreses	0.77	3	eP	Pg	12 13 04.8	+0.6
CICH				iS	Sg	12 13 16.4	+2.0
LMEL	Las Melosas	1.25	10	eP	Pb	12 13 12.2	-0.9
LMEL				iS	Sb	12 13 30.3	+0.7
LMEL				AMP		12 13 38.1	
	comp=N,131nm,0.1s						
TACH	Talagante	1.48	344	eP	Pn	12 13 16.1	-0.7
TACH				iS	Sb	12 13 36.8	+0.5
RCDM	Rinconada Maip	1.62	350	eP	Pn	12 13 17.8	-1.0
RCDM				iS	Sb	12 13 40.0	-0.2
RCDM				AMP		12 13 47.6	
	comp=E,449nm,0.1s						
FCH	Farellones	1.76	5	eP	Pn	12 13 21.1	+0.3
FCH				iS	Sn	12 13 45.3	+1.2
FCH				AMP		12 13 58.2	
	comp=N,113nm,0.2s						

ISK 17 12:36:41.6, 39.35N×41.03E, h6km, MD3.5
CSEM 17 12:36:41.6, 39.35N×41.03E, h6km, MD3.5, After ISK

ISC 17 12:36:42.0±0.8, 39.35N±0.04×41.03E±0.05, h2km±7km, n18, σ0.78/23, Turkey

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VRT	Varto	0.45	119	iPG	Pg	12 36 50.4	-0.5
EZM	Erzurum	0.61	25	iPG	Pg	12 36 53.6	-0.6
ERZM	Erzurum	0.61	25	iP	Pg	12 36 53.5	-0.7
ERZM				iS	Sg	12 37 03.9	+1.5
BINT	Bingol	0.64	222	PG	Pg	12 36 53.7	-1.0
BINT				SG	Sg	12 37 03.9	+0.8
BTMT	Batman	1.21	163	PN	Pn	12 37 06.5	+0.6
PTK	Pertek	1.35	251	PN	Pn	12 37 07.2	-0.7
PTK				SN	Sn	12 37 26.2	-0.5
BEST	Besiri	1.47	173	iP	Pn	12 37 09.3	-0.3
GUMT	Gumushane	1.63	313	PN	Pn	12 37 12.1	+0.3
ELZG	Elazig	1.81	243	iP	Pn	12 37 15.8	+1.4
VANB	Van	1.99	112	ePN	Pn	12 37 17.0	0.0
KARS	Kars	2.02	51	ePN	Pn	12 37 17.3	-0.2
TVAN	Van	2.03	113	iP	Pn	12 37 17.1	-0.4
BCA	Borcka	2.14	12	ePN	Pn	12 37 18.9	-0.3
MYA	Malataya	2.28	244	ePN	Pn	12 37 21.1	0.0
URFA	Urfa	2.58	223	ePN	Pn	12 37 25.1	-0.3
HKR	Hakkari	2.77	129	ePN	Pn	12 37 27.4	-0.8
GNI	Garni	2.97	73	ePN	Pn	12 37 30.9	-0.1
MSL	Mosul	3.46	151	ePn	Pn	12 37 39.5	+1.5
MSL				ePb	Pb	12 37 47.5	+3.7
MSL				eSn	Sn	12 38 32.5	+12

NEIC 17 12:41:33.8±1.1, 20.05S×175.80W, h112km±10km, mb4.7/29, Error ellipse: s-maj=8.5km s-min=5.3km az=136.0
BJI 17 12:41:33.0, 20.15S×175.81W, h113km, mB5.3, mb4.7
IDC 17 12:41:35.9±3.1, 20.11S×175.78W, h129km±27km, mb4.1/16, mb1 4.3/18, mb1mx4.3/20, mbtmp4.4/18, Error ellipse: s-maj=19.4km s-min=12.8km az=146.0

ISC 17 12:41:30.8±1.7, 20.11S±0.07×175.81W±0.07, h97km±15km, n118, σ0.84/69, mb4.5/43, 9C-5D, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.28	33	ePn	P	12 43 16.1	-0.1
	39nm,0.3s						
AFI				eSn	S	12 44 27.9	-10
RAR	Rarotonga	15.05	97	P	P	12 45 00.6	+1.0
	1.7nm,0.3s,baz=269,slow=11,SNR=7.9						
RAR				S	S	12 47 34.9	-9.0
	1.4nm,0.3s,baz=315,slow=2.9,SNR=2.8						
RAR	Rarotonga	15.05	97	ePn	P	12 44 56.9	-2.7
	32nm,0.8s						
RAR				S	S	12 47 34.9	-9.0
DZM	Mont Dzumac	16.67	260	eP	P	12 45 27.1	+7.3
URZ	Urewera	19.10	197	P	P	12 45 48.6	+0.2
	1.0nm,0.3s,baz=168,slow=3.7,SNR=7.6						
URZ				S	S	12 49 04.5	-10
	0.3nm,0.3s,baz=30,slow=6.7,SNR=3.8						
RPZ	Rata Peaks	25.97	202	P	P	12 46 57.5	+1.5
	7.6nm,0.5s,mb4.4,baz=325,slow=1.7,SNR=11						
CTA	Charters Tower	35.57	263	⇓iP	P	12 48 21.7	+0.9
	62nm,0.5s						
CTAO	Charters Tower	35.57	263	eP	P	12 48 21.9	+1.1
	79nm,0.6s						
PMG	Port Moresby	37.27	281	P	P	12 48 37.1	+2.0
	64nm,0.8s,mb5.6,baz=88,slow=5.4,SNR=18						
PMG	Port Moresby	37.27	281	eP	P	12 48 36.7	+1.6
	95nm,1.0s,mb5.7						
STKA	Stephens Creek	39.80	244	P	P	12 48 56.5	+0.5
	4.7nm,0.7s,mb4.5,baz=97,slow=11,SNR=9.3						
STKA				PcP	PcP	12 51 00.2	-0.7
	2.9nm,0.6s,baz=93,slow=3.3,SNR=4.6						
STKA	Stephens Creek	39.80	244	eP	P	12 48 55.6	-0.3
ASAR	Alice Springs	46.60	256	P	P	12 49 50.6	-0.5
	16nm,0.7s,mb4.9,baz=101,slow=8.4,SNR=191						
ASAR				PcP	PcP	12 51 22.6	-1.4
	4.8nm,0.5s,baz=109,slow=3.5,SNR=15						
ASAR				ScP		12 55 04.8	
	0.2nm,0.5s,baz=117,slow=3.2,SNR=3.9						
ASAR				S	S	12 56 26.0	-5.9
	0.6nm,0.8s,baz=92,slow=16,SNR=4.9						
ASPA	Alice Springs	46.61	256	eP	P	12 49 51.8	+0.6
WB2	Warramunga Arr	46.68	261	eP	P	12 49 51.3	-0.4
WRAB	Tennant Creek	46.68	261	P	P	12 49 51.0	-0.8
	257nm,0.7s,SNR=9.4						
WRAB	Tennant Creek	46.68	261	eP	P	12 49 51.1	-0.7
	66nm,0.9s,mb5.4						
WRA	Warramunga Arr	46.69	261	P	P	12 49 50.9	-1.0
	25nm,0.7s,mb5.1,baz=97,slow=8.9,SNR=307						
WRA				PcP	PcP	12 51 23.5	-0.8
	1.7nm,0.4s,baz=96,slow=3.5,SNR=5.0						
KAKA	Kakadu	50.02	270	eP	P	12 50 17.1	-0.6
	21nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	55.12	262	eP	P	12 50 55.1	-0.4
	12nm,0.7s,mb5.0						
SBA	Scott Base	58.40	184	eP	P	12 51 18.6	+0.5
	12nm,1.2s,mb4.8						
VNDA	Vanda	58.48	186	P	P	12 51 18.7	+0.1
	1.1nm,0.8s,mb3.9,baz=337,slow=7.4,SNR=3.9						
VNDA	Vanda	58.48	186	eP	P	12 51 18.8	+0.2
	1.2nm,0.6s,mb4.1						
MBWA	Marble Bar	59.94	257	eP	P	12 51 27.4	-1.9
	12nm,0.6s,mb5.1						
CASY	Casey	65.19	205	eP	P	12 52 01.4	-2.1
	11nm,1.2s,mb4.6						
QSPA	South Pole Qui	69.95	180	eP	P	12 52 32.8	-0.3
	5.6nm,0.8s,mb4.5						
MAJO	Matsushiro	71.14	322	eP	P	12 52 40.0	-0.8
	8.4nm,0.8s,mb4.6						
ASAJ	Asahikawa	74.39	330	P	P	12 53 00.3	+0.5
	3.8nm,0.6s,mb4.3,baz=286,slow=7.1,SNR=3.8						
YSS	Yuzh-Sakhalins	76.49	332	eP	P	12 53 12.5	+0.8
	26nm,1.1s,mb4.9						
YBH	Yreka Blue Hor	78.72	38	P	P	12 53 23.9	-0.2
	1.2nm,0.5s,mb4.0,baz=6.0,slow=11,SNR=3.9						
NVAR	Mina Array Bea	79.34	42	P	P	12 53 27.6	+0.1
	3.2nm,0.7s,mb4.2,baz=219,slow=7.1,SNR=27						
MNV	Mina	79.44	42	eP	P	12 53 28.4	+0.3
	6.1nm,1.0s,mb4.4						
TPH	Tonopah	79.83	43	P	P	12 53 30.2	0.0
	4.6nm,0.8s,mb4.4						
PMSA	Palmer Station	80.82	156	eP	P	12 53 34.6	-0.4
	17nm,0.6s,mb5.1						
NJ2	Nanjing	81.23	309	eP	P	12 53 38.5	+0.7
NJ2				AP	pP	12 54 07.0	+3.7
NJ2				XP	sP	12 54 19.1	+5.1
NJ2				PP	PP	12 56 49.1	+3.2
NJ2				S	S	13 03 39.0	+0.6
NJ2				XS		13 04 29.0	
NJ2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1μm,6.6s						
NJ2				LR	LR		
	comp=N,1μm,18.4s						
NJ2				LR	LR		
	comp=E,2μm,19.2s						
NJ2				LR	LR		
	comp=Z,6μm,14.8s						
MDJ	Mudanjiang	81.40	324	P	P	12 53 38.9	+0.5
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,48nm,5.3s						
MDJ	Mudanjiang	81.40	324	eP	P	12 53 39.4	+1.0
	comp=Z,13nm,1.1s,mb4.7						
CN2	Changchun	83.26	321	eP	P	12 53 49.8	+1.9
MSU	Marysvale	83.37	45	eP	P	12 53 49.5	+0.9
MA2	Magadan	83.98	344	eP	P	12 53 50.4	-0.7
	comp=Z,3.1nm,0.7s,mb4.2						
SRU	San Rafael	84.78	45	eP	P	12 53 56.3	+0.7
TXAR	Lajitas Array	85.12	57	P	P	12 53 58.4	+0.8
	comp=Z,0.8nm,0.7s,mb3.8,baz=233,slow=6.3,SNR=7.9						
TXAR				tx	tx	12 54 20.6	
	comp=Z,0.9nm,0.6s,baz=220,slow=7.0,SNR=12						
ANMO	Albuquerque	85.57	50	eP	P	12 53 59.8	+0.1
	comp=Z,3.5nm,1.0s,mb4.2						
TNA	Tin City	85.62	3	eP	P	12 53 59.2	+0.1
	comp=Z,7.1nm,1.0s,mb4.5						
GDL2	Guadalupe Moun	85.86	54	eP	P	12 54 02.0	+0.9
MCK	McKinley	86.17	12	eP	P	12 54 01.0	-0.8
	comp=Z,7.2nm,0.9s,mb4.6						
BJI	Beijing	87.07	315	P	P	12 54 05.6	-1.3
BJI				AP	pP	12 54 34.0	+1.2
BJI				XP	sP	12 54 45.9	+2.8
BJI				S	S	13 04 33.8	-2.1
BJI				SS	SS	13 10 24.1	+0.1
BJI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
PDAR	Pinedale Array	87.28	42	P	P	12 54 07.5	-0.3
	comp=Z,0.6nm,0.8s,mb3.6,baz=208,slow=3.0,SNR=5.5						
COLA	College	87.40	12	eP	P	12 54 07.1	-0.8
	comp=Z,7.3nm,0.9s,mb4.6						
ILAR	Eielson Array	87.50	12	P	P	12 54 07.5	-0.9
	comp=Z,1.4nm,0.5s,mb4.2,baz=214,slow=5.3,SNR=36						
ENH	Enshi	87.53	303	eP	P	12 54 09.5	+0.2
	comp=Z,8.9nm,0.9s,mb4.8						
SDCO	Great Sand Dun	87.56	48	eP	P	12 54 09.2	-0.1
	comp=Z,3.1nm,1.1s,mb4.2						
PLCA	Paso Flores	88.04	133	P	P	12 54 12.1	+0.6
	comp=Z,0.7nm,0.6s,mb3.9,baz=326,slow=7.3,SNR=3.0						
WALA	Waterton Lakes	88.07	35	eP	P	12 54 10.4	-1.0
	comp=Z,3.9nm,0.8s,mb4.5						
DAWY	Dawson	88.54	15	eP	P	12 54 13.1	-0.2
BILL	Bilibino	88.88	353	eP	P	12 54 14.1	-0.7
	comp=Z,2.0nm,0.5s,mb4.4						
XAN	Xi'an	89.54	307	P	P	12 54 19.8	+1.1
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.8						
HIA	Hailar	89.58	324	eP	P	12 54 17.6	-0.9
	comp=Z,8.0nm,1.4s,mb4.7						
CMAR	Chiang Mai Arr	91.93	289	P	P	12 54 30.9	+0.7
	comp=Z,3.6nm,1.0s,mb4.6,baz=112,slow=3.1,SNR=21						
INK	Inuvik	93.38	15	P	P	12 54 35.3	-0.3
	comp=Z,1.2nm,0.7s,mb4.3,baz=212,slow=5.5,SNR=11						
INK	Inuvik	93.38	15	eP	P	12 54 35.0	-0.6
	comp=Z,7.6nm,1.2s,mb4.9						
YKA	Yellowknife Ar	95.31	24	P	P	12 54 44.2	-0.3
	comp=Z,0.6nm,0.7s,mb4.1,baz=241,slow=4.2,SNR=18						
YKA	Yellowknife Ar	95.31	24	P	P	12 54 44.2	-0.3
SONM	Songino Array	96.82	318	P	P	12 54 52.8	+1.0
	comp=Z,0.3nm,0.6s,mb3.9,baz=108,slow=4.6,SNR=3.2						
WMQ	Urumqi	108.23	311	eP		12 59 53.0	
BVAR	Borovoye Array	120.10	320	PKP	PKPdf	13 00 09.7	-0.4
	comp=Z,0.8nm,0.4s,baz=126,slow=1.7,SNR=7.0						
ARCES	ARCESS Array B	128.90	351	PKP	PKPdf	13 00 27.2	+0.5
	comp=Z,4.4nm,0.8s,slow=7.3,SNR=7.4						
ARCES	ARCESS Array B	128.90	351	PKP	PKPdf	13 00 27.2	+0.5
FINES	FINESS Array B	135.96	345	PKhKP		13 00 37.6	
	comp=Z,0.6nm,0.6s,baz=117,slow=4.3,SNR=4.1						
FINES				PKP	PKPdf	13 00 41.8	+1.8
	comp=Z,0.6nm,0.4s,baz=91,slow=3.7,SNR=6.4						
ELZG	Elazig	144.83	309	iP	PKPdf	13 00 58.2	+1.7
MALT	Malatya	145.31	309	ePKPdf	PKPdf	13 00 59.1	+1.7
BSEG	Bad Segeberg	145.91	354	ePKPbc	PKPbc	13 00 59.6	+0.7
GZT	Gaziantep	146.29	308	iP	PKPdf	13 01 01.9	+2.8
MBAR	Mbarara	146.83	235	ePKPdf	PKPdf	13 01 01.6	+0.9
COBT	Iskenderun	147.57	307	iP	PKPdf	13 01 05.6	+4.4
BURAR	Bucovina Array	147.69	333	⇓P	PKPdf	13 01 06.9	+5.8
BURAR	Bucovina Array	147.69	333	⇓P	PKPdf	13 01 06.9	+5.9
KOLS	Kolonicke sedl	147.79	337	ePKP	PKPdf	13 01 08.5	+7.4
KOLS				e		13 01 17.2	
ELDT	Eldivan	147.83	316	iP	PKPdf	13 01 06.1	+4.6
BRTR	Keskin Array B	148.07	314	PKPbc	PKPdf	13 01 06.0	+4.1
	comp=Z,8.2nm,0.8s,baz=135,slow=3.8,SNR=33						
CRVS	Cervenica-Dubn	148.10	338	ePKP	PKPdf	13 01 09.7	+8.1
CLL	Collm	148.11	350	iPKP	PKPdf	13 01 06.0	+4.4
CLL				iPKP	PKPdf	13 01 08.9	+7.3
CLL	Collm	148.11	350	⇓iPKP1	PKPdf	13 01 06.0	+4.4
CLL				iPKP2	PKPab	13 01 08.9	-1.2
UPC	Upice	148.26	346	ePKP	PKPdf	13 01 06.8	+5.0
UPC	Upice	148.26	346	⇑ePKPB		13 01 06.8	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRI	Vrincioaia	148.32	329	⇑P	PKPdf	13 01 06.8	+4.7
VRI	Vrincioaia	148.32	329	⇑P	PKPdf	13 01 06.8	+4.7
DPC	Dobruska-Polom	148.33	345	ePKP	PKPdf	13 01 06.6	+4.6
DPC	Dobruska-Polom	148.33	345	⇑ePKPB		13 01 06.6	
ASF	Jabal al Asfar	148.40	299	PKPbc	PKPdf	13 01 07.6	+4.9
	comp=Z,12nm,0.8s,baz=312,slow=3.7,SNR=17						
KECS	Kecovo	148.80	339	ePKP	PKPdf	13 01 08.3	+5.5
MLR	Muntele Rosu	148.97	330	PKPbc	PKPdf	13 01 08.4	+5.3
	comp=Z,3.5nm,0.6s,baz=332,slow=2.5,SNR=6.9						
MLR	Muntele Rosu	148.97	330	⇑P	PKPdf	13 01 08.3	+5.1
MLR	Muntele Rosu	148.97	330	⇑P	PKPdf	13 01 08.3	+5.2
PRU	Pruhonice	149.07	347	ePKP	PKPdf	13 01 08.4	+5.2
PRU	Pruhonice	149.07	347	⇑ePKPB		13 01 08.4	
NKC	Novy Kostel	149.24	350	ePKP	PKPdf	13 01 09.0	+5.6
NKC	Novy Kostel	149.24	350	⇑ePKPB		13 01 09.0	
VYHS	Vyhne	149.32	341	ePKP	PKPdf	13 01 09.1	+5.5
VYHS				e		13 01 14.9	
TNS	Taunus Mts	149.77	355	ePKPbc	PKPdf	13 01 10.3	+6.0
GRF	Grafenberg Arr	149.96	351	ePKP	PKPdf	13 01 10.9	+6.3
KHC	Kasperske Hory	150.09	348	ePKP	PKPdf	13 01 11.1	+6.3
KHC	Kasperske Hory	150.09	348	⇑ePKPB		13 01 11.1	
GERES	GERESS Array B	150.33	347	PKPbc	PKPdf	13 01 11.5	+6.3
	comp=Z,4.4nm,0.8s,baz=45,slow=1.9,SNR=18						
GERES				PKPab	PKPab	13 01 20.6	+1.3
	comp=Z,0.9nm,0.6s,baz=27,slow=3.0,SNR=5.0						
EIL	Elat	150.59	295	ePKPbc	PKPdf	13 01 12.2	+6.0
BZS	Buzias	150.78	334	⇓P	PKPdf	13 01 12.5	+6.5
FLN	La Foliniere	151.17	6	ePKP1	PKPdf	13 01 12.2	+5.8
LDF	La Druitiere	151.38	6	ePKP1	PKPdf	13 01 12.5	+5.8
SGMF	Saint Gilles	151.40	9	ePKP1	PKPdf	13 01 13.2	+6.4
GRR	Gorron	151.50	7	ePKP1	PKPdf	13 01 13.7	+6.8
BFO	Black Forest	151.65	354	ePKPbc	PKPdf	13 01 14.7	+7.5
CDF	Champ du Feu	151.66	356	ePKP1	PKPdf	13 01 14.4	+7.2
	comp=Z,25nm,1.1s						
MANT	Manisa	152.09	316	i P	PKPdf	13 01 01.9	-6.3
HAU	Haudompre	152.12	357	ePKP1	PKPdf	13 01 15.3	+7.4
	comp=Z,15nm,0.7s						
LEGS	Legarje	152.65	343	ePKP	PKPdf	13 01 16.7	+8.0
BOJS	Bojanci	153.08	343	ePKP	PKPdf	13 01 17.3	+8.0
SSF	Saint Saulge	153.12	1	ePKP1	PKPdf	13 01 17.7	+8.4
	comp=Z,17nm,1.0s						
TCF	Toulx Ste Croi	153.84	3	ePKP1	PKPdf	13 01 18.5	+8.2
	comp=Z,5.9nm,0.7s						

*BJI **17** 13:00:50.4, 9.70S×118.90E, h35km, mB5.2, mb5.0*
*DJA **17** 13:00:50.1±0.9, 10.74S×118.63E, h66km±11km, MD4.8/4, ML5.7/4, Error ellipse: s-maj=48.3km s-min=18.1km az=28.0*
*MOS **17** 13:00:51.6±1.6, 9.70S×118.80E, h46km, mb5.0/11, Error ellipse: s-maj=15.7km s-min=7.5km az=134.9*
*NEIC **17** 13:00:52.4±0.8, 9.66S×118.88E, h35km±8km, mb5.0/16, Error ellipse: s-maj=12.2km s-min=5.5km az=223.0*
*IDC **17** 13:00:52.1±4.3, 9.65S×118.72E, h29km±29km, mb4.4/11, mb1 4.5/12, mb1mx4.5/16, mbtmp4.6/12, ML4.5/1, MS3.6/6, Ms1 3.6/6, ms1mx3.3/22, Error ellipse: s-maj=30.2km s-min=14.7km az=61.0*
*HRVD **17** 13:00:52.4±0.6, 9.86S×118.57E, h64km±6km, MW4.8/25, Centroid moment Tensor Solution. LP body waves: s3,c3; Mantle waves: s25,c43; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.68±.28; $M_{\theta\theta}$-0.75±.22; $M_{\phi\phi}$1.42±.23; $M_{r\theta}$0.78±.09; $M_{\theta\phi}$1.26±.10; $M_{\phi r}$0.54±.15; Best double couple: $M_0$1.93×10^{16} NP1:ϕ_s341°,δ55°,λ-167°. NP2: ϕ_s244°,δ80°,λ-35°. Principal axes: T 2.232, Plg16°, Azm297°; N -.607, Plg53°, Azm50°; P -1.629, Plg32°, Azm197°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 17 13:00:51.4±0.9, **9.68S**±0.05×**118.87E**±0.05, **h48**km±8km, **h51**km±7.4km**:pP-P, n94,** σ1s**18**/104, **mb4.8**/38, **MS3.5**/6, **10C-4D, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	2.97	293	⇓ePn	P	13 01 40.7	+3.5
	3μm,0.2s						
KEDI				⇑eSn	S	13 02 18.3	+6.4
RATI	Rata	3.43	286	⇑ePn	P	13 01 45.5	+1.8
	3μm,0.2s						
RATI				⇓eSn	S	13 02 24.4	+0.8
KELI	Kelakatan	4.57	288	⇓ePn	P	13 02 00.4	+0.6
	625nm,0.1s						
KELI				⇑eSn	S	13 02 52.2	0.0
SRDI	Scrawed	4.82	284	⇓ePn	P	13 02 03.0	-0.3
	1μm,0.2s						
SRDI				⇑eSn	S	13 02 57.4	-1.2
MBWA	Marble Bar	11.45	176	ePn	P	13 03 32.0	-3.0
	28nm,0.4s						
MBWA				eSn	S	13 05 23.7	-19
PULI	Pulasari	13.19	284	⇑eP	P	13 03 57.7	-0.6
KAKA	Kakadu	13.65	104	eP	P	13 04 04.2	-0.1
	20nm,0.5s						
KAKA				eS	S	13 06 23.2	-12
KSM	Kuching	13.98	322	eP	P	13 04 18.6	+10
PENI	Pendagan	14.18	286	⇑eP	P	13 04 09.6	-1.7
KKM	Kota Kinabalu	15.84	350	eP	P	13 04 38.9	+6.1
WRA	Warramunga Arr	18.09	126	P	P	13 04 59.4	-1.5
	1.7nm,0.3s,baz=296,slow=14,SNR=98						
WRA				S	S	13 08 09.2	-8.7
	2.4nm,0.3s,baz=277,slow=23,SNR=7.2						
WRAB	Tennant Creek	18.09	126	eP	P	13 04 59.8	-1.2
WRAB				pmax	pmax		
	comp=Z,21nm,0.6s						
WRAB	Tennant Creek	18.09	126	eP	P	13 04 59.8	-1.2
	comp=Z,20nm,0.6s						
WRAB				eS	S	13 08 02.5	-16
WB2	Warramunga Arr	18.10	126	eP	P	13 04 59.7	-1.3
WB2				eS	S	13 08 08.1	-10
ASPA	Alice Springs	19.99	136	eP	P	13 05 22.9	+0.2
ASPA				eS	S	13 08 53.0	-6.8
ASAR	Alice Springs	19.99	136	P	P	13 05 23.0	+0.3
	comp=Z,31nm,0.6s,baz=309,slow=10.0,SNR=315						
ASAR				S	S	13 08 55.0	-4.9
	comp=Z,6.2nm,0.5s,baz=316,slow=24,SNR=8.6						
ASAR				LR	LR	13 12 54.0	
	comp=Z,155nm,21.5s,baz=315,slow=36						
KLBR	Kellerberrin	21.83	183	eP	P	13 05 43.0	+1.6
	comp=Z,142nm,0.6s,mb5.6						
KLBR				eS	S	13 09 27.0	-7.7
MUN	Mundaring	22.33	186	eP	P	13 05 57.6	+11
	comp=Z,12nm,0.5s,mb4.6						
MUN				eS	S	13 09 41.5	-2.2
FORT	Forrest	22.67	159	eP	P	13 05 51.0	+1.2
	comp=Z,759nm,0.7s						
FORT				eS	S	13 09 52.2	+2.2
NWAO	Narrogin (SRO)	23.19	184	P	P	13 05 55.7	+1.0
NWAO				eS	S	13 09 52.5	-6.6
NWAO	Narrogin (SRO)	23.19	184	P	P	13 05 55.7	+0.9
	comp=Z,8.2nm,0.8s,mb4.2,baz=240,slow=23,SNR=7.5						
NWAO				S	S	13 09 59.3	+0.2
	comp=Z,40nm,0.9s,baz=85,slow=22,SNR=5.8						
KULM	Kulim	23.47	309	eP	P	13 05 57.2	-0.4
PMG	Port Moresby	27.89	92	LR	LR	13 18 40.1	
	comp=Z,126nm,19.4s,MS3.5,baz=252,slow=38						
CTA	Charters Tower	28.37	115	P	P	13 06 46.3	+2.9
	comp=Z,1.3nm,0.5s,mb3.8,baz=313,slow=11,SNR=3.7						
CTA				LR	LR	13 19 02.6	
	comp=Z,90nm,19.7s,MS3.4,baz=279,slow=38						
CTAO	Charters Tower	28.37	115	eP	P	13 06 44.9	+1.5
CTAO				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
CTAO	Charters Tower	28.37	115	eP	P	13 06 44.9	+1.5
	comp=Z,11nm,1.1s,mb4.4						
STKA	Stephens Creek	30.52	140	P	P	13 07 03.4	+0.9
	comp=Z,14nm,0.7s,mb4.9,baz=315,slow=8.3,SNR=37						
STKA				LR	LR	13 18 41.1	
	comp=Z,170nm,21.6s,MS3.7,baz=125,slow=35						
STKA	Stephens Creek	30.52	140	eP	P	13 07 03.1	+0.7
STKA				LR	LR	13 18 41.1	
CM31	Chiang Mai Arr	34.18	325	eP	P	13 07 35.1	+0.7
	comp=Z,8.5nm,0.4s,mb5.0						
CMAR	Chiang Mai Arr	34.18	325	P	P	13 07 35.2	+0.8
	comp=Z,6.3nm,0.5s,mb4.8,baz=155,slow=6.8,SNR=65						
CMAR				PcP	PcP	13 10 12.3	+1.6
	comp=Z,1.5nm,0.6s,baz=186,slow=2.5,SNR=8.8						
CMAR				ScP		13 13 53.3	
	comp=Z,0.2nm,0.3s,baz=238,slow=1.6,SNR=4.3						
CMAR				LR	LR	13 22 13.3	
	comp=Z,109nm,20.0s,MS3.6,baz=155,slow=38						
JOW	Kunigami	37.42	14	LR	LR	13 24 42.6	
	comp=Z,83nm,19.1s,MS3.5,baz=62,slow=38						
WHN	Wuhan	40.23	354	eP	P	13 08 28.5	+3.4
SSE	Sheshan	40.60	3	eP	P	13 08 29.3	+1.1
SSE				SS	SS	13 17 33.8	+3.3
SSE				AMB	AMB		
	comp=Z,67nm,2.5s,mb4.8						
SSE	Sheshan	40.60	3	eP	P	13 08 29.3	+1.1
	comp=Z,47nm,0.7s,mb5.2						
SSE				pP	pP	13 08 57.2	+16
SSE				S	S	13 14 24.4	-10
SSE				sS		13 15 14.7	
SSE				SS	SS	13 17 33.8	+3.3
SSE				LR	LR		
	comp=Z,50nm,38.7s,MS3.1						
ENH	Enshi	40.73	348	eP	P	13 08 30.1	+0.8
	comp=Z,24nm,0.6s,mb5.0						
NJ2	Nanjing	41.49	360	eP	P	13 08 37.5	+2.0
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
XAN	Xi'an	44.49	348	P	P	13 09 00.0	0.0
XAN				AMB	AMB		
	comp=Z,22nm,0.5s,mb5.1						
LSA	Lhasa	47.39	327	P	P	13 09 23.0	0.0
LSA	Lhasa	47.39	327	eP	P	13 09 23.2	+0.2
LSA				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
LSA	Lhasa	47.39	327	eP	P	13 09 23.2	+0.2
	comp=Z,26nm,1.3s,mb5.0						
KS15	Wonju Array Si	47.63	10	eP	P	13 09 28.2	+3.4
LZH	Lanzhou	47.67	343	⇑P	P	13 09 25.8	+0.7
LZH				AP	pP	13 09 36.1	-2.1
LZH				XP	sP	13 09 40.1	-3.8
LZH				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.2						
LZH	Lanzhou	47.67	343	⇑P	P	13 09 25.8	+0.7
LZH				*SP	sP	13 09 40.1	-3.8
LZH				pmax	pmax		
	comp=Z,35nm,1.5s,mb5.2						
LZH	Lanzhou	47.67	343	⇑P	P	13 09 25.8	+0.7
	comp=Z,35nm,1.5s,mb5.2						
LZH				pP	pP	13 09 36.1	-2.1
LZH				sP	sP	13 09 40.1	-3.8
JIRN	Jiri	48.78	320	eP	P	13 09 33.4	-0.4
	comp=Z,17nm,0.5s,mb5.3						
PKI	Pulchoki	49.21	320	eP	P	13 09 35.8	-1.4
	comp=Z,7.1nm,0.4s,mb5.1						
DMN	Daman	49.43	320	eP	P	13 09 37.9	-0.9
	comp=Z,7.9nm,0.4s,mb5.1						
KKN	Kakani	49.45	320	eP	P	13 09 38.0	-1.0
	comp=Z,6.1nm,0.4s,mb5.0						
GKN	Gorkha	50.00	320	eP	P	13 09 42.0	-1.2
	comp=Z,15nm,0.3s,mb5.5						
KOLN	Koldanda	50.52	318	eP	P	13 09 45.4	-1.7
	comp=Z,7.6nm,0.5s,mb4.9						
HHC	Hu-ho-hao-te	50.72	353	eP	P	13 09 48.8	+0.3
HHC				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.2						
GTA	Gaotai	51.95	341	P	P	13 09 58.1	+0.3
GTA				AP	pP	13 10 13.4	+2.4
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
ULN	Ulaanbaatar	58.24	351	eP	P	13 10 42.6	-0.7
ULN				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.9						
ULN	Ulaanbaatar	58.24	351	eP	P	13 10 42.6	-0.6
	comp=Z,15nm,1.1s,mb4.9						
SONM	Songino Array	58.32	350	P	P	13 10 43.6	-0.2
	comp=Z,6.8nm,0.4s,mb5.0,baz=168,slow=8.3,SNR=108						
ZAK	Zakamensk	61.33	349	eP	P	13 11 03.3	-1.2
ZAK				e	pP	13 11 17.8	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.9						
TLY	Talaya	62.51	349	eP	P	13 11 12.1	-0.2
TLY				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.7						
TLY	Talaya	62.51	349	eP	P	13 11 12.1	-0.2
	comp=Z,7.4nm,1.1s,mb4.7						
MOY	Mondy	63.02	348	eP	P	13 11 16.3	+0.6
MKAR	Makanchi Array	65.00	333	P	P	13 11 27.8	-0.9
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KZA	Kyzart	65.17	326	P	P	13 11 29.8	-0.2
	SNR=13						
TKM2	Tokmak 2	65.55	326	P	P	13 11 31.6	-0.6
	SNR=12						
KBK	Karagaybulak	65.72	326	P	P	13 11 33.7	+0.3
	SNR=8.1						
AAK	Ala-Archa	65.96	326	P	P	13 11 35.0	+0.1
	SNR=6.2						
AAK	Ala-Archa	65.96	326	P	P	13 11 33.6	-1.3
	comp=Z,44nm,0.6s,mb5.7,SNR=9.3						
AAK	Ala-Archa	65.96	326	i P	P	13 11 33.4	-1.5
AAK				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.7						
AAK	Ala-Archa	65.96	326	eP	P	13 11 33.0	-1.9
	comp=Z,9.1nm,1.0s,mb4.8						
AML	Almayashu	66.09	325	P	P	13 11 35.5	-0.2
	SNR=12						
USP	Ospenovka	66.38	326	P	P	13 11 36.6	-1.0
	SNR=5.6						
EKS2	Erkin-Say	66.38	325	P	P	13 11 37.4	-0.2
	SNR=5.3						
BOD	Bodaibo	67.38	357	eP	P	13 11 42.6	-1.0
BOD				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.6						
KURK	Kurchatov	69.55	334	P	P	13 11 56.6	-0.5
	comp=Z,80nm,0.9s,mb5.7,SNR=14						
KURK	Kurchatov	69.55	334c	iP	P	13 11 56.3	-0.8
KURK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
KURK	Kurchatov	69.55	334	eP	P	13 11 55.9	-1.2
	comp=Z,19nm,1.0s,mb5.0						
VNDA	Vanda	71.34	171	P	P	13 12 09.3	+1.7
VNDA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
VNDA	Vanda	71.34	171	P	P	13 12 09.3	+1.7
	comp=Z,0.9nm,0.4s,mb4.0,baz=304,slow=4.2,SNR=12						
VNDA	Vanda	71.34	171	P	P	13 12 09.3	+1.7
	comp=Z,2.7nm,1.2s,mb4.0						
MA2	Magadan	73.60	16	eP	P	13 12 24.8	+3.6
BVAR	Borovoye Array	74.83	332	P	P	13 12 27.5	-0.9
	comp=Z,1.8nm,0.6s,mb4.2,baz=158,slow=8.0,SNR=12						
QSPA	South Pole Qui	80.32	180	eP	P	13 12 59.9	+1.5
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI	Tiksi	81.42	3	eP	P	13 13 03.8	-0.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KMBO	Kilima Mbogo	81.55	270	P	P	13 13 08.8	+2.6
	comp=Z,0.7nm,0.5s,mb3.9,baz=232,slow=22,SNR=4.1						
GNI	Garni	84.30	312	P	P	13 13 19.9	+0.2
GNI				pmax	pmax		
	comp=Z,20nm,1.4s						
GNI	Garni	84.30	312	P	P	13 13 19.9	+0.2
	comp=Z,20nm,1.4s,mb5.0						
BILL	Bilibino	84.47	16	eP	P	13 13 23.4	+3.5
BILL				eS	S	13 23 33.0	-8.1
BILL				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
MATP	Matopo	87.02	250	P	P	13 13 34.7	+1.2
	comp=Z,0.6nm,0.3s,mb4.2,baz=234,slow=8.2,SNR=3.4						
MATP	Matopo	87.02	250	P	P	13 13 34.7	+1.2
MALT	Malatya	88.53	309	P	P	13 13 42.0	+1.6
	comp=Z,6.7nm,1.2s,mb4.8						
BRTR	Keskin Array B	92.47	310	P	P	13 13 58.5	-0.2
	comp=Z,0.7nm,0.4s,mb4.3,baz=112,slow=6.7,SNR=5.7						
ARCES	ARCESS Array B	100.18	339	P	P	13 14 35.2	+2.1
	comp=Z,7.9nm,1.1s,baz=112,slow=4.9,SNR=3.8						
ILAR	Eielson Array	100.50	26	P	P	13 14 37.4	+2.8
	comp=Z,0.8nm,0.8s,baz=229,slow=9.6,SNR=8.5						
YKA	Yellowknife Ar	114.86	24	PKP	PKPdf	13 19 28.9	+2.3
	comp=Z,1.1nm,0.5s,baz=310,slow=1.9,SNR=36						
SCHQ	Schefferville	134.74	5	PKP	PKPdf	13 20 09.2	+4.2
	comp=Z,1.0nm,0.4s,baz=308,slow=3.4,SNR=10						
LPAZ	La Paz	153.29	165	PKPbc	PKPdf	13 20 50.6	+13
	comp=Z,0.4nm,0.3s,SNR=3.2						
LPAZ				PKPab	PKPab	13 21 01.4	+2.1
	comp=Z,0.9nm,0.4s,baz=239,slow=4.0,SNR=4.0						

*PRU **17** 13:07:21.5, 50.29N×18.77E*
WAR 17 13:07:21.5, 50.25N×18.88E, h1km, MW2.4, Mw2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OJC	Ojcow	0.59	93	ePg	Pg	13 07 32.8	-0.4
OJC				eSg	Sg	13 07 41.2	+0.2
OKC	Ostrava-Krasne	0.63	229	ePG	Pg	13 07 33.9	-0.2
NIE	Niedzica	1.25	132	ePg	Pg	13 07 43.5	-2.9
NIE				eSg	Sg	13 08 01.4	-1.6
DPC	Dobruska-Polom	1.65	274	ePG	Pg	13 07 50.4	-3.9
DPC				eSG	Sg	13 08 12.5	-3.7
KSP	Ksiaz	1.75	291	ePn	Pn	13 07 54.0	+0.8
KSP				ePg	Pg	13 07 55.4	-1.1
KSP				eSn	Sn	13 08 16.8	+0.3
KSP				eSg	Sg	13 08 19.5	-0.4
VYHS	Vyhne	1.76	181	ePN	Pn	13 07 52.1	-1.2
VYHS				eSN	Sn	13 08 15.9	-0.8
UPC	Upice	1.86	279	eSG	Sg	13 08 17.9	-5.4
CRVS	Cervenica-Dubn	2.15	128	ePN	Pn	13 08 01.0	+2.0
PRU	Pruhonice	2.81	266	eSG	Sg	13 08 47.4	-7.5
KHC	Kasperske Hory	3.62	254	eSG	Sg	13 09 14.9	-7.2

*IDC **17** 13:22:32.8±0.6, 55.20S×28.88W, mb4.2/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.3/11, ML4.5/1, MS3.6/1, Ms1 3.6/1, ms1mx2.3/18, Error ellipse: s-maj=22.4km s-min=15.3km az=15.0*
*NEIC **17** 13:22:34.0±0.3, 55.12S×28.88W, h10km, mb4.8/15, Error ellipse: s-maj=11.8km s-min=8.2km az=220.0*
*BJI **17** 13:22:33.9, 55.10S×28.90W, h10km*
ISC 17 13:22:32.0±0.5, **55.17S**±0.09×**28.9W**±0.1, **h10**km**, n47,** σ1s**08**/33, **mb4.5**/18, **5C-2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	17.97	158	⇑i	P	13 26 58.3	+15
VNA3	Neumayer Olymp	18.14	160	⇓i	P	13 26 54.6	+9.3
VNA2	Neumayer--Watz	18.37	158	⇑i	P	13 26 50.1	+2.0
VNA2	Neumayer--Watz	18.37	158	⇑i	P	13 26 58.7	+11
VNA2	Neumayer--Watz	18.37	158	⇓i	P	13 27 05.1	+17
SNAA	Sanae	19.94	156	⇑i	P	13 27 05.8	-0.7
SNAA	Sanae	19.94	156	⇑i	P	13 27 18.4	+12
SNAA	Sanae	19.94	156	P	P	13 27 04.9	-1.6
	1.5nm,0.3s,baz=302,slow=11,SNR=55						
SNAA				LR	LR	13 32 40.9	
	comp=Z,202nm,21.7s,baz=317,slow=30						
SNAA	Sanae	19.94	156	eP	P	13 27 04.5	-2.0
	19nm,0.7s						
USHA	Ushuaia	22.49	254	P	P	13 27 33.8	+1.2
	12nm,0.9s,mb4.3,baz=51,slow=16,SNR=4.6						
TRQA	Tornquist	28.09	294	eP	P	13 28 25.4	-0.2
	14nm,1.3s,mb4.4						
PLCA	Paso Flores	30.90	280	P	P	13 28 50.4	-0.2
	0.5nm,0.4s,mb3.7,baz=155,slow=23,SNR=1.9						
PLCA	Paso Flores	30.90	280	P	P	13 28 50.0	-0.6
	15nm,1.6s,mb4.6						
QSPA	South Pole Qui	35.08	180	eP	P	13 29 26.7	+0.1
	11nm,0.7s,mb4.9						
CFAA	Coronel Fontan	36.33	294	P	P	13 29 36.6	-1.0
	0.5nm,0.6s,mb3.6,baz=155,slow=4.3,SNR=5.0						
SUR	Sutherland	41.36	78	P	P	13 30 21.5	+2.0
	4.5nm,0.9s,mb4.1,baz=199,slow=17,SNR=4.4						
SUR	Sutherland	41.36	78	eP	P	13 30 19.2	-0.3
	19nm,1.3s,mb4.6						
BDFB	Brasilia	42.13	332	P	P	13 30 27.1	+1.1
	2.4nm,0.5s,mb4.1,baz=169,slow=14,SNR=4.0						
LVC	Limon Verde	44.03	301	P	P	13 30 43.3	+2.0
	5.7nm,0.6s,mb4.5,baz=123,slow=5.6,SNR=7.7						
LVC	Limon Verde	44.03	301	eP	P	13 30 42.4	+1.1
	6.5nm,0.6s,mb4.5						
VNDA	Vanda	47.41	183	P	P	13 31 07.7	+0.1
	2.0nm,0.6s,mb4.2,baz=199,slow=8.5,SNR=14						
LPAZ	La Paz	49.09	306	P	P	13 31 23.2	+1.9
	4.2nm,0.6s,mb4.7,baz=155,slow=5.9,SNR=12						
LPAZ	La Paz	49.09	306	eP	P	13 31 22.6	+1.3
	8.5nm,0.7s,mb4.9						
LBTB	Lobatse	49.69	76	P	P	13 31 26.0	+0.1
	4.8nm,0.8s,mb4.6,baz=228,slow=10,SNR=5.6						
TSUM	Tsumeb	50.11	63	P	P	13 31 29.5	+0.3
	4.9nm,0.9s,mb4.5,baz=205,slow=6.5,SNR=7.0						
TSUM	Tsumeb	50.11	63	eP	P	13 31 29.2	0.0
	20nm,1.5s,mb4.9						
SAML	Samuel	53.50	316	eP	P	13 31 53.4	-1.4
	6.6nm,0.8s,mb4.6						
CASY	Casey	55.06	161	P	P	13 32 05.2	-0.3
	23nm,1.3s,mb5.0						
LSZ	Lusaka	58.97	71	eP	P	13 32 33.3	-0.6
	16nm,1.6s,mb4.8						
OTAV	Otavalo	68.37	305	eP	P	13 33 34.7	-1.0
	14nm,1.7s,mb4.7						
SDV	Santo Domingo	72.71	316	eP	P	13 34 00.4	-1.6
	12nm,1.0s,mb4.8						
KMBO	Kilima Mbogo	75.63	71	eP	P	13 34 22.9	+3.9
	22nm,1.8s,mb4.8						
CART	Cartagena	95.43	22	eP	P	13 35 51.1	-6.3
	65nm,1.1s						
ASAR	Alice Springs	100.11	164	P	P	13 36 21.8	+2.8
	0.6nm,0.7s,baz=178,slow=3.2,SNR=6.8						
FINES	FINESS Array B	124.06	28	PKP	PKPdf	13 41 30.6	-2.1
	0.9nm,0.5s,baz=135,slow=5.4,SNR=6.9						
CMAR	Chiang Mai Arr	126.27	112	PKP	PKPdf	13 41 38.2	+0.4
	0.7nm,0.9s,baz=243,slow=4.0,SNR=4.2						
ARCES	ARCESS Array B	130.48	22	PKP	PKPdf	13 41 42.9	-1.8
	4.7nm,1.0s,baz=225,slow=3.4,SNR=4.7						
ARCES	ARCESS Array B	130.48	22	PKP	PKPdf	13 41 42.9	-1.8
YKA	Yellowknife Ar	134.88	319	PKP	PKPdf	13 41 52.1	-1.0
	1.0nm,0.7s,baz=126,slow=2.3,SNR=14						
GTA	Gaotai	142.72	93	ePKP	PKPdf	13 42 03.8	-3.9
GTA				APKP		13 42 16.1	
INK	Inuvik	144.51	322	ePKPdf	PKPdf	13 42 07.2	-2.8
SML	Sawmill	148.74	307	ePKPbc	PKPdf	13 42 20.8	+3.6
ILAR	Eielson Array	148.81	313	PKPbc	PKPdf	13 42 19.9	+2.6
	6.0nm,0.7s,baz=130,slow=1.5,SNR=36						
COLA	College	149.24	313	ePKPdf	PKPdf	13 42 16.9	-1.0
MCK	McKinley	149.47	311	ePKPbc	PKPdf	13 42 22.0	+3.7
SONM	Songino Array	151.62	86	PKPbc	PKPdf	13 42 27.0	+4.9
	1.7nm,0.5s,baz=225,slow=3.6,SNR=17						
IMA	Indian Mountai	151.81	315	ePKPdf	PKPdf	13 42 22.7	+0.9

*IDC **17** 13:22:33.2±1.2, 29.35N×130.17E, mb3.4/4, mb1 3.5/5, mb1mx3.5/20, mbtmp3.4/5, ML3.2/1, Error ellipse: s-maj=42.5km s-min=22.0km az=95.0*
*JMA **17** 13:22:38.9±0.2, 29.38N×129.88E, h61km±4km, M3.2*
ISC 17 13:22:38.8±0.5, **29.37N**±0.04×**129.9E**±0.1, **h57**km±6km**, n13,** σ0s**80**/22, **mb3.5**/4, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.47	359	P	P	13 22 50.5	+0.1
JNN				S	S	13 22 58.7	0.0
JAM	Amami Oshima	0.98	194	P	P	13 22 56.2	-0.6
JAM				S	S	13 23 08.6	-1.5
JZK	Kikaishima	1.05	176	P	P	13 22 59.1	+1.3
JZK				eS	S	13 23 13.2	+1.4
JKC	Kuchinoerabu	1.12	14	P	P	13 22 59.0	+0.3
JKC				eS	S	13 23 13.2	-0.2
JTN	Tanegashima 3	1.60	36	P	P	13 23 05.1	-0.3
JTN				eS	S	13 23 24.6	-0.4
JTK	Tokunoshima	1.78	208	P	P	13 23 07.7	-0.1
JTK				eS	S	13 23 29.2	-0.1
JIH	Iheya	2.87	216	P	P	13 23 23.7	+0.3
JIH				eS	S	13 23 56.5	-0.4
JOW	Kunigami	2.90	210	Pn	P	13 23 22.4	-1.3
	5.8nm,0.3s,baz=93,slow=21,SNR=26						
JOW				Sn	S	13 23 59.8	+2.3
	10nm,0.3s,baz=139,slow=26,SNR=7.5						
JOW	Kunigami	2.90	210	P	P	13 23 23.5	-0.2
JOW				eS	S	13 23 57.2	-0.3
SONM	Songino Array	25.85	322	P	P	13 28 07.8	+1.2
	0.5nm,0.5s,mb3.3,baz=139,slow=9.8,SNR=5.8						
WRA	Warramunga Arr	49.21	174	P	P	13 31 22.4	-1.2
	0.6nm,0.6s,mb3.8,baz=355,slow=8.5,SNR=4.6						
ASAR	Alice Springs	52.87	175	P	P	13 31 50.9	-0.4
	0.4nm,0.6s,mb3.5,baz=8.0,slow=14,SNR=6.8						
YKA	Yellowknife Ar	75.08	26	P	P	13 34 16.2	+0.4
	0.2nm,0.5s,mb3.3,baz=298,slow=5.9,SNR=3.8						

*NEIC **17** 13:29:20.3±0.8, 50.14N×18.43E, h5km, MG2.6(WAR), Error ellipse: s-maj=11.1km s-min=6.6km az=189.0*
*WAR **17** 13:29:20.6, 50.07N×18.46E, h0km, ML2.6, Mining Induced*
*PRU **17** 13:29:21.8, 50.12N×18.35E*

ISC 17 13:29:19.1±0.5**, 50.13N**±0.04×**18.41E**±0.04**, n16,** $\sigma 1^{s}$**22**/29**, 3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**252**	⇓*i*PG	**Pg**	**13 29 25.0**	**+3.0**
RAC				⇓*e*SG	**Sg**	**13 29 28.0**	**+4.1**
RAC	**Raciborz**	**0.14**	**252**	⇓*i*Pg	**Pg**	**13 29 25.0**	**+3.0**
RAC				*e*Sg	**Sg**	**13 29 28.3**	**+4.4**
OKC	**Ostrava-Krasne**	**0.34**	**210**	*e*PG	**Pg**	**13 29 27.1**	**+1.3**
MORC	**Moravsky Berou**	**0.66**	**238**	*e*Pg	**Pg**	**13 29 32.9**	**+0.6**
OJC	**Ojcow**	**0.90**	**84**	*e*PG	**Pg**	**13 29 37.0**	**-0.1**
OJC				*e*SG	**Sg**	**13 29 50.0**	**+0.9**
LIKS	**Likavka**	**1.17**	**157**	*e*SN	**Sn**	**13 29 59.9**	**+0.3**
DPC	**Dobruska-Polom**	**1.36**	**280**	*e*PG	**Pg**	**13 29 46.7**	**+0.5**
DPC				*e*SG	**Sg**	**13 30 05.4**	**+1.1**
	42nm,0.3s						
NIE	**Niedzica**	**1.43**	**119**	*e*PG	**Pg**	**13 29 46.0**	**-1.6**
NIE				*e*SG	**Sg**	**13 30 06.0**	**-0.6**
KSP	**Ksiaz**	**1.53**	**299**	*e*PG	**Pg**	**13 29 49.0**	**-0.6**
KSP				*e*SG	**Sg**	**13 30 11.0**	**+1.0**
KOLL	**Kolacno**	**1.55**	**180**	*i* PN	**Pn**	**13 29 49.9**	**+1.8**
KOLL				*e*SN	**Sn**	**13 30 08.2**	**-1.0**
UPC	**Upice**	**1.58**	**285**	*e*PG	**Pg**	**13 29 51.2**	**+0.5**
UPC				*e*SG	**Sg**	**13 30 11.4**	**-0.3**
VYHS	**Vyhne**	**1.66**	**170**	*e*PN	**Pn**	**13 29 49.1**	**-0.5**
VYHS				*i* SN	**Sn**	**13 30 12.3**	**+0.3**
CRVS	**Cervenica-Dubn**	**2.34**	**120**	*e*PN	**Pn**	**13 30 04.1**	**+4.7**
CRVS				*e*SN	**Sn**	**13 30 33.9**	**+4.7**
PRU	**Pruhonice**	**2.49**	**268**	*e*PG	**Pg**	**13 30 07.4**	**-1.5**
PRU				*e*SG	**Sg**	**13 30 38.5**	**-3.6**
KHC	**Kasperske Hory**	**3.29**	**254**	*e*PN	**Pn**	**13 30 12.5**	**-0.5**
KHC				*e*PG	**Pg**	**13 30 21.8**	**-3.1**
KHC				*e*SG	**Sg**	**13 31 05.0**	**-3.7**
CLL	**Collm**	**3.63**	**291**	*e*SG	**Sg**	**13 31 17.0**	**-3.0**

*CASC **17** 13:37:35.0±2.4, 14.66N×91.73W, h200km±6km, MD4.7, ML5.4, MW5.3, mb5.5(NEIC)*
*BGS **17** 13:37:36.7, 14.99N×91.09W, h197km, mb5.5*
*MOS **17** 13:37:36.7±0.9, 15.28N×91.32W, h200km, mb5.6/88, MS5.1/12, Error ellipse: s-maj=5.5km s-min=3.7km az=83.9*
*BJI **17** 13:37:36.1, 15.10N×91.40W, h197km, mB5.7*
*CSEM **17** 13:37:36.2, 15.14N×91.42W, h200km, mb5.7*
*NEIC **17** 13:37:37.1±0.1, 15.14N×91.38W, mb5.5/203, ME5.2, MW6.1, MD5.9(SNET), Error ellipse: s-maj=3.5km s-min=1.9km az=220.0 Broadband fault plane solution: P waves. NP1:ϕ_s120°, δ60°, λ80°. NP2:ϕ_s319°, δ31°, λ107°. Principal axes: T Plg73°, Azm5°; N Plg0°, Azm0°; P Plg14°, Azm217°; Moment Tensor Solution. s44 Moment tensor: Scale 10^{18} Nm; M_{rr}1.21; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$-0.56; $M_{r\theta}$1.21; $M_{\theta\phi}$0.83; $M_{\phi r}$-1.12; Best double couple: $M_0$2.1×10^{18} NP1: ϕ_s314°, δ19°, λ91°. NP2:ϕ_s133°, δ71°, λ90°. Principal axes: T 2, Plg64°, Azm42°; N .22, Plg0°, Azm133°; P -2.22, Plg26°, Azm223°; Two events about 3 seconds apart. Depth and focal mechanism based on the smaller first event. Energy computed from BB mechanism.*
NEIC Felt [IV] at Guatemala City. Felt at Antigua Guatemala, Panajachel and Quetzaltenango. Also felt [III] at San Salvador, El Salvador.
*IDC **17** 13:37:37.6±0.3, 15.26N×91.21W, h192km±2km, mb5.0/21, mb1 5.1/24, mb1mx5.0/25, mbtmp5.5/24, MS5.1/9, Ms1 5.1/9, ms1mx4.5/29 Error ellipse: s-maj=10.1km s-min=6.6km az=63.0*
*HRVD **17** 13:37:37.1±0.1, 15.20N×91.63W, h182km, MW6.2/84, Centroid moment Tensor Solution. LP body waves: s82, c208; Mantle waves: s84, c361; Half duration: $2^{s}9$ Moment tensor: Scale 10^{18}Nm; M_{rr}0.82±.01; $M_{\theta\theta}$-0.79±.01; $M_{\phi\phi}$-0.03±.01; $M_{r\theta}$1.30±.01; $M_{\theta\phi}$0.35±.01; $M_{\phi r}$-1.42±.01; Best double couple: $M_0$2.117×10^{18} NP1: ϕ_s271°, δ15°, λ47°. NP2:ϕ_s135°, δ79°, λ101°. Principal axes: T 2.148, Plg55°, Azm58°; N -.064, Plg10°, Azm313°; P -2.085, Plg33°, Azm216°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MEX **17** 13:37:37.6±0.8, 15.26N×91.84W, h195km±9km, MD5.2*

ISC 17 13:37:36.2±0.1**, 15.23N**±0.02×**91.43W**±0.02**, h197**km**, h197**km±.6km**:pP-P, n963,** $\sigma 1^{s}$**10**/889**, mb5.4**/240**, 54C-19D, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.92**	**192**	⇑*e*P	**P**	**13 38 01.6**	**-3.7**
JAT				*e*S	**S**	**13 38 22.9**	**-5.0**
FUG	**Fuego 3**	**0.96**	**143**	⇑*i*P	**P**	**13 38 03.4**	**-2.2**
GCG	**Guatemala City**	**1.08**	**126**	⇑*i*P	**P**	**13 38 06.0**	**-0.4**
GCG				*e*S	**S**	**13 38 30.9**	**+1.1**
PCG	**Pacaya**	**1.15**	**136**	*e*P	**P**	**13 38 05.0**	**-2.0**
CCIG	**Comitan**	**1.25**	**327**	*e*P	**P**	**13 38 05.9**	**-1.9**
CCIG				*i* S	**S**	**13 38 26.1**	**-6.2**
CCIG	**Comitan**	**1.25**	**327**	*e*P	**P**	**13 38 05.9**	**-1.9**
CCIG				*e*S	**S**	**13 38 29.4**	**-3.0**
IXG	**Ixpaco**	**1.41**	**138**	⇑*e*P	**P**	**13 38 07.5**	**-1.7**
IXG				*e*S	**S**	**13 38 33.4**	**-1.4**
RBDL	**Robledal**	**2.02**	**123**	⇑*i*P	**P**	**13 38 14.5**	**-0.5**
MTO2	**Montecristo 2**	**2.17**	**112**	⇓*i*P	**P**	**13 38 16.7**	**+0.1**
RTR	**El Retiro**	**2.18**	**127**	*e*P	**P**	**13 38 16.4**	**-0.4**
SNJE	**San Jose**	**2.23**	**127**	⇓*i*P	**P**	**13 38 16.7**	**-0.6**
SBLS	**San Blas**	**2.23**	**128**	*e*P	**P**	**13 38 16.7**	**-0.6**
BOQS	**Boqueron**	**2.56**	**125**	*e*P	**P**	**13 38 20.7**	**-0.4**
SNET	**Serv Nac Est T**	**2.62**	**125**	*e*P	**P**	**13 38 23.5**	**+1.7**
SNET				*e*S	**S**	**13 38 57.9**	**+0.9**
SNET				*e*		13 39 20.9	
	comp=Z,25µm,1.1s						
LBRS	**Las Brisas**	**2.75**	**122**	*e*P	**P**	**13 38 23.2**	**-0.1**
LFRS	**El Faro**	**2.79**	**124**	*e*P	**P**	**13 38 23.2**	**-0.6**
LCBS	**La Ceiba**	**2.84**	**123**	⇓*e*P	**P**	**13 38 24.1**	**-0.3**
SNVI	**San Vicente**	**2.98**	**122**	*e*P	**P**	**13 38 27.6**	**+1.7**
CAHU	**Cacacuatique**	**3.44**	**114**	*e*P	**P**	**13 38 32.6**	**+1.1**
BLLM	**Bellamira**	**3.57**	**119**	*e*P	**P**	**13 38 35.8**	**+2.6**
SCIG		**3.73**	**4**	⇓*i*P	**P**	**13 38 34.5**	**-0.6**
SCIG				*i* S	**S**	**13 39 19.3**	**-1.3**
CMIG	**Matias Romero**	**3.80**	**300**	*i* P	**P**	**13 38 31.5**	**-4.5**
CMIG				*i* S	**S**	**13 39 13.0**	**-9.2**
CNCH	**Conchagua**	**3.99**	**119**	*e*P	**P**	**13 38 41.0**	**+2.6**
TUIG	**Tuzandepetl**	**4.00**	**315**	*e*P	**P**	**13 38 35.2**	**-3.3**
TUIG				*i* S	**S**	**13 39 18.9**	**-7.9**
HUIG	**Huatulco**	**4.54**	**277**	*i* P	**P**	**13 38 39.2**	**-6.2**
HUIG				*i* S	**S**	**13 39 25.7**	**-13**
HUIG	**Huatulco**	**4.54**	**277**	*i* P	**P**	**13 38 39.2**	**-6.2**
HUIG				*i* S	**S**	**13 39 27.6**	**-11**
EVV	**El Vigia**	**4.94**	**311**	*e*P	**P**	**13 38 48.0**	**-2.4**
EVV				*i* S	**S**	**13 39 41.8**	**-6.2**
EVV	**El Vigia**	**4.94**	**311**	*e*P	**P**	**13 38 47.0**	**-3.4**
EVV				*i* S	**S**	**13 39 41.8**	**-6.2**
CRIN	**San Cristobal**	**4.94**	**120**	*e*P	**P**	**13 38 52.3**	**+1.9**
TELN	**Telica**	**5.17**	**120**	*e*P	**P**	**13 38 56.2**	**+2.8**
TELN				*e*S	**S**	**13 39 54.6**	**+1.2**
TEL3	**Telica 3**	**5.18**	**120**	*e*P	**P**	**13 38 56.5**	**+3.0**
TEL3				*e*S	**S**	**13 39 53.2**	**-0.3**
LEON	**Leon**	**5.22**	**122**	*e*P	**P**	**13 38 55.5**	**+1.4**
LEON				*e*S	**S**	**13 39 53.8**	**-0.7**
CNGN	**Cerro Negro**	**5.34**	**120**	*e*P	**P**	**13 38 57.2**	**+1.7**
CNGN				*e*S	**S**	**13 39 58.0**	**+0.9**
MIRN	**Miramar**	**5.36**	**121**	*e*P	**P**	**13 38 58.5**	**+2.7**
OXX	**Oaxaca**	**5.41**	**291**	*i* P	**P**	**13 38 54.2**	**-2.2**
VHO	**Vista Hermosa**	**5.41**	**291**	*e*P	**P**	**13 38 53.8**	**-2.8**
VHO				*i* S	**S**	**13 39 48.7**	**-10**
MOMJ	**Momotombo**	**5.52**	**120**	*e*P	**P**	**13 39 00.6**	**+2.7**
COPN	**Copaltepe**	**5.59**	**122**	*e*P	**P**	**13 39 00.4**	**+1.6**
XAVN	**Gruta Xavier**	**5.83**	**121**	*e*P	**P**	**13 39 04.0**	**+2.1**
XAVN				*e*S	**S**	**13 40 07.4**	**-1.2**
PYTN	**Playitas**	**5.86**	**116**	⇑*e*P	**P**	**13 39 06.0**	**+3.6**
MGAN	**Managua**	**5.90**	**121**	*e*P	**P**	**13 39 04.1**	**+1.3**
MGAN				*e*S	**S**	**13 40 08.8**	**-1.3**
	comp=N,11µm,0.6s						
MGAN				*i*		13 40 11.0	
	comp=E,10µm,0.6s						
MGAN				*e*		13 40 12.1	
	comp=E,2µm,0.8s						
MGAN				*i*		13 40 13.4	
	comp=N,11µm,0.6s						
MGAN				*e*		13 40 14.8	
	comp=N,2µm,0.6s						
TICN	**Ticuantepe**	**5.97**	**121**	*e*P	**P**	**13 39 05.2**	**+1.4**
MASN	**Masaya**	**6.06**	**121**	*e*P	**P**	**13 39 07.3**	**+2.4**
MASN				*e*P		13 39 09.1	
MASN				*i*		13 40 18.3	
	comp=N,26µm,0.7s						
APON	**Apoyo**	**6.17**	**122**	*e*P	**P**	**13 39 08.4**	**+2.1**
LVIG	**Laguna Verde**	**6.53**	**314**	*e*P	**P**	**13 39 07.9**	**-3.2**
PNIG	**Pinotepa**	**6.55**	**281**	*e*P	**P**	**13 39 07.1**	**-4.2**
PNIG				*i* S	**S**	**13 40 14.9**	**-10**
IISM	**Ciudad Serdan**	**6.80**	**304**	*e*P	**P**	**13 39 12.0**	**-2.6**
IISM				*i* S	**S**	**13 40 28.0**	**-3.3**
IIB	**San Bernardino**	**7.58**	**300**	*i* P	**P**	**13 39 28.8**	**+4.0**
IIB	**San Bernardino**	**7.58**	**300**	*i* P	**P**	**13 39 22.0**	**-2.8**
VCR	**Vista de Mar**	**7.60**	**131**	⇑*e*P	**P**	**13 39 25.0**	**0.0**
VCR				*e*S	**S**	**13 40 48.3**	**-1.7**
PPM	**Popocatepetl**	**7.87**	**300**	*e*P	**P**	**13 39 28.2**	**-0.3**
PPM	**Popocatepetl**	**7.87**	**300**	*e*P	**P**	**13 39 26.5**	**-2.0**
PPM				*e*P		13 39 26.9	
PPM				*i* S	**S**	**13 40 48.9**	**-7.4**
JTS	**JuntasAbangare**	**8.00**	**127**	Pn	**P**	**13 39 30.5**	**+0.3**
	comp=N,22µm,1.1s						
JTS	**JuntasAbangare**	**8.00**	**127**	*e*P	**P**	**13 39 29.7**	**-0.5**
JTS				pmax	pmax		
	comp=Z,3µm,0.8s						
JTS	**JuntasAbangare**	**8.00**	**127**	P	**P**	**13 39 29.9**	**-0.3**
	comp=Z,106nm,0.3s,baz=321,slow=7.7,SNR=87						
JTS				S	**S**	**13 41 00.0**	**+0.6**
	comp=Z,382nm,0.3s,baz=291,slow=21,SNR=7.9						
FORC	**Fortuna**	**8.11**	**125**	*e*P	**P**	**13 39 33.6**	**+1.9**
FORC	**Fortuna**	**8.11**	**125**	*e*P	**P**	**13 39 31.4**	**-0.3**
YAIG	**Yautepec**	**8.15**	**297**	*i* P	**P**	**13 39 31.2**	**-1.0**
YAIG	**Yautepec**	**8.15**	**297**	*e*P	**P**	**13 39 29.8**	**-2.4**
YAIG				*i* S	**S**	**13 40 54.9**	**-7.9**
IIO	**Organos**	**8.20**	**303**	*i* P	**P**	**13 39 32.5**	**-0.4**
CHVM	**Chichinautzin**	**8.31**	**299**	*e*P	**P**	**13 39 34.6**	**+0.3**
ACX	**Acapulco**	**8.32**	**282**	*e*P	**P**	**13 39 30.6**	**-3.8**
ACX				*i* S	**S**	**13 40 59.4**	**-7.4**
PLIG	**Platanillo**	**8.34**	**293**	*e*P	**P**	**13 39 33.6**	**-1.1**
PLIG				*i* S	**S**	**13 40 58.6**	**-8.8**
PLIG	**Platanillo**	**8.34**	**293**	*i* P	**P**	**13 39 31.2**	**-3.5**
PLIG				*i* S	**S**	**13 40 58.6**	**-8.8**
IIZ	**Mezontepec**	**8.44**	**299**	*e*P	**P**	**13 39 35.0**	**-1.0**
UNM	**Universidad Na**	**8.45**	**300**	*e*P	**P**	**13 39 35.0**	**-1.1**
PTVM	**Pico Tres Padr**	**8.52**	**302**	*e*P	**P**	**13 39 36.9**	**-0.1**
CGA2	**Cerro Gallo 2**	**8.54**	**126**	⇓*e*P	**P**	**13 39 38.0**	**+0.6**
CGA2	**Cerro Gallo 2**	**8.54**	**126**	*e*P	**P**	**13 39 37.9**	**+0.5**
CGA2				*e*S	**S**	**13 41 11.6**	**-0.5**
VPS2	**Volcan Poas 2**	**8.62**	**125**	*e*P	**P**	**13 39 40.5**	**+2.1**
VPS2	**Volcan Poas 2**	**8.62**	**125**	*e*P	**P**	**13 39 40.2**	**+1.8**
CAIG	**El Cayaco**	**8.68**	**283**	*i* P	**P**	**13 39 36.2**	**-2.9**
PRS1	**Puriscal**	**8.69**	**126**	*e*P	**P**	**13 39 39.8**	**+0.6**
PRS1	**Puriscal**	**8.69**	**126**	*e*P	**P**	**13 39 40.1**	**+0.9**
IIC	**Rita Coyotepec**	**8.72**	**302**	*i* P	**P**	**13 39 37.5**	**-2.2**
TRTC	**Tortuguero**	**8.83**	**121**	*e*P	**P**	**13 39 40.7**	**-0.4**
TRTC	**Tortuguero**	**8.83**	**121**	*e*P	**P**	**13 39 40.4**	**-0.7**
LAJ	**Bijagual**	**8.91**	**126**	*e*P	**P**	**13 39 39.2**	**-2.9**
LAJ	**Bijagual**	**8.91**	**126**	⇓*e*P	**P**	**13 39 39.2**	**-2.9**
SJS	**Escuela Geolog**	**8.91**	**125**	*e*P	**P**	**13 39 42.8**	**+0.6**
SJS				*e*S	**S**	**13 41 21.6**	**+0.9**
SJS	**Escuela Geolog**	**8.91**	**125**	⇑*e*P	**P**	**13 39 42.7**	**+0.5**
ICR	**Volcan Irazu**	**9.07**	**124**	*e*P	**P**	**13 39 44.7**	**+0.6**
ICR	**Volcan Irazu**	**9.07**	**124**	*e*P	**P**	**13 39 44.8**	**+0.6**
LCR2	**La Lucha 2**	**9.07**	**126**	*e*P	**P**	**13 39 44.1**	**-0.1**
LCR2	**La Lucha 2**	**9.07**	**126**	*e*P	**P**	**13 39 44.2**	**0.0**
QCR	**Quepos**	**9.14**	**128**	*e*P	**P**	**13 39 47.4**	**+2.2**
BUS	**Buena Vista**	**9.38**	**126**	⇑*e*P	**P**	**13 39 48.7**	**+0.5**
BUS	**Buena Vista**	**9.38**	**126**	⇑*e*P	**P**	**13 39 48.3**	**+0.1**
LIO	**Limon**	**9.70**	**121**	*e*P	**P**	**13 39 53.9**	**+1.4**
LIO	**Limon**	**9.70**	**121**	*e*P	**P**	**13 39 53.7**	**+1.2**
ZIIG	**Zihuatanejo**	**9.91**	**285**	*e*P	**P**	**13 39 54.5**	**-0.8**
ZIIG	**Zihuatanejo**	**9.91**	**285**	*e*P	**P**	**13 39 53.9**	**-1.3**
MOIG	**Morelia**	**10.31**	**297**	*e*P	**P**	**13 40 01.5**	**+1.2**
MOIG	**Morelia**	**10.31**	**297**	*e*P	**P**	**13 40 00.6**	**+0.3**
ACR	**Cerro Adams**	**10.39**	**128**	*e*P	**P**	**13 40 01.0**	**-0.4**
ACR				*e*S	**S**	**13 41 59.8**	**+4.6**
ACR	**Cerro Adams**	**10.39**	**128**	*e*P	**P**	**13 40 00.9**	**-0.6**
SFJM	**Santa Fe**	**12.22**	**297**	*e*P	**P**	**13 40 27.9**	**+3.0**
SFJM	**Santa Fe**	**12.22**	**297**	*e*P	**P**	**13 40 24.0**	**-0.8**
COLM	**Colima**	**12.36**	**290**	*e*P	**P**	**13 40 26.5**	**0.0**
CVJ	**Coleyville**	**13.64**	**75**	⇑*e*P	**P**	**13 40 49.8**	**+6.9**
CJM	**Chamela**	**13.67**	**290**	*i* P	**P**	**13 40 44.8**	**+1.6**
CJM				*i* S	**S**	**13 42 59.0**	**-12**
BBJ	**Bamboo Saint A**	**13.92**	**75**	⇑*e*P	**P**	**13 40 52.8**	**+6.5**
BNJ	**Bonny Gate**	**14.21**	**75**	⇑*e*P	**P**	**13 40 52.9**	**+3.0**
STH	**Stony Hill**	**14.30**	**77**	⇑*e*P	**P**	**13 40 53.7**	**+2.7**
HKT	**Hockley**	**15.20**	**345**	Pn	**P**	**13 41 03.3**	**+1.1**
HKT				S	**S**	**13 43 47.8**	**+2.6**
HKT	**Hockley**	**15.20**	**345**	*e*P	**P**	**13 41 03.3**	**+1.1**
HKT				pmax	pmax		
	comp=Z,924nm,1.4s						
HKT	**Hockley**	**15.20**	**345**	*e*P	**P**	**13 41 03.3**	**+1.1**
	comp=Z,924nm,1.4s						
DWPF	**Disney**	**15.82**	**34**	*e*P	**P**	**13 41 11.4**	**+1.6**
	comp=Z,544nm,0.8s						
DWPF				*e*S	**S**	**13 44 11.9**	**+13**
PAYG	**Puerto Ayora**	**15.84**	**176**	*e*P	**P**	**13 41 10.7**	**+0.6**
	comp=Z,2µm,1.7s						
PAYG				*e*S	**S**	**13 44 11.8**	**+12**
NATX	**Nacogdoches**	**16.72**	**350**	*e*P	**P**	**13 41 20.8**	**+0.2**
	comp=Z,1µm,0.7s						
JCT	**Junction City**	**17.02**	**335**	*e*P	**P**	**13 41 24.6**	**+0.6**
JCT				pmax	pmax		
	comp=Z,418nm,0.5s						
JCT	**Junction City**	**17.02**	**335**	*e*P	**P**	**13 41 24.6**	**+0.6**
	comp=Z,418nm,0.5s						
TXAR	**Lajitas Array**	**18.01**	**323**	P	**P**	**13 41 35.9**	**+1.0**
	comp=Z,9.9nm,0.3s,baz=148,slow=12,SNR=159						
TXAR				PcP	PcP	13 46 00.3	+0.2
	comp=Z,2.1nm,0.3s,baz=169,slow=3.6,SNR=5.1						
TXAR				ScP		13 49 19.4	
	comp=Z,0.3nm,0.3s,baz=162,slow=4.0,SNR=16						
TXAR	**Lajitas Array**	**18.01**	**323**	P	**P**	**13 41 35.9**	**+1.0**
TXAR				PcP	PcP	13 46 00.3	+0.2
TXAR				ScP		13 49 19.4	
LTX	**Lajitas**	**18.02**	**323**	*e*P	**P**	**13 41 35.2**	**+0.4**
LTX				pmax	pmax		
	comp=Z,197nm,0.6s						
LTX	**Lajitas**	**18.02**	**323**	*e*P	**P**	**13 41 35.2**	**+0.4**
	comp=Z,197nm,0.6s						
LTX				*e*ScP		13 49 21.4	
LRAL	**Lakeview Retre**	**18.18**	**12**	*e*P	**P**	**13 41 37.6**	**+1.1**
	comp=Z,400nm,0.6s						
OXF	**Oxford**	**19.29**	**5**	⇑*e*P	**P**	**13 41 48.0**	**+0.1**
OXF				pmax	pmax		
	comp=Z,5.0nm,1.0s						
OXF	**Oxford**	**19.29**	**5**	⇑*e*P	**P**	**13 41 48.0**	**0.0**
	comp=Z,5.5nm,1.0s						
MIAR	**Mount Ida**	**19.33**	**355**	*e*P	**P**	**13 41 47.8**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,341nm,0.6s						
MIAR	**Mount Ida**	**19.33**	**355**	*e*P	**P**	**13 41 47.8**	**-0.6**
	comp=Z,341nm,0.6s						
UALR	**University of**	**19.48**	**358**	*e*P	**P**	**13 41 50.1**	**+0.1**
	comp=Z,1µm,0.5s						
GOGA	**Godfrey**	**19.49**	**20**	*e*P	**P**	**13 41 51.5**	**+1.5**
GOGA				pmax	pmax		
	comp=Z,2µm,0.6s						
GOGA	**Godfrey**	**19.49**	**20**	*e*P	**P**	**13 41 51.5**	**+1.5**
	comp=Z,2µm,0.6s						
OTAV	**Otavalo**	**19.65**	**138**	*e*P	**P**	**13 41 53.0**	**+1.2**
	comp=Z,295nm,0.8s						
OTAV				*e*pP		13 42 24.5	
ROSC	**El Rosal**	**19.72**	**120**	P	**P**	**13 41 51.9**	**-0.7**
	comp=Z,14nm,0.3s,baz=89,slow=7.4,SNR=26						
ROSC				ScS	ScS	13 53 09.9	+10
	comp=Z,1.6nm,0.3s,baz=253,slow=19,SNR=3.7						
MET	**Memphis--Engin**	**19.86**	**4**	*e*P	**P**	**13 41 53.8**	**+0.1**
PLAL	**Pickwick Lake**	**19.90**	**8**	*e*P	**P**	**13 41 54.3**	**+0.1**
	comp=Z,494nm,0.5s						
PLAL				*e*ScP		13 49 21.9	
HBAR	**Harrisburg**	**20.26**	**2**	*e*P	**P**	**13 41 58.1**	**+0.3**
HBF	**Harts Bluff**	**20.29**	**28**	*e*P	**P**	**13 42 00.5**	**+2.4**
RGRS	**Roger Stewart**	**20.35**	**28**	*e*P	**P**	**13 42 00.8**	**+2.1**
RGRS				*e*pP		13 42 31.9	
CLNB	**Carlsbad**	**20.40**	**328**	*e*P	**P**	**13 41 59.5**	**+0.3**
CLNB				*e*ScP		13 49 22.6	
SWET	**Sewanee**	**20.51**	**13**	*e*P	**P**	**13 42 01.6**	**+1.3**
SWET				*e*pP		13 42 32.5	
SWET				*e*sP		13 42 58.4	
SWET				*e*S	**S**	**13 45 45.7**	**+12**
NHSC	**New Hope**	**20.52**	**28**	*e*P	**P**	**13 42 02.8**	**+2.3**
	comp=Z,4µm,1.1s						
WMOK	**Wichita Mounta**	**20.52**	**343**	*e*P	**P**	**13 41 59.4**	**-1.0**
WMOK				*e**PP		13 42 32.3	
WMOK				pmax	pmax		
	comp=Z,788nm,1.3s						
WMOK	**Wichita Mounta**	**20.52**	**343**	*e*P	**P**	**13 41 59.4**	**-1.0**
	comp=Z,788nm,1.3s						
WMOK				*e*pP		13 42 32.3	
COW	**Cow Castle Cre**	**20.53**	**26**	*e*P	**P**	**13 42 02.9**	**+2.4**
GDL2	**Guadalupe Moun**	**20.60**	**327**	*e*P	**P**	**13 42 01.8**	**+0.6**
GDL2				*e*pP		13 42 35.9	
HALT	**Halls**	**20.68**	**5**	*e*P	**P**	**13 42 02.2**	**+0.2**
GNAR	**Gosnell**	**20.69**	**3**	*e*P	**P**	**13 42 02.9**	**+0.8**
GNAR				*e*pP		13 42 37.5	
MNTX	**Cornudas Mount**	**20.76**	**325**	*e*P	**P**	**13 42 03.0**	**+0.1**
	comp=Z,76nm,0.6s						
MNTX				*e*S	**S**	**13 45 48.1**	**+10**
MNTX				*e*ScP		13 49 26.2	
CPRX	**Cap Rock**	**21.01**	**330**	*e*P	**P**	**13 42 05.7**	**+0.4**
CPRX				*e*ScP		13 49 25.6	
GLAT	**Glass**	**21.05**	**5**	*e*P	**P**	**13 42 06.6**	**+1.0**
WVT	**Waverly**	**21.07**	**8**	*e*P	**P**	**13 42 05.9**	**+0.1**
WVT				*e**PP		13 42 38.7	
WVT				pmax	pmax		
	comp=Z,759nm,0.6s,mb6.4						
WVT	**Waverly**	**21.07**	**8**	*e*P	**P**	**13 42 05.9**	**+0.1**
	comp=Z,759nm,0.6s,mb6.4						
WVT				*e*pP		13 42 38.7	
CPCT	**Cooper Cave**	**21.07**	**16**	*e*P	**P**	**13 42 08.0**	**+2.1**
JSC	**Jenkinsville**	**21.08**	**24**	*e*P	**P**	**13 42 08.1**	**+2.2**
UTMT	**University of**	**21.16**	**6**	*e*P	**P**	**13 42 08.0**	**+1.4**
	comp=Z,5µm,0.9s						
PVMO	**Portageville**	**21.16**	**4**	*e*P	**P**	**13 42 07.9**	**+1.2**
SDV	**Santo Domingo**	**21.28**	**105**	P	**P**	**13 42 07.8**	**-0.3**
	comp=Z,553nm,0.8s,mb6.2,baz=305,slow=5.0,SNR=91						
SDV				ScP		13 49 25.2	
	comp=Z,9.1nm,0.4s,baz=333,slow=2.5,SNR=4.0						
SDV				ScS	ScS	13 53 15.5	+10
	comp=Z,6.1nm,0.9s,baz=65,slow=20,SNR=3.8						
SDV	**Santo Domingo**	**21.28**	**105**	*e*P	**P**	**13 42 06.8**	**-1.2**
	comp=Z,2µm,1.1s,mb6.4						
AMTX	**Amarillo**	**21.64**	**337**	*e*P	**P**	**13 42 12.0**	**+0.6**
	comp=Z,606nm,0.6s,mb6.3						
TZTN	**Tazewell**	**22.36**	**17**	*e*P	**P**	**13 42 20.6**	**+2.2**
FVM	**French Village**	**22.69**	**2**	*e*P	**P**	**13 42 21.3**	**-0.3**
FVM				pmax	pmax		
	comp=Z,1µm,0.7s,mb6.5						
FVM	**French Village**	**22.69**	**2**	*e*P	**P**	**13 42 21.3**	**-0.3**
	comp=Z,1µm,0.7s,mb6.5						
FVM				*e*S	**S**	**13 46 25.0**	**+13**
CCM	**Cathedral Cave**	**22.74**	**0**	⇑*e*P	**P**	**13 42 22.1**	**0.0**
	comp=Z,4µm,0.9s						
USIN	**University of**	**22.89**	**8**	⇑*e*P	**P**	**13 42 24.6**	**+1.0**
	comp=Z,1µm,0.8s,mb6.4						
USIN				*e*pP		13 42 58.7	
USIN				*e*sP		13 43 24.9	
SLM	**Saint Louis**	**23.34**	**2**	*e*P	**P**	**13 42 29.2**	**+1.3**
	comp=Z,6µm,0.6s						
WCI	**Wyandotte Cave**	**23.36**	**10**	*e*P	**P**	**13 42 28.8**	**+0.7**
	comp=Z,2µm,0.8s						
WCI				*e*pP		13 43 02.8	
WCI				*e*sP		13 43 29.4	
LPM	**Los Pinos Moun**	**23.43**	**327**	*e*P	**P**	**13 42 30.3**	**+1.5**
LPM				*e*pP		13 43 08.0	
LENM	**Lemitar**	**23.50**	**326**	*e*P	**P**	**13 42 31.0**	**+1.6**
LENM				*e*pP		13 43 06.4	
LENM				*e*ScP		13 49 32.1	
LAZ	**Ladron**	**23.77**	**326**	*e*P	**P**	**13 42 33.2**	**+1.3**
LAZ				*e*ScP		13 49 34.9	
ANMO	**Albuquerque**	**23.84**	**328**	*e*P	**P**	**13 42 34.0**	**+1.4**
ANMO				*e**PP		13 43 11.5	
ANMO				pmax	pmax		
	comp=Z,43nm,0.5s						
ANMO	**Albuquerque**	**23.84**	**328**	P	**P**	**13 42 34.5**	**+2.0**
	comp=Z,35nm,0.5s,mb5.2,baz=135,slow=12,SNR=35						
ANMO	**Albuquerque**	**23.84**	**328**	*e*P	**P**	**13 42 34.0**	**+1.4**
	comp=Z,43nm,0.5s,mb5.3						
ANMO				*e*pP		13 43 11.5	
ANMO				*e*ScP		13 49 35.2	
ELN	**Prospectdale**	**23.88**	**21**	*e*P	**P**	**13 42 34.6**	**+1.6**
ELN				*e*pP		13 43 11.2	
BLA	**Blacksburg**	**23.98**	**22**	*e*P	**P**	**13 42 35.6**	**+1.7**
BLA				*e**PP		13 43 14.2	
BLA				*e**SP		13 43 35.6	
BLA				pmax	pmax		
	comp=Z,318nm,0.7s,mb6.1						
BLA	**Blacksburg**	**23.98**	**22**	*e*P	**P**	**13 42 35.6**	**+1.7**
	comp=Z,318nm,0.7s,mb6.1						
BLA				*e*pP		13 43 14.2	
BLA				*e*sP		13 43 35.5	
FWV	**Forest Hill**	**24.18**	**21**	*e*P	**P**	**13 42 37.2**	**+1.5**
KSU1	**Kansas State U**	**24.22**	**350**	*e*P	**P**	**13 42 35.8**	**-0.3**
KSU1				*e*pP		13 43 13.7	
BLO	**Bloomington**	**24.24**	**9**	*e*P	**P**	**13 42 37.0**	**+0.7**
BLO				*e**PP		13 43 15.2	
BLO				pmax	pmax		
	comp=Z,1µm,1.2s,mb6.5						
BLO	**Bloomington**	**24.24**	**9**	*e*P	**P**	**13 42 37.0**	**+0.6**
	comp=Z,1µm,1.2s,mb6.5						
BLO				*e*pP		13 43 15.2	
SJG	**San Juan**	**24.38**	**80**	*e*P	**P**	**13 42 37.0**	**-0.9**
SJG				pmax	pmax		
	comp=Z,363nm,0.8s						
SJG	**San Juan**	**24.38**	**80**	P	**P**	**13 42 37.0**	**-0.9**
	comp=Z,93nm,0.6s,mb5.6,baz=288,slow=5.7,SNR=21						
SJG	**San Juan**	**24.38**	**80**	*e*P	**P**	**13 42 37.0**	**-0.9**
	comp=Z,363nm,0.8s,mb6.1						
TUC	**Tucson**	**24.48**	**317**	⇑*e*P	**P**	**13 42 39.7**	**+1.0**
TUC				*e**PP		13 43 18.0	
TUC				*e**SP		13 43 41.9	
TUC				pmax	pmax		
	comp=Z,82nm,0.9s,mb5.4						
TUC	**Tucson**	**24.48**	**317**	⇑*e*P	**P**	**13 42 39.7**	**+1.0**
	comp=Z,82nm,0.9s,mb5.4						
TUC				*e*pP		13 43 18.0	
TUC				*e*sP		13 43 41.9	
TUC				*e*ScP		13 49 34.2	
CBKS	**Cedar Bluff**	**24.61**	**344**	*e*P	**P**	**13 42 39.7**	**-0.1**
CBKS				pmax	pmax		
	comp=Z,355nm,1.2s,mb5.9						
CBKS	**Cedar Bluff**	**24.61**	**344**	*e*P	**P**	**13 42 39.7**	**-0.1**
	comp=Z,355nm,1.2s,mb5.9						
SDCO	**Great Sand Dun**	**25.66**	**334**	*e*P	**P**	**13 42 50.2**	**+0.6**
	comp=Z,44nm,1.1s,mb5.0						
ACSO	**Alum Creek Sta**	**25.98**	**15**	*e*P	**P**	**13 42 52.5**	**0.0**
	comp=Z,662nm,0.6s,mb6.4						
ACSO				*e*pP	pP	13 43 32.8	+1.1
CBN	**Corbin**	**26.04**	**26**	⇑*e*P	**P**	**13 42 54.1**	**+1.0**
	comp=Z,548nm,0.5s,mb6.4						
CBN				*e*pP	pP	13 43 34.5	+2.3
CBN				*e*sP	sP	13 43 55.4	-0.4
MCWV	**Mont Chateau**	**26.37**	**20**	*e*P	**P**	**13 42 56.0**	**-0.1**
	comp=Z,1µm,1.6s,mb6.3						
WUAZ	**Wupatki**	**26.97**	**322**	*e*P	**P**	**13 43 02.5**	**+1.0**
	comp=Z,344nm,0.9s,mb6.0						
WUAZ				*e*pP	pP	13 43 42.5	+1.4
WUAZ				*e*ScP		13 49 44.1	
RW3	**Ridgway**	**27.05**	**331**	*e*P	**P**	**13 43 05.1**	**+2.9**
RW3				*e*ScP		13 49 42.4	
SDMD	**Soldier's Deli**	**27.28**	**25**	*e*P	**P**	**13 43 05.0**	**+0.6**
SDMD				*e*pP	pP	13 43 44.5	+0.5
PV01	**Paradox Valley**	**27.39**	**330**	*e*P	**P**	**13 43 03.5**	**-1.8**
PV01				*e*		13 43 09.4	
PV01				*e*pP	pP	13 43 44.2	-0.7
PV01				*e*ScP		13 49 43.1	
ISCO	**Idaho Springs**	**27.45**	**336**	*e*P	**P**	**13 43 05.9**	**+0.1**
ISCO				*e**PP	pP	13 43 44.3	-1.2
ISCO				pmax	pmax		
	comp=Z,37nm,1.0s,mb5.0						
ISCO	**Idaho Springs**	**27.45**	**336**	*e*P	**P**	**13 43 05.9**	**+0.1**
	comp=Z,37nm,1.0s,mb5.0						
ISCO				*e*pP	pP	13 43 44.3	-1.2
ISCO				*e*ScP		13 49 41.0	
JFWS	**Jewell Farm**	**27.61**	**2**	*e*P	**P**	**13 43 05.9**	**-1.4**
JFWS				pmax	pmax		
	comp=Z,740nm,0.7s,mb6.4						
JFWS	**Jewell Farm**	**27.61**	**2**	*e*P	**P**	**13 43 05.9**	**-1.3**
	comp=Z,740nm,0.7s,mb6.4						
JFWS				*e*		13 43 10.2	
AAM	**Ann Arbor**	**27.80**	**12**	*e*P	**P**	**13 43 08.2**	**-0.8**
AAM				*e**PP	pP	13 43 50.2	+1.5
AAM				pmax	pmax		
	comp=Z,257nm,0.5s,mb6.1						
AAM	**Ann Arbor**	**27.80**	**12**	*e*P	**P**	**13 43 08.2**	**-0.8**
	comp=Z,257nm,0.5s,mb6.1						
AAM				*e*		13 43 12.1	
AAM				*e*pP	pP	13 43 50.2	+1.5

PV10	Paradox Valley	27.80	329	eP	P	13 43 08.9	-0.1
PV10				epP	pP	13 43 50.0	+1.2
PV10				eScP		13 49 46.3	
SSPA	Standing Stone	27.93	22	eP	P	13 43 10.3	+0.2
	comp=Z,560nm,0.9s,mb6.2						
SSPA				e		13 43 14.4	
SSPA				epP	pP	13 43 51.5	+1.5
MVL	Millersville	27.98	25	eP	P	13 43 11.2	+0.6
MVL				e		13 43 15.0	
MVL				epP	pP	13 43 53.4	+2.9
ALLY	Alegheny Colle	28.08	18	eP	P	13 43 11.4	-0.1
ALLY				e		13 43 15.6	
ALLY				epP	pP	13 43 50.2	-1.2
ERPA	Erie	28.56	18	eP	P	13 43 15.2	-0.6
	comp=Z,219nm,0.8s,mb5.8						
ERPA				epP	pP	13 43 58.1	+2.4
PHWY	Pilot Hill	28.69	338	eP	P	13 43 16.8	-0.1
PHWY				epP	pP	13 43 56.8	-0.2
PHWY				esP	sP	13 44 15.5	-4.6
PHWY				ePP	PP	13 44 26.1	+8.6
PHWY				eScP		13 49 48.4	
BAR	Barrett	28.76	312	eP	P	13 43 18.2	+0.5
BAR				e		13 43 22.3	
BAR				epP	pP	13 43 57.3	-0.4
BAR				ePcP	PcP	13 46 22.2	-0.5
BAR				eScP		13 49 47.8	
LDFC	Landfair	29.02	317	eP	P	13 43 21.8	+1.9
LDFC				e		13 43 25.5	
LDFC				epP	pP	13 43 58.5	-1.6
LDFC				ePcP	PcP	13 46 22.1	-1.1
LDFC				eScP		13 49 47.5	
PFO	Pinyon Flat Ob	29.10	313	P	P	13 43 22.0	+1.4
	comp=Z,336nm,1.0s,mb5.9,SNR=36						
SRU	San Rafael	29.11	328	eP	P	13 43 20.9	+0.2
SRU				e*PP	pP	13 44 00.4	-0.4
SRU				e*SP	sP	13 44 21.8	-2.1
SRU				e		13 49 48.3	
BRNJ	Basking Ridge	29.30	27	eP	P	13 43 23.5	+1.1
BRNJ				e		13 43 27.2	
BRNJ				ePP	PP	13 44 34.3	+8.8
MSU	Marysvale	29.53	326	eP	P	13 43 25.5	+1.1
MSU				e	pP	13 44 06.9	+2.2
MSU				e		13 46 25.0	
MSU				e		13 49 51.9	
MSU	Marysvale	29.53	326	eP	P	13 43 25.4	+1.0
MSU				e		13 43 29.2	
MSU				e	pP	13 44 06.9	+2.2
MSU				ePcP	PcP	13 46 25.0	+0.5
MSU				eScP		13 49 51.9	
MVU	Marysvale	29.55	326	eP	P	13 43 25.1	+0.6
	comp=Z,434nm,1.8s,mb5.8						
MVU				e		13 43 29.3	
MVU				ePcP	PcP	13 46 25.4	+0.8
MVU				eScP		13 49 51.7	
TMUT	Trail Mountain	29.60	328	eP	P	13 43 25.9	+0.9
TMUT				eScP		13 49 51.7	
BUF	Buffalo	29.64	19	P	P	13 43 25.0	-0.3
CPNY	Central Park	29.66	27	eP	P	13 43 25.2	-0.3
BBSR	BB Station	29.70	50	eP	P	13 43 26.4	+0.4
	comp=Z,535nm,0.8s,mb6.2						
BBSR				e		13 43 29.6	
BBSR				epP	pP	13 44 08.2	+1.9
ARUT	Antelope Range	29.73	323	eP	P	13 43 27.9	+1.6
ARUT				eScP		13 49 52.3	
GENY	Geneseo	29.84	20	eP	P	13 43 27.1	+0.1
PAL	Palisades	29.86	27	eP	P	13 43 27.3	0.0
PAL				e*PP	pP	13 44 08.8	+1.2
PAL				pmax	pmax		
	comp=Z,320nm,0.7s,mb6.1						
PAL	Palisades	29.86	27	eP	P	13 43 27.3	0.0
	comp=Z,320nm,0.7s,mb6.1						
PAL				e		13 43 30.8	
PAL				epP	pP	13 44 08.8	+1.2
PAL				ePP	PP	13 44 45.2	+13
MPU	Maple Canyon	30.35	328	eP	P	13 43 32.2	+0.6
MPU				e		13 43 36.0	
MPU				epP	pP	13 44 12.2	+0.1
MPU				esP	sP	13 44 32.9	-2.2
MPU				esP	tx	13 49 52.7	
DAU	Daniels Canyon	30.46	329	eP	P	13 43 32.6	0.0
DAU				e*PP	pP	13 44 14.4	+1.3
DAU				e*SP	sP	13 44 34.1	-2.0
DAU	Daniels Canyon	30.46	329	eP	P	13 43 32.5	0.0
DAU				e		13 43 36.9	
DAU				epP	pP	13 44 14.4	+1.3
DAU				esP	sP	13 44 34.1	-2.0
DAU				eScP		13 49 54.7	
NLU	North Lily Min	30.53	328	eP	P	13 43 33.5	+0.3
NLU				e		13 43 37.5	
NLU				eScP		13 49 54.5	
MWC	Mount Wilson	30.55	313	eP	P	13 43 34.6	+1.2
MWC				epP	pP	13 44 13.0	-1.0
MWC				ePcP	PcP	13 46 27.7	+0.5
MWC				eScP		13 49 53.5	
NNA	Nana	30.66	151	eP	P	13 43 33.8	-0.7
	comp=Z,96nm,0.9s,mb5.4						
NNA				ePcP	PcP	13 46 26.9	-0.7
NNA				eScP		13 49 54.7	
JLU	Jordanelle	30.70	329	eP	P	13 43 34.8	+0.2
JLU				e		13 43 38.6	
JLU				esP	sP	13 44 36.5	-1.7
JLU				eScP		13 49 55.5	
NOQ	North Oquirrh	31.08	329	eP	P	13 43 38.3	+0.4
NOQ				e		13 43 42.0	
NOQ				epP	pP	13 44 17.4	-1.2
NOQ				eScP		13 49 55.8	
TCUT	Toone Canyon	31.08	330	eP	P	13 43 39.1	+1.1
TCUT				eScP		13 49 54.3	
DUG	Dugway	31.09	327	eP	P	13 43 38.6	+0.5
DUG				pmax	pmax		
	comp=Z,274nm,1.9s,mb5.6						
DUG	Dugway	31.09	327	eP	P	13 43 38.6	+0.6
	comp=Z,274nm,1.9s,mb5.6						
DUG				e		13 43 42.3	
DUG				eScP		13 49 53.7	
SADO	Sadowa	31.24	17	P	P	13 43 38.7	-0.5
	comp=Z,119nm,0.5s,mb5.8,baz=216,slow=9.1,SNR=92						
SADO	Sadowa	31.24	17	P	P	13 43 38.7	-0.5
DAC	Darwin (Calif)	31.36	317	eP	P	13 43 40.6	+0.1
DAC				e*PP	pP	13 44 21.6	+0.4
DAC				e		13 46 30.7	
DAC				pmax	pmax		
	comp=Z,71nm,1.0s,mb5.2						
DAC	Darwin (Calif)	31.36	317	eP	P	13 43 40.6	+0.1
	comp=Z,71nm,1.0s,mb5.2						
DAC				e		13 43 45.2	
DAC				epP	pP	13 44 21.6	+0.4
DAC				ePcP	PcP	13 46 30.7	+1.4
DAC				e		13 47 19.5	
DAC				eScP		13 49 56.7	
TRCR	Troy Canyon	31.37	322	eP	P	13 43 42.0	+1.5
TRCR				epP	pP	13 44 23.6	+2.3
TRCR				esP	sP	13 44 43.6	-0.5
HWUT	Hardware Ranch	31.53	330	eP	P	13 43 41.9	0.0
	comp=Z,53nm,0.7s,mb5.2						
HWUT				e		13 43 45.6	
HWUT				epP	pP	13 44 24.6	+2.0
HWUT				esP	sP	13 44 43.7	-1.9
HWUT				eScP		13 49 55.2	
PDAR	Pinedale Array	31.55	334	P	P	13 43 41.4	-0.6
	comp=Z,10nm,0.5s,mb4.6,baz=131,slow=11,SNR=32						
PDAR				pP	pP	13 44 23.2	+0.4
	comp=Z,11nm,0.8s,baz=135,slow=13,SNR=2.5						
PDAR				PcP	PcP	13 46 31.6	+1.9
	comp=Z,10nm,0.4s,baz=114,slow=4.3,SNR=18						
PDAR				ScP		13 49 58.2	
	comp=Z,19nm,0.9s,baz=146,slow=5.3,SNR=14						
PDAR				ScS	ScS	13 53 56.4	+6.6
	comp=Z,2.0nm,0.6s,baz=116,slow=1.0,SNR=8.3						
QUA2	Belchertown	31.57	28	eP	P	13 43 42.2	0.0
	comp=Z,471nm,0.6s,mb6.2						
QUA2				e		13 43 45.8	
QUA2				epP	pP	13 44 24.5	+1.5
QUA2				esP	sP	13 44 45.9	0.0
BRYW	Bryant College	31.66	29	eP	P	13 43 46.1	+3.1
	comp=Z,901nm,1.2s,mb6.2						
BRYW				e		13 43 49.8	
BRYW				epP	pP	13 44 26.2	+2.4
BRYW				ePP	PP	13 45 06.7	+11
SPUT	South Promonto	31.73	329	eP	P	13 43 43.4	-0.2
SPUT				e		13 43 48.1	
BGU	Big Grassy Mou	31.74	328	eP	P	13 43 45.5	+1.8
BGU				epP	pP	13 44 23.8	-0.7
BGU				esP	sP	13 44 45.7	-1.8
ACCN	Adirondack Com	31.91	25	eP	P	13 43 45.5	+0.3
ACCN				e		13 43 48.8	
HRV	Harvard--Oak R	32.11	28	eP	P	13 43 47.1	+0.2
HRV				e*PP	pP	13 44 29.2	+1.4
HRV				e*SP	sP	13 44 50.8	+0.1
HRV				e		13 45 07.8	
HRV				pmax	pmax		
	comp=Z,306nm,0.9s,mb5.8						
HRV	Harvard--Oak R	32.11	28	eP	P	13 43 47.1	+0.2
	comp=Z,306nm,0.9s,mb5.8						
HRV				e		13 43 50.7	
HRV				epP	pP	13 44 29.2	+1.4
HRV				esP	sP	13 44 50.8	0.0
HRV				ePP	PP	13 45 07.8	+6.9
WES	Weston	32.12	29	eP	P	13 43 47.7	+0.7
WES				e*PP	pP	13 44 28.6	+0.7
WES				e		13 45 08.1	
WES				pmax	pmax		
	comp=Z,1µm,1.4s,mb6.2						
WES	Weston	32.12	29	eP	P	13 43 47.7	+0.7
	comp=Z,1µm,1.4s,mb6.2						
WES				e		13 43 51.3	
WES				epP	pP	13 44 28.6	+0.7
WES				ePP	PP	13 45 08.1	+6.9
NCB	Newcomb	32.18	24	eP	P	13 43 47.4	-0.1
	comp=Z,320nm,0.9s,mb5.8						
NCB				epP	pP	13 44 30.1	+1.7
TPH	Tonopah	32.19	320	eP	P	13 43 49.0	+1.3
TPH				e*PP	pP	13 44 30.4	+1.8
TPH				e		13 46 32.3	
TPH				pmax	pmax		
	comp=Z,229nm,1.2s,mb5.6						
TPH	Tonopah	32.19	320	eP	P	13 43 49.0	+1.4
	comp=Z,229nm,1.2s,mb5.6						
TPH				e		13 43 52.5	
TPH				epP	pP	13 44 30.4	+1.8
TPH				ePcP	PcP	13 46 32.3	+0.7
TPH				e		13 47 21.4	
TPH				eScP		13 49 59.3	
AHID	Auburn Hatcher	32.22	332	eP	P	13 43 47.5	-0.4
	comp=Z,43nm,0.8s,mb5.0						
AHID				e		13 43 51.1	
AHID				epP	pP	13 44 29.7	+0.9
AHID				eScP		13 49 59.4	
HVU	Hansel Valley	32.25	329	eP	P	13 43 48.3	+0.2
HVU				e*PP	pP	13 44 29.1	+0.1
HVU				e*SP	sP	13 44 49.8	-2.1
HVU				e		13 46 33.3	
HVU	Hansel Valley	32.25	329	eP	P	13 43 48.2	+0.1
HVU				e		13 43 51.6	
HVU				epP	pP	13 44 29.1	0.0
HVU				esP	sP	13 44 49.8	-2.1
HVU				ePcP	PcP	13 46 33.3	+1.6
HVU				epP	tx	13 49 57.6	
MTUM	Tungsten Hills	32.62	318	eP	P	13 43 51.7	+0.4
MTUM				e		13 43 56.1	
MTUM				ePcP	PcP	13 46 33.2	+0.5
MTUM				eScP		13 49 59.8	
EYMN	Ely	32.63	360	eP	P	13 43 49.4	-1.8
	comp=Z,31nm,1.0s,mb4.8						
EYMN				e		13 43 53.1	
EYMN				epP	pP	13 44 33.4	+1.1
SNOW	Snow King Moun	32.63	333	eP	P	13 43 51.6	+0.2
SNOW				e		13 43 54.8	
SNOW				epP	pP	13 44 33.1	+0.8
SNOW				esP	sP	13 44 53.0	-2.2
LOHW	Long Hollow	32.68	334	eP	P	13 43 51.6	-0.2
	comp=Z,96nm,0.7s,mb5.4						
LOHW				e		13 43 54.9	
LOHW				epP	pP	13 44 33.5	+0.7
LOHW				esP	sP	13 44 53.2	-2.5
LOHW				eScP		13 49 59.1	
WUWY	Wally Ulrich	32.69	334	eP	P	13 43 51.7	-0.1
WUWY				e		13 43 55.4	
WUWY				epP	pP	13 44 33.2	+0.3
TPAW	Teton Pass	32.73	333	eP	P	13 43 53.0	+0.7
TPAW				e		13 43 55.8	
TPAW				epP	pP	13 44 34.7	+1.3
TPAW				esP	sP	13 44 52.8	-3.4
TPAW				eScP		13 50 03.0	
HNH	Hanover	32.75	26	eP	P	13 43 52.8	+0.4
	comp=Z,9.5nm,1.1s						
HNH				e		13 43 55.5	
HNH				ePP	PP	13 45 17.8	+8.6
ELK	Elko	32.78	325	eP	P	13 43 53.5	+0.8
ELK				pmax	pmax		
	comp=Z,617nm,1.8s						
ELK	Elko	32.78	325	eP	P	13 43 53.5	+0.8
	comp=Z,618nm,1.8s,mb5.8						
ELK				e		13 43 56.5	
ELK				eScP		13 50 00.5	
RRI2	Red Ridge	32.78	333	eP	P	13 43 53.1	+0.5
RRI2				e		13 43 56.0	
RRI2				epP	pP	13 44 35.3	+1.6
RRI2				esP	sP	13 44 54.4	-2.2
RRI2				eScP		13 50 01.7	
FFD	Franklin Falls	32.83	27	eP	P	13 43 53.0	-0.1
	comp=Z,140nm,0.7s,mb5.6						
FFD				e		13 43 57.1	
MOOW	Moose Ponds	32.85	334	eP	P	13 43 53.0	-0.3
MOOW				e		13 43 56.4	
MOOW				epP	pP	13 44 35.4	+1.0
MOOW				eScP		13 50 02.1	
MUDI	Mud Lake	32.89	333	eP	P	13 43 53.5	-0.1
MUDI				e		13 43 56.7	
MUDI				epP	pP	13 44 35.6	+0.9
MNV	Mina	32.99	320	eP	P	13 43 55.4	+0.9
MNV				e*PP	pP	13 44 37.6	+2.0
MNV				e		13 46 33.8	
MNV				pmax	pmax		
	comp=Z,283nm,0.8s,mb5.8						
MNV	Mina	32.99	320	eP	P	13 43 55.4	+0.9
	comp=Z,283nm,0.8s,mb5.8						
MNV				e		13 43 59.7	
MNV				epP	pP	13 44 37.6	+2.0
MNV				ePcP	PcP	13 46 33.8	+0.1
MNV				eScP		13 50 00.6	
OMM	Old Mammoth Mi	33.05	318	eP	P	13 43 56.8	+1.7
OMM				e		13 44 00.4	
OMM				epP	pP	13 44 36.2	+0.1
OMM				esP	sP	13 45 00.9	+1.9
OMM				ePcP	PcP	13 46 34.5	+0.6
OMM				eScP		13 50 03.8	
IMW	Indian Meadow	33.06	334	eP	P	13 43 54.3	-0.7
IMW				e		13 43 58.0	
IMW				epP	pP	13 44 34.9	-1.3
IMW				ePcP	PcP	13 46 33.9	0.0
IMW				eScP		13 50 03.4	
NVAR	Mina Array Bea	33.09	319	P	P	13 43 57.0	+1.7
	comp=Z,289nm,0.6s,mb6.0,baz=133,slow=8.0,SNR=388						
NVAR				pP	pP	13 44 36.1	-0.3
	comp=Z,68nm,0.9s,baz=130,slow=9.4,SNR=2.3						
NVAR				PcP	PcP	13 46 34.5	+0.5
	comp=Z,17nm,0.5s,baz=164,slow=2.2,SNR=33						
NVAR				ScP		13 50 01.7	
	comp=Z,45nm,0.8s,baz=135,slow=4.6,SNR=25						
NVAR				ScS	ScS	13 54 02.6	+5.0
	comp=Z,0.4nm,0.5s,baz=214,slow=29,SNR=5.3						
NVAR	Mina Array Bea	33.09	319	P	P	13 43 57.0	+1.7
NVAR				pP	pP	13 44 36.1	-0.3
NVAR				PcP	PcP	13 46 34.5	+0.5
NVAR				ScP		13 50 01.7	
NVAR				ScS	ScS	13 54 02.6	+5.0
LKWY	Lake	33.38	335	eP	P	13 43 58.3	+0.6
LKWY				e*PP	pP	13 44 40.9	+2.0
LKWY				pmax	pmax		
	comp=Z,33nm,0.6s,mb5.0						
LKWY	Lake	33.38	335	eP	P	13 43 58.3	+0.6
	comp=Z,33nm,0.6s,mb5.0						
LKWY				e		13 44 01.9	
LKWY				epP	pP	13 44 40.9	+2.0
YFT	Old Faithful	33.46	334	eP	P	13 43 59.2	+0.8
YFT				e		13 44 03.3	
YFT				epP	pP	13 44 40.6	+0.9
YFT				ePcP	PcP	13 46 35.5	+0.5
YFT				eScP		13 50 05.3	
YNR	Norris Junctio	33.61	335	eP	P	13 43 59.0	-0.7
YNR				e		13 44 04.0	
YNR				epP	pP	13 44 43.5	+2.5
YNR				eScP		13 50 06.2	
BMN	Battle Mountai	33.69	323	eP	P	13 44 01.5	+1.1
BMN				e*PP	pP	13 44 43.5	+1.8
BMN				e		13 46 36.1	
BMN				eS	S	13 49 10.0	+2.0
BMN				pmax	pmax		
	comp=Z,183nm,0.8s,mb5.7						
BMN	Battle Mountai	33.69	323	eP	P	13 44 01.5	+1.1
	comp=Z,183nm,0.8s,mb5.7						
BMN				e		13 44 05.0	
BMN				epP	pP	13 44 43.5	+1.8
BMN				esP	sP	13 45 01.1	-3.4
BMN				ePcP	PcP	13 46 36.1	+0.4
BMN				eS	S	13 49 10.0	+2.0
YMR	Madison River	33.69	335	eP	P	13 44 00.7	+0.3
YMR				e		13 44 04.2	
YMR				epP	pP	13 44 41.7	0.0
YMR				esP	sP	13 44 59.6	-4.9
YMR				eScP		13 50 05.8	
LAO	LASA Array	33.71	342	eP	P	13 43 58.6	-2.0
	comp=Z,311nm,1.5s,mb5.6						
LAO				e		13 44 03.1	
LAO				epP	pP	13 44 42.5	+0.7
LAO				eScP		13 50 02.9	
LRV	Little Rabbit	33.76	314	eP	P	13 44 02.1	+1.1
LRV				e		13 44 05.9	
LRV				epP	pP	13 44 42.6	+0.3
LRV				ePcP	PcP	13 46 37.7	+1.7
LRV				eScP		13 50 06.1	
QLMT	Earthquake Lak	34.02	334	eP	P	13 44 04.1	+0.9
QLMT				e		13 44 07.4	
QLMT				epP	pP	13 44 44.9	+0.4
QLMT				eScP		13 50 04.5	
GCMT	Greycliff	34.11	337	eP	P	13 44 02.9	-1.1
GCMT				e		13 44 06.9	
GCMT				epP	pP	13 44 44.1	-1.2
CMB	Columbia Colle	34.20	317	eP	P	13 44 05.3	+0.5
CMB				e*PP	pP	13 44 45.7	-0.4
CMB				e		13 46 35.8	
CMB				pmax	pmax		
	comp=Z,94nm,1.1s,mb5.2						
CMB	Columbia Colle	34.20	317	eP	P	13 44 05.3	+0.6
	comp=Z,94nm,1.1s,mb5.2						
CMB				e		13 44 09.4	
CMB				epP	pP	13 44 45.7	-0.4
CMB				ePcP	PcP	13 46 35.8	-1.3
CMB				epPcP		13 47 25.8	
CMB				eScP		13 50 04.7	
SAO	San Andreas Ge	34.23	314	eP	P	13 44 05.9	+0.8
SAO				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.1						
SAO	San Andreas Ge	34.23	314	eP	P	13 44 05.9	+0.8
	comp=Z,69nm,1.1s,mb5.1						
SAO				e		13 44 08.9	
SAO				eScP		13 50 06.4	
HLID	Hailey	34.38	330	eP	P	13 44 06.4	+0.1
	comp=Z,134nm,1.3s,mb5.3						
HLID				e		13 44 09.9	
HLID				epP	pP	13 44 46.7	-1.1
HLID				eScP		13 50 08.4	
WCN	Washoe City	34.51	319	eP	P	13 44 09.0	+1.5
WCN				e*PP	pP	13 44 51.4	+2.5
WCN				pmax	pmax		
	comp=Z,180nm,1.5s,mb5.4						
WCN	Washoe City	34.51	319	eP	P	13 44 09.0	+1.5
	comp=Z,180nm,1.5s,mb5.4						
WCN				e		13 44 12.6	
WCN				epP	pP	13 44 51.4	+2.6
WCN				eScP		13 50 09.0	
PAHR	Pah Rah Range	34.52	320	eP	P	13 44 08.9	+1.4
	comp=Z,104nm,1.0s,mb5.3						
PAHR				e		13 44 12.6	
PAHR				epP	pP	13 44 51.6	+2.6
WVL	Waterville	34.58	28	eP	P	13 44 08.5	+0.6
	comp=Z,1µm,1.0s,mb6.4						
WVL				e		13 44 11.6	
WVL				epP	pP	13 44 51.7	+2.3
MCMT	McKenzie Canyo	34.63	333	eP	P	13 44 09.6	+1.2
MCMT				e		13 44 13.2	
MCMT				epP	pP	13 44 51.4	+1.6
MCMT				eScP		13 50 10.0	
BOZ	Bozeman (W)	34.76	335	eP	P	13 44 09.1	-0.4
BOZ				e*PP	pP	13 44 50.4	-0.6
BOZ				e		13 45 29.4	
BOZ				pmax	pmax		
	comp=Z,36nm,0.5s,mb5.2						
BOZ	Bozeman (W)	34.76	335	eP	P	13 44 09.1	-0.4
	comp=Z,36nm,0.5s,mb5.2						
BOZ				e		13 44 12.7	
BOZ				epP	pP	13 44 50.4	-0.5
BOZ				ePP	PP	13 45 29.4	-4.2
BOZ				eScP		13 50 08.6	
SAC	San Andreas	35.31	315	eP	P	13 44 15.7	+1.4
SAC				e		13 46 43.4	
SAC	San Andreas	35.31	315	eP	P	13 44 15.7	+1.4
SAC				e		13 44 18.6	
SAC				ePcP	PcP	13 46 43.4	+3.0
HRY	Holter Researc	35.71	336	eP	P	13 44 17.5	0.0
HRY				e		13 44 20.8	
HRY				epP	pP	13 44 58.0	-1.1
HRY				esP	sP	13 45 16.0	-6.1
HRY				eScP		13 50 11.2	
EMMW	East Machias	35.72	30	eP	P	13 44 18.5	+0.9
	comp=Z,5µm,1.2s						
EMMW				e		13 44 21.2	
EMMW				epP	pP	13 45 01.4	+2.2
WVOR	Wild Horse Val	35.80	325	eP	P	13 44 19.1	+0.8
WVOR				e*PP	pP	13 45 00.2	+0.3
WVOR				e		13 46 42.7	
WVOR				pmax	pmax		
	comp=Z,568nm,1.6s,mb5.8						
WVOR	Wild Horse Val	35.80	325	eP	P	13 44 19.1	+0.9
	comp=Z,568nm,1.6s,mb5.8						
WVOR				e		13 44 22.8	
WVOR				epP	pP	13 45 00.2	+0.3
WVOR				ePcP	PcP	13 46 42.7	+0.9
WVOR				eScP		13 50 13.4	
NSHM	Saint Helena R	35.93	316	eP	P	13 44 21.0	+1.6
NSHM				e		13 44 24.3	
NSHM				ePcP	PcP	13 46 43.0	+0.8
NSHM				eScP		13 50 14.1	
LBCM	Butte Creek Ri	36.40	320	P	P	13 44 24.5	+1.1
MOD	Modoc	36.42	323	eP	P	13 44 23.7	+0.3
	comp=Z,204nm,1.1s,mb5.6						
MOD				e		13 44 27.8	
MOD				epP	pP	13 45 04.4	-0.8
MOD				esP	sP	13 45 26.3	-1.9
MOD				ePcP	PcP	13 46 43.7	0.0
MOD				eScP		13 50 15.2	
CHMT	Chamberlain Mo	36.45	335	eP	P	13 44 23.2	-0.5
CHMT				e		13 44 26.9	
CHMT				epP	pP	13 45 04.2	-1.3
CHMT				eScP		13 50 16.0	
HOPS	Hopland	36.48	317	eP	P	13 44 25.6	+1.6
	comp=Z,274nm,1.6s,mb5.5						
HOPS				e		13 44 29.0	
HOPS				e		13 44 47.3	
HOPS				epP	pP	13 45 05.7	-0.1
HOPS				ePcP	PcP	13 46 44.5	+0.7
HOPS				eScP		13 50 14.7	
MSO	Missoula	36.67	334	eP	P	13 44 25.2	-0.4
	comp=Z,18nm,0.6s,mb4.8						
MSO				e		13 44 28.7	
MSO				epP	pP	13 45 07.7	+0.4
MSO				eScP		13 50 16.2	
LTIM	Timbered Crate	36.69	321	P	P	13 44 26.9	+1.1
BMO	Blue Mountains	36.75	329	eP	P	13 44 25.2	-1.0
	comp=Z,404nm,2.1s,mb5.6						
BMO				e		13 44 29.0	
BMO				epP	pP	13 45 07.7	-0.4
BMO				ePcP	PcP	13 46 44.3	-0.3
BMO				eScP		13 50 14.3	
SAML	Samuel	36.89	129	eP	P	13 44 24.3	-3.4
	comp=Z,271nm,0.7s,mb5.9						
PQI	Presque Isle	36.94	27	eP	P	13 44 28.3	+0.5
	comp=Z,3µm,1.1s						
PQI				e		13 44 31.5	
PQI				epP	pP	13 45 11.1	+1.5
PQI				esP	sP	13 45 33.1	+0.5
ARE	Arequipa	37.13	147	eP	P	13 44 31.0	+1.3
ARE				i		13 44 34.0	
YBH	Yreka Blue Hor	37.76	321	eP	P	13 44 33.8	-0.9

YBH e*PP pP 13 45 16.9 +0.3
YBH e 13 50 17.3
YBH pmax pmax
comp=Z,35nm,0.5s
YBH Yreka Blue Hor 37.76 321 eP **P** **13 44 33.8 -0.8**
comp=Z,35nm,0.5s,mb5.2
YBH e 13 44 37.1
YBH epP pP 13 45 16.9 +0.2
YBH eScP 13 50 17.3
BUOR Burton Butte 37.80 322 P **P** **13 44 36.0 +1.1**
KHMM Horse Mountain 37.92 319 eP **P** **13 44 36.5 +0.5**
KHMM epP pP 13 45 19.2 +1.2
KHMM ePcP PcP 13 46 48.7 +0.4
KHMM eScP 13 50 19.3
BBOR Butler Butte 38.41 322 P **P** **13 44 40.3 +0.2**
HUMO Hull Mountain 38.41 322 eP **P** **13 44 39.4 -0.7**
comp=Z,22nm,0.6s,mb4.9
HUMO e 13 44 42.7
HUMO ePcP PcP 13 46 49.3 -0.5
HUMO eScP 13 50 20.6
WALA Waterton Lakes 38.43 336 eP **P** **13 44 40.3 +0.1**
comp=Z,106nm,1.3s,mb5.2
WALA epP pP 13 45 21.1 -1.2
WALA eScP 13 50 20.0
HBO Huckleberry Mo 38.78 324 P **P** **13 44 44.2 +1.1**
LPAZ La Paz 38.86 143 P **P** **13 44 43.9 -0.1**
LPAZ ScP 13 50 25.6
LPAZ SS SS 13 53 32.4 +12
LPAZ La Paz 38.86 143 eP **P** **13 44 43.7 -0.3**
LPAZ e*PP pP 13 45 27.3 +1.1
LPAZ e*SP sP 13 45 49.1 -0.2
LPAZ e 13 46 51.8
LPAZ e 13 50 24.1
LPAZ pmax pmax
comp=Z,179nm,0.8s
LPAZ La Paz 38.86 143 P **P** **13 44 43.9 -0.1**
comp=Z,164nm,0.7s,mb5.7,baz=337,slow=8.2,SNR=155
LPAZ PcP PcP 13 46 52.7 +1.3
comp=Z,27nm,0.5s,baz=56,slow=2.7,SNR=8.1
LPAZ ScP 13 50 25.6
comp=Z,51nm,1.2s,baz=9.8,slow=7.9,SNR=8.3
LPAZ La Paz 38.86 143 eP **P** **13 44 43.7 -0.3**
comp=Z,179nm,0.8s,mb5.7
LPAZ e 13 44 46.6
LPAZ epP pP 13 45 27.3 +1.1
LPAZ esP sP 13 45 49.1 -0.2
LPAZ ePcP PcP 13 46 51.8 +0.4
LPAZ eScP 13 50 24.1
KBO Bosley Butte 38.96 320 eP **P** **13 44 46.4 +1.7**
KBO e 13 44 49.9
KBO epP pP 13 45 28.8 +2.0
NEW Newport 39.16 333 eP **P** **13 44 45.4 -0.8**
NEW pmax pmax
comp=Z,19nm,0.7s
NEW Newport 39.16 333 eP **P** **13 44 45.4 -0.8**
comp=Z,20nm,0.7s,mb4.7
NEW e 13 44 49.0
OD2 Odessa Site #2 39.24 331 P **P** **13 44 47.2 +0.3**
KEBM Edson Butte 39.40 321 eP **P** **13 44 49.7 +1.4**
KEBM epP pP 13 45 33.0 +2.6
COR Corvallis 39.79 324 eP **P** **13 44 52.2 +0.7**
COR pmax pmax
comp=Z,314nm,1.1s,mb5.7
COR Corvallis 39.79 324 eP **P** **13 44 52.2 +0.7**
comp=Z,314nm,1.1s,mb5.7
EBG Ellensburg 39.82 329 P **P** **13 44 52.9 +1.3**
FFC Flin Flon 40.26 351 P **P** **13 44 55.0 -0.2**
comp=Z,388nm,0.6s,mb6.0,SNR=59
FFC Flin Flon 40.26 351 eP **P** **13 44 54.2 -1.0**
FFC e*PP pP 13 45 37.3 -0.2
FFC e*SP sP 13 45 59.4 -1.2
FFC e 13 46 34.5
FFC pmax pmax
comp=Z,36nm,0.6s,mb5.0
FFC Flin Flon 40.26 351 eP **P** **13 44 54.2 -1.0**
comp=Z,36nm,0.6s,mb5.0
FFC e 13 44 58.1
FFC epP pP 13 45 37.3 -0.2
FFC esP sP 13 45 59.4 -1.2
FFC ePP PP 13 46 34.5 +0.7
TTW Tolt Reservoir 40.91 329 P **P** **13 45 03.7 +3.1**
EDM Edmonton 41.66 340 eP **P** **13 45 05.5 -1.2**
EDM e*PP pP 13 45 46.7 -2.5
PGC Sidney 42.43 329 eP **P** **13 45 13.3 +0.3**
comp=Z,621nm,1.4s,mb5.8
PGC epP pP 13 45 54.9 -0.7
FCC Fort Churchill 43.51 358 eP **P** **13 45 20.3 -1.2**
FCC e*PP pP 13 46 04.2 0.0
FCC eSP 13 46 26.4
FCC e 13 47 06.5
FCC pmax pmax
comp=Z,69nm,1.4s,mb4.8
FCC Fort Churchill 43.51 358 eP **P** **13 45 20.2 -1.2**
comp=Z,69nm,1.4s,mb4.8
FCC e 13 45 24.2
FCC epP pP 13 46 04.2 0.0
FCC eSP 13 46 26.4
FCC ePcP PcP 13 47 06.5 +0.3
LVC Limon Verde 43.60 149 P **P** **13 45 23.7 +1.0**
baz=300,slow=7.6
LVC PcP PcP 13 47 08.2 +1.1
comp=Z,63nm,0.6s,baz=325,slow=3.7,SNR=11
LVC ScP 13 50 43.3
comp=Z,7.5nm,0.6s,baz=290,slow=6.4,SNR=6.5
LVC Limon Verde 43.60 149 eP **P** **13 45 22.7 0.0**
comp=Z,113nm,0.9s,mb5.2
LVC epP pP 13 46 05.2 -0.2
LVC ePcP PcP 13 47 07.6 +0.5
LVC eScP 13 50 43.0
SCHQ Schefferville 43.89 20 P **P** **13 45 24.2 -0.4**
comp=Z,88nm,0.6s,mb5.3,baz=217,slow=6.6,SNR=89
SCHQ LR LR 14 06 10.2
comp=Z,4µm,19.6s,baz=213,slow=39
SCHQ Schefferville 43.89 20 eP **P** **13 45 24.1 -0.4**
comp=Z,421nm,1.0s,mb5.7
SCHQ epP pP 13 46 04.9 -2.5
SCHQ esP sP 13 46 28.4 -1.8
RPN Rapa Nui 45.55 203 P **P** **13 45 38.0 -0.1**
comp=Z,4µm,1.6s,mb6.5,SNR=9.5
RPN Rapa Nui 45.55 203 P **P** **13 45 39.4 +1.3**
comp=Z,765nm,1.3s,mb5.9,baz=343,slow=5.8,SNR=20
RPN pP pP 13 46 21.8 +0.5
comp=Z,384nm,1.2s,baz=14,slow=7.0,SNR=4.1
RPN Rapa Nui 45.55 203 eP **P** **13 45 38.4 +0.2**
comp=Z,2µm,1.4s,mb6.3
RPN epP pP 13 46 21.5 +0.3
YKA Yellowknife Ar 49.97 346 P **P** **13 46 10.8 -0.9**
comp=Z,152nm,0.7s,mb5.5,baz=149,slow=7.3,SNR=389
YKA pP pP 13 46 54.0 -1.7
comp=Z,58nm,0.7s,baz=147,slow=7.6,SNR=4.8
YKA sP sP 13 47 15.8 -1.9
comp=Z,15nm,0.7s,baz=145,slow=7.9,SNR=1.7
YKA PcP PcP 13 47 29.6 +0.5
comp=Z,8.8nm,0.6s,baz=150,slow=4.0,SNR=4.8
YKA ScP 13 51 07.2
comp=Z,5.0nm,0.7s,baz=145,slow=4.4,SNR=7.4
YKA LR LR 14 10 48.2
comp=Z,1µm,18.6s,baz=180,slow=40
YKA Yellowknife Ar 49.97 346 P **P** **13 46 10.8 -0.9**
YKA pP pP 13 46 54.0 -1.7
YKA sP sP 13 47 15.8 -1.9
YKA PcP PcP 13 47 29.6 +0.5
YKA ScP 13 51 07.2
YKA LR LR 14 10 48.2
YKW3 Yellowknife Ar 50.03 346 eP **P** **13 46 10.9 -1.3**
YKW3 epP pP 13 46 54.5 -1.6
CFAA Coronel Fontan 51.61 155 P **P** **13 46 23.1 -1.4**
comp=Z,7.6nm,0.8s,baz=332,slow=8.8
CFAA pP pP 13 47 06.2 -2.5
comp=Z,5.0nm,0.8s,baz=306,slow=4.4,SNR=3.6
CFAA PcP PcP 13 47 34.7 -1.0
comp=Z,6.1nm,0.8s,baz=270,slow=2.6,SNR=5.2
CFAA ScP 13 51 16.9
comp=Z,1.7nm,0.9s,baz=332,slow=4.7,SNR=5.6
CFAA Coronel Fontan 51.61 155 P **P** **13 46 23.1 -1.4**
CFAA pP pP 13 47 06.2 -2.5
CFAA PcP PcP 13 47 34.7 -1.0
CFAA ScP 13 51 16.9
DLBC Dease Lake 51.77 335 LR LR 14 11 27.0
comp=Z,1µm,18.3s,baz=351,slow=39
DLBC Dease Lake 51.77 335 eP **P** **13 46 25.7 +0.4**
DLBC epP pP 13 47 08.8 -0.7
FCH Farellones 52.33 158 eP **P** **13 46 29.6 -0.2**
BDFB Brasilia 52.73 124 P **P** **13 46 31.1 -1.8**
comp=Z,111nm,0.8s,mb5.3,baz=290,slow=8.8,SNR=36
BDFB LR LR 14 08 24.6
comp=Z,3µm,19.8s,baz=306,slow=35
BAO Brasilia Array 52.74 124 ⇓eP **P** **13 46 31.0 -2.1**
BAO i 13 46 33.8
BAO epP pP 13 47 19.8 +2.4
BAO i 13 47 39.0
BAO PcP PcP 13 47 43.0 +3.0
BAO ePP PP 13 48 33.0 -2.5
LMEL Las Melosas 52.83 158 eP **P** **13 46 32.6 -0.9**
TAOE Nuku Hiva Isla 53.88 247 eP **P** **13 46 42.8 +1.4**
TAOE epP pP 13 47 23.5 -2.4
CS6B Jaguaretama 56.17 107 ⇓iP **P** **13 46 55.3 -2.6**
CS6B i 13 46 57.4
CS6B i 13 47 00.4
CS6B e 13 47 45.3
RKT Rikitea 57.16 229 ⇓iP **P** **13 47 06.3 +1.5**
comp=Z,276nm,1.2s,mb5.8
RKT epP pP 13 47 48.8 -1.0
comp=Z,196nm,1.0s
RKT Rikitea 57.16 229 eS **S** **13 54 41.9 -0.8**
RKT eLR LR 14 04 14.2
comp=Z,8µm,50.5s
SFJD Kangerlussuaq 58.19 18 iP **P** **13 47 09.7 -1.7**
comp=Z,25nm,0.7s,mb5.0
SFJD i pP 13 47 56.9 +0.3
SFJD iS 13 56 14.0
comp=Z,3µm,18.0s
SFJ Sondre 58.19 18 eP **P** **13 47 08.7 -2.7**
comp=Z,608nm,2.1s,mb5.9
SFJ epP pP 13 47 56.3 -0.3
RCBR Riachuelo 58.85 107 eP **P** **13 47 14.7 -2.1**
comp=Z,117nm,0.9s,mb5.5
RCBR e 13 47 17.6
RCBR epP pP 13 48 04.9 +2.9
PLCA Paso Flores 58.95 162 P **P** **13 47 15.7 -1.4**
PLCA S **S** **13 55 10.1 +4.2**
PLCA Paso Flores 58.95 162 eP **P** **13 47 15.7 -1.3**
PLCA e*PP pP 13 47 59.8 -2.6
PLCA pmax pmax
comp=Z,77nm,0.8s
PLCA Paso Flores 58.95 162 P **P** **13 47 15.8 -1.2**
comp=Z,61nm,0.8s,mb5.3,baz=338,slow=7.9,SNR=95
PLCA pP pP 13 47 59.3 -3.1
comp=Z,28nm,0.9s,baz=344,slow=10,SNR=2.5
PLCA Paso Flores 58.95 162 eP **P** **13 47 15.7 -1.3**
comp=Z,77nm,0.8s,mb5.4
PLCA epP pP 13 47 59.8 -2.6
LPA La Plata 59.14 148 ceP **P** **13 47 15.0 -3.4**
LPA ePCP PcP 13 48 03.0 -1.6
LPA esP sP 13 48 23.0 -2.2
LPA eSCP 13 51 43.0
LPA eS **S** **13 55 05.0 -3.4**
LPA eSCS ScS 13 56 48.0 +3.2
LPA La Plata 59.14 148 ⇓eP **P** **13 47 15.0 -3.4**
LPA e pP 13 48 03.0 -0.8
LPA e*SP sP 13 48 23.0 -2.2
LPA eS **S** **13 55 05.0 -3.4**
LPA e 13 56 48.0
LPA La Plata 59.14 148 ⇓eP **P** **13 47 15.0 -3.4**
LPA ePcP PcP 13 48 03.0 -1.6
LPA esP sP 13 48 23.0 -2.2
LPA eScP 13 51 43.0
LPA eS **S** **13 55 05.0 -3.4**
LPA eScS ScS 13 56 48.0 +3.2
INK Inuvik 59.43 343 eP **P** **13 47 18.1 -1.8**
INK e*PP pP 13 48 03.3 -2.0
INK e*SP sP 13 48 25.7 -1.0
INK pmax pmax
comp=Z,138nm,0.6s
INK Inuvik 59.43 343 LR LR 14 13 23.8
comp=Z,1µm,19.5s,baz=131,slow=36
INK PKPPKP 14 16 31.5
comp=Z,4.1nm,1.0s,baz=340,slow=3.8,SNR=9.0
INK Inuvik 59.43 343 eP **P** **13 47 18.1 -1.8**
comp=Z,138nm,0.6s,mb5.8
INK epP pP 13 48 03.3 -2.1
INK esP sP 13 48 25.7 -1.0
RES Resolute Bay 59.49 359 eP **P** **13 47 18.2 -2.1**
RES e*PP pP 13 48 03.8 -1.9
RES e*SP sP 13 48 24.6 -2.5
RES Resolute Bay 59.49 359 eP **P** **13 47 18.2 -2.1**
RES e 13 47 21.7
RES epP pP 13 48 03.8 -2.0
RES esP sP 13 48 24.6 -2.5
EYAK Cordova Ski Ar 59.66 332 eP **P** **13 47 21.2 -0.4**
EYAK e 13 47 24.7
EYAK epP pP 13 48 06.9 -0.1
TRQA Tornquist 59.78 153 eP **P** **13 47 20.3 -2.4**
comp=Z,164nm,1.4s,mb5.5
TRQA epP pP 13 48 06.2 -2.0
TRQA esP sP 13 48 27.5 -2.1
MENT Mentasta 59.86 335 eP **P** **13 47 22.4 -0.5**
DIV Divide 59.91 333 eP **P** **13 47 23.1 -0.1**
comp=Z,206nm,0.8s,mb5.8
THY Trims Highway 60.90 335 eP **P** **13 47 29.4 -0.5**
THY e 13 47 32.8
THY epP pP 13 48 15.4 -0.1
SML Sawmill 61.31 333 eP **P** **13 47 32.0 -0.7**
SML e*PP pP 13 48 18.0 -0.4
SML e*SP sP 13 48 36.3 -3.4
PMR Palmer 61.58 333 eP **P** **13 47 34.1 -0.4**
PMR MLR MLR
comp=Z,1µm,20.0s
SLKM Skilak Lake 61.69 331 eP **P** **13 47 34.6 -0.6**
ILAR Eielson Array 61.94 336 P **P** **13 47 35.9 -1.0**
comp=Z,46nm,0.4s,mb5.5,baz=116,slow=5.2,SNR=308
ILAR pP pP 13 48 20.9 -1.8
comp=Z,56nm,1.0s,baz=124,slow=4.7,SNR=5.0
ILAR PKP2bc 14 16 37.4
comp=Z,2.1nm,0.9s,baz=306,slow=3.8,SNR=9.0
ILAR Eielson Array 61.94 336 P **P** **13 47 35.9 -1.0**
ILAR pP pP 13 48 20.9 -1.8
ILAR ⇑e 14 16 37.4
KDAK Kodiak Island 61.97 328 P **P** **13 47 36.4 -0.8**
comp=Z,971nm,0.5s,SNR=46
KDAK Kodiak Island 61.97 328 eP **P** **13 47 38.9 +1.7**
KDAK LR LR
comp=Z,800nm,20.0s
MCK McKinley 62.32 335 eP **P** **13 47 38.3 -1.2**
comp=Z,2µm,0.2s
MCK epP pP 13 48 24.5 -0.8
COLA College 62.36 336 P **P** **13 47 38.4 -1.2**
COLA P 13 47 41.6
COLA College 62.36 336 eP **P** **13 47 38.1 -1.5**
COLA e 13 48 18.2
COLA e*PP pP 13 48 24.6 -0.9
COLA pmax pmax
comp=Z,22nm,0.4s,mb5.1
COLA College 62.36 336 eP **P** **13 47 38.4 -1.2**
COLA LR LR
comp=Z,1µm,17.0s
SPU Mount Spurr 62.76 332 eP **P** **13 47 41.4 -0.9**
COYC Coyhaique 63.00 165 eP **P** **13 47 40.9 -3.3**
PMOR Pomariorio Ree 63.37 244 ⇓iP **P** **13 47 49.7 +2.8**
comp=Z,100nm,0.9s,mb5.5
PMOR epP pP 13 48 32.9 -0.1
comp=Z,314nm,1.5s
SVW2 Sparrevohn 64.37 331 eP **P** **13 47 51.0 -1.8**
MEH Mehetia 64.79 242 eP **P** **13 47 58.5 +2.3**
comp=Z,90nm,1.1s,mb5.3
MEH epP pP 13 48 41.9 -0.5
comp=Z,210nm,1.3s
SUMG Summit 64.92 15 eP **P** **13 47 55.2 -0.9**
comp=Z,654nm,1.8s,mb6.0
SUMG e 13 47 58.5
SUMG epP pP 13 48 41.3 -1.0
IMA Indian Mountai 65.06 337 eP **P** **13 47 55.9 -1.2**
IMA pmax pmax
comp=Z,140nm,1.0s,mb5.5
IMA Indian Mountai 65.06 337 eP **P** **13 47 56.2 -0.9**
SDPT Sand Point 65.71 324 eP **P** **13 48 03.1 +1.7**
SDPT LR LR
comp=Z,600nm,20.0s
TIAR Tiarei 65.73 242 eP **P** **13 48 04.5 +2.2**
comp=Z,253nm,0.9s,mb5.8
TIAR epP pP 13 48 48.0 -0.6
comp=Z,561nm,1.2s
TVO Taravao 65.75 242 ⇓iP **P** **13 48 04.7 +2.3**
comp=Z,216nm,1.2s,mb5.7
TVO epP pP 13 48 48.4 -0.3
comp=Z,410nm,1.2s
PPT Papeete 65.94 243 eP **P** **13 48 06.0 +2.5**
comp=Z,73nm,1.5s,mb5.1
PPT epP pP 13 48 49.6 -0.3
comp=Z,116nm,1.5s
PPT Papeete 65.94 243 eS S 13 56 32.9 -0.4
PPT eLR LR 14 08 11.1
comp=Z,4µm,29.2s
PPT Papeete 65.94 243 P **P** **13 48 06.5 +2.9**
comp=Z,30nm,0.8s,mb5.0,baz=75,slow=12,SNR=3.9
PAE Paea 65.98 242 eP **P** **13 48 06.1 +2.3**
comp=Z,244nm,1.1s,mb5.7
PAE epP pP 13 48 49.8 -0.4
comp=Z,337nm,1.2s
BORG Borgarnes 67.87 26 LR LR 14 17 48.8
comp=Z,1µm,20.2s,baz=81,slow=36
BORG Borgarnes 67.87 26 eP **P** **13 48 16.2 +1.3**
comp=Z,165nm,1.3s,mb5.5
ALE Alert 68.31 4 P **P** **13 48 15.0 -2.4**
comp=Z,425nm,0.6s,mb6.2,SNR=61
TBI Tubuai 68.47 237 eP **P** **13 48 21.6 +2.3**
comp=Z,277nm,1.4s,mb5.7
TBI epP pP 13 49 05.4 -0.6
comp=Z,396nm,1.3s
TBI eS S 13 57 03.1 -0.5
TBI eLR LR 14 09 26.6
comp=Z,5µm,53.2s
CHIE El Hierro 68.64 66 P **P** **13 48 19.8 -0.4**
comp=Z,152nm,1.4s,mb5.4
SCO Scoresbysund 68.93 20 iP **P** **13 48 20.5 -0.8**
comp=Z,14nm,0.5s,mb4.8
SCO iS pP 13 49 11.0 +3.0
UNV Unalaska Valle 69.05 322 eP **P** **13 48 22.3 0.0**
comp=Z,684nm,0.6s,mb6.5
UNV epP pP 13 49 09.6 +0.5
EGOM La Gomera 69.25 65 P **P** **13 48 22.9 -1.1**
comp=Z,320nm,1.2s,mb5.8
CCAN Las Canadas 69.77 65 P **P** **13 48 28.1 +0.9**
comp=Z,47nm,1.0s,mb5.1
NIKO Nikolski 70.43 321 eP **P** **13 48 29.0 -1.6**
TNA Tin City 70.66 335 eP **P** **13 48 31.3 -0.5**
comp=Z,66nm,1.2s,mb5.1
TNA epP pP 13 49 16.7 -2.1
EOSO Osorio 70.72 65 P **P** **13 48 33.4 +0.6**
comp=Z,575nm,3.2s
DAG Danmarks Havn 71.35 13 ⇓iP **P** **13 48 34.9 -0.9**
DAG pmax pmax
comp=Z,161nm,0.3s,mb6.1
DAG Danmarks Havn 71.35 13 ⇓iP **P** **13 48 34.9 -0.9**
comp=Z,161nm,0.3s,mb6.1
CFTV Fuerteventura 71.95 65 P **P** **13 48 38.9 -1.3**
comp=Z,30nm,0.9s,mb4.9
EFAM Famara 72.34 64 P **P** **13 48 43.0 +0.5**
comp=Z,199nm,1.7s,mb5.5
USHA Ushuaia 72.47 166 LR LR 14 14 47.2
comp=Z,710nm,20.6s,baz=326,slow=31
VAL Valentia 72.75 40 ⇓iP **P** **13 48 46.0 +1.5**
JMIC Jan Mayen 73.41 20 LR LR 14 20 44.4
comp=Z,2µm,21.4s,baz=262,slow=35
EMAZ Mazaricos 74.32 49 P **P** **13 48 52.6 -1.2**
comp=Z,77nm,0.6s,mb5.5
DCN Croghan 74.47 38 eP **P** **13 48 53.2 -1.2**
DCN Croghan 74.47 38 eP pP 13 49 41.2 -0.6
EZAM Zamans 74.62 50 P **P** **13 48 54.2 -1.3**
EZAM pmax pmax
comp=Z,22nm,0.6s,mb5.0
EZAM Zamans 74.62 50 P **P** **13 48 54.2 -1.3**
comp=Z,22nm,0.6s,mb5.0
STS Santiago 74.64 49 P **P** **13 48 53.6 -2.0**
STS pmax pmax
comp=Z,65nm,0.6s,mb5.4
STS Santiago 74.64 49 P **P** **13 48 53.6 -2.1**
comp=Z,64nm,0.6s,mb5.4
GSTR Great Sitkin T 74.86 320 eP **P** **13 48 56.7 0.0**
DLF Lyons Farm 74.92 38 eP **P** **13 48 55.7 -1.3**
DLF Lyons Farm 74.92 38 eP pP 13 49 43.7 -0.7
GCL Cushendall 74.99 36 eP **P** **13 48 56.2 -1.1**
ELOB Lobios 75.12 50 P **P** **13 48 58.5 +0.2**
comp=Z,31nm,0.6s,mb5.1
PTOM Tomar 75.15 52 eP **P** **13 48 57.8 -0.8**
comp=Z,135nm,1.2s,mb5.5
PTOM epP pP 13 49 45.6 -0.4
GMM Mts of Mourne 75.17 37 eP **P** **13 48 57.4 -0.9**
PTEO Sao Teotonio 75.18 55 eP **P** **13 48 59.1 +0.3**
comp=Z,300nm,1.5s,mb5.7
GMK Mull of Kintyr 75.27 36 eP **P** **13 48 58.0 -0.9**
PVIS Viseu 75.39 51 eP **P** **13 48 58.9 -1.0**
comp=Z,100nm,1.0s,mb5.4
PVIS epP pP 13 49 47.1 -0.3
PVRL Vila Real 75.45 51 eP **P** **13 49 00.3 0.0**
comp=Z,101nm,1.6s,mb5.2
EINC Incio 75.55 49 P **P** **13 49 00.2 -0.5**
comp=Z,16nm,0.4s,mb5.0
KIWB Kanaga Island 75.56 320 eP **P** **13 49 00.6 0.0**
EVO Evora 75.60 54 eP **P** **13 48 58.9 -2.2**
comp=Z,470nm,1.4s,mb5.6
EVO eR
comp=Z,2µm,19.5s
EPON Pontenova 75.61 49 P **P** **13 48 59.9 -1.2**
comp=Z,35nm,0.5s,mb5.2
MTE Manteigas 75.70 52 eP **P** **13 49 00.6 -1.1**
comp=Z,143nm,1.6s,mb5.3
MTE epP pP 13 49 48.1 -1.0
MTE Manteigas 75.70 52 eP **P** **13 48 59.9 -1.8**
comp=Z,67nm,0.9s,mb5.3
MTE epP pP 13 49 47.7 -1.4
PMSU Muirshiel 75.70 36 eP **P** **13 49 00.4 -0.9**
ERUA La Rua 75.73 50 P **P** **13 49 01.0 -0.8**
ERUA pmax pmax
comp=Z,43nm,0.6s,mb5.3
ERUA La Rua 75.73 50 P **P** **13 49 01.0 -0.8**
comp=Z,43nm,0.6s,mb5.3
MDO Dochfour 75.75 34 eP **P** **13 49 00.6 -0.9**
PBEJ Beja 75.79 54 eP **P** **13 49 02.0 -0.2**
comp=Z,172nm,1.5s,mb5.5
PBEJ epP pP 13 49 49.5 -0.2
MVH1 Achvaich 75.79 33 eP **P** **13 49 00.9 -0.9**
GAL1 Galloway 75.83 37 eP **P** **13 49 01.2 -0.8**
PCBR Castelo Branco 75.83 52 eP **P** **13 49 01.8 -0.6**
comp=Z,86nm,1.5s,mb5.2
PCBR epP pP 13 49 49.6 -0.3
WIM Isle of Man 75.93 37 eP **P** **13 49 02.0 -0.6**
WIM AMb AMB 13 49 06.9
comp=Z,272nm,1.6s,mb5.6
PCA1 Carrot 75.99 36 eP **P** **13 49 01.9 -1.0**
PCOU Corrie 76.05 35 eP **P** **13 49 02.8 -0.5**
YRC Rhoscolyn 76.09 38 eP **P** **13 49 02.3 -1.2**
YRC AMb AMB 13 49 06.5
comp=Z,142nm,1.9s,mb5.3
ECAL Calabor 76.09 50 P **P** **13 49 03.5 -0.3**
comp=Z,50nm,0.6s,mb5.3
PBRG Braganca 76.11 50 eP **P** **13 49 03.5 -0.4**
comp=Z,105nm,1.4s,mb5.3
PBRG epP pP 13 49 51.6 +0.2
EGRO El Granado 76.16 55 P **P** **13 49 03.8 -0.4**
comp=Z,30nm,0.9s,mb4.9
PALC Alcoutim 76.18 55 eP **P** **13 49 03.7 -0.7**
comp=Z,230nm,1.5s,mb5.6
PALC epP pP 13 49 52.8 +0.9
RAR Rarotonga 76.20 243 P **P** **13 49 05.8 +1.0**
comp=Z,16nm,0.8s,mb4.7,baz=359,slow=6.5,SNR=3.6
RAR pP pP 13 49 51.7 -0.6
comp=Z,64nm,1.0s,baz=72,slow=5.0,SNR=8.3
YRE Yr Eifl 76.21 38 eP **P** **13 49 03.4 -0.8**
YRE AMb AMB 13 49 09.1
comp=Z,296nm,1.7s,mb5.6
MCD Coleburn Disti 76.33 34 eP **P** **13 49 04.3 -0.4**
EBAD Badajoz 76.34 53 P **P** **13 49 04.7 -0.6**
comp=Z,442nm,4.1s
WPM1 Penmaenmawr 76.49 38 eP **P** **13 49 04.6 -1.2**
WPM1 AMb AMB 13 49 09.4
comp=Z,168nm,1.9s,mb5.3
MME1 Meikle Cairn 76.51 34 eP **P** **13 49 04.6 -1.2**
HSA Swansea 76.53 40 eP **P** **13 49 05.0 -1.0**
ESK Eskdalemuir 76.63 36 P **P** **13 49 05.6 -0.9**
comp=Z,2µm,0.5s,SNR=32
ESK Eskdalemuir 76.63 36 eP **P** **13 49 05.4 -1.1**
ESK e*PP pP 13 49 53.9 -0.2
ESK e*SP sP 13 50 11.2 -3.8
ESK pmax pmax
comp=Z,222nm,0.8s,mb5.8
ESK Eskdalemuir 76.63 36 eP **P** **13 49 05.4 -1.0**
comp=Z,222nm,0.8s,mb5.8
ESK e 13 49 08.4
ESK epP pP 13 49 53.9 -0.2
ESK esP sP 13 50 11.2 -3.8
ESK Eskdalemuir 76.63 36 eP **P** **13 49 05.6 -0.9**
ESK AMb AMB 13 49 09.1
comp=Z,281nm,1.0s,mb5.9

EMIN	Mina Concepcio	76.76	54	P	P	13 49 05.7	-1.8
	comp=Z,35nm,0.7s,mb5.1						
HEX	Exmoor	76.84	40	eP	P	13 49 06.4	-1.3
EARI	Arriondas	77.01	48	P	P	13 49 07.9	-0.9
	comp=Z,22nm,0.5s,mb5.0						
ESPR	Espera	77.55	55	P	P	13 49 12.1	+0.2
	comp=Z,26nm,0.6s,mb5.0						
ROSF	Rostrenen	77.58	43	eP	P	13 49 10.6	-1.3
	comp=Z,80nm,0.8s,mb5.1						
ROSF	Rostrenen	77.58	43	eP	P	13 49 10.6	-1.3
ROSF				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.1						
LHO	Holmfirth	77.66	38	eP	P	13 49 11.3	-0.9
ECAB	El Cabril	77.69	54	P	P	13 49 12.0	-0.7
	comp=Z,38nm,0.6s,mb5.2						
QUIF	Quistinic	77.72	43	eP	P	13 49 11.6	-1.0
	comp=Z,146nm,0.6s,mb5.5						
QUIF				epP	pP	13 49 59.3	-1.1
QUIF	Quistinic	77.72	43	eP	P	13 49 11.6	-1.0
QUIF				e*PP	pP	13 49 59.3	-1.1
QUIF				pmax	pmax		
	comp=Z,73nm,0.6s,mb5.5						
HPK	Haverah Park	77.73	37	eP	P	13 49 12.2	-0.4
SGMF	Saint Gilles	78.07	43	eP	P	13 49 13.0	-1.5
	comp=Z,98nm,0.7s,mb5.2						
SGMF	Saint Gilles	78.07	43	eP	P	13 49 13.0	-1.5
SGMF				pmax	pmax		
	comp=Z,49nm,0.7s,mb5.2						
GUD	Guadarrama	78.22	51	P	P	13 49 14.8	-0.7
GUD				pmax	pmax		
	comp=Z,26nm,0.5s,mb5.1						
GUD	Guadarrama	78.22	51	P	P	13 49 14.8	-0.7
	comp=Z,26nm,0.5s,mb5.1						
ELAN	Lanestosa	78.30	48	P	P	13 49 16.0	+0.1
	comp=Z,31nm,0.7s,mb5.0						
EADA	Adamuz	78.33	53	P	P	13 49 16.1	-0.1
	comp=Z,17nm,0.6s,mb4.8						
EMIJ	Mijas	78.46	55	P	P	13 49 18.0	+1.1
	comp=Z,33nm,0.6s,mb5.2						
ESDC	Sonseca Array	78.53	52	P	P	13 49 16.6	-0.6
	comp=Z,17nm,0.6s,mb4.9,baz=290,slow=5.0,SNR=34						
ESDC				pP	pP	13 50 04.2	-0.9
	comp=Z,30nm,0.8s,baz=286,slow=5.7,SNR=4.0						
ESDC				sP	sP	13 50 25.0	-0.9
	comp=Z,27nm,1.1s,baz=289,slow=5.5,SNR=1.9						
ESDC	Sonseca Array	78.53	52	P	P	13 49 16.6	-0.6
	comp=Z,18nm,0.6s,mb4.9						
ESLA	Sonseca Array	78.53	52	eP	P	13 49 16.4	-0.9
	comp=Z,94nm,1.5s,mb5.2						
ESLA				epP	pP	13 50 04.1	-1.0
ESLA				esP	sP	13 50 24.9	-1.0
ESLA				ePP	PP	13 52 06.9	-12
ELUQ	Luque	78.68	54	P	P	13 49 19.9	+1.8
ELUQ				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
ELUQ	Luque	78.68	54	P	P	13 49 19.9	+1.8
	comp=Z,5.8nm,0.4s,mb4.6						
ELOJ	Sierra Loja	78.84	54	P	P	13 49 19.0	0.0
ELOJ				pmax	pmax		
	comp=Z,19nm,0.6s,mb4.9						
ELOJ	Sierra Loja	78.84	54	P	P	13 49 19.0	+0.1
	comp=Z,19nm,0.6s,mb4.9						
EBAN	Banos Encina	78.94	53	P	P	13 49 19.0	-0.5
EBAN				pmax	pmax		
	comp=Z,35nm,1.0s,mb4.9						
EBAN	Banos Encina	78.94	53	P	P	13 49 19.0	-0.5
	comp=Z,35nm,1.0s,mb4.9						
LRYF	La Roche-sur-Y	79.03	45	eP	P	13 49 18.6	-1.2
ERON	Agron	79.14	55	P	P	13 49 19.9	-0.7
	comp=Z,28nm,0.4s,mb5.2						
GRR	Gorron	79.16	43	eP	P	13 49 19.6	-0.8
	comp=Z,309nm,0.6s,mb5.8						
GRR	Gorron	79.16	43	eP	P	13 49 19.6	-0.8
GRR				pmax	pmax		
	comp=Z,155nm,0.6s,mb5.8						
ECOG	Cogollos-Vega	79.28	54	P	P	13 49 21.4	+0.1
ECOG				pmax	pmax		
	comp=Z,32nm,0.4s,mb5.3						
ECOG	Cogollos-Vega	79.28	54	P	P	13 49 21.4	+0.1
	comp=Z,32nm,0.4s,mb5.3						
OLEF	Ile d'Oleron	79.28	45	eP	P	13 49 20.4	-0.7
FLN	La Foliniere	79.33	42	eP	P	13 49 20.6	-0.8
	comp=Z,227nm,0.6s,mb5.7						
FLN	La Foliniere	79.33	42	eP	P	13 49 20.6	-0.8
FLN				pmax	pmax		
	comp=Z,113nm,0.6s,mb5.7						
LCHF	La Chataignera	79.56	44	eP	P	13 49 22.3	-0.3
EQES	Quesada	79.56	54	P	P	13 49 23.6	+0.8
	comp=Z,96nm,1.2s,mb5.3						
LDF	La Druitiere	79.60	42	eP	P	13 49 22.0	-0.8
	comp=Z,144nm,0.6s,mb5.5						
LDF	La Druitiere	79.60	42	eP	P	13 49 22.0	-0.8
LDF				pmax	pmax		
	comp=Z,72nm,0.6s,mb5.5						
EALK	Alkurruntz	79.69	48	P	P	13 49 23.3	-0.1
	comp=Z,49nm,1.0s,mb5.1						
SUE	Sulen	79.78	29	eP	P	13 49 23.5	0.0
	comp=Z,173nm,1.6s,mb5.4						
SUE	Sulen	79.78	29	eP	P	13 49 23.5	0.0
SUE				AMb	AMB	13 49 28.5	
	comp=Z,173nm,1.6s,mb5.4						
EVIA	Vianos	79.84	53	P	P	13 49 23.8	-0.5
EVIA				pmax	pmax		
	comp=Z,26nm,0.6s,mb5.0						
EVIA	Vianos	79.84	53	P	P	13 49 23.8	-0.5
	comp=Z,26nm,0.6s,mb5.0						
EBER	Berja	79.88	54	P	P	13 49 25.7	+1.1
	comp=Z,37nm,0.7s,mb5.1						
SJPF	Ste Jean	79.91	48	eP	P	13 49 23.8	-0.8
	comp=Z,137nm,0.9s,mb5.3						
SJPF				epP	pP	13 50 11.9	-0.7
SJPF	Ste Jean	79.91	48	eP	P	13 49 23.8	-0.8
SJPF				e*PP	pP	13 50 11.9	-0.7
SJPF				pmax	pmax		
	comp=Z,69nm,0.9s,mb5.3						
EHUE	Huescar	79.93	54	P	P	13 49 24.6	-0.2
EHUE				pmax	pmax		
	comp=Z,207nm,1.7s,mb5.5						
EHUE	Huescar	79.93	54	P	P	13 49 24.6	-0.2
	comp=Z,206nm,1.7s,mb5.5						
MFF	Saint Martin d	79.97	44	eP	P	13 49 23.9	-0.9
	comp=Z,41nm,0.5s,mb5.0						
MFF				epP	pP	13 50 11.9	-1.0
MFF	Saint Martin d	79.97	44	eP	P	13 49 23.9	-0.9
MFF				e*PP	pP	13 50 11.9	-1.0
MFF				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.0						
LARF	Larrau	80.10	48	eP	P	13 49 25.0	-0.5
BER	Bergen	80.21	30	eP	P	13 49 28.8	+3.0
ENIJ	Nijar	80.40	54	P	P	13 49 26.4	-0.9
ENIJ				pmax	pmax		
	comp=Z,41nm,1.1s,mb5.0						
ENIJ	Nijar	80.40	54	P	P	13 49 26.4	-0.9
	comp=Z,41nm,1.1s,mb5.0						
ETSF	Etsaut	80.43	48	eP	P	13 49 26.6	-0.7
	comp=Z,92nm,0.8s,mb5.2						
ETSF	Etsaut	80.43	48	eP	P	13 49 26.6	-0.7
ETSF				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.2						
FDAF	Les Forges d'A	80.44	48	eP	P	13 49 26.6	-0.8
REYF	Montagne du Re	80.52	48	eP	P	13 49 27.3	-0.5
BILL	Bilibino	80.53	338c	iP	P	13 49 26.8	-0.5
BILL				i *PP	pP	13 50 13.3	-2.2
BILL				eS	S	13 59 19.6	+3.7
BILL				pmax	pmax		
	comp=Z,231nm,1.7s,mb5.5						
BILL				MLR	MLR		
	comp=Z,600nm,20.0s						
BILL	Bilibino	80.53	338	eP	P	13 49 27.0	-0.3
	comp=Z,68nm,0.6s,mb5.5						
BILL				e		13 49 30.4	
BILL				epP	pP	13 50 15.3	-0.2
BILL				esP	sP	13 50 37.8	+1.5
ETOB	Tobarra	80.57	53	P	P	13 49 28.4	+0.3
	comp=Z,21nm,0.6s,mb4.9						
ESAC	San Caprasio	80.74	49	P	P	13 49 28.7	-0.3
	comp=Z,52nm,0.5s,mb5.4						
VIEF	Viey	80.86	48	eP	P	13 49 29.0	-0.6
LFF	La Frestale	80.92	46	eP	P	13 49 28.8	-1.1
	comp=Z,125nm,0.6s,mb5.4						
LFF	La Frestale	80.92	46	eP	P	13 49 28.8	-1.1
LFF				pmax	pmax		
	comp=Z,63nm,0.6s,mb5.4						
EMUR	La Murta	80.97	53	P	P	13 49 30.2	-0.1
	comp=Z,88nm,1.7s,mb5.1						
EBIE	Bielsa	80.98	48	P	P	13 49 30.0	-0.2
	comp=Z,35nm,0.6s,mb5.2						
BLS5	Blasjo	80.99	31	eP	P	13 49 31.3	+1.3
EMOS	Mosqueruela	81.03	51	P	P	13 49 31.4	+0.9
	comp=Z,359nm,3.0s						
EPF	Esparros	81.05	48	eP	P	13 49 29.9	-0.7
	comp=Z,72nm,0.7s,mb5.1						
EPF	Esparros	81.05	48	eP	P	13 49 29.9	-0.7
EPF				pmax	pmax		
	comp=Z,36nm,0.7s,mb5.1						
RESF	Ens	81.10	48	eP	P	13 49 30.0	-0.8
FX1	Attu Island--F	81.23	322	eP	P	13 49 31.6	+0.4
RJF	Les Rejaudoux	81.38	45	eP	P	13 49 31.2	-1.1
	comp=Z,64nm,0.5s,mb5.2						
RJF				eR			
	comp=Z,1µm,22.5s						
RJF	Les Rejaudoux	81.38	45	eP	P	13 49 31.2	-1.1
RJF				pmax	pmax		
	comp=Z,32nm,0.5s,mb5.2						
RJF				MLR	MLR		
	comp=Z,1µm,22.5s						
MELF	Melles	81.39	48	eP	P	13 49 32.4	+0.1
LOF	Lofoten	81.46	21	eP	P	13 49 37.1	+4.9
	comp=Z,162nm,1.5s,mb5.4						
LOF	Lofoten	81.46	21	eP	P	13 49 37.1	+4.9
LOF				AMb	AMB	13 49 39.7	
	comp=Z,162nm,1.5s,mb5.4						
ERTA	Horta de San J	81.50	50	P	P	13 49 32.5	-0.4
	comp=Z,596nm,3.9s						
DOMB	Dombas	81.53	28	eP	P	13 49 33.1	+0.5
EBEN	Beniarda	81.57	52	P	P	13 49 32.5	-0.9
	comp=Z,264nm,1.8s,mb5.6						
MLS	Moulis	81.61	48	eP	P	13 49 32.5	-1.0
TCF	Toulx Ste Croi	81.63	44	eP	P	13 49 32.3	-1.2
	comp=Z,78nm,0.4s,mb5.4						
TCF				epP	pP	13 50 20.6	-1.2
TCF	Toulx Ste Croi	81.63	44	eP	P	13 49 32.3	-1.2
TCF				e*PP	pP	13 50 20.6	-1.2
TCF				pmax	pmax		
	comp=Z,39nm,0.4s,mb5.4						
EBR	Ebro Roquetas	81.64	50	eP	P	13 49 33.5	-0.2
SALF	Salau	81.72	48	eP	P	13 49 33.6	-0.4
CAF	Calviac	81.85	46	eP	P	13 49 33.6	-1.0
	comp=Z,65nm,0.7s,mb5.1						
CAF	Calviac	81.85	46	eP	P	13 49 33.6	-1.0
CAF				pmax	pmax		
	comp=Z,33nm,0.7s,mb5.1						
VERF	Verneugheol	81.94	45	eP	P	13 49 34.0	-1.1
EPOB	Poblet	81.96	49	P	P	13 49 33.7	-1.5
	comp=Z,53nm,1.4s,mb5.0						
BGF	Bois d'Agland	82.00	44	eP	P	13 49 34.3	-1.1
	comp=Z,231nm,0.9s,mb5.5						
BGF				epP	pP	13 50 22.5	-1.2
BGF	Bois d'Agland	82.00	44	eP	P	13 49 34.3	-1.1
BGF				e*PP	pP	13 50 22.5	-1.2
BGF				pmax	pmax		
	comp=Z,115nm,0.9s,mb5.5						
NSS	Namsos	82.03	25	eP	P	13 49 35.9	+0.7
BAIF	Baives	82.05	40	eP	P	13 49 35.0	-0.5
BAIF				epP	pP	13 50 23.3	-0.5
FRNF	Fournols	82.08	45	eP	P	13 49 35.7	-0.1
EMIR	Miracle	82.16	49	P	P	13 49 35.5	-0.8
	comp=Z,32nm,0.4s,mb5.3						
LPEF	Le Peyrat	82.19	48	eP	P	13 49 36.3	-0.1
AVF	Avril sur Loir	82.28	44	eP	P	13 49 35.3	-1.5
	comp=Z,154nm,1.1s,mb5.2						
AVF				epP	pP	13 50 23.7	-1.5
AVF	Avril sur Loir	82.28	44	eP	P	13 49 35.3	-1.5
AVF				e*PP	pP	13 50 23.7	-1.5
AVF				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.2						
AGO	Saint Agoulin	82.31	44	eP	P	13 49 38.2	+1.2
MTLF	Montolieu	82.32	47	eP	P	13 49 36.1	-1.0
	comp=Z,108nm,0.8s,mb5.3						
SSF	Saint Saulge	82.32	43	eP	P	13 49 35.8	-1.2
SSF				e*PP	pP	13 50 24.2	-1.1
SSF				pmax	pmax		
	comp=Z,57nm,0.8s,mb5.2						
SSF	Saint Saulge	82.32	43	eP	P	13 49 35.8	-1.2
	comp=Z,57nm,0.8s,mb5.3						
SSF				epP	pP	13 50 24.2	-1.1
VALF	Valcebollere	82.40	48	eP	P	13 49 36.7	-0.8
GIVF	Givet	82.42	40	eP	P	13 49 36.9	-0.6
MOR8	Moi Rana	82.46	23	eP	P	13 49 38.1	+0.8
	comp=Z,135nm,1.3s,mb5.4						
MOR8	Moi Rana	82.46	23	eP	P	13 49 38.1	+0.8
MOR8				AMb	AMB	13 49 43.4	
	comp=Z,135nm,1.2s,mb5.4						
MOR8				epP	pP	13 50 27.4	+1.7
KONO	Kongsberg	82.47	30	eP	P	13 49 38.6	+1.1
KONO				pmax	pmax		
	comp=Z,160nm,1.9s,mb5.3						
KONO	Kongsberg	82.47	30	eP	P	13 49 39.9	+2.3
LBL	Lubilhac	82.59	45	eP	P	13 49 39.0	+0.6
LRDF	Laroque-de-Fa	82.64	48	eP	P	13 49 37.5	-1.3
SMF	Signal de Mont	82.64	44	eP	P	13 49 37.4	-1.3
	comp=Z,89nm,0.7s,mb5.3						
SMF	Signal de Mont	82.64	44	eP	P	13 49 37.4	-1.3
SMF				pmax	pmax		
	comp=Z,44nm,0.7s,mb5.3						
PLDF	La Plantade	82.66	44	eP	P	13 49 38.4	-0.4
TRO	Tromso	82.71	19	eP	P	13 49 40.9	+2.3
NAO01	NORSAR Array S	82.72	29	eP	P	13 49 38.2	-0.6
	comp=Z,10nm,0.5s,mb4.8						
FILF	Fillols	82.75	48	eP	P	13 49 37.9	-1.4
NB2	NORSAR Subarra	82.81	29	P	P	13 49 39.6	+0.3
	comp=Z,2.2nm,0.6s,baz=293,slow=5.6						
NB2	NORSAR Subarra	82.81	29	P	P	13 49 39.6	+0.3
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	NORSAR Subarra	82.81	29	P	P	13 49 39.6	+0.3
	baz=293,slow=5.6						
NOA	NORSAR Array B	82.81	29	P	P	13 49 39.9	+0.7
	comp=Z,17nm,0.8s,mb4.9,baz=290,slow=5.2,SNR=37						
NOA				pP	pP	13 50 26.8	-0.8
	comp=Z,12nm,0.9s,baz=288,slow=5.2,SNR=3.2						
NOA				PP	PP	13 52 53.9	+0.2
	comp=Z,5.4nm,0.8s,baz=286,slow=7.5,SNR=4.0						
NOA				PKKPbc		14 08 03.8	
	comp=Z,1.5nm,0.7s,baz=90,slow=3.7,SNR=4.2						
NOA	NORSAR Array B	82.81	29	P	P	13 49 39.9	+0.6
NOA				pP	pP	13 50 26.8	-0.8
NOA				PP	PP	13 52 53.9	+0.2
NOA				PKKPbc		14 08 03.8	
COLF	Collangettes	82.82	45	eP	P	13 49 38.4	-1.3
HGN	Heimansgroeve	82.93	39	eP	P	13 49 39.6	-0.5
	comp=Z,69nm,0.9s,mb5.4						
HGN				epP	pP	13 50 27.4	-1.2
HGN				eS	Sx	14 00 16.5	
HGN				ex	x	14 06 13.5	
MEZF	Maizieres J'vi	82.97	42	eP	P	13 49 39.8	-0.6
	comp=Z,139nm,0.7s,mb5.5						
EJON	La Jonquera	83.01	48	P	P	13 49 39.4	-1.3
	comp=Z,27nm,0.7s,mb5.1						
WTSB	Winterswijk	83.14	38	eP	P	13 49 40.1	-1.0
	comp=Z,216nm,2.3s,mb5.5						
WTSB				epP	pP	13 50 28.7	-0.8
MUD	Monsted U'grnd	83.20	33	i P	P	13 49 45.8	+4.5
MUD				i		14 01 22.5	
MUD	Monsted U'grnd	83.20	33	i P	P	13 49 45.8	+4.5
MUD				i		13 50 40.4	
MUD				i S	S	13 59 54.1	+11
MUD				i		14 01 13.4	
MUD				i		14 01 22.5	
LASF	Ste Croix	83.30	46	eP	P	13 49 41.7	-0.4
	comp=Z,102nm,0.8s,mb5.3						
WLF	Walferdange	83.36	40	eP	P	13 49 41.8	-0.5
WLF				e*PP	pP	13 50 30.5	-0.3
WLF				pmax	pmax		
	comp=Z,209nm,1.5s,mb5.6						
WLF	Walferdange	83.36	40	eP	P	13 49 41.8	-0.5
	comp=Z,209nm,1.5s,mb5.6						
WLF				epP	pP	13 50 30.5	-0.3
ETOS	Mallorca	83.62	51	P	P	13 49 43.6	-0.2
	comp=Z,197nm,1.8s,mb5.5						
THEF	They Montfort	83.64	42	eP	P	13 49 43.6	-0.2
VIVF	Saint-Julien-l	83.66	45	eP	P	13 49 43.8	-0.1
VIVF				epP	pP	13 50 32.3	-0.1
RUP	Ruppelstein	83.92	40	eP	P	13 49 45.8	+0.7
RUP	Ruppelstein	83.92	40	eP	P	13 49 44.3	-0.8
HAU	Haudompre	83.94	42	eP	P	13 49 44.5	-0.7
	comp=Z,114nm,0.7s,mb5.4						
HAU				epP	pP	13 50 33.1	-0.6
HAU				eR			
	comp=Z,2µm,21.2s						
HAU	Haudompre	83.94	42	eP	P	13 49 44.5	-0.7
HAU				e*PP	pP	13 50 33.1	-0.6
HAU				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.4						
HAU				MLR	MLR		
	comp=Z,2µm,21.3s						
CABF	La Chapelle	84.15	43	eP	P	13 49 46.1	-0.2
	comp=Z,311nm,1.2s,mb5.6						
CABF	La Chapelle	84.15	43	eP	P	13 49 46.1	-0.2
CABF				pmax	pmax		
	comp=Z,155nm,1.2s,mb5.6						
ABH	Alteburg	84.17	40	eP	P	13 49 46.0	-0.3
ABH	Alteburg	84.17	40	eP	P	13 49 46.1	-0.2
PRAF	Pradon	84.28	46	eP	P	13 49 48.2	+1.2
HINF	Hinteralfeld	84.32	42	eP	P	13 49 46.4	-0.7
	comp=Z,80nm,0.8s,mb5.2						
HINF	Hinteralfeld	84.32	42	eP	P	13 49 46.4	-0.7
HINF				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.2						
KTK1	Kautokeino	84.36	19	eP	P	13 49 46.9	+0.1
	comp=Z,112nm,1.9s,mb5.3						
KTK1	Kautokeino	84.36	19	eP	P	13 49 46.9	+0.1
KTK1				AMb	AMB	13 49 51.9	
	comp=Z,112nm,1.9s,mb5.3						
KTK1				epP	pP	13 50 36.2	+0.9
ECH	Echery	84.40	42	eP	P	13 49 46.4	-1.1
CDF	Champ du Feu	84.42	41	eP	P	13 49 46.9	-0.7
	comp=Z,167nm,1.2s,mb5.3						
CDF	Champ du Feu	84.42	41	eP	P	13 49 46.9	-0.7
CDF				pmax	pmax		
	comp=Z,83nm,1.2s,mb5.3						
LOMF	Lomont	84.43	43	eP	P	13 49 46.9	-0.8
WLS	Welschbruch	84.47	41	eP	P	13 49 47.7	-0.2
ORIF	Oris-en-Rattie	84.47	45	eP	P	13 49 48.0	0.0
	comp=Z,79nm,0.9s,mb5.2						
ORIF	Oris-en-Rattie	84.47	45	eP	P	13 49 48.0	0.0
ORIF				pmax	pmax		
	comp=Z,39nm,0.9s,mb5.1						
TREF	Trevaresse	84.48	46	eP	P	13 49 48.6	+0.6
MOF	Molkenrain	84.49	42	eP	P	13 49 47.1	-0.9
SMRF	Simiane la Rot	84.52	46	eP	P	13 49 48.4	+0.2
	comp=Z,83nm,0.7s,mb5.3						
GELF	Grande-Etoile	84.58	47	eP	P	13 49 49.3	+0.8
BSEG	Bad Segeberg	84.59	36	eP	P	13 49 48.1	-0.2
BSEG				eS	S	13 59 51.6	-5.3
LANF	Langenberg	84.59	41	eP	P	13 49 47.7	-0.8
TNS	Taunus Mts	84.63	39	eP	P	13 49 48.0	-0.6
TNS				pmax	pmax		
	comp=Z,411nm,1.8s,mb5.9						
TNS	Taunus Mts	84.63	39	eP	P	13 49 48.0	-0.6
	comp=Z,411nm,1.8s,mb5.9						
VILF	Villemus	84.65	46	eP	P	13 49 49.5	+0.6
KTD	Kalmit	84.67	40	eP	P	13 49 49.4	+0.6
LIBD	Limburg	84.70	42	eP	P	13 49 49.3	+0.3
LIBD	Limburg	84.70	42	eP	P	13 49 47.9	-1.1
PUYF	Puyloubier	84.72	46	eP	P	13 49 49.7	+0.4
STOF	St-Etienne Org	84.74	46	eP	P	13 49 49.1	-0.3
OG25	Le Caire	84.75	46	eP	P	13 49 49.9	+0.5
BERF	Bertagne	84.78	47	eP	P	13 49 48.8	-0.7
ARCES	ARCESS Array B	84.81	18	P	P	13 49 49.0	-0.1
	comp=Z,23nm,0.5s,mb5.2,baz=289,slow=3.8,SNR=60						
ARCES				pP	pP	13 50 38.0	+0.4
	comp=Z,64nm,1.0s,baz=304,slow=4.4,SNR=7.4						
ARCES				PP	PP	13 53 09.4	0.0
	comp=Z,6.6nm,0.6s,baz=297,slow=5.4,SNR=5.1						
ARCES				PKKPbc		14 07 58.1	
	comp=Z,2.0nm,0.7s,baz=125,slow=1.9,SNR=11						
ARCES				LR	LR	14 29 10.8	
	comp=Z,807nm,19.2s,baz=312,slow=36						
ARCES	ARCESS Array B	84.81	18	P	P	13 49 49.0	-0.1
ARCES				pP	pP	13 50 38.0	+0.4
ARCES				PP	PP	13 53 09.4	0.0
ARCES				PKKPbc		14 07 58.1	
ARCES				LR	LR	14 29 10.8	
ARE0	ARCESS Array S	84.81	18	eP	P	13 49 49.0	-0.1
ARE0				epP	pP	13 50 37.8	+0.1
BBS	Basel-Blauen	84.84	42	eP	P	13 49 48.8	-1.0
LPL	La Plagne	84.88	44	eP	P	13 49 50.5	+0.5
LPG	La Plagne	84.90	44	eP	P	13 49 50.7	+0.6
LPG				epP	pP	13 50 39.2	+0.5
TAVF	Tavernes	84.95	46	eP	P	13 49 51.0	+0.6
KIZ	Kirchzarten	84.96	42	eP	P	13 49 49.5	-0.8
BNI	Bardonecchia	84.98	45	eP	P	13 49 50.5	0.0
BNI				pmax	pmax		
	comp=Z,194nm,1.4s,mb5.6						
BNI	Bardonecchia	84.98	45	eP	P	13 49 50.5	0.0
	comp=Z,194nm,1.4s,mb5.6						
DBIC	Dimbokro	84.99	84	P	P	13 49 49.3	-1.9
DBIC				pP	pP	13 50 37.0	-2.8
DBIC				SKSac		14 00 01.3	
DBIC				sSKSac		14 01 21.1	
DBIC	Dimbokro	84.99	84	eP	P	13 49 48.9	-2.4
DBIC				e*PP	pP	13 50 35.5	-4.3
DBIC				pmax	pmax		
	comp=Z,106nm,1.4s						
DBIC	Dimbokro	84.99	84	P	P	13 49 49.7	-1.6
	comp=Z,26nm,1.0s,mb4.9,baz=272,slow=4.8,SNR=14						
DBIC				pP	pP	13 50 38.8	-1.0
	comp=Z,86nm,1.0s,baz=272,slow=4.8,SNR=14						
DBIC				sP	sP	13 50 58.0	-2.6
	comp=Z,29nm,1.0s,baz=292,slow=16,SNR=2.7						
DBIC				PKKPbc		14 07 58.8	
	comp=Z,4.4nm,0.7s,baz=94,slow=6.3,SNR=9.0						
DBIC	Dimbokro	84.99	84	eP	P	13 49 48.9	-2.4
	comp=Z,106nm,1.4s,mb5.4						
DBIC				epP	pP	13 50 35.5	-4.4
SWS	Schriesheim	85.00	40	eP	P	13 49 50.7	+0.2
TOD	Tromm	85.03	40	eP	P	13 49 49.7	-1.0
TOD	Tromm	85.03	40	eP	P	13 49 50.1	-0.6
FELD	Feldberg	85.04	42	eP	P	13 49 50.0	-0.7
RRL	Cesana Torines	85.09	45	P	P	13 49 50.8	-0.2
BFO	Black Forest	85.12	41	P	P	13 49 50.4	-0.7
	comp=Z,251nm,1.7s,mb5.7,SNR=9.8						
BFO	Black Forest	85.12	41	eP	P	13 49 49.7	-1.4
BFO				pmax	pmax		
	comp=Z,138nm,1.6s,mb5.4						
BFO	Black Forest	85.12	41	eP	P	13 49 49.7	-1.4
	comp=Z,138nm,1.6s,mb5.4						
MBDF	Montbardon	85.13	45	eP	P	13 49 51.3	0.0
	comp=Z,99nm,0.8s,mb5.3						
MBDF	Montbardon	85.13	45	eP	P	13 49 51.3	0.0
MBDF				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.3						
KEV	Kevo	85.14	18	ep	P	13 49 49.9	-0.9
	comp=Z,4.4nm,0.4s,mb4.5						
KEV	Kevo	85.14	18	eP	P	13 49 49.9	-0.9
KEV				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
COP	Copenhagen	85.18	33	i P	P	13 49 57.5	+6.3
COP				i		13 51 03.0	
COP				e		13 53 15.9	
COP				i S	S	14 00 10.6	+8.1
COP				i		14 01 26.0	
LSD	Ceresole Reale	85.19	44	P	P	13 49 52.8	+1.3
SURF	Saint Ours	85.23	45	eP	P	13 49 52.3	+0.5
FENE	Fenestrelle	85.25	45	P	P	13 49 51.8	0.0
CLZ	Clausthal	85.29	38	eP	P	13 49 51.6	-0.3
	comp=Z,317nm,1.7s,mb5.8						
LBG	Lerchenberg	85.31	41	eP	P	13 49 52.1	+0.1
RSP	Reno Superiore	85.34	45	P	P	13 49 52.8	+0.5
LMR	La Mourre	85.35	46	eP	P	13 49 51.7	-0.7
FRF	La Foret Royal	85.38	46	eP	P	13 49 52.0	-0.5
	comp=Z,151nm,0.8s,mb5.5						
FRF	La Foret Royal	85.38	46	eP	P	13 49 52.0	-0.5
FRF				pmax	pmax		
	comp=Z,76nm,0.8s,mb5.5						
PZZ	Prazzo	85.42	45	P	P	13 49 52.9	+0.2
BHB	Bricherasio	85.44	45	P	P	13 49 52.5	-0.2
SPAK	Spaichingen	85.48	41	eP	P	13 49 52.1	-0.8
SPAK	Spaichingen	85.48	41	eP	P	13 49 52.2	-0.7
CALN	Calern	85.49	46	eP	P	13 49 52.9	-0.2
DOI	San Damiano	85.52	45	eP	P	13 49 53.4	+0.2
STU	Stuttgart	85.53	41	eP	P	13 49 52.6	-0.5
STU				e*PP	pP	13 50 40.5	-1.2
STU				pmax	pmax		
	comp=Z,75nm,0.8s,mb5.5						
STU	Stuttgart	85.53	41	eP	P	13 49 52.5	-0.6
	comp=Z,75nm,0.8s,mb5.5						
STU				epP	pP	13 50 40.5	-1.3
TRAV		85.57	44	P	P	13 49 52.8	-0.6
MCGN	Macugnaga	85.60	44	eP	P	13 49 53.6	+0.1
SIND	Sindeldorf	85.61	40	eP	P	13 49 53.8	+0.3
MVIF	Mont Vial	85.63	46	eP	P	13 49 53.2	-0.6
STV	Sta Anna Valdi	85.65	45	P	P	13 49 53.3	-0.5

STV2	Anna di Valdie	85.65	45	P	P	13 49 53.3	-0.6
TOUF	Mont Tournerai	85.67	46	eP	P	13 49 53.4	-0.5
ORX	Oropa	85.69	44	P	P	13 49 53.9	-0.1
ORO	Oropa	85.69	44	eP	P	13 49 53.8	-0.2
GUT	Gutenstein	85.70	41	eP	P	13 49 53.0	-1.0
ENR	Entracque	85.72	45	P	P	13 49 53.4	-0.8
BUCH	Bad Urach	85.73	41	eP	P	13 49 53.9	-0.2
AUTN	L'Aution	85.80	46	eP	P	13 49 54.0	-0.5
REVF	Revere	85.83	46	eP	P	13 49 53.8	-0.9
SBF	Sospel	85.84	46	eP	P	13 49 54.0	-0.8
	comp=Z,609nm,1.5s,mb5.8						
SBF	Sospel	85.84	46	eP	P	13 49 54.0	-0.8
SBF				pmax	pmax		
	comp=Z,304nm,1.5s,mb5.8						
SAOF	Saorge	85.89	46	eP	P	13 49 54.3	-0.7
MONE	Monesi	86.00	45	P	P	13 49 54.9	-0.6
ROB	Roburent	86.01	45	P	P	13 49 54.7	-0.9
NEGI	Negi	86.03	46	P	P	13 49 54.5	-1.2
IMI	Imperia	86.14	46	eP	P	13 49 56.9	+0.6
VAI	Varese	86.14	44	eP	P	13 49 55.8	-0.4
HDH	Heidenheim	86.23	41	eP	P	13 49 57.1	+0.6
FIN	Finale Ligure	86.27	45	eP	P	13 49 56.2	-0.6
PCP	Pian Castagno	86.40	45	P	P	13 49 56.2	-1.2
MOX	Moxa	86.42	38	eP	P	13 49 57.5	+0.1
MOX				e	pP	13 50 43.4	-2.7
MOX				pmax	pmax		
	comp=Z,150nm,1.6s,mb5.5						
MOX				MLR	MLR		
	comp=Z,1µm,20.0s						
MOX	Moxa	86.42	38	eP	P	13 49 57.5	+0.1
	comp=Z,150nm,1.6s,mb5.5						
MOX				e	pP	13 50 43.4	-2.7
MOX				LR	LR		
	comp=Z,1µm,20.0s						
MOX	Moxa	86.42	38	i P	P	13 49 57.5	+0.1
	comp=Z,logA/T=2.0,mb5.5						
MOX				pP	pP	13 50 43.0	-3.1
MOX				S	S	13 59 57.0	-17
MOX				L		14 30 52.0	
DAVA	Damuels	86.43	42	⇑iP	P	13 49 57.6	+0.1
	comp=Z,206nm,1.1s,mb5.8						
UBR	Uberruh	86.45	42	eP	P	13 49 57.3	-0.3
GRA1	Grafenberg Arr	86.50	39	eP	P	13 49 57.6	-0.2
	comp=Z,282nm,1.5s,mb5.8						
GRA1				epP	pP	13 50 44.2	-2.3
GRA1				eS	S	14 00 10.7	-4.5
GRF	Grafenberg Arr	86.50	39	eP	P	13 49 57.6	-0.2
GRF				e*PP	pP	13 50 44.2	-2.3
GRF				eS	S	14 00 10.7	-4.5
GRF				pmax	pmax		
	comp=Z,282nm,1.5s,mb5.8						
GRF	Grafenberg Arr	86.50	39	eP	P	13 49 57.6	-0.2
GRF				e*PP	pP	13 50 44.2	-2.3
GRF				eS	S	14 00 10.7	-4.5
GRF				pmax	pmax		
	comp=Z,282nm,1.5s,mb5.8						
GRF	Grafenberg Arr	86.50	39	eP	P	13 49 57.6	-0.2
	comp=Z,282nm,1.5s,mb5.8						
GRF				epP	pP	13 50 44.2	-2.3
GRF				eS	S	14 00 10.7	-4.5
SET	Setif	86.53	54	P	P	13 50 01.0	+2.7
CKHR	Kef el Ahmar	86.67	54	P	P	13 50 02.5	+3.5
BSD	Bornholm Skovb	86.70	34	i P	P	13 50 01.5	+2.9
BSD				i		14 01 26.0	
BSD	Bornholm Skovb	86.70	34	i P	P	13 50 01.5	+2.9
BSD				i		13 53 09.6	
BSD				i S	S	14 00 30.0	+13
BSD				i		14 01 26.0	
DFRA	Djebel Bou Aff	86.80	53	P	P	13 50 02.0	+2.4
BOB	Bobbio (Coli)	86.94	44	eP	P	13 49 59.9	-0.1
CLL	Collm	87.01	37	i P	P	13 50 01.0	+0.8
CLL				i *PP	pP	13 50 50.3	+1.3
CLL				eS	S	14 00 24.0	+4.0
CLL				e*SS		14 01 21.0	
CLL				pmax	pmax		
	comp=Z,57nm,1.2s,mb5.2						
CLL				MLR	MLR		
	comp=Z,1µm,18.0s						
CLL	Collm	87.01	37	i P	P	13 50 01.0	+0.8
	comp=Z,57nm,1.2s,mb5.2						
CLL				i pP	pP	13 50 50.3	+1.3
CLL				eS	S	14 00 24.0	+4.0
CLL				esS		14 01 21.0	
CLL				LR	LR		
	comp=Z,1µm,18.0s						
CLL	Collm	87.01	37	P	P	13 50 01.0	+0.8
	comp=Z,logA/T=1.7,mb5.2						
CLL				i *PP	pP	13 50 50.3	+1.3
CLL				e*SP	sP	13 51 06.0	-3.8
CLL				i PP	PP	13 53 27.2	-1.1
CLL				e*PPP		13 54 12.0	
CLL				e*SPP		13 54 30.0	
CLL				eS	S	14 00 24.0	+4.0
CLL				e*SS		14 01 21.0	
CLL				e		14 02 41.0	
CLL				e*SSS		14 07 36.0	
FUR	Furstenfeldbru	87.04	41	eP	P	13 49 59.7	-0.7
FUR				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.4						
FUR	Furstenfeldbru	87.04	41	eP	P	13 49 59.7	-0.7
	comp=Z,140nm,1.6s,mb5.4						
RUE	Ruedersdorf	87.05	36	eP	P	13 50 01.9	+1.6
	comp=Z,99nm,1.3s,mb5.4						
RUE				epP	pP	13 50 50.0	+0.9
RUE				ePP	PP	13 53 27.9	-0.6
NKC	Novy Kostel	87.06	39	eP	P	13 50 00.9	+0.4
NKC				epP	pP	13 50 49.8	+0.6
NKC				ePP	PP	13 53 28.4	-0.3
NKC				e		14 01 20.1	
CMER	Merouana	87.08	54	P	P	13 50 03.5	+2.6
MOTA	Moosalm	87.20	42	⇑iP	P	13 50 01.3	+0.1
SQTA	Sankt Quirin	87.31	42	⇑iP	P	13 50 02.7	+1.0
	comp=Z,69nm,1.3s,mb5.2						
SQTA	Sankt Quirin	87.31	42	⇑iP	P	13 50 02.7	+1.0
SQTA				pmax	pmax		
	comp=Z,69nm,1.3s,mb5.2						
PGF	Pioggiola	87.33	47	eP	P	13 50 01.2	-0.7
	comp=Z,299nm,1.4s,mb5.5						
PGF				epP	pP	13 50 48.1	-2.6
PGF	Pioggiola	87.33	47	eP	P	13 50 01.2	-0.7
PGF				e*PP	pP	13 50 48.1	-2.6
PGF				pmax	pmax		
	comp=Z,150nm,1.4s,mb5.5						
CODM		87.33	45	P	P	13 50 00.5	-1.4
CTEI	Djebel Teioual	87.35	53	P	P	13 50 05.0	+2.8
CASM	Ain Smara	87.36	53	P	P	13 50 04.0	+1.8
GRAM		87.45	45	P	P	13 50 00.6	-1.8
CAEH	'Ain El Ouahch	87.48	53	P	P	13 50 05.0	+2.2
CKFL	Kef-Lekhel	87.49	53	P	P	13 50 04.5	+1.6
BACM		87.52	45	P	P	13 50 01.1	-1.6
WTTA	Wattenberg	87.57	42	⇑iP	P	13 50 00.8	-2.2
	comp=Z,70nm,1.7s,mb5.2						
WTTA	Wattenberg	87.57	42	⇑iP	P	13 50 00.8	-2.2
WTTA				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.2						
WET	Wettzell	87.70	40	eP	P	13 50 03.3	-0.2
WET				pmax	pmax		
	comp=Z,154nm,1.5s,mb5.6						
WET	Wettzell	87.70	40	eP	P	13 50 03.3	-0.2
	comp=Z,154nm,1.5s,mb5.6						
ERBM	Eremo	87.71	45	eP	P	13 50 04.7	+1.0
BRG	Berggiesshubel	87.72	38	i P	P	13 50 03.6	0.0
BRG				i *PP	pP	13 50 53.0	+0.6
BRG				i *SP	sP	13 51 10.4	-2.8
BRG				i		13 53 31.7	
BRG				i S	S	14 00 35.0	+8.3
BRG				i		14 01 28.0	
BRG				pmax	pmax		
	comp=Z,92nm,1.8s,mb5.3						
BRG				MLR	MLR		
	comp=Z,1µm,18.1s						
BRG	Berggiesshubel	87.72	38	i P	P	13 50 03.6	0.0
	comp=Z,92nm,1.8s,mb5.3						
BRG				i pP	pP	13 50 53.0	+0.6
BRG				i sP	sP	13 51 10.4	-2.8
BRG				i PP	PP	13 53 31.7	-2.2
BRG				i S	S	14 00 35.0	+8.3
BRG				i		14 01 28.0	
BRG				eSS	SS	14 07 04.0	+42
BRG				LR	LR		
	comp=Z,1µm,18.1s						
VLC	Villacollemand	87.77	45	eP	P	13 50 03.1	-0.9
	comp=Z,173nm,1.4s,mb5.7						
VLC				epP	pP	13 50 52.6	-0.2
SARO	Sassorosso	87.78	45	P	P	13 50 02.3	-1.7
SEY	Seymchan	87.87	336	eP	P	13 50 07.4	+3.4
SEY				e	pP	13 50 56.8	+4.0
SEY				e		13 53 37.7	
SEY				e		14 00 16.6	
BDI	Bagni Di Lucca	87.95	45	eP	P	13 50 04.4	-0.4
CMAH	Djebel Manchou	87.97	53	P	P	13 50 06.0	+0.9
CTI	Castel Tesino	87.99	43	eP	P	13 50 05.2	+0.2
ZCCA	Zocca	88.11	45	eP	P	13 50 05.8	+0.2
ABSA	Djebel Ababsia	88.11	53	P	P	13 50 07.0	+1.2
KHC	Kasperske Hory	88.14	39	eP	P	13 50 05.5	-0.1
KHC				e*PP	pP	13 50 55.9	+1.5
KHC				e		13 51 11.0	
KHC				e		14 00 33.6	
KHC				e		14 01 29.0	
KHC	Kasperske Hory	88.14	39	eP	P	13 50 05.5	-0.1
KHC				ex	x	13 50 16.0	
KHC				epP	pP	13 50 55.9	+1.5
KHC				ex	x	13 51 11.0	
KHC				eSKS	SKS	14 00 33.6	+21
KHC				ex	x	14 01 29.0	
PVCC	Panska Ves	88.22	38	eP	P	13 50 08.4	+2.5
PVCC				epP	pP	13 50 56.5	+1.7
GEC2	GERESS Array S	88.31	40	eP	P	13 50 05.8	-0.6
GEC2				pmax	pmax		
	comp=Z,61nm,1.5s,mb5.2						
GEC2	GERESS Array S	88.31	40	eP	P	13 50 05.8	-0.6
	comp=Z,61nm,1.5s,mb5.2						
GERES	GERESS Array B	88.31	40	P	P	13 50 05.8	-0.6
	comp=Z,3.6nm,0.5s,mb4.4,baz=304,slow=4.8,SNR=14						
GERES				pP	pP	13 50 55.1	-0.1
	comp=Z,23nm,0.9s,baz=270,slow=2.7,SNR=12						
GERES				PP	PP	13 53 39.4	+0.7
	comp=Z,7.4nm,0.8s,baz=301,slow=7.8,SNR=5.1						
APA	Apatity	88.32	18	⇓iP	P	13 50 06.0	0.0
APA				i *PP	pP	13 50 55.7	+0.8
APA				i		13 53 35.0	
APA				e		14 00 08.0	
APA				eS	S	14 00 30.0	-1.9
APA				e*SS		14 01 39.0	
APA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
APA				MLR	MLR		
	comp=Z,1µm,18.0s						
PRU	Pruhonice	88.41	38	eP	P	13 50 08.6	+1.8
PRU				epP	pP	13 50 56.2	+0.5
PRU				ePP	PP	13 53 35.2	-4.2
PRU				ex	x	14 00 29.9	
PRU				ex	x	14 01 35.3	
LVZ	Lovozero	88.49	18	eP	P	13 50 09.3	+2.5
LVZ				i *PP	pP	13 50 56.4	+0.7
LVZ				i		13 53 41.1	
LVZ				i SS	SS	14 06 34.6	+2.4
LVZ				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.1						
LVZ				pmax	pmax		
	comp=N,12nm,1.5s						
LVZ				pmax	pmax		
	comp=E,6.0nm,1.1s						
LVZ				pmax	pmax		
	comp=Z,215nm,2.4s,mb5.5						
LVZ				pmax	pmax		
	comp=N,358nm,3.4s						
LVZ				pmax	pmax		
	comp=E,120nm,2.5s						
GRFL	Gerfalco	88.51	46	eP	P	13 50 07.1	-0.4
FVI	Forni Avoltri	88.53	42	eP	P	13 50 09.5	+2.0
VSL	Villasalto	88.56	49	eP	P	13 50 07.2	-0.6
	comp=E,113nm,1.3s,mb5.5						
VSL				epP	pP	13 50 57.1	+0.4
VSL				ePP	PP	13 53 45.6	+4.8
VMG	Vicchio	88.62	45	eP	P	13 50 08.6	+0.6
GKP	Gorka Klasztor	88.68	35	eP	P	13 50 08.5	+0.5
GKP				epP	pP	13 50 59.1	+2.2
GKP				ePP	PP	13 53 40.0	-1.5
GKP				eSKS	SKS	14 00 13.8	-2.4
KBA	Koelnbreinsper	88.73	41	⇑iP	P	13 50 08.9	+0.5
	comp=E,50nm,1.4s,mb5.2						
KBA	Koelnbreinsper	88.73	41	⇑iP	P	13 50 08.9	+0.5
KBA				pmax	pmax		
	comp=Z,50nm,1.4s,mb5.2						
PGD	Poggio Sodo	88.78	45	eP	P	13 50 07.9	-0.8
KAF	Kangasniemi	88.91	25	ep	P	13 50 07.2	-1.7
	comp=Z,2.6nm,0.4s,mb4.4						
KAF	Kangasniemi	88.91	25	eP	P	13 50 07.2	-1.7
KAF				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.5						
GMNA	Gemona	88.94	42	eP	P	13 50 09.9	+0.5
PTCC	Patocco-Chiusa	88.97	42	eP	P	13 50 09.3	-0.3
MOA	Molln	89.03	40	⇓iP	P	13 50 09.7	-0.1
	comp=Z,12nm,0.7s,mb4.8						
UPC	Upice	89.08	38	eP	P	13 50 10.4	+0.4
UPC				epP	pP	13 50 57.7	-1.2
UPC				ePP	PP	13 53 42.8	-1.9
KSP	Ksiaz	89.11	37	eP	P	13 50 10.4	+0.3
KSP				e*PP	pP	13 50 59.0	-0.1
KSP				e		13 53 43.0	
KSP				eS	S	14 00 41.0	+1.5
KSP				eSP	SP	14 01 43.0	-5.5
KSP	Ksiaz	89.11	37	eP	P	13 50 10.4	+0.3
KSP				epP	pP	13 50 59.0	-0.1
KSP				ePP	PP	13 53 43.0	-2.0
KSP				e		13 54 48.5	
KSP				eS	S	14 00 41.0	+1.5
KSP				eSP	SP	14 01 43.0	-5.5
KSP	Ksiaz	89.11	37	eP	P	13 50 10.7	+0.6
KSP				ePcP	PcP	13 50 13.3	+1.6
KSP				epP	pP	13 50 59.1	+0.1
KSP				ePP	PP	13 53 43.6	-1.4
KSP				eS	S	14 00 39.3	-0.1
KSP				esS		14 02 07.0	
FINES	FINESS Array B	89.16	25	P	P	13 50 09.7	-0.4
	comp=Z,7.0nm,0.4s,mb4.9,baz=328,slow=2.6,SNR=37						
FINES				pP	pP	13 50 58.2	-0.8
	comp=Z,62nm,0.9s,baz=333,slow=4.3,SNR=13						
FINES				PP	PP	13 53 46.5	+1.4
	comp=Z,5.0nm,0.6s,baz=311,slow=7.7,SNR=6.9						
FINES				PKKPbc		14 07 47.4	
	comp=Z,1.9nm,0.9s,baz=90,slow=5.7,SNR=4.3						
FINES	FINESS Array B	89.16	25	P	P	13 50 09.7	-0.4
FINES				pP	pP	13 50 58.2	-0.8
FINES				PP	PP	13 53 46.5	+1.4
FINES				PKKPbc		14 07 47.4	
TIXI	Tiksi	89.18	348	eP	P	13 50 08.8	-1.2
TIXI				e*PP	pP	13 50 55.1	-3.8
TIXI				e		13 53 41.4	
TIXI				e		14 00 21.1	
TIXI				eS	S	14 00 40.7	+1.1
TIXI				eS	S	14 01 41.6	+62
TIXI				eSS	SS	14 06 43.3	+1.4
TIXI				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.4						
TIXI				MLR	MLR		
	comp=Z,701nm,18.0s						
TIXI	Tiksi	89.18	348	i Pr		13 50 09.2	
CADS	Cadrg	89.28	42	eP	P	13 50 10.5	-0.5
CADS				epP	pP	13 51 00.4	+0.4
CADS				e		14 00 47.0	
CADS				e		14 02 11.9	
DPC	Dobruska-Polom	89.32	38	eP	P	13 50 11.5	+0.4
DPC				epP	pP	13 51 00.5	+0.4
DPC				ePP	PP	13 53 42.3	-4.4
DPC				eSKS	SKS	14 00 29.5	+9.3
VOY	Vojsko	89.46	42	eP	P	13 50 11.3	-0.6
VOY				e		13 50 14.0	
VOY				e	pP	13 51 01.5	+0.7
PET	Petropavlovsk	89.46	325c	iP	P	13 50 13.3	+1.6
PET				e		13 53 49.7	
PET				i S	S	14 00 48.3	+5.7
PET				eSS	SS	14 06 53.7	+7.1
PET				pmax	pmax		
	comp=Z,41nm,1.5s,mb5.0						
PET				pmax	pmax		
	comp=Z,1µm,4.6s						
PET				pmax	pmax		
	comp=Z,800nm,20.4s						
PET				pmax	pmax		
	comp=Z,1µm,5.1s						
PET				pmax	pmax		
	comp=Z,800nm,8.1s						
PET				pmax	pmax		
	comp=Z,35nm,1.3s,mb5.0						
PET				smax			
	comp=N,2µm,11.2s						
PET				smax			
	comp=E,2µm,16.2s						
PET				smax			
	comp=N,3µm,22.2s						
PET				pmax	pmax		
	comp=N,4µm,15.4s						
PET				pmax	pmax		
	comp=N,3µm,17.2s						
PET				MLR	MLR		
	comp=Z,400nm,22.0s						
TRI	Trieste	89.49	43	eP	P	13 50 12.9	+0.9
OBKA	Obir	89.70	42	⇓iP	P	13 50 11.9	-1.1
	comp=Z,14nm,0.9s,mb4.8						
ARV	Arcevia	89.74	45	eP	P	13 50 12.4	-0.8
SNTG	Esanatoglia	89.82	45	eP	P	13 50 12.8	-0.8
LJU	Ljubljana	89.86	42	eP	P	13 50 14.8	+1.0
LJU				epP	pP	13 51 06.5	+3.7
ARSA	Arzberg	90.04	41	⇑iP	P	13 50 16.2	+1.6
	comp=Z,21nm,1.2s,mb4.8						
VISS	Visnje	90.16	42	eP	P	13 50 15.7	+0.5
MA2	Magadan	90.26	333	eP	P	13 50 15.6	+0.3
MA2				e*PP	pP	13 51 02.9	-1.4
MA2				eS	S	14 00 50.6	+1.0
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb5.0						
MA2	Magadan	90.26	333	eP	P	13 50 15.3	+0.1
	comp=Z,46nm,1.2s,mb5.2						
MA2				epP	pP	13 51 02.3	-2.0
MA2				ePP	PP	13 53 55.4	+1.5
MORC	Moravsky Berou	90.28	38	eP	P	13 50 15.5	-0.1
MORC				e*PP	pP	13 51 04.1	-0.5
MORC				e		13 53 54.1	
MORC				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.1						
MORC	Moravsky Berou	90.28	38	eP	P	13 50 15.5	-0.1
	comp=Z,38nm,1.3s,mb5.1						
MORC				epP	pP	13 51 04.1	-0.5
MORC				ePP	PP	13 53 54.1	-0.1
JOF	Joensuu	90.40	23	ep	P	13 50 12.8	-3.1
	comp=Z,2.7nm,0.4s,mb4.4						
LEGS	Legarje	90.41	42	eP	P	13 50 15.9	-0.4
LEGS				epP	pP	13 51 05.0	-0.4
LEGS				e		13 51 23.4	
LEGS				ePP	PP	13 53 55.0	-0.4
LEGS				e		14 00 59.2	
AQU	L'Aquila	90.46	46	eP	P	13 50 17.6	+1.0
AQU				pmax	pmax		
	comp=Z,72nm,1.3s,mb5.3						
AQU	L'Aquila	90.46	46	eP	P	13 50 17.6	+0.9
	comp=Z,72nm,1.3s,mb5.3						
PTQR	Pietraquaria	90.58	46	eP	P	13 50 17.8	+0.6
OKC	Ostrava-Krasne	90.61	38	eP	P	13 50 17.5	+0.4
OKC				ePP	PP	13 53 56.4	-0.5
ZST	Bratislava	90.65	39	eP	P	13 50 18.8	+1.4
ZST				e	pP	13 51 06.5	+0.1
ZST				e		13 53 57.3	
ZST				eS	S	14 00 26.0	-27
SMOL	Smolenice	90.72	39	eP	P	13 50 18.7	+1.0
KOLL	Kolacno	91.28	39	eP	P	13 50 21.0	+0.7
KOLL				epP	pP	13 51 09.5	+0.1
KOLL				ePP	PP	13 53 57.2	-5.1
OJC	Ojcow	91.41	37	eP	P	13 50 20.7	-0.1
SUW	Suwalki	91.53	32	eP	P	13 50 20.2	-1.1
SUW				e*PP	pP	13 51 10.0	-0.4
SUW				e		13 54 01.8	
SUW	Suwalki	91.53	32	eP	P	13 50 20.2	-1.1
SUW				ePcP	PcP	13 50 23.6	+1.4
SUW				epP	pP	13 51 10.0	-0.4
SUW				ePP	PP	13 54 01.8	-2.3
SUW				eSKS	SKS	14 00 42.1	+9.0
SUW	Suwalki	91.53	32	eP	P	13 50 20.2	-1.1
SUW				ePcP	PcP	13 50 23.6	+1.3
SUW				epP	pP	13 51 10.0	-0.3
SUW				ePP	PP	13 54 01.8	-2.3
SUW				eSKS	SKS	14 00 42.1	+9.1
VYHS	Vyhne	91.58	39	eP	P	13 50 22.3	+0.6
VYHS				e	pP	13 51 10.9	+0.1
VYHS				ePP	PP	13 53 57.2	-7.5
PUL	Pulkovo	91.83	26	eP	P	13 50 23.8	+1.2
PUL				i *PP	pP	13 51 13.5	+1.8
PUL				i		13 54 07.4	
PUL				pmax	pmax		
	comp=Z,339nm,11.1s						
NIE	Niedzica	92.06	37	eP	P	13 50 23.1	-0.8
PSZ	Piszkesteto	92.47	39	eP	P	13 50 26.1	+0.3
PSZ				e*PP	pP	13 51 14.9	0.0
PSZ				e		13 54 12.3	
PSZ				pmax	pmax		
	comp=Z,186nm,1.7s,mb5.7						
PSZ	Piszkesteto	92.47	39	eP	P	13 50 26.1	+0.3
	comp=Z,186nm,1.7s,mb5.7						
PSZ				epP	pP	13 51 14.9	0.0
PSZ				ePP	PP	13 54 12.3	+0.6
PSZ	Piszkesteto	92.47	39	⇑ePcP	PcP	13 50 29.1	+2.6
MRLC	Muro Lucano	92.51	47	eP	P	13 50 27.0	+0.9
KECS	Kecovo	92.58	38	eP	P	13 50 29.0	+2.7
KECS				epP	pP	13 51 17.3	+1.9
KECS				ePP	PP	13 54 02.9	-10
CRVS	Cervenica-Dubn	92.96	37	eP	P	13 50 31.8	+3.7
CRVS				e	pP	13 51 23.5	+6.3
CRVS	Cervenica-Dubn	92.96	37	e	P	13 50 31.8	+3.7
CRVS				e	pP	13 51 23.5	+6.3
KWP	Kalwaria	93.35	36	eP	P	13 50 31.4	+1.6
KWP				e*PP	pP	13 51 19.9	+1.0
KWP				e		13 54 17.1	
KWP				eS	S	14 01 20.8	+3.9
KWP	Kalwaria	93.35	36	eP	P	13 50 31.4	+1.6
KWP				epP	pP	13 51 19.9	+0.9
KWP				ePP	PP	13 54 17.1	-1.6
KWP				eS	S	14 01 20.9	+3.9
KOLS	Kolonicke sedl	93.43	37	eP	P	13 50 31.1	+0.9
KOLS				epP	pP	13 51 21.2	+1.9
KOLS				ePP	PP	13 54 05.8	-14
UZH	Uzhgorod	93.58	37	eP	P	13 50 31.0	+0.1
BBLS	Bajina Basta -	93.91	43	⇑iP	P	13 50 32.4	0.0
LVV	L'vov	94.02	36	i P	P	13 50 33.2	+0.4
LVV				i	pP	13 51 22.2	+0.3
LVV				i		13 54 17.6	
LVV				e		14 00 47.4	
TIP	Timpagrande	94.02	48	eP	P	13 50 30.5	-2.5
TIP				epP	pP	13 51 19.6	-2.6
DIVS	Divcibare	94.19	42	eP	P	13 50 33.6	-0.1
BZS	Buzias	94.55	40	⇑P	P	13 50 36.1	+0.7
GRUS	Gruza	94.75	42	⇑iP	P	13 50 36.5	+0.1
GRUS	Gruza	94.75	42	i	pP	13 51 21.5	-3.9
BOLS	Boljevac	95.58	42	⇑iP	P	13 50 40.9	+0.7
BURAR	Bucovina Array	95.78	37	⇑P	P	13 50 42.8	+1.9
BURAR	Bucovina Array	95.78	37	⇑P	P	13 50 42.8	+1.9
SKO	Skopje	96.08	44	eP	P	13 50 43.6	+1.2
SKO				⇑iPP	PP	13 54 36.7	-3.0
YAK	Yakutsk	96.47	342	eP	P	13 50 43.6	-0.1
YAK				e		13 54 37.9	
YAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK	Yakutsk	96.47	342	⇑iP	P	13 50 43.8	+0.1
MLR	Muntele Rosu	97.28	39	⇑P	P	13 50 46.9	-0.9
OBN	Obninsk	97.35	27	⇑iP	P	13 50 47.7	-0.2
OBN				e*PP	pP	13 51 37.3	+0.3
OBN				i		13 54 46.9	
OBN				i S	S	14 00 57.6	-53
OBN				pmax	pmax		
	comp=Z,80nm,1.7s,mb5.7						
OBN				MLR	MLR		
	comp=Z,900nm,22.0s						
OBN	Obninsk	97.35	27	eP	P	13 50 47.4	-0.4
	comp=Z,12nm,0.4s,mb5.5						
OBN				epP	pP	13 51 34.8	-2.2
OBN				ePP	PP	13 54 35.5	-14
MOS	Moscow	97.40	26	eP	P	13 50 48.1	0.0
MOS				e*PP	pP	13 51 42.6	+5.4
MOS				e		13 54 48.6	
MOS				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.8						
KIS	Kishinev	98.20	37	eP	P	13 50 52.0	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KIS				e*PP	pP	13 51 40.0	-1.0
KIS				e		13 54 50.0	
KIS				e		14 01 10.0	
KIS				eS	S	14 02 04.0	+5.8
KIS				e		14 03 28.0	
YSS	**Yuzh-Sakhalins**	**101.35**	**325**	eP	P	13 51 08.0	+1.9
YSS				e		13 55 20.0	
YSS				eS	S	14 02 32.0	+7.5
YSS				eSS	SS	14 09 46.0	+12
SNAA	**Sanae**	**103.89**	**161**	eP	Pdif	13 51 18.7	+1.9
SNAA				pmax	pmax		
	comp=Z,21nm,1.4s						
SNAA	**Sanae**	**103.89**	**161**	Pdiff	Pdif	13 51 18.9	+2.1
	comp=Z,2.0nm,1.1s,baz=285,slow=9.5,SNR=3.5						
SNAA				PKiKP		13 55 33.2	
	comp=Z,0.7nm,0.4s,baz=226,slow=4.9,SNR=7.5						
SNAA	**Sanae**	**103.89**	**161**	eP	Pdif	13 51 18.7	+1.9
	comp=Z,21nm,1.4s						
QSPA	**South Pole Qui**	**105.17**	**180**	ePKPdf		13 55 35.6	
QSPA				ePP	PP	13 55 45.5	-2.4
BRTR	**Keskin Array B**	**105.17**	**41**	pPdiff		13 52 11.3	
	comp=Z,0.9nm,0.7s,baz=326,slow=4.5,SNR=4.4						
BRTR				PKiKP		13 55 39.4	
	comp=Z,2.9nm,1.0s,baz=284,slow=5.1,SNR=4.1						
BRTR				PKKPbc		14 07 03.6	
	comp=Z,1.6nm,0.6s,baz=135,slow=3.5,SNR=7.5						
VNDA	**Vanda**	**108.37**	**193**	ePKPdf		13 55 42.3	
MDJ	**Mudanjiang**	**109.72**	**330**	PDIF	Pdif	13 51 44.9	+1.8
MDJ				S		14 03 43.4	
BVAR	**Borovoye Array**	**110.25**	**12**	Pdiff	Pdif	13 51 50.0	+4.9
	comp=Z,0.3nm,0.5s,baz=342,slow=4.6,SNR=3.4						
BVAR				PKiKP		13 55 47.4	
	comp=Z,2.2nm,0.4s,baz=194,slow=1.7,SNR=15						
BVAR				PP	PP	13 56 22.4	-3.3
	comp=Z,2.9nm,0.7s,baz=346,slow=6.1,SNR=3.8						
MAT	**Matsushiro**	**110.41**	**319**	PDIF	Pdif	13 51 42.0	-4.3
ZAL	**Zalesovo**	**111.04**	**2**	PKiKP		13 55 49.5	
	comp=Z,7.2nm,0.4s,baz=195,slow=0.7,SNR=16						
GNI	**Garni**	**111.48**	**35**	PP	PP	13 56 20.8	-14
	comp=Z,2.6nm,0.3s,baz=54,slow=16,SNR=4.6						
ASF	**Jabal al Asfar**	**111.68**	**46**	PP	PP	13 56 29.5	-6.8
	comp=Z,7.4nm,1.0s,baz=208,slow=3.1,SNR=8.9						
CN2	**Changchun**	**112.28**	**332**	PDIF	Pdif	13 51 51.3	-3.0
CN2				PP	PP	13 56 37.8	-2.6
TSUM	**Tsumeb**	**112.49**	**105**	ePKPdf	PKPdf	13 55 51.9	+2.7
MSL	**Mosul**	**113.15**	**39**	e	PKPdf	13 56 38.0	+48
ZAK	**Zakamensk**	**113.41**	**350**	e	PP	13 56 47.1	-1.8
ZAK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
KURK	**Kurchatov**	**113.77**	**7**	ePKIKP	PKPdf	13 55 51.2	+0.1
KURK				e		13 56 36.8	
ULN	**Ulaanbaatar**	**115.06**	**346**	ePKIKP	PKPdf	13 55 54.9	+1.2
SONM	**Songino Array**	**115.23**	**347**	PKP	PKPdf	13 55 54.9	+0.9
	comp=Z,2.2nm,0.4s,baz=313,slow=0.8,SNR=21						
SONM				PKKPbc		14 06 30.1	
	comp=Z,3.0nm,0.5s,baz=198,slow=3.1,SNR=20						
KS15	**Wonju Array Si**	**115.88**	**326**	ePKPdf	PKPdf	13 55 56.2	+0.7
SUR	**Sutherland**	**116.64**	**119**	PKKPbc		14 06 29.5	
	comp=Z,5.2nm,0.7s,baz=153,slow=8.0,SNR=5.4						
SUR	**Sutherland**	**116.64**	**119**	ePKPdf	PKPdf	13 55 58.2	+1.1
DL2	**Dalian**	**117.91**	**331**	ePKP	PKPdf	13 56 05.3	+5.9
DL2				XPKP		13 57 14.3	
DL2				PP	PP	13 57 18.9	-1.8
DL2				PP	PP		
	comp=Z,260nm,6.5s						
SYO	**Syowa Base**	**118.15**	**162**	⇓X		13 56 15.5	
BJI	**Beijing**	**119.31**	**336**	PKP	PKPdf	13 56 05.0	+2.9
BJI				PP	PP	13 57 35.8	+5.6
BJI				SKKS		14 04 03.6	
BJI				LR	LR		
	comp=N,545nm,24.6s						
BJI				LR	LR		
	comp=E,678nm,22.1s						
BJI				LR	LR		
	comp=Z,505nm,47.5s						
BJI	**Beijing**	**119.31**	**336**	PKIKP	PKPdf	13 56 05.0	+2.9
BJI						13 57 35.7	
BJI				SS	SS	14 13 52.2	+19
BJI				MLR	MLR		
	comp=Z,510nm,47.5s						
BJI	**Beijing**	**119.31**	**336**	PKP	PKPdf	13 56 05.0	+2.9
BJI				sPKP		13 57 21.1	
BJI				PP	PP	13 57 35.7	+5.5
BJI				SKKS		14 04 03.6	
BJI				SS	SS	14 13 52.2	+19
BJI				LR	LR		
	comp=Z,510nm,47.5s						
HHC	**Hu-ho-hao-te**	**120.27**	**340**	ePKP	PKPdf	13 56 08.1	+4.1
HHC				PKS	PKS	13 59 41.8	+2.5
HHC				SKS	SKS	14 02 51.5	+10
HHC				SKKS		14 04 13.0	
HHC				SS	SS	14 13 45.0	-0.4
HHC				LR	LR		
	comp=N,588nm,25.0s						
HHC				LR	LR		
	comp=E,588nm,27.4s						
HHC				LR	LR		
	comp=Z,670nm,35.1s						
BOSA	**Boshof**	**120.37**	**114**	PKPdf	PKPdf	13 56 05.3	+0.9
BOSA				PKPdf	PKPdf	13 56 07.9	+3.4
USP	**Ospenovka**	**120.38**	**12**	P	PKPdf	13 56 05.2	+1.1
	SNR=16						
LBTB	**Lobatse**	**120.52**	**110**	ePKIKP	PKPdf	13 56 03.6	-1.2
LBTB	**Lobatse**	**120.52**	**110**	PKKPbc		14 06 15.2	
	comp=Z,5.5nm,0.4s,baz=140,slow=3.3,SNR=13						
TKM2	**Tokmak 2**	**120.93**	**11**	P	PKPdf	13 56 06.2	+1.0
	SNR=15						
AAK	**Ala-Archa**	**120.99**	**12**	i PKIKP	PKPdf	13 56 05.3	0.0
AAK	**Ala-Archa**	**120.99**	**12**	ePKPdf	PKPdf	13 56 04.8	-0.5
MBAR	**Mbarara**	**121.11**	**81**	ePKIKP	PKPdf	13 56 06.2	-0.1
WMQ	**Urumqi**	**121.24**	**1**	PKP	PKPdf	13 56 07.8	+2.0
WMQ				XPKP		13 57 18.0	
WMQ				PP	PP	13 57 45.0	+2.1
WMQ				PKS	PKS	13 59 43.0	+1.8
WMQ				PPP	PPP	14 00 22.0	+2.3
WMQ				SKS	SKS	14 02 59.0	+14
WMQ				SKKS		14 04 17.0	
WMQ				SS	SS	14 14 01.0	+3.1
WMQ				PP	PP		
	comp=Z,846nm,9.0s						
WMQ				LR	LR		
	comp=N,3µm,36.4s						
WMQ				LR	LR		
	comp=E,3µm,37.4s						
WMQ				LR	LR		
	comp=Z,2µm,31.8s						
AML	**Almayashu**	**121.31**	**13**	P	PKPdf	13 56 07.2	+1.3
	SNR=26						
UCH	**Uchtor**	**121.39**	**12**	P	PKPdf	13 56 07.9	+1.8
	SNR=13						
KZA	**Kyzart**	**121.68**	**12**	P	PKPdf	13 56 08.6	+1.9
	SNR=9.8						
ULHL	**Ulahol**	**121.70**	**11**	P	PKPdf	13 56 09.9	+3.2
	SNR=6.0						
LSZ	**Lusaka**	**121.93**	**99**	ePKIKP	PKPdf	13 56 04.7	-3.0
CNB	**Canberra Magne**	**122.37**	**238**	ePKP	PKPdf	13 56 10.7	+2.6
	comp=Z,176nm,1.0s						
PMG	**Port Moresby**	**122.60**	**268**	ePKIKP	PKPdf	13 56 11.7	+2.7
PMG	**Port Moresby**	**122.60**	**268**	PKP	PKPdf	13 56 12.1	+3.1
	comp=Z,12nm,0.8s,baz=302,slow=12,SNR=6.7						
MATP	**Matopo**	**122.84**	**105**	PKKPbc		14 06 06.4	
	comp=Z,3.9nm,0.4s,baz=95,slow=3.5,SNR=13						
JOW	**Kunigami**	**123.12**	**317**	PKP	PKPdf	13 56 11.7	+1.9
	comp=Z,13nm,0.5s,baz=134,slow=22,SNR=7.1						
KSH	**Kashi**	**124.29**	**12**	ePKP	PKPdf	13 56 15.1	+3.3
KSH				ePP	PP	13 58 02.3	-1.8
KSH				ePKS	PKS	13 59 50.0	+2.8
KSH				eSKKS		14 04 37.0	
KSH				PP	PP		
	comp=Z,800nm,6.4s						
KSH				LR	LR		
	comp=N,560nm,6.1s						
KSH				LR	LR		
	comp=E,660nm,5.8s						
SSE	**Sheshan**	**124.29**	**326**	ePKP	PKPdf	13 56 06.3	-5.7
SSE				PP	PP	13 58 00.3	-4.0
SSE				PP	PP		
	comp=Z,297nm,12.0s						
SSE				LR	LR		
	comp=N,452nm,21.2s						
SSE				LR	LR		
	comp=E,312nm,21.1s						
SSE				LR	LR		
	comp=Z,463nm,22.8s						
GTA	**Gaotai**	**124.64**	**349**	PKP	PKPdf	13 56 12.9	+0.4
GTA				LR	LR		
	comp=N,569nm,22.8s						
GTA				LR	LR		
	comp=E,507nm,19.0s						
GTA				LR	LR		
	comp=Z,854nm,22.8s						
NJ2	**Nanjing**	**124.75**	**329**	ePKP	PKPdf	13 56 09.6	-3.3
NJ2				PP	PP	13 58 05.0	-2.1
NJ2				PKS	PKS	13 59 45.0	-3.2
NJ2				PP	PP		
	comp=Z,170nm,11.7s						
NJ2				LR	LR		
	comp=N,660nm,35.5s						
NJ2				LR	LR		
	comp=E,1µm,33.3s						
NJ2				LR	LR		
	comp=Z,500nm,32.5s						
CTA	**Charters Tower**	**125.04**	**256**	ePKP	PKPdf	13 56 14.9	+1.2
	comp=Z,20nm,0.6s						
CTA				epPKP		13 57 04.3	
CTA	**Charters Tower**	**125.04**	**256**	PKP	PKPdf	13 56 15.5	+1.7
	comp=Z,24nm,0.6s,baz=114,slow=2.8,SNR=28						
CTAO	**Charters Tower**	**125.04**	**256**	ePKPdf	PKPdf	13 56 14.9	+1.2
CTAO				eSKP		13 59 22.8	
MAW	**Mawson**	**125.06**	**168**	ePKP	PKPdf	13 56 13.5	+1.0
	comp=Z,32nm,0.9s						
MAW	**Mawson**	**125.06**	**168**	PKP	PKPdf	13 56 13.6	+1.1
	comp=Z,41nm,0.6s,baz=223,slow=2.9,SNR=23						
TOO	**Toolangi**	**125.25**	**235**	ePKP	PKPdf	13 56 16.1	+2.4
	comp=Z,1.3nm,0.7s						
TOO				epPKP		13 57 06.5	
CASY	**Casey**	**126.93**	**191**	ePKP	PKPdf	13 56 17.5	+1.4
LZH	**Lanzhou**	**126.96**	**345**	⇑PKP	PKPdf	13 56 18.5	+1.5
LZH				PP	PP	13 58 22.0	+0.8
LZH				PKS	PKS	13 59 54.5	+2.2
LZH				SKKS		14 04 52.8	
LZH				SS	SS	14 15 09.6	-0.6
LZH				PP	PP		
	comp=Z,736nm,9.3s						
LZH				LR	LR		
	comp=N,769nm,18.1s						
LZH				LR	LR		
	comp=Z,1µm,20.0s						
LZH	**Lanzhou**	**126.96**	**345**	⇑PKIKP	PKPdf	13 56 18.5	+1.5
LZH						13 57 11.2	
LZH						13 58 22.0	
LZH				SS	SS	14 15 09.6	-0.6
LZH				MLR	MLR		
	comp=Z,1µm,20.0s						
LZH	**Lanzhou**	**126.96**	**345**	⇑PKP	PKPdf	13 56 18.5	+1.5
LZH				pPKP		13 56 51.5	
LZH				sPKP		13 57 11.2	
LZH				PP	PP	13 58 22.0	+0.8
LZH				PKS	PKS	13 59 54.5	+2.2
LZH				SKKS		14 04 52.8	
LZH				SS	SS	14 15 09.6	-0.6
LZH				LR	LR		
	comp=Z,1µm,20.0s						
XAN	**Xi'an**	**127.31**	**339**	PKP	PKPdf	13 56 17.8	0.0
XAN				PP	PP		
	comp=Z,25nm,1.2s						
KMBO	**Kilima Mbogo**	**127.47**	**80**	PKP	PKPdf	13 56 18.6	-0.1
	comp=Z,3.4nm,0.8s,baz=34,slow=2.9,SNR=6.7						
KMBO	**Kilima Mbogo**	**127.47**	**80**	ePKPdf	PKPdf	13 56 19.5	+0.8
WHN	**Wuhan**	**128.17**	**331**	ePKP	PKPdf	13 56 22.0	+2.4
STKA	**Stephens Creek**	**129.13**	**241**	PKP	PKPdf	13 56 23.2	+1.9
	comp=Z,8.9nm,0.6s,baz=23,slow=3.3,SNR=4.0						
STKA				SKPbc		13 59 30.6	
	comp=Z,11nm,1.0s,baz=60,slow=3.9,SNR=4.9						
ENH	**Enshi**	**130.48**	**336**	ePKPdf	PKPdf	13 56 24.6	+0.7
ENH				epPKPdf		13 57 14.3	
ENH				eSKP		13 59 31.7	
CD2	**Chengdu**	**131.86**	**342**	ePKP	PKPdf	13 56 30.6	+4.0
LSA	**Lhasa**	**135.27**	**357**	PKP	PKPdf	13 56 27.4	-5.5
LSA				SS	SS	14 16 51.4	0.0
LSA				LR	LR		
	comp=E,1µm,41.3s						
LSA				LR	LR		
	comp=Z,2µm,54.5s						
LSA	**Lhasa**	**135.27**	**357**	ePKPdf	PKPdf	13 56 34.5	+1.6
LSA				eSKP		13 59 48.8	
WB2	**Warramunga Arr**	**136.20**	**257**	ePKP		13 56 23.5	
WB2				eSKP		13 59 54.3	
WB2				ePKS	PKS	14 00 04.2	-5.5
WB2				e		14 00 56.9	
WRAB	**Tennant Creek**	**136.21**	**257**	ePKPpre		13 56 28.6	
WRAB				ePKPdf	PKPdf	13 56 36.3	+1.4
WRAB				epPKPdf		13 57 25.5	
WRAB				eSKP		13 59 53.1	
WRA	**Warramunga Arr**	**136.22**	**257**	PKhKP		13 56 26.0	
	comp=Z,1.3nm,0.4s,baz=88,slow=3.3,SNR=17						
WRA				PKP	PKPdf	13 56 38.1	+3.3
	comp=Z,32nm,0.5s,baz=87,slow=2.5,SNR=50						
WRA				pPKP		13 57 25.8	
	comp=Z,13nm,1.0s,baz=85,slow=1.3,SNR=1.8						
WRA				SKPbc		13 59 54.5	
	comp=Z,11nm,0.9s,baz=84,slow=2.0,SNR=8.0						
WRA				PKKP	PKKP	14 06 17.2	+27
	comp=Z,0.6nm,1.0s,baz=287,slow=1.8,SNR=5.7						
ASAR	**Alice Springs**	**136.58**	**252**	PKhKP		13 56 23.7	
	comp=Z,1.1nm,0.5s,baz=101,slow=3.6,SNR=17						
ASAR				PKP	PKPdf	13 56 38.5	+3.1
	comp=Z,17nm,0.6s,baz=93,slow=1.9,SNR=28						
ASAR				pPKP		13 57 27.6	
	comp=Z,8.5nm,0.8s,baz=108,slow=1.9,SNR=1.8						
ASAR				SKPbc		13 59 54.5	
	comp=Z,7.5nm,0.9s,baz=98,slow=3.1,SNR=7.6						
ASAR				PKKP	PKKP	14 06 15.2	+26
	comp=Z,0.3nm,0.3s,baz=260,slow=1.5,SNR=7.4						
ASAR				SKKPbc		14 08 47.8	
	comp=Z,1.0nm,0.7s,baz=280,slow=3.3,SNR=7.9						
ASPA	**Alice Springs**	**136.58**	**252**	ePKP		13 56 25.5	
ASPA				eSKP		13 59 54.4	
ASPA				ePKS	PKS	14 00 08.6	-1.7
ASPA				e		14 00 59.6	
GKN	**Gorkha**	**136.86**	**5**	eP	PKPdf	13 56 26.5	-9.3
	comp=Z,83nm,0.3s						
KOLN	**Koldanda**	**136.99**	**6**	eP	PKPdf	13 56 28.1	-8.0
	comp=Z,21nm,0.4s						
KKN	**Kakani**	**137.12**	**4**	eP	PKPdf	13 56 28.3	-8.0
	comp=Z,42nm,0.5s						
DMN	**Daman**	**137.29**	**5**	eP	PKPdf	13 56 28.6	-8.0
	comp=Z,30nm,0.4s						
JIRN	**Jiri**	**137.31**	**3**	eP	PKPdf	13 56 28.6	-8.1
	comp=Z,31nm,0.4s						
PKI	**Pulchoki**	**137.35**	**4**	eP	PKPdf	13 56 28.9	-7.8
	comp=Z,30nm,0.4s						
KAKA	**Kakadu**	**137.40**	**268**	ePKP	PKPdf	13 56 28.7	-8.4
	comp=Z,28nm,0.5s						
KMI	**Kunming**	**137.58**	**341**	PKP	PKPdf	13 56 37.9	+0.7
KMI				XPKP		13 57 49.8	
KMI				PP	PP	13 59 29.6	+0.5
KMI				PKS	PKS	14 00 09.6	-2.4
KMI				SKKS		14 05 58.5	
KMI				SS	SS	14 17 17.3	-1.7
KMI				SSS	SSS	14 22 31.1	+1.8
KMI				PP	PP		
	comp=Z,539nm,6.4s						
KMI				LR	LR		
	comp=N,700nm,20.7s						
KMI				LR	LR		
	comp=E,407nm,24.1s						
KMI				LR	LR		
	comp=Z,776nm,20.6s						
KMI	**Kunming**	**137.58**	**341**	PKIKP	PKPdf	13 56 37.9	+0.7
KMI						13 57 49.8	
KMI						13 59 29.6	
KMI				SS	SS	14 17 17.3	-1.7
KMI				SSS	SSS	14 22 31.1	+1.8
KMI				MLR	MLR		
	comp=Z,780nm,20.6s						
QIZ	**Qiongzhong**	**140.03**	**328**	PKP	PKPdf	13 56 38.3	-3.6
QIZ				PP	PP	13 59 43.4	-0.7
QIZ				PP	PP		
	comp=Z,260nm,9.0s						
QIZ	**Qiongzhong**	**140.03**	**328**	ePKPdf	PKPdf	13 56 42.2	+0.3
FORT	**Forrest**	**140.72**	**240**	eP	PKPdf	13 56 38.9	-4.0
	comp=Z,2µm,0.6s						
FORT				eSKP		14 00 06.7	
CHRT	**Chiangrai**	**143.42**	**342**	⇓P	PKPbc	13 56 45.5	-0.9
NANT	**Nan**	**144.14**	**340**	⇑P	PKPbc	13 56 46.0	-2.6
	comp=Z,335nm,1.0s						
FITZ	**Fitzroy Crossi**	**144.41**	**260**	ePKP	PKPdf	13 56 49.8	+0.3
	comp=Z,130nm,0.8s						
FITZ				epPKP		13 57 39.0	
FITZ				eSKP		14 00 16.2	
CM31	**Chiang Mai Arr**	**145.00**	**343**	ePKPdf	PKPdf	13 56 50.5	-0.1
CM31				epPKPdf		13 57 40.0	
CMAR	**Chiang Mai Arr**	**145.00**	**343**	PKPbc	PKPbc	13 56 51.0	0.0
	comp=Z,41nm,0.5s,baz=342,slow=4.1,SNR=76						
CMAR				pPKPbc		13 57 40.9	
	comp=Z,43nm,0.9s,baz=337,slow=3.2,SNR=4.5						
KKM	**Kota Kinabalu**	**145.40**	**306**	ePKPdf	PKPdf	13 56 52.5	+1.1
KKM	**Kota Kinabalu**	**145.40**	**306**	P	PKPdf	13 56 53.0	+1.6
KKTK	**Khon Kaen**	**145.63**	**335**	P	PKPdf	13 56 54.0	+2.3
HYB	**Hyderabad**	**146.09**	**17**	⇑eP	PKPdf	13 56 52.0	-0.4
HYB				e		13 57 44.0	
HYB	**Hyderabad**	**146.09**	**17**	⇑iP	PKPdf	13 56 52.0	-0.4
	comp=Z,100nm,1.0s						
HYB				e		13 57 44.0	
HYB				epPKP		13 58 04.0	
HYB				ePKS	PKS	14 00 16.0	-10
HYB				ePPP	PPP	14 03 28.0	-10
BDT	**Bhumibol Dam**	**146.13**	**342**	P	PKPdf	13 56 54.0	+1.5
	comp=Z,120nm,0.9s						
NST	**Nakhon Sawan**	**147.24**	**339**	⇓P	PKPdf	13 56 57.5	+3.2
	comp=Z,158nm,0.5s						
NWAO	**Narrogin (SRO)**	**148.60**	**231**	PKPbc	PKPdf	13 57 00.7	+4.5
	comp=Z,85nm,0.9s,baz=122,slow=3.6,SNR=32						
NWAO				pPKPbc		13 57 51.3	
	comp=Z,119nm,1.1s,baz=105,slow=5.1,SNR=4.7						
NWAO	**Narrogin (SRO)**	**148.60**	**231**	ePKPdf	PKPdf	13 56 58.6	+2.5
KLBR	**Kellerberrin**	**148.79**	**233**	ePKP	PKPdf	13 56 58.2	+1.7
	comp=Z,364nm,0.6s						
KLBR				epPKP		13 57 49.2	
MUN	**Mundaring**	**149.80**	**232**	ePKP	PKPdf	13 57 00.2	+2.1
	comp=Z,92nm,0.5s						
MUN				epPKP		13 57 53.1	
MBWA	**Marble Bar**	**149.84**	**254**	ePKPdf	PKPdf	13 56 59.7	+1.3
MBWA				epPKPdf		13 57 49.3	
NNT	**Nongplab**	**150.24**	**338**	P		13 57 54.0	
	comp=Z,1µm,0.5s						
KSM	**Kuching**	**152.84**	**306**	ePKPdf	PKPdf	13 57 05.4	+2.3
KSM				ePKPbc	PKPdf	13 57 12.6	+9.5
KSM				ePKPab	PKPab	13 57 24.9	+0.2
KSM				epPKPdf		13 57 55.3	
KSM				epPKPbc		13 58 01.4	
KSM				epPKPab		13 58 12.2	
KULM	**Kulim**	**156.36**	**329**	ePKPdf	PKPdf	13 57 09.9	+2.1
KULM				epPKPab		13 57 38.3	

IGQ 17 14:00:46.1,0.09S×79.93W,h16km±1km,mb4.2,6C-12D, Error ellipse: s-maj=2.0km s-min=1.2km az=27.2, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGD	**Magdalena**	**0.15**	**84**	⇑P	Pb	14 00 57.4	+7.1
JAMA	**Jama**	**0.33**	**238**	P	Pb	14 01 02.2	+9.1
HOJA	**Cerro de Hojas**	**1.14**	**213**	⇓P	Pb	14 01 07.1	+0.1
PINO	**Pino**	**1.32**	**93**	⇓P	Pn	14 01 11.0	+1.0
TERV	**Terraza Guagua**	**1.32**	**94**	P	Pn	14 01 11.6	+1.5
JUA2	**San Juan 2**	**1.33**	**96**	⇓P	Pn	14 01 11.4	+1.3
GGP	**Refugio Guagua**	**1.33**	**94**	P	Pn	14 01 11.6	+1.4
YANA	**Yana**	**1.35**	**91**	⇓P	Pn	14 01 11.7	+1.1
NAS1	**Nasa**	**1.55**	**111**	⇓P	Pn	14 01 15.5	+2.2
VC1	**Cotopaxi 1**	**1.62**	**110**	⇓P	Pn	14 01 16.7	+2.4
COTA	**Cotacachi**	**1.64**	**75**	⇓P	Pn	14 01 16.0	+1.3
TAMB	**Tambo**	**1.67**	**111**	P	Pn	14 01 17.8	+2.8
LORE	**San Lorenzo**	**1.75**	**38**	P	Pn	14 01 17.9	+1.8
LORE				S	Sn	14 01 40.8	+2.7
ANTI	**Antisana**	**1.80**	**102**	⇓P	Pn	14 01 19.4	+2.5
PISA	**Pisayambo**	**1.82**	**122**	⇓P	Pn	14 01 19.6	+2.5
IGUA	**Igualata**	**1.90**	**137**	⇑P	Pn	14 01 20.5	+2.2
IGUA				S	Sn	14 01 45.0	+3.0
CAYR	**Refugio Cayamb**	**1.92**	**87**	⇓P	Pn	14 01 21.7	+3.1
CAYR				S	Sn	14 01 46.7	+4.1
ELAGU	**Cayambe Volc**	**1.94**	**88**	⇑P	Pn	14 01 22.0	+3.2
ELAGU				S	Sn	14 01 46.3	+3.3
CAYA	**Cayambe**	**1.94**	**85**	⇑P	Pn	14 01 21.7	+2.8
CAYA				S	Sn	14 01 46.2	+3.1
JUIV	**Juive**	**1.98**	**132**	⇓P	Pn	14 01 21.6	+2.2
JUIV				S	Sn	14 01 46.1	+2.2
CUSU	**Cusua**	**1.98**	**133**	⇓P	Pn	14 01 22.1	+2.7
CUSU				S	Sn	14 01 46.7	+2.7
RETU	**Refugio**	**2.01**	**133**	⇑P	Pn	14 01 22.6	+2.7
RETU				S	Sn	14 01 49.2	+4.4
ULBA	**Ulba**	**2.04**	**132**	P	Pn	14 01 22.5	+2.3
ULBA				S	Sn	14 01 48.0	+2.6
ARRY	**Arrayan**	**2.04**	**134**	P	Pn	14 01 22.3	+2.0
ARRY				S	Sn	14 01 48.2	+2.6
ECEN	**Cerro Negro**	**2.15**	**65**	⇑P	Pn	14 01 23.4	+1.4
CONE	**Cono NE Rev Vo**	**2.28**	**90**	P	Pn	14 01 27.7	+3.9
SALI	**Salinas**	**2.34**	**207**	P	Pn	14 01 23.7	-1.0

IDC 17 14:20:06.4±57.0,19.37S×174.68W,mb3.9/3,mb1 4.0/3, mb1mx3.7/15,mbtmp3.9/3,Error ellipse: s-maj=1066.0km s-min=171.1km az=82.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.09**	**243**	P	P	14 27 52.8	-0.9
	1.9nm,0.7s,baz=103,slow=14,SNR=3.5						
ASAR	**Alice Springs**	**47.83**	**255**	P	P	14 28 46.2	-1.8
	0.7nm,0.8s,baz=78,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**47.86**	**260**	P	P	14 28 45.9	-2.5
	0.7nm,0.4s,baz=100,slow=8.2,SNR=20						

CASC 17 14:34:42.5±2.1,11.02N×87.12W,MD4.2,ML3.2,6C-7D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**1.26**	**24**	⇓eP	Pb	14 35 06.7	-0.2
COPN				eS	Sb	14 35 25.7	+2.2
APON	**Apoyo**	**1.36**	**49**	⇑eP	Pb	14 35 07.3	-1.4
XAVN	**Gruta Xavier**	**1.36**	**35**	⇓eP	Pb	14 35 08.0	-0.6
XAVN				eS	Sb	14 35 27.6	+1.1
LEON	**Leon**	**1.40**	**9**	⇑eP	Pb	14 35 09.1	-0.2
MGAN	**Managua**	**1.41**	**37**	⇑eP	Pb	14 35 08.3	-1.1
MGAN				eS	Sb	14 35 29.2	+1.4
APYN	**Apoyeque**	**1.42**	**32**	eP	Pb	14 35 08.8	-0.8
APYN				eS	Sb	14 35 30.0	+1.8
WILN	**Americas 2**	**1.46**	**39**	⇑eP	Pn	14 35 08.7	-1.4
MOMJ	**Momotombo**	**1.49**	**22**	⇓eP	Pn	14 35 09.8	-0.8
MOMJ				eS	Sb	14 35 32.2	+2.0
CNGN	**Cerro Negro**	**1.53**	**16**	⇓eP	Pn	14 35 10.5	-0.6
CONN	**Concepcion**	**1.56**	**70**	eP	Pn	14 35 08.9	-2.8
TEL3	**Telica 3**	**1.56**	**10**	⇑eP	Pn	14 35 11.2	-0.4
TEL3				eS	Sb	14 35 31.9	-0.4
TEL3				i		14 35 40.9	
	comp=Z,288nm,0.5s						
TELN	**Telica**	**1.60**	**10**	eP	Pn	14 35 12.0	-0.1
TELN				eS	Sb	14 35 34.2	+0.9
CRIN	**San Cristobal**	**1.67**	**2**	⇓eP	Pn	14 35 13.4	+0.2
CRIN				eS	Sb	14 35 36.0	+0.6
VCR	**Vista de Mar**	**1.72**	**121**	eP	Pn	14 35 13.9	0.0
PYTN	**Playitas**	**1.83**	**35**	⇑eP	Pn	14 35 13.9	-1.6
PRS1	**Puriscal**	**2.95**	**110**	eP	Pn	14 35 30.6	-0.9
LAJ	**Bijagual**	**3.17**	**111**	⇓eP	Pn	14 35 30.4	-4.2
LCR2	**La Lucha 2**	**3.32**	**112**	eP	Pn	14 35 36.4	-0.4
TRTC	**Tortuguero**	**3.38**	**97**	⇓eP	Pn	14 35 35.3	-2.3
BUS	**Buena Vista**	**3.62**	**113**	eP	Pn	14 35 41.6	+0.7
BUS				eS	Sn	14 36 25.5	+0.5

CASC 17 14:40:07.2±1.5,13.67N×90.75W,h42km±43km,MD3.5, 2C-5D,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.57**	**30**	⇓eP	P	14 40 18.9	-0.1
IXG				eS	S	14 40 29.3	+1.8
JAT	**Jato**	**1.08**	**307**	eP	P	14 40 25.1	-0.9
JAT				eS	S	14 40 39.9	-0.1
RTR	**El Retiro**	**1.09**	**78**	⇓iP	P	14 40 26.6	+0.4
RTR				eS	S	14 40 40.9	+0.5
SBLS	**San Blas**	**1.10**	**81**	⇓eP	P	14 40 26.4	0.0
SBLS				eS	S	14 40 40.7	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RBDL	Robledal	1.12	67⇑	eP	P	14 40 27.4	+0.8
SNJE	San Jose	1.12	80	eP	P	14 40 26.6	0.0
TP2	Tecpan 2	1.14	346⇓	eP	P	14 40 27.2	+0.4
TP2				eS	S	14 40 43.3	+1.8
BOQS	Boqueron	1.43	87	eP	P	14 40 31.2	+0.1
BOQS				eS	S	14 40 49.6	+0.7
LFU	La Fuente	1.59	87	eP	P	14 40 33.6	+0.3
LFRS	El Faro	1.64	92⇓	eP	P	14 40 34.1	0.0
LFRS				eS	S	14 40 53.4	-0.7
LCBS	La Ceiba	1.72	90⇑	eP	P	14 40 35.6	+0.4
SNVI	San Vicente	1.85	92	eP	P	14 40 38.0	+0.8
SNVI				eS	S	14 41 00.3	+0.8

*BEO **17** 15:17:55.6±0.0, 41.96N×23.15E, h4^{km}*
*THE **17** 15:17:58.6, 41.76N×23.09E, h10^{km}, ML3.1*
*CSEM **17** 15:18:02.3±0.4, 41.62N×22.67E, h25^{km}, MD2.7, Error ellipse: s-maj=10.0km s-min=6.9km az=100.0*
*SOF **17** 15:18:09.7, 41.95N×23.26E, h8^{km}, MD2.7*
ISC 17 15:17:53.0±1.3, **41.94N**±0.04×**23.24E**±0.09, **h2**^{km}±10^{km}, **n18**, σ**0^{s}99**/18, **1C**, **Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.14	238	i Pg	Px	15 18 13.2	
MMB	Musomiste	0.51	134	i Pg	Px	15 18 21.0	
VTS	Vitosha	0.65	358	i Pg	Px	15 18 23.0	
VAY	Valandovo	0.80	219	i Pg	Pg	15 18 09.8	+0.9
VAY				i Sg	Sg	15 18 20.6	+1.1
KNT	Kendrikon	0.82	198	ePg	Pg	15 18 10.0	+0.7
PGB	Panagyurishte	0.92	48	i Pg	Px	15 18 28.0	
PLD	Plovdiv	1.10	81	P	Px	15 18 32.5	
SOH	Sokhos	1.12	176	ePg	Pg	15 18 15.8	+0.4
SOH				eSg	Sg	15 18 30.7	+0.4
RZN	Rozhen	1.13	102	i Pg	Px	15 18 31.7	
GRG	Griva	1.17	213	ePg	Pg	15 18 16.3	-0.1
GRG				eSg	Sg	15 18 31.1	-0.8
THE	Thessaloniki	1.32	189	ePg	Pg	15 18 19.6	+0.1
THE				eSg	Sg	15 18 35.8	-1.3
SKO	Skopje	1.34	272	ePn	Pn	15 18 21.5	+2.7
BARS	Barje	1.37	311⇑	iPg	Pg	15 18 19.8	-0.6
BARS				Sg	Sg	15 18 37.7	-0.9
KDZ	Kurdzhali	1.65	99	i P	Px	15 18 39.5	
OUR	Ouranopolis	1.70	160	ePb	Pb	15 18 24.9	+0.2
OUR				eSb	Sb	15 18 47.4	+0.9
FNA	Florina	1.82	231	ePb	Pb	15 18 26.3	-0.4
PAIG	Paliouri	2.04	170	ePb	Pb	15 18 30.0	-0.5
PAIG				eSb	Sb	15 18 53.7	-2.6
ALN	Alexandroupoli	2.35	115	ePn	Pn	15 18 38.7	+5.5

*IDC **17** 15:22:27.6±1.1, 26.34S×70.58E, mb4.1/8, mb1 4.3/8, mb1mx4.1/15, mbtmp4.1/8, Error ellipse: s-maj=44.6km s-min=22.2km az=58.0*
*NEIC **17** 15:22:30.5±0.7, 26.11S×70.87E, h10^{km}, mb4.5/6, Error ellipse: s-maj=28.2km s-min=14.3km az=75.0*
ISC 17 15:22:28.7±0.7, **26.1S**±0.1×**70.9E**±0.2, **h10**^{km}, **n16**, σ**0^{s}99**/15, **mb4.2**/14, **Indian Ocean Triple Junction**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TSUM	Tsumeb	49.41	266	P	P	15 31 12.3	-8.6
	5.3nm,1.2s,mb4.5						
ASAR	Alice Springs	56.70	102	P	P	15 32 15.2	+0.2
	1.4nm,0.6s,mb4.2,baz=245,slow=6.3,SNR=6.7						
WRA	Warramunga Arr	58.22	98	P	P	15 32 26.1	+0.4
	2.6nm,0.8s,mb4.3,baz=252,slow=7.1,SNR=6.9						
WRAB	Tennant Creek	58.23	98	eP	P	15 32 20.5	-5.3
STKA	Stephens Creek	61.11	114	P	P	15 32 44.2	-1.3
	2.1nm,0.8s,mb4.3,baz=277,slow=17,SNR=2.9						
QSPA	South Pole Qui	64.00	180	eP	P	15 33 05.1	+1.0
	4.0nm,0.8s,mb4.5						
VNDA	Vanda	64.89	166	P	P	15 33 07.7	-2.2
	3.7nm,1.0s,mb4.4,baz=270,slow=6.1,SNR=2.9						
SBA	Scott Base	65.87	167	eP	P	15 33 17.6	+1.5
	14nm,1.4s,mb4.8						
AAK	Ala-Archa	68.50	3	P	P	15 33 32.3	-1.0
	3.0nm,1.1s,mb4.1						
BRTR	Keskin Array B	74.17	331	P	P	15 34 06.5	-0.8
	1.3nm,0.8s,mb3.9,baz=150,slow=8.1,SNR=3.5						
KURK	Kurchatov	76.81	5	eP	P	15 34 22.7	+0.6
	5.9nm,1.0s,mb4.5						
BVAR	Borovoye Array	78.82	360	P	P	15 34 33.2	0.0
	0.4nm,0.7s,mb3.5,baz=153,slow=9.7,SNR=3.5						
SONM	Songino Array	80.25	23	P	P	15 34 41.9	+0.9
	1.5nm,0.9s,mb3.9,baz=218,slow=3.8,SNR=8.8						
ULN	Ulaanbaatar	80.51	24	eP	P	15 34 42.5	+0.1
	4.2nm,1.2s,mb4.2						
ZAL	Zalesovo	80.64	8	P	P	15 34 43.4	+0.5
	1.4nm,0.8s,mb3.9,baz=282,slow=4.1,SNR=7.8						
YKA	Yellowknife Ar	143.46	4	PKP	PKPdf	15 42 01.5	-4.4
	0.2nm,0.6s,baz=339,slow=3.6,SNR=5.6						

*ATH **17** 15:30:22.2, 37.78N×27.00E, h18^{km}±5^{km}, MD3.4/6*
*NEIC **17** 15:30:22.2, 37.78N×27.00E, h18^{km}, MD3.4(ATH), After ATH.*
*ISK **17** 15:30:23.1, 37.80N×26.86E, h23^{km}, ML3.5*
*CSEM **17** 15:30:23.0±0.1, 37.81N×26.88E, h20^{km}, MD3.4, Error ellipse: s-maj=2.6km s-min=1.6km az=86.0*
ISC 17 15:30:21.9±0.7, **37.78N**±0.02×**26.87E**±0.04, **h4**^{km}±5^{km}, **n34**, σ**1^{s}09**/45, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMG	Samos	0.07	201	ePB	Pb	15 30 26.1	+0.5
BLCB	Balcova	0.62	12	i PG	Pg	15 30 35.6	+1.3
KDAG	Bornova	0.70	26	i P	Pg	15 30 36.5	+0.6
KDAG				i S	Sg	15 30 47.0	+1.9
BODT	Bodrum	0.80	154	PG	Pg	15 30 39.6	+1.8
AYDN	Tasoluk	0.81	98	i P	Pg	15 30 37.8	-0.3
AYDN				i S	Sg	15 30 47.4	-1.4
BDRM	Kayabasi	0.84	147	i P	Pg	15 30 38.9	+0.1
BDRM				i S	Sg	15 30 49.9	-0.1
NISR	Nisiros	1.18	170	ePN	Pn	15 30 45.0	-0.2
APE	Apeiranthos	1.28	237	PN	Pn	15 30 46.2	-0.4
APE				SN	Sn	15 31 03.3	-1.1
APE	Apeiranthos	1.28	237	ePN	Pn	15 30 48.0	+1.4
YER	Yerkesik	1.29	119	i PN	Pn	15 30 46.4	-0.4
MANT	Manisa	1.51	61	i P	Pn	15 30 51.6	+1.7
MANT				i S	Sb	15 31 09.2	-0.4
AYVA	Ayvalik	1.54	355	i P	Pn	15 30 52.6	+2.4
AYVA				i S	Sb	15 31 15.4	+5.1
PRK	Paraskevi	1.54	342	ePN	Pn	15 30 51.8	+1.5
DENT	Denizli	1.71	90	ePN	Pn	15 30 52.7	-0.1
DNZL	Cakiroluk	1.73	92	i P	Pn	15 30 52.9	-0.1
DNZL				i S	Sn	15 31 17.8	+2.0
ARG	Arkhangelos	1.85	147	ePN	Pn	15 30 54.5	-0.3
BALB	Balikesir	2.02	23	ePN	Pn	15 30 56.3	-0.9
EZN	Ezine	2.09	348	ePN	Pn	15 30 57.5	-0.7
FETY	Fethiye	2.10	122	PN	Pn	15 30 58.7	+0.3
KHL	Karahalli	2.16	75	ePN	Pn	15 30 58.8	-0.4
BTOK	Tokmak	2.18	24	P	Pn	15 31 01.8	+2.3
BTOK				i S	Sn	15 31 32.9	+5.6
CANB	Canakkale	2.24	4	ePN	Pn	15 30 59.5	-0.9
BNT	Bandirma	2.70	17	ePN	Pn	15 31 06.4	-0.5
KCT	Karacabey	2.74	25	ePN	Pn	15 31 06.6	-0.9
MRMT	Marmara Adasi	2.88	11	ePN	Pn	15 31 09.0	-0.5
ISP	Isparta	2.88	88	ePN	Pn	15 31 09.4	-0.1
SART	Tekirdag	2.92	5	P	Pn	15 31 09.4	-0.6
SART				i S	Sg	15 31 58.3	-0.8
ULDT	Uludag	2.95	36	P	Pg	15 31 18.1	-2.6
ULDT				S	Sb	15 31 55.8	+4.4
MFT	Murefte	3.02	6	ePN	Pn	15 31 10.5	-1.0
RDO	Rodhopi	3.52	343	ePN	Pn	15 31 18.5	-0.1
ESKT	Eskisehir	3.57	60	ePN	Pn	15 31 18.8	-0.5
ESKT	Eskisehir	3.57	60	P	Pg	15 31 29.7	-3.4
ESKT				S	Sg	15 32 20.7	0.0
HENT	Hendek	4.36	45	P	Pg	15 31 44.8	-4.1
SGKT	Sivrigoynuk	4.90	54	P	Pg	15 31 55.1	-4.6

*NEIC **17** 16:56:18.6±3.2, 51.70N×16.64E, h5^{km}, ML2.6(SZGRF), Error ellipse: s-maj=31.7km s-min=16.7km az=45.0*
*WAR **17** 16:56:24.9, 51.50N×16.09E, h1^{km}, ML2.6, Mining Induced*
*PRU **17** 16:56:25.1, 51.45N×16.12E*
*CSEM **17** 16:56:25.0±0.4, 51.46N×16.07E, h0^{km}, ML2.6, Error ellipse: s-maj=6.8km s-min=3.8km az=29.0*
ISC 17 16:56:23.0±0.8, **51.45N**±0.04×**16.08E**±0.04, **n20**, σ**1^{s}30**/42, **Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.62	167	ePG	Pg	16 56 37.0	+1.6
KSP				eSG	Sg	16 56 46.0	+2.3
UPC	Upice	0.94	183	ePG	Pg	16 56 43.2	+1.4
DPC	Dobruska-Polom	1.11	172	ePG	Pg	16 56 46.0	+0.8
DPC				eSG	Sg	16 57 00.8	+0.8
	9.8nm,0.2s						
PVCC	Panska Ves	1.32	227	ePG	Pg	16 56 50.2	+0.7
BRG	Berggiesshubel	1.46	248	ePn	Pn	16 56 52.2	+1.5
BRG				i Pg	Pg	16 56 52.7	+0.5
BRG				i Sg	Sg	16 57 12.7	+1.0
BRG	Berggiesshubel	1.46	248	i Pg	Pg	16 56 52.7	+0.5
PRU	Pruhonice	1.76	214	ePG	Pg	16 56 57.7	-0.4
PRU				eSG	Sg	16 57 22.3	+0.8
MORC	Moravsky Berou	1.92	150	ePn	Pn	16 56 50.8	-6.4
MORC	Moravsky Berou	1.92	150	ePn	Pn	16 56 57.8	+0.6
MORC				eSg	Sg	16 57 23.5	-3.3
CLL	Collm	1.93	267	ePn	Pn	16 56 57.0	-0.4
CLL				ePg	Pg	16 57 01.0	-0.6
CLL				eSg	Sg	16 57 26.0	-1.3
CLL	Collm	1.93	267	ePN	Pn	16 56 57.0	-0.4
CLL				ePG	Pg	16 57 01.0	-0.6
CLL				e		16 57 04.0	
CLL				eSG	Sg	16 57 26.0	-1.3
OKC	Ostrava-Krasne	2.08	140	ePG	Pg	16 57 04.7	+0.1
OKC				eSG	Sg	16 57 31.5	-0.8
VRAC	Vranov	2.17	171	ePn	Pn	16 57 02.6	+1.8
VRAC				eSg	Sg	16 57 32.9	-2.3
NKC	Novy Kostel	2.60	244	ePn	Pn	16 57 08.1	+1.1
NKC				eSg	Sg	16 57 49.8	+0.2
NKC	Novy Kostel	2.60	244	ePN	Pn	16 57 08.1	+1.1
NKC				eSG	Sg	16 57 49.8	+0.2
	16nm,0.3s						
OJC	Ojcow	2.66	116	ePG	Pg	16 57 15.0	-1.1
OJC				eSG	Sg	16 57 50.0	-1.6
KHC	Kasperske Hory	2.82	216	ePn	Pn	16 57 10.9	+0.8
KHC				ePg	Pg	16 57 16.8	-2.5
KHC				eSn	Sn	16 57 45.0	-0.3
KHC				eSg	Sg	16 57 55.2	-1.7
KHC	Kasperske Hory	2.82	216	ePg	Pg	16 57 16.8	-2.5
KHC				eSn	Sn	16 57 45.0	-0.3
KHC				eSg	Sg	16 57 55.2	-1.7
MOX	Moxa	2.93	256	ePg	Pg	16 57 19.7	-1.8
MOX				eSg	Sg	16 57 59.7	-0.8
GEC2	GERESS Array S	3.02	211	ePn	Pn	16 57 14.3	+1.3
GEC2				eSg	Sg	16 58 00.5	-3.1

IDC 17 17:06:47.7±3.8, **28.83N**×**137.21E**, **mb3.5**/3, **mb1 3.7**/3, **mb1mx3.5**/15, **mbtmp3.5**/3, **Error ellipse: s-maj=287.2km s-min=30.5km az=80.0**, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	48.57	184	P	P	17 15 33.3	-1.6
	0.3nm,0.3s,baz=2.1,slow=7.7,SNR=22						
ASAR	Alice Springs	52.29	184	P	P	17 16 00.6	-2.8
	0.2nm,0.4s,baz=2.6,slow=5.3,SNR=16						
FINES	FINESS Array B	74.41	332	P	P	17 18 27.4	-1.5
	0.4nm,0.4s,baz=45,slow=3.9,SNR=4.7						

*CSEM **17** 17:09:56.2, 35.15N×4.99E, ML3.8, After ALG*
CRAAG 17 17:09:56.2, **35.15N**×**4.99E**, **Ml3.8**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMER	Merouana	0.88	58	P	Pg	17 10 16.0	+2.2
CKHR	Kef el Ahmar	0.96	26	P	Pg	17 10 17.0	+1.6
SET	Setif	1.10	18	P	Pb	17 10 19.0	+1.2
CTEI	Djebel Teioual	1.47	51	P	Pn	17 10 26.0	+1.9
DFRA	Djebel Bou Aff	1.57	27	P	Pn	17 10 29.0	+3.6
CASM	Ain Smara	1.65	47	P	Pn	17 10 30.0	+3.4
EMHD	Djebel Mahouad	1.96	303	P	Pn	17 10 37.5	+6.5
ABA	Alger-Bouzarea	2.28	317	P	Pn	17 10 34.0	-1.7
ETRT	Tiaret	3.02	276	P	Pn	17 10 55.0	+8.8
EBNR	Beni Rached	3.03	293	P	Pn	17 10 40.0	-6.4
ECHA	Ech Chlef	3.11	290	P	Pn	17 10 42.0	-5.5
EANR	'Ain N'Sour	3.27	285	P	Pn	17 10 53.0	+3.3

*ATH **17** 17:12:23.9, 39.95N×20.53E, h26^{km}±3^{km}, MD3.5/12*
*NEIC **17** 17:12:23.9, 39.95N×20.53E, h26^{km}, MD3.5(ATH), MD3.1(PDG), After ATH.*
*TIR **17** 17:12:23.7, 40.00N×20.62E, h6^{km}, Ml2.8*
*THE **17** 17:12:24.7, 40.00N×20.51E, h9^{km}, ML3.6*
*PDG **17** 17:12:25.5±0.2, 39.90N×20.53E, h20^{km}±1^{km}*
*CSEM **17** 17:12:27.6±0.2, 39.80N×20.56E, h40^{km}, MD3.5, Error ellipse: s-maj=6.5km s-min=3.7km az=51.0*
*SOF **17** 17:12:48.6, 40.34N×21.22E, h20^{km}, MD2.8*
ISC 17 17:12:24.2±0.3, **39.91N**±0.02×**20.59E**±0.02, **h10**^{km}, **n61**, σ**1^{s}03**/96, **Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAN	Janina	0.32	141	ePB	Pb	17 12 32.2	+0.6
IGT	Igoumenitsa	0.42	208	ePg	Pg	17 12 34.0	+1.1
IGT				eSg	Sg	17 12 40.8	+2.1
SRN	Sarande	0.45	266	i Pg	Pg	17 12 33.7	+0.2
SRN				i Sg	Sg	17 12 41.5	+1.9
TPE	Tepelena	0.59	311	i Pg	Pg	17 12 34.9	-1.2
TPE				i Sg	Sg	17 12 44.2	+0.2
KEK	Kerkira	0.64	252	ePN	Pn	17 12 36.4	-2.6
KBN	Korca	0.73	12	i Pg	Pg	17 12 36.4	-2.5
KBN				i Sg	Sg	17 12 44.7	-4.0
KZN	Kozani	0.99	66	ePN	Pn	17 12 43.1	-1.0
FNA	Florina	1.06	34	ePg	Pg	17 12 44.2	-1.3
FNA				eSg	Sg	17 12 59.0	-0.7
OHR	Ohrid	1.21	8	i Pn	Pn	17 12 46.3	-0.9
OHR				i		17 12 48.2	
OHR				i Sn	Sn	17 13 03.9	+0.1
OHR				i		17 13 05.5	
OHR	Ohrid	1.21	8	i Pn	Pn	17 12 46.3	-0.9
OHR				i Sn	Sn	17 13 03.9	+0.1
EVR	Evrytania	1.37	136	ePN	Pn	17 12 50.2	+0.7
LIT	Litokhoron	1.47	82	ePb	Pb	17 12 51.3	0.0
LIT				eSb	Sb	17 13 12.2	+2.2
TIR	Tirane	1.54	339	i Pn	Pn	17 12 53.0	+1.1
TIR				i Sn	Sn	17 13 14.5	+2.4
AGG	Agios Georgios	1.61	123	ePb	Pb	17 12 54.8	+1.1
AGG				eSb	Sb	17 13 17.3	+3.2
QSH	Qafa e Shtames	1.69	342	i Pn	Pn	17 12 55.0	+0.9
QSH				i Sn	Sn	17 13 20.0	+4.0
VLS	Valsamata	1.73	180	ePB	Pb	17 12 54.2	-1.5
GRG	Griva	1.73	52	ePb	Pb	17 12 54.5	-1.2
GRG				eSb	Sb	17 13 17.6	+0.1
GRG	Griva	1.73	52	ePb	Pb	17 12 54.5	-1.3
GRG				eSb	Sb	17 13 17.6	+0.1
THE	Thessaloniki	1.96	68	ePn	Pn	17 12 58.1	+0.2
THE				eSn	Sn	17 13 23.4	+0.7
RLS	Riolos of Patr	1.97	159	ePB	Pb	17 12 59.3	-0.5
NEO	Neokhori	2.12	106	ePB	Pb	17 13 01.4	-1.0
SKO	Skopje	2.16	17	i Pn	Pn	17 13 01.0	+0.2
SKO				i		17 13 04.1	
SKO				i Sn	Sn	17 13 27.9	0.0
SKO	Skopje	2.16	17	i Pn	Pn	17 13 01.0	+0.2
SKO				i Sn	Sn	17 13 27.9	0.0
KNT	Kendrikon	2.16	54	ePn	Pn	17 13 00.1	-0.8
PLG	Polygyros	2.24	77	ePN	Pn	17 13 01.5	-0.4
ULC	Ulcinj	2.29	334	ePn	Pn	17 13 03.5	+0.8
ULC				eSn	Sn	17 13 32.5	+1.4
ULC	Ulcinj	2.29	334	ePn	Pn	17 13 03.5	+0.8
ULC				eSn	Sn	17 13 32.5	+1.4
SOH	Sokhos	2.30	66	ePn	Pn	17 13 02.4	-0.4
SOH				eSn	Sn	17 13 32.1	+0.6
PAIG	Paliouri	2.38	89	ePn	Pn	17 13 03.7	-0.2
SRS	Serrai	2.59	61	ePn	Pn	17 13 06.6	-0.4
SRS				eSn	Sn	17 13 38.6	-0.2
OUR	Ouranopolis	2.64	80	ePn	Pn	17 13 07.7	0.0
OUR				eSn	Sn	17 13 40.7	+0.7
BUM	Brajici-Budva	2.71	332	ePn	Pn	17 13 08.3	-0.3
BUM				eSn	Sn	17 13 42.5	+0.7
BUM	Brajici-Budva	2.71	332	ePn	Pn	17 13 08.3	-0.4
BUM				eSn	Sn	17 13 42.5	+0.7
TTG	Podgorica	2.71	339	ePn	Pn	17 13 09.6	+0.9
TTG				eSn	Sn	17 13 42.6	+0.8
KKB	Krupnik	2.72	43	i P	Pn	17 13 24.0	+15
PVY	Plav	2.72	350	ePn	Pn	17 13 09.2	+0.3
PVY				eSn	Sn	17 13 43.0	+0.8
PVY	Plav	2.72	350	ePn	Pn	17 13 09.1	+0.2
PVY				eSn	Sn	17 13 43.0	+0.8
MMB	Musomiste	2.92	54	i P	Pn	17 13 26.3	+15
ITM	Ithomi	2.92	159	ePN	Pn	17 13 12.2	+0.5
HCY	Herceg Novi	2.99	329	ePn	Pn	17 13 12.6	0.0
HCY				eSn	Sn	17 13 48.7	-0.2
IVA	Berane	3.00	350	ePn	Pn	17 13 13.6	+0.7
IVA				eSn	Sn	17 13 49.9	+0.6
NSAL	Nisos Salamina	3.00	131	ePN	Pn	17 13 12.0	-0.9
MPAR	Parnis Oros	3.02	125	ePN	Pn	17 13 13.5	+0.5
TIP	Timpagrande	3.05	257	ePn	Pn	17 13 11.1	-2.4
TIP	Timpagrande	3.05	257	ePn	Pn	17 13 11.1	-2.4
NAIG	Nisos Aigina	3.12	133	ePN	Pn	17 13 14.5	0.0
NKY	Niksic	3.14	338	ePn	Pn	17 13 15.3	+0.5
NKY				eSn	Sn	17 13 52.5	-0.2
PTL	Penteli	3.16	125	ePN	Pn	17 13 15.5	+0.4
VTS	Vitosha	3.33	36	i P	Pn	17 13 33.0	+16
BRY	Bratogost	3.36	333	ePn	Pn	17 13 17.9	0.0
BRY				eSn	Sn	17 13 58.1	-0.2
UPM	Unac-Piva	3.52	340	ePn	Pn	17 13 20.2	-0.1
UPM				eSn	Sn	17 14 02.0	-0.4
PLE	Pljevlja	3.53	346	ePn	Pn	17 13 20.8	+0.4
PLE				eSn	Sn	17 14 02.5	-0.1
PLE	Pljevlja	3.53	346	ePn	Pn	17 13 20.8	+0.4
PLE				eSn	Sn	17 14 02.5	-0.2
RZN	Rozhen	3.60	59	i P	Pn	17 13 37.0	+16
STON	Ston	3.67	325	i Pn	Pn	17 13 19.1	-3.2
STON				i Sn	Sn	17 13 59.7	-6.5
STON	Ston	3.67	325	i Pn	Pn	17 13 19.1	-3.2
STON				i Sn	Sn	17 13 59.6	-6.6
VLI	Veliai	3.68	149	ePN	Pn	17 13 22.0	-0.5
SGO	Sicignano	4.09	281	ePn	Pn	17 13 26.8	-1.5
ALN	Alexandroupoli	4.28	75	ePn	Pn	17 13 30.4	-0.6
SDI	San Donato	5.45	291	ePn	Pn	17 13 45.6	-1.9
NRCA	Norcia	6.33	300	ePn	Pn	17 13 57.3	-2.7

*NEIC **17** 17:16:56.7, 15.70N×97.10W, h11^{km}, MD3.7(MEX), After MEX.*
MEX 17 17:16:56.2±1.0, **15.68N**×**97.10W**, **h9**^{km}±20^{km}, **MD3.8**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.96	85	eP	Pb	17 17 11.7	-2.9
HUIG				i S	Sb	17 17 24.6	-2.5
PNIG	Pinotepa	1.22	306	i P	Pb	17 17 17.3	-1.6
PNIG				i S	Sb	17 17 29.9	-4.7
VHO	Vista Hermosa	1.43	14	eP	Pn	17 17 18.1	-4.3
VHO				i S	Sb	17 17 35.7	-5.0
OXX	Oaxaca	1.44	15	i P	Pn	17 17 17.8	-4.8
OXX				i S	Sb	17 17 37.2	-3.8
CMIG	Matias Romero	2.55	56	eP	Pn	17 17 34.1	-4.3
CMIG				i S	Sn	17 18 05.2	-4.6

*IDC **17** 17:42:18.2±1.3, 4.06N×95.73E, mb4.0/9, mb1 4.2/9, mb1mx4.0/15, mbtmp4.0/9, MS3.0/1, Ms1 3.2/1, ms1mx2.5/19, Error ellipse: s-maj=66.8km s-min=17.3km az=55.0*
*NEIC **17** 17:42:21.6±0.8, 3.95N×95.44E, h30^{km}, mb4.1/6, Error ellipse: s-maj=26.3km s-min=11.6km az=49.0*
ISC 17 17:42:21.1±0.6, **4.04N**±0.09×**95.72E**±0.07, **h33**^{km}, **n25**, σ**0^{s}95**/25, **mb4.1**/20, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.06	76	ePn	Pn	17 43 41.1	+4.3
KULM				eSn	Sn	17 44 35.5	+0.6
CMAR	Chiang Mai Arr	14.67	12	LR	LR	17 51 60.0	
	comp=Z,50nm,18.2s,baz=195,slow=40						
KKM	Kota Kinabalu	20.51	84	eP	P	17 46 55.8	-3.4
JIRN	Jiri	25.18	340	eP	P	17 47 46.6	+1.3
	12nm,0.6s,mb4.6						
PKI	Pulchoki	25.38	338	eP	P	17 47 48.2	+1.0
DMN	Daman	25.53	338	eP	P	17 47 49.9	+1.3
	5.2nm,0.5s,mb4.3						
KKN	Kakani	25.63	338	eP	P	17 47 49.0	-0.5
	5.9nm,0.6s,mb4.3						
LSA	Lhasa	25.88	351	P	P	17 47 50.7	-1.1
	2.7nm,0.6s,mb4.0						
GKN	Gorkha	26.06	337	eP	P	17 47 54.0	+0.4
	16nm,0.7s,mb4.7						
KOLN	Koldanda	26.27	335	eP	P	17 47 55.0	-0.5
	18nm,0.7s,mb4.7						
AAK	Ala-Archa	42.82	337	eP	P	17 50 14.6	-3.1
	1.5nm,0.6s,mb3.9						
SONM	Songino Array	44.59	10	P	P	17 50 32.0	+0.1
	0.8nm,0.5s,mb3.8,baz=193,slow=9.0,SNR=10						
SONM				PcP	PcP	17 52 15.1	+0.2
	0.7nm,0.5s,baz=196,slow=3.2,SNR=6.3						
ULN	Ulaanbaatar	44.73	11	eP	P	17 50 32.4	-0.6
	0.6nm,0.6s,mb3.6						
WRA	Warramunga Arr	44.80	124	P	P	17 50 34.4	+0.4
	1.7nm,0.5s,mb4.1,baz=301,slow=9.2,SNR=17						
WRAB	Tennant Creek	44.81	124	eP	P	17 50 34.1	+0.1
	5.2nm,0.6s,mb4.5						
ASAR	Alice Springs	46.29	128	P	P	17 50 46.0	+0.2
	0.8nm,0.7s,mb3.7,baz=298,slow=7.5,SNR=20						
KURK	Kurchatov	48.69	346	eP	P	17 51 02.5	-1.7
	1.0nm,0.6s,mb4.0						
ZAL	Zalesovo	50.54	352	P	P	17 51 18.2	-0.1
	2.8nm,0.5s,mb4.5,baz=325,slow=7.9,SNR=12						
ZAL	Zalesovo	50.54	352	P	P	17 51 18.2	-0.1
BVAR	Borovoye Array	53.10	341	P	P	17 51 36.9	-0.7
	1.5nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=14						
CTAO	Charters Tower	55.10	118	P	P	17 51 52.5	-0.2
	3.1nm,0.9s,mb4.3						
STKA	Stephens Creek	56.35	133	P	P	17 52 00.9	-0.6
	2.2nm,0.9s,mb4.2,baz=324,slow=16,SNR=2.9						
FINES	FINESS Array B	76.81	332	P	P	17 54 11.6	+0.5
	0.6nm,0.6s,mb3.7,baz=135,slow=11,SNR=4.3						
ARCES	ARCESS Array B	79.38	340	P	P	17 54 25.4	+0.3
	4.8nm,1.0s,mb4.4,baz=90,slow=4.9,SNR=6.6						
GERES	GERESS Array B	81.72	319	P	P	17 54 39.4	+1.6
	0.2nm,0.4s,mb3.4,baz=104,slow=5.5,SNR=3.9						

*IDC **17** 18:07:41.9±6.7, 32.55N×48.13E, mb3.9/4, mb1 4.0/4, mb1mx3.6/15, mbtmp3.9/4, Error ellipse: s-maj=138.0km s-min=50.2km az=179.0*
*CSEM **17** 18:07:46.9±0.1, 32.78N×48.22E, h20^{km}, ML4.3/2, Error ellipse: s-maj=3.7km s-min=2.1km az=48.0*
*THR **17** 18:07:47.4±0.6, 32.84N×48.36E, h14^{km}±5^{km}, ML3.5*
*TEH **17** 18:07:53.4, 33.19N×48.24E, h20^{km}, Mn3.5*
ISC 17 18:07:47.4±0.6, **32.84N**±0.04×**48.41E**±0.06, **h14**^{km}, **n22**, σ**1^{s}72**/28, **mb3.7**/4, **Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SHGR	Shooshtar-Gavs	0.80	155	ePG	Pg	18 08 02.8	-0.9
SHGR				eSG	Sg	18 08 14.2	-0.3
SHGR				AML	AML	18 08 39.1	
	comp=N,1μm,0.6s						
SHGR	Shooshtar-Gavs	0.80	155	ePg	Pg	18 08 02.8	-0.9
	SNR=90						
SHGR				eSg	Sg	18 08 14.2	-0.4
	comp=N,1μm,0.6s,SNR=90						
IKOM	Komasi	1.52	331	Pg	Pg	18 08 14.4	-3.6
IVIS	Veys	2.12	323	Pn	Pn	18 08 22.8	-0.2
IGHG	Ghaleghazi	2.13	315	Pn	Pn	18 08 23.7	+0.5
ASAO	Ashtian	2.17	38	ePG	Pg	18 08 27.1	-3.7
ASAO				eSG	Sg	18 08 56.9	-3.0
ASAO				AML	AML	18 09 08.1	
	comp=N,268nm,0.5s						
ASAO	Ashtian	2.17	38	ePg	Pg	18 08 27.1	-3.8
	SNR=90						
ASAO				eSg	Sg	18 08 56.8	-3.0
	comp=N,268nm,0.5s,SNR=90						
SNGE	Sanandaj	2.41	339	ePN	Pn	18 08 28.4	+1.3
SNGE				AML	AML	18 09 09.1	
	comp=N,290nm,0.7s						
IDHR	Dehrash	2.50	318	Pn	Pn	18 08 28.1	-0.4
IRAZ	Razeghan	2.85	26	Pn	Pn	18 08 36.4	+3.0
IQOM	Qom	2.98	47	Pn	Pn	18 08 37.7	+2.4
IVRN	Varamin	3.50	51	Pn	Pn	18 08 45.3	+2.7
IVRN				Sn	Sn	18 09 23.5	-0.7
NASN	Na'in	3.71	89	ePN	Pn	18 08 47.1	+1.5
DAMV	Damavand	4.05	46	ePN	Pn	18 08 52.1	+1.5
IDMV	Damavand	4.06	47	Pn	Pn	18 08 52.2	+1.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IAFJ	Afjeh	4.06	41	Pn	Pn	18 08 52.3	+1.7
IFIR	Firoozkooh	4.55	51	Pn	Pn	18 08 59.4	+1.8
IFIR				Sn	Sn	18 09 48.5	-2.5
IPAR	Pars	4.97	126	Pn	Pn	18 09 03.2	-0.3
BVAR	Borovoye Array	25.62	32	P	P	18 13 15.5	-2.3
	comp=N,3.5nm,0.9s,mb3.9,baz=225,slow=6.3,SNR=8.7						
FINES	FINESS Array B	32.06	340	P	P	18 14 12.0	-3.7
	comp=N,1.1nm,0.5s,mb3.9,baz=143,slow=9.5,SNR=9.3						
ZAL	Zalesovo	33.28	40	P	P	18 14 25.0	-1.4
	comp=N,0.7nm,0.6s,mb3.8,baz=215,slow=7.9,SNR=4.4						
YKA	Yellowknife Ar	84.02	352	P	P	18 20 14.9	-3.1
	comp=N,0.1nm,0.4s,mb3.3,baz=11,slow=5.5,SNR=6.0						

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*IDC **17** 18:12:50.0±0.7, 6.71N×72.96W, h161km±10km, mb3.5/2, mb1 3.6/4, mb1mx3.1/19, mbtmp3.9/4, MS2.6/1, Ms1 2.6/1, ms1mx1.7/21, Error ellipse: s-maj=45.6km s-min=7.4km az=130.0*

*NEIC **17** 18:12:50.6±0.9, 6.79N×73.08W, h171km±10km, mb4.4/2, Error ellipse: s-maj=17.6km s-min=13.8km az=97.0*

ISC 17 18:12:49.0±0.7**, 6.78N**±0.10×**73.0W**±0.1**, h177**km±9km**, n11, σ1.12**/10**, mb4.0**/3**, Northern Colombia**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	2.30	214	P	P	18 13 31.5	+1.7
	24nm,0.3s,baz=278,slow=13,SNR=28						
ROSC				S	S	18 14 00.3	-0.8
	26nm,0.3s,baz=107,slow=20,SNR=14						
SDV	Santo Domingo	3.17	48	P	P	18 13 41.1	+0.9
	8.6nm,0.3s,baz=304,slow=11,SNR=25						
SDV				S	S	18 14 18.7	-1.0
	13nm,0.3s,baz=253,slow=20,SNR=20						
JTS	JuntasAbangare	12.29	287	LR	LR	18 19 51.3	
	comp=Z,28nm,21.1s,baz=76,slow=34						
SAML	Samuel	18.45	148	eP	P	18 16 53.0	-0.8
	0.4nm,0.4s						
TEIG	Tepich	19.93	314	P	P	18 17 08.4	-0.7
	17nm,1.2s						
JCT	Junction City	34.45	317	eP	P	18 19 20.3	-1.5
	7.2nm,0.7s,mb4.5						
PHWY	Pilot Hill	44.87	325	eP	P	18 20 41.2	-6.2
SCHQ	Schefferville	48.18	5	P	P	18 21 14.7	+1.6
	1.3nm,0.4s,mb3.9,baz=201,slow=6.2,SNR=8.3						
YKA	Yellowknife Ar	63.33	340	P	P	18 23 01.8	+0.7
	0.6nm,0.6s,mb3.6,baz=131,slow=6.7,SNR=17						
ASAR	Alice Springs	149.16	234	PKPbc	PKPdf	18 32 19.6	+6.9
	0.8nm,0.5s,baz=118,slow=3.6,SNR=20						
WRA	Warramunga Arr	150.39	241	PKPbc	PKPdf	18 32 23.0	+8.3
	0.7nm,0.5s,baz=109,slow=2.7,SNR=23						
WRA				pPKPbc		18 33 05.7	
	0.3nm,0.5s,baz=106,slow=2.8,SNR=1.9						

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*FUNV **17** 18:16:53.2, 9.19N×69.71W, MW2.4*

*UAV **17** 18:16:54.9, 9.29N×69.79W, h17km*

ISC 17 18:16:53.4±0.9**, 9.18N**±0.03×**69.68W**±0.02**, h10**km±6km**, n18, σ0.94**/34**, 2C-2D, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SANV	Sanarito	0.35	23⇑	iP	Pg	18 17 00.1	-0.5
SANV				eS	Sg	18 17 05.9	+0.5
TORV	Torococo	0.67	305	P	Pb	18 17 07.2	+0.6
TORV				S	Sb	18 17 16.0	+0.4
CURV	Curarigua	0.88	341⇓	iP	Pb	18 17 08.9	-1.3
CURV				eS	Sb	18 17 20.8	-0.9
TEPV	Terepaima	0.92	31⇓	iP	Pb	18 17 10.2	-0.7
TEPV				eS	Sb	18 17 23.1	+0.2
CUV	La Culata	1.43	253	S	Sb	18 17 37.7	-0.2
SOCV	Socops	1.47	233	eP	Pn	18 17 19.5	-0.5
SOCV				eS	Sb	18 17 40.3	+1.5
SIQV	Siquisique	1.47	355	eP	Pn	18 17 21.1	+1.1
SIQV				eS	Sb	18 17 40.5	+1.6
AGV	La Aguada	1.52	247	P	Pn	18 17 21.0	+0.2
AGV				S	Sb	18 17 39.1	-1.5
UAV	Universidad de	1.56	249	P	Pn	18 17 21.7	+0.4
UAV				S	Sb	18 17 41.1	-0.3
BAUV	El Baul	1.63	98	eP	Pn	18 17 22.6	+0.3
BAUV				eS	Sn	18 17 44.5	+1.0
VIGV	El Vigia	1.70	259⇑	eP	Pn	18 17 24.0	+0.7
VIGV				eS	Sn	18 17 45.3	0.0
OSV	Paramo de la O	1.87	254	P	Pn	18 17 27.2	+1.5
OSV				S	Sn	18 17 50.7	+1.2
DABV	Dabajuro	1.98	331	eP	Pn	18 17 26.8	-0.5
DABV				eS	Sn	18 17 52.7	+0.4
TURV	Turiamo	2.21	55	eP	Pn	18 17 30.9	+0.3
TURV				eS	Sn	18 17 58.8	+0.6
MONV	Montecano	2.78	354	eP	Pn	18 17 38.9	+0.2
MONV				eS	Sn	18 18 12.2	-0.4
VIRV	Villa del Rosa	3.00	296	eP	Pn	18 17 39.9	-1.9
VIRV				eS	Sn	18 18 15.3	-2.9
CAOV	Caicara del Or	3.79	119	eP	Pn	18 17 53.0	-0.2
CAOV				eS	Sn	18 18 36.4	-2.1
CUPV	Cœpira	3.93	77	eP	Pn	18 17 54.8	-0.4

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*BJI **17** 18:25:07.5, 58.24N×32.76W, h13km, mB5.2, mb4.4, Ms4.5, Msz4.2*

*CSEM **17** 18:25:08.4±0.1, 58.28N×32.21W, h2km, mb4.4/19, Error ellipse: s-maj=5.9km s-min=2.5km az=35.0*

*IDC **17** 18:25:10.3±0.9, 58.00N×32.14W, mb3.9/9, mb1 4.1/13, mb1mx3.9/25, mbtmp4.0/13, ML3.1/4, MS3.8/14, Ms1 3.8/14, ms1mx3.5/27, Error ellipse: s-maj=29.8km s-min=15.2km az=7.0*

*NEIC **17** 18:25:11.6±0.3, 58.21N×32.15W, h10km, mb4.4/25, Error ellipse: s-maj=11.6km s-min=5.0km az=199.0*

ISC 17 18:25:10.0±0.3**, 58.20N**±0.07×**32.21W**±0.08**, h10**km**, n88, σ1.08**/81**, mb4.2**/34**, MS3.9**/14**, Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	8.37	34	Pn	P	18 27 15.0	+0.7
	1.0nm,0.3s,baz=32,slow=15,SNR=3.2						
BORG				Sn	Sn	18 28 54.0	+4.2
	0.4nm,0.3s,baz=65,slow=17,SNR=2.7						
BORG	Borgarnes	8.37	34	ePn	P	18 27 14.2	-0.1
SUMG	Summit	14.66	353	P	P	18 28 37.8	-1.0
	11nm,1.2s						
SUMG	Summit	14.66	353	P	P	18 28 37.8	-1.1
	11nm,1.2s						
ESK	Eskdalemuir	16.10	88	P	P	18 28 55.9	-1.9
	35nm,1.3s						
ESK	Eskdalemuir	16.10	88	P	P	18 28 55.8	-1.9
	35nm,1.3s						
EKA	Eskdalemuir Ar	16.12	88	Pn	P	18 28 57.9	-0.1
	0.1nm,0.3s,baz=299,slow=18,SNR=2.7						
EKA	Eskdalemuir Ar	16.12	88	Pn	P	18 28 57.8	-0.2
FRB	Frobisher Bay	18.29	303	P	P	18 29 25.6	+0.4
	0.3nm,0.3s,baz=93,slow=10,SNR=3.4						
FRB				LR	LR	18 35 12.4	
	comp=Z,390nm,21.1s,baz=354,slow=33						
SCHQ	Schefferville	19.27	275	P	P	18 29 37.6	+0.6
	0.1nm,0.3s,baz=50,slow=9.3,SNR=4.4						
SCHQ				LR	LR	18 35 38.9	
	comp=Z,308nm,20.6s,baz=174,slow=32						
ROSF	Rostrenen	19.77	107	eP	P	18 29 42.6	-0.2
	131nm,1.8s						
FLN	La Foliniere	20.92	103	eP	P	18 29 55.4	+0.5
	41nm,0.9s						
FLN				eR			
	211nm,19.2s						
GRR	Gorron	20.97	104	eP	P	18 29 55.7	+0.3
	38nm,0.9s						
NOA	NORSAR Array B	21.84	64	P	P	18 30 04.0	-0.1
	2.0nm,0.8s,mb3.6,baz=281,slow=9.7,SNR=4.2						
NOA				LR	LR	18 37 16.1	
	comp=Z,60nm,19.9s,MS3.0,baz=100,slow=33						
MFF	Saint Martin d	22.51	107	eP	P	18 30 11.1	+0.4
	44nm,1.3s,mb4.4						
BAIF	Baives	22.60	95	eP	P	18 30 11.9	+0.3
DOU	Dourbes	22.78	95	P	P	18 30 15.2	+1.8
TCF	Toulx Ste Croi	23.92	105	eP	P	18 30 24.5	0.0
	23nm,1.2s,mb4.2						
BGF	Bois d'Agland	24.07	104	eP	P	18 30 26.2	+0.3
	29nm,1.1s,mb4.3						
SSF	Saint Saulge	24.07	102	eP	P	18 30 26.3	+0.3
	4.7nm,1.0s,mb3.9						
LFF	La Frestale	24.11	109	eP	P	18 30 26.3	0.0
AVF	Avril sur Loir	24.17	103	eP	P	18 30 27.0	0.0
	16nm,1.1s,mb4.1						
RJF	Les Rejaudoux	24.24	107	eP	P	18 30 27.5	-0.2
RJF				eR			
	529nm,17.2s						
SMF	Signal de Mont	24.52	102	eP	P	18 30 29.9	-0.4
	16nm,1.1s,mb4.2						
CAF	Calviac	24.78	107	eP	P	18 30 33.2	+0.3
ETSF	Etsaut	24.96	114	eP	P	18 30 34.6	0.0
EVO	Evora	25.16	131	eP	P	18 30 35.2	-1.4
	8.5nm,0.6s,mb4.2						
EVO				eR			
	224nm,21.5s						
ESDC	Sonseca Array	25.92	123	P	P	18 30 42.3	-1.3
	3.2nm,0.9s,mb3.9,baz=322,slow=8.4,SNR=11						
MTLF	Montolieu	26.00	110	eP	P	18 30 43.9	-0.4
	51nm,1.7s,mb4.5						
VIVF	Saint-Julien-l	26.16	104	eP	P	18 30 46.1	+0.3
LASF	Ste Croix	26.29	107	eP	P	18 30 47.1	0.0
CLL	Collm	26.55	85	P	P	18 30 52.0	+2.6
ORIF	Oris-en-Rattie	26.74	103	eP	P	18 30 51.2	0.0
	5.7nm,0.9s,mb3.8						
ORIF				eR			
	230nm,19.8s						
LPG	La Plagne	26.80	101	eP	P	18 30 52.3	+0.6
RES	Resolute Bay	28.07	330	P	P	18 31 01.6	-1.4
	2.4nm,1.1s,mb3.7						
RES	Resolute Bay	28.07	330	P	P	18 31 01.6	-1.4
	2.3nm,1.1s,mb3.7						
FINES	FINESS Array B	28.63	59	LR	LR	18 41 55.4	
	comp=Z,81nm,19.3s,MS3.3,baz=210,slow=35						
PGF	Pioggiola	30.01	103	eP	P	18 31 20.0	-0.8
	11nm,1.2s,mb4.2						
SUW	Suwalki	30.42	74	P	P	18 31 21.0	-3.3
	20nm,0.9s,mb4.8						
FCC	Fort Churchill	31.34	298	eP	P	18 31 30.1	-2.2
	3.8nm,0.8s,mb4.3						
FCC	Fort Churchill	31.34	298	eP	P	18 31 30.1	-2.2
	3.8nm,0.8s,mb4.3						
SADO	Sadowa	31.47	266	LR	LR	18 43 23.9	
	comp=Z,232nm,18.1s,MS3.9,baz=285,slow=35						
ULM	Lac du Bonnet	36.76	286	LR	LR	18 44 33.8	
	comp=Z,146nm,18.7s,MS3.8,baz=80,slow=32						
YKA	Yellowknife Ar	38.39	312	P	P	18 32 30.4	-2.1
	0.7nm,0.7s,mb3.5,baz=60,slow=9.0,SNR=6.3						
YKA				LR	LR	18 47 57.3	
	comp=Z,289nm,18.5s,MS4.1,baz=60,slow=36						
YKA	Yellowknife Ar	38.39	312	P	P	18 32 30.4	-2.1
INK	Inuvik	41.51	327	P	P	18 32 59.1	+1.0
	0.5nm,0.6s,mb3.3,baz=43,slow=7.4,SNR=3.2						
INK				LR	LR	18 48 52.8	
	comp=Z,101nm,21.5s,MS3.7,baz=301,slow=34						
INK	Inuvik	41.51	327	P	P	18 32 59.1	+1.0
INK	Inuvik	41.51	327	P	P	18 32 59.1	+1.0
BRTR	Keskin Array B	45.00	84	P	P	18 33 27.4	+0.4
	1.8nm,0.7s,mb4.0,baz=321,slow=5.1,SNR=9.5						
DAWY	Dawson	46.13	324	P	P	18 33 35.6	+0.2
DAWY	Dawson	46.13	324	P	P	18 33 35.7	+0.2
MIAR	Mount Ida	46.50	267	eP	P	18 33 38.4	-0.5
	6.7nm,0.7s,mb4.7						
MIAR	Mount Ida	46.50	267	eP	P	18 33 38.4	-0.5
	6.7nm,0.7s,mb4.7						
DLBC	Dease Lake	46.88	314	P	P	18 33 44.4	+2.8
	0.9nm,0.6s,mb3.9,baz=306,slow=3.9,SNR=3.6						
COLA	College	47.99	329	P	P	18 33 53.0	+2.7
	10nm,1.3s,mb4.7						
NEW	Newport	48.51	297	LR	LR	18 53 11.9	
	comp=Z,154nm,18.6s,MS4.0,baz=218,slow=35						
MALT	Malatya	48.56	82	P	P	18 33 54.8	-0.1
	7.5nm,1.1s,mb4.6						
MALT	Malatya	48.56	82	P	P	18 33 54.8	-0.2
	7.4nm,1.1s,mb4.6						
IMA	Indian Mountai	48.57	332	P	P	18 33 56.7	+2.1
IMA	Indian Mountai	48.57	332	P	P	18 33 56.7	+2.0
PDAR	Pinedale Array	48.75	287	P	P	18 33 56.0	-0.5
	1.4nm,0.8s,mb4.0,baz=53,slow=7.4,SNR=7.5						
PDAR				LR	LR	18 52 17.6	
	comp=Z,133nm,19.2s,MS3.9,baz=67,slow=33						
ISCO	Idaho Springs	48.90	282	P	P	18 33 58.2	+0.6
	11nm,1.4s,mb4.7						
ISCO	Idaho Springs	48.90	282	P	P	18 33 58.2	+0.6
	11nm,1.4s,mb4.7						
WMOK	Wichita Mounta	49.11	272	eP	P	18 33 57.7	-1.6
	2.2nm,0.8s,mb4.2						
WMOK	Wichita Mounta	49.11	272	eP	P	18 33 57.7	-1.6
	2.2nm,0.8s,mb4.2						
GNI	Garni	50.47	75	P	P	18 34 10.5	+0.8
	4.2nm,0.7s,mb4.5,baz=179,slow=8.8,SNR=3.5						
GNI	Garni	50.47	75	P	P	18 34 10.1	+0.4
	7.0nm,1.0s,mb4.7						
GNI	Garni	50.47	75	P	P	18 34 10.1	+0.5
	7.0nm,1.0s,mb4.7						
HLID	Hailey	50.60	291	P	P	18 34 12.1	+1.6
	2.9nm,1.2s,mb4.1						
HLID	Hailey	50.60	291	P	P	18 34 12.1	+1.5
	2.9nm,1.2s,mb4.1						
ANMO	Albuquerque	53.00	278	LR	LR	18 56 11.2	
	comp=Z,131nm,19.3s,MS4.0,slow=35						
ELK	Elko	53.11	289	LR	LR	18 55 15.7	
	comp=Z,120nm,18.0s,MS4.0,baz=354,slow=34						
GDL2	Guadalupe Moun	54.03	274	P	P	18 34 35.2	-1.1
GDL2	Guadalupe Moun	54.03	274	P	P	18 34 35.2	-1.1
TXAR	Lajitas Array	55.91	272	P	P	18 34 51.2	+1.1
	2.0nm,1.1s,mb4.1,baz=23,slow=6.9,SNR=6.4						
TXAR				LR	LR	18 58 52.0	
	comp=Z,76nm,19.2s,MS3.8,baz=20,slow=36						
TXAR	Lajitas Array	55.91	272	P	P	18 34 51.2	+1.1
WMQ	Urumqi	66.78	43	eP	P	18 36 04.0	+0.8
WMQ				XP	sP	18 36 11.0	+3.5
WMQ				PCP	PcP	18 36 33.0	+0.9
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,102nm,3.9s						
WMQ				LR	LR		
	comp=N,121nm,20.0s,MS4.2						
WMQ				LR	LR		
	comp=E,90nm,16.6s,MS4.2						
WMQ				LR	LR		
	comp=Z,113nm,18.4s,MS4.1						
MDJ	Mudanjiang	76.44	13	P	P	18 36 58.9	-1.9
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,82nm,4.4s						
CN2	Changchun	76.68	16	eP	P	18 37 01.0	-1.2
HHC	Hu-ho-hao-te	76.78	27	eP	P	18 36 57.8	-5.0
BJI	Beijing	78.62	24	P	P	18 37 12.9	-0.1
BJI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.5						
LZH	Lanzhou	79.13	35	eP	P	18 37 16.3	+0.5
LZH				AP	pP	18 37 19.5	+0.5
LZH				XP	sP	18 37 21.1	+1.0
LZH				PP	PP	18 40 16.0	-1.0
LZH				AMB	AMB		
	comp=Z,24nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,96nm,6.5s						
LZH				LR	LR		
	comp=N,193nm,14.7s						
LZH				LR	LR		
	comp=Z,391nm,17.7s,MS4.8						
KMBO	Kilima Mbogo	80.26	108	LR	LR	19 17 56.4	
	comp=Z,71nm,18.9s,MS4.0,baz=87,slow=40						
LVC	Limon Verde	86.10	214	P	P	18 37 54.1	+2.1
	comp=Z,9.1nm,1.2s,mb4.9						
ENH	Enshi	86.22	33	P	P	18 37 52.1	-0.4
	comp=Z,3.7nm,1.0s,mb4.6						
ENH	Enshi	86.22	33	P	P	18 37 52.1	-0.4
	comp=Z,3.7nm,1.0s,mb4.6						
NJ2	Nanjing	86.88	24	eP	P	18 37 54.5	-1.2
NJ2				AP	pP	18 37 59.4	+0.5
NJ2				XP	sP	18 38 01.5	+1.6
NJ2				S	S	18 48 30.0	-2.1
NJ2				XS		18 48 38.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,410nm,4.8s						
NJ2				LR	LR		
	comp=N,1µm,18.9s						
NJ2				LR	LR		
	comp=E,240nm,18.7s						
NJ2				LR	LR		
	comp=Z,140nm,20.6s						
ASAR	Alice Springs	144.09	22	PKP	PKPdf	18 44 45.5	-2.9
	comp=Z,0.7nm,0.9s,baz=2.0,slow=1.7,SNR=4.1						

IDC 17 18:25:18.8±2.2**, 3.70N**×**96.26E, mb3.5**/3**, mb1 3.8**/3**, mb1mx3.5**/14**, mbtmp3.5**/3**, Error ellipse: s-maj=308.4km s-min=32.4km az=41.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.16	124	P	P	18 33 29.4	-2.0
	0.3nm,0.5s,baz=302,slow=8.9,SNR=8.7						
ASAR	Alice Springs	45.65	128	P	P	18 33 41.6	-1.6
	0.5nm,0.7s,baz=302,slow=7.2,SNR=8.4						
GERES	GERESS Array B	82.33	319	P	P	18 37 42.8	-1.1
	0.2nm,0.4s,baz=100,slow=6.0,SNR=4.2						

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*IDC **17** 18:26:42.7±2.0, 35.34N×25.84E, mb4.0/2, mb1 4.0/4, mb1mx3.6/19, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=34.5km s-min=11.4km az=165.0*

*CSEM **17** 18:26:45.4±1.8, 34.59N×25.25E, h25km, MD3.5, Error ellipse: s-maj=220.7km s-min=8.2km az=34.0*

*NEIC **17** 18:26:46.4, 34.69N×25.17E, h37km, MD3.5(ATH), After ATH.*

*ATH **17** 18:26:47.0, 34.84N×25.16E, h40km±7km, MD3.7/8*

ISC 17 18:26:43.7±0.8**, 34.7N**±0.1×**25.37E**±0.10**, h79**km±8km**, n18, σ0.93**/20**, mb3.9**/2**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.34	50	eP	P	18 26 57.0	+0.8
NPS	Neapolis	0.64	18	eP	P	18 26 59.5	+0.7
NPS	Neapolis	0.64	18	ePn	P	18 27 00.0	+1.2
IDI	Anoyia	0.74	328	Pg	P	18 26 58.4	-1.6
	197nm,0.3s,baz=159,slow=16,SNR=1205						
IDI				Lg		18 27 07.9	
	376nm,0.3s,baz=156,slow=20,SNR=37						
IDI	Anoyia	0.74	328	Pg	P	18 26 58.3	-1.7
GVD	Gavdhos	1.07	280	eP	P	18 27 04.0	+0.2
VAM	Vamos	1.22	308	ePn	P	18 27 06.2	+0.5
VAM				eSn	S	18 27 21.6	-0.6
SANT	Santorini	1.71	2	ePn	P	18 27 11.0	-1.2
SANT	Santorini	1.71	2	ePn	P	18 27 11.0	-1.2
KARP	Karpathos	1.71	58	eP	P	18 27 17.5	+5.2
APE	Apeiranthos	2.41	3	eP	P	18 27 22.5	+0.6
KYTH	Kithira	2.50	311	eP	P	18 27 24.5	+1.3
KYTH	Kithira	2.50	311	ePb	P	18 27 27.5	+4.3
VLI	Veliai	2.86	317	eP	P	18 27 27.2	-0.9
EIL	Elat	9.52	119	Pn	P	18 29 01.0	+1.1
	0.8nm,0.3s,baz=44,slow=29,SNR=6.3						
EIL				Sn	S	18 30 44.6	-1.4
	0.8nm,0.3s,baz=288,slow=19,SNR=4.9						
GERES	GERESS Array B	16.61	332	Pn	P	18 30 33.4	+0.8
	0.1nm,0.3s,baz=148,slow=13,SNR=5.0						
FINES	FINESS Array B	26.81	1	P	P	18 32 18.1	0.0
	0.5nm,0.3s,mb3.5,baz=170,slow=11,SNR=7.8						
ARCES	ARCESS Array B	34.93	0	P	P	18 33 29.3	-0.1
	4.2nm,0.9s,mb4.3,baz=174,slow=9.1,SNR=3.9						

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*BJI **17** 18:27:31.6, 19.15N×147.03E, h59km, mB5.1, mb4.6, Ms4.2, Msz4.0*

*NEIC **17** 18:27:32.3±1.6, 18.59N×146.60E, h77km±14km, mb4.5/14, Error ellipse: s-maj=16.4km s-min=6.5km az=85.0*

*IDC **17** 18:27:39.9±8.7, 18.42N×146.21E, h139km±79km, mb3.7/15, mb1 3.8/15, mb1mx3.8/22, mbtmp4.1/15, MS3.7/6, Ms1 3.7/6, ms1mx3.3/30, Error ellipse: s-maj=34.6km s-min=13.5km az=81.0*

ISC 17 18:27:31.4±2.0**, 18.62N**±0.05×**146.6E**±0.1**, h81**km±18km**, n49, σ1.29**/43**, mb4.2**/31**, Mariana Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.27	199	ePn	P	18 28 48.8	-0.5
GUMO				eSn	S	18 29 51.4	+2.0
JOW	Kunigami	18.78	299	LR	LR	18 37 49.3	
	comp=Z,381nm,20.4s,baz=268,slow=33						
MAJO	Matsushiro	19.34	339	eP	P	18 31 51.3	-1.5
	14nm,0.4s						
MAT	Matsushiro	19.34	339	eP	P	18 31 51.0	-1.9
	12nm,0.6s						
MAT	Matsushiro	19.34	339	P	P	18 31 50.7	-2.2
ASAJ	Asahikawa	25.65	353	P	P	18 32 57.5	+2.3
	2.3nm,0.6s,mb3.8,baz=229,slow=9.3,SNR=4.2						
PMG	Port Moresby	27.85	179	LR	LR	18 43 01.9	
	comp=Z,114nm,18.6s,baz=154,slow=33						
PMG	Port Moresby	27.85	179	P	P	18 33 14.7	-1.0
YSS	Yuzh-Sakhalins	28.44	354	P	P	18 33 19.4	-1.2
MDJ	Mudanjiang	29.58	335	P	P	18 33 32.4	+1.6
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.5s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,74nm,4.5s						
BJT	Baijiatuau	33.79	316	P	P	18 34 03.4	-4.3
ENH	Enshi	35.59	296	P	P	18 34 22.1	-1.0
HIA	Hailar	37.45	331	eP	P	18 34 38.4	-0.1
	comp=Z,8.5nm,0.9s,mb4.7						
CTA	Charters Tower	38.46	181	P	P	18 34 51.0	+3.8
	comp=Z,0.8nm,0.3s,mb4.0,baz=95,slow=11,SNR=3.7						
WRAB	Tennant Creek	40.15	198	eP	P	18 35 00.9	-0.3
	comp=Z,28nm,1.3s,mb4.9						
WB2	Warramunga Arr	40.16	198	eP	P	18 35 00.9	-0.4
WRA	Warramunga Arr	40.16	198	P	P	18 34 59.8	-1.5
	comp=Z,1.1nm,0.4s,mb4.0,baz=20,slow=8.8,SNR=14						
MA2	Magadan	41.02	3	eP	P	18 35 07.5	-0.4
ULN	Ulaanbaatar	43.38	321	eP	P	18 35 27.8	+0.4
	comp=Z,4.7nm,0.7s,mb4.3						
SONM	Songino Array	43.75	321	P	P	18 35 31.2	+0.7
	comp=Z,3.4nm,0.6s,mb4.2,baz=138,slow=9.2,SNR=16						
ASAR	Alice Springs	43.82	197	P	P	18 35 29.8	-1.5
	comp=Z,0.7nm,0.4s,mb3.8,baz=24,slow=6.9,SNR=13						
ASAR				LR	LR	18 51 41.2	
	comp=Z,69nm,20.2s,baz=281,slow=33						
ASPA	Alice Springs	43.82	197	eP	P	18 35 31.9	+0.6
YAK	Yakutsk	44.97	349	eP	P	18 35 40.3	+0.3
	comp=Z,15nm,0.6s,mb4.9						
CMAR	Chiang Mai Arr	45.09	278	LR	LR	18 52 57.4	
	comp=Z,53nm,19.1s,baz=75,slow=34						
GTA	Gaotai	45.29	307	P	P	18 35 45.0	+2.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.6s,mb3.8						
TLY	Talaya	47.13	325	eP	P	18 35 52.1	-5.1
	comp=Z,8.3nm,1.3s,mb4.3						
STKA	Stephens Creek	50.43	186	P	P	18 36 21.2	-1.8
	comp=Z,1.5nm,0.5s,mb4.2,baz=3.8,slow=8.9,SNR=4.4						
BILL	Bilibino	50.96	9	eP	P	18 36 26.4	-0.1
	comp=Z,6.4nm,1.5s,mb4.4						
WMQ	Urumqi	55.02	311	eP	P	18 37 04.0	+7.1
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,102nm,3.9s						
WMQ				LR	LR		
	comp=N,121nm,20.0s						
WMQ				LR	LR		
	comp=E,90nm,16.6s						
WMQ				LR	LR		
	comp=Z,113nm,18.4s						
ZAL	Zalesovo	58.62	322	P	P	18 37 21.8	-0.4
	comp=Z,2.4nm,0.6s,mb4.4,baz=1.6,slow=6.7,SNR=8.7						
ZAL				LR	LR	19 02 45.6	
	comp=Z,99nm,20.7s,baz=19,slow=36						
TAU	Tasmania Unive	61.22	179	eP	P	18 37 43.0	+2.9
	comp=Z,22nm,0.9s,mb5.2						
KURK	Kurchatov	61.91	318	eP	P	18 37 43.9	-0.8
	comp=Z,5.2nm,0.7s,mb4.7						
BVAR	Borovoye Array	67.09	320	P	P	18 38 18.2	-0.1
	comp=Z,5.8nm,0.5s,mb4.7,baz=94,slow=7.5,SNR=48						
INK	Inuvik	69.11	23	P	P	18 38 32.6	+2.1
	comp=Z,1.1nm,0.8s,mb3.8,baz=287,slow=4.4,SNR=4.8						
DLBC	Dease Lake	70.88	34	P	P	18 38 47.1	+5.7
	comp=Z,0.8nm,0.7s,mb3.7,baz=134,slow=9.6,SNR=3.2						
YKA	Yellowknife Ar	77.66	28	P	P	18 39 19.0	-1.3
	comp=Z,0.3nm,0.5s,mb3.2,baz=287,slow=5.7,SNR=6.4						
RES	Resolute Bay	79.30	14	eP	P	18 39 28.1	-1.1
	comp=Z,2.0nm,0.8s,mb4.0						
KEV	Kevo	82.28	342	ep	P	18 39 45.7	+0.7
	comp=Z,0.5nm,0.4s,mb3.7						
ARCES	ARCESS Array B	82.84	342	P	P	18 39 49.2	+1.4
	comp=Z,2.4nm,0.5s,mb4.2,baz=74,slow=8.8,SNR=9.5						
JOF	Joensuu	84.46	335	ep	P	18 39 55.9	-0.1
	comp=Z,3.5nm,0.5s,mb4.5						
KAF	Kangasniemi	86.85	336	ep	P	18 40 09.7	+1.9
	comp=Z,0.7nm,0.4s,mb3.9						
PDAR	Pinedale Array	87.26	46	P	P	18 40 13.1	+2.8
	comp=Z,0.6nm,0.8s,mb3.6,baz=288,slow=4.7,SNR=4.7						
FINES	FINESS Array B	87.32	336	P	P	18 40 08.9	-1.2
	comp=Z,0.6nm,0.3s,mb4.0,baz=50,slow=4.9,SNR=10.0						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FCC	**Fort Churchill**	**88.34**	**27**	*e*P	**P**	**18 40 14.6**	**-0.5**
	comp=Z,1.9nm,0.8s,mb4.2						
HFS	**Hagfors**	**92.78**	**338**	P	**P**	**18 40 35.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.5,baz=90,slow=4.3,SNR=4.2						
NOA	**NORSAR Array B**	**92.95**	**340**	LR	LR	19 26 52.1	
	comp=Z,34nm,19.4s,baz=255,slow=38						
LVC	**Limon Verde**	**146.56**	**103**	PKPbc	PKPbc	18 47 07.4	+3.4
	comp=Z,2.1nm,0.6s,baz=202,slow=5.4,SNR=2.7						
LPAZ	**La Paz**	**146.80**	**91**	PKPbc	PKPbc	18 47 07.6	+2.9
	comp=Z,1.5nm,0.6s,baz=273,slow=2.7,SNR=4.5						
SAML	**Samuel**	**149.55**	**76**	*e*PKPbc	PKPdf	18 47 13.3	+5.6

*NNC **17** 18:30:02.4±2.5, 43.06N×77.99E, mpv2.8, Error ellipse: s-maj=54.6km s-min=20.0km az=145.0*
*KNET **17** 18:30:04.3±0.8, 42.76N×77.76E, ml2.4, Error ellipse: s-maj=6.6km s-min=5.0km az=154.0*
ISC 17 18:30:01.9±1.5**, 42.7N**±0.2×**78.3E**±0.1**, h10^{km}, n9, σ1^{s}28**/14**, 9C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**1.56**	**254**	⇑P	**Pn**	**18 30 27.7**	**-2.2**
	5.1nm,0.1s,SNR=36						
ULHL				⇑S	**Sb**	**18 30 46.9**	**-3.2**
	31nm,0.2s						
TKM2	**Tokmak 2**	**1.98**	**278**	⇑P	**Pn**	**18 30 34.1**	**-1.7**
	4.4nm,0.1s,SNR=22						
TKM2				⇓S	**Sn**	**18 30 58.8**	**-2.0**
	37nm,0.2s						
KZA	**Kyzart**	**2.31**	**256**	⇑P	**Pn**	**18 30 41.6**	**+0.9**
	3.3nm,0.3s,SNR=6.2						
KZA				⇓S	**Sn**	**18 31 10.2**	**+0.8**
	7.0nm,0.2s						
KBK	**Karagaybulak**	**2.44**	**270**	⇑P	**Pn**	**18 30 43.2**	**+0.6**
	5.9nm,0.2s,SNR=7.8						
KBK				⇓S	**Sn**	**18 31 13.1**	**+0.3**
	25nm,0.2s						
CHMS	**Chumysh**	**2.60**	**278**	⇑P	**Pn**	**18 30 45.0**	**+0.3**
	3.1nm,0.2s,SNR=5.4						
CHMS				⇓S	**Sn**	**18 31 17.0**	**+0.3**
	15nm,0.2s						
AAK	**Ala-Archa**	**2.78**	**270**	⇑P	**Pn**	**18 30 48.6**	**+1.2**
	3.2nm,0.2s,SNR=6.0						
AAK				⇓S	**Sn**	**18 31 23.0**	**+1.8**
	6.9nm,0.2s						
AAK	**Ala-Archa**	**2.78**	**270**	⇑Pn	**Pn**	**18 30 48.4**	**+1.0**
	1.8nm,0.3s						
AAK				⇓Lg		18 31 22.8	
	8.7nm,0.6s						
MK31	**Makanchi Array**	**5.01**	**34**	⇓Pn	**Pn**	**18 31 19.0**	**+0.1**
	0.4nm,0.2s,baz=207,slow=14,SNR=22						
MK31				⇑Lg		18 32 33.4	
	1.1nm,0.4s,baz=212,slow=28						
KURK	**Kurchatov**	**8.03**	**2**	⇓Lg		18 34 06.7	
	1.1nm,0.9s						

*NEIC **17** 18:31:42.6, 16.89N×95.06W, h166^{km}, MD4.1(MEX), After MEX.*
MEX 17 18:31:42.6±1.0**, 17.01N×94.84W, h131^{km}**±9^{km}**, MD4.1, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.09**	**335**	*i* P	P	18 31 59.1	-1.3
CMIG				*i* S	S	18 32 11.3	-2.7
TUIG	**Tuzandepetl**	**1.10**	**21**	*i* P	P	18 32 11.5	+4.7
TUIG	**Tuzandepetl**	**1.10**	**21**	*i* P	P	18 32 05.9	-0.9
TUIG				*i* S	S	18 32 21.7	-3.4
HUIG	**Huatulco**	**1.73**	**225**	*i* P	P	18 32 11.3	-2.5
HUIG				*i* S	S	18 32 35.5	-2.1
OXX	**Oaxaca**	**1.80**	**273**	*i* P	P	18 32 13.0	-1.6
OXX				*i* S	S	18 32 36.8	-2.2
VHO	**Vista Hermosa**	**1.81**	**272**	*i* P	P	18 32 14.1	-0.7
VHO				*i* S	S	18 32 37.9	-1.4
IISM	**Ciudad Serdan**	**3.11**	**310**	*i* P	P	18 32 28.7	-2.9
PNIG	**Pinotepa**	**3.21**	**259**	*i* P	P	18 32 29.8	-3.0
PNIG				*i* S	S	18 33 06.2	-4.8
PNIG	**Pinotepa**	**3.21**	**259**	*i* P	P	18 32 29.8	-3.0
PNIG				*i* S	S	18 33 07.7	-3.4
PPM	**Popocatepetl**	**4.14**	**300**	*i* P	P	18 32 44.5	-0.8
YAIG	**Yautepec**	**4.42**	**295**	*i* P	P	18 32 48.3	-0.7
YAIG				*i* S	S	18 33 33.6	-6.5
YAIG	**Yautepec**	**4.42**	**295**	*i* P	P	18 32 48.3	-0.7
YAIG				*i* S	S	18 33 36.0	-4.1
PLIG	**Platanillo**	**4.65**	**288**	*i* P	P	18 32 51.0	-1.0
ACX	**Acapulco**	**4.86**	**269**	*i* P	P	18 32 53.4	-1.4

MAN 17 18:53:10.2, 12.74N×123.10E, h15^{km}, mb4.2, ML3.0, MS2.8, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.64**	**126**	*e*P	Pb	18 53 23.0	+0.5
MMPH				*i* S	Sb	18 53 30.0	-0.9
AUQP	**San Andres**	**0.71**	**325**	*e*P	Pb	18 53 23.9	+0.1
OTRP	**Odiongan**	**1.12**	**251**	*e*P	Pb	18 53 29.7	-1.0
RCP	**Roxas**	**1.22**	**197**	⇑*e*P	Pb	18 53 31.1	-1.4
GQP	**Guinayangan**	**1.32**	**331**	⇑*e*P	Pb	18 53 33.2	-1.1
GQP				*i* S	Sb	18 53 52.3	+1.4
PVCP	**Virac**	**1.33**	**50**	*e*P	Pn	18 53 33.1	-1.3
PVCP				*e*S	Sb	18 53 51.6	+0.5
BOAC	**Boac**	**1.42**	**300**	*e*P	Pn	18 53 34.2	-1.4
BOAC				*e*S	Sb	18 53 52.8	-0.8
SJMP	**San Jose**	**1.95**	**262**	*e*P	Pn	18 53 43.3	+0.1
POLP	**Polilio Island**	**2.28**	**330**	*e*P	Pn	18 53 49.1	+1.2

*IDC **17** 19:40:30.4±2.1, 33.52N×141.81E, mb3.7/3, mb1 3.9/3, mb1mx3.6/16, mbtmp3.7/3, Error ellipse: s-maj=40.8km s-min=26.9km az=39.0*
*JMA **17** 19:40:32.9±0.7, 33.51N×141.61E, h92^{km}, M2.8*
ISC 17 19:40:29.3±2.2**, 33.55N**±0.05×**142.0E**±0.1**, h11^{km}**±16^{km}**, n16, σ0^{s}77**/21**, mb3.6**/3**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.37**	**324**	P	**Pn**	**19 40 56.4**	**+1.9**
BSO1				*e*S	**Sb**	**19 41 13.2**	**+1.3**
BSO2	**Boso 2**	**1.56**	**321**	*e*S	**Sb**	**19 41 17.6**	**+0.2**
BSO3	**Boso 3**	**1.73**	**317**	P	**Pn**	**19 40 59.5**	**-0.2**
JHJ2	**Mitsune**	**1.84**	**257**	P	**Pn**	**19 41 01.1**	**-0.1**
JHJ	**Hachijo jima 2**	**1.87**	**257**	Pn	**Pn**	**19 41 01.2**	**-0.3**
	22nm,0.3s,baz=56,slow=11,SNR=8.7						
JHJ				Sn	**Sn**	**19 41 25.9**	**+0.6**
	31nm,0.3s,baz=107,slow=19,SNR=4.3						
BSO4	**Boso 4**	**1.97**	**317**	P	**Pn**	**19 41 03.6**	**+0.6**
BSO4				*e*S	**Sn**	**19 41 27.5**	**-0.4**
KTR	**Katsuura**	**2.10**	**320**	*e*S	**Sn**	**19 41 30.3**	**-0.9**
JOD2	**Odawara 2**	**2.93**	**307**	P	**Pn**	**19 41 15.8**	**-0.9**
JYN	**Shimob**	**3.42**	**306**	P	**Pn**	**19 41 23.8**	**0.0**
JRY	**Ryogami san**	**3.52**	**315**	P	**Pn**	**19 41 24.3**	**-0.8**
JAG	**Ashikaga**	**3.53**	**325**	P	**Pn**	**19 41 25.0**	**-0.3**
MAT	**Matsushiro**	**4.29**	**315**	P	**Pn**	**19 41 36.1**	**0.0**
MAT				S	**Sn**	**19 42 22.5**	**-4.2**
MAT	**Matsushiro**	**4.29**	**315**	P	**Pn**	**19 41 34.6**	**-1.5**
MAT				*e*S	**Sn**	**19 42 22.7**	**-4.0**
SONM	**Songino Array**	**30.21**	**309**	P	**P**	**19 46 41.9**	**0.0**
	0.8nm,0.7s,mb3.6,baz=106,slow=8.0,SNR=8.1						
WRA	**Warramunga Arr**	**53.68**	**189**	P	**P**	**19 49 53.1**	**-0.4**
	1.2nm,0.8s,mb3.9,baz=6.0,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**57.41**	**189**	P	**P**	**19 50 21.2**	**+0.8**
	0.2nm,0.5s,mb3.4,baz=6.9,slow=7.9,SNR=4.8						

WEL 17 19:42:46.9±0.5**, 45.04S**×**166.75E, h5^{km}, ML3.6**/9**, Error ellipse: s-maj=4.4km s-min=1.4km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.52**	**147**	PG	Pg	19 42 57.2	-0.1
DCZ				SG	Sg	19 43 04.3	0.0
MSZ	**Milford Sound**	**0.91**	**67**	P*	Pb	19 43 04.2	-0.6
MSZ				S*	Sb	19 43 17.2	+0.1
MLZ	**Mavora Lakes**	**1.05**	**108**	P*	Pb	19 43 06.3	-0.8
MLZ				S*	Sb	19 43 19.2	-1.8
WHZ	**Wether Hill Ro**	**1.20**	**136**	P*	Pb	19 43 08.7	-1.0
WHZ				S*	Sb	19 43 25.4	+0.1
WKZ	**Wanaka**	**1.62**	**83**	PN	Pn	19 43 16.8	+0.5
WKZ				SN	Sn	19 43 37.3	-0.5
JCZ	**Jackson Bay**	**1.73**	**57**	PN	Pn	19 43 16.4	-1.5
EAZ	**Earnscleugh**	**1.82**	**97**	PN	Pn	19 43 19.2	0.0
EAZ				SN	Sn	19 43 42.2	-0.6
TUZ	**Tuapeka**	**2.22**	**115**	PN	Pn	19 43 24.6	-0.3
TUZ				SN	Sn	19 43 53.4	+0.4
LBZ	**Lake Benmore**	**2.53**	**76**	PN	Pn	19 43 28.9	-0.5
FOZ	**Fox Glacier**	**2.57**	**56**	PN	Pn	19 43 28.8	-1.1
ODZ	**Otahua Downs**	**2.76**	**91**	PN	Pn	19 43 31.7	-0.9
RPZ	**Rata Peaks**	**3.36**	**68**	PN	Pn	19 43 40.1	-0.9
DSZ	**Denniston Nort**	**4.94**	**50**	PN	Pn	19 44 00.1	-3.4
THZ	**Tophouse**	**5.55**	**56**	PN	Pn	19 44 11.3	-0.9
QRZ	**Quartz Range**	**5.97**	**47**	PN	Pn	19 44 15.5	-2.7

MAN 17 19:47:49.6, 7.98N×125.57E, h6^{km}, mb4.6, ML3.5, MS3.4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.51**	**259**	*e*P	Pg	19 47 60.0	+0.1
BUKP				*e*S	Sg	19 48 09.6	+2.9
BIPH	**Bislig**	**0.81**	**75**	⇑*i*P	Pb	19 48 04.1	-1.7
CGP	**Cagayan de Oro**	**0.99**	**299**	⇑*e*P	Pb	19 48 07.5	-1.2
BUTP	**Butuan**	**0.99**	**3**	*e*P	Pb	19 48 08.8	0.0
BUTP				*e*S	Sb	19 48 32.2	+10
KCP	**Kidapawan**	**1.07**	**206**	⇓*e*P	Pb	19 48 08.9	-1.2
KCP				*i* S	Sb	19 48 27.6	+3.3
MATI	**Mati**	**1.23**	**146**	*e*P	Pb	19 48 12.3	-0.6
SCPH	**Surigao**	**1.79**	**358**	*e*P	Pn	19 48 20.1	-1.3
SCPH				*e*S	Sn	19 48 35.1	-10
PAGZ	**Pagadian**	**2.17**	**267**	*e*P	Pn	19 48 28.3	+1.5
DCPH	**Dipolog City**	**2.27**	**286**	⇑*e*P	Pn	19 48 29.0	+0.7
DCPH				*i* S	Sn	19 49 16.1	+19
GUIM	**Jordan**	**3.94**	**312**	*e*P	Pn	19 48 52.0	-0.1

IDC 17 20:10:11.7±50.0**, 25.05S**×**179.65E, mb4.0**/3**, mb1 4.1**/3**, mb1mx4.0**/10**, mbtmp4.0**/3**, Error ellipse: s-maj=887.0km s-min=143.0km az=89.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**34.01**	**250**	P	P	20 16 56.5	-2.9
	2.3nm,1.1s,baz=22,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**41.55**	**262**	P	P	20 18 00.9	-1.8
	0.5nm,0.4s,baz=97,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**42.02**	**268**	P	P	20 18 05.9	-0.8
	0.9nm,0.3s,baz=103,slow=8.7,SNR=33						

*IDC **17** 20:15:33.4±0.9, 13.63N×92.98E, mb3.9/10, mb1 4.0/10, mb1mx4.0/15, mbtmp3.9/10, Error ellipse: s-maj=47.4km s-min=16.3km az=53.0*
ISC 17 20:15:36.7±0.7**, 13.8N**±0.2×**93.1E**±0.2**, h33^{km}, n18, σ0^{s}90**/18**, mb3.8**/10**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JIRN	**Jiri**	**15.23**	**336**	*e*P	**P**	**20 19 09.8**	**-1.3**
	5.9nm,0.3s						
PKI	**Pulchoki**	**15.48**	**334**	*e*P	**P**	**20 19 13.3**	**-1.0**
	4.7nm,0.3s						
DMN	**Daman**	**15.65**	**333**	*e*P	**P**	**20 19 15.5**	**-1.0**
	5.8nm,0.5s						
KKN	**Kakani**	**15.73**	**334**	*e*P	**P**	**20 19 16.0**	**-1.5**
	3.2nm,0.3s						
GKN	**Gorkha**	**16.20**	**332**	*e*P	**P**	**20 19 23.3**	**-0.1**
	7.7nm,0.3s						
KOLN	**Koldanda**	**16.50**	**329**	*e*P	**P**	**20 19 28.7**	**+1.5**
	3.1nm,0.2s						
SONM	**Songino Array**	**35.70**	**15**	P	**P**	**20 22 35.7**	**+1.7**
	0.1nm,0.5s,mb3.0,baz=216,slow=7.9,SNR=2.7						
ZAL	**Zalesovo**	**40.58**	**352**	P	**P**	**20 23 15.6**	**+0.8**
	0.4nm,0.5s,mb3.3,baz=336,slow=2.2,SNR=3.8						
WRA	**Warramunga Arr**	**52.62**	**129**	P	**P**	**20 24 49.4**	**-0.6**
	0.6nm,0.8s,mb3.6,baz=310,slow=7.4,SNR=9.1						
ASAR	**Alice Springs**	**54.56**	**133**	P	**P**	**20 25 03.9**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=308,slow=6.9,SNR=21						
BRTR	**Keskin Array B**	**57.90**	**308**	P	**P**	**20 25 28.1**	**+0.1**
	0.8nm,0.6s,mb3.9,baz=129,slow=7.9,SNR=5.4						
STKA	**Stephens Creek**	**64.95**	**135**	P	**P**	**20 26 14.8**	**-0.9**
	1.6nm,0.9s,mb4.1,baz=56,slow=7.3,SNR=2.5						
FINES	**FINESS Array B**	**67.05**	**331**	P	**P**	**20 26 28.4**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=63,slow=4.3,SNR=6.0						
ARCES	**ARCESS Array B**	**69.39**	**340**	P	**P**	**20 26 43.3**	**+0.3**
	7.2nm,1.0s,mb4.5,baz=68,slow=6.5,SNR=4.4						
GERES	**GERESS Array B**	**72.80**	**317**	P	**P**	**20 27 04.7**	**+1.0**
	1.0nm,0.5s,mb4.0,baz=86,slow=5.9,SNR=8.1						
NOA	**NORSAR Array B**	**74.12**	**330**	P	**P**	**20 27 11.4**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=96,slow=5.6,SNR=3.0						
LPG	**La Plagne**	**77.77**	**314**	*e*?	**P**	**20 27 33.1**	**+0.8**
LPL	**La Plagne**	**77.78**	**314**	*e*?	**P**	**20 27 33.1**	**+0.7**

*IDC **17** 20:20:55.3±0.9, 14.67N×93.35E, mb3.9/8, mb1 4.0/8, mb1mx3.9/15, mbtmp3.9/8, MS3.2/1, Ms1 3.4/1, ms1mx3.1/15, Error ellipse: s-maj=45.5km s-min=22.1km az=56.0*
ISC 17 20:20:54.5±0.7**, 14.7N**±0.1×**93.47E**±0.09**, h10^{km}, n18, σ0^{s}74**/17**, mb3.8**/8**, 1D, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**5.90**	**64**	P	**Pn**	**20 22 25.0**	**+0.9**
NNT	**Nongplab**	**6.43**	**108**	P	**Sn**	**20 23 45.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**6.45**	**54**	LR	LR	20 25 32.0	
	comp=Z,176nm,18.4s,baz=63,slow=42						
CHRT	**Chiangrai**	**7.94**	**49**	⇓P	**Pn**	**20 22 57.5**	**+4.8**
JIRN	**Jiri**	**14.59**	**333**	*e*P	**P**	**20 24 22.5**	**-0.5**
	23nm,0.8s						
PKI	**Pulchoki**	**14.86**	**331**	*e*P	**P**	**20 24 26.7**	**+0.1**
	16nm,0.8s						
DMN	**Daman**	**15.04**	**330**	*e*P	**P**	**20 24 28.8**	**-0.1**
	12nm,0.8s						
KKN	**Kakani**	**15.11**	**331**	*e*P	**P**	**20 24 29.5**	**-0.3**
GKN	**Gorkha**	**15.60**	**330**	*e*P	**P**	**20 24 35.9**	**-0.2**
	4.2nm,0.3s						
KOLN	**Koldanda**	**15.94**	**326**	*e*P	**P**	**20 24 40.6**	**0.0**
	15nm,0.9s						
SONM	**Songino Array**	**34.76**	**15**	P	**P**	**20 27 47.1**	**+0.1**
	0.7nm,1.0s,mb3.6,baz=202,slow=6.7,SNR=5.4						
ZAL	**Zalesovo**	**39.76**	**352**	P	**P**	**20 28 36.0**	**+7.0**
	0.8nm,0.4s,mb3.8,baz=311,slow=5.2,SNR=4.0						
WRA	**Warramunga Arr**	**52.90**	**129**	P	**P**	**20 30 13.2**	**-0.1**
	1.3nm,0.8s,mb3.9,baz=313,slow=8.2,SNR=6.4						
WRA				PcP	PcP	20 31 25.7	+3.3
	0.3nm,0.8s,baz=313,slow=3.0,SNR=5.3						
ASAR	**Alice Springs**	**54.91**	**133**	P	**P**	**20 30 28.0**	**+0.1**
	0.3nm,0.7s,mb3.5,baz=309,slow=5.8,SNR=2.8						
BRTR	**Keskin Array B**	**57.63**	**308**	P	**P**	**20 30 45.4**	**-1.9**
	0.3nm,0.6s,mb3.5,baz=90,slow=5.8,SNR=2.2						
FINES	**FINESS Array B**	**66.45**	**331**	P	**P**	**20 31 47.5**	**+1.5**
	1.8nm,1.0s,mb4.0,baz=152,slow=7.3,SNR=2.3						
GERES	**GERESS Array B**	**72.39**	**317**	P	**P**	**20 32 22.9**	**+0.2**
	0.3nm,0.5s,mb3.5,baz=80,slow=6.0,SNR=3.0						
MAW	**Mawson**	**85.03**	**191**	P	**P**	**20 33 31.9**	**+0.8**
	4.9nm,0.8s,mb4.7,baz=72,slow=6.4,SNR=3.7						

*IDC **17** 20:24:48.4±2.8, 31.31S×178.22W, mb4.2/3, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=62.8km s-min=34.6km az=116.0*
ISC 17 20:24:48.6±5.4**, 31.5S**±0.1×**177.8W**±0.8**, h33^{km}, n7, σ0^{s}76**/6**, mb4.1**/3**, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**7.92**	**210**	Pn	**Pn**	**20 26 44.4**	**0.0**
	1.1nm,0.3s,baz=83,slow=17,SNR=5.9						
URZ				Sn	**Sn**	**20 28 13.7**	**-0.1**
	1.4nm,0.3s,baz=102,slow=20,SNR=5.7						
STKA	**Stephens Creek**	**34.39**	**258**	P	**P**	**20 31 35.9**	**+1.1**
	1.6nm,0.9s,mb4.0,baz=108,slow=6.1,SNR=3.3						
ASAR	**Alice Springs**	**43.21**	**268**	P	**P**	**20 32 48.4**	**-0.1**
	1.2nm,0.5s,mb3.9,baz=106,slow=7.3,SNR=17						
WB2	**Warramunga Arr**	**44.29**	**273**	*e*P	**P**	**20 32 56.5**	**-0.7**
WRA	**Warramunga Arr**	**44.30**	**273**	P	**P**	**20 32 57.0**	**-0.3**
	3.9nm,0.4s,mb4.5,baz=112,slow=7.9,SNR=100						
KAF	**Kangasniemi**	**145.64**	**340**	*e*p	PKPdf	20 44 28.0	+5.2
	0.3nm,0.4s						
FINES	**FINESS Array B**	**146.23**	**339**	PKPbc	PKPbc	20 44 28.2	+3.3
	1.1nm,0.5s,baz=52,slow=4.0,SNR=15						

*ATH **17** 20:39:12.1, 40.19N×25.15E, h22^{km}±1^{km}, MD3.3/6*
*NEIC **17** 20:39:12.1, 40.19N×25.15E, h22^{km}, MD3.3(ATH), After ATH.*
*THE **17** 20:39:13.1, 40.09N×25.25E, h19^{km}, ML3.2*
*CSEM **17** 20:39:13.3±0.1, 40.17N×25.20E, h15^{km}, ML3.2, Error ellipse: s-maj=2.4km s-min=2.2km az=94.0*
*SOF **17** 20:39:30.9, 40.30N×25.14E, h20^{km}, MD2.5*
ISC 17 20:39:12.5±0.7**, 40.20N**±0.03×**25.16E**±0.03**, h7^{km}**±5^{km}**, n22, σ0^{s}97**/36**, 1D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.27**	**193**	*e*Pg	**Pg**	**20 39 18.4**	**+0.3**
LOS				*e*Sg	**Sg**	**20 39 21.9**	**0.0**
LIA	**Limnos Island**	**0.30**	**177**	*e*PB	**Pb**	**20 39 19.2**	**-0.7**
LIA				*e*SB	**Sb**	**20 39 23.4**	**-1.3**
OUR	**Ouranopolis**	**0.91**	**279**	*e*Pg	**Pg**	**20 39 30.9**	**+0.1**
OUR				*e*Sg	**Sg**	**20 39 44.8**	**+1.8**
ALN	**Alexandroupoli**	**0.97**	**44**	*e*Pg	**Pg**	**20 39 31.2**	**-0.7**
ALN				*e*Sg	**Sg**	**20 39 45.0**	**+0.1**
RDO	**Rodhopi**	**0.99**	**17**	*e*PN	**Pn**	**20 39 31.6**	**-1.1**
RDO				*e*SN	**Sn**	**20 39 44.8**	**-2.2**
PAIG	**Paliouri**	**1.17**	**257**	*e*Pb	**Pb**	**20 39 34.4**	**-0.3**
PAIG				*e*Sb	**Sb**	**20 39 50.5**	**+0.6**
PRK	**Paraskevi**	**1.28**	**138**	⇓*i*PN	**Pn**	**20 39 36.5**	**-0.4**
PRK				*e*SN	**Sn**	**20 39 54.3**	**-0.2**
PLG	**Polygyros**	**1.32**	**278**	*e*PN	**Pn**	**20 39 36.8**	**-0.7**
KDZ	**Kurdzhali**	**1.46**	**8**	*i* P	**Pn**	**20 39 56.0**	**+17**
AYVA	**Ayvalik**	**1.48**	**127**	*i* P	**Pn**	**20 39 35.3**	**-4.4**
AYVA				*i* S	**Sb**	**20 39 59.8**	**+0.9**
SRS	**Serrai**	**1.50**	**308**	*e*Pb	**Pb**	**20 39 39.6**	**-0.8**
SRS				*e*Sb	**Sb**	**20 40 00.6**	**+1.0**
SOH	**Sokhos**	**1.51**	**295**	*e*Pb	**Pb**	**20 39 40.1**	**-0.4**
SOH				*e*Sb	**Sb**	**20 40 01.2**	**+1.4**
NVR	**Nevrokopi**	**1.51**	**320**	*e*PN	**Pn**	**20 39 40.0**	**-0.2**
RZN	**Rozhen**	**1.52**	**347**	*i* P	**Pn**	**20 39 57.0**	**+17**
SART	**Tekirdag**	**1.62**	**72**	*i* P	**Pn**	**20 39 41.4**	**-0.3**
SART				*i* S	**Sb**	**20 40 04.1**	**+1.3**
NEO	**Neokhori**	**1.74**	**240**	*e*PN	**Pn**	**20 39 42.5**	**-1.0**
MMB	**Musomiste**	**1.76**	**322**	*i* P	**Pn**	**20 40 00.0**	**+16**
KNT	**Kendrikon**	**1.97**	**300**	*e*Pn	**Pn**	**20 39 46.2**	**-0.5**
BTOK	**Tokmak**	**2.25**	**100**	*i* P	**Pn**	**20 39 51.0**	**+0.2**
BTOK				*i* S	**Sn**	**20 40 22.0**	**+3.0**
KKB	**Krupnik**	**2.29**	**317**	P	**Pn**	**20 40 10.0**	**+19**
KDAG	**Bornova**	**2.43**	**137**	*i* P	**Pn**	**20 39 54.2**	**+0.9**
KDAG				*i* S	**Sn**	**20 40 32.5**	**+8.8**
ULDT	**Uludag**	**3.05**	**90**	*i* P	**Pn**	**20 40 09.7**	**+7.5**
ULDT				*i* S	**Sn**	**20 40 49.9**	**+11**

*IDC **17** 21:09:13.2±2.6, 8.66S×77.02W, mb4.1/3, mb1 4.1/4, mb1mx3.7/16, mbtmp4.0/4, ML3.2/1, MS3.4/1, Ms1 3.3/1, ms1mx2.0/18, Error ellipse: s-maj=98.7km s-min=32.0km az=44.0*
*NEIC **17** 21:09:23.9±2.1, 8.39S×75.69W, h88^{km}±26^{km}, mb4.2/1, Error ellipse: s-maj=26.9km s-min=15.6km az=161.0*
ISC 17 21:09:18.1±0.9**, 8.1S**±0.1×**75.8W**±0.1**, h33^{km}, n10, σ0^{s}72**/9**, mb4.0**/4**, MS3.3**/1**, Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NNA	**Nana**	**4.05**	**195**	*e*Pn	**Pn**	**21 10 19.4**	**0.0**
NNA				*e*Sn	**Sn**	**21 10 55.4**	**-11**
LPAZ	**La Paz**	**11.08**	**138**	Pn	**P**	**21 11 58.7**	**+1.3**
	0.1nm,0.3s,baz=340,slow=15,SNR=3.9						
LPAZ	**La Paz**	**11.08**	**138**	P	**P**	**21 11 56.4**	**-1.1**
SAML	**Samuel**	**12.49**	**95**	*e*P	**P**	**21 12 16.6**	**+0.1**
SAML				*e*		21 12 28.7	
BDFB	**Brasilia**	**28.18**	**108**	LR	LR	21 27 14.8	
	comp=Z,73nm,19.5s,MS3.3,baz=350,slow=37						
SDCO	**Great Sand Dun**	**53.35**	**331**	*e*P	**P**	**21 18 37.7**	**+1.0**
	1.8nm,0.7s,mb4.1						
ULM	**Lac du Bonnet**	**60.64**	**345**	P	**P**	**21 19 27.9**	**-0.4**
	1.0nm,0.4s,mb4.3,baz=164,slow=8.1,SNR=3.1						
DBIC	**Dimbokro**	**72.22**	**80**	P	**P**	**21 20 48.8**	**+6.5**
	1.4nm,0.3s,mb4.3,baz=243,slow=4.5,SNR=13						
YKA	**Yellowknife Ar**	**76.41**	**343**	P	**P**	**21 21 05.0**	**-0.7**
	0.2nm,0.4s,mb3.4,baz=136,slow=5.1,SNR=4.2						
WRA	**Warramunga Arr**	**139.34**	**226**	PKP	PKPdf	21 28 41.4	-1.5
	0.5nm,0.3s,baz=115,slow=2.2,SNR=6.8						

*BEO **17** 21:11:19.9±0.3, 42.14N×19.63E, h24^{km}*
*TIR **17** 21:11:19.0, 42.17N×19.62E, h29^{km}, Ml3.4*
*NEIC **17** 21:11:20.4, 42.16N×19.59E, h21^{km}, ML3.2(PDG), ML3.0(ZAG), After PDG.*
*PDG **17** 21:11:20.4±0.4, 42.16N×19.59E, h21^{km}*
*CSEM **17** 21:11:20.1±0.1, 42.19N×19.63E, h20^{km}, ML3.2, Error ellipse: s-maj=1.2km s-min=1.2km az=16.0*
*THE **17** 21:11:21.6, 42.09N×19.66E, h20^{km}, ML3.6*
*IDC **17** 21:11:26.5±4.1, 43.13N×20.25E, mb1 3.6/5, mb1mx3.4/20, mbtmp3.5/5, ML3.3/5, Error ellipse: s-maj=52.1km s-min=15.5km az=13.0*
ISC 17 21:11:20.7±0.3**, 42.15N**±0.02×**19.53E**±0.02**, h26^{km}**±2^{km}**, n90, σ1^{s}10**/150**, 13C-15D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ULC	**Ulcinj**	**0.28**	**228**	⇑*i*Pg	**Pb**	**21 11 27.6**	**+0.1**
ULC				*e*Sg	**Sb**	**21 11 33.3**	**+1.2**
ULC	**Ulcinj**	**0.28**	**228**	⇑*i*Pg	**Pb**	**21 11 27.5**	**0.0**
ULC				*e*Sg	**Sb**	**21 11 33.3**	**+1.2**
PUK	**Puka**	**0.29**	**112**	*i* Pg	**Pb**	**21 11 26.1**	**-1.5**
PUK				*i* Sg	**Sb**	**21 11 31.0**	**-1.4**
TTG	**Podgorica**	**0.34**	**324**	⇑*i*Pg	**Pb**	**21 11 28.2**	**-0.2**
TTG				*e*Sg	**Sb**	**21 11 34.8**	**+1.2**
BCI	**Bajram Curri**	**0.45**	**62**	*i* Pg	**Pb**	**21 11 28.4**	**-1.7**
BCI				*i* Sg	**Sb**	**21 11 35.5**	**-1.0**
BUM	**Brajici-Budva**	**0.49**	**288**	⇓*i*Pg	**Pb**	**21 11 31.0**	**+0.3**
BUM				*e*Sg	**Sb**	**21 11 40.4**	**+2.8**
PVY	**Plav**	**0.55**	**36**	⇓*i*Pg	**Pb**	**21 11 30.3**	**-1.4**
PVY				*e*Sg	**Sb**	**21 11 38.9**	**-0.4**
QSH	**Qafa e Shtames**	**0.69**	**156**	*i* Pg	**Pb**	**21 11 33.5**	**-0.5**
QSH				*i* Sg	**Sb**	**21 11 47.0**	**+3.9**
IVA	**Berane**	**0.77**	**21**	⇓*i*Pg	**Pb**	**21 11 34.5**	**-0.8**
IVA				*e*Sg	**Sb**	**21 11 46.2**	**+0.8**
NKY	**Niksic**	**0.77**	**329**	⇑*i*Pg	**Pb**	**21 11 35.1**	**-0.2**
NKY				*e*Sg	**Sb**	**21 11 47.9**	**+2.5**
HCY	**Herceg Novi**	**0.82**	**291**	⇑*i*Pg	**Pb**	**21 11 36.7**	**+0.5**
HCY				*e*Sg	**Sb**	**21 11 50.5**	**+3.7**
HCY	**Herceg Novi**	**0.82**	**291**	⇑*i*Pg	**Pb**	**21 11 36.7**	**+0.5**
HCY				*e*Sg	**Sb**	**21 11 50.5**	**+3.7**
TIR	**Tirane**	**0.84**	**163**	⇓*i*Pg	**Pb**	**21 11 36.0**	**-0.6**
TIR				*i* Sg	**Sb**	**21 11 51.5**	**+4.0**
BRY	**Bratogost**	**1.04**	**316**	⇓*i*Pg	**Pn**	**21 11 40.6**	**+0.8**
BRY				*e*Sg	**Sb**	**21 11 57.3**	**+4.0**
UPM	**Unac-Piva**	**1.15**	**337**	⇓*i*Pg	**Pn**	**21 11 42.1**	**+0.9**
UPM				*e*Sg	**Sn**	**21 12 00.1**	**+3.9**
PLE	**Pljevlja**	**1.18**	**355**	⇓*i*Pg	**Pn**	**21 11 42.1**	**+0.4**
PLE				*e*Sg	**Sn**	**21 12 00.5**	**+3.4**
NVSS	**Nova Varos 2**	**1.36**	**5**	⇑*i*Pg	**Pn**	**21 11 46.8**	**+2.5**
NVSS				Sg	**Sn**	**21 12 06.8**	**+5.1**
OHR	**Ohrid**	**1.41**	**137**	*e*Pn	**Pn**	**21 11 45.6**	**+0.6**
OHR				*i*		21 11 46.8	
OHR				*i* Sn	**Sn**	**21 12 06.6**	**+3.7**
OHR	**Ohrid**	**1.41**	**137**	*e*Pn	**Pn**	**21 11 45.6**	**+0.6**
OHR				*i* Sn	**Sn**	**21 12 06.6**	**+3.7**
SKO	**Skopje**	**1.43**	**97**	*i* Pn	**Pn**	**21 11 45.8**	**+0.4**
SKO				*i*		21 11 50.8	
SKO				*i* Sn	**Sn**	**21 12 04.5**	**+1.0**
SKO				Lg		21 12 08.0	
	comp=Z,0.2nm,0.6s						
SKO	**Skopje**	**1.43**	**97**	*i* Pn	**Pn**	**21 11 45.8**	**+0.4**
SKO				*i* Sn	**Sn**	**21 12 04.5**	**+1.0**
STON	**Ston**	**1.53**	**299**	*i* Pn	**Pn**	**21 11 48.3**	**+1.5**
STON				*i* Pg	**Pn**	**21 11 49.4**	**+2.7**
STON				*i* Sn	**Sn**	**21 12 09.9**	**+3.9**
STON	**Ston**	**1.53**	**299**	*i* Pg	**Pn**	**21 11 49.4**	**+2.6**
STON				*i* Sn	**Sn**	**21 12 09.8**	**+3.8**
BBLS	**Bajina Basta -**	**1.72**	**357**	⇓*i*Pn	**Pn**	**21 11 50.8**	**+1.3**
BBLS				Sg	**Sn**	**21 12 13.7**	**+3.0**
BARS	**Barje**	**1.82**	**68**	⇓*i*Pn	**Pn**	**21 11 50.5**	**-0.5**
BARS				Sn	**Sn**	**21 12 12.9**	**-0.5**
GRUS	**Gruza**	**1.94**	**26**	⇓*i*Pn	**Pn**	**21 11 52.5**	**-0.1**
GRUS				Sn	**Sn**	**21 12 16.1**	**-0.3**
FNA	**Florina**	**1.95**	**134**	*e*Pb	**Pb**	**21 11 54.6**	**-0.7**
FNA				*e*Sb	**Sb**	**21 12 20.1**	**+0.7**
DIVS	**Divcibare**	**1.98**	**10**	⇑*i*Pn	**Pn**	**21 11 53.4**	**+0.3**
DIVS				Sg	**Sn**	**21 12 18.6**	**+1.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
DIVS	Divcibare	1.98	10	Pn	Pn	21 11 53.3	+0.2
DIVS				Sg	Sn	21 12 18.5	+1.3
PE1	Pezze di Greco	2.08	230	ePn	Pn	21 11 54.5	-0.1
SRN	Sarande	2.30	171	i Pn	Pn	21 11 57.8	+0.1
SRN				i Sn	Sn	21 12 26.0	+0.5
BOLS	Boljevac	2.45	46	⇑iPn	Pn	21 11 59.1	-0.8
BOLS				Sn	Sn	21 12 30.2	+0.9
GRG	Griva	2.46	118	ePn	Pn	21 12 00.9	+0.8
GRG				eSn	Sn	21 12 31.3	+1.6
SVIS	Svilajnac	2.48	29	ePn	Pn	21 12 01.2	+0.9
SVIS				Sn	Sn	21 12 32.5	+2.5
CDT	Castel del Mon	2.66	247	ePn	Pn	21 12 02.9	-0.1
IGT	Igoumenitsa	2.69	167	ePn	Pn	21 12 03.5	+0.3
KNT	Kendrikon	2.71	110	ePn	Pn	21 12 03.7	0.0
KNT				eSn	Sn	21 12 36.9	+0.9
MS1	Monte Sant'Ang	2.71	262	ePn	Pn	21 12 03.5	-0.2
BEO	Belgrade	2.75	14	⇓iPn	Pn	21 12 03.5	-0.7
BEO				Sg	Sn	21 12 39.4	+2.4
LIT	Litokhoron	3.03	132	ePn	Pn	21 12 08.4	+0.2
LIT				eSn	Sn	21 12 44.7	+0.6
SOH	Sokhos	3.17	114	ePn	Pn	21 12 10.2	+0.1
SOH				eSn	Sn	21 12 47.6	+0.1
SRS	Serrai	3.22	107	ePn	Pn	21 12 10.6	-0.2
MRLC	Muro Lucano	3.34	247	ePn	Pn	21 12 14.9	+2.3
MRLC	Muro Lucano	3.34	247	ePn	Pn	21 12 14.9	+2.3
SGO	Sicignano	3.55	245	ePn	Pn	21 12 15.3	-0.2
SGO	Sicignano	3.55	245	ePn	Pn	21 12 15.4	-0.2
TIP	Timpagrande	3.64	216	ePn	Pn	21 12 15.6	-1.2
TIP				eSn	Sn	21 12 56.4	-3.0
TIP	Timpagrande	3.64	216	ePn	Pn	21 12 15.6	-1.2
TIP				eSn	Sn	21 12 56.4	-3.1
AGG	Agios Georgios	3.78	145	ePn	Pn	21 12 18.7	-0.2
AGG				eSn	Sn	21 13 02.5	-0.6
OUR	Ouranopolis	3.82	117	ePn	Pn	21 12 18.5	-0.9
RHK3	Tenkes	3.85	347	⇓iP	Pn	21 12 19.8	0.0
CII	Carovilli	3.92	265	ePn	Pn	21 12 21.7	+0.9
CII				eSn	Sn	21 13 06.3	-0.3
CII	Carovilli	3.92	265	ePn	Pn	21 12 21.7	+0.9
CII				eSn	Sn	21 13 06.3	-0.2
RHK1	Bakonya	4.08	346	eP	Pn	21 12 23.0	-0.1
RHK1				eS	Sn	21 13 09.7	-0.9
PKSM	Moragy	4.11	351	⇓eP	Pn	21 12 23.1	-0.4
PKSM				eS	Sn	21 13 09.4	-1.9
SDI	San Donato	4.29	266	ePn	Pn	21 12 26.9	+0.8
SDI				eSn	Sn	21 13 14.8	-1.1
SDI	San Donato	4.29	266	ePn	Pn	21 12 26.9	+0.8
SDI				eSn	Sn	21 13 14.8	-1.1
PKS6	Bocsa	4.45	0	⇓eP	Pn	21 12 27.9	-0.4
AQU	L'Aquila	4.55	275	ePn	Pn	21 12 23.4	-6.3
AQU	L'Aquila	4.55	275	ePn	Pn	21 12 23.4	-6.4
BOJS	Bojanci	4.56	319	ePn	Pn	21 12 30.8	+0.9
PTQR	Pietraquaria	4.56	270	ePn	Pn	21 12 30.6	+0.6
PTQR	Pietraquaria	4.56	270	ePn	Pn	21 12 30.5	+0.6
NRCA	Norcia	4.79	280	ePn	Pn	21 12 33.5	+0.3
SNTG	Esanatoglia	4.98	285	ePn	Pn	21 12 35.3	-0.5
SNTG				eSn	Sn	21 13 30.3	-3.0
SNTG	Esanatoglia	4.98	285	ePn	Pn	21 12 35.3	-0.5
SNTG				eSn	Sn	21 13 30.3	-3.0
ARV	Arcevia	5.03	288	ePn	Pn	21 12 36.5	0.0
ARV				eSn	Sn	21 13 33.2	-1.3
ARV	Arcevia	5.03	288	ePn	Pn	21 12 36.5	0.0
ARV				eSn	Sn	21 13 33.2	-1.3
ALN	Alexandroupoli	5.05	102	ePn	Pn	21 12 35.9	-0.9
MNS	Montasola	5.09	275	ePn	Pn	21 12 37.8	+0.5
CEY	Cerknica	5.14	316	ePn	Pn	21 12 38.7	+0.7
VOY	Vojsko	5.61	316	ePn	Pn	21 12 44.7	0.0
VOY				eSn	Sn	21 13 48.7	-0.5
OBKA	Obir	5.63	322	⇑iPN	Pn	21 12 45.1	+0.1
OBKA				i SN	Sn	21 13 45.7	-4.0
MLR	Muntele Rosu	5.72	52	Pn	Pn	21 12 41.1	-5.1
	comp=Z,1.1nm,0.3s,baz=236,slow=18,SNR=3.7						
MLR				Lg		21 13 53.8	
	comp=Z,0.7nm,0.3s,baz=180,slow=20,SNR=5.3						
PSZ	Piszkesteto	5.77	2	ePn	Pn	21 12 45.0	-2.0
	comp=Z,6.2nm,0.8s						
PSZ				eSn	Sn	21 13 46.4	-6.7
PSZ	Piszkesteto	5.77	2	ePn	Pn	21 12 45.0	-2.0
	comp=Z,6.2nm,0.8s						
PSZ				eSn	Sn	21 13 46.4	-6.8
ARSA	Arzberg	5.84	332	⇓iPN	Pn	21 12 47.0	-1.0
ARSA				i SN	Sn	21 13 49.1	-5.8
PTCC	Patocco-Chiusa	6.14	316	ePn	Pn	21 12 52.1	-0.1
FVI	Forni Avoltri	6.57	315	ePn	Pn	21 12 57.0	-1.2
FVI	Forni Avoltri	6.57	315	ePn	Pn	21 12 57.0	-1.2
KBA	Koelnbreinsper	6.61	320	⇑iPN	Pn	21 12 58.6	-0.2
KBA				i SN	Sn	21 14 10.2	-4.0
MOA	Molln	6.81	329	⇑iPN	Pn	21 13 00.6	-1.0
MOA				i SN	Sn	21 14 13.9	-5.2
SANT	Santorini	7.38	140	ePn	Pn	21 13 06.0	-3.6
SQTA	Sankt Quirin	7.80	313	⇑iPN	Pn	21 13 15.1	-0.3
SQTA				i SN	Sn	21 14 40.4	-3.4
KWP	Kalwaria	7.80	15	Pn	Pn	21 13 14.5	-1.0
GERES	GERESS Array B	7.84	331	Pn	Pn	21 13 15.3	-0.8
	comp=Z,0.2nm,0.3s,baz=145,slow=12,SNR=7.0						
GERES				Sn	Sn	21 14 38.8	-6.1
	baz=145,slow=20,SNR=2.3						
KHC	Kasperske Hory	8.13	331	eP	P	21 13 18.0	-2.0
KHC				ex	x	21 13 29.0	
HFS	Hagfors	18.36	351	P	P	21 15 30.2	-4.8
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=6.7						
NOA	NORSAR Array B	19.58	348	P	P	21 15 45.0	-4.4
	comp=Z,0.1nm,0.3s,baz=153,slow=10,SNR=3.3						
FINES	FINESS Array B	19.72	9	P	P	21 15 46.1	-4.9
	comp=Z,0.1nm,0.3s,baz=216,slow=16,SNR=4.3						

*NEIC **17** 21:18:05.3±2.8, 7.36S×154.77E, h59km±24km, mb4.8/12, Error ellipse: s-maj=20.4km s-min=12.4km az=108.0*

*IDC **17** 21:18:05.8±8.0, 7.49S×154.77E, h63km±66km, mb3.8/6, mb1 4.0/7, mb1mx4.0/11, mbtmp4.1/7, ML3.3/1, MS3.3/4, Ms1 3.3/4, ms1mx3.3/9, Error ellipse: s-maj=53.3km s-min=26.3km az=93.0*

*BJI **17** 21:18:05.7, 7.15S×153.91E, h32km, mB5.4, mb4.6*

ISC 17 21:18:02.3±3.5**, 7.30S**±0.10×**154.8E**±0.1**, h44**km±30km**, n35, σ0ˢ87**/34**, mb4.6**/25**, MS3.3**/2**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.80	254	P	P	21 19 56.0	+0.1
	2.7nm,0.3s,baz=69,slow=8.6,SNR=9.9						
PMG				S	S	21 21 23.8	0.0
	0.8nm,0.3s,baz=71,slow=19,SNR=5.7						
PMG				LR	LR	21 22 41.6	
	comp=Z,89nm,19.0s,baz=57,slow=36						
CTA	Charters Tower	15.15	212	LR	LR	21 26 13.3	
	comp=Z,127nm,20.8s,baz=42,slow=32						
WRAB	Tennant Creek	23.43	236	eP	P	21 23 08.7	+0.1
	13nm,0.9s,mb4.4						
WB2	Warramunga Arr	23.44	236	eP	P	21 23 10.5	+1.9
WRA	Warramunga Arr	23.45	236	P	P	21 23 09.2	+0.5
	4.2nm,0.7s,mb4.0,baz=60,slow=9.5,SNR=16						
ASAR	Alice Springs	25.79	229	P	P	21 23 29.8	-1.5
	1.8nm,0.7s,mb3.7,baz=60,slow=9.5,SNR=12						
ASAR				LR	LR	21 32 04.7	
	comp=Z,50nm,18.3s,MS3.1,baz=202,slow=33						
STKA	Stephens Creek	27.36	205	P	P	21 23 43.9	-1.7
	1.6nm,0.8s,mb3.6,baz=40,slow=7.9,SNR=2.0						
STKA				LR	LR	21 34 18.5	
	comp=Z,127nm,18.1s,MS3.5,baz=26,slow=36						
KULM	Kulim	55.42	282	P	P	21 27 35.1	0.0
MDJ	Mudanjiang	56.44	339	P	P	21 27 42.1	+0.1
	7.6nm,0.9s,mb4.7						
ENH	Enshi	57.27	313	P	P	21 27 47.9	-0.3
	12nm,1.3s,mb4.8						
HHC	Hu-ho-hao-te	62.20	324	eP	P	21 28 28.1	+6.3
HHC				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.2						
HIA	Hailar	64.10	335	P	P	21 28 32.7	-1.5
LZH	Lanzhou	64.37	316	eP	P	21 28 36.8	+0.6
LZH				AP	pP	21 28 42.6	-6.3
LZH				XP	sP	21 28 46.9	-6.9
LZH				AMB	AMB		
	comp=Z,21nm,1.2s,mb5.0						
LZH	Lanzhou	64.37	316	eP	P	21 28 36.8	+0.6
	comp=Z,21nm,1.2s,mb5.0						
LZH				pP	pP	21 28 42.6	-6.3
LZH				sP	sP	21 28 46.9	-6.9
GTA	Gaotai	68.80	317	P	P	21 29 05.3	+1.1
GTA				AP	pP	21 29 11.0	-6.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.2						
ULN	Ulaanbaatar	69.13	328	eP	P	21 29 06.5	+0.4
	comp=Z,1.1nm,0.6s,mb4.0						
SONM	Songino Array	69.46	327	P	P	21 29 09.0	+0.9
	comp=Z,3.4nm,0.7s,mb4.4,baz=139,slow=6.3,SNR=31						
VNDA	Vanda	70.28	178	P	P	21 29 13.9	+1.2
	comp=Z,2.4nm,1.1s,mb4.0						
YAK	Yakutsk	71.80	348	P	P	21 29 18.6	-3.4
	comp=Z,18nm,1.0s,mb5.0						
JIRN	Jiri	74.74	301	eP	P	21 29 40.3	+0.4
	comp=Z,9.3nm,0.8s,mb4.7						
KKN	Kakani	75.55	301	eP	P	21 29 44.0	-0.5
	comp=Z,13nm,0.8s,mb4.9						
DMN	Daman	75.64	301	eP	P	21 29 45.3	+0.2
	comp=Z,18nm,0.8s,mb5.0						
GKN	Gorkha	76.15	301	eP	P	21 29 47.8	-0.2
	comp=Z,32nm,1.2s,mb5.1						
KOLN	Koldanda	76.97	301	eP	P	21 29 52.4	-0.2
	comp=Z,10nm,0.9s,mb4.7						
SLKM	Skilak Lake	80.12	24	eP	P	21 30 09.7	+0.6
SML	Sawmill	81.60	24	eP	P	21 30 17.4	+0.5
IMA	Indian Mountai	82.17	19	eP	P	21 30 20.7	+1.0
	comp=Z,38nm,0.8s,mb5.4						
MCK	McKinley	82.43	22	eP	P	21 30 20.2	-0.9
	comp=Z,9.4nm,0.9s,mb4.7						
COLA	College	83.45	21	eP	P	21 30 25.9	-0.5
	comp=Z,9.6nm,0.8s,mb4.9						
ZAL	Zalesovo	84.31	326	P	P	21 30 31.0	+0.1
	comp=Z,1.6nm,0.6s,mb4.3,baz=343,slow=6.2,SNR=9.7						
DAWY	Dawson	86.27	24	eP	P	21 30 40.1	-0.2
KURK	Kurchatov	86.92	322	P	P	21 30 41.9	-1.9
	comp=Z,2.2nm,1.0s,mb4.3						
YKA	Yellowknife Ar	96.72	28	P	P	21 31 29.5	+0.5
	comp=Z,0.2nm,0.4s,mb3.9,baz=268,slow=4.7,SNR=5.6						
LOHW	Long Hollow	98.34	47	P	P	21 31 36.6	-0.2
	comp=Z,13nm,0.6s,mb5.6						
ESLA	Sonseca Array	142.53	333	ePKPdf	PKPdf	21 37 30.9	0.0

*PRU **17** 21:41:50.6, 50.18N×19.18E*

WAR 17 21:41:49.7, 50.17N×19.30E, h0km, ML2.5, 2D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.33	81	⇓iPG	Pg	21 41 56.6	+0.4
OJC				⇓iSG	Sg	21 42 01.0	+0.5
OKC	Ostrava-Krasne	0.81	246	ePG	Pg	21 42 05.6	-0.4
NIE	Niedzica	1.00	138	ePG	Pg	21 42 07.0	-2.7
NIE				eSG	Sg	21 42 23.0	0.0
VYHS	Vyhne	1.71	190	ePN	Pn	21 42 20.0	-0.8
VYHS				eSN	Sn	21 42 43.0	-0.6
CRVS	Cervenica-Dubn	1.90	131	ePN	Pn	21 42 26.1	+2.5
CRVS				eSN	Sn	21 42 51.8	+3.3
DPC	Dobruska-Polom	1.92	277	ePG	Pg	21 42 23.0	-5.0
DPC				eSG	Sg	21 42 48.2	-5.4
	32nm,0.8s						
KSP	Ksiaz	2.03	290	ePN	Pn	21 42 25.0	-0.5
KSP				ePG	Pg	21 42 27.0	-3.3
KSP				eSG	Sg	21 42 55.0	-2.4
UPC	Upice	2.13	280	ePG	Pg	21 42 27.1	-5.2
UPC				eSG	Sg	21 42 56.0	-4.7
PRU	Pruhonice	3.07	268	eSG	Sg	21 43 24.4	-7.5
KHC	Kasperske Hory	3.86	257	ePN	Pn	21 42 50.5	-1.1
KHC				ePG	Pg	21 43 00.0	-6.8
KHC				ex	x	21 43 35.5	
KHC				eSG	Sg	21 43 50.9	-7.3
CLL	Collm	4.16	288	eSG	Sg	21 44 04.0	-4.1

*NEIC **17** 22:49:29.7±3.0, 6.75S×155.85E, h211km±25km, mb4.4/5, Error ellipse: s-maj=26.3km s-min=16.5km az=210.0*

*IDC **17** 22:49:30.2±5.8, 6.75S×155.85E, h212km±50km, mb3.6/6, mb1 3.7/8, mb1mx3.6/14, mbtmp4.2/8, Error ellipse: s-maj=36.5km s-min=21.7km az=61.0*

ISC 17 22:49:28.8±3.5**, 6.8S**±0.2×**155.9E**±0.1**, h217**km±29km**, n18, σ0ˢ81**/21**, mb4.0**/9**, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.99	253	P	P	22 51 35.4	-0.2
	0.7nm,0.3s,baz=158,slow=19,SNR=2.2						
PMG				S	S	22 53 20.5	+5.7
	1.1nm,0.3s,baz=18,slow=17,SNR=3.5						
PMG	Port Moresby	8.99	253	P	P	22 51 35.5	-0.1
PMG				Pn	P	22 51 40.6	+5.0
PMG				S	S	22 53 20.5	+5.7
CTA	Charters Tower	16.16	214	eP	P	22 53 07.6	+2.0
	2.8nm,0.6s						
CTA	Charters Tower	16.16	214	P	P	22 53 06.5	+0.8
	0.3nm,0.3s,baz=45,slow=11,SNR=6.5						
CTAO	Charters Tower	16.16	214	eP	P	22 53 06.1	+0.5
	5.2nm,0.8s						
DZM	Mont Dzumac	18.29	147	eP	P	22 53 28.1	-0.8
DZM	Mont Dzumac	18.29	147	eP	P	22 53 28.1	-0.8
WRAB	Tennant Creek	24.61	236	P	P	22 54 29.9	-1.1
	28nm,1.5s,mb4.7						
WB2	Warramunga Arr	24.62	236	eP	P	22 54 31.9	+0.9
WRA	Warramunga Arr	24.63	236	P	P	22 54 31.5	+0.4
	1.6nm,0.5s,mb3.9,baz=59,slow=9.1,SNR=14						
ASAR	Alice Springs	26.94	229	P	P	22 54 52.0	-0.3
	1.4nm,0.4s,mb3.9,baz=60,slow=9.3,SNR=14						
STKA	Stephens Creek	28.27	206	P	P	22 55 04.8	+0.6
	1.5nm,0.5s,mb3.8,baz=27,slow=9.0,SNR=5.4						
STKA	Stephens Creek	28.27	206	eP	P	22 55 02.5	-1.8
MBWA	Marble Bar	37.73	244	eP	P	22 56 25.3	-0.2
	17nm,1.2s,mb4.4						
RPZ	Rata Peaks	39.10	162	P	P	22 56 37.2	+0.5
	17nm,0.7s,mb4.7,baz=329,slow=1.5,SNR=8.5						
NWAO	Narrogin (SRO)	44.26	229	eP	P	22 57 17.6	-1.0
	37nm,1.5s,mb4.5						
SONM	Songino Array	69.65	327	P	P	23 00 16.8	+0.3
	0.2nm,0.4s,mb3.1,baz=144,slow=6.0,SNR=5.4						
VNDA	Vanda	70.74	179	P	P	23 00 23.6	+0.9
	0.5nm,0.5s,mb3.4,baz=339,slow=8.6,SNR=3.6						

*IDC **17** 22:59:24.4±4.7, 53.52S×161.01E, mb4.1/4, mb1 4.3/6, mb1mx4.0/13, mbtmp4.3/6, ML4.2/2, MS4.1/2, Ms1 4.1/2, ms1mx3.2/15, Error ellipse: s-maj=93.5km s-min=33.9km az=166.0*

*NEIC **17** 22:59:35.3±0.7, 52.16S×160.46E, h10km, mb4.7/4, Error ellipse: s-maj=12.9km s-min=11.9km az=70.0*

ISC 17 22:59:32.8±0.7**, 51.97S**±0.08×**161.0E**±0.1**, h10**km**, n27, σ1ˢ11**/28**, mb4.3**/7**, MS3.9**/1**, 1C, North of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	Wether Hill Ro	7.60	40	PN	Pn	23 01 27.1	+0.7
WHZ	Wether Hill Ro	7.60	40	PN	Pn	23 01 27.1	+0.7
MLZ	Mavora Lakes	8.15	38	PN	P	23 01 35.1	+1.2
MLZ				SN	Sn	23 03 05.6	-1.4
MLZ				SN	Sn	23 03 05.7	-1.3
MLZ	Mavora Lakes	8.15	38	PN	P	23 01 35.1	+1.2
MLZ				SN	Sn	23 03 05.6	-1.4
MLZ				SN	Sn	23 03 05.7	-1.3
TUZ	Tuapeka	8.27	47	PN	P	23 01 35.8	+0.2
TUZ				SN	Sn	23 03 08.9	-1.2
TUZ	Tuapeka	8.27	47	PN	P	23 01 35.8	+0.2
TUZ				SN	Sn	23 03 08.9	-1.2
ODZ	Otahua Downs	9.42	46	PN	P	23 01 51.6	-0.1
ODZ	Otahua Downs	9.42	46	PN	P	23 01 51.6	-0.1
JCZ	Jackson Bay	9.45	36	ePN	P	23 01 54.1	+2.1
JCZ	Jackson Bay	9.45	36	ePN	P	23 01 54.1	+2.1
RPZ	Rata Peaks	10.66	43	Pn	P	23 02 13.7	+5.2
	2.7nm,0.3s,baz=207,slow=3.6,SNR=8.0						
TAU	Tasmania Unive	12.94	309	eP	P	23 02 37.9	-1.5
	24nm,0.6s						
URZ	Urewera	17.75	46	P	P	23 03 46.4	+4.9
	0.5nm,0.3s,baz=291,slow=9.5,SNR=4.6						
URZ				LR	LR	23 10 12.2	
	comp=Z,571nm,21.2s,baz=312,slow=34						
STKA	Stephens Creek	24.59	317	P	P	23 04 57.0	+3.0
	4.1nm,0.9s,mb4.0,baz=171,slow=12,SNR=3.9						
STKA	Stephens Creek	24.59	317	eP	P	23 04 53.0	-1.0
VNDA	Vanda	25.65	180	LR	LR	23 13 03.6	
	comp=Z,354nm,18.2s,MS3.9,baz=178,slow=34						
VNDA	Vanda	25.65	180	eP	P	23 05 02.4	-1.3
	9.8nm,1.1s,mb4.2						
CTA	Charters Tower	33.84	335	P	P	23 06 21.0	+3.6
	2.8nm,0.5s,mb4.5,baz=169,slow=9.5,SNR=5.3						
CTAO	Charters Tower	33.84	335	P	P	23 06 19.0	+1.7
	7.8nm,1.0s,mb4.6						
ASAR	Alice Springs	35.06	313	P	P	23 06 28.1	+0.3
	1.0nm,0.7s,mb3.8,baz=141,slow=7.8,SNR=7.6						
WRA	Warramunga Arr	38.14	317	P	P	23 06 54.0	+0.2
	2.0nm,0.8s,mb3.9,baz=149,slow=7.3,SNR=8.0						
QSPA	South Pole Qui	38.15	180	⇑iP	P	23 06 53.6	+0.3
	22nm,1.4s,mb4.7						
WRAB	Tennant Creek	38.15	317	eP	P	23 06 53.4	-0.4
	16nm,1.0s,mb4.7						
TBI	Tubuai	47.26	72	eLR	LR	23 21 24.6	
	100nm,34.2s						
PPT	Papeete	51.71	67	eLR	LR	23 23 30.7	
	112nm,27.5s						
RKT	Rikitea	56.20	85	eLR	LR	23 25 26.2	
	170nm,37.2s						
FINES	FINESS Array B	154.02	309	PKPab	PKPab	23 19 41.7	-5.2
	0.7nm,0.6s,baz=63,slow=3.1,SNR=3.4						

*MOS **17** 23:20:47.1±0.9, 4.94N×95.11E, h52km, mb5.8/111, MS5.4/48, Error ellipse: s-maj=7.3km s-min=3.4km az=124.7*

*BJI **17** 23:20:47.6, 4.80N×95.00E, h69km, mB5.6, mb5.6, Ms5.6, Msz5.5*

*NEIC **17** 23:20:49.4±0.8, 4.86N×95.09E, h60km±6km, mb5.5/148, ME5.0, MW5.7, Error ellipse: s-maj=4.1km s-min=2.7km az=212.0 Broadband fault plane solution: P waves. NP1: ϕs130°, δ67°, λ90°. NP2: ϕs310°, δ23°, λ90°. Principal axes: T Plg68°, Azm40°; N Plg0°, Azm0°; P Plg22°, Azm220°; Moment Tensor Solution. s26 Moment tensor: Scale 10^17 Nm; Mrr4.48; Mθθ-0.17; Mϕϕ-4.31; Mrθ2.42; Mθϕ0.72; Mϕr-1.81; Best double couple: Mo5.3×10^17 NP1: ϕs7°, δ34°, λ122°. NP2: ϕs150°, δ61°, λ70°. Principal axes: T 5.7, Plg67°, Azm21°; N -.72, Plg18°, Azm160°; P -4.99, Plg14°, Azm254°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Banda Aceh.

*IDC **17** 23:20:49.1±0.3, 4.95N×95.22E, h55km±2km, mb5.2/27, mb1 5.2/27, mb1mx5.2/27, mbtmp5.4/27, MS5.1/11, Ms1 5.2/11, ms1mx4.8/15 Error ellipse: s-maj=11.1km s-min=7.0km az=49.0*

*HRVD **17** 23:20:49.3±0.1, 4.66N×94.93E, h45km, MW5.7/75, Centroid moment Tensor Solution. LP body waves: s75,c167;Mantle waves: s75,c167; Half duration: 1ˢ8 Moment tensor: Scale 10^17Nm; Mrr3.44±.07; Mθθ-1.88±.05; Mϕϕ-1.56±.06; Mrθ2.51±.05; Mθϕ1.98±.04; Mϕr-2.30±.06; Best double couple: Mo4.935×10^17 NP1: ϕs313°, δ23°, λ90°. NP2: ϕs133°, δ67°, λ90°. Principal axes: T 4.802, Plg68°, Azm42°; N .266, Plg0°, Azm133°; P -5.069, Plg22°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 23:20:47.1±0.1**, 4.83N**±0.02×**95.08E**±0.02**, h55**km**, h55**km±.9km**: pP-P, n927, σ0ˢ99**/838**, mb5.6**/217**, MS5.4**/156**, 194C-25D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.57	85	eP	P	23 22 10.0	+0.6
IPM	Ipoh	5.93	92	P	P	23 22 14.5	+0.1
SNG	Songkhla	5.98	67	P	P	23 22 16.0	+0.9
	1µm,1.0s						
KGM	Kluang	8.69	108	P	P	23 22 50.9	-1.7
NNT	Nongplab	8.98	31	P	P	23 23 00.0	+3.4
NST	Nakhon Sawan	11.86	24	⇑P	P	23 23 39.0	+3.0
	292nm,0.5s						
BDT	Bhumibol Dam	12.92	17	P	P	23 23 53.0	+2.9
	33nm,0.8s						
KKTK	Khon Kaen	13.73	33	P	P	23 24 04.5	+3.7
CM31	Chiang Mai Arr	14.06	15	eP	P	23 24 09.1	+4.0
	263nm,0.7s						
CMAR	Chiang Mai Arr	14.06	15	LR	LR	23 29 32.4	
	comp=Z,11µm,20.6s,baz=195,slow=38						
PENI	Pendagan	14.43	136	⇑eP	P	23 24 06.1	-3.9
PENI				pmax	pmax		
	comp=Z,122nm,0.4s						
PENI	Pendagan	14.43	136	⇑eP	P	23 24 06.1	-3.9
	comp=Z,122nm,0.4s						
NANT	Nan	14.93	21	⇑P	P	23 24 17.5	+1.1
	comp=Z,925nm,1.0s						
PULI	Pulasari	15.55	135	⇓eP	P	23 24 22.1	-2.3
	comp=Z,135nm,0.5s						
KSM	Kuching	15.57	102	eP	P	23 24 25.8	+1.1
CHRT	Chiangrai	15.64	17	⇑P	P	23 24 27.5	+2.0
	comp=Z,710nm,0.9s						
VIS	Vishakhapatnam	17.21	319	eP	P	23 24 42.2	-3.2
VIS				e		23 24 52.7	
	comp=Z,198nm,1.1s						
VIS				eS	S	23 27 45.9	-7.4
BWNR	Bhubaneshwar	17.82	330	eP	P	23 24 49.4	-3.6
BWNR				e		23 24 59.8	
	comp=Z,246nm,0.7s						
BWNR				eS	S	23 27 59.1	-7.9
TRD	Trivandrum	18.36	282	eP	P	23 24 59.2	-0.4
TRD				i S	S	23 28 18.2	-1.0
CAL	Calcutta	18.77	340	eP	P	23 24 59.9	-4.6
CAL				e		23 28 29.7	
AGT	Agartala	19.30	349	eP	P	23 25 06.0	-4.3
QIZ	Qiongzhong	20.17	44	P	P	23 25 20.6	+0.9
QIZ				AP		23 25 33.8	
QIZ				XP		23 25 41.1	
QIZ				S	S	23 29 06.8	+8.8
QIZ				LR	LR		
	comp=E,11µm,19.6s						
QIZ				LR	LR		
	comp=Z,11µm,20.0s,MS5.2						
QIZ	Qiongzhong	20.17	44	eP	P	23 25 20.4	+0.7
	comp=Z,873nm,1.5s						
HYB	Hyderabad	20.45	309	⇑eP	P	23 25 23.0	+0.4
HYB				eS	S	23 29 13.0	+10
HYB				pmax	pmax		
	comp=Z,150nm,1.0s						
HYB	Hyderabad	20.45	309	⇑eP	P	23 25 23.0	+0.4
	comp=Z,150nm,1.0s						
HYB				eS	S	23 29 13.0	+10
HYB	Hyderabad	20.45	309	⇑iP	P	23 25 23.0	+0.4
	comp=Z,150nm,1.0s						
HYB				epP		23 25 36.5	
HYB				esP		23 25 45.0	
HYB				eS	S	23 29 04.0	+0.5
HYB				eSS	SS	23 29 40.0	+4.0
HYB				LR	LR		
	comp=Z,4.2nm,20.0s						
BOK	Bokaro	20.83	336	i P	P	23 25 24.4	-2.1
BOK				i		23 29 15.4	
SHL	Shillong	20.84	352	eP	P	23 25 23.5	-3.1
SHL				eS	S	23 29 10.5	-0.5
KKM	Kota Kinabalu	21.08	86	eP	P	23 25 31.1	+2.0
KKM	Kota Kinabalu	21.08	86	P	P	23 25 20.4	-8.7
BLSP	Bilaspur	21.28	325	eP	P	23 25 31.7	+0.7
BLSP				e		23 25 34.6	
	comp=Z,463nm,1.0s						
BLSP				eS	S	23 29 21.1	+2.0
KMI	Kunming	21.48	19	⇑P	P	23 25 34.8	+1.8
KMI				AP		23 25 45.8	
KMI				PP	PP	23 26 03.1	+4.7
KMI				S	S	23 29 28.8	+6.0
KMI				XS		23 29 45.0	
KMI				SS	SS	23 30 06.6	+5.5
KMI				AMB	AMB		
	comp=Z,175nm,1.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,2µm,6.4s						
KMI				LR	LR		
	comp=N,12µm,15.9s,MS5.4						
KMI				LR	LR		
	comp=E,7µm,18.1s,MS5.4						
KMI				LR	LR		
	comp=Z,14µm,23.5s						
KMI	Kunming	21.48	19	⇑P	P	23 25 34.8	+1.8
KMI				*SP		23 25 50.0	
KMI						23 26 03.1	
KMI				S	S	23 29 28.8	+6.0
KMI				*SS		23 29 45.0	
KMI				SS	SS	23 30 06.6	+5.5
KMI				pmax	pmax		
	comp=Z,175nm,1.0s,mb5.3						
KMI				MLR	MLR		
	comp=Z,14µm,23.5s,MS5.3						
KMI	Kunming	21.48	19	⇑P	P	23 25 34.8	+1.8
	comp=Z,175nm,1.0s,mb5.3						

KMI pP 23 25 45.8
KMI sP 23 25 50.0
KMI PP PP 23 26 03.1 +4.7
KMI S **S** **23 29 28.8 +6.0**
KMI sS 23 29 45.0
KMI SS SS 23 30 06.6 +5.5
KMI LR LR
comp=Z,14µm,23.5s,MS5.3
MNGI Mangalore 21.56 293 *i* P **P** **23 25 36.3 +2.5**
MNGI *i* 23 28 47.0
LATR Latur 22.57 308 *eP* **P** **23 25 45.7 +1.7**
LATR *eS* **S** **23 29 46.0 +3.0**
SRDI Scrawed 23.16 125⇑ *eP* **P** **23 25 50.4 +0.7**
SRDI pmax pmax
comp=Z,59nm,0.6s,mb5.2
SRDI Scrawed 23.16 125⇑ *eP* **P** **23 25 50.4 +0.7**
comp=Z,59nm,0.6s,mb5.2
KELI Kelakatan 23.30 124⇑ *eP* **P** **23 25 52.3 +1.2**
comp=Z,77nm,0.5s,mb5.4
GOA Goa 23.42 298 *i* P **P** **23 25 51.3 -0.9**
comp=Z,151nm,1.3s,mb5.3
GOA *i* S **S** **23 30 00.8 +2.9**
AKL Akola 23.60 314 *i* P **P** **23 25 55.0 +1.1**
KAD Karad 23.92 303 *eP* **P** **23 26 00.0 +2.9**
KAD *e* 23 26 06.5
comp=Z,84nm,1.3s
KAD *eS* **S** **23 30 13.0 +6.4**
GYA Guiyang 24.19 26⇑ *i* P **P** **23 26 00.8 +1.2**
GYA AP 23 26 15.0
GYA XP 23 26 22.4
GYA PP PP 23 26 40.3 +4.5
GYA S **S** **23 30 16.5 +5.4**
GYA XS 23 30 40.8
GYA AMB AMB
comp=Z,50nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,1µm,9.6s
GYA LR LR
comp=N,11µm,17.0s,MS5.5
GYA LR LR
comp=E,4µm,14.9s,MS5.5
GYA LR LR
comp=Z,16µm,16.8s,MS5.6
JIRN Jiri 24.23 340 *eP* **P** **23 25 59.6 -0.4**
comp=Z,336nm,0.6s,mb6.0
PKI Pulchoki 24.42 339 *eP* **P** **23 26 01.1 -0.7**
comp=Z,91nm,0.5s,mb5.4
DMN Daman 24.56 338 *eP* **P** **23 26 03.3 +0.1**
comp=Z,295nm,0.7s,mb5.9
KKN Kakani 24.66 339 *eP* **P** **23 26 03.2 -1.0**
comp=Z,189nm,0.7s,mb5.8
POO Poona 24.80 305 *eP* **P** **23 26 08.8 +3.2**
POO *e* 23 26 13.8
comp=Z,52nm,1.1s
POO *eS* **S** **23 30 27.1 +5.5**
BHPL Bhopal 25.01 319 *eP* **P** **23 26 08.9 +1.4**
BHPL *e* 23 26 14.4
comp=Z,204nm,1.1s
BHPL *e* 23 30 47.6
LSA Lhasa 25.01 352 P **P** **23 26 07.6 0.0**
LSA PCP PcP 23 29 40.9 -1.3
LSA S **S** **23 30 24.8 -0.1**
LSA PCS 23 33 21.0
LSA AMB AMB
comp=Z,160nm,0.7s,mb5.7
LSA AMB AMB
comp=Z,1µm,8.3s
LSA LR LR
comp=N,4µm,25.5s,MS5.0
LSA LR LR
comp=E,5µm,25.5s,MS5.0
LSA LR LR
comp=Z,9µm,23.6s,MS5.2
LSA Lhasa 25.01 352 *eP* **P** **23 26 06.5 -1.1**
LSA pmax pmax
comp=Z,142nm,0.6s,mb5.7
LSA Lhasa 25.01 352 *eP* **P** **23 26 06.5 -1.0**
comp=Z,142nm,0.6s,mb5.7
GKN Gorkha 25.09 338 *eP* **P** **23 26 06.8 -1.5**
comp=Z,211nm,0.5s,mb5.9
KOLN Koldanda 25.29 336 *eP* **P** **23 26 09.1 -1.1**
comp=Z,716nm,0.7s,mb6.3
HKC Hong Kong 25.36 45 *i* P **P** **23 26 14.0 +3.1**
HKC S **S** **23 30 46.0 +15**
DGAR Diego Garcia 25.64 242 *eP* **P** **23 26 12.3 -1.3**
DGAR pmax pmax
comp=Z,164nm,1.1s,mb5.5
DGAR MLR MLR
comp=Z,2µm,21.0s,MS4.7
DGAR Diego Garcia 25.64 242 *eP* **P** **23 26 12.3 -1.3**
comp=Z,164nm,1.1s,mb5.5
DGAR LR LR
comp=Z,2µm,21.0s,MS4.7
BOM Bombay 25.84 305 *eP* **P** **23 26 18.1 +2.7**
comp=Z,646nm,1.5s,mb5.9
BOM *e* 23 30 47.3
JHNI Jhansi 25.93 324⇓ *i* P **P** **23 26 15.0 -1.2**
BOLP Bolinao 26.93 63 *eP* **P** **23 26 25.4 -0.1**
CD2 Chengdu 27.20 16 P **P** **23 26 26.6 -1.2**
CD2 XP sP 23 26 51.3 +3.1
CD2 PPP PPP 23 27 22.4 -5.7
CD2 S **S** **23 31 02.3 +1.4**
CD2 AMB AMB
comp=Z,200nm,0.9s,mb5.7
CD2 LR LR
comp=Z,8µm,19.8s,MS5.3
LGTI Lohaghat 28.22 332⇓ *i* P **P** **23 26 37.0 -0.1**
SNPH Sibulan 28.29 79 *eP* **P** **23 26 42.0 +4.1**
PTH Pithoragarh 28.32 332 *eP* **P** **23 26 38.0 0.0**
PTH *e* 23 31 27.0
ENH Enshi 28.73 27 *eP* **P** **23 26 40.1 -1.5**
comp=Z,86nm,0.6s,mb5.7
AJM Ajmer 29.07 320⇑ *i* P **P** **23 26 44.0 -0.6**
NDI New Delhi 29.15 326⇑ *i* P **P** **23 26 43.0 -2.4**
comp=Z,53nm,0.6s,mb5.5
NDI *e* 23 31 26.5
DDI Dehra Dun 30.01 330 *eP* **P** **23 26 53.1 +0.1**
DDI *e* 23 32 15.1
QZH Quanzhou 30.16 46 P **P** **23 26 56.0 +1.6**
QZH S **S** **23 31 48.4 +0.1**
QZH AMB AMB
comp=Z,110nm,0.9s,mb5.6
QZH LR LR
comp=Z,14µm,20.3s,MS5.6
SMLA Simla 31.11 329 *i* P **P** **23 27 02.1 -0.6**
SMLA *i* 23 32 14.4
WHN Wuhan 31.37 33⇑ P **P** **23 27 04.5 -0.5**
WHN PP PP 23 28 11.0 +1.1
WHN S **S** **23 32 09.0 +1.9**
WHN LR LR
comp=Z,20µm,15.7s,MS5.9
SDNR Sundarnagar 31.51 329 *eP* **P** **23 27 08.1 +1.9**
BHK Bhakra 31.73 329 *e* pP 23 27 22.3 +0.2
XAN Xi'an 31.78 22 P **P** **23 27 07.5 -1.1**
XAN PP PP 23 28 17.3 +2.2
XAN S **S** **23 32 09.0 -4.6**
XAN AMB AMB
comp=Z,278nm,0.6s,mb6.3
XAN LR LR
comp=N,6µm,15.9s,MS5.6
XAN LR LR
comp=E,7µm,16.1s,MS5.6
XAN LR LR
comp=Z,14µm,17.2s,MS5.7
NACB Ninganchiao 31.96 50 *eP* **P** **23 27 10.9 +0.7**
YHNB Yeheng 32.06 49 *eP* **P** **23 27 12.3 +1.2**
LZH Lanzhou 32.13 13⇑ *i* P **P** **23 27 10.0 -1.6**
LZH AP pP 23 27 24.5 -1.2
LZH XP sP 23 27 32.0 -0.5
LZH PP PP 23 28 19.3 -0.3
LZH PCP PcP 23 29 57.5 -2.3
LZH *eS* **S** **23 32 17.8 -1.3**
LZH XS 23 32 43.0
LZH SCP 23 33 34.6
LZH SS SS 23 34 14.8 -0.5
LZH SCS ScS 23 37 32.3 -2.4
LZH AMB AMB
comp=Z,109nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,329nm,5.7s
LZH LR LR
comp=N,3µm,13.0s
LZH LR LR
comp=Z,5µm,16.5s,MS5.3
LZH Lanzhou 32.13 13⇑ *i* P **P** **23 27 10.0 -1.6**
LZH *PP pP 23 27 24.5 -1.2
LZH *SP sP 23 27 32.0 -0.5
LZH 23 28 19.2
LZH 23 29 57.5
LZH *eS* **S** **23 32 17.8 -1.3**
LZH *SS 23 32 43.0
LZH SS SS 23 34 14.7 -0.6
LZH 23 37 32.2
LZH pmax pmax
comp=Z,109nm,1.3s,mb5.5
LZH MLR MLR
comp=Z,5µm,16.5s,MS5.3
LZH Lanzhou 32.13 13⇑ *i* P **P** **23 27 10.0 -1.6**
comp=Z,109nm,1.3s,mb5.5
LZH pP pP 23 27 24.5 -1.2
LZH sP sP 23 27 32.0 -0.5
LZH PP PP 23 28 19.2 -0.4
LZH PcP PcP 23 29 57.5 -2.3
LZH *eS* **S** **23 32 17.8 -1.3**
LZH sS 23 32 43.0
LZH ScP 23 33 34.6
LZH SS SS 23 34 14.7 -0.6
LZH ScS ScS 23 37 32.2 -2.5
LZH LR LR
comp=Z,5µm,16.5s,MS5.3
TATO Taipei 32.31 49 PFAKE 23 27 20.0 +6.7
TATO LR LR
comp=Z,5µm,22.0s,MS5.2
PONG Pong 32.39 329 *eP* **P** **23 27 13.0 -0.9**
DLH Dalhousie 32.85 329 *eP* **P** **23 27 17.0 -0.9**
DLH *e* pP 23 27 33.0 +1.0
GTA Gaotai 34.69 6⇑ *i* P **P** **23 27 33.0 -0.6**
GTA AP pP 23 27 48.5 +0.7
GTA XP sP 23 27 54.4 -0.3
GTA PP PP 23 28 50.8 -1.0
GTA PPP PPP 23 29 08.3 -1.7
GTA PCP PcP 23 30 07.3 +0.4
GTA S **S** **23 32 55.3 -3.3**
GTA SCP 23 33 49.0
GTA SS SS 23 35 09.5 -4.4
GTA SCS ScS 23 37 48.3 +0.3
GTA AMB AMB
comp=Z,126nm,0.8s,mb5.9
GTA AMB AMB
comp=Z,569nm,11.8s
GTA LR LR
comp=N,3µm,20.9s,MS5.1
GTA LR LR
comp=E,3µm,24.3s,MS5.1
GTA LR LR
comp=Z,4µm,30.0s
NJ2 Nanjing 35.06 37 *eP* **P** **23 27 37.6 +0.7**
NJ2 AP pP 23 27 50.8 -0.3
NJ2 PP PP 23 28 58.9 +2.2
NJ2 S **S** **23 33 06.0 +1.5**
NJ2 XS 23 33 29.0
NJ2 AMB AMB
comp=Z,120nm,0.8s,mb5.9
NJ2 AMB AMB
comp=Z,830nm,6.3s
NJ2 LR LR
comp=N,8µm,19.9s
NJ2 LR LR
comp=E,13µm,14.7s
NJ2 LR LR
comp=Z,7µm,13.6s
MBWA Marble Bar 35.38 138 *eP* **P** **23 27 37.7 -2.1**
comp=Z,72nm,1.3s,mb5.4
MBWA LR LR
comp=Z,3µm,22.0s,MS5.0
SSE Sheshan 35.85 40 *eP* **P** **23 27 41.5 -2.1**
SSE S **S** **23 33 18.8 +2.2**
SSE AMB AMB
comp=Z,37nm,0.8s,mb5.4
SSE LR LR
comp=N,2µm,16.4s,MS5.3
SSE LR LR
comp=E,4µm,16.4s,MS5.3
SSE LR LR
comp=Z,5µm,16.1s,MS5.3
SSE Sheshan 35.85 40 *eP* **P** **23 27 41.5 -2.1**
comp=Z,37nm,0.8s,mb5.4
SSE pP pP 23 27 50.3 -7.5
SSE S **S** **23 33 18.8 +2.2**
SSE sS 23 33 33.3
SSE SS SS 23 35 57.3 +17
SSE LR LR
comp=Z,5µm,16.1s,MS5.3
TIA Tai'an 37.23 30⇑ P **P** **23 27 55.5 +0.3**
TIA S **S** **23 33 40.0 +2.2**
TIA AMB AMB
comp=Z,110nm,0.7s,mb5.8
TIA LR LR
comp=N,2µm,14.0s,MS5.4
TIA LR LR
comp=E,4µm,15.0s,MS5.4
FITZ Fitzroy Crossi 37.79 128⇑ *i* P **P** **23 27 58.8 -1.2**
comp=E,74nm,0.6s,mb5.6
FITZ *eS* **S** **23 33 41.2 -5.2**
BTO Baotou 38.07 19 *eP* **P** **23 28 01.5 -0.6**
BTO PP PP 23 29 34.6 +1.7
BTO AMB AMB
comp=Z,53nm,0.6s,mb5.5
BTO LR LR
comp=N,923nm,13.3s,MS5.4
BTO LR LR
comp=E,4µm,14.7s,MS5.4
JOW Kunigami 38.50 52 P **P** **23 28 06.5 +0.8**
comp=E,51nm,0.6s,mb5.4,baz=254,slow=8.5
KSH Kashi 38.61 336⇑ *i* P **P** **23 28 07.4 +0.8**
KSH *eAP pP 23 28 19.8 -1.1
KSH PP PP 23 29 40.9 +1.6
KSH *ePCP PcP 23 30 18.6 -0.1
KSH S **S** **23 34 00.0 +1.3**
KSH eSCP 23 34 03.0
KSH *ePCS 23 34 08.3
KSH eSS SS 23 36 43.1 +1.0
KSH eSCS ScS 23 38 11.3 +1.5
KSH AMB AMB
comp=Z,2µm,3.8s
KSH LR LR
comp=N,2µm,14.2s,MS5.5
KSH LR LR
comp=E,5µm,18.0s,MS5.5
HHC Hu-ho-hao-te 38.80 20 *eP* **P** **23 28 09.0 +0.9**
HHC AP pP 23 28 24.3 +1.8
HHC XP sP 23 29 30.4 +1.3
HHC PP PP 23 29 44.6 +3.2
HHC S **S** **23 34 02.1 +0.7**
HHC PCS 23 34 09.8
HHC XS 23 34 25.8
HHC SS SS 23 36 49.9 +3.7
HHC SCS ScS 23 38 11.3 +0.4
HHC AMB AMB
comp=Z,59nm,0.9s,mb5.3
HHC AMB AMB
comp=Z,766nm,3.9s
HHC LR LR
comp=N,9µm,19.6s,MS5.7
HHC LR LR
comp=E,6µm,19.6s,MS5.7
HHC LR LR
comp=Z,10µm,23.8s,MS5.5
WBK Wadi Bani Khal 39.11 300⇓ P **P** **23 28 13.5 +2.6**
SNR=7.2
WMQ Urumqi 39.37 352⇑ *i* P **P** **23 28 13.3 +0.4**
WMQ AP pP 23 28 25.0 -2.2
WMQ PP PP 23 29 48.0 +0.2
WMQ PCP PcP 23 30 22.0 +1.0
WMQ S **S** **23 34 11.0 +0.9**
WMQ SS SS 23 36 57.0 -1.7
WMQ AMB AMB
comp=Z,110nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,943nm,4.0s
WMQ LR LR
comp=N,9µm,19.7s,MS5.8
WMQ LR LR
comp=E,11µm,23.2s,MS5.8
WMQ LR LR
comp=Z,8µm,25.4s,MS5.5
JMDO Jabal Madar 39.77 300⇑ P **P** **23 28 18.8 +2.4**
SNR=12
BJT Baijiatuau 39.86 26 *eP* **P** **23 28 18.5 +1.5**
BJT pmax pmax
comp=Z,397nm,0.9s
BJT Baijiatuau 39.86 26 *eP* **P** **23 28 18.5 +1.5**
comp=Z,397nm,0.9s,mb6.1
BJI Beijing 39.88 26 P **P** **23 28 18.6 +1.4**
BJI S **S** **23 34 14.3 -3.5**
BJI SS SS 23 37 13.3 +3.4
BJI AMB AMB
comp=Z,203nm,0.8s,mb5.9
BJI LR LR
comp=N,5µm,19.5s,MS5.5
BJI LR LR
comp=E,4µm,20.7s,MS5.5
BJI LR LR
comp=Z,7µm,24.9s,MS5.4
BJI Beijing 39.88 26 P **P** **23 28 18.6 +1.4**
BJI *SP sP 23 28 35.6 -2.6
BJI S **S** **23 34 14.2 -3.6**
BJI *SS 23 34 37.7
BJI SS SS 23 37 13.2 +3.3
BJI pmax pmax
comp=Z,203nm,0.8s,mb5.9
BJI MLR MLR
comp=Z,7µm,24.9s,MS5.4
BJI Beijing 39.88 26 P **P** **23 28 18.6 +1.4**
comp=Z,203nm,0.8s,mb5.9
BJI sP sP 23 28 35.6 -2.6
BJI S **S** **23 34 14.2 -3.6**
BJI sS 23 34 37.7
BJI SS SS 23 37 13.2 +3.3
BJI LR LR
comp=Z,7µm,24.9s,MS5.4
SMDO Samad 40.06 300 P **P** **23 28 21.4 +2.5**
SNR=19
BIDO Bidbid 40.17 301 P **P** **23 28 22.7 +3.0**
SNR=22
BSY Bisya 40.69 300 P **P** **23 28 26.7 +2.7**
SNR=23
ULHL Ulahol 40.86 339 P **P** **23 28 26.5 +1.3**
SNR=25
KAKA Kakadu 41.01 116⇑ *i* P **P** **23 28 25.4 -1.3**
comp=Z,38nm,0.5s,mb5.3
KZA Kyzart 41.08 337 P **P** **23 28 28.6 +1.5**
SNR=26
ARQ Araqi 41.48 300⇓ P **P** **23 28 34.3 +3.9**
SNR=10
UCH Uchtor 41.50 337 P **P** **23 28 32.0 +1.5**
SNR=20
DL2 Dalian 41.60 32 P **P** **23 28 32.3 +0.9**
DL2 PPP PPP 23 30 43.0 +0.3
DL2 S **S** **23 34 43.9 +0.6**
DL2 AMB AMB
comp=Z,180nm,0.7s,mb5.8
DL2 AMB AMB
comp=Z,370nm,6.5s
DL2 LR LR
comp=N,3µm,17.1s,MS5.2
DL2 LR LR
comp=E,2µm,16.3s,MS5.2
DL2 LR LR
comp=Z,3µm,16.1s,MS5.2
TKM2 Tokmak 2 41.68 338 P **P** **23 28 33.1 +1.1**
SNR=283
KBK Karagaybulak 41.70 338 P **P** **23 28 33.8 +1.7**
SNR=421
AML Almayashu 41.74 336 P **P** **23 28 34.1 +1.6**
SNR=567
MUN Mundaring 41.77 153 *eP* **P** **23 28 33.2 +0.3**
comp=Z,20nm,0.6s,mb4.9
MUN *eS* **S** **23 34 47.5 +1.5**
MUN Mundaring 41.77 153 *eP* **P** **23 28 33.2 +0.3**
MUN *eS* **S** **23 34 47.5 +1.5**
MUN pmax pmax
comp=Z,20nm,0.6s,mb4.9
AAK Ala-Archa 41.85 337 P **P** **23 28 34.8 +1.5**
SNR=154
AAK Ala-Archa 41.85 337 P **P** **23 28 33.2 -0.2**
comp=Z,937nm,0.8s,mb6.5
AAK Ala-Archa 41.85 337 *eP* **P** **23 28 33.7 +0.3**
AAK pmax pmax
comp=Z,236nm,1.1s,mb5.7
AAK MLR MLR
comp=Z,696nm,19.0s,MS4.6
AAK Ala-Archa 41.85 337 *eP* **P** **23 28 33.7 +0.3**
comp=Z,236nm,1.1s,mb5.7
AAK LR LR
comp=Z,696nm,19.0s,MS4.6
FRU Bishkek 41.97 337α *i* P **P** **23 28 35.0 +0.6**
FRU *i* S **S** **23 34 52.0 +3.2**
FRU *i* 23 35 14.0
FRU pmax pmax
comp=Z,790nm,2.0s,mb6.0
FRU MLR MLR
comp=N,3µm,18.0s
FRU MLR MLR
comp=Z,3µm,18.0s,MS5.2
CHMS Chumysh 42.06 338 P **P** **23 28 36.3 +1.2**
SNR=7.8
EKS2 Erkin-Say 42.15 336 P **P** **23 28 37.4 +1.5**
SNR=373
ASHO Ashiyah 42.35 302 P **P** **23 28 39.9 +2.2**
SNR=17
USP Ospenovka 42.39 338 P **P** **23 28 38.7 +0.9**
SNR=394
WHFO Wadi Hawf 42.41 291 P **P** **23 28 40.1 +1.8**
SNR=17
BANOM Banah 42.61 304⇑ P **P** **23 28 42.3 +2.4**
ABTO Aybut 42.73 290 P **P** **23 28 42.9 +1.9**
SNR=9.0
NWAO Narrogin (SRO) 43.04 152 *eP* **P** **23 28 42.9 -0.4**
NWAO pmax pmax
comp=Z,41nm,1.0s
NWAO MLR MLR
comp=Z,2µm,20.0s
NWAO Narrogin (SRO) 43.04 152 P **P** **23 28 43.6 +0.3**
comp=Z,20nm,0.9s,mb4.8,baz=339,slow=11,SNR=5.6
NWAO pP pP 23 28 57.8 +0.1
comp=Z,38nm,0.9s,baz=325,slow=10,SNR=9.0
NWAO Narrogin (SRO) 43.04 152 *eP* **P** **23 28 42.9 -0.4**
comp=Z,41nm,1.0s,mb5.1
NWAO LR LR
comp=Z,2µm,20.0s,MS5.1
MKAR Makanchi Array 43.24 347 *i* P **P** **23 28 44.5 -0.2**
MKAR pmax pmax
comp=Z,13nm,0.3s
INCN Inchon 43.43 37 *eP* **P** **23 28 44.5 -1.9**
comp=Z,96nm,0.8s,mb5.6
INCN LR LR
comp=Z,6µm,19.0s,MS5.5
SONM Songino Array 43.93 11 P **P** **23 28 49.6 -0.8**
comp=Z,27nm,0.6s,mb5.1,baz=188,slow=7.7,SNR=172
SONM PcP PcP 23 30 35.8 -0.2
comp=Z,22nm,0.5s,baz=194,slow=3.6,SNR=24
SONM ScP 23 34 23.5
comp=Z,4.3nm,1.0s,baz=199,slow=3.6,SNR=4.0
SONM S **S** **23 35 14.4 -3.0**
comp=Z,0.7nm,0.9s,baz=337,slow=9.4,SNR=1.7
ULN Ulaanbaatar 44.09 12 *eP* **P** **23 28 50.7 -0.9**
ULN pmax pmax
comp=Z,24nm,0.8s,mb5.0
ULN MLR MLR
comp=Z,5µm,19.0s,MS5.4
ULN Ulaanbaatar 44.09 12 *eP* **P** **23 28 50.7 -0.9**
comp=Z,24nm,0.8s,mb5.0
ULN LR LR
comp=Z,5µm,19.0s,MS5.4
KS15 Wonju Array Si 44.17 38 *eP* **P** **23 28 52.2 -0.2**
SNY Shenyang 44.76 30⇑ P **P** **23 28 55.5 -1.5**
SNY S **S** **23 35 27.8 -1.5**
SNY XS 23 35 54.3
SNY AMB AMB
comp=Z,80nm,0.6s,mb5.7
SNY AMB AMB
comp=Z,670nm,7.8s
SNY LR LR
comp=E,4µm,19.6s
SNY LR LR
comp=Z,4µm,19.7s,MS5.4
WRA Warramunga Arr 45.78 124 P **P** **23 29 05.2 -0.2**
WRA *PP pP 23 29 20.2 +0.3
WRA S **S** **23 35 42.5 -1.7**
WRA Warramunga Arr 45.78 124 P **P** **23 29 05.2 -0.2**
comp=Z,110nm,0.7s,mb5.9,baz=303,slow=9.1,SNR=380
WRA pP pP 23 29 20.2 +0.3
comp=Z,111nm,0.8s,baz=302,slow=9.2,SNR=9.0

WRA ScP 23 34 30.9
comp=Z,3.8nm,1.0s,baz=306,slow=4.1,SNR=5.2
WRA S **S** **23 35 42.5 -1.7**
comp=Z,5.0nm,1.1s,baz=294,slow=15,SNR=4.4
WRAB Tennant Creek 45.78 124 P **P** **23 29 05.3 -0.1**
comp=Z,1µm,1.0s
WRAB Tennant Creek 45.78 124 *e*P **P** **23 29 05.1 -0.3**
WRAB pmax pmax
comp=Z,138nm,0.6s,mb6.1
WRAB MLR MLR
comp=Z,1µm,22.0s,MS4.8
WRAB Tennant Creek 45.78 124 *e*P **P** **23 29 05.1 -0.3**
comp=Z,138nm,0.6s,mb6.1
WRAB LR LR
comp=Z,1µm,22.0s,MS4.8
WB2 Warramunga Arr 45.79 124⇑ *i*P **P** **23 29 05.3 -0.2**
WB2 *e*S **S** **23 35 43.7 -0.6**
ZAK Zakamensk 45.92 7⇓ *i*P **P** **23 29 04.8 -1.3**
ZAK *e* 23 30 42.4
ZAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
ZAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
MOY Mondy 46.94 5 *e*P **P** **23 29 13.5 -0.6**
MOY pmax pmax
comp=Z,33nm,2.1s,mb4.9
CN2 Changchun 47.14 30⇑ P **P** **23 29 15.8 0.0**
CN2 PP PP 23 31 04.5 -2.1
CN2 *e*S **S** **23 36 05.0 +1.7**
CN2 AMB AMB
comp=Z,80nm,0.7s,mb5.8
CN2 AMB AMB
comp=Z,700nm,5.0s
CN2 LR LR
comp=N,4µm,17.0s,MS5.6
CN2 LR LR
comp=E,4µm,17.0s,MS5.6
CN2 LR LR
comp=Z,5µm,19.0s,MS5.5
TLY Talaya 47.24 7 *e*P **P** **23 29 16.0 -0.5**
TLY pmax pmax
comp=Z,50nm,0.9s,mb5.4
TLY MLR MLR
comp=Z,971nm,21.0s,MS4.7
TLY Talaya 47.24 7 *e*P **P** **23 29 16.0 -0.5**
comp=Z,50nm,0.9s,mb5.4
TLY LR LR
comp=Z,971nm,21.0s,MS4.7
ASPA Alice Springs 47.28 129⇑ *i*P **P** **23 29 16.8 -0.4**
ASPA *e* pP 23 29 35.4 +3.7
ASPA *e*S **S** **23 36 06.3 +0.8**
ASAR Alice Springs 47.28 129 P **P** **23 29 16.8 -0.4**
comp=Z,29nm,0.6s,mb5.4,baz=299,slow=7.9,SNR=332
ASAR pP pP 23 29 32.1 +0.3
comp=Z,157nm,0.8s,baz=300,slow=7.6,SNR=19
ASAR ScP 23 34 37.5
comp=Z,1.8nm,0.9s,baz=297,slow=4.2,SNR=3.9
ASAR S **S** **23 36 03.9 -1.7**
comp=Z,2.8nm,1.0s,baz=308,slow=15,SNR=3.1
ASAR LR LR 23 52 41.2
comp=Z,1µm,19.7s,MS4.9,baz=298,slow=40
FORT Forrest 47.40 140 *e*P **P** **23 29 17.9 -0.2**
comp=Z,2µm,0.8s
KURK Kurchatov 47.77 346 P **P** **23 29 20.4 -0.3**
comp=Z,1µm,0.7s
KURK Kurchatov 47.77 346 *e*P **P** **23 29 20.5 -0.2**
KURK pmax pmax
comp=Z,215nm,0.8s,mb6.2
KURK MLR MLR
comp=Z,373nm,19.0s,MS4.4
KURK Kurchatov 47.77 346 *e*P **P** **23 29 20.4 -0.2**
comp=Z,215nm,0.8s,mb6.2
KURK LR LR
comp=Z,373nm,19.0s,MS4.4
IRK Irkutsk 47.87 8 *e*P **P** **23 29 20.6 -0.8**
IRK pmax pmax
comp=Z,77nm,1.6s,mb5.5
HIA Hailar 48.97 21 *e*P **P** **23 29 29.5 -0.5**
HIA pmax pmax
comp=Z,55nm,0.6s
HIA Hailar 48.97 21 *e*P **P** **23 29 29.5 -0.5**
comp=Z,55nm,0.6s,mb5.8
ZAL Zalesovo 49.67 352 P **P** **23 29 35.0 -0.3**
comp=Z,72nm,0.4s,mb6.0,baz=304,slow=5.5,SNR=326
ZAL S **S** **23 36 39.0 +0.5**
comp=Z,0.9nm,0.7s,baz=202,slow=19,SNR=3.8
ZAL PKPPKP 00 00 27.5
comp=Z,0.5nm,0.3s,baz=102,slow=10.0,SNR=3.2
ZAL Zalesovo 49.67 352 P **P** **23 29 35.0 -0.3**
ZAL S **S** **23 36 39.0 +0.5**
ZAL P'P' 00 00 27.5
GUMO Guam 49.83 76 PFAKE 23 29 50.0 +13
GUMO LR LR
comp=Z,2µm,21.0s,MS5.1
MDJ Mudanjiang 49.84 32 P **P** **23 29 37.1 +0.4**
MDJ AP pP 23 29 52.1 +0.8
MDJ XP sP 23 29 58.3 +0.6
MDJ PP PP 23 31 34.1 +1.6
MDJ S **S** **23 36 43.6 +2.6**
MDJ XS 23 37 07.3
MDJ AMB AMB
comp=Z,99nm,1.5s,mb5.6
MDJ AMB AMB
comp=Z,630nm,11.6s
MDJ LR LR
comp=N,3µm,24.2s,MS5.3
MDJ LR LR
comp=E,2µm,25.0s,MS5.3
MDJ LR LR
comp=Z,5µm,23.3s,MS5.5
MDJ Mudanjiang 49.84 32 *e*P **P** **23 29 36.8 +0.1**
comp=Z,154nm,1.1s,mb6.0
CBIJ Chichi jima 50.02 58 P **P** **23 29 37.9 -0.5**
comp=Z,145nm,0.4s,mb6.4,baz=126,slow=17,SNR=21
VLA Vladivostok 50.13 35 *e*P **P** **23 29 39.0 0.0**
VLA *e* 23 31 37.0
VLA *e*S **S** **23 36 45.0 -0.1**
VLA pmax pmax
comp=E,500nm,12.0s
VLA pmax pmax
comp=Z,600nm,12.0s
VLA pmax pmax
comp=Z,500nm,12.0s
VLA pmax pmax
comp=E,500nm,13.0s
VLA smax
comp=E,600nm,13.0s
VLA MLR MLR
comp=Z,4µm,17.0s,MS5.5
VLA MLR MLR
comp=N,4µm,19.0s,MS5.7
VLA MLR MLR
comp=E,4µm,14.0s,MS5.7
MAJO Matsushiro 50.56 45 *e*P **P** **23 29 42.7 +0.3**
MAJO pmax pmax
comp=Z,26nm,0.7s,mb5.3
MAJO MLR MLR
comp=Z,5µm,21.0s,MS5.5
MAJO Matsushiro 50.56 45 *e*P **P** **23 29 42.6 +0.3**
comp=Z,26nm,0.7s,mb5.3
MAJO LR LR
comp=Z,5µm,21.0s,MS5.5
MAT Matsushiro 50.56 45 *e*P **P** **23 29 42.0 -0.4**
MAT *e*S **S** **23 36 57.0 +5.8**
MAT pmax pmax
comp=Z,1µm,0.6s
MAT MLR MLR
comp=Z,5µm,20.0s
MAT Matsushiro 50.56 45 *e*P **P** **23 29 42.0 -0.4**
comp=Z,1µm,0.6s
MAT *e*S **S** **23 36 57.0 +5.8**
MAT LR LR
comp=Z,5µm,20.0s
MAT Matsushiro 50.56 45 P **P** **23 29 41.9 -0.5**
MAT S **S** **23 36 57.0 +5.8**
NVS Novosibirsk 50.77 351 *e*P **P** **23 29 41.7 -2.0**
NVS *e*S **S** **23 36 52.5 -1.3**
NVS pmax pmax
comp=N,23nm,0.5s
NVS pmax pmax
comp=E,27nm,0.5s
NVS pmax pmax
comp=Z,48nm,0.5s,mb5.7
NVS smax
comp=N,162nm,2.0s
NVS smax
comp=E,199nm,2.0s
BVA0 Borovoye Array 52.15 341 *i* P **P** **23 29 53.6 -0.5**
BVA0 pmax pmax
comp=Z,22nm,0.8s,mb5.1
BVAR Borovoye Array 52.15 341 P **P** **23 29 53.4 -0.7**
comp=Z,184nm,0.7s,mb6.1,baz=140,slow=8.7,SNR=1062
BVAR pP pP 23 30 07.7 -1.1
comp=Z,44nm,0.6s,baz=162,slow=14,SNR=4.0
BVAR S **S** **23 37 13.9 +1.1**
comp=Z,3.8nm,0.8s,baz=135,slow=15,SNR=6.1
PMG Port Moresby 53.80 105 *e*P **P** **23 30 05.7 -1.2**
PMG pmax pmax
comp=Z,23nm,0.5s
PMG MLR MLR
comp=Z,1µm,22.0s
PMG Port Moresby 53.80 105 P **P** **23 30 05.9 -0.9**
comp=Z,23nm,0.4s,mb5.5,baz=335,slow=7.5,SNR=15
PMG Port Moresby 53.80 105 *e*P **P** **23 30 05.7 -1.1**
comp=Z,23nm,0.5s,mb5.4
PMG LR LR
comp=Z,1µm,22.0s,MS5.0
KLR Kul'dur 54.05 29⇓ *i*P **P** **23 30 05.4 -2.8**
KLR *e* 23 32 05.0
KLR *e*S **S** **23 37 34.0 -4.6**
KLR pmax pmax
comp=Z,1µm,9.0s
KLR pmax pmax
comp=N,85nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,5µm,13.0s,MS5.7
CTA Charters Tower 56.04 118⇑ *i*P **P** **23 30 22.1 -1.0**
comp=Z,22nm,1.1s,mb5.1
CTA *i* S **S** **23 38 05.7 +0.1**
CTA Charters Tower 56.04 118⇑ *i*P **P** **23 30 22.1 -1.0**
CTA *i* S **S** **23 38 05.7 +0.1**
CTA pmax pmax
comp=Z,23nm,1.1s
CTAO Charters Tower 56.04 118 *e*P **P** **23 30 22.1 -1.0**
CTAO pmax pmax
comp=Z,45nm,1.1s,mb5.4
CTAO MLR MLR
comp=Z,3µm,22.0s,MS5.4
CTAO Charters Tower 56.04 118 *e*P **P** **23 30 22.1 -1.0**
comp=Z,45nm,1.1s,mb5.4
CTAO LR LR
comp=Z,3µm,22.0s,MS5.4
ERM Erimo 56.50 42 PFAKE 23 30 40.0 +14
ERM LR LR
comp=Z,6.0nm,21.0s
MAK Makhachkala 56.61 320 *e*P **P** **23 30 24.0 -2.8**
MAK *e*S **S** **23 38 10.0 -2.9**
MAK *e*PS PS 23 38 32.0 -1.3
MAK *i* 23 40 10.0
MAK pmax pmax
comp=Z,2µm,7.0s
MAK smax
comp=N,1µm,8.0s
HKR Hakkari 56.95 312 P **P** **23 30 28.8 -0.5**
MSL Mosul 56.97 311 *e*P **P** **23 30 28.0 -1.5**
MSL *e*PP 23 30 43.5
MSL *e*S 23 39 40.0
CLNS Chul'man 56.97 19 *e*P **P** **23 30 28.5 -0.7**
CLNS *e* 23 31 25.2
CLNS *e* 23 32 31.8
CLNS *e*S **S** **23 38 15.7 -1.7**
CLNS *e*SS SS 23 42 10.2 +2.5
CLNS *e*SSS SSS 23 44 18.1 -4.8
CLNS pmax pmax
comp=Z,45nm,0.8s,mb5.5
CLNS pmax pmax
comp=N,19nm,0.7s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS smax
comp=N,286nm,11.9s
CLNS MLR MLR
comp=N,5µm,17.0s,MS5.6
CLNS MLR MLR
comp=Z,10µm,17.0s,MS6.0
CLNS MLR MLR
comp=E,1µm,19.0s,MS5.6
ASAJ Asahikawa 57.13 39 P **P** **23 30 30.4 -0.1**
comp=E,54nm,0.6s,mb5.7,baz=258,slow=11,SNR=22
GNI Garni 57.23 315 P **P** **23 30 30.4 -0.9**
GNI Garni 57.23 315 *e*P **P** **23 30 30.3 -1.0**
GNI pmax pmax
comp=Z,55nm,0.7s
GNI MLR MLR
comp=Z,757nm,20.0s
GNI Garni 57.23 315 P **P** **23 30 31.1 -0.2**
comp=Z,39nm,0.8s,mb5.5,baz=52,slow=1.4,SNR=30
GNI Garni 57.23 315 *e*P **P** **23 30 30.3 -1.0**
comp=Z,55nm,0.7s,mb5.7
GNI LR LR
comp=Z,757nm,20.0s,MS4.8
STKA Stephens Creek 57.36 133 P **P** **23 30 31.3 -1.0**
comp=Z,11nm,0.8s,mb4.9,baz=307,slow=8.1,SNR=16
STKA pP pP 23 30 46.8 -0.5
comp=Z,28nm,0.9s,baz=301,slow=6.5,SNR=10
STKA LR LR 23 58 12.1
comp=Z,2µm,20.2s,MS5.2,baz=301,slow=39
STKA Stephens Creek 57.36 133 *e*P **P** **23 30 30.8 -1.5**
MTA Mtatsminda 57.84 317 P **P** **23 30 34.6 -0.9**
TI2 Plekhanov 57.88 317⇑ *i*P **P** **23 30 35.2 -0.6**
TI2 *i* pP 23 30 55.0 +4.2
TI2 pmax pmax
comp=Z,70nm,0.8s,mb5.7
TBLG Delisi 57.89 317 P **P** **23 30 35.0 -0.8**
KMBO Kilima Mbogo 58.07 266 *e*P **P** **23 30 38.2 +0.7**
KMBO pmax pmax
comp=Z,18nm,1.0s
KMBO MLR MLR
comp=Z,4µm,22.0s
KMBO Kilima Mbogo 58.07 266 P **P** **23 30 39.3 +1.8**
comp=Z,5.5nm,0.8s,mb4.6,baz=70,slow=9.6,SNR=17
KMBO pP pP 23 30 53.4 +0.9
comp=Z,8.7nm,0.9s,baz=51,slow=8.4,SNR=6.9
KMBO LR LR 23 51 37.5
comp=Z,3µm,20.9s,MS5.5,baz=94,slow=32
KMBO Kilima Mbogo 58.07 266 *e*P **P** **23 30 38.2 +0.7**
comp=Z,18nm,1.0s,mb5.1
KMBO LR LR
comp=Z,4µm,22.0s,MS5.5
DUS Dusheti 58.07 318 P **P** **23 30 37.0 -0.1**
SVE Sverdlovsk 58.55 339⇑ *i*P **P** **23 30 41.0 +0.7**
SVE *e*S **S** **23 38 36.0 -2.2**
SVE *e*PS PS 23 39 04.0 +3.8
SVE pmax pmax
comp=Z,204nm,2.0s,mb5.8
SVE smax
comp=N,1µm,9.0s
SVE smax
comp=E,500nm,9.0s
SVE MLR MLR
comp=N,1µm,16.0s,MS5.1
SVE MLR MLR
comp=E,200nm,16.0s,MS5.1
SVE MLR MLR
comp=Z,2µm,16.0s,MS5.2
YSS Yuzh-Sakhalins 58.63 36⇑ *i*P **P** **23 30 40.3 -0.7**
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=Z,2µm,18.0s,MS5.2
YSS MLR MLR
comp=N,2µm,16.0s
YSS Yuzh-Sakhalins 58.63 36 *e*P **P** **23 30 40.5 -0.4**
comp=N,136nm,0.8s,mb6.0
YSS LR LR
comp=Z,2µm,20.0s,MS5.3
BTMT Batman 58.83 312 P **P** **23 30 41.8 -0.7**
ZEI Tsey 58.89 318 *i* P **P** **23 30 42.7 -0.2**
ZEI *i* *PP pP 23 30 56.3 -1.6
ZEI *e*S **S** **23 38 43.8 +1.0**
ZEI pmax pmax
comp=Z,58nm,0.8s,mb5.7
VRT Varto 59.13 313 P **P** **23 30 44.5 -0.1**
EZM Erzurum 59.53 314 P **P** **23 30 47.4 +0.1**
BINT Bingol 59.80 313 P **P** **23 30 48.8 -0.3**
BCA Borcka 59.92 316 *e*P **P** **23 30 49.1 -0.8**
KIV Kislovodsk 60.19 319 P **P** **23 30 50.5 -1.3**
KIV pmax pmax
comp=Z,65nm,0.7s,mb5.8
KIV Kislovodsk 60.19 319 *e*P **P** **23 30 50.6 -1.2**
comp=Z,71nm,0.7s,mb5.8
URFA Urfa 60.58 311 *e*P **P** **23 30 54.4 -0.1**
EZC Erzincan 60.59 313 *e*P **P** **23 30 56.6 +2.1**
PTK Pertek 60.61 312 P **P** **23 30 53.6 -1.1**
ASF Jabal al Asfar 60.66 304 P **P** **23 30 55.7 +0.5**
comp=Z,5.7nm,0.8s,mb4.8,baz=345,slow=4.0,SNR=8.4
ASF pP pP 23 31 10.5 +0.3
comp=Z,5.3nm,0.8s,baz=149,slow=7.4,SNR=7.2
ASF LR LR 23 58 05.3
comp=Z,1µm,19.8s,MS5.1,baz=159,slow=37
GUMT Gumushane 61.07 314 P **P** **23 30 57.4 -0.4**
MALT Malatya 61.14 311 *e*P **P** **23 30 56.9 -1.5**
MALT Malatya 61.14 311 *e*P **P** **23 30 57.8 -0.5**
MALT pmax pmax
comp=Z,54nm,1.2s,mb5.5
MALT Malatya 61.14 311 *e*P **P** **23 30 57.8 -0.5**
comp=Z,54nm,1.2s,mb5.5
MYA Malatya 61.15 311 P **P** **23 30 58.0 -0.4**
GAZ Gaziantep 61.72 310 P **P** **23 31 02.3 0.0**
EIL Elat 61.76 301 *e*P **P** **23 31 02.2 -0.3**
comp=Z,26nm,0.8s,mb5.4
SOC Sochi 62.02 317 *i* P **P** **23 31 00.6 -3.5**
SOC *e* 23 31 42.0
SOC *e* 23 33 18.8
SOC *e*PPP PPP 23 34 45.9 -6.8
SOC *e*S **S** **23 39 19.2 -3.6**
SOC *e* 23 40 50.2
SOC *e*SS SS 23 43 21.6 -6.2
SOC pmax pmax
comp=N,24nm,0.7s
SOC pmax pmax
comp=Z,59nm,0.7s,mb5.8
SOC pmax pmax
comp=E,18nm,0.8s
BHL Bhannes 62.09 306 *e*P **P** **23 31 05.5 +0.8**
HTY Hatay 62.27 308 *e*P **P** **23 31 06.1 +0.2**
YAK Yakutsk 62.58 18*d* *i*P **P** **23 31 05.6 -2.0**
YAK *e* 23 31 44.2
YAK *e* 23 33 23.1
YAK *e*S **S** **23 39 29.2 -0.4**
YAK *e* 23 40 49.5
YAK *e*SS SS 23 43 37.3 +0.8
YAK *e*SSS SSS 23 46 25.2 +4.6
YAK pmax pmax
comp=Z,55nm,0.8s,mb5.7
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.9s
YAK pmax pmax
comp=Z,11nm,0.8s,mb5.0
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax
comp=N,7.0nm,0.9s
YAK smax
comp=E,5.0nm,1.1s
YAK MLR MLR
comp=N,2µm,17.0s,MS5.6
YAK MLR MLR
comp=E,3µm,17.0s,MS5.6
YAK MLR MLR
comp=Z,4µm,17.0s,MS5.7
YAK Yakutsk 62.58 18 *e*P **P** **23 31 04.9 -2.7**
comp=Z,181nm,0.8s,mb6.2
YAK LR LR
comp=Z,7µm,19.0s,MS5.9
CEYT Ceyhan 62.80 309 P **P** **23 31 09.9 +0.4**
TOO Toolangi 63.02 137 *e*P **P** **23 31 11.3 +0.4**
comp=Z,0.9nm,0.7s
TOO Toolangi 63.02 137 *e*P **P** **23 31 11.3 +0.4**
TOO pmax pmax
comp=Z,1.0nm,0.7s
TOKT Tokat 63.15 313 P **P** **23 31 11.0 -0.7**
BNN Bunyan 63.23 311 P **P** **23 31 11.7 -0.6**
KVT Kavak 63.74 314 *e*P **P** **23 31 15.1 -0.5**
AVNT Avonos 63.96 311 *i* P **P** **23 31 16.4 -0.6**
ANN Anapa 64.00 318 *e*P **P** **23 31 18.0 +0.8**
ANN *e*S **S** **23 39 56.6 +9.1**
ANN pmax pmax
comp=Z,104nm,1.0s,mb5.8
CSS Prodhromos 64.20 307 *e*P **P** **23 31 17.5 -1.2**
comp=Z,73nm,1.0s,mb5.7
MBAR Mbarara 64.49 267 *e*P **P** **23 31 21.1 +0.2**
MBAR pmax pmax
comp=Z,53nm,1.4s,mb5.4
MBAR MLR MLR
comp=Z,979nm,20.0s,MS5.0
MBAR Mbarara 64.49 267 *e*P **P** **23 31 21.1 +0.2**
comp=Z,53nm,1.4s,mb5.4
MBAR LR LR
comp=Z,979nm,20.0s,MS5.0
CORM Corum 64.51 312 *e*P **P** **23 31 19.9 -0.7**
CTKT Corum 64.52 313 *i* P **P** **23 31 19.8 -0.9**
LEF Lefka 64.59 307 *e*P **P** **23 31 21.6 +0.4**
BOYT Boyabat 64.67 314 *i* P **P** **23 31 21.0 -0.6**
BYBT Boyabat 64.78 314 *e*P **P** **23 31 21.2 -1.1**
KAMT Kaman 64.97 311 P **P** **23 31 22.4 -1.2**
BR131 Keskin Array S 65.12 312 PFAKE 23 31 40.0 +15
BR131 LR LR
comp=Z,680nm,21.0s,MS4.8
BRTR Keskin Array B 65.12 312 P **P** **23 31 23.4 -1.2**
comp=Z,37nm,0.7s,mb5.5,baz=126,slow=7.3,SNR=158
BRTR pP pP 23 31 40.3 +0.4
comp=Z,17nm,0.6s,baz=117,slow=8.3,SNR=6.2
TOS Tosya 65.19 313 P **P** **23 31 24.3 -0.7**
PECR Pechory 65.23 332 *e*P **P** **23 31 23.4 -1.6**
PECR *e* pP 23 31 43.2 +2.9
PECR *e*S S 23 40 00.0 -2.5
PECR *e* 23 40 19.6
PECR pmax pmax
comp=Z,2µm,1.4s
PECR pmax pmax
comp=Z,500nm,8.0s
PECR MLR MLR
comp=Z,1µm,21.0s
HDMB Hadim 65.32 309 *e*P **P** **23 31 25.5 -0.4**
CANT Cankiri 65.37 313 P **P** **23 31 25.6 -0.5**
BZK Bozkurt 65.47 314 P **P** **23 31 26.5 -0.3**
ELDT Eldivan 65.48 312 *i* P **P** **23 31 26.2 -0.7**
VOR Voronezh 65.59 326⇑ *i*P **P** **23 31 25.5 -1.9**
VOR *e**SP sP 23 31 39.0 -10
VOR pmax pmax
comp=N,70nm,1.4s
VOR pmax pmax
comp=E,70nm,1.4s
VOR pmax pmax
comp=Z,140nm,1.4s,mb5.8
KONT Konya--Tatoy 65.65 310 *e*P **P** **23 31 27.4 -0.6**
ANTO Ankara 65.79 312 *e*P **P** **23 31 27.1 -1.8**
ANTO Ankara 65.79 312⇑ P **P** **23 31 28.2 -0.6**
BALT Daday 65.79 314 *i* P **P** **23 31 28.3 -0.6**
LOD Lodumlu 65.81 312 *e*P **P** **23 31 27.1 -1.9**
HNR Honiara 66.18 102 PFAKE 23 31 40.0 +8.3
HNR LR LR
comp=Z,934nm,22.0s,MS5.0
SAFT Safranbolu 66.22 313 P **P** **23 31 30.8 -0.8**
KIZT Kizilcal 66.23 310 *e*P **P** **23 31 30.4 -1.2**
SIM Simferopol' 66.27 317⇑ *e*P **P** **23 31 31.0 -0.8**
SIM *e*S S 23 40 13.0 -2.4
SIM pmax pmax
comp=Z,57nm,0.8s,mb5.7
SGKT Sivrigoynuk 66.51 312 *i* P **P** **23 31 32.4 -1.0**
ANTB Antalya 66.74 308 *e*P **P** **23 31 34.7 -0.3**
BCK Bucak 66.91 309 *e*P **P** **23 31 35.1 -0.8**
TAU Tasmania Unive 66.95 141 P **P** **23 31 36.1 0.0**
TAU pmax pmax
comp=Z,39nm,1.1s,mb5.3
TAU MLR MLR
comp=Z,372nm,20.0s,MS4.6
TAU Tasmania Unive 66.95 141 P **P** **23 31 36.1 0.0**
comp=Z,39nm,1.1s,mb5.3
TAU LR LR
comp=Z,372nm,20.0s,MS4.6

ISP	Isparta	67.05	309	eP	P	23 31 34.8	-2.0
ISP	Isparta	67.05	309	eP	P	23 31 36.2	-0.7
ISP				pmax	pmax		
	comp=Z,127nm,1.1s,mb5.9						
ISP	Isparta	67.05	309	eP	P	23 31 36.2	-0.7
	comp=Z,127nm,1.1s,mb5.9						
MDU	Mudurnu	67.11	312	P	P	23 31 36.2	-0.9
ESKT	Eskisehir	67.16	311	eP	P	23 31 36.6	-0.9
ESKT	Eskisehir	67.16	311	i P	P	23 31 36.0	-1.5
ELL	Elmali	67.30	308	P	P	23 31 37.9	-0.6
HENT	Hendek	67.42	312	i P	P	23 31 37.9	-1.2
ALT	Altintas	67.62	310	eP	P	23 31 39.5	-0.9
GPA	Golpazari	67.74	312	eP	P	23 31 39.9	-1.2
FETY	Fethiye	67.92	308	P	P	23 31 40.8	-1.5
MOS	Moscow	68.15	329α	iP	P	23 31 42.7	-0.7
MOS				e	pP	23 31 56.9	-1.9
MOS				e		23 32 09.6	
MOS				e		23 34 13.9	
MOS				eS	S	23 40 35.0	-2.8
MOS				pmax	pmax		
	comp=Z,500nm,1.5s,mb6.3						
MOS				pmax	pmax		
	comp=Z,162nm,0.6s,mb6.2						
MOS				smax			
	comp=N,400nm,2.0s						
DNZL	Cakiroluk	68.16	309	i P	P	23 31 43.9	+0.2
SKR	Severo-Kuril's	68.19	37	eP	P	23 31 34.0	-10
SKR				e		23 32 04.0	
SKR				ePPP	PPP	23 35 58.0	+4.0
SKR				S	S	23 40 44.0	+5.6
SKR				ePS	PS	23 41 18.0	+7.1
SKR				e		23 41 29.0	
SKR				eSSS	SSS	23 47 56.0	-8.1
SKR				pmax	pmax		
	comp=Z,2µm,4.0s						
SKR				pmax	pmax		
	comp=Z,80nm,0.6s,mb5.9						
SKR				smax			
	comp=N,2µm,10.0s						
SKR				smax			
	comp=E,2µm,10.0s						
SKR				MLR	MLR		
	comp=Z,3µm,14.0s,MS5.6						
HRT	Hereke	68.33	312	eP	P	23 31 42.9	-1.9
OBN	Obninsk	68.44	328	P	P	23 31 44.8	-0.4
	comp=Z,629nm,0.8s,SNR=21						
OBN	Obninsk	68.44	328c	iP	P	23 31 44.1	-1.1
OBN				i *PP	pP	23 31 58.2	-2.4
OBN				e		23 34 21.9	
OBN				i S	S	23 40 38.9	-2.3
OBN				pmax	pmax		
	comp=Z,222nm,1.5s,mb6.0						
OBN	Obninsk	68.44	328	eP	P	23 31 43.8	-1.4
	comp=Z,84nm,0.7s,mb5.9						
OBN				e	pP	23 32 00.1	-0.5
OBN				LR	LR		
	comp=Z,259nm,21.0s,MS4.4						
ULDT	Uludag	68.58	311	i P	P	23 31 45.2	-1.2
ARG	Arkhangelos	68.61	307	eP	P	23 31 45.5	-1.1
YER	Yerkesik	68.65	308	eP	P	23 31 46.8	0.0
MANT	Manisa	68.69	309	i P	P	23 31 46.7	-0.4
BADT	Buyukada	68.75	312	eP	P	23 31 44.5	-2.9
ISK	Istanbul-Kandi	68.84	312	eP	P	23 31 47.1	-0.9
MA2	Magadan	69.03	27c	eP	P	23 31 48.0	-0.8
MA2				e		23 34 22.6	
MA2				ePPP	PPP	23 35 54.5	-7.7
MA2				eS	S	23 40 50.5	+2.3
MA2				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.4						
MA2				pmax	pmax		
	comp=N,10.0nm,1.1s						
MA2				MLR	MLR		
	comp=Z,9µm,24.2s,MS5.9						
MA2	Magadan	69.03	27	eP	P	23 31 47.9	-0.9
	comp=Z,75nm,0.9s,mb5.6						
MA2				LR	LR		
	comp=Z,2µm,20.0s,MS5.3						
AYDN	Tasoluk	69.06	308	i P	P	23 31 49.0	-0.4
LSZ	Lusaka	69.17	252	eP	P	23 31 51.1	+0.7
LSZ				pmax	pmax		
	comp=Z,64nm,1.3s,mb5.4						
LSZ				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.8						
LSZ	Lusaka	69.17	252	eP	P	23 31 51.1	+0.7
	comp=Z,64nm,1.3s,mb5.4						
LSZ				LR	LR		
	comp=Z,5µm,20.0s,MS5.8						
KARP	Karpathos	69.27	306	eP	P	23 31 49.1	-1.6
BDRM	Kayabasi	69.30	308	i P	P	23 31 49.8	-1.0
BTOK	Tokmak	69.34	311	i P	P	23 31 50.4	-0.6
BODT	Bodrum	69.40	308	eP	P	23 31 48.8	-2.6
BNT	Bandirma	69.54	311	P	P	23 31 51.7	-0.6
KDAG	Bornova	69.67	309	i P	P	23 31 53.0	-0.1
MRMT	Marmara Adasi	69.83	311	eP	P	23 31 52.5	-1.5
BLCB	Balcova	69.84	309	eP	P	23 31 53.9	-0.2
TLCR		69.95	316	⇓P	P	23 31 53.7	-1.0
MATP	Matopo	69.97	246	P	P	23 31 56.6	+1.4
	comp=Z,5.5nm,0.5s,mb4.8,baz=70,slow=6.0,SNR=43						
MATP				pP	pP	23 32 12.8	+2.1
	comp=Z,18nm,0.9s,baz=60,slow=6.5,SNR=6.7						
TIXI	Tiksi	70.02	11	i P	P	23 31 52.8	-1.9
TIXI				eS	S	23 40 55.8	-3.9
TIXI				ePS	PS	23 41 23.2	-11
TIXI				eSS	SS	23 45 34.8	+3.5
TIXI				pmax	pmax		
	comp=N,24nm,0.7s						
TIXI				pmax	pmax		
	comp=E,17nm,0.7s						
TIXI				pmax	pmax		
	comp=Z,110nm,0.7s,mb5.9						
TIXI				pmax	pmax		
	comp=Z,165nm,0.9s,mb6.0						
TIXI				MLR	MLR		
	comp=Z,3µm,17.0s,MS5.6						
TIXI	Tiksi	70.02	11	⇑iP	P	23 31 52.9	-1.8
TIXI				LR	LR		
	comp=Z,5µm,19.0s,MS5.8						
PSN	Preselentsi	70.04	315	i P	P	23 32 11.7	+16
TIRR	Tirgusor	70.06	316	⇑P	P	23 31 54.8	-0.5
MFT	Murefte	70.10	312	eP	P	23 31 52.2	-3.5
CANB	Canakkale	70.12	311	eP	P	23 31 54.3	-1.5
KIS	Kishinev	70.39	318α	iP	P	23 31 54.5	-2.8
KIS				e	pP	23 32 10.0	-2.8
KIS				e		23 34 32.0	
KIS				eS	S	23 40 57.0	-7.3
KIS				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
KIS				pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0						
KIS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
KIS				MLR	MLR		
	comp=N,400nm,19.0s						
CFR	Carcaliu	70.41	316	⇑P	P	23 31 56.9	-0.6
CFR	Carcaliu	70.41	316	⇑P	P	23 31 56.9	-0.6
HARR	Harsova	70.44	316	⇑P	P	23 31 57.3	-0.4
PET	Petropavlovsk	70.45	35c	iP	P	23 31 56.8	-0.8
PET				e	pP	23 32 10.1	-2.9
PET				eS	S	23 41 11.8	+6.8
PET				pmax	pmax		
	comp=Z,99nm,0.7s,mb5.8						
PET				pmax	pmax		
	comp=Z,500nm,12.9s						
PET				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.4						
PET				MLR	MLR		
	comp=Z,2µm,21.0s						
PET	Petropavlovsk	70.45	35	i P	P	23 31 57.1	-0.5
PET				pmax	pmax		
	comp=Z,68nm,0.8s,mb5.6						
PET	Petropavlovsk	70.45	35	eP	P	23 31 56.4	-1.2
	comp=Z,78nm,0.8s,mb5.7						
PET				LR	LR		
	comp=Z,2µm,20.0s,MS5.4						
NPS	Neapolis	70.48	306	eP	P	23 31 57.9	-0.2
PRD	Provadia	70.50	314	i P	P	23 32 14.5	+16
PRK	Paraskevi	70.58	310	eP	P	23 31 58.3	-0.3
EDRB	Edirne	70.70	313	eP	P	23 31 58.1	-1.2
SANT	Santorini	70.76	307	eP	P	23 31 57.6	-2.1
	comp=Z,62nm,0.6s,mb5.7						
APE	Apeiranthos	70.81	307	⇑P	P	23 31 58.8	-1.2
THR3	Thira Island,	70.81	307	eP	P	23 31 59.4	-0.7
JMB	Yambol	70.94	313	i P	P	23 32 17.5	+17
WAKE	Wake Island	71.04	71	PFAKE		23 32 10.0	+8.3
WAKE				LR	LR		
	comp=Z,69µm,21.0s						
ALN	Alexandroupoli	71.04	312	eP	P	23 32 02.5	+1.1
IDI	Anoyia	71.07	306	P	P	23 32 01.6	0.0
	comp=Z,46nm,0.6s,mb5.6,baz=91,slow=7.3,SNR=49						
BRD	Bordesti	71.26	317	⇓P	P	23 32 03.3	+0.7
IAS	Iasi	71.27	318	P	P	23 32 02.0	-0.6
SEY	Seymchan	71.30	24	eP	P	23 32 03.9	+1.4
SEY					pP	23 32 23.0	+5.0
SEY						23 34 41.5	
SEY				eS	S	23 41 19.9	+5.4
SEY						23 42 02.7	
SEY				SS	SS	23 45 57.2	+5.7
SEY				pmax	pmax		
	comp=Z,40nm,0.8s,mb5.4						
SEY				pmax	pmax		
	comp=N,20nm,0.7s						
SEY				pmax	pmax		
	comp=E,20nm,0.6s						
SEY				smax			
	comp=N,2µm,23.9s						
SEY				smax			
	comp=E,1µm,21.4s						
SEY				MLR	MLR		
	comp=Z,14µm,21.0s,MS6.2						
SEY				MLR	MLR		
	comp=N,800nm,17.0s,MS6.0						
SEY				MLR	MLR		
	comp=E,8µm,20.0s,MS6.0						
RDO	Rodhopi	71.46	312	eP	P	23 32 03.0	-0.9
ISR	Istrita	71.50	316	P	P	23 32 05.4	+1.4
VRI	Vrincioaia	71.53	317	⇓P	P	23 32 04.1	-0.1
VRI	Vrincioaia	71.53	317	P	P	23 32 04.6	+0.4
SZH	Strazhica	71.56	314	P	P	23 32 21.0	+17
LOS	Limnos	71.60	310	eP	P	23 32 04.3	-0.4
DIM	Dimitrovgrad	71.62	313	i P	P	23 32 21.5	+17
KDZ	Kurdzhali	71.64	312	i P	P	23 32 21.5	+17
VAM	Vamos	71.64	306	⇑iP	P	23 32 05.0	0.0
GVD	Gavdhos	71.66	305	eP	P	23 32 04.2	-0.9
	comp=E,42nm,0.7s,mb5.5						
BUC1	Bucharest	71.70	315	P	P	23 32 04.3	-0.9
CASY	Casey	71.82	173	P	P	23 32 06.0	+0.5
	comp=E,62nm,1.6s,mb5.3						
CASY				e	pP	23 32 20.2	-0.8
CASY				LR	LR		
	comp=Z,3µm,21.0s,MS5.6						
PVL	Pavlikeni	71.98	314	i P	P	23 32 24.0	+17
MLR	Muntele Rosu	71.99	316	P	P	23 32 07.4	+0.5
MLR	Muntele Rosu	71.99	316	P	P	23 32 07.3	+0.3
	comp=Z,74nm,0.8s,mb5.7,baz=131,slow=0.9,SNR=48						
RZN	Rozhen	72.16	312	i P	P	23 32 24.0	+16
ATH	Athens Observa	72.36	308	eP	P	23 32 07.9	-1.4
OUR	Ouranopolis	72.50	311	eP	P	23 32 09.2	-0.8
PAIG	Paliouri	72.67	310	eP	P	23 32 10.1	-0.9
NVR	Nevrokopi	72.74	312	eP	P	23 32 10.7	-0.8
VLI	Veliai	72.82	307	eP	P	23 32 07.6	-4.4
MMB	Musomiste	72.88	312	i P	P	23 32 27.5	+15
PLG	Polygyros	72.91	311	eP	P	23 32 11.5	-1.0
SRS	Serrai	72.91	311	eP	P	23 32 11.1	-1.4
BURAR	Bucovina Array	72.92	318	P	P	23 32 12.9	+0.5
NEO	Neokhori	72.93	310	eP	P	23 32 10.4	-2.2
MNK	Minsk	72.97	326	⇑eP	P	23 32 10.0	-2.6
LKR	Lokris	73.01	309	eP	P	23 32 11.0	-2.1
THE	Thessaloniki	73.31	311	eP	P	23 32 13.6	-1.2
PUL	Pulkovo	73.31	331	eP	P	23 32 15.2	+0.8
PUL				i	pP	23 32 31.4	+1.5
PUL				i PPP	PPP	23 36 46.1	+2.1
PUL				eS	S	23 41 35.3	-2.2
PUL				pmax	pmax		
	comp=Z,130nm,0.6s,mb6.0						
PUL				pmax	pmax		
	comp=N,366nm,0.7s						
PUL				pmax	pmax		
	comp=E,275nm,0.8s						
PUL				smax			
	comp=N,443nm,11.0s						
PUL				smax			
	comp=Z,116nm,12.0s						
PUL				smax			
	comp=E,52nm,5.9s						
PUL				MLR	MLR		
	comp=Z,2µm,21.0s,MS5.3						
PUL				MLR	MLR		
	comp=N,1µm,23.0s,MS5.3						
PUL				MLR	MLR		
	comp=E,1µm,21.0s,MS5.3						
KKB	Krupnik	73.40	312	i P	P	23 32 31.0	+16
VTS	Vitosha	73.42	313	⇑P	P	23 32 14.8	-0.6
VTS	Vitosha	73.42	313	P	P	23 32 15.0	-0.4
VTS	Vitosha	73.42	313	i P	P	23 32 31.3	+16
KNT	Kendrikon	73.43	311	eP	P	23 32 14.4	-1.1
AGG	Agios Georgios	73.58	309	eP	P	23 32 14.6	-1.9
LIT	Litokhoron	73.59	310	eP	P	23 32 15.0	-1.5
LBTB	Lobatse	73.64	242	eP	P	23 32 17.8	+0.7
LBTB				pmax	pmax		
	comp=Z,69nm,1.2s,mb5.5						
LBTB	Lobatse	73.64	242	P	P	23 32 18.7	+1.6
	comp=Z,9.9nm,0.6s,mb4.9,baz=97,slow=4.4,SNR=24						
LBTB	Lobatse	73.64	242	eP	P	23 32 17.8	+0.7
	comp=Z,69nm,1.2s,mb5.5						
ITM	Ithomi	73.68	307	⇑iP	P	23 32 15.9	-1.2
VAY	Valandovo	73.70	312	⇑iP	P	23 32 15.9	-1.2
GRG	Griva	73.78	311	eP	P	23 32 16.0	-1.6
EVR	Evrytania	73.97	309	eP	P	23 32 17.2	-1.5
JOF	Joensuu	73.98	335	ep	P	23 32 18.2	-0.1
	comp=Z,7.5nm,0.3s,mb5.1						
LVV	L'vov	74.13	320	i P	P	23 32 19.0	-0.4
LVV				e	pP	23 32 34.1	-0.9
LVV				eS	S	23 41 51.7	+4.8
LVV				e		23 42 30.3	
LVV				e		23 46 30.9	
RLS	Riolos of Patr	74.14	308	eP	P	23 32 19.0	-0.7
KZN	Kozani	74.17	310	eP	P	23 32 20.0	+0.2
BOLS	Boljevac	74.50	314	⇓iP	P	23 32 20.5	-1.2
FNA	Florina	74.53	311	eP	P	23 32 20.1	-1.8
SKO	Skopje	74.63	312	i P	P	23 32 21.4	-1.1
LVZ	Lovozero	74.72	340c	eP	P	23 32 21.8	-0.7
LVZ				i	pP	23 32 37.7	-0.3
LVZ				eS	S	23 41 52.4	-0.7
LVZ				i SSS	SSS	23 50 01.1	+3.7
LVZ				pmax	pmax		
	comp=Z,116nm,0.7s,mb5.9						
LVZ				pmax	pmax		
	comp=N,3.0nm,0.5s						
LVZ				pmax	pmax		
	comp=E,21nm,0.6s						
LVZ				pmax	pmax		
	comp=Z,961nm,3.4s						
LVZ				pmax	pmax		
	comp=N,554nm,5.7s						
LVZ				pmax	pmax		
	comp=E,478nm,3.5s						
LVZ				smax			
	comp=N,381nm,11.9s						
LVZ				smax			
	comp=Z,68nm,7.3s						
LVZ				smax			
	comp=E,55nm,6.7s						
LVZ				smax			
	comp=N,309nm,2.8s						
LVZ				smax			
	comp=Z,407nm,2.5s						
LVZ				smax			
	comp=E,340nm,4.0s						
LVZ				MLR	MLR		
	comp=Z,2µm,22.0s,MS5.3						
LVZ				MLR	MLR		
	comp=N,1µm,20.0s,MS5.3						
LVZ				MLR	MLR		
	comp=E,1µm,24.0s,MS5.3						
BOSA	Boshof	74.79	239	eP	P	23 32 24.4	+0.7
BOSA				pmax	pmax		
	comp=Z,91nm,1.3s,mb5.5						
BOSA	Boshof	74.79	239	eP	P	23 32 24.4	+0.7
	comp=Z,91nm,1.3s,mb5.5						
JAN	Janina	74.79	310	eP	P	23 32 22.6	-0.9
VLS	Valsamata	74.84	308	eP	P	23 32 22.5	-1.3
KWP	Kalwaria	74.94	320	eP	P	23 32 24.4	+0.3
KWP				e	pP	23 32 40.9	+1.3
KWP	Kalwaria	74.94	320	eP	P	23 32 24.4	+0.3
KWP				epP	pP	23 32 30.7	-8.9
KWP				e	pP	23 32 40.9	+1.3
KWP	Kalwaria	74.94	320	eP	P	23 32 24.4	+0.3
	comp=Z,800nm,2.4s,mb6.2						
KWP				epP	pP	23 32 30.7	-8.9
KWP				e	pP	23 32 40.9	+1.3
APA	Apatity	75.00	340	⇓iP	P	23 32 24.0	-0.1
APA				i	pP	23 32 42.6	+3.0
APA				eS	S	23 42 00.0	+3.7
APA				i		23 42 23.0	
APA				pmax	pmax		
	comp=Z,140nm,1.0s,mb5.8						
APA				MLR	MLR		
	comp=Z,1µm,17.0s,MS5.2						
BZS	Buzias	75.01	316	⇓P	P	23 32 24.2	-0.3
BZS	Buzias	75.01	316	P	P	23 32 24.4	-0.1
UZH	Uzhgorod	75.03	319	eP	P	23 32 25.0	+0.4
KOLS	Kolonicke sedl	75.10	319	i P	P	23 32 25.7	+0.7
IGT	Igoumenitsa	75.18	309	eP	P	23 32 24.0	-1.6
GRUS	Gruza	75.40	314	eP	P	23 32 26.2	-0.6
SUW	Suwalki	75.50	325	eP	P	23 32 26.5	-0.7
SUW				e	pP	23 32 42.8	0.0
SUW				eS	S	23 42 00.2	-1.8
SUW	Suwalki	75.50	325	eP	P	23 32 26.5	-0.7
SUW				epP	pP	23 32 34.7	-8.1
SUW				e	pP	23 32 42.8	0.0
SUW				eS	S	23 42 00.2	-1.8
SUW	Suwalki	75.50	325	eP	P	23 32 26.5	-0.7
	comp=Z,700nm,2.2s,mb6.2						
SUW				epP	pP	23 32 34.6	-8.1
SUW				e	pP	23 32 42.8	+0.1
SUW				eS	S	23 42 00.2	-1.8
CRVS	Cervenica-Dubn	75.62	319	eP	P	23 32 28.5	+0.5
MAW	Mawson	75.77	192	P	P	23 32 30.9	+2.4
	comp=Z,2.6nm,0.7s,baz=21,slow=14,SNR=1.4						
MAW				pP	pP	23 32 44.9	+0.9
	comp=Z,7.5nm,0.8s,baz=310,slow=3.4,SNR=3.5						
MAW				PKKP	PKKP	23 51 37.3	+16
	comp=Z,6.9nm,0.4s,baz=52,slow=20,SNR=16						
MAW				LR	LR	23 59 44.9	
	comp=Z,2µm,18.9s,baz=24,slow=31						
PVY	Plav	75.78	313	⇑iP	P	23 32 28.4	-0.7
FINES	FINESS Array B	75.82	332	P	P	23 32 28.3	-0.6
	comp=Z,49nm,0.5s,mb5.7,baz=96,slow=5.8,SNR=442						
FINES				pP	pP	23 32 43.1	-1.3
	comp=Z,11nm,0.5s,baz=90,slow=7.6,SNR=7.3						
FINES				LR	LR	00 10 54.5	
	comp=Z,838nm,21.7s,MS5.0,baz=260,slow=40						
IVA	Berane	75.87	313	⇑iP	P	23 32 29.5	0.0
KAF	Kangasniemi	75.91	333	ep	P	23 32 27.6	-1.7
	baz=104,slow=5.3						
DIVS	Divcibare	75.95	314	⇓iP	P	23 32 29.4	-0.5
KECS	Kecovo	76.19	319	eP	P	23 32 31.4	+0.1
ULC	Ulcinj	76.25	312	⇑iP	P	23 32 31.3	-0.4
PLE	Pljevlja	76.29	313	⇑iP	P	23 32 32.2	+0.3
TTG	Podgorica	76.29	312	⇑iP	P	23 32 30.9	-1.0
BBLS	Bajina Basta -	76.34	314	⇓iP	P	23 32 32.0	-0.2
NIE	Niedzica	76.44	320	eP	P	23 32 31.6	-1.1
WAR	Warsaw	76.45	323	eP	P	23 32 33.7	+1.1
PSZ	Piszkesteto	76.51	318	eP	P	23 32 33.1	+0.1
PSZ				pmax	pmax		
	comp=Z,94nm,0.8s,mb5.8						
PSZ	Piszkesteto	76.51	318	eP	P	23 32 33.0	0.0
	comp=Z,94nm,0.8s,mb5.8						
PSZ	Piszkesteto	76.51	318	⇑iP	P	23 32 33.2	+0.2
NKY	Niksic	76.52	313	⇑iP	P	23 32 32.6	-0.6
BUM	Brajici-Budva	76.54	312	⇑iP	P	23 32 32.7	-0.7
UPM	Unac-Piva	76.63	313	⇑iP	P	23 32 33.1	-0.7
HCY	Herceg Novi	76.85	312	⇑iP	P	23 32 34.4	-0.7
BRY	Bratogost	76.86	313	⇑iP	P	23 32 34.4	-0.8
OJC	Ojcow	76.89	320	⇑iP	P	23 32 35.2	0.0
OJC				ePcP	PcP	23 32 50.6	+4.2
OJC				eS	S	23 42 15.9	-1.4
OJC				MLR	MLR	00 16 50.7	
	comp=Z,800nm,20.2s,MS5.0						
PKSM	Moragy	77.14	316	⇑P	P	23 32 36.2	-0.5
LIKS	Likavka	77.18	319	eP	P	23 32 36.8	0.0
VYHS	Vyhne	77.28	319	i P	P	23 32 37.7	+0.3
VYHS				e		23 32 44.4	
SRO	Srobarova	77.55	318	i P	P	23 32 40.0	+1.1
SRO				e		23 32 47.2	
SRO1	Iza	77.60	318	eP	P	23 32 39.7	+0.6
OKC	Ostrava-Krasne	77.90	320	⇑iP	P	23 32 41.2	+0.5
OKC				epP	pP	23 32 55.7	-0.6
OKC				eS	S	23 42 27.5	-0.6
RAC	Raciborz	77.90	320	eP	P	23 32 41.7	+1.0
TIP	Timpagrande	77.91	309	eP	P	23 32 40.9	-0.1
KEV	Kevo	78.00	341	ep	P	23 32 39.8	-1.1
	comp=Z,9.4nm,0.4s,mb5.1						
KEV	Kevo	78.00	341	eP	P	23 32 39.8	-1.1
KEV				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
DRV	Dumont d'Urvil	78.21	163	P	P	23 32 48.0	+5.9
DRV				S	S	23 42 26.0	-5.2
SMOL	Smolenice	78.22	318	i P	P	23 32 42.9	+0.4
SMOL				e	pP	23 32 56.4	-1.7
MORC	Moravsky Berou	78.28	320	eP	P	23 32 43.3	+0.5
MORC				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.5						
MORC	Moravsky Berou	78.28	320	eP	P	23 32 43.3	+0.5
	comp=Z,49nm,0.8s,mb5.5						
SOI	Samo	78.39	308	eP	P	23 32 44.1	+0.4
ZST	Bratislava	78.40	318	eP	P	23 32 44.0	+0.5
ZST				e		23 32 48.9	
ARCES	ARCESS Array B	78.42	340	P	P	23 32 43.4	+0.1
	comp=Z,70nm,0.5s,mb5.8,baz=92,slow=5.7,SNR=567						
ARCES				pP	pP	23 32 58.8	-0.1
	comp=Z,17nm,0.6s,baz=104,slow=5.0,SNR=3.8						
ARCES				LR	LR	00 13 43.2	
	comp=Z,2µm,21.2s,MS5.3,baz=108,slow=40						
ARE0	ARCESS Array S	78.42	340	eP	P	23 32 43.2	0.0
BILL	Bilibino	78.56	21c	iP	P	23 32 43.0	-1.0
BILL				i S	S	23 42 47.9	+13
BILL				pmax	pmax		
	comp=Z,76nm,1.7s,mb5.3						
BILL	Bilibino	78.56	21	eP	P	23 32 42.8	-1.2
	comp=Z,25nm,0.6s,mb5.3						
BILL				LR	LR		
	comp=Z,6µm,19.0s,MS5.9						
SISC	Sisak	78.65	315	i P	P	23 32 45.0	+0.1
SCLL	Scilla	78.67	308	eP	P	23 32 45.9	+0.6
MTTG	Motta San Giov	78.68	308	eP	P	23 32 46.1	+0.8
FGMS	Monte Sant'Ang	78.68	311	eP	P	23 32 44.7	-0.5
SOP	Sopron	78.71	318	⇑iP	P	23 32 45.5	+0.2
KOGS	Kog	78.82	316	⇑eP	P	23 32 46.2	+0.3
VRAC	Vranov	78.84	319	⇑P	P	23 32 45.8	-0.1
VRAC	Vranov	78.84	319	P	P	23 32 46.5	+0.5
GKP	Gorka Klasztor	78.87	323	eP	P	23 32 46.0	0.0
	comp=Z,0.1nm,0.7s						
GKP				eS	S	23 42 35.8	-2.7
GKP	Gorka Klasztor	78.87	323	eP	P	23 32 46.0	0.0
	comp=Z,100nm,0.7s,mb5.8						
GKP				eS	S	23 42 35.8	-2.7
VKA	Vienna	78.93	318	⇑iP	P	23 32 46.8	+0.4
	comp=Z,448nm,2.0s,mb6.0						
VKA	Vienna	78.93	318	⇑iP	P	23 32 46.8	+0.4
VKA				pmax	pmax		
	comp=Z,448nm,2.0s,mb6.0						
MRLC	Muro Lucano	78.98	310	eP	P	23 32 46.6	-0.3
FX1	Attu Island--F	78.98	37	eP	P	23 32 46.2	-0.4
KTK1	Kautokeino	79.05	340	⇑iP	P	23 32 46.4	-0.3
	comp=Z,137nm,0.9s,mb5.9						
KTK1	Kautokeino	79.05	340	⇑iP	P	23 32 46.4	-0.3
KTK1				AMb	AMB	23 32 50.3	
	comp=Z,137nm,0.9s,mb5.9						
SGO	Sicignano	79.10	310	eP	P	23 32 47.3	-0.3
DPC	Dobruska-Polom	79.12	320	⇑iP	P	23 32 48.3	+0.9
DPC				eS	S	23 42 42.3	+1.2
KSP	Ksiaz	79.19	321	eP	P	23 32 48.2	+0.4
KSP				e*PP	pP	23 33 02.8	-0.6
KSP				eS	S	23 42 43.0	+1.2
KSP				MLR	MLR		
	comp=Z,2µm,20.7s,MS5.4						
KSP	Ksiaz	79.19	321	eP	P	23 32 48.6	+0.8
	comp=Z,500nm,2.2s,mb6.1						
KSP				e	pP	23 33 04.6	+1.1
KSP				eS	S	23 42 44.2	+2.4
UPC	Upice	79.33	320	⇑iP	P	23 32 49.2	+0.6
ARSA	Arzberg	79.38	317	⇑iP	P	23 32 49.4	+0.5
	comp=Z,271nm,2.3s,mb5.8						
SUR	Sutherland	79.39	236	eP	P	23 32 50.0	+0.7
	comp=Z,62nm,1.1s,mb5.5						
SUR				LR	LR		
	comp=Z,383nm,22.0s,MS4.7						
BOJS	Bojanci	79.44	315	⇑iP	P	23 32 49.5	+0.2
SMY	Shemya	79.53	37	P	P	23 32 49.3	-0.3
SMY				pmax	pmax		

comp=Z,220nm,0.8s,mb6.1
SMY Shemya 79.53 37 *e*P **P 23 32 48.7 -0.9**
PERS Pernice 79.61 316⇑*e*P **P 23 32 50.7 +0.5**
VISS Visnje 79.75 316 *i* P **P 23 32 51.2 +0.3**
TSUM Tsumeb 79.83 250 *e*P **P 23 32 53.6 +1.7**
comp=Z,12nm,0.9s,mb4.8
TSUM LR LR
comp=Z,2µm,20.0s,MS5.5
CII Carovilli 79.92 311 *e*P **P 23 32 51.7 -0.2**
LJU Ljubljana 79.98 316⇑*i*P **P 23 32 52.6 +0.4**
LJU *e* pP 23 33 08.4 +0.6
LJU pmax pmax
comp=Z,596nm,2.2s,mb6.1
LJU Ljubljana 79.98 316⇑*i*P **P 23 32 52.6 +0.4**
comp=Z,596nm,2.2s,mb6.1
LJU *e* pP 23 33 08.4 +0.5
OBKA Obir 79.99 316⇑*i*P **P 23 32 52.8 +0.6**
comp=Z,314nm,2.4s,mb5.8
PRU Pruhonice 80.23 320⇑*i*P **P 23 32 53.8 +0.4**
PRU epP pP 23 33 09.2 +0.1
PVCC Panska Ves 80.25 320⇑*i*P **P 23 32 54.2 +0.7**
MOA Molln 80.27 318⇑*i*P **P 23 32 53.6 -0.1**
comp=Z,176nm,2.5s,mb5.5
SDI San Donato 80.28 311 *e*P **P 23 32 53.2 -0.7**
VOY Vojsko 80.42 316⇑*e*P **P 23 32 54.7 +0.2**
BSD Bornholm Skovb 80.43 325⇑*i*P **P 23 32 53.7 -0.7**
BSD *i* S S 23 42 54.3 -0.4
BSD pmax pmax
comp=Z,47nm,0.7s,mb5.5
BSD Bornholm Skovb 80.43 325⇑*i*P **P 23 32 53.7 -0.7**
comp=Z,47nm,0.7s,mb5.5
BSD *i* S S 23 42 54.3 -0.4
BSD Bornholm Skovb 80.43 325⇑*i*P **P 23 32 53.7 -0.7**
comp=Z,47nm,0.7s,mb5.5
BSD Bornholm Skovb 80.43 325 *i* S S 23 42 54.3 -0.4
comp=Z,490nm,19.0s
TRI Trieste 80.49 315 *e*P **P 23 32 54.5 -0.4**
CADS Cadrg 80.54 316⇑*e*P **P 23 32 55.2 0.0**
PTQR Pietraquaria 80.60 312 *e*P **P 23 32 55.7 +0.1**
AQU L'Aquila 80.61 312 P **P 23 32 55.9 +0.3**
AQU pmax pmax
comp=Z,61nm,0.7s,mb5.6
AQU L'Aquila 80.61 312 *e*P **P 23 32 56.1 +0.5**
BRG Berggiesshubel 80.67 321 *i*P **P 23 32 56.1 +0.3**
BRG *i* pP 23 33 12.7 +1.3
BRG *e*S S 23 42 58.0 +0.6
BRG pmax pmax
comp=Z,49nm,0.8s,mb5.5
BRG MLR MLR
comp=Z,1µm,21.9s,MS5.2
BRG Berggiesshubel 80.67 321 *i* P **P 23 32 56.1 +0.3**
comp=Z,49nm,0.8s,mb5.5
BRG *i* pP 23 33 12.7 +1.3
BRG *e*S S 23 42 58.0 +0.6
BRG LR LR
comp=Z,1µm,21.9s,MS5.2
USI Ustica 80.68 308 *e*P **P 23 32 55.9 -0.2**
TRO Tromso 80.68 340 *e*P **P 23 32 54.0 -1.5**
TRO AMS AMS 00 12 15.4
comp=Z,979nm,16.9s,MS5.2
GERES GERESS Array B 80.70 319 P **P 23 32 56.5 +0.5**
comp=Z,60nm,0.8s,mb5.6,baz=98,slow=5.1,SNR=196
GERES S S 23 42 60.0 +2.3
comp=Z,0.1nm,0.3s,baz=114,slow=12,SNR=4.2
KHC Kasperske Hory 80.80 319⇑*i*P **P 23 32 56.7 +0.2**
KHC *e* pP 23 33 12.0 -0.2
KHC *e* 23 42 58.0
KHC Kasperske Hory 80.80 319⇑*i*P **P 23 32 56.7 +0.2**
KHC *e*PCP PcP 23 33 04.8 +1.5
KHC *e*pP pP 23 33 12.0 -0.2
KHC *e*S S 23 42 58.0 -0.7
PTCC Patocco-Chiusa 80.81 316 *e*P **P 23 32 56.5 -0.1**
NRCA Norcia 80.84 312 *e*P **P 23 32 56.9 +0.1**
KBA Koelnbreinsper 80.85 317⇑*i*P **P 23 32 56.7 -0.1**
comp=Z,177nm,2.3s,mb5.6
KBA Koelnbreinsper 80.85 317⇑*i*P **P 23 32 56.7 -0.1**
KBA pmax pmax
comp=Z,177nm,2.3s,mb5.6
RUE Ruedersdorf 80.89 322 *e*P **P 23 32 57.0 +0.1**
comp=Z,174nm,0.8s,mb6.0
RUE *e* pP 23 33 13.5 +0.9
GMNA Gemona 80.89 316 *e*P **P 23 32 57.2 +0.2**
SNTG Esanatoglia 80.98 313 *e*P **P 23 32 57.7 +0.2**
ARV Arcevia 80.99 313 *e*P **P 23 32 58.3 +0.7**
ERC Erice 81.13 308 *e*P **P 23 32 59.2 +0.7**
MNS Montasola 81.15 312 *e*P **P 23 32 57.5 -0.9**
FVI Forni Avoltri 81.22 316 *e*P **P 23 32 58.7 0.0**
WET Wettzell 81.26 319 *e*P **P 23 32 59.2 +0.3**
WET *e**PP pP 23 33 14.9 +0.3
WET pmax pmax
comp=Z,51nm,0.9s,mb5.5
WET Wettzell 81.26 319 *e*P **P 23 32 59.2 +0.3**
comp=Z,51nm,0.9s,mb5.5
WET *e*pP pP 23 33 14.9 +0.3
CLL Collm 81.29 321⇑*i*P **P 23 32 58.8 -0.2**
CLL *i* pP 23 33 14.3 -0.4
CLL *e*S S 23 43 04.0 +0.2
CLL pmax pmax
comp=Z,40nm,1.1s,mb5.3
CLL Collm 81.29 321⇑*i*P **P 23 32 58.8 -0.2**
comp=Z,40nm,1.1s,mb5.3
CLL *i* pP 23 33 14.3 -0.4
CLL *e*S S 23 43 04.0 +0.2
CLL Collm 81.29 321 ⇑P **P 23 32 58.8 -0.2**
comp=Z,logA/T=1.6,mb5.3
CLL *i* *PP pP 23 33 14.3 -0.4
CLL *e* 23 33 24.0
CLL *e*S S 23 43 04.0 +0.2
RSM Repubblica di 81.36 314 *e*P **P 23 33 00.6 +1.1**
HFS Hagfors 81.54 330 P **P 23 32 59.8 -0.2**
comp=Z,35nm,0.5s,mb5.5,baz=108,slow=4.7,SNR=239
HFS pP pP 23 33 14.8 -1.0
comp=Z,15nm,0.5s,baz=108,slow=4.7,SNR=4.3
NKC Novy Kostel 81.59 320⇑*i*P **P 23 33 01.0 +0.4**
SFI Santa Sofia 81.79 314 *e*P **P 23 33 03.1 +1.3**
MOR8 Moi Rana 81.82 336⇑*i*P **P 23 33 00.6 -0.8**
comp=Z,87nm,0.7s,mb5.8
MOR8 Moi Rana 81.82 336⇑*i*P **P 23 33 00.6 -0.8**
MOR8 AMb AMB 23 33 03.7
comp=Z,87nm,0.7s,mb5.8
COP Copenhagen 81.88 325 *e*P pP 23 33 12.8 -4.9
COP pmax pmax
comp=Z,41nm,0.8s,mb5.4
COP MLR MLR
comp=Z,270nm,18.0s,MS4.7
COP Copenhagen 81.88 325 *i* P pP 23 33 12.8 -4.9
comp=Z,41nm,0.8s
comp=Z,260nm,18.0s
PGD Poggio Sodo 81.88 313 *e*P **P 23 33 03.5 +1.3**
CTI Castel Tesino 81.98 316 *e*P **P 23 33 03.4 +0.7**
VMG Vicchio 82.01 314 *e*P **P 23 33 03.9 +1.0**
WTTA Wattenberg 82.02 317⇑*i*P **P 23 33 02.8 -0.1**
comp=Z,283nm,2.6s,mb5.7
WTTA Wattenberg 82.02 317⇑*i*P **P 23 33 02.8 -0.1**
WTTA pmax pmax
comp=Z,283nm,2.6s,mb5.7
WATA Walderalm 82.06 317⇓*i*P **P 23 33 02.7 -0.4**
comp=Z,17nm,1.0s,mb4.9
WATA Walderalm 82.06 317⇓*i*P **P 23 33 02.7 -0.4**
WATA pmax pmax
comp=Z,17nm,1.0s,mb4.9
MOX Moxa 82.14 320 *e*P **P 23 33 03.7 +0.3**
MOX *e* pP 23 33 19.4 +0.3
MOX pmax pmax
comp=Z,117nm,2.0s,mb5.5
MOX Moxa 82.14 320 *e*P **P 23 33 03.7 +0.3**
comp=Z,117nm,2.0s,mb5.5
MOX *e* pP 23 33 19.4 +0.3
MOX Moxa 82.14 320 *i* P **P 23 33 03.7 +0.3**
comp=Z,logA/T=1.8,mb5.5
MOX pP pP 23 33 19.0 -0.1
MOX PP PP 23 36 24.0 +10
MOX S S 23 43 15.0 +2.6
MOX L 00 16 18.0
FUR Furstenfeldbru 82.29 318 *e*P **P 23 33 04.1 -0.1**
FUR pmax pmax
comp=Z,50nm,0.8s,mb5.5
FUR Furstenfeldbru 82.29 318 *e*P **P 23 33 04.1 -0.1**
comp=Z,50nm,0.8s,mb5.5
SQTA Sankt Quirin 82.31 317⇑*i*P **P 23 33 04.4 0.0**
comp=Z,21nm,0.7s,mb5.2
SQTA Sankt Quirin 82.31 317⇑*i*P **P 23 33 04.4 0.0**
SQTA pmax pmax
comp=Z,21nm,0.7s,mb5.2

GRA1 Grafenberg Arr 82.36 319 *e*P **P 23 33 05.3 +0.7**
comp=Z,68nm,0.9s,mb5.6
GRA1 *e*pP pP 23 33 21.0 +0.7
GRA1 *e*PP PP 23 36 17.2 +1.6
GRF Grafenberg Arr 82.36 319 *e*P **P 23 33 05.3 +0.7**
GRF *e**PP pP 23 33 21.0 +0.7
GRF *e* 23 36 17.2
GRF pmax pmax
comp=Z,68nm,0.9s,mb5.6
GRF Grafenberg Arr 82.36 319 *e*P **P 23 33 05.3 +0.7**
GRF *e**PP pP 23 33 21.0 +0.7
GRF *e* 23 36 17.2
GRF pmax pmax
comp=Z,68nm,0.9s,mb5.6
GRF Grafenberg Arr 82.36 319 *e*P **P 23 33 05.3 +0.7**
comp=Z,68nm,0.9s,mb5.6
GRF *e*pP pP 23 33 21.0 +0.7
GRF *e*PP PP 23 36 17.2 +1.6
MOTA Moosalm 82.39 317⇑*i*P **P 23 33 04.5 -0.2**
GRFL Gerfalco 82.42 313 *e*P **P 23 33 04.6 -0.4**
ZCCA Zocca 82.43 314 *e*P **P 23 33 06.9 +1.9**
BDI Bagni Di Lucca 82.70 314 *e*P **P 23 33 05.9 -0.5**
GSCL Gusciola 82.71 314 *e*P **P 23 33 07.8 +1.3**
PII Pisa 82.75 313 *e*P **P 23 33 05.6 -1.1**
SAL Salo 82.76 315 *e*P **P 23 33 07.8 +1.1**
SYO Syowa Base 82.80 197⇓pP pP 23 33 24.0 +1.9
NB2 NORSAR Subarra 82.82 331 P **P 23 33 06.0 -0.7**
comp=Z,18nm,0.8s,mb5.2,baz=97,slow=5.3
NB2 NORSAR Subarra 82.82 331 P **P 23 33 06.0 -0.7**
NB2 pmax pmax
comp=Z,18nm,0.8s,mb5.2
NB2 NORSAR Subarra 82.82 331 P **P 23 33 06.0 -0.7**
baz=96,slow=5.6
NOA NORSAR Array B 82.82 331 P **P 23 33 06.2 -0.5**
comp=Z,14nm,0.8s,mb5.1,baz=95,slow=4.9,SNR=40
NOA pP pP 23 33 21.4 -1.0
comp=Z,15nm,0.8s,baz=93,slow=5.4,SNR=6.4
NOA PP PP 23 36 19.6 +0.5
comp=Z,3.1nm,0.8s,baz=87,slow=7.5,SNR=3.6
NOA LR LR 00 15 48.6
comp=Z,617nm,18.3s,MS5.0,baz=70,slow=40
ERBM Eremo 82.83 314 *e*P **P 23 33 08.3 +1.2**
SARO Sassorosso 82.84 314 P **P 23 33 06.7 -0.4**
BRMO Bormio 82.87 316 *e*P **P 23 33 08.0 +0.7**
VALM 82.95 314 P **P 23 33 07.7 +0.1**
CLZ Clausthal 82.95 322 *e*P **P 23 33 07.8 +0.3**
comp=Z,65nm,0.9s,mb5.7
CLZ *e*pP pP 23 33 23.9 +0.6
HSP Hornsund 82.97 347 *e*P **P 23 33 06.1 -1.0**
NAO01 NORSAR Array S 82.97 331 *e*P **P 23 33 06.5 -1.0**
comp=Z,68nm,1.2s,mb5.5
HDH Heidenheim 83.01 318⇑*e*P **P 23 33 07.8 -0.1**
OSL Oslo 83.01 330 *e*P **P 23 33 07.7 0.0**
VINC Vinca 83.02 314 P **P 23 33 07.5 -0.5**
BSEG Bad Segeberg 83.03 324 *e*P **P 23 33 08.4 +0.5**
BSEG *e**PP pP 23 33 24.4 +0.8
UBR Uberruh 83.07 317⇑*e*P **P 23 33 08.1 -0.1**
BACM 83.08 314 P **P 23 33 08.0 -0.3**
GRAM 83.08 314 P **P 23 33 08.5 +0.2**
DAVA Damuels 83.22 317⇑*i*P **P 23 33 09.4 +0.4**
comp=Z,350nm,2.6s,mb5.8
CODM 83.24 314 P **P 23 33 09.1 -0.1**
SIND Sindeldorf 83.41 319⇑*e*P **P 23 33 10.4 +0.5**
BOB Bobbio (Coli) 83.52 314 *e*P **P 23 33 11.4 +0.8**
KONO Kongsberg 83.57 329 *e*P **P 23 33 10.2 -0.3**
KONO pmax pmax
comp=Z,35nm,0.7s,mb5.6
KONO Kongsberg 83.57 329 *e*P **P 23 33 10.2 -0.2**
comp=Z,35nm,0.7s,mb5.6
BUCH Bad Urach 83.58 318⇑*e*P **P 23 33 10.9 +0.1**
VSL Villasalto 83.64 309 *e*P **P 23 33 11.2 -0.1**
comp=Z,31nm,0.9s,mb5.4
STU Stuttgart 83.68 318 *e*P **P 23 33 11.2 -0.1**
STU pmax pmax
comp=Z,37nm,0.7s,mb5.6
STU Stuttgart 83.68 318 *e*P **P 23 33 11.2 -0.1**
comp=Z,37nm,0.7s,mb5.6
GUT Gutenstein 83.73 318⇑*e*P **P 23 33 11.7 +0.1**
MUD Monsted U'grnd 83.74 326⇓*i*P **P 23 33 12.6 +1.2**
MUD *e*S S 23 43 30.5 +2.1
MUD pmax pmax
comp=Z,20nm,0.6s,mb5.4
MUD Monsted U'grnd 83.74 326⇓*i*P **P 23 33 12.6 +1.2**
comp=Z,20nm,0.6s,mb5.4
MUD *e*S S 23 43 30.5 +2.1
MUD Monsted U'grnd 83.74 326⇓*i*P **P 23 33 12.6 +1.2**
comp=Z,20nm,0.6s,mb5.4
MUD Monsted U'grnd 83.74 326 *e*S S 23 43 30.5 +2.1
comp=Z,400nm,18.0s
OSPF L'Ospedale 83.74 311 *e*P **P 23 33 11.8 0.0**
GENL Genova Univers 83.87 314 P **P 23 33 11.2 -1.1**
PGF Pioggiola 83.87 312⇑*i*P **P 23 33 12.8 +0.4**
comp=Z,45nm,0.8s,mb5.4
PGF Pioggiola 83.87 312⇑*i*P **P 23 33 12.8 +0.4**
PGF pmax pmax
comp=Z,23nm,0.8s,mb5.4
DOMB Dombas 83.89 332 *e*P **P 23 33 12.6 +0.5**
DOMB *e*pP pP 23 33 27.1 -0.7
TOD Tromm 83.93 319 *e*P **P 23 33 12.6 +0.1**
TOD Tromm 83.93 319 *e*P **P 23 33 13.0 +0.5**
LBG Lerchenberg 83.94 318⇑*e*P **P 23 33 12.9 +0.3**
SPAK Spaichingen 83.95 318 *e*P **P 23 33 13.3 +0.6**
SPAK Spaichingen 83.95 318 *e*P **P 23 33 13.2 +0.5**
VAI Varese 83.99 315 *e*P **P 23 33 12.3 -0.6**
SWS Schriesheim 84.00 319⇑*e*P **P 23 33 13.1 +0.2**
TNS Taunus Mts 84.16 320 *e*P **P 23 33 14.2 +0.5**
TNS *e**PP pP 23 33 29.9 +0.4
TNS pmax pmax
comp=Z,36nm,0.8s,mb5.5
TNS Taunus Mts 84.16 320 *e*P **P 23 33 14.2 +0.5**
comp=Z,36nm,0.8s,mb5.5
TNS *e*pP pP 23 33 29.9 +0.4
PCP Pian Castagno 84.17 314 P **P 23 33 13.3 -0.6**
BFO Black Forest 84.26 318 P **P 23 33 14.4 +0.2**
comp=Z,289nm,0.7s,mb6.5,SNR=26
BFO Black Forest 84.26 318 *e*P **P 23 33 14.0 -0.2**
BFO pmax pmax
comp=Z,39nm,0.7s,mb5.7
BFO Black Forest 84.26 318 *e*P **P 23 33 14.0 -0.2**
comp=Z,39nm,0.7s,mb5.7
FIN Finale Ligure 84.42 314 *e*P **P 23 33 15.3 +0.2**
FELD Feldberg 84.48 318 *e*P **P 23 33 15.4 +0.1**
MCGN Macugnaga 84.53 316 *e*P **P 23 33 16.7 +1.1**
KIZ Kirchzarten 84.54 318⇑*e*P **P 23 33 15.6 0.0**
ORX Oropa 84.55 315 P **P 23 33 14.2 -1.5**
LANF Langenberg 84.59 319 *e*P **P 23 33 16.3 +0.4**
MOL Molde 84.60 332 *e*P **P 23 33 18.2 +2.6**
comp=Z,113nm,2.3s,mb5.6
MOL Molde 84.60 332⇑*i*P **P 23 33 18.1 +2.6**
MOL AMb AMB 23 33 22.3
comp=Z,113nm,2.4s,mb5.6
MOL *e*pP pP 23 33 32.9 +1.5
IMI Imperia 84.65 314 *e*P **P 23 33 16.6 +0.3**
ROB Roburent 84.66 314 P **P 23 33 16.2 -0.1**
TRAV 84.71 315 P **P 23 33 16.2 -0.4**
ABH Alteburg 84.75 320 *e*P **P 23 33 16.9 +0.3**
ABH Alteburg 84.75 320⇑*e*P **P 23 33 17.2 +0.6**
MONE Monesi 84.75 314 P **P 23 33 16.4 -0.3**
LIBD Limburg 84.75 318 *e*P **P 23 33 18.0 +1.4**
LIBD Limburg 84.75 318 *e*P **P 23 33 17.3 +0.7**
NEGI Negi 84.79 313 P **P 23 33 16.8 -0.2**
BBS Basel-Blauen 84.83 317 *e*P **P 23 33 16.7 -0.4**
BBS Basel-Blauen 84.83 317 *e*P **P 23 33 17.2 +0.1**
KIWB Kanaga Island 84.86 38 *e*P **P 23 33 16.7 -0.4**
SAOF Saorge 84.89 314 *e*P **P 23 33 18.0 +0.5**
WLS Welschbruch 84.91 318 *e*P **P 23 33 17.6 +0.2**
CDF Champ du Feu 84.96 318⇑*i*P **P 23 33 17.7 0.0**
comp=Z,42nm,0.7s,mb5.3
CDF Champ du Feu 84.96 318⇑*i*P **P 23 33 17.7 0.0**
CDF pmax pmax
comp=Z,21nm,0.7s,mb5.4
ENR Entracque 84.98 314 P **P 23 33 17.8 -0.1**
SBF Sospel 84.98 313⇑*i*P **P 23 33 18.4 +0.5**
comp=Z,162nm,0.7s,mb6.0
SBF Sospel 84.98 313⇑*i*P **P 23 33 18.4 +0.5**
SBF pmax pmax
comp=Z,81nm,0.7s,mb6.0
AUTN L'Aution 84.98 314 *e*P **P 23 33 18.6 +0.7**
REVF Revere 85.04 313 *e*P **P 23 33 18.6 +0.4**
ECH Echery 85.04 318 *e*P **P 23 33 18.7 +0.6**
STV2 Anna di Valdie 85.05 314 P **P 23 33 17.4 -0.9**
STV Sta Anna Valdi 85.05 314 P **P 23 33 17.6 -0.7**
RUP Ruppelstein 85.06 319 *e*P **P 23 33 18.7 +0.5**

RUP Ruppelstein 85.06 319 *e*P **P 23 33 18.9 +0.7**
RSP Reno Superiore 85.07 315 P **P 23 33 17.7 -0.6**
BHB Bricherasio 85.08 314 P **P 23 33 17.5 -0.9**
DOI San Damiano 85.10 314 *e*P **P 23 33 17.4 -1.1**
TOUF Mont Tournerai 85.11 314 *e*P **P 23 33 19.3 +0.7**
LSD Ceresole Reale 85.13 315 P **P 23 33 19.0 +0.4**
MVIF Mont Vial 85.19 314 *e*P **P 23 33 19.8 +0.9**
PZZ Prazzo 85.20 314 P **P 23 33 18.2 -0.8**
FENE Fenestrelle 85.21 315 P **P 23 33 18.6 -0.5**
HINF Hinteralfeld 85.26 317⇑*i*P **P 23 33 18.8 -0.4**
comp=Z,14nm,0.5s,mb5.0
HINF Hinteralfeld 85.26 317⇑*i*P **P 23 33 18.8 -0.4**
HINF pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
LOMF Lomont 85.29 317 *e*P **P 23 33 19.3 -0.1**
CALN Calern 85.38 313 *e*P **P 23 33 20.7 +0.8**
SURF Saint Ours 85.41 314 *e*P **P 23 33 21.0 +1.0**
RRL Cesana Torines 85.41 315 P **P 23 33 19.8 -0.2**
LPG La Plagne 85.41 315⇑*i*P **P 23 33 20.8 +0.8**
comp=Z,113nm,0.7s,mb5.8
LPG La Plagne 85.41 315⇑*i*P **P 23 33 20.8 +0.8**
LPG pmax pmax
comp=Z,56nm,0.7s,mb5.8
LPL La Plagne 85.43 315⇑*i*P **P 23 33 20.8 +0.7**
comp=Z,108nm,0.7s,mb5.8
LPL La Plagne 85.43 315⇑*i*P **P 23 33 20.8 +0.7**
LPL pmax pmax
comp=Z,54nm,0.7s,mb5.8
MBDF Montbardon 85.43 314⇑*i*P **P 23 33 20.0 -0.1**
comp=Z,39nm,0.8s,mb5.3
MBDF Montbardon 85.43 314⇑*i*P **P 23 33 20.0 -0.1**
MBDF pmax pmax
comp=Z,19nm,0.8s,mb5.3
OG01 Vacheresse 85.43 316 *e*P **P 23 33 20.9 +0.8**
BNI Bardonecchia 85.48 315 *e*P **P 23 33 20.4 0.0**
BNI pmax pmax
comp=Z,34nm,0.8s,mb5.5
BNI Bardonecchia 85.48 315 *e*P **P 23 33 20.4 0.0**
comp=Z,34nm,0.8s,mb5.5
RSL Roselend 85.50 315 *e*P **P 23 33 20.6 +0.2**
FRF La Foret Royal 85.57 313⇑*i*P **P 23 33 21.4 +0.6**
comp=Z,80nm,0.8s,mb5.7
FRF La Foret Royal 85.57 313⇑*i*P **P 23 33 21.4 +0.6**
FRF pmax pmax
comp=Z,40nm,0.8s,mb5.7
HAU Haudompre 85.59 318⇑*i*P **P 23 33 20.9 +0.1**
comp=Z,90nm,0.7s,mb5.8
HAU *e*R
comp=Z,664nm,22.8s
HAU Haudompre 85.59 318⇑*i*P **P 23 33 20.9 +0.1**
HAU pmax pmax
comp=Z,45nm,0.7s,mb5.8
HAU MLR MLR
comp=Z,660nm,22.8s,MS5.0
WLF Walferdange 85.66 319 *e*P **P 23 33 21.8 +0.7**
WLF pmax pmax
comp=Z,63nm,1.3s,mb5.7
WLF Walferdange 85.66 319 *e*P **P 23 33 21.8 +0.7**
comp=Z,63nm,1.3s,mb5.7
LMR La Mourre 85.68 313⇑*i*P **P 23 33 21.7 +0.3**
comp=Z,37nm,0.8s,mb5.4
LMR La Mourre 85.68 313⇑*i*P **P 23 33 21.7 +0.3**
LMR pmax pmax
comp=Z,18nm,0.8s,mb5.3
BER Bergen 85.71 330 AMS AMS 00 17 33.8
comp=Z,668nm,21.4s,MS5.0
THEF They Montfort 85.83 318 *e*P **P 23 33 21.9 -0.1**
CABF La Chapelle 85.83 316⇑*i*P **P 23 33 22.7 +0.7**
comp=Z,43nm,0.6s,mb5.6
CABF La Chapelle 85.83 316⇑*i*P **P 23 33 22.7 +0.7**
CABF pmax pmax
comp=Z,22nm,0.6s,mb5.6
OG25 Le Caire 85.94 314 *e*P **P 23 33 23.2 +0.6**
TAVF Tavernes 85.99 313 *e*P **P 23 33 23.9 +1.0**
ORIF Oris-en-Rattie 86.06 315⇑*i*P **P 23 33 23.4 +0.2**
comp=Z,50nm,0.7s,mb5.5
ORIF *e*R
comp=Z,719nm,21.5s
STOF St-Etienne Org 86.08 314 *e*P **P 23 33 24.5 +1.2**
GRN Grenoble 86.13 315 *e*P **P 23 33 24.5 +1.0**
VILF Villemus 86.23 314 *e*P **P 23 33 25.2 +1.2**
PUYF Puyloubier 86.25 313 *e*P **P 23 33 25.0 +0.8**
BERF Bertagne 86.27 313 *e*P **P 23 33 25.4 +1.1**
SMRF Simiane la Rot 86.32 314⇑*i*P **P 23 33 25.6 +1.1**
comp=Z,39nm,0.8s,mb5.4
MEZF Maizieres J'vi 86.43 318⇑*i*P **P 23 33 25.3 +0.4**
comp=Z,34nm,0.7s,mb5.4
GELF Grande-Etoile 86.46 313 *e*P **P 23 33 26.0 +0.8**
TREF Trevaresse 86.48 313 *e*P **P 23 33 26.0 +0.7**
GIVF Givet 86.49 320⇑*i*P **P 23 33 25.7 +0.5**
comp=Z,28nm,0.8s,mb5.3
GIVF Givet 86.49 320⇑*i*P **P 23 33 25.7 +0.5**
GIVF pmax pmax
comp=Z,14nm,0.8s,mb5.2
PRAF Pradon 86.62 314 *e*P **P 23 33 27.1 +1.1**
BAIF Baives 86.89 320⇑*i*P **P 23 33 27.9 +0.8**
comp=Z,74nm,0.7s,mb5.7
BAIF Baives 86.89 320⇑*i*P **P 23 33 27.9 +0.8**
BAIF pmax pmax
comp=Z,37nm,0.7s,mb5.7
VIVF Saint-Julien-l 86.92 315⇑*i*P **P 23 33 27.9 +0.5**
comp=Z,46nm,0.8s,mb5.4
VIVF Saint-Julien-l 86.92 315⇑*i*P **P 23 33 27.9 +0.5**
VIVF pmax pmax
comp=Z,23nm,0.8s,mb5.5
SMF Signal de Mont 87.37 316⇑*i*P **P 23 33 29.8 +0.2**
comp=Z,73nm,0.8s,mb5.7
SMF Signal de Mont 87.37 316⇑*i*P **P 23 33 29.8 +0.2**
SMF pmax pmax
comp=Z,37nm,0.8s,mb5.7
LASF Ste Croix 87.55 314⇑*i*P **P 23 33 31.3 +0.8**
comp=Z,44nm,1.0s,mb5.3
SSF Saint Saulge 87.57 317⇑*i*P **P 23 33 30.8 +0.3**
SSF pmax pmax
comp=Z,19nm,0.8s,mb5.4
SSF Saint Saulge 87.57 317⇑*i*P **P 23 33 30.8 +0.3**
comp=Z,19nm,0.8s,mb5.4
PLDF La Plantade 87.58 316 *e*P **P 23 33 31.1 +0.5**
AVF Avril sur Loir 87.70 317⇑*i*P **P 23 33 31.4 +0.3**
comp=Z,41nm,0.8s,mb5.4
AVF Avril sur Loir 87.70 317⇑*i*P **P 23 33 31.4 +0.3**
AVF pmax pmax
comp=Z,20nm,0.8s,mb5.4
LBL Lubilhac 87.90 315 *e*P **P 23 33 33.1 +1.0**
AGO Saint Agoulin 87.91 316 *e*P **P 23 33 32.9 +0.8**
BGF Bois d'Agland 88.06 316⇑*i*P **P 23 33 33.6 +0.7**
comp=Z,60nm,0.9s,mb5.5
BGF Bois d'Agland 88.06 316⇑*i*P **P 23 33 33.6 +0.7**
BGF pmax pmax
comp=Z,30nm,0.9s,mb5.5
HYF Humbligny 88.14 317 *e*P **P 23 33 34.1 +0.9**
MENF Mencas 88.16 320 *e*P **P 23 33 34.0 +0.8**
EJON La Jonquera 88.39 312 P **P 23 33 35.0 +0.5**
comp=Z,11nm,0.6s,mb5.2
SJAF Saint Jean de 88.39 312 *e*P **P 23 33 34.5 0.0**
TCF Toulx Ste Croi 88.53 316⇑*i*P **P 23 33 35.8 +0.7**
comp=Z,27nm,0.8s,mb5.3
TCF Toulx Ste Croi 88.53 316⇑*i*P **P 23 33 35.8 +0.7**
TCF pmax pmax
comp=Z,14nm,0.8s,mb5.3
TNA Tin City 88.54 24 *e*P **P 23 33 34.5 -0.1**
comp=Z,23nm,0.8s,mb5.5
TNA LR LR
comp=Z,1µm,19.0s,MS5.3
FILF Fillols 88.62 312 *e*P **P 23 33 36.6 +1.0**
CAF Calviac 88.76 315⇑*i*P **P 23 33 37.2 +1.0**
comp=Z,9.6nm,0.6s,mb5.0
CAF Calviac 88.76 315⇑*i*P **P 23 33 37.2 +1.0**
CAF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
MTLF Montolieu 88.80 313⇑*i*P **P 23 33 37.2 +0.8**
comp=Z,50nm,1.1s,mb5.5
MTLF Montolieu 88.80 313⇑*i*P **P 23 33 37.2 +0.8**
MTLF pmax pmax
comp=Z,25nm,1.1s,mb5.5
VALF Valcebollere 89.04 312 *e*P **P 23 33 39.0 +1.4**
RJF Les Rejaudoux 89.11 315⇑*i*P **P 23 33 38.8 +1.0**
comp=Z,22nm,0.7s,mb5.3
RJF *e*R
comp=Z,550nm,22.8s
RJF Les Rejaudoux 89.11 315⇑*i*P **P 23 33 38.8 +1.0**
RJF pmax pmax
comp=Z,11nm,0.7s,mb5.3
RJF MLR MLR
comp=Z,550nm,22.8s,MS4.9

EMIR Miracle 89.45 312 P **P** 23 33 40.7 +1.2
comp=Z,31nm,0.8s,mb5.7
LFF La Frestale 89.69 315⇑*i*P **P** 23 33 41.7 +1.1
comp=Z,16nm,0.6s,mb5.2
LFF La Frestale 89.69 315⇑*i*P **P** 23 33 41.7 +1.1
LFF pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
VNDA Vanda 89.78 168 *e*P **P** 23 33 41.3 +1.0
VNDA pmax pmax
comp=Z,24nm,1.3s
VNDA Vanda 89.78 168 P **P** 23 33 40.8 +0.5
comp=Z,1.5nm,0.8s,baz=288,slow=7.6,SNR=5.5
VNDA PKKPbc 23 51 15.8
comp=Z,0.4nm,0.7s,baz=39,slow=5.3,SNR=3.6
VNDA LR LR 00 12 44.4
comp=Z,2μm,18.1s,baz=302,slow=35
VNDA Vanda 89.78 168 *e*P **P** 23 33 41.2 +0.9
comp=Z,24nm,1.3s,mb5.4
EPOB Poblet 89.84 311 P **P** 23 33 42.4 +0.9
comp=Z,49nm,0.8s,mb5.9
LDF La Druitiere 89.85 319⇑*i*P **P** 23 33 41.9 +0.6
comp=Z,76nm,0.8s,mb5.8
LDF La Druitiere 89.85 319⇑*i*P **P** 23 33 41.9 +0.6
LDF pmax pmax
comp=Z,38nm,0.8s,mb5.8
EIBI Ibiza 89.89 309 P **P** 23 33 43.1 +1.4
comp=Z,36nm,0.9s,mb5.7
FLN La Foliniere 90.06 319⇑*i*P **P** 23 33 42.9 +0.6
comp=Z,77nm,0.7s,mb5.8
FLN *e*R
comp=Z,814nm,23.0s
FLN La Foliniere 90.06 319⇑*i*P **P** 23 33 42.9 +0.6
FLN pmax pmax
comp=Z,38nm,0.7s,mb5.8
FLN MLR MLR
comp=Z,810nm,23.0s,MS5.1
MFF Saint Martin d 90.11 317⇑*i*P **P** 23 33 43.2 +0.7
comp=Z,59nm,1.0s,mb5.8
MFF Saint Martin d 90.11 317⇑*i*P **P** 23 33 43.2 +0.7
MFF pmax pmax
comp=Z,29nm,1.0s,mb5.6
KBI1 Birley Grange 90.11 323⇑*e*P **P** 23 33 42.8 +0.4
EPF Esparros 90.20 313⇑*i*P **P** 23 33 43.8 +0.8
comp=Z,7.9nm,0.7s,mb4.9
EPF Esparros 90.20 313⇑*i*P **P** 23 33 43.8 +0.8
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
KWE Weaver Farm 90.34 323⇑*e*P **P** 23 33 43.8 +0.3
EBR Ebro Roquetas 90.34 311 *e*P **P** 23 33 44.7 +0.9
GRR Gorron 90.36 318 *e*P **P** 23 33 44.3 +0.6
comp=Z,32nm,0.7s,mb5.5
GRR Gorron 90.36 318 *e*P **P** 23 33 44.3 +0.6
GRR pmax pmax
comp=Z,16nm,0.7s,mb5.5
EBIE Bielsa 90.38 313 P **P** 23 33 45.2 +1.3
comp=Z,27nm,0.9s,mb5.6
ERTA Horta de San J 90.44 311 P **P** 23 33 45.2 +0.9
comp=Z,25nm,0.7s,mb5.7
DAG Danmarks Havn 90.63 348⇓*i*P **P** 23 33 44.0 -0.3
DAG pmax pmax
comp=Z,20nm,0.6s,mb5.6
DAG Danmarks Havn 90.63 348⇓*i*P **P** 23 33 44.0 -0.3
comp=Z,20nm,0.6s,mb5.6
ETSF Etsaut 90.87 313*i*P **P** 23 33 47.4 +1.2
comp=Z,28nm,0.7s,mb5.4
ETSF Etsaut 90.87 313*i*P **P** 23 33 47.4 +1.2
ETSF pmax pmax
comp=Z,14nm,0.7s,mb5.4
SBA Scott Base 90.88 168 *e*P **P** 23 33 47.0 +1.5
SBA pmax pmax
comp=Z,69nm,1.6s,mb5.7
SBA MLR MLR
comp=Z,980nm,19.0s,MS5.3
SBA Scott Base 90.88 168 *e*P **P** 23 33 47.0 +1.5
comp=Z,68nm,1.6s,mb5.7
SBA LR LR
comp=Z,980nm,19.0s,MS5.3
ESAC San Caprasio 90.95 312 P **P** 23 33 46.8 +0.2
comp=Z,37nm,0.6s,mb5.9
EMOS Mosqueruela 91.13 310 P **P** 23 33 49.5 +2.0
comp=Z,32nm,0.7s,mb5.8
LARF Larrau 91.16 313 *e*P **P** 23 33 48.9 +1.3
SJPF Ste Jean 91.33 313⇑*i*P **P** 23 33 49.5 +1.2
comp=Z,35nm,0.9s,mb5.4
SJPF Ste Jean 91.33 313⇑*i*P **P** 23 33 49.5 +1.2
SJPF pmax pmax
comp=Z,17nm,0.9s,mb5.4
SGMF Saint Gilles 91.50 318*i*P **P** 23 33 49.6 +0.6
comp=Z,53nm,0.9s,mb5.6
SGMF Saint Gilles 91.50 318⇑*i*P **P** 23 33 49.6 +0.6
SGMF pmax pmax
comp=Z,26nm,0.9s,mb5.6
QUIF Quistinic 91.96 318⇑*i*P **P** 23 33 51.5 +0.4
comp=Z,32nm,0.6s,mb5.5
QUIF Quistinic 91.96 318⇑*i*P **P** 23 33 51.5 +0.4
QUIF pmax pmax
comp=Z,16nm,0.6s,mb5.5
ROSF Rostrenen 91.96 319⇑*i*P **P** 23 33 51.7 +0.6
comp=Z,38nm,0.8s,mb5.5
ROSF Rostrenen 91.96 319⇑*i*P **P** 23 33 51.7 +0.6
ROSF pmax pmax
comp=Z,19nm,0.8s,mb5.5
ALE Alert 92.17 357 P **P** 23 33 52.0 +0.6
comp=Z,232nm,0.5s,SNR=11
ETOB Tobarra 92.18 309 P **P** 23 33 53.9 +1.5
comp=Z,8.5nm,0.7s,mb5.2
DLF Lyons Farm 93.06 324 *e*P **P** 23 33 56.8 +0.8
EBER Berja 93.48 307 P **P** 23 33 59.6 +1.2
comp=Z,30nm,0.7s,mb5.8
EQES Quesada 93.49 308 P **P** 23 33 59.7 +1.4
comp=Z,15nm,0.7s,mb5.5
DCN Croghan 93.49 324 *e*P **P** 23 33 59.0 +1.0
GUD Guadarrama 93.86 311 P **P** 23 34 00.6 +0.6
GUD pmax pmax
comp=Z,15nm,0.7s,mb5.5
GUD Guadarrama 93.86 311 P **P** 23 34 00.6 +0.7
comp=Z,15nm,0.7s,mb5.5
ESDC Sonseca Array 93.88 310 P **P** 23 34 00.9 +0.8
comp=Z,2.9nm,0.5s,mb5.0,baz=62,slow=4.2,SNR=20
ESDC Sonseca Array 93.88 310 P **P** 23 34 00.9 +0.9
comp=Z,2.5nm,0.5s,mb4.9
ESLA Sonseca Array 93.88 310 *e*P **P** 23 34 00.6 +0.6
comp=Z,1.2nm,0.7s
ESLA LR LR
comp=Z,4μm,20.0s
IMA Indian Mountai 94.07 22 P **P** 23 34 01.1 +0.8
IMA pmax pmax
comp=Z,170nm,0.7s,mb6.6
IMA Indian Mountai 94.07 22 *e*P **P** 23 34 01.3 +1.0
SCO Scoresbysund 94.21 343 *i*P **P** 23 34 02.2 +1.4
SCO pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
SCO Scoresbysund 94.21 343 *i*P **P** 23 34 02.2 +1.4
comp=Z,8.7nm,0.7s,mb5.3
SVW2 Sparrevohn 95.00 27 *e*P **P** 23 34 05.9 +1.2
COLA College 96.78 23 P **P** 23 34 12.7 +0.1
comp=Z,3.8nm,0.6s,mb5.0
COLA LR LR
comp=Z,1μm,22.0s,MS5.4
MCK McKinley 96.86 24 *e*P **P** 23 34 12.8 -0.2
MCK pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
MCK MLR MLR
comp=Z,960nm,19.0s,MS5.3
MCK McKinley 96.86 24 *e*P **P** 23 34 12.8 -0.2
comp=Z,8.4nm,0.8s,mb5.2
MCK LR LR
comp=Z,960nm,19.0s,MS5.3
SUMG Summit 97.30 347 *e*P **P** 23 34 15.1 +0.3
comp=Z,14nm,0.8s,mb5.4
FIB Fire Island 97.42 26 PFAKE 23 34 30.0 +14
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
KDAK Kodiak Island 97.60 30 *e*P **P** 23 34 16.3 -0.2
comp=Z,12nm,0.8s,mb5.5
KDAK LR LR
comp=Z,425nm,22.0s,MS4.9
SLKM Skilak Lake 97.66 27 *e*P **P** 23 34 15.5 -1.3
SML Sawmill 97.94 25 *e*P **P** 23 34 17.9 -0.1
DBIC Dimbokro 99.27 278 P **P** 23 34 27.2 +2.1
comp=Z,4.7nm,1.1s,mb4.9,baz=116,slow=12,SNR=3.1
DBIC LR LR 00 19 05.2
comp=Z,1μm,19.8s,MS5.4,baz=67,slow=35
MENT Mentasta 99.31 23 *e*P **P** 23 34 21.0 -3.2
DIV Divide 99.35 25 PFAKE 23 34 40.0 +16
DIV LR LR
comp=Z,4μm,20.0s,MS5.9

INK Inuvik 99.63 16 *e*P **P** 23 34 25.1 -0.4
INK pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 99.63 16 P **P** 23 34 25.4 -0.2
comp=Z,7.9nm,0.6s,mb5.3,baz=344,slow=5.3,SNR=26
INK pP pP 23 34 41.8 +0.2
comp=Z,3.1nm,0.5s,baz=342,slow=5.3,SNR=4.8
INK PKKPbc 23 50 47.7
comp=Z,1.0nm,0.8s,baz=152,slow=3.5,SNR=4.7
INK Inuvik 99.63 16 *e*P **P** 23 34 25.1 -0.4
comp=Z,13nm,0.7s,mb5.5
RES Resolute Bay 100.38 3 *e*P P 23 34 29.2 +0.4
RES pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 100.38 3 *e*P P 23 34 29.2 +0.4
comp=Z,12nm,0.8s
SFJD Kangerlussuaq 104.28 347 *i*P 23 39 06.0
comp=Z,9.8nm,0.8s
comp=Z,850nm,23.0s
SIT Sitka 106.08 26 PFAKE 23 39 20.0
SIT LR LR
comp=Z,2μm,20.0s,MS5.7
DLBC Dease Lake 107.39 23 PKiKP 23 39 10.2
comp=Z,2.2nm,0.6s,baz=270,slow=1.4,SNR=3.1
YKA Yellowknife Ar 109.14 14 Pdiff Pdif 23 35 10.0 +2.3
comp=Z,0.8nm,0.7s,baz=331,slow=4.5,SNR=15
YKA PKiKP 23 39 13.7
comp=Z,0.3nm,0.5s,baz=343,slow=2.0,SNR=6.3
YKA PP PP 23 39 37.3 -7.1
comp=Z,1.9nm,0.8s,baz=333,slow=7.9,SNR=6.2
YKA PKKPbc 23 50 18.1
comp=Z,0.6nm,0.7s,baz=150,slow=2.8,SNR=12
YKA PKKPab 23 50 35.2
comp=Z,0.3nm,0.7s,baz=141,slow=3.6,SNR=3.7
YKA Yellowknife Ar 109.14 14 Pdif Pdif 23 35 10.0 +2.3
YKA PKPdif 23 39 13.7
YKA PP PP 23 39 37.4 -7.1
YKA PKKPbc 23 50 18.1
YKA PKKPab 23 50 35.2
TBI Tubuai 115.26 113 *e*PP PP 23 40 23.9 -5.3
TBI *e*PS PS 23 50 12.5 +7.4
TBI *e*SS SS 23 56 30.8 +12
TBI *e*LR LR 00 14 23.3
comp=Z,1μm,23.8s
PPT Papeete 115.60 107 *e*PP PP 23 40 22.7 -9.0
PPT *e*PS PS 23 50 15.0 +6.8
PPT *e*SS SS 23 56 32.4 +9.1
PPT *e*LR LR 00 14 22.1
comp=Z,1μm,25.2s
EDM Edmonton 117.39 19 *e*PKIKP PKPdf 23 39 27.3 +0.8
PMSA Palmer Station 118.33 190 PFAKE 23 39 40.0 +12
PMSA LR LR
comp=Z,1μm,21.0s,MS5.6
SCHQ Schefferville 118.67 348 PKP PKPdf 23 39 30.4 +1.3
comp=Z,4.0nm,0.5s,baz=39,slow=3.5,SNR=31
SCHQ PP PP 23 40 47.1 -5.2
comp=Z,5.0nm,0.7s,baz=8.7,slow=5.8,SNR=5.7
SCHQ Schefferville 118.67 348 PKP PKPdf 23 39 30.4 +1.3
SCHQ PP PP 23 40 47.1 -5.2
SCHQ LR LR
comp=Z,2μm,21.0s,MS5.6
FFC Flin Flon 118.98 11 *e*PKIKP PKPdf 23 39 30.2 +0.6
FFC MLR MLR
comp=Z,636nm,22.0s,MS5.2
COR Corvallis 119.98 31 PFAKE 23 39 40.0 +8.2
COR LR LR
comp=Z,278nm,20.0s,MS4.9
NEW Newport 120.08 24 *e*PKIKP PKPdf 23 39 33.0 +1.1
NEW MLR MLR
comp=Z,2μm,20.0s
NEW Newport 120.08 24 PKP PKPdf 23 39 33.4 +1.5
comp=Z,5.4nm,0.7s,baz=163,slow=2.4,SNR=11
HAWA Hanford 120.48 27 *e*P PKPdf 23 39 34.6 +1.8
HAWA LR LR
comp=Z,100nm,22.0s,MS4.4
HUMO Hull Mountain 121.54 32 *e*P PKPdf 23 39 36.8 +1.9
HUMO LR LR
comp=Z,972nm,21.0s,MS5.4
YBH Yreka Blue Hor 122.28 33 PKIKP PKPdf 23 39 39.0 +2.7
YBH MLR MLR
comp=Z,763nm,19.0s
YBH Yreka Blue Hor 122.28 33 PKP PKPdf 23 39 39.0 +2.7
comp=Z,2.4nm,0.7s,baz=264,slow=2.1,SNR=6.9
MSO Missoula 122.51 23 *e*P PKPdf 23 39 37.5 +0.9
MSO LR LR
comp=Z,1μm,19.0s,MS5.6
BMO Blue Mountains 122.67 27 PFAKE 23 39 50.0 +13
BMO LR LR
comp=Z,1μm,22.0s,MS5.5
CHMT Chamberlain Mo 122.71 23 *e*P PKPdf 23 39 38.0 +0.9
MOD Modoc 123.43 31 *e*PKPdf PKPdf 23 39 40.4 +1.8
MOD LR LR
comp=Z,1μm,21.0s,MS5.6
WVOR Wild Horse Val 123.88 30 *e*PKIKP PKPdf 23 39 41.1 +1.7
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.6
HOPS Hopland 123.94 35 PFAKE 23 39 50.0 +10
HOPS LR LR
comp=Z,684nm,19.0s,MS5.3
ULM Lac du Bonnet 124.33 8 PKP PKPdf 23 39 41.1 +1.0
comp=Z,13nm,0.7s,baz=360,slow=2.9,SNR=32
ULM pPKP 23 39 57.6
comp=Z,5.2nm,0.7s,baz=108,slow=1.3,SNR=3.4
ULM PKKPbc 23 49 25.6
comp=Z,0.5nm,0.3s,baz=149,slow=7.1,SNR=3.1
BOZ Bozeman (W) 124.39 22 *e*PKIKP PKPdf 23 39 41.9 +1.6
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.8
MCMT McKenzie Canyo 124.59 24 *e*PKPdf PKPdf 23 39 42.5 +1.7
HLID Hailey 124.97 26 *e*PKPdf PKPdf 23 39 43.2 +1.7
HLID LR LR
comp=Z,1μm,21.0s,MS5.5
TAOE Nuku Hiva Isla 125.06 97 *e*LR LR 00 18 56.5
QLMT Earthquake Lak 125.15 23 *e*PKPdf PKPdf 23 39 44.6 +2.8
LAO LASA Array 125.34 18 *e*PKPdf PKPdf 23 39 44.5 +2.4
LAO LR LR
comp=Z,2μm,20.0s,MS5.8
YMR Madison River 125.47 23 *e*PKPdf PKPdf 23 39 44.9 +2.4
YFT Old Faithful 125.70 23 *e*PKPdf PKPdf 23 39 46.6 +3.7
LKWY Lake 125.77 22 *e*PKIKP PKPdf 23 39 46.7 +3.7
LKWY MLR MLR
comp=Z,3μm,22.0s,MS5.9
BMN Battle Mountai 126.08 30 PFAKE 23 40 00.0 +16
BMN LR LR
comp=Z,827nm,19.0s,MS5.4
CMB Columbia Colle 126.13 35 *e*PKIKP PKPdf 23 39 45.1 +1.2
CMB MLR MLR
comp=Z,1μm,20.0s,MS5.5
MOOW Moose Ponds 126.33 23 *e*PKPdf PKPdf 23 39 45.7 +1.5
SAO San Andreas Ge 126.39 36 PFAKE 23 40 00.0 +16
SAO LR LR
comp=Z,803nm,19.0s,MS5.4
RRI2 Red Ridge 126.44 24 *e*PKPdf PKPdf 23 39 46.5 +2.1
TPAW Teton Pass 126.47 23 *e*PKPdf PKPdf 23 39 46.4 +2.0
LOHW Long Hollow 126.50 23 P PKPdf 23 39 45.8 +1.3
WUWY Wally Ulrich 126.51 23 *e*PKPdf PKPdf 23 39 46.5 +2.0
SNOW Snow King Moun 126.57 23 *e*PKPdf PKPdf 23 39 46.6 +2.0
PQI Presque Isle 126.58 346 PFAKE 23 40 00.0 +15
PQI LR LR
comp=Z,6μm,22.0s,MS6.2
ELK Elko 126.81 29 *e*PKIKP PKPdf 23 39 47.6 +2.4
ELK MLR MLR
comp=Z,1μm,22.0s
LRV Little Rabbit 126.87 36 *e*PKPdf PKPdf 23 39 48.3 +2.9
AHID Auburn Hatcher 127.01 24 *e*PKPdf PKPdf 23 39 47.4 +1.9
AHID LR LR
comp=Z,2μm,21.0s,MS5.7
MNV Mina 127.08 33 *e*PKIKP PKPdf 23 39 47.8 +2.1
MNV MLR MLR
comp=Z,1μm,20.0s,MS5.6
HVU Hansel Valley 127.12 26 *e*PKIKP PKPdf 23 39 47.2 +1.5
EYMN Ely 127.13 6 *e*PKPdf PKPdf 23 39 46.5 +0.9
EYMN LR LR
comp=Z,2μm,20.0s,MS5.8
BW06 Boulder Array 127.62 23 PFAKE 23 40 00.0 +13
BW06 LR LR
comp=Z,1μm,21.0s,MS5.5
PDAR Pinedale Array 127.62 23 PKP PKPdf 23 39 48.5 +1.8
comp=Z,8.2nm,0.5s,baz=102,slow=2.1,SNR=35
PDAR pPKP 23 40 04.1
comp=Z,4.3nm,0.9s,baz=45,slow=2.1,SNR=3.6
MTUM Tungsten Hills 127.63 34 *e*PKPdf PKPdf 23 39 49.4 +2.5
HWUT Hardware Ranch 127.78 25 *e*PKPdf PKPdf 23 39 48.6 +1.6
HWUT LR LR
comp=Z,2μm,22.0s,MS5.7

TPH Tonopah 127.83 32 PFAKE 23 40 00.0 +13
TPH LR LR
comp=Z,1μm,21.0s,MS5.5
TCUT Toone Canyon 128.25 25 *e*PKPdf PKPdf 23 39 51.0 +3.1
EMMW East Machias 128.25 344 PFAKE 23 40 00.0 +12
EMMW LR LR
comp=Z,9μm,22.0s,MS6.4
DUG Dugway 128.38 27 *e*PKIKP PKPdf 23 39 50.1 +1.9
DUG MLR MLR
comp=Z,1μm,21.0s,MS5.6
RKT Rikitea 128.44 116 *e*PP PP 23 41 55.0 -3.6
RKT *e*SS SS 23 59 19.0 +12
RKT *e*LR LR 00 20 26.3
comp=Z,1μm,23.2s
TRCR Troy Canyon 128.48 31 *e*PKPdf PKPdf 23 39 50.8 +2.3
JLU Jordanelle 128.66 26 *e*PKPdf PKPdf 23 39 51.0 +2.3
DAU Daniels Canyon 128.90 26 *e*PKIKP PKPdf 23 39 50.9 +1.7
NLU North Lily Min 128.91 27 *e*PKPdf PKPdf 23 39 52.0 +2.8
DAC Darwin (Calif) 128.94 34 PFAKE 23 40 00.0 +11
DAC LR LR
comp=Z,892nm,21.0s,MS5.4
WVL Waterville 128.95 346 PFAKE 23 40 00.0 +11
WVL LR LR
comp=Z,5μm,21.0s,MS6.2
TMUT Trail Mountain 129.83 27 *e*PKPdf PKPdf 23 39 53.1 +2.1
MVU Marysvale 130.01 28 *e*PKPdf PKPdf 23 39 54.7 +3.4
MVU *e*SKP 23 43 11.5
MVU LR LR
comp=Z,947nm,19.0s,MS5.5
MSU Marysvale 130.02 28 *e*PKPdf PKPdf 23 39 54.7 +3.3
MSU *e*SKP 23 43 11.7
SRU San Rafael 130.29 26 *e*PKIKP PKPdf 23 39 54.5 +2.6
SADO Sadowa 130.35 355 PKP PKPdf 23 39 52.2 +0.3
comp=Z,4.7nm,0.3s,baz=16,slow=3.7,SNR=14
SADO pPKP 23 40 10.2
comp=Z,2.8nm,0.5s,baz=357,slow=3.1,SNR=2.6
SADO PP PP 23 42 07.2 -3.2
comp=Z,4.3nm,0.8s,baz=100,slow=3.6,SNR=3.2
SADO SKPbc 23 43 12.3
comp=Z,8.2nm,1.0s,baz=318,slow=3.9,SNR=4.9
SADO Sadowa 130.35 355 PKP PKPdf 23 39 52.2 +0.3
SADO pPKP 23 40 10.2
SADO PP PP 23 42 07.2 -3.2
SADO SKPbc 23 43 12.3
NCB Newcomb 130.47 350 PFAKE 23 40 10.0 +18
NCB LR LR
comp=Z,1μm,22.0s,MS5.6
RCBR Riachuelo 131.19 267 PFAKE 23 40 10.0 +16
RCBR LR LR
comp=Z,1μm,20.0s,MS5.7
HRV Harvard--Oak R 131.34 347 PFAKE 23 40 10.0 +16
HRV LR LR
comp=Z,974nm,20.0s,MS5.5
WES Weston 131.41 347 PFAKE 23 40 10.0 +16
WES LR LR
comp=Z,1μm,20.0s,MS5.6
PFO Pinyon Flat Ob 131.51 36 PFAKE 23 40 10.0 +16
PFO LR LR
comp=Z,257nm,21.0s,MS4.9
PV10 Paradox Valley 131.54 25 *e*PKPdf PKPdf 23 39 56.4 +2.1
PV10 *e*SKP 23 43 17.1
ISCO Idaho Springs 131.67 21 *e*PKIKP PKPdf 23 39 55.8 +1.3
ISCO MLR MLR
comp=Z,2μm,20.0s,MS5.8
ISCO Idaho Springs 131.67 21 *e*PKPdf PKPdf 23 39 55.8 +1.3
ISCO *e*SKP 23 43 17.1
ISCO LR LR
comp=Z,2μm,20.0s,MS5.8
JFWS Jewell Farm 132.23 5 PFAKE 23 40 10.0 +15
JFWS LR LR
comp=Z,1μm,22.0s,MS5.5
WUAZ Wupatki 132.80 30 *e*PKPdf PKPdf 23 39 58.9 +2.2
WUAZ *e*SKP 23 43 21.9
WUAZ LR LR
comp=Z,1μm,22.0s,MS5.5
ERPA Erie 133.06 355 PFAKE 23 40 10.0 +13
ERPA LR LR
comp=Z,2μm,22.0s,MS5.7
AAM Ann Arbor 133.08 359 PFAKE 23 40 10.0 +13
AAM LR LR
comp=Z,2μm,21.0s,MS5.7
SDCO Great Sand Dun 133.52 23 PFAKE 23 40 10.0 +12
SDCO LR LR
comp=Z,2μm,21.0s,MS5.8
SSPA Standing Stone 134.30 353 *e*PKPdf PKPdf 23 40 00.2 +0.8
SSPA LR LR
comp=Z,287nm,22.0s,MS5.0
CBKS Cedar Bluff 134.46 16 PFAKE 23 40 10.0 +10
CBKS LR LR
comp=Z,2μm,22.0s,MS5.8
ACSO Alum Creek Sta 135.12 358 *e*PKPdf PKPdf 23 40 02.3 +1.4
ACSO LR LR
comp=Z,2μm,22.0s,MS5.7
MCWV Mont Chateau 135.49 354 PFAKE 23 40 10.0 +8.4
MCWV LR LR
comp=Z,3μm,19.0s,MS6.0
ANMO Albuquerque 135.54 26 *e*PKIKP PKPdf 23 40 02.5 +0.7
ANMO MLR MLR
comp=Z,1μm,21.0s
ANMO Albuquerque 135.54 26 PKP PKPdf 23 40 03.0 +1.2
comp=Z,10nm,0.8s,baz=243,slow=1.4,SNR=8.6
ANMO Albuquerque 135.54 26 *e*PKPdf PKPdf 23 40 02.5 +0.7
ANMO *e*SKP 23 43 30.4
ANMO LR LR
comp=Z,1μm,21.0s,MS5.6
TUC Tucson 135.63 32 PFAKE 23 40 20.0 +18
TUC LR LR
comp=Z,620nm,21.0s,MS5.3
LAZ Ladron 135.71 27 *e*PKPdf PKPdf 23 40 04.1 +2.0
LAZ *e*SKP 23 43 29.6
LPM Los Pinos Moun 136.00 26 *e*PKPdf PKPdf 23 40 04.9 +2.2
BLO Bloomington 136.19 2 PKHKP 23 39 52.2
BLO *e* 23 40 02.3
BLO Bloomington 136.19 2 *e*PKPpre 23 39 45.2
CBN Corbin 136.61 351 PFAKE 23 40 20.0 +16
CBN LR LR
comp=Z,2μm,20.0s,MS5.8
CCM Cathedral Cave 136.93 7 PFAKE 23 40 20.0 +16
CCM LR LR
comp=Z,293nm,20.0s,MS5.0
WCI Wyandotte Cave 137.14 2 PFAKE 23 40 20.0 +15
WCI LR LR
comp=Z,360nm,20.0s,MS5.1
AMTX Amarillo 137.46 21 PFAKE 23 40 20.0 +15
AMTX LR LR
comp=Z,2μm,20.0s,MS5.8
BLA Blacksburg 137.97 355 PFAKE 23 40 20.0 +14
BLA LR LR
comp=Z,2μm,21.0s,MS5.8
ELN Prospectdale 137.98 355 *e*PKPpre 23 40 02.0
WMOK Wichita Mounta 138.53 17 *e*PKHKP 23 39 55.3
WMOK MLR MLR
comp=Z,2μm,20.0s,MS5.8
MNTX Cornudas Mount 138.77 27 *e*PKPpre 23 39 54.3
MNTX *e*PKPdf PKPdf 23 40 09.2 +1.4
MNTX *e*SKP 23 43 40.3
MNTX LR LR
comp=Z,1μm,20.0s,MS5.7
GDL2 Guadalupe Moun 138.79 25 *e*PKPpre 23 39 59.5
GDL2 *e*PKPdf PKPdf 23 40 09.3 +1.5
GDL2 *e*SKP 23 43 39.5
CLNB Carlsbad 138.94 25 *e*PKPdf PKPdf 23 40 10.5 +2.4
WVT Waverly 139.16 4 *e*PKHKP 23 39 59.5
WVT MLR MLR
comp=Z,2μm,22.0s,MS5.8
WVT Waverly 139.16 4 *e*PKPpre 23 39 59.5
WVT *e*SKP 23 43 39.1
WVT LR LR
comp=Z,2μm,22.0s,MS5.8
UALR University of 139.99 10 *e*PKPdf PKPdf 23 40 11.9 +2.0
MIAR Mount Ida 139.99 11 *e*PKHKP 23 40 03.1
MIAR *e* 23 40 12.4
MIAR MLR MLR
comp=Z,2μm,22.0s,MS5.7
MIAR Mount Ida 139.99 11 *e*PKPpre 23 40 03.1
MIAR *e*PKPdf PKPdf 23 40 12.4 +2.4
MIAR *e*SKP 23 43 40.5
MIAR LR LR
comp=Z,2μm,22.0s,MS5.7
PLAL Pickwick Lake 140.29 4 *e*PKPpre 23 40 06.0
PLAL *e*SKP 23 43 43.9
PLAL LR LR
comp=Z,1μm,19.0s,MS5.7
OXF Oxford 140.64 6 PFAKE 23 40 20.0 +8.8

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OXF				LR	LR		
	comp=Z,898nm,20.0s,MS5.5						
LTX	Lajitas	141.56	27	ePKPdf	PKPdf	23 40 13.2	+0.3
LTX				LR	LR		
	comp=Z,1µm,20.0s,MS5.7						
TXAR	Lajitas Array	141.56	27	PKhKP		23 40 09.4	
	comp=Z,6.5nm,0.7s,baz=176,slow=1.2,SNR=12						
TXAR				PKP	PKPdf	23 40 15.1	+2.1
	comp=Z,4.7nm,0.4s,baz=306,slow=0.6,SNR=25						
TXAR				pPKP		23 40 29.8	
	comp=Z,1.8nm,0.6s,baz=308,slow=30,SNR=4.1						
TXAR				PP	PP	23 43 16.7	-3.7
	comp=Z,0.9nm,0.7s,baz=333,slow=6.0,SNR=3.5						
TXAR				SKPbc		23 43 48.7	
	comp=Z,1.6nm,0.5s,baz=190,slow=0.4,SNR=5.7						
TXAR	Lajitas Array	141.56	27	PKP	PKPdf	23 40 15.1	+2.1
TXAR				pPKP		23 40 29.8	
TXAR				PP	PP	23 43 16.7	-3.7
TXAR				SKPbc		23 43 48.7	
GOGA	Godfrey	141.94	358	PFAKE		23 40 30.0	+17
GOGA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
PLCA	Paso Flores	141.99	198	ePKHKP		23 40 10.2	
PLCA						23 40 16.6	
PLCA	Paso Flores	141.99	198	PKhKP		23 40 11.0	
	comp=Z,4.2nm,0.8s,baz=204,slow=1.9,SNR=15						
PLCA				PKP	PKPdf	23 40 16.6	+3.3
	comp=Z,2.5nm,0.8s,baz=247,slow=2.4,SNR=4.9						
NHSC	New Hope	142.00	354	PFAKE		23 40 30.0	+16
NHSC				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
JCT	Junction City	142.11	21	ePKHKP		23 40 10.2	
JCT				MLR	MLR		
	comp=Z,2µm,20.0s,MS5.8						
JCT	Junction City	142.11	21	ePKPpre		23 40 10.2	
JCT				ePKPdf	PKPdf	23 40 18.4	+4.6
JCT				eSKP		23 43 48.4	
JCT				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
BAO	Brasilia Array	142.17	251	ePKPdf	PKPdf	23 40 12.0	-2.3
BAO				ePKPdf	PKPdf	23 40 17.1	+2.8
BAO				pPKPdf		23 40 27.3	
BAO				⇓esPKP		23 40 38.9	
BDFB	Brasilia	142.19	251	PKhKP		23 40 12.1	
	comp=Z,3.6nm,0.5s,baz=179,slow=3.3,SNR=8.0						
BDFB				PKP	PKPdf	23 40 17.0	+2.6
	comp=Z,5.8nm,0.8s,baz=164,slow=2.6,SNR=9.0						
LRAL	Lakeview Retre	142.29	3	ePKPpre		23 40 10.6	
LRAL				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
NATX	Nacogdoches	142.45	14	PFAKE		23 40 30.0	+16
NATX				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
HKT	Hockley	143.87	16	ePKPpre		23 40 14.7	
HKT				LR	LR		
	comp=Z,267nm,21.0s,MS5.0						
DWPF	Disney	147.08	354	ePKPbc	PKPdf	23 40 25.0	+2.6
DWPF				LR	LR		
	comp=Z,465nm,20.0s,MS5.3						
SJG	San Juan	150.63	321	ePKPbc	PKPdf	23 40 34.9	+6.5
SJG				LR	LR		
	comp=Z,1µm,22.0s,MS5.6						
TEIG	Tepich	154.88	7	ePKPbc	PKPdf	23 40 43.0	+8.7
TEIG				LR	LR		
	comp=Z,631nm,21.0s,MS5.4						
LVC	Limon Verde	156.50	220	PFAKE		23 40 50.0	+14
LVC				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
LPAZ	La Paz	159.97	234	PKP	PKPdf	23 40 44.3	+3.6
	comp=Z,3.6nm,0.8s,baz=58,slow=3.0,SNR=7.4						
LPAZ				pPKP		23 40 59.8	
	comp=Z,4.2nm,0.9s,baz=40,slow=8.4,SNR=7.2						
LPAZ				PKPab	PKPab	23 41 25.1	+2.3
	comp=Z,2.6nm,0.6s,baz=220,slow=5.8,SNR=6.5						
LPAZ	La Paz	159.97	234	ePKPdf	PKPdf	23 40 42.9	+2.2
SDV	Santo Domingo	160.28	314	PP	PP	23 45 07.0	-0.2
	comp=Z,4.4nm,0.9s,baz=253,slow=20,SNR=3.3						
SDV	Santo Domingo	160.28	314	ePKPdf	PKPdf	23 40 42.5	+1.4
SDV				LR	LR		
	comp=Z,1µm,22.0s						
JTS	JuntasAbangare	164.98	0	PFAKE		23 41 00.0	+14
JTS				LR	LR		
	comp=Z,309nm,20.0s						
ROSC	El Rosal	165.70	312	PKP	PKPdf	23 40 48.9	+2.4
	comp=Z,4.5nm,0.4s,baz=104,slow=21,SNR=6.6						
ROSC				pPKP		23 41 06.0	
	comp=Z,2.4nm,0.4s,baz=79,slow=20,SNR=1.4						
ROSC				PKPab	PKPab	23 41 49.5	+1.6
	comp=Z,6.6nm,0.5s,baz=104,slow=19,SNR=3.2						
NNA	Nana	169.30	228	PFAKE		23 41 00.0	+11
NNA				LR	LR		
	comp=Z,299nm,22.0s						
OTAV	Otavalo	171.81	308	ePKPdf	PKPdf	23 40 53.0	+2.6
OTAV				ePKPab	PKPab	23 42 14.1	-0.6
OTAV				LR	LR		
	comp=Z,1µm,21.0s						

*IDC **17** 23:21:27.9±2.1, 40.84N×124.33W, mb3.4/3, mb1 3.8/4, mb1mx3.6/19, mbtmp3.5/4, ML2.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/18, Error ellipse: s-maj=29.1km s-min=15.0km az=131.0*

*NEIC **17** 23:21:30.2, 40.74N×124.48W, h28^{km}, ML3.8(NCEDC), After NCEDC.*

NEIC Felt [V] at Kneeland; [IV] at Samoa; [III] ar Arcata, Bayside, Eureka, Ferndale, Fortuna, McKinleyville and Trinidad; [II] at Blue Lake, Loleta, Orick and Rio Dell.

ISC 17 23:21:26.7±1.0**, 40.73N**±0.04×**124.4W**±0.1**, h10^{km}, n39,** σ**1^{s}08**/37**, mb3.4**/2**, 1D, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KHMM	Horse Mountain	0.55	75	eP	Pg	23 21 41.2	+3.4
KRMB	Red Mountain	0.88	26	eP	Pb	23 21 45.0	+1.4
KBO	Bosley Butte	1.48	6	eP	Pn	23 21 52.9	-0.6
YBH	Yreka Blue Hor	1.63	52	Pg	Pg	23 21 56.6	-2.8
	69nm,0.3s,baz=254,slow=15,SNR=761						
YBH				Lg		23 22 15.1	
	178nm,0.3s,baz=132,slow=12,SNR=18						
YBH	Yreka Blue Hor	1.63	52	⇓iP	Pn	23 21 56.6	+0.9
HOPS	Hopland	2.03	149	eP	Pn	23 22 01.4	0.0
KEBM	Edson Butte	2.14	2	eP	Pn	23 22 04.2	+1.3
HUMO	Hull Mountain	2.17	30	eP	Pn	23 22 03.5	+0.1
NSHM	Saint Helena R	2.62	147	eP	Pn	23 22 10.2	+0.4
MOD	Modoc	3.32	68	eP	Pn	23 22 19.6	-0.2
SAC	San Andreas	3.51	153	eP	Pn	23 22 22.1	-0.5
WCN	Washoe City	3.86	110	eP	Pn	23 22 28.0	+0.6
PAHR	Pah Rah Range	3.99	103	eP	Pn	23 22 29.5	+0.2
CMB	Columbia Colle	4.13	129	eP	Pn	23 22 32.1	+0.8
SAO	San Andreas Ge	4.60	149	eP	Pn	23 22 37.2	-0.7
WVOR	Wild Horse Val	4.66	67	eP	Pn	23 22 37.2	-1.7
LRV	Little Rabbit	5.06	147	eP	Pn	23 22 44.1	-0.4
OMM	Old Mammoth Mi	5.24	125	eP	Pn	23 22 48.3	+1.2
MNV	Mina	5.36	113	eP	Pn	23 22 49.0	+0.3
BMN	Battle Mountai	5.49	91	eP	Pn	23 22 50.1	-0.5
MTUM	Tungsten Hills	5.68	125	eP	Pn	23 22 54.1	+0.9
TPH	Tonopah	6.18	113	eP	Pn	23 22 58.2	-2.1
BMO	Blue Mountains	6.66	49	eP	Pn	23 23 07.0	-0.1
HAWA	Hanford	6.68	31	eP	Pn	23 23 06.8	-0.5
ELK	Elko	6.98	87	Pn	Pn	23 23 11.9	+0.4
	0.1nm,0.3s,baz=268,slow=12,SNR=7.3						
ELK				LR	LR	23 26 16.3	
	comp=Z,107nm,21.3s,baz=248,slow=42						
MWC	Mount Wilson	8.23	140	eP	P	23 23 27.9	-1.1
DUG	Dugway	8.87	90	eP	P	23 23 36.2	-1.7
NEW	Newport	9.16	32	LR	LR	23 27 50.5	
	comp=Z,126nm,19.1s,baz=230,slow=42						
PFO	Pinyon Flat Ob	9.54	136	eP	P	23 23 46.0	-1.1
MVU	Marysvale	9.69	99	eP	P	23 23 49.7	+0.6
MSU	Marysvale	9.71	99	eP	P	23 23 50.2	+0.7
CHMT	Chamberlain Mo	10.16	49	eP	P	23 23 53.7	-1.9
TMUT	Trail Mountain	10.24	94	P	P	23 23 57.7	+0.9
SRU	San Rafael	10.80	94	eP	P	23 24 05.9	+1.5
ANMO	Albuquerque	15.31	106	LR	LR	23 31 05.0	
	comp=Z,58nm,18.1s,slow=38						
TXAR	Lajitas Array	20.40	117	P	P	23 26 08.0	+1.5
	2.3nm,0.8s,baz=297,slow=8.4,SNR=10						
ULM	Lac du Bonnet	22.04	55	P	P	23 26 21.4	-1.6
	1.0nm,0.4s,mb3.6,baz=290,slow=5.0,SNR=3.0						
YKA	Yellowknife Ar	22.58	12	P	P	23 26 28.6	+0.5
	0.7nm,0.6s,mb3.2,baz=199,slow=11,SNR=14						
YKA	Yellowknife Ar	22.58	12	P	P	23 26 28.6	+0.5

KRSC 17 23:39:47.4±0.5**, 53.33N**×**160.42E, h40^{km}**±4^{km}**, ML3.9, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.33	226	i P	P	23 39 56.6	+0.5
SPN				i S	S	23 40 02.8	+0.7
NLC	Nalytchevo	0.67	257	i P	P	23 40 00.7	+0.3
NLC				i S	S	23 40 10.2	+0.4
KII	Karymskiy	0.91	321	i P	P	23 40 03.8	-0.1
KII				i S	S	23 40 16.3	+0.3
SDLR	Sedlovina	0.92	267	eP	P	23 40 04.5	+0.5
SDLR				eS	S	23 40 17.4	+1.1
UGLR	Uglovaya	0.97	263	i P	P	23 40 05.5	+0.9
UGLR				i S	S	23 40 18.7	+1.3
SMAR	Somma	0.97	267	i P	P	23 40 05.3	+0.6
SMAR				eS	S	23 40 18.3	+0.7
AVH	Avacha	1.01	267	i P	P	23 40 06.1	+0.8
AVH				i S	S	23 40 19.8	+1.3
KOK	Koryaka	1.07	269	i P	P	23 40 06.8	+0.7
KOK				i S	S	23 40 20.9	+0.9
PET	Petropavlovsk	1.11	255	i P	P	23 40 06.9	+0.3
PET				i S	S	23 40 21.0	+0.1
RUS	Russkaya	1.46	233	eP	P	23 40 11.6	-0.2
RUS				eS	S	23 40 28.9	-1.1
KRMR	Karymshinskiy	1.47	251	i P	P	23 40 11.3	-0.6
KRMR				i S	S	23 40 29.3	-0.8
GNL	Ganaly	1.52	285	i P	P	23 40 13.4	+0.7
GNL				eS	S	23 40 32.5	+1.0
GRL	Gorelyy	1.62	242	i P	P	23 40 14.8	+0.8
GRL				eS	S	23 40 34.7	+0.9
TUMR	Tumrok	1.96	355	i P	P	23 40 19.3	+0.4
TUMR				eS	S	23 40 42.8	+0.4
APC	Apacha	2.01	260	i P	P	23 40 20.6	+1.1
APC				i S	S	23 40 45.1	+1.6
APC				Smax			
	80nm,0.9s						
KMNR	Kamenistaya	2.43	358	eP	P	23 40 27.1	+1.5
KMNR				eS	S	23 40 55.9	+1.5
ESO	Esso	2.79	340	i P	P	23 40 30.8	+0.2
ESO				eS	S	23 41 02.2	-1.1
ESO				Smax			
	30nm,1.4s						
PAU	Pauzhetka	2.89	231	P	P	23 40 33.1	+0.9
PAU				eS	S	23 41 06.1	+0.1
SRDR	Sredinnyy	3.02	353	eP	P	23 40 33.6	-0.4
SRDR				eS	S	23 41 07.6	-1.7
KBTR	Krutoberegovo	3.20	25	eP	P	23 40 36.1	-0.4
KBTR				eS	S	23 41 11.6	-2.3
KBG	Krutoberegovo	3.22	23	eP	P	23 40 37.5	+0.8
KBG				eS	S	23 41 15.3	+1.0
KBG				Smax			
	150nm,1.3s						

NEIC 17 23:53:34.5, 63.07N×**151.56W, h8^{km}, ML3.5**(PMR)**, ML3.2**(AEIC)**, After AEIC., Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KTH	Kantishna Hill	0.57	30	P	Pg	23 53 45.7	-0.2
KTH				S	Sg	23 53 53.4	-0.1
TRF	Thorofare Moun	0.69	56	P	Pb	23 53 48.0	-0.3
TRF				S	Sg	23 53 57.8	+0.1
HUR	Hurricane	0.88	95	P	Pb	23 53 51.2	-0.4
HUR				S	Sb	23 54 02.6	-0.7
CUT	Chulitna	0.89	138	P	Pb	23 53 51.5	-0.2
RND	Reindeer	1.27	73	P	Pb	23 53 58.3	+0.1
MCK	McKinley	1.36	59	P	Pb	23 53 59.4	-0.3
MCK				S	Sb	23 54 18.0	+1.0
BWN	Browne	1.45	39	P	Pn	23 54 00.8	-0.3
STLK	Strandline Lak	1.58	185	P	Pn	23 54 02.1	-0.8
STLK				S	Sb	23 54 22.3	-1.3
PWA	Palmer West	1.62	150	P	Pn	23 54 02.5	-1.1
CGLM	Capps Glacier	1.78	187	P	Pn	23 54 06.4	+0.6
GHO	Glory Hole Cre	1.79	136	P	Pn	23 54 05.4	-0.5
CRP	Crater Peak	1.83	189	P	Pn	23 54 07.0	+0.5
CRP				S	Sn	23 54 30.8	+0.8
CP2	Crater Peak Tw	1.84	190	P	Pn	23 54 06.5	-0.1
CP2				S	Sn	23 54 31.4	+1.1
BGL	Barrier Glacie	1.85	193	P	Pn	23 54 07.0	+0.1
PMR	Palmer	1.86	142	P	Pn	23 54 06.5	-0.6
CKN	Chakachatna No	1.87	189	P	Pn	23 54 07.3	+0.1
NEA	Nenana	1.87	35	P	Pn	23 54 05.0	-2.1
NEA				S	Sn	23 54 33.3	+2.1
CKT	Bend	1.90	190	P	Pn	23 54 07.4	-0.1
CKL	Chakachamna La	1.91	191	P	Pn	23 54 08.2	+0.5
SML	Sawmill	1.96	129	P	Pn	23 54 07.4	-1.0
SML				S	Sn	23 54 32.7	-0.7
MLY	Manley	2.00	10	P	Pn	23 54 08.1	-1.0
FIB	Fire Island	2.02	161	P	Pn	23 54 10.1	+0.9
TT01	Tatalina	2.04	267	P	Pn	23 54 08.1	-1.5
RC01	Rabbit Creek A	2.16	156	P	Pn	23 54 11.3	+0.1
CCB	Clear Creek Bu	2.30	45	P	Pn	23 54 11.2	-2.0
SCM	Sheep Creek Mo	2.32	120	P	Pn	23 54 15.1	+1.5
NKA	Nikishka	2.34	176	P	Pn	23 54 17.4	+3.6
MDM	Murphy Dome	2.40	36	P	Pn	23 54 12.7	-2.0
COLA	College	2.44	40	P	Pn	23 54 13.3	-1.9
HDA	Harding Lake	2.45	55	P	Pn	23 54 13.9	-1.5
NCT	North Crescent	2.60	195	P	Pn	23 54 18.8	+1.3
SLKM	Skilak Lake	2.65	166	P	Pn	23 54 19.2	+1.0
THY	Trims Highway	2.65	80	P	Pn	23 54 19.6	+1.3
IL1	Eielson Array	2.68	48	P	Pn	23 54 16.6	-2.1
SVW2	Sparrevohn	2.74	226	P	Pn	23 54 18.5	-1.0
PAX	Paxson	2.78	89	P	Pn	23 54 19.4	-0.7
IM3	Indian Mountai	3.08	343	P	Pn	23 54 23.2	-1.2
IMA	Indian Mountai	3.15	344	eP	Pn	23 54 24.4	-1.0
BRLK	Bradley Lake	3.33	174	P	Pn	23 54 28.7	+0.8
DIV	Divide	3.34	123	P	Pn	23 54 28.0	-0.1
DOT	Dot Lake	3.43	77	P	Pn	23 54 28.3	-1.0
CNPM	China Poot	3.56	177	P	Pn	23 54 31.2	0.0
MENT	Mentasta	3.58	89	eP	Pn	23 54 31.8	+0.4
HIN	Hinchinbrook I	3.60	136	P	Pn	23 54 31.8	+0.1
GLB	Gilahina Butte	3.97	111	P	Pn	23 54 36.7	-0.4
COLD	Coldfoot	4.22	7	P	Pn	23 54 39.4	-1.2
BCA3	Beaver Creek A	4.45	86	P	Pn	23 54 43.2	-0.6
TGL	Tana Glacier	4.73	115	P	Pn	23 54 47.2	-0.7
DAWY	Dawson	5.53	74	P	Pn	23 54 57.0	-2.1

*IDC **17** 23:55:45.2±1.6, 2.10N×98.79E, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, Error ellipse: s-maj=81.2km s-min=20.7km az=55.0*

ISC 17 23:55:48.4±1.8**, 2.1N**±0.4×**98.8E**±0.5**, h33^{km}, n7,** σ**0^{s}67**/6**, mb3.8**/6**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.19	124	P	P	00 03 31.0	-0.8
	1.1nm,0.3s,mb3.9,baz=299,slow=9.3,SNR=11						
ASAR	Alice Springs	42.70	129	P	P	00 03 45.0	+0.8
	0.8nm,0.5s,mb3.7,baz=303,slow=8.0,SNR=8.0						
SONM	Songino Array	45.99	7	P	P	00 04 10.6	+0.2
	0.1nm,0.3s,mb3.2,baz=194,slow=5.9,SNR=3.8						
ZAL	Zalesovo	52.91	350	P	P	00 05 03.5	0.0
	0.9nm,0.2s,mb4.3,baz=133,slow=1.2,SNR=3.3						
BVAR	Borovoye Array	55.92	340	P	P	00 05 25.2	-0.3
	0.8nm,0.5s,mb4.0,baz=134,slow=11,SNR=7.4						
FINES	FINESS Array B	79.92	332	P	P	00 07 55.5	+0.1
	0.2nm,0.3s,mb3.5,baz=117,slow=4.3,SNR=6.5						
BDFB	Brasilia	144.66	246	PKP	PKPdf	00 15 24.9	+2.2
	1.2nm,0.6s,baz=153,slow=11,SNR=3.1						

MAN 18 00:33:09.0, 12.70N×**123.21E, h5^{km}, mb4.3, ML3.1, MS2.9, 2C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MMPH	Masbate	0.53	130	eP	Pg	00 33 19.0	-0.6
MMPH				i S	Sg	00 33 27.0	+0.4
AUQP	San Andres	0.81	320	eP	Pb	00 33 25.1	-0.1
AUQP				eS	Sg	00 33 38.9	+2.9
OTRP	Odiongan	1.21	254	eP	Pb	00 33 32.1	0.0
RCP	Roxas	1.22	202	⇑eP	Pb	00 33 31.1	-1.1
PVCP	Virac	1.28	46	eP	Pb	00 33 32.4	-0.8
GQP	Guinayangan	1.41	328	⇑eP	Pn	00 33 34.5	-0.9
GQP				eS	Sb	00 33 54.1	+0.5
CNP	Catarman	1.43	98	eP	Pn	00 33 35.8	+0.2
BOAC	Boac	1.53	300	eP	Pn	00 33 36.7	-0.5
BOAC				eS	Sb	00 33 55.3	-1.9
SJMP	San Jose	2.06	264	eP	Pn	00 33 44.8	+0.1

*NIED **18** 00:38:00, 44.20N×141.20E, h5km, Mw4.7 Best double couple: $M_0$1.35×10^{16} NP1:ϕ_s8°, δ46°, λ85°. NP2:ϕ_s195°, δ45°, λ95°.*

*IDC **18** 00:38:27.5±0.6, 44.30N×141.08E, mb4.5/23, mb1 4.6/23, mb1mx4.5/27, mbtmp4.5/23, MS4.2/6, Ms1 4.2/6, ms1mx3.7/26, Error ellipse: s-maj=17.3km s-min=9.3km az=14.0*

*JMA **18** 00:38:28.1±0.1, 44.23N×141.11E, M5.0*

JMA Felt IV J1.

*MOS **18** 00:38:31.0±1.0, 44.21N×140.96E, h35^{km}, mb5.0/36, MS4.2/8, Error ellipse: s-maj=9.4km s-min=5.9km az=89.4*

*BJI **18** 00:38:32.6, 44.33N×140.84E, h43^{km}, mB4.9, mb4.6, Ms4.7, Msz4.3*

*NEIC **18** 00:38:35.0±0.2, 44.32N×140.91E, mb4.8/53, MW4.7(NIED), Error ellipse: s-maj=6.1km s-min=4.2km az=156.0*

NEIC Recorded [4 JMA] in the Haboro area and [1 JMA] in the Otaru area, Hokkaido.

ISC 18 00:38:27.2±0.7**, 44.26N**±0.03×**141.02E**±0.03**, h7^{km}**±4^{km}**, h41^{km}**±2.8^{km}**:pP-P, n269,** σ**1^{s}01**/253**, mb4.7**/85**, MS4.4**/16**, 8C-11D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JYG	Yagishiri	0.34	59	⇓P	Pg	00 38 34.4	+0.4
JYG				S	Sg	00 38 38.7	+0.1
JSS	Shosan	0.61	76	⇓P	Pg	00 38 39.5	0.0
JSS				eS	Sg	00 38 47.6	-0.1
JHR	Hokuryu	0.72	135	⇓P	Pg	00 38 41.3	-0.3
JHR				eS	Sg	00 38 51.3	0.0
JRR	Rishiri	0.91	13	P	Pb	00 38 46.0	+1.2
JSK	Shakotan	0.98	204	⇑P	Pb	00 38 47.9	+1.7
JSK				eS	Sb	00 39 01.8	+2.6
ASAJ	Asahikawa	1.14	96	Pg	Pg	00 38 48.1	-1.8
	1µm,0.3s,baz=270,slow=12,SNR=968						
ASAJ				Lg		00 39 03.1	
	9µm,0.3s,baz=352,slow=29,SNR=112						
ASAJ	Asahikawa	1.14	96	⇓P	Pb	00 38 48.1	-0.8
ASAJ				eS	Sb	00 39 03.5	-0.3
JAB	Ashibetsu	1.15	130	⇓P	Pb	00 38 48.7	-0.3
JAB				eS	Sb	00 39 03.8	-0.2
JKK2	Kamakawa 2	1.30	106	⇓P	Pb	00 38 50.9	-0.7
ERM	Erimo	2.73	144	Pn	Pn	00 39 15.9	+3.6
	3µm,0.5s,SNR=13						
YSS	Yuzh-Sakhalins	2.96	24	ePN	Pn	00 39 17.1	+1.5
UGL	Uglegorsk	4.88	8	ePN	Pn	00 39 52.5	+10
UGL				e		00 40 50.0	
UGL				pmax	pmax		
	comp=Z,73nm,0.5s						
UGL				smax			
	comp=N,150nm,1.0s						
UGL				smax			
	comp=E,400nm,1.0s						
UGL				smax			
	comp=N,2µm,3.0s						
UGL				MLR	MLR		
	comp=N,3µm,12.0s						
UGL				MLR	MLR		
	comp=Z,2µm,12.0s						
UGL				MLR	MLR		
	comp=E,4µm,13.0s						
TYV	Tymovskoe	6.70	9	ePN	Pn	00 40 06.0	-2.5
TYV				eS	Sn	00 41 40.0	+14
TYV				pmax	pmax		
	comp=Z,49nm,0.6s						
TYV				pmax	pmax		
	comp=Z,300nm,6.0s						
TYV				smax			
	comp=E,80nm,1.2s						
TYV				smax			
	comp=N,400nm,3.0s						
MAJO	Matsushiro	8.00	197	ePn	Pn	00 40 30.0	+3.4
	comp=N,60nm,1.1s						
MAT	Matsushiro	8.00	197	eP	Pn	00 40 30.0	+3.3
	comp=N,72nm,1.4s						
MAT				S	Sn	00 41 57.0	-1.4
MAT	Matsushiro	8.00	197	P	Pn	00 40 28.7	+2.0
MAT				eS	Sn	00 41 57.3	-1.1
KLR	Kul'dur	8.08	311	ePN	P	00 40 22.2	-5.6
KLR				MLR	MLR		
	comp=N,10µm,14.0s						
KLR				MLR	MLR		
	comp=E,2µm,10.0s						
KLR				MLR	MLR		
	comp=Z,4µm,10.0s						
MDJ	Mudanjiang	8.19	277	P	P	00 40 28.3	-1.0
MDJ				AMB	AMB		
	comp=Z,11nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,116nm,4.4s						
MDJ				LR	LR		
	comp=N,2µm,10.6s						
MDJ				LR	LR		
	comp=E,1µm,18.0s						
MDJ				LR	LR		
	comp=Z,1µm,15.4s						
CN2	Changchun	11.23	273	eP	P	00 41 11.8	+0.7
CN2				eXP		00 41 26.8	
CN2				eS	S	00 43 14.1	-3.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,240nm,5.0s						
CN2				LR	LR		
	comp=N,2µm,11.0s						
CN2				LR	LR		
	comp=E,1µm,11.0s						
CN2				LR	LR		
	comp=Z,1µm,13.0s						
SNY	Shenyang	12.99	265	⇑P	P	00 41 38.4	+3.5
SNY				S	S	00 44 00.9	+0.1
SNY				LR	LR		
	comp=N,2µm,10.5s						
SNY				LR	LR		
	comp=Z,840nm,17.9s						
PET	Petropavlovsk	14.56	47	eP	P	00 41 58.8	+3.4
PET				eS	S	00 44 37.3	-0.7
PET				pmax	pmax		
	comp=Z,300nm,10.0s						
PET				MLR	MLR		
	comp=Z,600nm,20.0s						
PET				MLR	MLR		
	comp=Z,700nm,19.0s						
HIA	Hailar	15.40	296	eP	P	00 42 09.0	+2.5
HIA				pmax	pmax		
	comp=Z,51nm,1.2s						
HIA	Hailar	15.40	296	ePn	P	00 42 09.0	+2.6
	comp=Z,51nm,1.2s						
DL2	Dalian	15.46	256	P	P	00 42 11.4	+4.2
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
DL2				LR	LR		
	comp=N,510nm,11.4s						
DL2				LR	LR		
	comp=E,340nm,12.9s						
DL2				LR	LR		
	comp=Z,250nm,12.2s						
CLNS	Chul'man	16.18	327	eP	P	00 42 22.1	+5.7
CLNS				eS	S	00 45 19.7	+3.5
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.7s						
CLNS				pmax	pmax		
	comp=Z,33nm,1.0s						
CLNS				pmax	pmax		
	comp=N,49nm,1.2s						
CLNS				pmax	pmax		
	comp=E,32nm,0.9s						
CLNS				smax			
	comp=N,6.0nm,0.9s						
CLNS				smax			
	comp=Z,4.0nm,0.9s						
CLNS				smax			
	comp=E,6.0nm,1.0s						
CLNS				MLR	MLR		
	comp=Z,500nm,13.0s						
CLNS				MLR	MLR		

comp=N,400nm,11.0s
CLNS MLR MLR
comp=E,200nm,10.0s
MA2 Magadan 16.45 18 *ce*P **P 00 42 23.0 +3.2**
MA2 *e*S **S 00 45 27.6 +5.3**
MA2 pmax pmax
comp=Z,30nm,1.1s
MA2 pmax pmax
comp=N,20nm,1.2s
MA2 pmax pmax
comp=E,20nm,1.4s
MA2 Magadan 16.45 18 *e*P **P 00 42 23.1 +3.3**
comp=E,51nm,1.1s
BJI Beijing 18.87 266 P **P 00 42 50.3 +0.1**
BJI AP 00 43 01.8
BJI AMB AMB
comp=Z,15nm,0.8s
BJI LR LR
comp=N,500nm,10.2s
BJI LR LR
comp=E,761nm,19.3s
BJI LR LR
comp=Z,713nm,18.6s
BJI Beijing 18.87 266 P **P 00 42 50.2 0.0**
BJI pmax pmax
comp=Z,15nm,0.8s
BJI Beijing 18.87 266 P **P 00 42 50.2 0.0**
comp=Z,15nm,0.8s
BJI pP 00 43 01.7
BJI sS 00 43 08.3
BJI S S 00 46 46.5 +29
BJT Baijiatuau 18.89 266 *e*P **P 00 42 50.3 0.0**
BJT pmax pmax
comp=Z,37nm,1.1s
BJT Baijiatuau 18.89 266 *e*P **P 00 42 50.2 -0.1**
comp=Z,38nm,1.1s
YAK Yakutsk 19.01 343 *i* P **P 00 42 52.3 +0.7**
YAK pmax pmax
comp=Z,76nm,1.2s
SEY Seymchan 19.83 15 *e*P **P 00 43 01.4 +0.3**
SEY *e* 00 46 43.1
SEY pmax pmax
comp=E,60nm,0.9s
SEY pmax pmax
comp=Z,300nm,0.9s
SSE Sheshan 20.40 237 *e*P **P 00 43 05.5 -1.9**
SSE AP 00 43 18.4
SSE S **S 00 46 52.3 +1.2**
SSE AMB AMB
comp=Z,42nm,0.7s
SSE AMB AMB
comp=Z,221nm,4.7s
SSE LR LR
comp=N,501nm,16.9s,MS4.1
SSE LR LR
comp=E,434nm,16.9s,MS4.1
SSE LR LR
comp=Z,475nm,18.2s,MS3.9
SSE Sheshan 20.40 237 *e*P **P 00 43 05.5 -1.9**
comp=Z,42nm,0.7s
SSE pP 00 43 18.4
SSE S **S 00 46 52.3 +1.2**
SSE sS 00 47 15.6
SSE LR LR
comp=Z,480nm,18.2s,MS3.9
NJ2 Nanjing 21.19 242 *e*P **P 00 43 15.3 -0.2**
NJ2 AP 00 43 26.1
NJ2 XP 00 43 35.4
NJ2 S **S 00 47 04.0 -2.6**
NJ2 XS 00 47 25.0
NJ2 AMB AMB
comp=Z,30nm,0.7s,mb4.7
NJ2 AMB AMB
comp=Z,200nm,4.2s
NJ2 LR LR
comp=N,2μm,10.7s
NJ2 LR LR
comp=E,2μm,16.9s
NJ2 LR LR
comp=Z,8μm,13.6s,MS5.3
BOD Bodaibo 21.55 319 *e*P **P 00 43 18.3 -0.7**
BOD pmax pmax
comp=Z,22nm,1.5s,mb4.4
HHC Hu-ho-hao-te 21.91 271 *e*P **P 00 43 22.9 +0.2**
HHC AP 00 43 35.3
HHC XP 00 43 40.5
HHC PP PP 00 43 50.3 +2.2
HHC S **S 00 47 14.9 -5.1**
HHC XS 00 47 30.8
HHC SS SS 00 47 54.5 -3.1
HHC AMB AMB
comp=Z,14nm,0.6s,mb4.6
HHC LR LR
comp=N,1μm,17.8s,MS4.5
HHC LR LR
comp=E,526nm,17.2s,MS4.5
HHC LR LR
comp=Z,758nm,16.1s,MS4.2
FX1 Attu Island--F 22.79 56 LR LR 00 52 05.5
comp=Z,6.9nm,21.1s,baz=274,slow=36
ULN Ulaanbaatar 23.73 291 *e*P **P 00 43 39.2 -1.3**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
ULN Ulaanbaatar 23.73 291 *e*P **P 00 43 39.1 -1.3**
comp=Z,7.9nm,0.9s,mb4.1
SONM Songino Array 24.18 291 P **P 00 43 45.3 +0.5**
comp=Z,8.4nm,0.9s,mb4.2,baz=81,slow=9.0,SNR=31
TLY Talaya 25.88 300 *e*P **P 00 44 06.1 +5.1**
TLY *e* 00 44 56.7
TLY pmax pmax
comp=Z,8.0nm,1.3s,mb4.1
TLY MLR MLR
comp=Z,538nm,14.0s,MS4.2
ZAK Zakamensk 26.10 297 *e*P **P 00 43 59.6 -3.4**
ZAK *e* 00 47 29.8
ZAK pmax pmax
comp=Z,3.0nm,1.5s
ZAK pmax pmax
comp=Z,2.0nm,1.3s
BILL Bilibino 27.27 20 *e*P **P 00 44 12.7 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
BILL Bilibino 27.27 20 *e*P **P 00 44 12.7 -0.9**
comp=Z,1.7nm,0.4s,mb3.9
LZH Lanzhou 29.36 267 ⇓P **P 00 44 33.3 +0.5**
LZH AP pP 00 44 45.6 +11
LZH XP sP 00 44 52.0 +16
LZH PP PP 00 45 28.5 +0.6
LZH *eS* **S 00 49 20.6 -4.7**
LZH XS 00 49 41.3
LZH SS SS 00 50 53.9 -2.5
LZH AMB AMB
comp=Z,28nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,117nm,5.2s
LZH LR LR
comp=N,672nm,12.0s
LZH LR LR
comp=Z,1μm,14.6s,MS4.6
LZH Lanzhou 29.36 267 ⇓P **P 00 44 33.2 +0.4**
LZH *PP pP 00 44 45.6 +11
LZH *SP sP 00 44 52.0 +16
LZH 00 45 28.5
LZH *eS* **S 00 49 20.6 -4.7**
LZH *SS 00 49 41.2
LZH SS SS 00 50 53.9 -2.5
LZH pmax pmax
comp=Z,28nm,1.3s,mb4.8
LZH MLR MLR
comp=Z,1μm,14.6s,MS4.6
LZH Lanzhou 29.36 267 ⇓P **P 00 44 33.2 +0.4**
comp=Z,28nm,1.3s,mb4.8
LZH pP pP 00 44 45.6 +11
LZH sP sP 00 44 52.0 +16
LZH PP PP 00 45 28.5 +0.6
LZH *eS* **S 00 49 20.6 -4.7**
LZH sS 00 49 41.2
LZH SS SS 00 50 53.9 -2.5
LZH LR LR
comp=Z,1μm,14.6s,MS4.6
GTA Gaotai 30.84 275 *e*P **P 00 44 46.3 +0.3**
GTA AP pP 00 44 57.8 +10
GTA XP sP 00 45 03.3 +15
GTA PP PP 00 45 49.4 +2.2
GTA PPP PPP 00 46 04.3 +2.2
GTA PCP PcP 00 47 41.6 -1.5
GTA SS SS 00 51 29.3 -2.0
GTA AMB AMB
comp=Z,3.0nm,1.8s,mb3.8
GTA AMB AMB
comp=Z,152nm,6.8s
GTA LR LR
comp=N,828nm,16.0s,MS4.6
GTA LR LR
comp=E,435nm,11.0s,MS4.6
GTA LR LR
comp=Z,629nm,16.0s,MS4.4
ZAL Zalesovo 37.15 306 P **P 00 45 39.9 -0.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=25,slow=8.7,SNR=11
ZAL PcP PcP 00 48 00.8 0.0
comp=Z,2.0nm,0.8s,baz=12,slow=2.8,SNR=8.5
ZAL LR LR 01 02 42.1
comp=Z,435nm,18.0s,MS4.3,baz=22,slow=39
WMQ Urumqi 37.77 289 *e*P **P 00 45 46.0 +0.6**
WMQ AP pP 00 45 58.0 +11
WMQ XP sP 00 46 04.0 +16
WMQ PP PP 00 47 15.0 +0.6
WMQ *eS* **S 00 51 32.0 -4.0**
WMQ XS 00 51 52.0
WMQ AMB AMB
comp=Z,7.0nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,110nm,4.1s
WMQ LR LR
comp=N,1μm,15.5s,MS4.8
WMQ LR LR
comp=E,606nm,17.2s,MS4.8
WMQ LR LR
comp=Z,1μm,16.0s,MS4.8
IMA Indian Mountai 40.76 35 *e*P **P 00 46 08.8 -1.3**
KURK Kurchatov 41.54 302 *i* P **P 00 46 15.7 -0.9**
KURK Kurchatov 41.54 302 *e*P **P 00 46 15.2 -1.4**
comp=Z,16nm,1.4s,mb4.5
NANT Nan 42.12 246 ⇓P **P 00 46 20.0 -1.7**
comp=Z,75nm,1.0s,mb5.3
MCK McKinley 42.95 38 *e*P **P 00 46 26.5 -1.4**
MCK pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
MCK McKinley 42.95 38 *e*P **P 00 46 26.5 -1.5**
comp=Z,2.9nm,1.1s,mb3.9
CHG Chiang Mai 43.27 248 P **P 00 46 32.5 +1.4**
COLA College 43.27 36 *e*P **P 00 46 28.9 -1.6**
SML Sawmill 43.52 41 *e*P **P 00 46 31.8 -0.8**
BVAR Borovoye Array 45.72 307 P **P 00 46 50.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.4,baz=72,slow=9.4,SNR=14
BVAR PcP PcP 00 48 28.9 +0.2
comp=Z,2.2nm,0.7s,baz=76,slow=5.9,SNR=6.2
JIRN Jiri 46.51 268 *e*P **P 00 46 57.6 +0.7**
comp=Z,84nm,1.1s,mb5.6
KKN Kakani 47.09 269 *e*P **P 00 47 02.0 +0.5**
comp=Z,124nm,1.3s,mb5.7
AAK Ala-Archa 47.12 293 *i* P **P 00 47 00.8 -0.7**
AAK pmax pmax
comp=Z,8.0nm,1.9s,mb4.3
AAK Ala-Archa 47.12 293 *e*P **P 00 47 00.7 -0.8**
comp=Z,10nm,1.4s,mb4.6
PKI Pulchoki 47.12 269 *e*P **P 00 47 02.3 +0.5**
comp=Z,89nm,1.1s,mb5.6
DMN Daman 47.32 269 *e*P **P 00 47 04.2 +0.9**
comp=Z,113nm,1.1s,mb5.7
GKN Gorkha 47.42 270 *e*P **P 00 47 05.2 +1.0**
comp=Z,61nm,0.7s,mb5.6
INK Inuvik 48.18 30 P **P 00 47 08.1 -1.5**
INK pmax pmax
comp=Z,3.0nm,0.6s
INK Inuvik 48.18 30 P **P 00 47 08.1 -1.4**
comp=Z,2.9nm,0.6s,mb4.5,baz=291,slow=5.0,SNR=15
INK Inuvik 48.18 30 *e*P **P 00 47 07.5 -2.0**
comp=Z,2.3nm,0.5s,mb4.5
KOLN Koldanda 48.30 270 *e*P **P 00 47 11.6 +0.5**
comp=Z,88nm,0.9s,mb5.8
SVE Sverdlovsk 49.69 315 *e*P **P 00 47 21.5 +0.2**
SVE pmax pmax
comp=Z,52nm,2.0s,mb5.2
SVE MLR MLR
comp=N,200nm,12.0s,MS4.5
SVE MLR MLR
comp=E,200nm,12.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,12.0s,MS4.5
DDI Dehra Dun 50.82 276 *e* **P 00 47 30.0 -0.3**
NDI New Delhi 52.35 275 *e*P **P 00 47 40.0 -2.0**
RES Resolute Bay 55.71 15 *e*P **P 00 48 03.9 -2.1**
RES pmax pmax
comp=Z,11nm,1.0s,mb4.8
RES Resolute Bay 55.71 15 *e*P **P 00 48 03.9 -2.1**
comp=Z,11nm,1.0s,mb4.8
ARCES ARCESS Array B 57.17 338 P **P 00 48 15.1 -1.5**
comp=Z,8.6nm,1.0s,mb4.8,baz=45,slow=8.6,SNR=4.1
ARCES LR LR 01 16 02.9
comp=Z,117nm,18.7s,MS4.0,baz=194,slow=40
ARCES ARCESS Array B 57.17 338 P **P 00 48 15.1 -1.5**
ARCES LR LR 01 16 02.9
YKW3 Yellowknife Ar 57.74 32 *e*P **P 00 48 18.5 -2.1**
YKA Yellowknife Ar 57.78 32 P **P 00 48 19.4 -1.5**
comp=Z,3.4nm,0.9s,mb4.4,baz=304,slow=7.0,SNR=8.1
HYB Hyderabad 58.40 264 *e*P **P 00 48 25.0 -0.8**
HYB Hyderabad 58.40 264 *i* P **P 00 48 25.0 -0.8**
OBN Obninsk 62.21 321 *i* P **P 00 48 48.6 -2.8**
OBN pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.4
FINES FINESS Array B 62.34 331 P **P 00 48 50.2 -1.9**
comp=Z,2.4nm,0.7s,mb4.4,baz=37,slow=9.5,SNR=7.5
FINES LR LR 01 17 56.1
comp=Z,300nm,18.9s,MS4.5,baz=206,slow=38
FINES FINESS Array B 62.34 331 P **P 00 48 50.2 -1.9**
FINES LR LR 01 17 56.1
SUMG Summit 63.47 360 *e*P **P 00 48 59.0 -0.5**
comp=Z,11nm,1.0s,mb4.9
EDM Edmonton 63.94 40 *e*P **P 00 49 02.1 -0.7**
WRAB Tennant Creek 64.16 187 *i* P **P 00 49 03.1 -1.7**
WRAB Tennant Creek 64.16 187 *e*P **P 00 49 02.5 -2.3**
comp=Z,24nm,1.3s,mb5.1
WRA Warramunga Arr 64.17 187 P **P 00 49 03.4 -1.4**
comp=Z,3.8nm,0.8s,mb4.5,baz=7.6,slow=6.7,SNR=16
CTAO Charters Tower 64.21 175 *e*P **P 00 49 03.7 -1.3**
CTAO pmax pmax
comp=Z,12nm,1.3s,mb4.8
CTAO Charters Tower 64.21 175 *e*P **P 00 49 03.7 -1.4**
comp=Z,12nm,1.3s,mb4.8
EBG Ellensburg 64.27 49 P **P 00 49 05.5 +0.5**
VLL Laurance Lake 64.55 51 P **P 00 49 08.1 +1.2**
GL2 New Goldendale 64.71 50 P **P 00 49 08.6 +0.7**
VFP Flag Point 64.75 51 P **P 00 49 08.9 +0.8**
HAWA Hanford 65.15 49 *e*P **P 00 49 09.8 -0.9**
comp=Z,2.0nm,1.5s,mb3.9
GOF Gofitskoye 65.18 309 *e*P **P 00 49 13.9 +3.0**
CROR Criterion Ridg 65.23 51 P **P 00 49 11.8 +0.6**
NEW Newport 65.24 46 P **P 00 49 11.6 +0.3**
NEW pmax pmax
comp=Z,4.0nm,0.7s
NEW Newport 65.24 46 P **P 00 49 11.6 +0.3**
comp=Z,4.1nm,0.7s,mb4.6,baz=306,slow=6.0,SNR=9.4
NEW Newport 65.24 46 *e*P **P 00 49 10.7 -0.6**
comp=Z,7.7nm,0.9s,mb4.7
BBOR Butler Butte 65.57 53 P **P 00 49 14.2 +0.7**
ZEI Tsey 66.11 307 *e*P **P 00 49 16.1 -0.8**
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TI2 Plekhanov 66.27 306 *e*P **P 00 49 10.2 -7.8**
YBH Yreka Blue Hor 66.27 54 P **P 00 49 18.9 +1.0**
comp=Z,4.9nm,0.6s,mb4.7,baz=12,slow=2.3,SNR=14
GNI Garni 67.27 304 P **P 00 49 25.0 +0.6**
comp=Z,0.7nm,0.4s,mb4.0,baz=216,slow=14,SNR=3.7
BMO Blue Mountains 67.33 49 *e*P **P 00 49 24.8 +0.1**
comp=Z,17nm,1.3s,mb4.9
HFS Hagfors 67.42 334 P **P 00 49 23.3 -1.7**
comp=Z,6.7nm,1.1s,mb4.6,baz=56,slow=5.3,SNR=5.8
NOA NORSAR Array B 67.44 336 P **P 00 49 23.4 -1.6**
comp=Z,3.9nm,1.2s,mb4.3,baz=40,slow=6.0,SNR=3.0
NOA LR LR 01 21 42.8
comp=Z,109nm,19.6s,MS4.1,baz=245,slow=38
LBCM Butte Creek Ri 67.63 54 P **P 00 49 26.9 +0.3**
FCC Fort Churchill 67.71 28 *e*P **P 00 49 25.7 -1.1**
FCC pmax pmax
comp=Z,30nm,1.3s,mb5.2
FCC Fort Churchill 67.71 28 *e*P **P 00 49 25.7 -1.1**
comp=Z,30nm,1.3s,mb5.2
FFC Flin Flon 67.84 34 P **P 00 49 27.0 -0.7**
comp=Z,155nm,0.9s,SNR=23
FFC Flin Flon 67.84 34 *e*P **P 00 49 27.1 -0.6**
FFC pmax pmax
comp=Z,35nm,1.1s,mb5.3
FFC Flin Flon 67.84 34 *e*P **P 00 49 27.1 -0.6**
comp=Z,35nm,1.1s,mb5.3
ASPA Alice Springs 67.90 187 ⇑ *i*P **P 00 49 26.3 -2.3**
CHMT Chamberlain Mo 68.11 45 *e*P **P 00 49 29.2 -0.3**
WVOR Wild Horse Val 68.16 52 *e*P **P 00 49 30.2 +0.3**
WVOR pmax pmax
comp=Z,23nm,1.1s,mb5.1
WVOR Wild Horse Val 68.16 52 *e*P **P 00 49 30.2 +0.3**
comp=Z,23nm,1.1s,mb5.1
ANN Anapa 68.40 312 *e*P **P 00 49 24.0 -7.3**
ANN pmax pmax
comp=Z,191nm,1.3s
HRY Holter Researc 68.97 45 *e*P **P 00 49 35.3 +0.4**
HLID Hailey 69.75 49 *e*P **P 00 49 40.0 +0.4**
comp=Z,9.8nm,1.4s,mb4.5
BOZ Bozeman (W) 69.80 46 *e*P **P 00 49 40.2 +0.3**
BOZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
BOZ Bozeman (W) 69.80 46 *e*P **P 00 49 40.2 +0.2**
comp=Z,26nm,1.2s,mb5.0
FRB Frobisher Bay 69.82 14 P **P 00 49 37.9 -1.9**
comp=Z,8.1nm,0.8s,mb4.7,baz=353,slow=6.7,SNR=12
CMB Columbia Colle 70.01 56 *e*P **P 00 49 41.1 -0.2**
CMB pmax pmax
comp=Z,41nm,1.9s,mb5.0
CMB Columbia Colle 70.01 56 *e*P **P 00 49 41.1 -0.2**
comp=Z,40nm,1.9s,mb5.0
SIM Simferopol' 70.05 314 *ce*P **P 00 49 45.1 +3.7**
SIM pmax pmax
comp=Z,13nm,0.9s,mb4.9
SIM MLR MLR
comp=Z,200nm,18.0s,MS4.4
BMN Battle Mountai 70.28 53 *e*P **P 00 49 43.5 +0.6**
BMN pmax pmax
comp=Z,14nm,1.2s,mb4.8
BMN Battle Mountai 70.28 53 *e*P **P 00 49 43.5 +0.5**
comp=Z,14nm,1.2s,mb4.8
QLMT Earthquake Lak 70.46 46 *e*P **P 00 49 44.3 +0.3**
IMW Indian Meadow 71.36 47 *e*P **P 00 49 50.2 +0.7**
RRI2 Red Ridge 71.54 47 *e*P **P 00 49 51.4 +0.8**
MOOW Moose Ponds 71.56 47 *e*P **P 00 49 51.6 +0.9**
TPAW Teton Pass 71.64 47 *e*P **P 00 49 52.3 +1.1**
LOHW Long Hollow 71.73 47 *e*P **P 00 49 52.5 +0.8**
comp=Z,20nm,1.4s,mb4.8
SNOW Snow King Moun 71.76 47 *e*P **P 00 49 52.9 +1.1**
AHID Auburn Hatcher 72.06 47 *e*P **P 00 49 53.8 +0.1**
comp=Z,6.5nm,1.0s,mb4.5
MALT Malatya 72.17 306 *e*P **P 00 49 51.8 -2.6**
MALT pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
MALT Malatya 72.17 306 *e*P **P 00 49 51.8 -2.6**
comp=Z,6.4nm,1.1s,mb4.5
HWUT Hardware Ranch 72.62 49 *e*P **P 00 49 57.5 +0.6**
comp=Z,33nm,1.2s,mb5.1
BW06 Boulder Array 72.87 47 *e*P **P 00 49 58.1 -0.3**
comp=Z,23nm,1.0s,mb5.1
PDAR Pinedale Array 72.87 47 P **P 00 49 58.2 -0.2**
comp=Z,16nm,0.9s,mb5.0,baz=297,slow=1.8,SNR=97
DUG Dugway 72.91 50 *e*P **P 00 49 59.3 +0.6**
DUG pmax pmax
comp=Z,30nm,1.3s,mb5.1
DUG Dugway 72.91 50 *e*P **P 00 49 59.3 +0.6**
comp=Z,30nm,1.3s,mb5.1
NOQ North Oquirrh 72.98 50 *e*P **P 00 49 59.8 +0.7**
TCUT Toone Canyon 73.04 49 *e*P **P 00 49 57.8 -1.6**
JLU Jordanelle 73.38 49 *e*P **P 00 50 02.0 +0.6**
DAU Daniels Canyon 73.62 49 *e*P **P 00 50 03.6 +0.8**
ULM Lac du Bonnet 73.67 34 P **P 00 50 02.2 -0.6**
comp=Z,6.0nm,0.8s,mb4.6,baz=322,slow=6.5,SNR=16
MPU Maple Canyon 73.69 50 *e*P **P 00 50 03.9 +0.7**
MLR Muntele Rosu 73.73 318 LR LR 01 23 47.2
comp=Z,192nm,18.1s,MS4.4,baz=53,slow=37
OKC Ostrava-Krasne 73.89 326 *e*P **P 00 50 08.0 +3.8**
BRTR Keskin Array B 73.91 310 P **P 00 50 05.2 +0.6**
comp=Z,1.3nm,0.7s,mb4.0,baz=62,slow=4.5,SNR=8.4
MORC Moravsky Berou 74.19 326 *e*P **P 00 50 06.0 +0.1**
MORC pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MORC Moravsky Berou 74.19 326 *e*P **P 00 50 06.0 +0.1**
comp=Z,8.7nm,1.3s,mb4.5
DPC Dobruska-Polom 74.22 327 *e*P **P 00 50 05.7 -0.4**
TMUT Trail Mountain 74.43 50 *e*P **P 00 50 08.1 +0.6**
MSU Marysvale 74.44 51 *e*P **P 00 50 08.8 +1.2**
CLL Collm 74.72 329 *e*P **P 00 50 09.0 +0.1**
CLL Collm 74.72 329 P **P 00 50 09.0 +0.1**
SRU San Rafael 74.93 50 *e*P **P 00 50 11.0 +0.6**
VRAC Vranov 74.94 326 P **P 00 50 08.8 -1.4**
comp=Z,2.2nm,0.6s,mb4.3,baz=60,slow=6.2,SNR=4.2
PRU Pruhonice 75.20 328 *e*P **P 00 50 12.4 +0.7**
STKA Stephens Creek 75.77 179 P **P 00 50 15.8 +0.4**
comp=Z,6.1nm,1.0s,mb4.5,baz=18,slow=9.9,SNR=4.3
STKA Stephens Creek 75.77 179 *e*P **P 00 50 15.6 +0.2**
KHC Kasperske Hory 76.27 328 *e*P **P 00 50 16.8 -1.0**
PV10 Paradox Valley 76.27 50 *e*P **P 00 50 19.1 +1.1**
GRA1 Grafenberg Ar 76.70 329 *e*P **P 00 50 20.4 +0.2**
comp=Z,10.0nm,1.0s,mb4.7
GRF Grafenberg Arr 76.70 329 *e*P **P 00 50 20.4 +0.2**
GRF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
PV01 Paradox Valley 76.70 49 *e*P **P 00 50 21.1 +0.6**
ISCO Idaho Springs 77.07 47 *e*P **P 00 50 23.6 +1.1**
ISCO pmax pmax
comp=Z,23nm,1.4s,mb4.9
ISCO Idaho Springs 77.07 47 *e*P **P 00 50 23.6 +1.1**
comp=Z,23nm,1.4s,mb4.9
RW3 Ridgway 77.10 49 *e*P **P 00 50 23.3 +0.6**
SCHQ Schefferville 78.48 16 P **P 00 50 30.0 0.0**
comp=Z,8.7nm,1.1s,mb4.6,baz=2.2,slow=8.3,SNR=7.4
SDCO Great Sand Dun 78.64 48 *e*P **P 00 50 31.8 +0.7**
comp=Z,11nm,1.1s,mb4.7
BAIF Baives 78.81 333 *e*P **P 00 50 31.8 0.0**
CDF Champ du Feu 79.19 331 *e*P **P 00 50 33.8 -0.1**
TUC Tucson 79.64 55 *e*P **P 00 50 37.5 +0.8**
TUC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
TUC Tucson 79.64 55 *e*P **P 00 50 37.5 +0.8**
comp=Z,3.0nm,1.0s,mb4.2
HINF Hinteralfeld 79.85 331 *e*P **P 00 50 37.2 -0.3**
ANMO Albuquerque 80.18 50 *e*P **P 00 50 40.8 +1.2**
ANMO pmax pmax
comp=Z,19nm,1.6s
ANMO Albuquerque 80.18 50 P **P 00 50 40.8 +1.2**
comp=Z,5.6nm,1.1s,mb4.4,baz=312,slow=8.4,SNR=11
ANMO Albuquerque 80.18 50 *e*P **P 00 50 40.8 +1.2**
comp=Z,19nm,1.6s,mb4.8
EIL Elat 80.25 302 LR LR 01 27 59.5
comp=Z,104nm,18.5s,MS4.2,baz=111,slow=37
CABF La Chapelle 81.15 330 *e*P **P 00 50 44.3 -0.1**
LDF La Druitiere 81.46 335 *e*P **P 00 50 45.8 -0.2**
comp=Z,51nm,1.5s,mb4.9
LDF La Druitiere 81.46 335 *e*P **P 00 50 45.8 -0.2**
LDF pmax pmax
comp=Z,26nm,1.5s,mb4.9
SSF Saint Saulge 81.65 332 *e*P **P 00 50 46.7 -0.3**
LPL La Plagne 81.85 329 *e*P **P 00 50 48.3 +0.2**
comp=Z,34nm,1.4s,mb4.8
LPL La Plagne 81.85 329 *e*P **P 00 50 48.3 +0.2**
LPL pmax pmax
comp=Z,17nm,1.4s,mb4.8
AQU L'Aquila 81.86 324 *e*P **P 00 50 49.2 +1.0**
AQU pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
AQU L'Aquila 81.86 324 *e*P **P 00 50 49.2 +1.0**
comp=Z,9.3nm,0.9s,mb4.7
LPG La Plagne 81.86 329 *e*P **P 00 50 48.5 +0.3**
comp=Z,19nm,1.2s,mb4.6
LPG La Plagne 81.86 329 *e*P **P 00 50 48.5 +0.3**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
SMF Signal de Mont 81.90 332 *e*P **P 00 50 47.9 -0.4**
comp=Z,25nm,1.4s,mb4.6
SMF Signal de Mont 81.90 332 *e*P **P 00 50 47.9 -0.4**
SMF pmax pmax
comp=Z,12nm,1.4s,mb4.6
AVF Avril sur Loir 81.94 332 *e*P **P 00 50 48.5 0.0**
comp=Z,31nm,1.4s,mb4.7
AVF Avril sur Loir 81.94 332 *e*P **P 00 50 48.5 0.0**
AVF pmax pmax
comp=Z,15nm,1.4s,mb4.7
KSU1 Kansas State U 82.10 42 *e*P **P 00 50 49.2 -0.3**
SGMF Saint Gilles 82.48 336 *e*P **P 00 50 51.6 +0.3**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**82.51**	**329**	*e*P	**P**	**00 50 51.5**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.2						
MBDF	**Montbardon**	**82.51**	**329**	*e*P	**P**	**00 50 51.5**	**-0.1**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
TCF	**Toulx Ste Croi**	**82.76**	**333**	*e*P	**P**	**00 50 53.0**	**+0.2**
	comp=Z,32nm,1.5s,mb4.8						
TCF	**Toulx Ste Croi**	**82.76**	**333**	*e*P	**P**	**00 50 53.0**	**+0.2**
TCF				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.8						
AMTX	**Amarillo**	**82.82**	**47**	*e*P	**P**	**00 50 54.1**	**+0.7**
	comp=Z,14nm,1.1s,mb4.9						
TIP	**Timpagrande**	**82.93**	**320**	*e*P	**P**	**00 50 53.6**	**-0.2**
SBF	**Sospel**	**83.00**	**328**	*e*P	**P**	**00 50 54.0**	**-0.1**
VIVF	**Saint-Julien-l**	**83.16**	**330**	*e*P	**P**	**00 50 55.3**	**+0.4**
	comp=Z,6.9nm,1.1s,mb4.3						
VIVF	**Saint-Julien-l**	**83.16**	**330**	*e*P	**P**	**00 50 55.3**	**+0.4**
VIVF				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
MNTX	**Cornudas Mount**	**83.20**	**52**	*e*P	**P**	**00 50 56.0**	**+0.6**
	comp=Z,24nm,1.6s,mb5.0						
MFF	**Saint Martin d**	**83.24**	**334**	*e*P	**P**	**00 50 55.7**	**+0.4**
GDL2	**Guadalupe Moun**	**83.39**	**51**	*e*P	**P**	**00 50 57.2**	**+0.9**
CLNB	**Carlsbad**	**83.61**	**51**	P	**P**	**00 50 58.1**	**+0.6**
RJF	**Les Rejaudoux**	**83.85**	**333**	*e*P	**P**	**00 50 58.9**	**+0.5**
CAF	**Calviac**	**84.00**	**332**	*e*P	**P**	**00 51 00.3**	**+1.2**
LASF	**Ste Croix**	**84.13**	**330**	*e*P	**P**	**00 50 59.3**	**-0.5**
LFF	**La Frestale**	**84.43**	**333**	*e*P	**P**	**00 51 02.2**	**+0.9**
SADO	**Sadowa**	**84.44**	**27**	P	**P**	**00 51 00.3**	**-1.0**
	comp=Z,0.9nm,0.3s,mb4.4,baz=270,slow=6.1,SNR=2.4						
SADO	**Sadowa**	**84.44**	**27**	P	**P**	**00 51 00.3**	**-1.0**
WMOK	**Wichita Mounta**	**84.44**	**46**	*e*P	**P**	**00 51 02.0**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.9						
WMOK	**Wichita Mounta**	**84.44**	**46**	*e*P	**P**	**00 51 01.9**	**+0.3**
	comp=Z,14nm,1.3s,mb5.0						
CCM	**Cathedral Cave**	**85.43**	**39**	*e*P	**P**	**00 51 06.4**	**0.0**
CCM				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
CCM	**Cathedral Cave**	**85.43**	**39**	*e*P	**P**	**00 51 06.3**	**-0.1**
	comp=Z,8.6nm,0.8s,mb4.9						
LTX	**Lajitas**	**85.95**	**52**	*e*P	**P**	**00 51 09.8**	**+0.6**
LTX				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.9						
LTX	**Lajitas**	**85.95**	**52**	*e*P	**P**	**00 51 09.8**	**+0.6**
	comp=Z,5.8nm,0.8s,mb4.9						
TXAR	**Lajitas Array**	**85.95**	**52**	P	**P**	**00 51 10.2**	**+1.0**
	comp=Z,3.9nm,0.8s,mb4.7,baz=286,slow=3.5,SNR=30						
EPF	**Esparros**	**86.26**	**332**	*e*P	**P**	**00 51 10.9**	**+0.4**
WVT	**Waverly**	**88.54**	**38**	*e*P	**P**	**00 51 22.1**	**+0.5**
WVT				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb5.0						
WVT	**Waverly**	**88.54**	**38**	*e*P	**P**	**00 51 22.1**	**+0.5**
	comp=Z,8.7nm,1.1s,mb5.0						
LPAZ	**La Paz**	**142.80**	**51**	PKP	PKPdf	00 58 01.4	-2.8
	comp=Z,0.9nm,1.0s,baz=338,slow=14,SNR=2.8						
LVC	**Limon Verde**	**147.28**	**59**	PKPbc	PKPdf	00 58 11.7	-0.1
	comp=Z,4.5nm,0.8s,baz=243,slow=6.5,SNR=4.4						
SNAA	**Sanae**	**147.49**	**200**	*e*	PKPdf	00 58 18.7	+8.0
SNAA	**Sanae**	**147.49**	**200**	*e*	PKPdf	00 58 25.6	+15
SNAA	**Sanae**	**147.49**	**200**	*e*	PKPdf	00 58 30.3	+20
SNAA	**Sanae**	**147.49**	**200**	*e*	PKPdf	00 58 34.5	+24
SNAA	**Sanae**	**147.49**	**200**	PKPbc	PKPdf	00 58 11.7	+1.0
	comp=Z,2.0nm,0.8s,baz=214,slow=3.6,SNR=5.6						
SNAA	**Sanae**	**147.49**	**200**	⇓*i*P	PKPdf	00 58 11.9	+1.2
SNAA				*e*		00 58 18.7	
SNAA				*e*		00 58 25.6	
SNAA				*e*		00 58 30.3	
SNAA				*e*		00 58 34.5	
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 12.3	-0.9
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 13.6	+0.4
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 16.9	+3.7
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 24.2	+11
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 30.6	+17
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 33.4	+20
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 36.0	+23
VNA2	**Neumayer--Watz**	**149.10**	**200**	*e*	PKPdf	00 58 40.3	+27
VNA2	**Neumayer--Watz**	**149.10**	**200**	⇑*i*P	PKPdf	00 58 07.4	-5.8
VNA2				*e*		00 58 12.3	
VNA2				*e*		00 58 13.6	
VNA2				*e*		00 58 16.9	
VNA2				*e*		00 58 24.2	
VNA2				*e*		00 58 30.6	
VNA2				*e*		00 58 33.4	
VNA2				*e*		00 58 36.0	
VNA2				*e*		00 58 40.3	
VNA2				*e*		01 05 09.5	
VNA2				*e*		01 07 04.5	
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 10.1	-3.6
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 11.7	-2.0
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 14.6	+0.9
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 22.8	+9.1
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 29.6	+16
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 32.7	+19
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 35.0	+21
VNA3	**Neumayer Olymp**	**149.40**	**198**	*e*	PKPdf	00 58 39.9	+26
VNA3	**Neumayer Olymp**	**149.40**	**198**	⇑*i*P	PKPdf	00 58 05.9	-7.8
VNA3				*e*		00 58 10.1	
VNA3				*e*		00 58 11.7	
VNA3				*e*		00 58 14.6	
VNA3				*e*		00 58 22.8	
VNA3				*e*		00 58 29.6	
VNA3				*e*		00 58 32.7	
VNA3				*e*		00 58 35.0	
VNA3				*e*		00 58 39.9	
VNA3				*e*		01 05 08.1	
VNA3				*e*		01 07 02.9	
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 13.3	-0.6
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 15.1	+1.2
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 17.9	+4.0
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 24.9	+11
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 32.5	+19
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 34.3	+20
VNA1	**Neumayer--Stat**	**149.50**	**200**	*e*	PKPdf	00 58 41.0	+27
VNA1	**Neumayer--Stat**	**149.50**	**200**	⇑*i*P	PKPdf	00 58 07.9	-6.0
VNA1				*e*		00 58 13.3	
VNA1				*e*		00 58 15.1	
VNA1				*e*		00 58 17.9	
VNA1				*e*		00 58 24.9	
VNA1				*e*		00 58 32.5	
VNA1				*e*		00 58 34.3	
VNA1				*e*		00 58 41.0	
VNA1				*e*		01 05 07.2	
BDFB	**Brasilia**	**150.46**	**18**	PKPbc	PKPdf	00 58 19.0	+2.0
	comp=Z,8.0nm,1.1s,baz=64,slow=3.6,SNR=7.7						

*NEIC **18** 00:42:13.0±1.2, 19.51S×179.02W, h624km±16km, mb4.3/6, Error ellipse: s-maj=25.2km s-min=11.7km az=161.0*
*IDC **18** 00:42:15.3±12.0, 18.73S×179.49W, h629km±173km, mb3.6/5, mb1 3.8/6, mb1mx3.5/12, mbtmp4.6/6, Error ellipse: s-maj=98.8km s-min=22.6km az=9.0*
ISC 18 00:42:12.4±1.4**, 19.5S**±0.2×**179.1W**±0.1**, h632**km±22km**, n21,** σ**1.01**/21**, mb4.2**/10**, 2C-3D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.96**	**53**	*e*Pn	**P**	**00 44 21.2**	**-0.8**
URZ	**Urewera**	**18.99**	**189**	P	**P**	**00 46 05.1**	**+7.9**
	3.1nm,0.3s,baz=34,slow=1.0,SNR=10						
CTA	**Charters Tower**	**32.54**	**263**	⇑*i*P	**P**	**00 47 57.3**	**+1.7**
	7.2nm,0.3s,mb4.8						
CTAO	**Charters Tower**	**32.54**	**263**	*e*P	**P**	**00 47 56.7**	**+1.1**
	11nm,0.5s,mb4.8						
TOO	**Toolangi**	**35.66**	**232**	*e*P	**P**	**00 48 22.6**	**+1.4**
	0.8nm,1.9s						
STKA	**Stephens Creek**	**37.29**	**243**	P	**P**	**00 48 36.2**	**+1.6**
	8.0nm,0.5s,mb4.5,baz=88,slow=8.7,SNR=38						
WB2	**Warramunga Arr**	**43.68**	**261**	⇑*i*P	**P**	**00 49 25.6**	**-0.1**
WB2				*e*S	**S**	**00 55 08.1**	**-4.1**
WRAB	**Tennant Creek**	**43.69**	**261**	*e*P	**P**	**00 49 25.0**	**-0.6**
	7.6nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**43.70**	**261**	P	**P**	**00 49 25.8**	**0.0**
	4.8nm,0.4s,mb4.4,baz=98,slow=7.7,SNR=42						
ASAR	**Alice Springs**	**43.73**	**256**	P	**P**	**00 49 26.4**	**+0.4**
	9.0nm,0.5s,mb4.6,baz=88,slow=7.9,SNR=104						
ASPA	**Alice Springs**	**43.73**	**256**	*e*S	**S**	**00 55 08.6**	**-4.1**
KAKA	**Kakadu**	**46.89**	**271**	*e*P	**P**	**00 49 48.8**	**-1.4**
	4.7nm,0.6s,mb4.2						
FORT	**Forrest**	**48.73**	**246**	*e*P	**P**	**00 50 02.8**	**-0.9**
	323nm,0.7s						
MBWA	**Marble Bar**	**57.04**	**257**	*e*P	**P**	**00 51 01.5**	**-0.9**
	3.3nm,0.4s,mb3.9						
QSPA	**South Pole Qui**	**70.58**	**180**	P	**P**	**00 52 26.6**	**-0.2**
	3.6nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**87.41**	**58**	P	**P**	**00 53 57.3**	**+1.5**
	1.5nm,0.8s,mb3.8,baz=219,slow=8.0,SNR=7.9						
PDAR	**Pinedale Array**	**88.96**	**44**	P	**P**	**00 54 03.2**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=224,slow=2.9,SNR=6.4						
VNA3	**Neumayer Olymp**	**89.22**	**177**	⇓*i*	**P**	**00 54 02.4**	**-0.8**
VNA2	**Neumayer--Watz**	**89.65**	**177**	⇓*i*	**P**	**00 54 04.6**	**-0.6**
VNA1	**Neumayer--Stat**	**89.88**	**177**	⇓*i*	**P**	**00 54 01.0**	**-5.3**
GERES	**GERESS Array B**	**148.93**	**343**	PKPbc	PKPdf	01 00 51.5	+6.2
	0.3nm,0.3s,baz=90,slow=2.7,SNR=3.8						

*IDC **18** 00:47:53.0±0.7, 21.03N×75.24W, mb3.9/10, mb1 4.1/13, mb1mx3.9/24, mbtmp4.0/13, ML3.7/1, Error ellipse: s-maj=22.4km s-min=16.5km az=69.0*
*NEIC **18** 00:47:54.8±0.3, 21.08N×75.23W, h10km, mb4.0/6, Error ellipse: s-maj=11.7km s-min=6.2km az=58.0*
ISC 18 00:47:52.9±3.9**, 21.04N**±0.06×**75.22W**±0.10**, h11**km±25km**, n25,** σ**0.70**/26**, mb3.8**/13**, Cuba region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**9.03**	**107**	Pn	**P**	**00 50 06.4**	**+0.2**
	1.8nm,0.3s,baz=321,slow=17,SNR=2.9						
SJG				Sn	**Sn**	**00 51 38.0**	**-11**
	2.0nm,0.3s,baz=20,slow=20,SNR=2.5						
SDV	**Santo Domingo**	**12.86**	**159**	Pn	**P**	**00 50 57.8**	**-0.7**
	0.4nm,0.3s,baz=355,slow=11,SNR=3.8						
SDV				Sn	**S**	**00 53 22.4**	**-0.4**
	0.2nm,0.3s,baz=287,slow=19,SNR=3.3						
SDV	**Santo Domingo**	**12.86**	**159**	*e*Pn	**P**	**00 50 58.3**	**-0.3**
SDV				Sn	**S**	**00 53 22.4**	**-0.4**
ROSC	**El Rosal**	**16.11**	**177**	Pn	**P**	**00 51 48.7**	**+7.6**
	0.8nm,0.3s,baz=78,slow=24,SNR=13						
BLA	**Blacksburg**	**16.74**	**345**	P	**P**	**00 51 48.8**	**-0.3**
	8.1nm,0.7s						
WVT	**Waverly**	**18.65**	**326**	*e*P	**P**	**00 52 12.3**	**-0.6**
	3.8nm,0.8s						
OTAV	**Otavalo**	**20.91**	**189**	*e*P	**P**	**00 52 40.0**	**+1.9**
	6.9nm,0.7s						
SADO	**Sadowa**	**23.89**	**353**	P	**P**	**00 53 06.7**	**-0.7**
	3.0nm,1.0s,mb3.7,baz=312,slow=7.6,SNR=3.4						
WMOK	**Wichita Mounta**	**24.82**	**308**	*e*P	**P**	**00 53 17.2**	**+0.6**
	4.4nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**26.99**	**294**	P	**P**	**00 53 37.5**	**+0.7**
	0.6nm,0.7s,mb3.3,baz=113,slow=9.5,SNR=5.3						
MNTX	**Cornudas Mount**	**28.95**	**298**	*e*P	**P**	**00 53 53.7**	**-0.8**
	1.7nm,0.9s,mb3.8						
SAML	**Samuel**	**32.06**	**157**	*e*P	**P**	**00 54 21.7**	**-0.5**
	2.4nm,0.8s,mb4.1						
PDAR	**Pinedale Array**	**35.96**	**315**	P	**P**	**00 54 56.0**	**+0.5**
	0.3nm,0.6s,mb3.4,baz=114,slow=8.9,SNR=3.6						
FRB	**Frobisher Bay**	**42.92**	**4**	P	**P**	**00 55 53.4**	**+0.3**
	3.1nm,0.8s,mb4.1,baz=190,slow=14,SNR=3.8						
BDFB	**Brasilia**	**45.18**	**142**	P	**P**	**00 56 11.8**	**-0.2**
	0.9nm,0.4s,mb3.9,baz=320,slow=2.5,SNR=4.1						
YKA	**Yellowknife Ar**	**49.36**	**337**	P	**P**	**00 56 43.7**	**-0.4**
	1.0nm,0.7s,mb4.0,baz=129,slow=8.6,SNR=23						
YKA	**Yellowknife Ar**	**49.36**	**337**	P	**P**	**00 56 43.7**	**-0.4**
DLBC	**Dease Lake**	**54.08**	**328**	P	**P**	**00 57 20.4**	**+0.7**
	2.1nm,0.9s,mb4.1,baz=117,slow=9.1,SNR=4.3						
RPN	**Rapa Nui**	**58.17**	**216**	P	**P**	**00 57 48.6**	**-0.8**
	38nm,0.8s,baz=153,slow=6.8,SNR=2.3						
INK	**Inuvik**	**59.09**	**338**	P	**P**	**00 57 54.3**	**-1.0**
	0.6nm,0.7s,mb3.7,baz=64,slow=7.3,SNR=2.9						
DBIC	**Dimbokro**	**69.33**	**91**	P	**P**	**00 59 02.8**	**-0.2**
GERES	**GERESS Array B**	**73.77**	**43**	P	**P**	**00 59 29.9**	**+0.9**
	0.6nm,0.6s,mb3.7,baz=307,slow=4.9,SNR=4.1						
FINES	**FINESS Array B**	**77.00**	**29**	P	**P**	**00 59 47.8**	**+0.7**
	0.9nm,0.6s,mb3.9,baz=297,slow=4.3,SNR=6.9						
WRA	**Warramunga Arr**	**152.31**	**267**	PKPbc	PKPdf	01 07 50.8	+5.0
	1.0nm,0.5s,baz=83,slow=2.8,SNR=9.1						
WRA				PKPab	PKPab	01 08 01.9	0.0
	1.1nm,0.6s,baz=82,slow=3.8,SNR=5.6						
ASAR	**Alice Springs**	**152.96**	**259**	PKPbc	PKPdf	01 07 51.9	+5.3
	0.6nm,0.5s,baz=115,slow=3.0,SNR=4.8						
ASAR				PKPab	PKPab	01 08 04.0	-0.5
	0.8nm,0.8s,baz=107,slow=3.1,SNR=4.7						

IGQ 18 00:48:23.5, 2.39S×79.67W, h26km±5km**, mb4.0, 2C-5D, Error ellipse: s-maj=5.5km s-min=1.4km az=79.7, Near coast of Ecuador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**1.33**	**279**	P	Pn	00 48 48.4	+1.7
IGUA	**Igualata**	**1.36**	**49**	P	Pn	00 48 49.4	+2.3
IGUA				S	Sn	00 49 08.3	+3.8
ARRY	**Arrayan**	**1.50**	**54**	⇑P	Pn	00 48 50.8	+1.7
ARRY				S	Sn	00 49 10.4	+2.5
CUSU	**Cusua**	**1.52**	**52**	P	Pn	00 48 51.2	+1.9
RETU	**Refugio**	**1.54**	**53**	⇓P	Pn	00 48 52.0	+2.3
RETU				S	Sn	00 49 12.9	+4.0
JUIV	**Juive**	**1.54**	**52**	P	Pn	00 48 51.4	+1.7
ULBA	**Ulba**	**1.57**	**54**	P	Pn	00 48 52.2	+2.1
ULBA				S	Sn	00 49 13.8	+4.1
HOJA	**Cerro de Hojas**	**1.59**	**327**	⇓P	Pn	00 48 51.5	+1.1
PISA	**Pisayambo**	**1.84**	**44**	⇓P	Pn	00 48 56.4	+2.4
NAS1	**Nasa**	**2.11**	**34**	P	Pn	00 49 00.5	+2.7
VC1	**Cotopaxi 1**	**2.15**	**36**	⇓P	Pn	00 49 00.9	+2.5
JUA2	**San Juan 2**	**2.41**	**26**	P	Pn	00 49 02.8	+0.7
JUA2				S	Sn	00 49 36.1	+5.1
TERV	**Terraza Guagua**	**2.44**	**26**	P	Pn	00 49 05.2	+2.6
ANTI	**Antisana**	**2.45**	**38**	⇑P	Pn	00 49 04.2	+1.6
PINO	**Pino**	**2.46**	**26**	⇓P	Pn	00 49 05.3	+2.5
PINO				S	Sn	00 49 38.8	+6.5
YANA	**Yana**	**2.51**	**26**	P	Pn	00 49 05.4	+1.9
YANA				S	Sn	00 49 38.9	+5.3
CAYR	**Refugio Cayamb**	**2.91**	**35**	P	Pn	00 49 10.6	+1.4
CAYA	**Cayambe**	**2.96**	**35**	P	Pn	00 49 11.5	+1.5
COTA	**Cotacachi**	**3.02**	**26**	P	Pn	00 49 13.8	+3.1
ECEN	**Cerro Negro**	**3.62**	**28**	P	Pn	00 49 20.1	+0.9

IDC 18 01:10:26.6±11.0**, 4.76S**×**153.61E, h127**km±68km**, mb3.5**/3**, mb1 3.7**/4**, mb1mx3.5**/11**, mbtmp4.0**/4**, Error ellipse: s-maj=102.2km s-min=77.9km az=175.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.89**	**234**	P	P	01 12 18.9	-0.9
	2.9nm,0.3s,baz=52,slow=11,SNR=4.0						
PMG				S	S	01 13 46.9	-1.1
	0.9nm,0.3s,baz=134,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**24.08**	**230**	P	P	01 15 30.8	-0.8
	2.6nm,0.5s,baz=54,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.73**	**223**	P	P	01 15 54.1	-2.1
	0.3nm,0.4s,baz=56,slow=9.0,SNR=3.3						
STKA	**Stephens Creek**	**29.24**	**201**	P	P	01 16 16.5	-2.3
	1.6nm,0.8s,baz=25,slow=13,SNR=4.2						

*IDC **18** 01:10:26.2±1.3, 24.14S×66.93W, h178km±11km, mb3.5/4, mb1 3.8/8, mb1mx3.7/15, mbtmp4.0/8, MS3.0/1, Ms1 3.0/1, ms1mx2.9/13, Error ellipse: s-maj=22.2km s-min=12.1km az=79.0*
*NEIC **18** 01:10:27.0±0.6, 24.10S×66.90W, h187km±6km, mb3.9/2, Error ellipse: s-maj=11.4km s-min=7.5km az=89.0*
*GUC **18** 01:10:28.4±1.0, 24.14S×67.27W, h190km±21km, ML4.2*
ISC 18 01:10:26.1±0.6**, 24.17S**±0.04×**67.01W**±0.09**, h195**km±8km**, n21,** σ**0.96**/26**, mb3.5**/4**, 4C, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPCH	**San Pedro de A**	**1.66**	**319**	⇑*i*P	**P**	**01 11 02.9**	**+1.6**
SPCH				*i* S	**S**	**01 11 28.9**	**+0.6**
SPCH				AMP		01 11 32.0	
	comp=N,666nm,0.4s						
LVC	**Limon Verde**	**2.33**	**311**	⇑*i*P	**P**	**01 11 09.1**	**+0.9**
LVC				*i* S	**S**	**01 11 40.3**	**-0.4**
LVC				AMP		01 11 44.2	
	comp=N,655nm,0.3s						
LVC	**Limon Verde**	**2.33**	**311**	P	**P**	**01 11 09.2**	**+0.9**
	comp=N,34nm,0.3s,baz=129,slow=6.9,SNR=389						
LVC				S	**S**	**01 11 39.9**	**-0.8**
	comp=N,84nm,0.3s,baz=344,slow=19,SNR=37						
LVC				LR	LR	01 12 11.7	
	comp=N,290nm,20.2s,baz=3.8,slow=44						
CPN1	**Cerro Paranal**	**3.13**	**261**	⇑*i*P	**P**	**01 11 18.3**	**+0.8**
CPN1				*e*S	**S**	**01 11 56.7**	**-0.6**
CPN1				AMP		01 12 02.5	
	comp=E,690nm,0.3s						
ANCH	**Antofagasta**	**3.15**	**278**	⇑*i*P	**P**	**01 11 18.6**	**+0.8**
ANCH				*i* S	**S**	**01 11 55.9**	**-1.8**
ANCH				AMP		01 11 59.1	
	comp=N,1μm,0.1s						
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**01 12 13.5**	**+0.1**
	comp=N,0.2nm,0.3s,baz=15,slow=14,SNR=11						
CFAA				S	**S**	**01 13 35.7**	**-1.6**
	comp=N,0.7nm,0.3s,baz=267,slow=18,SNR=20						
CFAA	**Coronel Fontan**	**7.49**	**188**	P	**P**	**01 12 13.5**	**+0.1**
CFAA				S	**S**	**01 13 35.7**	**-1.6**
LPAZ	**La Paz**	**7.91**	**352**	P	**P**	**01 12 18.6**	**-0.4**
	comp=N,0.6nm,0.3s,baz=157,slow=9.4,SNR=22						
LPAZ				S	**S**	**01 13 47.0**	**-0.2**
	comp=N,0.1nm,0.3s,baz=311,slow=11,SNR=4.9						
LPAZ	**La Paz**	**7.91**	**352**	*e*Pn	**P**	**01 12 18.4**	**-0.5**
	comp=N,2.6nm,0.5s						
TRQA	**Tornquist**	**14.49**	**164**	Pn	**P**	**01 13 43.9**	**+0.6**
SAML	**Samuel**	**15.57**	**14**	*e*P	**P**	**01 13 54.3**	**-2.5**
	comp=N,7.8nm,1.0s						
PLCA	**Paso Flores**	**16.78**	**189**	P	**P**	**01 14 12.2**	**+1.0**
	comp=N,0.1nm,0.3s,slow=5.1,SNR=2.4						
BDFB	**Brasilia**	**19.76**	**68**	P	**P**	**01 14 42.2**	**-0.7**
	comp=N,1.9nm,0.3s,baz=246,slow=11,SNR=61						
BAO	**Brasilia Array**	**19.78**	**68**	*e*P	**P**	**01 14 42.8**	**-0.3**
TXAR	**Lajitas Array**	**63.81**	**324**	P	**P**	**01 20 40.0**	**+0.1**
	comp=N,0.2nm,0.7s,mb2.9,baz=155,slow=9.3,SNR=4.8						
PDAR	**Pinedale Array**	**77.29**	**329**	P	**P**	**01 22 01.4**	**+1.0**
	comp=N,0.4nm,0.6s,mb3.2,baz=130,slow=5.8,SNR=4.3						
ULM	**Lac du Bonnet**	**78.38**	**342**	P	**P**	**01 22 06.0**	**-0.2**
	comp=N,2.1nm,0.6s,mb4.0,baz=176,slow=4.5,SNR=5.1						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**01 23 24.4**	**+0.7**
	comp=N,0.7nm,0.5s,mb3.9,baz=132,slow=4.4,SNR=19						
ASAR	**Alice Springs**	**128.30**	**205**	PKP	PKPdf	01 29 12.2	+2.2
	comp=N,0.8nm,0.7s,baz=135,slow=1.8,SNR=7.5						
WRA	**Warramunga Arr**	**131.47**	**207**	PKP	PKPdf	01 29 18.5	+2.3
	comp=N,0.5nm,0.5s,baz=168,slow=1.6,SNR=5.2						
ZAL	**Zalesovo**	**143.54**	**28**	PKP	PKPdf	01 29 37.8	+0.8
	comp=N,0.7nm,0.7s,baz=141,slow=14,SNR=4.8						

NEIC 18 01:19:17.4, 52.09N×174.32W, h70km**, MG3.6**(AEIC)**, After AEIC., Andreanof Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.14**	**33**	P	P	01 19 26.9	-0.8
ATKA				S	S	01 19 35.5	+0.1
GSIG	**Igitkin Island**	**1.00**	**265**	P	P	01 19 34.9	-1.2
GSMY	**Great Sitkin M**	**1.07**	**268**	P	P	01 19 35.9	-1.2
GSTR	**Great Sitkin T**	**1.07**	**271**	P	P	01 19 36.1	-1.0
GSTD	**Great Sitkin T**	**1.13**	**269**	P	P	01 19 36.5	-1.3
GSTD				S	S	01 19 52.4	-0.6
GSSP	**Great Sitkin S**	**1.14**	**271**	P	P	01 19 36.8	-1.3
ADAG	**Mount Adagdak**	**1.41**	**267**	P	P	01 19 40.5	-1.3
ADK	**Adak**	**1.48**	**263**	P	P	01 19 41.1	-1.5
ADK				S	S	01 20 00.3	-0.8
KIRH	**Kanaga Island**	**1.72**	**265**	P	P	01 19 44.6	-1.3
KINC	**Kanaga Island**	**1.74**	**266**	P	P	01 19 44.7	-1.5
KIWB	**Kanaga Island**	**1.77**	**264**	P	P	01 19 45.4	-1.1
KIMD	**Kanaga Island**	**1.83**	**261**	P	P	01 19 46.2	-1.2
UNV	**Unalaska Valle**	**5.04**	**66**	P	P	01 20 29.0	-3.3

*FUNV **18** 01:23:29.4, 10.19N×69.74W, MW2.5*
*UAV **18** 01:23:32.3, 10.02N×69.80W*
ISC 18 01:23:29.0±0.3**, 10.21N**±0.02×**69.70W**±0.02**, n29,** σ**1.23**/51**, 1C-2D, Venezuela**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.33**	**233**	⇑*e*P	**Pg**	**01 23 34.7**	**-0.9**
CURV				*e*S	**Sg**	**01 23 38.8**	**-1.2**
SIQV	**Siquisique**	**0.45**	**346**	⇓*i*P	**Pg**	**01 23 38.2**	**+0.2**
SIQV				*e*S	**Sg**	**01 23 44.6**	**+0.6**
TEPV	**Terepaima**	**0.55**	**116**	*e*P	**Pg**	**01 23 40.3**	**+0.2**
TEPV				*e*S	**Sg**	**01 23 48.5**	**+1.0**
SANV	**Sanarito**	**0.72**	**167**	⇓*i*P	**Pg**	**01 23 42.9**	**-0.5**
SANV				*e*S	**Sg**	**01 23 53.0**	**0.0**
TORV	**Torococo**	**0.83**	**219**	P	**Pg**	**01 23 46.1**	**+0.4**
TORV				S	**Sg**	**01 23 56.1**	**-0.6**
TORV	**Torococo**	**0.83**	**219**	P	**Pg**	**01 23 46.1**	**+0.4**
TORV				S	**Sg**	**01 23 56.2**	**-0.6**
DABV	**Dabajuro**	**1.17**	**307**	*e*P	**Pb**	**01 23 51.7**	**0.0**
DABV				*e*S	**Sb**	**01 24 06.2**	**-1.0**
JACV	**Jacura**	**1.22**	**44**	*e*P	**Pb**	**01 23 53.5**	**+0.9**
JACV				*e*S	**Sb**	**01 24 11.2**	**+2.4**
EAV	**Pico El Aguila**	**1.75**	**220**	P	**Pn**	**01 24 01.2**	**+0.4**
EAV				S	**Sn**	**01 24 23.5**	**-0.6**
EAV	**Pico El Aguila**	**1.75**	**220**	P	**Pn**	**01 24 01.4**	**+0.5**
EAV				S	**Sn**	**01 24 24.3**	**+0.2**
MONV	**Montecano**	**1.75**	**351**	*e*P	**Pn**	**01 24 00.2**	**-0.7**
MONV				*e*S	**Sn**	**01 24 23.6**	**-0.7**
TURV	**Turiamo**	**1.84**	**82**	*e*P	**Pn**	**01 24 01.5**	**-0.7**
CUV	**La Culata**	**1.98**	**223**	P	**Pn**	**01 24 05.4**	**+1.3**
CUV				S	**Sn**	**01 24 32.1**	**+2.1**
CUV	**La Culata**	**1.98**	**223**	P	**Pn**	**01 24 05.5**	**+1.4**
CUV				S	**Sn**	**01 24 32.2**	**+2.1**
BAUV	**El Baul**	**2.06**	**128**	*e*P	**Pn**	**01 24 05.8**	**+0.5**
BAUV				*e*S	**Sn**	**01 24 31.8**	**-0.2**
VIGV	**El Vigia**	**2.14**	**231**	*e*P	**Pn**	**01 24 06.1**	**-0.3**
AGV	**La Aguada**	**2.14**	**220**	P	**Pn**	**01 24 08.2**	**+1.8**
AGV				S	**Sn**	**01 24 38.6**	**+4.6**
UAV	**Universidad de**	**2.14**	**222**	P	**Pn**	**01 24 08.1**	**+1.6**
UAV				S	**Sn**	**01 24 35.3**	**+1.2**
UAV	**Universidad de**	**2.14**	**222**	P	**Pn**	**01 24 08.1**	**+1.7**
UAV				S	**Sn**	**01 24 36.3**	**+2.2**
SOCV	**Socops**	**2.23**	**211**	*e*P	**Pn**	**01 24 07.4**	**-0.3**
SOCV				*e*S	**Sn**	**01 24 33.4**	**-3.0**
OSV	**Paramo de la O**	**2.36**	**229**	P	**Pn**	**01 24 10.5**	**+1.0**
OSV				S	**Sn**	**01 24 42.1**	**+2.4**
OSV	**Paramo de la O**	**2.36**	**229**	P	**Pn**	**01 24 10.6**	**+1.1**
OSV				S	**Sn**	**01 24 42.3**	**+2.6**
VIRV	**Villa del Rosa**	**2.68**	**276**	*e*P	**Pn**	**01 24 12.5**	**-1.7**
VIRV				*e*S	**Sn**	**01 24 44.1**	**-3.8**
PDMV	**Paramo Marino**	**2.82**	**228**	P	**Pn**	**01 24 21.2**	**+5.0**
PDMV	**Paramo Marino**	**2.82**	**228**	P	**Pn**	**01 24 21.4**	**+5.2**
ELOV	**Elorza**	**3.19**	**176**	*e*P	**Pn**	**01 24 19.7**	**-1.8**
ELOV				*e*S	**Sn**	**01 24 57.4**	**-3.5**
MERV	**Las Mercedes**	**3.48**	**106**	*e*P	**Pn**	**01 24 23.9**	**-1.7**
CUPV	**Cœpira**	**3.85**	**92**	*e*P	**Pn**	**01 24 30.1**	**-0.7**
CAOV	**Caicara del Or**	**4.40**	**130**	*e*P	**Pn**	**01 24 36.2**	**-2.3**

ISC 18 01:25:06.1±0.4**, 46.29N**±0.03×**12.61E**±0.03**, h10**km**, n14,** σ**0.51**/28**, 6C-6D, Northern Italy**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.14**	**179**	⇑*i*Pg	**Pg**	**01 25 09.2**	**-0.3**
MLNI				*i* Sg	**Sg**	**01 25 11.3**	**-0.4**
CSO	**Casso**	**0.20**	**265**	⇓*i*Pg	**Pg**	**01 25 10.5**	**0.0**
CSO				*e*Sg	**Sg**	**01 25 13.7**	**+0.4**
MPRI	**Monte Prat**	**0.27**	**100**	⇓*e*Pg	**Pg**	**01 25 11.1**	**-0.7**
MPRI				*e*Sg	**Sg**	**01 25 15.7**	**+0.1**
CAE	**Caneva**	**0.31**	**203**	*e*Pg	**Pg**	**01 25 12.6**	**+0.1**
CAE				*i* Sg	**Sg**	**01 25 17.3**	**+0.5**
BOO	**Bordano**	**0.34**	**85**	⇑*i*Pg	**Pg**	**01 25 12.6**	**-0.6**
BOO				*i* Sg	**Sg**	**01 25 18.1**	**+0.1**
BUA	**Buia**	**0.37**	**101**	⇑*i*Pg	**Pg**	**01 25 13.7**	**0.0**
BUA				*e*Sg	**Sg**	**01 25 19.6**	**+0.9**
BAD	**Bernadia**	**0.45**	**97**	⇓*i*Pg	**Pg**	**01 25 14.7**	**-0.5**
BAD				*i* Sg	**Sg**	**01 25 21.3**	**0.0**
PLRO	**Paularo**	**0.46**	**55**	⇑*e*Pg	**Pg**	**01 25 15.3**	**-0.2**
PLRO				*e*Sg	**Sg**	**01 25 22.5**	**+0.9**
COLI	**Coloredo**	**0.56**	**106**	⇑*i*Pg	**Pg**	**01 25 16.9**	**-0.5**
COLI				*e*Sg	**Sg**	**01 25 25.7**	**+0.7**
VOY	**Vojsko**	**0.93**	**106**	*e*Pg	**Pg**	**01 25 24.8**	**0.0**
VOY				*e*(Sg)	**Sg**	**01 25 38.3**	**+1.0**
VOY				*e*		01 25 41.4	
WTTA	**Wattenberg**	**1.18**	**326**	⇑*i*PG	**Pg**	**01 25 29.3**	**-0.5**
WTTA				*i* SG	**Sg**	**01 25 45.4**	**-0.1**
	6.4nm,0.4s						
SQTA	**Sankt Quirin**	**1.34**	**315**	⇓*i*PG	**Pg**	**01 25 32.7**	**-0.2**
SQTA				*i* SG	**Sg**	**01 25 51.3**	**+0.5**
	1.5nm,0.2s						
OBKA	**Obir**	**1.36**	**80**	⇓*i*PG	**Pg**	**01 25 32.8**	**-0.6**
OBKA				*i* SG	**Sg**	**01 25 50.7**	**-0.9**
	1.7nm,0.2s						
MOTA	**Moosalm**	**1.48**	**316**	⇓*i*PG	**Pg**	**01 25 35.5**	**-0.1**
MOTA				*i* SG	**Sg**	**01 25 55.8**	**+0.5**

JMA ***18*** *01:55:19.4, 34.62N×136.47E, h15km±1km, M3.9*
Broadband fault plane solution: P waves. NP1:φs27°, δ42°, λ76°. NP2:φs225°, δ50°, λ102°. Principal axes: T Plg80°, Azm193°; N Plg9°, Azm38°; P Plg4°, Azm307°;
JMA Felt III J1.
ISC 18 01:55:19.2±0.6**, 34.60N**±0.05×**136.47E**±0.04**, h14**km±4km**,** **n8, σ0.36**/13**, 1C-5D, Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSUJ	Tsu 2	0.12	339	⇑P	Pg	01 55 22.6	0.0
TSUJ				S	Sg	01 55 24.6	-0.2
JIE	Ise	0.29	137	⇓P	Pg	01 55 25.6	+0.2
JIE				S	Sg	01 55 29.8	+0.3
JAA	Atsumi	0.56	87	⇓P	Pb	01 55 29.7	-0.6
JAA				eS	Sb	01 55 37.2	-0.6
JHE	Heguri	0.65	275	⇓P	Pb	01 55 31.4	-0.4
JHE				eS	Sb	01 55 40.3	-0.2
JWY	Kouya	0.82	243	P	Pb	01 55 35.2	+0.5
JWT	Wachi	1.11	308	⇓P	Pb	01 55 39.7	0.0
JGM	Miyama	1.11	10	⇓P	Pb	01 55 40.2	+0.4
MAT	Matsushiro	2.40	36	P	Pn	01 55 59.0	+0.2
MAT				S	Sn	01 56 28.8	+0.5

MAN 18 01:57:19.4, 8.95N×123.00E, h10km, mb4.3, ML3.1, MS2.9, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	0.46	30	⇓eP	Pg	01 57 29.2	+0.5
SNPH				i S	Sg	01 57 35.5	+0.5
DCPH	Dipolog City	0.50	136	i P	Pg	01 57 29.6	+0.1
DCPH				i S	Sg	01 57 37.8	+1.5
TBP	Tagbilaran	1.13	49	eP	Pb	01 57 40.8	+0.2
TBP				eS	Sb	01 57 57.0	+1.9
PAGZ	Pagadian	1.15	161	eP	Pb	01 57 40.9	-0.1
PAGZ				eS	Sb	01 57 57.5	+1.7
LLP	Lapu-Lapu	1.66	35	eP	Pn	01 57 48.0	-0.9
LLP				i S	Sn	01 58 10.5	0.0
GUIM	Jordan	1.72	346	eP	Pn	01 57 49.2	-0.4
GUIM				eS	Sn	01 58 11.8	0.0

NEIC 18 01:59:54.0, 37.57S×176.59E, h175km, MG3.8(WEL)**, After WEL., North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.80	149	P	P	02 00 19.8	-0.3
MWZ	Matawai	1.06	136	P	P	02 00 21.5	-0.4
PUZ	Puketiti	1.41	111	eP	P	02 00 25.0	-0.1
BKZ	Black Stump Fm	1.60	183	P	P	02 00 27.0	+0.1
KNZ	Kokohu	1.68	150	eP	P	02 00 27.3	-0.4
MRZ	Mangatainoka R	3.19	194	eP	P	02 00 44.8	-0.5

BJI ***18*** *02:08:08.2, 48.90S×127.40E, h10km, mb4.7, Ms5.0, Msz4.7*
IDC ***18*** *02:08:09.1±0.7, 48.94S×127.57E, mb4.8/8, mb1 4.9/9, mb1mx4.8/12, mbtmp4.7/9, ML2.5/1, MS4.1/5, Ms1 4.1/5, ms1mx3.8/8, Error ellipse: s-maj=36.6km s-min=17.0km az=100.0*
NEIC ***18*** *02:08:10.2±0.2, 48.91S×127.41E, h10km, mb5.1/10, Error ellipse: s-maj=10.1km s-min=5.4km az=97.0*
HRVD ***18*** *02:08:10.2±0.5, 48.88S×127.69E, h12km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s16,c19;Mantle waves: s46,c73; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.11±.15; $M_{\theta\theta}$-1.21±.15; $M_{\phi\phi}$1.32±.18; $M_{r\theta}$-0.10±.43; $M_{\theta\phi}$-2.44±.11; $M_{\phi r}$-1.37±.47; Best double couple: $M_0$3.066×10^{16} NP1:φs103°, δ64°, λ178°. NP2:φs194°, δ88°, λ26°. Principal axes: T 3.196, Plg19°, Azm61°; N -.259, Plg64°, Azm197°; P -2.935, Plg17°, Azm325°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 18 02:08:08.8±0.4**, 48.91S**±0.05×**127.5E**±0.1**, h10**km**,** **(h14**km±4.6km**:pP-P), n75, σ0.99**/54**, mb5.0**/22**, MS4.2**/6**,** **3C-1D, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	Tasmania Unive	15.02	74	P	P	02 11 45.3	+2.6
	441nm,1.2s,SNR=10						
TAU	Tasmania Unive	15.02	74	eP	P	02 11 43.7	+1.0
	141nm,1.3s						
TOO	Toolangi	17.27	56	eP	P	02 12 16.7	+5.2
	2.0nm,0.9s						
NWAO	Narrogin (SRO)	17.73	330	P	P	02 12 18.4	+1.2
	0.8nm,0.3s,baz=161,slow=14,SNR=8.3						
NWAO	Narrogin (SRO)	17.73	330	P	P	02 12 18.4	+1.2
FORT	Forrest	18.11	2	eP	P	02 12 20.2	-1.9
	724nm,0.8s						
KLBR	Kellerberrin	18.80	333	eP	P	02 12 29.1	-1.4
	525nm,1.2s						
DRV	Dumont d'Urvil	18.94	165	S	S	02 16 09.0	+9.2
DRV				R		02 17 00.0	
CASY	Casey	19.52	201	eP	P	02 12 36.4	-2.4
CASY	Casey	19.52	201	eP	P	02 12 36.4	-2.3
STKA	Stephens Creek	20.05	37	P	P	02 12 44.8	-0.1
	64nm,1.1s,baz=195,slow=14,SNR=32						
STKA				LR	LR	02 19 00.9	
	comp=Z,971nm,20.1s,MS4.2,baz=205,slow=32						
ASPA	Alice Springs	25.69	14	eP	P	02 13 40.6	0.0
ASAR	Alice Springs	25.69	14	P	P	02 13 40.6	0.0
	55nm,0.9s,mb5.1,baz=187,slow=9.2,SNR=197						
MBWA	Marble Bar	28.38	345	eP	P	02 14 04.2	-1.0
	6.7nm,0.8s,mb4.3						
WRA	Warramunga Arr	29.41	13	P	P	02 14 13.5	-1.1
	18nm,1.0s,mb4.8,baz=195,slow=9.2,SNR=33						
WB2	Warramunga Arr	29.42	13	eP	P	02 14 13.5	-1.1
WRAB	Tennant Creek	29.43	13	P	P	02 14 14.0	-0.6
	122nm,1.1s,mb5.5,SNR=8.3						
WRAB	Tennant Creek	29.43	13	eP	P	02 14 12.8	-1.8
	40nm,1.1s,mb5.1						
RPZ	Rata Peaks	30.20	97	LR	LR	02 23 42.9	
	comp=Z,395nm,20.2s,MS4.0,baz=268,slow=31						
VNDA	Vanda	31.57	166	P	P	02 14 32.6	-0.5
	13nm,0.8s,mb4.8,baz=317,slow=8.4,SNR=36						
VNDA				LR	LR	02 26 02.5	
	comp=Z,420nm,19.5s,MS4.1,baz=325,slow=34						
CTAO	Charters Tower	32.45	34	eP	P	02 14 41.6	+0.3
	13nm,1.1s,mb4.7						
SBA	Scott Base	32.58	166	eP	P	02 14 41.2	-0.6
	20nm,1.1s,mb5.0						
KAKA	Kakadu	36.32	8	eP	P	02 15 14.4	-0.2
	26nm,0.7s,mb5.3						
MAW	Mawson	36.64	215	LR	LR	02 26 36.7	
	comp=Z,355nm,20.7s,MS4.1,baz=78,slow=30						
QSPA	South Pole Qui	41.22	180	eP	P	02 15 54.8	+0.1
	38nm,1.1s,mb4.9						
SNAA	Sanae	54.71	197	⇑i	P	02 17 39.0	-0.8
SNAA	Sanae	54.71	197	e	P	02 17 45.9	+6.1
SNAA	Sanae	54.71	197	e	P	02 17 52.8	+13
SNAA	Sanae	54.71	197	P	P	02 17 39.1	-0.7
	9.9nm,0.9s,mb4.8,baz=144,slow=7.7,SNR=12						
SNAA	Sanae	54.71	197	eP	P	02 17 38.7	-1.1
	41nm,1.1s,mb5.4						
SNAA				e		02 17 45.9	
SNAA				e		02 17 52.8	
SNAA				e		02 18 00.4	
VNA2	Neumayer--Watz	56.18	196	e	P	02 17 52.9	+2.5
VNA2	Neumayer--Watz	56.18	196	e	P	02 17 56.8	+6.3
VNA2	Neumayer--Watz	56.18	196	e	P	02 18 01.9	+11
VNA2	Neumayer--Watz	56.18	196	e	P	02 18 10.2	+20
VNA2	Neumayer--Watz	56.18	196	⇑iP	P	02 17 49.5	-0.9
VNA2				e	pP	02 17 52.9	-0.6
VNA2				e		02 17 56.8	
VNA2				e		02 18 01.9	
VNA2				e		02 18 10.2	
VNA2				e		02 18 18.5	
VNA3	Neumayer Olymp	56.33	195	e	P	02 17 53.3	+1.8
VNA3	Neumayer Olymp	56.33	195	e	P	02 17 57.4	+5.9
VNA3	Neumayer Olymp	56.33	195	e	P	02 18 02.9	+11
VNA3	Neumayer Olymp	56.33	195	e	P	02 18 10.9	+19
VNA3	Neumayer Olymp	56.33	195	⇑iP	P	02 17 50.4	-1.1
VNA3				e	pP	02 17 53.3	-1.2
VNA3				e		02 17 57.4	
VNA3				e		02 18 02.9	
VNA3				e		02 18 10.9	
VNA3				e		02 18 19.1	
NST	Nakhon Sawan	68.74	332	P	P	02 19 16.0	+1.1
NANT	Nan	71.51	333	P	P	02 19 31.0	-0.7
CHG	Chiang Mai	72.06	332	⇓P	P	02 19 35.9	+0.9
	11nm,0.8s,mb4.8						
MATP	Matopo	80.57	250	P	P	02 20 23.0	+0.1
	4.9nm,1.0s,mb4.4,baz=138,slow=4.4,SNR=6.1						
JIRN	Jiri	84.69	324	eP	P	02 20 44.8	+0.9
	30nm,1.1s,mb5.3						
PKI	Pulchoki	84.92	323	eP	P	02 20 45.3	+0.2
GUN	Gumba	85.04	324	eP	P	02 20 46.6	+0.9
	20nm,0.8s,mb5.3						
DMN	Daman	85.07	323	eP	P	02 20 45.7	-0.1
	16nm,0.7s,mb5.2						
KKN	Kakani	85.16	323	eP	P	02 20 47.2	+0.9
	25nm,0.9s,mb5.3						
GKN	Gorkha	85.61	323	eP	P	02 20 49.1	+0.6
	26nm,0.8s,mb5.5						
KOLN	Koldanda	85.82	322	eP	P	02 20 50.0	+0.4
	14nm,0.8s,mb5.3						
LZH	Lanzhou	87.20	341	eP	P	02 20 57.6	+1.4
LZH				AP	pP	02 21 06.9	+7.5
LZH				XP	sP	02 21 11.3	+11
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.3						
LZH				LR	LR		
	comp=N,223nm,13.1s						
LZH				LR	LR		
	comp=Z,296nm,17.5s,MS4.8						
LZH	Lanzhou	87.20	341	eP	P	02 20 57.6	+1.4
	comp=Z,29nm,1.3s,mb5.3						
LZH				pP	pP	02 21 06.9	+7.5
LZH				sP	sP	02 21 11.2	+11
LZH				LR	LR		
	comp=Z,300nm,17.5s,MS4.8						
PLCA	Paso Flores	89.33	166	P	P	02 21 06.5	+0.3
	comp=Z,5.0nm,1.1s,mb4.7,baz=214,slow=3.6,SNR=2.8						
KMBO	Kilima Mbogo	89.33	269	LR	LR	02 55 49.3	
	comp=Z,46nm,18.4s,MS3.9,baz=102,slow=32						
GTA	Gaotai	91.29	339	eP	P	02 21 14.5	-0.8
GTA				AP	pP	02 21 19.1	+0.6
GTA				XP	sP	02 21 21.8	+2.2
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.7						
SONM	Songino Array	98.08	346	P	P	02 21 47.7	+1.5
	comp=Z,0.8nm,1.0s,mb4.2,baz=162,slow=3.9,SNR=4.5						
TXAR	Lajitas Array	136.67	98	PKhKP		02 27 28.0	
	comp=Z,0.3nm,0.8s,baz=135,slow=1.8,SNR=3.7						
TXAR				PKP	PKPdf	02 27 34.5	+0.3
	comp=Z,0.4nm,0.8s,baz=207,slow=4.0,SNR=3.9						
TXAR	Lajitas Array	136.67	98	PKP	PKPdf	02 27 34.5	+0.3
PDAR	Pinedale Array	140.58	77	PKP	PKPdf	02 27 39.3	-1.7
	comp=Z,0.1nm,0.3s,baz=288,slow=5.7,SNR=2.2						
SSF	Saint Saulge	143.19	289	ePKP1	PKPbc	02 27 43.4	+3.0
	comp=Z,13nm,1.1s						
BGF	Bois d'Agland	143.40	288	ePKP1	PKPbc	02 27 44.6	+3.5
YKA	Yellowknife Ar	143.98	44	PKP	PKPdf	02 27 43.5	-2.7
	comp=Z,1.5nm,0.9s,baz=266,slow=3.4,SNR=20						
YKW3	Yellowknife Ar	143.98	44	ePKPdf	PKPdf	02 27 43.6	-2.5
SJPF	Ste Jean	144.49	280	ePKP1	PKPbc	02 27 50.9	+6.5
ESDC	Sonseca Array	144.59	274	PKP	PKPdf	02 27 45.5	-2.5
	comp=Z,2.0nm,0.9s,baz=117,slow=3.3,SNR=7.1						
MFF	Saint Martin d	145.30	286	ePKP1	PKPbc	02 27 47.5	+1.1
	comp=Z,47nm,1.1s						
LDF	La Druitiere	146.04	290	ePKP1	PKPbc	02 27 50.0	+1.8
FLN	La Foliniere	146.32	290	ePKP1	PKPbc	02 27 50.7	+1.9
RES	Resolute Bay	148.64	20	ePKPbc	PKPdf	02 27 56.1	+2.3
FFC	Flin Flon	149.40	60	ePKPbc	PKPdf	02 27 58.3	+2.8
EKA	Eskdalemuir Ar	149.59	301	PKPbc	PKPdf	02 28 01.6	+5.8
	comp=Z,2.2nm,0.7s,baz=90,slow=1.7,SNR=4.9						
CCM	Cathedral Cave	150.16	97	ePKPbc	PKPdf	02 28 01.2	+4.0
CCM				ePKPab	PKPab	02 28 08.0	+0.5
PLAL	Pickwick Lake	150.40	105	ePKPbc	PKPdf	02 28 02.4	+4.7
ULM	Lac du Bonnet	152.13	71	PKPbc	PKPdf	02 28 05.0	+5.3
	comp=Z,0.7nm,0.3s,baz=248,slow=5.4,SNR=2.7						

GUC ***18*** *02:11:00.3±0.7, 27.90S×71.45W, h55km, ML4.3*
NEIC ***18*** *02:11:00.3, 27.90S×71.45W, h55km, mb3.7/1, After GUC.*
ISC 18 02:10:58.6±1.7**, 27.83S**±0.05×**71.6W**±0.2**, h63**km±20km**, n9,** **σ0.47**/14**, 1C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	1.02	136	⇓iP	P	02 11 17.0	-0.4
VACH				i S	S	02 11 30.6	-0.6
VACH				AMP		02 11 34.4	
	comp=E,14μm,0.3s						
CPCH	Copiapo	1.17	66	⇑iP	P	02 11 20.0	+0.7
CPCH				i S	S	02 11 35.0	+0.3
CPCH				AMP		02 11 35.6	
	comp=E,20μm,0.1s						
LCO	Las Campanas	1.40	147	⇓iP	P	02 11 23.4	+0.8
LCO				i S	S	02 11 40.2	-0.1
LCO				AMP		02 11 45.0	
	comp=N,8μm,0.5s						
LSCH	La Serena	2.09	172	eP	P	02 11 50.3	+18
LSCH				i S	S	02 12 14.4	+18
LSCH				AMP		02 12 27.5	
	comp=N,2μm,0.5s						
CPN1	Cerro Paranal	3.36	18	i P	P	02 11 50.0	0.0
CPN1				i S	S	02 12 28.1	-0.8
LVC	Limon Verde	5.72	25	ePn	P	02 12 23.1	+0.2
	comp=N,26nm,0.6s						
LPAZ	La Paz	11.92	16	ePn	P	02 13 47.7	-0.1
TRQA	Tornquist	12.98	144	Pn	P	02 14 01.6	-0.3
	comp=N,9.7nm,0.9s						
SAML	Samuel	20.38	24	eP	P	02 15 32.9	+0.2
	comp=N,3.5nm,0.9s						

MAN 18 02:36:15.7, 8.47N×122.60E, h30km, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	Ipil	0.68	182	eP	Pb	02 36 30.0	+1.0
IPIL				eS	Sb	02 36 40.0	+1.7
PAGZ	Pagadian	0.99	129	eP	Pn	02 36 33.9	+0.1
PAGZ				eS	Sn	02 36 47.5	+0.6
SNPH	Sibulan	1.07	36	eP	Pn	02 36 34.0	-0.8
SNPH				eS	Sn	02 36 49.0	+0.3

BJI ***18*** *03:16:43.2, 17.27S×174.05W, h133km, mB4.9, mb4.7*
NEIC ***18*** *03:16:44.6±0.1, 17.56S×174.49W, mb4.7/32, Error ellipse: s-maj=7.7km s-min=4.4km az=143.0*
IDC ***18*** *03:16:44.8±0.5, 17.56S×174.50W, h129km±4km, mb4.3/13, mb1 4.5/14, mb1mx4.4/18, mbtmp4.8/14, MS3.8/6, Ms1 3.8/6, ms1mx3.4/20, Error ellipse: s-maj=18.1km s-min=9.5km az=132.0*
ISC 18 03:16:43.2±0.2**, 17.62S**±0.06×**174.51W**±0.06**, h131**km**,** **h131**km±1.0km**:pP-P, n195, σ0.86**/95**, mb4.5**/46**, 15C-11D,** **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.53	36	ePn	P	03 17 43.1	-7.9
AFI				eSn	S	03 18 29.1	-14
RAR	Rarotonga	14.36	107	P	P	03 20 01.4	0.0
	6.2nm,0.3s,baz=255,slow=9.0,SNR=13						
RAR				S	S	03 22 30.2	-7.3
	2.9nm,0.3s,baz=144,slow=20,SNR=3.9						
RAR				LR	LR	03 24 09.2	
	comp=Z,321nm,21.3s,baz=287,slow=31						
RAR	Rarotonga	14.36	107	ePn	P	03 20 00.2	-1.1
	125nm,1.0s						
DZM	Mont Dzumac	18.45	253	eP	P	03 20 51.5	+0.1
NOUC	Port Laguerre	18.59	253	eP	P	03 20 56.0	+3.2
URZ	Urewera	21.84	198	P	P	03 21 25.8	-0.1
	24nm,0.4s,mb5.0,baz=319,slow=2.9,SNR=26						
URZ				S	S	03 25 21.4	+7.6
	5.0nm,0.5s,baz=122,slow=21,SNR=5.8						
URZ	Urewera	21.84	198	ePN	P	03 21 24.2	-1.7
URZ	Urewera	21.84	198	ePN	P	03 21 24.2	-1.7
TBI	Tubuai	24.13	108	eLR	LR	03 26 39.3	
	463nm,37.2s						
QRZ	Quartz Range	25.69	203	ePN	P	03 22 02.9	+0.2
QRZ	Quartz Range	25.69	203	ePN	P	03 22 02.9	+0.2
THZ	Tophouse	26.37	202	ePN	P	03 22 08.1	-0.9
THZ	Tophouse	26.37	202	ePN	P	03 22 08.1	-0.9
DSZ	Denniston Nort	26.76	203	ePN	P	03 22 11.5	-1.0
DSZ	Denniston Nort	26.76	203	ePN	P	03 22 11.5	-1.0
RPZ	Rata Peaks	28.74	202	P	P	03 22 30.3	-0.1
	7.0nm,0.5s,mb4.7,baz=172,slow=0.8,SNR=8.7						
CTA	Charters Tower	37.16	260	⇑iP	P	03 23 43.0	-0.2
	8.7nm,0.7s,mb4.5						
CTAO	Charters Tower	37.16	260	eP	P	03 23 42.9	-0.3
	11nm,0.7s,mb4.6						
PMG	Port Moresby	38.09	277	P	P	03 23 51.2	+0.1
	17nm,0.9s,mb4.7,baz=113,slow=7.7,SNR=3.8						
STKA	Stephens Creek	42.03	242	P	P	03 24 23.8	+0.3
	49nm,1.0s,mb5.1,baz=90,slow=8.0,SNR=50						
STKA				LR	LR	03 40 50.9	
	comp=Z,67nm,18.0s,baz=34,slow=34						
STKA	Stephens Creek	42.03	242	eP	P	03 24 23.6	+0.2
WB2	Warramunga Arr	48.33	259	⇑iP	P	03 25 12.5	-1.0
WRAB	Tennant Creek	48.33	259	P	P	03 25 12.6	-0.9
	158nm,1.3s,mb5.5,SNR=22						
WRAB	Tennant Creek	48.33	259	eP	P	03 25 12.3	-1.2
	66nm,1.3s,mb5.1						
WRA	Warramunga Arr	48.34	259	P	P	03 25 12.8	-0.8
	6.5nm,0.5s,mb4.6,baz=98,slow=6.7,SNR=41						
WRA				pP	pP	03 25 44.5	+0.7
	1.0nm,0.4s,baz=95,slow=6.4,SNR=0.7						
WRA				PcP	PcP	03 26 38.6	0.0
	2.8nm,0.8s,baz=88,slow=3.7,SNR=4.8						
ASAR	Alice Springs	48.44	254	P	P	03 25 14.3	-0.1
	149nm,0.9s,mb5.6,baz=86,slow=8.5,SNR=467						
ASAR				pP	pP	03 25 45.4	+0.8
	6.1nm,0.8s,baz=103,slow=6.2,SNR=0.6						
ASAR				PcP	PcP	03 26 39.3	+0.3
	5.9nm,0.8s,baz=98,slow=4.0,SNR=5.3						
ASAR				LR	LR	03 42 46.3	
	comp=Z,69nm,18.7s,baz=286,slow=32						
ASPA	Alice Springs	48.45	254	⇓iP	P	03 25 13.8	-0.6
ASPA				eS	S	03 32 04.6	+0.7
KAKA	Kakadu	51.31	268	eP	P	03 25 29.0	-7.3
	5.4nm,0.4s,mb4.5						
FORT	Forrest	53.49	244	⇑iP	P	03 25 51.1	-1.3
	750nm,0.7s						
FITZ	Fitzroy Crossi	56.74	260	eP	P	03 26 16.3	+0.3
	10nm,1.0s,mb4.6						
SBA	Scott Base	60.97	184	eP	P	03 26 46.0	+1.5
	7.8nm,0.7s,mb4.7						
VNDA	Vanda	61.08	186	P	P	03 26 46.1	+0.9
	5.1nm,0.9s,mb4.3,baz=8.7,slow=6.5,SNR=17						
VNDA	Vanda	61.08	186	eP	P	03 26 45.5	+0.3
	16nm,1.6s,mb4.6						
CBIJ	Chichi jima	61.16	316	LR	LR	03 46 53.7	
	comp=Z,92nm,21.9s,baz=182,slow=30						
MBWA	Marble Bar	61.74	255	eP	P	03 26 48.9	-1.5
	46nm,1.2s,mb5.2						
KLBR	Kellerberrin	62.28	243	⇑iP	P	03 26 52.7	-1.1
	551nm,1.1s						
CASY	Casey	67.96	205	eP	P	03 27 29.3	-0.4
	4.1nm,0.6s,mb4.3						
YBH	Yreka Blue Hor	76.00	37	P	P	03 28 17.8	+0.2
	4.6nm,0.8s,mb4.2,baz=172,slow=0.4,SNR=10						
YBH				pP	pP	03 28 49.4	-1.0
	7.9nm,1.1s,baz=198,slow=3.8,SNR=6.1						
KSM	Kuching	76.34	276	eP	P	03 28 20.8	+0.7
HUMO	Hull Mountain	76.41	37	eP	P	03 28 18.9	-1.0
	6.2nm,1.1s,mb4.2						
NVAR	Mina Array Bea	76.68	42	P	P	03 28 21.1	-0.4
	3.1nm,0.8s,mb4.0,baz=225,slow=8.4,SNR=18						
NVAR				pP	pP	03 28 53.9	-0.5
	5.5nm,1.0s,baz=226,slow=7.9,SNR=9.9						
TUC	Tucson	78.61	51	eP	P	03 28 32.3	0.0
	2.2nm,0.9s,mb3.8						
WVOR	Wild Horse Val	78.82	39	eP	P	03 28 32.8	-0.3
	2.2nm,0.5s,mb4.0						
MDJ	Mudanjiang	80.13	323	P	P	03 28 40.3	+0.1
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,88nm,6.3s						
SLKM	Skilak Lake	80.28	12	eP	P	03 28 39.2	-1.5
NJ2	Nanjing	80.66	308	eP	P	03 28 43.3	0.0
NJ2				AP	pP	03 29 18.4	+2.0
NJ2				XP	sP	03 29 33.6	+2.8
NJ2				PP	PP	03 31 51.1	+0.9
NJ2				S	S	03 38 39.0	+0.9
NJ2				XS		03 39 41.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,40nm,5.4s						
NJ2				LR	LR		
	comp=N,410nm,24.0s						
NJ2				LR	LR		
	comp=E,1μm,26.4s						
NJ2				LR	LR		
	comp=Z,742nm,24.0s						
HLID	Hailey	82.00	40	eP	P	03 28 49.7	-0.4
	comp=Z,2.7nm,0.8s,mb3.9						
HLID				epP	pP	03 29 22.9	-0.3
CN2	Changchun	82.10	321	eP	P	03 28 52.4	+1.8
MNTX	Cornudas Mount	82.39	53	eP	P	03 28 52.4	+0.1
	comp=Z,4.7nm,1.0s,mb4.1						
MNTX				epP	pP	03 29 25.6	0.0
TXAR	Lajitas Array	82.72	56	P	P	03 28 54.8	+0.8
	comp=Z,0.8nm,0.6s,mb3.6,baz=217,slow=8.4,SNR=11						
TXAR				pP	pP	03 29 26.8	-0.5
	comp=Z,2.8nm,1.2s,baz=217,slow=6.3,SNR=2.8						
TXAR				LR	LR	04 02 15.7	
	comp=Z,77nm,18.4s,baz=80,slow=33						
HWUT	Hardware Ranch	82.74	42	eP	P	03 28 53.1	-0.7
	comp=Z,2.9nm,1.0s,mb4.0						
ANMO	Albuquerque	83.03	50	P	P	03 28 56.3	+0.8
	comp=Z,2.3nm,0.4s,mb4.2,baz=241,slow=4.5,SNR=13						
ANMO	Albuquerque	83.03	50	eP	P	03 28 55.9	+0.5
	comp=Z,43nm,1.9s,mb4.8						
TNA	Tin City	83.07	3	eP	P	03 28 54.5	-0.5
	comp=Z,24nm,1.8s,mb4.6						
GDL2	Guadalupe Moun	83.39	53	eP	P	03 28 58.0	+0.6
MCK	McKinley	83.49	11	eP	P	03 28 55.7	-1.5
	comp=Z,5.5nm,0.9s,mb4.3						
AHID	Auburn Hatcher	83.63	41	eP	P	03 28 58.3	0.0
	comp=Z,6.9nm,0.8s,mb4.4						
MCMT	McKenzie Canyo	83.64	39	eP	P	03 28 58.5	+0.2
MCMT				epP	pP	03 29 31.6	0.0
RRI2	Red Ridge	83.80	41	eP	P	03 28 59.4	+0.2
RRI2				epP	pP	03 29 33.2	+0.7
THY	Trims Highway	83.83	13	eP	P	03 28 57.5	-1.3
TPAW	Teton Pass	84.10	41	eP	P	03 29 00.8	+0.1
CPRX	Cap Rock	84.12	53	eP	P	03 29 01.2	+0.2
SNOW	Snow King Moun	84.21	41	eP	P	03 29 01.1	-0.1
IMW	Indian Meadow	84.31	41	eP	P	03 29 01.9	+0.1
IMW				epP	pP	03 29 35.8	+0.7
MOOW	Moose Ponds	84.36	41	eP	P	03 29 01.9	-0.1
LOHW	Long Hollow	84.38	41	eP	P	03 29 02.2	+0.2
	comp=Z,9.6nm,1.1s,mb4.4						
QLMT	Earthquake Lak	84.50	40	eP	P	03 29 03.3	+0.7
BW06	Boulder Array	84.61	42	eP	P	03 29 02.8	-0.4
	comp=Z,5.9nm,0.7s,mb4.4						
PDAR	Pinedale Array	84.61	42	P	P	03 29 03.7	+0.5
	comp=Z,4.8nm,0.6s,mb4.4,baz=210,slow=3.3,SNR=48						
PDAR				pP	pP	03 29 36.0	-0.6
	comp=Z,1.6nm,1.0s,baz=236,slow=5.3,SNR=2.6						
COLA	College	84.73	11	eP	P	03 29 01.8	-1.4
	comp=Z,17nm,0.9s,mb4.8						
BOZ	Bozeman (W)	84.80	39	eP	P	03 29 03.9	-0.2
	comp=Z,6.6nm,1.1s,mb4.3						
BOZ				epP	pP	03 29 37.3	-0.3
IMA	Indian Mountai	84.89	8	eP	P	03 29 04.1	0.0
	comp=Z,40nm,1.3s,mb5.0						
IMA				epP	pP	03 29 38.4	+0.8
SDCO	Great Sand Dun	84.98	48	eP	P	03 29 05.5	+0.2
	comp=Z,4.6nm,1.1s,mb4.1						
LKWY	Lake	84.99	40	eP	P	03 29 06.3	+1.3
	comp=Z,9.0nm,1.0s,mb4.5						
MAW	Mawson	85.36	199	P	P	03 29 07.5	+1.2
	comp=Z,14nm,1.1s,mb4.6,baz=190,slow=6.1,SNR=3.6						
DAWY	Dawson	85.82	15	eP	P	03 29 08.4	-0.3
BJI	Beijing	86.22	314	P	P	03 29 12.3	+1.1
BJI				AP	pP	03 29 45.6	+0.8
BJI				XP	sP	03 29 59.5	+0.4
BJI				S	S	03 39 36.1	+2.8
BJI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.5						
BJI	Beijing	86.22	314	P	P	03 29 12.2	+1.0
	comp=Z,12nm,1.3s,mb4.5						
BJI				pP	pP	03 29 45.6	+0.8
BJI				sP	sP	03 29 59.5	+0.4
BJI				S	S	03 39 36.1	+2.8
BJI				SS	tx	03 46 26.7	
BILL	Bilibino	86.56	353	eP	P	03 29 11.7	-0.5
	comp=Z,16nm,1.0s,mb4.8						
ENH	Enshi	87.21	303	eP	P	03 29 17.6	+1.4
	comp=Z,41nm,1.5s,mb5.0						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GYA	**Guiyang**	**88.14**	**298**	P	**P**	**03 29 22.6**	**+1.8**
GYA				AP	pP	03 29 54.3	-0.2
GYA				XP	sP	03 30 08.4	-0.4
GYA				PP	PP	03 32 54.6	+3.0
GYA				S	S	03 39 55.3	+3.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
PLCA	**Paso Flores**	**88.81**	**132**	LR	LR	03 59 33.3	
	comp=Z,53nm,20.8s,baz=225,slow=29						
HHC	**Hu-ho-hao-te**	**89.75**	**313**	*e*P	**P**	**03 29 29.3**	**+1.3**
HHC				AP	pP	03 30 03.5	+1.7
HHC				XP	sP	03 30 14.3	-1.8
HHC				SKS	SKS	03 39 45.3	+1.1
HHC				S	S	03 40 07.5	+1.3
HHC				XS		03 41 04.9	
HHC				SS	SS	03 46 13.9	+4.2
HHC				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.8						
HHC				AMB	AMB		
	comp=Z,206nm,5.0s						
INK	**Inuvik**	**90.66**	**14**	*e*P	**P**	**03 29 30.8**	**-0.8**
	comp=Z,7.4nm,1.3s,mb4.6						
VNA3	**Neumayer Olymp**	**90.76**	**175**	⇑*i*P	**P**	**03 29 31.9**	**-0.1**
VNA3	**Neumayer Olymp**	**90.76**	**175**	*e*	**P**	**03 29 33.1**	**+1.1**
VNA2	**Neumayer--Watz**	**91.24**	**176**	⇑*i*P	**P**	**03 29 35.8**	**+1.5**
VNA2	**Neumayer--Watz**	**91.24**	**176**	*e*	**P**	**03 29 36.9**	**+2.6**
VNA1	**Neumayer--Stat**	**91.44**	**175**	⇑*i*P	**P**	**03 29 35.3**	**+0.1**
VNA1	**Neumayer--Stat**	**91.44**	**175**	*e*	**P**	**03 29 36.4**	**+1.2**
YKA	**Yellowknife Ar**	**92.54**	**24**	P	**P**	**03 29 39.7**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.7,baz=240,slow=4.3,SNR=9.9						
YKA				pP	pP	03 30 13.4	-0.9
	comp=Z,1.0nm,1.1s,baz=249,slow=4.0,SNR=2.5						
YKA	**Yellowknife Ar**	**92.54**	**24**	P	**P**	**03 29 39.7**	**-0.7**
YKA				pP	pP	03 30 13.4	-0.9
LZH	**Lanzhou**	**93.68**	**307**	⇑P	**P**	**03 29 47.5**	**+1.3**
LZH				AP	pP	03 30 21.5	+1.3
LZH				XP	sP	03 30 35.6	+1.2
LZH				PP	PP	03 33 36.5	+1.0
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.2						
LZH				LR	LR		
	comp=N,263nm,14.8s						
LZH				LR	LR		
	comp=Z,792nm,17.8s						
LZH	**Lanzhou**	**93.68**	**307**	⇑P	**P**	**03 29 47.5**	**+1.3**
	comp=Z,24nm,1.3s,mb5.2						
LZH				pP	pP	03 30 21.5	+1.3
LZH				sP	sP	03 30 35.6	+1.2
LZH				PP	PP	03 33 36.5	+1.0
LZH				LR	LR		
	comp=Z,790nm,17.8s						
CHKZ	**Chkalovo**	**118.71**	**322**	*e*PKPdf	PKPdf	03 35 15.7	+0.1
ARCES	**ARCESS Array B**	**126.64**	**351**	PKP	PKPdf	03 35 31.9	+1.4
	comp=Z,1.9nm,0.7s,baz=29,slow=1.9,SNR=9.4						
FINES	**FINESS Array B**	**133.85**	**346**	PKP	PKPdf	03 35 46.0	+1.6
	comp=Z,1.3nm,0.8s,baz=63,slow=3.1,SNR=4.2						
KMBO	**Kilima Mbogo**	**143.59**	**242**	PKP	PKPdf	03 36 03.8	+0.4
	comp=Z,5.1nm,0.8s,baz=66,slow=1.4,SNR=16						
KMBO	**Kilima Mbogo**	**143.59**	**242**	*e*PKPdf	PKPdf	03 36 03.7	+0.4
ELZG	**Elazig**	**144.15**	**312**	*i* P	PKPbc	03 36 03.5	+0.4
MALT	**Malatya**	**144.62**	**312**	*e*PKPdf	PKPdf	03 36 05.8	+1.4
KWP	**Kalwaria**	**145.17**	**340**	*e*PKP	PKPdf	03 36 06.3	+1.3
KWP	**Kalwaria**	**145.17**	**340**	*e*PKP	PKPdf	03 36 06.3	+1.3
BOYT	**Boyabat**	**145.39**	**319**	*i* P	PKPdf	03 36 08.0	+2.3
OJC	**Ojcow**	**145.50**	**344**	*e*PKP	PKPdf	03 36 07.2	+1.6
CLZ	**Clausthal**	**145.63**	**355**	*e*PKPbc	PKPbc	03 36 07.8	+1.3
GZT	**Gaziantep**	**145.66**	**311**	*i* P	PKPdf	03 36 08.2	+1.9
KSP	**Ksiaz**	**145.74**	**348**	*e*P	PKPdf	03 36 08.2	+2.2
KSP				*e*		03 36 16.0	
KSP	**Ksiaz**	**145.74**	**348**	*e*PKP	PKPdf	03 36 08.3	+2.3
CLL	**Collm**	**145.86**	**352**	*i* PKP	PKPdf	03 36 08.1	+2.0
CLL				*e*pPKP		03 36 44.0	
CLL	**Collm**	**145.86**	**352**	⇓*i*PKP1	PKPbc	03 36 08.1	+1.0
CLL				*i*		03 36 15.5	
CLL				*e**PPKP		03 36 44.0	
KOLS	**Kolonicke sedl**	**145.92**	**340**	*e*PKP	PKPdf	03 36 09.1	+2.8
BURAR	**Bucovina Array**	**145.98**	**336**	⇑P	PKPdf	03 36 10.1	+3.6
BURAR	**Bucovina Array**	**145.98**	**336**	⇑P	PKPdf	03 36 10.1	+3.6
NIE	**Niedzica**	**146.09**	**343**	*e*PKP	PKPdf	03 36 08.5	+1.9
UPC	**Upice**	**146.12**	**348**	*e*PKP	PKPdf	03 36 08.9	+2.3
UPC				*e*pPKP		03 36 46.1	
BRG	**Berggiesshubel**	**146.14**	**350**	*e*P	PKPdf	03 36 08.8	+2.2
BRG				*e*		03 36 16.9	
DPC	**Dobruska-Polom**	**146.21**	**347**	*e*PKP	PKPdf	03 36 09.7	+3.0
DPC				*e*pPKP		03 36 46.1	
OKC	**Ostrava-Krasne**	**146.28**	**345**	*e*PKP	PKPdf	03 36 09.5	+2.6
OKC				*e*pPKP		03 36 45.2	
PVCC	**Panska Ves**	**146.37**	**350**	*e*PKP	PKPdf	03 36 10.5	+3.5
PVCC				*e*pPKP		03 36 45.4	
MORC	**Moravsky Berou**	**146.48**	**346**	*e*PKPbc	PKPbc	03 36 10.6	+1.9
CFR	**Carcaliu**	**146.63**	**330**	⇑P	PKPdf	03 36 10.7	+3.1
CFR	**Carcaliu**	**146.63**	**330**	⇑P	PKPdf	03 36 10.7	+3.1
MOX	**Moxa**	**146.69**	**353**	*e*PKP	PKPdf	03 36 10.9	+3.4
MOX	**Moxa**	**146.69**	**353**	*i* P	PKPdf	03 36 10.9	+3.4
	comp=Z,logA/T=1.5						
ELDT	**Eldivan**	**146.84**	**319**	*i* P	PKPdf	03 36 11.7	+3.6
AVNT	**Avonos**	**146.85**	**315**	*i* P	PKPdf	03 36 11.9	+3.8
KECS	**Kecovo**	**146.87**	**342**	*e*P	PKPdf	03 36 12.8	+4.9
PRU	**Pruhonice**	**146.89**	**349**	*e*PKP	PKPdf	03 36 11.4	+3.5
PRU				*e*pPKP		03 36 48.8	
COBT	**Iskenderun**	**146.97**	**311**	*i* P	PKPdf	03 36 12.8	+4.4
NKC	**Novy Kostel**	**146.98**	**352**	*e*PKP	PKPdf	03 36 11.8	+3.8
NKC				*e*pPKP		03 36 48.9	
TIRR	**Tirgusor**	**147.03**	**329**	⇓P	PKPdf	03 36 12.6	+4.3
VRAC	**Vranov**	**147.13**	**347**	P	PKPdf	03 36 14.5	+6.2
BRTR	**Keskin Array B**	**147.14**	**318**	PKPbc	PKPdf	03 36 12.9	+4.3
	comp=Z,4.9nm,0.9s,baz=135,slow=1.7,SNR=24						
BRTR				pPKPbc		03 36 47.0	
	comp=Z,1.5nm,0.9s,baz=45,slow=4.1,SNR=1.8						
VYHS	**Vyhne**	**147.34**	**343**	*e*PKP	PKPdf	03 36 12.9	+4.2
VYHS				*e*		03 36 50.8	
TNS	**Taunus Mts**	**147.38**	**356**	*e*PKPbc	PKPdf	03 36 12.8	+4.1
MLR	**Muntele Rosu**	**147.39**	**333**	⇓P	PKPdf	03 36 13.9	+5.0
MLR	**Muntele Rosu**	**147.39**	**333**	⇓P	PKPdf	03 36 13.9	+5.1
PSZ	**Piszkesteto**	**147.56**	**342**	*e*PKPbc	PKPdf	03 36 13.7	+4.6
PSZ	**Piszkesteto**	**147.56**	**342**	*e*PKP/p	PKPdf	03 36 13.3	+4.2
GIVF	**Givet**	**147.59**	**1**	*e*PKP1	PKPdf	03 36 12.9	+3.9
	comp=Z,23nm,0.8s						
BAIF	**Baives**	**147.62**	**2**	*e*PKP1	PKPdf	03 36 13.1	+4.0
	comp=Z,40nm,1.1s						
SGKT	**Sivrigoynuk**	**147.63**	**320**	*i* P	PKPdf	03 36 14.0	+4.6
GRA1	**Grafenberg Arr**	**147.67**	**353**	*e*PKPbc	PKPdf	03 36 13.9	+4.7
SMOL	**Smolenice**	**147.68**	**345**	*e*PKP	PKPdf	03 36 14.2	+5.0
KHC	**Kasperske Hory**	**147.89**	**350**	*e*PKP	PKPdf	03 36 14.3	+4.7
KHC				x	x	03 36 22.5	
KHC				*e*pPKP		03 36 50.5	
WET	**Wettzell**	**147.99**	**351**	*e*PKPbc	PKPdf	03 36 14.6	+4.9
WLF	**Walferdange**	**148.03**	**359**	*e*PKPbc	PKPdf	03 36 14.8	+5.0
ZST	**Bratislava**	**148.06**	**345**	*e*PKP	PKPdf	03 36 15.6	+5.7
ZST				*e*		03 36 54.9	
SRO	**Srobarova**	**148.10**	**344**	*e*PKP	PKPdf	03 36 13.4	+3.4
GEC2	**GERESS Array S**	**148.14**	**350**	*e*PKPbc	PKPdf	03 36 14.8	+4.8
GERES	**GERESS Array B**	**148.14**	**350**	PKPbc	PKPdf	03 36 14.9	+4.9
	comp=Z,6.0nm,0.9s,baz=27,slow=3.0,SNR=22						
FLN	**La Foliniere**	**148.56**	**8**	*e*PKP1	PKPdf	03 36 15.1	+4.4
	comp=Z,106nm,1.4s						
SGMF	**Saint Gilles**	**148.74**	**10**	*e*PKP1	PKPdf	03 36 15.5	+4.5
	comp=Z,44nm,1.1s						
LDF	**La Druitiere**	**148.76**	**7**	*e*PKP1	PKPdf	03 36 15.6	+4.6
	comp=Z,42nm,1.2s						
GRR	**Gorron**	**148.87**	**8**	*e*PKP1	PKPdf	03 36 16.1	+4.9
	comp=Z,53nm,1.2s						
QUIF	**Quistinic**	**148.96**	**11**	*e*PKP1	PKPdf	03 36 14.8	+3.5
	comp=Z,49nm,1.2s						
ESKT	**Eskisehir**	**149.01**	**320**	*i* P	PKPdf	03 36 16.3	+4.6
BZS	**Buzias**	**149.01**	**338**	⇓P	PKPdf	03 36 16.9	+5.5
BZS	**Buzias**	**149.01**	**338**	⇓P	PKPdf	03 36 17.0	+5.5
FUR	**Furstenfeldbru**	**149.16**	**352**	*e*PKPbc	PKPdf	03 36 17.6	+6.0
MEZF	**Maizieres J'vi**	**149.19**	**1**	*e*PKP1	PKPdf	03 36 17.3	+5.6
	comp=Z,66nm,1.4s						
CDF	**Champ du Feu**	**149.25**	**358**	*e*PKP1	PKPdf	03 36 17.3	+5.5
	comp=Z,51nm,1.3s						
BFO	**Black Forest**	**149.28**	**356**	*e*PKPbc	PKPdf	03 36 17.7	+5.9
ULDT	**Uludag**	**149.64**	**323**	*i* P	PKPdf	03 36 18.9	+6.3
HAU	**Haudompre**	**149.68**	**359**	*e*PKP1	PKPdf	03 36 18.3	+5.9
	comp=Z,25nm,1.0s						
HINF	**Hinteralfeld**	**149.86**	**358**	*e*PKP1	PKPdf	03 36 18.5	+5.8
	comp=Z,14nm,1.0s						
KBA	**Koelnbreinsper**	**149.91**	**349**	⇑*i*P	PKPdf	03 36 19.3	+6.5
WATA	**Walderalm**	**149.94**	**352**	⇓*i*P	PKPdf	03 36 19.3	+6.5
MOTA	**Moosalm**	**149.99**	**352**	⇑*i*P	PKPdf	03 36 19.4	+6.5
WTTA	**Wattenberg**	**150.00**	**352**	⇓*i*P	PKPdf	03 36 19.7	+6.8
SQTA	**Sankt Quirin**	**150.10**	**352**	⇓*i*P	PKPdf	03 36 19.9	+6.8
DAVA	**Damuels**	**150.19**	**354**	⇓*i*P	PKPdf	03 36 20.0	+6.8
HYF	**Humbligny**	**150.34**	**4**	*e*PKP1	PKPdf	03 36 20.3	+6.9
BTOK	**Tokmak**	**150.53**	**323**	*i* P	PKPdf	03 36 20.1	+6.2
EIL	**Elat**	**150.55**	**299**	*e*PKPbc	PKPdf	03 36 21.4	+7.0
SSF	**Saint Saulge**	**150.59**	**3**	*e*PKP1	PKPdf	03 36 20.7	+6.9
	comp=Z,40nm,1.2s						
MFF	**Saint Martin d**	**150.72**	**8**	*e*PKP1	PKPdf	03 36 20.6	+6.6
	comp=Z,61nm,1.4s						
AVF	**Avril sur Loir**	**150.85**	**3**	*e*PKP1	PKPdf	03 36 20.9	+6.7
	comp=Z,22nm,1.3s						
SMF	**Signal de Mont**	**151.02**	**2**	*e*PKP1	PKPdf	03 36 21.4	+6.9
BGF	**Bois d'Agland**	**151.06**	**4**	*e*PKP1	PKPdf	03 36 21.5	+7.0
	comp=Z,32nm,1.1s						
CABF	**La Chapelle**	**151.08**	**359**	*e*PKP1	PKPdf	03 36 22.3	+7.7
	comp=Z,42nm,1.1s						
TCF	**Toulx Ste Croi**	**151.28**	**5**	*e*PKP1	PKPdf	03 36 21.9	+7.0
	comp=Z,47nm,1.4s						
LPL	**La Plagne**	**152.16**	**358**	*e*PKP1	PKPdf	03 36 25.0	+8.8
	comp=Z,6.8nm,0.9s						
LPG	**La Plagne**	**152.18**	**358**	*e*PKP1	PKPdf	03 36 25.3	+9.1
	comp=Z,8.7nm,1.0s						
RJF	**Les Rejaudoux**	**152.19**	**6**	*e*PKP1	PKPdf	03 36 24.0	+7.7
LFF	**La Frestale**	**152.47**	**7**	*e*PKP1	PKPdf	03 36 24.7	+8.0
CAF	**Calviac**	**152.62**	**5**	*e*PKP1	PKPdf	03 36 25.3	+8.4
BNI	**Bardonecchia**	**152.63**	**358**	*e*PKPab	PKPab	03 36 36.9	-0.7
ORIF	**Oris-en-Rattie**	**152.78**	**359**	*e*PKP1	PKPdf	03 36 25.7	+8.6
VIVF	**Saint-Julien-l**	**152.83**	**1**	*e*PKP1	PKPdf	03 36 25.9	+8.7
MBDF	**Montbardon**	**152.95**	**358**	*e*PKP1	PKPdf	03 36 26.2	+8.9
SMRF	**Simiane la Rot**	**153.72**	**360**	*e*PKP1	PKPdf	03 36 28.3	+10
PGF	**Pioggiola**	**154.97**	**354**	*e*PKP1	PKPdf	03 36 29.9	+10
	comp=Z,7.8nm,1.0s						
TIP	**Timpagrande**	**156.38**	**338**	*e*PKPab	PKPab	03 36 51.8	-1.9

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*NEIC **18** 03:40:28.8±0.6, 6.24N×127.64E, mb4.4/5, Error ellipse: s-maj=48.3km s-min=7.8km az=73.0*
*IDC **18** 03:40:29.2±1.2, 6.06N×127.29E, h42km±9km, mb4.0/7, mb1 4.0/7, mb1mx3.9/16, mbtmp4.2/7, Error ellipse: s-maj=63.9km s-min=16.1km az=72.0*
ISC 18 03:40:26.5±0.6**, 6.31N**±0.08×**127.78E**±0.09**, h38km**±3.4km**:pP-P, n18, σ0ˢ94**/19**, mb4.2**/12**, 2C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.64**	**293**	*e*P	**P**	**03 40 43.6**	**-10**
DAV	**Davao City (W)**	**2.31**	**289**	⇑*e*P	**P**	**03 40 56.2**	**-6.7**
KCP	**Kidapawan**	**2.76**	**285**	⇓*e*P	**P**	**03 41 12.4**	**+3.1**
KCP				*i* S	**S**	**03 41 42.0**	**+0.2**
CGP	**Cagayan de Oro**	**3.73**	**305**	⇑*e*P	**P**	**03 41 21.3**	**-1.8**
SCPH	**Surigao**	**4.13**	**327**	*e*P	**P**	**03 41 22.4**	**-6.3**
FITZ	**Fitzroy Crossi**	**24.35**	**185**	*e*P	**P**	**03 45 43.3**	**+1.0**
	7.7nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**26.87**	**166**	P	**P**	**03 46 07.1**	**+1.2**
	2.6nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**26.87**	**166**	P	**P**	**03 46 05.7**	**-0.2**
	1.0nm,0.4s,mb3.7,baz=346,slow=10,SNR=8.8						
WRA				pP	pP	03 46 17.2	+0.9
	1.2nm,0.3s,baz=338,slow=11,SNR=7.5						
WB2	**Warramunga Arr**	**26.88**	**166**	*e*P	**P**	**03 46 06.2**	**+0.2**
ASAR	**Alice Springs**	**30.39**	**169**	P	**P**	**03 46 36.5**	**-1.0**
	0.7nm,0.7s,mb3.5,baz=349,slow=8.1,SNR=6.8						
ASAR				pP	pP	03 46 47.5	-0.6
	0.8nm,0.4s,baz=346,slow=6.9,SNR=5.4						
ASAR				PcP	PcP	03 49 33.2	-3.5
	0.8nm,0.5s,baz=352,slow=2.6,SNR=8.0						
ASAR				pPcP		03 49 42.5	
	2.0nm,0.4s,baz=346,slow=2.4,SNR=18						
STKA	**Stephens Creek**	**40.20**	**162**	P	**P**	**03 48 00.5**	**-0.6**
	2.2nm,0.7s,mb4.0,baz=323,slow=10.0,SNR=5.0						
NWAO	**Narrogin (SRO)**	**40.29**	**194**	P	**P**	**03 48 00.9**	**-0.9**
	6.8nm,0.8s,mb4.4,baz=38,slow=6.2,SNR=6.6						
NWAO				pP	pP	03 48 10.2	-2.4
	8.6nm,0.4s,baz=36,slow=6.0,SNR=3.8						
ULN	**Ulaanbaatar**	**45.03**	**340**	P	**P**	**03 48 41.2**	**+0.9**
	3.6nm,0.8s,mb4.2						
SONM	**Songino Array**	**45.23**	**340**	P	**P**	**03 48 42.8**	**+0.9**
	1.0nm,0.4s,mb4.0,baz=156,slow=8.6,SNR=8.4						
ZAL	**Zalesovo**	**58.80**	**332**	P	**P**	**03 50 22.9**	**-0.5**
	1.0nm,0.4s,mb4.2,baz=353,slow=2.4,SNR=4.0						
KURK	**Kurchatov**	**60.16**	**326**	*e*P	**P**	**03 50 32.2**	**-0.6**
	4.3nm,0.5s,mb4.7						
BVAR	**Borovoye Array**	**65.76**	**326**	P	**P**	**03 51 10.3**	**+0.6**
	2.2nm,0.4s,mb4.5,baz=119,slow=6.9,SNR=12						
CHKZ	**Chkalovo**	**65.89**	**327**	*e*P	**P**	**03 51 10.1**	**-0.4**
	1.5nm,0.4s,mb4.4						

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*IDC **18** 03:40:41.0±5.3, 9.15N×125.28E, mb4.2/6, mb1 4.2/6, mb1mx4.0/17, mbtmp4.2/6, MS3.6/1, Ms1 3.6/1, ms1mx2.8/19, Error ellipse: s-maj=159.9km s-min=77.2km az=107.0*
ISC 18 03:40:39.5±0.9**, 8.72N**±0.06×**126.4E**±0.1**, h33km, n12, σ1ˢ08**/12**, mb4.2**/6**, MS3.7**/1**, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.54**	**181**	*e*P	**P**	**03 40 49.8**	**-0.8**
BIPH				*i* S	**S**	**03 40 59.0**	**+0.5**
BUKP	**Musuan**	**1.54**	**237**	*e*P	**P**	**03 41 04.4**	**-0.5**
PAGZ	**Pagadian**	**3.08**	**254**	*e*P	**P**	**03 41 27.2**	**+0.2**
SONM	**Songino Array**	**42.49**	**340**	P	**P**	**03 48 33.3**	**-0.1**
	1.6nm,0.9s,mb3.6,baz=139,slow=7.2,SNR=11						
ZAL	**Zalesovo**	**56.02**	**332**	LR	LR	04 17 30.9	
	comp=Z,54nm,18.3s,MS3.7,baz=278,slow=40						
BVAR	**Borovoye Array**	**62.99**	**326**	P	**P**	**03 51 01.2**	**-4.1**
	1.3nm,0.8s,mb4.1,baz=129,slow=9.2,SNR=7.8						
JOF	**Joensuu**	**84.60**	**333**	*e*p	**P**	**03 53 09.1**	**-1.5**
ASF	**Jabal al Asfar**	**84.97**	**302**	P	**P**	**03 53 14.2**	**+1.0**
	1.5nm,0.4s,mb4.5,baz=57,slow=3.4,SNR=6.1						
ARCES	**ARCESS Array B**	**85.67**	**340**	P	**P**	**03 53 17.1**	**+1.3**
	5.5nm,0.9s,mb4.8,baz=90,slow=5.4,SNR=8.8						
BRTR	**Keskin Array B**	**86.58**	**309**	P	**P**	**03 53 21.5**	**+0.6**
	0.8nm,0.6s,mb4.2,baz=109,slow=4.6,SNR=6.3						
KAF	**Kangasniemi**	**87.03**	**332**	*e*p	**P**	**03 53 20.3**	**-2.3**
FINES	**FINESS Array B**	**87.29**	**332**	P	**P**	**03 53 25.1**	**+1.2**
	0.8nm,0.5s,mb4.2,baz=56,slow=5.0,SNR=9.9						

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*PRU **18** 03:43:51.8, 50.12N×19.07E*
WAR 18 03:43:50.6, 50.10N×19.18E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.42**	**74**	*e*PG	Pg	03 43 59.0	+0.1
OJC				*e*SG	Sg	03 44 06.0	+1.5
RAC	**Raciborz**	**0.63**	**269**	*e*PG	Pg	03 44 03.0	-0.2
RAC				*e*SG	Sg	03 44 13.0	+1.3
OKC	**Ostrava-Krasne**	**0.72**	**249**	*e*PG	Pg	03 44 04.4	-0.5
OKC				*e*SG	Sg	03 44 14.6	+0.2
	20nm,0.2s						
NIE	**Niedzica**	**1.01**	**132**	*e*PG	Pg	03 44 09.0	-1.7
NIE				*e*SG	Sg	03 44 24.0	-0.1
VYHS	**Vyhne**	**1.63**	**188**	*e*PN	Pn	03 44 20.1	-0.5
VYHS				*e*SN	Sn	03 44 41.4	-1.1
KECS	**Kecovo**	**1.83**	**152**	*e*SN	Sn	03 44 48.7	+0.9
KECS	**Kecovo**	**1.83**	**152**	*e*Sn	Sn	03 44 48.7	+0.9
DPC	**Dobruska-Polom**	**1.85**	**279**	*e*PG	Pg	03 44 22.8	-4.7
DPC				*e*SG	Sg	03 44 47.5	-4.7
CRVS	**Cervenica-Dubn**	**1.91**	**128**	*e*PN	Pn	03 44 27.3	+2.6
CRVS				*e*SN	Sn	03 44 52.8	+3.0
KSP	**Ksiaz**	**1.98**	**293**	*e*PN	Pn	03 44 25.0	-0.7
KSP				*e*PG	Pg	03 44 27.0	-3.2
KSP				*e*SN	Sn	03 44 52.0	+0.4
UPC	**Upice**	**2.07**	**282**	*e*SG	Sg	03 44 55.1	-4.4
PRU	**Pruhonice**	**2.99**	**270**	*e*SG	Sg	03 45 22.5	-7.6
BRG	**Berggiesshubel**	**3.43**	**285**	*e*Sg	Sg	03 45 38.9	-5.9
KHC	**Kasperske Hory**	**3.77**	**257**	*e*PN	Pn	03 44 49.0	-2.1
KHC				*e*x	x	03 45 02.0	
KHC				*e*x	x	03 45 23.5	
KHC				*e*SG	Sg	03 45 49.5	-6.5
CLL	**Collm**	**4.11**	**289**	*e*SG	Sg	03 46 04.0	-3.3
CLL	**Collm**	**4.11**	**289**	*e*Sg	Sg	03 46 04.0	-3.3
MOX	**Moxa**	**4.87**	**279**	*e*Sg	Sg	03 46 27.7	-5.0

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*THR **18** 03:51:59.9±0.7, 26.64N×55.68E, h12km, ML3.6*
*CSEM **18** 03:52:07.5±0.6, 27.27N×56.01E, h6km±5km, mb4.2/12, Error ellipse: s-maj=4.1km s-min=2.6km az=59.0*
*IDC **18** 03:52:10.3±3.8, 27.69N×56.22E, mb3.9/9, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML1.6/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/20, Error ellipse: s-maj=77.9km s-min=24.3km az=177.0*
*TEH **18** 03:52:11.1, 27.33N×56.27E, h10km, Mn3.6*
*OMAN **18** 03:52:11.1±11.0, 27.18N×55.74E, h20km, Error ellipse: s-maj=7.7km s-min=6.3km az=322.0*
*NEIC **18** 03:52:16.2±2.3, 27.65N×56.17E, h45km±12km, mb4.1/16, Error ellipse: s-maj=27.6km s-min=8.8km az=176.0*
ISC 18 03:52:08.1±0.3**, 27.30N**±0.03×**56.09E**±0.05**, h12km, n73, σ1ˢ44**/78**, mb4.0**/23**, MS3.0**/1**, 8C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	**1.38**	**172**	P	**Pn**	**03 52 35.3**	**+2.0**
	SNR=35						
BANOM				⇑S	**Sb**	**03 52 54.6**	**+3.8**
ASHO	**Ashiyiah**	**2.60**	**181**	⇑P	**Pn**	**03 52 53.0**	**+2.2**
	SNR=48						
KRBR	**Kerman**	**2.74**	**12**	*e*PN	**Pn**	**03 52 55.5**	**+2.7**
KRBR				AML	AML	03 53 39.6	
	comp=N,384nm,0.6s						
KRBR	**Kerman**	**2.74**	**12**	*e*Pn	**Pn**	**03 52 55.0**	**+2.2**
GHIR	**Ghir-Karzin**	**2.92**	**290**	*e*PN	**Pn**	**03 52 48.0**	**-7.3**
GHIR				AML	AML	03 54 16.7	
	comp=N,202nm,0.6s						
IPAR	**Pars**	**3.69**	**314**	Pn	**Pn**	**03 53 09.3**	**+3.1**
SHI	**Shiraz**	**3.92**	**307**	Pn	**Pn**	**03 53 13.8**	**+4.3**
ARQ	**Araqi**	**3.96**	**174**	⇓P	**Pn**	**03 53 10.9**	**+0.7**
BIDO	**Bidbid**	**4.19**	**153**	⇑P	**Pn**	**03 53 12.3**	**-1.1**
IBAF	**Bafgh**	**4.30**	**354**	Pn	**Pn**	**03 53 14.8**	**-0.2**
SMDO	**Samad**	**4.58**	**157**	⇑P	**Pn**	**03 53 19.1**	**+0.3**
BSY	**Bisya**	**4.64**	**167**	⇑P	**Pn**	**03 53 20.5**	**+0.7**
BSYO	**Bisya**	**4.66**	**167**	P	**Pn**	**03 53 20.5**	**+0.4**
ZHSF	**Zahedan**	**4.73**	**60**	*e*Pn	**Pn**	**03 53 22.0**	**+1.0**
ZHSF				*e*Sn	**Sn**	**03 54 22.0**	**+5.6**
ZHSF	**Zahedan**	**4.73**	**60**	*e*PN	**Pn**	**03 53 22.3**	**+1.3**
ZHSF				SN	**Sn**	**03 54 22.9**	**+6.5**
ZHSF				AML	AML	03 54 47.6	
	comp=N,12nm,0.6s						
ICHK	**Chekchek**	**5.14**	**344**	Pn	**Pn**	**03 53 26.7**	**-0.2**
JMDO	**Jabal Madar**	**5.24**	**159**	⇑P	**Pn**	**03 53 27.9**	**-0.3**
WBK	**Wadi Bani Khal**	**5.35**	**150**	⇓P	**Pn**	**03 53 28.5**	**-1.2**
NASN	**Na'in**	**6.18**	**333**	*e*Pn	**Pn**	**03 53 40.0**	**-1.5**
NASN	**Na'in**	**6.18**	**333**	*e*PN	**Pn**	**03 53 40.2**	**-1.3**
RDF	**Al-Radifah**	**7.71**	**284**	*e*P	**Pn**	**03 54 02.7**	**-0.3**
NAY	**Al-Naaiem**	**8.04**	**286**	*e*P	**P**	**03 54 06.4**	**-1.2**
RST	**Umm Al-Ruwaisa**	**8.30**	**287**	*e*P	**P**	**03 54 09.5**	**-1.8**
IFIR	**Firoozkooh**	**8.79**	**342**	Pn	**P**	**03 54 17.4**	**-0.7**
IDMV	**Damavand**	**8.95**	**338**	Pn	**P**	**03 54 19.5**	**-0.8**
RYDS	**Riyadh**	**9.06**	**252**	P	**P**	**03 54 22.9**	**+1.1**
IAFJ	**Afjeh**	**9.31**	**337**	Pn	**P**	**03 54 26.3**	**+1.1**
IAFJ				Sn	**Sn**	**03 56 03.5**	**-7.5**
WHFO	**Wadi Hawf**	**9.57**	**193**	⇑P	**P**	**03 54 27.4**	**-1.6**
	SNR=20						
WHFO				⇑S	**Sn**	**03 56 10.2**	**-7.4**
IRAZ	**Razeghan**	**9.64**	**328**	Pn	**P**	**03 54 28.7**	**-1.1**
RBK	**Rabkut**	**9.90**	**191**	⇓P	**P**	**03 54 31.7**	**-1.7**
RBK				⇓S	**Sn**	**03 56 19.1**	**-6.4**
IKOM	**Komasi**	**10.07**	**315**	Pn	**P**	**03 54 34.3**	**-1.4**
ABTO	**Aybut**	**10.23**	**195**	⇓P	**P**	**03 54 35.1**	**-2.8**
	SNR=16						
IVIS	**Veys**	**10.71**	**315**	Pn	**P**	**03 54 42.6**	**-1.9**
IGHG	**Ghaleghazi**	**10.77**	**313**	Pn	**P**	**03 54 42.6**	**-2.7**
IDHR	**Dehrash**	**11.12**	**314**	Pn	**P**	**03 54 47.8**	**-2.3**
KAMS	**Al Khamasin**	**12.62**	**239**	P	**P**	**03 55 07.4**	**-3.0**
GNI	**Garni**	**15.90**	**327**	Pn	**P**	**03 55 55.7**	**+2.4**
	comp=N,0.6nm,0.3s,baz=33,slow=7.7,SNR=4.4						
MALT	**Malatya**	**18.44**	**311**	*e*P	**P**	**03 56 26.2**	**+0.9**
	comp=N,3.0nm,0.6s						
AAK	**Ala-Archa**	**21.42**	**40**	*e*P	**P**	**03 56 55.8**	**-2.2**
	comp=N,3.0nm,0.8s,mb3.7						
BRTR	**Keskin Array B**	**22.38**	**309**	P	**P**	**03 57 08.3**	**+0.7**
	comp=N,2.2nm,0.8s,mb3.7,baz=130,slow=9.6,SNR=12						
BVAR	**Borovoye Array**	**27.82**	**19**	P	**P**	**03 57 57.8**	**-1.3**
	comp=N,2.1nm,0.8s,mb3.8,baz=198,slow=4.7,SNR=10						
KMBO	**Kilima Mbogo**	**33.57**	**216**	LR	LR	04 14 40.8	
	comp=N,28nm,18.6s,MS3.0,baz=97,slow=40						
ZAL	**Zalesovo**	**33.97**	**31**	P	**P**	**03 58 52.2**	**-1.2**
	comp=N,1.4nm,0.3s,mb4.3,baz=227,slow=5.0,SNR=3.8						
ZAL	**Zalesovo**	**33.97**	**31**	P	**P**	**03 58 52.2**	**-1.2**
MORC	**Moravsky Berou**	**37.01**	**318**	*e*P	**P**	**03 59 18.8**	**-0.5**
	comp=N,2.4nm,0.8s,mb4.1						
MORC	**Moravsky Berou**	**37.01**	**318**	*e*P	**P**	**03 59 18.8**	**-0.5**
	comp=N,2.4nm,0.8s,mb4.1						
GERES	**GERESS Array B**	**39.04**	**315**	P	**P**	**03 59 36.8**	**+0.4**
	comp=N,0.6nm,0.6s,mb3.5,baz=112,slow=7.2,SNR=4.6						
JOF	**Joensuu**	**39.16**	**342**	*e*p	**P**	**03 59 36.0**	**-1.2**
KHC	**Kasperske Hory**	**39.21**	**315**	*e*P	**P**	**03 59 36.0**	**-1.8**
KHC				*e*	pP	03 59 41.0	-0.4
KHC	**Kasperske Hory**	**39.21**	**315**	*e*P	**P**	**03 59 36.0**	**-1.8**
KHC				x	x	03 59 41.0	
FINES	**FINESS Array B**	**39.62**	**338**	P	**P**	**03 59 39.9**	**-1.1**
	comp=N,1.3nm,0.5s,mb3.9,baz=130,slow=8.1,SNR=10						
KAF	**Kangasniemi**	**40.03**	**339**	*e*p	**P**	**03 59 38.6**	**-5.8**
PGF	**Pioggiola**	**40.97**	**304**	*e*P	**P**	**03 59 53.8**	**+1.5**
	comp=N,2.6nm,0.6s,mb3.8						
MBDF	**Montbardon**	**42.83**	**307**	*e*P	**P**	**04 00 09.1**	**+1.6**
	comp=N,6.1nm,0.6s,mb4.2						
LPG	**La Plagne**	**42.94**	**308**	*e*P	**P**	**04 00 10.2**	**+1.8**
	comp=N,3.6nm,0.6s,mb4.0						
LPL	**La Plagne**	**42.95**	**308**	*e*P	**P**	**04 00 10.5**	**+1.9**
	comp=N,4.1nm,0.6s,mb4.0						
SONM	**Songino Array**	**43.94**	**48**	P	**P**	**04 00 16.0**	**-0.6**
	comp=N,1.4nm,0.8s,mb3.8,baz=260,slow=9.6,SNR=13						
ULN	**Ulaanbaatar**	**44.39**	**48**	*e*P	**P**	**04 00 19.6**	**-0.6**
	comp=N,2.1nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**44.39**	**48**	*e*P	**P**	**04 00 19.6**	**-0.6**
	comp=N,2.1nm,0.7s,mb4.0						
SMF	**Signal de Mont**	**45.09**	**310**	*e*P	**P**	**04 00 27.3**	**+1.5**
NB2	**NORSAR Subarra**	**45.14**	**331**	P	**P**	**04 00 23.2**	**-2.8**
	comp=N,2.4nm,0.8s,mb4.1,baz=115,slow=7.9						
NOA	**NORSAR Array B**	**45.14**	**331**	P	**P**	**04 00 26.4**	**+0.5**
	comp=N,0.9nm,0.7s,mb3.7,baz=117,slow=8.0,SNR=3.7						
SSF	**Saint Saulge**	**45.37**	**310**	*e*P	**P**	**04 00 29.7**	**+1.7**
	comp=N,2.0nm,0.7s,mb4.1						
BGF	**Bois d'Agland**	**45.76**	**309**	*e*P	**P**	**04 00 32.9**	**+1.8**
	comp=N,6.3nm,0.7s,mb4.4						
ARCES	**ARCESS Array B**	**45.86**	**346**	P	**P**	**04 00 30.7**	**-0.9**
	comp=N,5.3nm,1.0s,mb4.4,baz=139,slow=7.6,SNR=6.2						
MTLF	**Montolieu**	**45.99**	**305**	*e*P	**P**	**04 00 34.1**	**+1.1**
	comp=N,3.7nm,0.7s,mb4.1						
TCF	**Toulx Ste Croi**	**46.18**	**309**	*e*P	**P**	**04 00 34.9**	**+0.5**
	comp=N,3.5nm,0.6s,mb4.2						
CAF	**Calviac**	**46.18**	**307**	*e*P	**P**	**04 00 35.6**	**+1.2**
	comp=N,4.1nm,0.6s,mb4.2						
LDF	**La Druitiere**	**47.96**	**312**	*e*P	**P**	**04 00 47.8**	**-0.6**
ETSF	**Etsaut**	**48.02**	**304**	*e*P	**P**	**04 00 50.7**	**+1.7**
	comp=N,5.1nm,0.8s,mb4.3						
FLN	**La Foliniere**	**48.21**	**312**	*e*P	**P**	**04 00 51.6**	**+1.2**
SJPF	**Ste Jean**	**48.50**	**305**	*e*P	**P**	**04 00 55.2**	**+2.5**
	comp=N,7.7nm,0.7s,mb4.6						
ESDC	**Sonseca Array**	**50.73**	**300**	P	**P**	**04 01 11.8**	**+1.9**
	comp=N,0.5nm,0.5s,mb3.7,baz=68,slow=8.0,SNR=5.6						

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*NEIC **18** 04:08:00.1, 17.57N×93.94W, h182km, MD4.2(MEX), After MEX.*
MEX 18 04:08:01.7±1.5**, 17.50N**×**94.15W, h204km**±16km**, MD4.2, Chiapas**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.81**	**240**	*i* P	P	04 08 29.2	-1.6
CMIG				*i* S	S	04 08 50.4	-3.1
CCIG	**Comitan**	**2.28**	**122**	*i* P	P	04 08 43.4	-0.5
CCIG				*i* S	S	04 09 13.6	-2.7
OXX	**Oaxaca**	**2.49**	**261**	*i* P	P	04 08 45.0	-1.2
OXX				*i* S	S	04 09 19.5	-1.0
VHO	**Vista Hermosa**	**2.50**	**261**	*i* P	P	04 08 44.7	-1.6
VHO				*i* S	S	04 09 19.1	-1.6
HUIG	**Huatulco**	**2.54**	**228**	*i* P	P	04 08 43.5	-3.2
HUIG				*i* S	S	04 09 19.1	-2.5
YAIG	**Yautepec**	**4.86**	**287**	*i* P	P	04 09 14.5	-0.6
YAIG				*i* S	S	04 10 10.0	-2.1

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*BJI **18** 04:24:48.0, 85.30N×91.20E, h10km, mB5.5, mb5.0, Ms5.3, Msz5.0*
*MOS **18** 04:24:49.4±1.0, 85.20N×92.04E, h10km, mb5.5/98, MS4.8/38, Error ellipse: s-maj=34.4km s-min=4.3km az=88.4*
*IDC **18** 04:24:50.5±0.5, 85.27N×91.31E, mb4.5/28, mb1 4.6/29,*

mb1mx4.6/29, mbtmp4.5/29, ML4.0/1, MS4.8/19, Ms1 4.8/19, ms1mx4.8/21, Error ellipse: s-maj=16.8km s-min=9.8km az=133.0

*NEIC **18** 04:24:51.8±0.1, 85.29N×91.17E, h10km, mb5.3/142, MS5.0/30, MW5.3, Error ellipse: s-maj=3.8km s-min=1.9km az=147.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.03; $M_{\theta\theta}$0.68; $M_{\phi\phi}$0.35; $M_{r\theta}$-0.16; $M_{\theta\phi}$-0.49; $M_{\phi r}$0.15; Best double couple: $M_0$1.1×10^{17} NP1: ϕ_s304°, δ39°, λ-92°. NP2: ϕ_s127°, δ51°, λ-88°. Principal axes: T 1.06, Plg6°, Azm216°; N 0, Plg1°, Azm306°; P -1.06, Plg84°, Azm49°;*

*HRVD **18** 04:24:51.8±0.1, 85.25N×91.37E, h12km, MW5.4/75, Centroid moment Tensor Solution. LP body waves: s52,c79; Mantle waves: s75,c170; Half duration: 1.2s Moment tensor: Scale 10^{17}Nm; M_{rr}-1.33±.02; $M_{\theta\theta}$1.05±.02; $M_{\phi\phi}$0.28±.02; $M_{r\theta}$0.07±.06; $M_{\theta\phi}$-0.52±.02; $M_{\phi r}$-0.19±.07; Best double couple: $M_0$1.335×10^{17} NP1: ϕ_s111°, δ42°, λ-98°. NP2: ϕ_s302°, δ48°, λ-83°. Principal axes: T 1.319, Plg3°, Azm27°; N .04, Plg6°, Azm117°; P -1.351, Plg84°, Azm267°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 04:24:49.7±0.1**, 85.25N**±0.02×**91.7E**±0.2**, h10km, (h19km**±1.5km**:pP-P), n574,** σ**1.07**/615**, mb5.2**/200**, MS4.9**/83**, 27C-16D, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**12.47**	**267**	eP	**P**	**04 27 44.0**	**-5.9**
HOPEN				eS	**S**	**04 29 52.5**	**-17**
HOPEN				AML	AML	04 29 54.2	
	comp=Z,22nm,0.8s						
HSP	**Hornsund**	**12.79**	**277**	eP	**P**	**04 27 48.4**	**-5.8**
TIXI	**Tiksi**	**14.93**	**132**	eP	**P**	**04 28 23.7**	**+1.7**
TIXI				eS	**S**	**04 31 15.2**	**+7.0**
TIXI				pmax	pmax		
	comp=Z,97nm,2.0s						
DAG	**Danmarks Havn**	**15.63**	**307**⇑	iP	**P**	**04 28 28.6**	**-2.5**
DAG				pmax	pmax		
	comp=Z,1µm,2.3s						
DAG	**Danmarks Havn**	**15.63**	**307**⇑	iP	**P**	**04 28 28.6**	**-2.5**
	comp=Z,1µm,2.3s						
KEV	**Kevo**	**18.81**	**257**	ep	**P**	**04 29 08.4**	**-2.7**
ARCES	**ARCESS Array B**	**19.15**	**259**	P	**P**	**04 29 12.8**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=14,slow=10,SNR=15						
ARCES				S	**S**	**04 32 34.3**	**-11**
	comp=Z,0.2nm,0.3s,baz=21,slow=23,SNR=3.1						
ARCES				LR	LR	04 37 02.8	
	comp=Z,3µm,18.2s,baz=11,slow=38						
ARE0	**ARCESS Array S**	**19.15**	**259**	eP	**P**	**04 29 14.5**	**-0.6**
TRO	**Tromso**	**19.60**	**266**	eP	**P**	**04 29 18.8**	**-1.6**
KTK1	**Kautokeino**	**19.85**	**261**	eP	**P**	**04 29 21.1**	**-2.0**
	comp=Z,568nm,1.4s						
LVZ	**Lovozero**	**20.02**	**248**c	eP	**P**	**04 29 23.4**	**-1.7**
LVZ				eS	**S**	**04 33 06.9**	**+2.4**
LVZ				pmax	pmax		
	comp=Z,2µm,2.2s						
LVZ				pmax	pmax		
	comp=N,1µm,2.1s						
LVZ				pmax	pmax		
	comp=E,676nm,2.6s						
LVZ				pmax	pmax		
	comp=Z,370nm,1.6s						
LVZ				pmax	pmax		
	comp=N,281nm,1.5s						
LVZ				pmax	pmax		
	comp=E,49nm,1.9s						
LVZ				smax			
	comp=N,672nm,13.4s						
LVZ				smax			
	comp=Z,558nm,10.5s						
LVZ				smax			
	comp=E,1µm,11.1s						
LVZ				smax			
	comp=N,465nm,2.9s						
LVZ				smax			
	comp=Z,1µm,6.2s						
LVZ				smax			
	comp=E,2µm,11.0s						
RES	**Resolute Bay**	**20.17**	**5**	eP	**P**	**04 29 25.4**	**-1.1**
	comp=E,5.4nm,0.7s						
APA	**Apatity**	**20.44**	**249**α	iP	**P**	**04 29 29.0**	**-0.5**
APA				i		04 29 45.0	
APA				iS	**S**	**04 33 18.0**	**+4.8**
APA				pmax	pmax		
	comp=Z,640nm,2.3s						
APA				pmax	pmax		
	comp=Z,4µm,6.0s						
APA				pmax	pmax		
	comp=N,4µm,6.0s						
APA				pmax	pmax		
	comp=E,700nm,6.0s						
APA				MLR	MLR		
	comp=Z,3µm,17.0s,MS4.7						
JMIC	**Jan Mayen**	**20.51**	**293**	LR	LR	04 34 40.6	
	comp=Z,661nm,19.8s,MS4.0,baz=10,slow=29						
SUMG	**Summit**	**20.93**	**320**	eP	**P**	**04 29 34.0**	**-0.5**
	comp=Z,735nm,1.9s						
BILL	**Bilibino**	**21.30**	**94**	eP	**P**	**04 29 38.6**	**+0.4**
BILL				pmax	pmax		
	comp=Z,145nm,1.3s,mb5.2						
BILL	**Bilibino**	**21.30**	**94**	eP	**P**	**04 29 38.6**	**+0.4**
	comp=Z,145nm,1.3s,mb5.2						
SCO	**Scoresbysund**	**21.98**	**305**	iP	**P**	**04 29 45.6**	**+0.5**
MOR8	**Moi Rana**	**23.36**	**268**	eP	**P**	**04 29 58.2**	**-0.2**
	comp=Z,146nm,1.9s,mb5.1						
YAK	**Yakutsk**	**24.52**	**136**	eP	**P**	**04 30 10.3**	**+0.6**
YAK				e*PP		04 30 17.4	
YAK				e		04 30 42.3	
YAK				e		04 33 44.9	
YAK				eS	**S**	**04 34 32.8**	**+5.6**
YAK				eSS	SS	04 35 26.0	+3.8
YAK				e		04 41 07.8	
YAK				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.7						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.8s						
YAK				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.5						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.0s						
YAK				smax			
	comp=E,74nm,7.4s						
YAK				smax			
	comp=N,39nm,6.2s						
YAK				MLR	MLR		
	comp=Z,818nm,21.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,689nm,19.0s						
YAK				MLR	MLR		
	comp=E,269nm,12.0s						
JOF	**Joensuu**	**25.20**	**249**	ep	**P**	**04 30 14.9**	**-1.3**
SEY	**Seymchan**	**25.20**	**111**	eP	**P**	**04 30 21.0**	**+4.8**
SEY				*SP	sP	04 30 25.2	+4.7
SEY				e		04 31 08.4	
SEY				eS	**S**	**04 34 46.9**	**+8.2**
SEY				eSS	SS	04 35 41.1	+2.1
SEY				eSSS	SSS	04 36 00.9	+5.5
SEY				pmax	pmax		
	comp=N,100nm,1.1s						
SEY				pmax	pmax		
	comp=Z,200nm,1.1s,mb5.6						
SEY				pmax	pmax		
	comp=E,30nm,1.0s						
SEY				MLR	MLR		
	comp=Z,2µm,15.0s,MS4.6						
SEY				MLR	MLR		
	comp=N,1µm,20.0s						
SEY				MLR	MLR		
	comp=E,300nm,10.0s						
INK	**Inuvik**	**25.41**	**38**	P	**P**	**04 30 18.5**	**+0.3**
INK				pmax	pmax		
	comp=Z,35nm,0.9s						
INK	**Inuvik**	**25.41**	**38**	P	**P**	**04 30 18.5**	**+0.4**
	comp=Z,34nm,0.9s,mb4.9,baz=3.9,slow=11,SNR=28						
INK	**Inuvik**	**25.41**	**38**	eP	**P**	**04 30 17.9**	**-0.3**
	comp=Z,142nm,1.2s,mb5.4						
TNA	**Tin City**	**25.85**	**70**	eP	**P**	**04 30 23.1**	**+0.9**
	comp=Z,26nm,1.2s,mb4.6						
KAF	**Kangasniemi**	**26.39**	**254**	ep	**P**	**04 30 26.2**	**-1.1**
	comp=Z,13nm,0.8s,mb4.5,baz=12,slow=8.8						
IMA	**Indian Mountai**	**26.40**	**57**	eP	**P**	**04 30 28.0**	**+0.6**
FINES	**FINESS Array B**	**27.07**	**254**	P	**P**	**04 30 32.7**	**-0.9**
	comp=Z,13nm,0.8s,mb4.5,baz=20,slow=11,SNR=38						
FINES				LR	LR	04 41 52.0	
	comp=Z,2µm,19.1s,MS4.6,baz=16,slow=38						
MOL	**Molde**	**27.49**	**273**	ePn	**P**	**04 30 42.3**	**+5.0**
BOD	**Bodaibo**	**27.98**	**154**	eP	**P**	**04 30 39.5**	**-2.4**
BOD				e		04 41 32.5	
COLA	**College**	**27.98**	**52**	eP	**P**	**04 30 43.4**	**+1.6**
COLA				MLR	MLR		
	comp=Z,2µm,19.0s,MS4.7						
PUL	**Pulkovo**	**28.40**	**249**	eP	**P**	**04 30 44.6**	**-1.0**
PUL				eS	**S**	**04 35 31.4**	**+0.4**
PUL				pmax	pmax		
	comp=Z,45nm,0.5s,mb5.3						
PUL				pmax	pmax		
	comp=N,476nm,0.9s						
PUL				pmax	pmax		
	comp=E,273nm,0.7s						
PUL				smax			
	comp=N,672nm,13.1s						
PUL				smax			
	comp=Z,233nm,15.3s						
PUL				smax			
	comp=E,860nm,21.7s						
MA2	**Magadan**	**28.40**	**113**	eP	**P**	**04 30 45.7**	**0.0**
MA2				e		04 31 33.7	
MA2				eS	**S**	**04 35 28.4**	**-2.7**
MA2				eSSS	SSS	04 36 49.4	-25
MA2				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.8						
MA2				MLR	MLR		
	comp=Z,800nm,22.0s,MS4.3						
MA2	**Magadan**	**28.40**	**113**	P	**P**	**04 30 46.4**	**+0.7**
	comp=Z,125nm,1.8s,mb5.2						
NB2	**NORSAR Subarra**	**28.69**	**269**	P	**P**	**04 30 47.1**	**-1.2**
	comp=Z,151nm,1.7s,mb5.5,baz=10.0,slow=8.6						
NB2	**NORSAR Subarra**	**28.69**	**269**	P	**P**	**04 30 47.1**	**-1.2**
NB2				pmax	pmax		
	comp=Z,151nm,1.7s,mb5.5						
NOA	**NORSAR Array B**	**28.69**	**269**	P	**P**	**04 30 47.8**	**-0.5**
	comp=Z,5.8nm,1.0s,mb4.3,baz=14,slow=9.0,SNR=6.2						
NOA				LR	LR	04 41 54.8	
	comp=Z,660nm,20.5s,MS4.2,baz=10.0,slow=36						
DAWY	**Dawson**	**29.31**	**44**	eP	**P**	**04 30 53.1**	**-0.7**
SVE	**Sverdlovsk**	**29.35**	**215**	iP	**P**	**04 30 54.1**	**-0.1**
SVE				eS	**S**	**04 35 52.0**	**+5.7**
SVE				e		04 37 42.0	
SVE				pmax	pmax		
	comp=Z,230nm,2.7s,mb5.4						
SVE				MLR	MLR		
	comp=N,3µm,20.0s,MS5.0						
SVE				MLR	MLR		
	comp=E,2µm,20.0s,MS5.0						
SVE				MLR	MLR		
	comp=Z,5µm,20.0s,MS5.1						
HFS	**Hagfors**	**29.38**	**266**	P	**P**	**04 30 54.1**	**-0.4**
	comp=Z,4.9nm,0.9s,mb4.2,baz=27,slow=9.9,SNR=5.2						
KRAR	**Krasnoyarsk**	**29.39**	**179**	eP	**P**	**04 30 52.2**	**-2.4**
KRAR				e		04 31 45.0	
KRAR				i		04 33 57.8	
KRAR				iS	**S**	**04 35 46.9**	**0.0**
CLNS	**Chul'man**	**29.44**	**142**	eP	**P**	**04 30 53.6**	**-1.4**
CLNS				e*PP	pP	04 31 01.2	+3.2
CLNS				ePPP	PPP	04 31 51.9	-12
CLNS				e		04 34 00.2	
CLNS				eS	**S**	**04 35 42.4**	**-5.3**
CLNS				eSS	SS	04 37 12.4	-7.4
CLNS				pmax	pmax		
	comp=Z,21nm,1.6s,mb4.6						
CLNS				pmax	pmax		
	comp=N,14nm,1.3s						
CLNS				pmax	pmax		
	comp=E,3.0nm,0.9s						
CLNS				smax			
	comp=N,393nm,13.0s						
CLNS				smax			
	comp=Z,139nm,12.7s						
CLNS				smax			
	comp=E,74nm,12.4s						
CLNS				MLR	MLR		
	comp=Z,2µm,16.0s,MS4.8						
CLNS				MLR	MLR		
	comp=N,1µm,15.0s,MS4.7						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS4.7						
THY	**Trims Highway**	**29.57**	**50**	eP	**P**	**04 30 56.6**	**+0.5**
VSU	**Vasula**	**29.97**	**252**d	iP	**P**	**04 30 58.1**	**-1.7**
MENT	**Mentasta**	**30.17**	**49**	eP	**P**	**04 31 02.2**	**+0.7**
NVS	**Novosibirsk**	**30.62**	**190**	eP	**P**	**04 31 03.9**	**-1.6**
NVS				eS	**S**	**04 36 11.0**	**+4.5**
NVS				pmax	pmax		
	comp=Z,255nm,2.1s,mb5.7						
NVS				pmax	pmax		
	comp=N,106nm,1.8s						
NVS				pmax	pmax		
	comp=E,64nm,1.8s						
NVS				smax			
	comp=N,49nm,1.8s						
NVS				smax			
	comp=E,102nm,1.8s						
PECR	**Pechory**	**30.82**	**233**	eP	**P**	**04 31 06.0**	**-1.3**
PECR				eS	**S**	**04 36 14.0**	**+4.4**
PECR				pmax	pmax		
	comp=Z,240nm,2.0s,mb5.7						
PECR				pmax	pmax		
	comp=Z,600nm,4.0s						
PECR				MLR	MLR		
	comp=N,3µm,19.0s,MS5.1						
PECR				MLR	MLR		
	comp=Z,5µm,19.0s,MS5.2						
PECR				MLR	MLR		
	comp=E,2µm,16.0s,MS5.1						
PMR	**Palmer**	**31.16**	**54**	eP	**P**	**04 31 10.2**	**0.0**
PMR				MLR	MLR		
	comp=Z,2µm,20.0s,MS4.7						
SVW2	**Sparrevohn**	**31.20**	**60**	eP	**P**	**04 31 12.3**	**+1.7**
ZAL	**Zalesovo**	**31.50**	**188**	P	**P**	**04 31 12.5**	**-0.8**
	comp=Z,1.7nm,0.4s,mb4.2,baz=128,slow=9.8,SNR=5.5						
ZAL				LR	LR	04 45 46.4	
	comp=Z,5µm,18.2s,MS5.2,baz=105,slow=40						
ZAL	**Zalesovo**	**31.50**	**188**	P	**P**	**04 31 12.5**	**-0.8**
ZAL				LR	LR	04 45 46.4	
FIB	**Fire Island**	**31.51**	**55**	eP	**P**	**04 31 14.0**	**+0.7**
DIV	**Divide**	**31.84**	**51**	eP	**P**	**04 31 16.8**	**+0.6**
	comp=Z,121nm,1.6s,mb5.5						
MOS	**Moscow**	**31.84**	**240**	eP	**P**	**04 31 15.9**	**-0.4**
MOS				e*PP	pP	04 31 22.1	+2.8
MOS				e		04 32 26.4	
MOS				eS	**S**	**04 36 27.5**	**+1.9**
MOS				pmax	pmax		
	comp=Z,51nm,0.6s,mb5.5						
YKW3	**Yellowknife Ar**	**31.95**	**23**	eP	**P**	**04 31 16.0**	**-1.1**
YKA	**Yellowknife Ar**	**32.02**	**23**	P	**P**	**04 31 16.7**	**-1.0**
	comp=Z,10nm,0.9s,mb4.7,baz=354,slow=8.3,SNR=110						
YKA				PcP	PcP	04 34 06.6	-1.1
	comp=Z,6.1nm,0.8s,baz=339,slow=3.2,SNR=17						
YKA				LR	LR	04 44 13.9	
	comp=Z,4µm,19.4s,MS5.1,baz=340,slow=36						
YKA	**Yellowknife Ar**	**32.02**	**23**	P	**P**	**04 31 16.8**	**-1.0**
YKA				PcP	PcP	04 34 06.6	-1.1
YKA				LR	LR	04 44 13.9	
CHKZ	**Chkalovo**	**32.09**	**204**	eP	**P**	**04 31 18.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**32.42**	**51**	eP	**P**	**04 31 22.3**	**+1.1**
OBN	**Obninsk**	**32.54**	**241**d	iP	**P**	**04 31 20.8**	**-1.6**
OBN				e		04 31 27.6	
OBN				i		04 32 33.6	
OBN				iS	**S**	**04 36 39.9**	**+3.4**
OBN				iSS	SS	04 38 36.5	+3.7
OBN				pmax	pmax		
	comp=Z,89nm,1.6s,mb5.5						
OBN				MLR	MLR		
	comp=Z,2µm,26.0s,MS4.7						
OBN	**Obninsk**	**32.54**	**241**	eP	**P**	**04 31 21.7**	**-0.7**
	comp=Z,183nm,1.5s,mb5.8						
OBN				LR	LR		
	comp=Z,391nm,19.0s,MS4.1						
BVA0	**Borovoye Array**	**32.75**	**204**	iP	**P**	**04 31 23.6**	**-0.6**
BVA0				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.1						
BVAR	**Borovoye Array**	**32.75**	**204**	P	**P**	**04 31 23.8**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.5,slow=7.4,SNR=30						
IRK	**Irkutsk**	**33.29**	**166**	eP	**P**	**04 31 26.7**	**-2.2**
IRK				pmax	pmax		
	comp=Z,85nm,2.5s,mb5.2						
MOY	**Mondy**	**33.81**	**170**	eP	**P**	**04 31 33.7**	**+0.3**
MOY				e		04 32 49.9	
MOY				pmax	pmax		
	comp=Z,95nm,1.8s,mb5.4						
MNK	**Minsk**	**33.82**	**250**⇑	eP	**P**	**04 31 31.0**	**-2.5**
TLY	**Talaya**	**33.84**	**167**	eP	**P**	**04 31 33.3**	**-0.4**
TLY				eS	**S**	**04 37 02.6**	**+5.9**
TLY				pmax	pmax		
	comp=Z,22nm,1.6s,mb4.8						
TLY				MLR	MLR		
	comp=Z,1µm,17.0s,MS4.8						
TLY	**Talaya**	**33.84**	**167**	eP	**P**	**04 31 33.0**	**-0.7**
	comp=Z,14nm,1.1s,mb4.8						
SUW	**Suwalki**	**34.67**	**255**	eP	**P**	**04 31 39.7**	**-1.2**
SUW				eS	**S**	**04 37 05.2**	**-4.4**
SUW				MLR	MLR	04 45 32.9	
	comp=Z,2µm,22.2s,MS4.9						
KURK	**Kurchatov**	**34.83**	**195**	P	**P**	**04 31 41.1**	**-1.2**
	comp=Z,100nm,0.9s,mb5.8,SNR=13						
KURK	**Kurchatov**	**34.83**	**195**	iP	**P**	**04 31 41.4**	**-0.9**
KURK				i		04 31 41.7	
KURK				pmax	pmax		
	comp=Z,76nm,2.6s,mb5.2						
KURK	**Kurchatov**	**34.83**	**195**	eP	**P**	**04 31 41.0**	**-1.2**
	comp=Z,18nm,1.0s,mb5.0						
ZAK	**Zakamensk**	**35.13**	**167**	eP	**P**	**04 31 44.3**	**-0.6**
DLBC	**Dease Lake**	**35.43**	**37**	P	**P**	**04 31 48.3**	**+1.0**
	comp=Z,14nm,0.9s,mb4.9,baz=340,slow=7.9,SNR=26						
DLBC	**Dease Lake**	**35.43**	**37**	eP	**P**	**04 31 48.5**	**+1.2**
PET	**Petropavlovsk**	**35.52**	**107**c	eP	**P**	**04 31 50.7**	**+2.6**
PET				i		04 33 12.7	
PET				ePPP	PPP	04 33 30.1	+2.9
PET				eS	**S**	**04 37 30.8**	**+8.0**
PET				eSS	SS	04 39 48.3	+7.0
PET				pmax	pmax		
	comp=Z,100nm,11.0s						
PET				pmax	pmax		
	comp=Z,800nm,7.7s						
PET				smax			
	comp=N,400nm,29.6s						
PET				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.6						
PET				MLR	MLR		
	comp=N,1µm,18.0s						
PET				MLR	MLR		
	comp=Z,1µm,20.0s						
EKA	**Eskdalemuir Ar**	**35.54**	**282**	P	**P**	**04 31 48.4**	**+0.1**
	comp=Z,5.3nm,1.0s,mb4.4,baz=10,slow=9.3,SNR=5.2						
VOR	**Voronezh**	**35.72**	**238**	eP	**P**	**04 31 49.0**	**-0.8**
VOR				ePPP	PPP	04 33 17.0	-13
VOR				pmax	pmax		
	comp=N,130nm,1.8s						
VOR				pmax	pmax		
	comp=Z,140nm,1.8s,mb5.6						
BSEG	**Bad Segeberg**	**35.81**	**268**	eP	**P**	**04 31 50.5**	**0.0**
GKP	**Gorka Klasztor**	**35.89**	**261**	eP	**P**	**04 31 51.2**	**0.0**
GKP				eS	**S**	**04 37 23.7**	**-4.8**
GKP				MLR	MLR	04 45 55.8	
	comp=Z,2µm,24.1s,MS4.7						
FCC	**Fort Churchill**	**36.17**	**5**	eP	**P**	**04 31 52.4**	**-1.2**
FCC				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
FCC	**Fort Churchill**	**36.17**	**5**	eP	**P**	**04 31 52.4**	**-1.2**
	comp=Z,21nm,1.1s,mb5.0						
HIA	**Hailar**	**36.76**	**149**	eP	**P**	**04 31 59.0**	**+0.4**
HIA				pmax	pmax		
	comp=Z,100nm,2.1s						
HIA				MLR	MLR		
	comp=Z,2µm,20.0s						
HIA	**Hailar**	**36.76**	**149**	eP	**P**	**04 31 59.0**	**+0.4**
	comp=Z,100nm,2.1s,mb5.3						
HIA				LR	LR		
	comp=Z,2µm,20.0s,MS4.8						
KLR	**Kul'dur**	**37.40**	**136**	eP	**P**	**04 32 01.5**	**-2.5**
KLR				e		04 32 01.8	
KLR				e		04 33 27.5	
KLR				eS	**S**	**04 37 45.5**	**-6.2**
KLR				e		04 40 25.0	
KLR				MLR	MLR		
	comp=E,800nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1µm,13.0s,MS4.9						
ULN	**Ulaanbaatar**	**37.73**	**163**	eP	**P**	**04 32 07.1**	**+0.3**
ULN				pmax	pmax		
	comp=Z,41nm,1.5s,mb4.9						
ULN				MLR	MLR		
	comp=Z,1µm,20.0s,MS4.7						
ULN	**Ulaanbaatar**	**37.73**	**163**	eP	**P**	**04 32 07.1**	**+0.3**
	comp=Z,41nm,1.5s,mb4.9						
ULN				LR	LR		
	comp=Z,1µm,20.0s,MS4.7						
SONM	**Songino Array**	**37.75**	**164**	P	**P**	**04 32 07.5**	**+0.6**
	comp=Z,4.9nm,0.8s,mb4.3,baz=346,slow=7.1,SNR=35						
SONM				PcP	PcP	04 34 24.3	-0.1
	comp=Z,1.3nm,0.8s,baz=335,slow=2.5,SNR=4.5						
CLZ	**Clausthal**	**37.88**	**267**	eP	**P**	**04 32 08.5**	**+0.5**
	comp=Z,122nm,1.7s,mb5.4						
WTSB	**Winterswijk**	**38.05**	**271**	eP	**P**	**04 32 09.5**	**+0.1**
	comp=Z,102nm,2.6s,mb5.1						
CLL	**Collm**	**38.19**	**265**	iP	**P**	**04 32 09.9**	**-0.7**
CLL				i		04 32 16.9	
CLL				pmax	pmax		
	comp=Z,62nm,1.7s,mb5.1						
CLL	**Collm**	**38.19**	**265**	iP	**P**	**04 32 09.9**	**-0.7**
	comp=Z,62nm,1.7s,mb5.1						
CLL				i		04 32 16.9	
CLL				i		04 32 27.5	
CLL	**Collm**	**38.19**	**265**	P	**P**	**04 32 09.9**	**-0.7**
	comp=Z,logA/T=1.6,mb5.1						
CLL				i*PP	pP	04 32 16.9	+3.3
CLL				e*SP	sP	04 32 21.0	+6.2
CLL				i		04 32 27.5	
CLL				iPP	PP	04 33 41.3	+0.1
CLL				ePCP	PcP	04 34 24.0	-1.7
KSP	**Ksiaz**	**38.38**	**261**	eP	**P**	**04 32 11.6**	**-0.6**
KSP				e*PP	pP	04 32 19.1	+3.9
KSP				MLR	MLR		
	comp=Z,2µm,24.0s,MS4.9						
KSP	**Ksiaz**	**38.38**	**261**	eP	**P**	**04 32 11.8**	**-0.4**
KSP				MLR	MLR	04 47 20.1	
	comp=Z,2µm,24.0s,MS4.9						
BRG	**Berggiesshubel**	**38.54**	**264**	eP	**P**	**04 32 13.6**	**0.0**
BRG				e		04 32 20.2	
BRG				pmax	pmax		
	comp=Z,72nm,1.7s,mb5.1						
BRG				MLR	MLR		
	comp=Z,1µm,14.0s,MS5.0						
BRG	**Berggiesshubel**	**38.54**	**264**	eP	**P**	**04 32 13.6**	**0.0**
	comp=Z,72nm,1.7s,mb5.1						
BRG				e		04 32 20.2	
BRG				eS	**S**	**04 38 19.0**	**+10**
BRG				LR	LR		
	comp=Z,1µm,14.0s,MS5.0						
MKAR	**Makanchi Array**	**38.69**	**190**	iP	**P**	**04 32 13.3**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,88nm,1.2s						
OJC	**Ojcow**	**38.71**	**258**	eP	**P**	**04 32 14.7**	**-0.3**
UPC	**Upice**	**38.73**	**261**	eP	**P**	**04 32 15.2**	**0.0**
UPC				epP	pP	04 32 23.1	+4.9
UPC				ePP	PP	04 33 57.5	+10
PVCC	**Panska Ves**	**38.83**	**263**	eP	**P**	**04 32 23.1**	**+7.1**
DPC	**Dobruska-Polom**	**38.87**	**261**	eP	**P**	**04 32 16.3**	**0.0**
DPC				epP	pP	04 32 23.2	+3.9
DPC				ePP	PP	04 33 47.5	-1.7
DPC				AMS	AMS	04 57 10.0	
	comp=Z,1µm,13.1s						
MOX	**Moxa**	**38.96**	**266**	eP	**P**	**04 32 17.3**	**+0.2**
MOX				pmax	pmax		
	comp=Z,152nm,1.8s,mb5.4						
MOX				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.3						
MOX	**Moxa**	**38.96**	**266**	eP	**P**	**04 32 17.3**	**+0.2**
	comp=Z,152nm,1.8s,mb5.4						
MOX				LR	LR		
	comp=Z,500nm,20.0s,MS4.3						
MOX	**Moxa**	**38.96**	**266**	iP	**P**	**04 32 17.3**	**+0.2**
	comp=Z,logA/T=1.9,mb5.4						
MOX				L		04 53 24.0	
RAC	**Raciborz**	**38.98**	**259**	eP	**P**	**04 32 17.5**	**+0.3**
RAC				MLR	MLR		
	comp=Z,2µm,21.3s,MS4.8						
RAC	**Raciborz**	**38.98**	**259**	eP	**P**	**04 32 17.5**	**+0.3**
RAC				LME		04 45 45.4	
RAC				MLR	MLR	04 48 17.9	

RAC LMN 04 48 24.2
comp=Z,2μm,20.9s
KWP Kalwaria 39.06 254 *e*P **P** **04 32 18.0 +0.1**
KWP *e*PP PP 04 33 44.2 -7.2
KWP Kalwaria 39.06 254 *e*P **P** **04 32 18.0 +0.1**
KWP *e*PP PP 04 33 44.2 -7.3
KWP MLR MLR 04 48 36.9
comp=Z,2μm,21.4s,MS5.0
OKC Ostrava-Krasne 39.23 259 *e*P **P** **04 32 19.0 -0.3**
OKC *e*pP pP 04 32 26.5 +4.2
OKC *e*PP PP 04 33 39.0 -14
OKC AMS AMS 04 54 30.0
comp=Z,1μm,12.8s
NKC Novy Kostel 39.30 265 *e*P **P** **04 32 20.1 +0.2**
NKC *e*pP pP 04 32 27.3 +4.4
NKC AMS AMS 04 55 10.0
comp=Z,1μm,13.7s
HGN Heimansgroeve 39.32 272 *e*P **P** **04 32 18.8 -1.3**
comp=Z,57nm,0.4s,mb5.6
HGN *e*PP PP 04 33 50.4 -3.9
HGN *e*S **S** **04 38 26.7 +6.0**
HGN *ex* x 04 41 22.2
MORC Moravsky Berou 39.34 260 P **P** **04 32 20.5 +0.3**
MORC Moravsky Berou 39.34 260 *e*P **P** **04 32 19.8 -0.4**
comp=Z,62nm,1.5s,mb5.1
PRU Pruhonice 39.37 263 *e*P **P** **04 32 20.9 +0.4**
PRU *e*pP pP 04 32 27.3 +3.8
PRU AMS AMS 04 55 20.0
comp=Z,1μm,13.9s
NIE Niedzica 39.46 257 *e*P **P** **04 32 19.7 -1.6**
TNS Taunus Mts 39.65 269 *e*P **P** **04 32 23.1 +0.3**
TNS pmax pmax
comp=Z,184nm,2.2s,mb5.4
TNS Taunus Mts 39.65 269 *e*P **P** **04 32 23.1 +0.3**
comp=Z,184nm,2.2s,mb5.4
KOLS Kolonicke sedl 39.79 255 *e*P **P** **04 32 24.6 +0.6**
KOLS *e*PP PP 04 33 56.9 -2.4
SCHQ Schefferville 39.84 341 P **P** **04 32 24.4 +0.1**
comp=Z,2.8nm,0.9s,baz=30,slow=10.0,SNR=4.6
SCHQ LR LR 04 49 16.5
comp=Z,608nm,19.2s,baz=1.4,slow=37
VRAC Vranov 39.88 261 ⇑P **P** **04 32 25.3 +0.6**
VRAC Vranov 39.88 261 P **P** **04 32 25.1 +0.4**
comp=Z,9.4nm,0.8s,mb4.6,baz=5.6,slow=9.4,SNR=17
VRAC Vranov 39.88 261 P **P** **04 32 25.1 +0.4**
CRVS Cervenica-Dubn 39.88 256 *e*P **P** **04 32 27.2 +2.4**
CRVS Cervenica-Dubn 39.88 256 *e* **P** **04 32 27.2 +2.4**
GRA1 Grafenberg Arr 39.94 266 *e*P **P** **04 32 25.7 +0.5**
comp=Z,141nm,1.6s,mb5.5
GRA1 *e* 04 32 32.8
GRA1 *e* 04 32 38.5
GRA1 *e* 04 32 43.3
GRA1 *e*S **S** **04 38 40.0 +10**
GRA1 LR LR
comp=Z,600nm,18.3s,MS4.5
GRF Grafenberg Arr 39.94 266 *e*P **P** **04 32 25.7 +0.5**
GRF *e* 04 32 32.8
GRF pmax pmax
comp=Z,141nm,1.6s,mb5.5
GRF MLR MLR
comp=Z,600nm,18.3s,MS4.5
ABH Alteburg 40.06 270 *e*P **P** **04 32 27.4 +1.2**
GIVF Givet 40.07 273 *e*P **P** **04 32 25.7 -0.6**
UZH Uzhgorod 40.09 255 *i* P **P** **04 32 26.0 -0.4**
UZH *e*S **S** **04 38 30.0 -2.3**
BAIF Baives 40.16 273 *e*P **P** **04 32 26.8 -0.2**
comp=Z,172nm,1.4s,mb5.3
BAIF Baives 40.16 273 *e*P **P** **04 32 26.8 -0.2**
BAIF pmax pmax
comp=Z,86nm,1.4s,mb5.3
TOD Tromm 40.23 269 *e*P **P** **04 32 28.3 +0.7**
RUP Ruppelstein 40.28 270 *e*P **P** **04 32 29.1 +1.1**
KHC Kasperske Hory 40.30 264 *e*P **P** **04 32 28.5 +0.3**
KHC *e*pP pP 04 32 36.1 +4.9
KHC *e*PP PP 04 34 06.1 +1.4
KHC AMS AMS 04 55 40.0
comp=Z,1μm,11.9s
WET Wettzell 40.35 264 *e*P **P** **04 32 29.2 +0.6**
WET pmax pmax
comp=Z,107nm,2.1s,mb5.2
WET Wettzell 40.35 264 *e*P **P** **04 32 29.2 +0.6**
comp=Z,107nm,2.1s,mb5.2
YSS Yuzh-Sakhalins 40.37 125 *e*P **P** **04 32 31.1 +2.3**
YSS pmax pmax
comp=Z,82nm,1.1s,mb5.4
YSS Yuzh-Sakhalins 40.37 125 *e*P **P** **04 32 31.1 +2.3**
comp=Z,82nm,1.1s,mb5.4
KECS Kecovo 40.38 257 *e*P **P** **04 32 29.4 +0.6**
KECS *e* 04 32 36.2
WLF Walferdange 40.39 271 *e*P **P** **04 32 29.6 +0.7**
WLF pmax pmax
comp=Z,40nm,1.4s,mb5.0
WLF Walferdange 40.39 271 *e*P **P** **04 32 29.6 +0.7**
comp=Z,40nm,1.4s,mb5.0
VYHS Vyhne 40.50 258 *i* P **P** **04 32 30.3 +0.5**
VYHS *e*sP sP 04 32 37.0 +2.9
KTD Kalmit 40.57 269 *e*P **P** **04 32 30.7 +0.3**
GEC2 GERESS Array S 40.58 263 *e*P **P** **04 32 31.0 +0.6**
GEC2 pmax pmax
comp=Z,112nm,2.0s,mb5.2
GEC2 GERESS Array S 40.58 263 *e*P **P** **04 32 31.0 +0.6**
comp=Z,112nm,2.0s,mb5.2
GERES GERESS Array B 40.58 263 P **P** **04 32 31.3 +0.8**
comp=Z,5.1nm,0.8s,mb4.2,baz=18,slow=8.4,SNR=28
GERES PP PP 04 34 09.8 +2.4
comp=Z,4.7nm,1.2s,baz=18,slow=8.4,SNR=3.7
SMOL Smolenice 40.60 260 *e*P **P** **04 32 31.7 +1.1**
SMOL *e* 04 32 38.8
BURAR Bucovina Array 40.86 252 P **P** **04 32 33.5 +0.7**
LANF Langenberg 40.93 269 *e*P **P** **04 32 34.5 +1.1**
ZST Bratislava 40.94 260 *e*P **P** **04 32 34.5 +1.1**
ZST *e* 04 32 41.6
ZST *e* 04 32 46.9
PSZ Piszkesteto 40.99 257 ⇑P **P** **04 32 35.5 +1.7**
PSZ Piszkesteto 40.99 257 *e*P **P** **04 32 34.1 +0.2**
comp=Z,105nm,1.5s,mb5.2
KIS Kishinev 41.20 248α *i*P **P** **04 32 33.0 -2.5**
KIS *e* 04 34 10.0
KIS *e* 04 34 38.0
KIS *e*S **S** **04 38 44.0 -4.8**
KIS *e*SS SS 04 41 40.0 -6.9
KIS pmax pmax
comp=Z,200nm,1.0s,mb5.7
KIS pmax pmax
comp=Z,400nm,5.0s
KIS MLR MLR
comp=N,2μm,15.0s,MS5.2
KIS MLR MLR
comp=Z,2μm,15.0s,MS5.0
KIS MLR MLR
comp=E,1μm,12.0s,MS5.2
SRO Srobarova 41.22 259 *e*P **P** **04 32 36.9 +1.2**
STR Strasbourg 41.33 269 *e*P **P** **04 32 38.2 +1.6**
EDM Edmonton 41.34 23 *e*P **P** **04 32 35.4 -1.2**
FUR Furstenfeldbru 41.45 266 *e*P **P** **04 32 38.2 +0.6**
FUR pmax pmax
comp=Z,194nm,2.2s,mb5.3
FUR Furstenfeldbru 41.45 266 *e*P **P** **04 32 38.2 +0.6**
comp=Z,194nm,2.2s,mb5.3
MOA Molln 41.52 263 ⇑*i*P **P** **04 32 38.2 +0.2**
comp=Z,40nm,1.6s,mb4.8
WLS Welschbruch 41.53 270 *e*P **P** **04 32 39.3 +1.2**
BFO Black Forest 41.53 269 *e*P **P** **04 32 38.7 +0.6**
BFO pmax pmax
comp=Z,235nm,2.5s,mb5.4
BFO Black Forest 41.53 269 *e*P **P** **04 32 38.7 +0.6**
comp=Z,235nm,2.5s,mb5.4
CDF Champ du Feu 41.54 270 *e*P **P** **04 32 38.3 +0.1**
comp=Z,233nm,1.7s,mb5.2
CDF Champ du Feu 41.54 270 *e*P **P** **04 32 38.3 +0.1**
CDF pmax pmax
comp=Z,116nm,1.7s,mb5.2
WMQ Urumqi 41.60 184 ⇑*i*P **P** **04 32 40.3 +1.6**
WMQ XP sP 04 32 46.5 +3.5
WMQ PP PP 04 34 20.0 +1.8
WMQ PCP PcP 04 34 38.0 +1.5
WMQ S **S** **04 38 57.0 +2.3**
WMQ XS 04 39 06.0
WMQ SS SS 04 41 59.0 +4.5
WMQ SCS ScS 04 42 41.0 +0.6
WMQ AMB AMB
comp=Z,51nm,1.4s,mb5.0
WMQ AMB AMB
comp=Z,729nm,4.4s
WMQ LR LR
comp=N,4μm,20.8s,MS5.3
WMQ LR LR
comp=E,1μm,16.2s,MS5.3
WMQ LR LR
comp=Z,4μm,21.0s,MS5.2
MEZF Maizieres J'vi 41.64 272 *e*P **P** **04 32 39.1 +0.1**
SPAK Spaichingen 41.72 268 *e*P **P** **04 32 41.0 +1.3**
ECH Echery 41.75 270 *e*P **P** **04 32 41.0 +1.1**
LIBD Limburg 41.77 269 *e*P **P** **04 32 41.5 +1.4**
THEF They Montfort 41.83 271 *e*P **P** **04 32 41.9 +1.3**
FLN La Foliniere 41.84 278 *e*P **P** **04 32 39.7 -0.9**
comp=Z,54nm,1.2s,mb4.8
FLN *e*R
comp=Z,604nm,17.0s
FLN La Foliniere 41.84 278 *e*P **P** **04 32 39.7 -0.9**
FLN pmax pmax
comp=Z,27nm,1.2s,mb4.8
FLN MLR MLR
comp=Z,600nm,17.0s,MS4.5
MDJ Mudanjiang 41.88 139 P **P** **04 32 40.3 -0.7**
MDJ AP pP 04 32 43.3 -0.7
MDJ PP PP 04 34 18.1 -3.1
MDJ PCP PcP 04 34 34.3 -3.1
MDJ PCS 04 38 26.3
MDJ S **S** **04 39 00.9 +2.1**
MDJ AMB AMB
comp=Z,22nm,1.6s,mb4.5
MDJ AMB AMB
comp=Z,242nm,3.9s
MDJ LR LR
comp=N,677nm,16.1s,MS4.8
MDJ LR LR
comp=E,632nm,13.1s,MS4.8
MDJ LR LR
comp=Z,830nm,15.1s,MS4.7
MDJ Mudanjiang 41.88 139 *e*P **P** **04 32 41.3 +0.3**
comp=Z,89nm,1.6s,mb5.2
MDJ *e* 04 32 48.6
LDF La Druitiere 41.98 277 *e*P **P** **04 32 40.7 -1.0**
comp=Z,249nm,1.9s,mb5.2
LDF La Druitiere 41.98 277 *e*P **P** **04 32 40.7 -1.0**
LDF pmax pmax
comp=Z,125nm,1.9s,mb5.2
ARSA Arzberg 42.01 261 ⇑*i*P **P** **04 32 40.8 -1.2**
comp=Z,18nm,1.8s,mb4.4
FELD Feldberg 42.01 269 *e*P **P** **04 32 43.0 +1.0**
HAU Haudompre 42.02 271 *e*P **P** **04 32 42.1 0.0**
comp=Z,91nm,1.1s,mb5.0
HAU *e*R
comp=Z,813nm,19.5s
HAU Haudompre 42.02 271 *e*P **P** **04 32 42.1 0.0**
HAU pmax pmax
comp=Z,46nm,1.1s,mb5.0
HAU MLR MLR
comp=Z,810nm,19.5s,MS4.6
GOF Gofitskoye 42.10 233 ⇑*i*P **P** **04 32 43.1 +0.3**
GOF pmax pmax
comp=Z,170nm,1.6s,mb5.4
MOF Molkenrain 42.11 270 *e*P **P** **04 32 43.9 +1.1**
HINF Hinteralfeld 42.17 270 *e*P **P** **04 32 43.1 -0.2**
comp=Z,92nm,1.4s,mb4.9
HINF Hinteralfeld 42.17 270 *e*P **P** **04 32 43.1 -0.2**
HINF pmax pmax
comp=Z,46nm,1.4s,mb4.9
GRR Gorron 42.24 278 *e*P **P** **04 32 43.0 -0.9**
comp=Z,98nm,1.3s,mb5.0
GRR Gorron 42.24 278 *e*P **P** **04 32 43.0 -0.9**
GRR pmax pmax
comp=Z,49nm,1.3s,mb5.0
MOTA Moosalm 42.28 266 ⇑*i*P **P** **04 32 45.3 +1.0**
AAA Alma-Ata 42.31 196 *e*P **P** **04 32 47.0 +2.4**
AAA *e* 04 34 25.0
AAA S **S** **04 39 12.0 +6.9**
AAA pmax pmax
comp=Z,500nm,6.0s
AAA MLR MLR
comp=Z,500nm,14.0s,MS4.5
WTTA Wattenberg 42.32 265 ⇑*i*P **P** **04 32 45.7 +1.1**
comp=Z,58nm,1.8s,mb4.9
WTTA Wattenberg 42.32 265 ⇑*i*P **P** **04 32 45.7 +1.1**
WTTA pmax pmax
comp=Z,58nm,1.8s,mb4.9
KBA Koelnbreinsper 42.36 264 ⇓*i*P **P** **04 32 45.7 +0.8**
comp=Z,45nm,1.5s,mb4.9
KBA Koelnbreinsper 42.36 264 ⇓*i*P **P** **04 32 45.7 +0.8**
KBA pmax pmax
comp=Z,45nm,1.5s,mb4.9
DAVA Damuels 42.44 267 ⇓*i*P **P** **04 32 46.4 +0.8**
comp=Z,38nm,1.8s,mb4.7
BBS Basel-Blauen 42.46 269 *e*P **P** **04 32 46.4 +0.6**
CN2 Changchun 42.48 143 *e*P **P** **04 32 45.8 -0.1**
CN2 *e*XP sP 04 32 52.9 +2.7
CN2 PP PP 04 34 26.0 -1.3
CN2 *e*S S **04 39 09.9 +2.3**
CN2 SS SS 04 42 11.9 +0.9
CN2 AMB AMB
comp=Z,30nm,1.3s,mb4.8
CN2 LR LR
comp=N,2μm,16.0s,MS5.1
CN2 LR LR
comp=E,900nm,16.0s,MS5.1
CN2 LR LR
comp=Z,1μm,18.0s,MS4.9
VRI Vrincioaia 42.48 250 ⇓P **P** **04 32 45.4 -0.5**
ROSF Rostrenen 42.49 280 *e*P **P** **04 32 45.2 -0.8**
comp=Z,83nm,1.4s,mb4.9
ROSF Rostrenen 42.49 280 *e*P **P** **04 32 45.2 -0.8**
ROSF pmax pmax
comp=Z,42nm,1.4s,mb4.9
SGMF Saint Gilles 42.51 280 *e*P **P** **04 32 45.5 -0.7**
comp=Z,100nm,1.2s,mb5.1
SGMF Saint Gilles 42.51 280 *e*P **P** **04 32 45.5 -0.7**
SGMF pmax pmax
comp=Z,50nm,1.2s,mb5.1
LOMF Lomont 42.63 270 *e*P **P** **04 32 48.2 +1.1**
PERS Pernice 42.65 262 *i* P **P** **04 32 48.7 +1.4**
PKSM Moragy 42.78 258 ⇑P **P** **04 32 49.7 +1.3**
FRU Bishkek 42.81 199 *e*P **P** **04 32 48.6 0.0**
FRU *e* 04 34 29.6
FRU *e*S **S** **04 39 15.0 +2.6**
FRU pmax pmax
comp=Z,360nm,2.0s,mb5.8
FRU pmax pmax
comp=Z,1μm,4.0s
FRU MLR MLR
comp=N,8μm,17.0s
FRU MLR MLR
comp=Z,8μm,17.0s,MS5.7
OBKA Obir 42.83 262 ⇑*i*P **P** **04 32 49.6 +0.9**
comp=Z,48nm,1.8s,mb4.9
SIM Simferopol' 42.83 242 P **P** **04 32 49.3 +0.5**
SIM *e**PP pP 04 32 56.0 +4.2
SIM *e* 04 34 26.0
SIM *e*S **S** **04 39 16.0 +3.2**
SIM *e*SSS SSS 04 42 24.0 -41
SIM pmax pmax
comp=Z,300nm,13.0s
FVI Forni Avoltri 42.89 264 *e*P **P** **04 32 50.0 +0.8**
QUIF Quistinic 42.90 280 *e*P **P** **04 32 48.8 -0.5**
comp=Z,86nm,1.3s,mb5.0
QUIF Quistinic 42.90 280 *e*P **P** **04 32 48.8 -0.5**
QUIF pmax pmax
comp=Z,43nm,1.3s,mb5.0
MLR Muntele Rosu 42.92 250 P **P** **04 32 51.4 +1.9**
MLR 04 34 35.6
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR pmax pmax
comp=Z,11nm,1.2s
MLR MLR MLR
comp=Z,1μm,19.4s
MLR Muntele Rosu 42.92 250 P **P** **04 32 51.4 +1.9**
comp=Z,6.9nm,0.7s,mb4.5,baz=329,slow=4.6
MLR PP PP 04 34 35.6 +4.0
comp=Z,11nm,1.2s,baz=8.0,slow=8.1,SNR=3.1
MLR LR LR 04 52 13.8
comp=Z,1μm,19.4s,MS4.8,baz=156,slow=38
MLR Muntele Rosu 42.92 250 ⇑P **P** **04 32 51.3 +1.8**
MLR Muntele Rosu 42.92 250 ⇑P **P** **04 32 51.3 +1.8**
DAVOX Davos 42.94 267 P **P** **04 32 51.0 +1.3**
comp=Z,5.2nm,0.9s,mb4.3,baz=342,slow=8.9,SNR=11
AAK Ala-Archa 43.01 199 P **P** **04 32 50.0 -0.3**
comp=Z,201nm,1.9s,mb5.5,SNR=17
AAK Ala-Archa 43.01 199 *i* P **P** **04 32 50.9 +0.6**
AAK pmax pmax
comp=Z,82nm,2.5s,mb5.0
AAK MLR MLR
comp=Z,7μm,19.0s,MS5.6
AAK Ala-Archa 43.01 199 *e*P **P** **04 32 49.5 -0.7**
comp=Z,218nm,1.9s,mb5.6
AAK LR LR
comp=Z,2μm,19.0s,MS4.9
PTCC Patocco-Chiusa 43.03 263 *e*P **P** **04 32 50.7 +0.3**
CFR Carcaliu 43.06 248 P **P** **04 32 51.0 +0.4**
HYF Humbligny 43.06 274 *e*P **P** **04 32 50.4 -0.3**
BZS Buzias 43.14 255 P **P** **04 32 52.2 +0.9**
GMNA Gemona 43.17 263 *e*P **P** **04 32 52.1 +0.6**
ROBS Robic 43.17 263 *e*P **P** **04 32 52.6 +1.0**
ROBS *e* 04 32 59.0
SSF Saint Saulge 43.20 273 *e*P **P** **04 32 51.1 -0.6**
SSF pmax pmax
comp=Z,20nm,1.0s,mb4.8
SSF Saint Saulge 43.20 273 *e*P **P** **04 32 51.1 -0.6**
comp=Z,20nm,1.0s,mb4.8
BRMO Bormio 43.20 266 *e*P **P** **04 32 53.7 +1.9**
LJU Ljubljana 43.29 262 *e*P **P** **04 32 52.5 0.0**
LJU *e*PP PP 04 34 34.0 -1.4
VOY Vojsko 43.35 263 *e*P **P** **04 32 53.2 +0.2**
CABF La Chapelle 43.43 271 *e*P **P** **04 32 53.5 -0.1**
AVF Avril sur Loir 43.48 273 *e*P **P** **04 32 53.5 -0.5**
comp=Z,146nm,1.5s,mb5.2
AVF Avril sur Loir 43.48 273 *e*P **P** **04 32 53.5 -0.5**
AVF pmax pmax
comp=Z,73nm,1.5s,mb5.2
JAVS Javornik 43.48 263 *e*P **P** **04 32 53.8 -0.2**
JAVS *e*PP PP 04 34 41.0 +3.8
VLA Vladivostok 43.50 137 *e*P **P** **04 32 53.0 -1.3**
VLA *e* 04 34 45.0
VLA *e* 04 42 49.0
VLA MLR MLR
comp=Z,2μm,15.0s,MS5.0
VLA MLR MLR
comp=N,1μm,14.0s,MS5.0
VLA MLR MLR
comp=E,500nm,12.0s,MS5.0
VISS Visnje 43.50 262 *e*P **P** **04 32 54.9 +0.7**
VISS *e*PP PP 04 34 41.6 +4.0
CTI Castel Tesino 43.52 265 *e*P **P** **04 32 54.5 +0.1**
HARR Harsova 43.56 248 P **P** **04 32 55.9 +1.2**
HARR Harsova 43.56 248 ⇑P **P** **04 32 54.9 +0.2**
SMF Signal de Mont 43.58 273 *e*P **P** **04 32 54.1 -0.8**
comp=E,147nm,1.6s,mb5.2
SMF Signal de Mont 43.58 273 *e*P **P** **04 32 54.1 -0.8**
SMF pmax pmax
comp=Z,73nm,1.6s,mb5.2
TRI Trieste 43.69 263 *e*P **P** **04 32 55.4 -0.3**
BGF Bois d'Agland 43.75 274 *e*P **P** **04 32 55.7 -0.5**
comp=Z,124nm,1.0s,mb5.3
BGF Bois d'Agland 43.75 274 *e*P **P** **04 32 55.7 -0.5**
BGF pmax pmax
comp=Z,62nm,1.0s,mb5.3
TIRR Tirgusor 43.75 248 ⇓P **P** **04 32 57.4 +1.1**
TIRR Tirgusor 43.75 248 ⇓P **P** **04 32 55.9 -0.4**
TIRR Tirgusor 43.75 248 ⇓P **P** **04 32 55.9 -0.4**
BOJS Bojanci 43.77 261 *e*P **P** **04 32 57.1 +0.7**
SOC Sochi 43.79 236 *e*P **P** **04 32 54.1 -2.5**
SOC *e* 04 34 33.8
SOC *e* 04 34 43.4
SOC *e*PPP PPP 04 35 14.7 -2.4
SOC *e*S **S** **04 39 23.8 -2.9**
SOC *e*SS SS 04 42 40.1 +5.1
SOC *e* 04 42 52.4
SOC pmax pmax
comp=Z,48nm,1.2s,mb5.1
SOC pmax pmax
comp=N,34nm,0.8s
SOC pmax pmax
comp=E,20nm,0.8s
SOC MLR MLR
comp=N,1μm,20.0s,MS5.0
SOC MLR MLR
comp=Z,3μm,20.0s,MS5.2
SOC MLR MLR
comp=E,1μm,17.0s,MS5.0
MAK Makhachkala 43.90 228 *e*P **P** **04 32 56.0 -1.5**
MAK *i* 04 34 44.0
MAK *e*PPP PPP 04 35 24.0 +5.4
MAK *e*S **S** **04 39 26.0 -2.3**
MAK *i* 04 42 52.0
MAK pmax pmax
comp=Z,1μm,5.0s
MAK smax
comp=N,1μm,10.0s
MCGN Macugnaga 43.92 269 *e*P **P** **04 32 58.5 +0.9**
VAI Varese 43.94 268 *e*P **P** **04 32 58.2 +0.4**
MFF Saint Martin d 43.96 277 *e*P **P** **04 32 57.4 -0.5**
comp=N,221nm,1.8s,mb5.3
MFF Saint Martin d 43.96 277 *e*P **P** **04 32 57.4 -0.5**
MFF pmax pmax
comp=Z,110nm,1.8s,mb5.3
SAL Salo 44.05 266 *e*P **P** **04 32 58.9 +0.2**
TCF Toulx Ste Croi 44.07 274 *e*P **P** **04 32 58.2 -0.7**
comp=Z,99nm,1.2s,mb5.1
TCF Toulx Ste Croi 44.07 274 *e*P **P** **04 32 58.2 -0.7**
TCF pmax pmax
comp=Z,50nm,1.2s,mb5.1
AGO Saint Agoulin 44.23 274 *e*P **P** **04 33 01.9 +1.8**
PLDF La Plantade 44.27 273 *e*P **P** **04 33 02.3 +1.8**
ZEI Tsey 44.32 231 *e*P **P** **04 33 00.6 -0.3**
ZEI *i* *PP pP 04 33 06.3 +2.4
ZEI *i* 04 34 41.6
ZEI pmax pmax
comp=Z,14nm,1.6s,mb4.4
SNY Shenyang 44.35 146 ⇓P **P** **04 33 01.1 -0.1**
SNY S **S** **04 39 41.5 +6.5**
SNY AMB AMB
comp=Z,40nm,2.0s,mb4.8
SNY LR LR
comp=N,660nm,20.1s
SNY LR LR
comp=E,620nm,12.0s
SNY LR LR
comp=Z,700nm,21.6s,MS4.5
LPL La Plagne 44.46 270 *e*P **P** **04 33 02.5 +0.5**
comp=Z,102nm,1.6s,mb5.0
LPL La Plagne 44.46 270 *e*P **P** **04 33 02.5 +0.5**
LPL pmax pmax
comp=Z,51nm,1.6s,mb5.0
LPG La Plagne 44.48 270 *e*P **P** **04 33 02.9 +0.7**
comp=Z,155nm,1.6s,mb5.2
LPG La Plagne 44.48 270 *e*P **P** **04 33 02.9 +0.7**
LPG pmax pmax
comp=Z,77nm,1.6s,mb5.2
ULM Lac du Bonnet 44.69 7 P **P** **04 33 04.3 +0.6**
comp=Z,4.8nm,0.8s,mb4.4,baz=1.5,slow=7.0,SNR=12
ULM PcP PcP 04 34 45.4 -1.4
comp=Z,4.6nm,0.8s,baz=18,slow=4.4,SNR=3.9
ULM LR LR 04 51 57.4
comp=Z,2μm,18.0s,MS5.1,baz=354,slow=36
ULM Lac du Bonnet 44.69 7 P **P** **04 33 04.3 +0.6**
ULM PcP PcP 04 34 45.4 -1.4
ULM LR LR 04 51 57.4
HHC Hu-ho-hao-te 44.86 159 *e*P **P** **04 33 05.8 +0.4**
HHC XP sP 04 33 12.8 +3.2
HHC PP PP 04 34 53.3 +2.1
HHC PCS 04 38 39.8
HHC S **S** **04 39 43.4 +1.1**
HHC SS SS 04 42 55.1 0.0
HHC SCS ScS 04 43 04.0 +3.4
HHC AMB AMB
comp=Z,15nm,0.6s,mb5.0
HHC AMB AMB
comp=Z,302nm,5.7s
HHC LR LR
comp=N,1μm,16.6s,MS5.0
HHC LR LR
comp=E,834nm,16.7s,MS5.0
HHC LR LR
comp=Z,2μm,17.2s,MS5.1
BOLS Boljevac 44.88 254 ⇑*i*P **P** **04 33 04.3 -1.1**
BNI Bardonecchia 44.93 270 *e*P **P** **04 33 06.3 +0.5**
BNI pmax pmax
comp=Z,116nm,1.9s,mb5.4
BNI Bardonecchia 44.93 270 *e*P **P** **04 33 06.2 +0.5**
comp=Z,116nm,1.9s,mb5.4
BOB Bobbio (Coli) 44.98 267 *e*P **P** **04 33 06.8 +0.6**
LBL Lubilhac 45.03 273 *e*P **P** **04 33 08.6 +2.0**
PRD Provadia 45.08 249 *e*P **P** **04 33 25.5 +18**

RJF Les Rejaudoux 45.11 275 *e*P **P** **04 33 06.5 -0.7**
comp=Z,118nm,1.4s,mb5.2
RJF *e*R
comp=Z,744nm,17.2s
RJF Les Rejaudoux 45.11 275 *e*P **P** **04 33 06.5 -0.7**
RJF pmax pmax
comp=Z,59nm,1.4s,mb5.2
RJF MLR MLR
comp=Z,740nm,17.3s,MS4.7
ORIF Oris-en-Rattie 45.13 271 *e*P **P** **04 33 07.4 0.0**
comp=Z,36nm,0.9s,mb4.9
ORIF *e*R
comp=Z,753nm,22.8s
MBDF Montbardon 45.24 270 *e*P **P** **04 33 08.9 +0.6**
comp=Z,160nm,1.6s,mb5.3
MBDF Montbardon 45.24 270 *e*P **P** **04 33 08.9 +0.6**
MBDF pmax pmax
comp=Z,80nm,1.6s,mb5.3
ERBM Eremo 45.24 266 *e*P **P** **04 33 08.8 +0.5**
ZCCA Zocca 45.27 265 *e*P **P** **04 33 09.7 +1.2**
VIVF Saint-Julien-I 45.29 272 *e*P **P** **04 33 08.2 -0.5**
comp=Z,118nm,1.7s,mb5.2
VIVF Saint-Julien-I 45.29 272 *e*P **P** **04 33 08.2 -0.5**
VIVF pmax pmax
comp=Z,59nm,1.7s,mb5.1
TI2 Plekhanov 45.30 230 *i* P **P** **04 33 09.8 +1.0**
TI2 *i* 04 33 10.0
TI2 *i* 04 33 16.0
TI2 *i* 04 34 49.2
TI2 *i* 04 34 54.4
TI2 MLR MLR
comp=Z,2µm,16.0s,MS5.2
GSCL Gusciola 45.30 266 *e*P **P** **04 33 09.5 +0.8**
CAF Calviac 45.44 274 *e*P **P** **04 33 09.6 -0.2**
WALA Waterton Lakes 45.48 24 *e*P **P** **04 33 10.3 +0.2**
comp=Z,16nm,1.0s,mb4.8
SURF Saint Ours 45.48 270 *e*P **P** **04 33 11.7 +1.5**
PGC Sidney 45.52 32 *e*P **P** **04 33 10.6 +0.2**
comp=Z,41nm,1.3s,mb5.2
PGC *e* 04 33 17.7
SEI Scarperia 45.53 265 *e*P **P** **04 33 12.4 +1.9**
LFF La Frestale 45.53 276 *e*P **P** **04 33 10.4 -0.2**
comp=Z,181nm,1.7s,mb5.4
LFF La Frestale 45.53 276 *e*P **P** **04 33 10.4 -0.2**
LFF pmax pmax
comp=Z,90nm,1.7s,mb5.4
RSM Repubblica di 45.56 264 *e*P **P** **04 33 11.5 +0.7**
VMG Vicchio 45.60 265 *e*P **P** **04 33 12.8 +1.6**
FIN Finale Ligure 45.64 268 *e*P **P** **04 33 10.4 -1.0**
SFI Santa Sofia 45.64 264 *e*P **P** **04 33 12.1 +0.7**
PGD Poggio Sodo 45.68 265 *e*P **P** **04 33 13.4 +1.7**
BJI Beijing 45.83 154 P **P** **04 33 14.6 +1.6**
BJI AP pP 04 33 18.5 +2.5
BJI XP sP 04 33 20.9 +3.7
BJI S **S** **04 39 56.9 +0.8**
BJI AMB AMB
comp=Z,46nm,2.2s,mb5.0
BJI LR LR
comp=N,2µm,16.9s
BJI LR LR
comp=E,667nm,9.3s
BJI LR LR
comp=Z,2µm,21.8s,MS5.0
BJI Beijing 45.83 154 P **P** **04 33 14.6 +1.6**
comp=Z,46nm,2.2s,mb5.0
BJI pP pP 04 33 18.5 +2.5
BJI sP sP 04 33 20.9 +3.7
BJI S **S** **04 39 56.9 +0.8**
BJI SS SS 04 43 26.7 +14
BJI LR LR
comp=Z,2µm,21.8s,MS5.0
BJT Baijiatuau 45.85 154 *e*P **P** **04 33 14.2 +1.0**
BJT pmax pmax
comp=Z,99nm,1.5s
BJT Baijiatuau 45.85 154 *e*P **P** **04 33 14.2 +1.0**
comp=Z,99nm,1.5s,mb5.5
TOUF Mont Tournerai 45.91 269 *e*P **P** **04 33 14.5 +0.9**
SAOF Saorge 45.91 269 *e*P **P** **04 33 13.8 +0.2**
AUTN L'Aution 45.91 269 *e*P **P** **04 33 14.0 +0.4**
PII Pisa 45.93 266 *e*P **P** **04 33 12.9 -0.8**
ARV Arcevia 45.95 263 *e*P **P** **04 33 13.8 0.0**
IMI Imperia 45.96 268 *e*P **P** **04 33 15.0 +1.0**
VTS Vitosha 46.01 253 *e*P **P** **04 33 30.0 +16**
MVIF Mont Vial 46.04 269 *e*P **P** **04 33 15.4 +0.8**
SBF Sospel 46.05 269 *e*P **P** **04 33 13.9 -0.7**
comp=Z,147nm,1.5s,mb5.4
SBF Sospel 46.05 269 *e*P **P** **04 33 13.9 -0.7**
SBF pmax pmax
comp=Z,74nm,1.5s,mb5.4
GTA Gaotai 46.05 171 P **P** **04 33 15.3 +0.6**
GTA AP pP 04 33 20.3 +2.6
GTA XP sP 04 33 22.3 +3.3
GTA PP PP 04 35 04.0 +0.9
GTA PPP PPP 04 35 46.8 +0.3
GTA S **S** **04 40 02.3 +3.0**
GTA XS 04 40 06.9
GTA SS SS 04 43 17.8 +1.3
GTA AMB AMB
comp=Z,19nm,2.2s,mb4.6
GTA AMB AMB
comp=Z,457nm,5.7s
GTA LR LR
comp=N,3µm,18.6s,MS5.3
GTA LR LR
comp=E,2µm,17.9s,MS5.3
GTA LR LR
comp=Z,4µm,19.0s,MS5.4
KSH Kashi 46.08 197 *e*P **P** **04 33 17.3 +2.3**
KSH *e*AP pP 04 33 20.9 +2.9
KSH *e*XP sP 04 33 23.3 +4.0
KSH *e*PCP PcP 04 34 53.1 +1.3
KSH *e*PP PP 04 35 00.6 -2.8
KSH *e*PPP PPP 04 35 47.0 0.0
KSH *e*SCP 04 38 44.1
KSH *e*PCS 04 38 46.8
KSH *e*S **S** **04 40 00.0 +0.2**
KSH *e*XS 04 40 07.4
KSH *e*SCS ScS 04 43 08.6 +0.2
KSH *e*SS SS 04 43 16.6 -0.5
KSH LR LR
comp=N,8µm,15.2s,MS5.8
KSH LR LR
comp=E,4µm,13.6s,MS5.8
SMRF Simiane la Rot 46.09 271 *e*P **P** **04 33 15.1 +0.1**
comp=E,59nm,1.6s,mb5.0
LASF Ste Croix 46.13 272 *e*P **P** **04 33 15.6 +0.3**
comp=E,239nm,1.9s,mb5.5
NEW Newport 46.16 27 P **P** **04 33 16.9 +1.4**
NEW pmax pmax
comp=Z,15nm,1.0s
NEW Newport 46.16 27 P **P** **04 33 16.9 +1.4**
comp=Z,15nm,1.0s,mb4.9,baz=348,slow=6.8
NEW Newport 46.16 27 *e*P **P** **04 33 16.5 +0.9**
comp=Z,58nm,1.3s,mb5.3
NEW LR LR
comp=Z,3µm,19.0s,MS5.3
SNTG Esanatoglia 46.19 263 *e*P **P** **04 33 15.5 -0.3**
CALN Calern 46.20 269 *e*P **P** **04 33 16.6 +0.7**
BALT Daday 46.28 242 *i* P **P** **04 33 13.4 -3.2**
BOYT Boyabat 46.28 241 *i* P **P** **04 33 14.3 -2.3**
FRF La Foret Royal 46.41 270 *e*P **P** **04 33 16.9 -0.6**
comp=Z,119nm,1.5s,mb5.3
FRF La Foret Royal 46.41 270 *e*P **P** **04 33 16.9 -0.6**
FRF pmax pmax
comp=Z,60nm,1.5s,mb5.3
TREF Trevaresse 46.45 271 *e*P **P** **04 33 19.2 +1.3**
PUYF Puyloubier 46.52 271 *e*P **P** **04 33 19.6 +1.2**
NRCA Norcia 46.59 263 *e*P **P** **04 33 19.0 0.0**
LMR La Mourre 46.65 270 *e*P **P** **04 33 18.9 -0.5**
comp=Z,75nm,1.6s,mb5.1
LMR La Mourre 46.65 270 *e*P **P** **04 33 18.9 -0.5**
LMR pmax pmax
comp=Z,38nm,1.6s,mb5.1
GELF Grande-Etoile 46.69 271 *e*P **P** **04 33 20.9 +1.2**
BERF Bertagne 46.74 271 *e*P **P** **04 33 21.6 +1.5**
KKB Krupnik 46.74 253 *e*P **P** **04 33 37.5 +17**
SKO Skopje 46.77 254 *e*P **P** **04 33 20.4 0.0**
SKO Skopje 46.77 254 ⇓ *i* P **P** **04 33 19.8 -0.6**
KDZ Kurdzhali 46.77 250 *e*P **P** **04 33 38.0 +18**
RZN Rozhen 46.79 251 *e*P **P** **04 33 38.0 +17**
GNI Garni 46.88 230 P **P** **04 33 23.0 +1.7**
GNI 04 35 11.5
GNI pmax pmax
comp=Z,2.0nm,0.3s
GNI Garni 46.88 230 P **P** **04 33 23.0 +1.7**
comp=Z,1.7nm,0.3s,mb4.4,baz=157,slow=16,SNR=8.3
GNI PP PP 04 35 11.5 +0.2
comp=Z,3.1nm,0.5s,baz=12,slow=9.3,SNR=2.7
GNI Garni 46.88 230 *e*P **P** **04 33 22.3 +1.0**
comp=Z,85nm,1.5s,mb5.5
MMB Musomiste 46.97 252 *e*P **P** **04 33 39.0 +17**
MTLF Montolieu 47.00 274 *e*P **P** **04 33 21.8 -0.4**
comp=Z,76nm,1.5s,mb5.1
MTLF Montolieu 47.00 274 *e*P **P** **04 33 21.8 -0.4**
MTLF pmax pmax
comp=Z,38nm,1.5s,mb5.1
EYMN Ely 47.02 3 *e*P **P** **04 33 22.4 +0.1**
comp=Z,25nm,1.1s,mb5.1
EYMN LR LR
comp=Z,2µm,20.0s,MS5.0
AQU L'Aquila 47.05 263 *e*P **P** **04 33 23.1 +0.5**
AQU pmax pmax
comp=Z,129nm,1.5s,mb5.6
AQU L'Aquila 47.05 263 *e*P **P** **04 33 23.1 +0.5**
comp=Z,129nm,1.5s,mb5.6
MNS Montasola 47.08 263 *e*P **P** **04 33 21.6 -1.2**
HENT Hendek 47.17 245 *i* P **P** **04 33 23.8 +0.2**
DL2 Dalian 47.18 148 P **P** **04 33 25.0 +1.3**
DL2 S **S** **04 40 21.9 +6.5**
DL2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
DL2 AMB AMB
comp=Z,270nm,4.5s
DL2 LR LR
comp=E,630nm,13.7s
DL2 LR LR
comp=Z,380nm,12.6s,MS4.6
PGF Pioggiola 47.22 267 *e*P **P** **04 33 23.4 -0.6**
ELDT Eldivan 47.32 242 *i* P **P** **04 33 25.4 +0.6**
VAY Valandovo 47.33 253 *i* P **P** **04 33 24.7 -0.1**
VAY Valandovo 47.33 253 ⇓ *i* P **P** **04 33 24.0 -0.8**
ERZM Erzurum 47.34 234 *i* P **P** **04 33 26.4 +1.5**
LPEF Le Peyrat 47.41 274 *e*P **P** **04 33 26.4 +0.9**
EALK Alkurruntz 47.43 278 P **P** **04 33 22.8 -2.8**
comp=Z,216nm,1.8s,mb5.8
EPF Esparros 47.46 276 *e*P **P** **04 33 24.8 -1.1**
comp=Z,163nm,1.6s,mb5.4
EPF Esparros 47.46 276 *e*P **P** **04 33 24.8 -1.1**
EPF pmax pmax
comp=Z,82nm,1.6s,mb5.4
SJPF Ste Jean 47.51 277 *e*P **P** **04 33 25.1 -1.2**
comp=Z,129nm,1.8s,mb5.3
SJPF Ste Jean 47.51 277 *e*P **P** **04 33 25.1 -1.2**
SJPF pmax pmax
comp=Z,65nm,1.8s,mb5.4
CII Carovilli 47.60 262 *e*P **P** **04 33 26.9 -0.1**
CHMT Chamberlain Mo 47.65 23 *e*P **P** **04 33 27.4 +0.1**
SDI San Donato 47.65 262 *e*P **P** **04 33 26.9 -0.5**
ETSF Etsaut 47.67 277 *e*P **P** **04 33 27.5 0.0**
comp=Z,165nm,1.7s,mb5.5
ETSF Etsaut 47.67 277 *e*P **P** **04 33 27.5 0.0**
ETSF pmax pmax
comp=Z,83nm,1.7s,mb5.5
MSO Missoula 47.71 24 *e*P **P** **04 33 27.9 +0.1**
comp=Z,17nm,0.9s,mb5.1
FILF Fillols 47.74 274 *e*P **P** **04 33 29.2 +1.1**
SJAF Saint Jean de 47.79 273 *e*P **P** **04 33 29.4 +0.9**
EBIE Bielsa 47.82 276 P **P** **04 33 28.4 -0.3**
comp=Z,730nm,3.3s
EJON La Jonquera 47.83 273 P **P** **04 33 27.2 -1.5**
comp=Z,254nm,2.3s,mb5.8
HRY Holter Researc 47.90 22 *e*P **P** **04 33 28.9 -0.3**
HAWA Hanford 47.94 29 *e*P **P** **04 33 29.8 +0.2**
comp=Z,6.2nm,1.7s,mb4.4
VALF Valcebollere 47.95 274 *e*P **P** **04 33 31.2 +1.5**
ULDT Uludag 47.98 246 *i* P **P** **04 33 30.4 +0.4**
BRTR Keskin Array B 48.06 242 P **P** **04 33 30.9 +0.3**
comp=Z,6.4nm,0.9s,mb4.7,baz=14,slow=5.1,SNR=34
BRTR PP PP 04 35 22.2 0.0
comp=Z,3.7nm,1.1s,baz=9.7,slow=4.9,SNR=3.6
LAO LASA Array 48.07 17 *e*P **P** **04 33 31.1 +0.6**
comp=Z,324nm,2.1s,mb6.0
LAO LR LR
comp=Z,3µm,20.0s,MS5.3
EINC Incio 48.46 283 P **P** **04 33 34.4 +0.8**
comp=Z,546nm,2.4s,mb6.2
MRLC Muro Lucano 48.46 260 *e*P **P** **04 33 34.0 +0.3**
EMIR Miracle 48.47 274 P **P** **04 33 32.5 -1.3**
comp=Z,680nm,4.6s
ESKT Eskisehir 48.47 245 *i* P **P** **04 33 33.6 -0.1**
SGO Sicignano 48.67 260 *e*P **P** **04 33 35.1 -0.2**
ESAC San Caprasio 48.83 276 P **P** **04 33 33.9 -2.6**
comp=Z,298nm,3.2s
AVNT Avonos 48.91 240 *i* P **P** **04 33 37.7 +0.5**
BOZ Bozeman (W) 48.97 22 *e*P **P** **04 33 38.1 +0.6**
BOZ pmax pmax
comp=Z,90nm,1.7s,mb5.5
BOZ Bozeman (W) 48.97 22 *e*P **P** **04 33 38.1 +0.6**
comp=Z,90nm,1.7s,mb5.5
EPOB Poblet 49.07 275 P **P** **04 33 36.5 -1.9**
comp=Z,322nm,3.4s
MALT Malatya 49.12 237 ⇑ P **P** **04 33 39.6 +0.8**
MALT Malatya 49.12 237 *e*P **P** **04 33 39.3 +0.4**
comp=Z,56nm,1.6s,mb5.3
ECAL Calabor 49.13 283 P **P** **04 33 36.8 -2.0**
comp=Z,611nm,2.7s,mb6.2
PBRG Braganca 49.26 283 *e*P **P** **04 33 40.9 +1.1**
comp=Z,71nm,1.9s,mb5.4
ELOB Lobios 49.31 284 P **P** **04 33 40.7 +0.6**
comp=Z,240nm,2.3s,mb5.8
LZH Lanzhou 49.43 167 ⇓ P **P** **04 33 41.6 +0.4**
LZH AP pP 04 33 45.0 +0.7
LZH XP sP 04 33 46.3 +0.9
LZH PP PP 04 35 33.6 -2.3
LZH *e*S **S** **04 40 46.1 -1.0**
LZH XS 04 40 53.5
LZH SS SS 04 44 14.6 -0.4
LZH AMB AMB
comp=Z,79nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,412nm,6.4s
LZH LR LR
comp=N,1µm,13.0s
LZH LR LR
comp=Z,2µm,16.7s,MS5.1
LZH Lanzhou 49.43 167 ⇓ P **P** **04 33 41.6 +0.4**
comp=Z,79nm,1.5s,mb5.5
LZH pP pP 04 33 45.0 +0.7
LZH sP sP 04 33 46.3 +0.9
LZH PP PP 04 35 33.6 -2.3
LZH *e*S **S** **04 40 46.1 -1.0**
LZH sS 04 40 53.5
LZH SS SS 04 44 14.6 -0.4
LZH LR LR
comp=Z,2µm,16.7s,MS5.1
ERTA Horta de San J 49.52 275 P **P** **04 33 42.6 +0.8**
comp=Z,233nm,2.3s,mb5.8
BMO Blue Mountains 49.56 27 *e*P **P** **04 33 42.6 +0.5**
comp=Z,79nm,1.8s,mb5.4
EBR Ebro Roquetas 49.64 275 *e*Ts 04 33 50.0
MCMT McKenzie Canyo 49.75 23 *e*P **P** **04 33 43.9 +0.4**
QLMT Earthquake Lak 49.79 22 *e*P **P** **04 33 44.3 +0.5**
PVRL Vila Real 49.87 283 *e*P **P** **04 33 45.2 +0.7**
comp=Z,58nm,1.8s,mb5.3
TIP Timpagrande 49.92 259 *e*P **P** **04 33 44.8 -0.2**
YMR Madison River 49.96 21 *e*P **P** **04 33 46.0 +0.8**
EMMW East Machias 49.98 341 *e*P **P** **04 33 45.8 +0.5**
LKWY Lake 50.08 21 *e*P **P** **04 33 47.6 +1.5**
LKWY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LKWY Lake 50.08 21 *e*P **P** **04 33 47.6 +1.5**
comp=Z,10nm,0.9s,mb4.9
YFT Old Faithful 50.18 21 *e*P **P** **04 33 49.2 +2.3**
GUD Guadarrama 50.20 280 P **P** **04 33 46.0 -1.1**
GUD pmax pmax
comp=Z,108nm,2.3s,mb5.5
GUD Guadarrama 50.20 280 P **P** **04 33 46.0 -1.1**
comp=Z,108nm,2.3s,mb5.5
VSL Villasalto 50.22 266 *e*P **P** **04 33 46.0 -1.2**
comp=Z,63nm,1.6s,mb5.4
MAT Matsushiro 50.43 131 *e*P **P** **04 33 50.0 +1.1**
MAT *e*S **S** **04 41 08.0 +7.0**
MAT MLR MLR
comp=Z,350nm,20.0s,MS4.4
MAT Matsushiro 50.43 131 P **P** **04 33 50.3 +1.4**
MAT S **S** **04 41 07.6 +6.6**
PVIS Viseu 50.44 284 *e*P **P** **04 33 49.3 +0.4**
comp=Z,46nm,2.0s,mb5.2
SLNA Salina 50.69 261 *e*P **P** **04 33 49.6 -1.3**
MTE Manteigas 50.72 283 *e*P **P** **04 33 51.3 +0.3**
comp=Z,64nm,1.5s,mb5.3
IMW Indian Meadow 50.73 21 *e*P **P** **04 33 52.2 +1.1**
MIV Mineville/With 50.76 346 *e*P **P** **04 33 50.9 -0.3**
MSL Mosul 50.82 231 *e*P **P** **04 33 52.5 +0.7**
MSL *e*S tx 04 43 31.5
MOOW Moose Ponds 50.89 21 *e*P **P** **04 33 52.9 +0.6**
HLID Hailey 50.96 24 *e*P **P** **04 33 52.8 +0.1**
comp=Z,30nm,1.8s,mb4.9
HLID LR LR
comp=Z,2µm,19.0s,MS5.2
LOHW Long Hollow 51.03 21 *e*P **P** **04 33 53.8 +0.5**
comp=Z,46nm,1.5s,mb5.2
COBT Iskenderun 51.06 239 *i* P **P** **04 33 54.1 +0.4**
WUWY Wally Ulrich 51.10 21 *e*P **P** **04 33 53.7 -0.1**
TPAW Teton Pass 51.14 21 *e*P **P** **04 33 55.3 +1.1**
ESDC Sonseca Array 51.15 280 P **P** **04 33 54.3 +0.1**
comp=Z,2.4nm,0.8s,mb4.2,baz=9.9,slow=8.4,SNR=9.8
ESDC Sonseca Array 51.15 280 P **P** **04 33 51.6 -2.6**
comp=Z,1.6nm,0.7s,mb4.1
ESLA Sonseca Array 51.15 280 *e*P **P** **04 33 54.2 -0.1**
comp=Z,28nm,1.8s,mb4.9
ESLA LR LR
comp=Z,3µm,19.0s,MS5.3
SNOW Snow King Moun 51.17 21 *e*P **P** **04 33 54.8 +0.4**
RRI2 Red Ridge 51.27 21 *e*P **P** **04 33 55.9 +0.8**
PCBR Castelo Branco 51.27 283 *e*P **P** **04 33 55.8 +0.6**
comp=Z,72nm,2.0s,mb5.3
APE Apeiranthos 51.32 250 ⇑ P **P** **04 33 54.8 -0.8**
ACCN Adirondack Com 51.45 346 *e*P **P** **04 33 55.6 -0.9**
HUMO Hull Mountain 51.57 32 *e*P **P** **04 33 58.2 +0.8**
comp=Z,80nm,1.7s,mb5.4
XAN Xi'an 51.58 162 P **P** **04 33 57.1 -0.6**
XAN AP pP 04 34 04.1 +3.4
XAN AMB AMB
comp=Z,18nm,2.3s,mb4.6
AHID Auburn Hatcher 51.86 21 P **P** **04 34 00.3 +0.7**
comp=Z,5.0nm,0.3s,mb4.9
PDAR Pinedale Array 51.90 20 P **P** **04 33 59.9 -0.1**
comp=Z,1.5nm,0.9s,baz=333,slow=3.3,SNR=11
PDAR PP PP 04 36 01.8 +3.1
comp=Z,1.4nm,1.0s,baz=333,slow=6.0,SNR=2.7
PDAR LR LR 04 56 32.7
comp=Z,2µm,19.7s,baz=4.9,slow=37
WVOR Wild Horse Val 51.93 28 *e*P **P** **04 33 59.7 -0.4**
WVOR pmax pmax
comp=Z,92nm,1.8s,mb5.4
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.3
WVOR Wild Horse Val 51.93 28 *e*P **P** **04 33 59.6 -0.5**
comp=Z,92nm,1.8s,mb5.4
WVOR LR LR
comp=Z,2µm,19.0s,MS5.3
EVIA Vianos 52.06 278 P **P** **04 34 01.5 +0.3**
EVIA pmax pmax
comp=Z,119nm,1.8s,mb5.5
EVIA Vianos 52.06 278 P **P** **04 34 01.5 +0.3**
comp=Z,119nm,1.8s,mb5.5
GENY Geneseo 52.13 350 *e*P **P** **04 34 00.8 -0.9**
EBAD Badajoz 52.31 282 P **P** **04 34 01.0 -2.1**
comp=Z,810nm,4.1s
MOD Modoc 52.39 30 *e*P **P** **04 34 04.2 +0.6**
comp=Z,87nm,1.8s,mb5.4
MOD LR LR
comp=Z,1µm,22.0s,MS5.0
YBH Yreka Blue Hor 52.46 32 *e*P **P** **04 34 05.2 +1.1**
YBH pmax pmax
comp=Z,53nm,1.9s
YBH Yreka Blue Hor 52.46 32 *e*P **P** **04 34 05.2 +1.1**
comp=Z,53nm,1.9s,mb5.1
QUA2 Belchertown 52.52 345 *e*P **P** **04 34 05.2 +0.5**
comp=Z,33nm,1.5s,mb5.0
HVU Hansel Valley 52.79 23 *e*P **P** **04 34 06.6 -0.1**
CSS Prodhromos 52.82 241 *e*P **P** **04 34 06.0 -1.0**
comp=Z,48nm,1.4s,mb5.2
EQES Quesada 52.94 278 P **P** **04 34 04.7 -3.1**
comp=Z,1µm,3.7s
HWUT Hardware Ranch 53.00 22 *e*P **P** **04 34 07.9 -0.4**
comp=Z,90nm,1.6s,mb5.5
HWUT LR LR
comp=Z,2µm,20.0s,MS5.1
IDI Anoyia 53.14 250 P **P** **04 34 07.6 -1.7**
comp=Z,8.7nm,0.8s,mb4.7,baz=20,slow=20,SNR=4.2
CMAH Djebel Manchou 53.23 268 P **P** **04 34 10.0 0.0**
ALLY Alegheny Colle 53.28 352 *e*P **P** **04 34 08.9 -1.4**
DFRA Djebel Bou Aff 53.44 269 P **P** **04 34 13.0 +1.5**
TCUT Toone Canyon 53.50 22 *e*P **P** **04 34 12.3 +0.5**
CKFL Kef-Lekhel 53.52 269 P **P** **04 34 12.0 -0.1**
GVD Gavdhos 53.65 251 *e*P **P** **04 34 11.9 -1.1**
CASM Ain Smara 53.67 269 P **P** **04 34 15.0 +1.8**
ELK Elko 53.74 25 *e*P **P** **04 34 13.9 +0.3**
ELK pmax pmax
comp=Z,25nm,1.6s
ELK Elko 53.74 25 *e*P **P** **04 34 13.9 +0.2**
comp=Z,25nm,1.6s,mb4.9
PAL Palisades 53.83 347 *e*P **P** **04 34 14.2 -0.1**
PAL pmax pmax
comp=Z,29nm,1.0s,mb5.2
PAL Palisades 53.83 347 *e*P **P** **04 34 14.2 -0.1**
comp=Z,28nm,1.0s,mb5.2
CTEI Djebel Teioual 53.88 269 P **P** **04 34 15.5 +0.8**
NJ2 Nanjing 53.89 151 *e*P **P** **04 34 15.3 +0.4**
NJ2 AP pP 04 34 25.8 +7.9
NJ2 PP PP 04 36 17.5 -0.2
NJ2 S **S** **04 41 46.0 -2.4**
NJ2 XS 04 42 03.0
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1µm,4.4s
NJ2 LR LR
comp=N,2µm,14.8s,MS5.5
NJ2 LR LR
comp=E,2µm,15.2s,MS5.5
NJ2 LR LR
comp=Z,160nm,15.4s,MS4.2
JLU Jordanelle 54.01 22 *e*P **P** **04 34 15.0 -0.6**
DAU Daniels Canyon 54.20 22 *e*P **P** **04 34 17.5 +0.5**
CMER Merouana 54.36 269 P **P** **04 34 19.0 +0.8**
DUG Dugway 54.37 23 *e*P **P** **04 34 18.2 -0.1**
DUG pmax pmax
comp=Z,45nm,1.6s,mb5.2
DUG Dugway 54.37 23 *e*P **P** **04 34 18.1 -0.1**
comp=Z,44nm,1.6s,mb5.1
MPU Maple Canyon 54.59 22 *e*P **P** **04 34 20.1 +0.2**
NLU North Lily Min 54.64 22 *e*P **P** **04 34 20.1 -0.1**
ACSO Alum Creek Sta 54.72 355 *e*P **P** **04 34 19.8 -1.1**
comp=Z,51nm,1.3s,mb5.4
SSE Sheshan 54.94 149 *e*P **P** **04 34 19.5 -3.1**
SSE PCP PcP 04 35 22.9 -1.5
SSE S **S** **04 41 59.9 -2.6**
SSE AMB AMB
comp=Z,35nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,277nm,4.2s
SSE LR LR
comp=N,240nm,21.2s,MS4.7
SSE LR LR
comp=E,622nm,21.2s,MS4.7
SSE LR LR
comp=Z,848nm,17.6s,MS4.9
SSE Sheshan 54.94 149 *e*P **P** **04 34 19.5 -3.1**
comp=Z,35nm,0.8s,mb5.4
SSE pP pP 04 34 22.6 -3.1
SSE PcP PcP 04 35 22.9 -1.5
SSE S **S** **04 41 59.9 -2.6**
SSE sS 04 42 05.5
SSE SS SS 04 46 19.3 +33
SSE LR LR
comp=Z,850nm,17.6s,MS4.9
ISCO Idaho Springs 54.97 16 *e*P **P** **04 34 22.0 -0.7**
ISCO pmax pmax
comp=Z,95nm,2.0s,mb5.5
ISCO Idaho Springs 54.97 16 *e*P **P** **04 34 22.0 -0.7**
comp=Z,95nm,2.0s,mb5.5
WCN Washoe City 55.01 30 *e*P **P** **04 34 22.6 -0.4**
WCN pmax pmax
comp=Z,26nm,1.3s,mb5.1
WCN Washoe City 55.01 30 *e*P **P** **04 34 22.6 -0.4**
comp=Z,26nm,1.3s,mb5.1
WHN Wuhan 55.23 156 *e*P **P** **04 34 23.5 -1.2**
WHN S **S** **04 42 08.0 +1.6**
WHN LR LR
comp=Z,3µm,17.4s,MS5.4
ASF Jabal al Asfar 55.34 237 P **P** **04 34 25.7 +0.2**

comp=Z,6.3nm,0.8s,mb4.7,baz=236,slow=3.6,SNR=8.8
ASF PP PP 04 36 28.2 -2.5
comp=Z,3.0nm,0.8s,baz=90,slow=4.0,SNR=1.8
ASF LR LR 05 03 09.6
comp=Z,871nm,18.6s,MS4.9,baz=67,slow=42
ENH Enshi 55.35 161 *eP* **P 04 34 24.8 -0.8**
comp=Z,70nm,1.2s,mb5.6
ENH epP pP 04 34 32.7 +4.0
SRU San Rafael 55.53 21 *eP* **P 04 34 26.7 0.0**
LSA Lhasa 55.68 181 P **P 04 34 24.8 -3.2**
LSA AP pP 04 34 32.6 +1.5
LSA XP sP 04 34 37.8 +5.6
LSA PP PP 04 36 30.0 -3.9
LSA S **S 04 42 12.9 +0.4**
LSA SCS ScS 04 44 11.3 -2.6
LSA LR LR
comp=N,530nm,22.0s,MS4.8
LSA LR LR
comp=E,690nm,23.0s,MS4.8
LSA LR LR
comp=Z,1μm,21.1s,MS5.0
KSU1 Kansas State U 55.82 8 *eP* **P 04 34 26.6 -2.2**
MNV Mina 55.94 28 *eP* **P 04 34 29.1 -0.6**
MNV pmax pmax
comp=Z,77nm,2.0s,mb5.4
MNV Mina 55.94 28 *eP* **P 04 34 29.1 -0.6**
comp=Z,77nm,2.0s,mb5.4
MSU Marysvale 56.07 23 *eP* **P 04 34 30.5 -0.2**
MVU Marysvale 56.08 23 *eP* **P 04 34 31.2 +0.5**
comp=Z,31nm,1.4s,mb5.1
MVU LR LR
comp=Z,2μm,20.0s,MS5.2
TRCR Troy Canyon 56.12 26 *eP* **P 04 34 30.9 -0.1**
CMB Columbia Colle 56.24 30 *eP* **P 04 34 30.8 -1.1**
CMB pmax pmax
comp=Z,46nm,1.9s,mb5.2
CMB Columbia Colle 56.24 30 *eP* **P 04 34 30.8 -1.1**
comp=Z,46nm,1.9s,mb5.2
TPH Tonopah 56.33 27 *eP* **P 04 34 33.0 +0.5**
TPH pmax pmax
comp=Z,22nm,1.4s,mb5.0
TPH Tonopah 56.33 27 *eP* **P 04 34 33.0 +0.4**
comp=Z,22nm,1.4s,mb5.0
OMM Old Mammoth Mi 56.72 29 *eP* **P 04 34 36.2 +0.9**
ARUT Antelope Range 56.75 24 *eP* **P 04 34 35.6 0.0**
NDI New Delhi 56.86 195 *eP* **P 04 34 35.0 -1.4**
NDI *eS* **S 04 42 30.0 +2.0**
CCM Cathedral Cave 56.91 3 *eP* **P 04 34 34.4 -2.3**
CCM pmax pmax
comp=Z,34nm,1.1s,mb5.3
CCM Cathedral Cave 56.91 3 *eP* **P 04 34 34.4 -2.3**
comp=Z,34nm,1.1s,mb5.3
SDCO Great Sand Dun 57.02 16 *eP* **P 04 34 37.2 -0.3**
comp=Z,25nm,1.5s,mb5.0
SDCO LR LR
comp=Z,4μm,20.0s,MS5.5
GKN Gorkha 57.41 187 *eP* **P 04 34 38.6 -1.8**
comp=Z,224nm,1.5s,mb6.0
SAO San Andreas Ge 57.47 31 *eP* **P 04 34 41.4 +0.8**
SAO pmax pmax
comp=Z,31nm,1.8s,mb5.0
SAO San Andreas Ge 57.47 31 *eP* **P 04 34 41.4 +0.7**
comp=Z,31nm,1.8s,mb5.0
GUN Gumba 57.49 186 *eP* **P 04 34 39.5 -1.4**
comp=Z,91nm,1.1s,mb5.7
KKN Kakani 57.62 187 *eP* **P 04 34 40.4 -1.4**
comp=Z,102nm,1.3s,mb5.7
KOLN Koldanda 57.66 189 *eP* **P 04 34 40.1 -2.0**
comp=Z,183nm,1.7s,mb5.8
BLA Blacksburg 57.72 353 *eP* **P 04 34 43.1 +0.7**
BLA pmax pmax
comp=Z,94nm,1.5s,mb5.6
BLA Blacksburg 57.72 353 *eP* **P 04 34 43.1 +0.7**
comp=Z,94nm,1.5s,mb5.6
JIRN Jiri 57.74 186 *eP* **P 04 34 41.4 -1.3**
comp=Z,116nm,1.3s,mb5.7
DMN Daman 57.80 187 *eP* **P 04 34 41.2 -1.9**
comp=Z,264nm,1.7s,mb6.0
PKI Pulchoki 57.84 187 *eP* **P 04 34 41.8 -1.5**
comp=Z,191nm,1.6s,mb5.9
EIL Elat 57.96 239 LR LR 05 03 54.1
comp=Z,659nm,21.3s,MS4.7,baz=6.0,slow=40
EIL Elat 57.96 239 *eP* **P 04 34 43.6 -0.6**
comp=Z,164nm,2.1s,mb5.7
GYA Guiyang 59.08 164 ⇓*iP* **P 04 34 51.8 -0.3**
GYA AP pP 04 34 55.8 +0.6
GYA XP sP 04 34 59.3 +3.0
GYA PP PP 04 37 03.8 -0.7
GYA S **S 04 43 01.0 +3.7**
GYA SS SS 04 46 53.6 +0.5
GYA AMB AMB
comp=Z,40nm,1.8s,mb5.2
GYA AMB AMB
comp=Z,360nm,6.3s
GYA LR LR
comp=N,680nm,17.2s,MS5.0
GYA LR LR
comp=E,540nm,16.4s,MS5.0
GYA LR LR
comp=Z,340nm,18.0s,MS4.5
WUAZ Wupatki 59.09 22 *eP* **P 04 34 51.6 -0.3**
comp=Z,54nm,1.5s,mb5.4
AJM Ajmer 59.11 198 *eP* **P 04 34 51.1 -1.2**
AJM *e* 04 38 43.1
ANMO Albuquerque 59.79 17 *eP* **P 04 34 55.5 -1.3**
ANMO pmax pmax
comp=Z,37nm,1.3s
ANMO MLR MLR
comp=Z,3μm,21.0s
ANMO Albuquerque 59.79 17 *eP* **P 04 34 55.5 -1.3**
comp=Z,37nm,1.3s,mb5.2
ANMO LR LR
comp=Z,3μm,21.0s,MS5.4
PLAL Pickwick Lake 59.98 360 *eP* **P 04 34 56.3 -1.9**
comp=Z,20nm,1.0s,mb5.1
MWC Mount Wilson 60.14 28 *eP* **P 04 34 59.2 0.0**
WMOK Wichita Mounta 60.15 10 *eP* **P 04 34 57.8 -1.5**
WMOK pmax pmax
comp=Z,38nm,1.4s,mb5.2
WMOK MLR MLR
comp=Z,2μm,21.0s,MS5.2
WMOK Wichita Mounta 60.15 10 *eP* **P 04 34 57.8 -1.5**
comp=Z,38nm,1.4s,mb5.2
WMOK LR LR
comp=Z,2μm,21.0s,MS5.2
UALR University of 60.18 4 *eP* **P 04 34 57.5 -2.0**
comp=Z,21nm,0.9s,mb5.2
KMI Kunming 60.33 169 P **P 04 35 00.6 -0.1**
KMI AP pP 04 35 06.1 +2.3
KMI PPP PPP 04 38 44.4 +1.9
KMI S **S 04 43 16.1 +2.7**
KMI XS 04 43 24.6
KMI AMB AMB
comp=Z,29nm,1.6s,mb5.1
KMI AMB AMB
comp=Z,350nm,4.7s
KMI LR LR
comp=N,1μm,16.6s,MS5.3
KMI LR LR
comp=E,781nm,14.3s,MS5.3
KMI LR LR
comp=Z,2μm,16.6s,MS5.2
KMI Kunming 60.33 169 P **P 04 35 00.6 -0.1**
comp=Z,29nm,1.6s,mb5.1
KMI pP pP 04 35 06.1 +2.3
KMI PPP PPP 04 38 44.4 +1.9
KMI S **S 04 43 16.1 +2.7**
KMI sS 04 43 24.6
KMI SS SS 04 47 16.7 +4.5
KMI SSS SSS 04 49 51.9 +6.4
KMI LR LR
comp=Z,2μm,16.6s,MS5.2
MIAR Mount Ida 60.40 5 *eP* **P 04 34 58.7 -2.3**
MIAR pmax pmax
comp=Z,40nm,1.3s,mb5.3
MIAR Mount Ida 60.40 5 *eP* **P 04 34 58.6 -2.4**
comp=Z,40nm,1.3s,mb5.3
LPM Los Pinos Moun 60.42 17 *eP* **P 04 35 00.8 -0.3**
OXF Oxford 60.45 1 *eP* **P 04 35 00.4 -1.0**
OXF pmax pmax
comp=Z,108nm,1.1s,mb5.8
OXF Oxford 60.45 1 *eP* **P 04 35 00.4 -0.9**
comp=Z,108nm,1.1s,mb5.8
LENM Lemitar 60.56 18 *eP* **P 04 35 01.8 -0.3**
JSC Jenkinsville 60.65 353 *eP* **P 04 35 01.2 -1.5**
GOGA Godfrey 61.53 355 *eP* **P 04 35 07.1 -1.6**
GOGA pmax pmax
comp=Z,47nm,1.1s,mb5.5
GOGA Godfrey 61.53 355 *eP* **P 04 35 07.1 -1.6**
comp=Z,47nm,1.1s,mb5.5
BOK Bokaro 61.59 186 *eP* **P 04 35 09.3 0.0**
BOK *e* pP 04 35 11.1 -1.2
comp=Z,32nm,1.8s
BAR Barrett 61.73 27 *eP* **P 04 35 10.2 +0.2**
CPRX Cap Rock 61.76 15 *eP* **P 04 35 10.8 +0.5**
LRAL Lakeview Retre 61.92 359 *eP* **P 04 35 09.2 -2.2**
comp=Z,31nm,1.1s,mb5.3
LRAL LR LR
comp=Z,2μm,20.0s,MS5.2
TUC Tucson 62.30 21 *eP* **P 04 35 13.1 -0.8**
TUC pmax pmax
comp=Z,49nm,1.6s,mb5.4
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.3
TUC Tucson 62.30 21 *eP* **P 04 35 13.1 -0.8**
comp=Z,49nm,1.6s,mb5.4
TUC LR LR
comp=Z,2μm,20.0s,MS5.3
BHJ Bhuj 62.47 203 *eP* **P 04 35 12.4 -2.7**
BHJ *e* 04 35 18.8
comp=Z,79nm,2.0s
BHJ *eS* **S 04 43 43.2 +2.7**
CLNB Carlsbad 62.52 15 *eP* **P 04 35 13.7 -1.7**
JCT Junction City 64.38 11 *eP* **P 04 35 25.8 -1.7**
JCT pmax pmax
comp=Z,59nm,1.3s,mb5.5
JCT MLR MLR
comp=Z,1μm,19.0s,MS5.0
JCT Junction City 64.38 11 *eP* **P 04 35 25.8 -1.7**
comp=Z,58nm,1.3s,mb5.5
JCT LR LR
comp=Z,1μm,19.0s,MS5.0
HKT Hockley 64.96 7 *eP* **P 04 35 29.3 -2.0**
HKT pmax pmax
comp=Z,44nm,1.7s,mb5.2
HKT Hockley 64.96 7 *eP* **P 04 35 29.3 -1.9**
comp=Z,44nm,1.7s,mb5.2
LTX Lajitas 65.45 15 *eP* **P 04 35 32.7 -1.7**
LTX pmax pmax
comp=Z,76nm,1.6s,mb5.5
LTX MLR MLR
comp=Z,2μm,19.0s,MS5.4
LTX Lajitas 65.45 15 *eP* **P 04 35 32.7 -1.7**
comp=Z,76nm,1.6s,mb5.5
LTX LR LR
comp=Z,2μm,19.0s,MS5.4
TXAR Lajitas Array 65.45 15 P **P 04 35 33.5 -0.9**
comp=Z,1.7nm,0.6s,mb4.3,baz=349,slow=3.3,SNR=23
TXAR PKP2ab 05 04 24.7
comp=Z,0.6nm,1.0s,baz=180,slow=2.7,SNR=5.0
TXAR LR LR 05 04 54.9
comp=Z,2μm,18.5s,MS5.3,baz=345,slow=37
TXAR Lajitas Array 65.45 15 P **P 04 35 33.5 -0.9**
TXAR P'P'ab 05 04 24.7
TXAR LR LR 05 04 54.9
QIZ Qiongzhong 66.55 161 P **P 04 35 43.0 +1.4**
QIZ S S 04 44 33.4 +2.4
QIZ LR LR
comp=N,599nm,17.3s,MS5.0
QIZ LR LR
comp=E,390nm,16.1s,MS5.0
QIZ LR LR
comp=Z,874nm,17.7s,MS5.0
CHG Chiang Mai 66.56 173 ⇓P **P 04 35 40.3 -1.3**
comp=Z,19nm,1.1s,mb5.0
NANT Nan 66.59 171 ⇑P **P 04 35 44.0 +2.1**
comp=Z,81nm,1.0s,mb5.7
POO Poona 67.04 198 *eP* **P 04 35 45.0 +0.2**
POO *e* pP 04 35 46.3 -1.6
comp=Z,28nm,1.0s
VIS Vishakhapatnam 67.66 189 *eP* **P 04 35 47.1 -1.5**
VIS *e* pP 04 35 50.9 -0.9
comp=Z,34nm,1.2s
HYB Hyderabad 68.04 194 *eP* **P 04 35 49.0 -2.0**
HYB Hyderabad 68.04 194 *i P* **P 04 35 49.0 -2.0**
NST Nakhon Sawan 69.70 171 P **P 04 36 00.0 -1.2**
MDRS Chennai 72.33 192 *e* **P 04 36 11.0 -6.2**
MDRS *e* 04 42 58.0
SJG San Juan 76.44 338 LR LR 05 12 03.0
comp=Z,502nm,18.0s,MS4.9,baz=328,slow=37
KKM Kota Kinabalu 79.65 155 *eP* **P 04 36 57.8 -0.6**
KKM *e*PcP PcP 04 37 06.3 -0.5
DBIC Dimbokro 83.94 277 P **P 04 37 20.8 0.0**
comp=Z,4.1nm,0.9s,mb4.5,baz=336,slow=7.8,SNR=4.7
DBIC LR LR 05 21 16.0
comp=Z,155nm,18.0s,MS4.4,slow=40
JTS JuntasAbangare 84.55 357 LR LR 05 13 56.8
comp=Z,754nm,21.7s,MS5.0,baz=2.9,slow=35
SDV Santo Domingo 85.73 343 P **P 04 37 31.3 +1.5**
comp=Z,7.1nm,1.1s,mb4.8,baz=13,slow=5.0,SNR=17
SDV LR LR 05 16 26.0
comp=Z,552nm,19.4s,MS5.0,baz=27,slow=36
SDV Santo Domingo 85.73 343 *eP* **P 04 37 29.8 +0.1**
comp=Z,132nm,1.9s,mb5.8
SDV LR LR
comp=Z,514nm,20.0s,MS4.9
KMBO Kilima Mbogo 88.34 234 P **P 04 37 44.2 +1.8**
comp=Z,0.4nm,0.5s,baz=351,slow=3.2,SNR=6.3
KMBO LR LR 05 24 27.6
comp=Z,239nm,18.7s,baz=179,slow=40
KMBO Kilima Mbogo 88.34 234 *eP* **P 04 37 44.1 +1.6**
comp=Z,88nm,2.6s,mb5.5
KMBO LR LR
comp=Z,276nm,21.0s,MS4.7
ROSC El Rosal 89.82 346 P **P 04 37 52.1 +2.6**
comp=Z,2.5nm,0.8s,mb4.6,baz=327,slow=3.8,SNR=8.5
ROSC LR LR 05 18 25.1
comp=Z,269nm,19.1s,MS4.7,baz=0.5,slow=36
OTAV Otavalo 94.48 350 *eP* **P 04 38 11.8 +0.9**
comp=Z,96nm,2.5s,mb5.8
PPT Papeete 109.70 63 *e*SP SP 04 53 03.2 -14
PPT *e*SS SS 04 59 26.2 +10
PPT *e*LR LR 05 15 35.8
comp=Z,782nm,23.8s
ASAR Alice Springs 109.94 139 PKiKP 04 43 23.2
comp=Z,0.9nm,0.9s,baz=355,slow=2.7,SNR=4.0
ASAR PKKPbc 04 54 21.6
comp=Z,0.6nm,0.8s,baz=155,slow=2.2,SNR=5.3
TBI Tubuai 115.44 63 *e*SP SP 04 54 13.7 +1.4
TBI *e*SS SS 05 00 48.5 +16
TBI *e*LR LR 05 18 25.8
comp=Z,777nm,27.5s
RKT Rikitea 116.21 48 *e*SP SP 04 54 20.8 +1.6
RKT *e*SS SS 05 00 58.7 +16
RKT *e*LR LR 05 18 20.3
comp=Z,600nm,34.8s
PLCA Paso Flores 135.08 341 *e*PKiKP PKPdf 04 44 10.4 -0.9
PLCA Paso Flores 135.08 341 PKP PKPdf 04 44 10.3 -1.0
comp=Z,2.5nm,0.9s,baz=295,slow=3.6,SNR=5.6
USHA Ushuaia 149.11 338 PKPbc PKPdf 04 44 40.3 +5.1
comp=Z,8.2nm,0.9s,baz=196,slow=0.8,SNR=5.2
VNDA Vanda 165.12 127 PKP2 PKPab 04 45 52.3 +1.7
VNDA pmax pmax
comp=Z,3.0nm,1.0s
VNDA Vanda 165.12 127 PKPab PKPab 04 45 52.2 +1.6
comp=Z,3.1nm,1.0s,baz=300,slow=6.8,SNR=4.5

DJA 18 04:27:55.4±3.4, 9.06S×103.43E, h33km, ML5.5/6, 5C-2D, Error ellipse: s-maj=90.5km s-min=11.2km az=61.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PULI	**Pulasari**	**3.69**	**43**⇑	*e*Pn	Pn	04 28 49.7	-1.9
	2μm,0.2s						
PENI	**Pendagan**	**3.87**	**27**⇑	*e*Pn	Pn	04 28 53.0	-1.2
	496nm,0.2s						
PACI	**Pancar Gunung**	**4.23**	**55**⇑	*e*Pn	Pn	04 28 58.2	-1.1
SRDI	**Scrawed**	**10.60**	**88**⇑	*e*Pn	P	04 30 30.2	+2.0
	99nm,0.2s						
KELI	**Kelakatan**	**10.97**	**86**⇓	*e*Pn	P	04 30 34.6	+1.4
	48nm,0.2s						
RATI	**Rata**	**11.96**	**89**⇓	*e*Pn	P	04 30 47.3	+0.7
	147nm,0.2s						
KEDI	**Kedomdong**	**12.55**	**88**⇑	*e*Pn	P	04 30 54.2	-0.3
	28nm,0.2s						

IGQ 18 04:48:53.9, 4.06S×81.38W, h12km±30km, mb4.6, 1D, Error ellipse: s-maj=28.3km s-min=13.5km az=123.7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOJA	**Cerro de Hojas**	**3.10**	**16**	P	Pn	04 49 44.6	+0.9
HOJA				S	Sn	04 50 14.8	-6.2
IGUA	**Igualata**	**3.74**	**47**	P	Pn	04 49 53.1	+0.3
ARRY	**Arrayan**	**3.87**	**49**	P	Pn	04 49 55.2	+0.7
ULBA	**Ulba**	**3.94**	**49**	⇓P	Pn	04 49 57.4	+1.9
NAS1	**Nasa**	**4.47**	**41**	P	Pn	04 50 04.7	+1.6
TAMB	**Tambo**	**4.50**	**42**	P	Pn	04 50 06.2	+2.7
VC1	**Cotopaxi 1**	**4.51**	**41**	P	Pn	04 50 05.4	+1.7
JUA2	**San Juan 2**	**4.72**	**36**	P	Pn	04 50 07.5	+0.9
JUA2				S	Sn	04 50 59.9	-2.0
TERV	**Terraza Guagua**	**4.75**	**36**	P	Pn	04 50 08.4	+1.3
TERV				S	Sn	04 50 59.9	-2.8
PINO	**Pino**	**4.76**	**36**	P	Pn	04 50 07.9	+0.7
ANTI	**Antisana**	**4.81**	**42**	P	Pn	04 50 08.8	+0.8
YANA	**Yana**	**4.81**	**36**	P	Pn	04 50 09.2	+1.3
CAYR	**Refugio Cayamb**	**5.27**	**40**	P	Pn	04 50 13.8	-0.5
COTA	**Cotacachi**	**5.32**	**35**	P	Pn	04 50 14.9	-0.2
CAYA	**Cayambe**	**5.32**	**40**	P	Pn	04 50 18.2	+3.1
ECEN	**Cerro Negro**	**5.92**	**35**	P	Pn	04 50 26.1	+2.4

*NEIC **18** 04:58:48.0±1.4, 51.48N×16.16E, h5km, ML2.7(VIE), ML2.1(BRG), Error ellipse: s-maj=16.0km s-min=6.4km az=209.0*
*PRU **18** 04:58:47.8, 51.52N×16.14E*
*CSEM **18** 04:58:47.7±0.3, 51.52N×16.09E, h1km, ML2.7, Error ellipse: s-maj=4.3km s-min=2.2km az=20.0*
*WAR **18** 04:58:48.6, 51.51N×16.06E, h1km, ML2.4, Mining Induced*

ISC 18 04:58:47.1±1.0, 51.44N±0.05×16.03E±0.05, n19, σ1§25/39, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**164**	*e*PG	**Pg**	**04 59 01.0**	**+1.5**
KSP				*e*SG	**Sg**	**04 59 10.0**	**+2.2**
KSP	**Ksiaz**	**0.62**	**164**	*e*Pg	**Pg**	**04 59 01.1**	**+1.6**
KSP				*e*Sg	**Sg**	**04 59 09.7**	**+1.9**
UPC	**Upice**	**0.94**	**181**	*e*PG	**Pg**	**04 59 07.1**	**+1.4**
DPC	**Dobruska-Polom**	**1.11**	**170**	*e*PG	**Pg**	**04 59 09.8**	**+0.6**
DPC				*e*SG	**Sg**	**04 59 24.9**	**+1.0**
	15nm,0.2s						
PVCC	**Panska Ves**	**1.30**	**226**	*e*PG	**Pg**	**04 59 13.9**	**+0.9**
BRG	**Berggiesshubel**	**1.43**	**247**	*e*Pn	**Pn**	**04 59 15.1**	**+0.8**
BRG				*i* Pg	**Pg**	**04 59 15.9**	**+0.3**
BRG				*i* Sg	**Sg**	**04 59 40.4**	**+5.7**
BRG	**Berggiesshubel**	**1.43**	**247**	*i* Pg	**Pg**	**04 59 15.9**	**+0.3**
PRU	**Pruhonice**	**1.73**	**214**	*e*PN	**Pn**	**04 59 20.0**	**+1.3**
PRU				*e*PG	**Pg**	**04 59 21.1**	**-0.6**
PRU				*e*SG	**Sg**	**04 59 44.9**	**+0.1**
PRU	**Pruhonice**	**1.73**	**214**	Pg	**Pg**	**04 59 21.1**	**-0.6**
PRU				Sg	**Sg**	**04 59 44.9**	**+0.1**
CLL	**Collm**	**1.90**	**267**	*e*PG	**Pg**	**04 59 23.0**	**-2.0**
CLL				*e*		04 59 28.0	
CLL				*e*SG	**Sg**	**04 59 49.0**	**-1.3**
CLL	**Collm**	**1.90**	**267**	*e*Pg	**Pg**	**04 59 23.0**	**-2.0**
CLL				*e*Sg	**Sg**	**04 59 49.0**	**-1.3**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**04 59 21.6**	**+0.2**
MORC				*e*Sn	**Sn**	**04 59 45.5**	**-1.2**
MORC				*e*Sg	**Sg**	**04 59 50.2**	**-1.0**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**04 59 21.6**	**+0.2**
MORC				*e*Sn	**Sn**	**04 59 45.5**	**-1.2**
MORC				*e*Sg	**Sg**	**04 59 50.0**	**-1.2**
OKC	**Ostrava-Krasne**	**2.10**	**139**	Pg	**Pg**	**04 59 27.1**	**-1.8**
OKC				Sg	**Sg**	**04 59 54.6**	**-2.3**
VRAC	**Vranov**	**2.17**	**170**	*e*Pn	**Pn**	**04 59 26.2**	**+1.4**
NKC	**Novy Kostel**	**2.57**	**243**	Pn	**Pn**	**04 59 31.5**	**+0.9**
NKC				Sg	**Sg**	**05 00 12.6**	**-0.1**
KHC	**Kasperske Hory**	**2.79**	**215**	*e*PN	**Pn**	**04 59 34.6**	**+0.8**
KHC				*e*PG	**Pg**	**04 59 40.5**	**-2.4**
KHC				*e*SN	**Sn**	**05 00 10.0**	**+1.2**
KHC				*e*SG	**Sg**	**05 00 19.0**	**-1.1**
MOX	**Moxa**	**2.90**	**256**	Sg	**Sg**	**05 00 28.0**	**+4.5**
MOA	**Molln**	**3.77**	**198**⇑	*i*PN	**Pn**	**04 59 47.5**	**-0.2**
MOA				*i* SG	**Sg**	**05 00 51.1**	**-1.6**
	2.7nm,0.4s						

*NEIC **18** 05:10:42.5±0.3, 20.21N×71.95W, mb4.2/6, Error ellipse: s-maj=8.1km s-min=6.1km az=75.0*
*IDC **18** 05:10:42.4±0.6, 20.20N×71.92W, h34km±4km, mb3.7/15, mb1 3.9/19, mb1mx3.8/24, mbtmp3.9/19, ML4.2/2, Error ellipse: s-maj=18.1km s-min=11.7km az=62.0*
*JSN **18** 05:10:42.4±0.6, 19.53N×71.88W, h15km*

ISC 18 05:10:39.8±0.4, 20.02N±0.04×72.00W±0.04, h35km, h35km±1.5km: pP-P, n40, σ1§13/45, mb3.9/19, 3D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GWJ	**Greenwich**	**4.87**	**247**⇓	*e*P	**P**	**05 11 53.0**	**+0.4**
GWJ				*e*S	**S**	**05 12 46.3**	**-2.3**
HOJ	**Hope**	**4.92**	**247**⇓	*e*P	**P**	**05 11 54.5**	**+1.2**
STH	**Stony Hill**	**4.94**	**248**⇓	*e*P	**P**	**05 11 53.9**	**+0.3**
STH				*e*S	**S**	**05 12 48.3**	**-2.0**
MCJ	**Malvern**	**5.77**	**250**	*i* P	**P**	**05 12 06.0**	**+0.8**
MCJ				*e*S	**S**	**05 13 08.4**	**-2.7**
SJG	**San Juan**	**5.85**	**108**	Pn	**P**	**05 12 05.8**	**-0.5**
	3.2nm,0.3s,baz=306,slow=10,SNR=9.4						
SJG				Sn	**S**	**05 13 11.2**	**-2.0**
	20nm,0.3s,baz=224,slow=23,SNR=5.7						
SJG	**San Juan**	**5.85**	**108**	*e*Pn	**P**	**05 12 06.8**	**+0.5**
SJG				Sn	**S**	**05 13 11.2**	**-2.0**
SDV	**Santo Domingo**	**11.14**	**173**	Pn	**P**	**05 13 22.9**	**+3.0**
	0.6nm,0.3s,baz=37,slow=6.7,SNR=10						
SDV				Sn	**S**	**05 15 23.6**	**-0.6**
	baz=15,slow=5.8,SNR=1.8						
SDV	**Santo Domingo**	**11.14**	**173**	*e*Pn	**P**	**05 13 21.1**	**+1.2**
SDV				Sn	**S**	**05 15 23.6**	**-0.6**
ROSC	**El Rosal**	**15.24**	**189**	Pn	**P**	**05 14 18.8**	**+4.6**
	0.1nm,0.3s,baz=100,slow=22,SNR=3.6						
TEIG	**Tepich**	**15.29**	**274**	Pn	**P**	**05 14 15.8**	**+1.0**
	4.1nm,0.4s						
JTS	**JuntasAbangare**	**15.79**	**234**	Pn	**P**	**05 14 22.5**	**+1.2**
	2.3nm,0.3s,baz=302,slow=23,SNR=3.9						
JTS	**JuntasAbangare**	**15.79**	**234**	*e*P	**P**	**05 14 24.0**	**+2.6**
OTAV	**Otavalo**	**20.64**	**199**	*e*P	**P**	**05 15 23.6**	**+4.5**
	15nm,1.4s						
ACCN	**Adirondack Com**	**23.34**	**357**	*e*P	**P**	**05 15 45.8**	**0.0**
MIV	**Mineville/With**	**24.02**	**357**	*e*P	**P**	**05 15 53.0**	**+0.6**
SADO	**Sadowa**	**25.39**	**348**	P	**P**	**05 16 04.5**	**-1.1**
	4.1nm,0.8s,mb4.0,baz=196,slow=10,SNR=6.5						
SADO				pP	pP	05 16 15.2	0.0
	3.0nm,0.7s,baz=203,slow=11,SNR=3.9						
WMOK	**Wichita Mounta**	**27.83**	**307**	P	**P**	**05 16 27.7**	**-0.5**
	1.1nm,0.5s,mb3.7						
WMOK				*e*pP	pP	05 16 37.2	-0.7
SAML	**Samuel**	**30.06**	**162**	*e*P	**P**	**05 16 47.9**	**-0.3**
	3.8nm,0.9s,mb4.1						
SAML				*e*pP	pP	05 16 57.9	-0.3
TXAR	**Lajitas Array**	**30.15**	**294**	P	**P**	**05 16 48.9**	**0.0**
	0.5nm,0.8s,mb3.3,baz=102,slow=12,SNR=4.1						
TXAR				pP	pP	05 17 00.4	+1.6
	1.3nm,0.8s,baz=111,slow=11,SNR=10						
TXAR				PcP	PcP	05 19 49.0	-0.8
	0.3nm,0.8s,baz=124,slow=6.5,SNR=3.2						
MNTX	**Cornudas Mount**	**32.09**	**298**	*e*P	**P**	**05 17 05.9**	**-0.1**
	4.7nm,0.9s,mb4.3						
MNTX				*e*pP	pP	05 17 16.6	+0.6
ANMO	**Albuquerque**	**33.80**	**303**	pP	pP	05 17 31.8	+1.0
	0.6nm,0.4s,baz=134,slow=4.1,SNR=3.5						
SCHQ	**Schefferville**	**34.98**	**5**	P	**P**	**05 17 30.3**	**-0.4**
	2.7nm,0.7s,mb4.3,baz=187,slow=4.8,SNR=8.2						
ULM	**Lac du Bonnet**	**35.62**	**334**	P	**P**	**05 17 34.2**	**-1.9**
	0.4nm,0.3s,mb3.8,baz=160,slow=4.2,SNR=3.3						
ULM	**Lac du Bonnet**	**35.62**	**334**	P	**P**	**05 17 34.2**	**-2.0**
LPAZ	**La Paz**	**36.27**	**174**	P	**P**	**05 17 45.6**	**+3.6**
	0.4nm,0.5s,mb3.6,slow=5.1,SNR=3.7						
LPAZ				pP	pP	05 17 54.9	+2.8
	0.7nm,0.5s,baz=351,slow=9.8,SNR=2.8						
LPAZ	**La Paz**	**36.27**	**174**	P	**P**	**05 17 47.0**	**+5.0**
LPAZ				pP	pP	05 17 54.9	+2.8
PDAR	**Pinedale Array**	**38.82**	**314**	P	**P**	**05 18 04.0**	**+0.9**
	0.4nm,0.8s,mb3.2,baz=98,slow=6.4,SNR=2.3						
PDAR				pP	pP	05 18 13.7	+0.5
	0.8nm,0.7s,baz=126,slow=12,SNR=5.3						
HWUT	**Hardware Ranch**	**39.76**	**312**	P	**P**	**05 18 11.3**	**+0.4**
	3.0nm,0.6s,mb4.2						
HWUT				*e*pP	pP	05 18 22.4	+1.4

NVAR **Mina Array Bea 43.88 305** P **P 05 18 46.8 +2.0**
0.8nm,0.9s,mb3.5,baz=108,slow=6.6,SNR=4.7
NVAR pP pP 05 18 56.4 +1.4
1.3nm,0.8s,baz=99,slow=6.7,SNR=8.1
NEW Newport 45.85 319 P **P 05 19 00.3 -0.2**
2.4nm,0.8s,mb4.2,baz=127,slow=5.9,SNR=5.6
NEW pP pP 05 19 10.6 -0.1
4.2nm,0.9s,baz=122,slow=10,SNR=5.8
YBH Yreka Blue Hor 47.83 309 pP pP 05 19 25.7 -0.6
0.7nm,0.6s,baz=91,slow=8.0,SNR=2.4
YKA Yellowknife Ar 51.49 336 P **P 05 19 42.3 -1.4**
1.2nm,0.8s,mb3.9,baz=123,slow=7.6,SNR=5.6
YKA pP pP 05 19 52.4 -1.7
0.8nm,0.9s,baz=111,slow=6.6,SNR=7.5
PLCA Paso Flores 60.45 179 P **P 05 20 49.9 +1.4**
1.1nm,0.8s,mb4.0,baz=329,slow=12,SNR=2.7
PLCA pP pP 05 20 59.0 +0.1
2.3nm,0.8s,baz=355,slow=10,SNR=5.4
ESDC Sonseca Array 60.81 55 P **P 05 20 50.2 -0.7**
0.5nm,0.6s,mb3.8,baz=276,slow=5.9,SNR=3.0
DBIC Dimbokro 66.29 91 P **P 05 21 27.8 +0.4**
2.5nm,0.7s,mb4.4,baz=236,slow=10,SNR=5.0
DBIC Dimbokro 66.29 91 P **P 05 21 27.8 +0.4**
GERES GERESS Array B 72.42 44 P **P 05 22 04.9 +0.6**
0.1nm,0.3s,mb3.2,baz=270,slow=1.3,SNR=3.6
ARCES ARCESS Array B 74.02 21 P **P 05 22 13.4 +0.1**
1.5nm,0.6s,mb4.1,baz=326,slow=4.4,SNR=6.7
FINES FINESS Array B 76.42 29 P **P 05 22 27.3 +0.1**
1.9nm,0.7s,mb4.1,baz=315,slow=5.4,SNR=6.6
FINES FINESS Array B 76.42 29 P **P 05 22 27.3 +0.1**

IDC 18 05:11:57.4±15.0**,12.21N**×**92.31E,mb3.6**/3**,mb1 3.9**/3**, mb1mx3.6**/15**,mbtmp3.6**/3**,Error ellipse: s-maj=534.9km s-min=35.2km az=75.0,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**37.42**	**16**	P	P	05 19 12.2	-1.7
	0.2nm,0.5s,baz=207,slow=6.4,SNR=2.7						
WRA	**Warramunga Arr**	**52.27**	**127**	P	P	05 21 10.3	-2.8
	0.4nm,0.4s,baz=306,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**54.09**	**131**	P	P	05 21 24.7	-1.7
	0.7nm,0.6s,baz=311,slow=6.9,SNR=7.6						

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*TAP **18** 05:13:14.1,24.69N×122.53E,h2km±1km,ML3.5*
JMA 18 05:13:12.7±0.1**,24.70N**×**122.74E,h20**km±2km**,M3.3, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.34**	**134**	P	Pb	05 13 19.7	-0.3
YOJ				S	Sb	05 13 24.7	-0.4
IRIF	**Iriomote-Funau**	**0.97**	**112**	P	Pb	05 13 30.6	-0.1
IRIF				*e*S	Sb	05 13 43.1	0.0
HATJ	**Hateruma jima**	**1.16**	**123**	P	Pb	05 13 33.5	-0.5
HATJ				*e*S	Sb	05 13 49.1	+0.5
JKRS	**Kuro-shima**	**1.25**	**111**	P	Pn	05 13 35.0	-0.2
JKRS				*e*S	Sb	05 13 51.1	+0.1
JIJ	**Ishigaki jima**	**1.32**	**104**	P	Pn	05 13 35.7	-0.6
JIJ				*e*S	Sb	05 13 52.6	-0.6

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*MOS **18** 05:17:12.5±0.8,3.40S×150.77E,h43km,mb5.1/18,Error ellipse: s-maj=15.7km s-min=8.1km az=72.2*
*BJI **18** 05:17:15.3,3.22S×151.29E,h70km,mB5.2,mb4.9,Ms5.0, Msz4.5*
*NEIC **18** 05:17:16.5±2.0,3.52S×150.77E,h70km±19km,mb4.9/26, Error ellipse: s-maj=10.2km s-min=9.3km az=66.0*
*HRVD **18** 05:17:16.5±0.3,3.43S×151.02E,h75km±3km,MW5.2/48, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s48,c86; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; Mrr0.71±.03; Mθθ0.10±.02; Mφφ-0.81±.02; Mrθ0.04±.02; Mθφ0.11±.02; Mφr-0.08±.03; Best double couple: M0.773×10^{17} NP1:φs356°,δ42°,λ94°. NP2:φs171°,δ48°,λ87°. Principal axes: T.715, Plg86°, Azm44°; N.116, Plg3°, Azm173°; P-.831, Plg3°, Azm263°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **18** 05:17:18.8±4.7,3.54S×150.60E,h82km±42km,mb4.2/12, mb1 4.3/14,mb1mx4.2/17,mbtmp4.5/14,MS4.0/6, Ms1 4.0/6,ms1mx4.0/9 Error ellipse: s-maj=25.7km s-min=18.0km az=65.0*
ISC 18 05:17:13.3±2.0**,3.51S**±0.06×**150.86E**±0.06**,h52**km±18km**, h88**km±5.1km**:pP-P,n110,σ1s16**/106**,mb4.8**/50**,MS4.2**/11**, 2C-2D,New Ireland region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
PMG Port Moresby 6.92 212 *e*P **P 05 18 55.4 +0.9**
PMG pmax pmax
comp=Z,104nm,1.0s
PMG Port Moresby 6.92 212 P **P 05 18 55.9 +1.4**
comp=Z,1.4nm,0.3s,baz=60,slow=7.0,SNR=9.3
PMG Port Moresby 6.92 212 *e*Pn **P 05 18 55.4 +0.9**
comp=Z,104nm,1.0s
CTA Charters Tower 17.08 195⇓*i*P **P 05 21 10.6 +0.6**
comp=Z,26nm,1.5s
CTA Charters Tower 17.08 195⇓*i*P **P 05 21 10.6 +0.6**
CTA pmax pmax
comp=Z,26nm,1.5s
CTA Charters Tower 17.08 195 P **P 05 21 10.7 +0.6**
comp=Z,0.2nm,0.3s,baz=22,slow=13,SNR=11
CTA LR LR 05 27 24.1
comp=Z,484nm,18.5s,baz=16,slow=36
CTAO Charters Tower 17.08 195 *e*P **P 05 21 10.4 +0.4**
CTAO pmax pmax
comp=Z,93nm,1.4s
CTAO Charters Tower 17.08 195 *e*P **P 05 21 10.4 +0.4**
comp=Z,93nm,1.4s
KAKA Kakadu 20.38 242⇑*i*P **P 05 21 47.0 -1.3**
comp=Z,39nm,0.7s
WRAB Tennant Creek 22.93 223 *i* P **P 05 22 13.9 0.0**
WRAB Tennant Creek 22.93 223 *e*P **P 05 22 13.1 -0.8**
comp=Z,97nm,1.1s,mb5.1
WB2 Warramunga Arr 22.94 223 *e*P **P 05 22 13.6 -0.4**
WRA Warramunga Arr 22.95 223 *i* P **P 05 22 14.0 -0.1**
WRA pmax pmax
comp=Z,6.0nm,1.0s
WRA Warramunga Arr 22.95 223 P **P 05 22 13.8 -0.2**
comp=Z,6.4nm,0.9s,mb4.0,baz=49,slow=8.5,SNR=24
NOUC Port Laguerre 23.80 142 *e*P **P 05 22 21.1 -1.2**
DZM Mont Dzumac 23.86 142 *e*P **P 05 22 17.9 -5.0**
ASAR Alice Springs 25.89 218 P **P 05 22 41.7 -0.5**
comp=Z,4.3nm,0.7s,mb4.1,baz=52,slow=8.4,SNR=29
ASAR LR LR 05 33 28.0
comp=Z,238nm,20.4s,MS3.7,baz=41,slow=38
ASPA Alice Springs 25.89 218 *e*P **P 05 22 42.1 -0.2**
FITZ Fitzroy Crossi 28.64 238 *e*P **P 05 23 06.0 -1.4**
comp=Z,34nm,1.2s,mb5.0
STKA Stephens Creek 29.53 196 P **P 05 23 13.3 -1.9**
comp=Z,6.7nm,0.8s,mb4.4,baz=33,slow=15,SNR=8.9
STKA LR LR 05 35 26.2
comp=Z,460nm,19.5s,MS4.1,baz=17,slow=37
STKA Stephens Creek 29.53 196 *e*P **P 05 23 12.6 -2.6**
CBIJ Chichi jima 31.55 345 LR LR 05 36 24.3
comp=Z,243nm,18.3s,MS3.9,baz=141,slow=36
MBWA Marble Bar 34.98 237 *e*P **P 05 24 00.8 -1.9**
comp=Z,65nm,1.6s,mb5.3
URZ Urewera 42.08 149 P **P 05 25 03.7 +1.9**
comp=Z,14nm,0.9s,mb4.6,baz=357,slow=5.1,SNR=3.7
RPZ Rata Peaks 43.85 159 P **P 05 25 18.0 +1.8**
comp=Z,36nm,0.9s,mb5.1,baz=82,slow=3.3,SNR=15
SSE Sheshan 44.54 323 *e*P **P 05 25 20.5 -1.4**
SSE S **S 05 31 53.6 +0.5**
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.3
SSE LR LR
comp=N,112nm,21.8s,MS4.0
SSE LR LR
comp=E,150nm,21.8s,MS4.0
SSE LR LR
comp=Z,195nm,32.1s
SSE Sheshan 44.54 323 *e*P **P 05 25 20.5 -1.4**
comp=Z,39nm,0.7s,mb5.3
SSE sP sP 05 25 34.0 -7.9
SSE S **S 05 31 53.6 +0.5**
SSE sS 05 32 09.5
SSE SS SS 05 35 25.2 +20
SSE LR LR
comp=Z,200nm,32.1s,MS3.8
NJ2 Nanjing 46.63 322 *e*P **P 05 25 39.1 +0.6**
NJ2 PP PP 05 27 29.8 +1.5
NJ2 S **S 05 32 27.0 +4.0**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,482nm,6.4s
NJ2 LR LR
comp=N,350nm,15.6s,MS4.6
NJ2 LR LR
comp=E,380nm,15.6s,MS4.6
NJ2 LR LR
comp=Z,9μm,23.1s
MDJ Mudanjiang 51.55 341 P **P 05 26 15.3 -0.9**
MDJ AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
MDJ AMB AMB
comp=Z,100nm,5.7s
MDJ Mudanjiang 51.55 341 *e*P **P 05 26 15.3 -0.9**
comp=Z,8.3nm,0.9s,mb4.7
ENH Enshi 51.86 313 *e*P **P 05 26 18.8 +0.1**
comp=Z,6.6nm,0.7s,mb4.7
GYA Guiyang 52.08 308⇑*i*P **P 05 26 22.5 +2.1**
GYA AP pP 05 26 45.6 +11
GYA PP PP 05 28 20.8 +1.2
GYA S **S 05 33 38.0 -0.9**
GYA AMB AMB
comp=Z,10.0nm,1.6s,mb4.5
GYA AMB AMB
comp=Z,90nm,4.2s
CN2 Changchun 52.34 337 *e*P **P 05 26 24.0 +1.8**
NST Nakhon Sawan 53.67 292 P **P 05 26 39.0 +6.6**
NANT Nan 54.10 296 P **P 05 26 35.0 -0.5**
XAN Xi'an 54.36 317 P **P 05 26 36.8 -0.4**
XAN AMB AMB
comp=Z,4.0nm,0.6s,mb4.5
KMI Kunming 54.66 304 P **P 05 26 39.5 0.0**
KMI AP pP 05 26 59.5 +5.7
KMI AMB AMB
comp=Z,12nm,0.5s,mb5.2
KMI Kunming 54.66 304 P **P 05 26 39.5 0.0**
comp=Z,12nm,0.5s,mb5.2
KMI pP pP 05 26 59.5 +5.7
KLR Kul'dur 55.08 345 *e*P **P 05 26 38.4 -3.9**
CHG Chiang Mai 55.69 295 P **P 05 26 51.3 +4.3**
CD2 Chengdu 56.43 311 P **P 05 26 52.8 +0.6**
BTO Baotou 57.62 324 *e*P **P 05 27 03.6 +3.1**
LZH Lanzhou 58.96 316 *e*P **P 05 27 15.0 +5.1**
LZH PP PP 05 29 25.3 +2.9
LZH AMB AMB
comp=Z,36nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,105nm,6.5s
LZH LR LR
comp=N,614nm,14.9s
LZH LR LR
comp=Z,737nm,17.7s,MS4.9
HIA Hailar 59.08 337 *e*P **P 05 27 07.8 -2.7**
HIA pmax pmax
comp=Z,28nm,1.3s
HIA Hailar 59.08 337 *e*P **P 05 27 07.8 -2.7**
comp=Z,28nm,1.3s,mb5.1
PPT Papeete 59.96 108 *e*LR LR 05 45 18.8
comp=Z,250nm,33.2s
TBI Tubuai 60.85 115 *e*LR LR 05 45 44.3
comp=Z,194nm,29.2s
MA2 Magadan 62.89 360 *i* P **P 05 27 35.2 -1.0**
MA2 pmax pmax
comp=Z,27nm,2.5s,mb4.9
MA2 MLR MLR
comp=Z,200nm,20.0s,MS4.3
GTA Gaotai 63.40 318 *e*P **P 05 27 41.1 +1.2**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
CLNS Chul'man 63.74 344 *e*P **P 05 27 40.9 -0.9**
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,8.0nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,0.6s
ULN Ulaanbaatar 63.89 329 *e*P **P 05 27 41.0 -1.9**
ULN pmax pmax
comp=Z,31nm,1.8s,mb5.0
ULN Ulaanbaatar 63.89 329 *e*P **P 05 27 41.0 -1.9**
comp=Z,31nm,1.8s,mb5.0
SONM Songino Array 64.21 328 P **P 05 27 45.2 +0.2**
comp=Z,1.6nm,0.8s,mb4.1,baz=151,slow=5.7,SNR=11
YAK Yakutsk 67.34 349 *e*P **P 05 28 04.1 -0.7**
YAK *e* 05 28 12.5
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.8s
ZAK Zakamensk 67.39 329 *e*P **P 05 28 05.3 0.0**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
BOD Bodaibo 67.91 340 *e*P **P 05 28 06.3 -2.1**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TLY Talaya 68.00 330 *e*P **P 05 28 15.2 +6.2**
TLY pmax pmax
comp=Z,16nm,1.9s,mb4.7
MOY Mondy 69.32 329 *e*P **P 05 28 18.2 +1.0**
JIRN Jiri 69.47 301 *e*P **P 05 28 19.8 +1.3**
PKI Pulchoki 70.11 301 *e*P **P 05 28 23.6 +1.1**
KKN Kakani 70.28 301 *e*P **P 05 28 25.2 +1.7**
DMN Daman 70.38 301 *e*P **P 05 28 25.7 +1.6**
comp=Z,62nm,1.3s,mb5.4
GKN Gorkha 70.88 301 *e*P **P 05 28 29.5 +2.4**
KOLN Koldanda 71.71 301 *e*P **P 05 28 33.4 +1.3**
comp=Z,28nm,0.9s,mb5.2
BILL Bilibino 72.20 6 *e*P **P 05 28 33.9 -0.4**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 72.20 6 *e*P **P 05 28 33.9 -0.4**
comp=Z,6.4nm,0.9s,mb4.5
WMQ Urumqi 73.49 318 *e*P **P 05 28 42.0 -0.3**
WMQ PCP PcP 05 28 59.0 +0.5
WMQ AP pP 05 29 06.0 +8.9
WMQ *e*S S 05 38 03.0 -3.6
WMQ AMB AMB
comp=Z,7.0nm,1.2s,mb4.5
WMQ AMB AMB
comp=Z,82nm,4.9s
WMQ LR LR
comp=N,412nm,20.4s,MS5.0
WMQ LR LR
comp=E,757nm,25.0s,MS5.0
WMQ LR LR
comp=Z,346nm,25.0s,MS4.5
RKT Rikitea 74.07 113 *e*LR LR 05 51 52.2
comp=Z,158nm,25.5s
TIXI Tiksi 76.38 353 *i* P **P 05 28 56.7 -1.7**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
SLKM Skilak Lake 78.34 26 *e*P **P 05 29 08.9 -0.5**
FIB Fire Island 78.68 25 *e*P **P 05 29 11.0 -0.3**
ZAL Zalesovo 79.02 327 P **P 05 29 13.8 +0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=352,slow=5.3,SNR=6.7
SML Sawmill 79.76 25 *e*P **P 05 29 16.6 -0.6**
IMA Indian Mountai 79.90 20 *e*P **P 05 29 17.7 -0.2**
IMA pmax pmax
comp=Z,45nm,1.1s,mb5.3
IMA Indian Mountai 79.90 20 *e*P **P 05 29 17.7 -0.1**
comp=Z,45nm,1.1s,mb5.3
NVS Novosibirsk 80.20 327 *e*P **P 05 29 20.0 +0.3**
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,47nm,1.5s
NVS pmax pmax
comp=Z,51nm,1.5s,mb5.2
MCK McKinley 80.43 23 *e*P **P 05 29 19.5 -1.2**
MCK pmax pmax
comp=Z,14nm,1.0s,mb4.8
MCK McKinley 80.43 23 *e*P **P 05 29 19.4 -1.3**
comp=Z,14nm,1.0s,mb4.8
DIV Divide 80.56 26 *e*P **P 05 29 21.0 -0.4**
comp=Z,51nm,1.1s,mb5.4
COLA College 81.39 22 *e*P **P 05 29 22.2 -3.5**
COLA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
COLA College 81.39 22 *e*P **P 05 29 22.2 -3.5**
comp=Z,9.9nm,1.0s,mb4.7
THY Trims Highway 81.55 24 *e*P **P 05 29 25.1 -1.6**
KURK Kurchatov 81.56 322 *e*P **P 05 29 28.0 +1.1**
KURK pmax pmax
comp=Z,5.0nm,0.3s,mb4.9
KURK Kurchatov 81.56 322 *e*P **P 05 29 28.0 +1.0**
comp=Z,5.0nm,0.3s,mb4.9
AAK Ala-Archa 82.38 314 *i* P **P 05 29 31.4 +0.1**
AAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
AAK MLR MLR
comp=Z,100nm,28.0s,MS4.0
AAK Ala-Archa 82.38 314 *e*P **P 05 29 30.6 -0.7**
comp=Z,4.3nm,1.1s,mb4.3
CHKZ Chkalovo 87.03 324 *e*P **P 05 29 53.4 -0.8**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
CHKZ Chkalovo 87.03 324 *e*P **P 05 29 53.4 -0.8**
comp=Z,3.1nm,0.7s,mb4.7
BVAR Borovoye Array 87.05 323 P **P 05 29 54.5 +0.1**
comp=Z,3.4nm,0.9s,mb4.6,baz=104,slow=6.1,SNR=12
INK Inuvik 87.95 21 *e*P **P 05 29 57.9 -0.4**
INK pmax pmax
comp=Z,8.0nm,1.1s
INK Inuvik 87.95 21 *e*P **P 05 29 57.9 -0.4**
comp=Z,8.4nm,1.1s,mb4.9
HUMO Hull Mountain 89.54 47 *e*P **P 05 30 07.7 +1.2**
comp=Z,15nm,1.1s,mb5.2
YBH Yreka Blue Hor 89.64 48 *e*P **P 05 30 08.3 +1.3**
YBH pmax pmax
comp=Z,16nm,1.3s
YBH Yreka Blue Hor 89.64 48 P **P 05 30 08.3 +1.3**
comp=Z,5.9nm,1.2s,mb4.8,baz=236,slow=1.8,SNR=5.4
YBH Yreka Blue Hor 89.64 48 *e*P **P 05 30 08.3 +1.3**
comp=Z,16nm,1.3s,mb5.2
WVOR Wild Horse Val 92.72 48 *e*P **P 05 30 22.2 +1.0**
WVOR pmax pmax
comp=Z,10.0nm,1.2s,mb5.1
WVOR Wild Horse Val 92.72 48 *e*P **P 05 30 22.1 +0.9**
comp=Z,10nm,1.2s,mb5.1
NVAR Mina Array Bea 92.81 52 P **P 05 30 23.1 +1.3**
comp=Z,3.3nm,1.0s,mb4.7,baz=268,slow=5.1,SNR=7.0
NVAR LR LR 06 10 33.2
comp=Z,48nm,18.2s,MS4.0,baz=180,slow=34
MWC Mount Wilson 92.85 56 *e*P **P 05 30 22.7 +0.6**
NEW Newport 93.94 42 *e*P **P 05 30 28.0 +1.4**
NEW pmax pmax
comp=Z,8.0nm,1.2s
NEW Newport 93.94 42 *e*P **P 05 30 28.0 +1.3**
comp=Z,8.0nm,1.2s,mb5.0
YKA Yellowknife Ar 95.19 28 P **P 05 30 32.3 +0.3**
comp=Z,1.6nm,0.9s,mb4.5,baz=271,slow=4.7,SNR=25
YKA LR LR 06 13 36.3
comp=Z,105nm,19.3s,MS4.3,baz=275,slow=35
YKA Yellowknife Ar 95.19 28 P **P 05 30 32.3 +0.3**
YKA LR LR 06 13 36.3
HLID Hailey 95.83 47 *e*P **P 05 30 35.0 -0.4**
comp=Z,2.6nm,1.3s,mb4.5
EDM Edmonton 96.27 37 *e*P **P 05 30 35.6 -1.5**
PDAR Pinedale Array 99.41 47 P **P 05 30 51.7 0.0**
comp=Z,0.6nm,0.9s,mb4.1,baz=270,slow=1.5,SNR=4.1
CLL Collm 120.79 331 *e*PKIKP PKPdf 05 36 05.0 +5.2
GERES GERESS Array B 121.94 328 PKP PKPdf 05 36 03.3 +1.3
comp=Z,0.6nm,0.7s,slow=1.0,SNR=2.3
BDFB Brasilia 153.34 136 PKPbc PKPdf 05 37 09.0 +10
comp=Z,3.2nm,0.8s,baz=296,slow=3.7,SNR=5.1
BDFB PKPab PKPab 05 37 22.7 +1.6
comp=Z,12nm,1.0s,baz=280,slow=3.0,SNR=12
DBIC Dimbokro 155.61 278 PKPab PKPab 05 37 28.9 -1.9
comp=Z,3.8nm,1.1s,baz=254,slow=12,SNR=2.7

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*NEIC **18** 05:18:21.3,42.35N×10.97W,MG3.4(MDD),After MDD.*
*INMG **18** 05:18:22.2±0.8,42.46N×11.49W,h10km,ML2.1,Error ellipse: s-maj=5.4km s-min=2.2km az=102.0*
MDD 18 05:18:21.4±1.9**,42.34N**×**10.96W,mb3.5**/8**,1C,Error ellipse: s-maj=18.1km s-min=10.6km az=112.0,PRXIMO, North Atlantic Ocean**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
EMAZ Mazaricos 1.58 67 ⇑P Pn 05 18 49.1 -1.8
SNR=18
EMAZ S Sb 05 19 09.5 -2.3
24nm,0.1s,SNR=23
EMAZ Mazaricos 1.58 67 P Pn 05 18 49.1 -1.8
4.0nm,0.2s,SNR=18
EMAZ S Sb 05 19 09.5 -2.3
24nm,0.1s,SNR=23
EZAM Zamans 1.69 96 P Pn 05 18 51.9 -0.5
2.0nm,0.2s,SNR=7.9
EZAM S Sb 05 19 13.4 -1.6
2.8nm,0.2s,SNR=6.0
STS Santiago 1.86 72 P Pn 05 18 53.1 -1.7
6.5nm,0.1s,SNR=6.1
STS S Sn 05 19 15.8 -3.6
12nm,0.1s,SNR=7.9
ELOB Lobios 2.21 101 P Pn 05 18 58.6 -1.2
0.4nm,0.1s,SNR=11
ELOB S Sn 05 19 26.2 -2.0
2.6nm,0.1s,SNR=7.9
ELOB Lobios 2.21 101 P Pn 05 18 58.6 -1.2
0.4nm,0.1s,SNR=11
ELOB S Sn 05 19 26.2 -2.0
2.6nm,0.1s,SNR=7.9
PVRL Vila Real 2.65 113 *e*Sn Sn 05 19 37.0 -2.4
EINC Incio 2.69 82 P Pn 05 19 04.9 -1.8
0.5nm,0.1s,SNR=12
EINC S Sn 05 19 36.2 -4.2
5.0nm,0.1s,SNR=5.0
EINC Incio 2.69 82 P Pn 05 19 04.9 -1.8
0.5nm,0.1s,SNR=12
EINC S Sn 05 19 36.2 -4.2
5.0nm,0.1s,SNR=5.0
PVIS Viseu 2.81 124 *e*Pn Pn 05 19 06.8 -1.7
PVIS *e*Sn Sn 05 19 40.6 -3.0
EPON Pontenova 2.97 69 P Pn 05 19 08.2 -2.5
1.1nm,0.2s,SNR=14
EPON S Sn 05 19 42.3 -5.3
4.2nm,0.1s
EPON Pontenova 2.97 69 P Pn 05 19 08.2 -2.5
1.1nm,0.2s,SNR=14
EPON S Sn 05 19 42.3 -5.3
4.2nm,0.1s
ECAL Calabor 3.17 96 P Pn 05 19 11.5 -2.0
1.2nm,0.3s,SNR=6.6
ECAL S Sn 05 19 49.5 -2.9
2.0nm,0.1s
ECAL Calabor 3.17 96 P Pn 05 19 11.5 -1.9
1.2nm,0.3s,SNR=6.6
ECAL S Sn 05 19 49.5 -3.0
2.0nm,0.1s
PBRG Braganca 3.19 98 *e*Sn Sn 05 19 50.1 -2.9
1.2nm,0.1s
MTE Manteigas 3.22 126 *e*Pn Pn 05 19 12.6 -1.6
MTE *e*Sn Sn 05 19 49.9 -3.9
2.4nm,0.3s
PTOM Tomar 3.33 144 *e*Pn Pn 05 19 13.3 -2.5
PTOM *e*Sn Sn 05 19 50.9 -5.8
4.9nm,0.1s
PCBR Castelo Branco 3.63 132 *e*Sn Sn 05 19 59.1 -5.1
PLOU Loures 3.71 158 *e*Sn Sn 05 19 58.7 -7.7
9.3nm,0.3s
MOE Montemor 4.30 152 *e*Sn Sn 05 20 13.5 -7.7
EARI Arriondas 4.34 75 P Pn 05 19 28.2 -1.9
1.5nm,0.4s,SNR=7.9
EARI S Sn 05 20 16.7 -5.5
2.1nm,0.4s,SNR=7.9
EARI Arriondas 4.34 75 P Pn 05 19 28.2 -1.9
1.5nm,0.4s,SNR=7.9
EARI S Sn 05 20 16.7 -5.5
2.1nm,0.4s,SNR=7.9
EBAD Badajoz 4.67 139 P Pn 05 19 31.1 -3.8
EBAD S Sn 05 20 21.7 -9.0
EBAD Badajoz 4.67 139 P Pn 05 19 31.1 -3.8
0.5nm,0.1s,SNR=8.5
EBAD S Sn 05 20 22.3 -8.3
1.1nm,0.1s,SNR=7.9
EBAD Badajoz 4.67 139 P Pn 05 19 31.1 -3.8
0.5nm,0.1s,SNR=8.5
EBAD S Sn 05 20 21.7 -9.0
1.1nm,0.1s,SNR=7.9
PBEJ Beja 4.92 150 *e*Sn Sn 05 20 28.0 -8.8
PTEO Sao Teotonio 5.09 160 *e*Sn Sn 05 20 31.4 -10
EGRO El Granado 5.49 150 P Pn 05 19 43.3 -3.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	1.1nm,0.3s,SNR=7.9						
EGRO				S	Sn	05 20 42.8	-8.5
	1.7nm,0.2s,SNR=7.9						
PALC	Alcoutim	5.56	150	*e*Pn	Pn	05 19 43.3	-4.0
PALC				*e*Sn	Sn	05 20 43.6	-9.3
	2.6nm,0.2s						
ELAN	Lanestosa	5.61	78	P	Pn	05 19 44.5	-3.6
	0.5nm,0.3s,SNR=7.9						
ELAN				S	Sn	05 20 45.0	-9.2
	2.5nm,0.3s,SNR=7.9						
ELAN	Lanestosa	5.61	78	S	Sn	05 20 49.1	-5.1
	2.5nm,0.3s,SNR=7.9						
EMIN	Mina Concepcio	5.63	143	P	Pn	05 19 44.3	-4.1
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	05 20 45.6	-9.0
	0.7nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.63	143	P	Pn	05 19 44.3	-4.0
	0.3nm,0.2s,SNR=7.9						
EADA	Adamuz	6.42	128	P	Pn	05 19 55.5	-4.0
	1.3nm,0.4s,SNR=7.9						
EADA				S	Sn	05 21 05.6	-8.9
	0.6nm,0.2s,SNR=7.9						

TAP 18 05:48:11.1,23.16N×120.54E,h6^{km},ML3.5,Taiwan

*NEIC **18** 05:55:13.0±0.6,5.40N×94.36E,mb4.6/2,Error ellipse: s-maj=21.7km s-min=8.2km az=48.0*
*IDC **18** 05:55:13.5±1.0,5.51N×94.45E,h47^{km}±5^{km},mb4.0/9, mb1 4.2/9,mb1mx3.9/16,mbtmp4.3/9,MS3.7/1,Ms1 3.6/1, ms1mx2.9/15,Error ellipse: s-maj=46.6km s-min=12.5km az=55.0*
ISC 18 05:55:11.8±0.6,**5.5N**±0.1×**94.55E**±0.08,**h50^{km}**, **h50^{km}**±.6^{km}**:pP-P,n21,**σ0^{s}**62**/20,**mb4.4**/13,**MS3.7**/1,**1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	Kulim	6.08	92	*e*Pn	P	05 56 43.1	+1.9
KULM				Sn	S	05 57 49.4	-0.9
JIRN	Jiri	23.42	341	*e*P	P	06 00 17.0	-0.4
PKI	Pulchoki	23.60	339	*e*P	P	06 00 19.9	+0.8
GUN	Gumba	23.75	341	*e*P	P	06 00 20.1	-0.5
GKN	Gorkha	24.27	338	*e*P	P	06 00 25.7	+0.1
	12nm,0.3s,mb4.8						
KOLN	Koldanda	24.47	336	*e*P	P	06 00 28.0	+0.5
	5.3nm,0.3s,mb4.4						
SONM	Songino Array	43.38	12	P	P	06 03 11.3	+0.2
	0.5nm,0.3s,mb3.8,baz=198,slow=7.8,SNR=10						
SONM				pP	pP	06 03 24.7	+0.3
	0.9nm,0.5s,baz=193,slow=7.8,SNR=6.8						
SONM				PcP	PcP	06 04 59.6	+0.1
	0.6nm,0.4s,baz=191,slow=4.2,SNR=6.6						
SONM				pPcP		06 05 14.3	
	0.4nm,0.4s,baz=204,slow=3.5,SNR=5.0						
WRA	Warramunga Arr	46.59	124	P	P	06 03 37.3	+0.2
	6.1nm,0.7s,mb4.7,baz=302,slow=9.3,SNR=26						
WRA				pP	pP	06 03 50.3	-0.2
	4.5nm,0.5s,baz=302,slow=9.6,SNR=11						
WRA				PcP	PcP	06 05 13.6	+2.7
	0.4nm,0.7s,baz=314,slow=2.8,SNR=3.2						
WRAB	Tennant Creek	46.59	124	*e*P	P	06 03 36.9	-0.2
	6.1nm,0.7s,mb4.6						
WRAB				*e*pP	pP	06 03 50.4	-0.2
WB2	Warramunga Arr	46.59	124	⇑*i*P	P	06 03 37.3	+0.2
KURK	Kurchatov	46.99	346	*e*P	P	06 03 40.2	+0.4
	3.4nm,0.4s,mb4.6						
ASPA	Alice Springs	48.11	129	*e*P	P	06 03 48.9	-0.1
ASAR	Alice Springs	48.11	129	P	P	06 03 48.9	-0.1
	3.0nm,0.5s,mb4.6,baz=302,slow=7.9,SNR=51						
ASAR				pP	pP	06 04 02.9	+0.5
	2.4nm,0.4s,baz=299,slow=7.8,SNR=8.3						
ASAR				PcP	PcP	06 05 16.6	+0.2
	0.8nm,0.5s,baz=317,slow=3.6,SNR=2.9						
ZAL	Zalesovo	48.93	352	P	P	06 03 55.1	+0.2
	4.0nm,0.3s,mb4.9,baz=299,slow=4.7,SNR=7.5						
BVAR	Borovoye Array	51.35	342	P	P	06 04 12.4	-1.0
	2.1nm,0.5s,mb4.3,baz=143,slow=9.2,SNR=12						
BVAR				pP	pP	06 04 26.3	-0.6
	2.2nm,0.7s,baz=146,slow=11,SNR=5.7						
STKA	Stephens Creek	58.20	133	P	P	06 05 03.2	-0.2
	1.1nm,0.4s,mb4.3,baz=313,slow=9.5,SNR=4.0						
STKA				LR	LR	06 29 14.0	
	comp=Z,66nm,20.9s,MS3.7,baz=206,slow=35						
FINES	FINESS Array B	74.98	332	P	P	06 06 48.6	-0.7
	0.3nm,0.3s,mb3.7,baz=117,slow=4.3,SNR=5.9						
FINES				pP	pP	06 07 02.7	-1.0
	1.0nm,0.5s,baz=84,slow=6.7,SNR=2.1						
ARCES	ARCESS Array B	77.62	340	P	P	06 07 03.5	-0.6
	3.0nm,0.9s,mb4.2,baz=63,slow=5.4,SNR=5.3						
ARCES				pP	pP	06 07 17.6	-0.9
	2.7nm,0.8s,baz=101,slow=6.2,SNR=1.8						
GERES	GERESS Array B	79.85	319	P	P	06 07 17.3	+0.6
	1.4nm,0.5s,mb4.1,baz=90,slow=5.3,SNR=15						
TXAR	Lajitas Array	141.19	26	PKhKP		06 14 31.9	
	0.1nm,0.3s,baz=117,slow=1.1,SNR=4.2						
TXAR				PKP	PKPdf	06 14 37.5	-0.2
	0.3nm,0.4s,baz=252,slow=2.9,SNR=4.4						
TXAR	Lajitas Array	141.19	26	PKP	PKPdf	06 14 37.5	-0.2

IGQ 18 06:40:09.2,1.04S×78.32W,h12^{km}±1^{km},mb4.1,6C-12D, Error ellipse: s-maj=1.3km s-min=0.5km az=9.7, Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PISA	Pisayambo	0.07	253	⇓P	Pg	06 40 12.7	+0.9
TAMB	Tambo	0.35	352	⇑P	Pg	06 40 16.8	+0.4
RUN2	Runtun	0.39	194	⇓P	Pg	06 40 17.5	+0.2
RUN2				S	Sg	06 40 23.3	+0.6
VC1	Cotopaxi 1	0.40	348	⇑P	Pg	06 40 18.0	+0.5
JUIV	Juive	0.41	201	⇓P	Pg	06 40 17.7	0.0
ULBA	Ulba	0.42	192	⇓P	Pg	06 40 17.7	-0.1
RETU	Refugio	0.43	197	⇓P	Pg	06 40 18.3	+0.2
RETU				S	Sg	06 40 24.5	+0.6
CUSU	Cusua	0.43	202	⇓P	Pg	06 40 18.2	0.0
CUSU				S	Sg	06 40 23.7	-0.4
NAS1	Nasa	0.43	338	⇓P	Pg	06 40 18.7	+0.6
ARRY	Arrayan	0.48	196	⇓P	Pg	06 40 18.8	-0.4
IGUA	Igualata	0.55	216	⇑P	Pb	06 40 20.7	+0.4
ANTI	Antisana	0.61	15	⇑P	Pb	06 40 21.0	-0.3
JUA2	San Juan 2	0.87	341	⇓P	Pb	06 40 26.8	+1.0
JUA2				S	Sb	06 40 38.9	+1.8
TERV	Terraza Guagua	0.91	342	P	Pb	06 40 27.5	+1.2
PINO	Pino	0.92	342	⇓P	Pb	06 40 27.8	+1.1
YANA	Yana	0.95	345	⇓P	Pb	06 40 27.8	+0.6
YANA				S	Sb	06 40 40.8	+1.4
ELAGU	Cayambe Volc	1.06	18	P	Pb	06 40 29.5	+0.4
ELAGU				S	Sb	06 40 44.9	+2.2
CAYR	Refugio Cayamb	1.09	17	⇓P	Pb	06 40 30.5	+0.9
CAYR				S	Sb	06 40 44.5	+0.9
CAYA	Cayambe	1.15	17	⇑P	Pb	06 40 31.8	+1.2
CONE	Cono NE Rev Vo	1.18	35	⇑P	Pb	06 40 32.0	+1.0
CONE				S	Sb	06 40 48.3	+2.2
COTA	Cotacachi	1.36	359	P	Pn	06 40 35.4	+1.2
ECEN	Cerro Negro	1.88	11	P	Pn	06 40 44.8	+3.2
HOJA	Cerro de Hojas	2.23	270	P	Pn	06 40 47.5	+1.0

JMA 18 06:59:11.8,44.24N×141.12E,M3.6,2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JYG	Yagishiri	0.29	50	⇓P	Pg	06 59 18.0	+0.4
JYG				S	Sg	06 59 22.1	+0.7
JSS	Shosan	0.55	73	⇓P	Pg	06 59 23.1	+0.3
JSS				S	Sg	06 59 31.2	+1.1
JHR	Hokuryu	0.66	138	P	Pg	06 59 25.3	+0.3
JHR				*e*S	Sg	06 59 34.7	+0.9
JRR	Rishiri	0.91	9	P	Pg	06 59 30.0	+0.1
JSK	Shakotan	1.00	208	P	Pb	06 59 31.5	-0.2
JSK				*e*S	Sg	06 59 45.5	+0.3
ASAJ	Asahikawa	1.07	96	P	Pb	06 59 31.9	-1.0
ASAJ				*e*S	Sb	06 59 46.7	-0.6
JAB	Ashibetsu	1.08	132	P	Pb	06 59 32.6	-0.5
JAB				*e*S	Sb	06 59 47.7	0.0

*CRAAG **18** 07:00:12.6,35.88N×0.50W,Ml3.1*
*MDD **18** 07:00:13.3±0.4,35.93N×0.59W,mb3.8/10,Error ellipse: s-maj=7.9km s-min=3.8km az=68.0,PRXIMO*
*NEIC **18** 07:00:15.4,35.86N×0.56W,h25^{km},MG3.8(MDD),After MDD.*
*CSEM **18** 07:00:15.6±0.1,36.00N×0.64W,h15^{km},ML3.1/14,Error ellipse: s-maj=2.7km s-min=2.2km az=24.0*
ISC 18 07:00:12.7±0.5,**36.00N**±0.03×**0.68W**±0.04,**h10^{km},n55, σ1^{s}38**/97,**Northern Algeria**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
USTO	Oran	0.28	158	P	Pg	07 00 17.0	-1.7
OTSS	Djebel Tessala	0.72	187	P	Pb	07 00 26.0	-0.9
ODJA	Bouhanifia	0.79	147	P	Pb	07 00 27.0	-1.1
OLHC	Oulhaca	0.96	219	P	Pb	07 00 31.0	0.0
EANR	'Ain N'Sour	1.45	91	P	Pn	07 00 43.0	+3.9
ENIJ	Nijar	1.57	309	Pn	Pn	07 00 42.1	+1.3
ENIJ				Sn	Sn	07 01 01.5	+0.1
ENIJ	Nijar	1.57	309	P	Pn	07 00 41.0	+0.1
	2.0nm,0.1s,SNR=7.9						
ENIJ				S	Sb	07 01 00.5	-0.8
	20nm,0.2s,SNR=7.9						
ENIJ	Nijar	1.57	309	Pn	Pn	07 00 42.1	+1.2
	2.0nm,0.1s,SNR=7.9						
ENIJ				Sn	Sn	07 01 01.5	+0.1
	20nm,0.2s,SNR=7.9						
ETRT	Tiaret	1.72	110	P	Pn	07 00 45.0	+2.0
EMUR	La Murta	1.90	346	P	Pn	07 00 46.2	+0.7
	1.9nm,0.1s,SNR=7.8						
EMUR				S	Sn	07 01 07.7	-2.0
	15nm,0.2s,SNR=8.3						
EMUR	La Murta	1.90	346	Pn	Pn	07 00 46.2	+0.7
	1.9nm,0.1s,SNR=7.8						
EMUR				Sn	Sn	07 01 07.7	-2.0
	15nm,0.2s,SNR=8.3						
EBER	Berja	2.00	297	P	Pn	07 00 47.9	+0.9
	1.8nm,0.1s,SNR=18						
EBER				S	Sn	07 01 13.6	+1.4
	9.3nm,0.2s,SNR=6.5						
EBER	Berja	2.00	297	Pn	Pn	07 00 47.9	+0.9
	1.8nm,0.1s,SNR=18						
EBER				Sn	Sn	07 01 13.6	+1.4
	9.3nm,0.2s,SNR=6.5						
EHUE	Huescar	2.38	320	Pn	Pn	07 00 54.1	+1.7
EHUE				Sn	Sn	07 01 21.6	-0.3
EHUE	Huescar	2.38	320	P	Pn	07 00 55.0	+2.6
	1.4nm,0.2s,SNR=7.9						
EHUE				S	Sn	07 01 21.6	-0.3
	1.6nm,0.2s,SNR=7.9						
EHUE	Huescar	2.38	320	Pn	Pn	07 00 54.1	+1.7
EHUE				Sn	Sn	07 01 21.6	-0.3
	1.6nm,0.2s,SNR=7.9						
EQES	Quesada	2.63	314	Pn	Pn	07 00 59.5	+3.5
EQES				Sn	Sn	07 01 30.2	+1.8
EQES	Quesada	2.63	314	P	Pn	07 00 58.6	+2.6
	5.4nm,0.1s,SNR=7.9						
EQES				S	Sn	07 01 30.2	+1.8
	8.6nm,0.1s,SNR=7.9						
EQES	Quesada	2.63	314	Pn	Pn	07 00 59.5	+3.4
	5.4nm,0.1s,SNR=7.9						
EQES				Sn	Sn	07 01 30.2	+1.8
	8.6nm,0.1s,SNR=7.9						
EBEN	Beniarda	2.73	8	Pn	Pn	07 00 58.0	+0.6
EBEN				Sn	Sn	07 01 29.0	-1.8
EBEN	Beniarda	2.73	8	P	Pn	07 00 58.0	+0.6
	0.7nm,0.1s,SNR=16						
EBEN				S	Sn	07 01 29.6	-1.2
	1.6nm,0.1s,SNR=5.7						
EBEN	Beniarda	2.73	8	Pn	Pn	07 00 58.0	+0.6
	0.7nm,0.1s,SNR=16						
EBEN				Sn	Sn	07 01 29.0	-1.8
	1.6nm,0.1s,SNR=5.7						
ETOB	Tobarra	2.73	346	P	Pn	07 00 59.4	+1.9
	2.6nm,0.1s,SNR=8.5						
ETOB				S	Sn	07 01 31.6	+0.7
	9.1nm,0.2s,SNR=5.0						
ETOB	Tobarra	2.73	346	Pn	Pn	07 00 59.4	+1.9
	2.6nm,0.1s,SNR=8.5						
ETOB				Sn	Sn	07 01 31.6	+0.7
	9.1nm,0.2s,SNR=5.0						
EVIA	Vianos	3.01	332	Pn	Pn	07 01 01.4	-0.1
EVIA				Sn	Sn	07 01 39.8	+1.8
EVIA	Vianos	3.01	332	P	Pn	07 01 03.0	+1.5
	2.4nm,0.2s,SNR=4.0						
EVIA				S	Sn	07 01 39.1	+1.1
	4.2nm,0.2s,SNR=7.9						
EVIA	Vianos	3.01	332	Pn	Pn	07 01 01.4	-0.1
EVIA				Sn	Sn	07 01 39.7	+1.7
	4.2nm,0.2s,SNR=7.9						
EMIJ	Mijas	3.35	281	P	Pn	07 01 07.4	+1.1
	SNR=7.9						
EMIJ				S	Sn	07 01 44.3	-2.4
	2.5nm,0.1s,SNR=4.0						
EMIJ	Mijas	3.35	281	Sn	Sn	07 01 44.3	-2.4
	2.5nm,0.1s,SNR=4.0						
EIBI	Ibiza	3.43	27	Pn	Pn	07 01 06.8	-0.5
EIBI				Sn	Sn	07 01 44.5	-4.0
EIBI	Ibiza	3.43	27	P	Pn	07 01 06.9	-0.5
	3.6nm,0.1s,SNR=7.9						
EIBI				S	Sn	07 01 46.3	-2.2
	3.2nm,0.1s,SNR=7.9						
EIBI	Ibiza	3.43	27	Pn	Pn	07 01 06.9	-0.5
	3.6nm,0.1s,SNR=7.9						
EIBI				Sn	Sn	07 01 44.5	-4.0
	3.2nm,0.1s,SNR=7.9						
EADA	Adamuz	3.80	306	Pn	Pn	07 01 14.7	+2.1
EADA				Sn	Sn	07 01 55.4	-2.4
EADA	Adamuz	3.80	306	P	Pn	07 01 13.2	+0.6
	SNR=4.0						
EADA				S	Sn	07 01 57.2	-0.6
	0.7nm,0.2s,SNR=7.9						
EADA	Adamuz	3.80	306	Pn	Pn	07 01 14.7	+2.1
	SNR=4.0						
EADA				Sn	Sn	07 01 55.4	-2.4
	0.7nm,0.2s,SNR=7.9						
ECAB	El Cabril	4.32	300	P	Pn	07 01 20.5	+0.4
	SNR=7.9						
ECAB				S	Sn	07 02 09.3	-1.9
	0.4nm,0.2s,SNR=7.9						
ECAB	El Cabril	4.32	300	Pn	Pn	07 01 20.5	+0.4
	SNR=7.9						
ECAB				Sn	Sn	07 02 09.3	-1.9
	0.4nm,0.2s,SNR=7.9						
EMOS	Mosqueruela	4.36	2	Pn	Pn	07 01 22.3	+1.6
EMOS				Sn	Sn	07 02 09.8	-2.4
EMOS	Mosqueruela	4.36	2	P	Pn	07 01 21.5	+0.8
	2.0nm,0.2s,SNR=15						
EMOS				S	Sn	07 02 09.8	-2.4
	5.5nm,0.3s,SNR=5.0						
EMOS	Mosqueruela	4.36	2	Pn	Pn	07 01 22.3	+1.6
	2.0nm,0.2s,SNR=15						
EMOS				Sn	Sn	07 02 09.8	-2.4
	5.5nm,0.3s,SNR=5.0						
ESDC	Sonseca Array	4.50	326	Pn	Pn	07 01 24.7	+2.1
ESDC	Sonseca Array	4.50	326	P	Pn	07 01 23.7	+1.1
	3.3nm,0.1s,baz=141,slow=13,SNR=4.8						
ESDC				S	Sn	07 02 13.0	-2.7
	SNR=7.9						
ESDC	Sonseca Array	4.50	326	Pn	Pn	07 01 24.7	+2.1
	3.3nm,0.1s,SNR=4.8						
ETOS	Mallorca	4.67	35	P	Pn	07 01 24.5	-0.5
	1.0nm,0.1s,SNR=7.9						
ETOS	Mallorca	4.67	35	Pn	Pn	07 01 24.5	-0.5
	1.0nm,0.1s,SNR=7.9						
ERTA	Horta de San J	5.02	9	Pn	Pn	07 01 29.6	-0.4
ERTA				Sn	Sn	07 02 23.9	-4.8
ERTA	Horta de San J	5.02	9	P	Pn	07 01 29.6	-0.4
	0.6nm,0.2s,SNR=7.9						
ERTA				S	Sn	07 02 24.5	-4.2
	1.3nm,0.2s,SNR=7.9						
ERTA	Horta de San J	5.02	9	Pn	Pn	07 01 29.6	-0.3
	0.6nm,0.2s,SNR=7.9						
ERTA				Sn	Sn	07 02 23.9	-4.8
	1.3nm,0.2s,SNR=7.9						
EMIN	Mina Concepcio	5.12	292	Pn	Pn	07 01 30.3	-1.0
EMIN				Sn	Sn	07 02 30.1	-1.1
EMIN	Mina Concepcio	5.12	292	P	Pn	07 01 30.3	-1.0
	SNR=7.9						
EMIN				S	Sn	07 02 29.3	-1.9
	SNR=4.0						
EMIN	Mina Concepcio	5.12	292	Pn	Pn	07 01 30.3	-1.1
	SNR=7.9						
EMIN				Sn	Sn	07 02 30.1	-1.2
	SNR=4.0						
EPOB	Poblet	5.52	14	P	Pn	07 01 37.0	0.0
	0.7nm,0.2s,SNR=4.0						
EPOB	Poblet	5.52	14	Pn	Pn	07 01 37.0	-0.1
	0.7nm,0.2s,SNR=4.0						
EBAD	Badajoz	5.75	301	P	Pn	07 01 40.5	+0.3
	0.3nm,0.1s,SNR=4.0						
EBAD				S	Sn	07 02 42.8	-4.2
	SNR=7.9						
EBAD	Badajoz	5.75	301	Pn	Pn	07 01 40.5	+0.3
EBAD				Sn	Sn	07 02 42.8	-4.2

JSN 18 07:06:07.9±0.9,**17.81N×77.29W,h25^{km}**±20^{km},**MD3.6,6D, Jamaica region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MCJ	Malvern	0.40	286	*e*P	Pb	07 06 15.7	-0.7
MCJ				*i* S	Sb	07 06 21.8	-0.4
CVJ	Coleyville	0.47	330	⇓*i*P	Pb	07 06 16.9	-0.7
STH	Stony Hill	0.53	60	⇓*i*P	Pb	07 06 17.7	-0.8
STH				*i* S	Sb	07 06 25.4	-0.4
HOJ	Hope	0.55	70	⇓*i*P	Pb	07 06 18.1	-0.8
BBJ	Bamboo Saint A	0.57	2	⇓*i*P	Pb	07 06 18.8	-0.4
BBJ				*i* S	Sb	07 06 27.0	+0.1
GWJ	Greenwich	0.59	64	⇓*i*P	Pb	07 06 19.0	-0.6
BNJ	Bonny Gate	0.60	32	⇓*i*P	Pb	07 06 18.8	-0.9
BNJ				*e*S	Sb	07 06 26.2	-1.6

*NEIC **18** 07:15:19.1±5.1,32.23S×179.72E,h342^{km}±29^{km},mb4.1/3, Error ellipse: s-maj=72.0km s-min=16.6km az=46.0*
*IDC **18** 07:15:22.0±5.0,32.48S×179.51E,h355^{km}±32^{km},mb3.2/4, mb1 3.5/6,mb1mx3.4/12,mbtmp4.2/6,Error ellipse: s-maj=59.0km s-min=23.4km az=54.0*
ISC 18 07:15:18.6±0.9,**32.38S**±0.07×**179.5E**±0.1,**h351^{km}**±9^{km}, **n86,σ1^{s}42**/112,**mb3.5**/7,**1C,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	5.26	190	*e*PN	P	07 16 43.7	+2.0
MXZ				SN	S	07 17 49.0	+2.1
MXZ	Matakaoa Point	5.26	190	*e*PN	P	07 16 43.7	+2.0
MXZ				SN	S	07 17 49.0	+2.1
PUZ	Puketiti	5.77	190	*e*PN	P	07 16 48.5	+1.1
PUZ				SN	S	07 17 59.4	+2.3
PUZ	Puketiti	5.77	190	*e*PN	P	07 16 48.5	+1.1
PUZ				SN	S	07 17 59.4	+2.3
MWZ	Matawai	6.16	195	*e*PN	P	07 16 51.4	-0.4
MWZ				SN	S	07 18 06.8	+1.8
MWZ	Matawai	6.16	195	*e*PN	P	07 16 51.4	-0.4
MWZ				SN	S	07 18 06.8	+1.8
URZ	Urewera	6.18	198	P	P	07 16 54.1	+2.0
	22nm,0.3s,baz=286,slow=2.9,SNR=71						
URZ				S	S	07 18 08.5	+2.8
	14nm,0.3s,baz=63,slow=23,SNR=17						
URZ	Urewera	6.18	198	*e*PN	P	07 16 52.1	0.0
URZ				SN	S	07 18 08.6	+3.0
URZ	Urewera	6.18	198	*e*PN	P	07 16 52.1	0.0
URZ				SN	S	07 18 08.6	+3.0
KNZ	Kokohu	6.79	192	*e*PN	P	07 17 00.4	+1.2
KNZ	Kokohu	6.79	192	*e*PN	P	07 17 00.4	+1.2
BKZ	Black Stump Fm	7.20	199	*e*PN	P	07 17 03.5	-0.6
BKZ				SN	S	07 18 29.3	+2.3
BKZ	Black Stump Fm	7.20	199	*e*PN	P	07 17 03.5	-0.6
BKZ				SN	S	07 18 29.3	+2.3
MGZ	Maungaku	7.35	205	*e*PN	P	07 17 06.8	+1.0
MGZ	Maungaku	7.35	205	*e*PN	P	07 17 06.8	+1.0
NGZ	Ngauruhoe	7.48	204	*e*PN	P	07 17 09.1	+1.7
NGZ	Ngauruhoe	7.48	204	*e*PN	P	07 17 09.1	+1.7
CNZ	Chateau	7.52	204	*e*PN	P	07 17 10.0	+2.1
CNZ	Chateau	7.52	204	*e*PN	P	07 17 10.0	+2.1
WPVZ	Whakapapa	7.53	204	*e*PN	P	07 17 09.3	+1.4
WPVZ	Whakapapa	7.53	204	*e*PN	P	07 17 09.3	+1.4
TUVZ	Tukino	7.55	203	*e*PN	P	07 17 08.7	+0.5
TUVZ	Tukino	7.55	203	*e*PN	P	07 17 08.7	+0.5
WNVZ	Wahianoa	7.62	203	*e*PN	P	07 17 08.7	-0.3
WNVZ	Wahianoa	7.62	203	*e*PN	P	07 17 08.7	-0.3
MOVZ	Moawhango	7.64	202	*e*PN	P	07 17 10.4	+1.1
MOVZ	Moawhango	7.64	202	*e*PN	P	07 17 10.4	+1.1
MTVZ	Mangateitei	7.72	204	*e*PN	P	07 17 12.1	+2.0
MTVZ	Mangateitei	7.72	204	*e*PN	P	07 17 12.1	+2.0
PWZ	Pawanui	7.92	195	*e*PN	P	07 17 11.4	-1.2
PWZ	Pawanui	7.92	195	*e*PN	P	07 17 11.4	-1.2
TSZ	Takapari Road	8.18	199	*e*PN	P	07 17 13.8	-1.8
TSZ	Takapari Road	8.18	199	*e*PN	P	07 17 13.8	-1.8
BFZ	Birch Farm	8.69	197	*e*PN	P	07 17 21.0	-0.6
BFZ	Birch Farm	8.69	197	*e*PN	P	07 17 21.0	-0.6
MRZ	Mangatainoka R	8.85	200	*e*PN	P	07 17 21.6	-1.9
MRZ				SN	S	07 19 02.2	0.0
MRZ	Mangatainoka R	8.85	200	*e*PN	P	07 17 21.6	-1.9
MRZ				SN	S	07 19 02.2	0.0
KIW	Kapiti Island	9.23	202	*e*PN	P	07 17 26.8	-1.4
KIW				SN	S	07 19 10.6	+0.1
KIW	Kapiti Island	9.23	202	*e*PN	P	07 17 26.8	-1.4
KIW				SN	S	07 19 10.6	+0.1
MTW	Mount Morrison	9.33	199	*e*PN	P	07 17 27.7	-1.7
MTW				SN	S	07 19 13.2	+0.6
MTW	Mount Morrison	9.33	199	*e*PN	P	07 17 27.7	-1.7
MTW				SN	S	07 19 13.2	+0.6
CAW	Cannon Point	9.41	201	*e*PN	P	07 17 28.7	-1.6
CAW	Cannon Point	9.41	201	*e*PN	P	07 17 28.7	-1.6
DUWZ	D'Urville Isla	9.53	206	*e*PN	P	07 17 30.2	-1.5
DUWZ	D'Urville Isla	9.53	206	*e*PN	P	07 17 30.2	-1.5
PAWZ	Paruwai Farm	9.56	199	*e*PN	P	07 17 31.5	-0.5
PAWZ	Paruwai Farm	9.56	199	*e*PN	P	07 17 31.5	-0.5
MRW	Makara Radio	9.63	202	*e*PN	P	07 17 31.9	-1.0
MRW	Makara Radio	9.63	202	*e*PN	P	07 17 31.9	-1.0
MSWZ	Moikau Station	9.64	199	*e*PN	P	07 17 30.9	-2.1
MSWZ	Moikau Station	9.64	199	*e*PN	P	07 17 30.9	-2.1
SNZO	South Karori	9.70	202	*e*PN	P	07 17 31.9	-1.9
SNZO	South Karori	9.70	202	*e*PN	P	07 17 31.9	-1.9
BHW	Baring Head	9.74	201	*e*PN	P	07 17 32.2	-2.1
BHW	Baring Head	9.74	201	*e*PN	P	07 17 32.2	-2.1
TUWZ	Tuamarina	10.07	205	*e*PN	P	07 17 35.9	-2.2
TUWZ	Tuamarina	10.07	205	*e*PN	P	07 17 35.9	-2.2
NNZ	Nelson	10.09	207	*e*PN	P	07 17 36.7	-1.7
NNZ				SN	S	07 19 28.6	-0.5
NNZ	Nelson	10.09	207	*e*PN	P	07 17 36.7	-1.7
NNZ				SN	S	07 19 28.6	-0.5
BSWZ	Blackbirch Sta	10.34	204	*e*PN	P	07 17 42.3	+0.9
BSWZ	Blackbirch Sta	10.34	204	*e*PN	P	07 17 42.3	+0.9
THZ	Tophouse	10.74	207	*e*PN	P	07 17 44.1	-2.2
THZ				SN	S	07 19 43.7	+0.5
THZ	Tophouse	10.74	207	*e*PN	P	07 17 44.1	-2.2
THZ				SN	S	07 19 43.7	+0.5
KHZ	Kahutara	11.08	204	*e*PN	P	07 17 48.0	-2.4
KHZ	Kahutara	11.08	204	*e*PN	P	07 17 48.0	-2.4
DSZ	Denniston Nort	11.18	211	*e*PN	P	07 17 50.1	-1.5
DSZ				SN	S	07 19 53.6	+0.8
DSZ	Denniston Nort	11.18	211	*e*PN	P	07 17 50.1	-1.5
DSZ				SN	S	07 19 53.6	+0.8
LTZ	Lake Taylor	11.86	207	*e*PN	P	07 17 59.1	-0.6
LTZ	Lake Taylor	11.86	207	*e*PN	P	07 17 59.1	-0.6
MQZ	McQueen's Vall	12.52	203	*e*PN	P	07 18 06.2	-1.4
MQZ				SN	S	07 20 20.5	-1.1
MQZ	McQueen's Vall	12.52	203	*e*PN	P	07 18 06.2	-1.4
MQZ				SN	S	07 20 20.5	-1.1
RPZ	Rata Peaks	13.12	208	P	P	07 18 14.9	+0.2
	3.4nm,0.3s,baz=334,slow=2.2,SNR=12						
RPZ				S	S	07 20 34.2	-0.4
	1.5nm,0.3s,baz=322,slow=15,SNR=6.1						
FOZ	Fox Glacier	13.57	212	*e*PN	P	07 18 18.5	-1.5
FOZ	Fox Glacier	13.57	212	*e*PN	P	07 18 18.5	-1.5
JCZ	Jackson Bay	14.39	213	*e*PN	P	07 18 27.3	-1.7
JCZ	Jackson Bay	14.39	213	*e*PN	P	07 18 27.3	-1.7
ODZ	Otahua Downs	14.40	206	*e*PN	P	07 18 30.3	+1.2
ODZ	Otahua Downs	14.40	206	*e*PN	P	07 18 30.3	+1.2
STKA	Stephens Creek	31.99	261	P	P	07 21 18.1	+3.1
	2.2nm,0.6s,mb3.6,baz=88,slow=7.1,SNR=8.9						
ASAR	Alice Springs	40.92	270	P	P	07 22 30.9	+1.5
	0.8nm,0.5s,mb3.2,baz=104,slow=7.6,SNR=18						
WB2	Warramunga Arr	42.09	276	⇑*i*P	P	07 22 39.9	+1.1
WRAB	Tennant Creek	42.09	276	*e*P	P	07 22 39.6	+0.7
	3.7nm,0.6s,mb3.7						
WRA	Warramunga Arr	42.10	276	P	P	07 22 40.1	+1.1
	1.8nm,0.3s,mb3.7,baz=112,slow=8.1,SNR=20						
VNDA	Vanda	45.92	185	P	P	07 23 09.1	+0.6
	0.2nm,0.5s,mb2.5,baz=355,slow=6.6,SNR=2.9						
QSPA	South Pole Qui	57.73	180	*e*P	P	07 24 36.9	+1.8
	8.2nm,0.8s,mb4.1						
SNAA	Sanae	76.23	179	*e*P	P	07 26 30.5	+0.6
	1.2nm,0.3s,mb4.1						

IDC **18** *07:23:57.6±0.8, 40.48N×124.67W, mb4.4/16, mb1 4.5/22, mb1mx4.4/29, mbtmp4.4/22, ML3.6/5, MS4.0/15, Ms1 4.0/15, ms1mx3.8/26, Error ellipse: s-maj=14.8km s-min=11.9km az=174.0*

BJI **18** *07:23:57.0, 40.15N×125.84W, h16km, mB5.4, mb5.1, Msz4.7*

MOS **18** *07:23:58.5±2.1, 40.40N×124.90W, h33km, mb4.8/8, Error ellipse: s-maj=9.1km s-min=7.3km az=24.3*

HRVD **18** *07:23:58.5±0.5, 40.40N×124.86W, h22km±1km, MW4.9/59, Centroid moment Tensor Solution. LP body waves: s12,c13;Mantle waves: s59,c93; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.13±.14; $M_{\theta\theta}$-0.37±.12; $M_{\phi\phi}$0.49±.10; $M_{r\theta}$-0.18±.19; $M_{\theta\phi}$-2.42±.10; $M_{\phi r}$-1.03±.21; Best double couple: $M_0$2.674×10^{16} NP1:ϕ_s96°,δ67°, λ-177°. NP2:ϕ_s4°,δ87°,λ-23°. Principal axes: T 2.69, Plg14°, Azm52°; N -.033, Plg67°, Azm178°; P -2.657, Plg18°, Azm318°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC **18** *07:23:58.5, 40.37N×124.97W, h18km, mb5.0/38, MS4.2/7, MW4.9(BRK), After NCEDC.*

NEIC Felt [IV] at Petrolia and Scotia; [III] at Ferndale and Redway; [II] at Eureka, Fortuna, Loleta and McKinleyville.

ISC 18 07:23:58.2±0.3**, 40.38N**±0.03×**124.75W**±0.03**, h18km, n214, σ1s11**/201**, mb4.7**/54**, MS4.0**/19**, 5C-2D, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	Horse Mountain	0.92	57⇑	iPn	Pn	07 24 16.9	+0.7
KRMB	Red Mountain	1.31	29⇑	iPn	Pn	07 24 21.2	-0.5
KBO	Bosley Butte	1.87	12⇑	iPn	Pn	07 24 28.6	-1.3
HOPS	Hopland	1.89	136⇓	iPn	Pn	07 24 29.6	-0.6
YBH	Yreka Blue Hor	2.05	48	Pn	Pn	07 24 32.7	+0.4
	56nm,0.3s,baz=246,slow=11,SNR=1050						
YBH				Sn	Sn	07 24 59.0	+1.4
	73nm,0.3s,baz=257,slow=5.6,SNR=7.6						
YBH	Yreka Blue Hor	2.05	48⇑	iPn	Pn	07 24 32.8	+0.4
NSHM	Saint Helena R	2.49	138	ePn	Pn	07 24 37.9	-0.7
KEBM	Edson Butte	2.51	7	ePn	Pn	07 24 37.3	-1.7
HUMO	Hull Mountain	2.60	31	ePn	Pn	07 24 39.0	-1.3
SAC	San Andreas	3.33	146	ePn	Pn	07 24 48.6	-2.1
MOD	Modoc	3.68	64	ePn	Pn	07 24 54.9	-0.8
WCN	Washoe City	3.99	104	ePn	Pn	07 25 00.3	+0.3
CMB	Columbia Colle	4.12	123	eP	Pn	07 25 01.9	+0.1
PAHR	Pah Rah Range	4.17	98	ePn	Pn	07 25 03.7	+1.1
COR	Corvallis	4.34	14	eP	Pn	07 25 04.6	-0.3
SAO	San Andreas Ge	4.44	143	eP	Pn	07 25 03.7	-2.7
LRV	Little Rabbit	4.92	142	ePn	Pn	07 25 11.1	-2.0
WVOR	Wild Horse Val	5.03	64	eP	Pn	07 25 13.0	-1.8
OMM	Old Mammoth Mi	5.26	120	ePn	Pn	07 25 19.3	+1.3
MNV	Mina	5.46	109	eP	Pn	07 25 20.2	-0.7
MTUM	Tungsten Hills	5.69	120	ePn	Pn	07 25 26.5	+2.4
BMN	Battle Mountai	5.74	87	eP	Pn	07 25 24.1	-0.7
BMN				pmax	pmax		
	comp=Z,225nm,1.7s						
BMN	Battle Mountai	5.74	87	ePn	Pn	07 25 24.1	-0.7
	comp=Z,225nm,1.7s						
TPH	Tonopah	6.28	109	P	Pn	07 25 32.5	+0.1
TPH				pmax	pmax		
	comp=Z,43nm,1.2s						
TPH	Tonopah	6.28	109	Pn	Pn	07 25 32.5	+0.2
	comp=Z,43nm,1.2s						
DAC	Darwin (Calif)	6.95	124	P	Pn	07 25 40.8	-1.1
DAC				pmax	pmax		
	comp=Z,44nm,0.9s						
DAC	Darwin (Calif)	6.95	124	P	Pn	07 25 40.8	-1.1
	comp=Z,44nm,0.9s						
BMO	Blue Mountains	7.08	48	ePn	Pn	07 25 43.7	+0.1
HAWA	Hanford	7.11	31	ePn	Pn	07 25 43.2	-0.8
ELK	Elko	7.25	84	eP	Pn	07 25 45.0	-1.0
ELK	Elko	7.25	84	Pn	Pn	07 25 45.8	-0.2
	comp=Z,0.4nm,0.3s,baz=255,slow=13,SNR=10.0						
ELK				LR	LR	07 28 58.2	
	comp=Z,1μm,21.2s,baz=261,slow=42						
MWC	Mount Wilson	8.13	137	ePn	P	07 25 56.3	-2.0
PGC	Sidney	8.32	6	ePn	P	07 25 58.4	-2.5
HLID	Hailey	8.33	64	ePn	P	07 26 01.6	+0.5
BGU	Big Grassy Mou	8.92	83	P	P	07 26 10.1	+0.7
DUG	Dugway	9.12	87	eP	P	07 26 12.2	+0.1
HVU	Hansel Valley	9.15	77	eP	P	07 26 11.8	-0.6
LDFC	Landfair	9.29	122	Pn	P	07 26 13.7	-0.7
SPUT	South Promonto	9.37	80	Pn	P	07 26 15.5	0.0
PFO	Pinyon Flat Ob	9.46	133	Pn	P	07 26 15.7	-1.1
	comp=Z,58nm,0.3s,SNR=9.8						
PFO	Pinyon Flat Ob	9.46	133	ePn	P	07 26 14.6	-2.2
NEW	Newport	9.59	32	eP	P	07 26 16.5	-1.9
NEW	Newport	9.59	32	Pn	P	07 26 16.8	-1.6
	comp=Z,0.7nm,0.3s,baz=204,slow=12,SNR=17						
NEW				LR	LR	07 30 19.8	
	comp=Z,902nm,18.9s,baz=220,slow=40						
NLU	North Lily Min	9.71	88	ePn	P	07 26 20.0	-0.1
MCMT	McKenzie Canyo	9.83	59	ePn	P	07 26 22.6	+0.8
MVU	Marysvale	9.88	97	ePn	P	07 26 23.2	+0.8
MSU	Marysvale	9.90	97	eP	P	07 26 23.9	+1.1
MPU	Maple Canyon	10.04	88	ePn	P	07 26 23.5	-1.2
HWUT	Hardware Ranch	10.04	79	ePn	P	07 26 24.4	-0.3
JLU	Jordanelle	10.13	84	ePn	P	07 26 25.0	-1.0
MSO	Missoula	10.14	47	ePn	P	07 26 26.3	+0.2
TCUT	Toone Canyon	10.15	82	ePn	P	07 26 26.2	0.0
DAU	Daniels Canyon	10.29	85	eP	P	07 26 28.2	+0.1
RRI2	Red Ridge	10.44	69	ePn	P	07 26 30.8	+0.6
TMUT	Trail Mountain	10.47	92	ePn	P	07 26 30.5	-0.1
AHID	Auburn Hatcher	10.50	72	ePn	P	07 26 30.1	-0.9
CHMT	Chamberlain Mo	10.58	48	ePn	P	07 26 32.0	0.0
MUDI	Mud Lake	10.68	68	ePn	P	07 26 32.9	-0.5
TPAW	Teton Pass	10.74	69	ePn	P	07 26 34.9	+0.7
QLMT	Earthquake Lak	10.77	61	ePn	P	07 26 35.6	+0.9
IMW	Indian Meadow	10.84	67	ePn	P	07 26 36.6	+1.0
SNOW	Snow King Moun	10.87	69	ePn	P	07 26 36.8	+0.7
WUWY	Wally Ulrich	10.89	69	ePn	P	07 26 36.0	-0.4
MOOW	Moose Ponds	10.94	68	ePn	P	07 26 38.1	+1.2
BOZ	Bozeman (W)	10.95	57	ePn	P	07 26 35.4	-1.7
LOHW	Long Hollow	11.01	68	ePn	P	07 26 38.6	+0.7
SRU	San Rafael	11.03	92	ePn	P	07 26 39.6	+1.4
YMR	Madison River	11.03	63	ePn	P	07 26 38.4	+0.1
YFT	Old Faithful	11.06	64	ePn	P	07 26 40.2	+1.6
YNR	Norris Junctio	11.24	63	ePn	P	07 26 42.5	+1.4
HRY	Holter Researc	11.30	52	ePn	P	07 26 40.8	-1.1
LKWY	Lake	11.39	64	eP	P	07 26 44.4	+1.3
WALA	Waterton Lakes	11.59	38	eP	P	07 26 45.1	-0.8
WUAZ	Wupatki	11.62	110	Pn	P	07 26 43.9	-2.3
BW06	Boulder Array	11.62	73	eP	P	07 26 46.2	-0.2
	comp=Z,8.4nm,0.9s						
PDAR	Pinedale Array	11.62	73	Pn	P	07 26 47.1	+0.8
	comp=Z,0.1nm,0.3s,baz=262,slow=10,SNR=16						
PDAR				LR	LR	07 31 25.7	
	comp=Z,474nm,20.5s,baz=263,slow=39						
BBB	Bella Bella	12.03	350	Pn	P	07 26 50.0	-1.8
	comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=2.5						
BBB				LR	LR	07 30 45.5	
	comp=Z,538nm,19.7s,baz=50,slow=34						
BBB	Bella Bella	12.03	350	Pn	P	07 26 50.0	-1.8
BBB				LR	LR	07 30 45.5	
GCMT	Greycliff	12.27	59	eP	P	07 26 55.0	0.0
TUC	Tucson	13.82	121	eP	P	07 27 17.4	+1.7
PHWY	Pilot Hill	14.63	80	eP	P	07 27 25.0	-1.2
ISCO	Idaho Springs	14.66	86	eP	P	07 27 27.2	+0.6
ISCO				pmax	pmax		
	comp=Z,22nm,1.3s						
ISCO	Idaho Springs	14.66	86	eP	P	07 27 27.2	+0.7
	comp=Z,22nm,1.3s						
LAO	LASA Array	14.83	59	eP	P	07 27 26.2	-2.4
EDM	Edmonton	15.00	27	eP	P	07 27 28.6	-2.3
SDCO	Great Sand Dun	15.18	94	eP	P	07 27 35.0	+1.7
	comp=Z,178nm,1.4s						
ANMO	Albuquerque	15.45	105	Pn	P	07 27 38.8	+1.8
	baz=302,slow=14,SNR=8.5						
ANMO				LR	LR	07 34 41.4	
	comp=Z,738nm,18.7s,slow=42						
LPM	Los Pinos Moun	15.62	107	eP	P	07 27 37.5	-1.6
CPRX	Cap Rock	18.25	107	eP	P	07 28 12.0	-0.4
GDL2	Guadalupe Moun	18.32	110	eP	P	07 28 12.8	-0.4
DLBC	Dease Lake	18.39	351	P	P	07 28 13.3	-0.5
	comp=Z,0.0nm,0.3s,baz=184,slow=16,SNR=4.5						
DLBC	Dease Lake	18.39	351	eP	P	07 28 10.8	-3.0
CBKS	Cedar Bluff	19.32	87	eP	P	07 28 23.3	-1.8
	comp=Z,184nm,1.4s						
LTX	Lajitas	20.46	116	eP	P	07 28 38.6	+1.1
LTX				pmax	pmax		
	comp=Z,18nm,1.1s						
LTX				MLR	MLR		
	comp=Z,399nm,20.0s,MS3.8						
LTX	Lajitas	20.46	116	eP	P	07 28 38.6	+1.1
	comp=Z,18nm,1.1s						
LTX				LR	LR		
	comp=Z,399nm,20.0s,MS3.8						
TXAR	Lajitas Array	20.46	116	P	P	07 28 38.7	+1.2
	comp=Z,7.3nm,1.0s,baz=301,slow=9.7,SNR=50						
TXAR				LR	LR	07 36 38.6	
	comp=Z,215nm,19.4s,MS3.5,baz=265,slow=37						
TXAR	Lajitas Array	20.46	116	P	P	07 28 38.7	+1.1
TXAR				LR	LR	07 36 38.6	
FFC	Flin Flon	20.89	39	P	P	07 28 40.6	-1.2
	comp=Z,599nm,1.2s,SNR=27						
FFC	Flin Flon	20.89	39	eP	P	07 28 39.1	-2.7
	comp=Z,143nm,1.1s						
KSU1	Kansas State U	21.64	84	eP	P	07 28 51.5	+2.0
ULM	Lac du Bonnet	22.45	54	P	P	07 28 57.3	-0.1
	comp=Z,51nm,1.1s,mb4.8,baz=258,slow=10.0,SNR=44						
ULM				LR	LR	07 38 39.5	
	comp=Z,890nm,18.4s,MS4.2,baz=250,slow=40						
JCT	Junction City	22.53	108	eP	P	07 28 58.8	+0.3
	comp=Z,34nm,1.4s,mb4.6						
JCT				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
YKA	Yellowknife Ar	22.97	12	P	P	07 29 02.2	-0.3
	comp=Z,9.2nm,0.9s,mb4.2,baz=200,slow=9.3,SNR=78						
YKA				LR	LR	07 39 24.1	
	comp=Z,393nm,19.4s,MS3.9,baz=170,slow=40						
YKA	Yellowknife Ar	22.97	12	P	P	07 29 02.2	-0.3
YKA				LR	LR	07 39 24.1	
YKW3	Yellowknife Ar	23.04	12	eP	P	07 29 03.0	-0.1
DIV	Divide	24.46	335	eP	P	07 29 15.8	-1.1
	comp=Z,30nm,0.9s,mb4.7						
EYMN	Ely	24.88	61	eP	P	07 29 20.2	-0.9
	comp=Z,93nm,1.7s,mb5.0						
DAWY	Dawson	25.23	345	eP	P	07 29 22.9	-1.3
MENT	Mentasta	25.27	340	eP	P	07 29 26.7	+2.0
SLKM	Skilak Lake	25.57	330	eP	P	07 29 26.3	-1.2
SML	Sawmill	25.79	334	eP	P	07 29 28.8	-0.7
JFWS	Jewell Farm	25.80	73	eP	P	07 29 28.7	-1.1
	comp=Z,41nm,1.0s,mb4.9						
JFWS				LR	LR		
	comp=Z,469nm,20.0s,MS4.0						
PMR	Palmer	25.91	333	eP	P	07 29 32.0	+1.4
PWA	Palmer West	26.21	333	eP	P	07 29 35.0	+1.6
THY	Trims Highway	26.21	339	eP	P	07 29 31.4	-2.0
FCC	Fort Churchill	26.72	36	eP	P	07 29 37.4	-0.7
	comp=Z,17nm,0.9s,mb4.6						
MCK	McKinley	27.38	337	eP	P	07 29 43.7	-0.4
	comp=Z,5.1nm,1.0s,mb4.0						
MCK				LR	LR		
	comp=Z,175nm,19.0s,MS3.6						
INK	Inuvik	28.39	353	P	P	07 29 53.4	+0.2
	comp=Z,4.0nm,0.8s,mb4.1,baz=172,slow=10.0,SNR=20						
INK				LR	LR	07 42 20.2	
	comp=Z,230nm,19.4s,MS3.8,baz=160,slow=39						
BLO	Bloomington	29.25	80	eP	P	07 30 00.3	-0.9
	comp=Z,22nm,1.1s,mb4.8						
PLAL	Pickwick Lake	29.37	89	eP	P	07 30 00.9	-1.5
	comp=Z,31nm,1.1s,mb5.0						
IMA	Indian Mountai	30.47	337	eP	P	07 30 12.4	+0.6
ACSO	Alum Creek Sta	31.64	76	eP	P	07 30 21.6	-0.7
	comp=Z,67nm,1.3s,mb5.3						
ACSO				LR	LR		
	comp=Z,666nm,22.0s,MS4.3						
FWV	Forest Hill	34.01	80	eP	P	07 30 42.8	-0.2
ELN	Prospectdale	34.17	81	eP	P	07 30 43.9	-0.5
RES	Resolute Bay	37.04	13	eP	P	07 31 07.6	-0.8
	comp=Z,18nm,1.0s,mb4.9						
NCB	Newcomb	37.14	67	P	P	07 31 08.1	-1.5
	comp=Z,4.3nm,0.3s,mb4.8						
MIV	Mineville/With	37.60	67	eP	P	07 31 12.0	-1.5
SCHQ	Schefferville	40.44	49	P	P	07 31 37.0	+0.1
	comp=Z,23nm,1.0s,mb4.9,baz=285,slow=7.9,SNR=21						
SCHQ				LR	LR	07 48 56.4	
	comp=Z,473nm,19.1s,MS4.4,baz=236,slow=37						
SCHQ	Schefferville	40.44	49	eP	P	07 31 36.2	-0.7
	comp=Z,45nm,1.1s,mb5.1						
FX1	Attu Island--F	43.11	308	LR	LR	07 48 57.8	
	comp=Z,4.1nm,18.7s,baz=285,slow=35						
BILL	Bilibino	45.49	331	eP	P	07 32 17.6	-0.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
BILL				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.2						
JTS	JuntasAbangare	46.20	119	LR	LR	07 52 51.8	
	comp=Z,134nm,19.2s,MS3.9,baz=166,slow=38						
MA2	Magadan	53.64	321	i P	P	07 33 20.5	+0.1
SJG	San Juan	54.69	96	eP	P	07 33 27.3	-1.4
	comp=Z,27nm,1.2s,mb5.2						
TIXI	Tiksi	57.06	339	eP	P	07 33 44.5	-0.6
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,93nm,17.0s,MS4.0						
SDV	Santo Domingo	57.21	108	eP	P	07 33 46.1	-0.8
ROSC	El Rosal	57.36	114	LR	LR	08 00 25.0	
	comp=Z,90nm,19.4s,MS3.9,baz=347,slow=38						
OTAV	Otavalo	57.96	121	eP	P	07 33 52.2	0.0
	comp=Z,14nm,1.3s,mb4.8						
YAK	Yakutsk	61.81	329	eP	P	07 34 23.1	+5.1
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.0						
PPT	Papeete	62.11	207	eLR	LR	07 52 11.6	
	comp=Z,202nm,28.2s						
RKT	Rikitea	63.88	190	eLR	LR	07 52 50.4	
	comp=Z,84nm,38.5s						
TBI	Tubuai	67.45	205	eLR	LR	07 54 36.6	
	comp=Z,149nm,30.2s						
ARCES	ARCESS Array B	68.23	11	LR	LR	08 08 20.8	
	comp=Z,81nm,18.6s,MS4.0,baz=9.4,slow=39						
NB2	NORSAR Subarra	72.75	21	P	P	07 35 26.3	-0.4
	comp=Z,1.5nm,0.7s,mb4.0,baz=325,slow=6.2						
NOA	NORSAR Array B	72.75	21	P	P	07 35 26.0	-0.7
	comp=Z,2.7nm,0.8s,mb4.2,baz=326,slow=5.9,SNR=6.1						
NOA				LR	LR	08 05 18.3	
	comp=Z,122nm,21.5s,MS4.2,baz=320,slow=34						
HFS	Hagfors	74.18	20	P	P	07 35 34.7	-0.3
	comp=Z,9.3nm,0.8s,mb4.7,baz=27,slow=3.3,SNR=9.2						
CN2	Changchun	75.07	315	eP	P	07 35 38.9	-1.6
FINES	FINESS Array B	75.79	14	P	P	07 35 43.7	-0.5
	comp=Z,3.6nm,0.8s,mb4.3,baz=304,slow=6.9,SNR=8.4						
LPAZ	La Paz	77.06	125	P	P	07 35 53.0	+0.8
	comp=Z,1.2nm,0.8s,mb3.9,baz=345,slow=12,SNR=5.8						
ROSF	Rostrenen	77.61	36	eP	P	07 35 54.9	+0.3
	comp=Z,63nm,1.5s,mb5.0						
QUIF	Quistinic	77.97	36	eP	P	07 35 56.8	+0.2
SGMF	Saint Gilles	77.99	35	eP	P	07 35 57.0	+0.3
	comp=Z,59nm,1.6s,mb5.0						
FLN	La Foliniere	78.51	34	eP	P	07 36 02.9	+3.4
FLN				eR			
	comp=Z,168nm,17.2s						
GRR	Gorron	78.63	34	eP	P	07 36 01.1	+0.9
LDF	La Druitiere	78.79	34	eP	P	07 36 01.3	+0.2
TLY	Talaya	79.10	332	P	P	07 36 03.7	+1.0
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TLY	Talaya	79.10	332	P	P	07 36 03.7	+1.0
	comp=Z,2.2nm,0.6s,mb4.3						
ZAK	Zakamensk	80.29	331	eP	P	07 36 16.2	+7.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.8						
MFF	Saint Martin d	80.31	35	eP	P	07 36 09.9	+0.6
ULN	Ulaanbaatar	80.85	328	i P	P	07 36 05.9	-6.3
SONM	Songino Array	81.15	328	P	P	07 36 14.2	+0.5
	comp=Z,1.6nm,0.8s,mb4.0,baz=96,slow=6.0,SNR=7.8						
SSF	Saint Saulge	81.51	33	eP	P	07 36 16.3	+0.7
CLL	Collm	81.52	25	eP	P	07 36 16.0	+0.4
CLL	Collm	81.52	25	P	P	07 36 16.0	+0.4
TCF	Toulx Ste Croi	81.58	34	eP	P	07 36 16.2	+0.2
	comp=Z,18nm,1.1s,mb4.6						
BGF	Bois d'Agland	81.64	34	eP	P	07 36 17.1	+0.8
AVF	Avril sur Loir	81.66	33	eP	P	07 36 17.6	+1.2
CDF	Champ du Feu	81.92	30	eP	P	07 36 19.7	+2.0
SMF	Signal de Mont	81.98	33	eP	P	07 36 19.4	+1.3
LFF	La Frestale	81.99	36	eP	P	07 36 19.0	+0.8
	comp=Z,25nm,1.1s,mb4.8						
RJF	Les Rejaudoux	82.05	35	eP	P	07 36 18.9	+0.4
	comp=Z,27nm,1.1s,mb4.8						
RJF				eR			
	comp=Z,230nm,22.0s						
NVS	Novosibirsk	82.17	344	eP	P	07 36 18.6	-0.3
NVS				pmax	pmax		
	comp=N,8.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,14nm,1.4s						
NVS				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.0						
BRG	Berggiesshubel	82.20	25	eP	P	07 36 20.2	+1.1
BRG				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BRG	Berggiesshubel	82.20	25	eP	P	07 36 20.2	+1.1
	comp=Z,9.3nm,0.8s,mb4.8						
GRA1	Grafenberg Arr	82.30	27	eP	P	07 36 20.4	+0.7
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	Grafenberg Arr	82.30	27	eP	P	07 36 20.4	+0.7
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
BJI	Beijing	82.62	317	P	P	07 36 18.5	-3.0
BJI				AMB	AMB		
	comp=Z,4.0nm,0.4s,mb4.8						
ZAL	Zalesovo	82.68	343	P	P	07 36 23.1	+1.5
	comp=Z,1.3nm,0.3s,mb4.4,baz=58,slow=7.5,SNR=6.3						
CABF	La Chapelle	82.93	32	eP	P	07 36 24.2	+1.2
	comp=Z,54nm,1.6s,mb5.0						
ETSF	Etsaut	82.98	38	eP	P	07 36 24.3	+1.0
KHC	Kasperske Hory	83.58	26⇓	iP	P	07 36 26.7	+0.5
ESDC	Sonseca Array	83.77	42	P	P	07 36 28.5	+1.1
	comp=Z,3.9nm,0.8s,mb4.6,baz=306,slow=4.3,SNR=14						
ESLA	Sonseca Array	83.77	42	eP	P	07 36 27.9	+0.5
	comp=Z,3.1nm,1.2s,mb4.3						
VIVF	Saint-Julien-l	83.77	34	eP	P	07 36 28.3	+1.0
	comp=Z,32nm,1.4s,mb5.0						
GERES	GERESS Array B	83.87	26	P	P	07 36 28.8	+1.1
	comp=Z,1.1nm,0.8s,mb4.0,slow=4.0,SNR=8.5						
MTLF	Montolieu	83.90	36	eP	P	07 36 28.6	+0.6
LASF	Ste Croix	84.04	34	eP	P	07 36 29.6	+0.9
	comp=Z,23nm,1.3s,mb4.8						
LPL	La Plagne	84.08	32	eP	P	07 36 30.5	+1.7
	comp=Z,11nm,1.0s,mb4.7						
LPG	La Plagne	84.10	32	eP	P	07 36 30.9	+1.9
	comp=Z,19nm,1.3s,mb4.8						
ORIF	Oris-en-Rattie	84.22	33	eP	P	07 36 30.8	+1.2
ORIF				eR			
	comp=Z,197nm,17.0s						
DAVOX	Davos	84.26	29	P	P	07 36 32.0	+2.3
	comp=Z,1.2nm,0.4s,mb4.3,baz=351,slow=15,SNR=3.5						
HHC	Hu-ho-hao-te	84.32	321	eP	P	07 36 29.3	-0.9
HHC				XP	sP	07 36 35.1	-2.5
HHC				S	S	07 46 49.3	-4.3
HHC				PS	PS	07 47 46.3	-4.3
HHC				SS	SS	07 52 24.5	-2.0
HHC				AMB	AMB		
	comp=Z,11nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,126nm,5.0s						
VRAC	Vranov	84.41	24	P	P	07 36 31.9	+1.5
	comp=Z,7.7nm,0.8s,mb4.9,baz=352,slow=6.4,SNR=6.8						
OJC	Ojcow	84.56	22	eP	P	07 36 31.9	+0.8
MBDF	Montbardon	84.74	32	eP	P	07 36 33.9	+1.7
	comp=Z,21nm,1.0s,mb4.9						
SMRF	Simiane la Rot	84.86	34	eP	P	07 36 33.9	+1.1
	comp=Z,20nm,1.3s,mb4.8						
BVAR	Borovoye Array	86.05	351	P	P	07 36 39.4	+0.9
	comp=Z,7.8nm,0.8s,mb5.0,baz=18,slow=4.7,SNR=36						
SSE	Sheshan	86.31	308	eP	P	07 36 38.1	-2.2
SSE				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.7						
SSE	Sheshan	86.31	308	eP	P	07 36 38.1	-2.2
	comp=Z,34nm,0.7s,mb5.7						
KURK	Kurchatov	87.00	345	P	P	07 36 43.5	+0.3
	comp=Z,57nm,0.9s,mb5.8,SNR=16						
KURK	Kurchatov	87.00	345	eP	P	07 36 42.9	-0.3
KURK				pmax	pmax		
	comp=Z,13nm,1.1s,mb5.1						
KURK	Kurchatov	87.00	345	eP	P	07 36 42.9	-0.3
	comp=Z,13nm,1.1s,mb5.1						
BDFB	Brasilia	90.23	110	LR	LR	08 21 38.6	
	comp=Z,135nm,20.9s,MS4.4,baz=215,slow=38						
WMQ	Urumqi	91.23	337	eP	P	07 37 03.0	-0.3
WMQ				XP	sP	07 37 10.0	-0.7
WMQ				PP	PP	07 40 40.0	-3.0
WMQ				SKS	SKS	07 47 33.0	-6.3
WMQ				eS	S	07 47 58.0	-0.3
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,196nm,5.4s						
WMQ				LR	LR		
	comp=Z,190nm,19.0s,MS4.5						
LZH	Lanzhou	91.77	323	eP	P	07 37 05.4	-0.6
LZH				PP	PP	07 40 45.3	-2.2
LZH				AMB	AMB		
	comp=Z,28nm,1.5s						
LZH				AMB	AMB		
	comp=Z,102nm,6.3s						
LZH				LR	LR		
	comp=Z,791nm,18.1s						
LZH	Lanzhou	91.77	323	eP	P	07 37 05.4	-0.6
	comp=Z,28nm,1.5s						
LZH				pP	pP	07 37 10.5	-1.1
LZH				sP	sP	07 37 13.1	-0.3
LZH				PP	PP	07 40 45.2	-2.3
LZH				LR	LR		
	comp=Z,790nm,18.1s						
TIRR	Tirgusor	92.16	19	⇑P	P	07 37 10.7	+3.1
AAK	Ala-Archa	95.56	346	eP	P	07 37 23.3	+0.1
KMI	Kunming	101.27	317	P	P	07 37 47.8	-1.7
KMI				AP		07 37 53.4	
KMI				AMB	AMB		
	comp=Z,11nm,0.8s						
KMI				LR	LR		
	comp=Z,44nm,40.0s,MS3.7						
KMI	Kunming	101.27	317	P	P	07 37 47.8	-1.7
	comp=Z,11nm,0.8s						
KMI				pP		07 37 53.4	
KMI				LR	LR		
	comp=Z,40nm,40.0s,MS3.6						
ASAR	Alice Springs	113.29	258	PKiKP		07 42 35.5	
	comp=Z,0.5nm,0.8s,baz=56,slow=3.3,SNR=3.9						
MATP	Matopo	149.73	57	PKPbc	PKPdf	07 43 48.5	+2.2
	comp=Z,4.2nm,0.8s,baz=334,slow=5.5,SNR=6.5						
MATP				PKPab	PKPab	07 43 54.4	-0.3
	comp=Z,2.6nm,0.8s,baz=247,slow=7.1,SNR=4.7						
LBTB	Lobatse	150.89	67	PKPbc	PKPdf	07 43 51.5	+3.5
	comp=Z,7.3nm,0.8s,baz=279,slow=3.5,SNR=12						
LBTB				PKPab	PKPab	07 43 59.7	+0.2
	comp=Z,4.0nm,0.6s,baz=312,slow=2.9,SNR=5.2						
LBTB	Lobatse	150.89	67	PKPbc	PKPdf	07 43 51.5	+3.5
LBTB				PKPab	PKPab	07 43 59.7	+0.2

IDC **18** *07:34:48.7±0.8, 44.49N×42.23E, mb4.0/8, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, ML4.1/4, MS2.8/1, Ms1 2.8/1, ms1mx2.5/21, Error ellipse: s-maj=18.2km s-min=13.0km az=44.0*

CSEM **18** *07:34:48.1±0.1, 44.62N×42.12E, h5km, mb4.0/2, Error ellipse: s-maj=2.4km s-min=1.6km az=48.0*

TIF **18** *07:34:49.9, 44.48N×42.23E, h5km±1km*

MOS **18** *07:34:49.3±1.0, 44.59N×42.09E, h10km, mb4.1/2, Error ellipse: s-maj=9.5km s-min=5.8km az=117.3*

MOS Felt (IV-V) at Vodorazdel, Podgornoe; (III-IV) at herkessk, Adige-Habl'; (III) at Nevinnomisk.

NEIC **18** *07:34:50.4±0.4, 44.56N×42.24E, h10km, mb4.1/3, Error ellipse: s-maj=9.0km s-min=6.6km az=214.0*

NEIC Felt [V] at Podgornoye and Vodorazdel; [IV] at Adyge-Khabl' and Cherkessk; [III] at Nevinnomyssk.

ISC 18 07:34:49.3±0.3**, 44.56N**±0.02×**42.14E**±0.03**, h10km, n61, σ1s33**/75**, mb3.9**/9**, 6C-1D, Western Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	Kislovodsk	0.72	147	ePg	Pg	07 35 02.8	-0.9
KIV				eSg	Sg	07 35 11.6	-1.8
KIV	Kislovodsk	0.72	147	ePg	Pg	07 35 02.8	-0.9
KIV				eSg	Sg	07 35 11.6	-1.8
KIV0	Kislovodsk Arr	0.72	146	i Pg	Pg	07 35 03.1	-0.7
KIV0				i Sg	Sg	07 35 11.9	-1.6
GOF	Gofitskoye	0.81	52	i PG	Pg	07 35 06.0	+0.5
GOF				i S	Sg	07 35 17.0	+0.7
GOF				pmax	pmax		
	comp=Z,435nm,0.7s						
GOF				smax			
	comp=E,4.0nm,1.3s						
GOF	Gofitskoye	0.81	52	i Pg	Pg	07 35 06.0	+0.5
	comp=E,435nm,0.7s						
GOF				i Sg	Sg	07 35 17.0	+0.7
SHAR	Shatzhatmas	0.90	155	i PG	Pg	07 35 06.6	-0.7

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SHAR				eS	Sb	07 35 17.9	-0.4
KUBR	Kubataba	1.19	129	i Pg	Pg	07 35 11.4	-1.6
KUBR				i Sg	Sg	07 35 27.1	-1.8
BCHG	Becho	1.56	168	P	Pn	07 35 18.2	+1.0
BCHG				S	Sb	07 35 38.7	+1.2
SOC	Sochi	2.00	242	ePN	Pn	07 35 26.0	+2.4
SOC				e		07 35 54.9	
SOC				pmax	pmax		
	comp=Z,308nm,0.9s						
SOC				pmax	pmax		
	comp=N,146nm,0.8s						
SOC				pmax	pmax		
	comp=E,173nm,0.7s						
SOC				smax			
	comp=N,665nm,0.7s						
SOC	Sochi	2.00	242	eSg	Sg	07 35 54.9	-1.1
	comp=N,665nm,0.7s						
ZEI	Tsey	2.20	144	Pn	Pn	07 35 27.6	+1.2
	comp=N,937nm,0.4s						
ZEI				eSn	Sn	07 35 55.7	+1.9
KGUR	Krasnodar	2.26	283	PN	Pn	07 35 30.9	+3.6
KGUR				eS	Sn	07 35 55.7	+0.2
KGUR				pmax	pmax		
	comp=Z,937nm,0.4s						
DUS	Dusheti	3.10	142	P	Pn	07 35 43.1	+4.0
DUS				S	Sn	07 36 28.5	+12
BCA	Borcka	3.13	187	eP	Pn	07 35 47.6	+7.8
ANN	Anapa	3.37	276	ePN	Pn	07 35 47.1	+4.1
ANN				eS	Sn	07 36 33.8	+10
ANN				pmax	pmax		
	comp=Z,86nm,1.1s						
ANN				smax			
	comp=E,136nm,0.6s						
ANN				smax			
	comp=Z,100nm,0.6s						
TBLG	Delisi	3.41	145	S	Sn	07 36 37.1	+13
TI2	Plekhanov	3.41	145	i PN	Pn	07 35 46.4	+2.8
TI2				i		07 35 54.2	
TI2				i S	Sn	07 36 36.6	+12
TI2				pmax	pmax		
	comp=Z,30nm,0.6s						
TI2				smax			
	comp=E,90nm,0.8s						
TI2	Plekhanov	3.41	145	i P	Pn	07 35 46.4	+2.8
	comp=E,30nm,0.6s						
GUMT	Gumushane	4.54	207	eP	Pn	07 36 00.1	+0.4
GUMT	Gumushane	4.54	207	eP	Pn	07 36 00.1	+0.3
EZM	Erzurum	4.69	187	eP	Pn	07 36 02.6	+0.9
GNI	Garni	4.81	155	eP	Pn	07 36 10.3	+6.7
GNI	Garni	4.81	155	Pn	Pn	07 36 04.0	+0.5
	comp=E,0.5nm,0.3s,baz=206,slow=15,SNR=2.0						
GNI				Lg		07 37 23.3	
	comp=E,2.3nm,0.3s,baz=39,slow=16,SNR=3.7						
GNI				LR	LR	07 38 14.3	
	comp=E,104nm,21.4s,baz=337,slow=44						
GNI	Garni	4.81	155	Pn	Pn	07 36 02.9	-0.7
GNI				Lg		07 37 23.3	
GNI				LR	LR	07 38 14.3	
SIM	Simferopol’	5.73	277	ceP	Pn	07 36 14.8	-1.7
SIM				eS	Sn	07 37 26.0	+2.9
SIM				pmax	pmax		
	comp=Z,25nm,0.8s						
SIM	Simferopol’	5.73	277	eP	Pn	07 36 14.8	-1.7
	comp=Z,25nm,0.8s						
PTK	Pertek	6.02	201	eP	Pn	07 36 21.9	+1.2
BYBT	Boyabat	6.22	243	eP	Pn	07 36 23.3	-0.2
BZK	Bozkurt	6.48	249	eP	Pn	07 36 26.6	-0.5
TOS	Tosya	6.93	242	eP	Pn	07 36 34.0	+0.6
BRTR	Keskin Array B	7.95	236	Pn	Pn	07 36 47.3	-0.4
	comp=Z,0.3nm,0.3s,baz=38,slow=9.4,SNR=4.9						
VRI	Vrincioaia	10.96	282	⇑P	P	07 37 27.8	-1.3
ISP	Isparta	11.03	237	i P	P	07 37 30.5	+0.4
OBN	Obninsk	11.16	343	⇓iP	P	07 37 37.6	+5.8
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s						
MLR	Muntele Rosu	11.50	280	Pn	P	07 37 35.3	-1.3
	comp=Z,0.6nm,0.3s,baz=110,slow=4.2,SNR=9.5						
MLR	Muntele Rosu	11.50	280	⇑P	P	07 37 35.9	-0.7
BURAR	Bucovina Array	12.14	291	⇑P	P	07 37 42.5	-2.7
BURAR	Bucovina Array	12.14	291	⇑P	P	07 37 42.5	-2.7
VSU	Vasula	16.84	331	i P	P	07 38 49.5	+3.1
FINES	FINESS Array B	19.38	336	P	P	07 39 15.9	-1.7
	comp=Z,1.3nm,0.3s,baz=145,slow=13,SNR=36						
JOF	Joensuu	19.43	345	ep	P	07 39 16.8	-1.4
KAF	Kangasniemi	19.86	338	ep	P	07 39 20.7	-2.4
GERES	GERESS Array B	19.91	293	P	P	07 39 23.8	+0.1
	comp=Z,0.1nm,0.3s,baz=96,slow=12,SNR=6.3						
BVAR	Borovoye Array	20.34	55	P	P	07 39 26.6	-1.6
	comp=Z,3.7nm,0.5s,baz=265,slow=11,SNR=14						
DAVOX	Davos	22.57	287	P	P	07 39 53.0	+2.2
	comp=Z,1.6nm,0.3s,mb4.0,baz=148,slow=16,SNR=3.9						
HFS	Hagfors	23.08	323	P	P	07 39 56.4	+0.8
	comp=Z,5.2nm,0.5s,mb4.2,baz=122,slow=14,SNR=18						
AAK	Ala-Archa	23.43	83	eP	P	07 40 00.7	+1.5
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
AAK	Ala-Archa	23.43	83	eP	P	07 39 56.8	-2.4
	comp=Z,2.8nm,0.7s,mb3.8						
AAK	Ala-Archa	23.43	83	eP	P	07 40 00.7	+1.5
	comp=Z,2.0nm,0.6s,mb3.7						
NB2	NORSAR Subarra	24.59	323	P	P	07 40 09.9	-0.4
	comp=Z,2.7nm,0.6s,mb4.0,baz=123,slow=9.3						
NB2	NORSAR Subarra	24.59	323	P	P	07 40 09.9	-0.4
NB2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.0						
NOA	NORSAR Array B	24.59	323	P	P	07 40 10.3	0.0
	comp=Z,2.6nm,0.6s,mb3.9,baz=120,slow=9.1,SNR=9.6						
KURK	Kurchatov	25.15	63	⇑iP	P	07 40 17.4	+1.6
KURK	Kurchatov	25.15	63	eP	P	07 40 16.7	+0.9
	comp=Z,5.4nm,1.0s,mb4.0						
ARCES	ARCESS Array B	26.43	347	P	P	07 40 26.9	-0.6
	comp=Z,6.6nm,1.0s,mb4.1,baz=23,slow=9.2,SNR=7.7						
TLY	Talaya	40.58	57	i P	P	07 42 31.3	+1.0
SONM	Songino Array	43.45	62	P	P	07 42 53.9	+0.1
	comp=Z,0.5nm,0.6s,mb3.4,baz=286,slow=8.9,SNR=7.2						
ULN	Ulaanbaatar	43.86	62	eP	P	07 42 58.6	+1.6
SCHQ	Schefferville	64.16	323	P	P	07 45 25.2	-0.4
	comp=Z,4.8nm,1.2s,mb4.4,baz=48,slow=15,SNR=3.2						
SCHQ	Schefferville	64.16	323	P	P	07 45 25.2	-0.5
YKA	Yellowknife Ar	71.68	349	P	P	07 46 12.4	-0.2
	comp=Z,0.4nm,0.5s,mb3.6,baz=12,slow=6.4,SNR=14						

*JMA **18** 07:36:54.6±0.5, 33.61N×142.02E, h68km, M3.4*
*IDC **18** 07:37:04.3±1.2, 32.41N×138.98E, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, MS4.5/1, Ms1 4.5/1, ms1mx2.8/24, Error ellipse: s-maj=34.8km s-min=21.8km az=115.0*
ISC 18 07:36:55.8±1.8, **33.60N**±0.05×**141.9E**±0.1, **h31**km±13km, **n14**, σ**0§84**/20, **mb3.6**/3, **MS4.6**/1, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	Boso 1	1.28	326	P	Pn	07 37 17.7	-0.1
BSO1				S	Sb	07 37 35.9	+0.6
BSO3	Boso 3	1.64	317	P	Pn	07 37 23.1	+0.1
BSO3				S	Sn	07 37 43.7	+0.6
JHJ2	Mitsune	1.77	255	P	Pn	07 37 25.7	+0.8
JHJ	Hachijo jima 2	1.80	255	Pn	Pn	07 37 25.7	+0.4
	43nm,0.3s,baz=255,slow=23,SNR=10						
JHJ				LR	LR	07 37 42.7	
	comp=Z,2μm,20.8s,baz=11,slow=38						
JHJ				Sn	Sn	07 37 46.7	-0.6
	48nm,0.3s,baz=60,slow=23,SNR=5.7						
BSO4	Boso 4	1.87	318	P	Pn	07 37 27.0	+0.7
BSO4				S	Sn	07 37 50.6	+1.5
JOD2	Odawara 2	2.83	307	P	Pn	07 37 38.7	-1.3
JOD2				S	Sn	07 38 13.5	+0.2
JYN	Shimob	3.32	306	P	Pn	07 37 46.7	-0.3
JRY	Ryogami san	3.42	316	P	Pn	07 37 47.7	-0.7
JAG	Ashikaga	3.44	326	P	Pn	07 37 48.3	-0.4
JAG				S	Sn	07 38 27.9	-0.9
MAT	Matsushiro	4.19	315	P	Pn	07 37 58.3	-1.1
MAT				S	Sn	07 38 47.3	-0.6
SONM	Songino Array	30.11	309	P	P	07 43 06.0	+1.2
	0.9nm,0.8s,mb3.6,baz=107,slow=9.0,SNR=7.6						
WRA	Warramunga Arr	53.72	189	P	P	07 46 16.8	-0.6
	0.6nm,0.6s,mb3.7,baz=5.2,slow=7.5,SNR=4.3						
ASAR	Alice Springs	57.45	189	P	P	07 46 45.1	+0.8
	0.3nm,0.7s,mb3.4,baz=16,slow=13,SNR=4.5						
RPZ	Rata Peaks	81.43	159	LR	LR	08 22 25.4	
	comp=Z,267nm,19.7s,MS4.6,baz=194,slow=34						

*IDC **18** 07:41:52.4±1.1, 27.77S×71.35W, mb3.9/5, mb1 4.0/8, mb1mx3.9/16, mbtmp3.9/8, ML4.3/2, MS3.8/3, Ms1 3.7/3, ms1mx3.4/21, Error ellipse: s-maj=29.7km s-min=19.0km az=72.0*
*GUC **18** 07:41:55.1±0.5, 27.92S×71.40W, h43km±3km, ML4.3*
*NEIC **18** 07:41:55.1, 27.92S×71.40W, h43km, mb3.8/1, After GUC.*
ISC 18 07:41:52.0±2.3, **27.78S**±0.04×**71.51W**±0.10, **h14**km±15km, **n18**, σ**1§23**/25, **mb3.8**/5, **MS4.0**/2, **3D**, **Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VACH	Vallenar	1.04	140	⇓iP	Pb	07 42 11.3	0.0
VACH				i S	Sb	07 42 23.5	-1.0
VACH				AMP		07 42 25.3	
	comp=N,22μm,0.2s						
CPCH	Copiapo	1.11	68	⇓iP	Pb	07 42 14.4	+1.9
CPCH				i S	Sb	07 42 29.6	+3.0
LCO	Las Campanas	1.42	150	⇓iP	Pn	07 42 17.7	+0.1
LCO				i S	Sb	07 42 34.4	-1.3
LCO				AMP		07 42 39.2	
	comp=N,10μm,0.6s						
LSCH	La Serena	2.13	174	eP	Pn	07 42 47.8	+20
LSCH				i S	Sn	07 43 11.8	+18
LSCH				AMP		07 43 22.9	
	comp=E,3μm,0.4s						
CPN1	Cerro Paranal	3.29	18	i P	Pn	07 42 44.5	+0.2
CPN1				i S	Sn	07 43 22.9	-0.8
CFAA	Coronel Fontan	4.76	144	Pn	Pn	07 43 06.5	+1.3
	comp=E,1.5nm,0.3s,baz=323,slow=12,SNR=177						
CFAA				Sn	Sn	07 44 03.3	+2.5
	comp=E,2.6nm,0.3s,baz=169,slow=21,SNR=7.5						
CFAA	Coronel Fontan	4.76	144	Pn	Pn	07 43 06.5	+1.3
CFAA				Sn	Sn	07 44 03.3	+2.5
LVC	Limon Verde	5.66	25	i P	Pn	07 43 17.8	0.0
LVC	Limon Verde	5.66	25	Pn	Pn	07 43 18.0	+0.2
	comp=E,4.0nm,0.3s,baz=172,slow=8.5,SNR=40						
LVC				Sn	Sn	07 44 22.8	-0.5
	comp=E,12nm,0.3s,baz=349,slow=22,SNR=3.3						
LPAZ	La Paz	11.86	16	Pn	P	07 44 42.5	-1.2
	comp=E,0.3nm,0.3s,baz=194,slow=9.0,SNR=12						
PLCA	Paso Flores	12.95	177	LR	LR	07 50 16.8	
	comp=E,117nm,19.6s,baz=164,slow=39						
TRQA	Tornquist	13.00	144	Pn	P	07 44 56.7	-2.3
	comp=E,6.5nm,0.8s						
SAML	Samuel	20.31	24	eP	P	07 46 30.2	-0.3
	comp=E,4.9nm,0.9s						
BDFB	Brasilia	24.90	66	P	P	07 47 15.2	-0.9
	comp=E,3.1nm,0.7s,mb4.0,baz=255,slow=10,SNR=7.2						
BDFB				LR	LR	07 58 21.3	
	comp=E,233nm,20.4s,MS3.7,baz=255,slow=40						
SNAA	Sanae	57.20	159	P	P	07 51 39.5	-1.1
	comp=E,2.4nm,1.0s,mb4.2,baz=270,slow=10,SNR=4.9						
TXAR	Lajitas Array	64.59	329	P	P	07 52 32.0	+0.7
	comp=E,0.1nm,0.7s,mb2.9,baz=159,slow=7.7,SNR=2.8						
DBIC	Dimbokro	72.83	73	P	P	07 53 22.8	+0.1
	comp=E,4.6nm,0.5s,mb4.6,baz=222,slow=5.8,SNR=11						
DBIC				LR	LR	08 24 45.7	
	comp=E,156nm,19.8s,MS4.3,baz=292,slow=35						
PDAR	Pinedale Array	78.45	332	P	P	07 53 56.3	+2.3
	comp=E,0.2nm,0.5s,mb3.3,baz=156,slow=8.9,SNR=3.5						

IDC 18 08:25:50.9±1.0, **84.97N**×**100.21E**, **mb3.6**/6, **mb1 3.8**/6, **mb1mx3.7**/17, **mbtmp3.6**/6, **Error ellipse: s-maj=38.9km s-min=20.0km az=120.0**, **North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
INK	Inuvik	25.14	45	P	P	08 31 17.9	-0.4
	3.3nm,1.1s,baz=3.7,slow=14,SNR=6.3						
YKA	Yellowknife Ar	31.94	30	P	P	08 32 17.4	-2.3
	0.4nm,0.9s,baz=349,slow=8.8,SNR=7.5						
BVAR	Borovoye Array	32.85	214	P	P	08 32 25.0	-2.8
	0.2nm,0.5s,baz=354,slow=13,SNR=3.9						
SONM	Songino Array	37.33	173	P	P	08 33 04.6	-1.5
	1.7nm,1.0s,baz=352,slow=8.7,SNR=9.0						
GERES	GERESS Array B	41.29	272	P	P	08 33 38.1	-0.9
	0.2nm,0.2s,baz=352,slow=9.4,SNR=4.2						
TXAR	Lajitas Array	65.48	23	P	P	08 36 34.6	-2.8
	0.5nm,0.8s,baz=7.7,slow=3.4,SNR=5.8						

*IDC **18** 08:37:37.2±3.4, 6.20S×118.00E, mb3.9/3, mb1 4.2/3, mb1mx3.8/12, mbtmp4.0/3, Error ellipse: s-maj=194.3km s-min=55.9km az=47.0*
*DJA **18** 08:38:30.6±0.9, 11.29S×119.59E, h320km, MD4.7/4, ML4.8/4, Error ellipse: s-maj=64.7km s-min=20.1km az=31.0*
ISC 18 08:38:32.6±0.8, **12.4S**±0.2×**119.0E**±0.2, **h33**km, **n10**, σ**1§41**/14, **mb3.9**/1, **8C-2D**, **South of Sumbawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KEDI	Kedomdong	4.77	324	⇓iPn	Pn	08 39 44.4	+0.2
	221nm,0.2s						
KEDI				⇑iSn	Sn	08 40 39.6	+0.5
RATI	Rata	4.95	317	⇑iPn	Pn	08 39 49.5	+2.8
	132nm,0.2s						
RATI				⇑iSn	Sn	08 40 45.0	+1.4
KELI	Kelakatan	6.04	313	⇑iPn	Pn	08 40 00.3	-1.7
	38nm,0.2s						
KELI				⇑iSn	Sn	08 41 08.9	-1.8
SRDI	Scrawed	6.12	309	⇑iPn	Pn	08 40 03.0	-0.2
	85nm,0.2s						
SRDI	Scrawed	6.12	309	⇓iP	P	08 40 03.2	+0.2
SRDI				⇑iSn	Sn	08 41 12.5	-0.3
WRA	Warramunga Arr	16.57	119	P	P	08 42 22.2	-1.8
	2.6nm,0.4s,baz=314,slow=11,SNR=21						
WB2	Warramunga Arr	16.58	119	⇑iP	P	08 42 22.8	-1.4
ASPA	Alice Springs	18.09	130	eP	P	08 42 45.3	+2.2
ASAR	Alice Springs	18.09	130	P	P	08 42 45.0	+1.9
	2.0nm,0.4s,baz=315,slow=8.3,SNR=43						
ASAR				PcP		08 46 35.0	
	0.2nm,0.4s,baz=334,slow=1.5,SNR=4.1						
STKA	Stephens Creek	28.46	137	P	P	08 44 19.8	-7.0
	1.1nm,0.3s,mb3.9,baz=311,slow=8.5,SNR=12						

*CASC **18** 08:39:21.3±2.4, 12.89N×88.90W, h45km±53km, MD4.7, ML4.8, mb4.6(NEIC)*
*IDC **18** 08:39:21.1±0.7, 13.08N×88.64W, h50km±6km, mb4.2/17, mb1 4.3/20, mb1mx4.2/26, mbtmp4.4/20, MS3.7/17, Ms1 3.7/17, ms1mx3.6/23, Error ellipse: s-maj=21.3km s-min=8.6km az=55.0*
*NEIC **18** 08:39:22.0±0.3, 12.98N×88.92W, mb4.6/35, MD5.0(CASC), MD4.9(SNET), Error ellipse: s-maj=11.0km s-min=4.1km az=49.0*
NEIC Felt [III] at San Salvador.
*BJI **18** 08:39:22.0, 13.00N×88.90W, h50km, mB5.1, Ms5.2, Msz4.5*
ISC 18 08:39:19.4±0.3, **12.79N**±0.03×**88.96W**±0.03, **h49**km±.8km**:pP-P**, **n158**, σ**1§17**/155, **mb4.5**/46, **MS3.9**/17, **3C-13D**, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNVI	San Vicente	0.82	8	⇓eP	P	08 39 35.4	+0.5
SNVI				eS	S	08 39 46.4	+0.1
LFRS	El Faro	0.83	353	⇓iP	P	08 39 35.5	+0.5
LCBS	La Ceiba	0.86	359	⇓iP	P	08 39 35.8	+0.4
VSM	San Miguel	0.92	47	⇓iP	P	08 39 36.9	+0.7
SNET	Serv Nac Est T	0.93	344	⇑eP	P	08 39 37.0	+0.7
SNET				eS	S	08 39 49.2	+0.4
SNET				i		08 39 52.6	
	comp=Z,35μm,0.6s						
LBRS	Las Brisas	0.94	355	⇓eP	P	08 39 37.2	+0.7
BLLM	Bellamira	0.96	47	⇓eP	P	08 39 37.0	+0.3
BOQS	Boqueron	0.99	342	⇓iP	P	08 39 38.3	+1.1
CNCH	Conchagua	1.20	66	eP	P	08 39 40.3	+0.2
CAHU	Cacacuatique	1.22	37	⇓eP	P	08 39 41.4	+1.1
CAHU				eS	S	08 39 57.7	+1.8
SBLS	San Blas	1.23	328	⇓iP	P	08 39 41.8	+1.3
SNJE	San Jose	1.24	330	⇓iP	P	08 39 42.0	+1.3
RTR	El Retiro	1.28	329	⇓eP	P	08 39 42.7	+1.3
RBDL	Robledal	1.49	332	⇑iP	P	08 39 45.8	+1.5
MTO2	Montecristo 2	1.65	346	eP	P	08 39 47.6	+1.1
IXG	Ixpaco	2.00	314	⇓eP	P	08 39 52.0	+0.6
IXG				eS	S	08 40 15.2	-0.1
IXG				AML	AML	08 40 39.5	
	comp=N,38μm,0.5s						
PCG	Pacaya	2.26	315	eP	P	08 39 54.6	-0.5
PCG				eS	S	08 40 21.2	-0.7
FUG	Fuego 3	2.46	312	⇓eP	P	08 39 59.6	+1.5
XAVN	Gruta Xavier	2.65	104	eP	P	08 40 01.3	+0.5
MGAN	Managua	2.73	103	eP	P	08 40 02.2	+0.4
MGAN				eP		08 40 01.2	
MGAN				eP		08 40 02.2	
MGAN				eS	S	08 40 32.3	-1.4
MGAN				i		08 40 37.4	
	comp=N,5μm,0.3s						
MGAN				i		08 40 39.7	
	comp=E,4μm,0.6s						
TICN	Ticuantepe	2.77	105	eP	P	08 40 02.6	+0.1
WILN	Americas 2	2.78	103	eP	P	08 40 03.2	+0.6
PYTN	Playitas	2.84	95	eP	P	08 40 03.9	+0.4
APON	Apoyo	2.96	107	eP	P	08 40 05.3	+0.2
JAT	Jato	3.01	301	eP	P	08 40 07.0	+1.1
JAT				eS	S	08 40 41.7	+0.7
JAT				AML	AML	08 40 55.0	
	comp=N,4μm,0.4s						
VCR	Vista de Mar	4.20	129	eP	P	08 40 24.5	+1.8
VCR	Vista de Mar	4.20	129	eP	P	08 40 24.4	+1.7
CCIG	Comitan	4.64	319	i P	P	08 40 30.5	+1.7
CCIG				i S	S	08 41 39.0	+17
JTS	JuntasAbangare	4.65	122	Pn	P	08 40 29.3	+0.3
	comp=N,7μm,0.4s,SNR=82						
JTS	JuntasAbangare	4.65	122	P	P	08 40 29.5	+0.5
	comp=N,12nm,0.3s,baz=310,slow=20,SNR=78						
JTS				S	S	08 41 21.5	-0.8
	comp=N,28nm,0.3s,baz=177,slow=17,SNR=4.6						
JTS				Lg		08 41 40.7	
	comp=N,17nm,0.3s,baz=238,slow=20,SNR=16						
JTS				LR	LR	08 42 42.9	
	comp=N,1μm,20.8s,baz=302,slow=44						
JTS	JuntasAbangare	4.65	122	ePn	P	08 40 29.3	+0.3
JTS				Sn	S	08 41 18.1	-4.2
FORC	Fortuna	4.79	118	eP	P	08 40 34.0	+2.9
CGA2	Cerro Gallo 2	5.20	122	eP	P	08 40 40.0	+3.4
CGA2	Cerro Gallo 2	5.20	122	eP	P	08 40 39.4	+2.8
VPS2	Volcan Poas 2	5.30	119	eP	P	08 40 43.0	+4.9
PRS1	Puriscal	5.34	121	eP	P	08 40 41.7	+3.0
PRS1	Puriscal	5.34	121	eP	P	08 40 42.0	+3.3
LAJ	Bijagual	5.57	121	eP	P	08 40 40.7	-1.0
LAJ	Bijagual	5.57	121	eP	P	08 40 40.6	-1.1
SJS	Escuela Geolog	5.58	120	eP	P	08 40 44.6	+2.6
SJS	Escuela Geolog	5.58	120	eP	P	08 40 44.6	+2.6
SJS				eS	S	08 41 44.8	-0.9
TRTC	Tortuguero	5.59	113	eP	P	08 40 42.7	+0.6
TRTC	Tortuguero	5.59	113	eP	P	08 40 42.4	+0.3
TRTC				eS	S	08 41 47.4	+1.5
LCR2	La Lucha 2	5.73	121	eP	P	08 40 47.0	+3.0
LCR2	La Lucha 2	5.73	121	eP	P	08 40 47.0	+2.9
LCR2				eS	S	08 41 47.7	-1.7
ICR	Volcan Irazu	5.75	119	eP	P	08 40 48.3	+3.9
ICR	Volcan Irazu	5.75	119	eP	P	08 40 48.5	+4.1
BUS	Buena Vista	6.03	122	eP	P	08 40 51.6	+3.3
BUS	Buena Vista	6.03	122	eP	P	08 40 51.5	+3.3
BUS				eS	S	08 41 55.9	-1.1
ACR	Cerro Adams	7.02	125	eP	P	08 41 04.4	+2.2
ACR	Cerro Adams	7.02	125	⇑eP	P	08 41 04.4	+2.2
ACR				eS	S	08 42 21.3	-0.1
TEIG	Tepich	7.42	5	ePn	P	08 41 07.1	-0.6
	comp=N,31nm,0.7s						
VHO	Vista Hermosa	8.63	300	i P	P	08 41 25.2	+0.7
VHO				i S	S	08 42 59.5	-2.0
PPM	Popocatepetl	11.19	305	i P	P	08 42 02.3	+2.8
PPM				i S	S	08 43 45.6	-19
OTAV	Otavalo	16.25	139	P	P	08 43 04.3	-1.7
	comp=N,7.5nm,0.9s						
ROSC	El Rosal	16.46	117	P	P	08 43 11.7	+3.1
	comp=N,0.6nm,0.3s,baz=328,slow=19,SNR=4.9						
ROSC				LR	LR	08 49 46.1	
	comp=N,90nm,18.8s,baz=230,slow=38						
SDV	Santo Domingo	18.41	100	P	P	08 43 31.0	-2.0
	comp=N,1.0nm,0.3s,baz=296,slow=4.7,SNR=9.0						
SDV				PcP	PcP	08 48 02.8	+0.3
	comp=N,0.1nm,0.3s,baz=53,slow=3.6,SNR=3.8						
SDV	Santo Domingo	18.41	100	eP	P	08 43 30.5	-2.5
	comp=N,26nm,0.8s						
NATX	Nacogdoches	19.59	345	eP	P	08 43 45.9	-0.4
	comp=N,44nm,0.8s						
LRAL	Lakeview Retre	20.23	5	eP	P	08 43 52.7	-0.4
	comp=N,24nm,0.9s						
JCT	Junction City	20.26	332	eP	P	08 43 51.7	-1.7
	comp=N,24nm,0.8s						
GOGA	Godfrey	21.13	13	eP	P	08 44 02.5	+0.2
	comp=N,47nm,0.6s,mb5.0						
TXAR	Lajitas Array	21.39	323	P	P	08 44 06.0	+1.1
	comp=N,8.6nm,0.6s,mb4.3,baz=144,slow=11,SNR=144						
TXAR				pP		08 44 17.4	
	comp=N,6.7nm,0.6s,baz=142,slow=10,SNR=11						
TXAR				PcP	PcP	08 48 08.2	+0.3
	comp=N,1.2nm,0.8s,baz=176,slow=3.4,SNR=5.3						
TXAR				pPcP		08 48 21.7	
	comp=N,1.5nm,0.8s,baz=162,slow=4.0,SNR=5.2						
TXAR				LR	LR	08 53 58.0	
	comp=N,108nm,19.4s,MS3.3,baz=135,slow=41						
LTX	Lajitas	21.39	323	eP	P	08 44 05.0	0.0
	comp=N,10nm,0.7s,mb4.3						
OXF	Oxford	21.63	359	eP	P	08 44 07.4	+0.2
	comp=N,24nm,0.7s,mb4.7						
MIAR	Mount Ida	22.06	350	eP	P	08 44 11.4	-0.1
	comp=N,29nm,0.8s,mb4.8						
MIAR				e		08 44 25.3	
UALR	University of	22.10	353	eP	P	08 44 12.2	+0.3
	comp=N,85nm,1.4s,mb5.0						
UALR				e		08 44 25.9	
SWET	Sewanee	22.49	6	eP	P	08 44 15.2	-0.7
HBAR	Harrisburg	22.71	356	eP	P	08 44 17.6	-0.5
HBAR				epP		08 44 31.4	
GNAR	Gosnell	23.09	358	eP	P	08 44 22.6	+0.9
GNAR				epP		08 44 35.9	
WVT	Waverly	23.26	2	eP	P	08 44 22.9	-0.4
	comp=N,23nm,1.3s,mb4.5						
WMOK	Wichita Mounta	23.59	339	eP	P	08 44 26.3	-0.3
	comp=N,12nm,0.8s,mb4.4						
CLNB	Carlsbad	23.73	327	eP	P	08 44 29.4	+1.5
GDL2	Guadalupe Moun	23.94	326	eP	P	08 44 30.3	+0.4
MNTX	Cornudas Mount	24.13	324	eP	P	08 44 31.7	-0.2
	comp=N,14nm,1.3s,mb4.2						
CPRX	Cap Rock	24.32	328	eP	P	08 44 34.0	+0.3
AMTX	Amarillo	24.83	334	eP	P	08 44 33.8	-4.9
	comp=N,16nm,0.5s,mb4.8						
CCM	Cathedral Cave	25.24	356	eP	P	08 44 41.0	-1.5
	comp=N,19nm,0.7s,mb4.7						
CCM				epP	pP	08 44 54.2	-0.8
ELN	Prospectdale	25.42	15	eP	P	08 44 42.6	-1.6
WCI	Wyandotte Cave	25.44	5	eP	P	08 44 41.9	-2.5
	comp=N,13nm,0.6s,mb4.6						
WCI				epP	pP	08 44 56.0	-0.8
FWV	Forest Hill	25.74	15	P	P	08 44 46.6	-0.6
ANMO	Albuquerque	27.16	327	P	P	08 45 00.9	+0.6
	comp=N,1.3nm,0.6s,mb3.6,baz=121,slow=7.7,SNR=6.5						
ANMO				PcP	PcP	08 48 19.8	-0.4
	comp=N,2.8nm,0.8s,baz=131,slow=3.2,SNR=7.2						
ANMO				LR	LR	08 57 59.4	
	comp=N,112nm,19.3s,MS3.4,slow=41						
ANMO	Albuquerque	27.16	327	eP	P	08 45 00.8	+0.5
	comp=N,1.3nm,0.6s,mb3.6						
CBN	Corbin	27.33	20	eP	P	08 45 00.2	-1.7
	comp=N,11nm,0.3s,mb4.9						
SDCO	Great Sand Dun	28.91	332	eP	P	08 45 16.2	+0.2
	comp=N,5.9nm,1.0s,mb4.3						
ISCO	Idaho Springs	30.65	334	eP	P	08 45 31.1	-0.4
	comp=N,6.6nm,0.9s,mb4.5						
SRU	San Rafael	32.43	328	eP	P	08 45 47.3	+0.2
TMUT	Trail Mountain	32.93	327	eP	P	08 45 51.0	-0.4
SADO	Sadowa	32.96	13	P	P	08 45 48.5	-3.1
	comp=N,14nm,0.6s,mb5.1,baz=214,slow=9.2,SNR=27						
SADO				LR	LR	08 58 24.9	
	comp=N,198nm,21.5s,MS3.8,baz=3.4,slow=35						
MPU	Maple Canyon	33.68	328	eP	P	08 45 58.9	+1.1
BW06	Boulder Array	34.79	333	eP	P	08 46 06.6	-0.8
	comp=N,3.4nm,0.8s,mb4.3						
PDAR	Pinedale Array	34.79	333	P	P	08 46 06.7	-0.7
	comp=N,2.8nm,0.7s,mb4.3,baz=124,slow=9.4,SNR=27						
PDAR				pP	pP	08 46 19.1	-1.3
	comp=N,2.2nm,0.6s,baz=122,slow=11,SNR=8.8						
PDAR				PcP	PcP	08 48 38.9	-1.3
	comp=N,3.0nm,0.6s,baz=147,slow=4.8,SNR=18						
PDAR				pPcP		08 48 52.9	
	comp=N,3.3nm,0.6s,baz=142,slow=4.6,SNR=12						
PDAR				LR	LR	09 03 24.6	

	comp=N,116nm,20.6s,MS3.6,baz=149,slow=42						
HWUT	Hardware Ranch	34.83	330	eP	P	08 46 07.6	-0.1
	comp=N,3.8nm,0.7s,mb4.4						
EYMN	Ely	35.11	357	eP	P	08 46 06.9	-3.2
	comp=N,6.0nm,0.5s,mb4.8						
LPAZ	La Paz	35.48	144	P	P	08 46 14.4	+0.8
	comp=N,2.6nm,0.6s,mb4.3,baz=328,slow=8.2,SNR=21						
LPAZ				LR	LR	09 00 06.2	
	comp=N,168nm,21.1s,MS3.8,baz=325,slow=35						
AHID	Auburn Hatcher	35.49	331	eP	P	08 46 13.1	-0.3
	comp=N,8.6nm,0.6s,mb4.9						
AHID				epP	pP	08 46 26.1	-0.3
HVU	Hansel Valley	35.56	329	eP	P	08 46 14.5	+0.6
SNOW	Snow King Moun	35.87	333	eP	P	08 46 16.8	+0.2
SNOW				epP	pP	08 46 29.5	-0.1
LOHW	Long Hollow	35.92	333	eP	P	08 46 16.7	-0.3
	comp=N,12nm,0.8s,mb4.9						
LOHW				epP	pP	08 46 30.1	0.0
WUWY	Wally Ulrich	35.93	333	eP	P	08 46 17.4	+0.4
WUWY				epP	pP	08 46 30.3	+0.2
TPAW	Teton Pass	35.98	332	eP	P	08 46 17.5	-0.1
TPAW				epP	pP	08 46 31.1	+0.6
RRI2	Red Ridge	36.04	332	eP	P	08 46 17.8	-0.2
ELK	Elko	36.14	325	P	P	08 46 18.9	0.0
	comp=N,1.9nm,0.8s,mb4.1,baz=108,slow=5.8,SNR=8.0						
ELK				PcP	PcP	08 48 44.0	-0.1
	comp=N,3.1nm,0.9s,baz=210,slow=0.8,SNR=7.7						
ELK				pPcP		08 48 58.0	
	comp=N,1.3nm,0.5s,baz=119,slow=4.6,SNR=4.3						
MUDI	Mud Lake	36.14	332	eP	P	08 46 19.9	+1.0
IMW	Indian Meadow	36.30	333	eP	P	08 46 19.8	-0.4
MNV	Mina	36.39	320	eP	P	08 46 22.0	+1.0
	comp=N,1.3nm,0.7s,mb4.0						
LAO	LASA Array	36.79	340	eP	P	08 46 23.4	-0.9
	comp=N,8.2nm,0.6s,mb4.7						
YMR	Madison River	36.92	334	eP	P	08 46 25.9	+0.6
YMR				epP	pP	08 46 38.8	+0.3
HLID	Hailey	37.69	329	eP	P	08 46 31.8	0.0
	comp=N,2.1nm,0.8s,mb3.9						
ULM	Lac du Bonnet	37.78	353	P	P	08 46 29.8	-2.7
	comp=N,4.0nm,0.6s,mb4.4,baz=170,slow=8.5,SNR=13						
ULM				LR	LR	09 02 59.3	
	comp=N,199nm,20.6s,MS3.9,baz=170,slow=38						
ULM	Lac du Bonnet	37.78	353	P	P	08 46 29.8	-2.7
ULM				LR	LR	09 02 59.3	
MCMT	McKenzie Canyo	37.88	332	eP	P	08 46 34.3	+0.8
BOZ	Bozeman (W)	37.98	334	eP	P	08 46 33.8	-0.5
	comp=N,5.1nm,0.7s,mb4.4						
HRY	Holter Researc	38.91	335	eP	P	08 46 41.6	-0.4
WVOR	Wild Horse Val	39.16	325	eP	P	08 46 43.8	-0.3
	comp=N,3.4nm,0.7s,mb4.2						
CHMT	Chamberlain Mo	39.67	334	eP	P	08 46 47.6	-0.7
LVC	Limon Verde	40.30	151	LR	LR	09 01 25.3	
	comp=N,124nm,20.0s,MS3.8,baz=271,slow=33						
YBH	Yreka Blue Hor	41.15	321	P	P	08 46 59.8	-0.7
	comp=N,1.2nm,0.6s,mb3.7,baz=80,slow=4.5,SNR=7.1						
YBH				PcP	PcP	08 48 58.4	-1.4
	comp=N,1.3nm,0.6s,baz=47,slow=6.8,SNR=5.5						
NEW	Newport	42.41	332	P	P	08 47 09.3	-1.6
	comp=N,1.5nm,0.6s,mb3.8,baz=128,slow=14,SNR=4.8						
NEW				PcP	PcP	08 49 01.9	-2.1
	comp=N,2.5nm,0.5s,baz=142,slow=4.5,SNR=7.3						
NEW				pPcP		08 49 15.8	
	comp=N,3.3nm,0.6s,baz=137,slow=5.1,SNR=6.6						
NEW				LR	LR	09 04 31.2	
	comp=N,75nm,21.6s,MS3.5,baz=252,slow=36						
NEW	Newport	42.41	332	P	P	08 47 09.3	-1.6
NEW				PcP	PcP	08 49 01.9	-2.1
NEW				pPcP		08 49 15.8	
NEW				LR	LR	09 04 31.2	
FFC	Flin Flon	43.07	349	P	P	08 47 14.7	-1.4
	comp=N,96nm,0.6s,SNR=16						
FFC	Flin Flon	43.07	349	eP	P	08 47 14.6	-1.5
	comp=N,7.2nm,0.6s,mb4.6						
EDM	Edmonton	44.76	339	eP	P	08 47 28.2	-1.6
EDM				epP	pP	08 47 40.8	-2.3
SCHQ	Schefferville	45.39	18	P	P	08 47 31.5	-3.3
	comp=N,8.0nm,0.6s,mb4.7,baz=218,slow=5.2,SNR=36						
SCHQ				PcP	PcP	08 49 11.2	-2.8
	comp=N,3.8nm,0.5s,baz=246,slow=3.2,SNR=9.2						
SCHQ				LR	LR	09 07 28.9	
	comp=N,175nm,20.2s,MS4.0,baz=231,slow=38						
SCHQ	Schefferville	45.39	18	eP	P	08 47 31.2	-3.6
	comp=N,7.4nm,0.6s,mb4.7						
SCHQ				ePcP	PcP	08 49 11.5	-2.5
FCC	Fort Churchill	46.04	356	eP	P	08 47 37.4	-2.5
	comp=N,4.9nm,0.6s,mb4.6						
FCC				epP	pP	08 47 50.4	-2.8
CFAA	Coronel Fontan	48.41	156	P	P	08 47 59.1	+0.2
	comp=N,0.2nm,0.4s,mb3.5,baz=301,slow=5.7,SNR=5.7						
CFAA				PcP	PcP	08 49 24.7	-0.3
	comp=N,0.1nm,0.4s,baz=302,slow=3.7,SNR=4.9						
CFAA				LR	LR	09 04 49.3	
	comp=N,11nm,21.1s,baz=318,slow=32						
CFAA	Coronel Fontan	48.41	156	P	P	08 47 59.1	+0.2
CFAA				PcP	PcP	08 49 24.7	-0.3
CFAA				LR	LR	09 04 49.3	
BDFB	Brasilia	49.39	124	P	P	08 48 04.2	-2.4
	comp=N,7.6nm,0.6s,mb4.9,baz=292,slow=9.2,SNR=16						
BDFB				LR	LR	09 11 42.3	
	comp=N,95nm,18.9s,MS3.8,baz=141,slow=39						
FRB	Frobisher Bay	52.87	11	P	P	08 48 28.1	-4.1
	comp=N,13nm,0.6s,mb5.0,baz=212,slow=8.9,SNR=64						
YKA	Yellowknife Ar	52.90	345	P	P	08 48 30.0	-2.6
	comp=N,9.8nm,0.6s,mb4.9,baz=138,slow=8.0,SNR=374						
YKA				pP	pP	08 48 43.1	-2.9
	comp=N,2.6nm,0.4s,baz=130,slow=8.7,SNR=13						
YKA				PcP	PcP	08 49 38.4	-2.6
	comp=N,1.2nm,0.6s,baz=148,slow=3.9,SNR=7.5						
YKA				pPcP		08 49 52.4	
	comp=N,1.2nm,0.6s,baz=144,slow=3.9,SNR=4.7						
YKA				LR	LR	09 13 15.5	
	comp=N,139nm,21.6s,MS4.0,baz=150,slow=39						
YKW3	Yellowknife Ar	52.96	345	eP	P	08 48 30.5	-2.5
YKW3				epP	pP	08 48 43.8	-2.7
PLCA	Paso Flores	55.92	163	P	P	08 48 54.5	-0.4
	comp=N,1.5nm,0.8s,mb4.1,baz=301,slow=9.1,SNR=6.5						
PLCA				PcP	PcP	08 49 52.8	-0.1
	comp=N,1.6nm,0.8s,baz=257,slow=3.5,SNR=4.0						
PLCA				LR	LR	09 07 14.9	
	comp=N,87nm,21.0s,MS3.8,baz=38,slow=30						
RKT	Rikitea	57.46	232	eLR	LR	09 05 28.9	
	comp=N,151nm,28.0s						
RES	Resolute Bay	61.97	358	eP	P	08 49 32.5	-3.9
	comp=N,5.5nm,0.7s,mb4.8						
INK	Inuvik	62.44	343	eP	P	08 49 36.7	-2.8
	comp=N,9.9nm,0.6s,mb5.1						
INK				epP	pP	08 49 50.5	-3.0
PPT	Papeete	67.01	245	eLR	LR	09 09 53.4	
	comp=N,202nm,26.0s						
TBI	Tubuai	69.22	239	eLR	LR	09 10 55.3	
	comp=N,145nm,28.0s						
DBIC	Dimbokro	82.82	85	LR	LR	09 27 16.9	
	comp=N,92nm,18.9s,MS4.2,baz=319,slow=35						
NOA	NORSAR Array B	83.78	29	P	P	08 51 43.3	-1.2
	comp=N,0.9nm,0.8s,mb4.0,baz=286,slow=4.6,SNR=3.3						
FX1	Attu Island--F	84.61	323	P	P	08 51 49.8	+1.0
	comp=N,9.3nm,0.6s,mb5.1,baz=304,slow=11,SNR=5.5						
ARCES	ARCESS Array B	86.34	19	P	P	08 51 55.9	-1.1
	comp=N,4.0nm,1.0s,mb4.6,baz=309,slow=7.8,SNR=5.3						
ARCES				pP	pP	08 52 10.3	-1.2
	comp=N,3.0nm,0.8s,baz=284,slow=5.0,SNR=2.0						
ARCES	ARCESS Array B	86.34	19	P	P	08 51 55.9	-1.1
ARCES				pP	pP	08 52 10.3	-1.2
FINES	FINESS Array B	90.31	26	LR	LR	09 37 51.3	
	comp=N,68nm,18.3s,MS4.1,baz=211,slow=39						
CN2	Changchun	115.53	333	ePKP	PKPdf	08 58 03.8	+7.5
SONM	Songino Array	118.11	348	PKP	PKPdf	08 58 01.8	+0.7
	comp=N,1.4nm,0.6s,baz=347,slow=1.6,SNR=14						
SONM				pPKP		08 58 15.9	
	comp=N,1.0nm,0.6s,baz=325,slow=1.5,SNR=5.8						
BJI	Beijing	122.48	337	PKP	PKPdf	08 58 14.3	+4.5
BJI				PP	PP	08 59 52.5	+1.2
BJI				SS	SS	09 16 27.8	+2.1
BJI				LR	LR		
	comp=N,252nm,19.7s,MS5.0						
BJI				LR	LR		
	comp=E,263nm,19.9s,MS5.0						
BJI				LR	LR		
	comp=Z,107nm,21.8s,MS4.5						
WMQ	Urumqi	123.58	3	ePKP	PKPdf	08 58 13.0	+1.1
WMQ				LR	LR		
	comp=Z,72nm,29.2s,MS4.2						
GTA	Gaotai	127.43	351	ePKP	PKPdf	08 58 20.0	+0.6
GTA				APKP		08 59 24.4	
NJ2	Nanjing	128.06	330	ePKP	PKPdf	08 58 25.0	+4.1
NJ2				XPKP		08 58 39.4	
NJ2				PP	PP	09 00 32.0	+3.4
NJ2				PKS	PKS	09 02 01.0	+4.5
NJ2				SKS	SKS	09 05 32.0	+10
NJ2				PP	PP		
	comp=Z,140nm,10.2s						
NJ2				LR	LR		
	comp=N,1μm,21.4s						
NJ2				LR	LR		
	comp=E,1μm,23.2s						
LZH	Lanzhou	129.91	346	ePKP	PKPdf	08 58 22.9	-1.4
LZH				XPKP		08 58 44.1	
LZH				LR	LR		
	comp=N,217nm,18.0s						
LZH				LR	LR		
	comp=Z,299nm,20.1s,MS5.0						
STKA	Stephens Creek	130.01	239	PKP	PKPdf	08 58 26.7	+2.1
	comp=Z,4.4nm,1.2s,baz=358,slow=2.8,SNR=3.7						
ENH	Enshi	133.65	338	ePKPdf	PKPdf	08 58 32.4	+0.9
ENH				epPKPdf		08 58 46.2	
WB2	Warramunga Arr	137.93	254	eP	PKPdf	08 58 41.5	+1.9
WRA	Warramunga Arr	137.94	254	PKP	PKPdf	08 58 41.5	+1.9
	comp=Z,0.5nm,0.8s,baz=89,slow=2.3,SNR=6.0						
ASAR	Alice Springs	138.02	249	PKhKP		08 58 33.2	
	comp=Z,0.6nm,0.7s,baz=101,slow=3.3,SNR=7.9						
ASAR				PKP	PKPdf	08 58 42.0	+2.3
	comp=Z,1.8nm,1.0s,baz=109,slow=2.9,SNR=5.9						
FITZ	Fitzroy Crossi	146.27	257	eP	PKPdf	08 58 57.9	+3.5
	comp=Z,9.7nm,0.8s						
NWAO	Narrogin (SRO)	148.78	226	PKPbc	PKPdf	08 59 04.3	+6.3
	comp=Z,16nm,0.8s,baz=122,slow=4.2,SNR=8.7						

CASC 18 08:46:31.8±2.3, 13.72N×91.06W, h15km±10km, MD4.0, ML4.6, mb4.1(NEIC)
NEIC 18 08:46:36.0±1.5, 14.19N×90.65W, h132km±15km, mb4.1/3, Error ellipse: s-maj=22.1km s-min=11.5km az=222.0
IDC 18 08:46:35.3±3.0, 14.25N×90.66W, h118km±33km, mb3.8/8, mb1 3.8/10, mb1mx3.5/22, mbtmp4.1/10, MS3.7/1, Ms1 3.6/1, ms1mx2.4/18, Error ellipse: s-maj=35.4km s-min=18.5km az=37.0
ISC 18 08:46:31.2±0.6**, 14.17N**±0.08×**91.06W**±0.05**, h97km**±4km**, n37, σ1s18**/51**, mb4.1**/10**, 2C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.49	63⇑	eP	P	08 46 46.7	-0.1
PCG				eS	S	08 46 58.8	+0.4
IXG	Ixpaco	0.58	89⇓	eP	P	08 46 46.4	-1.1
IXG				eS	S	08 46 57.6	-2.0
IXG				AML	AML	08 47 01.9	
	comp=N,80μm,0.4s						
JAT	Jato	0.58	285⇑	eP	P	08 46 47.2	-0.4
JAT				eS	S	08 46 59.8	+0.1
JAT				AML	AML	08 47 00.4	
	comp=N,35μm,0.2s						
RTR	El Retiro	1.40	101⇓	eP	P	08 46 56.0	-0.4
RTR				eS	S	08 47 15.8	+0.7
SBLS	San Blas	1.43	103	eP	P	08 46 56.2	-0.6
SBLS				eS	S	08 47 16.8	+0.9
SNJE	San Jose	1.44	102	eP	P	08 46 56.5	-0.5
SNJE				eS	S	08 47 16.8	+0.7
BOQS	Boqueron	1.78	104	eP	P	08 47 00.7	-0.5
SNET	Serv Nac Est T	1.83	105	eP	P	08 47 00.8	-1.2
SNET				eS	S	08 47 25.9	+1.2
SNET				i		08 47 26.6	
	comp=Z,2μm,0.4s						
LFU	La Fuente	1.93	102	eP	P	08 47 02.5	-0.7
LBRS	Las Brisas	2.00	102	eP	P	08 47 03.3	-0.8
LFRS	El Faro	2.01	105	eP	P	08 47 03.5	-0.8
LFRS				eS	S	08 47 29.1	+0.4
LCBS	La Ceiba	2.08	104	eP	P	08 47 04.7	-0.6
LCBS				eS	S	08 47 31.5	+1.1
SNVI	San Vicente	2.22	104	eP	P	08 47 06.8	-0.4
SNVI				eS	S	08 47 35.0	+1.1
CNCH	Conchagua	3.25	105	eP	P	08 47 20.7	-0.7
CNCH				eS	S	08 48 00.3	+1.0
TEIG	Tepich	6.58	23	ePn	P	08 48 08.3	+1.3
JTS	JuntasAbangare	7.10	122	P	P	08 48 12.9	-1.3
	comp=Z,1.4nm,0.3s,baz=307,slow=17,SNR=14						
JTS				S	S	08 49 29.9	-4.0
	comp=Z,1.4nm,0.3s,baz=274,slow=19,SNR=2.6						
JTS	JuntasAbangare	7.10	122	P	P	08 48 12.9	-1.3
JTS				S	S	08 49 29.9	-4.0
PRS1	Puriscal	7.80	121	eP	P	08 48 24.1	+0.5
PRS1				eS	S	08 49 50.6	-0.4
LCR2	La Lucha 2	8.18	122	eP	P	08 48 30.3	+1.5
BUS	Buena Vista	8.49	122	eP	P	08 48 34.3	+1.3
BUS				eS	S	08 50 07.9	+0.1
TXAR	Lajitas Array	19.08	324	P	P	08 50 51.2	+2.6
	comp=Z,0.6nm,0.3s,baz=150,slow=10,SNR=35						
TXAR				PcP	PcP	08 55 10.1	+0.9
	comp=Z,0.1nm,0.3s,baz=157,slow=5.0,SNR=4.6						
TXAR	Lajitas Array	19.08	324	P	P	08 50 51.2	+2.5
TXAR				PcP	PcP	08 55 10.1	+0.9
SDV	Santo Domingo	20.68	102	P	P	08 51 02.2	-3.3
	comp=Z,1.9nm,0.3s,baz=350,slow=10,SNR=12						
GDL2	Guadalupe Moun	21.68	328	eP	P	08 51 18.9	+3.5
MNTX	Cornudas Mount	21.83	325	eP	P	08 51 18.8	+1.9
	comp=Z,8.0nm,0.7s,mb4.2						
WCI	Wyandotte Cave	24.33	9	eP	P	08 51 40.4	-0.7
	comp=Z,8.3nm,0.7s,mb4.2						
TUC	Tucson	25.51	318	P	P	08 51 55.4	+3.1
	comp=Z,0.8nm,0.6s,mb3.3						
SADO	Sadowa	32.14	16	P	P	08 52 50.8	-0.8
	comp=Z,4.1nm,0.3s,mb4.6,baz=218,slow=9.2,SNR=16						
ELK	Elko	33.86	326	P	P	08 53 09.5	+3.1
	comp=Z,1.4nm,0.5s,mb4.0,baz=136,slow=7.9,SNR=7.0						
ELK	Elko	33.86	326	P	P	08 53 09.5	+3.1
ULM	Lac du Bonnet	36.20	355	P	P	08 53 24.1	-2.1
	comp=Z,1.6nm,0.5s,mb4.2,baz=160,slow=4.4,SNR=4.1						
YBH	Yreka Blue Hor	38.80	321	P	P	08 53 49.0	+1.0
	comp=Z,0.7nm,0.6s,mb3.7,baz=158,slow=5.4,SNR=4.6						
SCHQ	Schefferville	44.75	20	P	P	08 54 35.7	-0.8
	comp=Z,5.3nm,0.6s,mb4.5,baz=211,slow=7.0,SNR=17						
YKA	Yellowknife Ar	51.08	346	P	P	08 55 24.6	-0.9
	comp=Z,0.4nm,0.4s,mb3.8,baz=150,slow=7.6,SNR=17						
YKA				pP	pP	08 55 46.8	-2.3
	comp=Z,0.3nm,0.5s,baz=146,slow=7.7,SNR=5.9						
YKA				PcP	PcP	08 56 38.4	-1.8
	comp=Z,0.3nm,0.5s,baz=152,slow=3.8,SNR=9.4						
YKA	Yellowknife Ar	51.08	346	P	P	08 55 24.6	-0.9
YKA				pP	pP	08 55 46.8	-2.3
YKA				PcP	PcP	08 56 38.4	-1.8
FRB	Frobisher Bay	51.95	12	P	P	08 55 29.7	-2.4
	comp=Z,0.9nm,0.3s,mb4.2,baz=188,slow=8.7,SNR=6.7						
PLCA	Paso Flores	57.84	162	LR	LR	09 16 18.4	
	comp=Z,63nm,21.8s,baz=34,slow=31						

IDC 18 09:00:23.1±1.6, 6.19S×153.22E, mb4.0/5, mb1 4.2/6, mb1mx4.1/11, mbtmp4.1/6, ML3.9/1, MS3.1/3, Ms1 3.1/3, ms1mx3.1/12, Error ellipse: s-maj=51.8km s-min=22.7km az=115.0
NEIC 18 09:00:30.9±0.9, 6.26S×153.06E, h55km, mb4.1/2, Error ellipse: s-maj=29.0km s-min=14.6km az=121.0
ISC 18 09:00:23.2±5.1**, 6.2S**±0.1×**153.2E**±0.1**, h9km**±33km**, n14, σ0s62**/13**, mb3.9**/7**, MS3.9**/2**, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	6.75	241	Pn	Pn	09 02 04.6	-0.4
	14nm,0.3s,baz=58,slow=4.8,SNR=30						
PMG				LR	LR	09 04 30.8	
	comp=Z,185nm,18.4s,baz=110,slow=36						
PMG	Port Moresby	6.75	241	ePn	Pn	09 02 04.5	-0.4
PMG				eSn	Sn	09 03 22.5	-0.2
PMG				LR	LR	09 04 30.8	
CTA	Charters Tower	15.36	205	LR	LR	09 08 41.8	
	comp=Z,63nm,20.0s,baz=211,slow=32						
WB2	Warramunga Arr	22.82	231	eP	P	09 05 28.6	+0.7
WRA	Warramunga Arr	22.83	231	P	P	09 05 27.6	-0.4
	2.6nm,0.7s,mb3.8,baz=54,slow=10,SNR=10						
ASAR	Alice Springs	25.40	225	P	P	09 05 52.8	+0.1
	1.6nm,0.8s,mb3.6,baz=56,slow=9.1,SNR=17						
ASAR				LR	LR	09 13 59.1	
	comp=Z,51nm,19.9s,MS3.0,baz=29,slow=32						
ASPA	Alice Springs	25.40	225	eP	P	09 05 53.0	+0.3
STKA	Stephens Creek	27.75	201	P	P	09 06 13.9	-0.4
	1.1nm,0.6s,mb3.6,baz=61,slow=13,SNR=2.4						
ULN	Ulaanbaatar	67.36	328	eP	P	09 11 21.3	+0.3
	1.2nm,0.5s,mb4.2						
SONM	Songino Array	67.69	328	P	P	09 11 23.6	+0.6
	1.4nm,0.7s,mb4.1,baz=144,slow=4.8,SNR=9.9						
QSPA	South Pole Qui	83.78	180	eP	P	09 12 54.3	+0.7
	1.2nm,0.6s,mb4.2						
RPN	Rapa Nui	93.85	118	LR	LR	09 47 01.3	
	comp=Z,255nm,19.5s,MS4.7,baz=302,slow=30						
YKA	Yellowknife Ar	96.48	28	P	P	09 13 52.5	-1.5
	0.2nm,0.8s,mb3.6,baz=275,slow=3.9,SNR=3.8						
YKA	Yellowknife Ar	96.48	28	P	P	09 13 52.5	-1.5

WEL 18 09:29:17.1±0.1**, 43.95S×169.56E, h12km, ML3.7**/5**, 3C-2D, Error ellipse: s-maj=1.0km s-min=0.6km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FOZ	Fox Glacier	0.40	13	⇑P*	Pb	09 29 26.0	+0.4
FOZ				S*	Sb	09 29 31.5	+0.2
JCZ	Jackson Bay	0.59	258	⇑P*	Pb	09 29 28.3	-0.6
JCZ				S*	Sb	09 29 35.7	-1.2
LBZ	Lake Benmore	0.62	134	⇓P*	Pb	09 29 29.1	-0.3
LBZ				S*	Sb	09 29 36.9	-0.9
WKZ	Wanaka	0.96	204	⇑P*	Pb	09 29 34.3	-0.9
EAZ	Earnscleugh	1.29	188	PN	Pn	09 29 40.1	-0.9
EAZ				S*	Sb	09 29 56.5	-0.8
ODZ	Otahua Downs	1.34	145	⇓PN	Pn	09 29 41.5	-0.2
MSZ	Milford Sound	1.38	238	PN	Pn	09 29 41.3	-0.9
MLZ	Mavora Lakes	1.71	215	PN	Pn	09 29 48.3	+1.2
TUZ	Tuapeka	2.00	179	ePN	Pn	09 29 50.3	-1.0
CRLZ	Canterbury Las	2.25	81	ePN	Pn	09 29 54.6	-0.1
MQZ	McQueen's Vall	2.25	85	ePN	Pn	09 29 54.7	0.0
WHZ	Wether Hill Ro	2.26	210	ePN	Pn	09 29 54.7	-0.1
LTZ	Lake Taylor	2.29	60	ePN	Pn	09 29 55.7	+0.4
KHZ	Kahutara	3.29	64	ePN	Pn	09 30 08.9	-0.6
THZ	Tophouse	3.29	49	PN	Pn	09 30 09.3	-0.3
QRZ	Quartz Range	3.82	36	PN	Pn	09 30 15.9	-1.2
NNZ	Nelson	3.92	47	ePN	Pn	09 30 18.1	-0.4
TUWZ	Tuamarina	4.09	54	ePN	Pn	09 30 19.6	-1.3
DUWZ	D'Urville Isla	4.51	47	ePN	Pn	09 30 27.1	+0.3
CAW	Cannon Point	4.96	57	ePN	Pn	09 30 30.5	-2.8
KIW	Kapiti Island	5.02	54	ePN	Pn	09 30 34.4	+0.3
MRZ	Mangatainoka R	5.54	56	ePN	Pn	09 30 38.7	-2.7
PKE	Pukeiti	5.79	36	PN	Pn	09 30 43.9	-1.1

BJI 18 09:34:48.8, 21.68S×176.28W, h109km, mB5.4, mb5.1
NEIC 18 09:34:49.5±0.1, 22.23S×176.31W, mb5.2/65, Error ellipse: s-maj=6.0km s-min=3.3km az=152.0
IDC 18 09:34:49.4±0.5, 22.21S×176.23W, h114km±4km, mb4.9/23, mb1 5.1/25, mb1mx5.1/25, mbtmp5.3/25, MS4.2/12, Ms1 4.2/12, ms1mx4.0/18, Error ellipse: s-maj=14.5km s-min=10.1km az=159.0
HRVD 18 09:34:49.5±0.1, 22.36S×175.78W, h124km±1km, MW5.4/74, Centroid moment Tensor Solution. LP body waves: s69,c131;Mantle waves: s74,c157; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.07±.03; $M_{\theta\theta}$0.09±.03; $M_{\phi\phi}$-0.16±.03; $M_{r\theta}$0.02±.02; $M_{\theta\phi}$0.66±.03; $M_{\phi r}$-1.56±.02; Best double couple: $M_0$1.696×10^{17} NP1: ϕ_s275°, δ23°, λ5°. NP2: ϕ_s180°, δ88°, λ113°. Principal axes: T 1.642, Plg42°, Azm112°; N .107, Plg23°, Azm360°; P -1.749, Plg39°, Azm250°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
MOS 18 09:34:55.0±3.1, 22.03S×177.27W, h133km, mb5.4/10 Error ellipse: s-maj=11.7km s-min=11.0km az=18.5
ISC 18 09:34:47.0±0.1**, 22.63S**±0.03×**176.22W**±0.04**, h117km, h117km**±.8km**:pP-P, n520, σ1s12**/359**, mb5.3**/94**, 51C-45D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.64	27	ePn	P	09 36 52.8	-11
	277nm,0.5s						
AFI				eSn	S	09 38 25.9	-25
RAR	Rarotonga	15.33	88	P	P	09 38 13.4	-4.8
	26nm,0.3s,baz=258,slow=8.3,SNR=34						
RAR				S	S	09 40 50.2	-15
	31nm,0.3s,baz=81,slow=23,SNR=12						
RAR				LR	LR	09 42 44.4	
	comp=Z,1μm,19.9s,baz=267,slow=31						
RAR	Rarotonga	15.33	88	ePn	P	09 38 13.6	-4.6
	282nm,0.8s						
RAR				eSn	S	09 40 50.4	-14
OUZ	Omahuta	15.38	213	⇓PN	P	09 38 25.9	+7.1
	383nm,0.7s						
OUZ	Omahuta	15.38	213	⇓PN	P	09 38 25.9	+7.1
	comp=Z,383nm,0.7s						
WCZ	Waipu Caves	15.60	210	PN	P	09 38 28.0	+6.5
WCZ	Waipu Caves	15.60	210	PN	P	09 38 28.0	+6.5
DZM	Mont Dzumac	16.05	269⇓	eP	P	09 38 33.4	+6.1
DZM	Mont Dzumac	16.05	269⇓	eP	P	09 38 33.4	+6.1
NOUC	Port Laguerre	16.18	269⇓	eP	P	09 38 34.7	+5.9
MWZ	Matawai	16.55	198	ePN	P	09 38 28.5	-4.8
MWZ	Matawai	16.55	198	ePN	P	09 38 28.5	-4.8
URZ	Urewera	16.60	199	P	P	09 38 34.8	+0.8
	comp=Z,30nm,0.3s,baz=22,slow=1.6,SNR=138						
URZ				S	S	09 41 31.2	-2.3
	comp=Z,8.5nm,0.3s,baz=170,slow=15,SNR=9.1						
URZ				LR	LR	09 43 25.3	
	comp=Z,497nm,20.4s,baz=342,slow=30						
URZ	Urewera	16.60	199	ePN	P	09 38 29.4	-4.5
URZ				SN	S	09 41 24.2	-9.3
URZ	Urewera	16.60	199	ePN	P	09 38 29.4	-4.5
URZ				SN	S	09 41 24.2	-9.3
BKZ	Black Stump Fm	17.62	199	ePN	P	09 38 42.1	-4.5
BKZ				SN	S	09 41 53.4	-3.0
BKZ	Black Stump Fm	17.62	199	ePN	P	09 38 42.1	-4.5
BKZ				SN	S	09 41 53.4	-3.0
MGZ	Maungaku	17.78	201	ePN	P	09 38 48.4	0.0
MGZ	Maungaku	17.78	201	ePN	P	09 38 48.4	0.0
OTVZ	Oturere	17.88	201	ePN	P	09 38 48.5	-1.1
OTVZ				SN	S	09 42 07.0	+4.9
OTVZ	Oturere	17.88	201	ePN	P	09 38 48.5	-1.1
OTVZ				SN	S	09 42 07.0	+4.9
NGZ	Ngauruhoe	17.91	201	PN	P	09 38 51.2	+1.2
NGZ	Ngauruhoe	17.91	201	PN	P	09 38 51.2	+1.2
CNZ	Chateau	17.95	201	ePN	P	09 38 50.2	-0.2
CNZ	Chateau	17.95	201	ePN	P	09 38 50.2	-0.2
TUVZ	Tukino	17.98	201	ePN	P	09 38 49.1	-1.7
TUVZ				SN	S	09 42 03.4	-0.8
TUVZ	Tukino	17.98	201	ePN	P	09 38 49.1	-1.7
TUVZ				SN	S	09 42 03.4	-0.8
WNVZ	Wahianoa	18.05	201	ePN	P	09 38 49.0	-2.6
WNVZ	Wahianoa	18.05	201	ePN	P	09 38 49.0	-2.6
MOVZ	Moawhango	18.07	200	ePN	P	09 38 50.1	-1.7
MOVZ	Moawhango	18.07	200	ePN	P	09 38 50.1	-1.7
TSZ	Takapari Road	18.60	199	PN	P	09 38 55.8	-1.9
TSZ				SN	S	09 42 15.3	-2.6
TSZ	Takapari Road	18.60	199	PN	P	09 38 55.8	-1.9
TSZ				SN	S	09 42 15.3	-2.6
BFZ	Birch Farm	19.09	198	PN	P	09 39 02.5	-0.4
BFZ				SN	S	09 42 23.7	-4.3
BFZ	Birch Farm	19.09	198	PN	P	09 39 02.5	-0.4
BFZ				SN	S	09 42 23.7	-4.3
MRZ	Mangatainoka R	19.27	199	ePN	P	09 39 01.3	-3.5
MRZ	Mangatainoka R	19.27	199	ePN	P	09 39 01.3	-3.5
KIW	Kapiti Island	19.66	200	ePN	P	09 39 07.7	-1.3
KIW	Kapiti Island	19.66	200	ePN	P	09 39 07.7	-1.3
MTW	Mount Morrison	19.75	199	ePN	P	09 39 08.6	-1.2
MTW				SN	S	09 42 38.2	-2.7
MTW	Mount Morrison	19.75	199	ePN	P	09 39 08.6	-1.2
MTW				SN	S	09 42 38.2	-2.7
CAW	Cannon Point	19.84	200	ePN	P	09 39 09.5	-1.2
CAW				SN	S	09 42 37.4	-5.1
CAW	Cannon Point	19.84	200	ePN	P	09 39 09.5	-1.2
CAW				SN	S	09 42 37.4	-5.1
MSWZ	Moikau Station	20.06	199	ePN	P	09 39 12.0	-1.0
MSWZ	Moikau Station	20.06	199	ePN	P	09 39 12.0	-1.0
MRW	Makara Radio	20.06	200	ePN	P	09 39 11.9	-1.1
MRW				SN	S	09 42 46.3	-0.6
MRW	Makara Radio	20.06	200	ePN	P	09 39 11.9	-1.1
MRW				SN	S	09 42 46.3	-0.6
SNZO	South Karori	20.14	200	eP	P	09 39 14.6	+0.8
	comp=Z,143nm,0.6s						
SNZO	South Karori	20.14	200	ePN	P	09 39 13.1	-0.7
SNZO	South Karori	20.14	200	ePN	P	09 39 13.1	-0.7
QRZ	Quartz Range	20.48	205	PN	P	09 39 17.9	+0.5
QRZ				SN	S	09 42 57.7	+2.8
QRZ	Quartz Range	20.48	205	PN	P	09 39 17.9	+0.5
QRZ				SN	S	09 42 57.7	+2.8
TUWZ	Tuamarina	20.49	202	ePN	P	09 39 15.4	-2.1

TUWZ SN S 09 42 52.6 -2.5
TUWZ Tuamarina 20.49 202 *e*PN P 09 39 15.4 -2.1
TUWZ SN S 09 42 52.6 -2.5
NNZ Nelson 20.50 203 PN P 09 39 15.6 -1.9
NNZ SN S 09 42 53.9 -1.4
NNZ Nelson 20.50 203 PN P 09 39 15.6 -1.9
NNZ SN S 09 42 53.9 -1.4
THZ Tophouse 21.15 203 PN P 09 39 23.4 -0.6
THZ *e*SN S 09 43 08.2 +0.9
THZ Tophouse 21.15 203 PN P 09 39 23.4 -0.6
THZ *e*SN S 09 43 08.2 +0.9
KHZ Kahutara 21.51 201 *e*PN P 09 39 27.5 -0.1
KHZ SN S 09 43 13.9 +0.1
KHZ Kahutara 21.51 201 *e*PN P 09 39 27.5 -0.1
KHZ SN S 09 43 13.9 +0.1
DSZ Denniston Nort 21.55 205 *e*PN P 09 39 28.3 +0.3
DSZ Denniston Nort 21.55 205 *e*PN P 09 39 28.3 +0.3
LTZ Lake Taylor 22.27 203 *e*PN P 09 39 34.5 -0.5
LTZ SN S 09 43 31.2 +3.9
LTZ Lake Taylor 22.27 203 *e*PN P 09 39 34.5 -0.5
LTZ SN S 09 43 31.2 +3.9
MQZ McQueen's Vall 22.95 201 *e*PN P 09 39 42.7 +1.0
MQZ SN S 09 43 44.3 +5.1
MQZ McQueen's Vall 22.95 201 *e*PN P 09 39 42.7 +1.0
MQZ SN S 09 43 44.3 +5.1
RPZ Rata Peaks 23.52 204 P P 09 39 47.9 +0.8
comp=Z,93nm,0.5s,mb5.3,baz=347,slow=1.4,SNR=62
RPZ S S 09 44 00.4 +11
comp=Z,49nm,0.7s,baz=344,slow=20,SNR=7.2
RPZ Rata Peaks 23.52 204 PN P 09 39 47.7 +0.6
RPZ SN S 09 44 00.0 +11
RPZ ScP 09 46 34.3
RPZ Rata Peaks 23.52 204 PN P 09 39 47.7 +0.6
RPZ SN S 09 44 00.0 +11
RPZ ScP 09 46 34.3
FOZ Fox Glacier 23.92 206 PN P 09 39 51.8 +0.9
FOZ Fox Glacier 23.92 206 PN P 09 39 51.8 +0.9
LBZ Lake Benmore 24.42 204 PN P 09 39 57.6 +1.8
LBZ Lake Benmore 24.42 204 PN P 09 39 57.6 +1.8
TBI Tubuai 24.63 97⇑ *i*P P 09 39 58.6 +0.6
comp=Z,746nm,1.1s,mb6.0
TBI *e*LR LR 09 45 27.1
comp=Z,4µm,44.0s
JCZ Jackson Bay 24.72 207 PN P 09 40 00.6 +1.9
JCZ Jackson Bay 24.72 207 PN P 09 40 00.6 +1.9
ODZ Otahua Downs 24.82 203 PN P 09 40 01.5 +1.9
ODZ Otahua Downs 24.82 203 PN P 09 40 01.5 +1.9
WKZ Wanaka 25.24 205 PN P 09 40 05.2 +1.6
WKZ SN S 09 44 21.3 +3.4
WKZ Wanaka 25.24 205 PN P 09 40 05.2 +1.6
WKZ SN S 09 44 21.3 +3.4
EAZ Earnscleugh 25.47 204⇑PN P 09 40 07.4 +1.8
EAZ Earnscleugh 25.47 204⇑PN P 09 40 07.4 +1.8
PAE Paea 25.47 84⇑ *i*P P 09 40 04.8 -1.2
comp=Z,306nm,1.2s,mb5.6
PAE *e*pP pP 09 40 30.0 -0.9
comp=Z,202nm,1.2s
PPT Papeete 25.50 83⇑ *i*P P 09 40 05.4 -0.8
comp=Z,206nm,1.3s,mb5.4
PPT Papeete 25.50 83 *e*LR LR 09 45 42.8
comp=Z,8µm,43.0s
PPT Papeete 25.50 83 P P 09 40 05.3 -0.9
comp=Z,68nm,0.8s,mb5.2,baz=221,slow=14,SNR=7.9
MSZ Milford Sound 25.56 207⇑PN P 09 40 08.5 +2.0
MSZ Milford Sound 25.56 207⇑PN P 09 40 08.5 +2.0
TIAR Tiarei 25.72 84⇑ *i*P P 09 40 07.4 -0.8
comp=Z,502nm,1.0s,mb5.9
TVO Taravao 25.74 84⇑ *i*P P 09 40 07.5 -1.0
comp=Z,606nm,1.4s,mb5.8
TUZ Tuapeka 25.96 203 PN P 09 40 13.4 +3.1
TUZ Tuapeka 25.96 203 PN P 09 40 13.4 +3.1
MLZ Mavora Lakes 26.01 206⇑PN P 09 40 13.4 +2.8
MLZ Mavora Lakes 26.01 206⇑PN P 09 40 13.4 +2.8
HNR Honiara 26.34 296 *e*P P 09 40 12.6 -1.5
comp=Z,299nm,0.8s,mb5.8
WHZ Wether Hill Ro 26.55 205⇑PN P 09 40 18.2 +2.5
WHZ Wether Hill Ro 26.55 205⇑PN P 09 40 18.2 +2.5
MEH Mehetia 26.81 85 *e*P P 09 40 17.9 -0.4
comp=Z,88nm,1.4s,mb5.1
PMOR Pomariorio Ree 27.83 79 *e*P P 09 40 25.5 -2.1
comp=Z,157nm,1.3s,mb5.4
RIV Riverview 30.71 241 *e*P P 09 40 56.5 +3.4
CNB Canberra Magne 32.49 239⇓ *i*P P 09 41 10.6 +2.0
comp=Z,2µm,0.7s
CTA Charters Tower 34.98 267⇓ *i*P P 09 41 31.3 +1.3
comp=Z,368nm,0.5s
CTA *e*PCP PcP 09 44 00.3 +0.3
CTA *e*SCP 09 47 38.4
CTA *e*SCS ScS 09 51 42.7 +6.8
CTA Charters Tower 34.98 267⇓ *i*P P 09 41 31.3 +1.3
CTA *e* 09 44 00.3
CTA pmax pmax
comp=Z,368nm,0.5s
CTA Charters Tower 34.98 267 LR LR 09 52 04.8
comp=Z,312nm,21.1s,baz=80,slow=30
CTAO Charters Tower 34.98 267 *e*P P 09 41 31.2 +1.2
CTAO pmax pmax
comp=Z,421nm,0.6s
CTAO Charters Tower 34.98 267 *e*P P 09 41 31.2 +1.2
comp=Z,421nm,0.6s
TOO Toolangi 36.05 237⇓ *i*P P 09 41 40.8 +1.9
comp=Z,2.7nm,0.5s
TOO Toolangi 36.05 237⇓ *i*P P 09 41 40.8 +1.9
TOO pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TAU Tasmania Unive 36.35 227 P P 09 41 44.2 +2.9
comp=Z,672nm,0.6s,SNR=13
TAU Tasmania Unive 36.35 227 *e*P P 09 41 43.8 +2.5
TAU pmax pmax
comp=Z,70nm,0.6s,mb5.8
TAU Tasmania Unive 36.35 227 *e*P P 09 41 43.8 +2.5
comp=Z,70nm,0.6s,mb5.8
TAOE Nuku Hiva Isla 37.20 74 *e*P P 09 41 47.1 -1.6
PMG Port Moresby 37.46 285 *e*P P 09 41 51.1 +0.2
PMG pmax pmax
comp=Z,332nm,0.9s
PMG Port Moresby 37.46 285 P P 09 41 51.4 +0.5
comp=Z,235nm,0.7s,mb6.2,baz=83,slow=5.8,SNR=99
PMG pP pP 09 42 16.2 -1.3
comp=Z,84nm,0.9s,baz=358,slow=23,SNR=2.0
PMG ScP 09 47 47.0
comp=Z,17nm,1.0s,baz=224,slow=6.6,SNR=3.5
PMG Port Moresby 37.46 285 *e*P P 09 41 51.0 +0.2
comp=Z,332nm,0.9s,mb6.3
RKT Rikitea 37.91 99 *e*P P 09 41 54.8 +0.2
comp=Z,129nm,1.0s,mb5.7
RKT Rikitea 37.91 99 *e*LR LR 09 51 56.9
comp=Z,3µm,42.5s
STKA Stephens Creek 38.42 247 P P 09 42 00.5 +1.7
comp=Z,172nm,0.7s,mb6.0,baz=92,slow=9.1,SNR=219
STKA ScP 09 47 50.9
comp=Z,16nm,1.2s,baz=121,slow=4.3,SNR=5.2
STKA LR LR 09 57 34.5
comp=Z,344nm,18.7s,baz=66,slow=35
STKA Stephens Creek 38.42 247 *e*P P 09 42 00.4 +1.6
ASAR Alice Springs 45.69 258 P P 09 42 58.5 +0.5
comp=Z,122nm,0.9s,mb5.7,baz=98,slow=6.4,SNR=586
ASAR pP pP 09 43 26.9 +1.6
comp=Z,6.7nm,0.4s,baz=31,slow=28,SNR=1.1
ASAR PcP PcP 09 44 35.7 +1.1
comp=Z,23nm,0.7s,baz=108,slow=4.3,SNR=6.5
ASAR ScP 09 48 19.6
comp=Z,5.9nm,0.9s,baz=106,slow=5.1,SNR=5.9
ASAR PKiKP 09 51 30.4
comp=Z,0.4nm,0.5s,baz=103,slow=1.5,SNR=4.6
ASAR LR LR 10 01 04.4
comp=Z,289nm,19.2s,baz=103,slow=34
ASPA Alice Springs 45.69 258⇓ *i*P P 09 42 58.6 +0.6
ASPA *e*PCS 09 48 27.2
ASPA *e*S S 09 49 29.4 -1.8
ASPA *e*SCS ScS 09 52 44.1 +4.8
ASPA Alice Springs 45.69 258⇓ *i*P P 09 42 58.6 +0.6
ASPA *e*S S 09 49 29.4 -1.8
ASPA *e* 09 52 44.1
WB2 Warramunga Arr 45.97 264⇓ *i*P P 09 43 00.1 -0.2
WB2 *e*S S 09 49 32.0 -3.3
WB2 *e*SCS ScS 09 52 46.5 +5.3
WRAB Tennant Creek 45.98 264 P P 09 42 59.8 -0.5
comp=Z,568nm,0.9s,mb6.3,SNR=34
WRAB Tennant Creek 45.98 264 *e*P P 09 42 59.9 -0.4
WRAB pmax pmax
comp=Z,75nm,0.6s,mb5.6
WRAB Tennant Creek 45.98 264 *e*P P 09 42 59.9 -0.4
comp=Z,75nm,0.6s,mb5.6
WRA Warramunga Arr 45.98 264 P P 09 43 00.2 -0.2
comp=Z,47nm,0.5s,mb5.5,baz=96,slow=7.8,SNR=479
WRA pP pP 09 43 29.2 +1.5
comp=Z,41nm,1.0s,baz=100,slow=8.1,SNR=2.9
WRA PcP PcP 09 44 36.6 +1.0
comp=Z,18nm,0.7s,baz=97,slow=3.7,SNR=5.3
WRA ScP 09 48 21.0
comp=Z,17nm,1.2s,baz=97,slow=4.1,SNR=6.5
KAKA Kakadu 49.70 272⇓ *i*P P 09 43 28.7 -0.6
comp=Z,239nm,0.5s,mb6.4
FORT Forrest 50.01 248⇓ *i*P P 09 43 31.5 0.0
comp=Z,13µm,0.9s
GUMO Guam 52.43 310 *e*P P 09 43 48.7 -1.2
GUMO pmax pmax
comp=Z,189nm,0.6s,mb6.3
GUMO Guam 52.43 310 *e*P P 09 43 48.6 -1.3
comp=Z,189nm,0.6s,mb6.3
FITZ Fitzroy Crossi 54.41 263⇓ *i*P P 09 44 04.4 -0.1
comp=Z,251nm,0.9s,mb6.2
SBA Scott Base 55.88 184 *e*P P 09 44 19.6 +5.2
SBA pmax pmax
comp=Z,37nm,0.8s,mb5.5
SBA Scott Base 55.88 184 *e*P P 09 44 19.6 +5.2
comp=Z,36nm,0.8s,mb5.5
VNDA Vanda 55.96 186 *e*P P 09 44 19.1 +4.2
VNDA pmax pmax
comp=Z,18nm,0.9s
VNDA Vanda 55.96 186 P P 09 44 19.4 +4.5
comp=Z,111nm,0.8s,mb4.9,slow=7.3,SNR=45
VNDA Vanda 55.96 186 *e*P P 09 44 19.1 +4.1
comp=Z,18nm,0.9s,mb5.1
KLBR Kellerberrin 58.68 246⇓ *i*P P 09 44 34.6 0.0
comp=Z,2µm,1.0s
NWAO Narrogin (SRO) 58.92 244 LR LR 10 09 29.0
comp=Z,2.8nm,21.3s,baz=265,slow=35
MBWA Marble Bar 59.03 258 *e*P P 09 44 36.2 -0.9
comp=Z,258nm,0.9s,mb6.3
RPN Rapa Nui 60.21 109 P P 09 44 46.3 +1.1
comp=Z,84nm,1.0s,mb5.7,baz=327,slow=2.6,SNR=4.8
CASY Casey 62.77 206 *e*P P 09 45 04.7 +2.9
KEDI Kedomdong 66.21 271⇓ *e*P P 09 45 23.3 -1.6
KEDI pmax pmax
comp=Z,472nm,0.7s,mb6.4
KEDI Kedomdong 66.21 271⇓ *e*P P 09 45 23.3 -1.6
comp=Z,472nm,0.7s,mb6.4
RATI Rata 66.67 270⇓ *e*P P 09 45 27.0 -0.8
comp=Z,1µm,0.6s
QSPA South Pole Qui 67.45 180⇓ *i*P P 09 45 35.9 +4.2
comp=Z,57nm,0.9s,mb5.4
KELI Kelakatan 67.81 270⇓ *e*P P 09 45 33.7 -1.2
comp=Z,478nm,0.4s
SRDI Scrawed 68.04 270⇓ *e*P P 09 45 34.7 -1.6
SRDI pmax pmax
comp=Z,20nm,1.1s,mb4.9
SRDI Scrawed 68.04 270⇓ *e*P P 09 45 34.7 -1.6
comp=Z,20nm,1.1s,mb4.9
TSM Tawau 69.66 284 P P 09 45 47.1 +0.8
KKM Kota Kinabalu 71.90 285 *e*P P 09 45 59.3 -0.5
KKM Kota Kinabalu 71.90 285 P P 09 45 59.6 -0.2
MAJO Matsushiro 72.90 323 *e*P P 09 46 03.2 -2.0
MAJO *e**PP pP 09 46 35.0 +0.2
MAJO pmax pmax
comp=Z,38nm,0.9s,mb5.2
MAJO Matsushiro 72.90 323 *e*P P 09 46 03.2 -2.0
comp=Z,38nm,0.9s,mb5.2
MAJO *e*pP pP 09 46 35.0 +0.2
MAT Matsushiro 72.90 323 *e*P P 09 46 03.0 -2.2
MAT *e*S S 09 55 23.0 +2.4
MAT pmax pmax
comp=Z,27nm,0.9s,mb5.1
MAT Matsushiro 72.90 323 *e*P P 09 46 03.0 -2.2
comp=Z,27nm,0.9s,mb5.1
MAT *e*S S 09 55 23.0 +2.4
MAT Matsushiro 72.90 323 P P 09 46 03.0 -2.2
MAT S S 09 55 20.6 0.0
KSM Kuching 75.35 278 *e*P P 09 46 19.8 0.0
SMY Shemya 75.51 354 *e*P P 09 46 17.9 -2.0
FX1 Attu Island--F 75.75 353 P P 09 46 19.2 -2.0
comp=Z,63nm,0.6s,mb5.5,baz=167,slow=2.0,SNR=32
FX1 Attu Island--F 75.75 353 *e*P P 09 46 19.2 -2.1
PULI Pulasari 76.35 269⇓ *e*P P 09 46 23.5 -1.9
comp=Z,158nm,0.7s,mb5.8
ASAJ Asahikawa 76.38 331 P P 09 46 24.9 -0.1
comp=Z,58nm,0.9s,mb5.3,baz=208,slow=9.7,SNR=13
ASAJ LR LR 10 12 51.1
comp=Z,144nm,21.5s,baz=166,slow=30
PENI Pendagan 77.38 269 *e*P P 09 46 28.5 -2.7
PENI pmax pmax
comp=Z,84nm,0.7s,mb5.6
PENI Pendagan 77.38 269 *e*P P 09 46 28.5 -2.7
comp=Z,84nm,0.7s,mb5.6
PET Petropavlovsk 78.44 345 *e*P P 09 46 38.6 +2.4
PET *e* 09 56 24.0
SAO San Andreas Ge 78.46 42 *e*P P 09 46 36.5 -0.2
comp=Z,35nm,1.1s,mb5.0
LRV Little Rabbit 78.51 43 *e*P P 09 46 36.7 -0.3
LRV *e*pP pP 09 47 06.2 -0.7
YSS Yuzh-Sakhalins 78.53 333 *i* P P 09 46 35.0 -1.8
YSS Yuzh-Sakhalins 78.53 333 *i* Pr 09 46 35.0
MWC Mount Wilson 79.06 46 *e*P P 09 46 39.5 -0.4
MWC *e*pP pP 09 47 09.5 -0.5
PFO Pinyon Flat Ob 79.77 47 *e*P P 09 46 43.4 -0.5
comp=Z,23nm,1.3s,mb4.8
PFO *e*pP pP 09 47 13.6 -0.3
CMB Columbia Colle 79.92 42 *e*P P 09 46 44.0 -0.6
comp=Z,28nm,1.0s,mb5.0
CMB *e*pP pP 09 47 13.7 -0.9
KRMB Red Mountain 80.12 37 *e*P P 09 46 45.0 -0.5
KRMB *e* pP 09 47 16.8 +1.3
MAW Mawson 80.13 199 *e*P P 09 46 48.8 +3.7
comp=Z,47nm,0.6s,mb5.5
MAW Mawson 80.13 199 *e*P P 09 46 48.8 +3.7
MAW pmax pmax
comp=Z,47nm,0.6s
MAW Mawson 80.13 199 P P 09 46 48.8 +3.7
comp=Z,35nm,0.8s,mb5.2,baz=131,slow=6.0,SNR=16
MAW LR LR 10 23 03.9
comp=Z,214nm,18.3s,baz=261,slow=36
SSE Sheshan 80.31 309 *e*P P 09 46 44.4 -2.4
SSE PCP PcP 09 46 52.1 -1.7
SSE S S 09 56 37.5 -3.6
SSE SCS ScS 09 56 53.0 -5.5
SSE XS 09 57 32.8
SSE AMB AMB
comp=Z,33nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,332nm,4.5s
SSE LR LR
comp=N,104nm,23.6s
SSE LR LR
comp=E,109nm,23.3s
SSE LR LR
comp=Z,125nm,25.8s
SSE Sheshan 80.31 309 *e*P P 09 46 44.4 -2.4
comp=Z,33nm,0.7s,mb5.3
SSE PcP PcP 09 46 52.1 -1.7
SSE sP sP 09 47 33.9 +4.1
SSE S S 09 56 37.5 -3.6
SSE ScS ScS 09 56 53.0 -5.5
SSE sS 09 57 32.8
SSE SS SS 10 01 58.4 +0.9
SSE LR LR
comp=Z,130nm,25.8s
OMM Old Mammoth Mi 80.52 43 *e*P P 09 46 47.8 0.0
OMM *e*pP pP 09 47 17.3 -0.5
MTUM Tungsten Hills 80.63 43 *e*P P 09 46 48.3 0.0
YBH Yreka Blue Hor 80.93 38 P P 09 46 50.2 +0.3
comp=Z,21nm,0.9s,mb5.0,baz=172,slow=4.5,SNR=60
YBH Yreka Blue Hor 80.93 38 *e*P P 09 46 49.8 0.0
comp=Z,24nm,0.9s,mb5.0
WCN Washoe City 81.10 41 *e*P P 09 46 50.8 +0.1
comp=Z,33nm,1.1s,mb5.1
LBCM Butte Creek Ri 81.12 39 P P 09 46 50.9 0.0
LTIM Timbered Crate 81.26 39 P P 09 46 51.7 +0.1
HUMO Hull Mountain 81.37 37 *e*P P 09 46 52.2 +0.1
comp=Z,19nm,1.0s,mb4.9
HUMO *e* pP 09 47 23.1 +0.9
NVAR Mina Array Bea 81.45 42 P P 09 46 52.6 0.0
comp=Z,12nm,1.0s,mb4.7,baz=210,slow=7.0,SNR=68
NVAR pP pP 09 47 22.1 -0.6
comp=Z,10nm,0.7s,baz=217,slow=7.2,SNR=7.7
NVAR LR LR 10 17 36.0
comp=Z,73nm,18.4s,baz=190,slow=32
LDFC Landfair 81.53 47 *e*P P 09 46 53.6 +0.5
MNV Mina 81.54 42 *e*P P 09 46 53.0 -0.1
comp=Z,22nm,1.1s,mb4.9
MNV *e* pP 09 47 24.1 +0.9
BUOR Burton Butte 81.55 37 P P 09 46 53.2 +0.1
TPH Tonopah 81.91 43 *e*P P 09 46 55.1 +0.1
comp=Z,78nm,1.6s,mb5.3
TPH *e* pP 09 47 26.4 +1.2
KGM Kluang 81.97 276 P P 09 46 56.9 +1.1
MOD Modoc 82.41 39 *e*P P 09 46 57.4 -0.1
comp=Z,44nm,1.4s,mb5.1
MOD *e* 09 47 11.1
KDAK Kodiak Island 82.50 13 *e*P P 09 46 56.9 -0.7
comp=Z,99nm,1.8s,mb5.3
NJ2 Nanjing 82.50 309 *e*P P 09 46 57.6 -0.6
NJ2 S S 09 57 01.0 -2.4
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 AMB AMB
comp=Z,1µm,5.8s
NJ2 LR LR
comp=N,1µm,21.2s
NJ2 LR LR
comp=E,2µm,24.2s
NJ2 LR LR
comp=Z,4µm,20.7s
TUC Tucson 83.00 51 *e*P P 09 47 01.3 +0.6
comp=Z,34nm,1.1s,mb5.1
KMOR Kings Mountain 83.11 34 P P 09 47 01.2 +0.2
MDJ Mudanjiang 83.20 324 P P 09 47 01.4 -0.1
MDJ AP pP 09 47 30.3 -1.4
MDJ XP sP 09 47 41.8 -2.8
MDJ PP PP 09 50 12.3 -3.4
MDJ S S 09 57 11.3 +1.1
MDJ XS 09 58 00.0
MDJ SS SS 10 02 36.8 -3.5
MDJ AMB AMB
comp=Z,21nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,159nm,4.7s
MDJ Mudanjiang 83.20 324 *e*P P 09 47 01.1 -0.4
comp=Z,20nm,0.9s,mb5.0
BMN Battle Mountai 83.33 41 *e*P P 09 47 02.0 -0.1
comp=Z,49nm,1.3s,mb5.2
WVOR Wild Horse Val 83.71 39 *e*P P 09 47 04.1 0.0
comp=Z,40nm,1.1s,mb5.2
WVOR *e*pP pP 09 47 34.5 +0.2
BMW Boistfort Moun 83.80 34 P P 09 47 05.0 +0.6
VIPM Ingram Point 83.90 36 P P 09 47 05.1 +0.2
CROR Criterion Ridg 84.00 36 P P 09 47 05.5 +0.1
OOW Octopus West 84.17 32 P P 09 47 07.5 +1.3
ARUT Antelope Range 84.18 45 *e*P P 09 47 06.7 +0.2
WUAZ Wupatki 84.31 48 *e*P P 09 47 07.9 +0.7
comp=Z,36nm,1.2s,mb5.1
LON Longmire 84.72 34 P P 09 47 08.7 -0.3
ELK Elko 84.73 42 *e*P P 09 47 09.2 0.0
comp=Z,23nm,1.1s,mb5.0
ELK *e*pP pP 09 47 40.2 +0.6
CN2 Changchun 84.99 322 *e*P P 09 47 09.9 -0.5
CN2 *e*AP pP 09 47 38.8 -2.0
CN2 *e*XP sP 09 47 50.4 -3.2
CN2 *e*S S 09 57 27.1 -0.7
CN2 AMB AMB
comp=Z,20nm,1.3s,mb4.9
CN2 AMB AMB
comp=Z,230nm,5.0s
IPM Ipoh 85.08 277 P P 09 47 12.6 +1.1
SVW2 Sparrevohn 85.08 10 *e*P P 09 47 09.3 -1.1
PGC Sidney 85.16 32 *e*P P 09 47 11.1 -0.1
comp=Z,34nm,1.1s,mb5.2
KLR Kul'dur 85.19 329 *e*P P 09 47 07.7 -3.6
MVU Marysvale 85.38 45 *e*P P 09 47 13.2 +0.8
comp=Z,21nm,1.1s,mb5.0
MSU Marysvale 85.41 45 *e*P P 09 47 13.4 +0.8
MSU *e*pP pP 09 47 44.4 +1.4
SLKM Skilak Lake 85.50 13 *e*P P 09 47 11.9 -0.6
HAWA Hanford 85.69 35 *e*P P 09 47 13.5 -0.3
comp=Z,3.7nm,1.5s
HAWA *e*pP pP 09 47 44.0 -0.2
KULM Kulim 85.70 278 *e*P P 09 47 15.5 +0.9
SNAA Sanae 85.84 178 P P 09 47 15.6 +1.6
SNAA Sanae 85.84 178 *e* P 09 47 17.2 +3.2
SNAA Sanae 85.84 178 *e*P P 09 47 15.9 +1.9
VNA3 Neumayer Olymp 85.92 176⇑ *i*P P 09 47 17.0 +2.7
VNA3 Neumayer Olymp 85.92 176 *e* P 09 47 18.8 +4.5
BMO Blue Mountains 85.96 38 *e*P P 09 47 14.6 -0.6
comp=Z,9.6nm,0.8s,mb4.8
BMO *e* 09 47 28.5
BMO *e* pP 09 47 44.4 -1.2
EPH Ephrata 86.27 35 P P 09 47 16.8 +0.2
MA2 Magadan 86.27 344⇑ *i*P P 09 47 14.3 -2.0
VNA2 Neumayer--Watz 86.38 176⇑ *i*P P 09 47 19.5 +2.9
VNA2 Neumayer--Watz 86.38 176 *e* P 09 47 21.6 +5.0
SNG Songkhla 86.47 279 P P 09 47 20.0 +1.7
comp=Z,404nm,0.9s,mb6.3
TMUT Trail Mountain 86.47 45 *e*P P 09 47 18.3 +0.6
VNA1 Neumayer--Stat 86.59 176⇑ *i*P P 09 47 20.8 +3.2
VNA1 Neumayer--Stat 86.59 176 *e* P 09 47 22.5 +4.9
PLCA Paso Flores 86.62 133 P P 09 47 21.6 +3.2
comp=Z,20nm,1.0s,mb5.0,baz=228,slow=5.0,SNR=34
PLCA PKKPbc 10 05 17.1
comp=Z,1.1nm,0.8s,baz=190,slow=9.2,SNR=3.4
PLCA LR LR 10 19 10.1
comp=Z,157nm,19.1s,baz=221,slow=31
PLCA Paso Flores 86.62 133 *e*P P 09 47 21.5 +3.1
comp=Z,36nm,1.1s,mb5.2
MNTX Cornudas Mount 86.64 54 *e*P P 09 47 19.2 +0.4
comp=Z,51nm,1.1s,mb5.4
MNTX *e*pP pP 09 47 49.4 0.0
NVL N'lazarevskaya 86.69 183⇑ *i*P P 09 47 22.8 +4.7
NVL *e*SS SKS 09 57 35.9 +4.8
NVL *i* 09 58 57.2
NVL pmax pmax
comp=Z,25nm,0.9s,mb5.1
LENM Lemitar 86.69 51 *e*P P 09 47 19.4 +0.4
PMR Palmer 86.71 13 *e*P P 09 47 18.0 -0.3
SRU San Rafael 86.81 45 *e*P P 09 47 19.8 +0.3
SRU *e*pP pP 09 47 50.4 +0.4
LTX Lajitas 86.82 57 *e*P P 09 47 20.4 +0.7
comp=Z,72nm,1.3s,mb5.4
TXAR Lajitas Array 86.82 57 P P 09 47 20.4 +0.8
comp=Z,19nm,0.9s,mb5.0,baz=217,slow=6.3,SNR=138
TXAR pP pP 09 47 50.8 +0.6
comp=Z,19nm,1.0s,baz=211,slow=7.3,SNR=6.8
TXAR PKKPbc 10 05 19.0
comp=Z,0.4nm,0.6s,baz=144,slow=2.9,SNR=7.5
TXAR PKPPKP 10 13 26.9
comp=Z,0.4nm,0.9s,baz=101,slow=6.4,SNR=3.8
TXAR LR LR 10 17 00.3
comp=Z,144nm,21.9s,baz=250,slow=29
HLID Hailey 86.86 40 *e*P P 09 47 19.7 +0.1
comp=Z,11nm,0.9s,mb4.8
DIV Divide 87.01 14 *e*P P 09 47 19.7 -0.1
comp=Z,46nm,0.9s,mb5.4
LPM Los Pinos Moun 87.01 51 *e*P P 09 47 20.9 +0.3
LPM *e*pP pP 09 47 51.7 +0.7
JLU Jordanelle 87.02 44 *e*P P 09 47 20.0 -0.4
DAU Daniels Canyon 87.04 44 *e*P P 09 47 20.7 +0.2
SML Sawmill 87.06 13 *e*P P 09 47 21.2 +1.1
TCUT Toone Canyon 87.33 43 *e*P P 09 47 21.8 -0.1
ANMO Albuquerque 87.45 50c *i*P P 09 47 23.0 +0.4
ANMO Albuquerque 87.45 50 P P 09 47 23.1 +0.5
comp=Z,15nm,1.1s,mb4.8,baz=228,slow=4.9,SNR=33
ANMO pP pP 09 47 53.9 +0.7
comp=Z,24nm,1.0s,baz=222,slow=6.2,SNR=8.1
ANMO Albuquerque 87.45 50 *e*P P 09 47 23.0 +0.4
comp=Z,46nm,1.2s,mb5.3
ANMO *e*pP pP 09 47 53.8 +0.6
PNT Penticton 87.50 33 P P 09 47 22.7 +0.2
GDL2 Guadalupe Moun 87.64 54 *e*P P 09 47 23.9 +0.3
GDL2 *e*pP pP 09 47 54.9 +0.7
CLNB Carlsbad 88.03 54 *e*P P 09 47 25.5 +0.1
TNA Tin City 88.14 3 *e*P P 09 47 24.7 -0.4
comp=Z,5.3nm,0.7s,mb4.7
NEW Newport 88.14 35 P P 09 47 24.9 -0.7
comp=Z,4.0nm,0.8s,mb4.5,baz=256,slow=4.1,SNR=7.8
KKTK Khon Kaen 88.14 288 P P 09 47 28.0 +1.7
comp=Z,926nm,0.5s
CPRX Cap Rock 88.41 53 *e*P P 09 47 27.3 0.0
CPRX *e*pP pP 09 47 58.2 +0.4
AHID Auburn Hatcher 88.42 42 *e*P P 09 47 27.3 +0.2
comp=Z,4.9nm,0.4s,mb4.9
MCMT McKenzie Canyo 88.51 40 *e*P P 09 47 27.6 +0.2
BJT Baijiatuau 88.55 315 *e*P P 09 47 27.8 0.0
comp=Z,9.7nm,0.6s,mb5.0
BJI Beijing 88.56 315 P P 09 47 27.8 0.0

BJI AP pP 09 47 57.6 -0.8
BJI XP sP 09 48 09.6 -1.6
BJI S S 09 57 56.1 -5.7
BJI AMB AMB
comp=Z,14nm,0.8s,mb5.0
BJI LR LR
comp=N,194nm,14.5s
BJI LR LR
comp=E,257nm,13.3s
BJI LR LR
comp=Z,168nm,41.3s
BJI Beijing 88.56 315 P **P 09 47 27.8 0.0**
comp=Z,14nm,0.8s,mb5.0
BJI pP pP 09 47 57.6 -0.8
BJI sP sP 09 48 09.6 -1.6
BJI S S 09 57 56.1 -5.7
BJI SS tx 10 04 42.1
BJI LR LR
comp=Z,170nm,41.3s
ENH Enshi 88.60 304 *eP* **P 09 47 28.5 +0.3**
comp=Z,75nm,1.1s,mb5.6
RRI2 Red Ridge 88.61 41 *eP* **P 09 47 27.9 0.0**
MCK McKinley 88.69 12 *eP* **P 09 47 27.0 -0.8**
comp=Z,23nm,1.1s,mb5.1
SEY Seymchan 88.82 346 *eP* **P 09 47 30.1 +1.7**
SEY *e* pP 09 47 59.8 +0.7
SEY *e* 10 03 52.6
SEY pmax pmax
comp=Z,60nm,1.0s,mb5.6
SEY pmax pmax
comp=N,40nm,1.1s
SEY pmax pmax
comp=E,30nm,0.9s
MUDI Mud Lake 88.90 41 *eP* **P 09 47 28.8 -0.5**
MSO Missoula 89.02 37 *eP* **P 09 47 28.8 -0.9**
comp=E,3.5nm,0.6s,mb4.6
THY Trims Highway 89.04 13 *eP* **P 09 47 29.4 -0.1**
GYA Guiyang 89.13 299⇓ *iP* **P 09 47 31.6 +0.8**
GYA AP pP 09 48 01.3 -0.2
GYA XP sP 09 48 12.5 -1.7
GYA PP PP 09 51 04.3 -0.3
GYA SKS SKS 09 57 48.8 +1.3
GYA S S 09 58 07.4 0.0
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.1
GYA AMB AMB
comp=Z,120nm,6.0s
IMW Indian Meadow 89.14 41 *eP* **P 09 47 30.6 +0.2**
QLMT Earthquake Lak 89.35 40 *eP* **P 09 47 32.1 +0.7**
DLBC Dease Lake 89.36 22 P **P 09 47 30.8 -0.3**
comp=Z,2.0nm,0.8s,baz=136,slow=25,SNR=4.1
DLBC Dease Lake 89.36 22 *eP* **P 09 47 31.2 +0.1**
PDAR Pinedale Array 89.38 43 P **P 09 47 31.4 -0.1**
comp=Z,4.9nm,0.9s,mb4.5,baz=228,slow=3.3,SNR=37
PDAR PKPPbc 10 05 18.1
comp=Z,0.4nm,0.5s,baz=76,slow=3.9,SNR=4.9
PDAR LR LR 10 22 06.3
comp=Z,68nm,20.8s,baz=265,slow=32
CHMT Chamberlain Mo 89.46 38 *eP* **P 09 47 31.1 -0.7**
YMR Madison River 89.54 40 *eP* **P 09 47 33.2 +1.0**
BOZ Bozeman (W) 89.68 39 *eP* **P 09 47 32.8 -0.1**
comp=Z,37nm,1.4s,mb5.3
LKWY Lake 89.83 41 *eP* **P 09 47 35.5 +1.9**
comp=Z,13nm,1.0s,mb5.0
COLA College 89.93 12 *eP* **P 09 47 32.7 -0.9**
COLA College 89.93 12⇑ *iP* **P 09 47 33.0 -0.6**
IMA Indian Mountai 90.06 9 *eP* **P 09 47 34.2 0.0**
HRY Holter Researc 90.16 38 *eP* **P 09 47 34.6 -0.5**
HRY *ep*P pP 09 48 05.8 0.0
NST Nakhon Sawan 90.24 287 P **P 09 47 38.0 +1.8**
WALA Waterton Lakes 90.32 36 *eP* **P 09 47 35.4 -0.4**
comp=Z,18nm,0.9s,mb5.2
WALA *ep*P pP 09 48 06.5 -0.1
JCT Junction City 90.33 57 *eP* **P 09 47 36.6 +0.3**
comp=Z,28nm,1.3s,mb5.2
ISCO Idaho Springs 90.43 47 *eP* **P 09 47 36.5 -0.1**
comp=Z,5.1nm,1.2s,mb4.5
XAN Xi'an 90.73 307 P **P 09 47 38.4 +0.3**
XAN AMB AMB
comp=Z,43nm,1.0s,mb5.5
NANT Nan 90.98 290⇓ *P* **P 09 47 38.0 -1.6**
comp=Z,388nm,1.0s
DAWY Dawson 91.05 15 *eP* **P 09 47 39.0 +0.2**
BILL Bilibino 91.32 353 *iP* **P 09 47 40.6 +0.6**
BILL Bilibino 91.32 353 *i* Pr 09 47 40.6
HIA Hailar 91.38 324 *eP* **P 09 47 40.0 -0.8**
comp=Z,11nm,0.9s,mb5.0
KMI Kunming 91.78 296 P **P 09 47 44.1 +0.9**
KMI AP pP 09 48 13.4 -0.6
KMI AMB AMB
comp=Z,55nm,1.0s,mb5.7
KMI Kunming 91.78 296 P **P 09 47 44.1 +0.9**
comp=Z,55nm,1.0s,mb5.7
KMI pP pP 09 48 13.4 -0.6
BDT Bhumibol Dam 91.86 288 P **P 09 47 45.0 +1.3**
comp=Z,27nm,0.6s,mb5.7
HHC Hu-ho-hao-te 92.02 314 *eP* **P 09 47 44.1 +0.2**
HHC AP pP 09 48 12.6 -2.1
HHC XP sP 09 48 24.8 -2.6
HHC S S 09 58 34.6 +1.8
HHC XS 09 59 23.4
HHC SS SS 10 04 44.9 -2.8
HHC AMB AMB
comp=Z,23nm,0.4s,mb5.8
HHC AMB AMB
comp=Z,133nm,7.1s
CHRT Chiangrai 92.20 290⇓ *P* **P 09 47 47.0 +1.8**
comp=Z,458nm,1.2s
CM31 Chiang Mai Arr 92.38 289 *eP* **P 09 47 48.1 +2.1**
comp=Z,43nm,0.8s,mb5.7
CFAA Coronel Fontan 92.52 126 P **P 09 47 48.2 +1.9**
comp=Z,1.1nm,1.0s,baz=234,slow=5.9,SNR=8.5
CHG Chiang Mai 92.52 289⇓ *P* **P 09 47 48.1 +1.4**
comp=Z,56nm,0.9s,mb5.9
EDM Edmonton 93.00 32 *eP* **P 09 47 47.1 -1.0**
LAO LASA Array 93.43 40 *eP* **P 09 47 50.7 +0.5**
comp=Z,21nm,0.9s,mb5.5
YAK Yakutsk 94.70 337 *iP* **P 09 47 54.1 -1.5**
YAK Yakutsk 94.70 337 *i* Pr **P 09 47 54.1 -1.5**
JTS JuntasAbangare 95.05 81⇑ *iP* **P 09 47 59.3 +1.0**
JTS *i* *PP pP 09 48 30.3 +1.2
JTS JuntasAbangare 95.05 81 *eP* **P 09 47 59.9 +1.6**
LZH Lanzhou 95.37 307⇓ *P* **P 09 47 59.5 +0.2**
LZH AP pP 09 48 31.5 +1.4
LZH XP sP 09 48 44.6 +1.8
LZH PP PP 09 51 51.3 -1.8
LZH SKS SKS 09 58 22.5 -0.3
LZH *e*S S 09 59 01.3 -0.4
LZH XS 09 59 57.0
LZH AMB AMB
comp=Z,27nm,1.3s,mb5.5
LZH AMB AMB
comp=Z,124nm,5.4s
LZH LR LR
comp=N,326nm,15.0s
LZH LR LR
comp=Z,491nm,17.8s
LZH Lanzhou 95.37 307⇓ *P* **P 09 47 59.5 +0.2**
comp=Z,27nm,1.3s,mb5.5
LZH pP pP 09 48 31.5 +1.4
LZH sP sP 09 48 44.6 +1.8
LZH PP PP 09 51 51.2 -1.9
LZH SKS SKS 09 58 22.5 -0.3
LZH *e*S S 09 59 01.2 -0.5
LZH sS 09 59 57.0
LZH LR LR
comp=Z,490nm,17.8s
INK Inuvik 95.89 15 P **P 09 48 00.5 -0.4**
comp=Z,4.1nm,0.8s,mb4.9,baz=234,slow=4.4,SNR=13
INK PKKPbc 10 05 02.0
comp=Z,0.6nm,0.6s,baz=30,slow=7.9,SNR=6.1
INK Inuvik 95.89 15 *eP* **P 09 48 00.7 -0.2**
comp=Z,18nm,1.4s,mb5.3
YKA Yellowknife Ar 97.75 24 P **P 09 48 09.0 -0.4**
comp=Z,0.9nm,0.6s,mb4.5,baz=240,slow=4.5,SNR=23
YKA pP pP 09 48 39.2 -1.1
comp=Z,2.9nm,0.8s,baz=238,slow=4.1,SNR=5.4
YKA PKKPbc 10 04 55.3
comp=Z,0.9nm,0.4s,baz=31,slow=2.6,SNR=8.9
YKA Yellowknife Ar 97.75 24 P **P 09 48 09.0 -0.4**
YKA pP pP 09 48 39.2 -1.1
YKA PKKPbc 10 04 55.3
YKW3 Yellowknife Ar 97.78 24 *eP* **P 09 48 08.8 -0.8**
ULN Ulaanbaatar 98.05 319 *eP* **P 09 48 11.0 -0.1**

SONM Songino Array 98.44 318 P **P 09 48 12.9 -0.1**
comp=Z,1.2nm,0.7s,mb4.5,baz=136,slow=5.0,SNR=7.0
SONM PP PP 09 52 11.0 -5.8
comp=Z,1.3nm,0.9s,baz=127,slow=6.2,SNR=4.6
GTA Gaotai 99.59 309 *eP* **P 09 48 22.4 +4.0**
LPAZ La Paz 99.72 112 P **P 09 48 23.7 +4.2**
comp=Z,3.8nm,0.8s,mb5.1,baz=230,slow=2.9,SNR=9.2
LPAZ PP PP 09 52 27.0 -0.1
comp=Z,4.9nm,1.2s,baz=245,slow=4.6,SNR=8.2
LPAZ PKKPbc 10 04 45.7
comp=Z,0.7nm,0.5s,baz=335,slow=5.0,SNR=4.1
LPAZ LR LR 10 27 05.5
comp=Z,95nm,19.3s,baz=280,slow=31
LPAZ La Paz 99.72 112 *eP* **P 09 48 23.3 +3.8**
comp=Z,6.0nm,1.0s,mb5.2
TIXI Tiksi 101.22 345 *eP* P 09 48 23.5 -1.5
TIXI pmax pmax
comp=Z,5.0nm,1.3s
JIRN Jiri 106.55 293 *eP* 09 52 59.6
comp=Z,7.3nm,0.5s
GUN Gumba 106.89 294 *eP* 09 53 01.5
PKI Pulchoki 107.19 293 *eP* 09 53 00.0
comp=Z,7.0nm,0.5s
SDV Santo Domingo 107.70 88 PKKPbc 10 04 19.8
comp=Z,1.6nm,0.7s,baz=30,slow=7.2,SNR=3.9
KOLN Koldanda 108.78 293 *eP* 09 53 04.3
comp=Z,5.4nm,0.4s
WMQ Urumqi 109.56 310 *e*PKP
WMQ PKS PKS 09 56 44.0 +4.7
WMQ PP PP
comp=Z,118nm,7.2s
WMQ LR LR
comp=N,144nm,37.4s
WMQ LR LR
comp=E,209nm,32.6s
WMQ LR LR
comp=Z,299nm,36.4s
ZAL Zalesovo 113.19 321 PKiKP 09 53 11.3
comp=Z,1.5nm,0.4s,baz=334,slow=3.3,SNR=7.5
BDFB Brasilia 116.62 122 PKKPbc 10 03 47.5
comp=Z,6.0nm,0.8s,baz=82,slow=2.9,SNR=9.5
KURK Kurchatov 116.67 317 *e*/*i* PKIKP PKPdf 09 53 17.9 +0.7
KURK *i* *PP 09 53 50.3
KURK Kurchatov 116.67 317 *e*PKPdf PKPdf 09 53 17.4 +0.2
ULHL Ulahol 117.58 307 P PKPdf 09 53 21.4 +2.2
SNR=5.0
TKM2 Tokmak 2 118.12 308 P PKPdf 09 53 21.4 +1.3
SNR=6.7
UCH Uchtor 118.86 307 P PKPdf 09 53 23.9 +2.3
SNR=8.4
AAK Ala-Archa 118.91 307 *i* PKIKP PKPdf 09 53 21.6 -0.1
AAK Ala-Archa 118.91 307 *i* PKPr PKPdf 09 53 21.6 -0.1
USP Ospenovka 118.95 308 P PKPdf 09 53 23.3 +1.5
SNR=5.4
AML Almayashu 119.45 307 P PKPdf 09 53 24.9 +2.1
SNR=9.0
CHKZ Chkalovo 121.58 320 *e*PKIKP PKPdf 09 53 26.8 +0.2
BVAR Borovoye Array 121.77 319 PKP PKPdf 09 53 28.0 +1.0
comp=Z,5.1nm,0.5s,baz=90,slow=1.5,SNR=27
BVAR SKP 09 56 54.8
comp=Z,1.8nm,0.7s,baz=124,slow=5.3,SNR=4.2
SVE Sverdlovsk 126.67 325 *e*PKIKP PKPdf 09 53 36.8 +0.5
SVE *e* 09 54 11.0
SVE pmax pmax
comp=Z,40nm,1.0s
KEV Kevo 130.85 350 *ep* PKPdf 09 53 44.1 +0.1
ARCES ARCESS Array B 131.30 350 PKP PKPdf 09 53 46.2 +1.3
comp=Z,9.3nm,0.6s,baz=13,slow=1.3,SNR=26
ARCES SKPbc 09 57 02.2
comp=Z,23nm,1.1s,slow=2.4,SNR=12
ARCES ARCESS Array B 131.30 350 PKP PKPdf 09 53 46.2 +1.3
ARCES SKPbc 09 57 02.2
ARE0 ARCESS Array S 131.30 350 *e*PKPdf PKPdf 09 53 45.7 +0.9
LSZ Lusaka 135.39 215 *e*PKPdf PKPdf 09 53 55.9 +2.0
JOF Joensuu 135.65 342 *ep* PKPdf 09 53 51.6 -1.5
KAF Kangasniemi 137.64 344 *ep* PKPdf 09 53 56.9 +0.1
FINES FINESS Array B 138.27 344 *i* PKIKP PKPdf 09 54 05.1 +7.1
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 138.27 344 PKhKP 09 53 50.8
comp=Z,1.6nm,0.6s,baz=47,slow=4.7,SNR=6.9
FINES PKP PKPdf 09 53 59.0 +1.0
comp=Z,6.0nm,0.7s,baz=75,slow=3.7,SNR=11
FINES SKPbc 09 57 23.7
comp=Z,4.4nm,0.9s,baz=37,slow=9.5,SNR=5.3
FINES FINESS Array B 138.27 344 PKP PKPdf 09 53 50.8 -7.2
FINES PKP PKPdf 09 53 59.0 +1.0
FINES SKPbc 09 57 23.7
MOS Moscow 138.54 332 *e*PKIKP PKPdf 09 54 00.1 +1.5
MOS *e* 09 54 32.4
OBN Obninsk 139.41 331 *i* PKIKP PKPdf 09 54 04.0 +3.8
OBN *i* *PP 09 54 36.3
OBN pmax pmax
comp=Z,48nm,1.6s
OBN Obninsk 139.41 331⇑ *iPKP* PKPdf 09 54 04.1 +3.9
KMBO Kilima Mbogo 139.74 239 PKhKP 09 53 57.4
comp=Z,4.6nm,0.9s,baz=52,slow=4.4,SNR=8.0
KMBO Kilima Mbogo 139.74 239 *e*PKPpre 09 53 57.5
ZEI Tsey 141.18 311 *e*PKHKP 09 53 58.6
NB2 NORSAR Subarra 141.27 354 PKPabc PKPdf 09 53 57.4 -5.9
comp=Z,2.4nm,0.7s,baz=29,slow=2.3
NOA NORSAR Array B 141.27 354 PKhKP 09 53 57.9
comp=Z,3.4nm,0.8s,baz=16,slow=4.6,SNR=11
GNI Garni 141.31 307 PKhKP 09 54 03.2
comp=Z,4.5nm,0.4s,baz=25,slow=22,SNR=3.0
GNI SKPbc 09 57 35.0
comp=Z,2.8nm,0.3s,baz=247,slow=7.7,SNR=3.2
KIV Kislovodsk 141.62 313 *e*PKIKP PKPdf 09 54 06.9 +2.4
HFS Hagfors 141.88 352 PKhKP 09 53 59.9
comp=Z,5.4nm,0.4s,baz=63,slow=3.3,SNR=19
BCA Borcka 143.21 310 P PKPbc 09 54 04.8 -0.8
SOC Sochi 143.75 314 *i* PKIKP PKPdf 09 54 12.1 +4.0
SOC *e* 09 57 22.6
SOC *e*PPP PPP 10 00 34.1 -5.0
SOC *e* 10 01 13.2
SOC *e*SS SS 10 15 42.7 -14
SOC pmax pmax
comp=Z,52nm,1.2s
SOC pmax pmax
comp=N,72nm,1.0s
SOC pmax pmax
comp=E,27nm,1.0s
ERZM Erzurum 143.87 307 *i* P PKPbc 09 54 08.7 +1.2
EZM Erzurum 143.87 307 P PKPbc 09 54 09.2 +1.7
VRT Varto 143.97 306 P PKPbc 09 54 09.3 +1.4
BEST Besiri 144.49 304 *i* P PKPbc 09 54 10.6 +1.2
BINT Bingol 144.81 306 P PKPdf 09 54 12.0 +1.8
MBAR Mbarara 145.04 232 *e*PKPdf PKPdf 09 54 13.7 +2.4
GUMT Gumushane 145.06 309 P PKPdf 09 54 12.8 +2.3
SUW Suwalki 145.40 340 *e*PKP PKPdf 09 54 12.0 +1.3
SUW *e* 09 54 15.7
SUW Suwalki 145.40 340 *e*PKP PKPdf 09 54 12.0 +1.3
SUW *e* 09 54 15.7
PTK Pertek 145.63 306 P PKPdf 09 54 14.2 +2.6
MUD Monsted U'grnd 145.98 355⇑ *iPKIKP* PKPdf 09 54 15.3 +3.7
MUD pmax pmax
comp=Z,130nm,1.1s
MUD Monsted U'grnd 145.98 355⇑ *iP* PKPdf 09 54 15.3 +3.7
comp=Z,133nm,1.1s
ELZG Elazig 146.05 306 *i* P PKPdf 09 54 16.2 +3.9
COP Copenhagen 146.36 351 *e*PKIKP PKPdf 09 54 15.4 +3.2
COP pmax pmax
comp=Z,29nm,0.5s
COP Copenhagen 146.36 351 *i* P PKPdf 09 54 15.4 +3.2
comp=Z,29nm,0.5s
URFA Urfa 146.48 304 *eP* PKPdf 09 54 15.2 +2.2
BSD Bornholm Skovb 146.50 348⇓ *iPKHKP* 09 54 14.9
BSD pmax pmax
comp=Z,79nm,0.9s
BSD Bornholm Skovb 146.50 348⇓ *iP* PKPdf 09 54 14.9 +2.4
comp=Z,79nm,0.9s
BSD *i* 09 54 47.5
MYA Malataya 146.52 306 P PKPdf 09 54 17.6 +4.6
MALT Malatya 146.52 306 P PKPdf 09 54 14.8 +1.7
MALT Malatya 146.52 306 *e*PKPdf PKPdf 09 54 14.8 +1.8
MALT *e*PKPbc PKPbc 09 54 17.1 +2.6
SIM Simferopol' 146.68 319 *i* PKIKP PKPdf 09 54 17.7 +4.6
SIM *e**PP 09 54 49.0
SIM pmax pmax
comp=Z,122nm,1.1s
GZT Gaziantep 147.46 305 *i* P PKPdf 09 54 19.4 +4.7
WAR Warsaw 147.59 340 *e*PKP PKPdf 09 54 20.2 +5.8
GKP Gorka Klasztor 147.73 345 *e*PKP PKPdf 09 54 18.5 +3.9
GKP *e* 09 54 23.1
GAZ Gaziantep 147.79 304 *eP* PKPdf 09 54 19.9 +4.7

BOYT Boyabat 147.88 313 *i* P PKPdf 09 54 21.0 +5.8
KAHT Ahir Dag 147.90 305 *i* P PKPdf 09 54 20.6 +5.2
DCN Croghan 148.19 13 *eP* PKPdf 09 54 20.5 +5.2
BZK Bozkurt 148.24 315 *eP* PKPdf 09 54 19.9 +4.1
BNN Bunyan 148.25 308 *eP* PKPdf 09 54 21.1 +5.2
BSEG Bad Segeberg 148.35 353 *e*PKPbc PKPdf 09 54 21.1 +5.5
BSEG *e*PKPab PKPab 09 54 25.9 +1.1
KIS Kishinev 148.42 326 *e*PKIKP PKPdf 09 54 20.0 +4.1
LVV L'vov 148.53 335 *e*PKIKP PKPdf 09 54 20.1 +4.1
CORM Corum 148.60 311 *eP* PKPdf 09 54 22.4 +6.0
COBT Iskenderun 148.71 304 *iP* PKPdf 09 54 23.0 +6.3
BALT Daday 148.85 314 *iP* PKPdf 09 54 23.1 +6.3
CEYT Ceyhan 148.95 305 *eP* PKPdf 09 54 22.7 +5.6
AVNT Avonos 149.00 308 *iP* PKPdf 09 54 23.1 +6.0
CANT Cankiri 149.12 312 *eP* PKPdf 09 54 22.9 +5.7
KWP Kalwaria 149.19 336 *e*PKP PKPdf 09 54 23.4 +6.4
KWP *e* 09 54 28.0
ASF Jabal al Asfar 149.20 295 PKPbc PKPdf 09 54 24.6 +7.0
comp=Z,22nm,0.7s,baz=62,slow=1.8,SNR=22
RUE Ruedersdorf 149.22 348 *e*PKPbc PKPdf 09 54 23.0 +6.0
ELDT Eldivan 149.30 312 *iP* PKPdf 09 54 23.9 +6.4
PPE Popeni 149.41 326⇓ PKP2 PKPab 09 54 25.8 -3.6
SAFT Safranbolu 149.45 314 *eP* PKPdf 09 54 23.2 +5.5
BRTR Keskin Array B 149.49 311 PKP PKPdf 09 54 19.0 +1.2
comp=Z,15nm,0.8s,baz=137,slow=1.1,SNR=29
BRTR PKPbc PKPdf 09 54 24.1 +6.2
comp=Z,23nm,0.9s,baz=142,slow=4.1,SNR=40
KAMT Kaman 149.58 310 *eP* PKPdf 09 54 16.2 -1.8
TLCR 149.60 324⇑ *iP* PKPdf 09 54 24.9 +7.1
BURAR Bucovina Array 149.72 331⇓ *P* PKPdf 09 54 25.0 +7.1
BURAR Bucovina Array 149.72 331⇓ *P* PKPdf 09 54 25.0 +7.1
OJC Ojcow 149.73 339 *e*PKP PKPdf 09 54 24.2 +6.4
KOLS Kolonicke sedl 149.93 335 *e*PKP PKPdf 09 54 20.9 +2.7
KOLS *e* 09 54 25.6
KOLS *e* 09 54 30.6
CFR Carcaliu 149.97 324 PKIKP PKPdf 09 54 25.4 +7.0
CFR Carcaliu 149.97 324⇑ *P* PKPdf 09 54 25.3 +6.9
CFR Carcaliu 149.97 324⇑ *P* PKPdf 09 54 25.3 +6.9
ANTO Ankara 150.01 312 *eP* PKPdf 09 54 21.3 +2.6
ANTO Ankara 150.01 312 P PKPdf 09 54 26.2 +7.5
LOD Lodumlu 150.02 312 *eP* PKPdf 09 54 24.5 +5.9
UZH Uzhgorod 150.17 335 *i* PKHKP 09 54 26.0
SGKT Sivrigoynuk 150.19 313 *iP* PKPdf 09 54 25.5 +6.7
KSP Ksiaz 150.19 344 *i* PKHKP 09 54 25.2
KSP *e* 09 54 31.2
KSP Ksiaz 150.19 344 *e*PKP PKPdf 09 54 21.2 +2.7
KSP *e*PKPdf PKPdf 09 54 25.9 +7.4
KSP *e* 09 54 31.2
KSP *ep*PKP 09 54 57.4
KSP Ksiaz 150.19 344 *e*PKP PKPdf 09 54 25.9 +7.4
KSP *e* 09 54 31.3
NIE Niedzica 150.24 338 *e*PKP PKPdf 09 54 24.7 +6.1
VRI Vrincioaia 150.25 327⇑ PKHKP 09 54 26.2
VRI Vrincioaia 150.25 327⇑ *P* PKPdf 09 54 25.6 +6.8
CRVS Cervenica-Dubn 150.26 336 *e*PKP PKPdf 09 54 26.6 +7.9
CRVS *e* 09 54 32.4
TIRR Tirgusor 150.28 323 PKHKP 09 54 26.4
TIRR Tirgusor 150.28 323⇑ *P* PKPdf 09 54 25.3 +6.5
TIRR Tirgusor 150.28 323⇑ *P* PKPdf 09 54 25.3 +6.4
MEST Erdemli 150.30 305 *iP* PKPdf 09 54 26.2 +7.1
CLZ Clausthal 150.39 352 *e*PKPbc PKPdf 09 54 26.3 +7.5
HARR Harsova 150.40 324⇓ PKHKP 09 54 27.1
HARR Harsova 150.40 324⇓ *P* PKPdf 09 54 27.0 +8.0
CLL Collm 150.49 348 *i* PKHKP 09 54 26.3
CLL pmax pmax
comp=Z,78nm,1.0s
CLL Collm 150.49 348⇓ *i* PKP1 PKPdf 09 54 26.3 +7.3
CLL *i* *PPKP 09 54 58.6
CLL *i* 09 55 02.2
UPC Upice 150.57 344 *e*PKHKP 09 54 26.9
UPC *e* 09 54 31.9
UPC Upice 150.57 344⇑ *e*PKPB PKPdf 09 54 26.9 +7.8
UPC *e*PKPAB PKPab 09 54 31.9 -2.2
UPC *ep*PKP 09 54 58.9
OKC Ostrava-Krasne 150.58 341 *e*PKHKP 09 54 26.8
OKC *e* 09 54 32.7
OKC Ostrava-Krasne 150.58 341⇑ *e*PKPB PKPdf 09 54 26.8 +7.7
OKC *e*PKPAB PKPab 09 54 32.7 -1.5
WTSB Winterswijk 150.62 356 *eP* PKPdf 09 54 26.4 +7.3
WTSB *ex* x 09 54 57.8
DPC Dobruska-Polom 150.63 344 *e*PKHKP 09 54 27.2
DPC Dobruska-Polom 150.63 344⇑ *e*PKPB PKPdf 09 54 27.2 +8.0
DPC *ep*PKP 09 55 02.8
BRG Berggiesshubel 150.71 347 *i* PKHKP 09 54 27.2
BRG pmax pmax
comp=Z,61nm,1.2s
MDU Mudurnu 150.80 314 P PKPdf 09 54 27.4 +7.7
MORC Moravsky Berou 150.81 342 PKHKP 09 54 27.6
MORC Moravsky Berou 150.81 342 *e*PKPbc PKPdf 09 54 27.5 +8.0
MORC *e*PKPab PKPab 09 54 33.2 -2.0
HENT Hendek 150.83 315 *iP* PKPdf 09 54 27.0 +7.1
PVCC Panska Ves 150.90 346 *e*PKIKP PKPdf 09 54 27.6 +8.0
PVCC *e* 09 55 02.8
PVCC Panska Ves 150.90 346⇑ *e*PKPB PKPdf 09 54 27.6 +8.0
PVCC *ep*PKP 09 55 02.8
MLR Muntele Rosu 150.90 327⇓ *P* PKPdf 09 54 26.8 +7.1
MLR Muntele Rosu 150.90 327⇓ *P* PKPdf 09 54 26.8 +7.0
KECS Kecovo 150.97 337 *e*PKP PKPdf 09 54 28.4 +8.6
KECS *e* 09 54 34.9
KIZT Kizilcal 151.08 311 P PKPdf 09 54 27.6 +7.4
KONT Konya--Tatoy 151.13 308 *eP* PKPdf 09 54 25.5 +5.2
EIL Elat 151.22 291 *e*PKPbc PKPdf 09 54 29.2 +8.5
MOX Moxa 151.37 350 *e*PKIKP PKPdf 09 54 22.4 +2.1
MOX *e* 09 54 28.0
MOX *e* 09 55 02.0
MOX pmax pmax
comp=Z,32nm,1.1s
MOX Moxa 151.37 350 *iP* PKPdf 09 54 22.4 +2.1
MOX PP2 09 54 28.0
MOX pPKP 09 55 02.0
PRU Pruhonice 151.41 345⇑ *e*PKPB PKPdf 09 54 28.6 +8.2
PRU *ep*PKP 09 55 01.2
HDMB Hadim 151.42 306 *eP* PKPdf 09 54 27.9 +7.0
CSS Prodhromos 151.45 302 *e*PKPbc PKPdf 09 54 29.1 +8.2
ESKT Eskisehir 151.50 312 *iP* PKPdf 09 54 28.7 +7.9
VRAC Vranov 151.51 342⇑ PKIKP PKPdf 09 54 29.3 +8.8
VRAC Vranov 151.51 342 P PKPdf 09 54 29.3 +8.7
VYHS Vyhne 151.54 339 *i* PKP PKPdf 09 54 29.2 +8.6
VYHS *e* 09 54 37.4
NKC Novy Kostel 151.62 348 *e*PKIKP PKPdf 09 54 29.1 +8.4
NKC Novy Kostel 151.62 348⇑ *e*PKPB PKPdf 09 54 29.1 +8.4
PSZ Piszkesteto 151.66 337⇑ PKIKP PKPdf 09 54 29.5 +8.7
PSZ Piszkesteto 151.66 337 *e*PKPbc PKPdf 09 54 29.3 +8.5
PSZ *e*PKPab PKPab 09 54 38.0 -0.7
LEF Lefka 151.74 303 *eP* PKPdf 09 54 29.6 +8.2
HGN Heimansgroeve 151.87 357 *eP* PKPdf 09 54 29.7 +8.6
HGN *ex* x 09 54 03.9
TNS Taunus Mts 152.21 354 *e*PKIKP PKPdf 09 54 30.3 +8.7
ULDT Uludag 152.34 315 *iP* PKPdf 09 54 30.7 +8.6
ZST Bratislava 152.36 341 *e*PKP PKPab 09 54 41.2 -0.5
GRA1 Grafenberg Arr 152.36 350 *e*PKPbc PKPdf 09 54 31.0 +9.2
GRA1 *e*PKPab PKPab 09 54 40.8 -0.8
GRF Grafenberg Arr 152.36 350 *e*PKIKP PKPdf 09 54 31.0 +9.2
KHC Kasperske Hory 152.43 346 *e*PKPDF PKPdf 09 54 24.0 +2.1
KHC ⇑*e*PKPB 09 54 31.1
KHC *e*PKPAB PKPab 09 54 40.6 -1.4
KHC *ep*PKP 09 55 07.0
ISP Isparta 152.50 310 *eP* PKPdf 09 54 29.2 +6.8
ISP Isparta 152.50 310 P PKPdf 09 54 31.3 +8.9
GIVF Givet 152.56 359⇑ *i* PKP1 PKPdf 09 54 31.3 +9.2
comp=Z,41nm,0.7s
WET Wettzell 152.57 347 *e*PKPab PKPab 09 54 41.9 -0.7
BAIF Baives 152.62 359⇑ *i* PKP1 PKPdf 09 54 31.6 +9.5
comp=Z,25nm,0.7s
GEC2 GERESS Array S 152.67 346 *e*PKPbc PKPdf 09 54 31.1 +8.8
GEC2 *e*PKPab PKPab 09 54 42.2 -0.8
GEC2 *ep*PKPbc 09 55 07.3
GERES GERESS Array B 152.67 346 PKP PKPdf 09 54 24.4 +2.2
comp=Z,0.9nm,0.8s,baz=90,slow=1.3,SNR=6.4
GERES PKPbc PKPdf 09 54 31.6 +9.4
comp=Z,10nm,0.8s,baz=45,slow=1.9,SNR=40
BZS Buzias 152.85 332⇓ *P* PKIKP PKPdf 09 54 31.9 +9.3
BZS Buzias 152.85 332⇓ *P* PKPdf 09 54 31.6 +9.0
WLF Walferdange 152.95 357 *e*PKPdf PKPdf 09 54 25.9 +3.3
WLF *e*PKPbc PKPdf 09 54 32.3 +10
BTOK Tokmak 153.26 315 *iP* PKPdf 09 54 30.8 +7.4
PKSM Moragy 153.56 336⇓ *P* PKIKP PKPdf 09 54 26.8 +3.2
MANT Manisa 153.56 312 *iP* PKPdf 09 54 33.4 +10
DNZL Cakiroluk 153.61 310 *iP* PKPdf 09 54 33.8 +10
ARSA Arzberg 153.68 342⇑ *iP* PKPdf 09 54 30.9 +7.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,6.0nm,1.2s						
ARSA				*i*		09 54 46.7	
	comp=Z,15nm,0.8s						
FLN	La Foliniere	153.70	6	*e*PKP1	PKPdf	09 54 32.8	+9.1
	comp=Z,16nm,0.5s						
FLN				*e*R			
	comp=Z,147nm,18.5s						
ROSF	Rostrenen	153.73	11	⇑*i*PKP1	PKPdf	09 54 33.1	+9.4
LDF	La Druitiere	153.90	6	⇑*i*PKP1	PKPdf	09 54 33.0	+9.1
	comp=Z,18nm,0.8s						
SGMF	Saint Gilles	153.93	10	⇑*i*PKP1	PKPdf	09 54 33.2	+9.2
	comp=Z,16nm,0.7s						
GRR	Gorron	154.03	7	*e*PKP1	PKPdf	09 54 33.8	+10
	comp=Z,23nm,0.6s						
FETY	Fethiye	154.05	308	*e*P	PKPdf	09 54 35.2	+11
BFO	Black Forest	154.10	353	*e*PKPbc	PKPdf	09 54 34.6	+10
BFO				*e*PKPab	PKPab	09 54 49.1	+0.1
BFO				*e*pPKPbc		09 55 11.4	
CDF	Champ du Feu	154.12	355	⇑*i*PKP1	PKPdf	09 54 34.8	+11
	comp=Z,17nm,0.9s						
QUIF	Quistinic	154.16	11	*e*PKP1	PKPdf	09 54 34.3	+10
VTS	Vitosha	154.34	325	⇓PKIKP	PKPdf	09 54 35.2	+10
KDAG	Bornova	154.48	313	*i* P	PKPdf	09 54 35.5	+10
HAU	Haudompre	154.59	356	⇑*i*PKP1	PKPdf	09 54 34.9	+10
HAU				*e*R			
	comp=Z,146nm,19.8s						
WTTA	Wattenberg	154.62	347	⇑*i*P	PKPdf	09 54 27.5	+2.6
	comp=Z,18nm,0.9s						
HINF	Hinteralfeld	154.75	355	*e*PKP1	PKPdf	09 54 34.9	+10
JAVS	Javornik	155.33	343	*e*PKPbc	PKPdf	09 54 37.7	+12
JAVS				*e*PKPab	PKPab	09 54 52.4	-1.9
JAVS				*e*sPKPbc		09 55 24.0	
BOJS	Bojanci	155.33	340	*e*PKPdf	PKPdf	09 54 28.5	+2.6
BOJS				*e*PKPbc	PKPdf	09 54 37.6	+12
BOJS				*e*PKPab	PKPab	09 54 53.4	-0.9
BOJS				*e*pPKPbc		09 55 01.5	
SSF	Saint Saulge	155.62	0	⇑*i*PKP1	PKPdf	09 54 38.1	+12
	comp=Z,20nm,1.0s						
MFF	Saint Martin d	155.87	7	*e*PKP1	PKPdf	09 54 38.3	+12
CABF	La Chapelle	156.00	356	*e*PKP1	PKPdf	09 54 38.7	+12
	comp=Z,25nm,1.1s						
ESDC	Sonseca Array	161.77	19	PKPab	PKPab	09 55 21.4	-0.8
	comp=Z,1.0nm,0.5s,baz=350,slow=4.8,SNR=4.7						
ESDC				pPKPab		09 55 52.6	
	comp=Z,3.7nm,0.8s,baz=321,slow=3.4,SNR=5.6						
DBIC	Dimbokro	162.08	151	PKPab	PKPab	09 55 26.1	+1.7
	comp=Z,7.8nm,1.0s,baz=152,slow=9.6,SNR=3.8						

ISC 18 09:43:26.7±1.1**,35.87N**±0.07×**70.9E**±0.2**,h156**^{km}±30^{km}**,**
n14,σ**0**^{s}**56**/17**,1D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	2.20	158	⇓P	P	09 44 05.4	+0.5
CEP				S	S	09 44 34.0	-0.3
CHCP	Chirah Chowk	2.94	138	P	P	09 44 15.3	+1.2
THW	Thamme Wali	3.14	167	P	P	09 44 17.4	+0.6
THW				S	S	09 44 55.0	-0.2
SBDP	Sheikh Budin	3.56	181	P	P	09 44 22.4	+0.2
SARP	Sargodha	4.20	159	P	P	09 44 30.6	+0.1
SARP				S	S	09 45 18.0	-1.7
DLH	Dalhousie	5.35	127	*e*	S	09 45 47.0	+0.3
AML	Almayashu	6.62	18	P	P	09 45 02.2	-0.4
	SNR=75						
UCH	Uchtor	6.94	23	P	P	09 45 06.8	-0.1
	SNR=24						
KZA	Kyzart	7.06	27	P	P	09 45 08.6	0.0
	SNR=26						
EKS2	Erkin-Say	7.14	17	P	P	09 45 09.3	-0.3
	SNR=14						
AAK	Ala-Archa	7.31	21	P	P	09 45 11.8	0.0
	SNR=39						
CHMS	Chumysh	7.72	21	P	P	09 45 17.4	+0.1
	SNR=16						
USP	Ospenovka	7.89	19	P	P	09 45 19.1	-0.5
	SNR=14						
TKM2	Tokmak 2	7.92	26	P	P	09 45 20.2	+0.2
	SNR=9.4						

*BER **18** 09:45:12.1±4.1,77.68N×7.97E,MD2.9,ML3.1, ML2.5(NAO)*
*NAO **18** 09:45:15.4±2.6,77.56N×9.70E,ML2.5*
ISC 18 09:45:13.6±2.1**,77.39N**±0.08×**9.2E**±0.5**,h10**^{km}**,n6,**
σ**0**^{s}**99**/12**,1D,Svalbard region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	Hornsund	1.47	102	⇓*i*P	Pn	09 45 42.1	+1.9
HSP				*e*S	Sb	09 45 59.0	-0.2
SPA0	Spitsbergen Ar	1.72	59	Pn	Pn	09 45 42.8	-1.1
	baz=265,slow=16						
SPA0				Sn	Sn	09 46 05.4	-0.7
	baz=242,slow=28						
SPA0	Spitsbergen Ar	1.72	59	Pn	Pn	09 45 42.8	-1.1
	baz=265,slow=16,SNR=50						
SPA0				Sn	Sn	09 46 05.4	-0.7
	baz=242,slow=25,SNR=50						
HOPEN	Hopen	3.69	96	*e*P	Pn	09 46 12.7	+0.8
HOPEN				*e*S	Sn	09 46 56.8	+0.8
HOPEN				AML	AML	09 46 58.0	
	comp=Z,92nm,0.4s						
ARA0	ARCESS Array S	9.11	141	Pn	P	09 47 28.1	0.0
	baz=323,slow=11						
ARA0				Sn	Sn	09 49 10.4	-1.3
	baz=334,slow=18						
ARA0	ARCESS Array S	9.11	141	Pn	P	09 47 28.1	0.0
	baz=323,slow=11,SNR=50						
ARA0				Sn	Sn	09 49 10.4	-1.3
	baz=334,slow=18,SNR=50						

MEX 18 09:51:44.1±0.3**,16.89N**×**100.08W,h22**^{km}±7^{km}**,MD3.5,**
Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.16	100	*i* P	Pb	09 51 48.0	-0.9
ACX				*i* S	Sb	09 51 50.8	-1.3
CAIG	El Cayaco	0.24	310	*e*P	Pb	09 51 48.8	-1.1
CAIG				*i* S	Sb	09 51 52.7	-1.1
PLIG	Platanillo	1.59	20	*i* P	Pn	09 52 08.2	-3.1
PLIG				*i* S	Sn	09 52 27.1	-4.3

IDC 18 09:56:53.5±1.2**,14.29N**×**92.95E,mb3.9**/5**,mb1 4.1**/5**,**
mb1mx3.9/15**,mbtmp3.9**/5**,Error ellipse: s-maj=60.4km**
s-min=21.6km az=57.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	Vishakhapatnam	9.86	292	*e*P	P	09 59 02.6	-17
VIS				*e*S	Sn	10 00 39.9	-32
SONM	Songino Array	35.26	16	P	P	10 03 49.9	-1.9
	0.4nm,0.5s,baz=191,slow=7.2,SNR=2.8						
WRA	Warramunga Arr	53.05	129	P	P	10 06 12.9	-2.1
	1.5nm,0.6s,baz=311,slow=7.9,SNR=25						
WRA				PcP	PcP	10 07 20.0	-3.5
	1.0nm,1.2s,baz=323,slow=3.4,SNR=4.8						
ASAR	Alice Springs	55.01	133	P	P	10 06 27.8	-1.6
	1.0nm,0.4s,baz=309,slow=7.1,SNR=31						
ASAR				PcP	PcP	10 07 27.7	-3.2
	0.5nm,0.8s,baz=307,slow=3.0,SNR=4.4						
FINES	FINESS Array B	66.55	331	P	P	10 07 45.1	-2.1
	11nm,1.3s,baz=90,slow=5.6,SNR=4.3						
GERES	GERESS Array B	72.33	317	P	P	10 08 21.7	-1.3
	0.3nm,0.4s,baz=90,slow=4.9,SNR=3.5						

*IDC **18** 10:21:11.9±0.8,5.32S×130.88E,mb4.2/5,mb1 4.4/8, mb1mx4.2/13,mbtmp4.3/8,ML4.1/3,Error ellipse: s-maj=57.5km s-min=17.8km az=61.0*
*NEIC **18** 10:21:17.5±1.6,5.30S×131.03E,h39^{km}±14^{km},mb4.2/6, Error ellipse: s-maj=11.9km s-min=10.6km az=59.0*
ISC 18 10:21:19.6±1.8**,5.62S**±0.06×**131.0E**±0.1**,h84**^{km}±18^{km}**,**
n28,σ**1**^{s}**44**/29**,mb4.1**/7**,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.20	168	*e*P	P	10 23 04.8	+0.7
	37nm,0.3s						
KAKA				*e*S	S	10 24 25.7	+0.8
FITZ	Fitzroy Crossi	13.45	202	*e*P	P	10 24 29.4	+1.3
	8.7nm,0.2s						
FITZ				*e*S	S	10 26 54.6	-1.3
WRAB	Tennant Creek	14.61	167	Pn	P	10 24 42.0	-1.3
	87nm,0.5s,SNR=19						
WRAB	Tennant Creek	14.61	167	*e*Pn	P	10 24 41.8	-1.5
	14nm,0.5s						
WRAB				*e*Sn	S	10 27 17.9	-5.5
WRA	Warramunga Arr	14.61	167	Pn	P	10 24 40.7	-2.7
	1.2nm,0.3s,baz=345,slow=14,SNR=53						
WRA				Sn	S	10 27 19.3	-4.3
	3.4nm,0.3s,baz=355,slow=23,SNR=9.5						
WB2	Warramunga Arr	14.62	167	*e*P	P	10 24 41.2	-2.2
WB2				*e*S	S	10 27 18.5	-5.1
PMG	Port Moresby	16.50	104	Pn	P	10 25 06.3	-1.0
	2.1nm,0.3s,baz=349,slow=14,SNR=7.8						
ASAR	Alice Springs	18.17	171	P	P	10 25 28.5	+0.8
	0.9nm,0.3s,baz=348,slow=13,SNR=79						
ASAR				S	S	10 28 44.3	+0.1
	0.9nm,0.3s,baz=353,slow=29,SNR=6.0						
ASPA	Alice Springs	18.17	171	*e*P	P	10 25 29.3	+1.6
ASPA				*e*S	S	10 28 42.6	-1.6
MBWA	Marble Bar	18.89	214	*e*P	P	10 25 39.7	+3.6
	4.6nm,0.4s						
CTA	Charters Tower	20.69	135	*e*P	P	10 25 57.2	+2.2
	2.7nm,0.6s						
CTA	Charters Tower	20.69	135	P	P	10 25 57.4	+2.3
	3.3nm,0.6s,baz=320,slow=12,SNR=12						
CTAO	Charters Tower	20.69	135	*e*P	P	10 25 56.7	+1.7
	3.4nm,0.6s						
FORT	Forrest	25.17	186	*e*P	P	10 26 42.7	+3.9
	264nm,0.5s						
STKA	Stephens Creek	27.96	160	P	P	10 27 07.0	+2.6
	1.3nm,0.4s,mb3.9,baz=342,slow=11,SNR=12						
KLBR	Kellerberrin	28.65	204	*e*P	P	10 27 14.1	+3.6
	291nm,1.7s						
SONM	Songino Array	57.45	341	P	P	10 31 01.0	-1.1
	0.7nm,0.5s,mb3.9,baz=162,slow=6.8,SNR=8.9						
ZAL	Zalesovo	70.78	333	P	P	10 32 28.2	-0.5
	1.9nm,0.3s,mb4.4,baz=313,slow=5.7,SNR=6.5						
KURK	Kurchatov	71.85	328	*e*P	P	10 32 34.9	-0.3
	3.1nm,0.4s,mb4.5						
BVAR	Borovoye Array	77.41	327	P	P	10 33 07.3	+0.2
	2.2nm,0.7s,mb4.0,baz=127,slow=7.4,SNR=12						
CHKZ	Chkalovo	77.59	328	*e*P	P	10 33 07.8	-0.3
	2.7nm,0.8s,mb4.0						
QSPA	South Pole Qui	84.35	180	*e*P	P	10 33 46.3	+3.3
	1.7nm,0.4s,mb4.2						
YKA	Yellowknife Ar	106.10	26	PKiKP		10 39 35.6	
	0.2nm,0.5s,baz=293,slow=2.2,SNR=4.4						
TXAR	Lajitas Array	123.41	59	PKP	PKPdf	10 40 10.6	+2.9
	0.1nm,0.4s,baz=236,slow=4.5,SNR=4.6						
DBIC	Dimbokro	136.06	274	PKP	PKPdf	10 40 34.9	+2.8
	0.7nm,0.4s,baz=107,slow=3.2,SNR=3.6						
LVC	Limon Verde	145.87	146	PKPbc	PKPbc	10 40 56.0	+5.7
	0.9nm,0.3s,baz=278,slow=3.1,SNR=4.1						
LVC	Limon Verde	145.87	146	PKPbc	PKPbc	10 40 56.0	+5.7
LPAZ	La Paz	151.18	139	PKPbc	PKPdf	10 41 09.3	+11
	1.4nm,0.3s,baz=7.7,slow=2.5,SNR=11						

IDC 18 10:46:02.3±3.5**,49.08S**×**124.43E,mb3.8**/3**,mb1 4.0**/3**,**
mb1mx3.8/9**,mbtmp3.8**/3**,MS3.3**/2**,Ms1 3.3**/2**,**
ms1mx2.7/9**,Error ellipse: s-maj=111.4km**
s-min=63.1km az=109.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.49	43	P	P	10 50 52.2	-2.4
	3.2nm,0.7s,baz=217,slow=8.9,SNR=6.0						
STKA				LR	LR	10 57 30.0	
	comp=Z,87nm,20.4s,baz=205,slow=32						
ASAR	Alice Springs	26.44	20	P	P	10 51 41.2	-1.3
	1.8nm,0.8s,baz=192,slow=8.9,SNR=21						
ASAR				LR	LR	11 01 26.9	
	comp=Z,62nm,20.1s,baz=192,slow=35						
WRA	Warramunga Arr	30.14	19	P	P	10 52 13.5	-2.6
	0.3nm,0.6s,baz=195,slow=8.4,SNR=4.6						
YKA	Yellowknife Ar	145.52	45	PKPbc	PKPbc	11 05 40.4	-1.2
	0.8nm,0.8s,baz=268,slow=3.2,SNR=18						

*NEIC **18** 10:50:18.6±3.2,22.10S×179.79W,h590^{km}±38^{km},mb4.4/8, Error ellipse: s-maj=21.0km s-min=14.0km az=215.0*
*IDC **18** 10:50:18.7±1.9,21.85S×179.94W,h580^{km}±21^{km},mb3.4/7, mb1 3.6/8,mb1mx3.4/14,mbtmp4.4/8,Error ellipse: s-maj=28.9km s-min=12.8km az=165.0*
ISC 18 10:50:18.5±1.8**,22.1S**±0.1×**179.89W**±0.10**,h600**^{km}±24^{km}**,**
n21,σ**0**^{s}**62**/24**,mb4.0**/13**,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.31	188	P	P	10 53 37.8	-1.3
	1.7nm,0.3s,baz=290,slow=4.6,SNR=14						
URZ				S	S	10 56 20.7	+0.2
	0.6nm,0.3s,baz=253,slow=22,SNR=10						
CTA	Charters Tower	31.61	267	*e*P	P	10 55 56.5	+1.1
	5.4nm,0.6s,mb4.3						
CTAO	Charters Tower	31.61	267	*e*P	P	10 55 56.2	+0.8
	8.3nm,0.7s,mb4.5						
PMG	Port Moresby	34.04	287	P	P	10 56 16.4	+0.6
	6.9nm,0.6s,mb4.5,baz=54,slow=8.7,SNR=3.8						
PMG	Port Moresby	34.04	287	*e*P	P	10 56 16.0	+0.2
	12nm,0.8s,mb4.6						
ASAR	Alice Springs	42.45	259	P	P	10 57 24.4	+0.5
	7.0nm,0.8s,mb4.2,baz=96,slow=8.3,SNR=84						
ASAR				ScP		11 02 01.5	
	0.4nm,0.7s,baz=106,slow=4.3,SNR=5.2						
ASAR				S	S	11 03 04.2	0.0
	1.3nm,0.9s,baz=96,slow=16,SNR=11						
ASPA	Alice Springs	42.46	259	*e*P	P	10 57 24.3	+0.4
ASPA				*e*S	S	11 03 04.3	0.0
WB2	Warramunga Arr	42.65	264	*e*P	P	10 57 25.2	-0.2
WB2				*e*S	S	11 03 06.4	-0.6
WRAB	Tennant Creek	42.65	264	*e*P	P	10 57 25.1	-0.3
	6.0nm,0.4s,mb4.5						
WRA	Warramunga Arr	42.66	264	P	P	10 57 25.3	-0.2
	2.7nm,0.4s,mb4.2,baz=96,slow=7.8,SNR=109						
WRA				ScP		11 02 02.4	
	1.2nm,0.9s,baz=95,slow=4.5,SNR=7.1						
WRA				S	S	11 03 06.5	-0.6
	0.5nm,0.8s,baz=99,slow=12,SNR=3.6						
KAKA	Kakadu	46.28	273	*e*P	P	10 57 53.3	-0.2
	12nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	51.09	264	*e*P	P	10 58 29.5	+0.3
	7.7nm,1.4s,mb3.9						
MBWA	Marble Bar	55.80	259	*e*P	P	10 59 01.5	-0.8
	8.3nm,0.6s,mb4.1						
VNDA	Vanda	56.17	185	P	P	10 59 05.5	+1.5
	0.8nm,0.5s,mb3.2,baz=355,slow=6.4,SNR=5.0						
VNDA	Vanda	56.17	185	*e*P	P	10 59 04.4	+0.3
	1.1nm,0.6s,mb3.3						
QSPA	South Pole Qui	67.97	180	*e*P	P	11 00 20.1	+0.3
	16nm,1.3s,mb4.3						
YBH	Yreka Blue Hor	82.64	39	P	P	11 01 41.9	+0.8
	0.7nm,0.5s,mb3.4,baz=175,slow=3.6,SNR=4.8						
TXAR	Lajitas Array	89.40	58	P	P	11 02 13.6	-0.2
	1.2nm,0.8s,mb3.8,baz=210,slow=6.1,SNR=14						
PDAR	Pinedale Array	91.33	44	P	P	11 02 21.3	-1.0
	0.7nm,0.8s,mb3.6,baz=225,slow=2.1,SNR=4.7						
BVAR	Borovoye Array	119.16	319	PKP	PKPdf	11 08 00.3	+0.4
	0.6nm,0.3s,baz=104,slow=1.1,SNR=6.0						
BRTR	Keskin Array B	146.55	309	PKPbc	PKPbc	11 08 54.7	+1.8
	1.1nm,0.6s,baz=127,slow=6.2,SNR=5.2						

*MOS **18** 11:17:05.9±2.0,56.35N×115.21E,h5^{km},mb4.3/1,Error ellipse: s-maj=13.8km s-min=8.4km az=55.5*
BYKL 18 11:17:06.2±0.3**,56.35N**×**115.24E,h13**^{km}±4^{km}**,7C-8D,**
East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLYR	Nelyaty	0.29	61	⇓*i*PG	Pg	11 17 11.3	-1.2
NLYR				*e*		11 17 15.3	
NLYR				pmax	pmax		
	comp=Z,1μm,0.1s						
NLYR				smax			
	comp=N,6μm,0.8s						
NLYR	Nelyaty	0.29	61	⇑*i*Pg	Pg	11 17 11.3	-1.2
NLYR				*e*Sg	Sg	11 17 15.5	-1.2
NLYR				Pmax			
	comp=N,825nm,0.2s						
NLYR				Smax			
	comp=N,6μm,0.8s						
SVKR	Severomuysk	0.97	257	*e*PG	Pg	11 17 23.7	-2.0
SVKR				*e*		11 17 34.6	
SVKR				pmax	pmax		
	comp=Z,291nm,0.3s						
SVKR				smax			
	comp=E,2μm,0.4s						
SVKR	Severomuysk	0.97	257	*e*Pg	Pg	11 17 23.0	-2.7
SVKR				*e*Sg	Sg	11 17 35.9	-2.7
SVKR				*e*Sb	Sb	11 17 40.4	+3.6
SVKR				Pmax			
	comp=E,573nm,0.2s						
SVKR				max			
	comp=E,2μm,0.4s						
UKT	Uakit	1.25	227	⇑*i*PG	Pg	11 17 28.2	-3.1
UKT				*e*		11 17 44.0	
UKT				pmax	pmax		
	comp=Z,106nm,0.3s						
UKT				smax			
	comp=N,735nm,0.3s						
UKT	Uakit	1.25	227	⇓*i*Pg	Pg	11 17 28.2	-3.1
	comp=N,51nm,0.6s						
UKT				⇓*i*Pg	Pg	11 17 28.2	-3.1
	comp=N,67nm,0.6s						
UKT				⇑*i*Pg	Pg	11 17 28.2	-3.1
	comp=N,87nm,0.6s						
UKT				*e*Sg	Sg	11 17 44.6	-3.5
UKT				*e*		11 17 48.5	
UKT				Pmax			
	comp=N,172nm,0.7s						
UKT				max			
	comp=N,865nm,0.6s						
BOD	Bodaibo	1.62	336	*e*PG	Pg	11 17 34.4	-4.2
BOD				*e*		11 17 54.4	
BOD				pmax	pmax		
	comp=Z,80nm,0.1s						
BOD				smax			
	comp=N,454nm,0.2s						
BOD	Bodaibo	1.62	336	*e*Pg	Pg	11 17 34.8	-3.8
BOD				*e*		11 17 42.4	
BOD				*e*Sg	Sg	11 17 55.1	-5.2
BOD				max			
	comp=N,83nm,0.2s						
BOD				Smax			
	comp=N,450nm,0.3s						
CRS	Chara	1.76	71	*e*PN	Pn	11 17 37.4	+0.7
CRS				*e*		11 17 38.4	
CRS				*e*		11 18 01.3	
CRS				pmax	pmax		
	comp=Z,580nm,0.4s						
CRS				smax			
	comp=E,999nm,0.5s						
CRS	Chara	1.76	71	*e*Pg	Pg	11 17 37.7	-3.8
CRS				*e*Sg	Sg	11 18 01.3	-3.7
CRS				Pmax			
	comp=E,576nm,0.8s						
CRS				Smax			
	comp=E,1μm,0.7s						
YOA	Uoyan	1.98	265	⇑*i*PN	Pn	11 17 41.8	+2.0
YOA	Uoyan	1.98	265	⇑*i*Pg	Pg	11 17 42.1	-3.6
YOA				*e*Sg	Sg	11 18 09.1	-3.0
YOA				Pmax			
	comp=E,292nm,0.4s						
YOA				Smax			
	comp=E,2μm,0.5s						
KMO	Kumora	2.31	260	*e*PN	Pn	11 17 44.5	-0.1
KMO				*e*		11 17 47.6	
KMO				*e*S	Sn	11 18 13.4	+0.4
KMO				*e*		11 18 17.7	
KMO				pmax	pmax		
	comp=Z,112nm,0.5s						
KMO				smax			
	comp=N,1μm,1.1s						
KMO	Kumora	2.31	260	*e*Pn	Pn	11 17 44.5	-0.1
KMO				*e*Pg	Pg	11 17 47.2	-5.2
KMO				*e*Sn	Sn	11 18 13.7	+0.7
KMO				*e*Sg	Sg	11 18 17.8	-5.4
KMO				Pmax			
	comp=N,113nm,0.8s						
KMO				Smax			
	comp=N,1μm,1.0s						
YLYR	Ulyunkhan	2.75	239	*e*PN	Pn	11 17 50.4	-0.4
YLYR				*e*		11 17 54.6	
YLYR				*e*S	Sn	11 18 22.7	-1.4
YLYR				*e*		11 18 29.1	
YLYR				pmax	pmax		
	comp=Z,33nm,0.2s						
YLYR				smax			
	comp=E,330nm,0.5s						
YLYR	Ulyunkhan	2.75	239	⇑*i*Pn	Pn	11 17 50.4	-0.4
	comp=E,16nm,0.3s						
YLYR				⇑*i*Pn	Pn	11 17 50.4	-0.4
	comp=E,19nm,0.3s						
YLYR				⇓*i*Pn	Pn	11 17 50.4	-0.4
	comp=E,75nm,0.3s						
YLYR				*e*Pg	Pg	11 17 54.6	-6.4
YLYR				*e*Sn	Sn	11 18 24.0	-0.1
YLYR				*e*Sg	Sg	11 18 31.6	-6.1
YLYR				max			
	comp=E,73nm,0.2s						
YLYR				Smax			
	comp=E,313nm,0.5s						
NIZ	Nizh Angarsk	3.25	262	*e*PN	Pn	11 17 57.7	-0.2
NIZ				*e*		11 18 04.8	
NIZ				*e*S	Sn	11 18 36.7	-0.1
NIZ				*e*		11 18 46.9	
NIZ				pmax	pmax		
	comp=Z,17nm,0.7s						
NIZ				smax			
	comp=N,189nm,0.9s						
NIZ	Nizh Angarsk	3.25	262	⇓*i*Pn	Pn	11 17 57.6	-0.3
NIZ				*e*Pg	Pg	11 18 05.3	-5.8
NIZ				*e*Sn	Sn	11 18 36.6	-0.2
NIZ				*e*Sg	Sg	11 18 46.7	-7.7
NIZ				Pmax			
	comp=N,18nm,0.6s						
NIZ				Smax			
	comp=N,218nm,0.8s						
TUP	Tupik	3.31	124	*e*PN	Pn	11 17 57.8	-1.0
TUP				*e*		11 18 04.7	
TUP				*e*S	Sn	11 18 36.8	-1.6
TUP				*e*		11 18 48.2	
TUP				pmax	pmax		
	comp=Z,28nm,0.4s						
TUP				smax			
	comp=N,169nm,0.7s						
TUP	Tupik	3.31	124	*e*Pn	Pn	11 17 57.9	-0.9
TUP				*e*		11 18 02.3	
TUP				*e*Pg	Pg	11 18 06.3	-6.0
TUP				*e*Sn	Sn	11 18 36.5	-1.9
TUP				*e*Sg	Sg	11 18 48.5	-7.9
TUP				Pmax			
	comp=N,34nm,0.4s						
TUP				Smax			
	comp=N,203nm,0.8s						
SYVR	Suvo	4.05	230	*e*PN	Pn	11 18 08.0	-1.3
SYVR				*e*		11 18 17.0	
SYVR				*e*		11 19 10.1	
SYVR				pmax	pmax		
	comp=Z,14nm,0.2s						
SYVR				smax			
	comp=N,165nm,0.3s						
SYVR	Suvo	4.05	230	⇓*i*Pn	Pn	11 18 08.0	-1.3
SYVR				*e*Pg	Pg	11 18 18.2	-8.8
SYVR				*e*Sn	Sn	11 18 53.3	-3.8
SYVR				*e*Sg	Sg	11 19 11.3	-10
SYVR				Pmax			
	comp=N,26nm,0.8s						
SYVR				Smax			
	comp=N,344nm,1.2s						
CIT	Chita	4.45	194	*e*PN	Pn	11 18 16.2	+1.2
CIT				*e*		11 18 26.7	
CIT				*e*		11 19 22.5	
CIT				pmax	pmax		
	comp=Z,17nm,0.4s						
CIT				smax			
	comp=E,158nm,0.7s						
CIT	Chita	4.45	194	*e*Pn	Pn	11 18 14.7	-0.3
CIT				*e*Pg	Pg	11 18 26.6	-8.5
CIT				*e*Sn	Sn	11 19 03.4	-3.9
CIT				*e*Sg	Sg	11 19 22.7	-12
CIT				*e*		11 19 27.5	
CIT				Pmax			
	comp=E,15nm,0.5s						
CIT				max			
	comp=E,159nm,0.8s						
OGRR	Ongureny	5.17	242	*e*PN	Pn	11 18 23.6	-1.6

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OGRR				*e*		11 18 38.4	
OGRR				*e*		11 19 44.5	
OGRR				pmax	pmax		
	comp=Z,11nm,1.6s						
OGRR				smax			
	comp=N,64nm,2.0s						
OGRR	**Ongureny**	**5.17**	**242**	⇓*i*Pn	Pn	11 18 23.5	-1.7
OGRR				*e*Pg	Pg	11 18 38.3	-11
OGRR				*e*Sn	Sn	11 19 19.9	-5.5
OGRR				*e*Sg	Sg	11 19 44.4	-14
OGRR				Pmax			
	comp=N,10.0nm,1.3s						
OGRR				Smax			
	comp=N,63nm,1.8s						
CLNS	**Chul'man**	**5.36**	**81**	*e*PN	Pn	11 18 37.8	+10
CLNS				*e*		11 18 44.7	
CLNS				*e*		11 19 51.2	
CLNS				pmax	pmax		
	comp=Z,4.0nm,0.8s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,12nm,0.8s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.7s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
CLNS				smax			
	comp=E,63nm,1.1s						
CLNS				smax			
	comp=Z,29nm,0.9s						
CLNS				smax			
	comp=N,62nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,30nm,13.0s						
CLNS	**Chul'man**	**5.36**	**81**	*e*Pg	Pg	11 18 43.1	-10
CLNS				*e*Sg	Sg	11 19 51.5	-13
TNDR	**Tynda**	**5.49**	**99**	*e*Sg	Sg	11 19 57.0	-12
ZRHB	**Zarechye**	**6.06**	**234**	*e*Pg	Pg	11 18 56.9	-10
ZRHB				*e*Sg	Sg	11 20 14.1	-14
ZRHB				Pmax			
	comp=Z,24nm,0.8s						
ZRHB				Smax			
	comp=Z,265nm,1.7s						
TRTB	**Turuntaevo**	**6.07**	**230**	*e*Pn	Pn	11 18 36.9	-1.0
TRTB				*e*Pg	Pg	11 18 56.3	-11
TRTB				*e*Sn	Sn	11 19 44.3	-3.7
TRTB				*e*Sg	Sg	11 20 13.4	-15
TRTB				Pmax			
	comp=Z,4.0nm,0.5s						
TRTB				Smax			
	comp=Z,83nm,1.3s						
TRG	**Tyrgan**	**6.30**	**239**	*e*Pg	Pg	11 19 00.9	-11
TRG				*e*Sg	Sg	11 20 21.3	-15
TRG				Pmax			
	comp=Z,3.0nm,0.6s						
TRG				Smax			
	comp=Z,49nm,2.5s						
HRMR	**Khuramsha**	**6.80**	**229**	*e*Pn	Pn	11 18 46.5	-1.7
HRMR				*e*		11 18 55.1	
HRMR				*e*Pg	Pg	11 19 10.0	-12
HRMR				*e*Sg	Sg	11 20 37.6	-15
HRMR				Pmax			
	comp=Z,15nm,0.8s						
HRMR				Smax			
	comp=Z,203nm,0.9s						
KPC	**Khapcheranga**	**6.88**	**196**	*e*PG	Pg	11 19 12.0	-12
KPC				*e*		11 20 40.0	
KPC				pmax	pmax		
	comp=Z,6.0nm,2.3s						
KPC				smax			
	comp=E,31nm,1.0s						
KPC	**Khapcheranga**	**6.88**	**196**	⇓*i*Pn	Pn	11 18 46.7	-2.6
KPC				*e*		11 20 04.8	
KPC				*e*Sg	Sg	11 20 39.8	-15
KPC				Smax			
	comp=E,44nm,1.1s						
LSTR	**Listvyanka**	**7.58**	**238**	*e*Pg	Pg	11 19 22.8	-15
LSTR				*e*		11 20 42.2	
LSTR				*e*Sg	Sg	11 20 59.3	-19
LSTR				Smax			
	comp=E,51nm,2.0s						
TLY	**Talaya**	**8.27**	**240**	*e*Sg	Sg	11 21 20.8	-21
TLY				Smax			
	comp=E,22nm,1.4s						
ARS	**Arshan**	**8.73**	**245**	*e*Sg	Sg	11 21 35.5	-21
ARS				Smax			
	comp=E,61nm,1.6s						
MOY	**Mondy**	**9.60**	**247**	*e*Sg	Sg	11 22 04.9	-21
MOY				Smax			
	comp=E,53nm,1.6s						
ORL	**Orlik**	**9.76**	**253**	*e*P	P	11 19 29.2	0.0
ORL	**Orlik**	**9.76**	**253**	*e*Pn	P	11 19 28.6	-0.6
ORL				*e*		11 21 18.8	
ORL				*e*Sg	Sg	11 22 07.0	-24
ORL				Smax			
	comp=E,21nm,1.7s						
TIXI	**Tiksi**	**16.40**	**15**	*e*P	P	11 20 56.3	-1.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s						

*IDC **18** 11:23:22.4±1.1, 7.53N×93.90E, mb4.1/7, mb1 4.3/7, mb1mx4.1/15, mbtmp4.1/7, Error ellipse: s-maj=58.9km s-min=18.7km az=56.0*

*NEIC **18** 11:23:26.6±0.8, 7.49N×93.82E, h30km, mb4.1/1, Error ellipse: s-maj=29.9km s-min=9.4km az=223.0*

ISC 18 11:23:25.7±6.0**, 7.5N**±0.3×**93.9E**±0.4**, h37**km±49km**, n12,** σ**0^{s}52**/12**, mb4.0**/8**, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.06**	**108**	*e*Pn	**P**	**11 25 09.3**	**+0.1**
SONM	**Songino Array**	**41.57**	**13**	P	**P**	**11 31 11.6**	**+0.1**
	0.3nm,0.4s,mb3.3,baz=199,slow=8.2,SNR=13						
ZAL	**Zalesovo**	**46.88**	**353**	P	**P**	**11 31 54.3**	**+0.2**
	3.0nm,0.3s,mb4.7,baz=314,slow=3.5,SNR=9.2						
WRA	**Warramunga Arr**	**48.25**	**125**	P	**P**	**11 32 05.2**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=304,slow=8.5,SNR=15						
WRA				PcP	PcP	11 33 33.0	+0.6
	0.3nm,0.9s,baz=314,slow=2.7,SNR=5.2						
CHKZ	**Chkalovo**	**49.74**	**342**	*e*P	**P**	**11 32 15.9**	**-0.5**
	1.7nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**49.87**	**130**	P	**P**	**11 32 17.8**	**0.0**
	0.9nm,0.6s,mb4.0,baz=300,slow=7.3,SNR=16						
ASAR				PcP	PcP	11 33 38.9	+0.7
	0.4nm,0.8s,baz=315,slow=3.9,SNR=4.0						
JOF	**Joensuu**	**71.07**	**335**	*e*p	**P**	**11 34 41.0**	**-0.8**
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**11 34 53.0**	**+0.2**
	1.5nm,0.5s,mb4.1,baz=97,slow=4.2,SNR=9.3						
FINES	**FINESS Array B**	**72.92**	**332**	P	**P**	**11 34 53.0**	**+0.2**
KAF	**Kangasniemi**	**73.01**	**333**	*e*p	**P**	**11 34 52.5**	**-0.8**
ARCES	**ARCESS Array B**	**75.53**	**340**	P	**P**	**11 35 08.7**	**+1.0**
	3.1nm,0.8s,mb4.3,baz=82,slow=6.4,SNR=4.1						
GERES	**GERESS Array B**	**77.94**	**318**	P	**P**	**11 35 22.4**	**+0.7**
	0.7nm,0.5s,mb3.8,baz=90,slow=2.7,SNR=4.7						

*NEIC **18** 12:23:24.3±0.4, 29.95S×176.63W, h10km, mb5.1/16, MS4.8/7, Error ellipse: s-maj=13.6km s-min=10.0km az=19.0*

*HRVD **18** 12:23:24.3±0.2, 29.92S×176.84W, h16km, MW5.2/69, Centroid moment Tensor Solution. LP body waves: s53,c94; Mantle waves: s69,c130; Half duration: 1^{s}0 Moment tensor: Scale 10^{17}Nm; M_{rr}0.63±.02; $M_{\theta\theta}$-0.02±.01; $M_{\phi\phi}$-0.61±.02; $M_{r\theta}$0.04±.04; $M_{\theta\phi}$-0.17±.01; $M_{\phi r}$0.62±.05; Best double couple: M_0.897×10^{17} NP1: ϕ_s202°, δ24°, λ104°. NP2: ϕ_s7°, δ67°, λ84°. Principal axes: T .891, Plg67°, Azm266°; N .013, Plg6°, Azm9°; P -.904, Plg22°, Azm102°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **18** 12:23:24.3, 29.90S×176.60W, h10km, mB5.8, mb5.4, Ms5.1, Msz4.8*

*IDC **18** 12:23:25.6±0.7, 29.90S×177.15W, mb4.5/8, mb1 4.7/11, mb1mx4.6/15, mbtmp4.5/11, ML4.0/3, MS4.7/12, Ms1 4.7/12, ms1mx4.3/18, Error ellipse: s-maj=30.6km s-min=20.3km az=171.0*

*MOS **18** 12:23:28.3±1.3, 30.23S×176.97W, h33km, mb5.1/8, MS4.7/4, Error ellipse: s-maj=19.9km s-min=15.7km az=6.0*

ISC 18 12:23:28.3±0.5**, 30.48S**±0.04×**177.07W**±0.09**, h33**km**, (h29**km±2.8km**:pP-P), n149,** σ**1^{s}35**/110**, mb5.2**/20**, MS4.8**/19**, 10C-6D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.42**	**329**	*e*Pn	**Pn**	**12 23 47.4**	**-4.9**
MWZ	**Matawai**	**9.02**	**208**	*e*PN	**P**	**12 25 36.4**	**-2.8**
MWZ				SN	**Sn**	**12 27 25.5**	**+4.7**
MWZ	**Matawai**	**9.02**	**208**	*e*PN	**P**	**12 25 36.4**	**-2.8**
MWZ				SN	**Sn**	**12 27 25.5**	**+4.7**
WCZ	**Waipu Caves**	**9.02**	**231**	PN	**P**	**12 25 45.2**	**+6.0**
WCZ	**Waipu Caves**	**9.02**	**231**	PN	**P**	**12 25 45.2**	**+6.0**
URZ	**Urewera**	**9.13**	**210**	Pn	**P**	**12 25 37.9**	**-2.9**
	0.2nm,0.3s,baz=124,slow=4.7,SNR=3.2						
URZ				Sn	**Sn**	**12 27 27.5**	**+3.9**
	10nm,0.3s,baz=156,slow=21,SNR=10.0						
URZ	**Urewera**	**9.13**	**210**	*e*PN	**P**	**12 25 40.6**	**-0.1**
URZ				SN	**Sn**	**12 27 25.6**	**+2.0**
URZ	**Urewera**	**9.13**	**210**	*e*PN	**P**	**12 25 40.6**	**-0.1**
URZ				SN	**Sn**	**12 27 25.6**	**+2.0**
BKZ	**Black Stump Fm**	**10.15**	**210**	SN	**S**	**12 27 51.3**	**+2.6**
BKZ	**Black Stump Fm**	**10.15**	**210**	SN	**S**	**12 27 51.3**	**+2.6**
MRZ	**Mangatainoka R**	**11.79**	**208**	SN	**S**	**12 28 27.7**	**-0.8**
MRZ	**Mangatainoka R**	**11.79**	**208**	SN	**S**	**12 28 27.7**	**-0.8**
KIW	**Kapiti Island**	**12.24**	**210**	SN	**S**	**12 28 37.3**	**-2.1**
KIW	**Kapiti Island**	**12.24**	**210**	SN	**S**	**12 28 37.3**	**-2.1**
NNZ	**Nelson**	**13.22**	**213**	*e*PN	**P**	**12 26 37.4**	**+1.3**
NNZ	**Nelson**	**13.22**	**213**	*e*PN	**P**	**12 26 37.4**	**+1.3**
QRZ	**Quartz Range**	**13.34**	**216**	*e*PN	**P**	**12 26 40.8**	**+3.0**
QRZ				SN	**S**	**12 29 02.0**	**-3.8**
QRZ	**Quartz Range**	**13.34**	**216**	*e*PN	**P**	**12 26 40.8**	**+3.0**
QRZ				SN	**S**	**12 29 02.0**	**-3.8**
THZ	**Tophouse**	**13.86**	**213**	*e*PN	**P**	**12 26 43.9**	**-0.7**
THZ				SN	**S**	**12 29 16.1**	**-2.2**
THZ	**Tophouse**	**13.86**	**213**	*e*PN	**P**	**12 26 43.9**	**-0.7**
THZ				SN	**S**	**12 29 16.1**	**-2.2**
KHZ	**Kahutara**	**14.10**	**210**	SN	**S**	**12 29 20.2**	**-3.8**
KHZ	**Kahutara**	**14.10**	**210**	SN	**S**	**12 29 20.2**	**-3.8**
DSZ	**Denniston Nort**	**14.39**	**216**	*e*PN	**P**	**12 26 52.1**	**+0.6**
DSZ	**Denniston Nort**	**14.39**	**216**	*e*PN	**P**	**12 26 52.1**	**+0.6**
LTZ	**Lake Taylor**	**14.95**	**212**	*e*PN	**P**	**12 26 57.6**	**-1.3**
LTZ				SN	**S**	**12 29 38.3**	**-5.8**
LTZ	**Lake Taylor**	**14.95**	**212**	*e*PN	**P**	**12 26 57.6**	**-1.3**
LTZ				SN	**S**	**12 29 38.3**	**-5.8**
MQZ	**McQueen's Vall**	**15.53**	**209**	SN	**S**	**12 29 50.6**	**-6.9**
MQZ	**McQueen's Vall**	**15.53**	**209**	SN	**S**	**12 29 50.6**	**-6.9**
RPZ	**Rata Peaks**	**16.24**	**212**	Pn	**P**	**12 27 14.8**	**-0.5**
	2.2nm,0.3s,baz=268,slow=1.7,SNR=13						
RPZ				Sn	**S**	**12 30 09.8**	**-4.2**
	1.5nm,0.3s,baz=321,slow=19,SNR=6.5						
DZM	**Mont Dzumac**	**16.98**	**296**	*e*P	**P**	**12 27 25.7**	**+0.9**
DZM	**Mont Dzumac**	**16.98**	**296**	*e*P	**P**	**12 27 25.7**	**+0.9**
NOUC	**Port Laguerre**	**17.07**	**295**	*e*P	**P**	**12 27 26.9**	**+0.9**
JCZ	**Jackson Bay**	**17.61**	**216**	*e*P*	**P**	**12 27 32.5**	**-0.2**
JCZ	**Jackson Bay**	**17.61**	**216**	*e*P*	**P**	**12 27 32.5**	**-0.2**
RAR	**Rarotonga**	**18.08**	**63**	P	**P**	**12 27 29.8**	**-8.8**
	0.9nm,0.3s,baz=207,slow=15,SNR=3.2						
RAR				LR	LR	12 32 15.5	
	comp=Z,2µm,21.6s,baz=248,slow=30						
RAR	**Rarotonga**	**18.08**	**63**	P	**P**	**12 27 28.3**	**-10**
	45nm,1.0s						
MSZ	**Milford Sound**	**18.46**	**216**	*e*P*	**P**	**12 27 43.3**	**0.0**
MSZ	**Milford Sound**	**18.46**	**216**	*e*P*	**P**	**12 27 43.3**	**0.0**
ARMA	**Armidale**	**26.95**	**262**	*e*P	**P**	**12 29 12.7**	**+4.0**
CNB	**Canberra Magne**	**28.51**	**251**	*e*P	**P**	**12 29 26.5**	**+3.7**
	714nm,1.4s						
TOO	**Toolangi**	**31.67**	**247**	*e*P	**P**	**12 29 53.7**	**+2.8**
	1.4nm,1.0s						
TOO	**Toolangi**	**31.67**	**247**	*e*P	**P**	**12 29 53.7**	**+2.8**
TOO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CTA	**Charters Tower**	**34.60**	**279**	*e*P	**P**	**12 30 16.3**	**-0.1**
	comp=Z,17nm,1.0s,mb4.9						
CTA	**Charters Tower**	**34.60**	**279**	*e*P	**P**	**12 30 16.3**	**-0.1**
CTA				pmax	pmax		
	comp=Z,17nm,1.0s						
CTA	**Charters Tower**	**34.60**	**279**	P	**P**	**12 30 16.3**	**-0.1**
	comp=Z,11nm,0.6s,mb5.0,baz=98,slow=11,SNR=23						
CTAO	**Charters Tower**	**34.60**	**279**	*e*P	**P**	**12 30 16.7**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
CTAO				MLR	MLR		
	comp=Z,3µm,19.0s,MS5.1						
CTAO	**Charters Tower**	**34.60**	**279**	*e*P	**P**	**12 30 16.7**	**+0.3**
	comp=Z,38nm,1.1s,mb5.2						
CTAO				LR	LR		
	comp=Z,3µm,19.0s,MS5.1						
STKA	**Stephens Creek**	**35.24**	**257**	P	**P**	**12 30 23.1**	**+1.4**
	comp=Z,40nm,1.1s,mb5.2,baz=94,slow=10,SNR=22						
STKA				LR	LR	12 44 06.4	
	comp=Z,3µm,18.2s,MS5.0,baz=88,slow=35						
STKA	**Stephens Creek**	**35.24**	**257**	*e*P	**P**	**12 30 23.9**	**+2.1**
PMG	**Port Moresby**	**39.37**	**295**	LR	LR	12 44 10.4	
	comp=Z,1µm,20.4s,MS4.8,baz=324,slow=32						
ASAR	**Alice Springs**	**43.91**	**267**	P	**P**	**12 31 33.5**	**-0.3**
	comp=Z,6.7nm,0.6s,mb4.5,baz=104,slow=6.9,SNR=86						
ASAR				LR	LR	12 49 26.8	
	comp=Z,3µm,18.2s,MS5.2,baz=110,slow=36						
ASPA	**Alice Springs**	**43.91**	**267**	*e*P	**P**	**12 31 34.7**	**+0.9**
WB2	**Warramunga Arr**	**44.89**	**272**	*e*P	**P**	**12 31 41.3**	**-0.4**
WRAB	**Tennant Creek**	**44.90**	**272**	P	**P**	**12 31 41.0**	**-0.7**
	comp=Z,157nm,0.7s,mb6.0,SNR=12						
WRAB	**Tennant Creek**	**44.90**	**272**	⇓*i*P	**P**	**12 31 41.5**	**-0.2**
WRAB	**Tennant Creek**	**44.90**	**272**	*e*P	**P**	**12 31 41.4**	**-0.3**
	comp=Z,30nm,0.9s,mb5.1						
WRAB				LR	LR		
	comp=Z,654nm,19.0s,MS4.6						
WRA	**Warramunga Arr**	**44.90**	**272**	P	**P**	**12 31 40.9**	**-0.9**
	comp=Z,18nm,0.8s,mb5.0,baz=111,slow=7.8,SNR=91						
WRA				S	**S**	**12 38 12.5**	**-4.3**
	comp=Z,0.8nm,1.0s,baz=108,slow=14,SNR=3.0						
FORT	**Forrest**	**46.80**	**255**	⇓*i*P	**P**	**12 31 56.8**	**+0.1**
	comp=Z,328nm,0.6s						
SBA	**Scott Base**	**48.02**	**185**	P	**P**	**12 32 09.4**	**+3.7**
SBA				pmax	pmax		
	comp=Z,82nm,1.5s,mb5.5						
SBA				MLR	MLR		
	comp=Z,869nm,19.0s,MS4.8						
SBA	**Scott Base**	**48.02**	**185**	P	**P**	**12 32 09.4**	**+3.6**
	comp=Z,82nm,1.5s,mb5.5						
SBA				LR	LR		
	comp=Z,869nm,19.0s,MS4.8						
VNDA	**Vanda**	**48.10**	**186**	*e*P	**P**	**12 32 08.0**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,14nm,1.3s						
VNDA				MLR	MLR		
	comp=Z,497nm,19.0s						
VNDA	**Vanda**	**48.10**	**186**	P	**P**	**12 32 10.9**	**+4.6**
	comp=Z,1.4nm,1.0s,mb4.0,baz=29,slow=6.8,SNR=3.4						
VNDA				LR	LR	12 49 45.7	
	comp=Z,493nm,18.5s,MS4.5,baz=30,slow=32						
VNDA	**Vanda**	**48.10**	**186**	*e*P	**P**	**12 32 08.0**	**+1.7**
	comp=Z,14nm,1.3s,mb4.8						
VNDA				LR	LR		
	comp=Z,497nm,19.0s,MS4.5						
KAKA	**Kakadu**	**49.74**	**279**	*e*P	**P**	**12 32 18.9**	**-0.8**
	comp=Z,16nm,0.7s,mb5.2						
FITZ	**Fitzroy Crossi**	**53.16**	**269**	*e*P	**P**	**12 32 44.0**	**-1.5**
	comp=Z,11nm,0.7s,mb4.9						
KLBR	**Kellerberrin**	**55.08**	**251**	*e*P	**P**	**12 32 59.4**	**0.0**
	comp=Z,147nm,0.7s,mb6.1						
CASY	**Casey**	**55.45**	**208**	⇑*i*P	**P**	**12 33 05.0**	**+3.4**
MBWA	**Marble Bar**	**57.02**	**263**	*e*P	**P**	**12 33 12.8**	**-0.7**
	comp=Z,19nm,1.1s,mb5.0						
MBWA				LR	LR		
	comp=Z,2µm,19.0s,MS5.3						
RPN	**Rapa Nui**	**58.64**	**105**	LR	LR	12 55 17.3	
	comp=Z,366nm,18.4s,MS4.5,baz=285,slow=32						
QSPA	**South Pole Qui**	**59.64**	**180**	*e*P	**P**	**12 33 33.4**	**+2.4**
	comp=Z,91nm,1.4s,mb5.6						
MAW	**Mawson**	**72.52**	**200**	LR	LR	13 07 23.3	
	comp=Z,765nm,18.6s,MS5.0,baz=338,slow=36						
USHA	**Ushuaia**	**75.41**	**145**	LR	LR	12 59 48.3	
	comp=Z,328nm,19.6s,MS4.6,baz=224,slow=29						
SNAA	**Sanae**	**78.06**	**178**	P	**P**	**12 35 25.1**	**+0.4**
SNAA	**Sanae**	**78.06**	**178**		**P**	**12 35 32.5**	**+7.8**
SNAA	**Sanae**	**78.06**	**178**	⇑*i*	**P**	**12 35 41.4**	**+17**
SNAA	**Sanae**	**78.06**	**178**	*e*P	**P**	**12 35 25.1**	**+0.4**
SNAA				pmax	pmax		
	comp=Z,13nm,1.1s						
SNAA	**Sanae**	**78.06**	**178**	*e*P	**P**	**12 35 25.1**	**+0.4**
	comp=Z,13nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**78.18**	**176**	⇑*i*P	**P**	**12 35 25.6**	**+0.3**
VNA3	**Neumayer Olymp**	**78.18**	**176**		**P**	**12 35 33.8**	**+8.5**
VNA3	**Neumayer Olymp**	**78.18**	**176**	⇑*i*	**P**	**12 35 44.0**	**+19**
VNA2	**Neumayer--Watz**	**78.62**	**177**	⇑*i*P	**P**	**12 35 26.9**	**-0.9**
VNA2	**Neumayer--Watz**	**78.62**	**177**	⇑*i*	**P**	**12 35 36.8**	**+9.0**
VNA2	**Neumayer--Watz**	**78.62**	**177**	⇓*i*	**P**	**12 35 43.7**	**+16**
VNA1	**Neumayer--Stat**	**78.84**	**176**	⇑*i*P	**P**	**12 35 48.2**	**+19**
PLCA	**Paso Flores**	**81.87**	**133**	P	**P**	**12 35 43.9**	**-1.8**
PLCA				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PLCA	**Paso Flores**	**81.87**	**133**	P	**P**	**12 35 49.5**	**+3.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=216,slow=6.5,SNR=6.5						
PLCA				LR	LR	13 02 47.4	
	comp=Z,266nm,21.8s,MS4.6,baz=220,slow=29						
PLCA	**Paso Flores**	**81.87**	**133**	P	**P**	**12 35 43.9**	**-1.8**
	comp=Z,6.6nm,0.9s,mb4.6						
PLCA				LR	LR	13 02 47.4	
SSE	**Sheshan**	**84.76**	**311**	*e*P	**P**	**12 36 01.0**	**+0.4**
SSE				AP	pP	12 36 09.9	-1.2
SSE				S	S	12 46 24.8	+0.1
SSE				XS		12 46 41.8	
SSE				SS	SS	12 51 57.1	-2.9
SSE				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.7						
SSE				AMB	AMB		
	comp=Z,355nm,4.4s						
SSE				LR	LR		
	comp=N,104nm,21.9s,MS4.2						
SSE				LR	LR		
	comp=E,25nm,21.9s,MS4.2						
SSE				LR	LR		
	comp=Z,106nm,21.5s,MS4.2						
SSE	**Sheshan**	**84.76**	**311**	*e*P	**P**	**12 36 01.0**	**+0.4**
	comp=Z,46nm,0.7s,mb5.7						
SSE				pP	pP	12 36 09.9	-1.2
SSE				S	S	12 46 24.8	+0.1
SSE				sS		12 46 41.7	
SSE				SS	SS	12 51 57.1	-2.9
SSE				LR	LR		
	comp=Z,110nm,21.5s,MS4.2						
YSS	**Yuzh-Sakhalins**	**85.17**	**334**	*i* P	**P**	**12 36 02.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**85.17**	**334**	*i* Pr		12 36 02.7	
KULM	**Kulim**	**86.03**	**278**	*e*P	**P**	**12 36 05.9**	**-1.3**
NJ2	**Nanjing**	**86.90**	**310**	*e*P	**P**	**12 36 11.9**	**+0.8**
NJ2				AP	pP	12 36 20.5	-1.2
NJ2				PP	PP	12 39 39.0	+2.4
NJ2				SKS	SKS	12 46 34.0	+1.0
NJ2				S	S	12 46 47.0	+1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,1µm,4.9s						
NJ2				LR	LR		
	comp=N,1µm,15.2s,MS5.4						
NJ2				LR	LR		
	comp=E,540nm,17.7s,MS5.4						
NJ2				LR	LR		
	comp=Z,3µm,15.4s,MS5.8						
MNV	**Mina**	**87.84**	**42**	P	**P**	**12 36 13.7**	**-1.8**
MNV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.8						
MNV	**Mina**	**87.84**	**42**	P	**P**	**12 36 13.7**	**-1.7**
	comp=Z,8.6nm,1.3s,mb4.8						
MDJ	**Mudanjiang**	**89.14**	**325**	P	**P**	**12 36 21.8**	**+0.2**
MDJ				PP	PP	12 39 51.3	-3.0
MDJ				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.4						
MDJ				LR	LR		
	comp=N,133nm,31.6s,MS4.3						
MDJ				LR	LR		
	comp=E,112nm,27.1s,MS4.3						
MDJ				LR	LR		
	comp=Z,179nm,22.6s,MS4.4						
MDJ	**Mudanjiang**	**89.14**	**325**	*e*P	**P**	**12 36 19.0**	**-2.5**
	comp=Z,38nm,1.3s,mb5.6						
SNY	**Shenyang**	**90.36**	**320**	⇓P	**P**	**12 36 27.5**	**+0.1**
SNY				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.3						
CN2	**Changchun**	**90.69**	**322**	*e*P	**P**	**12 36 28.4**	**-0.4**
CN2				*e*XP	sP	12 36 40.3	-2.5
CN2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.9						
KLR	**Kul'dur**	**91.51**	**329**	*e*P	**P**	**12 36 30.4**	**-2.1**
KLR				*e*	pP	12 36 41.4	-1.7
KLR				*e*		12 47 31.5	
TXAR	**Lajitas Array**	**91.75**	**57**	P	**P**	**12 36 35.0**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=207,slow=4.0,SNR=6.5						
TXAR				LR	LR	13 13 56.6	
	comp=Z,392nm,18.0s,baz=230,slow=33						
PDAR	**Pinedale Array**	**95.64**	**43**	P	**P**	**12 36 51.5**	**0.0**
	comp=Z,0.2nm,0.5s,baz=270,slow=6.3,SNR=2.9						
PDAR				LR	LR	13 14 33.6	
	comp=Z,400nm,18.1s,baz=245,slow=32						
LPAZ	**La Paz**	**97.38**	**114**	LR	LR	13 15 35.2	
	comp=Z,90nm,18.2s,MS4.3,baz=54,slow=32						
NVS	**Novosibirsk**	**119.72**	**319**	*e*PKIKP	PKPdf	12 42 13.0	-1.8
KURK	**Kurchatov**	**121.68**	**314**	*e*PKIKP	PKPdf	12 42 18.5	-0.1
AAK	**Ala-Archa**	**122.82**	**304**	*i* PKIKP	PKPdf	12 42 19.6	-1.5
AAK				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.5						
AAK	**Ala-Archa**	**122.82**	**304**	*i* PKP	PKPdf	12 42 19.7	-1.4
CHKZ	**Chkalovo**	**126.92**	**316**	*e*PKIKP	PKPdf	12 42 29.0	+0.4
BVAR	**Borovoye Array**	**127.02**	**316**	PKP	PKPdf	12 42 29.2	+0.3
	comp=Z,3.1nm,0.9s,baz=117,slow=3.3,SNR=15						
TI2	**Plekhanov**	**144.71**	**300**	*i* PKIKP	PKPdf	12 43 03.6	+2.1
TI2				pmax	pmax		
	comp=Z,30nm,0.6s						
TI2				MLR	MLR		
	comp=N,2µm,6.0s						
TI2				MLR	MLR		
	comp=E,1µm,6.0s						
GNI	**Garni**	**144.82**	**298**	*i* PKIKP	PKPdf	12 43 03.7	+1.9
GNI	**Garni**	**144.82**	**298**	*i* PKPr		12 43 03.7	
MOS	**Moscow**	**144.85**	**326**	⇓*i*PKIKP	PKPdf	12 43 02.1	+0.8
MOS				*e*		12 50 04.9	
MOS				pmax	pmax		
	comp=Z,122nm,2.0s						
MOS				MLR	MLR		
	comp=Z,800nm,21.1s,MS5.5						
KAF	**Kangasniemi**	**144.88**	**341**	*e*p	PKPdf	12 42 59.3	-1.9
FINES	**FINESS Array B**	**145.49**	**341**	PKP	PKPdf	12 43 02.5	+0.3
	comp=Z,13nm,0.6s,baz=55,slow=3.3,SNR=65						
GOF	**Gofitskoye**	**145.49**	**306**	*i* PKIKP	PKPdf	12 43 05.0	+2.2
GOF				pmax	pmax		
	comp=Z,72nm,1.3s						
OBN	**Obninsk**	**145.69**	**326c**	*i*PKP2	PKPab	12 43 03.9	-1.6
OBN				pmax	pmax		
	comp=Z,114nm,1.4s						
OBN	**Obninsk**	**145.69**	**326**	*e*PKPdf	PKPdf	12 43 01.4	-1.4
OBN				⇑*i*PKP	PKPdf	12 43 04.4	+1.6
OBN				LR	LR		
	comp=Z,300nm,21.0s,MS5.0						
VOR	**Voronezh**	**145.90**	**319**	*e*PKP2	PKPab	12 43 03.5	-2.9
VOR				pmax	pmax		
	comp=Z,210nm,1.5s						
KIV	**Kislovodsk**	**145.93**	**304**	*e*PKIKP	PKPdf	12 43 03.1	-0.4
KIV				*i*		12 43 05.8	
KIV	**Kislovodsk**	**145.93**	**304**	*e*PKPdf	PKPdf	12 43 03.0	-0.5
KIV				⇑*i*PKP	PKPdf	12 43 05.8	+2.3
NB2	**NORSAR Subarra**	**148.94**	**352**	PKPabc	PKPdf	12 43 12.5	+4.6
	comp=Z,51nm,1.4s,baz=17,slow=2.6						
NB2	**NORSAR Subarra**	**148.94**	**352**	PKPa		12 43 12.5	
	baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.94**	**352**	PKPbc	PKPdf	12 43 13.1	+5.1
	comp=Z,3.8nm,1.0s,baz=11,slow=2.8,SNR=6.4						
MALT	**Malatya**	**149.82**	**295**	*e*PKPbc	PKPdf	12 43 14.8	+4.7
MNK	**Minsk**	**150.07**	**331**	⇓*e*PKP2	PKPab	12 43 15.0	-8.0
KONO	**Kongsberg**	**150.48**	**353**	*i* PKIKP	PKPdf	12 43 17.0	+6.6
ASF	**Jabal al Asfar**	**151.00**	**282**	PKPbc	PKPdf	12 43 20.3	+8.2
	comp=Z,18nm,1.1s,baz=309,slow=1.0,SNR=13						
COBT	**Iskenderun**	**151.66**	**291**	*i* P	PKPdf	12 43 21.1	+8.2
SUW	**Suwalki**	**152.30**	**334**	*e*PKP	PKPdf	12 43 21.6	+8.3
SUW	**Suwalki**	**152.30**	**334**	*e*PKP	PKPdf	12 43 21.6	+8.3
EIL	**Elat**	**152.32**	**277**	PKPbc	PKPdf	12 43 23.4	+9.4
	comp=Z,12nm,1.0s,baz=197,slow=13,SNR=8.4						
BRTR	**Keskin Array B**	**153.34**	**299**	PKPbc	PKPdf	12 43 24.4	+9.2
	comp=Z,0.7nm,0.5s,baz=124,slow=4.5,SNR=7.1						
KWP	**Kalwaria**	**155.73**	**328**	*e*PKP	PKPab	12 43 46.3	-0.7
KWP				*e*		12 43 57.7	
KWP	**Kalwaria**	**155.73**	**328**	*e*PKP	PKPab	12 43 46.3	-0.8
KWP				*e*		12 43 57.7	
KSP	**Ksiaz**	**157.34**	**338**	*e*PKP	PKPab	12 43 53.2	-0.7
KSP				*e*		12 44 04.4	
OKC	**Ostrava-Krasne**	**157.51**	**334**	*e*PKPAB	PKPab	12 43 54.1	-0.6
OKC				*e*pPKP		12 44 04.7	

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UPC	Upice	157.72	338	ePKPAB	PKPab	12 43 55.1	-0.4
UPC				epPKP		12 44 06.5	
DPC	Dobruska-Polom	157.75	337	ePKPAB	PKPab	12 43 55.4	-0.3
DPC				epPKP		12 44 06.4	
PVCC	Panska Ves	158.15	340	ePKPAB	PKPab	12 43 56.6	-0.8
PVCC				epPKP		12 44 08.2	
PSZ	Piszkesteto	158.26	328	ePKP/p		12 43 57.6	
VRAC	Vranov	158.53	335	PKPab	PKPab	12 43 57.4	-1.7
	comp=Z,4.4nm,0.8s,baz=12,slow=6.0,SNR=11						
PRU	Pruhonice	158.64	339	ePKPAB	PKPab	12 43 58.2	-1.3
PRU				epPKP		12 44 10.3	
NKC	Novy Kostel	159.01	343	ePKPAB	PKPab	12 43 59.9	-1.2
NKC				epPKP		12 44 11.8	
KHC	Kasperske Hory	159.69	340	ePKPAB	PKPab	12 44 03.4	-0.7
KHC				epPKP		12 44 13.5	
GERES	GERESS Array B	159.90	339	PKPab	PKPab	12 44 03.5	-1.4
	comp=Z,0.8nm,0.7s,baz=18,slow=4.2,SNR=6.5						
IDI	Anoyia	160.95	290	PKPab	PKPab	12 44 08.8	-1.2
	comp=Z,1.2nm,0.2s,baz=11,slow=5.8,SNR=3.0						
SKO	Skopje	161.21	313	i P	PKPab	12 44 10.9	0.0
DAVOX	Davos	162.85	344	PKPab	PKPab	12 44 14.8	-3.0
	comp=Z,1.6nm,0.6s,baz=164,slow=22,SNR=3.6						

NEIC 18 12:34:32.5, 61.89N×148.01W, h26km, ML3.5(PMR), ML3.3(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SML	Sawmill	0.17	241	P	Pb	12 34 38.1	+0.1
SML				S	Sb	12 34 43.6	+2.0
SCM	Sheep Creek Mo	0.33	100	P	Pb	12 34 39.7	-0.4
GHO	Glory Hole Cre	0.45	255	P	Pb	12 34 41.0	-1.0
PMR	Palmer	0.61	241	P	Pb	12 34 42.6	-1.9
PMR				S	Sb	12 34 51.8	-1.0
PWA	Palmer West	0.92	256	P	Pb	12 34 47.6	-2.1
PWL	Port Wells	1.05	189	P	Pn	12 34 49.5	-2.3
RC01	Rabbit Creek A	1.15	226	P	Pn	12 34 51.2	-2.0
RC01				S	Sn	12 35 07.0	-1.3
CUT	Chulitna	1.18	297	P	Pn	12 34 51.6	-2.0
TZL	Tazlina	1.23	82	P	Pn	12 34 52.8	-1.6
FIB	Fire Island	1.27	236	P	Pn	12 34 53.7	-1.2
FIB				S	Sn	12 35 11.7	+0.6
DIV	Divide	1.32	124	P	Pn	12 34 52.5	-3.1
DIV				S	Sn	12 35 10.0	-2.4
VOGL	Vogel Lake	1.47	233	P	Pn	12 34 57.1	-0.6
MPA	Moose Pass	1.55	205	P	Pn	12 34 57.2	-1.7
RND	Reindeer	1.57	346	P	Pn	12 34 57.5	-1.6
PAX	Paxson	1.60	46	P	Pn	12 34 57.9	-1.7
HIN	Hinchinbrook I	1.67	153	P	Pn	12 34 58.7	-1.9
EYAK	Cordova Ski Ar	1.74	140	P	Pn	12 34 59.9	-1.6
SLKM	Skilak Lake	1.75	219	P	Pn	12 35 00.2	-1.5
THY	Trims Highway	1.85	33	P	Pn	12 35 02.6	-0.6
STLK	Strandline Lak	1.86	259	P	Pn	12 35 02.5	-0.9
WANC	Wrangell North	1.87	85	P	Pn	12 35 02.6	-0.9
TRF	Thorofare Moun	1.88	327	P	Pn	12 35 02.0	-1.7
MCK	McKinley	1.90	348	P	Pn	12 35 02.5	-1.3
NKA	Nikishka	1.94	235	P	Pn	12 35 04.4	0.0
GLB	Gilahina Butte	2.06	101	P	Pn	12 35 04.2	-2.0
SPU	Mount Spurr	2.06	252	eP	Pn	12 35 04.6	-1.6
CRP	Crater Peak	2.08	254	P	Pn	12 35 05.5	-1.0
CKN	Chakachatna No	2.10	253	P	Pn	12 35 05.6	-1.2
KTH	Kantishna Hill	2.14	323	P	Pn	12 35 05.7	-1.6
CKL	Chakachamna La	2.19	253	P	Pn	12 35 06.3	-1.7
MENT	Mentasta	2.26	60	P	Pn	12 35 07.4	-1.7
BWN	Browne	2.38	345	P	Pn	12 35 09.3	-1.5
RDT	Redoubt	2.50	240	P	Pn	12 35 10.6	-1.9
DOT	Dot Lake	2.53	44	P	Pn	12 35 11.2	-1.8
BRLK	Bradley Lake	2.56	215	P	Pn	12 35 11.4	-1.9
DFR	Drift River	2.61	242	P	Pn	12 35 12.2	-1.8
REF	Redoubt East F	2.67	240	P	Pn	12 35 13.0	-2.0
RDN	Redoubt North	2.68	241	P	Pn	12 35 12.9	-2.2
RSO	Redoubt South	2.71	240	P	Pn	12 35 13.6	-1.9
NCT	North Crescent	2.73	243	P	Pn	12 35 13.9	-1.8
CCB	Clear Creek Bu	2.77	2	P	Pn	12 35 14.1	-2.2
BALM	Baldy	2.85	105	P	Pn	12 35 14.8	-2.7
CNPM	China Poot	2.85	215	P	Pn	12 35 15.4	-2.1
IL1	Eielson Array	2.94	9	P	Pn	12 35 16.6	-2.0
COLA	College	3.00	1	P	Pn	12 35 17.2	-2.4
ILIM	Iliamna	3.02	235	P	Pn	12 35 17.6	-2.3
INE	Iliamna NE	3.07	235	P	Pn	12 35 18.1	-2.5
MDM	Murphy Dome	3.08	358	P	Pn	12 35 18.6	-2.2
ILW	Iliamna West	3.10	236	P	Pn	12 35 18.7	-2.4
GLM	Gilmore Dome	3.12	5	P	Pn	12 35 19.6	-1.8
BCA3	Beaver Creek A	3.12	65	P	Pn	12 35 19.6	-1.8
CTGM	Chitina Glacie	3.34	103	P	Pn	12 35 22.2	-2.3
MLY	Manley	3.38	340	P	Pn	12 35 22.7	-2.3
YAH	Yahtse	3.41	114	P	Pn	12 35 22.7	-2.6
AUW	Augustine West	3.69	229	P	Pn	12 35 27.6	-1.9
AUI	Augustine Isla	3.70	229	P	Pn	12 35 27.5	-2.0
SVW2	Sparrevohn	3.71	261	P	Pn	12 35 26.3	-3.4
TT01	Tatalina	3.86	289	P	Pn	12 35 28.3	-3.6
MCNL	McNeil River	4.14	232	P	Pn	12 35 32.6	-3.2
DAWY	Dawson	4.50	57	P	Pn	12 35 38.0	-2.9
KDAK	Kodiak Island	4.72	211	eP	Pn	12 35 39.6	-4.4
KAHC	Katmai Hardscr	4.76	230	P	Pn	12 35 40.9	-3.8
IM3	Indian Mountai	4.82	331	P	Pn	12 35 42.4	-3.1
IMA	Indian Mountai	4.88	332	eP	Pn	12 35 42.6	-3.7
GCSA	Galena City Sc	4.92	310	P	Pn	12 35 43.8	-3.0
CAHL	Cahill	5.31	227	P	Pn	12 35 48.8	-3.6
COLD	Coldfoot	5.44	351	P	Pn	12 35 51.2	-2.9
BM3	Burnt Mountain	5.74	13	P	Pn	12 35 55.5	-2.9
INK	Inuvik	8.86	37	eP	P	12 36 37.6	-4.3
TNA	Tin City	9.54	301	eP	P	12 36 47.4	-3.9

IDC 18 12:39:03.1±5.7, 28.52S×177.52W, mb3.7/2, mb1 3.9/2, mb1mx3.7/10, mbtmp3.7/2, Error ellipse: s-maj=229.1km s-min=91.2km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.66	265	P	P	12 47 09.2	-2.1
	0.5nm,0.7s,baz=101,slow=7.4,SNR=7.7						
WRA	Warramunga Arr	44.48	270	P	P	12 47 16.8	-1.3
	1.3nm,0.8s,baz=110,slow=7.9,SNR=12						
FINES	FINESS Array B	143.52	341	PKP	PKPdf	12 58 38.3	-2.5
	5.0nm,1.0s,baz=18,slow=6.0,SNR=6.0						

ISK 18 12:42:36.0, 39.38N×40.87E, h5km, MD4.1
CSEM 18 12:42:36.3±0.1, 39.36N×40.90E, h2km, MD4.1, Error ellipse: s-maj=2.8km s-min=2.3km az=32.0
IDC 18 12:42:39.9±1.2, 39.49N×40.71E, mb3.5/3, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML2.1/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/13, Error ellipse: s-maj=24.6km s-min=15.9km az=173.0
ISC 18 12:42:37.4±0.4, 39.40N±0.03×40.90E±0.05, h2km, n32, σ1§04/37, mb3.5/3, MS3.3/2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRT	Varto	0.56	119	i PG	Pg	12 42 48.0	-0.5
BINT	Bingol	0.61	212	i PG	Pg	12 42 48.4	-1.3
EZM	Erzurum	0.62	35	i PG	Pg	12 42 49.8	+0.1
ERZM	Erzurum	0.62	35	i P	Pg	12 42 49.8	+0.1
ERZM				i S	Sg	12 43 04.0	+6.1
EZC	Erzincan	0.91	293	PN	Pn	12 43 00.1	+3.2
PTK	Pertek	1.28	247	PN	Pn	12 43 00.2	-2.0
BTMT	Batman	1.29	159	PN	Pn	12 43 01.7	-0.7
BTMT				SN	Sn	12 43 21.5	+1.0
GUMT	Gumushane	1.52	315	PN	Pn	12 43 06.1	+0.4
BEST	Besiri	1.54	169	i P	Pn	12 43 05.8	-0.1
BEST				i S	Sb	12 43 27.3	+1.2
BHD				e		12 45 11.5	
DIY	Diyarbakir	1.59	200	ePN	Pn	12 43 06.6	-0.1
ELZG	Elazig	1.75	239	i P	Pn	12 43 08.2	-0.7
ELZG				i S	Sn	12 43 32.5	+0.4
KARS	Kars	2.07	54	ePN	Pn	12 43 12.7	-0.9
VANB	Van	2.10	112	ePN	Pn	12 43 13.8	-0.2
BCA	Borcka	2.11	15	ePN	Pn	12 43 14.2	0.0
TVAN	Van	2.14	113	i P	Pn	12 43 08.7	-5.8
TVAN				i S	Sn	12 43 48.0	+5.9
MYA	Malataya	2.21	242	ePN	Pn	12 43 14.4	-1.2
URFA	Urfa	2.55	220	ePN	Pn	12 43 20.0	-0.4
GNI	Garni	3.05	75	ePN	Pn	12 43 27.7	+0.1
GNI	Garni	3.05	75	Pn	Pn	12 43 33.3	+5.7
	8.6nm,0.3s,baz=228,slow=3.7,SNR=20						
SVST	Sivas	3.07	278	i P	Pn	12 43 31.0	+3.1
SVST				i S	Sn	12 44 20.5	+15
GZT	Gaziantep	3.32	233	i P	Pn	12 43 38.7	+7.2
GZT				i S	Sn	12 44 29.4	+17
TOKT	Tokat	3.48	287	ePN	Pn	12 43 33.6	0.0
MSL	Mosul	3.56	150	i Pn	Pn	12 43 08.0	-27
MSL				i Pb	Pb	12 43 17.5	-23
MSL				i Sn	Sn	12 44 00.0	-18
MSL				i Sb	Sb	12 44 19.0	-5.7
MSL				eLg		12 44 28.0	
BNN	Bunyan	3.97	264	ePN	Pn	12 43 40.5	-0.1
BRTR	Keskin Array B	5.62	276	Pn	Pn	12 44 02.9	-1.2
	0.2nm,0.3s,baz=100,slow=14,SNR=7.4						
ASF	Jabal al Asfar	7.91	205	Pn	Pn	12 44 38.0	+1.8
	0.1nm,0.3s,baz=28,slow=15,SNR=1.9						
ASF				Lg		12 46 49.0	
	0.1nm,0.3s,baz=255,slow=18,SNR=2.8						
EIL	Elat	10.87	209	Lg		12 48 25.9	
	0.4nm,0.3s,baz=234,slow=42,SNR=2.4						
GERES	GERESS Array B	21.59	305	P	P	12 47 30.7	+0.4
	1.3nm,0.8s,mb3.4,baz=149,slow=5.7,SNR=4.3						
FINES	FINESS Array B	23.89	342	P	P	12 47 54.0	+1.2
	1.8nm,0.7s,mb3.6,baz=149,slow=8.1,SNR=4.5						
FINES				LR	LR	12 58 06.2	
	comp=Z,89nm,19.1s,MS3.3,baz=197,slow=39						
ARCES	ARCESS Array B	31.29	350	LR	LR	13 01 26.5	
	comp=Z,65nm,21.8s,MS3.3,baz=187,slow=36						
YKA	Yellowknife Ar	76.55	349	P	P	12 54 29.5	-0.7
	0.4nm,0.8s,mb3.4,baz=21,slow=5.9,SNR=6.3						

BER 18 12:49:04.9±2.8, 67.19N×20.74E, ML2.3, ML2.5(NAO), Suspected explosion
NAO 18 12:49:04.3±2.0, 67.16N×20.84E, ML2.5
HEL 18 12:49:04.6±0.3, 67.21N×20.77E, ML2.3(BER), ML2.5(NAO), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.80	0	eP	Pn	12 49 36.5	-0.7
KIF				eS	Sn	12 50 00.4	-0.7
KTK1	Kautokeino	2.03	26	eSG	Sg	12 50 08.6	-3.7
KTK1				AML	AML	12 50 11.0	
	comp=Z,52nm,0.7s						
SGF	Sodankyl	2.24	81	eSG	Sg	12 50 14.0	-5.3
TRO	Tromso	2.53	345	eSG	Sg	12 50 23.2	-5.5
TRO				AML	AML	12 50 25.7	
	comp=Z,23nm,0.6s						
MOR8	Moi Rana	2.72	250	eSB	Sb	12 50 22.1	-6.0
LOF	Lofoten	2.91	292	e	Sg	12 50 38.6	-2.9
LOF	Lofoten	2.91	292	eSg	Sg	12 50 38.6	-2.9
ARA0	ARCESS Array S	2.92	35	Pn	Pn	12 49 50.4	-2.8
	baz=213,slow=14						
ARA0				Sn	Sn	12 50 29.5	0.0
	baz=214,slow=28						
ARA0	ARCESS Array S	2.92	35	eP	Pn	12 49 50.4	-2.8
ARA0				eS	Sn	12 50 29.5	0.0
STOK	Stokkvaagen	3.19	258	eSB	Sb	12 50 38.6	-3.2
NSS	Namsos	4.50	237	eSG	Sg	12 51 24.6	-10
NSS				AML	AML	12 51 26.1	
	comp=Z,18nm,0.5s						
APA0	Apatity Array	4.73	80	eS	Sn	12 51 10.5	-4.9
APA0				eSG		12 51 28.1	
APA0	Apatity Array	4.73	80	Sn	Sn	12 51 10.5	-4.9
	baz=275,slow=37						
APA0				Lg		12 51 28.1	
	baz=267,slow=28						
FIA0	FINESS Array S	6.23	156	Pn	Pn	12 50 36.6	-3.4
	baz=339,slow=16						
FIA0				Sn	Sn	12 51 46.9	-6.1
	baz=340,slow=28						
FIA0				Lg		12 52 17.1	
	baz=344,slow=28						
FIA0	FINESS Array S	6.23	156	eP	Pn	12 50 36.6	-3.4
FIA0				eS	Sn	12 51 46.9	-6.1
FIA0				eSG		12 52 17.1	
HFS	Hagfors	7.76	207	Pn	Pn	12 50 57.1	-4.5
	baz=20,slow=16						
HFS				Sn	Sn	12 52 23.9	-7.3
	baz=26,slow=28						
HFS				Lg		12 53 02.6	
	baz=24,slow=37						
HFS	Hagfors	7.76	207	eP	Pn	12 50 57.1	-4.5
HFS				eS	Sn	12 52 23.9	-7.3
HFS				eSG		12 53 02.6	

NEIC 18 13:30:22.1, 31.92S×71.58W, h36km, MD3.7(GUC), After GUC.
GUC 18 13:30:22.1±0.8, 31.92S×71.58W, h36km±2km, MD3.7, ML3.0, 3C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CHNG	Los Chungos	0.08	63	⇑iP	P	13 30 28.3	+0.2
CHNG				i S	S	13 30 32.3	0.0
CHNG				AMP		13 30 32.7	
	comp=E,2μm,0.3s						
ILCH	Illapel	0.45	51	⇑iP	P	13 30 32.4	+0.4
ILCH				i S	S	13 30 39.5	+0.5
ILCH				AMP		13 30 40.3	
	comp=E,2μm,0.2s						
PACH	Papudo	0.63	169	⇑iP	P	13 30 34.7	+0.2
PACH				i S	S	13 30 43.8	+0.3
JACH	Jahuel	1.13	133	i P	P	13 30 42.9	+1.3
JACH				i S	S	13 30 57.7	+1.5
ROCH	El Roble	1.16	156	i P	P	13 30 43.3	+1.3
ROCH				i S	S	13 30 58.9	+2.0
PEL	Peldehue	1.44	148	i S	S	13 31 06.2	+2.2
LCCH	Las Cruces	1.55	180	eP	P	13 30 48.4	+0.7
SCR	San Cristobal	1.65	163	eP	P	13 30 50.4	+1.2
SCR				i S	S	13 31 13.1	+3.7
SCR				AMP		13 31 15.3	
	comp=E,110nm,0.4s						
CLCH	Cerro Calan	1.72	149	eP	P	13 30 50.6	+0.6
CLCH				i S	S	13 31 13.2	+2.2
CLCH				AMP		13 31 15.6	
	comp=E,466nm,0.7s						
FCH	Farellones	1.78	143	eP	P	13 30 52.8	+1.9
FCH				eS	S	13 31 15.7	+3.2
FCH				AMP		13 31 17.5	
	comp=E,204nm,0.2s						
CHCH	Chadas Angostu	2.16	159	eS	S	13 31 23.2	+1.1
LMEL	Las Melosas	2.25	149	eP	P	13 30 59.0	+1.4
LMEL				AMP		13 31 32.5	
	comp=N,160nm,0.2s						
ZON	Zonda	2.50	82	eP	P	13 31 05.0	+3.7

IDC 18 13:36:05.0±1.6, 36.31N×70.98E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML4.2/1, MS4.5/1, Ms1 4.5/1, ms1mx3.1/21, Error ellipse: s-maj=38.7km s-min=25.2km az=44.0
MOS 18 13:36:08.1±1.8, 36.47N×70.94E, h33km, mb4.2/1, Error ellipse: s-maj=43.3km s-min=13.8km az=81.6
BJI 18 13:36:13.8, 36.78N×70.90E, h72km
NEIC 18 13:36:14.3±5.5, 36.65N×71.01E, h63km±40km, mb4.3/2, Error ellipse: s-maj=47.1km s-min=22.3km az=207.0
ISC 18 13:36:17.7±0.6, 36.77N±0.03×71.37E±0.09, h114km±8km, n43, σ1§39/47, mb3.6/6, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEP	Cherat	2.97	171	⇑P	P	13 37 05.4	+1.1
CEP				S	S	13 37 42.0	+2.4
CHCP	Chirah Chowk	3.47	153	P	P	13 37 12.6	+1.6
THW	Thamme Wali	3.98	175	P	P	13 37 18.1	+0.2
SBDP	Sheikh Budin	4.48	186	P	P	13 37 23.3	-1.5
KSH	Kashi	4.55	51	P	P	13 37 29.3	+3.6
KSH				S	S	13 38 24.3	+6.4
SARP	Sargodha	4.95	167	P	P	13 37 30.1	-1.0
SARP				S	S	13 38 24.0	-3.7
AML	Almayashu	5.65	18	P	P	13 37 40.6	+0.1
	SNR=140						
DLH	Dalhousie	5.67	137	eP	P	13 37 43.0	+2.3
DLH				eS	S	13 38 47.0	+1.9
UCH	Uchtor	5.97	23	P	P	13 37 45.2	+0.3
	SNR=51						
KZA	Kyzart	6.09	28	P	P	13 37 47.1	+0.5
	SNR=30						
EKS2	Erkin-Say	6.17	17	P	P	13 37 47.8	+0.2
	SNR=42						
AAK	Ala-Archa	6.33	21	P	P	13 37 50.4	+0.5
	SNR=45						
AAK	Ala-Archa	6.33	21	Pn	P	13 37 49.0	-0.9
	362nm,0.5s,SNR=51						
AAK	Ala-Archa	6.33	21	ePN	P	13 37 49.1	-0.8
AAK				pmax	pmax		
	comp=Z,41nm,1.0s						
AAK	Ala-Archa	6.33	21	ePn	P	13 37 49.1	-0.8
	comp=Z,41nm,1.0s						
KBK	Karagaybulak	6.50	24	P	P	13 37 53.1	+1.0
	SNR=21						
ULHL	Ulahol	6.64	33	P	P	13 37 53.2	-1.0
	SNR=8.2						
CHMS	Chumysh	6.74	22	P	P	13 37 55.5	0.0
	SNR=46						
BHK	Bhakra	6.78	140	eS	S	13 39 14.0	+1.7
USP	Ospenovka	6.92	19	P	P	13 37 57.1	-0.8
	SNR=22						
TKM2	Tokmak 2	6.95	27	P	P	13 37 58.7	+0.3
	SNR=40						
SDNR	Sundarnagar	7.01	137	eP	P	13 38 05.5	+6.3
SDNR				e		13 40 03.1	
SMLA	Simla	7.40	138	i	P	13 38 02.3	-2.2
SMLA				i S	S	13 39 24.2	-3.2
NDI	New Delhi	9.44	147	eS	S	13 40 16.0	-0.8
KOLN	Koldanda	13.68	127	eP	P	13 39 26.9	-0.9
	comp=Z,12nm,0.5s						
GKN	Gorkha	14.20	124	eP	P	13 39 33.4	-1.1
	comp=Z,63nm,0.9s						
KKN	Kakani	14.77	123	eP	P	13 39 40.5	-1.3
KURK	Kurchatov	14.88	18	eP	P	13 39 45.0	+1.9
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KURK	Kurchatov	14.88	18	eP	P	13 39 45.0	+1.9
	comp=Z,7.2nm,0.9s						
PKI	Pulchoki	15.00	124	eP	P	13 39 43.8	-0.9
	comp=Z,10nm,0.4s						
JIRN	Jiri	15.47	122	eP	P	13 39 49.2	-1.4
	comp=Z,33nm,0.6s						
BVAR	Borovoye Array	16.27	358	Pn	P	13 39 58.0	-2.6
	comp=Z,0.8nm,0.3s,baz=157,slow=11,SNR=10						
CHKZ	Chkalovo	16.92	358	eP	P	13 40 06.4	-2.1
CHKZ				pmax	pmax		
	comp=Z,34nm,0.7s						
CHKZ	Chkalovo	16.92	358	eP	P	13 40 06.4	-2.1
	comp=Z,34nm,0.7s						
ZAL	Zalesovo	19.53	24	P	P	13 40 38.2	-0.1
	comp=Z,5.4nm,0.5s,baz=278,slow=5.8,SNR=20						
NVS	Novosibirsk	19.83	21	eP	P	13 40 40.0	-1.4
SONM	Songino Array	27.94	56	P	P	13 42 01.9	+2.8
	comp=Z,1.0nm,0.9s,mb3.4,baz=266,slow=8.5,SNR=8.7						
SONM				pP	pP	13 42 38.1	+14
	comp=Z,0.5nm,0.8s,baz=270,slow=9.9,SNR=3.6						
ARCES	ARCESS Array B	41.01	337	P	P	13 43 51.9	+1.3
	comp=Z,1.4nm,0.4s,mb4.1,baz=117,slow=8.1,SNR=7.3						
HFS	Hagfors	43.04	322	P	P	13 44 07.6	+0.5
	comp=Z,1.5nm,0.5s,mb4.0,baz=101,slow=15,SNR=4.8						
NOA	NORSAR Array B	44.35	323	P	P	13 44 17.3	-0.4
	comp=Z,1.2nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=3.8						
JHJ	Hachijo jima 2	55.11	72	LR	LR	14 10 31.7	
	comp=Z,434nm,21.4s,baz=69,slow=37						
YKA	Yellowknife Ar	80.97	3	P	P	13 48 22.6	+2.3
	comp=Z,0.2nm,0.4s,mb3.3,baz=63,slow=7.5,SNR=4.1						
WRA	Warramunga Arr	81.88	122	P	P	13 48 27.0	+1.0
	comp=Z,0.1nm,0.3s,mb3.1,baz=325,slow=4.8,SNR=8.4						

IDC 18 13:36:44.5±0.9, 67.25N×21.06E, mb1 3.0/3, mb1mx3.0/16, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=21.7km s-min=6.6km az=118.0
NAO 18 13:36:46.2±1.8, 67.09N×21.02E, ML2.4
HEL 18 13:36:46.0±0.2, 67.17N×20.73E, ML2.3(BER), ML2.4(NAO), Explosion
BER 18 13:36:47.9±4.8, 67.17N×20.87E, ML2.3, ML2.4(NAO), Suspected explosion
ISC 18 13:36:42.4±0.5, 67.07N±0.03×20.86E±0.07, n21, σ1§53/35, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KIF	Kilpisjarvi	1.95	359	eP	Pn	13 37 18.7	+1.7
KIF				eS	Sn	13 37 42.6	0.0
KTK1	Kautokeino	2.15	23	eP	Pn	13 37 22.2	+2.2
KTK1				eSG	Sg	13 37 50.6	-3.3
KTK1				AML	AML	13 37 55.0	
	comp=Z,50nm,0.4s						
SGF	Sodankyl	2.24	78	eSG	Sg	13 37 55.3	-1.5
TRO	Tromso	2.68	345	eSG	Sg	13 38 04.6	-6.9
MOR8	Moi Rana	2.71	254	eS	Sn	13 37 59.5	-2.5
MOR8				AML	AML	13 38 12.9	
	comp=Z,29nm,0.7s						
LOF	Lofoten	3.00	294	e	Sg	13 38 21.0	-1.2
LOF	Lofoten	3.00	294	eSg	Sg	13 38 21.0	-1.2
ARA0	ARCESS Array S	3.02	33	Pn	Pn	13 37 34.5	+2.1
	baz=211,slow=14						
ARA0				Sn	Sn	13 38 10.1	+0.2
	baz=209,slow=22						
ARA0	ARCESS Array S	3.02	33	eP	Pn	13 37 34.5	+2.1
ARA0				eS	Sn	13 38 10.1	+0.2
ARCES	ARCESS Array B	3.02	33	Pg	Pg	13 37 33.5	-9.2
	comp=Z,0.9nm,0.3s,baz=209,slow=14,SNR=22						
ARCES				Lg		13 38 13.9	
	comp=Z,1.8nm,0.3s,baz=212,slow=23,SNR=5.9						
STOK	Stokkvaagen	3.20	260	eP	Pn	13 37 43.0	+8.1
STOK				eSg	Sg	13 38 29.4	+0.4
NSS	Namsos	4.46	239	eSG	Sg	13 39 03.9	-6.8
NSS				AML	AML	13 39 08.1	
	comp=Z,13nm,0.5s						
APA0	Apatity Array	4.73	78	Pn	Pn	13 37 56.8	+0.2
	baz=280,slow=11						
APA0				Sn	Sn	13 38 52.4	-0.6
	baz=270,slow=28						
APA0				Lg		13 39 12.8	
	baz=279,slow=28						
APA0	Apatity Array	4.73	78	eP	Pn	13 37 56.8	+0.2
APA0				eS	Sn	13 38 52.4	-0.6
APA0				eSG	Sg	13 39 12.8	-6.9
FIA0	FINESS Array S	6.08	156	Pn	Pn	13 38 16.2	+0.4
	baz=338,slow=14						
FIA0				Sn	Sn	13 39 26.4	-0.6
	baz=343,slow=22						
FIA0				Lg		13 39 55.0	
	baz=342,slow=37						
FIA0	FINESS Array S	6.08	156	eP	Pn	13 38 16.2	+0.4
FIA0				eS	Sn	13 39 26.4	-0.6
FIA0				eSG	Sg	13 39 55.0	-10
FINES	FINESS Array B	6.08	156	Pn	Pn	13 38 18.6	+2.9
	comp=Z,0.1nm,0.3s,baz=346,slow=16,SNR=4.1						
FINES				Lg		13 39 59.7	
	comp=Z,0.7nm,0.3s,baz=345,slow=22,SNR=5.3						
NOA	NORSAR Array B	7.37	219	Pn	Pn	13 38 35.9	+2.0
	comp=Z,0.1nm,0.3s,baz=69,slow=11,SNR=2.4						
HFS	Hagfors	7.65	208	Pn	Pn	13 38 39.1	+1.3
	baz=16,slow=14						
HFS				Sn	Sn	13 40 03.2	-3.0
	baz=26,slow=22						
HFS				Lg		13 40 48.4	
	baz=22,slow=28						
HFS	Hagfors	7.65	208	eP	Pn	13 38 39.1	+1.3
HFS				eS	Sn	13 40 03.2	-3.0
HFS				e		13 40 48.4	
HFS	Hagfors	7.65	208	Pn	Pn	13 38 37.2	-0.5
	comp=Z,0.0nm,0.3s,baz=20,slow=13,SNR=7.4						
HFS				Sn	Sn	13 40 03.1	-3.1
	comp=Z,0.1nm,0.3s,baz=30,slow=21,SNR=6.1						
HFS				Lg		13 40 48.5	
	comp=Z,0.1nm,0.3s,baz=22,slow=27,SNR=4.6						

LDG 18 13:49:26.9±0.2, 41.99N×2.64E, h6km, Ml2.5/7, Error ellipse: s-maj=3.5km s-min=2.1km az=105.0
CSEM 18 13:49:26.0±0.5, 41.97N×2.62E, h5km, ML2.5/7, Error ellipse: s-maj=8.0km s-min=4.6km az=159.0
MDD 18 13:49:27.5±0.4, 41.99N×2.61E, mbLg1.8/19, Error ellipse: s-maj=3.1km s-min=1.8km az=112.0, PRXIMO
STR 18 13:49:29.4±1.1, 42.12N×2.62E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
ISC 18 13:49:26.5±0.6, 41.99N±0.03×2.49E±0.05, h5km±6km, n32, σ1§32/38, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CFON	Fontmartina	0.23	190	Pg	Pg	13 49 31.8	+0.6
CFON				Lg		13 49 35.5	
	79nm,0.2s						
CBRU	Bruguera	0.37	322	Pg	Pg	13 49 35.2	+1.2

CBRU				Lg		13 49 41.6	
	13nm,0.2s						
VALF	**Valcebollere**	**0.54**	**320**	P	**Pg**	**13 49 38.1**	**+0.8**
VALF				S	**Sg**	**13 49 46.9**	**+2.4**
EJON	**La Jonquera**	**0.55**	**33**	Pg	**Pg**	**13 49 36.9**	**-0.5**
	2.9nm,0.4s,SNR=5.6						
EJON				Lg		13 49 44.0	
	5.4nm,0.3s,SNR=12						
FILF	**Fillols**	**0.57**	**5**	P	**Pg**	**13 49 38.1**	**+0.1**
FILF				S	**Sg**	**13 49 45.9**	**+0.3**
SJAF	**Saint Jean de**	**0.57**	**31**	P	**Pg**	**13 49 37.3**	**-0.7**
CLLI	**Llivia**	**0.62**	**322**	Pg	**Pg**	**13 49 40.2**	**+1.3**
CLLI				Lg		13 49 49.0	
	4.2nm,0.3s						
EMIR	**Miracle**	**0.72**	**264**	Pg	**Pg**	**13 49 43.2**	**+2.3**
	9.4nm,0.3s,SNR=12						
EMIR				Lg		13 49 53.7	
	10nm,0.3s,SNR=6.7						
CARF	**Carcanieres**	**0.78**	**339**	Pg	**Pg**	**13 49 42.7**	**+0.6**
CARF				Lg		13 49 53.4	
CORG	**Organya**	**0.90**	**286**	Pg	**Pg**	**13 49 46.5**	**+1.9**
CORG				Lg		13 50 01.0	
	2.7nm,0.1s						
LRDF	**Laroque-de-Fa**	**0.95**	**2**	Lg		13 49 58.4	
CSOR	**Sort**	**1.08**	**291**	Pg	**Pg**	**13 49 49.2**	**+1.2**
CSOR				Lg		13 50 05.9	
	9.6nm,0.2s						
CGAR	**Garraf**	**1.23**	**236**	Pg	**Pg**	**13 49 44.2**	**-6.9**
CGAR				Lg		13 49 55.0	
	11nm,0.3s						
SALF	**Salau**	**1.23**	**309**	P	**Pb**	**13 49 52.0**	**+2.1**
EPOB	**Poblet**	**1.23**	**239**	Pg	**Pg**	**13 49 51.5**	**+0.3**
	8.1nm,0.3s,SNR=17						
EPOB				Lg		13 50 10.3	
	12nm,0.4s,SNR=10						
CAVN	**Les Avellanes**	**1.30**	**266**	Pg	**Pg**	**13 49 53.1**	**+0.6**
CAVN				Lg		13 50 12.6	
	17nm,0.3s						
MTLF	**Montolieu**	**1.36**	**352**	*e*Pg	**Pg**	**13 49 52.6**	**-1.2**
MTLF				*e*Sg	**Sg**	**13 50 10.7**	**-1.3**
	8.7nm,0.3s						
MLS	**Moulis**	**1.41**	**314**	Lg		13 50 13.9	
MELF	**Melles**	**1.55**	**305**	P	**Pn**	**13 49 58.0**	**+3.0**
RESF	**Ens**	**1.79**	**298**	Lg		13 50 27.7	
EBIE	**Bielsa**	**1.87**	**293**	Pg	**Pg**	**13 50 03.4**	**-0.5**
	4.1nm,0.3s,SNR=17						
EBIE				Lg		13 50 29.6	
	9.1nm,0.3s,SNR=18						
EPF	**Esparros**	**1.90**	**304**	*e*Pg	**Pg**	**13 50 03.4**	**-1.0**
EPF				*e*Sg	**Sg**	**13 50 28.9**	**-0.8**
	12nm,0.3s						
ERTA	**Horta de San J**	**1.92**	**238**	Pg	**Pg**	**13 50 03.7**	**-1.1**
	1.1nm,1.6s,SNR=7.9						
ERTA				Lg		13 50 31.2	
	5.6nm,0.3s,SNR=6.7						
ESAC	**San Caprasio**	**2.23**	**264**	Pg	**Pg**	**13 50 10.9**	**-0.1**
	16nm,0.3s,SNR=5.8						
ESAC				Lg		13 50 40.6	
	20nm,0.3s,SNR=5.0						
ETOS	**Mallorca**	**2.23**	**174**	Pn	**Pn**	**13 50 03.1**	**-1.6**
	2.4nm,0.5s,SNR=7.9						
ETOS				Sn	**Sn**	**13 50 27.3**	**-5.7**
	1.6nm,0.5s,SNR=7.9						
LASF	**Ste Croix**	**2.31**	**25**	*e*Sg	**Sg**	**13 50 38.4**	**-5.2**
	1.1nm,0.3s						
ETSF	**Etsaut**	**2.43**	**293**	*e*Pg	**Pg**	**13 50 13.1**	**-2.0**
ETSF				*e*Sg	**Sg**	**13 50 46.8**	**-0.7**
	8.0nm,0.3s						
EMOS	**Mosqueruela**	**2.76**	**235**	Pn	**Pn**	**13 50 13.6**	**+1.3**
	1.2nm,0.4s,SNR=7.9						
EMOS				Pg	**Pg**	**13 50 19.9**	**-1.8**
	4.1nm,0.7s,SNR=7.9						
EMOS				Lg		13 50 59.2	
	2.3nm,0.5s,SNR=7.9						
CAF	**Calviac**	**2.95**	**354**	*e*Sg	**Sg**	**13 50 59.9**	**-4.9**
	3.9nm,0.4s						
SJPF	**Ste Jean**	**2.96**	**293**	*e*Sg	**Sg**	**13 51 03.1**	**-2.1**
	4.2nm,0.4s						
EALK	**Alkurruntz**	**3.19**	**294**	Pn	**Pn**	**13 50 19.7**	**+1.3**
	1.6nm,0.3s,SNR=7.9						
EALK				Pg	**Pg**	**13 50 27.4**	**-2.9**
	2.5nm,0.4s,SNR=7.9						
EALK				Sn	**Sn**	**13 50 56.3**	**-1.1**
	6.5nm,0.4s,SNR=7.9						
EALK				Lg		13 51 12.8	
	5.4nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**3.21**	**337**	*e*Sg	**Sg**	**13 51 09.3**	**-4.1**
	6.3nm,0.3s						

*MOS **18** 13:53:45.9±0.9, 39.38N×40.77E, h10^{km}, mb4.3/3, Error ellipse: s-maj=14.2km s-min=9.5km az=70.3*

*ISK **18** 13:53:45.5, 39.41N×40.74E, h7^{km}, MD4.0*

*NEIC **18** 13:53:45.6, 39.41N×40.76E, h6^{km}, mb4.1/3, MD4.0(ISK), After ISK.*

*IDC **18** 13:53:45.8±1.1, 39.29N×40.82E, mb3.7/8, mb1 3.8/11, mb1mx3.7/19, mbtmp3.6/11, ML3.0/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/20, Error ellipse: s-maj=27.2km s-min=14.0km az=171.0*

*CSEM **18** 13:53:45.9±0.1, 39.40N×40.72E, h10^{km}, mb4.3/2, Error ellipse: s-maj=2.1km s-min=1.6km az=107.0*

ISC 18 13:53:46.2±0.3**, 39.42N**±0.02×**40.72E**±0.03**, h7**^{km}**, n79, σ1§07**/90**, mb3.7**/11**, MS3.4**/3**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.57**	**198**	Pg	**Pg**	**13 53 57.4**	**-0.3**
BINT				Sg	**Sg**	**13 54 05.4**	**+0.1**
BINT	**Bingol**	**0.57**	**198**	*i* Pg	**Pg**	**13 53 57.3**	**-0.4**
BINT				Sg	**Sg**	**13 54 05.4**	**+0.1**
VRT	**Varto**	**0.69**	**114**	*i* PG	**Pg**	**13 53 58.7**	**-1.4**
VRT	**Varto**	**0.69**	**114**	Pg	**Pg**	**13 53 58.7**	**-1.3**
EZM	**Erzurum**	**0.69**	**45**	*i* PG	**Pg**	**13 53 59.0**	**-1.1**
ERZM	**Erzurum**	**0.70**	**46**	*i* P	**Pg**	**13 53 59.0**	**-1.2**
ERZM				*i* S	**Sg**	**13 54 11.9**	**+2.4**
PTK	**Pertek**	**1.16**	**243**	PN	**Pn**	**13 54 07.7**	**-1.1**
PTK	**Pertek**	**1.16**	**243**	Pn	**Pn**	**13 54 07.8**	**-1.0**
PTK				Sg	**Sg**	**13 54 26.8**	**+2.0**
PTK	**Pertek**	**1.16**	**243**	Pn	**Pn**	**13 54 07.8**	**-1.0**
PTK				Sg	**Sg**	**13 54 26.8**	**+2.0**
BTMT	**Batman**	**1.36**	**154**	PN	**Pn**	**13 54 11.3**	**-0.4**
BTMT				SN	**Sn**	**13 54 29.8**	**-0.4**
GUMT	**Gumushane**	**1.41**	**318**	PN	**Pn**	**13 54 12.6**	**+0.2**
GUMT	**Gumushane**	**1.41**	**318**	Pn	**Pn**	**13 54 12.6**	**+0.3**
DIY	**Diyarbakir**	**1.57**	**194**	*e*PN	**Pn**	**13 54 14.4**	**-0.2**
DIY	**Diyarbakir**	**1.57**	**194**	Pn	**Pn**	**13 54 14.4**	**-0.2**
BEST	**Besiri**	**1.58**	**164**	*i* P	**Pn**	**13 54 15.5**	**+0.7**
BEST				*i* S	**Sb**	**13 54 38.3**	**+2.7**
ELZG	**Elazig**	**1.64**	**236**	*i* P	**Pn**	**13 54 15.7**	**+0.1**
ELZG				*i* S	**Sb**	**13 54 42.0**	**+5.0**
MYA	**Malataya**	**2.10**	**239**	*e*PN	**Pn**	**13 54 22.0**	**-0.2**
MALT	**Malatya**	**2.10**	**239**	*e*Pn	**Pn**	**13 54 23.3**	**+1.0**
BCA	**Borcka**	**2.14**	**19**	*e*PN	**Pn**	**13 54 23.3**	**+0.5**
BCA	**Borcka**	**2.14**	**19**	Pn	**Pn**	**13 54 23.5**	**+0.7**
KARS	**Kars**	**2.18**	**56**	*e*PN	**Pn**	**13 54 23.5**	**+0.1**
KARS	**Kars**	**2.18**	**56**	Pn	**Pn**	**13 54 23.5**	**+0.2**
VANB	**Van**	**2.24**	**111**	*e*PN	**Pn**	**13 54 24.5**	**+0.3**
VANB	**Van**	**2.24**	**111**	Pn	**Pn**	**13 54 27.8**	**+3.6**
TVAN	**Van**	**2.27**	**112**	*i* P	**Pn**	**13 54 26.1**	**+1.4**
TVAN				*i* S	**Sn**	**13 54 57.0**	**+3.7**
VANT	**Van**	**2.30**	**114**	*e*PN	**Pn**	**13 54 24.0**	**-1.1**
URFA	**Urfa**	**2.47**	**218**	*e*PN	**Pn**	**13 54 27.8**	**+0.2**
URFA	**Urfa**	**2.47**	**218**	Pn	**Pn**	**13 54 27.8**	**+0.2**
SVST	**Sivas**	**2.93**	**278**	*i* P	**Pn**	**13 54 40.7**	**+6.6**
SVST				*i* S	**Sn**	**13 55 26.1**	**+16**
HKR	**Hakkari**	**3.00**	**127**	*e*PN	**Pn**	**13 54 35.3**	**+0.2**
HKR	**Hakkari**	**3.00**	**127**	Pn	**Pn**	**13 54 37.5**	**+2.4**
GNI	**Garni**	**3.19**	**75**	*e*PN	**Pn**	**13 54 37.5**	**-0.2**
GNI	**Garni**	**3.19**	**75**	Pn	**Pn**	**13 54 37.6**	**-0.1**
	3.1nm,0.3s,baz=279,slow=1.2,SNR=9.0						
GNI				Lg		13 55 40.3	
	baz=72,slow=19,SNR=3.1						
GNI				LR	LR	13 56 06.0	
	comp=Z,588nm,18.2s,baz=274,slow=45						
GZT	**Gaziantep**	**3.22**	**231**	*i* P	**Pn**	**13 54 37.8**	**-0.4**
GZT				*i* S	**Sn**	**13 55 31.4**	**+14**
TOKT	**Tokat**	**3.34**	**287**	*e*PN	**Pn**	**13 54 40.9**	**+1.0**
KAHT	**Ahir Dag**	**3.50**	**241**	*i* P	**Pn**	**13 54 42.6**	**+0.3**
GAZ	**Gaziantep**	**3.56**	**232**	*e*PN	**Pn**	**13 54 43.4**	**+0.4**
GAZ	**Gaziantep**	**3.56**	**232**	Pn	**Pn**	**13 54 43.4**	**+0.4**
MSL	**Mosul**	**3.64**	**148**	*e*Pn	**Pn**	**13 54 43.5**	**-0.7**
MSL				*e*Pb	**Pb**	**13 54 54.0**	**+3.3**
MSL				*i* Sn	**Sn**	**13 55 38.0**	**+10**
MSL				*e*Lg		13 56 01.5	
TI2	**Plekhanov**	**3.84**	**52**	*i* P	**Pn**	**13 54 47.4**	**+0.3**
TI2				pmax	pmax		
	comp=Z,40nm,0.6s						
TI2	**Plekhanov**	**3.84**	**52**	*i* P	**Pn**	**13 54 47.4**	**+0.3**
	comp=Z,40nm,0.6s						
ZEI	**Tsey**	**4.12**	**35**	*e*P	**Pn**	**13 54 52.2**	**+1.2**
ZEI				*e*		13 55 41.1	
ZEI				pmax	pmax		
	comp=Z,23nm,0.6s						
ZEI				smax			
	comp=Z,159nm,1.6s						
ZEI				smax			
	comp=Z,163nm,1.7s						
ZEI	**Tsey**	**4.12**	**35**	*e*P	**Pn**	**13 54 52.2**	**+1.2**
	comp=Z,159nm,1.6s						
ZEI				*e*S	**Sn**	**13 55 41.1**	**+1.0**
	comp=Z,163nm,1.7s						
SOC	**Sochi**	**4.23**	**350**	*e*P	**Pn**	**13 54 52.4**	**-0.2**
SOC				*e*		13 55 51.6	
SOC				pmax	pmax		
	comp=Z,68nm,0.5s						
SOC				pmax	pmax		
	comp=N,84nm,0.7s						
SOC				pmax	pmax		
	comp=E,86nm,0.7s						
SOC	**Sochi**	**4.23**	**350**	*e*P	**Pn**	**13 54 52.4**	**-0.2**
	comp=E,68nm,0.5s						
COBT	**Iskenderun**	**4.56**	**232**	*i* P	**Pn**	**13 55 10.8**	**+14**
COBT				*i* S	Sn	13 56 14.0	+23
CTKT	**Corum**	**4.71**	**287**	*i* P	**Pn**	**13 55 05.1**	**+5.8**
CTKT				*i* S	Sn	13 56 23.8	+29
KIV	**Kislovodsk**	**4.77**	**17**	*e*P	**Pn**	**13 54 59.8**	**-0.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV	**Kislovodsk**	**4.77**	**17**	Pn	**Pn**	**13 55 00.5**	**+0.3**
KIV	**Kislovodsk**	**4.77**	**17**	*e*P	**Pn**	**13 54 59.8**	**-0.4**
	comp=Z,4.0nm,1.1s						
KIV	**Kislovodsk**	**4.77**	**17**	Pn	**Pn**	**13 55 00.5**	**+0.3**
BOYT	**Boyabat**	**4.87**	**296**	*i* P	**Pn**	**13 55 14.2**	**+13**
BOYT				*i* S	Sn	13 56 21.7	+23
BRTR	**Keskin Array B**	**5.48**	**275**	Pn	**Pn**	**13 55 10.8**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=104,slow=14,SNR=11						
BRTR				Lg		13 56 49.0	
	comp=Z,0.4nm,0.3s,baz=105,slow=24,SNR=3.9						
BALT	**Daday**	**5.98**	**293**	*i* P	**Pn**	**13 55 30.2**	**+13**
BALT				*i* S	Sn	13 56 58.9	+32
SGKT	**Sivrigoynuk**	**6.75**	**283**	*i* P	**Pn**	**13 55 33.6**	**+5.5**
SGKT				*i* S	Sn	13 57 31.6	+45
ASF	**Jabal al Asfar**	**7.87**	**204**	Pn	**Pn**	**13 55 41.4**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=76,slow=23,SNR=1.9						
ASF				Lg		13 57 59.0	
	comp=Z,0.5nm,0.3s,baz=98,slow=23,SNR=3.2						
EIL	**Elat**	**10.82**	**208**	Lg		13 59 40.9	
	comp=Z,0.2nm,0.3s,baz=63,slow=38,SNR=2.9						
GERES	**GERESS Array B**	**21.46**	**305**	P	**P**	**13 58 36.8**	**-0.4**
	comp=Z,0.4nm,0.7s,mb2.9,baz=30,slow=29,SNR=6.7						
SVE	**Sverdlovsk**	**21.77**	**30**	*e*P	**P**	**13 58 39.0**	**-1.2**
SVE				*e*		13 59 04.8	
GRA1	**Grafenberg Arr**	**23.25**	**306**	*e*P	**P**	**13 59 02.3**	**+7.5**
	comp=Z,4.0nm,0.9s,mb3.9						
GRF	**Grafenberg Arr**	**23.25**	**306**	*e*P	**P**	**13 59 02.3**	**+7.5**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb3.9						
FINES	**FINESS Array B**	**23.83**	**343**	P	**P**	**13 59 00.1**	**-0.1**
	comp=Z,4.3nm,0.7s,mb4.0,baz=135,slow=11,SNR=8.1						
FINES				LR	LR	14 08 48.5	
	comp=Z,169nm,19.3s,MS3.5,baz=21,slow=38						
JOF	**Joensuu**	**24.21**	**349**	*e*p	**P**	**13 59 03.2**	**-0.8**
KAF	**Kangasniemi**	**24.37**	**344**	*e*p	**P**	**13 59 03.7**	**-1.8**
BVAR	**Borovoye Array**	**24.42**	**46**	P	**P**	**13 59 07.0**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.1,baz=248,slow=8.0,SNR=4.4						
AAK	**Ala-Archa**	**25.59**	**72**	P	**P**	**13 59 16.8**	**-0.6**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
AAK	**Ala-Archa**	**25.59**	**72**	P	**P**	**13 59 16.8**	**-0.6**
	comp=Z,2.9nm,0.9s,mb3.8						
AAK	**Ala-Archa**	**25.59**	**72**	P	**P**	**13 59 16.8**	**-0.6**
	comp=Z,2.9nm,0.9s,mb3.8						
HFS	**Hagfors**	**26.76**	**330**	P	**P**	**13 59 30.2**	**+2.1**
	comp=Z,2.3nm,0.7s,mb3.8,baz=120,slow=12,SNR=5.3						
KURK	**Kurchatov**	**28.75**	**54**	*e*P	**P**	**13 59 42.3**	**-3.9**
ARCES	**ARCESS Array B**	**31.25**	**350**	LR	LR	14 13 36.6	
	comp=Z,104nm,20.4s,MS3.5,baz=23,slow=38						
ZAL	**Zalesovo**	**32.96**	**49**	LR	LR	14 14 59.9	
	comp=Z,48nm,18.2s,MS3.2,baz=219,slow=39						
ESDC	**Sonseca Array**	**34.19**	**285**	P	**P**	**14 00 32.7**	**-1.4**
	comp=Z,1.0nm,0.5s,mb4.0,baz=51,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**46.98**	**57**	P	**P**	**14 02 20.1**	**+0.8**
	comp=Z,0.3nm,1.0s,mb3.2,baz=270,slow=5.8,SNR=2.8						
ULN	**Ulaanbaatar**	**47.40**	**57**	*e*P	**P**	**14 02 22.1**	**-0.6**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
ULN	**Ulaanbaatar**	**47.40**	**57**	*e*P	**P**	**14 02 22.1**	**-0.7**
	comp=Z,1.9nm,0.4s,mb4.4						
ULN	**Ulaanbaatar**	**47.40**	**57**	*e*P	**P**	**14 02 22.1**	**-0.6**
	comp=Z,1.9nm,0.4s,mb4.4						
DBIC	**Dimbokro**	**52.30**	**244**	P	**P**	**14 02 58.8**	**-1.9**
	comp=Z,2.3nm,0.7s,mb4.2,baz=39,slow=4.1,SNR=5.1						
YKA	**Yellowknife Ar**	**76.51**	**349**	P	**P**	**14 05 37.6**	**-0.4**
	comp=Z,0.7nm,0.9s,mb3.6,baz=18,slow=5.8,SNR=9.7						

*NNC **18** 14:05:57.4±7.6, 39.11N×78.02E, mpv3.2, Error ellipse: s-maj=81.0km s-min=58.9km az=12.0*

*IDC **18** 14:06:00.6±2.5, 39.48N×77.56E, mb3.9/7, mb1 4.0/9, mb1mx3.9/19, mbtmp3.8/9, ML3.1/2, MS3.3/1, Ms1 3.4/1, ms1mx2.6/26, Error ellipse: s-maj=48.5km s-min=26.4km az=179.0*

*MOS **18** 14:06:02.7±2.1, 39.45N×77.51E, h27^{km}, mb3.8/2, Error ellipse: s-maj=20.4km s-min=9.2km az=97.0*

*BJI **18** 14:06:03.1, 39.61N×77.66E, h11^{km}, ML4.4, Ms4.3*

*NEIC **18** 14:06:04.2±1.1, 39.83N×77.59E, h10^{km}, mb3.7/1, Error ellipse: s-maj=18.8km s-min=11.4km az=7.0*

ISC 18 14:05:59.6±0.3**, 39.33N**±0.03×**77.67E**±0.05**, h11**^{km}**, n41, σ1§20**/50**, mb3.8**/9**, MS3.3**/1**, 4C, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.32**	**279**	⇑*i*PG	**Pg**	**14 06 26.4**	**+0.3**
KSH				SG	**Sg**	**14 06 44.3**	**+0.5**
KSH				Smax			
	comp=N,2μm,0.8s						
KSH				Smax			
	comp=E,880nm,0.4s						
AAK	**Ala-Archa**	**4.08**	**325**	*e*PN	**Pn**	**14 07 00.7**	**-2.7**
FRU	**Bishkek**	**4.19**	**328**	*e*PN	**Pn**	**14 07 08.6**	**+3.6**
FRU				*i* S	**Sn**	**14 08 09.2**	**+15**
FRU				pmax	pmax		
	comp=Z,100nm,1.6s						
FRU				smax			
	comp=N,440nm,1.8s						
KLP	**Kalpa**	**7.79**	**176**	*e*P	**Pn**	**14 07 57.9**	**+2.1**
KLP				*e*S	**Sn**	**14 09 19.5**	**-5.3**
KLP				*e*		14 09 49.5	
	comp=E,242nm,0.8s						
KLP				*e*		14 09 52.7	
	comp=N,239nm,0.8s						
SDNR	**Sundarnagar**	**7.83**	**184**	*e*P	**Pn**	**14 08 00.0**	**+3.7**
SMLA	**Simla**	**8.19**	**183**	*i* P	**P**	**14 08 02.4**	**+1.1**
SMLA				*i* S	**Sn**	**14 09 30.5**	**-4.3**
MK31	**Makanchi Array**	**8.19**	**23**	Pn	**P**	**14 08 01.6**	**+0.3**
	comp=N,0.4nm,0.3s,baz=200,slow=12,SNR=18						
MK31				⇑Lg		14 10 18.2	
	comp=N,14nm,0.8s,baz=204,slow=24						
MKAR	**Makanchi Array**	**8.19**	**23**	*e*P	**P**	**14 08 01.6**	**+0.3**
WMQ	**Urumqi**	**8.75**	**56**	*e*P	**P**	**14 08 11.8**	**+2.7**
WMQ				S	**Sn**	**14 09 47.3**	**-1.5**
WMQ				Smax			
	comp=N,84nm,1.2s						
WMQ				Smax			
	comp=E,75nm,1.0s						
WMQ				LR	LR		
	comp=N,966nm,3.5s						
WMQ				LR	LR		
	comp=E,670nm,4.5s						
NDI	**New Delhi**	**10.62**	**182**	*e*P	**P**	**14 08 35.0**	**+0.1**
NDI				*e*		14 10 32.2	
AYAN	**Aya Nagar**	**10.83**	**183**	*e*P	**P**	**14 08 36.8**	**-0.8**
SONA	**Sohna**	**11.06**	**183**	*e*P	**P**	**14 08 40.6**	**-0.3**
SONA				*e*S	**S**	**14 10 36.7**	**-8.8**
KHET	**Khetri**	**11.33**	**188**	*e*P	**P**	**14 08 44.2**	**-0.3**
KHET				*e*S	**S**	**14 10 43.8**	**-8.3**
KHET				*e*		14 10 53.2	
	comp=E,16nm,1.0s						
KHET				*e*		14 10 53.9	
	comp=N,14nm,0.6s						
KURK	**Kurchatov**	**11.41**	**3**	Pn	**P**	**14 08 42.3**	**-3.2**
	comp=N,3.5nm,1.5s,baz=332,slow=8.8,SNR=3.9						
KURK				⇑Lg		14 12 03.7	
	comp=N,27nm,1.5s,baz=112,slow=13,SNR=3.9						
KURK	**Kurchatov**	**11.41**	**3**	*e*P	**P**	**14 08 37.4**	**-8.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
KURK	**Kurchatov**	**11.41**	**3**	Pn	**P**	**14 08 39.4**	**-6.0**
	comp=Z,4.1nm,0.9s						
KOLN	**Koldanda**	**12.54**	**155**	*e*P	**P**	**14 09 00.1**	**-0.7**
	comp=Z,5.8nm,0.2s						
KOLN				*e*S	**S**	**14 11 14.6**	**-6.9**
GKN	**Gorkha**	**12.69**	**151**	*e*P	**P**	**14 09 02.5**	**-0.4**
	comp=Z,16nm,0.3s						
KKN	**Kakani**	**13.13**	**149**	*e*P	**P**	**14 09 08.2**	**-0.5**
	comp=Z,7.9nm,0.4s						
DMN	**Daman**	**13.23**	**150**	*e*P	**P**	**14 09 09.8**	**-0.2**
PKI	**Pulchoki**	**13.38**	**149**	*e*P	**P**	**14 09 11.3**	**-0.7**
	comp=Z,11nm,0.5s						
JIRN	**Jiri**	**13.63**	**146**	*e*P	**P**	**14 09 15.0**	**-0.3**
	comp=Z,13nm,0.3s						
JIRN				*e*S	**S**	**14 11 41.9**	**-5.8**
BVAR	**Borovoye Array**	**14.59**	**342**	Pn	**P**	**14 09 25.0**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=222,slow=41,SNR=3.1						
CHKZ	**Chkalovo**	**15.14**	**344**	⇑Pn	**P**	**14 09 36.7**	**+1.8**
	comp=Z,5.4nm,1.9s						
CHKZ	**Chkalovo**	**15.14**	**344**	*e*Pn	**P**	**14 09 31.0**	**-3.9**
ZAL	**Zalesovo**	**15.40**	**16**	Pn	**P**	**14 09 35.1**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=299,slow=13,SNR=2.6						
NVS	**Novosibirsk**	**15.97**	**12**	*e*P	**P**	**14 09 49.4**	**+3.8**
NVS				pmax	pmax		
	comp=N,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.5s						
ZAK	**Zakamensk**	**21.15**	**50**	*e*P	**P**	**14 10 48.2**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.4						
SONM	**Songino Array**	**22.38**	**58**	P	**P**	**14 11 01.7**	**+2.5**
	comp=Z,2.3nm,0.8s,mb3.7,baz=256,slow=9.2,SNR=22						
ULN	**Ulaanbaatar**	**22.82**	**58**	*e*P	**P**	**14 11 04.2**	**+0.8**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**22.82**	**58**	*e*P	**P**	**14 11 04.2**	**+0.8**
	comp=Z,3.1nm,1.0s,mb3.7						
JOF	**Joensuu**	**36.27**	**326**	*e*p	**P**	**14 13 03.6**	**-0.8**
FINES	**FINESS Array B**	**38.27**	**323**	P	**P**	**14 13 21.1**	**-0.2**
	comp=Z,1.3nm,0.4s,mb4.0,baz=107,slow=8.5,SNR=22						
KAF	**Kangasniemi**	**38.30**	**324**	*e*p	**P**	**14 13 21.6**	**+0.1**
ARCES	**ARCESS Array B**	**40.69**	**335**	P	**P**	**14 13 40.6**	**-0.7**
	comp=Z,10nm,1.0s,mb4.4,baz=98,slow=8.0,SNR=13						
ARCES	**ARCESS Array B**	**40.69**	**335**	P	**P**	**14 13 40.6**	**-0.7**
NB2	**NORSAR Subarra**	**45.40**	**321**	P	**P**	**14 14 18.9**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.8,baz=105,slow=7.0						
NOA	**NORSAR Array B**	**45.40**	**321**	P	**P**	**14 14 17.6**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.7,baz=91,slow=7.9,SNR=5.2						
NOA				LR	LR	14 34 33.1	
	comp=Z,35nm,18.4s,MS3.3,baz=70,slow=38						
GERES	**GERESS Array B**	**45.67**	**304**	P	**P**	**14 14 22.7**	**+0.8**
	comp=Z,0.4nm,0.4s,mb3.7,baz=104,slow=5.5,SNR=5.6						
INK	**Inuvik**	**70.17**	**12**	P	**P**	**14 17 13.9**	**+0.3**
	comp=Z,1.5nm,1.0s,mb3.9,baz=327,slow=6.3,SNR=5.8						
YKA	**Yellowknife Ar**	**78.05**	**6**	P	**P**	**14 17 59.0**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=345,slow=5.2,SNR=12						

IGQ 18 14:22:44.6, 0.90S×79.34W, h12^{km}±18^{km}**, mb4.0, 8C-7D, Error ellipse: s-maj=2.8km s-min=2.0km az=175.3, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAS1	**Nasa**	**0.90**	**73**	P	Pb	14 23 03.6	+1.9
IGUA	**Igualata**	**0.91**	**130**	⇓P	Pb	14 23 03.3	+1.4
PISA	**Pisayambo**	**0.97**	**99**	⇓P	Pb	14 23 03.6	+0.8
PISA				S	Sb	14 23 20.8	+5.5
VC1	**Cotopaxi 1**	**0.97**	**75**	⇑P	Pb	14 23 04.0	+1.1
TAMB	**Tambo**	**0.99**	**78**	⇓P	Pb	14 23 04.3	+1.0
JUA2	**San Juan 2**	**1.00**	**47**	⇑P	Pb	14 23 04.6	+1.2
CUSU	**Cusua**	**1.01**	**122**	P	Pb	14 23 04.1	+0.5
JUIV	**Juive**	**1.02**	**121**	⇑P	Pb	14 23 03.8	+0.1
TERV	**Terraza Guagua**	**1.03**	**46**	⇑P	Pb	14 23 05.0	+1.1
GGP	**Refugio Guagua**	**1.04**	**46**	P	Pb	14 23 05.3	+1.3
PINO	**Pino**	**1.04**	**45**	⇑P	Pb	14 23 05.0	+0.9
RETU	**Refugio**	**1.05**	**121**	P	Pb	14 23 04.4	+0.2
ARRY	**Arrayan**	**1.07**	**124**	⇓P	Pb	14 23 04.1	-0.4
ULBA	**Ulba**	**1.08**	**120**	⇓P	Pb	14 23 04.4	-0.4
YANA	**Yana**	**1.09**	**45**	⇑P	Pb	14 23 05.3	+0.3
YANA				S	Sb	14 23 21.5	+2.5
JOR1	**San Jorge 1**	**1.14**	**38**	P	Pb	14 23 04.2	-1.5
HOJA	**Cerro de Hojas**	**1.22**	**263**	P	Pb	14 23 07.8	+0.7
ANTI	**Antisana**	**1.26**	**69**	⇓P	Pb	14 23 07.1	-0.7
ANTI				S	Sb	14 23 25.0	+1.2
COTA	**Cotacachi**	**1.58**	**39**	⇑P	Pn	14 23 11.5	-1.2
ELAGU	**Cayambe Volc**	**1.61**	**57**	P	Pn	14 23 12.1	-1.0
ELAGU				S	Sn	14 23 33.4	-0.4
CAYR	**Refugio Cayamb**	**1.61**	**56**	⇑P	Pn	14 23 12.1	-1.0
CAYA	**Cayambe**	**1.66**	**54**	P	Pn	14 23 12.6	-1.2
CONE	**Cono NE Rev Vo**	**1.89**	**64**	P	Pn	14 23 14.8	-2.2
SALI	**Salinas**	**2.09**	**232**	P	Pn	14 23 18.1	-1.8
ECEN	**Cerro Negro**	**2.19**	**39**	⇓P	Pn	14 23 19.4	-2.1

*MOS **18** 14:27:27.5±0.9, 51.60N×16.08E, h10^{km}, mb4.0/1, Error ellipse: s-maj=10.3km s-min=4.7km az=86.1*

*BGR **18** 14:27:27.9±0.6, 51.49N×16.22E, h1^{km}, ML3.6/10, Error ellipse: s-maj=6.7km s-min=4.4km az=157.0*

*NEIC **18** 14:27:28.3±0.4, 51.54N×16.16E, h5^{km}, ML3.8(VIE), ML3.6(SZGRF), ML3.2(CLL), ML3.1(BRG), Error ellipse: s-maj=5.1km s-min=4.1km az=49.0*

*IPEC **18** 14:27:28.4±0.2, 51.52N×16.21E, h8^{km}±1^{km}, ML3.1/3, Error ellipse: s-maj=1.3km s-min=0.6km az=37.0*

*PRU **18** 14:27:29.7, 51.44N×16.10E*

*IDC **18** 14:27:29.6±0.7, 51.50N×15.87E, mb3.3/1, mb1 3.6/8, mb1mx3.5/20, mbtmp3.5/8, ML3.1/7, Error ellipse: s-maj=16.0km s-min=6.5km az=99.0*

*WAR **18** 14:27:29.2, 51.52N×16.12E, h1^{km}, ML3.6, Mining Induced*

*CSEM **18** 14:27:29.4±0.1, 51.48N×16.11E, h2^{km}, ML4.0/3, Error ellipse: s-maj=2.0km s-min=1.1km az=19.0*

ISC 18 14:27:27.3±0.4**, 51.42N**±0.02×**16.10E**±0.02**, n91, σ1§38**/179**, mb3.2**/1**, 12C-3D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.59**	**168**	⇓*i*Pg	**Pg**	**14 27 41.7**	**+2.6**
KSP				*e*Sg	**Sg**	**14 27 51.0**	**+4.0**
KSP	**Ksiaz**	**0.59**	**168**	*i* PG	**Pg**	**14 27 41.7**	**+2.6**
KSP				*e*SG	**Sg**	**14 27 51.7**	**+4.7**
KSP	**Ksiaz**	**0.59**	**168**	⇓*i*Pg	**Pg**	**14 27 41.8**	**+2.7**
KSP				*e*Sg	**Sg**	**14 27 51.2**	**+4.1**
KSP	**Ksiaz**	**0.59**	**168**	*e*Pg	**Pg**	**14 27 41.7**	**+2.6**
KSP				*e*Sg	**Sg**	**14 27 50.6**	**+3.5**
KSP				*e*S	**Sg**	**14 27 51.0**	**+4.0**
UPC	**Upice**	**0.92**	**184**	*e*PG	**Pg**	**14 27 47.8**	**+2.2**
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*PG	**Pg**	**14 27 50.5**	**+1.6**
DPC				*e*SG	**Sg**	**14 28 05.9**	**+2.5**
	237nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**173**	*e*Pg	**Pg**	**14 27 50.5**	**+1.6**
DPC				*e*Sg	**Sg**	**14 28 05.4**	**+2.0**
PVCC	**Panska Ves**	**1.32**	**228**	*e*PG	**Pg**	**14 27 54.5**	**+0.8**
PVCC	**Panska Ves**	**1.32**	**228**	*e*Pn	**Pn**	**14 27 54.9**	**+1.9**
PVCC				*e*Sg	**Sg**	**14 28 14.6**	**+3.3**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pg	**Pg**	**14 27 56.1**	**-0.5**
BRG				*e*Sg	**Sg**	**14 28 17.8**	**+1.6**
BRG	**Berggiesshubel**	**1.47**	**249**	*e*P	**Pn**	**14 27 56.1**	**+1.0**
BRG				*i*		14 28 17.8	
BRG	**Berggiesshubel**	**1.47**	**249**	*e*Pn	**Pn**	**14 27 56.1**	**+1.0**
BRG				*i* Pg	**Pg**	**14 27 57.4**	**+0.8**
BRG				*i* Sg	**Sg**	**14 28 17.8**	**+1.6**
BRG	**Berggiesshubel**	**1.47**	**249**	*i* Pg	**Pg**	**14 27 57.4**	**+0.8**
BRG				*e*Sg	**Sg**	**14 28 17.0**	**+0.8**
PRU	**Pruhonice**	**1.75**	**215**	*e*PG	**Pg**	**14 28 02.1**	**-0.1**
PRU				*e*SG	**Sg**	**14 28 26.5**	**+1.1**
PRU	**Pruhonice**	**1.75**	**215**	*e*Pn	**Pn**	**14 28 00.2**	**+1.1**
PRU	**Pruhonice**	**1.75**	**215**	Pg	**Pg**	**14 28 02.1**	**-0.1**
PRU				*e*Sg	**Sg**	**14 28 26.5**	**+1.1**
RUE	**Ruedersdorf**	**1.79**	**307**	*e*Pn	**Pn**	**14 28 00.3**	**+0.7**
RUE				*e*Sn	**Sn**	**14 28 22.7**	**-0.6**

RUE				eSg	Sg	14 28 25.3	-1.4
RUE	**Ruedersdorf**	**1.79**	**307**	ePn	**Pn**	**14 27 58.7**	**-0.9**
RUE				eSn	**Sn**	**14 28 22.7**	**-0.6**
RUE				eSg	**Sg**	**14 28 25.0**	**-1.7**
MORC	**Moravsky Berou**	**1.89**	**150**	ePn	**Pn**	**14 28 01.8**	**+0.8**
MORC				eSg	**Sg**	**14 28 30.7**	**+0.6**
MORC	**Moravsky Berou**	**1.89**	**150**	ePn	**Pn**	**14 28 01.8**	**+0.7**
MORC				eSg	**Sg**	**14 28 29.4**	**-0.7**
	189nm,0.4s						
MORC				eS	**Sn**	**14 28 30.7**	**+4.8**
RAC	**Raciborz**	**1.89**	**134**	eP	**Pn**	**14 28 05.0**	**+3.9**
RAC				eS	**Sn**	**14 28 31.0**	**+5.1**
CLL	**Collm**	**1.95**	**268**	ePn	**Pn**	**14 28 01.8**	**-0.1**
CLL				eSg	**Sg**	**14 28 31.7**	**-0.4**
CLL	**Collm**	**1.95**	**268**	eP	**Pn**	**14 28 02.0**	**+0.1**
CLL				i		14 28 32.1	
CLL	**Collm**	**1.95**	**268**	ePn	**Pn**	**14 28 02.0**	**+0.1**
CLL				i Pg	**Pg**	**14 28 05.9**	**-0.3**
CLL				i Sg	**Sg**	**14 28 32.1**	**0.0**
CLL	**Collm**	**1.95**	**268**	ePN	**Pn**	**14 28 02.0**	**+0.1**
CLL				i PG	**Pg**	**14 28 05.9**	**-0.3**
CLL				i		14 28 09.1	
CLL				i SG	**Sg**	**14 28 32.1**	**0.0**
CLL				i		14 28 51.3	
CLL	**Collm**	**1.95**	**268**	i Pg	**Pg**	**14 28 05.9**	**-0.3**
CLL				eSg	**Sg**	**14 28 31.2**	**-0.9**
OKC	**Ostrava-Krasne**	**2.05**	**140**	eP	**Pn**	**14 28 03.4**	**0.0**
OKC				e		14 28 34.4	
OKC	**Ostrava-Krasne**	**2.05**	**140**	ePN	**Pn**	**14 28 03.4**	**0.0**
OKC				ePG	**Pg**	**14 28 07.9**	**-0.4**
OKC				eSG	**Sg**	**14 28 34.4**	**-1.2**
OKC	**Ostrava-Krasne**	**2.05**	**140**	Pg	**Pg**	**14 28 07.9**	**-0.4**
OKC				Sg	**Sg**	**14 28 34.4**	**-1.2**
VRAC	**Vranov**	**2.14**	**171**	Pn	**Pn**	**14 28 07.2**	**+2.5**
	2.9nm,0.3s,baz=352,slow=15,SNR=20						
VRAC				Sn	**Sn**	**14 28 37.9**	**+5.5**
	24nm,0.3s,baz=77,slow=19,SNR=9.6						
VRAC	**Vranov**	**2.14**	**171**	ePn	**Pn**	**14 28 06.4**	**+1.7**
VRAC	**Vranov**	**2.14**	**171**	P	**Pn**	**14 28 07.2**	**+2.5**
VRAC				eSg	**Sg**	**14 28 36.9**	**-1.7**
	78nm,0.3s						
VRAC				S	**Sn**	**14 28 37.9**	**+5.5**
KRUC	**Moravsky**	**2.37**	**175**	ePn	**Pn**	**14 28 10.0**	**+2.0**
KRUC	**Moravsky**	**2.37**	**175**	ePg	**Pg**	**14 28 13.8**	**-0.8**
KRUC				eSg	**Sg**	**14 28 46.1**	**-0.1**
	69nm,0.4s						
TANN	**Tannenbergstha**	**2.52**	**248**	ePn	**Pn**	**14 28 11.3**	**+1.2**
TANN				eSg	**Sg**	**14 28 50.7**	**-0.3**
WERD	**Werda**	**2.59**	**249**	ePn	**Pn**	**14 28 12.0**	**+0.8**
WERD				eSg	**Sg**	**14 28 52.9**	**-0.7**
NKC	**Novy Kostel**	**2.61**	**244**	eP	**Pn**	**14 28 12.2**	**+0.8**
NKC				e		14 28 54.3	
NKC	**Novy Kostel**	**2.61**	**244**	ePN	**Pn**	**14 28 12.2**	**+0.8**
NKC				ePG	**Pg**	**14 28 18.0**	**-1.3**
NKC				eSG	**Sg**	**14 28 54.3**	**+0.2**
	131nm,0.3s						
GUNZ	**Gunzen**	**2.61**	**248**	ePn	**Pn**	**14 28 12.5**	**+1.0**
GUNZ				eSg	**Sg**	**14 28 54.6**	**+0.3**
OJC	**Ojcow**	**2.63**	**116**	ePG	**Pg**	**14 28 18.0**	**-1.9**
OJC				eSN	**Sn**	**14 28 42.0**	**-2.9**
OJC				eSG	**Sg**	**14 28 53.0**	**-2.0**
OJC	**Ojcow**	**2.63**	**116**	ePg	**Pg**	**14 28 17.9**	**-2.0**
OJC				eSn	**Sn**	**14 28 42.2**	**-2.7**
OJC				eS	**Sn**	**14 28 42.2**	**-2.7**
OJC				eSg	**Sg**	**14 28 53.3**	**-1.7**
KHC	**Kasperske Hory**	**2.81**	**216**	ePN	**Pn**	**14 28 14.9**	**+0.6**
KHC				ex	x	14 28 21.0	
KHC				ePG	**Pg**	**14 28 21.3**	**-2.1**
KHC				eSG	**Sg**	**14 28 58.8**	**-2.0**
KHC	**Kasperske Hory**	**2.81**	**216**	Pg	**Pg**	**14 28 21.3**	**-2.1**
KHC				Sg	**Sg**	**14 28 58.8**	**-2.0**
MOX	**Moxa**	**2.94**	**256**	ePn	**Pn**	**14 28 16.3**	**+0.2**
MOX				eSg	**Sg**	**14 29 04.3**	**-0.8**
MOX	**Moxa**	**2.94**	**256**	ePn	**Pn**	**14 28 16.9**	**+0.8**
MOX				ePg	**Pg**	**14 28 24.9**	**-1.0**
MOX				eSg	**Sg**	**14 29 04.7**	**-0.4**
MOX	**Moxa**	**2.94**	**256**	i P	**Pn**	**14 28 16.9**	**+0.8**
MOX				Pg	**Pg**	**14 28 25.0**	**-0.9**
MOX				Sg	**Sg**	**14 29 05.0**	**-0.1**
MOX	**Moxa**	**2.94**	**256**	ePg	**Pg**	**14 28 24.9**	**-1.0**
MOX				eSg	**Sg**	**14 29 03.0**	**-2.1**
NOTT	**Nottersdorf**	**3.01**	**239**	ePn	**Pn**	**14 28 17.9**	**+0.8**
NOTT				eSg	**Sg**	**14 29 05.9**	**-1.4**
GEC2	**GERESS Array S**	**3.01**	**212**	ePn	**Pn**	**14 28 18.4**	**+1.3**
GEC2				eSg	**Sg**	**14 29 06.3**	**-1.2**
GEC2	**GERESS Array S**	**3.01**	**212**	ePn	**Pn**	**14 28 18.4**	**+1.3**
GEC2				eSg	**Sg**	**14 29 06.3**	**-1.1**
GERES	**GERESS Array B**	**3.01**	**212**	P	**Pn**	**14 28 18.0**	**+0.9**
GERES						14 28 53.3	
GERES	**GERESS Array B**	**3.01**	**212**	Pn	**Pn**	**14 28 18.0**	**+0.9**
	2.3nm,0.3s,baz=33,slow=12,SNR=48						
GERES				Pg	**Pg**	**14 28 24.5**	**-2.8**
	6.1nm,0.3s,baz=23,slow=15,SNR=62						
GERES				Sn	**Sn**	**14 28 53.3**	**-1.1**
	7.0nm,0.3s,baz=36,slow=18,SNR=5.2						
GERES				Lg		14 29 05.7	
	15nm,0.3s,baz=36,slow=27,SNR=12						
GERES	**GERESS Array B**	**3.01**	**212**	Pg	**Pg**	**14 28 24.5**	**-2.8**
GERES				S	**Sn**	**14 28 53.3**	**-1.1**
SMOL	**Smolenice**	**3.04**	**163**	eSG	**Sg**	**14 29 09.2**	**+0.8**
LIKS	**Likavka**	**3.06**	**140**	eSG	**Sg**	**14 29 05.9**	**-3.2**
WET	**Wettzell**	**3.08**	**223**	ePn	**Pn**	**14 28 19.2**	**+1.1**
WET				eSg	**Sg**	**14 29 07.8**	**-2.0**
WET	**Wettzell**	**3.08**	**223**	ePn	**Pn**	**14 28 19.2**	**+1.1**
WET				eSg	**Sg**	**14 29 07.8**	**-2.0**
VKA	**Vienna**	**3.17**	**177**⇑	iPN	**Pn**	**14 28 22.5**	**+3.2**
VKA				i PG	**Pg**	**14 28 29.2**	**-1.3**
VKA				i SG	**Sg**	**14 29 13.4**	**+0.7**
VKA	**Vienna**	**3.17**	**177**	i Pg	**Pg**	**14 28 29.2**	**-1.3**
VKA				i Sg	**Sg**	**14 29 13.4**	**+0.7**
ZST	**Bratislava**	**3.29**	**168**	ePG	**Pg**	**14 28 31.8**	**-1.3**
ZST				eSG	**Sg**	**14 29 15.9**	**-1.1**
NIE	**Niedzica**	**3.36**	**125**	eP	**Pn**	**14 28 30.3**	**+8.2**
NIE				eS	**Sn**	**14 29 14.6**	**+11**
VYHS	**Vyhne**	**3.42**	**148**	ePN	**Pn**	**14 28 23.0**	**0.0**
VYHS				ePG	**Pg**	**14 28 35.1**	**-0.5**
VYHS				eSG	**Sg**	**14 29 18.3**	**-2.9**
GRA1	**Grafenberg Arr**	**3.56**	**243**	ePn	**Pn**	**14 28 26.0**	**+1.0**
GRA1				eSg	**Sg**	**14 29 24.4**	**-1.5**
GRA1	**Grafenberg Arr**	**3.56**	**243**	Pn	**Pn**	**14 28 26.0**	**+1.0**
GRA1				Sg	**Sg**	**14 29 24.4**	**-1.5**
GRF	**Grafenberg Arr**	**3.56**	**243**	ePn	**Pn**	**14 28 26.0**	**+1.1**
GRF				eSg	**Sg**	**14 29 24.4**	**-1.5**
CLZ	**Clausthal**	**3.59**	**279**	ePn	**Pn**	**14 28 25.6**	**+0.2**
BSD	**Bornholm Skovb**	**3.77**	**350**	i P	**Pn**	**14 28 25.1**	**-2.8**
BSD				i S	**Sn**	**14 29 05.4**	**-8.1**
MOA	**Molln**	**3.77**	**199**⇑	iPN	**Pn**	**14 28 29.1**	**+1.2**
MOA				i SG	**Sg**	**14 29 32.3**	**-0.6**
	111nm,0.5s						
ARSA	**Arzberg**	**4.19**	**185**⇑	iPN	**Pn**	**14 28 35.7**	**+1.8**
ARSA				i SG	**Sg**	**14 29 41.0**	**-5.9**
	62nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.27**	**124**	ePN	**Pn**	**14 28 36.0**	**+1.0**
CRVS				eSG	**Sg**	**14 29 46.5**	**-2.9**
PSZ	**Piszkesteto**	**4.29**	**143**⇓	ePn	**Pn**	**14 28 36.0**	**+0.7**
PSZ	**Piszkesteto**	**4.29**	**143**	ePn	**Pn**	**14 28 35.9**	**+0.6**
KBA	**Koelnbreinsper**	**4.71**	**204**⇑	iPN	**Pn**	**14 28 41.8**	**+0.5**
KBA				i SG	**Sg**	**14 30 02.0**	**-2.1**
	35nm,0.6s						
UZH	**Uzhgorod**	**4.87**	**123**	eP	**Pn**	**14 28 47.0**	**+3.4**
UZH				eS	**Sn**	**14 29 44.0**	**+2.5**
KOGS	**Kog**	**4.98**	**179**	ePn	**Pn**	**14 28 46.0**	**+0.9**
OBKA	**Obir**	**5.02**	**192**⇑	iPN	**Pn**	**14 28 45.7**	**0.0**
OBKA				i SG	**Sg**	**14 30 09.4**	**-5.1**
	25nm,0.7s						
OBKA	**Obir**	**5.02**	**192**⇑	iPn	**Pn**	**14 28 45.7**	**0.0**
	25nm,0.7s						
OBKA				i Sg	**Sg**	**14 30 09.4**	**-5.1**
WTTA	**Wattenberg**	**5.08**	**217**⇑	iPN	**Pn**	**14 28 47.1**	**+0.5**
WTTA				i SG	**Sg**	**14 30 12.4**	**-4.2**
	19nm,0.5s						
WTTA	**Wattenberg**	**5.08**	**217**⇑	iPn	**Pn**	**14 28 47.1**	**+0.5**
	19nm,0.5s						
WTTA				i Sg	**Sg**	**14 30 12.4**	**-4.2**
SQTA	**Sankt Quirin**	**5.29**	**219**⇑	iPN	**Pn**	**14 28 50.7**	**+1.3**
SQTA				i SG	**Sg**	**14 30 10.7**	**-13**
	16nm,0.5s						
SQTA	**Sankt Quirin**	**5.29**	**219**⇑	iPn	**Pn**	**14 28 50.7**	**+1.3**
	16nm,0.5s						
SQTA				i Sg	**Sg**	**14 30 10.7**	**-13**
LVV	**L'vov**	**5.30**	**105**	eP	**Pn**	**14 28 52.1**	**+2.5**
LVV				eS	**Sn**	**14 29 49.3**	**-2.9**
DAVA	**Damuels**	**5.80**	**227**⇑	iPN	**Pn**	**14 28 55.8**	**-0.9**
DAVA				i SG	**Sg**	**14 30 34.6**	**-5.8**
	28nm,0.7s						
DAVA	**Damuels**	**5.80**	**227**⇑	iPn	**Pn**	**14 28 55.8**	**-0.9**
	28nm,0.7s						
DAVA				i Sg	**Sg**	**14 30 34.6**	**-5.8**
BOJS	**Bojanci**	**5.95**	**186**	i Pn	**Pn**	**14 28 59.8**	**+1.0**
DAVOX	**Davos**	**6.19**	**224**	Pn	**Pn**	**14 29 02.6**	**+0.5**
	0.6nm,0.3s,baz=112,slow=20,SNR=5.5						
DAVOX				Sn	**Sn**	**14 30 13.5**	**-1.1**
	0.6nm,0.3s,baz=171,slow=22,SNR=2.0						
DAVOX				Lg		14 30 53.5	
	1.8nm,0.3s,baz=334,slow=23,SNR=4.5						
HFS	**Hagfors**	**8.84**	**352**	Pn	**P**	**14 29 34.1**	**-5.1**
	0.0nm,0.3s,baz=175,slow=16,SNR=2.8						
NOA	**NORSAR Array B**	**10.01**	**346**	Pn	**P**	**14 29 51.0**	**-4.3**
	0.1nm,0.3s,baz=194,slow=17,SNR=2.3						
FINES	**FINESS Array B**	**11.44**	**25**	Pn	**P**	**14 30 10.3**	**-4.6**
	0.2nm,0.3s,baz=211,slow=11,SNR=6.4						
ARCES	**ARCESS Array B**	**18.71**	**10**	Pn	**P**	**14 31 45.1**	**-3.8**
	0.1nm,0.3s,baz=193,slow=12,SNR=5.7						
YKA	**Yellowknife Ar**	**59.94**	**336**	P	**P**	**14 37 34.6**	**-2.3**
	0.1nm,0.4s,mb3.2,baz=30,slow=6.2,SNR=4.9						

*CSEM **18** 14:27:39.2±0.3, 28.15N×16.22W, h31^{km}±6^{km}, mb3.5/10, Error ellipse: s-maj=3.0km s-min=1.3km az=167.0, After MDD*

MDD 18 14:27:39.0±0.3**, 28.15N**×**16.21W, h34**^{km}±5^{km}**, mb3.4**/10**, mbLg2.4**/11**, 2D, Error ellipse: s-maj=3.1km s-min=1.3km az=167.0, PRXIMO TT-MODEL: CANARY, Canary Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCAN	**Las Canadas**	**0.35**	**282**	⇓P	P	14 27 46.7	-0.8
	11nm,0.1s,SNR=18						
CCAN				S	S	14 27 51.3	-2.2
	91nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**0.36**	**289**	P	P	14 27 46.4	-1.2
	14nm,0.0s,SNR=4.0						
CRAJ				S	S	14 27 52.3	-1.3
	210nm,0.1s,SNR=7.9						
CRAJ	**Montana Rajada**	**0.36**	**289**	P	P	14 27 46.4	-1.2
	14nm,0.0s,SNR=4.0						
CRAJ				S	S	14 27 51.4	-2.2
	210nm,0.1s,SNR=7.9						
EBAJ	**Bajamar**	**0.41**	**343**	⇓P	P	14 27 47.2	-1.0
	24nm,0.1s,SNR=18						
EBAJ				S	S	14 27 52.7	-1.9
	125nm,0.2s,SNR=14						
EBAJ	**Bajamar**	**0.41**	**343**	P	P	14 27 47.2	-1.0
	24nm,0.1s,SNR=18						
EBAJ				S	S	14 27 52.6	-2.1
	125nm,0.2s,SNR=14						
CICO	**Icod de los Vi**	**0.49**	**294**	P	P	14 27 49.0	-0.4
	3.6nm,0.1s,SNR=7.9						
CICO				S	S	14 27 56.0	-0.9
	14nm,0.1s,SNR=14						
CICO	**Icod de los Vi**	**0.49**	**294**	P	P	14 27 49.0	-0.5
	3.6nm,0.1s,SNR=7.9						
CICO				S	S	14 27 55.5	-1.4
	14nm,0.1s,SNR=14						
CHIO	**Chio**	**0.54**	**280**	P	P	14 27 50.0	-0.1
	50nm,0.2s,SNR=9.8						
CHIO				S	S	14 27 57.1	-1.1
	120nm,0.1s,SNR=14						
CHIO	**Chio**	**0.54**	**280**	P	P	14 27 50.0	-0.1
	50nm,0.2s,SNR=9.8						
CHIO				S	S	14 27 56.7	-1.4
	120nm,0.1s,SNR=14						
EOSO	**Osorio**	**0.59**	**98**	P	P	14 27 50.0	-0.7
	3.9nm,0.1s,SNR=14						
EOSO				S	S	14 27 56.5	-2.7
	76nm,0.2s,SNR=6.9						
EOSO	**Osorio**	**0.59**	**98**	P	P	14 27 50.0	-0.7
	3.9nm,0.1s,SNR=14						
EOSO				S	S	14 27 56.5	-2.8
	76nm,0.2s,SNR=6.9						
EGOM	**La Gomera**	**0.88**	**271**	P	P	14 27 53.9	-1.0
	1.0nm,0.0s,SNR=7.9						
EGOM				S	S	14 28 03.7	-3.0
	101nm,0.2s,SNR=16						
EGOM	**La Gomera**	**0.88**	**271**	P	P	14 27 53.9	-1.1
	1.0nm,0.0s,SNR=7.9						
EGOM				S	S	14 28 03.7	-3.1
	101nm,0.2s,SNR=16						
CHIE	**El Hierro**	**1.60**	**255**	S	S	14 28 20.9	-4.2
	5.3nm,0.1s,SNR=7.9						
CHIE	**El Hierro**	**1.60**	**255**	S	S	14 28 20.4	-4.7
	5.3nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**1.89**	**82**	P	P	14 28 06.5	-3.0
	1.2nm,0.2s,SNR=7.9						
CFTV				S	S	14 28 27.5	-5.0
	4.2nm,0.3s,SNR=7.9						
CFUE	**Fuerteventura**	**2.06**	**76**	P	P	14 28 09.5	-2.5
	4.5nm,0.1s,SNR=7.9						
CFUE				S	S	14 28 33.1	-3.7
	1.7nm,0.1s,SNR=4.0						
EFAM	**Famara**	**2.55**	**67**	P	P	14 28 16.9	-2.0
	5.7nm,0.1s,SNR=4.0						
EFAM				S	S	14 28 38.9	-10
	9.8nm,0.3s,SNR=7.9						
EFAM	**Famara**	**2.55**	**67**	P	P	14 28 16.9	-2.0
	5.7nm,0.1s,SNR=4.0						

*NEIC **18** 14:38:26.4, 35.82N×22.88E, h41^{km}, MD3.7(ATH), After ATH.*
*CSEM **18** 14:38:27.3±0.2, 35.75N×22.24E, h10^{km}, MD3.7, Error ellipse: s-maj=7.8km s-min=2.7km az=24.0*
*ATH **18** 14:38:32.4, 36.14N×22.70E, h19^{km}±4^{km}, MD3.7/10*

ISC 18 14:38:33.4±1.5**, 36.24N**±0.10×**22.6E**±0.1**, h19**^{km}**, n19,** σ**1**^{s}**31**/21**, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.32**	**82**	ePB	**Pb**	**14 38 38.0**	**-2.4**
KYTH				eSB	**Sb**	**14 38 45.0**	**-0.2**
VLI	**Veliai**	**0.54**	**26**	ePB	**Pb**	**14 38 44.0**	**0.0**
ITM	**Ithomi**	**1.10**	**329**	ePN	**Pn**	**14 38 52.5**	**-1.4**
ITM				eSN	**Sn**	**14 39 13.0**	**+4.4**
NAIG	**Nisos Aigina**	**1.66**	**24**	ePN	**Pn**	**14 39 03.5**	**+1.5**
NSAL	**Nisos Salamina**	**1.79**	**21**	ePN	**Pn**	**14 39 05.2**	**+1.4**
PTL	**Penteli**	**2.06**	**28**	ePB	**Pb**	**14 39 08.7**	**-1.2**
MPAR	**Parnis Oros**	**2.10**	**24**	ePB	**Pb**	**14 39 09.5**	**-1.2**
THR5	**Thira Island,**	**2.19**	**84**	eP	**Pn**	**14 39 10.1**	**+0.6**
THR3	**Thira Island,**	**2.24**	**85**	eP	**Pn**	**14 39 10.9**	**+0.8**
THR4	**Thira Island,**	**2.24**	**83**	eP	**Pn**	**14 39 10.8**	**+0.7**
THR1	**Thera Island**	**2.28**	**86**	eP	**Pn**	**14 39 11.7**	**+0.9**
NPS	**Neapolis**	**2.61**	**111**	ePN	**Pn**	**14 39 14.5**	**-0.9**
EVR	**Evrytania**	**2.75**	**346**	ePB	**Pb**	**14 39 20.5**	**-1.3**
AGG	**Agios Georgios**	**2.79**	**355**	eP	**Pn**	**14 39 20.9**	**+2.8**
XRY	**Khrisi**	**2.84**	**118**	ePB	**Pb**	**14 39 18.5**	**-4.7**
AOS	**Alonnisos**	**3.09**	**18**	eP	**Pn**	**14 39 21.1**	**-1.2**
LIT	**Litokhoron**	**3.86**	**358**	eP	**Pn**	**14 39 35.3**	**+2.1**
TIP	**Timpagrande**	**5.51**	**304**	ePn	**Pn**	**14 39 49.5**	**-7.1**
TIP	**Timpagrande**	**5.51**	**304**	ePn	**Pn**	**14 39 49.5**	**-7.1**

IDC 18 14:38:54.7±46.0**, 22.51S**×**172.66W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.9**/13**, mbtmp3.9**/3**, Error ellipse: s-maj=874.3km s-min=171.2km az=87.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.49**	**247**	P	P	14 46 42.0	-3.1
	0.7nm,0.3s,baz=104,slow=11,SNR=7.5						
ASAR	**Alice Springs**	**48.93**	**258**	P	P	14 47 43.3	-1.4
	0.3nm,0.4s,baz=93,slow=7.4,SNR=20						
WRA	**Warramunga Arr**	**49.26**	**263**	P	P	14 47 46.2	-1.2
	1.0nm,0.3s,baz=99,slow=6.8,SNR=138						

IDC 18 14:48:42.5±8.9**, 4.55N**×**98.26E, mb3.3**/3**, mb1 3.5**/3**, mb1mx3.4**/14**, mbtmp3.3**/3**, Error ellipse: s-maj=317.2km s-min=30.6km az=68.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.01**	**126**	P	P	14 56 44.6	-1.1
	0.1nm,0.4s,baz=306,slow=9.1,SNR=8.0						
SONM	**Songino Array**	**43.69**	**8**	P	P	14 56 49.2	-1.7
	0.3nm,0.5s,baz=190,slow=10.0,SNR=5.4						
ASAR	**Alice Springs**	**44.65**	**131**	P	P	14 56 56.6	-2.4
	0.4nm,0.7s,baz=302,slow=7.8,SNR=10						

JMA 18 14:56:42.0±0.4**, 33.04N**×**142.46E, h74**^{km}**, M3.9, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**2.03**	**323**	P	P	14 57 14.6	-0.1
BSO1				eS	S	14 57 39.2	+0.3
BSO2	**Boso 2**	**2.22**	**321**	S	S	14 57 44.6	+0.9
JHJ2	**Mitsune**	**2.22**	**273**	P	P	14 57 17.4	-0.1
JHJ2				eS	S	14 57 43.7	0.0
BSO3	**Boso 3**	**2.39**	**318**	P	P	14 57 20.4	+0.5
BSO4	**Boso 4**	**2.62**	**318**	P	P	14 57 24.0	+0.9
BSO4				S	S	14 57 55.0	+1.1
JOD2	**Odawara 2**	**3.57**	**309**	P	P	14 57 35.4	-0.9
JYT	**Yasato**	**3.69**	**330**	S	S	14 58 21.0	+0.5
JHU	**Hanno**	**3.84**	**318**	P	P	14 57 39.6	-0.5
JHU				S	S	14 58 23.1	-1.2
JHO	**Hitachi**	**3.89**	**337**	P	P	14 57 40.2	-0.6
JHO				S	S	14 58 21.3	-4.2
JYN	**Shimob**	**4.07**	**308**	P	P	14 57 44.1	+0.9
JYN				eS	S	14 58 31.1	+1.2
JRY	**Ryogami san**	**4.18**	**316**	P	P	14 57 45.4	+0.6
JAG	**Ashikaga**	**4.19**	**325**	P	P	14 57 44.8	-0.1
JNY	**Yasouk**	**4.46**	**303**	P	P	14 57 50.0	+1.3
JFK	**Kawauchi**	**4.51**	**344**	P	P	14 57 47.9	-1.5
JFK				eS	S	14 58 35.2	-5.8
JMM	**Marumori**	**5.00**	**345**	P	P	14 57 55.1	-1.2
JMM				S	S	14 58 46.6	-6.7
JMK	**Ichinoseki**	**5.98**	**351**	P	P	14 58 08.2	-1.5
JMK				S	S	14 59 10.2	-7.5

*IDC **18** 15:27:19.6±1.8, 22.65S×170.96E, mb3.9/6, mb1 4.1/6, mb1mx4.0/13, mbtmp4.0/6, MS3.2/2, Ms1 3.1/2, ms1mx2.8/19, Error ellipse: s-maj=82.6km s-min=25.2km az=165.0*
*NEIC **18** 15:27:20.8±1.2, 22.65S×171.05E, h10^{km}, mb3.7/1, Error ellipse: s-maj=55.9km s-min=14.4km az=170.0*

ISC 18 15:27:22.5±4.4**, 22.8S**±0.4×**171.0E**±0.2**, h34**^{km}±33^{km}**, n18,** σ**0**^{s}**84**/11**, mb3.9**/6**, MS3.1**/1**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOUC	**Port Laguerre**	**4.36**	**278**	eP	**P**	**15 28 27.8**	**-0.3**
NOUC				eS	**S**	**15 29 18.6**	**+0.2**
NOUC	**Port Laguerre**	**4.36**	**278**	eP	**P**	**15 28 27.8**	**-0.3**
NOUC				eS	**S**	**15 29 18.6**	**+0.2**
URZ	**Urewera**	**16.31**	**163**	LR	LR	15 36 16.3	
	comp=Z,81nm,19.5s,baz=200,slow=33						
CTA	**Charters Tower**	**23.14**	**272**	P	**P**	**15 32 29.0**	**+2.1**
	1.9nm,0.7s,mb3.6,baz=111,slow=9.8,SNR=6.6						
CTAO	**Charters Tower**	**23.14**	**272**	eP	**P**	**15 32 30.1**	**+3.3**
	1.9nm,0.7s,mb3.6						
PMG	**Port Moresby**	**26.39**	**296**	P	**P**	**15 32 57.9**	**-0.1**
	4.3nm,0.7s,mb4.1,baz=84,slow=10,SNR=2.8						
STKA	**Stephens Creek**	**27.54**	**244**	LR	LR	15 44 04.0	
	comp=Z,48nm,19.9s,MS3.1,baz=26,slow=36						
ASAR	**Alice Springs**	**34.00**	**261**	P	**P**	**15 34 05.2**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=90,slow=9.9,SNR=12						
WRA	**Warramunga Arr**	**34.16**	**268**	P	**P**	**15 34 05.9**	**-0.9**
	0.4nm,0.4s,mb3.7,baz=96,slow=8.6,SNR=21						
NVAR	**Mina Array Bea**	**89.96**	**48**	P	**P**	**15 40 20.4**	**+0.7**
	0.8nm,0.7s,mb4.2,baz=231,slow=11,SNR=6.2						
SONM	**Songino Array**	**91.00**	**323**	P	**P**	**15 40 23.6**	**-0.8**
	0.7nm,0.8s,mb4.0,baz=123,slow=3.4,SNR=7.0						
BRG	**Berggiesshubel**	**146.74**	**333**	eP	PKPdf	15 47 03.8	+4.8
CLL	**Collm**	**146.79**	**335**	i PKP1	PKPbc	15 47 03.6	+3.1
EKA	**Eskdalemuir Ar**	**147.20**	**354**	PKPbc	PKPdf	15 47 03.5	+3.9
	2.7nm,0.7s,baz=354,slow=2.6,SNR=9.0						
IDI	**Anoyia**	**147.98**	**301**	PKPbc	PKPdf	15 47 07.2	+5.7
	4.6nm,0.8s,baz=322,slow=8.8,SNR=6.0						
KHC	**Kasperske Hory**	**148.20**	**331**	eP	PKPdf	15 47 07.0	+5.6
GERES	**GERESS Array B**	**148.35**	**331**	PKPbc	PKPdf	15 47 08.1	+6.4
	2.1nm,0.8s,baz=90,slow=2.9,SNR=6.4						
DAVOX	**Davos**	**151.60**	**332**	PKPbc	PKPdf	15 47 15.6	+8.8
	3.2nm,0.7s,baz=355,slow=15,SNR=4.7						

*NEIC **18** 15:37:50.7±1.3, 22.85S×171.08E, h10^{km}, Error ellipse: s-maj=58.3km s-min=13.7km az=172.0*
*IDC **18** 15:37:50.0±2.8, 22.61S×170.98E, mb3.7/5, mb1 3.9/5, mb1mx3.8/12, mbtmp3.7/5, Error ellipse: s-maj=133.1km s-min=28.2km az=160.0*

ISC 18 15:37:53.0±5.0**, 22.9S**±0.4×**170.9E**±0.1**, h32**^{km}±35^{km}**, n9,** σ**0**^{s}**94**/9**, mb3.6**/5**, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.22**	**280**	eP	**Pn**	**15 38 56.8**	**-0.1**
DZM				eS	**Sn**	**15 39 46.8**	**+1.1**
NOUC	**Port Laguerre**	**4.34**	**280**	eP	**Pn**	**15 38 58.5**	**0.0**
NOUC				eS	**Sn**	**15 39 47.5**	**-1.3**
CTA	**Charters Tower**	**23.12**	**272**	P	**P**	**15 43 00.4**	**+3.0**
	0.9nm,0.4s,mb3.5,baz=90,slow=15,SNR=3.2						
ASAR	**Alice Springs**	**33.95**	**261**	P	**P**	**15 44 35.7**	**0.0**
	0.5nm,0.7s,mb3.6,baz=93,slow=10,SNR=10						
WRA	**Warramunga Arr**	**34.13**	**268**	P	**P**	**15 44 36.5**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=97,slow=8.6,SNR=15						
NVAR	**Mina Array Bea**	**90.05**	**48**	P	**P**	**15 50 50.6**	**-0.4**
	0.3nm,0.6s,mb3.8,baz=210,slow=6.1,SNR=3.7						
SONM	**Songino Array**	**91.06**	**323**	P	**P**	**15 50 55.9**	**+0.4**
	0.2nm,0.5s,mb3.7,baz=140,slow=5.3,SNR=4.5						
EKA	**Eskdalemuir Ar**	**147.30**	**354**	PKPbc	PKPdf	15 57 33.9	-1.9
	1.9nm,0.6s,baz=11,slow=3.9,SNR=8.0						
GERES	**GERESS Array B**	**148.44**	**331**	PKPbc	PKPdf	15 57 37.6	-0.2
	0.4nm,0.5s,baz=135,slow=1.9,SNR=3.5						

*BUC **18** 15:43:00.6±0.5, 45.59N×27.81E, h7^{km}±4^{km}, MD3.3/2, Error ellipse: s-maj=5.7km s-min=2.8km az=34.0*
*NEIC **18** 15:43:01.5, 45.57N×27.80E, h12^{km}, ML4.4(BUC), After BUC.*
*CSEM **18** 15:43:02.2±0.2, 45.58N×27.94E, h60^{km}, MD3.3/2, Error ellipse: s-maj=5.4km s-min=3.5km az=74.0*
*SOF **18** 15:43:18.7, 45.50N×27.67E, h2^{km}, MD3.2*

ISC 18 15:43:03.1±0.4**, 45.58N**±0.03×**27.91E**±0.05**, h33**^{km}**, n33,** σ**1**^{s}**32**/47**, 5C-11D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLCR		**0.75**	**122**⇓	iP	**P**	**15 43 17.4**	**+0.2**
TLCR				i S	**S**	**15 43 28.9**	**+1.4**
TLCR		**0.75**	**122**⇓	iP	**P**	**15 43 17.4**	**+0.2**
TLCR				i S	**S**	**15 43 28.9**	**+1.4**
VRI	**Vrincioaia**	**0.88**	**289**⇓	iP	**P**	**15 43 16.9**	**-2.1**
VRI				i S	**S**	**15 43 28.4**	**-2.3**
VRI	**Vrincioaia**	**0.88**	**289**⇓	iP	**P**	**15 43 16.9**	**-2.1**
VRI				i S	**S**	**15 43 28.4**	**-2.3**
TIRR	**Tirgusor**	**1.18**	**162**⇓	iP	**P**	**15 43 23.8**	**+0.5**
TIRR				S	**S**	**15 43 39.8**	**+1.4**
MLR	**Muntele Rosu**	**1.39**	**267**⇓	iP	**P**	**15 43 26.2**	**-0.1**
MLR				i S	**S**	**15 43 44.2**	**+0.5**
MLR	**Muntele Rosu**	**1.39**	**267**⇓	iP	**P**	**15 43 26.3**	**0.0**
MLR				i S	**S**	**15 43 44.2**	**+0.5**
KIS	**Kishinev**	**1.55**	**24**⇑	iP	**P**	**15 43 28.5**	**-0.2**
	600nm,0.5s						
KIS				i S	**S**	**15 43 48.0**	**+0.2**
	3µm,0.5s						
IAS	**Iasi**	**1.63**	**352**⇓	iP	**P**	**15 43 30.6**	**+0.8**
IAS				i S	**S**	**15 43 51.2**	**+1.3**
IAS	**Iasi**	**1.63**	**352**⇓	iP	**P**	**15 43 30.6**	**+0.8**
IAS				i S	**S**	**15 43 51.2**	**+1.4**
BUC1	**Bucharest**	**1.82**	**228**	i S	**S**	**15 43 57.8**	**+3.2**
PSN	**Preselentsi**	**1.91**	**174**	i P	**P**	**15 43 53.5**	**+20**
PSN				i Pg	P	15 43 56.0	+22
PRD	**Provadia**	**2.41**	**189**	i P	**P**	**15 44 00.0**	**+19**
ZIMR		**2.65**	**224**⇓	iP	**P**	**15 43 44.3**	**-0.1**
ZIMR				i S	**S**	**15 44 17.4**	**+1.7**
ZIMR		**2.65**	**224**⇓	iP	**P**	**15 43 44.3**	**-0.1**
ZIMR				S	**S**	**15 44 17.4**	**+1.7**
SZH	**Strazhica**	**2.71**	**212**	eP	**P**	**15 44 03.0**	**+18**
SZH				ePg	P	15 44 09.0	+24
BURAR	**Bucovina Array**	**2.76**	**319**⇑	iP	**P**	**15 43 45.2**	**-0.7**
BURAR				i S	**S**	**15 44 19.4**	**+1.0**
BURAR	**Bucovina Array**	**2.76**	**319**⇑	iP	**P**	**15 43 45.2**	**-0.7**
BURAR				i S	**S**	**15 44 19.4**	**+1.0**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PVL	**Pavlikeni**	**3.00**	**219**	*e*P	**P**	**15 44 09.5**	**+20**
PVL				*e*Pg	P	15 44 17.0	+28
JMB	**Yambol**	**3.26**	**198**	*i* P	**P**	**15 44 11.0**	**+18**
PGB	**Panagyurishte**	**4.06**	**223**	*i* P	**P**	**15 44 21.0**	**+17**
BZS	**Buzias**	**4.42**	**273**	⇑P	**P**	**15 44 07.5**	**-2.1**
BZS	**Buzias**	**4.42**	**273**	⇑P	**P**	**15 44 07.4**	**-2.2**
CTT	**Catalca**	**4.45**	**175**	P	**P**	**15 44 08.5**	**-1.4**
VTS	**Vitosha**	**4.52**	**230**	*i* P	**P**	**15 44 27.0**	**+16**
RZN	**Rozhen**	**4.53**	**212**	*i* P	**P**	**15 44 28.0**	**+17**
ISK	**Istanbul-Kandi**	**4.59**	**169**	P	**P**	**15 44 11.1**	**-0.9**
BADT	**Buyukada**	**4.81**	**169**	P	**P**	**15 44 13.7**	**-1.3**
HRT	**Hereke**	**4.93**	**164**	P	**P**	**15 44 16.3**	**-0.5**
MMB	**Musomiste**	**5.02**	**219**	*i* P	**P**	**15 44 35.0**	**+17**
BNT	**Bandirma**	**5.22**	**180**	P	**P**	**15 44 19.6**	**-1.3**
KCT	**Karacabey**	**5.32**	**176**	P	**P**	**15 44 20.9**	**-1.5**
NB2	**NORSAR Subarra**	**18.33**	**334**	P	**P**	**15 47 12.1**	**-4.1**
	0.6nm,0.6s,baz=141,slow=12						

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*IDC **18** 15:45:39.3±1.1, 28.20N×130.91E, mb3.7/5, mb1 3.9/6, mb1mx3.8/17, mbtmp3.7/6, ML3.6/1, MS2.9/1, Ms1 2.9/1, ms1mx2.1/23, Error ellipse: s-maj=35.2km s-min=20.9km az=81.0*

*JMA **18** 15:45:42.4±0.1, 28.13N×130.93E, h62^{km}±3^{km}, M4.0*

ISC 18 15:45:42.9±0.7**, 28.19N**±0.04×**130.81E**±0.07**, h59**^{km}±10^{km}**, n26, σ1^{s}30**/43**, mb3.7**/5**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.75**	**280**	P	**P**	**15 45 58.9**	**+1.1**
JZK				*e*S	**S**	**15 46 11.0**	**+2.1**
JAM	**Amami Oshima**	**1.08**	**282**	P	**P**	**15 46 03.6**	**+1.3**
JAM				S	**S**	**15 46 18.5**	**+1.8**
JTK	**Tokunoshima**	**1.69**	**257**	P	**P**	**15 46 11.7**	**+0.9**
JTK				*e*S	**S**	**15 46 33.2**	**+1.8**
JNN	**Nakanoshima**	**1.84**	**334**	P	**P**	**15 46 13.9**	**+1.1**
JNN				*e*S	**S**	**15 46 35.9**	**+1.0**
JKC	**Kuchinoerabu**	**2.33**	**347**	P	**P**	**15 46 20.6**	**+0.9**
JKC				*e*S	**S**	**15 46 47.3**	**+0.2**
JMZ	**Minamidaito 2**	**2.39**	**171**	P	**P**	**15 46 18.4**	**-2.2**
JTN	**Tanegashima 3**	**2.46**	**3**	P	**P**	**15 46 21.4**	**-0.2**
JTN				*e*S	**S**	**15 46 49.7**	**-0.8**
JOW	**Kunigami**	**2.62**	**240**	Pn	**P**	**15 46 23.6**	**-0.4**
	17nm,0.3s,baz=91,slow=17,SNR=64						
JOW				Sn	**S**	**15 46 53.8**	**-0.9**
	56nm,0.3s,baz=147,slow=26,SNR=19						
JOW	**Kunigami**	**2.62**	**240**	P	**P**	**15 46 23.7**	**-0.2**
JOW				*e*S	**S**	**15 46 53.7**	**-1.0**
JIH	**Iheya**	**2.77**	**246**	P	**P**	**15 46 25.8**	**-0.2**
JIH				*e*S	**S**	**15 46 56.9**	**-1.5**
JTSR	**Tashiro 2**	**2.97**	**2**	P	**P**	**15 46 29.4**	**+0.6**
JTSR				*e*S	**S**	**15 47 02.2**	**-1.2**
JSU	**Suzuyama**	**3.32**	**355**	P	**P**	**15 46 33.7**	**0.0**
JSU				S	**S**	**15 47 10.8**	**-1.4**
JNAR	**Kushima--Naru**	**3.35**	**7**	P	**P**	**15 46 34.7**	**+0.5**
JNAR				S	**S**	**15 47 13.0**	**0.0**
JJT2	**Tamagusuku 2**	**3.41**	**234**	P	**P**	**15 46 34.3**	**-0.6**
JJT2				*e*S	**S**	**15 47 12.9**	**-1.5**
JAGN	**Aguni-jima**	**3.55**	**244**	*e*S	**S**	**15 47 16.2**	**-1.8**
JSJ	**Shimokoshiki**	**3.60**	**345**	P	**P**	**15 46 37.9**	**+0.2**
JSJ				*e*S	**S**	**15 47 17.9**	**-1.5**
JTZ	**Takazaki**	**3.71**	**4**	P	**P**	**15 46 39.7**	**+0.5**
JTZ				*e*S	**S**	**15 47 20.0**	**-2.0**
JZO	**Okuchi**	**3.94**	**357**	P	**P**	**15 46 42.9**	**+0.4**
JZO				*e*S	**S**	**15 47 27.1**	**-0.8**
JKE	**Kume jima 2**	**4.03**	**244**	P	**P**	**15 46 42.8**	**-0.9**
JKE				*e*S	**S**	**15 47 27.6**	**-2.5**
JIU2	**Izumi 2**	**4.34**	**0**	P	**P**	**15 46 48.6**	**+0.5**
JIU2				S	**S**	**15 47 36.0**	**-1.9**
CBIJ	**Chichi jima**	**10.15**	**94**	LR	LR	15 51 29.2	
	comp=Z,65nm,20.7s,baz=336,slow=35						
SONM	**Songino Array**	**27.28**	**323**	P	**P**	**15 51 26.1**	**+2.4**
	0.2nm,0.5s,mb2.9,baz=135,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**47.97**	**176**	P	**P**	**15 54 19.4**	**+1.5**
	2.4nm,0.6s,mb4.4,baz=353,slow=8.4,SNR=25						
BVAR	**Borovoye Array**	**50.38**	**317**	P	**P**	**15 54 38.7**	**+2.7**
	0.4nm,0.5s,mb3.7,baz=90,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**51.64**	**176**	P	**P**	**15 54 48.5**	**+2.5**
	1.4nm,0.5s,mb4.1,baz=9.0,slow=14,SNR=31						
YKA	**Yellowknife Ar**	**75.78**	**26**	P	**P**	**15 57 26.2**	**+2.5**
	0.2nm,0.4s,mb3.4,baz=300,slow=5.6,SNR=6.6						

JMA 18 16:04:45.6±0.1**, 28.10N**×**130.91E, h76**^{km}±2^{km}**, M3.8, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.85**	**285**	P	P	16 05 02.8	-0.1
JZK				*e*S	S	16 05 16.0	+0.2
JAM	**Amami Oshima**	**1.19**	**285**	P	P	16 05 07.1	0.0
JAM				*e*S	S	16 05 23.2	0.0
JTK	**Tokunoshima**	**1.76**	**260**	P	P	16 05 15.1	+0.3
JTK				*e*S	S	16 05 36.2	0.0
JNN	**Nakanoshima**	**1.96**	**333**	P	P	16 05 17.3	-0.1
JNN				*e*S	S	16 05 40.3	-0.5
JMZ	**Minamidaito 2**	**2.29**	**173**	P	P	16 05 21.9	-0.1
JMZ				S	S	16 05 47.7	-1.4
JKC	**Kuchinoerabu**	**2.44**	**345**	P	P	16 05 24.1	0.0
JKC				*e*S	S	16 05 51.7	-1.1
JTN	**Tanegashima 3**	**2.55**	**1**	P	P	16 05 25.5	-0.2
JTN				*e*S	S	16 05 55.3	-0.3
JOW	**Kunigami**	**2.66**	**242**	P	P	16 05 26.9	-0.4
JOW				*e*S	S	16 05 58.1	-0.3
JIH	**Iheya**	**2.82**	**249**	P	P	16 05 29.3	-0.2
JIH				*e*S	S	16 06 00.2	-2.2
JTSR	**Tashiro 2**	**3.06**	**0**	P	P	16 05 33.0	+0.2
JTSR				S	S	16 06 08.2	-0.1
JSU	**Suzuyama**	**3.42**	**353**	P	P	16 05 37.3	-0.5
JSU				*e*S	S	16 06 15.8	-1.5
JJT2	**Tamagusuku 2**	**3.43**	**236**	P	P	16 05 37.9	-0.1
JNAR	**Kushima--Naru**	**3.43**	**5**	P	P	16 05 38.5	+0.5
JNAR				*e*S	S	16 06 16.4	-1.2
JAGN	**Aguni-jima**	**3.59**	**246**	P	P	16 05 39.7	-0.6
JAGN				*e*S	S	16 06 19.8	-1.9
JSJ	**Shimokoshiki**	**3.71**	**344**	P	P	16 05 41.4	-0.5
JSJ				*e*S	S	16 06 22.1	-2.6
JTZ	**Takazaki**	**3.79**	**2**	P	P	16 05 43.5	+0.5
JTZ				S	S	16 06 25.4	-1.3
JZO	**Okuchi**	**4.04**	**356**	P	P	16 05 46.4	0.0
JZO				*e*S	S	16 06 30.2	-2.6
JKE	**Kume jima 2**	**4.08**	**245**	P	P	16 05 45.9	-1.1
JKE				S	S	16 06 30.7	-3.1
JIU2	**Izumi 2**	**4.43**	**359**	P	P	16 05 52.1	+0.2
JIU2				S	S	16 06 39.9	-2.8

MAN 18 16:31:14.3, 16.20N×**122.32E, mb4.4, ML3.2, MS3.0, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.85**	**238**	*e*P	Pg	16 31 30.7	-0.6
CAUP	**Cauayan**	**0.89**	**327**	*e*P	Pg	16 31 31.5	-0.5
CAUP				*e*S	Sg	16 31 45.6	+1.8
PCPH	**Palayan**	**1.34**	**242**	⇓*e*P	Pb	16 31 39.2	-0.8
PCPH				*e*S	Sb	16 31 59.1	+1.5
CVP	**Callao Caves**	**1.57**	**342**	⇓*e*P	Pn	16 31 43.0	-0.6
CVP				*i* S	Sb	16 32 15.0	+11
BCPH	**Baguio City Da**	**1.68**	**277**	⇑*i*P	Pn	16 31 45.4	+0.2
BCPH				*i* S	Sb	16 32 07.7	0.0
APYP	**Conner**	**1.95**	**328**	*e*P	Pn	16 31 48.4	-0.6
APYP				*e*S	Sn	16 32 14.8	+0.1

DJA 18 16:33:15.2±0.9**, 8.07S**×**115.96E, h310**^{km}±8^{km}**, MD4.6**/4**, ML3.6**/2**, 6C-2D, Error ellipse: s-maj=85.4km s-min=18.2km az=6.0, Bali region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.44**	**160**	⇑*i*Pn	P	16 33 55.0	0.0
	22nm,0.2s						
KEDI				⇑*i*Sn	S	16 34 24.5	-1.7
RATI	**Rata**	**0.78**	**213**	⇑*i*Pn	P	16 33 55.8	-0.1
	84nm,0.2s						
RATI				⇑*i*Sn	S	16 34 26.9	-0.9
KELI	**Kelakatan**	**1.46**	**264**	⇓*i*Pn	P	16 34 00.1	+0.7
	54nm,0.2s						
KELI				⇑*i*Sn	S	16 34 31.3	-2.7
SRDI	**Scrawed**	**1.84**	**257**	⇓*i*Pn	P	16 34 02.5	+0.5
	40nm,0.2s						
SRDI				⇑*i*Sn	S	16 34 36.7	-1.8

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*IDC **18** 16:36:58.4±1.3, 50.93N×179.32E, mb3.6/6, mb1 3.8/7, mb1mx3.7/21, mbtmp3.7/7, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/21, Error ellipse: s-maj=31.3km s-min=15.3km az=12.0*

*NEIC **18** 16:37:06.7±1.0, 51.26N×178.78E, h47^{km}±8^{km}, ML3.5(AEIC), Error ellipse: s-maj=23.2km s-min=6.5km az=184.0*

ISC 18 16:37:05.6±1.3**, 51.3N**±0.2×**178.79E**±0.08**, h52**^{km}±10^{km}**, n20, σ0^{s}88**/21**, mb3.5**/6**, MS3.4**/2**, Rat Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**2.53**	**78**	P	**P**	**16 37 44.8**	**-0.3**
KIKV	**Kanaga Island**	**2.59**	**75**	P	**P**	**16 37 46.4**	**+0.4**
KIWB	**Kanaga Island**	**2.59**	**76**	P	**P**	**16 37 46.4**	**+0.3**
KIRH	**Kanaga Island**	**2.64**	**75**	P	**P**	**16 37 47.1**	**+0.3**
SMY	**Shemya**	**3.24**	**298**	P	**P**	**16 37 55.5**	**+0.3**
GSMY	**Great Sitkin M**	**3.30**	**75**	P	**P**	**16 37 55.8**	**-0.3**
FX1	**Attu Island--F**	**3.82**	**297**	Pn	**P**	**16 38 03.5**	**+0.1**
	35nm,0.3s,baz=179,slow=8.5,SNR=90						
FX1				Sn	**S**	**16 38 52.5**	**+5.0**
	26nm,0.3s,baz=256,slow=22,SNR=11						
FX1	**Attu Island--F**	**3.82**	**297**	*e*P	**P**	**16 38 02.7**	**-0.7**
ATKA	**Atka Island**	**4.45**	**75**	P	**P**	**16 38 12.1**	**-0.2**
ATKA				S	**S**	**16 39 02.9**	**-0.6**
SPU	**Mount Spurr**	**18.82**	**47**	P	**P**	**16 41 27.4**	**+4.1**
DAWY	**Dawson**	**25.21**	**44**	*e*P	**P**	**16 42 28.9**	**+1.5**
INK	**Inuvik**	**28.40**	**35**	P	**P**	**16 42 55.1**	**-1.7**
	0.3nm,0.4s,mb3.3,baz=25,slow=12,SNR=1.8						
DLBC	**Dease Lake**	**29.66**	**56**	LR	LR	16 52 59.8	
	comp=Z,84nm,20.1s,MS3.4,baz=3.7,slow=32						
YKA	**Yellowknife Ar**	**36.38**	**46**	P	**P**	**16 44 04.9**	**-1.3**
	0.2nm,0.5s,mb3.3,baz=283,slow=7.9,SNR=3.5						
HLID	**Hailey**	**44.41**	**73**	P	**P**	**16 45 12.8**	**+0.3**
SONM	**Songino Array**	**45.33**	**295**	P	**P**	**16 45 20.5**	**+0.6**
	0.8nm,0.9s,mb3.5,baz=58,slow=9.3,SNR=4.7						
BW06	**Boulder Array**	**47.77**	**71**	P	**P**	**16 45 41.2**	**+2.0**
ZAL	**Zalesovo**	**53.00**	**312**	P	**P**	**16 46 18.6**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=162,slow=4.4,SNR=3.2						
ZAL				LR	LR	17 08 47.7	
	comp=Z,40nm,18.1s,MS3.5,baz=212,slow=36						
BVAR	**Borovoye Array**	**59.97**	**319**	P	**P**	**16 47 08.3**	**-0.2**
	0.9nm,0.5s,mb4.0,baz=27,slow=9.9,SNR=6.1						
WRA	**Warramunga Arr**	**80.92**	**222**	P	**P**	**16 49 15.0**	**-0.8**
	0.3nm,0.8s,mb3.2,baz=32,slow=5.9,SNR=5.6						

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*NEIC **18** 16:43:44.4±0.8, 34.86N×89.54E, h10^{km}, mb3.6/3, Error ellipse: s-maj=20.3km s-min=11.7km az=63.0*

*MOS **18** 16:43:45.6±1.2, 34.87N×89.44E, h33^{km}, mb4.1/1, Error ellipse: s-maj=29.2km s-min=13.5km az=99.1*

*IDC **18** 16:43:49.8±8.5, 34.82N×89.63E, h57^{km}±80^{km}, mb3.5/4, mb1 3.6/6, mb1mx3.4/17, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=57.9km s-min=27.5km az=64.0*

ISC 18 16:43:46.7±1.9**, 34.88N**±0.08×**89.6E**±0.2**, h43**^{km}±21^{km}**, n17, σ1^{s}17**/17**, mb3.7**/5**, Xizang**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.32**	**166**	*e*P	**P**	**16 45 06.2**	**+0.5**
LSA				pmax	pmax		
	comp=Z,27nm,0.9s						
LSA	**Lhasa**	**5.32**	**166**	*e*Pn	**P**	**16 45 06.2**	**+0.5**
	comp=Z,27nm,0.9s						
AAK	**Ala-Archa**	**14.11**	**308**	P	**P**	**16 47 02.3**	**-3.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.2s						
AAK	**Ala-Archa**	**14.11**	**308**	Pn	**P**	**16 47 02.3**	**-3.4**
	comp=Z,4.9nm,1.2s						
KURK	**Kurchatov**	**17.74**	**337**	*e*P	**P**	**16 47 51.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
KURK	**Kurchatov**	**17.74**	**337**	*e*P	**P**	**16 47 51.5**	**-0.5**
	comp=Z,5.6nm,1.2s						
SONM	**Songino Array**	**18.00**	**39**	P	**P**	**16 47 57.2**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=227,slow=12,SNR=9.1						
ULN	**Ulaanbaatar**	**18.36**	**40**	P	**P**	**16 47 58.5**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**18.36**	**40**	P	**P**	**16 47 58.5**	**-1.3**
	comp=Z,2.5nm,1.1s						
ZAK	**Zakamensk**	**18.41**	**29**	*e*P	**P**	**16 48 00.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s						
ZAL	**Zalesovo**	**19.36**	**351**	P	**P**	**16 48 10.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=285,slow=10.0,SNR=5.6						
BVAR	**Borovoye Array**	**22.70**	**329**	P	**P**	**16 48 47.4**	**+1.9**
	comp=Z,0.8nm,0.6s,mb3.4,baz=124,slow=5.2,SNR=5.3						
CHKZ	**Chkalovo**	**23.08**	**330**	*e*P	**P**	**16 48 50.0**	**+0.9**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
CHKZ	**Chkalovo**	**23.08**	**330**	*e*P	**P**	**16 48 50.0**	**+0.9**
	comp=Z,5.4nm,1.1s,mb3.9						
WRA	**Warramunga Arr**	**69.10**	**135**	P	**P**	**16 54 49.7**	**-0.9**
	comp=Z,1.5nm,0.8s,mb4.0,baz=328,slow=6.5,SNR=15						
ASAR	**Alice Springs**	**71.78**	**138**	P	**P**	**16 55 06.3**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=325,slow=6.1,SNR=11						
YKA	**Yellowknife Ar**	**81.02**	**11**	P	**P**	**16 55 58.5**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=331,slow=5.2,SNR=12						

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*MOS **18** 17:02:50.8±1.1, 85.22N×90.12E, h10^{km}, mb4.3/3, Error ellipse: s-maj=99.9km s-min=24.2km az=86.9*

*IDC **18** 17:02:51.2±0.9, 85.31N×90.79E, mb3.9/7, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, ML3.3/1, Error ellipse: s-maj=31.2km s-min=17.0km az=123.0*

*NEIC **18** 17:02:52.7±0.5, 85.26N×90.64E, h10^{km}, mb4.1/3, Error ellipse: s-maj=15.2km s-min=9.7km az=135.0*

ISC 18 17:02:50.8±0.6**, 85.3N**±0.1×**9 0E**± **, h10**^{km}**, n15, σ0^{s}80**/15**, mb3.9**/10**, North of Severnaya Zemlya**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**19.04**	**257**	P	**P**	**17 07 15.4**	**+0.5**
	0.1nm,0.3s,baz=27,slow=10,SNR=3.9						
BILL	**Bilibino**	**21.42**	**92**	*e*P	**P**	**17 07 41.7**	**+1.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb3.8						
BILL	**Bilibino**	**21.42**	**92**	P	**P**	**17 07 40.3**	**-0.1**
	comp=Z,6.5nm,1.1s,mb3.9						
INK	**Inuvik**	**25.46**	**37**	P	**P**	**17 08 19.8**	**+0.1**
	comp=Z,2.7nm,0.8s,mb3.9,baz=358,slow=10,SNR=11						
INK	**Inuvik**	**25.46**	**37**	*e*P	**P**	**17 08 20.6**	**+0.9**
FINES	**FINESS Array B**	**26.96**	**253**	P	**P**	**17 08 33.0**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.5,baz=352,slow=14,SNR=4.5						
YKA	**Yellowknife Ar**	**32.04**	**22**	P	**P**	**17 09 18.3**	**-0.7**
	comp=Z,0.6nm,0.8s,mb3.5,baz=353,slow=8.3,SNR=12						
CHKZ	**Chkalovo**	**32.06**	**202**	*e*P	**P**	**17 09 18.5**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.5						
CHKZ	**Chkalovo**	**32.06**	**202**	*e*P	**P**	**17 09 18.5**	**-0.7**
	comp=Z,8.9nm,1.2s,mb4.5						
BVAR	**Borovoye Array**	**32.72**	**202**	P	**P**	**17 09 25.2**	**+0.2**
	comp=Z,3.9nm,1.0s,mb4.3,baz=14,slow=5.9,SNR=13						
KURK	**Kurchatov**	**34.82**	**193**	*e*P	**P**	**17 09 42.1**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**34.82**	**193**	*e*P	**P**	**17 09 42.1**	**-1.2**
	comp=Z,1.7nm,0.8s,mb4.0						
SONM	**Songino Array**	**37.80**	**162**	P	**P**	**17 10 08.9**	**+0.5**
	comp=Z,2.6nm,1.1s,mb3.9,baz=344,slow=7.8,SNR=14						
BRTR	**Keskin Array B**	**47.97**	**240**	P	**P**	**17 11 32.5**	**+1.6**
	comp=Z,2.6nm,1.1s,mb4.2,baz=34,slow=4.5,SNR=4.7						
TXAR	**Lajitas Array**	**65.46**	**13**	P	**P**	**17 13 35.0**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=350,slow=2.9,SNR=4.7						

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*IDC **18** 17:03:54.9±1.5, 39.08N×21.95E, mb3.8/8, mb1 3.8/11, mb1mx3.7/21, mbtmp3.7/11, ML3.4/3, Error ellipse: s-maj=36.2km s-min=18.3km az=46.0*

*ATH **18** 17:03:56.6, 39.07N×22.03E, h23^{km}±2^{km}, MD3.7/17*

*NEIC **18** 17:03:57.8, 39.09N×21.97E, h11^{km}, MD3.7(ATH), MD3.5(PDG), After PDG.*

*CSEM **18** 17:03:57.5±0.1, 39.06N×22.11E, h8^{km}, ML3.8, Error ellipse: s-maj=1.7km s-min=1.3km az=32.0*

*PDG **18** 17:03:57.8±0.2, 39.09N×21.97E, h11^{km}±2^{km}*

*THE **18** 17:03:58.3, 39.13N×22.13E, h9^{km}, ML3.8*

ISC 18 17:03:56.7±0.5**, 39.10N**±0.02×**22.08E**±0.02**, h13**^{km}±3^{km}**, n109, σ1^{s}07**/147**, mb3.8**/8**, 11C-13D, Greece**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.21**	**111**	*e*Pg	**Pg**	**17 04 02.5**	**+1.0**
AGG				*e*Sg	**Sg**	**17 04 05.0**	**+0.3**
EVR	**Evrytania**	**0.28**	**229**	⇓*i*PB	**Pb**	**17 04 02.0**	**-1.0**
EVR				*e*SB	**Sb**	**17 04 05.8**	**-1.5**
LKR	**Lokris**	**0.85**	**122**	*e*PN	**Pn**	**17 04 13.6**	**-0.6**
LKR				*e*SN	**Sn**	**17 04 25.4**	**-1.0**
XOR	**Xorichti**	**0.91**	**72**	*e*Pg	**Pg**	**17 04 14.5**	**-0.4**
NEO	**Neokhori**	**0.91**	**76**	*e*PB	**Pb**	**17 04 14.4**	**+0.5**
NEO				*e*SB	**Sb**	**17 04 30.3**	**+4.5**
LIT	**Litokhoron**	**1.05**	**17**	*e*Pg	**Pg**	**17 04 17.4**	**-0.5**
LIT				*e*Sg	**Sg**	**17 04 31.9**	**0.0**
JAN	**Janina**	**1.10**	**301**	*e*PN	**Pn**	**17 04 16.8**	**-1.0**
RLS	**Riolos of Patr**	**1.14**	**205**	⇑*i*PN	**Pn**	**17 04 17.9**	**-0.5**
RLS				*e*SB	**Sb**	**17 04 34.6**	**+2.2**
KZN	**Kozani**	**1.23**	**349**	⇓*i*PN	**Pn**	**17 04 20.5**	**+0.8**
KZN				*e*SB	**Sb**	**17 04 38.2**	**+3.3**
AOS	**Alonnisos**	**1.40**	**86**	*e*Pb	**Pb**	**17 04 22.6**	**+0.3**
AOS				*e*Sb	**Sb**	**17 04 41.0**	**+1.0**
AOS	**Alonnisos**	**1.40**	**86**	*e*Pb	**Pb**	**17 04 22.6**	**+0.3**
AOS				*e*Sb	**Sb**	**17 04 41.0**	**+1.0**
IGT	**Igoumenitsa**	**1.42**	**288**	*e*Pb	**Pb**	**17 04 22.8**	**+0.2**
MGER	**Gerania Oros**	**1.45**	**140**	*e*PN	**Pn**	**17 04 23.5**	**+0.8**
VLS	**Valsamata**	**1.48**	**232**	*e*Pb	**Pb**	**17 04 22.6**	**-1.1**
VLS				*e*Sn	**Sn**	**17 04 45.6**	**+3.0**
MPAR	**Parnis Oros**	**1.61**	**126**	*e*PN	**Pn**	**17 04 26.0**	**+1.0**
MPAR				*e*SN	**Sn**	**17 04 47.5**	**+1.8**
NSAL	**Nisos Salamina**	**1.61**	**137**	*e*PN	**Pn**	**17 04 25.5**	**+0.4**
PLG	**Polygyros**	**1.65**	**39**	*e*PB	**Pb**	**17 04 25.9**	**-0.7**
THE	**Thessaloniki**	**1.68**	**24**	*e*Pb	**Pb**	**17 04 26.3**	**-0.7**
THE				*e*Sb	**Sb**	**17 04 48.4**	**+0.5**
ATH	**Athens Observa**	**1.71**	**131**	⇓*i*PN	**Pn**	**17 04 27.3**	**+0.8**
ATH				*e*SN	**Sn**	**17 04 48.1**	**-0.2**
NAIG	**Nisos Aigina**	**1.74**	**140**	*e*PN	**Pn**	**17 04 27.4**	**+0.5**
PTL	**Penteli**	**1.75**	**126**	*e*PN	**Pn**	**17 04 27.5**	**+0.4**
FNA	**Florina**	**1.77**	**342**	*e*Pb	**Pb**	**17 04 28.3**	**-0.2**
FNA				*e*Sb	**Sb**	**17 04 51.2**	**+0.6**
SRN	**Sarande**	**1.79**	**297**	*i* Pn	**Pn**	**17 04 29.9**	**+2.3**
SRN				*i* Sn	**Sn**	**17 04 55.4**	**+5.1**
KBN	**Korca**	**1.82**	**327**	*e*Pn	**Pn**	**17 04 26.8**	**-1.3**
KBN				*i* Sn	**Sn**	**17 04 56.2**	**+5.1**
KEK	**Kerkira**	**1.87**	**290**	⇓*i*PN	**Pn**	**17 04 31.0**	**+2.2**
GRG	**Griva**	**1.87**	**8**	*e*Pb	**Pb**	**17 04 29.4**	**-1.0**
GRG				*e*Sb	**Sb**	**17 04 53.4**	**-0.2**
ITM	**Ithomi**	**1.92**	**184**	*e*PN	**Pn**	**17 04 31.3**	**+1.8**
OUR	**Ouranopolis**	**1.92**	**49**	*e*Pb	**Pb**	**17 04 29.9**	**-1.2**
OUR				*e*Sb	**Sb**	**17 04 54.3**	**-0.6**
SOH	**Sokhos**	**1.98**	**29**	*e*Pb	**Pb**	**17 04 31.2**	**-1.0**
SOH				*e*Sb	**Sb**	**17 04 55.8**	**-0.9**
BIA	**Bitola**	**2.00**	**343**	*i* Pn	**Pn**	**17 04 31.1**	**+0.4**
BIA				*i*		17 04 33.7	
BIA				*i*		17 04 40.0	
BIA				*i* Sn	**Sn**	**17 04 58.4**	**+2.6**
BIA	**Bitola**	**2.00**	**343**	*i* Pn	**Pn**	**17 04 31.1**	**+0.4**
BIA				*i* Sn	**Sn**	**17 04 58.4**	**+2.6**
KNT	**Kendrikon**	**2.16**	**17**	*e*Pn	**Pn**	**17 04 33.6**	**+0.7**
KNT				*e*Sn	**Sn**	**17 05 00.4**	**+0.7**
OHR	**Ohrid**	**2.24**	**334**	⇑*i*Pn	**Pn**	**17 04 36.0**	**+1.9**
OHR				*i*		17 04 39.1	
OHR				*i* Sn	**Sn**	**17 05 03.2**	**+1.4**
OHR				*i*		17 05 06.6	
OHR	**Ohrid**	**2.24**	**334**	⇑*i*Pn	**Pn**	**17 04 36.0**	**+1.9**
OHR				*i* Sn	**Sn**	**17 05 03.2**	**+1.4**
LOS	**Limnos**	**2.47**	**69**	*e*Pn	**Pn**	**17 04 37.3**	**-0.1**
LOS				*e*Sn	**Sn**	**17 05 08.0**	**+0.3**
VLI	**Veliai**	**2.47**	**164**	*e*PN	**Pn**	**17 04 36.8**	**-0.6**
LIA	**Limnos Island**	**2.53**	**71**	*e*PN	**Pn**	**17 04 38.2**	**-0.1**
NVR	**Nevrokopi**	**2.63**	**31**	*e*PN	**Pn**	**17 04 40.1**	**+0.4**
SKO	**Skopje**	**2.91**	**351**	*e*Pn	**Pn**	**17 04 44.4**	**+0.7**
SKO				*i*		17 04 47.4	
KYTH	**Kithira**	**2.91**	**165**	*e*PN	**Pn**	**17 04 44.5**	**+0.8**
QSH	**Qafa e Shtames**	**2.94**	**326**	*i* Pn	**Pn**	**17 04 44.0**	**-0.1**
QSH				*i* Sn	**Sn**	**17 05 23.0**	**+3.5**
APE	**Apeiranthos**	**3.40**	**126**	*e*PN	**Pn**	**17 04 50.6**	**0.0**
ALN	**Alexandroupoli**	**3.54**	**58**	*e*Pn	**Pn**	**17 04 52.2**	**-0.4**
ULC	**Ulcinj**	**3.58**	**324**	⇑*i*Pn	**Pn**	**17 04 54.2**	**+0.9**
ULC				*e*Sn	**Sn**	**17 05 36.8**	**+1.0**
THR5	**Thira Island,**	**3.73**	**135**	*e*Pn	**Pn**	**17 04 55.8**	**+0.5**
THR3	**Thira Island,**	**3.76**	**135**	*e*Pn	**Pn**	**17 04 57.1**	**+1.3**
PVY	**Plav**	**3.84**	**336**	⇑*i*Pn	**Pn**	**17 04 58.0**	**+1.1**
PVY				*e*Sn	**Sn**	**17 05 43.7**	**+1.3**
TTG	**Podgorica**	**3.96**	**328**	⇑*i*Pn	**Pn**	**17 04 59.5**	**+1.0**
TTG				*e*Sn	**Sn**	**17 05 45.7**	**+0.4**
PE1	**Pezze di Greco**	**3.96**	**297**	*e*Pn	**Pn**	**17 04 58.7**	**+0.1**
SMG	**Samos**	**3.99**	**109**	*e*PN	**Pn**	**17 04 59.4**	**+0.4**
BUM	**Brajici-Budva**	**4.01**	**324**	⇑*i*Pn	**Pn**	**17 04 59.6**	**+0.3**
BUM				*e*Sn	**Sn**	**17 05 46.6**	**0.0**
VAM	**Vamos**	**4.05**	**155**	*e*PB	**Pb**	**17 05 03.0**	**-4.7**
IVA	**Berane**	**4.12**	**337**	⇑*i*Pn	**Pn**	**17 05 02.0**	**+1.2**
IVA				*e*Sn	**Sn**	**17 05 50.2**	**+0.9**
TIP	**Timpagrande**	**4.14**	**273**	*e*Pn	**Pn**	**17 05 00.9**	**-0.2**
TIP	**Timpagrande**	**4.14**	**273**	*e*Pn	**Pn**	**17 05 00.9**	**-0.2**
HCY	**Herceg Novi**	**4.31**	**322**	⇑*i*Pn	**Pn**	**17 05 03.8**	**+0.2**
HCY				*e*Sn	**Sn**	**17 05 54.1**	**-0.2**
NKY	**Niksic**	**4.38**	**329**	⇑*i*Pn	**Pn**	**17 05 05.5**	**+0.9**
NKY				*e*Sn	**Sn**	**17 05 55.9**	**-0.2**
IDI	**Anoyia**	**4.42**	**149**	Pn	**Pn**	**17 05 04.1**	**-0.9**
	1.0nm,0.3s,baz=336,slow=15,SNR=12						
IDI				Sn	**Sn**	**17 05 55.8**	**-1.2**
	4.2nm,0.3s,baz=25,slow=18,SNR=6.1						
SG1	**Sgolgore (BA)**	**4.50**	**294**	*e*Pn	**Pn**	**17 05 06.2**	**0.0**
BRY	**Bratogost**	**4.65**	**326**	⇑*i*Pn	**Pn**	**17 05 08.4**	**+0.1**
BRY				*e*Sn	**Sn**	**17 06 02.3**	**-0.4**
PLE	**Pljevlja**	**4.69**	**335**	*e*Pn	**Pn**	**17 05 09.6**	**+0.6**
PLE				*e*Sn	**Sn**	**17 06 03.9**	**+0.1**
UPM	**Unac-Piva**	**4.75**	**331**	*e*Pn	**Pn**	**17 05 10.6**	**+0.8**
UPM				*e*Sn	**Sn**	**17 06 04.7**	**-0.6**
CDT	**Castel del Mon**	**4.87**	**296**	*e*Pn	**Pn**	**17 05 11.2**	**-0.3**
MRLC	**Muro Lucano**	**5.33**	**290**	*e*Pn	**Pn**	**17 05 17.8**	**-0.1**
MRLC	**Muro Lucano**	**5.33**	**290**	*e*Pn	**Pn**	**17 05 17.8**	**-0.2**
FGMS	**Monte Sant'Ang**	**5.35**	**301**	*e*Pn	**Pn**	**17 05 17.7**	**-0.6**
FGMS	**Monte Sant'Ang**	**5.35**	**301**	*e*Pn	**Pn**	**17 05 17.7**	**-0.6**
MS1	**Monte Sant'Ang**	**5.36**	**301**	*e*Pn	**Pn**	**17 05 17.8**	**-0.6**
SGO	**Sicignano**	**5.41**	**288**	*e*Pn	**Pn**	**17 05 19.2**	**+0.1**
SGO	**Sicignano**	**5.41**	**288**	*e*Pn	**Pn**	**17 05 19.2**	**0.0**
FG5	**Orsara di Pugl**	**5.65**	**295**	*e*Pn	**Pn**	**17 05 22.8**	**+0.3**
FG5	**Orsara di Pugl**	**5.65**	**295**	*e*Pn	**Pn**	**17 05 22.8**	**+0.3**
CSSN	**Cassano Irpino**	**5.70**	**290**	*e*Pn	**Pn**	**17 05 23.9**	**+0.7**
CSSN	**Cassano Irpino**	**5.70**	**290**	*e*Pn	**Pn**	**17 05 23.9**	**+0.7**
VAE	**Valguarnera**	**6.24**	**257**	Sn	**Sn**	**17 06 40.1**	**-2.7**
	1.6nm,0.3s,baz=107,slow=12,SNR=3.1						
CII	**Carovilli**	**6.49**	**296**	*e*Pn	**Pn**	**17 05 34.9**	**+0.6**
CII	**Carovilli**	**6.49**	**296**	*e*Pn	**Pn**	**17 05 34.9**	**+0.6**
BZS	**Buzias**	**6.52**	**357**	⇓P	**Pn**	**17 05 35.7**	**+0.9**
BZS	**Buzias**	**6.52**	**357**	⇓P	**Pn**	**17 05 35.7**	**+0.9**
SDI	**San Donato**	**6.83**	**295**	*e*Pn	**Pn**	**17 05 39.9**	**+0.8**
MLR	**Muntele Rosu**	**7.00**	**23**	⇓P	**Pn**	**17 05 41.0**	**-0.5**
MLR	**Muntele Rosu**	**7.00**	**23**	⇓P	**Pn**	**17 05 41.0**	**-0.6**
VRI	**Vrincioaia**	**7.59**	**25**	⇓P	**Pn**	**17 05 48.6**	**-1.1**
VRI	**Vrincioaia**	**7.59**	**25**	⇓P	**Pn**	**17 05 48.6**	**-1.1**
NRCA	**Norcia**	**7.74**	**302**	*e*Pn	**Pn**	**17 05 50.4**	**-1.5**
NRCA	**Norcia**	**7.74**	**302**	*e*Pn	**Pn**	**17 05 50.4**	**-1.5**
MNS	**Montasola**	**7.85**	**298**	*e*Pn	**Pn**	**17 05 55.6**	**+2.2**
SNTG	**Esanatoglia**	**8.04**	**304**	*e*Pn	**P**	**17 05 54.5**	**-1.7**
SNTG	**Esanatoglia**	**8.04**	**304**	*e*Pn	**P**	**17 05 54.5**	**-1.6**
ARV	**Arcevia**	**8.16**	**306**	*e*Pn	**P**	**17 05 55.9**	**-1.8**
ARV	**Arcevia**	**8.16**	**306**	*e*Pn	**P**	**17 05 55.9**	**-1.9**
BURAR	**Bucovina Array**	**8.81**	**14**	⇓P	**P**	**17 06 06.7**	**-0.2**
BURAR	**Bucovina Array**	**8.81**	**14**	⇓P	**P**	**17 06 06.7**	**-0.1**
PSZ	**Piszkesteto**	**8.96**	**351**	*e*Pn	**P**	**17 06 07.8**	**-1.0**
	8.3nm,0.6s						
PSZ	**Piszkesteto**	**8.96**	**351**	⇓*e*	**P**	**17 06 07.9**	**-0.9**
PSZ				*i*		17 07 50.4	
BRTR	**Keskin Array B**	**8.97**	**82**	Pn	**P**	**17 06 08.7**	**-0.3**
	0.3nm,0.3s,baz=257,slow=13,SNR=4.4						
VOY	**Vojsko**	**9.19**	**322**	*e*Pn	**P**	**17 06 09.8**	**-2.2**
VOY				*e*Sn	**Sn**	**17 07 50.2**	**-6.1**
GERES	**GERESS Array B**	**11.45**	**331**	Pn	**P**	**17 06 41.2**	**-1.8**
	0.2nm,0.3s,baz=151,slow=18,SNR=3.4						
HFS	**Hagfors**	**21.71**	**349**	P	**P**	**17 08 46.4**	**-2.9**
	1.1nm,0.5s,mb3.5,baz=153,slow=13,SNR=6.8						
FINES	**FINESS Array B**	**22.51**	**5**	P	**P**	**17 08 54.4**	**-2.6**
	1.4nm,0.6s,mb3.6,baz=190,slow=9.3,SNR=6.4						
FINES	**FINESS Array B**	**22.51**	**5**	P	**P**	**17 08 54.4**	**-2.7**
NB2	**NORSAR Subarra**	**22.98**	**346**	P	**P**	**17 09 00.7**	**-1.1**
	1.6nm,0.9s,mb3.5,baz=152,slow=9.3						
NOA	**NORSAR Array B**	**22.98**	**346**	P	**P**	**17 09 00.8**	**-1.0**
	1.7nm,0.8s,mb3.5,baz=155,slow=9.1,SNR=6.1						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KAF	Kangasniemi	23.19	5	*e*p	P	17 09 01.5	-2.2
EKA	Eskdalemuir Ar	23.42	322	P	P	17 09 04.7	-1.3
	1.5nm,0.6s,mb3.6,baz=121,slow=9.7,SNR=5.5						
ARCES	ARCESS Array B	30.55	2	P	P	17 10 10.3	-1.4
	2.4nm,0.7s,mb4.1,baz=196,slow=8.8,SNR=6.7						
ZAL	Zalesovo	44.16	49	P	P	17 12 05.7	-0.8
	2.0nm,0.5s,mb4.2,baz=184,slow=6.0,SNR=10						
SCHQ	Schefferville	58.61	317	P	P	17 13 52.8	-2.7
	1.0nm,0.6s,mb4.0,baz=218,slow=16,SNR=3.9						
YKA	Yellowknife Ar	72.94	341	P	P	17 15 25.5	-1.5
	0.4nm,0.7s,mb3.5,baz=33,slow=5.0,SNR=7.6						

IDC 18 17:20:05.9±9.1**, 30.38S**×**177.21W, h92**^{km}±86^{km}**, mb3.6**/4**, mb1 3.7**/5**, mb1mx3.5**/13**, mbtmp3.9**/5**, ML3.6**/1**, Error ellipse: s-maj=74.8km s-min=50.1km az=166.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
URZ	Urewera	9.16	209	P	P	17 22 16.4	-0.5
	0.6nm,0.3s,baz=96,slow=19,SNR=5.0						
URZ				S	S	17 23 53.7	-5.2
	1.9nm,0.3s,baz=184,slow=23,SNR=9.8						
CTA	Charters Tower	34.47	279	P	P	17 26 43.5	-3.4
	2.4nm,0.9s,baz=72,slow=18,SNR=3.5						
STKA	Stephens Creek	35.15	257	P	P	17 26 52.4	-0.2
	0.6nm,0.4s,baz=98,slow=14,SNR=5.6						
ASAR	Alice Springs	43.80	267	P	P	17 28 03.1	-1.2
	0.8nm,0.6s,baz=104,slow=7.8,SNR=12						
WRA	Warramunga Arr	44.78	272	P	P	17 28 10.2	-2.1
	0.8nm,0.4s,baz=110,slow=8.1,SNR=14						
FINES	FINESS Array B	145.36	340	PKPbc	PKPbc	17 39 30.9	-1.7
	1.7nm,0.7s,baz=62,slow=4.0,SNR=11						

JMA ***18*** *17:38:23.4±0.7, 25.18N×121.96E, h22^{km}, M2.4*

TAP 18 17:38:24.0, 24.28N×121.80E, h7^{km}, ML3.0, Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	1.12	80	P	Pb	17 38 44.8	-0.4
IRIF	Iriomote-Funau	1.76	88	P	Pn	17 38 54.0	-1.2
IRIF				*e*S	Sn	17 39 16.9	-1.2
JKRS	Kuro-shima	2.02	91	P	Pn	17 38 58.2	-0.6
JKRS				*e*S	Sn	17 39 23.0	-1.5
JIJ	Ishigaki jima	2.14	87	P	Pn	17 38 59.5	-1.1
JIJ				*e*S	Sn	17 39 25.5	-2.1

MAN 18 17:43:09.8, 15.98N×121.88E, h9^{km}, mb4.3, ML3.1, MS2.9, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BALP	Baler	0.37	231	*e*P	Pg	17 43 18.4	+1.1
BALP				*e*S	Sg	17 43 25.1	+2.8
PCPH	Palayan	0.85	241	⇓*e*P	Pb	17 43 26.8	+0.5
PCPH				*e*S	Sb	17 43 39.9	+2.2
CAUP	Cauayan	0.96	357	*e*P	Pb	17 43 27.1	-1.1
CAUP				*e*S	Sb	17 43 42.5	+1.6
PALP	Palanan	1.20	26	*e*P	Pb	17 43 31.1	-1.1
PALP				*e*S	Sb	17 43 50.8	+3.0
POLP	Polilio Island	1.24	177	*e*P	Pb	17 43 32.3	-0.7
BCPH	Baguio City Da	1.31	288	⇑*i*P	Pb	17 43 33.8	-0.2
BCPH				*i* S	Sb	17 43 52.3	+1.5
APYP	Conner	1.97	342	*e*P	Pn	17 43 44.0	+0.3

IDC 18 18:01:15.1±1.6**, 2.47S×128.03E, mb3.2**/2**, mb1 3.5**/3**, mb1mx3.5**/12**, mbtmp3.3**/3**, ML3.6**/1**, Error ellipse: s-maj=145.2km s-min=25.1km az=73.0, Ceram Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.43	161	P	P	18 05 32.9	-1.1
	0.2nm,0.3s,baz=340,slow=11,SNR=16						
ASAR	Alice Springs	21.83	165	P	P	18 06 08.4	-2.7
	0.6nm,0.4s,baz=342,slow=11,SNR=14						
SONM	Songino Array	53.55	342	P	P	18 10 38.0	-1.9
	0.3nm,0.7s,baz=153,slow=9.7,SNR=2.6						

IDC ***18*** *18:03:52.5±5.1, 36.85S×73.74W, h36^{km}±40^{km}, mb3.8/4, mb1 4.0/6, mb1mx3.8/14, mbtmp3.9/6, ML3.8/1, MS3.3/2, Ms1 3.3/2, ms1mx2.3/18, Error ellipse: s-maj=41.3km s-min=25.2km az=78.0*

ISC 18 18:03:47.4±1.0**, 36.80S**±0.06×**73.7W**±0.1**, h10**^{km}**, n9,** σ**0**^{s}**83**/8**, mb4.0**/4**, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	4.63	149	Pn	**Pn**	**18 04 59.9**	**+0.7**
	1.1nm,0.3s,baz=299,slow=11,SNR=13						
PLCA				Sn	**Sn**	**18 05 53.5**	**-0.2**
	2.0nm,0.3s,baz=262,slow=14,SNR=5.3						
CFAA	Coronel Fontan	6.88	43	Pn	**Pn**	**18 05 30.5**	**-0.4**
	0.4nm,0.3s,baz=213,slow=14,SNR=15						
CFAA				Sn	**Sn**	**18 06 49.9**	**-0.2**
	0.4nm,0.3s,baz=90,slow=19,SNR=3.5						
LVC	Limon Verde	14.73	18	LR	LR	18 12 24.3	
	comp=Z,50nm,21.5s,baz=110,slow=35						
USHA	Ushuaia	18.39	170	LR	LR	18 16 21.9	
	comp=Z,201nm,20.9s,baz=52,slow=41						
LPAZ	La Paz	21.02	15	P	**P**	**18 08 35.9**	**+2.2**
	2.2nm,0.7s,mb3.6,baz=192,slow=5.9,SNR=6.5						
TXAR	Lajitas Array	71.55	333	P	**P**	**18 15 10.1**	**-0.7**
	0.8nm,0.5s,mb3.9,baz=159,slow=7.7,SNR=6.1						
DBIC	Dimbokro	77.35	72	P	**P**	**18 15 44.0**	**-0.5**
	3.6nm,0.7s,mb4.4,baz=207,slow=6.1,SNR=11						
PDAR	Pinedale Array	85.67	334	P	**P**	**18 16 26.9**	**-0.5**
	0.4nm,0.6s,mb3.8,baz=158,slow=4.9,SNR=3.6						
BVAR	Borovoye Array	150.23	46	PKPbc	PKPdf	18 23 39.5	+3.6
	0.4nm,0.5s,baz=315,slow=4.1,SNR=4.4						

GII ***18*** *18:13:29.7±0.5, 33.78N×35.72E, h5^{km}±27^{km}, ML2.6/6, Mw2.9/6*

CSEM ***18*** *18:13:30.0±0.1, 33.72N×35.69E, h2^{km}, Mw2.9, Error ellipse: s-maj=3.5km s-min=1.4km az=97.0*

GRAL ***18*** *18:13:31.3±1.8, 33.74N×35.58E, h0^{km}±999^{km}, MD2.8*

ISC 18 18:13:30.5±0.6**, 33.74N**±0.03×**35.61E**±0.09**, h2**^{km}±6^{km}**, n13,** σ**0**^{s}**83**/20**, Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.17	13	*i* PG	**Pg**	**18 13 33.6**	**-0.3**
BHL				*i* SG	**Sg**	**18 13 37.2**	**+1.0**
MATL	Matirih	0.34	223	*i* PG	**Pg**	**18 13 37.5**	**+0.2**
KSDI	Kefar Szold	0.55	176	Pg	**Pg**	**18 13 40.9**	**-0.5**
KSDI				Sg	**Sg**	**18 13 50.1**	**+1.4**
HWQ	Hawqa	0.61	27	*i* PG	**Pg**	**18 13 41.7**	**-0.9**
HWQ				*i* SG	**Sg**	**18 13 51.7**	**+1.0**
HNTI	Hanita	0.75	209	Pg	**Pg**	**18 13 45.6**	**+0.2**
HNTI				Sg	**Sg**	**18 13 57.0**	**+1.7**
KSHT	Keshet	0.77	167	Pg	**Pg**	**18 13 44.9**	**-1.1**
KSHT				Sg	**Sg**	**18 13 56.7**	**+0.5**
GLH	Golan-Tel Qazi	1.02	178	Pg	**Pg**	**18 13 50.0**	**-0.9**
HAF	Haifa	1.07	207	Pg	**Pg**	**18 13 51.6**	**-0.4**
OFRI	‘Ofer	1.23	205	Pg	**Pg**	**18 13 53.7**	**-1.4**
MMLI	Mount Malkishu	1.31	187	Pn	**Pn**	**18 13 55.1**	**-0.6**
MMLI				Sn	**Sn**	**18 14 14.6**	**+0.6**
HMDT	Nahal Hemdat	1.48	183	Pn	**Pn**	**18 13 57.4**	**-0.9**
HMDT				Sn	**Sn**	**18 14 18.9**	**+0.5**
DRGI	Dragot	2.15	185	Pn	**Pn**	**18 14 07.7**	**-0.1**
MKRJ	Makawir	2.18	179	Pn	**Pn**	**18 14 08.4**	**+0.1**

NNC ***18*** *18:41:24.5±11.0, 43.37N×76.74E, h18^{km}±81^{km}, mpv3.2, Error ellipse: s-maj=216.9km s-min=37.6km az=148.0*

KNET ***18*** *18:41:24.9±0.7, 43.11N×76.65E, h20^{km}±6^{km}, ml2.6, Error ellipse: s-maj=3.6km s-min=2.5km az=66.0*

ISC 18 18:41:23.4±1.0**, 43.19N**±0.06×**76.82E**±0.07**, h10**^{km}**, n12,** σ**0**^{s}**77**/20**, 13C-8D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.93	254	⇓P	**Pb**	**18 41 40.3**	**-1.0**
	60nm,0.2s,SNR=86						
TKM2				⇓S	**Sb**	**18 41 52.3**	**-1.1**
	318nm,0.1s						
ULHL	Ulahol	1.03	204	⇑P	**Pb**	**18 41 42.3**	**-0.7**
	29nm,0.1s,SNR=11						
ULHL				⇑S	**Sb**	**18 41 55.3**	**-1.0**
	79nm,0.1s						
KBK	Karagaybulak	1.47	249	⇑P	**Pn**	**18 41 50.1**	**-0.1**
	20nm,0.1s,SNR=40						
KBK				⇓S	**Sb**	**18 42 09.3**	**+0.2**
	340nm,0.4s						
CHMS	Chumysh	1.52	264	⇓P	**Pn**	**18 41 50.3**	**-0.6**
	18nm,0.2s,SNR=12						
CHMS				⇑S	**Sb**	**18 42 09.8**	**-0.8**
	135nm,0.2s						
KZA	Kyzart	1.60	227	⇑P	**Pn**	**18 41 52.5**	**+0.5**
	12nm,0.2s,SNR=18						
KZA				⇓S	**Sb**	**18 42 13.3**	**+0.4**
	29nm,0.2s						
USP	Ospenovka	1.69	273	⇓P	**Pn**	**18 41 53.4**	**+0.1**
	18nm,0.2s,SNR=33						
USP				⇑S	**Sn**	**18 42 14.9**	**-0.3**
	71nm,0.2s						
AAK	Ala-Archa	1.79	253	⇑P	**Pn**	**18 41 55.1**	**+0.4**
	16nm,0.3s,SNR=20						
AAK				⇑S	**Sn**	**18 42 18.3**	**+0.5**
	36nm,0.3s						
AAK	Ala-Archa	1.79	253	⇑P	**Pn**	**18 41 55.0**	**+0.2**
	8.3nm,0.3s						
AAK				⇑S	**Sn**	**18 42 18.1**	**+0.4**
	23nm,0.5s						
UCH	Uchtor	1.95	241	⇑P	**Pn**	**18 41 58.2**	**+1.2**
	11nm,0.3s,SNR=16						
UCH				⇑S	**Sn**	**18 42 23.5**	**+1.8**
	31nm,0.2s						
EKS2	Erkin-Say	2.29	258	⇑P	**Pn**	**18 42 02.8**	**+0.9**
	7.1nm,0.2s,SNR=18						
MK31	Makanchi Array	5.30	45	Pn	**Pn**	**18 42 44.3**	**-0.2**
	0.9nm,0.2s,baz=222,slow=15,SNR=45						
MK31				⇓Lg		18 44 08.8	
	1.7nm,0.4s						
KURK	Kurchatov	7.63	9	⇓Lg		18 45 22.3	
	4.4nm,0.7s						

IGQ 18 19:12:22.6, 0.62N×79.27W, h6^{km}±2^{km}, mb4.1, 5C-9D, Error ellipse: s-maj=1.8km s-min=1.4km az=171.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LORE	San Lorenzo	0.79	33	⇓P	Pb	19 12 38.8	+0.4
MAGD	Magdalena	0.85	216	P	Pb	19 12 39.4	+0.1
JOR1	San Jorge 1	0.89	134	⇑P	Pb	19 12 42.5	+2.6
JOR1				S	Sb	19 12 56.8	+5.0
COTA	Cotacachi	0.98	107	⇓P	Pb	19 12 41.8	+0.3
YANA	Yana	1.02	136	⇓P	Pb	19 12 42.7	+0.5
YANA				S	Sb	19 12 56.5	+0.8
PINO	Pino	1.02	139	⇑P	Pb	19 12 42.7	+0.4
TERV	Terraza Guagua	1.04	140	⇑P	Pb	19 12 42.8	+0.3
TERV				S	Sb	19 12 58.9	+2.8
GGP	Refugio Guagua	1.04	139	P	Pb	19 12 42.9	+0.3
JUA2	San Juan 2	1.06	141	⇑P	Pb	19 12 43.3	+0.2
JUA2				S	Sb	19 12 59.2	+2.1
ECEN	Cerro Negro	1.32	81	⇓P	Pb	19 12 47.1	-0.2
CAYA	Cayambe	1.39	113	⇓P	Pn	19 12 49.3	+0.6
CAYA				S	Sb	19 13 09.3	+2.8
CAYR	Refugio Cayamb	1.40	115	⇓P	Pn	19 12 49.9	+1.1
ELAGU	Cayambe Volc	1.43	117	⇓P	Pn	19 12 50.3	+1.1
ELAGU				S	Sb	19 13 10.2	+2.5
NAS1	Nasa	1.48	147	P	Pn	19 12 50.8	+0.9
NAS1				S	Sb	19 13 12.2	+3.2
VC1	Cotopaxi 1	1.53	145	⇑P	Pn	19 12 51.5	+1.0
VC1				S	Sb	19 13 15.2	+4.7
ANTI	Antisana	1.54	134	⇓P	Pn	19 12 51.8	+1.0
TAMB	Tambo	1.59	145	⇓P	Pn	19 12 53.0	+1.5
TAMB				S	Sb	19 13 15.2	+2.9
CONE	Cono NE Rev Vo	1.77	113	P	Pn	19 12 56.7	+2.7
PISA	Pisayambo	1.89	152	P	Pn	19 12 57.5	+1.8
HOJA	Cerro de Hojas	2.09	217	P	Pn	19 12 57.8	-0.9
HOJA				S	Sn	19 13 29.3	+4.0
IGUA	Igualata	2.19	163	P	Pn	19 13 02.5	+2.4
RETU	Refugio	2.22	158	P	Pn	19 13 03.6	+3.2
ULBA	Ulba	2.23	157	P	Pn	19 13 02.8	+2.2
ARRY	Arrayan	2.27	159	P	Pn	19 13 03.1	+2.0

THR ***18*** *19:49:05.4±0.5, 34.42N×48.40E, h14^{km}±6^{km}, ML2.8*

CSEM ***18*** *19:49:05.7±0.1, 34.34N×48.23E, h10^{km}, ML3.3, Error ellipse: s-maj=5.2km s-min=1.9km az=179.0*

TEH ***18*** *19:49:07.3, 34.20N×48.22E, h10^{km}, Mn3.3*

ISC 18 19:49:06.1±0.7**, 34.32N**±0.08×**48.22E**±0.04**, h10**^{km}**, n18,** σ**1**^{s}**05**/22**, Western Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IKOM	Komasi	0.60	256	Pg	**Pg**	**19 49 17.8**	**-0.4**
SNGE	Sanandaj	1.05	317	*e*PG	**Pg**	**19 49 25.7**	**-1.4**
SNGE				*e*SG	**Sg**	**19 49 41.3**	**0.0**
SNGE				AML	AML	19 49 44.2	
	comp=N,217nm,0.3s						
IVIS	Veys	1.15	281	Pg	**Pg**	**19 49 28.5**	**-0.6**
IGHG	Ghaleghazi	1.37	271	Pn	**Pn**	**19 49 32.5**	**+1.2**
ASAO	Ashtian	1.51	81	*e*PG	**Pg**	**19 49 30.4**	**-5.8**
ASAO				*e*SG	**Sg**	**19 49 48.6**	**-7.7**
ASAO				AML	AML	19 50 02.0	
	comp=N,178nm,0.6s						
ASAO	Ashtian	1.51	81	*e*Pg	**Pg**	**19 49 30.4**	**-5.8**
	SNR=90						
ASAO				*e*Sg	**Sg**	**19 49 48.7**	**-7.6**
	comp=N,178nm,0.6s,SNR=90						
IDHR	Dehrash	1.56	284	Pn	**Pn**	**19 49 35.6**	**+1.5**
IRAZ	Razeghan	1.77	52	Pn	**Pn**	**19 49 35.9**	**-1.2**
IQOM	Qom	2.41	77	Pn	**Pn**	**19 49 47.0**	**+0.8**
IQOM				Sn	**Sn**	**19 50 16.5**	**+0.5**
IMHD	Mahdasht	2.42	55	Pn	**Pn**	**19 49 47.5**	**+1.1**
IVRN	Varamin	2.97	76	Pn	**Pn**	**19 49 54.3**	**+0.1**
IVRN	Varamin	2.97	76	Lg		19 50 40.8	
IAFJ	Afjeh	3.25	61	Pn	**Pn**	**19 49 58.9**	**+0.8**
DAMV	Damavand	3.34	66	*e*PN	**Pn**	**19 49 57.2**	**-2.3**
DAMV				AML	AML	19 51 03.0	
	comp=N,21nm,0.6s						
IDMV	Damavand	3.37	67	Pn	**Pn**	**19 50 00.3**	**+0.4**
IFIR	Firoozkooh	3.95	69	Pn	**Pn**	**19 50 08.5**	**+0.4**
NASN	Na’in	4.12	110	*e*PN	**Pn**	**19 50 08.9**	**-1.6**
NASN	Na’in	4.12	110	*e*Pn	**Pn**	**19 50 08.9**	**-1.6**
	SNR=52						
NASN				*e*Sg	**Sg**	**19 51 12.0**	**-11**
	SNR=90						

THR ***18*** *19:49:17.2±1.3, 30.99N×56.57E, h14^{km}±12^{km}, ML3.5*

CSEM ***18*** *19:49:20.3±0.1, 30.79N×56.83E, h2^{km}, ML3.5, Error ellipse: s-maj=3.7km s-min=3.3km az=119.0*

TEH ***18*** *19:49:26.5, 30.91N×56.69E, h18^{km}, Mn4.0*

ISC 18 19:49:22.1±0.5**, 30.77N**±0.04×**56.86E**±0.06**, h10**^{km}**, n18,** σ**1**^{s}**12**/19**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KRBR	Kerman	0.79	186	*e*PG	**Pg**	**19 49 36.6**	**-1.4**
KRBR				*e*SG	**Sg**	**19 49 50.3**	**+1.6**
IBAF	Bafgh	1.37	307	Pg	**Pg**	**19 49 45.9**	**-3.7**
IMEH	Mehriz	2.02	288	Pn	**Pn**	**19 49 57.0**	**+0.3**
ICHK	Chekchek	2.56	306	Pn	**Pn**	**19 50 04.2**	**-0.2**
ISAD	Sadrabad	2.94	294	Pn	**Pn**	**19 50 09.9**	**0.0**
BNDS	Bandar-Abbas	3.41	190	*e*PN	**Pn**	**19 50 14.8**	**-1.7**
BNDS				AML	AML	19 51 11.2	
	comp=N,89nm,0.6s						
IPAR	Pars	3.42	255	Pn	**Pn**	**19 50 17.4**	**+0.7**
ZHSF	Zahedan	3.58	108	*e*PN	**Pn**	**19 50 19.1**	**+0.1**
ZHSF				AML	AML	19 51 20.9	
	comp=N,108nm,0.6s						
IMOK	Mook	3.99	245	Pn	**Pn**	**19 50 25.0**	**+0.3**
NASN	Na’in	4.00	301	*e*PN	**Pn**	**19 50 15.0**	**-10**
NASN				*e*SG	**Sn**	**19 51 12.0**	**-0.4**
GHIR	Ghir-Karzin	4.18	235	*e*PN	**Pn**	**19 50 22.5**	**-5.0**
GHIR				AML	AML	19 51 51.8	
	comp=N,51nm,0.6s						
IMOG	Moghan	5.71	21	Pn	**Pn**	**19 50 48.1**	**-1.0**
IPAY	Payeh	5.94	17	Pn	**Pn**	**19 50 52.9**	**+0.6**
IKRD	Kardeh	6.14	13	Pn	**Pn**	**19 50 57.8**	**+2.6**
IMYA	Miamay	6.18	25	Pn	**Pn**	**19 50 54.6**	**-1.2**
ISFR	Esferayen	6.33	8	Pn	**Pn**	**19 50 57.4**	**-0.4**
IQHU	Quchan	6.43	12	Pn	**Pn**	**19 51 01.0**	**+1.7**
IAFJ	Afjeh	6.65	321	Lg		19 52 47.4	

NIED ***18*** *20:11:00, 38.90N×141.60E, h155^{km}, Mw4.3 Best double couple: M$_0$3×10^{15} NP1:φ$_s$60°, δ85°, λ43°. NP2:φ$_s$326°, δ47°, λ173°.*

JMA ***18*** *20:11:27.3±0.1, 38.85N×141.60E, h74^{km}±1^{km}, M3.8 Broadband fault plane solution: P waves. NP1:φ$_s$94°, δ24°, λ-168°. NP2:φ$_s$353°, δ85°, λ-66°. Principal axes: T Plg36°, Azm63°; N Plg23°, Azm171°; P Plg45°, Azm287°;*

JMA Felt II J1.

ISC 18 20:11:27.0±1.6**, 38.83N**±0.06×**141.7E**±0.1**, h72**^{km}±10^{km}**, n8,** σ**0**^{s}**52**/15**, 5C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
OFUJ	Ofunato	0.25	1	⇓P	**P**	**20 11 38.6**	**+0.5**
OFUJ				S	**S**	**20 11 46.7**	**+0.3**
JMK	Ichinoseki	0.37	290	⇑P	**P**	**20 11 38.9**	**0.0**
JIO	Ouri	0.45	214	⇑P	**P**	**20 11 39.9**	**+0.3**
JIO				S	**S**	**20 11 49.0**	**+0.1**
JOM	Ohasama	0.71	336	⇑P	**P**	**20 11 42.2**	**0.0**
JOM				S	**S**	**20 11 53.2**	**-0.4**
JOU	Okura	0.91	240	P	**P**	**20 11 44.7**	**0.0**
JOU				S	**S**	**20 11 57.9**	**+0.1**
JYK	Kaneyama	1.02	275	⇑P	**P**	**20 11 45.8**	**-0.3**
JYK				S	**S**	**20 12 00.3**	**-0.1**
JMM	Marumori	1.18	216	⇑P	**P**	**20 11 47.7**	**-0.4**
JMM				S	**S**	**20 12 03.0**	**-1.0**
MAT	Matsushiro	3.57	231	P	**P**	**20 12 20.9**	**-0.4**
MAT				*e*S	**S**	**20 13 03.9**	**+1.4**

IDC 18 20:38:19.9±3.0**, 28.93S×177.45W, mb3.9**/3**, mb1 4.1**/3**, mb1mx3.9**/11**, mbtmp3.9**/3**, MS3.1**/1**, Ms1 3.1**/1**, ms1mx2.3**/19**, Error ellipse: s-maj=155.1km s-min=39.3km az=157.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	34.07	277	LR	LR	20 55 20.0	
	comp=Z,32nm,18.9s,baz=31,slow=30						
STKA	Stephens Creek	35.30	255	P	P	20 45 16.4	-2.3
	0.8nm,0.4s,baz=116,slow=12,SNR=4.7						
ASAR	Alice Springs	43.69	265	P	P	20 46 26.8	-1.6
	1.0nm,0.6s,baz=103,slow=7.1,SNR=18						
WRA	Warramunga Arr	44.54	270	P	P	20 46 33.7	-1.7
	1.0nm,0.4s,baz=111,slow=7.9,SNR=16						
FINES	FINESS Array B	143.93	341	PKP	PKPdf	20 57 54.4	-3.9
	2.0nm,0.5s,baz=52,slow=3.7,SNR=26						
HFS	Hagfors	147.90	350	PKPbc	PKPdf	20 58 05.8	+0.7
	1.0nm,0.6s,baz=90,slow=5.8,SNR=2.9						
BRTR	Keskin Array B	152.29	301	PKP	PKPdf	20 58 11.2	-1.4
	0.9nm,0.9s,baz=90,slow=4.3,SNR=2.8						

NIED ***18*** *20:46:00, 33.10N×137.20E, h14^{km}, Mw3.8 Best double couple: M$_0$6.32×10^{14} NP1:φ$_s$268°, δ59°, λ100°. NP2:φ$_s$69°, δ32°, λ74°.*

IDC ***18*** *20:46:05.2±1.3, 33.00N×137.27E, mb3.6/4, mb1 3.7/5, mb1mx3.6/20, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=30.3km s-min=24.7km az=15.0*

JMA ***18*** *20:46:08.2±0.1, 33.10N×137.18E, h43^{km}±3^{km}, M4.0*

ISC 18 20:46:08.2±0.7**, 33.10N**±0.05×**137.19E**±0.03**, h42**^{km}±11^{km}**, n21,** σ**0**^{s}**68**/37**, mb3.5**/4**, 1C-8D, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TK01	Tokai 1	0.74	27	P	**P**	**20 46 22.3**	**+0.1**
TK01				S	**S**	**20 46 32.6**	**+0.1**
TK02	Tokai 2	0.97	29	⇓P	**P**	**20 46 25.6**	**+0.2**
TK02				S	**S**	**20 46 38.7**	**+0.5**
TK03	Tokai 3	1.24	31	⇓P	**P**	**20 46 29.6**	**+0.3**
TK03				S	**S**	**20 46 45.4**	**+0.2**
JWZ	Kozaga	1.31	290	⇑P	**P**	**20 46 30.2**	**-0.2**
JWZ				S	**S**	**20 46 45.7**	**-1.2**
JIE	Ise	1.35	343	⇓P	**P**	**20 46 31.6**	**+0.6**
JIE				S	**S**	**20 46 48.5**	**+0.6**
TK04	Tokai 4	1.40	24	⇓P	**P**	**20 46 32.0**	**+0.3**
TK04				S	**S**	**20 46 49.4**	**+0.2**
JWM	Minabe	1.71	296	⇓P	**P**	**20 46 36.2**	**+0.2**
JWM				S	**S**	**20 46 56.1**	**-0.7**
TSUJ	Tsu 2	1.73	338	⇓P	**P**	**20 46 36.8**	**+0.5**
TSUJ				S	**S**	**20 46 57.7**	**+0.4**
JWY	Kouya	1.74	310	⇓P	**P**	**20 46 37.3**	**+0.9**
JWY				S	**S**	**20 46 57.4**	**-0.1**
JHE	Heguri	1.99	321	P	**P**	**20 46 40.7**	**+0.7**
JHE				S	**S**	**20 47 04.0**	**+0.1**
SHZ3	Shizuoka 3	2.13	23	⇓P	**P**	**20 46 42.0**	**-0.1**
SHZ3				S	**S**	**20 47 06.3**	**-1.2**
JIZS	Izushimoda	2.14	41	P	**P**	**20 46 42.0**	**-0.1**
JIZS				S	**S**	**20 47 07.3**	**-0.3**
JHJ	Hachijo jima 2	2.18	89	Pn	**P**	**20 46 43.1**	**+0.4**
	25nm,0.3s,baz=266,slow=13,SNR=7.9						
JHJ				Sn	**S**	**20 47 08.7**	**+0.1**
	98nm,0.3s,baz=91,slow=23,SNR=10.0						
JHJ2	Mitsune	2.20	89	S	**S**	**20 47 08.4**	**-0.9**
JAI	Aioi	2.39	287	P	**P**	**20 46 46.1**	**+0.3**
JAI				S	**S**	**20 47 12.0**	**-2.1**
JIM2	Oshima 3	2.46	49	P	**P**	**20 46 47.2**	**+0.4**
JIM2				S	**S**	**20 47 14.5**	**-1.4**
MAT	Matsushiro	3.53	13	P	**P**	**20 47 02.5**	**+0.5**
MAT				S	**S**	**20 47 42.3**	**-0.8**
SONM	Songino Array	27.45	312	P	**P**	**20 51 53.9**	**+1.8**
	0.4nm,1.0s,mb2.9,baz=112,slow=7.8,SNR=2.2						
WRA	Warramunga Arr	52.81	183	P	**P**	**20 55 21.7**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=2.6,slow=7.6,SNR=5.2						
ASAR	Alice Springs	56.54	184	P	**P**	**20 55 49.1**	**+0.2**
	0.4nm,0.6s,mb3.6,baz=12,slow=12,SNR=7.3						
STKA	Stephens Creek	64.76	176	P	**P**	**20 56 44.3**	**-0.4**
	0.7nm,0.6s,mb3.9,baz=344,slow=7.4,SNR=4.5						

MOS ***18*** *20:58:14.2±1.3, 51.64N×15.95E, h10^{km}, mb4.1/1, Error ellipse: s-maj=7.3km s-min=3.5km az=81.1*

NEIC ***18*** *20:58:15.9±0.4, 51.59N×16.00E, h5^{km}, ML4.1(SZGRF), ML3.9(VIE), ML3.6(CLL), ML3.4(BRG), Error ellipse: s-maj=4.8km s-min=4.2km az=63.0*

IDC ***18*** *20:58:16.6±0.6, 51.52N×16.00E, mb3.8/3, mb1 3.9/11, mb1mx3.8/21, mbtmp3.8/11, ML3.8/8, MS3.5/1, Ms1 3.5/1, ms1mx2.7/23, Error ellipse: s-maj=14.8km s-min=5.5km az=102.0*

CSEM ***18*** *20:58:16.5±0.1, 51.52N×16.10E, h2^{km}, mb4.0/1, ML4.1/16, Error ellipse: s-maj=1.7km s-min=1.0km az=19.0*

LDG ***18*** *20:58:16.2±0.2, 51.50N×16.13E, h1^{km}, Ml4.1/15, Error ellipse: s-maj=4.5km s-min=2.7km az=3.0, Suspected Mining induced.*

IPEC ***18*** *20:58:16.8±0.2, 51.52N×16.12E, h9^{km}±1^{km}, ML3.3/3, Error ellipse: s-maj=1.2km s-min=0.6km az=35.0*

PRU ***18*** *20:58:17.3, 51.49N×16.07E, Felt In Harrachov*

WAR ***18*** *20:58:17.7, 51.51N×16.06E, h1^{km}, ML3.7, Mining Induced*

BGR ***18*** *20:58:18.5±0.6, 51.50N×15.97E, h1^{km}, ML4.1/9, Error ellipse: s-maj=8.9km s-min=4.4km az=159.0*

STR ***18*** *20:58:22.9±0.9, 51.41N×15.43E, h10^{km}±1^{km}, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 18 20:58:14.3±0.2**, 51.48N**±0.01×**16.03E**±0.02**, n157,** σ**1**^{s}**58**/273**, mb3.9**/3**, 18C-3D, Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.66	165	⇓*i*P	**Pg**	**20 58 30.2**	**+2.7**
KSP				*e*		20 58 38.9	
KSP	Ksiaz	0.66	165	⇓*i*Pg	**Pg**	**20 58 30.2**	**+2.7**
KSP				*i*		20 58 32.8	
KSP				*e*Sg	**Sg**	**20 58 38.9**	**+2.5**
KSP	Ksiaz	0.66	165	*i* PG	**Pg**	**20 58 30.2**	**+2.7**
KSP				*e*SG	**Sg**	**20 58 39.2**	**+2.8**
KSP	Ksiaz	0.66	165	*e*Pg	**Pg**	**20 58 30.3**	**+2.7**
KSP				*e*Sg	**Sg**	**20 58 39.3**	**+2.9**
KSP	Ksiaz	0.66	165	*e*Pg	**Pg**	**20 58 30.2**	**+2.7**
KSP				*e*Sg	**Sg**	**20 58 38.9**	**+2.5**
UPC	Upice	0.98	180	*e*PG	**Pg**	**20 58 36.1**	**+2.3**
DPC	Dobruska-Polom	1.15	170	*e*PG	**Pg**	**20 58 38.9**	**+1.6**
DPC				*e*SG	**Sg**	**20 58 53.9**	**+1.3**
	500nm,0.6s						
DPC	Dobruska-Polom	1.15	170	Pg	**Pg**	**20 58 38.9**	**+1.6**
DPC				*e*Sg	**Sg**	**20 58 53.5**	**+0.9**
PVCC	Panska Ves	1.33	224	*e*PG	**Pg**	**20 58 42.6**	**+1.8**
PVCC	Panska Ves	1.33	224	*e*Pn	**Pn**	**20 58 42.5**	**+2.4**
PVCC	Panska Ves	1.33	224	Pg	**Pg**	**20 58 42.6**	**+1.8**
PVCC				*e*Sg	**Sg**	**20 59 01.3**	**+2.8**

BRG Berggiesshubel 1.45 246 *e*Pn **Pn 20 58 43.8 +2.0**
BRG *e*Sg **Sg 20 59 05.0 +2.5**
BRG Berggiesshubel 1.45 246 *e*P **Pn 20 58 43.4 +1.6**
BRG *i* 20 59 05.1
BRG Berggiesshubel 1.45 246 *e*Pn **Pn 20 58 43.4 +1.6**
BRG *i* Pg **Pg 20 58 45.1 +1.9**
BRG *i* Sg **Sg 20 59 05.1 +2.7**
BRG Berggiesshubel 1.45 246 *i* Pg **Pg 20 58 45.1 +1.9**
BRG *e*Sg **Sg 20 59 04.3 +1.9**
RUE Ruedersdorf 1.71 307 *e*Pn **Pn 20 58 44.4 -1.2**
RUE *e*Pg **Pg 20 58 46.5 -1.9**
RUE *e*Sn **Sn 20 59 06.7 -1.7**
RUE Ruedersdorf 1.71 307 *e*Pg **Pg 20 58 46.5 -2.0**
RUE Ruedersdorf 1.71 307 *e*Pn **Pn 20 58 46.6 +1.0**
RUE *e*Sg **Sg 20 59 11.6 +0.3**
PRU Pruhonice 1.77 213 *e*P **Pn 20 58 48.3 +1.9**
PRU *e* 20 59 14.0
PRU Pruhonice 1.77 213 *e*PN **Pn 20 58 48.3 +1.9**
PRU *e*PG **Pg 20 58 50.0 +0.4**
PRU *e*SG **Sg 20 59 14.0 +0.8**
123nm,0.2s
PRU Pruhonice 1.77 213 Pg **Pg 20 58 50.0 +0.4**
PRU *e*Sg **Sg 20 59 13.8 +0.6**
CLL Collm 1.90 266 *e*Pn **Pn 20 58 49.7 +1.4**
CLL *e*Sg **Sg 20 59 18.9 +1.2**
CLL Collm 1.90 266 *i* P **Pn 20 58 49.7 +1.4**
CLL *i* 20 59 18.3
CLL Collm 1.90 266 *i* Pn **Pn 20 58 49.7 +1.4**
CLL *i* Pg **Pg 20 58 52.9 +0.6**
CLL *i* Sg **Sg 20 58 53.8 +0.7**
CLL Collm 1.90 266 *i* PN **Pn 20 58 49.7 +1.4**
logA/T=2.1
CLL *i* PG **Pg 20 58 52.9 +0.6**
CLL *i* 20 58 56.8
CLL *i* SG **Sg 20 59 18.3 +0.7**
CLL *i* 20 59 26.0
CLL Collm 1.90 266 *e*Pn **Pn 20 58 49.5 +1.2**
CLL Collm 1.90 266 *i* Pg **Pg 20 58 52.9 +0.6**
CLL Sg **Sg 20 59 18.9 +1.3**
GKP Gorka Klasztor 1.94 22 *e*Pn **Pn 20 58 50.9 +2.1**
GKP *e*Pg **Pg 20 58 54.0 +1.0**
GKP *e*PP PP 20 58 57.0 +1.5
GKP *e*Sg **Sg 20 59 21.3 +2.4**
GKP Gorka Klasztor 1.94 22 *e*PN **Pn 20 58 51.0 +2.2**
GKP *e*PG **Pg 20 58 54.0 +1.0**
GKP *e*SG **Sg 20 59 21.0 +2.1**
GKP Gorka Klasztor 1.94 22 *e*Pn **Pn 20 58 50.9 +2.0**
GKP *e*Pg **Pg 20 58 54.0 +1.0**
GKP *e*PP PP 20 58 57.0 +1.5
GKP *e*Sg **Sg 20 59 21.3 +2.5**
GKP Gorka Klasztor 1.94 22 *e*Pg **Pg 20 58 54.0 +1.0**
GKP *e*Sg **Sg 20 59 21.3 +2.4**
MORC Moravsky Berou 1.96 150 *e*Pn **Pn 20 58 50.2 +1.0**
MORC *e*Sn **Sn 20 59 16.9 +2.0**
MORC Moravsky Berou 1.96 150 *e*Pn **Pn 20 58 50.2 +1.0**
MORC *e*Sg **Sg 20 59 18.2 -1.4**
193nm,0.5s
RAC Raciborz 1.96 135 *e*P **Pn 20 58 50.2 +1.0**
RAC *e* 20 59 20.6
RAC Raciborz 1.96 135 *e*PN **Pn 20 58 50.0 +0.8**
RAC *e*PG **Pg 20 58 53.0 -0.5**
RAC *e*SG **Sg 20 59 21.0 +1.3**
RAC Raciborz 1.96 135 *e*Pg **Pg 20 58 53.4 -0.1**
RAC *e*Sg **Sg 20 59 20.6 +0.9**
OKC Ostrava-Krasne 2.13 140 *e*PN **Pn 20 58 52.2 +0.6**
OKC *e*PG **Pg 20 58 55.6 -1.2**
OKC Ostrava-Krasne 2.13 140 Pg **Pg 20 58 55.6 -1.2**
OKC *e*Sg **Sg 20 59 23.1 -2.1**
VRAC Vranov 2.21 170 Pn **Pn 20 58 54.9 +2.3**
11nm,0.3s,baz=340,slow=15,SNR=40
VRAC Lg 20 59 27.6
34nm,0.3s,baz=87,slow=18,SNR=20
VRAC LR LR 20 59 29.0
comp=Z,1μm,21.9s,baz=121,slow=32
VRAC Vranov 2.21 170 Pn **Pn 20 58 54.9 +2.2**
VRAC *e*Sg **Sg 20 59 27.3 -0.5**
200nm,0.5s
KRUC Moravsky 2.44 174 *e*Sg **Sg 20 59 34.4 -1.0**
124nm,0.4s
TANN Tannenbergstha 2.49 246 *e*Pn **Pn 20 58 59.4 +2.6**
TANN *e*Sg **Sg 20 59 37.8 +0.5**
WERD Werda 2.57 248 *e*Pn **Pn 20 58 59.7 +1.8**
WERD *e*Sg **Sg 20 59 39.0 -0.9**
NKC Novy Kostel 2.59 243 *e*PN **Pn 20 59 00.0 +1.9**
NKC *e*PG **Pg 20 59 07.0 +1.0**
NKC *e*SG **Sg 20 59 40.0 -0.5**
347nm,0.5s
GUNZ Gunzen 2.59 246 *e*Pn **Pn 20 59 00.1 +1.9**
GUNZ *e*Sg **Sg 20 59 40.3 -0.3**
OJC Ojcow 2.71 116 *e*PN **Pn 20 58 59.0 -0.8**
OJC *i* PG **Pg 20 59 07.7 -0.6**
OJC *i* SG **Sg 20 59 43.4 -1.0**
OJC Ojcow 2.71 116 *e*Pn **Pn 20 58 58.8 -1.0**
KHC Kasperske Hory 2.83 215 *e*P **Pn 20 59 03.0 +1.4**
KHC *e* 20 59 37.0
KHC Kasperske Hory 2.83 215 *e*PN **Pn 20 59 03.0 +1.4**
KHC *e*PG **Pg 20 59 09.8 -1.0**
KHC *e*SN **Sn 20 59 37.0 +0.1**
KHC *e*SG **Sg 20 59 46.5 -2.0**
MOX Moxa 2.91 255 *e*Pn **Pn 20 59 03.9 +1.2**
MOX *e*Sg **Sg 20 59 51.4 +0.3**
MOX Moxa 2.91 255 *e*Pn **Pn 20 59 04.0 +1.3**
MOX *e*Pg **Pg 20 59 12.7 +0.4**
MOX *e*Sg **Sg 20 59 51.8 +0.8**
MOX Moxa 2.91 255 *i* P **Pn 20 59 04.0 +1.3**
MOX Pg **Pg 20 59 13.0 +0.7**
MOX Sg **Sg 20 59 52.0 +1.0**
MOX Moxa 2.91 255 *e*Pg **Pg 20 59 12.7 +0.4**
MOX Sg **Sg 20 59 51.4 +0.4**
NOTT Nottersdorf 3.00 238 *e*Pn **Pn 20 59 05.8 +1.9**
NOTT *e*Sg **Sg 20 59 52.8 -1.2**
GEC2 GERESS Array S 3.03 210 *e*Pn **Pn 20 59 06.5 +2.0**
GEC2 GERESS Array S 3.03 210 *e*Pn **Pn 20 59 06.5 +2.0**
GERES GERESS Array B 3.03 210 P **Pn 20 59 06.0 +1.5**
GERES 20 59 43.3
GERES GERESS Array B 3.03 210 Pn **Pn 20 59 06.0 +1.6**
11nm,0.3s,baz=30,slow=12,SNR=218
GERES Pg **Pg 20 59 12.8 -2.1**
20nm,0.3s,baz=31,slow=16,SNR=45
GERES Sn **Sn 20 59 43.3 +1.2**
16nm,0.3s,baz=34,slow=26,SNR=7.6
GERES Lg 20 59 52.8
30nm,0.3s,baz=31,slow=28,SNR=13
GERES GERESS Array B 3.03 210 Pn **Pn 20 59 06.0 +1.6**
GERES Pg **Pg 20 59 12.8 -2.1**
GERES Sn **Sn 20 59 43.3 +1.2**
GERES Lg 20 59 52.8
GERES GERESS Array B 3.03 210 Pg **Pg 20 59 12.8 -2.1**
GERES S **Sn 20 59 43.3 +1.2**
WET Wettzell 3.09 222 *e*Pn **Pn 20 59 07.0 +1.7**
WET *e*Sg **Sg 20 59 56.6 -0.6**
WET Wettzell 3.09 222 *e*Pn **Pn 20 59 07.0 +1.7**
WET *e*Sg **Sg 20 59 56.6 -0.6**
SMOL Smolenice 3.11 163 *e*PG **Pg 20 59 15.5 -0.8**
SMOL *e*SG **Sg 20 59 56.9 -0.8**
VKA Vienna 3.23 177⇑*i*PN **Pn 20 59 08.9 +2.6**
VKA *i* PG **Pg 20 59 17.0 -1.7**
VKA *i* SG **Sg 21 00 01.0 -0.7**
KOLL Kolacno 3.29 151 *e*P **Pn 20 59 09.8 +1.7**
KOLL *e* 21 00 00.6
KOLL Kolacno 3.29 151 *e*PN **Pn 20 59 09.8 +1.7**
KOLL *e*PG **Pg 20 59 20.2 +0.3**
KOLL *e*SG **Sg 21 00 00.6 -3.1**
ZST Bratislava 3.36 168 *e*PN **Pn 20 59 11.0 +1.8**
ZST *e*PG **Pg 20 59 19.8 -1.6**
ZST *e*SG **Sg 21 00 04.2 -2.1**
NIE Niedzica 3.43 125 *e*PN **Pn 20 59 09.0 -1.1**
NIE *e*PN **Pg 20 59 20.0 -2.8**
NIE *e*S **Sg 21 00 06.0 -2.6**
VYHS Vyhne 3.50 148 *e*PN **Pn 20 59 12.0 +0.9**
VYHS *e*PG **Pg 20 59 21.6 -2.6**
CLZ Clausthal 3.54 278 *e*Pn **Pn 20 59 13.3 +1.6**
GRA1 Grafenberg Arr 3.55 242 Sg **Sg 21 00 11.4 -1.0**
GRF Grafenberg Arr 3.55 242 *e*Sg **Sg 21 00 11.4 -1.0**
BSD Bornholm Skovb 3.70 350⇑*i*P **Pn 20 59 12.9 -1.0**
BSD *i* S **Sn 20 59 55.5 -3.4**
BSD Bornholm Skovb 3.70 350⇑*i* **Pn 20 59 12.9 -1.0**
BSD *i* 20 59 19.3
BSD *i* S **Sn 20 59 55.5 -3.4**
MOA Molln 3.81 198⇑*i*PN **Pn 20 59 17.4 +1.9**
MOA *i* SG **Sg 21 00 20.2 -1.0**
113nm,0.7s
SOP Sopron 3.82 175 *e*Pn **Pn 20 59 17.2 +1.6**
SOP *e* 21 00 17.3
ARSA Arzberg 4.25 185⇑*i*PN **Pn 20 59 23.2 +1.4**
ARSA *i* SG **Sg 21 00 32.7 -3.1**
99nm,0.7s
CRVS Cervenica-Dubn 4.34 124 *e*PN **Pn 20 59 24.0 +0.9**
CRVS *e*PG **Pg 20 59 39.5 -1.5**
PSZ Piszkesteto 4.36 143⇓*e*Pn **Pn 20 59 24.8 +1.4**
PSZ Piszkesteto 4.36 143 *e*Pn **Pn 20 59 22.6 -0.8**
KWP Kalwaria 4.65 111 *e*Pn **Pn 20 59 26.7 -0.7**
KWP *e*Pg **Pg 20 59 42.3 -4.8**
KWP *e*S **Sn 21 00 34.1 +11**
KWP *e*Sg **Sg 21 00 44.4 -4.6**
KWP Kalwaria 4.65 111 *e*Pn **Pn 20 59 26.7 -0.7**
KWP *e*Pg **Pg 20 59 42.3 -4.8**
KWP *e*S* **Sb 21 00 34.1 +0.5**
KWP *e*Sg **Sg 21 00 44.4 -4.6**
COP Copenhagen 4.72 334 *e*P **Pn 20 59 27.5 -1.0**
COP *i* S **Sn 21 00 19.9 -4.9**
COP Copenhagen 4.72 334 *i* P **Pn 20 59 27.5 -1.0**
COP *i* S **Sn 21 00 19.9 -4.9**
KBA Koelnbreinsper 4.74 203⇑*i*PN **Pn 20 59 30.6 +1.8**
KBA *i* SG **Sg 21 00 50.7 -1.5**
58nm,0.5s
KOLS Kolonicke sedl 4.75 120 *e*PN **Pn 20 59 28.4 -0.5**
KOLS *e*PG **Pg 20 59 46.4 -2.8**
PERS Pernice 4.89 187 *e*Pn **Pn 20 59 32.5 +1.7**
PERS Pernice 4.89 187 *e*Pn **Pn 20 59 32.5 +1.7**
TOD Tromm 4.97 251 P **Pn 20 59 30.8 -1.2**
TOD S **Sn 21 00 30.0 -1.1**
KOGS Kog 5.04 178 *i* Pn **Pn 20 59 34.5 +1.5**
WATA Walderalm 5.06 217⇑*i*PN **Pn 20 59 34.1 +0.8**
WATA *i* SG **Sg 21 01 00.8 -2.1**
31nm,0.5s
WATA Walderalm 5.06 217⇑*i*Pn **Pn 20 59 34.1 +0.8**
31nm,0.5s
WATA *i* Sg **Sg 21 01 00.8 -2.1**
OBKA Obir 5.07 192⇑*i*PN **Pn 20 59 33.1 -0.3**
OBKA *i* SG **Sg 21 00 58.8 -4.3**
27nm,0.5s
OBKA Obir 5.07 192⇑*i*Pn **Pn 20 59 33.1 -0.3**
27nm,0.5s
OBKA *i* Sg **Sg 21 00 58.8 -4.3**
WTTA Wattenberg 5.10 216⇑*i*PN **Pn 20 59 35.1 +1.2**
WTTA *i* SG **Sg 21 01 01.4 -2.8**
55nm,1.0s
WTTA Wattenberg 5.10 216⇑*i*Pn **Pn 20 59 35.1 +1.2**
55nm,1.0s
WTTA *i* Sg **Sg 21 01 01.4 -2.8**
MOTA Moosalm 5.24 220⇑*i*PN **Pn 20 59 36.8 +1.0**
MOTA *i* SG **Sg 21 01 06.3 -2.5**
SQTA Sankt Quirin 5.30 218⇑*i*PN **Pn 20 59 38.1 +1.5**
SQTA *i* SG **Sg 21 01 07.1 -3.7**
30nm,0.6s
SQTA Sankt Quirin 5.30 218⇑*i*Pn **Pn 20 59 38.1 +1.5**
30nm,0.6s
SQTA *i* Sg **Sg 21 01 07.1 -3.7**
FVI Forni Avoltri 5.33 205 *e*Pn **Pn 20 59 38.7 +1.6**
FVI *e*Sn Sn 21 01 07.3 +27
FVI Forni Avoltri 5.33 205 *e*Pn **Pn 20 59 38.7 +1.6**
LVV L'vov 5.36 105 *e*P **Pn 20 59 37.9 +0.4**
LVV *i* S **Sn 21 00 38.6 -2.2**
PTCC Patocco-Chiusa 5.38 200 *e*Pn **Pn 20 59 39.2 +1.5**
PTCC *e*Sn Sn 21 01 07.7 +26
PTCC Patocco-Chiusa 5.38 200 *e*Pn **Pn 20 59 39.2 +1.5**
LJU Ljubljana 5.53 191 *i* Pn **Pn 20 59 40.9 +1.0**
PKSM Moragy 5.55 161⇑*e*P **Pn 20 59 40.6 +0.4**
PKSM *e*S **Sn 21 00 48.6 +3.0**
ABH Alteburg 5.62 257 P **Pn 20 59 41.5 +0.3**
VOY Vojsko 5.63 195 *e*Pn **Pn 20 59 42.5 +1.1**
VOY *e*Sn Sn 21 01 18.3 +31
VISS Visnje 5.74 188 *i* Pn **Pn 20 59 44.0 +1.2**
DAVA Damuels 5.81 226⇑*i*PN **Pn 20 59 44.0 +0.2**
DAVA *i* SG **Sg 21 01 25.3 -2.3**
45nm,0.6s
DAVA Damuels 5.81 226⇑*i*Pn **Pn 20 59 44.0 +0.2**
45nm,0.6s
DAVA *i* Sg **Sg 21 01 25.3 -2.3**
LANF Langenberg 5.84 248 P **Pn 20 59 45.2 +1.0**
LANF S **Sn 21 00 51.9 -1.0**
BOJS Bojanci 6.00 185 *i* Pn **Pn 20 59 48.0 +1.4**
BOJS *e*Sn **Sn 21 01 12.6 +16**
CTI Castel Tesino 6.16 210 *e*P **Pn 20 59 50.9 +2.1**
DAVOX Davos 6.20 223 Pn **Pn 20 59 49.2 0.0**
1.2nm,0.3s,baz=20,slow=17,SNR=9.9
DAVOX Lg 21 01 35.5
2.7nm,0.3s,baz=183,slow=23,SNR=5.2
BRMO Bormio 6.24 219 *e*Pn **Pn 20 59 53.0 +3.1**
BRMO Bormio 6.24 219 *e*Pn **Pn 20 59 53.0 +3.1**
WLS Welschbruch 6.38 245 P **Pn 20 59 51.5 -0.4**
MUD Monsted U'grnd 6.41 324 *e*P **Pn 20 59 53.8 +1.4**
MUD *e*S **Sn 21 01 01.2 -6.1**
MUD Monsted U'grnd 6.41 324 *i* P **Pn 20 59 53.8 +1.4**
MUD *e*S **Sn 21 01 01.2 -6.1**
CDF Champ du Feu 6.43 245 *e*Pn **Pn 20 59 51.0 -1.6**
CDF *e*Sg **Sg 21 01 39.6 -8.7**
93nm,0.9s
ECH Echery 6.60 244 P **Pn 20 59 54.9 -0.1**
HINF Hinteralfeld 6.99 242 *e*Pn **Pn 20 59 57.4 -3.1**
HINF *e*Sg **Sg 21 01 57.2 -10**
45nm,0.7s
HAU Haudompre 7.17 245 *e*Pn **Pn 21 00 01.0 -2.0**
HAU *e*Sg **Sg 21 02 02.0 -11**
42nm,0.7s
GIVF Givet 7.24 263 *e*Sg **Sg 21 02 04.3 -11**
86nm,1.1s
RFYF Reffroy 7.37 251 *e*Pn **Pn 21 00 04.6 -1.2**
baz=72
DOU Dourbes 7.38 264 P **Pn 21 00 06.0 +0.1**
BAIF Baives 7.63 264 *e*Sg **Sg 21 02 17.3 -11**
49nm,1.1s
MEZF Maizieres J'vi 7.67 251 *e*Sg **Sg 21 02 18.0 -12**
38nm,0.9s
SFTF Sexfontaines 7.82 250 *e*Pn **Pn 21 00 09.2 -2.9**
CABF La Chapelle 8.14 237 *e*Pn **P 21 00 14.2 -2.4**
CABF *e*Sg **Sg 21 02 35.2 -10**
80nm,1.0s
LPL La Plagne 8.58 230 *e*Pn **P 21 00 20.6 -2.1**
LPG La Plagne 8.59 229 *e*Pn **P 21 00 21.0 -1.8**
LPG *e*Sg **Sg 21 02 47.0 -13**
62nm,1.2s
HFS Hagfors 8.77 352 Pn **P 21 00 22.2 -3.1**
0.1nm,0.3s,baz=174,slow=15,SNR=16
HFS Sn **Sn 21 01 56.9 -9.2**
0.2nm,0.3s,baz=180,slow=27,SNR=5.6
MBDF Montbardon 9.16 226 *e*Pn **P 21 00 29.0 -1.7**
SSF Saint Saulge 9.30 246 *e*Pn **P 21 00 29.7 -3.0**
SSF *e*Sg **Sg 21 03 08.9 -15**
14nm,1.1s
SMF Signal de Mont 9.35 244 *e*Pn **P 21 00 29.8 -3.5**
SMF *e*Sg **Sg 21 03 11.3 -14**
18nm,0.8s
ORIF Oris-en-Rattie 9.43 230 *e*Pn **P 21 00 31.9 -2.5**
AVF Avril sur Loir 9.54 245 *e*Pn **P 21 00 33.1 -2.7**
AVF *e*Sg **Sg 21 03 16.1 -16**
38nm,1.2s
SBF Sospel 9.57 221 *e*Pn **P 21 00 33.8 -2.5**
NB2 NORSAR Subarra 9.94 346 P **P 21 00 36.6 -4.8**
0.8nm,0.5s,baz=158,slow=14
NB2 NORSAR Subarra 9.94 346 P **P 21 00 36.6 -4.8**
NB2 pmax pmax
comp=Z,1.0nm,0.5s
NOA NORSAR Array B 9.94 346 Pn **P 21 00 36.5 -5.0**
comp=Z,0.5nm,0.3s,baz=164,slow=12,SNR=5.2
NOA Sn **Sn 21 02 24.6 -10**
comp=Z,0.4nm,0.3s,baz=56,slow=12,SNR=3.3
BGF Bois d'Agland 9.96 245 *e*Sg **Sg 21 03 29.0 -17**
comp=Z,26nm,0.9s
FRF La Foret Royal 10.14 222 *e*Pn **P 21 00 41.8 -2.4**
FLN La Foliniere 10.94 262 *e*Pn **P 21 00 51.8 -3.3**
FINES FINESS Array B 11.41 25 P **P 21 00 56.6 -4.9**
FINES 21 02 58.6
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES smax
comp=N,1.0nm,0.3s
FINES FINESS Array B 11.41 25 Pn **P 21 00 56.5 -4.9**
comp=N,1.4nm,0.3s,baz=212,slow=11,SNR=47
FINES Sn **S 21 02 58.6 -12**
comp=N,0.9nm,0.3s,baz=216,slow=21,SNR=6.3
EKA Eskdalemuir Ar 12.07 296 P **P 21 01 05.2 -5.2**
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 12.07 296 Pn **P 21 01 05.2 -5.3**
comp=Z,0.5nm,0.3s,baz=103,slow=13,SNR=9.4
OBN Obninsk 12.80 65 *e*P **P 21 01 15.2 -5.1**
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN MLR MLR
comp=Z,100nm,17.0s
ARCES ARCESS Array B 18.66 10 P **P 21 02 30.2 -5.2**
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 18.66 10 Pn **P 21 02 30.1 -5.2**
comp=Z,0.6nm,0.3s,baz=191,slow=14,SNR=22
BVAR Borovoye Array 32.65 66 P **P 21 04 49.0 -0.7**
comp=Z,1.0nm,0.5s,mb4.0,baz=292,slow=8.0,SNR=5.6
SONM Songino Array 54.98 55 P **P 21 07 48.4 -0.7**
comp=Z,0.9nm,1.0s,mb3.8,baz=278,slow=8.7,SNR=6.0
YKA Yellowknife Ar 59.86 336 P **P 21 08 23.1 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 59.86 336 P **P 21 08 23.1 -0.4**
comp=Z,0.9nm,0.7s,mb3.9,baz=30,slow=6.7,SNR=17

*IDC **18** 21:02:12.1±3.7,39.23N×71.64E,mb4.0/4,mb1 4.0/6, mb1mx3.7/19,mbtmp3.9/6,ML3.5/2,Error ellipse: s-maj=65.6km s-min=45.4km az=135.0*
*NNC **18** 21:02:20.6±5.8,39.50N×72.81E,mpv3.7,Error ellipse: s-maj=101.3km s-min=45.8km az=131.0*
*NEIC **18** 21:02:20.9±1.9,39.69N×71.84E,h50km,Error ellipse: s-maj=32.4km s-min=18.5km az=171.0*

ISC 18 21:02:24.1±2.4,**40.1N**±0.2×**71.5E**±0.2,**h62**km±16km,**n19,**
σ0§64/21,mb3.8/4,3C-1D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**2.60**	**38**	P	**P**	**21 03 05.0**	**+0.1**
	SNR=92						
EKS2	**Erkin-Say**	**3.06**	**33**	P	**P**	**21 03 11.6**	**+0.3**
	SNR=38						
UCH	**Uchtor**	**3.09**	**46**	P	**P**	**21 03 11.9**	**+0.2**
	SNR=22						
AAK	**Ala-Archa**	**3.37**	**40**	P	**P**	**21 03 15.8**	**+0.2**
	SNR=39						
AAK	**Ala-Archa**	**3.37**	**40**	⇑Pn	**P**	**21 03 15.8**	**+0.1**
	12nm,0.5s						
AAK				⇑Lg		21 04 07.0	
	50nm,0.5s						
AAK	**Ala-Archa**	**3.37**	**40**	Pn	**P**	**21 03 14.1**	**-1.5**
	204nm,0.3s,SNR=47						
AAK	**Ala-Archa**	**3.37**	**40**	*e*Pn	**P**	**21 03 14.5**	**-1.1**
AAK				*e*Sn	**S**	**21 04 02.9**	**+8.2**
KZA	**Kyzart**	**3.43**	**54**	P	**P**	**21 03 16.5**	**0.0**
	SNR=9.9						
KBK	**Karagaybulak**	**3.62**	**44**	P	**P**	**21 03 20.2**	**+1.1**
	SNR=45						
CHMS	**Chumysh**	**3.77**	**39**	P	**P**	**21 03 21.5**	**+0.3**
	SNR=16						
USP	**Ospenovka**	**3.86**	**34**	P	**P**	**21 03 22.3**	**-0.3**
	SNR=94						
TKM2	**Tokmak 2**	**4.15**	**46**	P	**P**	**21 03 26.4**	**-0.2**
	SNR=29						
MK31	**Makanchi Array**	**10.28**	**46**	⇑Pn	**P**	**21 04 48.1**	**-3.1**
	0.6nm,0.7s,baz=232,slow=14,SNR=9.0						
MK31				⇓Sn	**S**	**21 06 46.2**	**+0.3**
	0.5nm,0.5s,baz=230,slow=14,SNR=3.9						
BVAR	**Borovoye Array**	**12.95**	**357**	Pn	**P**	**21 05 27.0**	**0.0**
	0.3nm,0.3s,baz=173,slow=12,SNR=3.2						
ZAL	**Zalesovo**	**16.49**	**29**	P	**P**	**21 06 11.9**	**-0.6**
	0.4nm,0.3s,baz=294,slow=12,SNR=3.7						
FINES	**FINESS Array B**	**34.79**	**323**	P	**P**	**21 09 10.1**	**-0.3**
	0.4nm,0.3s,mb3.8,baz=104,slow=7.9,SNR=4.5						
ARCES	**ARCESS Array B**	**38.01**	**336**	P	**P**	**21 09 37.9**	**+0.5**
	2.5nm,0.8s,mb4.0,baz=105,slow=9.0,SNR=6.2						
HFS	**Hagfors**	**40.55**	**319**	P	**P**	**21 09 58.5**	**-0.1**
	1.1nm,0.4s,mb3.8,baz=106,slow=11,SNR=7.6						
YKA	**Yellowknife Ar**	**77.63**	**3**	P	**P**	**21 14 15.3**	**+0.5**
	0.2nm,0.4s,mb3.4,baz=349,slow=5.8,SNR=5.1						

ISC 18 21:04:15.4±0.9,**37.01N**±0.04×**71.9E**±0.2,**h169**km±20km,
n23,σ1§09/31,1C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.18**	**180**	P	**P**	**21 05 06.8**	**+0.4**
CEP				S	**S**	**21 05 32.0**	**-14**
CHCP	**Chirah Chowk**	**3.52**	**161**	⇓P	**P**	**21 05 12.8**	**+2.0**
THW	**Thamme Wali**	**4.21**	**182**	⇑P	**P**	**21 05 20.0**	**+0.4**
SBDP	**Sheikh Budin**	**4.79**	**191**	P	**P**	**21 05 22.8**	**-4.3**
SBDP				S	**S**	**21 06 18.0**	**-4.6**
SARP	**Sargodha**	**5.12**	**173**	⇓P	**P**	**21 05 31.0**	**-0.4**
SARP				S	**S**	**21 06 27.0**	**-3.3**
AML	**Almayashu**	**5.30**	**15**	P	**P**	**21 05 33.4**	**-0.4**
	SNR=36						
THN	**Thein Dam**	**5.54**	**144**	*e*P	**P**	**21 05 38.1**	**+1.2**
THN				*e*S	**S**	**21 06 39.2**	**-1.0**
DLH	**Dalhousie**	**5.57**	**142**	*e*P	**P**	**21 05 40.0**	**+2.7**
DLH				*e*S	**S**	**21 06 44.0**	**+3.0**
UCH	**Uchtor**	**5.58**	**20**	P	**P**	**21 05 37.5**	**0.0**
	SNR=10						
KZA	**Kyzart**	**5.68**	**26**	P	**P**	**21 05 38.3**	**-0.5**
	SNR=16						
EKS2	**Erkin-Say**	**5.82**	**14**	P	**P**	**21 05 41.0**	**+0.2**
	SNR=23						
AAK	**Ala-Archa**	**5.96**	**19**	P	**P**	**21 05 42.6**	**+0.1**
	SNR=24						
AAK	**Ala-Archa**	**5.96**	**19**	P	**P**	**21 05 41.1**	**-1.4**
	334nm,0.3s,SNR=29						
CHMS	**Chumysh**	**6.37**	**19**	P	**P**	**21 05 47.6**	**-0.3**
	SNR=6.7						
USP	**Ospenovka**	**6.55**	**17**	P	**P**	**21 05 50.5**	**0.0**
	SNR=7.3						
BHK	**Bhakra**	**6.71**	**145**	*e*	**S**	**21 07 07.4**	**-0.7**
SDNR	**Sundarnagar**	**6.91**	**141**	*e*P	**P**	**21 05 56.5**	**+1.4**
SDNR				*e*S	**S**	**21 07 08.5**	**-4.3**
KOLN	**Koldanda**	**13.49**	**130**	*e*P	**P**	**21 07 20.5**	**-0.4**
GKN	**Gorkha**	**13.99**	**126**	*e*P	**P**	**21 07 26.9**	**-0.3**
	14nm,0.3s						
GKN				*e*S	**S**	**21 09 52.5**	**-6.0**
KKN	**Kakani**	**14.55**	**125**	*e*P	**P**	**21 07 33.7**	**-0.5**
	9.1nm,0.3s						
DMN	**Daman**	**14.56**	**126**	*e*P	**P**	**21 07 34.4**	**0.0**
	9.4nm,0.4s						
PKI	**Pulchoki**	**14.78**	**126**	*e*P	**P**	**21 07 37.8**	**+0.7**
	10nm,0.4s						
PKI				*e*S	**S**	**21 10 12.3**	**-4.2**
JIRN	**Jiri**	**15.23**	**124**	*e*P	**P**	**21 07 43.3**	**+0.5**
	34nm,0.5s						

*NEIC **18** 21:07:40.4±1.6,5.53S×147.31E,h174km±17km,mb4.2/5, Error ellipse: s-maj=23.3km s-min=13.3km az=106.0*
*IDC **18** 21:07:41.1±1.9,5.67S×147.30E,h181km±27km,mb3.4/2, mb1 3.6/5,mb1mx3.4/12,mbtmp4.0/5,Error ellipse: s-maj=62.4km s-min=14.5km az=107.0*

ISC 18 21:07:37.1±1.7,**5.4S**±0.1×**147.3E**±0.2,**h152**km±19km,**n12,**
σ0§91/15,mb3.9/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.96**	**182**	P	**P**	**21 08 39.7**	**+2.1**
	11nm,0.3s,baz=351,slow=12,SNR=43						
PMG				S	**S**	**21 09 22.9**	**-1.3**
	7.6nm,0.3s,baz=3.7,slow=14,SNR=3.3						
CTA	**Charters Tower**	**14.61**	**184**	P	**P**	**21 10 57.2**	**-0.4**
	0.1nm,0.3s,baz=7.6,slow=15,SNR=2.7						
CTAO	**Charters Tower**	**14.61**	**184**	*e*P	**P**	**21 10 57.7**	**0.0**
	12nm,1.3s						
KAKA	**Kakadu**	**16.33**	**243**	*e*P	**P**	**21 11 19.7**	**+0.6**
	7.8nm,0.6s						
WRAB	**Tennant Creek**	**19.13**	**220**	*e*P	**P**	**21 11 50.1**	**-0.7**
	6.2nm,0.3s						
WB2	**Warramunga Arr**	**19.14**	**220**	*e*P	**P**	**21 11 50.1**	**-0.8**
WRA	**Warramunga Arr**	**19.14**	**220**	P	**P**	**21 11 50.3**	**-0.7**
	1.1nm,0.3s,baz=48,slow=12,SNR=28						
WRA				S	**S**	**21 15 14.8**	**-0.2**
	0.1nm,0.3s,baz=40,slow=21,SNR=3.6						
ASAR	**Alice Springs**	**22.24**	**214**	P	**P**	**21 12 22.9**	**+1.0**
	3.4nm,0.8s,mb3.9,baz=50,slow=8.6,SNR=47						
ASAR				S	**S**	**21 16 13.2**	**+1.4**
	1.6nm,0.8s,baz=30,slow=22,SNR=4.5						
ASPA	**Alice Springs**	**22.24**	**214**	*e*P	**P**	**21 12 23.0**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.60**	**237**	*e*P	**P**	**21 12 44.1**	**-0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	5.0nm,0.5s,mb4.3						
ULN	Ulaanbaatar	63.74	331	eP	P	21 17 54.8	0.0
	1.3nm,0.7s,mb3.9						
SONM	Songino Array	64.04	331	P	P	21 17 56.3	-0.5
	0.7nm,0.7s,mb3.6,baz=143,slow=5.2,SNR=6.2						

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*STR **18** 21:13:11.7±0.3, 45.78N×0.52W, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **18** 21:13:11.8, 45.76N×0.53W, h10km, ML2.5(LDG), After LDG.*
*CSEM **18** 21:13:11.7±0.1, 45.77N×0.51W, h8km, ML2.5/21, Error ellipse: s-maj=1.1km s-min=0.7km az=48.0*
LDG 18 21:13:11.8±0.1, 45.76N×0.53W, h10km, Md2.8/2, Ml2.5/22, Error ellipse: s-maj=1.4km s-min=1.0km az=55.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MATF	Mathat	0.18	67	Pg	Pg	21 13 16.4	+0.6
MATF				Sg	Sg	21 13 19.4	+0.9
CHIF	Chize	0.38	12	Pg	Pg	21 13 19.5	-0.1
CHIF				Sg	Sg	21 13 24.3	-0.6
OLEF	Ile d'Oleron	0.60	288	Pg	Pg	21 13 23.0	-1.0
OLEF				Sg	Sg	21 13 32.1	0.0
MFF	Saint Martin d	0.88	17	ePg	Pg	21 13 28.4	-1.1
MFF				ePn	Pn	21 13 28.7	-1.4
MFF				eSg	Sg	21 13 39.4	-1.9
	46nm,0.2s						
MFF				eSn	Sn	21 13 41.2	-1.8
MFF	Saint Martin d	0.88	17	ePn	Pn	21 13 28.7	-1.4
MFF				eSg	Sg	21 13 39.4	-1.9
	23nm,0.2s						
MFF				eSn	Sn	21 13 41.2	-1.8
LCHF	La Chataignera	0.92	351	Pg	Pg	21 13 29.7	-0.6
LCHF				Sg	Sg	21 13 41.9	-0.7
LRYF	La Roche-sur-Y	1.08	319	Pg	Pg	21 13 31.4	-2.1
LRYF				Sg	Sg	21 13 47.0	-1.0
LFF	La Frestale	1.21	132	ePn	Pn	21 13 33.2	-1.6
LFF				eSn	Sn	21 13 49.0	-2.4
LFF				eSg	Sg	21 13 49.9	-2.4
	16nm,0.2s						
RJF	Les Rejaudoux	1.51	107	ePn	Pn	21 13 37.5	-1.5
RJF				ePg	Pg	21 13 39.4	-2.5
RJF				eSg	Sg	21 13 58.8	-3.2
	22nm,0.2s						
TCF	Toulx Ste Croi	1.98	74	ePn	Pn	21 13 44.3	-1.5
TCF				ePg	Pg	21 13 48.4	-2.9
TCF				eSn	Sn	21 14 07.5	-3.3
TCF				eSg	Sg	21 14 13.8	-3.9
	2.7nm,0.2s						
CAF	Calviac	2.01	114	ePn	Pn	21 13 44.3	-1.9
CAF				ePg	Pg	21 13 48.9	-3.0
CAF				eSn	Sn	21 14 08.2	-3.4
CAF				eSg	Sg	21 14 13.9	-4.8
	8.8nm,0.2s						
BGF	Bois d'Agland	2.48	70	ePn	Pn	21 13 50.7	-2.2
BGF				ePg	Pg	21 13 57.2	-4.1
BGF				eSn	Sn	21 14 18.7	-4.8
BGF				eSg	Sg	21 14 28.5	-5.8
	17nm,0.4s						
GRR	Gorron	2.64	355	ePn	Pn	21 13 52.9	-2.3
GRR				ePg	Pg	21 14 00.0	-4.5
GRR				eSn	Sn	21 14 23.2	-4.4
GRR				eSg	Sg	21 14 33.4	-6.3
	5.4nm,0.3s						
HYF	Humbligny	2.66	54	eSg	Sg	21 14 35.2	-5.1
SJPF	Ste Jean	2.69	191	ePg	Pg	21 14 01.1	-4.5
SJPF				eSn	Sn	21 14 24.4	-4.6
SJPF				eSg	Sg	21 14 35.1	-6.4
	1.4nm,0.2s						
EPF	Esparros	2.80	167	ePn	Pn	21 13 55.2	-2.3
EPF				ePg	Pg	21 14 03.5	-4.2
EPF				eSn	Sn	21 14 27.2	-4.4
EPF				eSg	Sg	21 14 39.2	-5.8
	2.3nm,0.2s						
QUIF	Quistinic	2.82	321	ePn	Pn	21 13 55.3	-2.5
QUIF				ePg	Pg	21 14 03.4	-4.7
QUIF				eSn	Sn	21 14 27.4	-4.7
QUIF				eSg	Sg	21 14 39.4	-6.2
	3.2nm,0.2s						
LDF	La Druitiere	2.85	5	ePn	Pn	21 13 55.8	-2.4
LDF				eSn	Sn	21 14 28.1	-4.8
LDF	La Druitiere	2.85	5	ePg	Pg	21 14 04.3	-4.4
LDF				eSn	Sn	21 14 28.1	-4.8
LDF				eSg	Sg	21 14 38.7	-8.0
	2.0nm,0.2s						
SGMF	Saint Gilles	2.86	332	ePn	Pn	21 13 55.8	-2.5
SGMF				eSn	Sn	21 14 28.5	-4.6
SGMF	Saint Gilles	2.86	332	ePg	Pg	21 14 04.4	-4.4
SGMF				eSn	Sn	21 14 28.5	-4.6
SGMF				eSg	Sg	21 14 40.1	-6.8
	1.4nm,0.2s						
ETSF	Etsaut	2.86	180	ePn	Pn	21 13 56.2	-2.2
ETSF				ePg	Pg	21 14 04.6	-4.3
ETSF				eSn	Sn	21 14 28.6	-4.6
ETSF				eSg	Sg	21 14 41.7	-5.4
	1.7nm,0.3s						
AVF	Avril sur Loir	2.88	68	ePn	Pn	21 13 56.5	-2.2
AVF				eSn	Sn	21 14 28.2	-5.5
AVF				eSg	Sg	21 14 41.2	-6.6
	2.4nm,0.4s						
FLN	La Foliniere	3.00	1	ePn	Pn	21 13 57.8	-2.6
FLN				ePg	Pg	21 14 06.9	-4.9
FLN				eSn	Sn	21 14 31.7	-5.2
FLN				eSg	Sg	21 14 43.7	-8.2
	4.5nm,0.3s						
SSF	Saint Saulge	3.08	64	ePn	Pn	21 13 58.9	-2.6
SSF				ePg	Pg	21 14 08.5	-4.8
SSF				eSn	Sn	21 14 33.9	-4.8
SSF				eSg	Sg	21 14 47.8	-6.5
	3.1nm,0.5s						
MTLF	Montolieu	3.11	140	ePn	Pn	21 13 59.6	-2.4
MTLF				ePg	Pg	21 14 09.1	-4.9
MTLF				eSn	Sn	21 14 34.9	-4.7
MTLF				eSg	Sg	21 14 49.1	-6.4
	2.4nm,0.3s						
SMF	Signal de Mont	3.16	72	ePn	Pn	21 13 59.9	-2.7
SMF				eSn	Sn	21 14 35.6	-5.2
SMF				eSg	Sg	21 14 50.6	-6.4
	1.8nm,0.2s						
ROSF	Rostrenen	3.19	325	ePn	Pn	21 14 00.3	-2.7
ROSF				ePg	Pg	21 14 10.4	-5.1
ROSF				eSn	Sn	21 14 35.9	-5.6
ROSF				eSg	Sg	21 14 51.3	-6.7
	5.7nm,0.7s						
LASF	Ste Croix	3.54	117	ePn	Pn	21 14 06.4	-1.6
LASF				ePg	Pg	21 14 17.3	-5.2
LASF				eSg	Sg	21 15 02.7	-7.0
	1.7nm,0.3s						
VIVF	Saint-Julien-l	3.78	102	eSg	Sg	21 15 09.8	-7.8
	2.1nm,0.3s						

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*NEIC **18** 21:34:51.7±0.4, 47.40N×11.81E, h10km, ML2.5(VIE), ML1.8(SZGRF), Error ellipse: s-maj=6.1km s-min=3.7km az=167.0*
*PRU **18** 21:34:52.5, 47.38N×11.82E*
*BGR **18** 21:34:53.0±0.2, 47.34N×11.84E, h10km, ML2.2/5, Error ellipse: s-maj=2.2km s-min=2.2km az=178.0*
*CSEM **18** 21:34:52.0±0.1, 47.32N×11.81E, h12km, ML2.2, Error ellipse: s-maj=1.0km s-min=0.7km az=172.0*
ISC 18 21:34:51.1±0.3, 47.41N±0.02×11.86E±0.02, h1km±4km, n43, σ1s04/77, 9C-2D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WATA	Walderalm	0.21	248⇑	iPG	Pg	21 34 55.4	+0.2
WATA				i SG	Sg	21 34 58.0	0.0
	244nm,0.1s						
WTTA	Wattenberg	0.21	225⇓	iPG	Pg	21 34 55.5	+0.1
WTTA				i SG	Sg	21 34 57.9	-0.3
	129nm,0.1s						
WTTA	Wattenberg	0.21	225	ePg	Pg	21 34 55.5	+0.2
	SNR=59						
WTTA				eSg	Sg	21 34 57.8	-0.4
	SNR=17						
SQTA	Sankt Quirin	0.48	247⇑	iPG	Pg	21 35 00.5	-0.2
SQTA				i SG	Sg	21 35 06.7	-0.5
	55nm,0.2s						
MOTA	Moosalm	0.52	263⇓	iPG	Pg	21 35 00.7	-0.7
MOTA				i SG	Sg	21 35 08.2	-0.1
RJOB	Jochberg	0.71	63⇑	iPg	Pg	21 35 08.0	+2.7
FUR	Furstenfeldbru	0.85	333	ePg	Pg	21 35 09.9	+1.9
	SNR=10						
FUR				eSg	Sg	21 35 22.0	+2.6
	SNR=22						
FVI	Forni Avoltri	1.03	142	ePg	Pg	21 35 11.7	0.0
FVI				eSg	Sg	21 35 24.8	-0.7
FVI	Forni Avoltri	1.03	142	ePg	Pg	21 35 11.7	0.0
FVI				eSg	Sg	21 35 24.8	-0.7
OBER	Oberstdorf	1.06	270⇑	iPg	Pg	21 35 13.8	+1.5
OBER				i Sg	Sg	21 35 28.6	+2.1
KBA	Koelnbreinsper	1.07	108⇑	iPG	Pg	21 35 12.7	+0.3
KBA				i SG	Sg	21 35 26.9	+0.3
	3.4nm,0.2s						
KBA	Koelnbreinsper	1.07	108	ePg	Pg	21 35 12.7	+0.3
	SNR=4.8						
KBA				eSg	Sg	21 35 26.7	+0.1
	SNR=2.9						
DAVA	Damuels	1.35	265⇑	iPG	Pg	21 35 17.2	-0.9
DAVA				i SG	Sg	21 35 34.9	-1.2
	15nm,0.3s						
DAVA	Damuels	1.35	265	ePg	Pg	21 35 17.8	-0.2
	SNR=10						
DAVA				eSg	Sg	21 35 36.0	-0.1
	SNR=4.2						
CTI	Castel Tesino	1.37	186	ePg	Pg	21 35 17.6	-1.0
CTI	Castel Tesino	1.37	186	ePg	Pg	21 35 17.6	-0.9
BRMO	Bormio	1.38	228	ePn	Pn	21 35 17.6	0.0
BRMO				eSn	Sn	21 35 36.4	-0.3
BRMO	Bormio	1.38	228	ePn	Pn	21 35 17.6	+0.1
BRMO				eSn	Sn	21 35 36.4	-0.3
PTCC	Patocco-Chiusa	1.44	134	ePn	Pn	21 35 19.3	+0.9
PTCC	Patocco-Chiusa	1.44	134	ePn	Pn	21 35 19.3	+1.0
MOA	Molln	1.69	74⇑	iPG	Pg	21 35 24.3	-0.4
MOA				i SG	Sg	21 35 48.1	+0.9
	6.2nm,0.3s						
MOA	Molln	1.69	74	ePg	Pg	21 35 24.9	+0.2
	SNR=2.9						
MOA				eSg	Sg	21 35 48.5	+1.3
	SNR=3.9						
MOA	Molln	1.69	74	Pg	Pg	21 35 24.9	+0.2
	SNR=2.9						
MOA				i Sg	Sg	21 35 48.1	+0.9
WET	Wettzell	1.86	21	ePn	Pn	21 35 25.9	+1.5
	SNR=1.3						
WET				ePg	Pg	21 35 29.3	+1.0
	SNR=1.8						
WET				eSn	Sn	21 35 49.2	+0.4
	SNR=2.2						
WET				eSg	Sg	21 35 53.2	+0.2
	SNR=4.0						
GEC2	GERESS Array S	1.89	40	ePn	Pn	21 35 25.9	+1.1
	SNR=1.8						
GEC2				ePg	Pg	21 35 28.2	-0.6
	SNR=3.9						
GEC2				eSn	Sn	21 35 51.3	+1.7
	SNR=3.2						
GEC2				eSg	Sg	21 35 54.9	+0.9
	SNR=5.6						
GEC2	GERESS Array S	1.89	40	ePn	Pn	21 35 25.5	+0.7
GEC2				eSn	Sn	21 35 51.1	+1.5
OBKA	Obir	2.05	115⇑	iPG	Pg	21 35 30.8	-1.3
OBKA				i SG	Sg	21 35 58.9	-0.6
	1.7nm,0.3s						
OBKA	Obir	2.05	115	ePn	Pn	21 35 27.5	+0.4
	SNR=2.9						
OBKA				ePg	Pg	21 35 31.1	-1.0
	SNR=3.1						
OBKA				eSg	Sg	21 35 58.0	-1.5
	SNR=2.2						
OBKA	Obir	2.05	115⇑	iPg	Pg	21 35 30.8	-1.3
OBKA				Sg	Sg	21 35 58.0	-1.5
	SNR=2.2						
KHC	Kasperske Hory	2.07	33	ePG	Pg	21 35 31.4	-1.0
KHC				ex	x	21 35 55.0	
KHC				eSG	Sg	21 36 00.1	+0.2
KHC	Kasperske Hory	2.07	33	Pg	Pg	21 35 31.4	-1.0
KHC				Sg	Sg	21 36 00.1	+0.2
NOTT	Nottersdorf	2.41	4	eSn	Sn	21 36 01.8	-0.8
BFO	Black Forest	2.55	292	ePn	Pn	21 35 34.8	+0.7
	SNR=1.7						
NKC	Novy Kostel	2.85	8	eSG	Sg	21 36 25.2	-0.7
GUNZ	Gunzen	2.97	6	eSg	Sg	21 36 29.7	-0.2
	SNR=2.3						
TANN	Tannenbergstha	3.03	7	eSg	Sg	21 36 31.1	-0.9
	SNR=3.6						
WERD	Werda	3.05	5	eSg	Sg	21 36 31.9	-0.8
	SNR=2.8						
PRU	Pruhonice	3.13	34	eSG	Sg	21 36 33.4	-1.9
MOX	Moxa	3.24	357	eSn	Sn	21 36 21.9	-1.8
	SNR=2.6						
MOX				eSg	Sg	21 36 38.1	-0.8
MOX	Moxa	3.24	357	eP	Pn	21 35 44.0	0.0
MOX				S	Sn	21 36 21.0	-2.7
MOX				Sg	Sg	21 36 38.0	-0.9
TNS	Taunus Mts	3.60	323	eSn	Sn	21 36 30.5	-2.4
	SNR=2.1						
UPC	Upice	4.13	40	eSG	Sg	21 37 04.9	-3.7
DPC	Dobruska-Polom	4.16	43	eSG	Sg	21 37 05.0	-4.6

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*CASC **18** 22:16:26.9±2.3, 10.63N×87.21W, h35km±999km, MD4.3, ML4.2, mb4.8(NEIC)*
*NEIC **18** 22:16:27.8±0.4, 10.75N×87.04W, mb4.8/35, Error ellipse: s-maj=12.3km s-min=5.8km az=218.0*
*BJI **18** 22:16:27.7, 10.70N×87.00W, h28km, mB4.9, Ms5.2, Msz4.5*
*IDC **18** 22:16:29.2±4.4, 11.00N×86.94W, h36km±35km, mb4.1/13, mb1 4.3/15, mb1mx4.1/22, mbtmp4.3/15, ML3.9/2, MS3.8/14, Ms1 3.8/14, ms1mx3.5/34, Error ellipse: s-maj=28.9km s-min=13.5km az=52.0*
ISC 18 22:16:25.8±0.3, 10.63N±0.03×87.22W±0.02, h28km±6km:pP-P, n150, σ1s09/152, mb4.6/45, MS4.0/15, 18C-18D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRUN	El Crucero	1.62	34⇓	eP	Pn	22 16 53.3	+0.3
COPN	Copaltepe	1.66	22⇓	eP	Pn	22 16 53.8	+0.2
TICN	Ticuantepe	1.70	35⇑	eP	Pn	22 16 54.2	+0.2
APON	Apoyo	1.71	42⇑	eP	Pn	22 16 53.9	-0.3
MASN	Masaya	1.71	38⇓	eP	Pn	22 16 54.2	0.0
MASN				eP		22 16 54.3	
XAVN	Gruta Xavier	1.75	30⇓	eP	Pn	22 16 54.8	0.0
MGAN	Managua	1.78	32⇑	eP	Pn	22 16 55.2	-0.1
MGAN				eS	Sn	22 17 19.2	+1.9
	comp=E,5μm,0.5s						
LEON	Leon	1.80	10⇑	eP	Pn	22 16 55.9	+0.4
CONN	Concepcion	1.82	59⇑	eP	Pn	22 16 55.0	-0.9
WILN	Americas 2	1.83	34⇑	eP	Pn	22 16 55.9	0.0
MIRN	Miramar	1.86	16⇓	eP	Pn	22 16 57.0	+0.5
MIRN				eS	Sn	22 17 20.2	+0.9
MOMJ	Momotombo	1.89	21⇑	eP	Pn	22 16 56.6	-0.2
MOMJ				eS	Sn	22 17 21.7	+1.8
CNGN	Cerro Negro	1.93	15⇑	eP	Pn	22 16 57.4	0.0
TEL3	Telica 3	1.96	11⇑	eP	Pn	22 16 58.1	+0.2
TELN	Telica	2.00	11⇑	eP	Pn	22 16 58.9	+0.5
CRIN	San Cristobal	2.06	5⇓	eP	Pn	22 16 59.6	+0.3
PYTN	Playitas	2.21	31⇑	eP	Pn	22 17 00.8	-0.7
PYTN				eS	Sn	22 17 28.8	+0.7
JTS	JuntasAbangare	2.26	98	Pn	Pn	22 17 00.6	-1.5
	comp=E,1μm,0.5s,SNR=72						
JTS	JuntasAbangare	2.26	98	Pn	Pn	22 17 00.7	-1.5
	comp=E,24nm,0.3s,baz=308,slow=15,SNR=97						
JTS				Sn	Sn	22 17 26.0	-3.3
	comp=E,173nm,0.3s,baz=217,slow=20,SNR=18						
JTS				LR	LR	22 17 55.3	
	comp=E,1μm,20.1s,baz=234,slow=42						
JTS	JuntasAbangare	2.26	98	ePn	Pn	22 16 59.8	-2.3
JTS				eSn	Sn	22 17 26.4	-2.9
FORC	Fortuna	2.52	93	eP	Pn	22 17 05.3	-0.5
CNCH	Conchagua	2.69	347⇑	eP	Pn	22 17 08.6	+0.3
CNCH				eS	Sn	22 17 39.4	-1.0
CGA2	Cerro Gallo 2	2.78	102	eP	Pn	22 17 08.7	-0.9
PRS1	Puriscal	2.94	102	eP	Pn	22 17 11.1	-0.7
VSM	San Miguel	2.96	340⇓	eP	Pn	22 17 13.8	+1.7
VPS2	Volcan Poas 2	2.97	98	eP	Pn	22 17 12.3	0.0
LAJ	Bijagual	3.15	104⇑	eP	Pn	22 17 08.5	-6.2
LAJ				eS	Sn	22 17 41.3	-11
SJS	Escuela Geolog	3.19	102⇓	eP	Pn	22 17 16.3	+0.8
SJS				eS	Sn	22 17 55.1	+2.1
LCR2	La Lucha 2	3.29	105⇓	eP	Pn	22 17 16.2	-0.6
ICR	Volcan Irazu	3.40	101⇑	eP	Pn	22 17 19.5	+1.2
ICR				eS	Sn	22 18 00.6	+2.4
TRTC	Tortuguero	3.45	91⇓	eP	Pn	22 17 17.4	-1.7
LCBS	La Ceiba	3.46	330⇓	eP	Pn	22 17 19.2	0.0
LCBS				eS	Sn	22 17 58.0	-1.8
LFRS	El Faro	3.47	329⇓	eP	Pn	22 17 19.2	-0.2
LFRS				eS	Sn	22 17 58.5	-1.6
LBRS	Las Brisas	3.56	330⇓	eP	Pn	22 17 21.2	+0.6
LBRS				eS	Sn	22 18 01.7	-0.6
BUS	Buena Vista	3.58	107⇓	eP	Pn	22 17 20.3	-0.6
BUS				eS	Sn	22 18 03.6	+0.9
LFU	La Fuente	3.61	329⇑	eP	Pn	22 17 21.5	+0.2
BOQS	Boqueron	3.68	327⇓	eP	Pn	22 17 22.5	+0.2
BOQS				eS	Sn	22 18 05.8	+0.4
SBLS	San Blas	3.96	324⇓	eP	Pn	22 17 26.7	+0.5
SBLS				eS	Sn	22 18 11.1	-1.2
SNJE	San Jose	3.97	324	eP	Pn	22 17 26.6	+0.2
SNJE				eS	Sn	22 18 11.4	-1.2
RTR	El Retiro	4.02	324⇓	eP	Pn	22 17 27.2	+0.1
RTR				eS	Sn	22 18 12.9	-1.0
RBDL	Robledal	4.21	325⇓	eP	Pn	22 17 30.7	+0.8
RBDL				eS	Sn	22 18 18.4	-0.5
ACR	Cerro Adams	4.46	116	eP	Pn	22 17 32.0	-1.4
ACR				eS	Sn	22 18 23.9	-1.1
IXG	Ixpaco	4.73	318⇑	eP	Pn	22 17 37.3	+0.1
IXG				eS	Sn	22 18 29.7	-2.1
IXG				AML	AML	22 18 37.5	
	comp=N,1μm,0.5s						
TP2	Tecpan 2	5.54	318⇑	eP	Pn	22 17 50.3	+1.5
TP2				eS	Sn	22 18 52.9	+0.6
TP2				AML	AML	22 18 57.9	
	comp=N,188nm,0.6s						
TEIG	Tepich	9.59	354	ePn	P	22 18 45.7	+0.4
	comp=N,48nm,1.4s						
SDV	Santo Domingo	16.44	95	Pn	P	22 20 14.4	-2.0
	comp=N,0.8nm,0.3s,baz=260,slow=3.4,SNR=12						
SDV				Sn	S	22 23 21.0	+3.5
	comp=N,2.2nm,0.3s,baz=22,slow=8.7,SNR=2.5						
SDV				LR	LR	22 27 17.1	
	comp=N,131nm,19.2s,baz=207,slow=40						
SDV	Santo Domingo	16.44	95	eP	P	22 20 14.5	-2.0
	comp=N,53nm,1.0s						
SJG	San Juan	21.71	68	P	P	22 21 13.9	-2.9
	comp=N,7.6nm,0.5s,mb4.4,baz=29,slow=23,SNR=3.6						
SJG	San Juan	21.71	68	P	P	22 21 15.5	-1.3
	comp=N,14nm,0.3s,mb4.9						
JCT	Junction City	22.95	331	eP	P	22 21 28.9	-0.2
	comp=N,48nm,1.4s,mb4.7						
LTX	Lajitas	24.13	323	eP	P	22 21 41.8	+1.2
	comp=N,6.9nm,0.8s,mb4.1						
TXAR	Lajitas Array	24.13	323	P	P	22 21 40.9	+0.4
	comp=N,7.2nm,0.8s,mb4.1,baz=133,slow=8.2,SNR=43						
TXAR	Lajitas Array	24.13	323	P	P	22 21 40.9	+0.3
JSC	Jenkinsville	24.16	12	eP	P	22 21 40.9	+0.1
MIAR	Mount Ida	24.50	347	eP	P	22 21 44.6	+0.5
	comp=N,14nm,0.8s,mb4.4						
WVT	Waverly	25.39	359	eP	P	22 21 52.5	0.0
	comp=N,4.9nm,0.7s,mb4.2						
WMOK	Wichita Mounta	26.21	338	eP	P	22 21 59.1	-1.1
	comp=N,60nm,1.4s,mb4.9						
GDL2	Guadalupe Moun	26.67	326	eP	P	22 22 05.3	+0.9
MNTX	Cornudas Mount	26.86	324	eP	P	22 22 05.5	-0.7
	comp=N,7.8nm,1.2s,mb4.1						
CPRX	Cap Rock	27.04	328	eP	P	22 22 07.6	-0.2
AMTX	Amarillo	27.51	334	eP	P	22 22 11.0	-1.0
	comp=N,64nm,1.1s,mb5.2						
ANMO	Albuquerque	29.89	327	P	P	22 22 33.6	+0.1
	comp=N,0.7nm,0.5s,mb3.7,baz=284,slow=4.7,SNR=3.2						
TUC	Tucson	30.62	318	eP	P	22 22 40.3	+0.3
	comp=N,8.2nm,1.1s,mb4.5						
MVL	Millersville	30.80	16	eP	P	22 22 42.3	+0.8
SAML	Samuel	30.83	128	eP	P	22 22 39.4	-2.6
	comp=N,13nm,1.1s,mb4.7						
SSPA	Standing Stone	31.00	14	eP	P	22 22 44.1	+0.8
	comp=N,27nm,1.2s,mb5.0						
SDCO	Great Sand Dun	31.60	332	eP	P	22 22 48.6	+0.1
	comp=N,13nm,1.1s,mb4.7						
SDCO				epP	pP	22 22 57.2	+0.5
ERPA	Erie	32.00	10	eP	P	22 22 52.7	+0.7
	comp=N,25nm,0.8s,mb5.1						
LPAZ	La Paz	32.75	144	P	P	22 23 01.4	+2.6
	comp=N,1.2nm,0.7s,mb3.9,baz=321,slow=13,SNR=4.7						
LPAZ				LR	LR	22 36 10.6	
	comp=N,135nm,21.4s,MS3.6,baz=304,slow=36						
GENY	Geneseo	33.05	13	eP	P	22 23 01.3	+0.2
WUAZ	Wupatki	33.09	322	eP	P	22 23 03.0	+1.4
	comp=N,48nm,1.7s,mb5.2						
ISCO	Idaho Springs	33.33	334	eP	P	22 23 03.4	-0.2
	comp=N,2.1nm,0.7s,mb4.2						
SADO	Sadowa	34.72	10	P	P	22 23 13.2	-2.4
	comp=N,7.2nm,0.9s,mb4.6,baz=198,slow=9.3,SNR=5.8						
SADO				LR	LR	22 38 58.6	
	comp=N,142nm,18.1s,MS3.8,baz=229,slow=39						
MSU	Marysvale	35.62	325	eP	P	22 23 24.7	+1.4
DAU	Daniels Canyon	36.49	328	eP	P	22 23 31.1	+0.4
BW06	Boulder Array	37.47	333	eP	P	22 23 38.2	-0.6
	comp=N,4.9nm,0.9s,mb4.3						
PDAR	Pinedale Array	37.47	333	P	P	22 23 38.1	-0.7
	comp=N,4.0nm,0.9s,mb4.3,baz=127,slow=9.3,SNR=30						
PDAR				PcP	PcP	22 25 56.5	-0.8
	comp=N,1.4nm,1.0s,baz=135,slow=2.1,SNR=5.0						
HWUT	Hardware Ranch	37.54	330	eP	P	22 23 39.3	0.0
	comp=N,36nm,1.5s,mb4.9						
HWUT				epP	pP	22 23 48.3	+0.6
TPH	Tonopah	38.33	320	eP	P	22 23 47.8	+1.7
	comp=N,8.6nm,1.0s,mb4.4						
SNOW	Snow King Moun	38.56	332	eP	P	22 23 48.4	+0.4
LOHW	Long Hollow	38.61	332	eP	P	22 23 48.7	+0.3
	comp=N,24nm,1.4s,mb4.7						
TPAW	Teton Pass	38.67	332	eP	P	22 23 49.0	+0.1
RRI2	Red Ridge	38.74	332	eP	P	22 23 49.6	+0.2
MOOW	Moose Ponds	38.78	332	eP	P	22 23 49.8	0.0
ELK	Elko	38.87	325	eP	P	22 23 51.7	+1.1
	comp=N,39nm,1.6s,mb4.9						
MNV	Mina	39.13	320	eP	P	22 23 54.4	+1.6
	comp=N,32nm,1.3s,mb4.9						
OMM	Old Mammoth Mi	39.19	319	eP	P	22 23 55.3	+2.0
NVAR	Mina Array Bea	39.22	320	LR	LR	22 42 25.7	
	comp=N,41nm,19.7s,MS3.3,baz=10.0,slow=40						
YMR	Madison River	39.60	333	eP	P	22 23 57.4	+0.8
BMN	Battle Mountai	39.80	323	eP	P	22 23 59.3	+1.0
	comp=N,39nm,1.1s,mb5.0						
QLMT	Earthquake Lak	39.93	333	eP	P	22 24 00.5	+1.2
QLMT				epP	pP	22 24 09.3	+1.6
ULM	Lac du Bonnet	40.14	351	P	P	22 23 57.7	-3.3
	comp=N,6.1nm,0.8s,mb4.4,baz=158,slow=8.8,SNR=8.0						
ULM				PcP	PcP	22 26 04.6	-1.1
	comp=N,0.8nm,0.4s,baz=186,slow=2.3,SNR=3.6						
ULM				LR	LR	22 41 39.0	
	comp=N,103nm,18.5s,MS3.7,baz=112,slow=38						
ULM	Lac du Bonnet	40.14	351	P	P	22 23 57.7	-3.3
ULM				PcP	PcP	22 26 04.6	-1.1
ULM				LR	LR	22 41 39.0	
HLID	Hailey	40.40	329	eP	P	22 24 03.7	+0.5
	comp=N,18nm,1.6s,mb4.5						
BOZ	Bozeman (W)	40.66	334	eP	P	22 24 05.2	-0.1
	comp=N,15nm,1.3s,mb4.5						
HRY	Holter Researc	41.58	334	eP	P	22 24 12.5	-0.4
HRY				epP	pP	22 24 21.0	-0.2
WVOR	Wild Horse Val	41.90	325	eP	P	22 24 16.4	+0.9
	comp=N,64nm,1.6s,mb5.0						
LBCM	Butte Creek Ri	42.53	321	P	P	22 24 22.0	+1.2
LASM	Arnica Sink	43.12	322	P	P	22 24 26.7	+1.2
HBO	Huckleberry Mo	44.89	324	P	P	22 24 40.3	+0.5
IRO	Indian Ridge	44.95	324	P	P	22 24 40.3	0.0
HAWA	Hanford	44.98	328	eP	P	22 24 40.1	-0.4
	comp=N,0.4nm,0.8s						
FRIS	Frissel Point	44.98	324	P	P	22 24 41.4	+0.8
NEW	Newport	45.10	332	LR	LR	22 47 45.4	
	comp=N,98nm,19.4s,MS3.8,baz=52,slow=42						
VFP	Flag Point	45.31	326	P	P	22 24 44.3	+1.2
MXC	Moxie City	45.49	328	P	P	22 24 46.1	+1.5
CFAA	Coronel Fontan	45.77	157	P	P	22 24 49.0	+2.0
	comp=N,0.2nm,0.4s,baz=341,slow=5.7,SNR=3.4						
BDFB	Brasilia	46.78	123	P	P	22 24 55.9	+0.7
	comp=N,10nm,1.0s,mb4.7,baz=289,slow=4.3,SNR=9.5						
BAO	Brasilia Array	46.80	123	eP	P	22 24 57.9	+2.6
BAO				i pP	pP	22 25 06.0	+2.3
SCHQ	Schefferville	46.95	16	P	P	22 24 53.2	-2.8
	comp=N,3.0nm,0.5s,mb4.5,baz=205,slow=6.3,SNR=8.4						
SCHQ				LR	LR	22 43 53.2	
	comp=N,204nm,19.6s,MS4.1,baz=11,slow=35						
SCHQ	Schefferville	46.95	16	P	P	22 24 53.2	-2.8
SCHQ				LR	LR	22 43 53.2	
EDM	Edmonton	47.38	339	eP	P	22 24 57.5	-1.9

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCC	Fort Churchill	48.31	355	eP	P	22 25 03.8	-2.7
	comp=N,5.0nm,1.0s,mb4.5						
BBB	Bella Bella	52.99	330	LR	LR	22 52 06.7	
	comp=N,112nm,19.9s,MS3.9,baz=62,slow=40						
YKA	Yellowknife Ar	55.41	345	P	P	22 25 57.1	-2.8
	comp=N,6.3nm,1.0s,mb4.6,baz=137,slow=7.4,SNR=62						
YKA				PcP	PcP	22 26 59.0	-0.8
	comp=N,1.3nm,0.8s,baz=140,slow=4.1,SNR=8.2						
YKA				LR	LR	22 50 46.3	
	comp=N,85nm,18.7s,MS3.9,baz=125,slow=37						
YKA	Yellowknife Ar	55.41	345	P	P	22 25 57.1	-2.8
YKA				PcP	PcP	22 26 59.0	-0.8
YKA				LR	LR	22 50 46.3	
YKW3	Yellowknife Ar	55.47	345	eP	P	22 25 58.1	-2.2
DLBC	Dease Lake	57.64	335	eP	P	22 26 16.0	+0.2
DLBC				epP	pP	22 26 24.5	+0.1
RES	Resolute Bay	64.17	358	eP	P	22 26 58.4	-1.5
	comp=N,4.4nm,0.9s,mb4.5						
RES				epP	pP	22 27 05.4	-3.2
DAWY	Dawson	64.55	337	eP	P	22 27 01.1	-1.4
DAWY				epP	pP	22 27 09.9	-1.2
INK	Inuvik	65.00	343	LR	LR	22 56 07.7	
	comp=N,75nm,19.6s,MS3.9,baz=154,slow=37						
INK	Inuvik	65.00	343	eP	P	22 27 04.1	-1.2
	comp=N,19nm,1.1s,mb5.0						
INK				epP	pP	22 27 12.7	-1.3
EYAK	Cordova Ski Ar	65.61	332	eP	P	22 27 09.5	+0.2
DIV	Divide	65.84	333	eP	P	22 27 10.4	-0.4
	comp=N,33nm,1.0s,mb5.3						
SML	Sawmill	67.24	333	eP	P	22 27 18.6	-1.1
COLA	College	68.18	336	eP	P	22 27 24.3	-1.2
	comp=N,21nm,1.4s,mb5.0						
MCK	McKinley	68.19	335	eP	P	22 27 24.9	-0.8
	comp=N,18nm,1.2s,mb5.0						
MCK				epP	pP	22 27 34.0	-0.3
IMA	Indian Mountai	70.88	337	eP	P	22 27 41.7	-0.3
	comp=N,32nm,1.3s,mb5.1						
IMA				epP	pP	22 27 50.4	-0.4
JMIC	Jan Mayen	76.33	19	LR	LR	23 03 38.5	
	comp=N,106nm,18.4s,MS4.2,baz=248,slow=37						
ESDC	Sonseca Array	78.14	52	P	P	22 28 22.0	-2.3
	comp=N,0.6nm,0.7s,mb3.6,baz=254,slow=9.3,SNR=3.0						
DBIC	Dimbokro	81.32	85	P	P	22 28 40.9	-1.0
	comp=N,3.2nm,1.0s,mb4.2,baz=263,slow=4.3,SNR=3.4						
NB2	NORSAR Subarra	84.84	29	P	P	22 28 58.8	-0.1
	comp=N,8.8nm,1.2s,mb4.8,baz=282,slow=4.8						
NOA	NORSAR Array B	84.84	29	P	P	22 28 58.3	-0.6
	comp=N,1.8nm,0.9s,mb4.2,baz=285,slow=5.2,SNR=3.9						
NOA				LR	LR	23 04 07.1	
	comp=N,62nm,18.5s,MS4.0,baz=295,slow=34						
BILL	Bilibino	86.28	339	eP	P	22 29 06.6	+0.7
	comp=N,19nm,1.2s,mb5.2						
BILL				epP	pP	22 29 15.6	+0.7
FINES	FINESS Array B	91.50	26	LR	LR	23 05 58.8	
	comp=N,74nm,20.8s,MS4.1,baz=199,slow=33						
SONM	Songino Array	120.55	349	PKP	PKPdf	22 35 15.9	-4.2
	comp=N,0.7nm,0.8s,baz=315,slow=1.7,SNR=6.0						
BJI	Beijing	125.11	338	PKP	PKPdf	22 35 22.3	-6.8
BJI				SS	SS	22 54 07.1	-2.7
BJI				LR	LR		
	comp=N,76nm,21.0s,MS4.5						
BJI				LR	LR		
	comp=E,82nm,19.7s,MS4.5						
BJI				LR	LR		
	comp=Z,67nm,17.9s,MS4.3						
BJI	Beijing	125.11	338	PKP	PKPdf	22 35 22.2	-6.9
BJI				SS	SS	22 54 07.1	-2.7
BJI				LR	LR		
	comp=Z,70nm,17.9s,MS4.4						
WMQ	Urumqi	125.61	5	ePKP	PKPdf	22 35 25.0	-4.9
WMQ				LR	LR		
	comp=Z,115nm,23.8s,MS4.5						
NJ2	Nanjing	130.77	330	ePKP	PKPdf	22 35 35.0	-5.2
NJ2				XPKP		22 35 49.8	
NJ2				PP	PP	22 37 56.0	+0.5
NJ2				PKS	PKS	22 39 11.0	+0.4
NJ2				SKS	SKS	22 42 41.0	-7.7
NJ2				SKKS		22 44 43.0	
NJ2				PP	PP		
	comp=Z,40nm,11.4s						
NJ2				LR	LR		
	comp=N,1μm,21.4s						
NJ2				LR	LR		
	comp=E,1μm,24.2s						
LZH	Lanzhou	132.38	348	ePKP	PKPdf	22 35 36.9	-6.2
LZH				XPKP		22 35 48.3	
LZH				LR	LR		
	comp=N,257nm,18.0s						
LZH				LR	LR		
	comp=Z,342nm,20.1s,MS5.0						
LZH	Lanzhou	132.38	348	ePKP	PKPdf	22 35 36.9	-6.2
LZH				pPKP		22 35 46.1	
LZH				sPKP		22 35 48.3	
LZH				LR	LR		
	comp=Z,340nm,20.1s,MS5.0						
ASAR	Alice Springs	138.77	246	PKP	PKPdf	22 35 51.5	-3.7
	comp=Z,0.9nm,0.9s,baz=114,slow=2.0,SNR=5.3						
WRA	Warramunga Arr	138.95	252	PKP	PKPdf	22 35 51.6	-4.0
	comp=Z,1.7nm,1.0s,baz=94,slow=2.0,SNR=5.4						
POO	Poona	145.53	33	eP	PKPbc	22 36 02.0	-1.0
KAD	Karad	146.71	34	eP	PKPbc	22 36 06.0	+0.2
HYB	Hyderabad	148.79	27	eP	PKPdf	22 36 12.0	-0.6
HYB	Hyderabad	148.79	27	i PKP	PKPdf	22 36 12.0	-0.6
NANT	Nan	149.73	345	⇑P	PKPdf	22 36 12.0	-2.1
	comp=Z,78nm,0.9s						
CHG	Chiang Mai	150.12	348	P	PKPdf	22 36 23.8	+9.1

CASC 18 22:26:42.5±2.2, 11.62N×88.08W, h35km±999km, MD3.9, ML3.7, 7C-8D, Off coast of central America

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LEON	Leon	1.41	56	⇑eP	P	22 27 05.0	-1.1
CRIN	San Cristobal	1.48	43	⇓eP	P	22 27 06.7	-0.4
TEL3	Telica 3	1.54	52	⇓eP	P	22 27 07.0	-0.9
TEL3				eS	S	22 27 25.6	-1.3
COPN	Copaltepe	1.56	69	⇓eP	P	22 27 07.0	-1.3
COPN				eS	S	22 27 27.7	+0.2
MIRN	Miramar	1.57	58	⇑eP	P	22 27 07.0	-1.3
MIRN				eS	S	22 27 27.9	+0.2
CNGN	Cerro Negro	1.61	57	⇓eP	P	22 27 07.8	-1.2
CNGN				eS	S	22 27 30.6	+1.8
CNCH	Conchagua	1.67	8	eP	P	22 27 09.8	+0.1
CNCH				eS	S	22 27 31.9	+1.7
MOMJ	Momotombo	1.70	62	⇑eP	P	22 27 08.9	-1.3
MOMJ				eS	S	22 27 31.0	0.0
XAVN	Gruta Xavier	1.80	73	eP	P	22 27 10.2	-1.4
XAVN				eS	S	22 27 33.7	+0.2
VSM	San Miguel	1.81	354	⇓eP	P	22 27 12.8	+1.0
BLLM	Bellamira	1.82	355	eP	P	22 27 11.8	-0.1
BLLM				eS	S	22 27 34.5	+0.5
TICN	Ticuantepe	1.86	77	⇑eP	P	22 27 11.3	-1.2
TICN				eS	S	22 27 35.6	+0.7
MGAN	Managua	1.87	73	⇓eP	P	22 27 11.6	-1.1
MGAN				eS	S	22 27 35.6	+0.3
	comp=E,850nm,0.3s						
CAHU	Cacacuatique	2.15	357	eP	P	22 27 17.8	+1.2
LCBS	La Ceiba	2.21	337	eP	P	22 27 17.1	-0.4
LCBS				eS	S	22 27 43.2	-0.6
LFRS	El Faro	2.21	334	⇑eP	P	22 27 16.8	-0.7
LFRS				eS	S	22 27 43.6	-0.4
LBRS	Las Brisas	2.31	336	eP	P	22 27 18.6	-0.3
CONN	Concepcion	2.41	91	⇑eP	P	22 27 17.8	-2.6
BOQS	Boqueron	2.41	331	eP	P	22 27 20.3	-0.1
BOQS				eS	S	22 27 49.0	0.0
SBLS	San Blas	2.67	326	eP	P	22 27 23.7	-0.4
SBLS				eS	S	22 27 54.7	-0.9
SNJE	San Jose	2.69	327	⇑eP	P	22 27 24.0	-0.3
SNJE				eS	S	22 27 55.3	-0.7
RTR	El Retiro	2.73	326	eP	P	22 27 24.3	-0.7
RTR				eS	S	22 27 56.3	-0.8
RBDL	Robledal	2.93	328	eP	P	22 27 27.7	-0.2
PRS1	Puriscal	4.04	113	eP	P	22 27 44.6	+1.0
LAJ	Bijagual	4.26	114	eP	P	22 27 41.6	-5.2
TRTC	Tortuguero	4.41	103	eP	P	22 27 48.1	-0.8
LCR2	La Lucha 2	4.42	115	⇓eP	P	22 27 48.3	-0.6
ICR	Volcan Irazu	4.48	111	⇓eP	P	22 27 51.6	+1.7
BUS	Buena Vista	4.72	115	eP	P	22 27 52.5	-0.7
BUS				eS	S	22 28 45.9	-1.5

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*IDC **18** 22:36:31.7±0.8, 29.30S×13.72W, mb4.3/10, mb1 4.4/10, mb1mx4.2/18, mbtmp4.3/10, MS3.9/9, Ms1 3.9/9, ms1mx3.6/16, Error ellipse: s-maj=34.0km s-min=15.0km az=171.0*

*NEIC **18** 22:36:33.3±0.3, 29.35S×13.69W, h10km, mb4.7/19, Error ellipse: s-maj=9.1km s-min=5.9km az=164.0*

ISC 18 22:36:31.6±0.5, 29.34S±0.10×13.69W±0.08, h10km, n54, σ0.59/48, mb4.5/29, MS3.9/9, 1C, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SUR	Sutherland	29.69	105	LR	LR	22 51 39.0	
	comp=Z,254nm,19.5s,MS3.9,baz=214,slow=30						
TSUM	Tsumeb	30.16	78	P	P	22 42 43.5	-0.7
	5.9nm,0.9s,mb4.3,baz=260,slow=8.5,SNR=8.4						
TSUM				LR	LR	22 52 32.9	
	comp=Z,121nm,18.0s,MS3.6,baz=330,slow=32						
BOSA	Boshof	33.97	98	eP	P	22 43 16.5	-1.0
	34nm,1.3s,mb5.1						
BAO	Brasilia Array	34.37	286	⇑P	P	22 43 20.9	0.0
BDFB	Brasilia	34.38	286	P	P	22 43 21.4	+0.3
	9.4nm,0.9s,mb4.7,baz=125,slow=5.6,SNR=12						
BDFB				LR	LR	22 54 39.1	
	comp=Z,282nm,21.2s,MS4.0,baz=124,slow=32						
LBTB	Lobatse	35.10	92	P	P	22 43 26.8	-0.4
	19nm,0.7s,mb5.1,baz=264,slow=9.6,SNR=34						
LBTB	Lobatse	35.10	92	eP	P	22 43 26.8	-0.3
DBIC	Dimbokro	36.80	15	P	P	22 43 40.6	-1.0
	6.1nm,0.8s,mb4.5,baz=173,slow=8.6,SNR=7.2						
DBIC	Dimbokro	36.80	15	eP	P	22 43 41.0	-0.6
MATP	Matopo	39.11	87	P	P	22 44 01.1	+0.1
	28nm,0.9s,mb5.0,baz=244,slow=8.9,SNR=38						
CFAA	Coronel Fontan	46.66	253	P	P	22 45 01.7	-0.5
	0.3nm,0.7s,baz=77,slow=3.3,SNR=3.8						
PLCA	Paso Flores	47.19	240	P	P	22 45 06.1	-0.2
	3.1nm,1.0s,mb4.2,baz=84,slow=6.8,SNR=5.1						
PLCA				LR	LR	23 01 16.9	
	comp=Z,102nm,21.4s,MS3.8,baz=269,slow=32						
PLCA	Paso Flores	47.19	240	P	P	22 45 06.1	-0.2
PLCA				LR	LR	23 01 16.9	
LVC	Limon Verde	49.72	264	P	P	22 45 26.0	-0.1
	8.3nm,1.1s,mb4.7						
SAML	Samuel	50.53	283	eP	P	22 45 33.0	+0.6
	20nm,0.6s,mb5.2						
MBAR	Mbarara	51.05	64	eP	P	22 45 37.7	+1.3
	11nm,1.3s,mb4.6						
LPAZ	La Paz	51.43	272	P	P	22 45 38.8	-0.4
	0.8nm,0.5s,mb3.9,baz=88,slow=6.8,SNR=6.0						
LPAZ				LR	LR	23 05 17.4	
	comp=Z,162nm,20.5s,MS4.0,baz=127,slow=34						
LPAZ	La Paz	51.43	272	eP	P	22 45 38.7	-0.5
	3.1nm,1.0s,mb4.2						
LPAZ				LR	LR	23 05 17.4	
KMBO	Kilima Mbogo	55.97	70	P	P	22 46 14.2	+1.4
	0.5nm,0.5s,mb3.8,baz=245,slow=14,SNR=2.6						
KMBO				LR	LR	23 08 19.0	
	comp=Z,172nm,19.6s,MS4.1,baz=98,slow=34						
KMBO	Kilima Mbogo	55.97	70	P	P	22 46 14.2	+1.4
KMBO				LR	LR	23 08 19.0	
QSPA	South Pole Qui	60.89	180	eP	P	22 46 46.8	+0.5
	12nm,1.1s,mb4.9						
SDV	Santo Domingo	66.69	296	eP	P	22 47 25.6	+0.4
ROSC	El Rosal	67.32	290	LR	LR	23 15 44.0	
	comp=Z,176nm,18.1s,MS4.3,baz=9.4,slow=35						
CART	Cartagena	67.63	11	P	P	22 47 32.3	+1.5
	27nm,0.9s,mb5.3						
SJPF	Ste Jean	73.00	10	eP	P	22 48 03.6	+0.3
EPF	Esparros	73.16	11	eP	P	22 48 03.2	-1.1
MTLF	Montolieu	73.79	12	eP	P	22 48 06.8	-1.1
	15nm,1.1s,mb4.5						
LASF	Ste Croix	74.81	13	eP	P	22 48 13.4	-0.4
	7.3nm,0.9s,mb4.3						
EIL	Elat	74.81	43	LR	LR	23 16 17.5	
	comp=Z,64nm,20.2s,MS3.9,baz=290,slow=32						
FRF	La Foret Royal	74.91	15	eP	P	22 48 13.8	-0.6
LFF	La Frestale	75.09	11	eP	P	22 48 15.3	-0.1
	30nm,1.1s,mb4.8						
CAF	Calviac	75.29	12	eP	P	22 48 16.2	-0.4
	13nm,1.2s,mb4.4						
RJF	Les Rejaudoux	75.57	11	eP	P	22 48 17.9	-0.2
VIVF	Saint-Julien-l	75.72	13	eP	P	22 48 19.0	0.0
	24nm,1.2s,mb4.7						
ORIF	Oris-en-Rattie	76.03	14	eP	P	22 48 20.9	+0.2
	6.6nm,0.8s,mb4.3						
MBDF	Montbardon	76.04	15	eP	P	22 48 21.1	+0.3
	10nm,1.0s,mb4.4						
MFF	Saint Martin d	76.57	10	eP	P	22 48 23.6	-0.2
	52nm,1.6s,mb4.9						
TCF	Toulx Ste Croi	76.64	11	eP	P	22 48 24.2	+0.1
	15nm,1.1s,mb4.5						
LPG	La Plagne	76.77	15	eP	P	22 48 25.3	+0.4
	14nm,1.0s,mb4.5						
LPL	La Plagne	76.78	15	eP	P	22 48 25.2	+0.3
	17nm,1.1s,mb4.6						
SMF	Signal de Mont	77.28	12	eP	P	22 48 27.7	0.0
AVF	Avril sur Loir	77.33	12	eP	P	22 48 28.0	+0.1
	20nm,1.3s,mb4.6						
QUIF	Quistinic	77.48	7	eP	P	22 48 28.8	0.0
SSF	Saint Saulge	77.61	12	eP	P	22 48 29.6	+0.1
	9.5nm,1.0s,mb4.4						
ASF	Jabal al Asfar	77.77	42	LR	LR	23 20 04.8	
	comp=Z,50nm,18.6s,MS3.9,baz=304,slow=34						
ROSF	Rostrenen	77.88	7	eP	P	22 48 31.1	+0.1
GRR	Gorron	78.22	9	eP	P	22 48 32.5	-0.3
LDF	La Druitiere	78.53	9	eP	P	22 48 35.1	+0.6
FLN	La Foliniere	78.64	9	eP	P	22 48 35.0	-0.1
BAIF	Baives	80.63	12	eP	P	22 48 45.8	0.0
GERES	GERESS Array B	81.60	18	P	P	22 48 49.9	-1.0
	0.7nm,0.9s,mb3.6,baz=225,slow=5.7,SNR=5.0						
BRTR	Keskin Array B	81.60	35	P	P	22 48 52.0	+1.0
	1.1nm,0.9s,mb3.8,baz=203,slow=9.4,SNR=5.4						
YKA	Yellowknife Ar	120.57	328	PKP	PKPdf	22 55 23.9	-2.3
	0.4nm,0.7s,baz=98,slow=1.9,SNR=7.1						
INK	Inuvik	127.88	336	PKP	PKPdf	22 55 38.5	-1.7
	2.8nm,1.0s,baz=127,slow=1.2,SNR=7.6						

IDC 18 22:39:16.1±2.8, 15.67S×173.90W, mb3.9/5, mb1 4.1/5, mb1mx4.0/13, mbtmp3.9/5, Error ellipse: s-maj=189.3km s-min=26.8km az=146.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
PPT	Papeete	23.38	98	eLR	LR	22 50 08.6	
	180nm,20.5s						
TBI	Tubuai	24.24	112	eLR	LR	22 50 33.0	
	170nm,20.8s						
TAOE	Nuku Hiva Isla	33.63	82	eLR	LR	22 54 53.0	
RKT	Rikitea	37.37	108	eLR	LR	22 56 37.2	
	171nm,21.8s						
STKA	Stephens Creek	43.48	240	P	P	22 47 21.8	-1.2
	3.9nm,0.9s,baz=86,slow=8.9,SNR=5.5						
WRA	Warramunga Arr	49.31	257	P	P	22 48 08.3	-0.9
	0.6nm,0.6s,baz=90,slow=7.1,SNR=3.9						
ASAR	Alice Springs	49.57	252	P	P	22 48 07.8	-3.3
	1.6nm,0.7s,baz=84,slow=7.5,SNR=13						
PDAR	Pinedale Array	82.79	42	P	P	22 51 42.4	-1.1
	0.5nm,0.8s,baz=90,slow=1.5,SNR=3.7						
YKA	Yellowknife Ar	90.54	24	P	P	22 52 19.8	-1.2
	0.1nm,0.3s,baz=233,slow=4.8,SNR=5.1						

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*IDC **18** 22:43:34.4±2.1, 15.02S×174.46W, mb4.2/5, mb1 4.5/5, mb1mx4.2/13, mbtmp4.2/5, MS4.5/5, Ms1 4.5/5, ms1mx4.1/19, Error ellipse: s-maj=130.9km s-min=23.8km az=144.0*

ISC 18 22:43:38.3±2.1, 15.0S±0.9×174.6W±0.6, h33km, n19, σ0.68/6, mb4.2/5, MS4.7/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	15.38	116	LR	LR	22 51 31.6	
	comp=Z,868nm,21.0s,baz=310,slow=31						
PPT	Papeete	24.14	100	eLR	LR	22 54 53.9	
	442nm,20.0s						
TBI	Tubuai	25.12	113	eLR	LR	22 55 18.1	
	457nm,21.5s						
TAOE	Nuku Hiva Isla	34.20	84	eLR	LR	22 59 04.9	
RKT	Rikitea	38.21	108	eLR	LR	23 01 23.0	
	346nm,21.0s						
STKA	Stephens Creek	43.27	239	P	P	22 51 38.4	-0.3
	6.2nm,0.8s,mb4.4,baz=83,slow=6.5,SNR=7.9						
WRA	Warramunga Arr	48.84	256	P	P	22 52 22.2	-0.6
	1.0nm,0.6s,mb4.0,baz=88,slow=7.4,SNR=4.2						
ASAR	Alice Springs	49.16	252	P	P	22 52 25.5	+0.1
	8.8nm,0.9s,mb4.8,baz=86,slow=7.9,SNR=33						
ASPA	Alice Springs	49.17	252	eP	P	22 52 26.3	+0.9
FX1	Attu Island--F	68.39	352	LR	LR	23 22 40.7	
	comp=Z,16nm,18.8s,baz=189,slow=34						
PDAR	Pinedale Array	82.71	42	P	P	22 56 00.3	+0.1
	1.0nm,0.9s,mb3.8,baz=207,slow=2.0,SNR=6.2						
PDAR				LR	LR	23 28 20.8	
	comp=Z,236nm,18.4s,MS4.6,baz=225,slow=32						
MAW	Mawson	87.84	199	LR	LR	23 36 00.3	
	comp=Z,317nm,19.0s,MS4.8,baz=312,slow=36						
YKA	Yellowknife Ar	90.16	24	P	P	22 56 36.0	-0.1
	1.0nm,1.0s,mb4.1,baz=234,slow=4.4,SNR=10						
PLCA	Paso Flores	90.64	132	LR	LR	23 31 01.4	
	comp=Z,243nm,18.5s,MS4.7,baz=19,slow=31						
ULM	Lac du Bonnet	94.31	39	LR	LR	23 35 51.1	
	comp=Z,358nm,19.6s,MS4.8,baz=24,slow=33						
KMBO	Kilima Mbogo	144.68	246	PKP	PKPdf	23 03 14.1	+1.3
	0.9nm,0.6s,baz=100,slow=2.8,SNR=3.7						
BRTR	Keskin Array B	145.10	320	PKPbc	PKPbc	23 03 13.9	+0.9
	0.4nm,0.6s,baz=45,slow=4.1,SNR=2.9						
KHC	Kasperske Hory	145.28	351	eP	PKPdf	23 03 15.5	+2.8
GERES	GERESS Array B	145.53	350	PKPbc	PKPbc	23 03 13.9	+0.1
	0.7nm,0.9s,SNR=6.9						

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*MOS **18** 22:55:11.5±1.4, 49.39N×6.79E, h10km, mb3.8/1, Error ellipse: s-maj=5.2km s-min=3.8km az=86.6*

*STR **18** 22:55:13.1±0.3, 49.36N×6.90E, h1km±1km, Ml3.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **18** 22:55:13.0, 49.38N×6.93E, h1km, ML3.8(LDG), ML3.3(LEDBW), ML3.3(SZGRF), ML3.2(CLL), After LEDBW.*

*BGR **18** 22:55:13.4±0.2, 49.39N×6.90E, h1km, ML3.2/4, Error ellipse: s-maj=1.1km s-min=1.1km az=95.0*

*LDG **18** 22:55:13.1±0.1, 49.37N×6.96E, h1km, Md3.8/2, Ml3.8/35, Error ellipse: s-maj=1.0km s-min=1.0km az=80.0, Suspected Mining induced.*

*CSEM **18** 22:55:13.5±0.0, 49.36N×6.92E, h2km, ML3.9/29, Error ellipse: s-maj=0.7km s-min=0.5km az=156.0*

*LEDBW **18** 22:55:13.6±0.2, 49.38N×6.93E, h1km, ML3.3, Error ellipse: s-maj=6.0km s-min=4.0km az=99.0*

*IDC **18** 22:55:13.5±1.6, 49.36N×6.78E, mb3.1/1, mb1 3.8/7, mb1mx3.5/22, mbtmp3.6/7, ML3.7/6, Error ellipse: s-maj=22.8km s-min=12.0km az=40.0*

*PRU **18** 22:55:13.8, 49.43N×6.98E*

*BNS **18** 22:55:16.3±0.7, 49.47N×6.65E, h1km, ML3.5*

ISC 18 22:55:10.8±0.1, 49.370N±0.009×6.83E±0.01, n200, σ1.42/402, mb3.1/1, 7C-17D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RUP	Ruppelstein	0.36	24	⇓ePg	Pg	22 55 20.3	+2.2
RUP				eSg	Sg	22 55 24.2	+1.3
	SNR=2.3						
RUP	Ruppelstein	0.36	24	Pg	Pg	22 55 20.2	+2.1
RUP				Sg	Sg	22 55 24.2	+1.3
	SNR=2.3						
WLF	Walferdange	0.53	304	ePg	Pg	22 55 24.0	+2.6
WLF				eSg	Sg	22 55 31.5	+3.0
	SNR=5.0						
WLF	Walferdange	0.53	304	ePg	Pg	22 55 24.4	+3.0
WLF	Walferdange	0.53	304	ePg	Pg	22 55 24.4	+3.0
WLF				Sg	Sg	22 55 31.5	+3.0
	SNR=5.0						
ABH	Alteburg	0.69	42	⇓iPg	Pg	22 55 25.7	+1.1
ABH				eSg	Sg	22 55 34.3	+0.5
	SNR=17						
ABH	Alteburg	0.69	42	Pg	Pg	22 55 25.6	+1.0
ABH				Sg	Sg	22 55 34.3	+0.5
	SNR=17						
LANF	Langenberg	0.75	121	⇓ePg	Pg	22 55 26.8	+1.1
KTD	Kalmit	0.82	93	Pg	Pg	22 55 27.9	+0.8
KTD				eSg	Sg	22 55 39.0	+0.9
	SNR=2.6						
STR	Strasbourg	1.00	142	ePg	Pg	22 55 32.4	+1.7
CDF	Champ du Feu	1.00	163	ePg	Pg	22 55 31.7	+0.9
CDF				ePn	Pn	22 55 32.8	+0.9
CDF				eSg	Sg	22 55 44.0	-0.2
CDF				eSn	Sn	22 55 46.1	-0.9
	270nm,0.4s						
CDF	Champ du Feu	1.00	163	eP	Pg	22 55 31.7	+0.9
CDF				e		22 55 46.1	
WLS	Welschbruch	1.02	160	⇓iPg	Pg	22 55 32.2	+1.1
WLS				Sg	Sg	22 55 47.6	+2.9
WLS	Welschbruch	1.02	160	Pg	Pg	22 55 32.1	+1.0
WLS				Sg	Sg	22 55 46.9	+2.2
WLS	Welschbruch	1.02	160	Pg	Pg	22 55 32.2	+1.1
WLS				Sg	Sg	22 55 46.9	+2.2
RFYF	Reffroy	1.16	231	ePg	Pg	22 55 36.4	+2.4
	baz=49						
RFYF				eSg	Sg	22 55 51.4	+1.9
	558nm,0.3s						
ECH	Echery	1.18	169	ePg	Pg	22 55 35.1	+0.9
ECH				⇓ePn	Pn	22 55 35.2	+0.8
ECH				eSg	Sg	22 55 50.9	+0.9
	SNR=5.1						
ECH	Echery	1.18	169	Pg	Pg	22 55 35.1	+0.8
ECH				Sg	Sg	22 55 50.8	+0.9
ECH	Echery	1.18	169	⇓eP	Pn	22 55 35.2	+0.8
ECH	Echery	1.18	169	Pn	Pn	22 55 35.2	+0.8
ECH				Sg	Sg	22 55 50.8	+0.9
STB	Steinbach	1.23	0	ePg	Pg	22 55 37.5	+2.2
STB				eSg	Sg	22 55 53.0	+1.4
	501nm,1.0s						
SWS	Schriesheim	1.23	84	⇓ePg	Pg	22 55 34.9	-0.3
SWS				Sg	Sg	22 55 51.0	-0.6
THEF	They Montfort	1.27	206	ePg	Pg	22 55 37.4	+1.2
THEF				⇓ePn	Pn	22 55 37.6	+1.8
THEF				eSg	Sg	22 55 54.3	+1.1
	SNR=5.7						
THEF	They Montfort	1.27	206	⇓eP	Pn	22 55 37.6	+1.8
THEF	They Montfort	1.27	206	Pg	Pg	22 55 37.6	+1.4
THEF				Sg	Sg	22 55 54.4	+1.2
TOD	Tromm	1.31	79	ePg	Pg	22 55 36.2	-0.7
TOD				⇓iPn	Pn	22 55 36.2	-0.1
TOD				Sg	Sg	22 55 54.4	+0.1
TOD	Tromm	1.31	79	⇓iP	Pb	22 55 36.2	+0.3
TOD	Tromm	1.31	79	Pg	Pb	22 55 36.2	+0.3
TOD				Sg	Sg	22 55 54.3	0.0
KLL	Kalltalsperre	1.32	345	ePg	Pg	22 55 38.0	+0.8
KLL				eSg	Sg	22 55 55.3	+0.5
	292nm,0.4s						
LIBD	Limburg	1.32	157	ePg	Pg	22 55 38.7	+1.5
LIBD				⇓iP*	Pb	22 55 38.8	+2.6
LIBD	Limburg	1.32	157	⇓iP	Pb	22 55 38.8	+2.6
LIBD	Limburg	1.32	157	Pg	Pg	22 55 38.2	+1.0
MEM	Membach	1.35	337	P	Pb	22 55 38.1	+1.4
MEM				S	Sb	22 55 55.4	+1.0
TNS	Taunus Mts	1.35	50	ePn	Pn	22 55 37.0	+0.1
	SNR=76						
TNS				ePg	Pg	22 55 38.6	+0.8
	SNR=6.4						
TNS				eSg	Sg	22 55 55.5	-0.2
	SNR=9.8						
TNS	Taunus Mts	1.35	50	eP	Pn	22 55 37.0	+0.1
TNS				e		22 55 55.5	
TNS	Taunus Mts	1.35	50	ePn	Pn	22 55 37.0	+0.1
TNS				ePg	Pg	22 55 38.6	+0.9
TNS				eSg	Sg	22 55 55.5	-0.2
TNS	Taunus Mts	1.35	50	Pg	Pg	22 55 38.6	+0.9
	SNR=6.4						
TNS				Sg	Sg	22 55 55.5	-0.2
	SNR=9.8						
HAU	Haudompre	1.40	193	ePn	Pn	22 55 38.6	+0.9
HAU				ePg	Pg	22 55 39.7	+0.9
HAU				eSg	Sg	22 55 57.6	+0.1
	251nm,0.3s						
HAU	Haudompre	1.40	193	eP	Pn	22 55 38.6	+0.9
HAU				e		22 55 57.6	
BFO	Black Forest	1.44	136	Pn	Pn	22 55 38.9	+0.8
	2μm,0.5s,SNR=84						
BFO	Black Forest	1.44	136	⇓ePn	Pn	22 55 38.4	+0.3
BFO				Pg	Pg	22 55 40.2	+0.7
BFO				Sg	Sg	22 55 58.3	-0.3
BFO	Black Forest	1.44	136	eP	Pn	22 55 38.5	+0.4
BFO				e		22 55 58.2	
BFO	Black Forest	1.44	136	ePn	Pn	22 55 38.5	+0.4
BFO				ePg	Pg	22 55 40.5	+1.0
BFO				eSg	Sg	22 55 58.2	-0.4
BFO	Black Forest	1.44	136	Pg	Pg	22 55 40.2	+0.7
BFO				Sg	Sg	22 55 58.3	-0.3
MEZF	Maizieres J'vi	1.46	234	ePn	Pn	22 55 40.0	+1.5

baz=55
MEZF ePg Pg 22 55 41.2 +1.2
baz=54
MEZF eSn Sn 22 55 58.8 +0.2
MEZF eSg Sg 22 56 01.2 +1.8
436nm,0.5s
MEZF Maizieres J'vi 1.46 234 ePg Pg 22 55 41.2 +1.2
MEZF eSn Sn 22 55 58.8 +0.2
MEZF eSg Sg 22 56 01.2 +1.8
218nm,0.5s
LBG Lerchenberg 1.47 118 Pn Pn 22 55 38.7 0.0
LBG Sn Sn 22 55 57.6 -1.3
GIVF Givet 1.50 300 ePn Pn 22 55 40.8 +1.8
GIVF ePg Pg 22 55 42.3 +1.7
GIVF eSn Sn 22 56 00.0 +0.5
GIVF eSg Sg 22 56 02.5 +1.9
983nm,0.6s
GIVF Givet 1.50 300 eP Pn 22 55 40.8 +1.8
GIVF e 22 56 00.0
HGN Heimansgroeve 1.51 338 ePn Pn 22 55 40.6 +1.4
SNR=118
HGN ePg Pg 22 55 42.4 +1.5
SNR=31
HGN eSg Sg 22 56 01.4 +0.3
SNR=4.7
HGN Heimansgroeve 1.51 338 ePn Pn 22 55 40.3 +1.1
54nm,0.4s
HGN ePg Pg 22 55 42.0 +1.0
HGN eSg Sg 22 56 02.0 +0.9
HGN eRg 22 56 23.4
HGN Heimansgroeve 1.51 338 ePg Pg 22 55 42.0 +1.0
HGN eSg Sg 22 56 02.0 +0.9
FBB Freiburg 1.53 153 P* Pb 22 55 42.3 +2.6
MOF Molkenrain 1.53 172 Pn Pn 22 55 41.5 +2.0
MOF ePg Pg 22 55 42.2 +0.8
SNR=2.3
MOF Sg Sg 22 56 02.4 +0.6
MOF Molkenrain 1.53 172 P Pn 22 55 41.5 +2.0
MOF S Sg 22 56 02.4 +0.6
HINF Hinteralfeld 1.56 179 ePn Pn 22 55 40.2 +0.4
HINF ePg Pg 22 55 42.7 +0.9
HINF eSn Sb 22 55 59.4 -0.9
HINF eSg Sg 22 56 02.4 -0.2
279nm,0.3s
HINF Hinteralfeld 1.56 179 eP Pn 22 55 40.2 +0.4
HINF e 22 55 59.4
HINF Hinteralfeld 1.56 179 ePg Pg 22 55 42.7 +0.9
HINF eS Sb 22 55 59.4 -0.9
HINF eSn Sb 22 55 59.4 -0.9
HINF eSg Sg 22 56 02.4 -0.2
140nm,0.3s
JUE Julich 1.57 350 ePg Pg 22 55 42.5 +0.4
JUE eSg Sg 22 56 01.3 -1.6
KIZ Kirchzarten 1.59 153 Pn Pn 22 55 41.7 +1.4
KIZ Pg Pg 22 55 42.8 +0.3
KIZ Sn Sb 22 56 00.9 -0.4
KIZ Sg Sg 22 56 03.4 -0.3
KIZ Kirchzarten 1.59 153 P Pn 22 55 41.7 +1.4
KIZ S Sb 22 56 00.9 -0.4
BNS Bensberg 1.61 8 ePg Pg 22 55 43.2 +0.3
BNS eSg Sg 22 56 03.0 -1.5
1µm,0.7s
DOU Dourbes 1.62 297 P Pn 22 55 42.7 +1.9
DOU S Sb 22 56 03.2 +0.9
SFTF Sexfontaines 1.66 226 ePn Pn 22 55 42.6 +1.2
SFTF ePg Pg 22 55 45.0 +1.0
SFTF eSn Sn 22 56 03.6 -0.2
SFTF eSg Sg 22 56 07.1 +0.9
174nm,0.3s
STU Stuttgart 1.67 110 ePn Pn 22 55 41.7 +0.3
SNR=5.3
FELD Feldberg 1.69 152 Pn Pn 22 55 41.8 +0.1
FELD ePg Pg 22 55 45.1 +0.7
FELD Sg Sg 22 56 06.4 -0.5
FELD Feldberg 1.69 152 P Pn 22 55 41.8 +0.1
FELD S Sg 22 56 06.4 -0.5
FELD Feldberg 1.69 152 SG Sg 22 56 06.4 -0.5
TUBL Tuebingen Lnz 1.71 119 Pn Pn 22 55 42.5 +0.5
TUBL Pg Pg 22 55 45.3 +0.4
SPAK Spaichingen 1.81 134⇓ ePg Pg 22 55 47.1 +0.1
SIND Sindeldorf 1.81 90⇓ iPn Pn 22 55 43.2 -0.3
SIND Sn Sn 22 56 04.9 -2.7
BAIF Baives 1.84 293 ePn Pn 22 55 45.7 +1.8
BAIF ePg Pg 22 55 48.5 +1.0
BAIF eSn Sn 22 56 08.4 +0.2
BAIF eSg Sg 22 56 13.3 +1.3
402nm,0.7s
BAIF Baives 1.84 293 eP Pn 22 55 45.7 +1.8
BAIF e 22 56 08.4
BUCH Bad Urach 1.90 118 Pn Pn 22 55 45.5 +0.7
BUCH Sg Sg 22 56 13.6 -0.5
BBS Basel-Blauen 1.96 166 Pn Pn 22 55 47.4 +1.8
GUT Gutenstein 1.99 130 Pn Pn 22 55 46.5 +0.4
GUT Pg Pg 22 55 50.4 -0.3
GUT Sg Sg 22 56 15.4 -1.8
GUT Gutenstein 1.99 130 P Pn 22 55 46.5 +0.4
GUT Pg Pg 22 55 50.4 -0.2
SNF Seneffe 2.00 306 P Pn 22 55 48.2 +2.0
LOMF Lomont 2.02 180 Pn Pn 22 55 47.2 +0.7
LOMF Sg Sg 22 56 18.1 +0.1
LOMF Lomont 2.02 180 Pn Pn 22 55 47.3 +0.8
LOMF Sg Sg 22 56 18.0 -0.1
BUG Bochum--Univer 2.09 8 ePn Pn 22 55 48.8 +1.3
SNR=10.0
BUG ePg Pg 22 55 52.3 -0.3
SNR=3.6
BUG eSg Sg 22 56 19.5 -0.9
SNR=5.6
BUG Bochum--Univer 2.09 8 eP Pn 22 55 48.8 +1.3
BUG e 22 56 19.5
BUG Bochum--Univer 2.09 8 ePn Pn 22 55 48.8 +1.3
BUG ePg Pg 22 55 52.3 -0.2
BUG eSg Sg 22 56 19.5 -0.9
BUG Bochum--Univer 2.09 8 ePg Pg 22 55 52.3 -0.2
BUG eS Sg 22 56 19.5 -0.9
SISB Singen-Sch Ber 2.20 139 Pn Pn 22 55 51.2 +2.1
SISB P* Pb 22 55 54.6 +3.4
SISB S* Sb 22 56 24.0 +4.9
HDH Heidenheim 2.36 108 Pn Pn 22 55 51.1 -0.2
HDH Sg Sg 22 56 29.7 -3.6
UBBA Unterbreizbach 2.50 53 ePg Pg 22 55 59.3 -1.5
UBBA eSg Sg 22 56 30.8 -3.3
SNR=3.0
WTSB Winterswijk 2.60 360 ePn Pn 22 55 55.9 +1.1
SNR=11
WTSB ePg Pg 22 56 02.2 -0.5
SNR=3.1
WTSB eSg Sg 22 56 34.9 -2.4
SNR=3.1
WTSB Winterswijk 2.60 360 eP Pn 22 56 00.7 +5.9
WTSB eSg Sg 22 56 33.0 -4.4
WTSB Winterswijk 2.60 360 eSg Sg 22 56 33.0 -4.3
UBR Uberruh 2.76 127 Pn Pn 22 55 58.0 +1.0
UBR P* Pb 22 55 59.2 -1.6
UBR S* Sb 22 56 42.2 +7.0
UBR Uberruh 2.76 127 P Pn 22 55 58.0 +1.0
UBR S Sb 22 56 42.2 +7.0
CABF La Chapelle 2.81 191 ePn Pn 22 55 58.3 +0.6
CABF ePg Pg 22 56 06.1 -0.7
CABF eSg Sg 22 56 41.2 -3.0
187nm,0.7s
CABF La Chapelle 2.81 191 eP Pn 22 55 58.3 +0.6
CABF e 22 56 41.2
GRA1 Grafenberg Arr 2.88 82 ePg Pg 22 56 03.7 -4.5
GRA1 eSg Sg 22 56 44.6 -2.0
GRF Grafenberg Arr 2.88 82 ePg Pg 22 56 03.7 -4.6
GRF eSg Sg 22 56 44.6 -2.0
DAVA Damuels 2.91 135⇑ iPN Pn 22 56 00.4 +1.1
DAVA *i* SN Sn 22 56 47.6 +12
IBBN Ibbenburen 3.00 11 eSg Sg 22 56 47.7 -3.0
SNR=3.0
FUR Furstenfeldbru 3.18 111 ePn Pn 22 56 03.0 0.0
SNR=3.5
FUR ePg Pg 22 56 12.9 -1.3
SNR=3.5
FUR Furstenfeldbru 3.18 111 ePn Pn 22 56 03.0 0.0
FUR ePg Pg 22 56 12.9 -1.3
SSF Saint Saulge 3.21 225 ePn Pn 22 56 03.3 -0.1
SSF ePg Pg 22 56 13.5 -1.3
SSF eSn Sn 22 56 40.4 -2.5
SSF eSg Sg 22 56 55.0 -2.6
83nm,0.5s
SSF Saint Saulge 3.21 225 eP Pn 22 56 03.3 -0.1
SSF e 22 56 40.4
DAVOX Davos 3.30 141 Pn Pn 22 56 07.0 +2.2
3.1nm,0.3s,baz=325,slow=14,SNR=33
DAVOX Lg 22 56 59.4
16nm,0.3s,baz=148,slow=22,SNR=12
DAVOX Davos 3.30 141 Pn Pn 22 56 07.0 +2.2
DAVOX Lg 22 56 59.4
MOX Moxa 3.34 66 ePn Pn 22 56 04.7 -0.6
SNR=6.4
MOX ePg Pg 22 56 13.9 -3.6
SNR=6.4
MOX *e*(Sn) Sn 22 56 43.4 -2.9
SNR=2.1
MOX eSg Sg 22 56 58.1 -3.9
MOX Moxa 3.34 66 eP Pn 22 56 04.8 -0.5
MOX *e* 22 56 43.7
MOX Moxa 3.34 66 ePn Pn 22 56 04.8 -0.5
MOX ePg Pg 22 56 13.9 -3.5
MOX eSn Sn 22 56 43.7 -2.6
MOX eSg Sg 22 56 58.1 -3.9
MOX Moxa 3.34 66 *i* P Pn 22 56 04.8 -0.5
MOX Pg Pg 22 56 14.0 -3.4
MOX S Sn 22 56 43.0 -3.3
MOX Sg Sg 22 56 58.0 -4.0
MOX Moxa 3.34 66 ePg Pg 22 56 13.9 -3.5
MOX eS Sn 22 56 43.7 -2.6
CLZ Clausthal 3.35 41 ePn Pn 22 56 05.5 +0.1
SNR=3.7
CLZ ePg Pg 22 56 14.8 -2.8
SNR=3.7
CLZ eSg Sg 22 56 58.4 -3.9
SNR=2.8
CLZ Clausthal 3.35 41 ePn Pn 22 56 05.5 +0.1
CLZ ePg Pg 22 56 14.8 -2.8
CLZ eSg Sg 22 56 58.4 -3.8
SMF Signal de Mont 3.39 217 ePn Pn 22 56 05.8 -0.2
SMF eSn Sn 22 56 44.5 -3.0
SMF eSg Sg 22 57 00.1 -3.4
95nm,0.6s
AVF Avril sur Loir 3.48 223 ePn Pn 22 56 06.8 -0.5
AVF ePg Pg 22 56 18.6 -1.6
AVF eSn Sn 22 56 46.9 -2.9
AVF eSg Sg 22 57 03.0 -3.6
61nm,0.5s
AVF Avril sur Loir 3.48 223 eP Pn 22 56 06.8 -0.5
AVF *e* 22 56 46.9
MOTA Moosalm 3.50 124⇓ iPN Pn 22 56 08.6 +1.1
MOTA *i* SN Sn 22 57 02.0 +12
HYF Humbligny 3.50 235 ePn Pn 22 56 07.5 -0.1
HYF ePg Pg 22 56 18.8 -1.9
HYF eSg Sg 22 57 04.0 -3.3
MCGN Macugnaga 3.50 167 ePn Pn 22 56 09.7 +2.1
SQTA Sankt Quirin 3.63 125⇑ iPN Pn 22 56 10.9 +1.5
SQTA *i* 22 57 11.6
NEUB Neuenburg 3.67 58 eSg Sg 22 57 08.3 -4.5
SNR=3.2
GUNZ Gunzen 3.69 72 ePn Pn 22 56 10.2 -0.2
SNR=4.0
GUNZ ePg Pg 22 56 21.8 -2.7
SNR=4.0
GUNZ eSg Sg 22 57 08.9 -4.8
SNR=3.7
WERD Werda 3.70 71 ePn Pn 22 56 10.3 -0.1
SNR=2.8
WERD ePg Pg 22 56 21.3 -3.3
SNR=2.8
WERD eSg Sg 22 57 08.8 -5.1
SNR=2.0
NKC Novy Kostel 3.74 75 ePN Pn 22 56 10.8 -0.2
NKC ePG Pg 22 56 21.7 -3.7
NKC eSG Sg 22 57 09.1 -6.2
VAI Varese 3.74 159 ePn Pn 22 56 11.8 +0.8
VAI eSn Sn 22 57 13.6 +17
VAI Varese 3.74 159 ePn Pn 22 56 11.9 +0.9
BRMO Bormio 3.75 139 ePn Pn 22 56 13.3 +2.1
BRMO Bormio 3.75 139 ePn Pn 22 56 13.3 +2.2
NRDL Niedersach Rie 3.75 32 ePg Pg 22 56 23.5 -2.2
WATA Walderalm 3.76 121⇑ iPN Pn 22 56 12.7 +1.4
WATA *i* SN Sn 22 57 08.4 +11
TANN Tannenbergstha 3.79 72 ePn Pn 22 56 10.8 -0.9
SNR=6.0
TANN ePg Pg 22 56 24.0 -2.4
SNR=6.0
TANN eSg Sg 22 57 11.3 -5.6
SNR=3.7
ORO Oropa 3.83 168 ePn Pn 22 56 14.2 +2.0
WTTA Wattenberg 3.84 122⇑ iPN Pn 22 56 13.7 +1.3
WTTA *i* 22 57 17.3
LPL La Plagne 3.86 181 ePn Pn 22 56 12.6 -0.1
LPL ePg Pg 22 56 24.4 -3.4
LPL eSn Sn 22 56 55.0 -4.4
23nm,0.5s
LPL eSg Sg 22 57 14.2 -5.0
51nm,0.8s
LPL La Plagne 3.86 181 eP Pn 22 56 12.6 -0.1
LPL *e* 22 56 55.0
LPG La Plagne 3.88 181 ePn Pn 22 56 13.3 -1.6
LPG eSn Sn 22 56 53.5 -6.3
LPG eSg Sg 22 57 15.3 -4.5
30nm,0.6s
BGF Bois d'Agland 3.88 225 ePn Pn 22 56 12.4 -0.7
BGF ePg Pg 22 56 25.9 -2.4
BGF eSn Sn 22 56 56.5 -3.6
BGF eSg Sg 22 57 16.7 -3.4
214nm,0.4s
BGF Bois d'Agland 3.88 225 eP Pn 22 56 12.4 -0.7
BGF *e* 22 56 56.5
WET Wettzell 3.97 91 ePn Pn 22 56 14.0 -0.3
SNR=15
WET ePg Pg 22 56 26.3 -3.7
SNR=15
WET Wettzell 3.97 91 ePn Pn 22 56 14.0 -0.2
WET ePg Pg 22 56 26.3 -3.7
TCF Toulx Ste Croi 4.38 227 ePn Pn 22 56 19.4 -0.7
TCF ePg Pg 22 56 35.3 -3.0
TCF eSn Sn 22 57 09.0 -3.7
TCF eSg Sg 22 57 32.7 -4.0
53nm,0.6s
TCF Toulx Ste Croi 4.38 227 eP Pn 22 56 19.4 -0.7
TCF *e* 22 57 09.0
CLL Collm 4.40 62 ePn Pn 22 56 19.5 -0.9
SNR=1.9
CLL *i* Pg Pg 22 56 32.3 -6.4
CLL eSg Sg 22 57 31.6 -5.8
SNR=3.9
KHC Kasperske Hory 4.42 91 eP Pn 22 56 20.5 -0.2
KHC *e* 22 57 10.0
KHC Kasperske Hory 4.42 91 ePN Pn 22 56 20.5 -0.2
KHC *ex* x 22 56 40.5
KHC eSN Sn 22 57 10.0 -3.8
KHC eSG Sg 22 57 31.7 -6.4
KHC Kasperske Hory 4.42 91 Pn Pn 22 56 20.5 -0.2
KHC Sn Sn 22 57 10.0 -3.8
KHC Sg Sg 22 57 31.7 -6.4
ORIF Oris-en-Rattie 4.50 189 ePn Pn 22 56 20.9 -0.9
ORIF eSg Sg 22 57 34.7 -6.0
79nm,0.8s
GEC2 GERESS Array S 4.54 94 ePn Pn 22 56 22.3 -0.1
SNR=69
GEC2 eSn Sn 22 57 10.8 -5.9
SNR=2.8
GEC2 GERESS Array S 4.54 94 ePn Pn 22 56 22.3 -0.1
GEC2 eS Sn 22 57 10.8 -6.0
GEC2 eSn Sn 22 57 10.8 -6.0
GERES GERESS Array B 4.54 94 Pn Pn 22 56 22.3 -0.1
19nm,0.3s,baz=281,slow=13,SNR=614
GERES Sn Sn 22 57 13.2 -3.6
8.4nm,0.3s,baz=285,slow=24,SNR=14
GERES Lg 22 57 40.3
3.3nm,0.3s,baz=284,slow=27,SNR=4.0
LDF La Druitiere 4.64 263 ePn Pn 22 56 23.7 -0.2
LDF ePg Pg 22 56 40.4 -3.1
LDF eSn Sn 22 57 14.5 -4.8
LDF eSg Sg 22 57 41.4 -4.1
38nm,0.4s
LDF La Druitiere 4.64 263 eP Pn 22 56 23.7 -0.2
LDF *e* 22 57 14.5
MBDF Montbardon 4.65 181 ePn Pn 22 56 22.6 -1.3
MBDF eSg Sg 22 57 37.1 -8.4
44nm,0.8s
CTI Castel Tesino 4.65 134 eP Pn 22 56 27.0 +3.1
VIVF Saint-Julien-l 4.75 199 ePn Pn 22 56 24.0 -1.4
VIVF ePg Pg 22 56 39.4 -6.2
VIVF eSg Sg 22 57 42.1 -6.9
20nm,0.4s
BRG Berggiesshubel 4.82 69 ePn Pn 22 56 25.5 -0.8
SNR=2.0
BRG *e*(Pg) Pg 22 56 41.2 -5.8
SNR=2.0
BRG *e*(Sg) Sg 22 57 42.5 -8.6
SNR=2.2
BRG Berggiesshubel 4.82 69 ePn Pn 22 56 26.1 -0.2
BRG *i* Sg Sg 22 57 42.6 -8.5
FLN La Foliniere 4.85 266 ePn Pn 22 56 26.4 -0.3
baz=88
FLN ePg Pg 22 56 44.2 -3.4
baz=82
FLN eSn Sn 22 57 20.1 -4.3
FLN eSg Sg 22 57 47.6 -4.6
35nm,0.4s
FLN La Foliniere 4.85 266 eP Pn 22 56 26.4 -0.3
FLN *e* 22 57 20.1
FLN La Foliniere 4.85 266 ePg Pg 22 56 44.2 -3.4
FLN eSn Sn 22 57 20.1 -4.3
FLN eSg Sg 22 57 47.6 -4.6
17nm,0.4s
FVI Forni Avoltri 4.86 123 eP Pn 22 56 29.0 +2.0
KBA Koelnbreinsper 4.92 115⇑ iPn Pn 22 56 29.0 +1.2
KBA *i* S Sn 22 57 26.7 +0.4
PRU Pruhonice 5.04 80 ePN Pn 22 56 28.8 -0.7
PRU *ex* x 22 56 45.8
PVCC Panska Ves 5.13 74 eSG Sg 22 57 55.0 -6.5
MOA Molln 5.16 104⇑ iPN Pn 22 56 31.1 -0.1
MOA *i* 22 57 27.8
GRR Gorron 5.17 262 ePn Pn 22 56 31.2 -0.1
GRR ePg Pg 22 56 50.4 -3.6
GRR eSn Sn 22 57 28.1 -4.4
GRR eSg Sg 22 57 56.2 -6.7
23nm,0.3s
GRR Gorron 5.17 262 eP Pn 22 56 31.2 -0.1
GRR *e* 22 57 28.1
PTCC Patocco-Chiusa 5.29 122 ePn Pn 22 56 35.1 +2.1
RJF Les Rejaudoux 5.44 224 ePn Pn 22 56 34.2 -0.9
RJF eSg Sg 22 58 05.1 -6.8
71nm,0.8s
MFF Saint Martin d 5.44 242 ePn Pn 22 56 34.6 -0.5
MFF ePg Pg 22 56 55.5 -3.9
MFF eSn Sn 22 57 34.1 -5.3
MFF eSg Sg 22 58 05.3 -6.7
53nm,0.7s
MFF Saint Martin d 5.44 242 eP Pn 22 56 34.6 -0.5
MFF *e* 22 57 34.1
SMRF Simiane la Rot 5.46 190 ePn Pn 22 56 33.8 -1.7
ROBS Robic 5.48 122 ePn Pn 22 56 37.2 +1.6
ROBS eSn Sn 22 57 40.4 +0.1
CAF Calviac 5.51 218 ePn Pn 22 56 34.6 -1.5
CAF eSn Sn 22 57 35.5 -5.6
CAF eSg Sg 22 58 07.3 -6.9
26nm,0.5s
LASF Ste Croix 5.68 202 eSg Sg 22 58 12.0 -7.8
23nm,0.5s
GORS Gorjuse 5.71 120 ePn Pn 22 56 40.5 +1.7
FRF La Foret Royal 5.81 181 ePn Pn 22 56 38.4 -2.0
FRF eSn Sn 22 57 42.6 -6.1
2.1nm,0.2s
UPC Upice 6.04 76 eSG Sg 22 58 21.7 -10
LFF La Frestale 6.07 225 eSn Sn 22 57 49.8 -5.4
LFF eSg Sg 22 58 25.1 -7.9
46nm,0.6s
ARSA Arzberg 6.17 107⇑ iPN Pn 22 56 45.1 -0.3
ARSA *i* 22 57 53.7
PERS Pernice 6.20 113 ePn Pn 22 56 46.2 +0.5
DPC Dobruska-Polom 6.21 77 eSG Sg 22 58 28.6 -9.1
KSP Ksiaz 6.26 73 ePg Pg 22 57 10.4 -5.4
KSP eSg Sg 22 58 29.4 -10
SGMF Saint Gilles 6.30 263 ePn Pn 22 56 46.0 -1.3
SGMF eSn Sn 22 57 54.9 -6.0
SGMF eSg Sg 22 58 32.7 -7.9
60nm,0.6s
VRAC Vranov 6.38 87 Pn Pn 22 56 46.4 -2.0
0.4nm,0.3s,baz=281,slow=15,SNR=4.9
VRAC Lg 22 58 34.8
0.9nm,0.3s,baz=344,slow=20,SNR=6.5
ROSF Rostrenen 6.75 265 ePn Pn 22 56 52.0 -1.6
ROSF eSg Sg 22 58 46.3 -9.2
34nm,0.7s
QUIF Quistinic 6.78 261 ePn Pn 22 56 52.4 -1.6
QUIF eSn Sn 22 58 05.7 -7.3
QUIF eSg Sg 22 58 47.8 -8.8
48nm,0.8s
MTLF Montolieu 6.82 210 eSg Sg 22 58 47.4 -11
18nm,0.6s
ZST Bratislava 6.89 96 *e* Sg 22 58 52.2 -7.9
BOJS Bojanci 6.90 121 ePn Pn 22 56 57.1 +1.5
MORC Moravsky Berou 6.98 83 eP Pn 22 56 53.2 -3.6
MORC pmax pmax
comp=Z.4.0nm,0.6s
MORC Moravsky Berou 6.98 83 ePn Pn 22 56 53.1 -3.6
comp=Z.3.6nm,0.6s
MORC Moravsky Berou 6.98 83 ePn Pn 22 56 54.7 -2.1
OKC Ostrava-Krasne 7.37 82 eSG Sg 22 59 06.8 -9.3
EPF Esparros 7.78 218 ePn Pn 22 57 05.5 -2.4
VYHS Vyhne 7.96 92 ePN Pn 22 57 09.1 -1.4
ETSF Etsaut 8.26 221 ePn P 22 57 12.2 -2.5
EKA Eskdalemuir Ar 8.54 318 Pn P 22 57 16.1 -2.5
comp=Z,1.1nm,0.3s,baz=134,slow=14,SNR=18
HFS Hagfors 11.48 17 Pn P 22 57 55.7 -3.2
comp=Z,0.0nm,0.3s,baz=197,slow=15,SNR=3.7
NOA NORSAR Array B 11.96 10 Pn P 22 58 01.6 -3.8
comp=Z,0.1nm,0.3s,baz=54,slow=9.5,SNR=2.7
FINES FINESS Array B 16.21 35 Pn P 22 59 00.4 -0.8
comp=Z,0.1nm,0.3s,baz=219,slow=8.9,SNR=2.8
YKA Yellowknife Ar 59.21 333 P P 23 05 15.0 -0.4
comp=Z,0.1nm,0.5s,mb3.1,baz=47,slow=6.9,SNR=4.9

*CSEM **18** 22:59:14.8±0.1, 37.78N×26.99E, h10km, MD3.1, Error ellipse: s-maj=3.3km s-min=1.8km az=106.0*
*ISK **18** 22:59:15.5, 37.82N×27.04E, h32km, MD3.1*
*ATH **18** 22:59:16.2, 37.77N×26.82E, h8km, MD3.2/3*
ISC 18 22:59:15.5±0.6, **37.76N**±0.03×**26.96E**±0.05, **h6**km±7km, **n10**, σ0°**82**/16, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMG	**Samos**	**0.11**	**244**	*e*PG	**Pg**	**22 59 17.9**	**-0.1**
SMG				*e*SG	**Sg**	**22 59 19.8**	**+0.2**
BLCB	**Balcova**	**0.63**	**6**	PG	**Pg**	**22 59 27.1**	**-1.1**
KDAG	**Bornova**	**0.69**	**20**	*i* P	**Pg**	**22 59 28.0**	**-1.3**
KDAG				*i* S	**Sg**	**22 59 39.4**	**+0.9**
AYDN	**Tasoluk**	**0.73**	**97**	*i* P	**Pg**	**22 59 29.6**	**-0.6**
AYDN				*i* S	**Sg**	**22 59 40.7**	**+0.7**
BODT	**Bodrum**	**0.75**	**158**	PG	**Pg**	**22 59 31.0**	**+0.5**
BODT				SG	**Sg**	**22 59 40.9**	**+0.5**
BDRM	**Kayabasi**	**0.79**	**151**	*i* P	**Pb**	**22 59 32.0**	**+0.8**
BDRM				*i* S	**Sg**	**22 59 41.9**	**0.0**
YER	**Yerkesik**	**1.22**	**120**	ePN	**Pn**	**22 59 37.4**	**-1.7**
APE	**Apeiranthos**	**1.33**	**239**	ePN	**Pn**	**22 59 40.0**	**-0.6**
APE	**Apeiranthos**	**1.33**	**239**	ePN	**Pb**	**22 59 40.0**	**-0.6**
PRK	**Paraskevi**	**1.58**	**340**	ePB	**Pb**	**22 59 45.5**	**+0.7**
PRK				*e*SB	**Sb**	**23 00 05.9**	**+0.9**

*IDC **18** 23:23:25.6±1.4, 5.28N×95.09E, mb4.0/8, mb1 4.2/8, mb1mx4.0/16, mbtmp4.0/8, Error ellipse: s-maj=64.7km s-min=20.7km az=54.0*
*NEIC **18** 23:23:30.1±0.6, 5.26N×95.07E, h30km, mb4.3/4, Error ellipse: s-maj=21.5km s-min=8.1km az=223.0*
ISC 18 23:23:30.7±7.0, **5.4N**±0.3×**95.2E**±0.4, **h48**km±56km, **n13**, σ**0**°**50**/13, **mb4.0**/12, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.42**	**90**	*e*Pn	**P**	**23 24 51.1**	**+0.1**
AAK	**Ala-Archa**	**41.42**	**337**	*e*P	**P**	**23 31 15.0**	**+0.7**
	1.1nm,0.7s,mb3.6						
SONM	**Songino Array**	**43.40**	**11**	P	**P**	**23 31 30.9**	**+0.5**
	1.0nm,0.7s,mb3.6,baz=190,slow=7.5,SNR=12						
SONM				PcP	PcP	23 33 17.4	-1.3
	0.4nm,0.6s,baz=204,slow=4.3,SNR=3.5						
WRA	**Warramunga Arr**	**45.96**	**124**	P	**P**	**23 31 51.4**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=304,slow=9.0,SNR=6.0						
WRAB	**Tennant Creek**	**45.96**	**124**	*e*P	**P**	**23 31 51.1**	**-0.2**
	2.6nm,0.6s,mb4.3						
KURK	**Kurchatov**	**47.30**	**346**	*e*P	**P**	**23 32 00.9**	**-0.5**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	1.0nm,0.3s,mb4.2						
ASAR	**Alice Springs**	**47.50**	**129**	P	**P**	**23 32 03.2**	**-0.1**
	0.6nm,0.6s,mb3.8,baz=312,slow=7.0,SNR=6.9						
ZAL	**Zalesovo**	**49.18**	**352**	P	**P**	**23 32 15.7**	**-0.2**
	1.3nm,0.3s,mb4.4,baz=341,slow=5.1,SNR=7.6						
BVAR	**Borovoye Array**	**51.70**	**341**	P	**P**	**23 32 34.5**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=141,slow=9.7,SNR=8.2						
CHKZ	**Chkalovo**	**52.19**	**342**	*e*P	**P**	**23 32 38.2**	**-0.6**
	2.1nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**75.42**	**332**	P	**P**	**23 35 12.2**	**+1.1**
	1.5nm,0.9s,mb3.9,baz=72,slow=4.4,SNR=5.1						
ARCES	**ARCESS Array B**	**77.98**	**340**	P	**P**	**23 35 24.9**	**-0.3**
	6.0nm,1.0s,mb4.5,baz=104,slow=7.4,SNR=4.2						
GERES	**GERESS Array B**	**80.40**	**318**	P	**P**	**23 35 38.9**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=117,slow=6.0,SNR=4.1						

NEIC 18 23:31:18.0, 45.00N×111.89W, h10km, ML3.6(BUT), 1C, After BUT., Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QLMT	**Earthquake Lak**	**0.37**	**117**	*e*P	Pg	23 31 25.6	0.0
BOZ	**Bozeman (W)**	**0.67**	**16**	*e*P	Pb	23 31 30.1	-1.3
MCMT	**McKenzie Canyo**	**0.70**	**256**	⇑*i*P	Pb	23 31 31.7	-0.1
YNR	**Norris Junctio**	**0.91**	**108**	*e*P	Pb	23 31 35.2	-0.1
YFT	**Old Faithful**	**0.93**	**126**	*e*P	Pb	23 31 35.8	+0.1
LKWY	**Lake**	**1.15**	**112**	*e*P	Pb	23 31 40.1	+0.7
IMW	**Indian Meadow**	**1.30**	**148**	*e*P	Pb	23 31 41.9	-0.1
MOOW	**Moose Ponds**	**1.50**	**146**	*e*P	Pn	23 31 45.4	+0.4
TPAW	**Teton Pass**	**1.65**	**156**	*e*P	Pn	23 31 48.1	+0.8
LOHW	**Long Hollow**	**1.67**	**146**	*e*P	Pn	23 31 48.5	+1.0
WUWY	**Wally Ulrich**	**1.68**	**150**	*e*P	Pn	23 31 48.3	+0.7
RRI2	**Red Ridge**	**1.70**	**166**	*e*P	Pn	23 31 48.7	+0.8
HRY	**Holter Researc**	**1.71**	**1**	*e*P	Pn	23 31 48.7	+0.6
SNOW	**Snow King Moun**	**1.74**	**152**	*e*P	Pn	23 31 48.9	+0.4
GCMT	**Greycliff**	**1.75**	**62**	*e*P	Pn	23 31 48.2	-0.5
CHMT	**Chamberlain Mo**	**2.14**	**334**	*e*P	Pn	23 31 54.3	+0.1
AHID	**Auburn Hatcher**	**2.31**	**165**	*e*Pn	Pn	23 31 56.4	-0.2
HLID	**Hailey**	**2.31**	**232**	*e*Pn	Pn	23 31 57.4	+0.7
MSO	**Missoula**	**2.32**	**323**	*e*Pn	Pn	23 31 56.6	-0.3
BW06	**Boulder Array**	**2.80**	**142**	*e*Pn	Pn	23 32 03.0	-0.6
HWUT	**Hardware Ranch**	**3.40**	**176**	*e*Pn	Pn	23 32 10.2	-2.0
BMO	**Blue Mountains**	**3.85**	**270**	*e*Pn	Pn	23 32 17.5	-1.1
WALA	**Waterton Lakes**	**4.29**	**342**	*e*Pn	Pn	23 32 23.2	-1.6
LAO	**LASA Array**	**4.30**	**65**	*e*Pn	Pn	23 32 23.8	-1.2
DUG	**Dugway**	**4.85**	**188**	*e*Pn	Pn	23 32 30.6	-2.2
NEW	**Newport**	**4.86**	**314**	*e*Pn	Pn	23 32 30.3	-2.7
ELK	**Elko**	**4.91**	**211**	*e*Pn	Pn	23 32 31.9	-1.7
TMUT	**Trail Mountain**	**5.72**	**175**	Pn	Pn	23 32 43.6	-1.5

NIED ***18*** *23:31:00, 33.80N×142.70E, h8km, Mw4.6 Best double couple: M₀8.4×10¹⁵ NP1:φs186°, δ53°, λ-105°. NP2:φs29°, δ40°, λ-72°.*

IDC ***18*** *23:31:47.4±0.5, 33.86N×142.52E, mb4.6/25, mb1 4.7/28, mb1mx4.7/30, mbtmp4.6/28, ML4.4/3, MS3.7/5, Ms1 3.8/5, ms1mx3.4/22, Error ellipse: s-maj=16.1km s-min=13.0km az=99.0*

JMA ***18*** *23:31:49.1±0.4, 33.83N×142.68E, h52km, M4.6*

BJI ***18*** *23:31:50.6, 33.95N×142.40E, h28km, mB5.1, mb4.7, Ms4.3, Msz4.0*

NEIC ***18*** *23:31:52.4±0.1, 33.85N×142.43E, mb4.8/61, MW4.5(NIED), Error ellipse: s-maj=4.4km s-min=3.8km az=190.0*

MOS ***18*** *23:31:54.4±0.8, 34.36N×142.48E, h38km, mb5.0/49, MS4.0/5, Error ellipse: s-maj=9.9km s-min=5.0km az=112.1*

ISC 18 23:31:50.7±0.2**, 33.81N**±0.03×**142.47E**±0.03**, h30km, h30km**±.5km**: pP-P, n271, σ0.98**/278**, mb4.7**/104**, MS4.0**/7**, 9C-4D, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.49**	**305**	P	**Pn**	**23 32 16.1**	**+0.2**
BSO3	**Boso 3**	**1.90**	**302**	P	**Pn**	**23 32 22.1**	**+0.4**
BSO3				S	**Sn**	**23 32 46.4**	**+1.6**
BSO4	**Boso 4**	**2.12**	**304**	P	**Pn**	**23 32 25.8**	**+0.9**
BSO4				S	**Sn**	**23 32 53.1**	**+2.7**
KTR	**Katsuura**	**2.22**	**307**	S	**Sn**	**23 32 54.7**	**+1.6**
CHOJ	**Chosi**	**2.30**	**325**	P	**Pn**	**23 32 26.3**	**-1.3**
CHOJ				S	**Sn**	**23 32 55.1**	**-0.1**
JHJ2	**Mitsune**	**2.32**	**253**	P	**Pn**	**23 32 28.7**	**+0.9**
JHJ2				S	**Sn**	**23 32 56.4**	**+0.7**
JHJ	**Hachijo jima 2**	**2.35**	**254**	Pn	**Pn**	**23 32 26.6**	**-1.6**
	208nm,0.3s,baz=92,slow=6.7,SNR=36						
JHJ				Sn	**Sn**	**23 32 55.5**	**-0.8**
	565nm,0.3s,baz=74,slow=23,SNR=12						
JIM2	**Oshima 3**	**2.67**	**291**	P	**Pn**	**23 32 32.0**	**-0.8**
JOD2	**Odawara 2**	**3.14**	**298**	P	**Pn**	**23 32 39.7**	**+0.2**
JOD2				S	**Sn**	**23 33 16.5**	**+0.1**
JAG	**Ashikaga**	**3.59**	**317**	P	**Pn**	**23 32 45.0**	**-0.9**
JAG				S	**Sn**	**23 33 24.5**	**-3.3**
JYN	**Shimob**	**3.64**	**299**	P	**Pn**	**23 32 46.5**	**-0.1**
JYN				S	**Sn**	**23 33 29.4**	**+0.3**
JRY	**Ryogami san**	**3.66**	**308**	P	**Pn**	**23 32 46.2**	**-0.7**
JRY				S	**Sn**	**23 33 28.8**	**-0.8**
JMM	**Marumori**	**4.27**	**342**	P	**Pn**	**23 32 52.0**	**-3.5**
JMM				S	**Sn**	**23 33 38.1**	**-6.8**
MAJO	**Matsushiro**	**4.42**	**309**	*e*P	**Pn**	**23 32 56.0**	**-1.7**
MAT	**Matsushiro**	**4.42**	**309**	*e*P	**Pn**	**23 32 57.0**	**-0.7**
MAT				*e*S	**Sn**	**23 33 45.0**	**-3.9**
MAT	**Matsushiro**	**4.42**	**309**	P	**Pn**	**23 32 57.1**	**-0.6**
MAT				S	**Sn**	**23 33 47.9**	**-1.0**
MAT	**Matsushiro**	**4.42**	**309**	P	**Pn**	**23 32 57.9**	**+0.2**
MAT				S	**Sn**	**23 33 48.7**	**-0.2**
JNS	**Sasagawa**	**4.75**	**328**	P	**Pn**	**23 33 01.8**	**-0.5**
JIE	**Ise**	**4.81**	**278**	P	**Pn**	**23 33 04.1**	**+0.9**
JGM	**Miyama**	**5.09**	**293**	P	**Pn**	**23 33 07.6**	**+0.5**
JMK	**Ichinoseki**	**5.22**	**349**	P	**Pn**	**23 33 04.9**	**-4.1**
JMK				S	**Sn**	**23 34 00.3**	**-8.7**
JWZ	**Kozaga**	**5.64**	**269**	P	**Pn**	**23 33 14.6**	**-0.2**
CBIJ	**Chichi jima**	**6.70**	**182**	Pn	**Pn**	**23 33 26.4**	**-3.5**
	32nm,0.3s,baz=284,slow=14,SNR=8.3						
CBIJ				Sn	**Sn**	**23 34 38.6**	**-7.3**
	43nm,0.3s,baz=256,slow=23,SNR=4.1						
ASAJ	**Asahikawa**	**10.29**	**1**	P	**P**	**23 34 14.5**	**-5.1**
ASAJ						23 36 01.2	
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,166nm,21.8s						
ASAJ	**Asahikawa**	**10.29**	**1**	Pn	**P**	**23 34 14.5**	**-5.1**
	comp=Z,2.6nm,0.3s,baz=229,slow=8.6,SNR=9.1						
ASAJ				Sn	**S**	**23 36 01.2**	**-14**
	comp=Z,0.3nm,0.3s,baz=49,slow=18,SNR=3.6						
ASAJ				LR	LR	23 38 16.4	
	comp=Z,166nm,21.8s,baz=356,slow=38						
KS15	**Wonju Array Si**	**12.40**	**291**	*e*Pn	**P**	**23 34 43.1**	**-5.2**
YSS	**Yuzh-Sakhalins**	**13.13**	**1**	⇑*i*P	**P**	**23 34 52.0**	**-5.8**
YSS				pmax	pmax		
	comp=N,90nm,1.0s						
YSS				pmax	pmax		
	comp=Z,90nm,1.0s						
YSS	**Yuzh-Sakhalins**	**13.13**	**1**	*e*Pn	**P**	**23 34 52.2**	**-5.6**
	comp=Z,124nm,1.1s						
JOW	**Kunigami**	**14.09**	**244**	LR	LR	23 39 45.1	
	comp=Z,326nm,21.5s,baz=307,slow=34						
MDJ	**Mudanjiang**	**14.68**	**321**	*e*Pn	**P**	**23 35 16.2**	**-1.9**
CN2	**Changchun**	**16.57**	**312**	*e*P	**P**	**23 35 41.4**	**-1.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s						
CN2				AMB	AMB		
	comp=Z,420nm,6.0s						
SNY	**Shenyang**	**16.91**	**304**	⇑P	**P**	**23 35 47.8**	**+1.0**
SNY				LR	LR		
	comp=N,300nm,9.6s						
SNY				LR	LR		
	comp=Z,230nm,12.3s						
KLR	**Kul'dur**	**17.34**	**336**	*e*P	**P**	**23 35 45.7**	**-6.4**
KLR				MLR	MLR		
	comp=E,600nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
DL2	**Dalian**	**17.53**	**293**	P	**P**	**23 35 54.9**	**+0.3**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s						
SSE	**Sheshan**	**18.16**	**267**	*e*P	**P**	**23 36 01.8**	**-0.8**
SSE				AP		23 36 10.1	
SSE				S	**S**	**23 39 24.0**	**+2.9**
SSE				XS		23 39 37.0	
SSE				AMB	AMB		
	comp=Z,34nm,0.7s						
SSE				AMB	AMB		
	comp=Z,151nm,7.1s						
SSE				LR	LR		
	comp=N,60nm,13.7s						
SSE				LR	LR		
	comp=E,393nm,13.8s						
SSE				LR	LR		
	comp=Z,496nm,16.5s						
SSE	**Sheshan**	**18.16**	**267**	*e*P	**P**	**23 36 01.8**	**-0.8**
	comp=Z,34nm,0.7s						
SSE				pP		23 36 10.1	
SSE				S	**S**	**23 39 24.0**	**+2.9**
SSE				sS		23 39 37.0	
NJ2	**Nanjing**	**19.89**	**271**	*e*P	**P**	**23 36 22.4**	**-0.4**
NJ2				AP		23 36 30.8	
NJ2				XP		23 36 35.4	
NJ2				PP	PP	23 36 41.4	-0.3
NJ2				PPP	PPP	23 36 50.3	-0.4
NJ2				S	**S**	**23 40 02.0**	**+2.5**
NJ2				XS		23 40 13.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,402nm,4.0s						
NJ2				LR	LR		
	comp=N,590nm,17.2s						
NJ2				LR	LR		
	comp=E,940nm,16.7s						
BJI	**Beijing**	**21.88**	**294**	P	**P**	**23 36 41.5**	**-1.5**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
BJI	**Beijing**	**21.88**	**294**	P	**P**	**23 36 41.5**	**-1.5**
	comp=Z,13nm,0.9s,mb4.4						
BJT	**Baijiatuau**	**21.88**	**294**	*e*P	**P**	**23 36 41.5**	**-1.5**
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	**Baijiatuau**	**21.88**	**294**	*e*P	**P**	**23 36 41.5**	**-1.4**
	comp=Z,11nm,0.6s,mb4.5						
HIA	**Hailar**	**22.84**	**319**	*e*P	**P**	**23 36 51.3**	**-1.1**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s						
HIA	**Hailar**	**22.84**	**319**	*e*P	**P**	**23 36 51.3**	**-1.1**
	comp=Z,18nm,0.9s,mb4.5						
WHN	**Wuhan**	**23.99**	**270**	*e*P	**P**	**23 37 03.4**	**-0.3**
HHC	**Hu-ho-hao-te**	**25.47**	**295**	*e*P	**P**	**23 37 19.8**	**+2.0**
HHC				AP	pP	23 37 28.4	+2.0
HHC				XP	sP	23 37 32.0	+1.6
HHC				PP	PP	23 37 57.5	+0.3
HHC				S	**S**	**23 41 38.3**	**-2.1**
HHC				SS	SS	23 42 44.6	+1.1
HHC				AMB	AMB		
	comp=Z,63nm,1.6s,mb4.9						
HHC				LR	LR		
	comp=E,405nm,13.7s						
HHC				LR	LR		
	comp=Z,310nm,13.1s,MS4.0						
CLNS	**Chul'man**	**25.98**	**338**	*e*P	**P**	**23 37 22.1**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,39nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,22nm,1.0s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
MA2	**Magadan**	**26.35**	**10**	*e*P	**P**	**23 37 23.8**	**-2.0**
MA2				*e*		23 37 40.1	
MA2				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3						
BTO	**Baotou**	**26.61**	**294**	*e*P	**P**	**23 37 28.4**	**0.0**
BTO				AMB	AMB		
	comp=Z,46nm,1.4s,mb4.8						
XAN	**Xi'an**	**27.77**	**280**	P	**P**	**23 37 37.6**	**-1.4**
XAN				AP	pP	23 37 46.3	-1.4
XAN				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.6						
ENH	**Enshi**	**28.11**	**272**	*e*P	**P**	**23 37 40.6**	**-1.6**
	comp=Z,13nm,0.7s,mb4.7						
FX1	**Attu Island--F**	**29.02**	**40**	LR	LR	23 48 01.4	
	comp=Z,4.4nm,21.6s,baz=15,slow=34						
YAK	**Yakutsk**	**29.39**	**348**	⇓*i*P	**P**	**23 37 52.0**	**-1.3**
YAK				pmax	pmax		
	comp=Z,24nm,1.3s,mb4.8						
YAK				MLR	MLR		
	comp=Z,200nm,19.0s,MS3.8						
ULN	**Ulaanbaatar**	**29.95**	**309**	*e*P	**P**	**23 37 58.8**	**+0.3**
ULN				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
ULN	**Ulaanbaatar**	**29.95**	**309**	*e*P	**P**	**23 37 58.8**	**+0.3**
	comp=Z,28nm,1.0s,mb5.0						
SONM	**Songino Array**	**30.38**	**308**	P	**P**	**23 38 01.9**	**-0.3**
	comp=Z,22nm,1.0s,mb4.8,baz=107,slow=6.0,SNR=55						
BOD	**Bodaibo**	**30.73**	**330**	*e*P	**P**	**23 38 03.6**	**-1.6**
BOD				*e*	pP	23 38 10.4	-3.5
BOD				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.3						
BOD				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
GYA	**Guiyang**	**31.70**	**266**	P	**P**	**23 38 12.6**	**-1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
CD2	**Chengdu**	**32.70**	**276**	P	**P**	**23 38 21.0**	**-1.7**
IRK	**Irkutsk**	**32.95**	**316**	*e*P	**P**	**23 38 22.5**	**-2.2**
ZAK	**Zakamensk**	**33.00**	**312**	*e*P	**P**	**23 38 25.5**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
TLY	**Talaya**	**33.14**	**314**	*e*P	**P**	**23 38 26.6**	**+0.2**
TLY				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1						
TLY	**Talaya**	**33.14**	**314**	*e*P	**P**	**23 38 26.6**	**+0.2**
	comp=Z,38nm,1.4s,mb5.1						
GTA	**Gaotai**	**34.45**	**292**	*e*P	**P**	**23 38 38.8**	**+1.0**
GTA				AP	pP	23 38 46.5	-0.1
GTA				XP	sP	23 38 49.6	-0.8
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
MOY	**Mondy**	**34.73**	**314**	*e*P	**P**	**23 38 40.9**	**+0.8**
MOY				pmax	pmax		
	comp=Z,23nm,2.5s,mb4.7						
BILL	**Bilibino**	**36.89**	**15**	*e*P	**P**	**23 38 56.6**	**-1.6**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.4						
BILL	**Bilibino**	**36.89**	**15**	*e*P	**P**	**23 38 56.6**	**-1.6**
	comp=Z,7.3nm,1.1s,mb4.4						
TIXI	**Tiksi**	**38.58**	**353**	*e*P	**P**	**23 39 11.4**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,12nm,1.7s,mb4.3						
WMQ	**Urumqi**	**43.13**	**300**	P	**P**	**23 39 51.3**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,206nm,5.4s						
LSA	**Lhasa**	**43.46**	**279**	P	**P**	**23 39 53.3**	**+0.3**
ZAL	**Zalesovo**	**44.77**	**315**	P	**P**	**23 40 03.0**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.3,baz=20,slow=8.5,SNR=28						
ZAL				PcP	PcP	23 41 44.5	-0.9
	comp=Z,2.9nm,0.8s,baz=352,slow=4.6,SNR=4.6						
NVS	**Novosibirsk**	**45.72**	**316**	⇓*i*P	**P**	**23 40 09.8**	**-0.9**
NVS				*e*		23 41 47.6	
NVS				pmax	pmax		
	comp=N,2.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,15nm,1.0s						
MKAR	**Makanchi Array**	**46.61**	**305**	*i* P	**P**	**23 40 18.2**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KAKA	**Kakadu**	**47.24**	**193**	*e*P	**P**	**23 40 22.6**	**-0.7**
	comp=Z,15nm,0.9s,mb4.9						
JIRN	**Jiri**	**48.26**	**279**	*e*P	**P**	**23 40 31.5**	**+0.4**
	comp=Z,32nm,0.6s,mb5.5						
KURK	**Kurchatov**	**48.63**	**311**	P	**P**	**23 40 33.7**	**0.0**
	comp=Z,120nm,0.8s,SNR=20						
KURK	**Kurchatov**	**48.63**	**311**	*d i*P	**P**	**23 40 33.2**	**-0.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.9						
KURK	**Kurchatov**	**48.63**	**311**	*e*P	**P**	**23 40 32.9**	**-0.7**
	comp=Z,25nm,0.8s,mb5.3						
PKI	**Pulchoki**	**48.93**	**279**	*e*P	**P**	**23 40 36.4**	**+0.1**
	comp=Z,10nm,0.6s,mb5.0						
KKN	**Kakani**	**48.96**	**279**	*e*P	**P**	**23 40 36.4**	**-0.1**
	comp=Z,24nm,0.7s,mb5.3						
DMN	**Daman**	**49.17**	**279**	*e*P	**P**	**23 40 38.6**	**+0.5**
	comp=Z,6.3nm,0.4s,mb5.0						
GKN	**Gorkha**	**49.41**	**280**	*e*P	**P**	**23 40 40.0**	**+0.1**
	comp=Z,34nm,0.8s,mb5.4						
KOLN	**Koldanda**	**50.34**	**280**	*e*P	**P**	**23 40 46.8**	**-0.3**
	comp=Z,34nm,1.0s,mb5.3						
MCK	**McKinley**	**50.86**	**32**	*e*P	**P**	**23 40 49.2**	**-1.3**
MCK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
MCK	**McKinley**	**50.86**	**32**	*e*P	**P**	**23 40 49.1**	**-1.4**
	comp=Z,1.7nm,0.7s,mb4.1						
SML	**Sawmill**	**51.11**	**35**	*e*P	**P**	**23 40 51.4**	**-1.0**
COLA	**College**	**51.37**	**31**	*e*P	**P**	**23 40 53.5**	**-0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
COLA	**College**	**51.37**	**31**	*e*P	**P**	**23 40 53.5**	**-0.9**
	comp=Z,2.6nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**51.97**	**301**	P	**P**	**23 40 59.6**	**+0.3**
	SNR=17						
KZA	**Kyzart**	**52.42**	**300**	P	**P**	**23 41 04.4**	**+1.8**
	SNR=7.3						
KBK	**Karagaybulak**	**52.50**	**301**	P	**P**	**23 41 03.9**	**+0.6**
	SNR=8.5						
USP	**Ospenovka**	**52.67**	**302**	P	**P**	**23 41 05.1**	**+0.7**
	SNR=5.5						
FRU	**Bishkek**	**52.69**	**301**	*e*P	**P**	**23 41 04.4**	**-0.2**
FRU				*e*		23 43 06.0	
AAK	**Ala-Archa**	**52.83**	**301**	*c i*P	**P**	**23 41 05.3**	**-0.4**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.2						
AAK				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.9						
AAK	**Ala-Archa**	**52.83**	**301**	*e*P	**P**	**23 41 04.8**	**-0.8**
	comp=Z,6.8nm,0.9s,mb4.6						
CHKZ	**Chkalovo**	**53.17**	**315**	*i* P	**P**	**23 41 07.1**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6						
CHKZ	**Chkalovo**	**53.17**	**315**	*e*P	**P**	**23 41 07.0**	**-1.1**
	comp=Z,6.8nm,0.9s,mb4.6						
BVA0	**Borovoye Array**	**53.40**	**314**	*i* P	**P**	**23 41 09.1**	**-0.7**
BVA0				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.1						
BVAR	**Borovoye Array**	**53.40**	**314**	P	**P**	**23 41 08.6**	**-1.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=90,slow=7.4,SNR=16						
BVAR				PcP	PcP	23 42 15.0	-1.7
	comp=Z,2.7nm,0.7s,baz=90,slow=4.4,SNR=5.1						
AML	**Almayashu**	**53.53**	**300**	P	**P**	**23 41 12.2**	**+1.3**
	SNR=15						
WRAB	**Tennant Creek**	**54.00**	**189**	P	**P**	**23 41 13.0**	**-1.6**
	comp=Z,138nm,1.0s,mb5.8,SNR=11						
WRAB	**Tennant Creek**	**54.00**	**189**	*e*P	**P**	**23 41 13.4**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**54.00**	**189**	*e*P	**P**	**23 41 13.4**	**-1.1**
	comp=Z,26nm,0.9s,mb5.2						
WB2	**Warramunga Arr**	**54.01**	**189**	⇓*i*P	**P**	**23 41 13.7**	**-0.9**
WRA	**Warramunga Arr**	**54.01**	**189**	P	**P**	**23 41 14.0**	**-0.7**
	comp=Z,16nm,0.7s,mb5.0,baz=9.1,slow=7.8,SNR=48						
FITZ	**Fitzroy Crossi**	**54.06**	**200**	*e*P	**P**	**23 41 15.2**	**+0.2**
	comp=Z,8.0nm,0.6s,mb4.8						
INK	**Inuvik**	**56.87**	**26**	*e*P	**P**	**23 41 33.4**	**-1.4**
INK				*e**PP	pP	23 41 42.5	-1.4
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**56.87**	**26**	P	**P**	**23 41 33.0**	**-1.8**
	comp=Z,2.4nm,0.8s,mb4.3,baz=273,slow=6.2,SNR=12						
INK				PcP	PcP	23 42 28.6	-1.3
	comp=Z,2.5nm,0.9s,baz=293,slow=5.8,SNR=3.7						
INK	**Inuvik**	**56.87**	**26**	*e*P	**P**	**23 41 33.4**	**-1.4**
	comp=Z,2.3nm,0.7s,mb4.3						
INK				*e*pP	pP	23 41 42.5	-1.4
ASAR	**Alice Springs**	**57.74**	**189**	P	**P**	**23 41 40.8**	**-0.7**
	comp=Z,8.6nm,0.8s,mb4.8,baz=9.9,slow=7.0,SNR=74						
ASPA	**Alice Springs**	**57.74**	**189**	⇑*i*P	**P**	**23 41 41.0**	**-0.4**
SVE	**Sverdlovsk**	**58.15**	**320**	*e*P	**P**	**23 41 43.6**	**-0.2**
SVE				*e*	pP	23 41 53.8	+0.8
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=E,100nm,16.0s,MS4.2						
SVE				MLR	MLR		
	comp=Z,200nm,16.0s,MS4.3						
MBWA	**Marble Bar**	**58.80**	**205**	*e*P	**P**	**23 41 47.1**	**-1.8**
	comp=Z,14nm,0.8s,mb5.0						
HYB	**Hyderabad**	**59.05**	**271**	*e*P	**P**	**23 41 50.5**	**-0.2**
HYB	**Hyderabad**	**59.05**	**271**	*i* P	**P**	**23 41 50.5**	**-0.2**
DLBC	**Dease Lake**	**60.65**	**37**	P	**P**	**23 42 00.5**	**-0.6**
	comp=Z,2.2nm,0.7s,mb4.4,baz=356,slow=12,SNR=4.1						
DLBC	**Dease Lake**	**60.65**	**37**	P	**P**	**23 42 00.5**	**-0.6**
KAD	**Karad**	**62.74**	**273**	*e*P	**P**	**23 42 15.0**	**-0.7**
STKA	**Stephens Creek**	**65.34**	**181**	P	**P**	**23 42 31.6**	**-1.0**
	comp=Z,7.8nm,0.8s,mb4.8,baz=348,slow=7.1,SNR=18						
RES	**Resolute Bay**	**65.50**	**14**	*e*P	**P**	**23 42 31.8**	**-1.0**
RES				*e**PP	pP	23 42 41.6	-0.5
RES				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
RES	**Resolute Bay**	**65.50**	**14**	*e*P	**P**	**23 42 31.8**	**-1.1**
	comp=Z,10nm,0.9s,mb4.8						
RES				*e*pP	pP	23 42 41.6	-0.5
FORT	**Forrest**	**65.67**	**194**	*e*P	**P**	**23 42 34.4**	**-0.2**
	comp=Z,444nm,0.5s						
YKA	**Yellowknife Ar**	**66.17**	**30**	P	**P**	**23 42 35.4**	**-1.8**
	comp=Z,2.9nm,0.9s,mb4.3,baz=296,slow=6.3,SNR=20						
ARCES	**ARCESS Array B**	**67.31**	**340**	P	**P**	**23 42 43.5**	**-1.0**
	comp=Z,4.1nm,0.8s,mb4.5,baz=34,slow=8.7,SNR=3.9						
JOF	**Joensuu**	**69.21**	**333**	*e*p	**P**	**23 42 55.5**	**-0.8**
MOS	**Moscow**	**70.36**	**325**	*e*P	**P**	**23 43 02.6**	**-0.8**
MOS				*e*		23 43 25.2	
MOS				pmax	pmax		
	comp=Z,38nm,1.1s,mb5.2						
OBN	**Obninsk**	**71.20**	**324**	⇑*i*P	**P**	**23 43 07.8**	**-0.7**
OBN				*e*		23 43 25.3	
OBN				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
EDM	**Edmonton**	**71.34**	**38**	*e*P	**P**	**23 43 08.8**	**-0.7**
HAWA	**Hanford**	**71.36**	**46**	*e*P	**P**	**23 43 09.0**	**-0.7**
	comp=Z,0.3nm,0.9s						
KAF	**Kangasniemi**	**71.56**	**334**	*e*p	**P**	**23 43 09.4**	**-1.2**
	comp=Z,3.7nm,0.5s,mb4.6,baz=50,slow=5.8						
KAF	**Kangasniemi**	**71.56**	**334**	*e*P	**P**	**23 43 09.4**	**-1.2**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
YBH	**Yreka Blue Hor**	**71.64**	**52**	P	**P**	**23 43 11.2**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.2,baz=275,slow=5.1,SNR=7.8						
NEW	**Newport**	**71.85**	**44**	P	**P**	**23 43 11.2**	**-1.4**
	comp=Z,3.4nm,0.7s,mb4.4,baz=284,slow=7.8,SNR=5.9						
FINES	**FINESS Array B**	**72.06**	**333**	P	**P**	**23 43 12.8**	**-0.8**
	comp=Z,8.1nm,0.8s,mb4.7,baz=49,slow=5.6,SNR=18						
BMO	**Blue Mountains**	**73.49**	**47**	*e*P	**P**	**23 43 22.1**	**-0.1**
	comp=Z,9.1nm,1.2s,mb4.6						
BMO				*e*	pP	23 43 31.7	+0.2
KIV	**Kislovodsk**	**73.68**	**312**	*e*P	**P**	**23 43 24.1**	**+0.7**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**73.68**	**312**	*e*P	**P**	**23 43 24.1**	**+0.7**
	comp=Z,11nm,0.9s,mb4.8						
WVOR	**Wild Horse Val**	**73.92**	**50**	*e*P	**P**	**23 43 25.3**	**+0.5**
WVOR				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
WVOR	**Wild Horse Val**	**73.92**	**50**	*e*P	**P**	**23 43 25.3**	**+0.5**
	comp=Z,13nm,1.1s,mb4.8						
GNI	**Garni**	**74.34**	**308**	*e*P	**P**	**23 43 26.9**	**-0.4**
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
GNI				MLR	MLR		
	comp=Z,100nm,20.0s						
CMB	**Columbia Colle**	**75.05**	**54**	*e*P	**P**	**23 43 31.6**	**+0.2**
CMB				*e*	pP	23 43 40.9	+0.2
CMB				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
CMB	**Columbia Colle**	**75.05**	**54**	*e*P	**P**	**23 43 31.6**	**+0.1**
	comp=Z,6.5nm,0.8s,mb4.6						
CMB				*e*	pP	23 43 40.9	+0.2
HRY	**Holter Researc**	**75.71**	**43**	*e*P	**P**	**23 43 35.3**	**+0.3**
HRY				*e*pP	pP	23 43 45.1	+0.7
HLID	**Hailey**	**75.94**	**47**	*e*P	**P**	**23 43 37.0**	**+0.6**
	comp=Z,3.7nm,0.9s,mb4.3						
FFC	**Flin Flon**	**75.95**	**33**	P	**P**	**23 43 36.5**	**+0.3**
	comp=Z,82nm,0.9s,mb5.7,SNR=14						
FFC	**Flin Flon**	**75.95**	**33**	*e*P	**P**	**23 43 35.8**	**-0.4**
FFC				*e**PP	pP	23 43 45.2	-0.3
FFC				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
FFC	**Flin Flon**	**75.95**	**33**	*e*P	**P**	**23 43 35.8**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8						
FFC				*e*pP	pP	23 43 45.2	-0.3
NVAR	**Mina Array Bea**	**76.23**	**53**	LR	LR	00 14 03.4	
	comp=Z,43nm,19.9s,MS3.8,baz=180,slow=33						
FCC	**Fort Churchill**	**76.49**	**27**	*e*P	**P**	**23 43 37.9**	**-1.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCC				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
FCC	**Fort Churchill**	**76.49**	**27**	*e*P	**P**	**23 43 37.9**	**-1.3**
	comp=Z,10.0nm,1.1s,mb4.7						
QLMT	**Earthquake Lak**	**77.01**	**45**	*e*P	**P**	**23 43 43.3**	**+1.0**
QLMT				*e*pP	pP	23 43 53.2	+1.5
HFS	**Hagfors**	**77.38**	**336**	P	**P**	**23 43 43.7**	**-0.3**
	comp=Z,5.0nm,0.7s,mb4.5,baz=72,slow=4.7,SNR=18						
NB2	**NORSAR Subarra**	**77.49**	**338**	P	**P**	**23 43 44.6**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.8,baz=39,slow=5.6						
NB2	**NORSAR Subarra**	**77.49**	**338**	P	**P**	**23 43 44.6**	**0.0**
NB2				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
NOA	**NORSAR Array B**	**77.49**	**338**	P	**P**	**23 43 44.3**	**-0.3**
	comp=Z,7.9nm,0.8s,mb4.7,baz=39,slow=5.6,SNR=25						
HVU	**Hansel Valley**	**77.94**	**48**	*e*P	**P**	**23 43 48.5**	**+1.0**
HVU				*e**PP	pP	23 43 58.4	+1.5
MOOW	**Moose Ponds**	**78.03**	**45**	*e*P	**P**	**23 43 49.3**	**+1.4**
TPAW	**Teton Pass**	**78.06**	**45**	*e*P	**P**	**23 43 49.4**	**+1.2**
LOHW	**Long Hollow**	**78.19**	**45**	*e*P	**P**	**23 43 49.7**	**+0.8**
	comp=Z,5.9nm,1.1s,mb4.4						
HWUT	**Hardware Ranch**	**78.78**	**47**	*e*P	**P**	**23 43 53.0**	**+0.9**
	comp=Z,8.3nm,0.9s,mb4.7						
HWUT				*e*pP	pP	23 44 02.9	+1.4
DUG	**Dugway**	**78.81**	**49**	*e*P	**P**	**23 43 53.1**	**+0.8**
DUG				*e**PP	pP	23 44 02.9	+1.2
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
DUG	**Dugway**	**78.81**	**49**	*e*P	**P**	**23 43 53.1**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.5						
DUG				*e*pP	pP	23 44 02.9	+1.2
BW06	**Boulder Array**	**79.31**	**45**	*e*P	**P**	**23 43 57.0**	**+2.1**
	comp=Z,2.7nm,0.8s,mb4.2						
PDAR	**Pinedale Array**	**79.31**	**45**	P	**P**	**23 43 54.6**	**-0.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=272,slow=2.3,SNR=9.8						
JLU	**Jordanelle**	**79.43**	**48**	*e*P	**P**	**23 43 56.5**	**+0.8**
DAU	**Daniels Canyon**	**79.66**	**48**	*e*P	**P**	**23 43 58.4**	**+1.5**
DAU				*e**PP	pP	23 44 07.6	+1.2
FRB	**Frobisher Bay**	**79.70**	**13**	P	**P**	**23 43 56.4**	**-0.3**
	comp=Z,5.5nm,0.5s,mb4.7,baz=107,slow=7.0,SNR=6.1						
MSU	**Marysvale**	**80.18**	**50**	*e*P	**P**	**23 44 01.0**	**+1.2**
SRU	**San Rafael**	**80.88**	**49**	*e*P	**P**	**23 44 03.7**	**+0.3**
SRU				*e**PP	pP	23 44 13.4	+0.5
KWP	**Kalwaria**	**81.25**	**325**	*e*P	**P**	**23 44 06.7**	**+1.5**
BRTR	**Keskin Array B**	**81.64**	**312**	P	**P**	**23 44 08.0**	**+0.5**
	comp=Z,7.1nm,0.8s,mb4.6,baz=104,slow=3.7,SNR=33						
ULM	**Lac du Bonnet**	**81.71**	**34**	P	**P**	**23 44 07.2**	**-0.3**
	comp=Z,1.3nm,0.4s,mb4.2,baz=297,slow=6.4,SNR=6.4						
KOLS	**Kolonicke sedl**	**81.94**	**325**	*e*P	**P**	**23 44 08.9**	**+0.2**
OJC	**Ojcow**	**82.19**	**327**	*e*P	**P**	**23 44 10.9**	**+0.9**
PPT	**Papeete**	**82.42**	**117**	*e*LR	LR	00 09 00.2	
	comp=Z,175nm,32.2s						
OKC	**Ostrava-Krasne**	**83.21**	**327**	*e*P	**P**	**23 44 16.1**	**+0.8**
OKC				*e*pP	pP	23 44 25.1	+0.3
KSP	**Ksiaz**	**83.29**	**329**	*e*P	**P**	**23 44 16.6**	**+0.9**
KSP	**Ksiaz**	**83.29**	**329**	*e*P	**P**	**23 44 16.9**	**+1.2**
ISCO	**Idaho Springs**	**83.47**	**46**	*e*P	**P**	**23 44 18.0**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.1						
ISCO	**Idaho Springs**	**83.47**	**46**	*e*P	**P**	**23 44 17.9**	**+1.1**
	comp=Z,35nm,1.8s,mb5.1						
DPC	**Dobruska-Polom**	**83.64**	**329**	*e*P	**P**	**23 44 19.0**	**+1.5**
UPC	**Upice**	**83.66**	**329**	*e*P	**P**	**23 44 18.3**	**+0.8**
PSZ	**Piszkesteto**	**83.78**	**325**	*e*P	**P**	**23 44 19.7**	**+1.5**
PSZ				*e**PP	pP	23 44 27.7	0.0
PSZ				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
PSZ	**Piszkesteto**	**83.78**	**325**	*e*P	**P**	**23 44 19.6**	**+1.4**
	comp=Z,11nm,0.9s,mb5.0						
PSZ				*e*pP	pP	23 44 27.7	0.0
VYHS	**Vyhne**	**83.87**	**326**	*e*P	**P**	**23 44 19.8**	**+1.2**
BRG	**Berggiesshubel**	**84.26**	**330**	*e*P	**P**	**23 44 21.5**	**+0.9**
BRG				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8						
BRG	**Berggiesshubel**	**84.26**	**330**	*e*P	**P**	**23 44 21.5**	**+0.9**
	comp=Z,8.2nm,1.0s,mb4.8						
CLL	**Collm**	**84.32**	**331**	⇑*i*P	**P**	**23 44 21.5**	**+0.7**
CLL				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
CLL	**Collm**	**84.32**	**331**	⇑*i*P	**P**	**23 44 21.5**	**+0.7**
	comp=Z,16nm,1.1s,mb5.1						
CLL	**Collm**	**84.32**	**331**	⇑P	**P**	**23 44 21.5**	**+0.7**
	comp=Z,logA/T=1.2,mb5.1						
CLL				*e**PP	pP	23 44 32.0	+1.7
SMOL	**Smolenice**	**84.50**	**327**	*e*P	**P**	**23 44 23.6**	**+1.8**
SRO2	**Moca**	**84.60**	**326**	*e*P	**P**	**23 44 23.8**	**+1.5**
SRO	**Srobarova**	**84.60**	**326**	*e*P	**P**	**23 44 23.6**	**+1.3**
PRU	**Pruhonice**	**84.68**	**329**	*e*P	**P**	**23 44 23.2**	**+0.5**
TUC	**Tucson**	**84.75**	**55**	*e*P	**P**	**23 44 24.4**	**+0.9**
TUC				*e**PP	pP	23 44 33.6	+0.6
TUC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
TUC	**Tucson**	**84.75**	**55**	*e*P	**P**	**23 44 24.4**	**+0.9**
	comp=Z,4.4nm,1.1s,mb4.5						
TUC				*e*pP	pP	23 44 33.6	+0.6
SDCO	**Great Sand Dun**	**84.83**	**48**	*e*P	**P**	**23 44 25.1**	**+1.3**
	comp=Z,4.7nm,0.8s,mb4.7						
SDCO				*e*pP	pP	23 44 34.7	+1.4
ZST	**Bratislava**	**84.88**	**327**	*e*P	**P**	**23 44 25.6**	**+1.9**
CLZ	**Clausthal**	**84.94**	**332**	*e*P	**P**	**23 44 25.0**	**+1.1**
	comp=Z,16nm,1.1s,mb5.1						
NKC	**Novy Kostel**	**85.37**	**330**	*e*P	**P**	**23 44 26.7**	**+0.6**
MOX	**Moxa**	**85.39**	**331**	*e*P	**P**	**23 44 27.0**	**+0.8**
MOX				pmax	pmax		
	comp=Z,17nm,1.5s,mb5.0						
MOX	**Moxa**	**85.39**	**331**	*e*P	**P**	**23 44 27.0**	**+0.8**
	comp=Z,17nm,1.5s,mb5.0						
MOX	**Moxa**	**85.39**	**331**	*i* P	**P**	**23 44 27.0**	**+0.8**
	comp=Z,logA/T=1.1,mb5.0						
KHC	**Kasperske Hory**	**85.74**	**329**	*e*P	**P**	**23 44 28.9**	**+0.9**
KHC				*e*pP	pP	23 44 38.4	+0.9
GEC2	**GERESS Array S**	**85.90**	**329**	*e*P	**P**	**23 44 29.2**	**+0.4**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
GEC2	**GERESS Array S**	**85.90**	**329**	*e*P	**P**	**23 44 29.2**	**+0.4**
	comp=Z,5.0nm,1.0s,mb4.7						
GERES	**GERESS Array B**	**85.90**	**329**	P	**P**	**23 44 28.7**	**-0.1**
	comp=Z,2.6nm,0.8s,mb4.5,baz=63,slow=3.0,SNR=14						
ANMO	**Albuquerque**	**85.99**	**50**	*e*P	**P**	**23 44 30.4**	**+0.8**
ANMO				*e**PP	pP	23 44 40.3	+1.2
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ANMO	**Albuquerque**	**85.99**	**50**	P	**P**	**23 44 29.9**	**+0.3**
	comp=Z,3.3nm,0.8s,mb4.6,baz=292,slow=3.6,SNR=9.8						
ANMO				LR	LR	00 22 31.9	
	comp=Z,65nm,19.0s,MS4.0,slow=35						
ANMO	**Albuquerque**	**85.99**	**50**	*e*P	**P**	**23 44 30.4**	**+0.8**
	comp=Z,3.8nm,0.9s,mb4.6						
ANMO				*e*pP	pP	23 44 40.3	+1.2
WET	**Wettzell**	**86.03**	**330**	*e*P	**P**	**23 44 30.7**	**+1.3**
WET				pmax	pmax		
	comp=Z,9.0nm,1.5s,mb4.8						
WET	**Wettzell**	**86.03**	**330**	*e*P	**P**	**23 44 30.7**	**+1.3**
	comp=Z,9.0nm,1.5s,mb4.8						
GRA1	**Grafenberg Arr**	**86.29**	**331**	*e*P	**P**	**23 44 32.1**	**+1.4**
	comp=Z,27nm,1.0s,mb5.4						
GRF	**Grafenberg Arr**	**86.29**	**331**	*e*P	**P**	**23 44 32.1**	**+1.4**
GRF				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.4						
EKA	**Eskdalemuir Ar**	**86.45**	**341**	P	**P**	**23 44 31.1**	**-0.3**
	comp=Z,3.4nm,1.0s,mb4.5,baz=45,slow=3.5,SNR=5.9						
PERS	**Pernice**	**86.94**	**327**	*e*P	**P**	**23 44 35.5**	**+1.5**
TNS	**Taunus Mts**	**86.97**	**332**	*e*P	**P**	**23 44 34.8**	**+0.8**
TNS				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.9						
TNS	**Taunus Mts**	**86.97**	**332**	*e*P	**P**	**23 44 34.8**	**+0.8**
	comp=Z,8.0nm,1.1s,mb4.9						
CEY	**Cerknica**	**87.93**	**326**	*e*P	**P**	**23 44 38.9**	**+0.1**
JAVS	**Javornik**	**87.98**	**327**	*e*P	**P**	**23 44 38.3**	**-0.7**
SCHQ	**Schefferville**	**88.18**	**16**	P	**P**	**23 44 40.1**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.5,baz=323,slow=6.9,SNR=4.7						
BAIF	**Baives**	**88.68**	**335**	*e*P	**P**	**23 44 42.1**	**-0.1**
	comp=Z,8.2nm,1.0s,mb4.7						
BAIF	**Baives**	**88.68**	**335**	*e*P	**P**	**23 44 42.1**	**-0.1**
BAIF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
WMOK	**Wichita Mounta**	**90.90**	**46**	*e*P	**P**	**23 44 53.0**	**0.0**
WMOK				*e**PP	pP	23 45 01.9	-0.6
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.6						
WMOK	**Wichita Mounta**	**90.90**	**46**	*e*P	**P**	**23 44 53.0**	**+0.1**
	comp=Z,1.7nm,0.7s,mb4.5						
WMOK				*e*pP	pP	23 45 01.9	-0.6
LTX	**Lajitas**	**91.39**	**53**	*e*P	**P**	**23 44 55.9**	**+0.6**
LTX				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
LTX	**Lajitas**	**91.39**	**53**	*e*P	**P**	**23 44 55.9**	**+0.6**
	comp=Z,4.3nm,0.7s,mb4.9						
TXAR	**Lajitas Array**	**91.39**	**53**	P	**P**	**23 44 55.5**	**+0.1**
	comp=Z,3.2nm,0.6s,mb4.8,baz=298,slow=3.3,SNR=26						
TXAR				LR	LR	00 20 32.6	
	comp=Z,105nm,20.7s,MS4.3,baz=35,slow=32						
TXAR	**Lajitas Array**	**91.39**	**53**	P	**P**	**23 44 55.5**	**+0.1**
TXAR				LR	LR	00 20 32.6	
FLN	**La Foliniere**	**91.40**	**336**	*e*P	**P**	**23 44 55.4**	**+0.5**
SSF	**Saint Saulge**	**91.44**	**333**	*e*P	**P**	**23 44 55.2**	**+0.1**
SSF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.8						
SSF	**Saint Saulge**	**91.44**	**333**	*e*P	**P**	**23 44 55.2**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.8						
LPL	**La Plagne**	**91.45**	**331**	*e*P	**P**	**23 44 55.6**	**+0.4**
	comp=Z,8.1nm,0.9s,mb4.8						
LPL	**La Plagne**	**91.45**	**331**	*e*P	**P**	**23 44 55.6**	**+0.4**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
LPG	**La Plagne**	**91.46**	**331**	*e*P	**P**	**23 44 55.7**	**+0.4**
	comp=Z,7.6nm,0.8s,mb4.8						
LPG	**La Plagne**	**91.46**	**331**	*e*P	**P**	**23 44 55.7**	**+0.4**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**91.66**	**333**	*e*P	**P**	**23 44 56.2**	**0.0**
AVF	**Avril sur Loir**	**91.72**	**333**	*e*P	**P**	**23 44 56.6**	**+0.2**
	comp=Z,23nm,0.9s,mb5.2						
AVF	**Avril sur Loir**	**91.72**	**333**	*e*P	**P**	**23 44 56.6**	**+0.2**
AVF				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.2						
GRR	**Gorron**	**91.85**	**337**	*e*P	**P**	**23 44 57.0**	**0.0**
	comp=Z,18nm,1.0s,mb5.0						
GRR	**Gorron**	**91.85**	**337**	*e*P	**P**	**23 44 57.0**	**0.0**
GRR				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
MBDF	**Montbardon**	**92.08**	**330**	*e*P	**P**	**23 44 57.8**	**-0.3**
	comp=Z,7.4nm,0.8s,mb4.8						
MBDF	**Montbardon**	**92.08**	**330**	*e*P	**P**	**23 44 57.8**	**-0.3**
MBDF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
ORIF	**Oris-en-Rattie**	**92.29**	**331**	*e*P	**P**	**23 44 59.3**	**+0.2**
SBF	**Sospel**	**92.50**	**329**	*e*P	**P**	**23 44 59.5**	**-0.6**
	comp=Z,23nm,0.8s,mb5.3						
SBF	**Sospel**	**92.50**	**329**	*e*P	**P**	**23 44 59.5**	**-0.6**
SBF				pmax	pmax		
	comp=Z,11nm,0.8s,mb5.2						
TCF	**Toulx Ste Croi**	**92.57**	**334**	*e*P	**P**	**23 45 00.6**	**+0.2**
	comp=Z,8.4nm,0.9s,mb4.9						
TCF	**Toulx Ste Croi**	**92.57**	**334**	*e*P	**P**	**23 45 00.6**	**+0.2**
TCF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8						
VIVF	**Saint-Julien-l**	**92.83**	**331**	*e*P	**P**	**23 45 01.7**	**+0.1**
	comp=Z,7.5nm,0.8s,mb4.9						
VIVF	**Saint-Julien-l**	**92.83**	**331**	*e*P	**P**	**23 45 01.7**	**+0.1**
VIVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.9						
FRF	**La Foret Royal**	**93.08**	**330**	*e*P	**P**	**23 45 02.1**	**-0.7**
	comp=Z,16nm,1.0s,mb5.1						
FRF	**La Foret Royal**	**93.08**	**330**	*e*P	**P**	**23 45 02.1**	**-0.7**
FRF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb5.1						
SADO	**Sadowa**	**93.13**	**28**	P	**P**	**23 45 01.9**	**-1.0**
	comp=Z,2.6nm,0.9s,mb4.7,baz=112,slow=15,SNR=3.0						
MFF	**Saint Martin d**	**93.15**	**335**	*e*P	**P**	**23 45 03.4**	**+0.4**
	comp=Z,14nm,1.1s,mb5.0						
MFF	**Saint Martin d**	**93.15**	**335**	*e*P	**P**	**23 45 03.4**	**+0.4**
MFF				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb5.0						
SMRF	**Simiane la Rot**	**93.19**	**330**	*e*P	**P**	**23 45 02.5**	**-0.7**
LMR	**La Mourre**	**93.32**	**329**	*e*P	**P**	**23 45 03.5**	**-0.4**
	comp=Z,22nm,1.1s,mb5.2						
LMR	**La Mourre**	**93.32**	**329**	*e*P	**P**	**23 45 03.5**	**-0.4**
LMR				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.2						
RJF	**Les Rejaudoux**	**93.66**	**334**	*e*P	**P**	**23 45 05.8**	**+0.4**
	comp=Z,6.2nm,0.8s,mb4.8						
RJF	**Les Rejaudoux**	**93.66**	**334**	*e*P	**P**	**23 45 05.8**	**+0.4**
RJF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8						
CAF	**Calviac**	**93.78**	**333**	*e*P	**P**	**23 45 06.6**	**+0.7**
LFF	**La Frestale**	**94.26**	**334**	*e*P	**P**	**23 45 08.5**	**+0.3**
SJPF	**Ste Jean**	**96.55**	**334**	*e*P	**P**	**23 45 17.8**	**-0.9**
RKT	**Rikitea**	**96.72**	**113**	*e*LR	LR	00 15 37.6	
	comp=Z,106nm,26.5s						
QSPA	**South Pole Qui**	**123.56**	**180**	⇑*i*P	PKPdf	23 50 45.8	-3.8
LBTB	**Lobatse**	**125.05**	**261**	*e*PKIKP	PKPdf	23 50 51.0	-2.8
SDV	**Santo Domingo**	**127.17**	**43**	*e*PKPdf	PKPdf	23 50 54.3	-3.8
SDV				*e*pPKPdf		23 51 04.4	
LPAZ	**La Paz**	**147.42**	**65**	*e*PKP2	PKPab	23 51 34.9	-1.4
LPAZ	**La Paz**	**147.42**	**65**	PKPbc	PKPdf	23 51 34.9	+0.1
	comp=Z,12nm,0.8s,baz=9.5,slow=10.0,SNR=44						
LVC	**Limon Verde**	**150.29**	**76**	*e*PKPbc	PKPdf	23 51 41.5	+2.3
RCBR	**Riachuelo**	**152.11**	**357**	*e*PKPbc	PKPdf	23 51 45.6	+3.4
PLCA	**Paso Flores**	**152.94**	**114**	PKPbc	PKPdf	23 51 45.7	+3.2
	comp=Z,1.0nm,0.7s,baz=214,slow=6.6,SNR=3.3						

KRSC 18 23:35:10.8±0.8**, 54.06N**×**162.47E, h40**km±28km**, ML3.8, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**1.75**	**238**	*e*P	P	23 35 39.4	+0.2
SPN				*e*S	S	23 35 59.7	-0.8
KII	**Karymskiy**	**1.78**	**270**	*e*P	P	23 35 39.3	-0.4
KII				*e*S	S	23 35 59.2	-2.1
TUMR	**Tumrok**	**1.82**	**313**	*e*P	P	23 35 39.2	-1.1
TUMR				*e*S	S	23 36 00.4	-1.9
NLC	**Nalytchevo**	**2.06**	**246**	*e*P	P	23 35 43.7	0.0
NLC				*e*S	S	23 36 08.3	-0.1
KMNR	**Kamenistaya**	**2.13**	**324**	*e*P	P	23 35 44.4	-0.3
KMNR				*e*S	S	23 36 09.7	-0.4
KBTR	**Krutoberegovo**	**2.16**	**5**	*e*P	P	23 35 45.4	+0.3
KBTR				*e*S	S	23 36 10.3	-0.6
ZLN	**Zelenaya**	**2.18**	**335**	*e*P	P	23 35 45.8	+0.4
ZLN				*e*S	S	23 36 11.4	0.0
KBG	**Krutoberegovo**	**2.20**	**3**	*e*P	P	23 35 47.1	+1.4
KBG				*e*S	S	23 36 13.6	+1.7
KBG				Smax			
	140nm,0.5s						
SDLR	**Sedlovina**	**2.27**	**251**	*e*P	P	23 35 46.7	0.0
SDLR				*e*S	S	23 36 12.2	-1.5
SMAR	**Somma**	**2.33**	**251**	*e*P	P	23 35 47.9	+0.5
SMAR				*e*S	S	23 36 14.7	-0.3
UGLR	**Uglovaya**	**2.33**	**250**	*e*P	P	23 35 48.5	+0.9
UGLR				*e*S	S	23 36 15.8	+0.6
BKI	**Bering**	**2.34**	**59**	*e*P	P	23 35 45.9	-1.7
BKI				*e*S	S	23 36 10.8	-4.5
BKI				Smax			
	20nm,0.4s						
AVH	**Avacha**	**2.36**	**252**	*e*P	P	23 35 48.7	+0.8
AVH				*e*S	S	23 36 16.4	+0.5
KOK	**Koryaka**	**2.41**	**253**	*e*P	P	23 35 48.6	0.0
KOK				*e*S	S	23 36 16.3	-0.8
KLY	**Klyuchi**	**2.49**	**336**	*e*P	P	23 35 49.1	-0.7
KLY				*e*S	S	23 36 16.9	-2.2
KOZ	**Kozyrevsk**	**2.50**	**324**	*e*P	P	23 35 49.6	-0.3
KOZ				*e*S	S	23 36 17.4	-2.0
PET	**Petropavlovsk**	**2.50**	**247**	*e*P	P	23 35 50.0	0.0
PET				*e*S	S	23 36 19.1	-0.4
GNL	**Ganaly**	**2.71**	**264**	*e*P	P	23 35 53.2	+0.3
GNL				*e*S	S	23 36 23.8	-0.9
ESO	**Esso**	**2.87**	**312**	*e*P	P	23 35 56.8	+1.6
ESO				*e*S	S	23 36 29.6	+0.9
KRMR	**Karymshinskiy**	**2.87**	**246**	*i* P	P	23 35 55.1	-0.2
KRMR				*i* S	S	23 36 27.7	-1.2
RUS	**Russkaya**	**2.88**	**237**	*e*P	P	23 35 55.1	-0.3
RUS				*e*S	S	23 36 28.8	-0.4
GRL	**Gorelyy**	**3.04**	**242**	*e*P	P	23 35 58.3	+0.7
GRL				*e*S	S	23 36 33.1	-0.1
APC	**Apacha**	**3.37**	**252**	*e*P	P	23 36 02.8	+0.5
APC				*e*S	S	23 36 40.5	-1.1

*IDC **19** 00:00:06.5±1.2, 13.37N×92.26E, mb3.8/6, mb1 4.0/6, mb1mx3.8/15, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=52.3km s-min=22.4km az=54.0*

*NEIC **19** 00:00:10.8±0.8, 13.37N×92.29E, h30km, mb4.0/2, Error ellipse: s-maj=39.3km s-min=12.9km az=56.0*

ISC 19 00:00:08.1±0.8**, 13.0N**±0.2×**91.8E**±0.2**, h33**km**, n10,** σ**0ˢ98**/11**, mb3.9**/8**, MS3.5**/1**, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**9.40**	**301**	*e*P	**P**	**00 02 23.2**	**-1.1**
VIS				*e*S	**S**	**00 04 03.1**	**-6.9**
AAK	**Ala-Archa**	**33.11**	**336**	*e*P	**P**	**00 06 42.2**	**-1.0**
	0.4nm,0.5s,mb3.6						
SONM	**Songino Array**	**36.81**	**16**	P	**P**	**00 07 11.0**	**-3.7**
	0.5nm,0.8s,mb3.4,baz=201,slow=9.4,SNR=5.4						
KURK	**Kurchatov**	**39.11**	**347**	P	**P**	**00 07 34.1**	**+0.2**
ZAL	**Zalesovo**	**41.21**	**354**	P	**P**	**00 07 51.3**	**+0.1**
	1.2nm,0.3s,mb4.0,baz=218,slow=2.9,SNR=4.0						
ZAL				LR	LR	00 27 23.8	
	comp=Z,59nm,19.4s,MS3.5,baz=73,slow=40						
WRA	**Warramunga Arr**	**53.16**	**127**	P	**P**	**00 09 25.7**	**+0.3**
	0.5nm,0.4s,mb3.8,baz=307,slow=8.6,SNR=4.2						
WRAB	**Tennant Creek**	**53.16**	**127**	*e*P	**P**	**00 09 24.2**	**-1.1**
	4.5nm,0.9s,mb4.4						
ASAR	**Alice Springs**	**55.00**	**131**	P	**P**	**00 09 39.0**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=308,slow=7.0,SNR=5.7						
BRTR	**Keskin Array B**	**57.38**	**309**	P	**P**	**00 09 57.2**	**+1.5**
	0.8nm,0.9s,mb3.8,baz=117,slow=9.7,SNR=3.0						
FINES	**FINESS Array B**	**67.12**	**332**	P	**P**	**00 11 01.6**	**+1.3**
	4.2nm,1.2s,mb4.4,baz=117,slow=4.3,SNR=3.5						

JMA 19 00:03:47.7±0.4**, 34.27N**×**142.62E, M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.41**	**286**	P	Pb	00 04 14.1	-0.5
BSO1				S	Sb	00 04 33.6	+0.6
BSO2	**Boso 2**	**1.61**	**288**	*e*S	Sb	00 04 39.2	+0.3
BSO3	**Boso 3**	**1.82**	**288**	P	Pn	00 04 21.3	+0.8
BSO3				S	Sn	00 04 44.8	+0.2
BSO4	**Boso 4**	**2.01**	**292**	P	Pn	00 04 24.2	+0.9
BSO4				*e*S	Sn	00 04 50.6	+1.0
JHU	**Hanno**	**3.16**	**301**	S	Sn	00 05 19.3	+0.6
JFK	**Kawauchi**	**3.40**	**336**	P	Pn	00 04 43.0	-0.1
JRY	**Ryogami san**	**3.51**	**301**	*e*S	Sn	00 05 29.3	+1.8
JYN	**Shimob**	**3.57**	**291**	*e*S	Sn	00 05 27.2	-1.7
JFT	**Otama**	**3.73**	**331**	*e*S	Sn	00 05 32.4	-0.8

DJA 19 00:04:29.3±0.9**, 7.01S**×**118.19E, h240**km**, MD4.7**/4**, ML4.0**/3**, 7C-2D, Error ellipse: s-maj=38.4km s-min=20.3km az=163.0, Flores Sea**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**2.52**	**234**	⇓*i*Pn	P	00 05 17.2	+0.7
	66nm,0.2s						
KEDI	**Kedomdong**	**2.52**	**234**	⇑*e*P	P	00 05 17.5	+1.0
KEDI				⇑*i*Sn	S	00 05 52.4	-0.7
RATI	**Rata**	**3.13**	**237**	⇑*i*Pn	P	00 05 22.7	-0.4
	100nm,0.2s						
RATI				⇑*i*Sn	S	00 06 03.7	-1.1
KELI	**Kelakatan**	**3.85**	**252**	⇑*i*Pn	P	00 05 32.4	+1.0
KELI				⇓*i*Sn	S	00 06 18.0	-1.7
SRDI	**Scrawed**	**4.26**	**250**	⇑*i*Pn	P	00 05 37.9	+1.5
	19nm,0.2s						
SRDI				⇑*i*Sn	S	00 06 26.8	-1.7

*MOS **19** 00:06:34.4±1.3, 55.00N×110.86E, h16km, mb4.3/1, Error ellipse: s-maj=14.8km s-min=9.2km az=61.5*

BYKL 19 00:06:34.3±0.2**, 55.03N**×**110.85E, h12**km±3km**, 12C-3D, Lake Baykal region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.24**	**130**	⇑*i*PG	Pg	00 06 39.2	-0.3
YLYR				*e*		00 06 43.1	
YLYR				pmax	pmax		
	comp=Z,772nm,0.1s						
YLYR				smax			
	comp=E,4μm,0.3s						
YLYR	**Ulyunkhan**	**0.24**	**130**	⇓*i*Pg	Pg	00 06 39.2	-0.3
	comp=E,697nm,0.2s						
YLYR				⇑*i*Pg	Pg	00 06 39.2	-0.3
	comp=E,697nm,0.2s						
YLYR				⇑*i*Pg	Pg	00 06 39.2	-0.3
	comp=E,2μm,0.2s						
YLYR				*i* Sg	Sg	00 06 43.0	0.0
YLYR				Pmax			
	comp=E,752nm,0.1s						
YLYR				Smax			
	comp=E,4μm,0.3s						
KMO	**Kumora**	**0.88**	**13**	*e*PG	Pg	00 06 50.6	-1.4
KMO				*e*		00 07 02.3	
KMO				pmax	pmax		
	comp=Z,81nm,0.3s						
KMO				smax			
	comp=N,388nm,0.8s						
KMO	**Kumora**	**0.88**	**13**	*e*Pg	Pg	00 06 51.0	-1.0
KMO				*e*Pb	Pb	00 06 52.6	+1.5
KMO				*e*Sg	Sg	00 07 02.4	-1.5
KMO				max			
	comp=N,88nm,0.3s						
KMO				Smax			
	comp=N,416nm,1.0s						
NIZ	**Nizh Angarsk**	**1.06**	**316**	*e*PG	Pg	00 06 53.5	-2.0
NIZ				*e*		00 07 07.7	
NIZ				pmax	pmax		
	comp=Z,104nm,0.5s						
NIZ				smax			
	comp=N,313nm,0.6s						
NIZ	**Nizh Angarsk**	**1.06**	**316**	⇑*i*Pg	Pg	00 06 53.5	-2.0
NIZ				*e*Pb	Pb	00 06 56.2	+2.2
NIZ				*e*Sg	Sg	00 07 07.8	-1.8
NIZ				*e*Sb	Sb	00 07 10.7	+3.1
NIZ				Pmax			
	comp=N,120nm,0.5s						
NIZ				max			
	comp=N,348nm,0.5s						
YOA	**Uoyan**	**1.21**	**24**	⇑*i*PG	Pg	00 06 58.0	-0.6
YOA				*e*		00 07 14.5	
YOA				pmax	pmax		
	comp=Z,109nm,0.3s						
YOA				smax			
	comp=N,855nm,0.5s						
YOA	**Uoyan**	**1.21**	**24**	*e*Pg	Pg	00 06 56.7	-1.9
YOA				*e*Sg	Sg	00 07 14.0	-0.8
YOA				Pmax			
	comp=N,193nm,0.3s						
YOA				Smax			
	comp=N,1μm,0.6s						
SYVR	**Suvo**	**1.46**	**200**	*e*PN	Pn	00 07 00.9	+0.2
SYVR				*e*		00 07 20.8	
SYVR				pmax	pmax		
	comp=Z,27nm,0.2s						
SYVR				smax			
	comp=E,272nm,0.3s						
SYVR	**Suvo**	**1.46**	**200**	⇑*i*Pg	Pg	00 07 01.0	-2.6
SYVR				*e*		00 07 04.5	
SYVR				*e*Sg	Sg	00 07 20.8	-2.3
SYVR				max			
	comp=E,55nm,0.6s						
SYVR				Smax			
	comp=E,266nm,0.4s						
UKT	**Uakit**	**1.66**	**73**	*e*PN	Pn	00 07 03.7	+0.3
UKT				*e*		00 07 26.0	
UKT				pmax	pmax		
	comp=Z,143nm,0.3s						
UKT				smax			
	comp=E,845nm,0.3s						
UKT	**Uakit**	**1.66**	**73**	⇑*i*Pg	Pg	00 07 03.8	-3.6
	comp=E,39nm,0.4s						
UKT				⇑*i*Pg	Pg	00 07 03.8	-3.6
	comp=E,285nm,0.4s						
UKT				⇑*i*Pg	Pg	00 07 03.8	-3.6
	comp=E,192nm,0.4s						
UKT				*i* Sg	Sg	00 07 25.9	-3.6
UKT				Pmax			
	comp=E,185nm,0.4s						
UKT				Smax			
	comp=E,935nm,0.5s						
MXMB	**Maximikha**	**2.16**	**216**	*e*Pn	Pn	00 07 10.6	-0.1
MXMB				*e*Pg	Pg	00 07 13.0	-4.5
MXMB				*e*Sn	Sn	00 07 37.1	-0.5
MXMB				*e*Sg	Sg	00 07 42.8	-3.5
MXMB				Pmax			
	comp=E,44nm,0.8s						
MXMB				Smax			
	comp=E,894nm,0.7s						

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
OGRR	Ongureny	2.36	235	ePN	Pn	00 07 13.9	+0.4
OGRR				e		00 07 16.6	
OGRR				e		00 07 47.0	
OGRR				pmax	pmax		
	comp=Z,33nm,0.5s						
OGRR				smax			
	comp=E,242nm,0.7s						
OGRR	Ongureny	2.36	235	⇓iPn	Pn	00 07 13.6	+0.1
OGRR				ePg	Pg	00 07 15.5	-5.9
OGRR				eSn	Sn	00 07 42.7	+0.1
OGRR				eSg	Sg	00 07 46.8	-6.1
OGRR				Pmax			
	comp=E,33nm,0.6s						
OGRR				Smax			
	comp=E,252nm,0.6s						
NLYR	Nelyaty	3.11	60	ePN	Pn	00 07 23.0	-1.2
NLYR				e		00 07 29.8	
NLYR				e		00 08 11.1	
NLYR				pmax	pmax		
	comp=Z,23nm,0.3s						
NLYR				smax			
	comp=N,176nm,1.0s						
NLYR	Nelyaty	3.11	60	ePn	Pn	00 07 23.8	-0.4
NLYR				⇑iPg	Pg	00 07 29.0	-7.4
NLYR				eSg	Sg	00 08 11.1	-6.8
NLYR				Pmax			
	comp=N,24nm,0.8s						
NLYR				Smax			
	comp=N,177nm,1.1s						
BOD	Bodaibo	3.30	31	ePn	Pn	00 07 26.7	-0.2
BOD				ePg	Pg	00 07 33.7	-6.5
BOD				eSn	Sn	00 08 05.8	-0.6
BOD				eSg	Sg	00 08 15.4	-8.8
BOD				Pmax			
	comp=N,7.0nm,0.4s						
BOD				Smax			
	comp=N,67nm,1.1s						
ZRHB	Zarechye	3.31	223	ePg	Pg	00 07 34.0	-6.4
ZRHB				eSn	Sn	00 08 05.6	-1.1
ZRHB				eSg	Sg	00 08 17.4	-7.2
ZRHB				Pmax			
	comp=N,45nm,1.0s						
ZRHB				Smax			
	comp=N,392nm,0.8s						
TRTB	Turuntaevo	3.40	216	⇑iPn	Pn	00 07 27.9	-0.4
TRTB				ePg	Pg	00 07 36.0	-6.2
TRTB				eSg	Sg	00 08 19.6	-7.9
TRTB				Pmax			
	comp=N,8.0nm,0.5s						
TRTB				Smax			
	comp=N,62nm,0.6s						
CIT	Chita	3.42	151	ePg	Pg	00 07 36.0	-6.6
CIT				eSg	Sg	00 08 19.2	-9.0
CIT				Pmax			
	comp=N,9.0nm,0.4s						
CIT				Smax			
	comp=N,89nm,0.5s						
TRG	Tyrgan	3.50	231	ePn	Pn	00 07 29.8	0.0
TRG				ePg	Pg	00 07 36.3	-7.9
TRG				eSg	Sg	00 08 21.8	-9.1
TRG				Pmax			
	comp=N,8.0nm,0.3s						
TRG				Smax			
	comp=N,84nm,0.5s						
FFNB	Fofonovo	3.86	221	eSg	Sg	00 08 33.3	-9.4
FFNB				Smax			
	comp=N,147nm,0.7s						
KAB	Kabansk	3.90	222	eSg	Sg	00 08 34.2	-10
KAB				Smax			
	comp=N,243nm,1.3s						
STDB	Stepnoy Dvoret	3.92	225	eSg	Sg	00 08 36.3	-8.5
STDB				Smax			
	comp=N,228nm,1.3s						
HRMR	Khuramsha	4.13	216	ePn	Pn	00 07 37.7	-1.0
HRMR				ePg	Pg	00 07 48.4	-8.4
HRMR				eSg	Sg	00 08 42.4	-9.5
HRMR				Pmax			
	comp=N,19nm,0.7s						
HRMR				Smax			
	comp=N,260nm,0.7s						
CRS	Chara	4.57	63	ePN	Pn	00 07 44.0	-0.9
CRS				e		00 07 55.8	
CRS				e		00 08 55.8	
CRS				pmax	pmax		
	comp=Z,19nm,1.3s						
CRS				smax			
	comp=E,102nm,1.4s						
CRS	Chara	4.57	63	ePn	Pn	00 07 44.9	0.0
CRS				⇑iPg	Pg	00 07 55.8	-10
CRS				e		00 08 05.8	
CRS				eSn	Sn	00 08 35.4	-3.2
CRS				eSg	Sg	00 08 55.8	-11
CRS				Pmax			
	comp=E,13nm,0.7s						
CRS				Smax			
	comp=E,102nm,1.8s						
LSTR	Listvyanka	4.79	231	ePg	Pg	00 08 00.9	-9.1
LSTR				eSg	Sg	00 09 02.2	-12
LSTR				Pmax			
	comp=E,2.0nm,0.4s						
LSTR				Smax			
	comp=E,52nm,1.4s						
TUP	Tupik	5.31	93	ePN	Pn	00 07 53.3	-2.1
TUP				e		00 08 08.9	
TUP				eS	Sn	00 08 53.4	-3.9
TUP				e		00 09 17.6	
TUP				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TUP				smax			
	comp=N,66nm,1.0s						
TUP	Tupik	5.31	93	⇓iPn	Pn	00 07 53.4	-2.0
TUP				ePg	Pg	00 08 08.8	-12
TUP				eSg	Sg	00 09 17.7	-13
TUP				Pmax			
	comp=N,8.0nm,0.4s						
TUP				Smax			
	comp=N,102nm,1.2s						
KPC	Khapcheranga	5.42	169	ePn	Pn	00 07 54.0	-2.9
KPC				ePg	Pg	00 08 10.2	-12
KPC				eSg	Sg	00 09 21.5	-13
KPC				Smax			
	comp=N,50nm,1.6s						
TLY	Talaya	5.46	235	ePN	Pn	00 08 10.9	+13
TLY	Talaya	5.46	235	ePg	Pg	00 08 13.0	-10
TLY				eSg	Sg	00 09 21.5	-15
TLY				Pmax			
	comp=N,4.0nm,0.6s						
TLY				Smax			
	comp=N,42nm,1.2s						
ARS	Arshan	5.92	242	ePN	Pn	00 08 19.1	+15
ARS	Arshan	5.92	242	ePg	Pg	00 08 19.8	-13
ARS				eSg	Sg	00 09 35.6	-16
ARS				Pmax			
	comp=N,10.0nm,0.6s						
ARS				Smax			
	comp=N,205nm,0.9s						
ZAK	Zakamensk	6.54	228	eSg	Sg	00 09 57.6	-15
ZAK				Smax			
	comp=N,12nm,0.9s						
MOY	Mondy	6.79	244	ePN	Pn	00 08 15.3	-1.0
MOY				e		00 08 37.5	
MOY				e		00 10 04.2	
MOY				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MOY				smax			
	comp=E,112nm,1.9s						
MOY	Mondy	6.79	244	ePn	Pn	00 08 15.3	-1.0
MOY				e		00 09 30.7	
MOY				eSg	Sg	00 10 03.7	-17
MOY				Smax			
	comp=E,113nm,1.6s						
ORL	Orlik	7.00	254	ePN	Pn	00 08 17.8	-1.4
ORL				e		00 08 40.8	
ORL				e		00 10 11.8	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ORL				smax			
	comp=N,39nm,1.4s						
ORL	Orlik	7.00	254	ePn	Pn	00 08 17.8	-1.4
ORL				eSn	Sn	00 09 33.9	-5.7
ORL				eSg	Sg	00 10 10.0	-17
ORL				Smax			
	comp=N,52nm,1.5s						
TNDR	Tynda	7.96	83	eSg	Sg	00 10 41.4	-18
CLNS	Chul'man	8.09	71	eSg	Sg	00 10 44.1	-20

NEIC ***19*** *00:37:11.8, 45.11S×167.47E, h130km, MG4.1(WEL), After WEL.*

WEL 19 00:37:12.7±0.3**, 45.14S×167.48E, h122km**±2km**, ML3.6**/9**, 6C, Error ellipse: s-maj=2.7km s-min=1.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.41	214	⇑PN	P	00 37 29.8	-0.7
DCZ				SN	S	00 37 42.8	-1.2
MLZ	Mavora Lakes	0.53	114	eP	P	00 37 30.9	-0.3
MLZ	Mavora Lakes	0.53	114	⇑PN	P	00 37 30.9	-0.3
MLZ				SN	S	00 37 44.7	-0.5
MSZ	Milford Sound	0.56	35	⇑PN	P	00 37 31.2	-0.2
MSZ				SN	S	00 37 45.1	-0.4
WHZ	Wether Hill Ro	0.83	157	eP	P	00 37 33.2	-0.3
WHZ				S	S	00 37 48.7	-0.4
WHZ	Wether Hill Ro	0.83	157	PN	P	00 37 33.2	-0.3
WHZ				SN	S	00 37 48.7	-0.4
WKZ	Wanaka	1.13	75	eP	P	00 37 36.4	-0.1
WKZ	Wanaka	1.13	75	⇑PN	P	00 37 36.4	-0.2
WKZ				SN	S	00 37 53.7	-0.7
EAZ	Earnscleugh	1.29	95	P	P	00 37 37.8	-0.5
EAZ	Earnscleugh	1.29	95	⇑PN	P	00 37 37.8	-0.5
EAZ				SN	S	00 37 55.6	-2.0
JCZ	Jackson Bay	1.40	41	eP	P	00 37 38.7	-0.8
JCZ	Jackson Bay	1.40	41	PN	P	00 37 38.6	-0.9
JCZ				SN	S	00 37 58.2	-1.7
TUZ	Tuapeka	1.72	119	P	P	00 37 42.8	-0.4
TUZ	Tuapeka	1.72	119	⇑PN	P	00 37 42.8	-0.4
TUZ				SN	S	00 38 03.4	-3.0
LBZ	Lake Benmore	2.06	70	eP	P	00 37 45.6	-1.9
LBZ	Lake Benmore	2.06	70	PN	P	00 37 45.5	-2.0
LBZ				SN	S	00 38 10.2	-3.7
FOZ	Fox Glacier	2.23	46	PN	P	00 37 48.0	-1.6
FOZ				SN	S	00 38 16.0	-1.6
ODZ	Otahua Downs	2.24	89	eP	P	00 37 48.4	-1.4
ODZ	Otahua Downs	2.24	89	PN	P	00 37 48.2	-1.6
ODZ				SN	S	00 38 14.1	-3.8
RPZ	Rata Peaks	2.93	62	eP	P	00 37 56.0	-2.9
RPZ	Rata Peaks	2.93	62	PN	P	00 37 55.8	-3.2
RPZ				SN	S	00 38 29.1	-4.9
MQZ	McQueen's Vall	3.97	71	eSN	S	00 38 50.2	-8.8
LTZ	Lake Taylor	4.18	57	PN	P	00 38 13.9	-1.9
DSZ	Denniston Nort	4.62	44	PN	P	00 38 17.5	-4.2
DSZ				SN	S	00 39 07.9	-6.9
THZ	Tophouse	5.19	51	PN	P	00 38 24.0	-5.4

NEIC ***19*** *00:40:04.1±0.6, 51.54N×176.09W, mb3.9/2, ML3.8(AEIC), Error ellipse: s-maj=11.3km s-min=6.3km az=186.0*

IDC ***19*** *00:40:04.7±0.9, 51.51N×175.98W, h47km±6km, mb3.3/8, mb1 3.7/9, mb1mx3.5/22, mbtmp3.6/9, Error ellipse: s-maj=28.9km s-min=14.3km az=178.0*

ISC 19 00:40:01.6±0.6**, 51.37N**±0.06×**175.95W**±0.06**, h33km, n32, σ0.98**/36**, mb3.6**/10**, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
ETKA	Kagalaska Isla	0.57	330	P	P	00 40 13.5	+0.4
ETKA				S	S	00 40 20.4	-1.1
GSIG	Igitkin Island	0.62	1	P	P	00 40 14.2	+0.3
GSMY	Great Sitkin M	0.68	354	P	P	00 40 15.0	+0.3
ADK	Adak	0.69	319	P	P	00 40 14.7	-0.2
ADK				S	S	00 40 23.5	-1.0
GSTD	Great Sitkin T	0.70	350	P	P	00 40 15.4	+0.4
GSTR	Great Sitkin T	0.73	355	P	P	00 40 16.0	+0.5
ADAG	Mount Adagdak	0.74	327	P	P	00 40 16.1	+0.6
KIWB	Kanaga Island	0.89	303	P	P	00 40 18.8	+1.1
KIMD	Kanaga Island	0.90	297	P	P	00 40 19.0	+1.2
KIKV	Kanaga Island	0.92	304	P	P	00 40 19.1	+1.0
KINC	Kanaga Island	0.93	308	P	P	00 40 19.1	+0.9
ATKA	Atka Island	1.37	52	P	P	00 40 25.4	+0.8
ATKA				S	S	00 40 41.7	-0.1
UNV	Unalaska Valle	6.27	63	P	P	00 41 36.0	+1.9
FX1	Attu Island--F	6.87	287	P	P	00 41 43.7	+1.0
	3.7nm,0.3s,baz=80,slow=19,SNR=9.5						
FX1				S	S	00 42 58.4	-2.1
	baz=294,slow=14,SNR=2.5						
SLKM	Skilak Lake	16.96	47	P	P	00 43 57.6	0.0
MCK	McKinley	18.87	39	P	P	00 44 16.5	-4.8
THY	Trims Highway	20.02	41	P	P	00 44 29.5	-4.5
INK	Inuvik	26.45	34	P	P	00 45 36.7	-0.2
	0.4nm,0.3s,mb3.4,baz=251,slow=9.5,SNR=5.1						
INK				PcP	PcP	00 48 59.6	-2.4
	0.6nm,0.5s,baz=298,slow=1.8,SNR=6.9						
INK	Inuvik	26.45	34	P	P	00 45 36.7	-0.2
INK				PcP	PcP	00 48 59.6	-2.4
YKA	Yellowknife Ar	33.94	47	P	P	00 46 41.4	-2.0
	0.3nm,0.4s,mb3.5,baz=287,slow=7.8,SNR=5.7						
YKA				PcP	PcP	00 49 19.6	-1.7
	0.8nm,0.6s,baz=287,slow=3.0,SNR=15						
BW06	Boulder Array	44.60	74	eP	P	00 48 11.7	-0.4
	1.4nm,0.6s,mb4.0						
PDAR	Pinedale Array	44.60	74	P	P	00 48 12.2	0.0
	0.6nm,0.5s,mb3.7,baz=316,slow=5.0,SNR=6.7						
PDAR				pP	pP	00 48 24.8	+2.8
	1.7nm,0.6s,baz=302,slow=5.1,SNR=12						
PDAR				sP	sP	00 48 30.4	+4.3
	2.2nm,0.8s,baz=304,slow=5.3,SNR=9.4						
SONM	Songino Array	48.24	298	P	P	00 48 40.5	-0.2
	0.2nm,0.7s,mb3.3,baz=56,slow=5.2,SNR=2.4						
SDCO	Great Sand Dun	50.12	77	eP	P	00 48 55.0	-0.3
	0.5nm,0.5s,mb3.8						
MNTX	Cornudas Mount	54.19	82	P	P	00 49 25.5	-0.4
WMOK	Wichita Mounta	56.18	75	P	P	00 49 38.6	-1.7
TXAR	Lajitas Array	56.88	83	P	P	00 49 45.3	-0.2
	0.2nm,0.5s,mb3.5,baz=296,slow=4.6,SNR=4.7						
TXAR				pP	pP	00 49 58.0	+2.5
	0.4nm,0.5s,baz=289,slow=4.5,SNR=4.6						
KURK	Kurchatov	60.31	315	eP	P	00 50 03.4	-5.6
BVAR	Borovoye Array	62.04	321	P	P	00 50 17.9	-2.6
	0.4nm,0.4s,mb4.0,baz=60,slow=6.6,SNR=4.7						
AAK	Ala-Archa	68.23	312	P	P	00 50 56.7	-3.9
WRA	Warramunga Arr	83.27	226	P	P	00 52 26.1	0.0
	0.3nm,0.5s,mb3.6,baz=32,slow=5.8,SNR=2.3						
ASAR	Alice Springs	86.71	225	P	P	00 52 44.0	+0.8
	0.5nm,0.7s,mb3.9,baz=18,slow=4.5,SNR=7.0						

NIED ***19*** *00:54:00, 43.40N×146.90E, h35km, Mw4.5 Best double couple: M₀6.09×10^15 NP1:φs30°, δ67°, λ83°. NP2:φs228°, δ24°, λ107°.*

BJI ***19*** *00:54:01.5, 43.16N×147.57E, h35km, mB5.2, mb4.8, Ms4.4, Msz4.0*

MOS ***19*** *00:54:06.6±1.1, 43.51N×146.98E, h38km, mb4.8/30, Error ellipse: s-maj=11.5km s-min=5.9km az=109.6*

MOS Felt (II-III) at Molokuril'skoe.

JMA ***19*** *00:54:06.7±0.3, 43.36N×146.93E, h38km±3km, M4.6*

SKHL ***19*** *00:54:06.7±2.0, 43.48N×147.13E, h41km±9km, mb5.2/6, Ms4.4/1*

SKHL Felt (II) at Malokurilskoe.

NEIC ***19*** *00:54:08.0±0.3, 43.51N×146.89E, mb4.7/32, Error ellipse: s-maj=8.4km s-min=6.0km az=154.0*

NEIC Felt [III] on Shikotan.

IDC ***19*** *00:54:08.2±0.7, 43.48N×146.92E, h38km±5km, mb3.9/18, mb1 4.1/19, mb1mx4.1/22, mbtmp4.1/19, ML3.9/1, MS3.9/4, Ms1 3.9/4, ms1mx3.2/23, Error ellipse: s-maj=17.6km s-min=14.8km az=149.0*

ISC 19 00:54:06.7±0.8**, 43.50N**±0.05×**146.96E**±0.06**, h39km**±5km**, h40km**±3.3km**:pP-P, n183, σ0.98**/197**, mb4.5**/60**, MS4.1**/8**, 5C-7D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.90	262	P	P	00 54 22.8	-0.1
NEM2				eS	S	00 54 33.9	-1.0
YUK	Yuzh-Kuril'sk	0.96	304	⇓iPN	P	00 54 23.9	0.0
YUK				i S	S	00 54 34.5	-2.0
YUK				pmax	pmax		
	comp=Z,19μm,0.7s						
YUK				pmax	pmax		
	comp=N,6μm,1.0s						
YUK				pmax	pmax		
	comp=E,6μm,1.0s						
YUK				pmax	pmax		
	comp=Z,7μm,0.4s						
YUK				pmax	pmax		
	comp=N,2μm,0.3s						
YUK				pmax	pmax		
	comp=E,2μm,0.5s						
YUK				smax			
	comp=E,37μm,1.1s						
YUK				smax			
	comp=N,25μm,1.0s						
YUK				smax			
	comp=N,12μm,0.4s						
YUK				smax			
	comp=E,6μm,0.4s						
YUK	Yuzh-Kuril'sk	0.96	304	⇓iP	P	00 54 24.0	+0.1
YUK				⇓iP		00 54 24.0	
YUK				AMB	AMB	00 54 24.7	
	comp=E,4μm,1.0s						
YUK				AMB	AMB	00 54 24.7	
	comp=E,6μm,1.0s						
YUK				AMB	AMB	00 54 24.7	
	comp=E,19μm,1.0s						
YUK				AMB	AMB	00 54 24.8	
	comp=E,2μm,0.4s						
YUK				AMB	AMB	00 54 24.8	
	comp=E,2μm,0.4s						
YUK				AMB	AMB	00 54 24.8	
	comp=E,7μm,0.4s						
YUK				i S	S	00 54 37.0	+0.5
YUK				A		00 54 38.0	
	comp=E,25μm,2.0s						
YUK				A		00 54 38.0	
	comp=E,39μm,2.0s						
YUK				A		00 54 38.5	
	comp=E,6μm,0.5s						
YUK				A		00 54 38.5	
	comp=E,13μm,0.1s						
JRA	Rausu	1.40	289	P	P	00 54 31.0	+0.8
JNK	Nakash	1.63	274	P	P	00 54 33.4	-0.1
JNK				eS	S	00 54 53.7	+0.2
JAK	Akkeshi	1.73	254	P	P	00 54 34.1	-0.8
JAK				eS	S	00 54 56.0	+0.1
KUR	Kuril'sk	1.85	20	⇓ePN	P	00 54 35.0	-1.6
KUR				eS	S	00 54 58.0	-1.0
KUR				pmax	pmax		
	comp=N,190nm,0.5s						
KUR				pmax	pmax		
	comp=E,160nm,0.5s						
KUR				pmax	pmax		
	comp=Z,380nm,0.5s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,840nm,0.5s						
KUR				smax			
	comp=N,5μm,4.0s						
KUR				smax			
	comp=E,8μm,4.0s						
KUR	Kuril'sk	1.85	20	eP	P	00 54 35.0	-1.6
KUR				AMB	AMB	00 54 48.5	
	comp=E,190nm,0.5s						
KUR				AMB	AMB	00 54 48.5	
	comp=E,160nm,0.5s						
KUR				AMB	AMB	00 54 48.5	
	comp=E,380nm,0.5s						
KUR				eS	S	00 54 58.0	-1.0
KUR				A		00 54 59.5	
	comp=E,5μm,4.0s						
KUR				A		00 54 59.5	
	comp=E,8μm,4.0s						
KUR				A		00 54 59.5	
	comp=E,1μm,0.5s						
KUR				A		00 54 59.5	
	comp=E,840nm,0.5s						
JTKR	Abashiri--Toko	2.26	283	P	P	00 54 43.7	+1.2
JAR	Ashorobuto	2.33	266	P	P	00 54 43.5	0.0
JAR				eS	S	00 55 12.7	+1.5
JOB	Onbets	2.36	256	P	P	00 54 43.5	-0.4
JMP	Maruseppu	2.66	282	P	P	00 54 49.3	+1.2
JCH	Churui	2.78	253	P	P	00 54 50.1	+0.2
JCH				eS	S	00 55 22.7	+0.1
ERM	Erimo	3.17	243	Pn	P	00 54 57.1	+1.7
	comp=E,4μm,0.6s,SNR=56						
ASAJ	Asahikawa	3.22	283	PN	P	00 54 58.0	+1.9
ASAJ						00 55 41.3	
ASAJ				pmax	pmax		
	comp=Z,11nm,0.3s						
ASAJ				smax			
	comp=N,10.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.4s						
ASAJ	Asahikawa	3.22	283	Pn	P	00 54 58.0	+1.8
	comp=Z,10nm,0.3s,baz=77,slow=12,SNR=14						
ASAJ				Sn	S	00 55 41.3	+7.6
	comp=Z,9.9nm,0.3s,baz=281,slow=32,SNR=3.9						
ASAJ				LR	LR	00 56 24.1	
	comp=Z,2μm,18.4s,baz=160,slow=43						
YSS	Yuzh-Sakhalins	4.56	321	⇓iPN	P	00 55 15.2	+0.1
YSS				MLR	MLR		
	comp=Z,1μm,15.0s						
YSS	Yuzh-Sakhalins	4.56	321	eP	P	00 55 15.6	+0.5
YSS	Yuzh-Sakhalins	4.56	321	⇓iP	P	00 55 15.2	+0.1
YSS				eS	S	00 56 04.0	-3.5
YSS				A		00 56 06.7	
	comp=Z,60nm,1.0s						
YSS				AMS	AMS	00 57 13.0	
	comp=Z,1μm,15.0s						
TEY	Ternei	7.59	285	eP	P	00 56 01.5	+3.9
TEY				AMS	AMS	01 01 32.0	
	comp=Z,1μm,14.0s						
TYV	Tymovskoe	7.93	340	eP	P	00 56 07.4	+5.1
MAT	Matsushiro	9.66	227	PN	P	00 56 26.0	-0.1
MAT				pmax	pmax		
	comp=Z,13nm,0.8s						
MAT	Matsushiro	9.66	227	P	P	00 56 26.0	-0.1
	comp=Z,13nm,0.8s						
MAT				eS	S	00 58 13.0	-1.5
MAT	Matsushiro	9.66	227	P	P	00 56 24.5	-1.6
MAT				S	S	00 58 13.2	-1.3
NKL	Nikolayevsk	10.52	339	eP	P	00 56 34.0	-3.9
NKL				AMB	AMB	00 56 39.0	
	comp=Z,25nm,1.0s						
KLR	Kul'dur	11.96	304	ePN	P	00 56 58.2	+0.7
KLR				MLR	MLR		
	comp=E,1μm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
KLR	Kul'dur	11.96	304	erx	P	00 56 58.2	+0.7
KLR				AMS	AMS	01 04 31.5	
	comp=Z,1μm,14.0s						
KLR				AMS	AMS	01 04 31.5	
	comp=Z,1μm,14.0s						
PET	Petropavlovsk	12.29	35	PN	P	00 56 56.9	-5.0
MDJ	Mudanjiang	12.55	281	P	P	00 57 07.4	+2.0
MDJ				AMB	AMB		
	comp=Z,13nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,219nm,4.8s						
MDJ	Mudanjiang	12.55	281	eP	P	00 57 07.7	+2.3
	comp=Z,17nm,1.0s						
EKMR	Ekimchan	13.35	321	eP	P	00 57 16.5	+0.6
EKMR				AMB	AMB	00 57 17.9	
	comp=Z,121nm,1.0s						
CN2	Changchun	15.58	279	eP	P	00 57 44.6	-0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
YASR	Yasnyy	15.92	315	eP	P	00 57 48.1	-1.1
YASR				AMB	AMB	00 57 50.1	
	comp=Z,9.0nm,1.0s						
YASR				AMB	AMB	00 57 50.1	
	comp=Z,940nm,1.0s						
YASR				AMB	AMB	00 57 50.1	
	comp=Z,18nm,1.0s						
MA2	Magadan	16.27	7	i P	P	00 57 51.5	-2.1
ZEA	Zeya	16.52	315	eP	P	00 57 56.1	-0.8
ZEA				AMB	AMB	00 58 07.8	
	comp=Z,35nm,0.9s						
ZEA				AMB	AMB	00 58 07.8	
	comp=Z,20nm,0.9s						
ZEA				AMB	AMB	00 58 07.8	
	comp=Z,43nm,0.9s						
KROS	Kirovskiy	17.02	317	eP	P	00 58 02.5	-0.6
KROS				AMB	AMB	00 58 04.8	
	comp=Z,10.0nm,0.9s						
KROS				AMB	AMB	00 58 04.8	
	comp=Z,11nm,0.9s						
YAK	Yakutsk	21.18	337	eP	P	00 58 54.7	+4.1
BJI	Beijing	23.15	272	P	P	00 59 10.9	+0.6

BJI S **S** **01 03 22.4 +7.3**
BJI AMB AMB
comp=Z,12nm,1.5s,mb4.1
BJI LR LR
comp=N,470nm,12.1s,MS4.3
BJI LR LR
comp=E,378nm,12.1s,MS4.3
BJI LR LR
comp=Z,235nm,17.3s
BJI Beijing 23.15 272 P **P** **00 59 10.9 +0.6**
comp=Z,12nm,1.5s,mb4.1
BJI S **S** **01 03 22.4 +7.3**
BJI LR LR
comp=Z,240nm,17.3s,MS3.7
SSE Sheshan 23.85 247 *eP* **P** **00 59 13.5 -3.6**
SSE XP 00 59 29.9
SSE AMB AMB
comp=Z,36nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,140nm,3.9s
SSE LR LR
comp=N,399nm,20.9s,MS4.0
SSE LR LR
comp=E,344nm,20.8s,MS4.0
SSE LR LR
comp=Z,135nm,21.5s,MS3.4
SSE Sheshan 23.85 247 *eP* **P** **00 59 13.5 -3.6**
comp=Z,36nm,0.7s,mb4.9
SSE sP 00 59 29.9
SSE S **S** **01 03 25.2 -2.1**
SSE sS 01 03 43.2
SSE LR LR
comp=Z,140nm,21.5s,MS3.4
TIA Tai'an 23.95 262 P **P** **00 59 17.8 -0.2**
HHC Hu-ho-hao-te 26.25 276 *eP* **P** **00 59 39.8 -0.1**
HHC AP pP 00 59 52.6 +2.2
HHC XP sP 00 59 59.4 +4.4
HHC PP PP 01 00 21.8 -1.0
HHC AMB AMB
comp=Z,11nm,0.4s,mb4.7
HHC AMB AMB
comp=Z,303nm,4.9s
HHC LR LR
comp=N,234nm,22.6s,MS3.9
HHC LR LR
comp=E,271nm,23.2s,MS3.9
HHC LR LR
comp=Z,351nm,22.6s,MS3.9
BILL Bilibino 26.64 16 P **P** **00 59 46.3 +3.1**
BILL Bilibino 26.64 16 P **P** **00 59 46.3 +3.1**
ULN Ulaanbaatar 28.00 293 *eP* **P** **00 59 52.9 -2.9**
ULN pmax pmax
comp=Z,13nm,1.0s,mb4.5
ULN Ulaanbaatar 28.00 293 *eP* **P** **00 59 52.9 -2.9**
comp=Z,13nm,1.0s,mb4.5
SONM Songino Array 28.44 293 P **P** **00 59 58.7 -1.1**
comp=Z,8.1nm,0.9s,mb4.3,baz=87,slow=8.1,SNR=43
TLY Talaya 29.96 301 *i P* **P** **01 00 12.1 -1.1**
LZH Lanzhou 33.65 272 *eP* **P** **01 00 45.4 -0.3**
LZH AMB AMB
comp=Z,21nm,1.3s,mb4.9
LZH Lanzhou 33.65 272 *eP* **P** **01 00 45.4 -0.3**
LZH *SP sP 01 00 52.5 -9.0
LZH pmax pmax
comp=Z,21nm,1.3s,mb4.9
LZH Lanzhou 33.65 272 *eP* **P** **01 00 45.4 -0.3**
comp=Z,21nm,1.3s,mb4.9
LZH pP pP 01 00 49.9 -6.6
LZH sP sP 01 00 52.5 -9.0
IMA Indian Mountai 38.97 34 *eP* **P** **01 01 30.7 +0.4**
IMA pmax pmax
comp=Z,82nm,0.9s,mb5.5
IMA Indian Mountai 38.97 34 *eP* **P** **01 01 30.7 +0.3**
comp=Z,82nm,0.9s,mb5.5
ZAL Zalesovo 41.06 307 P **P** **01 01 48.3 +0.5**
comp=Z,0.7nm,0.9s,baz=27,slow=6.8,SNR=4.0
COLA College 41.36 36 *eP* **P** **01 01 51.4 +1.3**
COLA *e* pP 01 02 00.2 -0.9
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
COLA College 41.36 36 *eP* **P** **01 01 51.4 +1.3**
comp=Z,4.4nm,0.8s,mb4.1
COLA *e* pP 01 02 00.1 -1.0
WMQ Urumqi 42.06 292 P **P** **01 01 58.3 +2.2**
WMQ AMB AMB
comp=Z,25nm,0.8s,mb4.9
WMQ AMB AMB
comp=Z,213nm,5.9s
WMQ LR LR
comp=N,592nm,15.8s,MS4.8
WMQ LR LR
comp=E,675nm,15.9s,MS4.8
WMQ LR LR
comp=Z,390nm,18.0s,MS4.3
MKAR Makanchi Array 44.58 298 *i P* **P** **01 02 15.7 -0.8**
MKAR pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 45.56 304⇑ *iP* **P** **01 02 23.6 -0.7**
KURK Kurchatov 45.56 304 *eP* **P** **01 02 23.2 -1.0**
comp=Z,7.5nm,1.2s,mb4.5
INK Inuvik 46.69 30 *eP* **P** **01 02 32.8 -0.1**
INK pmax pmax
comp=Z,9.0nm,1.0s
INK Inuvik 46.69 30 P **P** **01 02 33.5 +0.5**
comp=Z,2.9nm,0.5s,mb4.5,baz=281,slow=7.7,SNR=24
INK Inuvik 46.69 30 *eP* **P** **01 02 32.8 -0.1**
comp=Z,8.8nm,1.0s,mb4.6
CHKZ Chkalovo 49.20 310 *i P* **P** **01 02 51.1 -1.5**
CHKZ pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BVA0 Borovoye Array 49.56 309 *i P* **P** **01 02 57.8 +2.4**
BVA0 pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BVAR Borovoye Array 49.56 309 P **P** **01 02 55.2 -0.3**
comp=Z,0.6nm,0.5s,mb3.9,baz=72,slow=9.4,SNR=6.0
BVAR PcP PcP 01 04 16.4 -0.7
comp=Z,1.0nm,0.6s,baz=72,slow=4.7,SNR=4.0
TKM2 Tokmak 2 50.49 296 P **P** **01 03 00.0 +0.2**
SNR=13
JIRN Jiri 50.81 273 *eP* **P** **01 03 05.2 -0.2**
comp=Z,29nm,0.9s,mb5.2
DLBC Dease Lake 50.96 42 P **P** **01 03 08.5 +2.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=201,slow=25,SNR=2.9
KBK Karagaybulak 51.04 296 P **P** **01 03 06.9 +0.1**
SNR=11
USP Ospenovka 51.05 296 P **P** **01 03 06.7 -0.3**
SNR=6.3
KZA Kyzart 51.10 295 P **P** **01 03 08.3 +1.0**
SNR=12
AAK Ala-Archa 51.34 296⇑ *iP* **P** **01 03 07.6 -1.6**
AAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
AAK Ala-Archa 51.34 296 *eP* **P** **01 03 07.4 -1.8**
comp=Z,6.4nm,1.1s,mb4.5
KKN Kakani 51.40 274 *eP* **P** **01 03 09.4 -0.4**
comp=Z,38nm,1.0s,mb5.3
PKI Pulchoki 51.43 273 *eP* **P** **01 03 09.5 -0.5**
comp=Z,28nm,1.1s,mb5.1
DMN Daman 51.63 274 *eP* **P** **01 03 11.5 0.0**
comp=Z,44nm,0.9s,mb5.4
GKN Gorkha 51.74 274 *eP* **P** **01 03 11.6 -0.8**
comp=Z,38nm,1.1s,mb5.2
EKS2 Erkin-Say 51.80 296 P **P** **01 03 12.4 -0.2**
SNR=6.8
AML Almayashu 52.10 295 P **P** **01 03 15.2 +0.4**
SNR=6.1
KOLN Koldanda 52.63 275 *eP* **P** **01 03 18.6 -0.4**
comp=Z,52nm,1.2s,mb5.3
RES Resolute Bay 55.25 17 *eP* **P** **01 03 35.6 -2.1**
RES pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
RES Resolute Bay 55.25 17 *eP* **P** **01 03 35.6 -2.1**
comp=Z,3.2nm,0.8s,mb4.4
YKA Yellowknife Ar 56.09 34 P **P** **01 03 43.5 -0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=301,slow=6.7,SNR=19
ARCES ARCESS Array B 59.44 340 P **P** **01 04 06.1 -1.2**
comp=Z,2.2nm,0.8s,mb4.2,baz=46,slow=7.0,SNR=5.1
JOF Joensuu 62.25 332 *ep* **P** **01 04 24.3 -2.1**
comp=Z,3.3nm,0.5s,mb4.7
HYB Hyderabad 62.63 268 *eP* **P** **01 04 28.0 -1.6**
HYB Hyderabad 62.63 268 *i P* **P** **01 04 28.0 -1.6**
WRA Warramunga Arr 64.18 193 P **P** **01 04 37.8 -2.0**
comp=Z,2.4nm,0.9s,mb4.2,baz=12,slow=7.0,SNR=4.6
KAF Kangasniemi 64.48 333 *ep* **P** **01 04 38.9 -2.1**
comp=Z,5.0nm,0.8s,mb4.6,baz=42,slow=6.3
KAF Kangasniemi 64.48 333 *eP* **P** **01 04 38.9 -2.1**
KAF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
FINES FINESS Array B 65.04 333 *eP* **P** **01 04 43.4 -1.2**
FINES FINESS Array B 65.04 333 P **P** **01 04 43.6 -1.0**
comp=Z,7.3nm,0.7s,mb4.8,baz=38,slow=8.5,SNR=31
FINES LR LR 01 38 29.4
comp=Z,72nm,19.4s,MS3.9,baz=20,slow=41
OBN Obninsk 65.44 324⇓ *iP* **P** **01 04 46.5 -0.8**
OBN pmax pmax
comp=Z,15nm,1.7s,mb4.8
FFC Flin Flon 65.98 36 *eP* **P** **01 04 50.4 -0.4**
FCC Fort Churchill 66.31 30 *eP* **P** **01 04 51.8 -1.0**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
FCC Fort Churchill 66.31 30 *eP* **P** **01 04 51.8 -0.9**
comp=Z,2.9nm,0.8s,mb4.4
NVAR Mina Array Bea 67.83 58 P **P** **01 05 03.3 +0.6**
comp=Z,0.5nm,0.7s,mb3.7,baz=315,slow=6.1,SNR=3.7
NVAR pP pP 01 05 14.9 +0.6
comp=Z,0.8nm,0.5s,baz=300,slow=5.9,SNR=5.4
ASAR Alice Springs 67.90 193 P **P** **01 05 03.0 -0.4**
comp=Z,2.2nm,0.8s,mb4.2,baz=14,slow=6.6,SNR=6.2
ASAR pP pP 01 05 14.1 -1.0
comp=Z,2.1nm,0.9s,baz=11,slow=5.6,SNR=5.3
NB2 NORSAR Subarra 69.79 339 P **P** **01 05 13.2 -1.2**
comp=Z,17nm,0.9s,mb5.0,baz=33,slow=6.2
NB2 NORSAR Subarra 69.79 339 P **P** **01 05 13.2 -1.2**
NB2 pmax pmax
comp=Z,17nm,0.9s,mb5.0
NB2 NORSAR Subarra 69.79 339 P **P** **01 05 13.2 -1.2**
baz=32,slow=6.2
NOA NORSAR Array B 69.79 339 P **P** **01 05 13.7 -0.7**
comp=Z,11nm,0.8s,mb4.8,baz=34,slow=6.1,SNR=38
NOA LR LR 01 43 24.6
comp=Z,63nm,18.8s,MS3.9,baz=355,slow=42
KIV Kislovodsk 69.83 312 *eP* **P** **01 05 14.9 0.0**
KIV pmax pmax
comp=Z,17nm,0.8s,mb5.0
KIV Kislovodsk 69.83 312 *eP* **P** **01 05 14.9 0.0**
comp=Z,17nm,0.8s,mb5.0
TI2 Plekhanov 70.14 309 *i P* **P** **01 05 17.6 +0.7**
PDAR Pinedale Array 70.18 50 P **P** **01 05 17.1 0.0**
comp=Z,0.6nm,0.8s,mb3.6,SNR=5.3
PDAR pP pP 01 05 28.2 -0.5
comp=Z,1.3nm,0.8s,baz=274,slow=1.6,SNR=8.3
SOC Sochi 71.67 313 *eP* **P** **01 05 22.9 -3.2**
SOC *e* 01 05 44.2
SOC *e* 01 08 03.5
SOC *eS* S 01 14 39.9 -1.8
SOC *e* 01 15 32.2
SOC *eSS* SS 01 19 17.9 -1.6
SOC MLR MLR
comp=Z,472nm,20.0s,MS4.8
SOC MLR MLR
comp=N,271nm,18.0s,MS4.7
SOC MLR MLR
comp=E,181nm,16.0s,MS4.7
ULM Lac du Bonnet 71.78 37 P **P** **01 05 26.2 -0.3**
comp=E,1.0nm,0.6s,mb4.0,baz=288,slow=13,SNR=2.6
ANN Anapa 72.03 315 *eP* **P** **01 05 26.3 -1.9**
KWP Kalwaria 75.24 326 *eP* **P** **01 05 47.8 +1.0**
OJC Ojcow 75.92 328 *eP* **P** **01 05 50.9 +0.3**
KOLS Kolonicke sedl 75.97 326 *i P* **P** **01 05 51.4 +0.5**
NIE Niedzica 76.36 327 *eP* **P** **01 05 53.2 +0.1**
KSP Ksiaz 76.72 330 *eP* **P** **01 05 55.8 +0.6**
OKC Ostrava-Krasne 76.86 329 *eP* **P** **01 05 56.4 +0.5**
UPC Upice 77.10 330 *eP* **P** **01 05 57.9 +0.6**
DPC Dobruska-Polom 77.11 330 *eP* **P** **01 05 57.9 +0.5**
MORC Moravsky Berou 77.14 329 *eP* **P** **01 05 55.7 -1.8**
MORC pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MORC Moravsky Berou 77.14 329 *eP* **P** **01 05 55.7 -1.8**
comp=Z,4.9nm,0.8s,mb4.5
CLL Collm 77.48 332⇑ *iP* **P** **01 05 58.9 -0.5**
CLL pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLL Collm 77.48 332⇑ *iP* **P** **01 05 58.9 -0.5**
comp=Z,14nm,0.9s,mb4.9
CLL Collm 77.48 332 ⇑P **P** **01 05 58.9 -0.5**
comp=Z,logA/T=1.2,mb4.9
CLL *i* *SP sP 01 06 14.5 -0.8
BRG Berggiesshubel 77.52 332 *i P* **P** **01 06 00.2 +0.6**
BRG pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
BRG Berggiesshubel 77.52 332 *i P* **P** **01 06 00.2 +0.6**
comp=Z,6.5nm,1.2s,mb4.4
BRTR Keskin Array B 77.62 314 P **P** **01 06 00.7 +0.3**
comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=2.5,SNR=9.8
VYHS Vyhne 77.69 328 *eP* **P** **01 06 01.0 +0.4**
SCHQ Schefferville 77.91 19 P **P** **01 06 00.9 -0.8**
comp=Z,3.2nm,1.0s,mb4.2,baz=347,slow=6.7,SNR=3.5
SCHQ LR LR 01 41 58.7
comp=Z,109nm,19.5s,MS4.2,baz=31,slow=37
PRU Pruhonice 78.05 331 *eP* **P** **01 06 03.1 +0.6**
PRU epP pP 01 06 17.2 +3.0
SMOL Smolenice 78.21 328 *eP* **P** **01 06 05.0 +1.6**
MOX Moxa 78.50 333 *eP* **P** **01 06 04.0 -1.0**
KHC Kasperske Hory 79.11 331 *eP* **P** **01 06 08.7 +0.3**
KHC epP pP 01 06 23.1 +3.0
GERES GERESS Array B 79.31 331 P **P** **01 06 09.3 -0.2**
comp=Z,1.6nm,0.8s,mb4.0,baz=45,slow=3.8,SNR=9.4
GRA1 Grafenberg Arr 79.45 333 *eP* **P** **01 06 10.7 +0.5**
comp=Z,7.0nm,1.0s,mb4.5
PERS Pernice 80.65 329 *i P* **P** **01 06 16.7 +0.1**
LEGS Legarje 81.14 328 *eP* **P** **01 06 18.7 -0.6**
CDF Champ du Feu 81.85 334 *eP* **P** **01 06 22.9 0.0**
comp=Z,13nm,1.0s,mb4.5
CDF Champ du Feu 81.85 334 *eP* **P** **01 06 22.9 0.0**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MEZF Maizieres J'vi 82.46 336 *eP* **P** **01 06 26.3 +0.3**
HAU Haudompre 82.50 335 *eP* **P** **01 06 26.5 +0.2**
TXAR Lajitas Array 82.90 56 P **P** **01 06 29.7 +1.0**
comp=Z,1.6nm,0.9s,mb4.0,baz=288,slow=4.2,SNR=10
TXAR pP pP 01 06 41.2 +0.7
comp=Z,1.1nm,0.6s,baz=301,slow=4.0,SNR=9.1
TXAR Lajitas Array 82.90 56 P **P** **01 06 29.7 +1.0**
TXAR pP pP 01 06 41.2 +0.6
FLN La Foliniere 83.78 339 *eP* **P** **01 06 32.8 +0.1**
CABF La Chapelle 83.82 334 *eP* **P** **01 06 33.2 +0.3**
LDF La Druitiere 83.84 339 *eP* **P** **01 06 33.3 +0.3**
SSF Saint Saulge 84.21 336 *eP* **P** **01 06 35.4 +0.5**
SSF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
SSF Saint Saulge 84.21 336 *eP* **P** **01 06 35.4 +0.5**
comp=Z,3.3nm,0.9s,mb4.5
GRR Gorron 84.22 339 *eP* **P** **01 06 35.2 +0.3**
SMF Signal de Mont 84.49 335 *eP* **P** **01 06 36.6 +0.3**
comp=Z,13nm,0.9s,mb4.8
SMF Signal de Mont 84.49 335 *eP* **P** **01 06 36.6 +0.3**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
AVF Avril sur Loir 84.50 336 *eP* **P** **01 06 36.5 +0.1**
comp=Z,7.6nm,0.8s,mb4.6
AVF Avril sur Loir 84.50 336 *eP* **P** **01 06 36.5 +0.1**
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LPL La Plagne 84.58 333 *eP* **P** **01 06 37.6 +0.8**
comp=Z,6.3nm,0.8s,mb4.5
LPL La Plagne 84.58 333 *eP* **P** **01 06 37.6 +0.8**
LPL pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPG La Plagne 84.59 333 *eP* **P** **01 06 37.7 +0.9**
comp=Z,8.8nm,1.0s,mb4.6
LPG La Plagne 84.59 333 *eP* **P** **01 06 37.7 +0.9**
LPG pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
SGMF Saint Gilles 84.77 340 *eP* **P** **01 06 37.9 +0.2**
comp=Z,36nm,1.2s,mb5.1
SGMF Saint Gilles 84.77 340 *eP* **P** **01 06 37.9 +0.2**
SGMF pmax pmax
comp=Z,18nm,1.2s,mb5.1
BGF Bois d'Agland 84.86 336 *eP* **P** **01 06 39.0 +0.8**
ROSF Rostrenen 84.87 341 *eP* **P** **01 06 38.8 +0.6**
comp=Z,23nm,1.0s,mb5.0
ROSF Rostrenen 84.87 341 *eP* **P** **01 06 38.8 +0.6**
ROSF pmax pmax
comp=Z,12nm,1.0s,mb5.0
QUIF Quistinic 85.24 340 *eP* **P** **01 06 40.7 +0.7**
MBDF Montbardon 85.27 333 *eP* **P** **01 06 40.9 +0.7**
TCF Toulx Ste Croi 85.29 336 *eP* **P** **01 06 41.0 +0.7**
comp=Z,4.8nm,0.8s,mb4.4
TCF Toulx Ste Croi 85.29 336 *eP* **P** **01 06 41.0 +0.7**
TCF pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
ORIF Oris-en-Rattie 85.39 333 *eP* **P** **01 06 41.5 +0.7**
comp=Z,4.1nm,0.7s,mb4.3
ORIF Oris-en-Rattie 85.39 333 *eP* **P** **01 06 41.5 +0.7**
ORIF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
MFF Saint Martin d 85.67 338 *eP* **P** **01 06 42.8 +0.7**
comp=Z,15nm,1.1s,mb4.9
MFF Saint Martin d 85.67 338 *eP* **P** **01 06 42.8 +0.7**
MFF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
VIVF Saint-Julien-l 85.83 334 *eP* **P** **01 06 43.8 +0.8**
FRF La Foret Royal 86.34 332 *eP* **P** **01 06 45.6 +0.1**
RJF Les Rejaudoux 86.39 336 *eP* **P** **01 06 46.2 +0.5**
comp=Z,16nm,1.2s,mb4.8
RJF Les Rejaudoux 86.39 336 *eP* **P** **01 06 46.2 +0.5**
RJF pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
CAF Calviac 86.57 336 *eP* **P** **01 06 47.9 +1.3**
comp=Z,17nm,1.0s,mb4.9
CAF Calviac 86.57 336 *eP* **P** **01 06 47.9 +1.3**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
LMR La Mourre 86.58 332 *eP* **P** **01 06 46.9 +0.2**
comp=Z,11nm,0.9s,mb4.8
LMR La Mourre 86.58 332 *eP* **P** **01 06 46.9 +0.2**
LMR pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
LASF Ste Croix 86.79 334 *eP* **P** **01 06 48.9 +1.2**
comp=Z,7.6nm,0.9s,mb4.6
MTLF Montolieu 87.96 335 *eP* **P** **01 06 53.5 +0.1**
EPF Esparros 88.81 336 *eP* **P** **01 06 58.1 +0.7**
SNAA Sanae 148.17 198 PKPbc PKPdf 01 13 48.4 +4.7
comp=Z,1.5nm,0.9s,baz=356,slow=17,SNR=3.6
BDFB Brasilia 149.44 29 PKPbc PKPdf 01 13 53.8 +6.4
comp=Z,0.9nm,0.4s,baz=332,slow=11,SNR=2.9

MOS ***19*** *00:55:45.4±1.3,43.22N×147.98E,h43km,mb4.8/14, Error ellipse: s-maj=14.9km s-min=8.4km az=97.3*
BJI ***19*** *00:55:47.1,43.85N×147.67E,h26km,mB5.1,mb4.7, Ms4.5,Msz4.4*
NEIC ***19*** *00:55:48.5±0.4,43.42N×147.74E,mb4.6/14, Error ellipse: s-maj=10.5km s-min=7.0km az=158.0*
IDC ***19*** *00:55:48.8±0.8,43.39N×147.77E,h45km±6km,mb3.8/16, mb1 4.1/18,mb1mx4.0/22,mbtmp4.1/18,ML3.8/1,MS3.9/1, Ms1 3.9/1,ms1mx2.8/22,Error ellipse: s-maj=20.6km s-min=17.0km az=176.0*
JMA ***19*** *00:55:55.0±0.7,43.37N×147.03E,h46km,M3.7*
ISC 19 00:55:45.7±1.2, 43.39N±0.07×147.95E±0.09, h35km±9km, h41km±2.0km:pP-P,n84,σ1.908/85, mb4.3/38, MS4.2/3, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.61**	**270**	P	**P**		**00 56 12.2**	**0.0**
NEM2				*eS*	**S**		**00 56 24.2**	**-7.8**
KUR	**Kuril'sk**	**1.84**	**358**	PN	**P**		**00 56 19.3**	**+3.8**
KUR				*eS*	**S**		**00 56 38.0**	**+0.2**
KUR				pmax	pmax			
	comp=N,150nm,0.5s							
KUR				pmax	pmax			
	comp=E,150nm,0.5s							
KUR				pmax	pmax			
	comp=Z,460nm,0.5s							
KUR				smax				
	comp=N,1μm,0.5s							
KUR				smax				
	comp=E,530nm,0.5s							
KUR				smax				
	comp=N,8μm,2.0s							
KUR				smax				
	comp=E,12μm,2.0s							
JRA	**Rausu**	**2.13**	**286**	P	**P**		**00 56 19.5**	**0.0**
JNK	**Nakash**	**2.36**	**276**	P	**P**		**00 56 22.5**	**-0.4**
JAK	**Akkeshi**	**2.42**	**262**	P	**P**		**00 56 23.5**	**-0.1**
JTKR	**Abashiri--Toko**	**2.99**	**283**	P	**P**		**00 56 33.3**	**+1.4**
JCH	**Churui**	**3.46**	**259**	P	**P**		**00 56 39.0**	**+0.5**
ASAJ	**Asahikawa**	**3.95**	**282**	P	**P**		**00 56 49.7**	**+4.2**
	baz=302,slow=27,SNR=2.2							
YSS	**Yuzh-Sakhalins**	**5.12**	**316**	PN	**P**		**00 56 59.4**	**-2.7**
MAJO	**Matsushiro**	**10.13**	**231**	PN	**P**		**00 58 08.6**	**-3.2**
KLR	**Kul'dur**	**12.62**	**303**	*e*PN	**P**		**00 58 47.7**	**+2.1**
KLR	**Kul'dur**	**12.62**	**303**	*e*rx	**P**		**00 58 47.7**	**+2.1**
MDJ	**Mudanjiang**	**13.28**	**282**	P	**P**		**00 58 50.5**	**-3.8**
MA2	**Magadan**	**16.30**	**5**⇓	*iP*	**P**		**00 59 32.8**	**-0.5**
MA2				pmax	pmax			
	comp=Z,51nm,2.5s							
FX1	**Attu Island--F**	**19.23**	**52**	P	**P**		**01 00 14.9**	**+5.4**
FX1				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FX1	**Attu Island--F**	**19.23**	**52**	P	**P**		**01 00 14.9**	**+5.4**
	comp=Z,0.9nm,0.3s,baz=65,slow=8.7,SNR=2.5							
YAK	**Yakutsk**	**21.56**	**336**	*eP*	**P**		**01 00 29.8**	**-4.0**
YAK				pmax	pmax			
	comp=Z,15nm,0.8s,mb4.5							
YAK				pmax	pmax			
	comp=N,4.0nm,1.1s							
BILL	**Bilibino**	**26.55**	**15**	*eP*	**P**		**01 01 20.9**	**-0.9**
BILL				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.9							
BILL	**Bilibino**	**26.55**	**15**	*eP*	**P**		**01 01 20.9**	**-0.9**
	comp=Z,2.6nm,0.7s,mb3.9							
HHC	**Hu-ho-hao-te**	**26.98**	**277**	*eP*	**P**		**01 01 27.3**	**+1.3**
HHC				AP	pP		01 01 36.6	+0.8
HHC				XP	sP		01 01 43.8	+3.8
HHC				PP	PP		01 02 14.1	+1.9
HHC				AMB	AMB			
	comp=Z,19nm,1.3s,mb4.5							
HHC				AMB	AMB			
	comp=Z,158nm,4.8s							
HHC				LR	LR			
	comp=N,404nm,16.1s							
HHC				LR	LR			
	comp=Z,351nm,17.8s,MS4.0							
ULN	**Ulaanbaatar**	**28.71**	**293**	*eP*	**P**		**01 01 40.7**	**-0.8**
ULN				pmax	pmax			
	comp=Z,17nm,1.1s,mb4.7							
ULN	**Ulaanbaatar**	**28.71**	**293**	*eP*	**P**		**01 01 40.7**	**-0.8**
	comp=Z,17nm,1.1s,mb4.7							
SONM	**Songino Array**	**29.15**	**293**	P	**P**		**01 01 45.6**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.5,baz=82,slow=8.7,SNR=12							
TLY	**Talaya**	**30.64**	**301**	*eP*	**P**		**01 01 53.6**	**-5.0**
TLY				pmax	pmax			
	comp=Z,4.0nm,1.3s,mb4.1							
ZAK	**Zakamensk**	**30.94**	**299**	*eP*	**P**		**01 02 00.6**	**-0.7**
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.0							
LZH	**Lanzhou**	**34.37**	**273**	*eP*	**P**		**01 02 31.5**	**+0.1**
LZH				AP	pP		01 02 40.3	-1.1
LZH				XP	sP		01 02 44.3	-1.6
LZH				AMB	AMB			
	comp=Z,24nm,1.3s,mb5.0							
LZH	**Lanzhou**	**34.37**	**273**	*eP*	**P**		**01 02 31.5**	**+0.1**
LZH				*SP	sP		01 02 44.3	-1.6
LZH				pmax	pmax			
	comp=Z,24nm,1.3s,mb5.0							
LZH	**Lanzhou**	**34.37**	**273**	*eP*	**P**		**01 02 31.5**	**+0.1**
	comp=Z,24nm,1.3s,mb5.0							
LZH				pP	pP		01 02 40.2	-1.2
LZH				sP	sP		01 02 44.3	-1.6
IMA	**Indian Mountai**	**38.65**	**34**	*eP*	**P**		**01 03 08.1**	**+0.9**
COLA	**College**	**41.02**	**36**	*eP*	**P**		**01 03 27.3**	**+0.5**
COLA				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.3							
COLA	**College**	**41.02**	**36**	*eP*	**P**		**01 03 27.3**	**+0.5**
	comp=Z,7.6nm,1.0s,mb4.3							
ZAL	**Zalesovo**	**41.70**	**308**	P	**P**		**01 03 31.6**	**-0.7**
	comp=Z,1.0nm,0.9s,mb3.4,baz=41,slow=9.4,SNR=5.9							
WMQ	**Urumqi**	**42.77**	**292**	P	**P**		**01 03 42.4**	**+1.1**
WMQ				AP	pP		01 03 55.0	+3.5
WMQ				AMB	AMB			
	comp=Z,15nm,1.1s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,167nm,5.4s							
WMQ				LR	LR			
	comp=N,660nm,14.2s,MS4.9							
WMQ				LR	LR			
	comp=E,854nm,14.3s,MS4.9							
WMQ				LR	LR			
	comp=Z,765nm,17.7s,MS4.6							
KURK	**Kurchatov**	**46.22**	**305**	*eP*	**P**		**01 04 07.4**	**-1.5**
KURK				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7							
KURK	**Kurchatov**	**46.22**	**305**	*eP*	**P**		**01 04 07.4**	**-1.5**

	comp=Z,11nm,1.0s,mb4.8						
INK	**Inuvik**	**46.42**	**30**	eP	**P**	**01 04 10.3**	**+0.1**
INK	**Inuvik**	**46.42**	**30**	P	**P**	**01 04 10.4**	**+0.2**
	comp=Z,2.4nm,0.5s,mb4.4,baz=307,slow=4.3,SNR=6.5						
CHKZ	**Chkalovo**	**49.82**	**311**	eP	**P**	**01 04 35.0**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
CHKZ	**Chkalovo**	**49.82**	**311**	eP	**P**	**01 04 35.0**	**-1.8**
	comp=Z,11nm,1.1s,mb4.8						
BVAR	**Borovoye Array**	**50.18**	**310**	P	**P**	**01 04 39.2**	**-0.4**
	comp=Z,3.5nm,0.9s,mb4.4,baz=68,slow=8.0,SNR=8.7						
TKM2	**Tokmak 2**	**51.19**	**296**	P	**P**	**01 04 48.4**	**+0.9**
	SNR=8.5						
KBK	**Karagaybulak**	**51.73**	**296**	P	**P**	**01 04 51.8**	**+0.3**
	SNR=6.3						
USP	**Ospenovka**	**51.75**	**297**	P	**P**	**01 04 51.7**	**+0.1**
	SNR=7.2						
KZA	**Kyzart**	**51.80**	**295**	P	**P**	**01 04 53.7**	**+1.7**
	SNR=5.6						
AAK	**Ala-Archa**	**52.04**	**296**	eP	**P**	**01 04 52.0**	**-1.8**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**52.04**	**296**	eP	**P**	**01 04 52.0**	**-1.8**
	comp=Z,4.1nm,1.0s,mb4.3						
EKS2	**Erkin-Say**	**52.50**	**297**	P	**P**	**01 04 57.5**	**+0.2**
	SNR=5.3						
RES	**Resolute Bay**	**55.15**	**17**	eP	**P**	**01 05 14.5**	**-1.9**
RES				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
RES	**Resolute Bay**	**55.15**	**17**	eP	**P**	**01 05 14.5**	**-1.8**
	comp=Z,5.8nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**55.78**	**34**	P	**P**	**01 05 20.9**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=300,slow=6.7,SNR=5.1						
YKA				pP	pP	01 05 34.5	+3.0
	comp=Z,2.1nm,0.8s,baz=300,slow=6.7,SNR=8.7						
ARCES	**ARCESS Array B**	**59.79**	**340**	P	**P**	**01 05 47.7**	**-1.5**
	comp=Z,3.3nm,0.9s,mb4.4,baz=59,slow=7.1,SNR=4.2						
ARCES				LR	LR	01 38 39.5	
	comp=Z,98nm,18.3s,MS4.0,baz=24,slow=43						
JOF	**Joensuu**	**62.68**	**333**	ep	**P**	**01 05 58.9**	**-10**
	comp=Z,1.9nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**64.25**	**194**	P	**P**	**01 06 18.0**	**-1.7**
	comp=Z,1.6nm,0.8s,mb4.1,baz=9.7,slow=6.8,SNR=4.6						
MOS	**Moscow**	**65.08**	**324**	eP	**P**	**01 06 21.9**	**-2.6**
FINES	**FINESS Array B**	**65.46**	**333**	P	**P**	**01 06 26.0**	**-0.8**
	comp=Z,4.6nm,0.7s,mb4.6,baz=53,slow=9.5,SNR=11						
FFC	**Flin Flon**	**65.64**	**37**	eP	**P**	**01 06 27.7**	**-0.3**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FFC	**Flin Flon**	**65.64**	**37**	eP	**P**	**01 06 27.6**	**-0.4**
	comp=Z,4.5nm,0.8s,mb4.5						
FCC	**Fort Churchill**	**66.04**	**30**	eP	**P**	**01 06 29.0**	**-1.5**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
FCC	**Fort Churchill**	**66.04**	**30**	eP	**P**	**01 06 29.0**	**-1.5**
	comp=Z,4.3nm,0.9s,mb4.5						
NVAR	**Mina Array Bea**	**67.27**	**58**	P	**P**	**01 06 40.3**	**+1.6**
	comp=Z,0.4nm,0.6s,mb3.7,baz=300,slow=7.3,SNR=2.7						
NVAR				pP	pP	01 06 53.2	+3.8
	comp=Z,1.3nm,0.7s,baz=303,slow=3.9,SNR=5.3						
NVAR	**Mina Array Bea**	**67.27**	**58**	P	**P**	**01 06 40.3**	**+1.6**
NVAR				pP	pP	01 06 53.2	+3.8
ASAR	**Alice Springs**	**67.96**	**194**	P	**P**	**01 06 43.2**	**0.0**
	comp=Z,1.1nm,0.8s,mb3.9,baz=15,slow=6.5,SNR=4.1						
GOF	**Gofitskoye**	**69.52**	**313**	⇑ iP	**P**	**01 06 53.5**	**+1.0**
GOF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
PDAR	**Pinedale Array**	**69.70**	**50**	P	**P**	**01 06 54.0**	**+0.4**
	comp=Z,0.6nm,0.9s,mb3.5,baz=333,slow=2.0,SNR=2.7						
NB2	**NORSAR Subarra**	**70.15**	**339**	P	**P**	**01 06 55.4**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8,baz=32,slow=6.2						
NB2	**NORSAR Subarra**	**70.15**	**339**	P	**P**	**01 06 55.4**	**-0.6**
NB2				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
NOA	**NORSAR Array B**	**70.15**	**339**	P	**P**	**01 06 55.7**	**-0.3**
	comp=Z,6.6nm,0.8s,mb4.6,baz=32,slow=6.1,SNR=10.0						
KIV	**Kislovodsk**	**70.44**	**312**	eP	**P**	**01 06 59.7**	**+1.6**
KIV				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
KIV	**Kislovodsk**	**70.44**	**312**	eP	**P**	**01 06 57.7**	**-0.4**
	comp=Z,14nm,0.8s,mb4.9						
TI2	**Plekhanov**	**70.77**	**309**	i P	**P**	**01 07 01.4**	**+1.2**
TI2				pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2						
TI2				pmax	pmax		
	comp=Z,30nm,0.6s,mb5.4						
KWP	**Kalwaria**	**75.73**	**327**	eP	**P**	**01 07 30.1**	**+1.1**
KOLS	**Kolonicke sedl**	**76.46**	**327**	eP	**P**	**01 07 34.6**	**+1.5**
KOLS				e	pP	01 07 45.9	+2.0
KOLS				esP	sP	01 07 52.1	+4.4
KSP	**Ksiaz**	**77.17**	**331**	eP	**P**	**01 07 37.5**	**+0.3**
MORC	**Moravsky Berou**	**77.60**	**330**	eP	**P**	**01 07 39.6**	**+0.1**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**77.60**	**330**	eP	**P**	**01 07 39.6**	**0.0**
	comp=Z,3.6nm,0.9s,mb4.3						
SCHQ	**Schefferville**	**77.77**	**20**	P	**P**	**01 07 41.1**	**+0.8**
	comp=Z,1.2nm,0.8s,mb3.9,baz=227,slow=15,SNR=1.9						
CLL	**Collm**	**77.90**	**333**	P	**P**	**01 07 41.0**	**-0.2**
	comp=Z,logA/T=0.9,mb4.6						
CLL				i *PP	pP	01 07 52.3	+0.4
CLL				e*SP	sP	01 07 58.0	+2.2
CLL				e		01 08 09.0	
BRTR	**Keskin Array B**	**78.22**	**314**	P	**P**	**01 07 43.0**	**-0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=90,slow=4.9,SNR=5.2						
BRTR				pP	pP	01 07 55.9	+2.0
	comp=Z,1.2nm,0.7s,baz=66,slow=3.7,SNR=5.4						
KHC	**Kasperske Hory**	**79.56**	**331**	⇓ iP	**P**	**01 07 51.3**	**+1.0**
GERES	**GERESS Array B**	**79.76**	**331**	P	**P**	**01 07 51.3**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=63,slow=3.0,SNR=4.0						
GERES				pP	pP	01 08 04.3	+2.2
	comp=Z,1.1nm,0.7s,baz=34,slow=4.8,SNR=4.9						
GRA1	**Grafenberg Arr**	**79.88**	**333**	eP	**P**	**01 07 52.5**	**+0.5**
	comp=Z,6.0nm,1.2s,mb4.4						
GRA1				epP	pP	01 08 05.2	+2.4
GRF	**Grafenberg Arr**	**79.88**	**333**	eP	**P**	**01 07 52.5**	**+0.5**
GRF				e*PP	pP	01 08 05.2	+2.4
GRF				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
TXAR	**Lajitas Array**	**82.36**	**57**	P	**P**	**01 08 06.3**	**+0.9**
	comp=Z,0.7nm,0.8s,mb3.6,baz=315,slow=5.3,SNR=3.5						
BDFB	**Brasilia**	**149.17**	**31**	PKPbc	PKPdf	01 15 32.8	+6.4
	comp=Z,1.8nm,0.6s,baz=10,slow=2.5,SNR=3.5						

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*SKHL **19** 00:57:24.8±3.2, 43.29N×148.24E, h33^{km}, mb4.8/3, Ms4.0/1*
*MOS **19** 00:57:27.0±1.1, 43.33N×147.88E, h37^{km}, mb4.9/20, Error ellipse: s-maj=11.6km s-min=6.7km az=102.1*
*BJI **19** 00:57:28.4, 43.41N×147.85E, h44^{km}, mB5.2, mb4.7, Ms4.6, Msz4.3*
*NEIC **19** 00:57:30.1±0.3, 43.38N×147.80E, mb4.7/16, Error ellipse: s-maj=9.5km s-min=6.8km az=155.0*
*IDC **19** 00:57:30.6±0.7, 43.41N×147.80E, h45^{km}±4^{km}, mb3.9/17, mb1 4.1/19, mb1mx4.1/22, mbtmp4.2/19, MS3.9/1, Ms1 3.9/1, ms1mx2.6/23, Error ellipse: s-maj=19.1km s-min=15.7km az=180.0*
*JMA **19** 00:57:33.4±0.6, 43.34N×147.30E, h32^{km}, M4.2*
ISC 19 00:57:28.0±0.8**, 43.45N**±0.06×**147.91E**±0.06**, h36**^{km}±5^{km}**, h44**^{km}±1.4^{km}**:pP-P, n120,** $\sigma 0^{s}$**98**/126**, mb4.5**/43**, MS4.2**/4**, 4C-4D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.58**	**268**	P	**P**	**00 57 53.6**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.59**	**292**	PN	**P**	**00 57 53.9**	**-0.3**
YUK				i S	**S**	**00 58 18.1**	**+4.3**
YUK				pmax	pmax		
	comp=Z,1µm,0.2s						
YUK				pmax	pmax		
	comp=N,8µm,1.0s						
YUK				pmax	pmax		
	comp=E,8µm,1.1s						
YUK				pmax	pmax		
	comp=Z,5µm,1.8s						
YUK				pmax	pmax		
	comp=N,10µm,3.0s						
YUK				pmax	pmax		
	comp=E,7300µm,2.4s						
YUK				smax			
	comp=N,6µm,0.5s						
YUK				smax			
	comp=E,3µm,0.5s						
YUK				smax			
	comp=N,20µm,1.0s						
YUK				smax			
	comp=E,20µm,1.3s						
YUK	**Yuzh-Kuril'sk**	**1.59**	**292**	eP	**P**	**00 57 53.9**	**-0.3**
YUK				AMB	AMB	00 57 54.4	
	comp=E,1µm,0.2s						
YUK				AMB	AMB	00 57 54.4	
	comp=E,8µm,1.1s						
YUK				AMB	AMB	00 57 55.6	
	comp=E,10µm,2.4s						
YUK				AMB	AMB	00 57 55.6	
	comp=E,7µm,2.4s						
YUK				AMB	AMB	00 57 55.6	
	comp=E,5µm,2.4s						
YUK				i S	**S**	**00 58 18.1**	**+4.3**
YUK				A		00 58 20.6	
	comp=E,6µm,0.5s						
YUK				A		00 58 20.6	
	comp=E,3µm,0.5s						
YUK				A		00 58 25.0	
	comp=E,20µm,1.1s						
KUR	**Kuril'sk**	**1.79**	**359**	ePN	**P**	**00 57 56.0**	**-0.9**
KUR				eS	**S**	**00 58 17.0**	**-1.6**
KUR				pmax	pmax		
	comp=Z,300nm,0.5s						
KUR				smax			
	comp=N,1µm,0.5s						
KUR				smax			
	comp=E,2µm,0.5s						
KUR				smax			
	comp=N,5µm,3.0s						
KUR				smax			
	comp=E,10µm,3.0s						
KUR	**Kuril'sk**	**1.79**	**359**	eP	**P**	**00 57 56.0**	**-0.9**
KUR				AMB	AMB	00 57 58.0	
	comp=E,300nm,0.5s						
KUR				AMB	AMB	00 57 58.0	
	comp=E,5µm,4.0s						
KUR				eS	**S**	**00 58 17.0**	**-1.6**
KUR				A		00 58 24.0	
	comp=E,1µm,0.5s						
KUR				A		00 58 24.0	
	comp=E,2µm,0.5s						
KUR				A		00 58 24.0	
	comp=E,5µm,3.0s						
KUR				A		00 58 24.0	
	comp=E,10µm,3.0s						
JRA	**Rausu**	**2.08**	**285**	P	**P**	**00 58 01.6**	**+0.5**
JRA				eS	**S**	**00 58 20.9**	**-5.1**
JNK	**Nakash**	**2.32**	**274**	P	**P**	**00 58 04.3**	**-0.3**
JAK	**Akkeshi**	**2.39**	**260**	P	**P**	**00 58 05.3**	**-0.2**
JTKR	**Abashiri--Toko**	**2.95**	**282**	P	**P**	**00 58 14.3**	**+0.8**
JAR	**Ashorobuto**	**3.02**	**269**	P	**P**	**00 58 15.4**	**+0.9**
JAR				eS	**S**	**00 58 45.6**	**-4.3**
JOB	**Onbets**	**3.03**	**261**	P	**P**	**00 58 14.4**	**-0.3**
JMP	**Maruseppu**	**3.34**	**281**	P	**P**	**00 58 20.1**	**+1.0**
JCH	**Churui**	**3.43**	**258**	P	**P**	**00 58 20.5**	**+0.1**
JEM	**Erimo**	**3.78**	**249**	P	**P**	**00 58 26.0**	**+0.7**
ASAJ	**Asahikawa**	**3.90**	**282**	P	**P**	**00 58 31.8**	**+4.7**
	comp=E,5.4nm,0.3s,baz=292,slow=9.4,SNR=6.3						
ASAJ				S	**S**	**00 59 12.2**	**-0.1**
	comp=E,6.5nm,0.3s,baz=50,slow=33,SNR=2.2						
JNBK	**Urakawa-nobuka**	**3.96**	**255**	P	**P**	**00 58 27.4**	**-0.5**
JWK2	**Keihoku**	**4.70**	**296**	P	**P**	**00 58 40.1**	**+1.8**
YSS	**Yuzh-Sakhalins**	**5.05**	**316**	ePN	**P**	**00 58 42.3**	**-1.1**
YSS				e		00 59 47.2	
YSS				MLR	MLR		
	comp=Z,1µm,16.0s						
YSS				MLR	MLR		
	comp=E,1µm,15.0s						
YSS	**Yuzh-Sakhalins**	**5.05**	**316**	P	**P**	**00 58 42.1**	**-1.3**
YSS	**Yuzh-Sakhalins**	**5.05**	**316**	eP	**P**	**00 58 42.3**	**-1.1**
YSS				AMS	AMS	01 00 49.0	
	comp=E,1µm,15.0s						
YSS				AMS	AMS	01 00 49.0	
	comp=E,1µm,15.0s						
MAJO	**Matsushiro**	**10.14**	**230**	PN	**P**	**00 59 50.8**	**-3.3**
PET	**Petropavlovsk**	**11.95**	**33**	i PN	**P**	**01 00 20.0**	**+1.4**
MDJ	**Mudanjiang**	**13.23**	**281**	P	**P**	**01 00 32.1**	**-3.7**
MA2	**Magadan**	**16.25**	**5**	eP	**P**	**01 01 16.5**	**+1.8**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
FX1	**Attu Island--F**	**19.22**	**52**	P	**P**	**01 01 56.9**	**+5.4**
FX1				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FX1	**Attu Island--F**	**19.22**	**52**	P	**P**	**01 01 56.9**	**+5.5**
	comp=Z,1.3nm,0.3s,baz=249,slow=17,SNR=3.4						
YAK	**Yakutsk**	**21.50**	**336**	d iP	**P**	**01 02 12.2**	**-3.1**
YAK				pmax	pmax		
	comp=Z,36nm,0.7s,mb4.8						
SSE	**Sheshan**	**24.46**	**249**	eP	**P**	**01 02 42.8**	**-1.8**
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,105nm,3.6s						
SSE	**Sheshan**	**24.46**	**249**	eP	**P**	**01 02 42.7**	**-1.9**
	comp=Z,39nm,0.7s,mb5.0						
NJ2	**Nanjing**	**25.51**	**253**	eP	**P**	**01 02 53.9**	**-0.7**
NJ2				AP	pP	01 03 04.3	-0.3
NJ2				XP	sP	01 03 07.3	-1.5
NJ2				PP	PP	01 03 35.5	+1.2
NJ2				PPP	PPP	01 03 44.8	-1.1
NJ2				S	**S**	**01 07 13.0**	**-4.0**
NJ2				XS		01 07 31.0	
NJ2				AMB	AMB		
	comp=Z,370nm,4.5s						
NJ2				LR	LR		
	comp=N,1µm,15.9s						
NJ2				LR	LR		
	comp=E,1µm,24.4s						
NJ2				LR	LR		
	comp=Z,390nm,14.3s,MS4.1						
BOD	**Bodaibo**	**25.53**	**316**	eP	**P**	**01 02 49.7**	**-4.8**
BILL	**Bilibino**	**26.50**	**15**	eP	**P**	**01 03 03.6**	**+0.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.2						
HHC	**Hu-ho-hao-te**	**26.94**	**277**	eP	**P**	**01 03 07.9**	**+0.2**
HHC				AP	pP	01 03 20.9	+3.1
HHC				XP	sP	01 03 26.8	+4.5
HHC				PP	PP	01 03 53.3	-0.5
HHC				PCP	PcP	01 06 30.8	+1.4
HHC				S	**S**	**01 07 39.8**	**-0.6**
HHC				SS	SS	01 08 55.9	+0.8
HHC				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.9						
HHC				AMB	AMB		
	comp=Z,228nm,5.9s						
BTO	**Baotou**	**28.13**	**277**	eP	**P**	**01 03 19.3**	**+0.8**
ULN	**Ulaanbaatar**	**28.65**	**293**	eP	**P**	**01 03 22.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						
ULN	**Ulaanbaatar**	**28.65**	**293**	eP	**P**	**01 03 22.9**	**-0.2**
	comp=Z,26nm,1.1s,mb4.9						
SONM	**Songino Array**	**29.09**	**293**	P	**P**	**01 03 27.2**	**+0.2**
	comp=Z,10nm,0.8s,mb4.6,baz=85,slow=8.0,SNR=12						
TLY	**Talaya**	**30.57**	**301**	eP	**P**	**01 03 39.7**	**-0.5**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
ZAK	**Zakamensk**	**30.88**	**299**	eP	**P**	**01 03 42.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.1						
LZH	**Lanzhou**	**34.34**	**273**	eP	**P**	**01 04 13.3**	**+0.2**
LZH				AP	pP	01 04 22.3	-1.2
LZH				XP	sP	01 04 26.5	-1.7
LZH				AMB	AMB		
	comp=Z,26nm,1.3s,mb5.0						
LZH				LR	LR		
	comp=N,256nm,13.0s						
LZH				LR	LR		
	comp=Z,297nm,17.5s,MS4.1						
LZH	**Lanzhou**	**34.34**	**273**	eP	**P**	**01 04 13.2**	**+0.1**
LZH				*PP	pP	01 04 22.3	-1.2
LZH				*SP	sP	01 04 26.5	-1.7
LZH				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.0						
LZH				MLR	MLR		
	comp=Z,300nm,17.5s,MS4.1						
LZH	**Lanzhou**	**34.34**	**273**	eP	**P**	**01 04 13.2**	**+0.1**
	comp=Z,26nm,1.3s,mb5.0						
LZH				pP	pP	01 04 22.3	-1.2
LZH				sP	sP	01 04 26.5	-1.7
LZH				LR	LR		
	comp=Z,300nm,17.5s,MS4.1						
GTA	**Gaotai**	**35.89**	**280**	eP	**P**	**01 04 27.4**	**+1.1**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
IMA	**Indian Mountai**	**38.62**	**34**	eP	**P**	**01 04 49.7**	**+0.7**
IMA				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
IMA	**Indian Mountai**	**38.62**	**34**	eP	**P**	**01 04 49.7**	**+0.7**
	comp=Z,29nm,0.8s,mb5.1						
MCK	**McKinley**	**40.54**	**38**	eP	**P**	**01 05 04.6**	**-0.3**
MCK				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.3						
MCK	**McKinley**	**40.54**	**38**	eP	**P**	**01 05 04.6**	**-0.2**
	comp=Z,10nm,1.3s,mb4.3						
COLA	**College**	**40.99**	**36**	eP	**P**	**01 05 08.9**	**+0.2**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
COLA	**College**	**40.99**	**36**	eP	**P**	**01 05 08.9**	**+0.2**
	comp=Z,8.0nm,0.8s,mb4.4						
ZAL	**Zalesovo**	**41.63**	**307**	P	**P**	**01 05 14.1**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.6,baz=25,slow=9.6,SNR=5.3						
ZAL				LR	LR	01 23 09.3	
	comp=Z,144nm,18.6s,MS3.9,baz=16,slow=37						
WMQ	**Urumqi**	**42.72**	**292**	⇓ iP	**P**	**01 05 23.6**	**+0.6**
WMQ				AP	pP	01 05 37.0	+3.5
WMQ				XP	sP	01 05 42.0	+3.9
WMQ				PP	PP	01 07 06.0	+1.4
WMQ				PPP	PPP	01 07 40.0	+1.2
WMQ				eS	**S**	**01 11 44.0**	**+0.3**
WMQ				XS		01 12 04.0	
WMQ				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,168nm,4.6s						
WMQ				LR	LR		
	comp=N,677nm,15.0s,MS4.9						
WMQ				LR	LR		
	comp=E,921nm,16.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,668nm,16.4s,MS4.6						
KURK	**Kurchatov**	**46.16**	**304**	P	**P**	**01 05 50.7**	**+0.2**
	comp=Z,106nm,0.7s,SNR=9.6						
KURK	**Kurchatov**	**46.16**	**304**	⇑ iP	**P**	**01 05 50.1**	**-0.4**
KURK	**Kurchatov**	**46.16**	**304**	eP	**P**	**01 05 49.8**	**-0.6**
INK	**Inuvik**	**46.39**	**30**	eP	**P**	**01 05 50.5**	**-1.6**
INK	**Inuvik**	**46.39**	**30**	P	**P**	**01 05 53.2**	**+1.2**
	comp=Z,3.8nm,0.5s,mb4.6,baz=292,slow=7.1,SNR=13						
CHKZ	**Chkalovo**	**49.75**	**311**	eP	**P**	**01 06 16.9**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
CHKZ	**Chkalovo**	**49.75**	**311**	eP	**P**	**01 06 16.9**	**-1.5**
	comp=Z,15nm,1.2s,mb4.9						
BVAR	**Borovoye Array**	**50.12**	**310**	P	**P**	**01 06 20.9**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.5,baz=68,slow=8.0,SNR=7.5						
TKM2	**Tokmak 2**	**51.13**	**296**	P	**P**	**01 06 30.0**	**+0.9**
	SNR=8.2						
KBK	**Karagaybulak**	**51.68**	**296**	P	**P**	**01 06 33.8**	**+0.7**
	SNR=6.1						
USP	**Ospenovka**	**51.69**	**297**	P	**P**	**01 06 33.6**	**+0.3**
	SNR=5.8						
KZA	**Kyzart**	**51.75**	**295**	P	**P**	**01 06 35.1**	**+1.4**
	SNR=7.7						
AAK	**Ala-Archa**	**51.98**	**296**	eP	**P**	**01 06 33.5**	**-2.0**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AAK	**Ala-Archa**	**51.98**	**296**	eP	**P**	**01 06 33.5**	**-2.0**
	comp=Z,3.5nm,0.8s,mb4.3						
EKS2	**Erkin-Say**	**52.44**	**296**	P	**P**	**01 06 39.2**	**+0.3**
	SNR=6.3						
AML	**Almayashu**	**52.74**	**296**	P	**P**	**01 06 41.7**	**+0.5**
	SNR=6.4						
RES	**Resolute Bay**	**55.10**	**17**	eP	**P**	**01 06 56.9**	**-1.2**
RES				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
RES	**Resolute Bay**	**55.10**	**17**	eP	**P**	**01 06 56.9**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.7						
YKA	**Yellowknife Ar**	**55.75**	**34**	P	**P**	**01 07 02.2**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=299,slow=6.8,SNR=8.0						
YKA				pP	pP	01 07 16.3	+2.5
	comp=Z,2.3nm,0.8s,baz=301,slow=6.8,SNR=6.9						
ARCES	**ARCESS Array B**	**59.72**	**340**	P	**P**	**01 07 29.1**	**-1.7**
	comp=Z,3.8nm,0.8s,mb4.5,baz=48,slow=7.3,SNR=12						
JOF	**Joensuu**	**62.61**	**333**	ep	**P**	**01 07 47.8**	**-2.6**
	comp=Z,3.8nm,0.6s,mb4.7						
HYB	**Hyderabad**	**63.32**	**269**	eP	**P**	**01 07 55.5**	**-0.2**
HYB	**Hyderabad**	**63.32**	**269**	i P	**P**	**01 07 55.5**	**-0.2**
WRAB	**Tennant Creek**	**64.28**	**194**	eP	**P**	**01 07 58.1**	**-3.8**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**64.28**	**194**	eP	**P**	**01 07 58.1**	**-3.8**
	comp=Z,6.5nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**64.30**	**194**	P	**P**	**01 08 00.3**	**-1.7**
	comp=Z,1.4nm,0.7s,mb4.1,baz=12,slow=6.7,SNR=3.7						
KAF	**Kangasniemi**	**64.83**	**334**	ep	**P**	**01 08 02.8**	**-1.9**
	comp=Z,5.6nm,0.8s,mb4.7,baz=42,slow=6.3						
KAF	**Kangasniemi**	**64.83**	**334**	eP	**P**	**01 08 02.8**	**-1.9**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
FINES	**FINESS Array B**	**65.39**	**333**	P	**P**	**01 08 07.2**	**-1.2**
	comp=Z,6.9nm,0.6s,mb4.8,baz=45,slow=8.1,SNR=14						
FFC	**Flin Flon**	**65.62**	**37**	eP	**P**	**01 08 09.4**	**-0.5**
OBN	**Obninsk**	**65.88**	**324**	eP	**P**	**01 08 11.2**	**-0.4**
OBN				e	pP	01 08 24.0	+1.3
FCC	**Fort Churchill**	**66.01**	**30**	eP	**P**	**01 08 11.4**	**-1.0**
FCC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
FCC	**Fort Churchill**	**66.01**	**30**	eP	**P**	**01 08 11.4**	**-1.0**
	comp=Z,3.7nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**67.27**	**58**	P	**P**	**01 08 22.1**	**+1.4**
	comp=Z,0.4nm,0.5s,mb3.7,baz=297,slow=8.1,SNR=2.2						
ASAR	**Alice Springs**	**68.01**	**194**	P	**P**	**01 08 25.4**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.9,baz=12,slow=6.2,SNR=4.4						
GOF	**Gofitskoye**	**69.46**	**313**	⇓ iP	**P**	**01 08 35.0**	**+0.8**
GOF				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2						
PDAR	**Pinedale Array**	**69.69**	**50**	P	**P**	**01 08 35.7**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=225,slow=2.1,SNR=2.6						
PDAR				pP	pP	01 08 49.1	+2.4
	comp=Z,0.8nm,0.6s,baz=315,slow=2.1,SNR=3.9						
NB2	**NORSAR Subarra**	**70.08**	**339**	P	**P**	**01 08 37.3**	**-0.4**
	comp=Z,9.8nm,0.7s,mb4.8,baz=31,slow=6.2						
NB2	**NORSAR Subarra**	**70.08**	**339**	P	**P**	**01 08 37.3**	**-0.4**
NB2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
NOA	**NORSAR Array B**	**70.08**	**339**	P	**P**	**01 08 37.4**	**-0.3**
	comp=Z,9.0nm,0.8s,mb4.8,baz=32,slow=6.1,SNR=12						
KIV	**Kislovodsk**	**70.38**	**312**	⇓ iP	**P**	**01 08 41.0**	**+1.2**
KIV				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.2						
KIV	**Kislovodsk**	**70.38**	**312**	eP	**P**	**01 08 39.9**	**+0.1**
	comp=Z,14nm,0.8s,mb4.9						
ULM	**Lac du Bonnet**	**71.41**	**37**	P	**P**	**01 08 45.3**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=287,slow=5.7,SNR=2.5						
GNI	**Garni**	**71.76**	**308**	eP	**P**	**01 08 49.6**	**+1.4**
GNI				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SOC	**Sochi**	**72.21**	**314**	eP	**P**	**01 08 49.7**	**-1.0**
SOC				e		01 09 09.2	
SOC				e		01 11 27.7	
SOC				eS	S	01 18 05.4	-4.2
SOC				e		01 18 52.8	
SOC				eSS	SS	01 22 50.0	+0.6
SOC				pmax	pmax		
	comp=Z,34nm,1.1s,mb5.2						
SOC				pmax	pmax		
	comp=N,58nm,1.3s						
SOC				pmax	pmax		
	comp=E,51nm,1.1s						
ANN	**Anapa**	**72.55**	**316**	eP	**P**	**01 08 49.1**	**-3.6**
ANN				pmax	pmax		
	comp=Z,113nm,1.2s						
KWP	**Kalwaria**	**75.66**	**327**	eP	**P**	**01 09 11.2**	**+0.5**
KWP				e	pP	01 09 25.0	+3.2
KOLS	**Kolonicke sedl**	**76.39**	**327**	eP	**P**	**01 09 15.3**	**+0.5**
KOLS				esP	sP	01 09 34.4	+4.4
KSP	**Ksiaz**	**77.10**	**331**	eP	**P**	**01 09 19.2**	**+0.4**
DPC	**Dobruska-Polom**	**77.50**	**331**	eP	**P**	**01 09 21.6**	**+0.6**
DPC				epP	pP	01 09 33.8	+1.6
MORC	**Moravsky Berou**	**77.53**	**330**	eP	**P**	**01 09 21.3**	**+0.1**
SCHQ	**Schefferville**	**77.72**	**20**	P	**P**	**01 09 22.5**	**+0.3**
	comp=Z,1.9nm,0.9s,mb4.0,baz=190,slow=16,SNR=2.6						
SCHQ				pP	pP	01 09 35.8	+2.5
	comp=Z,2.3nm,0.7s,baz=149,slow=11,SNR=2.6						
CLL	**Collm**	**77.84**	**333**	⇑ iP	**P**	**01 09 22.9**	**+0.1**
CLL				i	pP	01 09 35.2	+1.2
CLL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.6						
CLL	**Collm**	**77.84**	**333**	⇑ iP	**P**	**01 09 22.9**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.6						
CLL				i	pP	01 09 35.2	+1.2

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CLL	Collm	77.84	333	⇑P	P	01 09 22.9	+0.1
	comp=Z,logA/T=0.9,mb4.6						
CLL				i *PP	pP	01 09 35.2	+1.2
BRG	Berggiesshubel	77.89	332	eP	pP	01 09 34.9	+0.6
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BRTR	Keskin Array B	78.15	314	P	P	01 09 26.0	+1.2
	comp=Z,1.4nm,0.8s,mb4.0,baz=87,slow=2.6,SNR=6.3						
BRTR				pP	pP	01 09 38.5	+2.5
	comp=Z,2.1nm,0.7s,baz=76,slow=3.7,SNR=8.2						
PRU	Pruhonice	78.43	331	eP	P	01 09 26.9	+0.8
KHC	Kasperske Hory	79.49	331	eP	P	01 09 32.5	+0.6
KHC				epP	pP	01 09 45.1	+1.9
GERES	GERESS Array B	79.69	331	P	P	01 09 33.2	+0.1
	comp=Z,1.2nm,0.7s,mb3.9,baz=37,slow=6.7,SNR=5.9						
GERES				pP	pP	01 09 46.1	+1.9
	comp=Z,1.8nm,0.7s,baz=34,slow=4.8,SNR=7.3						
GRA1	Grafenberg Arr	79.81	333	eP	P	01 09 34.7	+1.1
	comp=Z,7.0nm,0.9s,mb4.6						
GRA1				epP	pP	01 09 47.1	+2.2
GRF	Grafenberg Arr	79.81	333	eP	P	01 09 34.7	+1.1
GRF				e*PP	pP	01 09 47.1	+2.2
GRF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
PERS	Pernice	81.05	329	i P	P	01 09 41.3	+1.0
PERS				i	pP	01 09 53.7	+2.2
GROS	Grobnik	81.05	329	eP	P	01 09 40.6	+0.3
GROS				e	pP	01 09 53.4	+1.9
CEY	Cerknica	82.06	329	eP	P	01 09 45.8	+0.3
TXAR	Lajitas Array	82.36	57	P	P	01 09 48.9	+1.4
	comp=Z,0.8nm,0.8s,mb3.7,baz=295,slow=4.3,SNR=3.9						
TXAR				pP	pP	01 10 03.4	+4.6
	comp=Z,1.4nm,0.7s,baz=285,slow=4.5,SNR=6.7						
DBIC	Dimbokro	124.34	327	PKP	PKPdf	01 16 24.4	+0.9
	comp=Z,1.7nm,0.6s,baz=312,slow=3.7,SNR=3.5						
BDFB	Brasilia	149.13	31	PKPbc	PKPdf	01 17 14.6	+6.2
	comp=Z,3.6nm,0.7s,baz=195,slow=1.9,SNR=6.3						
PLCA	Paso Flores	151.50	98	PKPbc	PKPdf	01 17 18.4	+7.1
	comp=Z,1.6nm,0.9s,baz=205,slow=2.7,SNR=3.3						
PLCA				pPKPbc		01 17 31.4	
	comp=Z,1.4nm,0.7s,baz=296,slow=4.8,SNR=2.5						

JMA 19 01:02:29.7±0.1, 43.35N×147.62E, h8km, M3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.37	271	eS	Sb	01 03 12.9	+0.2
JNK	Nakash	2.12	277	eS	Sn	01 03 33.1	+0.3
JAK	Akkeshi	2.17	262	P	Pn	01 03 07.0	+0.4
JAK				eS	Sn	01 03 33.7	-0.2
JAR	Ashorobuto	2.81	270	eS	Sn	01 03 51.5	+1.3
JCH	Churui	3.21	258	eS	Sn	01 04 01.7	+1.4
JEM	Erimo	3.55	249	P	Pn	01 03 26.4	+0.1
JNBK	Urakawa-nobuka	3.74	255	P	Pn	01 03 29.5	+0.5

MEX 19 01:24:37.2±1.2, 17.07N×95.30W, h115km±14km, MD3.8, 1C, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.40	87	i P	P	01 24 52.9	-1.2
CMIG				i S	S	01 25 04.7	-2.1
OXX	Oaxaca	1.36	271	eP	P	01 25 02.5	-0.7
OXX				eS	S	01 25 21.0	-1.8
VHO	Vista Hermosa	1.37	270	i P	P	01 25 01.7	-1.6
VHO				i S	S	01 25 20.2	-2.7
EVV	El Vigia	1.38	358	eS	S	01 25 18.0	-5.1
HUIG	Huatulco	1.51	211	⇑iP	P	01 25 02.6	-2.2
HUIG				eS	S	01 25 23.4	-2.2

IDC 19 01:29:54.5±1.7, 30.61N×56.71E, mb3.7/9, mb1 3.9/10, mb1mx3.8/18, mbtmp3.7/10, ML3.6/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/21, Error ellipse: s-maj=42.6km s-min=24.1km az=4.0
THR 19 01:29:55.6±0.8, 30.84N×56.77E, h14km±8km, ML3.5
CSEM 19 01:29:56.6±0.1, 30.77N×56.71E, h18km, mb3.8/1, Error ellipse: s-maj=2.5km s-min=2.2km az=81.0
NEIC 19 01:29:57.0±0.5, 30.75N×56.75E, h10km, mb3.8/1, ML3.5(THR), MN3.9(TEH), Error ellipse: s-maj=6.8km s-min=6.2km az=123.0
TEH 19 01:29:58.9, 30.69N×56.80E, h16km, Mn3.9
ISC 19 01:29:55.0±1.3, 30.81N±0.05×56.78E±0.06, h3km±10km, n47, σ0.89/51, mb3.6/9, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBR	Kerman	0.82	181	ePg	Pg	01 30 11.0	-0.4
KRBR	Kerman	0.82	181	ePG	Pg	01 30 11.7	+0.2
KRBR				AML	AML	01 30 23.8	
	comp=E,2μm,0.3s						
IBAF	Bafgh	1.30	307	Pg	Pg	01 30 19.1	-2.0
IMEH	Mehriz	1.95	288	Pn	Pn	01 30 30.0	+0.6
ICHK	Chekchek	2.48	306	Pn	Pn	01 30 37.5	+0.5
ISAD	Sadrabad	2.87	293	Pn	Pn	01 30 44.3	+1.8
IPAR	Pars	3.37	254	Pn	Pn	01 30 50.7	+1.1
BNDS	Bandar-Abbas	3.44	189	ePN	Pn	01 30 51.8	+1.2
BNDS				AML	AML	01 31 42.4	
	comp=N,123nm,0.5s						
BNDS	Bandar-Abbas	3.44	189	ePn	Pn	01 30 51.0	+0.5
NASN	Na'in	3.92	301	ePn	Pn	01 30 57.0	-0.5
NASN				eSg	Sg	01 31 56.0	-10
NASN	Na'in	3.92	301	ePN	Pn	01 30 57.6	+0.1
NASN				eSG	Sg	01 31 56.6	-9.1
NASN	Na'in	3.92	301	ePn	Pn	01 30 57.6	+0.1
	SNR=52						
NASN				eSg	Sg	01 31 56.0	-10
IMOK	Mook	3.94	245	Pn	Pn	01 30 57.5	-0.2
GHIR	Ghir-Karzin	4.15	234	ePN	Pn	01 31 01.1	+0.3
GHIR				AML	AML	01 32 25.2	
	comp=N,41nm,0.4s						
GHIR	Ghir-Karzin	4.15	234	ePn	Pn	01 31 01.0	+0.3
IANJ	Anjiloo	5.24	333	Pn	Pn	01 31 15.9	-0.2
ILAS	Lasjerd	5.58	326	Pn	Pn	01 31 35.9	+15
IMOG	Moghan	5.70	21	Pn	Pn	01 31 23.3	+0.6
IFIR	Firoozkooh	5.89	326	Pn	Pn	01 31 25.3	0.0
IFIR				Lg		01 33 05.7	
MHI	Mashhad	5.93	22	Pn	Pn	01 31 27.0	+1.1
IMYA	Miamay	6.18	26	Pn	Pn	01 31 29.5	+0.1
IDMV	Damavand	6.21	321	Pn	Pn	01 31 30.7	+1.0
IQOM	Qom	6.27	311	Pn	Pn	01 31 30.9	+0.2
IQOM				Lg		01 33 16.2	
DAMV	Damavand	6.28	321	ePn	Pn	01 31 29.0	-1.8
DAMV	Damavand	6.28	321	ePN	Pn	01 31 29.5	-1.2
IAFJ	Afjeh	6.59	321	Pn	Pn	01 31 36.4	+1.3
IAFJ				Lg		01 33 27.6	
IMHD	Mahdasht	7.07	315	Pn	Pn	01 31 42.2	+0.3
IMHD				Sn	Sn	01 32 57.9	-5.7
IRAZ	Razeghan	7.36	310	Pn	Pn	01 31 46.0	+0.1
IRAZ				Sn	Sn	01 33 05.5	-5.3
GNI	Garni	13.52	317	LR	LR	01 39 42.9	
	comp=N,61nm,19.0s,baz=353,slow=43						
ASF	Jabal al Asfar	17.02	280	Pn	P	01 33 54.7	-0.9
	comp=N,0.2nm,0.3s,baz=238,slow=4.6,SNR=2.8						
AAK	Ala-Archa	18.42	45	eP	P	01 34 12.3	-0.8
AAK	Ala-Archa	18.42	45	eP	P	01 34 12.3	-0.8
EIL	Elat	18.90	272	P	P	01 34 14.6	-4.3
BRTR	Keskin Array B	20.84	302	P	P	01 34 38.8	-1.6
	comp=N,1.0nm,0.8s,baz=118,slow=14,SNR=4.7						
BVAR	Borovoye Array	24.32	20	P	P	01 35 15.5	+0.8
	comp=N,1.7nm,0.8s,mb3.5,baz=207,slow=6.6,SNR=9.7						
CHKZ	Chkalovo	24.95	20	P	P	01 35 20.7	-0.1
CHKZ	Chkalovo	24.95	20	P	P	01 35 20.7	-0.1
KURK	Kurchatov	25.70	33	eP	P	01 35 28.2	+0.4
	comp=N,1.9nm,0.8s,mb3.7						
KURK	Kurchatov	25.70	33	eP	P	01 35 28.2	+0.4
	comp=N,1.9nm,0.8s,mb3.7						
ZAL	Zalesovo	30.67	33	P	P	01 36 12.3	-0.5
	comp=N,0.9nm,0.6s,mb3.8,baz=227,slow=13,SNR=4.4						
FINES	FINESS Array B	36.64	336	P	P	01 37 03.8	-0.5
	comp=N,0.9nm,0.6s,mb3.8,baz=117,slow=13,SNR=4.6						
GERES	GERESS Array B	37.09	312	P	P	01 37 06.8	-1.4
	comp=N,0.2nm,0.6s,mb3.1,baz=112,slow=5.3,SNR=2.9						
SONM	Songino Array	41.22	51	P	P	01 37 43.1	+0.6
	comp=N,1.0nm,1.1s,mb3.4,baz=282,slow=11,SNR=6.4						
SCHQ	Schefferville	81.95	331	P	P	01 42 17.2	+0.1
	comp=N,1.6nm,0.9s,mb3.9,baz=11,slow=15,SNR=2.5						
SCHQ	Schefferville	81.95	331	P	P	01 42 17.2	+0.1
YKA	Yellowknife Ar	86.77	356	P	P	01 42 40.3	-0.9
	comp=N,0.3nm,0.6s,mb3.7,baz=1.8,slow=5.5,SNR=8.6						
ASAR	Alice Springs	91.58	117	P	P	01 43 03.3	-1.5
	comp=N,0.3nm,0.7s,mb3.7,baz=308,slow=4.6,SNR=4.4						

DJA 19 01:33:35.5±0.8, 9.57S×115.18E, h33km, MD5.3/3, ML3.7/4, 5C-4D, Error ellipse: s-maj=18.5km s-min=6.9km az=175.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RATI	Rata	0.91	22	⇓iPn	Pn	01 33 50.7	-1.4
	342nm,0.2s						
RATI	Rata	0.91	22	⇑iP	P	01 33 51.3	-0.6
RATI				eSn	Sn	01 34 01.7	-2.4
KEDI	Kedomdong	1.42	41	⇓iPn	Pn	01 33 58.2	-1.1
	35nm,0.2s						
KEDI				⇓iSn	Sn	01 34 14.4	-2.6
SRDI	Scrawed	1.49	316	⇑iPn	Pn	01 33 59.1	-1.3
	52nm,0.2s						
SRDI	Scrawed	1.49	316	⇑iP	P	01 33 59.8	-0.4
SRDI				⇑iSn	Sn	01 34 15.9	-3.0
KELI	Kelakatan	1.51	333	⇓iPn	Pn	01 34 00.0	-0.6
	45nm,0.2s						
KELI				⇑iSn	Sn	01 34 16.7	-2.6

NEIC 19 01:35:58.8±0.1, 20.42S×68.63W, mb5.1/104, Error ellipse: s-maj=4.7km s-min=3.1km az=51.0
NEIC Felt [III] at Iquique and Pica; [II] at Chuquicamata, Huara, Pozo Almonte and Quillagua, Chile.
HRVD 19 01:35:58.8±0.2, 20.60S×68.93W, h126km±1km, MW5.3/68, Centroid moment Tensor Solution. LP body waves: s46,c67;Mantle waves: s68,c124; Half duration: 1.1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.03±.03; $M_{\theta\theta}$-0.56±.03; $M_{\phi\phi}$0.53±.03; $M_{r\theta}$0.10±.02; $M_{\theta\phi}$0.66±.02; $M_{\phi r}$-0.64±.02; Best double couple: $M_0$1.071×10^{17} NP1: ϕ_s252°,δ54°,λ4°. NP2:ϕ_s160°,δ86°,λ144°. Principal axes: T 1.122, Plg27°, Azm110°; N -.103, Plg54°, Azm335°; P -1.019, Plg22°, Azm212°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
IDC 19 01:35:59.5±0.3, 20.50S×68.72W, h112km±2km, mb4.6/21, mb1 4.6/24, mb1mx4.6/25, mbtmp5.0/24, MS4.2/6, Ms1 4.2/6, ms1mx3.8/18 Error ellipse: s-maj=12.7km s-min=5.9km az=86.0
BJI 19 01:35:59.0, 20.53S×69.54W, h111km, mB5.5
LDG 19 01:36:01.2±0.3, 19.95S×68.23W, h116km, Mb4.7/12, Ms4.1/8, Error ellipse: s-maj=19.0km s-min=10.1km az=37.0
ISC 19 01:35:57.3±0.2, 20.40S±0.03×68.69W±0.04, h110km, h110km±.4km:pP-P, n269, σ0.88/226, mb4.9/113, 8C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	Limon Verde	2.21	185	P	P	01 36 33.6	+0.1
LVC				S	S	01 36 59.9	-0.9
	2μm,0.3s,baz=284,slow=21,SNR=33						
LVC	Limon Verde	2.21	185	eP	P	01 36 32.9	-0.6
ANCH	Antofagasta	3.63	206	eP	P	01 36 51.3	-1.5
LPAZ	La Paz	4.12	7	P	P	01 37 03.8	+4.3
	61nm,0.3s,baz=174,slow=8.8,SNR=997						
LPAZ	La Paz	4.12	7	⇓iP	P	01 37 03.9	+4.4
CPN1	Cerro Paranal	4.50	200	⇑iP	P	01 37 00.5	-3.9
ARE	Arequipa	4.74	325	⇑iP	P	01 37 06.6	-1.2
ARE				eS	S	01 37 58.0	-3.9
CPCH	Copiapo	7.09	192	eP	P	01 37 33.0	-6.9
CPCH				i S	S	01 38 48.2	-11
VACH	Vallenar	8.35	193	eP	P	01 37 49.9	-7.1
VACH				eS	S	01 39 18.6	-12
ZON	Zonda	11.10	180	eP	P	01 38 28.0	-5.8
CFAA	Coronel Fontan	11.16	178	P	P	01 38 28.6	-6.0
	0.6nm,0.3s,baz=353,slow=13,SNR=94						
CFAA				S	S	01 40 25.7	-12
	2.3nm,0.3s,baz=130,slow=23,SNR=11						
NNA	Nana	11.46	316	eP	P	01 38 36.0	-2.5
	77nm,0.8s						
BDFB	Brasilia	20.22	80	P	P	01 40 25.3	-0.4
	25nm,0.5s,baz=260,slow=12,SNR=65						
BDFB				LR	LR	01 50 12.0	
	comp=Z,1μm,20.1s,baz=258,slow=42						
BAO	Brasilia Array	20.24	80	P	P	01 40 25.0	-0.9
PLCA	Paso Flores	20.33	184	P	P	01 40 25.1	-1.6
	101nm,1.1s,baz=7.6,slow=12,SNR=102						
PLCA	Paso Flores	20.33	184	eP	P	01 40 24.5	-2.1
	236nm,1.3s						
OTAV	Otavalo	22.63	334	eP	P	01 40 53.1	+3.3
	56nm,0.8s,mb5.0						
CAM4	Nova Friburgo	24.39	99	eP	P	01 41 06.2	-0.5
CAM4				i		01 41 08.1	
CAM4				i		01 41 31.5	
ROSC	El Rosal	25.70	347	P	P	01 41 20.4	+1.2
	51nm,1.0s,mb4.9,baz=113,slow=4.1,SNR=15						
SDV	Santo Domingo	29.16	356	P	P	01 41 49.8	-0.7
	38nm,0.9s,mb5.0,baz=213,slow=7.0,SNR=51						
SDV				LR	LR	01 54 44.6	
	comp=Z,405nm,19.0s,baz=229,slow=38						
SDV	Santo Domingo	29.16	356	eP	P	01 41 48.8	-1.8
	36nm,0.8s,mb5.0						
CS6B	Jaguaretama	32.70	67	ceP	P	01 42 21.0	-0.6
CS6B				i		01 42 22.4	
USHA	Ushuaia	34.38	180	P	P	01 42 34.7	-0.8
	14nm,0.9s,mb4.8,baz=12,slow=1.9,SNR=5.9						
USHA				pP	pP	01 43 01.6	+1.2
	22nm,0.8s,baz=5.9,slow=6.1,SNR=5.2						
JTS	JuntasAbangare	34.44	331	P	P	01 42 38.7	+2.2
	7.6nm,0.8s,mb4.6,baz=131,slow=7.5,SNR=6.7						
JTS	JuntasAbangare	34.44	331	eP	P	01 42 37.9	+1.4
	10nm,0.8s,mb4.7						
RCBR	Riachuelo	34.96	70	eP	P	01 42 40.6	-0.3
	99nm,1.0s,mb5.6						
RCBR				epP	pP	01 43 04.5	-1.3
RPN	Rapa Nui	37.68	252	P	P	01 43 04.5	+0.9
	22nm,0.7s,mb5.1,baz=198,slow=8.5,SNR=3.2						
SJG	San Juan	38.35	4	P	P	01 43 07.8	-1.5
	134nm,0.7s,mb5.9,baz=165,slow=2.4,SNR=61						
SJG				pP	pP	01 43 35.2	+0.7
	99nm,0.9s,baz=208,slow=3.9,SNR=3.9						
SJG	San Juan	38.35	4	eP	P	01 43 07.4	-1.9
	127nm,0.8s,mb5.8						
TEIG	Tepich	44.70	333	eP	P	01 44 00.7	-0.6
	18nm,1.2s,mb4.7						
TEIG				epP	pP	01 44 26.6	-0.3
TEIG				esP	sP	01 44 40.1	+0.7
DWPF	Disney	49.77	345	eP	P	01 44 40.4	-0.4
DWPF				epP	pP	01 45 05.1	-1.7
DWPF				esP	sP	01 45 17.7	-1.3
NHSC	New Hope	54.33	348	eP	P	01 45 14.6	-0.2
	190nm,0.9s						
NHSC				epP	pP	01 45 40.9	-0.3
NHSC				esP	sP	01 45 52.5	-0.8
GOGA	Godfrey	55.34	345	eP	P	01 45 20.7	-1.5
	11nm,0.2s,mb5.6						
GOGA				epP	pP	01 45 46.6	-2.0
LRAL	Lakeview Retre	55.94	341	eP	P	01 45 24.8	-1.6
	8.9nm,1.0s,mb4.8						
LRAL				epP	pP	01 45 51.5	-1.5
LRAL				esP	sP	01 46 03.8	-1.4
NATX	Nacogdoches	57.53	334	eP	P	01 45 37.6	-0.1
	18nm,0.8s,mb5.2						
NATX				epP	pP	01 46 04.1	-0.3
CPCT	Cooper Cave	57.54	345	eP	P	01 45 36.2	-1.5
CPCT				epP	pP	01 46 03.3	-1.1
CPCT				esP	sP	01 46 14.6	-2.0
SWET	Sewanee	57.68	343	eP	P	01 45 37.4	-1.4
SWET				epP	pP	01 46 04.0	-1.4
SWET				esP	sP	01 46 16.0	-1.6
OXF	Oxford	58.06	340	eP	P	01 45 39.5	-1.8
	33nm,0.9s,mb5.4						
OXF				epP	pP	01 46 05.9	-2.1
OXF				esP	sP	01 46 17.6	-2.7
PLAL	Pickwick Lake	58.08	341	eP	P	01 45 39.5	-2.0
	21nm,0.9s,mb5.2						
PLAL				epP	pP	01 46 06.2	-2.0
PLAL				esP	sP	01 46 18.8	-1.6
BLA	Blacksburg	58.36	349	eP	P	01 45 42.7	-0.7
	14nm,0.7s,mb5.1						
BLA				epP	pP	01 46 09.8	-0.4
BLA				esP	sP	01 46 21.4	-1.0
ELN	Prospectdale	58.44	349	eP	P	01 45 43.9	-0.1
ELN				epP	pP	01 46 10.8	+0.2
ELN				esP	sP	01 46 23.2	+0.2
JCT	Junction City	58.77	329	eP	P	01 45 45.7	-0.7
	20nm,0.9s,mb5.1						
JCT				epP	pP	01 46 12.1	-1.0
MET	Memphis--Engin	58.79	340	P	P	01 45 45.4	-1.0
FWV	Forest Hill	58.79	349	eP	P	01 45 45.9	-0.5
FWV				epP	pP	01 46 12.6	-0.6
WVT	Waverly	59.07	342	eP	P	01 45 45.9	-2.4
	69nm,1.0s,mb5.6						
WVT				epP	pP	01 46 13.0	-2.1
WVT				esP	sP	01 46 25.7	-1.7
UALR	University of	59.30	337	eP	P	01 45 48.6	-1.3
	9.2nm,1.0s,mb4.8						
UALR				epP	pP	01 46 15.5	-1.3
UALR				esP	sP	01 46 27.9	-1.1
HALT	Halls	59.32	341	eP	P	01 45 49.5	-0.5
HALT				epP	pP	01 46 14.7	-2.2
MIAR	Mount Ida	59.55	336	eP	P	01 45 50.4	-1.2
	77nm,1.1s,mb5.6						
MIAR				epP	pP	01 46 17.4	-1.1
GLAT	Glass	59.63	341	eP	P	01 45 51.5	-0.7
GLAT				epP	pP	01 46 17.9	-1.2
LTX	Lajitas	59.85	325	eP	P	01 45 54.0	+0.2
	30nm,1.3s,mb5.2						
LTX				epP	pP	01 46 19.4	-1.3
TXAR	Lajitas Array	59.85	325	P	P	01 45 53.5	-0.3
	0.5nm,0.6s,baz=151,slow=8.9,SNR=8.4						
TXAR				pP	pP	01 46 19.6	-1.1
	10nm,0.9s,baz=143,slow=8.1,SNR=28						
SDMD	Soldier's Deli	59.98	353	eP	P	01 45 53.9	-0.7
SDMD				epP	pP	01 46 20.6	-0.9
MVL	Millersville	60.51	353	eP	P	01 45 57.6	-0.5
MVL				epP	pP	01 46 25.0	-0.1
WCI	Wyandotte Cave	60.62	344	eP	P	01 45 57.1	-1.8
	12nm,0.8s,mb5.0						
WCI				epP	pP	01 46 24.0	-1.9
MCWV	Mont Chateau	60.65	350	eP	P	01 45 59.0	-0.1
	22nm,0.7s,mb5.3						
MCWV				epP	pP	01 46 26.0	0.0
VNA3	Neumayer Olymp	61.05	162	⇑iP	P	01 46 00.5	-0.9
VNA3				e	pP	01 46 26.9	-1.5
VNA3				e		01 46 38.7	
VNA3				e		01 46 42.4	
VNA1	Neumayer--Stat	61.25	161	⇑iP	P	01 46 02.3	-0.4
VNA1				e	pP	01 46 28.3	-1.4
VNA1				e		01 46 40.9	
VNA1				e		01 46 44.1	
SSPA	Standing Stone	61.32	352	eP	P	01 46 02.8	-0.8
	33nm,1.1s,mb5.3						
SSPA				epP	pP	01 46 29.7	-0.9
FVM	French Village	61.57	341	eP	P	01 46 04.0	-1.4
	47nm,0.9s,mb5.5						
FVM				epP	pP	01 46 31.0	-1.4
BLO	Bloomington	61.57	344	eP	P	01 46 03.4	-1.9
	12nm,0.6s,mb5.1						
BLO				epP	pP	01 46 30.1	-2.3
VNA2	Neumayer--Watz	61.62	161	⇑iP	P	01 46 04.5	-0.7
VNA2				e	pP	01 46 31.7	-0.5
VNA2				e		01 46 43.2	
VNA2				e		01 46 46.3	
ACSO	Alum Creek Sta	61.77	348	eP	P	01 46 04.7	-2.0
	57nm,0.9s,mb5.6						
ACSO				epP	pP	01 46 32.5	-1.2
CCM	Cathedral Cave	61.89	340	eP	P	01 46 06.2	-1.3
	106nm,1.3s,mb5.7						
BRYW	Bryant College	62.06	358	eP	P	01 46 09.4	+0.8
	74nm,0.8s,mb5.8						
BRYW				epP	pP	01 46 37.4	+1.8
SLM	Saint Louis	62.11	341	eP	P	01 46 07.5	-1.4
SLM				epP	pP	01 46 34.0	-1.9
CLNB	Carlsbad	62.27	327	eP	P	01 46 09.7	-0.4
CLNB				epP	pP	01 46 36.4	-0.8
QUA2	Belchertown	62.45	357	eP	P	01 46 10.2	-0.9
	14nm,0.8s,mb5.0						
QUA2				epP	pP	01 46 37.5	-0.8
GDL2	Guadalupe Moun	62.47	326	eP	P	01 46 11.3	-0.1
GDL2				epP	pP	01 46 38.0	-0.5
MNTX	Cornudas Mount	62.62	325	eP	P	01 46 10.7	-1.8
	47nm,1.0s,mb5.4						
MNTX				epP	pP	01 46 37.6	-1.9
ALLY	Alegheny Colle	62.64	350	eP	P	01 46 11.9	-0.5
ALLY				epP	pP	01 46 39.1	-0.4
ALLY				esP	sP	01 46 52.7	+1.0
HRV	Harvard--Oak R	62.65	358	eP	P	01 46 11.9	-0.5
	20nm,0.9s,mb5.0						
HRV				epP	pP	01 46 39.5	0.0
CPRX	Cap Rock	62.87	327	eP	P	01 46 13.8	-0.2
ERPA	Erie	63.07	351	eP	P	01 46 14.6	-0.7
	289nm,1.0s						
ERPA				epP	pP	01 46 41.8	-0.7
ERPA				esP	sP	01 46 54.1	-0.4
SNAA	Sanae	63.25	161	e	pP	01 46 40.1	-3.1
SNAA	Sanae	63.25	161	e	tx	01 46 52.9	
SNAA	Sanae	63.25	161	e	tx	01 46 56.7	
SNAA	Sanae	63.25	161	P	P	01 46 15.1	-1.0
	11nm,0.8s,mb4.8,baz=293,slow=5.8,SNR=28						
SNAA				pP	pP	01 46 44.3	+1.1
	4.2nm,0.9s,baz=263,slow=8.3,SNR=2.7						
SNAA				sP	sP	01 46 56.4	+1.1
	25nm,0.9s,baz=290,slow=5.4,SNR=13						
SNAA	Sanae	63.25	161	⇑iP	P	01 46 15.0	-1.0
SNAA				e	pP	01 46 40.1	-3.1
SNAA				e		01 46 52.9	
SNAA				e		01 46 56.7	
GENY	Geneseo	63.41	352	eP	P	01 46 16.8	-0.7
GENY				epP	pP	01 46 44.6	-0.1
GENY				esP	sP	01 46 57.7	+0.9
ACCN	Adirondack Com	63.63	356	eP	P	01 46 18.1	-0.8
HNH	Hanover	63.87	357	eP	P	01 46 19.3	-1.2
	3.5nm,1.1s,mb4.1						
HNH				epP	pP	01 46 46.4	-1.3
AAM	Ann Arbor	63.90	348	eP	P	01 46 19.7	-1.0
	19nm,0.6s,mb5.1						
NCB	Newcomb	64.25	356	eP	P	01 46 22.1	-0.9
	6.6nm,0.5s,mb4.7						
NCB				epP	pP	01 46 50.3	+0.1
KSU1	Kansas State U	64.70	336	eP	P	01 46 24.6	-1.4
KSU1				epP	pP	01 46 51.8	-1.4
LPM	Los Pinos Moun	65.30	326	eP	P	01 46 30.1	+0.2
LENM	Lemitar	65.37	326	P	P	01 46 31.2	+0.8
SADO	Sadowa	65.55	352	LR	LR	02 13 43.8	
	comp=Z,184nm,21.9s,baz=247,slow=34						
LAZ	Ladron	65.64	326	P	P	01 46 31.7	-0.3
CBKS	Cedar Bluff	65.70	334	eP	P	01 46 31.9	-0.5
	14nm,0.8s,mb4.8						
CBKS				epP	pP	01 46 58.5	-1.2
ANMO	Albuquerque	65.70	326	eP	P	01 46 31.8	-0.7
	19nm,1.1s,mb4.8						
ANMO				epP	pP	01 46 59.3	-0.5
JFWS	Jewell Farm	66.06	343	eP	P	01 46 33.6	-1.0
	19nm,0.7s,mb5.0						
JFWS				epP	pP	01 47 00.9	-1.0
TUC	Tucson	66.10	322	eP	P	01 46 35.1	+0.1
	3.7nm,1.1s,mb4.1						
TUC				epP	pP	01 47 02.1	-0.3
SDCO	Great Sand Dun	67.41	329	eP	P	01 46 43.6	+0.4
	48nm,1.1s,mb5.2						
SDCO				epP	pP	01 47 10.2	-0.4
DBIC	Dimbokro	68.23	74	P	P	01 46 47.7	-0.9
	115nm,0.9s,mb5.7,baz=220,slow=6.2,SNR=90						
DBIC				pP	pP	01 47 17.1	+1.0
	40nm,0.9s,baz=227,slow=6.6,SNR=4.4						
DBIC				LR	LR	02 14 28.6	
	comp=Z,211nm,19.0s,baz=228,slow=34						
DBIC	Dimbokro	68.23	74	eP	P	01 46 47.5	-1.1
	194nm,1.0s,mb5.9						
DBIC				epP	pP	01 47 15.9	-0.2
WUAZ	Wupatki	68.77	324	eP	P	01 46 52.1	+0.5
	17nm,1.1s,mb4.8						
WUAZ				epP	pP	01 47 19.3	+0.1
ISCO	Idaho Springs	69.10	330	eP	P	01 46 54.0	+0.4
	25nm,1.2s,mb4.9						
ISCO				epP	pP	01 47 20.4	-0.7
BAR	Barrett	69.92	318	eP	P	01 46 59.2	+0.5
BAR				epP	pP	01 47 26.4	0.0
PHWY	Pilot Hill	70.23	331	eP	P	01 47 00.8	+0.4
PFO	Pinyon Flat Ob	70.41	319	eP	P	01 47 02.0	+0.3
	54nm,0.9s,mb5.4						
PFO				epP	pP	01 47 28.7	-0.6
LDFC	Landfair	70.60	321	eP	P	01 47 03.4	+0.6
LDFC				epP	pP	01 47 31.4	+0.9
SRU	San Rafael	70.97	327	eP	P	01 47 04.8	-0.1
SRU				epP	pP	01 47 32.7	+0.1

EYMN **Ely** 71.05 344 *e*P P **01 47 04.1 -1.0**
48nm,1.3s,mb5.2
EYMN *e*pP pP 01 47 31.8 -1.1
MSU Marysvale 71.40 325 *e*P P **01 47 08.5 +1.1**
MSU *e*pP pP 01 47 35.8 +0.6
MVU Marysvale 71.41 325 *e*P P **01 47 08.4 +0.9**
68nm,1.0s,mb5.4
MVU *e*pP pP 01 47 36.1 +0.9
TMUT Trail Mountain 71.46 326 *e*P P **01 47 08.5 +0.7**
ARUT Antelope Range 71.56 324 *e*P P **01 47 09.9 +1.5**
ARUT *e*pP pP 01 47 37.3 +1.1
MWC Mount Wilson 71.81 319 P P **01 47 10.5 +0.5**
DAU Daniels Canyon 72.32 327 *e*P P **01 47 13.7 +0.8**
DAU *e*pP pP 01 47 41.4 +0.7
NLU North Lily Min 72.40 326 *e*P P **01 47 13.8 +0.4**
NLU *e*pP pP 01 47 41.5 +0.3
JLU Jordanelle 72.56 327 *e*P P **01 47 15.4 +1.1**
JLU *e*pP pP 01 47 42.9 +0.8
DAC Darwin (Calif) 72.90 320 P P **01 47 17.0 +0.7**
39nm,0.9s,mb5.2
TCUT Toone Canyon 72.92 328 *e*P P **01 47 16.8 +0.4**
NOQ North Oquirrh 72.94 327 P P **01 47 17.1 +0.6**
DUG Dugway 72.96 326 *e*P P **01 47 16.9 +0.3**
63nm,1.1s,mb5.4
DUG *e*pP pP 01 47 44.6 0.0
TRCR Troy Canyon 73.15 323 P P **01 47 18.4 +0.7**
PDAR Pinedale Array 73.27 330 P P **01 47 18.8 +0.4**
2.5nm,1.0s,mb4.0,baz=131,slow=6.5,SNR=14
PDAR pP pP 01 47 45.9 -0.4
6.7nm,1.0s,baz=127,slow=7.3,SNR=8.8
PDAR sP sP 01 48 00.2 +2.1
9.9nm,1.1s,baz=143,slow=7.4,SNR=5.5
BW06 Boulder Array 73.27 330 *e*P P **01 47 18.4 0.0**
9.9nm,1.0s,mb4.6
HWUT Hardware Ranch 73.36 328 *e*P P **01 47 19.6 +0.6**
26nm,0.9s,mb5.0
HWUT *e*pP pP 01 47 46.8 -0.1
SPUT South Promonto 73.59 327 *e*P P **01 47 20.5 +0.2**
TPH Tonopah 73.89 322 P P **01 47 23.1 +0.9**
41nm,1.0s,mb5.1
AHID Auburn Hatcher 74.00 329 *e*P P **01 47 23.2 +0.5**
12nm,0.6s,mb4.8
AHID *e*pP pP 01 47 50.4 -0.2
HVU Hansel Valley 74.10 327 *e*P P **01 47 23.8 +0.5**
HVU *e*pP pP 01 47 51.0 -0.3
MTUM Tungsten Hills 74.19 321 *e*P P **01 47 24.3 +0.4**
MTUM *e*pP pP 01 47 52.3 +0.4
ULM Lac du Bonnet 74.34 342 P P **01 47 24.1 -0.3**
3.5nm,0.4s,mb4.4,baz=152,slow=5.1,SNR=12
ULM pP pP 01 47 52.2 -0.3
18nm,0.7s,baz=148,slow=5.6,SNR=12
ULM Lac du Bonnet 74.34 342 P P **01 47 24.1 -0.3**
ULM pP pP 01 47 52.2 -0.3
SNOW Snow King Moun 74.36 330 *e*P P **01 47 25.9 +1.2**
SNOW *e*pP pP 01 47 53.3 +0.5
LOHW Long Hollow 74.41 330 *e*P P **01 47 25.3 +0.3**
17nm,1.0s,mb4.7
WUWY Wally Ulrich 74.42 330 *e*P P **01 47 25.2 +0.2**
WUWY *e*pP pP 01 47 53.1 +0.1
WUWY *e*sP sP 01 48 04.9 0.0
TPAW Teton Pass 74.48 329 *e*P P **01 47 26.1 +0.7**
RRI2 Red Ridge 74.55 329 *e*P P **01 47 25.5 -0.3**
MOOW Moose Ponds 74.58 330 *e*P P **01 47 25.6 -0.3**
MOOW *e*pP pP 01 47 53.9 -0.1
OMM Old Mammoth Mi 74.62 321 *e*P P **01 47 27.3 +1.0**
OMM *e*pP pP 01 47 54.8 +0.4
ELK Elko 74.64 325 P P **01 47 28.1 +1.7**
3.9nm,0.9s,mb4.1,baz=142,slow=4.2,SNR=12
ELK pP pP 01 47 55.2 +0.7
20nm,1.0s,baz=119,slow=4.6,SNR=21
ELK Elko 74.64 325 *e*P P **01 47 26.2 -0.2**
30nm,1.0s,mb5.0
ELK *e*pP pP 01 47 54.2 -0.2
MNV Mina 74.68 322 *e*P P **01 47 27.3 +0.7**
9.3nm,1.4s,mb4.3
MNV *e*pP pP 01 47 54.8 +0.2
NVAR Mina Array Bea 74.76 322 P P **01 47 28.9 +1.7**
2.7nm,0.8s,mb4.0,baz=138,slow=7.8,SNR=17
NVAR pP pP 01 47 56.5 +1.3
25nm,0.9s,baz=135,slow=7.5,SNR=37
NVAR Mina Array Bea 74.76 322 P P **01 47 28.9 +1.8**
NVAR pP pP 01 47 56.5 +1.3
IMW Indian Meadow 74.78 330 *e*P P **01 47 27.7 +0.6**
LAO LASA Array 74.89 334 *e*P P **01 47 27.7 0.0**
14nm,1.0s,mb4.6
LAO *e*pP pP 01 47 55.2 -0.5
LAO *e*sP sP 01 48 06.2 -1.4
SCHQ Schefferville 74.94 1 P P **01 47 27.7 -0.1**
11nm,0.7s,mb4.7,baz=188,slow=3.7,SNR=27
SCHQ pP pP 01 47 56.7 +0.9
54nm,0.9s,baz=160,slow=4.3,SNR=23
SCHQ Schefferville 74.94 1 *e*P P **01 47 27.2 -0.6**
19nm,1.0s,mb4.8
SCHQ *e*pP pP 01 47 56.0 +0.2
LKWY Lake 75.04 331 *e*P P **01 47 28.7 +0.2**
32nm,0.9s,mb5.0
LRV Little Rabbit 75.08 319 P P **01 47 29.2 +0.2**
YNR Norris Junctio 75.28 330 P P **01 47 30.8 +0.9**
YMR Madison River 75.38 330 *e*P P **01 47 31.7 +1.2**
QLMT Earthquake Lak 75.72 330 *e*P P **01 47 34.1 +1.7**
CMB Columbia Colle 75.73 320 P P **01 47 33.3 +0.6**
14nm,1.0s,mb4.6
CMB *e*pP pP 01 48 00.7 -0.1
WCN Washoe City 76.19 322 P P **01 47 35.8 +0.7**
15nm,1.1s,mb4.6
HLID Hailey 76.23 328 *e*P P **01 47 36.2 +0.9**
43nm,0.9s,mb5.2
HLID *e*pP pP 01 48 04.1 +0.7
PAHR Pah Rah Range 76.24 322 P P **01 47 36.1 +0.7**
45nm,0.9s,mb5.2
MCMT McKenzie Canyo 76.39 329 *e*P P **01 47 37.3 +1.1**
BOZ Bozeman (W) 76.42 331 *e*P P **01 47 37.1 +0.7**
66nm,1.6s,mb5.1
BOZ *e*pP pP 01 48 04.2 -0.3
HRY Holter Researc 77.32 331 *e*P P **01 47 42.1 +0.8**
HRY *e*pP pP 01 48 10.4 +0.9
NSHM Saint Helena R 77.38 319 P P **01 47 42.1 +0.2**
WVOR Wild Horse Val 77.65 325 P P **01 47 43.9 +0.7**
14nm,1.1s,mb4.6
WVOR *e*pP pP 01 48 11.3 -0.1
VNDA Vanda 77.96 190 P P **01 47 45.7 +1.4**
2.4nm,0.7s,mb4.1,baz=130,slow=7.3,SNR=19
VNDA sP sP 01 48 27.1 +2.5
4.6nm,0.9s,baz=35,slow=1.1,SNR=5.1
VNDA Vanda 77.96 190 P P **01 47 45.7 +1.3**
VNDA sP sP 01 48 27.1 +2.5
CHMT Chamberlain Mo 78.12 331 *e*P P **01 47 46.6 +0.9**
CHMT *e*pP pP 01 48 14.0 +0.1
MOD Modoc 78.21 323 P P **01 47 47.3 +1.0**
31nm,1.3s,mb4.9
MSO Missoula 78.38 330 *e*P P **01 47 47.8 +0.7**
3.6nm,0.9s,mb4.1
BMO Blue Mountains 78.61 327 *e*P P **01 47 48.7 +0.3**
41nm,1.1s,mb5.2
BMO *e*pP pP 01 48 16.6 -0.1
WDC Whiskeytown Da 78.64 321 *e*P P **01 47 47.9 -0.8**
4.2nm,0.8s,mb4.3
WDC *e*pP pP 01 48 15.5 -1.5
SUR Sutherland 78.95 120 P P **01 47 51.9 +1.3**
25nm,0.9s,mb5.0,baz=260,slow=5.2,SNR=11
SUR Sutherland 78.95 120 *e*P P **01 47 51.0 +0.4**
11nm,0.7s,mb4.8
YBH Yreka Blue Hor 79.47 322 *e*P P **01 47 53.0 -0.3**
13nm,1.5s,mb4.5
YBH *e*pP pP 01 48 20.4 -1.1
KHMM Horse Mountain 79.53 321 P P **01 47 54.3 +0.7**
WALA Waterton Lakes 80.00 332 *e*P P **01 47 56.2 +0.3**
7.5nm,0.9s,mb4.5
WALA *e*pP pP 01 48 24.1 -0.1
WALA *e*sP sP 01 48 36.8 +0.5
FFC Flin Flon 80.06 341 P P **01 48 25.9 +1.5**
92nm,1.1s,SNR=8.5
TSUM Tsumeb 80.16 107 P P **01 47 58.2 +0.8**
33nm,1.1s,mb5.1,baz=240,slow=5.7,SNR=24
TSUM pP pP 01 48 28.5 +2.9
18nm,0.9s,baz=242,slow=6.2,SNR=4.3
TSUM Tsumeb 80.16 107 *e*P P **01 47 57.5 +0.1**
52nm,1.1s,mb5.3
HUMO Hull Mountain 80.17 323 *e*P P **01 47 56.7 -0.2**
5.7nm,1.1s,mb4.3
HUMO *e*pP pP 01 48 25.0 -0.3
HAWA Hanford 80.80 327 *e*P P **01 48 00.9 +0.7**
0.7nm,0.8s
HAWA *e*pP pP 01 48 29.2 +0.7

NEW Newport 80.91 330 LR LR 02 25 16.9
comp=Z,98nm,20.3s,baz=6.6,slow=36
KEBM Edson Butte 81.13 322 P P **01 48 02.5 +0.5**
EGRO El Granado 81.43 45 P P **01 48 03.9 +0.2**
76nm,1.7s,mb5.2
FCC Fort Churchill 81.61 347 *e*P P **01 48 04.1 -0.1**
49nm,1.2s,mb5.2
FCC *e*pP pP 01 48 32.8 +0.3
EVO Evora 81.64 44 *e*P P **01 48 04.1 -0.7**
13nm,1.0s,mb4.4
EVO *e*R
162nm,20.5s
EMIN Mina Concepcio 82.10 45 P P **01 48 08.1 +0.9**
12nm,1.0s,mb4.7
ESPR Espera 82.16 46 P P **01 48 08.0 +0.5**
6.6nm,0.6s,mb4.6
EJIF Jimena Fronter 82.19 47 P P **01 48 09.0 +1.3**
5.1nm,0.6s,mb4.5
EBAD Badajoz 82.42 44 P P **01 48 09.7 +1.0**
18nm,1.3s,mb4.8
EDM Edmonton 82.86 335 *e*P P **01 48 10.1 -0.6**
EDM *e*pP pP 01 48 37.3 -1.8
ELOJ Sierra Loja 83.46 47 P P **01 48 15.0 +0.9**
5.7nm,0.5s,mb4.7
ELOB Lobios 83.50 41 P P **01 48 15.1 +0.9**
24nm,1.7s,mb4.7
EADA Adamuz 83.71 46 P P **01 48 16.3 +0.9**
11nm,1.1s,mb4.6
BOSA Boshof 83.78 118 *e*P P **01 48 15.8 -0.1**
50nm,1.0s,mb5.3
BOSA *e*sP sP 01 48 56.9 +0.4
EBAN Banos Encina 84.24 46 P P **01 48 18.8 +0.9**
11nm,0.9s,mb4.7
ECAL Calabor 84.36 41 P P **01 48 19.1 +0.6**
24nm,1.4s,mb4.8
ERUA La Rua 84.36 41 P P **01 48 19.8 +1.4**
8.7nm,0.8s,mb4.6
EINC Incio 84.38 41 P P **01 48 19.1 +0.6**
39nm,1.5s,mb5.0
EQES Quesada 84.53 46 P P **01 48 19.3 -0.1**
24nm,1.5s,mb4.9
ESDC Sonseca Array 84.91 44 P P **01 48 21.9 +0.6**
3.5nm,0.9s,mb4.3,baz=244,slow=4.9,SNR=12
ESDC pP pP 01 48 53.1 +3.2
8.0nm,0.9s,baz=243,slow=5.1,SNR=8.9
ESDC Sonseca Array 84.91 44 P P **01 48 22.0 +0.8**
9.8nm,1.3s,mb4.6
LBTB Lobatse 85.29 115 *e*P P **01 48 23.5 0.0**
40nm,1.0s,mb5.3
LBTB *e*pP pP 01 48 51.8 -0.4
LBTB *e*sP sP 01 49 04.8 +0.7
MAW Mawson 85.32 163 P P **01 48 23.4 +0.8**
7.3nm,0.8s,mb4.6,baz=258,slow=7.4,SNR=3.0
MAW pP pP 01 48 53.1 +1.8
7.6nm,0.8s,baz=181,slow=3.2,SNR=2.5
MAW LR LR 02 28 32.3
comp=Z,100nm,18.4s,baz=74,slow=37
ETOB Tobarra 85.99 46 P P **01 48 26.6 -0.1**
10nm,1.2s,mb4.6
EMOS Mosqueruela 87.57 45 P P **01 48 34.4 +0.2**
4.5nm,0.7s,mb4.6
ERTA Horta de San J 88.39 45 P P **01 48 37.6 -0.5**
13nm,1.5s,mb4.7
SJPF Ste Jean 88.44 43 *e*P P **01 48 38.9 +0.6**
SJPF *e*pP pP 01 49 09.8 +2.7
EBIE Bielsa 89.10 43 P P **01 48 40.9 -0.5**
3.2nm,0.7s,mb4.5
QUIF Quistinic 89.71 38 *e*P P **01 48 44.3 +0.2**
YKA Yellowknife Ar 90.22 341 P P **01 48 47.1 +0.9**
10nm,0.8s,mb5.0,baz=135,slow=4.4,SNR=134
YKA pP pP 01 49 16.0 +0.9
38nm,0.8s,baz=135,slow=4.8,SNR=21
YKA PP PP 01 52 22.6 -0.8
1.3nm,1.0s,baz=129,slow=8.4,SNR=3.8
SGMF Saint Gilles 90.23 38 *e*P P **01 48 46.6 0.0**
14nm,1.0s,mb4.7
YKW3 Yellowknife Ar 90.28 341 *e*P P **01 48 47.1 +0.7**
YKW3 *e*pP pP 01 49 15.9 +0.5
LFF La Frestale 90.56 42 *e*P P **01 48 48.4 +0.2**
20nm,0.6s,mb5.1
LFF *e*pP pP 01 49 19.0 +1.8
MTLF Montolieu 90.75 44 *e*P P **01 48 49.0 -0.2**
MTLF *e*pP pP 01 49 19.7 +1.6
MFF Saint Martin d 90.82 40 *e*P P **01 48 50.5 +1.1**
16nm,1.0s,mb4.8
LSZ Lusaka 91.01 107 *e*P P **01 48 52.2 +1.2**
12nm,1.2s,mb4.9
RJF Les Rejaudoux 91.22 42 *e*P P **01 48 50.6 -0.7**
RJF *e*R
168nm,22.0s
GRR Gorron 91.28 38 *e*P P **01 48 50.9 -0.6**
GRR *e*pP pP 01 49 21.5 +1.0
CAF Calviac 91.39 42 *e*P P **01 48 52.0 -0.1**
7.0nm,0.8s,mb4.5
FLN La Foliniere 91.68 38 *e*P P **01 48 53.7 +0.4**
9.8nm,0.9s,mb4.7
FLN *e*R
161nm,21.8s
TCF Toulx Ste Croi 92.11 41 *e*P P **01 48 55.4 +0.1**
TCF *e*pP pP 01 49 25.8 +1.4
BGF Bois d'Agland 92.62 41 *e*P P **01 48 57.9 +0.2**
BGF *e*pP pP 01 49 28.3 +1.6
AVF Avril sur Loir 93.04 41 *e*P P **01 48 59.6 0.0**
AVF *e*pP pP 01 49 30.0 +1.3
SMRF Simiane la Rot 93.22 44 *e*P P **01 49 00.4 -0.1**
16nm,1.2s,mb4.9
SSF Saint Saulge 93.25 41 *e*P P **01 49 00.3 -0.3**
SMF Signal de Mont 93.28 41 *e*P P **01 49 00.2 -0.5**
2.9nm,0.6s,mb4.5
DLBC Dease Lake 93.33 332 P P **01 49 01.4 +0.8**
ORIF Oris-en-Rattie 93.81 43 *e*P P **01 49 03.4 +0.3**
ORIF *e*pP pP 01 49 34.8 +2.6
ORIF *e*R
324nm,21.5s
MBDF Montbardon 94.31 44 *e*P P **01 49 05.4 0.0**
2.1nm,0.7s,mb4.3
LPL La Plagne 94.61 43 *e*P P **01 49 07.8 +1.0**
13nm,1.3s,mb4.9
LPG La Plagne 94.61 43 *e*P P **01 49 07.9 +1.1**
PGF Pioggiola 94.91 46 *e*P P **01 49 08.4 +0.2**
12nm,1.1s,mb4.9
SUMG Summit 94.95 9 *e*P P **01 49 09.3 +1.6**
19nm,1.0s,mb5.5
SUMG *e*pP pP 01 49 38.9 +2.1
BAIF Baives 95.00 38 *e*P P **01 49 08.3 -0.1**
GERES GERESS Array B 100.26 42 pP 01 50 03.7
0.5nm,0.8s,baz=233,slow=6.7,SNR=3.3
BRTR Keskin Array B 112.03 54 PKiKP 01 54 21.9
0.6nm,0.8s,baz=180,slow=2.5,SNR=4.2
BRTR pPKiKP 01 54 53.0
2.0nm,1.1s,baz=243,slow=3.2,SNR=3.6
KIWB Kanaga Island 117.13 319 PKP PKPdf 01 54 26.2 -3.1
GNI Garni 120.56 55 PKP PKPdf 01 54 38.4 +2.1
3.1nm,0.6s,baz=316,slow=20,SNR=2.6
GNI Garni 120.56 55 PKP PKPdf 01 54 38.4 +2.1
ASAR Alice Springs 130.98 208 PKP PKPdf 01 54 57.6 +0.9
1.4nm,0.5s,baz=180,slow=0.9,SNR=4.6
ASAR pPKP 01 55 28.8
4.7nm,1.0s,baz=143,slow=1.9,SNR=8.2
ASPA Alice Springs 130.98 208 *e*PKP PKPdf 01 54 56.5 -0.2
ASPA *e*pPKP 01 55 29.0
WB2 Warramunga Arr 134.00 211 *e*PKP PKPdf 01 55 03.6 +1.1
WRA Warramunga Arr 134.00 211 PKP PKPdf 01 55 04.0 +1.5
1.7nm,0.5s,baz=159,slow=1.7,SNR=11
WRA pPKP 01 55 34.4
3.0nm,0.8s,baz=150,slow=1.6,SNR=6.0
WRAB Tennant Creek 134.00 211 *e*PKP PKPdf 01 55 03.8 +1.4
CHKZ Chkalovo 134.56 33 *e*PKP PKPdf 01 55 03.4 +0.8
BVAR Borovoye Array 134.77 34 PKP PKPdf 01 55 04.7 +1.6
0.9nm,0.7s,baz=270,slow=1.5,SNR=5.6
BVAR pPKP 01 55 36.4
2.1nm,0.8s,baz=288,slow=4.7,SNR=7.1
FITZ Fitzroy Crossi 139.24 201 *e*PKP PKPdf 01 55 15.6 +3.5
5.0nm,0.7s
FITZ *e*pPKP 01 55 46.7
ZAL Zalesovo 140.87 25 PKP PKPdf 01 55 14.2 +0.1
2.2nm,0.5s,baz=334,slow=2.1,SNR=9.3
ZAL pPKP 01 55 44.4
2.5nm,0.7s,baz=171,slow=4.7,SNR=3.0
ZAL Zalesovo 140.87 25 PKP PKPdf 01 55 14.2 +0.1
ZAL pPKP 01 55 44.4
AAK Ala-Archa 142.00 46 PKP PKPdf 01 55 17.9 +1.5
KSH Kashi 144.25 50 *e*PKP PKPdf 01 55 23.0 +2.6
KSH *e*APKP 01 55 49.0
KSH *e*XPKP 01 56 00.0
KSH *e*PP PP 01 58 42.0 +2.5
KSH *e*PKS PKS 01 58 57.4 +2.4
KSH *e*SKS SKS 02 02 22.0 +5.2
KSH *e*SKKS 02 05 20.4
KSH PP PP
comp=Z,330nm,4.8s
KSH LR LR
comp=N,440nm,4.8s
KSH LR LR
comp=E,530nm,4.2s
TRD Trivandrum 144.78 105 *e*P PKPdf 01 55 22.5 +0.5
TRD AMb AMB 01 55 25.9
comp=Z,70nm,0.6s
ASAJ Asahikawa 144.86 319 PKP PKPdf 01 55 23.2 +1.9
comp=Z,22nm,0.9s,baz=221,slow=9.7,SNR=1.9
AJM Ajmer 145.90 73 *e*P PKPdf 01 55 25.7 +2.0
AJM AMb AMB 01 55 29.2
comp=Z,89nm,1.4s
SDNR Sundarnagar 147.33 63 *e* PKPdf 01 55 31.5 +5.6
NDI New Delhi 147.99 68 *e*P PKPdf 01 55 28.5 +1.5
NDI *e* 01 56 03.5
TLY Talaya 148.21 9 PKP PKPdf 01 55 28.8 +2.2
KLP Kalpa 148.39 63 *e*P PKPdf 01 55 31.3 +3.7
KLP AMb AMB 01 55 35.7
comp=Z,84nm,0.8s
HYB Hyderabad 148.89 90 *e*P PKPdf 01 55 31.0 +2.3
HYB *e* 01 55 35.5
HYB *e* 01 56 06.0
HYB Hyderabad 148.89 90 *i* PKP PKPdf 01 55 31.0 +2.3
HYB *e* 01 55 35.5
HYB *e* 01 56 06.0
WMQ Urumqi 149.45 35 PKP PKPdf 01 55 33.0 +4.1
WMQ APKP 01 56 05.0
WMQ XPKP 01 56 16.0
WMQ PP PP
comp=Z,171nm,5.9s
WMQ LR LR
comp=Z,282nm,31.0s
HIA Hailar 150.42 349 *e*PKP PKPdf 01 55 32.2 +2.0
MAJO Matsushiro 151.54 310 PKP PKPdf 01 55 35.0 +2.7
MAT Matsushiro 151.54 310 *e*PKP PKPdf 01 55 40.2 +7.9
SONM Songino Array 152.34 7 PKP PKPdf 01 55 35.8 +2.7
comp=Z,2.0nm,0.8s,baz=339,slow=1.5,SNR=12
SONM PKPbc PKPdf 01 55 42.8 +10
comp=Z,2.3nm,0.4s,baz=309,slow=1.3,SNR=27
SONM pPKPbc 01 56 13.2
comp=Z,2.5nm,0.7s,baz=325,slow=4.6,SNR=3.1
CN2 Changchun 153.85 336 *e*PKP PKPdf 01 55 38.6 +3.3
SNY Shenyang 156.25 337 ⇑PKP PKPdf 01 55 38.8 +0.3
GTA Gaotai 158.63 25 *e*PKP PKPdf 01 55 44.8 +3.1
GTA PP PP
comp=Z,272nm,6.1s
GTA LR LR
comp=N,134nm,14.9s
GTA LR LR
comp=E,215nm,17.2s
GTA LR LR
comp=Z,351nm,13.8s
HHC Hu-ho-hao-te 159.62 359 *e*PKP PKPdf 01 55 46.4 +3.6
HHC APKP 01 56 15.8
HHC XPKP 01 56 27.0
BJI Beijing 159.99 349 PKP PKPdf 01 55 46.5 +3.3
BJI SS SS 02 20 10.8 +5.1
BJI LR LR
comp=N,397nm,12.8s
BJI LR LR
comp=E,244nm,10.8s
BJI LR LR
comp=Z,75nm,19.8s
SHL Shillong 161.39 70 *e*P PKPdf 01 55 49.0 +4.0
LZH Lanzhou 163.06 21 *e*PKP PKPdf 01 55 47.5 +1.1
LZH APKP 01 56 15.3
LZH XPKP 01 56 25.3
LZH PP PP 02 00 25.6 +1.1
LZH SS SS 02 20 39.5 +1.9
LZH PP PP
comp=Z,257nm,8.3s
LZH LR LR
comp=N,579nm,18.1s
LZH LR LR
comp=Z,998nm,20.0s
LZH Lanzhou 163.06 21 *e*PKP PKPdf 01 55 47.5 +1.1
LZH pPKP 01 56 15.2
LZH sPKP 01 56 25.2
NJ2 Nanjing 166.57 331 *e*PKP PKPdf 01 55 53.0 +3.3
NJ2 APKP 01 56 18.3
NJ2 XPKP 01 56 30.1
NJ2 PP PP 02 00 48.0 +4.8
NJ2 PP PP
comp=Z,260nm,4.5s
NJ2 LR LR
comp=N,880nm,34.0s
NJ2 LR LR
comp=E,1μm,39.6s
NJ2 LR LR
comp=Z,320nm,29.1s
KMI Kunming 170.80 58 PKP PKPdf 01 55 54.0 +1.5
KMI LR LR
comp=Z,60nm,42.6s
GYA Guiyang 172.61 34 PKP PKPdf 01 55 54.9 +1.4
GYA APKP 01 56 21.8
GYA XPKP 01 56 32.4
GYA PP PP
comp=Z,110nm,5.2s

*NEIC **19** 01:38:30.2,51.61N×6.74E,h1km,ML2.5(LDG),After LDG.*
*BUG **19** 01:38:30.0,51.54N×6.78E,h1km,ML1.6*
*BNS **19** 01:38:30.2±0.5,51.61N×6.76E,h1km,ML2.0*
*CSEM **19** 01:38:30.6±0.1,51.58N×6.74E,h2km,ML2.5/7,Error ellipse: s-maj=2.0km s-min=1.4km az=149.0,Suspected Mining induced.*
*LDG **19** 01:38:30.2±0.2,51.61N×6.74E,h1km,Ml2.5/8,Error ellipse: s-maj=2.8km s-min=1.8km az=24.0,Suspected Mining induced.*
*BGR **19** 01:38:31.4±0.3,51.53N×6.82E,h1km,ML2.0/4,Error ellipse: s-maj=4.4km s-min=3.3km az=101.0*

ISC 19 01:38:28.4±0.4,**51.49N**±0.02×**6.65E**±0.04,**n38,σ1$20/70,1C,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUG	**Bochum--Univer**	**0.39**	**98**	⇑*i*Pg	**Pg**	**01 38 37.1**	**+1.0**
BUG				*e*Sg	**Sg**	**01 38 42.3**	**+1.0**
BUG	**Bochum--Univer**	**0.39**	**98**	*e*Pg	**Pg**	**01 38 37.2**	**+1.1**
BUG				*e*Sg	**Sg**	**01 38 42.0**	**+0.7**
WTSB	**Winterswijk** SNR=11	**0.48**	**11**	*e*Pg	**Pg**	**01 38 38.4**	**+0.4**
WTSB	SNR=2.9			*e*Sg	**Sg**	**01 38 44.9**	**+0.4**
WTSB	**Winterswijk** 23nm,0.2s	**0.48**	**11**	*e*Pg	**Pg**	**01 38 38.2**	**+0.2**
WTSB				*e*Sg	**Sg**	**01 38 44.7**	**+0.3**
WTSB	**Winterswijk**	**0.48**	**11**	*e*Sg	**Sg**	**01 38 44.7**	**+0.3**
BNS	**Bensberg**	**0.62**	**148**	*e*Pg	**Pg**	**01 38 43.6**	**+2.8**
BNS	70nm,0.8s			*e*Sg	**Sg**	**01 38 52.8**	**+3.6**
HGN	**Heimansgroeve** SNR=27	**0.86**	**212**	*e*Pg	**Pg**	**01 38 48.9**	**+3.4**
HGN	SNR=2.6			*e*Sg	**Sg**	**01 39 02.1**	**+5.1**
HGN	**Heimansgroeve** 7.4nm,0.2s	**0.86**	**212**	*e*Pg	**Pg**	**01 38 49.1**	**+3.6**
HGN				*e*Sg	**Sg**	**01 39 02.8**	**+5.8**
KLL	**Kalltalsperre**	**0.88**	**194**	*e*Pg	**Pg**	**01 38 48.7**	**+2.9**
KLL	20nm,0.2s			*e*Sg	**Sg**	**01 39 03.1**	**+5.6**
STB	**Steinbach**	**0.91**	**172**	*e*Pg	**Pg**	**01 38 49.7**	**+3.2**
STB	30nm,0.4s			*e*Sg	**Sg**	**01 39 03.7**	**+5.1**
MEM	**Membach**	**0.97**	**205**	S	**Sg**	**01 39 05.2**	**+4.4**
IBBN	**Ibbenburen** SNR=2.1	**1.06**	**40**	*e*Pg	**Pg**	**01 38 50.4**	**+0.8**
IBBN	SNR=4.1			*e*Sg	**Sg**	**01 39 02.8**	**-1.0**
WIT	**Witteveen** SNR=1.9	**1.32**	**0**	*e*Sg	**Sg**	**01 39 12.4**	**0.0**
TNS	**Taunus Mts** SNR=1.6	**1.71**	**138**	*e*Pn	**Pn**	**01 39 01.8**	**+2.2**
TNS	SNR=1.6			*e*Pg	**Pg**	**01 39 02.7**	**+0.2**
TNS	SNR=1.4			*e*Sg	**Sg**	**01 39 23.4**	**-1.8**

TNS	**Taunus Mts**	**1.71**	**138**	*e*Pn	**Pn**	**01 39 01.8**	**+2.2**
TNS				*e*Pg	**Pg**	**01 39 02.7**	**+0.3**
TNS				*e*Sg	**Sg**	**01 39 23.4**	**-1.8**
GIVF	**Givet**	**1.81**	**221**	*e*Pg	**Pg**	**01 39 06.2**	**+1.6**
GIVF				*e*Sn	**Sn**	**01 39 25.6**	**+0.5**
GIVF				*e*Sg	**Sg**	**01 39 31.4**	**+2.7**
	11nm,0.2s						
WLF	**Walferdange**	**1.86**	**190**	*e*Pn	**Pn**	**01 39 05.6**	**+3.8**
	SNR=2.7						
WLF				*e*Sg	**Sg**	**01 39 30.8**	**+0.6**
	SNR=1.9						
BAIF	**Baives**	**2.12**	**228**	*e*Pn	**Pn**	**01 39 06.3**	**+0.9**
BAIF				*e*Pg	**Pg**	**01 39 11.7**	**+1.1**
BAIF				*e*Sg	**Sg**	**01 39 38.8**	**0.0**
	8.1nm,0.4s						
BAIF	**Baives**	**2.12**	**228**	*e*Pg	**Pg**	**01 39 11.7**	**+1.1**
BAIF				*e*Sg	**Sg**	**01 39 38.8**	**0.0**
	4.1nm,0.4s						
CLZ	**Clausthal**	**2.34**	**80**	*e*Pg	**Pg**	**01 39 13.7**	**-1.5**
	SNR=2.0						
CLZ				*e*Sg	**Sg**	**01 39 40.5**	**-5.9**
	SNR=3.3						
CLZ	**Clausthal**	**2.34**	**80**	*e*Pg	**Pg**	**01 39 13.7**	**-1.4**
CLZ				*e*Sg	**Sg**	**01 39 40.5**	**-5.9**
RFYF	**Reffroy**	**2.97**	**195**	*e*Pn	**Pn**	**01 39 18.4**	**+0.8**
RFYF				*e*Pg	**Pg**	**01 39 26.9**	**-0.7**
RFYF				*e*Sg	**Sg**	**01 40 07.2**	**+0.1**
	3.5nm,0.3s						
CDF	**Champ du Feu**	**3.11**	**172**	*e*Pn	**Pn**	**01 39 19.6**	**0.0**
CDF				*e*Pg	**Pg**	**01 39 30.2**	**-0.3**
CDF				*e*Sg	**Sg**	**01 40 11.2**	**-0.7**
	1.6nm,0.4s						
MEZF	**Maizieres J'vi**	**3.17**	**200**	*e*Pn	**Pn**	**01 39 20.9**	**+0.4**
MEZF				*e*Sg	**Sg**	**01 40 13.3**	**-0.5**
	6.8nm,0.5s						
MOX	**Moxa**	**3.24**	**103**	*e*Sg	**Sg**	**01 40 12.6**	**-3.8**
SFTF	**Sexfontaines**	**3.45**	**198**	*e*Pn	**Pn**	**01 39 24.7**	**+0.2**
SFTF				*e*Pg	**Pg**	**01 39 36.4**	**-0.9**
SFTF				*e*Sg	**Sg**	**01 40 22.3**	**-1.1**
	3.9nm,0.4s						
HINF	**Hinteralfeld**	**3.68**	**178**	*e*Pn	**Pn**	**01 39 28.0**	**+0.2**
SSF	**Saint Saulge**	**4.89**	**206**	*e*Pn	**Pn**	**01 39 44.5**	**-0.4**
SSF				*e*Sg	**Sg**	**01 41 06.9**	**-4.3**
	0.9nm,0.5s						
CABF	**La Chapelle**	**4.90**	**185**	*e*Pn	**Pn**	**01 39 43.7**	**-1.4**
HYF	**Humbligny**	**4.97**	**213**	*e*Pn	**Pn**	**01 39 46.0**	**-0.1**
AVF	**Avril sur Loir**	**5.18**	**206**	*e*Pn	**Pn**	**01 39 48.0**	**-1.0**
SMF	**Signal de Mont**	**5.19**	**202**	*e*Pn	**Pn**	**01 39 47.4**	**-1.8**
LDF	**La Druitiere**	**5.24**	**239**	*e*Pn	**Pn**	**01 39 49.4**	**-0.5**
FLN	**La Foliniere**	**5.34**	**242**	*e*Pn	**Pn**	**01 39 50.6**	**-0.7**
FLN				*e*Sn	**Sn**	**01 40 49.4**	**-5.0**
BGF	**Bois d'Agland**	**5.54**	**208**	*e*Pn	**Pn**	**01 39 53.3**	**-0.7**
GRR	**Gorron**	**5.76**	**240**	*e*Pn	**Pn**	**01 39 56.4**	**-0.8**
GRR				*e*Sn	**Sn**	**01 40 59.2**	**-5.7**
RJF	**Les Rejaudoux**	**7.07**	**211**	*e*Pn	**Pn**	**01 40 13.7**	**-2.0**
LFF	**La Frestale**	**7.65**	**213**	*e*Pn	**Pn**	**01 40 21.8**	**-2.0**

WEL 19 01:38:29.5±0.4, 45.31S×167.00E, h22km±2km, ML3.8/12, 1C-3D, Error ellipse: s-maj=3.6km s-min=2.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.20**	**147**	⇑*e*P*	Pb	01 38 34.5	-0.3
DCZ				S*	Sb	01 38 38.6	+0.2
DCZ				S*	Sb	01 38 38.7	+0.3
MLZ	**Mavora Lakes**	**0.83**	**93**	⇓*e*P*	Pb	01 38 44.0	-1.1
MLZ				*e*S*	Sb	01 38 54.7	-1.0
MLZ				S*	Sb	01 38 55.0	-0.7
WHZ	**Wether Hill Ro**	**0.89**	**132**	⇓*e*P*	Pb	01 38 45.6	-0.4
WHZ				S*	Sb	01 38 58.2	+0.8
MSZ	**Milford Sound**	**0.92**	**46**	*e*P*	Pb	01 38 44.0	-2.6
MSZ				S*	Sb	01 38 59.1	+0.7
WKZ	**Wanaka**	**1.51**	**72**	PN	Pn	01 38 55.3	-0.3
EAZ	**Earnscleugh**	**1.63**	**88**	*e*PN	Pn	01 38 56.7	-0.6
JCZ	**Jackson Bay**	**1.76**	**46**	*e*PN	Pn	01 38 57.7	-1.5
TUZ	**Tuapeka**	**1.96**	**110**	PN	Pn	01 39 01.5	-0.5
LBZ	**Lake Benmore**	**2.45**	**69**	PN	Pn	01 39 07.4	-1.6
ODZ	**Otahua Downs**	**2.59**	**85**	⇓PN	Pn	01 39 09.3	-1.7
FOZ	**Fox Glacier**	**2.60**	**49**	PN	Pn	01 39 09.4	-1.8
RPZ	**Rata Peaks**	**3.31**	**63**	*e*PN	Pn	01 39 17.8	-3.5
DSZ	**Denniston Nort**	**4.99**	**46**	*e*PN	Pn	01 39 40.8	-4.3
THZ	**Tophouse**	**5.57**	**53**	*e*PN	Pn	01 39 50.2	-3.0
QRZ	**Quartz Range**	**6.04**	**44**	*e*PN	Pn	01 39 55.3	-4.6

NIED ***19*** *01:51:00, 43.30N×147.80E, h14km, Mw4.3 Best double couple: M₀3.3×10¹⁵ NP1:φs31°, δ62°, λ83°. NP2:φs226°, δ28°, λ104°.*
JMA ***19*** *01:51:10.7±0.3, 43.31N×147.83E, M4.7*
BJI ***19*** *01:51:11.8, 43.10N×148.00E, h24km, mB5.4, mb4.8, Ms4.4, Msz4.1*
MOS ***19*** *01:51:12.3±1.8, 43.27N×148.14E, h36km, mb4.9/7, Error ellipse: s-maj=18.0km s-min=9.3km az=116.8*
NEIC ***19*** *01:51:14.4±1.3, 43.13N×147.96E, mb4.6/5, Error ellipse: s-maj=34.0km s-min=12.4km az=178.0*
IDC ***19*** *01:51:14.6±2.6, 43.15N×148.05E, h44km±7km, mb3.8/12, mb1 3.9/13, mb1mx3.8/22, mbtmp4.0/13, ML3.6/1, MS3.6/2, Ms1 3.6/2, ms1mx2.8/18, Error ellipse: s-maj=79.3km s-min=20.6km az=177.0*
SKHL ***19*** *01:51:14.0±3.0, 43.57N×147.90E, h42km±1km, mb5.0/1*
ISC 19 01:51:13.5±0.9, 43.47N±0.06×147.92E±0.07, h37km±6km, h42km±1.2km:pP-P, n62, σ1°01/71, mb4.3/20, MS4.0/5, 3C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.59**	**267**	P	**P**	**01 51 39.3**	**-0.4**
NEM2				*e*S	**S**	**01 52 00.0**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**1.60**	**292**	⇑*i*PN	**P**	**01 51 39.7**	**-0.1**
YUK				pmax	pmax		
	comp=Z,600nm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.9s						
YUK				pmax	pmax		
	comp=N,1μm,0.8s						
YUK				pmax	pmax		
	comp=E,2μm,0.9s						
YUK	**Yuzh-Kuril'sk**	**1.60**	**292**	⇑*i*P	**P**	**01 51 39.7**	**-0.1**
YUK				AMB	AMB	01 51 39.9	
	comp=E,600nm,0.3s						
YUK				AMB	AMB	01 51 40.3	
	comp=E,2μm,0.9s						
YUK				AMB	AMB	01 51 40.3	
	comp=E,3μm,0.9s						
YUK				*e*S	**S**	**01 51 59.0**	**-0.4**
YUK				A		01 52 06.8	
	comp=E,26μm,1.0s						
YUK				A		01 52 06.8	
	comp=E,18μm,1.0s						
YUK				A		01 52 07.5	
	comp=E,15μm,0.5s						
YUK				A		01 52 07.5	
	comp=E,5μm,0.5s						
KUR	**Kuril'sk**	**1.77**	**359**	*i* P	**P**	**01 51 41.0**	**-1.2**
KUR				AMB	AMB	01 51 49.0	
	comp=E,200nm,0.4s						
KUR				AMB	AMB	01 51 49.0	
	comp=E,160nm,0.4s						
KUR				*e*S	**S**	**01 52 03.5**	**-0.2**
KUR				A		01 52 10.0	
	comp=E,230nm,0.5s						
KUR				A		01 52 10.0	
	comp=E,980nm,0.5s						
KUR				A		01 52 19.0	
	comp=E,6μm,0.4s						
KUR				A		01 52 19.0	
	comp=E,12μm,0.4s						
JRA	**Rausu**	**2.08**	**284**	P	**P**	**01 51 47.3**	**+0.6**
JNK	**Nakash**	**2.33**	**274**	P	**P**	**01 51 49.8**	**-0.5**
JNK				*e*S	**S**	**01 52 17.7**	**-0.3**
JAK	**Akkeshi**	**2.40**	**260**	P	**P**	**01 51 50.8**	**-0.5**
JAK				*e*S	**S**	**01 52 19.6**	**-0.2**
JTKR	**Abashiri--Toko**	**2.95**	**281**	P	**P**	**01 51 59.9**	**+0.8**
JAR	**Ashorobuto**	**3.03**	**268**	P	**P**	**01 52 00.0**	**-0.3**
JAR				*e*S	**S**	**01 52 36.3**	**+0.6**
JOB	**Onbets**	**3.04**	**261**	P	**P**	**01 51 59.8**	**-0.6**
JMP	**Maruseppu**	**3.35**	**281**	P	**P**	**01 52 05.7**	**+0.9**
JCH	**Churui**	**3.45**	**257**	P	**P**	**01 52 05.5**	**-0.7**
JCH				*e*S	**S**	**01 52 44.9**	**-1.5**
JKK2	**Kamakawa 2**	**3.77**	**278**	P	**P**	**01 52 11.9**	**+1.1**
ERM	**Erimo**	**3.80**	**249**	Pn	**P**	**01 52 12.3**	**+1.2**
	comp=E,743nm,0.5s,SNR=27						
JFR	**Furan**	**3.90**	**267**	P	**P**	**01 52 13.6**	**+1.0**
ASAJ	**Asahikawa**	**3.91**	**281**	PN	**P**	**01 52 14.6**	**+1.9**
ASAJ				S	**S**	**01 53 08.6**	**+11**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				smax			
	comp=N,6.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,778nm,20.1s						
ASAJ	**Asahikawa**	**3.91**	**281**	P	**P**	**01 52 14.6**	**+1.9**
	comp=Z,2.9nm,0.3s,baz=107,slow=13,SNR=6.3						
ASAJ				S	**S**	**01 53 08.6**	**+11**
	comp=Z,5.7nm,0.3s,baz=122,slow=17,SNR=4.5						
ASAJ				LR	LR	01 53 54.6	
	comp=Z,778nm,20.1s,baz=170,slow=39						
JNBK	**Urakawa-nobuka**	**3.98**	**254**	P	**P**	**01 52 12.4**	**-1.3**
YSS	**Yuzh-Sakhalins**	**5.05**	**315**	*e*PN	**P**	**01 52 35.0**	**+6.2**
YSS				MLR	MLR		
	comp=Z,900nm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.05**	**315**	P	**P**	**01 52 31.7**	**+2.9**
	comp=Z,60nm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.05**	**315**	*e*P	**P**	**01 52 35.0**	**+6.2**
YSS				*e*S	**S**	**01 53 27.9**	**+1.2**
YSS				A		01 53 34.2	
	comp=Z,50nm,0.8s						
YSS				AMS	AMS	01 54 36.0	
	comp=Z,900nm,17.0s						
JKB	**Kayabe**	**5.32**	**255**	P	**P**	**01 52 31.5**	**-1.1**
JKB				*e*S	**S**	**01 53 28.5**	**-5.0**
NKL	**Nikolayevsk**	**10.82**	**336**	*e*P	**P**	**01 53 46.0**	**-2.9**
KLR	**Kul'dur**	**12.56**	**303**	*e*PN	**P**	**01 54 17.8**	**+5.3**
KLR				MLR	MLR		
	comp=E,600nm,14.0s						
KLR				MLR	MLR		
	comp=Z,1μm,14.0s						
KLR	**Kul'dur**	**12.56**	**303**	*e*rx	rx	01 54 17.8	
KLR				*e*rx	rx	01 54 49.0	
KLR				*e*rx	rx	01 59 57.5	
EKMR	**Ekimchan**	**13.82**	**319**	*e*P	**P**	**01 54 26.3**	**-2.6**
EKMR				AMB	AMB	01 54 36.9	
	comp=Z,8.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**26.95**	**277**	*e*P	**P**	**01 56 54.6**	**+1.3**
HHC				AP	pP	01 56 58.1	-5.4
HHC				XP	sP	01 57 00.9	-7.1
HHC				PP	PP	01 57 38.5	-0.9
HHC				S	**S**	**02 01 25.1**	**-1.0**
HHC				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.6						
HHC				LR	LR		
	comp=N,226nm,19.6s,MS3.9						
HHC				LR	LR		
	comp=E,225nm,19.0s,MS3.9						
HHC				LR	LR		
	comp=Z,251nm,16.1s,MS3.9						
SONM	**Songino Array**	**29.10**	**293**	P	**P**	**01 57 12.9**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.4,baz=83,slow=10.0,SNR=4.9						
IMA	**Indian Mountai**	**38.60**	**34**	*e*P	**P**	**01 58 36.0**	**+1.7**
IMA				pmax	pmax		
	comp=Z,15nm,0.7s,mb4.8						
IMA	**Indian Mountai**	**38.60**	**34**	*e*P	**P**	**01 58 36.0**	**+1.6**
	comp=Z,15nm,0.7s,mb4.8						
KMI	**Kunming**	**41.01**	**259**	P	**P**	**01 58 59.8**	**+5.1**
KMI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.7						
KMI				LR	LR		
	comp=Z,75nm,19.7s,MS3.6						
ZAL	**Zalesovo**	**41.63**	**307**	LR	LR	02 17 48.4	
	comp=Z,78nm,18.0s,MS3.6,baz=302,slow=38						
WMQ	**Urumqi**	**42.72**	**292**	⇓*i*P	**P**	**01 59 09.0**	**+0.5**
WMQ				PP	PP	02 00 50.0	-0.2
WMQ				S	**S**	**02 05 28.0**	**-1.2**
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,144nm,4.4s						
WMQ				LR	LR		
	comp=N,472nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,903nm,17.7s,MS4.8						
WMQ				LR	LR		
	comp=Z,615nm,19.2s,MS4.5						
KURK	**Kurchatov**	**46.15**	**304**	*e*P	**P**	**01 59 34.9**	**-1.1**
INK	**Inuvik**	**46.37**	**30**	*e*P	**P**	**01 59 38.3**	**+0.9**
INK	**Inuvik**	**46.37**	**30**	P	**P**	**01 59 38.4**	**+0.9**
	comp=Z,1.5nm,0.5s,mb4.2,baz=289,slow=6.2,SNR=17						
CHKZ	**Chkalovo**	**49.75**	**310**	*e*P	**P**	**02 00 02.4**	**-1.5**
CHKZ				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
CHKZ	**Chkalovo**	**49.75**	**310**	*e*P	**P**	**02 00 02.4**	**-1.6**
	comp=Z,7.7nm,1.1s,mb4.7						
BVAR	**Borovoye Array**	**50.12**	**310**	P	**P**	**02 00 06.6**	**-0.2**
	comp=Z,2.7nm,1.0s,mb4.2,baz=68,slow=8.0,SNR=4.5						
AAK	**Ala-Archa**	**51.99**	**296**	P	**P**	**02 00 20.1**	**-0.9**
RES	**Resolute Bay**	**55.08**	**17**	*e*P	**P**	**02 00 42.3**	**-1.2**
RES				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
RES	**Resolute Bay**	**55.08**	**17**	*e*P	**P**	**02 00 42.3**	**-1.2**
	comp=Z,2.6nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**55.73**	**34**	P	**P**	**02 00 47.9**	**-0.4**
YKA	**Yellowknife Ar**	**55.73**	**34**	P	**P**	**02 00 47.8**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.6,baz=299,slow=6.7,SNR=7.7						
FINES	**FINESS Array B**	**65.38**	**333**	P	**P**	**02 01 52.9**	**-1.0**
	comp=Z,3.1nm,0.7s,mb4.4,baz=44,slow=7.7,SNR=12						
FFC	**Flin Flon**	**65.59**	**37**	*e*P	**P**	**02 01 55.5**	**+0.2**
OBN	**Obninsk**	**65.88**	**324**	*e*P	**P**	**02 01 57.2**	**+0.1**
OBN				*e*	pP	02 02 09.3	+1.1
OBN				pmax	pmax		
	comp=Z,13nm,1.5s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s,MS4.2						
NVAR	**Mina Array Bea**	**67.25**	**58**	pP	pP	02 02 17.5	+0.3
	comp=Z,0.5nm,0.5s,baz=288,slow=7.7,SNR=4.5						
GOF	**Gofitskoye**	**69.45**	**313**	⇑*i*P	**P**	**02 02 20.0**	**+0.3**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
PDAR	**Pinedale Array**	**69.67**	**50**	pP	pP	02 02 32.4	+0.3
	comp=Z,0.5nm,0.7s,baz=297,slow=2.2,SNR=4.2						
NB2	**NORSAR Subarra**	**70.07**	**339**	P	**P**	**02 02 23.1**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=30,slow=6.2						
NB2	**NORSAR Subarra**	**70.07**	**339**	P	**P**	**02 02 23.1**	**0.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**70.07**	**339**	P	**P**	**02 02 23.1**	**0.0**
	comp=Z,4.3nm,0.9s,mb4.4,baz=32,slow=6.0,SNR=9.7						
HFS	**Hagfors**	**70.17**	**338**	P	**P**	**02 02 23.4**	**-0.3**
	comp=Z,2.6nm,0.5s,mb4.4,baz=45,slow=6.3,SNR=12						
KIV	**Kislovodsk**	**70.37**	**312**	*e*P	**P**	**02 02 27.6**	**+2.3**
KIV				*e*	pP	02 02 39.2	+2.8
KIV				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**70.37**	**312**	*e*P	**P**	**02 02 27.3**	**+2.0**
	comp=Z,14nm,1.0s,mb4.8						
BRTR	**Keskin Array B**	**78.15**	**314**	P	**P**	**02 03 11.8**	**+1.4**
	comp=Z,1.6nm,1.1s,mb3.9,baz=45,slow=3.5,SNR=5.0						
BRTR				pP	pP	02 03 24.4	+2.9
	comp=Z,1.2nm,0.7s,baz=83,slow=3.5,SNR=6.0						
VRAC	**Vranov**	**78.25**	**330**	P	**P**	**02 03 12.4**	**+1.6**
	comp=Z,1.3nm,0.5s,mb4.1,baz=175,slow=14,SNR=2.9						
EKA	**Eskdalemuir Ar**	**78.56**	**344**	P	**P**	**02 03 12.8**	**+0.5**
	comp=Z,0.6nm,0.8s,mb3.5,baz=45,slow=5.9,SNR=3.9						
EKA				pP	pP	02 03 26.2	+2.7
	comp=Z,1.6nm,0.9s,baz=23,slow=6.4,SNR=3.3						
KHC	**Kasperske Hory**	**79.48**	**331**	*e*P	**P**	**02 03 17.0**	**-0.4**
KHC				*ex*	x	02 03 27.5	
GERES	**GERESS Array B**	**79.68**	**331**	P	**P**	**02 03 18.9**	**+0.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=45,slow=1.9,SNR=4.5						
TXAR	**Lajitas Array**	**82.34**	**57**	P	**P**	**02 03 31.9**	**-0.9**
	comp=Z,0.2nm,0.8s,baz=301,slow=7.3,SNR=3.7						
TXAR				pP	pP	02 03 44.9	+0.6
	comp=Z,0.6nm,0.7s,baz=297,slow=4.3,SNR=7.0						

NEIC ***19*** *02:05:23.7, 17.64N×63.69W, h179km, MD3.9(RSPR), After RSPR.*
RSPR 19 02:05:23.7, 17.64N×63.69W, h179km±4km, MD3.9/8, MD3.9/8, 6C-2D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**1.84**	**284**	⇓*e*P	P	02 05 58.6	-0.8
MTP				*e*S	S	02 06 26.9	+0.1
HUMP	**Col San Antoni**	**2.12**	**284**	⇑*e*P	P	02 06 02.4	0.0
HUMP				*e*S	S	02 06 32.3	+0.1
CBYP	**Canovanas**	**2.16**	**287**	⇓*e*P	P	02 06 02.7	-0.2
CBYP				*e*S	S	02 06 33.4	+0.3
CPD	**Cerro la Pandu**	**2.16**	**281**	⇑*e*P	P	02 06 02.7	-0.2
CPD				*e*S	S	02 06 32.9	-0.2
CSB	**Colonia Sabana**	**2.44**	**286**	⇑*e*P	P	02 06 06.1	-0.1
CSB				*e*S	S	02 06 39.6	+0.8
PORP	**Portuguez**	**2.84**	**279**	⇑*e*P	P	02 06 11.5	+0.5
PORP				*e*S	S	02 06 48.1	+0.7
AOPR	**Arecibo Observ**	**3.00**	**284**	⇑*e*P	P	02 06 13.1	+0.2
AOPR				*e*S	S	02 06 51.2	+0.4
LRS	**Lares**	**3.08**	**283**	⇑*e*P	P	02 06 13.9	0.0
LRS				*e*S	S	02 06 52.5	0.0

JMA ***19*** *02:17:59.0±0.2, 36.94N×141.62E, h49km±3km, M3.5*
ISC 19 02:17:58.0±2.0, 36.93N±0.07×141.7E±0.1, h22km±10km, n9, σ0°86/15, 2C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.74**	**283**	P	**Pb**	**02 18 12.3**	**+0.2**
ONAJ				S	**Sb**	**02 18 21.8**	**0.0**
JFK	**Kawauchi**	**0.79**	**304**	P	**Pb**	**02 18 12.9**	**0.0**
JMM	**Marumori**	**1.18**	**323**	⇑P	**Pn**	**02 18 18.8**	**-0.6**
JFT	**Otama**	**1.23**	**299**	⇑P	**Pn**	**02 18 20.4**	**+0.3**
JFT				S	**Sb**	**02 18 35.5**	**-0.5**
JIO	**Ouri**	**1.54**	**350**	P	**Pn**	**02 18 23.8**	**-0.8**
JIO				S	**Sn**	**02 18 41.5**	**-2.6**
JOU	**Okura**	**1.65**	**330**	P	**Pn**	**02 18 27.0**	**+0.9**
JOU				*e*S	**Sn**	**02 18 47.5**	**+0.7**
JYS	**Shirataka**	**1.83**	**315**	P	**Pn**	**02 18 30.2**	**+1.6**
JYS				S	**Sn**	**02 18 52.1**	**+0.8**
JAG	**Ashikaga**	**1.87**	**255**	P	**Pn**	**02 18 29.0**	**-0.3**
MAT	**Matsushiro**	**2.83**	**263**	P	**Pn**	**02 18 43.3**	**+0.3**
MAT				*e*S	**Sn**	**02 19 15.8**	**-1.0**

ATH ***19*** *02:21:21.3, 41.43N×22.67E, h20km±4km, MD3.3/5*
NEIC ***19*** *02:21:21.7±0.7, 41.36N×22.69E, h10km, ML2.2(SKO), Error ellipse: s-maj=13.5km s-min=6.6km az=188.0*
NEIC Felt [III] at Valandovo.
CSEM ***19*** *02:21:21.9±0.1, 41.40N×22.68E, h6km, ML2.2, Error ellipse: s-maj=2.0km s-min=1.2km az=171.0*
SKO ***19*** *02:21:22.2, 41.27N×22.58E, h12km, ML2.2*
THE ***19*** *02:21:22.5, 41.35N×22.69E, h7km, ML3.0*
SOF ***19*** *02:21:40.6, 41.36N×22.65E, h9km, MD3.1*
ISC 19 02:21:20.5±0.6, 41.43N±0.03×22.72E±0.04, h6km±4km, n20, σ0°77/33, 3C-3D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VAY	**Valandovo**	**0.16**	**226**	⇑*i*Pg	**Pg**	**02 21 24.5**	**+0.7**
VAY				⇑*i*Sg	**Sg**	**02 21 26.4**	**+0.3**
KNT	**Kendrikon**	**0.30**	**154**	*e*Pg	**Pg**	**02 21 27.2**	**+0.6**
KNT				*e*Sg	**Sg**	**02 21 31.1**	**+0.5**
GRG	**Griva**	**0.53**	**207**	*e*Pg	**Pg**	**02 21 31.1**	**-0.1**
GRG				*e*Sg	**Sg**	**02 21 38.0**	**-0.4**
SOH	**Sokhos**	**0.77**	**142**	*e*Pg	**Pg**	**02 21 36.3**	**+0.3**
SOH				*e*Sg	**Sg**	**02 21 46.7**	**+0.4**
THE	**Thessaloniki**	**0.82**	**167**	*e*Pg	**Pg**	**02 21 36.5**	**-0.3**
THE				*e*Sg	**Sg**	**02 21 47.3**	**-0.5**
NVR	**Nevrokopi**	**0.86**	**95**	*e*PN	**Pn**	**02 21 38.2**	**-0.7**
NVR				*e*SN	**Sn**	**02 21 51.5**	**-0.4**
SKO	**Skopje**	**1.10**	**300**	⇑*i*Pg	**Pg**	**02 21 43.6**	**+1.1**
SKO				*i* Sg	**Sg**	**02 22 00.5**	**+3.3**
SKO				Lg		02 22 04.0	
	comp=Z,0.0nm,0.5s						
BIA	**Bitola**	**1.13**	**249**	*e*Pg	**Pg**	**02 21 41.3**	**-1.8**
BIA				*i*		02 21 43.5	
BIA				*i* Sg	**Sg**	**02 21 57.5**	**-0.7**
PLG	**Polygyros**	**1.19**	**152**	*e*PN	**Pn**	**02 21 44.3**	**+0.7**
PLG				*e*SN	**Sn**	**02 21 59.6**	**-0.6**
FNA	**Florina**	**1.21**	**238**	*e*Pg	**Pg**	**02 21 43.7**	**-0.9**
KZN	**Kozani**	**1.34**	**213**	*e*PN	**Pn**	**02 21 46.2**	**+0.5**
KZN				*e*SN	**Sn**	**02 22 04.6**	**+0.7**
LIT	**Litokhoron**	**1.34**	**188**	*e*Pb	**Pb**	**02 21 45.7**	**+0.1**
LIT				*e*Sb	**Sb**	**02 22 03.4**	**+0.5**
OUR	**Ouranopolis**	**1.45**	**139**	*e*Pb	**Pb**	**02 21 47.5**	**-0.1**
OUR				*e*Sb	**Sb**	**02 22 07.4**	**+1.2**
BARS	**Barje**	**1.54**	**335**	⇓*i*Pg	**Pg**	**02 21 50.4**	**-0.8**
PAIG	**Paliouri**	**1.67**	**154**	*e*Pb	**Pb**	**02 21 50.6**	**-0.7**
PAIG				*e*Sb	**Sb**	**02 22 12.2**	**-0.3**
RDO	**Rodhopi**	**2.14**	**97**	⇓*i*PB	**Pb**	**02 21 58.5**	**-0.8**
LIA	**Limnos Island**	**2.42**	**128**	*e*PB	**Pb**	**02 22 04.0**	**-0.1**
AGG	**Agios Georgios**	**2.42**	**187**	*e*Pn	**Pn**	**02 22 00.8**	**-0.5**
BOLS	**Boljevac**	**2.46**	**347**	⇓*i*Pn	**Pn**	**02 22 07.6**	**+5.8**
ALN	**Alexandroupoli**	**2.56**	**101**	*e*Pn	**Pn**	**02 22 04.2**	**+0.9**

MAN 19 02:25:59.2, 12.74N×123.24E, h12km, mb4.4, ML3.2, MS3.0, 2C, Luzon

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

JHJ Sn **Sn** **02 35 10.6 -0.4**
329nm,0.3s,baz=261,slow=22,SNR=8.9
JHJ2 Mitsune 2.20 89 P **Pn** **02 34 44.9 -0.3**
JHJ2 S **Sn** **02 35 10.0 -1.7**
JAI Aioi 2.39 287 P **Pn** **02 34 48.0 0.0**
JAI S **Sn** **02 35 14.3 -2.2**
JIM2 Oshima 3 2.46 49 P **Pn** **02 34 49.1 +0.2**
JIM2 S **Sn** **02 35 16.8 -1.3**
JGM Miyama 2.61 351 ⇓P **Pn** **02 34 51.3 +0.2**
JGM S **Sn** **02 35 21.8 -0.3**
JWT Wachi 2.63 326 ⇓P **Pn** **02 34 51.6 +0.3**
JWT S **Sn** **02 35 21.6 -0.9**
JYN Shimob 2.63 25 P **Pn** **02 34 51.2 -0.2**
JYN S **Sn** **02 35 22.4 -0.1**
JOD2 Odawara 2 2.66 36 P **Pn** **02 34 52.0 +0.2**
JOD2 S **Sn** **02 35 23.0 -0.3**
MAJO Matsushiro 3.52 13 *e*P **Pn** **02 35 04.3 +0.3**
MAT Matsushiro 3.52 13 *e*P **Pn** **02 35 05.0 +1.0**
MAT *e*S **Sn** **02 35 44.0 -1.1**
MAT Matsushiro 3.52 13 P **Pn** **02 35 04.5 +0.5**
MAT S **Sn** **02 35 44.3 -0.8**
JOW Kunigami 9.95 233 LR LR 02 40 24.7
comp=Z,110nm,21.5s,baz=127,slow=38
ASAJ Asahikawa 11.77 19 P **P** **02 36 56.1 -2.7**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 11.77 19 Pn **P** **02 36 56.1 -2.7**
comp=Z,2.0nm,0.3s,baz=237,slow=15,SNR=7.0
KLR Kul'dur 16.61 347 *e*P **P** **02 38 02.0 -0.1**
HHC Hu-ho-hao-te 21.83 298 *e*P **P** **02 39 05.5 +3.9**
HHC XP 02 39 19.8
HHC PP PP 02 39 28.6 +1.6
HHC S **S** **02 43 00.9 +4.8**
HHC SS SS 02 43 34.3 +0.2
HHC AMB AMB
comp=Z,15nm,0.6s,mb4.6
HHC AMB AMB
comp=Z,218nm,5.0s
HHC LR LR
comp=E,173nm,17.8s
XAN Xi'an 23.55 280 P **P** **02 39 20.9 +2.4**
XAN AP 02 39 31.9
XAN AMB AMB
comp=Z,16nm,0.7s,mb4.6
SONM Songino Array 27.44 312 P **P** **02 39 55.7 +0.8**
comp=Z,1.1nm,0.9s,mb3.4,baz=122,slow=9.0,SNR=8.5
SONM PcP PcP 02 43 13.6 +0.2
comp=Z,0.6nm,0.7s,baz=128,slow=2.4,SNR=4.3
WMQ Urumqi 39.67 300 *e*P **P** **02 41 42.3 +1.4**
WMQ AMB AMB
comp=Z,5.0nm,0.8s,mb4.3
WMQ AMB AMB
comp=Z,69nm,4.0s
ZAL Zalesovo 42.16 316 P **P** **02 42 03.0 +2.0**
comp=Z,1.0nm,0.3s,mb3.9,baz=69,slow=5.1,SNR=3.2
ZAL PcP PcP 02 43 55.8 +0.1
comp=Z,0.6nm,0.3s,baz=346,slow=2.8,SNR=3.7
ZAL LR LR 02 58 50.8
comp=Z,67nm,18.4s,MS3.6,baz=300,slow=35
KURK Kurchatov 45.74 311 *e*P **P** **02 42 30.3 +0.3**
KURK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
KURK Kurchatov 45.74 311 *e*P **P** **02 42 30.3 +0.3**
comp=Z,2.7nm,0.8s,mb4.2
AAK Ala-Archa 49.38 300 *e*P **P** **02 42 58.2 -0.4**
AAK pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
AAK Ala-Archa 49.38 300 *e*P **P** **02 42 58.2 -0.4**
comp=Z,1.0nm,0.5s,mb4.1
CHKZ Chkalovo 50.55 315 *e*P **P** **02 43 06.8 -0.5**
CHKZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CHKZ Chkalovo 50.55 315 *e*P **P** **02 43 06.8 -0.5**
comp=Z,2.5nm,0.7s,mb4.2
BVAR Borovoye Array 50.73 314 P **P** **02 43 09.4 +0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=10,SNR=5.5
WRAB Tennant Creek 52.81 183 P **P** **02 43 23.4 -1.5**
WB2 Warramunga Arr 52.82 183 *e*P **P** **02 43 23.3 -1.7**
WRA Warramunga Arr 52.83 183 P **P** **02 43 23.6 -1.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=4.0,slow=7.7,SNR=16
MCK McKinley 53.80 32 P **P** **02 43 31.7 +0.2**
ASAR Alice Springs 56.55 184 P **P** **02 43 51.2 -0.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=15,slow=12,SNR=16
ASPA Alice Springs 56.55 184 *e*P **P** **02 43 50.8 -1.3**
INK Inuvik 59.43 26 *e*P **P** **02 44 11.4 -0.3**
INK Inuvik 59.43 26 P **P** **02 44 12.3 +0.6**
comp=Z,0.6nm,0.4s,mb4.0,baz=282,slow=7.3,SNR=8.7
INK pP pP 02 44 23.5 +2.1
comp=Z,1.7nm,0.8s,baz=278,slow=5.3,SNR=5.5
STKA Stephens Creek 64.77 176 P **P** **02 44 46.9 -1.0**
comp=Z,1.8nm,0.3s,mb4.5,baz=338,slow=7.9,SNR=5.9
STKA pP pP 02 44 59.0 +1.4
comp=Z,1.4nm,0.3s,baz=324,slow=8.5,SNR=2.0
ARCES ARCESS Array B 66.43 339 P **P** **02 44 58.9 +1.0**
comp=Z,10nm,1.1s,mb4.8,baz=66,slow=11,SNR=3.2
YKA Yellowknife Ar 68.91 28 P **P** **02 45 13.9 +0.3**
comp=Z,0.4nm,0.7s,mb3.5,baz=301,slow=6.2,SNR=8.1
FINES FINESS Array B 70.64 332 P **P** **02 45 24.2 +0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=108,slow=6.0,SNR=6.9
FINES pP pP 02 45 34.8 +0.9
comp=Z,1.7nm,0.8s,baz=180,slow=1.9,SNR=2.5
NOA NORSAR Array B 76.41 336 P **P** **02 45 58.0 +0.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=274,slow=17,SNR=3.8
BRTR Keskin Array B 78.79 310 P **P** **02 46 12.8 +1.6**
comp=Z,2.7nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=12
BRTR pP pP 02 46 24.1 +2.8
comp=Z,2.8nm,1.0s,baz=108,slow=3.9,SNR=5.6
NVAR Mina Array Bea 80.13 51 P **P** **02 46 20.6 +2.1**
comp=Z,1.0nm,0.9s,mb3.8,baz=281,slow=9.0,SNR=6.0
PDAR Pinedale Array 82.88 43 P **P** **02 46 34.0 +1.2**
comp=Z,0.4nm,0.9s,mb3.4,baz=315,slow=4.2,SNR=3.5
MOX Moxa 83.78 329 *e*P pP 02 46 50.0 +2.8
KHC Kasperske Hory 83.99 327 *e*P **P** **02 46 39.5 +1.2**
KHC *ex* pP 02 46 51.0 +2.7
GERES GERESS Array B 84.13 326 P **P** **02 46 40.4 +1.4**
comp=Z,1.1nm,0.7s,mb4.1,baz=72,slow=4.2,SNR=8.3
GERES pP pP 02 46 51.7 +2.7
comp=Z,2.3nm,0.7s,baz=34,slow=4.8,SNR=12
GRA1 Grafenberg Arr 84.65 328 *e*P **P** **02 46 43.2 +1.6**
comp=Z,11nm,0.9s,mb5.0
GRA1 *e*pP pP 02 46 54.8 +3.2
GRF Grafenberg Arr 84.65 328 *e*P **P** **02 46 43.2 +1.6**
GRF *e**PP pP 02 46 54.8 +3.2
TXAR Lajitas Array 95.27 50 P **P** **02 47 34.1 +1.9**
comp=Z,1.4nm,0.8s,mb4.4,baz=278,slow=3.4,SNR=16
TXAR pP pP 02 47 45.2 +2.9
comp=Z,0.6nm,0.7s,baz=275,slow=3.2,SNR=5.6
LPAZ La Paz 151.66 60 PKPbc PKPdf 02 54 04.8 +4.3
comp=Z,1.2nm,0.7s,baz=350,slow=4.5,SNR=5.5

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*DJA **19** 03:01:09.9±0.7, 3.33N×95.00E, h33km, mb5.3/5, Error ellipse: s-maj=30.2km s-min=8.0km az=69.0*
*BJI **19** 03:01:13.9, 3.80N×95.48E, h48km, mB5.3, mb5.4, Ms4.8, Msz4.6*
*MOS **19** 03:01:15.6±0.9, 4.08N×95.73E, h49km, mb5.4/83, MS4.3/14, Error ellipse: s-maj=8.8km s-min=4.0km az=126.5*
*NEIC **19** 03:01:16.9±0.1, 4.00N×95.67E, mb5.2/107, MS4.5/8, Error ellipse: s-maj=4.4km s-min=2.9km az=214.0*
NEIC Felt [III] at Meulaboh.
*IDC **19** 03:01:17.3±0.3, 4.06N×95.73E, h49km±2km, mb4.7/30, mb1 4.7/30, mb1mx4.7/30, mbtmp4.9/30, MS4.4/10, Ms1 4.4/10, ms1mx4.0/19, Error ellipse: s-maj=14.1km s-min=8.3km az=52.0*
*HRVD **19** 03:01:17.0±0.4, 3.55N×95.62E, h47km±1km, MW5.1/53, Centroid moment Tensor Solution. LP body waves: s45,c80;Mantle waves: s53,c86; Half duration: 0 Moment tensor: Scale 10^16^Nm; M_rr_4.46±.20; M_θθ_-2.58±.16; M_φφ_-1.88±.18; M_rθ_1.53±.13; M_rφ_3.02±.12; M_θφ_-2.35±.17; Best double couple: M_o_5.626×10^16^ NP1:ϕs301°, δ31°, λ74°; NP2:ϕs140°, δ60°, λ100°. Principal axes: T 5.276, Plg73°, Azm74°; N .701, Plg8°, Azm316°; P -5.977, Plg15°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 19 03:01:15.2±0.2, 3.98N±0.03×95.69E±0.03, h46km, h46km±1.1km:pP-P, n501, σ0s93/477, mb5.2/166, MS4.5/41, 123C-19D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**1.55**	**346**	*e*P	**P**	**03 01 44.0**	**+3.1**
PSI	**Prapat**	**3.48**	**111**	*e*P	**P**	**03 02 10.0**	**+1.8**
KULM	**Kulim**	**5.12**	**75**	*e*P	**P**	**03 02 33.3**	**+2.0**
IPM	**Ipoh**	**5.36**	**83**	P	**P**	**03 02 36.7**	**+2.0**
SNG	**Songkhla**	**5.85**	**57**	P	**P**	**03 02 44.0**	**+2.5**
710nm,1.0s							
KGM	**Kluang**	**7.87**	**104**	P	**P**	**03 03 12.0**	**+2.3**
NNT	**Nongplab**	**9.44**	**25**	P	**P**	**03 03 35.0**	**+3.6**
NST	**Nakhon Sawan**	**12.41**	**20**	P	**P**	**03 04 13.7**	**+1.8**
56nm,0.6s							
PENI	**Pendagan**	**13.41**	**135**	⇓*i*P	**P**	**03 04 19.8**	**-5.2**
PENI				pmax	pmax		
comp=Z,114nm,0.3s							
PENI	**Pendagan**	**13.41**	**135**	⇓*i*P	**P**	**03 04 19.8**	**-5.2**
comp=Z,228nm,0.3s							
PENI				⇓*i*S	**S**	**03 06 43.2**	**-10**
BDT	**Bhumibol Dam**	**13.58**	**14**	P	**P**	**03 04 29.0**	**+1.7**
KKTK	**Khon Kaen**	**14.14**	**29**	P	**P**	**03 04 42.0**	**+7.3**
comp=Z,2μm,0.6s							
PULI	**Pulasari**	**14.52**	**135**	⇓*i*P	**P**	**03 04 36.9**	**-2.8**
CM31	**Chiang Mai Arr**	**14.74**	**12**	*e*P	**P**	**03 04 39.4**	**-3.1**
comp=Z,55nm,0.7s							
KSM	**Kuching**	**14.82**	**99**	*e*P	**P**	**03 04 44.1**	**+0.6**
NANT	**Nan**	**15.52**	**18**	P	**P**	**03 04 46.5**	**-6.1**
CHRT	**Chiangrai**	**16.29**	**14**	⇓P	**P**	**03 05 02.0**	**-0.4**
comp=Z,421nm,1.0s							
MDRS	**Chennai**	**17.72**	**302**	*e*	**P**	**03 05 34.0**	**+14**
MDRS				*e*		03 08 37.0	
VIS	**Vishakhapatnam**	**18.25**	**319**	*e*P	**P**	**03 05 26.2**	**-0.7**
VIS				*e*		03 05 42.5	
comp=Z,115nm,1.6s							
VIS				*e*		03 08 35.8	
BWNR	**Bhubaneshwar**	**18.86**	**330**	*e*P	**P**	**03 05 35.7**	**+1.5**
TRD	**Trivandrum**	**19.15**	**284**	*e*	**P**	**03 05 44.2**	**+6.7**
TRD				*i*S	**S**	**03 09 14.2**	**+8.4**
QIZ	**Qiongzhong**	**20.37**	**42**	*e*P	**P**	**03 05 50.6**	**-0.1**
comp=Z,59nm,0.7s							
KKM	**Kota Kinabalu**	**20.55**	**83**	*e*P	**P**	**03 05 52.1**	**-0.4**
KKM	**Kota Kinabalu**	**20.55**	**83**	P	**P**	**03 05 53.2**	**+0.6**
HYB	**Hyderabad**	**21.45**	**310**	*e*P	**P**	**03 06 02.5**	**+0.8**
HYB				*e*		03 06 17.0	
HYB				*e*S	**S**	**03 10 07.0**	**+15**
HYB				pmax	pmax		
comp=Z,80nm,1.0s,mb5.0							
HYB	**Hyderabad**	**21.45**	**310**	*e*P	**P**	**03 06 02.5**	**+0.8**
comp=Z,80nm,1.0s,mb5.0							
HYB				*e*		03 06 17.0	
HYB				*e*		03 07 02.0	
HYB				*e*S	**S**	**03 10 07.0**	**+15**
HYB	**Hyderabad**	**21.45**	**310**	*i* P	**P**	**03 06 02.5**	**+0.8**
comp=Z,80nm,1.0s,mb5.0							
HYB				*e*pP		03 06 13.0	
HYB				*e*		03 07 02.0	
HYB				*e*S	**S**	**03 09 52.0**	**+0.1**
SHL	**Shillong**	**21.77**	**351**	*e*	**P**	**03 06 01.0**	**-3.8**
SHL				*e*		03 09 59.0	
BOK	**Bokaro**	**21.85**	**335**	*e*P	**P**	**03 06 05.7**	**+0.1**
BOK				*e*		03 06 10.2	
comp=Z,138nm,0.7s							
BOK				*e*		03 10 00.2	
KMI	**Kunming**	**22.09**	**17**	P	**P**	**03 06 10.6**	**+2.6**
KMI				XP		03 06 21.8	
KMI				PP	PP	03 06 36.8	+1.8
KMI				S	**S**	**03 10 05.4**	**+1.8**
KMI				AMB	AMB		
comp=Z,95nm,1.0s,mb5.2							
KMI				LR	LR		
comp=N,1μm,15.7s,MS4.5							
KMI				LR	LR		
comp=E,724nm,14.0s,MS4.5							
KMI				LR	LR		
comp=Z,2μm,16.8s,MS4.5							
KMI	**Kunming**	**22.09**	**17**	P	**P**	**03 06 10.6**	**+2.6**
KMI						03 06 36.7	
KMI				PPP	PPP	03 06 46.2	+0.9
KMI				S	**S**	**03 10 05.4**	**+1.8**
KMI				SS	SS	03 10 43.1	-1.7
KMI				SSS	SSS	03 10 57.8	-2.4
KMI				pmax	pmax		
comp=Z,95nm,1.0s,mb5.2							
KMI				MLR	MLR		
comp=Z,2μm,16.8s,MS4.5							
KMI	**Kunming**	**22.09**	**17**	P	**P**	**03 06 10.6**	**+2.6**
comp=Z,95nm,1.0s,mb5.2							
KMI				sP		03 06 21.7	
KMI				PP	PP	03 06 36.7	+1.7
KMI				PPP	PPP	03 06 46.2	+0.9
KMI				S	**S**	**03 10 05.4**	**+1.8**
KMI				sS		03 10 17.9	
KMI				SS	SS	03 10 43.1	-1.7
KMI				SSS	SSS	03 10 57.8	-2.4
KMI				LR	LR		
comp=Z,2μm,16.8s,MS4.5							
SRDI	**Scrawed**	**22.18**	**124**	⇓*i*P	**P**	**03 06 07.2**	**-1.7**
SRDI				pmax	pmax		
comp=Z,91nm,1.0s,mb5.2							
SRDI	**Scrawed**	**22.18**	**124**	⇓*i*P	**P**	**03 06 07.2**	**-1.7**
comp=Z,183nm,1.0s,mb5.2							
BLSP	**Bilaspur**	**22.32**	**325**	*e*P	**P**	**03 06 10.7**	**+0.5**
BLSP				*e*		03 06 12.5	
comp=Z,231nm,0.9s							
BLSP				*e*		03 10 05.5	
KELI	**Kelakatan**	**22.33**	**123**	⇑*i*P		03 06 20.4	
comp=Z,139nm,1.0s							
MNGI	**Mangalore**	**22.45**	**295**	*i*		03 06 25.0	
MNGI				*i*		03 10 22.8	
comp=Z,104nm,1.6s							
RATI	**Rata**	**23.47**	**123**	⇑*i*P	**P**	**03 06 18.3**	**-3.4**
comp=Z,195nm,0.7s,mb5.4							
KEDI	**Kedomdong**	**23.84**	**121**	⇑*e*P	**P**	**03 06 24.6**	**-0.7**
KEDI				⇑*i*pP		03 06 26.6	
KEDI	**Kedomdong**	**23.84**	**121**	⇑*i*pP		03 06 26.6	
KEDI	**Kedomdong**	**23.84**	**121**	⇑*e*P	**P**	**03 06 24.6**	**-0.7**
comp=Z,157nm,0.5s,mb5.4							
GYA	**Guiyang**	**24.70**	**24**	⇑*i*P	**P**	**03 06 33.9**	**+0.4**
GYA				AP		03 06 43.3	
GYA				XP		03 06 46.8	
GYA				AMB	AMB		
comp=Z,40nm,1.1s,mb4.9							
GYA				AMB	AMB		
comp=Z,370nm,6.9s							
GYA				LR	LR		
comp=N,1μm,20.6s,MS4.5							
GYA				LR	LR		
comp=E,840nm,16.8s,MS4.5							
GYA				LR	LR		
comp=Z,840nm,16.7s,MS4.3							
KAD	**Karad**	**24.89**	**304**	*e*	**P**	**03 06 34.0**	**-1.5**
ALBI	**Allahabad**	**25.05**	**329**	*e*P	**P**	**03 06 36.5**	**-0.4**
JIRN	**Jiri**	**25.23**	**340**	*e*P	**P**	**03 06 38.7**	**+0.1**
comp=Z,227nm,0.7s,mb5.8							
PKI	**Pulchoki**	**25.43**	**338**	*e*P	**P**	**03 06 40.3**	**-0.1**
comp=Z,46nm,0.6s,mb5.2							
GZH	**Guangzhou**	**25.54**	**40**	P	**P**	**03 06 47.6**	**+6.1**
GZH				LR	LR		
comp=N,1μm,17.7s,MS4.5							
GZH				LR	LR		
comp=E,563nm,17.1s,MS4.5							
GZH				LR	LR		
comp=Z,2μm,17.4s,MS4.6							
GUN	**Gumba**	**25.57**	**340**	*e*P	**P**	**03 06 41.6**	**-0.1**
comp=Z,226nm,0.6s,mb5.9							
DMN	**Daman**	**25.57**	**338**	*e*P	**P**	**03 06 41.4**	**-0.4**
comp=Z,74nm,0.6s,mb5.4							
KKN	**Kakani**	**25.67**	**338**	*e*P	**P**	**03 06 42.5**	**-0.2**
comp=Z,223nm,0.9s,mb5.7							
POO	**Poona**	**25.79**	**306**	*e*P	**P**	**03 06 43.9**	**+0.1**
POO				*e*	pP	03 06 59.7	+3.9
comp=Z,59nm,1.8s							
POO				*i*		03 11 35.0	
LSA	**Lhasa**	**25.94**	**351**	P	**P**	**03 06 45.0**	**-0.2**
LSA				AP	pP	03 06 52.9	-4.2
LSA				XP	sP	03 06 57.5	-5.2
LSA				S	**S**	**03 11 17.8**	**+7.9**
LSA				SCP		03 13 42.1	
LSA				SCS	ScS	03 17 33.3	-2.8
LSA				AMB	AMB		
comp=Z,80nm,1.0s,mb5.2							
LSA				LR	LR		
comp=N,430nm,24.3s,MS4.1							
LSA				LR	LR		
comp=E,630nm,25.9s,MS4.1							
LSA				LR	LR		
comp=Z,910nm,24.3s,MS4.2							
LSA	**Lhasa**	**25.94**	**351**	*e*P	**P**	**03 06 44.9**	**-0.3**
LSA				pmax	pmax		
comp=Z,62nm,0.8s,mb5.2							
LSA	**Lhasa**	**25.94**	**351**	*e*P	**P**	**03 06 44.9**	**-0.3**
comp=Z,62nm,0.8s,mb5.2							
BHPL	**Bhopal**	**26.04**	**319**	*e*P	**P**	**03 06 46.8**	**+0.6**
BHPL				*e*		03 07 03.9	
comp=Z,38nm,1.0s							
GKN	**Gorkha**	**26.11**	**337**	*e*P	**P**	**03 06 46.2**	**-0.5**
comp=Z,269nm,0.7s,mb5.9							
KOLN	**Koldanda**	**26.31**	**335**	*e*P	**P**	**03 06 48.7**	**0.0**
comp=Z,306nm,0.7s,mb5.9							
CD2	**Chengdu**	**27.85**	**15**	P	**P**	**03 07 01.9**	**-0.8**
CD2				S	**S**	**03 11 41.1**	**+0.2**
CD2				AMB	AMB		
comp=Z,270nm,0.8s,mb5.9							
CD2				LR	LR		
comp=N,1μm,13.7s							
CD2				LR	LR		
comp=Z,1μm,12.9s,MS4.6							
ENH	**Enshi**	**29.22**	**25**	*e*P	**P**	**03 07 13.2**	**-1.8**
comp=Z,30nm,0.8s,mb5.1							
WHN	**Wuhan**	**31.76**	**32**	*e*P	**P**	**03 07 37.4**	**0.0**
XAN	**Xi'an**	**32.35**	**21**	P	**P**	**03 07 41.1**	**-1.4**
XAN				AMB	AMB		
comp=Z,100nm,0.8s,mb5.7							
XAN				LR	LR		
comp=N,293nm,21.4s,MS4.3							
XAN				LR	LR		
comp=E,563nm,18.5s,MS4.3							
XAN				LR	LR		
comp=Z,649nm,16.7s,MS4.4							
SDNR	**Sundarnagar**	**32.55**	**329**	*e*P	**P**	**03 07 43.3**	**-0.9**
LZH	**Lanzhou**	**32.82**	**12**	⇑*i*P	**P**	**03 07 45.0**	**-1.6**
LZH				AP	pP	03 07 54.3	-4.7
LZH				PP	PP	03 08 56.0	-1.3
LZH				PCP	PcP	03 10 28.5	-2.3
LZH				*e*S	**S**	**03 13 00.0**	**+0.6**
LZH				SCP		03 14 09.8	
LZH				SS	SS	03 15 01.3	+1.2
LZH				SCS	ScS	03 18 09.5	+1.2
LZH				AMB	AMB		
comp=Z,65nm,1.4s,mb5.4							
LZH				AMB	AMB		
comp=Z,197nm,5.7s							
LZH				LR	LR		
comp=N,2μm,13.0s							
LZH				LR	LR		
comp=Z,3μm,16.7s,MS5.1							
LZH	**Lanzhou**	**32.82**	**12**	⇑*i*P	**P**	**03 07 45.0**	**-1.6**
LZH				*SP	sP	03 07 58.0	-6.8
LZH						03 08 56.0	
LZH						03 10 28.5	
LZH				*e*S	**S**	**03 13 00.0**	**+0.6**
LZH				pmax	pmax		
comp=Z,65nm,1.4s,mb5.4							
LZH	**Lanzhou**	**32.82**	**12**	⇑*i*P	**P**	**03 07 45.0**	**-1.6**
comp=Z,65nm,1.4s,mb5.4							
LZH				pP	pP	03 07 54.3	-4.7
LZH				sP	sP	03 07 58.0	-6.8
LZH				PP	PP	03 08 56.0	-1.3
LZH				PcP	PcP	03 10 28.5	-2.3
LZH				*e*S	**S**	**03 13 00.0**	**+0.6**
LZH				sS		03 13 16.3	
LZH				ScP		03 14 09.7	
LZH				SS	SS	03 15 01.2	+1.1
LZH				ScS	ScS	03 18 09.5	+1.2
LZH				LR	LR		
comp=Z,3μm,16.7s,MS5.1							
PONG	**Pong**	**33.43**	**329**	*e*P	**P**	**03 07 52.0**	**+0.1**
THN	**Thein Dam**	**33.93**	**329**	*e*P	**P**	**03 07 54.7**	**-1.5**
comp=Z,47nm,0.8s,mb5.5							
NJ2	**Nanjing**	**35.39**	**35**	*e*P	**P**	**03 08 09.3**	**+0.6**
NJ2				AP	pP	03 08 18.8	-2.3
NJ2				XP	sP	03 08 23.4	-3.6
NJ2				PP	PP	03 09 29.6	+0.3
NJ2				S	**S**	**03 13 40.0**	**+0.8**
NJ2				XS		03 14 00.0	
NJ2				AMB	AMB		
comp=Z,90nm,1.0s,mb5.7							
NJ2				AMB	AMB		
comp=Z,350nm,4.7s							
NJ2				LR	LR		
comp=N,1μm,14.7s							
NJ2				LR	LR		
comp=E,2μm,20.7s							
NJ2				LR	LR		
comp=Z,770nm,15.4s,MS4.6							
GTA	**Gaotai**	**35.47**	**6**	P	**P**	**03 08 07.9**	**-1.4**
GTA				AP	pP	03 08 17.1	-4.6
GTA				PP	PP	03 09 27.0	-3.1
GTA				PCP	PcP	03 10 39.0	+0.7
GTA				S	**S**	**03 13 41.0**	**+0.7**
GTA				SCP		03 14 20.8	
GTA				SCS	ScS	03 18 23.8	+1.6
GTA				AMB	AMB		
comp=Z,14nm,0.9s,mb4.9							
GTA				AMB	AMB		
comp=Z,148nm,7.6s							
GTA				LR	LR		
comp=N,415nm,16.4s,MS4.4							
GTA				LR	LR		
comp=E,345nm,17.6s,MS4.4							
GTA				LR	LR		
comp=Z,456nm,29.0s							
SSE	**Sheshan**	**36.11**	**39**	*e*P	**P**	**03 08 12.1**	**-2.7**
SSE				S	**S**	**03 13 49.3**	**-1.1**
SSE				AMB	AMB		
comp=Z,47nm,0.8s,mb5.5							
SSE				LR	LR		
comp=N,462nm,23.3s,MS4.2							
SSE				LR	LR		
comp=E,190nm,23.4s,MS4.2							
SSE				LR	LR		
comp=Z,821nm,17.8s							
SSE	**Sheshan**	**36.11**	**39**	*e*P	**P**	**03 08 12.1**	**-2.7**
comp=Z,47nm,0.8s,mb5.5							
SSE				pP	pP	03 08 21.7	-5.6
SSE				S	**S**	**03 13 49.3**	**-1.1**
SSE				sS		03 14 05.4	
SSE				SS	ScS	03 18 32.0	+6.2
SSE				LR	LR		
comp=Z,820nm,17.8s,MS4.5							
FITZ	**Fitzroy Crossi**	**36.79**	**128**	⇑*i*P	**P**	**03 08 19.3**	**-1.3**
comp=Z,41nm,0.8s,mb5.3							
JOW	**Kunigami**	**38.55**	**51**	P	**P**	**03 08 35.2**	**-0.1**
comp=Z,36nm,0.6s,mb5.3,baz=189,slow=11,SNR=7.1							
BTO	**Baotou**	**38.68**	**18**	*e*P	**P**	**03 08 35.8**	**-0.4**
BTO				AMB	AMB		
comp=Z,47nm,0.7s,mb5.3							
HHC	**Hu-ho-hao-te**	**39.39**	**19**	*e*P	**P**	**03 08 43.4**	**+1.3**
HHC				AP	pP	03 08 52.3	-2.3
HHC				XP	sP	03 08 56.4	-3.9
HHC				PP	PP	03 10 19.3	+2.5
HHC				PCP	PcP	03 10 51.1	+0.8
HHC				S	**S**	**03 14 40.9**	**+0.8**
HHC				SS	SS	03 17 34.3	+6.0
HHC				AMB	AMB		
comp=Z,77nm,1.3s,mb5.3							
HHC				LR	LR		
comp=N,977nm,17.3s,MS4.7							
HHC				LR	LR		
comp=E,467nm,17.8s,MS4.7							
HHC				LR	LR		
comp=Z,975nm,17.3s,MS4.7							
KSH	**Kashi**	**39.63**	**336**	*e*P	**P**	**03 08 44.8**	**+0.7**
KSH				*e*AP	pP	03 08 55.1	-1.6
KSH				*e*XP	sP	03 08 58.1	-4.2
KSH				*e*PP	PP	03 10 21.6	+2.2
KSH				*e*PPP	PPP	03 10 46.3	+1.6
KSH				*e*PCP	PcP	03 10 52.3	+1.2
KSH				*e*SCP		03 14 36.0	
KSH				*e*PCS		03 14 40.3	
KSH				*e*S	**S**	**03 14 47.0**	**+3.3**
KSH				*e*XS		03 15 03.5	
KSH				*e*SS	SS	03 17 36.0	+2.4
KSH				*e*SCS	ScS	03 18 48.3	+2.6
KSH				AMB	AMB		
comp=Z,540nm,2.5s,mb5.8							
KSH				LR	LR		
comp=N,500nm,6.7s							
KSH				LR	LR		
comp=E,560nm,4.6s							
WMQ	**Urumqi**	**40.30**	**351**	⇓*i*P	**P**	**03 08 49.5**	**-0.1**
WMQ				AP	pP	03 08 59.0	-3.2

WMQ XP sP 03 09 03.0 -4.8
WMQ PCP PcP 03 10 53.0 -0.2
WMQ *eS* **S** **03 14 54.0 +0.3**
WMQ SS SS 03 17 47.0 -1.0
WMQ AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,199nm,5.7s
WMQ LR LR
comp=N,2µm,21.7s,MS5.1
WMQ LR LR
comp=E,3µm,26.0s,MS5.1
WMQ LR LR
comp=Z,1µm,21.6s,MS4.8
BJI Beijing 40.39 25 P **P** **03 08 51.6 +1.2**
BJI AMB AMB
comp=Z,159nm,0.8s,mb5.8
BJI LR LR
comp=N,456nm,16.2s,MS4.6
BJI LR LR
comp=E,485nm,17.4s,MS4.6
BJI LR LR
comp=Z,425nm,26.9s
BJI Beijing 40.39 25 P **P** **03 08 51.6 +1.2**
comp=Z,159nm,0.8s,mb5.8
BJI S 03 15 32.3
BJI LR LR
comp=Z,430nm,26.9s,MS4.2
KLBR Kellerberrin 41.15 151 *eP* **P** **03 08 56.9 +0.2**
comp=Z,119nm,0.8s,mb5.6
ULHL Ulahol 41.87 338 P **P** **03 09 04.1 +1.6**
SNR=7.6
DL2 Dalian 42.01 31 P **P** **03 09 05.0 +1.3**
DL2 AMB AMB
comp=Z,70nm,0.7s,mb5.4
DL2 LR LR
comp=N,240nm,16.7s,MS4.4
DL2 LR LR
comp=E,260nm,13.9s,MS4.4
DL2 LR LR
comp=Z,380nm,13.7s,MS4.4
NWAO Narrogin (SRO) 42.01 153 P **P** **03 09 04.6 +0.8**
comp=Z,20nm,0.9s,mb4.7,baz=337,slow=8.7,SNR=6.6
NWAO pP pP 03 09 17.8 +1.3
comp=Z,20nm,0.9s,baz=319,slow=12,SNR=5.7
KZA Kyzart 42.10 337 P **P** **03 09 05.3 +0.8**
SNR=32
UCH Uchtor 42.51 337 P **P** **03 09 08.7 +0.9**
SNR=132
TKM2 Tokmak 2 42.69 338 P **P** **03 09 09.6 +0.3**
SNR=41
KBK Karagaybulak 42.71 337 P **P** **03 09 10.4 +0.9**
SNR=70
AML Almayashu 42.76 336 P **P** **03 09 10.9 +1.0**
SNR=184
AAK Ala-Archa 42.86 337 P **P** **03 09 12.1 +1.4**
SNR=36
AAK Ala-Archa 42.86 337 P **P** **03 09 10.5 -0.2**
comp=Z,319nm,0.8s,mb6.1,SNR=65
AAK Ala-Archa 42.86 337 P **P** **03 09 11.4 +0.7**
AAK pmax pmax
comp=Z,78nm,1.2s,mb5.3
AAK Ala-Archa 42.86 337 *eP* **P** **03 09 09.9 -0.8**
comp=Z,69nm,1.1s,mb5.3
FRU Bishkek 42.99 337⇑ *iP* **P** **03 09 12.0 +0.3**
FRU *i* pP 03 09 22.5 -1.9
FRU pmax pmax
comp=Z,123nm,2.0s,mb5.3
CHMS Chumysh 43.08 337 P **P** **03 09 13.0 +0.6**
SNR=20
EKS2 Erkin-Say 43.17 336 P **P** **03 09 13.6 +0.3**
SNR=109
USP Ospenovka 43.40 337 P **P** **03 09 15.3 +0.3**
SNR=99
MKAR Makanchi Array 44.20 347 *i* P **P** **03 09 20.1 -1.4**
KS15 Wonju Array Si 44.47 37 *eP* **P** **03 09 23.3 -0.5**
SONM Songino Array 44.65 10 P **P** **03 09 24.4 -0.6**
comp=Z,18nm,0.7s,mb5.0,baz=191,slow=8.8,SNR=152
SONM pP pP 03 09 37.1 -0.7
comp=Z,8.9nm,0.7s,baz=191,slow=8.5,SNR=5.2
SONM PcP PcP 03 11 07.5 -0.1
comp=Z,14nm,0.6s,baz=194,slow=3.1,SNR=12
SONM pPcP 03 11 21.5
comp=Z,10nm,0.7s,baz=189,slow=3.2,SNR=4.7
SONM ScP 03 14 58.4
comp=Z,0.6nm,0.8s,baz=180,slow=1.4,SNR=3.1
ULN Ulaanbaatar 44.80 11 *eP* **P** **03 09 25.3 -1.0**
ULN pmax pmax
comp=Z,11nm,0.7s,mb4.8
ULN Ulaanbaatar 44.80 11 *eP* **P** **03 09 25.3 -1.0**
comp=Z,11nm,0.7s,mb4.8
WRA Warramunga Arr 44.80 123 P **P** **03 09 26.4 -0.3**
comp=Z,55nm,0.8s,mb5.5,baz=302,slow=9.1,SNR=183
WRAB Tennant Creek 44.81 123 P **P** **03 09 26.0 -0.7**
comp=Z,502nm,0.7s,SNR=29
WRAB Tennant Creek 44.81 123⇑ *iP* **P** **03 09 26.4 -0.3**
WRAB Tennant Creek 44.81 123 *eP* **P** **03 09 26.1 -0.6**
comp=Z,287nm,1.3s,mb5.9
WB2 Warramunga Arr 44.81 123⇑ *iP* **P** **03 09 26.4 -0.3**
SNY Shenyang 45.19 30⇑ P **P** **03 09 29.3 -0.2**
SNY AMB AMB
comp=Z,70nm,0.7s,mb5.6
SNY LR LR
comp=N,730nm,17.4s
SNY LR LR
comp=Z,600nm,17.3s,MS4.6
ASPA Alice Springs 46.28 128⇑ *iP* **P** **03 09 38.0 -0.4**
ASAR Alice Springs 46.28 128 P **P** **03 09 38.0 -0.3**
comp=Z,20nm,0.8s,mb5.1,baz=305,slow=7.7,SNR=117
ASAR PcP PcP 03 11 12.6 -1.0
comp=Z,5.6nm,0.7s,baz=302,slow=4.0,SNR=3.9
ASAR LR LR 03 32 20.8
comp=Z,170nm,20.0s,MS4.0,baz=299,slow=40
FORT Forrest 46.37 140⇑ *iP* **P** **03 09 39.2 +0.2**
comp=Z,1µm,0.6s
ZAK Zakamensk 46.68 7 *eP* **P** **03 09 39.6 -1.5**
ZAK *e* 03 11 14.4
ZAK *e* 03 11 28.6
ZAK pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
CN2 Changchun 47.58 29⇑ P **P** **03 09 47.8 -0.5**
CN2 PCP PcP 03 11 17.3 -0.7
CN2 *eS* **S** **03 16 40.5 +1.3**
CN2 AMB AMB
comp=Z,60nm,0.7s,mb5.7
CN2 LR LR
comp=N,300nm,16.0s,MS4.6
CN2 LR LR
comp=E,400nm,16.0s,MS4.6
CN2 LR LR
comp=Z,600nm,18.0s,MS4.6
MOY Mondy 47.73 4 *eP* **P** **03 09 48.6 -0.8**
TLY Talaya 48.00 7 *eP* **P** **03 09 51.2 -0.3**
TLY pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,617nm,23.0s,MS4.5
TLY Talaya 48.00 7 *eP* **P** **03 09 50.6 -0.9**
comp=Z,8.3nm,0.6s,mb4.9
KURK Kurchatov 48.74 346 P **P** **03 09 56.4 -0.8**
comp=Z,129nm,0.6s,mb6.1,SNR=24
KURK Kurchatov 48.74 346 *eP* **P** **03 09 55.8 -1.4**
KURK pmax pmax
comp=Z,12nm,0.6s,mb5.1
KURK Kurchatov 48.74 346 *eP* **P** **03 09 55.8 -1.4**
comp=Z,12nm,0.6s,mb5.1
HIA Hailar 49.55 21 *eP* **P** **03 10 02.9 -0.5**
HIA pmax pmax
comp=Z,31nm,0.7s
HIA Hailar 49.55 21 *eP* **P** **03 10 02.9 -0.5**
comp=Z,31nm,0.7s,mb5.4
MDJ Mudanjiang 50.24 31 P **P** **03 10 09.3 +0.5**
MDJ AMB AMB
comp=Z,41nm,1.3s,mb5.3
MDJ AMB AMB
comp=Z,226nm,4.8s
MDJ LR LR
comp=N,131nm,25.0s,MS4.3
MDJ LR LR
comp=E,300nm,22.3s,MS4.3
MDJ LR LR
comp=Z,312nm,23.5s,MS4.2
MDJ Mudanjiang 50.24 31 *eP* **P** **03 10 08.5 -0.4**
comp=Z,48nm,1.1s,mb5.4
ZAL Zalesovo 50.59 352 P **P** **03 10 10.5 -0.9**
comp=Z,30nm,0.6s,mb5.4,baz=305,slow=5.5,SNR=156
MAJO Matsushiro 50.73 45 *eP* **P** **03 10 12.8 +0.1**
MAJO pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
MAJO Matsushiro 50.73 45 *eP* **P** **03 10 12.8 +0.1**
comp=Z,9.7nm,0.6s,mb4.9
MAT Matsushiro 50.73 45 *eP* **P** **03 10 13.0 +0.3**
MAT *eS* **S** **03 17 37.0 +14**
MAT pmax pmax
comp=Z,33nm,1.2s,mb5.1
MAT MLR MLR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.73 45 *eP* **P** **03 10 13.0 +0.3**
comp=Z,33nm,1.2s,mb5.1
MAT *eS* **S** **03 17 37.0 +14**
MAT LR LR
comp=Z,710nm,20.0s,MS4.7
MAT Matsushiro 50.73 45 P **P** **03 10 12.7 0.0**
MAT *eS* **S** **03 17 30.6 +7.4**
NVS Novosibirsk 51.70 351⇑ *iP* **P** **03 10 17.5 -2.2**
NVS pmax pmax
comp=N,28nm,1.2s
NVS pmax pmax
comp=E,7.0nm,0.4s
PMG Port Moresby 52.99 105 *eP* **P** **03 10 29.0 -0.9**
PMG pmax pmax
comp=Z,34nm,0.7s
PMG Port Moresby 52.99 105 P **P** **03 10 28.7 -1.2**
comp=Z,40nm,0.7s,mb5.4,baz=316,slow=4.7,SNR=36
PMG Port Moresby 52.99 105 *eP* **P** **03 10 29.0 -1.0**
comp=Z,34nm,0.7s,mb5.4
BVA0 Borovoye Array 53.15 341 *i* P **P** **03 10 29.0 -1.6**
BVA0 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BVAR Borovoye Array 53.15 341 P **P** **03 10 28.9 -1.6**
comp=Z,49nm,0.7s,mb5.5,baz=143,slow=7.4,SNR=261
CHKZ Chkalovo 53.63 342 *i* P **P** **03 10 33.1 -1.0**
CHKZ pmax pmax
comp=Z,96nm,0.8s,mb5.8
KLR Kul'dur 54.50 28⇓ *iP* **P** **03 10 37.5 -3.1**
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,130nm,1.8s,mb5.6
KLR MLR MLR
comp=E,700nm,17.0s
CTA Charters Tower 55.11 118⇑ *iP* **P** **03 10 45.0 -0.4**
comp=E,49nm,0.9s,mb5.5
CTA Charters Tower 55.11 118⇑ *iP* **P** **03 10 45.0 -0.4**
CTA pmax pmax
comp=Z,49nm,0.9s
CTA Charters Tower 55.11 118 P **P** **03 10 45.1 -0.3**
comp=Z,57nm,0.8s,mb5.7,baz=296,slow=8.4,SNR=66
CTA LR LR 03 34 40.7
comp=Z,362nm,21.6s,MS4.4,baz=62,slow=36
CTAO Charters Tower 55.11 118 *eP* **P** **03 10 44.8 -0.6**
CTAO pmax pmax
comp=Z,75nm,0.9s,mb5.7
CTAO MLR MLR
comp=Z,238nm,20.0s,MS4.3
CTAO Charters Tower 55.11 118 *eP* **P** **03 10 44.8 -0.6**
comp=Z,75nm,0.9s,mb5.7
CTAO LR LR
comp=Z,238nm,20.0s,MS4.3
STKA Stephens Creek 56.34 133 P **P** **03 10 53.4 -0.7**
comp=Z,21nm,0.9s,mb5.2,baz=305,slow=6.7,SNR=43
STKA Stephens Creek 56.34 133 *eP* **P** **03 10 52.7 -1.4**
ASAJ Asahikawa 57.41 39 LR LR 03 36 40.7
comp=Z,421nm,19.5s,MS4.5,baz=87,slow=37
CLNS Chul'man 57.58 19 *eP* **P** **03 11 02.1 -0.4**
CLNS pmax pmax
comp=Z,16nm,1.1s,mb5.0
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=E,10.0nm,0.8s
GNI Garni 58.26 316 *eP* **P** **03 11 05.3 -2.2**
GNI pmax pmax
comp=Z,17nm,0.8s
GNI Garni 58.26 316 P **P** **03 11 07.3 -0.3**
comp=Z,4.6nm,0.6s,mb4.7,baz=85,slow=8.1,SNR=4.8
GNI Garni 58.26 316 *eP* **P** **03 11 05.3 -2.2**
comp=Z,17nm,0.8s,mb5.1
KMBO Kilima Mbogo 58.61 266 P **P** **03 11 09.3 -1.1**
KMBO pmax pmax
comp=Z,17nm,1.0s
KMBO Kilima Mbogo 58.61 266 P **P** **03 11 11.0 +0.6**
comp=Z,0.9nm,0.4s,baz=6.1,slow=23,SNR=3.6
KMBO pP pP 03 11 24.1 +0.7
comp=Z,12nm,0.9s,baz=50,slow=8.3,SNR=19
KMBO LR LR 03 34 12.6
comp=Z,363nm,18.5s,baz=277,slow=34
KMBO Kilima Mbogo 58.61 266 P **P** **03 11 09.3 -1.1**
comp=Z,17nm,1.0s,mb5.0
TI2 Plekhanov 58.91 317 *i* P **P** **03 11 10.0 -2.1**
TI2 pmax pmax
comp=Z,30nm,0.6s,mb5.5
TBLG Delisi 58.92 317 P **P** **03 11 11.4 -0.7**
YSS Yuzh-Sakhalins 58.95 36⇑ *iP* **P** **03 11 11.2 -1.1**
YSS *e* pP 03 11 25.0 -0.4
YSS pmax pmax
comp=Z,80nm,0.9s,mb5.8
YSS MLR MLR
comp=Z,800nm,17.0s,MS4.9
YSS Yuzh-Sakhalins 58.95 36 *eP* **P** **03 11 11.7 -0.6**
comp=Z,41nm,0.8s,mb5.5
SVE Sverdlovsk 59.56 339⇑ *iP* **P** **03 11 15.2 -1.1**
SVE *e* pP 03 11 27.0 -2.4
SVE *e* 03 12 04.6
SVE *eS* **S** **03 19 41.0 +20**
SVE pmax pmax
comp=Z,140nm,1.5s,mb5.8
SVE MLR MLR
comp=N,100nm,18.0s,MS4.1
SVE MLR MLR
comp=E,100nm,18.0s,MS4.1
SVE MLR MLR
comp=Z,300nm,18.0s,MS4.5
KIV Kislovodsk 61.23 319*j* *iP* **P** **03 11 26.7 -1.2**
KIV *e* pP 03 11 42.9 +1.9
KIV *e* 03 12 15.7
KIV pmax pmax
comp=Z,30nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.0
KIV Kislovodsk 61.23 319 *eP* **P** **03 11 25.9 -2.0**
comp=Z,40nm,1.0s,mb5.5
GOF Gofitskoye 61.47 320 *eP* **P** **03 11 28.5 -1.0**
ASF Jabal al Asfar 61.64 304 P **P** **03 11 31.2 +0.4**
comp=Z,2.0nm,0.9s,mb4.3,baz=307,slow=17,SNR=3.6
ASF LR LR 03 40 22.1
comp=Z,187nm,18.2s,MS4.3,baz=115,slow=38
TOO Toolangi 61.98 137 *eP* **P** **03 11 33.7 +0.7**
comp=Z,0.7nm,0.7s
TOO Toolangi 61.98 137 *eP* **P** **03 11 33.7 +0.7**
TOO pmax pmax
comp=Z,1.0nm,0.7s
MALT Malatya 62.16 312 *eP* **P** **03 11 32.8 -1.4**
MALT pmax pmax
comp=Z,24nm,1.2s,mb5.2
MALT Malatya 62.16 312 *eP* **P** **03 11 32.8 -1.4**
comp=Z,24nm,1.2s,mb5.2
GZT Gaziantep 62.52 310 *i* P **P** **03 11 36.3 -0.3**
EIL Elat 62.71 301 P **P** **03 11 37.7 -0.3**
comp=Z,4.2nm,0.8s,mb4.6,baz=208,slow=4.6,SNR=4.6
EIL pP pP 03 11 51.3 0.0
comp=Z,14nm,0.8s,baz=156,slow=6.1,SNR=9.2
EIL LR LR 03 39 00.9
comp=Z,428nm,19.4s,MS4.6,baz=105,slow=36
EIL Elat 62.71 301 *eP* **P** **03 11 35.4 -2.6**
comp=Z,16nm,0.8s,mb5.2
SOC Sochi 63.06 318 *eP* **P** **03 11 37.5 -2.6**
SOC *e* 03 12 14.9
SOC *e* 03 13 53.1
SOC *e*PPP PPP 03 15 24.3 -7.5
SOC *eS* **S** **03 20 04.9 -0.7**
SOC *e* 03 21 26.7
SOC *e*SS SS 03 24 11.6 -2.3
SOC pmax pmax
comp=Z,75nm,1.1s,mb5.7
SOC pmax pmax
comp=N,51nm,1.0s
SOC pmax pmax
comp=E,46nm,1.0s
KAHT Ahir Dag 63.12 310 *i* P **P** **03 11 39.9 -0.7**
YAK Yakutsk 63.21 17 *eP* **P** **03 11 38.3 -2.6**
YAK pmax pmax
comp=Z,35nm,0.7s,mb5.6
YAK Yakutsk 63.21 17 *eP* **P** **03 11 38.3 -2.6**
comp=Z,35nm,0.7s,mb5.6
ARMA Armidale 63.39 127⇑ *iP* **P** **03 11 43.5 +1.0**
AVNT Avonos 64.97 311 *i* P **P** **03 11 56.0 +3.3**
MBAR Mbarara 65.06 267 P pP 03 12 06.1 -0.9
comp=Z,92nm,1.2s,SNR=8.4
MBAR Mbarara 65.06 267 P pP 03 12 05.0 -2.0
comp=Z,92nm,1.2s,SNR=8.4
MBAR Mbarara 65.06 267 *eP* **P** **03 11 52.5 -1.2**
MBAR pmax pmax
comp=Z,31nm,1.3s,mb5.2
MBAR MLR MLR
comp=Z,122nm,22.0s,MS4.0
MBAR Mbarara 65.06 267 *eP* **P** **03 11 52.5 -1.2**
comp=Z,31nm,1.3s,mb5.2
MBAR LR LR
comp=Z,122nm,22.0s,MS4.0
BOYT Boyabat 65.69 314 *i* P **P** **03 12 01.4 +4.1**
BRTR Keskin Array B 66.14 312 P **P** **03 11 58.4 -1.8**
comp=Z,7.0nm,0.8s,mb4.8,baz=128,slow=7.4,SNR=43
BRTR pP pP 03 12 12.4 -1.1
comp=Z,13nm,0.9s,baz=130,slow=7.2,SNR=18
ELDT Eldivan 66.50 313 *i* P **P** **03 12 05.5 +3.1**
SIM Simferopol' 67.30 317 *eP* **P** **03 12 04.9 -2.5**
SIM S S 03 20 50.0 -7.7
SIM pmax pmax
comp=Z,35nm,1.0s,mb5.3
SGKT Sivrigoynuk 67.53 312 *i* P pP 03 12 20.3 -2.0
MOS Moscow 69.18 329 *eP* **P** **03 12 17.8 -1.1**
MOS *e* pP 03 12 31.5 -0.8
MOS *e* 03 12 42.7
MOS *eS* S 03 21 20.7 +0.8
MOS *e* 03 22 13.5
MOS pmax pmax
comp=Z,75nm,0.8s,mb5.7
MOS pmax pmax
comp=N,35nm,0.7s
MOS pmax pmax
comp=E,47nm,0.7s
OBN Obninsk 69.47 328α *iP* **P** **03 12 19.3 -1.4**
OBN *i* pP 03 12 34.4 +0.3
OBN *e* 03 12 44.7
OBN *e* 03 14 53.9
OBN *eS* S 03 21 19.7 -3.6
OBN pmax pmax
comp=Z,76nm,1.7s,mb5.3
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
OBN Obninsk 69.47 328 *eP* **P** **03 12 18.8 -1.9**
comp=Z,11nm,0.5s,mb5.0
LSZ Lusaka 69.48 252 *eP* **P** **03 12 20.7 -0.7**
LSZ pmax pmax
comp=Z,37nm,1.4s,mb5.1
LSZ Lusaka 69.48 252 *eP* **P** **03 12 20.7 -0.7**
comp=Z,37nm,1.4s,mb5.1
MA2 Magadan 69.51 26 *eP* **P** **03 12 20.5 -0.3**
MA2 S S 03 21 23.6 -0.1
MA2 pmax pmax
comp=N,10.0nm,1.3s
MA2 pmax pmax
comp=E,20nm,1.3s
MA2 pmax pmax
comp=Z,50nm,1.3s,mb5.3
MA2 MLR MLR
comp=Z,800nm,22.0s,MS4.9
MA2 Magadan 69.51 26 *eP* **P** **03 12 19.5 -1.3**
comp=Z,33nm,1.0s,mb5.2
ULDT Uludag 69.60 311 *i* P **P** **03 12 21.5 -0.2**
MATP Matopo 70.19 247 P **P** **03 12 27.0 +1.4**
comp=Z,3.3nm,0.9s,mb4.2,baz=82,slow=9.4
MATP pP pP 03 12 39.3 +0.2
MATP Matopo 70.19 247 P **P** **03 12 27.0 +1.4**
MATP pP pP 03 12 39.3 +0.2
TIXI Tiksi 70.74 11⇑ *iP* **P** **03 12 26.4 -1.7**
TIXI pmax pmax
comp=Z,63nm,0.8s,mb5.6
TIXI MLR MLR
comp=Z,221nm,17.0s,MS4.5
PET Petropavlovsk 70.80 35 *eP* pP 03 12 41.9 -0.3
PET MLR MLR
comp=Z,500nm,18.0s,MS4.8
CASY Casey 70.91 174 *eP* **P** **03 12 28.1 -1.1**
comp=Z,23nm,1.3s,mb4.9
TIRR Tirgusor 71.09 316⇓ P **P** **03 12 30.2 -0.4**
KIS Kishinev 71.42 318 *eP* **P** **03 12 30.0 -2.6**
KIS *e* pP 03 12 48.0 +1.9
KIS *e* 03 15 18.0
KIS *e* 03 22 20.0
CFR Carcaliu 71.44 316 P **P** **03 12 32.1 -0.7**
CFR Carcaliu 71.44 316⇑ P **P** **03 12 31.3 -1.5**
CFR Carcaliu 71.44 316⇑ P **P** **03 12 31.3 -1.5**
VRI Vrincioaia 72.56 317⇓ P **P** **03 12 39.7 +0.3**
MLR Muntele Rosu 73.02 316 P **P** **03 12 42.5 +0.4**
MLR Muntele Rosu 73.02 316⇑ P **P** **03 12 42.3 +0.2**
MLR Muntele Rosu 73.02 316⇑ P **P** **03 12 42.3 +0.2**
LBTB Lobatse 73.78 243 *eP* **P** **03 12 46.8 -0.2**
LBTB pmax pmax
comp=Z,49nm,1.1s,mb5.3
LBTB MLR MLR
comp=Z,846nm,19.0s,MS5.0
LBTB Lobatse 73.78 243 *eP* **P** **03 12 46.8 -0.2**
comp=Z,49nm,1.1s,mb5.3
LBTB LR LR
comp=Z,846nm,19.0s,MS5.0
BURAR Bucovina Array 73.95 318⇑ P **P** **03 12 48.0 +0.4**
BURAR Bucovina Array 73.95 318⇑ P **P** **03 12 48.0 +0.5**
MNK Minsk 74.01 326 *eP* **P** **03 12 46.0 -1.7**
VTS Vitosha 74.44 313 P **P** **03 12 49.8 -0.6**
IDID Didziasalis 74.84 326 *eP* **P** **03 12 51.8 -0.7**
IDID AMb AMB 03 12 53.3
comp=Z,7.7nm,1.0s,mb4.6
JOF Joensuu 75.00 335 *ep* **P** **03 12 51.7 -1.6**
comp=Z,9.2nm,0.7s,mb4.8
MAW Mawson 75.07 192 P **P** **03 12 54.7 +1.1**
comp=Z,5.0nm,0.6s,mb4.6,baz=49,slow=7.0,SNR=5.3
MAW pP pP 03 13 08.0 +0.9
comp=Z,7.6nm,0.7s,baz=317,slow=13,SNR=4.0
MAW LR LR 03 37 21.1
comp=Z,271nm,21.4s,MS4.5,baz=169,slow=29
IIGN Ignalina 75.14 326 *eP* **P** **03 12 53.4 -0.8**
IIGN AMb AMB 03 12 55.0
comp=Z,9.0nm,1.1s,mb4.6
LVV L'vov 75.17 321 *eP* **P** **03 12 53.3 -1.2**
LVV *e* pP 03 13 07.8 -0.2
IZAR Zarasai 75.23 327 *eP* **P** **03 12 53.8 -0.9**
IZAR AMb AMB 03 12 57.1
comp=Z,8.3nm,1.6s,mb4.4
ISAL Salakas 75.25 327 *eP* **P** **03 12 53.2 -1.6**
BOLS Boljevac 75.53 314⇑ *iP* **P** **03 12 55.4 -1.3**
SKO Skopje 75.64 312 *eP* **P** **03 13 06.0 +8.6**
VSU Vasula 75.70 330⇑ *iP* **P** **03 12 56.3 -1.0**
KWP Kalwaria 75.98 320 *eP* **P** **03 12 59.2 +0.1**
KWP Kalwaria 75.98 320 *eP* **P** **03 12 59.2 +0.1**
APA Apatity 76.01 340⇑ *iP* **P** **03 12 58.4 -0.5**
APA *i* pP 03 13 12.4 -0.1
APA pmax pmax
comp=Z,81nm,1.4s,mb5.5
BZS Buzias 76.03 316 P **P** **03 12 59.6 +0.1**
KOLS Kolonicke sedl 76.13 319 *i* P **P** **03 13 00.5 +0.5**
KOLS *e*pP pP 03 13 14.8 +1.3
SUW Suwalki 76.55 325⇑ *eP* **P** **03 13 01.3 -1.0**
CRVS Cervenica-Dubn 76.66 319 *eP* **P** **03 13 04.5 +1.5**
FINES FINESS Array B 76.85 332 P **P** **03 13 03.0 -0.8**
FINES *PP pP 03 13 18.4 +1.1
FINES FINESS Array B 76.85 332 P **P** **03 13 03.0 -0.9**
comp=Z,5.8nm,0.6s,mb4.7,baz=97,slow=6.4,SNR=36
FINES pP pP 03 13 18.3 +1.0
comp=Z,11nm,0.8s,baz=101,slow=5.5,SNR=7.5
KAF Kangasniemi 76.93 333 *ep* **P** **03 13 02.6 -1.7**
comp=Z,11nm,0.8s,mb4.8,baz=103,slow=5.2
KAF Kangasniemi 76.93 333 *eP* **P** **03 13 02.6 -1.7**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.8
DIVS Divcibare 76.97 314⇓ *iP* **P** **03 13 04.3 -0.6**
KECS Kecovo 77.23 319 *i* P **P** **03 13 06.8 +0.6**
BBLS Bajina Basta - 77.36 314⇓ *iP* **P** **03 13 06.7 -0.3**
NIE Niedzica 77.48 320 *eP* **P** **03 13 06.3 -1.3**
WAR Warsaw 77.49 323 *eP* **P** **03 13 03.2 -4.3**

PSZ Piszkesteto 77.54 318 *e*P P **03 13 07.0 -0.9**
comp=Z,13nm,0.8s,mb4.9
PSZ Piszkesteto 77.54 318⇑*e*P P **03 13 08.0 +0.1**
OJC Ojcow 77.93 320⇑*e*P P **03 13 10.0 0.0**
VYHS Vyhne 78.32 319 *i* P P **03 13 12.4 +0.2**
VYHS *e*pP pP 03 13 25.6 -0.2
SRO2 Moca 78.52 318 *e*pP pP 03 13 27.0 +0.1
SRO Srobarova 78.58 318 *i* P P **03 13 14.2 +0.5**
SRO *e*pP pP 03 13 27.9 +0.7
SRO1 Iza 78.63 318 *e*P P **03 13 14.2 +0.3**
SRO1 *e*pP pP 03 13 28.4 +0.9
TIP Timpagrande 78.91 309 *e*P P **03 13 15.0 -0.6**
OKC Ostrava-Krasne 78.93 320⇑P P **03 13 15.9 +0.4**
OKC *e*pP pP 03 13 29.1 0.0
RAC Raciborz 78.93 320 *e*P P **03 13 16.2 +0.7**
BILL Bilibino 79.13 21 *e*P P **03 13 14.5 -1.8**
BILL pmax pmax
comp=Z,18nm,1.0s,mb5.0
BILL Bilibino 79.13 21 *e*P P **03 13 14.5 -1.7**
comp=Z,18nm,1.0s,mb5.0
SMOL Smolenice 79.25 318 *e*P P **03 13 17.7 +0.4**
SMOL *e*pP pP 03 13 30.6 -0.3
FX1 Attu Island--F 79.28 37 *e*P P **03 13 16.8 -0.6**
MORC Moravsky Berou 79.31 320 *e*P P **03 13 17.3 -0.3**
MORC pmax pmax
comp=Z,28nm,1.3s,mb5.0
MORC Moravsky Berou 79.31 320 *e*P P **03 13 17.3 -0.4**
comp=Z,28nm,1.3s,mb5.0
ARCES ARCESS Array B 79.42 340 P P **03 13 17.6 -0.2**
comp=Z,10nm,0.7s,mb4.9,baz=98,slow=5.5,SNR=28
ARCES pP pP 03 13 32.4 +1.0
comp=Z,7.2nm,0.6s,baz=92,slow=5.4,SNR=3.8
ARE0 ARCESS Array S 79.42 340 *e*P P **03 13 17.0 -0.9**
SUR Sutherland 79.42 236 *e*P P **03 13 19.5 +0.9**
comp=Z,108nm,1.5s,mb5.6
ZST Bratislava 79.43 318 *e*P P **03 13 18.7 +0.4**
ZST *e*pP pP 03 13 32.2 +0.3
MTTG Motta San Giov 79.67 308 *e*P P **03 13 21.7 +1.9**
KOGS Kog 79.84 316 *i* P P **03 13 20.7 +0.2**
KOGS *e* 03 28 32.0
VRAC Vranov 79.88 319 P P **03 13 20.9 +0.2**
comp=Z,3.9nm,0.7s,mb4.5,baz=105,slow=7.8,SNR=6.6
GKP Gorka Klasztor 79.91 323 *e*P P **03 13 20.5 -0.3**
GKP Gorka Klasztor 79.91 323 *e*P P **03 13 20.6 -0.2**
TSUM Tsumeb 80.10 250 P P **03 13 21.6 -0.9**
comp=Z,5.5nm,0.9s,mb4.5
TSUM LR LR
comp=Z,501nm,19.0s,MS4.9
SGO Sicignano 80.11 310 *e*P P **03 13 22.0 -0.1**
DPC Dobruska-Polom 80.16 320⇑*i*P P **03 13 22.7 +0.6**
DPC *e*pP pP 03 13 36.6 +0.8
KSP Ksiaz 80.22 321⇑*e*P P **03 13 23.0 +0.5**
KSP *e**PP pP 03 13 35.9 -0.2
KSP Ksiaz 80.22 321⇑*e*P P **03 13 23.1 +0.6**
GCIS Gornji Cirnik 80.23 316 *i* P P **03 13 22.9 +0.3**
GOLS Golise 80.24 316 *i* pP 03 13 35.8 -0.6
DOBS Dobrina 80.36 316 *i* P P **03 13 23.4 +0.1**
GROS Grobnik 80.36 316 *i* P P **03 13 23.5 +0.2**
UPC Upice 80.37 320 *e*P P **03 13 23.6 +0.3**
UPC *e*pP pP 03 13 37.1 +0.2
UPC Upice 80.37 320⇑*e*P P **03 13 23.6 +0.3**
UPC *e*pP pP 03 13 37.1 +0.2
SLNA Salina 80.38 308 *e*P P **03 13 23.0 -0.6**
ARSA Arzberg 80.41 317⇑*i*P P **03 13 23.9 +0.3**
comp=Z,77nm,1.8s,mb5.3
BOJS Bojanci 80.47 315 *i* P P **03 13 23.8 -0.1**
comp=Z,53nm,0.9s,mb5.5
BOJS *e*pP pP 03 13 37.5 0.0
PERS Pernice 80.64 316 *i* P P **03 13 25.2 +0.4**
PERS *i* pP 03 13 38.9 +0.5
VAE Valguarnera 80.67 307 P P **03 13 25.7 +0.6**
comp=Z,6.2nm,0.9s,mb4.5,baz=99,slow=22,SNR=4.2
VISS Visnje 80.78 316 *i* P P **03 13 25.6 +0.1**
CII Carovilli 80.93 311 *e*P P **03 13 25.5 -0.9**
comp=Z,40nm,1.4s,mb5.2
LJU Ljubljana 81.01 316 *i* P P **03 13 27.1 +0.4**
LJU *e**PP pP 03 13 39.5 -0.9
LJU pmax pmax
comp=Z,116nm,1.1s,mb5.7
LJU Ljubljana 81.01 316 *i* P P **03 13 27.1 +0.4**
comp=Z,116nm,1.1s,mb5.7
LJU *e*pP pP 03 13 39.5 -0.9
OBKA Obir 81.02 316⇑*i*P P **03 13 27.3 +0.5**
comp=Z,230nm,3.0s
PRU Pruhonice 81.27 320⇑*i*P P **03 13 28.3 +0.3**
PRU *e*pP pP 03 13 41.7 0.0
PVCC Panska Ves 81.29 320⇑*e*P P **03 13 29.0 +0.9**
SDI San Donato 81.30 311 *e*P P **03 13 27.6 -0.8**
MOA Molln 81.30 318⇓*i*P P **03 13 28.1 -0.1**
comp=Z,38nm,1.9s,mb5.0
VOJS Vojsko 81.45 316 *i* P P **03 13 29.1 0.0**
CADS Cadrg 81.57 316 *e*P P **03 13 29.5 -0.1**
PTQR Pietraquaria 81.62 312 *e*P P **03 13 30.1 +0.1**
AQU L'Aquila 81.63 312 *e*P P **03 13 30.3 +0.2**
BRG Berggiesshubel 81.71 321 *i* P P **03 13 30.7 +0.4**
BRG *e* pP 03 13 44.5 +0.5
BRG pmax pmax
comp=Z,13nm,1.0s,mb4.8
BRG Berggiesshubel 81.71 321 *i* P P **03 13 30.7 +0.4**
comp=Z,12nm,1.0s,mb4.8
BRG *e* pP 03 13 44.5 +0.5
GEC2 GERESS Array S 81.74 319 *e*P P **03 13 30.5 0.0**
GEC2 pmax pmax
comp=Z,42nm,1.2s,mb5.2
GEC2 GERESS Array S 81.74 319 *e*P P **03 13 30.5 0.0**
comp=Z,42nm,1.2s,mb5.2
GERES GERESS Array B 81.74 319 P P **03 13 30.9 +0.4**
comp=Z,13nm,0.7s,mb4.9,baz=90,slow=5.3,SNR=97
GERES pP pP 03 13 45.2 +1.1
comp=Z,10nm,0.8s,baz=90,slow=6.7,SNR=13
KHC Kasperske Hory 81.84 319⇑*i*P P **03 13 31.2 +0.2**
KHC *e*pP pP 03 13 45.0 +0.3
PTCC Patocco-Chiusa 81.84 316 *e*P P **03 13 31.1 +0.1**
NRCA Norcia 81.86 313 *e*P P **03 13 31.2 -0.1**
KBA Koelnbreinsper 81.88 317⇑*i*P P **03 13 31.0 -0.3**
comp=Z,153nm,3.8s
KBA Koelnbreinsper 81.88 317⇑*i*P P **03 13 31.0 -0.3**
KBA pmax pmax
comp=Z,153nm,3.8s
GMNA Gemona 81.92 316 *e*P P **03 13 31.7 +0.2**
RUE Ruedersdorf 81.92 322 *e*P P **03 13 30.9 -0.4**
comp=Z,18nm,0.6s,mb5.2
SNTG Esanatoglia 82.00 313 *e*P P **03 13 32.0 0.0**
ARV Arcevia 82.01 313 *e*P P **03 13 32.6 +0.6**
MNS Montasola 82.16 312 *e*P P **03 13 32.1 -0.7**
RPZ Rata Peaks 82.23 135 P P **03 13 33.1 0.0**
comp=Z,19nm,0.8s,mb5.1,baz=241,slow=2.8,SNR=8.3
RPZ pP pP 03 13 48.0 +1.2
comp=Z,12nm,0.6s,baz=222,slow=23,SNR=4.0
FVI Forni Avoltri 82.25 316 *e*P P **03 13 33.1 -0.1**
WET Wettzell 82.30 319 *e*P P **03 13 33.3 -0.1**
WET pmax pmax
comp=Z,21nm,1.0s,mb5.0
WET Wettzell 82.30 319 *e*P P **03 13 33.3 -0.1**
comp=Z,21nm,1.0s,mb5.0
CLL Collm 82.33 321⇓*i*P P **03 13 33.9 +0.4**
CLL *i* pP 03 13 46.9 -0.3
CLL pmax pmax
comp=Z,18nm,1.2s,mb4.9
CLL Collm 82.33 321⇓*i*P P **03 13 33.9 +0.4**
comp=Z,18nm,1.2s,mb4.9
CLL *i* pP 03 13 46.9 -0.3
CLL Collm 82.33 321⇓P P **03 13 33.9 +0.4**
comp=Z,logA/T=1.2,mb4.9
CLL *i**PP pP 03 13 46.9 -0.3
CLL *e* 03 13 59.0
RSM Repubblica di 82.38 314 *e*P P **03 13 35.0 +1.1**
HFS Hagfors 82.57 330 P P **03 13 34.6 +0.1**
HFS *PP pP 03 13 50.2 +2.0
HFS Hagfors 82.57 330 P P **03 13 34.6 0.0**
comp=Z,9.3nm,0.7s,mb4.9,baz=108,slow=4.7,SNR=20
HFS pP pP 03 13 50.1 +1.9
comp=Z,7.6nm,0.6s,baz=90,slow=4.4,SNR=4.7
NKC Novy Kostel 82.63 320⇑*e*P P **03 13 35.6 +0.6**
SFI Santa Sofia 82.82 314 *e*P P **03 13 37.5 +1.4**
PGD Poggio Sodo 82.91 314 *e*P P **03 13 37.9 +1.3**
CTI Castel Tesino 83.01 316 *e*P P **03 13 37.7 +0.6**
VMG Vicchio 83.04 314 *e*P P **03 13 38.4 +1.1**
WTTA Wattenberg 83.05 317⇑*i*P P **03 13 37.0 -0.2**
comp=Z,199nm,2.6s,mb5.7
WTTA Wattenberg 83.05 317⇑*i*P P **03 13 37.0 -0.2**
WTTA pmax pmax
comp=Z,199nm,2.6s,mb5.7

WATA Walderalm 83.10 317⇑*i*P P **03 13 36.9 -0.6**
comp=Z,10nm,1.0s,mb4.8
WATA Walderalm 83.10 317⇑*i*P P **03 13 36.9 -0.6**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
SEI Scarperia 83.17 314 *e*P P **03 13 39.0 +1.1**
MOX Moxa 83.18 320 *e*P P **03 13 38.0 +0.2**
MOX pmax pmax
comp=Z,25nm,1.5s,mb5.0
MOX Moxa 83.18 320 *e*P P **03 13 38.0 +0.2**
comp=Z,25nm,1.5s,mb5.0
MOX Moxa 83.18 320 *i* P P **03 13 38.0 +0.2**
comp=Z,logA/T=1.2,mb5.0
FUR Furstenfeldbru 83.32 318 *e*P P **03 13 38.1 -0.5**
FUR pmax pmax
comp=Z,28nm,1.0s,mb5.2
FUR Furstenfeldbru 83.32 318 *e*P P **03 13 38.1 -0.5**
comp=Z,28nm,1.0s,mb5.2
SQTA Sankt Quirin 83.34 317⇑*i*P P **03 13 38.6 -0.1**
comp=Z,9.2nm,0.8s,mb4.9
SQTA Sankt Quirin 83.34 317⇑*i*P P **03 13 38.6 -0.1**
SQTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRA1 Grafenberg Arr 83.40 319 *e*P P **03 13 39.3 +0.4**
comp=Z,29nm,1.0s,mb5.3
GRA1 *e*pP pP 03 13 52.9 +0.2
GRF Grafenberg Arr 83.40 319 *e*P P **03 13 39.3 +0.4**
GRF *e**PP pP 03 13 52.9 +0.2
GRF pmax pmax
comp=Z,29nm,1.0s,mb5.3
MOTA Moosalm 83.42 317⇓*i*P P **03 13 38.8 -0.3**
ZCCA Zocca 83.45 314 *e*P P **03 13 40.9 +1.6**
BDI Bagni Di Lucca 83.72 314 *e*P P **03 13 40.0 -0.7**
SAL Salo 83.79 315 *e*P P **03 13 42.2 +1.2**
NB2 NORSAR Subarra 83.86 331 P P **03 13 40.6 -0.4**
comp=Z,3.5nm,0.7s,mb4.6,baz=96,slow=5.6
NB2 NORSAR Subarra 83.86 331 P P **03 13 40.6 -0.4**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
NOA NORSAR Array B 83.86 331 P P **03 13 40.5 -0.5**
comp=Z,5.5nm,0.8s,mb4.7,baz=92,slow=5.6,SNR=18
NOA pP pP 03 13 56.4 +1.7
comp=Z,9.6nm,0.9s,baz=95,slow=4.9,SNR=10
BRMO Bormio 83.90 316 *e*P P **03 13 42.1 +0.5**
CLZ Clausthal 83.99 322 *e*P P **03 13 41.8 -0.1**
comp=Z,20nm,0.9s,mb5.2
BSEG Bad Segeberg 84.07 324 *e*P P **03 13 42.4 +0.1**
DAVOX Davos 84.25 316 P P **03 13 44.1 +0.8**
comp=Z,27nm,0.7s,mb5.5,baz=118,slow=5.6,SNR=55
DAVOX pP pP 03 13 58.0 +0.9
comp=Z,20nm,0.7s,baz=137,slow=8.5,SNR=8.3
DAVOX Davos 84.25 316 P P **03 13 44.1 +0.8**
DAVOX pP pP 03 13 58.0 +0.9
DAVA Damuels 84.25 317⇑*i*P P **03 13 43.6 +0.3**
comp=Z,40nm,1.2s,mb5.4
BOB Bobbio (Coli) 84.55 314 *e*P P **03 13 45.8 +0.9**
VSL Villasalto 84.64 309 *e*P P **03 13 44.8 -0.7**
comp=Z,17nm,0.8s,mb5.2
PGF Pioggiola 84.89 312⇑*i*P P **03 13 46.9 +0.3**
comp=Z,46nm,1.2s,mb5.2
PGF Pioggiola 84.89 312⇑*i*P P **03 13 46.9 +0.3**
PGF pmax pmax
comp=Z,23nm,1.2s,mb5.2
TNS Taunus Mts 85.20 320 *e*P P **03 13 48.1 +0.1**
TNS pmax pmax
comp=Z,14nm,0.8s,mb5.1
TNS Taunus Mts 85.20 320 *e*P P **03 13 48.1 +0.1**
comp=Z,14nm,0.8s,mb5.1
BFO Black Forest 85.29 318 P P **03 13 48.7 +0.2**
comp=Z,109nm,0.8s,mb6.0,SNR=9.1
BFO Black Forest 85.29 318 *e*P P **03 13 47.9 -0.6**
BFO pmax pmax
comp=Z,12nm,0.9s,mb5.0
BFO Black Forest 85.29 318 *e*P P **03 13 47.9 -0.6**
comp=Z,12nm,0.9s,mb5.0
FIN Finale Ligure 85.44 314 *e*P P **03 13 49.5 +0.2**
MCGN Macugnaga 85.56 316 *e*P P **03 13 50.7 +0.8**
LANF Langenberg 85.63 319 *e*P P **03 13 50.6 +0.5**
IMI Imperia 85.68 314 *e*P P **03 13 50.9 +0.5**
URZ Urewera 85.72 129 P P **03 13 50.4 -0.4**
comp=Z,11nm,0.5s,mb5.3,baz=220,slow=1.3,SNR=10
SAOF Saorge 85.92 314 *e*P P **03 13 52.0 +0.4**
WLS Welschbruch 85.94 318 *e*P P **03 13 50.8 -0.9**
CDF Champ du Feu 85.99 318⇑*i*P P **03 13 51.8 -0.1**
comp=Z,19nm,0.9s,mb5.0
CDF Champ du Feu 85.99 318⇑*i*P P **03 13 51.8 -0.1**
CDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
SBF Sospel 86.00 314⇑*i*P P **03 13 52.3 +0.2**
comp=Z,49nm,0.8s,mb5.5
SBF Sospel 86.00 314⇑*i*P P **03 13 52.3 +0.2**
SBF pmax pmax
comp=Z,25nm,0.8s,mb5.5
AUTN L'Aution 86.01 314 *e*P P **03 13 52.4 +0.3**
ECH Echery 86.08 318 *e*P P **03 13 52.6 +0.3**
TOUF Mont Tournerai 86.14 314 *e*P P **03 13 53.5 +0.8**
MVIF Mont Vial 86.21 314 *e*P P **03 13 53.7 +0.6**
HINF Hinteralfeld 86.29 318⇑*i*P P **03 13 52.9 -0.5**
LOMF Lomont 86.33 317 *e*P P **03 13 53.6 0.0**
CALN Calern 86.40 313 *e*P P **03 13 54.7 +0.7**
LPG La Plagne 86.44 315⇑*i*P P **03 13 54.8 +0.6**
comp=Z,40nm,0.8s,mb5.4
LPG La Plagne 86.44 315⇑*i*P P **03 13 54.8 +0.6**
LPG pmax pmax
comp=Z,20nm,0.8s,mb5.4
LPL La Plagne 86.45 315⇑*i*P P **03 13 54.8 +0.6**
comp=Z,49nm,0.9s,mb5.4
LPL La Plagne 86.45 315⇑*i*P P **03 13 54.8 +0.6**
LPL pmax pmax
comp=Z,25nm,0.9s,mb5.4
MBDF Montbardon 86.45 314 *e*P P **03 13 54.0 -0.3**
comp=Z,16nm,0.8s,mb5.0
MBDF Montbardon 86.45 314 *e*P P **03 13 54.0 -0.3**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
BNI Bardonecchia 86.51 315 *e*P P **03 13 53.4 -1.1**
BNI pmax pmax
comp=Z,12nm,0.9s,mb5.1
BNI Bardonecchia 86.51 315 *e*P P **03 13 53.4 -1.1**
comp=Z,12nm,0.9s,mb5.1
FRF La Foret Royal 86.59 313⇑*i*P P **03 13 55.3 +0.4**
comp=Z,42nm,1.1s,mb5.3
FRF La Foret Royal 86.59 313⇑*i*P P **03 13 55.3 +0.4**
FRF pmax pmax
comp=Z,21nm,1.0s,mb5.3
HAU Haudompre 86.63 318⇑*i*P P **03 13 54.9 -0.1**
comp=Z,50nm,0.8s,mb5.5
HAU *e*R
comp=Z,161nm,20.0s
HAU Haudompre 86.63 318⇑*i*P P **03 13 54.9 -0.1**
HAU pmax pmax
comp=Z,25nm,0.8s,mb5.5
HAU MLR MLR
comp=Z,160nm,20.0s,MS4.4
LMR La Mourre 86.70 313⇑*i*P P **03 13 55.7 +0.2**
comp=Z,24nm,1.0s,mb5.1
LMR La Mourre 86.70 313⇑*i*P P **03 13 55.7 +0.2**
LMR pmax pmax
comp=Z,12nm,1.0s,mb5.1
CABF La Chapelle 86.86 316⇑*i*P P **03 13 56.7 +0.5**
comp=Z,42nm,1.0s,mb5.3
CABF La Chapelle 86.86 316⇑*i*P P **03 13 56.7 +0.5**
CABF pmax pmax
comp=Z,21nm,1.0s,mb5.3
THEF They Montfort 86.86 318 *e*P P **03 13 56.2 0.0**
TAVF Tavernes 87.01 313 *e*P P **03 13 57.7 +0.7**
ORIF Oris-en-Rattie 87.08 315⇑*i*P P **03 13 57.9 +0.6**
comp=Z,22nm,1.0s,mb5.1
ORIF *e*R
comp=Z,157nm,22.0s
STOF St-Etienne Org 87.10 314 *e*P P **03 13 58.6 +1.1**
PUYF Puyloubier 87.28 313 *e*P P **03 13 58.9 +0.6**
SMRF Simiane la Rot 87.34 314⇑*i*P P **03 13 59.5 +0.9**
comp=Z,32nm,1.1s,mb5.2
MEZF Maizieres J'vi 87.47 318⇑*i*P P **03 13 59.3 +0.2**
comp=Z,21nm,0.9s,mb5.1
TREF Trevaresse 87.50 313 *e*P P **03 13 59.3 -0.1**
GIVF Givet 87.53 320⇑*i*P P **03 13 59.7 +0.3**
comp=Z,23nm,1.0s,mb5.1
GIVF Givet 87.53 320⇑*i*P P **03 13 59.7 +0.3**
GIVF pmax pmax
comp=Z,11nm,1.0s,mb5.0
BAIF Baives 87.93 320⇑*i*P P **03 14 01.9 +0.6**
comp=Z,32nm,0.9s,mb5.3
BAIF Baives 87.93 320⇑*i*P P **03 14 01.9 +0.6**

BAIF pmax pmax
comp=Z,16nm,0.9s,mb5.2
VIVF Saint-Julien-l 87.94 315⇑*i*P P **03 14 01.8 +0.3**
comp=Z,42nm,1.3s,mb5.2
VIVF Saint-Julien-l 87.94 315⇑*i*P P **03 14 01.8 +0.3**
VIVF pmax pmax
comp=Z,21nm,1.3s,mb5.2
SMF Signal de Mont 88.40 316⇑*i*P P **03 14 03.7 +0.1**
comp=Z,32nm,0.8s,mb5.3
SMF Signal de Mont 88.40 316⇑*i*P P **03 14 03.7 +0.1**
SMF pmax pmax
comp=Z,16nm,0.8s,mb5.3
LASF Ste Croix 88.58 314⇑*i*P P **03 14 05.2 +0.7**
comp=Z,35nm,1.3s,mb5.2
SSF Saint Saulge 88.60 317⇑*i*P P **03 14 04.8 +0.2**
SSF pmax pmax
comp=Z,15nm,1.1s,mb5.2
SSF Saint Saulge 88.60 317⇑*i*P P **03 14 04.8 +0.2**
comp=Z,15nm,1.1s,mb5.2
PLDF La Plantade 88.60 316 *e*P P **03 14 05.3 +0.7**
AVF Avril sur Loir 88.73 317⇑*i*P P **03 14 05.3 +0.1**
comp=Z,41nm,1.3s,mb5.3
AVF Avril sur Loir 88.73 317⇑*i*P P **03 14 05.3 +0.1**
AVF pmax pmax
comp=Z,21nm,1.3s,mb5.3
VNDA Vanda 88.83 169 P P **03 14 05.0 -0.1**
comp=Z,3.6nm,1.1s,mb4.6,baz=320,slow=4.2,SNR=4.4
VNDA pP pP 03 14 21.5 +2.6
comp=Z,3.5nm,0.9s,baz=350,slow=8.1,SNR=6.8
VNDA LR LR 03 48 46.7
comp=Z,194nm,18.7s,MS4.5,baz=302,slow=32
LBL Lubilhac 88.92 315 *e*P P **03 14 07.2 +1.1**
BGF Bois d'Agland 89.09 316⇑*i*P P **03 14 07.5 +0.6**
comp=Z,74nm,1.4s,mb5.5
BGF Bois d'Agland 89.09 316⇑*i*P P **03 14 07.5 +0.6**
BGF pmax pmax
comp=Z,37nm,1.4s,mb5.5
HYF Humbligny 89.17 317 *e*P P **03 14 08.1 +0.8**
MENF Mencas 89.20 320 *e*P P **03 14 08.2 +0.9**
TCF Toulx Ste Croi 89.56 316⇑*i*P P **03 14 09.7 +0.6**
comp=Z,23nm,1.1s,mb5.1
TCF Toulx Ste Croi 89.56 316⇑*i*P P **03 14 09.7 +0.6**
TCF pmax pmax
comp=Z,11nm,1.1s,mb5.1
CAF Calviac 89.78 315⇑*i*P P **03 14 11.0 +0.8**
comp=Z,34nm,1.3s,mb5.2
CAF Calviac 89.78 315⇑*i*P P **03 14 11.0 +0.8**
CAF pmax pmax
comp=Z,17nm,1.3s,mb5.2
MTLF Montolieu 89.82 313⇑*i*P P **03 14 11.0 +0.6**
comp=Z,19nm,1.0s,mb5.1
MTLF Montolieu 89.82 313⇑*i*P P **03 14 11.0 +0.6**
MTLF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
RJF Les Rejaudoux 90.13 315⇑*i*P P **03 14 12.7 +0.9**
comp=Z,20nm,0.9s,mb5.1
RJF *e*R
comp=Z,145nm,20.0s
RJF Les Rejaudoux 90.13 315⇑*i*P P **03 14 12.7 +0.9**
RJF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
RJF MLR MLR
comp=Z,150nm,20.0s,MS4.4
EMIR Miracle 90.46 312 P P **03 14 13.9 +0.4**
comp=Z,11nm,0.9s,mb5.2
LFF La Frestale 90.72 315⇑*i*P P **03 14 15.5 +0.9**
comp=Z,24nm,1.0s,mb5.2
LFF La Frestale 90.72 315⇑*i*P P **03 14 15.5 +0.9**
LFF pmax pmax
comp=Z,12nm,1.0s,mb5.2
EPOB Poblet 90.86 311 P P **03 14 15.3 0.0**
comp=Z,29nm,1.5s,mb5.4
JMIC Jan Mayen 90.86 341 LR LR 04 03 21.4
comp=Z,178nm,18.2s,MS4.5,baz=262,slow=41
LDF La Druitiere 90.89 319⇑*i*P P **03 14 15.7 +0.4**
comp=Z,57nm,1.0s,mb5.5
LDF La Druitiere 90.89 319⇑*i*P P **03 14 15.7 +0.4**
LDF pmax pmax
comp=Z,29nm,1.0s,mb5.6
EIBI Ibiza 90.89 309 P P **03 14 16.6 +1.0**
comp=Z,14nm,0.9s,mb5.3
FLN La Foliniere 91.10 319⇑*i*P P **03 14 16.7 +0.4**
comp=Z,44nm,0.8s,mb5.5
FLN *e*R
comp=Z,108nm,18.2s
FLN La Foliniere 91.10 319⇑*i*P P **03 14 16.7 +0.4**
FLN pmax pmax
comp=Z,22nm,0.8s,mb5.5
FLN MLR MLR
comp=Z,110nm,18.3s,MS4.3
MFF Saint Martin d 91.14 317⇑*i*P P **03 14 17.1 +0.6**
EPF Esparros 91.22 313⇑*i*P P **03 14 18.5 +1.5**
EBR Ebro Roquetas 91.35 311 *e*Ts 03 14 28.5
GRR Gorron 91.40 319⇑*i*P P **03 14 18.3 +0.6**
comp=Z,73nm,1.2s,mb5.6
GRR Gorron 91.40 319⇑*i*P P **03 14 18.3 +0.6**
GRR pmax pmax
comp=Z,36nm,1.2s,mb5.6
EBIE Bielsa 91.40 313 P P **03 14 18.9 +1.0**
comp=Z,15nm,1.2s,mb5.3
ERTA Horta de San J 91.46 311 P P **03 14 18.9 +0.8**
comp=Z,36nm,1.4s,mb5.5
EKA Eskdalemuir Ar 91.78 326 P P **03 14 19.9 +0.7**
comp=Z,8.1nm,0.7s,mb5.2,baz=97,slow=5.4,SNR=38
EKA pP pP 03 14 34.6 +1.5
comp=Z,3.2nm,0.9s,baz=100,slow=5.1,SNR=4.4
ETSF Etsaut 91.89 313⇑*i*P P **03 14 23.7 +3.6**
comp=Z,26nm,1.1s,mb5.2
ETSF Etsaut 91.89 313⇑*i*P P **03 14 23.7 +3.6**
ETSF pmax pmax
comp=Z,13nm,1.1s,mb5.2
EMOS Mosqueruela 92.14 311 P P **03 14 23.1 +1.9**
comp=Z,55nm,1.4s,mb5.7
SJPF Ste Jean 92.35 313⇑*i*P P **03 14 23.3 +1.2**
comp=Z,17nm,1.0s,mb5.0
SJPF Ste Jean 92.35 313⇑*i*P P **03 14 23.3 +1.2**
SJPF pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
SGMF Saint Gilles 92.54 319 *e*P P **03 14 23.3 +0.4**
comp=Z,22nm,0.9s,mb5.3
SGMF Saint Gilles 92.54 319 *e*P P **03 14 23.3 +0.4**
SGMF pmax pmax
comp=Z,11nm,0.9s,mb5.3
QUIF Quistinic 92.99 318⇑*i*P P **03 14 25.3 +0.3**
comp=Z,36nm,1.1s,mb5.4
QUIF Quistinic 92.99 318⇑*i*P P **03 14 25.3 +0.3**
QUIF pmax pmax
comp=Z,18nm,1.1s,mb5.4
ROSF Rostrenen 93.00 319⇑*i*P P **03 14 25.4 +0.4**
comp=Z,68nm,1.4s,mb5.6
ROSF Rostrenen 93.00 319⇑*i*P P **03 14 25.4 +0.4**
ROSF pmax pmax
comp=Z,34nm,1.4s,mb5.6
QSPA South Pole Qui 93.91 180 *e*P P **03 14 28.7 +0.3**
IMA Indian Mountai 94.61 23 *e*P P **03 14 32.0 +0.1**
GUD Guadarrama 94.87 311 P P **03 14 34.9 +1.2**
GUD pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
GUD Guadarrama 94.87 311 P P **03 14 34.9 +1.2**
comp=Z,5.2nm,0.8s,mb5.0
ESDC Sonseca Array 94.89 310 P P **03 14 34.6 +0.8**
comp=Z,1.3nm,0.7s,mb4.5,baz=63,slow=5.0,SNR=6.3
ESDC Sonseca Array 94.89 310 P P **03 14 34.1 +0.2**
comp=Z,3.5nm,0.9s,mb4.8
SVW2 Sparrevohn 95.47 28 *e*P P **03 14 36.5 +0.5**
SNAA Sanae 96.44 198 LR LR 03 48 56.1
comp=Z,102nm,19.8s,MS4.3,baz=224,slow=30
SML Sawmill 98.45 26 *e*P P **03 14 49.3 -0.1**
INK Inuvik 100.27 17 P P **03 14 57.2 -0.4**
comp=Z,2.9nm,0.8s,baz=327,slow=4.4,SNR=12
INK pP 03 15 12.3
comp=Z,2.7nm,0.9s,baz=342,slow=5.8,SNR=4.6
INK Inuvik 100.27 17 P P **03 14 57.2 -0.4**
INK pP 03 15 12.3
RES Resolute Bay 101.19 3 *e*P P **03 15 02.1 +0.5**
RES pmax pmax
comp=Z,6.0nm,0.9s
RES Resolute Bay 101.19 3 *e*Pdif P **03 15 02.1 +0.5**
comp=Z,6.4nm,0.9s
YKA Yellowknife Ar 109.81 14 Pdiff Pdif **03 15 42.0 +2.2**
comp=Z,0.3nm,0.7s,baz=325,slow=4.8,SNR=5.1
YKA PKiKP 03 19 41.5
comp=Z,0.4nm,0.8s,baz=316,slow=2.6,SNR=6.0
TBI Tubuai 114.37 114 *e*PS PS **03 31 07.7 +42**
TBI *e*LR LR 03 53 56.8
comp=Z,195nm,24.0s

PPT	**Papeete**	**114.77**	**107**	*e*PS	PS		03 30 36.5	+7.0
PPT				*e*LR	LR		03 54 11.6	
	comp=Z,90nm,23.0s							
EDM	**Edmonton**	**118.00**	**19**	*e*PKIKP	PKPdf		03 19 57.6	+0.7
SCHQ	**Schefferville**	**119.62**	**348**	PKP	PKPdf		03 20 01.5	+1.4
	comp=Z,3.8nm,0.7s,baz=310,slow=3.7,SNR=10							
HAWA	**Hanford**	**120.95**	**28**	*e*PKP	PKPdf		03 20 04.5	+1.6
ULM	**Lac du Bonnet**	**125.07**	**9**	PKP	PKPdf		03 20 11.2	+0.5
	comp=Z,7.2nm,0.7s,baz=350,slow=3.7,SNR=20							
LAO	**LASA Array**	**125.96**	**18**	*e*PKP	PKPdf		03 20 14.4	+1.9
NVAR	**Mina Array Bea**	**127.37**	**34**	PKP	PKPdf		03 20 18.4	+2.8
	comp=Z,3.6nm,0.8s,baz=5.6,slow=1.0,SNR=26							
NVAR				pPKP			03 20 32.9	
	comp=Z,2.9nm,0.7s,baz=212,slow=1.9,SNR=8.4							
NVAR	**Mina Array Bea**	**127.37**	**34**	PKP	PKPdf		03 20 18.4	+2.8
NVAR				pPKP			03 20 32.9	
RKT	**Rikitea**	**127.53**	**116**	*e*LR	LR		04 00 22.9	
	comp=Z,129nm,24.0s							
USHA	**Ushuaia**	**127.69**	**192**	PKP	PKPdf		03 20 17.8	+2.1
	comp=Z,4.5nm,0.7s,baz=298,slow=6.8,SNR=2.3							
PDAR	**Pinedale Array**	**128.16**	**24**	PKhKP			03 20 06.2	
	comp=Z,0.3nm,0.7s,baz=321,slow=9.5,SNR=3.9							
PDAR				PKP	PKPdf		03 20 18.7	+1.8
	comp=Z,1.7nm,0.7s,baz=45,slow=2.1,SNR=15							
PDAR				pPKP			03 20 33.7	
	comp=Z,1.4nm,0.7s,baz=72,slow=4.7,SNR=4.9							
DUG	**Dugway**	**128.85**	**28**	*e*PKIKP	PKPdf		03 20 19.5	+1.2
ANMO	**Albuquerque**	**136.03**	**26**	*i* PKIKP	PKPdf		03 20 33.8	+1.9
ANMO	**Albuquerque**	**136.03**	**26**	PKP	PKPdf		03 20 33.6	+1.7
	comp=Z,3.4nm,1.0s,baz=213,slow=3.0,SNR=5.8							
WMOK	**Wichita Mounta**	**139.15**	**18**	*e*PKHKP			03 20 28.3	
WVT	**Waverly**	**139.96**	**4**	*e*PKHKP			03 20 31.5	
MIAR	**Mount Ida**	**140.70**	**12**	*e*PKHKP			03 20 34.3	
PLAL	**Pickwick Lake**	**141.08**	**5**	*e*PKP	PKPdf		03 20 34.9	-6.2
PLCA	**Paso Flores**	**141.37**	**197**	PKhKP			03 20 37.3	
	comp=Z,2.3nm,1.2s,baz=298,slow=23,SNR=2.9							
PLCA				PKP	PKPdf		03 20 44.8	+3.4
	comp=Z,2.1nm,1.0s,baz=194,slow=4.2,SNR=2.6							
TXAR	**Lajitas Array**	**142.03**	**28**	PKhKP			03 20 39.2	
	comp=Z,1.4nm,0.7s,baz=256,slow=1.1,SNR=15							
TXAR				PKP	PKPdf		03 20 45.2	+2.2
	comp=Z,2.2nm,0.7s,baz=225,slow=1.3,SNR=17							
TXAR	**Lajitas Array**	**142.03**	**28**	PKP	PKPdf		03 20 39.2	-3.8
TXAR				PKP	PKPdf		03 20 45.2	+2.2
BAO	**Brasilia Array**	**142.45**	**249**	P	PKPdf		03 20 41.5	-2.5
BDFB	**Brasilia**	**142.47**	**249**	PKP	PKPdf		03 20 45.2	+1.2
	comp=Z,6.9nm,1.1s,baz=98,slow=5.2,SNR=6.2							
BDFB				pPKP			03 20 58.9	
	comp=Z,6.6nm,0.7s,baz=129,slow=3.6,SNR=7.7							
JCT	**Junction City**	**142.67**	**22**	*e*PKP	PKPdf		03 20 40.1	-3.9
NATX	**Nacogdoches**	**143.12**	**15**	*e*PKP	PKPdf		03 20 41.9	-2.9
CFAA	**Coronel Fontan**	**148.64**	**207**	PKPbc	PKPdf		03 20 58.2	+4.2
	comp=Z,1.1nm,0.8s,baz=169,slow=3.0,SNR=11							
CFAA				pPKPbc			03 21 13.3	
	comp=Z,1.7nm,0.7s,baz=222,slow=1.5,SNR=9.3							
CFAA	**Coronel Fontan**	**148.64**	**207**	PKPbc	PKPdf		03 20 58.2	+4.2
CFAA				pPKPbc			03 21 13.3	
SJG	**San Juan**	**151.67**	**321**	PKPbc	PKPdf		03 21 06.6	+7.5
	comp=Z,5.2nm,0.4s,baz=20,slow=22,SNR=4.3							
SJG				PKPab	PKPab		03 21 14.4	-2.2
	comp=Z,8.9nm,0.7s,baz=233,slow=5.6,SNR=4.5							
SJG				pPKPbc			03 21 23.1	
	comp=Z,7.5nm,0.5s,baz=3.6,slow=14,SNR=2.3							
LPAZ	**La Paz**	**159.94**	**231**	PKP	PKPdf		03 21 13.2	+3.3
	comp=Z,4.2nm,1.2s,baz=15,slow=2.0,SNR=6.8							
LPAZ				PKPbc	PKPdf		03 21 27.0	+17
	comp=Z,3.5nm,0.8s,baz=238,slow=1.0,SNR=3.7							
LPAZ				PKPab	PKPab		03 21 53.3	+1.4
	comp=Z,2.5nm,0.7s,baz=169,slow=8.3,SNR=7.3							
LPAZ				pPKPab			03 22 06.3	
	comp=Z,6.8nm,0.8s,baz=118,slow=4.5,SNR=11							
LPAZ	**La Paz**	**159.94**	**231**	*e*PKPdf	PKPdf		03 21 12.1	+2.1
ROSC	**El Rosal**	**166.71**	**311**	PKP	PKPdf		03 21 19.3	+2.7
	comp=Z,3.2nm,0.2s,baz=106,slow=20,SNR=4.2							

*NEIC **19** 03:04:06.4,38.05S×176.11E,h187km, MG4.0(WEL), After WEL.*

WEL 19 03:04:06.3±0.4, 38.10S×176.13E, h193km±3km, ML3.9/6, 12C-1D, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIRZ	**Lichensteins R**	**0.22**	**66**	PN	P	03 04 31.9	-0.1
TAZ	**Tarawera**	**0.33**	**115**	PN	P	03 04 32.4	+0.1
MARZ	**Manawahe**	**0.44**	**76**	PN	P	03 04 32.4	-0.3
EDRZ	**Edgecumbe**	**0.48**	**92**	PN	P	03 04 32.5	-0.3
WHTZ	**Whakaora**	**0.59**	**194**	*e*PN	P	03 04 33.0	-0.3
URZ	**Urewera**	**0.79**	**102**	P	P	03 04 33.6	-0.6
URZ	**Urewera**	**0.79**	**102**	⇑PN	P	03 04 33.6	-0.6
URZ				SN	S	03 04 55.2	-0.6
MYRZ	**Mayor Island**	**0.82**	**6**	*e*PN	P	03 04 33.5	-0.8
MGZ	**Maungaku**	**1.02**	**207**	P	P	03 04 35.7	+0.1
MGZ	**Maungaku**	**1.02**	**207**	⇑PN	P	03 04 35.7	+0.1
WTVZ	**West Tongariro**	**1.11**	**203**	P	P	03 04 35.9	-0.4
WTVZ	**West Tongariro**	**1.11**	**203**	⇑PN	P	03 04 36.1	-0.2
BKZ	**Black Stump Fm**	**1.11**	**165**	P	P	03 04 36.1	-0.2
BKZ	**Black Stump Fm**	**1.11**	**165**	⇓PN	P	03 04 36.1	-0.2
BKZ				SN	S	03 04 58.8	-0.7
TWVZ	**Taurewa**	**1.12**	**209**	P	P	03 04 36.1	-0.3
TWVZ	**Taurewa**	**1.12**	**209**	⇑PN	P	03 04 36.1	-0.3
MWZ	**Matawai**	**1.12**	**103**	⇑PN	P	03 04 36.1	-0.3
MWZ				SN	S	03 04 58.5	-1.2
OTVZ	**Oturere**	**1.13**	**199**	⇑PN	P	03 04 36.6	+0.1
OTVZ				SN	S	03 04 59.8	-0.1
NGZ	**Ngauruhoe**	**1.16**	**201**	P	P	03 04 36.6	-0.1
NGZ	**Ngauruhoe**	**1.16**	**201**	PN	P	03 04 36.6	-0.2
CNZ	**Chateau**	**1.20**	**202**	PN	P	03 04 36.7	-0.4
TUVZ	**Tukino**	**1.23**	**198**	P	P	03 04 37.0	-0.3
TUVZ	**Tukino**	**1.23**	**198**	PN	P	03 04 37.1	-0.3
TUVZ				SN	S	03 05 01.6	+0.3
WNVZ	**Wahianoa**	**1.30**	**199**	P	P	03 04 37.5	-0.5
WNVZ	**Wahianoa**	**1.30**	**199**	⇑PN	P	03 04 37.5	-0.4
MOVZ	**Moawhango**	**1.34**	**193**	P	P	03 04 37.4	-0.9
MOVZ	**Moawhango**	**1.34**	**193**	⇑PN	P	03 04 37.4	-0.9
MOVZ				SN	S	03 05 01.6	-1.4
MTVZ	**Mangateitei**	**1.39**	**202**	PN	P	03 04 37.6	-1.2
KNZ	**Kokohu**	**1.52**	**128**	P	P	03 04 39.9	0.0
KNZ	**Kokohu**	**1.52**	**128**	⇑PN	P	03 04 39.9	0.0
KNZ				SN	S	03 05 05.7	-0.1
PUZ	**Puketiti**	**1.68**	**90**	*e*P	P	03 04 40.4	-1.0
PUZ	**Puketiti**	**1.68**	**90**	⇑PN	P	03 04 40.5	-0.9
PUZ				SN	S	03 05 07.2	-1.2
MXZ	**Matakaoa Point**	**1.80**	**74**	PN	P	03 04 42.1	-0.5
MXZ				SN	S	03 05 09.4	-1.1
TSZ	**Takapari Road**	**1.97**	**184**	P	P	03 04 43.2	-1.1
TSZ	**Takapari Road**	**1.97**	**184**	⇑PN	P	03 04 43.2	-1.0
TSZ				SN	S	03 05 11.6	-1.9
PWZ	**Pawanui**	**2.01**	**164**	PN	P	03 04 44.2	-0.6
PWZ				SN	S	03 05 13.2	-1.2
BFZ	**Birch Farm**	**2.58**	**178**	*e*P	P	03 04 49.2	-2.0
BFZ	**Birch Farm**	**2.58**	**178**	PN	P	03 04 49.2	-2.0
BFZ				SN	S	03 05 22.4	-3.4
MRZ	**Mangatainoka R**	**2.60**	**189**	P	P	03 04 49.0	-2.4
MRZ	**Mangatainoka R**	**2.60**	**189**	⇑PN	P	03 04 49.0	-2.3
MRZ				SN	S	03 05 22.7	-3.5
KIW	**Kapiti Island**	**2.92**	**199**	P	P	03 04 52.2	-2.9
KIW	**Kapiti Island**	**2.92**	**199**	PN	P	03 04 52.1	-3.0
KIW				SN	S	03 05 28.1	-4.8
CAW	**Cannon Point**	**3.12**	**195**	P	P	03 04 54.5	-3.0
CAW	**Cannon Point**	**3.12**	**195**	PN	P	03 04 54.1	-3.5
DUWZ	**D'Urville Isla**	**3.20**	**212**	PN	P	03 04 55.2	-3.3
DUWZ				*e*SN	S	03 05 35.3	-3.6
MRW	**Makara Radio**	**3.32**	**199**	P	P	03 04 56.6	-3.4
MRW	**Makara Radio**	**3.32**	**199**	PN	P	03 04 56.5	-3.5
MRW				SN	S	03 05 36.9	-4.6
PAWZ	**Paruwai Farm**	**3.33**	**189**	PN	P	03 04 57.0	-3.1
PAWZ				SN	S	03 05 36.8	-4.8
MSWZ	**Moikau Station**	**3.39**	**191**	P	P	03 04 57.3	-3.5
MSWZ	**Moikau Station**	**3.39**	**191**	PN	P	03 04 57.3	-3.6
MSWZ				SN	S	03 05 37.4	-5.5
BHW	**Baring Head**	**3.45**	**196**	P	P	03 04 58.0	-3.6
BHW	**Baring Head**	**3.45**	**196**	PN	P	03 04 57.9	-3.7
BHW				SN	S	03 05 38.4	-5.9
TUWZ	**Tuamarina**	**3.73**	**206**	PN	P	03 05 01.3	-3.9
NNZ	**Nelson**	**3.77**	**213**	*e*P	P	03 05 02.2	-3.5
NNZ	**Nelson**	**3.77**	**213**	PN	P	03 05 02.1	-3.5
NNZ				SN	S	03 05 46.4	-5.1
QRZ	**Quartz Range**	**3.90**	**225**	*e*P	P	03 05 02.7	-4.5
QRZ	**Quartz Range**	**3.90**	**225**	PN	P	03 05 02.6	-4.7
QRZ				SN	S	03 05 48.7	-5.6
THZ	**Tophouse**	**4.43**	**213**	*e*P	P	03 05 09.6	-4.3
THZ	**Tophouse**	**4.43**	**213**	PN	P	03 05 09.2	-4.7
THZ				SN	S	03 06 00.5	-5.7
THZ				SN	S	03 06 01.0	-5.2
KHZ	**Kahutara**	**4.75**	**204**	*e*P	P	03 05 14.0	-4.0
KHZ	**Kahutara**	**4.75**	**204**	PN	P	03 05 13.9	-4.1
KHZ				SN	S	03 06 08.2	-5.4
DSZ	**Denniston Nort**	**4.94**	**221**	*e*P	P	03 05 15.9	-4.5
DSZ	**Denniston Nort**	**4.94**	**221**	*e*PN	P	03 05 14.5	-5.9
DSZ				SN	S	03 06 10.5	-7.4
LTZ	**Lake Taylor**	**5.53**	**211**	*e*PN	P	03 05 23.2	-4.9
LTZ				SN	S	03 06 23.3	-8.4
MQZ	**McQueen's Vall**	**6.20**	**204**	SN	S	03 06 37.6	-10
ODZ	**Otahua Downs**	**8.07**	**209**	*e*SN	S	03 07 20.5	-11

*IDC **19** 03:09:31.7±6.0, 38.95N×141.59E, h44km±50km, mb3.7/10, mb1 3.8/11, mb1mx3.7/22, mbtmp4.0/11, ML4.4/1, MS3.9/1, Ms1 3.9/1, ms1mx2.5/22, Error ellipse: s-maj=68.1km s-min=19.1km az=73.0*

*JMA **19** 03:09:37.5, 38.94N×141.41E, h86km±1km, M4.1 Broadband fault plane solution: P waves. NP1:♁=340°, δ66°, λ-25°. NP2:♁=81°, δ68°, λ-154°. Principal axes: T Plg1°, Azm210°; N Plg56°, Azm119°; P Plg34°, Azm301°; JMA Felt II J1.*

*NEIC **19** 03:09:40.4±3.2, 38.88N×141.16E, h117km±23km, mb4.3/2 Error ellipse: s-maj=43.3km s-min=10.9km az=70.0*

NEIC Recorded [2 JMA] in Iwate and Miyagi Prefectures.

ISC 19 03:09:35.8±0.5, 38.94N±0.03×141.50E±0.07, h97km±2km, n31, σ0.972/45, mb3.9/12, 9C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.20**	**43**	⇓P	P	**03 09 50.4**	**+0.8**
OFUJ				*e*S	S	**03 09 59.8**	**-0.2**
JMK	**Ichinoseki**	**0.22**	**274**	⇓P	P	**03 09 49.7**	**+0.1**
JMK				*e*S	S	**03 09 58.6**	**-1.5**
JIO	**Ouri**	**0.49**	**194**	⇓P	P	**03 09 51.7**	**+0.4**
JIO				*e*S	S	**03 10 02.1**	**-0.8**
JOM	**Ohasama**	**0.56**	**343**	⇑P	P	**03 09 52.2**	**+0.4**
JOM				*e*S	S	**03 10 03.2**	**-0.6**
JOU	**Okura**	**0.87**	**229**	⇑P	P	**03 09 55.2**	**+0.5**
JOU				*e*S	S	**03 10 08.7**	**-0.2**
JYK	**Kaneyama**	**0.89**	**269**	⇑P	P	**03 09 55.0**	**0.0**
JYK				*e*S	S	**03 10 08.7**	**-0.6**
JMM	**Marumori**	**1.20**	**208**	⇑P	P	**03 09 59.0**	**+0.3**
JMM				*e*S	S	**03 10 15.4**	**-0.4**
JYS	**Shirataka**	**1.33**	**238**	⇑P	P	**03 10 00.7**	**+0.5**
JYS				*e*S	S	**03 10 18.4**	**+0.1**
JAH	**Hinai**	**1.42**	**332**	⇑P	P	**03 10 02.0**	**+0.8**
JAH				*e*S	S	**03 10 20.9**	**+0.8**
JANG	**Nango**	**1.44**	**1**	⇑P	P	**03 10 01.7**	**+0.3**
JANG				*e*S	S	**03 10 20.5**	**0.0**
JYA	**Atsumi**	**1.44**	**257**	⇑P	P	**03 10 01.8**	**+0.3**
JYA				*e*S	S	**03 10 20.1**	**-0.4**
JFK	**Kawauchi**	**1.64**	**198**	⇑P	P	**03 10 04.7**	**+0.7**
JFK				*e*S	S	**03 10 25.5**	**+0.5**
ERM	**Erimo**	**3.33**	**22**	Pn	P	**03 10 26.5**	**-0.4**
	729nm,0.4s,SNR=64						
MAJO	**Matsushiro**	**3.54**	**229**	*e*P	P	**03 10 30.4**	**+0.6**
MAT	**Matsushiro**	**3.54**	**229**	*e*P	P	**03 10 31.0**	**+1.2**
MAT				*e*S	S	**03 11 25.0**	**+1.4**
MAT	**Matsushiro**	**3.54**	**229**	P	P	**03 10 30.7**	**+0.9**
MAT				*e*S	S	**03 11 11.0**	**+0.2**
JHJ	**Hachijo jima 2**	**5.97**	**194**	P	P	**03 10 59.1**	**-3.9**
	29nm,0.3s,baz=247,slow=22,SNR=8.6						
JHJ				S	S	**03 12 04.4**	**-6.3**
	19nm,0.3s,baz=282,slow=22,SNR=4.2						
SONM	**Songino Array**	**26.82**	**301**	P	P	**03 15 08.2**	**-0.5**
	0.9nm,0.6s,mb3.5,baz=102,slow=9.6,SNR=6.7						
ZAL	**Zalesovo**	**40.72**	**311**	P	P	**03 17 08.6**	**+0.6**
	3.6nm,0.6s,mb4.4,baz=16,slow=7.3,SNR=9.8						
ZAL				LR	LR	03 36 16.8	
	comp=Z,160nm,18.7s,baz=290,slow=39						
KURK	**Kurchatov**	**44.83**	**307**	*e*P	P	**03 17 40.4**	**-1.1**
	11nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**49.36**	**311**	P	P	**03 18 16.7**	**-0.2**
	1.0nm,0.5s,mb4.0,baz=64,slow=8.8,SNR=6.1						
AAK	**Ala-Archa**	**49.67**	**297**	*e*P	P	**03 18 17.8**	**-1.6**
	1.2nm,0.6s,mb4.0						
WRAB	**Tennant Creek**	**58.94**	**188**	P	P	**03 19 26.1**	**-1.1**
WRA	**Warramunga Arr**	**59.95**	**188**	P	P	**03 19 26.8**	**-0.6**
	0.4nm,0.5s,mb3.7,baz=3.0,slow=7.0,SNR=2.8						
ASAR	**Alice Springs**	**62.68**	**188**	P	P	**03 19 52.2**	**-0.4**
	0.4nm,0.7s,mb3.5,baz=346,slow=3.3,SNR=4.2						
FINES	**FINESS Array B**	**67.17**	**332**	P	P	**03 20 20.3**	**-0.6**
	1.3nm,0.7s,mb3.9,baz=27,slow=13,SNR=5.1						
HFS	**Hagfors**	**72.39**	**335**	P	P	**03 20 52.4**	**-0.1**
	1.2nm,0.4s,mb4.1,baz=34,slow=5.3,SNR=7.2						
NOA	**NORSAR Array B**	**72.46**	**337**	P	P	**03 20 53.0**	**0.0**
	0.3nm,0.6s,mb3.3,baz=39,slow=3.7,SNR=2.7						
BRTR	**Keskin Array B**	**77.65**	**311**	P	P	**03 21 23.9**	**+0.9**
	0.3nm,0.5s,mb3.3,baz=63,slow=3.2,SNR=3.1						
VAE	**Valguarnera**	**89.71**	**321**	P	P	**03 22 26.1**	**+2.1**
	2.3nm,0.4s,mb4.7,baz=62,slow=11,SNR=4.4						
DBIC	**Dimbokro**	**124.94**	**318**	PKP	PKPdf	03 28 27.3	+2.3
	5.3nm,1.1s,baz=133,slow=1.9,SNR=2.4						

DJA 19 03:12:53.4±0.9, 9.49S×113.01E, h33km, MD4.6/3, ML4.0/4, 4C-3D, Error ellipse: s-maj=22.1km s-min=19.7km az=125.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.51**	**48**	⇓*i*Pn	Pn	03 13 16.8	-1.7
	270nm,0.2s						
SRDI				⇓*i*Sn	Sn	03 13 33.6	-3.6
KELI	**Kelakatan**	**1.94**	**49**	⇑*i*Pn	Pn	03 13 23.7	-1.0
	124nm,0.3s						
KELI	**Kelakatan**	**1.94**	**49**	⇓*i*P	P	03 13 24.3	-0.2
KELI				⇑*i*Sn	Sn	03 13 46.5	-1.6
RATI	**Rata**	**2.61**	**73**	⇑*i*Pn	Pn	03 13 33.2	-1.1
	50nm,0.2s						
RATI				⇑*i*Sn	Sn	03 14 00.9	-4.2
KEDI	**Kedomdong**	**3.23**	**72**	*e*Pn	Pn	03 13 40.9	-2.2
	22nm,0.2s						

*NEIC **19** 03:19:03.2, 35.04N×26.78E, h13km, MD3.5(ATH), After ATH.*

*CSEM **19** 03:19:03.2, 35.04N×26.78E, h13km, MD3.5/7, After ATH*

ATH 19 03:19:03.2, 35.04N×26.78E, h13km±6km, MD3.5/7, 1C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.59**	**32**	⇓*i*PB	Pb	03 19 13.5	-1.4
KARP				*e*SB	Sb	03 19 23.9	+1.0
XRY	**Khrisi**	**0.91**	**260**	*e*PG	Pg	03 19 20.0	-1.5
NPS	**Neapolis**	**0.98**	**283**	⇑*i*PG	Pg	03 19 21.7	-1.2
NPS				*e*SB	Sb	03 19 34.9	+0.7
ARG	**Arkhangelos**	**1.61**	**43**	*e*PB	Pb	03 19 34.4	+2.2
VAM	**Vamos**	**2.14**	**281**	*e*PG	Pg	03 19 43.5	-2.6
APE	**Apeiranthos**	**2.26**	**334**	*e*PB	Pb	03 19 41.2	-2.3
SMG	**Samos**	**2.66**	**1**	*e*PN	Pn	03 19 48.3	+1.7
VLI	**Veliai**	**3.54**	**299**	*e*PN	Pn	03 20 00.0	+0.9

*IDC **19** 03:20:53.3±0.7, 6.74N×72.93W, h159km±8km, mb3.4/6, mb1 3.7/10, mb1mx3.4/21, mbtmp4.0/10, MS3.4/1, Ms1 3.4/1, ms1mx2.2/19, Error ellipse: s-maj=20.5km s-min=7.5km az=134.0*

*NEIC **19** 03:20:54.2±0.6, 6.73N×72.92W, h170km±6km, mb3.8/3, Error ellipse: s-maj=9.8km s-min=7.2km az=123.0*

*UAV **19** 03:20:54.5, 7.47N×73.55W, h168km*

ISC 19 03:20:53.0±0.5, 6.75N±0.07×72.92W±0.08, h173km±5km, n28, σ0.999/32, mb3.7/9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDMV	**Paramo Marino**	**1.90**	**35**	P	P	**03 21 29.4**	**+0.7**
PDMV				S	S	**03 21 54.9**	**-1.4**
ROSC	**El Rosal**	**2.35**	**217**	P	P	**03 21 34.9**	**+0.8**
	53nm,0.3s,baz=87,slow=22,SNR=94						
ROSC				S	S	**03 22 04.1**	**-1.6**
	154nm,0.3s,baz=94,slow=16,SNR=16						
OSV	**Paramo de la O**	**2.35**	**37**	P	P	**03 21 34.8**	**+0.8**
OSV				S	S	**03 22 03.1**	**-2.5**
UAV	**Universidad de**	**2.55**	**43**	P	P	**03 21 38.0**	**+1.6**
UAV				S	S	**03 22 10.4**	**+0.6**
CUV	**La Culata**	**2.71**	**43**	P	P	**03 21 39.8**	**+1.4**
CUV				S	S	**03 22 11.5**	**-1.7**
EAV	**Pico El Aguila**	**2.94**	**45**	P	P	**03 21 42.9**	**+1.6**
EAV				S	S	**03 22 18.5**	**+0.2**
SDV	**Santo Domingo**	**3.10**	**47**	P	P	**03 21 44.4**	**+1.2**
	35nm,0.3s,baz=245,slow=8.1,SNR=204						
SDV				S	S	**03 22 21.2**	**-0.6**
	28nm,0.3s,baz=68,slow=19,SNR=12						
TORV	**Torococo**	**3.85**	**43**	P	P	**03 21 52.1**	**-0.7**
OTAV	**Otavalo**	**8.51**	**221**	P	P	**03 22 53.7**	**-0.1**
JTS	**JuntasAbangare**	**12.41**	**287**	P	P	**03 23 45.9**	**+1.1**
	0.5nm,0.3s,baz=186,slow=22,SNR=3.1						
SJG	**San Juan**	**13.08**	**30**	P	P	**03 23 53.7**	**+0.5**
	2.1nm,0.3s,baz=328,slow=18,SNR=3.0						
LPAZ	**La Paz**	**23.38**	**168**	pP		03 26 22.2	
	1.8nm,0.8s,baz=348,slow=14,SNR=5.1						
LRAL	**Lakeview Retre**	**29.24**	**335**	P	P	**03 26 40.7**	**-0.3**
LVC	**Limon Verde**	**29.44**	**172**	P	P	**03 26 42.2**	**-0.6**
PLAL	**Pickwick Lake**	**31.37**	**336**	*e*P	P	**03 26 59.9**	**+0.2**
	2.3nm,0.6s,mb4.1						
WMOK	**Wichita Mounta**	**36.66**	**323**	*e*P	P	**03 27 43.6**	**-1.1**
	0.9nm,0.5s,mb3.7						
TXAR	**Lajitas Array**	**36.66**	**312**	P	P	**03 27 45.4**	**+0.6**
	0.5nm,0.6s,mb3.3,baz=128,slow=8.6,SNR=6.4						
MNTX	**Cornudas Mount**	**39.17**	**314**	*e*P	P	**03 28 05.6**	**-0.1**
	1.2nm,0.7s,mb3.6						
ISCO	**Idaho Springs**	**44.08**	**323**	P	P	**03 28 46.2**	**+0.6**
PLCA	**Paso Flores**	**47.30**	**178**	LR	LR	03 48 14.0	
	comp=Z,50nm,21.5s,baz=183,slow=35						
ULM	**Lac du Bonnet**	**47.42**	**340**	P	P	**03 29 11.1**	**-0.7**
	1.2nm,0.5s,mb3.8,baz=150,slow=7.2,SNR=3.1						
SCHQ	**Schefferville**	**48.19**	**5**	P	P	**03 29 16.0**	**-1.6**
	2.2nm,0.8s,mb3.8,baz=3.8,slow=3.7,SNR=2.8						
PDAR	**Pinedale Array**	**48.25**	**324**	P	P	**03 29 18.5**	**+0.2**
	0.5nm,0.5s,mb3.4,baz=135,slow=8.4,SNR=5.4						
HWUT	**Hardware Ranch**	**48.78**	**321**	P	P	**03 29 22.4**	**+0.1**
YKA	**Yellowknife Ar**	**63.40**	**340**	P	P	**03 31 05.6**	**-0.4**
	1.1nm,0.5s,mb3.9,baz=131,slow=6.7,SNR=28						
YKA	**Yellowknife Ar**	**63.40**	**340**	P	P	**03 31 05.6**	**-0.5**
DBIC	**Dimbokro**	**67.54**	**86**	P	P	**03 31 33.5**	**+0.2**
	1.6nm,0.8s,mb3.8,baz=247,slow=23,SNR=2.1						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPdf	03 40 27.0	+7.7
	0.4nm,0.5s,baz=104,slow=3.4,SNR=2.6						

IDC 19 03:24:10.5±11.0, 23.21S×179.54E, h683km±159km, mb3.1/5, mb1 3.4/5, mb1mx3.1/12, mbtmp4.3/5, 1D, Error ellipse: s-maj=85.9km s-min=65.2km az=156.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.06**	**269**	P	P	03 29 37.8	-1.0
	8.7nm,0.4s,baz=94,slow=11,SNR=32						
STKA	**Stephens Creek**	**34.59**	**247**	P	P	03 30 06.0	-2.0
	1.5nm,0.4s,baz=91,slow=12,SNR=9.8						
ASAR	**Alice Springs**	**41.73**	**260**	P	P	03 31 04.2	-1.4
	2.0nm,0.5s,baz=97,slow=7.4						
ASPA	**Alice Springs**	**41.74**	**260**	*e*P	P	03 31 04.3	-1.4
WB2	**Warramunga Arr**	**42.02**	**266**	⇓*i*P	P	03 31 06.2	-1.7
WRA	**Warramunga Arr**	**42.03**	**266**	P	P	03 31 06.6	-1.5
	1.3nm,0.3s,baz=94,slow=8.3,SNR=27						
TXAR	**Lajitas Array**	**90.42**	**58**	P	P	03 36 02.5	-1.0
	0.3nm,0.7s,baz=211,slow=7.3,SNR=4.1						
HFS	**Hagfors**	**141.79**	**349**	PKP	PKPdf	03 42 24.5	-1.6
	1.4nm,0.3s,baz=72,slow=4

KZN	Kozani	1.11	204	*e*P	Pb	03 27 12.6 +0.3
NVR	Nevrokopi	1.12	88	*e*P	Pb	03 27 13.0 +0.5
NVR				*e*S	Sb	03 27 28.0 +1.0
LIT	Litokhoron	1.22	176	*e*Pg	Pg	03 27 14.7 -1.2
LIT				*e*Sg	Sg	03 27 31.1 -1.1
PLG	Polygyros	1.25	139	*e*P	Pb	03 27 14.7 0.0
VTS	Vitosha	1.42	26	*i* P	Px	03 27 39.5
OUR	Ouranopolis	1.57	128	*e*Pb	Pb	03 27 20.7 +0.5
OUR				*e*Sb	Sb	03 27 41.3 +1.3
PAIG	Paliouri	1.71	144	*e*Pb	Pb	03 27 22.3 -0.3
RZN	Rozhen	1.80	77	*i* P	Px	03 27 44.5
PGB	Panagyurishte	1.82	47	*i* P	Px	03 27 46.0
QSH	Qafa e Shtames	1.86	277	*i* Pg	Pg	03 27 26.8 -1.9
QSH				*i* Sg	Sg	03 27 53.8 +0.2
NEO	Neokhori	2.12	162	*e*P	Pn	03 27 27.4 0.0
AGG	Agios Georgios	2.30	181	*e*Pn	Pn	03 27 30.8 +0.8
AGG				*e*Sn	Sn	03 28 00.0 +1.5
SRN	Sarande	2.31	232	*i* Pn	Pn	03 27 33.4 +3.3
SRN				*i* Sn	Sn	03 28 03.8 +5.0
IGT	Igoumenitsa	2.37	222	*e*Pn	Pn	03 27 34.1 +3.1
RDO	Rodhopi	2.40	93	*e*P	Pn	03 27 30.2 -1.2
AOS	Alonnisos	2.44	151	*e*Pn	Pn	03 27 32.1 +0.1
EVR	Evrytania	2.44	190	*e*P	Pn	03 27 32.1 +0.1
BOLS	Boljevac	2.53	353	⇓*i*P	Pn	03 27 38.4 +5.1
LIA	Limnos Island	2.57	123	*e*P	Pn	03 27 33.3 -0.6
ALN	Alexandroupoli	2.81	97	*e*Pn	Pn	03 27 38.3 +1.0
PVL	Pavlikeni	2.90	48	*e*P	Px	03 28 04.0
SZH	Strazhica	3.28	52	*e*P	Px	03 28 13.5
DIVS	Divcibare	3.28	329	⇓*i*P	Pn	03 27 44.0 0.0

NEIC ***19*** *03:28:02.4±0.8,50.19N×19.22E,h5km,ML2.8(VIE),Error ellipse: s-maj=12.2km s-min=7.9km az=158.0*
PRU ***19*** *03:28:02.6,50.20N×19.25E*
WAR ***19*** *03:28:02.3,50.17N×19.30E,h0km,ML2.4,Mining Induced*
IPEC ***19*** *03:28:02.4±0.1,50.17N×19.27E,h2km±1km,ML2.1/3, Error ellipse: s-maj=2.4km s-min=0.8km az=166.0*
CSEM ***19*** *03:28:02.8±0.2,50.20N×19.26E,h2km,ML2.9/4,Error ellipse: s-maj=6.4km s-min=3.8km az=172.0*
IDC ***19*** *03:28:04.3±2.7,49.90N×19.27E,mb1 3.2/3, mb1mx3.0/16,mbtmp3.0/3,ML2.6/3,Error ellipse: s-maj=42.6km s-min=11.5km az=139.0*
ISC 19 03:28:00.8±0.5,50.22N±0.03×19.21E±0.03,n25,σ1ş26/44, 1C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	Ojcow	0.38	89	⇓*i*PG		Pg		03 28 08.8	+0.4
OJC				⇓*e*SG		Sg		03 28 14.8	+1.3
OJC	Ojcow	0.38	89	*i* Pg		Pg		03 28 08.8	+0.4
OJC				*e*Sg		Sg		03 28 13.7	+0.2
OKC	Ostrava-Krasne	0.78	241	*e*PG		Pg		03 28 17.6	+1.2
OKC				*e*SG		Sg		03 28 29.7	+2.9
NIE	Niedzica	1.07	138	*e*PG		Pg		03 28 20.0	-2.2
NIE				*e*SG		Sg		03 28 35.0	-1.5
MORC	Moravsky Berou	1.16	248	*e*P		Pb		03 28 23.8	+0.4
MORC	Moravsky Berou	1.16	248	*e*Pg		Pg		03 28 24.4	+0.5
MORC				*e*Sg		Sg		03 28 40.0	+0.6
	39nm,0.4s								
LIKS	Likavka	1.17	183	*e*SN		Sn		03 28 43.0	+1.8
VYHS	Vyhne	1.74	188	*i* PN		Pn		03 28 32.4	-0.1
VYHS				*e*SN		Sn		03 28 54.9	-0.8
DPC	Dobruska-Polom	1.85	275	*e*PG		Pg		03 28 34.9	-2.9
DPC				*e*SG		Sg		03 29 01.1	-1.4
	17nm,0.4s								
DPC	Dobruska-Polom	1.85	275	*e*Pn		Pn		03 28 35.2	+1.1
DPC				*e*Sg		Sg		03 29 01.9	-0.6
VRAC	Vranov	1.92	243	Pn		Pn		03 28 37.0	+2.0
	2.0nm,0.3s,baz=57,slow=12,SNR=16								
VRAC				Lg				03 29 03.0	
	4.1nm,0.3s,baz=135,slow=16,SNR=12								
VRAC	Vranov	1.92	243	*e*Pn		Pn		03 28 37.0	+1.9
VRAC				*e*Sg		Sg		03 29 03.2	-1.6
	9.7nm,0.3s								
KSP	Ksiaz	1.96	290	*e*PG		Pg		03 28 40.0	+0.1
KSP				*e*SG		Sg		03 29 06.0	-0.1
KSP	Ksiaz	1.96	290	*e*Pn		Pn		03 28 39.8	+4.2
KSP				*e*Pg		Pg		03 28 42.1	+2.2
KSP				*e*Sg		Sg		03 29 07.0	+0.9
UPC	Upice	2.07	279	*e*SG		Sg		03 29 08.3	-1.3
KRUC	Moravsky	2.16	239	*e*Pn		Pn		03 28 39.7	+1.2
KRUC				*e*Sg		Sg		03 29 10.4	-2.3
	6.9nm,0.3s								
PRU	Pruhonice	3.01	267	*e*SG		Sg		03 29 36.5	-4.5
BRG	Berggiesshubel	3.42	283	*e*Pg		Pg		03 29 08.9	-0.2
BRG				*e*Sg		Sg		03 29 53.5	-1.2
KHC	Kasperske Hory	3.81	256	*e*PN		Pn		03 29 02.5	+0.5
KHC				*ex*		x		03 29 29.0	
KHC				*ex*		x		03 29 49.5	
KHC				*e*SG		Sg		03 30 02.4	-5.3
KHC	Kasperske Hory	3.81	256	*e*Pn		Pn		03 29 02.5	+0.5
KHC				*e*Sg		Sg		03 30 02.4	-5.3
GERES	GERESS Array B	3.84	251	Pn		Pn		03 29 02.8	+0.4
	0.1nm,0.3s,baz=60,slow=14,SNR=3.4								
GERES				Pg		Pg		03 29 12.7	-4.7
	0.3nm,0.3s,baz=67,slow=17,SNR=5.9								
GERES				Sn		Sn		03 29 49.2	+0.3
	0.3nm,0.3s,baz=67,slow=20,SNR=3.3								
GERES				Lg				03 30 04.2	
	0.9nm,0.3s,baz=61,slow=24,SNR=9.7								
MOA	Molln	4.02	236	⇑*i*PN		Pn		03 29 05.5	+0.5
MOA				*i* SG		Sg		03 30 14.2	-0.4
	1.7nm,0.3s								
CLL	Collm	4.09	288	*e*SG		Sg		03 30 20.0	+3.2
NOA	NORSAR Array B	11.74	341	Pn		P		03 30 51.4	-1.0
	0.1nm,0.3s,baz=328,slow=22,SNR=2.4								
FINES	FINESS Array B	11.89	16	Pn		P		03 30 53.2	-1.2
	0.1nm,0.3s,baz=198,slow=13,SNR=2.7								

ATH ***19*** *03:38:09.3,35.55N×25.92E,h13km±2km,MD3.5/7*
NEIC ***19*** *03:38:09.3,35.53N×25.92E,h16km,MD3.5(ATH),After ATH.*
CSEM ***19*** *03:38:09.4±0.1,35.52N×25.95E,h2km,MD3.5,Error ellipse: s-maj=3.4km s-min=2.3km az=159.0*
ISC 19 03:38:10.5±0.6,35.46N±0.06×25.94E±0.05,h19km±14km, n12,σ1ş05/15,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPS	Neapolis	0.33	234	*e*PB		Pb		03 38 16.7	-0.9
NPS				*e*SB		Sb		03 38 21.7	-0.7
XRY	Khrisi	0.61	199	*e*PB		Pb		03 38 22.7	+0.3
THR1	Thera Island	0.99	337	*e*P		Pb		03 38 29.9	+1.1
SANT	Santorini	0.99	337	*e*Pn		Pn		03 38 27.2	-2.3
KARP	Karpathos	1.00	84	*e*PG		Pg		03 38 37.2	-1.2
KARP				*e*SB		Sb		03 38 42.6	+0.9
THR3	Thira Island,	1.05	336	*e*P		Pb		03 38 30.5	+0.7
THR5	Thira Island,	1.07	334	*e*P		Pb		03 38 30.1	-0.1
VAM	Vamos	1.42	269	*e*PB		Pb		03 38 36.5	+0.4
VAM				*e*SB		Sb		03 38 55.4	+1.6
APE	Apeiranthos	1.64	349	*e*PB		Pb		03 38 38.4	-1.5
ARG	Arkhangelos	1.93	66	*e*PN		Pn		03 38 43.9	+1.0
SMG	Samos	2.36	18	*e*PN		Pn		03 38 49.2	+0.1
VLI	Veliai	2.74	298	*e*PB		Pb		03 38 53.8	-4.8

ATH ***19*** *03:43:50.4,38.45N×23.94E,h22km±1km,MD3.2/9*
NEIC ***19*** *03:43:50.4,38.45N×23.94E,h22km,MD3.2(ATH),After ATH.*
CSEM ***19*** *03:43:51.5±0.1,38.44N×23.88E,h20km,MD3.2,Error ellipse: s-maj=2.7km s-min=1.6km az=85.0*
THE ***19*** *03:43:55.5,38.70N×23.84E,h17km,ML2.9*
ISC 19 03:43:49.4±0.9,38.47N±0.02×23.91E±0.05,h6km±7km, n30,σ1ş15/41,1C,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.35	203	*e*PB		Pb		03 43 57.4	-0.1
PTL	Penteli	0.42	185	*e*PB		Pb		03 43 59.0	+0.2
PTL				*e*SB		Sb		03 44 05.0	-0.1
ATH	Athens Observa	0.52	197	⇑*i*PN		Pn		03 44 00.8	-2.2
ATH				*e*SN		Sn		03 44 07.1	-5.0
NSAL	Nisos Salamina	0.66	212	*e*PN		Pn		03 44 03.5	-1.5
AOS	Alonnisos	0.70	358	*e*Pg		Pg		03 44 04.9	+1.4
AOS				*e*Sg		Sg		03 44 11.7	-1.1
MGER	Gerania Oros	0.70	227	*e*PN		Pn		03 44 04.3	-1.3
LKR	Lokris	0.73	284	*e*PB		Pb		03 44 04.5	+0.3
NAIG	Nisos Aigina	0.78	205	*e*PN		Pn		03 44 05.5	-1.2
NEO	Neokhori	0.99	328	*e*PN		Pn		03 44 10.3	+0.6
NEO				*e*SN		Sn		03 44 24.4	+0.3
XOR	Xorichti	1.05	328	*e*Pg		Pg		03 44 10.9	+0.4
XOR				*e*Sg		Sg		03 44 23.2	-1.5
XOR	Xorichti	1.05	328	*e*Pg		Pg		03 44 10.9	+0.4
XOR				*e*Sg		Sg		03 44 23.2	-1.4
AGG	Agios Georgios	1.35	295	*e*Pb		Pb		03 44 16.8	+2.1
AGG				*e*Sb		Sb		03 44 33.5	+1.4
PAIG	Paliouri	1.47	353	*e*Pb		Pb		03 44 17.0	+0.3
PAIG				*e*Sb		Sb		03 44 34.0	-1.5
EVR	Evrytania	1.70	286	*e*PN		Pn		03 44 21.5	+1.6
LOS	Limnos	1.72	32	*e*Pb		Pb		03 44 21.7	+0.6
LOS				*e*Sb		Sb		03 44 42.1	-0.9
LIA	Limnos Island	1.74	34	*e*PN		Pn		03 44 21.1	+0.7
OUR	Ouranopolis	1.86	2	*e*Pb		Pb		03 44 23.0	-0.5
OUR				*e*Sb		Sb		03 44 43.8	-3.2
APE	Apeiranthos	1.90	137	*e*PN		Pn		03 44 23.2	+0.5
VLI	Veliai	1.91	204	*e*PB		Pb		03 44 23.3	-1.0
PLG	Polygyros	1.94	349	*e*PN		Pn		03 44 24.4	+1.2
LIT	Litokhoron	1.97	326	*e*Pb		Pb		03 44 24.5	-0.8
LIT				*e*Sb		Sb		03 44 46.7	-3.3
ITM	Ithomi	2.03	231	*e*PN		Pn		03 44 26.2	+1.6
THR5	Thira Island,	2.35	150	*e*Pn		Pn		03 44 35.8	+6.6
THR3	Thira Island,	2.38	150	*e*Pn		Pn		03 44 36.3	+6.8
SOH	Sokhos	2.39	350	*e*Pn		Pn		03 44 30.4	+0.7
THR1	Thera Island	2.43	149	*e*Pn		Pn		03 44 37.1	+6.7
SMG	Samos	2.43	107	*e*PN		Pn		03 44 30.9	+0.6
KNT	Kendrikon	2.80	344	*e*Pn		Pn		03 44 35.6	+0.1
ALN	Alexandroupoli	2.93	34	*e*Pn		Pn		03 44 38.9	+1.4
ALN	Alexandroupoli	2.93	34	*e*Pn		Pn		03 44 38.8	+1.3

IDC ***19*** *04:00:11.5±1.2,9.12N×91.76E,mb3.6/5,mb1 3.8/5, mb1mx3.7/15,mbtmp3.6/5,Error ellipse: s-maj=56.3km s-min=23.0km az=46.0*
NEIC ***19*** *04:00:16.0±0.9,9.16N×91.83E,h30km,mb4.2/2,Error ellipse: s-maj=41.7km s-min=14.3km az=52.0*
ISC 19 04:00:13.9±1.0,9.1N±0.2×91.8E±0.3,h30km,n8,σ0ş87/8, mb3.7/7,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array	40.52	15	P		P		04 07 52.3	+0.3
	0.5nm,0.7s,mb3.3,baz=205,slow=7.7,SNR=5.3								
KURK	Kurchatov	42.88	348	P		P		04 08 09.7	-1.6
CHKZ	Chkalovo	47.60	343	*e*P		P		04 08 49.9	+0.9
	0.9nm,0.7s,mb3.9								
WRA	Warrmunga Arr	50.86	125	P		P		04 09 14.9	+0.4
	0.4nm,0.4s,mb3.7,baz=306,slow=9.0,SNR=5.9								
WRAB	Tennant Creek	50.87	125	P		P		04 09 14.0	-0.5
	3.4nm,0.7s,mb4.4								
ASAR	Alice Springs	52.48	129	P		P		04 09 26.6	-0.1
	0.6nm,0.7s,mb3.6,baz=305,slow=6.3,SNR=6.6								
BRTR	Keskin Array B	59.87	311	P		P		04 10 18.5	-0.8
	0.4nm,0.6s,mb3.6,baz=104,slow=5.9,SNR=3.6								
GERES	GERESS Array B	75.36	318	P		P		04 11 57.7	+1.3
	0.5nm,0.6s,mb3.6,baz=90,slow=6.7,SNR=6.5								

JMA ***19*** *04:05:03.6±0.4,43.41N×146.90E,h34km±5km,M3.6*
IDC ***19*** *04:05:09.4±3.2,45.26N×146.26E,mb3.9/6,mb1 4.1/6, mb1mx3.7/19,mbtmp3.9/6,ML3.3/1,Error ellipse: s-maj=80.4km s-min=25.0km az=155.0*
ISC 19 04:05:04.5±2.1,43.5N±0.3×146.8E±0.2,h55km±19km,n14, σ0ş71/17,mb3.9/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.80	264	P		P		04 05 19.1	-0.8
NEM2				*e*S		S		04 05 30.6	-0.6
JRA	Rausu	1.33	292	P		P		04 05 27.4	0.0
JNK	Nakash	1.55	276	P		P		04 05 29.9	-0.4
JNK				*e*S		S		04 05 49.0	-0.3
JTKR	Abashiri--Toko	2.19	285	P		P		04 05 40.1	+0.9
JAR	Ashorobuto	2.24	267	P		P		04 05 40.1	+0.1
JOB	Onbets	2.26	257	P		P		04 05 41.2	+0.9
ASAJ	Asahikawa	3.14	284	Pn		P		04 05 56.0	+3.2
	3.4nm,0.3s,baz=36,slow=32,SNR=7.6								
ASAJ				Sn		S		04 06 39.8	+10
	1.5nm,0.3s,baz=209,slow=34,SNR=4.4								
SONM	Songino Array	28.38	293	P		P		04 10 55.8	+0.3
	0.5nm,0.7s,mb3.2,baz=96,slow=9.5,SNR=8.9								
INK	Inuvik	46.78	30	P		P		04 13 29.7	0.0
	0.6nm,0.4s,mb3.9,baz=302,slow=8.3,SNR=14								
YKA	Yellowknife Ar	56.18	34	P		P		04 14 40.6	0.0
	0.1nm,0.4s,mb3.2,baz=303,slow=7.1,SNR=3.7								
ARCES	ARCESS Array B	59.45	340	P		P		04 14 58.6	-4.8
	12nm,1.0s,mb4.9,baz=51,slow=16,SNR=4.2								
FINES	FINESS Array B	65.04	333	P		P		04 15 39.9	-0.8
	1.3nm,0.8s,mb4.0,baz=44,slow=8.8,SNR=13								
NB2	NORSAR Subarra	69.80	339	P		P		04 16 10.0	-0.5
	1.0nm,0.5s,mb4.0,baz=32,slow=6.5								
NOA	NORSAR Array B	69.80	339	P		P		04 16 10.4	0.0
	1.0nm,0.7s,mb3.8,baz=33,slow=6.4,SNR=3.8								

TIR ***19*** *04:13:12.5,42.13N×19.64E,h51km*
CSEM ***19*** *04:13:13.0±0.1,42.12N×19.65E,h25km,MD2.5,Error ellipse: s-maj=2.6km s-min=2.2km az=30.0*
NEIC ***19*** *04:13:14.4,42.18N×19.62E,h11km,MD2.5(PDG),After PDG.*
PDG ***19*** *04:13:14.4±0.2,42.18N×19.62E,h11km±2km*
ISC 19 04:13:13.8±0.5,42.09N±0.03×19.66E±0.04,h22km±5km, n17,σ0ş90/34,5C-7D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUK	Puka	0.18	106	*i* Pg		Pb		04 13 10.6	+0.6
PUK				*i* Sg		Sb		04 13 24.2	+1.7
ULC	Ulcinj	0.33	247	⇓*i*Pg		Pb		04 13 20.9	-0.2
ULC				*e*Sg		Sb		04 13 26.7	+0.7
BCI	Bajram Curri	0.41	48	*i* Pg		Pb		04 13 21.9	-0.5
BCI				*i* Sg		Sb		04 13 28.8	+0.5
TTG	Podgorica	0.45	319	⇑*i*Pg		Pb		04 13 21.5	-1.5
TTG				*e*Sg		Sb		04 13 27.6	-1.6
PVY	Plav	0.56	25	⇓*i*Pg		Pb		04 13 23.6	-1.2
PVY				*e*Sg		Sb		04 13 31.7	-0.6
BUM	Brajici-Budva	0.60	291	⇑*i*Pg		Pb		04 13 24.7	-0.8
BUM				*e*Sg		Sb		04 13 33.7	+0.1
QSH	Qafa e Shtames	0.60	162	*i* Pg		Pb		04 13 25.0	-0.6
QSH				*i* Sg		Sb		04 13 37.8	+4.2
IVA	Berane	0.80	13	⇑*i*Pg		Pb		04 13 27.9	-1.0
IVA				*e*Sg		Sb		04 13 39.3	0.0
NKY	Niksic	0.87	326	⇓*i*Pg		Pb		04 13 28.5	-1.7
NKY				*e*Sg		Sb		04 13 41.3	-0.1
HCY	Herceg Novi	0.93	293	⇓*i*Pg		Pb		04 13 30.2	-0.9
HCY				*e*Sg		Sb		04 13 43.9	+0.9
BRY	Bratogost	1.15	315	⇓*i*Pg		Pn		04 13 34.4	-0.4
BRY				*e*Sg		Sb		04 13 50.8	+1.3
UPM	Unac-Piva	1.24	334	⇑*i*Pg		Pn		04 13 36.1	+0.1
UPM				*e*Sg		Sb		04 13 53.3	+1.3
PLE	Pljevlja	1.25	351	⇓*i*Pg		Pn		04 13 36.2	-0.1
PLE				*e*Sg		Sb		04 13 58.8	+1.5
SKO	Skopje	1.33	95	*e*Pn		Pn		04 13 37.5	+0.1
STON	Ston	1.64	299	*i* Pn		Pn		04 13 41.6	-0.2
STON				*i* Pg		Pn		04 13 42.5	+0.7
STON				*i* Sn		Sn		04 14 03.1	+0.7
STON				*i* Sg		Sn		04 14 03.5	+1.0
BBLS	Bajina Basta -	1.78	354	⇑*i*Pn		Pn		04 13 44.3	+0.4
BBLS				Sg		Sn		04 14 06.9	+0.9
DIVS	Divcibare	2.02	7	⇓*i*Pn		Pn		04 13 46.9	-0.3

CASC 19 04:14:11.9±2.8,14.40N×90.23W,h15km±932km,MD3.5, ML3.7,9C-4D,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.32	224	⇑*e*P		Pb		04 14 18.8	+0.1
IXG				*e*S		Sb		04 14 24.1	+0.9
IXG				AML		AML		04 14 25.1	
	comp=N,15μm,0.3s								
GCG	Guatemala City	0.34	302	⇑*e*P		Pb		04 14 18.7	-0.5
GCG				*e*S		Sb		04 14 24.5	+0.3
RBDL	Robledal	0.60	119	⇓*e*P		Pb		04 14 23.6	+0.1
RBDL				*e*S		Sb		04 14 31.8	+0.2
RTR	El Retiro	0.76	132	⇓*e*P		Pb		04 14 26.7	+0.5
RTR				*e*S		Sb		04 14 36.7	+0.6
SNJE	San Jose	0.81	131	⇓*e*P		Pb		04 14 27.4	+0.3
SNJE				*e*S		Sb		04 14 38.5	+1.0
SBLS	San Blas	0.81	134	⇑*e*P		Pb		04 14 27.9	+0.7
SBLS				*e*S		Sb		04 14 39.4	+1.7
MTO2	Montecristo 2	0.84	90	⇑*e*P		Pb		04 14 27.8	+0.1
MTO2				*e*S		Sb		04 14 38.4	-0.1
TP2	Tecpan 2	0.85	296	⇑*e*P		Pb		04 14 28.3	+0.4
TP2				*e*S		Sb		04 14 40.8	+1.9
TP2				AML		AML		04 14 41.1	
	comp=N,904nm,0.3s								
BOQS	Boqueron	1.14	126	⇓*e*P		Pb		04 14 33.7	+0.9
BOQS				*e*S		Sb		04 14 48.0	+0.9
LFU	La Fuente	1.26	121	⇓*e*P		Pb		04 14 35.3	+0.4
LBRS	Las Brisas	1.33	120	*e*P		Pn		04 14 36.2	+0.2
JAT	Jato	1.37	267	⇑*e*P		Pn		04 14 38.3	+1.7
JAT				*e*S		Sb		04 14 52.6	-1.2
JAT				AML		AML		04 15 00.8	
	comp=N,4μm,0.2s								
LFRS	El Faro	1.37	124	⇑*e*P		Pn		04 14 37.4	+0.7
LFRS				*e*S		Sb		04 14 53.6	-0.3
LCBS	La Ceiba	1.42	121	⇑*e*P		Pn		04 14 37.9	+0.5

ATH ***19*** *04:17:25.7,38.44N×23.89E,h28km±2km,MD3.3/11*
NEIC ***19*** *04:17:25.7,38.44N×23.88E,h28km,MD3.3(ATH),After ATH.*
CSEM ***19*** *04:17:25.7±0.1,38.46N×23.95E,h2km,MD3.3,Error ellipse: s-maj=2.7km s-min=1.6km az=100.0*
THE ***19*** *04:17:29.3,38.62N×23.87E,h10km,ML3.0*
ISC 19 04:17:24.8±1.0,38.47N±0.02×23.89E±0.06,h8km±9km, n26,σ0ş94/37,1C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPAR	Parnis Oros	0.34	201	*e*PB		Pb		04 17 32.5	0.0
MPAR	Parnis Oros	0.34	201	*e*Pb		Pb		04 17 32.3	-0.2
PTL	Penteli	0.41	182	*e*PB		Pb		04 17 34.5	+0.6
PTL				*e*SB		Sb		04 17 41.0	+1.0
ATH	Athens Observa	0.51	195	⇑*i*PB		Pb		04 17 35.9	+0.4
ATH				*e*SB		Sb		04 17 43.2	+0.4
NSAL	Nisos Salamina	0.65	211	*e*PN		Pn		04 17 38.5	-1.5
MGER	Gerania Oros	0.69	226	*e*PN		Pn		04 17 39.4	-1.1
AOS	Alonnisos	0.70	360	*e*Pg		Pg		04 17 39.6	+0.7
AOS				*e*Sg		Sg		04 17 48.3	-0.1
LKR	Lokris	0.72	285	*e*PN		Pn		04 17 39.5	-1.5
NAIG	Nisos Aigina	0.77	204	*e*PN		Pn		04 17 40.5	-1.2
NEO	Neokhori	0.99	329	⇓*i*PN		Pn		04 17 45.3	+0.5
NEO				*e*SN		Sn		04 17 59.8	+0.8
AGG	Agios Georgios	1.34	295	*e*Pb		Pb		04 17 52.0	+2.3
AGG				*e*Sb		Sb		04 18 10.2	+3.3
PAIG	Paliouri	1.47	354	*e*Pb		Pb		04 17 52.7	+0.8
PAIG				*e*Sb		Sb		04 18 11.1	+0.4
LIA	Limnos Island	1.75	35	*e*PB		Pb		04 17 56.0	-0.8
OUR	Ouranopolis	1.87	2	*e*Pb		Pb		04 17 58.4	-0.4
OUR				*e*Sb		Sb		04 18 21.1	-1.2
OUR	Ouranopolis	1.87	2	*e*Pb		Pb		04 17 58.3	-0.5
OUR				*e*Sb		Sb		04 18 21.1	-1.1
VLI	Veliai	1.90	204	*e*PN		Pn		04 17 58.3	+0.5
APE	Apeiranthos	1.91	136	*e*PB		Pb		04 17 58.3	-1.1
PLG	Polygyros	1.94	350	*e*PB		Pb		04 17 59.4	-0.6
LIT	Litokhoron	1.96	327	*e*Pb		Pb		04 17 60.0	-0.4
LIT				*e*Sb		Sb		04 18 23.8	-1.1
ITM	Ithomi	2.01	231	*e*PB		Pb		04 18 01.2	-0.1
THR5	Thira Island,	2.35	150	*e*Pn		Pn		04 18 09.3	+5.0
THR5				*e*Sn		Sn		04 18 40.5	+6.9
THR3	Thira Island,	2.38	149	*e*Pn		Pn		04 18 09.3	+4.6
THR3				*e*Sn		Sn		04 18 41.5	+7.1
THR1	Thera Island	2.44	149	*e*Pn		Pn		04 18 10.5	+5.0
SMG	Samos	2.45	107	*e*PN		Pn		04 18 06.2	+0.5
KNT	Kendrikon	2.80	345	*e*Pn		Pn		04 18 11.5	+0.8
ALN	Alexandroupoli	2.95	34	*e*Pn		Pn		04 18 14.1	+1.3

IDC ***19*** *04:29:13.0±0.6,2.69N×126.75E,mb4.3/13,mb1 4.4/13, mb1mx4.3/16,mbtmp4.3/13,Error ellipse: s-maj=47.8km s-min=14.8km az=74.0*
NEIC ***19*** *04:29:14.2±0.4,2.72N×126.84E,h10km,mb4.4/5,Error ellipse: s-maj=27.4km s-min=7.4km az=74.0*
ISC 19 04:29:15.9±0.6,2.72N±0.10×126.8E±0.2,h33km,n30, σ0ş85/25,mb4.3/16,1C,Northern Molucca Sea

| Code | Station Name | Δ° | AZ° |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.38**	**274**	⇑*i*P	**P**	**05 42 29.2**	**+1.6**
LVC				*i* S	**S**	**05 43 04.3**	**+0.7**
LVC				AMP		05 43 06.7	
	comp=N,542nm,0.4s						
LVC	**Limon Verde**	**2.38**	**274**	P	**P**	**05 42 29.1**	**+1.4**
	comp=N,226nm,0.3s,baz=94,slow=5.6,SNR=2584						
LVC				S	**S**	**05 43 04.4**	**+0.7**
	comp=N,105nm,0.3s,baz=243,slow=20,SNR=25						
ANCH	**Antofagasta**	**3.85**	**256**	⇑*i*P	**P**	**05 42 45.1**	**+1.3**
ANCH				*i* S	**S**	**05 43 31.4**	**-1.0**
CPN1	**Cerro Paranal**	**4.15**	**243**	⇓*i*P	**P**	**05 42 48.8**	**+1.5**
CPN1				*e*S	**S**	**05 43 38.3**	**-0.4**
CPCH	**Copiapo**	**5.83**	**218**	⇓*i*P	**P**	**05 43 07.6**	**-0.1**
CPCH				*e*S	**S**	**05 44 13.8**	**-1.6**
LPAZ	**La Paz**	**6.68**	**345**	P	**P**	**05 43 18.5**	**+0.1**
	comp=N,2.3nm,0.3s,baz=157,slow=8.8,SNR=58						
LPAZ				S	**S**	**05 44 33.8**	**-0.8**
	comp=N,0.8nm,0.3s,baz=351,slow=19,SNR=10						
LPAZ	**La Paz**	**6.68**	**345**	P	**P**	**05 43 18.5**	**+0.1**
LPAZ				S	**S**	**05 44 33.8**	**-0.8**
ARE	**Arequipa**	**7.94**	**321**	*e*P	**P**	**05 43 32.6**	**-1.9**
ARE				*e*S	**S**	**05 44 59.0**	**-4.3**
CFAA	**Coronel Fontan**	**8.95**	**190**	P	**P**	**05 43 47.4**	**+0.2**
	comp=N,0.6nm,0.3s,baz=17,slow=11,SNR=120						
CFAA				S	**S**	**05 45 23.6**	**-2.5**
	comp=N,1.0nm,0.3s,baz=277,slow=22,SNR=16						
FCH	**Farellones**	**11.07**	**197**	*i* P	**P**	**05 44 17.8**	**+3.8**
FCH				*i* S	rx	05 44 23.4	
FCH				AMP		05 44 24.2	
	comp=N,83nm,0.3s						
CICH	**Cipreses**	**12.04**	**196**	*i* P	**P**	**05 44 27.0**	**+0.9**
CICH				*i* S	rx	05 44 33.5	
TRQA	**Tornquist**	**15.68**	**167**	*e*P	**P**	**05 45 09.9**	**-0.7**
	comp=N,4.5nm,0.7s						
PLCA	**Paso Flores**	**18.25**	**190**	P	**P**	**05 45 39.9**	**+1.5**
	comp=N,0.6nm,0.3s,baz=11,slow=12,SNR=16						
PLCA	**Paso Flores**	**18.25**	**190**	*e*P	**P**	**05 45 39.4**	**+1.1**
	comp=N,10.0nm,1.1s						
BDFB	**Brasilia**	**18.70**	**71**	P	**P**	**05 45 42.7**	**-0.3**
	comp=N,1.8nm,0.3s,baz=254,slow=11,SNR=66						
BAO	**Brasilia Array**	**18.72**	**71**	P	**P**	**05 45 42.5**	**-0.8**
CAM4	**Nova Friburgo**	**21.95**	**93**	*e*P	**P**	**05 46 16.3**	**+1.0**
CAM4				*i*		05 46 17.0	
TXAR	**Lajitas Array**	**63.05**	**324**	P	**P**	**05 51 43.8**	**-0.1**
	comp=N,0.1nm,0.5s,mb2.7,baz=169,slow=9.2,SNR=3.5						
DBIC	**Dimbokro**	**66.84**	**72**	P	**P**	**05 52 07.1**	**-1.4**
	comp=N,3.1nm,0.5s,mb4.2,baz=197,slow=9.4,SNR=14						
PDAR	**Pinedale Array**	**76.42**	**329**	P	**P**	**05 53 05.7**	**+0.9**
	comp=N,0.3nm,0.5s,mb3.1,baz=121,slow=10,SNR=3.5						
PDAR	**Pinedale Array**	**76.42**	**329**	P	**P**	**05 53 05.7**	**+0.9**
SCHQ	**Schefferville**	**77.30**	**360**	P	**P**	**05 53 09.1**	**-0.2**
	comp=N,1.7nm,0.7s,mb3.8,baz=185,slow=7.7,SNR=4.6						
ESDC	**Sonseca Array**	**85.10**	**43**	P	**P**	**05 53 51.2**	**+1.0**
	comp=N,1.8nm,0.7s,mb3.9,baz=246,slow=4.3,SNR=9.9						
YKA	**Yellowknife Ar**	**93.20**	**340**	pP	pP	05 55 31.3	+2.6
	comp=N,0.3nm,0.6s,baz=128,slow=4.4,SNR=7.6						
WRA	**Warramunga Arr**	**132.98**	**207**	PKP	PKPdf	06 00 28.2	+0.7
	comp=N,0.4nm,0.9s,baz=152,slow=1.8,SNR=3.9						
SONM	**Songino Array**	**154.34**	**11**	PKPbc	PKPdf	06 01 13.9	+11
	comp=N,0.2nm,0.3s,baz=95,slow=0.8,SNR=3.4						
SONM				PKPab	PKPab	06 01 28.4	-0.4
	comp=N,0.6nm,0.7s,baz=318,slow=2.9,SNR=5.1						

MAN 19 05:49:06.9, 7.91N×121.91E, h24km, mb3.7, ML2.4, MS1.9, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIL	**Ipil**	**0.67**	**100**	*e*P	Pb	05 49 19.5	-0.2
IPIL				*e*S	Sb	05 49 27.0	-1.6
ZMPH	**Zamboanga City**	**0.96**	**171**	⇑*i*P	Pb	05 49 24.1	-0.6
ZMPH				*i* S	Sb	05 49 33.6	-3.3
PAGZ	**Pagadian**	**1.46**	**92**	*e*P	Pn	05 49 33.3	+1.2
PAGZ				*e*S	Sn	05 49 50.7	+0.1
GUIM	**Jordan**	**2.79**	**14**	*e*P	Pn	05 50 19.5	+28
GUIM				*e*S	Sn	05 50 26.7	+2.4
ENPP	**El Nido**	**4.09**	**323**	*e*P	Pn	05 50 09.3	-0.3

NIED ***19*** *06:03:00.35.00N×132.80E, h5km, Mw3.6 Best double couple: M₀2.41×10¹⁴ NP1:φs149°, δ86°, λ-20°. NP2: φs240°, δ70°, λ-176°.*

JMA 19 06:03:46.9, 35.01N×132.80E, h8km±1km, M3.6, 3C-3D Broadband fault plane solution: P waves. NP1:φs333°, δ39°, λ7°. **NP2:**φs238°, δ86°, λ129°. **Principal axes:** T Plg37°, Azm181°; N Plg38°, Azm54°; P Plg30°, Azm297°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	**Saijyo**	**0.26**	**92**	⇓P	Pg	06 03 52.3	0.0
JHS				S	Sg	06 03 56.1	+0.2
JGT	**Gotsu**	**0.38**	**273**	⇓P	Pg	06 03 54.5	-0.2
JGT				S	Sg	06 03 59.8	-0.1
JHT	**Toyohira**	**0.47**	**222**	⇑P	Pg	06 03 55.8	-0.5
JHT				S	Sg	06 04 02.1	-0.5
JJG	**Jouge**	**0.47**	**142**	⇓P	Pg	06 03 56.2	-0.2
JJG				S	Sg	06 04 02.6	-0.1
JNM	**Ikuma**	**0.52**	**21**	⇑P	Pg	06 03 57.4	0.0
JNM				S	Sg	06 04 04.8	+0.4
JHM	**Kurahashi**	**0.90**	**195**	⇑P	Pb	06 04 03.6	-0.7

IDC 19 06:26:22.9±25.0, 18.11S×173.03W, mb4.1/4, mb1 4.3/4, mb1mx3.8/16, mbtmp4.1/4 Error ellipse: s-maj=470.2km s-min=165.0km az=72.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.47**	**260**	P	P	06 33 47.0	-1.5
	3.1nm,0.8s,baz=90,slow=9.1,SNR=3.2						
STKA	**Stephens Creek**	**43.05**	**243**	P	P	06 34 25.1	-1.2
	0.9nm,0.4s,baz=72,slow=12,SNR=3.9						
WRA	**Warramunga Arr**	**49.63**	**259**	P	P	06 35 16.2	-2.2
	0.7nm,0.5s,baz=98,slow=7.1,SNR=9.4						
ASAR	**Alice Springs**	**49.67**	**254**	P	P	06 35 16.5	-2.2
	4.0nm,0.6s,baz=91,slow=8.2,SNR=72						

NEIC ***19*** *06:33:56.3±1.6, 4.36S×143.98E, h124km±15km, mb4.4/5, Error ellipse: s-maj=15.9km s-min=10.9km az=127.0*

IDC ***19*** *06:33:57.0±3.9, 4.43S×144.08E, h133km±40km, mb3.7/6, mb1 3.8/9, mb1mx3.7/14, mbtmp4.2/9, Error ellipse: s-maj=38.2km s-min=22.6km az=103.0*

ISC 19 06:33:54.6±2.5, 4.4S±0.1×144.0E±0.1, h121km±24km, n18, σ0.86/19, mb4.0/8, 1C, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.88**	**148**	P	**P**	**06 35 22.1**	**+1.6**
	3.2nm,0.3s,baz=359,slow=5.0,SNR=11						
PMG				S	**S**	**06 36 26.1**	**-1.1**
	3.1nm,0.3s,baz=329,slow=22,SNR=8.6						
PMG	**Port Moresby**	**5.88**	**148**	*e*P	**P**	**06 35 21.8**	**+1.2**
	12nm,0.5s						
PMG				S	**S**	**06 36 26.1**	**-1.1**
KAKA	**Kakadu**	**14.13**	**233**	*e*P	**P**	**06 37 10.2**	**-0.2**
	17nm,0.4s						
CTA	**Charters Tower**	**15.76**	**172**	P	P	**06 37 41.6**	**+11**
	0.4nm,0.3s,baz=358,slow=15,SNR=5.5						
WRAB	**Tennant Creek**	**18.11**	**211**	*e*P	**P**	**06 37 58.9**	**-0.7**
	10.0nm,0.6s						
WB2	**Warramunga Arr**	**18.11**	**211**	⇑*i*P	**P**	**06 37 59.2**	**-0.5**
WRA	**Warramunga Arr**	**18.12**	**211**	P	**P**	**06 37 59.3**	**-0.5**
	1.3nm,0.3s,baz=37,slow=11,SNR=39						
ASAR	**Alice Springs**	**21.52**	**206**	P	**P**	**06 38 35.9**	**+0.8**
	2.8nm,0.6s,mb3.8,baz=31,slow=11,SNR=38						
ASPA	**Alice Springs**	**21.52**	**206**	*e*P	**P**	**06 38 35.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**22.57**	**231**	*e*P	**P**	**06 38 46.9**	**+1.4**
	4.0nm,0.5s,mb4.0						
SONM	**Songino Array**	**61.58**	**332**	P	**P**	**06 44 00.9**	**-0.6**
	0.2nm,0.3s,mb3.6,baz=148,slow=4.8,SNR=5.4						
ZAL	**Zalesovo**	**76.09**	**328**	P	**P**	**06 45 29.2**	**-1.2**
	1.0nm,0.3s,mb4.0,baz=41,slow=14,SNR=2.9						
MAW	**Mawson**	**82.60**	**202**	P	**P**	**06 46 04.3**	**-0.9**
	4.3nm,0.9s,mb4.3,baz=90,slow=16,SNR=2.8						
BVAR	**Borovoye Array**	**83.73**	**324**	P	**P**	**06 46 11.2**	**0.0**
	2.0nm,0.6s,mb4.1,baz=113,slow=6.9,SNR=12						
QSPA	**South Pole Qui**	**85.57**	**180**	*e*P	**P**	**06 46 20.4**	**+0.6**
	2.9nm,0.6s,mb4.4						
INK	**Inuvik**	**91.25**	**22**	P	**P**	**06 46 47.9**	**+0.9**
	1.1nm,1.1s,mb3.9,baz=210,slow=14,SNR=2.1						
INK	**Inuvik**	**91.25**	**22**	P	**P**	**06 46 47.9**	**+0.9**
DBIC	**Dimbokro**	**148.95**	**276**	PKPbc	PKPdf	06 53 30.6	+5.5
	2.0nm,0.5s,baz=54,slow=2.1,SNR=10						

MEX 19 06:37:23.5±0.4, 17.00N×95.85W, h51km±13km, MD3.8, 1D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.83**	**276**	*e*P	P	06 37 38.0	-1.1
OXX				*e*S	S	06 37 48.5	-2.3
VHO	**Vista Hermosa**	**0.84**	**275**	*i* P	P	06 37 37.6	-1.6
VHO				*i* S	S	06 37 48.7	-2.3
CMIG	**Matias Romero**	**0.93**	**84**	*i* P	P	06 37 38.7	-1.8
CMIG				*i* S	S	06 37 51.0	-2.2
HUIG	**Huatulco**	**1.25**	**191**	⇓*i*P	P	06 37 43.2	-1.8
HUIG				*e*S	S	06 37 58.2	-2.8

NIED ***19*** *06:46:00, 33.80N×142.70E, h8km, Mw4.1 Best double couple: M₀1.83×10¹⁵ NP1:φs197°, δ54°, λ-94°. NP2:φs24°, δ36°, λ-85°.*

IDC ***19*** *06:46:33.5±0.5, 33.81N×142.57E, mb4.1/17, mb1 4.3/20, mb1mx4.3/23, mbtmp4.2/20, ML4.2/3, Error ellipse: s-maj=18.4km s-min=14.7km az=103.0*

JMA ***19*** *06:46:34.9±0.4, 33.82N×142.65E, h66km, M4.3*

BJI ***19*** *06:46:35.2, 33.80N×142.50E, h25km, mB5.1, mb4.5, Ms4.2, Msz3.9*

MOS ***19*** *06:46:36.3±1.8, 34.03N×142.63E, h33km, mb4.4/5, Error ellipse: s-maj=22.3km s-min=10.3km az=108.4*

NEIC ***19*** *06:46:37.2±3.6, 33.81N×142.50E, h25km±24km, mb4.5/4, MW4.1(NIED), Error ellipse: s-maj=12.0km s-min=8.3km az=86.0*

ISC 19 06:46:33.4±1.4, 33.79N±0.05×142.54E±0.05, h12km±9km, n64, σ0.96/71, mb4.2/22, MS3.9/1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.55**	**304**	P	**Pn**	**06 47 01.6**	**+0.5**
BSO1				S	**Sb**	**06 47 21.7**	**+0.6**
BSO3	**Boso 3**	**1.96**	**302**	P	**Pn**	**06 47 07.8**	**+1.0**
BSO3				S	**Sn**	**06 47 32.3**	**+0.8**
BSO4	**Boso 4**	**2.18**	**304**	P	**Pn**	**06 47 11.4**	**+1.4**
BSO4				S	**Sn**	**06 47 38.5**	**+1.4**
JHJ2	**Mitsune**	**2.37**	**254**	P	**Pn**	**06 47 14.1**	**+1.3**
JHJ	**Hachijo jima 2**	**2.40**	**255**	Pn	**Pn**	**06 47 14.1**	**+0.9**
	221nm,0.3s,baz=143,slow=2.5,SNR=19						
JHJ				Sn	**Sn**	**06 47 41.9**	**-0.8**
	270nm,0.3s,baz=68,slow=22,SNR=10						
JIM2	**Oshima 3**	**2.73**	**291**	P	**Pn**	**06 47 17.8**	**-0.1**
JOD2	**Odawara 2**	**3.20**	**298**	P	**Pn**	**06 47 24.1**	**-0.5**
JOD2				*e*S	**Sn**	**06 48 01.9**	**-1.2**
JHO	**Hitachi**	**3.24**	**331**	P	**Pn**	**06 47 23.7**	**-1.5**
JHU	**Hanno**	**3.38**	**308**	P	**Pn**	**06 47 27.0**	**-0.1**
JHU				S	**Sn**	**06 48 06.1**	**-1.4**
JAG	**Ashikaga**	**3.65**	**317**	P	**Pn**	**06 47 30.4**	**-0.5**
JYN	**Shimob**	**3.71**	**299**	P	**Pn**	**06 47 32.1**	**+0.3**
JYN				*e*S	**Sn**	**06 48 14.9**	**-0.9**
JRY	**Ryogami san**	**3.72**	**308**	P	**Pn**	**06 47 31.9**	**-0.1**
JFK	**Kawauchi**	**3.82**	**340**	P	**Pn**	**06 47 31.0**	**-2.4**
MAJO	**Matsushiro**	**4.49**	**309**	*e*P	**Pn**	**06 47 42.8**	**0.0**
MAT	**Matsushiro**	**4.49**	**309**	*e*P	**Pn**	**06 47 43.0**	**+0.2**
MAT				*e*S	**Sn**	**06 48 32.0**	**-3.6**
MAT	**Matsushiro**	**4.49**	**309**	P	**Pn**	**06 47 43.3**	**+0.5**
MAT				S	**Sn**	**06 48 31.6**	**-4.0**
CBIJ	**Chichi jima**	**6.68**	**183**	Pn	**Pn**	**06 48 11.9**	**-1.9**
	12nm,0.3s,baz=244,slow=21,SNR=3.9						
CBIJ				Sn	**Sn**	**06 49 25.0**	**-5.6**
	21nm,0.3s,baz=304,slow=21,SNR=4.3						
ASAJ	**Asahikawa**	**10.31**	**0**	P	**P**	**06 48 59.4**	**-4.9**
ASAJ						06 50 50.2	
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.31**	**0**	Pn	**P**	**06 48 59.4**	**-4.9**
	comp=N,2.0nm,0.3s,baz=260,slow=10,SNR=6.8						
ASAJ				Sn	**S**	**06 50 50.1**	**-11**
	comp=N,1.1nm,0.3s,baz=11,slow=33,SNR=3.3						
YSS	**Yuzh-Sakhalins**	**13.15**	**1**	*e*P	**P**	**06 49 37.2**	**-5.4**
YSS	**Yuzh-Sakhalins**	**13.15**	**1**	*e*P	**P**	**06 49 37.6**	**-5.0**
	comp=N,13nm,0.8s						
HHC	**Hu-ho-hao-te**	**25.53**	**295**	*e*P	**P**	**06 52 07.8**	**+4.4**
HHC				AMB	AMB		
	comp=Z,208nm,4.5s						
SONM	**Songino Array**	**30.44**	**308**	P	**P**	**06 52 49.0**	**+1.2**
	comp=Z,3.9nm,0.9s,mb4.1,baz=109,slow=9.6,SNR=20						
BOD	**Bodaibo**	**30.78**	**330**	*e*P	**P**	**06 52 46.1**	**-4.6**
WMQ	**Urumqi**	**43.19**	**300**	P	**P**	**06 54 37.0**	**+1.3**
WMQ				PP	PP	06 56 19.0	+0.6
WMQ				*e*S	**S**	**07 01 03.0**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,172nm,5.0s						
WMQ				LR	LR		
	comp=N,148nm,19.8s,MS4.1						
WMQ				LR	LR		
	comp=E,154nm,17.4s,MS4.1						
WMQ				LR	LR		
	comp=Z,107nm,20.0s,MS3.7						
ZAL	**Zalesovo**	**44.82**	**315**	P	**P**	**06 54 48.9**	**+0.1**
	comp=Z,1.4nm,0.3s,mb4.3,baz=93,slow=3.5,SNR=4.2						
KURK	**Kurchatov**	**48.69**	**311**	*e*P	**P**	**06 55 18.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.69**	**311**	*e*P	**P**	**06 55 18.9**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**53.46**	**314**	P	**P**	**06 55 54.9**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.5,baz=82,slow=10,SNR=3.5						
BVAR	**Borovoye Array**	**53.46**	**314**	P	**P**	**06 55 54.9**	**-0.5**
WRAB	**Tennant Creek**	**53.99**	**190**	*e*P	**P**	**06 55 59.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**53.99**	**190**	*e*P	**P**	**06 55 59.1**	**-0.6**
	comp=Z,4.1nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**54.00**	**190**	P	**P**	**06 55 59.3**	**-0.4**
	comp=Z,3.1nm,0.4s,mb4.6,baz=8.4,slow=7.7,SNR=16						
INK	**Inuvik**	**56.87**	**26**	*e*P	**P**	**06 56 19.2**	**-0.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**56.87**	**26**	P	**P**	**06 56 18.6**	**-1.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=287,slow=6.6,SNR=5.5						
INK	**Inuvik**	**56.87**	**26**	*e*P	**P**	**06 56 19.2**	**-0.7**
	comp=Z,0.7nm,0.7s,mb3.8						
ASAR	**Alice Springs**	**57.72**	**189**	P	**P**	**06 56 26.4**	**-0.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=9.9,slow=6.9,SNR=21						
DLBC	**Dease Lake**	**60.64**	**37**	P	**P**	**06 56 46.9**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.3,baz=304,slow=20,SNR=2.7						
STKA	**Stephens Creek**	**65.32**	**181**	P	**P**	**06 57 17.3**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=16,slow=22,SNR=4.0						
STKA	**Stephens Creek**	**65.32**	**181**	P	**P**	**06 57 16.8**	**-0.8**
YKA	**Yellowknife Ar**	**66.16**	**30**	P	**P**	**06 57 21.5**	**-1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**66.16**	**30**	P	**P**	**06 57 21.5**	**-0.9**
	comp=Z,0.8nm,0.8s,mb3.8,baz=296,slow=6.4,SNR=15						
JOF	**Joensuu**	**69.26**	**333**	*e*p	**P**	**06 57 40.6**	**-1.3**
	comp=Z,1.7nm,0.4s,mb4.3						
KAF	**Kangasniemi**	**71.61**	**334**	*e*p	**P**	**06 57 54.6**	**-1.6**
	comp=Z,1.9nm,0.5s,mb4.3,baz=50,slow=5.8						
KAF	**Kangasniemi**	**71.61**	**334**	*e*P	**P**	**06 57 54.6**	**-1.6**
KAF				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**72.11**	**333**	P	**P**	**06 57 59.0**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=47,slow=8.3,SNR=12						
NVAR	**Mina Array Bea**	**76.20**	**53**	P	**P**	**06 58 24.4**	**+1.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=269,slow=7.3,SNR=13						
NVAR	**Mina Array Bea**	**76.20**	**53**	P	**P**	**06 58 24.4**	**+1.1**
NB2	**NORSAR Subarra**	**77.53**	**338**	P	**P**	**06 58 30.2**	**0.0**
	comp=Z,1.4nm,0.6s,mb4.1,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**77.53**	**338**	P	**P**	**06 58 30.2**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.2,baz=40,slow=5.6,SNR=9.1						
PDAR	**Pinedale Array**	**79.28**	**45**	P	**P**	**06 58 40.6**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=288,slow=2.8,SNR=8.8						
SRU	**San Rafael**	**80.85**	**49**	*e*P	**P**	**06 58 49.8**	**+1.2**
BRTR	**Keskin Array B**	**81.70**	**312**	P	**P**	**06 58 54.4**	**+1.3**
	comp=Z,2.2nm,0.9s,mb4.1,baz=104,slow=5.1,SNR=7.0						
CLL	**Collm**	**84.37**	**331**	P	**P**	**06 59 07.0**	**+0.6**
GERES	**GERESS Array B**	**85.95**	**329**	P	**P**	**06 59 15.1**	**+0.7**
	comp=Z,0.8nm,0.6s,mb4.1,baz=34,slow=4.8,SNR=7.6						
SCHQ	**Schefferville**	**88.19**	**16**	P	**P**	**06 59 25.2**	**+0.1**
	comp=Z,2.2nm,0.9s,mb4.4,baz=316,slow=6.6,SNR=3.0						
SCHQ	**Schefferville**	**88.19**	**16**	P	**P**	**06 59 25.2**	**+0.1**
TXAR	**Lajitas Array**	**91.36**	**53**	P	**P**	**06 59 41.5**	**+0.9**
	comp=Z,0.8nm,0.5s,mb4.3,baz=306,slow=3.4,SNR=26						
TXAR	**Lajitas Array**	**91.36**	**53**	P	**P**	**06 59 41.5**	**+0.9**
SDV	**Santo Domingo**	**127.15**	**43**	PKP	PKPdf	07 05 40.2	-1.4
	comp=Z,2.4nm,0.9s,baz=150,slow=5.4,SNR=3.2						
LPAZ	**La Paz**	**147.38**	**65**	*e*PKP2	PKPab	07 06 20.6	-1.0
LPAZ	**La Paz**	**147.38**	**65**	P	PKPdf	07 06 20.8	+2.4
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPAZ	**La Paz**	**147.38**	**65**	PKPbc	PKPdf	07 06 20.8	+2.4
	comp=Z,5.1nm,0.9s,baz=2.7,slow=6.2,SNR=13						
LVC	**Limon Verde**	**150.24**	**76**	PKPbc	PKPdf	07 06 26.7	+3.9
	comp=Z,1.6nm,0.5s,baz=323,slow=4.8,SNR=2.9						

NIED ***19*** *06:48:00, 33.90N×142.60E, h8km, Mw4.3 Best double couple: M₀3.19×10¹⁵ NP1:φs199°, δ55°, λ-88°. NP2:φs16°, δ35°, λ-92°.*

IDC ***19*** *06:48:57.4±0.5, 33.81N×142.55E, mb4.3/19, mb1 4.5/22, mb1mx4.5/23, mbtmp4.4/22, ML4.4/3, Error ellipse: s-maj=17.8km s-min=14.0km az=100.0*

JMA ***19*** *06:48:59.5±0.4, 33.86N×142.62E, h67km, M4.2*

MOS ***19*** *06:49:00.5±1.0, 33.80N×142.54E, h33km, mb4.9/12, Error ellipse: s-maj=17.7km s-min=9.3km az=117.8*

BJI ***19*** *06:49:00.4, 33.81N×142.70E, h43km, mB5.0, mb4.5, Ms4.3, Msz4.0*

NEIC ***19*** *06:49:02.1±3.0, 33.81N×142.49E, h31km±20km, mb4.7/16, MW4.3(NIED), Error ellipse: s-maj=8.6km s-min=5.8km az=94.0*

ISC 19 06:49:00.5±0.3, 33.78N±0.04×142.49E±0.03, h33km, (h43km±11.6km:pP-P), n99, σ1.9/103/109, mb4.5/36, MS4.0/2, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.53**	**305**	S	**S**	**06 49 45.1**	**+0.4**
BSO2	**Boso 2**	**1.74**	**304**	S	**S**	**06 49 52.2**	**+2.3**
BSO4	**Boso 4**	**2.15**	**305**	P	**P**	**06 49 35.8**	**+1.1**
BSO4				S	**S**	**06 50 02.3**	**+1.8**
KTR	**Katsuura**	**2.26**	**308**	P	**P**	**06 49 37.5**	**+1.3**
KTR				S	**S**	**06 50 05.0**	**+1.8**
JHJ2	**Mitsune**	**2.33**	**254**	P	**P**	**06 49 38.0**	**+0.7**
JHJ2				S	**S**	**06 50 05.8**	**+0.7**
CHOJ	**Chosi**	**2.34**	**325**	P	**P**	**06 49 35.4**	**-2.1**
CHOJ				S	**S**	**06 50 03.6**	**-1.8**
JHJ	**Hachijo jima 2**	**2.36**	**255**	Pn	**Pn**	**06 49 37.9**	**0.0**
	240nm,0.3s,baz=253,slow=19,SNR=7.1						
JHJ				Sn	**Sn**	**06 50 05.8**	**-0.2**
	203nm,0.3s,baz=78,slow=22,SNR=6.4						
JMY	**Miyakejima3**	**2.50**	**278**	S	**S**	**06 50 09.3**	**+0.1**
JIM2	**Oshima 3**	**2.70**	**291**	P	**P**	**06 49 41.7**	**-0.9**
JOD2	**Odawara 2**	**3.18**	**299**	P	**P**	**06 49 48.4**	**-0.9**
JOD2				S	**S**	**06 50 26.4**	**-0.1**
JAG	**Ashikaga**	**3.63**	**318**	P	**P**	**06 49 56.0**	**+0.2**
JYN	**Shimob**	**3.68**	**299**	P	**P**	**06 49 55.9**	**-0.6**
JYN				S	**S**	**06 50 38.1**	**-1.2**
JRY	**Ryogami san**	**3.70**	**308**	P	**P**	**06 49 55.6**	**-1.2**
JRY				S	**S**	**06 50 38.7**	**-1.1**
JMM	**Marumori**	**4.31**	**342**	P	**P**	**06 50 01.9**	**-3.5**
JMM				S	**S**	**06 50 47.8**	**-7.3**
MAJO	**Matsushiro**	**4.46**	**309**	*e*P	**P**	**06 50 07.0**	**-0.6**
MAT	**Matsushiro**	**4.46**	**309**	P	**P**	**06 50 07.0**	**-0.6**
MAT				*e*S	**S**	**06 50 53.0**	**-6.1**
MAT	**Matsushiro**	**4.46**	**309**	P	**P**	**06 50 07.1**	**-0.5**
MAT				S	**S**	**06 50 53.4**	**-5.7**
MAT	**Matsushiro**	**4.46**	**309**	P	**P**	**06 50 04.8**	**-2.8**
MAT				S	**S**	**06 50 58.3**	**-0.8**
JIE	**Ise**	**4.84**	**279**	P	**P**	**06 50 12.6**	**-0.4**
JMK	**Ichinoseki**	**5.26**	**349**	P	**P**	**06 50 14.4**	**-4.5**
JMK				S	**S**	**06 51 09.2**	**-10**
CBIJ	**Chichi jima**	**6.67**	**182**	Pn	**Pn**	**06 50 35.9**	**-3.0**
	29nm,0.3s,baz=258,slow=22,SNR=4.4						
CBIJ				Sn	**Sn**

	comp=Z,80nm,1.0s,mb5.6,SNR=8.6							
WRAB	**Tennant Creek**	**53.97**	**189**	*e*P		**P**	**06 58 22.4**	**-1.2**
WRAB				pmax		pmax		
	comp=Z,9.0nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**53.97**	**189**	*e*P		**P**	**06 58 22.4**	**-1.2**
	comp=Z,9.0nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**53.98**	**189**	⇓*i*P		**P**	**06 58 23.1**	**-0.6**
WRA	**Warramunga Arr**	**53.98**	**189**	P		P	**06 58 23.1**	**-0.6**
	comp=Z,7.8nm,0.5s,mb4.9,baz=6.5,slow=7.5,SNR=23							
FITZ	**Fitzroy Crossi**	**54.04**	**200**	*e*P		**P**	**06 58 24.2**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.8							
INK	**Inuvik**	**56.90**	**26**	P		**P**	**06 58 42.8**	**-1.4**
	comp=Z,1.4nm,0.7s,mb4.1,baz=261,slow=6.2,SNR=7.0							
ASAR	**Alice Springs**	**57.71**	**189**	P		**P**	**06 58 50.0**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.5,baz=13,slow=7.9,SNR=23							
ASPA	**Alice Springs**	**57.71**	**189**	*e*P		**P**	**06 58 50.9**	**+0.4**
MBWA	**Marble Bar**	**58.78**	**205**	*e*P		**P**	**06 58 57.8**	**-0.2**
	comp=Z,5.2nm,0.7s,mb4.7							
DLBC	**Dease Lake**	**60.66**	**37**	P		**P**	**06 59 10.8**	**+0.4**
	comp=Z,1.4nm,0.9s,mb4.1,baz=349,slow=27,SNR=1.9							
STKA	**Stephens Creek**	**65.31**	**181**	P		**P**	**06 59 41.5**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.4,baz=343,slow=8.1,SNR=8.8							
STKA	**Stephens Creek**	**65.31**	**181**	*e*P		**P**	**06 59 41.5**	**0.0**
RES	**Resolute Bay**	**65.53**	**14**	*e*P		**P**	**06 59 41.1**	**-1.1**
RES				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.7							
RES	**Resolute Bay**	**65.53**	**14**	*e*P		**P**	**06 59 41.1**	**-1.1**
	comp=Z,6.7nm,0.9s,mb4.7							
YKA	**Yellowknife Ar**	**66.19**	**30**	P		**P**	**06 59 45.4**	**-1.1**
	comp=Z,1.4nm,0.8s,mb4.1,baz=296,slow=6.5,SNR=19							
ARCES	**ARCESS Array B**	**67.35**	**340**	P		**P**	**06 59 53.4**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.2,baz=53,slow=6.1,SNR=3.7							
JOF	**Joensuu**	**69.25**	**333**	*e*p		**P**	**07 00 04.7**	**-1.0**
	comp=Z,3.8nm,0.5s,mb4.6							
EDM	**Edmonton**	**71.36**	**38**	*e*P		**P**	**07 00 18.0**	**-0.6**
KAF	**Kangasniemi**	**71.61**	**334**	*e*p		**P**	**07 00 19.2**	**-0.8**
	comp=Z,4.1nm,0.5s,mb4.6,baz=50,slow=5.8							
KAF	**Kangasniemi**	**71.61**	**334**	*e*P		**P**	**07 00 19.2**	**-0.8**
KAF				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
FINES	**FINESS Array B**	**72.11**	**333**	P		**P**	**07 00 22.7**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.3,baz=45,slow=8.1,SNR=11							
NVAR	**Mina Array Bea**	**76.24**	**53**	P		**P**	**07 00 48.2**	**+0.9**
	comp=Z,2.7nm,0.8s,mb4.2,baz=290,slow=4.4,SNR=14							
ELK	**Elko**	**76.98**	**50**	*e*P		**P**	**07 00 52.3**	**+0.8**
ELK				pmax		pmax		
	comp=Z,4.0nm,1.1s							
ELK	**Elko**	**76.98**	**50**	*e*P		**P**	**07 00 52.3**	**+0.8**
	comp=Z,3.6nm,1.1s,mb4.2							
QLMT	**Earthquake Lak**	**77.02**	**45**	*e*P		**P**	**07 00 52.8**	**+1.2**
NB2	**NORSAR Subarra**	**77.53**	**338**	P		**P**	**07 00 54.0**	**-0.1**
	comp=Z,5.1nm,0.8s,mb4.5,baz=40,slow=5.6							
NB2	**NORSAR Subarra**	**77.53**	**338**	P		**P**	**07 00 54.0**	**-0.1**
NB2				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.5							
NOA	**NORSAR Array B**	**77.53**	**338**	P		**P**	**07 00 54.3**	**+0.2**
	comp=Z,4.0nm,0.7s,mb4.4,baz=39,slow=5.6,SNR=14							
DUG	**Dugway**	**78.82**	**49**	*e*P		**P**	**07 01 02.7**	**+1.0**
DUG				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
DUG	**Dugway**	**78.82**	**49**	*e*P		**P**	**07 01 02.7**	**+1.0**
	comp=Z,2.7nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**79.32**	**45**	P		**P**	**07 01 04.8**	**+0.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=284,slow=2.1,SNR=13							
BRTR	**Keskin Array B**	**81.68**	**312**	P		**P**	**07 01 18.4**	**+1.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=94,slow=3.8,SNR=10							
ULM	**Lac du Bonnet**	**81.73**	**34**	P		**P**	**07 01 17.2**	**+0.2**
	comp=Z,0.8nm,0.4s,mb4.0,baz=310,slow=6.8,SNR=3.1							
ULM	**Lac du Bonnet**	**81.73**	**34**	P		**P**	**07 01 17.2**	**+0.2**
KOLS	**Kolonicke sedl**	**81.98**	**325**	*e*P		**P**	**07 01 17.3**	**-0.9**
BSEG	**Bad Segeberg**	**83.36**	**334**	*e*P		**P**	**07 01 25.2**	**0.0**
CLL	**Collm**	**84.36**	**331**	P		**P**	**07 01 30.5**	**+0.2**
	comp=Z,logA/T=0.8,mb4.7							
MOX	**Moxa**	**85.43**	**331**	*e*P		**P**	**07 01 36.4**	**+0.8**
MOX	**Moxa**	**85.43**	**331**	*i*P		**P**	**07 01 36.4**	**+0.8**
GEC2	**GERESS Array S**	**85.94**	**329**	*e*P		**P**	**07 01 39.0**	**+0.9**
GEC2				pmax		pmax		
	comp=Z,2.0nm,0.9s,mb4.3							
GEC2	**GERESS Array S**	**85.94**	**329**	*e*P		**P**	**07 01 39.0**	**+0.9**
	comp=Z,2.0nm,0.9s,mb4.3							
GERES	**GERESS Array B**	**85.94**	**329**	P		**P**	**07 01 38.9**	**+0.8**
	comp=Z,1.1nm,0.6s,mb4.3,baz=34,slow=4.8,SNR=10							
GRA1	**Grafenberg Arr**	**86.33**	**331**	*e*P		**P**	**07 01 41.5**	**+1.5**
	comp=Z,15nm,1.2s,mb5.1							
GRF	**Grafenberg Arr**	**86.33**	**331**	*e*P		**P**	**07 01 41.5**	**+1.5**
GRF				pmax		pmax		
	comp=Z,15nm,1.2s,mb5.1							
TNS	**Taunus Mts**	**87.01**	**332**	*e*P		**P**	**07 01 44.2**	**+0.9**
TNS				pmax		pmax		
	comp=Z,16nm,1.4s,mb5.1							
TNS	**Taunus Mts**	**87.01**	**332**	*e*P		**P**	**07 01 44.2**	**+0.9**
	comp=Z,16nm,1.4s,mb5.1							
SCHQ	**Schefferville**	**88.21**	**16**	P		**P**	**07 01 49.7**	**+0.7**
	comp=Z,3.9nm,1.0s,mb4.6,baz=343,slow=9.5,SNR=2.9							
SCHQ	**Schefferville**	**88.21**	**16**	P		**P**	**07 01 49.7**	**+0.7**
TXAR	**Lajitas Array**	**91.39**	**53**	P		**P**	**07 02 05.6**	**+1.0**
	comp=Z,1.5nm,0.5s,mb4.6,baz=304,slow=3.1,SNR=36							
TXAR	**Lajitas Array**	**91.39**	**53**	P		**P**	**07 02 05.6**	**+1.0**
QSPA	**South Pole Qui**	**123.53**	**180**	*e*PKPdf		PKPdf	07 07 55.0	+1.2
SDV	**Santo Domingo**	**127.18**	**43**	PKP		PKPdf	07 08 04.2	+1.8
	comp=Z,3.3nm,0.7s,baz=327,slow=2.2,SNR=6.7							
DBIC	**Dimbokro**	**129.25**	**316**	PKP		PKPdf	07 08 08.2	+1.9
	comp=Z,2.9nm,0.9s,baz=247,slow=3.6,SNR=2.9							
LPAZ	**La Paz**	**147.41**	**65**	PKP2		PKPab	07 08 44.3	-1.2
LPAZ				pmax		pmax		
	comp=Z,4.0nm,0.6s							
LPAZ	**La Paz**	**147.41**	**65**	PKPbc		PKPdf	07 08 44.3	+5.4
	comp=Z,3.8nm,0.6s,baz=7.9,slow=10,SNR=11							
LPAZ	**La Paz**	**147.41**	**65**	*e*PKPbc		PKPdf	07 08 44.2	+5.3
LVC	**Limon Verde**	**150.28**	**76**	PKPbc		PKPdf	07 08 51.2	+7.8
	comp=Z,2.9nm,0.8s,baz=296,slow=5.0,SNR=3.4							
PLCA	**Paso Flores**	**152.91**	**115**	PKPbc		PKPdf	07 08 56.2	+10
	comp=Z,0.9nm,0.8s,baz=232,slow=13,SNR=2.9							

IDC ***19*** *07:29:25.5±1.6,26.04S×130.85E,mb3.7/1,mb1 4.3/5, mb1mx4.1/10,mbtmp4.2/5,ML4.3/3,MS3.4/2,Ms1 3.3/2, ms1mx2.6/11,Error ellipse: s-maj=34.8km s-min=24.3km az=143.0*

AUST ***19*** *07:29:28.1,26.09S×130.87E,h10km,ML4.1*

NEIC ***19*** *07:29:28.0,26.09S×130.87E,h10km,ML4.1(AUST),After AUST.*

ISC 19 07:29:21.8±0.5,25.98S±0.05×130.76E±0.05,h10km,n30, σ1§66/48,mb3.5/1,MS4.0/1,1C-4D,Northern Territory

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASPA	**Alice Springs**	**3.67**	**52**	*e*P		**Pn**	**07 30 22.8**	**+3.0**
ASPA				*e*S		**Sn**	**07 31 06.1**	**+2.5**
ASAR	**Alice Springs**	**3.67**	**52**	Pn		**Pn**	**07 30 22.8**	**+2.9**
	6.1nm,0.3s,baz=229,slow=12,SNR=545							
ASAR				Pg		**Pg**	**07 30 32.4**	**-2.6**
	19nm,0.3s,baz=230,slow=16,SNR=65							
ASAR				Sn		**Sn**	**07 31 06.2**	**+2.5**
	8.8nm,0.3s,baz=235,slow=22,SNR=7.9							
ASAR				Lg			07 31 14.9	
	7.3nm,0.3s,baz=228,slow=25,SNR=66							
FORT	**Forrest**	**5.34**	**206**	*e*P		**Pn**	**07 30 48.4**	**+4.8**
	1μm,0.7s							
FORT				*e*S		**Sn**	**07 31 49.2**	**+3.3**
	3μm,0.3s							
WRA	**Warramunga Arr**	**6.85**	**29**	Pn		**Pn**	**07 31 06.7**	**+1.9**
	8.6nm,0.3s,baz=207,slow=13,SNR=197							
WRA				Sn		**Sn**	**07 32 22.0**	**-1.7**
	6.9nm,0.3s,baz=207,slow=23,SNR=7.2							
WRA				Lg			07 32 56.5	
	3.9nm,0.3s,baz=206,slow=29,SNR=5.5							
WB2	**Warramunga Arr**	**6.86**	**30**	⇑*i*P		**Pn**	**07 31 06.5**	**+1.5**
WB2				*e*S		**Sn**	**07 32 20.6**	**-3.3**
WRAB	**Tennant Creek**	**6.87**	**30**	Pn		**Pn**	**07 31 07.0**	**+1.9**
	260nm,0.5s,SNR=63							
WRAB	**Tennant Creek**	**6.87**	**30**	*e*P		**Pn**	**07 31 06.5**	**+1.4**
	40nm,0.7s							
FITZ	**Fitzroy Crossi**	**9.16**	**328**	*e*P		**P**	**07 31 39.9**	**+2.8**
QIS	**Mount Isa**	**9.76**	**58**	*e*P		**P**	**07 31 45.0**	**-0.3**
	5.9nm,0.6s							
QIS				*e*S		**Sn**	**07 33 29.3**	**-6.7**
	8.3nm,0.4s							
KNA	**Kununurra**	**10.35**	**349**	*e*P		**P**	**07 31 51.6**	**-1.9**
MEEK	**Meekatharra**	**10.92**	**264**	*e*P		**P**	**07 32 01.7**	**+0.4**
MEEK				*e*S		**S**	**07 34 00.0**	**-4.5**
	82nm,0.2s							
MEEK	**Meekatharra**	**10.92**	**264**	*e*P		**P**	**07 32 01.7**	**+0.4**
	82nm,0.2s							
MEEK				*e*S		**S**	**07 34 00.0**	**-4.5**
STKA	**Stephens Creek**	**11.16**	**124**	Pn		**P**	**07 32 04.2**	**-0.3**
	3.7nm,0.3s,baz=304,slow=13,SNR=49							
STKA				Sn		**S**	**07 34 03.6**	**-6.7**
	7.3nm,0.3s,baz=208,slow=20,SNR=21							
STKA				Lg			07 35 09.9	
	baz=214,slow=21,SNR=1.2							
STKA				LR		LR	07 35 50.2	
	comp=Z,61nm,18.2s,baz=185,slow=35							
MBWA	**Marble Bar**	**11.20**	**293**	⇓*i*P		**P**	**07 32 05.4**	**+0.3**
MBWA				*e*S		**S**	**07 34 03.9**	**-7.4**
QLP	**Quilpie**	**12.11**	**96**	⇓*i*P		**P**	**07 32 16.5**	**-0.9**
KLBR	**Kellerberrin**	**12.70**	**241**	*e*P		**P**	**07 32 25.0**	**-0.3**
KLBR				*e*S		**S**	**07 34 40.0**	**-7.9**
	115nm,0.3s							
KLBR	**Kellerberrin**	**12.70**	**241**	*e*P		**P**	**07 32 25.0**	**-0.3**
	115nm,0.3s							
KLBR				*e*S		**S**	**07 34 40.0**	**-7.9**
KAKA	**Kakadu**	**13.29**	**7**	*e*P		**P**	**07 32 30.8**	**-2.4**
MORW	**Morawa**	**13.42**	**253**	⇓*i*P		**P**	**07 32 33.7**	**-1.2**
MORW				*e*S		**S**	**07 34 57.2**	**-8.0**
	83nm,0.3s							
MORW	**Morawa**	**13.42**	**253**	⇓*i*P		**P**	**07 32 33.7**	**-1.2**
	83nm,0.3s							
MORW				*e*S		**S**	**07 34 57.2**	**-8.0**
NWAO	**Narrogin (SRO)**	**13.66**	**236**	*e*P		**P**	**07 32 38.3**	**+0.2**
NWAO				*e*S		**S**	**07 35 03.9**	**-7.0**
	61nm,0.3s							
NWAO	**Narrogin (SRO)**	**13.66**	**236**	Pn		**P**	**07 32 39.0**	**+0.9**
	1.1nm,0.3s,baz=62,slow=11,SNR=10							
NWAO				Sn		**S**	**07 35 05.1**	**-5.9**
	2.9nm,0.3s,baz=211,slow=17,SNR=6.1							
NWAO				Lg			07 36 30.9	
	2.0nm,0.3s,baz=6.5,slow=15,SNR=2.4							
NWAO	**Narrogin (SRO)**	**13.66**	**236**	*e*P		**P**	**07 32 38.3**	**+0.2**
	61nm,0.3s							
NWAO				*e*S		**S**	**07 35 03.9**	**-7.0**
CMSA	**Cobar Meteorol**	**14.21**	**116**	*e*P		**P**	**07 32 44.8**	**-0.6**
CMSA				*e*S		**S**	**07 35 16.5**	**-7.6**
	5.0nm,0.5s							
CMSA	**Cobar Meteorol**	**14.21**	**116**	*e*P		**P**	**07 32 44.8**	**-0.6**
	5.0nm,0.5s							
CMSA				*e*S		**S**	**07 35 16.5**	**-7.6**
ARPS	**Mount Arapiles**	**14.31**	**141**	*e*P		**P**	**07 32 45.4**	**-1.2**
	304nm,0.8s							
RKGY	**Rocky Gully**	**14.68**	**231**	*e*P		**P**	**07 32 53.0**	**+1.6**
SONM	**Songino Array**	**76.67**	**343**	P		**P**	**07 41 18.8**	**+4.2**
	0.3nm,0.5s,mb3.5,baz=165,slow=4.7,SNR=4.0							
KMBO	**Kilima Mbogo**	**92.67**	**267**	LR		LR	08 17 52.9	
	comp=Z,51nm,19.7s,MS4.0,baz=95,slow=31							
TXAR	**Lajitas Array**	**132.03**	**73**	PKP		PKPdf	07 48 42.4	+3.0
	0.3nm,0.9s,baz=284,slow=3.7,SNR=2.9							

MAN 19 07:49:37.0,9.72N×126.15E,h2km,mb4.2,ML3.0,MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCPH	**Surigao**	**0.65**	**275**	*e*P		Pg	07 49 50.6	+0.5
SCPH				*e*S		Sg	07 50 03.2	+4.5
BUTP	**Butuan**	**0.91**	**215**	*e*P		Pb	07 49 54.7	-0.6
BUTP				*e*S		Sg	07 50 11.3	+3.9
MSLP	**Maasin**	**1.33**	**288**	*e*P		Pb	07 50 02.2	-0.2
MSLP				*e*S		Sb	07 50 24.6	+4.8
BUKP	**Musuan**	**2.12**	**210**	*e*P		Pn	07 50 13.6	-0.4
BUKP				*e*S		Sn	07 50 13.6	-28

IGQ 19 07:52:25.1,0.61N×79.29W,h5km±2km,mb4.0,6C-5D, Error ellipse: s-maj=2.3km s-min=1.6km az=176.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LORE	**San Lorenzo**	**0.82**	**33**	P		Pb	07 52 41.7	+0.4
COTA	**Cotacachi**	**0.99**	**106**	⇓P		Pb	07 52 44.5	+0.2
YANA	**Yana**	**1.02**	**135**	⇑P		Pb	07 52 45.3	+0.5
YANA				S		Sb	07 53 00.3	+2.1
PINO	**Pino**	**1.02**	**138**	⇑P		Pb	07 52 45.4	+0.5
TERV	**Terraza Guagua**	**1.03**	**139**	⇑P		Pb	07 52 45.5	+0.5
TERV				S		Sb	07 52 59.9	+1.1
GGP	**Refugio Guagua**	**1.04**	**138**	P		Pb	07 52 45.7	+0.5
JUA2	**San Juan 2**	**1.06**	**140**	⇑P		Pb	07 52 46.0	+0.4
JUA2				S		Sb	07 53 00.9	+1.3
ECEN	**Cerro Negro**	**1.34**	**81**	⇓P		Pb	07 52 49.6	-0.6
CAYA	**Cayambe**	**1.40**	**112**	P		Pn	07 52 52.0	+0.6
CAYA				S		Sb	07 53 12.7	+3.2
CAYR	**Refugio Cayamb**	**1.41**	**115**	⇓P		Pn	07 52 52.6	+1.1
ELAGU	**Cayambe Volc**	**1.44**	**116**	⇑P		Pn	07 52 53.2	+1.3
ELAGU				S		Sb	07 53 12.3	+1.7
NAS1	**Nasa**	**1.48**	**147**	⇓P		Pn	07 52 53.5	+1.1
VC1	**Cotopaxi 1**	**1.52**	**144**	⇑P		Pn	07 52 54.3	+1.2
ANTI	**Antisana**	**1.54**	**133**	⇓P		Pn	07 52 54.5	+1.2
TAMB	**Tambo**	**1.59**	**144**	P		Pn	07 52 55.5	+1.5
PISA	**Pisayambo**	**1.88**	**151**	P		Pn	07 53 00.2	+1.9
IGUA	**Igualata**	**2.18**	**163**	P		Pn	07 53 05.1	+2.6
ULBA	**Ulba**	**2.22**	**157**	P		Pn	07 53 05.8	+2.7
ARRY	**Arrayan**	**2.26**	**158**	P		Pn	07 53 05.6	+2.0
ARRY				S		Sn	07 53 35.8	+3.6

DJA 19 07:54:25.3±0.8,8.64S×115.39E,h107km±6km,MD4.5/3, ML3.9/2,2C-1D,Error ellipse: s-maj=33.3km s-min=8.2km az=5.0,Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RATI	**Rata**	**0.16**	**120**	⇑*i*Pn		P	07 54 40.1	-0.2
	732nm,0.2s							
RATI				*e*Sn		S	07 54 51.0	-0.6
KEDI	**Kedomdong**	**0.73**	**78**	⇑*i*Pn		P	07 54 43.2	-0.6
	306nm,0.2s							
KEDI				*e*Sn		S	07 54 56.4	-1.3
KELI	**Kelakatan**	**0.99**	**295**	*e*Pn		P	07 54 46.2	-0.2
	58nm,0.2s							
KELI				*e*Sn		S	07 55 01.1	-1.1
SRDI	**Scrawed**	**1.25**	**277**	⇓*e*Pn		P	07 54 48.8	-0.6
	361nm,0.2s							
SRDI				*e*Sn		S	07 55 05.9	-1.6

WEL 19 08:53:58.3±0.3,35.28S×177.92E,h33km,ML3.9/7,Error ellipse: s-maj=3.9km s-min=1.7km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.30**	**172**	P*		Pb	08 54 33.9	-5.1
MXZ				S*		Sb	08 55 00.5	-6.8
MXZ				*e*S*		Sb	08 55 00.9	-6.4
URZ	**Urewera**	**3.05**	**192**	*e*P*		Pb	08 54 44.5	-7.3
URZ				S*		Sb	08 55 19.1	-10
URZ				S*		Sb	08 55 19.6	-9.2
MWZ	**Matawai**	**3.07**	**186**	P*		Pb	08 54 44.7	-7.4
MWZ				S*		Sb	08 55 20.2	-9.5
BKZ	**Black Stump Fm**	**4.05**	**196**	*e*P*		Pb	08 54 56.4	-12
TSZ	**Takapari Road**	**5.02**	**197**	PN		Pn	08 55 07.1	-6.3
TSZ				SN		Sn	08 55 57.8	-13
MRZ	**Mangatainoka R**	**5.68**	**198**	PN		Pn	08 55 15.5	-7.3
MRZ				SN		Sn	08 56 13.7	-14
KIW	**Kapiti Island**	**6.06**	**202**	PN		Pn	08 55 20.6	-7.5
NNZ	**Nelson**	**6.92**	**210**	PN		Pn	08 55 32.3	-7.9

MOS ***19*** *09:03:55.4±1.1,51.30N×179.34E,h46km,mb4.6/23,Error ellipse: s-maj=10.6km s-min=7.8km az=78.6*

BJI ***19*** *09:03:55.1,51.58N×178.95E,h30km,mB5.1,mb4.7, Ms4.5,Msz4.3*

NEIC ***19*** *09:03:57.3±0.5,51.23N×179.33E,h52km±3km,mb4.4/27, MS4.0/2,ML4.5(AEIC),Error ellipse: s-maj=7.7km s-min=3.3km az=182.0*

IDC ***19*** *09:03:57.3±3.1,51.27N×179.29E,h48km±29km,mb4.1/22, mb1 4.2/22,mb1mx4.2/25,mbtmp4.3/22,ML4.5/1,Error ellipse: s-maj=19.1km s-min=11.6km az=168.0*

ISC 19 09:03:56.3±0.7,51.27N±0.07×179.33E±0.04,h55km±5km, n170,σ0§91/168,mb4.5/68,MS4.0/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KIMD	**Kanaga Island**	**2.20**	**76**	P		**P**	**09 04 31.2**	**0.0**
KIKV	**Kanaga Island**	**2.27**	**73**	P		**P**	**09 04 32.1**	**-0.1**
KIWB	**Kanaga Island**	**2.27**	**74**	P		**P**	**09 04 32.3**	**+0.1**
KIRH	**Kanaga Island**	**2.32**	**73**	P		**P**	**09 04 32.9**	**0.0**
KIRH				S		**S**	**09 05 02.9**	**+2.7**

ADAG	**Mount Adagdak**	**2.63**	**73**	P		**P**	**09 04 37.5**	**+0.1**
GSTD	**Great Sitkin T**	**2.93**	**73**	P		**P**	**09 04 41.4**	**-0.1**
GSTD				S		**S**	**09 05 17.6**	**+1.9**
GSMY	**Great Sitkin M**	**2.98**	**73**	P		**P**	**09 04 41.9**	**-0.4**
GSTR	**Great Sitkin T**	**2.99**	**72**	P		**P**	**09 04 42.5**	**+0.1**
GSIG	**Igitkin Island**	**3.04**	**74**	P		**P**	**09 04 42.9**	**-0.3**
GSIG				S		**S**	**09 05 19.6**	**+1.1**
SMY	**Shemya**	**3.55**	**296**	P		**P**	**09 04 50.2**	**-0.1**
ATKA	**Atka Island**	**4.13**	**74**	P		**P**	**09 04 57.8**	**-0.7**
FX1	**Attu Island--F**	**4.13**	**295**	P		**P**	**09 04 57.1**	**-1.4**
FX1				S		**S**	**09 05 54.6**	**+8.5**
FX1				pmax		pmax		
	comp=Z,111nm,0.3s							
FX1				smax				
	comp=N,53nm,0.3s							
FX1	**Attu Island--F**	**4.13**	**295**	P		**P**	**09 04 57.1**	**-1.4**
	comp=N,111nm,0.3s,baz=189,slow=5.7,SNR=125							
FX1				S		**S**	**09 05 54.6**	**+8.5**
	comp=N,53nm,0.3s,baz=278,slow=22,SNR=13							
FX1	**Attu Island--F**	**4.13**	**295**	P		**P**	**09 04 58.6**	**+0.1**
SVW2	**Sparrevohn**	**16.97**	**45**	*e*P		**P**	**09 07 52.8**	**+1.9**
KDAK	**Kodiak Island**	**17.47**	**57**	Pn		**P**	**09 07 54.9**	**-2.3**
	comp=N,171nm,0.5s,SNR=35							
KDAK	**Kodiak Island**	**17.47**	**57**	*e*P		**P**	**09 07 55.4**	**-1.8**
BILL	**Bilibino**	**18.00**	**344**	*e*P		**P**	**09 08 05.4**	**+1.7**
BILL				pmax		pmax		
	comp=Z,13nm,0.9s							
BILL				MLR		MLR		
	comp=Z,100nm,14.0s							
BILL	**Bilibino**	**18.00**	**344**	*e*P		**P**	**09 08 05.2**	**+1.5**
	comp=Z,12nm,0.8s							
SPU	**Mount Spurr**	**18.59**	**47**	*e*P		**P**	**09 08 11.3**	**+0.3**
SLKM	**Skilak Lake**	**19.25**	**50**	*e*P		**P**	**09 08 18.4**	**-0.1**
FIB	**Fire Island**	**19.45**	**48**	*e*P		**P**	**09 08 19.7**	**-1.0**
PWA	**Palmer West**	**19.73**	**46**	*e*P		**P**	**09 08 23.0**	**-0.7**
IMA	**Indian Mountai**	**20.16**	**32**	*e*P		**P**	**09 08 28.8**	**+0.5**
SML	**Sawmill**	**20.48**	**47**	P		**P**	**09 08 29.9**	**-1.7**
MCK	**McKinley**	**20.85**	**41**	*e*P		**P**	**09 08 34.7**	**-0.7**
MCK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
MCK	**McKinley**	**20.85**	**41**	*e*P		**P**	**09 08 34.7**	**-0.7**
	comp=Z,6.5nm,0.9s							
EYAK	**Cordova Ski Ar**	**21.42**	**51**	*e*P		**P**	**09 08 39.0**	**-2.1**
DIV	**Divide**	**21.52**	**49**	*e*P		**P**	**09 08 41.4**	**-0.7**
	comp=Z,43nm,0.5s,mb5.1							
COLA	**College**	**21.73**	**39**	*e*P		**P**	**09 08 44.6**	**+0.5**
COLA				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.2							
COLA	**College**	**21.73**	**39**	*e*P		**P**	**09 08 44.6**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.2							
THY	**Trims Highway**	**22.09**	**43**	*e*P		**P**	**09 08 47.4**	**-0.4**
MENT	**Mentasta**	**22.85**	**45**	*e*P		**P**	**09 08 55.6**	**+0.5**
DAWY	**Dawson**	**24.99**	**43**	*e*P		**P**	**09 09 15.2**	**-0.6**
ASAJ	**Asahikawa**	**25.53**	**268**	P		**P**	**09 09 21.5**	**+0.4**
ASAJ				pmax		pmax		
	comp=Z,22nm,0.7s							
ASAJ	**Asahikawa**	**25.53**	**268**	P		**P**	**09 09 21.4**	**+0.4**
	comp=Z,22nm,0.7s,mb4.8,baz=59,slow=11,SNR=14							
INK	**Inuvik**	**28.22**	**35**	P		**P**	**09 09 45.1**	**-0.4**
INK							09 12 57.3	
INK				pmax		pmax		
	comp=Z,2.0nm,0.3s							
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**28.22**	**35**

DUG	**Dugway**	**47.04**	**76**	*eP*		**P**	**09 12 23.8**	**0.0**	
DUG					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.4								
DUG	**Dugway**	**47.04**	**76**	*eP*		**P**	**09 12 23.8**	**0.0**	
	comp=Z,2.9nm,0.6s,mb4.4								
BW06	**Boulder Array**	**47.46**	**71**	*eP*		**P**	**09 12 26.7**	**-0.3**	
	comp=Z,12nm,0.8s,mb4.9								
PDAR	**Pinedale Array**	**47.46**	**71**	P		**P**	**09 12 27.2**	**+0.2**	
	comp=Z,11nm,0.7s,mb4.9,baz=304,slow=3.6,SNR=105								
MSU	**Marysvale**	**48.46**	**77**	*eP*		**P**	**09 12 34.9**	**0.0**	
TMUT	**Trail Mountain**	**48.56**	**76**	*eP*		**P**	**09 12 36.0**	**+0.3**	
SRU	**San Rafael**	**49.09**	**76**	*eP*		**P**	**09 12 39.9**	**+0.1**	
ULM	**Lac du Bonnet**	**50.72**	**56**	P		**P**	**09 12 51.5**	**-0.6**	
	comp=Z,0.8nm,0.3s,mb4.1,baz=317,slow=4.0,SNR=3.3								
ULM	**Lac du Bonnet**	**50.72**	**56**	P		**P**	**09 12 51.5**	**-0.6**	
ISCO	**Idaho Springs**	**51.62**	**72**	*eP*		**P**	**09 12 59.5**	**+0.5**	
ISCO					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2								
ISCO	**Idaho Springs**	**51.62**	**72**	*eP*		**P**	**09 12 59.5**	**+0.5**	
	comp=Z,1.9nm,0.6s,mb4.2								
SDCO	**Great Sand Dun**	**53.01**	**74**	*eP*		**P**	**09 13 09.7**	**+0.3**	
	comp=Z,1.5nm,0.6s,mb4.1								
ZAL	**Zalesovo**	**53.27**	**313**	P		**P**	**09 13 10.7**	**-0.5**	
	comp=Z,2.3nm,0.4s,mb4.5,baz=44,slow=1.9,SNR=4.7								
NVS	**Novosibirsk**	**53.41**	**314**	*i P*		**P**	**09 13 10.8**	**-1.4**	
ANMO	**Albuquerque**	**54.26**	**77**	P		**P**	**09 13 18.4**	**-0.3**	
	comp=Z,0.3nm,0.3s,mb3.7,baz=325,slow=9.9,SNR=4.5								
LZH	**Lanzhou**	**54.28**	**285**	*eP*		**P**	**09 13 18.3**	**-0.5**	
LZH					AP	pP	09 13 30.8	-2.8	
LZH					XP	sP	09 13 36.3	-3.6	
LZH					PP	PP	09 15 19.8	-2.7	
LZH					AMB	AMB			
	comp=Z,23nm,1.3s,mb5.0								
LZH					LR	LR			
	comp=N,175nm,15.0s								
LZH					LR	LR			
	comp=Z,247nm,18.1s,MS4.3								
LZH	**Lanzhou**	**54.28**	**285**	*eP*		**P**	**09 13 18.2**	**-0.6**	
LZH					*PP	pP	09 13 30.7	-2.9	
LZH					*SP	sP	09 13 36.2	-3.7	
LZH							09 15 19.7		
LZH					pmax	pmax			
	comp=Z,23nm,1.3s,mb5.0								
LZH					MLR	MLR			
	comp=Z,250nm,18.1s,MS4.3								
LZH	**Lanzhou**	**54.28**	**285**	*eP*		**P**	**09 13 18.2**	**-0.6**	
	comp=Z,23nm,1.3s,mb5.0								
LZH					pP	pP	09 13 30.7	-2.9	
LZH					sP	sP	09 13 36.2	-3.7	
LZH					PP	PP	09 15 19.7	-2.8	
LZH					LR	LR			
	comp=Z,250nm,18.1s,MS4.3								
GTA	**Gaotai**	**54.51**	**291**	*eP*		**P**	**09 13 20.5**	**0.0**	
GTA					AP	pP	09 13 27.0	-8.3	
GTA					AMB	AMB			
	comp=Z,8.0nm,0.9s,mb4.8								
ENH	**Enshi**	**54.72**	**276**	P		**P**	**09 13 20.0**	**-2.1**	
	comp=Z,17nm,0.8s,mb5.1								
ARCES	**ARCESS Array B**	**57.99**	**349**	P		**P**	**09 13 43.6**	**-1.3**	
	comp=Z,2.1nm,0.5s,mb4.4,baz=26,slow=7.2,SNR=9.1								
KURK	**Kurchatov**	**58.24**	**313**	P		**P**	**09 13 46.4**	**-0.5**	
	comp=Z,110nm,0.4s,SNR=13								
KURK	**Kurchatov**	**58.24**	**313**	*i P*		**P**	**09 13 46.7**	**-0.2**	
KURK					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4								
KURK	**Kurchatov**	**58.24**	**313**	*eP*		**P**	**09 13 46.4**	**-0.5**	
	comp=Z,10nm,0.6s,mb5.0								
WMQ	**Urumqi**	**58.41**	**302**	*eP*		**P**	**09 13 50.0**	**+1.8**	
WMQ					AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.7								
MKAR	**Makanchi Array**	**59.18**	**307**	*i P*		**P**	**09 13 52.6**	**-0.8**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.3s								
CHKZ	**Chkalovo**	**59.64**	**319**	*eP*		**P**	**09 13 56.0**	**-0.5**	
CHKZ					pmax	pmax			
	comp=Z,87nm,1.0s								
CHKZ	**Chkalovo**	**59.64**	**319**	*eP*		**P**	**09 13 56.0**	**-0.5**	
	comp=Z,87nm,1.0s								
TXAR	**Lajitas Array**	**59.83**	**80**	P		**P**	**09 13 57.6**	**-0.6**	
	comp=Z,1.5nm,0.5s,mb4.3,baz=304,slow=5.3,SNR=18								
BVA0	**Borovoye Array**	**60.21**	**319**	*i P*		**P**	**09 14 00.4**	**-0.1**	
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.3								
SCHQ	**Schefferville**	**60.81**	**37**	P		**P**	**09 14 03.6**	**-0.9**	
	comp=Z,1.9nm,0.6s,mb4.4,baz=358,slow=9.9,SNR=13								
MIAR	**Mount Ida**	**62.26**	**69**	*eP*		**P**	**09 14 13.6**	**-1.0**	
MIAR					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.8								
MIAR	**Mount Ida**	**62.26**	**69**	*eP*		**P**	**09 14 13.6**	**-1.0**	
	comp=Z,7.4nm,0.9s,mb4.8								
SADO	**Sadowa**	**62.83**	**52**	P		**P**	**09 14 18.2**	**0.0**	
	comp=Z,2.4nm,0.4s,mb4.7,baz=350,slow=8.4,SNR=3.9								
JOF	**Joensuu**	**63.39**	**344**	*ep*		**P**	**09 14 19.8**	**-1.9**	
	comp=Z,1.9nm,0.5s,mb4.5								
KAF	**Kangasniemi**	**64.95**	**346**	*ep*		**P**	**09 14 29.3**	**-2.4**	
	comp=Z,2.6nm,0.7s,mb4.4								
KAF	**Kangasniemi**	**64.95**	**346**	*eP*		**P**	**09 14 29.3**	**-2.4**	
KAF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.4								
PLAL	**Pickwick Lake**	**65.12**	**65**	*eP*		**P**	**09 14 31.9**	**-1.4**	
	comp=Z,8.9nm,0.6s,mb5.0								
TKM2	**Tokmak 2**	**65.27**	**308**	P		**P**	**09 14 35.2**	**+1.2**	
	SNR=7.3								
USP	**Osepenovka**	**65.55**	**309**	P		**P**	**09 14 36.8**	**+1.0**	
	SNR=10								
FINES	**FINESS Array B**	**65.62**	**346**	P		**P**	**09 14 34.8**	**-1.2**	
	comp=Z,0.7nm,0.3s,mb4.1,baz=14,slow=8.8,SNR=11								
AAK	**Ala-Archa**	**66.03**	**309**	P		**P**	**09 14 39.8**	**+1.0**	
	SNR=8.0								
AAK	**Ala-Archa**	**66.03**	**309**	P		**P**	**09 14 38.8**	**-0.1**	
	comp=Z,44nm,0.5s,SNR=8.5								
AAK	**Ala-Archa**	**66.03**	**309**	*eP*		**P**	**09 14 38.4**	**-0.5**	
AAK					pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.7								
AAK	**Ala-Archa**	**66.03**	**309**	*eP*		**P**	**09 14 38.4**	**-0.5**	
	comp=Z,3.0nm,0.4s,mb4.7								
EKS2	**Erkin-Say**	**66.36**	**309**	P		**P**	**09 14 41.9**	**+1.0**	
	SNR=10								
AML	**Almayashu**	**66.80**	**309**	P		**P**	**09 14 45.6**	**+1.8**	
	SNR=9.7								
NB2	**NORSAR Subarra**	**67.64**	**354**	P		**P**	**09 14 48.0**	**-0.7**	
	comp=Z,2.0nm,0.6s,mb4.3,baz=6.0,slow=6.2								
NB2	**NORSAR Subarra**	**67.64**	**354**	P		**P**	**09 14 48.0**	**-0.7**	
NB2					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
NOA	**NORSAR Array B**	**67.64**	**354**	P		**P**	**09 14 48.5**	**-0.2**	
	comp=Z,3.1nm,0.6s,mb4.5,baz=8.0,slow=6.2,SNR=13								
JIRN	**Jiri**	**70.81**	**290**	*eP*		**P**	**09 15 10.2**	**+1.5**	
	comp=Z,35nm,0.7s,mb5.4								
KKN	**Kakani**	**71.25**	**291**	*eP*		**P**	**09 15 12.3**	**+0.9**	
	comp=Z,26nm,0.5s,mb5.4								
PKI	**Pulchoki**	**71.33**	**291**	*eP*		**P**	**09 15 12.4**	**+0.5**	
GKN	**Gorkha**	**71.46**	**292**	*eP*		**P**	**09 15 13.3**	**+0.6**	
	comp=Z,19nm,0.5s,mb5.3								
DMN	**Daman**	**71.48**	**291**	*eP*		**P**	**09 15 13.8**	**+1.0**	
	comp=Z,12nm,0.3s,mb5.3								
KOLN	**Koldanda**	**72.24**	**292**	*eP*		**P**	**09 15 17.9**	**+0.6**	
	comp=Z,2.8nm,0.4s,mb4.5								
PPT	**Papeete**	**73.75**	**149**	*e*LR		LR	09 37 43.2		
	comp=Z,66nm,22.5s								
BAIF	**Baives**	**78.97**	**357**	*eP*		**P**	**09 15 55.6**	**+0.6**	
	comp=Z,3.1nm,0.5s,mb4.2								
TBI	**Tubuai**	**79.21**	**151**	*e*LR		LR	09 40 10.8		
	comp=Z,86nm,22.8s								
GERES	**GERESS Array B**	**79.51**	**350**	P		**P**	**09 15 58.3**	**+0.3**	
	comp=Z,0.2nm,0.3s,mb3.6,baz=18,slow=4.2,SNR=4.0								
FLN	**La Foliniere**	**80.35**	**360**	*eP*		**P**	**09 16 03.4**	**+0.9**	
	comp=Z,2.0nm,0.3s,mb4.2								
LDF	**La Druitiere**	**80.52**	**360**	*eP*		**P**	**09 16 03.5**	**+0.1**	
	comp=Z,11nm,0.8s,mb4.5								
GRR	**Gorron**	**80.72**	**0**	*eP*		**P**	**09 16 05.1**	**+0.6**	
	comp=Z,7.6nm,0.6s,mb4.5								
ROSF	**Rostrenen**	**80.75**	**2**	*eP*		**P**	**09 16 03.1**	**-1.6**	
	comp=Z,49nm,1.3s,mb5.0								
SGMF	**Saint Gilles**	**80.84**	**1**	*eP*		**P**	**09 16 05.5**	**+0.3**	
	comp=Z,18nm,0.8s,mb4.7								
WRAB	**Tennant Creek**	**81.12**	**222**	*eP*		**P**	**09 16 05.6**	**-1.6**	
WRA	**Warramunga Arr**	**81.13**	**222**	P		**P**	**09 16 05.9**	**-1.3**	
WRA					pmax	pmax			
	comp=Z,2.0nm,0.7s								
WRA	**Warramunga Arr**	**81.13**	**222**	P		**P**	**09 16 05.9**	**-1.3**	
	comp=Z,1.6nm,0.7s,mb4.1,baz=34,slow=6.5,SNR=9.9								
QUIF	**Quistinic**	**81.17**	**2**	*eP*		**P**	**09 16 07.2**	**+0.3**	
SSF	**Saint Saulge**	**81.98**	**357**	*eP*		**P**	**09 16 11.4**	**+0.3**	
	comp=Z,2.9nm,0.6s,mb4.1								
AVF	**Avril sur Loir**	**82.26**	**357**	*eP*		**P**	**09 16 11.1**	**-1.4**	
SMF	**Signal de Mont**	**82.39**	**357**	*eP*		**P**	**09 16 12.7**	**-0.5**	
MFF	**Saint Martin d**	**82.51**	**360**	*eP*		**P**	**09 16 14.4**	**+0.6**	
ORIF	**Oris-en-Rattie**	**84.03**	**355**	*eP*		**P**	**09 16 22.2**	**+0.8**	
MBDF	**Montbardon**	**84.17**	**355**	*eP*		**P**	**09 16 23.3**	**+1.1**	
	comp=Z,3.1nm,0.6s,mb4.3								
BRTR	**Keskin Array B**	**84.55**	**334**	P		**P**	**09 16 26.0**	**+1.8**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.7s								
BRTR	**Keskin Array B**	**84.55**	**334**	P		**P**	**09 16 25.9**	**+1.8**	
	comp=Z,2.5nm,0.7s,mb4.4,baz=61,slow=2.7,SNR=9.6								
ASAR	**Alice Springs**	**84.62**	**221**	P		**P**	**09 16 24.6**	**-0.3**	
	comp=Z,1.1nm,0.8s,mb4.1,baz=26,slow=5.1,SNR=12								
SMRF	**Simiane la Rot**	**84.98**	**355**	*eP*		**P**	**09 16 27.0**	**+0.8**	
	comp=Z,13nm,1.1s,mb4.7								
FRF	**La Foret Royal**	**85.34**	**355**	*eP*		**P**	**09 16 28.8**	**+0.8**	
	comp=Z,5.1nm,0.8s,mb4.4								
LMR	**La Mourre**	**85.57**	**355**	*eP*		**P**	**09 16 30.1**	**+0.9**	
SJPF	**Ste Jean**	**86.00**	**0**	*eP*		**P**	**09 16 31.8**	**+0.6**	
ETSF	**Etsaut**	**86.21**	**360**	*eP*		**P**	**09 16 33.4**	**+1.1**	
STKA	**Stephens Creek**	**89.21**	**211**	P		**P**	**09 16 47.1**	**+0.1**	
	comp=Z,1.4nm,0.9s,mb4.3,slow=11,SNR=3.4								
STKA	**Stephens Creek**	**89.21**	**211**	*eP*		**P**	**09 16 47.0**	**0.0**	
SJG	**San Juan**	**90.43**	**60**	P		**P**	**09 16 54.5**	**+1.5**	
SJG					pmax	pmax			
	comp=Z,6.0nm,0.7s								
SJG	**San Juan**	**90.43**	**60**	P		**P**	**09 16 54.5**	**+1.5**	
	comp=Z,6.3nm,0.7s,mb5.0,baz=287,slow=23,SNR=3.3								
DBIC	**Dimbokro**	**122.18**	**5**	PKIKP		PKPdf	09 22 46.1	+1.0	
DBIC					pmax	pmax			
	comp=Z,1.0nm,0.4s								
DBIC	**Dimbokro**	**122.18**	**5**	PKP		PKPdf	09 22 46.1	+1.0	
	comp=Z,1.0nm,0.4s,baz=36,slow=5.0,SNR=4.6								
PLCA	**Paso Flores**	**132.06**	**106**	PKIKP		PKPdf	09 23 05.3	+1.9	
PLCA					pmax	pmax			
	comp=Z,1.0nm,0.8s								
PLCA	**Paso Flores**	**132.06**	**106**	PKP		PKPdf	09 23 05.3	+1.9	
	comp=Z,0.8nm,0.8s,baz=132,slow=8.0,SNR=2.7								
MAW	**Mawson**	**145.68**	**217**	PKP2		PKPab	09 23 29.5	-0.3	
MAW					pmax	pmax			
	comp=Z,7.0nm,1.1s								
MAW	**Mawson**	**145.68**	**217**	PKPbc		PKPbc	09 23 29.5	+1.8	
	comp=Z,5.5nm,1.1s,baz=34,slow=9.6,SNR=2.5								
LBTB	**Lobatse**	**146.96**	**313**	*e*PKPdf		PKPdf	09 23 32.9	+2.5	
LBTB				*e*PKPbc		PKPbc	09 23 35.0	+3.0	

*CASC **19** 09:04:28.0±2.3, 13.50N×91.53W, h54km±83km, MD4.0, ML4.3, mb4.0(NEIC)*
*IDC **19** 09:04:33.3±3.7, 13.89N×90.97W, h64km±44km, mb3.6/10, mb1 3.8/12, mb1mx3.6/23, mbtmp3.8/12, ML3.7/2, MS3.1/1, Ms1 3.1/1, ms1mx2.2/23, Error ellipse: s-maj=53.3km s-min=20.9km az=31.0*
*NEIC **19** 09:04:35.2±1.0, 13.85N×91.01W, h87km±9km, mb4.0/1, Error ellipse: s-maj=19.2km s-min=8.7km az=210.0*

ISC 19 09:04:28.6±1.2, 13.49N±0.09×91.49W±0.06, h56km±8km, n36,σ1°07/45, mb3.9/10, 5C-5D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JAT	**Jato**	**0.84**	**350**	⇓*eP*		**P**	**09 04 43.9**	**-0.6**
JAT				*eS*		**S**	**09 04 55.5**	**-0.8**
JAT				AML		AML	09 05 01.6	
	comp=N,9μm,0.3s							
FUG	**Fuego 3**	**1.14**	**33**	⇑*eP*		**P**	**09 04 48.4**	**-0.2**
IXG	**Ixpaco**	**1.22**	**56**	⇑*eP*		**P**	**09 04 48.3**	**-1.4**
IXG				⇑*eS*		**S**	**09 05 08.5**	**+3.2**
IXG				AML		AML	09 05 26.2	
	comp=N,59μm,0.5s							
PCG	**Pacaya**	**1.24**	**44**	*eP*		**P**	**09 04 49.0**	**-1.1**
GCG	**Guatemala City**	**1.44**	**40**	⇓*eP*		**P**	**09 04 53.2**	**+0.4**
RTR	**El Retiro**	**1.84**	**77**	⇓*eP*		**P**	**09 04 58.3**	**-0.1**
RTR				*eS*		**S**	**09 05 21.4**	**+0.8**
SBLS	**San Blas**	**1.85**	**79**	*eP*		**P**	**09 04 57.9**	**-0.6**
SBLS				*eS*		**S**	**09 05 21.8**	**+1.0**
RBDL	**Robledal**	**1.86**	**70**	⇑*eP*		**P**	**09 04 58.9**	**+0.2**
SNJE	**San Jose**	**1.87**	**78**	*eP*		**P**	**09 04 58.6**	**-0.2**
BOQS	**Boqueron**	**2.17**	**83**	⇓*eP*		**P**	**09 05 02.9**	**-0.2**
BOQS				*eS*		**S**	**09 05 29.4**	**+0.8**
SNET	**Serv Nac Est T**	**2.21**	**85**	*eP*		**P**	**09 05 03.2**	**-0.5**
SNET				*eS*		**S**	**09 05 29.9**	**+0.2**
SNET				*i*			09 05 36.5	
	comp=Z,903nm,0.2s							
MTO2	**Montecristo 2**	**2.26**	**66**	*eP*		**P**	**09 05 05.0**	**+0.6**
LFRS	**El Faro**	**2.37**	**86**	⇑*eP*		**P**	**09 05 05.8**	**-0.1**
LFRS				*eS*		**S**	**09 05 34.5**	**+0.7**
LCBS	**La Ceiba**	**2.45**	**86**	*eP*		**P**	**09 05 07.1**	**0.0**
SNVI	**San Vicente**	**2.58**	**87**	*eP*		**P**	**09 05 09.2**	**+0.2**
SNVI				*eS*		**S**	**09 05 39.3**	**0.0**
CCIG	**Comitan**	**2.84**	**347**	*eP*		**P**	**09 05 14.2**	**+1.5**
CNCH	**Conchagua**	**3.57**	**93**	⇓*eP*		**P**	**09 05 22.3**	**-0.6**
OXX	**Oaxaca**	**6.18**	**306**	*eP*		**P**	**09 06 07.5**	**+8.1**
VHO	**Vista Hermosa**	**6.18**	**306**	*eP*		**P**	**09 06 08.1**	**+8.6**
JTS	**JuntasAbangare**	**7.15**	**116**	P		**P**	**09 06 13.1**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=312,slow=18,SNR=7.6							
JTS					S	**S**	**09 07 27.4**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=268,slow=22,SNR=2.1							
JTS					LR	LR	09 09 05.8	
	comp=Z,155nm,20.2s,baz=344,slow=40							
TEIG	**Tepich**	**7.37**	**24**	*eP*		**P**	**09 06 14.7**	**-1.4**
	comp=Z,59nm,0.5s							
TEIG				*e*			09 06 22.5	
TXAR	**Lajitas Array**	**19.39**	**326**	P		**P**	**09 08 53.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=22							
SDV	**Santo Domingo**	**20.96**	**100**	P		**P**	**09 09 07.6**	**-1.7**
	comp=Z,1.3nm,0.5s,baz=310,slow=9.0,SNR=3.5							
CLNB	**Carlsbad**	**21.86**	**331**	P		**P**	**09 09 19.4**	**+1.2**
MNTX	**Cornudas Mount**	**22.16**	**327**	*eP*		**P**	**09 09 22.1**	**+1.0**
	comp=Z,4.8nm,0.7s,mb4.0							
ANMO	**Albuquerque**	**25.29**	**330**	P		**P**	**09 09 53.2**	**+1.7**
	comp=Z,0.5nm,0.5s,mb3.3,baz=168,slow=12,SNR=3.7							
SADO	**Sadowa**	**32.91**	**16**	P		**P**	**09 10 57.5**	**-2.2**
	comp=Z,1.6nm,0.4s,mb4.3,baz=252,slow=5.9,SNR=3.7							
SADO	**Sadowa**	**32.91**	**16**	P		**P**	**09 10 57.5**	**-2.2**
PDAR	**Pinedale Array**	**33.09**	**335**	P		**P**	**09 11 01.6**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=113,slow=6.9,SNR=3.1							
NVAR	**Mina Array Bea**	**34.38**	**321**	P		**P**	**09 11 14.6**	**+2.3**
	comp=Z,1.5nm,0.8s,mb4.0,baz=121,slow=9.9,SNR=10							
ULM	**Lac du Bonnet**	**36.83**	**355**	P		**P**	**09 11 31.4**	**-1.6**
	comp=Z,1.0nm,0.5s,mb3.9,baz=172,slow=6.1,SNR=3.3							
SCHQ	**Schefferville**	**45.53**	**20**	P		**P**	**09 12 42.2**	**-2.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=70,slow=8.5,SNR=3.5							
YKA	**Yellowknife Ar**	**51.63**	**347**	P		**P**	**09 13 30.4**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=148,slow=7.7,SNR=15							
YKA					PcP	PcP	09 14 44.9	+0.3
	comp=Z,0.4nm,0.6s,baz=150,slow=3.6,SNR=6.7							
YKA	**Yellowknife Ar**	**51.63**	**347**	P		**P**	**09 13 30.4**	**-1.1**
YKA					PcP	PcP	09 14 44.9	+0.2
DLBC	**Dease Lake**	**53.32**	**336**	P		**P**	**09 13 45.9**	**+1.8**
	comp=Z,2.6nm,0.7s,mb4.2,baz=289,slow=3.9,SNR=5.3							
INK	**Inuvik**	**61.06**	**343**	P		**P**	**09 14 38.0**	**-0.8**
	comp=Z,1.1nm,0.6s,mb4.2,baz=136,slow=7.1,SNR=5.8							

IDC 19 09:10:39.1±10.0, 30.31S×176.96W, h62km±93km, mb3.5/4, mb1 3.7/5, mb1mx3.5/14, mbtmp3.8/5, ML3.2/1, MS3.6/1, Ms1 3.6/1, ms1mx3.0/12, Error ellipse: s-maj=73.7km s-min=54.0km az=169.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
URZ	**Urewera**	**9.32**	**210**	P		P	09 12 50.7	-2.5
	0.3nm,0.3s,baz=130,slow=16,SNR=2.7							
URZ				S		S	09 14 34.3	-3.2
	0.5nm,0.3s,baz=133,slow=18,SNR=7.3							
CTA	**Charters Tower**	**34.68**	**278**	P		P	09 17 23.7	-1.2
	1.9nm,0.8s,baz=299,slow=10,SNR=2.8							
STKA	**Stephens Creek**	**35.38**	**257**	P		P	09 17 29.9	-0.9
	0.4nm,0.3s,baz=9.5,slow=24,SNR=3.0							
ASAR	**Alice Springs**	**44.02**	**266**	P		P	09 18 40.6	-1.8
	0.3nm,0.4s,baz=102,slow=7.4,SNR=4.9							
ASAR				LR		LR	09 35 44.0	
	comp=Z,63nm,18.3s,baz=112,slow=34							
WRA	**Warramunga Arr**	**45.00**	**272**	P		P	09 18 47.1	-3.2
	0.8nm,0.6s,baz=111,slow=7.6,SNR=5.6							
FINES	**FINESS Array B**	**145.37**	**341**	PKPbc		PKPbc	09 30 08.4	-1.4
	1.8nm,0.7s,baz=72,slow=4.4,SNR=12							

BJI 19 09:11:24.5, 34.75N×110.60E, h17km, mb4.0, ML3.1, Southeastern China

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

XAN	**Xi'an**	**1.56**	**243**	P		Pn	09 11 50.0	-1.7	
XAN				PG		Pn	09 11 51.3	-0.4	
XAN				SG		Sn	09 12 10.6	-1.0	
XAN				Smax					
	comp=N,119nm,0.7s								
XAN				Smax					
	comp=E,56nm,0.7s								

*TIR **19** 09:53:15.5, 42.44N×19.77E, h14km*
*CSEM **19** 09:53:15.1±0.3, 42.35N×19.94E, h12km, ML2.5, Error ellipse: s-maj=4.6km s-min=3.7km az=134.0*
*NEIC **19** 09:53:16.4, 42.40N×19.83E, h10km, ML2.5(PDG), After PDG.*
*PDG **19** 09:53:16.4±0.2, 42.40N×19.83E, h10km±3km*

ISC 19 09:53:16.2±0.5, 42.40N±0.02×19.86E±0.04, h2km±7km, n18,σ1°09/37, 7C-5D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PVY	**Plav**	**0.22**	**23**	⇓*i*Pg		**Pg**	**09 53 20.5**	**0.0**
PVY				*e*Sg		**Sg**	**09 53 24.8**	**+1.3**
TTG	**Podgorica**	**0.44**	**274**	⇑*i*Pg		**Pg**	**09 53 23.7**	**-1.4**
TTG				*e*Sg		**Sg**	**09 53 30.4**	**-0.6**
IVA	**Berane**	**0.47**	**4**	⇑*i*Pg		**Pg**	**09 53 25.6**	**-0.2**
IVA				*e*Sg		**Sg**	**09 53 33.1**	**+1.0**
ULC	**Ulcinj**	**0.63**	**226**	⇑*i*Pg		**Pg**	**09 53 27.9**	**-0.8**
ULC				*e*Sg		**Sg**	**09 53 37.7**	**+0.6**
BUM	**Brajici-Budva**	**0.72**	**263**	⇑*i*Pg		**Pg**	**09 53 29.1**	**-1.5**
BUM				*e*Sg		**Sg**	**09 53 40.7**	**+0.5**
NKY	**Niksic**	**0.76**	**304**	⇓*i*Pg		**Pg**	**09 53 29.6**	**-1.8**
NKY				*e*Sg		**Sg**	**09 53 41.5**	**+0.1**
NKY	**Niksic**	**0.76**	**304**	⇓*i*Pg		**Pg**	**09 53 29.6**	**-1.8**
NKY				*e*Sg		**Sg**	**09 53 41.5**	**0.0**
QSH	**Qafa e Shtames**	**0.88**	**178**	*i* Pg		**Pg**	**09 53 34.0**	**+0.3**
QSH				*i* Sg		**Sg**	**09 53 47.0**	**+1.6**
PLE	**Pljevlja**	**0.99**	**340**	⇑*i*Pg		**Pg**	**09 53 34.5**	**-1.5**
PLE				*e*Sg		**Sg**	**09 53 50.2**	**+0.9**
HCY	**Herceg Novi**	**1.01**	**273**	*e*Pg		**Pg**	**09 53 34.6**	**-1.7**
HCY				*e*Sg		**Sg**	**09 53 50.1**	**+0.4**
TIR	**Tirane**	**1.05**	**180**	*i* Pg		**Pg**	**09 53 37.5**	**+0.3**
TIR				*i* Sg		**Sg**	**09 53 52.5**	**+1.4**
UPM	**Unac-Piva**	**1.06**	**319**	⇑*i*Pg		**Pg**	**09 53 36.4**	**-1.1**
UPM				*e*Sg		**Sg**	**09 53 52.5**	**+0.8**
BRY	**Bratogost**	**1.09**	**298**	⇓*i*Pg		**Pg**	**09 53 36.4**	**-1.6**
BRY				*e*Sg		**Sg**	**09 53 53.2**	**+0.7**
BRY	**Bratogost**	**1.09**	**298**	⇓*i*Pg		**Pg**	**09 53 36.4**	**-1.6**
BRY				*e*Sg		**Sg**	**09 53 53.2**	**+0.6**
SKO	**Skopje**	**1.25**	**109**	*e*Pn		**Pn**	**09 53 39.2**	**-1.5**
BBLS	**Bajina Basta -**	**1.51**	**348

DJA 19 10:40:01.2±0.9, 8.45S×115.74E, h197km±6km, MD4.6/4, ML4.4/1, Error ellipse: s-maj=55.1km s-min=12.9km az=5.0
NEIC 19 10:40:10.3±2.7, 8.88S×116.10E, h229km±29km, mb3.9/4, Error ellipse: s-maj=26.3km s-min=17.3km az=63.0
ISC 19 10:40:01.1±0.9, 8.4S±0.2×115.75E±0.09, h190km±6km, n16, σ0s60/21, mb3.8/7, 3C-5D, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.36**	**100**	⇓*i*Pn		**P**	**10 40 27.5**	**+0.5**
	338nm,0.2s							
KEDI				⇓*i*Sn		**S**	**10 40 45.9**	**-1.0**
RATI	**Rata**	**0.37**	**216**	⇑*i*Pn		**P**	**10 40 27.8**	**+0.8**
	1μm,0.2s							
RATI				⇓*i*Sn		**S**	**10 40 47.2**	**+0.3**
KELI	**Kelakatan**	**1.27**	**279**	⇑*i*Pn		**S**	**10 40 33.1**	**+0.8**
KELI				⇓*i*Sn		**S**	**10 40 56.3**	**0.0**
SRDI	**Scrawed**	**1.59**	**268**	⇑*i*Pn		**P**	**10 40 35.2**	**0.0**
	284nm,0.2s							
SRDI				⇓*i*Sn		**S**	**10 41 00.5**	**-1.0**
MBWA	**Marble Bar**	**13.23**	**164**	*e*P		**P**	**10 43 02.9**	**+0.2**
	3.2nm,0.6s							
FITZ	**Fitzroy Crossi**	**13.60**	**136**	*e*P		**P**	**10 43 08.4**	**+0.9**
	3.6nm,0.9s							
FITZ				*e*S		**S**	**10 45 34.1**	**-0.3**
WRA	**Warramunga Arr**	**21.32**	**124**	P		**P**	**10 44 33.6**	**-0.3**
	0.8nm,0.3s,mb3.5,baz=299,slow=12,SNR=20							
WRA				ScP			10 51 47.2	
	0.6nm,1.1s,baz=272,slow=1.3,SNR=5.2							
WRAB	**Tennant Creek**	**21.33**	**124**	*e*P		**P**	**10 44 33.6**	**-0.3**
	2.5nm,0.7s,mb3.6							
WB2	**Warramunga Arr**	**21.33**	**124**	*e*P		**P**	**10 44 33.3**	**-0.7**
ASPA	**Alice Springs**	**23.06**	**133**	*e*P		**P**	**10 44 51.8**	**+0.9**
ASAR	**Alice Springs**	**23.06**	**133**	P		**P**	**10 44 51.0**	**+0.1**
	2.8nm,0.5s,mb3.9,baz=309,slow=9.0,SNR=46							
NWAO	**Narrogin (SRO)**	**24.42**	**177**	P		**P**	**10 45 03.5**	**-0.2**
	2.5nm,0.5s,mb4.0,baz=329,slow=19,SNR=4.3							
STKA	**Stephens Creek**	**33.48**	**138**	P		**P**	**10 46 23.9**	**-0.5**
	0.9nm,0.5s,mb3.8,baz=319,slow=15,SNR=3.5							
STKA	**Stephens Creek**	**33.48**	**138**	P		**P**	**10 46 23.9**	**-0.5**
ENH	**Enshi**	**38.94**	**351**	*e*P		**P**	**10 47 18.4**	**+8.1**
	5.9nm,0.6s,mb4.4							
SONM	**Songino Array**	**56.62**	**352**	P		**P**	**10 49 21.9**	**-4.6**
	0.6nm,0.8s,mb3.5,baz=182,slow=8.3,SNR=6.9							

ISK 19 10:45:10.8, 39.40N×40.83E, h13km, MD3.5
NEIC 19 10:45:10.6, 39.34N×40.84E, h28km, ML3.5(ISK), After ISK.
CSEM 19 10:45:10.8±0.1, 39.38N×40.80E, h20km, ML3.5, Error ellipse: s-maj=1.9km s-min=1.3km az=109.0
ISC 19 10:45:11.5±0.5, 39.41N±0.03×40.85E±0.05, h13km, n33, σ1s34/43, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.59**	**117**	Pg		**Pg**	**10 45 23.2**	**-0.4**
VRT				SG		**Sg**	**10 45 31.9**	**+0.2**
VRT	**Varto**	**0.59**	**117**	Pg		**Pg**	**10 45 23.3**	**-0.3**
VRT				Sg		**Sg**	**10 45 31.3**	**-0.4**
VRT	**Varto**	**0.59**	**117**	Pg		**Pg**	**10 45 23.3**	**-0.3**
VRT				*e*Sg		**Sg**	**10 45 31.9**	**+0.2**
BINT	**Bingol**	**0.60**	**208**	*i* PG		**Pg**	**10 45 22.4**	**-1.3**
BINT				*i* SG		**Sg**	**10 45 31.4**	**-0.4**
BINT	**Bingol**	**0.60**	**208**	Pg		**Pg**	**10 45 22.5**	**-1.2**
BINT				Sg		**Sg**	**10 45 29.5**	**-2.3**
EZM	**Erzurum**	**0.64**	**38**	*i* PG		**Pg**	**10 45 23.9**	**-0.6**
EZM	**Erzurum**	**0.64**	**38**	Pg		**Pg**	**10 45 24.0**	**-0.5**
ERZM	**Erzurum**	**0.64**	**38**	*i* P		**Pb**	**10 45 24.1**	**0.0**
ERZM				*i* S		**Sb**	**10 45 34.3**	**+1.7**
EZC	**Erzincan**	**0.87**	**294**	PN		**Pn**	**10 45 33.0**	**+3.7**
BTMT	**Batman**	**1.31**	**157**	PN		**Pn**	**10 45 35.4**	**-0.2**
GUMT	**Gumushane**	**1.49**	**315**	*e*PN		**Pn**	**10 45 38.6**	**+0.4**
GUMT	**Gumushane**	**1.49**	**315**	Pn		**Pn**	**10 45 37.3**	**-0.8**
GUMT	**Gumushane**	**1.49**	**315**	Pn		**Pn**	**10 45 37.3**	**-0.9**
BEST	**Besiri**	**1.55**	**168**	*i* P		**Pn**	**10 45 40.3**	**+1.4**
BEST				*i* S		**Sb**	**10 46 01.3**	**+2.3**
DIY	**Diyarbakir**	**1.58**	**198**	*e*PN		**Pn**	**10 45 39.7**	**+0.2**
DIY	**Diyarbakir**	**1.58**	**198**	Pn		**Pn**	**10 45 36.8**	**-2.7**
DIY	**Diyarbakir**	**1.58**	**198**	Pn		**Pn**	**10 45 36.8**	**-2.7**
ELZG	**Elazig**	**1.71**	**239**	*i* P		**Pn**	**10 45 43.1**	**+1.7**
ELZG				*i* S		**Sn**	**10 46 11.8**	**+8.6**
BCA	**Borcka**	**2.12**	**16**	*e*PN		**Pn**	**10 45 46.9**	**-0.3**
BCA	**Borcka**	**2.12**	**16**	Pn		**Pn**	**10 45 46.0**	**-1.2**
VANB	**Van**	**2.14**	**111**	*e*PN		**Pn**	**10 45 47.5**	**+0.1**
VANB	**Van**	**2.14**	**111**	Pn		**Pn**	**10 45 45.1**	**-2.3**
TVAN	**Van**	**2.18**	**113**	*i* P		**Pn**	**10 45 52.8**	**+4.8**
TVAN				*i* S		**Sn**	**10 46 25.9**	**+11**
MYA	**Malataya**	**2.18**	**241**	*e*PN		**Pn**	**10 45 48.1**	**+0.1**
MYA	**Malataya**	**2.18**	**241**	Pn		**Pn**	**10 45 45.5**	**-2.5**
MYA	**Malataya**	**2.18**	**241**	Pn		**Pn**	**10 45 45.5**	**-2.5**
URFA	**Urfa**	**2.53**	**220**	*e*PN		**Pn**	**10 45 52.8**	**-0.2**
HKR	**Hakkari**	**2.91**	**128**	*e*PN		**Pn**	**10 45 58.0**	**-0.5**
HKR	**Hakkari**	**2.91**	**128**	Pn		**Pn**	**10 45 56.3**	**-2.2**
GNI	**Garni**	**3.09**	**75**	*e*PN		**Pn**	**10 46 01.5**	**+0.5**
GNI	**Garni**	**3.09**	**75**	Pn		**Pn**	**10 45 59.6**	**-1.5**
GZT	**Gaziantep**	**3.29**	**233**	*i* P		**Pn**	**10 46 13.6**	**+10**
GZT				*i* S		**Sn**	**10 46 55.2**	**+12**
COBT	**Iskenderun**	**4.63**	**233**	*i* P		**Pn**	**10 46 40.7**	**+18**
COBT				*i* S		Sn	10 47 42.6	+25

NEIC 19 10:54:41.0±0.4, 28.13N×84.28E, h10km, mb4.4/15, Error ellipse: s-maj=9.1km s-min=8.2km az=209.0
NEIC Felt at Kathmandu.
LDG 19 10:54:42.1±0.2, 28.13N×84.24E, h33km, Mb4.4/10, Error ellipse: s-maj=13.4km s-min=6.4km az=25.0
BJI 19 10:54:42.4, 28.10N×84.30E, h10km, mb3.9, ML3.6
DMN 19 10:54:43.2±0.6, 28.27N×84.39E, h44km±3km, ML5.6/5, Error ellipse: s-maj=20.2km s-min=5.0km az=3.0
NDI 19 10:54:46.4, 27.99N×84.16E, h13km, MD4.5, ML4.3, mb4.4(NEIC)
IDC 19 10:54:52.4±7.2, 28.18N×84.39E, h106km±65km, mb3.7/18, mb1 3.8/18, mb1mx3.8/21, mbtmp4.1/18, MS3.7/1, Ms1 3.7/1, ms1mx2.9/18, Error ellipse: s-maj=19.5km s-min=13.1km az=43.0
ISC 19 10:54:44.5±0.3, 28.02N±0.03×84.17E±0.03, h54km±4km, n93, σ1s31/108, mb4.2/33, MS3.7/1, 1C, Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GKN	**Gorkha**	**0.41**	**92**	*e*Pg		**P**	**10 54 53.6**	**-1.6**
GKN				*e*Sg		**S**	**10 55 00.6**	**-2.3**
	74μm,0.3s							
KOLN	**Koldanda**	**0.56**	**244**	*e*Pg		**P**	**10 55 00.7**	**+3.9**
KOLN	**Koldanda**	**0.56**	**244**	*e*Sg		**S**	**10 55 14.1**	**+8.3**
	9μm,0.3s							
DMN	**Daman**	**0.93**	**116**	*e*Pg		**P**	**10 55 01.8**	**+0.3**
DMN	**Daman**	**0.93**	**116**	*e*Sg		**S**	**10 55 16.5**	**+2.4**
	31μm,0.3s							
KKN	**Kakani**	**1.01**	**103**	*e*Pg		**P**	**10 55 01.8**	**-0.9**
KKN	**Kakani**	**1.01**	**103**	*e*Sg		**S**	**10 55 16.3**	**+0.2**
	32μm,0.3s							
PKI	**Pulchoki**	**1.19**	**112**	*e*Pg		**P**	**10 55 05.3**	**+0.2**
PKI	**Pulchoki**	**1.19**	**112**	*e*Sg		**S**	**10 55 22.0**	**+1.6**
	9μm,0.2s							
JIRN	**Jiri**	**1.82**	**101**	*e*Pn		**P**	**10 55 14.5**	**+0.4**
JIRN	**Jiri**	**1.82**	**101**	*e*Sn		**S**	**10 55 36.4**	**+0.4**
	15μm,0.2s							
ALBI	**Allahabad**	**3.43**	**219**	*e*P		**P**	**10 55 39.5**	**+2.7**
ALBI				*e*			10 55 57.5	
LGTI	**Lohaghat**	**3.73**	**293**	*e*PN		**P**	**10 55 46.5**	**+5.5**
LGTI				*e*			10 56 41.3	
PTH	**Pithoragarh**	**3.79**	**295**	*e*PN		**P**	**10 55 45.2**	**+3.3**
PTH				*e*			10 56 40.5	
GTK	**Gangtok**	**4.00**	**99**	*e*PN		**P**	**10 55 33.0**	**-12**
GTK				*e*SN		**S**	**10 56 18.0**	**-13**
BOK	**Bokaro**	**4.48**	**159**	*e*P		**P**	**10 55 54.3**	**+2.7**
BOK				*e*S		**S**	**10 56 43.0**	**0.0**
BOK				*e*			10 57 11.3	
	comp=E,667nm,0.5s							
BOK				*e*			10 57 12.0	
	comp=N,525nm,0.4s							
AGRA	**Agra**	**5.58**	**263**	*e*		**P**	**10 56 18.5**	**+12**
AGRA				*e*			10 57 37.2	
JHNI	**Jhansi**	**5.64**	**244**	*e*P		**P**	**10 56 12.0**	**+4.3**
JHNI				*e*S		**S**	**10 57 11.0**	**-1.0**
DDI	**Dehra Dun**	**5.82**	**295**	*e*		**P**	**10 56 12.0**	**+1.8**
DDI				*e*			10 57 16.0	
BLSP	**Bilaspur**	**6.15**	**198**	*e*P		**P**	**10 56 17.1**	**+2.3**
BLSP				*e*S		**S**	**10 57 21.8**	**-2.9**
BLSP				*e*			10 58 12.9	
	comp=N,350nm,0.3s							
BLSP				*e*			10 58 14.1	
	comp=E,369nm,0.5s							
NDI	**New Delhi**	**6.16**	**278**	*e*P		**P**	**10 56 18.0**	**+3.0**
NDI				*e*S		**S**	**10 57 23.0**	**-2.0**
NDI				*e*			10 57 56.0	
KLP	**Kalpa**	**6.22**	**306**	*e*P		**P**	**10 56 14.0**	**-1.9**
KLP				*e*S		**S**	**10 57 21.0**	**-5.6**
AYAN	**Aya Nagar**	**6.23**	**276**	*e*P		**P**	**10 56 17.6**	**+1.6**
SONA	**Sohna**	**6.26**	**274**	*e*P		**P**	**10 56 18.2**	**+1.8**
SONA				*e*S		**S**	**10 57 25.5**	**-1.9**
LSA	**Lhasa**	**6.35**	**73**	P		**P**	**10 56 16.0**	**-1.6**
LSA				S		**S**	**10 57 22.5**	**-7.1**
LSA				Smax				
	comp=N,40nm,0.7s							
LSA				Smax				
	comp=E,40nm,0.6s							
LSA	**Lhasa**	**6.35**	**73**	*e*P		**P**	**10 56 14.8**	**-2.9**
	comp=E,36nm,0.5s							
SMLA	**Simla**	**6.84**	**299**	*i* P		**P**	**10 56 23.8**	**-0.8**
SMLA				*i* S		**S**	**10 57 36.9**	**-4.9**
SDNR	**Sundarnagar**	**7.16**	**301**	*e*P		**P**	**10 56 30.1**	**+1.2**
SDNR				*e*S		**S**	**10 57 51.5**	**+1.9**
KHET	**Khetri**	**7.39**	**272**	*e*P		**P**	**10 56 33.0**	**+0.8**
KHET				*e*S		**S**	**10 57 51.5**	**-4.0**
BHK	**Bhakra**	**7.54**	**299**	*e*		**S**	**10 57 57.3**	**-2.0**
BHK				*e*			10 58 51.1	
BHPL	**Bhopal**	**7.72**	**233**	*e*P		**P**	**10 56 37.2**	**+0.4**
BHPL				*e*S		**S**	**10 57 58.5**	**-5.2**
BHPL				*e*			10 59 00.4	
	comp=E,309nm,0.6s							
BHPL				*e*			10 59 01.0	
	comp=N,398nm,0.7s							
BWNR	**Bhubaneshwar**	**7.83**	**169**	*e*		**S**	**10 58 00.0**	**-6.4**
BWNR				*e*			10 58 43.0	
PONG	**Pong**	**8.13**	**301**	*e*P		**P**	**10 56 45.0**	**+2.6**
PONG				*e*			10 58 14.0	
DLH	**Dalhousie**	**8.40**	**304**	*e*		**P**	**10 56 53.0**	**+6.9**
DLH				*e*			10 58 21.0	
THN	**Thein Dam**	**8.53**	**303**	*e*S		**S**	**10 58 17.4**	**-6.4**
AKL	**Akola**	**9.77**	**223**	*i* P		**P**	**10 57 05.0**	**0.0**
VIS	**Vishakhapatnam**	**10.28**	**184**	*e*P		**P**	**10 57 12.1**	**+0.1**
VIS				*e*S		**S**	**10 58 59.1**	**-7.6**
VIS				*e*			11 00 06.1	
	comp=N,66nm,1.0s							
VIS				*e*			11 00 06.5	
	comp=E,137nm,0.5s							
HYB	**Hyderabad**	**11.75**	**207**	*e*P		**P**	**10 57 30.5**	**-1.4**
HYB				*e*S		**S**	**10 59 40.0**	**-2.4**
HYB	**Hyderabad**	**11.75**	**207**	*i* P		**P**	**10 57 30.5**	**-1.4**
HYB				*e*			10 57 42.0	
HYB				*e*S		**S**	**10 59 40.0**	**-2.4**
JASL	**Jaisalmer**	**11.83**	**268**	*e*P		**P**	**10 57 32.0**	**-0.9**
LATR	**Latur**	**11.84**	**218**	*e*P		**P**	**10 57 31.2**	**-1.8**
LATR				*e*			11 01 04.8	
POO	**Poona**	**13.38**	**227**	*i* P		**P**	**10 57 51.5**	**-1.9**
POO				*i*			11 00 16.0	
KAD	**Karad**	**14.08**	**223**	*e*		**P**	**10 58 03.5**	**+0.8**
	comp=Z,13nm,0.4s							
KAD				*e*		**S**	**11 00 31.4**	**-6.7**
AAK	**Ala-Archa**	**16.56**	**334**	P		**P**	**10 58 26.4**	**-8.0**
	comp=Z,4.2nm,0.6s							
GYA	**Guiyang**	**20.06**	**89**	P		**P**	**10 59 13.4**	**-2.5**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s							
ENH	**Enshi**	**22.22**	**78**	P		**P**	**10 59 35.9**	**-1.7**
	comp=Z,5.4nm,0.6s,mb4.2							
KURK	**Kurchatov**	**23.06**	**351**	P		**P**	**10 59 43.8**	**-1.9**
	comp=Z,5.5nm,0.9s,mb4.0							
ZAL	**Zalesovo**	**25.90**	**1**	P		**P**	**11 00 12.5**	**-0.4**
	comp=Z,2.0nm,0.5s,mb3.9,baz=335,slow=5.0,SNR=6.5							
ZAL	**Zalesovo**	**25.90**	**1**	P		**P**	**11 00 12.5**	**-0.4**
SONM	**Songino Array**	**26.27**	**35**	P		**P**	**11 00 16.2**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.3,baz=222,slow=10,SNR=9.1							
ULN	**Ulaanbaatar**	**26.63**	**36**	P		**P**	**11 00 15.6**	**-4.1**
	comp=Z,3.7nm,0.8s,mb4.0							
BVAR	**Borovoye Array**	**26.99**	**342**	P		**P**	**11 00 24.5**	**+1.5**
	comp=Z,0.7nm,0.5s,mb3.5,baz=148,slow=13,SNR=6.3							
CHKZ	**Chkalovo**	**27.51**	**342**	*e*P		**P**	**11 00 25.6**	**-2.2**
	comp=Z,0.7nm,0.4s,mb3.6							
ASF	**Jabal al Asfar**	**40.86**	**288**	P		**P**	**11 02 26.7**	**+4.1**
	comp=Z,0.7nm,0.3s,mb3.8,baz=334,slow=8.3,SNR=3.7							
BRTR	**Keskin Array B**	**43.04**	**299**	P		**P**	**11 02 42.4**	**+2.0**
	comp=Z,0.8nm,0.8s,mb3.5,baz=72,slow=9.1,SNR=3.5							
BRTR	**Keskin Array B**	**43.04**	**299**	P		**P**	**11 02 42.4**	**+2.0**
JOF	**Joensuu**	**48.72**	**331**	*e*p		**P**	**11 03 24.8**	**-0.3**
	comp=Z,3.4nm,0.4s,mb4.7							
FINES	**FINESS Array B**	**50.63**	**328**	P		**P**	**11 03 39.3**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=105,slow=8.2,SNR=26							
FINES				LR		LR		
	comp=Z,68nm,19.2s,MS3.7,baz=200,slow=38							
KAF	**Kangasniemi**	**50.69**	**329**	*e*p		**P**	**11 03 33.6**	**-6.7**
	comp=Z,2.5nm,0.9s,mb4.1							
ARCES	**ARCESS Array B**	**53.19**	**338**	P		**P**	**11 03 58.5**	**-0.4**
	comp=Z,3.1nm,0.7s,mb4.4,baz=97,slow=7.6,SNR=23							
KMBO	**Kilima Mbogo**	**53.51**	**245**	P		**P**	**11 04 04.3**	**+2.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=49,slow=11,SNR=8.6							
BOJS	**Bojanci**	**56.23**	**308**	*e*P		**P**	**11 04 21.8**	**+0.5**
BRG	**Berggiesshubel**	**56.56**	**314**	P		**P**	**11 04 24.5**	**+0.8**
	comp=Z,3.2nm,0.8s,mb4.4							
GERES	**GERESS Array B**	**56.90**	**312**	P		**P**	**11 04 26.1**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=98,slow=9.4,SNR=6.8							
JAVS	**Javornik**	**57.01**	**308**	*e*P		**P**	**11 04 26.9**	**-0.1**
ROBS	**Robic**	**57.34**	**309**	*e*P		**P**	**11 04 28.8**	**-0.4**
NB2	**NORSAR Subarra**	**57.70**	**327**	P		**P**	**11 04 30.1**	**-1.5**
	comp=Z,1.3nm,0.5s,mb4.2,baz=88,slow=7.4							
NOA	**NORSAR Array B**	**57.70**	**327**	P		**P**	**11 04 30.3**	**-1.3**
	comp=Z,2.3nm,0.8s,mb4.3,baz=90,slow=7.1,SNR=6.1							
HINF	**Hinteralfeld**	**61.57**	**312**	*e*P		**P**	**11 04 58.4**	**+0.1**
LPG	**La Plagne**	**62.12**	**309**	*e*P		**P**	**11 05 02.7**	**+0.7**
LPL	**La Plagne**	**62.13**	**309**	*e*P		**P**	**11 05 02.7**	**+0.6**
	comp=Z,4.1nm,0.4s,mb4.7							
MBDF	**Mbardon**	**62.27**	**308**	*e*P		**P**	**11 05 03.8**	**+0.7**
CABF	**La Chapelle**	**62.33**	**310**	*e*P		**P**	**11 05 03.9**	**+0.5**
	comp=Z,15nm,1.2s,mb4.7							
FRF	**La Foret Royal**	**62.63**	**307**	*e*P		**P**	**11 05 05.2**	**-0.3**
	comp=Z,7.0nm,0.8s,mb4.5							
LMR	**La Mourre**	**62.78**	**307**	*e*P		**P**	**11 05 06.4**	**-0.1**
	comp=Z,5.0nm,0.7s,mb4.5							
SMRF	**Simiane la Rot**	**63.28**	**308**	*e*P		**P**	**11 05 10.3**	**+0.5**
VIVF	**Saint-Julien-l**	**63.70**	**309**	*e*P		**P**	**11 05 12.9**	**+0.4**
SMF	**Signal de Mont**	**63.83**	**311**	*e*P		**P**	**11 05 12.9**	**-0.4**
SSF	**Saint Saulge**	**63.95**	**311**	*e*P		**P**	**11 05 13.7**	**-0.4**
	comp=Z,5.1nm,0.8s,mb4.3							
AVF	**Avril sur Loir**	**64.12**	**311**	*e*P		**P**	**11 05 14.2**	**-1.0**
LDF	**La Druitiere**	**65.93**	**314**	*e*P		**P**	**11 05 27.4**	**+0.6**
	comp=Z,19nm,1.2s,mb4.7							
GRR	**Gorron**	**66.46**	**314**	*e*P		**P**	**11 05 30.5**	**+0.3**
	comp=Z,6.2nm,0.6s,mb4.5							
WRA	**Warramunga Arr**	**68.02**	**129**	P		**P**	**11 05 40.8**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=322,slow=6.4,SNR=19							
NWAO	**Narrogin (SRO)**	**68.26**	**150**	P		**P**	**11 05 41.0**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.7,baz=262,slow=7.2,SNR=5.3							
ASAR	**Alice Springs**	**70.28**	**132**	P		**P**	**11 05 54.7**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=316,slow=6.3,SNR=28							
CTA	**Charters Tower**	**76.73**	**121**	P		**P**	**11 06 31.7**	**-0.4**
	comp=Z,1.4nm,0.7s,mb4.0,baz=290,slow=12,SNR=3.0							
LBTB	**Lobatse**	**77.19**	**233**	*e*P		**P**	**11 06 36.5**	**+1.9**
	comp=Z,3.0nm,0.5s,mb4.5							
INK	**Inuvik**	**80.00**	**13**	P		**P**	**11 06 48.4**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=3.6,slow=4.4,SNR=5.5							
STKA	**Stephens Creek**	**80.83**	**135**	P		**P**	**11 06 54.6**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=152,slow=23,SNR=2.9							
DBIC	**Dimbokro**	**86.05**	**275**	P		**P**	**11 07 22.7**	**+1.7**
	comp=Z,1.7nm,0.4s,mb4.6,baz=37,slow=6.6,SNR=6.8							
YKA	**Yellowknife Ar**	**88.56**	**9**	P		**P**	**11 07 31.9**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.9,baz=338,slow=4.7,SNR=10							
TXAR	**Lajitas Array**	**122.48**	**8**	PKP		PKPdf	11 13 36.3	+2.1
	comp=Z,0.1nm,0.6s,baz=167,slow=1.0,SNR=4.2							
LPAZ	**La Paz**	**151.88**	**289**	PKPbc		PKPdf	11 14 37.7	+10
	comp=Z,1.6nm,0.7s,baz=45,slow=2.8,SNR=4.8							

NIED 19 10:57:00, 33.80N×142.70E, h5km, Mw3.7 Best double couple: M0 3.64×10^14 NP1:φs187°, δ51°, λ-87°. NP2:φs3°, δ39°, λ-93°.
JMA 19 10:57:14.6±0.5, 33.79N×142.66E, h66km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.64**	**302**	P		P	10 57 41.7	-0.2
BSO1				S		S	10 58 01.4	-0.6
BSO2	**Boso 2**	**1.85**	**302**	S		S	10 58 07.9	+1.0
BSO3	**Boso 3**	**2.05**	**300**	P		P	10 57 47.6	+0.2
BSO3				S		S	10 58 12.5	+0.8
BSO4	**Boso 4**	**2.26**	**303**	P		P	10 57 51.3	+0.8
BSO4				S		S	10 58 18.2	+1.0
CHOJ	**Chosi**	**2.42**	**323**	P		P	10 57 53.0	+0.3
JOD2	**Odawara 2**	**3.29**	**297**	P		P	10 58 04.1	-1.0
JOD2				*e*S		S	10 58 40.3	-2.9
JAG	**Ashikaga**	**3.72**	**316**	P		P	10 58 10.5	-0.5
JYN	**Shimob**	**3.80**	**298**	P		P	10 58 11.8	-0.3
JYN				*e*S		S	10 58 54.1	-1.7
JRY	**Ryogami san**	**3.80**	**307**	P		P	10 58 11.5	-0.7
JMM	**Marumori**	**4.34**	**340**	P		P	10 58 18.1	-1.6
JMM				*e*S		S	10 59 04.4	-5.1
MAT	**Matsushiro**	**4.57**	**308**	P		P	10 58 23.4	+0.6
MAT				S		S	10 59 13.8	-1.3
MAT	**Matsushiro**	**4.57**	**308**	P		P	10 58 22.7	-0.1
MAT				S		S	10 59 14.1	-1.0
JMK	**Ichinoseki**	**5.28**	**348**	P		P	10 58 31.0	-1.7

IDC 19 11:10:19.1±2.0, 67.61N×30.34E, mb1 3.1/3, mb1mx3.0/18, mbtmp3.0/3, ML2.6/3, Error ellipse: s-maj=24.6km s-min=8.6km az=78.0
HEL 19 11:10:19.1±0.2, 67.56N×30.45E, ML1.9, ML1.7(UPP), Explosion
ISC 19 11:10:18.3±1.0, 67.52N±0.03×30.2E±0.2, n16, σ0s99/26, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KU4	**Liikasenvaara**	**1.19**	**191**	*e*P		**Pb**	**11 10 41.4**	**0.0**
KU4				*e*S		**Sb**	**11 10 57.6**	**+0.5**
SGF	**Sodankyl**	**1.40**	**268**	*e*P		**Pb**	**11 10 46.2**	**+1.2**
SGF				*e*S		**Sb**	**11 11 05.4**	**+1.9**
MSF	**Maaselka**	**1.68**	**196**	*e*P		**Pn**	**11 10 50.3**	**+1.2**
MSF				*e*S		**Sb**	**11 11 12.8**	**+1.4**
KEV	**Kevo**	**2.52**	**334**	*e*P		**Pn**	**11 11 01.5**	**+0.3**
KEV				*e*SB		**Sb**	**11 11 35.8**	**-0.2**
KEV				MSG			11 11 39.1	
	comp=Z,4.5nm,0.1s							
ARCES	**ARCESS Array B**	**2.65**	**322**	Pn		**Pn**	**11 11 03.4**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=131,slow=14,SNR=52							
ARCES				Sn		**Sn**	**11 11 35.5**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=135,slow=23,SNR=4.8							
ARCES				Lg			11 11 40.4	
	comp=Z,1.7nm,0.3s,baz=131,slow=29,SNR=5.7							
KTK1	**Kautokeino**	**2.98**	**303**	*e*P		**Pn**	**11 11 08.4**	**+0.7**
OUL	**Oulu**	**2.99**	**217**	*e*PB		**Pb**	**11 11 12.3**	**+0.1**
OUL				*e*S		**Sn**	**11 11 45.6**	**+0.6**
OUL				MSG			11 11 57.6	
	comp=Z,2.8nm,0.1s							
KIF	**Kilpisjarvi**	**3.79**	**297**	*e*P		**Pn**	**11 11 19.8**	**+0.6**
KIF				*e*SG		**Sg**	**11 12 18.5**	**-5.9**
SJUU	**Sjulsmark**	**3.98**	**243**	*e*P		**Pn**	**11 11 21.8**	**-0.1**
BURU	**Burvik**	**4.64**	**235**	*e*P		**Pn**	**11 11 30.9**	**-0.4**
BURU				*e*S		**Sn**	**11 12 25.9**	**-0.7**
SVAU	**Svanoeiden**	**5.28**	**240**	*e*P		**Pn**	**11 11 40.6**	**+0.2**
UMAU	**Umeaa**	**5.35**	**231**	*e*P		**Pn**	**11 11 40.7**	**-0.7**
UMAU				*e*S		**Sn**	**11 12 42.9**	**-1.8**
FINES	**FINESS

YKA	**Yellowknife Ar**	**36.17**	**46**	P		**P**	**11 42 54.4**	**-0.4**
	1.2nm,0.5s,mb4.0,baz=280,slow=8.0,SNR=30							
YKA				PcP		PcP	11 45 18.3	-1.4
	0.1nm,0.5s,baz=295,slow=3.2,SNR=5.4							
YKA	**Yellowknife Ar**	**36.17**	**46**	P		**P**	**11 42 54.4**	**-0.4**
YKA				PcP		PcP	11 45 18.3	-1.4
NEW	**Newport**	**40.04**	**68**	P		**P**	**11 43 27.3**	**+0.2**
	1.4nm,0.5s,mb3.9,baz=296,slow=7.9,SNR=3.8							
YBH	**Yreka Blue Hor**	**40.07**	**80**	P		**P**	**11 43 31.3**	**+3.8**
	2.4nm,0.9s,mb3.9,baz=285,slow=4.4,SNR=3.6							
HLID	**Hailey**	**44.12**	**73**	*eP*		**P**	**11 44 00.9**	**+0.4**
	1.1nm,0.6s,mb3.8							
NVAR	**Mina Array Bea**	**44.75**	**81**	P		**P**	**11 44 06.9**	**+1.3**
	0.3nm,0.2s,mb3.7,baz=288,slow=8.6,SNR=3.8							
SONM	**Songino Array**	**45.63**	**296**	P		**P**	**11 44 14.0**	**+1.5**
	1.0nm,0.6s,mb4.0,baz=64,slow=8.8,SNR=6.6							
FCC	**Fort Churchill**	**46.90**	**45**	*eP*		**P**	**11 44 21.8**	**-0.6**
BW06	**Boulder Array**	**47.48**	**71**	*eP*		**P**	**11 44 26.9**	**-0.2**
	2.5nm,0.6s,mb4.3							
PDAR	**Pinedale Array**	**47.48**	**71**	P		**P**	**11 44 27.6**	**+0.4**
	3.5nm,0.7s,mb4.4,baz=311,slow=3.6,SNR=37							
SDCO	**Great Sand Dun**	**53.02**	**74**	*eP*		**P**	**11 45 09.4**	**-0.1**
CHKZ	**Chkalovo**	**59.63**	**319**	*eP*		**P**	**11 45 56.2**	**-0.2**
	2.0nm,0.8s,mb4.2							
TXAR	**Lajitas Array**	**59.85**	**80**	P		**P**	**11 45 57.8**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=310,slow=5.6,SNR=11							
BVAR	**Borovoye Array**	**60.20**	**319**	P		**P**	**11 46 00.8**	**+0.5**
	3.9nm,0.6s,mb4.6,baz=47,slow=7.4,SNR=33							
SCHQ	**Schefferville**	**60.83**	**37**	P		**P**	**11 46 03.9**	**-0.7**
	2.7nm,0.9s,mb4.4,baz=300,slow=7.7,SNR=3.7							
FINES	**FINESS Array B**	**65.62**	**346**	P		**P**	**11 46 35.9**	**0.0**
	0.4nm,0.4s,mb3.8,baz=354,slow=8.1,SNR=3.5							
PMG	**Port Moresby**	**66.51**	**215**	P		**P**	**11 46 41.8**	**-0.5**
	8.3nm,1.1s,mb4.7,baz=151,slow=7.4,SNR=1.8							
NOA	**NORSAR Array B**	**67.64**	**354**	P		**P**	**11 46 48.5**	**-0.1**
	0.8nm,0.7s,mb3.8,baz=12,slow=6.3,SNR=3.0							
ASAR	**Alice Springs**	**84.61**	**221**	P		**P**	**11 48 24.6**	**-0.2**
	0.3nm,0.7s,mb3.6,baz=21,slow=4.2,SNR=4.9							
LBTB	**Lobatse**	**146.95**	**313**	PKPbc		PKPbc	11 55 35.5	+3.6
	1.7nm,0.5s,baz=336,slow=7.9,SNR=2.7							

*NIED **19** 11:37:00,40.80N×142.70E,h44km,Mw3.9 Best double couple: $M_0$9.26×10^{14} NP1:ϕ_s35°,δ76°,λ98°. NP2:ϕ_s185°, δ16°,λ61°.*
*JMA **19** 11:37:57.2±0.2,40.82N×142.75E,h21km±4km,M3.9*
*NEIC **19** 11:38:00.9±0.8,40.93N×142.59E,mb4.1/4, Error ellipse: s-maj=22.0km s-min=11.9km az=115.0*
*IDC **19** 11:38:00.2±1.3,40.76N×142.65E,h50km±9km,mb3.6/9, mb1 3.8/1,mb1mx3.6/22,mbtmp4.0/11, Error ellipse: s-maj=29.0km s-min=13.3km az=88.0*
*MOS **19** 11:38:01.2±1.4,40.93N×142.35E,h73km,mb4.3/4, Error ellipse: s-maj=23.2km s-min=9.8km az=80.1*
ISC 19 11:37:58.4±0.5,40.83N±0.03×142.71E±0.07,h55km±5km, h52km±2.3km:pP-P,n42,σ0s95/52,mb3.9/12,1C-5D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JANG	**Nango**	**1.01**	**244**	⇓P		**P**	**11 38 16.2**	**-0.5**
JTH	**Tanohata**	**1.10**	**216**	⇓P		**P**	**11 38 17.0**	**-0.9**
JTH				*eS*		**S**	**11 38 31.7**	**-0.6**
ERM	**Erimo**	**1.23**	**16**	Pn		**P**	**11 38 19.0**	**-0.7**
	1μm,0.4s,SNR=44							
JEM	**Erimo**	**1.23**	**16**	P		**P**	**11 38 19.7**	**-0.1**
JEM				*eS*		**S**	**11 38 35.8**	**+0.2**
JTM	**Tenmabayashi**	**1.25**	**269**	⇓P		**P**	**11 38 19.9**	**0.0**
JTM				*eS*		**S**	**11 38 36.3**	**+0.4**
JOT	**Ohata**	**1.37**	**294**	⇓P		**P**	**11 38 21.5**	**-0.3**
JOT				*eS*		**S**	**11 38 38.5**	**-0.6**
JNBK	**Urakawa-nobuka**	**1.45**	**1**	⇑P		**P**	**11 38 23.1**	**+0.2**
JKB	**Kayabe**	**1.65**	**311**	⇓P		**P**	**11 38 25.5**	**-0.1**
JKB				*eS*		**S**	**11 38 45.9**	**+0.2**
JOM	**Ohasama**	**1.73**	**219**	P		**P**	**11 38 27.0**	**+0.2**
JOM				*eS*		**S**	**11 38 48.9**	**+1.1**
JCH	**Churui**	**1.85**	**15**	P		**P**	**11 38 28.5**	**+0.1**
JCH				*eS*		**S**	**11 38 50.8**	**+0.2**
JMK	**Ichinoseki**	**2.20**	**212**	P		**P**	**11 38 34.3**	**+1.0**
ASAJ	**Asahikawa**	**3.29**	**359**	P		**P**	**11 38 49.2**	**+0.4**
ASAJ				S		**S**	**11 39 33.3**	**+6.4**
ASAJ				pmax		pmax		
	comp=Z,6.0nm,0.3s							
ASAJ				smax				
	comp=N,6.0nm,0.3s							
ASAJ	**Asahikawa**	**3.29**	**359**	P		**P**	**11 38 49.1**	**+0.4**
	comp=N,5.6nm,0.3s,baz=216,slow=9.2,SNR=35							
ASAJ				S		**S**	**11 39 33.3**	**+6.4**
	comp=N,5.6nm,0.3s,baz=270,slow=20,SNR=8.9							
YUK	**Yuzh-Kuril'sk**	**3.96**	**35**	*eP*		**P**	**11 39 04.1**	**+5.8**
YUK				pmax		pmax		
	comp=Z,160nm,0.4s							
YUK				pmax		pmax		
	comp=N,160nm,0.4s							
YUK				pmax		pmax		
	comp=E,160nm,0.4s							
MAJO	**Matsushiro**	**5.54**	**221**	*eP*		**P**	**11 39 21.8**	**+1.5**
MAJO				pmax		pmax		
	comp=Z,8.0nm,0.6s							
MAJO	**Matsushiro**	**5.54**	**221**	*eP*		**P**	**11 39 21.8**	**+1.5**
	comp=Z,7.9nm,0.6s							
MAT	**Matsushiro**	**5.54**	**221**	*eP*		**P**	**11 39 22.0**	**+1.7**
MAT				pmax		pmax		
	comp=Z,16nm,1.2s							
MAT	**Matsushiro**	**5.54**	**221**	*eP*		**P**	**11 39 22.0**	**+1.7**
	comp=Z,16nm,1.2s							
MAT	**Matsushiro**	**5.54**	**221**	P		**P**	**11 39 21.5**	**+1.2**
YSS	**Yuzh-Sakhalins**	**6.12**	**0**	*eP*		**P**	**11 39 28.0**	**-0.4**
JHJ	**Hachijo jima 2**	**8.04**	**198**	P		**P**	**11 39 52.5**	**-2.6**
	comp=Z,8.0nm,0.3s,baz=245,slow=17,SNR=2.7							
JHJ				S		**S**	**11 41 21.9**	**-3.7**
	comp=Z,3.5nm,0.3s,baz=244,slow=17,SNR=2.6							
SONM	**Songino Array**	**26.72**	**297**	P		**P**	**11 43 34.9**	**+0.6**
	comp=Z,0.9nm,0.5s,mb3.6,baz=89,slow=8.8,SNR=16							
SONM				pP		pP	11 43 48.3	+0.4
	comp=Z,0.7nm,0.5s,baz=78,slow=8.5,SNR=5.6							
ZAL	**Zalesovo**	**40.22**	**309**	P		**P**	**11 45 31.9**	**+1.0**
	comp=Z,2.2nm,0.5s,mb4.1,baz=28,slow=9.7,SNR=6.8							
ZAL				pP		pP	11 45 44.3	-0.9
	comp=Z,1.7nm,0.7s,baz=41,slow=7.0,SNR=3.5							
IMA	**Indian Mountai**	**42.93**	**32**	*eP*		**P**	**11 45 55.8**	**+2.9**
KURK	**Kurchatov**	**44.48**	**305**	*eP*		**P**	**11 46 03.9**	**-1.7**
KURK				*e**PP		pP	11 46 18.9	-1.2
KURK				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.1							
KURK	**Kurchatov**	**44.48**	**305**	*eP*		**P**	**11 46 03.9**	**-1.7**
	comp=Z,1.9nm,0.5s,mb4.1							
KURK				*e*pP		pP	11 46 18.9	-1.2
CHKZ	**Chkalovo**	**48.52**	**311**	*eP*		**P**	**11 46 37.4**	**-0.1**
CHKZ				*e**PP		pP	11 46 51.2	-0.8
BVAR	**Borovoye Array**	**48.83**	**310**	P		**P**	**11 46 40.6**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.2,baz=63,slow=6.6,SNR=5.0							
BVAR				pP		pP	11 46 54.1	-0.3
	comp=Z,1.9nm,0.6s,baz=66,slow=8.3,SNR=4.1							
INK	**Inuvik**	**50.57**	**29**	*eP*		**P**	**11 46 54.1**	**+1.1**
INK				pmax		pmax		
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**50.57**	**29**	P		**P**	**11 46 54.2**	**+1.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=281,slow=6.8,SNR=12							
INK	**Inuvik**	**50.57**	**29**	*eP*		**P**	**11 46 54.1**	**+1.1**
	comp=Z,1.0nm,0.5s,mb4.0							
RES	**Resolute Bay**	**58.68**	**15**	*eP*		**P**	**11 47 51.8**	**-0.2**
RES				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.1							
RES	**Resolute Bay**	**58.68**	**15**	*eP*		**P**	**11 47 51.8**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.9							
WRA	**Warramunga Arr**	**60.96**	**189**	P		**P**	**11 48 07.4**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.6,baz=6.1,slow=6.8,SNR=6.9							
JOF	**Joensuu**	**63.11**	**331**	*ep*		**P**	**11 48 20.7**	**-1.4**
ASAR	**Alice Springs**	**64.68**	**189**	P		**P**	**11 48 33.9**	**+0.9**
	comp=Z,0.3nm,0.8s,mb3.4,baz=11,slow=4.6,SNR=3.7							
KAF	**Kangasniemi**	**65.41**	**332**	*ep*		**P**	**11 48 35.1**	**-1.9**
	comp=Z,1.7nm,0.6s,mb4.2,baz=58,slow=6.3							
KAF	**Kangasniemi**	**65.41**	**332**	*eP*		**P**	**11 48 35.1**	**-1.9**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**65.94**	**332**	P		**P**	**11 48 40.5**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.2,baz=51,slow=8.0,SNR=12							
NOA	**NORSAR Array B**	**71.08**	**337**	P		**P**	**11 49 12.6**	**+0.5**
	comp=Z,1.0nm,0.8s,mb3.8,baz=35,slow=3.8,SNR=2.9							
STKA	**Stephens Creek**	**72.35**	**181**	P		**P**	**11 49 19.4**	**-0.8**
	comp=Z,0.9nm,0.7s,mb3.8,baz=160,slow=14,SNR=2.3							
STKA	**Stephens Creek**	**72.35**	**181**	P		**P**	**11 49 19.4**	**-0.8**

*NEIC **19** 11:42:10.9,33.43S×70.76W,h76km,MD3.6(GUC),After GUC.*
GUC 19 11:42:10.9±0.8,33.43S×70.76W,h76km±2km,MD3.6, ML3.4,13C-11D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PUEX	**Pudahuel**	**0.02**	**164**	⇑P		P	11 42 23.1	+1.3
PUEX				*i* S		S	11 42 31.6	+1.8
PUEX				AMP			11 42 32.8	
	comp=E,4μm,0.4s							
RCDM	**Rinconada Maip**	**0.07**	**210**	⇑P		P	11 42 21.8	0.0
RCDM				*i* S		S	11 42 30.5	+0.6
RCDM				AMP			11 42 32.0	
	comp=E,13μm,0.1s							
SAN	**Santiago**	**0.09**	**108**	*i* P		P	11 42 22.2	+0.4
SAN				*i* S		S	11 42 30.6	+0.6
SAN				AMP			11 42 31.1	
	comp=N,4μm,0.2s							
STL	**Santa Lucia**	**0.10**	**96**	⇑P		P	11 42 21.9	0.0
STL				*i* S		S	11 42 30.5	+0.5
STL				AMP			11 42 30.7	
	comp=E,2μm,0.2s							
DSCH	**Colegio Aleman**	**0.17**	**80**	⇑P		P	11 42 22.5	+0.5
DSCH				*i* S		S	11 42 31.1	+0.8
DSCH				AMP			11 42 31.7	
	comp=E,6μm,0.2s							
ANTU	**Antumapu**	**0.18**	**143**	⇑P		P	11 42 22.4	+0.3
ANTU				*i* S		S	11 42 31.1	+0.7
ANTU				AMP			11 42 32.1	
	comp=N,1μm,0.2s							
CLCH	**Cerro Calan**	**0.19**	**81**	⇑P		P	11 42 22.5	+0.4
CLCH				*i* S		S	11 42 31.3	+0.8
CLCH				AMP			11 42 32.6	
	comp=E,4μm,0.3s							
CLCH				AMP			11 42 33.2	
	comp=E,5μm,0.4s							
FSR	**Penalolen**	**0.20**	**105**	⇓P		P	11 42 22.6	+0.5
FSR				*i* S		S	11 42 31.5	+0.9
FSR				AMP			11 42 32.0	
	comp=E,5μm,0.2s							
SCR	**San Cristobal**	**0.21**	**250**	⇑P		P	11 42 22.1	-0.1
SCR				*i* S		S	11 42 30.6	-0.1
SCR				AMP			11 42 31.2	
	comp=E,4μm,0.3s							
TACH	**Talagante**	**0.27**	**213**	⇓P		P	11 42 22.6	0.0
TACH				*i* S		S	11 42 31.3	0.0
PCH	**Pirque**	**0.28**	**133**	⇑P		P	11 42 22.9	+0.2
PCH				*i* S		S	11 42 32.0	+0.5
PEL	**Peldehue**	**0.29**	**13**	⇓P		P	11 42 23.1	+0.4
PEL				*i* S		S	11 42 32.3	+0.8
SJCH	**San Jose de Ma**	**0.40**	**122**	⇓P		P	11 42 23.5	0.0
SJCH				*i* S		S	11 42 33.2	+0.2
SJCH				AMP			11 42 33.8	
	comp=E,1μm,0.2s							
FCH	**Farellones**	**0.41**	**76**	⇓P		P	11 42 24.4	+0.8
FCH				*i* S		S	11 42 34.2	+1.2
FCH				AMP			11 42 34.8	
	comp=E,9μm,0.2s							
ROCH	**El Roble**	**0.50**	**335**	⇑P		P	11 42 24.8	+0.5
CHCH	**Chadas Angostu**	**0.51**	**170**	⇑P		P	11 42 24.4	-0.1
CHCH				*i* S		S	11 42 34.8	+0.3
LMEL	**Las Melosas**	**0.63**	**132**	⇓P		P	11 42 26.1	+0.4
LMEL				*i* S		S	11 42 37.9	+1.4
LMEL				AMP			11 42 39.6	
	comp=N,2μm,0.1s							
LCCH	**Las Cruces**	**0.68**	**266**	⇓P		P	11 42 26.5	+0.3
CACH	**El Canelo**	**0.70**	**169**	⇓P		P	11 42 27.1	+0.6
CACH				*i* S		S	11 42 40.3	+2.3
LLCH	**Llolleo**	**0.74**	**255**	⇑P		P	11 42 26.1	-0.7
LLCH				*i* S		S	11 42 37.8	-0.9
JACH	**Jahuel**	**0.76**	**11**	⇓P		P	11 42 27.3	+0.2
JACH				*i* S		S	11 42 39.4	+0.3
LNV	**Longovilo**	**0.76**	**225**	⇓P		P	11 42 26.5	-0.5
IHA	**Instituto Hidr**	**0.84**	**298**	*eP*		P	11 42 28.4	+0.4
CICH	**Cipreses**	**0.94**	**162**	*eP*		P	11 42 29.4	+0.3
CICH				*i* S		S	11 42 44.2	+1.4
PACH	**Papudo**	**1.05**	**327**	⇑P		P	11 42 30.4	-0.2
PACH				*i* S		S	11 42 45.1	-0.2
SFDO	**San Fernando**	**1.20**	**190**	⇑P		P	11 42 32.4	-0.2
SFDO				*i* S		S	11 42 48.8	+0.1
NICH	**Los Niches**	**1.62**	**194**	⇓P		P	11 42 37.7	-0.4
NICH				*i* S		S	11 42 58.9	+0.7
CHNG	**Los Chungos**	**1.66**	**338**	*eP*		P	11 42 38.7	0.0
CHNG				*i* S		S	11 42 60.0	+0.8
CHNG				AMP			11 43 05.7	
	comp=N,569nm,0.3s							

*IDC **19** 11:49:17.4±0.6,4.18N×11.08E,mb4.2/14,mb1 4.3/15, mb1mx4.1/22,mbtmp4.2/15,ML3.6/1,MS3.5/3,Ms1 3.5/3, ms1mx3.0/23,Error ellipse: s-maj=22.9km s-min=13.7km az=73.0*
*NEIC **19** 11:49:18.4±0.4,4.18N×11.02E,h10km,mb4.6/9,Error ellipse: s-maj=12.7km s-min=8.3km az=61.0*
ISC 19 11:49:17.2±0.5,4.21N±0.07×11.1E±0.1,h10km,n32, σ1s00/29,mb4.2/18,MS3.5/2,Cameroon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DBIC	**Dimbokro**	**16.07**	**279**	Pn		**P**	**11 53 02.5**	**-2.6**
	0.2nm,0.3s,baz=86,slow=8.2,SNR=6.6							
DBIC				LR		LR	11 59 30.7	
	comp=Z,122nm,18.6s,baz=179,slow=38							
DBIC	**Dimbokro**	**16.07**	**279**	*eP*		**P**	**11 53 01.8**	**-3.4**
	26nm,1.1s							
MBAR	**Mbarara**	**20.19**	**103**	P		**P**	**11 53 54.1**	**-1.0**
	75nm,0.9s,SNR=9.6							
MBAR	**Mbarara**	**20.19**	**103**	*eP*		**P**	**11 53 52.6**	**-2.5**
	17nm,0.9s							
TSUM	**Tsumeb**	**24.12**	**165**	P		**P**	**11 54 35.1**	**+0.7**
	4.6nm,0.7s,mb4.0,baz=325,slow=10.0,SNR=12							
TSUM	**Tsumeb**	**24.12**	**165**	*eP*		**P**	**11 54 35.3**	**+0.9**
	10.0nm,0.8s,mb4.3							
LSZ	**Lusaka**	**25.71**	**139**	*eP*		**P**	**11 54 50.2**	**+0.6**
	28nm,0.7s,mb4.9							
KMBO	**Kilima Mbogo**	**26.66**	**101**	P		**P**	**11 54 58.0**	**-0.4**
	0.5nm,0.3s,mb3.5,baz=231,slow=23,SNR=2.4							
KMBO				LR		LR	12 05 49.1	
	comp=Z,324nm,18.3s,MS3.9,baz=85,slow=37							
MATP	**Matopo**	**29.85**	**146**	P		**P**	**11 55 26.8**	**-0.4**
	7.7nm,0.6s,mb4.6,baz=321,slow=8.5,SNR=22							
MATP				LR		LR	12 06 42.1	
	comp=Z,46nm,19.6s,MS3.1,baz=274,slow=35							
LBTB	**Lobatse**	**32.29**	**155**	P		**P**	**11 55 48.2**	**-0.4**
	4.4nm,0.6s,mb4.5,baz=336,slow=10,SNR=7.2							
LBTB	**Lobatse**	**32.29**	**155**	*eP*		**P**	**11 55 48.1**	**-0.5**
	5.2nm,0.7s,mb4.5							
BOSA	**Boshof**	**35.36**	**158**	*eP*		**P**	**11 56 14.7**	**-0.5**
	9.6nm,0.6s,mb4.9							
SUR	**Sutherland**	**37.54**	**166**	P		**P**	**11 56 34.3**	**+0.9**
	9.1nm,0.7s,mb4.6,baz=319,slow=7.6,SNR=9.2							
SUR	**Sutherland**	**37.54**	**166**	*eP*		**P**	**11 56 33.5**	**0.0**
	11nm,0.8s,mb4.7							
ESDC	**Sonseca Array**	**37.84**	**341**	P		**P**	**11 56 37.1**	**+1.2**
	1.7nm,0.8s,mb3.8,baz=158,slow=8.3,SNR=9.5							
ESLA	**Sonseca Array**	**37.84**	**341**	*eP*		**P**	**11 56 33.4**	**-2.5**
BRTR	**Keskin Array B**	**40.81**	**27**	P		**P**	**11 57 01.8**	**+1.3**
	0.4nm,0.4s,mb3.4,baz=207,slow=8.7,SNR=3.2							
GERES	**GERESS Array B**	**44.52**	**2**	P		**P**	**11 57 31.5**	**+0.7**
	0.8nm,0.8s,mb3.6,baz=180,slow=12,SNR=6.2							
GRA1	**Grafenberg Arr**	**45.32**	**0**	*eP*		**P**	**11 57 36.9**	**-0.2**
	7.0nm,1.3s,mb4.3							
FINES	**FINESS Array B**	**58.20**	**8**	P		**P**	**11 59 12.4**	**-1.3**
	1.9nm,1.0s,mb4.1,baz=225,slow=11,SNR=4.2							
ARCES	**ARCESS Array B**	**65.92**	**5**	P		**P**	**12 00 04.5**	**-0.7**
	5.4nm,0.9s,mb4.6,baz=153,slow=11,SNR=5.8							
KURK	**Kurchatov**	**72.61**	**38**	P		**P**	**12 00 47.7**	**+0.9**
	40nm,1.1s,mb5.3,SNR=8.2							
KURK	**Kurchatov**	**72.61**	**38**	*eP*		**P**	**12 00 46.1**	**-0.7**
	8.9nm,1.1s,mb4.6							
SJG	**San Juan**	**76.60**	**288**	P		**P**	**12 01 10.4**	**+0.1**
	16nm,0.2s,baz=318,slow=17,SNR=3.1							
ZAL	**Zalesovo**	**77.03**	**36**	P		**P**	**12 01 12.4**	**+0.4**
	1.9nm,0.5s,mb4.3,baz=252,slow=3.6,SNR=7.8							
SCHQ	**Schefferville**	**79.62**	**325**	P		**P**	**12 01 26.9**	**+0.7**
	2.0nm,0.8s,mb4.1,baz=92,slow=8.6,SNR=3.7							
SCHQ	**Schefferville**	**79.62**	**325**	P		**P**	**12 01 26.9**	**+0.7**
LPAZ	**La Paz**	**80.88**	**253**	P		**P**	**12 01 34.6**	**+1.0**
	0.8nm,0.7s,mb3.8,baz=169,slow=5.2,SNR=3.2							
SONM	**Songino Array**	**90.46**	**42**	P		**P**	**12 02 21.5**	**+1.0**
	1.2nm,0.9s,mb4.2,baz=297,slow=5.5,SNR=8.0							
ASAR	**Alice Springs**	**121.63**	**115**	PKP		PKPdf	12 08 13.8	-1.4
	2.9nm,0.8s,baz=270,slow=1.3,SNR=30							
WRA	**Warramunga Arr**	**122.61**	**111**	PKP		PKPdf	12 08 15.6	-1.4
	1.4nm,0.7s,baz=266,slow=1.5,SNR=17							
URZ	**Urewera**	**143.79**	**161**	PKP		PKPdf	12 08 52.5	-3.6
	8.1nm,0.6s,baz=125,slow=4.1,SNR=12							

*IDC **19** 12:18:29.4±4.4,20.45S×178.02W,h468km±50km, mb3.3/10,mb1 3.5/11,mb1mx3.4/16,mbtmp4.1/11,Error ellipse: s-maj=26.4km s-min=18.9km az=175.0*
*NEIC **19** 12:18:30.4±1.6,20.59S×177.92W,h480km±18km,mb4.8/1, Error ellipse: s-maj=23.5km s-min=13.9km az=149.0*
ISC 19 12:18:28.8±1.6,20.5S±0.1×178.0W±0.1,h467km±20km, n17,σ0s90/14,mb3.7/11,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**8.87**	**43**	*eP*		**P**	**12 20 35.3**	**+0.1**
URZ	**Urewera**	**18.18**	**192**	P		**P**	**12 22 11.6**	**-0.6**
	1.4nm,0.3s,baz=329,slow=8.0,SNR=11							
HNR	**Honiara**	**23.93**	**294**	*eP*		**P**	**12 23 09.4**	**+3.2**
	14nm,0.5s,mb4.7							
CTA	**Charters Tower**	**33.47**	**264**	P		**P**	**12 24 29.6**	**+0.5**
	2.0nm,0.4s,mb3.9,baz=80,slow=8.0,SNR=5.7							
STKA	**Stephens Creek**	**37.77**	**244**	P		**P**	**12 25 04.8**	**0.0**
	0.7nm,0.6s,mb3.3,baz=266,slow=20,SNR=2.5							
ASAR	**Alice Springs**	**44.50**	**257**	P		**P**	**12 25 58.2**	**-0.8**
	1.9nm,0.7s,mb3.6,baz=98,slow=7.7,SNR=21							
ASAR				PcP		PcP	12 27 30.6	-2.5
	0.3nm,0.5s,baz=107,slow=3.8,SNR=6.2							
WRA	**Warramunga Arr**	**44.58**	**262**	P		**P**	**12 25 58.7**	**-1.0**
	1.0nm,0.3s,mb3.8,baz=96,slow=7.0,SNR=69							
YBH	**Yreka Blue Hor**	**80.31**	**39**	P		**P**	**12 29 51.3**	**+0.1**
	1.6nm,0.6s,mb3.7,baz=224,slow=4.3,SNR=5.8							
NVAR	**Mina Array Bea**	**81.04**	**43**	P		**P**	**12 29 55.1**	**0.0**
	1.5nm,0.9s,mb3.5,baz=224,slow=11,SNR=6.6							
TXAR	**Lajitas Array**	**87.08**	**57**	P		**P**	**12 30 24.5**	**-0.6**
	0.4nm,0.6s,mb3.3,baz=210,slow=6.8,SNR=6.9							
SNAA	**Sanae**	**88.00**	**178**	P		**P**	**12 30 30.1**	**+1.7**
	0.8nm,0.8s,mb3.5,baz=163,slow=23,SNR=2.5							
PDAR	**Pinedale Array**	**88.98**	**43**	P		**P**	**12 30 32.8**	**-0.9**
	0.7nm,0.6s,mb3.7,baz=216,slow=3.1,SNR=7.1							
PLCA	**Paso Flores**	**89.28**	**134**	P		**P**	**12 30 35.7**	**+0.6**
	2.1nm,1.0s,mb3.9,baz=343,slow=15,SNR=4.7							
PLCA	**Paso Flores**	**89.28**	**134**	P		**P**	**12 30 35.7**	**+0.6**
EKA	**Eskdalemuir Ar**	**145.02**	**5**	PKP		PKPdf	12 37 11.8	+0.4
	1.7nm,1.0s,baz=270,slow=2.5,SNR=3.6							
BRTR	**Keskin Array B**	**146.84**	**312**	PKPbc		PKPbc	12 37 17.7	+0.7
	0.4nm,0.5s,baz=90,slow=1.4,SNR=2.5							
GERES	**GERESS Array B**	**150.21**	**344**	PKPbc		PKPdf	12 37 25.2	+5.2
	0.6nm,0.6s,baz=45,slow=3.8,SNR=4.9							
GERES				PKPab		PKPab	12 37 34.0	-2.0
	0.1nm,0.3s,baz=14,slow=4.8,SNR=2.7							

*ATH **19** 12:20:43.8,36.95N×27.90E,h5km,MD3.7/5*
*ISK **19** 12:20:43.5,36.99N×28.02E,h24km,MD3.5*
*NEIC **19** 12:20:43.7,36.95N×27.90E,h5km,mb3.6/5,MD3.7(ATH), After ATH.*
*IDC **19** 12:20:43.3±1.3,37.03N×28.05E,mb3.6/5,mb1 3.7/9, mb1mx3.7/22,mbtmp3.6/9,ML3.8/3, Error ellipse: s-maj=25.7km s-min=19.2km az=159.0*
*CSEM **19** 12:20:43.3±0.1,37.09N×28.10E,h10km,MD3.5, Error ellipse: s-maj=2.2km s-min=1.5km az=13.0*
**ISC 19 12:20:43.6±0.6,37.02N±0.03×28.06E±0.03,h9km±4km, n75,σ1s06/93,mb3.

BGF	Bois d'Agland	21.00	305	*e*P	P	12	25	29.7 +0.1
ETSF	Etsaut	22.64	294	*e*P	P	12	25	46.7 +0.6
MFF	Saint Martin d	22.99	303	*e*P	P	12	25	49.3 -0.2
SJPF	Ste Jean	23.15	294	*e*P	P	12	25	51.3 +0.3
FINES	FINESS Array B	24.48	358	P	P	12	26	02.9 -0.9
	0.8nm,0.6s,mb3.3,baz=180,slow=6.9,SNR=4.2							
HFS	Hagfors	24.89	343	P	P	12	26	07.2 -0.6
	2.0nm,0.9s,mb3.6,baz=76,slow=5.9,SNR=3.5							
SGMF	Saint Gilles	25.00	306	*e*P	P	12	26	08.9 0.0
ESDC	Sonseca Array	25.18	286	P	P	12	26	10.3 -0.5
	1.1nm,0.7s,mb3.5,baz=72,slow=10,SNR=5.4							
ROSF	Rostrenen	25.48	306	*e*P	P	12	26	13.0 -0.5
EKA	Eskdalemuir Ar	27.98	321	P	P	12	26	35.9 -0.5
	0.6nm,0.5s,mb3.5,baz=108,slow=10,SNR=3.6							
EKA	Eskdalemuir Ar	27.98	321	P	P	12	26	35.8 -0.5
SONM	Songino Array	56.49	52	P	P	12	30	27.2 -0.9
	0.2nm,0.4s,mb3.5,baz=292,slow=7.8,SNR=4.3							

IDC ***19*** *12:27:14.8±0.8,27.88S×71.22W,mb4.1/9,mb1 4.2/12, mb1mx4.1/20,mbtmp4.1/12,ML4.3/2,MS3.9/3,Ms1 3.9/3, ms1mx3.1/19,Error ellipse: s-maj=27.6km s-min=15.9km az=98.0*

NEIC ***19*** *12:27:15.9,27.87S×71.48W,h48km,After GUC.*

GUC ***19*** *12:27:16.6±1.2,27.86S×71.38W,h44km±6km,ML4.5*

ISC 19 12:27:13.6±2.1,27.81S±0.03×71.53W±0.07,h8km±14km, n27,σ1§01/30,mb4.1/9,MS4.0/2,6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VACH	Vallenar	1.02	139	⇓*i*P			Pb	12 27 33.6	+0.5
VACH				*i*S			Sb	12 27 45.7	-0.8
VACH	Vallenar	1.02	139	⇓*i*P			Pb	12 27 33.5	+0.4
VACH				*i*S			Sb	12 27 46.5	0.0
CPCH	Copiapo	1.14	67	⇓*i*P			Pb	12 27 35.7	+0.6
CPCH				*i*S			Sb	12 27 50.1	+0.3
CPCH				AMP				12 27 50.7	
	comp=E,15μm,0.1s								
CPCH	Copiapo	1.14	67	⇓*i*P			Pb	12 27 35.7	+0.6
CPCH				*i*S			Sb	12 27 50.7	+0.9
LCO	Las Campanas	1.40	149	⇓*i*P			Pn	12 27 39.9	+0.4
LCO				*i*S			Sb	12 27 56.9	-0.6
LCO				AMP				12 28 00.7	
	comp=N,12μm,0.5s								
CPN1	Cerro Paranal	3.33	18	⇓*i*P			Pn	12 28 07.3	+0.3
CPN1				AMP				12 29 08.5	
	comp=E,1μm,0.8s								
CHNG	Los Chungos	4.06	180	*e*P			Pn	12 28 16.5	-1.0
ZON	Zonda	4.47	147	*e*P			Pn	12 28 22.0	-1.3
CFAA	Coronel Fontan	4.74	144	Pn			Pn	12 28 28.8	+1.7
	comp=E,2.4nm,0.3s,baz=320,slow=12,SNR=53								
CFAA				Sn			Sn	12 29 24.0	+1.0
	comp=E,2.3nm,0.3s,baz=27,slow=7.6,SNR=2.9								
CFAA				Lg				12 29 35.2	
	comp=E,5.2nm,0.3s,baz=62,slow=21,SNR=18								
CFAA	Coronel Fontan	4.74	144	Pn			Pn	12 28 28.8	+1.7
CFAA				Sn			Sn	12 29 24.0	+1.0
CFAA				Lg				12 29 35.2	
LVC	Limon Verde	5.69	25	Pn			Pn	12 28 40.7	+0.1
	comp=E,2.9nm,0.3s,baz=204,slow=9.1,SNR=38								
LVC				Sn			Sn	12 29 45.8	-1.1
	comp=E,7.2nm,0.3s,baz=204,slow=14,SNR=3.0								
LVC				Lg				12 30 10.5	
	comp=E,17nm,0.3s,baz=168,slow=22,SNR=7.1								
LPAZ	La Paz	11.89	16	Pn			P	12 30 05.0	-1.5
	comp=E,0.4nm,0.3s,baz=195,slow=7.3,SNR=11								
PLCA	Paso Flores	12.92	177	LR			LR	12 35 30.6	
	comp=E,300nm,19.4s,baz=344,slow=39								
TRQA	Tornquist	12.98	144	*e*P			P	12 30 21.5	+0.4
	comp=E,9.7nm,0.7s								
BDFB	Brasilia	24.92	66	P			P	12 32 37.2	-1.5
	comp=E,6.6nm,0.8s,mb4.2,baz=245,slow=8.4,SNR=7.7								
BDFB				LR			LR	12 43 52.1	
	comp=E,477nm,18.9s,MS4.0,baz=244,slow=40								
USHA	Ushuaia	27.09	176	P			P	12 32 57.4	-1.2
	comp=E,6.9nm,0.9s,mb4.2,baz=147,slow=2.1,SNR=2.7								
SNAA	Sanae	57.17	159	P			P	12 37 02.0	-1.0
	comp=E,2.9nm,1.0s,mb4.3,baz=222,slow=6.3,SNR=6.6								
TXAR	Lajitas Array	64.61	329	P			P	12 37 56.1	+2.1
	comp=E,0.3nm,0.8s,mb3.4,baz=139,slow=8.3,SNR=3.6								
DBIC	Dimbokro	72.85	73	P			P	12 38 44.9	-0.5
	comp=E,6.5nm,0.6s,mb4.8,baz=213,slow=5.6,SNR=17								
DBIC				LR			LR	13 09 00.7	
	comp=E,85nm,19.9s,MS4.0,baz=142,slow=34								
SUR	Sutherland	77.48	120	P			P	12 39 12.2	+0.7
	comp=E,1.2nm,0.5s,mb4.1,baz=291,slow=22,SNR=2.7								
PDAR	Pinedale Array	78.47	332	P			P	12 39 18.4	+1.7
	comp=E,0.3nm,0.5s,mb3.5,baz=131,slow=8.3,SNR=2.9								
LBTB	Lobatse	84.52	115	P			P	12 39 49.0	+0.2
	comp=E,3.2nm,0.8s,mb4.5,baz=241,slow=1.5,SNR=4.0								
YKA	Yellowknife Ar	96.35	341	P			P	12 40 51.2	+7.6
	comp=E,0.1nm,0.4s,mb3.6,baz=142,slow=4.2,SNR=4.0								
ASAR	Alice Springs	123.25	208	PKP			PKPdf	12 46 13.0	-1.4
	comp=E,0.4nm,0.6s,baz=143,slow=1.7,SNR=9.1								
WRA	Warramunga Arr	126.33	211	PKP			PKPdf	12 46 19.1	-1.4
	comp=E,1.1nm,0.6s,baz=151,slow=1.4,SNR=8.3								
ZAL	Zalesovo	148.64	27	PKPbc			PKPdf	12 47 03.9	+4.1
	comp=E,5.3nm,0.9s,baz=176,slow=3.3,SNR=22								
SONM	Songino Array	159.94	4	PKPab			PKPab	12 47 56.1	+1.6
	comp=E,0.4nm,0.8s,slow=3.7,SNR=3.5								

MAN 19 12:39:15.5,15.23N×120.40E,h85km,mb4.0,ML2.8, MS2.5,1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SCZP	Santa Cruz	0.72	319	*e*P			P	12 39 33.0	+0.9
SCZP				*e*S			S	12 39 48.5	+4.1
PCPH	Palayan	0.75	63	⇓*e*P			P	12 39 33.3	+0.9
PCPH				*e*S			S	12 39 48.5	+3.7
BOLP	Bolinao	1.24	338	*e*P			P	12 39 37.8	-0.4
BOLP				*e*S			S	12 39 57.0	+1.9
BALP	Baler	1.24	66	*e*P			P	12 39 39.5	+1.3
LUBP	Lubang	1.49	186	*e*P			P	12 39 42.4	+1.0
LUBP				*e*S			S	12 40 04.9	+4.4
CAUP	Cauayan	2.19	38	*e*P			P	12 39 49.8	-0.9
APYP	Conner	2.74	17	*e*P			P	12 39 55.9	-2.6
SJMP	San Jose	2.84	166	*e*P			P	12 39 59.5	-0.2

LDG ***19*** *13:38:58.6±0.0,47.34N×6.08E,h7km,Md3.1/3,Ml2.6/23, Error ellipse: s-maj=1.1km s-min=0.9km az=128.0*

CSEM ***19*** *13:38:58.5±0.1,47.33N×6.11E,h12km,ML2.6/20,Error ellipse: s-maj=1.7km s-min=1.3km az=113.0*

STR ***19*** *13:38:59.3±0.3,47.38N×6.16E,h19km±1km,Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

NEIC ***19*** *13:38:59.3,47.40N×6.10E,h20km,ML2.6(LDG), ML2.1(ZUR),After ZUR.*

BGR ***19*** *13:38:59.0±0.8,47.38N×6.14E,h20km±1km,ML1.9/1, Error ellipse: s-maj=8.9km s-min=4.4km az=39.0*

ZUR ***19*** *13:38:59.3,47.36N×6.11E,h20km,ML2.1/9*

ISC 19 13:38:56.1±0.3,47.32N±0.01×6.02E±0.02,h10km±2km, n59,σ1§23/137,2C-4D,France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
BRANT	Les Verrieres	0.49	141	⇓*i*Pg			Pg	13 39 09.3	+3.2
BRANT				*e*Sg			Sg	13 39 16.5	+3.8
LOMF	Lomont	0.55	86	*e*Pg			Pg	13 39 09.3	+2.0
	SNR=18								
LOMF				*e*Sg			Sg	13 39 15.4	+0.8
	SNR=1.6								
LOMF	Lomont	0.55	86	Pg			Pg	13 39 09.2	+2.0
LOMF				Sg			Sg	13 39 15.8	+1.2
CABF	La Chapelle	0.71	176	*e*Pn			Pn	13 39 13.9	+1.9
CABF				*e*Sg			Sg	13 39 22.3	+2.4
	53nm,0.2s								
HAU	Haudompre	0.72	18	*e*Pg			Pg	13 39 12.4	+1.7
HAU				*e*Sg			Sg	13 39 21.1	+0.7
	102nm,0.2s								
HINF	Hinteralfeld	0.75	48	*e*Pg			Pg	13 39 12.3	+1.0
HINF				*e*Pn			Pn	13 39 13.5	+0.9
HINF				*e*Sg			Sg	13 39 21.2	-0.1
	162nm,0.3s								
GIMEL	Gimel	0.80	168	⇓*i*Pn			Pn	13 39 15.4	+2.1
GIMEL				*e*Sn			Sn	13 39 26.6	+1.3
BOURR	Bourrignon	0.82	84	⇑*i*Pn			Pn	13 39 14.0	+0.4
TORNY	Torny	0.84	130	⇓*i*Pn			Pn	13 39 15.2	+1.3
TORNY				*i*Sn			Sn	13 39 26.2	-0.1
THEF	They Montfort	0.91	358	*e*Pg			Pg	13 39 15.5	+1.1
	SNR=30								
THEF				*e*Sg			Sg	13 39 27.2	+0.7
	SNR=1.8								
THEF	They Montfort	0.91	358	Pg			Pg	13 39 15.6	+1.2
THEF				Sg			Sg	13 39 27.9	+1.3
MOF	Molkenrain	0.92	54	*e*Pg			Pg	13 39 14.6	0.0
	SNR=22								
MOF				*e*Sg			Sg	13 39 26.0	-0.9
	SNR=1.1								
MOF	Molkenrain	0.92	54	Pg			Pg	13 39 15.2	+0.6
MOF				Sg			Sg	13 39 27.1	+0.1
BBS	Basel-Blauen	1.02	81	*e*Pg			Pg	13 39 16.4	-0.2
	SNR=8.4								
BBS				*e*Sg			Sg	13 39 29.1	-1.1
	SNR=1.9								
BBS	Basel-Blauen	1.02	81	Pg			Pg	13 39 16.3	-0.3
BBS				Sg			Sg	13 39 29.8	-0.4
BALST	Balsthal	1.14	88	⇑*i*Pn			Pn	13 39 18.2	+0.1
AIGLE	Aigle	1.17	146	*e*Pn			Pn	13 39 20.2	+1.7
ECH	Echery	1.18	40	*e*Pg			Pg	13 39 18.4	-1.4
	SNR=7.1								
ECH				*e*Sg			Sg	13 39 34.3	-1.2
	SNR=4.0								
ECH	Echery	1.18	40	Pg			Pg	13 39 19.4	-0.4
ECH				Sg			Sg	13 39 34.5	-1.1
SENIN	Lac Senin	1.30	137	*e*Pn			Pn	13 39 22.2	+1.8
MEZF	Maizieres J'vi	1.35	331	*e*Pn			Pn	13 39 22.2	+1.0
MEZF				*e*Pg			Pg	13 39 23.7	+0.5
	baz=134								
MEZF				*e*Sn			Sn	13 39 39.4	+0.1
	baz=143								
MEZF				*e*Sg			Sg	13 39 41.2	-0.1
	8.7nm,0.2s								
MEZF	Maizieres J'vi	1.35	331	*e*Pg			Pg	13 39 23.7	+0.5
MEZF				*e*Sn			Sn	13 39 39.4	+0.1
MEZF				*e*Sg			Sg	13 39 41.2	-0.1
	4.3nm,0.2s								
RFYF	Reffroy	1.36	344	*e*Pn			Pn	13 39 22.3	+1.0
RFYF				*e*Pg			Pg	13 39 23.9	+0.5
	baz=160								
RFYF				*e*Sn			Sn	13 39 39.9	+0.3
RFYF				*e*Sg			Sg	13 39 41.4	-0.2
	27nm,0.2s,baz=152								
RFYF	Reffroy	1.36	344	*e*Pg			Pg	13 39 23.9	+0.5
RFYF				*e*Sn			Sn	13 39 39.9	+0.3
RFYF				*e*Sg			Sg	13 39 41.4	-0.2
	13nm,0.2s								
CDF	Champ du Feu	1.38	37	*e*Pn			Pn	13 39 20.7	-0.9
CDF				*e*Pg			Pg	13 39 23.2	-0.6
CDF				*e*Sn			Sn	13 39 40.2	+0.1
	23nm,0.3s								
EMV	Vieux Emosson	1.39	154	⇓*i*Pn			Pn	13 39 23.7	+1.9
WLS	Welschbruch	1.42	39	*e*Pn			Pn	13 39 21.4	-0.7
WLS				*e*Sg			Sg	13 39 40.6	-2.8
	SNR=2.7								
WLS	Welschbruch	1.42	39	Pn			Pn	13 39 21.3	-0.8
SULZ	Sulz-Cheisache	1.44	81	*e*Pn			Pn	13 39 21.8	-0.6
FELD	Feldberg	1.45	67	*e*Pg			Pg	13 39 24.7	-0.5
	SNR=4.8								
FELD				*e*Sg			Sg	13 39 41.8	-2.7
	SNR=3.2								
FELD	Feldberg	1.45	67	Pn			Pn	13 39 21.8	-0.8
SMF	Signal de Mont	1.64	247	*e*Pn			Pn	13 39 26.5	+1.2
SMF				*e*Pg			Pg	13 39 30.0	+1.1
SMF				*e*Sn			Sn	13 39 47.3	+0.7
	13nm,0.2s								
SSF	Saint Saulge	1.74	262	*e*Pn			Pn	13 39 27.8	+1.1
SSF				*e*Pg			Pg	13 39 31.5	+0.6
SSF				*e*Sn			Sn	13 39 50.2	+1.2
SSF				*e*Sg			Sg	13 39 54.6	+0.6
	22nm,0.4s								
SSF	Saint Saulge	1.74	262	*e*Pg			Pg	13 39 31.5	+0.6
SSF				*e*Sn			Sn	13 39 50.2	+1.2
SSF				*e*Sg			Sg	13 39 54.6	+0.6
	11nm,0.4s								
BFO	Black Forest	1.85	56	*e*Pg			Pg	13 39 32.3	-0.9
	SNR=2.8								
BFO				*e*Sg			Sg	13 39 55.4	-2.6
	SNR=3.0								
LPL	La Plagne	1.87	165	*e*Pn			Pn	13 39 30.7	+2.2
LPL				*e*Sn			Sn	13 39 52.5	+0.1
LPL				*e*Sg			Sg	13 39 58.4	0.0
	5.4nm,0.3s								
LPG	La Plagne	1.89	164	*e*Pn			Pn	13 39 30.6	+1.7
AVF	Avril sur Loir	1.90	255	*e*Pn			Pn	13 39 30.1	+1.1
AVF				*e*Pg			Pg	13 39 34.7	+0.6
AVF				*e*Sn			Sn	13 39 53.4	+0.2
AVF				*e*Sg			Sg	13 40 01.6	+2.1
	3.7nm,0.2s								
HYF	Humbligny	2.30	270	*e*Pn			Pn	13 39 36.5	+1.7
HYF				*e*Pg			Pg	13 39 41.6	-0.6
HYF				*e*Sn			Sn	13 40 03.1	-0.4
HYF				*e*Sg			Sg	13 40 12.2	-0.7
BGF	Bois d'Agland	2.31	252	*e*Pn			Pn	13 39 35.7	+0.9
BGF				*e*Pg			Pg	13 39 41.7	-0.5
BGF				*e*Sn			Sn	13 40 03.0	-0.5
BGF	Bois d'Agland	2.31	252	*e*Pg			Pg	13 39 41.7	-0.5
BGF				*e*Sn			Sn	13 40 03.0	-0.5
ORIF	Oris-en-Rattie	2.40	182	*e*Pn			Pn	13 39 37.0	+0.8
ORIF				*e*Pg			Pg	13 39 44.1	0.0
ORIF				*e*Sn			Sn	13 40 06.0	0.0
ORIF				*e*Sg			Sg	13 40 14.0	-2.2
	8.8nm,0.2s								
VIVF	Saint-Julien-l	2.63	201	*e*Pn			Pn	13 39 39.6	+0.1
VIVF				*e*Pg			Pg	13 39 48.4	-0.4
VIVF				*e*Sn			Sn	13 40 11.4	-0.5
VIVF				*e*Sg			Sg	13 40 21.7	-2.2
	7.0nm,0.2s								
MBDF	Montbardon	2.64	168	*e*Pn			Pn	13 39 40.4	+0.7
MBDF				*e*Pg			Pg	13 39 47.6	-1.3
MBDF				*e*Sn			Sn	13 40 09.9	-2.2
	2.8nm,0.4s								
MBDF				*e*Sg			Sg	13 40 22.0	-2.2
	1.5nm,0.2s								
TCF	Toulx Ste Croi	2.81	250	*e*Pn			Pn	13 39 43.0	+0.9
TCF				*e*Pg			Pg	13 39 51.1	-1.3
TCF				*e*Sn			Sn	13 40 15.5	-0.9
TCF				*e*Sg			Sg	13 40 28.2	-1.7
	2.5nm,0.2s								
GIVF	Givet	2.90	345	*e*Pn			Pn	13 39 43.0	-0.3
GIVF				*e*Sn			Sn	13 40 16.5	-2.1
GIVF				*e*Sg			Sg	13 40 28.2	-4.5
	2.7nm,0.3s								
BAIF	Baives	3.00	337	*e*Pn			Pn	13 39 45.0	+0.3
BAIF				*e*Pg			Pg	13 39 53.8	-2.2
BAIF				*e*Sn			Sn	13 40 19.2	-1.8
BAIF				*e*Sg			Sg	13 40 30.8	-5.1
	1.2nm,0.2s								
SMRF	Simiane la Rot	3.36	186	*e*Pn			Pn	13 39 50.7	+0.9
SMRF				*e*Sn			Sn	13 40 28.2	-2.0
SMRF				*e*Sg			Sg	13 40 44.7	-3.2
	1.0nm,0.3s								
LASF	Ste Croix	3.58	206	*e*Pn			Pn	13 39 52.8	-0.2
LASF				*e*Pg			Pg	13 40 06.2	-1.4
LASF				*e*Sn			Sn	13 40 33.7	-2.1
LASF				*e*Sg			Sg	13 40 51.3	-4.1
	4.3nm,0.4s								
SBF	Sospel	3.59	163	*e*Pn			Pn	13 39 53.6	+0.4
CAF	Calviac	3.65	230	*e*Pn			Pn	13 39 54.4	+0.5
CAF				*e*Sn			Sn	13 40 35.4	-2.1
FRF	La Foret Royal	3.78	173	*e*Pn			Pn	13 39 56.3	+0.5
FRF				*e*Sn			Sn	13 40 38.5	-2.4
	1.6nm,0.2s								
LMR	La Mourre	4.00	175	*e*Pn			Pn	13 39 59.1	+0.2
LMR				*e*Sn			Sn	13 40 42.3	-4.1
	0.9nm,0.3s								
MFF	Saint Martin d	4.29	263	*e*Pn			Pn	13 40 03.1	+0.1
LDF	La Druitiere	4.32	289	*e*Pn			Pn	13 40 02.1	-1.4
LDF				*e*Sn			Sn	13 40 50.7	-3.9
LDF				*e*Sg			Sg	13 41 14.8	-5.3
	3.2nm,0.2s								
FLN	La Foliniere	4.60	291	*e*Sg			Sg	13 41 22.6	-6.6
	3.7nm,0.3s,baz=114								
GRR	Gorron	4.76	286	*e*Pn			Pn	13 40 08.9	-0.8
MTLF	Montolieu	4.80	215	*e*Pn			Pn	13 40 09.7	-0.6
MTLF				*e*Sn			Sn	13 41 03.5	-3.1
ROSF	Rostrenen	6.34	283	*e*Pg			Pg	13 40 56.1	-6.7

IDC 19 13:44:27.7±9.7,5.83S×154.08E,h50km±72km,mb3.2/3, mb1 3.6/4,mb1mx3.5/12,mbtmp3.7/4,ML3.5/1,MS3.1/2, Ms1 3.1/2,ms1mx2.8/5,Error ellipse: s-maj=77.0km s-min=35.6km az=101.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
PMG	Port Moresby	7.73	242	P			P	13 46 17.2	-2.9
	3.7nm,0.3s,baz=48,slow=13,SNR=23								
PMG				S			S	13 47 45.3	-1.8
	2.0nm,0.3s,baz=341,slow=21,SNR=7.7								
PMG				LR			LR	13 49 08.8	
	comp=Z,80nm,20.8s,baz=82,slow=36								
WRA	Warramunga Arr	23.77	232	P			P	13 49 36.7	+0.1
	0.5nm,0.7s,baz=57,slow=9.9,SNR=4.1								
WRA				PcP			PcP	13 53 18.3	-2.6
	0.6nm,0.5s,baz=61,slow=2.4,SNR=7.0								
ASAR	Alice Springs	26.30	226	P			P	13 49 58.0	-2.6
	0.5nm,0.7s,baz=58,slow=9.7,SNR=5.3								
ASAR				PcP			PcP	13 53 24.1	-2.2
	0.9nm,0.6s,baz=65,slow=2.6,SNR=13								
ASAR				LR			LR	14 00 04.1	
	comp=Z,70nm,18.4s,baz=102,slow=36								
SONM	Songino Array	67.88	327	P			P	13 55 20.9	-2.1
	0.3nm,0.4s,baz=135,slow=6.5,SNR=6.3								

HEL ***19*** *14:02:08.8±0.2,60.94N×29.24E,ML1.6,ML1.6(UPP), Explosion*

IDC ***19*** *14:02:10.7±2.0,60.88N×29.02E,mb1 3.4/3, mb1mx3.1/17,mbtmp3.4/3,ML2.5/3,Error ellipse: s-maj=17.1km s-min=10.8km az=161.0*

ISC 19 14:02:04.7±0.8,60.96N±0.04×29.39E±0.10,n18,σ1§11/29, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
VJF	Virojoki	0.99	246	*e*P			Pn	14 02 24.1	-0.4
VJF				*e*S			Sg	14 02 36.6	-1.1
FIA0	FINESS Array S	1.68	288	*e*P			Pn	14 02 37.0	+1.5
FIA0				*e*S			Sb	14 02 58.6	+0.8
FINES	FINESS Array B	1.68	288	Pg			Pg	14 02 37.2	-1.0
	0.5nm,0.3s,baz=111,slow=15,SNR=27								
FINES				Lg				14 02 58.8	
	3.1nm,0.3s,baz=109,slow=30,SNR=52								
FINES				Rg				14 03 06.2	
	18nm,0.8s,baz=120,slow=31,SNR=29								
PVF	Pernaja	1.78	258	*e*P			Pn	14 02 38.2	+1.3
PVF				*e*S			Sn	14 03 01.3	+0.7
PVF				MSG				14 03 04.5	
	comp=Z,8.4nm,0.1s								
KAF	Kangasniemi	1.88	309	*e*PG			Pg	14 02 42.1	-0.1
KAF				*e*S			Sn	14 03 04.7	+1.6
KAF				MSG				14 03 08.6	
	comp=Z,4.9nm,0.1s								
JOF	Joensuu	2.17	24	*e*PG			Pg	14 02 48.6	+0.6
JOF				*e*SG			Sg	14 03 16.8	0.0
JOF				MSG				14 03 21.6	
	comp=Z,1.6nm,0.1s								
SUF	Sumiainen	2.34	320	*e*PG			Pg	14 02 50.1	-1.4
SUF				*e*SG			Sg	14 03 19.6	-3.1
SUF				MSG				14 03 24.1	
	comp=Z,2.4nm,0.1s								
KEF	Keuruu	2.48	301	*e*PB			Pb	14 02 50.5	+0.6
KEF				*e*SB			Sb	14 03 22.4	+1.3
KEF				MSG				14 03 25.1	
	comp=Z,1.7nm,0.1s								
AAL	Aland	4.70	265	*e*P			Pn	14 03 19.7	+1.1
GOTU	Gotland	6.44	244	*e*P			Pn	14 03 43.7	+0.7
GOTU				*e*S			Sn	14 04 53.8	-4.4
VIKU	Vikbolandet	6.87	255	*e*P			Pn	14 03 49.7	+0.5
VSTU	Vaestervik	7.36	249	*e*P			Pn	14 03 55.9	-0.1
LNKU	Linkoeping	7.56	255	*e*P			Pn	14 03 58.8	-0.1
HFS	Hagfors	7.78	271	Pn			Pn	14 04 01.2	-0.8
	comp=Z,0.0nm,0.3s,baz=79,slow=15,SNR=2.2								
HFS				Sn			Sn	14 05 24.5	-7.3
	comp=Z,0.0nm,0.3s,baz=87,slow=27,SNR=2.3								
HFS				Lg				14 06 09.2	
	comp=Z,0.0nm,0.3s,baz=93,slow=32,SNR=2.5								
OSKU	Oskarshamn	7.81	247	*e*P			Pn	14 04 01.2	-1.1
EKSU	Eksjoe	7.97	251	*e*P			Pn	14 04 03.4	-1.2
ARCES	ARCESS Array B	8.77	351	Pn			P	14 04 16.4	+0.8
	comp=Z,0.1nm,0.3s,baz=166,slow=12,SNR=6.4								
ARCES				Sn			Sn	14 05 53.1	-3.2
	comp=Z,0.1nm,0.3s,baz=70,slow=25,SNR=2.9								
NOA	NORSAR Array B	8.83	278	Pn			P	14 04 15.2	-1.3
	comp=Z,0.1nm,0.3s,baz=349,slow=18,SNR=2.6								
NOA				Sn			Sn	14 05 49.8	-8.2
	comp=Z,0.1nm,0.3s,baz=299,slow=13,SNR=3.1								
NOA				Lg				14 06 42.9	
	com

BDFB					LR	LR	14 39 55.5			
	comp=E,2μm,18.2s,MS4.6,baz=239,slow=40									
BAO	**Brasilia Array**	**24.81**	**66**	P		**P**	**14 28 49.0**	**-0.7**		
USHA	**Ushuaia**	**27.06**	**176**	P		**P**	**14 29 09.6**	**-0.7**		
	comp=E,14nm,1.1s,mb4.4,baz=16,slow=17,SNR=2.9									
USHA					LR	LR	14 40 42.0			
	comp=E,710nm,19.4s,MS4.2,baz=206,slow=38									
SDV	**Santo Domingo**	**36.51**	**1**	*eP*		**P**	**14 30 32.7**	**-0.8**		
	comp=E,6.5nm,0.9s,mb4.5									
JTS	**JuntasAbangare**	**40.12**	**339**	P		**P**	**14 31 05.4**	**+1.7**		
	comp=E,3.7nm,0.7s,mb4.3,baz=60,slow=23,SNR=2.4									
SJG	**San Juan**	**45.95**	**7**	*eP*		**P**	**14 31 49.5**	**-1.5**		
	comp=E,8.3nm,0.4s,mb5.0									
TEIG	**Tepich**	**50.50**	**339**	*eP*		**P**	**14 32 26.2**	**-0.2**		
	comp=E,7.8nm,0.7s,mb4.8									
VNA2	**Neumayer--Watz**	**55.50**	**159**	⇑*i*		**P**	**14 33 03.5**	**+0.6**		
VNA2	**Neumayer--Watz**	**55.50**	**159**	⇑*i*		**P**	**14 33 04.4**	**+1.5**		
VNA2	**Neumayer--Watz**	**55.50**	**159**	⇑*i*		pP	14 33 14.4	+4.0		
VNA2	**Neumayer--Watz**	**55.50**	**159**	⇑*i*		pP	14 33 14.7	+4.3		
SNAA	**Sanae**	**57.10**	**159**	*eP*		**P**	**14 33 13.3**	**-1.0**		
	comp=E,14nm,0.8s,mb5.1									
QSPA	**South Pole Qui**	**62.38**	**180**	*eP*		**P**	**14 33 50.4**	**-0.2**		
	comp=E,115nm,0.7s									
JCT	**Junction City**	**64.04**	**333**	*eP*		**P**	**14 34 02.2**	**+0.1**		
	comp=E,9.5nm,0.9s,mb4.8									
SWET	**Sewanee**	**64.20**	**347**	*eP*		**P**	**14 34 02.3**	**-0.8**		
TXAR	**Lajitas Array**	**64.71**	**329**	P		**P**	**14 34 07.2**	**+0.7**		
	comp=E,0.9nm,0.8s,mb3.9,baz=150,slow=7.9,SNR=9.4									
TXAR	**Lajitas Array**	**64.71**	**329**	P		**P**	**14 34 07.2**	**+0.7**		
WVT	**Waverly**	**65.49**	**345**	*eP*		**P**	**14 34 08.9**	**-2.5**		
	comp=E,7.7nm,0.8s,mb4.8									
GDL2	**Guadalupe Moun**	**67.46**	**330**	*eP*		**P**	**14 34 24.9**	**+0.9**		
FVM	**French Village**	**67.87**	**344**	*eP*		**P**	**14 34 26.1**	**-0.4**		
	comp=E,34nm,1.1s,mb5.3									
CPRX	**Cap Rock**	**67.95**	**331**	*eP*		**P**	**14 34 28.0**	**+0.9**		
CCM	**Cathedral Cave**	**68.14**	**343**	*eP*		**P**	**14 34 28.0**	**-0.2**		
	comp=E,19nm,1.0s,mb5.1									
VNDA	**Vanda**	**70.25**	**191**	P		**P**	**14 34 41.5**	**+1.0**		
	comp=E,0.8nm,0.8s,mb3.7,baz=172,slow=7.1,SNR=2.8									
DBIC	**Dimbokro**	**72.71**	**73**	P		**P**	**14 34 56.5**	**+0.2**		
	comp=E,37nm,0.8s,mb5.4,baz=214,slow=6.2,SNR=51									
DBIC	**Dimbokro**	**72.71**	**73**	*eP*		**P**	**14 34 56.0**	**-0.4**		
	comp=E,38nm,0.9s,mb5.3									
DBIC					*ep*P	pP	14 35 03.9	-0.2		
MSU	**Marysvale**	**76.25**	**328**	*eP*		**P**	**14 35 16.3**	**0.0**		
HWUT	**Hardware Ranch**	**78.47**	**330**	*eP*		**P**	**14 35 29.5**	**+1.0**		
	comp=E,5.7nm,0.8s,mb4.5									
PDAR	**Pinedale Array**	**78.56**	**332**	P		**P**	**14 35 29.1**	**+0.2**		
	comp=E,0.9nm,0.8s,mb3.8,baz=124,slow=5.3,SNR=8.1									
MAW	**Mawson**	**78.91**	**164**	P		**P**	**14 35 31.4**	**+1.0**		
	comp=E,2.9nm,0.7s,mb4.3,baz=107,slow=20,SNR=6.9									
NVAR	**Mina Array Bea**	**79.20**	**324**	P		**P**	**14 35 34.4**	**+1.8**		
	comp=E,0.5nm,0.5s,mb3.7,baz=177,slow=6.5,SNR=4.2									
SNOW	**Snow King Moun**	**79.64**	**332**	P		**P**	**14 35 36.2**	**+1.4**		
TPAW	**Teton Pass**	**79.74**	**332**	*eP*		**P**	**14 35 36.3**	**+1.0**		
TSUM	**Tsumeb**	**80.36**	**107**	*eP*		**P**	**14 35 39.9**	**+0.7**		
	comp=E,5.5nm,0.9s,mb4.5									
ULM	**Lac du Bonnet**	**80.72**	**344**	P		**P**	**14 35 40.7**	**+0.3**		
	comp=E,2.5nm,0.6s,mb4.3,baz=164,slow=4.6,SNR=6.3									
QLMT	**Earthquake Lak**	**81.03**	**332**	P		**P**	**14 35 44.5**	**+2.3**		
MCMT	**McKenzie Canyo**	**81.62**	**332**	*eP*		**P**	**14 35 47.3**	**+2.0**		
SCHQ	**Schefferville**	**82.42**	**3**	P		**P**	**14 35 50.4**	**+1.2**		
	comp=E,2.9nm,1.0s,mb4.2,baz=243,slow=4.5,SNR=2.9									
CASY	**Casey**	**86.18**	**181**	*eP*		**P**	**14 36 09.1**	**+1.3**		
	comp=E,14nm,0.8s,mb5.3									
CASY					*ep*P	pP	14 36 16.9	+1.2		
EDM	**Edmonton**	**88.59**	**336**	*eP*		**P**	**14 36 19.6**	**-0.2**		
EDM					*ep*P	pP	14 36 27.4	-0.3		
ESDC	**Sonseca Array**	**91.86**	**45**	P		**P**	**14 36 35.7**	**+0.3**		
	comp=E,0.4nm,0.6s,mb3.9,baz=251,slow=4.4,SNR=4.3									
YKA	**Yellowknife Ar**	**96.42**	**341**	P		**P**	**14 36 55.7**	**0.0**		
	comp=E,0.5nm,0.8s,mb4.3,baz=141,slow=4.3,SNR=13									
YKA	**Yellowknife Ar**	**96.42**	**341**	P		**P**	**14 36 55.7**	**0.0**		
CLL	**Collm**	**107.87**	**41**	*e*			14 41 56.0			
CLL					*ep*PP	PP	14 42 15.0	-4.1		
ASAR	**Alice Springs**	**123.30**	**208**	PKP		PKPdf	14 42 24.5	-3.5		
	comp=E,1.5nm,0.8s,baz=132,slow=1.6,SNR=23									
ASAR					PKKPbc		14 52 15.2			
	comp=E,0.4nm,0.6s,baz=339,slow=3.7,SNR=6.5									
WB2	**Warramunga Arr**	**126.39**	**210**	*eP*		PKPdf	14 42 30.5	-3.6		
WRA	**Warramunga Arr**	**126.39**	**210**	PKP		PKPdf	14 42 30.9	-3.1		
	comp=E,2.8nm,0.7s,baz=161,slow=1.7,SNR=14									
FITZ	**Fitzroy Crossi**	**131.46**	**202**	*eP*		PKPdf	14 42 41.6	-2.3		
	comp=E,4.2nm,0.6s									
KURK	**Kurchatov**	**147.77**	**37**	*eP*		PKPdf	14 43 09.1	-2.9		
ZAL	**Zalesovo**	**148.59**	**27**	PKP		PKPdf	14 43 11.7	-1.6		
	comp=E,15nm,0.8s,baz=168,slow=3.0,SNR=15									
ZAL					PKPbc	PKPdf	14 43 15.3	+2.1		
	comp=E,15nm,0.8s,baz=177,slow=3.2,SNR=62									
ZAL	**Zalesovo**	**148.59**	**27**	PKP		PKPdf	14 43 11.7	-1.5		
ZAL					PKPbc	PKPdf	14 43 15.3	+2.1		
AAK	**Ala-Archa**	**148.68**	**53**	*eP*		PKPdf	14 43 11.6	-2.2		
HYB	**Hyderabad**	**150.42**	**104**	‖*eP*		PKPdf	14 43 20.0	+2.8		
HYB	**Hyderabad**	**150.42**	**104**	‖↑PKP		PKPdf	14 43 20.0	+2.8		
HYB					*ep*PKP		14 43 26.0			
HYB					*es*PKP		14 43 31.0			
WMQ	**Urumqi**	**156.79**	**41**	*e*PKP		PKPdf	14 43 21.5	-3.8		
WMQ					APKP		14 43 32.0			
WMQ					PKS	PKS	14 46 54.0	+0.4		
WMQ					*e*PP	PP	14 47 32.0	-0.1		
WMQ					PP	PP				
	comp=Z,113nm,6.7s									
WMQ					LR	LR				
	comp=Z,85nm,28.4s,MS4.4									
SONM	**Songino Array**	**159.95**	**4**	PKP		PKPdf	14 43 27.2	-1.8		
	comp=Z,0.7nm,0.9s,baz=315,slow=1.7,SNR=4.7									
SONM					PKPab	PKPab	14 44 06.2	-0.1		
	comp=Z,0.8nm,0.8s,baz=346,slow=5.1,SNR=5.2									
HHC	**Hu-ho-hao-te**	**166.80**	**350**	*e*PKP		PKPdf	14 43 33.9	-1.9		

*NEIC **19** 14:40:39.0, 43.24S×171.61E, h14km, ML4.2(WEL), After WEL.*

WEL 19 14:40:38.9±0.1, 43.22S×171.62E, h10km±1km, ML4.2/20, 3C-2D, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.65**	**48**	P	Pb	14 40 51.6	-0.2
LTZ				S	Sg	14 41 00.3	-0.3
LTZ	**Lake Taylor**	**0.65**	**48**	⇑P*	Pb	14 40 51.6	-0.2
LTZ				S*	Sb	14 41 00.2	-0.5
RPZ	**Rata Peaks**	**0.65**	**220**	P	Pb	14 40 51.0	-0.8
RPZ	**Rata Peaks**	**0.65**	**220**	⇑P*	Pb	14 40 51.0	-0.8
RPZ				S*	Sb	14 40 59.8	-0.8
WVZ	**Waitaha Valley**	**0.66**	**282**	P	Pb	14 40 51.4	-0.7
CRLZ	**Canterbury Las**	**0.81**	**116**	P	Pb	14 40 54.3	-0.4
CRLZ	**Canterbury Las**	**0.81**	**116**	⇓P*	Pb	14 40 54.3	-0.3
CRLZ				S*	Sb	14 41 05.5	0.0
MQZ	**McQueen's Vall**	**0.90**	**123**	P	Pb	14 40 55.4	-0.7
MQZ	**McQueen's Vall**	**0.90**	**123**	⇓P*	Pb	14 40 55.4	-0.7
MQZ				S*	Sb	14 41 07.6	-0.3
FOZ	**Fox Glacier**	**1.45**	**256**	PN	Pn	14 41 04.0	-1.4
FOZ				SN	Sn	14 41 22.0	-2.6
DSZ	**Denniston Nort**	**1.48**	**5**	P	Pn	14 41 05.0	-0.7
DSZ	**Denniston Nort**	**1.48**	**5**	PN	Pn	14 41 04.9	-0.9
DSZ				SN	Sn	14 41 24.7	-0.6
LBZ	**Lake Benmore**	**1.56**	**221**	*eP*	Pn	14 41 05.4	-1.6
LBZ	**Lake Benmore**	**1.56**	**221**	PN	Pn	14 41 05.2	-1.7
KHZ	**Kahutara**	**1.62**	**61**	*eP*	Pn	14 41 06.5	-1.3
KHZ	**Kahutara**	**1.62**	**61**	PN	Pn	14 41 06.5	-1.3
KHZ				SN	Sn	14 41 27.1	-1.8
THZ	**Tophouse**	**1.74**	**34**	P	Pn	14 41 08.9	-0.5
THZ	**Tophouse**	**1.74**	**34**	PN	Pn	14 41 08.8	-0.6
ODZ	**Otahua Downs**	**1.96**	**201**	P	Pn	14 41 10.2	-2.4
ODZ	**Otahua Downs**	**1.96**	**201**	⇑PN	Pn	14 41 10.2	-2.4
BSWZ	**Blackbirch Sta**	**2.25**	**49**	PN	Pn	14 41 15.7	-1.0
JCZ	**Jackson Bay**	**2.25**	**247**	P	Pn	14 41 15.9	-0.9
JCZ	**Jackson Bay**	**2.25**	**247**	PN	Pn	14 41 15.7	-1.0
NNZ	**Nelson**	**2.39**	**34**	*eP*	Pn	14 41 18.4	-0.4
NNZ	**Nelson**	**2.39**	**34**	PN	Pn	14 41 18.3	-0.5
WKZ	**Wanaka**	**2.47**	**229**	*eP*	Pn	14 41 17.3	-2.7
WKZ	**Wanaka**	**2.47**	**229**	PN	Pn	14 41 17.2	-2.8
TUWZ	**Tuamarina**	**2.48**	**45**	PN	Pn	14 41 18.9	-1.2
QRZ	**Quartz Range**	**2.48**	**16**	*eP*	Pn	14 41 18.2	-1.9
QRZ	**Quartz Range**	**2.48**	**16**	PN	Pn	14 41 18.1	-2.1
EAZ	**Earnscleugh**	**2.61**	**219**	*eP*	Pn	14 41 18.9	-3.1
EAZ	**Earnscleugh**	**2.61**	**219**	PN	Pn	14 41 18.7	-3.3
SNZO	**South Karori**	**2.98**	**51**	*eP*	Pn	14 41 30.9	+3.7
MSZ	**Milford Sound**	**3.04**	**240**	*e*PN	Pn	14 41 22.6	-5.5
TUZ	**Tuapeka**	**3.08**	**207**	P	Pn	14 41 25.8	-2.9
TUZ	**Tuapeka**	**3.08**	**207**	PN	Pn	14 41 25.8	-2.9
MLZ	**Mavora Lakes**	**3.27**	**228**	*eP*	Pn	14 41 28.6	-2.7
MLZ	**Mavora Lakes**	**3.27**	**228**	PN	Pn	14 41 28.5	-2.8
CAW	**Cannon Point**	**3.32**	**52**	P	Pn	14 41 28.9	-3.1
CAW	**Cannon Point**	**3.32**	**52**	PN	Pn	14 41 28.9	-3.1
KIW	**Kapiti Island**	**3.40**	**47**	P	Pn	14 41 31.0	-2.1
MTW	**Mount Morrison**	**3.54**	**56**	P	Pn	14 41 32.9	-2.3
WHZ	**Wether Hill Ro**	**3.75**	**223**	*eP*	Pn	14 41 33.9	-4.2
MRZ	**Mangatainoka R**	**3.90**	**50**	*eP*	Pn	14 41 36.4	-3.9
MRZ	**Mangatainoka R**	**3.90**	**50**	PN	Pn	14 41 36.2	-4.1
NRZ	**Ngariki Road**	**4.25**	**25**	P	Pn	14 41 45.7	+0.4
WAZ	**Wanganui**	**4.28**	**37**	*eP*	Pn	14 41 47.1	+1.4
PKE	**Pukeiti**	**4.40**	**25**	P	Pn	14 41 46.5	-0.9
RAEZ	**Rainy Point**	**4.45**	**29**	P	Pn	14 41 51.2	+3.1
VRZ	**Vera Road**	**4.72**	**31**	*eP*	Pn	14 41 51.8	-0.2
WNVZ	**Wahianoa**	**4.91**	**39**	P	Pn	14 41 54.7	+0.1

*BJI **19** 15:02:41.6,20.19S×174.11W,h15km,mB6.4,mb5.9, Ms6.0,Ms25.8*

*NEIC **19** 15:02:42.7±0.1,20.41S×174.34W,h18km,mb5.9/93, ME5.8,MS5.9/42,MW6.0,Error ellipse: s-maj=4.7km s-min=2.6km az=131.0 Broadband fault plane solution: P waves. NP1:φ≈200°,δ30°,λ90°. NP2:φ≈20°,δ60°,λ90°. Principal axes: T Plg75°, Azm290°; N Plg0°, Azm0°; P Plg15°, Azm110°; Moment Tensor Solution. s45 Moment tensor: Scale 10¹⁸ Nm; Mrr1.07; Mθθ-0.04; Mφφ-1.03; Mrθ-0.29; Mθφ-0.49; Mφr0.44; Best double couple: Mo1.3×10¹⁸ NP1:φ≈222°,δ42°,λ122°. NP2:φ≈2°, δ56°,λ65°. Principal axes: T 1.28, Plg68°, Azm219°; N -.01, Plg21°, Azm17°; P -1.27, Plg8°, Azm110°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

*HRVD **19** 15:02:42.7±0.1,20.55S×173.64W,h20km,MW6.1/85, Centroid moment Tensor Solution. LP body waves: s78,c184;Mantle waves: s85,c324; Half duration: 2s7 Moment tensor: Scale 10¹⁸Nm; Mrr1.26±.01; Mθθ-0.05±.01; Mφφ-1.21±.01; Mr0.42±.02; Mθφ-0.51±.01; Mφr0.78±.02; Best double couple: Mo1.601×10¹⁸ NP1: φ≈195°,δ28°,λ81°. NP2:φ≈25°,δ62°,λ95°. Principal axes: T 1.534, Plg73°, Azm306°; N .134, Plg4°, Azm203°; P -1.668, Plg17°, Azm112°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BGS **19** 15:02:43.9,20.41S×174.34W,h18km*

*MOS **19** 15:02:45.7±0.9,19.98S×174.07W,h33km,mb6.0/56, MS5.9/36,Error ellipse: s-maj=12.4km s-min=7.3km az=71.6*

*IDC **19** 15:02:47.7±2.5,20.44S×174.40W,h52km±21km,mb5.1/25, mb1 5.1/27,mb1mx5.1/27,mbtmp5.3/27,ML5.2/2,MS5.7/18, Ms1 5.7/18,ms1mx5.6/20,Error ellipse: s-maj=14.5km s-min=9.8km az=152.0*

ISC 19 15:02:43.0±0.1, 20.51S±0.03×174.28W±0.03, h31km, h31km±.4km:pP-P,n880,σ1918/439, mb5.8/140, MS5.8/91, 116C-16D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.99**	**20**	*eP*	**Pn**	**15 04 18.9**	**-7.0**
AFI				*e*		15 05 28.3	
AFI				pmax	pmax		
	comp=Z,464nm,0.6s						
AFI	**Afiamalu**	**6.99**	**20**	*e*Pn	**Pn**	**15 04 18.9**	**-7.1**
	comp=Z,464nm,0.6s						
AFI				*e*Sn	**Sn**	**15 05 28.3**	**-17**
RAO	**Raoul Island**	**9.31**	**200**	Pn	**P**	**15 04 52.5**	**-5.8**
	comp=Z,922nm,0.7s						
RAO				*e*Sn	**Sn**	**15 06 30.5**	**-12**
RAR	**Rarotonga**	**13.58**	**96**	P	**P**	**15 05 44.0**	**-12**
	comp=Z,11nm,0.3s,baz=257,slow=8.0,SNR=42						
RAR				S	S	15 08 02.6	-24
	comp=Z,8.4nm,0.3s,baz=70,slow=20,SNR=5.0						
RAR	**Rarotonga**	**13.58**	**96**	*eP*	**P**	**15 05 43.4**	**-13**
RAR				*ep*P		15 05 56.1	
RAR				*e*S	S	15 07 56.5	-30
DZM	**Mont Dzumac**	**18.03**	**262**	⇑*eP*	**P**	**15 06 56.5**	**+3.3**
NOUC	**Port Laguerre**	**18.16**	**262**	⇑*iP*	**P**	**15 06 57.8**	**+3.1**
NOUC	**Port Laguerre**	**18.16**	**262**	⇑*iP*	**P**	**15 06 57.8**	**+3.1**
WCZ	**Waipu Caves**	**18.33**	**211**	*eP*	**P**	**15 06 56.9**	**+0.1**
WCZ	**Waipu Caves**	**18.33**	**211**	PN	**P**	**15 06 56.9**	**+0.1**
WCZ	**Waipu Caves**	**18.33**	**211**	PN	**P**	**15 06 56.9**	**+0.1**
KUZ	**Kuaotunu**	**18.39**	**206**	*eP*	**P**	**15 06 58.3**	**+0.8**
KUZ	**Kuaotunu**	**18.39**	**206**	PN	**P**	**15 06 58.6**	**+1.2**
KUZ	**Kuaotunu**	**18.39**	**206**	PN	**P**	**15 06 58.6**	**+1.2**
MTAZ	**Motutapu**	**18.77**	**208**	P	**P**	**15 07 02.9**	**+0.9**
MTAZ	**Motutapu**	**18.77**	**208**	PN	**P**	**15 07 02.8**	**+0.8**
MTAZ	**Motutapu**	**18.77**	**208**	PN	**P**	**15 07 02.8**	**+0.8**
WTAZ	**Waiatarua**	**19.04**	**208**	*eP*	**P**	**15 07 07.3**	**+2.0**
WTAZ	**Waiatarua**	**19.04**	**208**	PN	**P**	**15 07 07.3**	**+2.0**
WTAZ	**Waiatarua**	**19.04**	**208**	PN	**P**	**15 07 07.3**	**+2.0**
MWZ	**Matawai**	**19.13**	**200**	P	**P**	**15 07 06.7**	**+0.4**
MWZ	**Matawai**	**19.13**	**200**	PN	**P**	**15 07 06.5**	**+0.2**
MWZ				*e*SN	**S**	**15 10 24.5**	**-11**
MWZ	**Matawai**	**19.13**	**200**	PN	**P**	**15 07 06.5**	**+0.2**
MWZ				*e*SN	**S**	**15 10 24.5**	**-11**
URZ	**Urewera**	**19.20**	**201**	P	**P**	**15 07 06.5**	**-0.6**
	comp=Z,7.2nm,0.3s,baz=26,slow=6.8,SNR=24						
URZ				S	**S**	**15 10 27.3**	**-9.3**
	comp=Z,3.2nm,0.3s,baz=222,slow=20,SNR=5.0						
URZ				LR	LR	15 13 53.6	
	comp=Z,23μm,20.7s,baz=16,slow=35						
URZ	**Urewera**	**19.20**	**201**	PN	**P**	**15 07 05.7**	**-1.4**
URZ				*e*SN	**S**	**15 10 24.7**	**-12**
URZ	**Urewera**	**19.20**	**201**	PN	**P**	**15 07 05.7**	**-1.4**
URZ				*e*SN	**S**	**15 10 24.7**	**-12**
BKZ	**Black Stump Fm**	**20.22**	**201**	*eP*	**P**	**15 07 18.2**	**-0.1**
BKZ	**Black Stump Fm**	**20.22**	**201**	*eP*N	**P**	**15 07 16.8**	**-1.5**
BKZ	**Black Stump Fm**	**20.22**	**201**	*eP*N	**P**	**15 07 16.8**	**-1.5**
HIZ	**Hauiti**	**20.25**	**205**	*eP*	**P**	**15 07 18.1**	**+0.5**
HIZ	**Hauiti**	**20.25**	**205**	PN	**P**	**15 07 18.6**	**0.0**
HIZ	**Hauiti**	**20.25**	**205**	PN	**P**	**15 07 18.6**	**0.0**
VRZ	**Vera Road**	**20.82**	**205**	*eP*	**P**	**15 07 25.0**	**+0.6**
VRZ	**Vera Road**	**20.82**	**205**	*eP*N	**P**	**15 07 23.7**	**-0.8**
VRZ	**Vera Road**	**20.82**	**205**	*eP*N	**P**	**15 07 23.7**	**-0.8**
BFZ	**Birch Farm**	**21.67**	**200**	*eP*N	**P**	**15 07 34.0**	**+1.0**
BFZ	**Birch Farm**	**21.67**	**200**	*eP*N	**P**	**15 07 34.0**	**+1.0**
MRZ	**Mangatainoka R**	**21.87**	**201**	*eP*	**P**	**15 07 33.6**	**-1.5**
MRZ	**Mangatainoka R**	**21.87**	**201**	*eP*N	**P**	**15 07 32.8**	**-2.3**
MRZ	**Mangatainoka R**	**21.87**	**201**	*eP*N	**P**	**15 07 32.8**	**-2.3**
SNZO	**South Karori**	**22.75**	**202**	*eP*	**P**	**15 07 44.4**	**+0.6**
	comp=Z,398nm,1.3s,mb5.7						
SNZO				*e*S	**S**	**15 11 40.8**	**-5.0**
SNZO				LR	LR		
	comp=Z,21μm,19.0s,MS5.6						
NNZ	**Nelson**	**23.16**	**204**	*eP*	**P**	**15 07 45.2**	**-2.5**
NNZ	**Nelson**	**23.16**	**204**	PN	**P**	**15 07 45.2**	**-2.5**
NNZ				*e*SN	**S**	**15 11 52.9**	**-0.1**
NNZ	**Nelson**	**23.16**	**204**	PN	**P**	**15 07 45.2**	**-2.5**
NNZ				*e*SN	**S**	**15 11 52.9**	**-0.1**
QRZ	**Quartz Range**	**23.16**	**206**	*eP*	**P**	**15 07 47.1**	**-0.7**
QRZ	**Quartz Range**	**23.16**	**206**	PN	**P**	**15 07 47.1**	**-0.7**
QRZ	**Quartz Range**	**23.16**	**206**	PN	**P**	**15 07 47.1**	**-0.7**
TBI	**Tubuai**	**23.19**	**102**	*eP*	**P**	**15 07 44.9**	**-3.4**
	comp=Z,1μm,1.3s,mb6.1						
TBI				*e*LQ		15 12 10.9	
TBI				*e*LR	LR	15 13 16.3	
	comp=Z,51μm,28.8s,baz=275						
PAE	**Paea**	**23.51**	**87**	*eP*	**P**	**15 07 48.1**	**-3.3**
	comp=Z,954nm,1.5s,mb6.0						
PPT	**Papeete**	**23.53**	**87**	*eP*	**P**	**15 07 48.8**	**-2.8**
	comp=Z,447nm,1.4s,mb5.7						
PPT	**Papeete**	**23.53**	**87**	*e*LQ		15 12 14.8	
PPT				*e*LR	LR	15 13 23.1	
	comp=Z,59μm,26.8s,baz=258						
PPT	**Papeete**	**23.53**	**87**	P	**P**	**15 07 48.6**	**-3.0**
	comp=Z,75nm,0.9s,mb5.1,baz=241,slow=5.3,SNR=18						
TIAR	**Tiarei**	**23.75**	**87**	*eP*	**P**	**15 07 50.7**	**-3.0**
	comp=Z,2μm,1.4s,mb6.2						
TVO	**Taravao**	**23.80**	**88**	*eP*	**P**	**15 07 51.2**	**-3.0**
	comp=Z,1μm,1.3s,mb6.1						
THZ	**Tophouse**	**23.80**	**204**	*eP*	**P**	**15 07 53.7**	**-0.3**
THZ	**Tophouse**	**23.80**	**204**	*eP*N	**P**	**15 07 52.6**	**-1.4**
THZ				*e*SN	**S**	**15 12 05.2**	**+0.8**
THZ	**Tophouse**	**23.80**	**204**	*eP*N	**P**	**15 07 52.6**	**-1.4**
THZ				*e*SN	**S**	**15 12 05.2**	**+0.8**
KHZ	**Kahutara**	**24.14**	**202**	*eP*	**P**	**15 07 57.8**	**+0.5**
KHZ	**Kahutara**	**24.14**	**202**	PN	**P**	**15 07 57.4**	**+0.1**
KHZ				*e*SN	**S**	**15 12 11.3**	**+1.3**
KHZ	**Kahutara**	**24.14**	**202**	PN	**P**	**15 07 57.4**	**+0.1**
KHZ				*e*SN	**S**	**15 12 11.3**	**+1.3**
DSZ	**Denniston Nort**	**24.23**	**206**	*eP*	**P**	**15 07 58.0**	**-0.2**
DSZ	**Denniston Nort**	**24.23**	**206**	PN	**P**	**15 07 57.4**	**-0.7**
DSZ	**Denniston Nort**	**24.23**	**206**	PN	**P**	**15 07 57.4**	**-0.7**
MEH	**Mehetia**	**24.89**	**88**	*eP*	**P**	**15 08 01.4**	**-3.4**
	comp=Z,273nm,1.4s,mb5.6						
LTZ	**Lake Taylor**	**24.92**	**204**	*eP*	**P**	**15 08 03.1**	**-1.7**
LTZ	**Lake Taylor**	**24.92**	**204**	*eP*N	**P**	**15 08 03.1**	**-1.7**
LTZ	**Lake Taylor**	**24.92**	**204**	*eP*N	**P**	**15 08 03.1**	**-1.7**
PMOR	**Pomariorio Ree**	**25.70**	**82**	*eP*	**P**	**15 08 09.3**	**-3.1**
	comp=Z,392nm,1.3s,mb5.8						
WVZ	**Waitaha Valley**	**25.77**	**206**	*eP*	**P**	**15 08 12.8**	**0.0**
RPZ	**Rata Peaks**	**26.18**	**205**	P	**P**	**15 08 16.8**	**+0.2**
	comp=Z,79nm,0.6s,mb5.4,baz=61,slow=0.7,SNR=29						
RPZ	**Rata Peaks**	**26.18**	**205**	*eP*	**P**	**15 08 16.7**	**+0.1**
RPZ	**Rata Peaks**	**26.18**	**205**	*eP*N	**P**	**15 08 15.1**	**-1.5**
RPZ	**Rata Peaks**	**26.18**	**205**	*eP*N	**P**	**15 08 15.1**	**-1.5**
FOZ	**Fox Glacier**	**26.61**	**207**	PN	**P**	**15 08 17.6**	**-2.9**
FOZ	**Fox Glacier**	**26.61**	**207**	PN	**P**	**15 08 17.6**	**-2.9**
LBZ	**Lake Benmore**	**27.09**	**205**	*eP*	**P**	**15 08 28.7**	**+3.8**
LBZ	**Lake Benmore**	**27.09**	**205**	PN	**P**	**15 08 28.5**	**+3.6**
LBZ	**Lake Benmore**	**27.09**	**205**	PN	**P**	**15 08 28.5**	**+3.6**
HNR	**Honiara**	**27.18**	**290**	*eP*	**P**	**15 08 22.9**	**-3.0**
	comp=Z,442nm,1.4s,mb5.8						
HNR				LR	LR		
	comp=Z,15μm,21.0s,MS5.5						
WKZ	**Wanaka**	**27.92**	**206**	*eP*N	**P**	**15 08 30.3**	**-2.2**
WKZ	**Wanaka**	**27.92**	**206**	*eP*N	**P**	**15 08 30.3**	**-2.2**
TUZ	**Tuapeka**	**28.61**	**204**	*eP*N	**P**	**15 08 39.7**	**+1.0**
TUZ	**Tuapeka**	**28.61**	**204**	*eP*N	**P**	**15 08 39.7**	**+1.0**
KWAJ	**Kwajalein Atol**	**34.14**	**327**	PFAKE		15 09 40.0	+12
KWAJ				LR	LR		
	comp=Z,6μm,19.0s,MS5.3						
TAOE	**Nuku Hiva Isla**	**34.91**	**76**	*eP*	**P**	**15 09 32.1**	**-2.1**
TAOE				*e*LR	LR	15 18 35.2	
	baz=253						
CNB	**Canberra Magne**	**35.13**	**237**	⇑*iP*	**P**	**15 09 35.7**	**-0.2**
	comp=Z,3μm,1.5s						
RKT	**

SRDI **Scrawed** 69.87 268⇑ *e*P P 15 13 51.8 -1.6
comp=Z,88nm,1.2s,mb5.3
OTRP **Odiongan** 70.62 292 *e*P P 15 13 56.4 -1.6
CUYO **Cuyo Island** 70.83 290 *e*P P 15 13 58.0 -1.2
BOAC **Boac** 71.27 293 *e*P P 15 14 01.5 -0.4
SJMP **San Jose** 71.45 291 *e*P P 15 14 02.8 -0.1
KIWB **Kanaga Island** 72.09 358 *e*P P 15 14 05.4 -0.8
GSTR **Great Sitkin T** 72.31 359 *e*P P 15 14 06.4 -1.1
MAJO **Matsushiro** 72.33 321 P P 15 14 06.8 -1.1
MAJO pmax pmax
comp=Z,55nm,0.7s,mb5.6
MAJO **Matsushiro** 72.33 321 P P 15 14 06.8 -1.1
comp=Z,55nm,0.7s,mb5.6
MAJO epP pP 15 14 18.4 +0.7
MAT **Matsushiro** 72.33 321 P P 15 14 07.7 -0.2
MAT S S 15 23 28.2 +0.5
ENPP **El Nido** 72.39 290 *e*P P 15 14 07.5 -1.0
MIR **Mirnyy** 72.45 205 *e*P P 15 14 08.0 -0.1
MIR *e*S S 15 23 30.0 +1.5
MIR *e*S S 15 23 32.0 +3.5
MIR pmax pmax
comp=Z,4μm,18.0s
MIR smax
comp=N,3μm,12.0s
MIR smax
comp=N,980nm,10.0s
LUBP **Lubang** 72.78 292 *e*P P 15 14 08.8 -2.1
BATP **Bataraza** 72.82 287 *e*P P 15 14 10.7 -0.5
JOW **Kunigami** 72.88 308 P P 15 14 12.3 +1.0
comp=N,74nm,1.0s,mb5.6,baz=136,slow=7.3,SNR=12
CAUP **Cauayan** 72.91 296 *e*P P 15 14 14.7 +3.1
KKM **Kota Kinabalu** 73.14 283 *e*P P 15 14 12.6 -0.5
KKM **Kota Kinabalu** 73.14 283 P P 15 14 14.1 +1.0
CVP **Callao Caves** 73.27 297⇓ *e*P P 15 14 14.1 +0.4
APYP **Conner** 73.83 297 *e*P P 15 14 16.2 -0.8
YUK **Yuzh-Kuril'sk** 73.87 331⇑ *i*P P 15 14 16.2 -0.5
YUK pmax pmax
comp=Z,4μm,3.2s
YUK pmax pmax
comp=N,2μm,5.0s
FX1 **Attu Island--F** 73.89 352 *e*P P 15 14 15.8 -0.9
ABRA **Dolores** 74.17 296 *e*P P 15 14 20.4 +1.4
UNV **Unalaska Valle** 74.35 5 *e*P P 15 14 16.1 -3.2
comp=N,912nm,1.3s,mb6.5
UNV epP pP 15 14 29.4 +0.3
SKR **Severo-Kuril's** 75.53 341 *e*P P 15 14 22.5 -3.7
SKR *e* pP 15 14 32.9 -3.2
SKR *e* 15 25 03.0
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
SKR MLR MLR
comp=N,9μm,18.0s
SKR MLR MLR
comp=Z,9μm,18.0s,MS6.1
SAO **San Andreas Ge** 75.69 41 *e*P P 15 14 25.6 -1.8
SAO pmax pmax
comp=Z,60nm,1.2s,mb5.4
SAO **San Andreas Ge** 75.69 41 *e*P P 15 14 25.6 -1.8
comp=Z,60nm,1.2s,mb5.4
LRV **Little Rabbit** 75.74 42 *e*P P 15 14 28.6 +1.0
MWC **Mount Wilson** 76.30 45 *e*P P 15 14 30.0 -0.9
MWC *e**PP pP 15 14 39.6 -1.2
BAR **Barrett** 76.33 47 *e*P P 15 14 30.3 -0.7
BAR epP pP 15 14 40.1 -0.9
NACB **Ninganchiao** 76.59 302 *e*P P 15 14 32.1 -0.7
KSM **Kuching** 76.87 277 *e*P P 15 14 34.3 -0.1
PET **Petropavlovsk** 76.90 344 *e*P P 15 14 34.8 +1.0
PET *e*S S 15 24 20.2 +2.1
PET *e*PS PS 15 24 56.4 -4.5
PET pmax pmax
comp=Z,2μm,16.1s
PET smax
comp=E,3μm,17.7s
PET smax
comp=N,2μm,17.0s
PET MLR MLR
comp=Z,5μm,17.0s,MS5.9
YHNB **Yeheng** 77.01 303 *e*P P 15 14 34.5 -0.5
PFO **Pinyon Flat Ob** 77.02 46 P P 15 14 35.0 +0.1
comp=Z,245nm,1.7s,mb5.9,SNR=16
PFO **Pinyon Flat Ob** 77.02 46 *e*P P 15 14 33.8 -1.1
PFO *e**PP pP 15 14 43.8 -1.0
PFO pmax pmax
comp=Z,175nm,1.6s,mb5.7
PFO **Pinyon Flat Ob** 77.02 46 *e*P P 15 14 33.8 -1.1
comp=Z,175nm,1.6s,mb5.7
PFO epP pP 15 14 43.8 -1.0
TATO **Taipei** 77.08 303 *e*P P 15 14 35.1 -0.2
comp=Z,89nm,0.7s,mb5.8
CMB **Columbia Colle** 77.14 41 *e*P P 15 14 34.8 -0.7
CMB *e**PP pP 15 14 44.7 -0.7
CMB pmax pmax
comp=Z,125nm,1.6s,mb5.6
CMB **Columbia Colle** 77.14 41 *e*P P 15 14 34.8 -0.7
comp=Z,125nm,1.6s,mb5.6
CMB epP pP 15 14 44.7 -0.8
WDC **Whiskeytown Da** 77.50 38 *e*P P 15 14 36.0 -1.4
WDC *e**PP pP 15 14 46.6 -0.7
WDC *e**SP sP 15 14 51.8 +1.1
WDC pmax pmax
comp=Z,191nm,1.7s,mb5.8
WDC **Whiskeytown Da** 77.50 38 *e*P P 15 14 36.0 -1.4
comp=Z,191nm,1.7s,mb5.8
WDC epP pP 15 14 46.6 -0.8
WDC *es*P sP 15 14 51.8 +1.1
YSS **Yuzh-Sakhalins** 77.51 331α *i*P P 15 14 37.4 +0.1
YSS *i**SP sP 15 14 46.0 -4.6
YSS *e* 15 14 56.0
YSS *e*S S 15 24 27.0 +2.1
YSS *e* 15 24 40.0
YSS *e* 15 25 18.0
YSS pmax pmax
comp=Z,150nm,0.8s,mb6.0
YSS pmax pmax
comp=Z,130nm,1.3s,mb5.7
YSS MLR MLR
comp=Z,5μm,18.0s,MS5.9
YSS MLR MLR
comp=N,3μm,17.0s,MS5.8
YSS MLR MLR
comp=E,3μm,19.0s,MS5.8
YSS **Yuzh-Sakhalins** 77.51 331 *e*P P 15 14 37.9 +0.6
comp=E,252nm,1.0s,mb6.1
YSS epP pP 15 14 49.4 +2.2
OMM **Old Mammoth Mi** 77.75 42 *e*P P 15 14 38.5 -0.3
OMM epP pP 15 14 48.5 -0.3
DAC **Darwin (Calif)** 77.83 44 *e*P P 15 14 37.4 -1.9
DAC *e**PP pP 15 14 48.5 -0.7
DAC pmax pmax
comp=Z,480nm,2.3s,mb6.0
DAC **Darwin (Calif)** 77.83 44 *e*P P 15 14 37.4 -1.9
comp=Z,480nm,2.3s,mb6.0
DAC epP pP 15 14 48.5 -0.7
MTUM **Tungsten Hills** 77.86 42 *e*P P 15 14 39.6 +0.2
MTUM epP pP 15 14 49.1 -0.3
YBH **Yreka Blue Hor** 78.16 37 *e*P P 15 14 40.8 -0.2
YBH *e**PP pP 15 14 50.7 -0.2
YBH pmax pmax
comp=Z,276nm,1.9s
YBH **Yreka Blue Hor** 78.16 37 P P 15 14 41.1 +0.1
comp=Z,16nm,0.7s,mb5.0,baz=179,slow=4.8,SNR=32
YBH **Yreka Blue Hor** 78.16 37 *e*P P 15 14 40.8 -0.2
comp=Z,276nm,1.9s,mb5.9
YBH epP pP 15 14 50.7 -0.3
WCN **Washoe City** 78.32 40 *e*P P 15 14 42.1 +0.2
WCN *e**PP pP 15 14 51.6 -0.3
WCN *e**SP sP 15 14 55.7 +0.5
WCN pmax pmax
comp=Z,217nm,1.6s,mb5.8
WCN **Washoe City** 78.32 40 *e*P P 15 14 42.0 +0.1
comp=Z,217nm,1.6s,mb5.8
WCN epP pP 15 14 51.6 -0.3
WCN *es*P sP 15 14 55.7 +0.5
LBCM **Butte Creek Ri** 78.36 38 P P 15 14 42.1 0.0
CJM **Chamela** 78.59 64 *i*P P 15 14 43.5 -0.2
HUMO **Hull Mountain** 78.61 36 *e*P P 15 14 43.5 +0.1
comp=Z,176nm,1.8s,mb5.7
HUMO epP pP 15 14 53.4 +0.1
NVAR **Mina Array Bea** 78.68 42 P P 15 14 43.8 -0.1
comp=Z,29nm,0.7s,mb5.3,baz=228,slow=9.4,SNR=112
NVAR PKPPKP 15 41 49.6
comp=Z,0.4nm,0.3s,baz=93,slow=4.6,SNR=4.3
NVAR LR LR 15 45 27.4
comp=Z,8μm,18.1s,MS6.1,baz=230,slow=32
LDFC **Landfair** 78.77 46 *e*P P 15 14 44.6 +0.1
LDFC *e*pP pP 15 14 54.9 +0.5
MNV **Mina** 78.77 42 *e*P P 15 14 44.3 -0.1
MNV *e**PP pP 15 14 53.6 -0.8
MNV pmax pmax
comp=Z,361nm,1.7s,mb6.0
MNV **Mina** 78.77 42 *e*P P 15 14 44.3 -0.1
comp=Z,361nm,1.7s,mb6.0
MNV *e*pP pP 15 14 53.6 -0.8
PAHR **Pah Rah Range** 78.80 40 *e*P P 15 14 44.8 +0.2
comp=Z,112nm,1.6s,mb5.5
PAHR *e*pP pP 15 14 54.5 0.0
TPH **Tonopah** 79.14 42 *e*P P 15 14 46.0 -0.5
TPH *e**PP pP 15 14 55.9 -0.5
TPH pmax pmax
comp=Z,133nm,1.3s,mb5.7
TPH MLR MLR
comp=Z,7μm,19.0s,MS6.0
TPH **Tonopah** 79.14 42 *e*P P 15 14 46.0 -0.5
comp=Z,133nm,1.3s,mb5.7
TPH *e*pP pP 15 14 55.9 -0.5
TPH LR LR
comp=Z,7μm,19.0s,MS6.0
PENI **Pendagan** 79.23 268⇑ *e*P P 15 14 44.8 -2.6
comp=Z,283nm,1.1s,mb5.8
KS15 **Wonju Array Si** 79.26 317 *e*P P 15 14 48.1 +1.0
KS15 *e*pP pP 15 14 59.2 +2.2
QZH **Quanzhou** 79.35 302⇑ *i*P P 15 14 48.9 +1.0
QZH S S 15 24 47.0 +2.0
QZH AMB AMB
comp=Z,660nm,1.4s,mb6.4
QZH AMB AMB
comp=Z,4μm,4.9s
QZH LR LR
comp=N,3μm,20.2s,MS5.9
QZH LR LR
comp=E,4μm,15.7s,MS5.9
QZH LR LR
comp=Z,7μm,24.6s
MOD **Modoc** 79.64 38 *e*P P 15 14 48.9 -0.2
comp=Z,135nm,1.5s,mb5.7
MOD *e*pP pP 15 14 58.4 -0.7
MOD *es*P sP 15 15 03.4 +1.0
COR **Corvallis** 79.74 34 PFAKE 15 15 00.0 +10
COR LR LR
comp=Z,4μm,19.0s,MS5.8
IRO **Indian Ridge** 79.92 35 P P 15 14 50.2 -0.3
KDAK **Kodiak Island** 80.07 12 *e*P P 15 14 51.5 +0.5
KDAK LR LR
comp=Z,7μm,22.0s,MS6.0
INCN **Inchon** 80.09 316 *e*P P 15 14 51.3 -0.2
comp=Z,244nm,1.4s,mb5.9
INCN *e*pP pP 15 15 03.4 +1.9
TUC **Tucson** 80.27 50 *e*P P 15 14 52.1 -0.6
TUC *e**PP pP 15 15 02.3 -0.3
TUC pmax pmax
comp=Z,184nm,1.5s,mb5.8
TUC **Tucson** 80.27 50 *e*P P 15 14 52.1 -0.6
comp=Z,184nm,1.5s,mb5.8
TUC *e*pP pP 15 15 02.3 -0.3
VLA **Vladivostok** 80.33 323*c* *i*P P 15 14 53.0 +0.3
VLA *e*PPP PPP 15 19 45.0 -3.4
VLA *i*S S 15 25 00.0 +5.2
VLA *i*PS PS 15 26 00.0 +15
VLA *e*SS SS 15 30 10.0 +0.5
VLA pmax pmax
comp=N,1μm,9.6s
VLA pmax pmax
comp=Z,3μm,9.6s
VLA pmax pmax
comp=E,1μm,10.0s
VLA pmax pmax
comp=Z,500nm,14.0s
VLA pmax pmax
comp=N,1μm,11.0s
VLA pmax pmax
comp=E,900nm,8.0s
VLA smax
comp=N,1μm,10.0s
VLA smax
comp=E,1μm,10.0s
TRCR **Troy Canyon** 80.34 43 *e*P P 15 14 52.3 -0.6
TRCR *e*pP pP 15 15 02.4 -0.5
SSE **Sheshan** 80.40 308 ⇑P P 15 14 53.9 +0.6
SSE AP pP 15 15 03.5 +0.2
SSE XP sP 15 15 07.5 +0.9
SSE S S 15 24 57.3 +1.6
SSE XS 15 25 13.4
SSE SCS ScS 15 25 16.6 +3.0
SSE AMB AMB
comp=Z,81nm,1.4s,mb5.5
SSE AMB AMB
comp=Z,1μm,9.2s
SSE LR LR
comp=N,463nm,25.4s,MS5.3
SSE LR LR
comp=E,2μm,25.4s,MS5.3
SSE LR LR
comp=Z,2μm,19.0s
SSE **Sheshan** 80.40 308 ⇑P P 15 14 53.9 +0.6
comp=Z,81nm,1.4s,mb5.5
SSE pP pP 15 15 03.5 +0.2
SSE sP sP 15 15 07.5 +0.9
SSE S S 15 24 57.3 +1.6
SSE sS 15 25 13.4
SSE ScS ScS 15 25 16.6 +3.0
SSE SS SS 15 29 56.6 -14
SSE LR LR
comp=Z,2μm,19.0s,MS5.5
BMN **Battle Mountai** 80.56 40 *e*P P 15 14 53.7 -0.3
BMN *e**PP pP 15 15 03.4 -0.6
BMN pmax pmax
comp=Z,153nm,1.5s,mb5.7
BMN **Battle Mountai** 80.56 40 *e*P P 15 14 53.7 -0.3
comp=Z,153nm,1.5s,mb5.7
BMN *e*pP pP 15 15 03.4 -0.5
SFJM **Santa Fe** 80.71 64 *i*P P 15 14 53.5 -1.7
ZIIG **Zihuatanejo** 80.83 67 *i*P P 15 14 56.1 +0.3
WVOR **Wild Horse Val** 80.94 38 *e*P P 15 14 55.4 -0.6
WVOR pmax pmax
comp=Z,78nm,1.2s,mb5.5
WVOR **Wild Horse Val** 80.94 38 *e*P P 15 14 55.4 -0.6
comp=Z,78nm,1.2s,mb5.5
VFP **Flag Point** 81.20 35 P P 15 14 57.1 -0.2
ARUT **Antelope Range** 81.41 44 *e*P P 15 14 58.8 +0.3
WUAZ **Wupatki** 81.56 47 *e*P P 15 14 59.8 +0.5
comp=Z,103nm,1.3s,mb5.6
WUAZ *e*pP pP 15 15 09.2 -0.1
CAIG **El Cayaco** 81.64 68 *i*P P 15 15 00.5 +0.5
HKC **Hong Kong** 81.75 297 *i*P P 15 15 03.0 +2.4
MOIG **Morelia** 81.94 66 *i*P P 15 15 01.8 +0.2
ELK **Elko** 81.96 41 *e*P P 15 15 01.3 0.0
ELK *e**PP pP 15 15 11.1 -0.2
ELK pmax pmax
comp=Z,388nm,2.2s
ELK MLR MLR
comp=Z,8μm,19.0s
ELK **Elko** 81.96 41 *e*P P 15 15 01.3 0.0
comp=Z,388nm,2.2s,mb6.0
ELK *e*pP pP 15 15 11.1 -0.2
ELK LR LR
comp=Z,8μm,19.0s,MS6.1
WPW **White Pass** 82.07 34 P P 15 15 01.8 +0.1
FMW **Mount Fremont** 82.16 33 P P 15 15 02.5 +0.3
USHA **Ushuaia** 82.19 146 P P 15 15 03.3 +1.1
comp=Z,9.2nm,0.8s,mb4.7,baz=243,slow=7.6,SNR=3.7
PGC **Sidney** 82.42 31 *e*P P 15 15 03.5 -0.1
comp=Z,583nm,1.8s,mb6.2
PGC *e*pP pP 15 15 13.2 -0.3
MDJ **Mudanjiang** 82.56 323 P P 15 15 05.8 +1.4
MDJ AP pP 15 15 09.0 -5.4
MDJ XP sP 15 15 10.3 -7.4
MDJ PP PP 15 18 17.3 +1.4
MDJ S S 15 25 26.8 +9.0
MDJ AMB AMB
comp=Z,111nm,1.2s,mb5.8
MDJ AMB AMB
comp=Z,2μm,5.9s
MDJ LR LR
comp=N,1μm,21.2s,MS5.7
MDJ LR LR
comp=E,3μm,17.9s,MS5.7
MDJ LR LR
comp=Z,5μm,19.0s,MS5.9
MDJ **Mudanjiang** 82.56 323 *e*P P 15 15 05.8 +1.4
comp=Z,103nm,0.9s,mb5.9
MDJ *e*pP pP 15 15 17.1 +2.7
MDJ LR LR
comp=Z,5μm,20.0s,MS5.9
NJ2 **Nanjing** 82.60 308 *e*P P 15 15 06.4 +1.6
NJ2 AP pP 15 15 11.8 -3.0
NJ2 XP sP 15 15 13.6 -4.5
NJ2 S S 15 25 27.0 +8.6
NJ2 AMB AMB
comp=Z,290nm,1.4s,mb6.1
NJ2 AMB AMB
comp=Z,2μm,7.2s
NJ2 LR LR
comp=N,4μm,17.0s,MS6.1
NJ2 LR LR
comp=E,5μm,18.3s,MS6.1
NJ2 LR LR
comp=Z,3μm,17.8s,MS5.8
MVU **Marysvale** 82.61 44 *e*P P 15 15 05.8 +1.1
comp=Z,190nm,1.6s,mb5.9
MVU *e*pP pP 15 15 16.0 +1.3
MSU **Marysvale** 82.64 44 *e*P P 15 15 06.1 +1.2
MSU *e**PP pP 15 15 16.4 +1.5
SVW2 **Sparrevohn** 82.71 9 *e*P P 15 15 04.0 -0.7
MAW **Mawson** 82.71 199 *e*P P 15 15 06.3 +1.6
comp=Z,24nm,0.9s,mb5.2
MAW **Mawson** 82.71 199 *e*P P 15 15 06.2 +1.5
MAW pmax pmax
comp=Z,100nm,1.4s
MAW **Mawson** 82.71 199 P P 15 15 06.5 +1.8
comp=Z,28nm,0.9s,mb5.3,baz=119,slow=7.2,SNR=15
MAW LR LR 15 49 39.4
comp=Z,5μm,19.2s,MS5.9,baz=117,slow=34
GZH **Guangzhou** 82.78 298 P P 15 15 07.8 +1.9
GZH S S 15 25 27.3 +6.9
GZH LR LR
comp=N,2μm,20.8s,MS5.7
GZH LR LR
comp=E,2μm,21.0s,MS5.7
GZH LR LR
comp=Z,5μm,18.5s,MS5.9
PLIG **Platanillo** 82.85 67 *i*P P 15 15 07.5 +1.2
RSW **Rattlesnake Hi** 82.90 35 P P 15 15 06.3 +0.2
HAWA **Hanford** 82.93 35 *e*P P 15 15 06.3 0.0
comp=Z,13nm,1.6s,mb4.7
HAWA *e*pP pP 15 15 15.9 -0.3
SLKM **Skilak Lake** 83.06 12 *e*P P 15 15 06.5 -0.1
SLKM *e**PP pP 15 15 17.9 +1.3
DUG **Dugway** 83.16 43 *e*P P 15 15 07.6 0.0
DUG *e**PP pP 15 15 17.4 -0.2
DUG pmax pmax
comp=Z,211nm,1.9s,mb5.8
DUG **Dugway** 83.16 43 *e*P P 15 15 07.6 +0.1
comp=Z,211nm,1.9s,mb5.8
DUG *e*pP pP 15 15 17.4 -0.2
BMO **Blue Mountains** 83.19 37 *e*P P 15 15 06.9 -0.7
comp=Z,175nm,1.8s,mb5.8
BMO *e*pP pP 15 15 16.9 -0.7
ETW **Entiat** 83.29 33 P P 15 15 08.1 +0.1
SPU **Mount Spurr** 83.35 11 *e*P P 15 15 06.9 -1.1
SPU *e*pP pP 15 15 17.9 -0.2
NLU **North Lily Min** 83.50 43 *e*P P 15 15 10.1 +0.8
NLU *e*pP pP 15 15 19.9 +0.6
EPH **Ephrata** 83.51 34 P P 15 15 09.1 -0.1
WTV **Waterville** 83.54 34 P P 15 15 09.2 -0.1
KGM **Kluang** 83.58 275 P P 15 15 12.2 +1.9
FIB **Fire Island** 83.67 11 *e*P P 15 15 09.8 +0.1
TMUT **Trail Mountain** 83.70 44 *e*P P 15 15 11.5 +1.1
TMUT *e*pP pP 15 15 22.5 +2.1
NOQ **North Oquirrh** 83.86 43 *e*P P 15 15 10.2 -0.9
NOQ *e*pP pP 15 15 21.8 +0.7
SIT **Sitka** 83.88 20 PFAKE 15 15 20.0 +9.2
SIT LR LR
comp=Z,3μm,20.0s,MS5.7
PPM **Popocatepetl** 83.88 67 *e*P P 15 15 07.7 -4.0
MNTX **Cornudas Mount** 83.94 53 *e*P P 15 15 11.5 -0.2
comp=Z,95nm,1.4s,mb5.7
MNTX *e*pP pP 15 15 20.9 -0.9
LAZ **Ladron** 83.96 50 *e*P P 15 15 12.6 +0.8
LAZ *e*pP pP 15 15 22.1 +0.3
LENM **Lemitar** 83.96 50 *e*P P 15 15 12.5 +0.7
LENM *e*pP pP 15 15 21.8 0.0
SPUT **South Promonto** 84.01 42 *e*P P 15 15 12.3 +0.4
SPUT *e*pP pP 15 15 21.7 -0.2
EYAK **Cordova Ski Ar** 84.02 14 *e*P P 15 15 11.1 -0.4
SRU **San Rafael** 84.05 45 *e*P P 15 15 12.3 +0.2
SRU *e**PP pP 15 15 22.0 -0.2
QIZ **Qiongzhong** 84.06 293 P P 15 15 12.3 -0.3
QIZ S S 15 25 34.6 +1.3
QIZ LR LR
comp=E,2μm,20.5s
QIZ LR LR
comp=Z,3μm,20.8s,MS5.7
QIZ **Qiongzhong** 84.06 293 PFAKE 15 15 20.0 +7.4
QIZ LR LR
comp=Z,4μm,21.0s,MS5.7
HVU **Hansel Valley** 84.07 41 *e*P P 15 15 12.2 0.0
HVU *e**PP pP 15 15 22.0 -0.2
HLID **Hailey** 84.09 39 *e*P P 15 15 12.6 +0.3
comp=Z,319nm,1.9s,mb6.1
HLID *e*pP pP 15 15 22.4 +0.1
CTU **Camp Tracy** 84.11 43 *e*P P 15 15 13.2 +0.9
PAYG **Puerto Ayora** 84.14 89 PFAKE 15 15 20.0 +6.8
PAYG LR LR
comp=Z,5μm,22.0s,MS5.9
LTX **Lajitas** 84.15 56 *e*P P 15 15 13.0 +0.1
LTX *e**PP pP 15 15 22.3 -0.6
LTX pmax pmax
comp=Z,373nm,2.0s,mb6.2
LTX MLR MLR
comp=Z,4μm,19.0s,MS5.8
LTX **Lajitas** 84.15 56 *e*P P 15 15 12.9 +0.1
comp=Z,373nm,2.0s,mb6.2
LTX *e*pP pP 15 15 22.3 -0.6
LTX LR LR
comp=Z,4μm,19.0s,MS5.8
TXAR **Lajitas Array** 84.15 56 P P 15 15 13.1 +0.2
comp=Z,7.3nm,0.9s,mb4.8,baz=218,slow=8.0,SNR=42
TXAR PKKPbc 15 33 28.7
comp=Z,0.8nm,1.0s,baz=117,slow=2.8,SNR=4.2
TXAR PKPPKP 15 41 40.8
comp=Z,0.8nm,1.0s,baz=108,slow=4.0,SNR=3.7
TXAR LR LR 15 47 37.8
comp=Z,5μm,18.2s,MS5.9,baz=210,slow=32
DL2 **Dalian** 84.16 315 ⇑P P 15 15 14.4 +1.7
DL2 AP pP 15 15 21.8 -0.9
DL2 XP sP 15 15 23.9 -2.1
DL2 SKS SKS 15 25 35.8 -2.8
DL2 AMB AMB
comp=Z,100nm,1.5s,mb5.7
DL2 AMB AMB
comp=Z,1μm,7.0s
DL2 LR LR
comp=N,1μm,19.6s,MS5.5
DL2 LR LR
comp=E,1μm,19.8s,MS5.5
DL2 LR LR
comp=Z,2μm,19.0s,MS5.5
JLU **Jordanelle** 84.25 43 *e*P P 15 15 13.2 +0.1
JLU *e*pP pP 15 15 23.0 -0.2
PMR **Palmer** 84.27 12 *e*P P 15 15 12.4 -0.2
PMR MLR MLR
comp=Z,6μm,17.0s,MS6.1
DAU **Daniels Canyon** 84.28 43 *e*P P 15 15 13.7 +0.5
DAU *e**PP pP 15 15 23.5 +0.2
LPM **Los Pinos Moun** 84.28 50 *e*P P 15 15 13.7 +0.2
LPM *e*pP pP 15 15 22.7 -0.8
KLR **Kul'dur** 84.35 328⇓ *i*P P 15 15 11.3 -2.0
KLR *e*S S 15 25 40.5 +5.0
KLR *e* 15 27 03.0
KLR *e* 15 34 30.0
KLR pmax pmax
comp=Z,480nm,3.2s
KLR pmax pmax
comp=N,1μm,10.0s
KLR pmax pmax
comp=Z,3μm,10.0s
CN2 **Changchun** 84.47 321 ⇑P P 15 15 15.0 +0.9
CN2 *e*XP sP 15 15 22.6 -4.8
CN2 PP PP 15 18 32.4 +1.3
CN2 *e*S S 15 25 39.3 +2.5
CN2 AMB AMB

comp=Z,100nm,1.2s,mb5.8
CN2 AMB AMB
comp=Z,3µm,4.0s
CN2 LR LR
comp=N,3µm,19.0s,MS5.8
CN2 LR LR
comp=E,2µm,19.0s,MS5.8
CN2 LR LR
comp=Z,3µm,21.0s,MS5.7
SNY Shenyang 84.49 318 ⇑P **P 15 15 15.8 +1.5**
SNY AP pP 15 15 25.5 +1.2
SNY SKS SKS 15 25 29.6 -11
SNY AMB AMB
comp=Z,4µm,9.6s
SNY LR LR
comp=N,2µm,17.6s,MS5.8
SNY LR LR
comp=E,3µm,17.6s,MS5.8
SNY LR LR
comp=Z,4µm,17.6s,MS5.9
DIV Divide 84.53 13 *eP* **P 15 15 13.8 -0.1**
comp=Z,362nm,1.2s,mb6.4
DIV *ep*P pP 15 15 23.6 -0.4
TCUT Toone Canyon 84.56 42 *eP* **P 15 15 15.5 +0.9**
TCUT *ep*P pP 15 15 25.4 +0.8
SML Sawmill 84.62 12 *eP* **P 15 15 14.1 -0.3**
SML *e**PP pP 15 15 25.7 +1.3
SML *e* 15 18 29.5
ANMO Albuquerque 84.72 50 P **P 15 15 16.3 +0.7**
ANMO pmax pmax
comp=Z,84nm,1.2s
ANMO Albuquerque 84.72 50 P **P 15 15 16.2 +0.6**
comp=Z,23nm,1.0s,mb5.3,baz=206,slow=5.2,SNR=40
ANMO LR LR 15 47 33.1
comp=Z,3µm,19.0s,MS5.7,slow=32
ANMO Albuquerque 84.72 50 *eP* **P 15 15 16.1 +0.6**
comp=Z,84nm,1.2s,mb5.7
HWUT Hardware Ranch 84.73 42 *eP* **P 15 15 15.2 -0.3**
comp=Z,136nm,1.6s,mb5.8
HWUT *ep*P pP 15 15 25.5 0.0
VHO Vista Hermosa 84.74 70 *i* P **P 15 15 24.8 +8.8**
OXX Oaxaca 84.75 70 *i* P **P 15 15 26.0 +10**
PNT Penticton 84.75 32 P **P 15 15 15.6 +0.2**
MA2 Magadan 84.76 343c *i* P **P 15 15 15.0 -0.2**
MA2 *e* pP 15 15 24.1 -1.1
MA2 *e*S S 15 25 39.5 +0.1
MA2 *e*PS PS 15 26 29.8 -9.3
MA2 pmax pmax
comp=N,20nm,1.2s
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 pmax pmax
comp=Z,60nm,1.2s,mb5.6
MA2 MLR MLR
comp=Z,2µm,18.0s,MS5.6
MA2 Magadan 84.76 343 *eP* **P 15 15 14.9 -0.2**
comp=Z,111nm,1.2s,mb5.9
MA2 LR LR
comp=Z,5µm,21.0s,MS5.9
GDL2 Guadalupe Moun 84.94 53 *eP* **P 15 15 16.8 +0.1**
GDL2 *ep*P pP 15 15 26.6 -0.2
WHN Wuhan 85.28 305 ⇑P **P 15 15 20.0 +1.5**
WHN AP pP 15 15 30.8 +2.3
WHN AMB AMB
comp=Z,602nm,1.7s,mb6.5
WHN LR LR
comp=N,810nm,14.3s,MS5.8
WHN LR LR
comp=E,3µm,15.0s,MS5.8
WHN LR LR
comp=Z,7µm,20.0s,MS6.0
CLNB Carlsbad 85.33 53 *eP* **P 15 15 18.2 -0.5**
CLNB *ep*P pP 15 15 27.9 -0.9
NEW Newport 85.38 34 *eP* **P 15 15 17.7 -0.8**
NEW *e**PP pP 15 15 27.7 -0.9
NEW pmax pmax
comp=Z,61nm,1.5s
NEW Newport 85.38 34 LR LR 15 47 00.4
comp=Z,4µm,20.2s,MS5.8,baz=237,slow=31
NEW Newport 85.38 34 *eP* **P 15 15 17.7 -0.9**
comp=Z,61nm,1.5s,mb5.5
NEW *ep*P pP 15 15 27.7 -0.9
AHID Auburn Hatcher 85.65 41 *eP* **P 15 15 19.9 -0.1**
comp=Z,120nm,1.4s,mb5.9
CPRX Cap Rock 85.70 53 *eP* **P 15 15 20.4 -0.1**
CPRX *ep*P pP 15 15 30.0 -0.5
MCMT McKenzie Canyo 85.74 39 *eP* **P 15 15 20.7 +0.3**
RRI2 Red Ridge 85.83 41 *eP* **P 15 15 21.1 +0.1**
comp=Z,153nm,1.4s,mb6.0
TIA Tai'an 85.88 311 ⇑P **P 15 15 22.6 +1.3**
TIA S S 15 25 59.0 +8.2
TIA AMB AMB
comp=Z,233nm,1.4s,mb6.2
TIA LR LR
comp=N,909nm,18.0s,MS5.9
TIA LR LR
comp=E,4µm,17.0s,MS5.9
TNA Tin City 85.93 3 *eP* **P 15 15 21.1 +0.2**
comp=E,204nm,1.7s,mb6.1
TNA *ep*P pP 15 15 33.1 +2.1
TPAW Teton Pass 86.14 41 *eP* **P 15 15 22.2 -0.2**
comp=E,221nm,1.8s,mb6.1
TPAW *ep*P pP 15 15 32.3 -0.1
SNOW Snow King Moun 86.24 41 *eP* **P 15 15 22.9 -0.1**
comp=E,565nm,2.2s,mb6.4
MSO Missoula 86.26 37 *eP* **P 15 15 21.8 -1.1**
comp=E,75nm,1.8s,mb5.6
MSO *ep*P pP 15 15 31.7 -1.3
MCK McKinley 86.27 11 *eP* **P 15 15 22.3 -0.3**
MCK pmax pmax
comp=Z,178nm,1.4s,mb6.1
MCK MLR MLR
comp=Z,3µm,22.0s,MS5.7
MCK McKinley 86.27 11 *eP* **P 15 15 22.3 -0.3**
comp=Z,178nm,1.4s,mb6.1
MCK LR LR
comp=Z,3µm,22.0s,MS5.7
WUWY Wally Ulrich 86.29 41 *eP* **P 15 15 23.3 +0.1**
WUWY *ep*P pP 15 15 32.6 -0.6
IMW Indian Meadow 86.37 40 *eP* **P 15 15 23.8 +0.3**
comp=Z,276nm,1.9s,mb6.2
IMW *ep*P pP 15 15 34.4 +0.8
MOOW Moose Ponds 86.40 41 *eP* **P 15 15 23.6 -0.1**
comp=Z,157nm,1.9s,mb5.9
MOOW *ep*P pP 15 15 33.3 -0.5
LOHW Long Hollow 86.42 41 *eP* **P 15 15 23.5 -0.3**
comp=Z,292nm,2.1s,mb6.1
LOHW *ep*P pP 15 15 33.1 -0.7
QLMT Earthquake Lak 86.58 39 *eP* **P 15 15 25.3 +0.7**
THY Trims Highway 86.59 12 *eP* **P 15 15 24.0 -0.2**
MENT Mentasta 86.59 13 *eP* **P 15 15 24.6 +0.4**
BW06 Boulder Array 86.61 42 *eP* **P 15 15 24.1 -0.6**
comp=Z,22nm,1.0s,mb5.3
BW06 *ep*P pP 15 15 34.1 -0.7
BW06 LR LR
comp=Z,6µm,19.0s,MS6.0
PDAR Pinedale Array 86.61 42 P **P 15 15 24.5 -0.3**
comp=Z,16nm,0.9s,mb5.2,baz=209,slow=3.3,SNR=90
PDAR PKKPbc 15 33 21.8
comp=Z,1.1nm,0.9s,baz=45,slow=2.1,SNR=6.6
PDAR PKPPKP 15 41 35.8
comp=Z,0.7nm,0.9s,baz=104,slow=6.1,SNR=4.3
PDAR LR LR 15 50 15.7
comp=Z,5µm,18.0s,MS6.0,baz=246,slow=33
IPM Ipoh 86.63 276 P **P 15 15 27.6 +2.1**
CHMT Chamberlain Mo 86.69 37 *eP* **P 15 15 24.6 -0.4**
CHMT *ep*P pP 15 15 34.2 -0.9
PLCA Paso Flores 86.72 132 *eP* **P 15 15 26.8 +1.5**
PLCA pmax pmax
comp=Z,45nm,1.9s
PLCA Paso Flores 86.72 132 P **P 15 15 27.1 +1.8**
comp=Z,2.9nm,0.9s,baz=308,slow=3.0,SNR=4.7
PLCA LR LR 15 49 54.2
comp=Z,3µm,18.2s,baz=72,slow=32
PLCA Paso Flores 86.72 132 *eP* **P 15 15 26.8 +1.5**
comp=Z,45nm,1.9s,mb5.4
PLCA *ep*P pP 15 15 34.1 -1.3
YFT Old Faithful 86.73 40 *eP* **P 15 15 26.8 +1.5**
YFT *ep*P pP 15 15 36.8 +1.4
DLBC Dease Lake 86.73 22 LR LR 15 47 27.5
comp=Z,3µm,20.1s,MS5.7,baz=237,slow=31
DLBC Dease Lake 86.73 22 *eP* **P 15 15 25.2 +0.2**
DLBC *ep*P pP 15 15 35.2 +0.2
SDCO Great Sand Dun 86.75 48 *eP* **P 15 15 25.9 +0.3**
comp=Z,136nm,1.9s,mb5.9
SDCO *ep*P pP 15 15 34.6 -1.0
YMR Madison River 86.77 40 *eP* **P 15 15 26.3 +0.8**
YMR *ep*P pP 15 15 36.3 +0.7
BOZ Bozeman (W) 86.91 39 *eP* **P 15 15 25.5 -0.7**
BOZ *e**PP pP 15 15 35.6 -0.6
BOZ pmax pmax
comp=Z,138nm,1.7s,mb5.9
BOZ Bozeman (W) 86.91 39 *eP* **P 15 15 25.5 -0.7**
comp=Z,138nm,1.7s,mb5.9
BOZ *ep*P pP 15 15 35.6 -0.6
YNR Norris Junctio 86.97 40 *eP* **P 15 15 28.5 +2.1**
YNR *ep*P pP 15 15 38.7 +2.2
LKWY Lake 87.05 40 *eP* **P 15 15 28.2 +1.3**
LKWY *e**PP pP 15 15 38.2 +1.3
LKWY pmax pmax
comp=Z,58nm,1.4s,mb5.6
LKWY Lake 87.05 40 *eP* **P 15 15 28.2 +1.3**
comp=Z,58nm,1.4s,mb5.6
LKWY *ep*P pP 15 15 38.2 +1.3
SEY Seymchan 87.22 345 *eP* **P 15 15 30.2 +3.0**
SEY *e* 15 18 47.0
SEY *e*PPP PPP 15 20 46.1 -4.8
SEY 15 25 47.1
SEY *e*S S 15 26 08.4 +5.5
SEY *e*PS PS 15 27 08.7 -0.7
SEY pmax pmax
comp=E,50nm,1.1s
SEY pmax pmax
comp=Z,200nm,1.1s,mb6.3
SEY smax
comp=N,6µm,25.1s
SEY smax
comp=E,5µm,22.3s
KULM Kulim 87.23 277 *eP* **P 15 15 29.9 +1.5**
HRY Holter Researc 87.39 38 *eP* **P 15 15 28.3 -0.1**
HRY *ep*P pP 15 15 38.0 -0.5
COLA College 87.51 11 *eP* **P 15 15 28.2 -0.4**
COLA MLR MLR
comp=Z,6µm,22.0s,MS6.0
WALA Waterton Lakes 87.56 35 *eP* **P 15 15 28.9 -0.3**
comp=Z,379nm,2.2s,mb6.2
JCT Junction City 87.66 56 *eP* **P 15 15 29.6 -0.6**
JCT *e**PP pP 15 15 38.6 -1.6
JCT pmax pmax
comp=Z,187nm,1.8s,mb6.0
JCT Junction City 87.66 56 *eP* **P 15 15 29.6 -0.5**
comp=Z,187nm,1.8s,mb6.0
JCT *ep*P pP 15 15 38.6 -1.6
ISCO Idaho Springs 87.67 46 *eP* **P 15 15 30.1 +0.1**
ISCO *e**PP pP 15 15 39.7 -0.3
ISCO pmax pmax
comp=Z,37nm,1.8s,mb5.3
ISCO Idaho Springs 87.67 46 *eP* **P 15 15 30.1 +0.1**
comp=Z,37nm,1.8s,mb5.3
ISCO *ep*P pP 15 15 39.7 -0.3
IMA Indian Mountai 87.71 8 P **P 15 15 30.4 +0.9**
IMA pmax pmax
comp=Z,970nm,1.6s,mb6.8
IMA Indian Mountai 87.71 8 *eP* **P 15 15 30.1 +0.6**
comp=Z,60nm,1.1s,mb5.7
VNA3 Neumayer Olymp 87.87 175 ⇑*i* P **P 15 15 31.9 +1.7**
VNA3 Neumayer Olymp 87.87 175 ⇑*i* **P 15 15 33.3 +3.1**
SNAA Sanae 87.88 177 *eP* **P 15 15 30.1 -0.1**
SNAA pmax pmax
comp=Z,60nm,1.1s
SNAA Sanae 87.88 177 *eP* **P 15 15 30.1 -0.1**
comp=Z,60nm,1.1s,mb5.7
SNG Songkhla 87.92 278 P **P 15 15 34.0 +2.2**
comp=Z,240nm,1.1s,mb6.3
AMTX Amarillo 88.16 52 *eP* **P 15 15 32.1 -0.3**
comp=Z,379nm,2.0s,mb6.3
AMTX *ep*P pP 15 15 41.3 -1.2
VNA2 Neumayer--Watz 88.35 176 P **P 15 15 33.3 +0.8**
VNA2 Neumayer--Watz 88.35 176 ⇑*i* **P 15 15 35.1 +2.6**
BJT Baijiatuan 88.37 314 *eP* **P 15 15 34.7 +1.4**
BJT *e**PP pP 15 15 45.7 +2.4
BJT pmax pmax
comp=Z,531nm,1.6s
BJT MLR MLR
comp=Z,5µm,19.0s
BJT Baijiatuan 88.37 314 *eP* **P 15 15 34.7 +1.4**
comp=Z,531nm,1.6s,mb6.5
BJT *ep*P pP 15 15 45.7 +2.3
BJT LR LR
comp=Z,5µm,19.0s,MS6.0
BJI Beijing 88.37 314 P **P 15 15 34.8 +1.5**
BJI AP pP 15 15 38.1 -5.3
BJI XP sP 15 15 39.3 -7.3
BJI AMB AMB
comp=Z,121nm,2.1s,mb5.8
BJI AMB AMB
comp=Z,3µm,3.8s
BJI LR LR
comp=N,4µm,18.4s,MS5.9
BJI LR LR
comp=E,2µm,19.1s,MS5.9
BJI LR LR
comp=Z,3µm,18.4s,MS5.8
BJI Beijing 88.37 314 P **P 15 15 34.8 +1.5**
BJI pmax pmax
comp=Z,121nm,2.1s,mb5.8
BJI MLR MLR
comp=Z,3µm,18.4s,MS5.8
PHWY Pilot Hill 88.50 45 *eP* **P 15 15 33.8 -0.1**
PHWY *ep*P pP 15 15 46.3 +2.3
PHWY *es*P sP 15 15 52.2 +5.0
CCIG Comitan 88.51 72 *i* P **P 15 15 36.0 +1.5**
DAWY Dawson 88.55 15 *eP* **P 15 15 34.2 +0.6**
VNA1 Neumayer--Stat 88.56 175 P **P 15 15 36.7 +3.2**
ENH Enshi 88.95 303 *eP* **P 15 15 37.8 +1.4**
comp=Z,478nm,1.3s,mb6.7
ENH LR LR
comp=Z,3µm,19.0s,MS5.7
KKTK Khon Kaen 89.20 288 ⇑P **P 15 15 40.0 +2.2**
comp=Z,556nm,1.3s,mb6.7
BILL Bilibino 89.44 353 *eP* **P 15 15 37.7 0.0**
BILL pmax pmax
comp=Z,41nm,0.9s,mb5.8
BILL MLR MLR
comp=Z,12µm,20.0s,MS6.3
BILL Bilibino 89.44 353 *eP* **P 15 15 37.7 0.0**
comp=Z,41nm,0.9s,mb5.8
BILL LR LR
comp=Z,12µm,20.0s,MS6.3
GYA Guiyang 89.70 298 ⇑*i* P **P 15 15 41.8 +1.9**
GYA AP pP 15 15 46.3 -3.7
GYA XP sP 15 15 49.5 -3.7
GYA SKS SKS 15 26 11.0 -3.7
GYA S S 15 26 23.0 -3.9
GYA AMB AMB
comp=Z,90nm,1.5s,mb5.9
GYA AMB AMB
comp=Z,2µm,9.0s
GYA LR LR
comp=N,1µm,18.6s,MS5.3
GYA LR LR
comp=E,630nm,20.4s,MS5.3
GYA LR LR
comp=Z,2µm,20.1s,MS5.5
TIY Taiyuan 89.90 311 ⇑P **P 15 15 47.0 +6.4**
TIY S S 15 26 30.0 +1.5
TIY LR LR
comp=N,2µm,18.0s
WMOK Wichita Mounta 90.25 53 *eP* **P 15 15 40.3 -2.0**
WMOK *e**PP pP 15 15 50.4 -1.9
WMOK pmax pmax
comp=Z,75nm,1.7s,mb5.7
WMOK Wichita Mounta 90.25 53 *eP* **P 15 15 40.3 -2.0**
comp=Z,75nm,1.7s,mb5.8
WMOK *ep*P pP 15 15 50.4 -1.9
EDM Edmonton 90.25 32 *eP* **P 15 15 41.4 -0.4**
EDM *e**PP pP 15 15 51.3 -0.6
NNT Nongplab 90.65 283 P **P 15 15 47.5 +3.0**
LAO LASA Array 90.66 40 *eP* **P 15 15 45.0 +1.1**
comp=Z,364nm,1.8s,mb6.4
LAO *ep*P pP 15 15 54.3 +0.3
HIA Hailar 90.75 323 *eP* **P 15 15 44.8 +0.6**
HIA *e**PP pP 15 15 56.3 +2.0
HIA pmax pmax
comp=Z,96nm,1.5s
HIA MLR MLR
comp=Z,8µm,21.0s
HIA Hailar 90.75 323 *eP* **P 15 15 44.8 +0.6**
comp=Z,96nm,1.5s,mb5.9
HIA *ep*P pP 15 15 56.3 +2.0
HIA LR LR
comp=Z,8µm,21.0s,MS6.1
XAN Xi'an 90.93 306 P **P 15 15 47.1 +1.7**
XAN AMB AMB
comp=Z,109nm,1.6s,mb5.9
XAN LR LR
comp=N,1µm,19.8s,MS5.7
XAN LR LR
comp=E,2µm,18.2s,MS5.7
XAN LR LR
comp=Z,2µm,19.8s,MS5.6
CBKS Cedar Bluff 91.28 49 *eP* **P 15 15 46.1 -0.8**
CBKS pmax pmax
comp=Z,98nm,1.5s,mb5.9
CBKS Cedar Bluff 91.28 49 *eP* **P 15 15 46.1 -0.8**
comp=Z,98nm,1.5s,mb5.9
NST Nakhon Sawan 91.37 286 ⇓P **P 15 15 50.4 +2.6**
comp=Z,101nm,1.2s,mb6.0
HHC Hu-ho-hao-te 91.88 313 *eP* **P 15 15 51.6 +2.0**
HHC AP pP 15 16 00.8 +1.1
HHC XP sP 15 16 04.8 +1.9
HHC PP PP 15 19 33.4 +1.9
HHC SKS SKS 15 26 22.8 -4.3
HHC S S 15 26 50.4 +4.4
HHC XS 15 27 03.8
HHC PS PS 15 28 10.3 +5.4
HHC SS SS 15 33 01.9 +4.0
HHC AMB AMB
comp=Z,1µm,5.1s
HHC LR LR
comp=N,1µm,21.4s,MS5.5
HHC LR LR
comp=E,1µm,22.0s,MS5.5
HHC LR LR
comp=Z,2µm,23.8s,MS5.5
NANT Nan 91.97 289 ⇑P **P 15 15 52.5 +2.0**
comp=Z,875nm,0.6s
NATX Nacogdoches 92.21 57 *eP* **P 15 15 51.1 -0.3**
comp=Z,187nm,1.6s,mb6.2
NATX *ep*P pP 15 16 00.4 -1.1
CLNS Chul'man 92.28 331 *eP* **P 15 15 52.5 +1.4**
CLNS *eS* S 15 26 41.0 -8.1
CLNS pmax pmax
comp=Z,84nm,1.1s,mb6.0
CLNS pmax pmax
comp=N,46nm,1.3s
CLNS pmax pmax
comp=E,19nm,0.9s
CLNS pmax pmax
comp=Z,14nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,12nm,1.3s
CLNS smax
comp=E,10.0nm,1.3s
CLNS smax
comp=Z,6.0nm,1.0s
CLNS smax
comp=N,5.0nm,0.9s
CLNS MLR MLR
comp=Z,3µm,18.0s,MS5.8
CLNS MLR MLR
comp=N,2µm,20.0s,MS5.6
CLNS MLR MLR
comp=E,400nm,16.0s,MS5.6
KMI Kunming 92.47 296 P **P 15 15 55.4 +2.7**
KMI AP pP 15 16 00.3 -2.5
KMI XP sP 15 16 02.5 -3.5
KMI PP PP 15 19 33.8 -2.8
KMI PPP PPP 15 21 34.8 -3.3
KMI SKS SKS 15 26 25.0 -5.9
KMI S S 15 26 49.9 -1.7
KMI AMB AMB
comp=Z,113nm,1.3s,mb6.0
KMI AMB AMB
comp=Z,1µm,6.2s
KMI LR LR
comp=N,2µm,21.3s,MS5.9
KMI LR LR
comp=E,4µm,21.3s,MS5.9
KMI LR LR
comp=Z,6µm,22.0s,MS6.0
KMI Kunming 92.47 296 P **P 15 15 55.4 +2.7**
KMI *SP sP 15 16 02.5 -3.5
KMI 15 19 33.8
KMI PPP PPP 15 21 34.7 -3.4
KMI 15 26 25.0
KMI S S 15 26 49.9 -1.7
KMI PS PS 15 28 03.0 -9.0
KMI pmax pmax
comp=Z,113nm,1.3s,mb6.0
KMI MLR MLR
comp=Z,6µm,22.0s,MS6.0
KMI Kunming 92.47 296 P **P 15 15 55.4 +2.7**
comp=Z,113nm,1.3s,mb6.0
KMI pP pP 15 16 00.3 -2.5
KMI sP sP 15 16 02.5 -3.5
KMI PP PP 15 19 33.8 -2.8
KMI PPP PPP 15 21 34.7 -3.4
KMI SKS SKS 15 26 25.0 -5.9
KMI S S 15 26 49.9 -1.7
KMI sS 15 26 57.7
KMI PS PS 15 28 03.0 -9.0
KMI SS SS 15 32 56.9 -10
KMI SSS SSS 15 36 33.3 -12
KMI LR LR
comp=Z,6µm,22.0s,MS6.0
BTO Baotou 92.83 312 *eP* **P 15 15 56.0 +2.0**
BTO S S 15 26 58.9 +4.6
BTO AMB AMB
comp=Z,48nm,1.9s,mb5.6
JTS JuntasAbangare 92.93 80 P **P 15 15 55.8 +0.8**
comp=Z,432nm,1.7s,mb6.6,SNR=10
JTS JuntasAbangare 92.93 80 *eP* **P 15 15 57.0 +2.0**
JTS *e**PP pP 15 16 04.6 -0.5
JTS pmax pmax
comp=Z,447nm,1.9s
JTS MLR MLR
comp=Z,843nm,19.0s
JTS JuntasAbangare 92.93 80 *eP* **P 15 15 57.0 +2.0**
comp=Z,447nm,1.9s,mb6.6
JTS *ep*P pP 15 16 04.6 -0.5
JTS LR LR
comp=Z,843nm,19.0s,MS5.2
BDT Bhumibol Dam 92.94 287 P **P 15 15 58.0 +3.0**
comp=Z,29nm,1.0s,mb5.7
TEIG Tepich 93.35 70 *eP* **P 15 15 53.4 -3.4**
comp=Z,10nm,1.1s,mb5.2
TEIG *ep*P pP 15 16 05.2 -1.7
INK Inuvik 93.40 14 *eP* **P 15 15 55.8 -0.2**
INK *e**PP pP 15 16 07.1 +1.1
INK pmax pmax
comp=Z,206nm,1.8s
INK Inuvik 93.40 14 P **P 15 15 56.1 +0.1**
comp=Z,12nm,0.8s,mb5.4,baz=215,slow=6.1,SNR=51
INK Inuvik 93.40 14 *eP* **P 15 15 55.8 -0.2**
comp=Z,206nm,1.8s,mb6.3
INK *ep*P pP 15 16 07.1 +1.1
CM31 Chiang Mai Arr 93.41 288 *eP* **P 15 15 59.5 +2.3**
comp=Z,150nm,1.1s,mb6.3
CM31 *ep*P pP 15 16 09.2 +1.9
YAK Yakutsk 93.45 337 *eP* **P 15 15 55.4 -0.9**
YAK *e* 15 19 44.8
YAK *eS* SKS 15 26 27.1 -8.3
YAK *e* S 15 26 57.9 -1.3
YAK pmax pmax
comp=Z,22nm,1.0s,mb5.5
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
YAK MLR MLR
comp=Z,1µm,17.0s,MS5.5
YAK MLR MLR
comp=N,800nm,18.0s,MS5.4
YAK MLR MLR
comp=E,900nm,18.0s,MS5.4
YAK Yakutsk 93.45 337 *eP* **P 15 15 55.5 -0.8**
comp=E,48nm,0.9s,mb5.9
KSU1 Kansas State U 93.61 50 *eP* **P 15 15 57.6 -0.1**
KSU1 *ep*P pP 15 16 07.2 -0.5
CD2 Chengdu 93.74 301 P **P 15 16 00.6 +2.1**
CD2 PP PP 15 19 43.6 -3.1

CD2 PPP PPP 15 21 52.0 +2.6
CD2 SKS SKS 15 26 34.6 -3.2
CD2 S S 15 27 06.5 +4.0
CD2 XS 15 27 14.9
CD2 AMB AMB
comp=Z,50nm,0.8s,mb6.0
CD2 AMB AMB
comp=Z,1µm,9.3s
CD2 LR LR
comp=N,3µm,19.8s
CD2 LR LR
comp=Z,3µm,19.0s,MS5.8
TRQA Tornquist 93.84 133 PFAKE 15 16 10.0 +11
TRQA LR LR
comp=Z,3µm,20.0s,MS5.7
MIAR Mount Ida 94.11 55 *e*P **P 15 15 58.1 -2.0**
MIAR *e**PP pP 15 16 08.8 -1.3
MIAR pmax pmax
comp=Z,72nm,1.8s,mb5.8
MIAR Mount Ida 94.11 55 *e*P **P 15 15 58.1 -2.0**
comp=Z,72nm,1.8s,mb5.8
MIAR *e*pP pP 15 16 08.8 -1.3
YKA Yellowknife Ar 95.09 24 P **P 15 16 03.7 -0.1**
comp=Z,12nm,0.9s,mb5.3,baz=236,slow=4.2,SNR=134
YKA PP PP 15 19 58.7 +3.0
comp=Z,2.0nm,1.1s,baz=243,slow=7.4,SNR=4.2
YKA PKKP PKKP 15 33 00.1 +9.1
comp=Z,0.7nm,0.9s,baz=40,slow=2.5,SNR=6.6
YKA PKPPKP 15 41 16.2
comp=Z,0.1nm,0.5s,baz=37,slow=3.5,SNR=4.1
YKA LR LR 15 52 11.0
comp=Z,3µm,21.4s,MS5.7,baz=255,slow=31
YKA Yellowknife Ar 95.09 24 P **P 15 16 03.7 -0.1**
YKA PP PP 15 19 58.7 +3.0
YKA PKKP PKKP 15 33 00.1 +9.1
YKA P'P' 15 41 16.2
YKA LR LR 15 52 11.0
YKW3 Yellowknife Ar 95.12 24 *e*P **P 15 16 03.6 -0.5**
LVC Limon Verde 95.54 116 P **P 15 16 09.4 +2.5**
comp=Z,51nm,1.4s,mb5.8
OTAV Otavalo 95.55 92 *e*P **P 15 16 09.6 +2.4**
comp=Z,121nm,2.5s,mb5.9
LZH Lanzhou 95.56 306 ⇑P **P 15 16 08.6 +1.9**
LZH AP pP 15 16 11.8 -5.0
LZH XP sP 15 16 13.3 -6.7
LZH PP PP 15 20 01.6 +1.5
LZH SKS SKS 15 26 42.5 -5.1
LZH S S 15 27 21.8 +4.0
LZH XS 15 27 29.5
LZH SS SS 15 33 53.6 +3.0
LZH AMB AMB
comp=Z,125nm,1.5s,mb6.1
LZH AMB AMB
comp=Z,696nm,7.4s
LZH LR LR
comp=N,2µm,15.0s
LZH LR LR
comp=Z,3µm,17.8s,MS5.8
LZH Lanzhou 95.56 306 ⇑P **P 15 16 08.6 +1.9**
LZH 15 20 01.6
LZH 15 26 42.5
LZH S S 15 27 21.8 +4.0
LZH SS SS 15 33 53.6 +3.0
LZH pmax pmax
comp=Z,125nm,1.5s,mb6.1
LZH MLR MLR
comp=Z,3µm,17.8s,MS5.8
LZH Lanzhou 95.56 306 ⇑P **P 15 16 08.6 +1.9**
comp=Z,125nm,1.5s,mb6.1
LZH pP pP 15 16 11.8 -5.0
LZH sP sP 15 16 13.2 -6.8
LZH PP PP 15 20 01.6 +1.5
LZH SKS SKS 15 26 42.5 -5.1
LZH S S 15 27 21.8 +4.0
LZH sS 15 27 29.5
LZH SS SS 15 33 53.6 +3.0
LZH LR LR
comp=Z,3µm,17.8s,MS5.8
ULN Ulaanbaatar 97.67 318 *e*P **P 15 16 16.4 +0.5**
ULN *e**PP pP 15 16 25.9 -0.1
ULN pmax pmax
comp=Z,42nm,1.4s,mb5.8
ULN Ulaanbaatar 97.67 318 *e*P **P 15 16 16.4 +0.5**
comp=Z,42nm,1.4s,mb5.8
ULN *e*pP pP 15 16 25.9 -0.1
FVM French Village 97.71 52 P **P 15 16 15.9 -0.5**
FVM *e**PP pP 15 16 24.9 -1.6
FVM pmax pmax
comp=Z,25nm,1.2s,mb5.6
FVM French Village 97.71 52 P **P 15 16 15.9 -0.5**
comp=Z,25nm,1.2s,mb5.6
FVM *e*pP pP 15 16 24.9 -1.5
BOD Bodaibo 97.86 329 *e*P **P 15 16 14.6 -1.9**
BOD pmax pmax
comp=Z,10.0nm,1.9s,mb5.0
SONM Songino Array 98.07 318 P **P 15 16 18.2 +0.5**
comp=Z,6.2nm,1.0s,mb5.1,baz=127,slow=2.2,SNR=21
SONM PP PP 15 20 15.7 -4.1
comp=Z,1.8nm,1.0s,baz=146,slow=4.5,SNR=3.6
SLM Saint Louis 98.07 52 P **P 15 16 18.3 +0.3**
SLM *e**PP pP 15 16 27.1 -1.0
ULM Lac du Bonnet 98.40 39 P **P 15 16 18.4 -0.8**
comp=Z,5.2nm,0.7s,mb5.2,baz=263,slow=4.7,SNR=14
ULM PP PP 15 20 25.6 +3.5
comp=Z,4.8nm,1.1s,baz=293,slow=4.1,SNR=3.5
ULM LR LR 15 57 31.3
comp=Z,3µm,19.0s,MS5.8,baz=250,slow=33
LPAZ La Paz 98.82 111 *e*P **P 15 16 23.5 +1.7**
LPAZ *e**PP pP 15 16 32.2 +0.3
LPAZ *e* 15 20 21.9
LPAZ pmax pmax
comp=Z,18nm,1.5s
LPAZ La Paz 98.82 111 P **P 15 16 23.5 +1.7**
comp=Z,1.0nm,0.2s,mb5.0,baz=300,slow=3.6,SNR=2.7
LPAZ PP PP 15 20 22.8 -3.0
comp=Z,0.4nm,0.3s,baz=233,slow=4.7,SNR=4.0
LPAZ LR LR 15 51 06.9
comp=Z,3µm,21.6s,MS5.7,baz=303,slow=29
LPAZ La Paz 98.82 111 *e*P **P 15 16 23.5 +1.7**
comp=Z,18nm,1.5s,mb5.4
LPAZ *e*pP pP 15 16 32.2 +0.3
LPAZ *e*PP PP 15 20 21.9 -3.9
TIXI Tiksi 99.67 344 *i* P **P 15 16 24.1 -0.3**
TIXI pmax pmax
comp=Z,23nm,1.6s,mb5.4
TIXI Tiksi 99.67 344 *i* P **P 15 16 24.2 -0.2**
GTA Gaotai 99.69 308 *e*P **P 15 16 26.6 +1.3**
GTA AP pP 15 16 30.8 -4.6
GTA XP sP 15 16 33.8 -4.8
GTA SKS SKS 15 27 03.3 -5.6
GTA S S 15 27 54.4 +1.8
GTA AMB AMB
comp=Z,9.0nm,2.3s,mb4.8
GTA AMB AMB
comp=Z,456nm,10.7s
GTA LR LR
comp=N,1µm,23.7s,MS5.6
GTA LR LR
comp=E,2µm,22.9s,MS5.6
GTA LR LR
comp=Z,3µm,28.3s
ZAK Zakamensk 100.87 320 *e*P P 15 16 30.8 +0.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s
ZAK pmax pmax
comp=Z,6.0nm,1.5s
TLY Talaya 101.07 321 *e*P P 15 16 32.6 +1.4
TLY *e*S S 15 28 13.0 +9.1
TLY *e*PS PS 15 29 41.9 -1.0
TLY pmax pmax
comp=Z,5.0nm,1.0s
TLY Talaya 101.07 321 *i* P P 15 16 30.4 -0.8
GOGA Godfrey 101.66 59 PFAKE 15 16 50.0 +16
GOGA LR LR
comp=Z,3µm,21.0s,MS5.7
TZTN Tazewell 102.48 56 *e*Pdif Pdif 15 16 40.1 +2.3
LSA Lhasa 103.69 297 *e*P Pdif 15 16 45.5 +2.2
LSA pmax pmax
comp=Z,10.0nm,1.3s
LSA MLR MLR
comp=Z,2µm,22.0s,MS5.7
LSA Lhasa 103.69 297 *e*Pdif Pdif 15 16 45.5 +2.2
comp=Z,10.0nm,1.3s
LSA LR LR
comp=Z,2µm,22.0s,MS5.7

FWV Forest Hill 104.87 55 *e*Pdif Pdif 15 16 55.9 +7.6
BLA Blacksburg 105.08 56 PFAKE 15 21 20.0
BLA LR LR
comp=Z,3µm,19.0s,MS5.9
SDV Santo Domingo 105.79 86 *e*PKPdf 15 21 07.3
WMQ Urumqi 109.57 310 PDIF Pdif 15 17 11.0 +2.2
WMQ PP PP 15 21 48.5 +2.1
WMQ S 15 29 18.0
WMQ SS SS 15 37 04.0 +0.5
WMQ PP PP
comp=Z,372nm,6.8s
WMQ LR LR
comp=N,4µm,20.0s,MS6.1
WMQ LR LR
comp=E,3µm,18.6s,MS6.1
WMQ LR LR
comp=Z,6µm,22.0s,MS6.1
SJG San Juan 112.65 78 PFAKE 15 21 30.0 +7.8
SJG LR LR
comp=Z,2µm,19.0s,MS5.7
ZAL Zalesovo 112.70 321 Pdiff Pdif 15 17 22.9 +0.6
comp=Z,0.6nm,0.3s,baz=162,slow=14,SNR=2.1
ZAL PKiKP 15 21 17.5
comp=Z,1.6nm,0.6s,baz=286,slow=0.8,SNR=6.6
NVS Novosibirsk 113.66 322 *e*P Pdif 15 17 37.3 +11
NVS *e* 15 21 18.0
NVS *i* 15 22 09.0
NVS *i* 15 27 55.8
NVS pmax pmax
comp=Z,40nm,1.7s
NVS pmax pmax
comp=N,19nm,1.6s
NVS pmax pmax
comp=E,28nm,1.5s
MKAR Makanchi Array 113.74 313 *i* PKIKP PKPdf 15 21 19.2 -4.6
MKAR pmax pmax
comp=Z,7.0nm,0.7s
DDI Dehra Dun 114.89 295 *e* PKPdf 15 21 17.0 -9.4
NDI New Delhi 115.32 293 *e*P PKPdf 15 21 22.4 -4.9
SDNR Sundarnagar 116.00 296 *e*P PKPdf 15 21 24.5 -4.1
BDFB Brasilia 116.17 120 PKP PKPdf 15 21 26.6 -2.6
comp=Z,1.4nm,0.5s,baz=162,slow=5.8,SNR=2.6
BDFB PKKPbc 15 31 55.9
comp=Z,2.5nm,0.7s,baz=196,slow=3.9,SNR=3.7
KURK Kurchatov 116.36 317 *i* PKIKP PKPdf 15 21 23.1 -5.7
KURK pmax pmax
comp=Z,10.0nm,1.2s
KURK Kurchatov 116.36 317 *e*PKPdf PKPdf 15 21 23.6 -5.1
KURK *ep*PKPdf 15 21 34.8
SCHQ Schefferville 116.53 38 PFAKE 15 21 40.0 +11
SCHQ LR LR
comp=Z,6µm,19.0s,MS6.2
KSH Kashi 117.75 305 *e*PKP PKPdf 15 21 30.4 -1.3
KSH *e*PKS PKS 15 25 05.0 +2.7
KSH *e*SKS SKS 15 28 38.3 +13
KSH LR LR
comp=N,1µm,11.0s
KSH LR LR
comp=E,5µm,22.9s
TKM2 Tokmak 2 118.24 308 P PKPdf 15 21 28.9 -3.7
SNR=8.4
CHMS Chumysh 118.86 309 P PKPdf 15 21 29.5 -4.3
SNR=8.7
FRU Bishkek 118.96 308 *e*PKIKP PKPdf 15 21 30.0 -4.0
FRU *i* 15 21 42.0
FRU *i* 15 22 47.0
FRU pmax pmax
comp=Z,52nm,2.0s
UCH Uchtor 119.01 308 P PKPdf 15 21 31.5 -2.6
SNR=17
AAK Ala-Archa 119.04 308 *i* PKIKP PKPdf 15 21 29.4 -4.8
AAK MLR MLR
comp=Z,2µm,19.0s,MS5.7
AAK Ala-Archa 119.04 308 *e*PKPdf PKPdf 15 21 29.2 -5.0
USP Ospenovka 119.06 309 P PKPdf 15 21 30.1 -4.0
SNR=18
EKS2 Erkin-Say 119.57 308 P PKPdf 15 21 31.6 -3.5
SNR=12
AML Almayashu 119.62 308 P PKPdf 15 21 32.2 -3.1
SNR=25
CHKZ Chkalovo 121.10 321 *i* PKIKP PKPdf 15 21 33.1 -4.8
CHKZ pmax pmax
comp=Z,17nm,1.4s
CHKZ Chkalovo 121.10 321 *e*PKPdf PKPdf 15 21 33.1 -4.8
BVA0 Borovoye Array 121.32 320 *i* PKIKP PKPdf 15 21 34.0 -4.3
BVA0 pmax pmax
comp=Z,7.0nm,1.3s
BVAR Borovoye Array 121.32 320 PKKPbc 15 31 40.1
comp=Z,1.1nm,0.6s,baz=56,slow=5.3,SNR=8.4
SFJ Sondre 121.63 23 PFAKE 15 21 50.0 +11
SFJ LR LR
comp=Z,3µm,19.0s,MS6.0
SUR Sutherland 125.46 196 PKP PKPdf 15 21 44.0 -2.9
comp=Z,26nm,1.0s,baz=172,slow=3.3,SNR=5.9
SVE Sverdlovsk 125.95 326 ⇓*i* PKIKP PKPdf 15 21 43.2 -3.9
SVE *e* 15 23 33.0
SVE *e* 15 33 28.0
SVE *e* 15 35 15.0
SVE pmax pmax
comp=Z,125nm,2.5s
ARU Arti 127.16 326 ⇓*i* PKIKP PKPdf 15 21 44.1 -5.3
ARU *i* 15 23 41.1
ARU *e*PS PS 15 33 40.4 -7.9
ARU pmax pmax
comp=Z,23nm,1.3s
ARU MLR MLR
comp=N,2µm,19.0s,MS6.0
ARU MLR MLR
comp=E,3µm,19.0s,MS6.0
ARU MLR MLR
comp=Z,5µm,19.0s,MS6.2
SCO Scoresbysund 127.38 11 *i* PKIKP PKPdf 15 21 45.8 -3.7
SCO pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 127.38 11 *i* P PKPdf 15 21 45.8 -3.7
comp=Z,5.2nm,0.9s
BOSA Boshof 127.65 202 *e*PKIKP PKPdf 15 21 47.4 -3.8
BOSA *e* 15 21 57.4
JMIC Jan Mayen 128.81 6 AMS AMS 16 16 35.3
comp=Z,2µm,20.7s,MS5.7
CS6B Jaguaretama 129.33 116 (P) PKPdf 15 21 50.4 -4.4
CS6B *e* 15 22 03.1
ARCES ARCESS Array B 129.51 351 PKP PKPdf 15 21 49.9 -3.7
comp=Z,14nm,0.8s,baz=348,slow=1.4,SNR=24
ARE0 ARCESS Array S 129.51 351 *e*PKPdf PKPdf 15 21 49.3 -4.3
APA Apatity 129.80 347 ⇓*i* PKIKP PKPdf 15 21 46.0 -8.2
APA *i* 15 28 54.0
APA *i* PS PS 15 34 07.0 -3.2
APA *i* SS SS 15 41 25.0 +1.5
APA pmax pmax
comp=Z,700nm,6.0s
APA pmax pmax
comp=Z,90nm,1.5s
APA MLR MLR
comp=Z,3µm,20.0s,MS6.0
TRO Tromso 130.22 354 *e*P 15 21 40.9
TRO *i* 15 24 02.5
TRO Tromso 130.22 354 *e* 15 21 40.9
TRO *e*PP PP 15 24 01.6 -5.7
TRO AMS AMS 16 12 48.7
comp=Z,1µm,20.9s,MS5.5
LBTB Lobatse 130.79 204 PKP PKPdf 15 21 53.5 -3.8
comp=Z,6.6nm,0.9s,baz=129,slow=0.6,SNR=6.5
RCBR Riachuelo 131.46 118 PFAKE 15 22 10.0 +11
RCBR LR LR
comp=Z,2µm,19.0s,MS5.9
MATP Matopo 133.61 210 PKhKP 15 21 49.0
comp=Z,1.5nm,0.6s,baz=159,slow=3.9,SNR=4.1
MATP PKP PKPdf 15 21 59.7 -2.9
comp=Z,16nm,1.0s,baz=168,slow=2.3,SNR=14
MATP Matopo 133.61 210 PKP 15 21 49.0
MATP PKP PKPdf 15 21 59.7 -2.9
JOF Joensuu 134.15 344 *ep* PKPdf 15 21 57.3 -5.2
PECR Pechory 134.32 331 *e*PKIKP PKPdf 15 21 59.6 -3.4
PECR *e* 15 24 27.0
PECR MLR MLR
comp=Z,4µm,20.0s,MS6.1
PECR MLR MLR
comp=Z,3µm,19.0s
NSS Namsos 135.80 356 *e*P PKPdf 15 22 01.6 -3.9
NSS Namsos 135.80 356 *e* PKPdf 15 22 01.6 -3.9
NSS AMS AMS 16 32 07.2
comp=Z,2µm,17.0s,MS5.9
KAF Kangasniemi 136.05 346 *ep* PKPdf 15 21 57.8 -8.2
comp=Z,9.9nm,0.7s

FINES FINESS Array B 136.69 346 PKhKP 15 21 50.9
comp=Z,2.4nm,1.0s,baz=207,slow=17,SNR=3.2
FINES PKP PKPdf 15 22 03.6 -3.6
comp=Z,8.5nm,0.8s,baz=100,slow=2.5,SNR=14
MOS Moscow 137.50 334 *e*PKIKP PKPdf 15 22 07.2 -1.7
MOS *e* 15 24 47.6
LSZ Lusaka 138.14 214 *e*PKIKP PKPdf 15 22 07.6 -3.5
LSZ *e* 15 22 18.1
OBN Obninsk 138.37 334 *j* PKHKP 15 21 59.0
OBN *i* 15 22 07.0
OBN *e* 15 22 19.2
OBN *i* 15 24 57.0
OBN *e*SS SS 15 43 07.4 +0.9
OBN pmax pmax
comp=Z,33nm,1.3s
OBN pmax pmax
comp=Z,500nm,3.7s
OBN MLR MLR
comp=Z,2µm,18.0s,MS6.0
OBN Obninsk 138.37 334 *e*PKPdf PKPdf 15 22 07.8 -2.7
OBN *ep*PKPdf 15 22 18.6
MAK Makhachkala 138.55 312 *e*PKIKP PKPdf 15 22 10.0 -1.2
MAK *e* 15 24 55.0
MAK *e*PPP PPP 15 28 03.0 +0.1
MAK pmax pmax
comp=Z,2µm,6.0s
MAK pmax pmax
comp=Z,2µm,8.0s
MAK MLR MLR
comp=Z,2µm,18.0s,MS5.8
TSUM Tsumeb 138.86 197 PKhKP 15 21 56.3
TSUM PKP PKPdf 15 22 08.9 -3.5
comp=Z,13nm,1.0s
TSUM PP PP 15 25 00.5 -2.7
comp=Z,9.2nm,0.9s,baz=126,slow=5.4,SNR=7.3
TSUM Tsumeb 138.86 197 PKP 15 21 56.3
TSUM *e*PKPdf PKPdf 15 22 07.6 -4.8
TSUM *ep*PKPdf 15 22 20.1
TSUM *e*PP PP 15 24 59.1 -4.1
NB2 NORSAR Subarra1 39.32 356 PKPabc 15 21 58.1
comp=Z,54nm,2.0s,baz=17,slow=2.6
NB2 NORSAR Subarra1 39.32 356 PKPa 15 21 58.1
baz=17,slow=2.6
NOA NORSAR Array B 139.32 356 PKhKP 15 21 59.9
comp=Z,1.6nm,0.9s,baz=16,slow=4.3,SNR=4.2
NOA PKP PKPdf 15 22 08.3 -3.8
comp=Z,2.8nm,0.9s,baz=31,slow=2.0,SNR=5.4
GOF Gofitskoye 140.72 317 *e*PKIKP PKPdf 15 22 12.3 -2.7
KONO Kongsberg 140.80 357 *e* 15 22 02.1
KONO *e*PP PP 15 25 09.2 -4.5
TI2 Plekhanov 140.89 312 *e*PKHKP 15 22 07.0
TI2 MLR MLR
comp=E,2µm,20.0s
TI2 MLR MLR
comp=Z,2µm,20.0s,MS5.9
KIV Kislovodsk 141.42 316 *i* PKHKP 15 22 03.5
GNI Garni 141.43 309 *e*PKIKP PKPdf 15 22 13.3 -3.1
MNK Minsk 142.13 339 *e*PKHKP 15 22 03.0
KMBO Kilima Mbogo 142.37 239 PKhKP 15 22 11.4
comp=Z,21nm,1.0s,baz=70,slow=2.4,SNR=27
KMBO PKP PKPdf 15 22 14.6 -4.3
comp=Z,25nm,1.1s,baz=52,slow=0.7,SNR=27
KMBO Kilima Mbogo 142.37 239 *e*PKPdf PKPdf 15 22 12.3 -6.5
VANB Van 142.92 307 P PKPdf 15 22 16.4 -2.6
VANB Van 142.92 307 P PKPdf 15 22 11.2 -7.8
SOC Sochi 143.51 317 *i* PKIKP PKPdf 15 22 17.4 -2.4
SOC *e*PPP PPP 15 28 35.7 -6.8
SOC *e*SS SS 15 44 05.5 -1.3
SOC *e*SSS SSS 15 49 34.1 +3.4
SOC pmax pmax
comp=Z,66nm,1.1s
SOC pmax pmax
comp=N,88nm,1.3s
SOC pmax pmax
comp=E,52nm,1.3s
ERZM Erzurum 143.95 310 *i* P PKPbc 15 22 16.1 +1.4
EZM Erzurum 143.95 310 P PKPbc 15 22 16.3 +1.7
EZM Erzurum 143.95 310 P PKPbc 15 22 16.7 +2.1
SUW Suwalki 143.99 342 *e*PKP PKPdf 15 22 14.3 -6.0
MUD Monsted U'grnd 144.01 357 ⇑*i*P PKPbc 15 22 13.9 -0.4
comp=E,73nm,1.0s
MUD *i* 15 44 26.3
comp=Z,2µm,21.0s
VRT Varto 144.11 309 P PKPbc 15 22 16.7 +1.6
GMK Mull of Kintyr 144.19 11⇑*e*P PKPbc 15 22 14.8 +0.1
ANN Anapa 144.32 320 *i* PKIKP PKPdf 15 22 15.5 -5.7
ANN pmax pmax
comp=Z,325nm,1.5s
ANN MLR MLR
comp=N,3µm,25.0s,MS6.1
ANN MLR MLR
comp=E,3µm,25.0s,MS6.1
ANN MLR MLR
comp=Z,2µm,25.0s,MS5.9
BTMT Batman 144.46 308 P PKPbc 15 22 17.8 +1.7
COP Copenhagen 144.51 353 ⇑*i*P PKPbc 15 22 15.5 -0.2
comp=Z,25nm,0.8s
COP *i* 15 25 36.7
comp=Z,840nm,20.0s
EKA Eskdalemuir Ar 144.59 9 PKP PKPdf 15 22 16.4 -5.0
comp=Z,20nm,0.7s,baz=329,slow=3.1,SNR=5.4
ESK Eskdalemuir 144.60 9⇑*e*P PKPbc 15 22 15.6 -0.3
ESK AMb AMB 15 22 17.6
comp=Z,77nm,1.8s
BWH Wardlaw 144.67 9⇑*e*P PKPbc 15 22 15.8 -0.3
BEST Besiri 144.72 307 *i* P PKPbc 15 22 16.9 0.0
BSD Bornholm Skovb 144.75 351 ⇑*i*P PKPbc 15 22 16.6 +0.2
comp=Z,58nm,0.8s
BSD *i* 15 25 35.5
comp=Z,3µm,22.0s
GAL1 Galloway 144.80 10⇑*e*P PKPbc 15 22 16.7 +0.2
BHH Howats Hill 144.81 9⇑*e*P PKPbc 15 22 16.7 +0.1
BBH Bruntsheil 144.82 9⇑*e*P PKPbc 15 22 16.7 +0.2
GUMT Gumushane 145.06 312 P PKPbc 15 22 20.0 +2.3
BTA Talkin 145.07 8⇑*e*P PKPbc 15 22 17.8 +0.5
BDL Dobcross Hall 145.14 9⇑*e*P PKPbc 15 22 18.1 +0.7
BBO1 Bothel 145.16 9⇑*e*P PKPbc 15 22 17.9 +0.5
GMM Mts of Mourne 145.17 12 *e*P PKPbc 15 22 18.7 +1.2
LCP Cassop 145.39 7⇑*e*P PKPbc 15 22 18.7 +0.7
WIM Isle of Man 145.49 11⇑*e*P PKPbc 15 22 19.0 +0.6
WIM AMb AMB 15 22 20.9
comp=Z,156nm,1.8s
DIY Diyarbakir 145.50 308 *e*P PKPbc 15 22 21.6 +2.7
RGN Rugen 145.53 352 *e*PKPdf PKPdf 15 22 19.3 -3.7
RGN *ep*PKPdf 15 22 29.9
DCN Croghan 145.73 14 *e*P PKPbc 15 22 20.4 +1.5
DCN Croghan 145.73 14 *e*P PKPbc 15 22 31.7 +13
LWH Whinny Nab 145.88 7⇑*e*P PKPbc 15 22 20.7 +1.4
DLF Lyons Farm 145.94 13 *e*P PKPbc 15 22 21.0 +1.5
DLF Lyons Farm 145.94 13 *e*P PKPbc 15 22 32.1 +13
DSB Dublin 146.02 13 *e*PKPdf PKPdf 15 22 20.7 -3.2
DSB *ep*PKPdf 15 22 32.9
GKP Gorka Klasztor 146.11 348⇑*e*PKP PKPdf 15 22 21.9 -2.2
HPK Haverah Park 146.14 8⇑*e*P PKPbc 15 22 21.4 +1.5
WAR Warsaw 146.16 343 *e*PKP PKPdf 15 22 22.6 -1.6
SIM Simferopol' 146.18 323*c i*PKIKP PKPdf 15 22 21.1 -3.3
SIM *e* 15 25 44.0
SIM *e*PPP PPP 15 28 58.0 -4.8
SIM *e*PPS PPS 15 38 25.0 +1.0
ELZG Elazig 146.19 309 *i* P PKPbc 15 22 22.4 +1.8
WCB1 Church Bay 146.25 11⇑*e*P PKPbc 15 22 21.4 +1.2
WCB1 AMb AMB 15 22 28.5
comp=Z,156nm,1.5s
WME Myndd Eilian 146.28 11⇑*e*P PKPbc 15 22 21.4 +1.2
WME AMb AMB 15 22 28.7
comp=Z,121nm,1.5s
YRC Rhoscolyn 146.37 11⇑*e*P PKPbc 15 22 21.7 +1.2
YRC AMb AMB 15 22 28.8
comp=Z,122nm,1.6s
BSEG Bad Segeberg 146.44 355 *e*PKP2 PKPab 15 22 22.9 -0.8
WPM1 Penmaenmawr 146.48 10⇑*e*P PKPbc 15 22 22.1 +1.4
WPM1 AMb AMB 15 22 26.1
comp=Z,184nm,3.1s
LHO Holmfirth 146.51 8⇑*e*P PKPbc 15 22 22.3 +1.5
YLL Llanberis 146.54 11⇑*e*P PKPbc 15 22 22.2 +1.3
YLL AMb AMB 15 22 29.4
comp=Z,170nm,1.7s
YRE Yr Eifl 146.65 11⇑*e*P PKPbc 15 22 22.2 +1.1
YRE AMb AMB 15 22 26.6
comp=Z,105nm,2.0s
MYA Malataya 146.66 309 P PKPbc 15 22 24.9 +3.2
MALT Malatya 146.67 309 *e*PKIKP PKPdf 15 22 22.8 -2.7
URFA Urfa 146.70 308 *e*P PKPbc 15 22 23.4 +1.6
LMK Market Rasen 146.78 7⇑*e*P PKPbc 15 22 22.9 +1.4

KBI1	**Birley Grange**	**146.84**	**8**⇑	*e*P		PKPbc	15 22 23.0	+1.5
SBD1	**Bryn Du**	**146.93**	**10**⇑	*e*P		PKPbc	15 22 23.1	+1.4
KWE	**Weaver Farm**	**147.03**	**8**⇑	*e*P		PKPdf	15 22 23.3	-2.3
TOKT	**Tokat**	**147.13**	**314**	*e*P		PKPdf	15 22 25.6	-0.7
LVV	**L'vov**	**147.33**	**338**	*e*PKIKP		PKPdf	15 22 24.2	-2.0
LVV				*e*			15 22 36.8	
LVV				*e*			15 25 50.0	
LVV					MLR	MLR		
	comp=Z,3µm,24.1s,MS6.0							
LVV					MLR	MLR		
	comp=N,2µm,23.7s,MS6.0							
LVV					MLR	MLR		
	comp=E,2µm,24.1s,MS6.0							
SSP1	**Stoney Pound**	**147.42**	**10**⇑	*e*P		PKPdf	15 22 24.7	-1.6
RUE	**Ruedersdorf**	**147.48**	**351**	*e*PKPdf		PKPdf	15 22 23.0	-3.3
RUE				*e*PKPbc		PKPbc	15 22 25.8	-0.5
KIS	**Kishinev**	**147.57**	**330**α	*i* PKIKP		PKPdf	15 22 25.0	-1.7
KIS				*e*			15 26 00.0	
KIS					pmax	pmax		
	comp=Z,400nm,1.0s							
KIS					pmax	pmax		
	comp=Z,5µm,10.0s							
KIS					MLR	MLR		
	comp=N,3µm,20.0s							
KIS					MLR	MLR		
	comp=Z,5µm,20.0s,MS6.3							
GZT	**Gaziantep**	**147.66**	**308**	*i* P		PKPdf	15 22 23.4	-3.8
BOYT	**Boyabat**	**147.67**	**317**	*i* P		PKPdf	15 22 27.4	+0.3
HTR	**Trewern Hill**	**147.72**	**10**⇑	*e*P		PKPdf	15 22 24.4	-2.3
HTR					AMb	AMB	15 22 29.4	
	comp=Z,84nm,1.5s							
WIT	**Witteveen**	**147.75**	**359**	*e*PKP		PKPdf	15 22 27.0	+0.3
	comp=Z,698nm,1.1s							
MBAR	**Mbarara**	**147.75**	**232**	*e*PKHKP			15 22 24.0	
MBAR				*e*			15 22 27.8	
MCH1	**Michaelchurch**	**147.84**	**10**⇑	*e*P		PKPdf	15 22 25.8	-1.2
HAE	**Alders End**	**147.88**	**10**⇑	*e*P		PKPdf	15 22 25.1	-1.9
HAE					AMb	AMB	15 22 32.2	
	comp=Z,316nm,1.8s							
KTG1	**Tilbrook Grang**	**147.89**	**7**⇑	*e*P		PKPdf	15 22 25.2	-1.8
KWP	**Kalwaria**	**147.94**	**339**⇑	*e*PKP		PKPdf	15 22 27.3	+0.1
BZK	**Bozkurt**	**147.96**	**318**	P		PKPdf	15 22 27.6	+0.1
GAZ	**Gaziantep**	**147.99**	**308**	*e*P		PKPdf	15 22 27.7	0.0
IAS	**Iasi**	**148.00**	**331**	⇓P		PKPdf	15 22 28.2	+0.8
IAS	**Iasi**	**148.00**	**331**	⇓P		PKPdf	15 22 28.2	+0.8
KAHT	**Ahir Dag**	**148.06**	**309**	*i* P		PKPdf	15 22 27.6	-0.1
CTKT	**Corum**	**148.16**	**315**	*i* P		PKPdf	15 22 28.6	+0.8
HGH	**Gray Hill**	**148.22**	**10**⇑	*e*P		PKPdf	15 22 26.5	-1.1
HGH					AMb	AMB	15 22 32.2	
	comp=Z,162nm,1.8s							
BNN	**Bunyan**	**148.28**	**312**	P		PKPdf	15 22 29.0	+0.9
OJC	**Ojcow**	**148.32**	**343**	*e*PKP		PKPdf	15 22 24.7	-3.1
OJC				*e*SS		SS	15 45 04.6	+3.7
OJC					MLR	MLR	16 24 23.0	
	comp=Z,4µm,24.5s,MS6.2							
TOS	**Tosya**	**148.44**	**317**	*e*P		PKPdf	15 22 27.2	-1.0
CORM	**Corum**	**148.48**	**315**	*e*P		PKPdf	15 22 29.2	+0.8
CLZ	**Clausthal**	**148.52**	**354**	*e*PKPdf		PKPdf	15 22 24.9	-3.1
CLZ				*e*PKPbc		PKPbc	15 22 28.9	+0.9
CLZ				*e*PKPab		PKPab	15 22 32.5	+0.5
BALT	**Daday**	**148.58**	**318**	*i* P		PKPdf	15 22 29.9	+1.5
WTSB	**Winterswijk**	**148.59**	**359**	*e*PKP		PKPdf	15 22 24.3	-3.8
	comp=Z,210nm,2.5s							
HEX	**Exmoor**	**148.60**	**12**⇑	*e*P		PKPdf	15 22 24.0	-4.2
KSP	**Ksiaz**	**148.60**	**347**	*e*PKPdf		PKPdf	15 22 25.2	-3.0
KSP				*e*PKPdf		PKPdf	15 22 29.3	+1.1
KSP				*e*SS		SS	15 44 52.0	-12
KSP					LR	LR		
	comp=Z,7µm,21.2s,MS6.4							
KSP	**Ksiaz**	**148.60**	**347**	*e*PKP		PKPdf	15 22 25.4	-2.8
KSP				*e*PKIKP		PKPdf	15 22 29.4	+1.2
BURAR	**Bucovina Array**	**148.68**	**334**	⇑P		PKPdf	15 22 28.1	-0.3
BURAR	**Bucovina Array**	**148.68**	**334**	⇑P		PKPdf	15 22 28.1	-0.3
KOLS	**Kolonicke sedl**	**148.69**	**339**	*e*PKP		PKPdf	15 22 29.4	+1.0
KOLS				*e*			15 22 43.4	
CLL	**Collm**	**148.73**	**351**	*e*PKIKP		PKPdf	15 22 25.0	-3.4
CLL				*i*			15 22 29.2	
CLL				*i*			15 22 39.4	
CLL					MLR	MLR		
	comp=Z,4µm,20.5s,MS6.1							
CLL	**Collm**	**148.73**	**351**	*e*PKIKP		PKPdf	15 22 25.0	-3.4
	comp=Z,logA/T=1.4							
CLL				*i* PKP1		PKPdf	15 22 29.2	+0.8
CLL				*i* PKP2		PKPab	15 22 32.7	-0.2
CLL				*i*			15 22 39.4	
CLL				*i*			15 22 48.2	
CLL				*i*			15 23 05.2	
CLL				*e*PP		PP	15 25 57.0	-3.8
CLL				*e*PPP		PPP	15 29 19.0	-3.3
CLL				*e*			15 31 00.0	
CLL				*e*			15 36 12.0	
CLL				*e*			15 37 27.0	
CLL				*e*SS		SS	15 45 00.0	-5.4
CLL				*e*			15 46 24.0	
CLL				*e*SSS		SSS	15 50 48.0	+4.4
RAC	**Raciborz**	**148.87**	**344**	*e*PKPdf		PKPdf	15 22 25.9	-2.8
RAC					MLR	MLR	16 29 13.1	
	comp=Z,6µm,20.7s,MS6.4							
TLCR		**148.87**	**328**	⇓P		PKPdf	15 22 30.9	+2.1
NIE	**Niedzica**	**148.89**	**341**	*e*PKP		PKPdf	15 22 23.9	-4.8
CANT	**Cankiri**	**148.93**	**316**	P		PKPdf	15 22 30.7	+1.6
COBT	**Iskenderun**	**148.95**	**307**	*i* P		PKPdf	15 22 30.1	+0.9
UPC	**Upice**	**148.97**	**347**	*e*PKPDF		PKPdf	15 22 25.7	-3.1
UPC				⇑*e*PKPB		PKPdf	15 22 30.2	+1.4
CRVS	**Cervenica-Dubn**	**148.98**	**340**	*e*PKP		PKPdf	15 22 31.4	+2.5
AVNT	**Avonos**	**149.00**	**312**	*i* P		PKPdf	15 22 30.3	+1.1
BRG	**Berggiesshubel**	**149.01**	**350**	*e*PKIKP		PKPdf	15 22 25.9	-3.0
BRG				*i*			15 22 30.1	
BRG				*i*			15 22 34.1	
BRG				*i*			15 22 41.2	
BRG				*e*			15 25 58.0	
BRG				*i*			15 29 18.0	
BRG				*i* SS		SS	15 45 07.0	-1.5
BRG					MLR	MLR		
	comp=Z,3µm,20.0s,MS6.1							
BRG	**Berggiesshubel**	**149.01**	**350**	*e*PKP		PKPdf	15 22 25.9	-3.0
BRG				*i*			15 22 30.1	
BRG				*i*			15 22 34.1	
BRG				*i*			15 22 41.2	
BRG				*e*PP		PP	15 25 58.0	-4.2
BRG				*i*			15 29 18.0	
BRG				*i*			15 36 16.0	
BRG				*i* SS		SS	15 45 07.0	-1.5
BRG					LR	LR		
	comp=Z,3µm,20.0s,MS6.1							
DPC	**Dobruska-Polom**	**149.06**	**347**	*e*PKPDF		PKPdf	15 22 26.0	-3.0
DPC				⇑*e*PKPB		PKPdf	15 22 30.5	+1.6
DPC					AMS	AMS	16 28 20.0	
	comp=Z,3µm,21.7s							
OKC	**Ostrava-Krasne**	**149.11**	**344**	*e*PKPDF		PKPdf	15 22 25.3	-3.7
OKC				⇑*e*PKPB		PKPdf	15 22 30.2	+1.2
OKC					AMS	AMS	16 29 10.0	
	comp=Z,4µm,20.2s							
ELDT	**Eldivan**	**149.11**	**316**	*i* P		PKPdf	15 22 29.2	-0.2
SAFT	**Safranbolu**	**149.18**	**318**	P		PKPdf	15 22 30.3	+0.9
HTY	**Hatay**	**149.19**	**307**	*e*P		PKPdf	15 22 29.9	+0.3
HTY	**Hatay**	**149.19**	**307**	P		PKPdf	15 22 28.8	-0.9
CFR	**Carcaliu**	**149.22**	**328**	PKP2		PKPab	15 22 31.0	-4.1
PVCC	**Panska Ves**	**149.24**	**349**	AMS		AMS	16 29 50.0	
	comp=Z,4µm,21.0s							
MORC	**Moravsky Berou**	**149.31**	**345**	*e*PKIKP		PKPdf	15 22 26.0	-3.4
MORC				*e*			15 22 31.4	
MORC				*e*			15 22 35.2	
MORC				*e*			15 22 41.7	
BRTR	**Keskin Array B**	**149.37**	**315**	PKHKP			15 22 25.6	
BRTR							15 26 00.6	
BRTR	**Keskin Array B**	**149.37**	**315**	PKP		PKPdf	15 22 25.6	-4.3
	comp=Z,14nm,1.0s,baz=125,slow=2.0,SNR=14							
BRTR				PKPbc		PKPdf	15 22 31.1	+1.3
	comp=Z,13nm,0.7s,baz=90,slow=2.5,SNR=14							
BRTR				PP		PP	15 26 00.6	-4.1
	comp=Z,5.1nm,1.1s,baz=101,slow=6.3,SNR=3.7							
VRI	**Vrincioaia**	**149.38**	**331**	⇑P		PKPdf	15 22 31.1	+1.5
KAMT	**Kaman**	**149.50**	**314**	*e*P		PKPdf	15 22 26.6	-3.5
MOX	**Moxa**	**149.57**	**353**	*e*PKHKP			15 22 23.0	
MOX					MLR	MLR		
	comp=Z,2µm,20.0s,MS5.9							
MOX	**Moxa**	**149.57**	**353**	*e*PKPdf		PKPdf	15 22 23.0	-6.8
MOX				*e*PKP		PKPdf	15 22 31.3	+1.5
MOX				*e*PKPab		PKPab	15 22 45.0	+8.7
MOX				*e*SKSP		tx	15 35 18.0	
MOX				*e*SS		tx	15 44 00.0	
MOX				*e*SSS		tx	15 49 30.0	
MOX					LR	LR		
	comp=Z,2µm,20.0s,MS5.9							
MOX	**Moxa**	**149.57**	**353**	*i* P		PKPdf	15 22 23.0	-6.8
MOX				PP2			15 22 31.0	
MOX				PKP2		PKPab	15 22 45.0	+8.7
MOX				*e*			15 35 18.0	
MOX				SS		tx	15 44 00.0	
MOX				SSS		tx	15 49 30.0	
MOX				L			16 33 55.0	
LIKS	**Likavka**	**149.57**	**342**	*e*PKP		PKPdf	15 22 32.8	+3.0
KECS	**Kecovo**	**149.66**	**340**	*e*PKP		PKPdf	15 22 31.7	+1.7
KECS				*e*			15 22 43.4	
HARR	**Harsova**	**149.67**	**328**	⇓PKP2		PKPab	15 22 32.8	-4.1
HARR	**Harsova**	**149.67**	**328**	P		PKPdf	15 22 32.7	+2.6
PRU	**Pruhonice**	**149.76**	**349**	*e*PKPDF		PKPdf	15 22 26.2	-3.9
PRU				⇑*e*PKPB		PKPdf	15 22 32.0	+1.9
PRU					AMS	AMS	16 30 00.0	
	comp=Z,3µm,20.2s							
HGN	**Heimansgroeve**	**149.81**	**360**	*e*PKP		PKPdf	15 22 31.5	+1.3
	comp=Z,177nm,1.8s							
ASF	**Jabal al Asfar**	**149.84**	**299**	PKP		PKPdf	15 22 28.3	-2.5
	comp=Z,35nm,1.1s,baz=266,slow=2.6,SNR=5.6							
ASF				PKPbc		PKPdf	15 22 33.5	+2.7
	comp=Z,41nm,1.0s,baz=326,slow=0.7,SNR=27							
ANTO	**Ankara**	**149.85**	**316**	P		PKPdf	15 22 25.0	-5.5
ANTO	**Ankara**	**149.85**	**316**	PKPdf		PKPdf	15 22 27.3	-3.3
ANTO				PKPdf		PKPdf	15 22 32.7	+2.1
NKC	**Novy Kostel**	**149.86**	**351**	*e*PKP2		PKPab	15 22 32.2	-5.4
NKC	**Novy Kostel**	**149.86**	**351**⇑	*e*PKPB		PKPdf	15 22 32.2	+2.0
NKC					AMS	AMS	16 27 40.0	
	comp=Z,2µm,21.3s							
SGKT	**Sivrigoynuk**	**149.95**	**318**	*i* P		PKPdf	15 22 32.5	+1.8
VRAC	**Vranov**	**149.98**	**346**	PKP		PKPdf	15 22 26.3	-4.1
	comp=Z,2.0nm,0.7s							
VRAC				PKPbc		PKPdf	15 22 32.7	+2.2
	baz=36,slow=4.4							
MLR	**Muntele Rosu**	**150.03**	**331**	⇑P		PKPdf	15 22 27.9	-2.8
ISR	**Istrita**	**150.03**	**330**	PKP2		PKPab	15 22 33.7	-4.7
VYHS	**Vyhne**	**150.15**	**342**	*e*PKP2		PKPab	15 22 33.0	-5.8
VYHS				*e*			15 26 04.4	
VYHS	**Vyhne**	**150.15**	**342**	*e*PKP		PKPdf	15 22 33.0	+2.3
VYHS				*e*			15 22 44.5	
VYHS				*e*PP		PP	15 26 04.4	-4.8
KOLL	**Kolacno**	**150.19**	**343**	*e*PKP		PKPdf	15 22 28.8	-2.0
KOLL				*e*			15 22 33.5	
KOLL				*e*			15 22 45.1	
TNS	**Taunus Mts**	**150.27**	**356**	*e*PKPdf		PKPdf	15 22 27.8	-3.1
TNS				*e*PKPbc		PKPdf	15 22 33.1	+2.2
BHL	**Bhannes**	**150.34**	**303**	*e*P		PKPdf	15 22 34.2	+2.7
PSZ	**Piszkesteto**	**150.35**	**341**	*e*PKIKP		PKPdf	15 22 27.5	-3.6
PSZ				*e*			15 22 33.3	
PSZ	**Piszkesteto**	**150.35**	**341**⇑	*e*PKP/F		PKPdf	15 22 33.7	+2.2
GIVF	**Givet**	**150.46**	**1**	*e*PKIKP		PKPdf	15 22 27.9	-3.3
MEST	**Erdemli**	**150.48**	**309**	*i* P		PKPdf	15 22 33.8	+2.1
BAIF	**Baives**	**150.49**	**2**	*e*PKIKP		PKPdf	15 22 28.1	-3.1
	comp=Z,52nm,1.4s							
SMOL	**Smolenice**	**150.51**	**344**	*e*PKP		PKPdf	15 22 34.4	+3.1
SMOL				*e*			15 22 44.9	
HENT	**Hendek**	**150.53**	**319**	*i* P		PKPdf	15 22 31.8	+0.2
MDU	**Mudurnu**	**150.54**	**318**	P		PKPdf	15 22 33.6	+2.0
GRA1	**Grafenberg Arr**	**150.55**	**353**	*e*PKPbc		PKPdf	15 22 34.2	+2.9
GRA1				*e*PKPab		PKPab	15 22 40.7	+0.2
GRA1				*e*PP		PP	15 26 15.4	+3.9
GRA1				*e*SS		SS	15 45 35.2	+10
GRA1					LR	LR		
	comp=Z,3µm,22.5s,MS6.0							
GRF	**Grafenberg Arr**	**150.55**	**353**	*e*PKIKP		PKPdf	15 22 34.2	+2.9
GRF				*e*			15 22 40.7	
GRF				*e*			15 26 15.4	
GRF					MLR	MLR		
	comp=Z,3µm,22.5s,MS6.0							
ABH	**Alteburg**	**150.65**	**358**⇑	*e*P		PKPdf	15 22 34.1	+2.6
KHC	**Kasperske Hory**	**150.76**	**349**	*e*PKIKP		PKPdf	15 22 28.1	-3.5
KHC				*e*			15 22 34.4	
KHC				*e*			15 22 42.0	
KHC					MLR	MLR		
	comp=Z,3µm,20.4s,MS6.1							
KHC	**Kasperske Hory**	**150.76**	**349**	*e*PKP		PKPdf	15 22 28.1	-3.5
KHC				*e*			15 22 34.4	
KHC				*e*			15 22 42.0	
KHC				*e*			15 22 47.5	
KHC					LR	LR		
	comp=Z,3µm,20.4s,MS6.1							
KHC	**Kasperske Hory**	**150.76**	**349**	*e*PKPDF		PKPdf	15 22 28.1	-3.5
KHC				⇑*e*PKPB		PKPdf	15 22 34.4	+2.8
KHC				PKPAB		PKPab	15 22 42.0	+0.7
KHC				x		x	15 22 47.5	
KHC				AMS		AMS	16 30 20.0	
	comp=Z,3µm,20.4s							
RUP	**Ruppelstein**	**150.85**	**358**⇑	*e*P		PKPdf	15 22 34.6	+2.8
WET	**Wettzell**	**150.86**	**350**	*e*PKIKP		PKPdf	15 22 28.6	-3.2
WET				*e*			15 22 34.7	
WET				*e*			15 22 42.2	
TOD	**Tromm**	**150.86**	**356**⇑	*e*P		PKPdf	15 22 34.2	+2.4
ZST	**Bratislava**	**150.89**	**344**	*e*PKP		PKPdf	15 22 35.5	+3.6
ZST				*e*PP		PP	15 26 10.5	-3.1
ZST				*e*L			15 30 17.7	
WLF	**Walferdange**	**150.91**	**359**	*e*PKIKP		PKPdf	15 22 28.3	-3.5
WLF				*e*			15 22 34.9	
SRO	**Srobarova**	**150.91**	**342**	*e*PKP		PKPdf	15 22 35.3	+3.4
KIZT	**Kizilcal**	**150.97**	**315**	P		PKPdf	15 22 34.2	+1.9
KIZT	**Kizilcal**	**150.97**	**315**	P		PKPdf	15 22 33.9	+1.6
SRO1	**Iza**	**150.98**	**342**	*e*PKP		PKPdf	15 22 33.0	+1.0
PRD	**Provadia**	**150.99**	**326**	*e*P		PKPdf	15 22 33.0	+0.8
SWS	**Schriesheim**	**150.99**	**356**⇑	*e*P		PKPdf	15 22 34.5	+2.5
BUD	**Budapest**	**151.00**	**341**	*e*pPKP/F		PKPdf	15 22 34.7	+2.6
GEC2	**GERESS Array S**	**151.01**	**349**	*e*PKIKP		PKPdf	15 22 28.8	-3.2
GEC2				*e*			15 22 34.8	
GEC2				*e*			15 22 42.3	
GERES	**GERESS Array B**	**151.01**	**349**	PKP		PKPdf	15 22 28.6	-3.5
	comp=Z,3.3nm,0.9s,baz=90,slow=1.3,SNR=19							
GERES				PKPbc		PKPdf	15 22 34.7	+2.7
	comp=Z,36nm,0.9s,baz=45,slow=1.9,SNR=90							
VKA	**Vienna**	**151.02**	**345**⇑	*i* PKP		PKPdf	15 22 28.7	-3.4
VKA				*i*			15 22 35.0	
SIND	**Sindeldorf**	**151.06**	**355**	*e*P		PKPdf	15 22 34.8	+2.7
KTD	**Kalmit**	**151.19**	**357**	*e*P		PKPdf	15 22 35.1	+2.8
ESKT	**Eskisehir**	**151.30**	**317**	*e*P		PKPdf	15 22 34.9	+2.2
ESKT	**Eskisehir**	**151.30**	**317**	P		PKPdf	15 22 33.5	+0.8
ESKT	**Eskisehir**	**151.30**	**317**	*i* P		PKPdf	15 22 34.7	+1.9
ROSF	**Rostrenen**	**151.31**	**13**	*e*PKIKP		PKPdf	15 22 28.5	-4.0
FLN	**La Foliniere**	**151.37**	**9**	*e*PKIKP		PKPdf	15 22 29.2	-3.4
	comp=Z,92nm,1.4s							
FLN				*e*R				
	comp=Z,5µm,22.8s							
SOP	**Sopron**	**151.50**	**345**⇑	*e*pPKP/F		PKPdf	15 22 36.3	+3.5
SGMF	**Saint Gilles**	**151.53**	**12**	*e*PKIKP		PKPdf	15 22 29.0	-3.8
	comp=Z,44nm,1.3s							
LANF	**Langenberg**	**151.54**	**357**	PKP		PKPdf	15 22 30.1	-2.7
LDF	**La Druitiere**	**151.59**	**8**	*e*PKIKP		PKPdf	15 22 29.4	-3.5
	comp=Z,82nm,1.4s							
STU	**Stuttgart**	**151.66**	**355**	*e*PKIKP		PKPdf	15 22 29.2	-3.8
STU				*e*			15 22 36.8	
GRR	**Gorron**	**151.68**	**9**	*e*PKIKP		PKPdf	15 22 29.7	-3.3
SZH	**Strazhica**	**151.69**	**328**	*e*P		PKPdf	15 22 37.0	+3.8
QUIF	**Quistinic**	**151.73**	**13**	*e*PKIKP		PKPdf	15 22 29.2	-3.9
	comp=Z,27nm,1.1s							
BZS	**Buzias**	**151.74**	**336**	⇓P		PKPdf	15 22 31.0	-2.2
CSS	**Prodhromos**	**151.75**	**306**	P		PKPdf	15 22 37.4	+3.8
	comp=Z,1.5nm,0.9s							
CSS	**Prodhromos**	**151.75**	**306**	PKPdf		PKPdf	15 22 28.9	-4.7
CSS				*e*PKPbc		PKPdf	15 22 36.7	+3.1
HDH	**Heidenheim**	**151.76**	**354**⇑	*e*P		PKPdf	15 22 36.4	+3.3
LBG	**Lerchenberg**	**151.80**	**356**⇑	*e*P		PKPdf	15 22 36.6	+3.4
MOA	**Molln**	**151.86**	**348**⇑	*i* P		PKPdf	15 22 30.0	-3.3
JMB	**Yambol**	**151.93**	**326**	*e*P		PKPdf	15 22 38.0	+4.4
BUCH	**Bad Urach**	**151.97**	**355**⇑	*e*P		PKPdf	15 22 37.2	+3.7
ULDT	**Uludag**	**152.01**	**320**	*i* P		PKPdf	15 22 29.8	-4.0
LEF	**Lefka**	**152.02**	**307**	*e*P		PKPdf	15 22 36.1	+2.1
LEF	**Lefka**	**152.02**	**307**	P		PKPdf	15 22 37.3	+3.3
FUR	**Furstenfeldbru**	**152.04**	**352**	*e*PKIKP		PKPdf	15 22 30.5	-3.1
FUR				*e*			15 22 37.0	
EIL	**Elat**	**152.06**	**295**	*e*PKPdf		PKPdf	15 22 30.4	-3.8
EIL				*e*PKPbc		PKPdf	15 22 38.0	+3.8
EIL				*e*pPKPbc			15 22 49.6	
MEZF	**Maizieres J'vi**	**152.07**	**1**	*e*PKIKP		PKPdf	15 22 30.8	-2.8
WLS	**Welschbruch**	**152.13**	**358**	PKP		PKPdf	15 22 32.7	-1.0
CDF	**Champ du Feu**	**152.13**	**358**	*e*PKIKP		PKPdf	15 22 30.6	-3.1
ARSA	**Arzberg**	**152.16**	**346**⇑	*i* P		PKPdf	15 22 30.0	-3.8
BFO	**Black Forest**	**152.16**	**356**	*e*PKIKP		PKPdf	15 22 31.0	-2.8
BFO				*e*			15 22 37.2	
BFO				*e*			15 22 46.8	
SZAC	**Souni-Zanaja**	**152.17**	**306**	P		PKPdf	15 22 37.6	+3.4
ALFC	**Alevga**	**152.22**	**307**	P		PKPdf	15 22 37.3	+3.0
PKSM	**Moragy**	**152.26**	**341**	⇑PKIKP		PKPdf	15 22 31.6	-2.4
THEF	**They Montfort**	**152.35**	**360**	PKP		PKPdf	15 22 30.8	-3.2
SPAK	**Spaichingen**	**152.36**	**356**⇑	*e*P		PKPdf	15 22 37.5	+3.5
GUT	**Gutenstein**	**152.37**	**355**⇑	*e*P		PKPdf	15 22 37.5	+3.4
LIBD	**Limburg**	**152.38**	**357**⇑	*e*P		PKPdf	15 22 37.4	+3.3
ISP	**Isparta**	**152.44**	**314**	*e*P		PKPdf	15 22 26.1	-8.4
KIZ	**Kirchzarten**	**152.56**	**357**	*e*P		PKPdf	15 22 38.0	+3.7
HAU	**Haudompre**	**152.56**	**359**	*e*PKIKP		PKPdf	15 22 31.3	-3.0
HAU				*e*R				
	comp=Z,4µm,23.0s							
BNT	**Bandirma**	**152.60**	**321**	*e*P		PKPdf	15 22 38.5	+3.9
BNT	**Bandirma**	**152.60**	**321**	P		PKPdf	15 22 29.1	-5.5
FELD	**Feldberg**	**152.63**	**357**	*e*P		PKPdf	15 22 38.3	+3.9
MRMT	**Marmara Adasi**	**152.63**	**322**	*e*P		PKPdf	15 22 37.2	+2.5
UBR	**Uberruh**	**152.66**	**354**⇑	*e*P		PKPdf	15 22 38.2	+3.7
MFT	**Murefte**	**152.70**	**323**	*e*P		PKPdf	15 22 36.2	+1.4
MOF	**Molkenrain**	**152.70**	**358**	PKP		PKPdf	15 22 31.1	-3.4
KOGS	**Kog**	**152.73**	**344**	*e*PKPdf		PKPdf	15 22 30.9	-3.7
KOGS				*e*PKPbc		PKPdf	15 22 38.1	+3.5
KOGS				*e*PKPab		PKPab	15 22 49.1	-0.6
KOGS				*e*			15 46 01.1	
HINF	**Hinteralfeld**	**152.74**	**358**	*e*PKIKP		PKPdf	15 22 31.2	-3.4
KBA	**Koelnbreinsper**	**152.78**	**349**⇑	*i* P		PKPdf	15 22 30.7	-4.0
WATA	**Walderalm**	**152.82**	**351**⇑	*i* P		PKPdf	15 22 30.9	-3.8
WATA				*i*			15 22 38.8	
BEO	**Belgrade**	**152.85**	**337**⇑	*i*PKP		PKPdf	15 22 39.1	+4.3
MOTA	**Moosalm**	**152.87**	**352**⇑	*i* P		PKPdf	15 22 31.4	-3.4
MOTA				*i*			15 22 38.8	
WTTA	**Wattenberg**	**152.88**	**351**⇑	*i* P		PKPdf	15 22 31.6	-3.2
WTTA				*i*			15 22 39.2	
SQTA	**Sankt Quirin**	**152.98**	**352**⇑	*i* P		PKPdf	15 22 31.4	-3.5
SQTA				*i*			15 22 39.0	
SVIS	**Svilajnac**	**153.00**	**335**	*e*PKP		PKPdf	15 22 31.1	-4.0
BBS	**Basel-Blauen**	**153.07**	**357**	*e*P		PKPdf	15 22 39.4	+4.4
DAVA	**Damuels**	**153.07**	**354**⇑	*i* P		PKPdf	15 22 32.1	-3.0
OBKA	**Obir**	**153.08**	**346**⇑	*i* P		PKPdf	15 22 30.2	-4.9
BOLS	**Boljevac**	**153.08**	**333**⇓	*i* PKP		PKPdf	15 22 30.8	-4.4
LOMF	**Lomont**	**153.21**	**358**	PKP		PKPdf	15 22 32.5	-2.7
FVI	**Forni Avoltri**	**153.34**	**349**	*e*PKIKP		PKPdf	15 22 32.0	-3.5
GORS	**Gorjuse**	**153.38**	**347**	*e*PKPdf		PKPdf	15 22 31.5	-4.1
GORS				*e*PKPbc		PKPdf	15 22 39.1	+3.6
GORS				*e*PKPab		PKPab	15 22 51.4	-1.0
PTCC	**Patocco-Chiusa**	**153.42**	**348**	*e*PKP		PKPdf	15 22 31.5	-4.1
SSF	**Saint Saulge**	**153.45**	**3**	*e

MTE				*e*PKPab	PKPab	15 23 07.7	-1.1
GELF	**Grande-Etoile**	**157.19**	**1**	PKP	PKPdf	15 22 37.7	-3.0
LMR	**La Mourre**	**157.23**	**359**	*e*PKIKP	PKPdf	15 22 37.5	-3.3
BERF	**Bertagne**	**157.26**	**0**	PKP	PKPdf	15 22 38.4	-2.4
EBIE	**Bielsa**	**157.40**	**11**	PKP	PKPdf	15 22 37.6	-3.5
MNS	**Montasola**	**157.41**	**346**	*e*PKIKP	PKPdf	15 22 37.0	-4.1
PTOM	**Tomar**	**157.42**	**29**	*e*PKPdf	PKPdf	15 22 38.6	-2.6
PTOM				*e*PKPab	PKPab	15 23 09.5	-0.4
PTQR	**Pietraquaria**	**157.59**	**345**	*e*PKP	PKPdf	15 22 38.2	-3.1
IDI	**Anoyia**	**157.61**	**315**	PKPab	PKPab	15 23 11.1	+0.2
PLOU	**Loures**	**157.65**	**32**	*e*PKPab	PKPab	15 23 10.0	-0.9
PCBR	**Castelo Branco**	**157.66**	**28**	*e*PKPdf	PKPdf	15 22 38.5	-3.0
SDI	**San Donato**	**157.78**	**344**	*e*PKIKP	PKPdf	15 22 37.9	-3.7
EGOM	**La Gomera**	**157.79**	**65**	PKP	PKPdf	15 22 39.4	-2.6
PGF	**Pioggiola**	**157.85**	**354**	*e*PKIKP	PKPdf	15 22 39.1	-2.5
	comp=Z,52nn,1.2s						
VAM	**Vamos**	**157.99**	**316**	*e*P	PKPab	15 23 13.5	+1.0
EJON	**La Jonquera**	**158.00**	**6**	PKP	PKPdf	15 22 39.2	-2.6
MRLC	**Muro Lucano**	**158.16**	**340**	*e*PKP	PKPdf	15 22 38.5	-3.6
ESAC	**San Caprasio**	**158.21**	**13**	PKP	PKPdf	15 22 38.4	-3.7
CSSN	**Cassano Irpino**	**158.22**	**341**	*e*PKP	PKPdf	15 22 38.1	-4.0
CCAN	**Las Canadas**	**158.29**	**65**	PKP	PKPdf	15 22 40.2	-2.4
MOE	**Montemor**	**158.32**	**31**	*e*PKPdf	PKPdf	15 22 40.5	-1.8
EMIR	**Miracle**	**158.37**	**9**	PKP	PKPdf	15 22 38.8	-3.5
SGO	**Sicignano**	**158.40**	**340**	*e*PKIKP	PKPdf	15 22 39.1	-3.3
EVO	**Evora**	**158.47**	**30**⇑	*i*PKIKP	PKPdf	15 22 39.7	-2.8
	comp=Z,50nm,1.3s						
EVO				*e*R			
	comp=Z,5µm,19.5s						
EBAD	**Badajoz**	**158.75**	**28**	PKP	PKPdf	15 22 39.1	-3.8
EPOB	**Poblet**	**158.85**	**10**	PKP	PKPdf	15 22 38.6	-4.2
PTEO	**Sao Teotonio**	**158.89**	**33**	*e*PKPdf	PKPdf	15 22 40.8	-2.3
PTEO				*e*PKPab	PKPab	15 23 16.3	0.0
PBEJ	**Beja**	**158.94**	**31**	*e*PKPdf	PKPdf	15 22 40.8	-2.3
PBEJ				*e*PKPab	PKPab	15 23 16.4	-0.1
TIP	**Timpagrande**	**159.10**	**335**	*e*PKPdf	PKPdf	15 22 39.2	-4.0
TIP				*e*PKPab	PKPab	15 23 17.5	+0.3
ERTA	**Horta de San J**	**159.11**	**11**	PKP	PKPdf	15 22 39.2	-4.0
ESDC	**Sonseca Array**	**159.17**	**21**	PKP	PKPdf	15 22 40.3	-3.0
	comp=Z,2.3nm,0.8s,baz=349,slow=2.8,SNR=11						
ESDC				PKPab	PKPab	15 23 17.5	+0.1
	comp=Z,4.7nm,0.8s,baz=314,slow=3.6,SNR=7.3						
ESDC	**Sonseca Array**	**159.17**	**21**	PKP	PKPdf	15 22 40.0	-3.3
ESLA	**Sonseca Array**	**159.17**	**21**	*e*PKPdf	PKPdf	15 22 39.9	-3.4
ESLA				*ep*PKPdf		15 22 52.5	
ESLA				*e*PKPab	PKPab	15 23 17.7	+0.3
ESLA				LR	LR		
	comp=Z,11µm,20.0s,MS6.7						
EOSO	**Osorio**	**159.22**	**65**	PKP	PKPdf	15 22 40.6	-3.1
EBR	**Ebro Roquetas**	**159.27**	**11**	*e*Ts		15 22 51.7	
EMOS	**Mosqueruela**	**159.51**	**14**	PKP	PKPdf	15 22 40.0	-3.7
EGRO	**El Granado**	**159.52**	**31**	PKP	PKPdf	15 22 40.2	-3.6
PALC	**Alcoutim**	**159.58**	**31**	*e*PKPab	PKPab	15 23 19.8	+0.6
EMIN	**Mina Concepcio**	**159.72**	**29**	PKP	PKPdf	15 22 40.9	-3.1
ECAB	**El Cabril**	**160.01**	**26**	PKP	PKPdf	15 22 39.8	-4.4
EADA	**Adamuz**	**160.27**	**25**	PKP	PKPdf	15 22 40.3	-4.2
CFTV	**Fuerteventura**	**160.35**	**63**	PKP	PKPdf	15 22 41.8	-3.2
EBAN	**Banos Encina**	**160.57**	**23**	PKIKP	PKPdf	15 22 42.3	-2.5
EVIA	**Vianos**	**160.59**	**20**	PKIKP	PKPdf	15 22 42.4	-2.4
ETOS	**Mallorca**	**160.64**	**7**	PKP	PKPdf	15 22 41.4	-3.5
VSL	**Villasalto**	**160.81**	**351**	*e*PKPdf	PKPdf	15 22 41.6	-3.5
ESPR	**Espera**	**160.82**	**29**	PKP	PKPdf	15 22 41.9	-3.2
ETOB	**Tobarra**	**160.87**	**18**	PKP	PKPdf	15 22 40.8	-4.3
ELUQ	**Luque**	**160.92**	**25**	PKIKP	PKPdf	15 22 42.9	-2.3
EQES	**Quesada**	**161.15**	**22**	PKP	PKPdf	15 22 40.5	-4.9
EBEN	**Beniarda**	**161.15**	**15**	PKP	PKPdf	15 22 42.1	-3.3
EIBI	**Ibiza**	**161.16**	**11**	PKP	PKPdf	15 22 41.1	-4.3
EJIF	**Jimena Fronter**	**161.34**	**29**	PKIKP	PKPdf	15 22 44.0	-1.7
ECOG	**Cogollos-Vega**	**161.44**	**24**	PKIKP	PKPdf	15 22 43.3	-2.4
ERON	**Agron**	**161.57**	**25**	PKP	PKPdf	15 22 41.1	-4.8
EMUR	**La Murta**	**161.70**	**18**	PKP	PKPdf	15 22 42.2	-3.8
EBER	**Berja**	**162.03**	**23**	PKP	PKPdf	15 22 43.3	-3.1
EALB	**Alboran**	**162.81**	**25**	PKP	PKPdf	15 22 44.1	-3.1
DBIC	**Dimbokro**	**162.84**	**142**	PKP	PKPdf	15 22 44.1	-3.7
	comp=Z,15nm,1.0s,baz=136,slow=1.1,SNR=10						
DBIC				PKPab	PKPab	15 23 34.0	0.0
	comp=Z,12nm,1.0s,baz=248,slow=7.7,SNR=3.8						
ABA	**Alger-Bouzarea**	**163.60**	**8**	P	PKPdf	15 22 46.0	-1.9

*NEIC **19** 15:27:19.1,33.84N×26.04E,h5km,MD3.6(ATH),After ATH.*
*CSEM **19** 15:27:19.1,33.84N×26.04E,h5km,MD3.6/4,After ATH*
ATH 19 15:27:19.1,33.84N×26.04E,h5km±4km,MD3.6/4,1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XRY	**Khrisi**	**1.07**	**345**	*e*PN	Pn	15 27 39.4	-1.3
NPS	**Neapolis**	**1.46**	**346**	*e*PG	Pg	15 27 45.9	-2.4
NPS				*e*SB	Sb	15 28 07.0	+1.8
KARP	**Karpathos**	**1.94**	**28**	⇓*i*PN	Pn	15 27 55.6	+2.6
VAM	**Vamos**	**2.18**	**316**	*e*PG	Pg	15 27 59.5	-3.1

*IDC **19** 15:29:59.5±2.2,6.40S×146.95E,mb3.6/3,mb1 3.8/6, mb1mx3.8/12,mbtmp3.7/6,ML3.1/3,Error ellipse: s-maj=64.5km s-min=23.4km az=85.0*
*NEIC **19** 15:30:01.9±1.7,6.44S×147.37E,h35km,mb4.0/2,Error ellipse: s-maj=30.5km s-min=15.6km az=76.0*
ISC 19 15:30:01.0±3.3,6.5S±0.2×147.3E±0.2,h43km±30km,n14, σ1§29/16,mb3.4/3,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.93**	**184**	Pn	**P**	**15 30 46.8**	**+0.5**
	5.8nm,0.3s,baz=26,slow=7.3,SNR=20						
PMG				Sn	**S**	**15 31 27.0**	**+6.5**
	7.2nm,0.3s,baz=25,slow=22,SNR=6.3						
PMG	**Port Moresby**	**2.93**	**184**	*e*Pn	**P**	**15 30 46.4**	**+0.1**
PMG				Sn	**S**	**15 31 27.0**	**+6.5**
CTA	**Charters Tower**	**13.58**	**184**	Pn	**P**	**15 33 12.4**	**-0.9**
	0.1nm,0.3s,baz=39,slow=12,SNR=2.6						
KAKA	**Kakadu**	**15.95**	**246**	*e*P	**P**	**15 33 45.3**	**+1.2**
	9.7nm,0.7s						
WRAB	**Tennant Creek**	**18.40**	**222**	*e*P	**P**	**15 34 16.2**	**+1.4**
	12nm,1.1s						
WB2	**Warramunga Arr**	**18.40**	**222**	*e*P	**P**	**15 34 13.6**	**-1.2**
WRA	**Warramunga Arr**	**18.41**	**222**	P	**P**	**15 34 12.9**	**-2.1**
	0.1nm,0.3s,baz=44,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**21.43**	**216**	P	**P**	**15 34 48.2**	**+0.6**
	1.4nm,0.6s,mb3.5,baz=43,slow=8.7,SNR=15						
ASPA	**Alice Springs**	**21.44**	**216**	*e*P	**P**	**15 34 48.8**	**+1.2**
STKA	**Stephens Creek**	**25.84**	**191**	P	**P**	**15 35 34.0**	**+3.5**
	1.7nm,0.8s,mb3.6,baz=348,slow=20,SNR=3.5						
STKA	**Stephens Creek**	**25.84**	**191**	P	**P**	**15 35 29.4**	**-1.1**
MBWA	**Marble Bar**	**30.45**	**239**	P	**P**	**15 36 12.3**	**+0.2**
KKM	**Kota Kinabalu**	**33.46**	**291**	P	**P**	**15 36 36.2**	**-2.3**
SONM	**Songino Array**	**64.97**	**331**	P	**P**	**15 40 39.7**	**+0.9**
	0.1nm,0.5s,mb3.1,baz=117,slow=6.4,SNR=3.6						

*NEIC **19** 16:14:18.0,38.48S×175.79E,h191km,MG3.7(WEL), After WEL.*
WEL 19 16:14:20.9±0.3,38.53S×175.86E,h165km±2km,ML3.6/15, 2C-3D,Error ellipse: s-maj=2.7km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTVZ	**West Tongariro**	**0.62**	**200**	P	P	16 14 44.8	-0.1
WTVZ	**West Tongariro**	**0.62**	**200**	⇓PN	P	16 14 44.8	-0.1
TWVZ	**Taurewa**	**0.63**	**211**	P	P	16 14 44.7	-0.2
TWVZ	**Taurewa**	**0.63**	**211**	⇓PN	P	16 14 44.8	-0.2
TUVZ	**Tukino**	**0.75**	**192**	P	P	16 14 45.7	+0.1
TUVZ	**Tukino**	**0.75**	**192**	PN	P	16 14 45.7	+0.1
TUVZ				SN	S	16 15 04.3	-0.3
FWVZ	**Far West T-bar**	**0.76**	**198**	P	P	16 14 45.6	0.0
FWVZ	**Far West T-bar**	**0.76**	**198**	PN	P	16 14 45.5	-0.1
FWVZ				SN	S	16 15 04.3	-0.4
BKZ	**Black Stump Fm**	**0.80**	**142**	P	P	16 14 46.0	+0.1
BKZ	**Black Stump Fm**	**0.80**	**142**	⇑PN	P	16 14 46.0	+0.1
BKZ				SN	S	16 15 04.9	-0.4
WNVZ	**Wahianoa**	**0.82**	**194**	P	P	16 14 46.1	+0.1
WNVZ	**Wahianoa**	**0.82**	**194**	PN	P	16 14 46.0	0.0
WNVZ				SN	S	16 15 04.8	-0.6
MOVZ	**Moawhango**	**0.88**	**185**	P	P	16 14 46.0	-0.4
MOVZ	**Moawhango**	**0.88**	**185**	PN	P	16 14 46.0	-0.3
MOVZ				SN	S	16 15 04.6	-1.5
MTVZ	**Mangateitei**	**0.90**	**199**	PN	P	16 14 46.4	-0.1
URZ	**Urewera**	**1.02**	**75**	*e*P	P	16 14 47.1	-0.3
URZ	**Urewera**	**1.02**	**75**	⇓PN	P	16 14 47.0	-0.3
URZ				SN	S	16 15 06.8	-1.1
VRZ	**Vera Road**	**1.04**	**235**	P	P	16 14 47.0	-0.6
VRZ	**Vera Road**	**1.04**	**235**	PN	P	16 14 47.0	-0.6
VRZ				SN	S	16 15 08.0	-0.2
MWZ	**Matawai**	**1.33**	**82**	*e*P	P	16 14 50.1	-0.1
MWZ	**Matawai**	**1.33**	**82**	PN	P	16 14 50.0	-0.2
WAZ	**Wanganui**	**1.40**	**209**	*e*P	P	16 14 50.1	-0.8
WAZ	**Wanganui**	**1.40**	**209**	PN	P	16 14 50.1	-0.8
WAZ				SN	S	16 15 13.2	-0.9
KNZ	**Kokohu**	**1.50**	**110**	PN	P	16 14 52.2	+0.3
TSZ	**Takapari Road**	**1.53**	**177**	P	P	16 14 51.6	-0.6
TSZ	**Takapari Road**	**1.53**	**177**	⇑PN	P	16 14 51.5	-0.7
TSZ				SN	S	16 15 14.5	-2.0
PWZ	**Pawanui**	**1.69**	**153**	*e*P	P	16 14 53.6	-0.2
PWZ	**Pawanui**	**1.69**	**153**	PN	P	16 14 53.7	-0.2
MRZ	**Mangatainoka R**	**2.14**	**186**	*e*P	P	16 14 56.9	-2.0
MRZ	**Mangatainoka R**	**2.14**	**186**	PN	P	16 14 56.9	-2.0
MRZ				SN	S	16 15 24.7	-3.5
MXZ	**Matakaoa Point**	**2.16**	**64**	*e*P	P	16 14 58.9	-0.3
MXZ	**Matakaoa Point**	**2.16**	**64**	PN	P	16 14 58.9	-0.3
MXZ				SN	S	16 15 27.7	-1.0
BFZ	**Birch Farm**	**2.17**	**172**	PN	P	16 14 57.7	-1.5
KIW	**Kapiti Island**	**2.44**	**197**	PN	P	16 14 59.8	-2.7
KIW				SN	S	16 15 29.6	-5.0
MTW	**Mount Morrison**	**2.64**	**186**	P	P	16 15 01.9	-3.1
MTW	**Mount Morrison**	**2.64**	**186**	PN	P	16 15 01.9	-3.0
CAW	**Cannon Point**	**2.64**	**193**	P	P	16 15 02.3	-2.7
CAW	**Cannon Point**	**2.64**	**193**	PN	P	16 15 02.2	-2.8
CAW				SN	S	16 15 34.2	-4.8
DUWZ	**D'Urville Isla**	**2.71**	**213**	PN	P	16 15 02.7	-3.2
PAWZ	**Paruwai Farm**	**2.87**	**187**	SN	S	16 15 38.6	-5.2
WEL	**Wellington**	**2.87**	**197**	P	P	16 15 04.8	-3.1
WEL	**Wellington**	**2.87**	**197**	PN	P	16 15 04.7	-3.2
SNZO	**South Karori**	**2.91**	**197**	P	P	16 15 04.9	-3.5
SNZO	**South Karori**	**2.91**	**197**	PN	P	16 15 04.9	-3.4
SNZO				SN	S	16 15 39.5	-5.3
MSWZ	**Moikau Station**	**2.92**	**189**	P	P	16 15 05.1	-3.3
MSWZ	**Moikau Station**	**2.92**	**189**	PN	P	16 15 05.1	-3.4
MSWZ				SN	S	16 15 39.3	-5.7
BHW	**Baring Head**	**2.97**	**194**	P	P	16 15 05.6	-3.5
BHW	**Baring Head**	**2.97**	**194**	PN	P	16 15 05.5	-3.5
TUWZ	**Tuamarina**	**3.25**	**206**	PN	P	16 15 08.7	-3.9
TUWZ				SN	S	16 15 46.4	-6.0
NNZ	**Nelson**	**3.29**	**215**	*e*P	P	16 15 09.0	-4.2
NNZ	**Nelson**	**3.29**	**215**	PN	P	16 15 09.0	-4.1
NNZ				SN	S	16 15 47.9	-5.5
QRZ	**Quartz Range**	**3.44**	**227**	*e*P	P	16 15 11.3	-3.8
QRZ	**Quartz Range**	**3.44**	**227**	PN	P	16 15 10.1	-5.0
QRZ				SN	S	16 15 50.1	-6.7
THZ	**Tophouse**	**3.94**	**214**	*e*P	P	16 15 17.5	-4.0
KHZ	**Kahutara**	**4.26**	**204**	*e*P	P	16 15 21.6	-4.1
DSZ	**Dennistoun Nort**	**4.47**	**223**	*e*P	P	16 15 23.6	-4.8
LTZ	**Lake Taylor**	**5.05**	**212**	*e*P	P	16 15 30.5	-5.4

*THR **19** 16:48:21.9±0.4,30.76N×56.70E,h14km±5km,ML3.1*
*CSEM **19** 16:48:22.2±0.2,30.70N×56.50E,h14km,ML3.1,Error ellipse: s-maj=11.8km s-min=2.9km az=60.0*
*TEH **19** 16:48:28.6,30.85N×56.20E,h10km,Mn3.1*
ISC 19 16:48:23.4±1.1,30.7N±0.1×56.4E±0.2,h14km,n11, σ1§47/11,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.79**	**154**	*e*PG	**Pg**	**16 48 37.0**	**-2.4**
KRBR				AML	AML	16 48 51.1	
	comp=N,632nm,0.2s						
IBAF	**Bafgh**	**1.12**	**323**	Pg	**Pg**	**16 48 44.6**	**-1.2**
IMEH	**Mehriz**	**1.65**	**295**	Pg	**Pg**	**16 48 55.2**	**-1.1**
ICHK	**Chekchek**	**2.27**	**313**	Pn	**Pn**	**16 49 02.0**	**+1.0**
ISAD	**Sadrabad**	**2.59**	**299**	Pn	**Pn**	**16 49 07.5**	**+1.9**
BNDS	**Bandar-Abbas**	**3.29**	**183**	*e*PN	**Pn**	**16 49 16.6**	**+1.0**
BNDS				AML	AML	16 50 03.1	
	comp=N,49nm,0.5s						
NASN	**Na'in**	**3.68**	**306**	*e*PN	**Pn**	**16 49 23.6**	**+2.5**
NASN				*e*SG	**Sg**	**16 50 22.9**	**-2.9**
IFIR	**Firoozkooh**	**5.78**	**329**	Pn	**Pn**	**16 49 50.6**	**-0.3**
IFIR	**Firoozkooh**	**5.78**	**329**	Lg		16 51 22.7	
IDMV	**Damavand**	**6.07**	**324**	Pn	**Pn**	**16 49 55.6**	**+0.7**
IAFJ	**Afjeh**	**6.45**	**324**	Pn	**Pn**	**16 50 00.0**	**-0.3**

*MDD **19** 17:11:24.5±0.4,36.52N×5.25E,mb4.1/18,Error ellipse: s-maj=6.5km s-min=3.8km az=42.0,PRXIMO DATOS DE INTENSIDAD: CRAAG*
MDD EMS: IV KHERRATA BECHAR AMOUCHA.
*CRAAG **19** 17:11:25.0,36.39N×5.39E,Ml3.6*
*NEIC **19** 17:11:27.8,36.70N×5.21E,h7km,MG4.0(MDD),After MDD.*
*CSEM **19** 17:11:27.3±0.1,36.63N×5.37E,h40km,ML3.1/14,Error ellipse: s-maj=3.7km s-min=2.6km az=23.0*
*LDG **19** 17:11:28.7±0.4,36.62N×5.40E,h25km,Ml3.2/10,Error ellipse: s-maj=7.5km s-min=4.0km az=149.0*
ISC 19 17:11:24.5±0.4,36.91N±0.03×5.35E±0.03,h10km,n62, σ1§52/97,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DFRA	**Djebel Bou Aff**	**0.55**	**130**	P	**Pg**	**17 11 33.9**	**-1.8**
SET	**Setif**	**0.70**	**177**	P	**Pb**	**17 11 30.0**	**-8.4**
CKHR	**Kef el Ahmar**	**0.90**	**172**	P	**Pb**	**17 11 35.1**	**-6.6**
CTEI	**Djebel Teioual**	**1.20**	**134**	P	**Pb**	**17 11 43.8**	**-3.0**
CAEH	**'Ain El Ouahch**	**1.21**	**95**	P	**Pb**	**17 11 48.3**	**+1.2**
CKFL	**Kef-Lekhel**	**1.21**	**114**	P	**Pb**	**17 11 47.0**	**-0.1**
CMER	**Merouana**	**1.36**	**161**	P	**Pb**	**17 11 46.5**	**-3.1**
CMAH	**Djebel Manchou**	**1.68**	**99**	P	**Pn**	**17 11 54.6**	**+0.3**
ABA	**Alger-Bouzarea**	**1.86**	**268**	P	**Pn**	**17 11 56.0**	**-0.8**
ETOS	**Mallorca**	**3.49**	**326**	Pn	**Pn**	**17 12 22.3**	**+2.3**
ETOS				Sn	**Sn**	**17 13 02.2**	**+0.4**
ETOS	**Mallorca**	**3.49**	**326**	P	**Pn**	**17 12 22.3**	**+2.3**
	5.6nm,0.2s,SNR=30						
ETOS				S	**Sn**	**17 13 03.9**	**+2.1**
	3.6nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.49**	**326**	Pn	**Pn**	**17 12 22.3**	**+2.3**
	5.4nm,0.2s,SNR=30						
ETOS				Sn	**Sn**	**17 13 02.2**	**+0.4**
	3.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.81**	**305**	Pn	**Pn**	**17 12 25.9**	**+1.3**
EIBI				Sn	**Sn**	**17 13 09.3**	**-0.7**
EIBI	**Ibiza**	**3.81**	**305**	P	**Pn**	**17 12 26.0**	**+1.3**
	4.4nm,0.3s,SNR=12						
EIBI				S	**Sn**	**17 13 10.1**	**+0.1**
	2.7nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**3.81**	**305**	Pn	**Pn**	**17 12 26.0**	**+1.4**
	5.8nm,0.5s,SNR=12						
EIBI				Sn	**Sn**	**17 13 09.3**	**-0.7**
	2.7nm,0.3s,SNR=7.9						
VSL	**Villasalto**	**4.09**	**50**	*e*Pn	**Pn**	**17 12 29.8**	**+1.1**
VSL				*e*Sn	**Sn**	**17 13 16.1**	**-1.1**
VSL	**Villasalto**	**4.09**	**50**	*e*Pn	**Pn**	**17 12 29.8**	**+1.2**
VSL				*e*Sn	**Sn**	**17 13 16.1**	**-1.0**
EBEN	**Beniarda**	**4.77**	**294**	P	**Pn**	**17 12 37.7**	**-0.5**
	2.2nm,0.4s,SNR=10						
EBEN				S	**Sn**	**17 13 21.0**	**-13**
	0.8nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**4.77**	**294**	Pn	**Pn**	**17 12 37.7**	**-0.5**
	0.5nm,0.2s,SNR=10						
EMUR	**La Murta**	**5.33**	**282**	Pn	**Pn**	**17 12 45.3**	**-0.9**
EMUR				Sn	**Sn**	**17 13 44.1**	**-4.3**
EMUR	**La Murta**	**5.33**	**282**	P	**Pn**	**17 12 45.3**	**-0.9**
	1.8nm,0.3s,SNR=5.2						
EMUR				S	**Sn**	**17 13 44.1**	**-4.3**
	3.0nm,0.5s,SNR=7.9						
EMUR	**La Murta**	**5.33**	**282**	Pn	**Pn**	**17 12 45.3**	**-0.9**
	0.8nm,0.2s,SNR=5.2						
EMUR				Sn	**Sn**	**17 13 44.1**	**-4.4**
	SNR=7.9						
EPOB	**Poblet**	**5.55**	**325**	Pn	**Pn**	**17 12 50.5**	**+1.3**
EPOB				Sn	**Sn**	**17 13 52.6**	**-1.2**
EPOB	**Poblet**	**5.55**	**325**	P	**Pn**	**17 12 50.5**	**+1.3**
	2.2nm,0.1s,SNR=12						
EPOB				S	**Sn**	**17 13 52.6**	**-1.2**
	1.1nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**5.55**	**325**	Pn	**Pn**	**17 12 50.5**	**+1.3**
	2.3nm,0.1s,SNR=12						
EPOB				Sn	**Sn**	**17 13 52.6**	**-1.2**
	1.1nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**5.63**	**317**	P	**Pn**	**17 12 52.0**	**+1.6**
	2.6nm,0.3s,SNR=4.0						
ERTA	**Horta de San J**	**5.63**	**317**	Pn	**Pn**	**17 12 52.0**	**+1.7**
	0.7nm,0.1s,SNR=4.0						
EMOS	**Mosqueruela**	**5.72**	**309**	P	**Pn**	**17 12 52.7**	**+1.1**
	3.2nm,0.4s,SNR=5.9						
EMOS				S	**Sn**	**17 13 55.9**	**-2.3**
	0.5nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**5.72**	**309**	Pn	**Pn**	**17 12 52.7**	**+1.1**
	0.5nm,0.2s,SNR=5.9						
EMOS				Sn	**Sn**	**17 13 55.9**	**-2.2**
	0.5nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.74**	**290**	Pn	**Pn**	**17 12 52.4**	**+0.5**
ETOB				Sn	**Sn**	**17 13 52.7**	**-5.8**
ETOB	**Tobarra**	**5.74**	**290**	P	**Pn**	**17 12 51.5**	**-0.4**
	2.5nm,0.4s,SNR=7.4						
ETOB				S	**Sn**	**17 13 54.7**	**-3.8**
	0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.74**	**290**	Pn	**Pn**	**17 12 52.4**	**+0.5**
	0.5nm,0.2s,SNR=7.4						
EMIR	**Miracle**	**5.81**	**331**	P	**Pn**	**17 12 55.7**	**+2.7**
	2.5nm,0.1s,SNR=6.2						
EMIR				S	**Sn**	**17 14 01.4**	**+0.9**
	5.1nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.81**	**331**	Pn	**Pn**	**17 12 55.7**	**+2.7**
	3.5nm,0.2s,SNR=6.2						
EJON	**La Jonquera**	**5.85**	**342**	P	**Pn**	**17 12 54.7**	**+1.1**
	1.8nm,0.3s,SNR=7.9						
PGF	**Pioggiola**	**6.30**	**25**	*e*Pn	**Pn**	**17 13 01.1**	**+1.3**
PGF				*e*Sn	**Sn**	**17 14 10.9**	**-1.7**
	1.2nm,0.2s						
EVIA	**Vianos**	**6.46**	**288**	P	**Pn**	**17 13 01.0**	**-1.1**
	1.4nm,0.2s,SNR=7.9						
LMR	**La Mourre**	**6.48**	**8**	*e*Pn	**Pn**	**17 13 03.1**	**+0.7**
LMR				*e*Sn	**Sn**	**17 14 15.3**	**-1.9**
	2.6nm,0.2s						
ESAC	**San Caprasio**	**6.59**	**319**	P	**Pn**	**17 13 05.4**	**+1.4**
	9.5nm,0.4s,SNR=7.9						
ESAC				S	**Sn**	**17 14 17.9**	**-2.2**
	5.6nm,0.2s,SNR=7.9						
ESAC	**San Caprasio**	**6.59**	**319**	Pn	**Pn**	**17 13 05.4**	**+1.4**
	0.7nm,0.2s,SNR=7.9						
ESAC				Sn	**Sn**	**17 14 17.9**	**-2.1**
	5.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**6.61**	**272**	P	**Pn**	**17 13 00.4**	**-3.7**
	3.4nm,0.6s,SNR=4.0						
EBER	**Berja**	**6.61**	**272**	Pn	**Pn**	**17 13 03.5**	**-0.6**
	SNR=4.0						
FRF	**La Foret Royal**	**6.72**	**8**	*e*Pn	**Pn**	**17 13 06.8**	**+1.0**
FRF				*e*Sn	**Sn**	**17 14 21.4**	**-1.8**
	4.5nm,0.3s						
EQES	**Quesada**	**6.77**	**280**	P	**Pn**	**17 13 05.1**	**-1.3**
	6.7nm,0.6s,SNR=7.5						
EQES				S	**Sn**	**17 14 16.6**	**-7.8**
	1.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**6.77**	**280**	Pn	**Pn**	**17 13 05.1**	**-1.3**
	0.1nm,0.2s,SNR=7.5						
MTLF	**Montolieu**	**6.86**	**340**	*e*Pn	**Pn**	**17 13 08.0**	**+0.2**
MTLF				*e*Sn	**Sn**	**17 14 25.8**	**-0.9**
	1.3nm,0.3s						
EBIE	**Bielsa**	**7.03**	**327**	P	**Pn**	**17 13 12.7**	**+2.6**
	1.1nm,0.4s,SNR=7.9						
EBIE				S	**Sn**	**17 14 30.9**	**0.0**
	1.3nm,0.6s,SNR=7.9						
EBIE	**Bielsa**	**7.03**	**327**	Pn	**Pn**	**17 13 12.6**	**+2.5**
SMRF	**Simiane la Rot**	**7.07**	**1**	*e*Sn	**Sn**	**17 14 29.

LFRS	El Faro	3.79	115	*eP*		P	17 17 39.9	0.0	
LCBS	La Ceiba	3.85	114	*eP*		P	17 17 40.7	0.0	
SCIG		3.90	20	*eP*		P	17 17 42.8	+1.4	
SCIG				*eS*		S	17 18 28.0	+1.5	
EVV	El Vigia	4.12	320	*eP*		P	17 17 47.5	+3.1	
EVV				*eS*		S	17 18 29.0	-2.9	
OXX	Oaxaca	4.36	295	*eP*		P	17 17 51.0	+3.3	
OXX				*eS*		S	17 18 36.0	-1.8	
OXX	Oaxaca	4.36	295	*eP*		P	17 17 49.5	+1.8	
OXX				*eS*		S	17 18 36.0	-1.8	
VHO	Vista Hermosa	4.37	295	*i P*		P	17 17 49.4	+1.7	
VHO				*eS*		S	17 18 35.9	-1.9	
IISM	Ciudad Serdan	5.88	310	*eP*		P	17 18 09.0	+0.7	
IISM				*eS*		S	17 19 14.0	-1.0	
TEIG	Tepich	6.41	39	*ePn*		P	17 18 14.4	-1.2	
	comp=N,464nm,0.7s								
TEIG				*e*			17 18 25.6		
TEIG				*eSn*		S	17 19 25.7	-2.1	
PPM	Popocatepetl	6.90	304	*eP*		P	17 18 26.6	+4.3	
PPM				*eS*		S	17 19 35.0	-4.8	
PPM	Popocatepetl	6.90	304	*eP*		P	17 18 22.6	+0.3	
PPM				*eP*			17 18 27.5		
PPM				*eS*		S	17 19 35.0	-4.8	
PPM				*eS*		S	17 19 38.2	-1.6	
YAIG	Yautepec	7.15	301	*eP*		P	17 18 28.6	+2.8	
YAIG	Yautepec	7.15	301	*eP*		P	17 18 24.2	-1.6	
ACX	Acapulco	7.22	284	*eP*		P	17 18 26.5	-0.3	
ACX				*eS*		S	17 19 42.0	-5.8	
UNM	Universidad Na	7.48	304	*eP*		P	17 18 31.0	+0.8	
CAIG	El Cayaco	7.59	284	*eP*		P	17 18 30.9	-0.8	
JTS	JuntasAbangare	8.94	123	Pn		P	17 18 48.5	-1.5	
	comp=N,339nm,1.0s,SNR=17								
JTS	JuntasAbangare	8.94	123	P		P	17 18 48.9	-1.1	
	comp=N,5.3nm,0.3s,baz=311,slow=8.3,SNR=21								
JTS				S		S	17 20 24.0	-5.6	
	comp=N,0.7nm,0.3s,baz=278,slow=22,SNR=1.7								
JTS	JuntasAbangare	8.94	123	*ePn*		P	17 18 48.4	-1.5	
VPS2	Volcan Poas 2	9.59	121	*eP*		P	17 19 00.9	+2.2	
TRTC	Tortuguero	9.83	117	*eP*		P	17 19 00.6	-1.4	
LAJ	Bijagual	9.86	122	*eP*		P	17 18 58.1	-4.3	
LCR2	La Lucha 2	10.02	122	*eP*		P	17 19 04.7	+0.2	
BUS	Buena Vista	10.32	122	*eP*		P	17 19 08.4	-0.2	
DWPF	Disney	16.43	37	*eP*		P	17 20 27.4	-0.3	
	comp=N,166nm,1.1s								
DWPF				*eS*		S	17 23 14.3	-12	
NATX	Nacogdoches	16.52	354	*eP*		P	17 20 31.7	+2.9	
	comp=N,34nm,0.8s								
JCT	Junction City	16.52	338	*eP*		P	17 20 31.6	+2.7	
	comp=N,14nm,0.6s								
LTX	Lajitas	17.33	326	*eP*		P	17 20 42.1	+3.1	
	comp=N,14nm,1.0s								
TXAR	Lajitas Array	17.33	326	P		P	17 20 43.0	+4.1	
	comp=N,0.3nm,0.3s,baz=150,slow=10,SNR=29								
TXAR				ScP			17 28 46.3		
	comp=N,0.0nm,0.3s,baz=162,slow=2.9,SNR=7.4								
LRAL	Lakeview Retre	18.39	15	*eP*		P	17 20 52.4	+0.9	
	comp=N,28nm,0.4s								
LRAL				*e*			17 20 59.6		
LRAL				*eS*		S	17 24 08.1	-1.6	
MIAR	Mount Ida	19.21	358	*eP*		P	17 21 01.4	+1.0	
	comp=N,99nm,1.0s								
MIAR				*e*			17 21 19.6		
MIAR				*eS*		S	17 24 16.0	-11	
OXF	Oxford	19.36	8	*eP*		P	17 21 01.6	-0.4	
	comp=N,176nm,1.4s								
OXF				*ePP*			17 24 26.3		
UALR	University of	19.41	1	*eP*		P	17 21 02.5	-0.1	
	comp=N,35nm,1.0s								
UALR				*e*			17 21 07.3		
UALR				*eS*		S	17 24 27.1	-4.0	
GOGA	Godfrey	19.85	23	*eP*		P	17 21 07.9	+0.7	
	comp=N,108nm,1.0s								
GOGA				*e*			17 21 11.6		
GOGA				*eS*		S	17 24 38.8	-1.0	
GDL2	Guadalupe Moun	19.97	330	*eP*		P	17 21 11.2	+2.8	
GDL2				*e*			17 21 28.8		
GDL2				*e*			17 21 46.5		
GDL2				*e*			17 21 59.1		
PLAL	Pickwick Lake	20.04	11	*eP*		P	17 21 10.1	+1.0	
	comp=N,27nm,0.9s								
PLAL				*e*			17 21 13.8		
PLAL				*eS*		S	17 24 39.7	-3.6	
MNTX	Cornudas Mount	20.09	327	*eP*		P	17 21 11.1	+1.4	
	comp=N,10nm,1.0s								
MNTX				*e*			17 21 28.7		
WMOK	Wichita Mounta	20.16	345	*eP*		P	17 21 10.4	0.0	
	comp=N,16nm,0.9s								
WMOK				*e*			17 21 32.0		
WMOK				*e*			17 21 45.7		
WMOK				*eS*		S	17 24 47.1	+1.2	
CPRX	Cap Rock	20.43	332	*eP*		P	17 21 15.3	+2.2	
OTAV	Otavalo	20.45	136	*eP*		P	17 21 12.0	-1.5	
	comp=N,9.5nm,0.9s								
ROSC	El Rosal	20.72	118	P		P	17 21 15.5	-0.8	
	comp=N,4.1nm,0.3s,baz=98,slow=22,SNR=2.3								
SWET	Sewanee	20.73	16	*eP*		P	17 21 16.1	-0.1	
SWET				*eS*		S	17 24 55.4	-1.2	
NHSC	New Hope	21.02	30	*eP*		P	17 21 21.6	+2.6	
	comp=N,494nm,1.3s								
NHSC				*e*			17 21 26.1		
AMTX	Amarillo	21.17	339	*eP*		P	17 21 21.3	+0.8	
	comp=N,25nm,0.7s,mb4.7								
WVT	Waverly	21.20	11	*eP*		P	17 21 19.6	-1.2	
	comp=N,14nm,0.9s,mb4.3								
WVT				*e*			17 21 37.7		
WVT				*eS*		S	17 25 12.6	+7.4	
CPCT	Cooper Cave	21.35	18	*eP*		P	17 21 22.8	+0.5	
CPCT				*e*			17 21 29.5		
CPCT				*e*			17 21 39.4		
CPCT				*e*			17 21 57.0		
SDV	Santo Domingo	22.37	104	P		P	17 21 29.0	-3.5	
	comp=N,9.3nm,0.7s,mb4.2,baz=316,slow=5.1,SNR=9.3								
SDV				ScP			17 28 54.7		
	comp=N,5.6nm,0.7s,baz=335,slow=4.4,SNR=9.5								
SDV	Santo Domingo	22.37	104	*eP*		P	17 21 28.8	-3.7	
	comp=N,32nm,0.9s,mb4.7								
SDV				*e*			17 21 55.1		
TZTN	Tazewell	22.66	19	*eP*		P	17 21 36.0	+0.8	
TZTN				*e*			17 21 56.4		
CCM	Cathedral Cave	22.72	3	*eP*		P	17 21 35.1	-0.7	
	comp=N,41nm,1.3s,mb4.6								
LPM	Los Pinos Moun	22.80	329	*eP*		P	17 21 40.0	+3.4	
LPM				*e*			17 22 07.9		
LENM	Lemitar	22.85	328	*eP*		P	17 21 41.6	+4.5	
LENM				*e*			17 22 08.7		
LAZ	Ladron	23.12	328	*eP*		P	17 21 43.5	+3.8	
LAZ				*e*			17 22 11.3		
LAZ				*e*			17 22 17.1		
ANMO	Albuquerque	23.22	330	P		P	17 21 43.7	+3.0	
	comp=N,1.6nm,0.6s,mb3.5,baz=148,slow=12,SNR=5.5								
ANMO	Albuquerque	23.22	330	*eP*		P	17 21 43.4	+2.7	
	comp=N,2.2nm,0.8s,mb3.5								
WCI	Wyandotte Cave	23.53	12	*eP*		P	17 21 42.2	-1.3	
	comp=N,41nm,0.9s,mb4.8								
KSU1	Kansas State U	23.99	352	*eP*		P	17 21 47.8	-0.3	
KSU1				*e*			17 22 10.4		
KSU1				*e*			17 22 23.6		
SDCO	Great Sand Dun	25.13	335	*eP*		P	17 22 00.4	+1.4	
	comp=N,1.7nm,0.9s,mb3.5								
SJG	San Juan	25.47	80	P		P	17 21 59.4	-2.9	
	comp=N,7.3nm,0.2s,mb4.7,baz=310,slow=16,SNR=3.4								
SJG	San Juan	25.47	80	*eP*		P	17 21 59.3	-3.0	
	comp=N,12nm,0.7s,mb4.4								
PDAR	Pinedale Array	31.03	335	P		P	17 22 53.8	+1.6	
	comp=N,0.4nm,0.8s,mb3.2,baz=139,slow=9.6,SNR=2.2								
PDAR				PcP		PcP	17 25 45.0	-0.5	
	comp=N,0.8nm,0.5s,baz=165,slow=5.2,SNR=5.2								
SADO	Sadowa	31.52	18	P		P	17 22 55.6	-0.8	
	comp=N,4.5nm,0.9s,mb4.2,baz=199,slow=7.6,SNR=2.9								
ELK	Elko	32.12	327	P		P	17 23 04.0	+2.3	
	comp=N,0.8nm,0.5s,mb3.7,baz=133,slow=11,SNR=5.4								
ELK					pP	pP	17 23 27.2	+1.8	
	comp=N,1.3nm,0.8s,baz=149,slow=7.7,SNR=2.9								
NVAR	Mina Array Bea	32.33	320	P		P	17 23 07.2	+3.6	
	comp=N,6.4nm,0.8s,mb4.4,baz=150,slow=7.3,SNR=26								
NVAR					pP	pP	17 23 29.4	+2.0	
	comp=N,4.0nm,0.8s,baz=152,slow=7.8,SNR=5.7								
NVAR					sP	sP	17 23 40.0	+0.2	
	comp=N,4.6nm,0.9s,baz=123,slow=10,SNR=3.7								
NVAR					PcP	PcP	17 25 50.2	+1.1	
	comp=N,1.5nm,0.8s,baz=166,slow=3.7,SNR=4.7								
NVAR					ScP		17 29 25.3		
	comp=N,1.0nm,0.8s,baz=99,slow=3.9,SNR=4.3								
NVAR	Mina Array Bea	32.33	320	P		P	17 23 07.2	+3.6	
NVAR					pP	pP	17 23 29.4	+2.0	
NVAR					sP	sP	17 23 40.0	+0.2	
NVAR					PcP	PcP	17 25 50.2	+1.1	
NVAR					ScP		17 29 25.3		
CMB	Columbia Colle	33.41	318	*eP*		P	17 23 15.3	+2.5	
	comp=N,6.3nm,1.2s,mb4.3								
HLID	Hailey	33.79	331	*eP*		P	17 23 16.2	+0.2	
	comp=N,3.8nm,1.1s,mb4.1								
HLID				*e*		pP	17 23 39.4	-0.6	
ULM	Lac du Bonnet	34.98	356		pP	pP	17 23 48.2	-2.0	
	comp=N,6.1nm,0.9s,baz=177,slow=8.3,SNR=5.9								
ULM					sP	sP	17 23 59.9	-2.9	
	comp=N,5.5nm,0.9s,baz=175,slow=14,SNR=4.5								
ULM					ScP		17 29 32.2		
	comp=N,2.4nm,0.8s,baz=205,slow=3.2,SNR=3.9								
YBH	Yreka Blue Hor	37.02	321	P		P	17 23 45.7	+2.3	
	comp=N,3.1nm,0.9s,mb4.2,baz=288,slow=5.1,SNR=3.1								
LPAZ	La Paz	39.58	141	P		P	17 24 04.4	-0.5	
	comp=N,1.8nm,0.5s,mb4.2,baz=321,slow=9.9,SNR=13								
LPAZ					pP	pP	17 24 28.4	-1.0	
	comp=N,1.4nm,0.3s,baz=190,slow=7.9,SNR=3.1								
LPAZ					ScP		17 29 52.3		
	comp=N,0.8nm,0.6s,baz=340,slow=8.7,SNR=3.8								
LPAZ	La Paz	39.58	141	*eP*		P	17 24 04.5	-0.5	
	comp=N,3.1nm,0.9s,mb4.1								
LPAZ				*e*		pP	17 24 27.1	-2.3	
EDM	Edmonton	41.25	341	P		P	17 24 17.8	-0.5	
EDM				*e*		pP	17 24 41.1	-1.7	
FCC	Fort Churchill	43.42	359	*eP*		P	17 24 34.0	-1.9	
	comp=N,5.5nm,0.9s,mb4.3								
FCC				*e*		pP	17 24 58.4	-2.2	
LVC	Limon Verde	44.22	148	P		P	17 24 42.9	0.0	
	comp=N,3.5nm,0.8s,mb4.1,baz=308,slow=10.0,SNR=2.4								
LVC					pP	pP	17 25 08.8	+1.2	
	comp=N,2.2nm,0.7s,baz=17,slow=4.5,SNR=1.6								
LVC	Limon Verde	44.22	148	*eP*		P	17 24 42.9	-0.1	
	comp=N,4.6nm,0.9s,mb4.2								
SCHQ	Schefferville	44.23	21	P		P	17 24 41.0	-1.6	
	comp=N,2.3nm,1.0s,mb3.9,baz=251,slow=14,SNR=3.2								
SCHQ					pP	pP	17 25 05.8	-1.5	
	comp=N,5.7nm,1.0s,baz=214,slow=6.8,SNR=3.0								
YKA	Yellowknife Ar	49.66	347	P		P	17 25 24.0	-0.9	
	comp=N,1.7nm,0.6s,mb4.2,baz=149,slow=7.4,SNR=30								
YKA					pP	pP	17 25 49.6	-0.4	
	comp=N,4.5nm,0.7s,baz=148,slow=7.5,SNR=12								
YKA					ScP		17 30 31.5		
	comp=N,0.3nm,0.4s,baz=144,slow=4.0,SNR=6.8								
YKW3	Yellowknife Ar	49.72	347	*eP*		P	17 25 24.1	-1.3	
YKW3				*e*		pP	17 25 49.6	-0.9	
FRB	Frobisher Bay	51.20	13	P		P	17 25 34.8	-1.9	
	comp=N,3.2nm,0.8s,mb4.4,baz=200,slow=12,SNR=5.6								
FRB					pP	pP	17 26 00.7	-1.2	
	comp=N,6.2nm,0.7s,baz=213,slow=8.2,SNR=4.9								
FRB					sP	sP	17 26 12.1	-1.5	
	comp=N,9.3nm,0.9s,baz=217,slow=6.2,SNR=5.4								
CFAA	Coronel Fontan	52.14	154	P		P	17 25 43.0	-1.1	
	comp=N,1.0nm,0.6s,mb4.0,baz=337,slow=7.2,SNR=15								
CFAA					pP	pP	17 26 08.9	-0.6	
	comp=N,0.5nm,0.7s,baz=316,slow=4.0,SNR=2.7								
BDFB	Brasilia	53.68	123	P		P	17 25 52.1	-3.7	
	comp=N,1.1nm,0.4s,mb4.2,baz=256,slow=8.6,SNR=3.1								
BDFB					pP	pP	17 26 17.9	-3.3	
	comp=N,1.6nm,0.4s,baz=246,slow=12,SNR=2.3								
INK	Inuvik	59.06	344	P		P	17 26 32.8	-0.5	
	comp=N,0.8nm,0.6s,mb3.9,baz=145,slow=12,SNR=5.4								
INK					pP	pP	17 26 58.4	-0.9	
	comp=N,2.0nm,0.8s,baz=143,slow=5.2,SNR=3.1								
INK	Inuvik	59.06	344	*eP*		P	17 26 31.4	-1.9	
PLCA	Paso Flores	59.36	161	P		P	17 26 34.5	-1.2	
	comp=N,7.8nm,0.9s,mb4.7,baz=346,slow=7.7,SNR=11								
PLCA					pP	pP	17 27 01.1	-0.7	
	comp=N,3.2nm,0.9s,baz=353,slow=5.7,SNR=2.9								
PLCA	Paso Flores	59.36	161	*eP*		P	17 26 34.4	-1.3	
	comp=N,19nm,1.2s,mb5.0								
PLCA				*e*		pP	17 26 59.5	-2.2	
RES	Resolute Bay	59.42	359	*eP*		P	17 26 32.8	-2.9	
	comp=N,2.5nm,1.0s,mb4.2								
SPU	Mount Spurr	62.19	332	*eP*		P	17 26 54.9	+0.3	
ESK	Eskdalemuir	77.24	36	P		P	17 28 24.6	-1.6	
	comp=N,12nm,1.2s,mb4.5								
EKA	Eskdalemuir Ar	77.27	36	P		P	17 28 23.5	-2.9	
	comp=N,0.9nm,0.6s,mb3.7,baz=283,slow=6.0,SNR=7.3								
EKA					pP	pP	17 28 51.9	-1.8	
	comp=N,4.0nm,0.8s,baz=275,slow=6.0,SNR=9.6								
ESDC	Sonseca Array	79.37	52	P		P	17 28 35.4	-2.9	
	comp=N,1.1nm,0.5s,mb3.9,baz=286,slow=5.8,SNR=9.7								
ESDC					pP	pP	17 29 03.5	-2.1	
	comp=N,1.4nm,0.8s,baz=287,slow=5.1,SNR=5.0								
ESLA	Sonseca Array	79.37	52	P		P	17 28 35.5	-2.8	
NOA	NORSAR Array B	83.30	28	P		P	17 28 57.4	-0.9	
	comp=N,0.5nm,0.8s,mb3.4,baz=290,slow=6.5,SNR=2.6								
NOA					pP	pP	17 29 24.8	-1.1	
	comp=N,1.2nm,0.8s,baz=291,slow=5.2,SNR=3.3								
NOA	NORSAR Array B	83.30	28	P		P	17 28 57.4	-0.9	
NOA					pP	pP	17 29 24.8	-1.1	
HFS	Hagfors	84.76	29	P		P	17 29 04.4	-1.2	
	comp=N,3.9nm,0.9s,mb4.3,baz=288,slow=4.7,SNR=4.2								
FINES	FINESS Array B	89.59	25	P		P	17 29 27.0	-1.8	
	comp=N,1.5nm,0.8s,mb4.2,baz=333,slow=4.3,SNR=8.2								
SONM	Songino Array	114.92	346	PKP		PKPdf	17 35 13.7	+2.9	
	comp=N,0.3nm,0.7s,baz=292,slow=2.7,SNR=5.0								
WMQ	Urumqi	121.19	360	*e*PKP		PKPdf	17 35 28.0	+5.0	
MAW	Mawson	125.33	169	PKP		PKPdf	17 35 31.0	+0.7	
	comp=N,5.8nm,0.8s,baz=357,slow=12,SNR=4.4								
LZH	Lanzhou	126.60	343	*e*PKP		PKPdf	17 35 33.5	-0.1	
STKA	Stephens Creek	128.18	241	PKP		PKPdf	17 35 38.4	+1.5	
	comp=N,4.8nm,0.9s,baz=83,slow=5.7,SNR=7.4								
STKA					pPKP		17 36 06.4		
	comp=N,3.7nm,0.9s,baz=330,slow=5.7,SNR=4.0								
ENH	Enshi	129.97	335	*e*PKPdf		PKPdf	17 35 41.1	+0.8	
WB2	Warramunga Arr	135.13	257	*e*P		PKPdf	17 35 51.9	+1.7	
WRA	Warramunga Arr	135.15	257	PKP		PKPdf	17 35 51.9	+1.6	
	comp=N,0.6nm,0.6s,baz=89,slow=2.7,SNR=11								
ASAR	Alice Springs	135.54	252	PKhKP			17 35 43.0		
	comp=N,0.6nm,0.8s,baz=104,slow=3.7,SNR=8.2								
ASAR				PKP		PKPdf	17 35 52.9	+2.0	
	comp=N,1.1nm,0.9s,baz=93,slow=1.0,SNR=9.1								
FITZ	Fitzroy Crossi	143.32	260	*e*P		PKPbc	17 36 04.7	+1.3	
	comp=N,9.3nm,1.0s								
CM31	Chiang Mai Arr	144.61	341	*e*PKPdf		PKPdf	17 36 07.3	+0.1	
MBWA	Marble Bar	148.79	254	*e*PKPbc		PKPdf	17 36 19.2	+5.0	

*NEIC **19** 17:16:46.7, 39.93N×23.70E, h5km, MD2.8(ATH), After ATH.*
*ATH **19** 17:16:47.0, 40.01N×23.09E, h21km±2km, MD2.8/3*
*THE **19** 17:16:47.7, 39.97N×23.28E, h9km, ML2.5*
*CSEM **19** 17:16:47.9±0.1, 39.98N×23.28E, h15km, ML2.5, Error ellipse: s-maj=2.5km s-min=1.9km az=76.0*

ISC 19 17:16:47.3±0.5,**39.96N**±0.02×**23.28E**±0.04,**h8**km±5km,
n14,σ0**s87**/**27**,**Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PAIG	Paliouri	0.31	96	*e*Pg		Pg	17 16 54.3	+0.7
PAIG				*e*Sg		Sg	17 16 58.6	+0.8
PLG	Polygyros	0.43	17	*e*PB		Pb	17 16 55.8	-0.9
PLG				*e*SB		Sb	17 17 02.6	-0.5
LIT	Litokhoron	0.63	283	*e*Pg		Pg	17 16 59.2	-0.6
LIT				*e*Sg		Sg	17 17 08.7	+0.5
LIT	Litokhoron	0.63	283	*e*Pg		Pg	17 16 59.2	-0.6
LIT				*e*Sg		Sg	17 17 08.7	+0.5
NEO	Neokhori	0.65	184	*e*PN		Pn	17 17 00.8	-1.6
NEO				*e*SN		Sn	17 17 11.0	-1.9
OUR	Ouranopolis	0.66	55	*e*Pg		Pg	17 17 00.4	-0.1
OUR				*e*Sg		Sg	17 17 09.6	+0.4
THE	Thessaloniki	0.72	340	*e*Pg		Pg	17 17 01.1	-0.5
THE				*e*Sg		Sg	17 17 11.2	-0.1
SOH	Sokhos	0.86	4	*e*Pg		Pg	17 17 03.7	-0.9
SOH				*e*Sg		Sg	17 17 15.8	-0.4
AOS	Alonnisos	0.91	149	*e*Pg		Pg	17 17 05.0	-0.5
AOS				*e*Sg		Sg	17 17 18.2	+0.5
AGG	Agios Georgios	1.19	219	*e*Pb		Pb	17 17 09.7	+0.1
AGG				*e*Sb		Sb	17 17 27.0	+2.0
GRG	Griva	1.20	326	*e*Pb		Pb	17 17 09.7	-0.2
GRG				*e*Sb		Sb	17 17 26.1	+0.7
KNT	Kendrikon	1.24	346	*e*Pb		Pb	17 17 09.9	-0.5
KNT				*e*Sb		Sb	17 17 27.8	+1.4
LKR	Lokris	1.32	190	*e*PN		Pn	17 17 13.1	+1.0
NVR	Nevrokopi	1.46	17	*e*PN		Pn	17 17 13.6	-0.4
NVR				*e*SN		Sn	17 17 34.2	+0.8

*ORF **19** 17:33:37.9, 25.94S×179.88E, h30km, mb6.7*

*MOS **19** 17:34:43.5±0.9, 21.75S×179.53W, h573km, mb5.9/48, Error ellipse: s-maj=8.0km s-min=6.3km az=57.9*
*BJI **19** 17:34:45.2, 21.49S×179.10W, h597km, mB6.1, mb5.9*
*NEIC **19** 17:34:46.2±0.1, 21.89S×179.55W, mb5.9/102, ME6.0, MW6.2, Error ellipse: s-maj=3.5km s-min=2.2km az=119.0 Broadband fault plane solution: P waves. NP1:φs205°, δ85°, λ90°. NP2:φs25°, δ5°, λ90°. Principal axes: T Plg50°, Azm115°; N Plg0°, Azm0°; P Plg40°, Azm295°; Moment Tensor Solution. s26 Moment tensor: Scale 10^18 Nm; Mrr0.10; Mθθ-0.47; Mφφ0.37; Mrθ-1.01; Mrφ-0.62; Mθφ-2.60; Best double couple: M0 2.9×10^18 NP1:φs106°, δ15°, λ175°. NP2:φs201°, δ89°, λ75°. Principal axes: T 2.86, Plg44°, Azm96°; N .06, Plg15°, Azm202°; P -2.92, Plg42°, Azm305°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*
*HRVD **19** 17:34:46.2±0.1, 21.88S×179.27W, h609km, MW6.3/81, Centroid moment Tensor Solution. LP body waves: s81,c196;Mantle waves: s72,c113; Half duration: 3s4 Moment tensor: Scale 10^18Nm; Mrr0.48±.02; Mθθ-0.71±.03; Mφφ0.22±.03; Mrθ-1.43±.03; Mrφ-0.86±.02; Mθφ-2.96±.02; Best double couple: M0 3.453×10^18 NP1: φs99°, δ16°, λ162°. NP2:φs206°, δ85°, λ75°. Principal axes: T 3.373, Plg48°, Azm100°; N .16, Plg15°, Azm207°; P -3.533, Plg38°, Azm310°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*IDC **19** 17:34:46.7±0.3, 21.84S×179.60W, h594km±2km, mb5.1/25, mb1 5.2/27, mb1mx5.2/27, mbtmpg6.0/27 Error ellipse: s-maj=8.8km s-min=5.8km az=166.0*
*BGS **19** 17:34:49.8, 21.89S×179.55W, h599km*

ISC 19 17:34:45.0±0.1,**21.93S**±0.02×**179.54W**±0.02,**h596**km,
h596km±1.0km;**pP-P,n1228,**σ1**s04**/585,**mb5.9**/150,
87C-116D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	Raoul Island	7.44	169	*e*P		P	17 36 38.3	-1.1
RAO					pmax	pmax		
	comp=Z,7μm,0.3s							
RAO	Raoul Island	7.44	169	*e*P		P	17 36 38.3	-1.1
	comp=Z,7μm,0.3s							
RAO				*e*S		S	17 38 12.2	+1.6
AFI	Afiamalu	10.87	44	*e*P		P	17 37 08.8	-3.7
AFI					pmax	pmax		
	comp=Z,1μm,0.9s							
AFI	Afiamalu	10.87	44	*e*P		P	17 37 08.8	-3.7
	comp=Z,1μm,0.8s							
AFI				*e*S		S	17 39 03.5	-7.5
DZM	Mont Dzumac	13.00	267	*e*P		P	17 37 36.0	+2.4
DZM				*e*S		S	17 39 52.0	+3.1
NOUC	Port Laguerre	13.13	267	*e*P		P	17 37 37.0	+2.1
NOUC				*e*S		S	17 39 57.2	+6.0
OUZ	Omahuta	14.54	203	*e*P		P	17 37 52.1	+3.4
OUZ	Omahuta	14.54	203	||PN	P	17 37 52.2	+3.6
WCZ	Waipu Caves	14.95	200	*e*P		P	17 37 56.1	+3.5
WCZ	Waipu Caves	14.95	200	||PN	P	17 37 56.1	+3.5
WCZ				*e*SN		S	17 40 32.1	+8.6
KUZ	Kuaotunu	15.33	195	*e*P		P	17 37 58.8	+2.5
KUZ	Kuaotunu	15.33	195	||PN	P	17 37 58.7	+2.4
KUZ				SN		S	17 40 36.1	+5.8
MTAZ	Motutapu	15.57	197	*e*P		P	17 38 01.9	+3.3
MTAZ	Motutapu	15.57	197	PN		P	17 38 01.9	+3.2
MXZ	Matakaoa Point	15.69	186	*e*P		P	17 37 56.5	-3.3
MXZ	Matakaoa Point	15.69	186	PN		P	17 37 59.5	-0.3
MXZ				SN		S	17 40 32.2	-4.4
OTAZ	Otara	15.72	197	P		P	17 38 03.4	+3.3
OTAZ	Otara	15.72	197	PN		P	17 38 03.4	+3.4
MYRZ	Mayor Island	15.73	192	PN		P	17 38 03.0	+2.9
WTAZ	Waiatarua	15.80	198	P		P	17 38 03.7	+2.9
TGRZ	Tauranga	16.16	192	*e*P		P

SNZO **South Karori** 19.93 193 PN P **17 38 38.3 -1.1**
SNZO SN S **17 41 42.0 -5.9**
BHW Baring Head 19.99 192 P P **17 38 38.9 -1.1**
QRZ Quartz Range 20.00 198 *e*P P **17 38 40.4 +0.3**
QRZ Quartz Range 20.00 198 PN P **17 38 40.4 +0.3**
QRZ SN S **17 41 47.4 -1.7**
QRZ ScP 17 45 07.8
NNZ Nelson 20.14 196 *e*P P **17 38 40.6 -0.8**
NNZ Nelson 20.14 196 PN P **17 38 39.6 -1.8**
NNZ SN S **17 41 46.4 -5.0**
NNZ ScP 17 45 07.2
NNZ ScS ScS 17 48 46.1 -5.6
TUWZ Tuamarina 20.21 194 PN P **17 38 40.8 -1.2**
BSWZ Blackbirch Sta 20.49 194 P P **17 38 43.9 -0.7**
THZ Tophouse 20.77 196 *e*P P **17 38 46.2 -1.0**
THZ Tophouse 20.77 196 PN P **17 38 45.8 -1.4**
THZ *e*SN S **17 41 56.0 -5.6**
THZ ScP 17 45 08.9
THZ ScS ScS 17 48 49.5 -4.5
DSZ Denniston Nort 21.06 198 *e*P P **17 38 49.4 -0.4**
DSZ Denniston Nort 21.06 198 PN P **17 38 49.4 -0.4**
DSZ SN S **17 42 02.2 -4.1**
DSZ ScP 17 45 09.5
DSZ ScS ScS 17 48 51.2 -3.8
KHZ Kahutara 21.24 194 *e*P P **17 38 50.1 -1.3**
KHZ Kahutara 21.24 194 PN P **17 38 49.6 -1.8**
KHZ SN S **17 42 03.7 -5.5**
KHZ ScP 17 45 11.6
LTZ Lake Taylor 21.89 196 *e*P P **17 38 55.4 -2.0**
LTZ Lake Taylor 21.89 196 PN P **17 38 55.4 -2.0**
LTZ *e*SN S **17 42 13.8 -6.0**
WVZ Waitaha Valley 22.59 199 *e*P P **17 39 02.7 -0.9**
RPZ Rata Peaks 23.09 198 P P **17 39 07.9 -0.1**
comp=Z,62nm,0.5s,mb5.5,baz=340,slow=2.4,SNR=32
RPZ ScP 17 45 16.5
comp=Z,32nm,0.5s,baz=46,slow=3.5,SNR=8.4
RPZ ScS ScS 17 49 02.0 -0.8
comp=Z,33nm,0.9s,baz=108,slow=23,SNR=12
RPZ Rata Peaks 23.09 198 *e*P P **17 39 08.0 0.0**
RPZ Rata Peaks 23.09 198 *e*PN P **17 39 06.5 -1.5**
HNR Honiara 23.29 299⇓*i*P P **17 39 08.3 -1.8**
HNR pmax pmax
comp=Z,2µm,1.1s,mb6.7
HNR Honiara 23.29 299⇓*i*P P **17 39 08.2 -1.9**
comp=Z,2µm,1.1s,mb6.7
HNR *e*ScP 17 45 12.9
FOZ Fox Glacier 23.36 200 PN P **17 39 08.8 -1.7**
FOZ *e*SN S **17 42 35.5 -7.6**
FOZ ScP 17 45 16.2
FOZ PcS 17 46 11.2
FOZ ScS ScS 17 49 01.9 -2.0
LBZ Lake Benmore 23.95 198 *e*P P **17 39 14.1 -1.6**
LBZ Lake Benmore 23.95 198 PN P **17 39 14.1 -1.7**
LBZ ScP 17 45 19.4
LBZ ScS ScS 17 49 06.8 +0.5
JCZ Jackson Bay 24.12 201 P P **17 39 16.8 -0.4**
JCZ Jackson Bay 24.12 201 PN P **17 39 16.8 -0.4**
ODZ Otahua Downs 24.43 197 *e*PN P **17 39 18.8 -1.1**
ODZ ScP 17 45 20.8
WKZ Wanaka 24.71 200 *e*P P **17 39 21.5 -0.9**
WKZ Wanaka 24.71 200 PN P **17 39 21.4 -0.9**
WKZ ScP 17 45 22.7
EAZ Earnscleugh 24.98 199 *e*P P **17 39 24.0 -0.8**
EAZ Earnscleugh 24.98 199 PN P **17 39 24.2 -0.6**
WHZ Wether Hill Ro 26.00 200 *e*P P **17 39 33.5 -0.2**
WHZ Wether Hill Ro 26.00 200 *e*PN P **17 39 33.5 -0.2**
WHZ pP 17 41 12.7
TBI Tubuai 27.78 99⇑*i*P P **17 39 48.7 -0.7**
comp=Z,4µm,1.3s,mb6.9
RIV Riverview 28.38 239⇓*i*P P **17 39 56.5 +2.0**
RIV *e*pP 17 41 31.2
RIV *e*S S **17 44 03.5 +1.7**
RIV *e*SCP 17 45 35.2
RIV *e*SCS ScS 17 49 31.7 +5.8
RIV Riverview 28.38 239⇓*i*P P **17 39 56.5 +2.0**
RIV *e*S S **17 44 03.5 +1.7**
RIV *e* 17 49 31.7
PAE Paea 28.49 87⇑*i*P P **17 39 54.1 -1.5**
comp=Z,3µm,1.3s,mb6.8
PPT Papeete 28.51 87⇑*i*P P **17 39 54.6 -1.2**
comp=Z,2µm,1.4s,mb6.5
PPT Papeete 28.51 87 P P **17 39 54.7 -1.1**
comp=Z,944nm,1.1s,mb6.3,baz=246,slow=3.3,SNR=121
PPT ScP 17 45 33.6
comp=Z,65nm,0.6s,baz=114,slow=4.0,SNR=5.9
TIAR Tiarei 28.73 87⇑*i*P P **17 39 56.4 -1.2**
comp=Z,5µm,1.3s
TVO Taravao 28.76 87⇑*i*P P **17 39 56.6 -1.3**
comp=Z,4µm,1.5s,mb6.8
TVO *e*pP 17 41 25.0
comp=Z,1µm,1.3s
MEH Mehetia 29.84 88⇑*i*P P **17 40 05.6 -1.5**
comp=Z,2µm,1.2s,mb6.6
CNB Canberra Magne 30.24 237⇓*i*P P **17 40 12.2 +1.8**
comp=Z,17µm,0.7s
CNB *e*pP 17 41 48.5
CNB *e*S S **17 44 32.3 +1.8**
CNB *e*SCP 17 45 41.8
CNB *e*SCS ScS 17 49 38.6 +3.7
PMOR Pomariorio Ree 30.76 83⇑*i*P P **17 40 13.8 -1.1**
comp=Z,5µm,1.2s
CTA Charters Tower 31.94 267⇓*i*P P **17 40 25.9 +1.0**
comp=Z,818nm,0.6s,mb6.5
CTA *e*PCP PcP 17 42 57.7 +0.6
CTA *e*S S **17 44 56.3 -0.4**
CTA *e*SCP 17 45 47.1
comp=Z,139nm,1.0s
CTA *e*SCS ScS 17 49 48.4 +4.8
CTA Charters Tower 31.94 267⇓*i*P P **17 40 25.9 +1.0**
CTA *e* 17 42 57.7
CTA *e*S S **17 44 56.3 -0.4**
CTA *e* 17 49 48.4
CTA pmax pmax
comp=Z,818nm,0.6s
CTA Charters Tower 31.94 267 P P **17 40 26.0 +1.1**
comp=Z,733nm,0.5s,mb6.5,baz=93,slow=10,SNR=773
CTA PcP PcP 17 42 57.7 +0.6
comp=Z,68nm,0.6s,baz=93,slow=4.7,SNR=3.7
CTA S S **17 44 55.5 -1.2**
comp=Z,28nm,0.8s,baz=275,slow=18,SNR=6.8
CTA ScP 17 45 47.1
comp=Z,169nm,1.0s,baz=106,slow=2.6,SNR=12
CTA P3KPbc 18 11 41.7
comp=Z,4.0nm,0.4s,baz=230,slow=4.5,SNR=18
CTAO Charters Tower 31.94 267 P P **17 40 26.0 +1.1**
CTAO pP 17 42 00.0
CTAO pP 17 42 02.6
CTAO PcP PcP 17 42 57.6 +0.6
CTAO S S **17 44 56.2 -0.5**
CTAO ScP 17 45 47.1
CTAO ScS ScS 17 49 48.5 +4.8
CTAO Charters Tower 31.94 267⇓*i*P P **17 40 25.8 +0.9**
CTAO pmax pmax
comp=Z,1µm,0.9s,mb6.6
CTAO Charters Tower 31.94 267⇓*i*P P **17 40 25.8 +0.9**
comp=Z,1µm,0.8s,mb6.6
CTAO *e*PcP PcP 17 42 57.1 0.0
CTAO *e*S S **17 44 56.9 +0.2**
CTAO *e*ScP 17 45 46.4
KWAJ Kwajalein Atol 33.04 336 P P **17 40 34.6 +0.5**
comp=Z,11µm,1.5s,SNR=18
KWAJ Kwajalein Atol 33.04 336 *e*P P **17 40 33.7 -0.4**
comp=Z,4µm,1.4s,mb6.9
TOO Toolangi 33.90 235⇓*i*P P **17 40 42.5 +1.4**
comp=Z,35nm,0.7s,mb5.1
TOO *e*pP 17 42 21.8
TOO *e*S S **17 45 24.4 -1.8**
TOO *e*SCP 17 45 53.6
TOO *e*SCS ScS 17 49 56.0 +2.2
TOO Toolangi 33.90 235⇓*i*P P **17 40 42.5 +1.4**
TOO *e**PP 17 42 21.8
TOO *e*S S **17 45 24.4 -1.8**
TOO *e* 17 49 56.0
TOO pmax pmax
comp=Z,35nm,0.7s,mb5.1
PMG Port Moresby 34.30 286 P P **17 40 45.2 +0.6**
PMG pP 17 42 24.1
PMG S S **17 45 31.6 -0.9**
PMG ScP 17 45 55.2
PMG Port Moresby 34.30 286 P P **17 40 45.3 +0.6**
comp=Z,2µm,0.9s,mb6.7,baz=83,slow=5.3,SNR=421
PMG S S **17 45 30.4 -2.1**
comp=Z,14nm,0.8s,baz=334,slow=23,SNR=6.0
PMG ScP 17 45 55.2
comp=Z,183nm,1.0s,baz=82,slow=2.5,SNR=8.3
PMG Port Moresby 34.30 286 *e*P P **17 40 45.3 +0.6**
comp=Z,4µm,1.1s,mb6.9
PMG *e*pP 17 42 24.4
PMG *e*ScP 17 45 54.2
TAU Tasmania Unive 34.60 225 P P **17 40 48.3 +1.4**
comp=Z,1µm,0.8s,mb6.7,SNR=43
TAU Tasmania Unive 34.60 225 *e*P P **17 40 47.8 +0.9**
TAU *e**PP 17 42 25.6
TAU pmax pmax
comp=Z,501nm,1.3s,mb6.0
TAU Tasmania Unive 34.60 225 *e*P P **17 40 47.8 +0.9**
comp=Z,501nm,1.3s,mb6.0
TAU *e*pP 17 42 25.6
TAU *e*ScP 17 45 55.8
STKA Stephens Creek 35.88 246 P P **17 40 59.1 +1.6**
comp=Z,695nm,0.6s,mb6.4,baz=89,slow=9.4,SNR=945
STKA S S **17 45 54.3 -1.6**
comp=Z,15nm,0.6s,baz=344,slow=23,SNR=4.4
STKA ScP 17 46 01.3
comp=Z,134nm,0.9s,baz=75,slow=4.4,SNR=9.3
STKA PKiKP 17 50 25.9
comp=Z,9.0nm,0.8s,baz=220,slow=22,SNR=3.0
STKA P3KPbc 18 11 24.3
comp=Z,9.8nm,0.9s,baz=294,slow=4.4,SNR=12
STKA Stephens Creek 35.88 246 *e*P P **17 40 59.0 +1.5**
STKA *e*pP 17 42 37.5
STKA *e*PP PP 17 42 43.1 +8.8
STKA *e*ScP 17 45 58.9
MCQ Macquarie Isla 36.34 201 *e*P P **17 41 02.8 +1.8**
TAOE Nuku Hiva Isla 40.02 77⇑*i*P P **17 41 30.2 -1.1**
RKT Rikitea 41.07 100⇑*i*P P **17 41 39.2 -0.4**
comp=Z,3µm,1.4s,mb6.6
ASAR Alice Springs 42.80 258 P P **17 41 54.4 +1.1**
comp=Z,2µm,0.9s,mb6.6,baz=90,slow=8.2,SNR=3518
ASAR PcP PcP 17 43 31.4 +0.4
comp=Z,115nm,0.7s,baz=100,slow=4.4,SNR=5.9
ASAR ScP 17 46 28.4
comp=Z,76nm,0.8s,baz=105,slow=4.3,SNR=11
ASAR S S **17 47 34.7 -1.4**
comp=Z,135nm,1.0s,baz=97,slow=16,SNR=16
ASAR ScS ScS 17 50 50.2 +4.1
comp=Z,34nm,0.9s,baz=100,slow=7.1,SNR=11
ASAR P3KPbc 18 10 53.5
comp=Z,0.7nm,0.4s,baz=284,slow=3.7,SNR=30
ASAR PKP2bc 18 14 03.2
comp=Z,1.3nm,1.0s,baz=283,slow=4.4,SNR=4.6
ASAR P4KPbc 18 19 43.4
comp=Z,1.2nm,0.8s,baz=104,slow=4.7,SNR=9.7
ASAR Alice Springs 42.80 258 P P **17 41 54.4 +1.1**
ASAR PcP PcP 17 43 31.4 +0.4
ASAR ScP 17 46 28.4
ASAR S S **17 47 34.7 -1.4**
ASAR ScS ScS 17 50 50.2 +4.1
ASAR *e* 18 10 53.5
ASAR ⇑*e* 18 14 03.2
ASPA Alice Springs 42.81 258⇓*i*P P **17 41 53.7 +0.3**
ASPA *e*SCP 17 46 28.9
ASPA *e*S S **17 47 34.9 -1.2**
ASPA *e*SCS ScS 17 50 49.7 +3.5
ASPA Alice Springs 42.81 258⇓*i*P P **17 41 53.7 +0.3**
ASPA *e*S S **17 47 34.9 -1.2**
ASPA *e* 17 50 49.7
WB2 Warramunga Arr 42.98 264⇓*i*P P **17 41 54.6 -0.2**
WB2 *e*SCP 17 46 29.8
WB2 *e*S S **17 47 35.1 -3.6**
WB2 *e*SCS ScS 17 50 51.1 +3.8
WRAB Tennant Creek 42.99 264 P P **17 41 54.6 -0.2**
comp=Z,13µm,0.9s
WRAB Tennant Creek 42.99 264 *e*P P **17 41 54.6 -0.2**
WRAB pmax pmax
comp=Z,4µm,1.0s,mb6.9
WRAB Tennant Creek 42.99 264 *e*P P **17 41 54.6 -0.2**
comp=Z,4µm,1.0s,mb6.9
WRAB *e*ScP 17 46 29.3
WRAB *e*S S **17 47 27.3 -11**
WRA Warramunga Arr 43.00 264 P P **17 41 54.5 -0.4**
WRA 17 43 31.9
WRA S S **17 47 35.4 -3.4**
WRA Warramunga Arr 43.00 264 P P **17 41 54.5 -0.4**
comp=Z,1µm,0.9s,mb6.5,baz=98,slow=6.8,SNR=1702
WRA PcP PcP 17 43 31.9 +0.2
comp=Z,39nm,0.4s,baz=95,slow=3.9,SNR=5.8
WRA sP sP 17 44 44.9 +0.1
comp=Z,8.5nm,0.4s,baz=124,slow=8.0,SNR=1.3
WRA ScP 17 46 29.5
comp=Z,135nm,0.9s,baz=97,slow=4.3,SNR=15
WRA S S **17 47 35.4 -3.4**
comp=Z,30nm,0.8s,baz=102,slow=15,SNR=11
WRA PKiKP 17 50 31.3
comp=Z,3.2nm,0.7s,baz=85,slow=0.6,SNR=4.6
WRA ScS ScS 17 50 51.6 +4.2
comp=Z,19nm,1.1s,baz=91,slow=8.6,SNR=6.6
WRA P3KPbc 18 10 53.6
comp=Z,0.9nm,0.4s,baz=294,slow=2.8,SNR=28
WRA PKP2bc 18 14 01.2
comp=Z,6.9nm,1.1s,baz=295,slow=3.5,SNR=15
WRA PKP2ab 18 14 49.9
comp=Z,0.5nm,0.8s,baz=270,slow=4.8,SNR=6.0
WRA P4KPbc 18 19 43.9
comp=Z,0.8nm,0.5s,baz=97,slow=3.9,SNR=10
YOMI Yo Moklole 43.23 291 *e*P P **17 41 56.7 -0.1**
MENI Mendum Tagoi 43.42 291 *e*P P **17 41 58.1 -0.2**
PTCN Pitcairn Islan 45.26 104 *e*P P **17 42 12.3 0.0**
comp=Z,6µm,1.6s,mb6.9
KAKA Kakadu 46.59 273⇓*i*P P **17 42 22.2 -0.4**
comp=Z,845nm,0.4s,mb6.6
KAKA *e*SCP 17 46 42.3
KAKA *e*S S **17 48 22.6 -6.4**
KIH Kanekii 47.29 31⇓*e*P P **17 42 27.1 -0.7**
FORT Forrest 47.42 248⇓*i*P P **17 42 28.4 -0.2**
comp=Z,49µm,0.8s
FORT *e*SCP 17 46 47.8
FORT *e*S S **17 48 38.8 -1.4**
PUH Pauahi 47.45 32⇑*e*P P **17 42 27.9 -1.0**
PLL Puu Ulaula 47.46 31⇑*e*P P **17 42 28.0 -1.1**
MLH Mauna Loa 47.46 32⇑*e*P P **17 42 27.9 -1.2**
HMH Humuula 47.51 31 *e*P P **17 42 28.8 -0.7**
NGH National Guard 47.81 32⇑*e*P P **17 42 30.3 -1.4**
KKU Keanakolu 47.82 31⇑*e*P P **17 42 30.6 -1.2**
HON Honolulu 47.85 28 *e*P P **17 42 30.9 -1.2**
HON pP pP 17 44 22.3 +2.3
HON *e*ScP 17 46 47.7
KIP Kipapa 47.94 27 *e*P P **17 42 31.3 -1.3**
KIP pmax pmax
comp=Z,755nm,1.4s,mb6.0
KIP Kipapa 47.94 27 *e*P P **17 42 31.3 -1.3**
comp=Z,755nm,1.4s,mb6.0
KIP *e*ScP 17 46 49.5
HKL Haleakala 48.09 30 *e*P P **17 42 33.1 -0.7**
MAUI Maui 48.15 30 *i*P P **17 42 33.5 -0.8**
GUMO Guam 49.64 312 P P **17 42 44.8 -0.6**
GUMO pmax pmax
comp=Z,5µm,1.4s,mb6.8
GUMO Guam 49.64 312 *e*P P **17 42 44.8 -0.6**
comp=Z,5µm,1.4s,mb6.8
GUMO *e* 17 43 02.1
MIDW Midway 49.89 3 *e*P P **17 42 44.5 -2.6**
comp=Z,797nm,1.1s,mb6.1
SARN Sarigan 51.27 316⇓*e*P P **17 42 55.9 -1.3**
FITZ Fitzroy Crossi 51.43 264⇓*i*P P **17 42 58.4 +0.1**
comp=Z,2µm,0.9s,mb6.5
FITZ *e*S S **17 49 34.6 +0.1**
DRV Dumont d'Urvil 51.53 199 S S **17 49 35.0 -0.3**
DRV L 17 56 00.0
MBWA Marble Bar 56.15 259 *e*P P **17 43 31.1 -0.3**
comp=Z,1µm,0.8s,mb6.2
MBWA *e*PcP PcP 17 44 20.8 +0.3
MBWA *e*pP pP 17 45 21.5 -3.6
KLBR Kellerberrin 56.16 246⇓*i*P P **17 43 31.0 -0.3**
comp=Z,4µm,0.4s
KLBR *e*pP pP 17 45 23.2 -1.8
KLBR *e*S S **17 50 33.3 -2.9**
SBA Scott Base 56.36 183 *e*P P **17 43 34.0 +1.9**
SBA *e**PP pP 17 45 27.3 +1.3
SBA *e* 17 45 48.5
SBA pmax pmax
comp=Z,358nm,1.2s,mb5.5
SBA Scott Base 56.36 183 *e*P P **17 43 34.0 +1.9**
comp=Z,358nm,1.2s,mb5.5
SBA *e* 17 43 45.5
SBA *e*PcP PcP 17 44 09.7 -11
SBA *e*pP pP 17 45 27.3 +1.3
SBA *e*PP PP 17 45 48.5 +1.5
VNDA Vanda 56.37 185 *e*P P **17 43 33.4 +1.2**
VNDA *e* 17 47 23.4
VNDA pmax pmax
comp=Z,85nm,1.1s
VNDA Vanda 56.37 185 P P **17 43 33.6 +1.4**
comp=Z,47nm,0.8s,baz=358,slow=8.0
VNDA ScP 17 47 24.7
comp=Z,8.9nm,0.8s,baz=352,slow=6.6,SNR=3.2
VNDA S S **17 50 41.5 +3.1**
comp=Z,1.6nm,0.7s,baz=61,slow=14,SNR=4.1
VNDA P4KPbc 18 20 39.9
comp=Z,1.0nm,0.6s,baz=306,slow=6.8,SNR=4.0
VNDA Vanda 56.37 185 *e*P P **17 43 33.4 +1.2**
comp=Z,85nm,1.1s,mb4.9
VNDA *e*ScP 17 47 23.4
NWAO Narrogin (SRO) 56.45 244 P P **17 43 33.2 0.0**
comp=Z,440nm,0.9s,mb5.7,baz=110,slow=6.3,SNR=142
NWAO pP pP 17 45 24.5 -2.8
comp=Z,128nm,1.2s,baz=70,slow=10,SNR=3.5
NWAO S S **17 50 40.7 +0.7**
comp=Z,8.7nm,0.7s,baz=98,slow=18,SNR=2.2
MATI Mati 60.35 292 *e*P P **17 43 58.1 -1.6**
BUNI Buntu Taipa 60.99 278 *e*P P **17 44 03.5 -0.3**
DAV Davao City (W) 61.00 292⇑*e*P P **17 44 03.5 -0.4**
CBIJ Chichi jima 61.21 321 P P **17 44 04.3 -0.7**
comp=Z,181nm,0.4s,mb5.7,baz=144,slow=3.3,SNR=15
NINI Niniconang 61.22 277 *e*P P **17 44 05.2 -0.1**
KCP Kidapawan 61.39 292⇓*e*P P **17 44 05.9 -0.5**
BUKP Musuan 61.84 292 *e*P P **17 44 09.4 0.0**
BUTP Butuan 61.91 294 *e*P P **17 44 09.5 -0.3**
TANI Tanete Lipujan 61.94 278 *e*P P **17 44 09.3 -0.7**
CASY Casey 62.06 205⇓*i*P P **17 44 10.1 0.0**
CASY *e*pP pP 17 46 17.1 +9.5
CASY *e*S S **17 51 48.4 -1.3**
SCPH Surigao 62.44 294 *e*P P **17 44 12.8 -0.4**
SCPH *e*S Px 17 44 19.5
CGP Cagayan de Oro 62.45 293 *e*P P **17 44 13.9 +0.7**
KEDI Kedomdong 63.12 271⇓*i*P P **17 44 16.6 -1.0**
KEDI pmax pmax
comp=Z,616nm,0.4s,mb6.3
KEDI Kedomdong 63.12 271⇓*i*P P **17 44 16.6 -1.0**
comp=Z,616nm,0.4s,mb6.3
MSLP Maasin 63.15 294 *e*P P **17 44 17.1 -0.6**
PAGZ Pagadian 63.28 291 *e*P P **17 44 18.7 +0.2**
RPN Rapa Nui 63.35 110 P P **17 44 19.0 +0.2**
comp=Z,5µm,1.2s,mb6.7,SNR=22
RPN Rapa Nui 63.35 110 P P **17 44 19.6 +0.8**
comp=Z,557nm,1.1s,mb5.8,baz=300,slow=4.2,SNR=20
RPN Rapa Nui 63.35 110 *e*P P **17 44 19.3 +0.5**
comp=Z,3µm,1.6s,mb6.4
BESP Borongan 63.42 296 *e*P P **17 44 19.3 -0.1**
RATI Rata 63.58 271⇓*i*P P **17 44 20.1 -0.5**
comp=Z,2µm,0.4s,mb6.9
TBP Tagbilaran 63.77 293 *e*P P **17 44 21.2 -0.6**
comp=Z,451µm,1.0s
IPIL Ipil 63.95 291 *e*P P **17 44 22.5 -0.4**
LLP Lapu-Lapu 64.00 294 *e*P P **17 44 22.6 -0.6**
CNP Catarman 64.54 297 *e*P P **17 44 26.6 0.0**
KELI Kelakatan 64.72 271⇓*i*P P **17 44 26.6 -1.1**
comp=Z,3µm,0.4s
SRDI Scrawed 64.95 271⇓*i*P P **17 44 27.7 -1.5**
GUIM Jordan 65.32 294 *e*P P **17 44 30.0 -1.5**
PVCP Virac 65.53 297 *e*P P **17 44 32.7 -0.1**
RCP Roxas 65.66 295⇓*e*P P **17 44 33.0 -0.6**
AUQP San Andres 66.62 296 *e*P P **17 44 40.7 +1.2**
OTRP Odiongan 66.67 295 *e*P P **17 44 38.8 -1.0**
CUYO Cuyo Island 66.77 293 *e*P P **17 44 40.6 +0.1**
GQP Guinayangan 67.11 297⇓*i*P P **17 44 42.0 -0.5**
BOAC Boac 67.38 296 *e*P P **17 44 44.1 0.0**
SJMP San Jose 67.48 295 *e*P P **17 44 44.4 -0.3**
POLP Polilio Island 67.95 297 *e*P P **17 44 47.2 -0.3**
BUSP Coron 68.04 294 *e*P P **17 44 48.0 0.0**
QSPA South Pole Qui 68.15 180 *e*P P **17 44 48.5 +0.9**
comp=Z,476nm,0.9s,mb5.9
ENPP El Nido 68.31 293 *e*P P **17 44 49.9 +0.2**
BATP Bataraza 68.58 289 *e*P P **17 44 51.6 +0.3**
KKM Kota Kinabalu 68.75 286 *e*P P **17 44 52.5 +0.1**
KKM *e*pP pP 17 46 52.7 -0.7
BALP Baler 68.78 298 *e*P P **17 44 52.6 +0.2**
PALP Palanan 68.78 299 *e*P P **17 44 53.0 +0.6**
LUBP Lubang 68.86 295 *e*P P **17 44 51.7 -1.2**
PCPH Palayan 69.08 297⇓*e*P P **17 44 53.8 -0.4**
CAUP Cauayan 69.20 299 *e*P P **17 44 54.6 -0.4**
CVP Callao Caves 69.61 300⇓*e*P P **17 44 58.0 +0.7**
comp=Z,85µm,1.1s
SGCP Mt. Cagua 69.71 300 *e*P P **17 44 58.6 +0.7**
APYP Conner 70.16 300 *e*P P **17 45 00.3 -0.3**
SCZP Santa Cruz 70.17 297 *e*P P **17 44 59.5 -1.1**
BOLP Bolinao 70.47 298 *e*P P **17 45 02.8 +0.4**
ABRA Dolores 70.47 299 *e*P P **17 45 02.2 -0.2**
MAJO Matsushiro 70.52 325 *e*P P **17 45 01.8 -0.6**
MAJO *e* 17 45 19.5
MAJO *e* 17 47 47.1
MAJO pmax pmax
comp=Z,1µm,1.5s,mb6.2
MAJO Matsushiro 70.52 325 *e*P P **17 45 01.8 -0.6**
comp=Z,1µm,1.5s,mb6.2
MAJO *e*PcP PcP 17 45 19.5 -0.1
MAJO *e*pP pP 17 47 05.8 +1.4
MAJO *e*PP PP 17 47 47.1 -2.3
MAT Matsushiro 70.52 325 *e*P P **17 45 02.0 -0.4**
MAT *e*S S 17 53 26.0 -3.3
MAT pmax pmax
comp=Z,2µm,1.8s,mb6.3
MAT MLR MLR
comp=Z,690nm,19.0s
MAT Matsushiro 70.52 325 *e*P P **17 45 02.0 -0.4**
comp=Z,2µm,1.8s,mb6.3
MAT *e*S S 17 53 26.0 -3.3
MAT LR LR
comp=Z,690nm,19.0s
MAT Matsushiro 70.52 325 P P **17 45 01.8 -0.6**
MAT S S 17 53 26.0 -3.3
BBP Basco 70.96 302 *e*P P **17 45 04.0 -1.2**
KSM Kuching 72.20 279 *e*P P **17 45 12.8 +0.3**
KSM *e*pP pP 17 47 12.6 -2.6
KSM *e* pP 17 47 19.4 +4.2
KSM *e* 17 47 42.0
KSM *e* 17 47 53.7
ERM Erimo 72.37 332 P P **17 45 14.0 +1.0**
comp=Z,2µm,1.2s,mb6.5,SNR=12
YUK Yuzh-Kuril'sk 72.89 335⇓*i*P P **17 45 15.3 -0.7**
YUK *e*S S 17 53 56.1 +0.7
YUK pmax pmax
comp=Z,8µm,2.3s,mb6.8
YUK pmax pmax
comp=N,5µm,3.0s
YUK pmax pmax
comp=E,4µm,3.0s
YUK pmax pmax
comp=N,3µm,1.5s
YUK pmax pmax
comp=Z,3µm,1.5s,mb6.6
PULI Pulasari 73.28 270⇓*i*P P **17 45 16.6 -2.1**
NACB Ninganchiao 73.30 305 *e*P P **17 45 17.4 -1.3**
NACB *e*pP pP 17 47 17.1 -4.8
NACB *e*PP PP 17 48 10.3 -2.7
KIWB Kanaga Island 73.49 2 *e*P P **17 45 18.2 -1.0**
KIWB *e*pP pP 17 47 20.7 -1.8
YHNB Yeheng 73.74 306 *e*P P **17 45 20.5 -0.6**
YHNB *e*PP PP 17 48 15.2 -1.3
GSTR Great Sitkin T 73.77 2 *e*P P **17 45 19.2 -1.5**
TATO Taipei 73.83 306 *e*P P **17 45 21.0 -0.6**
comp=Z,2µm,1.3s,mb6.4
TATO *e*pP pP 17 47 23.0 -2.1
TATO *e*PP PP 17 48 14.1 -3.0
PENI Pendagan 74.30 270⇓*i*P P **17 45 21.8 -2.7**
PENI pmax pmax
comp=Z,108nm,0.5s,mb5.6
PENI Pendagan 74.30 270⇓*i*P P **17 45 21.8 -2.7**
comp=Z,108nm,0.5s,mb5.6
SMY Shemya 74.54 356 *e*P P **17 45 23.8 -1.2**
SMY MLR MLR
comp=Z,900nm,18.0s
FX1 Attu Island--F 74.76 355 *e*P P **17 45 24.0 -2.2**
SKR Severo-Kuril's 75.42 344 *e*P P **17 45 26.0 -3.9**
SKR *e* 17 45 41.2
SKR pmax pmax
comp=Z,1µm,1.3s,mb6.2
SKR pmax pmax
comp=E,180nm,1.0s
QZH Quanzhou 76.01 304⇓*i*P P **17 45 34.3 +0.6**

QZH S S 17 54 30.4 +0.9
QZH SCS ScS 17 54 51.0 -0.7
QZH AMB AMB
comp=Z,2µm,1.2s,mb6.4
UNV Unalaska Valle 76.30 8 *eP* **P 17 45 33.0 -1.7**
comp=Z,182nm,0.5s,mb5.8
UNV *e*pP pP 17 47 33.4 -5.8
YSS Yuzh-Sakhalins 76.54 334k *iP* **P 17 45 36.0 -0.1**
YSS *i* *PP pP 17 47 38.0 -2.8
YSS *e**SP sP 17 48 30.0 -10
YSS *eS* S 17 54 35.0 +0.4
YSS *e* 17 54 51.0
YSS *i* 17 55 04.0
YSS *e*SS SS 17 59 45.0 -5.5
YSS *e*SSS SSS 18 03 07.0 -7.6
YSS pmax pmax
comp=Z,1µm,1.5s,mb6.1
YSS pmax pmax
comp=Z,4µm,4.0s
YSS pmax pmax
comp=Z,2µm,5.0s
YSS pmax pmax
comp=Z,150nm,1.0s,mb5.4
YSS smax
comp=N,6µm,9.0s
YSS Yuzh-Sakhalins 76.54 334 *eP* **P 17 45 36.4 +0.3**
comp=N,849nm,1.4s,mb6.0
YSS *e*pP pP 17 47 45.4 +4.5
PET Petropavlovsk 77.00 347k *iP* **P 17 45 36.7 -1.8**
PET *e**SP sP 17 48 47.3 +4.5
PET *i* S S 17 54 38.2 -1.2
PET *e*SP SP 17 55 23.9 -0.9
PET *e*SS SS 17 59 58.0 +0.7
PET pmax pmax
comp=Z,246nm,1.6s,mb5.4
PET pmax pmax
comp=N,171nm,1.9s
PET pmax pmax
comp=Z,1µm,12.7s
PET pmax pmax
comp=Z,900nm,16.5s
PET pmax pmax
comp=Z,1µm,18.6s
PET smax
comp=N,5µm,18.6s
PET smax
comp=E,5µm,19.5s
PET Petropavlovsk 77.00 347 *eP* **P 17 45 37.3 -1.2**
comp=E,57nm,0.4s,mb5.3
KS15 Wonju Array Si 77.03 320 *eP* **P 17 45 39.2 +0.3**
KS15 *es*P sP 17 48 44.9 +1.6
SSE Sheshan 77.51 311 ⇓P **P 17 45 41.8 +0.1**
SSE AP pP 17 47 43.5 -3.3
SSE PP PP 17 48 45.8 -1.9
SSE XP sP 17 48 47.3 +1.2
SSE S S 17 54 43.1 -2.0
SSE SCS ScS 17 55 02.0 -1.8
SSE XS 17 58 28.0
SSE SS SS 18 00 05.3 0.0
SSE AMB AMB
comp=Z,160nm,1.8s,mb5.2
SSE AMB AMB
comp=Z,2µm,12.0s
SSE Sheshan 77.51 311 P **P 17 45 41.7 0.0**
SSE PP PP 17 48 46.2 -1.5
SSE S S 17 54 46.1 +0.9
SSE SKSac 17 55 00.2
SSE Sheshan 77.51 311 ⇓P **P 17 45 41.7 0.0**
comp=Z,160nm,1.8s,mb5.2
SSE pP pP 17 47 43.5 -3.3
SSE PP PP 17 48 45.8 -1.9
SSE sP sP 17 48 47.3 +1.2
SSE S S 17 54 43.1 -2.0
SSE ScS ScS 17 55 02.0 -1.8
SSE sS 17 58 28.0
SSE SS SS 18 00 05.2 -0.1
SSE LR LR
comp=Z,30098µm,25.8s
INCN Inchon 77.82 319 *eP* **P 17 45 43.8 +0.6**
comp=Z,820nm,1.4s,mb6.0
INCN *e*PP PP 17 48 50.9 +0.6
HKC Hong Kong 78.13 300 *iP* **P 17 45 46.0 +0.9**
VLA Vladivostok 78.63 326*c iP* **P 17 45 49.0 +1.6**
VLA *i* pP 17 47 51.0 -1.9
VLA *i* 17 48 50.0
VLA *i* S S 17 55 00.0 +3.5
VLA *i* PS tx 17 55 21.0
VLA *i* 17 56 08.0
VLA pmax pmax
comp=N,1µm,9.0s
VLA pmax pmax
comp=Z,4µm,9.0s
VLA pmax pmax
comp=E,1µm,10.0s
VLA pmax pmax
comp=Z,550nm,9.0s
VLA pmax pmax
comp=N,1µm,10.0s
VLA pmax pmax
comp=E,500nm,10.0s
VLA smax
comp=N,8µm,8.0s
VLA smax
comp=E,2µm,8.0s
GZH Guangzhou 79.18 300 P **P 17 45 49.3 -1.3**
GZH S S 17 55 05.8 +3.3
NJ2 Nanjing 79.69 311 *eP* **P 17 45 54.1 +0.9**
NJ2 PCP PcP 17 46 01.5 +2.3
NJ2 AP pP 17 47 59.0 -0.1
NJ2 S S 17 55 10.0 +2.5
NJ2 SKS SKS 17 55 12.0 +1.7
NJ2 AMB AMB
comp=Z,690nm,1.2s,mb5.9
NJ2 AMB AMB
comp=Z,3µm,9.9s
MAW Mawson 79.74 200 P **P 17 45 53.9 +1.3**
comp=Z,64nm,0.7s,mb5.1,baz=128,slow=6.1,SNR=68
MAW pP pP 17 48 02.3 +3.6
comp=Z,44nm,1.1s,baz=104,slow=9.4,SNR=4.3
SAC San Andreas 79.93 43 *eP* **P 17 45 54.6 +0.4**
SAO San Andreas Ge 80.05 44 *eP* **P 17 45 55.1 +0.2**
SAO *e**PP pP 17 48 01.1 +0.1
SAO *e* 17 49 06.4
SAO pmax pmax
comp=Z,325nm,1.4s,mb5.5
SAO San Andreas Ge 80.05 44 *eP* **P 17 45 55.1 +0.2**
comp=Z,325nm,1.4s,mb5.5
SAO *ep*P pP 17 48 01.1 +0.1
SAO *e*PP PP 17 49 06.4 -1.7
LRV Little Rabbit 80.12 44 *eP* **P 17 45 51.0 -4.3**
QIZ Qiongzhong 80.14 295 P **P 17 45 55.6 -0.1**
QIZ AP pP 17 48 02.3 +0.5
QIZ XP sP 17 49 02.5 +1.6
QIZ S S 17 55 10.4 -1.8
QIZ XS 17 58 53.6
QIZ SS SS 18 00 42.3 -2.0
QIZ AMB AMB
comp=Z,198nm,2.2s,mb5.0
QIZ AMB AMB
comp=Z,2µm,9.4s
QIZ Qiongzhong 80.14 295 *eP* **P 17 45 56.9 +1.2**
comp=Z,1µm,2.1s,mb5.9
NSHM Saint Helena R 80.38 42 *eP* **P 17 45 57.1 +0.6**
HOPS Hopland 80.39 41 *eP* **P 17 45 57.0 +0.4**
comp=Z,428nm,1.3s,mb5.6
PMSA Palmer Station 80.55 157 *eP* **P 17 45 57.7 +0.9**
comp=Z,251nm,1.0s,mb5.6
PAS Pasadena 80.71 48 P **P 17 45 58.4 +0.1**
PAS SKKSac 17 55 21.8
MWC Mount Wilson 80.83 48 *eP* **P 17 45 59.0 +0.1**
MWC *e**PP pP 17 48 05.1 -0.2
MDJ Mudanjiang 80.87 326 P **P 17 45 58.5 -0.4**
MDJ PCP PcP 17 46 03.3 -0.7
MDJ AP pP 17 48 03.8 -1.6
MDJ XP sP 17 49 04.4 +0.1
MDJ PP PP 17 49 16.5 +1.2
MDJ S S 17 55 21.1 +2.1
MDJ SS SS 18 00 56.6 +2.0
MDJ AMB AMB
comp=Z,308nm,1.4s,mb5.5
MDJ AMB AMB
comp=Z,3µm,7.3s
MDJ Mudanjiang 80.87 326 *eP* **P 17 45 59.1 +0.2**
comp=Z,704nm,1.4s,mb5.9

MDJ *ep*P pP 17 48 01.6 -3.7
BAR Barrett 80.94 49⇑ *iP* **P 17 45 59.5 0.0**
BAR *ep*P pP 17 48 03.4 -2.6
BAR *es*P sP 17 49 05.4 +0.5
KHMM Horse Mountain 81.16 39 *eP* **P 17 46 01.7 +1.2**
KHMM *ep*P pP 17 48 07.3 +0.2
LPIG La Paz 81.37 60⇑ *iP* **P 17 46 02.3 +0.4**
CMB Columbia Colle 81.48 43 P **P 17 46 02.5 +0.3**
CMB pP pP 17 48 07.5 -1.3
CMB SKKSac 17 55 30.3
CMB Columbia Colle 81.48 43⇑ *iP* **P 17 46 02.1 0.0**
comp=Z,374nm,1.3s,mb5.7
CMB *ep*P pP 17 48 08.5 -0.3
PFO Pinyon Flat Ob 81.59 49 P **P 17 46 03.0 +0.2**
comp=Z,609nm,1.8s,mb5.8,SNR=34
PFO Pinyon Flat Ob 81.59 49⇑ *iP* **P 17 46 03.0 +0.2**
PFO *e**PP pP 17 48 08.5 -1.1
PFO pmax pmax
comp=Z,280nm,1.5s,mb5.6
PFO Pinyon Flat Ob 81.59 49⇑ *iP* **P 17 46 03.0 +0.2**
comp=Z,284nm,1.5s,mb5.6
PFO *ep*P pP 17 48 08.5 -1.1
PFO *e*PP PP 17 49 17.5 -3.8
WDC Whiskeytown Da 81.69 40⇑ *iP* **P 17 46 03.7 +0.5**
WDC *e**PP pP 17 48 10.4 +0.5
WDC pmax pmax
comp=Z,740nm,1.5s,mb6.0
WDC Whiskeytown Da 81.69 40⇑ *iP* **P 17 46 03.7 +0.5**
comp=Z,737nm,1.5s,mb6.0
WDC *ep*P pP 17 48 10.4 +0.5
KBO Bosley Butte 81.72 38 *eP* **P 17 46 04.2 +0.9**
DL2 Dalian 81.79 318 *i* PR 17 46 04.5
DL2 AP pP 17 48 13.9 +3.4
DL2 XP sP 17 49 11.6 +2.2
DL2 PP PP 17 49 27.1 +4.3
DL2 PPP PPP 17 51 04.1 -15
DL2 S S 17 55 23.6 -4.6
DL2 AMB AMB
comp=Z,200nm,1.5s,mb5.4
DL2 AMB AMB
comp=Z,2µm,5.3s
KEBM Edson Butte 82.08 38 *eP* **P 17 46 06.3 +1.2**
OMM Old Mammoth Mi 82.14 44 *eP* **P 17 46 06.0 +0.5**
OMM *ep*P pP 17 48 12.2 -0.2
OMM *e*PP PP 17 49 22.1 -3.5
WHN Wuhan 82.14 307 ⇓P **P 17 46 06.5 +0.8**
WHN XP sP 17 49 09.3 -2.2
WHN S S 17 55 29.3 -2.5
WHN AMB AMB
comp=Z,813nm,1.5s,mb6.0
MTUM Tungsten Hills 82.26 45 *eP* **P 17 46 06.9 +0.7**
MTUM *ep*P pP 17 48 13.1 0.0
DAC Darwin (Calif) 82.29 46 *eP* **P 17 46 06.5 +0.2**
DAC *e**PP pP 17 48 13.2 -0.1
DAC *e* 17 49 23.2
DAC pmax pmax
comp=Z,362nm,1.8s,mb5.6
DAC Darwin (Calif) 82.29 46 *eP* **P 17 46 06.5 +0.2**
comp=Z,362nm,1.8s,mb5.6
DAC *ep*P pP 17 48 13.2 -0.1
DAC *e*PP PP 17 49 23.2 -3.6
YBH Yreka Blue Hor 82.30 39 *eP* **P 17 46 06.8 +0.6**
YBH *e**PP pP 17 48 13.7 +0.5
YBH *e* 17 49 20.4
YBH pmax pmax
comp=Z,492nm,1.5s
YBH Yreka Blue Hor 82.30 39 P **P 17 46 07.2 +0.9**
comp=Z,67nm,0.6s,mb5.3,baz=67,slow=0.5,SNR=108
YBH pP pP 17 48 14.4 +1.2
comp=Z,22nm,1.0s,baz=202,slow=2.9,SNR=5.3
YBH S S 17 55 35.4 +2.3
comp=Z,2.4nm,1.0s,baz=120,slow=22,SNR=7.4
YBH Yreka Blue Hor 82.30 39 *eP* **P 17 46 06.8 +0.5**
comp=Z,492nm,1.5s,mb5.8
YBH *ep*P pP 17 48 13.7 +0.5
YBH *e*PP PP 17 49 20.4 -6.4
SNY Shenyang 82.39 321 ⇓P **P 17 46 07.1 +0.4**
SNY AMB AMB
comp=Z,270nm,2.1s,mb5.4
KDAK Kodiak Island 82.54 14 P **P 17 46 06.9 -0.2**
comp=Z,292nm,1.2s,mb5.7,SNR=9.8
KDAK Kodiak Island 82.54 14 *eP* **P 17 46 06.4 -0.7**
comp=Z,136nm,1.4s,mb5.3
KDAK *ep*P pP 17 48 13.5 -0.7
KULM Kulim 82.55 279 *eP* **P 17 46 08.8 +0.7**
KULM *ep*P pP 17 48 11.7 -3.4
KULM *e*PP PP 17 49 23.7 -5.6
CN2 Changchun 82.56 323 ⇓P **P 17 46 08.1 +0.6**
CN2 *e*AP pP 17 48 12.6 -2.0
CN2 *e*XP sP 17 49 15.9 +2.5
CN2 *e*S S 17 55 28.1 -7.6
CN2 SS SS 18 01 17.6 -1.9
CN2 AMB AMB
comp=Z,780nm,1.3s,mb6.1
UBT Ubonrachathani 82.63 290 ⇓P **P 17 46 10.1 +1.7**
comp=Z,1µm,1.5s,mb6.3
WCN Washoe City 82.63 43 *eP* **P 17 46 08.5 +0.6**
WCN *e**PP pP 17 48 15.9 +0.9
WCN pmax pmax
comp=Z,321nm,1.2s,mb5.7
WCN Washoe City 82.63 43 *eP* **P 17 46 08.5 +0.6**
comp=Z,321nm,1.2s,mb5.7
WCN *ep*P pP 17 48 15.8 +0.8
LTIM Timbered Crate 82.68 40 P **P 17 46 09.0 +0.8**
HUMO Hull Mountain 82.70 38 *eP* **P 17 46 09.0 +0.8**
comp=Z,420nm,1.3s,mb5.8
HUMO *ep*P pP 17 48 16.3 +1.0
KLR Kul'dur 83.03 330⇑ *iP* **P 17 46 07.7 -2.0**
KLR *e* 17 48 09.0
KLR *e* 17 49 11.0
KLR *e* 17 51 26.5
KLR *eS* S 17 55 30.5 -10
KLR *e* 17 55 42.8
KLR *e* 18 01 24.5
KLR pmax pmax
comp=N,220nm,2.0s
KLR pmax pmax
comp=E,220nm,2.0s
KLR pmax pmax
comp=Z,500nm,2.0s,mb5.7
KLR pmax pmax
comp=N,2µm,8.0s
KLR pmax pmax
comp=E,1µm,8.0s
KLR pmax pmax
comp=Z,4µm,8.0s
BBOR Butler Butte 83.03 38 P **P 17 46 10.7 +0.8**
NVAR Mina Array Bea 83.05 44 P **P 17 46 10.8 +0.8**
comp=Z,107nm,1.0s,mb5.3,baz=231,slow=11,SNR=278
NVAR pP pP 17 48 17.9 +0.6
comp=Z,33nm,1.0s,baz=197,slow=5.6,SNR=9.9
NVAR S S 17 55 41.9 +1.4
comp=Z,0.7nm,0.8s,baz=259,slow=4.6,SNR=2.3
NVAR PKKPbc 18 04 29.6
comp=Z,2.9nm,0.7s,baz=81,slow=2.2,SNR=12
NVAR PKPPKP 18 12 33.3
comp=Z,1.5nm,0.7s,baz=69,slow=3.1,SNR=9.4
NVAR Mina Array Bea 83.05 44 P **P 17 46 10.8 +0.8**
NVAR pP pP 17 48 17.9 +0.6
NVAR S S 17 55 41.9 +1.4
NVAR PKKPbc 18 04 29.6
NVAR PP' 18 12 33.3
PAHR Pah Rah Range 83.10 42 *eP* **P 17 46 10.8 +0.5**
comp=Z,216nm,1.4s,mb5.5
PAHR *ep*P pP 17 48 18.0 +0.5
MNV Mina 83.14 44 *eP* **P 17 46 10.6 +0.1**
MNV *e**PP pP 17 48 18.4 +0.6
MNV *e* 17 49 29.9
MNV pmax pmax
comp=Z,374nm,1.4s,mb5.7
MNV Mina 83.14 44 *eP* **P 17 46 10.6 +0.1**
comp=Z,374nm,1.4s,mb5.7
MNV *ep*P pP 17 48 18.4 +0.6
MNV *e*PP PP 17 49 29.9 -3.6
TIA Tai'an 83.19 313 ⇓P **P 17 46 11.6 +0.8**
TIA S S 17 55 37.0 -4.9
TIA AMB AMB
comp=Z,691nm,1.6s,mb5.9
SNG Songkhla 83.31 280 P **P 17 46 13.0 +1.2**
comp=Z,640nm,1.0s,mb6.1
LDFC Landfair 83.33 48 *eP* **P 17 46 12.3 +0.8**
LDFC *ep*P pP 17 48 19.7 +0.9
LDFC *es*P sP 17 49 12.8 -4.9
LDFC *ep*P PP 17 49 32.8 -2.2

TPH Tonopah 83.55 45 *eP* **P 17 46 12.7 +0.2**
TPH *e**PP pP 17 48 20.5 +0.6
TPH *e* 17 49 33.8
TPH pmax pmax
comp=Z,340nm,1.3s,mb5.7
TPH Tonopah 83.55 45 *eP* **P 17 46 12.7 +0.2**
comp=Z,340nm,1.3s,mb5.7
TPH *ep*P pP 17 48 20.5 +0.6
TPH *e*PP PP 17 49 33.8 -2.9
CJM Chamela 83.63 66⇑ *iP* **P 17 46 13.0 -0.4**
USHA Ushuaia 83.72 147 P **P 17 46 14.2 +1.2**
comp=Z,101nm,1.0s,mb5.3,baz=218,slow=6.6,SNR=23
USHA pP pP 17 48 21.7 +1.2
comp=Z,19nm,1.0s,baz=212,slow=4.0,SNR=2.8
COR Corvallis 83.75 37 *eP* **P 17 46 14.3 +1.0**
COR pmax pmax
comp=Z,869nm,2.0s,mb5.9
COR Corvallis 83.75 37 *eP* **P 17 46 14.3 +1.0**
comp=Z,869nm,2.0s,mb5.9
MOD Modoc 83.83 40 *eP* **P 17 46 14.0 +0.2**
comp=Z,276nm,1.3s,mb5.6
MOD *ep*P pP 17 48 19.8 -1.5
MOD *e*PP PP 17 49 36.4 -2.5
WIFE Three Sisters- 84.25 38 P **P 17 46 16.7 +0.9**
TRCR Troy Canyon 84.77 45 *eP* **P 17 46 18.4 -0.1**
TRCR *ep*P pP 17 48 27.2 +0.8
MA2 Magadan 84.78 345*d iP* **P 17 46 17.5 -0.5**
MA2 *i* *PP pP 17 48 22.5 -3.4
MA2 *i* *SP sP 17 49 21.8 -2.8
MA2 *i* S 17 55 43.1
MA2 *i* 17 55 53.6
MA2 *i* SS SS 18 01 45.9 -4.8
MA2 pmax pmax
comp=N,100nm,1.5s
MA2 pmax pmax
comp=E,60nm,1.5s
MA2 pmax pmax
comp=Z,400nm,1.5s,mb5.8
MA2 Magadan 84.78 345 *eP* **P 17 46 16.9 -1.1**
comp=Z,623nm,1.4s,mb6.0
MA2 *ep*P pP 17 48 24.6 -1.2
BMN Battle Mountai 84.87 43 *eP* **P 17 46 19.0 0.0**
BMN *e**PP pP 17 48 26.2 -0.6
BMN *e* 17 49 43.0
BMN pmax pmax
comp=Z,339nm,1.4s,mb5.8
BMN Battle Mountai 84.87 43 *eP* **P 17 46 19.0 0.0**
comp=Z,339nm,1.4s,mb5.8
BMN *ep*P pP 17 48 26.1 -0.7
BMN *e*PP PP 17 49 43.0 -4.2
SVW2 Sparrevohn 84.97 11 *eP* **P 17 46 17.9 -1.0**
TUC Tucson 84.99 52 P **P 17 46 20.8 +1.0**
TUC pP pP 17 48 26.7 -0.9
TUC SKSac 17 55 50.9
TUC ScS ScS 17 56 07.6 +2.4
TUC sS 17 59 48.2
TUC Tucson 84.99 52 *eP* **P 17 46 20.0 +0.3**
TUC *e**PP pP 17 48 26.7 -0.9
TUC pmax pmax
comp=Z,330nm,1.3s,mb5.8
TUC Tucson 84.99 52 *eP* **P 17 46 20.4 +0.7**
comp=Z,325nm,1.4s,mb5.8
TUC *ep*P pP 17 48 26.6 -1.0
KKTK Khon Kaen 85.00 290 ⇓P **P 17 46 22.1 +2.0**
comp=Z,6µm,1.0s
WVOR Wild Horse Val 85.14 40 *eP* **P 17 46 20.5 +0.3**
WVOR *e**PP pP 17 48 27.8 -0.4
WVOR *e* 17 49 44.3
WVOR pmax pmax
comp=Z,434nm,1.6s,mb5.8
WVOR Wild Horse Val 85.14 40 *eP* **P 17 46 20.5 +0.3**
comp=Z,434nm,1.6s,mb5.8
WVOR *ep*P pP 17 48 27.8 -0.4
WVOR *e*PP PP 17 49 44.2 -5.0
OOW Octopus West 85.28 34 P **P 17 46 22.1 +1.3**
SLKM Skilak Lake 85.53 14 *eP* **P 17 46 21.0 -0.6**
SLKM *e**PP pP 17 48 29.6 -0.1
ENH Enshi 85.66 305 *eP* **P 17 46 23.9 +0.9**
comp=Z,1µm,1.3s,mb6.4
ENH *ep*P pP 17 48 25.6 -5.5
ENH *e*PP PP 17 49 50.5 -3.1
SPU Mount Spurr 85.74 13 *eP* **P 17 46 21.1 -1.6**
SPU *ep*P pP 17 48 29.9 -0.9
SFJM Santa Fe 85.76 66⇑ *iP* **P 17 46 24.0 +0.3**
BJIT Baijiatuau 85.90 316 *eP* **P 17 46 24.3 +0.4**
BJT *e**PP PP 17 49 51.5 -3.7
BJT pmax pmax
comp=Z,1µm,1.7s
BJT Baijiatuau 85.90 316 *eP* **P 17 46 24.3 +0.4**
comp=Z,1µm,1.7s,mb6.2
BJT *ep*P PP 17 49 51.5 -3.8
ARUT Antelope Range 85.90 47 *eP* **P 17 46 24.2 +0.2**
ARUT *ep*P pP 17 48 34.3 +2.2
BJI Beijing 85.90 316 P **P 17 46 24.8 +0.8**
BJI AP pP 17 48 31.9 -0.2
BJI XP sP 17 49 31.5 +0.6
BJI AMB AMB
comp=Z,384nm,1.9s,mb5.7
BJI Beijing 85.90 316 P **P 17 46 24.8 +0.8**
BJI *PP pP 17 48 31.9 -0.2
BJI 17 49 48.7
BJI S 17 55 52.3
BJI pmax pmax
comp=Z,384nm,1.9s,mb5.7
ZIIG Zihuatanejo 85.91 69⇑ *iP* **P 17 46 24.8 +0.4**
COYC Coyhaique 86.07 138⇑ *iP* **P 17 46 26.2 +1.6**
GYA Guiyang 86.11 300⇓ *iP* **P 17 46 26.1 +0.8**
GYA XP sP 17 49 32.4 +0.2
GYA PP PP 17 49 56.5 -0.9
GYA AMB AMB
comp=Z,310nm,1.5s,mb5.7
GYA AMB AMB
comp=Z,3µm,6.5s
FIB Fire Island 86.13 14 *eP* **P 17 46 23.9 -0.6**
FIB *ep*P pP 17 48 33.0 +0.3
WUAZ Wupatki 86.16 49 *eP* **P 17 46 25.8 +0.5**
comp=Z,494nm,1.6s,mb5.9
WUAZ *ep*P pP 17 48 34.8 +1.3
WUAZ *e*PP PP 17 49 50.1 -7.5
NNT Nongplab 86.23 285 P **P 17 46 28.8 +2.7**
PGC Sidney 86.24 33 *eP* **P 17 46 25.5 +0.2**
comp=Z,492nm,1.3s,mb6.0
PGC *ep*P pP 17 48 35.0 +1.4
ELK Elko 86.30 43 *eP* **P 17 46 26.0 +0.2**
ELK *e**PP pP 17 48 33.0 -1.1
ELK pmax pmax
comp=Z,378nm,1.8s
ELK Elko 86.30 43 *eP* **P 17 46 26.0 +0.1**
comp=Z,378nm,1.8s,mb5.7
ELK *ep*P pP 17 48 33.0 -1.1
ELK *e*PP PP 17 49 49.4 -9.3
TTW Tolt Reservoir 86.56 35 P **P 17 46 27.1 +0.3**
SNAA Sanae 86.62 179 P **P 17 46 26.5 -0.1**
comp=Z,6.7nm,0.4s,baz=199,slow=4.5,SNR=54
SNAA pP pP 17 48 36.3 +1.3
comp=Z,20nm,1.1s,baz=205,slow=5.9,SNR=6.3
SNAA Sanae 86.62 179 *eP* **P 17 46 26.3 -0.4**
comp=Z,60nm,1.0s,mb5.3
SNAA *ep*P pP 17 48 35.8 +0.8
EYAK Cordova Ski Ar 86.64 16 *eP* **P 17 46 25.9 -1.1**
EYAK *ep*P pP 17 48 34.4 -1.0
CAIG El Cayaco 86.73 70⇑ *iP* **P 17 46 28.5 +0.2**
VNA3 Neumayer Olymp 86.81 177⇑ *iP* **P 17 46 28.8 +1.3**
VNA3 Neumayer Olymp 86.81 177⇑ *i* **P 17 46 29.7 +2.2**
TBM Table Mountain 86.83 36 P **P 17 46 28.7 +0.6**
HAWA Hanford 86.95 37 *eP* **P 17 46 29.1 +0.4**
comp=Z,30nm,1.3s,mb4.9
HAWA *ep*P pP 17 48 39.0 +1.8
MOIG Morelia 87.00 68⇑ *iP* **P 17 46 29.5 -0.1**
NST Nakhon Sawan 87.09 288⇑P **P 17 46 32.2 +2.1**
comp=Z,408nm,1.6s,mb5.9
MVU Marysvale 87.10 46 *eP* **P 17 46 30.5 +0.9**
comp=Z,256nm,1.6s,mb5.7
MVU *ep*P pP 17 48 40.2 +2.0
MVU *e*PP PP 17 50 02.1 -3.7
SML Sawmill 87.11 14 *eP* **P 17 46 28.1 -1.0**
SML *e**PP pP 17 48 37.4 -0.2
MSU Marysvale 87.13 46 *eP* **P 17 46 30.6 +0.8**
MSU *ep*P pP 17 48 40.8 +2.5
MSU *e*PP PP 17 49 54.5 -12
DIV Divide 87.14 16 *eP* **P 17 46 28.8 -0.5**
comp=Z,593nm,1.5s,mb6.1
DIV *ep*P pP 17 48 37.3 -0.5

TIY **Taiyuan** **87.17 313** ⇓P **P** **17 46 35.0 +5.0**
TIY LR LR
comp=N,2µm,17.0s
MAIT **Maitri** **87.21 184** *e*P **P** **17 46 29.7 +0.3**
NVL **N'lazarevskaya** **87.21 184** ⇓*i*P **P** **17 46 28.9 -0.5**
NVL *i* S 17 56 03.1
NVL pmax pmax
comp=Z,219nm,0.7s,mb6.0
VNA2 **Neumayer--Watz** **87.24 177** ⇑*i*P **P** **17 46 31.0 +1.5**
VNA2 **Neumayer--Watz** **87.24 177** ⇑*i* **P** **17 46 32.3 +2.8**
BMO **Blue Mountains** **87.33 39** *e*P **P** **17 46 30.4 -0.2**
comp=Z,264nm,1.5s,mb5.8
BMO *e*pP pP 17 48 38.8 -0.3
BMO *e*PP PP 17 50 04.1 -3.3
SEY **Seymchan** **87.44 348** *e*P **P** **17 46 33.8 +3.2**
SEY *e* 17 49 38.5
SEY *e*PPP PPP 17 52 06.6 -3.6
SEY *e* 17 56 00.7
SEY *e*S S 17 56 26.5 +5.4
SEY *e*SP SP 17 57 29.3 -2.6
SEY *e*SS SS 18 02 32.7 +3.9
SEY pmax pmax
comp=Z,100nm,0.9s,mb5.5
SEY pmax pmax
comp=N,90nm,1.1s
SEY pmax pmax
comp=E,80nm,1.0s
SEY smax
comp=N,14µm,21.9s
SEY smax
comp=E,10µm,26.5s
VNA1 **Neumayer--Stat** **87.47 177** ⇑*i*P **P** **17 46 32.3 +1.7**
VNA1 **Neumayer--Stat** **87.47 177** ⇑*i* **P** **17 46 34.5 +3.9**
EPH **Ephrata** **87.48 36** P **P** **17 46 31.4 +0.3**
DUG **Dugway** **87.58 45** *e*P **P** **17 46 31.6 -0.2**
DUG *e**PP pP 17 48 41.1 +0.6
DUG *e* 17 50 06.0
DUG pmax pmax
comp=Z,265nm,1.8s,mb5.7
DUG **Dugway** **87.58 45** *e*P **P** **17 46 31.6 -0.2**
comp=Z,265nm,1.8s,mb5.7
DUG *e*pP pP 17 48 41.1 +0.6
DUG *e*PP PP 17 50 06.0 -3.5
TNA **Tin City** **87.66 5** *e*P **P** **17 46 31.0 -0.6**
comp=Z,134nm,1.5s,mb5.5
TNA *e*pP pP 17 48 39.7 -0.6
TNA *e*PP PP 17 50 05.7 -3.9
NANT **Nan** **87.85 291** ⇓P **P** **17 46 36.0 +2.4**
comp=Z,2µm,0.6s,mb6.9
XAN **Xi'an** **87.86 308** P **P** **17 46 34.5 +1.2**
XAN AP pP 17 48 38.3 -3.8
XAN XP sP 17 49 38.4 -2.4
XAN AMB AMB
comp=Z,310nm,1.5s,mb5.8
PLIG **Platanillo** **87.94 69** ⇑*i*P **P** **17 46 34.6 +0.6**
NLU **North Lily Min** **87.94 45** *e*P **P** **17 46 33.7 +0.2**
NLU *e*pP pP 17 48 43.8 +1.5
NLU *e*PP PP 17 50 08.8 -3.5
TMUT **Trail Mountain** **88.18 46** *e*P **P** **17 46 35.7 +1.0**
TMUT *e*pP pP 17 48 45.1 +1.6
NOQ **North Oquirrh** **88.27 45** *e*P **P** **17 46 35.1 +0.1**
NOQ *e*pP pP 17 48 45.1 +1.2
NOQ *e*PP PP 17 50 09.5 -5.5
HLID **Hailey** **88.34 41** *e*P **P** **17 46 35.8 +0.5**
comp=Z,208nm,1.3s,mb5.7
HLID *e*pP pP 17 48 46.1 +1.9
HLID *e*PP PP 17 50 10.8 -4.7
PNIG **Pinotepa** **88.34 72** ⇑*i*P **P** **17 46 35.7 -0.3**
SPUT **South Promonto** **88.39 44** *e*P **P** **17 46 35.9 +0.3**
SPUT *e*pP pP 17 48 45.6 +1.1
SPUT *e*PP PP 17 50 09.5 -6.4
HVU **Hansel Valley** **88.42 43** *e*P **P** **17 46 35.8 0.0**
HVU *e**PP pP 17 48 45.8 +1.1
HVU *e* 17 50 11.9
YAIG **Yautepec** **88.50 69** ⇑*i*P **P** **17 46 37.3 +0.7**
CTU **Camp Tracy** **88.53 45** *e*P **P** **17 46 36.1 -0.2**
CTU *e*pP pP 17 48 46.9 +1.7
SRU **San Rafael** **88.55 47** *e*P **P** **17 46 36.3 -0.1**
SRU *e* 17 50 10.2
SRU **San Rafael** **88.55 47** *e*P **P** **17 46 36.3 -0.1**
SRU *e*pP pP 17 48 46.9 +1.6
SRU *e*PP PP 17 50 10.2 -6.9
LAZ **Ladron** **88.67 52** *e*P **P** **17 46 37.2 +0.2**
LAZ *e*pP pP 17 48 47.5 +1.4
MCK **McKinley** **88.68 13** *e*P **P** **17 46 35.3 -1.1**
MCK pmax pmax
comp=Z,29nm,1.4s,mb4.9
MCK **McKinley** **88.68 13** *e*P **P** **17 46 35.3 -1.1**
comp=Z,29nm,1.4s,mb4.9
MCK *e*pP pP 17 48 45.4 0.0
JLU **Jordanelle** **88.68 45** *e*P **P** **17 46 37.2 +0.2**
JLU *e*pP pP 17 48 46.7 +0.7
JLU *e*PP PP 17 50 11.8 -6.3
LENM **Lemitar** **88.68 52** *e*P **P** **17 46 37.6 +0.4**
LENM *e*pP pP 17 48 48.0 +1.9
DAU **Daniels Canyon** **88.71 45** *e*P **P** **17 46 37.3 +0.2**
DAU *e**PP pP 17 48 46.0 -0.1
DAU *e* 17 50 13.9
BDT **Bhumibol Dam** **88.71 289** P **P** **17 46 40.0 +2.4**
comp=Z,104nm,0.9s,mb5.7
KMI **Kunming** **88.72 298** P **P** **17 46 39.4 +1.8**
KMI SKS SKS 17 56 12.3 +2.3
KMI S S 17 56 29.9 -3.6
KMI AMB AMB
comp=Z,353nm,1.6s,mb5.9
KMI AMB AMB
comp=Z,2µm,5.3s
KMI **Kunming** **88.72 298** P **P** **17 46 39.4 +1.8**
KMI *PP pP 17 48 41.0 -5.6
KMI 17 50 14.3
KMI PPP PPP 17 52 15.5 -7.0
KMI 17 56 12.2
KMI S S 17 56 29.9 -3.6
KMI pmax pmax
comp=Z,353nm,1.6s,mb5.9
KMI **Kunming** **88.72 298** P **P** **17 46 39.4 +1.8**
comp=Z,353nm,1.6s,mb5.9
KMI pP pP 17 48 41.0 -5.6
KMI sP sP 17 49 35.7 -10
KMI PP PP 17 50 14.3 -4.6
KMI PPP PPP 17 52 15.5 -7.0
KMI SKS SKS 17 56 12.2 +2.2
KMI S S 17 56 29.9 -3.6
KMI PS tx 17 58 52.0
KMI sS 18 00 04.1
KMI SS SS 18 02 31.9 -16
KMI SSS SSS 18 06 09.1 -20
MNTX **Cornudas Mount** **88.75 55** *e*P **P** **17 46 37.4 -0.1**
comp=Z,532nm,1.5s,mb6.2
MNTX *e*pP pP 17 48 46.9 +0.3
MNTX *e*PP PP 17 50 15.2 -3.8
PPM **Popocatepetl** **88.96 69** ⇑*i*P **P** **17 46 40.0 +1.2**
TCUT **Toone Canyon** **88.97 45** *e*P **P** **17 46 38.8 +0.5**
TCUT *e*pP pP 17 48 48.7 +1.3
TCUT *e*PP PP 17 50 17.2 -3.3
LPM **Los Pinos Moun** **89.00 52** *e*P **P** **17 46 38.9 +0.3**
LPM *e*pP pP 17 48 48.4 +0.7
HIA **Hailar** **89.03 325** *e*P **P** **17 46 38.0 -0.4**
HIA *e**PP pP 17 48 46.6 -0.9
HIA *e* 17 50 15.5
HIA pmax pmax
comp=Z,250nm,1.4s
HIA **Hailar** **89.03 325** *e*P **P** **17 46 38.0 -0.4**
comp=Z,250nm,1.4s,mb5.8
HIA *e*pP pP 17 48 46.6 -0.9
HIA *e*PP PP 17 50 15.6 -5.3
LTX **Lajitas** **89.03 58** *e*P **P** **17 46 39.6 +0.7**
LTX *e**PP pP 17 48 48.1 +0.1
LTX *e* 17 50 17.9
LTX pmax pmax
comp=Z,503nm,1.4s,mb6.2
LTX **Lajitas** **89.03 58** *e*P **P** **17 46 39.6 +0.7**
comp=Z,503nm,1.4s,mb6.2
LTX *e*pP pP 17 48 48.1 +0.1
LTX *e*PP PP 17 50 17.9 -3.3
TXAR **Lajitas Array** **89.03 58** P **P** **17 46 40.0 +1.1**
comp=Z,107nm,1.0s,mb5.6,baz=225,slow=5.3,SNR=450
TXAR pP pP 17 48 48.7 +0.6
comp=Z,31nm,1.0s,baz=217,slow=6.3,SNR=8.5
TXAR S 17 56 11.4
comp=Z,1.9nm,1.1s,baz=191,slow=6.4,SNR=7.1
TXAR PKKPbc 18 04 13.8
comp=Z,4.3nm,0.6s,baz=93,slow=2.3,SNR=23
TXAR PKPPKP 18 12 24.0
comp=Z,0.5nm,0.7s,baz=117,slow=4.3,SNR=4.7
PAYG **Puerto Ayora** **89.06 90** *e*P **P** **17 46 40.4 +1.0**
comp=Z,1µm,2.3s,mb6.3
CHRT **Chiangrai** **89.07 292** ⇓P **P** **17 46 41.0 +1.7**
comp=Z,2µm,1.2s,mb6.9
THY **Trims Highway** **89.11 14** *e*P **P** **17 46 37.8 -0.6**
THY *e*pP pP 17 48 48.2 +0.6
HWUT **Hardware Ranch** **89.11 44** *e*P **P** **17 46 38.6 -0.4**
comp=Z,346nm,1.5s,mb6.0
HWUT *e*pP pP 17 48 48.5 +0.4
HWUT *e*PP PP 17 50 18.6 -3.0
CM31 **Chiang Mai Arr** **89.24 290** *e*P **P** **17 46 41.9 +1.8**
comp=Z,644nm,1.1s,mb6.4
CM31 *e*pP pP 17 48 47.6 -1.6
CM31 *e*PP PP 17 50 22.7 -0.4
HHC **Hu-ho-hao-te** **89.33 315** *e*P **P** **17 46 41.1 +1.1**
HHC AP pP 17 48 47.1 -2.1
HHC XP sP 17 49 46.5 -1.4
HHC PP PP 17 50 19.8 -3.5
HHC SKS SKS 17 56 14.5 +1.3
HHC S S 17 56 43.1 +4.6
HHC AMB AMB
comp=Z,297nm,1.7s,mb5.8
HHC AMB AMB
comp=Z,3µm,4.2s
PLCA **Paso Flores** **89.33 134** P **P** **17 46 41.1 +1.0**
PLCA pP pP 17 48 49.1 -0.1
PLCA **Paso Flores** **89.33 134** P **P** **17 46 41.1 +1.1**
comp=Z,78nm,0.9s,mb5.5,baz=240,slow=4.1,SNR=104
PLCA pP pP 17 48 49.2 0.0
comp=Z,17nm,1.1s,baz=239,slow=6.7,SNR=6.6
PLCA PKKPbc 18 04 12.4
comp=Z,1.0nm,0.4s,baz=27,slow=4.1,SNR=8.4
PLCA SKKPbc 18 06 59.6
comp=Z,2.6nm,1.0s,baz=31,slow=6.4,SNR=2.9
PLCA **Paso Flores** **89.33 134** *e*P **P** **17 46 41.2 +1.2**
comp=Z,227nm,1.2s,mb5.9
PLCA *e*pP pP 17 48 48.5 -0.7
NEW **Newport** **89.37 36** *e*P **P** **17 46 39.3 -0.7**
NEW pmax pmax
comp=Z,94nm,1.5s
NEW **Newport** **89.37 36** P **P** **17 46 39.9 -0.1**
comp=Z,9.3nm,0.7s,baz=230,slow=3.1,SNR=18
NEW pP pP 17 48 50.5 +1.2
comp=Z,21nm,1.1s,baz=238,slow=5.1,SNR=6.7
NEW **Newport** **89.37 36** *e*P **P** **17 46 39.3 -0.8**
comp=Z,94nm,1.5s,mb5.4
NEW *e*pP pP 17 48 50.5 +1.3
CHTO **Chiang Mai** **89.38 290** P **P** **17 46 42.4 +1.7**
CHTO pP pP 17 48 46.7 -3.2
CHTO PP PP 17 50 25.3 +1.1
CHTO SKSac 17 56 16.4
CHTO ScS ScS 17 56 46.4 +4.7
ANMO **Albuquerque** **89.42 52** *e*P **P** **17 46 40.5 -0.1**
ANMO *e**PP pP 17 48 50.6 +0.8
ANMO *e* 17 50 20.0
ANMO pmax pmax
comp=Z,264nm,1.4s
ANMO **Albuquerque** **89.42 52** P **P** **17 46 40.8 +0.2**
comp=Z,87nm,1.1s,mb5.5,baz=230,slow=4.6,SNR=140
ANMO pP pP 17 48 51.0 +1.2
comp=Z,50nm,1.1s,baz=229,slow=5.1,SNR=12
ANMO S S 17 56 15.0 -24
comp=Z,0.9nm,0.4s,baz=59,slow=23,SNR=8.7
ANMO **Albuquerque** **89.42 52** *e*P **P** **17 46 40.5 -0.1**
comp=Z,264nm,1.4s,mb5.9
ANMO *e*pP pP 17 48 50.6 +0.9
ANMO *e*PP PP 17 50 20.0 -4.1
GDL2 **Guadalupe Moun** **89.75 55** *e*P **P** **17 46 42.5 +0.4**
GDL2 *e*pP pP 17 48 52.6 +1.2
GDL2 *e*PP PP 17 50 19.4 -7.4
VHO **Vista Hermosa** **89.84 72** ⇑*i*P **P** **17 46 44.4 +1.5**
OXX **Oaxaca** **89.85 72** ⇑*i*P **P** **17 46 44.0 +1.1**
HUIG **Huatulco** **89.89 73** ⇑*i*P **P** **17 46 43.2 +0.1**
IMA **Indian Mountai** **89.89 10** *e*P **P** **17 46 41.8 -0.2**
IMA *e**PP pP 17 48 51.9 +0.6
IMA *e* 17 50 26.2
IMA pmax pmax
comp=Z,532nm,1.4s,mb6.2
IMA **Indian Mountai** **89.89 10** *e*P **P** **17 46 41.8 -0.2**
comp=Z,532nm,1.4s,mb6.2
IMA *e*pP pP 17 48 51.9 +0.6
IMA *e*PP PP 17 50 26.2 -1.0
COLA **College** **89.91 13** *e*P **P** **17 46 40.5 -1.6**
COLA *e**PP pP 17 48 50.7 -0.7
COLA pmax pmax
comp=Z,166nm,1.3s,mb5.7
COLA **College** **89.91 13** *e*P **P** **17 46 40.5 -1.6**
comp=Z,166nm,1.3s,mb5.7
COLA *e*pP pP 17 48 50.7 -0.8
MCMT **McKenzie Canyo** **89.97 41** *e*P **P** **17 46 43.2 +0.4**
MCMT *e*pP pP 17 48 53.5 +1.3
MCMT *e*PP PP 17 50 24.6 -3.7
AHID **Auburn Hatcher** **90.00 43** *e*P **P** **17 46 43.2 +0.2**
comp=Z,231nm,1.2s,mb5.9
AHID *e*pP pP 17 48 53.8 +1.4
AHID *e*PP PP 17 50 24.5 -4.0
CLNB **Carlsbad** **90.14 55** *e*P **P** **17 46 44.0 0.0**
CLNB *e*pP pP 17 48 54.0 +0.6
CLNB *e*PP PP 17 50 21.4 -8.5
CLNB *e*PKPdf 17 51 44.8
RRI2 **Red Ridge** **90.15 43** *e*P **P** **17 46 44.1 +0.4**
RRI2 *e*pP pP 17 48 52.1 -1.0
RRI2 *e*PP PP 17 50 24.7 -5.1
CCHI **Chillan** **90.22 130** *i*P **P** **17 46 44.9 +0.6**
BTO **Baotou** **90.23 314** *e*P **P** **17 46 45.3 +1.2**
BTO AMB AMB
comp=Z,220nm,1.6s,mb5.7
BILL **Bilibino** **90.31 355** *i*P **P** **17 46 43.8 -0.1**
BILL pmax pmax
comp=Z,238nm,1.4s,mb5.8
BILL **Bilibino** **90.31 355** *i*P **P** **17 46 43.9 0.0**
CD2 **Chengdu** **90.35 303** P **P** **17 46 47.0 +2.0**
CD2 AP pP 17 48 49.9 -4.5
CD2 S S 17 56 54.5 +6.7
CD2 AMB AMB
comp=Z,290nm,0.6s,mb6.3
MSO **Missoula** **90.38 39** *e*P **P** **17 46 43.7 -1.0**
comp=Z,49nm,1.6s,mb5.1
MSO *e*pP pP 17 48 55.0 +0.9
TPAW **Teton Pass** **90.46 43** *e*P **P** **17 46 45.4 +0.3**
TPAW *e*pP pP 17 48 52.8 -1.8
TPAW *e*PP PP 17 50 27.4 -4.7
CPRX **Cap Rock** **90.48 54** *e*P **P** **17 46 45.1 -0.4**
CPRX *e*pP pP 17 48 55.7 +0.7
CPRX *e*PP PP 17 50 23.7 -8.9
CPRX *e* 17 50 36.8
CPRX *e* 17 50 44.3
SNOW **Snow King Moun** **90.57 43** *e*P **P** **17 46 46.1 +0.4**
SNOW *e*pP pP 17 48 54.7 -0.4
SNOW *e*PKPdf 17 51 32.0
WUWY **Wally Ulrich** **90.61 43** *e*P **P** **17 46 46.0 +0.2**
WUWY *e*pP pP 17 48 53.6 -1.7
WUWY *e*PP PP 17 50 29.8 -3.5
EFI **East Falkland** **90.65 148** P **P** **17 46 46.5 +0.7**
comp=Z,1µm,1.3s,mb6.6,SNR=13
IMW **Indian Meadow** **90.67 42** *e*P **P** **17 46 46.6 +0.5**
IMW *e*pP pP 17 48 54.7 -0.9
IMW *e*PP PP 17 50 29.7 -4.0
IMW *e*PKPdf 17 51 37.4
MOOW **Moose Ponds** **90.72 43** *e*P **P** **17 46 46.5 +0.2**
MOOW *e*pP pP 17 48 56.8 +1.0
MOOW *e*PP PP 17 50 29.8 -4.3
LOHW **Long Hollow** **90.74 43** *e*P **P** **17 46 46.7 +0.3**
comp=Z,204nm,1.5s,mb5.8
LOHW *e*pP pP 17 48 57.1 +1.2
LOHW *e*PP PP 17 50 29.6 -4.7
LOHW *e* 17 50 37.0
LOHW *e* 17 50 45.7
CHMT **Chamberlain Mo** **90.82 39** *e*P **P** **17 46 46.0 -0.8**
CHMT *e*pP pP 17 48 57.7 +1.5
QLMT **Earthquake Lak** **90.84 41** *e*P **P** **17 46 47.7 +0.9**
QLMT *e*pP pP 17 48 56.8 +0.5
QLMT *e*PP PP 17 50 32.6 -2.5
BW06 **Boulder Array** **90.98 44** *e*P **P** **17 46 47.0 -0.5**
comp=Z,130nm,1.3s,mb5.7
BW06 *e*pP pP 17 48 58.1 +1.0
BW06 *e*PP PP 17 50 30.4 -5.9
PDAR **Pinedale Array** **90.98 44** P **P** **17 46 47.2 -0.3**
comp=Z,27nm,0.8s,mb5.2,baz=207,slow=3.3,SNR=198
PDAR pP pP 17 48 57.3 +0.2
comp=Z,7.9nm,1.1s,baz=168,slow=5.6,SNR=3.0
PDAR PP PP 17 50 32.5 -3.8
comp=Z,12nm,1.1s,baz=225,slow=6.3,SNR=5.9
PDAR PKKPbc 18 04 09.0
comp=Z,2.4nm,0.7s,baz=73,slow=5.0,SNR=13
PDAR SKKPbc 18 06 51.0
comp=Z,0.7nm,0.8s,baz=90,slow=5.9,SNR=3.5
PDAR PKPPKP 18 12 15.9
comp=Z,1.0nm,0.7s,baz=98,slow=3.5,SNR=7.5
YFT **Old Faithful** **91.01 42** *e*P **P** **17 46 49.0 +1.3**
YFT *e*pP pP 17 48 59.3 +2.1
YFT *e*PP PP 17 50 34.3 -2.1
YFT *e* 17 50 43.7
YMR **Madison River** **91.04 42** *e*P **P** **17 46 48.6 +0.8**
YMR *e*pP pP 17 48 58.4 +1.0
YMR *e*PP PP 17 50 33.9 -2.8
BOZ **Bozeman (W)** **91.13 41** *e*P **P** **17 46 48.0 -0.2**
BOZ *e**PP pP 17 48 57.5 -0.2
BOZ *e* 17 50 33.6
BOZ pmax pmax
comp=Z,73nm,1.2s,mb5.5
BOZ **Bozeman (W)** **91.13 41** *e*P **P** **17 46 48.0 -0.2**
comp=Z,73nm,1.2s,mb5.5
BOZ *e*pP pP 17 48 57.5 -0.3
BOZ *e*PP PP 17 50 33.6 -3.7
DAWY **Dawson** **91.22 16** *e*P **P** **17 46 47.9 -0.2**
DAWY *e*pP pP 17 48 57.3 -0.4
CLNS **Chul'man** **91.24 333** *e*P **P** **17 46 48.7 +0.3**
CLNS *e* pP 17 48 55.8 -2.1
CLNS pmax pmax
comp=Z,86nm,1.2s,mb5.6
CLNS pmax pmax
comp=N,45nm,1.3s
CLNS pmax pmax
comp=E,25nm,1.2s
CLNS pmax pmax
comp=Z,82nm,1.4s,mb5.5
CLNS pmax pmax
comp=N,46nm,1.5s
CLNS pmax pmax
comp=E,43nm,1.2s
YNR **Norris Junctio** **91.24 42** *e*P **P** **17 46 50.1 +1.5**
YNR *e*pP pP 17 49 01.7 +3.5
YNR *e*PP PP 17 50 34.2 -4.0
LKWY **Lake** **91.34 42** *e*P **P** **17 46 50.1 +1.0**
LKWY *e* 17 50 36.3
LKWY pmax pmax
comp=Z,87nm,1.3s,mb5.5
LKWY **Lake** **91.34 42** *e*P **P** **17 46 50.1 +0.9**
comp=Z,87nm,1.3s,mb5.5
LKWY *e*pP pP 17 49 02.3 +3.6
LKWY *e*PP PP 17 50 36.3 -2.6
SDCO **Great Sand Dun** **91.37 50** *e*P **P** **17 46 49.1 -0.3**
comp=Z,57nm,1.6s,mb5.2
SDCO *e*pP pP 17 48 55.8 -3.2
SDCO *e*PP PP 17 50 32.2 -7.2
HRY **Holter Researc** **91.55 40** *e*P **P** **17 46 50.0 0.0**
HRY *e*pP pP 17 49 01.7 +2.1
WALA **Waterton Lakes** **91.58 37** *e*P **P** **17 46 49.8 -0.4**
comp=Z,29nm,1.0s,mb5.3
WALA *e*pP pP 17 48 59.9 +0.2
WALA *e*PP PP 17 50 37.1 -3.7
ISCO **Idaho Springs** **92.22 48** *e*P **P** **17 46 53.3 +0.1**
ISCO *e**PP pP 17 49 00.8 -2.1
ISCO *e* 17 50 41.4
ISCO pmax pmax
comp=Z,114nm,1.6s,mb5.7
ISCO **Idaho Springs** **92.22 48** *e*P **P** **17 46 53.3 0.0**
comp=Z,114nm,1.6s,mb5.7
ISCO *e*pP pP 17 49 00.8 -2.1
ISCO *e*PP PP 17 50 41.4 -4.6
GCMT **Greycliff** **92.39 41** *e*P **P** **17 46 54.7 +0.9**
GCMT *e*pP pP 17 49 03.0 -0.6
LZH **Lanzhou** **92.50 308** ⇓*i*P **P** **17 46 55.8 +1.2**
LZH AP pP 17 49 04.5 +0.1
LZH PP PP 17 50 49.8 +1.6
LZH SKS SKS 17 56 31.0 -0.3
LZH S S 17 57 08.5 +2.3
LZH XS 18 01 00.5
LZH SS SS 18 03 41.9 +1.1
LZH AMB AMB
comp=Z,406nm,1.4s,mb6.3
LZH AMB AMB
comp=Z,1µm,6.4s
LZH **Lanzhou** **92.50 308** ⇓*i*P **P** **17 46 55.7 +1.1**
comp=Z,406nm,1.4s,mb6.3
LZH pP pP 17 49 04.5 +0.1
LZH sP sP 17 50 10.6 +7.7
LZH PP PP 17 50 49.8 +1.6
LZH SKS SKS 17 56 31.0 -0.3
LZH S S 17 57 08.5 +2.3
LZH sS 18 01 00.5
LZH SS SS 18 03 41.9 +1.1
JCT **Junction City** **92.56 58** *e*P **P** **17 46 54.3 -0.7**
JCT *e* 17 50 45.7
JCT pmax pmax
comp=Z,333nm,1.8s,mb6.1
JCT **Junction City** **92.56 58** *e*P **P** **17 46 54.3 -0.7**
comp=Z,333nm,1.8s,mb6.1
JCT *e*pP pP 17 49 07.0 +2.3
JCT *e*PP PP 17 50 45.7 -3.1
YAK **Yakutsk** **92.90 339** *d*P **P** **17 46 54.0 -1.8**
YAK *i* *PP pP 17 49 00.7 -4.9
YAK *e* 17 50 49.9
YAK *i* S 17 56 28.4
YAK *i* 17 57 09.8
YAK *i* SS SS 18 03 38.4 -7.7
YAK pmax pmax
comp=Z,94nm,1.0s,mb5.8
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,22nm,1.1s
YAK pmax pmax
comp=Z,24nm,1.1s,mb5.1
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,17nm,1.2s
YAK smax
comp=N,55nm,1.1s
YAK **Yakutsk** **92.90 339** *e*P **P** **17 46 54.7 -1.1**
comp=N,312nm,1.2s,mb6.2
YAK *e*pP pP 17 49 03.8 -1.9
AMTX **Amarillo** **92.92 54** *e*P **P** **17 46 56.0 -0.6**
comp=N,212nm,1.8s,mb5.9
AMTX *e*pP pP 17 49 06.5 +0.2
AMTX *e*PP PP 17 50 47.8 -3.7
PHWY **Pilot Hill** **93.00 47** *e*P **P** **17 46 56.5 -0.3**
PHWY *e*pP pP 17 49 07.7 +1.1
PHWY *e*PP PP 17 50 45.8 -6.2
FCH **Farellones** **93.06 128** ⇑*i*P **P** **17 46 58.0 +0.7**
CCIG **Comitan** **93.62 74** ⇑*i*P **P** **17 47 00.4 +0.3**
EDM **Edmonton** **94.09 33** *e*P **P** **17 47 00.8 -0.6**
WMOK **Wichita Mounta** **95.04 55** *e*P **P** **17 47 04.7 -1.4**
WMOK *e* 17 51 00.7
WMOK pmax pmax
comp=Z,23nm,1.4s,mb5.1
WMOK **Wichita Mounta** **95.04 55** *e*P **P** **17 47 04.7 -1.4**
comp=Z,23nm,1.4s,mb5.1
WMOK *e*PP PP 17 51 00.7 -6.5
CFAA **Coronel Fontan** **95.41 127** PKKPbc 18 03 56.9
comp=Z,0.3nm,0.4s,baz=77,slow=3.2,SNR=5.6
CFAA PKPPKP 18 12 09.6
comp=Z,0.1nm,0.4s,baz=74,slow=5.2,SNR=3.4
ULN **Ulaanbaatar** **95.50 320** ⇓*i*P **P** **17 47 07.6 -0.3**
SONM **Songino Array** **95.89 319** P **P** **17 47 09.4 -0.2**
comp=Z,15nm,1.1s,mb5.1,baz=117,slow=2.8,SNR=55
SONM pP pP 17 49 18.4 -1.2
comp=Z,7.4nm,1.0s,baz=131,slow=2.3,SNR=5.5
SONM sP sP 17 50 19.5 +1.8
comp=Z,18nm,1.3s,baz=124,slow=4.5,SNR=2.7
SONM PP PP 17 51 10.2 -3.2
comp=Z,28nm,1.2s,baz=117,slow=5.5,SNR=6.7
SONM S 17 56 48.8
comp=Z,6.3nm,1.0s,baz=166,slow=5.1,SNR=9.4
SONM PKKP PKKP 18 03 56.2 +61
comp=Z,4.6nm,0.6s,baz=278,slow=3.2,SNR=19
SONM PKKPab 18 04 31.8
comp=Z,4.5nm,0.9s,baz=270,slow=3.7,SNR=10
CBKS **Cedar Bluff** **95.93 51** *e*P **P** **17 47 09.6 -0.5**
CBKS pmax pmax
comp=Z,173nm,1.5s,mb6.1
CBKS **Cedar Bluff** **95.93 51** *e*P **P** **17 47 09.6 -0.5**

CBKS eP pP 17 49 21.3 +1.2
CBKS eP pP 17 51 06.8 -7.2
INK Inuvik 96.03 16 eP **P 17 47 08.6 -1.2**
INK pmax pmax
comp=Z,32nm,1.4s
INK Inuvik 96.03 16 eP **P 17 47 08.6 -1.1**
comp=Z,32nm,1.4s,mb5.4
BOD Bodaibo 96.61 330 eP **P 17 47 10.9 -1.7**
BOD pmax pmax
comp=Z,23nm,1.7s,mb5.1
BOD pmax pmax
comp=Z,67nm,1.9s,mb5.5
BOD pmax pmax
comp=Z,84nm,1.6s,mb5.7
GTA Gaotai 96.77 310 ⇓P **P 17 47 14.5 +0.7**
GTA AP pP 17 49 25.4 +1.6
GTA XP sP 17 50 23.8 +1.9
GTA PP PP 17 51 20.5 +0.1
GTA SKS SKS 17 56 52.3 -1.5
GTA S S 17 57 40.1 -2.1
GTA AMB AMB
comp=Z,74nm,1.6s,mb5.7
GTA AMB AMB
comp=Z,955nm,7.6s
NATX Nacogdoches 97.12 59 eP **P 17 47 16.2 +0.7**
comp=Z,46nm,1.0s,mb5.7
NATX eP pP 17 49 25.8 +0.1
NATX eP PP 17 51 19.5 -3.9
JTS JuntasAbangare 97.99 82 eP **P 17 47 19.9 0.0**
JTS e*PP pP 17 49 30.0 0.0
JTS e 17 51 27.8
JTS pmax pmax
comp=Z,68nm,1.4s
JTS JuntasAbangare 97.99 82 P **P 17 47 19.9 +0.1**
comp=Z,14nm,1.0s,mb5.2,baz=278,slow=1.6,SNR=12
JTS pP pP 17 49 31.0 +1.0
comp=Z,31nm,1.0s,baz=292,slow=3.2,SNR=9.5
JTS JuntasAbangare 97.99 82 eP **P 17 47 19.9 0.0**
comp=Z,68nm,1.4s,mb5.8
JTS eP pP 17 49 30.0 0.0
JTS eP PP 17 51 27.8 -2.8
KSU1 Kansas State U 98.30 51 eP **P 17 47 20.5 -0.2**
KSU1 eP pP 17 49 31.2 +0.4
KSU1 eP PP 17 51 25.5 -6.6
YKA Yellowknife Ar 98.41 25 P **P 17 47 20.2 -0.4**
YKA 17 51 28.9
YKA Yellowknife Ar 98.41 25 P **P 17 47 20.2 -0.4**
comp=Z,0.7nm,0.4s,baz=244,slow=4.5,SNR=22
YKA pP pP 17 49 32.2 +1.5
comp=Z,5.3nm,1.0s,baz=241,slow=4.2,SNR=6.6
YKA PP PP 17 51 28.9 -3.4
comp=Z,5.2nm,1.1s,baz=243,slow=7.5,SNR=4.6
YKA PKKPbc 18 03 41.2
comp=Z,0.8nm,0.6s,baz=35,slow=2.6,SNR=7.1
YKA PKKPab 18 04 18.9
comp=Z,1.3nm,0.7s,baz=52,slow=5.1,SNR=9.7
YKA SKKP 18 06 32.2
comp=Z,1.3nm,1.0s,baz=48,slow=4.9,SNR=4.5
YKA PKPPKP 18 12 04.5
comp=Z,0.3nm,0.6s,baz=58,slow=2.8,SNR=4.6
YKA Yellowknife Ar 98.41 25 P **P 17 47 20.2 -0.4**
YKA pP pP 17 49 32.2 +1.5
YKA PP PP 17 51 28.9 -3.4
YKA PKKPbc 18 03 41.2
YKA PKKPab 18 04 18.9
YKA SKKP 18 06 32.2
YKA P'P' 18 12 04.5
ZAK Zakamensk 98.82 321 eP **P 17 47 22.0 -0.7**
ZAK e 17 57 04.0
ZAK pmax pmax
comp=Z,14nm,1.5s,mb5.1
ZAK pmax pmax
comp=Z,13nm,1.9s,mb4.9
ZAK pmax pmax
comp=Z,39nm,1.6s,mb5.5
MIAR Mount Ida 98.96 56 eP **P 17 47 23.1 -0.7**
MIAR e*PP pP 17 49 32.9 -1.0
MIAR pmax pmax
comp=Z,108nm,2.1s,mb5.8
MIAR Mount Ida 98.96 56 eP **P 17 47 23.1 -0.7**
comp=Z,108nm,2.1s,mb5.8
MIAR epP pP 17 49 32.9 -1.0
IRK Irkutsk 99.00 323 eP **P 17 47 22.1 -1.4**
IRK e 17 49 24.5
IRK pmax pmax
comp=Z,36nm,2.1s,mb5.3
TLY Talaya 99.13 322 eP **P 17 47 23.7 -0.4**
TLY pmax pmax
comp=Z,28nm,1.4s,mb5.4
TLY Talaya 99.13 322 ePdif **P 17 47 23.7 -0.4**
comp=Z,28nm,1.4s,mb5.4
TLY epP pP 17 49 36.8 +2.5
TLY ePP PP 17 51 25.8 -12
LVC Limon Verde 99.23 119 P **P 17 47 27.2 +1.9**
comp=Z,2.6nm,0.4s,mb4.9,baz=215,slow=3.2,SNR=5.3
LVC PKKP PKKP 18 03 48.2 +59
comp=Z,5.0nm,0.5s,baz=355,slow=1.1,SNR=12
LVC PKKPab 18 04 17.6
comp=Z,8.9nm,1.0s,baz=58,slow=3.8,SNR=6.5
LVC Limon Verde 99.23 119 ePdif **P 17 47 26.7 +1.4**
comp=Z,99nm,1.8s,mb5.8
LVC ePP PP 17 51 37.8 -1.3
TIXI Tiksi 99.75 345 eP **P 17 47 24.0 -2.6**
TIXI e 17 57 04.3
TIXI e 17 58 05.5
TIXI eSP SP 17 59 39.7 -4.4
TIXI eSS SS 18 05 17.3 -2.7
TIXI pmax pmax
comp=Z,30nm,1.5s,mb5.4
TIXI Tiksi 99.75 345 *i* P **P 17 47 25.1 -1.5**
LSA Lhasa 99.98 298 P **P 17 47 29.0 +0.4**
LSA S S 17 58 08.3 -1.0
LSA Lhasa 99.98 298 ePdif **P 17 47 30.0 +1.4**
comp=Z,66nm,1.5s,mb5.7
LSA ePP PP 17 51 42.2 -2.5
MOY Mondy 100.64 321 eP P 17 47 30.1 -0.9
MOY pmax pmax
comp=Z,41nm,2.8s
ULM Lac du Bonnet 102.65 41 P Pdif 17 47 40.7 +0.9
comp=Z,1.2nm,0.5s,baz=217,slow=7.1,SNR=3.6
ULM PKIKP 17 51 57.9
comp=Z,39nm,1.3s,baz=276,slow=5.6,SNR=5.8
ULM PKKPbc 18 03 35.9
comp=Z,1.8nm,0.5s,baz=88,slow=5.0,SNR=3.4
ULM Lac du Bonnet 102.65 41 P Pdif 17 47 40.7 +0.9
LPAZ La Paz 102.83 114 P Pdif 17 47 44.2 +2.8
LPAZ pmax pmax
comp=Z,16nm,1.1s
LPAZ La Paz 102.83 114 P Pdif 17 47 42.9 +1.5
comp=Z,3.6nm,0.5s,baz=215,slow=4.1,SNR=19
LPAZ PP PP 17 52 01.9 -4.4
comp=Z,32nm,1.3s,baz=243,slow=7.3,SNR=10
LPAZ PKKPbc 18 03 37.6
comp=Z,2.9nm,0.5s,baz=0.1,slow=3.6,SNR=8.7
LPAZ La Paz 102.83 114 ePdif Pdif 17 47 44.2 +2.8
comp=Z,16nm,1.1s
LPAZ ePKPdf 17 51 55.2
LPAZ ePP PP 17 52 03.4 -2.9
JIRN Jiri 103.46 295 eP Pdif 17 47 44.0 +0.1
comp=Z,35nm,1.0s
PKI Pulchoki 104.09 294 eP Pdif 17 47 46.0 -0.7
comp=Z,18nm,0.6s
KKN Kakani 104.27 294 eP Pdif 17 47 47.7 +0.2
comp=Z,24nm,0.8s
DMN Daman 104.36 294 eP Pdif 17 47 47.3 -0.6
comp=Z,29nm,0.7s
GKN Gorkha 104.87 294 eP Pdif 17 47 50.1 -0.1
comp=Z,14nm,0.3s
SWET Sewanee 105.13 58 ePKPdf 17 52 12.4
TRD Trivandrum 105.60 273 e Pdif 17 47 51.2 -2.5
WCI Wyandotte Cave 105.68 55 ePKPdf 17 52 17.5
KOLN Koldanda 105.68 294 eP Pdif 17 47 53.3 -0.4
BLO Bloomington 105.76 54 ePKPdf 17 52 01.3
FCC Fort Churchill 106.17 33 ePKPdf 17 52 01.7
FCC ePP PP 17 52 24.0 -5.4
CPCT Cooper Cave 106.31 58 ePKPdf 17 52 25.8
GOGA Godfrey 106.60 60 ePKPdf 17 52 29.3
WMQ Urumqi 106.77 311 PDIF Pdif 17 47 58.5 +0.4
WMQ S 17 59 05.0
WMQ SS SS 18 06 56.0 +0.3
WMQ PP PP
comp=Z,616nm,5.6s
WMQ PP PP
comp=Z,532nm,10.4s
HYB Hyderabad 107.06 282 eP Pdif 17 48 01.0 +1.0
HYB e 17 52 19.0
HYB eSKS 17 58 42.0
HYB Hyderabad 107.06 282 *i* Pdiff Pdif 17 48 01.0 +1.0
HYB e 17 50 48.0
HYB ePP PP 17 52 32.0 -5.2
HYB eSKS SKS 17 57 42.0 -0.2
HYB e 17 58 36.0
HYB e 17 59 14.0
HYB ePS PS 18 02 10.0 +1.7
HYB e 18 04 44.0
TZTN Tazewell 107.35 57 ePKPdf 17 52 31.8
MNGI Mangalore 109.06 277 *i* 17 52 41.3
MNGI *i* 17 54 39.9
RES Resolute Bay 109.57 16 ePKPdf 17 52 08.4
RES ePP PP 17 52 57.7 +3.6
BHPL Bhopal 109.77 288 *e* AMb AMB 17 53 00.1
comp=Z,118nm,1.6s
BHPL e 17 54 45.5
BHPL e 17 57 49.1
AGRA Agra 110.37 292 *i* P PKPdf 17 52 10.9 +0.6
ZAL Zalesovo 110.70 321 Pdiff Pdif 17 48 14.8 -0.4
comp=Z,0.8nm,0.7s,baz=1.4,slow=6.6,SNR=5.8
ZAL pPdiff 17 50 28.2
comp=Z,1.8nm,1.0s,baz=342,slow=3.9,SNR=6.2
ZAL PKIKP 17 52 10.7
comp=Z,10.0nm,0.4s,baz=340,slow=2.6,SNR=28
ZAL PKKPbc 18 03 11.5
comp=Z,1.5nm,0.4s,baz=242,slow=0.6,SNR=5.3
ZAL PKKPab 18 03 24.4
comp=Z,1.5nm,0.4s,baz=216,slow=5.0,SNR=5.0
ZAL SKKPbc 18 05 57.6
comp=Z,1.5nm,0.7s,baz=208,slow=6.4,SNR=4.3
ZAL Zalesovo 110.70 321 Pdif Pdif 17 48 14.8 -0.4
ZAL PKPdf PKPdf 17 52 10.7 +0.4
ZAL PKKPbc 18 03 11.5
ZAL PKKPab 18 03 24.4
ZAL SKKPbc 18 05 57.6
SDV Santo Domingo 110.75 89 PKKPab 18 03 26.5
comp=Z,5.1nm,0.5s,baz=12,slow=2.3,SNR=5.8
MKAR Makanchi Array 111.12 313 ePKIKP PKPdf 17 52 11.6 +0.3
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KLP Kalpa 111.15 297 *e* Pdif 17 48 16.5 -1.2
KLP eP 17 52 13.4
NDI New Delhi 111.35 293 eP PKPdf 17 52 12.0 -0.2
NDI e 17 57 54.0
SONA Sohna 111.36 293 *e* Pdif 17 48 16.4 -2.3
SONA *i* P 17 52 12.5
SONA *e* 17 52 53.8
AYAN Aya Nagar 111.38 293 eP PKPdf 17 52 13.5 +1.3
BHGR Bahadurgarh 111.59 293 eP PKPdf 17 52 13.6 +1.0
NVS Novosibirsk 111.74 322 *i* P Pdif 17 48 18.9 -0.8
SADO Sadowa 112.33 49 PKKPbc 18 03 07.3
comp=Z,5.5nm,0.6s,baz=165,slow=3.2,SNR=6.5
SADO PKKPab 18 03 17.7
comp=Z,12nm,0.8s,baz=123,slow=5.9,SNR=6.9
KHET Khetri 112.42 292 eP PKPdf 17 52 14.7 +0.4
KHET e 17 53 07.4
MVL Millersville 113.61 55 ePKPdf PKPdf 17 52 16.2 -0.2
MVL ePP PP 17 53 15.7 -7.9
MVL eSKP 17 54 56.7
KURK Kurchatov 114.06 317 *i* P Pdif 17 48 31.3 +1.3
KURK Kurchatov 114.06 317 *i* PKIKP PKPdf 17 52 16.9 0.0
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURK Kurchatov 114.06 317 ePKPdf PKPdf 17 52 16.9 -0.1
KSH Kashi 114.52 305 PKP PKPdf 17 52 21.1 +3.0
KSH PP PP 17 53 27.3 -2.6
KSH PKS PKS 17 55 56.4 +3.3
KSH SKKS 17 59 23.5
KSH PP PP
comp=Z,3μm,4.7s
ULHL Ulahol 114.71 308 P PKPdf 17 52 19.9 +1.5
SNR=7.7
TKM2 Tokmak 2 115.27 308 P Pdif 17 48 41.4 +5.8
SNR=5.1
TKM2 Tokmak 2 115.27 308 P PKPdf 17 52 20.2 +0.7
SNR=19
KZA Kyzart 115.42 307 P PKPdf 17 52 21.5 +1.7
SNR=9.3
PAL Palisades 115.60 54 ePKIKP PKPdf 17 52 20.1 -0.1
PAL e 17 53 31.6
KBK Karagaybulak 115.71 308 P PKPdf 17 52 21.6 +1.2
SNR=9.7
CHMS Chumysh 115.89 308 P PKPdf 17 52 21.3 +0.6
SNR=13
FRU Bishkek 115.97 308 ⇑ *i* PKIKP PKPdf 17 52 21.5 +0.6
FRU *i* 17 58 17.0
FRU *i* 18 02 26.0
FRU pmax pmax
comp=Z,92nm,1.8s
UCH Uchtor 115.98 307 P Pdif 17 48 45.0 +6.3
SNR=13
AAK Ala-Archa 116.04 308 ePKPdf PKPdf 17 52 20.9 -0.1
AAK ePP PP 17 53 32.2 -8.1
USP Ospenovka 116.11 309 P Pdif 17 48 44.8 +5.6
SNR=5.8
USP Ospenovka 116.11 309 P PKPdf 17 52 22.0 +0.9
SNR=15
JASL Jaisalmer 116.40 290 eP PKPdf 17 52 23.3 +1.2
EKS2 Erkin-Say 116.57 308 P Pdif 17 48 47.4 +6.1
SNR=7.6
EKS2 Erkin-Say 116.57 308 P PKPdf 17 52 23.7 +1.7
SNR=15
AML Almayashu 116.57 307 P Pdif 17 48 47.5 +6.2
SNR=11
SJG San Juan 117.73 80 PKP PKPdf 17 52 25.2 +0.4
comp=Z,14nm,0.4s,baz=321,slow=13
SJG SKP 17 55 05.0
comp=Z,39nm,0.8s,baz=3.5,slow=1.5,SNR=8.1
SJG PKKPbc 18 02 50.5
comp=Z,6.5nm,0.4s,baz=332,slow=18,SNR=3.8
SJG San Juan 117.73 80 ePKPdf PKPdf 17 52 24.1 -0.7
SJG ePP PP 17 53 46.8 -5.8
SJG eSKP 17 55 04.5
CHKZ Chkalovo 119.07 320 PKIKP PKPdf 17 52 26.5 -0.1
CHKZ pmax pmax
comp=Z,8.0nm,0.5s
CHKZ Chkalovo 119.07 320 ePKPdf PKPdf 17 52 26.1 -0.5
CHKZ ePP PP 17 53 46.1 -15
CAM4 Nova Friburgo 119.21 134 eP PKPdf 17 52 28.8 +1.1
CAM4 *i* 17 52 30.0
CAM4 *i* 17 53 59.8
BVA0 Borovoye Array 119.23 319 *i* PKIKP PKPdf 17 52 26.9 0.0
BVA0 pmax pmax
comp=Z,4.0nm,0.4s
BVAR Borovoye Array 119.23 319 PKKPbc 18 02 43.9
comp=Z,2.8nm,0.5s,baz=257,slow=3.6,SNR=21
BVAR SKKPbc 18 05 32.5
comp=Z,0.7nm,0.8s,baz=312,slow=3.3,SNR=3.7
BDFB Brasilia 119.58 124 PKP PKPdf 17 52 29.4 +0.9
comp=Z,9.8nm,0.4s,baz=226,slow=1.3,SNR=19
BDFB pPKP 17 54 47.4
comp=Z,5.5nm,0.7s,baz=182,slow=7.4,SNR=2.5
BDFB SKP 17 55 09.2
comp=Z,8.4nm,0.7s,baz=254,slow=3.3,SNR=5.2
BDFB PKKPbc 18 02 43.8
comp=Z,13nm,0.8s,baz=73,slow=4.5,SNR=10
BAQ Brasilia Array 119.60 124 P PKPdf 17 52 28.0 -0.5
SCHQ Schefferville 120.68 38 PKP PKPdf 17 52 29.8 +0.1
comp=Z,4.4nm,0.5s,baz=230,slow=6.6,SNR=17
SCHQ SKP 17 55 10.4
comp=Z,3.3nm,0.7s,baz=296,slow=1.9,SNR=4.5
SCHQ PKKPbc 18 02 38.6
comp=Z,5.0nm,0.8s,baz=144,slow=5.7,SNR=11
SCHQ Schefferville 120.68 38 ePKPdf PKPdf 17 52 29.4 -0.3
SCHQ ePP PP 17 54 05.8 -5.1
SUR Sutherland 122.60 200 PKP PKPdf 17 52 36.3 +2.4
comp=Z,46nm,0.7s,baz=143,slow=3.3,SNR=58
SUR pPKP 17 54 52.9
comp=Z,13nm,0.8s,baz=155,slow=6.3,SNR=4.0
SUR Sutherland 122.60 200 ePKPdf PKPdf 17 52 35.6 +1.6
SUR epPKPdf 17 54 49.9
DAG Danmarks Havn 124.29 5 ⇓ *i* P PKPdf 17 52 36.6 +0.4
comp=Z,12nm,0.5s
SVE Sverdlovsk 124.33 325 ⇓ *i* PKIKP PKPdf 17 52 37.1 +0.4
SVE *i* 17 54 29.5
SVE *e* 17 55 48.0
SVE *e* 17 57 18.0
SVE *e* 18 04 34.0
SVE *e* 18 10 38.0
SVE pmax pmax
comp=Z,216nm,1.9s
SVE pmax pmax
comp=Z,520nm,2.0s
SVE MLR MLR
comp=N,200nm,20.0s
SVE MLR MLR
comp=E,500nm,20.0s
SVE MLR MLR
comp=Z,500nm,20.0s
BOSA Boshof 124.35 207 ePKPdf PKPdf 17 52 39.3 +1.8
BOSA ePP PP 17 54 37.7 +1.5
BOSA epPKPdf 17 54 55.2
HSP Hornsund 124.37 356 eP PKPdf 17 52 37.0 +0.6
SFJD Kangerlussuaq 124.80 22 *i* P PKPdf 17 52 37.5 +0.2
comp=Z,14nm,0.5s
SFJD *e* 18 01 42.2
SFJD *i* 18 10 40.2
SUMG Summit 124.87 13 ePKPdf PKPdf 17 52 38.7 +1.4
ARU Arti 125.54 325 ⇓ *i* PKIKP PKPdf 17 52 39.4 +0.5
ARU *i* 17 54 38.4
ARU *i* 17 58 45.8
ARU pmax pmax
comp=Z,190nm,1.7s
ARU Arti 125.54 325 ePKPdf PKPdf 17 52 39.0 +0.1
ARU ePP PP 17 54 33.0 -10
ARU ePKKP PKKP 18 02 20.1 +20
WBK Wadi Bani Khal 126.16 283 ⇓P PKPdf 17 52 42.4 +1.3
JMDO Jabal Madar 126.90 282 P PKPdf 17 52 43.4 +0.8
SNR=17
SMDO Samad 127.08 283 ⇓P PKPdf 17 52 44.2 +1.3
BIDO Bidbid 127.09 284 ⇓P PKPdf 17 52 43.6 +0.7
SNR=6.2
LBTB Lobatse 127.34 209 PKP PKPdf 17 52 45.3 +1.9
comp=Z,13nm,0.7s,baz=185,slow=3.4,SNR=21
LBTB SKPab 17 55 07.4
comp=Z,15nm,1.0s,baz=164,slow=6.0,SNR=6.0
LBTB Lobatse 127.34 209 ePKPdf PKPdf 17 52 44.7 +1.3
LBTB epPKPdf 17 55 07.5
BSY Bisya 127.79 282 ⇑P PKPdf 17 52 44.4 +0.1
SNR=22
ASHO Ashiyiah 129.15 285 P PKPdf 17 52 47.9 +1.0
SNR=17
RBK Rabkut 129.42 275 ⇑P PKPdf 17 52 49.2 +1.8
SNR=13
SCO Scoresbysund 129.66 10 *i* PKIKP PKPdf 17 52 47.8 +1.3
SCO *i* 17 55 09.7
SCO pmax pmax
comp=Z,12nm,0.5s
SCO Scoresbysund 129.66 10 *i* P PKPdf 17 52 47.8 +1.3
comp=Z,12nm,0.5s
SCO *i* 17 55 09.7
MATP Matopo 129.78 215 PKP PKPdf 17 52 49.9 +1.8
comp=Z,28nm,0.6s,baz=170,slow=1.7,SNR=38
MATP Matopo 129.78 215 PKP PKPdf 17 52 49.9 +1.8
WHFO Wadi Hawf 129.92 275 ⇓P PKPdf 17 52 49.2 +0.8
SNR=14
APA Apatity 129.93 344 ⇑ *i* PKIKP PKPdf 17 52 48.3 +1.2
APA *i* 17 55 16.0
APA *e* 17 59 00.0
APA *i* SS SS 18 11 48.0 -1.7
APA pmax pmax
comp=Z,58nm,1.2s
ARCES ARCESS Array B 130.05 349 PKIKP PKPdf 17 52 47.7 +0.4
ARCES *i* 17 55 17.1
ARCES ARCESS Array B 130.05 349 PKP PKPdf 17 52 47.7 +0.4
comp=Z,33nm,0.5s,baz=55,slow=1.4,SNR=56
ARCES pPKP 17 55 06.4
comp=Z,18nm,0.8s,baz=63,slow=2.7,SNR=5.2
ARCES SKPab 17 55 17.1
comp=Z,276nm,1.1s,baz=18,slow=3.8,SNR=39
ARCES SKKPbc 18 04 55.2
comp=Z,3.2nm,0.8s,baz=207,slow=2.7,SNR=7.0
ARCES ARCESS Array B 130.05 349 PKP PKPdf 17 52 47.7 +0.4
ARCES pPKP 17 55 06.4
ARCES SKPab 17 55 17.1
ARCES SKKPbc 18 04 55.2
ARE0 ARCESS Array S 130.05 349 ePKPdf PKPdf 17 52 47.0 -0.3
ARE0 epPKPdf 17 55 03.7
ARE0 eSKPbc 17 55 16.7
ABTO Aybut 130.22 275 P PKPdf 17 52 50.6 +1.7
SNR=14
KTK1 Kautokeino 130.90 349 *e* 17 55 20.0
CS6B Jaguaretama 132.98 121 *e* PKPdf 17 52 55.0 +0.8
LOF Lofoten 133.09 353 eP PKPdf 17 52 43.9 -9.1
LOF Lofoten 133.09 353 *e* PKPdf 17 52 43.4 -10
LOF ePP PP 17 55 28.6 -1.7
JOF Joensuu 134.02 341 ep 17 52 39.3
comp=Z,40nm,0.5s
LSZ Lusaka 134.10 219 ePKHKP 17 52 44.6
LSZ *e* 17 52 57.1
LSZ *e* 17 55 37.7
LSZ Lusaka 134.10 219 ePKPpre 17 52 44.6
LSZ ePKPdf PKPdf 17 52 57.1 +0.8
LSZ epPKPdf 17 55 12.3
LSZ eSKP 17 55 32.3
LSZ eSKPab 17 55 37.7
MOR8 Moi Rana 134.86 352 *e* 17 55 32.8
RCBR Riachuelo 134.95 124 ePKPpre 17 52 45.2
RCBR ePKPdf PKPdf 17 52 58.6 +0.7
RCBR epPKPdf 17 55 19.3
RCBR eSKPbc 17 55 33.3
RCBR eSKPdf 17 55 38.8
MAK Makhachkala 135.77 310 ePKIKP PKPdf 17 52 58.0 -0.6
MAK *e* 17 55 08.0
MAK *i* 17 56 03.5
MAK *e* 17 58 48.0
MAK *i* 17 59 19.0
MAK pmax pmax
comp=Z,1μm,4.0s
MAK pmax pmax
comp=Z,5μm,4.0s
MAK pmax pmax
comp=E,2μm,3.0s
TSUM Tsumeb 135.82 204 PKhKP 17 52 50.8
comp=E,1.9nm,0.4s,baz=94,slow=4.4,SNR=9.8
TSUM PKP PKPdf 17 53 03.2 +3.9
comp=E,19nm,0.7s,baz=140,slow=3.1,SNR=20
TSUM pPKP 17 55 19.5
comp=E,6.4nm,1.0s,baz=101,slow=5.2,SNR=2.5
TSUM SKPbc 17 55 38.4
comp=E,18nm,1.0s,baz=113,slow=4.2,SNR=5.0
TSUM SKPab 17 55 44.4
comp=E,16nm,0.8s,baz=110,slow=0.9,SNR=4.2
TSUM Tsumeb 135.82 204 ePKPpre 17 52 50.9
TSUM ePKPdf PKPdf 17 53 02.2 +2.9
TSUM PKP PKPdf 17 53 03.2 +3.9
TSUM epPKPdf 17 55 18.9
TSUM pPKP 17 55 19.5
TSUM eSKP 17 55 34.5
TSUM SKPbc 17 55 38.4
TSUM SKPab 17 55 44.4
KAF Kangasniemi 136.10 343 ep 17 52 45.7
comp=E,18nm,0.3s
MOS Moscow 136.44 330 ePKIKP PKPdf 17 53 00.4 +0.9
MOS *e* 17 56 09.5
MOS *i* 17 59 14.7
MOS pmax pmax
comp=Z,200nm,1.7s
MOS pmax pmax
comp=Z,90nm,1.4s
FINES FINESS Array B 136.71 342 PKhKP 17 52 47.9
comp=Z,4.1nm,0.3s,baz=45,slow=4.9,SNR=59
FINES PKP PKPdf 17 53 00.5 +0.7
comp=Z,15nm,0.4s,baz=90,slow=2.8,SNR=26
FINES SKPbc 17 55 39.1
comp=Z,49nm,0.8s,baz=45,slow=5.4,SNR=16
FINES SKPab 17 55 45.9
comp=Z,9.0nm,0.6s,baz=90,slow=1.9,SNR=5.9
FINES SKKPbc 18 04 30.8
comp=Z,1.4nm,0.5s,baz=157,slow=2.2,SNR=7.8
FINES FINESS Array B 136.71 342 PKP 17 52 47.9
FINES PKP PKPdf 17 53 00.5 +0.7
FINES SKPbc 17 55 39.1
FINES SKPab 17 55 45.9
FINES SKKPbc 18 04 30.8
NSS Namsos 136.74 353 eP PKPdf 17 52 48.3 -12
LBOS 136.75 267 ⇑ eP 17 55 19.9
OBN Obninsk 137.29 330 *de* PKHKP 17 52 53.3
OBN *i* 17 53 01.3
OBN *e* 17 55 51.1
OBN *i* 18 07 16.5
OBN *i* SS SS 18 13 16.0 -1.9
OBN eSSS SSS 18 18 29.1 -6.4
OBN pmax pmax

comp=Z,100nm,1.8s
OBN pmax pmax
comp=Z,54nm,1.1s
OBN pmax pmax
comp=Z,400nm,1.7s
OBN pmax pmax
comp=Z,219nm,1.6s
OBN Obninsk 137.29 330 *e*PKPpre 17 52 50.6
OBN *e*PKPdf PKPdf 17 53 02.0 +0.9
OBN *ep*PKPdf 17 55 20.6
OBN *e*SKP 17 55 40.4
KMBO Kilima Mbogo 137.40 242 PKhKP 17 52 54.5
comp=Z,3.8nm,0.5s,baz=80,slow=4.8,SNR=17
KMBO PKP PKPdf 17 53 04.5 +2.1
comp=Z,16nm,0.7s,baz=72,slow=4.3,SNR=9.4
KMBO pPKP 17 55 21.5
comp=Z,2.5nm,0.8s,baz=70,slow=2.4,SNR=1.9
KMBO SKP 17 55 44.5
comp=Z,85nm,1.1s,baz=58,slow=2.4,SNR=24
KMBO SKKPbc 18 04 33.1
comp=Z,3.3nm,1.0s,baz=1.1,slow=4.6,SNR=6.6
KMBO Kilima Mbogo 137.40 242 *e*PKPpre 17 52 53.9
KMBO PKP PKPdf 17 53 04.5 +2.1
KMBO *e*PKPdf PKPdf 17 53 05.2 +2.7
KMBO *ep*PKPdf 17 55 21.4
KMBO *e*SKP 17 55 43.2
KMBO SKP 17 55 44.5
KMBO SKKPbc 18 04 33.1
VOR Voronezh 137.83 325 PKIKP PKPdf 17 53 03.0 +0.8
VOR pmax pmax
comp=Z,200nm,1.6s
TI2 Plekhanov 138.04 309 *e*PKHKP 17 52 55.8
TI2 *e* 17 53 04.0
GOF Gofitskoye 138.29 314 ⇑*i*PKHKP 17 52 54.4
GOF pmax pmax
comp=Z,80nm,1.7s
ZEI Tsey 138.39 310 *e*PKIKP PKPdf 17 53 04.1 +0.7
GNI Garni 138.41 306 *e*P PKPdf 17 52 59.2 -4.4
GNI Garni 138.41 306 SKPbc 17 55 46.0
comp=Z,41nm,1.0s,baz=25,slow=4.5,SNR=7.8
GNI SKPab 17 55 54.0
comp=Z,32nm,0.7s,baz=11,slow=23,SNR=7.7
GNI SKKPbc 18 04 28.8
comp=Z,2.1nm,0.5s,baz=1.1,slow=16,SNR=3.7
GNI Garni 138.41 306 *e*PKPpre 17 52 54.1
GNI P 17 52 59.2
GNI *ep*PKPdf 17 55 21.8
GNI *e*SKP 17 55 45.3
KIV Kislovodsk 138.88 312 *e*PKHKP 17 52 56.9
KIV *e* 17 53 04.8
KIV Kislovodsk 138.88 312 *e*PKPpre 17 52 56.9
KIV *e*PKPdf PKPdf 17 53 04.8 +0.5
KIV *e*SKP 17 55 46.0
MOL Molde 139.09 355 *e*P PKPdf 17 52 57.7 -6.5
MOL *e* 17 55 46.9
DOMB Dombas 139.48 354 *e*P PKPdf 17 52 57.9 -7.0
DOMB *e* 17 55 46.9
DOMB Dombas 139.48 354 *e*P PKPdf 17 52 57.9 -7.0
DOMB AMb AMB 17 53 02.8
comp=Z,80nm,1.4s
DOMB *e* 17 55 46.9
HKR Hakkari 139.68 303 *e*P PKPdf 17 53 02.0 -4.0
BHD Baghdad 139.73 296 *e*PKP PKPdf 17 52 02.0 -64
BHD *i* PP 17 54 51.0
VANB Van 139.76 304 *e*P PKPdf 17 53 02.6 -3.5
NB2 NORSAR Subarra1 40.20 352 PKPabc PKPdf 17 53 00.0 -6.2
comp=Z,36nm,1.0s,baz=16,slow=3.1
NB2 NORSAR Subarra1 40.20 352 PKPa 17 53 00.0
baz=16,slow=3.2
NOA NORSAR Array B 140.20 352 PKhKP 17 53 00.3
comp=Z,11nm,0.5s,baz=14,slow=4.5,SNR=49
NOA pPKP 17 55 27.5
comp=Z,6.9nm,0.9s,baz=18,slow=4.1,SNR=2.9
NOA SKPbc 17 55 48.3
comp=Z,21nm,0.8s,baz=15,slow=4.3,SNR=14
NOA SKPab 17 56 01.4
comp=Z,21nm,1.0s,baz=15,slow=3.0,SNR=5.2
NOA SKKPbc 18 04 20.4
comp=Z,4.9nm,1.0s,baz=193,slow=4.4,SNR=4.9
NOA NORSAR Array B 140.20 352 PKP PKPdf 17 53 00.3 -5.9
NOA pPKP 17 55 27.5
NOA SKPbc 17 55 48.3
NOA SKPab 17 56 01.4
NOA SKKPbc 18 04 20.4
FOO Floro 140.23 357 *e*P PKPdf 17 53 01.6 -4.6
FOO AMb AMB 17 53 12.1
comp=Z,102nm,1.8s
BCA Borcka 140.38 309 *e*P PKPdf 17 53 01.6 -5.4
MSL Mosul 140.42 301 *e*PKP PKPdf 17 53 03.5 -3.7
MSL *e*PP PP 17 55 27.5 -49
MSL *e*SKS1 18 02 06.0
MSL *e*SKS2 18 02 24.5
NAO01 NORSAR Array S 140.43 352 *e*PKPpre 17 53 01.0
NAO01 *e*SKP 17 55 49.4
ERZM Erzurum 140.99 307 *i* P PKPdf 17 53 05.9 -2.2
EZM Erzurum 140.99 307 P PKPdf 17 53 05.7 -2.4
EZM Erzurum 140.99 307 P PKPdf 17 53 05.0 -3.2
SOC Sochi 141.03 313 *i* PKHKP 17 52 58.6
SOC *e*PPP PPP 17 59 17.5 -16
SOC *e*SSS SSS 18 19 28.0 -0.3
SOC pmax pmax
comp=Z,204nm,1.3s
SOC pmax pmax
comp=N,249nm,1.7s
SOC pmax pmax
comp=E,249nm,2.0s
VRT Varto 141.06 306 P PKPdf 17 53 05.5 -2.8
IZAR Zarasai 141.16 337 *e*P PKPdf 17 53 03.9 -4.0
IZAR AMb AMB 17 53 06.7
comp=Z,31nm,0.7s
IZAR *i* 17 55 51.0
BTMT Batman 141.31 304 P PKPdf 17 53 05.7 -3.0
IDID Didziasalis 141.31 336 *e*P PKPdf 17 53 04.3 -3.9
IDID AMb AMB 17 53 13.3
comp=Z,15nm,0.9s
IDID *i* 17 55 51.5
IDID *e*PP PP 17 56 15.9 -5.1
ASK Askoy 141.33 356 *e*P PKPdf 17 53 04.3 -3.7
RUND Rundenannen 141.39 356 *e*P PKPdf 17 53 04.9 -3.3
RUND AMb AMB 17 53 07.7
comp=Z,110nm,1.6s
BER Bergen 141.42 356 *e*P PKPdf 17 53 05.6 -2.6
IIGN Ignalina 141.48 337 *i* P PKPdf 17 53 05.1 -3.3
IIGN AMb AMB 17 53 11.5
comp=Z,41nm,1.5s
IIGN *i* 17 55 52.2
IIGN *e*PP PP 17 56 15.2 -6.8
MNK Minsk 141.49 334 *e*PKHKP 17 53 01.0
BEST Besiri 141.54 304 *i* P PKPdf 17 53 06.2 -2.9
EGD Espegrend 141.54 356 *e*P PKPdf 17 53 05.3 -3.1
KONO Kongsberg 141.76 353 *e*P PKPdf 17 53 05.4 -3.3
KONO *e* 17 55 52.9
BINT Bingol 141.91 306 P PKPdf 17 53 07.4 -2.3
ANN Anapa 142.08 316 *i* PKHKP 17 53 06.7
ANN pmax pmax
comp=Z,555nm,1.6s
EZC Erzincan 142.18 307 *e*P PKPdf 17 53 09.8 -0.4
GUMT Gumushane 142.22 308 *e*P PKPdf 17 53 02.1 -8.2
BLS5 Blasjo 142.30 355 *e*P PKPdf 17 53 07.9 -1.9
BLS5 AMb AMB 17 53 12.9
comp=Z,63nm,1.5s
MBAR Mbarara 142.93 237 *e*PKPdf PKPdf 17 53 12.2 -0.1
MBAR *ep*PKPdf 17 55 32.0
MBAR *e*SKP 17 55 57.2
ELZG Elazig 143.14 305 *i* P PKPbc 17 53 13.1 +2.5
AKASG Malin Array Be 143.53 329 PKP PKPdf 17 53 11.5 -0.7
comp=Z,68nm,0.3s,baz=46,slow=4.5,SNR=682
AKASG SKPbc 17 55 57.0
comp=Z,64nm,0.9s,baz=37,slow=2.3,SNR=14
URFA Urfa 143.54 304 P PKPbc 17 53 13.2 +1.3
KIEV Kiev 143.54 329 PKPbc PKPbc 17 53 11.6 +0.2
KIEV SKPbc 17 55 56.9
MLA1 Latheron 143.56 3 *e*P PKPbc 17 53 11.0 -0.2
REB Eisghbrachaidh 143.61 5 *e*P PKPbc 17 53 11.1 -0.3
MYA Malataya 143.61 305 P PKPbc 17 53 15.0 +3.0
MALT Malatya 143.61 305 *e*PKPdf PKPdf 17 53 13.7 +1.0
MALT *e*SKP 17 55 58.8
SUW Suwalki 143.63 337 ⇓*i*PKP PKPdf 17 53 12.3 +0.1
SUW *ep*PKP 17 55 30.8
SUW *e* 17 55 56.9
SUW Suwalki 143.63 337 ⇓*i*PKP PKPdf 17 53 12.3 +0.1
SUW *ep*PKP 17 55 30.8
SUW *e* 17 55 56.9

RRH Rhenigidale 143.68 6 *e*P PKPbc 17 53 11.1 -0.5
RRR Rubha Reidh 143.82 6 *e*P PKPbc 17 53 12.1 0.0
MVH1 Achvaich 143.89 4 *e*P PKPbc 17 53 11.8 -0.4
SIM Simferopol' 144.12 318 *d i*PKIKP PKPdf 17 53 14.6 +1.2
SIM pmax pmax
comp=Z,528nm,1.3s
SVST Sivas 144.28 308 *i* P PKPdf 17 53 16.4 +2.6
MCD Coleburn Disti 144.28 3 *e*P PKPdf 17 53 13.4 +0.1
MDO Dochfour 144.35 4 *e*P PKPdf 17 53 13.8 +0.4
TOKT Tokat 144.39 309 P PKPdf 17 53 16.6 +2.6
TOKT Tokat 144.39 309 P PKPdf 17 53 16.5 +2.5
GZT Gaziantep 144.53 304 *i* P PKPdf 17 53 15.7 +1.4
MME1 Meikle Cairn 144.57 3 *e*P PKPdf 17 53 13.9 +0.2
GAZ Gaziantep 144.85 304 P PKPdf 17 53 17.9 +3.1
MUD Monsted U'grnd 144.92 352 ⇓*i*PKIKP PKPdf 17 53 16.2 +1.8
MUD *i* 18 14 45.0
MUD Monsted U'grnd 144.92 352 ⇓*i*P PKPdf 17 53 16.2 +1.8
MUD *i* 18 05 59.1
MUD *i* 18 06 49.5
MUD *i* 18 14 45.0
MUD Monsted U'grnd 144.92 352 ⇓*i*P PKPdf 17 53 16.2 +1.8
comp=Z,79nm,0.5s
KAHT Ahir Dag 144.98 305 *i* P PKPdf 17 53 17.6 +2.5
COP Copenhagen 145.13 348 ⇓*i*PKIKP PKPdf 17 53 16.8 +2.1
COP *i* 18 14 50.2
COP Copenhagen 145.13 348 ⇓*i*P PKPdf 17 53 16.8 +2.1
comp=Z,58nm,0.4s
COP *i* 17 55 37.0
COP *i* 18 05 58.8
COP *i* 18 14 50.2
BSD Bornholm Skovb 145.13 345 ⇓*i*PKIKP PKPdf 17 53 16.7 +1.9
BSD *i* 17 55 30.7
BSD *i* 18 14 53.2
BSD Bornholm Skovb 145.13 345 ⇓*i*P PKPdf 17 53 16.7 +1.9
BSD *i* 17 55 30.7
BSD *e* 17 56 35.1
BSD *i* 18 14 53.2
BSD Bornholm Skovb 145.13 345 ⇓*i*P PKPdf 17 53 16.7 +1.9
comp=Z,220nm,0.5s
BSD *i* 17 55 30.7
BSD *e* 17 56 35.1
BOYT Boyabat 145.14 312 *i* P PKPdf 17 53 18.2 +2.9
BYBT Boyabat 145.22 312 *e*P PKPdf 17 53 18.9 +3.6
BNN Bunyan 145.39 307 *e*P PKPdf 17 53 17.0 +1.3
CTKT Corum 145.53 311 *i* P PKPdf 17 53 18.5 +2.5
BZK Bozkurt 145.54 313 *e*P PKPdf 17 53 19.6 +3.7
BZK Bozkurt 145.54 313 P PKPdf 17 53 20.6 +4.7
COBT Iskenderun 145.76 303 *i* P PKPdf 17 53 18.5 +2.0
CORM Corum 145.81 310 P PKPdf 17 53 18.5 +2.1
PCOU Corrie 145.82 5 *e*P PKPdf 17 53 18.3 +2.4
WAR Warsaw 145.83 337 ⇓*i*PKP PKPdf 17 53 19.8 +3.8
WAR *e*PKPdf PKPdf 17 53 22.2 +6.2
WAR *ep*PKP 17 55 34.3
WAR *e* 17 55 39.5
WAR Warsaw 145.83 337 ⇓*i*PKP PKPdf 17 53 19.8 +3.7
WAR *e*PKIKP PKPdf 17 53 22.1 +6.1
WAR *ep*PKP 17 55 34.3
WAR *e* 17 55 39.5
TOS Tosya 145.90 312 *e*P PKPdf 17 53 20.3 +3.8
TOS Tosya 145.90 312 P PKPdf 17 53 21.0 +4.5
PMSU Muirshiel 145.91 5 *e*P PKPdf 17 53 17.8 +1.7
HTY Hatay 145.95 302 *e*P PKPdf 17 53 18.0 +1.2
RGN Rugen 146.01 347 *e*PKPdf PKPdf 17 53 19.3 +3.0
CEYT Ceyhan 146.02 304 *e*P PKPdf 17 53 20.3 +3.4
CEYT Ceyhan 146.02 304 P PKPdf 17 53 21.7 +4.9
PCA1 Carrot 146.09 5 *e*P PKPdf 17 53 19.0 +2.6
KIS Kishinev 146.09 324 *k i*PKIKP PKPdf 17 53 19.0 +2.3
KIS *i* 17 56 28.0
KIS *e* 17 56 50.0
KIS pmax pmax
comp=Z,1μm,1.5s
KIS pmax pmax
comp=Z,4μm,5.0s
KIS MLR MLR
comp=Z,600nm,22.0s
ASF Jabal al Asfar 146.12 295 PKP PKPdf 17 53 18.8 +1.6
comp=Z,126nm,0.8s,baz=328,slow=1.5,SNR=73
ASF PKPbc PKPbc 17 53 21.8 +2.8
comp=Z,126nm,0.8s,baz=334,slow=1.0,SNR=41
ASF *e*PKPbc 17 55 36.4
comp=Z,58nm,1.0s,baz=353,slow=6.2,SNR=4.5
ASF SKPbc 17 56 04.7
comp=Z,21nm,0.8s,baz=264,slow=3.2,SNR=2.8
ASF SKKPab 18 03 56.9
comp=Z,11nm,1.1s,baz=89,slow=5.1,SNR=4.9
BALT Daday 146.14 313 *i* P PKPdf 17 53 19.1 +2.2
AVNT Avonos 146.14 308 *i* P PKPdf 17 53 20.8 +3.8
GKP Gorka Klasztor 146.18 342 *e*PKIKP PKPdf 17 53 18.3 +1.7
GKP *i* 17 53 20.3
GKP *e* 17 56 45.8
GKP Gorka Klasztor 146.18 342 *e*PKPdf PKPdf 17 53 18.3 +1.7
GKP ⇓*i*PKPab PKPab 17 53 20.3 -3.7
GKP *ep*PKP 17 55 34.1
GKP *e* 17 55 39.8
GKP *e*PP PP 17 56 45.8 -4.0
GKP Gorka Klasztor 146.18 342 *e*PKP(df) PKPdf 17 53 18.3 +1.7
GKP ⇓*i*PKP(ab) PKPab 17 53 20.3 -3.7
GKP *ep*PKP 17 55 34.1
GKP *e* 17 55 39.8
GKP *e*PP PP 17 56 45.8 -4.0
GMK Mull of Kintyr 146.32 6 *e*P PKPdf 17 53 19.8 +3.0
CANT Cankiri 146.36 311 *e*P PKPdf 17 53 22.0 +4.7
CANT Cankiri 146.36 311 P PKPdf 17 53 22.5 +5.2
LVV L'vov 146.52 332 *e*PKIKP PKPdf 17 53 19.8 +2.5
LVV *e* 17 56 49.1
LVV *e* 18 00 10.3
GCL Cushendall 146.53 7 *e*P PKPdf 17 53 20.2 +3.1
EKA Eskdalemuir Ar 146.53 4 SKKPab 18 03 54.4
comp=Z,5.8nm,1.0s,baz=162,slow=5.3,SNR=7.2
ELDT Eldivan 146.54 311 *i* P PKPdf 17 53 19.1 +1.5
ESK Eskdalemuir 146.55 4 *e*PKPbc PKPbc 17 53 20.2 +1.0
ESK *ep*PKPdf 17 55 35.6
IAS Iasi 146.64 326 PKP2 PKPab 17 53 22.4 -3.6
BWH Wardlaw 146.66 4 *e*P PKPdf 17 53 19.6 +2.2
BRTR Keskin Array B 146.69 310 PKP PKPdf 17 53 18.5 +0.6
comp=Z,53nm,0.5s,baz=140,slow=1.4,SNR=84
BRTR PKPbc PKPbc 17 53 22.1 +2.0
comp=Z,65nm,0.6s,baz=148,slow=2.9,SNR=140
BRTR *ep*PKPbc 17 55 36.1
comp=Z,36nm,1.1s,baz=162,slow=3.9,SNR=7.6
BRTR SKP 17 55 58.8
comp=Z,11nm,0.8s,baz=153,slow=2.8,SNR=4.0
BRTR SKKPab 18 03 54.5
comp=Z,3.2nm,0.8s,baz=225,slow=5.1,SNR=6.9
SAFT Safranbolu 146.74 313 *e*P PKPdf 17 53 20.4 +2.4
CRA Chernovtsy 146.74 328 ⇓P PKPdf 17 53 32.1 +14
BBH Bruntsheil 146.75 4 *e*P PKPdf 17 53 20.4 +2.9
KAMT Kaman 146.77 309 *e*P PKPdf 17 53 19.6 +1.5
BHH Howats Hill 146.77 4 *e*P PKPdf 17 53 21.0 +3.5
BHL Bhannes 146.85 299 *e*P PKPdf 17 53 23.4 +5.0
GAL1 Galloway 146.88 5 *e*P PKPdf 17 53 21.4 +3.6
BTA Talkin 146.99 3 *e*P PKPdf 17 53 21.6 +3.7
BDL Dobcross Hall 147.07 4 *e*P PKPdf 17 53 21.9 +3.8
BBO1 Bothel 147.12 4 *e*P PKPdf 17 53 21.9 +3.8
BSEG Bad Segeberg 147.18 349 *e*PKIKP PKPdf 17 53 20.2 +1.9
BSEG *e* 17 53 27.0
BSEG Bad Segeberg 147.18 349 *e*PKPdf PKPdf 17 53 20.2 +1.9
BSEG *e*PKPbc PKPbc 17 53 23.1 +4.8
BSEG *e*PKPab PKPab 17 53 27.0 -0.9
TLCR ⇑P PKPdf 17 53 23.5 +4.9
LCP Cassop 147.18 322 ⇑P PKPdf 17 53 22.7 +4.4
ANTO Ankara 147.21 2 *e*P PKPdf 17 53 19.6 +0.7
ANTO Ankara 147.23 310 PKPdf PKPdf 17 53 19.9 +1.1
ANTO PKPdf PKPdf 17 53 23.8 +5.0
ANTO *ep*PKPdf 17 55 36.8
KWP Kalwaria 147.23 333 ⇓*i*PKP2 PKPab 17 53 23.4 -4.9
KWP Kalwaria 147.23 333 *e*PKPdf PKPdf 17 53 20.4 +1.9
KWP Kalwaria 147.23 333 *e*PKP(df) PKPdf 17 53 20.4 +1.9
KWP ⇓*i*PKIKP PKPdf 17 53 23.4 +4.9
KWP *e* 17 53 27.9
KWP *ep*PKP 17 55 36.0
KWP *e* 17 55 43.1
LOD Lodumlu 147.24 311 *e*P PKPdf 17 53 23.3 +4.4
LOD Lodumlu 147.24 311 P PKPdf 17 53 24.7 +5.8
MEST Erdemli 147.37 304 *i* P PKPdf 17 53 24.0 +4.9
GMM Mts of Mourne 147.38 7 *e*P PKPdf 17 53 21.9 +3.4
SGKT Sivrigoynuk 147.45 312 *i* P PKPdf 17 53 23.5 +4.3
BURAR Bucovina Array 147.55 328 ⇑P PKPdf 17 53 25.0 +5.9
BURAR Bucovina Array 147.55 328 ⇑P PKPdf 17 53 25.0 +5.9
CFR Carcaliu 147.57 322 P PKPdf 17 53 24.7 +5.5
DMUB Kingscourt 147.59 8 *e*P tx 17 55 42.8

WIM Isle of Man 147.60 6 *e*P PKPdf 17 53 22.9 +4.0
WIM AMb AMB 17 53 26.0
comp=Z,332nm,1.6s
LWH Whinny Nab 147.63 1 *e*P PKPdf 17 53 23.8 +4.8
RUE Ruedersdorf 147.82 345 *e*PKPdf PKPdf 17 53 20.4 +1.1
RUE *e*PKPbc PKPdf 17 53 24.6 +5.2
RUE *ep*PKPdf 17 55 39.3
TIRR Tirgusor 147.83 321 ⇓P PKPdf 17 53 24.8 +5.2
PHNC Paralimni 147.90 301 P PKPdf 17 53 25.9 +5.9
OJC Ojcow 147.93 336 *e*PKP2 PKPab 17 53 25.0 -5.9
OJC *e*SS SS 18 15 19.1 +0.6
OJC Ojcow 147.93 336 *e*PKP PKPdf 17 53 25.0 +5.4
OJC *e* 17 53 25.0
OJC *e*SS SS 18 15 19.1 +0.6
VRI Vrincioaia 147.93 324 ⇑P PKPdf 17 53 25.3 +5.5
VRI Vrincioaia 147.93 324 ⇑P PKPdf 17 53 25.3 +5.6
KOLS Kolonicke sedl 147.95 332 *e*PKP PKPdf 17 53 21.8 +2.1
KOLS *e* 17 53 26.2
KOLS *e* 17 55 41.0
HARR Harsova 147.98 322 PKHKP 17 53 21.9
HARR Harsova 147.98 322 ⇑P PKPdf 17 53 25.8 +6.0
HPK Haverah Park 147.98 2 *e*P PKPdf 17 53 24.3 +4.7
MDU Mudurnu 148.08 312 *e*P PKPdf 17 53 25.9 +5.7
DCN Croghan 148.08 9 ⇓*i*P PKPdf 17 53 25.0 +5.3
DCN Croghan 148.08 9 *e*P tx 17 55 42.8
EIL Elat 148.09 291 PKP PKPdf 17 53 22.2 +1.7
comp=Z,158nm,0.8s,baz=96,slow=2.2,SNR=106
EIL PKPbc PKPdf 17 53 26.9 +6.4
comp=Z,158nm,0.8s,baz=70,slow=0.9,SNR=104
EIL *e*PKPbc 17 55 41.7
comp=Z,39nm,1.0s,baz=161,slow=8.3,SNR=3.7
EIL SKKPab 18 03 48.5
comp=Z,4.6nm,0.7s,baz=280,slow=9.1,SNR=5.0
EIL Elat 148.09 291 *e*PKPdf PKPdf 17 53 21.6 +1.1
EIL *e*PKPbc PKPdf 17 53 26.9 +6.4
EIL *e*PKPab PKPab 17 53 32.8 +0.5
EIL *ep*PKPdf 17 55 33.6
EIL *ep*PKPbc 17 55 41.5
EIL *ep*PKPab 17 55 47.1
HENT Hendek 148.13 313 *i* P PKPdf 17 53 25.2 +5.2
DLF Lyons Farm 148.23 8 ⇓*i*P PKPdf 17 53 25.1 +5.2
DLF Lyons Farm 148.23 8 *e*P tx 17 55 43.1
KIZT Kizilcal 148.27 309 *e*P PKPdf 17 53 20.4 -0.1
KONT Konya--Tatoy 148.27 307 *e*P PKPdf 17 53 25.9 +5.4
KONT Konya--Tatoy 148.27 307 P PKPdf 17 53 26.3 +5.8
DSB Dublin 148.30 8 *e*PKPdf PKPdf 17 53 21.1 +1.0
DSB *e*PKPbc PKPdf 17 53 25.0 +5.0
DSB *ep*PKPdf 17 55 41.9
CRVS Cervenica-Dubn 148.32 333 *i* PKP PKPdf 17 53 26.8 +6.6
CRVS *e* 17 55 47.3
CRVS *e* 17 55 50.5
WCB1 Church Bay 148.37 6 *e*P PKPdf 17 53 24.7 +4.6
WCB1 AMb AMB 17 53 27.5
comp=Z,160nm,1.7s
WME Myndd Eilian 148.37 5 *e*P PKPdf 17 53 25.2 +5.0
WME AMb AMB 17 53 27.7
comp=Z,202nm,1.5s
NIE Niedzica 148.38 335 *e*PKP PKPdf 17 53 25.1 +4.8
NIE *e* 17 55 47.2
LHO Holmfirth 148.38 3 *e*P PKPdf 17 53 25.3 +5.1
PSN Preselentsi 148.41 320 *e*P PKPdf 17 53 28.0 +7.5
CSS Prodhromos 148.46 302 P PKPdf 17 53 26.3 +5.4
CSS Prodhromos 148.46 302 *e*PKPdf PKPdf 17 53 21.6 +0.7
CSS *e*PKPbc PKPdf 17 53 26.6 +5.8
CSS *ep*PKPdf 17 55 41.9
CSS *ep*PKPbc 17 55 47.1
CSS *e*PP PP 17 57 01.3 -2.1
WLF1 Llynfaes 148.47 6 *e*P PKPdf 17 53 25.2 +4.9
YRC Rhoscolyn 148.49 6 *e*P PKPdf 17 53 25.4 +5.0
YRC AMb AMB 17 53 27.8
comp=Z,150nm,1.1s
MAMC Mammari 148.50 302 P PKPdf 17 53 27.0 +6.1
ISR Istrita 148.50 323 P PKPdf 17 53 27.1 +6.5
HDMB Hadim 148.52 306 *e*P PKPdf 17 53 26.9 +6.0
LMK Market Rasen 148.52 1 *e*P PKPdf 17 53 25.8 +5.4
WPM1 Penmaenmawr 148.54 5 *e*P PKPdf 17 53 25.6 +5.2
WPM1 AMb AMB 17 53 28.2
comp=Z,382nm,1.4s
KSP Ksiaz 148.59 341 *e*PKHKP 17 53 21.7
KSP *e* 17 53 32.6
KSP *e*SS SS 18 15 20.0 -5.7
KSP Ksiaz 148.59 341 *e*PKPdf PKPdf 17 53 21.7 +1.1
KSP *i* PKPdf PKPdf 17 53 27.0 +6.4
KSP *e*PKPab PKPab 17 53 32.6 -1.0
KSP *ep*PKP 17 55 41.8
KSP *e* 17 56 38.0
KSP *e*SKKS 18 02 51.0
KSP *e*SS SS 18 15 20.0 -5.7
KSP Ksiaz 148.59 341 *e*PKP(df) PKPdf 17 53 22.0 +1.4
KSP ⇓*i*PKIKP PKPdf 17 53 27.1 +6.5
KSP *e* 17 53 33.0
KSP *ep*PKP 17 55 41.8
KSP *e* 17 55 48.0
MLR Muntele Rosu 148.59 324 ⇑P PKPdf 17 53 26.9 +6.2
RAC Raciborz 148.62 338 *e*PKPdf PKPdf 17 53 22.3 +1.7
RAC *ep*PKPdf 17 55 41.5
YLL Llanberis 148.64 5 *e*P PKPdf 17 53 25.6 +5.1
YLL AMb AMB 17 53 28.2
comp=Z,233nm,1.4s
KBI1 Birley Grange 148.69 2 *e*P PKPdf 17 53 24.9 +4.2
ESKT Eskisehir 148.74 311 *e*P PKPdf 17 53 23.8 +2.6
ESKT Eskisehir 148.74 311 *i* P PKPdf 17 53 22.2 +1.1
LEF Lefka 148.77 302 *e*P PKPdf 17 53 27.8 +6.5
LEF Lefka 148.77 302 P PKPdf 17 53 28.0 +6.6
YRE Yr Eifl 148.77 6 *e*P PKPdf 17 53 25.8 +5.0
YRE AMb AMB 17 53 28.3
comp=Z,173nm,1.6s
GPA Golpazari 148.78 313 *e*P PKPdf 17 53 27.6 +6.4
GPA Golpazari 148.78 313 P PKPdf 17 53 28.0 +6.9
WIT Witteveen 148.80 353 *e*PKP PKPdf 17 53 27.5 +6.7
WIT *ep*PKP 17 53 33.9
WIT *ex* x 17 55 43.3
OKC Ostrava-Krasne 148.84 338 *e*PKIKP PKPdf 17 53 21.0 0.0
OKC *e* 17 53 34.0
OKC Ostrava-Krasne 148.84 338 *e*PKPDF PKPdf 17 53 21.0 0.0
OKC ⇑*e*PKPB PKPdf 17 53 27.5 +6.5
OKC *e*PKPAB PKPab 17 53 34.0 -0.7
OKC *ep*PKP 17 55 49.2
SZAC Souni-Zanaja 148.87 301 P PKPdf 17 53 26.7 +5.2
KWE Weaver Farm 148.91 3 *e*P PKPdf 17 53 26.6 +5.6
HRT Hereke 148.96 314 *e*P PKPdf 17 53 27.4 +6.0
HRT Hereke 148.96 314 P PKPdf 17 53 28.3 +6.8
UPC Upice 148.97 341 *e*PKHKP 17 53 23.0
UPC *e* 17 53 34.6
UPC Upice 148.97 341 *e*PKPDF PKPdf 17 53 23.0 +1.9
UPC ⇑*e*PKPB PKPdf 17 53 28.0 +6.9
UPC *e*PKPAB PKPab 17 53 34.6 -0.6
UPC *ep*PKP 17 55 47.8
ALFC Alevga 148.99 302 P PKPdf 17 53 26.2 +4.5
comp=Z,7.1nm,0.4s
DPC Dobruska-Polom 149.01 340 *e*PKPDF PKPdf 17 53 22.6 +1.4
DPC ⇑*e*PKPB PKPdf 17 53 28.2 +7.0
DPC *e*PKPAB PKPab 17 53 35.2 -0.1
DPC *ep*PKP 17 55 48.0
DPC *ex* x 18 15 19.7
KECS Kecovo 149.05 334 *e*PKP PKPdf 17 53 28.8 +7.5
KECS *e* 17 55 50.5
CLL Collm 149.09 345 *e*PKP PKPdf 17 53 23.0 +1.7
CLL *i* PKP PKPdf 17 53 27.9 +6.6
CLL *i* pPKP 17 55 45.9
CLL *i* SKP 17 55 58.2
CLL *e*SKKS 18 02 55.0
CLL Collm 149.09 345 *e*PKIKP PKPdf 17 53 23.0 +1.7
comp=Z,logA/T=1.6
CLL *i* PKP1 PKPdf 17 53 27.9 +6.6
CLL *i* PKP2 PKPab 17 53 34.3 -1.4
CLL *e* 17 53 53.0
CLL *i* *PKP 17 55 45.9
CLL *i* *PKP2 17 55 49.9
CLL *i* 17 55 58.2
CLL *i* 17 56 19.4
CLL *e* 17 56 24.0
CLL *e* 17 56 37.0
CLL *i* PP PP 17 57 02.3 -3.8
CLL *e*SPP 18 00 04.0
CLL *e* 18 02 55.0
CLL *e* 18 03 29.0
CLL *e*SKKP 18 03 43.0
CLL *e*SKSP 18 06 17.0
CLL *e*PPS PPS 18 10 06.0 -3.2
CLL *e*SS SS 18 15 20.0 -11

CLL e*SSS 18 19 12.0
CLL eSSS SSS 18 21 12.0 -8.6
CLL e 18 24 24.0
ABA1 Baconsthorpe 149.09 359 eP PKPdf 17 53 27.2 +6.0
MORC Moravsky Berou 149.10 338 ePKIKP PKPdf 17 53 22.1 +0.7
MORC e 17 53 35.3
MORC Moravsky Berou 149.10 338 ePKPdf PKPdf 17 53 22.1 +0.7
MORC ePKPbc PKPdf 17 53 28.2 +6.8
MORC ePKPab PKPab 17 53 35.3 -0.5
MORC epPKPbc 17 55 48.9
AWI1 Witton 149.14 359 eP PKPdf 17 53 27.6 +6.3
LIKS Likavka 149.14 336 ePKP PKPdf 17 53 29.2 +7.7
LIKS e 17 55 51.3
CLZ Clausthal 149.16 348 ePKPdf PKPdf 17 53 23.1 +1.7
CLZ ePKPbc PKPdf 17 53 28.5 +7.1
CLZ ePKPab PKPab 17 53 35.0 -1.0
CLZ epPKPbc 17 55 50.8
AKMC Akamas 149.23 302 P PKPdf 17 53 28.1 +6.0
BRG Berggiesshubel 149.24 343 *i* PKHKP 17 53 23.3
BRG *i* 17 53 34.7
BRG Berggiesshubel 149.24 343 *i* PKP PKPdf 17 53 23.3 +1.7
BRG *i* 17 53 28.3
BRG *i* 17 53 34.7
BRG *i* pPKP 17 55 43.1
BRG ePP PP 17 56 43.0 -24
BRG *e* 17 59 46.3
BRG *e* 18 02 22.0
BRG *i* 18 02 59.0
BRG *i* SS SS 18 15 23.0 -10
PPCY Paphos 149.26 302 P PKPdf 17 53 27.9 +5.8
BUC1 Bucharest 149.27 323 P PKPdf 17 53 28.6 +6.8
AWH Whinburgh 149.35 359 P PKPdf 17 53 27.3 +5.6
PVCC Panska Ves 149.38 342 ePKHKP 17 53 23.3
PVCC *e* 17 53 36.4
PVCC Panska Ves 149.38 342 ePKPDF PKPdf 17 53 23.3 +1.5
PVCC ⇑ePKPB PKPdf 17 53 29.1 +7.3
PVCC ePKPAB PKPab 17 53 36.4 -0.5
PVCC epPKP 17 55 45.3
ALT Altintas 149.46 311 eP PKPdf 17 53 29.0 +6.7
WTSB Winterswijk 149.62 352 ePKP PKPdf 17 53 28.7 +6.6
WTSB epPKP 17 53 35.9
WTSB ex x 17 55 44.0
CTT Catalca 149.62 316 eP PKPdf 17 53 29.8 +7.3
ULDT Uludag 149.64 313 *i* P PKPdf 17 53 23.8 +1.2
KTG1 Tilbrook Grang 149.65 1 eP PKPdf 17 53 28.1 +5.9
ISP Isparta 149.67 308 eP PKPdf 17 53 29.1 +6.5
ISP Isparta 149.67 308 ePKIKP PKPdf 17 53 23.3 +0.6
ISP *e* 17 53 37.1
ISP Isparta 149.67 308 ePKPdf PKPdf 17 53 23.2 +0.6
ISP ePKPbc PKPdf 17 53 29.0 +6.3
ISP P 17 53 29.1
ISP ePKPab PKPab 17 53 37.1 -1.4
ISP epPKPdf 17 55 43.3
APAE Packway 149.67 359 eP PKPdf 17 53 28.9 +6.7
VYHS Vyhne 149.70 335 ePKIKP PKPdf 17 53 23.9 +1.5
VYHS *e* 17 53 37.8
VYHS Vyhne 149.70 335 ePKP PKPdf 17 53 23.9 +1.5
VYHS *e* 17 53 29.6
VYHS *e* 17 53 37.8
VYHS *e* 17 55 46.0
VYHS *e* 17 55 54.0
PSZ Piszkesteto 149.74 334 ePKIKP PKPdf 17 53 23.1 +0.6
PSZ *e* 17 53 37.9
PSZ Piszkesteto 149.74 334 ePKPdf PKPdf 17 53 23.1 +0.6
PSZ ePKPbc PKPdf 17 53 29.6 +7.1
PSZ ePKPab PKPab 17 53 37.9 -0.5
PSZ epPKPdf 17 55 45.0
PSZ epPKPbc 17 55 53.8
BCK Bucak 149.75 308 eP PKPdf 17 53 28.1 +5.3
KOLL Kolacno 149.79 336 ePKP PKPdf 17 53 30.0 +7.5
KOLL *e* 17 53 37.8
KOLL *e* 17 55 47.0
KOLL *e* 17 55 53.8
VRAC Vranov 149.82 339 P PKPdf 17 53 29.9 +7.3
ORLT Orhaneli 149.85 313 eP PKPdf 17 53 30.1 +7.2
PRU Pruhonice 149.87 342 ePKPDF PKPdf 17 53 23.9 +1.3
PRU ePKPAB PKPab 17 53 38.1 -0.8
PRU epPKP 17 55 46.3
PRU ex x 18 15 29.3
ANTB Antalya 149.91 306 eP PKPdf 17 53 31.0 +7.9
SZH Strazhica 149.98 321 eP PKPdf 17 53 30.0 +7.0
HSA Swansea 150.02 6 eP PKPdf 17 53 29.1 +6.3
MOX Moxa 150.03 346 ePKIKP PKPdf 17 53 24.3 +1.5
MOX Moxa 150.03 346 *i* P PKPdf 17 53 24.3 +1.5
MOX PP2 17 55 30.0
MOX PKP2 PKPab 17 53 38.0 -1.6
MOX pPKP 17 55 49.0
MOX PP PP 17 57 08.0 -3.6
MOX SS SS 18 15 38.0 -3.3
MOX SSS tx 18 20 40.0
MOX L 18 51 06.0
JMB Yambol 150.06 319 eP PKPdf 17 53 25.0 +1.8
KHL Karahalli 150.18 310 eP PKPdf 17 53 28.1 +4.7
SMOL Smolenice 150.21 337 ePKP PKPdf 17 53 31.5 +8.3
SMOL *e* 17 53 40.5
SMOL *e* 17 55 47.7
SMOL *e* 17 55 56.3
NKC Novy Kostel 150.22 344 ePKP PKPdf 17 53 30.7 +7.6
NKC *e* 17 53 39.7
NKC *e* 17 55 49.0
NKC Novy Kostel 150.22 344⇑ePKPB PKPdf 17 53 30.7 +7.6
NKC ePKPAB PKPab 17 53 39.7 -0.6
NKC epPKP 17 55 49.0
SKP1 Kophill 150.25 2 eP PKPdf 17 53 29.7 +6.5
BNT Bandirma 150.35 315 eP PKPdf 17 53 31.0 +7.4
PVL Pavlikeni 150.36 322 eP PKPdf 17 53 27.0 +3.4
SWN1 Swindon 150.42 3 eP PKPdf 17 53 30.5 +7.1
BUD Budapest 150.44 334⇑*i* PKP/F PKPdf 17 53 31.5 +7.9
MRMT Marmara Adasi 150.44 315 eP PKPdf 17 53 30.2 +6.4
SRO Srobarova 150.46 335 ePKP PKPdf 17 53 31.4 +7.8
SRO *e* 17 53 41.3
SRO *e* 17 55 51.4
SRO *e* 17 55 56.9
SRO2 Moca 150.47 335 ePKP PKPdf 17 53 31.5 +7.9
SRO2 *e* 17 55 55.0
SRO2 *e* 17 55 57.0
CRAR CRAIOVA 150.51 325 ⇓P PKPdf 17 53 32.1 +8.3
ELL Elmali 150.53 307 P PKPdf 17 53 32.4 +8.3
SRO1 Iza 150.53 335 ePKP PKPdf 17 53 31.7 +8.0
SRO1 *e* 17 53 41.8
SRO1 *e* 17 55 52.1
SRO1 *e* 17 55 57.2
MFT Murefte 150.55 316 eP PKPdf 17 53 30.9 +6.9
SMD Mendips 150.57 4 eP PKPdf 17 53 30.3 +6.7
ZST Bratislava 150.59 337 ePKP PKPdf 17 53 32.2 +8.4
ZST *e* 17 53 41.6
ZST *e* 17 55 50.2
ZST *e* 17 55 58.1
BZS Buzias 150.72 329 PKIKP PKPdf 17 53 25.4 +1.4
BZS Buzias 150.72 329 ⇑P PKPdf 17 53 31.9 +7.9
HEX Exmoor 150.73 5 eP PKPdf 17 53 30.9 +7.0
BALB Balikesir 150.73 313 eP PKPdf 17 53 32.0 +7.8
TSA1 Sevenoaks 150.74 0 eP PKPdf 17 53 31.7 +7.8
SWK Warminster 150.76 3 eP PKPdf 17 53 31.2 +7.3
DENT Denizli 150.77 309 eP PKPdf 17 53 33.3 +8.9
VKA Vienna 150.81 338⇑*i* PKP PKPdf 17 53 25.8 +1.7
VKA *i* 17 53 32.3
VKA *i* 17 55 42.7
VKA *i* 17 55 47.3
VKA Vienna 150.81 338⇑*i* PKIKP PKPdf 17 53 25.8 +1.7
VKA *i* 17 53 42.7
TFO1 Folkestone 150.87 359 eP PKPdf 17 53 32.0 +7.9
HGN Heimansgroeve 150.90 353 ePKP PKPdf 17 53 31.8 +7.7
HGN epPKP 17 53 41.3
HGN ex x 17 55 44.6
KHC Kasperske Hory 150.92 342 ePKIKP PKPdf 17 53 25.2 +1.0
KHC *e* 17 53 42.8
KHC Kasperske Hory 150.92 342 ePKP PKPdf 17 53 25.2 +1.0
KHC *e* 17 53 32.3
KHC *e* 17 53 42.8
KHC *e* 17 55 45.8
KHC *e* 17 57 02.5
KHC Kasperske Hory 150.92 342 ePKPDF PKPdf 17 53 25.2 +1.0
KHC ⇑ePKPB PKPdf 17 53 32.3 +8.1
KHC ePKPAB PKPab 17 53 42.8 -0.5
KHC epPKP 17 55 45.8
KHC ex x 18 15 50.5
KHC ex x 18 57 02.5
KSL Kastellorizon 150.99 306 eP PKPdf 17 53 27.0 +2.2

GRA1 Grafenberg Arr 151.01 346 ePKPdf PKPdf 17 53 25.9 +1.6
GRA1 ePKPbc PKPdf 17 53 32.5 +8.2
GRA1 ePKPab PKPab 17 53 43.2 -0.5
GRA1 epPKPbc 17 55 55.6
GRA1 ePP PP 17 57 17.9 +0.4
GRA1 ePPP PPP 18 00 55.1 +5.2
GRA1 eSKKSac 18 03 08.3
GRA1 eSS SS 18 15 52.4 +0.5
GRA1 eSSS SSS 18 21 47.6 +0.3
TNS Taunus Mts 151.07 349 ePKPdf PKPdf 17 53 26.0 +1.6
TNS ePKPbc PKPdf 17 53 32.5 +8.1
TNS ePKPab PKPab 17 53 42.8 -1.1
WET Wettzell 151.10 343 ePKPdf PKPdf 17 53 25.9 +1.4
WET ePKPbc PKPdf 17 53 32.5 +8.0
WET ePKPab PKPab 17 53 43.7 -0.4
GEC2 GERESS Array S 151.14 342 ePKPdf PKPdf 17 53 25.9 +1.3
GEC2 ePKPbc PKPdf 17 53 32.7 +8.1
GEC2 ePKPab PKPab 17 53 43.6 -0.7
GERES GERESS Array B 151.14 342 PKP PKPdf 17 53 26.0 +1.4
comp=Z,2.4nm,0.7s,baz=45,slow=1.9,SNR=29
GERES PKPbc PKPdf 17 53 32.6 +8.0
comp=Z,24nm,0.3s,baz=23,slow=1.8,SNR=319
GERES PKPab PKPab 17 53 43.3 -1.0
comp=Z,11nm,0.5s,baz=27,slow=3.0,SNR=12
GERES pPKP 17 55 44.3
comp=Z,24nm,1.0s,slow=4.0,SNR=5.9
GERES pPKPbc 17 55 49.2
comp=Z,28nm,1.0s,baz=45,slow=1.9,SNR=6.9
TEB Eastbourne 151.16 0 eP PKPdf 17 53 32.9 +8.4
FETY Fethiye 151.18 307 eP PKPdf 17 53 27.2 +2.1
SOP Sopron 151.22 337 ePKP/F PKPdf 17 53 25.9 +1.2
SOP *i* 17 53 32.9
SOP ePKP/p PKPab 17 53 44.3 -0.4
SOP epPKP/F 17 55 49.4
ALN Alexandroupoli 151.28 317 eP PKPdf 17 53 32.2 +7.2
ALN Alexandroupoli 151.28 317 eP 17 55 42.1
PLD Plovdiv 151.41 320 eP PKPdf 17 53 28.0 +2.8
PGB Panagyurishte 151.45 322 eP PKPdf 17 53 28.0 +2.8
RDO Rodhopi 151.46 318 eP PKPdf 17 53 26.0 +0.7
DAL1 Dalyan (Mudla) 151.46 307 eP PKPdf 17 53 34.5 +9.1
ABH Alteburg 151.55 350⇓eP PKPdf 17 53 26.3 +1.2
TOD Tromm 151.60 349 eP PKPdf 17 53 26.0 +0.8
PKSM Moragy 151.61 333 ⇓P PKPdf 17 53 33.7 +8.4
RZN Rozhen 151.65 320 eP PKPdf 17 53 26.0 +0.5
GIVF Givet 151.67 354 ePKIKP PKPdf 17 53 26.5 +1.2
comp=Z,144nm,1.6s
SIND Sindeldorf 151.69 347 eP PKPdf 17 53 26.3 +1.0
SWS Schriesheim 151.74 349 eP PKPdf 17 53 26.4 +1.0
BAIF Baives 151.77 355 ePKIKP PKPdf 17 53 26.7 +1.3
RUP Ruppelstein 151.79 351⇓eP PKPdf 17 53 26.7 +1.3
BOLS Boljevac 151.82 326⇑*i* PKP PKPdf 17 53 26.5 +0.9
MOA Molln 151.86 340⇓*i* P PKPdf 17 53 26.0 +0.4
MOA *i* 17 53 46.8
MOA *i* 17 55 44.0
BEO Belgrade 151.86 329⇑*i* PKP PKPdf 17 53 25.8 +0.1
BEO Belgrade 151.86 329 *i* 17 55 47.8
SVIS Svilajnac 151.87 327⇑*i* PKP PKPdf 17 53 26.6 +0.9
BLCB Balcova 151.90 312 eP PKPdf 17 53 33.9 +8.0
WLF Walferdange 151.96 352 ePKPdf PKPdf 17 53 27.3 +1.6
WLF ePKPbc PKPdf 17 53 34.8 +9.1
WLF ePKPab PKPab 17 53 46.6 -1.1
WLF epPKPdf 17 55 47.9
ARSA Arzberg 151.96 338⇓*i* P PKPdf 17 53 26.5 +0.8
ARSA *i* 17 53 47.2
ARSA *i* 17 55 45.7
VTS Vitosha 151.97 323 P PKPdf 17 53 27.8 +1.9
VTS ⇑P 17 53 34.9
VTS Vitosha 151.97 323 eP PKPdf 17 53 28.0 +2.1
PRK Paraskevi 152.01 314 eP PKPdf 17 53 27.0 +0.9
ARG Arkhangelos 152.06 307 eP PKPdf 17 53 35.0 +8.7
HDH Heidenheim 152.28 346 eP PKPdf 17 53 27.0 +0.8
MMB Musomiste 152.30 320 eP PKPdf 17 53 29.0 +2.6
BODT Bodrum 152.31 309 eP PKPdf 17 53 27.2 +0.7
STU Stuttgart 152.32 348 ePKPdf PKPdf 17 53 27.0 +0.8
STU ePKPbc PKPdf 17 53 34.7 +8.5
STU ePKPab PKPab 17 53 47.3 -1.9
STU epPKP 17 55 52.5
STU ePP PP 17 57 19.4 -4.9
KOGS Kog 152.38 336 ePKPdf PKPdf 17 53 27.0 +0.6
KOGS ePKPbc PKPdf 17 53 34.9 +8.5
KOGS ePKPab PKPab 17 53 48.3 -1.2
KOGS *e* 17 55 56.3
KOGS *e* 17 56 04.0
KOGS *e* 17 57 07.0
KOGS ePP PP 17 57 20.0 -4.6
KOGS *e* 17 58 35.1
KOGS epPP 17 59 33.8
KOGS ePPP PPP 18 00 52.3 -7.4
KOGS *e* 18 03 13.7
KOGS *e* 18 06 45.7
KOGS *e* 18 09 45.9
LANF Langenberg 152.38 350 PKP PKPdf 17 53 28.2 +1.9
GRUS Gruza 152.41 327⇑*i* PKP PKPdf 17 53 27.3 +0.8
GRUS Gruza 152.41 327 *i* 17 55 48.4
FUR Furstenfeldbru 152.42 344 ePKPdf PKPdf 17 53 28.1 +1.7
FUR ePKPbc PKPdf 17 53 36.0 +10
FUR ePKPab PKPab 17 53 49.1 -0.6
LOS Limnos 152.42 316 eP 17 55 56.4
KKB Krupnik 152.50 322 eP PKPdf 17 53 29.0 +2.3
LBG Lerchenberg 152.50 348 eP PKPdf 17 53 27.7 +1.2
BARS Barje 152.58 324⇑*i* PKP PKPdf 17 53 28.0 +1.3
BUCH Bad Urach 152.60 347 eP PKPdf 17 53 28.0 +1.4
DIVS Divcibare 152.62 328⇑*i* PKP PKPdf 17 53 27.7 +0.9
JLP Les Platons 152.67 4 eP PKPdf 17 53 35.4 +8.7
JVM Valle D.L. Mar 152.69 4 eP PKPdf 17 53 35.4 +8.7
STR Strasbourg 152.77 349 PKP PKPdf 17 53 29.2 +2.4
KBA Koelnbreinsper 152.83 340⇑*i* P PKPdf 17 53 27.4 +0.4
KBA *i* 17 53 50.6
KBA *i* 17 55 47.5
OUR Ouranopolis 152.89 318 eP PKPdf 17 53 35.9 +8.6
OUR Ouranopolis 152.89 318 eP 17 55 51.8
BFO Black Forest 152.91 348 ePKPdf PKPdf 17 53 28.3 +1.3
BFO ePKPbc PKPdf 17 53 36.2 +9.2
BFO ePKPab PKPab 17 53 50.3 -1.4
OBKA Obir 152.94 338⇓*i* P PKPdf 17 53 27.8 +0.7
OBKA *i* 17 53 50.5
OBKA *i* 17 55 43.5
SOH Sokhos 152.99 319 eP PKPdf 17 53 35.6 +8.2
SOH Sokhos 152.99 319 eP 17 55 45.6
WLS Welschbruch 153.00 350 PKP PKPdf 17 53 28.7 +1.5
GUT Gutenstein 153.01 347 eP PKPdf 17 53 28.1 +0.9
CDF Champ du Feu 153.02 350 ePKIKP PKPdf 17 53 28.2 +1.0
KARP Karpathos 153.04 306 eP PKPdf 17 53 29.0 +1.4
SPAK Spaichingen 153.04 348 eP PKPdf 17 53 28.0 +0.8
KNT Kendrikon 153.05 321 eP 17 55 52.0
BBLS Bajina Basta - 153.07 329⇓*i* PKP PKPdf 17 53 28.9 +1.5
BBLS Bajina Basta - 153.07 329 *e* 17 54 47.8
GCIS Gornji Cirnik 153.10 336 ePKPdf PKPdf 17 53 28.6 +1.2
GCIS ePKPdf PKPdf 17 53 36.9 +9.5
WATA Walderalm 153.11 343⇑*i* P PKPdf 17 53 28.7 +1.4
WATA *i* 17 53 36.7
WATA *i* 17 53 52.1
SISC Sisak 153.14 335 *i* PKP PKPdf 17 53 28.7 +1.2
VAY Valandovo 153.15 321⇑*i* PKP PKPdf 17 53 36.1 +8.5
VAY ⇑*i* PP PP 17 57 25.5 -3.9
VAY *i* SKKS 18 04 19.1
VAY Valandovo 153.15 321⇓*i* PKHKP 17 53 36.1
VAY ⇓*i* PKP2 PKPab 17 53 52.2 -0.7
VAY *i* pPKP2 17 55 57.6
VAY ⇑*i* PP PP 17 57 25.5 -3.9
VAY *i* SKKS 18 04 19.1
UBR Uberruh 153.16 345 eP PKPdf 17 53 28.1 +0.7
WTTA Wattenberg 153.16 343⇓*i* P PKPdf 17 53 28.5 +1.1
WTTA *i* 17 57 37.2
WTTA *i* 17 51 51.9
WTTA *i* 17 55 44.6
FLN La Foliniere 153.21 1 ePKIKP PKPdf 17 53 28.3 +0.9
FLN eR
comp=Z,638nm,21.2s
LIBD Limburg 153.22 349 eP PKPdf 17 53 28.5 +1.0
MOTA Moosalm 153.22 344⇑*i* P PKPdf 17 53 28.3 +0.8
MOTA *i* 17 53 52.5
MOTA *i* 17 55 50.7
ECH Echery 153.23 350 PKP PKPdf 17 53 29.4 +1.9
MEZF Maizieres J'vi 153.23 353 ePKIKP PKPdf 17 53 29.0 +1.5
comp=Z,202nm,1.7s
GORS Gorjuse 153.29 339 ePKPdf PKPdf 17 53 28.3 +0.6
SQTA Sankt Quirin 153.31 344⇑*i* P PKPdf 17 53 28.8 +1.2
SQTA *i* 17 53 37.3
SQTA *i* 17 53 53.1

PAIG Paliouri 153.32 318 eP PKPdf 17 53 36.4 +8.5
PAIG Paliouri 153.32 318 eP 17 55 53.1
THE Thessaloniki 153.34 320 eP PKPdf 17 53 35.7 +7.8
THE Thessaloniki 153.34 320 eP 17 55 50.7
LJU Ljubljana 153.35 338 ePKPdf PKPdf 17 53 28.8 +1.1
LJU ePKPbc PKPdf 17 53 37.3 +10
LJU ePKPab PKPab 17 53 52.1 -1.6
LJU epPKPdf 17 55 52.5
LJU epPKPbc 17 55 58.3
LJU epPKPab 17 57 09.1
LJU ePP PP 17 57 31.0 +0.6
LJU Ljubljana 153.35 338 ePKPdf PKPdf 17 53 28.8 +1.1
LJU ePKPbc PKPdf 17 53 37.3 +10
LJU ePKPab PKPab 17 53 52.1 -1.6
LJU epPKPbc 17 55 52.5
LJU epPKPab 17 55 58.3
LJU *e* 17 57 09.1
LJU ePP PP 17 57 25.0 -5.4
KIZ Kirchzarten 153.35 349 eP PKPdf 17 53 28.7 +1.1
SKO Skopje 153.36 323⇓*i* PKPdf PKPdf 17 53 28.7 +0.8
SKO ⇓*i* PKP PKPdf 17 53 37.3 +9.4
SKO *i* PP PP 17 57 28.2 -2.4
SKO Skopje 153.36 323⇓*i* PKIKP PKPdf 17 53 28.7 +0.8
SKO ⇓*i* PKHKP 17 53 37.3
SKO ⇓*i* PKP2 PKPab 17 53 53.4 -0.4
comp=Z,0.9nm,1.8s
SKO *i* pPKP2 17 55 59.0
SKO *i* PP PP 17 57 28.2 -2.4
THEF They Montfort 153.39 352 PKP PKPdf 17 53 29.9 +2.2
LDF La Druitiere 153.39 1 ePKIKP PKPdf 17 53 28.5 +0.8
comp=Z,29nm,1.0s
FELD Feldberg 153.41 349 eP PKPdf 17 53 28.9 +1.2
PTCC Patocco-Chiusa 153.43 340 ePKP PKPdf 17 53 28.5 +0.7
FVI Forni Avoltri 153.43 341 ePKP PKPdf 17 53 28.2 +0.4
GRG Griva 153.47 321 eP PKPdf 17 53 37.2 +9.2
GRG Griva 153.47 321 eP 17 55 51.5
ROSF Rostrenen 153.48 6 ePKIKP PKPdf 17 53 28.6 +0.8
BOJS Bojanci 153.55 336 ePKPdf PKPdf 17 53 29.4 +1.4
BOJS ePKPbc PKPdf 17 53 38.1 +10
BOJS ePKPab PKPab 17 53 53.4 -1.1
BOJS *e* 17 55 51.1
BOJS *e* 17 55 58.9
BOJS *e* 17 56 07.6
HAU Haudompre 153.55 351 ePKIKP PKPdf 17 53 29.1 +1.2
HAU eR
comp=Z,408nm,21.2s
APE Apeiranthos 153.58 310 eP PKPdf 17 53 27.2 -1.1
GRR Gorron 153.58 2 ePKIKP PKPdf 17 53 28.9 +1.0
comp=Z,25nm,1.0s
GMNA Gemona 153.58 340 ePKP PKPdf 17 53 28.8 +0.8
DAVA Damuels 153.58 345⇓*i* P PKPdf 17 53 29.5 +1.5
DAVA *i* 17 53 53.9
DAVA *i* 17 55 43.3
MOF Molkenrain 153.58 350 PKP PKPdf 17 53 29.7 +1.7
SGMF Saint Gilles 153.62 5 ePKIKP PKPdf 17 53 28.7 +0.7
HINF Hinteralfeld 153.66 350 ePKIKP PKPdf 17 53 29.1 +1.0
comp=Z,14nm,0.8s
BBS Basel-Blauen 153.90 349 eP PKPdf 17 53 29.6 +1.2
TRI Trieste 153.90 338 ePKP PKPdf 17 53 29.2 +0.8
QUIF Quistinic 153.91 6 ePKIKP PKPdf 17 53 29.5 +1.1
comp=Z,7.9nm,0.6s
SANT Santorini 153.95 309 ePKPdf PKPdf 17 53 27.6 -1.2
SANT ePKPbc PKPdf 17 53 37.8 +9.0
SANT ePKPab PKPab 17 53 54.4 -2.1
SANT epPKPdf 17 55 56.9
THR1 Thera Island 153.95 309 eP PKPdf 17 53 38.1 +9.3
LIT Litokhoron 153.95 319 eP PKPdf 17 53 29.7 +1.0
LIT Litokhoron 153.95 319 eP 17 55 52.3
THR3 Thira Island, 153.97 309 eP PKPdf 17 53 38.3 +9.5
THR3 Thira Island, 153.97 309 eP 17 55 55.9
THR5 Thira Island, 154.01 309 eP PKPdf 17 53 37.9 +9.0
DAVOX Davos 154.06 345 pPKP 17 55 48.7
comp=Z,8.1nm,0.7s,baz=321,slow=9.0,SNR=1.5
DAVOX pPKPbc 17 55 56.7
comp=Z,62nm,0.8s,baz=90,slow=3.0,SNR=6.0
DAVOX SKP 17 56 10.6
comp=Z,58nm,1.0s,baz=345,slow=11,SNR=5.6
BIA Bitola 154.06 322 *i* PKHKP 17 53 38.2
BIA ⇑*i* PKP2 PKPab 17 53 55.4 -1.4
LOMF Lomont 154.12 350 PKP PKPdf 17 53 30.8 +2.1
FNA Florina 154.18 321 eP PKPdf 17 53 29.4 +0.4
FNA Florina 154.18 321 eP 17 55 55.6
BRMO Bormio 154.22 344 ePKP PKPdf 17 53 30.2 +1.3
KZN Kozani 154.25 320 eP PKPab 17 53 56.5 -1.1
CTI Castel Tesino 154.26 342 ePKP PKPdf 17 53 29.6 +0.7
OHR Ohrid 154.30 325⇓*i* PKIKP PKPdf 17 53 30.1 +0.9
OHR ⇓*i* PKHKP 17 53 39.2
OHR ⇓*i* PKP2 PKPab 17 53 57.0 -0.8
OHR *i* pPKP2 17 56 01.6
NPS Neapolis 154.31 307 eP PKPdf 17 53 40.0 +11
XRY Khrisi 154.41 306 eP PKPdf 17 53 30.0 +0.5
STON Ston 154.64 329 *i* P PKPdf 17 53 29.4 -0.1
TIR Tirane 154.65 324 ep PKPab 17 53 59.4 +0.1
HYF Humbligny 154.66 357 ePKIKP PKPdf 17 53 31.1 +1.7
AGG Agios Georgios 154.69 317 eP PKPdf 17 53 31.7 +2.0
AGG Agios Georgios 154.69 317 eP 17 55 55.2
SSF Saint Saulge 154.81 355 ePKIKP PKPdf 17 53 30.9 +1.3
comp=Z,28nm,0.9s
IDI Anoyia 154.84 307 PKP PKPdf 17 53 32.2 +2.1
comp=Z,36nm,1.1s,baz=186,slow=4.4,SNR=9.0
IDI PKPbc PKPdf 17 53 40.9 +11
comp=Z,29nm,0.7s,baz=19,slow=8.0,SNR=5.8
IDI PKPab PKPab 17 53 59.0 -1.3
comp=Z,31nm,0.4s,baz=311,slow=1.0,SNR=16
IDI pPKP 17 55 50.0
comp=Z,16nm,0.9s,baz=359,slow=10,SNR=2.2
IDI SKKPab 18 03 15.6
comp=Z,38nm,1.1s,baz=225,slow=4.8,SNR=6.4
CABF La Chapelle 154.96 351 ePKIKP PKPdf 17 53 31.6 +1.7
comp=Z,196nm,1.5s
EVR Evrytania 155.08 318 eP PKPdf 17 53 33.8 +3.5
AVF Avril sur Loir 155.09 355 ePKIKP PKPdf 17 53 30.9 +0.9
OG01 Vacheresse 155.13 350 PKP PKPdf 17 53 32.5 +2.4
VAI Varese 155.17 346 ePKP PKPdf 17 53 30.9 +0.7
SMF Signal de Mont 155.19 354 ePKIKP PKPdf 17 53 31.2 +1.0
comp=Z,37nm,1.2s
MCGN Macugnaga 155.25 347 ePKP PKPdf 17 53 32.1 +1.8
VAM Vamos 155.29 308 eP PKPdf 17 53 32.0 +1.3
BGF Bois d'Agland 155.35 356 ePKIKP PKPdf 17 53 31.7 +1.3
comp=Z,26nm,0.9s
MFF Saint Martin d 155.38 1 ePKIKP PKPdf 17 53 31.5 +1.1
comp=Z,38nm,0.9s
VLI Veliai 155.56 312 eP PKPdf 17 53 41.5 +11
ORX Oropa 155.57 347 P PKPab 17 54 01.6 -1.5
OG05 Jujurieux 155.60 352 PKP PKPdf 17 53 32.7 +2.0
GVD Gavdhos 155.62 307 ePKPab PKPab 17 54 03.1 -0.5
TCF Toulx Ste Croi 155.66 357 ePKIKP PKPdf 17 53 32.0 +1.2
comp=Z,36nm,0.9s
TRAV 155.73 347 P PKPab 17 54 02.6 -1.1
PLDF La Plantade 155.88 355 PKP PKPdf 17 53 33.3 +2.2
LSD Ceresole Reale 155.90 348 P PKPab 17 54 04.3 -0.2
RSM Repubblica di 155.91 338 ePKP PKPdf 17 53 33.0 +1.8
LPL La Plagne 155.92 349 ePKIKP PKPdf 17 53 33.0 +1.8
comp=Z,31nm,1.2s
LPG La Plagne 155.93 349 ePKIKP PKPdf 17 53 33.1 +1.9
comp=Z,67nm,1.5s
ITM Ithomi 156.00 314 eP PKPdf 17 53 43.5 +12
ZCCA Zocca 156.01 341 ePKP PKPdf 17 53 33.5 +2.2
ARV Arcevia 156.12 337 ePKP PKPdf 17 53 32.6 +1.2
SFI Santa Sofia 156.14 339 ePKP PKPdf 17 53 33.0 +1.5
GRAM 156.14 343 P PKPab 17 54 04.6 -1.0
SEI Scarperia 156.16 340 ePKP PKPdf 17 53 33.4 +1.8
RSP Reno Superiore 156.17 348 P PKPab 17 54 04.8 -0.9
VMG Vicchio 156.18 340 ePKP PKPdf 17 53 32.7 +1.2
PGD Poggio Sodo 156.20 340 ePKP PKPdf 17 53 32.9 +1.3
VALM 156.22 342 P PKPab 17 54 04.8 -1.0
CODM 156.29 343 P PKPab 17 54 05.6 -0.6
VLS Valsamata 156.29 318 eP PKPab 17 54 05.5 -0.9
GDM Grand'Maison 156.32 350 PKP PKPdf 17 53 34.2 +2.5
FENE Fenestrelle 156.33 348 P PKPab 17 54 05.2 -1.1
SARO Sassorosso 156.33 342 P PKPab 17 54 05.0 -1.3
SNTG Esanatoglia 156.33 337 ePKP PKPdf 17 53 32.6 +0.8
FGMS Monte Sant'Ang 156.36 330 ePKP PKPdf 17 53 32.8 +1.0
BNI Bardonecchia 156.38 349 ePKPdf PKPdf 17 53 33.8 +2.0
BNI ePKPbc PKPdf 17 53 44.5 +13
BNI ePKPab PKPab 17 54 05.9 -0.6
BNI epPKPdf 17 55 50.5
BDI Bagni Di Lucca 156.38 342 ePKP PKPdf 17 53 31.2 -0.6
VINC Vinca 156.44 342 P PKPab 17 54 04.7 -2.2
BHB Bricherasio 156.47 348 P PKPab 17 54 04.7 -2.3
RRL Cesana Torines 156.48 349 P PKPab 17 54 06.0 -1.0
GENL Genova Univers 156.50 345 P PKPab 17 54 04.6 -2.5

NRCA	Norcia	156.63	336	*e*PKP	PKPdf	17 53 32.9	+0.7	
ORIF	Oris-en-Rattie	156.64	350	*e*PKIKP	PKPdf	17 53 33.6	+1.5	
	comp=Z,107nm,1.6s							
ORIF				*e*R				
	comp=Z,412nm,22.5s							
LBL	Lubilhac	156.64	355	PKP	PKPdf	17 53 34.5	+2.4	
RJF	Les Rejaudoux	156.67	358	*e*PKIKP	PKPdf	17 53 33.4	+1.3	
	comp=Z,100nm,1.4s							
RJF				*e*R				
	comp=Z,497nm,22.8s							
MBDF	Montbardon	156.67	349	*e*PKIKP	PKPdf	17 53 33.6	+1.4	
	comp=Z,109nm,1.5s							
PZZ	Prazzo	156.82	348	P	PKPab	17 54 05.9	-2.6	
ROB	Roburent	156.87	346	P	PKPab	17 54 06.6	-2.1	
VIVF	Saint-Julien-l	156.87	352	*e*PKIKP	PKPdf	17 53 33.9	+1.5	
	comp=Z,148nm,1.7s							
FIN	Finale Ligure	156.87	346	*e*PKP	PKPdf	17 53 33.3	+0.9	
FIN				P		17 54 06.7		
SURF	Saint Ours	156.90	348	PKP	PKPdf	17 53 35.3	+2.8	
CAF	Calviac	157.02	357	*e*PKIKP	PKPdf	17 53 34.0	+1.4	
	comp=Z,69nm,1.4s							
ENR	Entracque	157.03	347	P	PKPab	17 54 06.9	-2.5	
STV2	Anna di Valdie	157.03	347	P	PKPab	17 54 06.7	-2.7	
STV	Sta Anna Valdi	157.03	347	P	PKPab	17 54 06.6	-2.8	
LFF	La Frestale	157.05	359	*e*PKIKP	PKPdf	17 53 33.9	+1.3	
GRFL	Gerfalco	157.09	340	*e*PKP	PKPdf	17 53 33.5	+0.7	
MONE	Monesi	157.10	346	P	PKPab	17 54 07.7	-2.0	
MNS	Montasola	157.18	336	*e*PKP	PKPdf	17 53 33.0	+0.1	
PTQR	Pietraquaria	157.21	334	*e*PKP	PKPdf	17 53 33.5	+0.6	
IMI	Imperia	157.23	346	*e*PKP	PKPdf	17 53 33.8	+0.9	
IMI				P		17 54 08.8		
SAOF	Saorge	157.23	347	PKP	PKPdf	17 53 34.7	+1.8	
AUTN	L'Aution	157.25	347	PKP	PKPdf	17 53 35.1	+2.2	
TOUF	Mont Tournerai	157.27	347	PKP	PKPdf	17 53 34.9	+1.9	
MRLC	Muro Lucano	157.32	329	*e*PKP	PKPdf	17 53 33.6	+0.4	
NEGI	Negi	157.33	346	P	PKPab	17 54 08.3	-2.3	
SBF	Sospel	157.37	347	*e*PKIKP	PKPdf	17 53 33.8	+0.7	
MVIF	Mont Vial	157.40	347	PKP	PKPdf	17 53 35.1	+2.0	
REVF	Revere	157.50	347	PKP	PKPdf	17 53 35.1	+1.8	
STOF	St-Etienne Org	157.53	350	PKP	PKPdf	17 53 35.5	+2.2	
SGO	Sicignano	157.56	329	*e*PKP	PKPdf	17 53 33.4	-0.1	
CALN	Calern	157.59	348	PKP	PKPdf	17 53 35.3	+1.9	
SMRF	Simiane la Rot	157.61	350	*e*PKIKP	PKPdf	17 53 35.1	+1.7	
	comp=Z,96nm,1.5s							
VILF	Villemus	157.70	350	PKP	PKPdf	17 53 36.3	+2.8	
LASF	Ste Croix	157.73	354	*e*PKIKP	PKPdf	17 53 35.1	+1.5	
	comp=Z,108nm,1.5s							
STS	Santiago	157.79	18	PKP	PKPdf	17 53 36.5	+2.8	
FRF	La Foret Royal	157.82	348	*e*PKIKP	PKPdf	17 53 34.5	+0.8	
	comp=Z,54nm,1.3s							
PRAF	Pradon	157.84	351	PKP	PKPdf	17 53 36.5	+2.8	
TIP	Timpagrande	157.86	325	*e*PKPdf	PKPdf	17 53 34.9	+1.0	
TIP				*e*PKPbc	PKPdf	17 53 46.3	+12	
TIP				*e*PKPab	PKPab	17 54 13.2	0.0	
TIP				*ep*PKPdf		17 55 58.3		
TAVF	Tavernes	157.88	349	PKP	PKPdf	17 53 36.0	+2.2	
TREF	Trevaresse	157.98	350	PKP	PKPdf	17 53 36.3	+2.4	
PUYF	Puyloubier	158.02	350	PKP	PKPdf	17 53 36.0	+2.0	
LMR	La Mourre	158.07	348	*e*PKIKP	PKPdf	17 53 34.6	+0.6	
EARI	Arriondas	158.17	11	PKP	PKPdf	17 53 36.4	+2.2	
GELF	Grande-Etoile	158.21	350	PKP	PKPdf	17 53 36.5	+2.3	
PGF	Pioggiola	158.23	343	*e*PKIKP	PKPdf	17 53 35.8	+1.6	
	comp=Z,59nm,1.2s							
BERF	Bertagne	158.23	350	PKP	PKPdf	17 53 36.5	+2.3	
EINC	Incio	158.32	16	PKP	PKPdf	17 53 36.6	+2.2	
ELAN	Lanestosa	158.51	8	PKP	PKPdf	17 53 36.5	+1.9	
MTLF	Montolieu	158.60	356	*e*PKIKP	PKPdf	17 53 35.9	+1.3	
	comp=Z,80nm,1.4s							
ERUA	La Rua	158.62	16	PKP	PKPdf	17 53 36.8	+2.1	
EALK	Alkurruntz	158.71	4	PKP	PKPdf	17 53 36.3	+1.5	
SJPF	Ste Jean	158.83	3	*e*PKIKP	PKPdf	17 53 36.5	+1.6	
	comp=Z,14nm,0.8s							
ELOB	Lobios	158.87	18	PKP	PKPdf	17 53 37.4	+2.4	
EPF	Esparros	158.96	0	*e*PKIKP	PKPdf	17 53 36.5	+1.5	
	comp=Z,90nm,1.4s							
SOI	Samo	159.04	324	*e*PKP	PKPdf	17 53 36.4	+1.2	
ETSF	Etsaut	159.07	2	*e*PKIKP	PKPdf	17 53 37.0	+1.9	
	comp=Z,32nm,1.2s							
ECAL	Calabor	159.15	15	PKP	PKPdf	17 53 37.5	+2.2	
PBRG	Braganca	159.28	15	*e*PKPdf	PKPdf	17 53 37.3	+1.9	
PBRG				*e*PKPab	PKPab	17 54 18.4	-0.7	
EBIE	Bielsa	159.30	1	PKP	PKPdf	17 53 37.6	+2.2	
EJON	La Jonquera	159.44	355	PKP	PKPdf	17 53 36.6	+1.0	
PVRL	Vila Real	159.51	18	*e*PKPdf	PKPdf	17 53 38.8	+3.1	
PVRL				*e*PKPab	PKPab	17 54 19.7	-0.4	
PVIS	Viseu	159.98	19	*e*PKPdf	PKPdf	17 53 38.9	+2.7	
PVIS				*e*PKPab	PKPab	17 54 21.6	-0.6	
ESAC	San Caprasio	160.25	2	PKP	PKPdf	17 53 38.2	+1.7	
MTE	Manteigas	160.37	18	*e*PKPdf	PKPdf	17 53 39.9	+3.3	
MTE				*e*PKPab	PKPab	17 54 23.5	-0.4	
EPOB	Poblet	160.63	359	PKP	PKPdf	17 53 37.5	+0.7	
PTOM	Tomar	160.81	21	*e*PKPdf	PKPdf	17 53 40.5	+3.4	
PTOM				*e*PKPab	PKPab	17 54 24.8	-1.0	
VSL	Villasalto	160.90	338	*e*PKPdf	PKPdf	17 53 37.9	+0.8	
VSL				*e*PKPab	PKPab	17 54 25.1	-1.1	
VSL				*ep*PKPdf		17 55 56.0		
VSL				*e*PP	PP	17 58 07.8	-3.5	
PCBR	Castelo Branco	160.91	19	*e*PKPdf	PKPdf	17 53 39.8	+2.6	
PCBR				*e*PKPab	PKPab	17 54 25.3	-0.9	
ERTA	Horta de San J	161.03	0	PKP	PKPdf	17 53 38.7	+1.5	
EBR	Ebro Roquetas	161.16	360	*e*PKPpB	PKPab	17 54 26.0	-1.3	
PLOU	Loures	161.20	24	*e*PKPab	PKPab	17 54 26.6	-0.9	
EMOS	Mosqueruela	161.60	2	PKP	PKPdf	17 53 39.5	+1.6	
MOE	Montemor	161.81	23	*e*PKPab	PKPab	17 54 29.4	-0.8	
ESDC	Sonseca Array	161.91	11	PKP	PKPdf	17 53 40.3	+2.1	
	comp=Z,1.5nm,0.8s,baz=358,slow=2.4,SNR=8.7							
ESDC				PKPab	PKPab	17 54 29.7	-0.9	
	comp=Z,18nm,1.0s,baz=345,slow=4.1,SNR=32							
ESDC				pPKP		17 56 00.6		
	comp=Z,0.4nm,0.5s,baz=87,slow=38,SNR=1.8							
ESDC				pPKPab		17 56 40.0		
	comp=Z,1.6nm,0.8s,baz=337,slow=1.9,SNR=1.7							
ESDC	Sonseca Array	161.91	11	PKP	PKPdf	17 53 40.4	+2.3	
EVO	Evora	161.92	22	*e*PKIKP	PKPdf	17 53 41.0	+2.8	
	comp=Z,165nm,1.5s							
EVO				*e*R				
	comp=Z,400nm,20.2s							
EBAD	Badajoz	162.04	19	PKP	PKPdf	17 53 39.9	+1.6	
ETOS	Mallorca	162.10	354	PKP	PKPdf	17 53 40.1	+1.8	
PBEJ	Beja	162.43	22	*e*PKPdf	PKPdf	17 53 41.6	+2.9	
PBEJ				*e*PKPab	PKPab	17 54 32.7	-0.2	
PTEO	Sao Teotonio	162.53	25	*e*PKPdf	PKPdf	17 53 42.4	+3.5	
PTEO				*e*PKPab	PKPab	17 54 32.7	-0.6	
EGOM	La Gomera	162.84	65	PKP	PKPdf	17 53 41.3	+1.9	
EIBI	Ibiza	162.94	358	PKP	PKPdf	17 53 40.5	+1.3	
EMIN	Mina Concepcio	163.06	20	PKP	PKPdf	17 53 41.0	+1.6	
PALC	Alcoutim	163.07	22	*e*PKPdf	PKPdf	17 53 43.2	+3.8	
PALC				*e*PKPab	PKPab	17 54 35.1	-0.6	
ECAB	El Cabril	163.13	16	PKP	PKPdf	17 53 42.0	+2.5	
EVIA	Vianos	163.15	8	PKP	PKPdf	17 53 42.1	+2.6	
EADA	Adamuz	163.25	14	PKP	PKPdf	17 53 42.3	+2.8	
ETOB	Tobarra	163.25	5	PKP	PKPdf	17 53 41.3	+1.8	
CCAN	Las Canadas	163.33	64	PKP	PKPdf	17 53 42.5	+2.5	
EBAN	Banos Encina	163.41	12	PKP	PKPdf	17 53 42.1	+2.4	
EQES	Quesada	163.89	10	PKP	PKPdf	17 53 41.3	+1.1	
ELUQ	Luque	163.90	14	PKP	PKPdf	17 53 42.5	+2.3	
DBIC	Dimbokro	163.99	161	PKPdf	PKPdf	17 53 42.1	+1.1	
DBIC				PKPab	PKPab	17 54 40.2	-0.2	
DBIC				pPKPab		17 56 49.6		
DBIC				SKKSac		18 04 15.3		
DBIC				SKKSdf		18 08 21.8		
DBIC	Dimbokro	163.99	161	PKP	PKPdf	17 53 42.6	+1.6	
	comp=Z,36nm,0.8s,baz=160,slow=2.2,SNR=58							
DBIC				PKPab	PKPab	17 54 40.6	+0.2	
	comp=Z,46nm,0.7s,baz=176,slow=6.6,SNR=16							
DBIC				pPKPab		17 56 49.7		
	comp=Z,45nm,1.3s,baz=141,slow=3.6,SNR=5.5							
DBIC	Dimbokro	163.99	161	PKP	PKPdf	17 53 42.6	+1.6	
DBIC				PKPab	PKPab	17 54 40.6	+0.2	
DBIC				pPKPab		17 56 49.7		
EMUR	La Murta	164.07	5	PKP	PKPdf	17 53 42.3	+1.9	
ESPR	Espera	164.14	19	PKP	PKPdf	17 53 42.5	+2.1	
CMAH	Djebel Manchou	164.15	339	P	PKPdf	17 53 42.0	+1.5	
CAEH	'Ain El Ouahch	164.19	341	P	PKPdf	17 53 42.5	+2.0	
ELOJ	Sierra Loja	164.32	14	PKP	PKPdf	17 53 43.4	+2.7	
ABSA	Djebel Ababsia	164.45	338	P	PKPdf	17 53 44.0	+3.2	
ERON	Agron	164.51	13	PKP	PKPdf	17 53 42.9	+2.1	
CKFL	Kef-Lekhel	164.58	341	P	PKPdf	17 53 43.0	+2.1	
EJIF	Jimena Fronter	164.64	18	PKP	PKPdf	17 53 44.1	+3.1	
DFRA	Djebel Bou Aff	164.69	343	P	PKPdf	17 53 44.0	+3.0	
EMIJ	Mijas	164.72	16	PKP	PKPdf	17 53 43.7	+2.7	
CASM	Ain Smara	164.78	341	P	PKPdf	17 53 44.0	+2.9	
EBER	Berja	164.80	10	PKP	PKPdf	17 53 42.9	+1.8	
ENIJ	Nijar	164.83	8	PKP	PKPdf	17 53 44.1	+3.0	
CTEI	Djebel Teioual	164.99	341	P	PKPdf	17 53 44.0	+2.7	
SET	Setif	165.14	344	P	PKPdf	17 53 44.0	+2.6	
CKHR	Kef el Ahmar	165.29	344	P	PKPdf	17 53 45.0	+3.5	

*IDC **19** 18:00:12.0±0.8, 12.33N×143.59E, mb4.0/10, mb1 4.2/10, mb1mx4.1/20, mbtmp4.0/10, MS4.5/2, Ms1 4.5/2, ms1mx3.8/22, Error ellipse: s-maj=39.9km s-min=17.9km az=92.0*

*NEIC **19** 18:00:13.2±0.5, 12.31N×143.72E, h10km, mb4.5/2, Error ellipse: s-maj=22.8km s-min=10.2km az=106.0*

ISC 19 18:00:11.7±0.6, 12.28N±0.09×143.6E±0.2, h10km, n21, σ0s95/18, mb4.0/12, MS4.8/1, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	Guam	1.77	43	*e*P	Pn	18 00 41.8	-0.9
CBIJ	Chichi jima	14.80	355	LR	LR	18 07 59.3	
	comp=Z,1μm,18.4s,baz=124,slow=32						
CTA	Charters Tower	32.27	175	P	P	18 06 43.1	+0.2
	1.7nm,0.5s,mb4.1,baz=344,slow=14,SNR=3.2						
WRAB	Tennant Creek	33.29	196	*e*P	P	18 06 47.6	-4.1
	10nm,1.1s,mb4.7						
WB2	Warramunga Arr	33.30	196	*e*P	P	18 06 51.5	-0.4
WRA	Warramunga Arr	33.30	196	P	P	18 06 51.6	-0.3
	1.8nm,0.6s,mb4.2,baz=19,slow=9.7,SNR=17						
ASAR	Alice Springs	36.97	195	P	P	18 07 24.0	+0.9
	0.6nm,0.6s,mb3.6,baz=18,slow=12,SNR=7.5						
STKA	Stephens Creek	43.95	182	P	P	18 08 20.4	-0.3
	3.0nm,0.9s,mb4.0,baz=356,slow=12,SNR=3.1						
STKA	Stephens Creek	43.95	182	*e*P	P	18 08 18.7	-2.1
SONM	Songino Array	47.12	326	P	P	18 08 45.7	-0.2
	0.2nm,0.4s,mb3.4,baz=135,slow=2.0,SNR=2.4						
BVAR	Borovoye Array	70.20	322	P	P	18 11 25.4	-1.3
	0.5nm,0.6s,mb3.6,baz=90,slow=7.2,SNR=5.0						
INK	Inuvik	76.03	22	*e*P	P	18 11 60.0	-0.6
	2.9nm,1.1s,mb4.1						
YKA	Yellowknife Ar	84.57	27	P	P	18 12 46.0	-0.1
	0.3nm,0.5s,mb3.7,baz=289,slow=5.0,SNR=4.4						
YKA	Yellowknife Ar	84.57	27	P	P	18 12 46.0	-0.1
NEW	Newport	87.00	41	P	P	18 12 59.4	+0.9
	2.8nm,0.9s,mb4.5,baz=12,slow=3.2,SNR=2.7						
NEW	Newport	87.00	41	P	P	18 12 59.4	+0.9
NVAR	Mina Array Bea	88.68	51	P	P	18 13 08.2	+1.3
	0.9nm,0.6s,mb4.2,baz=270,slow=5.4,SNR=2.8						
GNI	Garni	88.86	311	LR	LR	18 55 25.9	
	comp=Z,340nm,20.6s,MS4.8,baz=2.8,slow=37						
FINES	FINESS Array B	91.83	335	P	P	18 13 22.7	+1.8
	0.6nm,0.6s,mb4.1,baz=63,slow=4.3,SNR=5.1						
FINES	FINESS Array B	91.83	335	P	P	18 13 22.7	+1.8
CFAA	Coronel Fontan	144.93	128	PKP	PKPdf	18 19 52.1	-0.6
	0.2nm,0.9s,baz=321,slow=8.4,SNR=3.1						

MAN 19 18:39:26.9, 13.60N×120.77E, h54km, mb3.5, ML2.2, MS1.7, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.53	285	*i*P	P	18 39 40.6	+1.9
LUBP	Lubang	0.53	285	*e*P	P	18 39 40.6	+1.9
LUBP				*e*S	S	18 39 54.3	+6.9
BOAC	Boac	1.05	97	*e*P	P	18 39 46.5	+0.8
SJMP	San Jose	1.18	163	*e*P	P	18 39 47.8	+0.3
SJMP				*e*S	S	18 40 03.4	+0.7

NEIC 19 18:39:42.0±1.8, 43.10N×127.40W, h10km, mb3.7/2, Error ellipse: s-maj=20.1km s-min=9.6km az=69.0, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
COR	Corvallis	3.31	62	P	Pn	18 40 32.8	-2.2
BBOR	Butler Butte	3.47	92	P	Pn	18 40 36.6	-0.7
BROR	Big Rock Looko	3.77	70	P	Pn	18 40 40.0	-1.5
IRO	Indian Ridge	3.85	75	P	Pn	18 40 41.3	-1.3
SSOR	Sweet Springs	3.97	62	P	Pn	18 40 42.8	-1.5
FRIS	Frissel Point	4.00	72	P	Pn	18 40 43.4	-1.4
NLO	Nicolai Mounta	4.11	42	P	Pn	18 40 44.3	-2.0
HUOR	Husband	4.16	74	P	Pn	18 40 45.9	-1.1
BPO	Bald Peter	4.41	67	P	Pn	18 40 49.8	-0.8
VLMM	Larch Mountain	4.55	56	P	Pn	18 40 51.1	-1.5
TDH	Tom, Dick, Har	4.59	60	P	Pn	18 40 51.8	-1.3
VBEM	Beaver Butte	4.62	63	P	Pn	18 40 52.5	-1.1
VLL	Laurance Lake	4.74	58	P	Pn	18 40 54.0	-1.2
VFP	Flag Point	4.81	61	P	Pn	18 40 54.6	-1.6
ERK	Elk Rock	4.82	47	P	Pn	18 40 54.4	-2.0
ASR	Mount Adams--S	5.14	52	P	Pn	18 40 59.3	-1.7
LON	Longmire	5.39	45	P	Pn	18 41 02.8	-1.6
RCM	Mount Rainier-	5.49	45	P	Pn	18 41 04.3	-1.5
WPW	White Pass	5.49	47	P	Pn	18 41 04.1	-1.8
FMW	Mount Fremont	5.58	45	P	Pn	18 41 05.2	-1.9
HTW	Haystack Looko	6.14	38	P	Pn	18 41 12.7	-2.5
RSW	Rattlesnake Hi	6.46	57	P	Pn	18 41 17.4	-2.1
BMO	Blue Mountains	7.49	73	*e*P	Pn	18 41 30.6	-3.3
WMOK	Wichita Mounta	23.70	101	P	P	18 44 53.8	-0.8
	1.3nm,0.7s						
FCC	Fort Churchill	25.83	41	P	P	18 45 13.5	-1.3
	2.1nm,1.0s						

*IDC **19** 18:41:47.3±0.7, 10.94N×92.18E, mb4.1/11, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, Error ellipse: s-maj=28.9km s-min=15.1km az=59.0*

*NEIC **19** 18:41:51.5±0.5, 10.98N×92.26E, h30km, mb4.1/7, Error ellipse: s-maj=15.4km s-min=8.1km az=58.0*

*BJI **19** 18:41:51.8, 10.86N×91.75E, h51km, mB5.1, mb4.4*

ISC 19 18:41:48.5±0.5, 10.81N±0.07×91.72E±0.10, h33km, n45, σ0s89/46, mb4.2/19, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	Chiang Mai Arr	10.33	42	*e*P	P	18 44 10.8	-6.7
	1.8nm,0.5s						
KULM	Kulim	10.40	121	*e*P	P	18 44 13.3	-5.2
VIS	Vishakhapatnam	10.65	311	*e*P	P	18 44 19.2	-2.7
VIS				*e*S	S	18 46 08.2	-13
VIS				AML	AML	18 46 12.2	
	comp=N,41nm,0.2s						
VIS				AML	AML	18 46 12.8	
	comp=E,38nm,0.5s						
HYB	Hyderabad	14.36	299	*e*P	P	18 45 23.0	+11
HYB	Hyderabad	14.36	299	*i*P	P	18 45 23.0	+11
BLSP	Bilaspur	14.53	322	*e*P	P	18 45 13.4	-0.3
BLSP				*e*S	S	18 47 46.8	-7.7
JIRN	Jiri	17.55	344	*e*P	P	18 45 51.1	-1.2
PKI	Pulchoki	17.70	341	*e*P	P	18 45 54.2	0.0
DMN	Daman	17.84	340	*e*P	P	18 45 54.8	-1.0
KKN	Kakani	17.95	341	*e*P	P	18 45 55.9	-1.3
	comp=E,14nm,0.8s						
GKN	Gorkha	18.36	340	*e*P	P	18 46 01.8	-0.6
KOLN	Koldanda	18.52	337	*e*P	P	18 46 03.9	-0.5
LSA	Lhasa	18.81	358	P	P	18 46 07.8	-0.1
LSA	Lhasa	18.81	358	*e*P	P	18 46 08.0	+0.2
	comp=E,6.3nm,0.8s						
POO	Poona	18.91	296	*e*P	P	18 46 11.1	+1.9
POO				*e*		18 49 26.0	
POO				*e*S	S	18 49 45.9	+11
KSM	Kuching	20.66	115	*e*P	P	18 46 22.9	-5.2
GYA	Guiyang	21.01	40	*i*P	P	18 46 32.0	+0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.5						
CD2	Chengdu	22.91	27	P	P	18 46 51.8	+1.1
DDI	Dehra Dun	23.21	329	*e*	P	18 47 03.5	+10
ENH	Enshi	25.46	38	*e*P	P	18 47 14.9	-0.4
	comp=Z,28nm,0.6s,mb5.0						
AAK	Ala-Archa	35.09	338	*e*P	P	18 48 40.8	+0.1
	comp=Z,2.6nm,0.9s,mb4.2						
SONM	Songino Array	38.92	16	P	P	18 49 13.9	+1.1
	comp=Z,3.9nm,0.8s,mb4.2,baz=203,slow=8.2,SNR=34						
ULN	Ulaanbaatar	39.13	16	*e*P	P	18 49 14.7	+0.2
	comp=Z,3.6nm,1.2s,mb4.0						
KURK	Kurchatov	41.23	347	*e*P	P	18 49 32.1	+0.3
	comp=Z,3.4nm,1.0s,mb3.9						
ZAL	Zalesovo	43.37	354	P	P	18 49 50.7	+1.3
	comp=Z,1.6nm,0.8s,mb3.8,baz=299,slow=7.6,SNR=9.7						
ZAL	Zalesovo	43.37	354	P	P	18 49 50.7	+1.3
CN2	Changchun	43.93	35	*e*P	P	18 49 54.8	+0.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
FITZ	Fitzroy Crossi	44.12	130	*e*P	P	18 49 55.9	0.0
	comp=Z,7.3nm,0.8s,mb4.5						
BVAR	Borovoye Array	45.47	342	P	P	18 50 06.5	+0.2
	comp=Z,0.4nm,0.5s,mb3.5,baz=135,slow=8.4,SNR=5.8						
CHKZ	Chkalovo	45.97	343	*e*P	P	18 50 10.3	+0.1
	comp=Z,2.1nm,0.8s,mb4.1						
NWAO	Narrogin (SRO)	49.84	152	P	P	18 50 41.0	+0.3
	comp=Z,6.0nm,1.0s,mb4.6,baz=124,slow=2.5,SNR=3.4						
GNI	Garni	50.70	314	P	P	18 50 51.9	+4.8
	comp=Z,1.5nm,0.4s,mb4.3,baz=273,slow=18,SNR=2.7						
WRA	Warramunga Arr	51.90	126	P	P	18 50 56.2	-0.2
	comp=Z,1.6nm,0.5s,mb4.2,baz=306,slow=8.5,SNR=43						
WRAB	Tennant Creek	51.90	126	*e*P	P	18 50 53.6	-2.8
WB2	Warramunga Arr	51.91	126	*e*P	P	18 50 56.0	-0.5
ASPA	Alice Springs	53.61	130	*e*P	P	18 51 08.8	-0.3
ASAR	Alice Springs	53.62	130	P	P	18 51 08.9	-0.3
	comp=Z,5.2nm,0.8s,mb4.5,baz=305,slow=6.7,SNR=62						
BRTR	Keskin Array B	58.72	310	P	P	18 51 50.3	+4.7
	comp=Z,0.8nm,0.8s,mb3.8,baz=112,slow=7.8,SNR=4.2						
STKA	Stephens Creek	63.84	134	P	P	18 52 20.6	+0.3
	comp=Z,1.7nm,0.6s,mb4.3,baz=355,slow=12,SNR=7.0						
STKA	Stephens Creek	63.84	134	*e*P	P	18 52 20.3	0.0
FINES	FINESS Array B	69.02	332	P	P	18 52 53.1	+0.6
	comp=Z,1.0nm,0.8s,mb3.8,baz=80,slow=8.5,SNR=4.5						
MATP	Matopo	69.48	243	P	P	18 53 01.9	+5.8
	comp=Z,4.5nm,1.2s,mb4.3,baz=178,slow=5.4,SNR=2.9						
MATP	Matopo	69.48	243	P	P	18 53 01.9	+5.8
PLCA	Paso Flores	146.33	205	PKPbc	PKPbc	19 01 29.0	+2.9
	comp=Z,1.9nm,0.8s,baz=249,slow=4.8,SNR=3.4						
PLCA	Paso Flores	146.33	205	PKPbc	PKPbc	19 01 29.0	+2.9

*NEIC **19** 19:00:16.3±0.2, 20.34S×174.27W, h10km, mb4.8/18, Error ellipse: s-maj=11.3km s-min=6.1km az=144.0*

*BJI **19** 19:00:16.3, 20.30S×174.30W, h10km, mB5.6, mb5.4, Ms5.5, Ms2.5.1*

*IDC **19** 19:00:23.1±3.6, 20.48S×174.27W, h63km±33km, mb4.1/14, mb1 4.2/16, mb1mx4.1/22, mbtmp4.4/16, ML4.3/2, MS4.1/3, Ms1 4.1/3, ms1mx3.6/21, Error ellipse: s-maj=35.6km s-min=11.6km az=150.0*

ISC 19 19:00:18.0±0.3, 20.50S±0.08×174.16W±0.06, h33km, n92, σ1s14/59, mb4.6/34, MS4.3/4, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	Afiamalu	6.94	20	*e*Pn	Pn	19 01 52.0	-8.2
	56nm,0.5s						
AFI				*e*Sn	Sn	19 03 07.1	-12
RAR	Rarotonga	13.47	96	P	P	19 03 20.3	-8.9
	1.4nm,0.3s,baz=249,slow=8.0,SNR=9.5						
RAR				S	S	19 05 42.1	-17
	1.4nm,0.3s,baz=207,slow=18,SNR=2.6						
RAR	Rarotonga	13.47	96	*e*P	P	19 03 19.5	-10
	750nm,2.2s						
NOUC	Port Laguerre	18.27	262	*e*P	P	19 04 32.8	+2.0
NOUC	Port Laguerre	18.27	262	*e*P	P	19 04 32.8	+2.0
URZ	Urewera	19.24	201	P	P	19 04 42.3	0.0
	0.8nm,0.3s,baz=295,slow=3.0,SNR=6.0						
PAE	Paea	23.40	87	*e*P	P	19 05 23.4	-1.5
	22nm,1.0s,mb4.5						
PPT	Papeete	23.42	87	eLR	LR	19 10 29.3	
	788nm,28.0s						
PPT	Papeete	23.42	87	P	P	19 05 25.8	+0.7
	17nm,

LZH	**Lanzhou**	**95.65**	**306**	*e*P	**P**	**19 13 43.1**	**+1.5**
LZH				AP	pP	19 13 46.3	-5.9
LZH				AMB	AMB		
	comp=Z,22nm,1.3s,mb5.4						
LZH				LR	LR		
	comp=N,439nm,15.0s						
LZH				LR	LR		
	comp=Z,594nm,17.3s,MS5.1						
ARCES	**ARCESS Array B**	**129.53**	**351**	PKP	PKPdf	19 19 25.4	+2.3
	comp=Z,2.8nm,0.9s,baz=346,slow=5.0,SNR=4.4						
ARCES	**ARCESS Array B**	**129.53**	**351**	PKP	PKPdf	19 19 25.4	+2.3
AKASG	**Malin Array Be**	**144.67**	**334**	PKP	PKPdf	19 19 51.1	0.0
	comp=Z,1.2nm,0.4s,baz=39,slow=4.4,SNR=13						
MALT	**Malatya**	**146.75**	**309**	*e*PKPbc	PKPbc	19 19 60.0	+3.4
MALT				*e*		19 20 05.0	
KSP	**Ksiaz**	**148.62**	**347**	*e*PKP	PKPdf	19 20 03.8	+6.1
CLL	**Collm**	**148.75**	**351**	*i* PKP1	PKPdf	19 20 02.8	+5.0
CLL				*e*		19 20 14.0	
CLL				*i*		19 20 20.3	
BRG	**Berggiesshubel**	**149.03**	**350**	*e*P	PKPdf	19 20 04.9	+6.6
DPC	**Dobruska-Polom**	**149.08**	**347**	*e*P	PKPdf	19 20 05.2	+6.8
DPC	**Dobruska-Polom**	**149.08**	**347**⇑	*e*PKPB	PKPdf	19 20 05.2	+6.8
OKC	**Ostrava-Krasne**	**149.13**	**344**	*e*P	PKPdf	19 19 49.0	-10
OKC	**Ostrava-Krasne**	**149.13**	**344**⇑	*e*PKPB	PKPdf	19 19 48.0	-10
BRTR	**Keskin Array B**	**149.45**	**315**	PKPbc	PKPdf	19 20 06.5	+7.2
	comp=Z,0.8nm,0.6s,baz=137,slow=4.9,SNR=3.3						
MOX	**Moxa**	**149.58**	**353**	*e*PKP	PKPdf	19 20 06.7	+7.5
PRU	**Pruhonice**	**149.78**	**349**	*e*P	PKPdf	19 20 06.7	+7.2
PRU	**Pruhonice**	**149.78**	**349**⇑	*e*PKPB	PKPdf	19 20 06.7	+7.2
VYHS	**Vyhne**	**150.18**	**342**	*e*PKP	PKPdf	19 20 08.0	+7.8
VYHS				*e*		19 20 19.3	
GIVF	**Givet**	**150.46**	**1**	*e*PKP1	PKPdf	19 20 08.8	+8.2
BAIF	**Baives**	**150.48**	**2**	*e*PKP1	PKPdf	19 20 09.0	+8.4
	comp=Z,6.3nm,0.8s						
GRA1	**Grafenberg Arr**	**150.56**	**353**	*e*PKP	PKPdf	19 20 08.4	+7.6
KHC	**Kasperske Hory**	**150.77**	**350**	*e*P	PKPdf	19 20 08.6	+7.5
KHC				*e*		19 20 15.5	
KHC	**Kasperske Hory**	**150.77**	**350**⇑	*e*PKPB	PKPdf	19 20 08.6	+7.5
KHC				*e*PKPAB	PKPab	19 20 15.5	-0.6
SRO	**Srobarova**	**150.94**	**343**	*e*PKP	PKPdf	19 20 14.7	+13
GERES	**GERESS Array B**	**151.03**	**349**	PKPbc	PKPdf	19 20 08.9	+7.5
	comp=Z,1.5nm,0.6s,baz=27,slow=3.0,SNR=12						
ROSF	**Rostrenen**	**151.28**	**13**	*e*PKP1	PKPdf	19 20 11.1	+9.2
	comp=Z,16nm,1.0s						
FLN	**La Foliniere**	**151.35**	**9**	*e*PKP1	PKPdf	19 20 09.5	+7.5
	comp=Z,15nm,1.0s						
SGMF	**Saint Gilles**	**151.50**	**12**	*e*PKP1	PKPdf	19 20 11.4	+9.2
	comp=Z,31nm,1.3s						
LDF	**La Druitiere**	**151.57**	**8**	*e*PKP1	PKPdf	19 20 09.6	+7.3
GRR	**Gorron**	**151.66**	**9**	*e*PKP1	PKPdf	19 20 10.1	+7.7
	comp=Z,11nm,0.9s						
CDF	**Champ du Feu**	**152.13**	**358**	*e*PKP1	PKPdf	19 20 12.7	+10
HAU	**Haudompre**	**152.56**	**359**	*e*PKP1	PKPdf	19 20 13.6	+10
HINF	**Hinteralfeld**	**152.74**	**359**	*e*PKP1	PKPdf	19 20 13.5	+9.5
SSF	**Saint Saulge**	**153.44**	**4**	*e*PKP1	PKPdf	19 20 15.6	+11
	comp=Z,14nm,1.3s						
CABF	**La Chapelle**	**153.96**	**360**	*e*PKP1	PKPdf	19 20 18.2	+12

*NEIC **19** 19:02:02.4, 32.35S×71.82W, h24km, ML2.6(GUC), After GUC.*

GUC 19 19:02:02.4±0.6, 32.35S×71.82W, h24km±5km, MD3.5, ML2.6, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.38**	**120**	⇓*i*P	Pb	19 02 10.6	0.0
PACH				*i* S	Sb	19 02 16.6	+0.5
CHNG	**Los Chungos**	**0.54**	**31**	⇓*i*P	Pb	19 02 12.9	-0.3
CHNG				*i* S	Sb	19 02 20.9	+0.3
CHNG				AMP		19 02 21.3	
	comp=E,297nm,0.3s						
ILCH	**Illapel**	**0.90**	**38**	⇓*i*P	Pb	19 02 18.7	-0.6
ILCH				*e*S	Sb	19 02 31.1	+0.2
ILCH				AMP		19 02 32.7	
	comp=N,247nm,0.3s						
ROCH	**El Roble**	**0.93**	**132**	⇓*i*P	Pb	19 02 19.4	-0.2
ROCH				*i* S	Sb	19 02 32.2	+0.7
JACH	**Jahuel**	**1.09**	**108**⇑	*i*P	Pn	19 02 21.9	-0.4
JACH				*i* S	Sb	19 02 36.4	+0.1
LCCH	**Las Cruces**	**1.14**	**169**	*e*P	Pn	19 02 22.1	-1.0
LCCH				*i* S	Sb	19 02 37.1	-0.7
SCR	**San Cristobal**	**1.34**	**149**⇑	*i*P	Pn	19 02 28.1	+2.2
SCR				*i* S	Sn	19 02 47.5	+4.4
SCR				AMP		19 02 49.3	
	comp=E,115nm,0.5s						
RCDM	**Rinconada Maip**	**1.42**	**143**⇑	*i*P	Pn	19 02 26.8	-0.3
RCDM				*i* S	Sn	19 02 45.2	+0.1
RCDM				AMP		19 02 47.6	
	comp=E,261nm,0.1s						
TACH	**Talagante**	**1.50**	**150**	*e*P	Pn	19 02 28.0	-0.2
TACH				*i* S	Sn	19 02 48.0	+0.9
CLCH	**Cerro Calan**	**1.50**	**134**	*e*P	Pn	19 02 28.8	+0.6
CLCH				*i* S	Sn	19 02 48.1	+0.9
CLCH				AMP		19 02 57.2	
	comp=E,188nm,0.5s						
FCH	**Farellones**	**1.62**	**128**⇑	*i*P	Pn	19 02 30.5	+0.6
FCH				*i* S	Sn	19 02 52.1	+2.0
FCH				AMP		19 02 53.3	
	comp=E,122nm,0.3s						
CHCH	**Chadas Angostu**	**1.86**	**148**	⇓*i*P	Pn	19 02 34.3	+1.0
CHCH				*e*S	Sn	19 02 57.6	+1.3
LMEL	**Las Melosas**	**2.02**	**138**	*e*P	Pn	19 02 36.5	+0.8
LMEL				*i* S	Sn	19 03 03.0	+2.7
LMEL				AMP		19 03 07.2	
	comp=N,98nm,0.2s						
CICH	**Cipreses**	**2.29**	**150**	*e*P	Pn	19 02 40.1	+0.6

*IDC **19** 19:05:57.9±1.9, 43.57N×105.32W, mb4.3/2, mb1 3.9/6, mb1mx3.6/20, mbtmp3.7/6, ML3.5/2, Error ellipse: s-maj=52.1km s-min=8.6km az=151.0*

*NEIC **19** 19:05:59.4±0.6, 43.74N×105.16W, ML3.3, Error ellipse: s-maj=7.7km s-min=5.5km az=82.0, Suspected Mining explosion.*

NEIC 70 km [40 miles] SSE of Gillette.

ISC 19 19:05:57.3±0.6, 43.74N±0.04×105.12W±0.08, n39, σ1$20/39, mb4.5/2, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.45**	**186**	*e*Pn	**Pn**	**19 06 41.1**	**+2.0**
LAO	**LASA Array**	**3.06**	**346**	*e*Pn	**Pn**	**19 06 49.2**	**+1.4**
BW06	**Boulder Array**	**3.39**	**255**	*e*Pn	**Pn**	**19 06 52.6**	**+0.1**
PDAR	**Pinedale Array**	**3.39**	**255**	Pn	**Pn**	**19 06 52.8**	**+0.2**
	8.1nm,0.3s,baz=73,slow=16,SNR=101						
PDAR				Lg		19 07 37.1	
	14nm,0.3s,baz=72,slow=31,SNR=10.0						
GCMT	**Greycliff**	**3.84**	**304**	*e*Pn	**Pn**	**19 06 59.1**	**+0.2**
LKWY	**Lake**	**3.89**	**284**	*e*Pn	**Pn**	**19 07 01.0**	**+1.3**
ISCO	**Idaho Springs**	**3.95**	**186**	*e*Pn	**Pn**	**19 07 02.3**	**+1.8**
LOHW	**Long Hollow**	**3.98**	**270**	*e*Pn	**Pn**	**19 07 00.0**	**-0.9**
MOOW	**Moose Ponds**	**4.08**	**272**	*e*Pn	**Pn**	**19 07 03.1**	**+0.7**
WUWY	**Wally Ulrich**	**4.09**	**269**	*e*Pn	**Pn**	**19 07 00.2**	**-2.3**
SNOW	**Snow King Moun**	**4.11**	**268**	*e*Pn	**Pn**	**19 07 04.7**	**+1.9**
YNR	**Norris Junctio**	**4.12**	**286**	Pn	**Pn**	**19 07 04.6**	**+1.7**
YFT	**Old Faithful**	**4.18**	**282**	P	**Pn**	**19 07 04.8**	**+1.0**
IMW	**Indian Meadow**	**4.22**	**274**	*e*Pn	**Pn**	**19 07 05.6**	**+1.3**
TPAW	**Teton Pass**	**4.25**	**269**	*e*Pn	**Pn**	**19 07 04.6**	**-0.1**
YMR	**Madison River**	**4.31**	**285**	P	**Pn**	**19 07 08.0**	**+2.4**
AHID	**Auburn Hatcher**	**4.48**	**260**	Pn	**Pn**	**19 07 04.2**	**-3.9**
RRI2	**Red Ridge**	**4.53**	**267**	*e*Pn	**Pn**	**19 07 08.2**	**-0.5**
QLMT	**Earthquake Lak**	**4.66**	**286**	*e*Pn	**Pn**	**19 07 12.6**	**+1.9**
BOZ	**Bozeman (W)**	**5.02**	**295**	*e*Pn	**Pn**	**19 07 13.9**	**-1.8**
HWUT	**Hardware Ranch**	**5.21**	**248**	*e*P	**Pn**	**19 07 17.6**	**-0.8**
	12nm,0.4s						
TCUT	**Toone Canyon**	**5.34**	**243**	*e*Pn	**Pn**	**19 07 19.6**	**-0.7**
HRY	**Holter Researc**	**5.60**	**304**	*e*Pn	**Pn**	**19 07 23.1**	**-0.7**
DAU	**Daniels Canyon**	**5.65**	**236**	*e*Pn	**Pn**	**19 07 24.6**	**0.0**
HVU	**Hansel Valley**	**5.97**	**254**	*e*Pn	**Pn**	**19 07 27.4**	**-1.6**
SDCO	**Great Sand Dun**	**5.99**	**183**	*e*Pn	**Pn**	**19 07 30.3**	**+0.9**
	1.1nm,0.4s						
SRU	**San Rafael**	**6.15**	**223**	*e*Pn	**Pn**	**19 07 30.6**	**-1.1**
TMUT	**Trail Mountain**	**6.37**	**228**	*e*Pn	**Pn**	**19 07 34.2**	**-0.5**
CHMT	**Chamberlain Mo**	**6.56**	**302**	*e*Pn	**Pn**	**19 07 36.2**	**-1.1**
DUG	**Dugway**	**6.74**	**241**	*e*Pn	**Pn**	**19 07 39.0**	**-0.9**
	4.5nm,0.3s						
HLID	**Hailey**	**6.75**	**272**	*e*Pn	**Pn**	**19 07 39.9**	**-0.1**
MSU	**Marysvale**	**7.46**	**228**	*e*Pn	**Pn**	**19 07 49.4**	**-0.7**
MVU	**Marysvale**	**7.48**	**228**	*e*Pn	**Pn**	**19 07 49.9**	**-0.4**
	4.2nm,0.6s						
ELK	**Elko**	**8.08**	**252**	Pn	**P**	**19 07 57.4**	**-1.4**
	0.3nm,0.3s,baz=57,slow=14,SNR=3.7						
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn	**P**	**19 08 10.8**	**-1.7**
	0.7nm,0.3s,baz=232,slow=12,SNR=5.3						
ULM				Lg		19 10 43.9	
	0.4nm,0.3s,baz=137,slow=19,SNR=2.8						
YKA	**Yellowknife Ar**	**19.59**	**347**	P	**P**	**19 10 30.3**	**+0.8**
	0.1nm,0.3s,baz=164,slow=13,SNR=4.3						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**19 16 15.8**	**-1.1**
	5.5nm,0.9s,mb4.7,baz=323,slow=6.1,SNR=3.6						
ARCES	**ARCESS Array B**	**61.39**	**18**	P	**P**	**19 16 15.8**	**-1.1**
FINES	**FINESS Array B**	**67.99**	**23**	P	**P**	**19 16 59.5**	**-0.3**
	2.9nm,1.1s,mb4.4,baz=333,slow=6.2,SNR=4.3						

*BJI **19** 19:22:19.5, 23.78N×120.86E, h10km, mB4.7, mb4.3, ML4.3, Ms4.2, Msz4.2*

*TAP **19** 19:22:19.5, 23.68N×120.93E, h9km, ML4.2*

TAP Felt II J at Alishan, I J at Ryuetan, I J at Yuchr, III J at Tsauling, III J at Mingjian, II J at Gukeng, I J at Chiayi, II J at Szhu, I J at Dacheng.

*NEIC **19** 19:22:21.5±2.8, 23.78N×121.02E, h10km, mb3.9/3, ML4.5(TAP), Error ellipse: s-maj=44.3km s-min=14.4km az=157.0*

NEIC Recorded [3 TAP] in Nan-t'ou and Yun-lin; [2 TAP] in Chia-i; [1 TAP] in Chang-hua Counties.

ISC 19 19:22:20.3±0.2, 23.69N±0.01×120.94E±0.01, h9km±2km, n87, σ1$05/144, mb4.0/4, 16C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUS	**Yu-Shan**	**0.20**	**178**⇑	*i*P	**Pg**	**19 22 24.7**	**+0.2**
YUS				S	**Sg**	**19 22 28.2**	**+0.8**
SMLT	**Sun Moon Lake**	**0.20**	**349**⇓	*i*P	**Pg**	**19 22 24.6**	**0.0**
SMLT				S	**Sg**	**19 22 28.5**	**+0.9**
ALS	**Alishan**	**0.21**	**216**⇓	*i*P	**Pg**	**19 22 24.7**	**-0.2**
ALS				S	**Sg**	**19 22 28.4**	**+0.4**
TYC	**Yuchr**	**0.23**	**340**⇓	*i*P	**Pg**	**19 22 25.0**	**-0.2**
CHN5	**Tsauling**	**0.26**	**250**	*i* P	**Pg**	**19 22 25.3**	**-0.4**
WNT	**Mingjian**	**0.30**	**309**⇑	*i*P	**Pg**	**19 22 26.8**	**+0.2**
WNT				S	**Sg**	**19 22 32.2**	**+1.4**
WGK	**Gukeng**	**0.35**	**270**⇑	*i*P	**Pg**	**19 22 27.2**	**-0.2**
WGK				S	**Sg**	**19 22 33.4**	**+1.1**
EHY	**Hungye**	**0.39**	**117**⇑	*i*P	**Pg**	**19 22 28.4**	**+0.1**
EHY				S	**Sg**	**19 22 35.2**	**+1.6**
CHN2	**Minshiung**	**0.46**	**251**⇑	*i*P	**Pg**	**19 22 29.4**	**-0.2**
CHN2				S	**Sg**	**19 22 37.0**	**+1.3**
CHN4	**Tsaushan**	**0.46**	**224**⇓	*i*P	**Pg**	**19 22 29.4**	**-0.3**
CHN4				S	**Sg**	**19 22 37.0**	**+1.1**
TWF1	**Yuli**	**0.46**	**135**⇑	*i*P	**Pg**	**19 22 29.6**	**-0.1**
TWF1				S	**Sg**	**19 22 36.5**	**+0.5**
ELDTW	**Lidau**	**0.50**	**172**⇑	*i*P	**Pg**	**19 22 29.6**	**-0.8**
ELDTW				S	**Sg**	**19 22 36.2**	**-1.0**
CHY	**Chiayi**	**0.51**	**249**⇑	*i*P	**Pg**	**19 22 30.2**	**-0.5**
CHY				S	**Sg**	**19 22 38.2**	**+0.6**
TCU	**Taichung**	**0.52**	**332**⇑	*i*P	**Pg**	**19 22 31.0**	**+0.1**
TCU				S	**Sg**	**19 22 39.0**	**+1.1**
WTP	**Ta-pu**	**0.53**	**215**⇓	*i*P	**Pg**	**19 22 30.4**	**-0.7**
WTP				S	**Sg**	**19 22 38.6**	**+0.4**
STYT	**Tauyuan**	**0.55**	**198**⇓	*i*P	**Pg**	**19 22 30.6**	**-0.8**
STYT				S	**Sg**	**19 22 37.9**	**-0.8**
TWK	**Hsinying**	**0.59**	**225**⇑	*i*P	**Pg**	**19 22 31.6**	**-0.6**
TWK				S	**Sg**	**19 22 40.8**	**+0.7**
TWT	**Tachien**	**0.60**	**21**⇓	*i*P	**Pg**	**19 22 31.6**	**-0.9**
TWT				S	**Sg**	**19 22 39.6**	**-1.0**
CHN1	**Nanshi**	**0.63**	**218**⇓	*i*P	**Pg**	**19 22 32.3**	**-0.6**
CHN1				S	**Sg**	**19 22 41.9**	**+0.5**
WSF	**Szhu**	**0.66**	**266**⇑	*i*P	**Pg**	**19 22 32.3**	**-1.3**
WSF				S	**Sg**	**19 22 42.3**	**-0.2**
HWA	**Hwalien**	**0.67**	**64**	P	**Pb**	**19 22 33.9**	**+0.2**
HWA				S	**Sg**	**19 22 43.2**	**+0.4**
TWQ1	**Liyutan**	**0.68**	**347**⇑	*i*P	**Pb**	**19 22 34.0**	**+0.1**
TWQ1				S	**Sg**	**19 22 44.2**	**+1.1**
SGST	**Jiashian**	**0.69**	**209**⇓	*i*P	**Pb**	**19 22 33.5**	**-0.5**
SGST				S	**Sb**	**19 22 43.7**	**+0.4**
CHKT	**Chengkung**	**0.70**	**146**⇑	*i*P	**Pb**	**19 22 34.8**	**+0.5**
CHKT				S	**Sb**	**19 22 45.5**	**+1.8**
TWD	**Chiawan**	**0.71**	**57**	*i* P	**Pb**	**19 22 34.2**	**-0.3**
TWD				S	**Sb**	**19 22 44.0**	**-0.2**
NSY	**Sanyi**	**0.75**	**347**⇑	P	**Pb**	**19 22 35.5**	**+0.4**
NSY				S	**Sb**	**19 22 46.7**	**+1.6**
CHN8	**Yiju**	**0.75**	**243**⇑	*i*P	**Pb**	**19 22 34.1**	**-1.0**
CHN8				S	**Sb**	**19 22 45.9**	**+0.6**
NACB	**Ninganchiao**	**0.77**	**51**	*e*Pg	**Pg**	**19 22 34.7**	**-1.1**
NACB				*e*Sg	**Sg**	**19 22 45.2**	**-0.9**
CHN3	**Shinhua**	**0.81**	**221**	*e*P	**Pb**	**19 22 36.4**	**+0.2**
NNS	**Nan Shan**	**0.85**	**28**	*i* P	**Pb**	**19 22 36.5**	**-0.2**
NNS				S	**Sb**	**19 22 51.0**	**+3.0**
SCLT	**Jiali**	**0.85**	**234**	*e*P	**Pb**	**19 22 36.5**	**-0.3**
SCLT				S	**Sb**	**19 22 49.8**	**+1.6**
TWG	**Pinlang**	**0.87**	**172**⇑	*i*P	**Pb**	**19 22 36.9**	**-0.2**
TWG				S	**Sb**	**19 22 50.4**	**+1.8**
NSTT	**Nanjuang**	**0.94**	**3**	⇓P	**Pb**	**19 22 38.6**	**+0.3**
NSTT				S	**Sb**	**19 22 51.3**	**+0.5**
TTN	**Taitung**	**0.95**	**169**	*e*P	**Pb**	**19 22 39.7**	**+1.3**
TTN				S	**Sb**	**19 22 55.1**	**+4.3**
SSD	**Sandimen**	**0.98**	**197**	*e*P	**Pb**	**19 22 38.8**	**-0.2**
SSD				S	**Sb**	**19 22 53.7**	**+2.0**
TWM1	**Shoushan**	**0.98**	**209**	*e*P	**Pb**	**19 22 39.8**	**+0.8**
ENA	**Nanau**	**1.04**	**44**	*e*P	**Pb**	**19 22 39.9**	**-0.1**
ENA				S	**Sb**	**19 22 55.3**	**+1.7**
SGLT	**Jiouru**	**1.04**	**204**	*e*P	**Pb**	**19 22 41.5**	**+1.4**
SGLT				S	**Sb**	**19 22 58.2**	**+4.6**
NSK	**Sanguang**	**1.06**	**21**	*e*P	**Pb**	**19 22 40.0**	**-0.3**
NSK				S	**Sb**	**19 22 56.0**	**+2.0**
YHNB	**Yeheng**	**1.06**	**22**	*e*Pg	**Pg**	**19 22 39.5**	**-2.0**
YHNB				*e*Sg	**Sg**	**19 22 55.1**	**-0.5**
ENTT	**Nioudou**	**1.11**	**31**	*e*P	**Pb**	**19 22 40.9**	**-0.3**
TWE	**Neicheng**	**1.23**	**33**	*e*P	**Pb**	**19 22 43.3**	**+0.1**
TWE				S	**Sb**	**19 23 00.6**	**+1.6**
TWC	**Suao**	**1.24**	**42**	*e*P	**Pb**	**19 22 43.5**	**+0.1**
TWC				S	**Sb**	**19 23 00.4**	**+1.1**
WDGT	**Dungji**	**1.25**	**251**	*e*P	**Pb**	**19 22 41.4**	**-2.3**
WDGT				S	**Sb**	**19 22 57.8**	**-2.0**
PNG	**Penghu**	**1.28**	**265**	*e*P	**Pb**	**19 22 41.8**	**-2.3**
PNG				S	**Sb**	**19 22 58.2**	**-2.3**
NCU	**National Centr**	**1.30**	**10**	*e*P	**Pb**	**19 22 44.0**	**-0.4**
NCU				S	**Sb**	**19 23 02.1**	**+1.0**
EAST	**Anshuo**	**1.30**	**184**	*e*P	**Pb**	**19 22 44.5**	**+0.1**
EAST				S	**Sb**	**19 23 02.6**	**+1.5**
ILA	**Ilan**	**1.30**	**34**	S	**Sb**	**19 23 04.1**	**+2.9**
TAW	**Tawu**	**1.32**	**182**	*e*P	**Pb**	**19 22 44.9**	**0.0**
SCZT	**Fangliau**	**1.34**	**193**	*e*P	**Pb**	**19 22 44.8**	**-0.3**
SCZT				S	**Sb**	**19 23 04.9**	**+2.6**
TATO	**Taipei**	**1.38**	**21**	*e*Pn	**Pn**	**19 22 45.0**	**-0.8**
TATO				*e*Sn	**Sn**	**19 23 05.4**	**+1.1**
TWA	**Mucha**	**1.42**	**24**	*e*P	**Pn**	**19 22 46.2**	**-0.1**
TWA				S	**Sb**	**19 23 05.9**	**+1.4**
TWP	**Hsiaoliuchiu**	**1.44**	**202**	*e*P	**Pn**	**19 22 46.6**	**0.0**
TAP	**Taipei**	**1.44**	**21**	*e*P	**Pn**	**19 22 46.3**	**-0.5**
TAP1	**Taipei**	**1.45**	**21**	*e*P	**Pn**	**19 22 46.1**	**-0.7**
TAP1				S	**Sb**	**19 23 06.0**	**+0.6**
EGS		**1.47**	**38**	*e*P	**Pn**	**19 22 48.0**	**+0.9**
TWS1	**Kuangyinshan**	**1.47**	**17**	*e*P	**Pn**	**19 22 46.6**	**-0.5**
NWF	**Wu-fen Shan**	**1.58**	**29**	*e*P	**Pn**	**19 22 49.7**	**+1.1**
NWF				S	**Sb**	**19 23 11.7**	**+2.5**
TWB1	**Santiao Chiao**	**1.63**	**36**	*e*P	**Pn**	**19 22 49.9**	**+0.6**
TWB1				S	**Sn**	**19 23 11.3**	**+0.8**
HEN	**Hengchun**	**1.68**	**186**	*e*P	**Pn**	**19 22 49.0**	**-0.2**
TWY	**Chenhua**	**1.69**	**21**	*e*P	**Pn**	**19 22 50.1**	**-0.2**
LAY	**Lan-yu**	**1.73**	**161**	*e*P	**Pn**	**19 22 49.8**	**-1.1**
LAY				S	**Sn**	**19 23 12.1**	**-1.2**
TWK1	**Hengchun**	**1.74**	**184**	*e*P	**Pn**	**19 22 52.5**	**+1.5**
YOJ	**Yonaguni jima**	**2.04**	**67**	P	**Pn**	**19 22 54.2**	**-1.1**
YOJ				*e*S	**Sn**	**19 23 21.3**	**+0.2**
PCYT	**Pengchaiyu**	**2.19**	**28**	*e*P	**Pn**	**19 22 56.3**	**-1.1**
KNM	**Kinmen**	**2.41**	**288**	*e*P	**Pn**	**19 22 59.0**	**-1.5**
QZH	**Quanzhou**	**2.48**	**301**	P	**Pn**	**19 22 58.4**	**-3.2**
QZH				S	**Sn**	**19 23 28.1**	**-4.3**
QZH				Smax			
	comp=N,660nm,0.2s						
QZH				Smax			
	comp=E,380nm,0.5s						
IRIF	**Iriomote-Funau**	**2.63**	**75**	P	**Pn**	**19 23 03.3**	**-0.4**
IRIF				*e*S	**Sn**	**19 23 35.8**	**-0.3**
HATJ	**Hateruma jima**	**2.65**	**81**	P	**Pn**	**19 23 02.9**	**-1.0**
HATJ				*e*S	**Sn**	**19 23 34.8**	**-1.7**
JKRS	**Kuro-shima**	**2.86**	**78**	P	**Pn**	**19 23 06.5**	**-0.5**
JKRS				*e*S	**Sn**	**19 23 42.9**	**+1.0**
JIJ	**Ishigaki jima**	**3.00**	**76**	P	**Pn**	**19 23 07.6**	**-1.4**
JIJ				*e*S	**Sn**	**19 23 43.6**	**-1.9**
JTJ	**Tarama**	**3.56**	**74**	P	**Pn**	**19 23 15.8**	**-1.2**
JTJ				*e*S	**Sn**	**19 23 59.9**	**+0.2**
JOGS	**Gusukube**	**4.21**	**74**	P	**Pn**	**19 23 25.2**	**-1.0**
JKE	**Kume jima 2**	**5.92**	**62**	P	**Pn**	**19 23 48.6**	**-1.7**
JAGN	**Aguni-jima**	**6.40**	**62**	P	**Pn**	**19 23 56.4**	**-0.7**
JIH	**Iheya**	**7.17**	**61**	P	**Pn**	**19 24 04.6**	**-3.4**
JOW	**Kunigami**	**7.34**	**63**	P	**Pn**	**19 24 06.7**	**-3.6**
JTK	**Tokunoshima**	**8.29**	**59**	P	**P**	**19 24 18.9**	**-4.7**
NJ2	**Nanjing**	**8.54**	**348**	*e*P	**P**	**19 24 26.5**	**-0.5**
NJ2				AP		19 24 29.3	
NJ2				XP		19 24 32.0	
NJ2				S	**Sn**	**19 26 03.6**	**-0.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
NJ2				AMB	AMB		
	comp=Z,170nm,6.0s						
NJ2				Smax			
	comp=N,140nm,1.1s						
NJ2				Smax			
	comp=E,130nm,1.1s						
NJ2				LR	LR		
	comp=N,420nm,13.7s						
NJ2				LR	LR		
	comp=E,300nm,12.3s						
NJ2				LR	LR		
	comp=Z,230nm,7.8s						
JAM	**Amami Oshima**	**9.10**	**57**	P	**P**	**19 24 29.7**	**-5.1**
HHC	**Hu-ho-hao-te**	**18.84**	**337**	*e*P	**P**	**19 26 42.1**	**-0.6**
HHC				AMB	AMB		
	comp=Z,13nm,0.4s						
HHC				AMB	AMB		
	comp=Z,192nm,5.6s						
LZH	**Lanzhou**	**19.27**	**314**	*e*P	**P**	**19 26 47.5**	**-0.3**
LZH				AP		19 26 50.4	
LZH				XP		19 26 52.0	
LZH				PP	PP	19 27 04.6	-0.4
LZH				AMB	AMB		
	comp=Z,24nm,1.3s						
LZH				LR	LR		
	comp=N,378nm,10.0s						
LZH				LR	LR		
	comp=Z,635nm,13.3s						
LZH	**Lanzhou**	**19.27**	**314**	*e*P	**P**	**19 26 47.5**	**-0.3**
	comp=Z,24nm,1.3s						
LZH				pP		19 26 50.4	
LZH				sP		19 26 52.0	
LZH				PP	PP	19 27 04.6	-0.4
MDJ	**Mudanjiang**	**22.05**	**17**	P	**P**	**19 27 14.3**	**-2.7**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,119nm,5.3s						
WMQ	**Urumqi**	**33.84**	**315**	*e*P	**P**	**19 29 05.3**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,102nm,3.9s						
AAK	**Ala-Archa**	**42.63**	**308**	*e*P	**P**	**19 30 19.2**	**+0.5**
	comp=Z,2.8nm,1.2s,mb3.9						
CHKZ	**Chkalovo**	**47.99**	**322**	*e*P	**P**	**19 30 57.9**	**-3.4**
	comp=Z,0.7nm,0.7s,mb3.8						

IDC 19 19:23:38.8±3.8, 16.81S×173.18W, mb3.6/3, mb1 3.9/3, mb1mx3.7/15, mbtmp3.6/3, Error ellipse: s-maj=240.4km s-min=30.2km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.

CM31	**Chiang Mai Arr**	**13.72**	**27**	*eP*	**P**	**19 48 49.6**	**-0.6**
	5.9nm,0.8s							
CM31				*e*		19 49 12.5		
VIS	**Vishakhapatnam**	**14.44**	**323**	*eP*	**P**	**19 48 58.0**	**-1.6**
JIRN	**Jiri**	**22.10**	**345**	*eP*	**P**	**19 50 31.8**	**+2.3**
PKI	**Pulchoki**	**22.23**	**343**	*eP*	**P**	**19 50 31.3**	**+0.5**
	22nm,0.6s,mb4.8							
DMN	**Daman**	**22.35**	**343**	*eP*	**P**	**19 50 32.5**	**+0.5**
	23nm,0.7s,mb4.7							
KKN	**Kakani**	**22.47**	**343**	*eP*	**P**	**19 50 33.7**	**+0.5**
	76nm,1.4s,mb5.0							
GKN	**Gorkha**	**22.86**	**342**	*eP*	**P**	**19 50 37.6**	**+0.5**
	79nm,1.2s,mb5.0							
KOLN	**Koldanda**	**22.98**	**340**	*eP*	**P**	**19 50 39.1**	**+0.8**
	51nm,1.3s,mb4.8							
LSA	**Lhasa**	**23.36**	**357**	P	**P**	**19 50 41.6**	**-0.5**
LSA	**Lhasa**	**23.36**	**357**	*eP*	**P**	**19 50 41.9**	**-0.1**
	10.0nm,1.4s,mb4.0							
GYA	**Guiyang**	**24.29**	**33**	P	**P**	**19 50 51.1**	**+0.1**
GYA				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.1							
GTA	**Gaotai**	**33.70**	**10**	*eP*	**P**	**19 52 15.9**	**+0.2**
GTA				AMB	AMB			
	comp=Z,5.0nm,1.0s,mb4.4							
WMQ	**Urumqi**	**37.66**	**354**	*eP*	**P**	**19 52 49.0**	**-0.3**
WMQ				AP	pP	19 52 58.0	-1.0	
WMQ				XP	sP	19 53 03.0	-0.3	
WMQ				AMB	AMB			
	comp=Z,7.0nm,1.2s,mb4.3							
WMQ				AMB	AMB			
	comp=Z,131nm,5.3s							
HHC	**Hu-ho-hao-te**	**38.50**	**24**	*eP*	**P**	**19 52 57.5**	**+1.2**
HHC				AMB	AMB			
	comp=Z,12nm,0.5s,mb4.9							
HHC				AMB	AMB			
	comp=Z,107nm,5.6s							
AAK	**Ala-Archa**	**39.55**	**339**	*eP*	**P**	**19 53 03.7**	**-1.4**
	comp=Z,13nm,1.5s,mb4.4							
SONM	**Songino Array**	**43.14**	**14**	P	**P**	**19 53 34.4**	**-0.2**
	comp=Z,1.5nm,0.8s,mb3.8,baz=197,slow=7.5,SNR=15							
SONM				PcP	PcP	19 55 24.3	-0.1	
	comp=Z,0.9nm,0.7s,baz=200,slow=4.2,SNR=5.8							
ULN	**Ulaanbaatar**	**43.33**	**14**	*eP*	**P**	**19 53 35.4**	**-0.7**
	comp=Z,1.2nm,0.7s,mb3.7							
KURK	**Kurchatov**	**45.80**	**348**	P	**P**	**19 53 55.2**	**-0.7**
	comp=Z,38nm,1.4s,mb5.1,SNR=8.8							
KURK	**Kurchatov**	**45.80**	**348**	*eP*	**P**	**19 53 55.5**	**-0.4**
	comp=Z,12nm,1.2s,mb4.7							
ZAL	**Zalesovo**	**47.95**	**354**	P	**P**	**19 54 12.8**	**0.0**
	comp=Z,3.1nm,0.5s,mb4.6,baz=309,slow=4.7,SNR=16							
ZAL	**Zalesovo**	**47.95**	**354**	P	**P**	**19 54 12.8**	**0.0**
WRA	**Warramunga Arr**	**48.78**	**123**	P	**P**	**19 54 19.8**	**+0.2**
	comp=Z,4.2nm,0.8s,mb4.5,baz=301,slow=8.8,SNR=25							
WRAB	**Tennant Creek**	**48.79**	**123**	*eP*	**P**	**19 54 19.7**	**0.0**
	comp=Z,18nm,0.8s,mb5.2							
WRAB				*e*	pP	19 54 29.1	-0.4	
WB2	**Warramunga Arr**	**48.79**	**123**	*eP*	**P**	**19 54 19.3**	**-0.4**
WB2				*i*	pP	19 54 29.4	-0.2	
BVAR	**Borovoye Array**	**49.99**	**343**	P	**P**	**19 54 27.7**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.2,baz=146,slow=5.3,SNR=13							
ASAR	**Alice Springs**	**50.26**	**128**	P	**P**	**19 54 30.9**	**0.0**
	comp=Z,3.3nm,0.8s,mb4.4,baz=298,slow=7.6,SNR=31							
STKA	**Stephens Creek**	**60.28**	**132**	P	**P**	**19 55 42.9**	**-0.5**
	comp=Z,1.5nm,0.6s,mb4.2,baz=314,slow=5.0,SNR=7.3							
STKA	**Stephens Creek**	**60.28**	**132**	*eP*	**P**	**19 55 43.4**	**+0.1**
STKA				*e*	pP	19 55 52.7	-0.8	
BRTR	**Keskin Array B**	**62.19**	**312**	P	**P**	**19 55 55.2**	**-0.9**
	comp=Z,1.2nm,0.6s,mb4.2,baz=120,slow=10.0,SNR=5.9							
AKASG	**Malin Array Be**	**68.36**	**322**	P	**P**	**19 56 34.6**	**-1.0**
	comp=Z,0.9nm,0.6s,mb4.0,baz=89,slow=4.8,SNR=4.9							
FINES	**FINESS Array B**	**73.34**	**333**	P	**P**	**19 57 04.8**	**-0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=108,slow=6.0,SNR=7.0							
GERES	**GERESS Array B**	**77.88**	**319**	P	**P**	**19 57 32.4**	**+0.8**
	comp=Z,2.9nm,0.8s,mb4.3,baz=90,slow=5.3,SNR=24							
HFS	**Hagfors**	**78.98**	**330**	P	**P**	**19 57 37.1**	**-0.3**
	comp=Z,5.1nm,1.0s,mb4.4,baz=101,slow=7.6,SNR=5.8							
MOX	**Moxa**	**79.35**	**320**	*eP*	**P**	**19 57 40.0**	**+0.4**
GRA1	**Grafenberg Arr**	**79.55**	**319**	*eP*	**P**	**19 57 41.1**	**+0.3**
	comp=Z,4.0nm,1.1s,mb4.3							
DAVOX	**Davos**	**80.35**	**316**	P	**P**	**19 57 46.4**	**+1.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=144,slow=8.7,SNR=6.9							
EKA	**Eskdalemuir Ar**	**88.07**	**325**	P	**P**	**19 58 24.5**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.4,baz=98,slow=5.2,SNR=8.6							
ESDC	**Sonseca Array**	**90.93**	**310**	P	**P**	**19 58 37.9**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.8,baz=39,slow=4.1,SNR=4.0							
NVAR	**Mina Array Bea**	**127.20**	**30**	PKP	PKPdf	20 04 40.2	+3.0	
	comp=Z,0.3nm,0.3s,baz=323,slow=4.5,SNR=3.1							
PDAR	**Pinedale Array**	**127.30**	**20**	PKP	PKPdf	20 04 39.3	+2.0	
	comp=Z,0.8nm,0.9s,baz=90,slow=1.5,SNR=5.1							
CFAA	**Coronel Fontan**	**148.93**	**213**	PKPbc	PKPdf	20 05 22.2	+5.7	
	comp=Z,0.3nm,0.7s,baz=230,slow=2.1,SNR=4.5							

MAN 19 20:04:01.1, 15.39N×121.17E, h1km, mb3.9, ML2.7, MS2.4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.19**	**337**	*e*P	Pg	20 04 04.5	-0.3
PCPH				*e*S	Sg	20 04 11.1	+3.8
BALP	**Baler**	**0.52**	**48**	*e*P	Pg	20 04 10.6	-0.9
BALP				*e*S	Sg	20 04 16.8	-1.7
POLP	**Polilio Island**	**0.99**	**132**	*e*P	Pb	20 04 21.2	+0.5
POLP				*e*S	Sg	20 04 36.3	+2.2
CAUP	**Cauayan**	**1.67**	**22**	*e*P	Pn	20 04 30.6	-0.9
CAUP				*e*S	Sb	20 04 53.7	0.0
ABRA	**Dolores**	**2.29**	**349**	*e*P	Pn	20 04 40.8	+0.3

*IDC **19** 20:28:06.2±0.8, 20.40S×174.72W, mb4.1/9, mb1 4.3/11, mb1mx4.2/18, mbtmp4.2/11, ML4.5/2, MS3.7/4, Ms1 3.7/4, ms1mx3.4/19, Error ellipse: s-maj=32.8km s-min=18.6km az=136.0*

*NEIC **19** 20:28:07.6±0.4, 20.43S×174.71W, h10km, mb4.8/6, Error ellipse: s-maj=13.7km s-min=10.1km az=137.0*

ISC 19 20:28:05.9±0.5, 20.5S±0.1×174.7W±0.1, h10km, n30, σ0 s79/21, mb4.3/14, MS3.7/4, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.12**	**24**	*e*Pn	**Pn**	**20 29 41.5**	**-11**
	33nm,0.6s						
RAR	**Rarotonga**	**14.00**	**96**	Pn	**P**	**20 31 09.8**	**-17**
	3.6nm,0.3s,baz=260,slow=7.4,SNR=7.7						
RAR				Sn	S	20 33 27.5	-36
	1.9nm,0.3s,baz=221,slow=20,SNR=3.5						
URZ	**Urewera**	**19.07**	**200**	P	**P**	**20 32 31.1**	**+0.2**
	0.7nm,0.3s,baz=68,slow=12,SNR=5.2						
TBI	**Tubuai**	**23.61**	**102**	*e*LR	LR	20 38 24.2	
	206nm,35.2s						
PPT	**Papeete**	**23.95**	**87**	*e*LR	LR	20 38 31.4	
	313nm,28.0s						
RPZ	**Rata Peaks**	**26.03**	**204**	P	**P**	**20 33 42.2**	**+1.4**
	6.7nm,0.5s,mb4.4,baz=43,slow=6.5,SNR=7.9						
CTA	**Charters Tower**	**36.54**	**264**	P	**P**	**20 35 14.8**	**+1.0**
	4.0nm,0.8s,mb4.3,baz=51,slow=12,SNR=4.7						
CTA				LR	LR	20 47 53.1	
	comp=Z,84nm,21.8s,MS3.5,baz=275,slow=32						
CTAO	**Charters Tower**	**36.54**	**264**	*eP*	**P**	**20 35 14.8**	**+1.0**
	21nm,1.3s,mb4.8						
RKT	**Rikitea**	**36.93**	**101**	*e*LR	LR	20 44 35.4	
	178nm,31.3s						
PMG	**Port Moresby**	**38.34**	**281**	LR	LR	20 48 36.9	
	comp=Z,78nm,18.2s,MS3.6,baz=227,slow=32						
STKA	**Stephens Creek**	**40.56**	**245**	P	**P**	**20 35 47.1**	**-0.1**
	2.5nm,0.7s,mb4.0,baz=75,slow=11,SNR=6.8						
STKA				LR	LR	20 52 15.3	
	comp=Z,124nm,18.4s,MS3.8,baz=21,slow=36						
STKA	**Stephens Creek**	**40.56**	**245**	*eP*	**P**	**20 35 47.0**	**-0.1**
STKA					LR	LR	20 52 15.3	
ASAR	**Alice Springs**	**47.50**	**256**	P	**P**	**20 36 43.5**	**+0.2**
	2.2nm,0.7s,mb4.3,baz=100,slow=7.6,SNR=42						
WRAB	**Tennant Creek**	**47.63**	**261**	*eP*	**P**	**20 36 43.7**	**-0.7**
	17nm,1.3s,mb4.9						
WRA	**Warramunga Arr**	**47.64**	**261**	P	**P**	**20 36 44.2**	**-0.2**
	0.7nm,0.4s,mb4.0,baz=98,slow=7.5,SNR=14						
SBA	**Scott Base**	**58.10**	**185**	*eP*	**P**	**20 38 01.0**	**-0.4**
	5.0nm,1.0s,mb4.5						
VNDA	**Vanda**	**58.21**	**186**	P	**P**	**20 38 02.0**	**-0.2**
	1.2nm,0.8s,mb4.0,baz=20,slow=6.1,SNR=4.2						
RPN	**Rapa Nui**	**59.62**	**110**	P	**P**	**20 38 12.7**	**0.0**
	134nm,1.1s						
QSPA	**South Pole Qui**	**69.58**	**180**	*eP*	**P**	**20 39 15.2**	**-1.5**
	9.1nm,0.9s,mb4.7						
NVAR	**Mina Array Bea**	**78.94**	**42**	P	**P**	**20 40 11.5**	**+0.1**
	0.5nm,0.3s,mb3.9,baz=229,slow=10,SNR=5.3						
TMUT	**Trail Mountain**	**83.98**	**44**	*eP*	**P**	**20 40 38.4**	**+0.6**
MA2	**Magadan**	**84.62**	**343**	*eP*	**P**	**20 40 39.4**	**-1.1**
	30nm,1.1s,mb5.3						
MCK	**McKinley**	**86.33**	**11**	*eP*	**P**	**20 40 44.6**	**-4.4**
	3.4nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**86.88**	**42**	P	**P**	**20 40 53.4**	**+1.2**
	0.8nm,1.0s,mb3.9,baz=239,slow=5.3,SNR=2.1						
YKA	**Yellowknife Ar**	**95.24**	**24**	P	**P**	**20 41 30.5**	**-0.1**
	0.3nm,0.8s,mb3.8,baz=231,slow=4.3,SNR=3.8						
YKA				LR	LR	21 19 33.2	
	comp=Z,59nm,19.2s,MS4.1,baz=100,slow=32						
KMBO	**Kilima Mbogo**	**142.02**	**239**	PKP	PKPdf	20 47 41.9	-0.4
	0.4nm,0.5s,baz=230,slow=23,SNR=2.3						
AKASG	**Malin Array Be**	**144.43**	**334**	PKP	PKPdf	20 47 45.4	+0.1
	0.7nm,0.4s,baz=40,slow=4.5,SNR=6.4						
CLL	**Collm**	**148.65**	**351**	*e*PKP1	PKPdf	20 47 54.0	+1.7
CLL				*e*		20 48 04.0		
KHC	**Kasperske Hory**	**150.66**	**349**	*e*PKPB	PKPdf	20 48 00.0	+4.5
GERES	**GERESS Array B**	**150.91**	**349**	PKPbc	PKPdf	20 47 59.4	+3.5
	0.3nm,0.6s,baz=342,slow=3.1,SNR=3.4						

MEX 19 20:43:31.5±0.5, 16.98N×95.85W, h46km±15km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.84**	**277**	*e*P	P	20 43 46.0	-1.1
OXX				*e*S	S	20 43 56.5	-2.0
VHO	**Vista Hermosa**	**0.85**	**276**	*i* P	P	20 43 45.8	-1.4
VHO				*e*S	S	20 43 56.4	-2.4
CMIG	**Matias Romero**	**0.93**	**83**	*i* P	P	20 43 46.4	-1.9
CMIG				*i* S	S	20 43 58.7	-2.1
HUIG	**Huatulco**	**1.23**	**192**	*i* P	P	20 43 50.8	-1.8
HUIG				*e*S	S	20 44 05.6	-2.7

GUC 19 21:05:17.0±0.9, 33.20S×70.24W, h9km±2km, MD3.5, ML2.0, 5C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.13**	**197**	*i* P	Pg	21 05 20.8	+0.7
FCH				*i* P		21 05 20.9		
FCH				*i* S	Sg	21 05 23.5	+1.3
FCH				AMP		21 05 23.6	
	comp=N,900nm,0.3s						
CLCH	**Cerro Calan**	**0.31**	**231**	*i* P	Pg	21 05 23.9	+0.4
CLCH				*i* S	Sg	21 05 29.2	+1.4
CLCH				AMP		21 05 31.7	
	comp=E,418nm,0.3s						
CLCH				AMP		21 05 34.5	
	comp=E,467nm,0.8s						
DSCH	**Colegio Aleman**	**0.34**	**234**	*i* P	Pg	21 05 24.4	+0.5
DSCH				*i* S	Sg	21 05 30.0	+1.5
DSCH				AMP		21 05 31.3	
	comp=N,551nm,0.2s						
PCH	**Pirque**	**0.48**	**208**	*i* P	Pg	21 05 27.1	+0.5
PCH				*i* S	Sg	21 05 35.1	+2.0
RCDM	**Rinconada Maip**	**0.55**	**238**	*i* P	Pg	21 05 27.9	-0.2
RCDM				AMP		21 05 49.7	
	comp=N,91nm,0.1s						
LMEL	**Las Melosas**	**0.65**	**177**	*i* P	Pg	21 05 30.2	+0.2
LMEL				*i* S	Sg	21 05 40.1	+1.4
SCR	**San Cristobal**	**0.70**	**244**	*i* P	Pb	21 05 25.1	-5.9
SCR				*i* S	Sb	21 05 31.0	-9.4
SCR				AMP		21 05 33.0	
	comp=N,91nm,0.2s						
TACH	**Talagante**	**0.74**	**232**	*i* P	Pb	21 05 31.0	-0.5
TACH				*i* S	Sb	21 05 41.3	-0.2
CHCH	**Chadas Angostu**	**0.81**	**205**	*e*P	Pb	21 05 32.7	-0.1
CHCH				*e*S	Sb	21 05 44.5	+0.9
CICH	**Cipreses**	**1.13**	**187**	*i* P	Pb	21 05 38.6	+0.3
CICH				*i* S	Sb	21 05 54.4	+1.6
PACH	**Papudo**	**1.20**	**303**	*i* P	Pb	21 05 38.1	-1.4
PACH				*i* S	Sb	21 05 54.2	-0.8
CHNG	**Los Chungos**	**1.69**	**321**	*i* P	Pn	21 05 46.2	-0.7
CHNG				*i* S	Sn	21 06 08.6	-0.3
CHNG				AMP		21 06 10.1	
	comp=E,36nm,0.3s						

*AUST **19** 21:38:50.2, 20.47S×115.51E, h36km, ML3.7*

*NEIC **19** 21:38:50.0, 20.47S×115.51E, h37km, mb3.6/1, ML3.7(AUST), After AUST.*

*IDC **19** 21:38:52.6, 7.2, 21.26S×116.45E, mb3.6/1, mb1 3.7/4, mb1mx3.5/11, mbtmp3.6/4, ML2.7/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/12, Error ellipse: s-maj=100.8km s-min=40.2km az=129.0*

ISC 19 21:38:45.5±1.8, 20.8S±0.1×115.8E±0.1, h10km, n14, σ1 s07/25, mb3.5/1, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**1.78**	**187**	*e*P	**Pn**	**21 39 26.2**	**+10**
GIRL				*e*S	**Sn**	**21 39 54.2**	**+15**
	115nm,0.2s						
MBWA	**Marble Bar**	**3.73**	**96**	*e*P	**Pn**	**21 39 47.8**	**+3.4**
MBWA				*e*S	**Sn**	**21 40 29.6**	**+0.8**
MEEK	**Meekatharra**	**6.38**	**156**	*e*P	**Pn**	**21 40 24.8**	**+2.9**
MEEK				*e*S	**Sn**	**21 41 34.6**	**-0.9**
	172nm,0.2s						
MEEK	**Meekatharra**	**6.38**	**156**	*e*P	**Pn**	**21 40 24.8**	**+2.9**
	172nm,0.2s						
MEEK				*e*S	**Sn**	**21 41 34.6**	**-0.9**
MORW	**Morawa**	**8.24**	**178**	*e*P	**P**	**21 40 49.0**	**+1.0**
MORW				*e*S	**Sn**	**21 42 16.5**	**-5.6**
	44nm,0.2s						
MORW	**Morawa**	**8.24**	**178**	*e*P	**P**	**21 40 49.0**	**+1.0**
	44nm,0.2s						
MORW				*e*S	**Sn**	**21 42 16.5**	**-5.6**
KLBR	**Kellerberrin**	**10.90**	**171**	*e*P	**P**	**21 41 25.0**	**+0.3**
	190nm,1.6s						
KLBR				*e*S	**S**	**21 43 19.9**	**-7.9**
NWAO	**Narrogin (SRO)**	**12.15**	**174**	Pn	**P**	**21 41 40.9**	**-0.9**
	0.3nm,0.3s,baz=359,slow=16,SNR=4.7						
NWAO				Sn	**S**	**21 43 49.9**	**-8.5**
	0.6nm,0.3s,baz=73,slow=19,SNR=5.3						
NWAO				Lg		21 45 11.9	
	0.4nm,0.3s,baz=112,slow=22,SNR=2.8						
ASAR	**Alice Springs**	**17.04**	**103**	Pn	**P**	**21 42 45.1**	**-0.4**
	0.1nm,0.3s,baz=280,slow=12,SNR=11						
ASAR				Sn	**S**	**21 45 44.5**	**-9.3**
	0.2nm,0.3s,baz=276,slow=24,SNR=6.4						
ASAR				LR	LR	21 49 54.6	
	comp=Z,56nm,21.8s,baz=97,slow=41						
ASAR	**Alice Springs**	**17.04**	**103**	Pn	**P**	**21 42 45.1**	**-0.4**
ASAR				Sn	**S**	**21 45 44.5**	**-9.3**
ASAR				LR	LR	21 49 54.6	
WRA	**Warramunga Arr**	**17.44**	**90**	Pn	**P**	**21 42 49.4**	**-1.2**
	0.1nm,0.3s,baz=269,slow=14,SNR=4.5						
WRA				Sn	**S**	**21 45 48.5**	**-15**
	0.1nm,0.3s,baz=265,slow=24,SNR=4.5						
WRAB	**Tennant Creek**	**17.45**	**90**	*e*P	**P**	**21 42 51.0**	**+0.2**
	4.4nm,0.9s						
STKA	**Stephens Creek**	**25.58**	**121**	P	**P**	**21 44 16.2**	**-0.3**
	0.9nm,0.6s,mb3.5,baz=304,slow=15,SNR=2.1						
STKA	**Stephens Creek**	**25.58**	**121**	P	**P**	**21 44 16.2**	**-0.3**

*IDC **19** 21:44:33.9±1.4, 17.19S×176.96W, mb4.1/6, mb1 4.2/6, mb1mx4.0/14, mbtmp4.0/6, MS4.5/14, Ms1 4.5/14, ms1mx4.5/15, Error ellipse: s-maj=46.7km s-min=30.0km az=143.0*

*NEIC **19** 21:44:34.5±0.7, 17.52S×176.48W, h20km, mb4.8/2, Error ellipse: s-maj=28.2km s-min=15.2km az=148.0*

ISC 19 21:44:33.5±0.8, 17.3S±0.2×176.5W±0.1, h33km, n33, σ1 s17/16, mb4.2/7, MS4.5/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.67**	**54**	*e*P	**P**	**21 45 57.5**	**-0.2**
RAR	**Rarotonga**	**16.24**	**106**	LR	LR	21 52 58.9	
	comp=Z,2μm,21.5s,baz=310,slow=30						
URZ	**Urewera**	**21.58**	**194**	LR	LR	21 57 05.8	
	comp=Z,3μm,19.0s,MS4.6,baz=223,slow=35						
PPT	**Papeete**	**25.66**	**95**	*e*LQ		21 55 02.2	
PPT				*e*LR	LR	21 56 11.1	
	3μm,27.2s,baz=262						
TBI	**Tubuai**	**26.01**	**108**	*e*LQ		21 54 53.4	
TBI				*e*LR	LR	21 56 24.0	
	3μm,28.8s,baz=282						
RPZ	**Rata Peaks**	**28.33**	**199**	LR	LR	22 00 46.5	
	comp=Z,2μm,20.6s,MS4.8,baz=34,slow=34						
CTA	**Charters Tower**	**35.35**	**260**	P	**P**	**21 51 28.6**	**+0.4**
	7.8nm,0.9s,mb4.6,baz=105,slow=11,SNR=4.5						
CTA				LR	LR	22 03 43.4	
	comp=Z,814nm,20.7s,MS4.5,baz=81,slow=33						
CTAO	**Charters Tower**	**35.35**	**260**	*eP*	**P**	**21 51 20.9**	**-7.2**
	14nm,1.0s,mb4.8						
PMG	**Port Moresby**	**36.19**	**278**	LR	LR	22 04 37.2	
	comp=Z,552nm,18.5s,MS4.4,baz=200,slow=34						
TAOE	**Nuku Hiva Isla**	**36.33**	**81**	*e*LR	LR	22 00 58.6	
RKT	**Rikitea**	**39.27**	**105**	*e*LR	LR	22 02 32.1	
	2μm,28.0s,baz=271						
STKA	**Stephens Creek**	**40.51**	**241**	P	**P**	**21 52 11.9**	**+0.8**
	2.6nm,0.9s,mb3.9,baz=102,slow=6.6,SNR=4.3						
STKA	**Stephens Creek**	**40.51**	**241**	*eP*	**P**	**21 52 11.0**	**-0.1**
WB2	**Warramunga Arr**	**46.53**	**259**	*eP*	**P**	**21 53 03.5**	**+3.5**
WRAB	**Tennant Creek**	**46.53**	**259**	P	**P**	**21 52 59.0**	**-1.0**
WRA	**Warramunga Arr**	**46.54**	**259**	P	**P**	**21 53 00.2**	**0.0**
	1.5nm,0.8s,mb4.0,baz=95,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**46.71**	**254**	P	**P**	**21 53 01.4**	**-0.1**
	7.5nm,0.8s,mb4.7,baz=90,slow=8.3,SNR=38						
ASAR				LR	LR	22 09 36.7	
	comp=Z,288nm,21.3s,MS4.2,baz=92,slow=32						
ASPA	**Alice Springs**	**46.71**	**254**	*eP*	**P**	**21 53 01.1**	**-0.3**
SBA	**Scott Base**	**61.10**	**184**	*eP*	**P**	**21 54 44.2**	**-2.2**
VNDA	**Vanda**	**61.17**	**185**	P	**P**	**21 54 50.7**	**+3.9**
	0.5nm,0.7s,mb3.8,baz=9.5,slow=6.1,SNR=3.8						
VNDA				LR	LR	22 19 22.5	
	comp=Z,247nm,18.4s,MS4.4,baz=17,slow=34						
VNDA	**Vanda**	**61.17**	**185**	*eP*	**P**	**21 54 46.5**	**-0.3**
VNDA					LR	LR	22 19 22.5	
QSPA	**South Pole Qui**	**72.71**	**180**	*eP*	**P**	**21 56 01.2**	**+1.8**
	10nm,1.0s,mb4.7						
NVAR	**Mina Array Bea**	**77.75**	**43**	LR	LR	22 22 57.5	
	comp=Z,254nm,21.0s,MS4.5,baz=205,slow=30						
TXAR	**Lajitas Array**	**84.14**	**57**	LR	LR	22 31 26.7	
	comp=Z,106nm,18.3s,MS4.3,baz=160,slow=33						
MAW	**Mawson**	**85.01**	**199**	LR	LR	22 32 25.4	
	comp=Z,491nm,18.3s,MS4.9,baz=78,slow=34						
PDAR	**Pinedale Array**	**85.69**	**43**	LR	LR	22 29 05.9	
	comp=Z,184nm,20.9s,MS4.5,baz=249,slow=31						
PLCA	**Paso Flores**	**90.38**	**133**	LR	LR	22 30 46.6	
	comp=Z,155nm,18.7s,MS4.5,baz=96,slow=30						
YKA	**Yellowknife Ar**	**93.06**	**24**	P	**P**	**21 57 48.7**	**+3.9**
	0.3nm,0.7s,mb3.8,baz=249,slow=4.1,SNR=3.9						
YKA				LR	LR	22 31 09.2	
	comp=Z,274nm,20.9s,MS4.7,baz=245,slow=30						
YKA	**Yellowknife Ar**	**93.06**	**24**	P	**P**	**21 57 48.7**	**+3.9**
YKA				LR	LR	22 31 09.2	
ULM	**Lac du Bonnet**	**97.30**	**40**	LR	LR	22 37 20.1	
	comp=Z,215nm,18.4s,MS4.7,baz=250,slow=32						
CLL	**Collm**	**145.28**	**350**	*e*PKP1	PKPbc	22 04 13.0	+4.9
BRTR	**Keskin Array B**	**145.66**	**317**	PKPbc	PKPbc	22 04 12.4	+2.9
	0.7nm,0.8s,baz=11,slow=1.2,SNR=3.7						
GERES	**GERESS Array B**	**147.50**	**347**	PKPbc	PKPdf	22 04 19.6	+8.1
	0.8nm,0.8s,slow=2.7,SNR=5.3						

MEX 19 21:55:11.3±0.4, 17.00N×95.86W, h51km±16km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.83**	**276**	*e*P	P	21 55 25.0	-1.8
VHO	**Vista Hermosa**	**0.83**	**275**	*i* P	P	21 55 25.7	-1.3
VHO				*i* S	S	21 55 36.2	-2.3
CMIG	**Matias Romero**	**0.94**	**84**	*i* P	P	21 55 26.6	-1.9
CMIG				*i* S	S	21 55 39.0	-2.2
HUIG	**Huatulco**	**1.25**	**191**	*i* P	P	21 55 31.0	-1.7
HUIG				*e*S	S	21 55 46.0	-2.7

DJA 19 22:31:29.6±0.9, 8.65S×114.73E, h101km±7km, MD4.6/4, ML2.9/1, 2C-6D, Error ellipse: s-maj=31.3km s-min=8.0km az=9.0, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELI	**Kelakatan**	**0.49**	**331**	*i* Pn	P	22 31 45.3	-0.3
	92nm,0.2s						
KELI				*i* Sn	S	22 31 57.1	-0.4
SRDI	**Scrawed**	**0.60**	**286**	*i* Pn	P	22 31 45.9	-0.5
	40nm,0.2s						
SRDI				*i* Sn	S	22 31 57.7	-1.3
RATI	**Rata**	**0.80**	**95**	*i* Pn	P	22 31 48.1	-0.1
	132nm,0.2s						
RATI				*i* Sn	S	22 32 00.9	-1.2
KEDI	**Kedomdong**	**1.38**	**83**	*i

DSI	**Dead Sea**	**0.39**	**349**	⇓Pg		**Pg**	**22 59 57.5**	**+1.0**
MKRJ	**Makawir**	**0.40**	**21**	Pg		**Pg**	**22 59 58.4**	**+1.9**
AMZI	**Amatzia**	**0.55**	**300**	Pg		**Pg**	**23 00 00.0**	**+0.4**
AMZI				Sg		**Sg**	**23 00 07.7**	**+0.7**
ZFRI	**Zfri**	**0.68**	**202**	Pg		**Pg**	**23 00 02.9**	**+0.8**
RMNI	**Mount Ramon**	**0.84**	**226**	Pg		**Pg**	**23 00 05.5**	**0.0**
PRNI	**Paran**	**0.92**	**206**	Pg		**Pg**	**23 00 07.3**	**+0.4**
KZIT	**Kziot**	**0.96**	**254**	Pg		**Pg**	**23 00 07.0**	**-0.8**
KZIT				Sg		**Sg**	**23 00 19.9**	**-0.7**
KZIT	**Kziot**	**0.96**	**254**	Pg		**Pg**	**23 00 07.0**	**-0.8**
KZIT				Sg		**Sg**	**23 00 19.9**	**-0.7**
HMDT	**Nahal Hemdat**	**1.07**	**2**	Pg		**Pg**	**23 00 09.3**	**-0.6**
HMDT	**Nahal Hemdat**	**1.07**	**2**	⇓Pg		**Pg**	**23 00 09.3**	**-0.6**
SLTI	**Sal'it**	**1.12**	**341**	Pg		**Pg**	**23 00 09.6**	**-1.3**
SLTI				Sg		**Sg**	**23 00 24.8**	**-1.0**
HRFI	**Mount Harif**	**1.20**	**198**	Pg		**Pg**	**23 00 12.1**	**-0.5**
HRFI				Sg		**Sg**	**23 00 28.6**	**0.0**
KMTI	**Karmit**	**1.25**	**211**	Pg		**Pg**	**23 00 12.7**	**-0.9**
MMLI	**Mount Malkishu**	**1.25**	**358**	Pg		**Pg**	**23 00 12.1**	**-1.5**
MMLI	**Mount Malkishu**	**1.25**	**358**	⇓Pg		**Pg**	**23 00 12.1**	**-1.5**
MBH	**Mount Berech**	**1.47**	**199**	Pn		**Pn**	**23 00 16.4**	**+0.1**
OFRI	**'Ofer**	**1.49**	**344**	Pn		**Pn**	**23 00 15.9**	**-0.8**
OFRI	**'Ofer**	**1.49**	**344**	⇓Pn		**Pn**	**23 00 15.9**	**-0.8**
GLH	**Golan-Tel Qazi**	**1.54**	**6**	Pn		**Pn**	**23 00 16.7**	**-0.6**
EIL	**Elat**	**1.57**	**197**	Pn		**Pn**	**23 00 18.1**	**+0.3**
EIL				Sn		**Sn**	**23 00 40.2**	**+1.1**
KSHT	**Keshet**	**1.82**	**9**	Pn		**Pn**	**23 00 21.2**	**-0.1**
ALWS	**Ilw as Safayha**	**1.90**	**191**	P		**Pn**	**23 00 22.4**	**-0.1**
HNTI	**Hanita**	**1.91**	**353**	Pn		**Pn**	**23 00 22.8**	**+0.1**
HNTI				Sn		**Sn**	**23 00 47.3**	**-0.4**
HNTI	**Hanita**	**1.91**	**353**	⇓Pn		**Pn**	**23 00 22.8**	**+0.1**
HNTI				Sn		**Sn**	**23 00 47.3**	**-0.4**
JMOS	**Jabal al Moall**	**2.03**	**189**	P		**Pn**	**23 00 24.2**	**-0.1**
HRI	**Mount Hermon**	**2.09**	**6**	Pn		**Pn**	**23 00 25.0**	**-0.2**
HAQS	**Haql**	**2.17**	**193**	P		**Pn**	**23 00 25.9**	**-0.5**
MATL	**Matirih**	**2.30**	**357**	*e*PN		**Pn**	**23 00 28.4**	**+0.1**
JMQS	**Jabal Moqyreh**	**2.31**	**171**	P		**Pn**	**23 00 29.2**	**+0.8**
BHL	**Bhannes**	**2.72**	**3**	*e*PN		**Pn**	**23 00 34.5**	**+0.3**
BHL				SN		**Sn**	**23 01 14.6**	**+6.4**
BDAS	**Al Bad'**	**2.76**	**187**	P		**Pn**	**23 00 34.4**	**-0.4**
AYUS	**'Aynunah**	**2.99**	**183**	P		**Pn**	**23 00 37.7**	**-0.4**
TBKS	**Tabuk**	**3.09**	**162**	P		**Pn**	**23 00 40.4**	**+0.9**
HWQ	**Hawqa**	**3.11**	**7**	*e*PN		**Pn**	**23 00 40.9**	**+1.1**
HWQ				SN		**Sn**	**23 01 28.8**	**+11**
DBAS	**Duba**	**3.98**	**173**	P		**Pn**	**23 00 52.1**	**0.0**
KBRS	**Khaybar**	**6.32**	**147**	P		**Pn**	**23 01 24.1**	**-1.2**

NIED ***19*** *23:21:00,43.30N×147.70E,h11km,Mw4.0 Best double couple: M₀1.14×10¹⁵ NP1:φ₅61°,δ77°,λ113°. NP2:φ₅179°, δ26°,λ30°.*
JMA ***19*** *23:21:21.4±0.3,43.33N×147.67E,h18km,M3.5*
MOS ***19*** *23:21:24.5±1.1,44.22N×147.77E,h33km,mb4.1/6,Error ellipse: s-maj=28.8km s-min=23.1km az=29.2*
IDC ***19*** *23:21:25.5±2.4,44.03N×147.89E,h36km±6km,mb3.6/11, mb1 3.8/12,mb1mx3.7/21,mbtmp3.8/12,ML3.0/1, Error ellipse: s-maj=69.6km s-min=18.3km az=177.0*
ISC 19 23:21:20.6±0.7,43.37N±0.10×147.89E±0.06,h34km, h34km±.5km:pP-P,n34,σ1$06/41,mb3.7/11,1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.57**	**270**	P	**P**	**23 21 46.5**	**+0.1**
NEM2				*e*S	**S**	**23 22 04.5**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**1.62**	**295**	⇓*i*PN	**P**	**23 21 46.5**	**-0.6**
YUK				*i* S	**S**	**23 22 09.1**	**+2.2**
YUK				pmax	pmax		
	comp=N,2μm,0.5s						
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,2μm,0.6s						
YUK				smax			
	comp=E,230nm,0.5s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,6μm,2.0s						
JRA	**Rausu**	**2.09**	**287**	P	**P**	**23 21 54.2**	**+0.3**
JRA				*e*S	**S**	**23 22 18.4**	**-0.5**
JNK	**Nakash**	**2.32**	**276**	P	**P**	**23 21 57.1**	**-0.1**
JNK				*e*S	**S**	**23 22 23.5**	**-1.3**
JAK	**Akkeshi**	**2.37**	**262**	P	**P**	**23 21 58.0**	**+0.1**
JTKR	**Abashiri--Toko**	**2.95**	**283**	P	**P**	**23 22 06.9**	**+0.7**
JOB	**Onbets**	**3.01**	**262**	P	**P**	**23 22 07.1**	**+0.1**
JAR	**Ashorobuto**	**3.01**	**270**	P	**P**	**23 22 08.1**	**+1.1**
JAR				*e*S	**S**	**23 22 42.4**	**+0.1**
JCH	**Churui**	**3.41**	**259**	P	**P**	**23 22 12.2**	**-0.5**
JCH				*e*S	**S**	**23 22 51.0**	**-1.5**
JEM	**Erimo**	**3.75**	**250**	P	**P**	**23 22 18.5**	**+1.0**
ASAJ	**Asahikawa**	**3.91**	**283**	PN	**P**	**23 22 21.8**	**+2.0**
ASAJ						23 23 06.3	
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**3.91**	**283**	Pn	**P**	**23 22 21.8**	**+2.0**
	comp=N,0.8nm,0.3s,baz=359,slow=13,SNR=3.9						
ASAJ				Sn	**S**	**23 23 06.3**	**+1.1**
	comp=N,1.3nm,0.3s,baz=109,slow=20,SNR=3.2						
JNBK	**Urakawa-nobuka**	**3.94**	**256**	P	**P**	**23 22 19.7**	**-0.5**
JEW	**Eniwo**	**4.75**	**266**	P	**P**	**23 22 32.8**	**+1.1**
SONM	**Songino Array**	**29.12**	**293**	P	**P**	**23 27 19.9**	**-0.2**
	comp=N,2.3nm,0.9s,mb3.9,baz=80,slow=7.7,SNR=16						
CAUP	**Cauayan**	**34.40**	**228**	*e*P	**P**	**23 28 13.2**	**+6.5**
BOLP	**Bolinao**	**35.91**	**230**	*e*P	**P**	**23 28 24.9**	**+5.3**
ZAL	**Zalesovo**	**41.67**	**308**	P	**P**	**23 29 07.0**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ZAL	**Zalesovo**	**41.67**	**308**	P	**P**	**23 29 07.0**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.4,baz=137,slow=10,SNR=2.6						
BVAR	**Borovoye Array**	**50.16**	**310**	P	**P**	**23 30 14.2**	**-0.2**
	comp=Z,0.2nm,0.3s,mb3.6,baz=59,slow=8.6,SNR=4.0						
YKA	**Yellowknife Ar**	**55.81**	**34**	P	**P**	**23 30 55.5**	**-0.7**
	comp=Z,0.1nm,0.4s,mb3.2,baz=294,slow=6.4,SNR=5.5						
YKA				pP	pP	23 31 05.6	-1.0
	comp=Z,0.2nm,0.4s,baz=301,slow=6.6,SNR=2.1						
ARCES	**ARCESS Array B**	**59.79**	**340**	P	**P**	**23 31 22.2**	**-2.0**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**59.79**	**340**	P	**P**	**23 31 22.2**	**-2.0**
	comp=Z,4.3nm,1.0s,mb4.4,baz=39,slow=7.8,SNR=4.5						
FINES	**FINESS Array B**	**65.46**	**333**	P	**P**	**23 32 00.1**	**-1.6**
FINES				*PP	pP	23 32 10.6	-1.6
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.46**	**333**	P	**P**	**23 32 00.1**	**-1.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=56,slow=6.9,SNR=5.2						
FINES				pP	pP	23 32 10.6	-1.7
	comp=Z,1.1nm,0.7s,baz=34,slow=6.9,SNR=2.0						
PDAR	**Pinedale Array**	**69.74**	**50**	P	**P**	**23 32 29.1**	**+0.3**
	comp=Z,0.6nm,1.0s,mb3.5,baz=315,slow=2.1,SNR=3.9						
NB2	**NORSAR Subarra**	**70.15**	**339**	P	**P**	**23 32 30.2**	**-0.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=31,slow=6.2						
NOA	**NORSAR Array B**	**70.15**	**339**	P	**P**	**23 32 30.2**	**-0.8**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**70.15**	**339**	P	**P**	**23 32 30.2**	**-0.8**
	comp=Z,1.6nm,0.9s,mb4.0,baz=30,slow=6.4,SNR=4.2						
AKASG	**Malin Array Be**	**72.20**	**324**	P	**P**	**23 32 42.6**	**-0.9**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**72.20**	**324**	P	**P**	**23 32 42.6**	**-0.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=39,slow=5.9,SNR=5.8						
BRTR	**Keskin Array B**	**78.20**	**314**	P	**P**	**23 33 20.5**	**+2.5**
BRTR				*PP	pP	23 33 31.3	+2.8
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**78.20**	**314**	P	**P**	**23 33 20.4**	**+2.5**
	comp=Z,0.8nm,0.9s,mb3.6,baz=68,slow=7.8,SNR=2.5						
BRTR				pP	pP	23 33 31.3	+2.8
	comp=Z,0.5nm,0.7s,baz=20,slow=6.3,SNR=2.2						
TXAR	**Lajitas Array**	**82.41**	**57**	P	**P**	**23 33 42.3**	**+1.6**
	comp=Z,0.2nm,0.7s,mb3.2,baz=315,slow=1.3,SNR=2.6						
TXAR				pP	pP	23 33 52.9	+1.6
	comp=Z,0.4nm,0.7s,baz=315,slow=3.8,SNR=3.9						

NIED ***19*** *23:26:00,24.60N×122.20E,h32km,Mw4.7 Best double couple: M₀1.12×10¹⁶ NP1:φ₅75°,δ73°,λ60°. NP2:φ₅318°, δ35°,λ148°.*
BJI ***19*** *23:26:21.5,24.06N×122.49E,h25km,mB4.7,mb4.4, ML4.8,Ms4.5,Msz4.4*
NEIC ***19*** *23:26:22.7±0.2,24.36N×122.45E,h10km,mb4.8/37, ML5.0(TAP),Error ellipse: s-maj=6.2km s-min=5.4km az=224.0*
NEIC Recorded [2 TAP] in I-lan and [1 TAP] in Hua-lien and T'ai-pei Counties.
MOS ***19*** *23:26:24.9±0.9,24.37N×122.38E,h33km,mb5.1/24, MS4.3/4,Error ellipse: s-maj=14.2km s-min=6.0km az=116.9*
TAP ***19*** *23:26:26.2,24.20N×122.25E,h20km,ML5.2*
TAP Felt II J at Nanau, I J at Suao, I J at Hualien, I J at Ilan, I J at Neicheng, I J at Nioudou, I J at Nanshan, I J, I J at Taipai.
JMA ***19*** *23:26:27.0±0.3,24.59N×122.23E,h45km,M5.0*
IDC ***19*** *23:26:27.1±3.2,24.35N×122.26E,h36km±25km,mb4.3/20, mb1 4.4/21,mb1mx4.3/26,mbtmp4.5/21,ML4.1/1,MS4.3/1, Ms1 4.3/1,ms1mx3.2/8,Error ellipse: s-maj=20.9km s-min=12.4km az=67.0*
ISC 19 23:26:26.9±0.2,24.21N±0.01×122.29E±0.02,h52km±1km, h36km±2.5km:pP-P,n257,σ1$23/323,mb4.7/60,MS4.4/8, 16C-12D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.55**	**294**	⇑*i*P	**P**	**23 26 37.1**	**-1.8**
ENA				S	**S**	**23 26 44.3**	**-3.3**
TWC	**Suao**	**0.57**	**315**	⇑*i*P	**P**	**23 26 37.3**	**-1.9**
NACB	**Ninganchiao**	**0.64**	**267**	*e*Pg	**P**	**23 26 38.5**	**-1.5**
NACB				*e*Sg	**S**	**23 26 48.8**	**-0.9**
TWD	**Chiawan**	**0.65**	**259**	⇓*i*P	**P**	**23 26 38.9**	**-1.2**
TWD				S	**S**	**23 26 48.1**	**-1.7**
HWA	**Hwalien**	**0.67**	**250**	*i* P	**P**	**23 26 39.2**	**-1.2**
HWA				S	**S**	**23 26 49.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.70**	**69**	P	**P**	**23 26 41.0**	**+0.2**
YOJ				S	**S**	**23 26 51.0**	**-0.1**
EGS		**0.72**	**333**	⇑*i*P	**P**	**23 26 40.4**	**-0.6**
EGS				S	**S**	**23 26 50.5**	**-0.8**
ILA	**Ilan**	**0.75**	**318**	*i* P	**P**	**23 26 41.0**	**-0.4**
ILA				S	**S**	**23 26 51.2**	**-0.9**
TWE	**Neicheng**	**0.77**	**312**	⇑*i*P	**P**	**23 26 41.0**	**-0.7**
TWE				S	**S**	**23 26 50.8**	**-1.8**
ENTT	**Nioudou**	**0.79**	**303**	⇑*i*P	**P**	**23 26 41.5**	**-0.5**
TWB1	**Santiao Chiao**	**0.84**	**341**	⇑*i*P	**P**	**23 26 42.5**	**-0.2**
TWB1				S	**S**	**23 26 54.3**	**-0.2**
NNS	**Nan Shan**	**0.87**	**286**	⇓*i*P	**P**	**23 26 42.7**	**-0.3**
NNS				S	**S**	**23 26 54.3**	**-0.8**
YHNB	**Yeheng**	**0.95**	**299**	*e*Pg	**P**	**23 26 44.2**	**0.0**
YHNB				*e*Sg	**S**	**23 26 53.8**	**-3.3**
NSK	**Sanguang**	**0.97**	**299**	⇓*i*P	**P**	**23 26 44.6**	**+0.1**
NWF	**Wu-fen Shan**	**0.98**	**332**	⇓*i*P	**P**	**23 26 45.0**	**+0.4**
NWF				S	**S**	**23 26 58.0**	**+0.3**
TWA	**Mucha**	**1.00**	**320**	⇑P	**P**	**23 26 45.5**	**+0.6**
TWA				S	**S**	**23 26 58.7**	**+0.4**
TWT	**Tachien**	**1.02**	**273**	⇓*i*P	**P**	**23 26 45.2**	**+0.1**
TATO	**Taipei**	**1.06**	**316**	*e*Pg	**P**	**23 26 46.2**	**+0.4**
TAP1	**Taipei**	**1.08**	**320**	*e*P	**P**	**23 26 46.5**	**+0.4**
TAP	**Taipei**	**1.10**	**319**	*e*P	**P**	**23 26 46.8**	**+0.6**
TAP				S	**S**	**23 27 01.7**	**+1.2**
EHY	**Hungye**	**1.13**	**232**	⇑P	**P**	**23 26 45.4**	**-1.3**
TWS1	**Kuangyinshan**	**1.20**	**318**	*e*P	**P**	**23 26 48.2**	**+0.7**
TWS1				S	**S**	**23 27 05.9**	**+2.9**
TWY	**Chenhua**	**1.24**	**329**	*i* P	**P**	**23 26 48.5**	**+0.3**
TWY				S	**S**	**23 27 05.4**	**+1.3**
TWF1	**Yuli**	**1.25**	**227**	⇑P	**P**	**23 26 47.2**	**-1.2**
TWF1				S	**S**	**23 27 02.4**	**-2.0**
NSTT	**Nanjuang**	**1.25**	**290**	⇓P	**P**	**23 26 49.3**	**+0.8**
NCU	**National Centr**	**1.26**	**307**	*e*P	**P**	**23 26 49.1**	**+0.6**
NCU				S	**S**	**23 27 08.4**	**+3.7**
SMLT	**Sun Moon Lake**	**1.31**	**256**	⇓*i*P	**P**	**23 26 49.2**	**-0.2**
SMLT				S	**S**	**23 27 05.3**	**-0.8**
IRIF	**Iriomote-Funau**	**1.32**	**84**	P	**P**	**23 26 50.0**	**+0.5**
IRIF				S	**S**	**23 27 07.5**	**+1.3**
TYC	**Yuchr**	**1.35**	**257**	⇓*i*P	**P**	**23 26 49.6**	**-0.3**
HATJ	**Hateruma jima**	**1.39**	**96**	P	**P**	**23 26 53.0**	**+2.5**
HATJ				S	**S**	**23 27 12.1**	**+4.2**
CHKT	**Chengkung**	**1.39**	**218**	*e*P	**P**	**23 26 48.2**	**-2.1**
TWQ1	**Liyutan**	**1.39**	**276**	⇓P	**P**	**23 26 51.5**	**+1.0**
NSY	**Sanyi**	**1.41**	**279**	*e*P	**P**	**23 26 51.9**	**+1.1**
YUS	**Yu-Shan**	**1.42**	**240**	*e*P	**P**	**23 26 50.9**	**0.0**
YUS				S	**S**	**23 27 07.7**	**-1.0**
PCYT	**Pengchaiyu**	**1.43**	**352**	P	**P**	**23 26 50.9**	**-0.1**
PCYT				S	**S**	**23 27 09.8**	**+0.9**
TCU	**Taichung**	**1.48**	**268**	*e*P	**P**	**23 26 52.7**	**+1.0**
TCU				S	**S**	**23 27 12.8**	**+2.8**
WNT	**Mingjian**	**1.51**	**258**	*e*P	**P**	**23 26 53.0**	**+0.9**
WNT				S	**S**	**23 27 12.3**	**+1.5**
ALS	**Alishan**	**1.53**	**243**	⇓P	**P**	**23 26 52.6**	**+0.2**
ALS				S	**S**	**23 27 11.0**	**-0.3**
ELDTW	**Lidau**	**1.55**	**229**	⇑P	**P**	**23 26 51.3**	**-1.4**
ELDTW				S	**S**	**23 27 08.6**	**-3.1**
JKRS	**Kuro-shima**	**1.57**	**89**	P	**P**	**23 26 54.3**	**+1.4**
JKRS				S	**S**	**23 27 14.5**	**+2.3**
CHN5	**Tsauling**	**1.60**	**248**	*e*P	**P**	**23 26 53.9**	**+0.5**
WGK	**Gukeng**	**1.67**	**252**	*e*P	**P**	**23 26 55.1**	**+0.8**
WGK				S	**S**	**23 27 16.6**	**+2.0**
JIJ	**Ishigaki jima**	**1.69**	**84**	P	**P**	**23 26 55.2**	**+0.5**
JIJ				S	**S**	**23 27 15.8**	**+0.5**
STYT	**Tauyuan**	**1.75**	**234**	*e*P	**P**	**23 26 55.5**	**0.0**
STYT				S	**S**	**23 27 17.0**	**+0.3**
CHN4	**Tsaushan**	**1.77**	**242**	*e*P	**P**	**23 26 56.8**	**+1.0**
CHN4				S	**S**	**23 27 19.2**	**+2.0**
TWG	**Pinlang**	**1.78**	**219**	*e*P	**P**	**23 26 54.0**	**-1.8**
TWG				S	**S**	**23 27 14.4**	**-2.9**
TTN	**Taitung**	**1.79**	**216**	*e*P	**P**	**23 26 55.2**	**-0.8**
TTN				S	**S**	**23 27 17.0**	**-0.6**
CHN2	**Minshiung**	**1.79**	**248**	*e*P	**P**	**23 26 57.3**	**+1.3**
CHN2				S	**S**	**23 27 20.0**	**+2.3**
WTP	**Ta-pu**	**1.81**	**238**	*e*P	**P**	**23 26 56.8**	**+0.5**
WTP				S	**S**	**23 27 19.7**	**+1.5**
CHY	**Chiayi**	**1.85**	**248**	*e*P	**P**	**23 26 57.7**	**+0.8**
CHY				S	**S**	**23 27 21.3**	**+2.2**
TWK	**Hsinying**	**1.90**	**241**	*e*P	**P**	**23 26 58.2**	**+0.6**
TWK				S	**S**	**23 27 21.9**	**+1.6**
CHN1	**Nanshi**	**1.91**	**238**	*e*P	**P**	**23 26 58.4**	**+0.7**
CHN1				S	**S**	**23 27 22.4**	**+1.9**
SGST	**Jiashian**	**1.93**	**235**	*e*P	**P**	**23 26 58.8**	**+0.9**
SGST				S	**S**	**23 27 23.0**	**+2.0**
WSF	**Szhu**	**1.98**	**254**	*e*P	**P**	**23 26 59.5**	**+0.8**
WSF				S	**S**	**23 27 24.7**	**+2.5**
CHN8	**Yiju**	**2.09**	**246**	*e*P	**P**	**23 27 00.6**	**+0.4**
CHN8				S	**S**	**23 27 26.7**	**+1.6**
CHN3	**Shinhua**	**2.10**	**238**	*e*P	**P**	**23 27 01.3**	**+1.0**
CHN3				S	**S**	**23 27 28.5**	**+3.3**
SSD	**Sandimen**	**2.11**	**227**	*e*P	**P**	**23 27 00.1**	**-0.4**
SSD				S	**S**	**23 27 27.0**	**+1.5**
SCLT	**Jiali**	**2.18**	**242**	*e*P	**P**	**23 27 02.2**	**+0.7**
SCLT				S	**S**	**23 27 29.0**	**+1.6**
TWM1	**Shoushan**	**2.20**	**232**	*e*P	**P**	**23 27 04.3**	**+2.5**
SGLT	**Jiouru**	**2.22**	**229**	*e*P	**P**	**23 27 04.6**	**+2.6**
SGLT				S	**S**	**23 27 31.0**	**+2.7**
JTJ	**Tarama**	**2.24**	**78**	P	**P**	**23 27 03.2**	**+0.8**
JTJ				*e*S	**S**	**23 27 31.2**	**+2.4**
TAW	**Tawu**	**2.24**	**215**	*e*P	**P**	**23 27 00.5**	**-1.9**
TAW				S	**S**	**23 27 26.2**	**-2.8**
EAST	**Anshuo**	**2.25**	**216**	*e*P	**P**	**23 27 00.7**	**-1.8**
LAY	**Lan-yu**	**2.26**	**198**	*e*P	**P**	**23 27 00.2**	**-2.5**
SCZT	**Fangliau**	**2.39**	**220**	*e*P	**P**	**23 27 04.1**	**-0.4**
SCZT				S	**S**	**23 27 34.3**	**+1.6**
TWP	**Hsiaoliuchiu**	**2.56**	**224**	*e*P	**P**	**23 27 09.9**	**+2.9**
PNG	**Penghu**	**2.59**	**256**	*e*P	**P**	**23 27 06.3**	**-1.0**
PNG				S	**S**	**23 27 36.9**	**-0.8**
WDGT	**Dungji**	**2.59**	**249**	*e*P	**P**	**23 27 06.9**	**-0.5**
WDGT				S	**S**	**23 27 36.7**	**-1.1**
HEN	**Hengchun**	**2.62**	**213**	*e*P	**P**	**23 27 07.2**	**-0.6**
TWK1	**Hengchun**	**2.64**	**212**	*e*P	**P**	**23 27 06.9**	**-1.2**
TWK1				S	**S**	**23 27 36.3**	**-2.7**
JMJ	**Miyako jima 2**	**2.80**	**77**	P	**P**	**23 27 11.6**	**+1.2**
JMJ				*e*S	**S**	**23 27 44.7**	**+1.6**
JOGS	**Gusukube**	**2.89**	**78**	P	**P**	**23 27 13.2**	**+1.6**
JOGS				*e*S	**S**	**23 27 48.4**	**+3.0**
QZH	**Quanzhou**	**3.45**	**283**	⇑*i*P	**P**	**23 27 17.8**	**-1.7**
QZH				S	**S**	**23 27 55.4**	**-4.1**
QZH				Smax			
	comp=N,2μm,0.6s						
QZH				Smax			
	comp=E,1μm,0.8s						
KNM	**Kinmen**	**3.53**	**274**	*e*P	**P**	**23 27 20.2**	**-0.4**
BBP	**Basco**	**3.76**	**185**	*e*P	**P**	**23 27 21.3**	**-2.6**
JKE	**Kume jima 2**	**4.58**	**62**	P	**P**	**23 27 35.6**	**+0.1**
JAGN	**Aguni-jima**	**5.07**	**61**	P	**P**	**23 27 44.8**	**+2.6**
JIH	**Iheya**	**5.84**	**60**	P	**P**	**23 27 52.2**	**-0.9**
SGCP	**Mt. Cagua**	**5.94**	**182**	*e*P	**P**	**23 27 51.1**	**-3.3**
SGCP				*e*S	**S**	**23 28 55.0**	**-7.0**
JOW	**Kunigami**	**6.00**	**63**	Pn	**P**	**23 27 53.8**	**-1.5**
	comp=E,11nm,0.3s,baz=218,slow=11,SNR=47						
JOW				Sn	**S**	**23 29 03.6**	**+0.1**
APYP	**Conner**	**6.39**	**189**	*e*P	**P**	**23 27 59.0**	**-1.8**
ABRA	**Dolores**	**6.69**	**193**	*e*P	**P**	**23 28 04.2**	**-0.8**
SSE	**Sheshan**	**6.93**	**352**	P	**P**	**23 28 06.0**	**-2.4**
SSE				S	**S**	**23 29 22.3**	**-4.3**
SSE				Smax			
	comp=N,94nm,1.2s						
SSE				Smax			
	comp=E,119nm,1.1s						
SSE				LR	LR		
	comp=N,2μm,14.4s						
SSE				LR	LR		
	comp=E,277nm,14.3s						
SSE				LR	LR		
	comp=Z,2μm,15.0s						
SSE	**Sheshan**	**6.93**	**352**	Pn	**P**	**23 28 06.0**	**-2.4**
	comp=Z,91nm,0.7s						
SSE				Sn	**S**	**23 29 22.2**	**-4.4**
JTK	**Tokunoshima**	**6.97**	**58**	P	**P**	**23 28 06.5**	**-2.4**
JAM	**Amami Oshima**	**7.78**	**56**	P	**P**	**23 28 17.5**	**-2.6**
GZH	**Guangzhou**	**8.28**	**264**	P	**P**	**23 28 20.8**	**-6.2**
GZH				Smax			
	comp=N,232nm,1.0s						
GZH				Smax			
	comp=E,202nm,1.0s						
NJ2	**Nanjing**	**8.38**	**340**	*e*P	**P**	**23 28 25.4**	**-3.0**
NJ2				AP		23 28 28.6	
NJ2				S	**S**	**23 29 58.8**	**-3.9**
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,230nm,3.6s						
NJ2				Smax			
	comp=N,430nm,0.8s						
NJ2				Smax			
	comp=E,840nm,1.4s						
NJ2				LR	LR		
	comp=N,4μm,12.8s						
NJ2				LR	LR		
	comp=E,3μm,11.3s						
NJ2				LR	LR		
	comp=Z,3μm,10.9s						
BALP	**Baler**	**8.45**	**185**	*e*P	**P**	**23 28 28.4**	**-0.9**
PCPH	**Palayan**	**8.67**	**188**	⇓*e*P	**P**	**23 28 31.7**	**-0.7**
SCZP	**Santa Cruz**	**8.68**	**195**	*e*P	**P**	**23 28 31.5**	**-1.0**
QIZ	**Qiongzhong**	**12.67**	**248**	P	**P**	**23 29 25.6**	**-1.2**
ENH	**Enshi**	**12.89**	**301**	*e*P	**P**	**23 29 29.4**	**-0.2**
	comp=Z,14nm,0.9s						
ENH				*e*S	**S**	**23 32 02.2**	**+10**
INCN	**Inchon**	**13.75**	**15**	P	**P**	**23 29 43.9**	**+3.1**
	comp=Z,65nm,1.0s						
KS15	**Wonju Array Si**	**14.04**	**19**	P	**P**	**23 29 42.2**	**-2.4**
GYA	**Guiyang**	**14.31**	**282**	*e*P	**P**	**23 29 49.6**	**+1.3**
GYA				AP		23 29 53.3	
GYA				XP		23 29 55.8	
GYA				S	**S**	**23 32 31.5**	**+5.3**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s						
GYA				LR	LR		
	comp=N,640nm,12.2s						
GYA				LR	LR		
	comp=E,2μm,14.0s						
GYA				LR	LR		
	comp=Z,2μm,15.0s						
XAN	**Xi'an**	**15.23**	**313**	P	**P**	**23 30 00.1**	**-0.1**
XAN				LR	LR		
	comp=N,324nm,8.8s						
XAN				LR	LR		
	comp=E,824nm,15.6s						
XAN				LR	LR		
	comp=Z,1μm,16.0s						
BJT	**Baijiatuau**	**16.59**	**343**	P	**P**	**23 30 16.7**	**-0.6**
BJT				pmax

CN2	**Changchun**	**19.72**	**7**	*e*P		**P**	**23 30 53.8**	**-1.0**
CN2				*e*XP			23 31 05.8	
CN2				*e*S		**S**	**23 34 39.4**	**+10**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,1μm,15.0s							
CN2				LR		LR		
	comp=E,500nm,15.0s							
CN2				LR		LR		
	comp=Z,1μm,16.0s							
LZH	**Lanzhou**	**19.83**	**311**	⇑P		**P**	**23 30 56.5**	**+0.4**
LZH				AP			23 30 59.8	
LZH				*e*PP		PP	23 31 15.4	-0.3
LZH				*e*S		**S**	**23 34 34.5**	**+3.1**
LZH				XS			23 34 46.5	
LZH				SS		SS	23 35 03.1	+2.2
LZH				AMB		AMB		
	comp=Z,69nm,1.5s							
LZH				AMB		AMB		
	comp=Z,237nm,5.9s							
LZH				LR		LR		
	comp=N,1μm,10.2s							
LZH				LR		LR		
	comp=Z,2μm,12.8s							
LZH	**Lanzhou**	**19.83**	**311**	⇑P		**P**	**23 30 56.5**	**+0.4**
LZH				*e*S		**S**	**23 34 34.5**	**+3.1**
LZH				pmax		pmax		
	comp=Z,69nm,1.5s							
LZH	**Lanzhou**	**19.83**	**311**	⇑P		**P**	**23 30 56.5**	**+0.4**
	comp=Z,69nm,1.5s							
LZH				pP			23 30 59.7	
LZH				sP			23 31 01.2	
LZH				*e*PP		PP	23 31 15.4	-0.3
LZH				*e*S		**S**	**23 34 34.5**	**+3.1**
LZH				sS			23 34 46.5	
LZH				SS		SS	23 35 03.1	+2.2
MDJ	**Mudanjiang**	**21.21**	**15**	P		**P**	**23 31 07.4**	**-2.9**
MDJ				S		**S**	**23 35 06.1**	**+8.0**
MDJ				XS			23 35 09.3	
MDJ				SCP			23 38 47.9	
MDJ				PCS			23 38 49.8	
MDJ				SCS		ScS	23 42 32.8	+4.8
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.0s,mb4.0							
MDJ				AMB		AMB		
	comp=Z,132nm,5.8s							
MDJ				LR		LR		
	comp=N,763nm,12.4s,MS4.3							
MDJ				LR		LR		
	comp=E,390nm,13.7s,MS4.3							
MDJ				LR		LR		
	comp=Z,901nm,13.0s,MS4.3							
MDJ	**Mudanjiang**	**21.21**	**15**	P		**P**	**23 31 12.3**	**+2.0**
	comp=Z,9.2nm,0.7s,mb4.2							
GTA	**Gaotai**	**24.29**	**314**	P		**P**	**23 31 41.6**	**+1.1**
GTA				AP			23 31 51.1	
GTA				XP			23 31 55.5	
GTA				AMB		AMB		
	comp=Z,13nm,1.1s,mb4.3							
GTA				AMB		AMB		
	comp=Z,114nm,8.0s							
GTA				LR		LR		
	comp=N,232nm,16.4s,MS4.2							
GTA				LR		LR		
	comp=E,536nm,14.5s,MS4.2							
GTA				LR		LR		
	comp=Z,727nm,14.9s,MS4.3							
HIA	**Hailar**	**25.09**	**356**	*e*P		**P**	**23 31 46.7**	**-1.5**
HIA				pmax		pmax		
	comp=Z,7.0nm,0.7s							
HIA	**Hailar**	**25.09**	**356**	*e*P		**P**	**23 31 46.7**	**-1.4**
	comp=Z,7.5nm,0.7s,mb4.3							
ASAJ	**Asahikawa**	**25.89**	**35**	P		**P**	**23 31 53.9**	**-1.8**
	comp=Z,2.3nm,0.4s,mb4.1,baz=252,slow=19,SNR=4.1							
KLR	**Kul'dur**	**26.06**	**14**	*e*P		**P**	**23 31 54.8**	**-2.4**
ULN	**Ulaanbaatar**	**26.53**	**337**	*e*P		**P**	**23 32 00.7**	**-0.9**
ULN				*e*			23 35 24.9	
ULN				pmax		pmax		
	comp=Z,21nm,0.7s,mb4.8							
ULN	**Ulaanbaatar**	**26.53**	**337**	*e*P		**P**	**23 32 00.7**	**-0.9**
	comp=Z,20nm,0.7s,mb4.8							
ULN				*e*PcP		PcP	23 35 24.9	-0.7
ULN				*e*			23 35 36.7	
SONM	**Songino Array**	**26.75**	**336**	P		**P**	**23 32 02.9**	**-0.7**
	comp=Z,32nm,0.9s,mb4.8,baz=151,slow=10,SNR=192							
SONM				PcP		PcP	23 35 25.9	-0.2
	comp=Z,0.8nm,0.5s,baz=173,slow=2.3,SNR=5.3							
SONM				ScP			23 39 02.9	
	comp=Z,1.4nm,1.1s,baz=135,slow=1.7,SNR=5.8							
YSS	**Yuzh-Sakhalins**	**27.98**	**31**	*e*P		**P**	**23 32 24.0**	**+9.2**
YSS				*e*			23 32 32.0	
LSA	**Lhasa**	**28.24**	**288**	P		**P**	**23 32 17.4**	**+0.1**
LSA	**Lhasa**	**28.24**	**288**	*e*P		**P**	**23 32 18.0**	**+0.7**
LSA				*e*		pP	23 32 30.3	-0.2
LSA				*e*			23 35 28.3	
LSA				pmax		pmax		
	comp=Z,13nm,0.6s,mb4.7							
LSA	**Lhasa**	**28.24**	**288**	*e*P		**P**	**23 32 18.0**	**+0.7**
	comp=Z,14nm,0.6s,mb4.8							
LSA				*e*		pP	23 32 30.3	-0.2
LSA				*e*PcP		PcP	23 35 28.3	-1.6
ZAK	**Zakamensk**	**30.01**	**335**	*e*P		**P**	**23 32 31.3**	**-1.6**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.1							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.3s,mb3.7							
TLY	**Talaya**	**30.94**	**337**	*e*P		**P**	**23 32 40.1**	**-0.9**
TLY				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.7							
TLY				MLR		MLR		
	comp=Z,691nm,16.0s,MS4.4							
TLY	**Talaya**	**30.94**	**337**	*e*P		**P**	**23 32 39.8**	**-1.3**
	comp=Z,23nm,0.8s,mb5.0							
TLY				*e*		pP	23 32 48.5	-5.8
MOY	**Mondy**	**31.91**	**335**	*e*P		**P**	**23 32 48.8**	**-0.8**
JIRN	**Jiri**	**32.58**	**284**	*e*P		**P**	**23 32 55.6**	**-0.1**
	comp=Z,15nm,0.6s,mb5.1							
PKI	**Pulchoki**	**33.27**	**284**	*e*P		**P**	**23 33 01.1**	**-0.6**
	comp=Z,7.3nm,0.6s,mb4.8							
KKN	**Kakani**	**33.38**	**284**	*e*P		**P**	**23 33 02.2**	**-0.4**
	comp=Z,19nm,0.7s,mb5.1							
GKN	**Gorkha**	**33.94**	**285**	*e*P		**P**	**23 33 06.8**	**-0.6**
	comp=Z,23nm,0.9s,mb5.1							
WMQ	**Urumqi**	**34.37**	**313**	⇓*i*P		**P**	**23 33 10.8**	**-0.2**
WMQ				PP		PP	23 34 26.0	-1.6
WMQ				PPP		PPP	23 34 45.0	-0.8
WMQ				PCP		PcP	23 35 46.0	-0.1
WMQ				*e*S		**S**	**23 38 39.0**	**+4.9**
WMQ				PCS			23 39 31.0	
WMQ				SS		SS	23 40 48.0	+1.3
WMQ				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,164nm,4.9s							
WMQ				LR		LR		
	comp=N,1μm,20.6s,MS4.7							
WMQ				LR		LR		
	comp=E,677nm,16.4s,MS4.7							
WMQ				LR		LR		
	comp=Z,772nm,18.5s,MS4.5							
KOLN	**Koldanda**	**34.87**	**284**	*e*P		**P**	**23 33 14.8**	**-0.5**
	comp=Z,14nm,0.8s,mb4.9							
KAKA	**Kakadu**	**38.01**	**164**	*e*P		**P**	**23 33 45.5**	**+3.6**
	comp=Z,15nm,0.6s,mb4.9							
MKAR	**Makanchi Array**	**39.03**	**315**	*e*P		**P**	**23 33 49.7**	**-0.4**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
DDI	**Dehra Dun**	**39.60**	**289**	*e*		**P**	**23 33 56.0**	**+1.0**
ZAL	**Zalesovo**	**40.78**	**327**	P		**P**	**23 34 03.6**	**-1.0**
	comp=Z,7.5nm,0.6s,mb4.5,baz=3.4,slow=8.1,SNR=47							
ZAL				PcP		PcP	23 36 03.6	-2.0
	comp=Z,1.4nm,0.4s,baz=18,slow=3.0,SNR=3.4							
ULHL	**Ulahol**	**41.96**	**307**	P		**P**	**23 34 15.6**	**+1.3**
	SNR=6.8							
TKM2	**Tokmak 2**	**42.55**	**308**	P		**P**	**23 34 20.5**	**+1.3**
	SNR=17							
KZA	**Kyzart**	**42.65**	**306**	P		**P**	**23 34 21.8**	**+1.7**
	SNR=9.2							
KURK	**Kurchatov**	**42.73**	**320**	P		**P**	**23 34 19.2**	**-1.3**
	comp=Z,91nm,1.2s,mb5.4,SNR=14							
KURK	**Kurchatov**	**42.73**	**320**	*e*P		**P**	**23 34 19.7**	**-0.8**
KURK				pmax		pmax		
	comp=Z,23nm,1.2s,mb4.8							
KURK	**Kurchatov**	**42.73**	**320**	*e*P		**P**	**23 34 19.7**	**-0.9**
	comp=Z,23nm,1.2s,mb4.8							
KBK	**Karagaybulak**	**42.97**	**307**	P		**P**	**23 34 23.6**	**+0.9**
	SNR=6.4							
UCH	**Uchtor**	**43.22**	**307**	P		**P**	**23 34 26.8**	**+2.1**
	SNR=12							
AAK	**Ala-Archa**	**43.30**	**307**	*e*P		**P**	**23 34 24.4**	**-0.9**
AAK				*e**PP		pP	23 34 36.8	-2.2
AAK				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**43.30**	**307**	*e*P		**P**	**23 34 24.4**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.1							
AAK				*e*pP		pP	23 34 36.8	-2.2
USP	**Ospenovka**	**43.40**	**308**	P		**P**	**23 34 26.6**	**+0.4**
	SNR=5.3							
AML	**Almayashu**	**43.81**	**306**	P		**P**	**23 34 31.0**	**+1.6**
	SNR=9.4							
MBWA	**Marble Bar**	**45.16**	**183**	*e*P		**P**	**23 34 38.6**	**-2.0**
	comp=Z,15nm,0.9s,mb4.8							
MBWA				*e*pP		pP	23 34 50.1	-4.2
WRAB	**Tennant Creek**	**45.42**	**164**	*e*P		**P**	**23 34 42.9**	**+0.3**
WRAB				*e**PP		pP	23 34 53.3	-3.1
WRAB				pmax		pmax		
	comp=Z,20nm,0.8s,mb5.0							
WRAB	**Tennant Creek**	**45.42**	**164**	*e*P		**P**	**23 34 42.9**	**+0.3**
	comp=Z,20nm,0.8s,mb5.0							
WRAB				*e*pP		pP	23 34 53.3	-3.1
WRA	**Warramunga Arr**	**45.42**	**164**	P		**P**	**23 34 42.7**	**+0.1**
	comp=Z,5.0nm,0.5s,mb4.6,baz=346,slow=8.8,SNR=34							
WB2	**Warramunga Arr**	**45.43**	**164**	⇑*i*P		**P**	**23 34 42.9**	**+0.2**
WB2				*i*		pP	23 34 53.8	-2.7
TIXI	**Tiksi**	**47.62**	**3**	*e*P		**P**	**23 34 55.8**	**-3.5**
TIXI				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.7							
TIXI				MLR		MLR		
	comp=Z,507nm,14.0s,MS4.6							
BVAR	**Borovoye Array**	**48.30**	**320**	P		**P**	**23 35 04.0**	**-0.8**
	comp=Z,4.2nm,0.5s,mb4.7,baz=112,slow=9.2,SNR=34							
CHKZ	**Chkalovo**	**48.35**	**321**	*e*P		**P**	**23 35 03.8**	**-1.4**
CHKZ				*e**PP		pP	23 35 13.4	-5.6
CHKZ				pmax		pmax		
	comp=Z,17nm,0.8s,mb5.1							
CHKZ	**Chkalovo**	**48.35**	**321**	*e*P		**P**	**23 35 03.8**	**-1.4**
	comp=Z,17nm,0.8s,mb5.1							
CHKZ				*e*pP		pP	23 35 13.4	-5.6
ASAR	**Alice Springs**	**48.90**	**166**	P		**P**	**23 35 10.2**	**+0.4**
	comp=Z,4.2nm,0.5s,mb4.7,baz=351,slow=13,SNR=72							
ASPA	**Alice Springs**	**48.90**	**166**	*e*P		**P**	**23 35 10.5**	**+0.6**
CTA	**Charters Tower**	**49.83**	**150**	P		**P**	**23 35 19.0**	**+1.9**
	comp=Z,1.9nm,0.4s,mb4.5,baz=327,slow=14,SNR=3.4							
BILL	**Bilibino**	**51.32**	**20**	*e*P		**P**	**23 35 28.4**	**+0.6**
BILL	**Bilibino**	**51.32**	**20**	*e*P		**P**	**23 35 28.4**	**+0.7**
SVE	**Sverdlovsk**	**54.63**	**324**	*e*P		**P**	**23 35 52.0**	**-0.4**
SVE				*e*		pP	23 36 08.8	+2.3
SVE				MLR		MLR		
	comp=N,100nm,17.0s,MS4.3							
SVE				MLR		MLR		
	comp=E,200nm,17.0s,MS4.3							
SVE				MLR		MLR		
	comp=Z,500nm,17.0s,MS4.7							
ARU	**Arti**	**55.70**	**323**	*e*P		**P**	**23 35 58.3**	**-1.9**
ARU				*e*		pP	23 36 09.7	-4.7
ARU	**Arti**	**55.70**	**323**	*e*P		**P**	**23 35 58.2**	**-2.0**
	comp=Z,7.8nm,0.6s,mb4.9							
ARU				*e*pP		pP	23 36 08.9	-5.5
STKA	**Stephens Creek**	**58.74**	**161**	P		**P**	**23 36 22.3**	**+0.3**
	comp=Z,4.1nm,0.5s,mb4.7,baz=346,slow=5.9,SNR=19							
STKA	**Stephens Creek**	**58.74**	**161**	*e*P		**P**	**23 36 22.0**	**0.0**
STKA				*e*pP		pP	23 36 33.0	-3.3
TOO	**Toolangi**	**65.21**	**160**	*e*P		**P**	**23 37 06.3**	**+1.1**
	comp=Z,0.3nm,0.7s							
ZEI	**Tsey**	**65.72**	**308**	*e*P		**P**	**23 37 06.9**	**-1.5**
ZEI				*e*		pP	23 37 20.9	-2.1
KIV	**Kislovodsk**	**66.36**	**309**	*c i*P		**P**	**23 37 12.0**	**-0.5**
KIV				pmax		pmax		
	comp=Z,31nm,1.4s,mb5.2							
KIV				MLR		MLR		
	comp=Z,100nm,20.0s,MS4.0							
KIV	**Kislovodsk**	**66.36**	**309**	*e*P		**P**	**23 37 12.7**	**+0.2**
	comp=Z,14nm,1.1s,mb4.9							
MCK	**McKinley**	**68.05**	**29**	P		**P**	**23 37 21.6**	**-1.1**
MCK				pmax		pmax		
	comp=Z,6.0nm,1.4s,mb4.4							
MCK	**McKinley**	**68.05**	**29**	P		**P**	**23 37 21.6**	**-1.1**
	comp=Z,6.4nm,1.4s,mb4.5							
JOF	**Joensuu**	**69.18**	**331**	*e*p		**P**	**23 37 27.4**	**-2.3**
KEV	**Kevo**	**69.33**	**338**	*e*p		**P**	**23 37 27.8**	**-2.8**
ARCES	**ARCESS Array B**	**69.90**	**338**	P		**P**	**23 37 32.9**	**-1.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=56,slow=8.7,SNR=7.1							
MALT	**Malatya**	**70.82**	**304**	*e*P		**P**	**23 37 40.9**	**+0.8**
MALT				pmax		pmax		
	comp=Z,22nm,1.1s,mb5.0							
MALT	**Malatya**	**70.82**	**304**	*e*P		**P**	**23 37 40.9**	**+0.8**
	comp=Z,22nm,1.1s,mb5.0							
FINES	**FINESS Array B**	**71.94**	**330**	P		**P**	**23 37 45.2**	**-1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=42,slow=6.9,SNR=15							
DAWY	**Dawson**	**72.05**	**27**	*e*P		**P**	**23 37 46.6**	**-0.4**
DAWY				*e*		pP	23 37 56.8	-4.9
INK	**Inuvik**	**72.82**	**22**	*e*P		**P**	**23 37 50.4**	**-1.0**
INK				pmax		pmax		
	comp=Z,4.0nm,0.8s							
INK	**Inuvik**	**72.82**	**22**	P		**P**	**23 37 51.4**	**-0.1**
	comp=Z,2.3nm,0.5s,mb4.4,baz=142,slow=24,SNR=7.2							
INK	**Inuvik**	**72.82**	**22**	*e*P		**P**	**23 37 50.4**	**-1.1**
	comp=Z,4.3nm,0.8s,mb4.4							
AKASG	**Malin Array Be**	**73.53**	**319**	P		**P**	**23 37 54.0**	**-1.9**
	comp=Z,0.5nm,0.4s,mb3.8,baz=62,slow=6.4,SNR=7.9							
BRTR	**Keskin Array B**	**73.97**	**307**	P		**P**	**23 37 58.6**	**-0.1**
	comp=Z,7.4nm,0.9s,mb4.6,baz=112,slow=5.5,SNR=28							
RES	**Resolute Bay**	**78.48**	**9**	*e*P		**P**	**23 38 22.6**	**-0.9**
RES				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.2							
RES	**Resolute Bay**	**78.48**	**9**	*e*P		**P**	**23 38 22.6**	**-0.9**
	comp=Z,3.1nm,0.9s,mb4.2							
NB2	**NORSAR Subarra**	**78.68**	**332**	P		**P**	**23 38 23.0**	**-1.8**
	comp=Z,2.1nm,0.8s,mb4.1,baz=63,slow=5.3							
NB2	**NORSAR Subarra**	**78.68**	**332**	P		**P**	**23 38 23.0**	**-1.8**
NB2				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
NOA	**NORSAR Array B**	**78.68**	**332**	P		**P**	**23 38 23.8**	**-1.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=62,slow=5.4,SNR=4.6							
YKA	**Yellowknife Ar**	**82.56**	**23**	P		**P**	**23 38 45.0**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=313,slow=4.8,SNR=32							
YKA				PKKPbc			23 57 20.4	
	comp=Z,0.1nm,0.4s,baz=130,slow=2.2,SNR=3.6							
SUMG	**Summit**	**82.58**	**354**	*e*P		**P**	**23 38 45.4**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9							
GERES	**GERESS Array B**	**83.47**	**321**	P		**P**	**23 38 51.6**	**+1.4**
	comp=Z,2.1nm,0.9s,mb4.2,baz=56,slow=4.8,SNR=17							
GRA1	**Grafenberg Arr**	**84.44**	**322**	*e*P		**P**	**23 38 56.0**	**+0.9**
	comp=Z,6.0nm,1.1s,mb4.6							
GRF	**Grafenberg Arr**	**84.44**	**322**	*e*P		**P**	**23 38 56.0**	**+0.9**
GRF				pmax		pmax		
	comp=Z,6.0nm,1.1s,mb4.6							
KMBO	**Kilima Mbogo**	**85.93**	**267**	*e*P		**P**	**23 39 05.2**	**+1.9**
KMBO				*e*			23 39 14.1	
KMBO				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KMBO	**Kilima Mbogo**	**85.93**	**267**	P		**P**	**23 39 05.2**	**+1.9**
	comp=Z,5.8nm,0.9s,mb4.8,baz=37,slow=9.1,SNR=19							
KMBO	**Kilima Mbogo**	**85.93**	**267**	*e*P		**P**	**23 39 05.2**	**+1.9**
	comp=Z,8.2nm,1.0s,mb4.9							
KMBO				*e*			23 39 14.1	
DAVOX	**Davos**	**86.74**	**320**	P		**P**	**23 39 07.7**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.3,baz=338,slow=8.2,SNR=4.6							
CDF	**Champ du Feu**	**87.32**	**323**	*e*P		**P**	**23 39 09.6**	**+0.3**
GIVF	**Givet**	**87.67**	**325**	*e*P		**P**	**23 39 11.0**	**+0.1**
HINF	**Hinteralfeld**	**87.89**	**322**	*e*P		**P**	**23 39 11.7**	**-0.3**
BAIF	**Baives**	**88.01**	**325**	*e*P		**P**	**23 39 12.8**	**+0.3**
MEZF	**Maizieres J'vi**	**88.48**	**324**	*e*P		**P**	**23 39 15.1**	**+0.3**
LPG	**La Plagne**	**89.26**	**321**	*e*P		**P**	**23 39 19.3**	**+0.7**
	comp=Z,5.1nm,0.7s,mb4.6							
LPG	**La Plagne**	**89.26**	**321**	*e*P		**P**	**23 39 19.3**	**+0.7**
LPG				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.7							
LPL	**La Plagne**	**89.26**	**321**	*e*P		**P**	**23 39 19.1**	**+0.5**
PGF	**Pioggiola**	**89.55**	**317**	*e*P		**P**	**23 39 19.4**	**-0.6**
	comp=Z,21nm,0.9s,mb5.2							
PGF	**Pioggiola**	**89.55**	**317**	*e*P		**P**	**23 39 19.4**	**-0.6**
PGF				pmax		pmax		
	comp=Z,11nm,0.9s,mb5.2							
MBDF	**Montbardon**	**89.68**	**320**	*e*P		**P**	**23 39 21.1**	**+0.5**
SBF	**Sospel**	**89.78**	**319**	*e*P		**P**	**23 39 20.6**	**-0.5**
ORIF	**Oris-en-Rattie**	**90.10**	**320**	*e*P		**P**	**23 39 22.8**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.6							
ORIF				*e*R				
	comp=Z,194nm,18.8s							
SSF	**Saint Saulge**	**90.17**	**323**	*e*P		**P**	**23 39 22.8**	**0.0**
SMF	**Signal de Mont**	**90.24**	**323**	*e*P		**P**	**23 39 23.2**	**0.0**
	comp=Z,20nm,1.0s,mb5.1							
SMF	**Signal de Mont**	**90.24**	**323**	*e*P		**P**	**23 39 23.2**	**0.0**
SMF				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb5.1							
NEW	**Newport**	**90.41**	**35**	*e*P		**P**	**23 39 24.7**	**+0.8**
NEW				*e**PP		pP	23 39 34.0	-5.1
NEW				pmax		pmax		
	comp=Z,7.0nm,0.8s							
NEW	**Newport**	**90.41**	**35**	P		**P**	**23 39 24.6**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.7,baz=283,slow=2.8,SNR=4.9							
NEW	**Newport**	**90.41**	**35**	*e*P		**P**	**23 39 24.7**	**+0.8**
	comp=Z,7.2nm,0.8s,mb5.0							
NEW				*e*pP		pP	23 39 34.0	-5.1
AVF	**Avril sur Loir**	**90.42**	**323**	*e*P		**P**	**23 39 23.9**	**-0.1**
	comp=Z,14nm,1.1s,mb4.9							
AVF	**Avril sur Loir**	**90.42**	**323**	*e*P		**P**	**23 39 23.9**	**-0.1**
AVF				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.9							
LMR	**La Mourre**	**90.63**	**319**	*e*P		**P**	**23 39 25.3**	**+0.2**
	comp=Z,50nm,1.5s,mb5.3							
LMR	**La Mourre**	**90.63**	**319**	*e*P		**P**	**23 39 25.3**	**+0.2**
LMR				pmax		pmax		
	comp=Z,25nm,1.5s,mb5.3							
VIVF	**Saint-Julien-l**	**90.83**	**321**	*e*P		**P**	**23 39 25.6**	**-0.4**
TCF	**Toulx Ste Croi**	**91.35**	**323**	*e*P		**P**	**23 39 27.8**	**-0.6**
	comp=Z,2.8nm,0.7s,mb4.4							
TCF	**Toulx Ste Croi**	**91.35**	**323**	*e*P		**P**	**23 39 27.8**	**-0.6**
TCF				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.2							
WALA	**Waterton Lakes**	**91.55**	**33**	*e*P		**P**	**23 39 29.5**	**+0.3**
	comp=Z,6.0nm,1.0s,mb4.9							
GRR	**Gorron**	**91.66**	**326**	*e*P		**P**	**23 39 29.1**	**-0.6**
LASF	**Ste Croix**	**91.76**	**321**	*e*P		**P**	**23 39 30.8**	**+0.5**
FRB	**Frobisher Bay**	**91.93**	**5**	P		**P**	**23 39 29.9**	**-0.7**
	comp=Z,6.7nm,0.9s,mb5.0,baz=324,slow=4.2,SNR=5.6							
FRB				LR		LR	00 21 55.4	
	comp=Z,134nm,19.0s,MS4.4,baz=132,slow=36							
FRB	**Frobisher Bay**	**91.93**	**5**	P		**P**	**23 39 29.9**	**-0.7**
FRB				LR		LR	00 21 55.4	
FCC	**Fort Churchill**	**92.01**	**18**	*e*P		**P**	**23 39 30.6**	**-0.5**
FCC				pmax		pmax		
	comp=Z,11nm,1.2s,mb5.1							
FCC	**Fort Churchill**	**92.01**	**18**	*e*P		**P**	**23 39 30.6**	**-0.5**
	comp=Z,11nm,1.2s,mb5.1							
CAF	**Calviac**	**92.27**	**322**	*e*P		**P**	**23 39 33.4**	**+0.8**
	comp=Z,25nm,1.3s,mb5.1							
CAF	**Calviac**	**92.27**	**322**	*e*P		**P**	**23 39 33.4**	**+0.8**
CAF				pmax		pmax		
	comp=Z,12nm,1.3s,mb5.1							
RJF	**Les Rejaudoux**	**92.34**	**323**	*e*P		**P**	**23 39 33.7**	**+0.8**
RJF				*e*R				
	comp=Z,160nm,17.8s							
MTLF	**Montolieu**	**93.15**	**321**	*e*P		**P**	**23 39 36.7**	**0.0**
	comp=Z,4.5nm,0.8s,mb4.6							
MTLF	**Montolieu**	**93.15**	**321**	*e*P		**P**	**23 39 36.7**	**0.0**
MTLF				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.6							
EPF	**Esparros**	**94.42**	**321**	*e*P		**P**	**23 39 41.9**	**-0.6**
CMB	**Columbia Colle**	**94.63**	**45**	*e*P		**P**	**23 39 44.0**	**+0.5**
CMB				*e**PP		pP	23 39 53.1	-5.7
HLID	**Hailey**	**94.84**	**38**	*e*P		**P**	**23 39 45.9**	**+1.6**
	comp=Z,2.8nm,0.8s,mb4.7							
HLID				*e*pP		pP	23 39 55.2	-4.4
ETSF	**Etsaut**	**95.02**	**322**	*e*P		**P**	**23 39 44.8**	**-0.4**
SJPF	**Ste Jean**	**95.25**	**322**	*e*P		**P**	**23 39 47.2**	**+0.9**
	comp=Z,17nm,1.3s,mb5.0							
SJPF	**Ste Jean**	**95.25**	**322**	*e*P		**P**	**23 39 47.2**	**+0.9**
SJPF				pmax		pmax		
	comp=Z,9.0nm,1.3s,mb5.0							
PPT	**Papeete**	**95.39**	**107**	*e*LR		LR	00 10 53.1	
	comp=Z,132nm,23.8s							
EVO	**Evora**	**102.14**	**322**	*e*P		Pdif	23 40 19.3	+1.8
	comp=Z,17nm,1.1s							
EVO				*e*R				
	comp=Z,158nm,21.8s							
RKT	**Rikitea**	**110.15**	**107**	*e*LR		LR	00 17 43.7	
	comp=Z,161nm,30.8s							
TXAR	**Lajitas Array**	**110.83**	**42**	PKiKP			23 44 57.2	
	comp=Z,0.1nm,0.4s,baz=270,slow=0.9,SNR=4.7							
DBIC	**Dimbokro**	**120.05**	**294**	PKP		PKPdf	23 45 14.2	+1.5
	comp=Z,1.2nm,0.5s,baz=104,slow=4.2,SNR=3.6		

AKASG	**Malin Array Be**	**146.28**	**47**	PKPbc	PKPbc	23 56 20.2	+1.1		
	0.1nm,0.3s,baz=270,slow=3.7,SNR=2.6								
SONM	**Songino Array**	**148.31**	**309**	PKPbc	PKPdf	23 56 23.3	+0.1		
	0.6nm,0.8s,baz=90,slow=1.4,SNR=3.6								

MOS 19 23:48:58.1±0.9, 42.17N×47.52E, h17km, mb3.6/1, Error ellipse: s-maj=30.1km s-min=13.7km az=130.4, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URKR	**Urkarakh**	**0.08**	**93**	PG	Pb	23 49 03.0	+1.5
URKR				*e*S	Sb	23 49 07.5	+3.7
DRN	**Derbent**	**0.62**	**103**	PG	Pb	23 49 09.5	-0.6
DRN				*i* S	Sb	23 49 15.7	-2.5
AKT	**Akhty**	**0.71**	**167**	*e*PG	Pb	23 49 11.8	+0.2
AKT				*i* S	Sb	23 49 23.3	+2.5
AKT				pmax	pmax		
	comp=Z,44nm,0.2s						
XNZR	**Khunzakh**	**0.71**	**302**	*e*PG	Pb	23 49 12.0	+0.4
XNZR				*e*S	Sb	23 49 23.3	+2.4
KSMR	**Kasumkent**	**0.73**	**141**	*e*PG	Pb	23 49 13.0	+1.1
KSMR				*e*S	Sb	23 49 25.0	+3.7
DBC	**Dubki**	**0.99**	**329**	*e*PG	Pb	23 49 15.5	-0.9
DBC				*e*S	Sb	23 49 29.0	0.0
BTLR	**Botlikh**	**1.08**	**298**	PG	Pb	23 49 17.0	-0.9
BTLR				*e*S	Sb	23 49 31.5	-0.1

*NEIC **20** 00:29:38.8, 37.42S×176.39E, h268km, MG3.7(WEL), After WEL.*

WEL 20 00:29:38.7±0.3, 37.41S×176.39E, h268km±4km, ML3.9/13, Error ellipse: s-maj=6.3km s-min=5.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**1.03**	**146**	P	P	00 30 15.5	-0.4
URZ	**Urewera**	**1.03**	**146**	PN	P	00 30 15.4	-0.5
URZ				SN	S	00 30 44.8	-0.1
MWZ	**Matawai**	**1.29**	**136**	P	P	00 30 17.4	-0.2
MWZ				S	S	00 30 47.6	-0.3
MWZ	**Matawai**	**1.29**	**136**	PN	P	00 30 17.4	-0.1
MWZ				SN	S	00 30 47.6	-0.3
MXZ	**Matakaoa Point**	**1.54**	**96**	P	P	00 30 19.2	0.0
MXZ	**Matakaoa Point**	**1.54**	**96**	PN	P	00 30 19.2	0.0
MXZ				SN	S	00 30 50.0	-0.8
PUZ	**Puketiti**	**1.62**	**115**	P	P	00 30 19.7	-0.2
PUZ	**Puketiti**	**1.62**	**115**	PN	P	00 30 19.7	-0.2
PUZ				SN	S	00 30 50.9	-1.0
MGZ	**Maungaku**	**1.73**	**202**	P	P	00 30 20.9	+0.3
MGZ	**Maungaku**	**1.73**	**202**	PN	P	00 30 20.9	+0.3
BKZ	**Black Stump Fm**	**1.76**	**177**	PN	P	00 30 20.6	-0.3
BKZ				SN	S	00 30 53.4	-0.4
NGZ	**Ngauruhoe**	**1.87**	**199**	P	P	00 30 21.8	0.0
NGZ	**Ngauruhoe**	**1.87**	**199**	PN	P	00 30 21.8	0.0
TUVZ	**Tukino**	**1.94**	**197**	P	P	00 30 22.3	-0.1
TUVZ	**Tukino**	**1.94**	**197**	PN	P	00 30 22.3	-0.1
WNVZ	**Wahianoa**	**2.01**	**198**	P	P	00 30 22.8	-0.2
WNVZ	**Wahianoa**	**2.01**	**198**	PN	P	00 30 22.7	-0.3
MOVZ	**Moawhango**	**2.06**	**194**	P	P	00 30 22.8	-0.6
MOVZ	**Moawhango**	**2.06**	**194**	PN	P	00 30 22.8	-0.6
TSZ	**Takapari Road**	**2.67**	**187**	P	P	00 30 27.9	-1.3
MRZ	**Mangatainoka R**	**3.31**	**191**	*e*P	P	00 30 33.7	-2.3
KIW	**Kapiti Island**	**3.63**	**198**	P	P	00 30 37.2	-2.4
MTW	**Mount Morrison**	**3.81**	**190**	P	P	00 30 38.7	-2.9
MSWZ	**Moikau Station**	**4.10**	**192**	P	P	00 30 41.8	-3.1
SNZO	**South Karori**	**4.11**	**198**	P	P	00 30 42.2	-2.8
SNZO				*e*S	S	00 31 32.6	-4.2
BHW	**Baring Head**	**4.16**	**196**	P	P	00 30 42.8	-2.9
NNZ	**Nelson**	**4.46**	**211**	*e*P	P	00 30 45.6	-3.5
QRZ	**Quartz Range**	**4.54**	**220**	*e*P	P	00 30 46.2	-3.9
BSWZ	**Blackbirch Sta**	**4.72**	**203**	P	P	00 30 49.4	-2.8
THZ	**Tophouse**	**5.11**	**211**	*e*P	P	00 30 53.5	-3.4
KHZ	**Kahutara**	**5.46**	**203**	P	P	00 30 57.8	-3.3
DSZ	**Denniston Nort**	**5.59**	**218**	*e*P	P	00 30 58.3	-4.5
LTZ	**Lake Taylor**	**6.23**	**209**	*e*P	P	00 31 06.4	-4.1
MQZ	**McQueen's Vall**	**6.90**	**203**	*e*P	P	00 31 14.2	-4.8

IDC 20 00:33:52.0±71.0, 10.85S×173.49E, mb3.9/3, mb1 4.1/3, mb1mx3.7/13, mbtmp3.9/3, Error ellipse: s-maj=1242.0km s-min=130.0km az=64.0, North of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.04**	**210**	*e*P	P	00 36 42.9	-18
DZM				*e*S		00 38 06.3	
STKA	**Stephens Creek**	**36.12**	**230**	P	P	00 40 56.0	-1.8
	3.7nm,0.6s,baz=40,slow=9.2,SNR=13						
WRA	**Warramunga Arr**	**38.73**	**252**	P	P	00 41 18.5	-1.5
	0.7nm,0.8s,baz=84,slow=8.4,SNR=2.4						
ASAR	**Alice Springs**	**39.76**	**246**	P	P	00 41 26.4	-2.1
	1.0nm,0.8s,baz=78,slow=8.8,SNR=8.3						

IDC 20 00:37:01.1±27.0, 22.86S×173.05W, mb4.0/4, mb1 4.1/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=508.1km s-min=156.7km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.90**	**266**	P	P	00 44 20.9	-0.9
	2.8nm,0.4s,baz=86,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**41.03**	**247**	P	P	00 44 44.1	-3.6
	0.6nm,0.4s,baz=99,slow=9.5,SNR=3.3						
ASAR	**Alice Springs**	**48.51**	**258**	P	P	00 45 46.2	-1.7
	0.3nm,0.4s,baz=92,slow=6.9,SNR=8.7						
WRA	**Warramunga Arr**	**48.87**	**263**	P	P	00 45 49.2	-1.5
	1.2nm,0.4s,baz=99,slow=8.3,SNR=13						

*CSEM **20** 00:40:18.7, 7.71N×126.64E, h33km, mb5.6*
*BJI **20** 00:40:24.6, 7.89N×126.58E, h70km, mB5.2, mb5.0, Ms4.5, Msz4.0*
*MOS **20** 00:40:25.0±1.0, 7.66N×126.66E, h96km, mb5.1/30, Error ellipse: s-maj=11.2km s-min=5.8km az=105.1*
*NEIC **20** 00:40:26.1±0.2, 7.61N×126.54E, mb5.1/41, Error ellipse: s-maj=6.7km s-min=4.1km az=72.0*
NEIC Felt [III PIVS] at Mati and Prosperidad; [II PIVS] at Bislig; [I PIVS] at Butuan.
*HRVD **20** 00:40:26.1±0.3, 7.57N×126.56E, h86km±2km, MW5.1/66, Centroid moment Tensor Solution. LP body waves: s44,c60;Mantle waves: s66,c118; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.77±.20; Mθθ2.36±.17; Mϕϕ1.41±.20; Mrθ2.66±.11; Mrϕ2.51±.14; Mθϕ1.17±.14; Best double couple: Mo5.041×10^16^ NP1: ϕs38°,δ29°,λ-110°. NP2:ϕs241°, δ63°,λ-79°. Principal axes: T 5.31, Plg17°, Azm323°; N -.538, Plg9°, Azm56°; P -4.772, Plg70°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MAN **20** 00:40:27.6, 7.61N×126.57E, h70km, mb5.3, ML4.3, MS4.5*
MAN Mati Davao Oriental Intensity III Prosperidad Agusan del Sur Intensity III Bislig Surigao del Sur Intensity II Butuan City - Intensity I.
*IDC **20** 00:40:27.5±0.7, 7.46N×126.39E, h101km±5km, mb4.7/25, mb1 4.8/26, mb1mx4.7/28, mbtmp5.1/26, MS4.0/11, Ms1 4.0/11, ms1mx3.7/21, Error ellipse: s-maj=18.5km s-min=7.6km az=70.0*

ISC 20 00:40:24.3±0.2, 7.59N±0.02×126.73E±0.03, h88km, h88km±1.3km: pP-P, n239, σ1§23/254, mb4.9/82, 30C-28D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.70**	**328**	⇓*i*P	**P**	**00 40 44.2**	**+3.4**
BIPH				*i* S	**S**	**00 40 55.7**	**+2.7**
MATI	**Mati**	**0.79**	**216**	*e*P	**P**	**00 40 44.0**	**+2.3**
MATI				*e*S	**S**	**00 40 56.6**	**+1.9**
DAV	**Davao City (W)**	**1.25**	**246**	⇓*e*P	**P**	**00 40 50.0**	**+2.8**
BUKP	**Musuan**	**1.68**	**280**	*e*P	**P**	**00 40 54.1**	**+1.5**
BUKP				*e*S	**S**	**00 41 14.3**	**+0.7**
KCP	**Kidapawan**	**1.72**	**251**	⇑*i*P	**P**	**00 40 55.0**	**+1.8**
KCP				*i* S	**S**	**00 41 14.9**	**+0.2**
BUTP	**Butuan**	**1.76**	**321**	*e*P	**P**	**00 40 57.3**	**+3.6**
BUTP				*e*S	**S**	**00 41 21.7**	**+6.3**
CGP	**Cagayan de Oro**	**2.19**	**293**	⇓*e*P	**P**	**00 41 01.4**	**+1.9**
CGP				*e*S	**S**	**00 41 26.3**	**+0.5**
SCPH	**Surigao**	**2.50**	**331**	*e*P	**P**	**00 41 06.7**	**+2.8**
SCPH				*e*S	**S**	**00 41 27.7**	**-5.7**
MSLP	**Maasin**	**3.13**	**324**	*e*P	**P**	**00 41 14.3**	**+1.6**
PAGZ	**Pagadian**	**3.33**	**275**	*e*P	**P**	**00 41 16.1**	**+0.7**
DCPH	**Dipolog City**	**3.49**	**287**	⇑*e*P	**P**	**00 41 18.2**	**+0.7**
DCPH				*i* S	**S**	**00 41 59.3**	**+1.4**
TBP	**Tagbilaran**	**3.52**	**307**	*i* P	**P**	**00 41 19.3**	**+1.2**
TBP				*e*S	**S**	**00 41 57.0**	**-1.7**
LLP	**Lapu-Lapu**	**3.85**	**315**	⇑*i*P	**P**	**00 41 24.3**	**+1.8**
LLP				*e*S	**S**	**00 41 58.2**	**-8.6**
SNPH	**Sibulan**	**3.87**	**297**	⇑*i*P	**P**	**00 41 23.5**	**+0.7**
SNPH				*i* S	**S**	**00 42 06.5**	**-0.9**
IPIL	**Ipil**	**4.12**	**273**	*e*P	**P**	**00 41 28.0**	**+1.7**
BESP	**Borongan**	**4.19**	**342**	*e*P	**P**	**00 41 28.9**	**+1.7**
GUIM	**Jordan**	**5.08**	**307**	*e*P	**P**	**00 41 40.6**	**+1.1**
CNP	**Catarman**	**5.30**	**338**	*e*P	**P**	**00 41 44.6**	**+2.2**
AAP	**Anini-y**	**5.50**	**301**	*e*P	**P**	**00 41 43.0**	**-2.2**
RCP	**Roxas**	**5.57**	**315**	⇑*e*P	**P**	**00 41 47.9**	**+1.8**
MMPH	**Masbate**	**5.64**	**327**	*e*P	**P**	**00 41 50.0**	**+2.9**
PVCP	**Virac**	**6.49**	**337**	*e*P	**P**	**00 41 59.0**	**+0.2**
CUYO	**Cuyo Island**	**6.50**	**300**	*e*P	**P**	**00 41 59.9**	**+0.8**
SJMP	**San Jose**	**7.35**	**312**	*e*P	**P**	**00 42 13.3**	**+2.6**
BUSP	**Coron**	**7.79**	**305**	*e*P	**P**	**00 42 17.5**	**+0.8**
LUBP	**Lubang**	**8.82**	**314**	⇓*e*P	**P**	**00 42 35.2**	**+4.5**
KKM	**Kota Kinabalu**	**10.55**	**262**	P	**P**	**00 42 52.4**	**-1.9**
BUNI	**Buntu Taipa**	**12.87**	**210**	*e*P	**P**	**00 43 24.6**	**-0.6**
TANI	**Tanete Lipujan**	**13.18**	**214**	*e*P	**P**	**00 43 30.1**	**+0.9**
NINI	**Niniconang**	**13.81**	**210**	*e*P	**P**	**00 43 30.2**	**-7.3**
MENI	**Mendum Tagoi**	**16.95**	**126**	*e*P	**P**	**00 44 22.6**	**+5.3**
YOMI	**Yo Moklole**	**17.14**	**126**	*e*P	**P**	**00 44 24.3**	**+4.6**
KSM	**Kuching**	**17.45**	**250**	*e*P	**P**	**00 44 23.8**	**+0.2**
KEDI	**Kedomdong**	**19.16**	**214**	⇑*i*P	**P**	**00 44 41.2**	**-2.2**
KEDI				pmax	pmax		
	comp=Z,474nm,0.8s						
KEDI	**Kedomdong**	**19.16**	**214**	⇑*i*P	**P**	**00 44 41.2**	**-2.2**
	comp=Z,947nm,0.8s						
JOW	**Kunigami**	**19.20**	**4**	P	**P**	**00 44 45.0**	**+1.3**
	comp=Z,12nm,0.3s,baz=204,slow=9.4,SNR=48						
JOW				LR	LR	00 51 25.2	
	comp=Z,167nm,19.0s,baz=282,slow=34						
RATI	**Rata**	**19.67**	**215**	⇑*i*P	**P**	**00 44 47.7**	**-1.2**
	comp=Z,302nm,0.4s						
QIZ	**Qiongzhong**	**19.96**	**306**	P	**P**	**00 44 51.6**	**-0.3**
QIZ				S	**S**	**00 48 24.1**	**-2.4**
QIZ				AMB	AMB		
	comp=Z,69nm,0.9s						
QIZ				AMB	AMB		
	comp=Z,506nm,4.3s						
QIZ	**Qiongzhong**	**19.96**	**306**	*e*P	**P**	**00 44 51.6**	**-0.3**
	comp=Z,106nm,0.8s						
SRDI	**Scrawed**	**20.30**	**218**	⇑*i*P	**P**	**00 44 54.4**	**-1.1**
	comp=Z,54nm,0.4s						
KAKA	**Kakadu**	**20.95**	**164**	⇓*i*P	**P**	**00 45 02.4**	**+0.3**
	comp=Z,288nm,0.7s						
KAKA				*e*S	**S**	**00 48 48.7**	**+3.4**
SSE	**Sheshan**	**23.95**	**348**	P	**P**	**00 45 33.3**	**+1.9**
SSE				PCP	PcP	00 49 11.3	-1.7
SSE				S	**S**	**00 49 45.8**	**+7.1**
SSE				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.4						
SSE				AMB	AMB		
	comp=Z,147nm,5.9s						
SSE				LR	LR		
	comp=N,233nm,31.9s						
SSE				LR	LR		
	comp=E,59nm,32.2s						
SSE				LR	LR		
	comp=Z,293nm,29.7s						
SSE	**Sheshan**	**23.95**	**348**	P	**P**	**00 45 33.3**	**+1.9**
	comp=Z,10.0nm,0.5s,mb4.4						
SSE				sP		00 46 04.2	
SSE				PcP	PcP	00 49 11.3	-1.7
SSE				S	**S**	**00 49 45.8**	**+7.1**
SSE				sS		00 50 21.7	
SSE				LR	LR		
	comp=Z,290nm,29.7s						
CBIJ	**Chichi jima**	**24.32**	**35**	P	**P**	**00 45 37.0**	**+2.1**
	comp=Z,148nm,0.7s,mb5.5,baz=269,slow=9.8,SNR=6.4						
CBIJ				LR	LR	00 54 35.9	
	comp=Z,266nm,18.4s,baz=101,slow=34						
KKTK	**Khon Kaen**	**24.93**	**293**	⇑P	**P**	**00 45 41.0**	**+0.1**
	comp=Z,741nm,0.7s						
PENI	**Pendagan**	**25.16**	**239**	⇑*i*P	**P**	**00 45 42.0**	**-1.2**
PASI	**Pasiripis**	**25.41**	**237**	*e*P	**P**	**00 45 45.8**	**+0.3**
NJ2	**Nanjing**	**25.42**	**344**	*e*P	**P**	**00 45 42.4**	**-3.0**
NJ2				PP	PP	00 46 20.8	-6.6
NJ2				S	**S**	**00 50 06.0**	**+2.7**
NJ2				AMB	AMB		
	comp=Z,530nm,4.7s						
NJ2				LR	LR		
	comp=N,420nm,18.8s						
NJ2				LR	LR		
	comp=E,310nm,16.8s						
NJ2				LR	LR		
	comp=Z,280nm,14.2s						
FITZ	**Fitzroy Crossi**	**25.55**	**182**	⇓*i*P	**P**	**00 45 46.3**	**-0.4**
	comp=Z,209nm,0.8s,mb5.6						
FITZ				*e*		00 47 46.8	
FITZ				*e*PCP	PcP	00 49 16.5	-0.1
FITZ				*e*S	**S**	**00 50 10.4**	**+4.9**
WHN	**Wuhan**	**25.61**	**335**	*e*P	**P**	**00 45 47.5**	**+0.3**
PMG	**Port Moresby**	**26.44**	**129**	*e*P	**P**	**00 45 56.2**	**+1.1**
PMG				pmax	pmax		
	comp=Z,32nm,0.8s						
PMG	**Port Moresby**	**26.44**	**129**	P	**P**	**00 45 55.9**	**+0.8**
	comp=Z,29nm,0.7s,mb4.8,baz=348,slow=8.4,SNR=16						
PMG	**Port Moresby**	**26.44**	**129**	*e*P	**P**	**00 45 56.2**	**+1.1**
	comp=Z,32nm,0.8s,mb4.8						
GYA	**Guiyang**	**26.76**	**317**	P	**P**	**00 45 57.8**	**-0.1**
GYA				S	**S**	**00 50 23.5**	**-1.8**
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,320nm,5.4s						
GYA				LR	LR		
	comp=N,340nm,16.4s						
GYA				LR	LR		
	comp=E,690nm,16.8s						
GYA				LR	LR		
	comp=Z,490nm,17.0s						
NST	**Nakhon Sawan**	**27.23**	**290**	P	**P**	**00 46 02.5**	**+0.2**
NANT	**Nan**	**27.64**	**296**	⇑P	**P**	**00 46 02.0**	**-4.0**
	comp=Z,375nm,1.0s,mb5.9						
ENH	**Enshi**	**27.76**	**327**	*e*P	**P**	**00 46 04.5**	**-2.5**
	comp=Z,34nm,0.9s,mb4.9						
JHJ	**Hachijo jima 2**	**28.14**	**24**	LR	LR	00 56 24.6	
	comp=Z,198nm,18.7s,baz=120,slow=34						
WRAB	**Tennant Creek**	**28.36**	**165**	P	**P**	**00 46 11.0**	**-1.4**
	comp=Z,189nm,0.6s,mb5.8,SNR=12						
WRAB	**Tennant Creek**	**28.36**	**165**	*i* P	**P**	**00 46 12.1**	**-0.3**
WRAB	**Tennant Creek**	**28.36**	**165**	*e*P	**P**	**00 46 11.5**	**-0.9**
	comp=Z,72nm,1.0s,mb5.2						
WRA	**Warramunga Arr**	**28.36**	**165**	P	**P**	**00 46 11.2**	**-1.3**
	comp=Z,14nm,0.5s,mb4.7,baz=343,slow=9.5,SNR=14						
WRA				PcP	PcP	00 49 23.5	+0.3
	comp=Z,12nm,0.6s,baz=340,slow=2.6,SNR=10						
WRA				S	**S**	**00 50 47.3**	**-3.9**
	comp=Z,2.9nm,0.6s,baz=342,slow=14,SNR=5.2						
WRA				ScP		00 52 53.8	
	comp=Z,2.6nm,0.8s,baz=348,slow=2.9,SNR=3.1						
WB2	**Warramunga Arr**	**28.37**	**165**	*e*P	**P**	**00 46 11.4**	**-1.1**
WB2				*e*PCP	PcP	00 49 23.7	+0.5
WB2				*e*S	**S**	**00 50 46.5**	**-4.8**
WB2				*e*SCS	ScS	00 56 45.2	-1.4
BDT	**Bhumibol Dam**	**28.69**	**292**	P	**P**	**00 46 14.0**	**-1.4**
KMI	**Kunming**	**28.79**	**310**	P	**P**	**00 46 16.8**	**+0.6**
KMI				S	**S**	**00 50 59.3**	**+1.4**
KMI				AMB	AMB		
	comp=Z,58nm,0.9s,mb5.2						
KMI				AMB	AMB		
	comp=Z,173nm,3.9s						
KMI				LR	LR		
	comp=N,382nm,16.8s						
KMI				LR	LR		
	comp=E,337nm,17.4s						
KMI				LR	LR		
	comp=Z,553nm,35.9s						
KMI	**Kunming**	**28.79**	**310**	P	**P**	**00 46 16.7**	**+0.5**
KMI				*PP	pP	00 46 38.1	+1.9
KMI				*SP	sP	00 46 46.4	-0.1
KMI				S	**S**	**00 50 59.3**	**+1.4**
KMI				*SS		00 51 32.9	
KMI				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.2						
KMI				MLR	MLR		
	comp=Z,550nm,35.9s						
KMI	**Kunming**	**28.79**	**310**	P	**P**	**00 46 16.7**	**+0.5**
	comp=Z,58nm,0.9s,mb5.2						
KMI				pP	pP	00 46 38.1	+1.9
KMI				sP	sP	00 46 46.4	-0.1
KMI				S	**S**	**00 50 59.3**	**+1.4**
KMI				sS		00 51 32.9	
KMI				LR	LR		
	comp=Z,550nm,35.9s						
CHRT	**Chiangrai**	**28.83**	**298**	⇑P	**P**	**00 46 16.0**	**-0.6**
	comp=Z,263nm,1.0s,mb5.8						
CM31	**Chiang Mai Arr**	**29.10**	**295**	P	**P**	**00 46 17.1**	**-1.9**
	comp=Z,27nm,1.2s,mb4.8						
CHG	**Chiang Mai**	**29.21**	**295**	P	**P**	**00 46 24.8**	**+4.8**
MBWA	**Marble Bar**	**29.38**	**193**	*e*P	**P**	**00 46 20.0**	**-1.5**
	comp=Z,29nm,0.7s,mb5.0						
MBWA				*e*pP	pP	00 46 40.2	-1.4
MBWA				*e*PcP	PcP	00 49 25.8	+0.1
KS15	**Wonju Array Si**	**29.74**	**2**	*e*P	**P**	**00 46 24.3**	**-0.2**
MAJO	**Matsushiro**	**30.66**	**18**	*e*P	**P**	**00 46 31.9**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,29nm,0.7s,mb5.1						
MAJO	**Matsushiro**	**30.66**	**18**	*e*P	**P**	**00 46 31.9**	**-0.9**
	comp=Z,29nm,0.7s,mb5.1						
MAT	**Matsushiro**	**30.66**	**18**	*e*P	**P**	**00 46 32.0**	**-0.7**
MAT				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.0						
MAT	**Matsushiro**	**30.66**	**18**	P	**P**	**00 46 31.8**	**-0.9**
MAT				S	**S**	**00 51 33.0**	**+5.5**
XAN	**Xi'an**	**31.03**	**330**	P	**P**	**00 46 33.5**	**-2.5**
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.8						
CD2	**Chengdu**	**31.62**	**320**	⇑*i*P	**P**	**00 46 39.8**	**-1.3**
ASAR	**Alice Springs**	**31.84**	**167**	P	**P**	**00 46 42.8**	**-0.4**
	comp=Z,24nm,0.4s,mb5.2,baz=348,slow=7.3,SNR=295						
ASAR				PcP	PcP	00 49 32.6	+0.5
	comp=Z,22nm,0.6s,baz=349,slow=2.2,SNR=21						
ASAR				S	**S**	**00 51 43.3**	**-2.8**
	comp=Z,5.3nm,1.0s,baz=355,slow=2.1,SNR=4.3						
ASAR				ScP		00 53 06.0	
	comp=Z,3.3nm,0.8s,baz=350,slow=3.3,SNR=5.6						
ASAR				LR	LR	00 59 29.5	
	comp=Z,177nm,21.2s,baz=0.9,slow=36						
ASPA	**Alice Springs**	**31.84**	**167**	⇓*i*P	**P**	**00 46 42.5**	**-0.6**
ASPA				*e*PCP	PcP	00 49 32.5	+0.4
ASPA				*e*S	**S**	**00 51 43.7**	**-2.4**
ASPA				*e*PCS		00 53 15.0	
CTA	**Charters Tower**	**33.55**	**145**	⇓*i*P	**P**	**00 46 59.4**	**+1.4**
	comp=Z,30nm,0.8s,mb5.2						
CTA	**Charters Tower**	**33.55**	**145**	⇓*i*P	**P**	**00 46 59.4**	**+1.4**
CTA				pmax	pmax		
	comp=Z,30nm,0.8s						
CTA	**Charters Tower**	**33.55**	**145**	P	**P**	**00 46 59.7**	**+1.7**
	comp=Z,37nm,0.8s,mb5.3,baz=324,slow=10,SNR=29						
CTA				ScP		00 53 11.7	
	comp=Z,8.2nm,0.9s,baz=359,slow=1.4,SNR=4.5						
CTA				LR	LR	01 00 12.1	
	comp=Z,189nm,19.6s,baz=237,slow=35						
CTAO	**Charters Tower**	**33.55**	**145**	⇓*e*P	**P**	**00 46 59.5**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.4						
CTAO	**Charters Tower**	**33.55**	**145**	⇓*e*P	**P**	**00 46 59.5**	**+1.5**
	comp=Z,61nm,1.0s,mb5.4						
BJT	**Baijiatuao**	**33.65**	**345**	*e*P	**P**	**00 46 57.6**	**-1.0**
BJT				*e*		00 49 34.4	
BJT				pmax	pmax		
	comp=Z,19nm,0.6s						
BJT	**Baijiatuao**	**33.65**	**345**	*e*P	**P**	**00 46 57.5**	**-1.1**
	comp=Z,19nm,0.6s,mb5.1						
BJT				*e*PcP	PcP	00 49 34.4	-2.5
BJI	**Beijing**	**33.67**	**345**	P	**P**	**00 46 57.6**	**-1.2**
BJI				AP	pP	00 47 18.3	-1.1
BJI				PCP	PcP	00 49 34.3	-2.7
BJI				S	**S**	**00 52 12.4**	**-1.9**
BJI				PCS		00 53 25.8	
BJI				SCS	ScS	00 57 13.1	+0.6
BJI				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
BJI				LR	LR		
	comp=Z,119nm,24.0s						
BJI	**Beijing**	**33.67**	**345**	P	**P**	**00 46 57.6**	**-1.2**
BJI				*PP	pP	00 47 18.2	-1.2
BJI				*SP	sP	00 47 28.3	-1.7
BJI						00 49 34.2	
BJI				S	**S**	**00 52 12.4**	**-1.9**
BJI				*SS		00 52 52.1	
BJI				SS	SS	00 54 46.2	+22
BJI						00 57 13.1	
BJI				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.9						
BJI				MLR	MLR		
	comp=Z,120nm,24.0s						
BJI	**Beijing**	**33.67**	**345**	P	**P**	**00 46 57.6**	**-1.2**
	comp=Z,25nm,1.2s,mb4.9						
BJI				pP	pP	00 47 18.2	-1.2
BJI				sP	sP	00 47 28.3	-1.7
BJI				PcP	PcP	00 49 34.2	-2.8
BJI				S	**S**	**00 52 12.4**	**-1.9**
BJI				sS		00 52 52.1	
BJI				PcS		00 53 25.7	
BJI				SS	SS	00 54 46.2	+22
BJI				ScS	ScS	00 57 13.1	+0.6
BJI				LR	LR		
	comp=Z,120nm,24.0s						
SNY	**Shenyang**	**34.21**	**356**	⇑P	**P**	**00 47 03.1**	**-0.3**
SNY				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
SNY				LR	LR		
	comp=N,240nm,16.7s						
SNY				LR	LR		
	comp=E,210nm,15.2s						
SNY				LR	LR		
	comp=Z,210nm,27.0s						
LZH	**Lanzhou**	**35.24**	**327**	⇓P	**P**	**00 47 12.1**	**-0.2**
LZH				AP	pP	00 47 33.0	0.0
LZH				PP	PP	00 48 33.5	-0.4
LZH				*e*S	**S**	**00 52 37.5**	**-1.1**
LZH				SS	SS	00 54 58.3	-2.0

CN2 eAP pP 00 47 38.8 -1.4
CN2 eS S **00 52 50.9 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
MDJ Mudanjiang 36.97 3 P **P 00 47 27.6 +0.8**
MDJ AP pP 00 47 47.6 0.0
MDJ XP sP 00 47 55.3 -2.8
MDJ PP PP 00 48 53.5 -1.2
MDJ PCP PcP 00 49 45.3 -1.3
MDJ S **S 00 53 06.5 +1.6**
MDJ SCP 00 53 24.5
MDJ PCS 00 53 32.4
MDJ SCS ScS 00 57 33.3 +3.0
MDJ AMB AMB
comp=Z,29nm,1.3s,mb5.0
MDJ AMB AMB
comp=Z,134nm,5.2s
MDJ LR LR
comp=N,112nm,36.4s
MDJ LR LR
comp=E,120nm,32.1s
MDJ LR LR
comp=Z,259nm,36.4s
MDJ Mudanjiang 36.97 3 eP **P 00 47 27.7 +1.0**
comp=Z,100nm,1.6s,mb5.5
FORT Forrest 38.17 178⇓iP **P 00 47 37.8 +0.9**
comp=Z,8µm,0.5s
ASAJ Asahikawa 38.94 18 P **P 00 47 45.5 +2.4**
comp=Z,28nm,0.6s,mb5.3,baz=230,slow=11,SNR=12
GTA Gaotai 39.85 327 P **P 00 47 50.9 +0.2**
GTA AMB AMB
comp=Z,12nm,1.3s,mb4.6
GTA AMB AMB
comp=Z,69nm,5.7s
GTA LR LR
comp=N,272nm,18.0s
GTA LR LR
comp=E,389nm,16.8s
GTA LR LR
comp=Z,640nm,21.0s
KLBR Kellerberrin 39.89 192⇓iP **P 00 47 51.3 +0.1**
comp=Z,538nm,0.5s
KLBR ePCP PcP 00 49 55.7 -0.2
KLBR eS **S 00 53 45.1 -4.1**
LSA Lhasa 39.99 308 P **P 00 47 52.4 +0.4**
LSA Lhasa 39.99 308 eP **P 00 47 52.8 +0.8**
LSA pmax pmax
comp=Z,225nm,1.5s,mb5.8
LSA Lhasa 39.99 308 eP **P 00 47 52.8 +0.8**
comp=Z,225nm,1.5s,mb5.8
MUN Mundaring 40.60 194⇓iP **P 00 47 57.1 +0.1**
comp=Z,44nm,0.8s,mb5.3
MUN Mundaring 40.60 194⇓iP **P 00 47 57.1 +0.1**
MUN pmax pmax
comp=Z,44nm,0.8s,mb5.3
NWAO Narrogin (SRO) 41.29 192 P **P 00 48 02.9 +0.2**
comp=Z,128nm,1.1s,mb5.7,baz=19,slow=10,SNR=39
YSS Yuzh-Sakhalins 41.56 17⇑eP **P 00 48 05.9 +1.2**
YSS e 00 48 40.0
YSS pmax pmax
comp=Z,30nm,1.1s,mb4.9
KLR Kul'dur 41.72 5 eP **P 00 48 03.2 -2.8**
STKA Stephens Creek 41.73 161 P **P 00 48 07.3 +0.9**
comp=Z,68nm,1.0s,mb5.3,baz=337,slow=7.9,SNR=103
STKA LR LR 01 05 50.0
comp=Z,119nm,19.3s,baz=149,slow=36
STKA Stephens Creek 41.73 161⇓iP **P 00 48 07.0 +0.6**
HIA Hailar 41.95 353 eP **P 00 48 07.5 -0.4**
HIA pmax pmax
comp=Z,12nm,1.0s
HIA Hailar 41.95 353 eP **P 00 48 07.5 -0.4**
comp=Z,12nm,1.0s,mb4.6
JIRN Jiri 43.21 303 eP **P 00 48 18.3 -0.2**
comp=Z,40nm,0.7s,mb5.2
ULN Ulaanbaatar 43.49 341⇑iP **P 00 48 20.2 -0.3**
ULN e*PP pP 00 48 40.3 -1.3
ULN pmax pmax
comp=Z,15nm,0.8s,mb4.8
ULN Ulaanbaatar 43.49 341⇑iP **P 00 48 20.2 -0.3**
comp=Z,15nm,0.8s,mb4.8
ULN epP pP 00 48 40.2 -1.3
SONM Songino Array 43.68 340 P **P 00 48 21.5 -0.5**
comp=Z,5.1nm,0.6s,mb4.4,baz=156,slow=7.9,SNR=46
SONM ScP 00 53 50.0
comp=Z,1.8nm,0.8s,baz=160,slow=4.0,SNR=7.3
PKI Pulchoki 43.84 302 eP **P 00 48 22.8 -0.8**
comp=Z,21nm,0.7s,mb5.0
KKN Kakani 44.02 302 eP **P 00 48 23.9 -1.1**
comp=Z,29nm,0.9s,mb5.0
DMN Daman 44.10 302 eP **P 00 48 24.9 -0.8**
comp=Z,34nm,0.9s,mb5.1
GKN Gorkha 44.62 302 eP **P 00 48 28.6 -1.3**
comp=Z,15nm,0.5s,mb4.9
KOLN Koldanda 45.42 302 eP **P 00 48 35.6 -0.6**
comp=Z,24nm,0.6s,mb5.1
ZAK Zakamensk 46.92 340⇑eP **P 00 48 46.8 -1.0**
ZAK pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
CNB Canberra Magne 47.72 155⇓iP **P 00 48 55.7 +1.5**
comp=Z,294nm,0.8s
TLY Talaya 47.90 341 eP **P 00 48 54.9 -0.5**
TLY e pP 00 49 19.9 +3.1
TLY pmax pmax
comp=Z,17nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,106nm,19.0s
TLY Talaya 47.90 341 eP **P 00 48 54.8 -0.6**
comp=Z,15nm,0.8s,mb4.9
HYB Hyderabad 47.92 287 eP **P 00 48 55.0 -1.0**
HYB Hyderabad 47.92 287 i P **P 00 48 55.0 -1.0**
HYB e pP 00 49 19.0 +1.6
TOO Toolangi 48.23 160⇓iP **P 00 48 59.2 +1.1**
comp=Z,1.1nm,1.1s
TOO Toolangi 48.23 160⇓iP **P 00 48 59.2 +1.1**
TOO pmax pmax
comp=Z,1.0nm,1.1s
NOUC Port Laguerre 48.73 128 eP **P 00 49 03.8 +1.6**
MOY Mondy 48.79 339 eP **P 00 49 02.1 -0.2**
MOY pmax pmax
comp=Z,22nm,2.5s,mb4.6
DZM Mont Dzumac 48.83 128 eP **P 00 49 03.2 +0.2**
DZM Mont Dzumac 48.83 128 eP **P 00 49 03.2 +0.2**
CLNS Chul'man 49.14 359 eP **P 00 49 04.5 -0.4**
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=Z,16nm,0.8s,mb5.0
CLNS pmax pmax
comp=E,7.0nm,0.7s
WMQ Urumqi 49.62 323⇓iP **P 00 49 09.0 +0.2**
WMQ AP pP 00 49 30.0 -0.3
WMQ PCP PcP 00 50 30.0 +0.7
WMQ PP PP 00 51 05.0 +0.6
WMQ PPP PPP 00 52 01.0 -0.3
WMQ S **S 00 56 09.0 0.0**
WMQ SCS ScS 00 58 49.0 +0.5
WMQ AMB AMB
comp=Z,17nm,0.9s,mb5.0
WMQ AMB AMB
comp=Z,111nm,4.2s
WMQ LR LR
comp=N,1µm,22.8s
WMQ LR LR
comp=E,713nm,22.6s
WMQ LR LR
comp=Z,734nm,24.4s
DDI Dehra Dun 50.81 303 ePN **P 00 49 18.0 0.0**
BOD Bodaibo 51.07 351⇑iP **P 00 49 19.3 -0.4**
BOD pmax pmax
comp=Z,12nm,0.9s,mb4.9
NDI New Delhi 51.08 301 eP **P 00 49 16.5 -3.6**
YAK Yakutsk 54.38 2 eP **P 00 49 42.9 -1.2**
YAK e pP 00 50 02.6 -3.4
YAK eS **S 00 57 12.7 -1.0**
YAK pmax pmax
comp=Z,14nm,0.8s,mb5.0
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.0s
YAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK smax
comp=N,6.0nm,1.1s
YAK smax
comp=E,4.0nm,0.9s
YAK Yakutsk 54.38 2 eP **P 00 49 43.8 -0.4**
comp=E,18nm,0.6s,mb5.3
MKAR Makanchi Array 54.43 324 eP **P 00 49 44.0 -0.7**
MKAR pmax pmax
comp=Z,33nm,0.7s
MA2 Magadan 54.99 15 eP **P 00 49 49.4 +0.8**
MA2 pmax pmax
comp=N,6.0nm,0.7s
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
KSH Kashi 55.37 313 eP **P 00 49 53.3 +1.6**
KSH AMB AMB
comp=Z,190nm,4.7s
ULHL Ulahol 56.21 316 P **P 00 49 57.3 -0.3**
SNR=18
KZA Kyzart 56.82 316 P **P 00 50 02.3 +0.3**
SNR=39
TKM2 Tokmak 2 56.91 317 P **P 00 50 01.8 -0.8**
SNR=24
ZAL Zalesovo 57.19 332 P **P 00 50 01.9 -2.5**
comp=Z,8.4nm,0.4s,mb5.2,baz=341,slow=5.0,SNR=42
ZAL LR LR 01 16 51.1
comp=Z,147nm,20.0s,baz=336,slow=38
ZAL Zalesovo 57.19 332 P **P 00 50 01.9 -2.5**
ZAL LR LR 01 16 51.1
KBK Karagaybulak 57.25 316 P **P 00 50 04.7 -0.3**
SNR=22
UCH Uchtor 57.39 316 P **P 00 50 06.3 +0.3**
SNR=59
CHMS Chumysh 57.51 317 P **P 00 50 05.8 -1.0**
SNR=12
FRU Bishkek 57.54 317 eP **P 00 50 05.5 -1.5**
AAK Ala-Archa 57.55 316 P **P 00 50 06.3 -0.8**
SNR=9.9
AAK Ala-Archa 57.55 316 P **P 00 50 05.4 -1.7**
comp=Z,48nm,1.1s,mb5.4,SNR=13
AAK Ala-Archa 57.55 316⇑iP **P 00 50 05.3 -1.8**
AAK e*PP pP 00 50 28.0 -1.2
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
AAK Ala-Archa 57.55 316⇑iP **P 00 50 05.3 -1.8**
comp=Z,8.5nm,0.9s,mb4.8
AAK epP pP 00 50 28.0 -1.2
USP Ospenovka 57.78 317 P **P 00 50 07.8 -0.9**
SNR=32
AML Almayashu 57.92 315 P **P 00 50 09.7 0.0**
SNR=51
EKS2 Erkin-Say 58.05 316 P **P 00 50 10.2 -0.4**
SNR=32
NVS Novosibirsk 58.47 332⇑iP **P 00 50 10.5 -2.8**
NVS e pP 00 50 31.9 -3.5
NVS e 00 50 58.7
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,8.0nm,0.8s
NVS pmax pmax
comp=Z,15nm,0.8s,mb5.1
KURK Kurchatov 58.53 326 P **P 00 50 12.0 -1.8**
comp=Z,385nm,0.5s,SNR=27
KURK Kurchatov 58.53 326 i P **P 00 50 12.3 -1.5**
KURK pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
KURK Kurchatov 58.53 326⇑iP **P 00 50 12.4 -1.4**
comp=Z,34nm,0.6s,mb5.5
BVA0 Borovoye Array 64.12 326 i P **P 00 50 49.7 -1.7**
BVA0 pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BVAR Borovoye Array 64.12 326 P **P 00 50 49.9 -1.5**
comp=Z,15nm,0.6s,mb5.0,baz=122,slow=7.7,SNR=93
CHKZ Chkalovo 64.26 327 P **P 00 50 50.6 -1.7**
CHKZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
RPZ Rata Peaks 64.92 146 P **P 00 50 57.4 +0.6**
comp=Z,66nm,0.6s,mb5.6,baz=263,slow=1.3,SNR=53
URZ Urewera 65.37 138 P **P 00 51 00.3 +0.6**
comp=Z,16nm,0.7s,mb5.0,baz=338,slow=6.0,SNR=13
URZ LR LR 01 16 31.5
comp=Z,126nm,19.1s,baz=233,slow=33
URZ Urewera 65.37 138 P **P 00 51 00.3 +0.6**
URZ LR LR 01 16 31.5
BILL Bilibino 65.85 15 eP **P 00 51 02.7 +0.4**
BILL e*PP pP 00 51 25.0 +0.1
BILL pmax pmax
comp=Z,18nm,2.1s,mb4.5
BILL Bilibino 65.85 15 eP **P 00 51 02.7 +0.3**
comp=Z,18nm,2.1s,mb4.5
BILL epP pP 00 51 25.0 +0.1
SVE Sverdlovsk 70.70 328 eP **P 00 51 32.3 -0.2**
SVE e 00 52 05.2
SVE pmax pmax
comp=Z,20nm,0.8s,mb5.0
ARU Arti 71.71 327⇓iP **P 00 51 36.8 -1.7**
ARU e 00 51 52.2
ARU e 00 54 17.0
ARU eS S 01 00 49.2 -0.7
ARU eSS SS 01 05 24.8 -4.3
ARU pmax pmax
comp=Z,17nm,0.7s,mb5.0
ARU Arti 71.71 327 eP **P 00 51 37.2 -1.3**
comp=Z,21nm,0.6s,mb5.1
MIR Mirnyy 77.89 193c iP **P 00 52 08.0 -5.7**
MIR pmax pmax
comp=Z,120nm,1.0s,mb5.6
IMA Indian Mountai 78.88 24 eP **P 00 52 21.1 +1.9**
comp=Z,11nm,0.8s,mb4.7
IMA epP pP 00 52 43.3 +0.9
RAYN Ar Rayn 79.00 292 P **P 00 52 19.9 -0.8**
comp=Z,80nm,0.7s,SNR=15
TI2 Plekhanov 79.02 311 eP **P 00 52 09.6 -11**
GNI Garni 79.04 309 P **P 00 52 21.9 +1.3**
comp=Z,8.9nm,0.8s,mb4.7,baz=130,slow=16,SNR=4.7
KIV Kislovodsk 80.50 313 eP **P 00 52 28.6 +0.3**
KIV e*PP pP 00 52 53.2 +1.5
KIV pmax pmax
comp=Z,18nm,0.8s,mb5.0
KIV Kislovodsk 80.50 313 i P **P 00 52 28.9 +0.6**
MCK McKinley 80.73 27 eP **P 00 52 31.2 +2.0**
comp=Z,4.2nm,0.9s,mb4.3
SML Sawmill 80.97 29 eP **P 00 52 31.2 +0.8**
SML epP pP 00 52 54.5 +0.7
OBN Obninsk 83.93 325 i P **P 00 52 45.4 -0.3**
OBN eS S 01 02 57.4 -3.3
OBN pmax pmax
comp=Z,12nm,0.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,19.0s
OBN Obninsk 83.93 325 eP **P 00 52 45.1 -0.6**
comp=Z,17nm,0.6s,mb5.0
MALT Malatya 84.03 308 eP **P 00 52 47.5 +0.9**
comp=Z,24nm,1.5s,mb4.8
MALT epP pP 00 53 10.3 +0.2
DAWY Dawson 84.93 26 eP **P 00 52 52.3 +1.8**
DAWY epP pP 00 53 15.2 +1.1
JOF Joensuu 85.77 333 ep **P 00 52 54.2 -0.4**
comp=Z,1.4nm,0.4s,mb4.2
JOF Joensuu 85.77 333 eP **P 00 52 54.2 -0.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ASF Jabal al Asfar 85.87 302 P **P 00 52 56.0 +0.1**
comp=Z,6.5nm,0.9s,mb4.6,baz=263,slow=2.1,SNR=7.7
ASF pP pP 00 53 20.8 +1.3
comp=Z,28nm,1.3s,baz=354,slow=2.4,SNR=6.3
PPT Papeete 86.30 108 eLR LR 01 19 56.3
INK Inuvik 86.60 22 eP **P 00 52 59.2 +0.6**
INK epP pP 00 53 23.2 +0.9
ARCES ARCESS Array B 86.85 340 P **P 00 52 59.5 -0.3**
comp=Z,4.8nm,0.8s,mb4.5,baz=63,slow=2.7,SNR=10
ARCES LR LR 01 36 55.1
comp=Z,79nm,18.9s,baz=199,slow=39
VNDA Vanda 87.23 173⇓eP **P 00 53 02.6 +1.1**
VNDA pmax pmax
comp=Z,25nm,0.8s
VNDA Vanda 87.23 173 P **P 00 53 02.0 +0.5**
comp=Z,20nm,0.7s,mb5.2,baz=295,slow=7.6,SNR=10
VNDA LR LR 01 29 36.1
comp=Z,208nm,18.5s,baz=347,slow=34
VNDA Vanda 87.23 173⇓eP **P 00 53 02.6 +1.1**
comp=Z,25nm,0.8s,mb5.2
TBI Tubuai 87.33 114 eLR LR 01 20 25.7
comp=Z,123nm,30.0s
BRTR Keskin Array B 87.58 310 P **P 00 53 03.2 -0.8**
comp=Z,2.1nm,0.8s,mb4.2,baz=123,slow=4.0,SNR=10.0
EIL Elat 87.83 299 P **P 00 53 05.2 -0.2**
comp=Z,5.9nm,0.7s,mb4.8,baz=13,slow=9.7,SNR=11
EIL pP pP 00 53 30.1 +0.9
comp=Z,9.2nm,1.0s,baz=39,slow=6.2,SNR=4.9
EIL Elat 87.83 299 eP **P 00 53 05.7 +0.2**
comp=Z,6.4nm,0.8s,mb4.7
EIL epP pP 00 53 29.0 -0.2
KAF Kangasniemi 88.20 332 ep **P 00 53 05.7 -0.7**
comp=Z,5.9nm,0.7s,mb4.7,baz=71,slow=4.4
KAF Kangasniemi 88.20 332 eP **P 00 53 05.7 -0.7**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
FINES FINESS Array B 88.45 332 P **P 00 53 07.1 -0.5**
comp=Z,4.9nm,0.8s,mb4.6,baz=63,slow=5.9,SNR=24
FINES LR LR 01 35 30.4
comp=Z,101nm,19.2s,baz=197,slow=37
VSU Vasula 88.79 329 i P **P 00 53 09.2 -0.1**
VSU Vasula 88.79 329 i P **P 00 53 09.3 0.0**
KMBO Kilima Mbogo 89.63 269 P **P 00 53 14.6 +0.3**
comp=Z,0.5nm,0.3s,mb4.1,baz=57,slow=10,SNR=6.2
BURAR Bucovina Array 92.14 318 ⇓P **P 00 53 22.6 -2.5**
BURAR Bucovina Array 92.14 318 ⇓P **P 00 53 22.6 -2.6**
HFS Hagfors 94.62 332 P **P 00 53 35.7 -0.5**
comp=Z,4.1nm,0.7s,mb5.0,baz=45,slow=2.1,SNR=7.2
NB2 NORSAR Subarra 95.35 334 P **P 00 53 37.9 -1.6**
comp=Z,2.0nm,0.8s,mb4.6,baz=63,slow=4.5
NB2 NORSAR Subarra 95.35 334 P **P 00 53 37.9 -1.6**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.6
NB2 NORSAR Subarra 95.35 334 P **P 00 53 37.9 -1.6**
baz=63,slow=4.6
NOA NORSAR Array B 95.35 334 P **P 00 53 38.9 -0.6**
comp=Z,1.7nm,0.8s,mb4.6,baz=63,slow=4.6,SNR=8.3
PSZ Piszkesteto 95.51 320 P **P 00 53 40.0 -0.5**
YKA Yellowknife Ar 96.01 24 P **P 00 53 44.0 +1.6**
comp=Z,0.5nm,0.8s,mb4.0,baz=302,slow=4.6,SNR=9.7
DPC Dobruska-Polom 96.93 323 eP pP 00 54 29.0 +18
UPC Upice 97.06 323 eP pP 00 54 29.5 +18
QSPA South Pole Qui 97.47 180 eP **P 00 53 50.0 +1.3**
comp=Z,11nm,0.9s,mb5.3
PRU Pruhonice 98.13 323 eP pP 00 54 32.0 +16
KHC Kasperske Hory 99.04 322 eP pP 00 54 19.7 -0.8
GERES GERESS Array B 99.07 322 P **P 00 53 57.1 +0.3**
comp=Z,1.0nm,0.6s,mb4.5,baz=68,slow=4.9,SNR=13
SNAA Sanae 108.92 195⇑i 00 58 42.3
VNA2 Neumayer--Watz 110.53 195⇑i PKPdf 00 58 42.8 -3.0
VNA3 Neumayer Olymp 110.88 194⇑i PKPdf 00 58 38.5 -8.0
VNA1 Neumayer--Stat 110.93 195⇑i PKPdf 00 58 39.4 -7.2
TXAR Lajitas Array 119.20 50 PKP PKPdf 00 59 06.8 +3.1
comp=Z,0.9nm,0.6s,baz=218,slow=0.8,SNR=16
TXAR pPKP 00 59 34.1
comp=Z,0.7nm,0.7s,baz=225,slow=1.8,SNR=4.1
TXAR Lajitas Array 119.20 50 PKP PKPdf 00 59 06.8 +3.1
TXAR pPKP 00 59 34.1
JCT Junction City 121.51 47 ePKPdf PKPdf 00 59 11.2 +3.1
PLCA Paso Flores 143.57 158 PKP PKPdf 00 59 49.7 +0.6
comp=Z,11nm,0.9s,baz=222,slow=3.4,SNR=15
PLCA pPKP 01 00 19.3
comp=Z,3.4nm,0.7s,baz=252,slow=2.6,SNR=2.0
PLCA Paso Flores 143.57 158 PKP PKPdf 00 59 49.7 +0.6
PLCA pPKP 01 00 19.3
TRQA Tornquist 148.66 167 ePKPbc PKPdf 01 00 04.3 +6.6
TRQA ePKPab PKPab 01 00 08.3 +0.7
FCH Farellones 149.93 151⇑iP PKPdf 01 00 08.7 +8.8
OTAV Otavalo 153.72 74 ePKPdf PKPdf 01 00 10.2 +4.3
OTAV ePKPbc PKPdf 01 00 17.8 +12
SDV Santo Domingo 156.19 47 ePKPdf PKPdf 01 00 12.8 +3.6
LPAZ La Paz 163.10 122 PKP PKPdf 01 00 21.6 +4.8
comp=Z,7.2nm,1.1s,baz=39,slow=1.5,SNR=15
LPAZ PKPab PKPab 01 01 12.9 +3.3
comp=Z,9.3nm,0.9s,baz=258,slow=3.5,SNR=13
LPAZ La Paz 163.10 122 ePKPdf PKPdf 01 00 21.3 +4.5
LPAZ ePKPab PKPab 01 01 13.1 +3.5
BDFB Brasilia 170.48 212 PKP PKPdf 01 00 25.0 +2.6
comp=Z,2.1nm,0.9s,baz=271,slow=7.1,SNR=3.9

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*BJI **20** 00:50:57.1, 37.26N×21.75E, h6km*
*ATH **20** 00:51:01.4, 37.50N×22.00E, h14km±1km, MD4.1/22, ML4.0*
*MOS **20** 00:51:01.3±1.0, 37.49N×22.01E, h10km, mb4.4/11, Error ellipse: s-maj=5.2km s-min=2.9km az=116.7*
*NEIC **20** 00:51:01.6, 37.48N×22.01E, h19km, mb3.9/28, MD4.0(PDG), ML4.0(ATH), After ATH.*
*PDG **20** 00:51:02.5±0.3, 37.54N×22.02E, h10km*
*CSEM **20** 00:51:03.7, 37.43N×21.90E, h20km, mb4.5*
*IDC **20** 00:51:06.6±1.5, 37.58N×22.04E, h41km±16km, mb3.9/13, mb1 4.0/18, mb1mx3.9/26, mbtmp4.0/18, ML3.6/5, MS3.3/5, Ms1 3.3/5, ms1mx2.9/22, Error ellipse: s-maj=15.7km s-min=10.2km az=26.0*
ISC 20 00:51:02.0±0.2**, 37.52N**±0.02×**22.00E**±0.02**, h14km, n311, σ1s15**/342**, mb4.3**/23**, MS3.2**/4**, 20C-10D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.34**	**190**	ePb	**Pb**	**00 51 08.0**	**-1.3**
ITM				eSb	**Sb**	**00 51 13.6**	**-0.6**
RLS	**Riolos of Patr**	**0.69**	**322**⇑	iPb	**Pb**	**00 51 15.0**	**-0.2**
RLS				eSn	**Sn**	**00 51 27.1**	**-0.3**
VLI	**Veliai**	**1.09**	**137**⇓	iPN	**Pn**	**00 51 22.6**	**-0.2**
MGER	**Gerania Oros**	**1.10**	**64**	ePB	**Pb**	**00 51 23.0**	**+0.7**
NAIG	**Nisos Aigina**	**1.21**	**78**	ePB	**Pb**	**00 51 24.5**	**+0.4**
NSAL	**Nisos Salamina**	**1.22**	**71**	ePB	**Pb**	**00 51 24.5**	**+0.1**
VLS	**Valsamata**	**1.30**	**301**	ePB	**Pb**	**00 51 26.2**	**+0.5**
LKR	**Lokris**	**1.38**	**34**	ePN	**Pn**	**00 51 26.5**	**-0.4**
LKR				eSB	**Sb**	**00 51 47.2**	**+2.8**
EVR	**Evrytania**	**1.41**	**354**	ePn	**Pn**	**00 51 27.8**	**+0.5**
EVR				eSn	**Sn**	**00 51 49.9**	**+4.2**
ATH	**Athens Observa**	**1.43**	**71**⇑	iPn	**Pn**	**00 51 29.0**	**+1.3**
ATH				eS	**Sb**	**00 51 50.0**	**+4.1**
KYTH	**Kithira**	**1.49**	**146**	ePB	**Pb**	**00 51 30.0**	**+1.1**
MPAR	**Parnis Oros**	**1.51**	**65**	ePG	**Pg**	**00 51 29.0**	**-3.3**
AGG	**Agios Georgios**	**1.53**	**10**	eP	**Pn**	**00 51 29.6**	**+0.6**
PTL	**Penteli**	**1.57**	**70**	ePB	**Pb**	**00 51 30.0**	**-0.3**
NEO	**Neokhori**	**2.03**	**28**⇑	iPN	**Pn**	**00 51 37.0**	**+0.8**
AOS	**Alonnisos**	**2.21**	**41**	eP	**Pn**	**00 51 38.2**	**-0.7**
JAN	**Janina**	**2.32**	**337**	ePG	**Pg**	**00 51 44.0**	**-4.4**
JAN	**Janina**	**2.32**	**337**	Pn	**Pn**	**00 51 45.2**	**+4.8**
MEV	**Metsovon**	**2.34**	**345**	eP	**Pn**	**00 51 43.1**	**+2.4**
IGT	**Igoumenitsa**	**2.40**	**327**	eP	**Pn**	**00 51 45.4**	**+3.8**
LIT	**Litokhoron**	**2.61**	**8**	eP	**Pn**	**00 51 44.8**	**+0.3**
PAIG	**Paliouri**	**2.74**	**28**	eP	**Pn**	**00 51 45.9**	**-0.5**
VAM	**Vamos**	**2.75**	**139**	ePB	**Pb**	**00 51 48.8**	**-1.7**
KEK	**Kerkira**	**2.79**	**322**	ePN	**Pn**	**00 51 48.3**	**+1.2**
KZN	**Kozani**	**2.79**	**356**	ePb	**Pb**	**00 51 49.1**	**-2.1**
KZN				Pn	**Pn**	**00 51 52.4**	**+5.3**
SRN	**Sarande**	**2.83**	**327**	i Pn	**Pn**	**00 51 49.3**	**+1.6**
SRN				i Sn	**Sn**	**00 52 23.6**	**+1.7**
APE	**Apeiranthos**	**2.85**	**98**	ePN	**Pn**	**00 51 48.3**	**+0.4**
LSK	**Leskovik**	**2.85**	**338**	i Pn	**Pn**	**00 51 51.1**	**+3.2**
THR5	**Thira Island,**	**2.90**	**111**	eP	**Pn**	**00 51 49.9**	**+1.3**
THR3	**Thira Island,**	**2.94**	**111**	eP	**Pn**	**00 51 50.8**	**+1.6**
SANT	**Santorini**	**3.00**	**111**	ePn	**Pn**	**00 51 51.7**	**+1.7**
SANT	**Santorini**	**3.00**	**111**	ePn	**Pn**	**00 51 51.7**	**+1.7**
THR1	**Thera Island**	**3.00**	**111**	eP	**Pn**	**00 51 51.6**	**+1.5**
PLG	**Polygyros**	**3.07**	**21**	ePN	**Pn**	**00 51 51.2**	**+0.2**
GVD	**Gavdhos**	**3.16**	**147**	P	**Pn**	**00 51 51.2**	**-1.1**
GVD	**Gavdhos**	**3.16**	**147**	P	**Pn**	**00 51 51.2**	**-1.1**
THE	**Thessaloniki**	**3.20**	**13**	eP	**Pn**	**00 51 52.9**	**0.0**
OUR	**Ouranopolis**	**3.21**	**28**	eP	**Pn**	**00 51 52.8**	**-0.3**
IDI	**Anoyia**	**3.22**	**133**	P	**Pn**	**00 51 53.9**	**+0.7**
	3.1nm,0.3s,baz=323,slow=13,SNR=22						
IDI				S	**Sn**	**00 52 33.6**	**+1.8**
	12nm,0.3s,baz=230,slow=23,SNR=3.1						
FNA	**Florina**	**3.30**	**352**	eP	**Pn**	**00 51 55.7**	**+1.3**
LOS	**Limnos**	**3.41**	**44**	eP	**Pn**	**00 51 54.9**	**-1.0**
LIA	**Limnos Island**	**3.44**	**45**	Pn	**Pn**	**00 51 56.4**	**0.0**
GRG	**Griva**	**3.45**	**5**	eP	**Pn**	**00 51 57.1**	**+0.6**
SOH	**Sokhos**	**3.46**	**17**	eP	**Pn**	**00 51 57.0**	**+0.3**
BIA	**Bitola**	**3.54**	**352**	i Pn	**Pn**	**00 52 01.2**	**+3.5**
BIA				i		00 52 03.1	
BIA				i		00 52 09.1	
BIA				i Sn	**Sn**	**00 52 45.3**	**+5.5**
BIA				i		00 52 57.5	
NPS	**Neapolis**	**3.68**	**127**	ePN	**Pn**	**00 52 00.9**	**+1.2**
OHR	**Ohrid**	**3.71**	**346**	i P	**Pn**	**00 52 05.7**	**+5.5**
OHR				i		00 52 55.0	
OHR	**Ohrid**	**3.71**	**346**	i Pn	**Pn**	**00 52 05.7**	**+5.5**
OHR				i		00 52 11.5	
OHR				i Sn	**Sn**	**00 52 55.0**	**+11**
OHR				i		00 52 58.7	
PRK	**Paraskevi**	**3.77**	**61**	ePN	**Pn**	**00 52 01.6**	**+0.5**

SMG	Samos	3.84	86	ePN	Pn	00 52 02.0	-0.1		
XRY	Khrisi	3.98	130	ePN	Pn	00 52 05.7	+1.7		
NVR	Nevrokopi	4.09	20	ePN	Pn	00 52 05.6	0.0		
LCI	Lecce	4.14	314	ePn	Pn	00 52 08.1	+1.8		
TIR	Tirane	4.17	337	ePn	Pn	00 52 11.8	+5.1		
MMB	Musomiste	4.28	18	*i* P	Pn	00 52 09.0	+0.7		
QSH	Qafa e Shtames	4.32	339	*i* Pn	Pn	00 52 13.2	+4.4		
QSH				*i* Sn	Sn	00 53 03.2	+3.7		
KKB	Krupnik	4.42	11	*i* P	Pn	00 52 12.0	+1.7		
TIP	Timpagrande	4.44	294	ePn	Pn	00 52 10.1	-0.6		
TIP	Timpagrande	4.44	294	ePn	Pn	00 52 10.1	-0.5		
SKO	Skopje	4.47	355	*i* Pn	Pn	00 52 13.9	+2.9		
SKO				*i*		00 52 18.0			
SKO				*i*		00 53 05.5			
SKO	Skopje	4.47	355	*i* Pn	Pn	00 52 13.9	+2.9		
SKO				*i* S	Sn	00 53 05.5	+2.1		
ALN	Alexandroupoli	4.61	42	*e*P	Pn	00 52 11.4	-1.6		
RZN	Rozhen	4.66	26	*i* P	Pn	00 52 15.0	+1.3		
SOI	Samo	4.74	279	ePn	Pn	00 52 13.8	-1.0		
CEL	Celeste	4.89	281	P	Pn	00 52 18.2	+1.3		
KDZ	Kurdzhali	4.90	32	*i* P	Pn	00 52 19.0	+1.9		
ULC	Ulcinj	4.92	335	ePn	Pn	00 52 18.0	+0.6		
ULC				*e*Sn	Sn	00 53 14.9	+0.1		
MTTG	Motta San Giov	5.02	277	ePn	Pn	00 52 17.9	-0.8		
MTTG	Motta San Giov	5.02	277	ePn	Pn	00 52 17.9	-0.9		
SCLL	Scilla	5.03	280	P	Pn	00 52 21.7	+2.8		
LTRZ	Laterza	5.08	309	ePn	Pn	00 52 19.4	-0.1		
LTRZ	Laterza	5.08	309	ePn	Pn	00 52 19.4	-0.2		
ARG	Arkhangelos	5.08	103	P	Pn	00 52 25.3	+5.7		
VTS	Vitosha	5.15	10	⇑P	Pn	00 52 21.7	+1.1		
VTS	Vitosha	5.15	10	*i* P	Pn	00 52 23.0	+2.4		
VTS	Vitosha	5.15	10	⇑P	Pn	00 52 23.0	+1.1		
SG1	Sgolgore (BA)	5.30	310	ePn	Pn	00 52 22.4	-0.3		
PVY	Plav	5.31	344	ePn	Pn	00 52 23.5	+0.7		
PVY				*e*Sn	Sn	00 53 23.9	-0.5		
TTG	Podgorica	5.34	338	⇑*i*Pn	Pn	00 52 23.3	+0.1		
TTG				*e*Sn	Sn	00 53 25.0	-0.3		
BUM	Brajici-Budva	5.34	334	⇑*i*Pn	Pn	00 52 22.5	-0.8		
BUM				*e*Sn	Sn	00 53 25.5	+0.2		
BAI	Bari	5.35	314	ePn	Pn	00 52 23.2	-0.2		
AGST	Augusta-Monte	5.40	269	P	Pn	00 52 21.2	-2.9		
SSY	Sortino	5.53	268	P	Pn	00 52 23.3	-2.7		
IVA	Berane	5.59	344	ePn	Pn	00 52 27.2	+0.5		
IVA				*e*Sn	Sn	00 53 30.6	-0.8		
HCY	Herceg Novi	5.61	332	⇑*i*Pn	Pn	00 52 26.6	-0.6		
HCY				*e*Sn	Sn	00 53 30.7	-1.4		
HCY	Herceg Novi	5.61	332	⇑*i*Pn	Pn	00 52 26.5	-0.6		
HCY				*e*S	Sn	00 53 30.7	-1.4		
CDT	Castel del Mon	5.69	310	ePn	Pn	00 52 27.6	-0.6		
SLNA	Salina	5.75	283	ePn	Pn	00 52 29.1	-0.1		
SLNA	Salina	5.75	283	ePn	Pn	00 52 29.0	-0.1		
NKY	Niksic	5.77	337	ePn	Pn	00 52 29.2	-0.1		
NKY				*e*Sn	Sn	00 53 35.3	-0.7		
MNO	Monte Soro	5.81	276	ePn	Pn	00 52 29.7	-0.2		
BRY	Bratogost	5.99	335	⇑*i*Pn	Pn	00 52 31.9	-0.6		
BRY				*e*Sn	Sn	00 53 40.7	-0.9		
MRLC	Muro Lucano	6.01	305	ePn	Pn	00 52 32.4	-0.3		
MRLC	Muro Lucano	6.01	305	ePn	Pn	00 52 32.4	-0.3		
SGO	Sicignano	6.03	302	ePn	Pn	00 52 33.2	+0.2		
VAE	Valguarnera	6.04	272	P	Pn	00 52 32.6	-0.4		
	2.9nm,0.3s,baz=241,slow=2.6,SNR=12								
VAE				S	Sn	00 53 45.2	+2.5		
	3.5nm,0.3s,baz=282,slow=20,SNR=3.0								
PLE	Pljevlja	6.14	342	ePn	Pn	00 52 34.9	+0.4		
PLE				*e*Sn	Sn	00 53 43.5	-1.7		
UPM	Unac-Piva	6.15	338	⇑*i*Pn	Pn	00 52 35.4	+0.7		
UPM				*e*Sn	Sn	00 53 44.7	-0.9		
FG4	Candela	6.19	308	P	Pn	00 52 36.7	+1.5		
FGMS	Monte Sant'Ang	6.27	314	ePn	Pn	00 52 35.5	-0.9		
FGMS	Monte Sant'Ang	6.27	314	ePn	Pn	00 52 35.5	-0.9		
MS1	Monte Sant'Ang	6.28	314	ePn	Pn	00 52 35.5	-1.0		
STON	Ston	6.28	330	*i* Pn	Pn	00 52 34.0	-2.5		
STON				*i* Sn	Sn	00 53 44.0	-4.8		
GIB	Gibilmanna	6.34	277	P	Pn	00 52 36.7	-0.6		
CSSN	Cassano Irpino	6.37	304	ePn	Pn	00 52 38.4	+0.6		
CSSN	Cassano Irpino	6.37	304	ePn	Pn	00 52 38.4	+0.7		
FG5	Orsara di Pugl	6.43	308	ePn	Pn	00 52 38.7	+0.1		
RGNG	Rignano Grg	6.46	312	ePn	Pn	00 52 38.5	-0.6		
RGNG	Rignano Grg	6.46	312	ePn	Pn	00 52 38.5	-0.6		
MRB1	Monte Rocchett	6.53	306	P	Pn	00 52 40.1	0.0		
BBJS	Bajina Basta -	6.64	344	⇓*i*Pn	Pn	00 52 41.6	-0.1		
PSB1	Pescosannita	6.69	306	P	Pn	00 52 42.4	+0.1		
DIVS	Divcibare	6.75	348	⇑*i*Pn	Pn	00 52 42.2	-0.9		
DIVS				Sg	Sn	00 53 51.7	-8.9		
ISP	Isparta	6.76	85	*e*P	Pn	00 52 42.6	-0.6		
CIGN	Sant'Elia a Pi	6.86	309	P	Pn	00 52 47.4	+2.7		
CLTB	Caltabellotta	6.98	273	P	Pn	00 52 49.8	+3.4		
USI	Ustica	7.06	282	P	Pn	00 52 45.9	-1.6		
MIDA	Miranda	7.26	307	P	Pn	00 52 52.4	+2.0		
CII	Carovilli	7.28	308	ePn	Pn	00 52 51.2	+0.6		
CII	Carovilli	7.28	308	ePn	Pn	00 52 51.2	+0.7		
RNI2	Rionero Sannit	7.36	307	P	Pn	00 52 53.6	+1.9		
SDI	San Donato	7.58	306	P	Pn	00 52 54.9	+0.1		
INTR	Introdacqua	7.68	308	P	Pn	00 52 57.4	+1.2		
VVLD	Villa Vallelon	7.79	307	P	Pn	00 52 59.3	+1.6		
PTQR	Pietraquaria	8.01	307	ePn	P	00 53 02.2	+1.5		
BZS	Buzias	8.10	358	⇓P	P	00 53 03.2	+1.2		
AQU	L'Aquila	8.18	309	*e*P	P	00 53 04.1	+0.9		
TEMO	Teramo	8.21	311	P	P	00 53 05.1	+4.6		
FIAM	Fiamignano	8.31	308	P	P	00 53 09.0	+4.0		
ISR	Istrita	8.33	23	⇓P	P	00 53 05.9	+0.7		
HARR	Harsova	8.45	30	⇑P	P	00 53 04.4	-2.5		
MLR	Muntele Rosu	8.50	19	⇓P	P	00 53 08.0	+0.4		
MLR	Muntele Rosu	8.50	19	⇓P	P	00 53 07.9	+0.3		
NRCA	Norcia	8.63	311	ePn	P	00 53 09.7	+0.3		
NRCA	Norcia	8.63	311	ePn	P	00 53 09.7	+0.3		
MNS	Montasola	8.65	307	*e*P	P	00 53 11.0	+1.3		
CING	Cingoli	8.90	314	P	P	00 53 16.3	+3.1		
CFR	Carcaliu	8.93	29	⇓P	P	00 53 11.3	-2.3		
CFR	Carcaliu	8.93	29	⇓P	P	00 53 11.2	-2.4		
SNTG	Esanatoglia	8.98	312	ePn	P	00 53 14.9	+0.7		
SNTG	Esanatoglia	8.98	312	ePn	P	00 53 14.9	+0.7		
PKSM	Moragy	9.04	345	P	P	00 53 15.5	+0.4		
VRI	Vrincioaia	9.06	21	⇑P	P	00 53 16.2	+0.8		
ARV	Arcevia	9.12	314	P	P	00 53 15.6	-0.7		
MURB	Monte Urbino	9.23	311	P	P	00 53 21.0	+3.3		
BRTR	Keskin Array B	9.37	73	P	P	00 53 18.8	-0.9		
	0.7nm,0.3s,baz=256,slow=14,SNR=17								
BOJS	Bojanci	9.45	330	ePn	P	00 53 19.2	-1.6		
BOJS				*e*Sn	Sn	00 55 03.3	-4.4		
CRES	Cresnjev	9.63	332	ePn	P	00 53 21.9	-1.3		
CRES				Sn	Sn	00 55 06.4	-5.9		
CRES	Cresnjev	9.63	332	ePn	P	00 53 22.0	-1.3		
CRES				Sn	Sn	00 55 06.4	-5.9		
CRE	Caprese Michel	9.78	312	P	P	00 53 26.2	+1.0		
LEGS	Legarje	9.79	331	Pn	P	00 53 23.7	-1.7		
LEGS				Sn	Sn	00 55 09.0	-7.2		
LEGS	Legarje	9.79	331	Pn	P	00 53 23.7	-1.7		
LEGS				Sn	Sn	00 55 09.0	-7.2		
VISS	Visnje	9.86	329	ePn	P	00 53 25.3	-1.0		
KOGS	Kog	9.90	336	ePn	P	00 53 27.1	+0.3		
KOGS	Kog	9.90	336	ePn	P	00 53 27.1	+0.3		
CEV	Cerknica	9.98	328	ePn	P	00 53 26.5	-1.5		
LJU	Ljubljana	10.18	329	ePn	P	00 53 27.9	-2.9		
PSZ	Piszkesteto	10.51	352	⇑P	P	00 53 34.2	-1.1		
	0.4nm,0.6s								
PSZ	Piszkesteto	10.51	352	⇑*e*P	P	00 53 36.0	+0.7		
PSZ	Piszkesteto	10.51	352	⇑P	P	00 53 34.2	-1.1		
	0.4nm,0.6s								
OBKA	Obir	10.55	331	⇓*i*PN	P	00 53 35.9	0.0		
OBKA				*i* SN	S	00 55 27.2	-7.7		
ROBS	Robic	10.77	327	ePn	P	00 53 38.0	-0.8		
PTCC	Patocco-Chiusa	10.96	327	ePn	P	00 53 40.1	-1.4		
PTCC	Patocco-Chiusa	10.96	327	ePn	P	00 53 40.1	-1.4		
PGF	Pioggiola	11.16	301	*e*P	P	00 53 44.4	+0.2		
	42nm,1.2s								
PGF	Pioggiola	11.16	301	*e*P	P	00 53 44.4	+0.2		
PGF				pmax	pmax				
	comp=Z,21nm,1.2s								
VYHS	Vyhne	11.21	349	*e*P	P	00 53 48.0	+3.1		
VYHS	Vyhne	11.21	349	*e*	P	00 53 48.0	+3.1		
KOLS	Kolonicke sedl	11.41	1	*e*P	P	00 53 51.6	+4.0		
KOLS	Kolonicke sedl	11.41	1	*e*	P	00 53 51.6	+4.0		
CTI	Castel Tesino	11.50	321	P	P	00 53 51.4	+2.7		
WTTA	Wattenberg	12.38	325	*i* SN	S	00 56 11.9	-7.5		
WTTA	Wattenberg	12.38	325	⇑*i*Pn	P	00 54 00.4	-0.3		
WTTA				*i* Sn	S	00 56 11.9	-7.5		
WTTA	Wattenberg	12.38	325	*i* P	P	00 54 00.4	-0.3		
WATA	Walderalm	12.46	325	*i* SN	S	00 56 13.2	-8.2		
WATA	Walderalm	12.46	325	⇑*i*Pn	P	00 54 01.3	-0.4		
WATA				*i* Sn	S	00 56 13.2	-8.2		
WATA	Walderalm	12.46	325	*i* P	P	00 54 01.3	-0.4		
SQTA	Sankt Quirin	12.55	324	*i* SN	S	00 56 16.0	-7.4		
SQTA	Sankt Quirin	12.55	324	⇑*i*Pn	P	00 54 02.0	-0.9		
SQTA				*i* Sn	S	00 56 16.0	-7.4		
SQTA	Sankt Quirin	12.55	324	*i* P	P	00 54 02.0	-0.9		
SBF	Sospel	12.74	304	*e*P	P	00 54 06.0	+0.6		
	comp=Z,18nm,0.9s								
SBF	Sospel	12.74	304	*e*P	P	00 54 06.0	+0.6		
SBF				pmax	pmax				
	comp=Z,9.0nm,0.9s								
GERES	GERESS Array B	12.83	335	P	P	00 54 06.7	0.0		
GERES	GERESS Array B	12.83	335	P	P	00 54 06.7	+0.1		
	comp=Z,0.1nm,0.3s,baz=104,slow=5.5,SNR=4.7								
GERES	GERESS Array B	12.83	335	P	P	00 54 06.7	+0.1		
GERES	GERESS Array B	12.83	335	P	P	00 54 06.7	0.0		
DAVOX	Davos	12.89	320	P	P	00 54 11.5	+4.0		
	comp=Z,0.3nm,0.3s,baz=154,slow=19,SNR=5.0								
FRF	La Foret Royal	13.14	302	*e*P	P	00 54 11.2	+0.4		
DAVA	Damuels	13.23	321	⇓*i*Pn	P	00 54 10.6	-1.4		
DAVA				*i* Sn	S	00 56 32.0	-7.9		
WET	Wettzell	13.37	333	*e*P	P	00 54 25.1	+11		
MBDF	Montbardon	13.54	307	*e*P	P	00 54 16.8	+0.8		
	comp=Z,10nm,0.9s								
MBDF	Montbardon	13.54	307	*e*P	P	00 54 16.8	+0.8		
MBDF				pmax	pmax				
	comp=Z,5.0nm,0.9s								
LPG	La Plagne	13.92	310	*e*P	P	00 54 21.1	+0.1		
	comp=Z,4.2nm,0.7s								
LPG	La Plagne	13.92	310	*e*P	P	00 54 21.1	+0.1		
LPG				pmax	pmax				
	comp=Z,2.0nm,0.7s								
LPL	La Plagne	13.94	310	*e*P	P	00 54 21.1	-0.2		
	comp=Z,3.7nm,0.8s								
LPL	La Plagne	13.94	310	*e*P	P	00 54 21.1	-0.2		
LPL				pmax	pmax				
	comp=Z,2.0nm,0.8s								
SMRF	Simiane la Rot	14.02	303	*e*P	P	00 54 23.0	+0.7		
	comp=Z,11nm,1.2s								
ORIF	Oris-en-Rattie	14.20	306	*e*P	P	00 54 25.0	+0.4		
	comp=Z,8.4nm,1.0s								
ORIF				*e*R					
	comp=Z,144nm,21.5s								
GRA1	Grafenberg Arr	14.44	331	*e*P	P	00 54 37.4	+10		
GRF	Grafenberg Arr	14.44	331	*e*P	P	00 54 37.4	+10		
BRG	Berggiesshubel	14.54	339	*e*	P	00 54 31.8	+2.7		
BRG				*e*		00 54 44.2			
CABF	La Chapelle	14.89	313	*e*P	P	00 54 33.9	+0.2		
	comp=Z,11nm,0.8s								
CABF	La Chapelle	14.89	313	*e*P	P	00 54 33.9	+0.2		
CABF				pmax	pmax				
	comp=Z,6.0nm,0.8s								
VIVF	Saint-Julien-l	14.95	305	*e*P	P	00 54 34.5	0.0		
MOX	Moxa	15.08	334	*e*P	P	00 54 34.0	-2.1		
HINF	Hinteralfeld	15.14	318	*e*P	P	00 54 36.2	-0.8		
	comp=Z,5.8nm,0.6s								
HINF	Hinteralfeld	15.14	318	*e*P	P	00 54 36.2	-0.8		
HINF				pmax	pmax				
	comp=Z,3.0nm,0.6s								
CLL	Collm	15.20	338	*i* P	P	00 54 43.7	+6.0		
CLL				pmax	pmax				
	comp=Z,11nm,1.0s								
CLL	Collm	15.20	338	*i* P	P	00 54 43.7	+6.0		
	comp=Z,11nm,1.0s								
CLL				*i*		00 54 49.6			
CLL	Collm	15.20	338	P	P	00 54 43.7	+6.0		
	comp=Z,logA/T=1.0								
CLL				*i*		00 54 49.6			
LASF	Ste Croix	15.21	301	*e*P	P	00 54 39.3	+1.4		
	comp=Z,12nm,1.2s								
CDF	Champ du Feu	15.29	320	*e*P	P	00 54 37.9	-1.1		
	comp=Z,11nm,0.9s								
CDF	Champ du Feu	15.29	320	*e*P	P	00 54 37.9	-1.1		
CDF				pmax	pmax				
	comp=Z,5.0nm,0.9s								
HAU	Haudompre	15.53	317	*e*P	P	00 54 41.6	-0.4		
	comp=Z,3.4nm,0.5s								
HAU	Haudompre	15.53	317	*e*P	P	00 54 41.6	-0.4		
HAU				pmax	pmax				
	comp=Z,2.0nm,0.4s								
MTLF	Montolieu	16.14	297	*e*P	P	00 54 50.7	+0.8		
	comp=Z,4.5nm,0.9s								
MTLF	Montolieu	16.14	297	*e*P	P	00 54 50.7	+0.8		
MTLF				pmax	pmax				
	comp=Z,2.0nm,0.9s								
SMF	Signal de Mont	16.25	310	*e*P	P	00 54 51.1	-0.2		
	comp=Z,7.0nm,0.8s								
SMF	Signal de Mont	16.25	310	*e*P	P	00 54 51.1	-0.2		
SMF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
SUW	Suwalki	16.52	2	*e*P	P	00 54 54.8	+0.2		
MEZF	Maizieres J'vi	16.52	317	*e*P	P	00 54 54.3	-0.4		
	comp=Z,9.2nm,0.7s								
AVF	Avril sur Loir	16.61	310	*e*P	P	00 54 55.7	-0.2		
	comp=Z,5.3nm,0.8s								
AVF	Avril sur Loir	16.61	310	*e*P	P	00 54 55.7	-0.2		
AVF				pmax	pmax				
	comp=Z,3.0nm,0.8s								
SSF	Saint Saulge	16.65	311	*e*P	P	00 54 56.2	-0.1		
SSF				pmax	pmax				
	comp=Z,10.0nm,0.9s								
SSF	Saint Saulge	16.65	311	*e*P	P	00 54 56.2	-0.1		
	comp=Z,10nm,0.9s								
CAF	Calviac	16.70	303	*e*P	P	00 54 58.2	+1.1		
	comp=Z,8.1nm,1.1s								
CAF	Calviac	16.70	303	*e*P	P	00 54 58.2	+1.1		
CAF				pmax	pmax				
	comp=Z,4.0nm,1.0s								
BGF	Bois d'Agland	16.82	309	*e*P	P	00 54 59.0	+0.5		
TCF	Toulx Ste Croi	17.11	307	*e*P	P	00 55 02.0	-0.2		
	comp=Z,7.2nm,1.0s								
TCF	Toulx Ste Croi	17.11	307	*e*P	P	00 55 02.0	-0.2		
TCF				pmax	pmax				
	comp=Z,4.0nm,1.0s								
RJF	Les Rejaudoux	17.20	303	*e*P	P	00 55 04.2	+1.0		
HYF	Humbligny	17.27	310	*e*P	P	00 55 04.1	0.0		
EPF	Esparros	17.41	295	*e*P	P	00 55 07.2	+1.3		
ZEI	Tsey	17.53	66	*e*P	P	00 55 12.8	+5.4		
LFF	La Frestale	17.60	302	*e*P	P	00 55 08.7	+0.4		
GIVF	Givet	17.61	321	*e*P	P	00 55 06.9	-1.5		
BAIF	Baives	17.89	320	*e*P	P	00 55 11.0	-0.9		
	comp=Z,8.7nm,0.7s								
BAIF	Baives	17.89	320	*e*P	P	00 55 11.0	-0.9		
BAIF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
GNI	Garni	17.91	75	LR	LR	01 02 13.0			
	comp=Z,65nm,22.0s,baz=172,slow=37								
ETSF	Etsaut	18.03	294	*e*P	P	00 55 15.7	+2.0		
	comp=Z,3.6nm,0.6s								
ETSF	Etsaut	18.03	294	*e*P	P	00 55 15.7	+2.0		
ETSF				pmax	pmax				
	comp=Z,2.0nm,0.6s								
SJPF	Ste Jean	18.55	295	*e*P	P	00 55 22.1	+2.0		
MFF	Saint Martin d	18.73	306	*e*P	P	00 55 22.1	-0.2		
	comp=Z,15nm,1.1s								
MFF	Saint Martin d	18.73	306	*e*P	P	00 55 22.1	-0.2		
MFF				pmax	pmax				
	comp=Z,7.0nm,1.1s								
LDF	La Druitiere	19.52	312	*e*P	P	00 55 30.7	-0.9		
	comp=Z,7.4nm,0.7s								
LDF	La Druitiere	19.52	312	*e*P	P	00 55 30.7	-0.9		
LDF				pmax	pmax				
	comp=Z,4.0nm,0.7s								
FLN	La Foliniere	19.81	312	*e*P	P	00 55 34.3	-0.5		
	comp=Z,7.6nm,0.5s								
FLN	La Foliniere	19.81	312	*e*P	P	00 55 34.3	-0.5		
FLN				pmax	pmax				
	comp=Z,4.0nm,0.5s								
GRR	Gorron	19.88	310	*e*P	P	00 55 34.5	-1.0		
	comp=Z,9.9nm,0.7s								
GRR	Gorron	19.88	310	*e*P	P	00 55 34.5	-1.0		
GRR				pmax	pmax				
	comp=Z,5.0nm,0.7s								
OBN	Obninsk	20.20	25	*e*P	P	00 55 37.3	-1.6		
OBN	Obninsk	20.20	25	P	P	00 55 37.6	-1.4		
	comp=Z,16nm,0.5s								
OBN	Obninsk	20.20	25	P	P	00 55 37.6	-1.3		
	comp=Z,16nm,0.5s								
ESDC	Sonseca Array	20.39	284	P	P	00 55 38.6	-2.4		
	comp=Z,0.5nm,0.5s,baz=73,slow=10,SNR=3.7								
SGMF	Saint Gilles	20.86	309	*e*P	P	00 55 45.8	-0.1		
	comp=Z,13nm,0.8s								
SGMF	Saint Gilles	20.86	309	*e*P	P	00 55 45.8	-0.1		
SGMF				pmax	pmax				
	comp=Z,7.0nm,0.8s								
MOS	Moscow	21.06	25	*e*P	P	00 55 52.8	+5.0		
MOS				pmax	pmax				
	comp=Z,52nm,0.8s,mb4.9								
QUIF	Quistinic	21.12	307	*e*P	P	00 55 48.7	+0.2		
	comp=Z,18nm,0.9s,mb4.1								
QUIF	Quistinic	21.12	307	*e*P	P	00 55 48.7	+0.2		
QUIF				pmax	pmax				
	comp=Z,9.0nm,0.9s,mb4.1								
ROSF	Rostrenen	21.34	308	*e*P	P	00 55 50.8	+0.1		
	comp=Z,24nm,0.9s,mb4.2								
ROSF	Rostrenen	21.34	308	*e*P	P	00 55 50.8	+0.1		
ROSF				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.2								
RST	Umm Al-Ruwaisa	22.28	104	*e*P	P	00 55 59.7	-0.5		
NAY	Al-Naaiem	22.58	104	*e*P	P	00 56 02.4	-0.9		
HFS	Hagfors	23.25	349	P	P	00 56 08.8	-0.7		
	comp=Z,4.9nm,0.5s,mb4.2,baz=172,slow=10,SNR=18								
HFA0	Hagfors New Ar	23.26	349	P	P	00 56 08.8	-0.7		
FINES	FINESS Array B	24.09	5	P	P	00 56 15.5	-2.1		
	comp=Z,5.8nm,0.7s,mb4.2,baz=169,slow=9.7,SNR=15								
FINES				PcP	PcP	00 59 57.8	-2.7		
	comp=Z,0.5nm,0.6s,baz=162,slow=6.0,SNR=3.3								
FINES				LR	LR	01 05 54.1			
	comp=Z,97nm,20.4s,MS3.3,baz=16,slow=37								
FINES	FINESS Array B	24.09	5	PcP	PcP	00 59 57.8	-2.7		
NAO01	NORSAR Array S	24.38	347	P	P	00 56 19.8	-0.7		
	comp=Z,16nm,1.0s,mb4.4								
NAO01	NORSAR Array S	24.38	347	P	P	00 56 19.8	-0.7		
	comp=Z,16nm,1.0s,mb4.4								
NB2	NORSAR Subarra	24.51	347	P	P	00 56 21.0	-0.7		
	comp=Z,4.2nm,0.7s,mb4.1,baz=159,slow=9.3								
NB2	NORSAR Subarra	24.51	347	P	P	00 56 21.0	-0.7		
NB2				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.1								
NOA	NORSAR Array B	24.51	347	P	P	00 56 21.2	-0.5		
	comp=Z,7.2nm,0.9s,mb4.2,baz=160,slow=10,SNR=14								
NOA				LR	LR	01 07 34.4			
	comp=Z,23nm,19.9s,MS2.7,baz=95,slow=40								
EKA	Eskdalemuir Ar	24.65	324	P	P	00 56 23.9	+0.8		
	comp=Z,4.2nm,0.6s,mb4.2,baz=124,slow=9.2,SNR=15								
KAF	Kangasniemi	24.77	5	*e*P	P	00 56 23.6	-0.6		
	comp=Z,8.4nm,0.6s,mb4.5,baz=184,slow=8.2								
KAF	Kangasniemi	24.77	5	*e*P	P	00 56 23.6	-0.6		
KAF				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.4								
JOF	Joensuu	26.06	10	*e*P	P	00 56 35.2	-1.2		
	comp=Z,8.4nm,0.6s,mb4.5								
ARCES	ARCESS Array B	32.13	2	P	P	00 57 29.3	-1.5		
	comp=Z,8.8nm,0.6s,mb4.8,baz=189,slow=9.8,SNR=42								
ARCES				LR	LR	01 11 10.0			
	comp=Z,88nm,18.5s,MS3.5,baz=195,slow=38								
ARCES	ARCESS Array B	32.13	2	P	P	00 57 29.3	-1.5		
ARCES				LR	LR	01 11 10.0			
ARE0	ARCESS Array S	32.13	2	*e*P	P	00 57 29.2	-1.5		
ARE0	ARCESS Array S	32.13	2	*e*P	P	00 57 29.2	-1.5		
KEV	Kevo	32.41	3	*e*P	P	00 57 31.2	-2.0		
BVAR	Borovoye Array	36.66	49	P	P	00 58 09.1	-0.6		
	comp=Z,1.5nm,0.7s,mb3.

Plg9°, Azm158°; N Plg76°, Azm289°; P Plg10°, Azm66°;

BJI ***20*** *01:53:40.5, 33.70N×130.38E, h21km, mB6.8, mb5.8, Ms7.3, Msz6.9*

NEIC ***20*** *01:53:41.8±0.1, 33.81N×130.13E, h10km, mb5.9/206, ME7.0, MS6.7/93, MW6.4, MW6.5(NIED), Error ellipse: s-maj=4.3km s-min=4.2km az=179.0, Moment Tensor Solution. s63 Moment tensor: Scale 10^{18}Nm; M_{rr}0.71; $M_{\theta\theta}$5.01; $M_{\phi\phi}$-5.73; $M_{r\theta}$0.20; $M_{\theta\phi}$2.26; $M_{\phi r}$0.17; Best double couple: M_o5.8×10^{18} NP1:ϕ_s124°, δ87°, λ1°. NP2: ϕ_s34°, δ89°, λ177°. Principal axes: T 5.48, Plg3°, Azm349°; N .7, Plg87°, Azm191°; P -6.18, Plg1°, Azm79°; Depth from synthetics of broadband displacement seismograms. Energy computed from CMT mechanism.*

NEIC One person killed at Fukuoka; at least 500 injured on Genkai and in the Fukuoka area. Sixty-five houses destroyed by a landslide on Genkai and buildings damaged [VII] at Fukuoka. Felt [V] at Isaya and Sasebo; [IV] at Hiroshima, Iwakuni and Kumamoto; [III] at Miyazaki. Also felt [IV] at Keoje, Kyeongju and Pusan; [III] at Kunsan, Kwangju, Taegu and Ulsan, South Korea. Recorded [6L JMA] in Fukuoka and Saga; [5L JMA] in Nagasaki; [4 JMA] in Kumamoto and Oita and in the Tsushima Islands; [3 JMA] in Kagoshima and Miyazaki Prefectures. Recorded [4 JMA] in Shimane and Yamaguchi; [3 JMA] in Hiroshima, Hyogo, Kyoto, Okayama and Tottori Prefectures, Honshu. Recorded [2 JMA] in much of southern Honshu and [1 JMA] as far north as Tochigi Prefecture, Honshu. Also recorded [3 JMA] in Ehime and Kochi; [2 JMA] in Kagawa and Tokushima Prefectures, Shikoku.

HRVD ***20*** *01:53:41.8±0.1, 33.72N×130.15E, h12km, MW6.6/83, Centroid moment Tensor Solution. LP body waves: s77, c198; Mantle waves: s83, c364; Half duration: 4s7 Moment tensor: Scale 10^{19}Nm; M_{rr}-0.03±.00; $M_{\theta\theta}$0.82±.00; $M_{\phi\phi}$-0.78±.00; $M_{r\theta}$0.18±.01; $M_{\theta\phi}$0.39±.00; $M_{\phi r}$-0.14±.01; Best double couple: M_o.92×10^{19} NP1:ϕ_s32°, δ76°, λ-178°. NP2:ϕ_s302°, δ88°, λ-14°. Principal axes: T .929, Plg8°, Azm348°; N -.018, Plg76°, Azm114°; P -.911, Plg11°, Azm256°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***20*** *01:53:43.8±1.6, 33.81N×130.25E, h33km, mb6.2/105, MS6.9/47 Error ellipse: s-maj=6.0km s-min=3.5km az=108.3*

BGS ***20*** *01:53:44.7, 32.76N×127.97E, h10km, mb6.0*

ISC 20 01:53:41.1±0.1, 33.75N±0.01×130.25E±0.01, h9km, (h12km±1.0km:pP-P), n1143, σ1≒58/1132, mb5.9/281, MS6.7/135, 116C-68D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.34**	**160**	⇑P	**Pg**	**01 53 47.6**	**-0.6**
JFI				S	**Sg**	**01 53 50.7**	**-2.2**
JII	**Iki**	**0.43**	**276**	⇓P	**Pg**	**01 53 47.8**	**-2.1**
JII				S	**Sg**	**01 53 52.5**	**-3.3**
JFA	**Akaike**	**0.46**	**95**	⇓P	**Pg**	**01 53 50.2**	**-0.2**
JUR	**Ureshino**	**0.70**	**201**	⇑P	**Pb**	**01 53 53.0**	**-2.1**
JNU	**Nakatsue**	**0.82**	**140**	⇑P	**Pb**	**01 53 56.2**	**-0.9**
JTA	**Tamana**	**0.82**	**163**	P	**Pb**	**01 53 55.9**	**-1.2**
JTY	**Toyota**	**0.85**	**53**	⇓P	**Pb**	**01 53 57.0**	**-0.6**
JTU	**Tsushima**	**1.04**	**318**	⇑P	**Pb**	**01 53 58.8**	**-2.2**
JKI	**Kunimi**	**1.11**	**96**	⇓P	**Pb**	**01 54 01.8**	**-0.2**
NGSJ	**Nagasakinomoza**	**1.18**	**199**	P	**Pb**	**01 54 01.2**	**-2.0**
JHD	**Hondo**	**1.29**	**184**	⇑P	**Pb**	**01 54 03.6**	**-1.5**
JIU2	**Izumi 2**	**1.29**	**158**	⇑P	**Pb**	**01 54 04.1**	**-1.1**
JKD	**Kudamatsu**	**1.39**	**77**	⇓P	**Pn**	**01 54 06.5**	**-0.2**
JUS	**Usuki**	**1.43**	**118**	⇑P	**Pn**	**01 54 06.9**	**-0.5**
JKIT	**Kitakata**	**1.51**	**138**	⇑P	**Pn**	**01 54 07.7**	**-0.8**
JHIK	**Hikimi**	**1.60**	**60**	⇓P	**Pn**	**01 54 09.9**	**+0.1**
JHIK				S	**Sb**	**01 54 35.6**	**+5.0**
JFU	**Fukue jima 2**	**1.67**	**229**	⇓P	**Pn**	**01 54 07.9**	**-2.9**
JTSN	**Tsuno**	**1.84**	**145**	P	**Pn**	**01 54 12.4**	**-0.8**
JNA	**Nagahama**	**1.87**	**95**	⇓P	**Pn**	**01 54 13.2**	**-0.5**
JNA				S	**Sn**	**01 54 40.5**	**+2.9**
JHM	**Kurahashi**	**1.94**	**78**	P	**Pn**	**01 54 14.6**	**0.0**
JHM				S	**Sn**	**01 54 45.2**	**+6.0**
JHT	**Toyohira**	**2.02**	**63**	⇓P	**Pn**	**01 54 16.3**	**+0.5**
UWA2	**Uwa jima 2**	**2.06**	**104**	P	**Pn**	**01 54 15.5**	**-0.8**
JGT	**Gotsu**	**2.14**	**53**	P	**Pn**	**01 54 17.3**	**-0.3**
JTO	**Tosashimizu**	**2.32**	**112**	P	**Pn**	**01 54 20.0**	**-0.1**
JKU	**Kubokawa**	**2.39**	**100**	P	**Pn**	**01 54 20.9**	**-0.2**
JJG	**Jouge**	**2.57**	**69**	⇓P	**Pn**	**01 54 23.7**	**+0.1**
JHS	**Saijyo**	**2.68**	**62**	⇓P	**Pn**	**01 54 25.5**	**+0.3**
JNM	**Ikuma**	**2.88**	**52**	P	**Pn**	**01 54 28.0**	**-0.1**
JMN	**Monobe**	**3.02**	**89**	⇓P	**Pn**	**01 54 29.5**	**-0.7**
JJS	**Sakaide**	**3.12**	**78**	P	**Pn**	**01 54 30.8**	**-0.7**
MRT2	**Murotomisaki 2**	**3.27**	**95**	P	**Pn**	**01 54 32.6**	**-1.1**
JKR	**Kurayoshi**	**3.36**	**60**	P	**Pn**	**01 54 35.5**	**+0.5**
JAD	**Aida**	**3.45**	**69**	P	**Pn**	**01 54 36.0**	**-0.2**
JAI	**Aioi**	**3.50**	**88**	P	**Pn**	**01 54 35.8**	**-1.1**
SAI	**Saigo**	**3.52**	**45**	P	**Pn**	**01 54 37.0**	**-0.2**
JAJ2	**Tsuna**	**3.90**	**79**	P	**Pn**	**01 54 42.3**	**-0.4**
JKS	**Kasai**	**3.99**	**71**	P	**Pn**	**01 54 43.6**	**-0.3**
JKSM	**Kasumi**	**4.07**	**62**	P	**Pn**	**01 54 45.2**	**+0.1**
JMIK	**Miki**	**4.12**	**74**	P	**Pn**	**01 54 45.2**	**-0.5**
KS15	**Wonju Array Si**	**4.16**	**333**	*eP*	**Pn**	**01 54 42.7**	**-3.6**
JWM	**Minabe**	**4.25**	**87**	P	**Pn**	**01 54 46.0**	**-1.6**
JKY	**Yasaka**	**4.42**	**64**	P	**Pn**	**01 54 49.2**	**-0.7**
JWY	**Kouya**	**4.46**	**83**	P	**Pn**	**01 54 50.0**	**-0.6**
JWT	**Wachi**	**4.52**	**69**	P	**Pn**	**01 54 50.3**	**-1.1**
JWZ	**Kozaga**	**4.56**	**91**	P	**Pn**	**01 54 49.7**	**-2.4**
JHE	**Heguri**	**4.59**	**77**	P	**Pn**	**01 54 51.5**	**-1.0**
INCN	**Inchon**	**4.75**	**323**	*eP*	**Pn**	**01 54 50.9**	**-3.7**
JAA	**Atsumi**	**5.78**	**79**	P	**Pn**	**01 55 08.9**	**-0.3**
JAO	**Obara**	**5.98**	**73**	P	**Pn**	**01 55 12.0**	**0.0**
JYZW	**Yoshizawa**	**6.31**	**77**	P	**Pn**	**01 55 17.9**	**+1.2**
JHG	**Hegura jima**	**6.79**	**51**	P	**Pn**	**01 55 24.1**	**+0.7**
JSZ	**Suzu**	**6.87**	**56**	P	**Pn**	**01 55 24.8**	**+0.2**
MAJO	**Matsushiro** 2μm,1.0s	**7.09**	**65**	*e*P	**Pn**	**01 55 27.6**	**-0.1**
MAT	**Matsushiro**	**7.09**	**65**	P	**Pn**	**01 55 29.0**	**+1.4**
MAT				*e*S	**Sn**	**01 56 52.0**	**+2.8**
MAT	comp=Z,4μm,2.8s			pmax	pmax		
MAT	**Matsushiro** comp=Z,4μm,2.8s	**7.09**	**65**	P	**Pn**	**01 55 29.0**	**+1.4**
MAT				*e*S	**Sn**	**01 56 52.0**	**+2.8**
MAT	**Matsushiro**	**7.09**	**65**	P	**Pn**	**01 55 29.2**	**+1.6**
MAT				S	**Sn**	**01 56 52.2**	**+3.0**
JOW	**Kunigami** comp=Z,6.0nm,0.3s,baz=27,slow=14,SNR=22	**7.10**	**194**	Pn	**Pn**	**01 55 29.4**	**+1.6**
JOW	baz=152,slow=28,SNR=0.9			Sn	**Sn**	**01 56 51.0**	**+1.5**
JRY	**Ryogami san**	**7.46**	**70**	P	**Pn**	**01 55 34.2**	**+1.3**
JHK	**Hiroka**	**7.96**	**62**	P	**Pn**	**01 55 41.2**	**+1.4**
JHJ	**Hachijo jima 2** comp=Z,534nm,0.3s,baz=289,slow=1.3,SNR=77	**8.00**	**92**	Pn	**Pn**	**01 55 40.7**	**+0.4**
JHJ	baz=46,slow=8.7,SNR=3.7			Sn	**Sn**	**01 57 19.4**	**+7.6**
JHJ	comp=Z,381μm,21.2s,baz=286,slow=37			LR	LR	01 58 47.3	
SSE	**Sheshan**	**8.11**	**253**	P	**P**	**01 55 41.0**	**-0.9**
SSE				S	**Sn**	**01 57 10.1**	**-4.5**
SSE	comp=Z,152nm,1.0s			AMB	AMB		
SSE	comp=Z,27μm,10.7s			AMB	AMB		
SSE	comp=N,579μm,10.0s			LR	LR		
SSE	comp=E,465μm,10.0s			LR	LR		
SSE	comp=Z,946μm,12.3s			LR	LR		
SSE	**Sheshan** comp=Z,152nm,1.0s	**8.11**	**253**	P	**P**	**01 55 41.0**	**-0.9**
SSE				S	**Sn**	**01 57 10.1**	**-4.5**
JSB	**Shiboa**	**8.53**	**65**	P	**P**	**01 55 51.4**	**+3.7**
DL2	**Dalian**	**8.65**	**309**	⇑*i*P	**P**	**01 55 48.1**	**-1.3**
DL2				S	**Sn**	**01 57 27.8**	**-0.3**
DL2	comp=Z,270nm,0.8s			AMB	AMB		
DL2	comp=Z,6μm,10.4s			AMB	AMB		
DL2	comp=N,2343μm,12.7s			LR	LR		
DL2	comp=E,1396μm,11.8s			LR	LR		
DL2	comp=Z,320μm,12.2s			LR	LR		
VLA	**Vladivostok**	**9.44**	**7**	*d*iP	**P**	**01 56 00.0**	**-0.4**
VLA	comp=Z,18μm,6.0s			pmax	pmax		
VLA	comp=E,12μm,5.0s			pmax	pmax		
SNY	**Shenyang**	**9.63**	**329**	⇑P	**P**	**01 56 03.0**	**0.0**
SNY				XP		01 56 07.8	
SNY				PP	PP	01 56 10.3	-0.6
SNY				S	**Sn**	**01 57 59.1**	**+6.6**
SNY				XS		01 58 07.1	
SNY	comp=N,526μm,17.2s			LR	LR		
SNY	comp=Z,570μm,13.7s			LR	LR		
NJ2	**Nanjing**	**9.73**	**263**	*e*P	**P**	**01 56 04.1**	**-0.3**
NJ2				AP		01 56 08.3	
NJ2				XP		01 56 10.8	
NJ2				S	**Sn**	**01 57 52.0**	**-2.9**
NJ2	comp=Z,4μm,4.0s			AMB	AMB		
CN2	**Changchun**	**10.71**	**341**	⇑P	**P**	**01 56 16.6**	**-1.2**
CN2				*e*XP		01 56 22.3	
CN2				*e*S	**S**	**01 58 16.8**	**-2.1**
CN2	comp=Z,60nm,1.1s			AMB	AMB		
MDJ	**Mudanjiang**	**10.86**	**358**	P	**P**	**01 56 17.9**	**-2.0**
MDJ				AP		01 56 21.8	
MDJ				XP		01 56 23.8	
MDJ				S	**S**	**01 58 20.0**	**-2.6**
MDJ				XS		01 58 30.3	
MDJ				PCP	PcP	02 02 16.9	-2.6
MDJ				SCP		02 05 47.1	
MDJ				PCS		02 05 51.4	
MDJ				SCS	ScS	02 09 24.9	+0.1
MDJ	comp=Z,30nm,1.1s			AMB	AMB		
MDJ	comp=Z,27μm,8.4s			AMB	AMB		
MDJ	comp=N,342μm,22.2s			LR	LR		
MDJ	comp=E,263μm,18.4s			LR	LR		
MDJ	comp=Z,424μm,17.9s			LR	LR		
MDJ	**Mudanjiang** comp=Z,547nm,1.0s	**10.86**	**358**	⇑*e*Pn	**P**	**01 56 18.2**	**-1.6**
MDJ				*e*Sn	**S**	**01 58 27.4**	**+4.8**
TIA	**Tai'an**	**11.04**	**287**	⇓P	**P**	**01 56 21.3**	**-1.1**
TIA				S	**S**	**01 58 35.0**	**+7.9**
TIA	comp=Z,342nm,1.5s			AMB	AMB		
TIA	comp=Z,5μm,8.0s			AMB	AMB		
JTM	**Tenmabayashi**	**11.11**	**48**	P	**P**	**01 56 25.7**	**+2.4**
TATO	**Taipei** comp=Z,4μm,1.5s	**11.61**	**223**	P	**P**	**01 56 27.3**	**-2.8**
YHNB	**Yeheng**	**11.91**	**223**	⇓P	**P**	**01 56 34.4**	**+0.3**
NACB	**Ninganchiao**	**12.18**	**221**	*e*P	**P**	**01 56 36.9**	**-0.9**
CBIJ	**Chichi jima** comp=Z,16nm,0.3s,baz=52,slow=2.7,SNR=20	**12.25**	**120**	Pn	**P**	**01 56 40.4**	**+1.6**
CBIJ	comp=Z,3.8nm,0.3s,baz=299,slow=22,SNR=2.0			Sn	**S**	**01 59 00.8**	**+4.4**
CBIJ	comp=Z,106μm,18.0s,baz=124,slow=34			LR	LR	02 00 42.6	
BJT	**Baijiatuau**	**12.88**	**303**	*e*P	**P**	**01 56 42.5**	**-4.7**
BJT	comp=Z,2μm,1.5s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,2μm,1.5s	**12.88**	**303**	*e*P	**P**	**01 56 42.5**	**-4.7**
BJI	**Beijing**	**12.89**	**303**	P	**P**	**01 56 48.3**	**+1.0**
BJI				S	**S**	**01 59 17.8**	**+5.9**
BJI	comp=Z,302nm,1.8s			AMB	AMB		
BJI	comp=Z,10μm,4.8s			AMB	AMB		
BJI	comp=Z,544μm,16.8s			LR	LR		
BJI	**Beijing**	**12.89**	**303**	P	**P**	**01 56 48.3**	**+1.0**
BJI				S	**S**	**01 59 17.7**	**+5.8**
BJI	comp=Z,302nm,1.8s			pmax	pmax		
BJI	**Beijing** comp=Z,302nm,1.8s	**12.89**	**303**	P	**P**	**01 56 48.3**	**+1.0**
BJI				S	**S**	**01 59 17.7**	**+5.8**
ERM	**Erimo** comp=Z,3μm,1.6s,SNR=13	**13.10**	**47**	Pn	**P**	**01 56 53.5**	**+3.4**
QZH	**Quanzhou**	**13.42**	**232**	⇓*i*P	**P**	**01 56 52.4**	**-2.0**
QZH	comp=N,1096μm,15.1s			LR	LR		
QZH	comp=E,612μm,13.6s			LR	LR		
QZH	comp=Z,551μm,14.1s			LR	LR		
WHN	**Wuhan**	**13.85**	**261**	P	**P**	**01 56 59.4**	**-0.5**
WHN	comp=Z,974μm,9.9s			LR	LR		
ASAJ	**Asahikawa**	**14.11**	**39**	P	**P**	**01 57 06.7**	**+3.4**
ASAJ	comp=Z,5.0nm,0.3s			pmax	pmax	01 59 43.2	
ASAJ	comp=Z,274μm,18.4s			MLR	MLR		
ASAJ	**Asahikawa** comp=Z,5.3nm,0.3s,baz=240,slow=14,SNR=29	**14.11**	**39**	Pn	**P**	**01 57 06.7**	**+3.4**
ASAJ	baz=182,slow=15,SNR=1.9			Sn	**S**	**01 59 43.2**	**+2.3**
ASAJ	comp=Z,274μm,18.4s,baz=231,slow=35			LR	LR	02 01 55.5	
BBP	**Basco**	**15.16**	**211**	*e*P	**P**	**01 57 19.9**	**+2.6**
KLR	**Kul'dur**	**15.51**	**4**	*e*P	**P**	**01 57 18.2**	**-3.3**
KLR	comp=N,3μm,3.0s			pmax	pmax		
KLR	comp=Z,2μm,3.0s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**15.88**	**45**	*e*P	**P**	**01 57 25.0**	**-1.5**
YUK				*e*S	**S**	**02 00 18.0**	**-4.9**
YUK	comp=N,21μm,4.0s			pmax	pmax		
YUK	comp=Z,17μm,4.0s			pmax	pmax		
YUK	comp=E,16μm,3.0s			pmax	pmax		
YUK	comp=Z,570nm,0.5s			pmax	pmax		
YUK	comp=E,440nm,0.8s			smax			
YUK	comp=N,18μm,4.0s			smax			
YUK	comp=E,34μm,4.0s			MLR	MLR		
YUK	comp=Z,411μm,18.0s			MLR	MLR		
YUK	comp=N,667μm,15.0s			MLR	MLR		
YUK	comp=E,364μm,20.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**16.24**	**32**	α*i*P	**P**	**01 57 31.0**	**0.0**
YSS				*i* S	**S**	**02 00 32.0**	**+0.8**
YSS	comp=Z,5μm,2.4s			pmax	pmax		
YSS	comp=N,3μm,2.2s			pmax	pmax		
YSS	comp=E,2μm,2.0s			pmax	pmax		
YSS	comp=N,8μm,4.0s			pmax	pmax		
YSS	comp=E,4μm,4.0s			pmax	pmax		
YSS	comp=Z,7μm,4.0s			pmax	pmax		
YSS	comp=N,1μm,1.2s			pmax	pmax		
YSS	comp=Z,1μm,1.2s			smax			
YSS	comp=N,32μm,12.0s			MLR	MLR		
YSS	comp=Z,560nm,14.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins** comp=E,1μm,1.3s	**16.24**	**32**	*e*P	**P**	**01 57 30.9**	**-0.2**
HHC	**Hu-ho-hao-te**	**16.45**	**301**	*e*P	**P**	**01 57 34.6**	**+0.8**
HHC				XP		01 57 40.4	
HHC				PP	PP	01 57 47.0	-0.4
HHC				S	**S**	**02 00 35.8**	**-0.3**
HHC				XS		02 00 43.6	
HHC				SS	SS	02 00 58.4	+2.5
HHC	comp=Z,506nm,2.0s			AMB	AMB		
HHC	comp=N,1624μm,17.3s			LR	LR		
HHC	comp=E,654μm,17.8s			LR	LR		
HHC	comp=Z,330μm,14.3s			LR	LR		
HIA	**Hailar**	**17.36**	**336**	*e*P	**P**	**01 57 44.2**	**-0.9**
HIA	comp=Z,2μm,1.3s			pmax	pmax		
HIA	**Hailar** comp=Z,2μm,1.3s	**17.36**	**336**	*e*P	**P**	**01 57 44.2**	**-0.8**
BTO	**Baotou**	**17.49**	**299**	*e*P	**P**	**01 57 47.3**	**+0.5**
BTO				S	**S**	**02 01 03.3**	**+3.4**
BTO	comp=Z,642nm,2.3s			AMB	AMB		
BTO	comp=N,106μm,8.5s			LR	LR		
BTO	comp=E,395μm,14.2s			LR	LR		
UGL	**Uglegorsk**	**17.66**	**26**	*e*P	**P**	**01 57 45.0**	**-3.8**
UGL				*i* S	**S**	**02 01 05.0**	**+1.4**
UGL	comp=N,2μm,4.0s			pmax	pmax		
UGL	comp=E,3μm,4.0s			pmax	pmax		
UGL	comp=Z,8μm,4.0s			pmax	pmax		
UGL	comp=Z,810nm,1.1s			pmax	pmax		
UGL	comp=N,90μm,14.0s			smax			
UGL	comp=E,53μm,14.0s			smax			
CVP	**Callao Caves**	**17.68**	**207**	⇓*e*P	**P**	**01 57 51.0**	**+1.7**
XAN	**Xi'an**	**17.71**	**277**	⇑P	**P**	**01 57 47.1**	**-2.5**
XAN				AP		01 57 50.9	
XAN				S	**S**	**02 01 08.8**	**+3.9**
XAN	comp=N,511μm,19.4s			LR	LR		
XAN	comp=E,137μm,20.8s			LR	LR		
XAN	comp=Z,425μm,14.9s			LR	LR		
KUR	**Kuril'sk**	**17.74**	**45**	⇑*i*P	**P**	**01 57 50.5**	**+0.6**
KUR				*i* S	**S**	**02 01 02.0**	**-3.6**
KUR	comp=N,14μm,3.0s			pmax	pmax		
KUR	comp=E,18μm,3.0s			pmax	pmax		
KUR	comp=Z,21μm,3.0s			pmax	pmax		
KUR	comp=N,29μm,10.0s			smax			
KUR	comp=E,26μm,10.0s			smax			
APYP	**Conner**	**17.76**	**209**	*e*P	**P**	**01 57 51.8**	**+1.5**
ENH	**Enshi** comp=E,1.3nm,0.8s	**17.94**	**265**	*e*P	**P**	**01 57 51.2**	**-1.3**
PALP	**Palanan**	**18.05**	**205**	*e*P	**P**	**01 57 59.6**	**+5.7**
ABRA	**Dolores**	**18.18**	**210**	*e*P	**P**	**01 57 57.1**	**+1.5**
HKC	**Hong Kong**	**18.18**	**235**	⇑*i*P	**P**	**01 57 58.0**	**+2.4**
HKC				*i* S	**S**	**02 01 33.0**	**+17**
GZH	**Guangzhou**	**18.25**	**239**	P	**P**	**01 57 51.3**	**-5.1**
GZH				S	**S**	**02 01 13.4**	**-3.8**
GZH	comp=N,780μm,16.9s			LR	LR		
GZH	comp=E,637μm,16.3s			LR	LR		
GZH	comp=Z,484μm,10.8s			LR	LR		
CAUP	**Cauayan**	**18.37**	**206**	*e*P	**P**	**01 58 01.2**	**+3.3**
BCPH	**Baguio City Da**	**19.37**	**209**	⇓*i*P	**P**	**01 58 10.5**	**+0.6**
BALP	**Baler**	**19.57**	**206**	*e*P	**P**	**01 58 12.2**	**0.0**
BOLP	**Bolinao**	**19.64**	**211**	*e*P	**P**	**01 58 13.9**	**+0.8**
PCPH	**Palayan**	**19.91**	**207**	⇑*e*P	**P**	**01 58 15.7**	**-0.4**
SCZP	**Santa Cruz**	**20.18**	**210**	*e*P	**P**	**01 58 20.1**	**+1.2**
POLP	**Polilio Island**	**20.38**	**204**	*e*P	**P**	**01 58 23.1**	**+2.1**
QVPH	**Quezon City--P**	**20.76**	**206**	⇑*e*P	**P**	**01 58 26.8**	**+1.9**
PVCP	**Virac**	**20.82**	**197**	*e*P	**P**	**01 58 27.4**	**+1.9**
GQP	**Guinayangan**	**20.99**	**202**	*e*P	**P**	**01 58 28.6**	**+1.3**
TGY	**Tagaytay City**	**21.31**	**206**	⇑*e*P	**P**	**01 58 33.0**	**+2.5**
AUSP	**San Andres**	**21.47**	**201**	*e*P	**P**	**01 58 36.5**	**+4.4**
BOAC	**Boac**	**21.60**	**203**	*e*P	**P**	**01 58 36.9**	**+3.4**
GYA	**Guiyang**	**21.63**	**257**	⇓*i*P	**P**	**01 58 29.3**	**-4.4**
GYA				PP	PP	01 58 52.3	-6.0
GYA				S	**S**	**02 02 24.3**	**-4.0**
GYA	comp=Z,760nm,1.6s,mb5.9			AMB	AMB		
GYA	comp=N,314μm,11.9s,MS7.2			LR	LR		
GYA	comp=E,476μm,13.4s,MS7.2			LR	LR		
GYA	comp=Z,586μm,14.0s,MS7.1			LR	LR		
LUBP	**Lubang**	**21.90**	**207**	⇑*e*P	**P**	**01 58 39.6**	**+3.1**
LUBP	**Lubang**	**21.90**	**207**	*e*P	**P**	**01 58 39.5**	**+3.0**
SARN	**Sarigan**	**21.98**	**137**	*e*P	**P**	**01 58 38.5**	**+1.2**
ULN	**Ulaanbaatar**	**22.40**	**316**	P	**P**	**01 58 38.9**	**-2.4**
ULN	comp=Z,700nm,1.1s,mb6.0			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,703nm,1.1s,mb6.0	**22.40**	**316**	*e*P	**P**	**01 58 39.6**	**-1.7**
ULN	comp=Z,58μm,21.0s,MS6.0			LR	LR		
CD2	**Chengdu**	**22.54**	**270**	P	**P**	**01 58 40.0**	**-2.8**
CD2				S	**S**	**02 02 45.4**	**+0.3**
CD2	comp=E,720μm,13.2s			LR	LR		
CD2	comp=Z,629μm,12.0s,MS7.3			LR	LR		
OTRP	**Odiongan**	**22.58**	**201**	*e*P	**P**	**01 58 44.6**	**+1.3**
SJMP	**San Jose**	**22.77**	**204**	*e*P	**P**	**01 58 47.5**	**+2.3**
SONM	**Songino Array** comp=Z,31nm,0.8s,mb4.8,baz=130,slow=9.6,SNR=51	**22.77**	**315**	P	**P**	**01 58 42.4**	**-2.4**
SONM	comp=Z,14nm,1.1s,baz=45,slow=3.5,SNR=2.1			S	**S**	**02 02 56.7**	**+7.7**
SONM	comp=Z,26nm,1.1s,baz=108,slow=16,SNR=3.9			Lg		02 05 36.9	
SONM	comp=Z,0.9nm,1.0s,baz=270,slow=3.7,SNR=4.6			P3KPbc		02 32 23.3	
RCP	**Roxas**	**23.13**	**199**	⇑*e*P	**P**	**01 58 49.7**	**+1.0**
QIZ	**Qiongzhong**	**23.37**	**236**	P	**P**	**01 58 51.3**	**+0.3**
QIZ				AP		01 58 55.5	
QIZ				XP		01 58 58.0	
QIZ				S	**S**	**02 02 59.3**	**-0.6**
QIZ	comp=N,346μm,14.3s,MS7.1			LR	LR		
QIZ	comp=E,338μm,14.7s,MS7.1			LR	LR		
QIZ	comp=Z,260μm,15.2s,MS6.8			LR	LR		
QIZ	**Qiongzhong** comp=Z,17μm,2.5s	**23.37**	**236**	*e*P	**P**	**01 58 50.4**	**-0.6**
QIZ	comp=Z,217μm,19.0s			LR	LR		
CLNS	**Chul'man**	**23.38**	**353**	*e*P	**P**	**01 58 49.5**	**-1.2**
CLNS				*e*PP		01 58 59.7	
CLNS				*e*PPP	PPP	01 59 23.2	-8.9
CLNS				*e*		02 02 35.5	
CLNS				*e*S	**S**	**02 02 58.4**	**-1.3**
CLNS				*e*SS	SS	02 03 46.3	0.0
CLNS	comp=Z,687nm,1.2s,mb6.0			pmax	pmax		
CLNS	comp=N,852nm,1.3s			pmax	pmax		
CLNS	comp=E,99nm,1.0s			pmax	pmax		
CLNS	comp=N,120μm,13.3s			smax			
CLNS	comp=Z,118μm,13.4s			smax			
CLNS	comp=E,36μm,13.2s			smax			
CLNS	comp=N,147μm,11.0s,MS6.8			MLR	MLR		
CLNS	comp=Z,174μm,11.0s,MS6.8			MLR	MLR		
CLNS	comp=E,126μm,10.0s,MS6.8			MLR	MLR		

BUSP Coron 23.52 205 eP P 01 58 53.5 +1.1
MSLP Maasin 24.02 193 eP P 01 58 56.2 -1.2
LLP Lapu-Lapu 24.03 195 eP P 01 58 58.2 +0.8
GUIM Jordan 24.07 199 eP P 01 58 58.7 +1.0
GUMO Guam 24.07 143 P P 01 58 59.5 +1.7
GUMO pmax pmax
comp=Z,3μm,1.2s,mb6.6
GUMO Guam 24.07 143 eP P 01 58 57.9 0.0
comp=Z,3μm,1.3s,mb6.6
GUMO LR LR
comp=Z,70μm,22.0s,MS6.1
CUYO Cuyo Island 24.31 203 eP P 01 59 02.0 +1.8
ENPP El Nido 24.53 206 eP P 01 59 03.8 +1.4
TBP Tagbilaran 24.66 195 eP P 01 59 02.6 -0.9
GTA Gaotai 25.01 292 ⇑P P 01 59 05.9 -0.8
GTA AP pP 01 59 10.1 +0.8
GTA XP sP 01 59 13.0 +2.5
GTA S **S 02 03 33.3 +5.4**
GTA AMB AMB
comp=Z,188nm,1.2s,mb5.5
GTA AMB AMB
comp=Z,3μm,5.3s
GTA LR LR
comp=Z,218μm,14.8s,MS6.8
SNPH Sibulan 25.14 196 eP P 01 59 09.0 +0.9
SKR Severo-Kuril's 25.36 40 eP P 01 59 11.0 +1.1
SKR e 01 59 49.0
SKR eS **S 02 03 32.0 -1.7**
SKR eSS SS 02 04 36.0 +0.9
SKR pmax pmax
comp=N,6μm,4.0s
SKR pmax pmax
comp=E,8μm,4.0s
SKR pmax pmax
comp=Z,15μm,4.0s
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.0
SKR smax
comp=N,71μm,16.0s
SKR smax
comp=E,70μm,16.0s
SKR MLR MLR
comp=N,210μm,16.0s,MS6.9
SKR MLR MLR
comp=E,210μm,16.0s,MS6.9
SKR MLR MLR
comp=Z,183μm,16.0s,MS6.7
KMI Kunming 25.40 257 P P 01 59 08.8 -1.7
KMI S **S 02 03 32.6 -1.9**
KMI SS SS 02 04 36.5 +0.4
KMI AMB AMB
comp=Z,763nm,2.0s,mb5.9
KMI AMB AMB
comp=Z,12μm,3.7s
KMI LR LR
comp=N,539μm,12.0s,MS7.3
KMI LR LR
comp=E,272μm,13.9s,MS7.3
KMI LR LR
comp=Z,568μm,15.4s,MS7.2
KMI Kunming 25.40 257 P P 01 59 08.7 -1.8
KMI *SP sP 01 59 25.9 +12
KMI 01 59 53.9
KMI S **S 02 03 32.6 -1.9**
KMI SS SS 02 04 36.5 +0.4
KMI pmax pmax
comp=Z,763nm,2.0s,mb5.9
KMI MLR MLR
comp=Z,568μm,15.4s,MS7.2
KMI Kunming 25.40 257 P P 01 59 08.7 -1.8
comp=Z,763nm,2.0s,mb5.9
KMI sP sP 01 59 25.9 +12
KMI PP PP 01 59 53.9 +4.6
KMI S **S 02 03 32.6 -1.9**
KMI sS 02 03 53.1
KMI SS SS 02 04 36.5 +0.4
KMI LR LR
comp=Z,568μm,15.4s,MS7.2
BIPH Bislig 25.70 189 eP P 01 59 14.0 +0.6
ZAK Zakamensk 25.81 318 eP P 01 59 12.3 -1.8
ZAK pmax pmax
comp=Z,282nm,1.1s,mb5.7
DCPH Dipolog City 25.84 196⇓eP P 01 59 14.4 -0.4
comp=Z,272μm,1.0s
PPR Puerto Princes 26.11 207⇑eP P 01 59 23.0 +5.8
BUKP Musuan 26.19 192 eP P 01 59 16.0 -2.0
IRK Irkutsk 26.28 323⇑iP P 01 59 19.7 +1.3
IRK pmax pmax
comp=Z,1μm,2.5s,mb5.9
TLY Talaya 26.29 321c iP P 01 59 18.8 +0.3
TLY e 01 59 54.9
TLY eS **S 02 03 53.6 +4.5**
TLY pmax pmax
comp=Z,327nm,1.9s,mb5.5
TLY MLR MLR
comp=Z,207μm,16.0s,MS6.8
TLY Talaya 26.29 321 eP P 01 59 16.4 -2.1
comp=Z,107nm,0.9s,mb5.4
TLY LR LR
comp=Z,36μm,19.0s,MS5.9
BOD Bodaibo 26.46 340 eP P 01 59 16.8 -3.2
BOD pmax pmax
comp=Z,179nm,1.3s,mb5.4
DAV Davao City (W) 26.90 190⇓eP P 01 59 30.5 +6.0
KCP Kidapawan 27.04 191⇓eP P 01 59 25.0 -0.7
BATP Bataraza 27.36 208 eP P 01 59 30.4 +1.7
MOY Mondy 27.70 319 eP P 01 59 29.4 -2.0
MOY pmax pmax
comp=Z,706nm,2.8s,mb5.8
PET Petropavlovsk 27.94 38j iP P 01 59 35.5 +1.9
PET e 02 00 22.0
PET iS **S 02 04 14.9 -1.0**
PET eSSS SSS 02 05 54.6 -0.4
PET pmax pmax
comp=Z,6μm,3.4s
PET pmax pmax
comp=N,3μm,8.5s
PET pmax pmax
comp=N,51nm,1.1s
PET pmax pmax
comp=E,41nm,0.8s
PET pmax pmax
comp=Z,79nm,0.8s,mb5.4
PET pmax pmax
comp=Z,2μm,14.2s
PET smax
comp=N,20μm,14.9s
PET smax
comp=N,34μm,28.6s
PET MLR MLR
comp=N,186μm,16.0s,MS6.9
PET MLR MLR
comp=Z,167μm,16.0s,MS6.7
PET MLR MLR
comp=E,163μm,17.0s,MS6.9
PET MLR MLR
comp=Z,178μm,16.0s
PET Petropavlovsk 27.94 38 eP P 01 59 34.7 +1.1
comp=Z,233nm,1.2s,mb5.7
PET LR LR
comp=Z,154μm,20.0s,MS6.6
YAK Yakutsk 28.30 359c iP P 01 59 36.4 -0.3
YAK e 01 59 51.9
YAK iS **S 02 04 21.7 +0.1**
YAK pmax pmax
comp=Z,412nm,1.0s,mb6.0
YAK pmax pmax
comp=N,197nm,1.2s
YAK pmax pmax
comp=E,32nm,1.1s
YAK smax
comp=N,24nm,1.3s
YAK smax
comp=Z,12nm,0.9s
YAK smax
comp=E,21nm,1.1s
YAK MLR MLR
comp=Z,129μm,14.0s,MS6.7
YAK MLR MLR
comp=N,94μm,13.0s,MS6.7
YAK MLR MLR
comp=E,78μm,11.0s,MS6.7
YAK Yakutsk 28.30 359 i P P 01 59 36.5 -0.2
comp=E,49nm,0.9s,mb5.1
YAK LR LR
comp=Z,168μm,22.0s,MS6.6

NANT Nan 30.26 248 ⇑P P 01 59 51.0 -3.7
comp=Z,2μm,0.8s,mb6.8
CHRT Chiangrai 30.37 251 ⇓P P 01 59 53.0 -2.7
comp=Z,2μm,1.2s,mb6.6
KKM Kota Kinabalu 30.49 208 eP P 01 59 54.9 -1.9
KKM Kota Kinabalu 30.49 208 P P 01 59 58.8 +2.0
TSM Tawau 31.50 204 P P 02 00 05.3 -0.3
CHG Chiang Mai 31.62 250 ⇓P P 02 00 03.2 -3.5
comp=Z,150nm,1.1s,mb5.7
CHG S **S 02 05 16.8 +2.3**
CM31 Chiang Mai Arr 31.82 249 eP P 02 00 07.0 -1.5
comp=Z,192nm,1.0s,mb5.9
SEY Seymchan 32.35 19 eP P 02 00 13.6 +1.0
SEY 02 01 22.9
SEY ePPP PPP 02 01 30.4 -5.2
SEY eS **S 02 05 26.9 +1.4**
SEY eSSS SSS 02 07 35.3 -8.3
SEY pmax pmax
comp=Z,200nm,0.9s,mb6.0
SEY pmax pmax
comp=N,120nm,1.1s
SEY pmax pmax
comp=E,80nm,1.0s
SEY smax
comp=N,68μm,16.5s
SEY smax
comp=E,166μm,23.2s
BDT Bhumibol Dam 32.47 247 P P 02 00 11.0 -3.2
comp=E,36nm,1.0s,mb5.2
NST Nakhon Sawan 32.57 244 ⇑P P 02 00 14.0 -1.0
comp=E,392nm,1.0s,mb6.3
LSA Lhasa 33.37 274 P P 02 00 22.8 +1.0
LSA AP pP 02 00 32.8 +8.3
LSA PCP PcP 02 02 59.6 -4.1
LSA S **S 02 05 43.3 +1.6**
LSA SCP 02 06 40.6
LSA PCS 02 06 45.8
LSA SCS ScS 02 10 41.9 -4.6
LSA AMB AMB
comp=Z,220nm,1.1s,mb6.0
LSA LR LR
comp=N,100μm,18.1s,MS7.0
LSA LR LR
comp=E,200μm,15.1s,MS7.0
LSA LR LR
comp=Z,200μm,15.7s,MS6.9
LSA Lhasa 33.37 274⇓iP P 02 00 22.9 +1.1
LSA pmax pmax
comp=Z,209nm,1.0s,mb6.0
LSA MLR MLR
comp=Z,178μm,19.0s,MS6.8
LSA Lhasa 33.37 274⇓iP P 02 00 22.9 +1.0
comp=Z,210nm,1.0s,mb6.0
LSA LR LR
comp=Z,178μm,19.0s,MS6.8
WMQ Urumqi 34.33 300 P P 02 00 27.8 -2.2
WMQ PP PP 02 01 42.0 -3.3
WMQ PCP PcP 02 03 04.0 -2.3
WMQ S **S 02 05 52.5 -4.0**
WMQ PCS 02 06 50.0
WMQ SS SS 02 08 01.0 -5.0
WMQ SCS ScS 02 10 49.0 -2.4
WMQ AMB AMB
comp=Z,304nm,1.3s,mb6.1
WMQ AMB AMB
comp=Z,2μm,4.6s
WMQ LR LR
comp=Z,174μm,23.8s,MS6.7
NNT Nongplab 34.86 240 P P 02 00 34.5 -0.4
WAKE Wake Island 35.42 105 PFAKE 02 00 50.0 +10
WAKE LR LR
comp=Z,136μm,21.0s,MS6.7
FX1 Attu Island--F 35.94 45 P P 02 00 44.9 +1.3
comp=Z,93nm,0.7s,baz=296,slow=8.0,SNR=5.0
FX1 LR LR 02 16 41.7
comp=Z,1μm,18.2s,baz=101,slow=38
FX1 Attu Island--F 35.94 45 P P 02 00 43.7 +0.1
KSM Kuching 37.15 214 eP P 02 00 52.9 -1.4
MENI Mendum Tagoi 37.32 163 eP P 02 00 58.4 +2.7
YOMI Yo Moklole 37.48 163 eP P 02 00 57.6 +0.5
ZAL Zalesovo 37.67 316 P P 02 00 55.6 -2.6
comp=Z,6.2nm,0.9s,baz=6.4,slow=10,SNR=16
ZAL PcP PcP 02 03 17.3 +1.2
comp=Z,59nm,1.0s,baz=3.6,slow=2.3,SNR=5.3
ZAL S **S 02 06 52.0 +4.2**
comp=Z,2.5nm,0.9s,baz=177,slow=25,SNR=2.1
ZAL LR LR 02 18 10.9
comp=Z,76μm,18.6s,baz=2.0,slow=39
ZAL Zalesovo 37.67 316 P P 02 00 55.6 -2.6
ZAL PcP PcP 02 03 17.3 +1.2
ZAL S **S 02 06 52.0 +4.2**
ZAL LR LR 02 18 10.9
TIXI Tiksi 37.97 359⇓iP P 02 00 57.5 -3.0
TIXI e 02 02 32.3
TIXI eS **S 02 06 41.4 -11**
TIXI pmax pmax
comp=E,94nm,1.7s
TIXI pmax pmax
comp=Z,468nm,1.7s,mb5.9
TIXI pmax pmax
comp=N,299nm,1.8s
TIXI pmax pmax
comp=Z,1μm,2.0s,mb6.3
TIXI MLR MLR
comp=Z,250μm,14.0s,MS7.2
TIXI MLR MLR
comp=N,214μm,13.0s,MS7.2
TIXI MLR MLR
comp=E,98μm,11.0s,MS7.2
SNG Songkhla 38.07 233 P P 02 01 03.0 +1.0
comp=E,176nm,1.1s,mb5.7
JIRN Jiri 38.15 273 eP P 02 01 00.5 -2.0
comp=E,2μm,1.4s,mb6.6
MKAR Makanchi Array 38.26 305 i P P 02 01 03.6 +0.3
MKAR pmax pmax
comp=Z,93nm,0.9s
CAL Calcutta 38.38 264 eP P 02 01 06.2 +1.7
CAL e 02 02 50.2
CAL e 02 02 50.3
TANI Tanete Lipujan 38.38 198 eP P 02 01 03.8 -0.8
NVS Novosibirsk 38.77 317 i P P 02 01 08.1 +0.7
NVS e 02 02 34.8
NVS e 02 03 19.7
NVS iS **S 02 07 00.9 -3.5**
NVS eSS SS 02 10 12.7 +27
NVS pmax pmax
comp=Z,212nm,1.5s,mb5.7
NVS pmax pmax
comp=N,80nm,1.4s
NVS pmax pmax
comp=E,268nm,1.6s
NVS pmax pmax
comp=Z,712nm,2.6s,mb5.9
NVS pmax pmax
comp=N,252nm,2.0s
NVS pmax pmax
comp=E,487nm,2.4s
NVS smax
comp=N,1μm,3.4s
NVS smax
comp=E,672nm,2.9s
PKI Pulchoki 38.83 273 eP P 02 01 05.9 -2.3
comp=E,1μm,1.0s,mb6.5
KKN Kakani 38.86 274 eP P 02 01 06.3 -2.2
comp=E,2μm,1.3s,mb6.7
DMN Daman 39.06 273 eP P 02 01 08.1 -2.1
comp=E,2μm,1.5s,mb6.6
NINI Niniconang 39.24 197 eP P 02 01 10.4 -1.4
GKN Gorkha 39.32 274 eP P 02 01 09.9 -2.4
comp=E,961nm,1.1s,mb6.5
KULM Kulim 39.46 231 eP P 02 01 12.5 -1.1
IPM Ipoh 39.76 230 P P 02 01 15.4 -0.7
BILL Bilibino 40.02 20 eP P 02 01 16.1 -1.6
BILL pmax pmax
comp=Z,354nm,1.1s,mb6.0
BILL MLR MLR
comp=Z,168μm,21.0s,MS6.9
BILL Bilibino 40.02 20 eP P 02 01 16.1 -1.6
comp=Z,354nm,1.1s,mb6.0
BILL LR LR
comp=Z,168μm,21.0s,MS6.9
KOLN Koldanda 40.26 274 eP P 02 01 17.8 -2.3
comp=Z,1μm,1.1s,mb6.5
KGM Kluang 40.39 224 P P 02 01 24.2 +2.9
KURK Kurchatov 40.92 310 P P 02 01 29.4 +2.9
comp=Z,2μm,1.1s,mb6.7
KURK Kurchatov 40.92 310 i P P 02 01 21.8 -3.4
KURK pmax pmax
comp=Z,210nm,1.0s,mb5.7
KURK Kurchatov 40.92 310 eP P 02 01 22.1 -3.1
comp=Z,415nm,1.0s,mb6.0
KIWB Kanaga Island 41.61 48 P P 02 01 29.7 -1.2
AAA Alma-Ata 42.15 299 eP P 02 01 36.0 +0.6
AAA eS **S 02 07 58.0 +2.9**
AAA pmax pmax
comp=Z,2μm,8.0s
AAA smax
comp=N,14μm,16.0s
AAA smax
comp=E,8μm,16.0s
GSTR Great Sitkin T 42.30 48 P P 02 01 38.2 +1.7
JOSI Joshimath 42.69 280 e P 02 01 30.3 -10
JOSI e 02 16 26.6
JOSI e 02 18 50.9
ULHL Ulahol 42.78 298 P P 02 01 42.0 +1.5
SNR=22
KSH Kashi 43.38 294 i PR 02 01 48.0
KSH AP pP 02 01 52.0 +3.8
KSH XP sP 02 01 55.0 +5.7
KSH PP PP 02 03 31.1 +2.5
KSH SCP 02 07 26.0
KSH PCS 02 07 28.0
KSH S **S 02 08 13.0 -0.1**
KSH XS 02 08 22.3
KSH SS SS 02 11 22.3 +2.3
KSH SCS ScS 02 11 45.1 +1.5
KSH AMB AMB
comp=Z,2μm,2.2s,mb6.4
KLP Kalpa 43.46 282 eP P 02 01 45.9 -0.3
KLP e 02 02 17.0
comp=Z,181nm,1.1s
KLP e 02 17 17.9
KLP e 02 18 20.7
KZA Kyzart 43.53 298 P P 02 01 45.5 -1.2
SNR=31
KBK Karagaybulak 43.68 299 P P 02 01 49.7 +1.8
SNR=42
CHMS Chumysh 43.78 299 P P 02 01 50.1 +1.4
SNR=35
FRU Bishkek 43.90 299 eP P 02 01 47.0 -2.6
FRU 02 03 40.0
FRU eS **S 02 08 20.0 -0.5**
FRU eSS SS 02 11 30.0 +0.9
FRU smax
comp=N,18μm,17.0s
USP Ospenovka 43.93 300 P P 02 01 47.3 -2.6
SNR=20
AAK Ala-Archa 44.01 299 P P 02 01 51.1 +0.5
comp=N,634nm,1.0s,mb6.3,SNR=31
AAK Ala-Archa 44.01 299 eP P 02 01 46.9 -3.7
AAK pmax pmax
comp=Z,121nm,1.0s,mb5.6
AAK Ala-Archa 44.01 299 eP P 02 01 46.9 -3.7
comp=Z,121nm,1.0s,mb5.6
KEDI Kedomdong 44.10 200⇑iP P 02 01 50.3 -1.4
KEDI pmax pmax
comp=Z,330nm,1.5s,mb5.8
KEDI Kedomdong 44.10 200⇑iP P 02 01 50.3 -1.4
comp=Z,330nm,1.5s,mb5.8
KELI Kelakatan 44.34 203⇑iP P 02 01 53.1 -0.5
comp=Z,135nm,1.2s,mb5.5
RATI Rata 44.49 201⇑iP P 02 01 52.2 -2.7
comp=Z,292nm,1.5s,mb5.8
EKS2 Erkin-Say 44.53 299 P P 02 01 56.0 +1.2
SNR=26
AML Almayashu 44.67 298 P P 02 01 53.8 -2.2
SNR=8.9
SRDI Scrawed 44.70 203⇑iP P 02 01 57.8 +1.3
VIS Vishakhapatnam 44.79 261 eP P 02 01 57.7 +0.5
VIS e pP 02 02 01.9 +2.0
comp=Z,228nm,1.6s
VIS i 02 23 02.8
comp=Z,72μm,21.4s
MIDW Midway 44.85 82 PFAKE 02 02 10.0 +12
MIDW LR LR
comp=Z,21μm,20.0s,MS6.1
KKR Kurukshetra 45.12 280 eP P 02 01 59.3 -0.4
KKR e 02 02 07.5
comp=Z,268nm,0.8s
AGRA Agra 45.15 276 eP P 02 02 00.1 +0.2
AGRA e 02 02 22.0
comp=Z,400nm,1.9s
NDI New Delhi 45.23 279 eP P 02 01 59.0 -1.6
NDI eS **S 02 08 42.5 +2.5**
AYAN Aya Nagar 45.37 278 eP P 02 02 02.5 +0.8
AYAN e 02 02 07.6
comp=Z,113nm,1.1s
BHGR Bahadurgarh 45.45 279 eP P 02 02 03.4 +1.1
SONA Sohna 45.49 278 eP P 02 02 03.4 +0.7
SONA e pP 02 02 06.4 +1.0
comp=Z,219nm,1.1s
SONA e 02 18 15.5
PENI Pendagan 45.75 216⇑iP P 02 02 02.6 -2.2
PENI pmax pmax
comp=Z,197nm,0.8s,mb6.1
PENI Pendagan 45.75 216⇑iP P 02 02 02.6 -2.2
comp=Z,197nm,0.8s,mb6.1
PMG Port Moresby 45.83 156 eP P 02 02 04.0 -1.5
PMG pmax pmax
comp=Z,3μm,2.5s
PMG Port Moresby 45.83 156 P P 02 02 04.9 -0.6
comp=Z,22nm,0.8s,mb5.1,baz=5.8,slow=7.1,SNR=19
PMG S **S 02 08 47.8 -0.9**
comp=Z,2.0nm,0.3s,baz=123,slow=20,SNR=2.4
PMG LR LR 02 21 18.5
comp=Z,52μm,19.3s,MS6.5,baz=338,slow=36
PMG Port Moresby 45.83 156 eP P 02 02 04.0 -1.5
CHKZ Chkalovo 45.97 314 P P 02 02 05.7 -0.3
CHKZ pmax pmax
comp=Z,115nm,1.0s,mb5.8
BVA0 Borovoye Array 46.10 314 i P P 02 02 08.0 +0.9
BVAR Borovoye Array 46.10 314 P P 02 02 04.0 -3.1
comp=Z,20nm,0.6s,mb5.2,baz=100,slow=9.5,SNR=66
BVAR PcP PcP 02 03 44.3 +0.5
comp=Z,102nm,0.9s,baz=90,slow=4.4,SNR=7.5
BVAR S **S 02 08 50.9 -1.2**
comp=Z,2.9nm,0.9s,baz=350,slow=9.0,SNR=2.1
BVAR PKPPKP 02 33 32.6
comp=Z,1.1nm,0.9s,baz=270,slow=3.0,SNR=3.7
KAKA Kakadu 46.25 177 eP P 02 02 07.8 -1.0
comp=Z,755nm,1.8s,mb6.3
PASI Pasiripis 46.52 215 eP P 02 02 08.2 -2.7
KHET Khetri 46.60 278 eP P 02 02 12.3 +0.9
KHET e 02 02 42.6
comp=Z,370nm,1.6s
KHET e 02 19 37.7
BHPL Bhopal 47.15 272 eP P 02 02 14.4 -1.4
BHPL e 02 02 23.7
comp=Z,195nm,1.0s
BHPL i 02 24 07.7
comp=Z,39μm,17.1s
TAS Tashkent 48.05 298 eP P 02 02 22.0 -0.7
TAS eS **S 02 09 10.0 -10**
TAS pmax pmax
comp=Z,8μm,4.0s
UNV Unalaska Valle 48.11 45 eP P 02 02 23.2 +0.3
UNV LR LR
comp=Z,69μm,19.0s,MS6.7
TNA Tin City 48.20 29 eP P 02 02 22.1 -1.4
comp=Z,285nm,1.2s,mb6.2
TNA LR LR
comp=Z,72μm,19.0s,MS6.7
HYB Hyderabad 48.89 264⇓eP P 02 02 29.5 +0.1
HYB e 02 04 24.0
HYB pmax pmax
comp=Z,170nm,1.0s,mb6.0
HYB Hyderabad 48.89 264⇓eP P 02 02 29.5 +0.1
comp=Z,170nm,1.0s,mb6.0
HYB ePP PP 02 04 24.0 +1.1
HYB eS **S 02 09 36.0 +4.0**
HYB eSS SS 02 12 40.0 -18
HYB Hyderabad 48.89 264⇓iP P 02 02 29.5 +0.1
comp=Z,170nm,1.0s,mb6.0
HYB ePP PP 02 04 24.0 +1.1
HYB eScP 02 07 52.0
HYB eS **S 02 09 32.0 0.0**
HYB eScS ScS 02 12 16.0 -3.2
HYB eSS SS 02 12 56.0 -2.3
HYB e 02 14 14.0

HYB LR LR
comp=Z,67nm,22.0s
JASL Jasalmer 51.07 279 *e*P **P 02 02 46.3 +0.3**
HNR Honiara 51.39 141 *e*P **P 02 02 48.9 +0.3**
HNR pmax pmax
comp=Z,642nm,1.3s,mb6.4
HNR MLR MLR
comp=Z,21µm,20.0s,MS6.2
HNR Honiara 51.39 141 *e*P **P 02 02 48.9 +0.3**
comp=Z,642nm,1.3s,mb6.4
HNR LR LR
comp=Z,21µm,20.0s,MS6.2
SVE Sverdlovsk 51.57 319α *i*P **P 02 02 50.5 +1.1**
SVE *i* S **S 02 10 11.0 +2.3**
SVE *e* 02 12 36.0
SVE pmax pmax
comp=Z,1µm,3.0s
SVE pmax pmax
comp=N,100nm,3.0s
SVE pmax pmax
comp=E,500nm,3.0s
SVE pmax pmax
comp=Z,1µm,3.0s
SVE smax
comp=N,14µm,17.0s
SVE smax
comp=E,7µm,17.0s
FITZ Fitzroy Crossi 51.75 186 *e*P **P 02 02 48.1 -3.2**
comp=E,187nm,1.0s,mb6.0
FITZ *e*S **S 02 10 09.2 -2.5**
POO Poona 52.26 268 *e*P **P 02 02 55.3 +0.2**
POO *e* 02 03 17.9
comp=Z,222nm,1.9s
POO *i* 02 27 50.5
comp=Z,72µm,19.6s
KAD Karad 52.57 266⇓ *i*P **P 02 02 57.3 -0.1**
KAD *i* S **S 02 10 20.8 -2.1**
KAD *i* 02 27 50.1
comp=Z,62µm,18.8s
ARU Arti 52.75 319⇑ *i*P **P 02 02 54.6 -3.7**
ARU *i* 02 04 02.6
ARU *e* 02 04 59.9
ARU *i* S **S 02 10 20.9 -3.9**
ARU *i* 02 12 44.4
ARU pmax pmax
comp=Z,161nm,0.9s,mb6.0
ARU MLR MLR
comp=Z,125µm,22.0s,MS6.9
ARU MLR MLR
comp=N,106µm,16.0s
ARU MLR MLR
comp=E,92µm,19.0s
ARU Arti 52.75 319 *e*P **P 02 02 54.5 -3.8**
comp=E,185nm,1.0s,mb6.0
ARU LR LR
comp=Z,31µm,20.0s,MS6.3
BOM Bombay 52.94 269 *e*P **P 02 03 00.7 +0.4**
comp=Z,293nm,1.5s,mb6.0
BOM *e* 02 10 06.1
WRAB Tennant Creek 53.53 175 P **P 02 03 02.0 -2.5**
comp=Z,2µm,2.0s,mb6.7,SNR=74
WRAB Tennant Creek 53.53 175 *e*P **P 02 03 00.7 -3.8**
WRAB pmax pmax
comp=Z,2µm,1.8s,mb6.8
WRAB MLR MLR
comp=Z,11µm,22.0s,MS5.9
WRAB Tennant Creek 53.53 175 *e*P **P 02 03 00.7 -3.8**
comp=Z,2µm,1.8s,mb6.8
WRAB LR LR
comp=Z,11µm,22.0s,MS5.9
WRA Warramunga Arr 53.53 175 P **P 02 03 02.2 -2.3**
comp=Z,122nm,0.9s,mb5.8,baz=354,slow=7.3,SNR=113
WRA S **S 02 10 25.8 -10**
comp=Z,3.0nm,1.2s,baz=178,slow=28,SNR=2.8
WRA PKP2bc 02 33 41.5
comp=Z,3.9nm,1.1s,baz=160,slow=2.1,SNR=5.3
WRA Warramunga Arr 53.53 175 P **P 02 03 02.2 -2.3**
WRA S **S 02 10 25.8 -10**
WRA ⇑*e* 02 33 41.5
WB2 Warramunga Arr 53.54 175⇓ *i*P **P 02 03 00.7 -3.9**
WB2 *e*S **S 02 10 34.1 -1.9**
SVW2 Sparrevohn 53.58 36 *e*P **P 02 03 03.7 -0.6**
IMA Indian Mountai 54.08 29 P **P 02 03 06.3 -1.6**
IMA pmax pmax
comp=Z,1µm,1.1s,mb6.7
IMA Indian Mountai 54.08 29 *e*P **P 02 03 06.3 -1.6**
TRD Trivandrum 54.98 256 *e*P **P 02 03 15.0 -0.2**
TRD *e* 02 03 22.8
comp=Z,517nm,1.2s
SPU Mount Spurr 55.27 35 *e*P **P 02 03 15.5 -1.2**
MBWA Marble Bar 55.52 192 *e*P **P 02 03 15.4 -3.6**
comp=Z,231nm,1.1s,mb6.1
KDAK Kodiak Island 55.52 39 P **P 02 03 20.0 +1.4**
comp=Z,2µm,1.5s,mb6.8,SNR=12
KDAK Kodiak Island 55.52 39 *e*P **P 02 03 16.1 -2.5**
comp=Z,433nm,1.3s,mb6.3
KDAK *e* pP 02 03 20.7 -0.7
KDAK LR LR
comp=Z,66µm,20.0s,MS6.7
CTA Charters Tower 55.67 162 *e*P **P 02 03 19.9 -0.3**
comp=Z,151nm,1.2s,mb5.9
CTA *e*S **S 02 11 04.1 -0.6**
CTA Charters Tower 55.67 162 P **P 02 03 19.4 -0.8**
CTA S **S 02 11 04.9 +0.2**
CTA pmax pmax
comp=Z,122nm,1.0s
CTA MLR MLR
comp=Z,44µm,20.8s
CTA Charters Tower 55.67 162 P **P 02 03 19.4 -0.8**
comp=Z,122nm,0.9s,mb5.9,baz=340,slow=8.3,SNR=44
CTA S **S 02 11 04.9 +0.3**
comp=Z,2.1nm,0.7s,baz=217,slow=17,SNR=3.5
CTA LR LR 02 26 45.6
comp=Z,44µm,20.8s,MS6.5,baz=345,slow=36
CTAO Charters Tower 55.67 162 P **P 02 03 20.0 -0.1**
CTAO S **S 02 11 07.2 +2.5**
CTAO Charters Tower 55.67 162 *e*P **P 02 03 17.8 -2.4**
CTAO pmax pmax
comp=Z,519nm,1.4s,mb6.4
CTAO MLR MLR
comp=Z,45µm,21.0s,MS6.5
CTAO Charters Tower 55.67 162 *e*P **P 02 03 17.8 -2.4**
comp=Z,519nm,1.4s,mb6.4
CTAO LR LR
comp=Z,45µm,21.0s,MS6.5
FIB Fire Island 56.17 35 *e*P **P 02 03 21.8 -1.4**
FIB MLR MLR
comp=Z,14µm,22.0s,MS6.0
SLKM Skilak Lake 56.26 36 *e*P **P 02 03 21.6 -2.2**
MCK McKinley 56.33 32 *e*P **P 02 03 22.1 -2.2**
MCK pmax pmax
comp=Z,122nm,1.1s,mb5.8
MCK McKinley 56.33 32 *e*P **P 02 03 22.1 -2.2**
comp=Z,122nm,1.1s,mb5.8
PMR Palmer 56.59 34 *e*P **P 02 03 24.1 -2.1**
PMR MLR MLR
comp=Z,40µm,18.0s,MS6.6
COLA College 56.62 30 *e*P **P 02 03 25.0 -1.4**
COLA MLR MLR
comp=Z,51µm,17.0s,MS6.7
SML Sawmill 56.93 34 *e*P **P 02 03 25.4 -3.2**
ASH Ashkhabad 57.09 296 *e*P **P 02 03 31.0 +0.8**
ASH *e*S **S 02 11 32.0 +8.7**
ASAR Alice Springs 57.20 176 P **P 02 03 28.3 -2.8**
comp=Z,35nm,1.0s,mb5.3,baz=358,slow=5.2,SNR=64
ASAR S **S 02 11 23.9 -1.0**
comp=Z,1.2nm,1.0s,baz=182,slow=40,SNR=2.4
ASAR LR LR 02 28 41.0
comp=Z,22µm,19.3s,MS6.3,baz=358,slow=37
ASAR PKPPKP 02 33 17.6
comp=Z,2.8nm,1.0s,baz=176,slow=1.5,SNR=5.2
ASAR PKP2bc 02 33 31.6
comp=Z,4.0nm,0.9s,baz=204,slow=1.9,SNR=4.1
ASAR P4KPbc 02 40 42.2
comp=Z,0.9nm,1.0s,baz=0.7,slow=4.6,SNR=4.1
ASAR Alice Springs 57.20 176 P **P 02 03 28.3 -2.8**
ASAR S **S 02 11 23.9 -1.0**
ASAR LR LR 02 28 41.0
ASAR P'P' 02 33 17.6
ASAR ⇑*e* 02 33 31.6
ASPA Alice Springs 57.20 176 *e*P **P 02 03 29.3 -1.8**
ASPA *e*S **S 02 11 25.9 +1.0**
THY Trims Highway 57.79 32 P **P 02 03 34.1 -0.6**
DIV Divide 58.27 35 P **P 02 03 37.5 -0.6**
comp=Z,2µm,1.4s,mb6.9
DIV LR LR
comp=Z,120µm,19.0s,MS7.0
MENT Mentasta 58.79 32 *e*P **P 02 03 40.8 -0.9**
DAWY Dawson 60.37 30 *e*P **P 02 03 50.3 -2.3**
PECR Pechory 60.64 320⇑ *e*P **P 02 03 54.4 -0.1**
PECR *e*S **S 02 12 10.0 +0.8**
PECR pmax pmax
comp=Z,670nm,2.0s,mb6.4
PECR pmax pmax
comp=Z,3µm,11.0s
PECR smax
comp=E,3µm,6.0s
PECR smax
comp=N,10µm,14.0s
LVZ Lovozero 61.24 335 *i* P **P 02 03 58.0 -0.4**
LVZ pmax pmax
comp=Z,298nm,2.7s,mb5.9
LVZ MLR MLR
comp=Z,90µm,20.0s,MS6.9
INK Inuvik 61.33 25 P **P 02 03 56.2 -2.8**
comp=Z,22nm,0.8s,mb5.3,baz=303,slow=6.5,SNR=19
INK S **S 02 12 17.1 -0.8**
comp=Z,3.0nm,1.0s,baz=233,slow=8.3,SNR=1.6
INK LR LR 02 30 37.6
comp=Z,82µm,21.5s,MS6.8,baz=296,slow=36
INK PKPPKP 02 33 09.5
comp=Z,2.8nm,1.1s,baz=141,slow=6.5,SNR=4.3
INK Inuvik 61.33 25 *e*P **P 02 03 56.4 -2.6**
comp=Z,90nm,1.0s,mb5.9
APA Apatity 61.80 334 *e*P **P 02 04 00.0 -2.2**
APA *i* 02 04 17.6
APA *i* 02 04 44.4
APA *i* 02 06 25.0
APA *i* PPP PPP 02 07 55.0 +5.6
APA *i* S **S 02 12 25.0 +1.2**
APA *e* 02 13 44.0
APA pmax pmax
comp=Z,320nm,1.4s,mb6.3
APA pmax pmax
comp=N,2µm,14.0s
APA pmax pmax
comp=E,2µm,14.0s
APA pmax pmax
comp=Z,4µm,14.0s
APA MLR MLR
comp=Z,160µm,17.0s,MS7.2
HSP Hornsund 62.62 347 *e*P **P 02 04 04.6 -3.0**
WBK Wadi Bani Khal 62.71 280⇑ P **P 02 04 11.1 +2.2**
SNR=16
MAK Makhachkala 63.08 305 P **P 02 04 13.0 +2.0**
MAK *e*S **S 02 12 37.5 -2.7**
MAK pmax pmax
comp=Z,4µm,6.5s
MAK smax
comp=N,24µm,16.0s
MAK smax
comp=E,8µm,16.0s
MAK MLR MLR
comp=N,181µm,12.0s,MS7.6
MAK MLR MLR
comp=E,181µm,12.0s,MS7.6
MAK MLR MLR
comp=Z,199µm,12.0s,MS7.5
KEV Kevo 63.13 338 *e*p **P 02 04 07.7 -3.3**
comp=Z,106nm,1.0s,mb5.9
KEV Kevo 63.13 338 *e*P **P 02 04 07.7 -3.3**
KEV pmax pmax
comp=Z,106nm,1.0s,mb5.9
SMDO Samad 63.26 281⇓ P **P 02 04 11.1 -1.4**
SNR=24
BANOM Banah 63.39 285⇓ P **P 02 04 11.7 -1.6**
SNR=38
JMDO Jabal Madar 63.53 280⇑ P **P 02 04 15.0 +0.7**
SNR=12
ARCES ARCESS Array B 63.70 338 P **P 02 04 11.1 -3.6**
comp=Z,3.8nm,0.6s,baz=59,slow=8.3,SNR=22
ARCES S **S 02 12 44.8 -2.8**
comp=Z,4.3nm,1.0s,baz=298,slow=18,SNR=2.7
ARCES LR LR 02 37 09.9
comp=Z,198µm,18.2s,baz=63,slow=41
ARE0 ARCESS Array S 63.70 338 P **P 02 04 11.2 -3.4**
ALE Alert 63.81 2 P **P 02 04 15.1 -0.1**
comp=Z,552nm,1.0s,mb6.5,SNR=26
BSY Bisya 64.10 281⇑ P **P 02 04 18.9 +0.8**
SNR=22
ASHO Ashiyiah 64.14 283⇓ P **P 02 04 16.8 -1.5**
SNR=25
FORT Forrest 64.22 182 *e*P **P 02 04 15.8 -2.9**
comp=Z,5µm,0.8s
MOS Moscow 64.25 321α *i*P **P 02 04 18.5 0.0**
MOS *e* 02 06 47.5
MOS *e*PPP PPP 02 08 16.4 +2.2
MOS *i* S **S 02 12 55.5 +0.9**
MOS *e*PS PS 02 13 13.7 -1.4
MOS *e* 02 14 10.0
MOS pmax pmax
comp=Z,2µm,2.6s,mb6.6
MOS pmax pmax
comp=Z,454nm,1.6s,mb6.2
MOS smax
comp=N,5µm,5.0s
MOS MLR MLR
comp=Z,124µm,14.5s,MS7.2
MOS MLR MLR
comp=N,60µm,15.0s,MS7.2
MOS MLR MLR
comp=E,106µm,14.0s,MS7.2
JOF Joensuu 64.38 330 *e*p **P 02 04 15.5 -3.7**
comp=E,181nm,1.0s,mb6.1
ARQ Araqi 64.38 282⇑ P **P 02 04 18.9 -1.0**
SNR=13
KTK1 Kautokeino 64.66 338 *e*P **P 02 04 21.0 +0.1**
SIT Sitka 64.66 37 P **P 02 04 20.3 -0.8**
SIT pmax pmax
comp=Z,275nm,1.2s,mb6.2
SIT MLR MLR
comp=Z,31µm,17.0s,MS6.6
SIT Sitka 64.66 37 P **P 02 04 20.3 -0.8**
comp=Z,274nm,1.2s,mb6.2
SIT LR LR
comp=Z,31µm,17.0s,MS6.6
VOR Voronezh 64.94 317 P **P 02 04 21.0 -2.0**
VOR *e* 02 08 25.0
VOR *e*S **S 02 13 04.0 +0.9**
VOR pmax pmax
comp=Z,290nm,1.7s,mb6.0
VOR pmax pmax
comp=N,60nm,1.4s
VOR pmax pmax
comp=E,140nm,1.5s
VOR smax
comp=N,250nm,3.0s
VOR smax
comp=E,250nm,3.0s
OBN Obninsk 65.05 321 P **P 02 04 24.3 +0.6**
comp=E,1µm,1.3s,mb6.7,SNR=37
OBN Obninsk 65.05 321α *i*P **P 02 04 23.0 -0.7**
OBN *e* 02 06 42.8
OBN *e*PPP PPP 02 08 15.2 -7.7
OBN *i* S S 02 13 04.4 0.0
OBN *e*SS SS 02 17 18.2 -0.1
OBN pmax pmax
comp=Z,217nm,1.1s,mb6.1
OBN MLR MLR
comp=Z,84µm,14.0s,MS7.1
OBN Obninsk 65.05 321 *e*P **P 02 04 20.1 -3.5**
comp=Z,311nm,1.3s,mb6.2
GOF Gofitskoye 65.24 309⇑ *i*P **P 02 04 25.4 +0.3**
GOF *i* 02 06 57.0
GOF *i* S S 02 13 23.6 +17
GOF pmax pmax
comp=Z,160nm,1.0s,mb6.0
GOF pmax pmax
comp=Z,100nm,1.7s,mb5.6
GOF MLR MLR
comp=N,112µm,18.0s,MS7.2
GOF MLR MLR
comp=E,68µm,18.0s,MS7.2
GOF MLR MLR
comp=Z,85µm,18.0s,MS7.0
NOUC Port Laguerre 65.30 143⇑ *e*P **P 02 04 26.8 +0.9**
DUS Dusheti 65.33 305 P **P 02 04 28.2 +2.5**
DZM Mont Dzumac 65.35 143 *e*P **P 02 04 25.6 -0.5**
DZM Mont Dzumac 65.35 143 *e*P **P 02 04 25.6 -0.6**
TI2 Plekhanov 65.44 305 *e*P **P 02 04 27.6 +1.2**
TI2 MLR MLR
comp=E,80µm,16.0s
TI2 MLR MLR
comp=Z,130µm,16.0s,MS7.2
TBLG Delisi 65.45 305 P **P 02 04 29.2 +2.8**
ZEI Tsey 65.59 306 *e*P **P 02 04 23.4 -4.0**
ZEI *e*S S 02 12 57.8 -14
ZEI pmax pmax
comp=Z,28nm,1.2s,mb5.2
TRO Tromso 65.67 339 *e*P **P 02 04 26.1 -1.4**
KIV Kislovodsk 65.92 308 *e*P **P 02 04 27.5 -1.9**
KIV *e* 02 04 54.7
KIV *i* 02 06 50.6
KIV *i* PPP PPP 02 08 26.2 -5.6
KIV *e*S S 02 13 12.8 -2.5
KIV *e*SS SS 02 17 27.5 -4.1
KIV pmax pmax
comp=Z,271nm,1.0s,mb6.2
KIV MLR MLR
comp=Z,62µm,13.0s,MS7.0
KIV Kislovodsk 65.92 308 *e*P **P 02 04 27.1 -2.4**
comp=Z,287nm,1.0s,mb6.3
KLBR Kellerberrin 66.05 192 *e*P **P 02 04 29.2 -1.3**
comp=Z,1µm,0.9s,mb6.8
GNI Garni 66.10 303 *e*P **P 02 04 32.2 +1.6**
GNI Garni 66.10 303 *e*P **P 02 04 28.8 -1.9**
GNI pmax pmax
comp=Z,339nm,1.3s
GNI MLR MLR
comp=Z,88µm,20.0s
GNI Garni 66.10 303 *e*P **P 02 04 28.8 -1.8**
comp=Z,339nm,1.3s,mb6.2
GNI LR LR
comp=Z,88µm,20.0s,MS7.0
STKA Stephens Creek 66.15 169 P **P 02 04 29.5 -1.6**
comp=Z,50nm,0.8s,mb5.6,baz=338,slow=7.2,SNR=51
STKA S S 02 13 09.8 -8.6
comp=Z,5.9nm,1.2s,baz=117,slow=20,SNR=1.7
STKA LR LR 02 32 20.8
comp=Z,40µm,21.6s,MS6.6,baz=344,slow=35
STKA PKP2bc 02 33 10.1
comp=Z,4.5nm,1.0s,baz=131,slow=3.0,SNR=3.8
STKA Stephens Creek 66.15 169 *e*P **P 02 04 28.9 -2.2**
PUL Pulkovo 66.16 327 *e*P **P 02 04 30.6 -0.1**
BCHG Becho 66.37 307 P **P 02 04 38.5 +6.2**
POHA Pohakuloa 66.47 81 PFAKE 02 04 40.0 +6.6
POHA LR LR
comp=Z,219µm,21.0s,MS7.3
DLBC Dease Lake 66.65 34 P **P 02 04 34.4 +0.5**
comp=Z,23nm,1.0s,mb5.2,baz=307,slow=6.5,SNR=20
DLBC PKP2bc 02 33 04.6
comp=Z,4.6nm,1.0s,baz=189,slow=6.3,SNR=3.7
DLBC LR LR 02 34 08.6
comp=Z,40µm,19.8s,MS6.6,baz=300,slow=36
DLBC Dease Lake 66.65 34 *e*P **P 02 04 34.0 +0.1**
MUN Mundaring 66.70 193 *e*P **P 02 04 33.3 -1.4**
comp=Z,36nm,1.1s,mb5.3
MUN *e* 02 13 24.3
MUN Mundaring 66.70 193 *e*P **P 02 04 33.3 -1.4**
MUN *e* 02 13 24.3
MUN pmax pmax
comp=Z,36nm,1.1s,mb5.3
KAF Kangasniemi 66.82 330 *e*p **P 02 04 30.4 -4.5**
comp=Z,210nm,1.1s,mb6.1,baz=60,slow=6.0
KAF Kangasniemi 66.82 330 *e*P **P 02 04 30.4 -4.5**
KAF pmax pmax
comp=Z,210nm,1.1s,mb6.1
KARS Kars 67.04 304 *e*P **P 02 04 37.6 +0.9**
FINES FINESS Array B 67.23 330 P **P 02 04 33.5 -4.0**
comp=Z,3.8nm,0.5s,baz=74,slow=5.3,SNR=24
FINES S S 02 13 17.5 -13
comp=Z,1.4nm,0.9s,baz=146,slow=34,SNR=2.5
FINES PKP2bc 02 33 03.4
comp=Z,1.5nm,0.9s,baz=270,slow=5.7,SNR=4.5
FINES LR LR 02 35 34.0
comp=Z,97µm,18.4s,baz=67,slow=38
FINES FINESS Array B 67.23 330 P **P 02 04 33.5 -4.0**
FINES S S 02 13 17.5 -13
FINES ⇑*e* 02 33 03.4
FINES LR LR 02 35 34.0
SHAO Shalim 67.65 277⇑ P **P 02 04 43.1 +2.2**
SNR=7.4
BCA Borcka 67.69 306 *e*P **P 02 04 42.3 +1.5**
VANB Van 67.71 302 *e*P **P 02 04 43.6 +2.7**
TVAN Van 67.73 302 *i* P **P 02 04 45.2 +4.2**
RES Resolute Bay 67.86 12 *e*P **P 02 04 38.4 -2.9**
RES pmax pmax
comp=Z,168nm,1.2s,mb6.0
RES Resolute Bay 67.86 12 *e*P **P 02 04 38.4 -2.9**
comp=Z,168nm,1.2s,mb6.0
SOC Sochi 68.02 308 *i* P **P 02 04 43.6 +0.8**
SOC *e*PPP PPP 02 08 43.5 -8.4
SOC *e*S S 02 13 39.8 -0.9
SOC *e*SS SS 02 17 55.8 -8.4
SOC pmax pmax
comp=Z,134nm,1.9s,mb5.7
SOC pmax pmax
comp=N,73nm,1.7s
SOC pmax pmax
comp=E,35nm,1.1s
SOC pmax pmax
comp=Z,1µm,5.7s
SOC MLR MLR
comp=Z,68µm,14.0s,MS7.0
SOC MLR MLR
comp=N,72µm,19.0s,MS7.0
SOC MLR MLR
comp=E,65µm,19.0s,MS7.0
DAG Danmarks Havn 68.05 353⇑ *i*P **P 02 04 39.9 -2.6**
DAG pmax pmax
comp=Z,220nm,1.0s,mb6.1
DAG Danmarks Havn 68.05 353⇑ *i*P **P 02 04 39.9 -2.6**
comp=Z,220nm,1.0s,mb6.1
LOF Lofoten 68.13 339 *e*P **P 02 04 48.9 +5.8**
DGAR Diego Garcia 68.32 245 P **P 02 04 41.6 -3.5**
DGAR pmax pmax
comp=Z,294nm,1.0s,mb6.3
DGAR MLR MLR
comp=Z,8µm,19.0s,MS6.0
DGAR Diego Garcia 68.32 245 P **P 02 04 41.6 -3.5**
comp=Z,294nm,1.0s,mb6.3
DGAR LR LR
comp=Z,8µm,19.0s,MS6.0
VSU Vasula 68.40 327⇑ *i*P **P 02 04 44.5 -0.4**
MSL Mosul 68.95 300 *e*P **P 02 04 48.5 -0.2**
MSL *e*PcP PcP 02 05 05.0 -8.1
MSL *e*pP pP 02 05 09.5 +18
MSL *e*sP sP 02 05 30.5 +38
MSL *e*S S 02 14 50.5 +59
ANN Anapa 68.95 310 *e*P **P 02 04 43.7 -4.8**
ANN *i* *PP pP 02 04 53.0 +1.7
ANN *e* 02 05 00.4
ANN *i* 02 05 12.7
ANN *e*S S 02 13 45.8 -5.9
ANN *i* SP SP 02 14 07.4 -10
ANN pmax pmax
comp=Z,168nm,0.9s,mb6.0
ANN MLR MLR
comp=N,73µm,18.0s,MS7.1
ANN MLR MLR
comp=E,66µm,18.0s,MS7.1
ANN MLR MLR
comp=Z,101µm,18.0s,MS7.1
MOR8 Moi Rana 69.03 337 *e*P **P 02 04 49.1 +0.5**
comp=Z,291nm,1.5s,mb6.0
MOR8 Moi Rana 69.03 337 *e*P **P 02 04 49.1 +0.5**
MOR8 AMb AMb 02 04 54.7
comp=Z,291nm,1.6s,mb6.0
RBK Rabkut 69.08 277⇑ P **P 02 04 51.0 +1.2**
SNR=30
BTMT Batman 69.22 303 *e*P **P 02 04 53.1 +2.7**
WHFO Wadi Hawf 69.23 278⇑ P **P 02 04 47.7 -3.0**
SNR=47
BEST Besiri 69.52 302 *i* P **P 02 04 54.2 +2.1**
GUMT Gumushane 69.58 306 *e*P **P 02 04 54.4 +2.0**
BINT Bingol 69.61 304 *e*P **P 02 04 54.4 +1.7**
MNK Minsk 69.84 323⇓ *e*P **P 02 04 52.0 -1.8**
ABTO Aybut 69.91 278⇓ P **P 02 04 55.8 +1.0**
SNR=37
IDID Didziasalis 69.97 324 *e*P **P 02 04 51.6 -2.9**
IDID *i* P pP 02 04 55.8 -1.6
IDID AMb AMb 02 05 03.6
comp=Z,80nm,1.0s,mb5.6
IZAR Zarasai 69.99 324 *e*P **P 02 04 53.2 -1.5**
IZAR AMb AMb 02 04 59.7
comp=Z,74nm,1.3s,mb5.5
IIGN Ignalina 70.21 324 *e*P **P 02 04 53.7 -2.3**

IIGN *i* P pP 02 04 57.0 -1.9
IIGN AMb AMB 02 05 05.1
comp=Z,65nm,1.2s,mb5.4
ELZG Elazig 70.83 304 *i* P **P 02 05 03.6 +3.5**
NSS Namsos 70.86 336 *e*P **P 02 04 55.5 -4.4**
comp=Z,157nm,1.8s,mb5.6
NSS Namsos 70.86 336 *e*P **P 02 04 58.2 -1.6**
NSS AMb AMB 02 05 06.1
comp=Z,157nm,1.8s,mb5.6
SIM Simferopol' 70.97 312*d* *i*P **P 02 05 02.5 +1.7**
SIM *i* S S 02 14 13.9 -1.5
SIM pmax pmax
comp=Z,63nm,1.2s,mb5.4
SIM pmax pmax
comp=Z,600nm,10.8s
SIM MLR MLR
comp=Z,77μm,17.0s,MS7.0
YKW3 Yellowknife Ar 70.97 26 *e*P **P 02 04 58.9 -1.6**
CNB Canberra Magne 71.00 164 *e*P **P 02 05 00.8 -0.4**
comp=Z,3μm,1.5s
YKA Yellowknife Ar 71.01 26 P **P 02 04 59.2 -1.6**
comp=Z,5.8nm,0.8s,baz=304,slow=6.7,SNR=37
YKA S S 02 14 18.2 +2.6
comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=2.9
YKA PKPPKP 02 32 49.3
comp=Z,0.1nm,0.3s,baz=160,slow=1.8,SNR=3.8
YKA LR LR 02 36 18.8
comp=Z,48μm,21.1s,baz=310,slow=36
YKA Yellowknife Ar 71.01 26 P **P 02 04 59.2 -1.6**
YKA S S 02 14 18.2 +2.6
YKA P'P' 02 32 49.3
YKA LR LR 02 36 18.8
MYA Malataya 71.30 304 *e*P **P 02 05 03.2 +0.2**
MALT Malatya 71.30 304 *e*P **P 02 05 01.0 -2.0**
MALT pmax pmax
comp=Z,135nm,1.4s,mb5.7
MALT Malatya 71.30 304 *e*P **P 02 05 01.0 -2.0**
comp=Z,135nm,1.4s,mb5.7
URFA Urfa 71.44 303 *e*P **P 02 05 07.7 +3.9**
JNW Jan Mayen West 71.46 347 *e*P **P 02 05 08.0 +4.6**
JMIC Jan Mayen 71.51 347 LR LR 02 35 58.0
comp=Z,23μm,21.5s,MS6.4,baz=56,slow=36
TOKT Tokat 71.62 306 *e*P **P 02 05 05.9 +1.0**
BOYT Boyabat 72.18 308 *i*P **P 02 05 10.6 +2.5**
GZT Gaziantep 72.36 303 *i*P **P 02 05 12.0 +2.7**
GZT Gaziantep 72.36 303 *i*P **P 02 05 12.7 +3.4**
TOO Toolangi 72.36 167 *e*P **P 02 05 10.6 +1.3**
comp=Z,4.2nm,1.3s
TOO *e*PP PP 02 07 44.3 -7.7
TOO *e*S S 02 14 35.4 +3.8
SUW Suwalki 72.42 324 *e*P **P 02 05 06.4 -2.9**
SUW pmax pmax
comp=Z,372nm,1.1s,mb6.2
SUW Suwalki 72.42 324 *e*P **P 02 05 06.4 -3.0**
comp=Z,372nm,1.1s,mb6.2
GAZ Gaziantep 72.70 303 *e*P **P 02 05 09.9 -1.4**
KAHT Ahir Dag 72.71 304 *i*P **P 02 05 14.8 +3.5**
BNN Bunyan 72.81 305 *e*P **P 02 05 13.9 +2.0**
CORM Corum 72.97 307 *e*P **P 02 05 14.6 +1.8**
BALT Daday 73.11 309 *i*P **P 02 05 16.0 +2.4**
KIS Kishinev 73.13 315α *i*P **P 02 05 06.0 -7.6**
KIS *e* 02 05 36.0
KIS *e* 02 08 04.0
KIS *e* 02 09 46.0
KIS *i* S S 02 14 35.0 -5.1
KIS *i* PS PS 02 15 10.0 -3.6
KIS pmax pmax
comp=Z,2μm,14.0s
KIS smax
comp=N,9μm,19.0s
KIS smax
comp=E,5μm,18.0s
KIS MLR MLR
comp=Z,91μm,15.0s,MS7.2
KIS MLR MLR
comp=N,8μm,16.0s,MS7.3
KIS MLR MLR
comp=E,116μm,16.0s,MS7.3
RAYN Ar Rayn 73.17 287 P **P 02 05 16.8 +2.5**
comp=E,1μm,1.2s,SNR=88
NB2 NORSAR Subarra 73.36 334 P **P 02 05 11.2 -3.5**
comp=E,162nm,1.0s,mb5.9,baz=50,slow=6.2
NB2 NORSAR Subarra 73.36 334 P **P 02 05 11.2 -3.5**
NB2 pmax pmax
comp=Z,162nm,1.0s,mb5.9
NB2 NORSAR Subarra 73.36 334 P **P 02 05 11.2 -3.5**
baz=50,slow=6.2
NOA NORSAR Array B 73.36 334 P **P 02 05 10.8 -3.9**
comp=Z,16nm,0.9s,mb4.9,baz=222,slow=25,SNR=33
NOA S S 02 14 39.0 -3.3
comp=Z,0.7nm,0.7s,baz=253,slow=9.9,SNR=2.9
NOA LR LR 02 42 47.5
comp=Z,84μm,18.5s,MS7.0,baz=50,slow=40
NOA NORSAR Array B 73.36 334 P **P 02 05 10.8 -3.9**
NOA S S 02 14 39.0 -3.3
NOA LR LR 02 42 47.5
CANT Cankiri 73.42 308 *e*P **P 02 05 17.3 +1.8**
DOMB Dombas 73.48 335 *e*P **P 02 05 18.0 +2.7**
comp=Z,261nm,1.4s,mb6.0
DOMB Dombas 73.48 335 *e*P **P 02 05 18.0 +2.7**
DOMB AMb AMB 02 05 23.1
comp=Z,261nm,1.4s,mb6.0
ELDT Eldivan 73.61 308 *i*P **P 02 05 19.3 +2.7**
NAO01 NORSAR Array S 73.61 334 *e*P **P 02 05 12.8 -3.3**
comp=Z,91nm,1.1s,mb5.6
SUMG Summit 73.67 356 *e*P **P 02 05 15.2 -1.1**
comp=Z,543nm,1.4s,mb6.3
COBT Iskenderun 73.69 303 *i*P **P 02 05 20.9 +3.8**
SAFT Safranbolu 73.71 309 *e*P **P 02 05 20.0 +2.9**
IAS Iasi 73.76 316 ⇓P **P 02 05 20.1 +2.8**
IAS Iasi 73.76 316 ⇓P **P 02 05 20.1 +2.8**
BR131 Keskin Array S 73.86 307 PFAKE 02 05 30.0 +12
BR131 LR LR
comp=Z,37μm,22.0s,MS6.6
BRTR Keskin Array B 73.86 307 P **P 02 05 15.6 -2.4**
comp=Z,52nm,1.1s,mb5.4,baz=104,slow=5.1,SNR=42
BRTR S S 02 14 44.0 -4.4
comp=Z,0.2nm,0.3s,baz=155,slow=26,SNR=2.8
KAMT Kaman 73.99 307 *e*P **P 02 05 20.8 +2.1**
KAMT Kaman 73.99 307 P **P 02 05 22.1 +3.3**
TLCR 74.09 314 ⇑P **P 02 05 16.5 -2.7**
SCO Scoresbysund 74.15 351 *i*P **P 02 05 17.7 -1.4**
SCO pmax pmax
comp=E,61nm,1.0s,mb5.5
SCO Scoresbysund 74.15 351 *i*P **P 02 05 17.7 -1.4**
comp=Z,61nm,1.0s,mb5.5
SCO *i* S S 02 15 02.2 +11
OSL Oslo 74.27 333 *e*P **P 02 05 22.1 +2.2**
LVV L'vov 74.30 320 *e*P **P 02 05 22.6 +2.3**
LVV *e* 02 08 12.4
LVV *i* S S 02 14 55.2 +2.1
LVV *e* 02 15 42.8
LVV MLR MLR
comp=N,50μm,18.0s,MS7.0
LVV MLR MLR
comp=E,52μm,18.0s,MS7.0
LVV MLR MLR
comp=Z,56μm,18.0s,MS6.9
ANTO Ankara 74.34 308 *e*P **P 02 05 23.6 +2.7**
LOD Lodumlu 74.35 308 *e*P **P 02 05 22.0 +1.2**
SGKT Sivrigoynuk 74.46 309 *i*P **P 02 05 23.6 +2.1**
CFR Carcaliu 74.50 314 ⇑P **P 02 05 18.9 -2.7**
TIRR Tirgusor 74.72 313 ⇓P **P 02 05 20.7 -2.2**
BURAR Bucovina Array 74.87 317 ⇓P **P 02 05 20.7 -3.0**
BURAR P 02 05 26.5
BURAR Bucovina Array 74.87 317 ⇓P **P 02 05 20.7 -3.0**
HARR Harsova 74.88 314 ⇑P **P 02 05 21.6 -2.2**
HARR 02 05 26.6
KONO Kongsberg 74.89 333 P **P 02 05 20.1 -3.4**
comp=Z,75nm,1.2s,mb5.5
KONO LR LR
comp=Z,109μm,19.0s,MS7.2
KONO Kongsberg 74.89 333 *e*P **P 02 05 25.1 +1.6**
KONO AMb AMB 02 05 31.3
comp=Z,109nm,1.9s,mb5.5
MUKL Al Mukalla 74.89 277⇑ *e*P **P 02 05 25.7 +1.3**
VRI Vrincioaia 74.96 315 ⇑P **P 02 05 27.7 +3.5**
VRI Vrincioaia 74.96 315 ⇑P **P 02 05 27.7 +3.4**
PGC Sidney 75.00 41 *e*P **P 02 05 22.6 -1.8**
comp=Z,216nm,1.3s,mb5.9
HWQ Hawqa 75.03 301 *e*P **P 02 05 27.3 +2.3**
MDU Mudurnu 75.07 309 *e*P **P 02 05 24.0 -1.0**
HENT Hendek 75.08 309 *i*P **P 02 05 29.2 +4.1**
MEST Erdemli 75.11 304 *i*P **P 02 05 24.6 -0.8**

KWP Kalwaria 75.12 320 *e*P **P 02 05 22.8 -2.3**
KWP pmax pmax
comp=Z,410nm,1.2s,mb6.2
KWP Kalwaria 75.12 320 *e*P **P 02 05 22.8 -2.2**
comp=Z,410nm,1.2s,mb6.2
ASF Jabal al Asfar 75.42 299 P **P 02 05 26.8 -0.4**
comp=Z,56nm,1.1s,mb5.4,baz=325,slow=1.4,SNR=28
ASF S S 02 15 05.7 -0.2
comp=Z,1.0nm,0.5s,baz=54,slow=16,SNR=2.2
BHL Bhannes 75.43 301 *e*P **P 02 05 29.1 +1.9**
KIZT Kizilcal 75.46 307 *e*P **P 02 05 27.4 +0.1**
SQM Sequim 75.55 42 P **P 02 05 31.9 +4.3**
MLR Muntele Rosu 75.62 315 ⇑P **P 02 05 30.2 +2.1**
KONT Konya--Tatoy 75.63 306 *e*P **P 02 05 28.1 -0.2**
BSD Bornholm Skovb 75.65 328 *i*P **P 02 05 24.6 -3.4**
BSD *i* 02 08 19.6
BSD *e* 02 10 12.3
BSD *i* S S 02 15 07.6 -0.4
BSD pmax pmax
comp=Z,162nm,0.9s,mb6.0
BSD Bornholm Skovb 75.65 328 *i*P **P 02 05 24.6 -3.4**
comp=Z,162nm,0.9s,mb6.0
BSD *i* 02 08 19.6
BSD *e* 02 10 12.3
BSD *i* S S 02 15 07.6 -0.4
BSD *i* 02 19 43.8
BSD *i* 02 23 40.6
comp=Z,95μm,19.0s
KOLS Kolonicke sedl 75.75 320 *e*P **P 02 05 26.4 -2.3**
KOLS *e*pP pP 02 05 30.4 -1.1
KOLS *e*PP PP 02 08 28.5 +8.0
ESKT Eskisehir 75.80 308 *e*P **P 02 05 28.1 -1.1**
ESKT Eskisehir 75.80 308 *i*P **P 02 05 30.3 +1.1**
RUND Rundenannen 75.90 335 *e*P **P 02 05 32.5 +3.2**
RUND AMb AMB 02 05 38.0
comp=Z,164nm,1.1s,mb5.9
UZH Uzhgorod 75.91 319 *e*P **P 02 05 30.0 +0.4**
UZH *e* 02 15 13.0
PRD Provadia 76.01 313 *e*P **P 02 05 35.0 +4.7**
JCW Jim Creek 76.09 41 P **P 02 05 33.5 +2.8**
CRVS Cervenica-Dubn 76.20 320 *e*pP pP 02 05 35.4 +1.3
CRVS *e*S S 02 15 16.2 +2.0
BLS5 Blasjo 76.21 334 *e*P **P 02 05 34.5 +3.4**
comp=Z,159nm,1.2s,mb5.8
BLS5 Blasjo 76.21 334 *e*P **P 02 05 34.5 +3.4**
BLS5 AMb AMB 02 05 40.0
comp=Z,159nm,1.2s,mb5.8
OJC Ojcow 76.30 322 *e*P **P 02 05 29.8 -2.0**
OJC *e*S S 02 15 16.0 +0.8
OJC MLR MLR 02 39 41.5
comp=Z,148μm,19.5s,MS7.3
COP Copenhagen 76.37 329 *i*P **P 02 05 29.9 -2.2**
COP *i*S S 02 15 19.3 +3.4
COP *i* 02 20 11.1
COP pmax pmax
comp=Z,105nm,0.9s,mb5.8
COP MLR MLR
comp=Z,49μm,19.0s,MS6.8
COP Copenhagen 76.37 329 *i*P **P 02 05 29.9 -2.2**
comp=Z,105nm,0.9s,mb5.8
COP *e* 02 05 58.6
COP *i* 02 08 35.4
COP *i* 02 10 22.1
COP *i*S S 02 15 19.3 +3.4
COP *i* 02 20 11.1
comp=Z,49μm,19.0s
MAMC Mammari 76.49 303 P **P 02 05 34.9 +1.7**
NIE Niedzica 76.51 321 *e*P **P 02 05 29.2 -3.8**
NIE *e* pP 02 05 33.8 -2.0
CSS Prodhromos 76.53 303 P **P 02 05 34.7 +1.3**
comp=Z,1.2nm,1.0s
ALT Altintas 76.54 308 *e*P **P 02 05 34.1 +0.8**
ULDT Uludag 76.58 309 *i*P **P 02 05 35.6 +2.0**
RGN Rugen 76.72 328 *e*P **P 02 05 31.6 -2.5**
comp=Z,303nm,1.3s,mb6.1
JMB Yambol 76.92 312 *e*P **P 02 05 39.0 +3.6**
ISP Isparta 76.92 307 *e*P **P 02 05 36.1 +0.6**
ISP Isparta 76.92 307 *i*P **P 02 05 35.2 -0.3**
SZAC Souni-Zanaja 76.95 303 P **P 02 05 37.1 +1.4**
KECS Kecovo 76.97 320 *e*P **P 02 05 38.9 +3.3**
KECS *e*PP PP 02 08 29.5 -0.8
KECS Kecovo 76.97 320 *e*pP pP 02 05 38.9 +0.5
KECS *e*PP PP 02 08 29.5 -0.8
BCK Bucak 77.08 306 *e*P **P 02 05 36.8 +0.4**
EDRB Edirne 77.16 312 *e*P **P 02 05 37.5 +0.7**
AKMC Akamas 77.19 304 P **P 02 05 37.7 +0.6**
RAC Raciborz 77.21 322 *e*P **P 02 05 34.8 -2.0**
RAC *e*S S 02 15 28.2 +3.1
RAC MLR MLR
comp=Z,125μm,18.3s,MS7.3
RAC Raciborz 77.21 322 *e*P **P 02 05 34.8 -2.0**
RAC *e*S S 02 15 28.2 +3.1
RAC LME 02 36 33.0
RAC LMN 02 36 42.5
RAC MLR MLR 02 41 50.7
comp=Z,125μm,18.3s,MS7.3
MUD Monsted U'grnd 77.22 331 *i*P **P 02 05 33.9 -2.9**
MUD *i* 02 05 39.3
MUD *i*S S 02 15 27.9 +2.8
MUD *e* 02 20 25.4
MUD Monsted U'grnd 77.22 331 *i*P **P 02 05 33.9 -2.9**
MUD *i* 02 05 39.3
MUD *i* 02 08 44.9
MUD *i*S S 02 15 27.9 +2.8
MUD *e* 02 20 25.4
comp=Z,58μm,18.0s
PPCY Paphos 77.25 303 P **P 02 05 39.2 +1.8**
ANTB Antalya 77.33 306 *e*P **P 02 05 37.5 -0.3**
EDM Edmonton 77.34 34 *e*P **P 02 05 36.6 -0.9**
LIKS Likavka 77.36 321 *e*sP sP 02 05 41.5 0.0
OKC Ostrava-Krasne 77.38 322 *e*P **P 02 05 36.0 -1.8**
OKC *e*S S 02 15 27.9 +1.0
OKC AMS AMS 02 40 10.0
comp=Z,100μm,17.7s
COR Corvallis 77.39 45 P **P 02 05 38.3 +0.3**
COR pmax pmax
comp=Z,231nm,1.1s,mb6.0
COR MLR MLR
comp=Z,26μm,20.0s,MS6.5
COR Corvallis 77.39 45 P **P 02 05 38.3 +0.4**
comp=Z,231nm,1.1s,mb6.0
COR LR LR
comp=Z,26μm,20.0s,MS6.5
TBM Table Mountain 77.42 41 P **P 02 05 41.3 +3.2**
WTV Waterville 77.46 41 P **P 02 05 40.5 +2.3**
BTOK Tokmak 77.50 309 *i*P **P 02 05 42.2 +3.5**
SART Tekirdag 77.53 311 *i*P **P 02 05 44.6 +5.8**
EBG Ellensburg 77.59 42 P **P 02 05 38.9 -0.1**
PSZ Piszkesteto 77.63 320 P **P 02 05 37.1 -2.1**
PSZ pmax pmax
comp=Z,321nm,1.7s,mb6.0
PSZ Piszkesteto 77.63 320 P **P 02 05 37.1 -2.1**
comp=Z,321nm,1.7s,mb6.0
PSZ Piszkesteto 77.63 320⇓ *e*PcP PcP 02 05 41.5 -8.4
KSP Ksiaz 77.69 324 *e*P **P 02 05 37.5 -2.0**
KSP *e**PP pP 02 05 42.0 -0.3
KSP *e*S S 02 15 28.0 -2.3
KSP *e*SS SS 02 20 27.0 -6.0
KSP MLR MLR
comp=Z,354μm,17.6s,MS7.7
KSP Ksiaz 77.69 324 *e*P **P 02 05 37.5 -2.0**
KSP *e*pP pP 02 05 42.0 -0.3
KSP *e*PP PP 02 08 24.0 -13
KSP *e*PPP PPP 02 10 32.0 +6.6
KSP *e*S S 02 15 28.0 -2.3
KSP *e*SS SS 02 20 27.0 -6.0
KSP LR LR
comp=Z,354μm,17.6s,MS7.7
MORC Moravsky Berou 77.73 322 *e*P **P 02 05 37.6 -2.1**
MORC pmax pmax
comp=Z,71nm,1.0s,mb5.5
MORC Moravsky Berou 77.73 322 *e*P **P 02 05 37.6 -2.1**
comp=Z,71nm,1.0s,mb5.5
KEBM Edson Butte 77.76 46 *e*P **P 02 05 40.0 -0.1**
DIM Dimitrovgrad 77.80 313 *e*P **P 02 05 43.0 +2.7**
VYHS Vyhne 77.84 321 *e*P **P 02 05 39.3 -1.1**
VYHS *e*sP sP 02 05 44.4 +0.2
VYHS *e*S S 02 15 34.0 +2.0
RUE Ruedersdorf 77.86 326 P **P 02 05 38.5 -1.8**
comp=Z,361nm,1.4s,mb6.1
MANT Manisa 77.86 308 *i*P **P 02 05 43.0 +2.3**
TAU Tasmania Unive 77.88 167 P **P 02 05 41.8 +1.1**
comp=Z,907nm,1.1s,mb6.6,SNR=23

TAU Tasmania Unive 77.88 167 *e*P **P 02 05 40.4 -0.3**
TAU pmax pmax
comp=Z,559nm,1.6s,mb6.2
TAU MLR MLR
comp=Z,7μm,20.0s,MS6.0
TAU Tasmania Unive 77.88 167 *e*P **P 02 05 40.4 -0.3**
comp=Z,559nm,1.6s,mb6.2
TAU LR LR
comp=Z,7μm,20.0s,MS6.0
ELL Elmali 77.92 306 *e*P **P 02 05 40.2 -0.8**
HOOD Mount Hood Mea 77.92 43 P **P 02 05 44.1 +3.2**
DENT Denizli 77.95 307 *e*P **P 02 05 43.5 +2.4**
DNZL Cakiroluk 77.98 307 *i*P **P 02 05 43.7 +2.4**
DPC Dobruska-Polom 77.99 323 *e*P **P 02 05 39.7 -1.4**
DPC *e*S S 02 15 34.9 +1.4
DPC AMS AMS 02 43 30.0
comp=Z,117μm,17.9s
VFP Flag Point 78.03 43 P **P 02 05 44.5 +3.0**
UPC Upice 78.04 323 *e*P **P 02 05 39.6 -1.8**
BZS Buzias 78.05 317 ⇓P **P 02 05 38.8 -2.7**
BZS 02 05 44.8
KDZ Kurdzhali 78.09 312 *e*P **P 02 05 46.0 +4.1**
ALN Alexandroupoli 78.13 311 *e*P **P 02 05 44.0 +1.9**
EIL Eilat 78.15 298 *e*P **P 02 05 39.8 -2.7**
comp=Z,154nm,1.4s,mb5.7
LRW Lerwick 78.30 337⇑ *e*P **P 02 05 45.6 +3.0**
OD2 Odessa Site #2 78.32 40 P **P 02 05 46.1 +3.1**
IRO Indian Ridge 78.34 45 P **P 02 05 46.2 +3.0**
PGB Panagyurishte 78.34 314 *e*P **P 02 05 49.0 +5.8**
BSEG Bad Segeberg 78.45 328 *e*P **P 02 05 41.1 -2.5**
HAWA Hanford 78.47 42 *e*P **P 02 05 41.4 -2.5**
comp=Z,10nm,1.2s
HAWA LR LR
comp=Z,2μm,19.0s
VRAC Vranov 78.50 322 ⇓P **P 02 05 43.2 -0.8**
VRAC Vranov 78.50 322 LR LR 02 43 02.0
comp=Z,120μm,19.2s,MS7.2,baz=222,slow=38
VRAC Vranov 78.50 322 P **P 02 05 44.9 +0.9**
RZN Rozhen 78.50 313 *e*P **P 02 05 48.0 +3.9**
SRO2 Moca 78.53 320 *e*sP sP 02 05 47.1 -0.8
FETY Fethiye 78.53 306 *e*P **P 02 05 47.9 +3.5**
SRO Srobarova 78.54 320 *e*P **P 02 05 46.2 +2.0**
SRO Srobarova 78.54 320 *e*pP pP 02 05 46.2 -0.8
SMOL Smolenice 78.57 321 *e*P **P 02 05 47.4 +3.0**
SMOL Smolenice 78.57 321 *e*pP pP 02 05 47.4 +0.2
SRO1 Iza 78.61 320 *e*sP sP 02 05 47.9 -0.5
SRO1 *e*PP PP 02 08 46.5 +2.1
AYVA Ayvalik 78.62 310 *i*P **P 02 05 47.0 +2.1**
NEW Newport 78.62 39 *e*P **P 02 05 41.6 -3.1**
NEW pmax pmax
comp=Z,127nm,1.3s
NEW Newport 78.62 39 S S 02 15 37.5 -2.8
comp=Z,0.4nm,0.4s,baz=72,slow=17,SNR=1.6
NEW LR LR 02 37 25.5
comp=Z,19μm,21.1s,MS6.4,baz=313,slow=33
NEW Newport 78.62 39 *e*P **P 02 05 41.6 -3.1**
comp=Z,127nm,1.3s,mb5.7
PVCC Panska Ves 78.74 324 *e*P **P 02 05 45.6 +0.4**
PVCC *e*S S 02 15 42.9 +1.4
PVCC AMS AMS 02 44 00.0
comp=Z,143μm,16.1s
HUMO Hull Mountain 78.74 46 P **P 02 05 45.4 -0.1**
comp=Z,142nm,1.5s,mb5.7
KDAG Bornova 78.75 309 *i*P **P 02 05 47.3 +1.8**
DALT Dalyan (Mudla) 78.76 307 *e*P **P 02 05 45.6 -0.1**
AYDN Tasoluk 78.77 308 *i*P **P 02 05 48.6 +3.0**
BRG Berggiesshubel 78.82 325 *e*P **P 02 05 43.5 -2.2**
BRG *i* 02 05 51.0
BRG *i* 02 05 52.5
BRG *i*S S 02 15 48.0 +5.6
BRG pmax pmax
comp=Z,127nm,1.6s,mb5.6
BRG MLR MLR
comp=Z,139μm,15.0s,MS7.4
BRG Berggiesshubel 78.82 325 *e*P **P 02 05 43.5 -2.2**
comp=Z,127nm,1.6s,mb5.6
BRG *i* 02 05 51.0
BRG *i* 02 05 52.5
BRG *i* PP PP 02 08 36.7 -9.3
BRG *i*S S 02 15 48.0 +5.6
BRG *i*SS SS 02 21 11.0 +21
BRG LR LR
comp=Z,139μm,15.0s,MS7.4
VTS Vitosha 78.90 314 ⇓P **P 02 05 47.4 +1.1**
VTS Vitosha 78.90 314 P **P 02 05 49.4 +3.1**
VTS Vitosha 78.90 314 *e*P **P 02 05 50.0 +3.7**
BOLS Boljevac 78.91 316⇑ *i*P **P 02 05 47.4 +1.1**
BLCB Balcova 78.91 309 *e*P **P 02 05 45.6 -0.9**
ZST Bratislava 78.94 321 *e*P **P 02 05 49.5 +3.1**
ZST *e* 02 08 50.5
ZST *e*S S 02 15 48.3 +4.6
ZST Bratislava 78.94 321 *e*pP pP 02 05 49.5 +0.3
ZST *e*PP PP 02 08 50.5 +3.5
ZST *e*S S 02 15 48.3 +4.6
CLL Collm 78.99 325⇓ *i*P **P 02 05 44.5 -2.1**
CLL *i* 02 05 59.5
CLL *e*S S 02 15 44.0 -0.1
CLL pmax pmax
comp=Z,216nm,1.3s,mb5.9
CLL MLR MLR
comp=Z,147μm,20.4s,MS7.3
CLL Collm 78.99 325⇓ *i*P **P 02 05 44.5 -2.1**
comp=Z,216nm,1.3s,mb5.9
CLL *i* 02 05 59.5
CLL *e*S S 02 15 44.0 -0.1
CLL LR LR
comp=Z,147μm,20.4s,MS7.3
CLL Collm 78.99 325 ⇓P **P 02 05 44.5 -2.1**
CLL *i* 02 05 49.6
CLL *i* 02 05 59.5
CLL *i* 02 06 10.8
CLL *e* 02 08 26.0
CLL *e*PP PP 02 08 47.0 -0.3
CLL *e*PPP PPP 02 10 46.0 +8.7
CLL *e* 02 11 58.0
CLL *e*S S 02 15 44.0 -0.1
CLL *e*SCS ScS 02 16 14.0 +8.3
CLL *e*PS PS 02 16 30.0 +1.4
CLL *e*PPS PPS 02 16 42.0 -4.6
CLL *e*SS SS 02 20 42.0 -10
VIPM Ingram Point 78.99 44 P **P 02 05 49.5 +2.7**
SVIS Svilajnac 79.06 316⇑ *i*P **P 02 05 48.9 +1.8**
PRA Prague 79.10 324 P **P 02 05 50.0 +2.8**
PRA AMS AMS 02 44 20.0
PRU Pruhonice 79.10 324 *e*P **P 02 05 45.2 -2.0**
PRU *e*S S 02 15 41.4 -4.0
PRU AMS AMS 02 44 20.0
comp=Z,170μm,17.2s
MMB Musomiste 79.17 313 *e*P **P 02 05 51.0 +3.2**
VKA Vienna 79.30 322 *e*P **P 02 05 44.0 -4.4**
VKA *i* 02 05 50.0
comp=Z,672nm,3.0s
VKA Vienna 79.30 322 *e*P **P 02 05 44.0 -4.4**
VKA *i* 02 05 50.0
VKA pmax pmax
comp=Z,672nm,3.0s
VKA Vienna 79.30 322 *e*P **P 02 05 44.0 -4.4**
comp=Z,672nm,3.0s
VKA *i* 02 05 50.0
BORG Borgarnes 79.33 348 P **P 02 05 50.5 +2.4**
comp=Z,66nm,1.0s,mb5.5,baz=51,slow=3.3,SNR=6.0
PKSM Moragy 79.35 319 ⇑P **P 02 05 46.9 -1.7**
KKB Krupnik 79.40 313 *e*P **P 02 05 51.0 +2.0**
YBH Yreka Blue Hor 79.40 47 P **P 02 05 49.5 +0.5**
YBH S S 02 15 53.3 +4.6
YBH pmax pmax
comp=Z,51nm,1.1s
YBH Yreka Blue Hor 79.40 47 P **P 02 05 49.5 +0.4**
comp=Z,51nm,1.1s,mb5.3,baz=135,slow=6.2,SNR=13
YBH S S 02 15 53.3 +4.6
comp=Z,2.2nm,1.0s,baz=184,slow=14,SNR=1.9
YBH Yreka Blue Hor 79.40 47 *e*P **P 02 05 48.5 -0.6**
comp=Z,93nm,1.3s,mb5.6
YBH LR LR
comp=Z,14μm,19.0s,MS6.3
BODT Bodrum 79.48 308 *e*P **P 02 05 50.5 +0.9**
BODT Bodrum 79.48 308 P **P 02 05 52.0 +2.5**
SOP Sopron 79.55 321 *e*PcP PcP 02 05 51.0 -7.1
RAO Raoul Island 79.57 136 P **P 02 05 48.2 -2.0**
RAO Raoul Island 79.57 136 PFAKE 02 06 00.0 +10
RAO LR LR
comp=Z,17μm,22.0s,MS6.3
SFJ Sondre 79.57 0 *e*P **P 02 05 47.4 -2.0**

comp=Z,151nm,0.9s,mb5.9
SFJ LR LR
comp=Z,27µm,19.0s,MS6.6
SFJD Kangerlussuaq 79.57 0 *i* P **P** **02 05 47.0 -2.4**
comp=Z,199nm,1.1s,mb6.0
SFJD Kangerlussuaq 79.57 0 *i* S S 02 15 53.0 +3.1
SFJD *i* 02 21 03.5
comp=Z,50µm,17.0s
BARS Barje 79.59 315⇑*i*P **P** **02 05 49.1 -0.9**
GRUS Gruza 79.59 316⇑*i*P **P** **02 05 51.3 +1.3**
OUZ Omahuta 79.71 145 *e*P* **P** **02 05 52.1 +1.2**
OUZ Omahuta 79.71 145 *e*P* **P** **02 05 52.1 +1.2**
WALA Waterton Lakes 79.77 37 *e*P **P** **02 05 50.2 -0.6**
comp=Z,205nm,1.3s,mb5.9
SOH Sokhos 79.84 312 *e*P **P** **02 05 51.2 -0.2**
CLZ Clausthal 79.85 327 *e*P **P** **02 05 49.2 -2.0**
comp=Z,236nm,1.4s,mb5.9
DIVS Divcibare 79.88 317⇑*i*P **P** **02 05 52.8 +1.3**
KNT Kendrikon 79.92 313 *e*P **P** **02 05 54.3 +2.5**
NKC Novy Kostel 79.96 325 *e*P **P** **02 05 53.5 +1.6**
NKC *e*S S 02 15 55.0 +0.6
NKC AMS AMS 02 44 30.0
comp=Z,87µm,16.8s
VAY Valandovo 80.03 313⇑*i*P **P** **02 05 53.3 +0.9**
VAY *i* S S 02 15 56.7 +1.4
VAY Valandovo 80.03 313⇑*i*P **P** **02 05 53.3 +0.9**
VAY *i* 02 06 19.2
VAY *i* PP PP 02 08 46.9 -9.0
VAY ⇑*i* S S 02 15 56.7 +1.4
VAY *i* 02 17 54.5
MOX Moxa 80.08 325 *e*P **P** **02 05 50.5 -2.0**
MOX *e* 02 08 59.1
MOX *e*S S 02 16 00.0 +4.4
MOX *e*SS SS 02 21 03.0 -5.9
MOX pmax pmax
comp=Z,99nm,1.9s,mb5.4
MOX MLR MLR
comp=Z,60µm,21.0s,MS6.9
MOX Moxa 80.08 325 *e*P **P** **02 05 50.5 -2.0**
comp=Z,99nm,1.9s,mb5.4
MOX *e*PP PP 02 08 59.1 +2.9
MOX *e*S S 02 16 00.0 +4.4
MOX *e*SS SS 02 21 03.0 -5.9
MOX LR LR
comp=Z,60µm,21.0s,MS6.9
MOX Moxa 80.08 325 *i* P **P** **02 05 50.5 -2.0**
comp=Z,logA/T=1.7,mb5.4
MOX PP PP 02 08 59.0 +2.8
MOX S S 02 16 00.0 +4.4
MOX SS SS 02 21 03.0 -5.9
MOX QM 02 38 47.0
MOX RM 02 44 53.0
KHC Kasperske Hory 80.14 323 *e*P **P** **02 05 50.9 -1.9**
KHC *e*S S 02 15 59.3 +3.1
KHC MLR MLR
comp=Z,148µm,16.6s,MS7.4
KHC Kasperske Hory 80.14 323 *e*P **P** **02 05 50.9 -1.9**
KHC *e* pP 02 05 53.5 -2.2
KHC *e*S S 02 15 59.3 +3.1
KHC LR LR
comp=Z,148µm,16.6s,MS7.4
KHC Kasperske Hory 80.14 323 *e*P **P** **02 05 50.9 -1.9**
KHC pP pP 02 05 53.5 -2.2
KHC *e*S S 02 15 59.3 +3.1
KHC AMS AMS 02 44 50.0
comp=Z,148µm,16.6s
PAIG Paliouri 80.17 312 *e*P **P** **02 05 54.8 +1.6**
WDC Whiskeytown Da 80.18 48 *e*P **P** **02 05 52.0 -1.2**
WDC pmax pmax
comp=Z,121nm,1.2s,mb5.7
WDC Whiskeytown Da 80.18 48 *e*P **P** **02 05 52.0 -1.2**
comp=Z,121nm,1.2s,mb5.7
THE Thessaloniki 80.19 312 *e*P **P** **02 05 47.8 -5.5**
GEC2 GERESS Array S 80.26 323 *e*P **P** **02 05 51.1 -2.4**
GEC2 pmax pmax
comp=Z,56nm,1.3s,mb5.3
GEC2 GERESS Array S 80.26 323 *e*P **P** **02 05 51.1 -2.4**
comp=Z,56nm,1.3s,mb5.3
GERES GERESS Array B 80.26 323 P **P** **02 05 51.7 -1.8**
comp=Z,11nm,1.0s,mb4.8,baz=45,slow=5.7,SNR=30
GERES S S 02 15 57.0 -0.6
comp=Z,0.1nm,0.3s,baz=113,slow=20,SNR=2.5
GERES PKKPbc 02 24 37.9
comp=Z,1.4nm,0.6s,baz=214,slow=2.3,SNR=11
GERES PKPPKP 02 32 36.8
comp=Z,0.5nm,0.8s,baz=225,slow=1.9,SNR=3.8
SKO Skopje 80.32 314⇑*i*P **P** **02 05 55.7 +1.7**
comp=Z,97nm,1.0s,mb5.7
SKO *i* pP 02 06 00.5 +3.7
SKO Skopje 80.32 314⇑*i*P **P** **02 05 55.7 +1.7**
SKO *i* pP 02 06 00.5 +3.7
comp=Z,0.1nm,1.0s
GRG Griva 80.35 313 *e*P **P** **02 05 54.7 +0.6**
BBLS Bajina Basta - 80.36 317⇑*i*P **P** **02 05 55.8 +1.6**
ARSA Arzberg 80.36 321⇑*i*P **P** **02 05 54.0 -0.1**
comp=Z,638nm,3.5s
MLA1 Latheron 80.43 337⇑*e*P **P** **02 05 57.3 +3.1**
WET Wettzell 80.47 324 *e*P **P** **02 05 52.6 -2.0**
WET pmax pmax
comp=Z,91nm,1.7s,mb5.4
WET Wettzell 80.47 324 *e*P **P** **02 05 52.6 -2.0**
comp=Z,91nm,1.7s,mb5.4
AOS Alonnisos 80.48 311 *e*P **P** **02 05 56.5 +1.6**
KOGS Kog 80.49 320 *e*P **P** **02 05 55.4 +0.6**
MOA Molln 80.63 322⇑*i*P **P** **02 05 56.2 +0.7**
comp=Z,468nm,3.1s
APE Apeiranthos 80.64 308 *e*P **P** **02 05 55.0 -0.8**
BMO Blue Mountains 80.65 42 *e*P **P** **02 05 55.0 -0.7**
comp=Z,111nm,1.3s,mb5.6
BMO LR LR
comp=Z,25µm,19.0s,MS6.6
IVA Berane 80.69 316⇓*i*P **P** **02 05 54.6 -1.3**
PLE Pljevlja 80.70 316⇓*i*P **P** **02 05 53.3 -2.6**
FCC Fort Churchill 80.71 22 *e*P **P** **02 05 53.6 -2.1**
comp=Z,0.5nm,1.2s
MOD Modoc 80.74 45 *e*P **P** **02 05 55.0 -1.2**
comp=Z,94nm,1.2s,mb5.6
LIT Litokhoron 80.80 312 *e*P **P** **02 05 55.8 -0.8**
WIT Witteveen 80.81 329 *e*P **P** **02 05 59.0 +2.7**
comp=Z,426nm,1.9s,mb6.0
PVY Plav 80.81 315⇓*i*P **P** **02 05 54.5 -2.0**
GRA1 Grafenberg Arr 80.91 325 *e*P **P** **02 05 55.3 -1.6**
comp=Z,352nm,1.3s,mb6.1
GRA1 *e*pP pP 02 05 59.2 -0.6
GRA1 *e*PP PP 02 09 10.0 +6.3
GRA1 *e*S S 02 16 15.7 +11
GRA1 *e*SS SS 02 21 37.6 +16
GRA1 *e*SKKS 02 32 40.4
GRA1 LR LR
comp=Z,156µm,18.8s,MS7.4
GRF Grafenberg Arr 80.91 325 *e*P **P** **02 05 55.3 -1.6**
GRF *e* 02 09 10.0
GRF pmax pmax
comp=Z,352nm,1.3s,mb6.1
GRF MLR MLR
comp=Z,156µm,18.8s,MS7.4
MCD Coleburn Disti 80.97 337⇑*e*P **P** **02 06 00.2 +3.2**
SISC Sisak 81.05 319 *i*P **P** **02 05 54.8 -3.0**
UPM Unac-Piva 81.05 316⇓*i*P **P** **02 05 56.1 -1.7**
FNA Florina 81.07 313 *e*P **P** **02 05 58.6 +0.7**
MME1 Meikle Cairn 81.08 336⇑*e*P **P** **02 06 00.4 +2.8**
SANT Santorini 81.09 308 P **P** **02 05 57.2 -1.0**
comp=Z,234nm,1.4s,mb5.9
FFC Flin Flon 81.12 28 P **P** **02 05 57.9 0.0**
comp=Z,916nm,0.9s,mb6.7
MSO Missoula 81.20 39 *e*P **P** **02 05 56.9 -1.6**
comp=Z,127nm,1.3s,mb5.7
MSO LR LR
comp=Z,27µm,20.0s,MS6.6
OHR Ohrid 81.22 314⇑*i*P **P** **02 05 59.0 +0.3**
OHR ⇓*i* pP 02 06 00.3 -1.3
NKY Niksic 81.24 316⇓*i*P **P** **02 05 58.3 -0.5**
TTG Podgorica 81.33 316⇓*i*P **P** **02 05 59.4 +0.1**
OBKA Obir 81.35 321⇓*i*P **P** **02 06 00.5 +1.2**
comp=Z,707nm,3.4s
WTSB Winterswijk 81.36 329 *e*P **P** **02 05 59.4 +0.3**
comp=Z,105nm,1.7s,mb5.5
WVOR Wild Horse Val 81.40 44 *e*P **P** **02 05 59.5 -0.1**
WVOR pmax pmax
comp=Z,133nm,1.3s,mb5.7
WVOR Wild Horse Val 81.40 44 *e*P **P** **02 05 59.5 -0.2**
comp=Z,133nm,1.3s,mb5.7
MDO Dochfour 81.44 337⇑*e*P **P** **02 06 02.1 +2.5**
BRY Bratogost 81.45 316 *e*P **P** **02 05 57.7 -2.2**
CHMT Chamberlain Mo 81.50 38 *e*P **P** **02 05 58.9 -1.2**
AGG Agios Georgios 81.54 311 *e*P **P** **02 06 00.7 +0.2**
KBA Koelnbreinsper 81.60 322⇑*i*P **P** **02 06 01.9 +1.3**
comp=Z,575nm,3.4s
KBA Koelnbreinsper 81.60 322⇑*i*P **P** **02 06 01.9 +1.3**
KBA pmax pmax
comp=Z,575nm,3.4s
BUM Brajici-Budva 81.62 316⇓*i*P **P** **02 05 60.0 -0.8**
ULC Ulcinj 81.62 315⇓*i*P **P** **02 06 00.4 -0.4**
BOJS Bojanci 81.63 320 *e*P **P** **02 06 02.0 +1.2**
LJU Ljubljana 81.67 321 *e*P **P** **02 06 04.0 +3.1**
FRB Frobisher Bay 81.69 8 P **P** **02 05 59.1 -1.6**
comp=Z,62nm,0.7s,mb5.6,baz=353,slow=5.7,SNR=60
FRB LR LR 02 42 35.2
comp=Z,91µm,21.7s,MS7.1,baz=342,slow=36
HCY Herceg Novi 81.76 316⇓*i*P **P** **02 05 59.9 -1.6**
MEV Metsovon 81.77 313 *e*P **P** **02 05 58.2 -3.4**
TNS Taunus Mts 81.85 327 *e*P **P** **02 05 59.8 -2.0**
TNS pmax pmax
comp=Z,148nm,1.3s,mb5.8
TNS Taunus Mts 81.85 327 *e*P **P** **02 05 59.8 -2.0**
comp=Z,148nm,1.3s,mb5.8
SIND Sindeldorf 81.92 325 *e*P **P** **02 06 02.9 +0.7**
FUR Furstenfeldbru 81.92 324 *e*P **P** **02 06 00.5 -1.7**
FUR pmax pmax
comp=Z,401nm,1.5s,mb6.1
FUR Furstenfeldbru 81.92 324 *e*P **P** **02 06 00.5 -1.7**
comp=Z,401nm,1.5s,mb6.1
CEY Cerknica 81.92 320 *e*P **P** **02 06 03.2 +1.0**
STON Ston 81.95 317 *i* P **P** **02 06 01.9 -0.6**
JAVS Javornik 82.01 321 *e*P **P** **02 06 04.5 +1.8**
VOY Vojsko 82.01 321 *e*P **P** **02 06 03.1 +0.4**
VOY *e* 02 06 16.2
VOY *e* 02 06 27.2
PTCC Patocco-Chiusa 82.04 321 *e*P **P** **02 06 04.1 +1.2**
TOD Tromm 82.11 326 *e*P **P** **02 06 04.2 +1.0**
HDH Heidenheim 82.15 325 *e*P **P** **02 06 03.9 +0.5**
GMNA Gemona 82.19 321 *e*P **P** **02 06 03.0 -0.7**
FVI Forni Avoltri 82.21 322 *e*P **P** **02 06 03.6 -0.2**
SWS Schriesheim 82.25 326 *e*P **P** **02 06 04.7 +0.8**
WATA Walderalm 82.33 323⇓*i*P **P** **02 06 06.1 +1.8**
comp=Z,301nm,2.8s,mb5.7
WATA Walderalm 82.33 323⇓*i*P **P** **02 06 06.1 +1.8**
WATA pmax pmax
comp=Z,301nm,2.8s,mb5.7
WTTA Wattenberg 82.35 323⇑*i*P **P** **02 06 05.6 +1.2**
comp=Z,841nm,3.4s
WTTA Wattenberg 82.35 323⇑*i*P **P** **02 06 05.6 +1.2**
WTTA pmax pmax
comp=Z,841nm,3.4s
HRY Holter Researc 82.37 38 *e*P **P** **02 06 04.2 -0.4**
IGT Igoumenitsa 82.47 313 *e*P **P** **02 06 06.3 +1.1**
ABH Alteburg 82.50 327 *e*P **P** **02 06 06.2 +1.0**
STU Stuttgart 82.51 325 *e*P **P** **02 06 05.3 0.0**
STU pmax pmax
comp=Z,93nm,1.0s,mb5.8
STU Stuttgart 82.51 325 *e*P **P** **02 06 05.2 0.0**
comp=Z,93nm,1.0s,mb5.8
PCOU Corrie 82.52 336⇑*e*P **P** **02 06 08.1 +2.9**
MOTA Moosalm 82.56 323⇓*i*P **P** **02 06 06.8 +1.3**
LCP Cassop 82.59 334⇑*e*P **P** **02 06 08.3 +2.8**
SQTA Sankt Quirin 82.59 323⇓*i*P **P** **02 06 07.7 +2.0**
comp=Z,180nm,2.2s,mb5.7
SQTA Sankt Quirin 82.59 323⇓*i*P **P** **02 06 07.7 +2.0**
SQTA pmax pmax
comp=Z,180nm,2.2s,mb5.7
HGN Heimansgroeve 82.60 328 *e*P **P** **02 06 04.6 -1.1**
comp=Z,71nm,3.4s
HGN *e*PP PP 02 09 20.0 +2.7
HGN *e*PPP tx 02 12 41.8
HGN *e*S S 02 16 07.1 -14
HGN ex x 02 19 10.6
HGN *e*SS SS 02 21 32.4 -14
PAHR Pah Rah Range 82.64 47 *e*P **P** **02 06 06.1 0.0**
comp=Z,76nm,1.2s,mb5.6
KTD Kalmit 82.65 326 *e*P **P** **02 06 07.0 +1.0**
WCN Washoe City 82.66 47 P **P** **02 06 03.4 -2.8**
WCN pmax pmax
comp=Z,492nm,1.9s,mb6.2
WCN Washoe City 82.66 47 P **P** **02 06 03.4 -2.9**
comp=Z,492nm,1.9s,mb6.2
BUCH Bad Urach 82.66 325 *e*P **P** **02 06 07.3 +1.3**
ESK Eskdalemuir 82.75 335 *e*P **P** **02 06 03.2 -3.2**
ESK pmax pmax
comp=Z,106nm,1.4s,mb5.7
ESK Eskdalemuir 82.75 335 *e*P **P** **02 06 03.2 -3.2**
comp=Z,106nm,1.4s,mb5.7
LBG Lerchenberg 82.77 325 *e*P **P** **02 06 07.7 +1.1**
LKD Levkas 82.78 312 *e*P **P** **02 05 58.3 -8.5**
BBH Bruntsheil 82.80 335⇑*e*P **P** **02 06 09.5 +2.9**
PCA1 Carrot 82.81 336⇑*e*P **P** **02 06 09.8 +3.1**
UBR Uberruh 82.82 324 *e*P **P** **02 06 07.9 +1.0**
RUP Ruppelstein 82.85 327 *e*P **P** **02 06 08.1 +1.1**
BTA Talkin 82.89 335⇑*e*P **P** **02 06 09.8 +2.7**
BHH Howats Hill 82.93 335⇑*e*P **P** **02 06 09.3 +2.0**
LANF Langenberg 83.02 326 *e*P **P** **02 06 09.3 +1.4**
BWH Wardlaw 83.02 335⇑*e*P **P** **02 06 09.7 +2.9**
GUT Gutenstein 83.04 325 *e*P **P** **02 06 08.6 +0.6**
CMB Columbia Colle 83.04 49 *e*P **P** **02 06 07.3 -1.0**
CMB pmax pmax
comp=Z,134nm,1.3s,mb5.8
CMB Columbia Colle 83.04 49 *e*P **P** **02 06 07.3 -1.0**
comp=Z,134nm,1.3s,mb5.8
BDL Dobcross Hall 83.06 335⇑*e*P **P** **02 06 10.2 +2.2**
HLID Hailey 83.08 41 *e*P **P** **02 06 08.3 0.0**
comp=Z,61nm,1.1s,mb5.5
HLID *e* pP 02 06 11.6 +0.4
MCMT McKenzie Canyo 83.09 40 *e*P **P** **02 06 08.3 -0.1**
SAO San Andreas Ge 83.14 50 *e*P **P** **02 06 07.0 -1.8**
SAO pmax pmax
comp=Z,82nm,1.3s,mb5.6
SAO San Andreas Ge 83.14 50 *e*P **P** **02 06 07.0 -1.8**
comp=Z,82nm,1.3s,mb5.6
CTI Castel Tesino 83.16 322 *e*P **P** **02 06 09.6 +0.9**
SPAK Spaichingen 83.17 325 *e*P **P** **02 06 09.5 +0.8**
BOZ Bozeman (W) 83.19 39 *e*P **P** **02 06 08.8 0.0**
BOZ pmax pmax
comp=Z,131nm,1.1s,mb5.9
BOZ Bozeman (W) 83.19 39 *e*P **P** **02 06 08.8 0.0**
comp=Z,131nm,1.1s,mb5.9
BOZ *e* pP 02 06 11.8 +0.1
DAVA Damuels 83.21 324⇑*i*P **P** **02 06 10.3 +1.4**
comp=Z,709nm,3.0s
BBO1 Bothel 83.23 335⇑*e*P **P** **02 06 10.9 +2.1**
BFO Black Forest 83.23 325 P **P** **02 06 07.3 -1.7**
comp=Z,767nm,1.2s,mb6.6,SNR=30
BFO Black Forest 83.23 325 *e*P **P** **02 06 06.8 -2.2**
BFO pmax pmax
comp=Z,348nm,1.5s,mb6.2
BFO Black Forest 83.23 325 *e*P **P** **02 06 06.8 -2.2**
comp=Z,348nm,1.5s,mb6.2
HPK Haverah Park 83.25 334⇑*e*P **P** **02 06 12.1 +3.1**
WLF Walferdange 83.29 327 *e*P **P** **02 06 05.6 -3.7**
WLF pmax pmax
comp=Z,453nm,1.6s,mb6.2
WLF Walferdange 83.29 327 *e*P **P** **02 06 05.5 -3.7**
comp=Z,453nm,1.6s,mb6.2
STR Strasbourg 83.32 326 *e*P **P** **02 06 10.7 +1.3**
BMN Battle Mountai 83.48 45 *e*P **P** **02 06 10.7 +0.3**
BMN pmax pmax
comp=Z,149nm,1.3s,mb5.9
BMN MLR MLR
comp=Z,16µm,20.0s,MS6.4
BMN Battle Mountai 83.48 45 *e*P **P** **02 06 10.7 +0.2**
comp=Z,149nm,1.3s,mb5.9
BMN *e* pP 02 06 13.7 +0.3
BMN LR LR
comp=Z,16µm,20.0s,MS6.4
BRMO Bormio 83.52 323 *e*P **P** **02 06 10.0 -0.5**
GIVF Givet 83.56 328 *e*P **P** **02 06 08.4 -2.2**
comp=Z,460nm,1.7s,mb6.0
GIVF Givet 83.56 328 *e*P **P** **02 06 08.4 -2.2**
GIVF pmax pmax
comp=Z,230nm,1.7s,mb6.0
LRV Little Rabbit 83.62 50 P **P** **02 06 11.0 -0.3**
GAL1 Galloway 83.63 336⇑*e*P **P** **02 06 13.7 +2.8**
WLS Welschbruch 83.63 326 *e*P **P** **02 06 09.9 -1.1**
LHO Holmfirth 83.66 334 *e*P **P** **02 06 12.9 +1.9**
CDF Champ du Feu 83.67 326 *e*P **P** **02 06 09.2 -2.0**
comp=Z,662nm,1.5s,mb6.2
CDF Champ du Feu 83.67 326 *e*P **P** **02 06 09.2 -2.0**
CDF pmax pmax
comp=Z,331nm,1.5s,mb6.2
KIZ Kirchzarten 83.69 325 *e*P **P** **02 06 11.7 +0.4**
FGMS Monte Sant'Ang 83.69 317 *e*P **P** **02 06 13.5 +2.1**
LIBD Limburg 83.70 325 *e*P **P** **02 06 12.5 +1.1**
FELD Feldberg 83.70 325 *e*P **P** **02 06 12.1 +0.7**
KBI1 Birley Grange 83.77 333 *e*P **P** **02 06 13.8 +2.2**
QRZ Quartz Range 83.82 149 *e*P* **P** **02 06 13.7 +1.6**
QRZ Quartz Range 83.82 149 *e*P* **P** **02 06 13.7 +1.6**
QLMT Earthquake Lak 83.84 39 *e*P **P** **02 06 12.4 +0.2**
ECH Echery 83.86 326 *e*P **P** **02 06 13.0 +0.8**
BAIF Baives 83.87 328 *e*P **P** **02 06 10.0 -2.1**
comp=Z,338nm,1.7s,mb5.9
BAIF Baives 83.87 328 *e*P **P** **02 06 10.0 -2.1**
BAIF pmax pmax
comp=Z,169nm,1.7s,mb5.9
SAL Salo 84.04 322 *e*P **P** **02 06 13.9 +0.8**
KWE Weaver Farm 84.08 333 *e*P **P** **02 06 15.5 +2.4**
NVAR Mina Array Bea 84.09 47 P **P** **02 06 13.4 -0.2**
comp=Z,106nm,1.1s,mb5.9,baz=307,slow=2.4,SNR=38
NVAR S S 02 16 36.6 -0.2
comp=Z,0.2nm,0.3s,baz=291,slow=3.3,SNR=2.1
NVAR LR LR 02 45 46.2
comp=Z,11µm,18.6s,MS6.3,baz=270,slow=37
GCMT Greycliff 84.09 37 *e*P **P** **02 06 13.5 +0.1**
OMM Old Mammoth Mi 84.17 48 *e*P **P** **02 06 14.2 +0.3**
RSM Repubblica di 84.17 320 *e*P **P** **02 06 13.3 -0.5**
MNV Mina 84.18 47 *e*P **P** **02 06 13.5 -0.5**
MNV pmax pmax
comp=Z,160nm,1.3s,mb6.0
MNV Mina 84.18 47 *e*P **P** **02 06 13.5 -0.5**
comp=Z,156nm,1.4s,mb6.0
MNV *e* pP 02 06 16.7 -0.2
YMR Madison River 84.19 39 *e*P **P** **02 06 14.2 +0.3**
YMR *e* pP 02 06 18.8 +2.0
ARV Arcevia 84.20 319 *e*P **P** **02 06 12.4 -1.5**
WIM Isle of Man 84.20 335 *e*P **P** **02 06 16.7 +3.0**
BBS Basel-Blauen 84.23 325 *e*P **P** **02 06 14.8 +0.7**
PUZ Puketiti 84.24 144 *e*P* **P** **02 06 15.1 +0.8**
PUZ Puketiti 84.24 144 *e*P* **P** **02 06 15.1 +0.8**
BKZ Black Stump Fm 84.26 146 *e*P* **P** **02 06 15.0 +0.6**
BKZ Black Stump Fm 84.26 146 *e*P* **P** **02 06 15.0 +0.6**
DSZ Denniston Nort 84.28 150 *e*P* **P** **02 06 16.1 +1.7**
DSZ Denniston Nort 84.28 150 *e*P* **P** **02 06 16.1 +1.7**
HINF Hinteralfeld 84.29 326 *e*P **P** **02 06 12.1 -2.3**
comp=Z,423nm,1.6s,mb6.0
HINF Hinteralfeld 84.29 326 *e*P **P** **02 06 12.1 -2.3**
HINF pmax pmax
comp=Z,211nm,1.6s,mb6.0
YNR Norris Junctio 84.31 39 *e*P **P** **02 06 15.0 +0.4**
SNTG Esanatoglia 84.36 319 *e*P **P** **02 06 13.9 -0.8**
FG5 Orsara di Pugl 84.36 317 *e*P **P** **02 06 17.3 +2.4**
MENF Mencas 84.37 330 *e*P **P** **02 06 15.2 +0.5**
HAU Haudompre 84.39 326 *e*P **P** **02 06 12.7 -2.2**
comp=Z,564nm,1.7s,mb6.1
HAU *e*R
comp=Z,82µm,17.2s
HAU Haudompre 84.39 326 *e*P **P** **02 06 12.7 -2.2**
HAU pmax pmax
comp=Z,282nm,1.7s,mb6.1
HAU MLR MLR
comp=Z,82µm,17.3s,MS7.2
THEF They Montfort 84.40 326 *e*P **P** **02 06 15.9 +1.0**
DUWZ D'Urville Isla 84.41 148 *e*P* **P** **02 06 15.9 +0.8**
DUWZ D'Urville Isla 84.41 148 *e*P* **P** **02 06 15.9 +0.8**
YFT Old Faithful 84.41 39 *e*P **P** **02 06 16.8 +1.8**
NNZ Nelson 84.51 149 *e*P* **P** **02 06 14.8 -0.8**
NNZ Nelson 84.51 149 *e*P* **P** **02 06 14.8 -0.8**
SFI Santa Sofia 84.51 320 *e*P **P** **02 06 15.1 -0.4**
NRCA Norcia 84.54 319 *e*P **P** **02 06 14.8 -0.9**
LKWY Lake 84.56 39 *e*P **P** **02 06 17.7 +1.9**
LKWY pmax pmax
comp=Z,139nm,1.0s,mb6.0
LKWY MLR MLR
comp=Z,72µm,20.0s,MS7.1
LKWY Lake 84.56 39 *e*P **P** **02 06 17.7 +2.0**
comp=Z,139nm,1.0s,mb6.0
LKWY LR LR
comp=Z,72µm,20.0s,MS7.1
GMM Mts of Mourne 84.56 336⇑*e*P **P** **02 06 18.2 +2.7**
MRLC Muro Lucano 84.58 316 *e*P **P** **02 06 14.4 -1.6**
PGD Poggio Sodo 84.60 320 *e*P **P** **02 06 15.3 -0.7**
MTUM Tungsten Hills 84.60 48 *e*P **P** **02 06 16.7 +0.5**
CII Carovilli 84.62 317 *e*P **P** **02 06 15.4 -0.8**
MEZF Maizieres J'vi 84.63 327 *e*P **P** **02 06 14.4 -1.6**
comp=Z,979nm,1.5s,mb6.4
LOMF Lomont 84.64 325 *e*P **P** **02 06 17.0 +0.9**
WME Myndd Eilian 84.67 335⇑*e*P **P** **02 06 18.4 +2.3**
WME AMb AMB 02 06 25.9
comp=Z,292nm,1.7s,mb6.1
SBD1 Bryn Du 84.69 334⇑*e*P **P** **02 06 18.3 +2.1**
SKP1 Kophill 84.69 332⇑*e*P **P** **02 06 18.6 +2.4**
AQU L'Aquila 84.70 318 *e*P **P** **02 06 15.5 -1.1**
AQU pmax pmax
comp=Z,511nm,1.3s,mb6.5
AQU L'Aquila 84.70 318 *e*P **P** **02 06 15.5 -1.0**
comp=Z,511nm,1.3s,mb6.5
IMW Indian Meadow 84.73 40 *e*P **P** **02 06 17.3 +0.6**
comp=Z,118nm,1.0s,mb6.0
VAI Varese 84.75 323 *e*P **P** **02 06 14.2 -2.5**
CSSN Cassano Irpino 84.78 316 *e*P **P** **02 06 18.9 +1.9**
WCB1 Church Bay 84.78 335⇑*e*P **P** **02 06 19.6 +3.0**
WCB1 AMb AMB 02 06 25.6
comp=Z,220nm,1.7s,mb6.0
SGO Sicignano 84.81 316 *e*P **P** **02 06 16.9 -0.2**
YLL Llanberis 84.83 334⇑*e*P **P** **02 06 19.9 +3.0**
YLL AMb AMB 02 06 25.9
comp=Z,223nm,2.0s,mb6.0
TIP Timpagrande 84.85 314 *e*P **P** **02 06 16.0 -1.4**
HLM1 Long Mynd 84.86 333 *e*P **P** **02 06 18.8 +1.8**
HLM1 AMb AMB 02 06 26.1
comp=Z,216nm,1.8s,mb6.0
GSCL Gusciola 84.87 321 *e*P **P** **02 06 19.7 +2.4**
YRC Rhoscolyn 84.89 335⇑*e*P **P** **02 06 20.2 +3.0**
YRC AMb AMB 02 06 26.1
comp=Z,377nm,2.1s,mb6.2
RRI2 Red Ridge 84.90 40 *e*P **P** **02 06 18.3 +0.8**
comp=Z,221nm,1.3s,mb6.1
ERBM Eremo 84.91 321 *e*P **P** **02 06 17.1 -0.4**
PTQR Pietraquaria 84.93 318 *e*P **P** **02 06 16.5 -1.1**
MOOW Moose Ponds 84.94 40 *e*P **P** **02 06 18.2 +0.5**
comp=Z,104nm,1.4s,mb5.8
FOZ Fox Glacier 84.95 152 *e*P* **P** **02 06 19.1 +1.3**
FOZ Fox Glacier 84.95 152 *e*P* **P** **02 06 19.1 +1.3**
TPH Tonopah 84.97 47 *e*P **P** **02 06 17.7 -0.3**
TPH pmax pmax
comp=Z,344nm,1.2s,mb6.4
TPH MLR MLR
comp=Z,14µm,22.0s,MS6.3
TPH Tonopah 84.97 47 *e*P **P** **02 06 17.7 -0.3**
comp=Z,344nm,1.2s,mb6.4
TPH LR LR
comp=Z,14µm,22.0s,MS6.3
TPAW Teton Pass 85.00 40 *e*P **P** **02 06 18.8 +0.8**
comp=Z,176nm,1.3s,mb6.0
SSP1 Stoney Pound 85.02 333⇑*e*P **P** **02 06 20.8 +2.9**
SSP1 AMb AMB 02 06 27.8
comp=Z,176nm,1.5s,mb6.0
MRZ Mangatainoka R 85.03 147 *e*P* **P** **02 06 18.7 +0.5**
MRZ Mangatainoka R 85.03 147 *e*P* **P** **02 06 18.7 +0.5**
GRAM 85.04 322 P **P** **02 06 20.9 +2.7**
VALM 85.05 321 P **P** **02 06 21.0 +2.8**
YRE Yr Eifl 85.05 334⇑*e*P **P** **02 06 21.1 +3.1**
YRE AMb AMB 02 06 27.1
comp=Z,272nm,1.9s,mb6.1
BDI Bagni Di Lucca 85.06 321 *e*P **P** **02 06 20.2 +1.9**
MCGN Macugnaga 85.07 324 *e*P **P** **02 06 16.4 -1.9**
SARO Sassoroso 85.08 321 P **P** **02 06 21.2 +2.8**
WUWY Wally Ulrich 85.08 40 *e*P **P** **02 06 19.3 +0.9**
MNS Montasola 85.08 319 *e*P **P** **02 06 16.5 -1.9**
LOHW Long Hollow 85.10 40 *e*P **P** **02 06 18.2 -0.3**
comp=Z,364nm,2.0s,mb6.2
VLC Villacollemand 85.11 321 *e*P **P** **02 06 17.1 -1.5**
comp=Z,268nm,1.4s,mb6.2
HAE Alders End 85.11 333 *e*P **P** **02 06 20.7 +2.4**
HAE AMb AMB 02 06 26.5
comp=Z,411nm,1.4s,mb6.4
SNOW Snow King Moun 85.13 40 *e*P **P** **02 06 18.9 +0.3**
comp=Z,150nm,1.3s,mb6.0
HVU Hansel Valley 85.16 42 *e*P **P** **02 06 18.6 -0.2**
SNZO South Karori 85.16 148 *e*P **P** **02 06 17.8 -1.0**
comp=Z,267nm,1.3s,mb6.2
SNZO LR LR
comp=Z,17µm,21.0s,MS6.4
LAO LASA Array 85.16 35 *e*P **P** **02 06 18.6 -0.1**
comp=Z,183nm,1.1s,mb6.1
LAO LR LR

comp=Z,31µm,20.0s,MS6.7
DMUB Kingscourt 85.17 336 *e*P **P** **02 06 20.1 +1.5**
BOB Bobbio (Coli) 85.17 322 *e*P **P** **02 06 17.4 -1.4**
CODM 85.22 322 P **P** **02 06 21.9 +2.8**
SWN1 Swindon 85.24 332 *e*P **P** **02 06 21.3 +2.3**
VINC Vinca 85.24 321 P **P** **02 06 21.9 +2.7**
ORX Oropa 85.30 323 P **P** **02 06 21.3 +1.9**
ORO Oropa 85.31 323 *e*P **P** **02 06 16.6 -2.9**
PII Pisa 85.33 321 *e*P **P** **02 06 21.0 +1.3**
HTR Trewern Hill 85.35 333‖ *e*P **P** **02 06 21.6 +2.1**
HTR AMb AMB 02 06 28.6
comp=Z,379nm,1.8s,mb6.2
AHID Auburn Hatcher 85.42 40 P **P** **02 06 19.2 -0.9**
comp=Z,127nm,1.4s,mb5.9
TRAV 85.50 323 P **P** **02 06 22.9 +2.4**
CABF La Chapelle 85.52 325 *e*P **P** **02 06 18.5 -2.0**
comp=Z,165nm,1.1s,mb5.9
CABF La Chapelle 85.52 325 *e*P **P** **02 06 18.5 -2.0**
CABF pmax pmax
comp=Z,83nm,1.1s,mb5.9
DSB Dublin 85.53 336 *e*P **P** **02 06 18.1 -2.2**
comp=Z,81nm,1.0s,mb5.9
HGH Gray Hill 85.53 333‖ *e*P **P** **02 06 23.1 +2.7**
HGH AMb AMB 02 06 28.9
comp=Z,333nm,2.1s,mb6.2
DLF Lyons Farm 85.54 336 *e*P **P** **02 06 21.9 +1.5**
KHZ Kahutara 85.56 149 *e*P* **P** **02 06 20.5 -0.3**
KHZ Kahutara 85.56 149 *e*P* **P** **02 06 20.5 -0.3**
BGU Big Grassy Mou 85.58 43 *e*P **P** **02 06 20.7 -0.3**
RPZ Rata Peaks 85.61 152 LR LR 02 38 02.5
comp=Z,7µm,20.2s,MS6.1,baz=229,slow=31
SWK Warminster 85.70 332 *e*P **P** **02 06 23.1 +1.8**
DCN Croghan 85.75 336 *e*P **P** **02 06 23.3 +1.8**
SMD Mendips 85.75 333‖ *e*P **P** **02 06 24.1 +2.5**
TRCR Troy Canyon 85.78 46 *e*P **P** **02 06 21.3 -0.7**
PCP Pian Castagno 85.79 322 P **P** **02 06 24.1 +2.2**
LSD Ceresole Reale 85.83 324 P **P** **02 06 25.1 +2.9**
LBZ Lake Benmore 85.84 153 P* **P** **02 06 22.0 -0.1**
LBZ Lake Benmore 85.84 153 P* **P** **02 06 22.0 -0.1**
DAC Darwin (Calif) 85.88 49 P **P** **02 06 20.4 -2.2**
DAC pmax pmax
comp=Z,113nm,1.3s,mb5.9
DAC MLR MLR
comp=Z,16µm,22.0s,MS6.4
DAC Darwin (Calif) 85.88 49 P **P** **02 06 20.4 -2.2**
comp=Z,114nm,1.3s,mb5.9
DAC LR LR
comp=Z,16µm,22.0s,MS6.4
HWUT Hardware Ranch 85.95 42 *e*P **P** **02 06 22.0 -0.8**
comp=Z,231nm,1.3s,mb6.2
HWUT LR LR
comp=Z,31µm,19.0s,MS6.7
SOI Samo 85.98 314 *e*P **P** **02 06 21.7 -1.3**
LPL La Plagne 86.00 324 *e*P **P** **02 06 21.2 -1.7**
comp=Z,150nm,1.1s,mb5.8
LPL La Plagne 86.00 324 *e*P **P** **02 06 21.2 -1.7**
LPL pmax pmax
comp=Z,75nm,1.1s,mb5.8
RSP Reno Superiore 86.00 323 P **P** **02 06 24.7 +1.7**
LPG La Plagne 86.00 324 *e*P **P** **02 06 21.5 -1.5**
comp=Z,208nm,1.1s,mb6.0
LPG La Plagne 86.00 324 *e*P **P** **02 06 21.5 -1.5**
LPG pmax pmax
comp=Z,104nm,1.1s,mb6.0
SCLL Scilla 86.07 314 *e*P **P** **02 06 24.3 +0.8**
RAR Rarotonga 86.14 119 P **P** **02 06 25.0 +0.8**
comp=Z,43nm,1.0s,mb5.6,baz=258,slow=6.5,SNR=8.7
RAR Rarotonga 86.14 119 P **P** **02 06 25.0 +0.8**
RAR LR LR
comp=Z,13µm,22.0s,MS6.3
FENE Fenestrelle 86.19 324 P **P** **02 06 24.8 +0.9**
DUG Dugway 86.19 43 *e*P **P** **02 06 24.2 +0.2**
DUG pmax pmax
comp=Z,176nm,1.4s,mb6.1
DUG MLR MLR
comp=Z,24µm,19.0s,MS6.6
DUG Dugway 86.19 43 *e*P **P** **02 06 24.1 +0.1**
comp=Z,176nm,1.4s,mb6.1
DUG LR LR
comp=Z,24µm,19.0s,MS6.6
FIN Finale Ligure 86.19 322 *e*P **P** **02 06 24.5 +0.6**
BHB Bricherasio 86.22 323 P **P** **02 06 25.2 +1.2**
BW06 Boulder Array 86.24 40 *e*P **P** **02 06 21.8 -2.4**
comp=Z,156nm,1.7s,mb6.0
BW06 LR LR
comp=Z,22µm,20.0s,MS6.6
PDAR Pinedale Array 86.24 40 P **P** **02 06 23.1 -1.1**
comp=Z,17nm,0.7s,mb5.4,baz=326,slow=1.4,SNR=51
PDAR S S 02 16 58.5 +0.7
comp=Z,0.7nm,1.1s,baz=45,slow=6.3,SNR=2.4
PDAR LR LR 02 48 45.1
comp=Z,17µm,18.1s,MS6.5,baz=172,slow=38
MTTG Motta San Giov 86.24 314 *e*P **P** **02 06 26.6 +2.3**
MQZ McQueen's Vall 86.25 151 *e*P* **P** **02 06 25.7 +1.5**
MQZ McQueen's Vall 86.25 151 *e*P* **P** **02 06 25.7 +1.5**
NOQ North Oquirrh 86.28 42 *e*P **P** **02 06 24.3 -0.1**
ROB Roburent 86.31 323 P **P** **02 06 25.6 +1.1**
BNI Bardonecchia 86.36 324 *e*P **P** **02 06 22.2 -2.5**
BNI pmax pmax
comp=Z,153nm,1.4s,mb6.0
BNI Bardonecchia 86.36 324 *e*P **P** **02 06 22.1 -2.6**
comp=Z,153nm,1.4s,mb6.0
TCUT Toone Canyon 86.36 42 *e*P **P** **02 06 24.8 0.0**
SLNA Salina 86.39 315 *e*P **P** **02 06 22.6 -2.5**
SSF Saint Saulge 86.40 327 *e*P **P** **02 06 22.6 -2.3**
SSF pmax pmax
comp=Z,98nm,1.3s,mb5.9
SSF Saint Saulge 86.40 327 *e*P **P** **02 06 22.6 -2.3**
comp=Z,98nm,1.3s,mb5.9
RRL Cesana Torines 86.40 324 P **P** **02 06 26.4 +1.5**
DOI San Damiano 86.47 323 *e*P **P** **02 06 24.6 -0.6**
MONE Monesi 86.52 322 P **P** **02 06 27.0 +1.5**
GDM Grand'Maison 86.53 324 *e*P **P** **02 06 28.9 +3.4**
PZZ Prazzo 86.54 323 P **P** **02 06 27.5 +1.8**
MBDF Montbardon 86.55 323 *e*P **P** **02 06 23.1 -2.6**
comp=Z,103nm,1.1s,mb5.7
MBDF Montbardon 86.55 323 *e*P **P** **02 06 23.1 -2.6**
MBDF pmax pmax
comp=Z,52nm,1.1s,mb5.7
SMF Signal de Mont 86.55 326 *e*P **P** **02 06 23.3 -2.3**
comp=Z,315nm,1.3s,mb6.1
SMF Signal de Mont 86.55 326 *e*P **P** **02 06 23.3 -2.3**
SMF pmax pmax
comp=Z,157nm,1.3s,mb6.1
IMI Imperia 86.57 322 *e*P **P** **02 06 27.1 +1.3**
ENR Entracque 86.58 323 P **P** **02 06 27.6 +1.7**
STV2 Anna di Valdie 86.61 323 P **P** **02 06 27.6 +1.6**
HYF Humbligny 86.64 327 *e*P **P** **02 06 24.3 -1.7**
AVF Avril sur Loir 86.67 327 *e*P **P** **02 06 23.9 -2.3**
comp=Z,606nm,1.6s,mb6.3
AVF Avril sur Loir 86.67 327 *e*P **P** **02 06 23.9 -2.3**
AVF pmax pmax
comp=Z,303nm,1.6s,mb6.3
SAOF Saorge 86.68 323 *e*P **P** **02 06 26.8 +0.5**
SURF Saint Ours 86.70 323 *e*P **P** **02 06 27.4 +1.0**
NEGI Negi 86.71 322 P **P** **02 06 27.4 +0.9**
AUTN L'Aution 86.74 323 *e*P **P** **02 06 27.4 +0.8**
TOUF Mont Tournerai 86.82 323 *e*P **P** **02 06 28.1 +1.1**
SBF Sospel 86.83 322 *e*P **P** **02 06 24.5 -2.6**
comp=Z,349nm,1.5s,mb6.1
LDF La Druitiere 86.83 330 *e*P **P** **02 06 24.2 -2.7**
comp=Z,236nm,1.5s,mb5.9
LDF La Druitiere 86.83 330 *e*P **P** **02 06 24.2 -2.7**
LDF pmax pmax
comp=Z,118nm,1.5s,mb5.9
ORIF Oris-en-Rattie 86.85 324 *e*P **P** **02 06 25.1 -2.0**
comp=Z,94nm,1.2s,mb5.6
ORIF *e*R
comp=Z,148µm,20.2s
FLN La Foliniere 86.85 330 *e*P **P** **02 06 24.3 -2.7**
comp=Z,249nm,1.8s,mb5.8
FLN *e*R
comp=Z,161µm,20.5s
FLN La Foliniere 86.85 330 *e*P **P** **02 06 24.3 -2.7**
FLN pmax pmax
comp=Z,124nm,1.8s,mb5.8
FLN MLR MLR
comp=Z,161µm,20.5s,MS7.4
MWC Mount Wilson 86.88 50 P **P** **02 06 25.0 -2.6**
DAU Daniels Canyon 86.93 42 *e*P **P** **02 06 28.0 +0.4**
ULM Lac du Bonnet 86.95 28 P **P** **02 06 26.6 -0.8**
comp=Z,32nm,1.0s,mb5.5,baz=326,slow=5.4,SNR=27
ULM S S 02 17 00.6 -3.7
comp=Z,0.6nm,0.3s,baz=179,slow=22,SNR=1.9
ULM LR LR 02 46 19.6
comp=Z,23µm,21.9s,MS6.5,baz=330,slow=36
ULM Lac du Bonnet 86.95 28 P **P** **02 06 26.6 -0.8**
ULM S S 02 17 00.6 -3.7
ULM LR LR 02 46 19.6
MVIF Mont Vial 86.95 323 *e*P **P** **02 06 28.5 +0.9**
PGF Pioggiola 86.95 321 *e*P **P** **02 06 24.8 -2.9**
comp=Z,164nm,1.4s,mb5.8
REVF Revere 86.95 322 *e*P **P** **02 06 28.6 +0.9**
TUZ Tuapeka 86.96 154 *e*P* **P** **02 06 29.6 +2.0**
TUZ Tuapeka 86.96 154 *e*P* **P** **02 06 29.6 +2.0**
AGST Augusta-Monte 87.01 314 *e*P **P** **02 06 30.1 +2.0**
BGF Bois d'Agland 87.08 327 *e*P **P** **02 06 26.0 -2.2**
comp=Z,146nm,1.3s,mb5.8
PLDF La Plantade 87.16 326 *e*P **P** **02 06 27.7 -0.9**
CALN Calern 87.19 323 *e*P **P** **02 06 29.2 +0.4**
USI Ustica 87.26 316 *e*P **P** **02 06 26.9 -2.4**
GRR Gorron 87.30 330 *e*P **P** **02 06 26.6 -2.6**
comp=Z,199nm,1.3s,mb5.9
AGO Saint Agoulin 87.32 326 *e*P **P** **02 06 31.6 +2.2**
ARUT Antelope Range 87.43 45 *e*P **P** **02 06 29.8 -0.3**
FRF La Foret Royal 87.45 323 *e*P **P** **02 06 27.5 -2.5**
comp=Z,116nm,1.4s,mb5.6
VIVF Saint-Julien-l 87.48 325 *e*P **P** **02 06 28.2 -2.0**
comp=Z,266nm,1.4s,mb6.0
STOF St-Etienne Org 87.50 323 *e*P **P** **02 06 31.4 +1.1**
TCF Toulx Ste Croi 87.57 327 *e*P **P** **02 06 28.4 -2.2**
comp=Z,345nm,1.5s,mb6.1
MVU Marysvale 87.67 44 *e*P **P** **02 06 31.6 +0.4**
comp=Z,195nm,1.5s,mb6.1
MVU LR LR
comp=Z,20µm,21.0s,MS6.5
LMR La Mourre 87.68 323 *e*P **P** **02 06 28.9 -2.3**
comp=Z,195nm,1.4s,mb5.8
SMRF Simiane la Rot 87.68 324 *e*P **P** **02 06 29.2 -2.0**
comp=Z,156nm,1.6s,mb5.7
MSU Marysvale 87.69 44 *e*P **P** **02 06 32.3 +1.0**
TAVF Tavernes 87.70 323 *e*P **P** **02 06 34.7 +3.4**
VILF Villemus 87.70 323 *e*P **P** **02 06 33.1 +1.8**
TMUT Trail Mountain 87.71 43 *e*P **P** **02 06 30.9 -0.6**
LBL Lubilhac 87.88 326 *e*P **P** **02 06 31.2 -0.9**
VAL Valentia 87.92 337‖ *i*P **P** **02 06 37.0 +4.9**
VAL Valentia 87.92 337‖ *e*S S 02 17 19.5 +6.1
PUYF Puyloubier 87.94 323 *e*P **P** **02 06 33.0 +0.6**
PRAF Pradon 88.01 324 *e*P **P** **02 06 35.9 +3.2**
TREF Trevaresse 88.03 323 *e*P **P** **02 06 34.0 +1.2**
BERF Bertagne 88.11 323 *e*P **P** **02 06 34.7 +1.5**
SGMF Saint Gilles 88.11 331 *e*P **P** **02 06 30.8 -2.3**
comp=Z,377nm,1.5s,mb6.1
GELF Grande-Etoile 88.19 323 *e*P **P** **02 06 34.7 +1.1**
LDFC Landfair 88.20 48 *e*P **P** **02 06 34.3 +0.5**
SRU San Rafael 88.23 43 *e*P **P** **02 06 34.0 +0.1**
PFO Pinyon Flat Ob 88.30 50 P **P** **02 06 36.7 +2.3**
comp=Z,373nm,1.3s,mb6.5,SNR=12
PFO Pinyon Flat Ob 88.30 50 *e*P **P** **02 06 33.6 -0.8**
comp=Z,130nm,1.4s,mb6.0
PFO LR LR
comp=Z,5µm,22.0s,MS5.9
ROSF Rostrenen 88.33 331 *e*P **P** **02 06 32.0 -2.2**
comp=Z,288nm,1.3s,mb6.0
MFF Saint Martin d 88.38 328 *e*P **P** **02 06 32.4 -2.0**
comp=Z,210nm,1.3s,mb5.9
LASF Ste Croix 88.45 325 *e*P **P** **02 06 32.6 -2.2**
comp=Z,82nm,1.2s,mb5.5
QUIF Quistinic 88.63 331 *e*P **P** **02 06 33.2 -2.4**
comp=Z,168nm,1.4s,mb5.9
RJF Les Rejaudoux 88.63 327 *e*P **P** **02 06 33.7 -2.0**
comp=Z,151nm,1.1s,mb6.0
RJF *e*R
comp=Z,100µm,22.0s
CAF Calviac 88.67 326 *e*P **P** **02 06 34.0 -1.8**
comp=Z,246nm,1.4s,mb6.0
BAR Barrett 88.75 51 P **P** **02 06 36.2 -0.4**
VSL Villasalto 88.88 318 P **P** **02 06 33.8 -3.2**
comp=Z,67nm,1.2s,mb5.8
LFF La Frestale 89.27 327 *e*P **P** **02 06 36.7 -2.0**
comp=Z,174nm,1.0s,mb6.0
PHWY Pilot Hill 89.43 38 *e*P **P** **02 06 39.5 -0.1**
MTLF Montolieu 89.79 325 *e*P **P** **02 06 38.9 -2.3**
comp=Z,98nm,1.6s,mb5.6
EJON La Jonquera 90.13 324 P **P** **02 06 47.9 +5.1**
comp=Z,11nm,1.2s,mb5.0
WUAZ Wupatki 90.18 46 *e*P **P** **02 06 43.7 +0.4**
comp=Z,145nm,1.2s,mb6.2
WUAZ LR LR
comp=Z,20µm,22.0s,MS6.5
ISCO Idaho Springs 90.44 40 *e*P **P** **02 06 44.4 +0.1**
comp=Z,79nm,1.3s,mb5.9
EYMN Ely 90.49 27 *e*P **P** **02 06 43.6 -0.7**
comp=Z,345nm,1.2s,mb6.6
SCHQ Schefferville 90.56 10 P **P** **02 06 42.4 -2.1**
comp=Z,7.6nm,1.1s,mb5.0,baz=272,slow=8.6,SNR=5.0
SCHQ LR LR 02 49 09.1
comp=Z,39µm,20.9s,MS6.8,baz=250,slow=37
SCHQ Schefferville 90.56 10 *e*P **P** **02 06 43.1 -1.4**
comp=Z,123nm,1.1s,mb6.2
MLS Moulis 90.61 325 *e*P **P** **02 06 48.0 +3.0**
EPF Esparros 90.92 326 *e*P **P** **02 06 45.3 -1.1**
comp=Z,36nm,1.1s,mb5.3
RESF Ens 91.09 326 *e*P **P** **02 06 52.1 +4.9**
VIEF Viey 91.18 326 *e*P **P** **02 06 51.5 +3.9**
EMIR Miracle 91.20 324 P **P** **02 06 53.2 +5.5**
comp=Z,12nm,0.9s,mb5.2
EBIE Bielsa 91.27 326 P **P** **02 06 54.2 +6.2**
comp=Z,16nm,1.0s,mb5.3
ETSF Etsaut 91.44 326 *e*P **P** **02 06 47.5 -1.3**
comp=Z,56nm,1.1s,mb5.5
FDAF Les Forges d'A 91.50 326 *e*P **P** **02 06 53.2 +4.1**
LARF Larrau 91.53 327 *e*P **P** **02 06 50.5 +1.3**
SJPF Ste Jean 91.58 327 *e*P **P** **02 06 47.7 -1.7**
comp=Z,76nm,1.4s,mb5.5
PMOR Pomariorio Ree 91.62 107 *e*P **P** **02 06 52.4 +2.2**
comp=Z,235nm,1.4s,mb6.3
EALK Alkurruntz 91.62 327 P **P** **02 06 54.7 +5.1**
comp=Z,13nm,1.0s,mb5.2
PPT Papeete 91.73 110 *e*P **P** **02 06 53.3 +2.6**
comp=Z,126nm,1.5s,mb6.0
PPT Papeete 91.73 110 *e*PP PP 02 10 40.8 +8.7
PPT *e*SS SS 02 23 56.8 -2.9
PPT *e*LQ 02 32 13.0
PPT *e*LR LR 02 35 40.1
comp=Z,22µm,22.0s,baz=306
PPT Papeete 91.73 110 P **P** **02 06 52.7 +2.0**
comp=Z,50nm,1.0s,mb5.8,baz=326,slow=4.6,SNR=6.6
PAE Paea 91.78 110 *e*P **P** **02 06 53.2 +2.2**
comp=Z,284nm,1.6s,mb6.4
EPOB Poblet 91.85 324 P **P** **02 06 56.7 +6.0**
comp=Z,19nm,1.3s,mb5.3
TIAR Tiarei 91.91 110 *e*P **P** **02 06 53.8 +2.3**
comp=Z,395nm,1.5s,mb6.5
SDCO Great Sand Dun 91.98 41 *e*P **P** **02 06 51.6 +0.1**
comp=Z,59nm,1.3s,mb5.8
SDCO LR LR
comp=Z,32nm,19.0s,MS6.8
TVO Taravao 92.11 110 *e*P **P** **02 06 55.0 +2.5**
comp=Z,381nm,1.5s,mb6.5
ETOS Mallorca 92.18 322 P **P** **02 06 58.0 +5.7**
comp=Z,9.0nm,0.9s,mb5.1
CAEH 'Ain El Ouahch 92.21 318 P **P** **02 06 56.0 +3.5**
ESAC San Caprasio 92.31 325 P **P** **02 06 58.0 +5.1**
comp=Z,80nm,1.5s,mb5.8
ELAN Lanestosa 92.47 328 P **P** **02 06 58.7 +5.1**
comp=Z,79nm,1.4s,mb5.8
ERTA Horta de San J 92.51 324 P **P** **02 06 59.0 +5.2**
comp=Z,292nm,5.3s
EBR Ebro Roquetas 92.54 324 *e*P **P** **02 06 59.5 +5.6**
CKFL Kef-Lekhel 92.56 318 P **P** **02 06 57.0 +2.9**
TUC Tucson 92.72 48 *e*P **P** **02 06 54.4 -0.6**
comp=Z,54nm,1.1s,mb5.9
TUC LR LR
comp=Z,17µm,19.0s,MS6.5
CASM Ain Smara 92.78 318 P **P** **02 06 59.0 +3.8**
DFRA Djebel Bou Aff 92.92 318 P **P** **02 07 00.0 +4.2**
CTEI Djebel Teioual 92.97 318 P **P** **02 07 02.0 +6.0**
MEH Mehetia 93.09 109 *e*P **P** **02 06 59.2 +2.2**
comp=Z,49nm,1.4s,mb5.7
KMBO Kilima Mbogo 93.12 271 P **P** **02 06 56.4 -0.8**
comp=Z,13nm,1.1s,mb5.3,baz=239,slow=24,SNR=12
KMBO LR LR 02 50 19.9
comp=Z,31µm,20.9s,MS6.7,baz=24,slow=37
KMBO Kilima Mbogo 93.12 271 P **P** **02 06 56.3 -1.0**
comp=Z,22nm,1.3s,mb5.4
EMOS Mosqueruela 93.36 325 P **P** **02 07 02.3 +4.6**
comp=Z,80nm,2.1s,mb5.8
SET Setif 93.44 318 P **P** **02 07 02.0 +3.8**
LAZ Ladron 93.46 44 P **P** **02 06 56.1 -2.3**
ANMO Albuquerque 93.46 43 *e*P **P** **02 06 58.8 +0.5**
comp=Z,76nm,1.3s,mb6.0
ANMO LR LR
comp=Z,19µm,20.0s,MS6.5
CKHR Kef el Ahmar 93.51 318 P **P** **02 07 04.0 +5.5**
CMER Merouana 93.58 318 P **P** **02 07 01.0 +2.2**
LENM Lemitar 93.72 44 P **P** **02 07 00.1 +0.5**
LPM Los Pinos Moun 93.81 44 *e*P **P** **02 06 59.8 -0.2**
EPON Pontenova 93.98 330 P **P** **02 07 04.6 +4.1**
comp=Z,2.3nm,0.4s,mb5.0
CBKS Cedar Bluff 94.20 37 *e*P **P** **02 07 00.8 -0.9**
comp=Z,96nm,1.2s,mb6.1
CBKS LR LR
comp=Z,23µm,19.0s,MS6.7
EBEN Beniarda 94.52 323 P **P** **02 07 08.9 +5.8**
comp=Z,13nm,1.0s,mb5.3
TAOE Nuku Hiva Isla 94.52 98 *e*P **P** **02 07 06.2 +2.5**
TAOE *e*SS SS 02 24 41.4 +1.6
TAOE *e*LQ 02 33 24.6
TAOE *e*LR LR 02 36 54.8
EINC Incio 94.62 330 P **P** **02 07 07.0 +3.5**
comp=Z,104nm,2.3s,mb5.9
ERUA La Rua 94.75 330 P **P** **02 07 07.5 +3.5**
comp=Z,30nm,2.4s,mb5.3
STS Santiago 94.92 331 P **P** **02 07 08.2 +3.3**
comp=Z,12nm,1.3s,mb5.2
ECAL Calabor 94.95 329 P **P** **02 07 07.9 +2.9**
comp=Z,5.4nm,0.8s,mb5.0
EMAZ Mazaricos 95.04 331 P **P** **02 07 09.0 +3.6**
comp=Z,83nm,2.4s,mb5.7
TBI Tubuai 95.09 115 *e*PP PP 02 11 20.1 +22
TBI *e*SS SS 02 24 51.9 +4.3
TBI *e*LQ 02 33 29.2
ETOB Tobarra 95.22 324 P **P** **02 07 10.6 +4.3**
comp=Z,24nm,1.3s,mb5.5
EBNR Beni Rached 95.46 321 P **P** **02 07 12.0 +4.5**
KSU1 Kansas State U 95.51 35 P **P** **02 07 07.2 -0.4**
ESDC Sonseca Array 95.55 326 P **P** **02 07 05.4 -2.4**
comp=Z,0.9nm,0.8s,baz=13,slow=5.1,SNR=3.3
ESDC PP PP 02 10 57.6 -3.5
comp=Z,4.3nm,1.0s,baz=48,slow=8.5,SNR=4.2
ESLA Sonseca Array 95.55 326 PFAKE 02 07 20.0 +12
ESLA LR LR
comp=Z,396µm,19.0s
EVIA Vianos 95.69 325 P **P** **02 07 14.0 +5.5**
comp=Z,36nm,1.3s,mb5.6
EMUR La Murta 95.69 323 P **P** **02 07 13.4 +4.9**
comp=Z,13nm,1.1s,mb5.3
AMTX Amarillo 96.17 41 P **P** **02 07 12.2 +1.4**
comp=Z,62nm,1.3s,mb5.9
AMTX LR LR
comp=Z,22µm,20.0s,MS6.6
CPRX Cap Rock 96.33 43 *e*P **P** **02 07 11.1 -0.4**
MNTX Cornudas Mount 96.42 45 *e*P **P** **02 07 11.4 -0.6**
comp=Z,28nm,1.2s,mb5.6
MTE Manteigas 96.56 329 *e*pP pP 02 07 13.9 -1.4
MTE *e*PP PP 02 11 09.8 +0.6
MTE *e*SKSac 02 17 53.4
MTE *e*LR LR 02 41 36.8
comp=Z,56µm,18.0s
EQES Quesada 96.62 325 P **P** **02 07 15.6 +2.9**
comp=Z,23nm,1.1s,mb5.5
GDL2 Guadalupe Moun 96.65 44 *e*P **P** **02 07 13.0 0.0**
EBAN Banos Encina 96.67 325 P **P** **02 07 15.6 +2.6**
comp=Z,8.2nm,0.9s,mb5.2
ENIJ Nijar 96.85 323 P **P** **02 07 18.9 +5.1**
comp=Z,62nm,2.4s,mb5.6
CLNB Carlsbad 96.88 44 *e*P **P** **02 07 13.4 -0.6**
EADA Adamuz 97.05 326 P **P** **02 07 18.0 +3.3**
comp=Z,155nm,2.5s,mb6.0
EBER Berja 97.25 324 P **P** **02 07 21.6 +6.0**
comp=Z,15nm,1.0s,mb5.4
ERON Agron 97.60 325 P **P** **02 07 20.8 +3.7**
comp=Z,3.6nm,0.7s,mb5.0
ELOJ Sierra Loja 97.66 325 P **P** **02 07 21.0 +3.6**
comp=Z,7.6nm,0.8s,mb5.3
EBAD Badajoz 97.68 328 P **P** **02 07 21.1 +3.6**
comp=Z,103nm,2.4s,mb5.9
WMOK Wichita Mounta 97.83 39 *e*P **P** **02 07 16.3 -2.0**
comp=Z,49nm,1.3s,mb5.9
WMOK LR LR
comp=Z,28µm,20.0s,MS6.7
AAM Ann Arbor 98.17 25 PFAKE 02 07 30.0 +10
AAM LR LR
comp=Z,41µm,19.0s,MS6.9
MBAR Mbarara 98.25 275 *e*P **P** **02 07 18.7 -1.9**
comp=Z,14nm,1.2s,mb5.4
MBAR LR LR
comp=Z,7µm,20.0s,MS6.2
PQI Presque Isle 98.27 13 PFAKE 02 07 30.0 +10
PQI LR LR
comp=Z,236µm,22.0s,MS7.6
EVO Evora 98.31 328 *e*P **P** **02 07 17.9 -2.4**
comp=Z,21nm,1.4s,mb5.2
EVO *e*R
comp=Z,98µm,20.8s
EMIN Mina Concepcio 98.34 327 P **P** **02 07 26.2 +5.8**
comp=Z,231nm,2.7s,mb6.2
EMIJ Mijas 98.42 325 P **P** **02 07 26.5 +5.6**
comp=Z,6.6nm,0.8s,mb5.2
ESPR Espera 98.69 326 P **P** **02 07 27.3 +5.3**
comp=Z,16nm,0.9s,mb5.6
CCM Cathedral Cave 98.81 32 P **P** **02 07 22.4 -0.1**
comp=Z,41nm,1.4s,mb5.8
CCM LR LR
comp=Z,28µm,20.0s,MS6.8
LTX Lajitas 99.15 46 *e*P **P** **02 07 23.6 -0.7**
comp=Z,39nm,1.3s,mb5.8
LTX LR LR
comp=Z,21µm,20.0s,MS6.6
TXAR Lajitas Array 99.15 46 P **P** **02 07 22.8 -1.5**
comp=Z,4.7nm,0.7s,mb5.2,baz=287,slow=2.5,SNR=25
TXAR PP PP 02 11 28.9 -0.3
comp=Z,5.0nm,1.0s,baz=304,slow=4.5,SNR=5.5
TXAR PKKPbc 02 23 52.8
comp=Z,2.1nm,0.9s,baz=135,slow=5.3,SNR=9.3
TXAR Lajitas Array 99.15 46 P **P** **02 07 22.8 -1.5**
TXAR PP PP 02 11 28.9 -0.3
TXAR PKKPbc 02 23 52.8
NCB Newcomb 99.49 18 PFAKE 02 07 40.0 +14
NCB LR LR
comp=Z,35µm,21.0s,MS6.8
ERPA Erie 99.56 22 PFAKE 02 07 40.0 +14
ERPA LR LR
comp=Z,25µm,19.0s,MS6.7
ALLY Alegheny Colle 99.93 23 Pdif **P** **02 07 26.6 -1.0**
ACSO Alum Creek Sta 100.24 25 PFAKE 02 07 40.0 +11
ACSO LR LR
comp=Z,35µm,19.0s,MS6.9
EMMW East Machias 100.27 13 PFAKE 02 07 40.0 +11
EMMW LR LR
comp=Z,185µm,22.0s,MS7.5
DRV Dumont d'Urvil 100.38 176 PP PP 02 11 38.0 -0.1
DRV SKKS 02 18 14.0
DRV SS SS 02 26 09.0 +8.5
DRV L 02 35 00.0
DRV R 02 42 00.0
JCT Junction City 100.53 42 Pdif P 02 07 30.3 -0.3
comp=Z,18nm,0.9s
JCT LR LR
comp=Z,17µm,20.0s,MS6.5
MIAR Mount Ida 100.61 36 Pdif P 02 07 30.3 -0.5
comp=Z,17nm,1.1s
MIAR LR LR
comp=Z,28µm,20.0s,MS6.8
WCI Wyandotte Cave 100.74 29 PFAKE 02 07 40.0 +8.6
WCI LR LR
comp=Z,24µm,20.0s,MS6.7
CASY Casey 100.86 188 PFAKE 02 07 40.0 +8.8
CASY LR LR
comp=Z,11µm,21.0s,MS6.3
HRV Harvard--Oak R 101.52 16 PFAKE 02 07 50.0 +15
HRV LR LR
comp=Z,25µm,21.0s,MS6.7
SSPA Standing Stone 101.56 21 PFAKE 02 07 50.0 +15
SSPA LR LR
comp=Z,33µm,20.0s,MS6.8
WES Weston 101.69 16 PFAKE 02 07 50.0 +14
WES LR LR
comp=Z,31µm,21.0s,MS6.8
WVT Waverly 101.91 31 Pdif P 02 07 35.2 -1.4
comp=Z,40nm,1.6s
OXF Oxford 102.58 33 PFAKE 02 07 50.0 +10
OXF LR LR
comp=Z,26µm,19.0s,MS6.8
PLAL Pickwick Lake 102.77 31 PFAKE 02 07 50.0 +9.4
PLAL LR LR

comp=Z,21µm,19.0s,MS6.7
LRAL Lakeview Retre 104.90 32 PFAKE 02 08 00.0 +10
LRAL LR LR
comp=Z,25µm,22.0s,MS6.7
ADH Angra Heroismo 104.99 342 *e*PP PP 02 12 31.0 +17
ADH *e* 02 21 41.0
ADH *e* 02 22 26.5
ADH *e*SS SS 02 27 26.0 +21
ADH *e* 02 31 35.5
ADH eLQ 02 37 26.0
ADH eLR LR 02 43 22.5
PDA Ponta Delgada 105.42 340 eLR LR 02 43 47.0
GOGA Godfrey 106.06 29 PFAKE 02 12 20.0
GOGA LR LR
comp=Z,36µm,22.0s,MS6.9
RKT Rikitea 106.25 107 *e*SKSac 02 18 35.5
RKT *e*PS PS 02 21 30.6 -7.0
RKT *e*SS SS 02 27 23.3 +0.8
RKT eLQ 02 37 51.4
RKT eLR LR 02 42 10.8
comp=Z,18µm,33.5s,baz=289
NHSC New Hope 107.60 26 PFAKE 02 12 20.0
NHSC LR LR
comp=Z,43µm,22.0s,MS7.0
LSZ Lusaka 108.23 264 PFAKE 02 12 20.0
LSZ LR LR
comp=Z,29µm,22.0s,MS6.8
PTCN Pitcairn Islan 111.09 107 PFAKE 02 12 30.0 +12
PTCN LR LR
comp=Z,12µm,20.0s,MS6.5
DWPF Disney 111.54 30 PFAKE 02 12 30.0 +11
DWPF LR LR
comp=Z,29µm,21.0s,MS6.8
VNDA Vanda 112.67 173 PKiKP 02 12 17.4
comp=Z,0.9nm,0.4s,baz=321,slow=6.5,SNR=5.1
VNDA PP PP 02 13 04.3 -5.0
comp=Z,7.9nm,1.2s,baz=315,slow=8.1,SNR=6.6
VNDA Vanda 112.67 173 PKiKP 02 12 18.3
BBSR BB Station 112.74 14 PFAKE 02 12 30.0 +8.8
BBSR LR LR
comp=Z,19µm,20.0s,MS6.7
SBA Scott Base 113.49 172 PFAKE 02 12 30.0 +8.3
SBA LR LR
comp=Z,12µm,21.0s,MS6.5
TSUM Tsumeb 118.96 265 *e*PKPdf PKPdf 02 12 31.3 -2.3
TSUM LR LR
comp=Z,29µm,20.0s,MS6.9
DBIC Dimbokro 121.50 305 PKP PKPdf 02 12 34.3 -4.4
comp=Z,11nm,0.9s,baz=95,slow=3.5,SNR=4.6
DBIC Dimbokro 121.50 305 *e*PKPdf PKPdf 02 12 34.1 -4.6
DBIC LR LR
comp=Z,31µm,20.0s,MS7.0
SUR Sutherland 121.96 250 PFAKE 02 12 50.0 +11
SUR LR LR
comp=Z,6µm,20.0s,MS6.2
QSPA South Pole Qui 123.50 180 *e*P PKPdf 02 12 40.5 -0.5
QSPA LR LR
comp=Z,15µm,20.0s,MS6.7
JTS JuntasAbangare 124.88 44 PFAKE 02 12 50.0 +4.8
JTS LR LR
comp=Z,2µm,20.0s,MS5.8
PAYG Puerto Ayora 129.76 58 PFAKE 02 13 00.0 +5.3
PAYG LR LR
comp=Z,8µm,21.0s,MS6.4
SDV Santo Domingo 133.19 29 *e*PKPpre 02 12 47.7
SNAA Sanae 134.80 199 *e* PKPdf 02 13 02.3 -0.3
SNAA Sanae 134.80 199 *e* PKPdf 02 13 05.4 +2.8
SNAA Sanae 134.80 199 *e* PKPdf 02 13 06.5 +3.9
SNAA Sanae 134.80 199 *e* PKPdf 02 13 08.9 +6.3
SNAA Sanae 134.80 199 *e*PKPpre 02 12 56.2
SNAA *e*P 02 13 02.3
SNAA *e* 02 13 05.4
SNAA *e* 02 13 06.5
SNAA *e* 02 13 08.9
ROSC El Rosal 135.11 36 PKP PKPdf 02 13 04.7 -0.1
comp=Z,5.9nm,0.7s,baz=105,slow=23,SNR=4.2
VNA2 Neumayer--Watz 136.44 199 *e* PKPdf 02 13 05.9 +0.4
VNA2 Neumayer--Watz 136.44 199 *e* PKPdf 02 13 06.9 +1.4
VNA2 Neumayer--Watz 136.44 199 *e* PKPdf 02 13 09.1 +3.6
VNA2 Neumayer--Watz 136.44 199 *e*P PKPdf 02 13 02.6 -2.9
VNA2 *e* 02 13 05.9
VNA2 *e* 02 13 06.9
VNA2 *e* 02 13 09.1
VNA2 *e* 02 16 34.7
VNA2 *e* 02 16 41.3
OTAV Otavalo 136.76 45 *e*PKPpre 02 12 54.7
VNA1 Neumayer--Stat 136.84 199 *e* PKPdf 02 13 07.4 +1.2
VNA1 Neumayer--Stat 136.84 199 *e* PKPdf 02 13 08.6 +2.4
VNA1 Neumayer--Stat 136.84 199 *e* PKPdf 02 13 10.6 +4.4
VNA1 Neumayer--Stat 136.84 199 *e*P PKPdf 02 13 03.9 -2.3
VNA1 *e* 02 13 07.4
VNA1 *e* 02 13 08.6
VNA1 *e* 02 13 10.6
VNA1 *e* 02 16 36.7
VNA1 *e* 02 16 44.4
VNA3 Neumayer Olymp 136.84 198 *e* PKPdf 02 13 03.3 -2.9
VNA3 Neumayer Olymp 136.84 198 *e* PKPdf 02 13 04.5 -1.7
VNA3 Neumayer Olymp 136.84 198 *e* PKPdf 02 13 06.3 +0.1
VNA3 Neumayer Olymp 136.84 198 *e*P PKPdf 02 13 00.1 -6.1
VNA3 *e* 02 13 03.3
VNA3 *e* 02 13 04.5
VNA3 *e* 02 13 06.3
VNA3 *e* 02 16 33.6
VNA3 *e* 02 16 39.8
NNA Nana 147.13 55 *e*PKPdf PKPdf 02 13 23.4 -2.6
RCBR Riachuelo 149.38 332 *e*PKPdf PKPdf 02 13 28.0 -1.6
RCBR LR LR
comp=Z,28µm,22.0s,MS7.0
CS6B Jaguaretama 150.06 337 *e*P PKPdf 02 13 30.2 -0.4
CS6B *i* 02 13 36.0
CS6B *i* 02 13 40.1
USHA Ushuaia 155.19 154 PKP PKPdf 02 13 34.0 -2.6
comp=Z,12nm,0.9s,baz=180,slow=1.0,SNR=2.3
LPAZ La Paz 155.99 48 PKP PKPdf 02 13 36.9 -2.0
comp=Z,1.9nm,0.6s,baz=86,slow=5.2,SNR=5.8
LPAZ PKPab PKPab 02 14 03.0 -2.7
comp=Z,9.9nm,0.8s,baz=323,slow=2.7,SNR=11
LPAZ La Paz 155.99 48 PKPdf PKPdf 02 13 35.0 -3.9
LPAZ LR LR
comp=Z,15µm,22.0s,MS6.8
BAO Brasilia Array 161.89 355 P PKPdf 02 13 46.0 +0.3
BDFB Brasilia 161.90 355 PKP PKPdf 02 13 45.1 -0.7
comp=Z,37nm,1.1s,baz=23,slow=2.1,SNR=25
PLCA Paso Flores 162.05 119 PKP PKPdf 02 13 45.0 -0.2
comp=Z,2.8nm,1.0s,baz=256,slow=4.2,SNR=3.0
PLCA PKPab PKPab 02 14 32.5 +1.2
comp=Z,5.2nm,1.0s,baz=232,slow=5.3,SNR=3.6
PLCA Paso Flores 162.05 119 PKP PKPdf 02 13 45.0 -0.2
PLCA PKPab PKPab 02 14 32.5 +1.2
PLCA LR LR
comp=Z,16µm,20.0s
FCH Farellones 162.87 94⇑ *i*P PKPab 02 14 37.3 +2.3
CFAA Coronel Fontan 164.28 87 PKP PKPdf 02 13 45.1 -2.7
comp=Z,1.2nm,1.0s,baz=227,slow=2.9,SNR=8.9
CFAA PKPab PKPab 02 14 42.6 +1.5
comp=Z,3.0nm,0.9s,baz=315,slow=3.6,SNR=9.4
CAM4 Nova Friburgo 167.00 329 (P) PKPdf 02 13 52.4 +2.1

JMA 20 01:55:54.6, 33.71N×130.24E, h8km±1km, M4.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.31**	**156**	P	Pg	01 56 00.8	-0.1
JFI				S	Sg	01 56 05.2	+0.1
JII	**Iki**	**0.43**	**282**	P	Pg	01 56 03.2	-0.1
JII				S	Sg	01 56 09.2	0.0
JFA	**Akaike**	**0.46**	**90**	P	Pg	01 56 03.6	-0.3
JUR	**Ureshino**	**0.66**	**202**	S	Sg	01 56 16.0	-0.8
JTA	**Tamana**	**0.78**	**162**	P	Pb	01 56 09.6	-0.4
JTA				S	Sb	01 56 19.9	-0.7

JMA 20 01:57:04.0±0.1, 36.08N×140.11E, h63km±1km, M3.8, 3C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.16**	**25**	⇑P	P	01 57 13.6	0.0
JYT				S	S	01 57 20.9	+0.2
TOK	**Tokyo**	**0.48**	**216**	P	P	01 57 16.6	+0.5
JAG	**Ashikaga**	**0.63**	**303**	⇓P	P	01 57 17.8	+0.1
JAG				S	S	01 57 28.1	+0.2
JHO	**Hitachi**	**0.65**	**35**	⇑P	P	01 57 17.9	0.0
JHO				S	S	01 57 28.3	+0.1
JCN	**Nagara**	**0.66**	**174**	P	P	01 57 18.2	+0.1
JHU	**Hanno**	**0.71**	**252**	P	P	01 57 18.0	-0.6
JHU				*e*S	S	01 57 28.6	-1.0
CHOJ	**Chosi**	**0.71**	**122**	⇑P	P	01 57 18.4	-0.3
JSB	**Shiboa**	**0.90**	**350**	*e*S	S	01 57 34.9	+1.2
JYO	**Yokosk**	**0.93**	**203**	*e*S	S	01 57 34.2	-0.2
JKT	**Katashina**	**0.98**	**315**	P	P	01 57 22.1	0.0
JKT				*e*S	S	01 57 36.1	+0.6

JMA 20 01:59:29.2, 33.70N×130.26E, h17km±2km, M3.9, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.29**	**158**	P	Pb	01 59 35.4	-0.2
JFI				S	Sb	01 59 39.7	-0.3
JFA	**Akaike**	**0.45**	**88**	P	Pb	01 59 37.9	-0.3
JFA				S	Sb	01 59 44.1	-0.2
JII	**Iki**	**0.45**	**282**	S	Sb	01 59 44.3	-0.2
JUR	**Ureshino**	**0.66**	**203**	S	Sb	01 59 50.3	-0.2
JTA	**Tamana**	**0.77**	**163**	P	Pb	01 59 43.9	+0.2

JMA 20 02:00:24.3, 33.76N×130.15E, h7km±2km, M3.6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.35**	**276**	⇑P	Pg	02 00 31.4	0.0
JII				S	Sg	02 00 36.3	+0.2
JFI	**Itaya**	**0.39**	**149**	S	Sg	02 00 37.3	-0.1
JFA	**Akaike**	**0.54**	**95**	S	Sg	02 00 42.3	-0.1
JUR	**Ureshino**	**0.69**	**194**	S	Sg	02 00 46.6	-0.6
JTA	**Tamana**	**0.86**	**158**	P	Pb	02 00 40.6	-0.5
JTA				S	Sb	02 00 52.2	-0.3

JMA 20 02:00:49.6, 33.70N×130.25E, h8km±2km, M3.5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.44**	**283**	P	Pg	02 00 58.4	-0.1
JII				S	Sg	02 01 04.8	+0.3
JFA	**Akaike**	**0.46**	**88**	P	Pg	02 00 58.4	-0.4
JFA				S	Sg	02 01 04.8	-0.1
JUR	**Ureshino**	**0.66**	**203**	P	Pg	02 01 02.3	-0.5
JUR				S	Sg	02 01 10.7	-0.9
JTA	**Tamana**	**0.77**	**162**	P	Pb	02 01 04.3	-0.5
JTA				S	Sb	02 01 14.6	-0.6

JMA 20 02:01:05.5, 33.68N×130.28E, h14km±1km, M3.6, 1C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.27**	**160**	⇑P	Pg	02 01 11.3	-0.1
JFI				S	Sg	02 01 15.2	-0.2
JFA	**Akaike**	**0.43**	**86**	S	Sb	02 01 20.0	-0.3
JII	**Iki**	**0.47**	**284**	S	Sb	02 01 21.4	-0.1
JUR	**Ureshino**	**0.65**	**205**	S	Sb	02 01 26.4	-0.2

JMA 20 02:03:42.9, 33.72N×130.23E, h11km±1km, M4.1, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.32**	**156**	P	Pg	02 03 49.5	-0.1
JFI				S	Sg	02 03 54.0	-0.1
JII	**Iki**	**0.42**	**280**	⇓P	Pg	02 03 51.3	-0.2
JII				S	Sg	02 03 57.3	0.0
JFA	**Akaike**	**0.47**	**91**	S	Sg	02 03 58.5	-0.4
JUR	**Ureshino**	**0.67**	**201**	⇑P	Pb	02 03 55.6	-0.5
JTA	**Tamana**	**0.80**	**161**	⇑P	Pb	02 03 58.1	-0.2
JTA				S	Sb	02 04 08.4	-0.4

JMA 20 02:06:51.3, 33.73N×130.20E, h13km±1km, M3.5, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.34**	**152**	⇑P	Pg	02 06 58.3	-0.2
JFI				S	Sg	02 07 03.3	0.0
JII	**Iki**	**0.40**	**280**	⇓P	Pg	02 06 59.2	-0.3
JII				S	Sg	02 07 04.5	-0.5
JFA	**Akaike**	**0.50**	**92**	⇑P	Pb	02 07 01.0	-0.4
JFA				S	Sb	02 07 08.0	-0.2
JTA	**Tamana**	**0.81**	**160**	P	Pb	02 07 06.5	-0.3
JTU	**Tsushima**	**1.03**	**320**	S	Sb	02 07 23.8	0.0

JMA 20 02:08:06.8, 33.77N×130.17E, h11km±1km, M3.6, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.37**	**274**	⇓P	Pg	02 08 14.1	-0.3
JII				S	Sg	02 08 19.0	-0.4
JFI	**Itaya**	**0.39**	**152**	P	Pg	02 08 14.6	-0.2
JFI				S	Sg	02 08 19.6	-0.5
JFA	**Akaike**	**0.52**	**96**	P	Pg	02 08 16.9	-0.5
JFA				S	Sg	02 08 24.4	-0.2
JUR	**Ureshino**	**0.70**	**195**	P	Pb	02 08 20.0	-0.5
JUR				S	Sb	02 08 29.1	-0.8
JTA	**Tamana**	**0.86**	**159**	⇑P	Pb	02 08 23.0	-0.3
JTA				S	Sb	02 08 34.3	-0.2
JTU	**Tsushima**	**0.99**	**320**	P	Pb	02 08 25.4	-0.1
JTU				S	Sb	02 08 38.2	-0.1

JMA 20 02:08:32.0, 33.80N×130.10E, h8km±2km, M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.31**	**269**	P	Pg	02 08 38.3	0.0
JII				S	Sg	02 08 42.4	-0.1
JFI	**Itaya**	**0.44**	**147**	P	Pg	02 08 40.7	-0.3
JFI				*e*S	Sg	02 08 46.7	-0.2
JFA	**Akaike**	**0.59**	**98**	P	Pg	02 08 43.4	-0.4
JFA				*e*S	Sg	02 08 51.3	-0.3
JUR	**Ureshino**	**0.72**	**190**	S	Sg	02 08 54.7	-1.3
JTA	**Tamana**	**0.91**	**156**	P	Pb	02 08 49.1	-0.5
JTA				*e*S	Sb	02 09 01.3	-0.3
JTU	**Tsushima**	**0.93**	**321**	P	Pb	02 08 49.7	-0.2
JTU				S	Sb	02 09 02.1	-0.1

IDC 20 02:10:32.8±14.0, 22.77S×179.30W, h477km±112km, mb3.4/5, mb1 3.5/6, mb1mx3.3/15, mbtmp4.3/6, Error ellipse: s-maj=225.1km s-min=40.5km az=56.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.75**	**190**	P	P	02 13 50.0	-1.5
	1.6nm,0.3s,baz=19,slow=6.6,SNR=9.7						
RPZ	**Rata Peaks**	**22.37**	**199**	P	P	02 14 54.5	-0.6
	4.0nm,0.5s,baz=329,slow=6.1,SNR=3.4						
CTA	**Charters Tower**	**32.14**	**268**	P	P	02 16 21.3	-0.1
	5.4nm,0.6s,baz=106,slow=11,SNR=11						
STKA	**Stephens Creek**	**35.75**	**247**	P	P	02 16 49.8	-1.7
	1.9nm,0.4s,baz=80,slow=9.8,SNR=7.1						
ASAR	**Alice Springs**	**42.87**	**259**	P	P	02 17 47.9	-1.6
	1.3nm,0.4s,baz=94,slow=7.3,SNR=27						
ASPA	**Alice Springs**	**42.87**	**259**	*e*P	P	02 17 48.3	-1.2
WB2	**Warramunga Arr**	**43.13**	**265**	*e*P	P	02 17 49.8	-1.8
WRA	**Warramunga Arr**	**43.14**	**265**	P	P	02 17 50.1	-1.6
	0.9nm,0.3s,baz=90,slow=5.9,SNR=25						
FITZ	**Fitzroy Crossi**	**51.57**	**264**	*e*P	P	02 18 54.0	-1.9
	9.3nm,1.4s						

JMA 20 02:15:10.7, 33.79N×130.15E, h12km±2km, M3.5, 1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.35**	**271**	⇓P	Pg	02 15 17.7	-0.3
JII				S	Sg	02 15 22.6	-0.2
JFI	**Itaya**	**0.41**	**151**	P	Pg	02 15 18.9	-0.3
JFI				S	Sg	02 15 24.1	-0.8
JFA	**Akaike**	**0.54**	**98**	P	Pb	02 15 21.1	-0.6
JFA				S	Sb	02 15 28.8	-0.3
JUR	**Ureshino**	**0.71**	**194**	S	Sb	02 15 33.5	-0.6

IDC 20 02:15:27.5±2.2, 46.29N×150.91E, mb3.9/10, mb1 4.1/11, mb1mx3.9/23, mbtmp4.0/11, ML3.8/1, Error ellipse: s-maj=58.1km s-min=24.7km az=168.0
MOS 20 02:15:35.4±0.8, 46.59N×149.93E, h40km, mb4.6/12, Error ellipse: s-maj=29.1km s-min=11.4km az=105.9
NEIC 20 02:15:39.4±0.6, 47.28N×150.77E, mb4.3/14, Error ellipse: s-maj=19.1km s-min=8.7km az=130.0
ISC 20 02:15:34.4±2.3, 46.8N±0.4×150.8E±0.2, h33km, n55, σ0s74/55, mb4.2/23, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**4.45**	**233**	*e*PN	**Pn**	**02 16 26.2**	**-15**
ASAJ	**Asahikawa**	**6.36**	**248**	PN	**Pn**	**02 16 59.4**	**-9.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**6.36**	**248**	Pn	**Pn**	**02 16 59.4**	**-9.1**
	comp=Z,2.3nm,0.3s,baz=87,slow=24,SNR=8.2						
MAT	**Matsushiro**	**13.90**	**227**	*e*P	**P**	**02 19 00.0**	**+8.9**
	comp=Z,231nm,2.2s						
SONM	**Songino Array**	**29.80**	**288**	P	**P**	**02 21 38.7**	**-1.3**
	comp=Z,0.5nm,0.5s,mb3.5,baz=84,slow=7.5,SNR=4.8						
IMA	**Indian Mountai**	**34.69**	**36**	*e*P	**P**	**02 22 22.8**	**+0.2**
IMA				pmax	pmax		
	comp=Z,41nm,0.8s						
IMA	**Indian Mountai**	**34.69**	**36**	*e*P	**P**	**02 22 22.8**	**+0.2**
	comp=Z,41nm,0.8s						
INK	**Inuvik**	**42.45**	**32**	*e*P	**P**	**02 23 25.8**	**-1.3**
INK	**Inuvik**	**42.45**	**32**	P	**P**	**02 23 26.0**	**-1.1**
	comp=Z,1.4nm,0.8s,mb3.6,baz=317,slow=7.5,SNR=6.3						
KURK	**Kurchatov**	**45.99**	**303**	*e*P	**P**	**02 23 55.0**	**-0.9**
BVAR	**Borovoye Array**	**49.57**	**309**	P	**P**	**02 24 24.4**	**+0.6**
	comp=Z,0.4nm,0.5s,mb3.7,baz=101,slow=6.9,SNR=5.1						
FINES	**FINESS Array B**	**63.28**	**334**	P	**P**	**02 26 00.5**	**-1.1**
	comp=Z,1.6nm,0.6s,mb4.4,baz=34,slow=7.4,SNR=18						
NB2	**NORSAR Subarra**	**67.63**	**340**	P	**P**	**02 26 28.8**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.5,baz=29,slow=6.2						
NOA	**NORSAR Array B**	**67.63**	**340**	P	**P**	**02 26 29.2**	**-0.1**
	comp=Z,1.8nm,0.6s,mb4.3,baz=28,slow=6.4,SNR=7.7						
HFS	**Hagfors**	**67.82**	**338**	P	**P**	**02 26 30.2**	**-0.3**
	comp=Z,4.5nm,0.6s,mb4.7,baz=45,slow=4.2,SNR=18						
HFS				pP	pP	02 26 42.8	+1.9
	comp=Z,0.9nm,0.5s,baz=63,slow=6.6,SNR=1.6						
CLL	**Collm**	**75.72**	**334**	P	**P**	**02 27 17.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**75.88**	**345**	P	**P**	**02 27 17.9**	**-0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=11,slow=5.1,SNR=5.9						
EKA				pP	pP	02 27 31.4	+2.5
	comp=Z,1.3nm,0.9s,baz=18,slow=5.3,SNR=2.2						
BRTR	**Keskin Array B**	**77.23**	**315**	P	**P**	**02 27 25.6**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.8,baz=112,slow=4.2,SNR=4.7						
KHC	**Kasperske Hory**	**77.46**	**333**	*e*P	**P**	**02 27 26.5**	**-1.1**
GERES	**GERESS Array B**	**77.68**	**333**	P	**P**	**02 27 28.3**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.7,baz=42,slow=5.2,SNR=5.8						
TXAR	**Lajitas Array**	**78.84**	**59**	P	**P**	**02 27 34.3**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=331,slow=9.3,SNR=3.0						
CDF	**Champ du Feu**	**79.97**	**336**	*e*P	**P**	**02 27 41.1**	**-0.2**
MEZF	**Maizieres J'vi**	**80.48**	**338**	*e*P	**P**	**02 27 44.1**	**+0.1**
	comp=Z,3.4nm,0.5s,mb4.2						
HAU	**Haudompre**	**80.59**	**337**	*e*P	**P**	**02 27 44.2**	**-0.4**
GRR	**Gorron**	**82.01**	**341**	*e*P	**P**	**02 27 52.3**	**+0.3**
	comp=Z,4.6nm,0.7s,mb4.2						
GRR	**Gorron**	**82.01**	**341**	*e*P	**P**	**02 27 52.3**	**+0.3**
GRR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**82.22**	**338**	*e*P	**P**	**02 27 52.9**	**-0.2**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**82.22**	**338**	*e*P	**P**	**02 27 52.9**	**-0.2**
	comp=Z,1.6nm,0.6s,mb4.1						
SGMF	**Saint Gilles**	**82.50**	**342**	*e*P	**P**	**02 27 54.6**	**+0.1**
AVF	**Avril sur Loir**	**82.51**	**338**	*e*P	**P**	**02 27 54.7**	**+0.1**
	comp=Z,3.1nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**82.51**	**338**	*e*P	**P**	**02 27 54.7**	**+0.1**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SMF	**Signal de Mont**	**82.52**	**338**	*e*P	**P**	**02 27 54.7**	**+0.1**
	comp=Z,6.2nm,0.8s,mb4.4						
SMF	**Signal de Mont**	**82.52**	**338**	*e*P	**P**	**02 27 54.7**	**+0.1**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ROSF	**Rostrenen**	**82.57**	**343**	*e*P	**P**	**02 27 55.4**	**+0.5**
	comp=Z,30nm,1.2s,mb4.9						
ROSF	**Rostrenen**	**82.57**	**343**	*e*P	**P**	**02 27 55.4**	**+0.5**
ROSF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
LPL	**La Plagne**	**82.76**	**335**	*e*P	**P**	**02 27 56.4**	**+0.5**
LPG	**La Plagne**	**82.78**	**335**	*e*P	**P**	**02 27 56.7**	**+0.7**
	comp=Z,1.8nm,0.5s,mb4.1						
LPG	**La Plagne**	**82.78**	**335**	*e*P	**P**	**02 27 56.7**	**+0.7**
LPG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
TCF	**Toulx Ste Croi**	**83.26**	**339**	*e*P	**P**	**02 27 58.9**	**+0.5**
	comp=Z,7.4nm,1.1s,mb4.3						
TCF	**Toulx Ste Croi**	**83.26**	**339**	*e*P	**P**	**02 27 58.9**	**+0.5**
TCF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MBDF	**Montbardon**	**83.47**	**335**	*e*P	**P**	**02 27 59.9**	**+0.4**
	comp=Z,3.6nm,0.7s,mb4.2						
MBDF	**Montbardon**	**83.47**	**335**	*e*P	**P**	**02 27 59.9**	**+0.4**
MBDF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MFF	**Saint Martin d**	**83.53**	**340**	*e*P	**P**	**02 28 00.4**	**+0.7**
	comp=Z,4.8nm,0.7s,mb4.4						
MFF	**Saint Martin d**	**83.53**	**340**	*e*P	**P**	**02 28 00.4**	**+0.7**
MFF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
ORIF	**Oris-en-Rattie**	**83.55**	**336**	*e*P	**P**	**02 28 00.5**	**+0.6**
	comp=Z,2.9nm,0.6s,mb4.3						
ORIF	**Oris-en-Rattie**	**83.55**	**336**	*e*P	**P**	**02 28 00.5**	**+0.6**
ORIF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
VIVF	**Saint-Julien-l**	**83.95**	**336**	*e*P	**P**	**02 28 02.4**	**+0.5**
	comp=Z,6.2nm,0.9s,mb4.4						
VIVF	**Saint-Julien-l**	**83.95**	**336**	*e*P	**P**	**02 28 02.4**	**+0.5**
VIVF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
RJF	**Les Rejaudoux**	**84.36**	**339**	*e*P	**P**	**02 28 04.6**	**+0.7**
CAF	**Calviac**	**84.57**	**338**	*e*P	**P**	**02 28 06.2**	**+1.2**
	comp=Z,2.3nm,0.6s,mb4.2						
CAF	**Calviac**	**84.57**	**338**	*e*P	**P**	**02 28 06.2**	**+1.2**
CAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
FRF	**La Foret Royal**	**84.58**	**335**	*e*P	**P**	**02 28 06.6**	**+1.5**
LFF	**La Frestale**	**84.89**	**339**	*e*P	**P**	**02 28 07.5**	**+0.9**
	comp=Z,3.9nm,0.6s,mb4.4						
LFF	**La Frestale**	**84.89**	**339**	*e*P	**P**	**02 28 07.5**	**+0.9**
LFF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
LASF	**Ste Croix**	**84.89**	**337**	*e*P	**P**	**02 28 07.5**	**+0.9**

JMA 20 02:16:10.7, 33.76N×130.16E, h15km±1km, M3.7, 1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	**Iki**	**0.36**	**276**	⇓P	Pb	02 16 18.1	-0.1
JII				S	Sb	02 16 23.0	-0.3
JFI	**Itaya**	**0.38**	**150**	S	Sb	02 16 23.8	-0.2
JFA	**Akaike**	**0.53**	**95**	P	Pb	02 16 20.9	-0.3
JFA				S	Sb	02 16 28.4	+0.1
JUR	**Ureshino**	**0.69**	**195**	P	Pb	02 16 23.4	-0.5
JUR				S	Sb	02 16 33.0	+0.1
JTA	**Tamana**	**0.85**	**158**	⇑P	Pb	02 16 26.9	+0.2
JTA				S	Sb	02 16 38.3	+0.6

JMA 20 02:16:56.5, 33.74N×130.19E, h15km±1km, M3.8, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.35**	**152**	⇑P	Pb	02 17 03.6	-0.3
JFI				S	Sb	02 17 08.7	-0.3
JII	**Iki**	**0.39**	**278**	⇓P	Pb	02 17 04.3	-0.2
JII				S	Sb	02 17 09.6	-0.3
JFA	**Akaike**	**0.51**	**93**	P	Pb	02 17 06.2	-0.3

JMA 20 02:17:35.6,33.76N×130.16E,h13km±1km,M3.7,1C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.36**	**276**	⇓P	Pg	02 17 42.9	-0.2
JII				S	Sg	02 17 47.9	-0.2
JFI	**Itaya**	**0.38**	**150**	P	Pg	02 17 43.3	-0.3
JFI				S	Sg	02 17 48.5	-0.4
JFA	**Akaike**	**0.53**	**95**	P	Pb	02 17 45.7	-0.6
JFA				S	Sb	02 17 53.2	-0.3
JUR	**Ureshino**	**0.69**	**195**	P	Pb	02 17 48.8	-0.1
JUR				S	Sb	02 17 57.9	-0.2
JTA	**Tamana**	**0.85**	**158**	⇑P	Pb	02 17 51.7	-0.1
JTA				S	Sb	02 18 03.0	+0.1

JMA 20 02:18:35.5,33.77N×130.17E,h12km±1km,M3.8,2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.37**	**274**	⇓P	Pg	02 18 42.9	-0.2
JII				S	Sg	02 18 47.9	-0.3
JFI	**Itaya**	**0.39**	**152**	P	Pg	02 18 43.3	-0.2
JFA	**Akaike**	**0.52**	**96**	⇓P	Pb	02 18 45.6	-0.5
JFA				S	Sg	02 18 52.9	-0.4
JUR	**Ureshino**	**0.70**	**195**	P	Pb	02 18 48.7	-0.4
JUR				eS	Sb	02 18 57.8	-0.7
JTA	**Tamana**	**0.86**	**159**	⇑P	Pb	02 18 51.7	-0.2
JTU	**Tsushima**	**0.99**	**320**	⇑P	Pb	02 18 54.2	+0.1
JTU				S	Sb	02 19 07.1	+0.3

*IDC **20** 02:21:46.9±2.7,33.73N×130.28E, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=151.3km s-min=26.4km az=65.0*
*JMA **20** 02:21:48.1,33.69N×130.28E,h9km±2km, M3.8*
JMA Felt II J1.
ISC 20 02:21:47.6±1.5,33.70N±0.07×130.29E±0.06,h15km±10km, n8,σ0°53/9,mb3.6/4,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.28**	**162**	S	**Sg**	**02 21 57.8**	**-0.1**
JFA	**Akaike**	**0.42**	**88**	S	**Sb**	**02 22 02.7**	**+0.5**
JII	**Iki**	**0.47**	**282**	P	**Pb**	**02 21 57.3**	**+0.2**
JII				S	**Sb**	**02 22 03.8**	**+0.2**
JUR	**Ureshino**	**0.66**	**205**	S	**Sb**	**02 22 09.4**	**+0.3**
SONM	**Songino Array**	**22.83**	**315**	P	**P**	**02 26 51.9**	**+0.8**
	1.8nm,1.0s,mb3.5,baz=136,slow=11,SNR=6.0						
BVAR	**Borovoye Array**	**46.16**	**314**	P	**P**	**02 30 12.9**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=108,slow=9.4,SNR=6.0						
ASAR	**Alice Springs**	**57.15**	**176**	P	**P**	**02 31 35.8**	**-0.5**
	0.5nm,0.7s,mb3.7,baz=5.4,slow=14,SNR=7.7						
FINES	**FINESS Array B**	**67.30**	**330**	P	**P**	**02 32 42.4**	**-1.1**
	0.6nm,0.7s,mb3.8,baz=72,slow=6.0,SNR=5.0						

JMA 20 02:24:02.4,33.77N×130.12E,h15km±1km,M4.0,2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.32**	**275**	⇓P	Pb	02 24 09.3	0.0
JII				S	Sb	02 24 13.9	-0.1
JFI	**Itaya**	**0.41**	**147**	⇑P	Pb	02 24 10.5	-0.3
JFI				S	Sb	02 24 16.6	+0.1
JFA	**Akaike**	**0.57**	**96**	⇓P	Pb	02 24 13.2	-0.3
JFA				S	Sb	02 24 21.1	+0.1
JUR	**Ureshino**	**0.69**	**192**	⇑P	Pb	02 24 15.4	-0.2
JUR				S	Sb	02 24 24.4	-0.2
JTA	**Tamana**	**0.88**	**157**	P	Pb	02 24 18.4	-0.4
JTA				S	Sb	02 24 30.3	+0.3

JMA 20 02:28:09.9,33.80N×130.09E,h11km±2km,M3.6,3C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.30**	**269**	P	Pg	02 28 16.0	-0.2
JII				S	Sg	02 28 20.2	-0.2
JFI	**Itaya**	**0.45**	**146**	⇑P	Pg	02 28 18.6	-0.4
JFA	**Akaike**	**0.59**	**98**	S	Sb	02 28 28.7	-1.2
JUR	**Ureshino**	**0.71**	**190**	S	Sb	02 28 32.8	-0.6
JTA	**Tamana**	**0.91**	**156**	⇑P	Pb	02 28 27.0	-0.3
JTA				S	Sb	02 28 38.9	-0.3
JTU	**Tsushima**	**0.92**	**322**	⇑P	Pb	02 28 27.3	-0.1
JTU				S	Sb	02 28 39.6	+0.1

JMA 20 02:29:14.5,33.72N×130.22E,h11km±1km,M3.5,2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.32**	**154**	⇑P	Pg	02 29 21.0	-0.3
JFI				S	Sg	02 29 25.8	0.0
JII	**Iki**	**0.41**	**281**	⇑P	Pg	02 29 22.7	-0.3
JII				S	Sg	02 29 28.2	-0.5
JFA	**Akaike**	**0.48**	**91**	S	Sg	02 29 30.4	-0.4
JUR	**Ureshino**	**0.67**	**200**	S	Sb	02 29 35.7	-0.9
JTA	**Tamana**	**0.80**	**161**	P	Pb	02 29 29.5	-0.4
JTA				S	Sb	02 29 40.0	-0.5

JMA 20 02:34:22.4,33.71N×130.25E,h13km±1km,M3.5,2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.30**	**158**	⇑P	Pg	02 34 28.6	-0.3
JFI				S	Sg	02 34 33.1	-0.2
JII	**Iki**	**0.44**	**281**	⇑P	Pg	02 34 31.2	-0.3
JII				S	Sg	02 34 37.3	-0.3
JFA	**Akaike**	**0.45**	**90**	P	Pb	02 34 31.3	-0.4
JFA				S	Sg	02 34 37.7	-0.3
JTU	**Tsushima**	**1.08**	**319**	S	Sb	02 34 56.6	+0.5

JMA 20 02:35:29.8,33.75N×130.15E,h14km±1km,M4.0,2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.35**	**278**	⇓P	Pg	02 35 37.1	-0.1
JII				S	Sg	02 35 42.0	-0.2
JFI	**Itaya**	**0.38**	**148**	⇑P	Pb	02 35 37.4	-0.4
JFI				S	Sg	02 35 42.9	-0.2
JFA	**Akaike**	**0.54**	**94**	P	Pb	02 35 40.1	-0.4
JFA				S	Sb	02 35 47.5	-0.3
JUR	**Ureshino**	**0.68**	**194**	P	Pb	02 35 42.9	+0.1
JUR				S	Sb	02 35 51.6	-0.2
JTA	**Tamana**	**0.85**	**158**	⇑P	Pb	02 35 45.1	-0.7
JTA				S	Sb	02 35 56.9	+0.2
JTU	**Tsushima**	**0.99**	**321**	P	Pb	02 35 48.6	+0.3
JTU				S	Sb	02 36 01.6	+0.6

JMA 20 02:38:57.0,33.71N×130.24E,h10km±1km,M3.5,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.31**	**156**	P	Pg	02 39 03.1	-0.3
JFI				S	Sg	02 39 07.5	-0.2
JII	**Iki**	**0.43**	**282**	P	Pg	02 39 05.6	-0.2
JII				S	Sg	02 39 11.7	0.0
JFA	**Akaike**	**0.46**	**90**	S	Sg	02 39 12.5	-0.2
JTA	**Tamana**	**0.78**	**162**	P	Pb	02 39 12.0	-0.3
JTA				S	Sb	02 39 22.3	-0.4
JTU	**Tsushima**	**1.07**	**320**	P	Pb	02 39 17.1	-0.1
JTU				S	Sb	02 39 31.3	+0.3

JMA 20 02:40:04.7,33.69N×130.27E,h12km±2km,M4.0,1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.28**	**159**	P	Pg	02 40 10.4	-0.3
JFI				S	Sg	02 40 14.9	+0.2
JFA	**Akaike**	**0.44**	**87**	⇓P	Pg	02 40 13.3	-0.4
JFA				S	Sg	02 40 19.4	-0.3
JII	**Iki**	**0.46**	**283**	⇓P	Pg	02 40 13.9	-0.2
JII				S	Sg	02 40 19.9	-0.5
JTA	**Tamana**	**0.76**	**163**	⇑P	Pb	02 40 18.9	-0.4
JTA				S	Sb	02 40 29.4	+0.1

*IDC **20** 02:49:59.6±2.7,34.16N×131.20E, mb3.5/3, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, ML3.5/1, MS4.4/1, Ms1 4.4/1, ms1mx4.1/16, Error ellipse: s-maj=95.0km s-min=28.6km az=66.0*
*JMA **20** 02:50:04.3, 33.73N×130.20E, h18km, M4.2*
JMA Felt III J1.
ISC 20 02:50:04.1±0.6,33.72N±0.05×130.20E±0.06,h24km±6km, n10,σ0°57/14,mb3.6/3,3C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.33**	**151**	⇑P	**Pb**	**02 50 11.4**	**-0.1**
JFI				S	**Sb**	**02 50 16.4**	**-0.1**
JII	**Iki**	**0.40**	**282**	⇓P	**Pb**	**02 50 12.3**	**-0.2**
JII				S	**Sb**	**02 50 17.8**	**-0.5**
JFA	**Akaike**	**0.50**	**90**	⇓P	**Pb**	**02 50 14.0**	**-0.2**
JFA				S	**Sb**	**02 50 20.9**	**-0.2**
JTA	**Tamana**	**0.80**	**159**	⇑P	**Pb**	**02 50 19.5**	**+0.3**
JTA				S	**Sb**	**02 50 30.5**	**+0.8**
JTU	**Tsushima**	**1.04**	**321**	⇑P	**Pn**	**02 50 23.2**	**-0.1**
JTU				S	**Sb**	**02 50 37.1**	**+0.5**
JOW	**Kunigami**	**7.06**	**194**	Pn	**Pn**	**02 51 54.2**	**+5.6**
	1.7nm,0.3s,baz=50,slow=7.9,SNR=4.9						
JHJ	**Hachijo jima 2**	**8.04**	**92**	LR	LR	02 54 33.3	
	comp=Z,3μm,20.4s,baz=84,slow=38						
SONM	**Songino Array**	**22.77**	**315**	P	**P**	**02 55 06.7**	**+1.0**
	0.7nm,0.7s,mb3.2,baz=128,slow=10,SNR=5.2						
WRA	**Warramunga Arr**	**53.50**	**175**	P	**P**	**02 59 23.6**	**-1.4**
	1.1nm,0.7s,mb3.9,baz=356,slow=7.8,SNR=5.9						
ASAR	**Alice Springs**	**57.17**	**176**	P	**P**	**02 59 51.6**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=6.3,slow=14,SNR=9.0						

JMA 20 02:58:46.0,33.72N×130.20E,h11km±1km,M3.7,2C-2D Broadband fault plane solution: P waves. NP1:φs310°, δ38°,λ0°. NP2:φs219°,δ90°,λ128°. Principal axes: T Plg34°, Azm161°; N Plg38°, Azm40°; P Plg34°, Azm278°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.33**	**152**	⇑P	Pg	02 58 52.7	-0.2
JII	**Iki**	**0.40**	**281**	⇓P	Pg	02 58 54.0	-0.2
JII				S	Sg	02 58 59.4	-0.2
JFA	**Akaike**	**0.50**	**91**	⇓P	Pg	02 58 55.5	-0.6
JFA				S	Sg	02 59 02.4	-0.4
JTA	**Tamana**	**0.80**	**160**	⇑P	Pb	02 59 01.2	-0.3
JTU	**Tsushima**	**1.04**	**321**	S	Sb	02 59 19.2	+0.2

*TEH **20** 03:02:59.9, 30.64N×56.99E, h4km, Mn3.8*
*THR **20** 03:02:59.8±0.9, 30.76N×56.86E, h14km±10km, ML3.6*
*CSEM **20** 03:02:59.4±0.2, 30.76N×56.90E, h16km, ML3.6, Error ellipse: s-maj=4.5km s-min=2.6km az=85.0*
ISC 20 03:02:58.8±0.8,30.80N±0.03×56.87E±0.09,h4km,n25, σ0°77/26,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**0.82**	**186**	*e*PG	**Pg**	**03 03 14.6**	**-0.6**
KRBR				*e*SG	**Sg**	**03 03 25.6**	**-0.7**
KRBR				AML	AML	03 03 29.7	
	comp=N,2μm,0.2s						
IBAF	**Bafgh**	**1.36**	**306**	Pn	**Pn**	**03 03 24.2**	**-0.5**
IMEH	**Mehriz**	**2.02**	**287**	Pn	**Pn**	**03 03 34.8**	**+0.7**
ICHK	**Chekchek**	**2.55**	**305**	Pn	**Pn**	**03 03 41.8**	**+0.2**
IPAR	**Pars**	**3.44**	**255**	Pn	**Pn**	**03 03 54.8**	**+0.5**
BNDS	**Bandar-Abbas**	**3.44**	**190**	*e*PN	**Pn**	**03 03 55.0**	**+0.6**
BNDS				AML	AML	03 04 41.1	
	comp=N,160nm,0.5s						
NASN	**Na'in**	**3.99**	**301**	*e*PN	**Pn**	**03 04 02.5**	**+0.4**
NASN				*e*SG	**Sg**	**03 05 04.6**	**-7.1**
NASN	**Na'in**	**3.99**	**301**	*e*Pn	**Pn**	**03 04 02.5**	**+0.4**
	SNR=52						
NASN				*e*Sg	**Sg**	**03 05 04.6**	**-7.0**
	SNR=90						
IMOK	**Mook**	**4.01**	**245**	Pn	**Pn**	**03 04 11.1**	**+8.7**
GHIR	**Ghir-Karzin**	**4.21**	**234**	*e*PN	**Pn**	**03 04 05.6**	**+0.3**
GHIR				AML	AML	03 05 31.9	
	comp=N,47nm,0.6s						
IANJ	**Anjiloo**	**5.27**	**333**	Pn	**Pn**	**03 04 19.7**	**-0.6**
ILAS	**Lasjerd**	**5.62**	**325**	Pn	**Pn**	**03 04 26.5**	**+1.2**
IFIR	**Firoozkooh**	**5.93**	**326**	Pn	**Pn**	**03 04 28.7**	**-0.9**
IFIR	**Firoozkooh**	**5.93**	**326**	Lg		03 06 10.8	
IVRN	**Varamin**	**6.01**	**315**	Pn	**Pn**	**03 04 35.6**	**+4.8**
IVRN	**Varamin**	**6.01**	**315**	Lg		03 06 13.4	
IKRD	**Kardeh**	**6.11**	**13**	Pn	**Pn**	**03 04 33.1**	**+0.9**
IMYA	**Miamay**	**6.15**	**25**	Pn	**Pn**	**03 04 31.9**	**-0.8**
IDMV	**Damavand**	**6.25**	**321**	Pn	**Pn**	**03 04 34.4**	**+0.2**
DAMV	**Damavand**	**6.33**	**321**	*e*PN	**Pn**	**03 04 35.8**	**+0.6**
IQOM	**Qom**	**6.33**	**311**	Lg		03 06 22.7	
IQOM	**Qom**	**6.33**	**311**	Pn	**Pn**	**03 04 34.8**	**-0.4**
IAFJ	**Afjeh**	**6.63**	**321**	Pn	**Pn**	**03 04 40.2**	**+0.7**
IAFJ				Sn	**Sn**	**03 05 53.9**	**-2.6**
IMHD	**Mahdasht**	**7.12**	**315**	Pn	**Pn**	**03 04 46.0**	**-0.3**
IRAZ	**Razeghan**	**7.41**	**310**	Pn	**Pn**	**03 04 50.6**	**+0.1**

JMA 20 03:17:15.4,33.74N×130.18E,h10km±1km,M3.6,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.36**	**151**	⇑P	Pg	03 17 22.6	-0.2
JFI				S	Sg	03 17 27.5	-0.2
JII	**Iki**	**0.38**	**279**	⇓P	Pg	03 17 23.0	-0.1
JII				S	Sg	03 17 28.2	-0.1
JFA	**Akaike**	**0.51**	**93**	⇓P	Pg	03 17 25.2	-0.6
JFA				S	Sg	03 17 32.4	-0.4
JUR	**Ureshino**	**0.67**	**197**	⇑P	Pb	03 17 28.1	-0.7
JUR				S	Sb	03 17 37.0	-0.9
JTA	**Tamana**	**0.83**	**159**	⇑P	Pb	03 17 31.1	-0.3
JTA				S	Sb	03 17 42.1	-0.3

IDC 20 03:31:45.3±2.3,5.63N×91.79E,mb3.7/4,mb1 3.9/4, mb1mx3.6/14,mbtmp3.7/4,Error ellipse: s-maj=89.9km s-min=26.9km az=59.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**43.87**	**14**	P	P	03 39 54.0	-1.2
	0.2nm,0.4s,baz=194,slow=10,SNR=2.5						
WRA	**Warramunga Arr**	**48.95**	**122**	P	P	03 40 32.5	-3.2
	1.1nm,0.8s,baz=304,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**50.35**	**127**	P	P	03 40 45.6	-0.8
	0.8nm,0.0s,baz=308,slow=7.3,SNR=6.5						
FINES	**FINESS Array B**	**73.61**	**333**	P	P	03 43 19.9	-2.3
	0.9nm,0.7s,baz=120,slow=11,SNR=3.5						

MAN 20 03:33:00.4,9.54N×126.03E,h7km,mb3.4,ML3.3,MS4.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.58**	**294**	*e*P	Pg	03 33 11.9	-0.1
SCPH				*e*S	Sg	03 33 25.1	+5.3
BUTP	**Butuan**	**0.70**	**215**	*e*P	Pg	03 33 14.2	-0.2
BUTP				*e*S	Sg	03 33 31.1	+7.5
MSLP	**Maasin**	**1.29**	**297**	*e*P	Pb	03 33 24.3	-0.3
BUKP	**Musuan**	**1.91**	**210**	*e*P	Pn	03 33 33.5	-0.1
TBP	**Tagbilaran**	**2.14**	**274**	*e*P	Pn	03 33 36.0	-0.9
TBP				*e*S	Sn	03 34 07.9	+3.8

*MOS **20** 03:33:34.7±0.7, 11.59N×92.46E, h33km, mb4.6/7, Error ellipse: s-maj=26.2km s-min=10.0km az=110.9*
*NEIC **20** 03:33:36.3±0.3, 11.56N×92.37E, mb4.4/8, Error ellipse: s-maj=15.2km s-min=7.5km az=62.0*
*IDC **20** 03:33:36.4±0.7, 11.54N×92.27E, h30km±4km, mb4.0/14, mb1 4.2/14, mb1mx4.1/18, mbtmp4.2/14, Error ellipse: s-maj=27.8km s-min=14.9km az=54.0*
ISC 20 03:33:34.2±0.4,11.54N±0.08×92.39E±0.08,h30km, h30km±.4km:pP-P,n46,σ0°89/46,mb4.2/24,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**10.71**	**306**	*e*P	**P**	**03 36 10.2**	**+1.4**
VIS				*e*S	**S**	**03 37 53.9**	**-15**
VIS				*e*		03 37 55.3	
	comp=E,104nm,0.4s						
BWNR	**Bhubaneshwar**	**10.77**	**325**	*e*P	**P**	**03 36 09.3**	**-0.3**
BWNR				*e*S	**S**	**03 37 54.4**	**-16**
BWNR				*e*		03 37 58.4	
	comp=E,91nm,0.6s						
BLSP	**Bilaspur**	**14.39**	**318**	*e*P	**P**	**03 36 59.4**	**+1.4**
BLSP				*e*S	**S**	**03 39 19.7**	**-18**
HYB	**Hyderabad**	**14.62**	**295**	*i* P	**P**	**03 37 03.0**	**+2.0**
HYB				*e*		03 39 25.0	
HYB				*e*S	**S**	**03 39 40.0**	**-2.8**
LSA	**Lhasa**	**18.11**	**357**	*e*P	**P**	**03 37 46.3**	**+0.9**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.5s						
LSA	**Lhasa**	**18.11**	**357**	*e*P	**P**	**03 37 46.2**	**+0.9**
	comp=Z,6.4nm,0.5s						
AAK	**Ala-Archa**	**34.68**	**337**	*e*P	**P**	**03 40 23.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AAK	**Ala-Archa**	**34.68**	**337**	*e*P	**P**	**03 40 23.2**	**-0.1**
	comp=Z,0.9nm,0.8s,mb3.8						
MKAR	**Makanchi Array**	**36.16**	**348**	*i* P	**P**	**03 40 35.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM	**Songino Array**	**38.04**	**15**	P	**P**	**03 40 52.5**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.0,baz=206,slow=7.3,SNR=16						
SONM				PcP	PcP	03 43 07.0	-0.1
	comp=Z,0.4nm,0.5s,baz=194,slow=5.9,SNR=3.6						
ZAK	**Zakamensk**	**39.75**	**11**	*e*P	**P**	**03 40 50.4**	**-15**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
KURK	**Kurchatov**	**40.66**	**347**	*i* P	**P**	**03 41 13.5**	**+0.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.0						
KURK	**Kurchatov**	**40.66**	**347**	*e*P	**P**	**03 41 12.9**	**-0.5**
	comp=Z,7.0nm,1.1s,mb4.2						
MBWA	**Marble Bar**	**42.16**	**140**	*e*P	**P**	**03 41 24.5**	**-1.5**
ZAL	**Zalesovo**	**42.72**	**353**	P	**P**	**03 41 30.3**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.2,baz=298,slow=6.2,SNR=9.4						
BVAO	**Borovoye Array**	**44.99**	**341**	*i* P	**P**	**03 41 48.1**	**-0.4**
BVAR	**Borovoye Array**	**44.99**	**341**	P	**P**	**03 41 48.4**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.1,baz=138,slow=8.7,SNR=15						
CHKZ	**Chkalovo**	**45.48**	**342**	*e*P	**P**	**03 41 52.2**	**-0.2**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**45.48**	**342**	*e*P	**P**	**03 41 52.2**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8						
BOD	**Bodaibo**	**49.04**	**15**	*e*P	**P**	**03 42 19.0**	**-1.3**
WRA	**Warramunga Arr**	**51.80**	**127**	P	**P**	**03 42 41.8**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.3,baz=300,slow=10,SNR=13						
WRAB	**Tennant Creek**	**51.80**	**127**	*e*P	**P**	**03 42 41.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
WRAB	**Tennant Creek**	**51.80**	**127**	*e*P	**P**	**03 42 41.6**	**-0.3**
	comp=Z,4.6nm,0.5s,mb4.7						
ASAR	**Alice Springs**	**53.59**	**131**	P	**P**	**03 42 54.9**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=306,slow=7.3,SNR=7.7						
ASAR				pPcP		03 44 10.9	
	comp=Z,1.2nm,0.8s,baz=305,slow=3.4,SNR=6.9						
BRTR	**Keskin Array B**	**58.76**	**310**	P	**P**	**03 43 30.5**	**-1.5**
	comp=Z,1.3nm,0.8s,mb4.0,baz=117,slow=8.3,SNR=5.1						
BRTR				pP	pP	03 43 40.1	-1.3
	comp=Z,1.0nm,0.8s,baz=90,slow=3.7,SNR=3.2						
STKA	**Stephens Creek**	**63.87**	**134**	P	**P**	**03 44 07.7**	**+1.1**
	comp=Z,2.8nm,1.0s,mb4.2,baz=330,slow=8.1,SNR=2.9						
TIXI	**Tiksi**	**64.02**	**12**	*e*P	**P**	**03 44 06.6**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.5s,mb4.5						
JOF	**Joensuu**	**66.82**	**334**	*e*p	**P**	**03 44 24.4**	**-0.6**
	comp=Z,1.7nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**68.69**	**332**	P	**P**	**03 44 36.3**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.4,baz=107,slow=6.6,SNR=24						
FINES				pP	pP	03 44 46.0	-0.3
	comp=Z,1.4nm,0.7s,baz=90,slow=3.8,SNR=3.2						
KAF	**Kangasniemi**	**68.77**	**333**	*e*p	**P**	**03 44 37.2**	**0.0**
	comp=Z,1.2nm,0.5s,mb4.1,baz=105,slow=5.9						
KAF	**Kangasniemi**	**68.77**	**333**	*e*P	**P**	**03 44 37.2**	**0.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
MATP	**Matopo**	**70.40**	**243**	P	**P**	**03 44 47.8**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=51,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**71.26**	**340**	P	**P**	**03 44 52.3**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=8.1						
ARCES				pP	pP	03 45 01.8	0.0
	comp=Z,2.2nm,0.7s,baz=45,slow=6.9,SNR=2.1						
GERES	**GERESS Array B**	**73.97**	**318**	P	**P**	**03 45 08.8**	**+0.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=16						
GERES				pP	pP	03 45 18.1	-0.1
	comp=Z,1.8nm,0.7s,baz=90,slow=4.0,SNR=8.6						
HFS	**Hagfors**	**74.44**	**329**	P	**P**	**03 45 11.1**	**0.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=12,SNR=3.6						
CLL	**Collm**	**74.46**	**320**	P	**P**	**03 45 11.0**	**-0.4**
LBTB	**Lobatse**	**74.53**	**240**	*e*P	**P**	**03 45 14.1**	**+1.8**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LBTB	**Lobatse**	**74.53**	**240**	*e*P	**P**	**03 45 14.1**	**+1.8**
	comp=Z,2.3nm,0.6s,mb4.3						
LPG	**La Plagne**	**78.83**	**314**	*e*P	**P**	**03 45 36.1**	**+0.1**
	comp=Z,9.9nm,0.9s,mb4.4						
LPG	**La Plagne**	**78.83**	**314**	*e*P	**P**	**03 45 36.1**	**+0.1**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
EKA	**Eskdalemuir Ar**	**83.75**	**325**	P	**P**	**03 46 02.5**	**+0.9**
	comp=Z,0.9nm,0.8s,mb4.0,baz=90,slow=7.5,SNR=4.1						
ESDC	**Sonseca Array**	**87.56**	**310**	P	**P**	**03 46 20.9**	**+0.1**
	comp=Z,0.6nm,0.6s,mb4.0,baz=72,slow=5.0,SNR=4.8						
NVAR	**Mina Array Bea**	**122.61**	**28**	PKP	PKPdf	03 52 30.8	-1.7
	comp=Z,0.6nm,0.6s,baz=276,slow=3.3,SNR=3.8						
NVAR				pPKP		03 52 40.1	
	comp=Z,0.5nm,0.4s,baz=1.8,slow=2.0,SNR=4.2						
NVAR	**Mina Array Bea**	**122.61**	**28**	PKP	PKPdf	03 52 30.8	-1.7
NVAR				pPKP		03 52 40.1	
TXAR	**Lajitas Array**	**136.51**	**21**	PKP	PKPdf	03 52 57.8	-1.4
	comp=Z,0.3nm,0.6s,

mb1 3.6/6,mb1mx3.2/18,mbtmp3.8/6,Error ellipse: s-maj=86.4km s-min=24.0km az=23.0

ISC 20 03:43:25.0±0.5, 13.30N±0.06×89.76W±0.04, h60km±7km, n45,σ1§08/62,mb3.7/6, 11C-12D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SBLS	San Blas	0.56	14	⇓*i*P	P		03 43 37.4	-0.2
SNJE	San Jose	0.59	15	⇓*i*P	P		03 43 37.8	-0.2
RTR	El Retiro	0.61	10	⇓*i*P	P		03 43 38.2	0.0
BOQS	Boqueron	0.64	47	⇓*i*P	P		03 43 38.4	-0.2
SNET	Serv Nac Est T	0.64	53	⇑*e*P	P		03 43 38.1	-0.5
SNET				*e*S	S		03 43 48.4	-0.4
SNET				*i*			03 43 51.5	
	comp=Z,12μm,0.2s							
LFRS	El Faro	0.75	64	⇓*i*P	P		03 43 39.7	-0.2
LFU	La Fuente	0.77	54	⇓*i*P	P		03 43 40.3	0.0
RBDL	Robledal	0.81	5	⇑*i*P	P		03 43 41.1	+0.4
LBRS	Las Brisas	0.82	58	⇓*i*P	P		03 43 41.0	+0.2
LBRS				*e*S	S		03 43 52.3	-0.4
LCBS	La Ceiba	0.84	65	⇓*i*P	P		03 43 40.9	-0.2
LCBS				⇓*e*S	S		03 43 52.5	-0.6
SNVI	San Vicente	0.95	71	⇑*e*P	P		03 43 42.6	+0.1
SNVI				*e*S	S		03 43 56.3	+0.7
IXG	Ixpaco	1.10	322	⇓*e*P	P		03 43 43.5	-1.2
IXG				*e*S	S		03 43 58.0	-1.3
IXG				AML	AML		03 44 03.9	
	comp=N,27μm,0.4s							
MTO2	Montecristo 2	1.16	19	⇓*e*P	P		03 43 45.6	+0.1
MTO2				*e*S	S		03 44 02.8	+2.1
PCG	Pacaya	1.37	323	*e*P	P		03 43 48.4	-0.1
VSM	San Miguel	1.45	85	⇑*e*P	P		03 43 49.8	+0.2
VSM				*e*S	S		03 44 09.3	+1.6
BLLM	Bellamira	1.49	84	⇓*e*P	P		03 43 50.5	+0.4
BLLM				*e*S	S		03 44 09.1	+0.5
CAHU	Cacacuatique	1.58	72	⇑*e*P	P		03 43 51.1	-0.2
CNCH	Conchagua	1.87	90	⇑*e*P	P		03 43 55.1	-0.3
CNCH				*e*S	S		03 44 19.1	+1.3
TP2	Tecpan 2	1.92	320	⇑*e*P	P		03 43 56.6	+0.6
TP2				*e*S	S		03 44 21.2	+2.3
TP2				AML	AML		03 44 25.2	
	comp=N,3μm,0.4s							
JAT	Jato	2.09	299	*e*P	P		03 43 57.0	-1.3
JAT				*e*S	S		03 44 24.4	+1.3
JAT				AML	AML		03 44 29.9	
	comp=N,5μm,0.2s							
CRIN	San Cristobal	2.71	102	⇑*e*P	P		03 44 07.3	+0.1
LEON	Leon	2.93	107	⇑*e*P	P		03 44 08.8	-1.5
LEON				*e*S	S		03 44 43.5	-0.8
	comp=Z,152nm,0.3s							
TEL3	Telica 3	2.93	104	⇑*e*P	P		03 44 09.7	-0.6
TEL3				*e*S	S		03 44 44.7	+0.2
	comp=Z,566nm,0.6s							
TELN	Telica	2.94	103	*e*P	P		03 44 09.6	-0.8
TELN				*e*S	S		03 44 44.8	+0.2
CNGN	Cerro Negro	3.09	105	*e*P	P		03 44 10.6	-2.0
MIRN	Miramar	3.09	106	⇑*e*P	P		03 44 11.6	-1.0
MIRN				*e*S	S		03 44 48.4	-0.1
XAVN	Gruta Xavier	3.54	108	*e*P	P		03 44 18.9	+0.1
XAVN				*e*S	S		03 44 57.2	-2.5
WILN	Americas 2	3.66	108	*e*S	S		03 45 00.4	-2.5
CONN	Concepcion	4.39	113	*e*P	P		03 44 30.8	0.0
JTS	JuntasAbangare	5.57	122	Pn	P		03 44 47.5	+0.3
	comp=Z,174nm,0.6s,SNR=18							
JTS	JuntasAbangare	5.57	122	*e*Pn	P		03 44 46.5	-0.7
CGA2	Cerro Gallo 2	6.12	122	*e*P	P		03 44 57.1	+2.2
PRS1	Puriscal	6.27	121	*e*P	P		03 44 58.6	+1.6
LCR2	La Lucha 2	6.65	121	*e*P	P		03 45 04.2	+1.8
LCR2				*e*S	S		03 46 20.2	+2.6
BUS	Buena Vista	6.96	122	*e*P	P		03 45 08.3	+1.7
TEIG	Tepich	7.04	11	*e*P	P		03 45 07.0	-0.7
SDV	Santo Domingo	19.27	101	P	P		03 47 47.0	-0.5
	comp=Z,0.2nm,0.3s,baz=302,slow=14,SNR=3.6							
TXAR	Lajitas Array	20.52	323	P	P		03 48 01.6	+0.9
	comp=Z,0.5nm,0.4s,baz=147,slow=11,SNR=20							
WMOK	Wichita Mounta	22.86	341	*e*P	P		03 48 22.2	-1.8
	comp=Z,1.1nm,0.3s,mb3.8							
MNTX	Cornudas Mount	23.27	324	*e*P	P		03 48 27.3	-0.7
	comp=Z,1.0nm,0.8s,mb3.3							
NVAR	Mina Array Bea	35.60	320	P	P		03 50 19.8	+1.1
	comp=Z,0.8nm,0.8s,mb3.7,baz=138,slow=11,SNR=4.7							
SCHQ	Schefferville	45.16	19	P	P		03 51 32.9	-4.4
	comp=Z,2.1nm,0.6s,mb4.2,baz=243,slow=8.1,SNR=8.2							
SCHQ	Schefferville	45.16	19	*e*P	P		03 51 32.9	-4.5
YKA	Yellowknife Ar	52.22	346	P	P		03 52 28.0	-3.8
	comp=Z,0.1nm,0.3s,mb3.2,baz=143,slow=7.6,SNR=7.2							
FRB	Frobisher Bay	52.53	12	P	P		03 52 29.0	-5.1
	comp=Z,1.2nm,0.4s,mb4.2,baz=219,slow=19,SNR=6.2							

JMA 20 03:50:16.1, 33.76N×130.14E, h11km±1km, M3.9, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JII	Iki	0.34	276	⇓P		Pg	03 50 23.2	0.0
JII				S		Sg	03 50 27.9	0.0
JFI	Itaya	0.39	148	⇑P		Pg	03 50 23.9	-0.3
JFI				S		Sg	03 50 29.1	-0.4
JFA	Akaike	0.55	95	⇓P		Pg	03 50 26.6	-0.6
JFA				S		Sg	03 50 34.1	-0.5
JUR	Ureshino	0.68	194	⇑P		Pb	03 50 28.9	-0.7
JUR				S		Sb	03 50 37.8	-0.9
JTA	Tamana	0.86	157	⇑P		Pb	03 50 32.2	-0.4
JTA				S		Sb	03 50 43.7	-0.1
JTY	Toyota	0.92	57	⇓P		Pb	03 50 33.3	-0.2

JMA 20 04:00:30.5, 33.71N×130.23E, h11km±1km, M3.8, 4C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.31	155	⇑P		Pg	04 00 36.9	-0.1
JFI				S		Sg	04 00 41.4	0.0
JII	Iki	0.42	282	⇑P		Pg	04 00 38.9	-0.3
JII				S		Sg	04 00 44.7	-0.3
JFA	Akaike	0.47	90	⇓P		Pg	04 00 39.6	-0.5
JFA				S		Sg	04 00 46.2	-0.3
JTA	Tamana	0.79	161	⇑P		Pb	04 00 45.5	-0.2
JTA				S		Sb	04 00 55.9	-0.2
JTU	Tsushima	1.07	320	⇑P		Pb	04 00 50.2	-0.3
JTU				S		Sb	04 01 04.6	+0.4

JMA 20 04:39:43.9, 33.74N×130.18E, h10km±1km, M3.6, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.36	151	⇑P		Pg	04 39 51.0	-0.3
JFI				*e*S		Sg	04 39 56.0	-0.2
JII	Iki	0.38	279	⇓P		Pg	04 39 51.5	-0.1
JII				S		Sg	04 39 56.7	-0.1
JFA	Akaike	0.51	93	⇓P		Pg	04 39 53.7	-0.6
JFA				S		Sg	04 40 00.8	-0.5
JUR	Ureshino	0.67	197	S		Sb	04 40 05.5	-0.9
JTA	Tamana	0.83	159	⇑P		Pb	04 39 59.6	-0.3
JTA				S		Sb	04 40 10.8	-0.1

*NEIC **20** 04:47:45.2±2.2,25.10S×179.77E,h485km±23km,mb4.9/8, Error ellipse: s-maj=21.8km s-min=11.6km az=218.0*

*IDC **20** 04:47:45.0±4.6,25.09S×179.80E,h479km±49km,mb3.8/8, mb1 3.9/10,mb1mx3.7/15,mbtmp4.6/10,Error ellipse: s-maj=32.7km s-min=16.5km az=50.0*

ISC 20 04:47:44.8±3.5, 25.1S±0.1×179.7E±0.2, h489km±39km, n26,σ0§70/25,mb4.5/12,6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.32	189	P	P		04 50 37.2	-1.1
	1.3nm,0.3s,baz=238,slow=1.2,SNR=9.4							
URZ				S	S		04 52 58.5	+0.6
	2.1nm,0.3s,baz=66,slow=23,SNR=14							
SNZO	South Karori	16.71	193	*e*P	P		04 51 13.0	+0.4
	26nm,0.5s							
RPZ	Rata Peaks	19.89	199	P	P		04 51 43.2	-0.2
	1.8nm,0.3s,baz=217,slow=5.1,SNR=10							
CTA	Charters Tower	31.23	272	⇓*i*P	P		04 53 25.9	+1.2
	24nm,0.3s,mb5.1							
CTA	Charters Tower	31.23	272	P	P		04 53 26.1	+1.3
	34nm,0.4s,mb5.2,baz=96,slow=12,SNR=22							
CTAO	Charters Tower	31.23	272	⇓*i*P	P		04 53 25.9	+1.1
	33nm,0.4s,mb5.1							
TAU	Tasmania Unive	31.94	228	*e*P	P		04 53 31.3	+0.7
	11nm,0.8s,mb4.3							
STKA	Stephens Creek	34.05	250	P	P		04 53 49.4	+1.0
	2.8nm,0.4s,mb4.0,baz=86,slow=9.1,SNR=21							
STKA	Stephens Creek	34.05	250	*e*P	P		04 53 49.1	+0.7
PMG	Port Moresby	34.64	291	P	P		04 53 54.2	+0.8
	9.0nm,0.7s,mb4.3,baz=92,slow=5.2,SNR=4.0							
ASAR	Alice Springs	41.59	262	P	P		04 54 50.6	+0.3
	14nm,1.0s,mb4.4,baz=94,slow=7.3,SNR=92							
ASPA	Alice Springs	41.59	262	⇓*i*P	P		04 54 50.6	+0.3
WB2	Warramunga Arr	42.06	268	⇓*i*P	P		04 54 53.8	-0.3
WRAB	Tennant Creek	42.06	268	P	P		04 54 54.0	-0.1
	106nm,0.4s,mb5.6,SNR=36							
WRAB	Tennant Creek	42.06	268	⇓*i*P	P		04 54 53.7	-0.4
	25nm,1.1s,mb4.5							
WRA	Warramunga Arr	42.07	268	P	P		04 54 54.0	-0.1
	7.9nm,0.3s,mb4.6,baz=100,slow=7.0,SNR=105							
FORT	Forrest	45.66	251	*e*P	P		04 55 20.9	-1.3
	476nm,0.6s							
KAKA	Kakadu	46.16	276	⇓*i*P	P		04 55 25.3	-0.9
	5.0nm,0.3s,mb4.4							
FITZ	Fitzroy Crossi	50.48	267	*e*P	P		04 55 58.3	-0.4
	14nm,0.6s,mb4.5							
VNDA	Vanda	53.19	185	P	P		04 56 17.4	-0.2
	1.1nm,0.6s,baz=70,slow=4.3,SNR=7.5							
VNDA	Vanda	53.19	185	*e*P	P		04 56 17.2	-0.4
	1.0nm,0.7s							
KLBR	Kellerberrin	54.29	248	*e*P	P		04 56 24.9	-1.2
	76nm,0.6s,mb5.2							
MAW	Mawson	76.56	201	P	P		04 58 45.1	+0.5
	3.3nm,0.5s,mb4.1,baz=351,slow=22,SNR=9.2							
TXAR	Lajitas Array	91.28	58	P	P		04 59 58.8	+0.4
	0.8nm,0.8s,mb3.7,baz=207,slow=5.6,SNR=8.6							
FINES	FINESS Array B	139.47	341	PKhKP			05 06 08.4	
	0.5nm,0.7s,baz=45,slow=5.9,SNR=3.5							
FINES				PKP		PKPdf	05 06 17.5	+2.4
	0.9nm,0.8s,baz=82,slow=1.5,SNR=4.5							
BRTR	Keskin Array B	148.05	306	PKPbc		PKPdf	05 06 35.2	+4.8
	0.6nm,0.4s,baz=143,slow=3.6,SNR=4.8							

JMA 20 04:50:57.9, 33.75N×130.17E, h11km±1km, M3.5, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JII	Iki	0.37	277	⇓P		Pg	04 51 05.3	-0.2
JII				S		Sg	04 51 10.4	-0.2
JFI	Itaya	0.37	150	⇑P		Pg	04 51 05.2	-0.3
JFI				S		Sg	04 51 10.5	-0.1
JFA	Akaike	0.52	94	⇓P		Pg	04 51 07.9	-0.6
JFA				S		Sg	04 51 15.3	-0.3
JUR	Ureshino	0.68	196	⇑P		Pb	04 51 10.7	-0.6
JUR				S		Sb	04 51 19.7	-0.7
JTA	Tamana	0.84	159	⇑P		Pb	04 51 13.8	-0.2
JTA				*e*S		Sb	04 51 25.0	-0.1
JTU	Tsushima	1.00	321	⇑P		Pb	04 51 16.8	0.0
JTU				S		Sb	04 51 30.2	+0.4

*IDC **20** 04:51:23.1±1.8,2.68N×95.71E,mb4.2/7,mb1 4.3/7, mb1mx4.0/15,mbtmp4.2/7,Error ellipse: s-maj=82.4km s-min=20.3km az=55.0*

*NEIC **20** 04:51:27.4±0.6,2.68N×95.71E,h30km,mb4.3/3,Error ellipse: s-maj=15.2km s-min=8.1km az=222.0*

ISC 20 04:51:25.8±0.9, 2.7N±0.1×95.7E±0.1, h30km, n21, σ0§75/21,mb4.3/16, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.58	62	*e*P		Pn	04 52 49.0	-0.1
KKM	Kota Kinabalu	20.72	80	*e*Pn	P		04 56 07.7	+1.1
JIRN	Jiri	26.48	341	*e*P	P		04 57 03.4	+0.8
	3.6nm,0.3s,mb4.4							
PKI	Pulchoki	26.67	339	*e*P	P		04 57 05.5	+1.2
DMN	Daman	26.81	339	*e*P	P		04 57 07.2	+1.6
	10nm,0.7s,mb4.5							
GUN	Gumba	26.82	340	*e*P	P		04 57 06.0	+0.4
	28nm,0.6s,mb5.0							
KKN	Kakani	26.91	339	*e*P	P		04 57 06.6	+0.1
	9.7nm,0.5s,mb4.6							
LSA	Lhasa	27.25	351	*e*P	P		04 57 09.5	0.0
GKN	Gorkha	27.34	338	*e*P	P		04 57 10.3	-0.1
	7.6nm,0.4s,mb4.6							
KOLN	Koldanda	27.53	336	*e*P	P		04 57 12.3	+0.2
	13nm,0.8s,mb4.6							
WRA	Warramunga Arr	44.06	122	P	P		04 59 32.7	-0.5
	1.5nm,0.7s,mb3.8,baz=301,slow=9.0,SNR=8.6							
WRAB	Tennant Creek	44.07	122	P	P		04 59 33.3	0.0
ASAR	Alice Springs	45.45	127	P	P		04 59 44.7	+0.4
	0.7nm,0.6s,mb3.6,baz=300,slow=7.4,SNR=7.3							
SONM	Songino Array	45.95	10	P	P		04 59 47.3	-0.6
	2.0nm,0.7s,mb4.1,baz=190,slow=8.5,SNR=19							
SONM				PcP		PcP	05 01 25.0	+0.1
	1.2nm,0.7s,baz=184,slow=3.0,SNR=5.9							
ULN	Ulaanbaatar	46.09	11	*e*P	P		04 59 48.2	-0.9
	1.0nm,0.4s,mb4.1							
KURK	Kurchatov	50.02	346	*e*P	P		05 00 18.6	-1.0
	2.3nm,0.8s,mb4.3							
ZAL	Zalesovo	51.90	352	P	P		05 00 33.4	-0.4
	3.1nm,0.6s,mb4.4,baz=304,slow=6.0,SNR=18							
BVAR	Borovoye Array	54.41	341	P	P		05 00 51.3	-1.0
	2.9nm,0.6s,mb4.4,baz=145,slow=9.0,SNR=26							
CHKZ	Chkalovo	54.89	342	*e*P	P		05 00 54.8	-1.2
	5.2nm,0.6s,mb4.7							
FINES	FINESS Array B	78.03	333	P	P		05 03 22.8	-0.3
	1.6nm,1.0s,mb3.9,baz=207,slow=4.3,SNR=4.7							
ARCES	ARCESS Array B	80.68	340	P	P		05 03 37.6	+0.5
	1.6nm,0.7s,mb4.0,baz=153,slow=2.7,SNR=4.2							

JMA 20 04:55:46.5, 33.72N×130.26E, h13km±1km, M3.8, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.31	160	⇑P		Pg	04 55 52.8	-0.3
JFI				S		Sg	04 55 57.1	-0.5
JFA	Akaike	0.45	91	⇓P		Pb	04 55 55.1	-0.6
JFA				S		Sg	04 56 01.4	-0.5
JII	Iki	0.45	280	⇓P		Pb	04 55 55.4	-0.3
JII				S		Sg	04 56 01.6	-0.3
JTA	Tamana	0.79	163	⇑P		Pb	04 56 01.2	-0.4
JTA				S		Sb	04 56 11.8	-0.1
JTU	Tsushima	1.07	319	P		Pb	04 56 06.6	+0.1
JTU				*i* S		Sb	04 56 20.8	+0.6

JMA 20 05:19:42.2, 33.76N×130.12E, h16km±1km, M3.7, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JII	Iki	0.33	276	⇓P		Pb	05 19 49.0	-0.2
JII				S		Sb	05 19 53.5	-0.4
JFI	Itaya	0.40	146	⇑P		Pb	05 19 50.3	-0.1
JFI				S		Sb	05 19 55.9	-0.1
JFA	Akaike	0.56	95	⇓P		Pb	05 19 53.0	-0.2
JFA				S		Sb	05 20 00.9	+0.1
JUR	Ureshino	0.68	192	⇑P		Pb	05 19 55.1	-0.1
JUR				S		Sb	05 20 04.0	-0.1
JTA	Tamana	0.87	156	⇑P		Pb	05 19 58.4	0.0
JTA				S		Sb	05 20 10.0	+0.5
JTU	Tsushima	0.97	322	⇑P		Pb	05 19 59.9	-0.2
JTU				S		Sb	05 20 13.0	+0.5

JMA 20 05:25:36.5, 33.74N×130.17E, h11km±1km, M3.5, 2C, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.36	150	⇑P		Pg	05 25 43.6	-0.4
JFI				*e*S		Sg	05 25 48.9	-0.1
JII	Iki	0.37	279	P		Pg	05 25 44.0	-0.1
JII				*e*S		Sg	05 25 49.1	-0.1
JFA	Akaike	0.52	93	*e*S		Sg	05 25 53.7	-0.5
JUR	Ureshino	0.67	196	P		Pb	05 25 49.3	-0.4
JUR				S		Sb	05 25 57.9	-0.9
JTA	Tamana	0.83	158	⇑P		Pb	05 25 52.0	-0.5
JTU	Tsushima	1.01	321	P		Pb	05 25 55.6	+0.1

*NIED **20** 05:32:00,33.80N×130.10E,h8km,Mw4.3 Best double couple: M0 2.97×10^15 NP1:φs289°,δ79°,λ18°. NP2:φs195°, δ72°,λ168°.*

*JMA **20** 05:32:23.1,33.80N×130.09E,h12km±1km,M4.5 Broadband fault plane solution: P waves. NP1:φs292°, δ53°,λ-2°. NP2:φs23°,δ88°,λ-143°. Principal axes: T Plg24°, Azm151°; N Plg52°, Azm26°; P Plg27°, Azm254°; JMA Felt II J1.*

*NEIC **20** 05:32:24.7±0.5,33.74N×130.03E,h10km,mb4.1/3 Error ellipse: s-maj=11.6km s-min=10.2km az=213.0*

*IDC **20** 05:32:31.5±5.0,33.82N×130.08E,h69km±46km,mb3.5/7, mb1 3.7/8,mb1mx3.5/21,mbtmp3.8/8,ML3.4/1,Error ellipse: s-maj=48.9km s-min=16.4km az=73.0*

*BJI **20** 05:32:36.0,34.25N×129.41E,h10km,mB4.7,mb4.3, Ms4.2*

ISC 20 05:32:23.1±0.8, 33.77N±0.04×130.08E±0.04, h12km±6km, n22,σ0§66/28,mb3.9/10, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JII	Iki	0.29	276	⇓P		Pg	05 32 29.3	-0.1
JII				S		Sg	05 32 33.5	-0.1
JFI	Itaya	0.42	143	⇑P		Pg	05 32 31.9	+0.1
JFA	Akaike	0.59	95	⇓P		Pb	05 32 34.4	-0.5
JFA				S		Sb	05 32 42.7	-0.3
JUR	Ureshino	0.68	190	⇑P		Pb	05 32 36.5	+0.1
JUR				S		Sb	05 32 46.0	+0.6
JTA	Tamana	0.89	155	⇑P		Pb	05 32 40.2	+0.4
JTU	Tsushima	0.94	323	⇑P		Pb	05 32 40.5	-0.4
JTU				S		Sb	05 32 52.9	-0.2
JOW	Kunigami	7.09	193	P		Pn	05 34 13.8	+4.7
	1.4nm,0.3s,baz=44,slow=10,SNR=9.0							
MAJO	Matsushiro	7.21	65	*e*P		Pn	05 34 11.3	+0.5
MAT	Matsushiro	7.21	65	*e*P		Pn	05 34 11.0	+0.1
	19nm,1.2s							
MAT				S		Sn	05 35 34.0	+0.6
MAT	Matsushiro	7.21	65	P		Pn	05 34 11.0	+0.1
MAT				*e*S		Sn	05 35 34.3	+0.9
TIA	Tai'an	10.91	287	*e*P		P	05 35 06.3	+4.2
WHN	Wuhan	13.71	261	*e*P		P	05 35 49.0	+9.3
ULN	Ulaanbaatar	22.30	316	P		P	05 37 23.6	+1.9
	6.5nm,1.0s,mb4.0							
SONM	Songino Array	22.66	315	P		P	05 37 26.0	+0.7
	1.4nm,0.8s,mb3.4,baz=111,slow=11,SNR=4.0							
KURK	Kurchatov	40.80	310	*e*P		P	05 40 05.8	+0.1
	2.2nm,1.0s,mb3.7							
BVAR	Borovoye Array	45.99	314	P		P	05 40 47.0	-0.6
	0.7nm,0.6s,mb3.8,baz=84,slow=13,SNR=5.6							
WRAB	Tennant Creek	53.55	175	*e*P		P	05 41 46.2	+0.1
	3.8nm,0.8s,mb4.4							
WRA	Warramunga Arr	53.56	175	P		P	05 41 44.7	-1.4
	2.0nm,0.7s,mb4.1,baz=350,slow=8.1,SNR=12							
ASAR	Alice Springs	57.23	176	P		P	05 42 12.6	-0.2
	1.3nm,0.6s,mb4.2,baz=6.2,slow=14,SNR=27							
STKA	Stephens Creek	66.19	169	P		P	05 43 12.2	-0.6
	1.6nm,0.6s,mb4.2,baz=350,slow=6.7,SNR=4.4							
FINES	FINESS Array B	67.15	330	P		P	05 43 18.5	+0.1
	0.5nm,0.4s,mb3.9,baz=45,slow=5.4,SNR=4.2							
YKA	Yellowknife Ar	71.06	26	P		P	05 43 41.4	-1.1
	0.2nm,0.5s,mb3.3,baz=299,slow=6.4,SNR=3.9							

IDC 20 05:43:01.2±16.0, 20.44S×177.95W, h558km±211km, mb2.9/3,mb1 3.2/3,mb1mx2.9/11,mbtmp3.8/3, Error ellipse: s-maj=252.3km s-min=53.0km az=169.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.58	257	P	P		05 50 24.4	-1.4
	1.2nm,0.6s,baz=99,slow=7.5,SNR=22							
WRA	Warramunga Arr	44.66	262	P	P		05 50 24.7	-1.6
	0.4nm,0.4s,baz=98,slow=7.6,SNR=6.8							
TXAR	Lajitas Array	86.98	57	P	P		05 54 47.8	-0.9
	0.4nm,0.7s,baz=214,slow=6.5,SNR=5.7							
GERES	GERESS Array B	150.16	344	PKPbc	PKPdf		06 01 49.2	+6.2
	0.7nm,0.8s,baz=342,slow=3.1,SNR=5.0							

JMA 20 05:45:03.9, 33.76N×130.12E, h12km±1km, M3.6, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JII	Iki	0.33	276	⇓P		Pg	05 45 10.6	-0.1
JII				S		Sg	05 45 15.2	-0.1
JFI	Itaya	0.40	146	⇑P		Pg	05 45 11.9	-0.3
JFI				S		Sg	05 45 17.4	-0.3
JFA	Akaike	0.56	95	⇓P		Pb	05 45 14.6	-0.6
JFA				S		Sb	05 45 22.6	-0.3
JUR	Ureshino	0.68	192	⇑P		Pb	05 45 16.8	-0.4
JUR				S		Sb	05 45 26.0	-0.3
JTA	Tamana	0.87	156	⇑P		Pb	05 45 20.3	-0.1
JTA				S		Sb	05 45 31.6	-0.1
JTU	Tsushima	0.97	322	P		Pb	05 45 21.9	-0.2
JTU				*i* S		Sb	05 45 34.7	0.0

*MOS **20** 06:04:26.4±1.9,55.81N×110.23E,h3km,mb4.2/2,Error ellipse: s-maj=12.0km s-min=8.0km az=59.3*

*IDC **20** 06:04:26.3±2.2,56.03N×110.43E,mb3.5/3,mb1 3.6/4, mb1mx3.4/18,mbtmp3.4/4,ML3.6/1, Error ellipse: s-maj=53.7km s-min=35.8km az=102.0*

*BYKL **20** 06:04:27.0±0.3,55.77N×110.26E,h6km±4km*

ISC 20 06:04:24.8±0.3, 55.67N±0.03×110.27E±0.04, h6km, n47, σ1§52/92,mb3.6/3, 7C-5D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NIZ	Nizh Angarsk	0.43	285	⇑*i*Pg		Pg	06 04 34.2	+0.8
NIZ				*e*Sg		Sg	06 04 40.3	+1.1
NIZ				Pmax				
	178nm,0.3s							
NIZ				Smax				
	794nm,0.3s							
KMO	Kumora	0.57	67	*e*

SVKR				*e*Pg	**Pg**	**06 05 01.0**	**-1.8**
SVKR				*e*Sg	**Sg**	**06 05 25.9**	**-2.3**
SVKR				Pmax			
	comp=N,169nm,0.3s						
SVKR				Smax			
	comp=N,2μm,0.8s						
UKT	**Uakit**	**1.91**	**94**	*e*PN	**Pn**	**06 05 01.8**	**+3.5**
UKT				*e*		06 05 27.2	
UKT				pmax	pmax		
	comp=Z,140nm,0.2s						
UKT				smax			
	comp=N,470nm,0.3s						
SYVR	**Suvo**	**2.02**	**185**	*e*PN	**Pn**	**06 05 03.1**	**+3.3**
SYVR				*e*		06 05 04.9	
SYVR				*e*		06 05 33.6	
SYVR				pmax	pmax		
	comp=Z,117nm,0.1s						
SYVR				smax			
	comp=N,630nm,0.3s						
SYVR	**Suvo**	**2.02**	**185**	*e*Pn	**Pn**	**06 05 03.1**	**+3.3**
SYVR				⇑*i*Pg	**Pg**	**06 05 04.9**	**-0.3**
SYVR				*e*Sg	**Sg**	**06 05 33.7**	**+1.6**
SYVR				Pmax			
	comp=N,200nm,0.5s						
SYVR				Smax			
	comp=N,999nm,0.9s						
OGRR	**Ongureny**	**2.56**	**219**	*e*PN	**Pn**	**06 05 10.8**	**+3.3**
OGRR				*e*		06 05 15.0	
OGRR				*e*		06 05 48.6	
OGRR				pmax	pmax		
	comp=Z,25nm,0.3s						
OGRR				smax			
	comp=E,206nm,0.4s						
OGRR	**Ongureny**	**2.56**	**219**	*e*Pn	**Pn**	**06 05 10.7**	**+3.2**
OGRR				*e*Pg	**Pg**	**06 05 14.9**	**-1.0**
OGRR				*e*		06 05 44.3	
OGRR				*e*Sg	**Sg**	**06 05 48.5**	**-1.5**
OGRR				Pmax			
	comp=E,27nm,0.2s						
OGRR				Smax			
	comp=E,208nm,0.4s						
MXMB	**Maximikha**	**2.57**	**201**	⇓*i*Pn	**Pn**	**06 05 11.3**	**+3.6**
MXMB				*e*Pg	**Pg**	**06 05 15.3**	**-0.8**
MXMB				*e*		06 05 44.9	
MXMB				*e*Sg	**Sg**	**06 05 50.7**	**+0.3**
MXMB				Pmax			
	comp=E,47nm,0.5s						
MXMB				Smax			
	comp=E,447nm,0.6s						
BOD	**Bodaibo**	**2.98**	**42**	⇓*i*PN	**Pn**	**06 05 13.4**	**-0.1**
BOD				*i*		06 05 17.6	
BOD				*e*S	**Sn**	**06 05 46.8**	**-3.1**
BOD				*e*		06 05 55.2	
BOD				pmax	pmax		
	comp=Z,29nm,0.2s						
BOD				smax			
	comp=N,239nm,0.3s						
BOD	**Bodaibo**	**2.98**	**42**	*e*Pn	**Pn**	**06 05 13.8**	**+0.3**
BOD				*e*Pg	**Pg**	**06 05 18.5**	**-5.7**
BOD				*e*Sn	**Sn**	**06 05 50.0**	**+0.1**
BOD				*e*Sg	**Sg**	**06 05 56.2**	**-7.7**
BOD				Pmax			
	comp=N,32nm,0.4s						
BOD				Smax			
	comp=N,238nm,0.5s						
NLYR	**Nelyaty**	**3.15**	**73**	*e*PN	**Pn**	**06 05 17.0**	**+1.0**
NLYR				*e*		06 05 22.5	
NLYR				*e*		06 06 03.3	
NLYR				pmax	pmax		
	comp=Z,11nm,0.3s						
NLYR				smax			
	comp=N,205nm,0.9s						
NLYR	**Nelyaty**	**3.15**	**73**	⇓*i*Pn	**Pn**	**06 05 17.1**	**+1.1**
NLYR				*e*Pg	**Pg**	**06 05 22.9**	**-4.8**
NLYR				*e*Sn	**Sn**	**06 05 54.3**	**-0.1**
NLYR				*e*Sg	**Sg**	**06 06 04.5**	**-5.2**
NLYR				Pmax			
	comp=N,27nm,0.7s						
NLYR				Smax			
	comp=N,207nm,0.9s						
ZRHB	**Zarechye**	**3.62**	**212**	*e*Pn	**Pn**	**06 05 24.5**	**+1.9**
ZRHB				*e*Pg	**Pg**	**06 05 33.3**	**-3.8**
ZRHB				*e*Sg	**Sg**	**06 06 20.1**	**-5.3**
ZRHB				Pmax			
	comp=N,53nm,0.7s						
ZRHB				Smax			
	comp=N,315nm,1.1s						
TRG	**Tyrgan**	**3.72**	**220**	⇑*i*Pn	**Pn**	**06 05 26.5**	**+2.5**
TRG				*e*Sn	**Sn**	**06 06 08.9**	**+0.3**
TRG				*e*Sg	**Sg**	**06 06 23.6**	**-4.9**
TRG				max			
	comp=N,26nm,0.8s						
TRG				Smax			
	comp=N,98nm,0.4s						
CIT	**Chita**	**4.14**	**151**	*e*PN	**Pn**	**06 05 43.0**	**+13**
CIT	**Chita**	**4.14**	**151**	⇓*i*Pg	**Pg**	**06 05 42.9**	**-4.5**
CIT				*e*Sg	**Sg**	**06 06 37.4**	**-5.2**
CIT				Pmax			
	comp=N,46nm,0.5s						
CIT				Smax			
	comp=N,90nm,0.8s						
FFNB	**Fofonovo**	**4.18**	**211**	*e*Sn	**Sn**	**06 06 20.5**	**+0.1**
FFNB				*e*Sg	**Sg**	**06 06 37.8**	**-6.2**
FFNB				Smax			
	comp=N,158nm,0.5s						
HRMR	**Khuramsha**	**4.50**	**207**	*e*Pn	**Pn**	**06 05 37.5**	**+2.3**
HRMR				*e*Pg	**Pg**	**06 05 49.7**	**-5.0**
HRMR				*e*Sg	**Sg**	**06 06 48.3**	**-6.5**
HRMR				Pmax			
	comp=N,24nm,0.4s						
HRMR				Smax			
	comp=N,214nm,0.8s						
CRS	**Chara**	**4.62**	**71**	*e*PN	**Pn**	**06 05 38.0**	**+1.1**
CRS				*e*		06 05 50.6	
CRS	**Chara**	**4.62**	**71**	*e*Pn	**Pn**	**06 05 37.6**	**+0.7**
CRS				*e*Pg	**Pg**	**06 05 50.4**	**-6.7**
CRS				*e*Sg	**Sg**	**06 06 50.0**	**-8.7**
CRS				Pmax			
	comp=N,16nm,1.0s						
CRS				Smax			
	comp=N,47nm,0.5s						
IRK	**Irkutsk**	**4.93**	**228**	*e*Sg	**Sg**	**06 07 02.0**	**-7.1**
IRK				Smax			
	comp=N,149nm,0.4s						
LSTR	**Listvyanka**	**4.99**	**223**	*e*Pn	**Pn**	**06 05 43.5**	**+1.4**
LSTR				*e*Sn	**Sn**	**06 06 38.7**	**-2.2**
LSTR				*e*Sg	**Sg**	**06 07 02.4**	**-8.6**
LSTR				max			
	comp=N,9.0nm,0.7s						
LSTR				Smax			
	comp=N,67nm,1.5s						
TLY	**Talaya**	**5.61**	**227**	*e*Pg	**Pg**	**06 06 10.1**	**-6.7**
TLY				*e*Sn	**Sn**	**06 06 54.5**	**-2.0**
TLY				*e*Sg	**Sg**	**06 07 22.1**	**-10**
TLY				Pmax			
	comp=N,4.0nm,0.4s						
TLY				Smax			
	comp=N,37nm,1.0s						
TUP	**Tupik**	**5.70**	**99**	*e*Pn	**Pn**	**06 05 51.0**	**-1.1**
TUP				*e*Pg	**Pg**	**06 06 09.2**	**-9.5**
TUP				*e*Sn	**Sn**	**06 06 55.2**	**-3.6**
TUP				*e*Sg	**Sg**	**06 07 23.8**	**-11**
TUP				Pmax			
	comp=N,7.0nm,0.5s						
TUP				Smax			
	comp=N,85nm,1.5s						
ARS	**Arshan**	**5.98**	**234**	*e*Pn	**Pn**	**06 05 56.8**	**+0.8**
ARS				*e*Sn	**Sn**	**06 07 03.7**	**-2.0**
ARS				*e*Sg	**Sg**	**06 07 32.5**	**-11**
ARS				max			
	comp=N,15nm,0.5s						
ARS				Smax			
	comp=N,132nm,0.6s						
KPC	**Khapcheranga**	**6.11**	**167**	*e*Pn	**Pn**	**06 05 57.9**	**0.0**
KPC				*e*Pg	**Pg**	**06 06 16.8**	**-10**
KPC				*e*Sn	**Sn**	**06 07 07.7**	**-1.3**
KPC				*e*Sg	**Sg**	**06 07 38.5**	**-10**
KPC				Pmax			
	comp=N,3.0nm,0.5s						
KPC				Smax			
	comp=N,55nm,1.6s						
ZAK	**Zakamensk**	**6.77**	**221**	*e*PN	**Pn**	**06 06 10.2**	**+3.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ZAK	**Zakamensk**	**6.77**	**221**	*e*Sn	**Sn**	**06 07 34.6**	**+9.2**
ZAK				*e*Sg	Sx	06 07 59.9	
ZAK				Smax			
	comp=Z,20nm,1.0s						
MOY	**Mondy**	**6.82**	**238**	*e*PN	**Pn**	**06 06 09.6**	**+1.8**
MOY				*e*		06 06 31.3	
MOY	**Mondy**	**6.82**	**238**	*e*Pn	**Pn**	**06 06 09.5**	**+1.7**
MOY				*e*		06 07 26.3	
MOY				*e*Sg	Sx	06 07 59.6	
MOY				max			
	comp=Z,16nm,0.5s						
MOY				Smax			
	comp=Z,61nm,1.4s						
ORL	**Orlik**	**6.91**	**247**	*e*PN	**Pn**	**06 06 10.8**	**+1.7**
ORL				*e*		06 06 31.9	
ORL				*e*		06 08 00.5	
ORL				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ORL				smax			
	comp=N,25nm,0.8s						
ORL	**Orlik**	**6.91**	**247**	*i* Pn	**Pn**	**06 06 11.7**	**+2.6**
ORL				*e*Sn	**Sn**	**06 07 26.4**	**-2.4**
ORL				*e*Sg	**Sg**	**06 08 03.2**	**-12**
ORL				max			
	comp=N,4.0nm,0.4s						
ORL				Smax			
	comp=N,22nm,1.2s						
SONM	**Songino Array**	**8.21**	**199**	Pn	**P**	**06 06 31.8**	**+4.5**
	comp=N,0.2nm,0.3s,baz=17,slow=13,SNR=5.4						
SONM				Lg		06 08 49.5	
	comp=N,1.3nm,0.3s,baz=16,slow=27,SNR=11						
CLNS	**Chul'man**	**8.23**	**76**	*e*Sg	Sx	06 08 40.8	
TNDR	**Tynda**	**8.24**	**88**	*e*Sg	Sx	06 08 42.8	
ARCES	**ARCESS Array B**	**37.86**	**325**	P	**P**	**06 11 42.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**37.86**	**325**	P	**P**	**06 11 42.1**	**-1.4**
	comp=Z,2.3nm,0.8s,mb3.9,baz=66,slow=8.2,SNR=6.2						
FINES	**FINESS Array B**	**41.39**	**314**	P	**P**	**06 12 11.8**	**-1.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**41.39**	**314**	P	**P**	**06 12 11.8**	**-1.1**
	comp=Z,1.3nm,0.9s,mb3.5,baz=63,slow=9.3,SNR=3.7						
YKA	**Yellowknife Ar**	**57.08**	**23**	P	**P**	**06 14 11.0**	**-2.5**
	comp=Z,0.2nm,0.7s,mb3.2,baz=330,slow=6.8,SNR=4.4						

JMA 20 06:12:56.8, 33.71N×130.25E, h7km±2km, M1.3, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.30**	**158**	P	Pg	06 13 03.1	+0.1
JFA	**Akaike**	**0.45**	**90**	P	Pg	06 13 05.7	-0.3
JFA				*e*S	Sg	06 13 12.1	0.0
JTA	**Tamana**	**0.78**	**162**	P	Pb	06 13 11.8	-0.5

*NIED **20** 06:13:00, 33.80N×130.20E, h5km, Mw3.6 Best double couple: M0 2.51×10^14 NP1:φs 113°, δ84°, λ6°. NP2:φs 22°, δ84°, λ174°.*

JMA 20 06:13:29.3, 33.76N×130.15E, h11km±1km, M3.8, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.35**	**276**	⇓P	Pg	06 13 36.5	-0.1
JII				S	Sg	06 13 41.4	0.0
JFI	**Itaya**	**0.39**	**149**	⇑P	Pg	06 13 37.0	-0.3
JFI				S	Sg	06 13 43.0	+0.4
JFA	**Akaike**	**0.54**	**95**	⇓P	Pg	06 13 39.5	-0.8
JFA				S	Sg	06 13 47.1	-0.5
JUR	**Ureshino**	**0.69**	**194**	⇑P	Pb	06 13 42.3	-0.5
JUR				S	Sb	06 13 51.4	-0.6
JTA	**Tamana**	**0.86**	**158**	⇑P	Pb	06 13 45.5	-0.2
JTA				S	Sb	06 13 57.2	+0.3
JTU	**Tsushima**	**0.98**	**321**	⇑P	Pb	06 13 47.8	-0.1

*CASC **20** 06:21:24.1±2.0, 13.25N×89.16W, h56km±11km, MD4.3, ML4.5, mb4.0(NEIC)*
*NEIC **20** 06:21:27.3±1.2, 13.37N×88.88W, h105km±11km, mb4.0/10, MD4.8(SNET), Error ellipse: s-maj=18.0km s-min=6.8km az=56.0*
NEIC Felt [IV] at San Salvador.
*IDC **20** 06:21:27.9±5.0, 13.47N×88.81W, h107km±46km, mb3.7/10, mb1 3.9/11, mb1mx3.6/20, mbtmp4.1/11, MS3.5/3, Ms1 3.5/3, ms1mx3.0/19, Error ellipse: s-maj=32.4km s-min=14.7km az=55.0*

ISC 20 06:21:23.6±0.4, 13.37N±0.06×89.09W±0.05, h78km±3km, n69, σ1s23/79, mb4.0/17, 5C-16D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LFRS	**El Faro**	**0.25**	**6**	⇓*i*P	**P**	**06 21 34.8**	**-0.7**
LCBS	**La Ceiba**	**0.30**	**21**	⇓*i*P	**P**	**06 21 35.4**	**-0.4**
SNVI	**San Vicente**	**0.34**	**46**	⇓*i*P	**P**	**06 21 36.1**	**+0.1**
SNVI				*e*S	**S**	**06 21 45.3**	**0.0**
SNET	**Serv Nac Est T**	**0.34**	**336**	⇑*e*P	**P**	**06 21 35.1**	**-0.9**
SNET				*e*S	**S**	**06 21 43.8**	**-1.5**
SNET				*i*		06 21 46.0	
	comp=Z,41μm,0.6s						
LBRS	**Las Brisas**	**0.36**	**7**	⇓*i*P	**P**	**06 21 36.5**	**+0.4**
LFU	**La Fuente**	**0.37**	**356**	⇓*i*P	**P**	**06 21 36.4**	**+0.2**
BQQS	**Boqueron**	**0.41**	**333**	⇓*i*P	**P**	**06 21 36.0**	**-0.4**
SBLS	**San Blas**	**0.70**	**312**	⇓*i*P	**P**	**06 21 38.3**	**-0.9**
SNJE	**San Jose**	**0.70**	**314**	⇓*i*P	**P**	**06 21 38.6**	**-0.7**
RTR	**El Retiro**	**0.75**	**314**	⇓*i*P	**P**	**06 21 39.3**	**-0.6**
VSM	**San Miguel**	**0.80**	**86**	⇓*e*P	**P**	**06 21 41.4**	**+1.0**
BLLM	**Bellamira**	**0.83**	**85**	⇓*e*P	**P**	**06 21 42.0**	**+1.2**
BLLM				*e*S	**S**	**06 21 54.8**	**+1.2**
RBDL	**Robledal**	**0.94**	**322**	⇑*i*P	**P**	**06 21 42.1**	**+0.1**
RBDL				*e*S	**S**	**06 21 56.1**	**+0.3**
CAHU	**Cacacuatique**	**0.94**	**65**	⇓*e*P	**P**	**06 21 43.7**	**+1.7**
MTO2	**Montecristo 2**	**1.05**	**345**	⇓*i*P	**P**	**06 21 44.8**	**+1.4**
CNCH	**Conchagua**	**1.23**	**94**	⇓*e*P	**P**	**06 21 46.4**	**+0.8**
CNCH				*e*S	**S**	**06 22 04.9**	**+2.8**
CRIN	**San Cristobal**	**2.10**	**108**	⇑*e*P	**P**	**06 21 57.4**	**+0.1**
TEL3	**Telica 3**	**2.33**	**110**	⇑*e*P	**P**	**06 21 59.9**	**-0.7**
TEL3				*e*S	**S**	**06 22 28.4**	**+0.3**
TELN	**Telica**	**2.33**	**109**	*e*P	**P**	**06 21 59.9**	**-0.8**
TELN				*e*S	**S**	**06 22 28.5**	**+0.3**
LEON	**Leon**	**2.34**	**114**	*e*P	**P**	**06 21 59.0**	**-1.9**
CNGN	**Cerro Negro**	**2.49**	**110**	*e*P	**P**	**06 22 02.5**	**-0.4**
CNGN				*e*S	**S**	**06 22 30.1**	**-2.1**
MIRN	**Miramar**	**2.50**	**112**	⇓*e*P	**P**	**06 22 01.9**	**-1.1**
MIRN				*e*S	**S**	**06 22 30.2**	**-2.2**
MOMJ	**Momotombo**	**2.66**	**111**	*e*P	**P**	**06 22 04.8**	**-0.6**
XAVN	**Gruta Xavier**	**2.96**	**114**	*e*P	**P**	**06 22 08.4**	**-1.0**
XAVN				*e*S	**S**	**06 22 40.9**	**-3.0**
MGAN	**Managua**	**3.03**	**113**	*e*S	**S**	**06 22 42.8**	**-2.9**
PYTN	**Playitas**	**3.07**	**105**	*e*P	**P**	**06 22 09.9**	**-1.1**
WILN	**Americas 2**	**3.08**	**113**	*e*P	**P**	**06 22 11.7**	**+0.6**
WILN				*e*S	**S**	**06 22 44.6**	**-2.2**
	comp=E,2μm,0.5s						
TICN	**Ticuantepe**	**3.09**	**115**	*e*P	**P**	**06 22 11.0**	**-0.3**
APON	**Apoyo**	**3.29**	**116**	⇑*e*P	**P**	**06 22 14.4**	**+0.5**
CONN	**Concepcion**	**3.83**	**118**	*e*P	**P**	**06 22 22.2**	**+0.6**
VCR	**Vista de Mar**	**4.68**	**133**	⇓*e*P	**P**	**06 22 32.8**	**-0.5**
JTS	**JuntasAbangare**	**5.08**	**127**	Pn	**P**	**06 22 38.9**	**+0.1**
	comp=E,774nm,0.6s,SNR=33						
JTS	**JuntasAbangare**	**5.08**	**127**	*e*Pn	**P**	**06 22 38.1**	**-0.7**
JTS				*e*Sn	**S**	**06 23 38.1**	**+1.4**
CGA2	**Cerro Gallo 2**	**5.62**	**126**	*e*P	**P**	**06 22 48.0**	**+1.7**
PRS1	**Puriscal**	**5.77**	**125**	*e*P	**P**	**06 22 49.0**	**+0.8**
PRS1				*e*S	**S**	**06 23 55.2**	**+1.4**
LCR2	**La Lucha 2**	**6.15**	**125**	*e*P	**P**	**06 22 55.0**	**+1.4**
LCR2				*e*S	**S**	**06 24 05.6**	**+2.3**
ICR	**Volcan Irazu**	**6.16**	**123**	*e*P	**P**	**06 22 54.4**	**+0.7**
BUS	**Buena Vista**	**6.46**	**125**	*e*P	**P**	**06 22 59.5**	**+1.6**
BUS				*e*S	**S**	**06 24 13.2**	**+2.4**
TEIG	**Tepich**	**6.86**	**6**	*e*Pn	**P**	**06 23 05.5**	**+2.0**
	comp=E,22nm,0.5s						
ROSC	**El Rosal**	**16.84**	**119**	LR	LR	06 31 57.7	
	comp=E,55nm,20.3s,baz=15,slow=38						
SDV	**Santo Domingo**	**18.65**	**102**	P	**P**	**06 25 35.4**	**-2.3**
	comp=E,0.9nm,0.3s,baz=257,slow=3.7,SNR=20						
SDV	**Santo Domingo**	**18.65**	**102**	*e*P	**P**	**06 25 35.7**	**-2.0**
	comp=E,7.9nm,0.7s						
TXAR	**Lajitas Array**	**20.86**	**322**	P	**P**	**06 26 02.1**	**+0.9**
	comp=E,2.4nm,0.5s,baz=143,slow=9.4,SNR=46						
MIAR	**Mount Ida**	**21.47**	**350**	*e*P	**P**	**06 26 08.9**	**+1.6**
	comp=E,8.7nm,0.8s,mb4.1						
WMOK	**Wichita Mounta**	**23.01**	**339**	*e*P	**P**	**06 26 22.5**	**+0.1**
	comp=E,1.4nm,0.4s,mb3.6						
MNTX	**Cornudas Mount**	**23.59**	**323**	*e*P	**P**	**06 26 28.4**	**+0.4**
	comp=E,0.9nm,0.6s,mb3.3						
CCM	**Cathedral Cave**	**24.66**	**356**	*e*P	**P**	**06 26 38.9**	**+0.6**
	comp=E,5.8nm,0.8s,mb4.1						
ANMO	**Albuquerque**	**26.61**	**327**	LR	LR	06 39 45.3	
	comp=E,149nm,18.4s,slow=41						
SDCO	**Great Sand Dun**	**28.34**	**332**	*e*P	**P**	**06 27 13.6**	**+1.3**
	comp=E,0.8nm,0.7s,mb3.4						
ISCO	**Idaho Springs**	**30.08**	**334**	*e*P	**P**	**06 27 29.0**	**+1.3**
	comp=E,1.2nm,0.6s,mb3.7						
SADO	**Sadowa**	**32.42**	**13**	P	**P**	**06 27 47.0**	**-1.1**
	comp=E,3.1nm,0.7s,mb4.1,baz=214,slow=15,SNR=3.7						
PDAR	**Pinedale Array**	**34.22**	**333**	P	**P**	**06 28 03.9**	**+0.2**
	comp=E,0.7nm,0.6s,mb3.6,baz=125,slow=11,SNR=7.0						
PDAR				PcP	PcP	06 30 37.5	-1.4
	comp=E,0.7nm,0.6s,baz=139,slow=5.2,SNR=7.2						
SNOW	**Snow King Moun**	**35.30**	**332**	*e*P	**P**	**06 28 14.0**	**+1.0**
	comp=E,11nm,0.6s,mb4.9						
NVAR	**Mina Array Bea**	**35.96**	**319**	P	**P**	**06 28 19.9**	**+1.4**
	comp=E,0.4nm,0.5s,mb3.6,baz=130,slow=8.5,SNR=3.5						
NVAR				PcP	PcP	06 30 44.1	0.0
	comp=E,1.4nm,0.7s,baz=113,slow=5.7,SNR=7.9						
LPAZ	**La Paz**	**36.02**	**144**	P	**P**	**06 28 19.0**	**-0.3**
	comp=E,0.4nm,0.5s,mb3.6,baz=292,slow=4.5,SNR=7.0						
LPAZ	**La Paz**	**36.02**	**144**	P	**P**	**06 28 19.0**	**-0.3**
ULM	**Lac du Bonnet**	**37.19**	**353**	P	**P**	**06 28 27.5**	**-1.3**
	comp=E,1.8nm,0.5s,mb4.3,baz=171,slow=7.5,SNR=6.2						
ULM				LR	LR	06 46 25.1	
	comp=E,144nm,18.4s,baz=56,slow=40						
BOZ	**Bozeman (W)**	**37.41**	**334**	*e*P	**P**	**06 28 31.4**	**+0.7**
	comp=E,1.3nm,0.7s,mb4.0						
EDM	**Edmonton**	**44.18**	**339**	*e*P	**P**	**06 29 25.8**	**-0.5**
SCHQ	**Schefferville**	**44.88**	**18**	P	**P**	**06 29 30.2**	**-1.6**
	comp=E,3.0nm,1.0s,mb4.0,baz=210,slow=14,SNR=6.4						
SCHQ				PcP	PcP	06 31 10.2	-2.5
	comp=E,1.2nm,0.4s,baz=207,slow=2.3,SNR=8.0						
SCHQ	**Schefferville**	**44.88**	**18**	P	**P**	**06 29 30.2**	**-1.7**
SCHQ				PcP	PcP	06 31 10.2	-2.5
BDFB	**Brasilia**	**49.81**	**124**	P	**P**	**06 30 08.7**	**-2.2**
	comp=E,0.8nm,0.5s,mb3.9,baz=321,slow=10.0,SNR=3.5						
YKA	**Yellowknife Ar**	**52.31**	**345**	P	**P**	**06 30 27.8**	**-1.4**
	comp=E,2.9nm,0.6s,mb4.5,baz=144,slow=7.4,SNR=83						
FRB	**Frobisher Bay**	**52.33**	**11**	P	**P**	**06 30 27.0**	**-2.2**
	comp=E,5.2nm,0.7s,mb4.7,baz=211,slow=10,SNR=14						
FRB	**Frobisher Bay**	**52.33**	**11**	P	**P**	**06 30 27.0**	**-2.2**
YKW3	**Yellowknife Ar**	**52.37**	**345**	*e*P	**P**	**06 30 27.5**	**-2.1**
SONM	**Songino Array**	**117.52**	**348**	PKP	PKPdf	06 40 01.1	+0.7
	comp=E,0.4nm,0.6s,baz=322,slow=1.9,SNR=5.7						
WRA	**Warramunga Arr**	**137.97**	**255**	PKP	PKPdf	06 40 40.6	+0.5
	comp=E,0.7nm,0.6s,baz=88,slow=1.9,SNR=6.2						
ASAR	**Alice Springs**	**138.11**	**249**	PKP	PKPdf	06 40 42.1	+1.8
	comp=E,0.4nm,0.6s,baz=100,slow=2.7,SNR=5.5						

*CSEM **20** 06:24:53.2, 37.71N×57.43E, h24km, ML3.5, After TEH*

TEH 20 06:24:53.2, 37.71N×57.43E, h24km, Mn3.5, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMIN	**Minoodasht**	**1.83**	**253**	Pn	Pn	06 25 18.0	-5.8
MHI	**Mashhad**	**2.15**	**130**	Pn	Pn	06 25 27.5	-0.8
IKIA	**Kiasar**	**3.35**	**245**	Pn	Pn	06 25 43.1	-2.3
IGLO	**Galoogah**	**3.44**	**247**	Pn	Pn	06 25 40.8	-5.9
IANJ	**Anjiloo**	**3.60**	**233**	Pn	Pn	06 25 46.7	-2.3
ISHM	**Shahmirzad**	**3.82**	**242**	Pn	Pn	06 25 50.6	-1.5
ILAS	**Lasjerd**	**4.28**	**239**	Pn	Pn	06 25 56.6	-2.0
IFIR	**Firoozkooh**	**4.28**	**243**	Lg		06 27 06.8	
IFIR	**Firoozkooh**	**4.28**	**243**	Pn	Pn	06 25 56.3	-2.4
IFIR				Sn	Sn	06 26 43.4	-5.1
IPRN	**Paran-Amol**	**4.40**	**252**	Pn	Pn	06 25 55.0	-5.3
IDMV	**Damavand**	**4.83**	**246**	Pn	Pn	06 26 03.8	-2.6
IAFJ	**Afjeh**	**4.94**	**250**	Pn	Pn	06 26 05.3	-2.7

*NIED **20** 06:41:00, 33.70N×130.20E, h8km, Mw3.6 Best double couple: M0 2.44×10^14 NP1:φs 38°, δ87°, λ-139°. NP2: φs 305°, δ49°, λ-4°.*

JMA 20 06:41:24.6, 33.71N×130.22E, h10km±1km, M3.6, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.32**	**153**	⇑P	Pg	06 41 30.9	-0.2
JFI				S	Sg	06 41 35.2	-0.3
JII	**Iki**	**0.41**	**282**	⇓P	Pg	06 41 33.0	-0.1
JII				S	Sg	06 41 38.8	0.0
JFA	**Akaike**	**0.48**	**90**	⇓P	Pg	06 41 33.8	-0.5
JFA				S	Sg	06 41 40.2	-0.6
JUR	**Ureshino**	**0.66**	**200**	⇑P	Pb	06 41 37.0	-0.7
JUR				S	Sb	06 41 45.7	-0.9
JTA	**Tamana**	**0.79**	**161**	⇑P	Pb	06 41 39.6	-0.3
JTA				S	Sb	06 41 50.0	-0.4
JNU	**Nakatsue**	**0.81**	**137**	⇑P	Pb	06 41 39.8	-0.4
JNU				S	Sb	06 41 50.4	-0.5
JTU	**Tsushima**	**1.06**	**320**	S	Sb	06 41 58.6	+0.3

*NIED **20** 07:08:00, 33.80N×130.10E, h8km, Mw3.7 Best double couple: M0 4.73×10^14 NP1:φs 26°, δ85°, λ-171°. NP2: φs 295°, δ81°, λ-5°.*

JMA 20 07:07:41.3, 33.73N×130.20E, h12km±1km, M3.3, 1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.34**	**152**	⇑P	Pg	07 07 48.3	-0.1
JFI				S	Sg	07 07 53.0	-0.2
JII	**Iki**	**0.40**	**280**	⇓P	Pg	07 07 49.4	-0.1
JII				S	Sg	07 07 54.7	-0.2
JFA	**Akaike**	**0.50**	**92**	⇓P	Pg	07 07 50.7	-0.7
JFA				S	Sg	07 07 57.9	-0.3
JTA	**Tamana**	**0.81**	**160**	P	Pb	07 07 56.8	-0.1
JTA				S	Sb	07 08 07.5	-0.1
JTU	**Tsushima**	**1.03**	**320**	P	Pb	07 08 00.6

JII				S	Sg	07 16 02.1	-0.1
JFI	**Itaya**	**0.43**	**146**	⇓P	Pg	07 16 00.0	-0.2
JFI				S	Sg	07 16 05.8	-0.2
JFA	**Akaike**	**0.58**	**96**	⇓P	Pb	07 16 02.5	-0.5
JFA				S	Sb	07 16 11.0	0.0
JUR	**Ureshino**	**0.70**	**190**	⇑P	Pb	07 16 04.7	-0.3
JUR				S	Sb	07 16 14.2	-0.1
JTA	**Tamana**	**0.89**	**156**	⇑P	Pb	07 16 08.3	0.0
JTA				S	Sb	07 16 19.9	0.0
JTU	**Tsushima**	**0.94**	**322**	⇑P	Pb	07 16 09.2	0.0
JTU				S	Sb	07 16 21.6	+0.2

IDC 20 07:16:19.8±1.8, 16.81S×178.21W, mb3.9/4, mb1 4.2/4, mb1mx3.9/12, mbtmp3.9/4 Error ellipse: s-maj=173.7km s-min=30.8km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.33**	**240**	P	P	07 23 51.5	-1.0
	1.5nm,0.8s,baz=97,slow=17,SNR=3.0						
WRA	**Warramunga Arr**	**45.03**	**258**	P	P	07 24 37.4	-1.9
	0.4nm,0.5s,baz=95,slow=7.4,SNR=4.7						
ASAR	**Alice Springs**	**45.28**	**253**	*eP*	P	07 24 39.1	-2.1
	5.0nm,0.5s,baz=89,slow=7.8,SNR=124						
ASPA	**Alice Springs**	**45.28**	**253**	*eP*	P	07 24 39.0	-2.3
TXAR	**Lajitas Array**	**85.25**	**58**	P	P	07 28 58.9	-1.1
	0.4nm,0.7s,baz=224,slow=5.0,SNR=5.3						

*NEIC **20** 07:32:55.8, 33.04S×70.57W, h87km, MD3.6(GUC), After GUC.*

GUC 20 07:32:55.8±0.7, 33.04S×70.57W, h87km±2km, MD3.6, ML3.6, 10C-16D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCH	**Cerro Calan**	**0.36**	**175**	⇓*i*P	P	07 33 09.6	+0.3
CLCH				*i* S	S	07 33 20.2	+0.7
CLCH				AMP		07 33 21.9	
	comp=N,4μm,0.4s						
CLCH				AMP		07 33 24.1	
	comp=E,4μm,0.4s						
JACH	**Jahuel**	**0.36**	**357**	⇓*i*P	P	07 33 09.6	+0.3
JACH				*i* S	S	07 33 20.5	+0.9
DSCH	**Colegio Aleman**	**0.36**	**179**	⇑*i*P	P	07 33 09.7	+0.4
DSCH				*i* S	S	07 33 20.2	+0.7
DSCH				AMP		07 33 21.4	
	comp=E,7μm,0.3s						
FCH	**Farellones**	**0.37**	**141**	⇓*i*P	P	07 33 10.1	+0.7
FCH				*i* S	S	07 33 20.9	+1.2
FCH				AMP		07 33 22.6	
	comp=E,4μm,0.2s						
ROCH	**El Roble**	**0.37**	**280**	⇓*i*P	P	07 33 09.8	+0.4
ROCH				*i* S	S	07 33 20.4	+0.7
STL	**Santa Lucia**	**0.40**	**188**	⇓*i*P	P	07 33 09.7	+0.1
STL				*i* S	S	07 33 20.3	+0.3
STL				AMP		07 33 20.8	
	comp=E,2μm,0.4s						
SAN	**Santiago**	**0.42**	**190**	⇑*i*P	P	07 33 09.9	+0.2
SAN				*i* S	S	07 33 20.5	+0.3
SAN				AMP		07 33 21.1	
	comp=E,5μm,0.3s						
PUEX	**Pudahuel**	**0.43**	**201**	⇓*i*P	P	07 33 10.1	+0.3
PUEX				*i* S	S	07 33 20.8	+0.4
PUEX				AMP		07 33 21.7	
	comp=E,9μm,0.7s						
FSR	**Penalolen**	**0.44**	**175**	⇓*i*P	P	07 33 10.3	+0.4
FSR				*i* S	S	07 33 21.4	+0.9
FSR				AMP		07 33 22.9	
	comp=N,4μm,0.2s						
RCDM	**Rinconada Maip**	**0.49**	**204**	⇑*i*P	P	07 33 10.4	+0.1
RCDM				*i* S	S	07 33 21.6	+0.4
RCDM				AMP		07 33 22.2	
	comp=N,9μm,0.1s						
ANTU	**Antumapu**	**0.53**	**185**	⇓*i*P	P	07 33 10.7	0.0
ANTU				*i* S	S	07 33 22.0	+0.3
ANTU				AMP		07 33 22.6	
	comp=E,4μm,0.3s						
PCH	**Pirque**	**0.58**	**175**	⇑*i*P	P	07 33 11.4	+0.2
PCH				*i* S	S	07 33 22.8	+0.3
SCR	**San Cristobal**	**0.58**	**218**	⇓*i*P	P	07 33 09.6	-1.5
SCR				*i* S	S	07 33 20.1	-2.5
SCR				AMP		07 33 21.7	
	comp=E,2μm,0.7s						
SJCH	**San Jose de Ma**	**0.63**	**163**	⇓*i*P	P	07 33 11.5	-0.1
SJCH				*i* S	S	07 33 23.8	+0.5
SJCH				AMP		07 33 24.5	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**0.68**	**206**	⇑*i*P	P	07 33 11.9	-0.2
TACH				*i* S	S	07 33 24.2	-0.1
LMEL	**Las Melosas**	**0.86**	**159**	⇓*i*P	P	07 33 14.3	+0.3
LMEL				*i* S	S	07 33 28.7	+1.2
LMEL				AMP		07 33 31.7	
	comp=N,4μm,0.2s						
PACH	**Papudo**	**0.88**	**304**	⇑*i*P	P	07 33 14.1	-0.1
PACH				*i* S	S	07 33 27.7	-0.3
CHCH	**Chadas Angostu**	**0.89**	**184**	⇑*i*P	P	07 33 14.3	0.0
CHCH				*i* S	S	07 33 28.6	+0.4
IHA	**Instituto Hidr**	**0.90**	**271**	⇑*i*P	P	07 33 14.2	-0.1
IHA				*i* S	S	07 33 28.6	+0.4
LCCH	**Las Cruces**	**0.94**	**242**	⇓*i*P	P	07 33 14.9	+0.1
LCCH				*i* S	S	07 33 29.0	-0.2
CACH	**El Canelo**	**1.07**	**181**	⇓*i*P	P	07 33 17.0	+0.6
CACH				*i* S	S	07 33 33.7	+1.8
LNV	**Longovilo**	**1.15**	**217**	⇑*i*P	P	07 33 16.9	-0.5
CICH	**Cipreses**	**1.28**	**174**	⇑*i*P	P	07 33 19.3	+0.2
CHNG	**Los Chungos**	**1.40**	**326**	⇓*i*P	P	07 33 20.8	+0.2
CHNG				*i* S	S	07 33 39.0	+0.1
CHNG				AMP		07 33 40.2	
	comp=N,1μm,0.5s						
ILCH	**Illapel**	**1.49**	**340**	⇓*i*P	P	07 33 21.9	+0.2
ILCH				*i* S	S	07 33 41.4	+0.4
ILCH				AMP		07 33 42.4	
	comp=N,1μm,0.2s						
SFDO	**San Fernando**	**1.61**	**193**	⇓*i*P	P	07 33 23.2	-0.2
ZON	**Zonda**	**2.19**	**48**	*eP*	P	07 33 31.3	+0.2
ZON				*eS*	S	07 33 58.3	+1.1
TLL	**Tololo Astrono**	**2.87**	**356**	*i* P	P	07 33 40.6	0.0
TLL				*i* S	S	07 34 14.2	+0.1
TLL				AMP		07 34 17.6	
	comp=N,253nm,0.5s						

*NIED **20** 07:45:00, 33.70N×130.30E, h5km, Mw3.6 Best double couple: M₀3.02×10¹⁴ NP1:φ≈26°, δ85°, λ172°. NP2:φ≈117°, δ82°, λ5°.*

JMA 20 07:44:36.7, 33.71N×130.24E, h14km±1km, M3.4, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.31**	**156**	⇑P	Pg	07 44 43.1	-0.2
JFI				S	Sg	07 44 47.7	-0.1
JII	**Iki**	**0.43**	**282**	⇑P	Pb	07 44 45.3	-0.3
JII				S	Sb	07 44 51.0	-0.6
JFA	**Akaike**	**0.46**	**90**	⇓P	Pb	07 44 45.8	-0.3
JFA				S	Sb	07 44 52.2	-0.3
JUR	**Ureshino**	**0.66**	**202**	⇓P	Pb	07 44 49.2	-0.3
JUR				S	Sb	07 44 57.9	-0.4
JTA	**Tamana**	**0.78**	**162**	⇑P	Pb	07 44 51.4	-0.2

JMA 20 07:45:49.1, 33.68N×130.29E, h9km±1km, M3.5, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.27**	**162**	⇑P	Pg	07 45 54.6	0.0
JFI				*eS*	Sg	07 45 58.7	+0.4
JFA	**Akaike**	**0.42**	**86**	⇓P	Pg	07 45 57.4	-0.3
JFA				S	Sg	07 46 03.4	0.0
JII	**Iki**	**0.48**	**284**	P	Pg	07 45 58.7	-0.1
JII				S	Sg	07 46 05.2	-0.1
JUR	**Ureshino**	**0.65**	**206**	⇓P	Pb	07 46 01.6	-0.6
JUR				S	Sg	07 46 10.2	-0.7
JTA	**Tamana**	**0.74**	**164**	⇑P	Pb	07 46 03.4	-0.3
JTA				S	Sb	07 46 13.3	-0.4

*JMA **20** 07:53:55.5±0.1, 29.50N×140.24E, h344km, M3.3*

*IDC **20** 07:53:55.6±1.1, 29.50N×140.50E, h351km±22km, mb2.7/4, mb1 2.9/5, mb1mx2.8/18, mbtmp3.5/5, Error ellipse: s-maj=89.6km s-min=17.3km az=74.0*

ISC 20 07:53:54.8±0.6, 29.5N±0.1×140.3E±0.5, h353km±16km, n12, σ0°64/16, mb2.9/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.91**	**144**	P	**P**	**07 54 54.5**	**+0.5**
	20nm,0.3s,baz=294,slow=20,SNR=13						
CBIJ				S	**S**	**07 55 40.1**	**-0.2**
	42nm,0.3s,baz=273,slow=22,SNR=18						
CBIJ	**Chichi jima**	**2.91**	**144**	P	**P**	**07 54 54.4**	**+0.5**
CBIJ				S	**S**	**07 55 39.0**	**-1.3**
JHHJ	**Haha-jima-NKT**	**3.30**	**148**	P	**P**	**07 54 57.7**	**+0.2**
JHHJ				S	**S**	**07 55 47.0**	**+0.3**
BSO3	**Boso 3**	**5.33**	**2**	P	**P**	**07 55 18.9**	**+0.2**
BSO4	**Boso 4**	**5.51**	**1**	P	**P**	**07 55 22.0**	**+1.2**
JAO	**Obara**	**6.32**	**337**	P	**P**	**07 55 30.0**	**0.0**
JRY	**Ryogami san**	**6.63**	**351**	P	**P**	**07 55 33.4**	**-0.3**
JRY				S	**S**	**07 56 51.1**	**-0.3**
JAG	**Ashikaga**	**6.97**	**355**	P	**P**	**07 55 36.6**	**-1.1**
SONM	**Songino Array**	**31.84**	**315**	P	**P**	**07 59 49.9**	**+0.5**
	0.3nm,0.6s,mb2.7,baz=108,slow=4.6,SNR=2.7						
WRA	**Warramunga Arr**	**49.45**	**187**	P	**P**	**08 02 11.2**	**-1.0**
	0.2nm,0.3s,mb2.9,baz=6.1,slow=7.8,SNR=18						
ASAR	**Alice Springs**	**53.17**	**187**	P	**P**	**08 02 40.4**	**+0.6**
	0.2nm,0.6s,mb2.6,baz=8.1,slow=6.4,SNR=4.5						
FINES	**FINESS Array B**	**75.08**	**333**	P	**P**	**08 04 59.6**	**-0.1**
	0.9nm,0.9s,mb3.5,baz=90,slow=4.2,SNR=5.2						

*MAN **20** 07:56:07.9, 11.03N×124.73E, h1km, mb4.7, ML3.6, MS3.6*
*IDC **20** 07:56:08.4±1.1, 10.79N×124.44E, mb4.1/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.1/6, MS3.7/2, Ms1 3.8/2, ms1mx2.9/18, Error ellipse: s-maj=170.8km s-min=18.1km az=69.0*

ISC 20 07:56:08.2±1.8, 10.98N±0.04×124.80E±0.04, h6km±13km, n24, σ1°18/30, mb4.1/6, MS3.9/1, 1C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.84**	**176**	*eP*	**Pb**	**07 56 25.8**	**+1.1**
MSLP				*eS*	**Sb**	**07 56 42.0**	**+6.0**
BESP	**Borongan**	**0.89**	**45**	*eP*	**Pb**	**07 56 25.1**	**-0.4**
BESP				*eS*	**Sb**	**07 56 38.4**	**+1.1**
LLP	**Lapu-Lapu**	**1.04**	**231**	*i P*	**Pb**	**07 56 26.6**	**-1.7**
LLP				*eS*	**Sb**	**07 56 41.5**	**-0.5**
SCPH	**Surigao**	**1.37**	**150**	*eP*	**Pn**	**07 56 35.3**	**+1.5**
SCPH				*eS*	**Sb**	**07 56 59.2**	**+7.8**
CNP	**Catarman**	**1.53**	**355**	*eP*	**Pn**	**07 56 34.9**	**-1.2**
TBP	**Tagbilaran**	**1.57**	**216**	*eP*	**Pn**	**07 56 36.6**	**-0.1**
TBP				*i* S	**Sb**	**07 56 54.1**	**-3.1**
MMPH	**Masbate**	**1.79**	**320**	*eP*	**Pn**	**07 56 35.0**	**-4.9**
BUTP	**Butuan**	**2.15**	**158**	*eP*	**Pn**	**07 56 50.2**	**+5.2**
GUIM	**Jordan**	**2.19**	**261**	*eP*	**Pn**	**07 56 46.3**	**+0.6**
GUIM				*eS*	**Sn**	**07 57 15.0**	**+1.5**
SNPH	**Sibulan**	**2.23**	**224**	*eP*	**Pn**	**07 56 46.0**	**-0.2**
CGP	**Cagayan de Oro**	**2.51**	**182**	⇑*eP*	**Pn**	**07 56 50.3**	**+0.2**
CGP				*eS*	**Sn**	**07 57 20.9**	**-0.4**
PVCP	**Virac**	**2.68**	**347**	*eP*	**Pn**	**07 56 53.0**	**+0.4**
DCPH	**Dipolog City**	**2.77**	**211**	⇓*eP*	**Pn**	**07 56 53.4**	**-0.5**
DCPH				*i* S	**Sn**	**07 57 30.0**	**+2.0**
OTRP	**Odiongan**	**3.05**	**297**	*eP*	**Pn**	**07 56 59.2**	**+1.4**
BUKP	**Musuan**	**3.09**	**175**	*eP*	**Pn**	**07 57 00.3**	**+1.9**
KCP	**Kidapawan**	**3.95**	**176**	⇓*eP*	**Pn**	**07 57 15.5**	**+4.8**
JOW	**Wunigami**	**16.11**	**11**	LR	LR	08 06 39.1	
	comp=Z,168nm,18.3s,baz=138,slow=38						
WRA	**Warramunga Arr**	**32.13**	**163**	P	**P**	**08 02 36.7**	**-2.1**
	1.1nm,0.9s,mb3.7,baz=341,slow=8.7,SNR=6.8						
ASAR	**Alice Springs**	**35.56**	**166**	P	**P**	**08 03 06.7**	**-1.7**
	2.3nm,0.7s,mb4.2,baz=346,slow=7.0,SNR=22						
SONM	**Songino Array**	**39.87**	**341**	P	**P**	**08 03 44.5**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=154,slow=10.0,SNR=7.0						
STKA	**Stephens Creek**	**45.54**	**160**	P	**P**	**08 04 30.1**	**-0.6**
	5.3nm,0.8s,mb4.5,baz=347,slow=7.7,SNR=12						
BVAR	**Borovoye Array**	**60.27**	**326**	P	**P**	**08 06 18.5**	**-1.2**
	1.9nm,1.0s,mb4.1,baz=135,slow=6.3,SNR=5.1						
ARCES	**ARCESS Array B**	**83.03**	**340**	P	**P**	**08 08 35.1**	**-0.3**
	2.8nm,0.8s,mb4.3,baz=84,slow=8.2,SNR=4.5						
NOA	**NORSAR Array B**	**91.49**	**333**	LR	LR	08 52 33.2	
	comp=Z,44nm,18.0s,MS3.9,baz=35,slow=37						

*IDC **20** 07:59:56.2±0.9, 53.87N×163.41W, mb4.2/18, mb1 4.3/20, mb1mx4.3/26, mbtmp4.2/20, ML3.7/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/26, Error ellipse: s-maj=27.5km s-min=12.6km az=6.0*
*MOS **20** 07:59:57.9±1.1, 53.58N×163.46W, h33km, mb4.7/16, MS4.2/6, Error ellipse: s-maj=14.6km s-min=7.1km az=91.7*
*NEIC **20** 07:59:58.6±1.9, 53.69N×163.36W, h20km±11km, mb4.5/21, ML4.0(AEIC), Error ellipse: s-maj=8.3km s-min=4.1km az=168.0*
*BJI **20** 07:59:58.9, 53.90N×164.26W, h19km, mB5.2, mb4.7, Ms4.4, Msz4.4*

ISC 20 07:59:58.6±0.6, 53.59N±0.05×163.37W±0.05, h37km±4km, h32km±3.8km; pP-P, n156, σ1°30/160, mb4.5/56, MS4.1/18, 6C-6D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSLS	**Shishaldin Sou**	**1.18**	**342**	P	**P**	**08 00 20.2**	**+1.4**
WESS	**West Dahl Sout**	**1.19**	**319**	P	**P**	**08 00 20.1**	**+1.1**
WESS				S	**S**	**08 00 34.5**	**+0.2**
WESN	**West Dahl Nort**	**1.21**	**324**	P	**P**	**08 00 20.6**	**+1.4**
WFAR	**Faris Peak**	**1.26**	**319**	P	**P**	**08 00 21.0**	**+1.1**
FALS	**False Pass**	**1.27**	**359**	P	**P**	**08 00 20.7**	**+0.6**
FALS				S	**S**	**08 00 37.7**	**+1.5**
SSLN	**Shishaldin Nor**	**1.28**	**344**	P	**P**	**08 00 21.7**	**+1.6**
AKA	**Akutan**	**1.52**	**292**	P	**P**	**08 00 24.6**	**+0.8**
AKUT	**Akutan**	**1.52**	**292**	P	**P**	**08 00 24.5**	**+0.7**
BALA	**Baldy Mountain**	**1.64**	**12**	P	**P**	**08 00 26.9**	**+1.4**
DT1	**Dutton Round H**	**1.65**	**22**	P	**P**	**08 00 25.1**	**-0.5**
DTNA	**Dutton South F**	**1.69**	**22**	P	**P**	**08 00 25.8**	**-0.3**
DOL	**Dolgoi Island**	**1.79**	**29**	P	**P**	**08 00 26.9**	**-0.7**
UNV	**Unalaska Valle**	**1.88**	**279**	P	**P**	**08 00 28.8**	**0.0**
HAG	**Hague Volcano**	**1.93**	**26**	P	**P**	**08 00 29.9**	**+0.3**
MTBL	**Makushin Table**	**2.00**	**282**	P	**P**	**08 00 31.2**	**+0.7**
PVV	**Pavlof Volcano**	**2.01**	**27**	P	**P**	**08 00 30.0**	**-0.7**
MSW	**Makushin Switc**	**2.05**	**280**	P	**P**	**08 00 31.6**	**+0.3**
BLHA	**Black Hill**	**2.25**	**19**	P	**P**	**08 00 34.4**	**+0.3**
SDPT	**Sand Point**	**2.44**	**43**	P	**P**	**08 00 36.2**	**-0.6**
SDPT				S	**S**	**08 01 04.6**	**-1.2**
OKFG	**Magazine Ridge**	**2.72**	**268**	P	**P**	**08 00 41.1**	**+0.2**
NIKO	**Nikolski**	**3.35**	**262**	*eP*	**P**	**08 00 48.9**	**-0.9**
ANPK	**Aniakchak Peak**	**4.43**	**41**	P	**P**	**08 01 03.2**	**-1.9**
SPIA	**Saint Paul Isl**	**5.32**	**315**	P	**P**	**08 01 18.1**	**+0.5**
CAHL	**Cahill**	**6.37**	**42**	P	**P**	**08 01 30.3**	**-2.1**
ANCK	**Angle Creek**	**6.40**	**41**	P	**P**	**08 01 30.6**	**-2.2**
ATKA	**Atka Island**	**6.70**	**262**	P	**P**	**08 01 36.3**	**-0.7**
KDAK	**Kodiak Island**	**7.40**	**51**	P	**P**	**08 01 42.9**	**-4.0**
KIWB	**Kanaga Island**	**8.55**	**264**	*eP*	**P**	**08 02 01.3**	**-1.4**
SPU	**Mount Spurr**	**9.74**	**34**	*eP*	**P**	**08 02 16.7**	**-2.4**
EYAK	**Cordova Ski Ar**	**11.83**	**47**	*eP*	**P**	**08 02 42.4**	**-5.1**
TNA	**Tin City**	**12.22**	**351**	P	**P**	**08 02 47.1**	**-5.7**
	5.1nm,0.9s						
MCK	**McKinley**	**12.60**	**31**	P	**P**	**08 02 55.4**	**-2.5**
MCK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MCK	**McKinley**	**12.60**	**31**	P	**P**	**08 02 55.4**	**-2.5**
	comp=Z,5.3nm,1.1s						
IMA	**Indian Mountai**	**13.40**	**17**	*eP*	**P**	**08 03 02.3**	**-6.2**
IMA				pmax	pmax		
	comp=Z,18nm,0.8s						
IMA	**Indian Mountai**	**13.40**	**17**	*eP*	**P**	**08 03 02.3**	**-6.2**
	comp=Z,18nm,0.8s						
THY	**Trims Highway**	**13.43**	**36**	*eP*	**P**	**08 03 05.9**	**-2.9**
COLA	**College**	**13.77**	**29**	⇑*eP*	**P**	**08 03 13.3**	**+0.2**
FX1	**Attu Island--F**	**14.06**	**277**	Pn	**P**	**08 03 18.1**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=208,slow=23,SNR=7.6						
DAWY	**Dawson**	**16.14**	**40**	*eP*	**P**	**08 03 41.7**	**-2.1**
DLBC	**Dease Lake**	**19.13**	**62**	P	**P**	**08 04 21.9**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=244,slow=17,SNR=4.5						
DLBC				LR	LR	08 10 46.3	
	comp=Z,201nm,20.2s,baz=271,slow=34						
INK	**Inuvik**	**20.35**	**32**	*eP*	**P**	**08 04 29.9**	**-4.2**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**20.35**	**32**	P	**P**	**08 04 30.5**	**-3.6**
	comp=Z,2.2nm,0.5s,baz=240,slow=11,SNR=20						
INK				LR	LR	08 12 48.0	
	comp=Z,383nm,19.4s,MS3.8,baz=234,slow=38						
INK	**Inuvik**	**20.35**	**32**	*eP*	**P**	**08 04 29.9**	**-4.2**
	comp=Z,3.8nm,0.6s						
BILL	**Bilibino**	**20.38**	**327**	⇓*eP*	**P**	**08 04 33.9**	**-0.5**
BILL				pmax	pmax		
	comp=Z,20nm,1.5s						
PET	**Petropavlovsk**	**22.52**	**284**	*eP*	**P**	**08 04 54.0**	**-1.9**
PET				*eS*	**S**	**08 08 52.3**	**-3.5**
PET				MLR	MLR		
	comp=Z,400nm,20.0s,MS3.9						
YKW3	**Yellowknife Ar**	**26.67**	**51**	*eP*	**P**	**08 05 35.3**	**-0.2**
YKA	**Yellowknife Ar**	**26.68**	**51**	P	**P**	**08 05 35.1**	**-0.4**
	comp=Z,0.9nm,0.4s,mb3.7,baz=266,slow=9.0,SNR=34						
YKA				LR	LR	08 17 09.9	
	comp=Z,414nm,19.2s,MS4.0,baz=245,slow=39						
NEW	**Newport**	**29.21**	**81**	P	**P**	**08 05 59.9**	**+1.3**
	comp=Z,1.1nm,0.7s,mb3.7,baz=306,slow=17,SNR=2.4						
NEW	**Newport**	**29.21**	**81**	P	**P**	**08 06 00.6**	**+2.0**
HLID	**Hailey**	**33.29**	**87**	*eP*	**P**	**08 06 37.0**	**+2.5**
TIXI	**Tiksi**	**33.59**	**328**	*eP*	**P**	**08 06 35.3**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,405nm,16.0s,MS4.2						
NVAR	**Mina Array Bea**	**34.14**	**98**	P	**P**	**08 06 44.4**	**+2.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=297,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**34.14**	**98**	P	**P**	**08 06 44.4**	**+2.5**
FFC	**Flin Flon**	**34.96**	**63**	P	**P**	**08 06 49.4**	**+0.7**
YAK	**Yakutsk**	**35.10**	**311**	⇓*eP*	**P**	**08 06 48.6**	**-1.3**
YAK				MLR	MLR		
	comp=Z,300nm,14.0s,MS4.2						
ASAJ	**Asahikawa**	**35.99**	**277**	P	**P**	**08 06 57.4**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=12,slow=9.3,SNR=3.9						
DUG	**Dugway**	**36.27**	**91**	*eP*	**P**	**08 06 59.5**	**-0.5**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
DUG	**Dugway**	**36.27**	**91**	*eP*	**P**	**08 06 59.5**	**-0.5**
	comp=Z,7.5nm,1.1s,mb4.5						
BW06	**Boulder Array**	**36.64**	**85**	*eP*	**P**	**08 07 04.9**	**+1.8**
	comp=Z,1.8nm,0.8s,mb4.0						
PDAR	**Pinedale Array**	**36.64**	**85**	P	**P**	**08 07 04.6**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=270,slow=4.5,SNR=3.4						
FCC	**Fort Churchill**	**37.33**	**53**	*eP*	**P**	**08 07 07.0**	**-1.7**
FCC				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.7						
FCC	**Fort Churchill**	**37.33**	**53**	*eP*	**P**	**08 07 07.0**	**-1.8**
	comp=Z,13nm,1.1s,mb4.7						
SRU	**San Rafael**	**38.32**	**90**	*eP*	**P**	**08 07 17.8**	**+0.6**
CLNS	**Chul'man**	**39.34**	**305**	*eP*	**P**	**08 07 24.9**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,6.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				MLR	MLR		
	comp=N,100nm,16.0s,MS3.9						
CLNS				MLR	MLR		
	comp=Z,300nm,16.0s,MS4.2						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s,MS3.9						
ULM	**Lac du Bonnet**	**40.35**	**66**	P	**P**	**08 07 32.8**	**-1.2**
	comp=E,1.2nm,0.4s,mb4.0,baz=324,slow=8.1,SNR=3.7						
SDCO	**Great Sand Dun**	**42.20**	**88**	*eP*	**P**	**08 07 51.4**	**+2.1**
MDJ	**Mudanjiang**	**43.27**	**286**	P	**P**	**08 07 55.6**	**-2.3**
MDJ				AP	pP	08 08 04.3	-4.2
MDJ				XP	sP	08 08 08.4	-4.7
MDJ				SCS	ScS	08 17 57.8	+5.3
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.8s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,53nm,5.1s						
MDJ				LR	LR		
	comp=N,140nm,26.4s,MS3.8						
MDJ				LR	LR		
	comp=E,82nm,25.8s,MS3.8						
MDJ				LR	LR		
	comp=Z,150nm,20.3s						
BOD	**Bodaibo**	**44.01**	**310**	*eP*	**P**	**08 08 02.5**	**-1.2**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.2						
HIA	**Hailar**	**45.95**	**297**	P	**P**	**08 08 18.1**	**-1.2**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.3s						
HIA	**Hailar**	**45.95**	**297**	P	**P**	**08 08 18.1**	**-1.2**
	comp=Z,9.1nm,0.3s,mb5.2						
CN2	**Changchun**	**46.13**	**288**	*eP*	**P**	**08 08 20.4**	**-0.4**
MNTX	**Cornudas Mount**	**46.44**	**94**	*eP*	**P**	**08 08 23.9**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.1						
WMOK	**Wichita Mounta**	**48.23**	**86**	*eP*	**P**	**08 08 35.8**	**-1.6**
WMOK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
WMOK	**Wichita Mounta**	**48.23**	**86**	*eP*	**P**	**08 08 35.8**	**-1.6**
	comp=Z,1.8nm,0.8s,mb4.2						
TXAR	**Lajitas Array**	**49.16**	**95**	P	**P**	**08 08 44.7**	**+0.1**
	comp=Z,0.5nm,0.5s,mb3.8,baz=294,slow=5.2,SNR=12						
TXAR				LR	LR	08 27 36.3	
	comp=Z,97nm,18.5s,MS3.8,baz=45,slow=34						
TLY	**Talaya**	**52.48**	**308**	*eP*	**P**	**08 09 09.2**	**-0.3**
TLY				pmax	pmax		
	comp=

GTA	**Gaotai**	**63.07**	**300**	*e*P		**P**	**08 10 24.1**	**-0.1**
GTA				AP		pP	08 10 28.6	-6.6
GTA				XP		sP	08 10 31.3	-8.2
GTA				AMB		AMB		
	comp=Z,5.0nm,1.4s,mb4.5							
JOF	**Joensuu**	**63.26**	**353**	*e*p		**P**	**08 10 23.3**	**-1.8**
	comp=Z,2.0nm,0.5s,mb4.5							
LZH	**Lanzhou**	**63.42**	**295**	⇑P		**P**	**08 10 27.1**	**+0.5**
LZH				AP		pP	08 10 38.3	+0.7
LZH				XP		sP	08 10 41.5	-0.3
LZH				AMB		AMB		
	comp=Z,29nm,1.3s,mb5.2							
LZH				LR		LR		
	comp=N,156nm,11.0s							
LZH				LR		LR		
	comp=Z,198nm,13.3s,MS4.5							
LZH	**Lanzhou**	**63.42**	**295**	⇑P		**P**	**08 10 27.1**	**+0.5**
LZH				*PP		pP	08 10 38.2	+0.6
LZH				*SP		sP	08 10 41.5	-0.3
LZH				pmax		pmax		
	comp=Z,29nm,1.3s,mb5.2							
LZH				MLR		MLR		
	comp=Z,200nm,13.3s,MS4.5							
LZH	**Lanzhou**	**63.42**	**295**	⇑P		**P**	**08 10 27.1**	**+0.5**
	comp=Z,29nm,1.3s,mb5.2							
LZH				pP		pP	08 10 38.2	+0.6
LZH				sP		sP	08 10 41.5	-0.3
LZH				LR		LR		
	comp=Z,200nm,13.3s,MS4.5							
KURK	**Kurchatov**	**63.78**	**321**	P		**P**	**08 10 28.0**	**-0.5**
	comp=Z,50nm,1.0s,mb5.5,SNR=9.1							
KURK	**Kurchatov**	**63.78**	**321**	⇑*e*P		**P**	**08 10 28.9**	**+0.4**
SVE	**Sverdlovsk**	**64.22**	**335**	*e*P		**P**	**08 10 31.7**	**+0.5**
SVE				MLR		MLR		
	comp=N,100nm,16.0s,MS4.5							
SVE				MLR		MLR		
	comp=E,200nm,16.0s,MS4.5							
SVE				MLR		MLR		
	comp=Z,400nm,16.0s,MS4.7							
KAF	**Kangasniemi**	**64.39**	**355**	*e*p		**P**	**08 10 31.7**	**-0.5**
	comp=Z,5.7nm,0.7s,mb4.7							
KAF	**Kangasniemi**	**64.39**	**355**	*e*P		**P**	**08 10 31.7**	**-0.5**
KAF				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.7							
BVAR	**Borovoye Array**	**64.72**	**327**	P		**P**	**08 10 34.9**	**+0.3**
	comp=Z,7.2nm,0.7s,mb4.8,baz=45,slow=6.3,SNR=38							
FINES	**FINESS Array B**	**65.07**	**355**	*e*P		**P**	**08 10 35.4**	**-1.3**
FINES	**FINESS Array B**	**65.07**	**355**	P		**P**	**08 10 35.5**	**-1.2**
	comp=Z,8.0nm,1.0s,mb4.7,baz=18,slow=8.4,SNR=17							
FINES				LR		LR	08 41 42.9	
	comp=Z,82nm,19.8s,MS3.9,baz=23,slow=39							
FINES	**FINESS Array B**	**65.07**	**355**	P		**P**	**08 10 35.5**	**-1.2**
FINES				LR		LR	08 41 42.9	
ARU	**Arti**	**65.09**	**336**	⇓*i*P		**P**	**08 10 35.7**	**-1.2**
ARU				*e*			08 11 07.4	
ARU				*e*			08 13 00.7	
ARU				*e*S		S	08 19 15.5	+0.3
ARU				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
WMQ	**Urumqi**	**65.55**	**311**	*e*P		**P**	**08 10 42.0**	**+1.9**
WMQ				AMB		AMB		
	comp=Z,5.0nm,1.0s,mb4.5							
NB2	**NORSAR Subarra**	**65.64**	**3**	P		**P**	**08 10 39.6**	**-0.7**
	comp=Z,1.2nm,0.8s,mb4.0,baz=355,slow=6.5							
NB2	**NORSAR Subarra**	**65.64**	**3**	P		**P**	**08 10 39.6**	**-0.7**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
NOA	**NORSAR Array B**	**65.64**	**3**	P		**P**	**08 10 39.3**	**-1.0**
	comp=Z,3.3nm,0.9s,mb4.4,baz=356,slow=6.3,SNR=6.6							
NOA				LR		LR	08 37 29.8	
	comp=Z,55nm,21.2s,MS3.7,baz=55,slow=34							
HFS	**Hagfors**	**66.60**	**2**	P		**P**	**08 10 45.7**	**-0.7**
	comp=Z,4.4nm,0.3s,mb4.9,baz=27,slow=3.3,SNR=42							
KONO	**Kongsberg**	**66.97**	**4**	P		**P**	**08 10 48.6**	**-0.2**
GYA	**Guiyang**	**69.14**	**286**	⇓*i*P		**P**	**08 11 03.8**	**+0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.3s,mb4.6							
GYA				AMB		AMB		
	comp=Z,130nm,4.8s							
OBN	**Obninsk**	**70.42**	**348**	⇑*e*P		**P**	**08 11 10.4**	**+0.2**
OBN				*i*			08 11 18.2	
OBN				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
AAK	**Ala-Archa**	**72.07**	**319**	P		**P**	**08 11 20.5**	**+0.2**
	comp=Z,36nm,0.6s,mb5.5,SNR=12							
AAK	**Ala-Archa**	**72.07**	**319**	*e*P		**P**	**08 11 19.7**	**-0.6**
AAK				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
AAK	**Ala-Archa**	**72.07**	**319**	*e*P		**P**	**08 11 19.7**	**-0.6**
	comp=Z,6.8nm,0.9s,mb4.6							
JTS	**JuntasAbangare**	**74.91**	**93**	P		**P**	**08 11 35.2**	**-2.2**
	comp=Z,60nm,0.4s,SNR=12							
JTS	**JuntasAbangare**	**74.91**	**93**	*e*P		**P**	**08 11 35.9**	**-1.5**
LSA	**Lhasa**	**75.09**	**300**	P		**P**	**08 11 40.0**	**+1.9**
CLL	**Collm**	**75.43**	**2**	*e*P		**P**	**08 11 40.0**	**+0.4**
CLL	**Collm**	**75.43**	**2**	P		**P**	**08 11 40.0**	**+0.4**
BRG	**Berggiesshubel**	**75.88**	**2**	*e*P		**P**	**08 11 43.1**	**+0.9**
BRG				*e*		pP	08 11 53.3	-0.1
BRG				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.5							
BRG	**Berggiesshubel**	**75.88**	**2**	*e*P		**P**	**08 11 43.1**	**+0.9**
	comp=Z,7.8nm,1.2s,mb4.5							
BRG				*e*		pP	08 11 53.3	-0.1
MOX	**Moxa**	**76.05**	**3**	*e*P		**P**	**08 11 43.8**	**+0.6**
MOX				pmax		pmax		
	comp=Z,9.0nm,1.9s,mb4.4							
MOX	**Moxa**	**76.05**	**3**	*e*P		**P**	**08 11 43.8**	**+0.6**
	comp=Z,9.0nm,1.9s,mb4.4							
MOX	**Moxa**	**76.05**	**3**	*i* P		**P**	**08 11 43.8**	**+0.6**
	comp=Z,logA/T=0.7,mb4.4							
BAIF	**Baives**	**76.19**	**8**	*e*P		**P**	**08 11 44.7**	**+0.7**
GIVF	**Givet**	**76.20**	**8**	*e*P		**P**	**08 11 44.6**	**+0.5**
UPC	**Upice**	**76.27**	**0**	*e*P		**P**	**08 11 45.3**	**+0.8**
DPC	**Dobruska-Polom**	**76.43**	**0**	*e*P		**P**	**08 11 46.4**	**+1.0**
PRU	**Pruhonice**	**76.78**	**1**	*e*P		**P**	**08 11 48.0**	**+0.7**
OKC	**Ostrava-Krasne**	**76.94**	**359**	*e*P		**P**	**08 11 49.5**	**+1.3**
GRA1	**Grafenberg Arr**	**76.99**	**4**	*e*P		**P**	**08 11 49.8**	**+1.3**
	comp=Z,10.0nm,1.1s,mb4.7							
GRF	**Grafenberg Arr**	**76.99**	**4**	*e*P		**P**	**08 11 49.8**	**+1.3**
GRF				pmax		pmax		
	comp=Z,10.0nm,1.1s,mb4.7							
KHC	**Kasperske Hory**	**77.62**	**2**	‖*e*P		**P**	**08 11 53.7**	**+1.7**
KHC	**Kasperske Hory**	**77.62**	**2**	*e*P		**P**	**08 11 53.4**	**+1.4**
KOLS	**Kolonicke sedl**	**77.74**	**356**	*e*P		**P**	**08 11 54.4**	**+1.7**
GERES	**GERESS Array B**	**77.91**	**2**	P		**P**	**08 11 54.6**	**+1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=6.8,slow=4.5,SNR=16							
HAU	**Haudompre**	**78.40**	**7**	*e*P		**P**	**08 11 57.0**	**+0.6**
SSF	**Saint Saulge**	**79.10**	**9**	*e*P		**P**	**08 12 01.0**	**+0.8**
	comp=Z,5.3nm,0.8s,mb4.2							
GUN	**Gumba**	**79.22**	**303**	*e*P		**P**	**08 12 01.5**	**+0.2**
	comp=Z,43nm,0.8s,mb5.4							
JIRN	**Jiri**	**79.27**	**302**	*e*P		**P**	**08 12 01.1**	**-0.5**
	comp=Z,12nm,0.3s,mb5.3							
AVF	**Avril sur Loir**	**79.36**	**9**	*e*P		**P**	**08 12 03.9**	**+2.3**
SMF	**Signal de Mont**	**79.55**	**9**	*e*P		**P**	**08 12 04.1**	**+1.5**
	comp=Z,22nm,1.3s,mb4.6							
KKN	**Kakani**	**79.62**	**303**	*e*P		**P**	**08 12 01.6**	**-1.9**
	comp=Z,24nm,0.8s,mb5.2							
PKI	**Pulchoki**	**79.74**	**303**	*e*P		**P**	**08 12 02.1**	**-2.0**
	comp=Z,22nm,0.9s,mb5.1							
GKN	**Gorkha**	**79.77**	**304**	*e*P		**P**	**08 12 04.5**	**+0.3**
	comp=Z,27nm,0.7s,mb5.3							
CABF	**La Chapelle**	**79.77**	**7**	*e*P		**P**	**08 12 05.9**	**+2.1**
	comp=Z,12nm,1.0s,mb4.5							
DMN	**Daman**	**79.86**	**303**	*e*P		**P**	**08 12 02.0**	**-2.7**
	comp=Z,30nm,0.9s,mb5.2							
KOLN	**Koldanda**	**80.47**	**304**	*e*P		**P**	**08 12 05.8**	**-2.2**
	comp=Z,26nm,1.0s,mb5.1							
LPG	**La Plagne**	**80.93**	**7**	*e*P		**P**	**08 12 12.3**	**+2.3**
VIVF	**Saint-Julien-l**	**81.40**	**9**	*e*P		**P**	**08 12 15.6**	**+3.1**
MBDF	**Montbardon**	**81.70**	**7**	*e*P		**P**	**08 12 17.0**	**+3.0**
	comp=Z,3.7nm,0.8s,mb4.3							
ETSF	**Etsaut**	**82.76**	**13**	*e*P		**P**	**08 12 22.4**	**+2.9**
	comp=Z,3.7nm,0.6s,mb4.3							
ESDC	**Sonseca Array**	**85.42**	**16**	P		**P**	**08 12 34.1**	**+1.2**
	comp=Z,0.3nm,0.4s,mb3.7,baz=336,slow=4.7,SNR=3.5							
BRTR	**Keskin Array B**	**85.90**	**347**	P		**P**	**08 12 37.2**	**+2.0**
	comp=Z,1.9nm,0.7s,mb4.5,baz=45,slow=1.7,SNR=6.6							
STKA	**Stephens Creek**	**97.54**	**225**	LR		LR	08 52 13.7	
	comp=Z,77nm,18.7s,MS4.2,baz=25,slow=32							
MATP	**Matopo**	**145.66**	**340**	PKP		PKPdf	08 19 35.6	+2.8
	comp=Z,2.3nm,0.6s,baz=33,slow=2.7,SNR=3.6							
LBTB	**Lobatse**	**150.68**	**343**	PKPbc		PKPdf	08 19 49.2	+8.4
	comp=Z,5.3nm,0.9s,baz=70,slow=4.9,SNR=5.7							

DJA ***20*** *08:00:41.2±0.8,* **9.71S×114.77E,h33km,MD4.7/3, ML3.5/4,1C-3D,Error ellipse: s-maj=19.4km s-min=8.1km az=11.0,South of Bali**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**1.23**	**38**	⇓*e*Pn	Pn	08 01 01.1	-1.3
	123nm,0.2s						
RATI	**Rata**	**1.23**	**38**	*e*P	P	08 01 01.5	-0.6
RATI				*e*Sn	Sn	08 01 14.9	-3.1
SRDI	**Scrawed**	**1.37**	**333**	⇓*e*Pn	Pn	08 01 02.6	-1.8
	60nm,0.2s						
SRDI				*e*Sn	Sn	08 01 17.6	-3.9
KELI	**Kelakatan**	**1.51**	**349**	⇓*e*Pn	Pn	08 01 05.7	-0.6
	23nm,0.2s						
KELI				*e*Sn	Sn	08 01 23.2	-1.8
KEDI	**Kedomdong**	**1.80**	**48**	⇑*e*Pn	Pn	08 01 09.2	-1.3
	15nm,0.2s						
KEDI				*e*Sn	Sn	08 01 29.1	-3.2

MAN 20 08:06:57.5,11.04N×124.62E,h1km,mb4.3,ML3.1,MS2.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.93**	**165**	*e*P	Pg	08 07 16.5	+0.4
LLP	**Lapu-Lapu**	**0.97**	**222**	*e*P	Pb	08 07 17.7	+1.1
LLP				*e*S	Sg	08 07 32.0	+2.4
BESP	**Borongan**	**0.98**	**55**	*e*P	Pb	08 07 15.8	-1.1
BESP				*e*S	Sg	08 07 27.8	-2.1
CNP	**Catarman**	**1.46**	**2**	*e*P	Pn	08 07 25.0	0.0
TBP	**Tagbilaran**	**1.54**	**209**	*e*P	Pn	08 07 27.2	+1.1
TBP				*e*S	Sb	08 07 46.4	+0.2
SNPH	**Sibulan**	**2.17**	**219**	*e*P	Pn	08 07 34.0	-1.2
PVCP	**Virac**	**2.58**	**350**	*e*P	Pn	08 07 45.8	+4.8

BJI ***20*** *08:08:40.6,5.10N×94.50E,h52km,mb4.8,Ms4.4,Msz3.8*
NEIC ***20*** *08:08:42.6±0.4,5.13N×94.54E,mb4.5/5,Error ellipse: s-maj=11.8km s-min=7.6km az=46.0*
IDC ***20*** *08:08:42.7±0.8,5.15N×94.58E,h51km±6km,mb4.0/11, mb1 4.2/11,mb1mx4.0/17,mbtmp4.3/11,Error ellipse: s-maj=25.3km s-min=16.2km az=55.0*
ISC 20 08:08:41.0±0.5,5.12N±0.07×94.59E±0.06,h52km, h52km±1.2km:pP-P,n36,σ0s68/35,mb4.5/25,MS4.0/1,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.04**	**88**	*e*P	**P**	**08 10 10.7**	**+0.9**
KULM				*e*S	**S**	**08 11 17.6**	**-0.9**
CHG	**Chiang Mai**	**14.26**	**17**	P	**P**	**08 12 07.7**	**+6.0**
NANT	**Nan**	**14.85**	**23**	P	**P**	**08 12 11.0**	**+1.6**
JIRN	**Jiri**	**23.80**	**341**	*e*P	**P**	**08 13 49.3**	**-0.7**
	18nm,0.3s,mb5.0						
PKI	**Pulchoki**	**23.98**	**340**	*e*P	**P**	**08 13 52.3**	**+0.6**
	7.2nm,0.5s,mb4.4						
DMN	**Daman**	**24.12**	**339**	*e*P	**P**	**08 13 53.6**	**+0.5**
	8.6nm,0.5s,mb4.5						
GUN	**Gumba**	**24.13**	**341**	*e*P	**P**	**08 13 52.6**	**-0.6**
	20nm,0.6s,mb4.7						
KKN	**Kakani**	**24.22**	**340**	*e*P	**P**	**08 13 53.9**	**-0.2**
	11nm,0.5s,mb4.5						
GKN	**Gorkha**	**24.64**	**338**	*e*P	**P**	**08 13 58.0**	**-0.2**
	16nm,0.5s,mb4.8						
LSA	**Lhasa**	**24.66**	**353**	P	**P**	**08 13 59.0**	**+0.6**
LSA	**Lhasa**	**24.66**	**353**	*e*P	**P**	**08 13 59.7**	**+1.3**
	9.4nm,0.6s,mb4.5						
KOLN	**Koldanda**	**24.83**	**336**	*e*P	**P**	**08 14 00.5**	**+0.5**
	31nm,0.7s,mb4.9						
GTA	**Gaotai**	**34.46**	**7**	*e*P	**P**	**08 15 25.3**	**-0.6**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.5s,mb5.0						
BJI	**Beijing**	**39.83**	**26**	*e*P	**P**	**08 16 12.1**	**+1.1**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=N,218nm,16.0s,MS4.3						
BJI				LR	LR		
	comp=E,218nm,12.8s,MS4.3						
BJI				LR	LR		
	comp=Z,150nm,20.7s						
BJI	**Beijing**	**39.83**	**26**	*e*P	**P**	**08 16 12.1**	**+1.1**
	comp=Z,13nm,0.9s,mb4.7						
BJI				S	S	08 21 50.1	-21
BJI				LR	LR		
	comp=Z,150nm,20.7s,MS3.8						
AAK	**Ala-Archa**	**41.40**	**337**	*e*P	**P**	**08 16 23.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**43.74**	**11**	P	**P**	**08 16 42.2**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.1,baz=191,slow=8.1,SNR=28						
SONM				PcP	PcP	08 18 29.4	-0.2
	comp=Z,1.6nm,0.7s,baz=185,slow=4.0,SNR=5.1						
ULN	**Ulaanbaatar**	**43.91**	**12**	*e*P	**P**	**08 16 42.9**	**-1.4**
	comp=Z,1.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**46.34**	**124**	P	**P**	**08 17 04.1**	**0.0**
	comp=Z,8.6nm,0.6s,mb4.8,baz=303,slow=9.2,SNR=98						
WRAB	**Tennant Creek**	**46.34**	**124**	*e*P	**P**	**08 17 04.1**	**0.0**
	comp=Z,15nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**46.35**	**124**	⇑*i*P	**P**	**08 17 04.2**	**+0.1**
KURK	**Kurchatov**	**47.37**	**346**	P	**P**	**08 17 12.1**	**+0.3**
	comp=Z,49nm,0.8s,mb5.5,SNR=11						
ASPA	**Alice Springs**	**47.84**	**128**	*e*P	**P**	**08 17 16.1**	**+0.3**
ASAR	**Alice Springs**	**47.84**	**128**	P	**P**	**08 17 15.7**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.2,baz=298,slow=7.8,SNR=19						
ASAR				PcP	PcP	08 18 44.5	+0.2
	comp=Z,0.5nm,0.5s,baz=303,slow=2.7,SNR=4.3						
ZAL	**Zalesovo**	**49.32**	**352**	P	**P**	**08 17 26.6**	**-0.2**
	comp=Z,4.1nm,0.5s,mb4.8,baz=309,slow=6.0,SNR=20						
BVAR	**Borovoye Array**	**51.72**	**342**	P	**P**	**08 17 44.1**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=135,slow=10,SNR=4.3						
BVAR				pP	pP	08 17 58.7	-0.4
	comp=Z,2.3nm,0.7s,baz=124,slow=5.3,SNR=7.3						
BRTR	**Keskin Array B**	**64.57**	**312**	P	**P**	**08 19 14.4**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=135,slow=10,SNR=3.9						
BRTR				pP	pP	08 19 28.6	-1.2
	comp=Z,2.2nm,1.0s,baz=124,slow=4.5,SNR=4.1						
MATP	**Matopo**	**69.64**	**246**	P	**P**	**08 19 47.4**	**-0.1**
	comp=Z,3.7nm,0.8s,mb4.3,baz=28,slow=1.3,SNR=4.9						
LBTB	**Lobatse**	**73.34**	**242**	P	**P**	**08 20 10.1**	**+0.5**
	comp=Z,4.1nm,1.0s,mb4.3,baz=104,slow=3.8,SNR=3.5						
LBTB	**Lobatse**	**73.34**	**242**	P	**P**	**08 20 10.1**	**+0.5**
FINES	**FINESS Array B**	**75.34**	**332**	P	**P**	**08 20 20.4**	**0.0**
	comp=Z,0.7nm,0.7s,mb3.7,baz=104,slow=5.7,SNR=7.5						
FINES				pP	pP	08 20 34.6	-0.5
	comp=Z,0.7nm,0.5s,baz=106,slow=6.0,SNR=1.9						
ARCES	**ARCESS Array B**	**77.99**	**340**	P	**P**	**08 20 35.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.2,baz=99,slow=6.9,SNR=12						
ARCES				pP	pP	08 20 50.5	+0.5
	comp=Z,11nm,1.2s,baz=45,slow=5.1,SNR=2.1						
ARCES	**ARCESS Array B**	**77.99**	**340**	P	**P**	**08 20 35.2**	**+0.1**
ARCES				pP	pP	08 20 50.5	+0.5
GERES	**GERESS Array B**	**80.17**	**319**	P	**P**	**08 20 48.1**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=102,slow=5.2,SNR=20						
TXAR	**Lajitas Array**	**141.51**	**26**	PKPKP		08 28 03.1	
	comp=Z,0.1nm,0.5s,baz=14,slow=3.7,SNR=3.4						
TXAR				PKP	PKPdf	08 28 07.3	+0.1
	comp=Z,0.2nm,0.5s,baz=180,slow=0.6,SNR=5.5						
BDFB	**Brasilia**	**141.83**	**251**	PKP	PKPdf	08 28 08.1	+0.1
	comp=Z,1.3nm,0.4s,baz=126,slow=8.2,SNR=6.2						

NIED ***20*** *08:11:00,43.30N×147.80E,h14km,Mw4.1 Best double couple: M0 1.49×10^15 NP1:φs47°,δ68°,λ89°. NP2:φs229°, δ22°,λ92°.*
JMA ***20*** *08:11:16.2±0.2,43.32N×147.80E,M4.3*
MOS ***20*** *08:11:17.0±1.4,43.43N×147.98E,h29km,mb4.3/4,Error ellipse: s-maj=19.5km s-min=11.2km az=111.3*
NEIC ***20*** *08:11:23.2±2.6,43.53N×147.92E,h57km±22km,mb4.4/2, Error ellipse: s-maj=21.2km s-min=14.1km az=120.0*
IDC ***20*** *08:11:23.5±4.2,43.46N×147.81E,h61km±37km,mb3.6/11, mb1 3.8/12,mb1mx3.7/20,mbtmp3.9/12,ML3.5/1,MS3.3/1, Ms1 3.3/1,ms1mx2.6/20,Error ellipse: s-maj=24.4km s-min=19.2km az=107.0*
ISC 20 08:11:18.3±1.1,43.44N±0.06×147.95E±0.08,h35km±9km, n39,σ0s99/48,mb3.9/15,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.61**	**268**	P	**P**	**08 11 44.4**	**-0.4**
NEM2				*e*S	**S**	**08 12 05.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.63**	**292**	*e*PN	**P**	**08 11 42.3**	**-2.7**
YUK				*e*S	**S**	**08 12 08.8**	**+3.8**
KUR	**Kuril'sk**	**1.79**	**358**	*i* PN	**P**	**08 11 46.8**	**-0.6**
KUR				*i* S	**S**	**08 12 08.6**	**-0.5**
JRA	**Rausu**	**2.11**	**285**	P	**P**	**08 11 52.6**	**+0.7**
JRA				*e*S	**S**	**08 12 18.1**	**+0.9**
JNK	**Nakash**	**2.36**	**275**	P	**P**	**08 11 55.1**	**-0.3**
JNK				*e*S	**S**	**08 12 23.8**	**+0.4**
JAK	**Akkeshi**	**2.42**	**260**	P	**P**	**08 11 56.2**	**-0.2**
JAK				*e*S	**S**	**08 12 24.5**	**-0.6**
JTKR	**Abashiri--Toko**	**2.98**	**282**	P	**P**	**08 12 05.1**	**+0.8**
JAR	**Ashorobuto**	**3.05**	**269**	P	**P**	**08 12 05.4**	**0.0**
JAR				*e*S	**S**	**08 12 40.9**	**-0.3**
JOB	**Onbets**	**3.06**	**261**	P	**P**	**08 12 05.3**	**-0.2**
JOB				*e*S	**S**	**08 12 41.2**	**-0.1**
JCH	**Churui**	**3.46**	**258**	P	**P**	**08 12 10.4**	**-0.8**
JCH				*e*S	**S**	**08 12 49.3**	**-2.3**
JKK2	**Kamakawa 2**	**3.80**	**278**	P	**P**	**08 12 17.2**	**+1.2**
ERM	**Erimo**	**3.81**	**250**	Pn	**P**	**08 12 17.5**	**+1.4**
	750nm,0.5s,SNR=32						
JEM	**Erimo**	**3.81**	**250**	P	**P**	**08 12 16.4**	**+0.3**
JFR	**Furan**	**3.92**	**268**	P	**P**	**08 12 18.3**	**+0.6**
ASAJ	**Asahikawa**	**3.94**	**282**	PN	**P**	**08 12 19.9**	**+2.0**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,387nm,20.1s						
ASAJ	**Asahikawa**	**3.94**	**282**	P	**P**	**08 12 19.9**	**+2.0**
	comp=Z,2.9nm,0.3s,baz=102,slow=11,SNR=16						
ASAJ				LR	LR	08 14 00.2	
	comp=Z,387nm,20.1s,baz=242,slow=41						
JNBK	**Urakawa-nobuka**	**4.00**	**255**	P	**P**	**08 12 17.6**	**-1.2**
YSS	**Yuzh-Sakhalins**	**5.08**	**316**	Pn	**P**	**08 12 34.6**	**+0.5**
YSS				*e*		08 12 42.1	
KS15	**Wonju Array Si**	**16.39**	**255**	P	**P**	**08 15 11.4**	**+4.2**
BILL	**Bilibino**	**26.50**	**15**	*e*P	**P**	**08 16 52.3**	**-1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.7						
ULN	**Ulaanbaatar**	**28.68**	**293**	*e*P	**P**	**08 17 13.7**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.5						
ULN	**Ulaanbaatar**	**28.68**	**293**	*e*P	**P**	**08 17 13.7**	**-0.3**
	comp=Z,11nm,1.1s,mb4.5						
SONM	**Songino Array**	**29.13**	**293**	P	**P**	**08 17 18.3**	**+0.4**
	comp=Z,3.7nm,0.7s,mb4.2,baz=85,slow=8.2,SNR=21						
ZAK	**Zakamensk**	**30.91**	**299**	*e*P	**P**	**08 17 32.6**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.4						
INK	**Inuvik**	**46.38**	**30**	P	**P**	**08 19 43.8**	**+1.3**
	comp=Z,1.8nm,0.5s,mb4.3,baz=304,slow=3.4,SNR=28						
RES	**Resolute Bay**	**55.09**	**17**	*e*P	**P**	**08 20 47.8**	**-0.8**
RES				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
RES	**Resolute Bay**	**55.09**	**17**	*e*P	**P**	**08 20 47.8**	**-0.8**
	comp=Z,1.7nm,0.5s,mb4.3						
YKA	**Yellowknife Ar**	**55.73**	**34**	P	**P**	**08 20 53.5**	**+0.1**
	comp=Z,0.6nm,0.7s,mb3.7,baz=300,slow=6.9,SNR=12						
ARCES	**ARCESS Array B**	**59.74**	**340**	P	**P**	**08 21 19.9**	**-1.5**
	comp=Z,0.8nm,0.4s,mb4.1,baz=45,slow=6.6,SNR=12						
WRA	**Warramunga Arr**	**64.30**	**194**	P	**P**	**08 21 51.4**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=10,slow=6.8,SNR=4.6						
FINES	**FINESS Array B**	**65.41**	**333**	P	**P**	**08 21 57.8**	**-1.3**
	comp=Z,3.1nm,0.6s,mb4.5,baz=42,slow=7.4,SNR=14						
ASAR	**Alice Springs**	**68.02**	**194**	P	**P**	**08 22 16.5**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.6,baz=352,slow=5.7,SNR=5.8						
NB2	**NORSAR Subarra**	**70.10**	**339**	P	**P**	**08 22 28.1**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=32,slow=6.2						
NOA	**NORSAR Array B**	**70.10**	**339**	P	**P**	**08 22 28.4**	**+0.1**
	comp=Z,2.7nm,0.6s,mb4.3,baz=32,slow=6.3,SNR=12						
CLL	**Collm**	**77.86**	**333**	P	**P**	**08 23 14.0**	**+0.5**
CLL				*e*PP	pP	08 23 26.0	+1.7
BRTR	**

comp=Z,0.7nm,0.7s,mb3.9,baz=117,slow=9.8,SNR=4.1
INK Inuvik 63.34 343 *e*P **P** 08 24 02.0 **-1.2**
comp=Z,13nm,1.5s,mb4.8
ASAR Alice Springs 138.05 248 PKP PKPdf 08 33 03.0 +5.3
comp=Z,0.1nm,0.5s,baz=104,slow=3.7,SNR=2.7
WRA Warramunga Arr 138.06 253 PKP PKPdf 08 33 00.9 +3.2
comp=Z,0.4nm,0.8s,baz=90,slow=3.4,SNR=4.0

IDC ***20*** *08:38:43.4±1.4,5.47N×94.17E,mb3.8/6,mb1 4.0/6, mb1mx3.8/14,mbtmp3.8/6, Error ellipse: s-maj=68.8km s-min=22.0km az=52.0*
NEIC ***20*** *08:38:48.0±0.7,5.52N×94.25E,h30km,mb4.1/3, Error ellipse: s-maj=23.0km s-min=9.5km az=45.0*
ISC 20 08:38:46.3±1.0,5.5N±0.2×94.3E±0.2,h30km,n12, σ0s50/12,mb3.8/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.34**	**92**	*e*P	**Pn**	**08 40 20.5**	**+0.3**
SONM	**Songino Array**	**43.40**	**12**	P	**P**	**08 46 48.7**	**+0.9**
	0.2nm,0.3s,mb3.4,baz=252,slow=3.9,SNR=4.0						
ULN	**Ulaanbaatar**	**43.56**	**12**	P	**P**	**08 46 48.3**	**-1.0**
WRA	**Warramunga Arr**	**46.82**	**124**	P	**P**	**08 47 15.7**	**0.0**
	0.4nm,0.5s,mb3.6,baz=304,slow=9.7,SNR=7.4						
WRAB	**Tennant Creek**	**46.83**	**124**	*e*P	**P**	**08 47 15.3**	**-0.3**
	1.5nm,0.5s,mb4.2						
KURK	**Kurchatov**	**46.89**	**346**	P	**P**	**08 47 15.9**	**+0.1**
	0.8nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**48.34**	**128**	P	**P**	**08 47 27.4**	**0.0**
	0.5nm,0.6s,mb3.8,baz=297,slow=7.7,SNR=11						
ZAL	**Zalesovo**	**48.86**	**353**	P	**P**	**08 47 30.9**	**-0.1**
	0.8nm,0.5s,mb4.0,baz=328,slow=6.8,SNR=3.3						
ZAL	**Zalesovo**	**48.86**	**353**	P	**P**	**08 47 30.9**	**-0.2**
CHKZ	**Chkalovo**	**51.72**	**342**	*e*P	**P**	**08 47 52.7**	**-0.2**
	1.7nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**74.83**	**332**	P	**P**	**08 50 25.1**	**-0.4**
	1.2nm,0.9s,mb3.8,baz=90,slow=5.7,SNR=6.3						
GERES	**GERESS Array B**	**79.65**	**319**	P	**P**	**08 50 53.4**	**+0.8**
	0.6nm,0.6s,mb3.7,baz=104,slow=5.5,SNR=6.5						

NIED ***20*** *08:43:00,33.70N×130.20E,h14km,Mw3.6 Best double couple: M0 2.57×10^14 NP1:φs309°,δ82°,λ-11°. NP2:φs40°, δ79°,λ-172°.*
JMA 20 08:43:21.4,33.70N×130.27E,h10km±1km,M2.2,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.29**	**160**	P	Pg	08 43 27.3	-0.2
JFI				S	Sg	08 43 31.3	-0.2
JFA	**Akaike**	**0.44**	**88**	P	Pg	08 43 29.8	-0.5
JFA				S	Sg	08 43 36.0	-0.3
JII	**Iki**	**0.46**	**282**	P	Pg	08 43 30.5	-0.2
JII				S	Sg	08 43 37.1	+0.2
JUR	**Ureshino**	**0.66**	**204**	P	Pb	08 43 34.2	-0.4
JUR				S	Sb	08 43 42.6	-1.0
JTA	**Tamana**	**0.77**	**163**	P	Pb	08 43 35.9	-0.5
JTA				S	Sb	08 43 45.9	-0.7
JTU	**Tsushima**	**1.09**	**319**	P	Pb	08 43 42.0	0.0
JTU				S	Sb	08 43 56.5	+0.4

JMA 20 08:43:58.2,33.73N×130.19E,h15km±1km,M3.9,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.34**	**151**	⇑P	Pb	08 44 05.3	-0.2
JFI				S	Sb	08 44 10.1	-0.3
JII	**Iki**	**0.39**	**280**	⇓P	Pb	08 44 06.0	-0.2
JII				S	Sb	08 44 11.4	-0.2
JFA	**Akaike**	**0.51**	**92**	⇓P	Pb	08 44 07.9	-0.3
JFA				S	Sb	08 44 15.2	+0.1
JUR	**Ureshino**	**0.67**	**198**	⇑P	Pb	08 44 10.8	-0.2
JUR				S	Sb	08 44 19.6	-0.1
JTA	**Tamana**	**0.82**	**159**	⇑P	Pb	08 44 13.4	-0.2
JTA				S	Sb	08 44 24.2	+0.1

NIED ***20*** *09:15:00,33.80N×130.10E,h8km,Mw3.6 Best double couple: M0 2.93×10^14 NP1:φs42°,δ77°,λ-165°. NP2: φs309°,δ76°,λ-14°.*
JMA 20 09:14:41.5,33.78N×130.11E,h10km±1km,M2.5,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.32**	**273**	P	Pg	09 14 48.0	0.0
JFI	**Itaya**	**0.42**	**146**	P	Pg	09 14 49.8	-0.3
JFA	**Akaike**	**0.57**	**97**	P	Pg	09 14 52.5	-0.6
JFA				S	Sg	09 15 00.5	-0.4
JUR	**Ureshino**	**0.70**	**191**	P	Pb	09 14 54.7	-0.6
JUR				S	Sb	09 15 04.0	-0.7
JTU	**Tsushima**	**0.95**	**322**	P	Pb	09 14 59.4	-0.2
JTU				S	Sb	09 15 11.6	-0.4

JMA 20 09:15:22.0,33.77N×130.11E,h13km±1km,M3.9,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.32**	**275**	⇓P	Pg	09 15 28.7	0.0
JII				S	Sg	09 15 33.1	-0.1
JFI	**Itaya**	**0.41**	**146**	⇑P	Pg	09 15 30.2	-0.4
JFI				S	Sg	09 15 35.9	-0.4
JFA	**Akaike**	**0.57**	**96**	⇓P	Pb	09 15 32.9	-0.5
JFA				S	Sb	09 15 40.9	-0.3
JUR	**Ureshino**	**0.69**	**191**	⇑P	Pb	09 15 35.0	-0.3
JUR				S	Sb	09 15 44.2	-0.3
JTA	**Tamana**	**0.88**	**156**	⇑P	Pb	09 15 38.4	-0.2
JTA				*e*S	Sb	09 15 50.3	+0.3

NEIC ***20*** *09:22:21.6,34.98N×2.94W,h11km,MG3.6(MDD), After MDD.*
MDD ***20*** *09:22:21.4±0.5,34.98N×2.84W,h11km±3km,mb3.6/18, Error ellipse: s-maj=4.6km s-min=4.1km az=35.0,PRXIMO*
CSEM ***20*** *09:22:21.5±0.2,35.12N×3.01W,h15km,MD3.4, Error ellipse: s-maj=4.0km s-min=2.5km az=128.0*
SFS ***20*** *09:22:21.0,34.98N×2.94W*
CNRM ***20*** *09:22:21.1,35.10N×2.80W,h3km,MD3.4*
INMG ***20*** *09:22:22.0±1.0,34.99N×2.92W,h14km±3km,ML2.1, Error ellipse: s-maj=4.2km s-min=3.0km az=121.0*
ISC 20 09:22:20.4±0.5,35.06N±0.03×2.93W±0.03,h10km,n64, σ1s31/109,2D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.17**	**120**	P	**Pg**	**09 22 23.5**	**-0.8**
ZAI				S	**Sg**	**09 22 26.0**	**-0.9**
MELI	**Melilla**	**0.24**	**359**	⇓P	**Pg**	**09 22 27.6**	**+2.2**
MELI				S	**Sg**	**09 22 32.2**	**+3.4**
MELI	**Melilla**	**0.24**	**359**	*i* P	**Pg**	**09 22 27.6**	**+2.2**
MELI				*i* S	**Sg**	**09 22 32.2**	**+3.4**
EMLI	**Melilla**	**0.24**	**356**	P	**Pg**	**09 22 27.6**	**+2.0**
	132nm,0.1s,SNR=18						
EMLI				S	**Sg**	**09 22 32.4**	**+3.4**
	712nm,0.2s,SNR=6.5						
EMEL	**Melilla**	**0.24**	**355**	⇓P	**Pg**	**09 22 27.6**	**+2.0**
	132nm,0.1s,SNR=18						
EMEL				S	**Sg**	**09 22 32.4**	**+3.4**
	712nm,0.2s,SNR=6.5						
TOU	**Touzarine**	**0.68**	**262**	*i* P	**Pb**	**09 22 35.0**	**+1.1**
TOU				*i* S	**Sb**	**09 22 46.5**	**+3.3**
MPAL	**Palemas**	**0.85**	**282**	*e*P	**Pb**	**09 22 38.5**	**+1.8**
MPAL				*i* S	**Sb**	**09 22 51.0**	**+3.1**
EALB	**Alboran**	**0.88**	**355**	P	**Pb**	**09 22 39.4**	**+2.0**
	16nm,0.1s,SNR=25						
EALB				S	**Sb**	**09 22 52.2**	**+3.1**
	50nm,0.2s,SNR=6.7						
EALB	**Alboran**	**0.88**	**355**	P	**Pb**	**09 22 39.4**	**+2.0**
	16nm,0.1s,SNR=25						
EALB				S	**Sb**	**09 22 52.2**	**+3.2**
	50nm,0.2s,SNR=6.7						
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**09 22 52.6**	**+0.3**
	1.2nm,0.2s,SNR=7.0						
EBER				S	**Sn**	**09 23 16.4**	**+0.6**
	25nm,0.4s,SNR=11						
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**09 22 52.6**	**+0.3**
	1.2nm,0.2s,SNR=7.0						
EBER				S	**Sn**	**09 23 16.4**	**+0.6**
	25nm,0.4s,SNR=11						

ENIJ	**Nijar**	**2.00**	**17**	P	**Pn**	**09 22 54.5**	**-0.1**
	3.6nm,0.2s,SNR=5.7						
ENIJ				S	**Sn**	**09 23 19.7**	**-0.2**
	8.9nm,0.2s						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**09 22 55.4**	**-0.5**
	2.8nm,0.3s,SNR=7.9						
ERON				S	**Sn**	**09 23 21.6**	**-0.4**
	3.4nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.12**	**316**	P	**Pn**	**09 22 55.7**	**-0.7**
	1.4nm,0.1s,SNR=14						
EMIJ				S	**Sn**	**09 23 20.7**	**-2.4**
	8.0nm,0.3s,SNR=7.2						
ECOG	**Cogollos-Vega**	**2.27**	**347**	P	**Pn**	**09 22 58.7**	**+0.1**
	1.0nm,0.2s,SNR=4.0						
ECOG				S	**Sn**	**09 23 27.8**	**+0.9**
	4.0nm,0.4s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**09 22 59.9**	**+0.8**
ELOJ				S	**Sn**	**09 23 26.8**	**-1.0**
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**09 22 59.9**	**+0.8**
	2.6nm,0.2s,SNR=7.1						
ELOJ				S	**Sn**	**09 23 29.0**	**+1.2**
	2.7nm,0.3s,SNR=4.0						
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**09 22 59.9**	**+0.8**
	2.6nm,0.2s,SNR=7.1						
ELOJ				S	**Sn**	**09 23 26.8**	**-1.0**
	2.7nm,0.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**2.49**	**305**	P	**Pn**	**09 23 04.4**	**+2.7**
EJIF				S	**Sn**	**09 23 31.3**	**-1.1**
EJIF	**Jimena Fronter**	**2.49**	**305**	P	**Pn**	**09 23 02.0**	**+0.3**
	2.3nm,0.2s,SNR=4.0						
EJIF				S	**Sn**	**09 23 32.9**	**+0.5**
	1.5nm,0.3s,SNR=4.0						
EJIF	**Jimena Fronter**	**2.49**	**305**	S	**Sn**	**09 23 31.3**	**-1.1**
	1.5nm,0.3s,SNR=4.0						
CZD	**Col de Zad**	**2.67**	**222**	*i* P	**Pn**	**09 23 06.0**	**+1.7**
CZD				*i* S	**Sn**	**09 23 38.0**	**+0.9**
ELUQ	**Luque**	**2.72**	**337**	P	**Pn**	**09 23 08.5**	**+3.5**
ELUQ	**Luque**	**2.72**	**337**	P	**Pn**	**09 23 06.5**	**+1.5**
	3.1nm,0.2s,SNR=4.6						
ELUQ				S	**Sn**	**09 23 38.9**	**+0.6**
	2.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**2.74**	**358**	P	**Pn**	**09 23 07.7**	**+2.4**
EQES				S	**Sn**	**09 23 40.8**	**+1.9**
EQES	**Quesada**	**2.74**	**358**	P	**Pn**	**09 23 05.5**	**+0.2**
	1.6nm,0.1s,SNR=6.7						
EQES				S	**Sn**	**09 23 41.6**	**+2.8**
	8.7nm,0.3s,SNR=11						
EQES	**Quesada**	**2.74**	**358**	P	**Pn**	**09 23 07.7**	**+2.4**
	1.6nm,0.1s,SNR=6.7						
EQES				S	**Sn**	**09 23 40.7**	**+1.9**
	8.7nm,0.3s,SNR=11						
ESPR	**Espera**	**2.98**	**308**	P	**Pn**	**09 23 07.9**	**-0.9**
	0.9nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**09 23 43.9**	**-1.0**
	4.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.98**	**308**	P	**Pn**	**09 23 07.9**	**-0.8**
	0.9nm,0.1s,SNR=4.0						
ESPR				S	**Sn**	**09 23 43.9**	**-1.0**
	4.6nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**09 23 10.3**	**0.0**
	4.3nm,0.3s,SNR=6.4						
EMUR				S	**Sn**	**09 23 45.0**	**-2.8**
	8.7nm,0.4s,SNR=4.5						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**09 23 10.3**	**0.0**
	4.3nm,0.3s,SNR=6.4						
EMUR				S	**Sn**	**09 23 45.0**	**-2.7**
	8.7nm,0.4s,SNR=4.5						
EADA	**Adamuz**	**3.37**	**337**	P	**Pn**	**09 23 15.0**	**+0.8**
	1.7nm,0.2s,SNR=12						
EADA				S	**Sn**	**09 23 53.0**	**-1.8**
	2.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.37**	**337**	P	**Pn**	**09 23 15.0**	**+0.7**
	1.7nm,0.2s,SNR=12						
EADA				S	**Sn**	**09 23 53.0**	**-1.8**
	2.0nm,0.2s,SNR=7.9						
EVIA	**Vianos**	**3.59**	**5**	S	**Sn**	**09 23 58.8**	**-1.5**
	2.9nm,0.3s,SNR=7.9						
EVIA	**Vianos**	**3.59**	**5**	S	**Sn**	**09 24 01.6**	**+1.3**
	2.9nm,0.3s,SNR=7.9						
ECAB	**El Cabril**	**3.62**	**327**	P	**Pn**	**09 23 17.7**	**0.0**
	1.1nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**09 23 59.7**	**-1.2**
	3.3nm,0.4s,SNR=5.0						
ECAB	**El Cabril**	**3.62**	**327**	P	**Pn**	**09 23 17.7**	**0.0**
	1.1nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**09 23 59.7**	**-1.3**
	3.3nm,0.4s,SNR=5.0						
ETOB	**Tobarra**	**3.75**	**17**	P	**Pn**	**09 23 19.6**	**0.0**
	1.0nm,0.3s,SNR=7.9						
ETOB				S	**Sn**	**09 24 02.5**	**-1.7**
	4.7nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.75**	**17**	S	**Sn**	**09 24 03.3**	**-1.0**
	4.7nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**09 23 23.1**	**-0.8**
EMIN				S	**Sn**	**09 24 08.0**	**-4.0**
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**09 23 23.1**	**-0.8**
	1.1nm,0.1s,SNR=14						
EMIN				S	**Sn**	**09 24 08.6**	**-3.3**
	0.8nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.05**	**313**	P	**Pn**	**09 23 23.1**	**-0.8**
	1.1nm,0.1s,SNR=14						
EMIN				S	**Sn**	**09 24 08.0**	**-4.0**
	0.8nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**4.24**	**30**	P	**Pn**	**09 23 26.1**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**09 24 11.7**	**-5.0**
	0.6nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**4.24**	**30**	P	**Pn**	**09 23 26.1**	**-0.4**
	0.3nm,0.1s,SNR=7.9						
PALC	**Alcoutim**	**4.39**	**305**	*e*Pn	**Pn**	**09 23 28.1**	**-0.6**
PALC				*e*Sn	**Sn**	**09 24 17.3**	**-3.2**
	2.9nm,0.3s						
PALC	**Alcoutim**	**4.39**	**305**	P	**Pn**	**09 23 28.1**	**-0.6**
PALC				S	**Sn**	**09 24 17.3**	**-3.2**
	1.4nm,0.3s						
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**09 23 28.4**	**-0.9**
	1.1nm,0.1s,SNR=8.6						
EGRO				S	**Sn**	**09 24 16.7**	**-4.8**
	2.9nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**09 23 28.4**	**-0.9**
	1.1nm,0.1s,SNR=8.6						
EGRO				S	**Sn**	**09 24 16.7**	**-4.9**
	2.9nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**09 23 34.0**	**+1.1**
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**09 23 33.0**	**+0.2**
	1.4nm,0.1s,baz=174,slow=12,SNR=5.5						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**09 23 34.0**	**+1.2**
	1.4nm,0.1s,SNR=5.5						
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**09 23 35.7**	**-0.7**
	0.9nm,0.1s,SNR=11						
EBAD				S	**Sn**	**09 24 30.1**	**-4.2**
	2.5nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.93**	**320**	P	**Pn**	**09 23 35.7**	**-0.7**
EBAD				S	**Sn**	**09 24 30.1**	**-4.1**
PBEJ	**Beja**	**4.96**	**308**	*e*Pn	**Pn**	**09 23 36.4**	**-0.3**
PBEJ				*e*Sn	**Sn**	**09 24 31.4**	**-3.5**
EIBI	**Ibiza**	**5.23**	**40**	P	**Pn**	**09 23 39.9**	**-0.8**
	0.9nm,0.1s,SNR=7.9						
EIBI	**Ibiza**	**5.23**	**40**	P	**Pn**	**09 23 39.9**	**-0.7**
PTEO	**Sao Teotonio**	**5.30**	**300**	*e*Pn	**Pn**	**09 23 40.9**	**-0.6**
PCBR	**Castelo Branco**	**5.99**	**324**	*e*Pn	**Pn**	**09 23 50.7**	**-0.6**
PTOM	**Tomar**	**6.31**	**318**	*e*Pn	**Pn**	**09 23 55.2**	**-0.6**
PVIS	**Viseu**	**6.88**	**327**	*e*Pn	**Pn**	**09 24 03.0**	**-0.8**
PVRL	**Vila Real**	**7.26**	**330**	*e*Pn	**Pn**	**09 24 08.4**	**-0.8**
PBRG	**Braganca**	**7.37**	**337**	*e*Pn	**Pn**	**09 24 09.9**	**-0.8**
ECAL	**Calabor**	**7.49**	**338**	P	**Pn**	**09 24 10.7**	**-1.7**
	1.4nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**7.49**	**338**	P	**Pn**	**09 24 10.7**	**-1.7**

IDC 20 09:28:30.4±3.7,9.37N×93.28E,mb3.6/3,mb1 3.8/3, mb1mx3.6/14,mbtmp3.6/3,Error ellipse: s-maj=140.0km s-min=30.1km az=74.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**39.91**	**14**	P	P	09 36 06.2	-1.7
	0.3nm,0.3s,baz=202,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**49.82**	**126**	P	P	09 37 25.6	-1.9
	0.7nm,0.4s,baz=305,slow=8.5,SNR=19						
WRA				PcP	PcP	09 38 46.2	-2.3
	0.3nm,0.7s,baz=316,slow=3.1,SNR=5.3						
ASAR	**Alice Springs**	**51.52**	**130**	P	P	09 37 38.0	-2.4
	0.3nm,0.5s,baz=307,slow=7.0,SNR=9.8						
ASAR				PcP	PcP	09 38 52.6	-2.2
	0.3nm,0.5s,baz=313,slow=3.5,SNR=4.4						

IDC ***20*** *09:38:25.6±10.0,36.92N×71.61E,h81km±89km,mb3.4/7, mb1 3.6/9,mb1mx3.4/18,mbtmp3.8/9,ML3.6/2,Error ellipse: s-maj=52.1km s-min=21.8km az=32.0*
NEIC ***20*** *09:38:28.1±0.8,36.98N×71.58E,mb4.1/1, Error ellipse: s-maj=20.2km s-min=13.2km az=67.0*
ISC 20 09:38:27.9±0.6,36.93N±0.03×71.65E±0.09,h119km±7km, n35,σ1s26/39,mb3.6/8,1C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.11**	**176**	⇑P	**P**	**09 39 17.1**	**+0.5**
CEP				S	**S**	**09 39 55.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.52**	**158**	P	**P**	**09 39 24.3**	**+2.2**
THW	**Thamme Wali**	**4.13**	**179**	P	**P**	**09 39 29.7**	**-0.6**
SBDP	**Sheikh Budin**	**4.67**	**189**	P	**P**	**09 39 36.6**	**-1.0**
DRP	**Derazinda**	**5.31**	**193**	P	**P**	**09 39 44.9**	**-1.3**
AML	**Almayashu**	**5.43**	**16**	P	**P**	**09 39 47.1**	**-0.7**
	SNR=160						
THN	**Thein Dam**	**5.60**	**142**	*e*S	**S**	**09 40 53.9**	**+0.2**
DLH	**Dalhousie**	**5.64**	**140**	*e*	**P**	**09 40 00.0**	**+9.4**
DLH				*e*		09 41 00.0	
KZA	**Kyzart**	**5.84**	**27**	P	**P**	**09 39 53.9**	**+0.5**
	SNR=19						
EKS2	**Erkin-Say**	**5.95**	**15**	P	**P**	**09 39 54.9**	**0.0**
	SNR=47						
AAK	**Ala-Archa**	**6.10**	**20**	Pn	**P**	**09 39 56.3**	**-0.6**
	303nm,0.4s,SNR=48						
AAK	**Ala-Archa**	**6.10**	**20**	⇓*e*Pn	**P**	**09 39 56.2**	**-0.7**
PONG	**Pong**	**6.11**	**143**	*e*P	**P**	**09 39 59.0**	**+2.0**
PONG				*e*		09 41 10.0	
ULHL	**Ulahol**	**6.38**	**32**	P	**P**	**09 40 02.7**	**+1.9**
	SNR=6.7						
CHMS	**Chumysh**	**6.51**	**20**	P	**P**	**09 40 02.6**	**+0.1**
	SNR=31						
USP	**Ospenovka**	**6.69**	**18**	P	**P**	**09 40 04.5**	**-0.6**
	SNR=8.6						
TKM2	**Tokmak 2**	**6.71**	**26**	P	**P**	**09 40 05.6**	**+0.4**
	SNR=21						
SDNR	**Sundarnagar**	**6.98**	**139**	*e*P	**P**	**09 40 11.1**	**+2.1**
SDNR				*e*S	**S**	**09 41 26.5**	**-0.9**
SMLA	**Simla**	**7.38**	**140**	*i* P	**P**	**09 40 13.1**	**-1.3**
SMLA				*i*		09 42 21.3	
KLP	**Kalpa**	**7.67**	**133**	*e*P	**P**	**09 40 20.0**	**+1.7**
KLP				AMb	AMB	09 40 24.0	
	comp=Z,9.1nm,0.3s						
KLP				*e*S	**S**	**09 41 42.0**	**-2.1**
KLP				AML	AML	09 41 50.4	
	comp=N,108nm,0.7s						
KLP				AML	AML	09 41 50.7	
	comp=E,207nm,0.3s						
KHET	**Khetri**	**9.50**	**157**	*e*P	**P**	**09 40 41.1**	**-1.8**
KHET				*e*S	**S**	**09 42 21.5**	**-6.8**
KHET				AMb	AMB	09 42 23.6	
	comp=Z,18nm,0.7s						
AYAN	**Aya Nagar**	**9.60**	**150**	*e*	**S**	**09 42 27.9**	**-2.9**
SONA	**Sohna**	**9.79**	**151**	*e*S	**S**	**09 42 28.8**	**-6.4**
SONA				AML	AML	09 42 33.4	
	comp=N,13nm,0.1s						
SONA				AML	AML	09 42 34.3	
	comp=E,54nm,0.6s						
BVAR	**Borovoye Array**	**16.12**	**357**	P	**P**	**09 42 06.3**	**-2.3**
	comp=E,0.4nm,0.3s,baz=158,slow=13,SNR=8.7						
ZAL	**Zalesovo**	**19.29**	**24**	P	**P**	**09 42 45.0**	**-0.7**
	comp=E,0.4nm,0.3s,baz=272,slow=10,SNR=4.6						
ZAL	**Zalesovo**	**19.29**	**24**	P	**P**	**09 42 45.0**	**-0.7**
SONM	**Songino Array**	**27.66**	**56**	P	**P**	**09 44 05.7**	**-0.7**
	comp=E,0.2nm,0.8s,mb2.7,baz=297,slow=6.4,SNR=2.2						
FINES	**FINESS Array B**	**37.42**	**326**	P	**P**	**09 45 29.2**	**-1.5**
	comp=E,1.1nm,0.9s,mb3.8,baz=117,slow=9.3,SNR=3.2						
ARCES	**ARCESS Array B**	**40.95**	**337**	P	**P**	**09 46 01.2**	**+1.4**
	comp=E,2.4nm,0.9s,mb4.0,baz=135,slow=8.9,SNR=3.6						
HFS	**Hagfors**	**43.05**	**322**	P	**P**	**09 46 16.9**	**-0.1**
	comp=E,1.6nm,0.8s,mb3.8,baz=85,slow=16,SNR=4.3						
HFS				pP	pP	09 46 40.6	-3.8
	comp=E,1.6nm,0.6s,baz=96,slow=13,SNR=5.5						
YKA	**Yellowknife Ar**	**80.79**	**3**	P	**P**	**09 50 29.6**	**+0.6**
	comp=E,0.2nm,0.3s,mb3.4,baz=350,slow=5.5,SNR=12						
YKA				pP	pP	09 50 56.9	-2.7
	comp=E,0.2nm,0.7s,baz=346,slow=5.7,SNR=4.0						
YKA	**Yellowknife Ar**	**80.79**	**3**	P	**P**	**09 50 29.6**	**+0.6**
YKA				pP	pP	09 50 56.9	-2.7
WRA	**Warramunga Arr**	**81.78**	**122**	P	**P**	**09 50 36.0**	**+0.9**
	comp=E,0.5nm,0.6s,mb3.5,baz=323,slow=4.8,SNR=13						
WRAB	**Tennant Creek**	**81.78**	**122**	*e*P	**P**	**09 50 36.2**	**+1.1**
	comp=E,2.9nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**84.08**	**125**	P	**P**	**09 50 47.9**	**+1.2**
	comp=E,0.3nm,0.5s,mb3.3,baz=307,slow=4.9,SNR=6.9						

ISC 20 09:45:01.0±1.9,44.97N±0.08×14.86E±0.09,h10km,n7, σ0s58/13,1C,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOJS	**Bojanci**	**0.60**	**27**	*i* Pg	**Pg**	**09 45 13.2**	**+0.2**
BOJS				*i* Sg	**Sg**	**09 45 21.5**	**+0.3**
	comp=Z,4.0nm,0.1s						
CEY	**Cerknica**	**0.83**	**338**	*i* Pg	**Pg**	**09 45 17.6**	**0.0**
VISS	**Visnje**	**0.83**	**359**	*i* Pg	**Pg**	**09 45 17.8**	**+0.2**
VISS				*i* Sg	**Sg**	**09 45 28.7**

PKSM	**Moragy**	**3.04**	**292**	⇓P	**Pn**	**09 51 52.2**	**+0.3**
PKSM				S	**Sn**	**09 52 27.7**	**-1.7**
PKSM	**Moragy**	**3.04**	**292**	⇓P	**Pn**	**09 51 52.2**	**+0.3**
PKSM				S	**Sn**	**09 52 27.7**	**-1.7**
PKS8	**Sarbogard**	**3.30**	**303**	⇓*i*P	**Pn**	**09 51 55.8**	**+0.2**
PKS8				*e*S	**Sn**	**09 52 33.6**	**-2.3**
	0.4nm,0.3s						
PSZ	**Piszkesteto**	**3.39**	**326**	P	**Pn**	**09 51 57.2**	**+0.4**
PSZ	**Piszkesteto**	**3.39**	**326**	P	**Pn**	**09 51 57.2**	**+0.4**
PKS9	**Tamasi**	**3.41**	**297**	⇑*i*P	**Pn**	**09 51 57.8**	**+0.6**
PKS9				*e*S	**Sn**	**09 52 37.4**	**-1.3**
	3.9nm,0.3s						
PKSG		**3.74**	**308**	⇑*i*P	**Pn**	**09 52 02.1**	**+0.2**
PKSG				*e*S	**Sn**	**09 52 46.8**	**-0.3**
	0.2nm,0.2s						
KOLS	**Kolonicke sedl**	**3.80**	**356**	*e*PN	**Pn**	**09 52 02.5**	**-0.2**
KOLS				*e*		09 52 15.4	
KOLS				*e*		09 53 06.0	
KOLS	**Kolonicke sedl**	**3.80**	**356**	*e*Pg	**Pg**	**09 52 15.4**	**-2.5**
KOLS				*e*Sg	**Sg**	**09 53 06.0**	**-2.6**
CRVS	**Cervenica-Dubn**	**3.85**	**348**	*e*PN	**Pn**	**09 52 03.9**	**+0.4**
TIRR	**Tirgusor**	**4.12**	**98**	⇓P	**Pn**	**09 52 04.3**	**-2.9**

*IDC **20** 09:54:06.9±7.1, 6.39S×154.04E, h92km±54km, mb3.6/5, mb1 3.8/7, mb1mx3.8/12, mbtmp4.0/7, ML3.6/2, MS3.6/2, Ms1 3.6/2, ms1mx3.0/10, Error ellipse: s-maj=57.1km s-min=27.4km az=93.0*

*NEIC **20** 09:54:08.7±4.1, 6.33S×153.84E, h98km±27km, mb4.0/2, Error ellipse: s-maj=48.1km s-min=18.5km az=88.0*

ISC 20 09:54:01.2±4.6, 6.3S±0.2×154.3E±0.2, h59km±37km, n12, σ0§80/13, mb3.8/6, MS4.1/1, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.66**	**246**	P	**P**	**09 55 51.6**	**-0.9**
	3.7nm,0.3s,baz=63,slow=9.0,SNR=18						
PMG				S	**S**	**09 57 18.5**	**-0.3**
	2.0nm,0.3s,baz=151,slow=22,SNR=3.6						
PMG	**Port Moresby**	**7.66**	**246**	*e*P	**P**	**09 55 52.1**	**-0.5**
PMG				*e*S	**S**	**09 57 19.3**	**+0.5**
CTA	**Charters Tower**	**15.73**	**209**	P	**P**	**09 57 41.7**	**+1.1**
	0.2nm,0.3s,baz=50,slow=17,SNR=3.8						
CTA				LR	LR	10 02 08.2	
	comp=Z,56nm,19.8s,baz=47,slow=31						
CTAO	**Charters Tower**	**15.73**	**209**	*e*P	**P**	**09 57 43.7**	**+3.1**
	4.3nm,0.7s						
WRAB	**Tennant Creek**	**23.59**	**233**	*e*P	**P**	**09 59 08.1**	**+0.5**
	19nm,1.3s,mb4.4						
WB2	**Warramunga Arr**	**23.60**	**233**	*e*P	**P**	**09 59 08.4**	**+0.8**
WRA	**Warramunga Arr**	**23.61**	**233**	P	**P**	**09 59 07.3**	**-0.5**
	1.4nm,0.6s,mb3.6,baz=56,slow=9.4,SNR=23						
ASAR	**Alice Springs**	**26.08**	**226**	P	**P**	**09 59 30.5**	**-0.8**
	1.1nm,0.8s,mb3.4,baz=58,slow=10.0,SNR=13						
STKA	**Stephens Creek**	**28.04**	**203**	P	**P**	**09 59 48.3**	**-0.8**
	1.6nm,0.8s,mb3.7,baz=24,slow=12,SNR=3.6						
RPZ	**Rata Peaks**	**40.06**	**161**	LR	LR	10 14 33.2	
	comp=Z,301nm,21.9s,MS4.1,baz=137,slow=31						
SONM	**Songino Array**	**68.38**	**327**	P	**P**	**10 04 59.4**	**+0.8**
	0.7nm,0.6s,mb3.9,baz=137,slow=4.7,SNR=5.2						
ZAL	**Zalesovo**	**83.22**	**326**	P	**P**	**10 06 22.1**	**-0.4**
	0.7nm,0.4s,mb4.0,baz=350,slow=5.6,SNR=3.9						

*TAP **20** 09:57:35.2, 23.92N×121.85E, h43km±1km, ML2.7*

JMA 20 09:57:36.2±0.2, 24.90N×122.00E, h87km, M1.8, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.02**	**115**	P	P	09 57 56.1	0.0
YOJ				*e*S	S	09 58 10.7	-0.4
IRIF	**Iriomote-Funau**	**1.67**	**109**	P	P	09 58 04.3	-0.2
IRIF				S	S	09 58 26.2	+0.8
JKRS	**Kuro-shima**	**1.94**	**109**	P	P	09 58 08.1	0.0
JKRS				S	S	09 58 32.1	+0.5
JIJ	**Ishigaki jima**	**2.02**	**105**	P	P	09 58 09.0	-0.1
JIJ				S	S	09 58 33.6	+0.2

DJA 20 10:32:44.5±0.8, 7.90S×117.89E, h33km, MD4.8/4, ML4.5/4, 1C-3D, Error ellipse: s-maj=41.0km s-min=16.9km az=168.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**1.86**	**252**	⇑*e*Pn	Pn	10 33 13.3	-1.3
	194nm,0.2s						
KEDI	**Kedomdong**	**1.86**	**252**	*e*P	P	10 33 14.5	+0.1
KEDI				*e*Sn	Sn	10 33 35.4	-1.7
RATI	**Rata**	**2.48**	**251**	⇓*e*Pn	Pn	10 33 22.1	-1.4
	431nm,0.2s						
RATI				*e*Sn	Sn	10 33 50.4	-2.5
KELI	**Kelakatan**	**3.38**	**264**	⇓*i*Pn	Pn	10 33 35.6	-0.8
	86nm,0.2s						
KELI				*e*Sn	Sn	10 34 11.1	-4.8
SRDI	**Scrawed**	**3.76**	**261**	⇓*e*Pn	Pn	10 33 40.2	-1.5
	226nm,0.2s						
SRDI				*e*Sn	Sn	10 34 20.2	-5.1

*NIED **20** 10:52:00, 33.80N×130.10E, h5km, Mw4.5 Best double couple: M0 5.53×10^15 NP1:φs293°, δ87°, λ5°. NP2:φs203°, δ85°, λ177°.*

*IDC **20** 10:52:01.9±0.7, 33.72N×129.93E, mb3.9/10, mb1 4.1/13, mb1mx4.0/23, mbtmp4.0/13, ML3.4/3, MS4.0/8, Ms1 4.0/8, ms1mx3.8/17, Error ellipse: s-maj=25.4km s-min=16.6km az=67.0*

*JMA **20** 10:52:02.9, 33.80N×130.09E, h13km±1km, M4.7 Broadband fault plane solution: P waves. NP1:φs32°, δ73°, λ-165°. NP2:φs297°, δ76°, λ-17°. Principal axes: T Plg2°, Azm345°; N Plg68°, Azm80°; P Plg22°, Azm254°;*

JMA Felt II J1.

*NEIC **20** 10:52:03.5±0.5, 33.76N×129.96E, h10km, mb4.1/4 Error ellipse: s-maj=12.3km s-min=8.8km az=218.0*

*MOS **20** 10:52:04.9±1.3, 33.84N×130.08E, h33km, mb4.3/5, Error ellipse: s-maj=16.6km s-min=12.3km az=92.4*

*BJI **20** 10:52:06.1, 33.94N×129.98E, h7km, mB4.6, mb4.4, Ms4.3, Msz4.0*

ISC 20 10:52:02.9±0.5, 33.78N±0.04×130.08E±0.04, h19km±4km, n44, σ0§90/51, mb4.0/16, MS4.0/9, 5C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.29**	**273**	⇓P	**Pb**	**10 52 09.2**	**-0.1**
JII				S	**Sb**	**10 52 13.3**	**-0.3**
JFI	**Itaya**	**0.44**	**143**	⇑P	**Pb**	**10 52 11.8**	**0.0**
JFI				S	**Sb**	**10 52 18.0**	**+0.1**
JFA	**Akaike**	**0.60**	**97**	⇓P	**Pb**	**10 52 14.0**	**-0.6**
JFA				S	**Sb**	**10 52 22.5**	**-0.1**
JUR	**Ureshino**	**0.70**	**189**	⇑P	**Pb**	**10 52 16.4**	**+0.2**
JUR				S	**Sb**	**10 52 25.9**	**+0.6**
JTA	**Tamana**	**0.90**	**155**	⇑P	**Pb**	**10 52 19.8**	**+0.1**
JTU	**Tsushima**	**0.93**	**323**	⇑P	**Pb**	**10 52 20.6**	**+0.5**
JTU				S	**Sb**	**10 52 32.7**	**+0.7**
KS15	**Wonju Array Si**	**4.06**	**335**	*e*Pn	**Pn**	**10 53 05.7**	**+0.1**
KS15				*e*Pg	**Pn**	**10 53 17.2**	**+12**
KS15				*e*S	**Sn**	**10 54 04.3**	**+11**
INCN	**Inchon**	**4.63**	**324**	*e*P	**Pn**	**10 53 13.3**	**-0.5**
JOW	**Kunigami**	**7.10**	**193**	Pn	**Pn**	**10 53 52.6**	**+4.2**
	1.1nm,0.3s,baz=5.1,slow=11,SNR=5.7						
MAJO	**Matsushiro**	**7.21**	**65**	*e*P	**Pn**	**10 53 48.5**	**-1.5**
MAT	**Matsushiro**	**7.21**	**65**	P	**Pn**	**10 53 51.0**	**+1.0**
MAT				*e*S	**Sn**	**10 55 13.0**	**+0.9**
MAT				pmax	pmax		
	comp=Z,11nm,1.0s						
MAT	**Matsushiro**	**7.21**	**65**	P	**Pn**	**10 53 51.0**	**+1.0**
	comp=Z,11nm,1.0s						
MAT				*e*S	**Sn**	**10 55 13.0**	**+0.9**
MAT	**Matsushiro**	**7.21**	**65**	P	**Pn**	**10 53 51.2**	**+1.2**
MAT				S	**Sn**	**10 55 12.5**	**+0.4**
JHJ	**Hachijo jima 2**	**8.14**	**92**	Pn	**P**	**10 54 02.4**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=233,slow=20,SNR=3.2						
JHJ				LR	LR	10 56 56.4	
	comp=Z,519nm,20.8s,baz=88,slow=36						
TIA	**Tai'an**	**10.90**	**286**	*e*P	**P**	**10 54 46.5**	**+5.5**
ASAJ	**Asahikawa**	**14.17**	**40**	Pn	**P**	**10 55 24.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=270,slow=11,SNR=3.6						
KLR	**Kul'dur**	**15.48**	**4**	*e*P	**P**	**10 55 51.8**	**+10**
KLR				MLR	MLR		
	comp=E,400nm,14.0s						
KLR				MLR	MLR		
	comp=Z,900nm,14.0s						
HIA	**Hailar**	**17.27**	**337**	*e*P	**P**	**10 56 02.4**	**-2.1**
HIA				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HIA	**Hailar**	**17.27**	**337**	*e*P	**P**	**10 56 02.4**	**-2.1**
	comp=Z,7.5nm,0.7s						
GYA	**Guiyang**	**21.50**	**256**	P	**P**	**10 56 52.9**	**+0.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
LZH	**Lanzhou**	**21.61**	**284**	⇓P	**P**	**10 57 13.8**	**+20**
LZH				pP		10 57 16.0	
LZH				sP		10 57 18.4	
LZH				PP	PP	10 57 37.5	+19
LZH				LR	LR		
	comp=Z,640nm,15.3s,MS4.1						
ULN	**Ulaanbaatar**	**22.28**	**316**	P	**P**	**10 57 00.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.2						
ULN	**Ulaanbaatar**	**22.28**	**316**	P	**P**	**10 57 00.7**	**+0.3**
	comp=Z,10nm,1.1s,mb4.2						
SONM	**Songino Array**	**22.65**	**315**	P	**P**	**10 57 05.1**	**+1.1**
	comp=Z,1.2nm,0.6s,mb3.5,baz=120,slow=9.7,SNR=6.5						
CLNS	**Chul'man**	**23.33**	**353**	*e*P	**P**	**10 57 10.4**	**-0.1**
CLNS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.2						
CLNS				pmax	pmax		
	comp=N,6.0nm,1.0s						
CLNS				pmax	pmax		
	comp=E,4.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,200nm,12.0s,MS3.8						
CLNS				MLR	MLR		
	comp=N,200nm,13.0s,MS3.8						
CLNS				MLR	MLR		
	comp=E,100nm,13.0s,MS3.8						
ZAK	**Zakamensk**	**25.69**	**318**	⇑*e*P	**P**	**10 57 33.5**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BOD	**Bodaibo**	**26.38**	**341**	*e*P	**P**	**10 57 38.1**	**-1.5**
ZAL	**Zalesovo**	**37.54**	**316**	P	**P**	**10 59 16.1**	**-1.3**
	comp=Z,0.9nm,0.4s,mb3.8,baz=8.0,slow=8.7,SNR=5.0						
ZAL				LR	LR	11 16 11.3	
	comp=Z,148nm,18.4s,MS3.8,baz=3.4,slow=39						
KURK	**Kurchatov**	**40.78**	**310**	*e*P	**P**	**10 59 44.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**40.78**	**310**	*e*P	**P**	**10 59 44.3**	**-0.1**
	comp=Z,3.7nm,0.9s,mb4.0						
BVAR	**Borovoye Array**	**45.97**	**314**	P	**P**	**11 00 26.7**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.3,baz=101,slow=7.6,SNR=17						
WRA	**Warramunga Arr**	**53.58**	**175**	P	**P**	**11 01 24.7**	**-0.4**
	comp=Z,2.9nm,0.9s,mb4.2,baz=350,slow=8.0,SNR=13						
ASAR	**Alice Springs**	**57.24**	**176**	P	**P**	**11 01 50.1**	**-1.5**
	comp=Z,1.2nm,0.6s,mb4.1,baz=5.7,slow=14,SNR=22						
ASAR				LR	LR	11 27 17.3	
	comp=Z,64nm,19.5s,MS3.7,baz=349,slow=37						
INK	**Inuvik**	**61.36**	**25**	*e*P	**P**	**11 02 20.7**	**+1.3**
INK				pmax	pmax		
	comp=Z,4.0nm,1.3s						
INK	**Inuvik**	**61.36**	**25**	LR	LR	11 28 18.1	
	comp=Z,98nm,20.0s,MS4.0,baz=311,slow=35						
INK	**Inuvik**	**61.36**	**25**	*e*P	**P**	**11 02 20.7**	**+1.3**
	comp=Z,4.3nm,1.3s,mb4.4						
ARCES	**ARCESS Array B**	**63.61**	**338**	LR	LR	11 35 15.1	
	comp=Z,213nm,18.6s,MS4.3,baz=190,slow=41						
STKA	**Stephens Creek**	**66.20**	**169**	P	**P**	**11 02 51.4**	**-0.2**
	comp=Z,1.9nm,0.9s,mb4.1,baz=318,slow=9.7,SNR=3.8						
STKA	**Stephens Creek**	**66.20**	**169**	P	**P**	**11 02 51.4**	**-0.2**
FINES	**FINESS Array B**	**67.13**	**330**	P	**P**	**11 02 56.1**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=18,slow=4.4,SNR=3.2						
FINES				LR	LR	11 35 31.5	
	comp=Z,138nm,19.1s,MS4.2,baz=23,slow=39						
YKA	**Yellowknife Ar**	**71.05**	**26**	P	**P**	**11 03 22.6**	**+1.4**
	comp=Z,0.2nm,0.7s,mb3.2,baz=293,slow=6.0,SNR=4.9						
NOA	**NORSAR Array B**	**73.27**	**334**	LR	LR	11 42 14.7	
	comp=Z,99nm,19.0s,MS4.1,baz=65,slow=41						
NVAR	**Mina Array Bea**	**84.17**	**47**	P	**P**	**11 04 37.1**	**+3.0**
	comp=Z,0.5nm,0.7s,mb3.8,baz=266,slow=6.9,SNR=6.0						
PDAR	**Pinedale Array**	**86.31**	**40**	P	**P**	**11 04 46.0**	**+1.4**
	comp=Z,0.9nm,0.9s,mb4.0,baz=225,slow=2.1,SNR=5.8						
PDAR				LR	LR	11 41 54.1	
	comp=Z,128nm,20.5s,MS4.3,baz=194,slow=35						

*NIED **20** 11:08:00, 33.80N×130.10E, h17km, Mw4.0 Best double couple: M0 1.31×10^15 NP1:φs214°, δ85°, λ169°. NP2: φs305°, δ79°, λ5°.*

JMA 20 11:08:09.6, 33.78N×130.09E, h12km±1km, M2.8, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.30**	**273**	P	Pg	11 08 15.9	0.0
JII				S	Sg	11 08 20.2	0.0
JFI	**Itaya**	**0.43**	**145**	P	Pg	11 08 18.2	-0.3
JFI				S	Sg	11 08 24.3	-0.1
JFA	**Akaike**	**0.59**	**96**	P	Pb	11 08 20.8	-0.6
JFA				S	Sb	11 08 29.2	-0.2
JUR	**Ureshino**	**0.69**	**190**	P	Pb	11 08 22.8	-0.4
JUR				S	Sb	11 08 32.2	-0.2
JTA	**Tamana**	**0.89**	**155**	P	Pb	11 08 26.4	-0.2
JTU	**Tsushima**	**0.94**	**323**	P	Pb	11 08 27.4	+0.1

*IDC **20** 11:08:21.9±0.9, 33.49N×129.99E, mb3.5/6, mb1 3.8/8, mb1mx3.7/23, mbtmp3.7/8, ML3.6/2, MS3.0/2, Ms1 3.0/2, ms1mx2.8/13, Error ellipse: s-maj=30.7km s-min=20.8km az=76.0*

*JMA **20** 11:08:22.4, 33.80N×130.11E, h13km±1km, M4.4*

JMA Felt III J1.

*NEIC **20** 11:08:23.4±1.0, 33.61N×129.90E, h10km, Error ellipse: s-maj=20.4km s-min=13.9km az=217.0*

NEIC Recorded [3 JMA] in Fukuoka and Saga; [2 JMA] in Nagasaki, Kumamoto and Oita Prefectures. Also recorded [1 JMA] in Yamaguchi Prefecture, Honshu and on Uku-jima.

ISC 20 11:08:22.3±0.7, 33.77N±0.04×130.12E±0.04, h11km±5km, n20, σ1§16/26, mb3.5/6, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.33**	**274**	⇓P	**Pg**	**11 08 28.9**	**-0.2**
JII				S	**Sg**	**11 08 33.2**	**-0.4**
JFI	**Itaya**	**0.41**	**147**	⇑P	**Pg**	**11 08 31.1**	**+0.4**
JFI				*e*S	**Sg**	**11 08 37.1**	**+0.8**
JFA	**Akaike**	**0.56**	**96**	⇓P	**Pb**	**11 08 33.4**	**-0.3**
JFA				S	**Sg**	**11 08 41.4**	**0.0**
JUR	**Ureshino**	**0.69**	**192**	P	**Pb**	**11 08 35.8**	**-0.1**
JUR				S	**Sb**	**11 08 45.2**	**+0.1**
JTA	**Tamana**	**0.88**	**157**	⇑P	**Pb**	**11 08 39.3**	**+0.3**
KS15	**Wonju Array Si**	**4.09**	**334**	*e*P	**Pn**	**11 09 27.4**	**+1.2**
KS15				*e*S	**Sn**	**11 10 27.1**	**+12**
INCN	**Inchon**	**4.67**	**323**	P	**Pn**	**11 09 33.3**	**-1.1**
JOW	**Kunigami**	**7.10**	**193**	Pn	**Pn**	**11 10 12.8**	**+4.1**
	1.2nm,0.3s,baz=67,slow=20,SNR=3.7						
JOW				LR	LR	11 13 02.2	
	comp=Z,90nm,21.1s,baz=243,slow=41						
MAJO	**Matsushiro**	**7.18**	**65**	*e*P	**Pn**	**11 10 10.6**	**+0.8**
MAT	**Matsushiro**	**7.18**	**65**	P	**Pn**	**11 10 07.7**	**-2.1**
MAT				S	**Sn**	**11 11 26.4**	**-5.7**
JHJ	**Hachijo jima 2**	**8.10**	**92**	Pn	**P**	**11 10 20.6**	**-2.1**
	13nm,0.3s,baz=316,slow=23,SNR=5.8						
JHJ				LR	LR	11 13 35.4	
	comp=Z,123nm,20.1s,baz=84,slow=38						
SONM	**Songino Array**	**22.68**	**315**	P	**P**	**11 13 24.4**	**-0.4**
	0.4nm,0.8s,mb2.9,baz=120,slow=9.4,SNR=3.4						
BVAR	**Borovoye Array**	**46.01**	**314**	P	**P**	**11 16 48.7**	**+1.5**
	0.6nm,0.6s,mb3.7,baz=108,slow=9.4,SNR=3.9						
WRAB	**Tennant Creek**	**53.55**	**175**	P	**P**	**11 17 40.9**	**-4.6**
WRA	**Warramunga Arr**	**53.56**	**175**	P	**P**	**11 17 43.3**	**-2.2**
	0.5nm,0.6s,mb3.6,baz=353,slow=8.1,SNR=7.1						
ASAR	**Alice Springs**	**57.23**	**176**	P	**P**	**11 18 08.4**	**-3.7**
	0.5nm,0.8s,mb3.6,baz=4.8,slow=14,SNR=9.9						
INK	**Inuvik**	**61.36**	**25**	P	**P**	**11 18 41.2**	**+1.2**
	1.4nm,1.1s,mb4.0,baz=248,slow=11,SNR=2.0						
INK	**Inuvik**	**61.36**	**25**	*e*P	**P**	**11 18 41.5**	**+1.5**
YKA	**Yellowknife Ar**	**71.04**	**26**	P	**P**	**11 19 43.7**	**+1.9**
	0.2nm,0.7s,mb3.2,baz=307,slow=6.5,SNR=7.4						
YKA	**Yellowknife Ar**	**71.04**	**26**	P	**P**	**11 19 43.7**	**+1.9**

IDC 20 11:11:40.9±2.9, 84.86N×88.94E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS3.6/3, Ms1 3.6/3, ms1mx3.1/23, Error ellipse: s-maj=125.6km s-min=28.4km az=91.0, North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INK	**Inuvik**	**25.87**	**35**	P	P	11 17 13.6	-1.5
	3.1nm,1.1s,baz=356,slow=10,SNR=5.1						
ZAL	**Zalesovo**	**31.09**	**185**	LR	LR	11 31 45.4	
	comp=Z,68nm,20.0s,baz=279,slow=39						
YKA	**Yellowknife Ar**	**32.47**	**20**	P	P	11 18 12.4	-2.0
	0.2nm,0.7s,baz=352,slow=7.9,SNR=6.0						
YKA				LR	LR	11 30 54.0	
	comp=Z,87nm,20.0s,baz=260,slow=36						
SONM	**Songino Array**	**37.45**	**161**	P	P	11 18 55.5	-1.6
	0.9nm,1.0s,baz=14,slow=5.9,SNR=3.7						
ULM	**Lac du Bonnet**	**45.09**	**4**	LR	LR	11 37 43.9	
	comp=Z,126nm,19.5s,baz=337,slow=35						
TXAR	**Lajitas Array**	**65.88**	**12**	P	P	11 22 27.8	-2.2
	0.3nm,0.6s,baz=357,slow=2.7,SNR=5.8						

KRSC 20 11:17:05.4±0.9, 52.90N×153.62E, h547km±16km, ML3.9, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GNL	**Ganaly**	**2.71**	**71**	*i* P	P	11 18 18.8	-0.2
GNL				*e*S	S	11 19 12.7	-4.6
KRMR	**Karymshinskiy**	**2.73**	**90**	*e*P	P	11 18 19.4	+0.2
RUS	**Russkaya**	**3.02**	**97**	*e*P	P	11 18 19.8	-1.1
RUS				*e*S	S	11 19 14.5	-6.1
KOK	**Koryaka**	**3.05**	**81**	*e*P	P	11 18 21.1	0.0
KOK				*e*S	S	11 19 17.1	-3.9
AVH	**Avacha**	**3.11**	**81**	*e*P	P	11 18 21.6	+0.2
AVH				*e*S	S	11 19 17.7	-4.0
UGLR	**Uglovaya**	**3.16**	**82**	*e*P	P	11 18 22.1	+0.4
UGLR				*e*S	S	11 19 18.9	-3.3
NLC	**Nalytchevo**	**3.47**	**83**	*e*P	P	11 18 22.9	-0.9
NLC				*e*S	S	11 19 20.1	-5.9
SPN	**Mys Shipunski**	**3.87**	**85**	*i* P	P	11 18 26.3	-0.4
SPN				*i* S	S	11 19 24.5	-6.7
ESO	**Esso**	**4.24**	**42**	*e*P	P	11 18 28.6	-0.9
ESO				*e*S	S	11 19 28.9	-7.3
TUMR	**Tumrok**	**4.52**	**56**	*e*P	P	11 18 32.8	+1.1
TUMR				*e*S	S	11 19 37.0	-3.2
SRDR	**Sredinnyy**	**4.93**	**44**	*e*P	P	11 18 35.0	-0.1
SRDR				*e*S	S	11 19 40.3	-5.9
KBTR	**Krutoberegovo**	**6.29**	**55**	*i* P	P	11 18 46.6	-0.7

*NEIC **20** 11:31:36.9, 44.44N×2.69E, h6km, MD2.7(LDG), After LDG.*

*LDG **20** 11:31:36.9±0.0, 44.44N×2.69E, h6km, Md2.7/2, Ml2.4/16, Error ellipse: s-maj=0.7km s-min=0.6km az=132.0*

*STR **20** 11:31:38.8±1.0, 44.55N×2.72E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 20 11:31:34.4±0.3, 44.46N±0.02×2.66E±0.03, h7km±3km, n23, σ1§33/64, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAF	**Calviac**	**0.63**	**318**	*e*Pg	**Pg**	**11 31 49.8**	**+2.7**
CAF				*e*Pn	**Pn**	**11 31 51.6**	**+2.2**
CAF				*e*Sg	**Sg**	**11 31 58.2**	**+2.7**
CAF				*e*Sn	**Sn**	**11 32 01.4**	**+1.6**
	8.8nm,0.1s						
LBL	**Lubilhac**	**0.88**	**28**	Pg	**Pg**	**11 31 53.7**	**+1.7**
LBL				Sg	**Sg**	**11 32 05.5**	**+1.8**
LASF	**Ste Croix**	**0.94**	**114**	*e*Pg	**Pg**	**11 31 54.1**	**+0.9**
LASF				*e*Pn	**Pn**	**11 31 54.8**	**+0.9**
LASF				*e*Sg	**Sg**	**11 32 06.1**	**+0.3**
	12nm,0.2s						
MTLF	**Montolieu**	**1.16**	**196**	*e*Pn	**Pn**	**11 31 58.0**	**+1.0**
MTLF				*e*Pg	**Pg**	**11 31 58.8**	**+1.2**
MTLF				*e*Sg	**Sg**	**11 32 13.2**	**0.0**
	16nm,0.2s						
RJF	**Les Rejaudoux**	**1.17**	**316**	*e*Pn	**Pn**	**11 31 58.8**	**+1.6**
RJF				*e*Pg	**Pg**	**11 32 00.3**	**+2.5**
RJF				*e*Sn	**Sn**	**11 32 14.1**	**+0.6**
RJF				*e*Sg	**Sg**	**11 32 15.1**	**+1.6**
	29nm,0.2s						
COLF	**Collangettes**	**1.29**	**34**	Pg	**Pg**	**11 32 01.1**	**+1.0**
COLF				Sg	**Sg**	**11 32 17.6**	**+0.3**
LFF	**La Frestale**	**1.45**	**290**	*e*Pn	**Pn**	**11 32 02.5**	**+1.3**
LFF				*e*Pg	**Pg**	**11 32 04.4**	**+1.0**
LFF				*e*Sn	**Sn**	**11 32 20.6**	**0.0**
LFF				*e*Sg	**Sg**	**11 32 23.6**	**+0.8**
	11nm,0.2s						
VIVF	**Saint-Julien-l**	**1.49**	**74**	*e*Pn	**Pn**	**11 32 02.6**	**+0.9**
VIVF				*e*Pg	**Pg**	**11 32 04.5**	**+0.3**
VIVF				*e*Sg	**Sg**	**11 32 22.0**	**-2.0**
	2.8nm,0.2s						
PLDF	**La Plantade**	**1.66**	**24**	Pg	**Pg**	**11 32 08.2**	**+0.7**
PLDF				Sg	**Sg**	**11 32 29.2**	**-0.4**
TCF	**Toulx Ste Croi**	**1.86**	**350**	*e*Pn	**Pn**	**11 32 07.8**	**+0.9**
TCF				*e*Pg	**Pg**	**11 32 12.0**	**+0.5**
TCF				*e*Sn	**Sn**	**11 32 30.5**	**-0.4**
TCF				*e*Sg	**Sg**	**11 32 36.1**	**-0.1**
	3.4nm,0.2s						
BGF	**Bois d'Agland**	**2.10**	**3**	*e*Pg	**Pg**	**11 32 16.5**	**+0.1**
BGF				*e*Sn	**Sn**	**11 32 36.0**	**-1.1**
BGF				*e*Sg	**Sg**	**11 32 43.1**	**-1.3**
	7.2n

ISC 20 11:38:15.9±0.7, 33.76N±0.03×130.17E±0.04, h14km±5km, n35, σ1°11/40, mb3.7/13, MS3.7/5, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.36**	**276**	⇓P	**Pg**	**11 38 23.9**	**+0.3**
JII				S	**Sg**	**11 38 29.1**	**+0.4**
JFI	**Itaya**	**0.38**	**151**	⇑P	**Pg**	**11 38 23.7**	**-0.2**
JFI				S	**Sg**	**11 38 28.9**	**-0.3**
JFA	**Akaike**	**0.53**	**95**	⇓P	**Pb**	**11 38 26.4**	**0.0**
JFA				S	**Sb**	**11 38 33.5**	**0.0**
JUR	**Ureshino**	**0.69**	**195**	⇑P	**Pb**	**11 38 29.2**	**0.0**
JUR				S	**Sb**	**11 38 38.2**	**-0.2**
JTA	**Tamana**	**0.85**	**159**	⇑P	**Pb**	**11 38 32.2**	**+0.2**
JTA				S	**Sb**	**11 38 43.4**	**+0.4**
JTY	**Toyota**	**0.90**	**56**	⇓P	**Pb**	**11 38 33.2**	**+0.4**
KS15	**Wonju Array Si**	**4.12**	**334**	*e*Pn	**Pn**	**11 39 19.1**	**-0.8**
KS15				*e*S	**Sn**	**11 40 24.8**	**+16**
INCN	**Inchon**	**4.70**	**323**	*e*P	**Pn**	**11 39 26.0**	**-2.2**
JOW	**Kunigami**	**7.10**	**194**	Pn	**Pn**	**11 40 04.8**	**+2.8**
	1.3nm,0.3s,baz=18,slow=20,SNR=5.2						
MAJO	**Matsushiro**	**7.14**	**65**	*e*P	**Pn**	**11 40 03.4**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,18nm,0.8s						
MAJO	**Matsushiro**	**7.14**	**65**	*e*P	**Pn**	**11 40 03.4**	**+0.7**
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**7.14**	**65**	P	**Pn**	**11 39 59.0**	**-3.7**
MAT				S	**Sn**	**11 41 21.0**	**-3.5**
MAT	**Matsushiro**	**7.14**	**65**	P	**Pn**	**11 39 59.0**	**-3.7**
MAT				*e*S	**Sn**	**11 41 20.6**	**-3.9**
JHJ	**Hachijo jima 2**	**8.06**	**92**	Pn	**P**	**11 40 14.1**	**-1.4**
	comp=Z,31nm,0.3s,baz=52,slow=23,SNR=12						
ASAJ	**Asahikawa**	**14.14**	**39**	Pn	**P**	**11 41 38.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=239,slow=14,SNR=2.7						
ASAJ				LR	LR	11 46 33.5	
	comp=Z,125nm,19.8s,baz=173,slow=35						
KLR	**Kul'dur**	**15.50**	**4**	*e*P	**P**	**11 42 10.2**	**+15**
ULN	**Ulaanbaatar**	**22.35**	**316**	*e*P	**P**	**11 43 15.3**	**+0.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.0						
ULN	**Ulaanbaatar**	**22.35**	**316**	*e*P	**P**	**11 43 15.3**	**+0.4**
	comp=Z,7.8nm,1.3s,mb4.0						
SONM	**Songino Array**	**22.72**	**315**	P	**P**	**11 43 18.3**	**-0.2**
	comp=Z,0.8nm,0.9s,mb3.2,baz=121,slow=8.4,SNR=5.5						
ZAK	**Zakamensk**	**25.76**	**318**	*e*P	**P**	**11 43 47.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.6						
ZAL	**Zalesovo**	**37.61**	**316**	LR	LR	12 02 46.6	
	comp=Z,81nm,19.0s,MS3.5,baz=8.3,slow=39						
BILL	**Bilibino**	**40.03**	**20**	*e*P	**P**	**11 45 47.3**	**-4.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**40.86**	**310**	*e*P	**P**	**11 45 58.4**	**-0.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
KURK	**Kurchatov**	**40.86**	**310**	*e*P	**P**	**11 45 58.4**	**-0.4**
	comp=Z,2.1nm,1.0s,mb3.7						
PMG	**Port Moresby**	**45.87**	**156**	LR	LR	12 02 30.6	
	comp=Z,85nm,20.7s,MS3.7,baz=82,slow=32						
WRA	**Warramunga Arr**	**53.55**	**175**	P	**P**	**11 47 37.1**	**-1.6**
	comp=Z,2.7nm,1.1s,mb4.1,baz=352,slow=7.9,SNR=9.8						
ASAR	**Alice Springs**	**57.22**	**176**	P	**P**	**11 48 03.7**	**-1.6**
	comp=Z,0.6nm,0.6s,mb3.8,baz=6.3,slow=14,SNR=15						
INK	**Inuvik**	**61.35**	**25**	*e*P	**P**	**11 48 32.8**	**-0.4**
ARCES	**ARCESS Array B**	**63.66**	**338**	LR	LR	12 21 48.8	
	comp=Z,107nm,19.4s,MS4.0,baz=197,slow=41						
FINES	**FINESS Array B**	**67.19**	**330**	P	**P**	**11 49 12.5**	**+1.2**
	comp=Z,1.5nm,1.0s,mb4.0,baz=130,slow=11,SNR=3.1						
FINES				LR	LR	12 23 21.7	
	comp=Z,49nm,19.4s,MS3.7,baz=9.4,slow=40						
YKA	**Yellowknife Ar**	**71.03**	**26**	P	**P**	**11 49 37.1**	**+2.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=342,slow=5.9,SNR=5.3						
NOA	**NORSAR Array B**	**73.33**	**334**	P	**P**	**11 49 46.9**	**-1.6**
	comp=Z,0.5nm,0.8s,mb3.5,baz=350,slow=12,SNR=2.6						
NOA				LR	LR	12 28 31.4	
	comp=Z,41nm,19.8s,MS3.7,baz=10.0,slow=41						
NVAR	**Mina Array Bea**	**84.13**	**47**	P	**P**	**11 50 50.2**	**+2.5**
	comp=Z,0.4nm,0.6s,mb3.7,baz=278,slow=5.7,SNR=4.5						
PDAR	**Pinedale Array**	**86.28**	**40**	P	**P**	**11 51 00.1**	**+1.7**
	comp=Z,0.2nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=3.6						
ULM	**Lac du Bonnet**	**86.97**	**28**	P	**P**	**11 51 01.8**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.4,baz=271,slow=4.6,SNR=3.4						

*JMA **20** 12:32:09.1±0.3, 24.86N×121.96E, h71km, M2.5*

TAP 20 12:32:09.7, 24.82N×121.95E, h69km, ML3.7, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.03**	**110**	P	P	12 32 28.3	-0.5
YOJ				S	S	12 32 42.7	-0.2
IRIF	**Iriomote-Funau**	**1.69**	**106**	P	P	12 32 36.9	-0.8
IRIF				S	S	12 32 57.9	-0.5
HATJ	**Hateruma jima**	**1.85**	**114**	P	P	12 32 39.6	-0.3
JKRS	**Kuro-shima**	**1.96**	**107**	P	P	12 32 41.1	-0.3
JKRS				S	S	12 33 04.7	-0.1
JIJ	**Ishigaki jima**	**2.05**	**102**	P	P	12 32 41.8	-0.8
JIJ				S	S	12 33 06.2	-0.7
JTJ	**Tarama**	**2.51**	**94**	P	P	12 32 49.3	+0.2

IDC 20 13:00:59.5±4.4, 10.73N×94.05E, mb3.6/4, mb1 3.8/4, mb1mx3.6/14, mbtmp3.6/4, Error ellipse: s-maj=175.1km s-min=26.4km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**38.42**	**13**	P	P	13 08 22.5	-2.0
	0.2nm,0.3s,baz=184,slow=7.0,SNR=3.6						
ZAL	**Zalesovo**	**43.72**	**352**	P	P	13 09 06.5	-1.6
	1.0nm,0.3s,baz=172,slow=11,SNR=4.1						
WRA	**Warramunga Arr**	**50.02**	**127**	P	P	13 09 56.8	-1.3
	0.7nm,0.8s,baz=307,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**51.84**	**132**	P	P	13 10 09.2	-2.8
	0.3nm,0.7s,baz=304,slow=7.6,SNR=5.4						

*CSEM **20** 13:15:55.4±0.3, 51.46N×16.22E, h2km, ML2.8/5, Error ellipse: s-maj=5.4km s-min=2.3km az=35.0*
*IPEC **20** 13:15:55.0±0.3, 51.49N×16.29E, ML1.7/3, Error ellipse: s-maj=1.9km s-min=1.5km az=39.0*
*NEIC **20** 13:15:56.7±2.4, 51.39N×16.19E, h5km, ML2.8(VIE), Error ellipse: s-maj=27.0km s-min=9.4km az=217.0*
*PRU **20** 13:15:56.5, 51.41N×16.18E*
*WAR **20** 13:15:56.5, 51.45N×16.17E, h1km, ML2.7, Mining Induced*

ISC 20 13:15:54.4±0.8, 51.41N±0.04×16.16E±0.04, n20, σ1°28/38, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.57**	**172**	*e*PG	**Pg**	**13 16 08.0**	**+2.3**
KSP				*e*SG	**Sg**	**13 16 16.0**	**+2.7**
KSP	**Ksiaz**	**0.57**	**172**	*e*Pg	**Pg**	**13 16 07.3**	**+1.6**
KSP				*e*Sg	**Sg**	**13 16 14.8**	**+1.5**
UPC	**Upice**	**0.90**	**186**	*e*PG	**Pg**	**13 16 13.7**	**+1.3**
DPC	**Dobruska-Polom**	**1.06**	**174**	*e*PG	**Pg**	**13 16 16.4**	**+0.9**
DPC				*e*SG	**Sg**	**13 16 30.8**	**+1.1**
	14nm,0.3s						
PVCC	**Panska Ves**	**1.34**	**230**	*e*PG	**Pg**	**13 16 22.0**	**+1.0**
PVCC	**Panska Ves**	**1.34**	**230**	Pg	**Pg**	**13 16 22.0**	**+1.0**
PVCC				*e*Sg	**Sg**	**13 16 40.5**	**+1.6**
BRG	**Berggiesshubel**	**1.50**	**250**	*e*Pn	**Pn**	**13 16 22.8**	**+0.2**
BRG				*i* Pg	**Pg**	**13 16 24.5**	**+0.3**
BRG				*i* Sg	**Sg**	**13 16 44.9**	**+0.7**
BRG	**Berggiesshubel**	**1.50**	**250**	*i* Pg	**Pg**	**13 16 24.5**	**+0.3**
PRU	**Pruhonice**	**1.75**	**217**	*e*PG	**Pg**	**13 16 28.7**	**-0.7**
PRU				*e*SG	**Sg**	**13 16 52.3**	**-0.4**
MORC	**Moravsky Berou**	**1.85**	**151**	*e*P	**Pn**	**13 16 28.2**	**+0.6**
MORC	**Moravsky Berou**	**1.85**	**151**	*e*P	**Pn**	**13 16 28.2**	**+0.6**
MORC	**Moravsky Berou**	**1.85**	**151**	*e*Pn	**Pn**	**13 16 28.5**	**+0.8**
MORC				*e*Sg	**Sg**	**13 16 54.2**	**-1.8**
	4.2nm,0.2s						
CLL	**Collm**	**1.98**	**268**	*i* PG	**Pg**	**13 16 32.4**	**-1.6**
CLL				*e*SG	**Sg**	**13 16 59.0**	**-1.4**
OKC	**Ostrava-Krasne**	**2.02**	**140**	*e*PG	**Pg**	**13 16 35.2**	**+0.6**
OKC				*e*SG	**Sg**	**13 16 59.8**	**-1.7**
VRAC	**Vranov**	**2.12**	**172**	*e*Pn	**Pn**	**13 16 32.9**	**+1.5**
VRAC				*e*Sg	**Sg**	**13 17 03.5**	**-1.4**
	4.2nm,0.2s						
KRUC	**Moravsky**	**2.35**	**176**	*e*Pn	**Pn**	**13 16 36.4**	**+1.6**
KRUC				*e*Sg	**Sg**	**13 17 11.3**	**-1.3**
	3.9nm,0.3s						
OJC	**Ojcow**	**2.59**	**116**	*e*PG	**Pg**	**13 16 45.0**	**-1.1**
OJC				*e*SG	**Sg**	**13 17 20.0**	**-0.7**
KHC	**Kasperske Hory**	**2.82**	**217**	*e*PN	**Pn**	**13 16 43.1**	**+1.7**
KHC				*e*PG	**Pg**	**13 16 47.9**	**-2.7**
KHC				*e*SN	**Sn**	**13 17 17.5**	**+0.9**
KHC				*e*SG	**Sg**	**13 17 24.9**	**-3.2**
MOX	**Moxa**	**2.97**	**257**	*e*Pg	**Pg**	**13 16 52.7**	**-1.0**
MOX				*e*Sg	**Sg**	**13 17 32.1**	**-1.2**
MOA	**Molln**	**3.77**	**200**	⇑*i* PN	**Pn**	**13 16 55.5**	**+0.6**
MOA				*i* SG	**Sg**	**13 17 58.6**	**-1.2**
	4.7nm,0.5s						

*IDC **20** 13:17:27.1±0.8, 15.26S×173.00W, mb3.8/9, mb1 4.1/10, mb1mx4.0/17, mbtmp3.9/10, ML4.4/1, MS4.1/11, Ms1 4.1/11, ms1mx3.9/16, Error ellipse: s-maj=49.1km s-min=17.2km az=142.0*
*NEIC **20** 13:17:28.3±0.6, 15.22S×173.01W, h10km, mb4.6/2, Error ellipse: s-maj=31.7km s-min=12.2km az=139.0*

ISC 20 13:17:30.4±0.6, 15.2S±0.2×173.1W±0.2, h33km, n39, σ0°99/17, mb3.9/11, MS4.2/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.81**	**45**	*e*P	**P**	**13 17 51.6**	**-8.1**
AFI				*e*S	**S**	**13 18 08.5**	**-13**
RAR	**Rarotonga**	**14.00**	**117**	Pn	**P**	**13 20 35.0**	**-14**
	1.6nm,0.3s,baz=85,slow=15,SNR=3.2						
RAR				LR	LR	13 24 58.3	
	comp=Z,304nm,19.0s,baz=305,slow=32						
PPT	**Papeete**	**22.69**	**99**	*e*LQ		13 26 27.0	
PPT				*e*LR	LR	13 27 19.7	
	405nm,27.5s						
TBI	**Tubuai**	**23.72**	**114**	*e*LQ		13 26 52.4	
TBI				*e*LR	LR	13 27 45.6	
	117nm,28.5s						
URZ	**Urewera**	**24.55**	**199**	P	**P**	**13 22 48.3**	**-0.1**
	2.7nm,0.5s,mb4.0,slow=10,SNR=6.4						
RPZ	**Rata Peaks**	**31.48**	**202**	LR	LR	13 33 51.7	
	comp=Z,109nm,19.3s,MS3.5,baz=73,slow=31						
RKT	**Rikitea**	**36.78**	**108**	*e*LR	LR	13 34 03.2	
	125nm,26.0s						
STKA	**Stephens Creek**	**44.39**	**240**	P	**P**	**13 25 40.8**	**+1.0**
	1.4nm,0.5s,mb4.0,baz=66,slow=6.8,SNR=3.0						
STKA				LR	LR	13 41 22.2	
	comp=Z,214nm,20.8s,MS4.0,baz=24,slow=32						
STKA	**Stephens Creek**	**44.39**	**240**	*e*P	**P**	**13 25 39.8**	**0.0**
STKA				LR	LR	13 41 22.2	
WRAB	**Tennant Creek**	**50.16**	**257**	P	**P**	**13 26 26.3**	**+1.2**
WRA	**Warramunga Arr**	**50.17**	**257**	P	**P**	**13 26 23.9**	**-1.3**
	0.7nm,0.6s,mb3.9,baz=91,slow=6.6,SNR=9.0						
ASAR	**Alice Springs**	**50.45**	**252**	P	**P**	**13 26 27.0**	**-0.3**
	1.4nm,0.6s,mb4.2,baz=88,slow=7.5,SNR=32						
ASAR				LR	LR	13 46 13.8	
	comp=Z,275nm,20.7s,MS4.2,baz=79,slow=34						
NVAR	**Mina Array Bea**	**73.98**	**42**	P	**P**	**13 29 03.6**	**-1.0**
	0.5nm,0.8s,mb3.5,baz=240,slow=10,SNR=3.5						
NVAR				LR	LR	13 55 29.8	
	comp=Z,153nm,19.0s,MS4.3,baz=245,slow=31						
TXAR	**Lajitas Array**	**80.26**	**56**	P	**P**	**13 29 39.6**	**-0.3**
	0.8nm,1.1s,mb3.6,baz=231,slow=8.0,SNR=5.0						
TXAR				LR	LR	13 58 12.0	
	comp=Z,128nm,18.9s,MS4.3,baz=235,slow=30						
ANMO	**Albuquerque**	**80.45**	**50**	P	**P**	**13 29 40.9**	**+0.1**
	0.5nm,0.8s,mb3.5,baz=217,slow=15,SNR=2.0						
PDAR	**Pinedale Array**	**81.92**	**42**	P	**P**	**13 29 50.5**	**+2.3**
	0.1nm,0.5s,mb3.0,baz=56,slow=16,SNR=3.0						
PDAR				LR	LR	14 03 48.9	
	comp=Z,146nm,18.1s,MS4.4,baz=245,slow=34						
COLA	**College**	**82.11**	**11**	*e*P	**P**	**13 29 48.1**	**-0.6**
	5.1nm,0.9s,mb4.5						
INK	**Inuvik**	**88.00**	**14**	*e*P	**P**	**13 30 19.2**	**+1.3**
	2.8nm,1.1s,mb4.4						
PLCA	**Paso Flores**	**89.44**	**132**	LR	LR	14 02 49.7	
	comp=Z,106nm,19.4s,MS4.3,baz=183,slow=30						
YKA	**Yellowknife Ar**	**89.80**	**23**	P	**P**	**13 30 25.7**	**-0.9**
	0.2nm,0.4s,mb3.8,baz=238,slow=4.6,SNR=5.3						
YKA				LR	LR	14 07 44.7	
	comp=Z,45nm,18.5s,MS3.9,baz=55,slow=34						
YKA	**Yellowknife Ar**	**89.80**	**23**	P	**P**	**13 30 25.7**	**-0.9**
YKA				LR	LR	14 07 44.7	
ULM	**Lac du Bonnet**	**93.59**	**39**	LR	LR	14 04 10.0	
	comp=Z,161nm,21.7s,MS4.4,baz=260,slow=30						
ROSC	**El Rosal**	**99.71**	**88**	LR	LR	14 08 13.1	
	comp=Z,106nm,18.3s,MS4.4,baz=203,slow=31						
CLL	**Collm**	**143.64**	**354**	*e*PKIKP	PKPdf	13 37 01.0	-0.8
DPC	**Dobruska-Polom**	**144.11**	**350**	*e*PKP	PKPdf	13 37 09.8	+7.2
PRU	**Pruhonice**	**144.75**	**351**	*e*PKP	PKPdf	13 37 09.0	+5.2
BAIF	**Baives**	**145.16**	**3**	*e*PKP1	PKPbc	13 37 07.0	+2.2
	28nm,1.4s						
VYHS	**Vyhne**	**145.37**	**346**	*e*PKP	PKPdf	13 37 07.8	+2.9
GRA1	**Grafenberg Arr**	**145.41**	**355**	*e*PKP	PKPdf	13 37 09.1	+4.1
KHC	**Kasperske Hory**	**145.72**	**352**	*e*PKP	PKPdf	13 37 09.9	+4.4
GERES	**GERESS Array B**	**145.98**	**352**	PKPbc	PKPbc	13 37 09.7	+2.8
	1.1nm,0.9s,baz=225,slow=1.9,SNR=7.8						
BRTR	**Keskin Array B**	**146.18**	**321**	PKPbc	PKPbc	13 37 11.3	+3.7
	2.7nm,0.9s,baz=116,slow=2.2,SNR=6.3						
CDF	**Champ du Feu**	**146.88**	**360**	*e*PKP1	PKPbc	13 37 10.9	+1.9
	2.3nm,0.6s						
SSF	**Saint Saulge**	**148.10**	**4**	*e*PKP1	PKPdf	13 37 14.5	+5.0
AVF	**Avril sur Loir**	**148.36**	**5**	*e*PKP1	PKPdf	13 37 14.2	+4.3
SMF	**Signal de Mont**	**148.54**	**4**	*e*PKP1	PKPdf	13 37 13.8	+3.6
CABF	**La Chapelle**	**148.67**	**1**	*e*PKP1	PKPdf	13 37 14.3	+3.9
ORIF	**Oris-en-Rattie**	**150.36**	**1**	*e*PKP1	PKPdf	13 37 17.6	+4.4
SMRF	**Simiane la Rot**	**151.29**	**2**	*e*PKP1	PKPdf	13 37 19.9	+5.3

WEL 20 13:18:30.4±0.2, 38.32S×178.73E, h14km±2km, ML3.5/22, 2C-1D, Error ellipse: s-maj=1.5km s-min=1.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**0.45**	**303**	⇑P*	Pb	13 18 39.6	0.0
PUZ				S*	Sb	13 18 46.1	+0.3
MXZ	**Matakaoa Point**	**0.82**	**336**	⇑P*	Pb	13 18 45.6	-0.4
MXZ				S*	Sb	13 18 56.9	+0.2
MWZ	**Matawai**	**0.95**	**269**	P*	Pb	13 18 47.9	-0.3
MWZ				S*	Sb	13 19 00.2	-0.2
KNZ	**Kokohu**	**1.09**	**229**	P*	Pb	13 18 50.3	-0.2
URZ	**Urewera**	**1.28**	**272**	PN	Pn	13 18 53.1	-0.8
URZ				SN	Sn	13 19 10.3	-0.6
BKZ	**Black Stump Fm**	**1.95**	**243**	PN	Pn	13 19 02.7	-0.8
BKZ				SN	Sn	13 19 26.0	-1.9
TGRZ	**Tauranga**	**2.04**	**286**	*e*PN	Pn	13 19 03.2	-1.6
PWZ	**Pawanui**	**2.25**	**220**	PN	Pn	13 19 05.5	-2.2
MOVZ	**Moawhango**	**2.57**	**244**	PN	Pn	13 19 10.9	-1.5
TUVZ	**Tukino**	**2.59**	**247**	PN	Pn	13 19 11.7	-0.9
NGZ	**Ngauruhoe**	**2.59**	**250**	PN	Pn	13 19 11.5	-1.2
CNZ	**Chateau**	**2.64**	**250**	PN	Pn	13 19 12.3	-1.2
WPVZ	**Whakapapa**	**2.65**	**249**	PN	Pn	13 19 12.3	-1.2
WNVZ	**Wahianoa**	**2.65**	**247**	PN	Pn	13 19 12.2	-1.4
TSZ	**Takapari Road**	**2.77**	**230**	⇓PN	Pn	13 19 12.2	-3.1
KUZ	**Kuaotunu**	**2.86**	**302**	*e*PN	Pn	13 19 13.0	-3.6
BFZ	**Birch Farm**	**3.05**	**218**	*e*PN	Pn	13 19 15.4	-3.8
MRZ	**Mangatainoka R**	**3.38**	**225**	PN	Pn	13 19 19.9	-4.0
MRZ				SN	Sn	13 19 58.4	-5.9

IGQ 20 13:36:10.3, 1.18S×81.08W, h5km±27km, mb4.2, 2C, Error ellipse: s-maj=25.9km s-min=3.0km az=175.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**1.00**	**175**	P	Pb	13 36 30.5	+0.7
SALI				S	Sb	13 36 42.1	-1.0
IGUA	**Igualata**	**2.46**	**97**	P	Pn	13 36 52.2	+0.5
IGUA				S	Sn	13 37 25.2	+2.8
CUSU	**Cusua**	**2.61**	**96**	P	Pn	13 36 56.1	+2.2
JUIV	**Juive**	**2.62**	**95**	P	Pn	13 36 55.4	+1.3
ARRY	**Arrayan**	**2.64**	**97**	⇑P	Pn	13 36 54.9	+0.6
RETU	**Refugio**	**2.64**	**96**	P	Pn	13 36 56.0	+1.6
JUA2	**San Juan 2**	**2.65**	**69**	P	Pn	13 36 56.8	+2.3
NAS1	**Nasa**	**2.65**	**78**	P	Pn	13 36 56.9	+2.4
TERV	**Terraza Guagua**	**2.67**	**68**	P	Pn	13 36 57.3	+2.6
TERV				S	Sn	13 37 32.3	+4.5
PINO	**Pino**	**2.67**	**68**	P	Pn	13 36 56.8	+2.0
ULBA	**Ulba**	**2.68**	**96**	P	Pn	13 36 56.3	+1.4
ULBA				S	Sn	13 37 29.3	+1.2
PISA	**Pisayambo**	**2.69**	**87**	P	Pn	13 36 57.4	+2.3
YANA	**Yana**	**2.72**	**67**	P	Pn	13 36 57.0	+1.5
VC1	**Cotopaxi 1**	**2.73**	**79**	P	Pn	13 36 57.3	+1.8
TAMB	**Tambo**	**2.75**	**80**	P	Pn	13 36 57.8	+1.9
ANTI	**Antisana**	**3.00**	**76**	P	Pn	13 37 00.8	+1.3
ANTI				S	Sn	13 37 40.3	+3.9
COTA	**Cotacachi**	**3.12**	**61**	⇑P	Pn	13 37 04.1	+2.9
COTA				S	Sn	13 37 45.1	+5.8
CAYR	**Refugio Cayamb**	**3.29**	**69**	P	Pn	13 37 07.8	+4.2
CAYR				S	Sn	13 37 53.2	+10
CAYA	**Cayambe**	**3.33**	**68**	P	Pn	13 37 08.2	+4.1
ECEN	**Cerro Negro**	**3.69**	**57**	P	Pn	13 37 12.6	+3.4

*NIED **20** 14:14:00, 33.80N×130.10E, h5km, Mw3.6 Best double couple: M0 2.52×10^14 NP1: φs 38°, δ 77°, λ -166°. NP2: φs 305°, δ 76°, λ -14°.*

JMA 20 14:14:14.0, 33.77N×130.08E, h11km±1km, M3.7, 3C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.29**	**275**	⇓P	Pg	14 14 20.0	-0.1
JII				S	Sg	14 14 24.0	-0.2
JFI	**Itaya**	**0.43**	**143**	⇑P	Pg	14 14 22.6	-0.2
JFA	**Akaike**	**0.60**	**95**	P	Pb	14 14 25.7	-0.3
JFA				S	Sb	14 14 34.0	-0.2
JUR	**Ureshino**	**0.68**	**189**	⇑P	Pb	14 14 27.0	-0.5
JUR				S	Sb	14 14 36.0	-0.6
JTA	**Tamana**	**0.89**	**155**	⇑P	Pb	14 14 30.8	-0.2
JTA				S	Sb	14 14 42.6	0.0

IGQ 20 14:31:09.6, 1.40S×81.05W, h12km±37km, mb4.0, Error ellipse: s-maj=38.0km s-min=11.4km az=163.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**2.41**	**92**	P	Pn	14 31 51.0	+1.5
ARRY	**Arrayan**	**2.59**	**92**	P	Pn	14 31 52.7	+0.6
ARRY				S	Sn	14 32 24.9	+1.1
ULBA	**Ulba**	**2.64**	**91**	P	Pn	14 31 54.8	+2.0
NAS1	**Nasa**	**2.68**	**74**	P	Pn	14 31 53.5	+0.2
PISA	**Pisayambo**	**2.68**	**83**	P	Pn	14 31 57.0	+3.6
TERV	**Terraza Guagua**	**2.73**	**64**	P	Pn	14 31 55.9	+1.9
PINO	**Pino**	**2.73**	**63**	P	Pn	14 31 55.3	+1.2
VC1	**Cotopaxi 1**	**2.75**	**74**	P	Pn	14 31 58.3	+4.0
TAMB	**Tambo**	**2.77**	**75**	P	Pn	14 31 57.2	+2.6
YANA	**Yana**	**2.78**	**63**	P	Pn	14 31 55.5	+0.7
ANTI	**Antisana**	**3.04**	**72**	P	Pn	14 32 00.8	+2.4
CAYR	**Refugio Cayamb**	**3.35**	**65**	P	Pn	14 32 06.0	+3.2
CAYA	**Cayambe**	**3.39**	**65**	P	Pn	14 32 07.7	+4.3
ECEN	**Cerro Negro**	**3.79**	**54**	P	Pn	14 32 10.5	+1.5

IGQ 20 14:33:25.2, 3.03S×79.61W, h12km±10km, mb4.3, 2C-4D, Error ellipse: s-maj=12.0km s-min=4.5km az=91.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**1.61**	**301**	P	Pn	14 33 54.4	+0.6
IGUA	**Igualata**	**1.81**	**32**	⇑P	Pn	14 33 57.4	+0.8
IGUA				S	Sn	14 34 18.3	-1.3
ARRY	**Arrayan**	**1.90**	**37**	P	Pn	14 33 58.9	+1.0
CUSU	**Cusua**	**1.94**	**36**	P	Pn	14 34 02.6	+4.2
RETU	**Refugio**	**1.95**	**37**	P	Pn	14 34 01.5	+2.9
RETU				S	Sn	14 34 27.3	+4.1
JUIV	**Juive**	**1.96**	**36**	P	Pn	14 34 01.4	+2.7
ULBA	**Ulba**	**1.97**	**37**	P	Pn	14 34 01.0	+2.1
ULBA				S	Sn	14 34 26.4	+2.7
PISA	**Pisayambo**	**2.31**	**32**	⇓P	Pn	14 34 06.0	+2.3
TAMB	**Tambo**	**2.63**	**28**	P	Pn	14 34 10.9	+2.6
NAS1	**Nasa**	**2.63**	**25**	P	Pn	14 34 11.0	+2.7
NAS1				S	Sn	14 34 43.6	+3.1
VC1	**Cotopaxi 1**	**2.66**	**27**	⇓P	Pn	14 34 11.5	+2.8
ANTI	**Antisana**	**2.94**	**29**	P	Pn	14 34 16.2	+3.5
ANTI				S	Sn	14 34 56.3	+8.0

URZ				S*	S	14 46 56.3	-0.6	
MARZ	**Manawahe**	**1.15**	**24**	P	P	14 46 41.6	-0.3	
MARZ	**Manawahe**	**1.15**	**24**	P*	P	14 46 41.6	-0.3	
PWZ	**Pawanui**	**1.16**	**149**	P	P	14 46 41.4	-0.6	
PWZ	**Pawanui**	**1.16**	**149**	⇓PN	P	14 46 41.4	-0.6	
PWZ				SN	S	14 46 56.8	-0.8	
KNZ	**Kokohu**	**1.24**	**90**	P	P	14 46 42.4	-0.7	
KNZ	**Kokohu**	**1.24**	**90**	PN	P	14 46 42.2	-1.0	
RAEZ	**Rainy Point**	**1.33**	**259**	P	P	14 46 44.2	-0.2	
RAEZ	**Rainy Point**	**1.33**	**259**	PN	P	14 46 44.2	-0.3	
MWZ	**Matawai**	**1.34**	**59**	P	P	14 46 43.9	-0.6	
MWZ	**Matawai**	**1.34**	**59**	P*	P	14 46 43.9	-0.5	
NEZ	**North Egmont**	**1.56**	**261**	⇑PN	P	14 46 47.3	-0.1	
PKE	**Pukeiti**	**1.63**	**264**	P	P	14 46 47.7	-0.7	
PKE	**Pukeiti**	**1.63**	**264**	⇓PN	P	14 46 47.7	-0.7	
PKE				SN	S	14 47 08.1	-0.5	
BFZ	**Birch Farm**	**1.64**	**176**	⇑PN	P	14 46 46.6	-1.9	
MRZ	**Mangatainoka R**	**1.66**	**193**	*e*P	P	14 46 46.6	-2.2	
MRZ	**Mangatainoka R**	**1.66**	**193**	⇑PN	P	14 46 46.6	-2.2	
NRZ	**Ngariki Road**	**1.69**	**259**	P	P	14 46 48.6	-0.6	
NRZ	**Ngariki Road**	**1.69**	**259**	PN	P	14 46 48.4	-0.8	
NWEZ	**Newall Road**	**1.73**	**262**	P	P	14 46 49.2	-0.6	
NWEZ	**Newall Road**	**1.73**	**262**	PN	P	14 46 48.8	-1.0	
PUZ	**Puketiti**	**1.96**	**61**	P	P	14 46 51.6	-1.2	
PUZ	**Puketiti**	**1.96**	**61**	PN	P	14 46 51.6	-1.2	
KIW	**Kapiti Island**	**2.03**	**206**	P	P	14 46 51.0	-2.7	
KIW	**Kapiti Island**	**2.03**	**206**	⇑PN	P	14 46 51.0	-2.7	
MTW	**Mount Morrison**	**2.16**	**192**	⇑PN	P	14 46 52.3	-3.3	
CAW	**Cannon Point**	**2.21**	**200**	P	P	14 46 53.0	-3.2	
CAW	**Cannon Point**	**2.21**	**200**	⇑PN	P	14 46 53.0	-3.2	
MXZ	**Matakaoa Point**	**2.29**	**51**	P	P	14 46 56.5	-1.0	
MXZ	**Matakaoa Point**	**2.29**	**51**	PN	P	14 46 56.4	-1.0	
MSWZ	**Moikau Station**	**2.45**	**195**	P	P	14 46 55.8	-4.0	
WEL	**Wellington**	**2.46**	**204**	P	P	14 46 56.1	-3.7	
SNZO	**South Karori**	**2.50**	**204**	P	P	14 46 56.4	-4.0	
BHW	**Baring Head**	**2.54**	**201**	P	P	14 46 56.9	-4.0	
NNZ	**Nelson**	**3.00**	**223**	*e*P	P	14 47 03.2	-4.2	
BSWZ	**Blackbirch Sta**	**3.15**	**212**	P	P	14 47 05.5	-4.1	
QRZ	**Quartz Range**	**3.26**	**236**	*e*P	P	14 47 06.7	-4.3	
THZ	**Tophouse**	**3.64**	**221**	*e*P	P	14 47 11.8	-4.5	
KHZ	**Kahutara**	**3.88**	**209**	*e*P	P	14 47 14.3	-5.4	
DSZ	**Denniston Nort**	**4.24**	**229**	*e*P	P	14 47 19.0	-5.6	
LTZ	**Lake Taylor**	**4.72**	**216**	*e*P	P	14 47 25.1	-6.2	
MQZ	**McQueen's Vall**	**5.33**	**208**	*e*P	P	14 47 32.3	-7.4	

*IDC **20** 15:13:51.6±1.2,30.85S×177.93W,mb4.4/3,mb1 4.5/5, mb1mx4.3/13,mbtmp4.3/5,ML3.7/2,MS3.5/1,Ms1 3.4/1, ms1mx2.5/17,Error ellipse: s-maj=48.9km s-min=23.6km az=134.0*

*NEIC **20** 15:13:53.9±0.7,30.74S×178.04W,h10km,mb4.7/2,Error ellipse: s-maj=22.0km s-min=14.4km az=107.0*

ISC 20 15:13:55.0±2.4,31.08S±0.07×178.4W±0.2,h17km±18km, n56,σ1°67/61,mb4.5/5,MS3.4/1,3C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**1.87**	**14**	*e*P		**Pn**	**15 14 21.6**	**-5.1**
MXZ	**Matakaoa Point**	**7.01**	**202**	PN		**Pn**	**15 15 40.2**	**+0.6**
MXZ				SN		**Sn**	**15 17 02.7**	**+3.1**
MXZ	**Matakaoa Point**	**7.01**	**202**	PN		**Pn**	**15 15 40.2**	**+0.6**
MXZ				SN		**Sn**	**15 17 02.7**	**+3.1**
PUZ	**Puketiti**	**7.50**	**200**	PN		**Pn**	**15 15 47.1**	**+0.7**
PUZ				SN		**Sn**	**15 17 13.2**	**+1.4**
PUZ	**Puketiti**	**7.50**	**200**	PN		**Pn**	**15 15 47.1**	**+0.7**
PUZ				SN		**Sn**	**15 17 13.2**	**+1.4**
MWZ	**Matawai**	**7.97**	**204**	PN		**P**	**15 15 54.1**	**+1.1**
MWZ				*e*SN		**Sn**	**15 17 28.1**	**+4.5**
MWZ	**Matawai**	**7.97**	**204**	PN		**P**	**15 15 54.1**	**+1.1**
MWZ				*e*SN		**Sn**	**15 17 28.1**	**+4.5**
URZ	**Urewera**	**8.05**	**206**	Pn		**P**	**15 15 55.6**	**+1.5**
URZ	0.8nm,0.3s,baz=192,slow=17,SNR=12			Sn		**Sn**	**15 17 30.9**	**+5.2**
URZ	**Urewera**	**8.05**	**206**	PN		**P**	**15 15 55.6**	**+1.4**
URZ				SN		**Sn**	**15 17 30.2**	**+4.5**
URZ	**Urewera**	**8.05**	**206**	PN		**P**	**15 15 55.6**	**+1.4**
URZ				SN		**Sn**	**15 17 30.2**	**+4.5**
BKZ	**Black Stump Fm**	**9.08**	**206**	PN		**P**	**15 16 08.5**	**+0.1**
BKZ				SN		**Sn**	**15 17 55.4**	**+4.2**
BKZ	**Black Stump Fm**	**9.08**	**206**	PN		**P**	**15 16 08.5**	**+0.1**
BKZ				SN		**Sn**	**15 17 55.4**	**+4.2**
TSZ	**Takapari Road**	**10.06**	**205**	PN		**P**	**15 16 21.6**	**-0.3**
TSZ	**Takapari Road**	**10.06**	**205**	PN		**P**	**15 16 21.6**	**-0.3**
BFZ	**Birch Farm**	**10.51**	**203**	PN		**P**	**15 16 26.9**	**-1.1**
BFZ	**Birch Farm**	**10.51**	**203**	PN		**P**	**15 16 26.9**	**-1.1**
MRZ	**Mangatainoka R**	**10.73**	**205**	PN		**P**	**15 16 27.8**	**-3.2**
MRZ				*e*SN		**S**	**15 18 29.2**	**-2.5**
MRZ	**Mangatainoka R**	**10.73**	**205**	PN		**P**	**15 16 27.8**	**-3.2**
MRZ				*e*SN		**S**	**15 18 29.2**	**-2.5**
KIW	**Kapiti Island**	**11.15**	**207**	SN		**S**	**15 18 40.4**	**-1.7**
KIW	**Kapiti Island**	**11.15**	**207**	SN		**S**	**15 18 40.4**	**-1.7**
NNZ	**Nelson**	**12.09**	**211**	*e*PN		**P**	**15 16 46.8**	**-2.7**
NNZ				*e*SN		**S**	**15 19 01.9**	**-3.0**
NNZ	**Nelson**	**12.09**	**211**	*e*PN		**P**	**15 16 46.8**	**-2.7**
NNZ				*e*SN		**S**	**15 19 01.9**	**-3.0**
THZ	**Tophouse**	**12.74**	**211**	*e*SN		**S**	**15 19 18.3**	**-2.3**
THZ	**Tophouse**	**12.74**	**211**	*e*SN		**S**	**15 19 18.3**	**-2.3**
KHZ	**Kahutara**	**13.01**	**207**	*e*PN		**P**	**15 17 01.0**	**-0.9**
KHZ	**Kahutara**	**13.01**	**207**	*e*PN		**P**	**15 17 01.0**	**-0.9**
DSZ	**Denniston Nort**	**13.23**	**214**	*e*SN		**S**	**15 19 27.9**	**-4.4**
DSZ	**Denniston Nort**	**13.23**	**214**	*e*SN		**S**	**15 19 27.9**	**-4.4**
LTZ	**Lake Taylor**	**13.84**	**210**	*e*SN		**S**	**15 19 40.4**	**-6.6**
LTZ	**Lake Taylor**	**13.84**	**210**	*e*SN		**S**	**15 19 40.4**	**-6.6**
MQZ	**McQueen's Vall**	**14.45**	**207**	*e*SN		**S**	**15 19 51.7**	**-10**
MQZ	**McQueen's Vall**	**14.45**	**207**	*e*SN		**S**	**15 19 51.7**	**-10**
RPZ	**Rata Peaks**	**15.12**	**211**	Pn		**P**	**15 17 30.1**	**+0.7**
RPZ	0.3nm,0.3s,baz=29,slow=10,SNR=2.5			Sn		**S**	**15 20 10.5**	**-6.7**
RPZ	**Rata Peaks**	**15.12**	**211**	Pn		**P**	**15 17 30.1**	**+0.7**
RPZ	0.7nm,0.3s,baz=67,slow=16,SNR=8.6			Sn		**S**	**15 20 10.5**	**-6.7**
TBI	**Tubuai**	**26.83**	**80**	*e*LR		LR	15 25 55.9	
	103nm,27.2s							
PPT	**Papeete**	**29.43**	**70**	*e*LR		LR	15 27 00.9	
	93nm,27.2s							
STKA	**Stephens Creek**	**33.97**	**258**	P		**P**	**15 20 42.8**	**+2.9**
	9.8nm,0.7s,mb4.8,baz=95,slow=9.3,SNR=20							
STKA				LR		LR	15 31 33.9	
	comp=Z,73nm,19.6s,MS3.4,baz=25,slow=31							
STKA	**Stephens Creek**	**33.97**	**258**	*e*P		**P**	**15 20 42.8**	**+3.0**
STKA				LR		LR	15 31 33.9	
ASPA	**Alice Springs**	**42.71**	**268**	*e*P		**P**	**15 21 56.1**	**+3.1**
WB2	**Warramunga Arr**	**43.75**	**273**	*e*P		**P**	**15 22 01.6**	**+0.1**
WRAB	**Tennant Creek**	**43.76**	**273**	*e*P		**P**	**15 22 02.7**	**+1.2**
	5.4nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**43.76**	**273**	P		**P**	**15 22 01.7**	**+0.1**
	3.5nm,0.6s,mb4.2,baz=111,slow=8.1,SNR=55							
QSPA	**South Pole Qui**	**59.03**	**180**	P		**P**	**15 23 55.8**	**-0.1**
	13nm,1.1s,mb4.9							
VNA3	**Neumayer Olymp**	**77.66**	**176**	⇑*i*		**P**	**15 25 53.2**	**+1.6**
VNA3	**Neumayer Olymp**	**77.66**	**176**	⇑*i*		pP	15 26 01.2	+4.2
VNA2	**Neumayer--Watz**	**78.09**	**177**			**P**	**15 25 56.2**	**+2.3**
VNA2	**Neumayer--Watz**	**78.09**	**177**	⇑*i*		pP	15 26 03.2	+3.9
NVAR	**Mina Array Bea**	**88.98**	**43**	P		**P**	**15 26 47.9**	**-2.3**
	0.8nm,0.8s,mb4.1,baz=219,slow=8.1,SNR=6.0							
KAF	**Kangasniemi**	**145.06**	**340**	*e*pkp		PKPdf	15 33 27.0	-7.6
	0.4nm,0.4s,baz=41,slow=3.3							
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc		PKPbc	15 33 29.4	-3.1
	4.1nm,0.5s,baz=56,slow=4.2,SNR=59							
FINES	**FINESS Array B**	**145.65**	**339**	PKPbc		PKPbc	15 33 29.4	-3.1
NB2	**NORSAR Subarra1**	**149.36**	**351**	PKPabc		PKPdf	15 33 40.6	-1.1
	1.1nm,0.6s,baz=13,slow=2.7							
NOA	**NORSAR Array B**	**149.36**	**351**	PKPbc		PKPdf	15 33 40.7	-1.0
	0.4nm,0.6s,baz=69,slow=3.0,SNR=3.8							
NOA	**NORSAR Array B**	**149.36**	**351**	PKPbc		PKPdf	15 33 40.7	-1.0
HFS	**Hagfors**	**149.83**	**348**	PKPbc		PKPdf	15 33 41.3	-1.2
	2.6nm,0.7s,baz=117,slow=3.3,SNR=3.5							
BRTR	**Keskin Array B**	**152.59**	**297**	PKPbc		PKPdf	15 33 50.5	+3.3
	0.6nm,0.6s,baz=56,slow=5.2,SNR=3.1							

DJA 20 15:17:13.4±0.9,8.21S×117.42E,h84km±16km,MD4.7/4, ML4.6/3,1C-3D,Error ellipse: s-maj=58.1km s-min=19.9km az=4.0,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KEDI	**Kedomdong**	**1.33**	**258**	⇓*e*Pn		P	15 17 36.5	-0.7
	905nm,0.2s							
KEDI	**Kedomdong**	**1.33**	**258**	*e*P		P	15 17 37.2	0.0
KEDI				*e*Sn		S	15 17 54.6	-0.2
RATI	**Rata**	**1.94**	**255**	⇓*e*Pn		P	15 17 45.2	0.0
	394nm,0.2s							
RATI				*e*Sn		S	15 18 07.7	-0.9
KELI	**Kelakatan**	**2.90**	**270**	⇑*e*Pn		P	15 17 58.4	-0.2
KELI				*e*Sn		S	15 18 29.5	-3.0
SRDI	**Scrawed**	**3.26**	**265**	⇓*e*Pn		P	15 18 02.8	-0.7
	145nm,0.2s							
SRDI				*e*Sn		S	15 18 39.0	-2.3

MAN 20 15:23:24.0,14.19N×124.27E,h27km,mb4.4,ML3.3, MS3.1,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PVCP	**Virac**	**0.60**	**191**	*e*P		Pb	15 23 35.6	-0.3
PVCP				*e*S		Sb	15 23 44.0	-0.1
AUQP	**San Andres**	**1.77**	**241**	*e*P		Pn	15 23 54.3	+0.9
GQP	**Guinayangan**	**1.79**	**261**	*e*P		Pn	15 23 53.6	0.0
GQP				*e*S		Sn	15 24 15.3	-0.5
MMPH	**Masbate**	**1.93**	**199**	*e*P		Pn	15 23 56.0	+0.4
POLP	**Polilio Island**	**2.32**	**284**	*e*P		Pn	15 24 01.0	-0.2
POLP				*e*S		Sn	15 24 31.1	+2.0
BOAC	**Boac**	**2.47**	**253**	*e*P		Pn	15 24 02.8	-0.6
BOAC				*e*S		Sn	15 24 30.3	-2.6
OTRP	**Odiongan**	**2.85**	**231**	*e*P		Pn	15 24 07.3	-1.4
BALP	**Baler**	**3.02**	**301**	*e*P		Pn	15 24 08.4	-2.9
PCPH	**Palayan**	**3.36**	**294**	*e*P		Pn	15 24 13.6	-2.4
PCPH				*e*S		Sn	15 24 51.5	-3.9
PALP	**Palanan**	**3.36**	**328**	*e*P		Pn	15 24 14.9	-1.1
SJMP	**San Jose**	**3.52**	**241**	*e*P		Pn	15 24 18.7	+0.5
CAUP	**Cauayan**	**3.61**	**320**	*e*P		Pn	15 24 19.0	-0.6
APYP	**Conner**	**4.67**	**322**	*e*P		Pn	15 24 35.2	+0.7

*NIED **20** 15:31:00,33.80N×130.10E,h11km,Mw3.6 Best double couple: M₀2.76×10¹⁴ NP1:φs187°,δ89°,λ-172°. NP2: φs96°,δ82°,λ-1°.*

JMA 20 15:31:36.9,33.76N×130.11E,h14km±1km,M3.8,4C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JII	**Iki**	**0.32**	**277**	⇑P		Pg	15 31 43.5	-0.2
JII				S		Sg	15 31 48.1	-0.1
JFI	**Itaya**	**0.41**	**145**	⇑P		Pb	15 31 44.9	-0.4
JFA	**Akaike**	**0.57**	**95**	⇓P		Pb	15 31 47.8	-0.4
JFA				S		Sb	15 31 55.7	-0.2
JUR	**Ureshino**	**0.68**	**191**	⇑P		Pb	15 31 49.2	-0.2
JUR				S		Sb	15 31 58.8	-0.1
JTA	**Tamana**	**0.87**	**156**	⇑P		Pb	15 31 53.1	-0.2
JTA				S		Sb	15 32 04.4	-0.1

*NIED **20** 15:59:00,33.70N×130.20E,h5km,Mw3.9 Best double couple: M₀7.29×10¹⁴ NP1:φs118°,δ71°,λ26°. NP2:φs19°, δ66°,λ159°.*

JMA 20 15:59:05.3,33.74N×130.25E,h9km±1km,M3.7,1C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JFI	**Itaya**	**0.33**	**160**	P		Pg	15 59 11.8	-0.3
JII	**Iki**	**0.43**	**277**	⇓P		Pg	15 59 14.2	+0.1
JII				S		Sg	15 59 20.4	+0.4
JFA	**Akaike**	**0.46**	**93**	⇓P		Pg	15 59 14.2	-0.3
JTA	**Tamana**	**0.81**	**163**	P		Pb	15 59 20.3	-0.8
JTA				S		Sb	15 59 31.8	-0.1
JTU	**Tsushima**	**1.05**	**318**	⇑P		Pb	15 59 25.4	+0.1

JMA 20 16:00:05.4,33.76N×130.12E,h12km±1km,M3.5,2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JII	**Iki**	**0.33**	**276**	⇓P		Pg	16 00 12.0	-0.2
JII				S		Sg	16 00 16.6	-0.2
JFI	**Itaya**	**0.40**	**146**	⇑P		Pg	16 00 13.4	-0.3
JFI				S		Sg	16 00 19.0	-0.2
JFA	**Akaike**	**0.56**	**95**	P		Pb	16 00 16.2	-0.5
JFA				S		Sb	16 00 24.2	-0.2
JTA	**Tamana**	**0.87**	**156**	⇑P		Pb	16 00 21.7	-0.2
JTA				S		Sb	16 00 33.1	-0.1
JTU	**Tsushima**	**0.97**	**322**	P		Pb	16 00 23.6	0.0
JTU				S		Sb	16 00 36.2	0.0

*IDC **20** 16:18:21.1±2.2,10.72S×163.38E,mb3.9/4,mb1 4.1/4, mb1mx3.9/11,mbtmp3.8/4,MS4.6/1,Ms1 4.6/1, ms1mx3.0/15,Error ellipse: s-maj=103.6km s-min=34.3km az=137.0*

*NEIC **20** 16:18:27.6±1.1,11.35S×163.75E,h50km,mb4.0/2,Error ellipse: s-maj=26.5km s-min=19.0km az=140.0*

ISC 20 16:18:33.7±7.7,11.1S±0.4×163.3E±0.5,h111km±60km, n10,σ0°56/9,mb3.7/6,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**3.66**	**297**	*e*P		**P**	**16 19 29.6**	**0.0**
STKA	**Stephens Creek**	**28.77**	**221**	P		**P**	**16 24 23.5**	**+0.3**
	2.1nm,0.8s,mb3.8,baz=76,slow=7.5,SNR=3.6							
STKA	**Stephens Creek**	**28.77**	**221**	*e*P		**P**	**16 24 23.3**	**+0.1**
WRAB	**Tennant Creek**	**29.17**	**249**	*e*P		**P**	**16 24 27.1**	**+0.1**
	0.8nm,0.5s,mb3.6							
WRA	**Warramunga Arr**	**29.18**	**249**	P		**P**	**16 24 26.8**	**-0.3**
	1.1nm,0.7s,mb3.6,baz=78,slow=9.0,SNR=12							
ASAR	**Alice Springs**	**30.60**	**242**	P		**P**	**16 24 39.5**	**0.0**
	0.7nm,0.8s,mb3.5,baz=74,slow=10.0,SNR=6.8							
RAR	**Rarotonga**	**36.82**	**111**	LR		LR	16 36 48.9	
	comp=Z,901nm,19.8s,baz=164,slow=30							
COLA	**College**	**84.11**	**19**	P		**P**	**16 30 54.1**	**+1.0**
	2.6nm,0.8s,mb4.1							
YKA	**Yellowknife Ar**	**96.14**	**28**	P		**P**	**16 31 48.7**	**-1.0**
	0.1nm,0.4s,mb3.6,baz=263,slow=5.0,SNR=5.0							
YKA	**Yellowknife Ar**	**96.14**	**28**	P		**P**	**16 31 48.7**	**-1.0**

*IDC **20** 16:21:46.7±2.9,5.57N×94.86E,mb3.6/5,mb1 3.7/5, mb1mx3.6/16,mbtmp3.6/5,Error ellipse: s-maj=123.1km s-min=22.4km az=60.0*

ISC 20 16:21:48.9±2.7,5.5N±0.4×94.7E±0.7,h33km,n5,σ0°33/5, mb3.7/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SONM	**Songino Array**	**43.39**	**11**	P		**P**	**16 29 50.0**	**-0.1**
	0.3nm,0.5s,mb3.3,baz=194,slow=9.2,SNR=4.2							
WRA	**Warramunga Arr**	**46.46**	**124**	P		**P**	**16 30 14.8**	**-0.2**
	0.6nm,0.5s,mb3.8,baz=302,slow=9.8,SNR=15							
ASAR	**Alice Springs**	**47.99**	**129**	P		**P**	**16 30 27.2**	**+0.2**
	0.2nm,0.6s,mb3.3,baz=307,slow=6.6,SNR=7.1							
ZAL	**Zalesovo**	**48.99**	**352**	P		**P**	**16 30 34.6**	**+0.3**
	0.9nm,0.2s,mb4.4,baz=319,slow=8.7,SNR=3.7							
BVAR	**Borovoye Array**	**51.42**	**341**	P		**P**	**16 30 52.6**	**-0.2**
	0.3nm,0.2s,mb3.8,baz=144,slow=11,SNR=5.6							

*IDC **20** 16:35:39.0±0.8,4.77N×94.92E,mb4.1/11,mb1 4.2/11, mb1mx4.1/16,mbtmp4.1/11,Error ellipse: s-maj=36.0km s-min=16.1km az=50.0*

*BJI **20** 16:35:41.3,4.60N×94.70E,h30km,mb4.9*

*NEIC **20** 16:35:43.4±0.5,4.63N×94.74E,h30km,mb4.6/4,Error ellipse: s-maj=15.4km s-min=9.0km az=225.0*

ISC 20 16:35:42.1±0.5,4.64N±0.08×94.85E±0.09,h33km,n28, σ0°92/28,mb4.3/21,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.81**	**83**	*e*P		**P**	**16 37 09.6**	**+1.5**
CM31	**Chiang Mai Arr**	**14.31**	**16**	P		**P**	**16 39 06.0**	**+1.6**
	4.1nm,0.6s							
KSM	**Kuching**	**15.75**	**101**	*e*P		**P**	**16 39 27.1**	**+3.8**
JIRN	**Jiri**	**24.34**	**341**	*e*P		**P**	**16 40 59.5**	**+1.3**
	13nm,0.5s,mb4.7							
PKI	**Pulchoki**	**24.52**	**339**	*e*P		**P**	**16 41 00.5**	**+0.6**
	2.3nm,0.3s,mb4.2							
DMN	**Daman**	**24.66**	**339**	*e*P		**P**	**16 41 02.3**	**+1.0**
	12nm,0.8s,mb4.5							
KKN	**Kakani**	**24.77**	**339**	*e*P		**P**	**16 41 02.9**	**+0.6**
	6.1nm,0.6s,mb4.3							
GKN	**Gorkha**	**25.19**	**338**	*e*P		**P**	**16 41 06.7**	**+0.3**
	5.9nm,0.3s,mb4.6							
KOLN	**Koldanda**	**25.38**	**336**	*e*P		**P**	**16 41 08.8**	**+0.6**
	11nm,0.6s,mb4.6							
ENH	**Enshi**	**29.00**	**27**	*e*P		**P**	**16 41 39.2**	**-2.0**
	4.7nm,0.6s,mb4.4							
XAN	**Xi'an**	**32.05**	**22**	P		**P**	**16 42 06.3**	**-1.8**
XAN						AMB	AMB	
	comp=Z,15nm,0.7s,mb4.9							
SONM	**Songino Array**	**44.16**	**11**	P		**P**	**16 43 48.2**	**-1.3**
	comp=Z,0.5nm,0.4s,mb3.6,baz=193,slow=9.4,SNR=8.0							
SONM				PcP		PcP	16 45 33.7	-0.8
	comp=Z,0.4nm,0.5s,baz=187,slow=4.8,SNR=4.3							
WRA	**Warramunga Arr**	**45.85**	**124**	P		**P**	**16 44 03.3**	**-0.1**
	comp=Z,5.4nm,0.7s,mb4.6,baz=301,slow=9.4,SNR=56							
WRAB	**Tennant Creek**	**45.86**	**124**	*e*P		**P**	**16 44 03.3**	**-0.1**
	comp=Z,11nm,1.0s,mb4.8							
WB2	**Warramunga Arr**	**45.86**	**124**	⇑*i*P		**P**	**16 44 03.5**	**0.0**
ASPA	**Alice Springs**	**47.33**	**128**	*e*P		**P**	**16 44 15.0**	**0.0**
ASAR	**Alice Springs**	**47.34**	**128**	P		**P**	**16 44 14.9**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.1,baz=297,slow=7.7,SNR=32							
KURK	**Kurchatov**	**47.90**	**346**	*e*P		**P**	**16 44 18.4**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.2							
ZAL	**Zalesovo**	**49.83**	**352**	P		**P**	**16 44 33.3**	**-0.6**
	comp=Z,2.9nm,0.3s,mb4.8,baz=300,slow=5.0,SNR=12							
BVAR	**Borovoye Array**	**52.26**	**342**	P		**P**	**16 44 51.7**	**-0.6**
	comp=Z,0.8nm,0.3s,mb4.1,baz=140,slow=11,SNR=16							
CHKZ	**Chkalovo**	**52.75**	**342**	*e*P		**P**	**16 44 55.2**	**-0.7**
	comp=Z,41nm,0.6s							
STKA	**Stephens Creek**	**57.39**	**133**	P		**P**	**16 45 29.9**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=315,slow=1.4,SNR=2.9							
STKA	**Stephens Creek**	**57.39**	**133**	P		**P**	**16 45 29.9**	**0.0**
KMBO	**Kilima Mbogo**	**57.83**	**266**	P		**P**	**16 45 34.0**	**+0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=72,slow=18,SNR=3.6							
BRTR	**Keskin Array B**	**65.08**	**312**	P		**P**	**16 46 21.1**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.9,baz=128,slow=8.1,SNR=3.9							
FINES	**FINESS Array B**	**75.89**	**332**	P		**P**	**16 47 26.1**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=98,slow=5.1,SNR=13							
ARCES	**ARCESS Array B**	**78.53**	**340**	P		**P**	**16 47 41.0**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=90,slow=7.3,SNR=5.3							
GERES	**GERESS Array B**	**80.70**	**319**	P		**P**	**16 47 54.6**	**+1.1**
	comp=Z,0.5nm,0.7s,mb3.5,baz=68,slow=5.3,SNR=3.8							

*TAP **20** 16:37:17.9,24.81N×121.93E,h7km±1km,ML2.9*

JMA 20 16:37:17.8±0.4,25.11N×122.08E,h19km,M2.3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YOJ	**Yonaguni jima**	**1.06**	**127**	P		Pb	16 37 37.2	-0.2
YOJ				*e*S		Sb	16 37 51.1	+0.2
IRIF	**Iriomote-Funau**	**1.69**	**117**	P		Pn	16 37 46.6	-0.1
IRIF				*e*S		Sn	16 38 07.2	-0.7
HATJ	**Hateruma jima**	**1.89**	**123**	P		Pn	16 37 49.7	+0.1
HATJ				*e*S		Sn	16 38 15.0	+2.0
JKRS	**Kuro-shima**	**1.96**	**116**	P		Pn	16 37 50.8	+0.2
JKRS				*e*S		Sn	16 38 15.0	+0.2
JIJ	**Ishigaki jima**	**2.02**	**111**	P		Pn	16 37 52.4	+1.0
JIJ				*e*S		Sn	16 38 16.3	0.0

IDC 20 16:53:55.6±26.0,18.42S×173.64W,mb3.8/4,mb1 4.0/4, mb1mx3.7/14,mbtmp3.8/4,Error ellipse: s-maj=478.2km s-min=158.0km az=73.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CTA	**Charters Tower**	**37.84**	**261**	P		P	17 01 14.9	-1.0
	3.3nm,0.9s,baz=74,slow=18,SNR=3.7							
STKA	**Stephens Creek**	**42.39**	**243**	P		P	17

$M_0$7.3×10^{17} NP1:ϕ_s125°,δ86°,λ1°. NP2:ϕ_s35°,δ89°, λ176°. Principal axes: T 7.21, Plg4°, Azm350°; N .11, Plg86°, Azm196°; P -7.32, Plg2°, Azm80°; Energy computed from MT mechanism.

NEIC Felt [IV] on Alor, Indonesia.

IDC ***20*** *17:15:03.3±0.4, 8.00S×124.70E, h25km±2km, mb5.1/19, mb1 5.0/21,mb1mx5.0/22, mbtmp5.2/21, ML4.7/2, MS5.3/14, Ms1 5.3/14, ms1mx5.1/16 Error ellipse: s-maj=17.5km s-min=11.0km az=68.0*

HRVD ***20*** *17:15:04.0±0.1, 7.85S×124.85E, h12km, MW5.8/82, Centroid moment Tensor Solution. LP body waves: s73,c152;Mantle waves: s82,c238; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}0.70±.06; $M_{\theta\theta}$5.00±.05; $M_{\phi\phi}$-5.70±.06; $M_{r\theta}$1.26±.14; $M_{\theta\phi}$-1.24±.06; $M_{\phi r}$-0.40±. 15; Best double couple: $M_0$5.673×10^{17} NP1:ϕ_s51°,δ78°,λ171°. NP2:ϕ_s143°,δ81°,λ12°. Principal axes: T 5.494, Plg15°, Azm7°; N .363, Plg75°, Azm178°; P -5.852, Plg2°, Azm276°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

DJA ***20*** *17:15:04.6±0.2, 7.80S×124.70E, h33km, mb6.0/6 Error ellipse: s-maj=8.0km s-min=4.9km az=173.0*

ISC 20 17:15:02.6±0.2, 7.97S±0.02×124.77E±0.03, h29km, h29km±.7km:pP-P,n513,σ1ºs13/340, mb5.5/99, MS5.4/161, 66C-23D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUG	**Kupang**	**2.45**	**208**	*e*P		**Pn**	**17 15 46.5**	**+5.0**
NINI	**Niniconang**	**6.11**	**305**	*e*P		**Pn**	**17 16 34.2**	**+0.9**
BUNI	**Buntu Taipa**	**6.16**	**314**	*e*P		**Pn**	**17 16 32.5**	**-1.6**
TANI	**Tanete Lipujan**	**7.00**	**310**	*e*P		**Pn**	**17 16 45.8**	**-0.1**
KEDI	**Kedomdong**	**8.58**	**266**	*e*P		**P**	**17 17 09.1**	**+1.1**
KEDI	comp=Z,482nm,0.6s			pmax		pmax		
KEDI	**Kedomdong** comp=Z,482nm,0.6s	**8.58**	**266**	*e*P		**P**	**17 17 09.1**	**+1.1**
KEDI				⇓	*e*P		17 17 13.9	
KEDI	**Kedomdong**	**8.58**	**266**	⇓	*e*P		17 17 13.9	
KAKA	**Kakadu** comp=Z,455nm,0.7s	**8.89**	**123**	*e*P		**P**	**17 17 08.3**	**-3.9**
KAKA					*e*S	**Sn**	**17 18 45.9**	**-6.6**
RATI	**Rata** comp=Z,1μm,0.8s	**9.17**	**265**	⇑	*e*P	**P**	**17 17 16.2**	**+0.1**
FITZ	**Fitzroy Crossi** comp=Z,334nm,0.7s	**10.10**	**175**	⇓	*i*P	**P**	**17 17 25.6**	**-3.4**
FITZ					*e*S	**S**	**17 19 14.6**	**-7.8**
KELI	**Kelakatan** comp=Z,246nm,1.0s	**10.18**	**268**	⇓	*e*P	**P**	**17 17 29.8**	**-0.3**
SRDI	**Scrawed**	**10.53**	**267**	⇑	*e*P	**P**	**17 17 34.6**	**-0.3**
SRDI	comp=Z,125nm,0.7s			pmax		pmax		
SRDI	**Scrawed** comp=Z,250nm,0.7s	**10.53**	**267**	⇑	*e*P	**P**	**17 17 34.6**	**-0.3**
MBWA	**Marble Bar** comp=Z,125nm,1.0s	**13.98**	**200**		*e*P	**P**	**17 18 20.5**	**-0.7**
TSM	**Tawau**	**13.99**	**330**		P	**P**	**17 18 21.3**	**-0.1**
KCP	**Kidapawan**	**14.88**	**1**	⇓	*e*P	**P**	**17 18 32.0**	**-1.0**
MATI	**Mati**	**14.89**	**6**		*e*P	**P**	**17 18 32.2**	**-1.0**
DAV	**Davao City (W)**	**14.96**	**3**	⇓	*e*P	**P**	**17 18 33.2**	**-0.9**
WRAB	**Tennant Creek** comp=Z,2μm,1.0s,SNR=74	**15.08**	**143**		Pn	**P**	**17 18 30.0**	**-5.6**
WRAB	**Tennant Creek**	**15.08**	**143**		*e*P	**P**	**17 18 30.2**	**-5.4**
WRAB	comp=Z,360nm,0.9s				pmax	pmax		
WRAB	**Tennant Creek** comp=Z,356nm,0.9s	**15.08**	**143**		*e*P	**P**	**17 18 30.2**	**-5.4**
WRA	**Warramunga Arr** comp=Z,5.5nm,0.3s,baz=322,slow=13,SNR=302	**15.08**	**143**		Pn	**P**	**17 18 30.0**	**-5.6**
WRA					Sn	**S**	**17 21 08.4**	**-14**
	comp=Z,5.5nm,0.3s,baz=306,slow=23,SNR=5.2							
WB2	**Warramunga Arr**	**15.09**	**143**	⇓	*i*P	**P**	**17 18 30.3**	**-5.4**
WB2					*e*S	**S**	**17 21 12.1**	**-10**
BUKP	**Musuan**	**15.75**	**1**		*e*P	**P**	**17 18 42.7**	**-1.6**
PAGZ	**Pagadian**	**15.78**	**355**		*e*P	**P**	**17 18 45.4**	**+0.8**
IPIL	**Ipil**	**15.81**	**352**		*e*P	**P**	**17 18 46.3**	**+1.3**
CGP	**Cagayan de Oro**	**16.32**	**360**		*e*P	**P**	**17 18 56.2**	**+4.7**
KKM	**Kota Kinabalu**	**16.33**	**328**	⇑	*e*P	**P**	**17 18 52.3**	**+0.6**
KKM	**Kota Kinabalu**	**16.33**	**328**		P	**P**	**17 18 52.8**	**+1.1**
MENI	**Mendum Tagoi**	**16.49**	**72**		*e*P	**P**	**17 18 54.8**	**+1.1**
DCPH	**Dipolog City** comp=Z,271μm,1.6s	**16.51**	**355**	⇓	*e*P	**P**	**17 18 56.3**	**+2.4**
DCPH					*e*S	rx	17 19 41.1	
YOMI	**Yo Moklole**	**16.58**	**72**		*e*P	**P**	**17 18 56.1**	**+1.2**
BUTP	**Butuan**	**16.85**	**3**		*e*P	**P**	**17 18 56.7**	**-1.5**
KSM	**Kuching**	**17.21**	**302**	⇓	*e*P	**P**	**17 19 03.1**	**+0.4**
KSM					*e*		17 19 13.9	
SCPH	**Surigao**	**17.65**	**2**		*e*P	**P**	**17 19 09.3**	**+1.0**
SCPH					*e*S		17 19 18.1	
ASPA	**Alice Springs**	**17.89**	**152**	⇑	*i*P	**P**	**17 19 08.8**	**-2.4**
ASPA					*e*S	**S**	**17 22 18.6**	**-8.4**
ASAR	**Alice Springs** comp=Z,2.3nm,0.3s,baz=329,slow=11,SNR=158	**17.89**	**152**		P	**P**	**17 19 08.8**	**-2.4**
ASAR					S	**S**	**17 22 20.5**	**-6.6**
	comp=Z,6.1nm,0.3s,baz=312,slow=20,SNR=7.8							
ASAR					LR	LR	17 27 24.7	
	comp=Z,16μm,19.8s,baz=323,slow=41							
ASAR	**Alice Springs**	**17.89**	**152**		P	**P**	**17 19 08.8**	**-2.4**
ASAR					S	**S**	**17 22 20.5**	**-6.6**
ASAR					LR	LR	17 27 24.7	
MSLP	**Maasin**	**17.99**	**0**		*e*P	**P**	**17 19 12.8**	**+0.4**
BATP	**Bataraza**	**18.05**	**337**		*e*P	**P**	**17 19 14.6**	**+1.3**
AAP	**Anini-y**	**18.49**	**351**		*e*P	**P**	**17 19 16.0**	**-2.6**
GUIM	**Jordan**	**18.60**	**353**		*e*P	**P**	**17 19 19.8**	**-0.2**
PULI	**Pulasari** comp=Z,220nm,0.7s	**18.72**	**274**	⇑	*e*P	**P**	**17 19 19.8**	**-1.6**
CUYO	**Cuyo Island**	**19.07**	**349**		*e*P	**P**	**17 19 27.0**	**+1.4**
PENI	**Pendagan**	**19.61**	**276**	⇓	*e*P	**P**	**17 19 32.4**	**+0.6**
PENI	comp=Z,108nm,1.0s				pmax	pmax		
PENI	**Pendagan** comp=Z,217nm,1.0s	**19.61**	**276**	⇓	*e*P	**P**	**17 19 32.4**	**+0.6**
ENPP	**El Nido**	**19.78**	**344**		*e*P	**P**	**17 19 34.3**	**+0.7**
MMPH	**Masbate**	**20.23**	**357**		*e*P	**P**	**17 19 44.0**	**+5.7**
CNP	**Catarman**	**20.35**	**360**		*e*P	**P**	**17 19 42.6**	**+3.0**
BUSP	**Coron**	**20.36**	**347**		*e*P	**P**	**17 19 40.7**	**+1.0**
OTRP	**Odiongan**	**20.39**	**352**		*e*P	**P**	**17 19 40.4**	**+0.5**
SJMP	**San Jose**	**20.62**	**350**		*e*P	**P**	**17 19 43.2**	**+0.8**
AUQP	**San Andres**	**21.26**	**354**		*e*P	**P**	**17 19 51.1**	**+2.2**
PVCP	**Virac**	**21.44**	**358**		*e*P	**P**	**17 19 51.8**	**+1.1**
BOAC	**Boac**	**21.49**	**352**		*e*P	**P**	**17 19 52.0**	**+0.8**
LUBP	**Lubang**	**22.03**	**348**		*e*P	**P**	**17 19 58.0**	**+1.4**
LUBP	**Lubang**	**22.03**	**348**		*e*P	**P**	**17 19 57.9**	**+1.2**
PMG	**Port Moresby**	**22.18**	**95**		*e*P	**P**	**17 19 58.6**	**+0.5**
PMG	comp=Z,120nm,0.7s				pmax	pmax		
PMG					MLR	MLR		
	comp=Z,15μm,20.0s							
PMG	**Port Moresby** comp=Z,137nm,1.0s,mb5.3,baz=292,slow=8.7,SNR=16	**22.18**	**95**		P	**P**	**17 19 58.7**	**+0.6**
PMG	**Port Moresby** comp=Z,122nm,0.7s,mb5.4	**22.18**	**95**		*e*P	**P**	**17 19 58.5**	**+0.4**
PMG					LR	LR		
	comp=Z,15μm,20.0s,MS5.4							
POLP	**Polillo Island**	**22.73**	**353**		*e*P	**P**	**17 20 03.5**	**-0.2**
FORT	**Forrest** comp=Z,7μm,0.9s	**22.90**	**173**		*e*P	**P**	**17 20 05.6**	**+0.4**
FORT					*e*S	**S**	**17 24 15.7**	**+7.1**
KGM	**Kluang**	**23.58**	**294**		P	**P**	**17 20 15.7**	**+3.7**
PCPH	**Palayan**	**23.66**	**351**	⇑	*e*P	**P**	**17 20 13.4**	**+0.7**
BALP	**Baler**	**23.77**	**352**		*e*P	**P**	**17 20 14.9**	**+1.1**
CTA	**Charters Tower** comp=Z,82nm,0.8s,mb5.2	**24.03**	**122**	⇓	*i*P	**P**	**17 20 17.8**	**+1.5**
CTA					*e*S	**S**	**17 24 31.5**	**+3.0**
CTA	**Charters Tower**	**24.03**	**122**	⇓	*i*P	**P**	**17 20 17.8**	**+1.5**
CTA					*e*S	**S**	**17 24 31.5**	**+3.0**
CTA	comp=Z,82nm,0.8s				pmax	pmax		
CTA	**Charters Tower** comp=Z,42nm,0.9s,mb4.9,baz=297,slow=12,SNR=26	**24.03**	**122**		P	**P**	**17 20 16.4**	**+0.1**
CTA					LR	LR	17 30 07.8	
	comp=Z,9μm,21.4s,MS5.2,baz=301,slow=38							
CTAO	**Charters Tower**	**24.03**	**122**		P	**P**	**17 20 17.8**	**+1.4**
CTAO					S	**S**	**17 24 34.4**	**+5.9**
CTAO	**Charters Tower**	**24.03**	**122**	⇓	*e*P	**P**	**17 20 17.8**	**+1.5**
CTAO	comp=Z,190nm,1.1s,mb5.4				pmax	pmax		
CTAO					MLR	MLR		
	comp=Z,11μm,19.0s,MS5.3							
CTAO	**Charters Tower** comp=Z,186nm,1.1s,mb5.4	**24.03**	**122**	⇓	*e*P	**P**	**17 20 17.8**	**+1.4**
CTAO					LR	LR		
	comp=Z,11μm,19.0s,MS5.3							
SCZP	**Santa Cruz**	**24.08**	**348**		*e*P	**P**	**17 20 16.3**	**-0.5**
KLBR	**Kellerberrin** comp=Z,1μm,0.9s,mb6.3	**24.39**	**195**		*e*P	**P**	**17 20 20.5**	**+0.8**
CAUP	**Cauayan**	**24.93**	**353**		*e*P	**P**	**17 20 26.8**	**+1.8**
PALP	**Palanan**	**24.98**	**355**		*e*P	**P**	**17 20 26.7**	**+1.2**
MUN	**Mundaring** comp=Z,42nm,0.9s,mb5.0	**25.18**	**197**		*e*P	**P**	**17 20 27.1**	**-0.1**
MUN					*e*S	**S**	**17 24 53.0**	**+5.2**
MUN	**Mundaring**	**25.18**	**197**		*e*P	**P**	**17 20 27.1**	**-0.1**
MUN					*e*S	**S**	**17 24 53.0**	**+5.2**
MUN	comp=Z,42nm,0.9s,mb5.0				pmax	pmax		
CVP	**Callao Caves**	**25.68**	**354**	⇓	*e*P	**P**	**17 20 32.0**	**0.0**
ABRA	**Dolores**	**25.77**	**351**		*e*P	**P**	**17 20 31.9**	**-1.0**
NWAO	**Narrogin (SRO)** comp=Z,24nm,0.7s,baz=23,slow=8.6,SNR=21	**25.80**	**195**		P	**P**	**17 20 32.9**	**-0.1**
NWAO					LR	LR	17 32 38.2	
	comp=Z,77nm,18.6s,baz=240,slow=41							
APYP	**Conner**	**25.90**	**352**		*e*P	**P**	**17 20 33.0**	**-1.2**
IPM	**Ipoh**	**26.77**	**297**		P	**P**	**17 20 43.2**	**+1.1**
KULM	**Kulim**	**27.43**	**298**		*e*P	**P**	**17 20 48.9**	**+0.7**
SNG	**Songkhla** comp=Z,264nm,1.0s,mb5.8	**28.40**	**301**		P	**P**	**17 20 58.0**	**+1.1**
STKA	**Stephens Creek** comp=Z,18nm,0.8s,mb4.8,baz=319,slow=9.3,SNR=20	**28.48**	**149**		P	**P**	**17 20 56.4**	**-1.0**
STKA					LR	LR	17 33 47.5	
	comp=Z,12μm,19.6s,MS5.5,baz=316,slow=40							
STKA	**Stephens Creek**	**28.48**	**149**		*e*P	**P**	**17 20 58.3**	**+0.8**
GUMO	**Guam**	**29.28**	**43**		PFAKE		17 21 20.0	+15
GUMO	comp=Z,3μm,20.0s,MS4.9				LR	LR		
QIZ	**Qiongzhong**	**30.60**	**331**		P	**P**	**17 21 16.3**	**-0.2**
QIZ					AP	pP	17 21 28.4	+3.3
QIZ					S	**S**	**17 26 14.8**	**-0.7**
QIZ	comp=Z,43nm,1.1s,mb5.2				AMB	AMB		
QIZ					AMB	AMB		
	comp=Z,506nm,6.9s							
QIZ					LR	LR		
	comp=N,2μm,15.9s,MS5.1							
QIZ					LR	LR		
	comp=E,2μm,13.8s,MS5.1							
QIZ					LR	LR		
	comp=Z,3μm,16.5s,MS5.1							
QIZ	**Qiongzhong** comp=Z,61nm,1.1s,mb5.3	**30.60**	**331**		*e*P	**P**	**17 21 16.4**	**-0.1**
QIZ					LR	LR		
	comp=Z,4μm,21.0s,MS5.1							
NACB	**Ninganchiao**	**32.10**	**355**		*e*P	**P**	**17 21 27.3**	**-2.3**
NNT	**Nongplab**	**32.19**	**309**		P	**P**	**17 21 31.5**	**+1.0**
KKTK	**Khon Kaen** comp=Z,432nm,0.6s,mb6.5	**32.48**	**318**	⇑	P	**P**	**17 21 34.0**	**+0.9**
YHNB	**Yeheng**	**32.61**	**354**	⇑	*i*P	**P**	**17 21 32.5**	**-1.6**
YHNB					*e*	pP	17 21 40.7	-2.0
GZH	**Guangzhou**	**32.83**	**340**		P	**P**	**17 21 40.8**	**+4.8**
GZH	comp=N,4μm,17.5s,MS5.3				LR	LR		
GZH					LR	LR		
	comp=E,3μm,12.9s,MS5.3							
GZH					LR	LR		
	comp=Z,4μm,27.8s							
TATO	**Taipei**	**32.90**	**355**		PFAKE		17 21 50.0	+13
TATO	comp=Z,3μm,20.0s,MS4.9				LR	LR		
QZH	**Quanzhou**	**33.27**	**350**	⇑	*i*P	**P**	**17 21 39.8**	**0.0**
QZH	comp=Z,360nm,1.2s,mb6.2				AMB	AMB		
QZH					LR	LR		
	comp=N,2μm,9.3s							
QZH					LR	LR		
	comp=E,3μm,10.0s							
QZH					LR	LR		
	comp=Z,8μm,22.0s							
NST	**Nakhon Sawan** comp=Z,58nm,1.1s,mb5.4	**33.88**	**314**	⇓	P	**P**	**17 21 46.0**	**+0.8**
JOW	**Kunigami** comp=Z,95nm,0.9s,mb5.7,baz=173,slow=9.1,SNR=14	**34.76**	**5**		P	**P**	**17 21 52.1**	**-0.6**
JOW					pP	pP	17 21 59.9	-1.5
	comp=Z,70nm,0.9s,baz=177,slow=8.1,SNR=7.9							
JOW					LR	LR	17 36 32.7	
	comp=Z,6μm,20.8s,MS5.3,baz=160,slow=37							
HNR	**Honiara**	**34.79**	**95**		*e*P	**P**	**17 21 51.7**	**-1.4**
HNR	comp=Z,150nm,1.2s,mb5.8				pmax	pmax		
HNR					MLR	MLR		
	comp=Z,4μm,19.0s,MS5.1							
HNR	**Honiara** comp=Z,145nm,1.2s,mb5.8	**34.79**	**95**		*e*P	**P**	**17 21 51.6**	**-1.4**
HNR					LR	LR		
	comp=Z,4μm,19.0s,MS5.1							
CNB	**Canberra Magne** comp=Z,544nm,1.2s,mb6.4	**35.33**	**144**		*e*P	**P**	**17 21 59.3**	**+1.8**
BDT	**Bhumibol Dam** comp=Z,27nm,0.9s,mb5.2	**35.73**	**315**		P	**P**	**17 22 00.0**	**-1.0**
CM31	**Chiang Mai Arr** comp=Z,64nm,0.9s,mb5.5	**36.59**	**316**		*e*P	**P**	**17 22 09.1**	**+0.8**
CHG	**Chiang Mai** comp=Z,88nm,1.0s,mb5.5	**36.84**	**317**	⇑	P	**P**	**17 22 11.4**	**+1.1**
CHG					S	**S**	**17 27 57.5**	**+5.2**
CHRT	**Chiangrai** comp=Z,655nm,0.9s,mb6.5	**37.02**	**319**	⇑	P	**P**	**17 22 13.0**	**+1.1**
GYA	**Guiyang**	**38.48**	**333**	⇑	*i*P	**P**	**17 22 25.3**	**+1.3**
GYA					AP	pP	17 22 33.5	+0.7
GYA					XP	sP	17 22 39.3	+2.9
GYA					PP	PP	17 23 56.8	+1.0
GYA					S	**S**	**17 28 17.4**	**+0.3**
GYA	comp=Z,140nm,1.0s,mb5.7				AMB	AMB		
GYA					AMB	AMB		
	comp=Z,700nm,4.2s							
GYA					LR	LR		
	comp=N,3μm,18.8s,MS5.3							
GYA					LR	LR		
	comp=E,3μm,17.0s,MS5.3							
GYA					LR	LR		
	comp=Z,3μm,19.4s,MS5.2							
CBIJ	**Chichi jima** comp=Z,2μm,21.6s,MS5.0,baz=35,slow=33	**38.73**	**25**		LR	LR	17 36 32.2	
SSE	**Sheshan**	**39.00**	**355**		P	**P**	**17 22 28.8**	**+0.5**
SSE					AP	pP	17 22 37.6	+0.5
SSE					XP	sP	17 22 41.4	+0.7
SSE					PP	PP	17 23 58.8	-3.0
SSE					S	**S**	**17 28 27.1**	**+2.2**
SSE					XS		17 28 42.4	
SSE					SS	SS	17 31 21.5	+12
SSE	comp=Z,65nm,1.2s,mb5.2				AMB	AMB		
SSE					AMB	AMB		
	comp=Z,462nm,6.0s							
SSE					LR	LR		
	comp=N,2μm,18.5s,MS4.9							
SSE					LR	LR		
	comp=E,643nm,18.5s,MS4.9							
SSE					LR	LR		
	comp=Z,2μm,30.6s							
SSE	**Sheshan** comp=Z,65nm,1.2s,mb5.2	**39.00**	**355**		P	**P**	**17 22 28.7**	**+0.4**
SSE					pP	pP	17 22 37.6	+0.5
SSE					sP	sP	17 22 41.4	+0.7
SSE					PP	PP	17 23 58.7	-3.1
SSE					S	**S**	**17 28 27.1**	**+2.2**
SSE					sS		17 28 42.4	
SSE					SS	SS	17 31 21.5	+12
SSE					LR	LR		
	comp=Z,2μm,30.6s,MS4.8							
KMI	**Kunming**	**39.27**	**328**		P	**P**	**17 22 33.0**	**+2.3**
KMI					AP	pP	17 22 43.4	+3.9
KMI					XP	sP	17 22 47.6	+4.5
KMI					S	**S**	**17 28 30.6**	**+1.4**
KMI					XS		17 28 48.3	
KMI	comp=Z,66nm,1.7s,mb5.1				AMB	AMB		
KMI					AMB	AMB		
	comp=Z,694nm,4.8s							
KMI					LR	LR		
	comp=N,3μm,17.5s,MS5.4							
KMI					LR	LR		
	comp=E,4μm,19.6s,MS5.4							
KMI					LR	LR		
	comp=Z,3μm,22.7s,MS5.0							
KMI	**Kunming** comp=Z,66nm,1.7s,mb5.1	**39.27**	**328**		P	**P**	**17 22 33.0**	**+2.3**
KMI					pP	pP	17 22 43.4	+3.9
KMI					sP	sP	17 22 47.6	+4.5
KMI					S	**S**	**17 28 30.6**	**+1.4**
KMI					sS		17 28 48.3	
KMI					SS	SS	17 31 17.0	+1.4
KMI	comp=Z,3μm,22.7s,MS5.0				LR	LR		
WHN	**Wuhan**	**39.58**	**346**	⇑	P	**P**	**17 22 34.5**	**+1.3**
WHN	comp=Z,280nm,1.1s,mb5.9				AMB	AMB		
WHN	comp=Z,2μm,6.2s				AMB	AMB		
WHN					LR	LR		
	comp=Z,6μm,18.2s,MS5.5							
TAU	**Tasmania Unive**	**40.05**	**154**		*e*P	**P**	**17 22 38.9**	**+2.0**
TAU	comp=Z,23nm,0.8s,mb5.0				pmax	pmax		
TAU	comp=Z,3μm,20.0s,MS5.1				MLR	MLR		
TAU	**Tasmania Unive** comp=Z,23nm,0.8s,mb5.0	**40.05**	**154**		*e*P	**P**	**17 22 38.9**	**+2.0**
TAU	comp=Z,3μm,20.0s,MS5.1				LR	LR		
NJ2	**Nanjing**	**40.20**	**352**		*e*P	**P**	**17 22 39.1**	**+0.8**
NJ2					AP	pP	17 22 50.3	+3.3
NJ2					XP	sP	17 22 53.0	+2.4
NJ2					PP	PP	17 24 15.3	+1.0
NJ2					S	**S**	**17 28 44.0**	**+1.0**
NJ2					XS		17 29 01.0	
NJ2	comp=Z,470nm,0.7s,mb6.3				AMB	AMB		
NJ2					AMB	AMB		
	comp=Z,330nm,4.8s							
NJ2					LR	LR		
	comp=N,7μm,17.5s,MS5.6							
NJ2					LR	LR		
	comp=E,2μm,16.8s,MS5.6							
NJ2					LR	LR		
	comp=Z,3μm,18.3s,MS5.2							
ENH	**Enshi** comp=Z,119nm,0.9s,mb5.5	**40.76**	**340**	⇑	*i*P	**P**	**17 22 43.4**	**+0.5**
ENH					LR	LR		
	comp=Z,3μm,22.0s,MS5.0							
NOUC	**Port Laguerre**	**42.34**	**114**		*e*P	**P**	**17 22 55.5**	**-0.5**
NOUC	**Port Laguerre**	**42.34**	**114**		*e*P	**P**	**17 22 55.5**	**-0.5**
DZM	**Mont Dzumac**	**42.46**	**114**		*e*P	**P**	**17 22 57.5**	**+0.5**
DZM	**Mont Dzumac**	**42.46**	**114**		*e*P	**P**	**17 22 57.5**	**+0.5**
JHJ	**Hachijo jima 2** comp=Z,4μm,20.8s,MS5.3,baz=215,slow=33	**43.29**	**18**		LR	LR	17 38 44.4	
CD2	**Chengdu**	**43.59**	**333**	⇑	*i*P	**P**	**17 23 06.3**	**+0.2**
CD2	comp=Z,139nm,1.0s,mb5.6				AMB	AMB		
XAN	**Xi'an**	**44.40**	**341**		P	**P**	**17 23 11.9**	**-0.8**
XAN					AP	pP	17 23 21.3	-0.1
XAN					S	**S**	**17 29 41.5**	**-3.3**
XAN					SS	SS	17 33 03.3	+7.7
XAN	comp=Z,99nm,1.0s,mb5.5				AMB	AMB		
XAN					AMB	AMB		
	comp=Z,381nm,10.0s							
XAN					LR	LR		
	comp=N,3μm,19.6s							
XAN					LR	LR		
	comp=Z,3μm,19.6s,MS5.2							
TIA	**Tai'an**	**44.53**	**351**	⇑	P	**P**	**17 23 12.3**	**-1.4**
TIA					PP	PP	17 24 59.0	+0.3
TIA					S	**S**	**17 29 43.5**	**-3.2**
TIA	comp=Z,57nm,1.2s,mb5.3				AMB	AMB		
TIA					LR	LR		
	comp=N,1μm,18.0s,MS5.1							
TIA					LR	LR		
	comp=E,2μm,18.0s,MS5.1							
INCN	**Inchon** comp=E,10nm,0.5s,mb4.9	**45.25**	**2**		*e*P	**P**	**17 23 18.5**	**-0.9**
INCN					LR	LR		
	comp=Z,3μm,22.0s,MS5.1							
KS15	**Wonju Array Si**	**45.27**	**3**		*e*P	**P**	**17 23 19.8**	**+0.2**
KS15					*e*	pP	17 23 29.4	+1.1
AGT	**Agartala**	**45.54**	**315**		*i* P	**P**	**17 23 22.0**	**+0.1**
AGT					*i*		17 24 20.0	
KWAJ	**Kwajalein Atol**	**45.83**	**70**		PFAKE		17 23 40.0	+16
KWAJ	comp=Z,604nm,19.0s,MS4.6				LR	LR		
MAJO	**Matsushiro**	**46.04**	**15**		*e*P	**P**	**17 23 24.9**	**-0.8**
MAJO					*e**PP	pP	17 23 32.8	-1.6
MAJO	comp=Z,170nm,1.4s,mb5.8				pmax	pmax		
MAJO					MLR	MLR		
	comp=Z,2μm,21.0s,MS4.9							
MAJO	**Matsushiro** comp=Z,174nm,1.4s,mb5.8	**46.04**	**15**		*e*P	**P**	**17 23 24.9**	**-0.8**
MAJO					*e*pP	pP	17 23 32.8	-1.7
MAJO	comp=Z,2μm,21.0s,MS5.0				LR	LR		
MAT	**Matsushiro**	**46.04**	**15**		*e*P	**P**	**17 23 24.0**	**-1.7**
MAT					*e*S	**S**	**17 30 08.0**	**-0.3**
MAT	comp=Z,677nm,2.2s,mb6.2				pmax	pmax		
MAT					MLR	MLR		
	comp=Z,4μm,22.0s,MS5.3							
MAT	**Matsushiro** comp=Z,677nm,2.2s,mb6.2	**46.04**	**15**		*e*P	**P**	**17 23 24.0**	**-1.7**
MAT					*e*S	**S**	**17 30 08.0**	**-0.3**
MAT					LR	LR		
	comp=Z,4μm,22.0s,MS5.3							
MAT	**Matsushiro**	**46.04**	**15**		P	**P**	**17 23 23.6**	**-2.1**
MAT					S	**S**	**17 30 07.0**	**-1.3**
DL2	**Dalian**	**46.73**	**357**	⇑	*i*P	**P**	**17 23 30.4**	**-0.6**
DL2					S	**S**	**17 30 16.3**	**-1.8**
DL2	comp=Z,150nm,1.1s,mb5.8				AMB	AMB		
DL2					AMB	AMB		
	comp=Z,340nm,9.5s							
DL2					LR	LR		
	comp=N,800nm,18.0s,MS4.8							
DL2					LR	LR		
	comp=E,510nm,20.4s,MS4.8							
DL2					LR	LR		
	comp=Z,930nm,34.5s							
CAL	**Calcutta**	**46.83**	**311**		*e*P	**P**	**17 23 34.5**	**+2.4**
CAL					*e*		17 30 24.2	
TIY	**Taiyuan**	**46.89**	**347**	⇑	P	**P**	**17 23 35.0**	**+2.7**
TIY					S	**S**	**17 30 17.0**	**-3.4**
TIY	comp=N,1μm,15.0s				LR	LR		
TIY					LR	LR		
	comp=Z,469nm,10.0s,MS4.8							
BWNR	**Bhubaneshwar**	**47.52**	**307**		*e*P	**P**	**17 23 37.4**	**-0.1**
BWNR					*e*		17 23 40.3	
	comp=Z,98nm,1.5s							
LZH	**Lanzhou**	**48.04**	**337**	⇑	*i*P	**P**	**17 23 42.0**	**+0.6**
LZH					AP	pP	17 23 50.1	-0.2
LZH					XP	sP	17 23 53.3	-0.5
LZH					PP	PP	17

VIS e 17 46 15.6
comp=Z,5μm,20.9s
BJT Baijiatuau 48.41 351 eP **P** **17 23 43.1 -1.1**
BJT e*PP pP 17 23 52.3 -0.8
BJT pmax pmax
comp=Z,110nm,1.2s
BJT MLR MLR
comp=Z,3μm,20.0s
BJT Baijiatuau 48.41 351 eP **P** **17 23 43.1 -1.0**
comp=Z,110nm,1.2s,mb5.8
BJT epP pP 17 23 52.3 -0.7
BJT LR LR
comp=Z,3μm,20.0s,MS5.3
BJI Beijing 48.43 351 eP **P** **17 23 43.3 -1.0**
BJI AP pP 17 23 52.9 -0.3
BJI XP sP 17 23 56.6 -0.1
BJI PP PP 17 25 37.0 +0.4
BJI S **S** **17 30 48.1 +6.0**
BJI XS 17 31 07.8
BJI AMB AMB
comp=Z,87nm,1.1s,mb5.7
BJI AMB AMB
comp=Z,731nm,4.5s
BJI LR LR
comp=N,2μm,19.4s,MS5.2
BJI LR LR
comp=E,1μm,15.7s,MS5.2
BJI LR LR
comp=Z,3μm,21.5s
BJI Beijing 48.43 351 eP **P** **17 23 43.3 -1.0**
comp=Z,87nm,1.1s,mb5.7
BJI pP pP 17 23 52.9 -0.3
BJI sP sP 17 23 56.6 -0.1
BJI PP PP 17 25 37.0 +0.4
BJI S **S** **17 30 48.1 +6.0**
BJI sS 17 31 07.8
BJI SS SS 17 34 34.6 +28
BJI LR LR
comp=Z,3μm,21.5s,MS5.2
MDRS Chennai 48.92 295 eP **P** **17 23 49.0 +0.6**
MDRS e 17 30 49.0
WAKE Wake Island 49.36 56 PFAKE 17 24 00.0 +8.2
WAKE LR LR
comp=Z,36μm,20.0s,MS6.4
LSA Lhasa 49.48 321 P **P** **17 23 53.6 +1.0**
LSA AP pP 17 24 04.1 +2.6
LSA XP sP 17 24 08.3 +3.3
LSA PCP PcP 17 25 12.8 -1.8
LSA PP PP 17 25 48.1 +0.8
LSA SCP 17 29 05.6
LSA PCS 17 29 09.8
LSA S **S** **17 30 53.8 -3.1**
LSA XS 17 31 18.8
LSA SCS ScS 17 33 40.1 +0.9
LSA SS SS 17 34 34.1 +9.1
LSA AMB AMB
comp=Z,80nm,1.2s,mb5.6
LSA AMB AMB
comp=Z,470nm,5.7s
LSA LR LR
comp=N,2μm,34.5s
LSA LR LR
comp=E,3μm,28.2s
LSA LR LR
comp=Z,3μm,23.0s
LSA Lhasa 49.48 321⇑ *i*P **P** **17 23 53.7 +1.1**
LSA pmax pmax
comp=Z,110nm,1.1s,mb5.8
LSA MLR MLR
comp=Z,2μm,21.0s,MS5.2
LSA Lhasa 49.48 321⇑ *i*P **P** **17 23 53.7 +1.1**
comp=Z,108nm,1.1s,mb5.8
LSA LR LR
comp=Z,2μm,21.0s,MS5.2
SNY Shenyang 49.57 359⇑ *i*P **P** **17 23 50.5 -2.6**
SNY AP pP 17 24 00.8 -1.2
SNY XP sP 17 24 04.1 -1.4
SNY PP PP 17 25 45.3 -2.7
SNY AMB AMB
comp=Z,40nm,1.0s,mb5.4
SNY AMB AMB
comp=Z,360nm,11.0s
SNY LR LR
comp=N,2μm,20.1s
SNY LR LR
comp=E,1μm,25.5s
SNY LR LR
comp=Z,3μm,19.0s,MS5.3
HHC Hu-ho-hao-te 50.08 347 eP **P** **17 23 56.6 -0.4**
HHC AP pP 17 24 05.3 -0.7
HHC XP sP 17 24 10.0 +0.6
HHC PCP PcP 17 25 15.8 -0.9
HHC PP PP 17 25 50.3 -2.7
HHC S **S** **17 31 05.1 0.0**
HHC PS PS 17 31 18.6 +1.4
HHC XS 17 31 21.6
HHC SCS ScS 17 33 39.8 -3.2
HHC AMB AMB
comp=Z,52nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,626nm,8.3s
HHC LR LR
comp=N,1μm,20.8s,MS5.1
HHC LR LR
comp=E,1μm,17.8s,MS5.1
HHC LR LR
comp=Z,2μm,29.7s
BTO Baotou 50.21 345 eP **P** **17 23 56.5 -1.6**
BTO AMB AMB
comp=Z,26nm,1.8s,mb5.0
TRD Trivandrum 50.38 288 eP **P** **17 23 56.6 -3.0**
TRD e 17 24 02.8
comp=Z,47nm,1.1s
VLA Vladivostok 51.26 7 *d* iP **P** **17 24 06.0 0.0**
VLA *i* 17 24 21.0
VLA e 17 26 07.0
VLA eS **S** **17 31 25.0 +3.7**
VLA eSS SS 17 34 53.0 -1.8
VLA pmax pmax
comp=Z,600nm,6.0s
VLA pmax pmax
comp=Z,500nm,7.0s
VLA smax
comp=E,1μm,14.0s
VLA MLR MLR
comp=Z,2μm,19.0s,MS5.0
VLA MLR MLR
comp=E,600nm,15.0s
BLSP Bilaspur 51.39 307 eP **P** **17 24 06.0 -1.2**
BLSP e 17 24 08.4
comp=Z,111nm,1.1s
JIRN Jiri 51.45 315⇑ *i*P **P** **17 24 07.8 +0.2**
comp=Z,376nm,1.1s,mb6.2
CN2 Changchun 51.53 1 eP **P** **17 24 06.5 -1.5**
CN2 eXP sP 17 24 18.4 -2.0
CN2 eS **S** **17 31 25.1 0.0**
CN2 AMB AMB
comp=Z,30nm,1.2s,mb5.1
CN2 AMB AMB
comp=Z,600nm,7.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.3
CN2 LR LR
comp=E,2μm,18.0s,MS5.3
CN2 LR LR
comp=Z,2μm,19.0s,MS5.1
DGAR Diego Garcia 51.82 267 PFAKE 17 24 20.0 +9.4
DGAR LR LR
comp=Z,1μm,20.0s,MS4.9
PKI Pulchoki 51.95 314⇑ *i*P **P** **17 24 11.3 -0.1**
comp=Z,218nm,1.1s,mb6.0
HYB Hyderabad 52.17 299⇑ eP **P** **17 24 12.0 -1.2**
HYB eS **S** **17 31 32.0 -2.2**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.5
HYB Hyderabad 52.17 299⇑ eP **P** **17 24 12.0 -1.2**
comp=Z,70nm,1.0s,mb5.5
HYB eS **S** **17 31 32.0 -2.2**
HYB Hyderabad 52.17 299⇑ *i*P **P** **17 24 12.0 -1.2**
comp=Z,70nm,1.0s,mb5.5
HYB esP sP 17 24 26.0 +0.4
HYB eS **S** **17 31 32.0 -2.2**
HYB LR LR
comp=Z,6.3nm,20.0s
KKN Kakani 52.17 314⇑ *i*P **P** **17 24 12.9 -0.2**
comp=Z,361nm,1.1s,mb6.2
DMN Daman 52.19 314⇑ *i*P **P** **17 24 13.1 -0.1**
comp=Z,335nm,1.1s,mb6.2
JCZ Jackson Bay 52.47 141 PN **P** **17 24 17.4 +2.3**
GTA Gaotai 52.52 336⇑ P **P** **17 24 15.8 +0.3**
GTA AP pP 17 24 25.5 +1.1
GTA XP sP 17 24 29.5 +1.6
GTA AMB AMB
comp=Z,114nm,0.9s,mb5.8
GTA AMB AMB
comp=Z,680nm,6.9s
GTA LR LR
comp=N,1μm,25.2s,MS5.0
GTA LR LR
comp=E,1μm,21.8s,MS5.0
GTA LR LR
comp=Z,1μm,16.0s
ERM Erimo 52.52 17 PFAKE 17 24 30.0 +15
ERM LR LR
comp=Z,3.0nm,19.0s
MDJ Mudanjiang 52.52 4 P **P** **17 24 14.8 -0.7**
MDJ AP pP 17 24 20.8 -3.6
MDJ XP sP 17 24 23.8 -4.1
MDJ PCP PcP 17 25 25.8 +0.2
MDJ PP PP 17 26 14.6 -0.9
MDJ SCP 17 29 19.4
MDJ PCS 17 29 23.8
MDJ S **S** **17 31 43.3 +4.7**
MDJ SS SS 17 35 16.8 +1.3
MDJ AMB AMB
comp=Z,167nm,1.1s,mb5.9
MDJ AMB AMB
comp=Z,622nm,4.6s
MDJ LR LR
comp=N,2μm,25.5s,MS5.1
MDJ LR LR
comp=E,964nm,23.2s,MS5.1
MDJ LR LR
comp=Z,3μm,20.3s,MS5.3
MDJ Mudanjiang 52.52 4⇑ eP **P** **17 24 15.1 -0.4**
comp=Z,209nm,1.2s,mb5.9
MDJ epP pP 17 24 23.3 -1.1
MDJ LR LR
comp=Z,3μm,21.0s,MS5.3
GKN Gorkha 52.75 314⇑ *i*P **P** **17 24 17.2 -0.3**
comp=Z,382nm,1.1s,mb6.3
KOLN Koldanda 53.36 313⇑ *i*P **P** **17 24 21.8 -0.1**
comp=Z,278nm,1.0s,mb6.2
RPZ Rata Peaks 53.76 139 P **P** **17 24 25.2 +0.7**
comp=Z,58nm,0.8s,mb5.6,baz=228,slow=3.3,SNR=42
RPZ LR LR 17 49 06.7
comp=Z,6μm,18.0s,MS5.7,baz=298,slow=38
RPZ Rata Peaks 53.76 139 P **P** **17 24 25.2 +0.7**
RPZ LR LR 17 49 06.7
RPZ Rata Peaks 53.76 139 PN **P** **17 24 26.4 +1.8**
MNGI Mangalore 53.79 292 *i* P **P** **17 24 24.7 -0.5**
ASAJ Asahikawa 54.30 16 P **P** **17 24 29.0 +0.5**
comp=Z,97nm,1.0s,mb5.7,baz=236,slow=13,SNR=25
ASAJ pP pP 17 24 36.8 -0.7
comp=Z,45nm,0.8s,baz=291,slow=33,SNR=6.8
ASAJ LR LR 17 46 22.0
comp=Z,3μm,21.4s,MS5.3,baz=338,slow=35
KHZ Kahutara 54.83 137 PN **P** **17 24 33.6 +1.1**
SNZO South Karori 55.19 135 eP **P** **17 24 35.1 -0.1**
comp=Z,79nm,1.0s,mb5.7
SNZO LR LR
comp=Z,6μm,20.0s,MS5.7
GOA Goa 55.59 295 *i* P **P** **17 24 38.9 +0.5**
GOA *i* S **S** **17 32 13.8 -6.5**
BKZ Black Stump Fm 55.69 132 PN **P** **17 24 39.5 +0.7**
BHPL Bhopal 55.72 305 eP **P** **17 24 37.3 -1.9**
BHPL e 17 24 40.2
comp=Z,55nm,1.8s
BHPL eS **S** **17 32 16.2 -5.8**
BHPL e 17 50 43.4
comp=Z,3μm,17.8s
URZ Urewera 55.85 131 P **P** **17 24 39.8 -0.1**
comp=Z,24nm,1.0s,mb5.2,baz=261,slow=3.8,SNR=7.5
URZ LR LR 17 48 03.6
comp=Z,6μm,21.8s,MS5.7,baz=70,slow=35
URZ Urewera 55.85 131 P **P** **17 24 39.8 -0.1**
URZ LR LR 17 48 03.6
URZ Urewera 55.85 131 PN **P** **17 24 40.5 +0.6**
KAD Karad 55.95 297 eP **P** **17 24 38.6 -2.3**
KAD e 17 24 41.4
comp=Z,97nm,1.1s
MWZ Matawai 56.19 131 PN **P** **17 24 43.2 +0.9**
POO Poona 56.71 298 eP **P** **17 24 44.8 -1.5**
POO e 17 24 46.8
comp=Z,47nm,1.0s
LGTI Lohaghat 56.73 313⇓ *i*P **P** **17 24 46.0 -0.4**
YSS Yuzh-Sakhalins 56.98 15 eP **P** **17 24 47.0 -0.9**
YSS pmax pmax
comp=Z,150nm,1.4s,mb5.8
YSS MLR MLR
comp=Z,2μm,20.0s,MS5.3
YSS Yuzh-Sakhalins 56.98 15 eP **P** **17 24 47.0 -0.9**
comp=Z,154nm,1.4s,mb5.8
YSS LR LR
comp=Z,2μm,20.0s,MS5.3
HIA Hailar 57.17 356⇑ *i*P **P** **17 24 48.4 -0.8**
HIA e*PP pP 17 24 57.5 -0.7
HIA pmax pmax
comp=Z,140nm,1.2s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 57.17 356⇑ *i*P **P** **17 24 48.4 -0.8**
comp=Z,142nm,1.2s,mb5.9
HIA epP pP 17 24 57.5 -0.7
HIA LR LR
comp=Z,2μm,19.0s,MS5.3
KLR Kul'dur 57.29 5⇓ *i*P **P** **17 24 46.0 -4.1**
KLR pmax pmax
comp=E,54nm,2.0s
KLR pmax pmax
comp=Z,85nm,2.0s,mb5.4
KLR MLR MLR
comp=E,1μm,17.0s
RAO Raoul Island 57.69 120 PFAKE 17 25 00.0 +6.8
RAO LR LR
comp=Z,5μm,21.0s,MS5.6
BOM Bombay 57.76 298 *e* P **P** **17 24 45.5 -8.3**
BOM eS **S** **17 32 40.9 -8.0**
ULN Ulaanbaatar 57.76 346⇑ eP **P** **17 24 52.8 -0.6**
ULN e*PP pP 17 25 01.6 -0.8
ULN pmax pmax
comp=Z,91nm,1.1s,mb5.7
ULN MLR MLR
comp=Z,2μm,21.0s,MS5.2
ULN Ulaanbaatar 57.76 346⇑ eP **P** **17 24 52.8 -0.6**
comp=Z,91nm,1.1s,mb5.7
ULN epP pP 17 25 01.6 -0.8
ULN LR LR
comp=Z,2μm,21.0s,MS5.2
SONM Songino Array 57.89 345 P **P** **17 24 53.7 -0.6**
comp=Z,38nm,0.9s,mb5.4,baz=162,slow=8.4,SNR=250
SONM pP pP 17 25 02.2 -1.2
comp=Z,18nm,0.9s,baz=164,slow=8.0,SNR=9.0
SONA Sohna 58.44 310 eP **P** **17 24 57.3 -1.1**
SONA e 17 24 58.5
comp=Z,72nm,0.9s
AYAN Aya Nagar 58.53 310 eP **P** **17 24 57.4 -1.6**
AYAN e 17 24 59.9
comp=Z,33nm,1.0s
NDI New Delhi 58.56 311 eP **P** **17 24 55.5 -3.8**
NDI eS **S** **17 32 55.0 -4.4**
CASY Casey 59.04 187 PFAKE 17 25 10.0 +7.9
CASY LR LR
comp=Z,6μm,21.0s,MS5.7
KLP Kalpa 59.32 314 eP **P** **17 25 04.5 0.0**
KLP e 17 25 10.6
comp=Z,383nm,1.4s
AJM Ajmer 59.47 307 *e* P **P** **17 25 01.0 -4.6**
DRV Dumont d'Urvil 59.53 173 S **S** **17 33 20.0 +8.5**
DRV L 17 39 00.0
SMLA Simla 59.88 313 *i* P **P** **17 25 06.3 -2.0**
SMLA *i* 17 33 03.5
SDNR Sundarnagar 60.22 313 *i* P **P** **17 25 10.9 +0.2**
BHK Bhakra 60.58 313 eP **P** **17 25 15.1 +2.0**
BHK e 17 33 27.7
ZAK Zakamensk 61.04 344⇓ eP **P** **17 25 14.7 -1.3**
ZAK pmax pmax
comp=Z,21nm,1.1s,mb5.2
PONG Pong 61.20 313 eP **P** **17 25 16.0 -1.3**
WMQ Urumqi 61.52 330⇑ *i*P **P** **17 25 19.3 0.0**
WMQ XP sP 17 25 30.0 -1.7
WMQ PCP PcP 17 26 01.0 +0.3
WMQ PP PP 17 27 37.0 +0.1
WMQ PPP PPP 17 29 06.0 +0.6
WMQ PCS 17 30 00.0
WMQ S **S** **17 33 38.0 +0.9**
WMQ PS PS 17 33 56.0 -1.1
WMQ SCS ScS 17 35 05.0 +0.2
WMQ AMB AMB
comp=Z,59nm,1.4s,mb5.5
WMQ AMB AMB
comp=Z,698nm,3.8s
WMQ LR LR
comp=N,4μm,16.1s,MS5.7
WMQ LR LR
comp=E,4μm,21.0s,MS5.7
WMQ LR LR
comp=Z,4μm,23.0s,MS5.5
TLY Talaya 62.13 345⇑ *i*P **P** **17 25 22.6 -0.8**
TLY e*PP pP 17 25 31.1 -1.4
TLY pmax pmax
comp=Z,35nm,1.0s,mb5.4
TLY MLR MLR
comp=Z,300nm,19.0s,MS4.5
TLY Talaya 62.13 345⇑ *i*P **P** **17 25 22.6 -0.8**
comp=Z,35nm,1.0s,mb5.4
TLY epP pP 17 25 31.1 -1.4
TLY LR LR
comp=Z,299nm,19.0s,MS4.5
BHJ Bhuj 62.17 301 eP **P** **17 25 22.7 -1.2**
BHJ e 17 25 26.9
comp=Z,81nm,1.0s
MIR Mirnyy 62.40 194 eP **P** **17 25 24.0 -0.9**
MIR e 17 25 36.0
MIR pmax pmax
comp=Z,60nm,16.0s
MIR MLR MLR
comp=N,1μm,19.0s,MS5.2
MIR MLR MLR
comp=E,950nm,19.0s,MS5.2
MIR MLR MLR
comp=Z,6μm,19.0s,MS5.8
AFI Afiamalu 62.43 102 PFAKE 17 25 40.0 +14
AFI LR LR
comp=Z,4μm,20.0s,MS5.5
IRK Irkutsk 62.50 346 eP **P** **17 25 24.6 -1.1**
IRK pmax pmax
comp=Z,72nm,2.1s,mb5.4
MOY Mondy 62.83 344 eP **P** **17 25 27.5 -0.4**
MOY pmax pmax
comp=Z,112nm,2.3s,mb5.6
SKR Severo-Kuril's 64.42 22 eP **P** **17 25 35.2 -3.2**
SKR e 17 26 05.0
SKR eS **S** **17 34 19.0 +5.6**
SKR ePS PS 17 34 28.0 -9.0
SKR eSS SS 17 38 22.8 -2.4
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR pmax pmax
comp=N,640nm,1.5s
SKR pmax pmax
comp=E,220nm,1.0s
SKR smax
comp=E,4μm,10.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.7
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.5
SKR MLR MLR
comp=E,2μm,16.0s,MS5.7
CLNS Chul'man 64.58 0 eP **P** **17 25 34.2 -5.1**
CLNS e*PP pP 17 25 48.6 +0.2
CLNS e 17 26 06.7
CLNS eS **S** **17 34 07.2 -8.1**
CLNS e 17 34 52.6
CLNS pmax pmax
comp=Z,68nm,1.1s,mb5.6
CLNS pmax pmax
comp=N,49nm,1.2s
CLNS pmax pmax
comp=E,14nm,1.0s
CLNS pmax pmax
comp=Z,14nm,1.1s,mb4.9
CLNS pmax pmax
comp=N,13nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS smax
comp=N,341nm,10.6s
CLNS smax
comp=Z,217nm,10.4s
CLNS smax
comp=E,74nm,10.7s
KSH Kashi 65.33 320⇑ *i*P **P** **17 25 45.3 +0.8**
KSH AP pP 17 25 55.3 +1.7
KSH XP sP 17 25 57.6 +0.7
KSH PCP PcP 17 26 18.5 +2.1
KSH PP PP 17 28 11.9 +1.5
KSH PCS 17 30 20.6
KSH S S 17 34 25.5 +0.7
KSH SCS ScS 17 35 36.8 +3.0
KSH SS SS 17 38 43.3 +3.6
KSH LR LR
comp=N,940nm,7.7s
KSH LR LR
comp=E,890nm,7.6s
BOD Bodaibo 66.15 354 eP **P** **17 25 48.7 -0.7**
BOD pmax pmax
comp=Z,88nm,1.0s,mb5.7
MKAR Makanchi Array 66.31 330 *i* P **P** **17 25 50.2 -0.4**
MKAR pmax pmax
comp=Z,155nm,1.1s
ULHL Ulahol 66.75 323 P **P** **17 25 53.8 +0.3**
SNR=30
AAA Alma-Ata 66.94 324 eP **P** **17 25 53.0 -1.7**
AAA e 17 28 24.0
AAA eS S 17 34 46.0 +1.6
AAA pmax pmax
comp=Z,600nm,4.0s
AAA MLR MLR
comp=Z,800nm,17.0s,MS5.0
PET Petropavlovsk 67.24 21 eP **P** **17 25 57.3 +0.9**
PET eS S 17 34 51.3 +3.6
PET pmax pmax
comp=Z,269nm,1.1s,mb6.2
PET pmax pmax
comp=Z,100nm,6.4s
PET smax
comp=E,1μm,13.2s
PET MLR MLR
comp=Z,800nm,19.0s,MS5.0
PET Petropavlovsk 67.24 21 eP **P** **17 25 57.0 +0.6**
comp=Z,313nm,1.2s,mb6.2
PET LR LR
comp=Z,1μm,20.0s,MS5.2
KZA Kyzart 67.25 322 P **P** **17 25 57.6 +0.9**
SNR=132
TKM2 Tokmak 2 67.53 323 P **P** **17 25 58.5 0.0**
SNR=84
KBK Karagaybulak 67.77 322 P **P** **17 26 00.5 +0.6**
SNR=101
AAK Ala-Archa 68.03 322 P **P** **17 26 01.5 -0.1**
comp=Z,723nm,0.8s
AAK Ala-Archa 68.03 322 *c* iP **P** **17 26 01.0 -0.6**
AAK pmax pmax
comp=Z,117nm,0.8s,mb6.0
AAK MLR MLR
comp=Z,2μm,21.0s,MS5.4
AAK Ala-Archa 68.03 322⇑ *i*P **P** **17 26 01.0 -0.6**
comp=Z,115nm,0.9s,mb5.9
AAK epP pP 17 26 09.6 -1.1
AAK LR LR
comp=Z,582nm,20.0s,MS4.8
FRU Bishkek 68.07 322 eP **P** **17 26 02.0 +0.2**
FRU *i* pP 17 26 11.0 +0.1
FRU e 17 35 02.0
FRU pmax pmax
comp=Z,160nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,1μm,20.0s,MS5.0
CHMS Chumysh 68.08 323 P **P** **17 26 01.7 -0.2**
SNR=22
AML Almayashu 68.23 321 P **P** **17 26 04.0 +1.2**
SNR=114
USP Ospenovka 68.39 323 P **P** **17 26 03.8 0.0**
SNR=171

EKS2 Erkin-Say 68.48 322 P P 17 26 05.0 +0.6
SNR=114
YAK Yakutsk 69.89 2*c iP* **P 17 26 12.7 0.0**
YAK *e* 17 26 34.3
YAK *e* 17 28 44.4
YAK *eS* S 17 35 22.2 +3.0
YAK *e* 17 35 45.8
YAK pmax pmax
comp=N,80nm,1.0s
YAK pmax pmax
comp=Z,204nm,1.0s,mb6.0
YAK pmax pmax
comp=E,33nm,1.1s
YAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
YAK pmax pmax
comp=N,14nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK smax
comp=N,4.0nm,1.2s
YAK smax
comp=Z,2.0nm,1.1s
YAK smax
comp=E,3.0nm,1.3s
YAK MLR MLR
comp=Z,619nm,16.0s,MS5.0
YAK MLR MLR
comp=N,608nm,18.0s,MS4.9
YAK MLR MLR
comp=E,430nm,21.0s,MS4.9
YAK Yakutsk 69.89 2⇑*iP* **P 17 26 12.5 -0.2**
comp=E,424nm,1.0s,mb6.3
YAK *ep*P pP 17 26 20.6 -1.2
YAK LR LR
comp=Z,1μm,19.0s,MS5.2
ZAL Zalesovo 70.26 336 P **P 17 26 14.1 -1.0**
comp=Z,34nm,1.0s,mb5.2,baz=342,slow=5.4,SNR=111
KURK Kurchatov 70.74 331 P **P 17 26 17.7 -0.3**
comp=Z,846nm,1.1s,mb6.6
KURK Kurchatov 70.74 331⇑*eP* **P 17 26 17.1 -0.9**
KURK *e**PP pP 17 26 25.9 -1.3
KURK pmax pmax
comp=Z,170nm,1.0s,mb5.9
KURK MLR MLR
comp=Z,460nm,21.0s,MS4.7
KURK Kurchatov 70.74 331⇑*eP* **P 17 26 17.1 -0.9**
comp=Z,170nm,1.0s,mb5.9
KURK *ep*P pP 17 26 25.9 -1.3
KURK LR LR
comp=Z,458nm,21.0s,MS4.7
WBK Wadi Bani Khal 71.19 297 P P 17 26 22.2 +0.9
SNR=9.8
NVS Novosibirsk 71.55 336⇑*iP* **P 17 26 20.6 -2.3**
NVS *i* pP 17 26 30.2 -1.8
NVS *i* S S 17 35 35.9 -2.6
NVS pmax pmax
comp=Z,97nm,1.3s,mb5.6
NVS pmax pmax
comp=N,76nm,1.5s
NVS pmax pmax
comp=E,60nm,1.3s
NVS smax
comp=N,39nm,2.2s
NVS smax
comp=E,37nm,1.8s
JMDO Jabal Madar 71.88 297 ⇓P P 17 26 26.0 +0.6
SNR=10
MAW Mawson 72.18 201 P **P 17 26 26.0 -0.4**
comp=E,7.0nm,0.8s,mb4.7,baz=53,slow=7.1,SNR=5.8
MAW LR LR 17 55 24.0
comp=E,4μm,19.2s,MS5.7,baz=54,slow=34
BIDO Bidbid 72.20 298 ⇑P P 17 26 28.3 +1.0
SNR=7.2
BSY Bisya 72.79 297 ⇑P P 17 26 31.1 +0.2
SNR=13
SBA Scott Base 73.11 171 *eP* **P 17 26 33.4 +1.7**
SBA *e**PP pP 17 26 41.6 +0.8
SBA pmax pmax
comp=Z,47nm,1.0s,mb5.4
SBA MLR MLR
comp=Z,4μm,22.0s,MS5.6
SBA Scott Base 73.11 171 *eP* **P 17 26 33.4 +1.7**
comp=Z,47nm,1.0s,mb5.4
SBA *ep*P pP 17 26 41.6 +0.8
SBA LR LR
comp=Z,4μm,22.0s,MS5.6
SMY Shemya 73.55 29 PFAKE 17 26 50.0 +15
SMY LR LR
comp=Z,4μm,19.0s,MS5.7
ARQ Araqi 73.55 297 ⇑P P 17 26 35.8 +0.5
SNR=7.6
RAR Rarotonga 73.64 110 P **P 17 26 35.1 -0.7**
comp=Z,18nm,1.0s,mb5.0,baz=291,slow=15,SNR=3.1
RAR LR LR 17 57 36.4
comp=Z,1μm,20.0s,MS5.2,baz=274,slow=35
RAR Rarotonga 73.64 110 P **P 17 26 35.1 -0.7**
RAR LR LR 17 57 36.4
SEY Seymchan 73.80 13 *iP* **P 17 26 39.2 +3.3**
SEY *p*P 17 26 47.6 +2.5
SEY *e* 17 29 19.8
SEY *e*PPP PPP 17 31 12.6 +5.6
SEY *eS* S 17 36 10.5 +6.6
SEY 17 36 43.7
SEY *e*SS SS 17 40 51.7 +1.4
SEY pmax pmax
comp=N,40nm,0.8s
SEY pmax pmax
comp=Z,150nm,0.8s,mb6.0
SEY pmax pmax
comp=E,70nm,0.9s
SEY smax
comp=N,500nm,5.7s
SEY smax
comp=E,1μm,8.1s
SEY MLR MLR
comp=Z,1μm,22.0s,MS5.1
SEY MLR MLR
comp=N,300nm,15.0s
SEY MLR MLR
comp=E,1μm,18.0s
RBK Rabkut 74.14 291 ⇑P P 17 26 38.6 -0.1
SNR=10.0
ASHO Ashiyiah 74.34 298 ⇑P P 17 26 40.2 +0.3
SNR=8.2
WHFO Wadi Hawf 74.64 291 ⇑P P 17 26 41.1 -0.5
SNR=26
ABTO Aybut 74.95 290 ⇑P P 17 26 43.4 0.0
SNR=18
BVA0 Borovoye Array 76.19 330 *iP* **P 17 26 49.6 -0.2**
BVA0 pmax pmax
comp=Z,26nm,1.4s,mb5.0
BVAR Borovoye Array 76.19 330 P **P 17 26 49.6 -0.2**
comp=Z,57nm,1.0s,mb5.4,baz=143,slow=7.4,SNR=195
CHKZ Chkalovo 76.45 330⇑*iP* **P 17 26 50.7 -0.5**
CHKZ *e**PP pP 17 26 59.3 -1.2
CHKZ pmax pmax
comp=Z,14nm,0.4s,mb5.2
CHKZ Chkalovo 76.45 330⇑*iP* **P 17 26 50.7 -0.5**
comp=Z,14nm,0.4s,mb5.2
CHKZ *ep*P pP 17 26 59.3 -1.2
TIXI Tiksi 79.50 1 *eP* **P 17 27 05.5 -2.2**
TIXI *eS* S 17 37 04.4 -1.4
TIXI pmax pmax
comp=Z,116nm,1.1s,mb5.7
TIXI pmax pmax
comp=N,29nm,1.2s
TIXI pmax pmax
comp=E,15nm,1.1s
TIXI pmax pmax
comp=Z,309nm,1.5s,mb6.0
TIXI MLR MLR
comp=Z,2μm,19.0s,MS5.4
TIXI Tiksi 79.50 1⇑*iP* **P 17 27 07.3 -0.4**
TIXI LR LR
comp=Z,2μm,20.0s,MS5.4
BILL Bilibino 81.29 15 *eP* **P 17 27 17.4 +0.1**
BILL *e* 17 27 23.9
BILL *eS* S 17 37 25.8 +1.3
BILL pmax pmax
comp=Z,19nm,1.8s,mb4.7
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.3
BILL Bilibino 81.29 15 P **P 17 27 18.6 +1.3**
BILL LR LR
comp=Z,2μm,20.0s,MS5.4

SVE Sverdlovsk 82.97 330*α iP* **P 17 27 26.5 +0.4**
SVE *e* 17 37 40.0
SVE *e* 17 43 14.0
SVE pmax pmax
comp=Z,220nm,1.6s,mb5.9
SVE pmax pmax
comp=N,100nm,4.0s
SVE pmax pmax
comp=E,500nm,4.0s
SVE pmax pmax
comp=Z,600nm,4.0s
SVE MLR MLR
comp=N,500nm,22.0s,MS5.2
SVE MLR MLR
comp=E,1μm,22.0s,MS5.2
SVE MLR MLR
comp=Z,2μm,22.0s,MS5.3
TBI Tubuai 83.02 113 *ePP* PP 17 30 49.9 +10
TBI *eSS* SS 17 43 08.6 -1.8
TBI *eLR* LR 17 54 00.4
comp=Z,4μm,27.2s,baz=277
POHA Pohakuloa 83.08 69 PFAKE 17 27 40.0 +13
POHA LR LR
comp=Z,20μm,19.0s
RAYN Ar Rayn 83.42 295 P **P 17 27 30.3 +1.1**
comp=Z,361nm,0.9s,SNR=60
PPT Papeete 83.52 107 *ePP* PP 17 31 15.0 +31
PPT *eSS* SS 17 43 12.4 -5.1
PPT *eLR* LR 17 54 35.1
comp=Z,9μm,32.5s,baz=262
ARU Arti 83.83 329⇑*iP* **P 17 27 30.4 -0.2**
ARU *e* 17 30 44.7
ARU *eS* S 17 37 47.6 -2.8
ARU *eSS* SS 17 43 19.6 -1.5
ARU pmax pmax
comp=Z,79nm,1.1s,mb5.8
ARU MLR MLR
comp=N,600nm,20.0s,MS5.0
ARU MLR MLR
comp=E,400nm,20.0s,MS5.0
ARU MLR MLR
comp=Z,1μm,20.0s,MS5.3
ARU Arti 83.83 329 *eP* **P 17 27 30.2 -0.4**
comp=Z,87nm,1.1s,mb5.8
ARU *ep*P pP 17 27 39.3 -0.7
ARU LR LR
comp=Z,332nm,19.0s,MS4.7
MAK Makhachkala 86.17 314*c iP* **P 17 27 44.0 +1.4**
MAK *i* 17 28 02.0
MAK *e* 17 31 08.0
MAK *e*PPP PPP 17 33 07.0 +5.0
MAK *i S* S 17 38 17.0 +3.3
MAK *i* PS PS 17 39 20.0 +2.6
MAK pmax pmax
comp=Z,1μm,4.0s
MAK pmax pmax
comp=Z,1μm,8.0s
MAK smax
comp=N,2μm,9.5s
MAK MLR MLR
comp=Z,900nm,18.0s,MS5.2
KMBO Kilima Mbogo 87.39 269 *eP* **P 17 27 49.1 -0.1**
KMBO pmax pmax
comp=Z,17nm,1.2s
KMBO MLR MLR
comp=Z,3μm,22.0s
KMBO Kilima Mbogo 87.39 269 P **P 17 27 49.1 -0.1**
comp=Z,10nm,1.0s,mb5.0,baz=48,slow=6.4,SNR=12
KMBO LR LR 18 00 56.8
comp=Z,3μm,21.8s,MS5.6,baz=96,slow=32
KMBO Kilima Mbogo 87.39 269 *eP* **P 17 27 49.1 -0.1**
comp=Z,17nm,1.2s,mb5.2
KMBO LR LR
comp=Z,3μm,22.0s,MS5.6
GNI Garni 87.54 311 PFAKE 17 28 00.0 +11
GNI LR LR
comp=Z,1μm,20.0s,MS5.3
TI2 Plekhanov 87.87 312 *eP* **P 17 27 52.4 +1.5**
MSL Mosul 88.02 307 *eP* **P 17 27 54.5 +2.8**
MSL Mosul 88.02 307 *e*SKS SKS 17 38 27.5 +3.5
MSL *eS* S 17 39 26.0 +55
TNA Tin City 88.07 23 *eP* **P 17 27 50.7 -0.5**
comp=Z,9.0nm,1.1s,mb4.9
TNA LR LR
comp=Z,386nm,21.0s,MS4.8
GOF Gofitskoye 89.79 315⇑*iP* **P 17 28 00.6 +0.7**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.6
KIV Kislovodsk 89.82 314 *eP* **P 17 28 15.3 +15**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
KIV Kislovodsk 89.82 314 PFAKE 17 28 10.0 +10
KIV LR LR
comp=Z,230nm,19.0s,MS4.6
SOC Sochi 91.87 314 *eP* **P 17 28 07.1 -2.4**
SOC *e* 17 31 47.2
SOC *e*PPP PPP 17 33 45.8 -6.4
SOC *eS* S 17 38 36.1 -30
SOC *e*PS PS 17 40 22.2 -2.5
SOC *e*SS SS 17 45 10.5 -7.4
SOC *e*SSS SSS 17 48 53.7 -2.1
SOC pmax pmax
comp=Z,35nm,0.8s,mb5.7
SOC pmax pmax
comp=N,16nm,0.7s
SOC pmax pmax
comp=E,55nm,1.3s
MALT Malatya 92.03 308 *eP* **P 17 28 12.6 +2.2**
MALT *e**PP pP 17 28 20.3 +0.6
MALT pmax pmax
comp=Z,11nm,1.1s,mb5.1
MALT Malatya 92.03 308 *eP* **P 17 28 12.6 +2.2**
comp=Z,3.7nm,0.9s,mb4.7
MALT *ep*P pP 17 28 20.3 +0.5
ASF Jabal al Asfar 92.40 302 P **P 17 28 12.1 -0.1**
comp=Z,1.4nm,0.3s,mb4.8,baz=89,slow=3.1,SNR=4.9
KDAK Kodiak Island 92.78 32 PFAKE 17 28 20.0 +6.7
KDAK LR LR
comp=Z,442nm,21.0s,MS4.9
MATP Matopo 93.08 249 P **P 17 28 15.2 -0.3**
comp=Z,4.5nm,1.0s,mb4.9,baz=164,slow=6.0,SNR=6.1
MATP *p*P pP 17 28 24.7 -0.2
comp=Z,7.9nm,1.0s,baz=121,slow=4.8,SNR=7.3
SNAA Sanae 93.47 195 *eP* **P 17 28 17.5 +1.3**
SNAA *e**PP pP 17 28 25.5 -0.1
SNAA pmax pmax
comp=Z,18nm,0.9s
SNAA Sanae 93.47 195 P **P 17 28 16.1 -0.2**
comp=Z,8.6nm,1.1s,mb5.1,baz=65,slow=3.1,SNR=15
SNAA LR LR 18 08 49.6
comp=Z,2μm,19.4s,MS5.5,baz=85,slow=34
SNAA Sanae 93.47 195 *eP* **P 17 28 17.5 +1.3**
comp=Z,18nm,0.8s,mb5.5
SNAA *ep*P pP 17 28 25.5 -0.1
ANN Anapa 93.67 315 *eP* **P 17 28 26.6 +8.8**
ANN *i* *PP pP 17 28 37.0 +10
ANN pmax pmax
comp=Z,109nm,1.6s,mb6.0
TAOE Nuku Hiva Isla 93.76 99 *eLR* LR 17 59 06.1
IMA Indian Mountai 93.81 24 *eP* **P 17 28 17.6 -0.3**
IMA pmax pmax
comp=Z,21nm,0.9s,mb5.6
IMA Indian Mountai 93.81 24 *eP* **P 17 28 17.6 -0.3**
comp=Z,21nm,0.8s,mb5.6
MBAR Mbarara 93.91 269 P **P 17 28 19.3 -0.3**
MBAR pmax pmax
comp=Z,12nm,1.2s,mb5.2
MBAR MLR MLR
comp=Z,480nm,20.0s,MS5.0
MBAR Mbarara 93.91 269 P **P 17 28 19.3 -0.3**
comp=Z,12nm,1.2s,mb5.2
MBAR LR LR
comp=Z,482nm,20.0s,MS5.0
LSZ Lusaka 94.22 254 *eP* **P 17 28 21.0 +0.1**
LSZ *e**PP pP 17 28 29.4 -0.9
LSZ pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
LSZ MLR MLR
comp=Z,2μm,21.0s,MS5.6
LSZ Lusaka 94.22 254 *eP* **P 17 28 21.0 +0.1**
comp=Z,9.5nm,0.9s,mb5.2
LSZ *ep*P pP 17 28 29.4 -0.9
LSZ LR LR
comp=Z,2μm,21.0s,MS5.6
FIB Fire Island 94.54 29 PFAKE 17 28 30.0 +8.7
FIB LR LR
comp=Z,3μm,22.0s,MS5.7
LBTB Lobatse 94.89 244 PFAKE 17 28 40.0 +16
LBTB LR LR
comp=Z,3μm,20.0s,MS5.8
MOS Moscow 94.92 325 *eP* **P 17 28 21.1 -2.1**
MOS *e* 17 32 11.1
MOS *eS* S 17 39 35.3 +3.2
MOS smax
comp=N,800nm,4.0s
VNA2 Neumayer--Watz 95.08 194⇑*i* **P 17 28 26.3 +2.7**
VNA2 Neumayer--Watz 95.08 194⇑*i* pP 17 28 33.8 +0.8
MCK McKinley 95.45 26 PFAKE 17 28 40.0 +15
MCK LR LR
comp=Z,460nm,22.0s,MS4.9
OBN Obninsk 95.45 325⇑*eP* **P 17 28 26.0 +0.3**
OBN *e* 17 32 13.2
OBN pmax pmax
comp=Z,60nm,1.6s,mb5.8
OBN Obninsk 95.45 325 *eP* **P 17 28 25.4 -0.3**
comp=Z,53nm,1.4s,mb5.8
OBN LR LR
comp=Z,271nm,20.0s,MS4.7
BR131 Keskin Array S 95.90 309 PFAKE 17 28 40.0 +12
BR131 LR LR
comp=Z,1μm,22.0s,MS5.3
BRTR Keskin Array B 95.90 309 P **P 17 28 27.1 -1.0**
comp=Z,1.8nm,1.0s,mb4.5,baz=117,slow=5.5,SNR=5.7
BRTR PP PP 17 32 21.2 -1.4
comp=Z,2.6nm,1.0s,baz=101,slow=6.3,SNR=4.4
COLA College 96.04 25 PFAKE 17 28 40.0 +12
COLA LR LR
comp=Z,746nm,21.0s,MS5.1
RKT Rikitea 96.23 114 *eSP* SP 17 40 56.7 -12
RKT *eLR* LR 17 59 43.9
comp=Z,3μm,24.8s,baz=265
DIV Divide 96.66 29 PFAKE 17 28 40.0 +9.0
DIV LR LR
comp=Z,3μm,20.0s,MS5.8
SUR Sutherland 97.40 236 PFAKE 17 28 50.0 +15
SUR LR LR
comp=Z,1μm,22.0s,MS5.3
AKASG Malin Array Be 99.63 320 P **P 17 28 43.4 -1.3**
comp=Z,3.2nm,0.8s,mb4.8,baz=77,slow=4.6,SNR=13
AKASG PP PP 17 32 49.4 -1.8
comp=Z,3.0nm,0.9s,baz=82,slow=6.4,SNR=4.2
ARCES ARCESS Array B 100.67 339 P **P 17 28 47.9 -1.1**
comp=Z,5.3nm,1.1s,baz=90,slow=2.4,SNR=3.7
ARCES pP 17 28 56.5
comp=Z,2.5nm,0.7s,baz=329,slow=21,SNR=1.4
ARCES ARCESS Array B 100.67 339 P P 17 28 47.9 -1.1
ARCES pP 17 28 56.5
FINES FINESS Array B 101.11 331 P P 17 28 50.8 -0.3
comp=Z,1.9nm,0.9s,baz=219,slow=12,SNR=4.3
FINES pP 17 28 59.4
comp=Z,1.1nm,0.7s,baz=117,slow=4.3,SNR=3.5
INK Inuvik 101.69 22 P P 17 28 53.5 -0.1
comp=Z,2.3nm,1.1s,baz=245,slow=6.3,SNR=3.5
INK PP PP 17 33 02.3 -4.4
comp=Z,3.3nm,1.0s,baz=296,slow=13,SNR=4.0
SIT Sitka 102.03 33 PFAKE 17 29 10.0 +15
SIT LR LR
comp=Z,914nm,22.0s,MS5.2
TSUM Tsumeb 103.39 248 PFAKE 17 29 10.0 +7.8
TSUM LR LR
comp=Z,3μm,20.0s,MS5.8
VYHS Vyhne 106.48 318 *e*PKP 17 33 22.2
VYHS Vyhne 106.48 318 *e* 17 33 22.2
OKC Ostrava-Krasne 106.77 320 AMS AMS 18 24 50.0
comp=Z,800nm,17.8s
PMSA Palmer Station 107.15 176 PFAKE 17 33 40.0
PMSA LR LR
comp=Z,4μm,21.0s,MS5.9
KSP Ksiaz 107.79 321 *eP* 17 33 20.6
BSD Bornholm Skovb 107.82 325 *eP* 17 33 46.0
BSD *e* 17 44 27.7
BSD Bornholm Skovb 107.82 325 *i P* 17 33 46.0
BSD *e* 17 44 27.7
comp=Z,820nm,20.0s
DPC Dobruska-Polom 107.85 320 *e*PKP 17 33 21.9
DPC AMS AMS 18 22 20.0
comp=Z,1μm,19.1s
UPC Upice 108.02 321 *e*PKP 17 33 21.7
NOA NORSAR Array B 108.24 332 PKiKP 17 33 28.8
comp=Z,1.2nm,1.1s,baz=24,slow=6.3,SNR=2.6
NAO01 NORSAR Array S 108.45 332 PFAKE 17 33 40.0
NAO01 LR LR
comp=Z,2μm,20.0s,MS5.6
PRU Pruhonice 109.04 320 *e*PKP 17 33 12.5
PRU *ex* x 17 33 25.0
PRU AMS AMS 18 28 20.0
comp=Z,1μm,21.2s
BRG Berggiesshubel 109.25 321 *eP* 17 33 23.6
BRG *e* 17 33 51.0
BRG *e* 17 43 33.0
BRG LR LR
comp=Z,2μm,20.6s,MS5.6
KONO Kongsberg 109.43 331 PFAKE 17 33 40.0
KONO LR LR
comp=Z,1μm,21.0s,MS5.5
CLL Collm 109.74 322 *i* P 17 33 23.3
CLL LR LR
comp=Z,1μm,20.2s,MS5.4
CLL Collm 109.74 322 *i* 17 33 23.3
CLL *e*PP PP 17 34 12.0 +4.6
CLL *e*PS PS 17 43 36.0 +6.4
CLL *e*PPS PPS 17 44 42.0 +5.0
CLL *e*PKKS 17 48 06.0
GERES GERESS Array B 109.80 319 PKiKP 17 33 28.4
comp=Z,0.8nm,0.6s,baz=56,slow=3.5,SNR=7.3
KHC Kasperske Hory 109.82 319 *e*PKP 17 33 28.1
KHC *e* 17 33 33.0
KHC LR LR
comp=Z,1μm,19.8s,MS5.4
KHC Kasperske Hory 109.82 319 *e*PKP 17 33 28.1
KHC x x 17 33 33.0
KHC AMS AMS 18 27 30.0
comp=Z,1μm,19.8s
NKC Novy Kostel 110.32 321 AMS AMS 18 22 00.0
comp=Z,1μm,24.6s
MOX Moxa 110.75 321 *eP* PKPdf 17 33 28.0 -10
MOX PP PP 17 34 09.0 -5.4
MOX PS PS 17 43 18.0 -22
MOX L 18 28 48.0
YKA Yellowknife Ar 110.87 25 PKiKP PKPdf 17 33 33.2 -4.3
YKA 17 34 09.2
YKA 17 44 40.0
YKA Yellowknife Ar 110.87 25 PKiKP 17 33 33.2
comp=Z,1.4nm,0.8s,baz=300,slow=2.3,SNR=16
YKA pPKiKP 17 33 41.1
comp=Z,1.4nm,0.7s,baz=304,slow=1.7,SNR=8.7
YKA PP PP 17 34 09.2 -5.8
comp=Z,1.3nm,0.9s,baz=294,slow=6.2,SNR=7.7
YKA PKKPbc 17 44 31.6
comp=Z,0.7nm,0.9s,baz=116,slow=3.1,SNR=6.5
YKA PKKPab 17 44 40.0
comp=Z,1.7nm,1.0s,baz=105,slow=3.3,SNR=12
YKA Yellowknife Ar 110.87 25 PKPdf PKPdf 17 33 33.2 -4.3
YKA PP PP 17 34 09.2 -5.8
YKA PKKPbc 17 44 31.6
YKA PKKPab 17 44 40.0
GRA1 Grafenberg Arr 111.21 320 *eP* PKPdf 17 33 29.9 -8.6
GRF Grafenberg Arr 111.21 320 *e*PKiKP PKPdf 17 33 29.9 -8.6
HUMO Hull Mountain 111.72 47 PFAKE 17 33 50.0 +10
HUMO LR LR
comp=Z,1μm,19.0s,MS5.5
YBH Yreka Blue Hor 112.04 48 PFAKE 17 33 50.0 +10
YBH LR LR
comp=Z,701nm,19.0s,MS5.3
WDC Whiskeytown Da 112.35 49 PFAKE 17 33 50.0 +9.1
WDC LR LR
comp=Z,1μm,21.0s,MS5.5
DAVOX Davos 112.74 317 PKiKP 17 33 36.7
comp=Z,3.5nm,0.6s,baz=304,slow=1.8,SNR=5.8
DAVOX Davos 112.74 317 PKPdf PKPdf 17 33 36.7 -4.9
HAWA Hanford 113.37 43 PFAKE 17 33 50.0 +7.2
HAWA LR LR
comp=Z,63nm,21.0s
SAO San Andreas Ge 113.76 53 PFAKE 17 33 50.0 +6.1
SAO LR LR
comp=Z,1μm,19.0s,MS5.5
MOD Modoc 113.78 48 PFAKE 17 33 50.0 +6.2
MOD LR LR
comp=Z,872nm,21.0s,MS5.3
CDF Champ du Feu 114.04 320 *e*PKP1 PKPdf 17 33 35.4 -8.7

CMB Columbia Colle 114.40 52 PFAKE 17 33 50.0 +5.0
CMB LR LR
comp=Z,1μm,19.0s,MS5.5
NEW Newport 114.48 40 PFAKE 17 33 50.0 +5.1
NEW LR LR
comp=Z,1μm,21.0s,MS5.5
WVOR Wild Horse Val 114.89 47 PFAKE 17 33 50.0 +4.1
WVOR LR LR
comp=Z,1μm,21.0s,MS5.5
EDM Edmonton 115.13 34 *e*PKIKP PKPdf 17 33 42.4 -3.7
BMO Blue Mountains 115.26 44 PFAKE 17 33 50.0 +3.4
BMO LR LR
comp=Z,817nm,20.0s,MS5.3
CABF La Chapelle 115.31 318 *e*PKP1 PKPdf 17 33 42.4 -4.2
comp=Z,17nm,1.1s
BAIF Baives 115.47 322 *e*PKP1 PKPdf 17 33 34.5 -12
comp=Z,20nm,1.1s
ORIF Oris-en-Rattie 115.91 316 *e*PKP1 PKPdf 17 33 43.3 -4.5
NVAR Mina Array Bea 115.95 51 PKP PKPdf 17 33 43.7 -4.4
comp=Z,1.8nm,0.9s,baz=71,slow=1.3,SNR=9.7
NVAR pPKP 17 33 53.3
comp=Z,1.7nm,0.9s,baz=63,slow=1.2,SNR=6.6
NVAR PKKPbc 17 44 17.3
comp=Z,0.5nm,0.7s,baz=176,slow=0.5,SNR=4.0
NVAR Mina Array Bea 115.95 51 PKP PKPdf 17 33 43.7 -4.4
NVAR pPKP 17 33 53.3
NVAR PKKPbc 17 44 17.3
MNV Mina 116.06 51 PFAKE 17 34 00.0 +12
MNV LR LR
comp=Z,1μm,20.0s,MS5.5
BMN Battle Mountai 116.36 49 PFAKE 17 34 00.0 +11
BMN LR LR
comp=Z,914nm,21.0s,MS5.4
VIVF Saint-Julien-l 116.75 316 *e*PKP1 PKPdf 17 33 44.6 -4.9
comp=Z,12nm,1.0s
SMF Signal de Mont 116.78 319 *e*PKP1 PKPdf 17 33 44.9 -4.6
TPH Tonopah 116.85 51 PFAKE 17 34 00.0 +10
TPH LR LR
comp=Z,1μm,19.0s,MS5.5
SSF Saint Saulge 116.87 319 *e*PKP1 PKPdf 17 33 45.2 -4.4
comp=Z,18nm,0.9s
DAC Darwin (Calif) 116.90 53 PFAKE 17 34 00.0 +10
DAC LR LR
comp=Z,1μm,21.0s,MS5.5
MSO Missoula 116.96 41 PFAKE 17 34 00.0 +10
MSO LR LR
comp=Z,603nm,19.0s,MS5.2
AVF Avril sur Loir 117.06 319 *e*PKP1 PKPdf 17 33 45.2 -4.8
comp=Z,14nm,1.2s
BGF Bois d'Agland 117.46 319 *e*PKP1 PKPdf 17 33 46.6 -4.1
comp=Z,20nm,0.8s
ESK Eskdalemuir 117.48 329 PFAKE 17 34 00.0 +9.4
ESK LR LR
comp=Z,351nm,21.0s,MS5.0
HLID Hailey 117.61 45 *e*PKPdf PKPdf 17 33 47.8 -3.3
HLID *ep*PKPdf 17 33 56.4
HLID LR LR
comp=Z,799nm,19.0s,MS5.4
TCF Toulx Ste Croi 117.97 319 *e*PKP1 PKPdf 17 33 48.6 -3.1
comp=Z,25nm,1.3s
PFO Pinyon Flat Ob 118.28 56 PFAKE 17 34 00.0 +7.3
PFO LR LR
comp=Z,438nm,20.0s,MS5.1
CAF Calviac 118.50 317 *e*PKP1 PKPdf 17 33 50.0 -2.8
comp=Z,27nm,1.1s
RJF Les Rejaudoux 118.75 318 *e*PKP1 PKPdf 17 33 50.5 -2.8
comp=Z,18nm,1.0s
FLN La Foliniere 118.79 322 *e*PKP1 PKPdf 17 33 48.6 -4.7
comp=Z,22nm,1.0s
BOZ Bozeman (W) 118.86 42 PFAKE 17 34 00.0 +6.5
BOZ LR LR
comp=Z,917nm,22.0s,MS5.4
MTLF Montolieu 118.89 315 *e*PKP1 PKPdf 17 33 49.2 -4.4
comp=Z,17nm,1.2s
LFF La Frestale 119.39 318 *e*PKP1 PKPdf 17 33 50.6 -3.9
comp=Z,23nm,0.9s
MFF Saint Martin d 119.39 320 *e*PKP1 PKPdf 17 33 50.0 -4.5
comp=Z,17nm,0.9s
DUG Dugway 119.69 48 PFAKE 17 34 00.0 +4.8
DUG LR LR
comp=Z,919nm,21.0s,MS5.4
IMW Indian Meadow 119.91 44 *e*PKPdf PKPdf 17 33 52.6 -3.0
IMW *ep*PKPdf 17 34 00.9
LKWY Lake 120.05 43 PFAKE 17 34 00.0 +4.2
LKWY LR LR
comp=Z,1μm,21.0s,MS5.5
WUWY Wally Ulrich 120.16 44 *e*PKPdf PKPdf 17 33 53.2 -2.9
AHID Auburn Hatcher 120.16 45 PFAKE 17 34 00.0 +3.9
AHID LR LR
comp=Z,1μm,21.0s,MS5.5
SNOW Snow King Moun 120.18 44 *e*PKPdf PKPdf 17 33 53.5 -2.6
SNOW *ep*PKPdf 17 34 01.2
HWUT Hardware Ranch 120.19 46 PFAKE 17 34 00.0 +3.8
HWUT LR LR
comp=Z,1μm,22.0s,MS5.5
LOHW Long Hollow 120.23 44 *e*PKPdf PKPdf 17 33 53.0 -3.2
LOHW *ep*PKPdf 17 34 00.6
EPF Esparros 120.29 316 *e*PKP1 PKPdf 17 33 52.0 -4.4
comp=Z,7.0nm,0.8s
MVU Marysvale 120.59 50 PFAKE 17 34 10.0 +13
MVU LR LR
comp=Z,1μm,19.0s,MS5.6
MSU Marysvale 120.61 50 *e*PKIKP PKPdf 17 33 54.5 -2.6
ETSF Etsaut 120.95 316 *e*PKP1 PKPdf 17 33 54.2 -3.5
comp=Z,11nm,0.8s
TMUT Trail Mountain 121.13 49 *e*PKPdf PKPdf 17 33 55.1 -3.0
BW06 Boulder Array 121.23 44 PFAKE 17 34 10.0 +12
BW06 LR LR
comp=Z,836nm,21.0s,MS5.4
PDAR Pinedale Array 121.23 44 PKP PKPdf 17 33 53.2 -5.0
comp=Z,7.6nm,1.2s,baz=225,slow=2.1,SNR=17
PDAR pPKP 17 34 02.0
comp=Z,2.7nm,0.8s,baz=220,slow=1.4,SNR=8.8
PDAR PKKPbc 17 43 57.4
comp=Z,3.3nm,0.9s,baz=114,slow=5.3,SNR=17
FCC Fort Churchill 121.30 22 *e*PKPdf PKPdf 17 33 52.6 -5.4
FCC *ep*PKPdf 17 34 00.6
SJPF Ste Jean 121.34 316 *e*PKP1 PKPdf 17 33 54.6 -3.8
comp=Z,29nm,1.4s
SRU San Rafael 121.69 49 *e*PKIKP PKPdf 17 33 55.1 -4.1
LAO LASA Array 121.94 39 PFAKE 17 34 10.0 +11
LAO LR LR
comp=Z,904nm,22.0s,MS5.4
WUAZ Wupatki 121.99 53 PFAKE 17 34 10.0 +10
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.7
EVIA Vianos 123.74 311 PKIKP PKPdf 17 34 00.4 -2.8
ENIJ Nijar 124.03 309 PKIKP PKPdf 17 34 00.5 -3.3
EQES Quesada 124.43 311 PKP PKPdf 17 34 01.6 -2.9
ESDC Sonseca Array 124.47 313 PKP PKPdf 17 34 00.2 -4.3
comp=Z,7.8nm,1.2s,baz=51,slow=2.7,SNR=15
ESDC Sonseca Array 124.47 313 PKP PKPdf 17 34 00.8 -3.8
ESLA Sonseca Array 124.47 313 PFAKE 17 34 10.0 +5.5
ESLA LR LR
comp=Z,4μm,21.0s,MS6.1
EBER Berja 124.58 310 PKP PKPdf 17 34 00.9 -4.0
EBAN Banos Encina 124.85 311 PKIKP PKPdf 17 34 03.1 -2.3
ISCO Idaho Springs 125.06 46 *e*PKIKP PKPdf 17 34 02.7 -3.0
ISCO MLR MLR
comp=Z,890nm,21.0s,MS5.4
ERON Agron 125.23 310 PKP PKPdf 17 34 02.2 -3.9
ELUQ Luque 125.41 311 PKIKP PKPdf 17 34 03.0 -3.5
EADA Adamuz 125.44 312 PKP PKPdf 17 34 02.0 -4.5
SDCO Great Sand Dun 125.86 49 PFAKE 17 34 20.0 +13
SDCO LR LR
comp=Z,2μm,19.0s,MS5.7
ANMO Albuquerque 126.02 52 PKIKP PKPdf 17 34 03.6 -4.1
ANMO MLR MLR
comp=Z,1μm,21.0s
ANMO Albuquerque 126.02 52 PKP PKPdf 17 34 03.6 -4.1
comp=Z,9.7nm,1.1s,baz=231,slow=2.7,SNR=13
ULM Lac du Bonnet 126.02 31 PKP PKPdf 17 34 02.1 -5.1
comp=Z,9.4nm,1.1s,baz=326,slow=4.3,SNR=8.6
ULM pPKP 17 34 10.8
comp=Z,6.7nm,0.8s,baz=342,slow=4.1,SNR=6.6
LPM Los Pinos Moun 126.07 53 *e*PKPdf PKPdf 17 34 04.3 -3.5
PVRL Vila Real 126.50 316 *e*PKPdf PKPdf 17 34 05.7 -2.7
EJIF Jimena Fronter 126.68 310 PKIKP PKPdf 17 34 04.6 -4.3
MTE Manteigas 126.74 315 *e*PKPdf PKPdf 17 34 05.7 -3.2
MTE *e*LQ 18 07 50.7
MTE *e*LR LR 18 17 36.6
comp=Z,547nm,20.0s
EZAM Zamans 126.78 318 PKIKP PKPdf 17 34 03.0 -5.9
ESPR Espera 126.83 310 PKP PKPdf 17 34 06.6 -2.6
PVIS Viseu 126.85 316 *e*PKPdf PKPdf 17 34 06.5 -2.6

PCBR Castelo Branco 126.92 315 *e*PKPdf PKPdf 17 34 06.2 -3.0
EBAD Badajoz 127.01 313 PKP PKPdf 17 34 05.7 -3.8
EMIN Mina Concepcio 127.12 312 PKP PKPdf 17 34 07.3 -2.4
PTOM Tomar 127.67 315 *e*PKPdf PKPdf 17 34 08.0 -2.8
MNTX Cornudas Mount 127.81 56 *e*PKPdf PKPdf 17 34 07.7 -3.6
MNTX *ep*PKPdf 17 34 16.3
MNTX LR LR
comp=Z,806nm,19.0s,MS5.4
EGRO El Granado 127.81 312 PKP PKPdf 17 34 08.7 -2.4
EVO Evora 127.81 313 *e*PKIKP PKPdf 17 34 07.0 -4.1
comp=Z,52nm,1.3s
PALC Alcoutim 127.83 312 *e*PKPdf PKPdf 17 34 08.4 -2.7
PBEJ Beja 127.91 313 *e*PKPdf PKPdf 17 34 08.4 -2.9
CLNB Carlsbad 128.87 55 *e*PKPdf PKPdf 17 34 10.3 -3.0
PLCA Paso Flores 129.52 165 PKIKP PKPdf 17 34 10.8 -3.5
PLCA MLR MLR
comp=Z,1μm,20.0s
PLCA Paso Flores 129.52 165 PKP PKPdf 17 34 10.8 -3.5
comp=Z,5.3nm,1.1s,baz=20,slow=3.5,SNR=3.1
CBKS Cedar Bluff 129.63 45 PFAKE 17 34 20.0 +5.5
CBKS LR LR
comp=Z,796nm,20.0s,MS5.4
EYMN Ely 129.71 31 PFAKE 17 34 20.0 +5.6
EYMN LR LR
comp=Z,776nm,22.0s,MS5.3
AMTX Amarillo 129.75 51 PFAKE 17 34 20.0 +5.1
AMTX LR LR
comp=Z,1μm,22.0s,MS5.6
LTX Lajitas 129.86 58 PFAKE 17 34 20.0 +4.8
LTX LR LR
comp=Z,2μm,22.0s,MS5.7
TXAR Lajitas Array 129.86 58 PKhKP 17 34 03.9
comp=Z,0.6nm,1.0s,baz=252,slow=4.0,SNR=4.7
TXAR PKP PKPdf 17 34 10.8 -4.5
comp=Z,2.7nm,1.0s,baz=207,slow=2.8,SNR=14
TXAR pPKP 17 34 20.1
comp=Z,2.1nm,0.8s,baz=168,slow=2.5,SNR=8.3
TXAR SKPbc 17 37 30.2
comp=Z,1.6nm,0.9s,baz=272,slow=4.5,SNR=6.2
TXAR Lajitas Array 129.86 58 PKP PKPdf 17 34 03.9 -11
TXAR PKP PKPdf 17 34 10.8 -4.5
TXAR pPKP 17 34 20.1
TXAR SKPbc 17 37 30.2
DBIC Dimbokro 130.04 272 PKIKP PKPdf 17 34 12.2 -3.8
DBIC MLR MLR
comp=Z,1μm,20.0s
DBIC Dimbokro 130.04 272 PKP PKPdf 17 34 12.2 -3.8
comp=Z,9.4nm,0.6s,baz=58,slow=3.2,SNR=14
WMOK Wichita Mounta 132.02 50 PFAKE 17 34 30.0 +11
WMOK LR LR
comp=Z,1μm,20.0s,MS5.5
SCHQ Schefferville 132.35 9 PKP PKPdf 17 34 16.2 -3.0
comp=Z,3.9nm,1.0s,baz=233,slow=5.1,SNR=3.0
SCHQ pPKP 17 34 23.9
comp=Z,5.0nm,0.8s,baz=10,0,slow=18,SNR=4.2
SCHQ Schefferville 132.35 9 PKP PKPdf 17 34 16.2 -3.0
SCHQ pPKP 17 34 23.9
SCHQ LR LR
comp=Z,2μm,19.0s,MS5.8
JCT Junction City 132.74 56 *e*PKIKP PKPdf 17 34 17.9 -2.8
JCT MLR MLR
comp=Z,1μm,21.0s,MS5.5
JCT Junction City 132.74 56 *e*PKPdf PKPdf 17 34 17.9 -2.8
JCT *ep*PKPdf 17 34 25.5
JCT LR LR
comp=Z,1μm,21.0s,MS5.5
JFWS Jewell Farm 133.58 36 PFAKE 17 34 30.0 +8.2
JFWS LR LR
comp=Z,809nm,20.0s,MS5.4
CCM Cathedral Cave 135.81 42 PFAKE 17 34 30.0 +3.9
CCM LR LR
comp=Z,809nm,20.0s,MS5.5
MIAR Mount Ida 135.97 47 *e*PKIKP PKPdf 17 34 22.5 -4.0
MIAR MLR MLR
comp=Z,2μm,21.0s,MS5.7
NATX Nacogdoches 136.37 52 PFAKE 17 34 40.0 +13
NATX LR LR
comp=Z,871nm,20.0s,MS5.5
FVM French Village 136.39 41 *e*PKIKP PKPdf 17 34 23.2 -3.9
AAM Ann Arbor 137.61 32 PFAKE 17 34 40.0 +11
AAM LR LR
comp=Z,1μm,20.0s,MS5.7
BLO Bloomington 138.12 37 *e*PKIKP PKPdf 17 34 25.4 -5.0
CFAA Coronel Fontan 138.73 163 PKhKP 17 34 20.1
comp=Z,0.3nm,0.9s,baz=219,slow=4.7,SNR=2.9
WCI Wyandotte Cave 138.86 38 *e*PKIKP PKPdf 17 34 25.3 -6.4
WCI MLR MLR
comp=Z,1μm,19.0s,MS5.6
OXF Oxford 138.97 45 PFAKE 17 34 40.0 +8.0
OXF LR LR
comp=Z,996nm,21.0s,MS5.5
WVT Waverly 139.15 42 PFAKE 17 34 40.0 +7.7
WVT LR LR
comp=Z,1μm,19.0s,MS5.7
ACSO Alum Creek Sta 139.44 33 *e*PKPdf PKPdf 17 34 27.6 -5.1
ACSO LR LR
comp=Z,1μm,21.0s,MS5.6
ERPA Erie 139.57 29 PFAKE 17 34 40.0 +7.1
ERPA LR LR
comp=Z,1μm,19.0s,MS5.7
PLAL Pickwick Lake 139.63 43 PFAKE 17 34 40.0 +6.8
PLAL LR LR
comp=Z,1μm,19.0s,MS5.7
PQI Presque Isle 139.91 14 PFAKE 17 34 40.0 +6.7
PQI LR LR
comp=Z,5μm,20.0s,MS6.2
NCB Newcomb 140.49 22 *e*PKPdf PKPdf 17 34 30.5 -4.0
NCB LR LR
comp=Z,1μm,20.0s,MS5.6
MIV Mineville/With 140.65 21 PKPdf PKPdf 17 34 30.7 -4.1
WVL Waterville 141.45 17 PFAKE 17 34 40.0 +3.8
WVL LR LR
comp=Z,6μm,19.0s,MS6.3
LRAL Lakeview Retre 141.45 45 *e*PKPdf PKPdf 17 34 32.3 -4.2
LRAL LR LR
comp=Z,1μm,22.0s,MS5.6
MCWV Mont Chateau 141.51 31 PFAKE 17 34 40.0 +3.6
MCWV LR LR
comp=Z,2μm,19.0s,MS5.8
SSPA Standing Stone 141.72 28 *e*PKPpre 17 34 28.0
SSPA LR LR
comp=Z,959nm,21.0s,MS5.5
EMMW East Machias 141.89 14 PFAKE 17 34 50.0 +13
EMMW LR LR
comp=Z,5μm,19.0s,MS6.3
HRV Harvard--Oak R 142.72 20 PFAKE 17 34 50.0 +12
HRV LR LR
comp=Z,1μm,21.0s,MS5.6
WES Weston 142.90 20 *e*PKIKP PKPdf 17 34 33.2 -5.5
WES MLR MLR
comp=Z,2μm,22.0s,MS5.8
MVL Millersville 142.94 27 *e*PKPpre 17 34 30.3
BLA Blacksburg 142.99 34 PFAKE 17 34 50.0 +11
BLA LR LR
comp=Z,1μm,22.0s,MS5.6
SDMD Soldier's Deli 143.18 28 PKPdf PKPdf 17 34 34.9 -4.4
GOGA Godfrey 143.65 42 PKHKP 17 34 32.4
GOGA MLR MLR
comp=Z,2μm,21.0s,MS5.7
CBN Corbin 143.86 30 PFAKE 17 34 50.0 +16
CBN LR LR
comp=Z,2μm,22.0s,MS5.7
PAYG Puerto Ayora 144.01 102 PFAKE 17 34 50.0 +14
PAYG LR LR
comp=Z,909nm,21.0s,MS5.5
JSC Jenkinsville 144.51 39 *e*PKIKP PKPdf 17 34 36.1 -5.7
COW Cow Castle Cre 145.45 39 *e*PKPdf PKPdf 17 34 39.8 -3.6
TEIG Tepich 145.79 66 PFAKE 17 34 50.0 +10
TEIG LR LR
comp=Z,302nm,21.0s,MS5.0
HBF Harts Bluff 145.95 40 *e*PKP2 PKPab 17 34 41.4 -1.2
NHSC New Hope 145.96 39 PFAKE 17 34 50.0 +10
NHSC LR LR
comp=Z,1μm,20.0s,MS5.7
LVC Limon Verde 146.78 156 PKPbc PKPbc 17 34 43.7 +1.3
comp=Z,29nm,1.1s,baz=241,slow=1.8,SNR=16
LVC Limon Verde 146.78 156 *e*PKPdf PKPdf 17 34 43.1 -2.9
LVC *e*PKPbc PKPbc 17 34 46.2 +3.8
LVC LR LR
comp=Z,1μm,21.0s,MS5.7
CAM4 Nova Friburgo 147.40 202⇑ *e*P PKPdf 17 34 47.8 +0.8
CAM4 *i* 17 34 53.4
CAM4 *i* 17 34 57.6
CAM4 *i* 17 35 06.0
CAM4 *i* 17 35 12.8

DWPF Disney 148.17 48 PFAKE 17 35 00.0 +12
DWPF LR LR
comp=Z,1μm,22.0s,MS5.7
JTS JuntasAbangare 150.57 83 *e*PKIKP PKPdf 17 34 48.7 -3.6
JTS *e* 17 35 01.2
JTS MLR MLR
comp=Z,200nm,21.0s
NNA Nana 150.76 132 *e*PKPbc PKPdf 17 34 53.7 +1.2
NNA LR LR
comp=Z,227nm,21.0s,MS5.0
LPAZ La Paz 152.72 152 PKIKP PKPdf 17 34 53.3 -2.0
LPAZ 17 35 00.8
LPAZ *e* 17 35 00.9
LPAZ 17 35 09.8
LPAZ MLR MLR
comp=Z,912nm,20.0s
LPAZ La Paz 152.72 152 *e*PKIKP PKPdf 17 35 00.9 +5.6
LPAZ MLR MLR
comp=Z,910nm,20.0s
LPAZ La Paz 152.72 152 PKP PKPdf 17 34 53.3 -2.0
comp=Z,1.3nm,0.9s,baz=172,slow=2.5,SNR=4.3
LPAZ PKPbc PKPdf 17 35 00.8 +5.5
comp=Z,6.3nm,1.1s,baz=50,slow=2.8,SNR=13
LPAZ PKPab PKPab 17 35 09.8 -0.8
comp=Z,8.4nm,0.9s,baz=159,slow=1.2,SNR=12
BBSR BB Station 154.18 19 PFAKE 17 35 00.0 +3.1
BBSR LR LR
comp=Z,1μm,20.0s,MS5.7
BAO Brasilia Array 155.47 197 P PKPdf 17 34 52.9 -6.1
BDFB Brasilia 155.47 197 PKPbc PKPdf 17 35 03.3 +4.2
comp=Z,4.3nm,0.9s,baz=77,slow=3.8,SNR=3.4
BDFB PKPab PKPab 17 35 20.2 -2.0
comp=Z,8.0nm,0.9s,baz=194,slow=2.1,SNR=6.3
OTAV Otavalo 155.61 107 PFAKE 17 35 10.0 +11
OTAV LR LR
comp=Z,741nm,20.0s,MS5.5
RCBR Riachuelo 156.34 235 PFAKE 17 35 10.0 +10
RCBR LR LR
comp=Z,2μm,21.0s,MS6.0
CS6B Jaguaretama 158.75 231⇓ *i*P PKPdf 17 35 37.6 +34
CS6B *e* 17 35 54.2
SDV Santo Domingo 164.74 85 *e*PKPdf PKPdf 17 35 05.9 -3.6
SDV LR LR
comp=Z,1μm,21.0s
SJG San Juan 165.35 45 PFAKE 17 35 20.0 +10
SJG LR LR
comp=Z,1μm,20.0s

*NEIC **20** 17:19:17.6±0.3, 7.84S×124.63E, mb5.0/7, Error ellipse: s-maj=16.4km s-min=7.0km az=52.0*
*IDC **20** 17:19:17.1±0.5, 7.82S×124.49E, h26km±3km, mb4.6/11, mb1 4.7/13, mb1mx4.6/17, mbtmp4.8/13, ML4.6/2, Error ellipse: s-maj=24.2km s-min=12.2km az=55.0*
*HRVD **20** 17:19:17.6±0.7, 7.97S×124.84E, h22km±2km, MW5.4/34, Centroid moment Tensor Solution. LP body waves: s14,c19;Mantle waves: s34,c54; Half duration: 1s1 Moment tensor: Scale 10^{17}Nm; M_{rr}0.91±.16; $M_{\theta\theta}$-0.85±.10; $M_{\phi\phi}$-0.05±.12; $M_{r\theta}$0.88±.16; $M_{r\phi}$-0.37±.08; $M_{\theta\phi}$-0.48±.26; Best double couple: $M_0$1.371×10^{17} NP1: ϕ_s227°, δ32°, λ43°. NP2:ϕ_s99°, δ69°, λ114°. Principal axes: T 1.501, Plg59°, Azm43°; N -.258, Plg23°, Azm270°; P -1.242, Plg20°, Azm171°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **20** 17:19:17.6, 7.80S×124.60E, h29km, mB5.5, mb5.1*
ISC 20 17:19:15.9±0.4, 7.76S±0.09×124.9E±0.1, h28km, h28km±1.9km:pP-P,n41,σ1s09/33,mb4.8/18,2C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.94**	**124**	*e*P	**P**	**17 21 25.3**	**-1.0**
KAKA	278nm,0.6s			*e*S	**Sn**	**17 22 59.3**	**-7.8**
WRA	**Warramunga Arr**	**15.20**	**144**	Pn	**P**	**17 22 45.5**	**-5.2**
WRA	2.7nm,0.3s,baz=318,slow=13,SNR=4.7			Sn	**S**	**17 25 27.7**	**-11**
KSM	**Kuching**	**17.16**	**302**	*e*P	**P**	**17 23 18.5**	**+2.8**
ASAR	**Alice Springs**	**18.04**	**152**	P	**P**	**17 23 26.4**	**-0.1**
ASAR	4.7nm,0.3s,baz=337,slow=12,SNR=4.8			pP		17 23 36.0	
ASAR	4.9nm,0.3s,baz=340,slow=15,SNR=5.8			S	**S**	**17 26 33.8**	**-10**
PMG	**Port Moresby**	**22.12**	**96**	P	**P**	**17 24 14.9**	**+3.9**
PMG	68nm,0.7s,mb5.2,baz=268,slow=6.0,SNR=14			pP		17 24 22.6	
CTA	**Charters Tower**	**24.08**	**123**	P	**P**	**17 24 33.1**	**+2.8**
CTA	9.2nm,0.6s,mb4.4,baz=276,slow=14,SNR=4.2			pP		17 24 41.0	
CTAO	**Charters Tower**	**24.08**	**123**	*e*P	**P**	**17 24 32.4**	**+2.1**
STKA	**Stephens Creek**	**28.61**	**149**	P	**P**	**17 25 11.6**	**-0.6**
STKA	9.4nm,0.7s,mb4.6,baz=333,slow=6.8,SNR=3.2			pP	pP	17 25 21.0	+0.6
STKA	**Stephens Creek**	**28.61**	**149**	*e*P	**P**	**17 25 11.4**	**-0.7**
STKA	16nm,0.7s,baz=324,slow=8.2,SNR=3.2			pP	pP	17 25 21.0	+0.6
CM31	**Chiang Mai Arr**	**36.50**	**316**	*e*P	**P**	**17 26 21.2**	**+0.2**
CM31	8.9nm,0.6s,mb4.8			*e*	pP	17 26 30.3	+1.0
WHN	**Wuhan**	**39.40**	**346**⇑	P	**P**	**17 26 47.1**	**+1.9**
LSA	**Lhasa**	**49.37**	**320**	*e*P	**P**	**17 28 05.8**	**+0.6**
HYB	**Hyderabad**	**52.14**	**299**	*i* P	**P**	**17 28 24.0**	**-2.4**
GTA	**Gaotai**	**52.36**	**336**	*e*P	**P**	**17 28 28.3**	**+0.5**
GTA				AP	pP	17 28 34.3	-2.2
GTA				XP	sP	17 28 37.3	-2.5
GTA				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
RPZ	**Rata Peaks**	**53.86**	**140**	P	**P**	**17 28 39.6**	**+0.8**
RPZ	comp=Z,28nm,0.6s,mb5.4,baz=238,slow=3.0,SNR=27			pP	pP	17 28 47.9	+0.4
	comp=Z,32nm,0.6s,baz=247,slow=11,SNR=8.2						
ASAJ	**Asahikawa**	**54.08**	**16**	P	**P**	**17 28 41.4**	**+0.9**
	comp=Z,15nm,0.8s,mb5.0,baz=254,slow=16,SNR=8.6						
URZ	**Urewera**	**55.93**	**131**	P	**P**	**17 28 54.3**	**+0.3**
	comp=Z,14nm,0.7s,mb5.1,baz=263,slow=6.5,SNR=8.8						
HIA	**Hailar**	**56.96**	**356**	*e*P	**P**	**17 29 00.3**	**-1.0**
	comp=Z,9.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**57.58**	**346**	*e*P	**P**	**17 29 05.2**	**-0.5**
SONM	**Songino Array**	**57.71**	**345**	P	**P**	**17 29 06.4**	**-0.2**
	comp=Z,4.2nm,0.7s,mb4.6,baz=163,slow=5.5,SNR=7.6						
YAK	**Yakutsk**	**69.69**	**2**	*e*P	**P**	**17 30 25.0**	**+0.1**
	comp=Z,38nm,0.8s,mb5.4						
ZAL	**Zalesovo**	**70.11**	**336**	P	**P**	**17 30 26.3**	**-1.3**
	comp=Z,2.3nm,0.4s,mb4.5,baz=333,slow=6.3,SNR=5.9						
ZAL				pP	pP	17 30 35.8	-0.7
	comp=Z,2.7nm,0.3s,baz=336,slow=4.4,SNR=3.0						
KURK	**Kurchatov**	**70.60**	**331**	*e*P	**P**	**17 30 29.6**	**-1.1**
	comp=Z,16nm,0.8s,mb5.0						
BVAR	**Borovoye Array**	**76.06**	**330**	P	**P**	**17 31 01.7**	**-0.8**
	comp=Z,4.1nm,0.7s,mb4.5,baz=134,slow=10,SNR=7.5						
CHKZ	**Chkalovo**	**76.31**	**330**	*e*P	**P**	**17 31 03.4**	**-0.6**
	comp=Z,7.3nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**82.22**	**180**	*e*P	**P**	**17 31 35.7**	**+0.3**
	comp=Z,13nm,0.8s,mb4.9						
KMBO	**Kilima Mbogo**	**87.47**	**269**	P	**P**	**17 32 01.9**	**-1.2**
	comp=Z,0.6nm,0.5s,mb4.1,baz=66,slow=7.2,SNR=4.4						
SNAA	**Sanae**	**93.69**	**195**	P	**P**	**17 32 31.2**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.7,baz=121,slow=5.0,SNR=13						
SNAA				pP	pP	17 32 40.4	+0.6
	comp=Z,2.2nm,0.6s,baz=160,slow=7.3,SNR=5.3						
VNA2	**Neumayer--Watz**	**95.30**	**194**⇓	*i*	**P**	**17 32 39.5**	**+1.4**
VNA2	**Neumayer--Watz**	**95.30**	**194**⇑	*i*	**P**	**17 32 48.6**	**+10**
YKA	**Yellowknife Ar**	**110.65**	**25**	PKiKP		17 37 45.9	
	comp=Z,0.5nm,0.6s,baz=299,slow=1.8,SNR=6.6						
YKA				pPKiKP		17 37 54.7	
	comp=Z,0.6nm,0.6s,baz=301,slow=1.7,SNR=5.9						
HLID	**Hailey**	**117.41**	**45**	*e*P	PKPdf	17 38 01.7	-2.5
PDAR	**Pinedale Array**	**121.03**	**44**	PKP	PKPdf	17 38 07.3	-4.0
	comp=Z,1.0nm,0.8s,baz=256,slow=0.4,SNR=6.0						
PDAR				pPKP		17 38 16.6	
	comp=Z,1.1nm,0.7s,baz=294,slow=1.2,SNR=5.4						
PDAR				PKKPbc		17 48 11.0	
	comp=Z,1.3nm,0.7s,baz=109,slow=5.7,SNR=8.3						
PDAR				tx	tx	17 48 20.4	
	comp=Z,0.9nm,0.6s,baz=120,slow=6.3,SNR=6.1						
ULM	**Lac du Bonnet**	**125.81**	**31**	PKP	PKPdf	17 38 15.2	-5.0
	comp=Z,0.8nm,0.3s,baz=28,slow=1.5,SNR=3.1						
ULM				pPKP		17 38 24.6	
	comp=Z,1.5nm,0.6s,baz=5.9,slow=2.1,SNR=2.6						

TXAR	**Lajitas Array**	**129.69**	**58**	PKP	PKPdf	17 38 24.2	-4.1	
	comp=Z,0.6nm,0.7s,baz=206,slow=1.5,SNR=4.3							
PLCA	**Paso Flores**	**129.70**	**165**	PKP	PKPdf	17 38 25.6	-2.4	
	comp=Z,4.3nm,1.1s,baz=341,slow=9.0,SNR=2.8							
DBIC	**Dimbokro**	**130.12**	**272**	PKP	PKPdf	17 38 24.2	-5.3	
	comp=Z,2.4nm,0.6s,baz=93,slow=19,SNR=4.4							
DBIC				pPKP		17 38 32.7		
	comp=Z,2.4nm,0.5s,baz=88,slow=3.3,SNR=2.0							
DBIC	**Dimbokro**	**130.12**	**272**	PKP	PKPdf	17 38 24.2	-5.3	
DBIC				pPKP		17 38 32.7		
LVC	**Limon Verde**	**146.94**	**156**	PKPbc	PKPbc	17 38 58.6	+2.3	
	comp=Z,4.4nm,0.9s,baz=149,slow=5.6,SNR=3.9							
LPAZ	**La Paz**	**152.87**	**152**	PKPab	PKPab	17 39 23.7	-1.1	
	comp=Z,2.0nm,0.6s,baz=304,slow=1.8,SNR=6.5							
LPAZ	**La Paz**	**152.87**	**152**	PKPab	PKPab	17 39 23.7	-1.1	

DJA 20 17:22:21.8±0.9, 8.87S×111.52E, h160km, ML4.3/2, 4C-2D, Error ellipse: s-maj=70.4km s-min=19.3km az=174.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**2.63**	**82**	*e*Pn	P	17 23 05.5	0.0
	160nm,0.2s						
SRDI				⇓*e*Sn	S	17 23 37.4	-1.7
KELI	**Kelakatan**	**3.01**	**78**	⇑*e*Pn	P	17 23 10.2	-0.2
	69nm,0.2s						
KELI				⇓*e*Sn	S	17 23 47.0	-0.6
RATI	**Rata**	**3.97**	**88**	⇑*e*Pn	P	17 23 23.6	+0.8
RATI				⇑*e*Sn	S	17 24 08.6	-1.1
KEDI	**Kedomdong**	**4.56**	**86**	⇑*e*Pn	P	17 23 29.7	-0.8
KEDI				*e*Sn	S	17 24 18.5	-4.9

RSPR 20 17:23:23.5, 20.28N×69.28W, h152km±51km, MD4.1/13, MD4.1/13, 13C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**2.73**	**131**	*e*S	S	17 24 41.1	-1.3
AGPR	**Aguadilla, PR**	**2.73**	**131**	⇑*e*P	P	17 24 08.7	+0.5
LSP	**Las Mesas**	**2.95**	**135**	⇑*e*P	P	17 24 08.6	-2.4
LSP				*e*S	S	17 24 47.1	-0.1
LRS	**Lares**	**3.04**	**130**	⇑*e*P	P	17 24 11.8	-0.3
CRPR	**Cabo Rojo, PR**	**3.06**	**137**	*e*S	S	17 24 50.0	+0.2
CRPR	**Cabo Rojo, PR**	**3.06**	**137**	⇑*e*P	P	17 24 09.4	-2.9
MGP	**Maguayo**	**3.07**	**137**	⇑*e*P	P	17 24 12.0	-0.6
MGP				*e*S	S	17 24 51.2	+1.2
AOPR	**Arecibo Observ**	**3.07**	**128**	⇑*e*P	P	17 24 13.2	+0.6
AOPR	**Arecibo Observ**	**3.07**	**128**	*e*S	S	17 24 52.3	+2.2
PORP	**Portuguez**	**3.34**	**131**	⇑*e*P	P	17 24 16.7	+0.6
PORP				*e*S	S	17 24 55.5	-0.8
CELP	**Cerrillos**	**3.37**	**130**	⇑*e*P	P	17 24 17.4	+0.9
CELP				*e*S	S	17 24 56.7	-0.3
CSB	**Colonia Sabana**	**3.56**	**123**	*e*S	S	17 24 59.8	-1.5
SJG	**San Juan**	**3.67**	**126**	⇑*e*P	P	17 24 22.6	+2.3
SJG	**San Juan**	**3.67**	**126**	*e*S	S	17 25 02.4	-1.4
SJG	**San Juan**	**3.67**	**126**	⇑*e*P	P	17 24 21.9	+1.7
SJG				*e*S	S	17 25 05.1	+1.2
CBYP	**Canovanas**	**3.81**	**121**	⇑*e*P	P	17 24 20.2	-1.9
CBYP	**Canovanas**	**3.81**	**121**	*e*S	S	17 25 08.2	+1.1
HUMP	**Col San Antoni**	**3.88**	**123**	⇑*e*P	P	17 24 22.3	-0.8
HUMP	**Col San Antoni**	**3.88**	**123**	*e*S	S	17 25 08.2	-0.7
CPD	**Cerro la Pandu**	**3.89**	**124**	*e*S	S	17 25 09.8	+0.8
MTP	**Monte Pirata**	**4.14**	**121**	⇑*e*P	P	17 24 24.4	-2.1
MTP	**Monte Pirata**	**4.14**	**121**	*e*S	S	17 25 16.4	+1.4

*NEIC **20** 17:50:22.8, 16.77N×96.13W, h26km, MD4.1(MEX), After MEX.*

MEX 20 17:50:18.9±0.7, 16.96N×95.85W, h24km±18km, MD4.2, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OXX	**Oaxaca**	**0.85**	**279**	*e*P	Pb	17 50 32.5	-2.3
OXX				*e*S	Sb	17 50 43.0	-2.8
VHO	**Vista Hermosa**	**0.85**	**278**	*i* P	Pb	17 50 32.1	-2.9
VHO				*i* S	Sb	17 50 43.5	-2.4
CMIG	**Matias Romero**	**0.93**	**82**	*i* P	Pb	17 50 33.4	-2.9
CMIG				*i* S	Sb	17 50 45.5	-2.7
CMIG	**Matias Romero**	**0.93**	**82**	*i* P	Pb	17 50 33.4	-2.9
CMIG				*i* S	Sb	17 50 45.5	-2.7
HUIG	**Huatulco**	**1.21**	**192**	*e*P	Pn	17 50 37.5	-3.0
HUIG				*e*S	Sb	17 50 52.3	-3.9
HUIG	**Huatulco**	**1.21**	**192**	*i* P	Pn	17 50 37.3	-3.2
HUIG				*i* S	Sb	17 50 52.2	-4.0
EVV	**El Vigia**	**1.56**	**18**	*e*P	Pn	17 50 51.5	+5.9
EVV				*e*S	Sn	17 51 12.0	+6.7
EVV	**El Vigia**	**1.56**	**18**	*e*P	Pn	17 50 51.5	+5.9
EVV				*e*S	Sn	17 51 04.0	-1.3
TUIG	**Tuzandepetl**	**1.73**	**52**	*i* P	Pn	17 50 49.1	+1.1
PNIG	**Pinotepa**	**2.25**	**256**	*e*P	Pn	17 50 53.1	-2.4
PNIG				*e*S	Sn	17 51 15.9	-6.9
PNIG	**Pinotepa**	**2.25**	**256**	*e*P	Pn	17 50 53.1	-2.4
PNIG				*i* S	Sn	17 51 19.3	-3.5
PPM	**Popocatepetl**	**3.38**	**309**	*e*P	Pn	17 51 13.1	+1.7
PPM				*i* S	Sn	17 51 52.1	+0.9
PPM				*e*S	Sn	17 52 01.5	+10
PPM	**Popocatepetl**	**3.38**	**309**	*e*P	Pn	17 51 08.8	-2.6
PPM				*e*P		17 51 18.0	
PPM				*e*S	Sn	17 51 46.0	-5.2
PPM				*i* S	Sn	17 51 46.5	-4.6
YAIG	**Yautepec**	**3.60**	**302**	*e*P	Pn	17 51 17.5	+2.8
YAIG				*i* S	Sn	17 51 52.4	-4.6
YAIG	**Yautepec**	**3.60**	**302**	*i* P	Pn	17 51 13.1	-1.6
YAIG				*i* S	Sn	17 51 52.4	-4.6
PLIG	**Platanillo**	**3.76**	**293**	*e*P	Pn	17 51 15.7	-1.2
PLIG				*e*S	Sn	17 51 57.2	-3.8
ACX	**Acapulco**	**3.90**	**269**	*e*P	Pn	17 51 15.0	-3.8
ACX				*e*S	Sn	17 52 00.5	-3.8
CAIG	**El Cayaco**	**4.23**	**272**	*i* S	Sn	17 52 07.9	-4.9
ZIIG	**Zihuatanejo**	**5.40**	**278**	*i* S	Sn	17 52 38.7	-3.7

*THE **20** 17:58:20.0, 39.25N×20.82E, h1km, ML3.0*
*ATH **20** 17:58:21.0, 39.39N×20.86E, h29km±12km, MD3.2/4*
*CSEM **20** 17:58:21.3±0.3, 39.32N×20.85E, h2km, ML3.0, Error ellipse: s-maj=6.2km s-min=5.3km az=143.0*
*NEIC **20** 17:58:21.0, 39.39N×20.86E, h29km, MD3.2(ATH), After ATH.*

ISC 20 17:58:20.3±0.6, 39.31N±0.03×20.82E±0.04, h2km, n11, σ0§91/18, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.35**	**3**	*e*PB	**Pb**	**17 58 27.0**	**-1.9**
IGT	**Igoumenitsa**	**0.44**	**301**	*e*Pg	**Pg**	**17 58 28.9**	**-0.2**
IGT				*e*Sg	**Sg**	**17 58 35.8**	**+0.7**
MEV	**Metsovon**	**0.57**	**33**	*e*Pg	**Pg**	**17 58 31.5**	**-0.3**
MEV				*e*Sg	**Sg**	**17 58 40.6**	**+1.3**
EVR	**Evrytania**	**0.86**	**117**	*e*PN	**Pn**	**17 58 39.0**	**-0.2**
KEK	**Kerkira**	**0.89**	**297**	*e*PN	**Pn**	**17 58 39.1**	**-0.6**
VLS	**Valsamata**	**1.14**	**189**	*e*PB	**Pb**	**17 58 43.1**	**+0.6**
VLS				*e*SN	**Sn**	**17 59 01.0**	**+1.3**
AGG	**Agios Georgios**	**1.21**	**103**	*e*Pb	**Pb**	**17 58 42.5**	**-1.1**
AGG				*e*Sb	**Sb**	**17 58 59.5**	**+0.1**
LIT	**Litokhoron**	**1.51**	**58**	*e*Pb	**Pb**	**17 58 47.7**	**-1.1**
LIT				*e*Sb	**Sb**	**17 59 09.2**	**+0.9**
FNA	**Florina**	**1.54**	**16**	*e*Pb	**Pb**	**17 58 48.5**	**-0.7**
FNA				*e*Sb	**Sb**	**17 59 10.3**	**+1.3**
GRG	**Griva**	**2.04**	**36**	*e*Pn	**Pn**	**17 58 55.2**	**-1.0**
GRG				*e*Sn	**Sn**	**17 59 23.4**	**+0.8**
SKO	**Skopje**	**2.70**	**10**	*e*Pn	**Pn**	**17 59 05.5**	**-0.1**

*IDC **20** 18:02:06.2±1.3, 24.20S×67.07W, h170km±14km, mb3.5/1, mb1 3.7/5, mb1mx3.4/15, mbtmp3.9/5, MS2.7/1, Ms1 2.8/1, ms1mx2.4/15, Error ellipse: s-maj=24.3km s-min=13.6km az=84.0*
*NEIC **20** 18:02:07.7±0.9, 24.13S×67.12W, h184km±11km, mb3.9/1, Error ellipse: s-maj=22.5km s-min=11.5km az=84.0*

ISC 20 18:02:06.6±1.0, 24.10S±0.07×67.1W±0.2, h185km±18km, n12, σ1§22/17, mb3.6/1, 1C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.23**	**311**	P	**P**	**18 02 48.3**	**+1.3**
	19nm,0.3s,baz=135,slow=5.6,SNR=154						
LVC				S	**S**	**18 03 17.8**	**-0.3**
	94nm,0.3s,baz=12,slow=21,SNR=47						
LVC	**Limon Verde**	**2.23**	**311**	⇑*i*Pn	**P**	**18 02 48.2**	**+1.3**
LVC				*e*S	**S**	**18 03 16.8**	**-1.2**
LVC				S	**S**	**18 03 17.8**	**-0.3**
CFAA	**Coronel Fontan**	**7.54**	**187**	P	**P**	**18 03 53.2**	**-1.5**
	0.1nm,0.3s,baz=0.7,slow=12,SNR=9.5						
CFAA				S	**S**	**18 05 13.1**	**-6.0**
	0.2nm,0.3s,baz=197,slow=20,SNR=4.7						
CFAA	**Coronel Fontan**	**7.54**	**187**	P	**P**	**18 03 53.2**	**-1.6**
CFAA				S	**S**	**18 05 13.1**	**-6.0**
LPAZ	**La Paz**	**7.83**	**353**	P	**P**	**18 03 59.9**	**+1.4**
	0.7nm,0.3s,baz=165,slow=8.4,SNR=18						
LPAZ				S	**S**	**18 05 24.8**	**-1.1**
	0.2nm,0.3s,baz=319,slow=21,SNR=6.4						
LPAZ				LR	LR	18 07 11.0	
	comp=Z,51nm,20.8s,baz=97,slow=38						
LPAZ	**La Paz**	**7.83**	**353**	*e*P	**P**	**18 03 59.6**	**+1.1**
LPAZ				S	**S**	**18 05 24.8**	**-1.1**
LPAZ				LR	LR	18 07 11.0	
TRQA	**Tornquist**	**14.58**	**164**	*e*P	**P**	**18 05 26.8**	**+1.5**
	4.2nm,0.8s						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**18 06 24.2**	**-0.6**
	2.0nm,0.3s,baz=248,slow=11,SNR=53						
YKA	**Yellowknife Ar**	**94.19**	**340**	P	**P**	**18 15 05.1**	**+0.2**
	0.3nm,0.6s,mb3.6,baz=130,slow=4.6,SNR=7.2						
YKA	**Yellowknife Ar**	**94.19**	**340**	P	**P**	**18 15 05.1**	**+0.2**
ASAR	**Alice Springs**	**128.32**	**205**	PKP	PKPdf	18 20 52.9	+1.1
	0.7nm,0.7s,baz=140,slow=2.5,SNR=10						
WRA	**Warramunga Arr**	**131.49**	**207**	PKP	PKPdf	18 20 59.2	+1.3
	0.5nm,0.5s,baz=158,slow=1.8,SNR=16						

*CNRM **20** 18:17:48.1, 34.82N×2.91W, h15km, MD2.6*
*MDD **20** 18:17:49.1±0.8, 34.89N×2.97W, mb3.0/5, Error ellipse: s-maj=10.0km s-min=3.3km az=176.0, PRXIMO*
*CSEM **20** 18:17:51.1±0.5, 35.02N×3.24W, h12km, MD2.6, Error ellipse: s-maj=10.6km s-min=5.9km az=143.0*
*NEIC **20** 18:17:52.5, 34.99N×3.06W, h13km, MG3.5(MDD), After MDD.*

ISC 20 18:17:48.8±1.0, 34.91N±0.07×2.96W±0.05, h21km±6km, n26, σ1§36/50, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.18**	**72**	P	**Pb**	**18 17 53.0**	**-0.9**
ZAI				S	**Sb**	**18 17 55.5**	**-1.8**
TOU	**Touzarine**	**0.65**	**274**	*i* P	**Pb**	**18 18 00.5**	**-0.9**
TOU				*i* S	**Sb**	**18 18 10.5**	**+0.4**
MPAL	**Palemas**	**0.86**	**291**	*e*P	**Pb**	**18 18 04.0**	**-1.0**
MPAL				*i* S	**Sb**	**18 18 17.0**	**+0.9**
EALB	**Alboran**	**1.03**	**357**	P	**Pb**	**18 18 09.1**	**+1.3**
EALB				S	**Sb**	**18 18 23.1**	**+2.4**
EALB	**Alboran**	**1.03**	**357**	P	**Pb**	**18 18 09.1**	**+1.3**
	12nm,0.3s,SNR=11						
EALB				S	**Sb**	**18 18 21.5**	**+0.8**
	14nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.03**	**357**	P	**Pb**	**18 18 09.1**	**+1.4**
	22nm,0.6s,SNR=11						
EALB				S	**Sb**	**18 18 23.1**	**+2.3**
	9.1nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.98**	**2**	P	**Pn**	**18 18 22.5**	**+0.8**
EBER				S	**Sn**	**18 18 45.9**	**-0.3**
EBER	**Berja**	**1.98**	**2**	P	**Pn**	**18 18 22.5**	**+0.8**
	1.4nm,0.6s,SNR=7.9						
EBER				S	**Sn**	**18 18 44.0**	**-2.2**
	9.7nm,0.7s,SNR=7.9						
EBER	**Berja**	**1.98**	**2**	P	**Pn**	**18 18 22.5**	**+0.7**
	0.2nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**18 18 45.9**	**-0.3**
	0.6nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.14**	**16**	P	**Pn**	**18 18 24.6**	**+0.5**
	1.9nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**18 18 49.8**	**-0.5**
	1.9nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.21**	**319**	P	**Pn**	**18 18 25.8**	**+0.8**
	0.8nm,0.1s,SNR=5.8						
EMIJ				S	**Sn**	**18 18 50.5**	**-1.5**
	1.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.88**	**358**	P	**Pn**	**18 18 37.6**	**+2.9**
EQES				S	**Sn**	**18 19 10.9**	**+1.8**
EQES	**Quesada**	**2.88**	**358**	P	**Pn**	**18 18 36.4**	**+1.7**
	1.0nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**18 19 10.8**	**+1.7**
	3.2nm,0.4s,SNR=7.9						
EQES	**Quesada**	**2.88**	**358**	P	**Pn**	**18 18 37.6**	**+2.9**
	SNR=7.9						
EQES				S	**Sn**	**18 19 10.9**	**+1.8**
	0.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.50**	**339**	P	**Pn**	**18 18 44.8**	**+1.4**
EADA				S	**Sn**	**18 19 23.0**	**-1.6**
EADA	**Adamuz**	**3.50**	**339**	P	**Pn**	**18 18 44.8**	**+1.4**
	0.9nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**18 19 23.1**	**-1.5**
	0.6nm,0.3s,SNR=4.0						
EADA	**Adamuz**	**3.50**	**339**	P	**Pn**	**18 18 44.8**	**+1.4**
	0.9nm,0.3s,SNR=7.9						
EADA				S	**Sn**	**18 19 23.0**	**-1.6**
	SNR=4.0						
ETOB	**Tobarra**	**3.89**	**17**	P	**Pn**	**18 18 51.8**	**+2.8**
ETOB	**Tobarra**	**3.89**	**17**	P	**Pn**	**18 18 49.7**	**+0.7**
	1.1nm,0.4s,SNR=4.0						
ETOB				S	**Sn**	**18 19 32.9**	**-1.7**
	1.2nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**3.89**	**17**	P	**Pn**	**18 18 51.8**	**+2.8**
	0.2nm,0.1s,SNR=4.0						
EMIN	**Mina Concepcio**	**4.13**	**315**	P	**Pn**	**18 18 53.1**	**+0.6**
	0.3nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**18 19 38.4**	**-2.4**
	0.6nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.13**	**315**	P	**Pn**	**18 18 53.0**	**+0.6**
EMIN				S	**Sn**	**18 19 38.4**	**-2.3**
	SNR=7.9						
EGRO	**El Granado**	**4.49**	**307**	P	**Pn**	**18 18 58.0**	**+0.5**
EGRO				S	**Sn**	**18 19 46.0**	**-3.9**
EGRO	**El Granado**	**4.49**	**307**	P	**Pn**	**18 18 58.0**	**+0.5**
	0.5nm,0.2s,SNR=7.9						
EGRO				S	**Sn**	**18 19 46.0**	**-3.9**
	1.2nm,0.5s,SNR=4.0						
EGRO	**El Granado**	**4.49**	**307**	P	**Pn**	**18 18 58.0**	**+0.5**
	0.3nm,0.1s,SNR=7.9						
EGRO				S	**Sn**	**18 19 46.0**	**-3.9**
EBAD	**Badajoz**	**5.03**	**321**	P	**Pn**	**18 19 05.5**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**18 19 60.0**	**-3.3**
	1.2nm,0.3s,SNR=7.9						

*IDC **20** 18:17:49.2±1.1, 7.33N×92.27E, mb3.9/7, mb1 4.1/7, mb1mx3.8/16, mbtmp3.9/7, Error ellipse: s-maj=57.9km s-min=18.9km az=55.0*
*BJI **20** 18:17:52.7, 6.76N×92.99E, h58km, mb4.8*
*NEIC **20** 18:17:53.8±0.7, 7.33N×92.29E, h30km, mb4.1/6, Error ellipse: s-maj=19.5km s-min=10.9km az=65.0*

ISC 20 18:17:51.5±0.8, 7.3N±0.1×92.3E±0.1, h30km, n29, σ0§76/25, mb4.1/20, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**12.87**	**30**	*e*P	**P**	**18 20 55.3**	**0.0**
	2.1nm,0.6s						
VIS	**Vishakhapatnam**	**13.54**	**321**	*e*P	**P**	**18 21 02.6**	**-1.7**
JIRN	**Jiri**	**21.07**	**345**	*e*P	**P**	**18 22 35.6**	**-0.1**
	9.4nm,0.5s,mb4.4						
PKI	**Pulchoki**	**21.20**	**343**	*e*P	**P**	**18 22 36.8**	**-0.3**
	10nm,0.5s,mb4.4						
DMN	**Daman**	**21.32**	**342**	*e*P	**P**	**18 22 37.6**	**-0.7**
	11nm,0.6s,mb4.4						
KKN	**Kakani**	**21.44**	**343**	*e*P	**P**	**18 22 40.4**	**+0.9**
	12nm,0.9s,mb4.2						
GKN	**Gorkha**	**21.83**	**342**	*e*P	**P**	**18 22 44.1**	**+0.6**
	6.3nm,0.3s,mb4.5						
KOLN	**Koldanda**	**21.96**	**339**	*e*P	**P**	**18 22 46.0**	**+1.2**
	6.7nm,0.5s,mb4.3						
LSA	**Lhasa**	**22.32**	**357**	P	**P**	**18 22 51.3**	**+3.0**
LSA	**Lhasa**	**22.32**	**357**	*e*P	**P**	**18 22 49.5**	**+1.2**
	6.9nm,0.8s,mb4.1						
ENH	**Enshi**	**28.00**	**33**	*e*P	**P**	**18 23 40.7**	**-1.4**
	2.0nm,0.5s,mb4.0						
GTA	**Gaotai**	**32.70**	**11**	*e*P	**P**	**18 24 24.3**	**+0.7**
GTA				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.9						
AAK	**Ala-Archa**	**38.54**	**339**	P	**P**	**18 25 12.8**	**-0.5**
	comp=Z,2.5nm,1.0s,mb3.9						
SONM	**Songino Array**	**42.16**	**14**	P	**P**	**18 25 43.1**	**0.0**
	comp=Z,0.9nm,0.8s,mb3.5,baz=198,slow=8.1,SNR=11						
SONM				PcP	PcP	18 27 38.2	+0.4
	comp=Z,0.2nm,0.6s,baz=207,slow=3.2,SNR=3.0						
SONM	**Songino Array**	**42.16**	**14**	P	**P**	**18 25 43.1**	**0.0**
SONM				PcP	PcP	18 27 38.2	+0.4
ULN	**Ulaanbaatar**	**42.35**	**15**	*e*P	**P**	**18 25 44.0**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.2						
KURK	**Kurchatov**	**44.76**	**348**	*e*P	**P**	**18 26 04.2**	**+0.1**
	comp=Z,6.9nm,1.4s,mb4.3						
ZAL	**Zalesovo**	**46.91**	**354**	P	**P**	**18 26 21.2**	**+0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=314,slow=10,SNR=3.4						
BVAR	**Borovoye Array**	**48.97**	**343**	P	**P**	**18 26 36.9**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=149,slow=8.6,SNR=10						
WRA	**Warramunga Arr**	**49.46**	**124**	P	**P**	**18 26 41.3**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.1,baz=303,slow=8.8,SNR=13						
WRAB	**Tennant Creek**	**49.46**	**124**	*e*P	**P**	**18 26 41.4**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.4						
ASAR	**Alice Springs**	**50.99**	**128**	P	**P**	**18 26 53.1**	**+0.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=299,slow=7.4,SNR=14						
ASAR				PcP	PcP	18 28 09.7	+0.6
	comp=Z,0.4nm,0.6s,baz=294,slow=3.4,SNR=5.4						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**18 29 16.0**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=63,slow=4.3,SNR=7.3						
FINES	**FINESS Array B**	**72.36**	**333**	P	**P**	**18 29 16.0**	**-0.4**
GERES	**GERESS Array B**	**77.02**	**318**	P	**P**	**18 29 44.3**	**+0.9**
	comp=Z,1.0nm,0.8s,mb3.8,baz=101,slow=6.8,SNR=7.3						
NVAR	**Mina Array Bea**	**126.36**	**30**	PKP	PKPdf	18 36 54.7	-2.4
	comp=Z,0.5nm,0.6s,baz=329,slow=3.2,SNR=3.8						
NVAR	**Mina Array Bea**	**126.36**	**30**	PKP	PKPdf	18 36 54.7	-2.4
TXAR	**Lajitas Array**	**140.50**	**22**	PKP	PKPdf	18 37 23.3	-0.5
	comp=Z,0.2nm,0.4s,SNR=7.8						
TXAR	**Lajitas Array**	**140.50**	**22**	PKP	PKPdf	18 37 23.3	-0.6

IGQ 20 18:31:00.5, 1.05S×78.31W, h15km±2km, mb4.1, 9C-7D, Error ellipse: s-maj=2.8km s-min=0.8km az=7.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PISA	**Pisayambo**	**0.08**	**264**	⇑P	Pb	18 31 04.0	+0.8
TAMB	**Tambo**	**0.36**	**351**	⇑P	Pb	18 31 08.2	+0.2
JUIV	**Juive**	**0.40**	**203**	⇓P	Pb	18 31 08.9	+0.2
ULBA	**Ulba**	**0.41**	**194**	⇑P	Pb	18 31 08.9	+0.1
VC1	**Cotopaxi 1**	**0.42**	**347**	⇑P	Pb	18 31 09.4	+0.4
RETU	**Refugio**	**0.42**	**199**	⇓P	Pb	18 31 09.6	+0.5
RETU				S	Sb	18 31 15.6	+0.7
CUSU	**Cusua**	**0.42**	**204**	⇑P	Pb	18 31 09.5	+0.3
CUSU				S	Sb	18 31 15.1	+0.1
NAS1	**Nasa**	**0.45**	**338**	⇓P	Pb	18 31 10.1	+0.6
ARRY	**Arrayan**	**0.47**	**198**	⇑P	Pb	18 31 10.1	+0.1
IGUA	**Igualata**	**0.55**	**217**	⇓P	Pb	18 31 11.9	+0.7
ANTI	**Antisana**	**0.62**	**14**	⇓P	Pb	18 31 12.5	+0.1
JUA2	**San Juan 2**	**0.88**	**340**	⇑P	Pb	18 31 17.9	+0.9
TERV	**Terraza Guagua**	**0.92**	**341**	⇑P	Pb	18 31 18.6	+1.0
TERV				S	Sb	18 31 31.1	+1.7
PINO	**Pino**	**0.94**	**341**	⇓P	Pb	18 31 18.8	+1.0
YANA	**Yana**	**0.96**	**344**	⇑P	Pb	18 31 19.3	+1.0
ELAGU	**Cayambe Volc**	**1.07**	**17**	P	Pb	18 31 20.6	+0.4
CAYR	**Refugio Cayamb**	**1.10**	**16**	⇓P	Pb	18 31 21.8	+1.1
CAYR				S	Sb	18 31 37.5	+2.9
CAYA	**Cayambe**	**1.16**	**16**	P	Pb	18 31 22.9	+1.1
COTA	**Cotacachi**	**1.38**	**359**	P	Pn	18 31 28.8	+3.5
ECEN	**Cerro Negro**	**1.89**	**10**	P	Pn	18 31 36.7	+4.0

TAP 20 18:33:47.0, 21.18N×119.96E, h44km±2km, ML3.6, Taiwan region

*IDC **20** 19:03:44.6±1.5, 11.89N×86.35W, mb3.4/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.4/4, Error ellipse: s-maj=143.0km s-min=24.3km az=58.0*
*CASC **20** 19:03:49.2±2.2, 11.40N×86.94W, MD3.8, ML3.4*

ISC 20 19:03:52.9±0.8, 11.68N±0.09×86.7W±0.1, h84km±8km, n25, σ0§77/28, mb3.4/4, 10C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUN	**El Crucero**	**0.49**	**51**	⇓*e*P	**P**	**19 04 06.9**	**-0.1**
COPN	**Copaltepe**	**0.51**	**11**	⇑*e*P	**P**	**19 04 06.7**	**-0.5**
TICN	**Ticuantepe**	**0.57**	**52**	⇑*e*P	**P**	**19 04 07.9**	**+0.1**
XAVN	**Gruta Xavier**	**0.59**	**37**	⇓*e*P	**P**	**19 04 08.1**	**+0.1**
MGAN	**Managua**	**0.64**	**43**	⇑*e*P	**P**	**19 04 08.7**	**+0.2**
MGAN				*e*S	**S**	**19 04 25.0**	**+5.0**
	com

ACX				*i* S		**Sn**	**19 14 28.0**	**-1.4**		
IIB	**San Bernardino**	**4.36**	**326**	*e*P		**Pn**	**19 13 40.8**	**+0.2**		
PPM	**Popocatepetl**	**4.60**	**324**	*e*P		**Pn**	**19 13 46.0**	**+2.1**		
PPM				*e*S		**Sn**	**19 14 36.8**	**-1.2**		
PPM	**Popocatepetl**	**4.60**	**324**	*e*P		**Pn**	**19 13 44.9**	**+0.9**		
PPM				*e*P			19 13 46.0			
PPM				*e*S		**Sn**	**19 14 36.8**	**-1.2**		
CAIG	**El Cayaco**	**4.64**	**292**	*e*P		**Pn**	**19 13 42.8**	**-1.7**		
PLIG	**Platanillo**	**4.69**	**311**	*e*P		**Pn**	**19 13 44.6**	**-0.5**		
PLIG				*e*S		**Sn**	**19 14 37.6**	**-2.5**		
YAIG	**Yautepec**	**4.71**	**319**	*e*P		**Pn**	**19 13 46.5**	**+1.0**		
YAIG				*e*S		**Sn**	**19 14 38.6**	**-2.1**		
UNM	**Universidad Na**	**5.13**	**321**	*e*P		**Pn**	**19 13 47.5**	**-3.9**		
SCIG		**5.68**	**50**	ǁ*i*P		**Pn**	**19 13 56.1**	**-3.1**		
SCIG				*i* S		**Sn**	**19 15 06.6**	**+1.4**		
ZIIG	**Zihuatanejo**	**5.91**	**293**	*e*P		**Pn**	**19 14 00.4**	**-2.0**		
SFJM	**Santa Fe**	**8.60**	**308**	*e*P		**Pn**	**19 14 41.3**	**+1.1**		
TEIG	**Tepich**	**8.64**	**55**	*e*P		**P**	**19 14 35.6**	**-5.1**		
	29nm,0.7s									
JTS	**JuntasAbangare**	**11.68**	**114**	*e*P		**P**	**19 15 20.7**	**-1.8**		
	60nm,1.0s									
JCT	**Junction City**	**15.52**	**347**	*e*P		**P**	**19 16 13.5**	**+0.2**		
	49nm,1.4s									
LTX	**Lajitas**	**15.72**	**334**	*e*P		**P**	**19 16 16.9**	**+1.0**		
	70nm,1.5s									
TXAR	**Lajitas Array**	**15.72**	**334**	P		**P**	**19 16 17.1**	**+1.2**		
	0.3nm,0.3s,baz=151,slow=13,SNR=46									
TXAR				LR		LR	19 22 09.5			
	comp=Z,11nm,20.7s,baz=100,slow=36									
NATX	**Nacogdoches**	**16.38**	**3**	P		**P**	**19 16 23.7**	**-0.7**		
	56nm,1.3s									
DWPF	**Disney**	**18.39**	**44**	P		**P**	**19 16 44.3**	**-5.2**		
CLNB	**Carlsbad**	**18.40**	**338**	*e*P		**P**	**19 16 50.1**	**+0.5**		
MNTX	**Cornudas Mount**	**18.50**	**333**	*e*P		**P**	**19 16 51.0**	**+0.1**		
	18nm,1.1s									
GDL2	**Guadalupe Moun**	**18.52**	**337**	*e*P		**P**	**19 16 51.3**	**+0.2**		
CPRX	**Cap Rock**	**19.09**	**339**	*e*P		**P**	**19 16 56.8**	**-1.2**		
MIAR	**Mount Ida**	**19.23**	**6**	*e*P		**P**	**19 16 57.3**	**-2.3**		
	15nm,0.8s									
WMOK	**Wichita Mounta**	**19.51**	**353**	*e*P		**P**	**19 17 01.0**	**-1.8**		
	85nm,1.7s									
UALR	**University of**	**19.60**	**8**	*e*P		**P**	**19 17 01.1**	**-2.8**		
	18nm,0.8s									
PLAL	**Pickwick Lake**	**20.75**	**18**	*e*P		**P**	**19 17 11.4**	**-4.7**		
	16nm,1.1s									
GNAR	**Gosnell**	**21.18**	**13**	P		**P**	**19 17 18.8**	**-1.7**		
LPM	**Los Pinos Moun**	**21.28**	**335**	*e*P		**P**	**19 17 22.4**	**+0.9**		
LENM	**Lemitar**	**21.30**	**334**	*e*P		**P**	**19 17 23.1**	**+1.4**		
LAZ	**Ladron**	**21.57**	**334**	*e*P		**P**	**19 17 26.0**	**+1.6**		
GLAT	**Glass**	**21.64**	**14**	P		**P**	**19 17 23.5**	**-1.6**		
SWET	**Sewanee**	**21.68**	**22**	*e*P		**P**	**19 17 20.6**	**-4.9**		
TUC	**Tucson**	**21.73**	**324**	*e*P		**P**	**19 17 27.8**	**+1.8**		
	40nm,1.3s,mb4.7									
ANMO	**Albuquerque**	**21.76**	**336**	P		**P**	**19 17 27.5**	**+1.1**		
	16nm,1.2s,mb4.3,baz=149,slow=12,SNR=9.7									
ANMO	**Albuquerque**	**21.76**	**336**	*e*P		**P**	**19 17 27.0**	**+0.6**		
	34nm,1.4s,mb4.6									
WVT	**Waverly**	**21.89**	**17**	*e*P		**P**	**19 17 23.6**	**-4.0**		
	39nm,1.2s,mb4.7									
CCM	**Cathedral Cave**	**22.98**	**9**	*e*P		**P**	**19 17 36.6**	**-1.9**		
	68nm,1.2s,mb5.0									
FVM	**French Village**	**23.05**	**11**	*e*P		**P**	**19 17 38.3**	**-0.8**		
	20nm,1.1s,mb4.5									
ROSC	**El Rosal**	**23.51**	**114**	P		**P**	**19 17 47.8**	**+4.0**		
	40nm,1.0s,mb4.8,baz=106,slow=6.6,SNR=14									
CBKS	**Cedar Bluff**	**23.65**	**352**	*e*P		**P**	**19 17 45.1**	**+0.2**		
	320nm,1.7s,mb5.5									
KSU1	**Kansas State U**	**23.68**	**358**	*e*P		**P**	**19 17 44.8**	**-0.5**		
SLM	**Saint Louis**	**23.72**	**11**	*e*P		**P**	**19 17 43.8**	**-1.8**		
	69nm,1.2s,mb5.0									
SDCO	**Great Sand Dun**	**23.92**	**341**	*e*P		**P**	**19 17 49.1**	**+1.5**		
	70nm,1.6s,mb4.8									
WCI	**Wyandotte Cave**	**24.29**	**18**	*e*P		**P**	**19 17 48.1**	**-3.1**		
	33nm,0.9s,mb4.8									
WUAZ	**Wupatki**	**24.48**	**328**	*e*P		**P**	**19 17 55.4**	**+2.3**		
	97nm,1.4s,mb5.0									
BLO	**Bloomington**	**25.10**	**17**	*e*P		**P**	**19 17 57.0**	**-1.9**		
	37nm,0.9s,mb4.9									
SDV	**Santo Domingo**	**25.39**	**102**	P		**P**	**19 18 02.8**	**+0.9**		
	15nm,0.9s,mb4.5,baz=273,slow=3.7,SNR=5.3									
SDV				LR		LR	19 29 04.9			
	comp=Z,518nm,19.7s,MS4.0,baz=358,slow=39									
SDV	**Santo Domingo**	**25.39**	**102**	*e*P		**P**	**19 18 02.5**	**+0.5**		
ISCO	**Idaho Springs**	**25.85**	**342**	*e*P		**P**	**19 18 06.9**	**+0.9**		
	67nm,1.6s,mb4.9									
MSU	**Marysvale**	**27.24**	**331**	*e*P		**P**	**19 18 20.2**	**+1.4**		
MVU	**Marysvale**	**27.25**	**331**	*e*P		**P**	**19 18 19.8**	**+1.0**		
	4.8nm,0.8s,mb4.1									
ARUT	**Antelope Range**	**27.28**	**328**	*e*P		**P**	**19 18 21.3**	**+2.1**		
JFWS	**Jewell Farm**	**27.89**	**9**	*e*P		**P**	**19 18 21.9**	**-2.7**		
	38nm,0.9s,mb5.0									
SJG	**San Juan**	**28.49**	**80**	P		**P**	**19 18 28.1**	**-2.2**		
TRCR	**Troy Canyon**	**28.82**	**326**	*e*P		**P**	**19 18 34.5**	**+1.5**		
TCUT	**Toone Canyon**	**29.05**	**335**	*e*P		**P**	**19 18 34.9**	**-0.2**		
PDAR	**Pinedale Array**	**29.79**	**339**	P		**P**	**19 18 40.4**	**-1.4**		
	1.4nm,1.0s,baz=121,slow=8.6,SNR=9.6									
HVU	**Hansel Valley**	**30.17**	**334**	*e*P		**P**	**19 18 45.8**	**+0.7**		
NVAR	**Mina Array Bea**	**30.38**	**323**	P		**P**	**19 18 49.0**	**+2.0**		
	13nm,1.1s,mb4.6,baz=134,slow=9.0,SNR=45									
SNOW	**Snow King Moun**	**30.82**	**338**	*e*P		**P**	**19 18 51.5**	**+0.7**		
WUWY	**Wally Ulrich**	**30.88**	**339**	*e*P		**P**	**19 18 52.4**	**+1.0**		
YMR	**Madison River**	**31.95**	**339**	*e*P		**P**	**19 19 01.6**	**+0.9**		
QLMT	**Earthquake Lak**	**32.25**	**339**	*e*P		**P**	**19 19 05.2**	**+1.9**		
HLID	**Hailey**	**32.32**	**334**	*e*P		**P**	**19 19 04.9**	**+0.9**		
	8.3nm,0.9s,mb4.6									
GCMT	**Greycliff**	**32.53**	**342**	*e*P		**P**	**19 19 05.8**	**0.0**		
SADO	**Sadowa**	**32.54**	**22**	P		**P**	**19 19 02.3**	**-3.6**		
	8.0nm,0.9s,mb4.6,baz=243,slow=6.2,SNR=4.7									
SADO				LR		LR	19 34 29.9			
	comp=Z,644nm,18.9s,MS4.3,baz=209,slow=41									
EYMN	**Ely**	**32.71**	**5**	*e*P		**P**	**19 19 04.7**	**-2.7**		
	22nm,1.3s,mb4.9									
HRY	**Holter Researc**	**34.03**	**340**	*e*P		**P**	**19 19 19.4**	**+0.6**		
CHMT	**Chamberlain Mo**	**34.69**	**339**	*e*P		**P**	**19 19 24.2**	**-0.3**		
ULM	**Lac du Bonnet**	**34.82**	**360**	P		**P**	**19 19 23.6**	**-2.0**		
	9.5nm,1.1s,mb4.6,baz=185,slow=8.0,SNR=8.3									
ULM				LR		LR	19 37 32.3			
	comp=Z,270nm,18.4s,MS4.0,baz=343,slow=43									
MSO	**Missoula**	**34.86**	**338**	*e*P		**P**	**19 19 25.7**	**-0.2**		
	21nm,1.5s,mb4.8									
YBH	**Yreka Blue Hor**	**35.10**	**324**	P		**P**	**19 19 27.7**	**-0.4**		
	3.2nm,0.8s,mb4.3,baz=96,slow=9.2,SNR=2.8									
NEW	**Newport**	**37.25**	**336**	P		**P**	**19 19 45.9**	**-0.2**		
	6.3nm,1.0s,mb4.4,baz=149,slow=9.7,SNR=11									
NEW	**Newport**	**37.25**	**336**	P		**P**	**19 19 45.9**	**-0.2**		
FFC	**Flin Flon**	**39.60**	**354**	P		**P**	**19 20 05.5**	**-0.3**		
	72nm,1.1s,mb5.3,SNR=12									
EDM	**Edmonton**	**40.26**	**344**	*e*P		**P**	**19 20 11.2**	**-0.1**		
LPAZ	**La Paz**	**41.62**	**138**	P		**P**	**19 20 23.2**	**+0.4**		
	2.3nm,1.0s,baz=316,slow=7.8,SNR=7.3									
LPAZ				LR		LR	19 37 34.0			
	comp=Z,236nm,18.8s,baz=37,slow=36									
LPAZ	**La Paz**	**41.62**	**138**	P		**P**	**19 20 23.6**	**+0.7**		
	3.3nm,1.0s,mb3.9									
FCC	**Fort Churchill**	**43.37**	**1**	*e*P		**P**	**19 20 35.6**	**-1.0**		
	33nm,1.3s,mb4.9									
SCHQ	**Schefferville**	**45.34**	**23**	P		**P**	**19 20 50.0**	**-2.5**		
	5.7nm,0.8s,mb4.4,baz=198,slow=4.5,SNR=5.4									
SCHQ				LR		LR	19 43 30.0			
	comp=Z,653nm,20.8s,MS4.5,baz=50,slow=41									
LVC	**Limon Verde**	**45.98**	**145**	P		**P**	**19 21 00.3**	**+2.2**		
	8.4nm,1.1s,mb4.6,baz=290,slow=6.0,SNR=4.3									
LVC	**Limon Verde**	**45.98**	**145**	*e*P		**P**	**19 20 59.5**	**+1.5**		
	52nm,2.0s,mb5.1									
YKA	**Yellowknife Ar**	**48.94**	**349**	P		**P**	**19 21 19.6**	**-1.1**		
	3.8nm,0.9s,mb4.5,baz=153,slow=7.4,SNR=46									
YKA				PcP		PcP	19 22 43.6	-1.6		
	1.0nm,0.9s,baz=154,slow=4.0,SNR=4.9									
YKA				LR		LR	19 46 10.7			
	comp=Z,449nm,19.4s,MS4.5,baz=135,slow=41									
YKA	**Yellowknife Ar**	**48.94**	**349**	P		**P**	**19 21 19.6**	**-1.1**		
YKA				PcP		PcP	19 22 43.6	-1.6		
YKA				LR		LR	19 46 10.7			
YKW3	**Yellowknife Ar**	**49.01**	**349**	*e*P		**P**	**19 21 20.2**	**-1.0**		
DLBC	**Dease Lake**	**49.98**	**337**	LR		LR	19 43 02.5			
	comp=Z,989nm,18.1s,MS4.9,baz=352,slow=36									
FRB	**Frobisher Bay**	**51.91**	**15**	LR		LR	19 44 14.2			
	comp=Z,519nm,19.9s,MS4.6,baz=192,slow=37									
CFAA	**Coronel Fontan**	**53.64**	**151**	P		**P**	**19 21 58.0**	**+1.4**		
	1.4nm,1.0s,baz=320,slow=7.1,SNR=14									
BDFB	**Brasilia**	**56.33**	**121**	P		**P**	**19 22 16.2**	**-0.1**		
	3.3nm,0.8s,mb4.4,baz=269,slow=7.0,SNR=4.4									
BDFB				LR		LR	19 49 38.4			
	comp=Z,451nm,18.6s,MS4.6,baz=190,slow=39									
DAWY	**Dawson**	**57.10**	**339**	*e*P		**P**	**19 22 20.1**	**-1.1**		
MENT	**Mentasta**	**58.04**	**336**	*e*P		**P**	**19 22 28.4**	**+0.5**		

INK	**Inuvik**	**58.15**	**344**	LR		LR	19 48 56.6			
	comp=Z,1μm,18.1s,MS5.0,baz=54,slow=38									
INK	**Inuvik**	**58.15**	**344**	*e*P		**P**	**19 22 27.6**	**-1.0**		
	30nm,1.3s,mb5.2									
PWA	**Palmer West**	**59.94**	**333**	*e*P		**P**	**19 22 41.2**	**+0.1**		
MCK	**McKinley**	**60.48**	**336**	*e*P		**P**	**19 22 44.3**	**-0.4**		
	19nm,1.5s,mb4.9									
PLCA	**Paso Flores**	**60.50**	**158**	P		**P**	**19 22 45.4**	**+0.2**		
	9.0nm,1.1s,mb4.7,baz=335,slow=5.6,SNR=4.6									
PLCA				LR		LR	19 43 22.3			
	comp=Z,282nm,19.7s,MS4.4,baz=0.7,slow=30									
PLCA	**Paso Flores**	**60.50**	**158**	*e*P		**P**	**19 22 45.0**	**-0.1**		
	12nm,1.1s,mb4.9									
COLA	**College**	**60.60**	**337**	*e*P		**P**	**19 22 45.2**	**-0.4**		
COLA				LR		LR				
	comp=Z,500nm,17.0s,MS4.7									
TRQA	**Tornquist**	**61.86**	**150**	*e*P		**P**	**19 22 54.0**	**-0.5**		
	comp=Z,16nm,1.3s,mb5.0									
RCBR	**Riachuelo**	**62.92**	**105**	*e*P		**P**	**19 23 01.3**	**-0.5**		
	comp=Z,9.2nm,0.9s,mb4.9									
UNV	**Unalaska Valle**	**66.39**	**322**	*e*P		**P**	**19 23 23.8**	**0.0**		
	comp=Z,77nm,1.1s,mb5.6									
TNA	**Tin City**	**68.77**	**335**	*e*P		**P**	**19 23 38.3**	**-0.3**		
	comp=Z,12nm,1.3s,mb4.7									
JMIC	**Jan Mayen**	**74.73**	**20**	LR		LR	19 56 50.7			
	comp=Z,196nm,19.7s,MS4.4,baz=84,slow=36									
PTOM	**Tomar**	**78.39**	**52**	*e*P		**P**	**19 24 36.3**	**+1.2**		
	comp=Z,49nm,2.0s,mb5.1									
FX1	**Attu Island--F**	**78.57**	**322**	LR		LR	19 59 08.3			
	comp=Z,13nm,18.2s,baz=85,slow=36									
PVIS	**Viseu**	**78.59**	**51**	*e*P		**P**	**19 24 36.6**	**+0.5**		
	comp=Z,30nm,1.2s,mb5.1									
EVO	**Evora**	**78.89**	**53**	*e*P		**P**	**19 24 37.1**	**-0.8**		
	comp=Z,117nm,1.5s,mb5.3									
EVO				*e*R						
	comp=Z,246nm,20.0s									
MTE	**Manteigas**	**78.91**	**51**	*e*P		**P**	**19 24 37.4**	**-0.5**		
	comp=Z,29nm,1.3s,mb5.0									
EKA	**Eskdalemuir Ar**	**79.02**	**36**	P		**P**	**19 24 37.4**	**-0.8**		
	comp=Z,3.0nm,0.8s,mb4.3,baz=281,slow=4.8,SNR=6.9									
PCBR	**Castelo Branco**	**79.06**	**52**	*e*P		**P**	**19 24 38.8**	**0.0**		
	comp=Z,37nm,1.2s,mb5.2									
PBEJ	**Beja**	**79.10**	**53**	*e*P		**P**	**19 24 39.3**	**+0.3**		
	comp=Z,23nm,1.9s,mb4.8									
PBRG	**Braganca**	**79.24**	**50**	*e*P		**P**	**19 24 41.2**	**+1.5**		
	comp=Z,46nm,2.3s,mb5.0									
ROSF	**Rostrenen**	**80.35**	**43**	*e*P		**P**	**19 24 44.3**	**-1.2**		
	comp=Z,80nm,1.4s,mb5.2									
QUIF	**Quistinic**	**80.51**	**43**	*e*P		**P**	**19 24 45.5**	**-0.9**		
	comp=Z,216nm,1.9s,mb5.5									
ESPR	**Espera**	**80.90**	**54**	P		**P**	**19 24 46.5**	**-2.2**		
	comp=Z,7.4nm,0.9s,mb4.6									
ELAN	**Lanestosa**	**81.34**	**48**	P		**P**	**19 24 53.4**	**+2.5**		
	comp=Z,11nm,1.0s,mb4.8									
EADA	**Adamuz**	**81.61**	**53**	P		**P**	**19 24 50.5**	**-1.8**		
	comp=Z,40nm,2.2s,mb5.0									
ESDC	**Sonseca Array**	**81.75**	**51**	P		**P**	**19 24 52.8**	**-0.2**		
	comp=Z,7.4nm,0.9s,mb4.6,baz=292,slow=5.2,SNR=23									
ESDC	**Sonseca Array**	**81.75**	**51**	P		**P**	**19 24 52.8**	**-0.3**		
	comp=Z,5.2nm,0.8s,mb4.5									
ESLA	**Sonseca Array**	**81.75**	**51**	*e*P		**P**	**19 24 51.1**	**-2.0**		
	comp=Z,5.8nm,1.2s,mb4.4									
EMIJ	**Mijas**	**81.82**	**54**	P		**P**	**19 24 53.2**	**-0.3**		
GRR	**Gorron**	**81.91**	**42**	*e*P		**P**	**19 24 53.5**	**-0.2**		
	comp=Z,128nm,1.4s,mb5.3									
FLN	**La Foliniere**	**82.06**	**42**	*e*P		**P**	**19 24 54.3**	**-0.1**		
	comp=Z,95nm,1.3s,mb5.3									
FLN				*e*R						
	comp=Z,694nm,20.5s									
LDF	**La Druitiere**	**82.33**	**42**	*e*P		**P**	**19 24 55.7**	**-0.2**		
	comp=Z,121nm,1.5s,mb5.3									
ERON	**Agron**	**82.47**	**54**	P		**P**	**19 24 57.1**	**+0.3**		
	comp=Z,7.8nm,0.9s,mb4.6									
ECOG	**Cogollos-Vega**	**82.60**	**53**	P		**P**	**19 24 58.4**	**+0.9**		
	comp=Z,4.4nm,0.7s,mb4.6									
EALK	**Alkurruntz**	**82.71**	**47**	P		**P**	**19 25 00.2**	**+2.2**		
	comp=Z,12nm,1.0s,mb4.9									
MFF	**Saint Martin d**	**82.81**	**44**	*e*P		**P**	**19 24 59.1**	**+0.7**		
	comp=Z,101nm,1.6s,mb5.3									
EQES	**Quesada**	**82.86**	**53**	P		**P**	**19 25 00.6**	**+1.8**		
	comp=Z,9.7nm,1.0s,mb4.8									
SJPF	**Ste Jean**	**82.94**	**47**	*e*P		**P**	**19 24 59.1**	**0.0**		
	comp=Z,48nm,1.2s,mb5.1									
EVIA	**Vianos**	**83.09**	**52**	P		**P**	**19 25 00.5**	**+0.5**		
	comp=Z,22nm,1.1s,mb5.1									
EBER	**Berja**	**83.21**	**54**	P		**P**	**19 25 00.9**	**+0.2**		
	comp=Z,8.7nm,0.8s,mb4.8									
ETSF	**Etsaut**	**83.47**	**47**	*e*P		**P**	**19 25 02.0**	**+0.1**		
	comp=Z,36nm,1.1s,mb5.0									
ESAC	**San Caprasio**	**83.83**	**49**	P		**P**	**19 25 05.1**	**+1.3**		
	comp=Z,22nm,0.9s,mb5.3									
LFF	**La Frestale**	**83.84**	**45**	*e*P		**P**	**19 25 03.3**	**-0.4**		
	comp=Z,109nm,1.5s,mb5.5									
EBIE	**Bielsa**	**84.02**	**48**	P		**P**	**19 25 07.5**	**+2.8**		
	comp=Z,8.5nm,0.9s,mb4.9									
EPF	**Esparros**	**84.07**	**47**	*e*P		**P**	**19 25 04.8**	**-0.1**		
	comp=Z,32nm,1.1s,mb5.1									
EMOS	**Mosqueruela**	**84.18**	**50**	P		**P**	**19 25 09.5**	**+3.9**		
	comp=Z,16nm,0.8s,mb5.2									
EMUR	**La Murta**	**84.25**	**52**	P		**P**	**19 25 08.1**	**+2.1**		
	comp=Z,12nm,1.0s,mb5.0									
RJF	**Les Rejaudoux**	**84.27**	**45**	*e*P		**P**	**19 25 05.4**	**-0.5**		
	comp=Z,71nm,1.5s,mb5.3									
RJF				*e*R						
	comp=Z,440nm,22.0s									
TCF	**Toulx Ste Croi**	**84.47**	**44**	*e*P		**P**	**19 25 06.5**	**-0.3**		
	comp=Z,78nm,1.6s,mb5.3									
BAIF	**Baives**	**84.66**	**40**	*e*P		**P**	**19 25 09.2**	**+1.5**		
	comp=Z,59nm,1.5s,mb5.2									
NOA	**NORSAR Array B**	**84.70**	**28**	P		**P**	**19 25 08.1**	**+0.4**		
	comp=Z,5.0nm,1.1s,mb4.6,baz=297,slow=5.2,SNR=5.1									
NOA				LR		LR	20 01 39.0			
	comp=Z,197nm,20.2s,MS4.5,baz=325,slow=35									
CAF	**Calviac**	**84.75**	**45**	*e*P		**P**	**19 25 07.9**	**-0.4**		
	comp=Z,76nm,1.7s,mb5.2									
EBR	**Ebro Roquetas**	**84.77**	**49**	*e*PCP		PcP	19 25 10.0	-2.5		
BGF	**Bois d'Agland**	**84.81**	**43**	*e*P		**P**	**19 25 08.2**	**-0.4**		
	comp=Z,66nm,1.3s,mb5.3									
GIVF	**Givet**	**85.02**	**39**	*e*P		**P**	**19 25 09.8**	**+0.3**		
	comp=Z,63nm,1.4s,mb5.2									
AVF	**Avril sur Loir**	**85.08**	**43**	*e*P		**P**	**19 25 09.5**	**-0.4**		
	comp=Z,46nm,1.5s,mb5.1									
SSF	**Saint Saulge**	**85.10**	**43**	*e*P		**P**	**19 25 09.6**	**-0.4**		
	comp=Z,34nm,1.2s,mb5.1									
EMIR	**Miracle**	**85.22**	**48**	P		**P**	**19 25 11.2**	**+0.5**		
	comp=Z,11nm,0.9s,mb5.0									
MTLF	**Montolieu**	**85.30**	**46**	*e*P		**P**	**19 25 10.9**	**-0.2**		
	comp=Z,90nm,1.4s,mb5.4									
SMF	**Signal de Mont**	**85.44**	**43**	*e*P		**P**	**19 25 11.1**	**-0.6**		
	comp=Z,66nm,1.5s,mb5.2									
HGN	**Heimansgroeve**	**85.49**	**39**	*e*P		**P**	**19 25 12.1**	**+0.3**		
MEZF	**Maizieres J'vi**	**85.66**	**41**	*e*P		**P**	**19 25 12.9**	**+0.2**		
	comp=Z,126nm,1.7s,mb5.6									
ARCES	**ARCESS Array B**	**86.00**	**18**	LR		LR	20 04 14.2			
	comp=Z,264nm,19.8s,MS4.6,baz=200,slow=36									
EJON	**La Jonquera**	**86.03**	**47**	P		**P**	**19 25 15.0**	**+0.3**		
LASF	**Ste Croix**	**86.22**	**45**	*e*P		**P**	**19 25 16.2**	**+0.5**		
	comp=Z,71nm,1.4s,mb5.4									
VIVF	**Saint-Julien-l**	**86.54**	**44**	*e*P		**P**	**19 25 17.6**	**+0.4**		
	comp=Z,56nm,1.6s,mb5.2									
HAU	**Haudompre**	**86.64**	**41**	*e*P		**P**	**19 25 17.5**	**-0.1**		
	comp=Z,21nm,1.1s,mb5.0									
HAU				*e*R						
	comp=Z,389nm,19.8s									
HINF	**Hinteralfeld**	**87.02**	**41**	*e*P		**P**	**19 25 19.2**	**-0.3**		
CDF	**Champ du Feu**	**87.09**	**41**	*e*P		**P**	**19 25 19.7**	**-0.1**		
	comp=Z,73nm,1.8s,mb5.3									
ORIF	**Oris-en-Rattie**	**87.34**	**44**	*e*P		**P**	**19 25 21.9**	**+0.8**		
	comp=Z,46nm,1.4s,mb5.2									
ORIF				*e*R						
	comp=Z,365nm,19.0s									
SMRF	**Simiane la Rot**	**87.43**	**45**	*e*P		**P**	**19 25 22.1**	**+0.5**		
	comp=Z,22nm,1.1s,mb5.0									
LPL	**La Plagne**	**87.71**	**43**	*e*P		**P**	**19 25 23.8**	**+1.0**		
	comp=Z,61nm,1.6s,mb5.3									
LPG	**La Plagne**	**87.73**	**43**	*e*P		**P**	**19 25 23.9**	**+1.0**		
	comp=Z,50nm,1.6s,mb5.2									
RRL	**Cesana Torines**	**87.94**	**44**	P		**P**	**19 25 29.2**	**+5.3**		
MBDF	**Montbardon**	**88.00**	**44**	*e*P		**P**	**19 25 25.5**	**+1.3**		
	comp=Z,32nm,1.3s,mb5.1									
LSD	**Ceresole Reale**	**88.01**	**43**	P		**P**	**19 25 30.4**	**+6.2**		
RSP	**Reno Superiore**	**88.18**	**44**	P		**P**	**19 25 30.7**	**+5.6**		
LMR	**La Mourre**	**88.28**	**46**	*e*P		**P**	**19 25 25.4**	**-0.2**		
	comp=Z,86nm,1.3s,mb5.5									
BHB	**Bricherasio**	**88.29**	**44**	P		**P**	**19 25 30.9**	**+5.3**		
PZZ	**Prazzo**	**88.30**	**44**	P		**P**	**19 25 31.3**	**+5.7**		
FRF	**La Foret Royal**	**88.30**	**45**	*e*P		**P**	**19 25 25.7**	**0.0**		
	comp=Z,77nm,1.3s,mb5.5									

ORX	**Oropa**	**88.49**	**43**	P		**P**	**19 25 31.6**	**+5.0**		
ENR	**Entracque**	**88.61**	**44**	P		**P**	**19 25 31.3**	**+4.2**		
ROB	**Roburent**	**88.89**	**44**	P		**P**	**19 25 31.9**	**+3.4**		
GRA1	**Grafenberg Arr**	**89.04**	**38**	*e*P		**P**	**19 25 29.0**	**-0.1**		
	comp=Z,16nm,1.6s,mb5.1									
FIN	**Finale Ligure**	**89.14**	**44**	P		**P**	**19 25 34.0**	**+4.3**		
DBIC	**Dimbokro**	**89.14**	**83**	LR		LR	19 59 20.1			
	comp=Z,138nm,18.8s,MS4.4,baz=282,slow=32									
PCP	**Pian Castagno**	**89.25**	**44**	P		**P**	**19 25 34.6**	**+4.4**		
BRG	**Bergqiesshubel**	**90.17**	**37**	P		**P**	**19 25 41.5**	**+7.2**		
	comp=Z,18nm,1.6s,mb5.2									
PGF	**Pioggiola**	**90.27**	**46**	*e*P		**P**	**19 25 34.7**	**-0.4**		
	comp=Z,34nm,1.1s,mb5.3									
FINES	**FINESS Array B**	**90.81**	**24**	LR		LR	20 07 50.2			
	comp=Z,106nm

TIP	Timpagrande	4.46	292	eP		Pn	19 21 28.1	-0.1	
ALN	Alexandroupoli	4.51	42	eP	n	Pn	19 21 29.2	+0.4	
ALN				eS	n	Sn	19 22 19.4	-2.8	
AYDN	Tasoluk	4.61	88	i	P	Pn	19 21 33.4	+3.1	
SOI	Samo	4.79	277	eP	n	Pn	19 21 31.2	-1.7	
PE1	Pezze di Greco	4.82	313	eP	n	Pn	19 21 33.5	+0.1	
ORI	Oriolo Calabro	5.03	301	eP		Pn	19 21 35.9	-0.4	
ARG	Arkhangelos	5.04	104	eP	N	Pn	19 21 38.4	+1.9	
LTRZ	Laterza	5.07	308	eP	n	Pn	19 21 36.1	-0.7	
LTRZ	Laterza	5.07	308	eP	n	Pn	19 21 36.1	-0.7	
MTTG	Motta San Giov	5.07	276	eP	n	Pn	19 21 32.8	-4.1	
MTTG	Motta San Giov	5.07	276	eP	n	Pn	19 21 32.8	-4.0	
BTOK	Tokmak	5.13	63	i	P	Pn	19 21 41.1	+3.4	
MANT	Manisa	5.19	78	i	P	Pn	19 21 39.3	+0.7	
SG1	Sgolgore (BA)	5.29	309	eP	n	Pn	19 21 38.9	-1.1	
DNZL	Cakiroluk	5.53	87	i	P	Pn	19 21 44.4	+1.1	
CDT	Castel del Mon	5.68	309	eP	n	Pn	19 21 44.4	-1.1	
MRLC	Muro Lucano	6.01	304	eP	n	Pn	19 21 50.4	+0.4	
SGO	Sicignano	6.04	301	eP		Pn	19 21 50.2	-0.3	
ULDT	Uludag	6.06	63	i	P	Pn	19 21 50.7	-0.1	
VAE	Valguarnera	6.09	271	P		Pn	19 21 50.9	-0.3	
	1.0nm,0.3s,baz=273,slow=11,SNR=5.1								
VAE				S		Sn	19 23 02.4	+0.4	
	2.1nm,0.3s,baz=288,slow=20,SNR=2.6								
VAE				LR		LR	19 23 56.4		
	comp=Z,169nm,21.0s,baz=174,slow=35								
FGMS	Monte Sant'Ang	6.25	313	eP	n	Pn	19 21 52.2	-1.3	
FGMS	Monte Sant'Ang	6.25	313	eP	n	Pn	19 21 52.2	-1.3	
MS1	Monte Sant'Ang	6.26	313	eP	n	Pn	19 21 52.1	-1.5	
CSSN	Cassano Irpino	6.37	303	eP	n	Pn	19 21 54.9	-0.2	
CSSN	Cassano Irpino	6.37	303	eP	n	Pn	19 21 54.9	-0.2	
ISP	Isparta	6.69	85	i	P	Pn	19 22 08.7	+9.0	
ESKT	Eskisehir	7.14	72	i	P	Pn	19 22 05.6	-0.4	
HENT	Hendek	7.57	62	i	P	Pn	19 22 13.9	+1.9	
SDI	San Donato	7.58	305	eP	n	Pn	19 22 12.6	+0.4	
BZS	Buzias	8.01	358	⇑P		P	19 22 17.5	-0.7	
AQU	L'Aquila	8.17	308	P		P	19 22 20.4	-0.1	
SGKT	Sivrigoynuk	8.31	66	i	P	P	19 22 23.4	+1.1	
MLR	Muntele Rosu	8.40	19	⇓P		P	19 22 16.3	-7.2	
NRCA	Norcia	8.62	310	eP	n	P	19 22 26.2	-0.4	
MNS	Montasola	8.65	306	eP		P	19 22 26.4	-0.6	
VRI	Vrincioaia	8.96	21	⇓P		P	19 22 35.0	+3.7	
PKSM	Moragy	8.97	345	⇑P		P	19 22 30.1	-1.5	
ELDT	Eldivan	9.29	68	i	P	P	19 22 36.5	+0.6	
BRTR	Keskin Array B	9.29	73	P		P	19 22 36.0	+0.1	
	0.6nm,0.3s,baz=258,slow=13,SNR=12								
BRTR	Keskin Array B	9.29	73	P		P	19 22 36.0	+0.1	
BOJS	Bojanci	9.40	329	eP	n	P	19 22 36.6	-0.9	
BOJS				eS	n	Sn	19 24 17.5	-7.1	
BALT	Daday	9.57	62	i	P	P	19 22 41.7	+1.9	
VISS	Visnje	9.81	329	eP	n	P	19 22 43.0	-0.1	
JAVS	Javornik	10.21	327	eP	n	P	19 22 50.4	+1.8	
PERS	Pernice	10.39	332	eP	n	P	19 22 48.6	-2.5	
VOY	Vojsko	10.39	327	eP	n	P	19 22 50.2	-0.9	
VOY				eS	n	S	19 24 42.8	-6.2	
PSZ	Piszkesteto	10.43	352	eP		P	19 22 50.5	-1.1	
PSZ				pmax		pmax			
	comp=Z,5.0nm,0.7s								
PSZ	Piszkesteto	10.43	352	eP		P	19 22 50.5	-1.1	
	comp=Z,5.4nm,0.7s								
PSZ	Piszkesteto	10.43	352	eP	P	PP	19 22 55.9	-3.8	
PSZ	Piszkesteto	10.43	352	eP		P	19 22 50.5	-1.1	
	comp=Z,5.4nm,0.7s								
OBKA	Obir	10.51	330	⇑i	PN	P	19 22 50.9	-1.7	
OBKA				i	SN	S	19 24 40.0	-12	
PGF	Pioggiola	11.17	300	eP		P	19 23 01.3	-0.4	
	comp=Z,19nm,1.2s								
PGF	Pioggiola	11.17	300	eP		P	19 23 01.3	-0.4	
PGF				pmax		pmax			
	comp=Z,10.0nm,1.2s								
MOA	Molln	11.73	333	⇑i	Pn	P	19 23 08.5	-0.8	
MOA				i	Sn	S	19 25 09.4	-12	
WTTA	Wattenberg	12.34	325	i	SN	S	19 25 26.0	-10	
WTTA	Wattenberg	12.34	325	⇑i	PN	P	19 23 17.7	+0.1	
WTTA				i	Sn	S	19 25 26.0	-10	
WTTA	Wattenberg	12.34	325	i	P	P	19 23 17.7	+0.1	
WATA	Walderalm	12.42	325	⇑i	Pn	P	19 23 19.3	+0.6	
WATA				i	Sn	S	19 25 28.4	-10	
SQTA	Sankt Quirin	12.51	324	⇑i	Pn	P	19 23 20.9	+1.1	
SQTA				i	Sn	S	19 25 30.1	-10	
OKC	Ostrava-Krasne	12.55	348	eP		P	19 23 33.0	+13	
OKC				AMS		AMS	20 07 40.0		
	comp=Z,200nm,16.6s								
MOTA	Moosalm	12.65	324	i	SN	S	19 25 34.1	-10	
MOTA	Moosalm	12.65	324	⇑i	Pn	P	19 23 22.1	+0.4	
MOTA				i	Sn	S	19 25 34.1	-10	
MOTA	Moosalm	12.65	324	i	P	P	19 23 22.1	+0.4	
GERES	GERESS Array B	12.78	334	P		P	19 23 22.9	-0.5	
	comp=Z,0.1nm,0.3s,baz=163,slow=13,SNR=3.1								
DAVOX	Davos	12.86	319	S		S	19 25 36.5	-13	
	comp=Z,0.2nm,0.3s,baz=342,slow=14,SNR=3.9								
MALT	Malatya	12.93	82	P		P	19 23 23.1	-2.3	
MALT				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MALT	Malatya	12.93	82	P		P	19 23 23.1	-2.3	
	comp=Z,5.8nm,0.8s								
KHC	Kasperske Hory	13.06	335	i	P	P	19 23 35.1	+7.9	
KHC	Kasperske Hory	13.06	335	eP		P	19 23 34.0	+6.8	
KHC				AMS		AMS	20 05 10.0		
	comp=Z,300nm,18.5s								
EIL	Elat	13.32	123	P		P	19 23 26.2	-4.5	
	comp=Z,0.7nm,0.3s,baz=332,slow=14,SNR=6.6								
EIL				S		S	19 25 49.7	-10	
	comp=Z,0.5nm,0.3s,baz=300,slow=20,SNR=3.5								
EIL	Elat	13.32	123	eP		P	19 23 25.6	-5.0	
	comp=Z,3.1nm,0.6s								
DPC	Dobruska-Polom	13.39	344	eP		P	19 23 44.3	+13	
DPC				AMS		AMS	20 04 30.0		
	comp=Z,200nm,19.8s								
PRU	Pruhonice	13.51	339	eP		P	19 23 41.2	+8.2	
PRU				AMS		AMS	20 12 20.0		
	comp=Z,300nm,16.3s								
MBDF	Montbardon	13.54	307	eP		P	19 23 35.0	+1.6	
	comp=Z,6.2nm,0.9s								
MBDF	Montbardon	13.54	307	eP		P	19 23 35.0	+1.6	
MBDF				pmax		pmax			
	comp=Z,3.0nm,0.9s								
UPC	Upice	13.61	343	eP		P	19 23 44.5	+10	
AKASG	Malin Array Be	14.05	19	P		P	19 23 39.7	-0.4	
	comp=Z,0.2nm,0.3s,baz=207,slow=12,SNR=11								
AKASG	Malin Array Be	14.05	19	P		P	19 23 39.7	-0.4	
GRA1	Grafenberg Arr	14.39	331	eP		P	19 23 52.2	+7.6	
	comp=Z,6.0nm,1.1s								
GRF	Grafenberg Arr	14.39	331	eP		P	19 23 52.2	+7.6	
GRF				pmax		pmax			
	comp=Z,6.0nm,1.1s								
BRG	Berggiesshubel	14.48	339	eP		P	19 23 51.8	+6.1	
BRG				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BRG	Berggiesshubel	14.48	339	eP		P	19 23 51.8	+6.1	
	comp=Z,1.4nm,0.8s								
CABF	La Chapelle	14.87	312	eP		P	19 23 53.5	+2.6	
	comp=Z,12nm,1.0s								
CABF	La Chapelle	14.87	312	eP		P	19 23 53.5	+2.6	
CABF				pmax		pmax			
	comp=Z,6.0nm,1.0s								
VIVF	Saint-Julien-l	14.95	304	eP		P	19 23 54.4	+2.5	
MOX	Moxa	15.02	334	i	P	P	19 23 53.7	+0.8	
MOX	Moxa	15.02	334	eP		P	19 23 53.7	+0.8	
HINF	Hinteralfeld	15.12	317	eP		P	19 23 56.3	+2.2	
CLL	Collm	15.14	338	⇓i	P	P	19 24 00.2	+5.9	
CLL				pmax		pmax			
	comp=Z,13nm,1.3s								
CLL	Collm	15.14	338	⇓iP		P	19 24 00.2	+5.9	
	comp=Z,13nm,1.3s								
CLL				i			19 24 06.4		
CLL	Collm	15.14	338	⇓i		P	19 24 00.2	+5.9	
CLL				i			19 24 06.4		
CLL				e			19 25 46.0		
LASF	Ste Croix	15.22	301	eP		P	19 23 57.9	+2.5	
CDF	Champ du Feu	15.26	320	eP		P	19 23 57.5	+1.5	
	comp=Z,3.3nm,0.6s								
CDF	Champ du Feu	15.26	320	eP		P	19 23 57.5	+1.5	
CDF				pmax		pmax			
	comp=Z,2.0nm,0.6s								
HAU	Haudompre	15.50	317	eP		P	19 24 00.7	+1.6	
MTLF	Montolieu	16.15	297	eP		P	19 24 10.1	+2.6	
SMF	Signal de Mont	16.24	310	eP		P	19 24 10.9	+2.3	
SUW	Suwalki	16.43	2	eP		P	19 24 10.0	-1.0	
SUW				pmax		pmax			
	comp=Z,83nm,0.9s								
SUW	Suwalki	16.43	2	eP		P	19 24 10.0	-0.9	
	comp=Z,83nm,0.9s								
SUW	Suwalki	16.43	2	eP		P	19 24 10.0	-1.0	
	comp=Z,83nm,0.9s								
MEZF	Maizieres J'vi	16.50	317	eP		P	19 24 13.6	+1.7	
AVF	Avril sur Loir	16.60	309	eP		P	19 24 15.8	+2.6	
	comp=Z,20nm,1.4s								
AVF	Avril sur Loir	16.60	309	eP		P	19 24 15.8	+2.6	
AVF				pmax		pmax			
	comp=Z,10.0nm,1.4s								
SSF	Saint Saulge	16.63	310	eP		P	19 24 16.0	+2.4	
SSF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
SSF	Saint Saulge	16.63	310	eP		P	19 24 16.0	+2.4	
	comp=Z,7.2nm,0.8s								
BGF	Bois d'Agland	16.81	308	eP		P	19 24 18.0	+2.1	
TCF	Toulx Ste Croi	17.10	307	eP		P	19 24 22.0	+2.4	
ZEI	Tsey	17.44	66	eP		P	19 24 26.3	+2.5	
GIVF	Givet	17.58	321	eP		P	19 24 27.4	+1.9	
BAIF	Baives	17.86	320	eP		P	19 24 31.8	+2.8	
	comp=Z,17nm,1.0s								
BAIF	Baives	17.86	320	eP		P	19 24 31.8	+2.8	
BAIF				pmax		pmax			
	comp=Z,9.0nm,1.0s								
MFF	Saint Martin d	18.73	306	eP		P	19 24 41.6	+1.8	
LDF	La Druitiere	19.51	311	eP		P	19 24 50.3	+1.3	
	comp=Z,22nm,1.0s								
OBN	Obninsk	20.10	25	⇓eP		P	19 24 53.4	-2.0	
OBN				pmax		pmax			
	comp=Z,17nm,0.7s								
OBN				MLR		MLR			
	comp=Z,100nm,20.0s,MS3.2								
OBN	Obninsk	20.10	25	eP		P	19 24 53.0	-2.4	
	comp=Z,17nm,0.6s								
OBN	Obninsk	20.10	25	eP		P	19 24 53.4	-2.0	
	comp=Z,100nm,20.0s								
ELOJ	Sierra Loja	20.83	277	P		P	19 24 56.5	-6.7	
ELOJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ELOJ	Sierra Loja	20.83	277	P		P	19 24 56.5	-6.6	
	comp=Z,1.4nm,0.3s								
SGMF	Saint Gilles	20.85	309	eP		P	19 25 02.9	-0.4	
VSU	Vasula	21.09	7	c iP		P	19 25 04.6	-1.1	
VSU	Vasula	21.09	7	c iP		P	19 25 04.6	-1.1	
HFS	Hagfors	23.18	349	P		P	19 25 24.6	-1.7	
	comp=Z,6.2nm,0.6s,mb4.2,baz=150,slow=12,SNR=18								
FINES	FINESS Array B	24.00	5	P		P	19 25 32.9	-1.4	
	comp=Z,6.2nm,0.8s,mb4.1,baz=184,slow=9.9,SNR=24								
FINES	FINESS Array B	24.00	5	eP		P	19 25 33.2	-1.1	
NAO01	NORSAR Array S	24.31	347	eP		P	19 25 37.4	0.0	
	comp=Z,6.0nm,0.7s,mb4.1								
NAO01	NORSAR Array S	24.31	347	eP		P	19 25 37.4	0.0	
	comp=Z,6.0nm,0.7s,mb4.1								
NB2	NORSAR Subarra	24.44	347	P		P	19 25 38.2	-0.4	
	comp=Z,10nm,1.0s,mb4.2,baz=153,slow=9.3								
NB2	NORSAR Subarra	24.44	347	P		P	19 25 38.2	-0.4	
NB2				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.2								
NOA	NORSAR Array B	24.44	347	P		P	19 25 37.6	-1.0	
	comp=Z,6.6nm,0.8s,mb4.1,baz=156,slow=12,SNR=16								
NOA				LR		LR	19 36 27.1		
	comp=Z,58nm,21.4s,MS3.0,baz=185,slow=39								
EKA	Eskdalemuir Ar	24.61	324	P		P	19 25 40.5	+0.2	
	comp=Z,3.3nm,0.6s,mb4.0,baz=124,slow=9.8,SNR=10								
KAF	Kangasniemi	24.68	5	ep		P	19 25 40.4	-0.5	
	comp=Z,4.5nm,0.6s,mb4.2,baz=181,slow=9.0								
KAF	Kangasniemi	24.68	5	eP		P	19 25 40.4	-0.5	
KAF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.2								
JOF	Joensuu	25.97	10	ep		P	19 25 51.1	-2.0	
	comp=Z,6.6nm,0.5s,mb4.4								
SVE	Sverdlovsk	31.90	40	eP		P	19 26 46.0	-0.4	
ARCES	ARCESS Array B	32.05	2	P		P	19 26 45.8	-1.8	
	comp=Z,6.5nm,0.6s,mb4.6,baz=194,slow=10,SNR=34								
KEV	Kevo	32.32	3	ep		P	19 26 47.8	-2.2	
	comp=Z,0.9nm,0.3s,mb4.1								
KEV	Kevo	32.32	3	eP		P	19 26 47.8	-2.2	
KEV				pmax		pmax			
	comp=Z,1.0nm,0.3s,mb4.1								
CHKZ	Chkalovo	36.75	48	eP		P	19 27 26.9	-1.3	
CHKZ				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
CHKZ	Chkalovo	36.75	48	eP		P	19 27 26.9	-1.3	
	comp=Z,2.6nm,0.6s,mb4.2								
CHKZ	Chkalovo	36.75	48	eP		P	19 27 26.9	-1.3	
	comp=Z,2.6nm,0.6s,mb4.2								
DBIC	Dimbokro	39.33	225	P		P	19 27 48.0	-2.3	
	comp=Z,4.2nm,0.9s,mb4.2,baz=347,slow=12,SNR=4.4								
AAK	Ala-Archa	39.87	66	i	P	P	19 27 52.7	-1.7	
AAK				pmax		pmax			
	comp=Z,3.0nm,1.2s,mb3.9								
AAK	Ala-Archa	39.87	66	i	P	P	19 27 52.7	-1.7	
	comp=Z,3.0nm,1.2s,mb3.9								
KMBO	Kilima Mbogo	41.02	156	P		P	19 28 00.5	-3.6	
	comp=Z,1.9nm,0.3s,mb4.2,baz=75,slow=23,SNR=6.1								
KURK	Kurchatov	41.64	53	eP		P	19 28 08.7	0.0	
KURK	Kurchatov	41.64	53	eP		P	19 28 07.1	-1.6	
	comp=Z,3.4nm,1.0s,mb3.9								
KURK	Kurchatov	41.64	53	eP		P	19 28 07.1	-1.6	
	comp=Z,3.4nm,1.0s,mb3.9								
NVS	Novosibirsk	44.17	47	eP		P	19 28 27.8	-1.6	
NVS				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.4								
NVS				pmax		pmax			
	comp=E,2.0nm,0.7s								
NVS	Novosibirsk	44.17	47	eP		P	19 28 27.8	-1.6	
	comp=E,4.0nm,0.5s,mb4.4								
ZAL	Zalesovo	45.15	48	P		P	19 28 35.1	-2.1	
	comp=E,2.6nm,0.5s,mb4.3,baz=195,slow=9.1,SNR=12								
KOLN	Koldanda	51.89	82	eP		P	19 29 26.7	-3.2	
	comp=E,5.0nm,0.7s,mb4.5								
GKN	Gorkha	52.60	81	eP		P	19 29 31.8	-3.4	
	comp=E,7.3nm,0.6s,mb4.8								
DMN	Daman	53.15	81	eP		P	19 29 35.9	-3.4	
	comp=E,19nm,1.0s,mb5.0								
KKN	Kakani	53.20	81	eP		P	19 29 36.2	-3.5	
	comp=E,8.5nm,0.9s,mb4.7								
PKI	Pulchoki	53.40	81	eP		P	19 29 37.4	-3.8	
	comp=E,8.0nm,1.1s,mb4.6								
JIRN	Jiri	53.98	81	eP		P	19 29 41.9	-3.4	
	comp=E,5.3nm,0.6s,mb4.6								
LSA	Lhasa	56.88	76	eP		P	19 30 04.2	-2.3	
LSA				pmax		pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
LSA	Lhasa	56.88	76	eP		P	19 30 04.2	-2.3	
	comp=Z,1.6nm,0.6s,mb4.2								
LSA	Lhasa	56.88	76	eP		P	19 30 04.2	-2.3	
	comp=Z,1.6nm,0.6s,mb4.2								
ZAK	Zakamensk	57.01	49	eP		P	19 30 04.3	-2.7	
ZAK				pmax		pmax			
	comp=Z,1.0nm,1.1s,mb3.8								
ZAK	Zakamensk	57.01	49	eP		P	19 30 04.3	-2.7	
	comp=Z,1.0nm,1.1s,mb3.8								
TIXI	Tiksi	59.76	21	eP		P	19 30 23.2	-2.8	
TIXI				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
TIXI	Tiksi	59.76	21	eP		P	19 30 23.2	-2.8	
	comp=Z,3.0nm,1.0s,mb4.3								
SONM	Songino Array	59.87	51	P		P	19 30 24.6	-2.4	
	comp=Z,2.2nm,1.1s,mb4.1,baz=274,slow=7.2,SNR=8.9								
SONM				PcP		PcP	19 31 11.6	-1.7	
	comp=Z,1.7nm,1.0s,baz=288,slow=3.9,SNR=6.4								
BOD	Bodaibo	60.07	38	eP		P	19 30 24.3	-3.9	
BOD				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
BOD	Bodaibo	60.07	38	eP		P	19 30 24.3	-3.9	
	comp=Z,4.0nm,1.0s,mb4.4								
CM31	Chiang Mai Arr	68.75	83	eP		P	19 31 20.4	-5.0	
	comp=Z,1.3nm,0.6s,mb4.0								
BILL	Bilibino	71.30	13	eP		P	19 31 37.4	-2.7	
BILL				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.3								
BILL				MLR		MLR			
	comp=Z,1μm,18.0s								
BILL	Bilibino	71.30	13	eP		P	19 31 37.4	-2.7	
	comp=Z,1μm,18.0s								
CN2	Changchun	73.38	47	eP		P	19 31 51.4	-1.4	
YKA	Yellowknife Ar	74.34	341	P		P	19 31 56.0	-1.9	
	comp=Z,0.5nm,0.8s,mb3.5,baz=37,slow=5.1,SNR=4.9								
SSE	Sheshan	78.21	60	P		P	19 32 21.6	+1.2	
SSE				AMB		AMB			
	comp=Z,52nm,4.3s								
WRA	Warramunga Arr	119.28	93	PKP		PKPdf	19 39 06.7	-4.9	
	comp=Z,0.3nm,0.6s,baz=312,slow=2.2,SNR=5.5								
ASAR	Alice Springs	120.88	97	PKP		PKPdf	19 39 10.7	-4.0	
	comp=Z,0.3nm,0.4s,baz=306,slow=1.7,SNR=7.1								

*NEIC **20** 19:22:31.2±0.2,43.76N×105.14W,ML3.7,Error ellipse: s-maj=3.8km s-min=3.4km az=162.0,Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **20** 19:22:31.3±0.7,43.76N×105.46W,mb4.1/7,mb1 4.0/14, mb1mx3.9/24,mbtmp3.9/14,ML4.0/7,MS4.5/1,Ms1 4.5/1, ms1mx3.0/25,Error ellipse: s-maj=17.7km s-min=7.4km az=152.0*

ISC 20 19:22:29.3±0.3,43.77N±0.03×105.12W±0.04,n63, σ1°20/64,mb4.1/7,MS4.5/1,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PHWY	Pilot Hill	2.48	186	eP		Pn	19 23 13.2	+1.6
PHWY				eS		Sn	19 23 46.5	+3.6
LAO	LASA Array	3.02	345	eP		Pn	19 23 20.7	+1.5
PDAR	Pinedale Array	3.40	254	Pn		Pn	19 23 24.8	+0.2
PDAR				Lg			19 24 08.3	
PDAR	Pinedale Array	3.40	254	Pn		Pn	19 23 24.8	+0.2
	24nm,0.3s,baz=73,slow=15,SNR=356							
PDAR				Lg			19 24 08.3	
	35nm,0.3s,baz=73,slow=31,SNR=7.9							
BW06	Boulder Array	3.40	254	eP		Pn	19 23 24.8	+0.2
BW06				eS		Sn	19 24 05.4	-0.8
GCMT	Greycliff	3.82	304	eP		Pn	19 23 31.3	+0.7
LKWY	Lake	3.88	284	eP		Pn	19 23 33.0	+1.5
ISCO	Idaho Springs	3.98	186	eP		Pn	19 23 34.4	+1.5
LOHW	Long Hollow	3.98	270	eP		Pn	19 23 33.4	+0.5
MOOW	Moose Ponds	4.08	272	eP		Pn	19 23 35.3	+1.0
WUWY	Wally Ulrich	4.09	269	eP		Pn	19 23 36.4	+2.0
SNOW	Snowy King Moun	4.11	268	eP		Pn	19 23 35.5	+0.9
YNR	Norris Junctio	4.11	285	eP		Pn	19 23 35.0	+0.3
YFT	Old Faithful	4.18	281	eP		Pn	19 23 36.6	+1.0
IMW	Indian Meadow	4.22	274	eP		Pn	19 23 37.6	+1.4
TPAW	Teton Pass	4.25	268	eP		Pn	19 23 37.4	+0.7
YMR	Madison River	4.30	284	eP		Pn	19 23 39.0	+1.6
AHID	Auburn Hatcher	4.49	259	eP		Pn	19 23 40.4	+0.3
RRI2	Red Ridge	4.53	267	eP		Pn	19 23 40.7	0.0
QLMT	Earthquake Lak	4.66	285	eP		Pn	19 23 42.5	0.0
BOZ	Bozeman (W)	5.01	294	eP		Pn	19 23 45.9	-1.6
HWUT	Hardware Ranch	5.22	248	eP		Pn	19 23 49.7	-0.8
	39nm,0.3s							
TCUT	Toone Canyon	5.36	243	eP		Pn	19 23 51.7	-0.7
HRY	Holter Researc	5.58	304	eP		Pn	19 23 55.0	-0.5
MCMT	McKenzie Canyo	5.65	283	eP		Pn	19 23 58.5	+2.0
DAU	Daniels Canyon	5.67	236	eP		Pn	19 23 56.1	-0.4
HVU	Hansel Valley	5.98	253	eP		Pn	19 24 00.3	-0.9
SDCO	Great Sand Dun	6.03	183	eP		Pn	19 24 02.8	+1.0
	7.6nm,0.4s							
NOQ	North Oquirrh	6.06	241	eP		Pn	19 24 01.5	-0.9
SRU	San Rafael	6.18	223	eP		Pn	19 24 02.6	-1.3
TMUT	Trail Mountain	6.39	228	eP		Pn	19 24 07.3	+0.3
CBKS	Cedar Bluff	6.39	139	eP		Pn	19 24 07.4	+0.4
	52nm,0.6s							
NLU	North Lily Min	6.44	236	eP		Pn	19 24 07.0	-0.8
BGU	Big Grassy Mou	6.52	247	eP		Pn	19 24 07.1	-1.7
CHMT	Chamberlain Mo	6.54	302	eP		Pn	19 24 08.2	-0.9
HLID	Hailey	6.75	271	eP		Pn	19 24 12.9	+0.9
	4.6nm,0.4s							
DUG	Dugway	6.76	241	eP		Pn	19 24 10.4	-1.8
	21nm,0.4s							
MSO	Missoula	6.94	299	eP		Pn	19 24 13.7	-0.9
	4.6nm,0.4s							
MSU	Marysvale	7.48	228	eP		Pn	19 24 20.8	-1.5
MVU	Marysvale	7.51	228	eP		Pn	19 24 21.6	-1.0
	14nm,0.5s							
KSU1	Kansas State U	7.91	123	P		Pn	19 24 29.9	+1.7
WALA	Waterton Lakes	8.05	314	eP		P	19 24 28.5	-1.9
	4.9nm,0.5s							
ARUT	Antelope Range	8.69	229	eP		P	19 24 38.4	-0.8
ULM	Lac du Bonnet	9.04	41	Pn		P	19 24 43

*IDC **20** 19:49:16.4±0.8, 33.85N×142.54E, mb3.8/8, mb1 4.0/10, mb1mx3.9/20, mbtmp3.8/10, ML3.7/2, Error ellipse: s-maj=23.3km s-min=19.2km az=100.0*
*MOS **20** 19:49:19.5±0.6, 33.75N×142.57E, h37km, mb4.3/4, Error ellipse: s-maj=35.9km s-min=13.1km az=125.2*
*JMA **20** 19:49:19.2±0.3, 33.83N×142.59E, h75km, M3.6*
*NEIC **20** 19:49:22.8±1.8, 33.78N×142.45E, h46km±15km, mb4.3/4, Error ellipse: s-maj=17.6km s-min=11.6km az=77.0*
*BJI **20** 19:49:27.4, 34.78N×141.81E, h10km, mB4.7, mb4.0, Ms4.1, Msz3.6*

ISC 20 19:49:19.7±1.1, 33.79N±0.06×142.53E±0.07, h37km±9km, n41, σ0§85/53, mb4.0/13, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BSO1	**Boso 1**	**1.55**	**304**	P		**P**	**19 49 45.5**	**+0.2**
BSO1				S		**S**	**19 50 06.0**	**+1.6**
BSO2	**Boso 2**	**1.75**	**304**	S		**S**	**19 50 09.8**	**+0.2**
BSO3	**Boso 3**	**1.95**	**302**	P		**P**	**19 49 51.7**	**+0.6**
BSO3				S		**S**	**19 50 15.6**	**+1.0**
BSO4	**Boso 4**	**2.17**	**304**	P		**P**	**19 49 55.2**	**+1.0**
BSO4				S		**S**	**19 50 22.2**	**+2.1**
CHOJ	**Chosi**	**2.35**	**325**	P		**P**	**19 49 57.4**	**+0.6**
JHJ2	**Mitsune**	**2.37**	**254**	P		**P**	**19 49 57.6**	**+0.6**
JHJ	**Hachijo jima 2**	**2.39**	**255**	Pn		**P**	**19 49 57.8**	**+0.5**
	41nm,0.3s,baz=77,slow=19,SNR=6.3							
JHJ				Sn		**S**	**19 50 25.6**	**0.0**
	69nm,0.3s,baz=60,slow=24,SNR=7.1							
JIM2	**Oshima 3**	**2.73**	**291**	P		**P**	**19 50 01.7**	**-0.5**
JIM2				S		**S**	**19 50 33.8**	**-0.5**
JIZS	**Izushimoda**	**3.16**	**288**	P		**P**	**19 50 08.3**	**0.0**
JIZS				*e*S		**S**	**19 50 44.5**	**-0.8**
JOD2	**Odawara 2**	**3.20**	**298**	P		**P**	**19 50 08.2**	**-0.6**
JOD2				S		**S**	**19 50 45.7**	**-0.5**
JAG	**Ashikaga**	**3.64**	**317**	P		**P**	**19 50 14.2**	**-0.9**
JYN	**Shimob**	**3.70**	**299**	P		**P**	**19 50 15.8**	**-0.2**
JYN				S		**S**	**19 50 58.3**	**-0.7**
JRY	**Ryogami san**	**3.72**	**308**	P		**P**	**19 50 15.7**	**-0.5**
JRY				S		**S**	**19 50 58.7**	**-0.7**
JMM	**Marumori**	**4.30**	**341**	P		**P**	**19 50 21.8**	**-2.8**
JMM				S		**S**	**19 51 07.7**	**-6.5**
MAJO	**Matsushiro**	**4.48**	**309**	*e*P		**P**	**19 50 27.0**	**0.0**
MAT	**Matsushiro**	**4.48**	**309**	*e*P		**P**	**19 50 28.0**	**+0.9**
MAT				*e*S		**S**	**19 51 16.0**	**-2.7**
MAT	**Matsushiro**	**4.48**	**309**	P		**P**	**19 50 27.6**	**+0.6**
MAT				S		**S**	**19 51 16.4**	**-2.3**
MAT	**Matsushiro**	**4.48**	**309**	P		**P**	**19 50 27.4**	**+0.3**
MAT				S		**S**	**19 51 18.5**	**-0.2**
JNS	**Sasagawa**	**4.79**	**328**	P		**P**	**19 50 31.2**	**-0.3**
ASAJ	**Asahikawa**	**10.31**	**0**	P		**P**	**19 51 43.3**	**-5.0**
ASAJ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**10.31**	**0**	Pn		**P**	**19 51 43.2**	**-5.0**
	comp=Z,0.9nm,0.3s,baz=315,slow=31,SNR=6.0							
HHC	**Hu-ho-hao-te**	**25.52**	**295**	*e*P		**P**	**19 54 50.1**	**+3.6**
HHC				AMB		AMB		
	comp=Z,13nm,0.7s,mb4.6							
ENH	**Enshi**	**28.16**	**272**	P		**P**	**19 55 09.5**	**-1.3**
	comp=Z,3.0nm,0.5s,mb4.2							
ULN	**Ulaanbaatar**	**30.01**	**309**	*e*P		**P**	**19 55 27.9**	**+0.8**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.2							
ULN	**Ulaanbaatar**	**30.01**	**309**	*e*P		**P**	**19 55 27.9**	**+0.8**
	comp=Z,7.0nm,1.3s,mb4.2							
SONM	**Songino Array**	**30.43**	**308**	P		**P**	**19 55 31.4**	**+0.6**
	comp=Z,2.0nm,0.8s,mb3.9,baz=109,slow=6.4,SNR=14							
BOD	**Bodaibo**	**30.77**	**330**	*e*P		**P**	**19 55 33.4**	**-0.3**
ZAL	**Zalesovo**	**44.82**	**315**	P		**P**	**19 57 30.9**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.7,baz=346,slow=8.3,SNR=2.6							
NVS	**Novosibirsk**	**45.77**	**316**	*e*P		**P**	**19 57 39.4**	**+0.1**
KURK	**Kurchatov**	**48.69**	**311**	*e*P		**P**	**19 58 02.2**	**+0.1**
KURK				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.3							
KURK	**Kurchatov**	**48.69**	**311**	*e*P		**P**	**19 58 02.2**	**0.0**
	comp=Z,2.3nm,0.7s,mb4.3							
WRAB	**Tennant Creek**	**53.99**	**190**	*e*P		**P**	**19 58 41.8**	**-0.8**
WRAB				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.2							
WRAB	**Tennant Creek**	**53.99**	**190**	*e*P		**P**	**19 58 41.8**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**54.00**	**190**	P		**P**	**19 58 42.4**	**-0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=7,9,slow=7.5,SNR=26							
ASAR	**Alice Springs**	**57.72**	**189**	P		**P**	**19 59 09.4**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.7,baz=16,slow=11,SNR=8.1							
YKA	**Yellowknife Ar**	**66.16**	**30**	P		**P**	**20 00 05.1**	**-0.1**
YKA	**Yellowknife Ar**	**66.16**	**30**	P		**P**	**20 00 05.0**	**-0.1**
	comp=Z,0.2nm,0.7s,mb3.2,baz=297,slow=6.4,SNR=3.9							
FINES	**FINESS Array B**	**72.11**	**333**	P		**P**	**20 00 42.4**	**+0.7**
	comp=Z,0.6nm,0.7s,mb3.6,baz=45,slow=8.1,SNR=4.1							
BRTR	**Keskin Array B**	**81.70**	**312**	P		**P**	**20 01 35.8**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=53,slow=7.2,SNR=3.8							
TXAR	**Lajitas Array**	**91.36**	**53**	P		**P**	**20 02 24.6**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.9,baz=225,slow=2.6,SNR=2.8							
LPAZ	**La Paz**	**147.38**	**65**	PKPbc		PKPdf	20 09 02.8	+5.2
	comp=Z,0.7nm,0.5s,baz=218,slow=5.1,SNR=4.7							

IDC 20 20:11:13.2±91.0, 16.68S×173.78E, mb3.8/3, mb1 4.0/3, mb1mx3.8/11, mbtmp3.8/3, MS3.7/1, Ms1 3.7/1, ms1mx2.8/17, Error ellipse: s-maj=1576.0km s-min=150.2km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**26.90**	**282**	LR		LR	20 26 44.7	
	comp=Z,135nm,18.0s,baz=116,slow=35							
STKA	**Stephens Creek**	**32.85**	**237**	P		P	20 17 48.6	-2.3
	0.9nm,0.7s,baz=61,slow=13,SNR=2.8							
WRA	**Warramunga Arr**	**37.52**	**259**	P		P	20 18 29.4	-1.4
	0.1nm,0.4s,baz=87,slow=7.8,SNR=16							
ASAR	**Alice Springs**	**37.97**	**253**	P		P	20 18 32.7	-1.9
	1.8nm,0.4s,baz=80,slow=8.9,SNR=51							

*BJI **20** 20:28:40.1, 11.62N×125.50E, h23km, mB4.9, mb4.4, Ms3.9*
*NEIC **20** 20:28:42.1±0.2, 11.95N×125.45E, h10km, mb4.6/12, Error ellipse: s-maj=12.2km s-min=4.6km az=74.0*
NEIC Felt [II PIVS] at Borongan.
*MOS **20** 20:28:43.7±1.0, 11.94N×125.43E, h33km, mb4.5/7, Error ellipse: s-maj=27.9km s-min=9.5km az=111.0*
*MAN **20** 20:28:45.6, 12.17N×125.60E, h38km, mb5.2, ML4.1, MS4.3*
MAN Intensity II Borongan Eastern Samar.
*IDC **20** 20:28:45.0±4.2, 11.96N×125.41E, h28km±28km, mb4.3/16, mb1 4.3/17, mb1mx4.3/21, mbtmp4.4/17, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/22, Error ellipse: s-maj=34.0km s-min=10.8km az=72.0*

ISC 20 20:28:46.6±0.5, 12.07N±0.03×125.54E±0.05, h58km±4km, n111, σ1§09/116, mb4.5/39, MS3.6/1, 6C-5D, Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BESP	**Borongan**	**0.47**	**192**	*e*P		**P**	**20 28 57.9**	**-0.3**
BESP				*e*S		**S**	**20 29 06.5**	**0.0**
CNP	**Catarman**	**0.96**	**298**	*e*P		**P**	**20 29 03.7**	**-0.5**
CNP				*e*S		**S**	**20 29 16.8**	**-0.6**
MMPH	**Masbate**	**1.89**	**279**	⇓*i*P		**P**	**20 29 18.5**	**+1.3**
MSLP	**Maasin**	**2.03**	**199**	*e*P		**P**	**20 29 20.7**	**+1.6**
PVCP	**Virac**	**2.03**	**319**	*e*P		**P**	**20 29 18.4**	**-0.8**
SCPH	**Surigao**	**2.27**	**181**	*e*P		**P**	**20 29 22.4**	**-0.2**
SCPH				*e*S		**S**	**20 29 45.5**	**-3.8**
LLP	**Lapu-Lapu**	**2.32**	**222**	⇑*i*P		**P**	**20 29 23.4**	**+0.1**
LLP				*e*S		**S**	**20 29 49.9**	**-0.7**
RCP	**Roxas**	**2.78**	**260**	⇑*e*P		**P**	**20 29 29.9**	**+0.1**
TBP	**Tagbilaran**	**2.88**	**215**	*e*P		**P**	**20 29 31.7**	**+0.6**
TBP				*e*S		**S**	**20 30 01.8**	**-2.9**
AUQP	**San Andres**	**3.06**	**294**	*e*P		**P**	**20 29 35.5**	**+1.7**
BUTP	**Butuan**	**3.08**	**178**	*e*P		**P**	**20 29 35.3**	**+1.3**
GUIM	**Jordan**	**3.23**	**244**	*e*P		**P**	**20 29 36.8**	**+0.8**
OTRP	**Odiongan**	**3.45**	**275**	*e*P		**P**	**20 29 38.8**	**-0.4**
GQP	**Guinayangan**	**3.52**	**302**	*e*P		**P**	**20 29 39.2**	**-1.0**
CGP	**Cagayan de Oro**	**3.68**	**193**	⇑*i*P		**P**	**20 29 42.6**	**+0.1**
BOAC	**Boac**	**3.86**	**291**	*e*P		**P**	**20 29 44.0**	**-1.0**
DCPH	**Dipolog City**	**4.07**	**212**	⇑*e*P		**P**	**20 29 48.1**	**+0.2**
DCPH				*e*S		**S**	**20 30 34.9**	**+0.1**
BUKP	**Musuan**	**4.18**	**186**	*e*P		**P**	**20 29 50.5**	**+1.0**
SJMP	**San Jose**	**4.34**	**276**	*e*P		**P**	**20 29 52.3**	**+0.6**
POLP	**Polillo Island**	**4.39**	**307**	*e*P		**P**	**20 29 51.1**	**-1.3**
CUYO	**Cuyo Island**	**4.59**	**255**	*e*P		**P**	**20 29 56.1**	**+0.8**
PAGZ	**Pagadian**	**4.70**	**207**	*e*P		**P**	**20 29 57.4**	**+0.7**
KCP	**Kidapawan**	**5.04**	**185**	⇓*e*P		**P**	**20 30 03.2**	**+1.6**
KCP				*i* S		**S**	**20 31 03.0**	**+3.8**
MATI	**Mati**	**5.14**	**172**	*e*P		**P**	**20 30 03.7**	**+0.8**
IPIL	**Ipil**	**5.16**	**215**	*e*P		**P**	**20 30 04.7**	**+1.6**
BUSP	**Čoron**	**5.22**	**270**	*e*P		**P**	**20 30 03.8**	**-0.2**
BALP	**Baler**	**5.30**	**314**	*e*P		**P**	**20 30 05.3**	**+0.2**
LUBP	**Lubang**	**5.42**	**288**	*e*P		**P**	**20 30 06.9**	**+0.1**
PCPH	**Palayan**	**5.54**	**309**	*e*P		**P**	**20 30 06.0**	**-2.4**
PCPH				*i* S		**S**	**20 31 05.3**	**-6.3**
PALP	**Palanan**	**5.81**	**329**	*e*P		**P**	**20 30 10.6**	**-1.5**
CAUP	**Cauayan**	**6.04**	**324**	*e*P		**P**	**20 30 14.4**	**-1.0**
ENPP	**El Nido**	**6.05**	**263**	*e*P		**P**	**20 30 17.1**	**+1.6**
SCZP	**Santa Cruz**	**6.59**	**305**	*e*P		**P**	**20 30 24.5**	**+1.4**
BOLP	**Bolinao**	**6.94**	**309**	*e*P		**P**	**20 30 28.6**	**+0.7**
SGCP	**Mt. Cagua**	**7.00**	**332**	*e*P		**P**	**20 30 27.1**	**-1.8**
APYP	**Conner**	**7.10**	**325**	*e*P		**P**	**20 30 28.1**	**-2.1**
ABRA	**Dolores**	**7.25**	**321**	*e*P		**P**	**20 30 30.7**	**-1.6**
JOW	**Kunigami**	**14.91**	**10**	Pn		**P**	**20 32 16.2**	**+0.7**
	1.1nm,0.3s,baz=149,slow=17,SNR=7.3							
JOW				LR		LR	20 36 50.6	
	comp=Z,164nm,21.1s,baz=339,slow=32							
KSM	**Kuching**	**18.41**	**236**	*e*P		**P**	**20 33 00.7**	**+1.3**
WHN	**Wuhan**	**21.11**	**332**	P		**P**	**20 33 29.5**	**+1.0**
GYA	**Guiyang**	**22.81**	**312**	⇓*i*P		**P**	**20 33 45.8**	**+0.3**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2							
ENH	**Enshi**	**23.45**	**323**	*e*P		**P**	**20 33 52.1**	**+0.5**
	comp=Z,11nm,0.8s,mb4.3							
KAKA	**Kakadu**	**25.55**	**164**	⇓*i*P		**P**	**20 34 10.5**	**-1.5**
	comp=Z,24nm,0.6s,mb4.9							
CM31	**Chiang Mai Arr**	**26.41**	**287**	*e*P		**P**	**20 34 19.3**	**-0.7**
	comp=Z,6.6nm,0.7s,mb4.3							
XAN	**Xi'an**	**26.61**	**328**	P		**P**	**20 34 21.1**	**-0.5**
XAN				AP		pP	20 34 31.8	-3.9
XAN				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.2							
CD2	**Chengdu**	**27.51**	**316**	*e*P		**P**	**20 34 29.0**	**-0.9**
FITZ	**Fitzroy Crossi**	**29.97**	**180**	⇓*i*P		**P**	**20 34 50.6**	**-1.4**
	comp=Z,20nm,0.5s,mb5.1							
HHC	**Hu-ho-hao-te**	**31.19**	**339**	*e*P		**P**	**20 35 05.3**	**+2.7**
HHC				XP		sP	20 35 11.1	-13
HHC				PP		PP	20 36 11.1	+4.3
HHC				S		**S**	**20 40 13.3**	**+10**
HHC				XS			20 40 20.3	
HHC				SS		SS	20 42 00.3	+8.1
HHC				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
HHC				AMB		AMB		
	comp=Z,147nm,6.2s							
CN2	**Changchun**	**31.62**	**360**	*e*P		**P**	**20 35 08.3**	**+2.0**
WRAB	**Tennant Creek**	**32.96**	**165**	*e*P		**P**	**20 35 15.4**	**-2.8**
WRAB				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
WRAB	**Tennant Creek**	**32.96**	**165**	*e*P		**P**	**20 35 15.4**	**-2.8**
	comp=Z,7.7nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**32.96**	**165**	P		**P**	**20 35 15.9**	**-2.3**
	comp=Z,5.1nm,0.7s,mb4.6,baz=343,slow=9.4,SNR=38							
WRA				PcP		PcP	20 38 00.5	-0.8
	comp=Z,2.2nm,0.7s,baz=341,slow=3.2,SNR=10							
WB2	**Warramunga Arr**	**32.97**	**165**	⇑*i*P		**P**	**20 35 15.8**	**-2.5**
MBWA	**Marble Bar**	**33.50**	**190**	*e*P		**P**	**20 35 20.2**	**-2.6**
GTA	**Gaotai**	**35.51**	**325**	*e*P		**P**	**20 35 40.9**	**+1.1**
GTA				AP		pP	20 35 45.1	-9.5
GTA				AMB		AMB		
	comp=Z,4.0nm,1.2s,mb4.2							
LSA	**Lhasa**	**36.42**	**304**	P		**P**	**20 35 48.0**	**+0.4**
LSA	**Lhasa**	**36.42**	**304**	*e*P		**P**	**20 35 48.4**	**+0.8**
LSA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**36.42**	**304**	*e*P		**P**	**20 35 48.4**	**+0.8**
	comp=Z,2.6nm,0.6s,mb4.3							
ASAR	**Alice Springs**	**36.44**	**167**	P		**P**	**20 35 46.9**	**-1.1**
	comp=Z,12nm,0.5s,mb5.1,baz=345,slow=6.9,SNR=90							
ASAR				PcP		PcP	20 38 10.6	-0.7
	comp=Z,2.1nm,0.8s,baz=356,slow=2.4,SNR=6.2							
ASAR				S		**S**	**20 41 27.6**	**+2.8**
	comp=Z,0.5nm,0.7s,baz=350,slow=16,SNR=4.6							
ASPA	**Alice Springs**	**36.44**	**167**	*e*P		**P**	**20 35 46.8**	**-1.1**
CTA	**Charters Tower**	**37.90**	**147**	P		**P**	**20 35 59.8**	**-0.3**
	comp=Z,4.3nm,0.6s,mb4.4,baz=326,slow=10,SNR=6.6							
CTAO	**Charters Tower**	**37.90**	**147**	*e*P		**P**	**20 36 00.2**	**+0.1**
CTAO				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.3							
CTAO	**Charters Tower**	**37.90**	**147**	*e*P		**P**	**20 36 00.2**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**38.90**	**340**	*e*P		**P**	**20 36 09.5**	**+1.4**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**38.90**	**340**	*e*P		**P**	**20 36 09.5**	**+1.4**
	comp=Z,3.8nm,0.9s,mb4.1							
SONM	**Songino Array**	**39.10**	**339**	P		**P**	**20 36 10.3**	**+0.5**
	comp=Z,0.8nm,0.7s,mb3.6,baz=154,slow=9.1,SNR=8.5							
SONM				PcP		PcP	20 38 19.5	+0.2
	comp=Z,0.6nm,0.8s,baz=146,slow=5.2,SNR=3.1							
JIRN	**Jiri**	**39.92**	**299**	*e*P		**P**	**20 36 17.4**	**+0.5**
	comp=Z,14nm,0.4s,mb5.0							
PKI	**Pulchoki**	**40.57**	**298**	*e*P		**P**	**20 36 21.8**	**-0.4**
	comp=Z,9.1nm,0.6s,mb4.6							
KKN	**Kakani**	**40.74**	**299**	*e*P		**P**	**20 36 23.5**	**-0.1**
	comp=Z,26nm,1.2s,mb4.7							
DMN	**Daman**	**40.84**	**298**	*e*P		**P**	**20 36 24.3**	**-0.2**
	comp=Z,6.6nm,0.5s,mb4.5							
GKN	**Gorkha**	**41.34**	**299**	*e*P		**P**	**20 36 28.1**	**-0.5**
	comp=Z,9.7nm,0.5s,mb4.7							
KOLN	**Koldanda**	**42.18**	**298**	*e*P		**P**	**20 36 35.4**	**-0.1**
	comp=Z,8.1nm,0.5s,mb4.6							
ZAK	**Zakamensk**	**42.34**	**339**	*e*P		**P**	**20 36 32.5**	**-4.0**
ZAK				pmax		pmax		
	comp=Z,1.0nm,2.2s							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.1s							
FORT	**Forrest**	**42.66**	**177**	⇑*i*P		**P**	**20 36 38.9**	**-0.6**
	comp=Z,1μm,0.5s							
TLY	**Talaya**	**43.31**	**340**	P		**P**	**20 36 45.5**	**+1.1**
TLY				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb3.9							
TLY	**Talaya**	**43.31**	**340**	P		**P**	**20 36 45.5**	**+1.0**
	comp=Z,1.6nm,0.8s,mb3.8							
KLBR	**Kellerberrin**	**44.04**	**190**	*e*P		**P**	**20 36 49.6**	**-1.1**
	comp=Z,316nm,1.5s							
NWAO	**Narrogin (SRO)**	**45.43**	**190**	P		**P**	**20 37 01.1**	**-0.6**
	comp=Z,4.7nm,0.4s,mb4.7,baz=355,slow=6.0,SNR=14							
STKA	**Stephens Creek**	**46.32**	**161**	P		**P**	**20 37 08.6**	**-0.2**
	comp=Z,10nm,0.6s,mb4.9,baz=339,slow=7.5,SNR=36							
STKA				PcP		PcP	20 38 43.2	-0.4
	comp=Z,3.2nm,0.5s,baz=306,slow=5.2,SNR=3.7							
STKA	**Stephens Creek**	**46.32**	**161**	*e*P		**P**	**20 37 08.3**	**-0.5**
MKAR	**Makanchi Array**	**50.17**	**322**	*e*P		**P**	**20 37 39.0**	**+0.5**
MKAR				pmax		pmax		
	comp=Z,4.0nm,0.7s							
ZAL	**Zalesovo**	**52.72**	**331**	P		**P**	**20 37 57.9**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=7.1,slow=6.9,SNR=5.7							
ZAL				LR		LR	20 59 56.8	
	comp=Z,52nm,20.3s,MS3.6,baz=196,slow=36							
ZAL	**Zalesovo**	**52.72**	**331**	P		**P**	**20 37 57.9**	**+0.4**
ZAL				LR		LR	20 59 56.8	
NVS	**Novosibirsk**	**53.99**	**331**	*e*P		**P**	**20 38 03.2**	**-3.7**
KURK	**Kurchatov**	**54.19**	**325**	P		**P**	**20 38 09.1**	**+0.6**
	comp=Z,101nm,0.8s,SNR=24							
KURK	**Kurchatov**	**54.19**	**325**	*e*P		**P**	**20 38 09.1**	**+0.6**
KURK				pmax		pmax		
	comp=Z,18nm,0.9s,mb5.0							
KURK	**Kurchatov**	**54.19**	**325**	*e*P		**P**	**20 38 09.1**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0							
TIXI	**Tiksi**	**59.58**	**1**	*e*P		**P**	**20 38 45.4**	**-1.0**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.1s,mb4.4							
BVA0	**Borovoye Array**	**59.79**	**325**	*i* P		**P**	**20 38 48.3**	**+0.2**
BVA0				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8							
BVAR	**Borovoye Array**	**59.79**	**325**	P		**P**	**20 38 48.6**	**+0.5**
	comp=Z,0.9nm,0.4s,mb4.2,baz=127,slow=7.5,SNR=14							
CHKZ	**Chkalovo**	**59.91**	**326**	*e*P		**P**	**20 38 47.9**	**-1.0**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.6							
CHKZ	**Chkalovo**	**59.91**	**326**	*e*P		**P**	**20 38 47.9**	**-1.0**
	comp=Z,6.7nm,1.2s,mb4.5							
RPZ	**Rata Peaks**	**69.27**	**146**	P		**P**	**20 39 49.4**	**-0.3**
	comp=Z,17nm,0.6s,mb5.2,baz=315,slow=6.2,SNR=14							
IMA	**Indian Mountai**	**75.31**	**25**	*e*P		**P**	**20 40 26.4**	**+1.3**
IMA				pmax		pmax		
	comp=Z,15nm,0.7s,mb5.0							
IMA	**Indian Mountai**	**75.31**	**25**	*e*P		**P**	**20 40 26.4**	**+1.3**
	comp=Z,15nm,0.7s,mb5.0							
JOF	**Joensuu**	**81.28**	**332**	*e*p		**P**	**20 40 58.0**	**+0.2**
DAWY	**Dawson**	**81.46**	**26**	*e*P		**P**	**20 40 60.0**	**+1.2**
ARCES	**ARCESS Array B**	**82.27**	**340**	P		**P**	**20 41 04.0**	**+1.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=75,slow=6.1,SNR=17							
INK	**Inuvik**	**82.89**	**22**	*e*P		**P**	**20 41 06.9**	**+0.8**
INK	**Inuvik**	**82.89**	**22**	P		**P**	**20 41 06.9**	**+0.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=278,slow=5.3,SNR=14							
KAF	**Kangasniemi**	**83.71**	**332**	*e*p		**P**	**20 41 09.1**	**-1.2**
BRTR	**Keskin Array B**	**83.84**	**309**	P		**P**	**20 41 11.6**	**+0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=110,slow=3.6,SNR=5.0							
FINES	**FINESS Array B**	**83.98**	**332**	P		**P**	**20 41 12.6**	**+1.0**
	comp=Z,1.9nm,0.6s,mb4.4,baz=67,slow=4.6,SNR=15							
NOA	**NORSAR Array B**	**90.84**	**334**	P		**P**	**20 41 44.9**	**+0.1**
	comp=Z,0.3nm,0.7s,mb3.8,baz=31,slow=5.1,SNR=3.1							
MAW	**Mawson**	**91.13**	**200**	P		**P**	**20 41 45.2**	**-0.8**
	comp=Z,2.2nm,0.7s,mb4.6,baz=56,slow=7.3,SNR=4.2							
YKA	**Yellowknife Ar**	**92.42**	**24**	P		**P**	**20 41 52.8**	**+0.8**
	comp=Z,0.6nm,0.6s,mb4.1,baz=299,slow=4.3,SNR=11							
TXAR	**Lajitas Array**	**117.19**	**48**	PKP		PKPdf	20 47 28.6	+2.7
	comp=Z,0.7nm,0.7s,baz=177,slow=1.0,SNR=8.5							
PLCA	**Paso Flores**	**148.13**	**156**	PKPbc		PKPdf	20 48 28.9	+6.0
	comp=Z,3.9nm,0.7s,baz=251,slow=1.2,SNR=8.3							
SDV	**Santo Domingo**	**153.70**	**38**	*e*PKPdf		PKPdf	20 48 34.4	+2.4
SDV				*e*PKPbc		PKPdf	20 48 42.5	+11
SDV				*e*PKPab		PKPab	20 48 55.6	+0.3
LPAZ	**La Paz**	**166.10**	**109**	PKP		PKPdf	20 48 50.0	+4.1
LPAZ				PKPab		PKPab	20 49 51.8	+3.1

*NIED **20** 20:32:00, 33.70N×130.20E, h5km, Mw3.5 Best double couple: M0 1.83×10^14 NP1:φs353°, δ65°, λ135°. NP2: φs106°, δ50°, λ33°.*

JMA 20 20:32:35.1, 33.74N×130.18E, h10km±1km, M3.5, 4C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFI	**Itaya**	**0.36**	**151**	⇑P		Pg	20 32 42.2	-0.3
JFI				S		Sg	20 32 47.0	-0.4
JII	**Iki**	**0.38**	**279**	⇑P		Pg	20 32 42.8	0.0
JII				S		Sg	20 32 48.2	+0.2
JFA	**Akaike**	**0.51**	**93**	⇓P		Pg	20 32 44.9	-0.6
JFA				S		Sg	20 32 52.1	-0.4
JTA	**Tamana**	**0.83**	**159**	⇑P		Pb	20 32 50.9	-0.2
JTA				S		Sb	20 33 01.9	-0.2
JTU	**Tsushima**	**1.02**	**321**	⇑P		Pb	20 32 54.2	-0.1

*BJI **20** 20:50:48.4, 2.99N×126.56E, h24km, mB5.1, mb5.0, Ms4.4, Msz4.1*
*NEIC **20** 20:50:50.0±0.3, 3.26N×126.52E, mb4.9/29, Error ellipse: s-maj=12.4km s-min=5.6km az=76.0*
*MOS **20** 20:50:51.9±1.5, 3.31N×126.49E, h33km, mb5.1/20, Error ellipse: s-maj=17.4km s-min=7.1km az=111.8*
*IDC **20** 20:50:52.8±2.8, 3.25N×126.39E, h26km±17km, mb4.5/12, mb1 4.5/12, mb1mx4.5/15, mbtmp4.7/12, MS3.7/7, Ms1 3.8/7, ms1mx3.5/19, Error

NJ2 LR LR
comp=Z,830nm,20.6s,MS4.3
GYA Guiyang 29.91 322⇑*i*P P 20 56 58.9 +0.1
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
CTAO Charters Tower 30.22 141 *e*P P 20 57 01.0 -0.6
CM31 Chiang Mai Arr 30.93 301 *e*P P 20 57 09.0 +1.2
comp=Z,6.7nm,0.6s,mb4.7
ENH Enshi 31.34 331 *e*P P 20 57 10.3 -1.0
comp=Z,26nm,0.8s,mb5.1
KS15 Wonju Array Si 34.05 2 *e*P P 20 57 35.5 +0.6
XAN Xi'an 34.75 334 P P 20 57 39.8 -1.1
XAN AP pP 20 57 45.3 0.0
XAN AMB AMB
comp=Z,26nm,0.8s,mb5.2
CD2 Chengdu 34.91 324 *e*P P 20 57 41.3 -1.0
KLBR Kellerberrin 35.64 193 *e*P P 20 57 49.4 +0.9
comp=Z,309nm,1.3s
DL2 Dalian 35.77 353 P P 20 57 51.3 +1.7
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.3
STKA Stephens Creek 37.76 159 P P 20 58 06.3 0.0
comp=Z,8.6nm,0.7s,mb4.6,baz=341,slow=6.7,SNR=17
STKA PcP PcP 21 00 23.9 +0.1
comp=Z,4.4nm,0.6s,baz=339,slow=5.2,SNR=3.8
STKA Stephens Creek 37.76 159 *e*P P 20 58 06.6 +0.3
BJT Baijiatuan 37.78 347 *e*P P 20 58 06.9 +0.4
BJT pmax pmax
comp=Z,20nm,0.9s
BJT Baijiatuan 37.78 347 *e*P P 20 58 06.9 +0.4
comp=Z,20nm,0.9s,mb4.8
BJI Beijing 37.80 347 *e*P P 20 58 07.8 +1.2
BJI AMB AMB
comp=Z,30nm,0.8s,mb5.1
BJI AMB AMB
comp=Z,160nm,3.5s
BJI LR LR
comp=Z,128nm,24.1s,MS3.6
BJI Beijing 37.80 347 *e*P P 20 58 07.7 +1.1
BJI pmax pmax
comp=Z,30nm,0.8s,mb5.1
BJI MLR MLR
comp=Z,130nm,24.1s,MS3.6
BJI Beijing 37.80 347 *e*P P 20 58 07.7 +1.1
comp=Z,30nm,0.8s,mb5.1
BJI S S 21 03 31.8 -25
BJI LR LR
comp=Z,130nm,24.1s,MS3.6
LZH Lanzhou 38.81 330 ⇑P P 20 58 16.0 +0.9
LZH AP pP 20 58 19.5 -0.1
LZH AMB AMB
comp=Z,41nm,1.4s,mb5.0
LZH LR LR
comp=N,512nm,12.7s
LZH LR LR
comp=Z,737nm,16.5s,MS4.6
LZH Lanzhou 38.81 330 ⇑P P 20 58 16.0 +0.9
LZH pmax pmax
comp=Z,41nm,1.4s,mb5.0
LZH MLR MLR
comp=Z,740nm,16.5s,MS4.6
LZH Lanzhou 38.81 330 ⇑P P 20 58 16.0 +0.9
comp=Z,41nm,1.4s,mb5.0
LZH pP pP 20 58 19.5 -0.1
LZH sP sP 20 58 20.7 -0.7
LZH LR LR
comp=Z,740nm,16.5s,MS4.6
HHC Hu-ho-hao-te 39.79 342 *e*P P 20 58 23.1 -0.1
MDJ Mudanjiang 41.28 3 P P 20 58 36.8 +1.3
MDJ AMB AMB
comp=Z,13nm,1.0s,mb4.5
MDJ AMB AMB
comp=Z,69nm,6.0s
MDJ Mudanjiang 41.28 3 *e*P P 20 58 36.9 +1.4
comp=Z,13nm,0.6s,mb4.7
LSA Lhasa 42.60 312 P P 20 58 48.0 +1.5
LSA Lhasa 42.60 312 *e*P P 20 58 48.1 +1.6
LSA pmax pmax
comp=Z,11nm,0.7s,mb4.7
LSA Lhasa 42.60 312 *e*P P 20 58 48.1 +1.6
comp=Z,11nm,0.7s,mb4.7
ASAJ Asahikawa 43.11 17 P P 20 58 51.2 +0.8
comp=Z,5.8nm,0.7s,mb4.4,baz=234,slow=10,SNR=4.5
GTA Gaotai 43.40 330 P P 20 58 54.5 +1.6
GTA AP pP 20 58 58.8 +1.5
GTA XP sP 20 59 01.9 +2.7
GTA AMB AMB
comp=Z,13nm,0.6s,mb4.8
JIRN Jiri 45.48 306 *e*P P 20 59 10.1 +0.3
comp=Z,36nm,0.8s,mb5.2
KLR Kul'dur 46.03 5 *e*P P 20 59 11.0 -2.8
PKI Pulchoki 46.08 306 *e*P P 20 59 14.6 +0.1
comp=Z,15nm,0.6s,mb5.1
HIA Hailar 46.21 354 *e*P P 20 59 16.9 +1.7
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 46.21 354 *e*P P 20 59 16.9 +1.7
comp=Z,18nm,0.8s,mb5.0
KKN Kakani 46.27 306 *e*P P 20 59 16.0 0.0
comp=Z,27nm,0.8s,mb5.2
DMN Daman 46.34 306 *e*P P 20 59 16.8 +0.3
comp=Z,26nm,0.8s,mb5.2
GKN Gorkha 46.88 306 *e*P P 20 59 19.5 -1.3
comp=Z,18nm,0.7s,mb5.1
BLSP Bilaspur 46.95 297 *e*P P 20 59 22.5 +1.0
ULN Ulaanbaatar 47.51 342 *e*P P 20 59 25.5 0.0
ULN pmax pmax
comp=Z,15nm,1.0s,mb5.0
ULN Ulaanbaatar 47.51 342 *e*P P 20 59 25.5 -0.1
comp=Z,15nm,1.0s,mb5.0
KOLN Koldanda 47.62 305 *e*P P 20 59 26.9 +0.2
comp=Z,71nm,0.6s,mb5.9
SONM Songino Array 47.68 342 P P 20 59 26.8 -0.1
comp=Z,2.7nm,0.3s,mb4.7,baz=163,slow=8.7,SNR=64
SONM PcP PcP 21 00 56.5 -0.2
comp=Z,2.6nm,0.6s,baz=172,slow=2.6,SNR=6.8
HYB Hyderabad 49.08 290 *e*P P 20 59 38.0 -0.1
HYB Hyderabad 49.08 290 *i*P P 20 59 38.0 -0.1
ZAK Zakamensk 50.91 341 *e*P P 20 59 51.1 -0.5
ZAK *e* 21 01 08.2
ZAK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BHPL Bhopal 51.43 297 *e*P P 20 59 55.4 -0.6
BHPL *e* 20 59 56.8
comp=Z,17nm,0.8s
TLY Talaya 51.92 342 *e*P P 20 59 59.4 +0.1
TLY pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TLY Talaya 51.92 342 *e*P P 20 59 59.4 +0.1
comp=Z,4.6nm,0.6s,mb4.6
MOY Mondy 52.76 340 *e*P P 21 00 06.4 +0.8
WMQ Urumqi 52.99 325 *e*P P 21 00 07.0 -0.5
WMQ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
DDI Dehra Dun 53.08 306 *e*P P 21 00 08.0 -0.3
KAD Karad 53.17 289 *e*P P 21 00 07.6 -1.5
KAD *e* 21 00 09.2
comp=Z,11nm,1.0s
SMLA Simla 54.08 307 *i*P P 21 00 14.0 -1.6
SMLA *i* 21 08 09.4
BOD Bodaibo 55.31 352 *e*P P 21 00 24.2 0.0
BOD pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
DLH Dalhousie 55.53 308 *e*P P 21 00 26.0 -0.2
THN Thein Dam 55.69 307 *e*P P 21 00 25.8 -1.6
comp=Z,22nm,0.7s,mb5.3
MKAR Makanchi Array 57.83 326 *i*P P 21 00 41.7 -0.7
MKAR pmax pmax
comp=Z,3.0nm,0.3s
YAK Yakutsk 58.69 2 *e*P P 21 00 47.3 -0.9
YAK pmax pmax
comp=Z,27nm,0.8s,mb5.3
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK Yakutsk 58.69 2 *e*P P 21 00 47.8 -0.4
comp=E,64nm,0.8s,mb5.7
ULHL Ulahol 59.24 318 P P 21 00 55.6 +3.3
SNR=7.0
KZA Kyzart 59.82 318 P P 21 00 57.2 +0.9
SNR=12
TKM2 Tokmak 2 59.96 319 P P 21 00 57.4 +0.1
SNR=6.8
KBK Karagaybulak 60.28 318 P P 21 01 00.6 +1.2
SNR=6.3
UCH Uchtor 60.38 318 P P 21 01 01.1 +1.0
SNR=17
AAK Ala-Archa 60.57 318 *e*P P 21 01 00.6 -0.8
AAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
AAK Ala-Archa 60.57 318 *e*P P 21 01 00.6 -0.8
comp=Z,3.2nm,0.9s,mb4.5
USP Ospenovka 60.84 319 P P 21 01 02.7 -0.6
SNR=14
AML Almayashu 60.90 317 P P 21 01 03.7 +0.1
SNR=15
ZAL Zalesovo 60.92 333 P P 21 01 02.6 -1.0
comp=Z,6.6nm,0.4s,mb5.1,baz=346,slow=7.1,SNR=28
ZAL LR LR 21 30 44.8
comp=Z,63nm,18.5s,MS3.8,baz=347,slow=39
EKS2 Erkin-Say 61.06 318 P P 21 01 04.8 0.0
SNR=12
KURK Kurchatov 62.03 328 P P 21 01 10.6 -0.6
comp=Z,545nm,0.6s
KURK Kurchatov 62.03 328 *i*P P 21 01 10.4 -0.8
KURK pmax pmax
comp=Z,17nm,0.7s,mb5.3
KURK Kurchatov 62.03 328 *e*P P 21 01 09.7 -1.5
comp=Z,54nm,0.6s,mb5.9
NVS Novosibirsk 62.20 333⇑*i*P P 21 01 09.7 -2.6
NVS pmax pmax
comp=Z,13nm,0.7s,mb5.2
NVS pmax pmax
comp=N,10.0nm,0.8s
NVS pmax pmax
comp=E,12nm,0.7s
FX1 Attu Island--F 62.60 30 LR LR 21 26 17.8
comp=E,4.8nm,18.8s,baz=294,slow=34
BVA0 Borovoye Array 67.61 327 P P 21 01 46.4 -0.9
BVA0 pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CHKZ Chkalovo 67.78 328 *i*P P 21 01 47.1 -1.2
CHKZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
CHKZ Chkalovo 67.78 328 *e*P P 21 01 46.3 -2.0
comp=Z,9.6nm,0.9s,mb4.8
TIXI Tiksi 68.32 1⇓*i*P P 21 01 49.4 -2.1
TIXI pmax pmax
comp=Z,18nm,0.8s,mb5.2
BILL Bilibino 70.07 15⇓*e*P P 21 02 02.4 +0.2
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
BILL Bilibino 70.07 15 *e*P P 21 02 02.3 +0.1
comp=Z,1.7nm,0.4s,mb4.3
RAYN Ar Rayn 80.48 293 P P 21 03 02.2 -0.3
comp=Z,34nm,0.6s,SNR=7.7
GNI Garni 81.63 310 LR LR 21 40 57.8
comp=Z,38nm,20.2s,MS3.7,baz=35,slow=37
IMA Indian Mountai 82.90 24 *e*P P 21 03 16.2 +1.9
IMA pmax pmax
comp=Z,5.0nm,0.4s,mb4.9
IMA Indian Mountai 82.90 24 *e*P P 21 03 16.2 +1.9
comp=Z,5.3nm,0.4s,mb4.9
KIV Kislovodsk 83.31 314 *e*P P 21 03 16.2 -0.6
KIV *e*S S 21 13 32.5 -3.1
KIV *e*SS SS 21 19 00.6 -3.5
KIV pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.2
SOC Sochi 85.46 313 *e*P P 21 03 25.2 -2.4
SOC *e*S S 21 13 49.6 -7.2
SOC *e*SS SS 21 19 30.0 -5.6
SOC *e*SSS SSS 21 23 06.2 +2.1
SOC pmax pmax
comp=Z,66nm,1.2s,mb5.6
SOC pmax pmax
comp=N,40nm,0.9s
SOC pmax pmax
comp=E,16nm,1.0s
ANN Anapa 87.08 315 *e*P P 21 03 31.9 -3.7
ANN *e* 21 13 52.1
ANN pmax pmax
comp=Z,76nm,1.0s,mb5.9
OBN Obninsk 87.33 325*d i*P P 21 03 37.4 +0.9
OBN *e**PP pP 21 03 53.0 +12
OBN *e*S S 21 13 56.6 -18
OBN *e*SS SS 21 19 57.9 -4.5
OBN pmax pmax
comp=Z,28nm,0.6s,mb5.7
OBN Obninsk 87.33 325 *e*P P 21 03 36.6 +0.1
comp=Z,29nm,0.8s,mb5.5
KMBO Kilima Mbogo 89.33 269 *e*P P 21 03 48.8 +1.7
KMBO pmax pmax
comp=Z,25nm,1.9s
KMBO Kilima Mbogo 89.33 269 P P 21 03 48.9 +1.8
comp=Z,2.4nm,0.7s,mb4.7,baz=61,slow=7.0,SNR=10.0
KMBO Kilima Mbogo 89.33 269 *e*P P 21 03 48.8 +1.7
comp=Z,25nm,1.9s,mb5.2
JOF Joensuu 89.51 333 *e*p P 21 03 45.2 -1.6
comp=Z,1.9nm,0.4s,mb4.8
EIL Elat 89.77 300 *e*P P 21 03 49.2 +0.4
comp=Z,18nm,1.4s,mb5.2
BRTR Keskin Array B 90.16 310 P P 21 03 50.2 -0.1
comp=Z,6.6nm,0.9s,mb5.0,baz=116,slow=5.0,SNR=26
INK Inuvik 90.68 21 *e*P P 21 03 51.9 -0.2
INK pmax pmax
comp=Z,1.0nm,0.9s
INK Inuvik 90.68 21 *e*P P 21 03 51.9 -0.2
comp=Z,1.3nm,0.9s,mb4.3
ARCES ARCESS Array B 90.82 340 P P 21 03 52.1 -0.6
comp=Z,1.6nm,0.4s,mb4.8,baz=82,slow=5.2,SNR=23
ARCES LR LR 21 47 41.7
comp=Z,97nm,18.4s,MS4.3,baz=38,slow=38
KAF Kangasniemi 91.92 332 *e*p P 21 03 56.8 -1.1
comp=Z,0.5nm,0.4s,mb4.2
KAF Kangasniemi 91.92 332 *e*P P 21 03 56.8 -1.1
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.5
FINES FINESS Array B 92.15 332 P P 21 03 58.4 -0.6
comp=Z,0.9nm,0.5s,mb4.4,baz=44,slow=4.1,SNR=14
FINES LR LR 21 46 20.0
comp=Z,50nm,19.2s,MS4.0,baz=49,slow=36
MATP Matopo 98.64 250 LR LR 21 50 53.5
comp=Z,83nm,18.1s,MS4.3,baz=165,slow=37
NB2 NORSAR Subarra 99.12 334 P P 21 04 28.8 -1.9
comp=Z,1.1nm,0.6s,mb4.6,baz=68,slow=4.5
NB2 NORSAR Subarra 99.12 334 P P 21 04 28.8 -1.9
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb4.5
NB2 NORSAR Subarra 99.12 334 P P 21 04 28.8 -1.9
baz=68,slow=4.4
NOA NORSAR Array B 99.12 334 P P 21 04 29.7 -1.1
comp=Z,1.2nm,0.7s,mb4.5,baz=68,slow=4.4,SNR=5.9
NOA LR LR 21 55 14.2
comp=Z,42nm,18.4s,MS4.0,baz=30,slow=39
NOA NORSAR Array B 99.12 334 P P 21 04 29.7 -1.1
NOA LR LR 21 55 14.2
YKA Yellowknife Ar 100.02 24 P P 21 04 34.9 +0.1
comp=Z,0.2nm,0.4s,baz=298,slow=4.4,SNR=4.4
PDAR Pinedale Array 111.85 41 PKPPab 21 20 28.3
comp=Z,0.5nm,0.8s,baz=108,slow=4.7,SNR=4.5
ANMO Albuquerque 117.50 48 PKP PKPdf 21 09 38.2 -0.2
comp=Z,0.5nm,0.5s,baz=243,slow=2.0,SNR=2.9
SCHQ Schefferville 121.07 9 PKP PKPdf 21 09 43.4 -1.6
comp=Z,2.4nm,0.8s,baz=304,slow=3.6,SNR=3.1
TXAR Lajitas Array 122.06 52 PKP PKPdf 21 09 46.5 -1.0
comp=Z,0.7nm,0.6s,baz=313,slow=0.6,SNR=12
DBIC Dimbokro 130.47 282 PKP PKPdf 21 10 03.0 -1.1
comp=Z,7.9nm,1.2s,baz=225,slow=4.3,SNR=3.1
PLCA Paso Flores 139.63 160 PKP PKPdf 21 10 19.9 -0.5
comp=Z,2.3nm,0.9s,baz=270,slow=1.0,SNR=3.2
LPAZ La Paz 160.63 133 PKP PKPdf 21 10 53.3 +0.7
comp=Z,1.2nm,0.9s,baz=288,slow=3.2,SNR=5.8

DJA 20 21:00:24.8±0.9, 8.58S×112.38E, h160km, MD4.7/4, ML4.0/3, 1C-3D, Error ellipse: s-maj=65.7km s-min=19.9km az=0.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.75**	**87**	⇑*i*Pn	P	21 00 57.6	-0.4
	82nm,0.2s						
SRDI				*e*Sn	S	21 01 21.7	-2.0
KELI	**Kelakatan**	**2.12**	**80**	⇓*e*Pn	P	21 01 02.7	+0.4
KELI				*e*Sn	S	21 01 30.0	-1.1
RATI	**Rata**	**3.12**	**93**	⇓*e*Pn	P	21 01 15.0	+0.3
RATI				*e*Sn	S	21 01 52.4	-0.6
KEDI	**Kedomdong**	**3.69**	**89**	⇓*e*Pn	P	21 01 21.1	-1.0
	18nm,0.1s						
KEDI				*e*Sn	S	21 02 02.2	-4.0

JMA 20 21:05:03.2±0.2, 28.32N×130.74E, h62km±3km, M3.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.68**	**270**	P	P	21 05 17.3	-0.1
JZK				*e*S	S	21 05 28.5	+0.5
JAM	**Amami Oshima**	**1.00**	**275**	P	P	21 05 21.5	-0.1
JAM				S	S	21 05 34.6	-0.7
JTK	**Tokunoshima**	**1.67**	**252**	P	P	21 05 31.5	+0.7
JTK				S	S	21 05 51.2	0.0
JNN	**Nakanoshima**	**1.69**	**334**	P	P	21 05 30.9	-0.2
JKC	**Kuchinoerabu**	**2.19**	**348**	P	P	21 05 38.5	+0.5
JKC				S	S	21 06 03.4	-0.5
JTN	**Tanegashima 3**	**2.34**	**5**	P	P	21 05 40.7	+0.6
JTN				S	S	21 06 07.8	+0.2
JMZ	**Minamidaito 2**	**2.53**	**170**	S	S	21 06 13.0	+0.5
JOW	**Kunigami**	**2.64**	**236**	P	P	21 05 44.7	+0.2
JOW				S	S	21 06 14.6	-0.8
JIH	**Iheya**	**2.77**	**243**	P	P	21 05 46.7	+0.4
JIH				S	S	21 06 17.0	-1.7
JTSR	**Tashiro 2**	**2.84**	**3**	S	S	21 06 19.7	-0.7
JSU	**Suzuyama**	**3.19**	**356**	P	P	21 05 52.0	-0.1
JSU				S	S	21 06 27.0	-2.1
JNAR	**Kushima--Naru**	**3.23**	**8**	P	P	21 05 53.5	+0.8
JNAR				S	S	21 06 30.0	-0.2
JJT2	**Tamagusuku 2**	**3.44**	**231**	P	P	21 05 55.7	0.0
JSJ	**Shimokoshiki**	**3.46**	**345**	P	P	21 05 55.9	-0.1
JSJ				S	S	21 06 34.0	-2.0

*NIED **20** 21:17:00, 33.70N×130.20E, h11km, Mw3.9 Best double couple: M0 7.23×10^14 NP1:φs153°, δ85°, λ154°. NP2: φs246°, δ64°, λ6°.*

JMA 20 21:17:00.5, 33.73N×130.19E, h12km±1km, M3.9, 5C Broadband fault plane solution: P waves. NP1:φs252°, δ71°, λ7°. **NP2:**φs159°, δ84°, λ161°. **Principal axes:** T Plg18°, Azm114°; N Plg70°, Azm322°; P Plg9°, Azm207°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.34**	**151**	⇑P	Pg	21 17 07.4	-0.3
JFI				S	Sg	21 17 12.1	-0.4
JII	**Iki**	**0.39**	**280**	⇑P	Pg	21 17 08.4	-0.1
JII				S	Sg	21 17 13.9	0.0
JFA	**Akaike**	**0.51**	**92**	⇑P	Pb	21 17 10.1	-0.7
JFA				S	Sg	21 17 17.2	-0.5
JTA	**Tamana**	**0.82**	**159**	⇑P	Pb	21 17 15.9	-0.2
JTA				S	Sb	21 17 26.6	-0.2
JTU	**Tsushima**	**1.03**	**321**	⇑P	Pb	21 17 19.6	-0.2
JTU				S	Sb	21 17 33.5	+0.5

*IDC **20** 21:32:02.8±0.6, 1.59N×97.79E, mb4.3/14, mb1 4.4/14, mb1mx4.2/19, mbtmp4.3/14 Error ellipse: s-maj=31.4km s-min=14.1km az=55.0*
*BJI **20** 21:32:05.2, 1.15N×97.62E, h49km, mB4.9, mb4.3, Ms4.0, Msz3.7*
*NEIC **20** 21:32:07.2±0.4, 1.51N×97.76E, h30km, mb4.3/7, Error ellipse: s-maj=12.2km s-min=6.9km az=64.0*

ISC 20 21:32:07.6±3.2, 1.6N±0.1×97.8E±0.1, h47km±27km, n39, σ0 s72/38, mb4.4/28, MS3.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.64**	**37**	*e*P	P	**21 33 17.6**	**+0.5**
CM31	**Chiang Mai Arr**	**16.82**	**4**	*e*P	P	**21 36 00.8**	**-0.5**
	4.3nm,0.7s						
KMI	**Kunming**	**23.89**	**11**	P	P	**21 37 20.8**	**+2.9**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb3.9						
KMI				LR	LR		
	comp=Z,91nm,13.3s,MS3.4						
KMI	**Kunming**	**23.89**	**11**	P	P	**21 37 20.8**	**+2.9**
	comp=Z,5.0nm,0.9s,mb3.9						
KMI				LR	LR		
	comp=Z,90nm,13.3s,MS3.4						
JIRN	**Jiri**	**28.24**	**338**	*e*P	P	**21 37 58.5**	**0.0**
	comp=Z,33nm,1.1s,mb4.9						
PKI	**Pulchoki**	**28.46**	**336**	*e*P	P	**21 38 00.1**	**-0.4**
	comp=Z,43nm,1.4s,mb4.9						
DMN	**Daman**	**28.62**	**336**	*e*P	P	**21 38 01.6**	**-0.3**
	comp=Z,13nm,0.8s,mb4.7						
LSA	**Lhasa**	**28.69**	**348**	*e*P	P	**21 38 02.8**	**+0.3**
	comp=Z,3.1nm,0.6s,mb4.2						
KKN	**Kakani**	**28.71**	**336**	*e*P	P	**21 38 02.4**	**-0.3**
	comp=Z,36nm,1.0s,mb5.0						
GKN	**Gorkha**	**29.16**	**336**	*e*P	P	**21 38 06.6**	**-0.1**
	comp=Z,27nm,0.9s,mb5.0						
KOLN	**Koldanda**	**29.40**	**334**	*e*P	P	**21 38 08.8**	**0.0**
	comp=Z,18nm,0.6s,mb5.0						
GTA	**Gaotai**	**37.70**	**3**	*e*P	P	**21 39 20.4**	**0.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb3.9						
NWAO	**Narrogin (SRO)**	**38.90**	**154**	P	P	**21 39 30.8**	**+0.4**
	comp=Z,10.0nm,0.9s,mb4.5,baz=331,slow=10,SNR=4.1						
HHC	**Hu-ho-hao-te**	**41.03**	**16**	*e*P	P	**21 39 53.3**	**+5.4**
HHC				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**41.70**	**123**	P	P	**21 39 53.5**	**-0.3**
	comp=Z,5.9nm,0.6s,mb4.4,baz=301,slow=9.1,SNR=70						
WRAB	**Tennant Creek**	**41.70**	**123**	*e*P	P	**21 39 53.7**	**-0.1**
WB2	**Warramunga Arr**	**41.71**	**123**	*e*P	P	**21 39 53.1**	**-0.7**
ASAR	**Alice Springs**	**43.12**	**128**	P	P	**21 40 05.2**	**-0.2**
	comp=Z,1.7nm,0.6s,mb3.9,baz=299,slow=7.8,SNR=20						
ASAR				PcP	PcP	21 41 55.9	+0.8
	comp=Z,0.5nm,0.6s,baz=307,slow=3.0,SNR=3.9						
AAK	**Ala-Archa**	**45.91**	**336**	*e*P	P	**21 40 28.2**	**+0.6**
	comp=Z,2.3nm,0.8s,mb4.2						
SONM	**Songino Array**	**46.67**	**8**	P	P	**21 40 33.7**	**+0.2**
	comp=Z,2.7nm,0.8s,mb4.2,baz=188,slow=9.8,SNR=24						
ULN	**Ulaanbaatar**	**46.80**	**9**	*e*P	P	**21 40 34.2**	**-0.2**
	comp=Z,3.5nm,0.9s,mb4.3						
KURK	**Kurchatov**	**51.60**	**345**	P	P	**21 41 11.2**	**-0.2**
	comp=Z,84nm,1.0s,SNR=8.4						
KURK	**Kurchatov**	**51.60**	**345**	*e*P	P	**21 41 10.9**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**53.14**	**133**	P	P	**21 41 23.2**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=297,slow=9.1,SNR=6.5						
STKA	**Stephens Creek**	**53.14**	**133**	*e*P	P	**21 41 23.0**	**-0.1**
ZAL	**Zalesovo**	**53.29**	**350**	P	P	**21 41 23.8**	**-0.2**
	comp=Z,7.4nm,0.4s,mb5.0,baz=292,slow=6.1,SNR=28						
ZAL	**Zalesovo**	**53.29**	**350**	P	P	**21 41 23.8**	**-0.2**
BVAR	**Borovoye Array**	**56.11**	**340**	P	P	**21 41 43.3**	**-1.2**
	comp=Z,7.nm,0.6s,mb4.5,baz=139,slow=10,SNR=19						
CHKZ	**Chkalovo**	**56.58**	**341**	*e*P	P	**21 41 46.8**	**-1.1**
	comp=Z,5.4nm,0.7s,mb4.7						
YAK	**Yakutsk**	**64.89**	**16**	P	P	**21 42 43.9**	**-0.2**
BRTR	**Keskin Array B**	**69.33**	**312**	P	P	**21 43 10.7**	**-1.7**
	comp=Z,0.7nm,0.7s,mb3.7,baz=82,slow=10,SNR=2.6						
MATP	**Matopo**	**71.25**	**248**	P	P	**21 43 25.1**	**+0.8**
	comp=Z,3.4nm,1.0s,mb4.2,baz=91,slow=6.9,SNR=7.8						
FINES	**FINESS Array B**	**79.96**	**332**	P	P	**21 44 13.1**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=124,slow=6.9,SNR=8.3						
ARCES	**ARCESS Array B**	**82.40**	**340**	P	P	**21 44 25.8**	**0.0**
	comp=Z,3.9nm,0.8s,mb4.4,baz=90,slow=3.6,SNR=6.8						
GERES	**GERESS Array B**	**84.95**	**319**	P	P	**21 44 40.6**	**+1.5**
	comp=Z,0.4nm,0.7s,mb3.6,baz=135,slow=4.2,SNR=3.1						
HFS	**Hagfors**	**85.72**	**330**	P	P	**21 44 43.7**	**+1.1**
	comp=Z,1.6nm,0.6s,mb4.4,baz=106,slow=11,SNR=4.6						
NB2	**NORSAR Subarra**	**86.99**	**331**	P	P	**21 44 49.2**	**+0.4**
	comp=Z,1.1nm,0.6s,mb4.3,baz=96,slow=4.6						
NOA	**NORSAR Array B**	**86.99**	**331**	P	P	**21 44 50.2**	**+1.4**
	comp=Z,0.7nm,0.8s,mb3.9,baz=85,slow=6.0,SNR=2.8						
TXAR	**Lajitas Array**	**143.02**	**32**	PKP	PKPdf	21 51 37.8	+0.9
	comp=Z,0.1nm,0.5s,baz=326,slow=3.3,SNR=2.5						

*NEIC **20** 21:46:54.9±0.8, 51.51N×16.15E, h5km, ML2.7(VIE), Error ellipse: s-maj=10.4km s-min=7.2km az=67.0*
*CSEM **20** 21:46:55.5±0.3, 51.48N×16.15E, h1km±1km, ML2.8/5, Error ellipse: s-maj=5.0km s-min=2.1km az=28.0*
*IPEC **20** 21:46:55.2±0.4, 51.49N×16.18E, h1km±2km, ML1.8/3, Error ellipse: s-maj=2.5km s-min=1.5km az=28.0*
*PRU **20** 21:46:56.4, 51.42N×16.11E*

WAR ***20*** *21:46:56.1, 51.48N×16.10E, h1km, ML2.4, Mining Induced*

ISC 20 21:46:54.5±0.8, **51.42N**±0.04×**16.07E**±0.04, **n21**, σ1§**18**/41, **1C, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.59**	**166**	*e*PG		**Pg**	**21 47 08.0**	**+1.7**
KSP				*e*SG		**Sg**	**21 47 17.0**	**+2.8**
KSP	**Ksiaz**	**0.59**	**166**	*e*Pg		**Pg**	**21 47 07.6**	**+1.3**
KSP				*e*Sg		**Sg**	**21 47 15.6**	**+1.4**
UPC	**Upice**	**0.91**	**182**	*e*PG		**Pg**	**21 47 14.0**	**+1.3**
DPC	**Dobruska-Polom**	**1.08**	**171**	*e*PG		**Pg**	**21 47 16.6**	**+0.5**
DPC				*e*SG		**Sg**	**21 47 32.0**	**+1.5**
	11nm,0.2s							
PVCC	**Panska Ves**	**1.30**	**227**	*e*PG		**Pg**	**21 47 21.6**	**+1.2**
PVCC	**Panska Ves**	**1.30**	**227**	*e*Pg		**Pg**	**21 47 21.4**	**+1.0**
PVCC				*e*Sg		**Sg**	**21 47 38.9**	**+1.1**
BRG	**Berggiesshubel**	**1.44**	**249**	*e*Pn		**Pn**	**21 47 23.1**	**+1.1**
BRG				*i* Pg		**Pg**	**21 47 23.7**	**+0.4**
BRG				*i* Sg		**Sg**	**21 47 43.5**	**+1.0**
BRG	**Berggiesshubel**	**1.44**	**249**	*i* Pg		**Pg**	**21 47 23.7**	**+0.4**
PRU	**Pruhonice**	**1.73**	**215**	*e*PN		**Pn**	**21 47 26.6**	**+0.6**
PRU				*e*PG		**Pg**	**21 47 28.7**	**-0.3**
PRU				*e*SG		**Sg**	**21 47 51.5**	**-0.5**
PRU	**Pruhonice**	**1.73**	**215**	*e*Pg		**Pg**	**21 47 28.7**	**-0.3**
PRU				*e*Sg		**Sg**	**21 47 51.5**	**-0.5**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*P		**Pn**	**21 47 28.9**	**+0.5**
MORC	**Moravsky Berou**	**1.89**	**150**	*e*P		**Pn**	**21 47 28.9**	**+0.5**
MORC				*e*Sg		**Sg**	**21 47 55.3**	**-2.2**
	8.1nm,0.2s							
CLL	**Collm**	**1.92**	**268**	*e*PG		**Pg**	**21 47 33.0**	**+0.1**
CLL				*e*SG		**Sg**	**21 47 58.0**	**-0.6**
CLL				*i*			21 48 06.8	
OKC	**Ostrava-Krasne**	**2.06**	**139**	*e*PG		**Pg**	**21 47 35.6**	**-0.1**
OKC				*e*SG		**Sg**	**21 48 01.5**	**-1.7**
VRAC	**Vranov**	**2.14**	**171**	*e*Pn		**Pn**	**21 47 33.0**	**+1.1**
VRAC				*e*Sg		**Sg**	**21 48 04.5**	**-1.2**
	5.6nm,0.3s							
KRUC	**Moravsky**	**2.37**	**175**	*e*Pn		**Pn**	**21 47 36.0**	**+0.8**
KRUC				*e*Sg		**Sg**	**21 48 11.4**	**-1.9**
	4.1nm,0.3s							
NKC	**Novy Kostel**	**2.58**	**244**	*e*SG		**Sg**	**21 48 19.8**	**-0.7**
KHC	**Kasperske Hory**	**2.79**	**216**	*e*PN		**Pn**	**21 47 41.6**	**+0.4**
KHC				*e*PG		**Pg**	**21 47 46.8**	**-3.4**
KHC				*e*SN		**Sn**	**21 48 15.5**	**-0.6**
KHC				*e*SG		**Sg**	**21 48 25.2**	**-2.2**
MOX	**Moxa**	**2.91**	**256**	*e*Pg		**Pg**	**21 47 51.7**	**-1.0**
MOX				*e*Sg		**Sg**	**21 48 31.0**	**-0.5**
MOA	**Molln**	**3.76**	**199**	⇑*i*PN		**Pn**	**21 47 55.7**	**+0.7**
MOA				*i* SG		**Sg**	**21 48 59.1**	**-0.5**
	1.9nm,0.3s							
BSD	**Bornholm Skovb**	**3.77**	**350**	*i* P		**Pn**	**21 47 52.4**	**-2.7**
BSD				*i* S		**Sn**	**21 48 32.4**	**-8.5**

MAN 20 22:03:37.2, 9.47N×122.27E, h1km, mb4.2, ML3.0, MS2.8, 2C-1D, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SNPH	**Sibulan**	**0.96**	**97**	⇓*i*P		Pb	22 03 55.5	-0.9
SNPH				*i* S		Sg	22 04 13.5	+4.2
GUIM	**Jordan**	**1.19**	**15**	*e*P		Pb	22 04 00.7	+0.5
GUIM				*e*S		Sb	22 04 18.5	+2.4
DCPH	**Dipolog City**	**1.39**	**129**	*e*P		Pb	22 04 01.1	-2.5
DCPH				*e*S		Sb	22 04 17.3	-4.5
TBP	**Tagbilaran**	**1.59**	**82**	*e*P		Pn	22 04 07.7	+1.1
TBP				*e*S		Sb	22 04 24.5	-3.1
CUYO	**Cuyo Island**	**1.84**	**318**	*e*P		Pn	22 04 10.3	+0.1
LLP	**Lapu-Lapu**	**1.87**	**63**	⇓*e*P		Pn	22 04 10.5	-0.2
LLP				*e*S		Sn	22 04 33.1	-2.2
PAGZ	**Pagadian**	**1.95**	**146**	*e*P		Pn	22 04 12.2	+0.4
RCP	**Roxas**	**2.13**	**13**	⇓*e*P		Pn	22 04 16.5	+2.1
RCP				*e*S		Sn	22 04 44.6	+2.8
MSLP	**Maasin**	**2.64**	**75**	*e*P		Pn	22 04 21.9	+0.3
BUSP	**Coron**	**3.23**	**321**	*e*P		Pn	22 04 29.4	-0.7
ENPP	**El Nido**	**3.29**	**302**	*e*P		Pn	22 04 30.1	-0.7

BJI ***20*** *22:13:51.2, 6.05S×149.01E, h133km, mB5.1, mb5.0*

IDC ***20*** *22:13:52.9±1.7, 5.72S×148.70E, h105km±14km, mb4.8/15, mb1 5.0/18, mb1mx4.9/19, mbtmp5.2/18, MS3.9/12, Ms1 3.9/12, ms1mx3.7/17, Error ellipse: s-maj=15.0km s-min=8.5km az=108.0*

MOS ***20*** *22:13:53.6±0.8, 5.72S×148.62E, h121km, mb4.9/20, Error ellipse: s-maj=13.7km s-min=6.7km az=84.1*

HRVD ***20*** *22:13:53.2±0.2, 5.81S×148.71E, h117km±2km, MW5.2/72, Centroid moment Tensor Solution. LP body waves: s48,c75;Mantle waves: s72,c134; Half duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr-2.59±.22; Mθθ 1.91±.21; Mϕϕ 0.67±.21; Mrθ-6.34±.13; Mϕϕ 0.80±.22; Mϕr 2.54±.15; Best double couple: M0 7.169×10^16 NP1: ϕs 241°, δ12°, λ-136°. NP2: ϕs 108°, δ82°, λ-81°. Principal axes: T 6.509, Plg36°, Azm191°; N 1.317, Plg8°, Azm287°; P -7.829, Plg52°, Azm28°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***20*** *22:13:53.2±0.2, 5.75S×148.70E, mb5.3/35 Error ellipse: s-maj=6.8km s-min=4.3km az=96.0*

NEIC Felt at Port Moresby.

ISC 20 22:13:51.3±0.8, **5.71S**±0.03×**148.70E**±0.04, **h102**km, 7km, **h111**km±1.4km: **pP-P, n189**, σ1§**04**/181, **mb5.1**/71, **17C-4D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**3.98**	**203**	*e*P		**P**	**22 14 52.7**	**+1.3**
PMG	**Port Moresby**	**3.98**	**203**	P		**P**	**22 14 52.8**	**+1.4**
	283nm,0.3s,baz=30,slow=5.3,SNR=156							
PMG				S		**S**	**22 15 37.4**	**+0.1**
	580nm,0.3s,baz=64,slow=22,SNR=8.1							
HNR	**Honiara**	**11.74**	**109**	P		**P**	**22 16 36.7**	**0.0**
HNR				*e*			22 16 46.8	
CTA	**Charters Tower**	**14.49**	**189**	*e*P		**P**	**22 17 14.0**	**+1.4**
	96nm,0.9s							
CTA				*e*S		**S**	**22 19 51.4**	**+0.4**
CTA	**Charters Tower**	**14.49**	**189**	*e*P		**P**	**22 17 14.0**	**+1.4**
CTA				*e*S		**S**	**22 19 51.4**	**+0.4**
CTA				pmax	pmax			
	comp=Z,96nm,0.9s							
CTA	**Charters Tower**	**14.49**	**189**	P		**P**	**22 17 14.5**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=23,slow=13,SNR=19							
CTA				S		**S**	**22 19 52.0**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=282,slow=16,SNR=2.2							
CTAO	**Charters Tower**	**14.49**	**189**	*e*P		**P**	**22 17 13.6**	**+1.0**
CTAO				pmax	pmax			
	comp=Z,235nm,1.1s							
CTAO	**Charters Tower**	**14.49**	**189**	*e*P		**P**	**22 17 13.6**	**+1.0**
	comp=Z,235nm,1.1s							
KAKA	**Kakadu**	**17.49**	**245**	⇓*i*P		**P**	**22 17 48.0**	**-2.2**
	comp=Z,181nm,0.4s							
KAKA				*e*S		**S**	**22 20 59.6**	**+0.4**
KAKA				*e*SCS		ScS	22 29 24.9	-4.4
GUMO	**Guam**	**19.54**	**349**	*e*P		**P**	**22 18 14.1**	**+0.7**
GUMO				pmax	pmax			
	comp=Z,703nm,1.4s							
GUMO	**Guam**	**19.54**	**349**	*e*P		**P**	**22 18 14.1**	**+0.7**
	comp=Z,703nm,1.4s							
WRAB	**Tennant Creek**	**19.87**	**223**	P		**P**	**22 18 16.9**	**+0.2**
	comp=Z,4μm,0.7s							
WRAB	**Tennant Creek**	**19.87**	**223**	⇑*i*P		**P**	**22 18 16.2**	**-0.5**
WRAB				*e*S		**S**	**22 21 51.1**	**+1.4**
WRAB				pmax	pmax			
	comp=Z,717nm,0.8s							
WRAB	**Tennant Creek**	**19.87**	**223**	⇑*i*P		**P**	**22 18 16.2**	**-0.5**
	comp=Z,718nm,0.8s							
WRAB				*e*S		**S**	**22 21 51.1**	**+1.4**
WB2	**Warramunga Arr**	**19.87**	**223**	⇑*i*P		**P**	**22 18 16.3**	**-0.5**
WB2				*e*S		**S**	**22 21 50.0**	**+0.2**
WB2				*e*SCS		ScS	22 29 38.5	+1.8
WRA	**Warramunga Arr**	**19.88**	**223**	P		**P**	**22 18 16.8**	**-0.1**
	comp=Z,17nm,0.3s,baz=55,slow=10,SNR=753							
WRA				S		**S**	**22 21 52.1**	**+2.1**
	comp=Z,2.9nm,0.3s,baz=43,slow=21,SNR=25							
ASAR	**Alice Springs**	**22.84**	**217**	P		**P**	**22 18 47.5**	**+1.1**
	comp=Z,243nm,0.6s,mb5.7,baz=49,slow=9.5,SNR=1823							
ASAR				S		**S**	**22 22 53.5**	**+9.2**
	comp=Z,40nm,1.1s,baz=40,slow=21,SNR=7.8							
ASAR				LR		LR	22 28 53.6	
	comp=Z,417nm,18.3s,baz=26,slow=40							
ASPA	**Alice Springs**	**22.85**	**217**	⇑*i*P		**P**	**22 18 47.5**	**+1.0**
ASPA				*e*S		**S**	**22 22 49.2**	**+4.9**
ASPA				*e*SCS		ScS	22 29 49.1	+1.7
NOUC	**Port Laguerre**	**23.56**	**135**	*e*P		**P**	**22 18 54.0**	**+0.6**
NOUC	**Port Laguerre**	**23.56**	**135**	*e*P		**P**	**22 18 54.0**	**+0.6**
DZM	**Mont Dzumac**	**23.64**	**135**	*e*P		**P**	**22 18 54.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**25.67**	**239**	⇑*i*P		**P**	**22 19 12.9**	**-0.6**
	comp=Z,760nm,0.8s,mb6.2							
FITZ				*i* pP		pP	22 19 36.3	+0.6
FITZ				*e*S		**S**	**22 23 30.6**	**-1.5**
FITZ				*e*SP			22 23 45.3	
STKA	**Stephens Creek**	**26.87**	**193**	P		**P**	**22 19 23.1**	**-1.4**
	comp=Z,39nm,0.7s,mb5.1,baz=358,slow=8.5,SNR=29							
STKA				LR		LR	22 30 43.0	
	comp=Z,258nm,18.3s,baz=24,slow=38							
STKA	**Stephens Creek**	**26.87**	**193**	*e*P		**P**	**22 19 22.8**	**-1.7**
CNB	**Canberra Magne**	**29.47**	**179**	*e*P		**P**	**22 19 47.1**	**-0.7**
	comp=Z,349nm,0.9s,mb6.0							
FORT	**Forrest**	**31.60**	**215**	⇑*i*P		**P**	**22 20 05.8**	**-0.8**
	comp=Z,4μm,0.7s							
FORT				*i* pP		pP	22 20 32.3	+2.6
TOO	**Toolangi**	**31.85**	**185**	⇑*i*P		**P**	**22 20 08.4**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.2							
TOO	**Toolangi**	**31.85**	**185**	⇑*i*P		**P**	**22 20 08.4**	**-0.3**
TOO				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
MBWA	**Marble Bar**	**32.00**	**239**	*e*P		**P**	**22 20 08.8**	**-1.4**
	comp=Z,78nm,0.7s,mb5.5							
CBIJ	**Chichi jima**	**33.21**	**349**	P		**P**	**22 20 20.1**	**-0.6**
	comp=Z,206nm,0.8s,mb6.0,baz=293,slow=2.9,SNR=4.6							
CBIJ				LR		LR	22 32 43.7	
	comp=Z,146nm,19.0s,baz=168,slow=34							
TAU	**Tasmania Unive**	**37.07**	**182**	P		**P**	**22 20 54.0**	**+0.8**
	comp=Z,450nm,1.3s,mb6.2,SNR=14							
TAU	**Tasmania Unive**	**37.07**	**182**	*e*P		**P**	**22 20 53.6**	**+0.4**
TAU				pmax	pmax			
	comp=Z,116nm,1.2s,mb5.7							
TAU	**Tasmania Unive**	**37.07**	**182**	*e*P		**P**	**22 20 53.6**	**+0.4**
	comp=Z,116nm,1.2s,mb5.7							
JOW	**Kunigami**	**37.92**	**330**	P		**P**	**22 21 01.9**	**+1.5**
	comp=Z,46nm,0.7s,mb5.4,baz=152,slow=9.2,SNR=18							
JOW				LR		LR	22 35 19.0	
	comp=Z,170nm,20.0s,baz=144,slow=34							
KLBR	**Kellerberrin**	**38.76**	**225**	*e*P		**P**	**22 21 06.5**	**-0.8**
	comp=Z,671nm,0.5s							
KLBR				*e*pP		pP	22 21 30.2	-0.9
KLBR				*e*SCP			22 26 56.2	
NWAO	**Narrogin (SRO)**	**39.89**	**223**	P		**P**	**22 21 16.4**	**-0.3**
	comp=Z,26nm,0.7s,mb5.2,baz=58,slow=8.3,SNR=22							
MUN	**Mundaring**	**40.06**	**225**	*e*P		**P**	**22 21 18.1**	**0.0**
	comp=Z,49nm,0.9s,mb5.3							
MUN				*e*pP		pP	22 21 42.1	+0.1
MUN				*e*PP		PP	22 22 52.5	-3.1
MUN	**Mundaring**	**40.06**	**225**	*e*P		**P**	**22 21 18.1**	**0.0**
MUN				*e**PP		pP	22 21 42.1	+0.1
MUN				*e*			22 22 52.5	
MUN				pmax	pmax			
	comp=Z,49nm,0.9s,mb5.3							
YHNB	**Yeheng**	**40.24**	**320**	*e*P		**P**	**22 21 21.7**	**+2.0**
URZ	**Urewera**	**41.41**	**146**	P		**P**	**22 21 29.2**	**+0.1**
	comp=Z,17nm,0.7s,mb5.0,baz=308,slow=4.5,SNR=12							
URZ				LR		LR	22 35 31.3	
	comp=Z,197nm,18.8s,baz=359,slow=31							
JNU	**Nakatsue**	**42.16**	**337**	LR		LR	22 37 45.4	
	comp=Z,4.9nm,19.0s,baz=5.5,slow=34							
RPZ	**Rata Peaks**	**42.66**	**156**	P		**P**	**22 21 39.4**	**0.0**
	comp=Z,25nm,0.7s,mb5.0,baz=285,slow=2.7,SNR=21							
RPZ				LR		LR	22 36 20.5	
	comp=Z,155nm,18.8s,baz=61,slow=32							
MAJO	**Matsushiro**	**43.16**	**348**	*e*P		**P**	**22 21 44.4**	**+0.8**
MAJO				pmax	pmax			
	comp=Z,164nm,1.4s,mb5.6							
MAJO	**Matsushiro**	**43.16**	**348**	*e*P		**P**	**22 21 44.4**	**+0.8**
	comp=Z,164nm,1.4s,mb5.6							
MAT	**Matsushiro**	**43.16**	**348**	*e*P		**P**	**22 21 44.4**	**+0.4**
MAT				*e*S		**S**	**22 28 02.0**	**+0.1**
MAT				pmax	pmax			
	comp=Z,191nm,1.4s,mb5.6							
MAT	**Matsushiro**	**43.16**	**348**	*e*P		**P**	**22 21 44.0**	**+0.4**
	comp=Z,191nm,1.4s,mb5.6							
MAT				*e*S		**S**	**22 28 02.0**	**+0.1**
MAT	**Matsushiro**	**43.16**	**348**	P		**P**	**22 21 43.9**	**+0.3**
MAT				S		**S**	**22 28 01.0**	**-0.9**
SSE	**Sheshan**	**45.06**	**326**	P		**P**	**22 22 01.0**	**+2.1**
SSE				PP	PP		22 23 47.8	+1.1
SSE				S		**S**	**22 28 30.3**	**+0.9**
SSE				AMB	AMB			
	comp=Z,43nm,0.7s,mb5.3							
SSE				AMB	AMB			
	comp=Z,91nm,5.2s							
SSE				LR	LR			
	comp=N,160nm,26.8s							
SSE				LR	LR			
	comp=E,149nm,26.8s							
SSE				LR	LR			
	comp=Z,262nm,26.7s							
SSE	**Sheshan**	**45.06**	**326**	P		**P**	**22 22 01.0**	**+2.1**
	comp=Z,43nm,0.7s,mb5.3							
SSE				sP		sP	22 22 29.2	-5.5
SSE				PP	PP		22 23 47.7	+1.0
SSE				ScP			22 27 22.8	
SSE				S		**S**	**22 28 30.3**	**+0.9**
SSE				sS			22 29 15.6	
SSE				LR	LR			
	comp=Z,260nm,26.7s							
NJ2	**Nanjing**	**47.10**	**325**	*e*P		**P**	**22 22 16.0**	**+1.0**
NJ2				AP	pP		22 22 43.3	+4.1
NJ2				PP	PP		22 24 08.3	+1.8
NJ2				S		**S**	**22 29 04.0**	**+5.7**
NJ2				XS			22 29 50.0	
NJ2				AMB	AMB			
	comp=Z,780nm,4.6s							
NJ2				LR	LR			
	comp=N,390nm,19.0s							
NJ2				LR	LR			
	comp=E,610nm,23.4s							
NJ2				LR	LR			
	comp=Z,390nm,21.9s							
KS15	**Wonju Array Si**	**47.11**	**337**	*e*P		**P**	**22 22 15.5**	**+0.5**
WHN	**Wuhan**	**48.79**	**320**	P		**P**	**22 22 29.5**	**+1.4**
KULM	**Kulim**	**49.21**	**282**	P		**P**	**22 22 29.4**	**-2.2**
ASAJ	**Asahikawa**	**49.90**	**354**	LR		LR	22 40 08.1	
	comp=Z,92nm,20.3s,baz=164,slow=32							
DL2	**Dalian**	**50.98**	**333**	P		**P**	**22 22 45.8**	**+1.0**
DL2				S		**S**	**22 29 52.9**	**+0.6**
DL2				XS			22 30 43.4	
DL2				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.1							
GYA	**Guiyang**	**51.77**	**310**	⇑*i*P		**P**	**22 22 50.9**	**0.0**
GYA				AP	pP		22 23 17.3	+1.8
GYA				PP	PP		22 24 50.5	+0.4
GYA				S		**S**	**22 30 01.6**	**-1.7**
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
GYA				AMB	AMB			
	comp=Z,120nm,3.8s							
GYA				LR	LR			
	comp=N,340nm,17.2s							
GYA				LR	LR			
	comp=E,610nm,17.5s							
GYA				LR	LR			
	comp=Z,480nm,18.0s							
ENH	**Enshi**	**51.87**	**316**	*e*P		**P**	**22 22 52.1**	**+0.6**
	comp=Z,5.4nm,0.7s,mb4.7							
SNY	**Shenyang**	**52.57**	**336**	⇓P		**P**	**22 22 56.6**	**-0.1**
SNY				AP	pP		22 23 23.8	+2.5
SNY				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.1							
SNY				AMB	AMB			
	comp=Z,190nm,6.4s							
SNY				LR	LR			
	comp=E,150nm,18.1s							
SNY				LR	LR			
	comp=Z,190nm,17.6s							
YSS	**Yuzh-Sakhalins**	**52.70**	**355**	*e*P		**P**	**22 22 57.0**	**-0.5**
YSS				*e*			22 23 29.0	
YSS				pmax	pmax			
	comp=Z,50nm,1.2s,mb5.4							
MDJ	**Mudanjiang**	**52.96**	**343**	P		**P**	**22 22 59.8**	**+0.3**
MDJ				AP	pP		22 23 26.8	+2.6
MDJ				PCP	PcP		22 24 06.3	-0.6
MDJ				PP	PP		22 25 02.3	+0.8
MDJ				SCP			22 27 53.5	
MDJ				PCS			22 28 04.8	
MDJ				S		**S**	**22 30 24.3**	**+5.1**
MDJ				AMB	AMB			
	comp=Z,22nm,1.0s,mb5.1							
MDJ				AMB	AMB			
	comp=Z,98nm,6.6s							
MDJ				LR	LR			
	comp=N,182nm,33.2s							
MDJ				LR	LR			
	comp=E,143nm,45.3s							
MDJ				LR	LR			
	comp=Z,324nm,38.2s							
MDJ	**Mudanjiang**	**52.96**	**343**	*e*P		**P**	**22 22 59.3**	**-0.2**
	comp=Z,23nm,1.1s,mb5.1							
CN2	**Changchun**	**53.57**	**339**	*e*P		**P**	**22 23 03.4**	**-0.6**
CN2				*e*AP		pP	22 23 30.3	+1.6
CN2				*e*S		**S**	**22 30 28.3**	**+0.9**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.2s,mb4.7							
CN2				AMB	AMB			
	comp=Z,300nm,4.0s							
KMI	**Kunming**	**54.17**	**307**	P		**P**	**22 23 10.1**	**+1.5**
KMI				AP		pP	22 23 35.5	+2.1
KMI				S		**S**	**22 30 37.3**	**+1.5**
KMI				SS		SS	22 34 22.0	+3.5
KMI				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.8							
KMI				AMB	AMB			
	comp=Z,98nm,4.1s							
KMI				LR	LR			
	comp=N,118nm,18.9s							
KMI				LR	LR			
	comp=E,138nm,12.4s							
KMI				LR	LR			
	comp=Z,126nm,13.5s							
KMI	**Kunming**	**54.17**	**307**	P		**P**	**22 23 10.1**	**+1.5**
KMI				*PP		pP	22 23 35.5	+2.1
KMI				*SP		sP	22 23 49.7	+4.9
KMI				S		**S**	**22 30 37.3**	**+1.5**
KMI				SS		SS	22 34 22.0	+3.5
KMI				pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.8							
KMI				MLR	MLR			
	comp=Z,130nm,13.5s							
KMI	**Kunming**	**54.17**	**307**	P		**P**	**22 23 10.1**	**+1.5**
	comp=Z,10.0nm,1.1s,mb4.8							
KMI				pP		pP	22 23 35.5	+2.1
KMI				sP		sP	22 23 49.7	+4.9
KMI				S		**S**	**22 30 37.3**	**+1.5**
KMI				sS			22 31 21.9	
KMI				SS		SS	22 34 22.0	+3.5
KMI				LR	LR			
	comp=Z,130nm,13.5s							
BJT	**Baijiatuan**	**54.48**	**330**	*e*P		**P**	**22 23 10.4**	**-0.3**
BJT				pmax	pmax			
	comp=Z,8.0nm,0.6s							
BJT	**Baijiatuan**	**54.48**	**330**	*e*P		**P**	**22 23 10.4**	**-0.2**
	comp=Z,7.7nm,0.6s,mb4.9							
XAN	**Xi'an**	**54.55**	**319**	P		**P**	**22 23 10.3**	**-1.0**
XAN				AMB	AMB			
	comp=Z,23nm,1.0s,mb5.2							
CM31	**Chiang Mai Arr**	**54.61**	**297**	*e*P		**P**	**22 23 10.4**	**-1.5**
	comp=Z,4.1nm,0.8s,mb4.5							
CD2	**Chengdu**	**56.30**	**313**	*e*P		**P**	**22 23 24.1**	**+0.2**
KLR	**Kul'dur**	**56.67**	**347**	*e*P		**P**	**22 23 23.5**	**-2.8**
HHC	**Hu-ho-hao-te**	**57.49**	**327**	*e*P		**P**	**22 23 32.9**	**+0.7**
HHC				AP		pP	22 24 00.5	+3.2
HHC				PP		PP	22 25 45.8	+3.5
HHC				S		**S**	**22 31 20.6**	**+1.0**
HHC				SCS		ScS	22 33 08.9	+1.1
HHC				SS		SS	22 35 14.0	+1.6
HHC				AMB	AMB			
	comp=Z,9.0nm,1.1s,mb4.7							
HHC				AMB	AMB			
	comp=Z,127nm,7.3s							
HHC				LR	LR			
	comp=N,169nm,22.0s							
HHC				LR	LR			
	comp=E,192nm,17.8s							
HHC				LR	LR			
	comp=Z,239nm,32.7s							
LZH	**Lanzhou**	**59.11**	**318**	⇑P		**P**	**22 23 44.0**	**+0.5**
LZH				AP		pP	22 24 11.5	+2.8
LZH				PP		PP	22 25 58.1	+1.2
LZH				*e*S		**S**	**22 31 41.5**	**+0.8**
LZH				SS		SS	22 35 39.3	+1.1
LZH				AMB	AMB			
	comp=Z,27nm,1.4s,mb5.1							
LZH				AMB	AMB			
	comp=Z,165nm,6.2s							
LZH				LR	LR			
	comp=N,1μm,14.8s							
LZH				LR	LR			
	comp=Z,2μm,17.7s							
LZH	**Lanzhou**	**59.11**	**318**	⇑P		**P**	**22 23 44.0**	**+0.5**
LZH				*PP		pP	22 24 11.5	+2.8
LZH				*SP		sP	22 24 23.2	+3.1
LZH							22 25 58.1	
LZH				*eS		**S**	**22 31 41.5**	**+0.8**
LZH				SS		SS	22 35 39.2	+1.0
LZH				pmax	pmax			
	comp=Z,27nm,1.4s,mb5.1							
LZH				MLR	MLR			
	comp=Z,2μm,17.7s							
LZH	**Lanzhou**	**59.11**	**318**	⇑P		**P**	**22 23 44.0**	**+0.5**
	comp=Z,27nm,1.4s,mb5.1							
LZH				pP		pP	22 24 11.5	+2.8
LZH				sP		sP	22 24 23.2	+3.1
LZH				PP		PP	22 25 58.1	+1.2
LZH				*eS		**S**	**22 31 41.5**	**+0.8**
LZH				sS			22 32 28.3	
LZH				SS		SS	22 35 39.2	+1.0
LZH				LR	LR			
	comp=Z,2μm,17.7s							
PET	**Petropavlovsk**	**59.11**	**7**	*e*P		**P**	**22 23 42.9**	**-0.4**
PET				*e**PP		pP	22 24 13.5	+5.0
PET				*e*			22 25 59.1	
PET				*eS		**S**	**22 31 47.7**	**+7.1**
PET				pmax	pmax			
	comp=Z,71nm,1.1s,mb5.6							
PET				pmax	pmax			
	comp=Z,100nm,11.5s							
PET				pmax	pmax			
	comp=Z,100nm,15.6s							
PET				smax				
	comp=N,100nm,16.2s							
PET	**Petropavlovs

LSA Lhasa 65.43 306 *e*P **P** **22 24 24.9 -0.8**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
LSA Lhasa 65.43 306 *e*P **P** **22 24 24.9 -0.9**
comp=Z,9.6nm,0.8s,mb4.7
ZAK Zakamensk 68.20 331 *e*P **P** **22 24 42.2 -0.6**
ZAK *e* pP 22 25 09.9 +1.2
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
SEY Seymchan 68.50 2 *e*P **P** **22 24 45.1 +0.7**
SEY *e* pP 22 25 12.5 +2.2
SEY *e* 22 29 04.5
SEY *e* 22 37 56.9
SEY *e* 22 41 11.9
SEY pmax pmax
comp=Z,30nm,0.9s,mb5.1
NIKO Nikolski 68.57 26 *e*P **P** **22 24 45.2 +0.2**
JIRN Jiri 68.79 302 *e*P **P** **22 24 45.1 -1.7**
comp=Z,16nm,0.7s,mb5.0
TLY Talaya 68.88 332 *e*P **P** **22 24 47.1 +0.2**
TLY *e* pP 22 25 14.5 +1.7
TLY *e* 22 27 17.6
TLY *e*PS PS 22 34 28.3 +6.5
TLY pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
YAK Yakutsk 69.12 351 *e*P **P** **22 24 47.4 -0.8**
YAK pmax pmax
comp=Z,23nm,1.1s,mb4.9
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK Yakutsk 69.12 351 *e*P **P** **22 24 46.5 -1.8**
comp=N,39nm,0.9s,mb5.2
BOD Bodaibo 69.24 341 *e*P **P** **22 24 48.8 -0.3**
BOD pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
PKI Pulchoki 69.42 302 *e*P **P** **22 24 48.6 -2.1**
comp=Z,17nm,0.9s,mb4.9
KKN Kakani 69.60 302 *e*P **P** **22 24 49.3 -2.5**
comp=Z,22nm,0.8s,mb5.0
DMN Daman 69.69 302 *e*P **P** **22 24 50.2 -2.1**
comp=Z,32nm,0.8s,mb5.2
MOY Mondy 70.14 331 *e*P **P** **22 24 57.0 +2.4**
MOY pmax pmax
comp=Z,19nm,1.9s,mb4.6
UNV Unalaska Valle 70.19 26 *e*P **P** **22 24 54.6 -0.3**
comp=Z,128nm,1.2s,mb5.6
GKN Gorkha 70.20 302 *e*P **P** **22 24 53.1 -2.3**
comp=Z,20nm,0.7s,mb5.0
KOLN Koldanda 71.01 302 *e*P **P** **22 24 57.7 -2.6**
comp=Z,23nm,0.8s,mb5.1
MIR Mirnyy 71.64 200 *d i*P **P** **22 25 02.0 -1.4**
MIR *e* pP 22 25 28.0 -1.5
MIR pmax pmax
comp=Z,40nm,1.2s,mb5.1
VNDA Vanda 72.11 177 P **P** **22 25 06.0 0.0**
comp=Z,8.1nm,0.8s,mb4.6,baz=329,slow=7.0,SNR=26
WMQ Urumqi 73.68 319⇑ *i*P **P** **22 25 15.1 -0.7**
WMQ PCP PcP 22 25 31.0 -0.3
WMQ PP PP 22 28 02.0 -1.0
WMQ S S 22 34 35.0 -1.6
WMQ AMB AMB
comp=Z,10.0nm,1.1s,mb4.5
WMQ AMB AMB
comp=Z,157nm,5.0s
WMQ LR LR
comp=N,396nm,35.2s
WMQ LR LR
comp=E,255nm,37.0s
WMQ LR LR
comp=Z,280nm,38.2s
BILL Bilibino 74.61 7 *e*P **P** **22 25 20.7 0.0**
BILL pmax pmax
comp=Z,35nm,1.1s,mb5.0
BILL Bilibino 74.61 7 *e*P **P** **22 25 20.7 +0.1**
comp=Z,35nm,1.1s,mb5.0
TIXI Tiksi 78.30 354⇑ *e*P **P** **22 25 40.4 -0.8**
ZAL Zalesovo 79.68 327 P **P** **22 25 49.0 -0.1**
comp=Z,6.1nm,0.6s,mb4.6,baz=356,slow=5.9,SNR=36
ZAL LR LR 23 00 17.9
comp=Z,117nm,19.9s,baz=345,slow=35
NVS Novosibirsk 80.88 328⇓ *i*P **P** **22 25 54.4 -1.1**
NVS *i* *PP pP 22 26 21.0 -1.1
NVS *e*S S 22 35 52.7 -1.3
NVS pmax pmax
comp=Z,13nm,1.3s,mb4.6
NVS pmax pmax
comp=N,7.0nm,1.4s
NVS pmax pmax
comp=E,6.0nm,0.9s
NVS smax
comp=E,15nm,2.3s
TKM2 Tokmak 2 81.64 315 P **P** **22 26 00.8 +1.1**
SNR=10
KZA Kyzart 81.66 314 P **P** **22 25 59.9 0.0**
SNR=46
KURK Kurchatov 81.99 323 P **P** **22 26 01.8 +0.4**
comp=E,50nm,1.0s,mb5.3,SNR=14
KURK Kurchatov 81.99 323 *e*P **P** **22 26 00.7 -0.7**
KURK *e**PP pP 22 26 28.6 +0.6
KURK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
KURK Kurchatov 81.99 323 *e*P **P** **22 26 00.7 -0.7**
comp=Z,5.9nm,0.7s,mb4.5
KURK *e*pP pP 22 26 28.6 +0.5
KBK Karagaybulak 82.03 314 P **P** **22 26 02.5 +0.8**
SNR=6.8
UCH Uchtor 82.23 314 P **P** **22 26 04.8 +2.1**
SNR=20
CHMS Chumysh 82.26 315 P **P** **22 26 03.7 +0.8**
SNR=7.8
AAK Ala-Archa 82.35 314 P **P** **22 26 04.6 +1.3**
SNR=8.9
AAK Ala-Archa 82.35 314 P **P** **22 26 01.5 -1.8**
comp=Z,50nm,0.7s,mb5.5,SNR=15
AAK Ala-Archa 82.35 314 *e*P **P** **22 26 01.2 -2.1**
AAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
AAK Ala-Archa 82.35 314 *e*P **P** **22 26 01.2 -2.1**
comp=Z,5.8nm,0.8s,mb4.5
USP Ospenovka 82.51 315 P **P** **22 26 04.7 +0.6**
SNR=21
SML Sawmill 82.65 25 *e*P **P** **22 26 04.9 +0.4**
IMA Indian Mountai 82.69 20 *e*P **P** **22 26 04.5 -0.1**
IMA pmax pmax
comp=Z,96nm,1.0s,mb5.6
IMA Indian Mountai 82.69 20 *e*P **P** **22 26 04.5 -0.1**
comp=Z,96nm,1.0s,mb5.6
AML Almayashu 82.79 314 P **P** **22 26 07.2 +1.6**
SNR=20
EKS2 Erkin-Say 82.86 314 P **P** **22 26 07.5 +1.5**
SNR=12
MAW Mawson 83.17 203 *e*P **P** **22 26 06.4 -0.6**
MAW pmax pmax
comp=Z,7.0nm,0.6s
MAW Mawson 83.17 203 P **P** **22 26 06.3 -0.7**
comp=Z,7.7nm,0.6s,mb4.7,baz=104,slow=9.0,SNR=18
MAW LR LR 23 02 20.6
comp=Z,178nm,18.0s,baz=249,slow=35
MAW Mawson 83.17 203 *e*P **P** **22 26 06.4 -0.6**
comp=Z,7.3nm,0.6s,mb4.7
MCK McKinley 83.28 23 *e*P **P** **22 26 07.5 -0.1**
MCK pmax pmax
comp=Z,30nm,1.0s,mb5.1
MCK McKinley 83.28 23 *e*P **P** **22 26 07.5 -0.2**
comp=Z,30nm,1.0s,mb5.1
DIV Divide 83.47 26 *e*P **P** **22 26 09.6 +0.9**
comp=Z,93nm,1.0s,mb5.6
DIV *e*pP pP 22 26 38.6 +3.2
COLA College 84.23 23 *e*P **P** **22 26 11.6 -0.7**
COLA pmax pmax
comp=Z,36nm,1.0s,mb5.2
COLA College 84.23 23 *e*P **P** **22 26 11.6 -0.7**
comp=Z,36nm,1.0s,mb5.2
QSPA South Pole Qui 84.26 180 *e*P **P** **22 26 12.4 +0.2**
comp=Z,33nm,0.7s,mb5.3
BVAR Borovoye Array 87.53 324 P **P** **22 26 27.3 -1.5**
comp=Z,3.3nm,0.6s,mb4.5,baz=104,slow=6.1,SNR=32
CHKZ Chkalovo 87.55 324 *e*P **P** **22 26 27.4 -1.4**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CHKZ Chkalovo 87.55 324 *e*P **P** **22 26 27.4 -1.4**
comp=Z,6.0nm,1.0s,mb4.6
INK Inuvik 90.77 21 *e*P **P** **22 26 43.5 -0.2**
INK pmax pmax
comp=Z,33nm,1.0s
INK Inuvik 90.77 21 P **P** **22 26 43.8 +0.1**
comp=Z,26nm,1.0s,mb5.3,baz=248,slow=5.4,SNR=50
INK Inuvik 90.77 21 *e*P **P** **22 26 43.5 -0.2**
comp=Z,33nm,1.0s,mb5.4
NVAR Mina Array Bea 95.85 52 P **P** **22 27 07.5 -0.1**
comp=Z,0.8nm,0.4s,mb4.5,baz=254,slow=6.6,SNR=4.8
NVAR LR LR 23 00 07.4
comp=Z,46nm,21.2s,baz=350,slow=29
YKW3 Yellowknife Ar 98.12 28 *e*P **P** **22 27 17.6 +0.2**
YKA Yellowknife Ar 98.12 28 P **P** **22 27 17.5 +0.2**
comp=Z,4.2nm,1.0s,mb4.9,baz=274,slow=4.7,SNR=39
YKA PKKPbc 22 43 48.2
comp=Z,0.2nm,0.5s,baz=86,slow=3.1,SNR=5.1
YKA LR LR 23 08 52.2
comp=Z,82nm,19.1s,baz=270,slow=34
YKA Yellowknife Ar 98.12 28 P **P** **22 27 17.6 +0.2**
YKA PKKPbc 22 43 48.2
YKA LR LR 23 08 52.2
PDAR Pinedale Array 102.47 48 P Pdif 22 27 36.2 -1.2
comp=Z,1.2nm,0.9s,baz=270,slow=1.5,SNR=9.3
PDAR PKiKP 22 31 56.5
comp=Z,0.3nm,0.7s,slow=1.5,SNR=3.9
APA Apatity 104.74 339⇑ *e*P Pdif 22 27 42.5 -4.3
APA pmax pmax
comp=Z,13nm,1.0s
KIV Kislovodsk 105.46 314 *i* P Pdif 22 28 06.3 +16
ARCES ARCESS Array B 106.50 342 PKiKP 22 32 05.5
comp=Z,3.1nm,0.9s,baz=90,slow=2.7,SNR=3.0
TXAR Lajitas Array 108.14 61 PKiKP 22 32 09.4
comp=Z,0.4nm,0.7s,baz=225,slow=3.8,SNR=4.2
BRG Berggiesshubel 121.36 328 PKiKP PKPdf 22 32 33.3 +0.7
PLCA Paso Flores 121.42 146 PKP PKPdf 22 32 33.5 +0.5
comp=Z,4.0nm,0.7s,baz=224,slow=3.4,SNR=7.8
CLL Collm 121.60 329 *e*PKiKP PKPdf 22 32 34.0 +0.9
KHC Kasperske Hory 122.53 327 *e*PKPDF PKPdf 22 32 35.0 +0.1
GERES GERESS Array B 122.62 326 PKP PKPdf 22 32 35.5 +0.4
comp=Z,1.0nm,0.6s,baz=103,slow=1.5,SNR=13
GRA1 Grafenberg Arr 123.47 328 *e*PKPdf PKPdf 22 32 36.8 +0.1
GRF Grafenberg Arr 123.47 328 *e*PKiKP PKPdf 22 32 36.8 +0.1
GIVF Givet 126.39 332 *e*PKP1 PKPdf 22 32 43.8 +1.5
BAIF Baives 126.70 332 *e*PKP1 PKPdf 22 32 44.4 +1.5
HAU Haudompre 127.04 329 *e*PKP1 PKPdf 22 32 44.1 +0.5
comp=Z,3.4nm,0.5s
HAU *e*R
comp=Z,134nm,23.0s
CABF La Chapelle 128.07 328 *e*PKP1 PKPdf 22 32 46.8 +1.1
comp=Z,25nm,1.2s
LPL La Plagne 128.42 326 *e*PKP1 PKPdf 22 32 46.4 0.0
LPG La Plagne 128.42 326 *e*PKP1 PKPdf 22 32 46.5 +0.1
comp=Z,4.6nm,0.9s
SSF Saint Saulge 129.10 330 *e*PKP1 PKPdf 22 32 48.4 +0.7
comp=Z,12nm,1.1s
ORIF Oris-en-Rattie 129.26 326 *e*PKP1 PKPdf 22 32 49.4 +1.4
comp=Z,6.9nm,0.9s
ORIF *e*R
comp=Z,124nm,20.2s
FRF La Foret Royal 129.67 325 *e*PKP1 PKPdf 22 32 48.2 -0.6
comp=Z,5.2nm,0.7s
LMR La Mourre 129.88 324 *e*PKP1 PKPdf 22 32 49.0 -0.3
VIVF Saint-Julien-l 129.96 327 *e*PKP1 PKPdf 22 32 50.2 +0.8
SMRF Simiane la Rot 130.02 326 *e*PKP1 PKPdf 22 32 49.6 +0.1
comp=Z,18nm,1.2s
TCF Toulx Ste Croi 130.28 330 *e*PKP1 PKPdf 22 32 50.9 +1.0
comp=Z,8.9nm,0.9s
LASF Ste Croix 130.91 327 *e*PKP1 PKPdf 22 32 51.4 +0.2
comp=Z,38nm,1.6s
LVC Limon Verde 133.68 129 PKP PKPdf 22 32 59.4 +2.4
comp=Z,1.8nm,0.6s,baz=271,slow=4.6,SNR=3.6
ROSC El Rosal 137.15 89 PKP PKPdf 22 33 05.7 +2.1
comp=Z,6.4nm,0.5s,baz=198,slow=6.4,SNR=8.3
LPAZ La Paz 137.51 122 PKHKP 22 32 57.8
LPAZ *e* 22 33 06.1
LPAZ La Paz 137.51 122 PKhKP 22 32 57.8
comp=Z,1.1nm,0.7s,baz=286,slow=3.5,SNR=6.6
LPAZ PKP PKPdf 22 33 06.5 +2.3
comp=Z,1.8nm,0.4s,baz=217,slow=3.6,SNR=10
SDV Santo Domingo 140.87 83 *e*PKPdf PKPdf 22 33 11.9 +1.5
CAM4 Nova Friburgo 150.01 159⇑ *i*P PKPdf 22 33 32.3 +6.8
CAM4 *i* 22 33 34.3
CAM4 *i* 22 33 41.2
CAM4 *i* 22 34 00.3
BDFB Brasilia 153.09 142 PKPbc PKPdf 22 33 38.2 +8.0
comp=Z,4.0nm,0.4s,baz=154,slow=1.5,SNR=3.1
BDFB PKPab PKPab 22 33 50.8 -1.2
comp=Z,8.1nm,0.8s,baz=214,slow=1.2,SNR=6.9
BAO Brasilia Array 153.11 142 P PKPdf 22 33 32.0 +1.8

ISC 20 22:27:57.4±0.5,**46.43N**±0.02×**13.16E**±0.05,**n9,σ0°66**/18,
5C-1D,Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOO	**Bordano**	**0.12**	**201**⇓	*i*Pg	**Pg**	**22 27 59.5**	**-0.3**
BOO				*i* Sg	**Sg**	**22 28 02.2**	**+0.8**
PLRO	**Paularo**	**0.12**	**356**⇑	*i*Pg	**Pg**	**22 28 00.1**	**+0.4**
PLRO				*e*Sg	**Sg**	**22 28 02.7**	**+1.3**
ZOU	**Zoufplan**	**0.18**	**314**⇑	*i*Pg	**Pg**	**22 28 00.6**	**-0.4**
ZOU				*e*Sg	**Sg**	**22 28 03.5**	**+0.1**
BAD	**Bernadia**	**0.20**	**164**⇑	*e*Pg	**Pg**	**22 28 00.9**	**-0.5**
BAD				*e*Sg	**Sg**	**22 28 04.8**	**+0.7**
ROBS	**Robic**	**0.30**	**128**	*i* Pg	**Pg**	**22 28 02.8**	**-0.7**
ROBS				*e*Sg	**Sg**	**22 28 07.6**	**0.0**
comp=Z,2.0nm,0.1s							
COLI	**Coloredo**	**0.33**	**153**	*e*Pg	**Pg**	**22 28 03.1**	**-1.0**
COLI				*e*Sg	**Sg**	**22 28 09.0**	**+0.5**
CADS	**Cadrg**	**0.45**	**117**⇑	*i*Pg	**Pg**	**22 28 05.4**	**-0.9**
CADS				*e*Sg	**Sg**	**22 28 12.8**	**+0.5**
comp=Z,5.0nm,0.2s							
GORS	**Gorjuse**	**0.59**	**101**	*i* Pg	**Pg**	**22 28 08.7**	**-0.4**
GORS				*i* Sg	**Sg**	**22 28 17.9**	**+0.9**
KBA	**Koelnbreinsper**	**0.66**	**11**⇑	*i*PG	**Pg**	**22 28 09.8**	**-0.8**
KBA				*i* SG	**Sg**	**22 28 19.2**	**-0.2**
comp=Z,4.6nm,0.3s							

IDC 20 22:51:35.0±1.6, 18.87S×69.18W, h122km±12km, mb3.4/3, mb1 3.4/5, mb1mx3.2/17, mbtmp3.8/5, Error ellipse: s-maj=39.0km s-min=9.2km az=98.0

ISC 20 22:51:34.8±1.4,**18.89S**±0.07×**69.2W**±0.3,**h132**km±11km,
n5,σ1°14/7,mb3.5/2,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.76**	**21**	P	**P**	**22 52 19.5**	**+0.3**
5.4nm,0.3s,baz=200,slow=9.2,SNR=160							
LPAZ				S	**S**	**22 52 52.5**	**-0.4**
0.8nm,0.3s,baz=294,slow=20,SNR=3.0							
LVC	**Limon Verde**	**3.72**	**177**	P	**P**	**22 52 32.6**	**+0.7**
6.5nm,0.3s,baz=3.6,slow=12,SNR=39							
LVC				S	**S**	**22 53 14.8**	**-0.6**
5.2nm,0.3s,baz=315,slow=22,SNR=6.2							
BDFB	**Brasilia**	**20.45**	**84**	P	**P**	**22 56 04.8**	**+1.1**
1.4nm,0.4s,baz=246,slow=10.0,SNR=4.7							
DBIC	**Dimbokro**	**68.24**	**75**	P	**P**	**23 02 22.4**	**-1.5**
1.3nm,0.5s,mb3.9,baz=236,slow=7.3,SNR=5.0							
YKA	**Yellowknife Ar**	**88.66**	**341**	P	**P**	**23 04 14.1**	**+0.3**
0.1nm,0.4s,mb3.1,baz=137,slow=5.6,SNR=4.9							

IDC 20 22:56:58.6±45.0,**16.69S×176.13W,mb3.8/3,mb1 4.0/3,
mb1mx3.7/13,mbtmp3.8/3,Error ellipse:
s-maj=844.5km s-min=176.3km az=78.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.12**	**240**	P	P	23 04 45.6	-0.4
0.5nm,0.3s,baz=101,slow=10,SNR=3.0							
WRA	**Warramunga Arr**	**47.01**	**258**	P	P	23 05 31.3	-2.5
0.2nm,0.4s,baz=96,slow=7.6,SNR=6.5							
ASAR	**Alice Springs**	**47.23**	**253**	P	P	23 05 33.4	-2.1
3.3nm,0.6s,baz=89,slow=8.1,SNR=48							

CSEM 20 23:03:02.2±0.1,71.51N×10.97W,h30km,ML3.3, Error ellipse: s-maj=5.0km s-min=2.6km az=31.0
BER 20 23:03:03.5±1.4,71.47N×10.98W,h3km±67km, MD3.2, ML3.3,ML2.7(NAO)
NEIC 20 23:03:03.3,71.61N×11.07W,h15km,ML3.4(BER), ML2.7(NAO),After BER.
NAO 20 23:03:05.6±7.0,71.51N×10.24W,ML2.7

ISC 20 23:02:59.8±0.6,**71.52N**±0.06×**11.1W**±0.1,**h10**km,**n19,
σ1°10/28,7C,Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**0.98**	**126**⇑	*i*P	**Pb**	**23 03 19.6**	**+1.2**
JMI				*e*S	**Sb**	**23 03 31.1**	**-0.1**
JMI				AML	AML	23 03 32.3	
comp=Z,1μm,0.4s							
JMI	**Jan Mayen**	**0.98**	**126**⇑	*i*P	**Pb**	**23 03 19.6**	**+1.2**
SNR=53							
JMI				*e*S	**Sb**	**23 03 31.1**	**-0.1**
comp=Z,1μm,0.4s,SNR=53							
JMIC	**Jan Mayen**	**1.00**	**121**	Pg	**Pg**	**23 03 19.6**	**-0.2**
JMIC				Lg		23 03 31.5	
JMIC	**Jan Mayen**	**1.00**	**121**	*e*P	**Pb**	**23 03 19.6**	**+0.8**
JMIC				*e*S	**Sb**	**23 03 31.4**	**-0.5**
JNW	**Jan Mayen West**	**1.00**	**118**⇑	*i*P	**Pb**	**23 03 19.8**	**+0.9**
JNW				*e*S	**Sb**	**23 03 31.2**	**-0.7**
JNW				AML	AML	23 03 34.9	
comp=Z,690nm,0.2s							
JNW	**Jan Mayen West**	**1.00**	**118**⇑	*i*P	**Pb**	**23 03 19.8**	**+1.0**
SNR=53							
JNW				*e*S	**Sb**	**23 03 31.2**	**-0.7**
comp=Z,690nm,0.2s,SNR=53							
JNE	**Jan Mayen East**	**1.06**	**119**⇑	*i*P	**Pb**	**23 03 20.9**	**+1.1**
JNE				*e*S	**Sb**	**23 03 33.8**	**+0.3**
JNE				AML	AML	23 03 35.3	
comp=Z,753nm,0.2s							
JNE	**Jan Mayen East**	**1.06**	**119**⇑	*i*P	**Pb**	**23 03 20.9**	**+1.1**
SNR=53							
JNE				*e*S	**Sb**	**23 03 33.8**	**+0.2**
comp=Z,753nm,0.2s,SNR=53							
SCO	**Scoresbysund**	**3.69**	**259**	*i* P	**Pn**	**23 03 59.3**	**+1.2**
comp=Z,2.3nm,0.6s							
SCO				*i* S	**Sn**	**23 04 40.4**	**-1.8**
DAG	**Danmarks Havn**	**5.66**	**342**⇑	*i*P	**Pn**	**23 04 26.9**	**+0.8**
comp=Z,20nm,0.4s							
DAG				*e*		23 05 24.6	
HSP	**Hornsund**	**9.00**	**40**	*e*P	**P**	**23 05 11.8**	**-1.1**
SPA0	**Spitsbergen Ar**	**9.68**	**34**	Pn	**P**	**23 05 22.6**	**+0.5**
baz=222,slow=16							
SPA0				Sn	**Sn**	**23 07 05.5**	**-6.5**
baz=235,slow=18							
STOK	**Stokkvaagen**	**10.07**	**109**	*e*Pn	**P**	**23 05 26.0**	**-1.3**
TRO	**Tromso**	**10.12**	**86**	*e*Pn	**P**	**23 05 26.4**	**-1.7**
MOR8	**Moi Rana**	**10.61**	**108**	*e*Pn	**P**	**23 05 35.3**	**+0.5**
NSS	**Namsos**	**11.06**	**118**	*e*Pn	**P**	**23 05 38.5**	**-2.4**
ARA0	**ARCESS Array S**	**12.25**	**82**	P	**P**	**23 05 57.0**	**-0.1**
baz=285,slow=12							
NB2	**NORSAR Subarra**	**13.71**	**129**	P	**P**	**23 06 16.1**	**-0.1**
FIA0	**FINESS Array S**	**17.59**	**106**	P	**P**	**23 07 09.1**	**+2.9**
baz=320,slow=11							

NEIC 20 23:15:17.5,41.28S×172.58E,h205km,MG3.9(WEL), After WEL.

WEL 20 23:15:18.8±0.4,**41.29S×172.58E,h193**km±2km,**ML3.9**/11,
**4C,Error ellipse: s-maj=2.7km s-min=2.3km az=90.0,
South Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QRZ	**Quartz Range**	**0.47**	**356**	P	P	23 15 44.9	-0.3
QRZ	**Quartz Range**	**0.47**	**356**	PN	P	23 15 44.9	-0.4
QRZ				SN	S	23 16 04.2	-1.5
THZ	**Tophouse**	**0.53**	**153**	P	P	23 15 45.4	-0.1
THZ				S	S	23 16 06.0	-0.1
THZ	**Tophouse**	**0.53**	**153**	PN	P	23 15 45.4	-0.1
THZ				SN	S	23 16 05.3	-0.9
NNZ	**Nelson**	**0.61**	**83**	P	P	23 15 45.3	-0.5
NNZ				S	S	23 16 05.6	-1.1
NNZ	**Nelson**	**0.61**	**83**	PN	P	23 15 45.3	-0.5
NNZ				SN	S	23 16 05.5	-1.2
DSZ	**Denniston Nort**	**0.74**	**232**	P	P	23 15 45.9	-0.5
DSZ	**Denniston Nort**	**0.74**	**232**	PN	P	23 15 45.9	-0.6
DSZ				SN	S	23 16 05.8	-2.0
TUWZ	**Tuamarina**	**1.04**	**98**	PN	P	23 15 48.1	-0.1
BSWZ	**Blackbirch Sta**	**1.06**	**114**	P	P	23 15 48.3	-0.1
BSWZ	**Blackbirch Sta**	**1.06**	**114**	PN	P	23 15 48.3	-0.2
DUWZ	**D'Urville Isla**	**1.13**	**65**	PN	P	23 15 48.5	-0.4
KHZ	**Kahutara**	**1.34**	**148**	P	P	23 15 50.3	-0.4
KHZ	**Kahutara**	**1.34**	**148**	⇑PN	P	23 15 50.3	-0.4
LTZ	**Lake Taylor**	**1.51**	**189**	P	P	23 15 51.8	-0.5
LTZ	**Lake Taylor**	**1.51**	**189**	⇑PN	P	23 15 51.8	-0.5
MRW	**Makara Radio**	**1.60**	**88**	P	P	23 15 52.3	-0.9
MRW	**Makara Radio**	**1.60**	**88**	⇑PN	P	23 15 52.3	-0.9
SNZO	**South Karori**	**1.60**	**91**	P	P	23 15 52.3	-0.9
SNZO	**South Karori**	**1.60**	**91**	⇑PN	P	23 15 52.3	-0.9
WEL	**Wellington**	**1.65**	**91**	P	P	23 15 52.8	-0.8
WEL	**Wellington**	**1.65**	**91**	PN	P	23 15 52.8	-0.8
BHW	**Baring Head**	**1.73**	**95**	P	P	23 15 53.4	-1.0
BHW	**Baring Head**	**1.73**	**95**	PN	P	23 15 53.4	-0.9
KIW	**Kapiti Island**	**1.81**	**77**	P	P	23 15 54.4	-0.8
KIW	**Kapiti Island**	**1.81**	**77**	PN	P	23 15 54.4	-0.9
CAW	**Cannon Point**	**1.89**	**85**	P	P	23 15 55.0	-1.0
CAW	**Cannon Point**	**1.89**	**85**	PN	P	23 15 55.1	-0.9
MSWZ	**Moikau Station**	**2.02**	**94**	P	P	23 15 58.3	-1.0
MSWZ	**Moikau Station**	**2.02**	**94**	PN	P	23 15 58.3	-0.9
PAWZ	**Paruwai Farm**	**2.15**	**93**	PN	P	23 15 57.7	-1.0
MTW	**Mount Morrison**	**2.21**	**88**	P	P	23 15 58.3	-1.1
MTW	**Mount Morrison**	**2.21**	**88**	PN	P	23 15 58.3	-1.1
WVZ	**Waitaha Valley**	**2.25**	**217**	P	P	23 15 58.2	-1.6
MRZ	**Mangatainoka R**	**2.36**	**76**	P	P	23 15 59.7	-1.4
MRZ				S	S	23 16 30.6	-3.1
MRZ	**Mangatainoka R**	**2.36**	**76**	PN	P	23 15 59.7	-1.4
MQZ	**McQueen's Vall**	**2.42**	**179**	P	P	23 15 59.8	-1.9
MQZ	**McQueen's Vall**	**2.42**	**179**	PN	P	23 15 59.8	-2.0
RPZ	**Rata Peaks**	**2.67**	**204**	*e*P	P	23 16 03.3	-1.4
VRZ	**Vera Road**	**2.73**	**38**	*e*P	P	23 16 05.0	-0.4
BFZ	**Birch Farm**	**2.84**	**79**	P	P	23 16 05.6	-1.1
TSZ	**Takapari Road**	**2.85**	**66**	P	P	23 16 05.0	-1.8
WNVZ	**Wahianoa**	**3.03**	**51**	P	P	23 16 06.8	-2.1
FWVZ	**Far West T-bar**	**3.05**	**49**	P	P	23 16 06.7	-2.5
MOVZ	**Moawhango**	**3.07**	**53**	P	P	23 16 06.9	-2.5
WPVZ	**Whakapapa**	**3.08**	**48**	*e*P	P	23 16 07.2	-2.4
CNZ	**Chateau**	**3.09**	**48**	P	P	23 16 07.5	-2.1
TUVZ	**Tukino**	**3.10**	**50**	P	P	23 16 07.6	-2.2
TWVZ	**Taurewa**	**3.12**	**46**	P	P	23 16 07.3	-2.7
NGZ	**Ngauruhoe**	**3.13**	**49**	P	P	23 16 07.7	-2.5
WTVZ	**West Tongariro**	**3.17**	**48**	P	P	23 16 08.1	-2.5
MGZ	**Maungaku**	**3.22**	**46**	P	P	23 16 08.9	-2.4
KATZ	**Kakaramea**	**3.33**	**47**	P	P	23 16 10.1	-2.4
LBZ	**Lake Benmore**	**3.56**	**209**	*e*P	P	23 16 13.2	-2.2
BKZ	**Black Stump Fm**	**3.67**	**56**	*e*P	P	23 16 11.1	-5.7
JCZ	**Jackson Bay**	**3.96**	**224**	P	P	23 16 17.6	-2.8
ODZ	**Otahua Downs**	**4.01**	**200**	*e*P	P	23 16 18.9	-2.1
WKZ	**Wanaka**	**4.39**	**215**	P	P	23 16 22.5	-3.4
EAZ	**Earnscleugh**	**4.61**	**210**	*e*P	P	23 16 25.2	-3.4
MWZ	**Matawai**	**4.82**	**54**	P	P	23 16 27.5	-3.9
TUZ	**Tuapeka**	**5.13**	**204**	*e*P	P	23 16 32.6	-2.8
MLZ	**Mavora Lakes**	**5.17**	**217**	*e*P	P	23 16 33.6	-2.3
WHZ	**Wether Hill Ro**	**5.70**	**215**	P	P	23 16 39.1	-3.6
MXZ	**Matakaoa Point**	**5.79**	**52**	P	P	23 16 39.7	-4.2

IDC 20 23:43:57.8±48.0,**15.31S×170.84W,mb4.0/3,mb1 4.2/3,
mb1mx3.8/15,mbtmp4.0/3,Error ellipse:
s-maj=948.3km s-min=183.4km az=79.0,Samoa Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**46.23**	**240**	P	P	23 52 25.8	-0.9
1.7nm,0.7s,baz=94,slow=10,SNR=5.5							
WRA	**Warramunga Arr**	**52.27**	**256**	P	P	23 53 10.8	-2.7
0.4nm,0.5s,baz=97,slow=6.8,SNR=16							
ASAR	**Alice Springs**	**52.49**	**252**	P	P	23 53 12.8	-2.2
3.4nm,0.6s,baz=89,slow=8.0,SNR=44							

NEIC 20 23:51:22.0, 14.73N×94.95W, h16km, mb3.6/2, MD4.1(MEX),After MEX.
MEX 20 23:51:22.9±1.1, 14.87N×94.91W, h16km±24km, MD4.2
IDC 20 23:51:27.2±6.7, 16.05N×94.45W, mb3.8/5, mb1 4.2/6, mb1mx3.8/20, mbtmp3.8/6, ML3.4/1, Error ellipse: s-maj=177.0km s-min=54.4km az=26.0

ISC 20 23:51:20.3±2.5, 15.1N±0.1×94.86W±0.05, h6km±18km, n18, σ1§34/24, mb3.7/5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.39	300	*i* P		Pn	23 51 44.8	-1.5
HUIG				*e*S		Sb	23 52 01.7	-2.5
CMIG	Matias Romero	2.01	359	*i* P		Pn	23 51 55.7	+0.6
CMIG				*i* S		Sn	23 52 21.1	+0.3
OXX	Oaxaca	2.68	318	*e*P		Pn	23 52 06.5	+1.7
OXX				*e*S		Sn	23 52 39.5	+1.5
OXX	Oaxaca	2.68	318	*e*P		Pn	23 52 06.0	+1.2
OXX				*e*S		Sn	23 52 36.5	-1.5
VHO	Vista Hermosa	2.68	318	*e*P		Pn	23 52 05.0	+0.2
VHO				*e*S		Sn	23 52 38.6	+0.6
CCIG	Comitan	2.88	65	*e*P		Pn	23 52 07.8	+0.1
CCIG				*i* S		Sn	23 52 42.5	-0.6
PPM	Popocatepetl	5.36	318	*i* P		Pn	23 52 48.5	+5.7
TEIG	Tepich	8.10	50	*e*P		P	23 53 17.4	-3.9
TXAR	Lajitas Array	16.36	332	Pn		P	23 55 14.0	+1.8
	0.0nm,0.3s,baz=153,slow=14,SNR=16							
TXAR	Lajitas Array	16.36	332	Pn		P	23 55 14.0	+1.8
LRAL	Lakeview Retre	19.25	20	*e*P		P	23 55 46.1	-2.1
	3.2nm,0.6s							
WMOK	Wichita Mounta	19.90	350	P		P	23 55 50.9	-4.5
	1.4nm,0.6s							
PDAR	Pinedale Array	30.35	338	P		P	23 57 33.5	-1.6
	0.5nm,0.9s,mb3.2,baz=149,slow=10,SNR=4.0							
NVAR	Mina Array Bea	31.12	323	P		P	23 57 44.0	+2.0
	0.2nm,0.4s,mb3.3,baz=141,slow=12,SNR=3.6							
YKA	Yellowknife Ar	49.38	348	P		P	00 00 11.7	-0.7
	0.8nm,0.7s,mb3.9,baz=154,slow=7.3,SNR=16							
YKA	Yellowknife Ar	49.38	348	P		P	00 00 11.7	-0.7
ILAR	Eielson Array	60.78	337	P		P	00 01 34.9	-0.2
	0.9nm,1.0s,mb3.9,baz=127,slow=4.1,SNR=5.2							
NOA	NORSAR Array B	84.52	28	P		P	00 03 57.0	+1.9
	1.2nm,0.8s,mb4.1,baz=293,slow=5.5,SNR=4.2							

*JMA **21** 00:21:20.5±0.2, 44.77N×143.38E, h252km±2km, M2.7*
*IDC **21** 00:21:21.6±0.8, 45.10N×143.36E, h233km±39km, mb3.0/4, mb1 3.3/4, mb1mx2.9/20, mbtmp3.6/4, Error ellipse: s-maj=117.7km s-min=23.0km az=171.0*

ISC 21 00:21:20.2±0.6, 44.55N±0.1×143.5E±0.1, h259km±6km, n18, σ0§92/26, mb3.2/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JMP	Maruseppu	0.55	190	P		P	00 21 54.7	+0.1
JMP				*e*S		S	00 22 21.0	-0.4
JTKR	Abashiri--Toko	0.65	153	P		P	00 21 55.6	+0.7
JTKR				*e*S		S	00 22 22.2	+0.2
ASAJ	Asahikawa	0.78	236	P		P	00 21 55.5	+0.1
	7.4nm,0.3s,baz=101,slow=2.7,SNR=34							
ASAJ				S		S	00 22 22.2	-0.6
	0.6nm,0.3s,baz=36,slow=33,SNR=6.2							
ASAJ	Asahikawa	0.78	236	P		P	00 21 55.5	+0.1
ASAJ				*e*S		S	00 22 22.5	-0.3
JKK2	Kamakawa 2	0.87	219	P		P	00 21 56.3	+0.5
JAR	Ashorobuto	1.27	171	P		P	00 21 59.3	+1.2
JAR				*e*S		S	00 22 29.3	+1.7
JYG	Yagishiri	1.49	266	P		P	00 21 58.4	-1.2
JHR	Hokuryu	1.51	238	P		P	00 21 59.7	-0.1
JAK	Akkeshi	1.78	150	*e*S		S	00 22 33.4	-0.8
JCH	Churui	1.94	183	P		P	00 22 03.6	+0.4
JCH				*e*S		S	00 22 35.1	-1.4
NEM2	Nemuro 2	2.01	125	P		P	00 22 04.4	+0.6
NEM2				*e*S		S	00 22 36.1	-1.5
JEW	Eniwo	2.27	222	P		P	00 22 07.4	+1.2
JNBK	Urakawa-nobuka	2.33	194	P		P	00 22 08.1	+1.2
JKB	Kayabe	3.21	215	P		P	00 22 16.1	+0.1
JKB				*e*S		S	00 22 58.2	-1.2
SONM	Songino Array	25.73	291	P		P	00 26 28.2	-0.3
	0.9nm,0.7s,mb3.3,baz=80,slow=8.3,SNR=12							
INK	Inuvik	47.04	30	P		P	00 29 25.5	-1.5
	0.7nm,0.5s,mb3.2,baz=271,slow=5.4,SNR=5.8							
YKA	Yellowknife Ar	56.58	33	P		P	00 30 36.9	-0.5
	0.3nm,0.6s,mb2.9,baz=305,slow=6.6,SNR=7.2							
PDAR	Pinedale Array	71.36	48	P		P	00 32 14.5	+1.2
	0.3nm,0.5s,mb3.1,baz=284,slow=3.7,SNR=3.7							

*IDC **21** 00:29:23.0±2.3, 37.78N×21.00E, mb3.7/7, mb1 3.7/10, mb1mx3.6/22, mbtmp3.6/10, ML3.1/3, Error ellipse: s-maj=56.9km s-min=20.8km az=45.0*
*ATH **21** 00:29:24.8, 37.60N×20.87E, h17km±2km, MD3.7/17*
*NEIC **21** 00:29:24.8, 37.61N×20.87E, h17km, mb3.8/2, MD3.7(ATH), ML3.1(CSEM), After ATH.*
*CSEM **21** 00:29:25.3±0.1, 37.54N×20.84E, h10km, MD3.7, Error ellipse: s-maj=3.0km s-min=1.7km az=11.0*
*THE **21** 00:29:30.0, 37.73N×20.97E, h20km, ML3.6*

ISC 21 00:29:24.3±0.8, 37.62N±0.03×20.80E±0.03, h17km±7km, n85, σ1§39/98, mb3.7/9, 2C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.58	343	*e*PN		Pn	00 29 37.0	-0.6
ITM	Ithomi	1.00	116	*e*PN		Pn	00 29 42.3	-1.2
ITM				*e*SN		Sn	00 29 56.5	-0.7
EVR	Evrytania	1.52	31	*e*PN		Pn	00 29 53.7	+2.7
EVR				*e*SN		Sn	00 30 14.0	+3.6
AGG	Agios Georgios	1.84	40	*e*Pb		Pb	00 29 56.4	-0.8
AGG				*e*Sb		Sb	00 30 17.7	-2.3
VLI	Veliai	1.93	117	*e*PN		Pn	00 29 59.0	+2.1
VLI	Veliai	1.93	117	*e*PN		Pn	00 29 59.3	+2.4
IGT	Igoumenitsa	1.94	349	*e*Pb		Pb	00 29 58.9	0.0
MGER	Gerania Oros	1.98	79	*e*PN		Pn	00 29 59.0	+1.4
JAN	Janina	2.03	1	*e*PN		Pn	00 30 01.0	+2.6
NSAL	Nisos Salamina	2.13	81	*e*PB		Pb	00 30 00.5	-1.5
NSAL	Nisos Salamina	2.13	81	*e*Pb		Pb	00 30 00.0	-2.0
NAIG	Nisos Aigina	2.13	85	*e*PN		Pn	00 30 01.0	+1.2
KYTH	Kithira	2.23	126	*e*Pn		Pn	00 30 04.0	+2.8
KYTH	Kithira	2.23	126	*e*PN		Pn	00 30 03.0	+1.8
KEK	Kerkira	2.23	340	*e*PN		Pn	00 30 04.0	+2.7
KEK	Kerkira	2.23	340	*e*Pb		Pb	00 30 02.5	-1.3
ATH	Athens Observa	2.33	80	*e*PN		Pn	00 30 04.0	+1.3
MPAR	Parnis Oros	2.38	76	*e*PB		Pb	00 30 04.0	-2.3
PTL	Penteli	2.46	79	*e*PN		Pn	00 30 05.0	+0.5
NEO	Neokhori	2.54	48	*e*PN		Pn	00 30 07.0	+1.4
KZN	Kozani	2.79	15	*e*PB		Pb	00 30 12.5	-0.8
LIT	Litokhoron	2.81	27	*e*Pn		Pn	00 30 11.0	+1.6
AOS	Alonnisos	2.87	58	*e*Pn		Pn	00 30 11.3	+1.0
FNA	Florina	3.19	8	*e*Pn		Pn	00 30 16.8	+1.9
PAIG	Paliouri	3.22	43	*e*Pn		Pn	00 30 15.8	+0.5
BIA	Bitola	3.42	7	⇓*i*Pn		Pn	00 30 19.2	+1.1
BIA				*i*			00 31 01.7	
PLG	Polygyros	3.44	36	*e*PN		Pn	00 30 18.6	+0.2
THE	Thessaloniki	3.45	29	*e*Pn		Pn	00 30 19.6	+1.1
VAM	Vamos	3.52	128	*e*PN		Pn	00 30 20.0	+0.5
TIP	Timpagrande	3.54	297	*e*P		Pn	00 30 20.6	+0.7
TIP	Timpagrande	3.54	297	*e*P		Pn	00 30 20.6	+0.8
GRG	Griva	3.56	20	*e*Pn		Pn	00 30 21.1	+1.0
GRG	Griva	3.56	20	*e*Pn		Pn	00 30 21.0	+0.9
OUR	Ouranopolis	3.67	41	*e*Pn		Pn	00 30 22.5	+0.8
SOH	Sokhos	3.76	31	*e*Pn		Pn	00 30 24.1	+1.1
SOI	Samo	3.79	278	*e*Pn		Pn	00 30 23.8	+0.5
SOI				*e*Sn		Sn	00 31 07.1	-0.9
SOI	Samo	3.79	278	*e*Pn		Pn	00 30 23.8	+0.4
SOI				*e*Sn		Sn	00 31 07.1	-0.9
GVD	Gavdhos	3.84	135	P		Pn	00 30 23.3	-0.8
GVD	Gavdhos	3.84	135	P		Pn	00 30 23.3	-0.8
KNT	Kendrikon	3.89	24	*e*Pn		Pn	00 30 26.2	+1.4
SANT	Santorini	3.93	107	P		Pn	00 30 24.1	-1.2
SANT	Santorini	3.93	107	P		Pn	00 30 24.1	-1.3
IDI	Anoyia	4.03	124	Pn		Pn	00 30 25.7	-1.2
	0.6nm,0.3s,baz=335,slow=10,SNR=16							
IDI				Sn		Sn	00 31 14.1	-0.1
	9.5nm,0.3s,baz=312,slow=18,SNR=12							
IDI	Anoyia	4.03	124	Pn		Pn	00 30 25.6	-1.3
MTTG	Motta San Giov	4.07	277	*e*Pn		Pn	00 30 28.5	+1.2
MTTG				*e*Sn		Sn	00 31 14.8	-0.2
MTTG	Motta San Giov	4.07	277	*e*Pn		Pn	00 30 28.5	+1.2
MTTG				*e*Sn		Sn	00 31 14.8	-0.3
SRS	Serrai	4.11	31	*e*Pn		Pn	00 30 28.7	+0.8
SRS				*e*Sn		Sn	00 31 14.4	-1.8
PE1	Pezze di Greco	4.12	322	*e*Pn		Pn	00 30 28.7	+0.5
SKO	Skopje	4.37	6	⇑*i*Pn		Pn	00 30 32.0	+0.3
SKO				*i*			00 30 49.0	
SG1	Sgolgore (BA)	4.54	316	*e*Pn		Pn	00 30 35.3	+1.3
PZI	Palazzolo	4.70	265	*e*Pn		Pn	00 30 35.1	-1.3
SLNA	Salina	4.80	283	*e*Pn		Pn	00 30 39.7	+1.9
SLNA				*e*Sn		Sn	00 31 32.8	-0.9
SLNA	Salina	4.80	283	*e*Pn		Pn	00 30 39.7	+1.9
SLNA				*e*Sn		Sn	00 31 32.8	-0.9
CDT	Castel del Mon	4.93	316	*e*Pn		Pn	00 30 40.0	+0.5
VAE	Valguarnera	5.08	270	Sn		Sn	00 31 44.8	+4.1
	4.5nm,0.3s,baz=91,slow=16,SNR=3.8							
MRLC	Muro Lucano	5.18	309	*e*Pn		Pn	00 30 44.6	+1.4
MRLC	Muro Lucano	5.18	309	*e*Pn		Pn	00 30 44.6	+1.5
SGO	Sicignano	5.19	306	*e*Pn		Pn	00 30 45.3	+2.1
SGO	Sicignano	5.19	306	*e*Pn		Pn	00 30 45.3	+2.1
ALN	Alexandroupoli	5.22	50	*e*Pn		Pn	00 30 43.8	+0.1
MS1	Monte Sant'Ang	5.54	319	*e*Pn		Pn	00 30 49.1	+0.9
STON	Ston	5.76	337	*i* Pn		Pn	00 30 49.2	-2.0
STON				*i* Sn		Sn	00 31 51.1	-6.6
STON				*i* Sg		Sn	00 32 21.2	+24
CII	Carovilli	6.47	311	*e*P		Pn	00 30 59.2	-2.2
NRCA	Norcia	7.85	314	*e*Pn		Pn	00 31 21.9	+1.1
NRCA	Norcia	7.85	314	*e*Pn		Pn	00 31 21.9	+1.2
BZS	Buzias	8.01	4	⇓*i*P		P	00 31 20.0	-2.9
MLR	Muntele Rosu	8.76	24	⇓*i*P		P	00 31 34.1	+0.9
BOJS	Bojanci	8.91	334	*e*Pn		P	00 31 34.2	-1.1
BOJS				*e*Sn		Sn	00 33 10.6	-5.7
VISS	Visnje	9.31	333	*e*Pn		P	00 31 40.5	-0.4
VRI	Vrincioaia	9.35	26	⇑*i*P		P	00 31 37.8	-3.7
PERS	Pernice	9.95	337	*e*Pn		P	00 31 47.9	-1.8
BRTR	Keskin Array B	10.26	74	Pn		P	00 31 53.9	0.0
	0.1nm,0.3s,baz=252,slow=14,SNR=3.0							
GERES	GERESS Array B	12.35	338	Pn		P	00 32 20.0	-2.3
	0.1nm,0.3s,baz=148,slow=13,SNR=3.5							
CLL	Collm	14.76	340	*e*		P	00 33 01.0	+6.9
HFS	Hagfors	22.99	351	P		P	00 34 27.2	-1.7
	2.0nm,0.6s,mb3.8,baz=166,slow=12,SNR=14							
EKA	Eskdalemuir Ar	24.01	325	P		P	00 34 39.4	+0.5
	1.6nm,0.6s,mb3.6,baz=125,slow=8.8,SNR=7.6							
FINES	FINESS Array B	24.08	6	P		P	00 34 38.0	-1.4
	0.7nm,0.4s,mb3.4,baz=180,slow=10,SNR=12							
NB2	NORSAR Subarra	24.21	349	P		P	00 34 40.3	-0.5
	0.7nm,0.5s,mb3.4,baz=154,slow=10							
NOA	NORSAR Array B	24.21	349	P		P	00 34 40.7	-0.1
	1.3nm,0.7s,mb3.5,baz=153,slow=11,SNR=4.4							
KAF	Kangasniemi	24.76	6	*ep*		P	00 34 43.3	-2.8
	1.3nm,0.3s,mb3.9,baz=174,slow=9.9							
JOF	Joensuu	26.13	11	*ep*		P	00 34 56.8	-2.2
	0.8nm,0.4s,mb3.6							
ARCES	ARCESS Array B	32.08	3	P		P	00 35 50.0	-2.2
	3.3nm,0.9s,mb4.2,baz=195,slow=10,SNR=9.9							
ARCES	ARCESS Array B	32.08	3	P		P	00 35 50.0	-2.3
ZAL	Zalesovo	45.89	48	P		P	00 37 45.0	-2.3
	1.3nm,0.4s,mb4.2,baz=214,slow=5.1,SNR=7.7							
YKA	Yellowknife Ar	73.99	340	P		P	00 40 58.9	-1.3
	0.2nm,0.6s,mb3.2,baz=38,slow=5.5,SNR=5.6							

GUC 21 00:42:31.3±0.7, 30.78S×71.64W, h11km±4km, MD3.7, ML3.2, 3C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.93	21	*i* P		Pb	00 43 52.6	+64
LSCH				*i* S		Sb	00 44 05.0	+64
LSCH				AMP			00 44 11.4	
	comp=N,992nm,0.3s							
TLL	Tololo Astrono	0.94	50	⇓*i*P		Pb	00 42 49.0	-0.1
TLL				*i* S		Sb	00 43 02.4	+1.0
TLL				AMP			00 43 06.4	
	comp=N,4μm,0.5s							
ILCH	Illapel	0.95	155	⇓*i*P		Pb	00 42 48.6	-0.6
ILCH				*i* S		Sb	00 43 01.9	+0.3
ILCH				AMP			00 43 03.6	
	comp=N,2μm,0.2s							
CHNG	Los Chungos	1.11	174	⇑*i*P		Pb	00 42 51.2	-0.8
CHNG				*i* S		Sb	00 43 06.1	-0.2
CHNG				AMP			00 43 09.8	
	comp=E,653nm,0.6s							
PACH	Papudo	1.76	175	*e*P		Pn	00 43 01.6	-0.5
PACH				*i* S		Sn	00 43 24.7	0.0
LCO	Las Campanas	1.94	25	⇑*i*P		Pn	00 43 02.3	-2.3
LCO				*i* S		Sn	00 43 28.3	-0.8
LCO				AMP			00 43 34.6	
	comp=E,308nm,0.3s							
JACH	Jahuel	2.10	155	*e*P		Pn	00 43 07.1	+0.3
JACH				*i* S		Sn	00 43 34.0	+0.8
ROCH	El Roble	2.25	167	*i* P		Pn	00 43 10.1	+1.0
SCR	San Cristobal	2.77	169	*e*P		Pn	00 43 16.7	+0.2
SCR				*i* S		Sn	00 43 51.2	+1.0
CLCH	Cerro Calan	2.77	161	*e*P		Pn	00 43 17.4	+0.9
FCH	Farellones	2.79	156	*e*P		Pn	00 43 17.9	+1.2
FCH				*i* S		Sn	00 43 53.3	+2.6
LMEL	Las Melosas	3.29	159	⇑*i*P		Pn	00 43 24.1	+0.1
LMEL				*i* S		Sn	00 44 04.4	+0.9

*IDC **21** 00:52:46.0±16.0, 32.13S×68.23W, h82km±130km, mb3.4/2, mb1 3.7/3, mb1mx3.4/13, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=92.4km s-min=45.8km az=14.0*
*GUC **21** 00:52:49.4±1.0, 31.70S×68.56W, h160km, ML3.8*
*NEIC **21** 00:52:50.1±0.6, 31.80S×68.25W, h114km±7km, Error ellipse: s-maj=10.6km s-min=7.3km az=97.0*

ISC 21 00:52:49.2±0.7, 31.76S±0.04×68.26W±0.07, h116km±7km, n25, σ0§05/35, mb3.3/2, 5C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ZON	Zonda	0.41	300	⇓*i*P		P	00 53 07.0	+0.6
ZON				*e*S		S	00 53 18.0	-1.3
JACH	Jahuel	2.18	244	*e*P		P	00 53 26.1	+0.8
JACH				*i* S		S	00 53 53.9	+1.3
FCH	Farellones	2.32	227	⇑*i*P		P	00 53 28.2	+0.9
FCH				*i* S		S	00 53 58.2	+2.3
FCH				AMP			00 54 03.5	
	comp=E,271nm,0.3s							
CLCH	Cerro Calan	2.52	229	⇑*i*P		P	00 53 30.5	+0.6
CLCH				*i* S		S	00 54 01.4	+0.7
CLCH				AMP			00 54 09.8	
	comp=E,474nm,0.3s							
ROCH	El Roble	2.62	242	*e*P		P	00 53 31.1	-0.2
ROCH				*i* S		S	00 54 02.0	-1.0
LMEL	Las Melosas	2.65	218	*i* P		P	00 53 32.3	+0.7
LMEL				*i* S		S	00 54 05.5	+1.8
LMEL				AMP			00 54 18.4	
	comp=N,146nm,0.2s							
PCH	Pirque	2.66	225	*e*P		P	00 53 32.3	+0.5
ANTU	Antumapu	2.70	227	*i* S		S	00 54 05.0	+0.2
ANTU				AMP			00 54 06.2	
	comp=N,348nm,0.3s							
TLL	Tololo Astrono	2.70	305	*e*P		P	00 53 33.7	+1.4
TLL				*i* S		S	00 54 05.3	+0.5
TLL				AMP			00 54 09.2	
	comp=E,305nm,0.6s							
RCDM	Rinconada Maip	2.76	230	*e*P		P	00 53 33.1	0.0
RCDM				*i* S		S	00 54 05.3	-0.9
RCDM				AMP			00 54 08.2	
	comp=E,702nm,0.2s							
CHNG	Los Chungos	2.76	267	⇓*i*P		P	00 53 32.3	-0.8
CHNG				*i* S		S	00 54 03.7	-2.5
CHNG				AMP			00 54 13.6	
	comp=E,133nm,0.2s							
PACH	Papudo	2.80	253	⇓*i*P		P	00 53 32.5	-1.2
SCR	San Cristobal	2.89	232	*e*P		P	00 53 30.9	-4.0
SCR				*i* S		S	00 54 02.4	-7.0
SCR				AMP			00 54 03.2	
	comp=E,123nm,0.4s							
TACH	Talagante	2.94	229	⇓*i*P		P	00 53 35.1	-0.5
TACH				*i* S		S	00 54 09.2	-1.4
CHCH	Chadas Angostu	2.96	222	⇑*i*P		P	00 53 36.1	+0.3
LCCH	Las Cruces	3.28	238	⇑*i*P		P	00 53 38.7	-1.4
LCO	Las Campanas	3.45	322	⇑*i*P		P	00 53 43.5	+1.1
LCO				*i* S		S	00 54 22.6	-0.3
LCO				AMP			00 54 26.5	
	comp=E,299nm,0.2s							
SFDO	San Fernando	3.67	218	*e*P		P	00 53 44.0	-1.4
TRQA	Tornquist	8.13	142	*e*P		P	00 54 44.7	-1.1
LPAZ	La Paz	15.40	0	P		P	00 56 25.5	+4.2
	comp=E,0.2nm,0.3s,baz=179,slow=9.9,SNR=11							
LPAZ	La Paz	15.40	0	P		P	00 56 21.7	+0.3
	comp=E,1.5nm,0.6s							
BDFB	Brasilia	24.45	54	P		P	00 57 58.5	0.0
	comp=E,0.6nm,0.4s,mb3.3,baz=232,slow=12,SNR=3.2							
TXAR	Lajitas Array	69.45	327	P		P	01 03 47.1	+0.2
	comp=E,0.3nm,0.6s,mb3.3,baz=150,slow=7.9,SNR=5.5							
WRA	Warramunga Arr	124.22	206	PKP		PKPdf	01 11 34.8	+0.1
	comp=E,0.2nm,0.4s,baz=156,slow=1.7,SNR=6.3							
ZAL	Zalesovo	150.62	33	PKPbc		PKPdf	01 12 29.3	+8.2
	comp=E,1.1nm,0.6s,baz=239,slow=1.4,SNR=7.0							

*IDC **21** 01:03:43.5±3.8, 37.54N×21.66E, mb3.8/3, mb1 3.6/5, mb1mx3.3/21, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=82.9km s-min=28.0km az=52.0*
*ATH **21** 01:03:44.7, 37.46N×22.00E, h15km±2km, MD3.4/10*
*CSEM **21** 01:03:44.9±0.3, 37.49N×21.99E, h12km, MD3.4, Error ellipse: s-maj=7.0km s-min=3.5km az=46.0*
*NEIC **21** 01:03:44.8, 37.48N×22.00E, h11km, MD3.4(ATH), After ATH.*

ISC 21 01:03:44.7±0.6, 37.42N±0.04×21.97E±0.07, h15km, n36, σ1§19/37, mb3.5/4, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ITM	Ithomi	0.24	189	*e*PB		Pb	01 03 50.8	+0.6
VLI	Veliai	1.04	132	*e*PN		Pn	01 04 05.0	+0.3
MGER	Gerania Oros	1.17	61	*e*PN		Pn	01 04 06.5	0.0
NAIG	Nisos Aigina	1.25	74	*e*PN		Pn	01 04 07.5	-0.2
NSAL	Nisos Salamina	1.28	67	*e*PN		Pn	01 04 08.0	-0.1
VLS	Valsamata	1.33	305	*e*PN		Pn	01 04 10.0	+1.1
ATH	Athens Observa	1.49	68	*e*PN		Pn	01 04 12.0	+0.9
EVR	Evrytania	1.50	355	*e*PN		Pn	01 04 11.5	+0.2
EVR				*e*SN		Sn	01 04 32.0	+1.3
EVR	Evrytania	1.50	355	*e*Pn		Pn	01 04 11.0	-0.3
MPAR	Parnis Oros	1.58	62	*e*PN		Pn	01 04 14.0	+1.6
AGG	Agios Georgios	1.63	10	*e*P		Pn	01 04 13.3	+0.3
PTL	Penteli	1.63	67	*e*PN		Pn	01 04 13.5	+0.4
NEO	Neokhori	2.13	27	*e*PN		Pn	01 04 21.5	+1.3
AOS	Alonnisos	2.31	40	*e*P		Pn	01 04 21.9	-0.9
JAN	Janina	2.40	339	*e*Pg		Pg	01 04 30.0	-2.8
IGT	Igoumenitsa	2.47	329	*e*P		Pn	01 04 31.8	+6.6
PAIG	Paliouri	2.84	28	*e*P		Pn	01 04 28.9	-1.5
GVD	Gavdhos	3.09	146	*e*Pg		Pg	01 04 43.8	-2.6
GVD	Gavdhos	3.09	146	*e*Pg		Pg	01 04 43.8	-2.6
IDI	Anoyia	3.17	131	Pn		Pn	01 04 38.6	+3.4
	1.7nm,0.3s,baz=309,slow=12,SNR=15							
OUR	Ouranopolis	3.31	28	*e*P		Pn	01 04 35.5	-1.6
FNA	Florina	3.39	352	*e*P		Pn	01 04 40.2	+1.9
GRG	Griva	3.55	5	*e*P		Pn	01 04 40.7	+0.2
SOH	Sokhos	3.57	17	*e*P		Pn	01 04 40.1	-0.6
KNT	Kendrikon	3.81	11	*e*P		Pn	01 04 43.5	-0.7
SRS	Serrai	3.90	18	*e*P		Pn	01 04 44.8	-0.7
MMB	Musomiste	4.38	17	*i* P		Pn	01 04 52.5	+0.2
KKB	Krupnik	4.53	11	*e*P		Pn	01 04 58.0	+3.6
RZN	Rozhen	4.76	26	*e*P		Pn	01 05 01.5	+3.8
VTS	Vitosha	5.25	10	*e*P		Pn	01 05 08.5	+3.8
BRTR	Keskin Array B	9.42	72	Pn		P	01 06 03.4	+0.4
	0.1nm,0.3s,baz=254,slow=13,SNR=4.9							
HFS	Hagfors	23.34	350	P		P	01 08 51.9	-1.0
	0.9nm,0.4s,mb3.5,baz=140,slow=12,SNR=4.9							
FINES	FINESS Array B	24.19	5	P		P	01 08 59.7	-1.5
	1.1nm,0.9s,mb3.3,baz=194,slow=7.9,SNR=6.6							
FINES	FINESS Array B	24.19	5	P		P	01 08 59.7	-1.5
NB2	NORSAR Subarra	24.60	347	P		P	01 09 06.0	+0.9
	0.7nm,0.5s,mb3.5,baz=153,slow=10							
ARCES	ARCESS Array B	32.23	2	P		P	01 10 12.6	-1.6
	1.7nm,0.8s,mb4.0,baz=197,slow=13,SNR=5.4							

IDC 21 01:34:58.6±10.0, 0.39S×126.39E, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, Error ellipse: s-maj=165.3km s-min=152.8km az=86.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.93	159	P		P	01 39 43.0	-2.6
	0.3nm,0.3s,baz=336,slow=11,SNR=7.2							
ASAR	Alice Springs	24.26	163	P		P	01 40 17.6	-1.0
	0.6nm,0.5s,baz=346,slow=7.8,SNR=8.8							
STKA	Stephens Creek	34.46	157

JNBK				S	S	01 44 57.6	+0.9	
JTH	**Tanohata**	**2.55**	**258**	*e*S	S	01 44 55.4	-2.7	
JANG	**Nango**	**2.75**	**268**	*e*S	S	01 45 01.4	-1.6	
NEM2	**Nemuro 2**	**2.88**	**9**	P	P	01 44 32.5	-0.2	
NEM2				*e*S	S	01 45 03.1	-3.4	
JAR	**Ashorobuto**	**2.95**	**341**	P	P	01 44 34.1	+0.4	
JAR				S	S	01 45 07.1	-1.1	
JOM	**Ohasama**	**3.11**	**252**	P	P	01 44 36.6	+0.6	
JOM				S	S	01 45 10.2	-2.1	
JOT	**Ohata**	**3.19**	**287**	P	P	01 44 37.5	+0.4	
JOT				*e*S	S	01 45 11.5	-2.9	
JFR	**Furan**	**3.24**	**325**	*e*S	S	01 45 14.2	-1.4	
JKB	**Kayabe**	**3.37**	**295**	*e*S	S	01 45 16.3	-2.4	
JMK	**Ichinoseki**	**3.38**	**244**	P	P	01 44 40.3	+0.5	
JMK				S	S	01 45 17.5	-1.7	
JTKR	**Abashiri--Toko**	**3.56**	**346**	P	P	01 44 43.5	+1.2	
JTKR				*e*S	S	01 45 23.0	-0.7	
JHR	**Hokuryu**	**4.09**	**323**	P	P	01 44 51.6	+1.8	
JHR				*e*S	S	01 45 35.7	-1.3	

IDC 21 01:46:26.2±13.0, 0.57S×125.05E, mb3.6/3, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, MS3.6/2, Ms1 3.6/2, ms1mx2.8/16, Error ellipse: s-maj=213.1km s-min=160.1km az=158.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.30**	**155**	P	P	01 51 14.4	-2.5
	0.6nm,0.4s,baz=332,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**24.52**	**160**	P	P	01 51 48.2	-0.5
	0.7nm,0.5s,baz=346,slow=7.6,SNR=4.1						
CTA	**Charters Tower**	**28.41**	**134**	LR	LR	02 02 44.5	
	comp=Z,86nm,19.2s,baz=48,slow=34						
STKA	**Stephens Creek**	**34.85**	**155**	P	P	01 53 18.9	-2.4
	1.0nm,0.5s,baz=344,slow=10,SNR=3.8						
KMBO	**Kilima Mbogo**	**87.78**	**269**	LR	LR	02 35 55.1	
	comp=Z,43nm,18.8s,baz=106,slow=34						

IDC 21 01:55:27.8±1.1, 0.14N×125.74E, mb4.0/5, mb1 4.2/5, mb1mx3.9/14, mbtmp4.0/5, Error ellipse: s-maj=132.4km s-min=19.3km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**158**	P	P	02 00 19.0	-3.1
	2.5nm,0.4s,baz=336,slow=11,SNR=12						
ASAR	**Alice Springs**	**24.95**	**162**	P	P	02 00 53.4	-1.1
	2.8nm,0.5s,baz=344,slow=7.7,SNR=39						
STKA	**Stephens Creek**	**35.20**	**156**	P	P	02 02 24.2	-1.7
	3.5nm,0.5s,baz=319,slow=7.8,SNR=17						
SONM	**Songino Array**	**50.40**	**343**	P	P	02 04 27.0	-1.9
	1.0nm,0.9s,baz=148,slow=8.9,SNR=7.5						
BVAR	**Borovoye Array**	**69.80**	**328**	P	P	02 06 39.9	-2.2
	0.5nm,0.6s,baz=130,slow=12,SNR=5.0						

IGQ 21 02:12:19.9, 1.25S×81.03W, h12km±31km, mb4.0, 4C, Error ellipse: s-maj=24.3km s-min=5.5km az=4.1, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.93**	**178**	P	Pn	02 12 38.3	+0.8
IGUA	**Igualata**	**2.40**	**96**	P	Pn	02 13 00.6	+0.9
ARRY	**Arrayan**	**2.59**	**96**	⇑P	Pn	02 13 02.4	+0.1
ARRY				S	Sn	02 13 34.8	+0.9
NAS1	**Nasa**	**2.63**	**77**	P	Pn	02 13 04.6	+1.7
ULBA	**Ulba**	**2.63**	**94**	P	Pn	02 13 03.9	+1.0
JUA2	**San Juan 2**	**2.63**	**67**	⇑P	Pn	02 13 05.2	+2.1
PISA	**Pisayambo**	**2.65**	**86**	P	Pn	02 13 06.6	+3.3
PINO	**Pino**	**2.66**	**66**	P	Pn	02 13 04.3	+1.0
VC1	**Cotopaxi 1**	**2.70**	**77**	P	Pn	02 13 05.7	+1.8
YANA	**Yana**	**2.71**	**65**	⇑P	Pn	02 13 04.7	+0.7
TAMB	**Tambo**	**2.72**	**78**	P	Pn	02 13 06.7	+2.5
ANTI	**Antisana**	**2.98**	**74**	P	Pn	02 13 09.6	+1.7
ANTI				S	Sn	02 13 48.2	+4.3
COTA	**Cotacachi**	**3.12**	**60**	P	Pn	02 13 11.6	+1.7
CAYR	**Refugio Cayamb**	**3.27**	**67**	⇑P	Pn	02 13 15.7	+3.6
CAYA	**Cayambe**	**3.31**	**67**	P	Pn	02 13 15.7	+3.1
ECEN	**Cerro Negro**	**3.69**	**56**	P	Pn	02 13 19.5	+1.5
ECEN				S	Sn	02 14 09.8	+7.9

*IDC **21** 02:24:05.6±0.5, 9.85N×125.55E, mb4.3/19, mb1 4.4/20, mb1mx4.3/24, mbtmp4.3/20, ML3.7/1, MS3.8/4, Ms1 3.9/4, ms1mx3.4/19, Error ellipse: s-maj=40.2km s-min=12.4km az=67.0*
*MAN **21** 02:24:07.6, 9.69N×125.32E, h1km, mb5.2, ML4.2, MS4.4*
MAN Tubod Surigao del Norte Intensity IV Surigao City Intensity III.
*NEIC **21** 02:24:07.5±0.3, 9.73N×125.45E, h10km, mb4.7/15, Error ellipse: s-maj=18.3km s-min=6.5km az=67.0*
NEIC Felt [IV PIVS] at Tubod and [III PIVS] at Surigao.
*BJI **21** 02:24:07.5, 9.70N×125.40E, h10km, mB4.9, mb4.6, Ms4.3, Msz3.9*
*MOS **21** 02:24:08.8±1.5, 9.76N×125.54E, h33km, mb4.8/11, Error ellipse: s-maj=29.1km s-min=9.3km az=115.6*

ISC 21 02:24:07.7±0.5, 9.75N±0.03×125.51E±0.04, h21km±3km, n98, σ1°911/107, mb4.5/47, MS4.1/8, 6C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.04**	**328**	⇑*e*P	**Pb**	**02 24 11.0**	**-0.4**
SCPH				*e*S	**Sb**	**02 24 13.4**	**-0.6**
MSLP	**Maasin**	**0.75**	**301**	*e*P	**Pb**	**02 24 22.0**	**+0.1**
MSLP				*e*S	**Sb**	**02 24 35.8**	**+4.2**
BUTP	**Butuan**	**0.78**	**172**	*e*P	**Pb**	**02 24 22.7**	**+0.2**
BUTP				*e*S	**Sb**	**02 24 37.4**	**+4.9**
CGP	**Cagayan de Oro**	**1.52**	**212**	⇑*e*P	**Pn**	**02 24 22.5**	**-11**
CGP				*e*S	**Sn**	**02 24 54.8**	**+1.6**
LLP	**Lapu-Lapu**	**1.62**	**291**	⇓*e*P	**Pn**	**02 24 34.8**	**-0.7**
LLP				*e*S	**Sn**	**02 24 56.0**	**+0.1**
TBP	**Tagbilaran**	**1.63**	**268**	⇑*e*P	**Pn**	**02 24 35.0**	**-0.5**
TBP				*e*S	**Sn**	**02 24 54.4**	**-1.6**
BIPH	**Bislig**	**1.77**	**152**	⇑*e*P	**Pn**	**02 24 39.0**	**+1.5**
BIPH				*e*S	**Sn**	**02 25 04.0**	**+4.4**
BESP	**Borongan**	**1.84**	**358**	*e*P	**Pn**	**02 24 42.2**	**+3.6**
BUKP	**Musuan**	**1.91**	**193**	*e*P	**Pn**	**02 24 40.1**	**+0.5**
SNPH	**Sibulan**	**2.28**	**260**	*i*P	**Pn**	**02 24 45.0**	**+0.1**
DCPH	**Dipolog City**	**2.42**	**242**	⇓*i*P	**Pn**	**02 24 46.8**	**-0.2**
DCPH				*i*S	**Sn**	**02 25 15.4**	**-0.9**
DAV	**Davao City (W)**	**2.66**	**179**	*e*P	**Pn**	**02 24 57.0**	**+6.7**
KCP	**Kidapawan**	**2.75**	**189**	⇑*e*P	**Pn**	**02 24 55.8**	**+4.1**
PAGZ	**Pagadian**	**2.83**	**228**	*e*P	**Pn**	**02 24 54.2**	**+1.5**
CNP	**Catarman**	**2.87**	**343**	*e*P	**Pn**	**02 24 55.3**	**+2.0**
MATI	**Mati**	**2.88**	**165**	*e*P	**Pn**	**02 24 57.3**	**+3.9**
GUIM	**Jordan**	**3.01**	**287**	*e*P	**Pn**	**02 24 54.9**	**-0.4**
MMPH	**Masbate**	**3.19**	**325**	*e*P	**Pn**	**02 25 11.0**	**+13**
RCP	**Roxas**	**3.26**	**304**	⇑*e*P	**Pn**	**02 24 59.1**	**+0.2**
PVCP	**Virac**	**4.05**	**341**	*e*P	**Pn**	**02 25 18.6**	**+8.6**
OTRP	**Odiongan**	**4.30**	**308**	*e*P	**Pn**	**02 25 15.7**	**+2.1**
JOW	**Kunigami**	**17.19**	**8**	P	**P**	**02 28 09.8**	**+1.4**
JOW	0.5nm,0.3s,baz=161,slow=4.2,SNR=5.4			LR	LR	02 33 42.4	
	comp=Z,251nm,19.5s,baz=320,slow=34						
GZH	**Guangzhou**	**17.65**	**320**	P	**P**	**02 28 18.8**	**+4.7**
KAKA	**Kakadu**	**23.35**	**163**	*e*P	**P**	**02 29 16.5**	**+0.7**
	38nm,0.8s,mb4.9						
ENH	**Enshi**	**25.31**	**326**	*e*P	**P**	**02 29 35.3**	**+0.7**
	23nm,1.1s,mb4.6						
CM31	**Chiang Mai Arr**	**27.15**	**292**	P	**P**	**02 29 50.9**	**-0.8**
	13nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.67**	**180**	*e*P	**P**	**02 29 55.0**	**-1.5**
	20nm,0.9s,mb4.7						
XAN	**Xi'an**	**28.57**	**330**	P	**P**	**02 30 02.8**	**-1.7**
XAN				AP	pP	02 30 07.4	-3.3
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
PMG	**Port Moresby**	**28.75**	**131**	*e*P	**P**	**02 30 05.0**	**-1.2**
PMG				pmax	pmax		
	comp=Z,12nm,0.9s						
PMG	**Port Moresby**	**28.75**	**131**	P	**P**	**02 30 04.7**	**-1.5**
	comp=Z,12nm,1.0s,mb4.6,baz=316,slow=12,SNR=3.4						
PMG	**Port Moresby**	**28.75**	**131**	*e*P	**P**	**02 30 05.0**	**-1.2**
	comp=Z,12nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**30.75**	**164**	P	**P**	**02 30 21.3**	**-2.7**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**30.75**	**164**	P	**P**	**02 30 21.2**	**-2.8**
	comp=Z,3.6nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**30.76**	**164**	P	**P**	**02 30 23.1**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.0,baz=343,slow=9.6,SNR=4.1						
BJI	**Beijing**	**31.29**	**346**	*e*P	**P**	**02 30 32.4**	**+3.8**
BJI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,91nm,13.8s,MS4.0						
BJI				LR	LR		
	comp=E,238nm,14.3s,MS4.0						
BJI				LR	LR		
	comp=Z,82nm,21.3s						
SNY	**Shenyang**	**32.00**	**357**	⇓P	**P**	**02 30 34.1**	**-0.7**
SNY				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
HHC	**Hu-ho-hao-te**	**33.35**	**341**	*e*P	**P**	**02 30 44.8**	**-1.8**
HHC				PP	PP	02 31 58.8	+0.4
HHC				S	**S**	**02 36 01.4**	**-3.7**
HHC				SS	SS	02 38 05.4	-2.6
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,81nm,4.3s						
HHC				LR	LR		
	comp=N,150nm,30.3s						
HHC				LR	LR		
	comp=E,182nm,22.0s						
HHC				LR	LR		
	comp=Z,144nm,20.2s						
CN2	**Changchun**	**33.93**	**360**	*e*P	**P**	**02 30 52.4**	**+0.9**
CN2				*e*XP	sP	02 30 59.0	-1.6
CN2				*e*S	**S**	**02 36 16.8**	**+2.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s,MS5.0						
CN2				LR	LR		
	comp=E,2μm,18.0s,MS5.0						
CN2				LR	LR		
	comp=Z,2μm,19.0s,MS4.8						
ASAR	**Alice Springs**	**34.21**	**166**	P	**P**	**02 30 54.1**	**-0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=350,slow=7.7,SNR=15						
ASAR				LR	LR	02 44 15.2	
	comp=Z,80nm,19.7s,MS3.5,baz=342,slow=35						
MDJ	**Mudanjiang**	**34.92**	**5**	P	**P**	**02 31 00.4**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,33nm,3.2s						
MDJ				LR	LR		
	comp=N,84nm,27.1s,MS3.5						
MDJ				LR	LR		
	comp=E,68nm,25.3s,MS3.5						
MDJ				LR	LR		
	comp=Z,98nm,25.3s,MS3.5						
CTA	**Charters Tower**	**36.00**	**146**	P	**P**	**02 31 09.3**	**-0.1**
	comp=Z,8.0nm,1.0s,mb4.6,baz=335,slow=15,SNR=4.9						
CTAO	**Charters Tower**	**36.00**	**146**	*e*P	**P**	**02 31 09.9**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
CTAO	**Charters Tower**	**36.00**	**146**	*e*P	**P**	**02 31 09.9**	**+0.4**
	comp=Z,17nm,1.3s,mb4.8						
GTA	**Gaotai**	**37.39**	**326**	*e*P	**P**	**02 31 21.4**	**+0.4**
GTA				AP	pP	02 31 25.5	-1.8
GTA				XP	sP	02 31 27.8	-2.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**37.73**	**307**	P	**P**	**02 31 25.3**	**+1.4**
LSA				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
LSA	**Lhasa**	**37.73**	**307**	*e*P	**P**	**02 31 25.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.0						
LSA	**Lhasa**	**37.73**	**307**	*e*P	**P**	**02 31 25.3**	**+1.4**
	comp=Z,38nm,1.3s,mb5.0						
JIRN	**Jiri**	**41.05**	**301**	*e*P	**P**	**02 31 52.6**	**+1.1**
	comp=Z,41nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**41.06**	**341**	*e*P	**P**	**02 31 50.6**	**-0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**41.06**	**341**	*e*P	**P**	**02 31 50.5**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**41.25**	**340**	P	**P**	**02 31 52.7**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.5,baz=150,slow=8.4,SNR=3.9						
PKI	**Pulchoki**	**41.69**	**301**	*e*P	**P**	**02 31 57.7**	**+0.9**
	comp=Z,30nm,1.0s,mb4.9						
KKN	**Kakani**	**41.86**	**301**	*e*P	**P**	**02 31 59.5**	**+1.2**
	comp=Z,48nm,1.0s,mb5.1						
DMN	**Daman**	**41.96**	**301**	*e*P	**P**	**02 31 59.7**	**+0.7**
	comp=Z,35nm,1.1s,mb4.9						
GKN	**Gorkha**	**42.47**	**301**	*e*P	**P**	**02 32 03.7**	**+0.5**
	comp=Z,43nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**43.16**	**190**	P	**P**	**02 32 09.3**	**+0.5**
	comp=Z,8.8nm,0.7s,mb4.6,baz=32,slow=9.2,SNR=5.1						
KOLN	**Koldanda**	**43.28**	**300**	*e*P	**P**	**02 32 10.2**	**+0.3**
	comp=Z,41nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**44.16**	**160**	P	**P**	**02 32 17.0**	**+0.1**
	comp=Z,4.8nm,0.6s,mb4.4,baz=315,slow=8.5,SNR=17						
STKA	**Stephens Creek**	**44.16**	**160**	*e*P	**P**	**02 32 17.0**	**+0.1**
TLY	**Talaya**	**45.48**	**341**	*e*P	**P**	**02 32 29.0**	**+1.8**
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
TLY				MLR	MLR		
	comp=Z,66nm,17.0s,MS3.6						
TLY	**Talaya**	**45.48**	**341**	P	**P**	**02 32 28.9**	**+1.7**
	comp=Z,2.3nm,0.6s,mb4.2						
WMQ	**Urumqi**	**47.18**	**323**	*e*P	**P**	**02 32 41.5**	**+0.7**
WMQ				XP	sP	02 32 48.5	-1.3
WMQ				PCP	PcP	02 34 11.0	-1.6
WMQ				PPP	PPP	02 35 20.0	+1.4
WMQ				S	**S**	**02 39 33.0**	**+1.7**
WMQ				XS		02 39 41.0	
WMQ				SCS	ScS	02 42 33.0	+1.9
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,95nm,4.8s						
WMQ				LR	LR		
	comp=N,784nm,16.6s,MS4.8						
WMQ				LR	LR		
	comp=E,426nm,13.9s,MS4.8						
WMQ				LR	LR		
	comp=Z,493nm,21.4s						
ULHL	**Ulahol**	**53.83**	**316**	P	**P**	**02 33 31.5**	**+0.2**
	SNR=7.2						
KZA	**Kyzart**	**54.45**	**315**	P	**P**	**02 33 36.6**	**+0.6**
	SNR=11						
ZAL	**Zalesovo**	**54.73**	**332**	P	**P**	**02 33 35.7**	**-2.2**
	comp=Z,0.8nm,0.5s,mb4.0,baz=7.4,slow=11,SNR=4.1						
ZAL				LR	LR	02 59 05.0	
	comp=Z,115nm,19.3s,MS4.0,baz=339,slow=38						
ZAL	**Zalesovo**	**54.73**	**332**	P	**P**	**02 33 35.7**	**-2.2**
ZAL				LR	LR	02 59 05.0	
KBK	**Karagaybulak**	**54.87**	**316**	P	**P**	**02 33 39.4**	**+0.4**
	SNR=6.1						
UCH	**Uchtor**	**55.01**	**315**	P	**P**	**02 33 40.7**	**+0.6**
	SNR=19						
AAK	**Ala-Archa**	**55.17**	**316**	*e*P	**P**	**02 33 41.3**	**+0.1**
AAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5						
AAK	**Ala-Archa**	**55.17**	**316**	*e*P	**P**	**02 33 41.3**	**+0.1**
	comp=Z,6.1nm,1.3s,mb4.5						
USP	**Ospenovka**	**55.40**	**316**	P	**P**	**02 33 42.0**	**-0.9**
	SNR=6.8						
AML	**Almayashu**	**55.55**	**315**	P	**P**	**02 33 44.6**	**+0.6**
	SNR=12						
EKS2	**Erkin-Say**	**55.67**	**315**	P	**P**	**02 33 45.0**	**+0.1**
	SNR=10						
KURK	**Kurchatov**	**56.08**	**326**	*e*P	**P**	**02 33 45.5**	**-2.1**
KURK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KURK	**Kurchatov**	**56.08**	**326**	*e*P	**P**	**02 33 45.5**	**-2.1**
	comp=Z,12nm,1.2s,mb4.8						
BVAR	**Borovoye Array**	**61.67**	**326**	P	**P**	**02 34 25.1**	**-1.4**
	comp=Z,2.3nm,1.1s,mb4.2,baz=108,slow=9.4,SNR=6.5						
CHKZ	**Chkalovo**	**61.81**	**326**	*e*P	**P**	**02 34 25.3**	**-2.1**
TIXI	**Tiksi**	**61.89**	**1**	*e*P	**P**	**02 34 24.2**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.4						
RPZ	**Rata Peaks**	**67.37**	**146**	P	**P**	**02 35 02.9**	**-0.7**
	comp=Z,9.3nm,0.6s,mb5.0,baz=253,slow=3.1,SNR=9.7						
KIV	**Kislovodsk**	**78.16**	**313**	*e*P	**P**	**02 36 04.6**	**-2.6**
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
KIV	**Kislovodsk**	**78.16**	**313**	*e*P	**P**	**02 36 07.3**	**+0.1**
	comp=Z,7.6nm,0.8s,mb4.7						
JOF	**Joensuu**	**83.31**	**333**	*e*p	**P**	**02 36 29.1**	**-5.0**
	comp=Z,2.5nm,0.6s,mb4.4						
ARCES	**ARCESS Array B**	**84.42**	**340**	P	**P**	**02 36 39.5**	**-0.1**
	comp=Z,7.0nm,1.0s,mb4.8,baz=27,slow=2.7,SNR=3.9						
INK	**Inuvik**	**85.04**	**21**	*e*P	**P**	**02 36 42.8**	**+0.1**
INK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
INK	**Inuvik**	**85.04**	**21**	P	**P**	**02 36 42.0**	**-0.6**
	comp=Z,1.3nm,0.9s,mb4.1,baz=351,slow=3.1,SNR=6.7						
INK	**Inuvik**	**85.04**	**21**	*e*P	**P**	**02 36 42.8**	**+0.1**
	comp=Z,6.5nm,1.3s,mb4.6						
BRTR	**Keskin Array B**	**85.28**	**309**	P	**P**	**02 36 43.6**	**-0.9**
	comp=Z,1.0nm,0.9s,mb4.0,baz=104,slow=5.1,SNR=5.2						
KAF	**Kangasniemi**	**85.74**	**332**	*e*p	**P**	**02 36 43.7**	**-2.6**
	comp=Z,5.8nm,0.9s,mb4.8,baz=75,slow=4.6						
KAF	**Kangasniemi**	**85.74**	**332**	*e*P	**P**	**02 36 43.7**	**-2.6**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**85.99**	**332**	P	**P**	**02 36 46.9**	**-0.6**
	comp=Z,1.4nm,0.5s,mb4.4,baz=90,slow=7.6,SNR=11						
AKASG	**Malin Array Be**	**86.49**	**321**	P	**P**	**02 36 49.5**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.2,baz=66,slow=4.4,SNR=6.9						
VNDA	**Vanda**	**89.51**	**173**	P	**P**	**02 37 04.9**	**+0.7**
	comp=Z,0.7nm,0.5s,mb4.2,baz=322,slow=7.2,SNR=4.6						
HFS	**Hagfors**	**92.16**	**332**	P	**P**	**02 37 18.5**	**+1.7**
	comp=Z,1.2nm,0.8s,mb4.3,baz=108,slow=9.1,SNR=4.1						
NOA	**NORSAR Array B**	**92.89**	**334**	LR	LR	03 22 43.0	
	comp=Z,81nm,18.6s,MS4.2,baz=50,slow=38						
YKA	**Yellowknife Ar**	**94.54**	**24**	P	**P**	**02 37 27.6**	**0.0**
YKA	**Yellowknife Ar**	**94.54**	**24**	P	**P**	**02 37 27.5**	**-0.1**
	comp=Z,0.7nm,0.9s,mb4.1,baz=304,slow=4.6,SNR=8.7						
GERES	**GERESS Array B**	**96.64**	**322**	P	**P**	**02 37 37.2**	**-0.3**
	comp=Z,0.4nm,0.8s,mb3.9,baz=76,slow=11,SNR=4.2						
PLCA	**Paso Flores**	**146.01**	**158**	PKPbc	PKPbc	02 43 50.6	+4.1
	comp=Z,4.5nm,0.9s,baz=200,slow=0.6,SNR=5.7						

*IDC **21** 02:48:31.2±1.2, 2.62S×139.60E, mb3.8/5, mb1 4.2/6, mb1mx4.1/10, mbtmp3.9/6, ML4.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=77.1km s-min=22.7km az=93.0*
*NEIC **21** 02:48:32.8±0.7, 2.63S×139.35E, h10km, mb4.1/2, Error ellipse: s-maj=22.4km s-min=9.6km az=103.0*

ISC 21 02:48:37.4±2.6, 2.7S±0.1×139.0E±0.2, h57km±23km, n13, σ0°83/20, mb3.8/5, MS3.0/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.88**	**213**	*e*P	**P**	**02 51 25.9**	**-0.6**
	9.4nm,0.3s						
KAKA				*e*S	**S**	**02 53 31.0**	**-7.2**
WRAB	**Tennant Creek**	**17.72**	**195**	*e*P	**P**	**02 52 41.8**	**-0.2**
	18nm,1.0s						
WRAB				*e*S	**S**	**02 55 45.5**	**-9.2**
WB2	**Warramunga Arr**	**17.73**	**195**	*e*P	**P**	**02 52 42.0**	**0.0**
WB2				*e*S	**S**	**02 55 48.5**	**-6.5**
WRA	**Warramunga Arr**	**17.73**	**195**	P	**P**	**02 52 41.9**	**-0.2**
	1.7nm,0.3s,baz=18,slow=12,SNR=35						
WRA				S	**S**	**02 55 48.4**	**-6.6**
	0.5nm,0.3s,baz=14,slow=24,SNR=6.3						
FITZ	**Fitzroy Crossi**	**20.15**	**220**	*e*P	**P**	**02 53 09.8**	**+0.1**
	5.7nm,0.6s						
FITZ				*e*S	**S**	**02 56 45.7**	**-2.0**
ASAR	**Alice Springs**	**21.41**	**193**	P	**P**	**02 53 23.1**	**+0.5**
	2.8nm,0.5s,mb3.9,baz=19,slow=10,SNR=33						
ASAR				S	**S**	**02 57 14.2**	**+2.4**
	1.0nm,0.8s,baz=6.3,slow=16,SNR=3.8						
ASAR				LR	LR	03 02 08.0	
	comp=Z,60nm,18.0s,MS3.0,baz=322,slow=38						
ASPA	**Alice Springs**	**21.42**	**193**	*e*P	**P**	**02 53 23.3**	**+0.7**
ASPA				*e*S	**S**	**02 57 14.9**	**+3.1**
MBWA	**Marble Bar**	**26.24**	**224**	*e*P	**P**	**02 54 10.4**	**+1.1**
STKA	**Stephens Creek**	**29.12**	**175**	P	**P**	**02 54 35.0**	**-0.3**
	1.0nm,0.5s,mb3.8,baz=332,slow=8.6,SNR=3.2						
STKA	**Stephens Creek**	**29.12**	**175**	*e*P	**P**	**02 54 34.3**	**-1.0**
SONM	**Songino Array**	**57.84**	**335**	P	**P**	**02 58 26.3**	**+0.7**
	0.2nm,0.4s,mb3.5,baz=165,slow=5.3,SNR=3.5						
VNDA	**Vanda**	**75.76**	**175**	P	**P**	**03 00 18.7**	**+0.3**
	0.9nm,0.8s,mb3.7,baz=347,slow=5.5,SNR=4.4						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**03 01 09.8**	**-1.3**
	0.7nm,0.7s,mb4.0,baz=260,slow=4.6,SNR=6.7						

*NEIC **21** 02:51:10.0, 28.87S×71.39W, h5km, ML3.1(GUC), After GUC.*

GUC 21 02:51:10.0±1.2, 28.87S×71.39W, h5km±5km, MD3.7, ML3.1, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.62**	**103**	*e*P	Pg	02 51 23.1	+0.7
LCO				*i* S	Sg	02 51 33.1	+2.4
LCO				AMP		02 51 34.5	
	comp=E,685nm,0.3s						
VACH	**Vallenar**	**0.63**	**62**	⇓*i*P	Pg	02 51 23.1	+0.5
VACH				*i* S	Sg	02 51 32.4	+1

BOLS	**Boljevac**	**2.46**	**348**	⇑*i*Pn	**Pn**	**03**	**18**	**22.9**	**+5.8**
BOLS				Sn	**Sn**	**03**	**18**	**57.2**	**+10**
ALN	**Alexandroupoli**	**2.59**	**101**	*e*Pn	**Pn**	**03**	**18**	**20.0**	**+1.1**

NEIC ***21*** *03:17:45.7±2.9,6.12S×151.11E,h44km±24km,mb4.4/3, Error ellipse: s-maj=31.3km s-min=15.9km az=117.0*
IDC ***21*** *03:17:47.2±6.7,6.06S×150.96E,h56km±59km,mb3.8/6, mb1 4.1/7,mb1mx4.0/12,mbtmp4.1/7,ML2.8/1,Error ellipse: s-maj=59.1km s-min=28.0km az=106.0*
ISC 21 03:17:44.9±3.9,6.1S±0.2×151.0E±0.2,h50km±32km,n15, σ0s65/17,mb4.1/8,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PMG	**Port Moresby**	**5.04**	**229**	P	**P**	**03**	**19**	**00.5**	**+0.6**
	2.3nm,0.3s,baz=18,slow=8.6,SNR=9.0								
PMG				S	**S**	**03**	**19**	**57.5**	**-0.1**
	6.0nm,0.3s,baz=316,slow=23,SNR=8.3								
PMG	**Port Moresby**	**5.04**	**229**	*e*P	**P**	**03**	**18**	**59.8**	**-0.1**
PMG				S	**S**	**03**	**19**	**57.5**	**-0.1**
KAKA	**Kakadu**	**19.46**	**249**	*e*P	**P**	**03**	**22**	**10.6**	**+0.2**
	5.8nm,0.6s								
WRAB	**Tennant Creek**	**21.25**	**228**	P	**P**	**03**	**22**	**28.0**	**-1.0**
	102nm,0.6s,mb5.3,SNR=13								
WRAB	**Tennant Creek**	**21.25**	**228**	*e*P	**P**	**03**	**22**	**28.1**	**-1.0**
	20nm,0.8s,mb4.5								
WB2	**Warramunga Arr**	**21.25**	**228**	*e*P	**P**	**03**	**22**	**28.6**	**-0.5**
WRA	**Warramunga Arr**	**21.26**	**228**	P	**P**	**03**	**22**	**28.3**	**-0.9**
	9.9nm,0.8s,mb4.2,baz=52,slow=10,SNR=41								
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**03**	**22**	**56.4**	**+0.2**
	8.6nm,0.6s,mb4.3,baz=54,slow=9.1,SNR=61								
ASPA	**Alice Springs**	**24.01**	**222**	⇓*i*P	**P**	**03**	**22**	**57.0**	**+0.8**
STKA	**Stephens Creek**	**27.12**	**198**	P	**P**	**03**	**23**	**25.8**	**+0.3**
	6.8nm,0.9s,mb4.2,baz=0,6.slow=9.7,SNR=13								
STKA	**Stephens Creek**	**27.12**	**198**	*e*P	**P**	**03**	**23**	**25.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.48**	**242**	*e*P	**P**	**03**	**23**	**29.8**	**+0.9**
	7.2nm,0.7s,mb4.3								
SONM	**Songino Array**	**66.48**	**329**	P	**P**	**03**	**28**	**31.5**	**0.0**
	0.3nm,0.6s,mb3.5,baz=117,slow=3.2,SNR=2.7								
ILAR	**Eielson Array**	**84.02**	**22**	P	**P**	**03**	**30**	**10.2**	**-0.9**
	1.1nm,0.9s,mb4.0,baz=244,slow=4.9,SNR=6.6								
YKA	**Yellowknife Ar**	**97.39**	**28**	P	**P**	**03**	**31**	**14.8**	**+0.8**
	0.1nm,0.4s,mb3.6,baz=268,slow=4.6,SNR=5.0								

NEIC ***21*** *03:24:24.4±1.1,23.76S×179.76W,h490km±13km,mb3.9/3, Error ellipse: s-maj=13.4km s-min=8.8km az=137.0*
BJI ***21*** *03:24:24.4,23.80S×179.80W,h489km,mB4.7,mb4.4*
IDC ***21*** *03:24:26.9±2.2,23.85S×179.82W,h516km±23km, mb3.7/10,mb1 3.9/11,mb1mx3.8/14,mbtmp4.6/11,Error ellipse: s-maj=18.5km s-min=16.9km az=48.0*
ISC 21 03:24:23.0±1.6,23.72S±0.08×179.81W±0.08, h480km±21km,n51,σ0s82/31,mb4.6/17,3C-3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
AFI	**Afiamalu**	**12.37**	**39**	*e*P	**P**	**03**	**27**	**06.0**	**-0.8**
URZ	**Urewera**	**14.73**	**190**	P	**P**	**03**	**27**	**32.5**	**+1.2**
	2.7nm,0.3s,baz=304,slow=3.5,SNR=11								
URZ				S	**S**	**03**	**30**	**04.2**	**+0.8**
	1.8nm,0.3s,baz=84,slow=20,SNR=8.5								
SNZO	**South Karori**	**18.13**	**193**	*e*P	**P**	**03**	**28**	**04.7**	**-0.5**
RAR	**Rarotonga**	**18.69**	**86**	*e*P	**P**	**03**	**28**	**01.5**	**-9.3**
RPZ	**Rata Peaks**	**21.32**	**198**	P	**P**	**03**	**28**	**35.0**	**-0.5**
	4.5nm,0.5s,mb4.3,baz=58,slow=4.4,SNR=5.8								
PAE	**Paea**	**28.88**	**84**	*e*P	**P**	**03**	**29**	**43.0**	**-0.3**
	38nm,1.0s,mb4.8								
CNB	**Canberra Magne**	**29.09**	**240**	*e*P	**P**	**03**	**29**	**46.0**	**+1.0**
	183nm,0.7s,mb5.6								
TIAR	**Tiarei**	**29.12**	**84**	*e*P	**P**	**03**	**29**	**45.4**	**-0.1**
	92nm,1.1s,mb5.1								
TVO	**Taravao**	**29.14**	**84**	*e*P	**P**	**03**	**29**	**45.5**	**-0.1**
	46nm,0.8s,mb5.0								
TVO				*e*pP		03	31	09.9	
	24nm,1.0s								
PMOR	**Pomariorio Ree**	**31.28**	**80**	*e*P	**P**	**03**	**30**	**03.9**	**-0.1**
	28nm,1.2s,mb4.6								
CTA	**Charters Tower**	**31.65**	**270**	⇓*i*P	**P**	**03**	**30**	**07.9**	**+0.8**
	36nm,0.5s,mb5.0								
CTA	**Charters Tower**	**31.65**	**270**	P	**P**	**03**	**30**	**08.0**	**+0.9**
	45nm,0.5s,mb5.2,baz=97,slow=10,SNR=101								
CTAO	**Charters Tower**	**31.65**	**270**	*e*P	**P**	**03**	**30**	**07.9**	**+0.8**
	45nm,0.6s,mb5.1								
TOO	**Toolangi**	**32.69**	**237**	*e*P	**P**	**03**	**30**	**16.1**	**+0.4**
	0.6nm,0.5s								
TAU	**Tasmania Unive**	**33.19**	**227**	*e*P	**P**	**03**	**30**	**19.9**	**+0.1**
PMG	**Port Moresby**	**34.60**	**289**	P	**P**	**03**	**30**	**32.9**	**+1.0**
	39nm,0.7s,mb4.9,baz=106,slow=5.4,SNR=16								
STKA	**Stephens Creek**	**34.95**	**248**	P	**P**	**03**	**30**	**35.2**	**+0.4**
	8.6nm,0.7s,mb4.3,baz=82,slow=8.2,SNR=16								
STKA	**Stephens Creek**	**34.95**	**248**	*e*P	**P**	**03**	**30**	**34.9**	**+0.2**
ASAR	**Alice Springs**	**42.24**	**260**	P	**P**	**03**	**31**	**34.1**	**-0.2**
	25nm,0.8s,mb4.7,baz=94,slow=8.3,SNR=18								
ASPA	**Alice Springs**	**42.24**	**260**	*e*P	**P**	**03**	**31**	**34.1**	**-0.3**
FORT	**Forrest**	**46.54**	**249**	⇑*i*P	**P**	**03**	**32**	**06.5**	**-1.3**
	2μm,0.6s								
VNDA	**Vanda**	**54.57**	**185**	P	**P**	**03**	**33**	**05.2**	**-1.3**
	0.9nm,0.8s,baz=13,slow=6.7,SNR=3.9								
KLBR	**Kellerberrin**	**55.22**	**247**	⇓*i*P	**P**	**03**	**33**	**09.5**	**-2.1**
	96nm,0.6s,mb5.3								
MAW	**Mawson**	**77.98**	**200**	P	**P**	**03**	**35**	**30.7**	**-0.7**
	3.2nm,0.8s,mb3.8,baz=147,slow=4.3,SNR=6.1								
CN2	**Changchun**	**83.84**	**324**	*e*P	**P**	**03**	**36**	**00.9**	**-1.1**
CN2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.5								
NVAR	**Mina Array Bea**	**84.50**	**44**	P	**P**	**03**	**36**	**06.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=217,slow=5.9,SNR=4.8								
ENH	**Enshi**	**86.48**	**305**	*e*P	**P**	**03**	**36**	**15.5**	**+0.4**
	comp=Z,6.7nm,0.7s,mb4.4								
HLID	**Hailey**	**89.84**	**41**	P	**P**	**03**	**36**	**31.7**	**+1.1**
	comp=Z,1.4nm,0.9s,mb3.8								
TXAR	**Lajitas Array**	**90.19**	**58**	P	**P**	**03**	**36**	**33.6**	**+1.1**
	comp=Z,1.4nm,0.7s,mb3.9,baz=212,slow=6.8,SNR=21								
PDAR	**Pinedale Array**	**92.44**	**44**	P	**P**	**03**	**36**	**42.5**	**0.0**
	comp=Z,0.5nm,0.7s,mb3.6,baz=243,slow=3.3,SNR=5.0								
SONM	**Songino Array**	**97.08**	**319**	PP	PP	03	41	11.6	+3.1
	comp=Z,0.6nm,0.9s,baz=90,slow=6.2,SNR=4.1								
ARCES	**ARCESS Array B**	**131.74**	**348**	PKhKP		03	42	37.0	
	comp=Z,3.0nm,0.8s,baz=63,slow=2.7,SNR=4.9								
FINES	**FINESS Array B**	**136.33**	**342**	PKhKP		03	42	44.1	
	comp=Z,0.9nm,0.8s,baz=76,slow=5.7,SNR=3.6								
FINES				PKP	PKPdf	03	42	53.1	+0.9
	comp=Z,0.7nm,0.5s,baz=90,slow=3.8,SNR=5.3								
FINES				SKPbc		03	45	38.4	
	comp=Z,2.7nm,0.7s,baz=27,slow=4.3,SNR=9.8								
AKASG	**Malin Array Be**	**144.91**	**328**	PKPbc	PKPbc	03	43	04.3	-0.4
	comp=Z,1.4nm,0.3s,baz=42,slow=4.2,SNR=20								
SUW	**Suwalki**	**145.17**	**336**	*e*P	PKPdf	03	43	06.3	+1.9
SUW	**Suwalki**	**145.17**	**336**	*e*P	PKPdf	03	43	06.3	+1.9
BRTR	**Keskin Array B**	**147.61**	**307**	PKPbc	PKPdf	03	43	12.6	+3.8
	comp=Z,1.8nm,0.7s,baz=134,slow=4.9,SNR=9.2								
BRTR				PKPab	PKPab	03	43	17.2	-1.2
	comp=Z,3.8nm,0.6s,baz=90,slow=3.0,SNR=16								
EIL	**Elat**	**148.46**	**288**	*e*PKPbc	PKPdf	03	43	15.6	+5.0
EIL				*e*PKPab	PKPab	03	43	21.7	-0.5
KWP	**Kalwaria**	**148.69**	**331**	*e*P	PKPdf	03	43	15.6	+5.3
KWP	**Kalwaria**	**148.69**	**331**	*e*P	PKPdf	03	43	15.6	+5.3
CFR	**Carcaliu**	**148.80**	**320**	⇑*i*P	PKPdf	03	43	15.8	+5.2
KOLS	**Kolonicke sedl**	**149.40**	**331**	*e*PKP	PKPdf	03	43	17.9	+6.5
MLR	**Muntele Rosu**	**149.88**	**322**	⇓*i*P	PKPdf	03	43	18.3	+6.0
KSP	**Ksiaz**	**150.18**	**339**	*e*P	PKPdf	03	43	18.9	+6.3
KSP	**Ksiaz**	**150.18**	**339**	*e*P	PKPdf	03	43	18.9	+6.4
CLL	**Collm**	**150.73**	**343**	⇑PKP1	PKPdf	03	43	20.3	+6.9
CLL				*e*PKP2	PKPab	03	43	29.0	-1.9
BRG	**Berggiesshubel**	**150.87**	**342**	*i*P	PKPdf	03	43	20.7	+7.1
BRG				*e*		03	43	27.6	
SMOL	**Smolenice**	**151.74**	**335**	*e*PKP	PKPdf	03	43	22.9	+8.0
SMOL				*e*		03	43	34.9	
GRA1	**Grafenberg Arr**	**152.67**	**344**	*e*PKP	PKPab	03	43	38.5	-0.6
GRF	**Grafenberg Arr**	**152.67**	**344**	*e*PKP	PKPab	03	43	38.5	-0.6
GERES	**GERESS Array B**	**152.75**	**340**	PKPbc	PKPdf	03	43	24.6	+8.3
	comp=Z,0.6nm,0.8s,baz=45,slow=3.8,SNR=5.3								
GERES				PKPab	PKPab	03	43	38.5	-0.9
	comp=Z,0.6nm,0.8s,baz=45,slow=4.2,SNR=4.7								

IDC ***21*** *03:25:50.1±5.9,7.43S×128.60E,h77km±56km,mb3.8/4, mb1 4.2/6,mb1mx4.0/11,mbtmp4.3/6,ML4.7/2,MS3.2/1, Ms1 3.2/1,ms1mx2.9/9,Error ellipse: s-maj=153.3km s-min=21.5km az=64.0*
NEIC ***21*** *03:25:53.5±1.8,7.35S×128.89E,h108km±18km,mb4.2/5,*

Error ellipse: s-maj=19.7km s-min=11.1km az=56.0
BJI ***21*** *03:25:53.4,7.30S×128.90E,h108km,mb4.7*
MOS ***21*** *03:25:54.2±1.3,7.35S×129.38E,h144km,mb4.4/7,Error ellipse: s-maj=60.0km s-min=11.1km az=107.8*
ISC 21 03:25:52.1±1.6,7.39S±0.07×129.1E±0.1,h122km±17km, n43,σ0s84/46,mb4.7/19,2C-7D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KAKA	**Kakadu**	**6.24**	**148**	⇓*i*P	**P**	**03**	**27**	**25.5**	**+2.4**
	57nm,0.3s								
KAKA				*e*S	**S**	**03**	**28**	**31.9**	**-1.7**
FITZ	**Fitzroy Crossi**	**11.16**	**197**	*e*P	**P**	**03**	**28**	**28.5**	**-0.7**
	67nm,0.4s								
FITZ				*e*S	**S**	**03**	**30**	**25.4**	**-6.7**
WRAB	**Tennant Creek**	**13.48**	**158**	Pn	**P**	**03**	**28**	**59.0**	**-0.5**
	220nm,0.5s,SNR=15								
WRAB	**Tennant Creek**	**13.48**	**158**	⇑*e*P	**P**	**03**	**28**	**59.1**	**-0.4**
WRAB	**Tennant Creek**	**13.48**	**158**	*e*P	**P**	**03**	**28**	**59.0**	**-0.4**
	30nm,0.6s								
WRAB				*e*S	**S**	**03**	**31**	**21.6**	**-5.1**
WRA	**Warramunga Arr**	**13.49**	**158**	P	**P**	**03**	**28**	**59.1**	**-0.4**
	6.5nm,0.3s,baz=342,slow=13,SNR=134								
WRA				S	**S**	**03**	**31**	**19.5**	**-7.3**
	6.7nm,0.3s,baz=343,slow=21,SNR=21								
WB2	**Warramunga Arr**	**13.49**	**158**	⇑*i*P	**P**	**03**	**28**	**59.1**	**-0.5**
WB2				*e*S	**S**	**03**	**31**	**20.2**	**-6.7**
MBWA	**Marble Bar**	**16.40**	**212**	*e*P	**P**	**03**	**29**	**36.6**	**0.0**
	8.8nm,0.7s								
ASPA	**Alice Springs**	**16.84**	**165**	*e*P	**P**	**03**	**29**	**42.9**	**+1.0**
ASPA				*e*S	**S**	**03**	**32**	**42.9**	**-0.8**
ASAR	**Alice Springs**	**16.84**	**165**	*e*P	**P**	**03**	**29**	**42.8**	**+0.9**
ASAR				S	**S**	**03**	**32**	**44.0**	**+0.3**
ASAR	**Alice Springs**	**16.84**	**165**	P	**P**	**03**	**29**	**42.8**	**+0.9**
	3.3nm,0.3s,baz=343,slow=9.5,SNR=104								
ASAR				S	**S**	**03**	**32**	**44.0**	**+0.2**
	2.1nm,0.3s,baz=322,slow=20,SNR=7.2								
KSM	**Kuching**	**20.69**	**294**	P	**P**	**03**	**30**	**24.7**	**+0.4**
CTA	**Charters Tower**	**20.90**	**129**	LR	LR	03	38	01.1	
	comp=Z,66nm,19.7s,baz=232,slow=34								
FORT	**Forrest**	**23.29**	**182**	*e*P	**P**	**03**	**30**	**54.0**	**+4.2**
	464nm,0.5s								
STKA	**Stephens Creek**	**27.02**	**156**	P	**P**	**03**	**31**	**26.8**	**+1.9**
	1.3nm,0.4s,mb3.8,baz=337,slow=8.9,SNR=3.4								
LSA	**Lhasa**	**51.85**	**317**	*e*P	**P**	**03**	**34**	**49.5**	**-0.6**
	7.0nm,0.5s,mb5.0								
GTA	**Gaotai**	**53.87**	**332**	*e*P	**P**	**03**	**35**	**05.1**	**+0.1**
GTA				AMB	AMB				
	comp=Z,8.0nm,0.8s,mb4.8								
JIRN	**Jiri**	**54.15**	**312**	*e*P	**P**	**03**	**35**	**06.9**	**-0.3**
	comp=Z,38nm,1.1s,mb5.4								
PKI	**Pulchoki**	**54.68**	**311**	*e*P	**P**	**03**	**35**	**10.2**	**-0.8**
	comp=Z,13nm,0.4s,mb5.3								
KKN	**Kakani**	**54.90**	**311**	*e*P	**P**	**03**	**35**	**12.2**	**-0.4**
	comp=Z,13nm,0.5s,mb5.2								
DMN	**Daman**	**54.93**	**311**	*e*P	**P**	**03**	**35**	**12.8**	**0.0**
	comp=Z,12nm,0.5s,mb5.2								
YSS	**Yuzh-Sakhalins**	**55.45**	**11**	⇓*e*P	**P**	**03**	**35**	**14.0**	**-2.3**
YSS				pmax	pmax				
	comp=Z,8.0nm,0.6s,mb4.9								
GKN	**Gorkha**	**55.49**	**311**	*e*P	**P**	**03**	**35**	**16.7**	**-0.2**
	comp=Z,27nm,0.4s,mb5.7								
KOLN	**Koldanda**	**56.14**	**310**	*e*P	**P**	**03**	**35**	**21.4**	**-0.2**
	comp=Z,18nm,0.7s,mb5.2								
ULN	**Ulaanbaatar**	**58.35**	**343**	*i*P	**P**	**03**	**35**	**37.8**	**+1.0**
SONM	**Songino Array**	**58.52**	**342**	P	**P**	**03**	**35**	**38.2**	**+0.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=158,slow=6.5,SNR=14								
MKAR	**Makanchi Array**	**68.05**	**327**	*i*P	**P**	**03**	**36**	**40.0**	**-0.5**
MKAR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
YAK	**Yakutsk**	**69.21**	**0**	⇓*e*P	**P**	**03**	**36**	**47.7**	**+0.3**
YAK				pmax	pmax				
	comp=Z,8.0nm,0.5s,mb4.8								
AAK	**Ala-Archa**	**70.24**	**320**	⇓*e*P	**P**	**03**	**36**	**54.6**	**+0.6**
AAK				pmax	pmax				
	comp=Z,7.0nm,1.6s,mb4.2								
AAK	**Ala-Archa**	**70.24**	**320**	*e*P	**P**	**03**	**36**	**54.2**	**+0.1**
	comp=Z,2.3nm,0.6s,mb4.2								
ZAL	**Zalesovo**	**71.52**	**334**	P	**P**	**03**	**37**	**01.5**	**0.0**
	comp=Z,1.7nm,0.5s,mb4.1,baz=351,slow=4.3,SNR=9.5								
KURK	**Kurchatov**	**72.37**	**329**	P	**P**	**03**	**37**	**07.8**	**+1.3**
	comp=Z,43nm,1.1s,mb5.2,SNR=9.1								
KURK	**Kurchatov**	**72.37**	**329**	⇓*i*P	**P**	**03**	**37**	**06.6**	**+0.1**
KURK				pmax	pmax				
	comp=Z,3.0nm,0.9s,mb4.1								
KURK	**Kurchatov**	**72.37**	**329**	*e*P	**P**	**03**	**37**	**06.5**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.4								
BVAR	**Borovoye Array**	**77.90**	**328**	P	**P**	**03**	**37**	**38.2**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=124,slow=6.8,SNR=8.6								
CHKZ	**Chkalovo**	**78.11**	**329**	*e*P	**P**	**03**	**37**	**38.9**	**-0.2**
CHKZ				pmax	pmax				
	comp=Z,1.0nm,0.7s,mb3.6								
CHKZ	**Chkalovo**	**78.11**	**329**	*e*P	**P**	**03**	**37**	**38.9**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.8								
TIXI	**Tiksi**	**78.87**	**360**	⇓*e*P	**P**	**03**	**37**	**42.6**	**-0.3**
TIXI				pmax	pmax				
	comp=Z,3.0nm,0.5s,mb4.4								
ARU	**Arti**	**85.55**	**328**	⇓*e*P	**P**	**03**	**38**	**18.2**	**+0.6**
ARU				pmax	pmax				
	comp=Z,1.0nm,0.2s,mb4.4								
TXAR	**Lajitas Array**	**125.91**	**59**	PKP	PKPdf	03	44	44.2	+3.8
	comp=Z,0.2nm,0.4s,baz=240,slow=3.6,SNR=4.4								
TXAR	**Lajitas Array**	**125.91**	**59**	PKP	PKPdf	03	44	44.2	+3.8
LPAZ	**La Paz**	**150.96**	**144**	PKPbc	PKPdf	03	45	36.4	+11
	comp=Z,1.0nm,0.4s,baz=333,slow=2.3,SNR=9.7								
LPAZ	**La Paz**	**150.96**	**144**	*e*PKPbc	PKPdf	03	45	36.0	+11

DJA 21 03:37:32.7±0.3,8.32S×115.56E,h15km,MD4.5/2, ML3.6/2,1C-3D,Error ellipse: s-maj=11.2km s-min=5.0km az=14.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RATI	**Rata**	**0.40**	**184**	⇓*e*Pn	Pn	03	37	40.2	-3.4
RATI				*e*Sn	Sn	03	37	47.4	-3.3
KEDI	**Kedomdong**	**0.57**	**107**	⇓*e*Pg	Pg	03	37	42.2	-2.2
	206nm,0.2s								
KEDI				*e*Sg	Sg	03	37	51.4	-0.8
KELI	**Kelakatan**	**1.06**	**275**	⇑*e*Pg	Pg	03	37	51.0	-3.1
	58nm,0.2s								
KELI				*e*Sg	Sg	03	38	05.8	-2.6
SRDI	**Scrawed**	**1.42**	**263**	⇓*e*Pn	Pn	03	37	56.0	-2.0
	81nm,0.1s								
SRDI				*e*Sn	Sn	03	38	17.2	+0.8

DJA 21 03:51:25.1±0.9,8.21S×115.91E,h244km±7km,MD4.4/3, ML3.7/1,2C-2D,Error ellipse: s-maj=67.7km s-min=15.2km az=5.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KEDI	**Kedomdong**	**0.34**	**143**	⇑*e*Pg	P	03	51	57.1	-0.1
	114nm,0.2s								
KEDI				*e*Sg	S	03	52	18.9	-3.2
RATI	**Rata**	**0.63**	**216**	⇓*e*Pg	P	03	51	58.3	+0.3
	319nm,0.2s								
RATI				*e*Sg	S	03	52	21.9	-1.7
KELI	**Kelakatan**	**1.40**	**270**	⇑*e*Pn	P	03	52	02.7	+0.3
KELI				*e*Sn	S	03	52	30.4	-1.0
SRDI	**Scrawed**	**1.77**	**261**	⇓*e*Pn	P	03	52	04.7	-0.6
	54nm,0.2s								
SRDI				*e*Sn	S	03	52	35.4	-1.1

MOS ***21*** *04:04:52.4±1.4,24.11S×66.93W,h176km,mb4.9/10, Error ellipse: s-maj=19.1km s-min=8.9km az=100.4*
GUC ***21*** *04:04:53.8±1.0,24.15S×67.31W,h200km,ML5.7*
IDC ***21*** *04:04:54.7±0.7,24.04S×66.96W,h182km±6km,mb4.2/13, mb1 4.4/17,mb1mx4.4/18,mbtmp4.8/17,Error ellipse: s-maj=14.1km s-min=9.1km az=66.0*
NEIC ***21*** *04:04:55.7±0.2,24.03S×66.93W,mb4.8/32,Error ellipse: s-maj=8.4km s-min=5.2km az=62.0*
NEIC Felt [III] at Maria Elena, Mejillones, Sierra Gorda and Tocopilla; [II] at Antofagasta and Iquique, Chile. Felt at Rosario.
BJI ***21*** *04:04:55.6,24.00S×66.90W,h192km,mB4.7*
ISC 21 04:04:53.4±0.2,24.17S±0.03×67.04W±0.04,h191km, h191km±3.2km:pP-P,n140,σ1s31/116,mb4.7/45,8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
LVC	**Limon Verde**	**2.31**	**312**	⇓*i*P	**P**	**04**	**05**	**35.6**	**+0.5**
LVC				*i* S	**S**	**04**	**06**	**06.7**	**-0.6**
LVC				AMP		04	06	08.2	
	comp=E,19μm,0.6s								
LVC	**Limon Verde**	**2.31**	**312**	P	**P**	**04**	**05**	**35.7**	**+0.5**
	comp=E,106nm,0.3s,baz=130,slow=8.9,SNR=1018								
LVC				S	**S**	**04**	**06**	**06.2**	**-1.1**
	comp=E,2μm,0.3s,baz=282,slow=20,SNR=105								
LVC	**Limon Verde**	**2.31**	**312**	⇓*i*Pn	**P**	**04**	**05**	**35.6**	**+0.5**
LVC				*i* S	**S**	**04**	**05**	**59.8**	**-7.5**
CPN1	**Cerro Paranal**	**3.10**	**261**	⇑*i*P	**P**	**04**	**05**	**44.3**	**0.0**
CPN1				*i* S	**S**	**04**	**06**	**21.9**	**-1.7**
CPN1				AMP		04	06	24.6	
	comp=E,13μm,0.5s								
ANCH	**Antofagasta**	**3.12**	**278**	*i* P	**P**	**04**	**05**	**46.0**	**+1.4**
ANCH				*i* S	**S**	**04**	**06**	**24.4**	**+0.3**
ANCH				AMP		04	06	27.1	
	comp=N,24μm,0.3s								
CPCH	**Copiapo**	**4.36**	**223**	*e*P	**P**	**04**	**05**	**59.1**	**-0.9**
CPCH				*i* S	**S**	**04**	**06**	**50.2**	**-1.4**
VACH	**Vallenar**	**5.51**	**216**	⇑*i*P	**P**	**04**	**06**	**13.2**	**-1.7**
VACH				*i* S	**S**	**04**	**07**	**16.4**	**-1.8**
LCO	**Las Campanas**	**5.83**	**213**	⇑*i*P	**P**	**04**	**06**	**17.3**	**-1.7**
ZON	**Zonda**	**7.49**	**191**	*e*P	**P**	**04**	**06**	**40.0**	**-0.8**
ZON				*e*S	**S**	**04**	**08**	**04.0**	**-0.6**
LPAZ	**La Paz**	**7.91**	**352**	⇑*i*P	**P**	**04**	**06**	**45.9**	**-0.4**
LPAZ				pmax	pmax				
	comp=E,63nm,0.5s								
LPAZ	**La Paz**	**7.91**	**352**	P	**P**	**04**	**06**	**46.0**	**-0.4**
	comp=E,14nm,0.3s,baz=167,slow=8.0,SNR=377								
LPAZ				S	**S**	**04**	**08**	**12.7**	**-1.9**
	comp=E,2.3nm,0.3s,baz=306,slow=18,SNR=3.8								
LPAZ	**La Paz**	**7.91**	**352**	⇑*i*Pn	**P**	**04**	**06**	**45.9**	**-0.4**
	comp=E,63nm,0.5s								
ARE	**Arequipa**	**8.73**	**331**	*e*P	**P**	**04**	**06**	**55.0**	**-2.1**
ARE				*e*S	**S**	**04**	**08**	**28.0**	**-5.7**
TRQA	**Tornquist**	**14.50**	**164**	*e*P	**P**	**04**	**08**	**09.0**	**-1.9**
	comp=Z,103nm,0.8s								
PLCA	**Paso Flores**	**16.77**	**189**	*e*P	**P**	**04**	**08**	**38.5**	**-0.2**
PLCA				pmax	pmax				
	comp=Z,27nm,0.7s								
PLCA	**Paso Flores**	**16.77**	**189**	P	**P**	**04**	**08**	**39.1**	**+0.4**
	comp=Z,2.6nm,0.3s,baz=12,slow=13,SNR=45								
PLCA				PcP	PcP	04	13	16.5	+0.5
	comp=Z,0.2nm,0.3s,baz=62,slow=2.9,SNR=4.4								
PLCA	**Paso Flores**	**16.77**	**189**	*e*P	**P**	**04**	**08**	**38.5**	**-0.2**
	comp=Z,27nm,0.7s								
BDFB	**Brasilia**	**19.79**	**68**	P	**P**	**04**	**09**	**09.3**	**-1.5**
	comp=Z,18nm,0.3s,baz=250,slow=8.9,SNR=272								
BAO	**Brasilia Array**	**

PMOR	**Pomariorio Ree**	**75.81**	**260**	*e*P		**P**	**04 16 23.3**	**+2.8**
	comp=Z,48nm,1.0s,mb5.1								
TIAR	**Tiarei**	**76.19**	**257**	*e*P		**P**	**04 16 26.0**	**+3.4**
	comp=Z,43nm,0.9s,mb5.1								
DAU	**Daniels Canyon**	**76.30**	**327**	*e*P		**P**	**04 16 24.6**	**+1.8**
PAE	**Paea**	**76.36**	**257**	*e*P		**P**	**04 16 26.1**	**+2.6**
	comp=Z,40nm,1.1s,mb5.0								
PPT	**Papeete**	**76.39**	**257**	*e*P		**P**	**04 16 26.4**	**+2.7**
	comp=Z,34nm,1.5s,mb4.8								
PPT				*e*LR		LR	04 40 14.3		
	comp=Z,114nm,25.8s								
DUG	**Dugway**	**76.92**	**326**	*e*P		**P**	**04 16 27.4**	**+1.2**
DUG				pmax	pmax				
	comp=Z,12nm,1.1s,mb4.4								
DUG	**Dugway**	**76.92**	**326**	*e*P		**P**	**04 16 27.4**	**+1.1**
	comp=Z,12nm,1.1s,mb4.4								
PDAR	**Pinedale Array**	**77.27**	**329**	P		**P**	**04 16 28.8**	**+0.7**
	comp=Z,2.1nm,0.6s,mb3.9,baz=129,slow=7.5,SNR=18								
HWUT	**Hardware Ranch**	**77.35**	**327**	*e*P		**P**	**04 16 29.2**	**+0.6**
	comp=Z,25nm,1.4s,mb4.6								
TSUM	**Tsumeb**	**77.65**	**106**	*e*P		**P**	**04 16 30.8**	**+0.1**
ULM	**Lac du Bonnet**	**78.38**	**342**	P		**P**	**04 16 34.0**	**0.0**
	comp=Z,7.8nm,0.6s,mb4.5,baz=152,slow=6.5,SNR=19								
LOHW	**Long Hollow**	**78.41**	**329**	*e*P		**P**	**04 16 35.5**	**+1.2**
	comp=Z,7.2nm,0.9s,mb4.3								
TPAW	**Teton Pass**	**78.48**	**329**	*e*P		**P**	**04 16 35.7**	**+1.0**
NVAR	**Mina Array Bea**	**78.65**	**321**	P		**P**	**04 16 37.4**	**+1.7**
	comp=Z,5.5nm,1.0s,mb4.2,baz=140,slow=7.1,SNR=22								
SCHQ	**Schefferville**	**78.68**	**0**	P		**P**	**04 16 34.9**	**-0.6**
	comp=Z,1.3nm,0.3s,mb4.0,baz=170,slow=5.3,SNR=12								
SCHQ	**Schefferville**	**78.68**	**0**	P		**P**	**04 16 34.9**	**-0.6**
YMR	**Madison River**	**79.39**	**330**	*e*P		**P**	**04 16 41.3**	**+1.8**
HLID	**Hailey**	**80.21**	**327**	*e*P		**P**	**04 16 45.5**	**+1.6**
	comp=Z,27nm,1.1s,mb4.8								
MCMT	**McKenzie Canyo**	**80.39**	**329**	*e*P		**P**	**04 16 46.6**	**+1.7**
MAW	**Mawson**	**81.28**	**163**	*e*P		**P**	**04 16 50.3**	**+1.2**
MAW				pmax	pmax				
	comp=Z,59nm,1.0s								
MAW	**Mawson**	**81.28**	**163**	P		**P**	**04 16 50.7**	**+1.6**
	comp=Z,21nm,0.6s,mb4.9,baz=244,slow=6.5,SNR=39								
MAW	**Mawson**	**81.28**	**163**	*e*P		**P**	**04 16 50.3**	**+1.1**
	comp=Z,59nm,1.0s,mb5.2								
LBTB	**Lobatse**	**82.35**	**114**	*e*P		**P**	**04 16 56.4**	**+0.9**
LBTB				pmax	pmax				
	comp=Z,39nm,1.1s,mb5.0								
LBTB	**Lobatse**	**82.35**	**114**	*e*P		**P**	**04 16 56.4**	**+0.9**
	comp=Z,39nm,1.1s,mb5.0								
MSO	**Missoula**	**82.39**	**330**	*e*P		**P**	**04 16 56.6**	**+1.4**
	comp=Z,5.9nm,1.3s,mb4.1								
HAWA	**Hanford**	**84.78**	**327**	*e*P		**P**	**04 17 07.6**	**+0.3**
	comp=Z,0.7nm,0.9s								
FCC	**Fort Churchill**	**85.62**	**346**	*e*P		**P**	**04 17 11.6**	**+0.5**
FCC				pmax	pmax				
	comp=Z,27nm,0.9s,mb5.0								
FCC	**Fort Churchill**	**85.62**	**346**	*e*P		**P**	**04 17 11.6**	**+0.5**
	comp=Z,27nm,0.9s,mb5.0								
ESDC	**Sonseca Array**	**86.55**	**44**	P		**P**	**04 17 17.5**	**+1.4**
	comp=Z,0.6nm,0.4s,mb3.7,baz=244,slow=4.7,SNR=8.1								
ESDC				pP		pP	04 18 03.5	+0.2	
	comp=Z,1.6nm,0.8s,baz=244,slow=4.5,SNR=4.0								
EDM	**Edmonton**	**86.90**	**334**	*e*P		**P**	**04 17 17.4**	**0.0**
LSZ	**Lusaka**	**88.50**	**106**	*e*P		**P**	**04 17 28.4**	**+2.5**
	comp=Z,28nm,1.1s,mb5.0								
SJPF	**Ste Jean**	**90.19**	**42**	*e*P		**P**	**04 17 33.1**	**-0.1**
	comp=Z,12nm,1.1s,mb4.4								
ETSF	**Etsaut**	**90.48**	**42**	*e*P		**P**	**04 17 34.2**	**-0.3**
YKA	**Yellowknife Ar**	**94.27**	**340**	P		**P**	**04 17 51.9**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.7,baz=131,slow=4.5,SNR=87								
YKA				pP		pP	04 18 39.4	+0.3	
	comp=Z,0.7nm,0.8s,baz=129,slow=4.6,SNR=2.4								
ORIF	**Oris-en-Rattie**	**95.51**	**43**	*e*P		**P**	**04 17 56.8**	**-0.7**
FINES	**FINESS Array B**	**112.39**	**31**	PKKPbc			04 33 57.9		
	comp=Z,0.3nm,0.4s,baz=79,slow=7.1,SNR=6.3								
FINES				PKKPab			04 34 07.1		
	comp=Z,0.7nm,0.8s,baz=63,slow=3.1,SNR=3.6								
BRTR	**Keskin Array B**	**112.94**	**55**	PKKPab			04 34 06.2		
	comp=Z,0.3nm,0.5s,baz=46,slow=3.3,SNR=4.4								
ARCES	**ARCESS Array B**	**119.29**	**22**	PKKPbc			04 33 55.8		
	comp=Z,3.3nm,0.9s,baz=45,slow=5.1,SNR=8.1								
ASAR	**Alice Springs**	**128.28**	**205**	PKP		PKPdf	04 23 39.1	+1.4	
	comp=Z,4.2nm,0.4s,baz=131,slow=0.9,SNR=4.4								
ASPA	**Alice Springs**	**128.28**	**205**	*e*P		PKPdf	04 23 39.7	+1.9	
WB2	**Warramunga Arr**	**131.45**	**207**	*e*P		PKPdf	04 23 45.8	+1.9	
WRA	**Warramunga Arr**	**131.46**	**207**	PKP		PKPdf	04 23 45.8	+1.9	
	comp=Z,5.1nm,0.5s,baz=158,slow=1.7,SNR=63								
FITZ	**Fitzroy Crossi**	**136.20**	**198**	*e*P		PKPdf	04 23 55.7	+3.0	
	comp=Z,13nm,1.6s								
CHKZ	**Chkalovo**	**136.80**	**36**	*e*PKIKP		PKPdf	04 23 54.3	+1.5	
NVS	**Novosibirsk**	**142.28**	**28**	*i*PKIKP		PKPdf	04 24 05.0	+2.5	
NVS				pmax	pmax				
	comp=Z,16nm,1.3s								
KURK	**Kurchatov**	**142.54**	**36**	*e*PKIKP		PKPdf	04 24 01.6	-1.5	
AAK	**Ala-Archa**	**143.38**	**50**	*e*PKIKP		PKPdf	04 24 03.8	-1.0	
ZAL	**Zalesovo**	**143.56**	**28**	PKP		PKPdf	04 24 04.5	-0.3	
	comp=Z,6.6nm,0.6s,baz=172,slow=4.4,SNR=35								
ZAL				pPKP			04 24 55.1		
	comp=Z,1.6nm,0.8s,baz=170,slow=6.0,SNR=2.2								
CLNS	**Chul'man**	**146.23**	**348**	*e*PKHKP			04 24 07.0		
CLNS				pmax	pmax				
	comp=Z,29nm,1.1s								
CLNS				pmax	pmax				
	comp=N,8.0nm,1.0s								
BOD	**Bodaibo**	**146.38**	**359**	*e*PKIKP		PKPdf	04 24 11.1	+1.6	
BOD				pmax	pmax				
	comp=Z,18nm,1.1s								
MKAR	**Makanchi Array**	**146.68**	**40**	*i* PKP2		PKPab	04 24 12.9	-3.3	
MKAR				pmax	pmax				
	comp=Z,29nm,0.9s								
HYB	**Hyderabad**	**147.20**	**95**	*e*P		PKPdf	04 24 15.0	+2.9	
HYB				*e*			04 25 07.0		
HYB	**Hyderabad**	**147.20**	**95**	*i* PKP		PKPdf	04 24 15.0	+2.9	
HYB				*e*			04 25 07.0		
NDI	**New Delhi**	**147.76**	**74**	*e*		PKPdf	04 24 15.0	+2.3	
KLR	**Kul'dur**	**150.96**	**334**	*e*PKIKP		PKPdf	04 24 21.7	+4.6	
KLR				pmax	pmax				
	comp=Z,20nm,1.0s								
MOY	**Mondy**	**151.05**	**15**	*e*PKIKP		PKPdf	04 24 22.4	+5.3	
MOY				pmax	pmax				
	comp=Z,44nm,2.4s								
TLY	**Talaya**	**151.62**	**12**	*e*PKIKP		PKPdf	04 24 20.5	+2.5	
TLY				*e*			04 25 23.1		
TLY				pmax	pmax				
	comp=Z,3.0nm,0.9s								
ZAK	**Zakamensk**	**152.78**	**14**	*e*PKIKP		PKPdf	04 24 22.9	+3.2	
ZAK				pmax	pmax				
	comp=Z,14nm,1.3s								
MAJO	**Matsushiro**	**155.05**	**305**	PKIKP		PKPdf	04 24 26.2	+3.1	
MAJO				*e*			04 24 34.4		
MAJO				*e*			04 24 51.9		
MAT	**Matsushiro**	**155.05**	**305**	*e*PKP		PKPab	04 24 51.0	-0.1	
MAT	**Matsushiro**	**155.05**	**305**	PKP2		PKPab	04 24 51.2	+0.1	
SONM	**Songino Array**	**155.82**	**11**	PKP		PKPdf	04 24 26.3	+2.5	
	comp=Z,2.5nm,1.0s,baz=286,slow=2.4,SNR=15								
SONM				PKPab		PKPab	04 24 53.8	-0.2	
	comp=Z,2.2nm,0.9s,baz=315,slow=1.3,SNR=4.6								
SONM				pPKPab			04 25 43.9		
	comp=Z,1.6nm,0.9s,baz=331,slow=5.1,SNR=5.9								
ULN	**Ulaanbaatar**	**155.89**	**10**	*e*PKIKP		PKPdf	04 24 26.4	+2.5	
CN2	**Changchun**	**157.90**	**335**	*e*PKP		PKPdf	04 24 24.3	-2.4	
GTA	**Gaotai**	**161.18**	**33**	*e*PKP		PKPdf	04 24 33.9	+3.4	
GTA				APKP			04 25 18.3		
GTA				XPKP			04 25 38.4		
GTA				PP		PP	04 29 06.3	+4.3	
GTA				SKS		SKS	04 31 21.8	+6.9	
GTA				PP		PP			
	comp=Z,46nm,7.6s								
HHC	**Hu-ho-hao-te**	**163.33**	**4**	*e*PKP		PKPdf	04 24 36.9	+4.3	
HHC				SKKS			04 35 40.9		
HHC				SS		SS	04 49 19.9	-0.2	
HHC				PP		PP			
	comp=Z,61nm,10.7s								
SSE	**Sheshan**	**169.96**	**315**	PKP		PKPdf	04 24 43.0	+5.1	
GYA	**Guiyang**	**173.87**	**67**	PKP		PKPdf	04 24 42.9	+2.9	
GYA				PP		PP			
	comp=Z,130nm,7.8s								

*IDC **21** 04:29:51.1±13.0, 17.77S×175.20W, h142km±125km, mb3.9/9, mb1 4.2/9, mb1mx4.0/15, mbtmp4.3/9, Error ellipse: s-maj=37.9km s-min=23.9km az=176.0*

*NEIC **21** 04:30:02.0±1.3, 17.96S×175.16W, h249km±14km, mb4.4/4, Error ellipse: s-maj=20.0km s-min=10.1km az=145.0*

ISC 21 04:30:00.7±1.4,**18.0S**±0.1×**175.2W**±0.1,**h250**km±15km, **n28,**σ1§**02**/30,**mb4.2**/13,**2C-1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.25**	**39**	⇑*i*P	**P**	**04 31 19.5**	**-0.7**
AFI				*e*S	**S**	**04 32 16.7**	**-5.5**
DZM	**Mont Dzumac**	**17.72**	**254**	*e*P	**P**	**04 33 53.5**	**+0.9**
NOUC	**Port Laguerre**	**17.85**	**254**	*e*P	**P**	**04 33 55.7**	**+1.7**
URZ	**Urewera**	**21.25**	**197**	P	**P**	**04 34 28.1**	**+0.3**
	33nm,0.5s,mb5.1,baz=9.7,slow=5.7,SNR=26						
QRZ	**Quartz Range**	**25.05**	**202**	PN	**P**	**04 35 04.6**	**+0.7**
QRZ	**Quartz Range**	**25.05**	**202**	PN	**P**	**04 35 04.6**	**+0.7**
THZ	**Tophouse**	**25.75**	**201**	*e*PN	**P**	**04 35 07.9**	**-2.3**
THZ	**Tophouse**	**25.75**	**201**	*e*PN	**P**	**04 35 07.9**	**-2.3**
LTZ	**Lake Taylor**	**26.87**	**201**	*e*PN	**P**	**04 35 18.8**	**-1.6**
LTZ	**Lake Taylor**	**26.87**	**201**	*e*PN	**P**	**04 35 18.8**	**-1.6**
RPZ	**Rata Peaks**	**28.11**	**201**	P	**P**	**04 35 31.7**	**+0.2**
	7.6nm,0.6s,mb4.5,baz=315,slow=6.8,SNR=4.5						
CTA	**Charters Tower**	**36.45**	**260**	*e*P	**P**	**04 36 44.3**	**+0.7**
	8.0nm,0.8s,mb4.3						
CTAO	**Charters Tower**	**36.45**	**260**	*e*P	**P**	**04 36 43.5**	**-0.1**
	11nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**41.27**	**242**	P	**P**	**04 37 24.3**	**+1.0**
	25nm,0.9s,mb4.6,baz=89,slow=8.9,SNR=39						
STKA	**Stephens Creek**	**41.27**	**242**	*e*P	**P**	**04 37 23.6**	**+0.3**
WB2	**Warramunga Arr**	**47.61**	**259**	⇑*i*P	**P**	**04 38 13.2**	**-0.5**
WRAB	**Tennant Creek**	**47.62**	**259**	P	**P**	**04 38 13.0**	**-0.7**
	172nm,1.0s,mb5.3,SNR=20						
WRAB	**Tennant Creek**	**47.62**	**259**	*e*P	**P**	**04 38 12.8**	**-0.9**
	51nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**47.62**	**259**	P	**P**	**04 38 13.0**	**-0.8**
	14nm,0.7s,mb4.4,baz=94,slow=7.5,SNR=91						
ASAR	**Alice Springs**	**47.71**	**254**	P	**P**	**04 38 14.3**	**0.0**
	70nm,0.8s,mb5.0,baz=86,slow=8.6,SNR=432						
ASPA	**Alice Springs**	**47.71**	**254**	⇓*i*P	**P**	**04 38 14.7**	**+0.3**
ASPA				*i* S	**S**	**04 44 47.8**	**-2.5**
KAKA	**Kakadu**	**50.65**	**268**	*e*P	**P**	**04 38 36.6**	**-0.1**
	8.1nm,0.7s,mb4.3						
VNDA	**Vanda**	**60.59**	**186**	P	**P**	**04 39 47.5**	**+0.9**
	0.9nm,0.8s,mb3.5,baz=15,slow=8.0,SNR=4.0						
NVAR	**Mina Array Bea**	**77.42**	**42**	P	**P**	**04 41 30.7**	**+0.8**
	0.9nm,1.0s,mb3.4,baz=217,slow=5.6,SNR=5.2						
NVAR	**Mina Array Bea**	**77.42**	**42**	P	**P**	**04 41 30.7**	**+0.8**
TXAR	**Lajitas Array**	**83.49**	**56**	P	**P**	**04 42 03.5**	**+1.6**
	0.8nm,1.1s,mb3.4,baz=220,slow=7.0,SNR=5.9						
ILAR	**Eielson Array**	**85.36**	**12**	P	**P**	**04 42 09.0**	**-1.4**
	0.9nm,0.9s,mb3.5,baz=216,slow=5.8,SNR=5.2						
YKA	**Yellowknife Ar**	**93.19**	**24**	P	**P**	**04 42 47.3**	**+0.1**
	0.1nm,0.4s,mb3.2,baz=241,slow=5.1,SNR=4.0						

JMA 21 04:33:14.9,33.70N×130.27E,h8km±1km**,M1.3,Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.29**	**160**	P	Pg	04 33 20.5	-0.4
JFA	**Akaike**	**0.44**	**88**	P	Pg	04 33 23.3	-0.5
JFA				*e*S	Sg	04 33 29.3	-0.4
JII	**Iki**	**0.46**	**282**	P	Pg	04 33 24.1	-0.1
JII				*e*S	Sg	04 33 30.2	-0.1
JUR	**Ureshino**	**0.66**	**204**	*e*S	Sg	04 33 36.0	-1.1
JTU	**Tsushima**	**1.09**	**319**	P	Pb	04 33 35.8	+0.1
JTU				*e*S	Sb	04 33 50.0	+0.1

*NIED **21** 04:34:00, 33.70N×130.20E, h8km, Mw3.3 Best double couple: M₀8.89×10¹³ NP1:φ₈156°, δ86°, λ26°. NP2:φ₈64°, δ64°, λ175°.*

JMA 21 04:34:53.6,33.70N×130.25E,h10km±1km**,M3.5,4C-2D Broadband fault plane solution: P waves. NP1:**φ₈65°, δ67°, λ-166°. **NP2:**φ₈330°, δ77°, λ-24°. **Principal axes:** T Plg7°, Azm19°; N Plg63°, Azm123°; P Plg26°, Azm286°;

Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**157**	⇑P	Pg	04 34 59.6	-0.2
JFI				*e*S	Sg	04 35 03.7	-0.2
JII	**Iki**	**0.44**	**283**	⇓P	Pg	04 35 02.5	-0.1
JII				*e*S	Sg	04 35 08.6	0.0
JFA	**Akaike**	**0.46**	**88**	⇓P	Pg	04 35 02.5	-0.4
JFA				S	Sg	04 35 08.8	-0.2
JUR	**Ureshino**	**0.66**	**203**	⇑P	Pb	04 35 06.0	-0.7
JUR				S	Sb	04 35 14.7	-0.9
JTA	**Tamana**	**0.77**	**162**	⇑P	Pb	04 35 08.2	-0.5
JTA				S	Sb	04 35 18.2	-0.7
JTY	**Toyota**	**0.88**	**50**	⇑P	Pb	04 35 10.1	-0.4

*NEIC **21** 04:42:06.3±0.9, 50.13N×18.42E, h5km, MG2.5(WAR) Error ellipse: s-maj=13.0km s-min=7.0km az=175.0*

*WAR **21** 04:42:06.6, 50.07N×18.42E, h0km, ML2.5, Mining Induced*

*PRU **21** 04:42:08.1, 50.08N×18.32E*

ISC 21 04:42:05.3±0.5,**50.12N**±0.03×**18.41E**±0.04,**n21,**σ1§**26**/38, **3D,Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.14**	**254**	⇓*i*PG	**Pg**	**04 42 10.4**	**+2.3**
RAC				⇓*e*SG	**Sg**	**04 42 13.4**	**+3.4**
RAC	**Raciborz**	**0.14**	**254**	⇓*i*Pg	**Pg**	**04 42 10.4**	**+2.3**
RAC				*e*Sg	**Sg**	**04 42 13.4**	**+3.3**
OKC	**Ostrava-Krasne**	**0.33**	**211**	*e*PG	**Pg**	**04 42 17.8**	**+0.9**
OKC				*e*SG	**Sg**	**04 42 17.3**	**+1.0**
MORC	**Moravsky Berou**	**0.66**	**239**	*e*P	**Pg**	**04 42 18.8**	**+0.4**
MORC				*e*S	**Sg**	**04 42 28.2**	**+1.1**
OJC	**Ojcow**	**0.90**	**83**	*e*Pg	**Pg**	**04 42 23.6**	**+0.4**
OJC				*e*Sg	**Sg**	**04 42 36.6**	**+1.4**
LIKS	**Likavka**	**1.17**	**157**	*e*SN	**Sn**	**04 42 46.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.36**	**280**	*e*PG	**Pg**	**04 42 32.2**	**-0.2**
DPC				*e*SG	**Sg**	**04 42 50.3**	**-0.2**
	81nm,0.6s						
NIE	**Niedzica**	**1.42**	**119**	*e*PG	**Pg**	**04 42 32.0**	**-1.6**
NIE				*e*SG	**Sg**	**04 42 52.0**	**-0.6**
KSP	**Ksiaz**	**1.53**	**299**	*e*PG	**Pg**	**04 42 35.0**	**-0.8**
KSP				*e*SG	**Sg**	**04 42 57.0**	**+0.7**
KSP	**Ksiaz**	**1.53**	**299**	*e*Pn	**Pn**	**04 42 34.7**	**+0.8**
KSP				*e*Pg	**Pg**	**04 42 37.4**	**+1.6**
KSP				*e*Sn	**Sn**	**04 42 56.3**	**+1.5**
KSP				*e*Sg	**Sg**	**04 42 59.1**	**+2.9**
KOLL	**Kolacno**	**1.54**	**180**	*e*SN	**Sn**	**04 42 53.9**	**-1.3**
UPC	**Upice**	**1.58**	**285**	*e*SG	**Sg**	**04 42 57.4**	**-0.6**
VYHS	**Vyhne**	**1.65**	**170**	*e*PN	**Pn**	**04 42 36.0**	**+0.3**
VYHS				*e*SN	**Sn**	**04 42 56.7**	**-1.3**
CRVS	**Cervenica-Dubn**	**2.33**	**120**	*e*PN	**Pn**	**04 42 50.0**	**+4.5**
CRVS				*e*SN	**Sn**	**04 43 20.4**	**+5.1**
PRU	**Pruhonice**	**2.50**	**268**	*e*SG	**Sg**	**04 43 24.0**	**-4.3**
KOLS	**Kolonicke sedl**	**2.79**	**114**	*e*PN	**Pn**	**04 42 57.6**	**+5.7**
BRG	**Berggiesshubel**	**2.95**	**286**	*e*Pg	**Pg**	**04 43 02.6**	**-1.5**
BRG				*e*Sg	**Sg**	**04 43 39.7**	**-3.7**
KHC	**Kasperske Hory**	**3.29**	**254**	*e*PN	**Pn**	**04 42 58.0**	**-1.1**
KHC				*e*PG	**Pg**	**04 43 09.5**	**-1.5**
KHC				*ex*	x	04 43 31.0	
KHC				*e*SG	**Sg**	**04 43 49.4**	**-5.5**
MOA	**Molln**	**3.55**	**232**	*i* SG	**Sg**	**04 43 57.4**	**-6.1**
	8.8nm,0.7s						
MOA	**Molln**	**3.55**	**232**	*i* P	**Pn**	**04 43 11.0**	**+8.2**
MOA				*i* Sg	**Sg**	**04 43 57.4**	**-6.1**
CLL	**Collm**	**3.63**	**291**	*e*SG	**Sg**	**04 44 04.0**	**-2.3**

*NEIC **21** 04:47:20.0, 44.85N×9.69E, h20km, MD2.5(ROM), ML2.7(GEN), ML2.4(LDG), After GEN.*

*ROM **21** 04:47:21.1±0.1, 44.80N×9.70E, h18km, MD2.5/6, ML1.8/5, Error ellipse: s-maj=1.2km s-min=0.9km az=0.0*

*LDG **21** 04:47:21.1±0.3, 44.76N×9.86E, h10km, Ml2.4/12, Error ellipse: s-maj=6.4km s-min=3.7km az=97.0*

*STR **21** 04:47:25.7±0.0, 44.37N×9.53E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 21 04:47:20.6±0.4,**44.82N**±0.02×**9.68E**±0.03,**h21**km±3km, **n56,**σ1§**15**/88,**2C,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.17**	**252**	⇑*i*PG	**Pb**	**04 47 26.2**	**+0.7**
BOB				SG	**Sb**	**04 47 29.8**	**+1.0**
	35nm,0.3s						
BOB	**Bobbio (Coli)**	**0.17**	**252**	⇑*i*Pg	**Pb**	**04 47 26.2**	**+0.7**
BOB				*e*Sg	**Sb**	**04 47 29.8**	**+1.1**
GRAM		**0.43**	**139**	P	**Pb**	**04 47 28.9**	**-0.5**
GRAM				S	**Sb**	**04 47 35.0**	**-0.5**
CODM		**0.45**	**164**	P	**Pb**	**04 47 29.3**	**-0.4**
CODM				S	**Sb**	**04 47 35.7**	**-0.2**
VALM		**0.62**	**139**	P	**Pb**	**04 47 32.1**	**-0.5**
VALM				S	**Sb**	**04 47 40.4**	**-0.6**
GENL	**Genova Univers**	**0.65**	**231**	P	**Pb**	**04 47 32.3**	**-0.9**
GENL				S	**Sb**	**04 47 40.7**	**-1.1**
ERBM	**Eremo**	**0.66**	**127**	*e*PG	**Pb**	**04 47 33.7**	**+0.4**
ERBM	**Eremo**	**0.66**	**127**	*e*Pg	**Pb**	**04 47 33.7**	**+0.4**
VINC	**Vinca**	**0.76**	**153**	P	**Pb**	**04 47 34.6**	**-0.3**
VINC				S	**Sb**	**04 47 44.5**	**-0.3**
SARO	**Sassorosso**	**0.82**	**140**	P	**Pb**	**04 47 35.5**	**-0.5**
SARO				S	**Sb**	**04 47 46.2**	**-0.4**
PCP	**Pian Castagno**	**0.85**	**251**	P	**Pb**	**04 47 36.0**	**-0.5**
PCP				S	**Sb**	**04 47 47.0**	**-0.5**
SAL	**Salo**	**0.99**	**37**	*e*PN	**Pn**	**04 47 40.2**	**+0.9**
	71nm,0.5s						
SAL	**Salo**	**0.99**	**37**	*e*Pg	**Pb**	**04 47 40.2**	**+1.3**
BDI	**Bagni Di Lucca**	**1.00**	**139**	*e*PN	**Pn**	**04 47 39.3**	**-0.2**
BDI				SN	**Sn**	**04 47 54.2**	**+1.1**
	15nm,0.3s						
BDI	**Bagni Di Lucca**	**1.00**	**139**	*e*Pg	**Pb**	**04 47 39.3**	**+0.2**
BDI				*e*Sg	**Sb**	**04 47 54.1**	**+2.2**
FIN	**Finale Ligure**	**1.21**	**240**	*e*PN	**Pn**	**04 47 43.1**	**+0.6**
FIN				SN	**Sn**	**04 47 58.8**	**+0.4**
	9.0nm,0.3s						
FIN	**Finale Ligure**	**1.21**	**240**	*e*Pg	**Pn**	**04 47 43.1**	**+0.6**
FIN				*e*Sg	**Sb**	**04 47 58.8**	**+0.9**
VAI	**Varese**	**1.23**	**329**	*e*PN	**Pn**	**04 47 43.3**	**+0.6**
	14nm,0.3s						
VAI	**Varese**	**1.23**	**329**	*e*Pg	**Pn**	**04 47 43.3**	**+0.6**
PII	**Pisa**	**1.26**	**151**	*e*PN	**Pn**	**04 47 43.4**	**+0.3**
PII				SN	**Sn**	**04 47 59.9**	**+0.5**
	24nm,0.2s						
PII	**Pisa**	**1.26**	**151**	*e*Pg	**Pn**	**04 47 43.4**	**+0.3**
PII				*e*Sg	**Sn**	**04 47 59.9**	**+0.5**
ROB	**Roburent**	**1.39**	**248**	P	**Pn**	**04 47 43.6**	**-1.5**
ORX	**Oropa**	**1.45**	**305**	P	**Pn**	**04 47 43.9**	**-1.9**
MONE	**Monesi**	**1.56**	**242**	P	**Pn**	**04 47 45.9**	**-1.5**
IMI	**Imperia**	**1.57**	**235**	*e*PN	**Pn**	**04 47 47.8**	**+0.2**
IMI				SN	**Sn**	**04 48 07.2**	**-0.2**
	14nm,0.4s						
IMI	**Imperia**	**1.57**	**235**	*e*Pg	**Pn**	**04 47 47.8**	**+0.2**
IMI				*e*Sg	**Sn**	**04 48 07.2**	**-0.2**
BHB	**Bricherasio**	**1.72**	**272**	P	**Pn**	**04 47 48.5**	**-1.2**
NEGI	**Negi**	**1.72**	**236**	P	**Pn**	**04 47 47.3**	**-2.3**
ENR	**Entracque**	**1.72**	**251**	P	**Pn**	**04 47 48.2**	**-1.5**
SAOF	**Saorge**	**1.73**	**242**	P	**Pn**	**04 47 51.4**	**+1.5**
SAOF				S	**Sn**	**04 48 11.6**	**+0.1**
RSP	**Reno Superiore**	**1.75**	**282**	P	**Pn**	**04 47 48.3**	**-1.8**
STV2	**Anna di Valdie**	**1.77**	**252**	P	**Pn**	**04 47 48.5**	**-2.0**
STV	**Sta Anna Valdi**	**1.78**	**252**	P	**Pn**	**04 47 49.1**	**-1.5**
AUTN	**L'Aution**	**1.81**	**244**	P	**Pn**	**04 47 53.4**	**+2.4**
AUTN				S	**Sn**	**04 48 16.4**	**+2.9**
PZZ	**Prazzo**	**1.86**	**261**	P	**Pn**	**04 47 50.3**	**-1.5**
SBF	**Sospel**	**1.87**	**240**	*e*Pn	**Pn**	**04 47 52.6**	**+0.7**
SBF				*e*Sn	**Sn**	**04 48 15.2**	**+0.2**
	9.2nm,0.3s						
TOUF	**Mont Tournerai**	**1.92**	**246**	P	**Pn**	**04 47 54.4**	**+1.9**
MVIF	**Mont Vial**	**2.03**	**244**	P	**Pn**	**04 47 56.0**	**+1.8**
**MBDF

BDI	**Bagni Di Lucca**	**1.00 138**	*e*Pn	**Pn**	**04 50 31.4**	**+1.1**
	42nm,0.2s					
ZCCA	**Zocca**	**1.04 116**	*e*PN	**Pn**	**04 50 33.4**	**+2.5**
	23nm,0.3s					
ZCCA	**Zocca**	**1.04 116**	*e*Pg	**Pb**	**04 50 33.4**	**+2.7**
VAI	**Varese**	**1.23 329**	*e*PN	**Pn**	**04 50 35.1**	**+1.5**
	37nm,0.4s					
VAI	**Varese**	**1.23 329**	*e*Pg	**Pn**	**04 50 35.1**	**+1.5**
VAI	**Varese**	**1.23 329**	*e*Pn	**Pn**	**04 50 35.1**	**+1.5**
	37nm,0.4s					
PII	**Pisa**	**1.25 151**	*e*PN	**Pn**	**04 50 34.5**	**+0.6**
	54nm,0.2s					
PII	**Pisa**	**1.25 151**	*e*Pg	**Pn**	**04 50 34.5**	**+0.6**
PII	**Pisa**	**1.25 151**	*e*Pn	**Pn**	**04 50 34.5**	**+0.6**
	54nm,0.2s					
ROB	**Roburent**	**1.39 249**	P	**Pn**	**04 50 34.5**	**-1.3**
ROB	**Roburent**	**1.39 249**	P	**Pn**	**04 50 34.5**	**-1.4**
ORO	**Oropa**	**1.45 305**	*e*PN	**Pn**	**04 50 38.2**	**+1.5**
	84nm,0.3s					
ORO	**Oropa**	**1.45 305**	*e*Pg	**Pn**	**04 50 38.2**	**+1.6**
ORO	**Oropa**	**1.45 305**	*e*Pn	**Pn**	**04 50 38.2**	**+1.5**
	84nm,0.3s					
ORX	**Oropa**	**1.45 305**	P	**Pn**	**04 50 36.6**	**-0.1**
IMI	**Imperia**	**1.57 235**	*e*PN	**Pn**	**04 50 38.8**	**+0.4**
IMI	**Imperia**	**1.57 235**	*e*Pg	**Pn**	**04 50 38.8**	**+0.4**
IMI	**Imperia**	**1.57 235**	P	**Sn**	**04 50 36.6**	**-1.8**
IMI	**Imperia**	**1.57 235**	*e*Pn	**Pn**	**04 50 38.8**	**+0.4**
BHB	**Bricherasio**	**1.72 272**	P	**Pn**	**04 50 39.2**	**-1.4**
BHB	**Bricherasio**	**1.72 272**	P	**Pn**	**04 50 39.2**	**-1.3**
ENR	**Entracque**	**1.72 251**	P	**Pn**	**04 50 39.5**	**-1.1**
ENR	**Entracque**	**1.72 251**	P	**Pn**	**04 50 39.5**	**-1.0**
SAOF	**Saorge**	**1.73 242**	P	**Pn**	**04 50 42.7**	**+2.0**
SAOF			S	**Sn**	**04 51 03.1**	**+0.8**
STV	**Sta Anna Valdi**	**1.78 252**	P	**Pn**	**04 50 39.9**	**-1.5**
STV	**Sta Anna Valdi**	**1.78 252**	P	**Pn**	**04 50 39.9**	**-1.5**
AUTN	**L'Aution**	**1.81 244**	P	**Pn**	**04 50 42.9**	**+1.1**
AUTN			S	**Sn**	**04 51 05.3**	**+1.0**
PZZ	**Prazzo**	**1.86 261**	P	**Pn**	**04 50 41.3**	**-1.3**
PZZ	**Prazzo**	**1.86 261**	P	**Pn**	**04 50 41.3**	**-1.3**
SBF	**Sospel**	**1.87 240**	*e*Pn	**Pn**	**04 50 43.8**	**+1.1**
SBF			*e*Sn	**Sn**	**04 51 07.0**	**+1.2**
	20nm,0.3s					
TOUF	**Mont Tournerai**	**1.92 246**	P	**Pn**	**04 50 44.8**	**+1.4**
MVIF	**Mont Vial**	**2.03 244**	P	**Pn**	**04 50 46.7**	**+1.7**
MVIF			S	**Sn**	**04 51 09.7**	**-0.2**
MBDF	**Montbardon**	**2.07 269**	*e*Pn	**Pn**	**04 50 46.4**	**+0.8**
MBDF			*e*Sn	**Sn**	**04 51 13.4**	**+2.4**
	22nm,0.6s					
LPG	**La Plagne**	**2.18 289**	*e*Pn	**Pn**	**04 50 48.1**	**+1.0**
LPG			*e*Sn	**Sn**	**04 51 15.4**	**+1.7**
LPG			*e*Sg	**Sn**	**04 51 23.5**	**+10**
	17nm,0.6s					
LPL	**La Plagne**	**2.20 290**	*e*Pn	**Pn**	**04 50 48.8**	**+1.4**
LPL			*e*Sg	**Sn**	**04 51 25.5**	**+11**
	12nm,0.4s					
CALN	**Calern**	**2.27 243**	P	**Pn**	**04 50 50.2**	**+1.8**
PGF	**Pioggiola**	**2.32 192**	*e*Pn	**Pn**	**04 50 47.7**	**-1.5**
PGF			*e*Sn	**Sn**	**04 51 15.9**	**-1.4**
	8.3nm,0.5s					
FRF	**La Foret Royal**	**2.52 241**	*e*Pn	**Pn**	**04 50 52.8**	**+0.8**
FRF			*e*Sn	**Sn**	**04 51 22.0**	**-0.2**
	13nm,0.4s					
ORIF	**Oris-en-Rattie**	**2.70 273**	*e*Pn	**Pn**	**04 50 55.9**	**+1.3**
ORIF			*e*Sn	**Sn**	**04 51 28.6**	**+1.6**
	11nm,0.5s					
LMR	**La Mourre**	**2.72 238**	*e*Pn	**Pn**	**04 50 53.8**	**-1.1**
LMR			*e*Sn	**Sn**	**04 51 25.5**	**-2.0**
	16nm,0.5s					
TAVF	**Tavernes**	**2.86 247**	P	**Pn**	**04 50 58.4**	**+1.5**
VILF	**Villemus**	**3.00 253**	P	**Pn**	**04 51 01.4**	**+2.5**
SMRF	**Simiane la Rot**	**3.06 255**	*e*Pn	**Pn**	**04 51 00.9**	**+1.2**
SMRF			*e*Sn	**Sn**	**04 51 36.6**	**+0.6**
	3.6nm,0.3s					
CABF	**La Chapelle**	**3.09 307**	*e*Pn	**Pn**	**04 50 59.0**	**-1.1**
CABF			*e*P		04 51 01.9	
CABF			*e*Sn	**Sn**	**04 51 35.4**	**-1.4**
	4.0nm,0.4s					
PUYF	**Puyloubier**	**3.13 247**	P	**Pn**	**04 51 01.2**	**+0.4**
VOY	**Vojsko**	**3.21 66**	*e*Pn	**Pn**	**04 51 18.2**	**+16**
VOY			*e*Sn	**Sn**	**04 51 37.8**	**-2.0**
VIVF	**Saint-Julien-l**	**3.56 272**	*e*Pn	**Pn**	**04 51 07.4**	**+0.6**
VIVF			*e*Sn	**Sn**	**04 51 48.6**	**-0.1**
	1.8nm,0.3s					
HINF	**Hinteralfeld**	**3.58 328**	*e*Pn	**Pn**	**04 51 04.7**	**-2.4**
HINF			*e*Sn	**Sn**	**04 51 44.8**	**-4.4**
	3.2nm,0.3s					
HAU	**Haudompre**	**3.93 325**	*e*Pn	**Pn**	**04 51 08.9**	**-3.2**
HAU			*e*P		04 51 12.3	
HAU			*e*Sn	**Sn**	**04 51 53.8**	**-4.3**
	6.3nm,0.2s					
CDF	**Champ du Feu**	**3.96 336**	*e*Pn	**Pn**	**04 51 09.1**	**-3.4**
CDF			*e*Sn	**Sn**	**04 51 53.4**	**-5.4**
	2.5nm,0.2s					
LASF	**Ste Croix**	**4.23 262**	*e*Pn	**Pn**	**04 51 16.9**	**+0.5**
LASF			*e*Sn	**Sn**	**04 52 04.4**	**-1.3**
	0.9nm,0.3s					
SMF	**Signal de Mont**	**4.48 296**	*e*Pn	**Pn**	**04 51 19.5**	**-0.3**
SMF			*e*Sn	**Sn**	**04 52 09.4**	**-2.5**
	1.4nm,0.2s					
AVF	**Avril sur Loir**	**4.84 296**	*e*Pn	**Pn**	**04 51 24.4**	**-0.6**
SSF	**Saint Saulge**	**4.85 300**	*e*Pn	**Pn**	**04 51 23.6**	**-1.6**
SSF			*e*Sn	**Sn**	**04 52 17.6**	**-3.8**
	0.8nm,0.3s					
BGF	**Bois d'Agland**	**5.09 292**	*e*Pn	**Pn**	**04 51 26.6**	**-1.9**
CAF	**Calviac**	**5.41 274**	*e*Pn	**Pn**	**04 51 32.4**	**-0.6**
TCF	**Toulx Ste Croi**	**5.45 288**	*e*Pn	**Pn**	**04 51 31.3**	**-2.2**
TCF			*e*Sn	**Sn**	**04 52 33.3**	**-3.0**
	1.9nm,0.3s					

*LDG **21** 04:57:12.4±0.5,44.87N×9.98E,h10km,Ml2.3/11,Error ellipse: s-maj=10.5km s-min=5.2km az=87.0*
*ROM **21** 04:57:13.9±0.3,44.87N×9.72E,h10km,MD2.6/5,ML1.5/3, Error ellipse: s-maj=3.2km s-min=1.9km az=0.0*
*STR **21** 04:57:17.3±1.7,45.34N×8.88E,h5km±1km,Ml2.4,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **21** 04:57:17.0,44.76N×9.67E,h3km,MD2.6(ROM), ML2.6(GEN),ML2.3(LDG),After GEN.*

ISC 21 04:57:14.6±0.6,44.89N±0.04×9.71E±0.04,h18km±5km, n41,σ1s06/62,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOB	**Bobbio (Coli)**	**0.22**	**237**	*e*PG	**Pb**	**04 57 19.5**	**-0.4**
BOB				SG	**Sb**	**04 57 23.2**	**-0.3**
BOB	**Bobbio (Coli)**	**0.22**	**237**	*e*Pg	**Pb**	**04 57 19.4**	**-0.4**
BOB				*e*Sg	**Sb**	**04 57 23.2**	**-0.3**
GRAM		**0.47**	**147**	P	**Pb**	**04 57 24.7**	**+0.7**
GRAM				S	**Sb**	**04 57 29.8**	**-0.7**
CODM		**0.51**	**168**	P	**Pb**	**04 57 24.7**	**0.0**
CODM				S	**Sb**	**04 57 29.8**	**-1.7**
VALM		**0.66**	**144**	P	**Pb**	**04 57 28.1**	**+0.8**
VALM				S	**Sb**	**04 57 35.7**	**-0.3**
ERBM	**Eremo**	**0.69**	**133**	*e*PG	**Pb**	**04 57 27.0**	**-0.7**
ERBM	**Eremo**	**0.69**	**133**	*e*Pg	**Pb**	**04 57 27.0**	**-0.7**
GENL	**Genova Univers**	**0.71**	**228**	P	**Pb**	**04 57 28.7**	**+0.5**
VINC	**Vinca**	**0.81**	**157**	P	**Pb**	**04 57 30.6**	**+0.8**
VINC				S	**Sb**	**04 57 39.4**	**-0.9**
GSCL	**Gusciola**	**0.83**	**130**	*e*PG	**Pb**	**04 57 29.6**	**-0.5**
	9.0nm,0.5s						
GSCL	**Gusciola**	**0.83**	**130**	*e*Pg	**Pb**	**04 57 29.6**	**-0.5**
SARO	**Sassorosso**	**0.86**	**144**	P	**Pb**	**04 57 31.6**	**+0.9**
SARO				S	**Sb**	**04 57 41.5**	**-0.2**
PCP	**Pian Castagno**	**0.90**	**248**	P	**Pb**	**04 57 32.4**	**+1.1**
PCP				S	**Sb**	**04 57 43.2**	**+0.4**
BDI	**Bagni Di Lucca**	**1.04**	**142**	*e*PG	**Pb**	**04 57 34.7**	**+0.9**
	11nm,0.3s						
BDI	**Bagni Di Lucca**	**1.04**	**142**	*e*Pg	**Pb**	**04 57 34.6**	**+0.9**
ZCCA	**Zocca**	**1.05**	**120**	*e*PN	**Pn**	**04 57 35.3**	**+0.8**
	10.0nm,0.3s						
ZCCA	**Zocca**	**1.05**	**120**	*e*Pg	**Pb**	**04 57 35.3**	**+1.3**
VAI	**Varese**	**1.18**	**326**	*e*PN	**Pn**	**04 57 35.7**	**-0.6**
	11nm,0.3s						
VAI	**Varese**	**1.18**	**326**	*e*Pg	**Pb**	**04 57 35.7**	**-0.4**
FIN	**Finale Ligure**	**1.27**	**238**	P	**Pn**	**04 57 38.2**	**+0.7**
ORO	**Oropa**	**1.43**	**302**	*e*PN	**Pn**	**04 57 40.6**	**+0.8**
ROB	**Roburent**	**1.44**	**246**	P	**Pn**	**04 57 41.7**	**+1.7**
MONE	**Monesi**	**1.61**	**241**	P	**Pn**	**04 57 43.8**	**+1.4**
IMI	**Imperia**	**1.63**	**234**	*e*PN	**Pn**	**04 57 41.1**	**-1.6**
	5.0nm,0.2s						
IMI	**Imperia**	**1.63**	**234**	*e*Pn	**Pn**	**04 57 41.1**	**-1.6**
SAOF	**Saorge**	**1.79**	**240**	P	**Pn**	**04 57 47.2**	**+2.3**
SAOF				S	**Sn**	**04 58 07.6**	**+0.3**
AUTN	**L'Aution**	**1.86**	**242**	P	**Pn**	**04 57 46.6**	**+0.6**
AUTN				S	**Sn**	**04 58 11.0**	**+1.8**
SBF	**Sospel**	**1.92**	**239**	*e*Pn	**Pn**	**04 57 46.0**	**-0.9**
SBF				*e*Sn	**Sn**	**04 58 09.3**	**-1.5**
	8.2nm,0.3s						
TOUF	**Mont Tournerai**	**1.96**	**244**	P	**Pn**	**04 57 47.5**	**0.0**
MBDF	**Montbardon**	**2.10**	**267**	*e*Pn	**Pn**	**04 57 48.7**	**-0.7**
MBDF				*e*Sn	**Sn**	**04 58 15.8**	**+0.6**
	3.2nm,0.3s						
LPG	**La Plagne**	**2.18**	**287**	*e*Pn	**Pn**	**04 57 50.2**	**-0.3**
LPG				*e*Sn	**Sn**	**04 58 17.8**	**+0.6**
LPG				*e*Sg	**Sn**	**04 58 25.5**	**+8.3**
	2.3nm,0.3s						
LPL	**La Plagne**	**2.19**	**288**	*e*Pn	**Pn**	**04 57 50.5**	**-0.3**
LPL				*e*Sg	**Sn**	**04 58 27.2**	**+10**
	2.2nm,0.3s						
CALN	**Calern**	**2.32**	**242**	P	**Pn**	**04 57 53.1**	**+0.5**
PGF	**Pioggiola**	**2.39**	**193**	*e*Pn	**Pn**	**04 57 49.9**	**-3.7**
PGF				*e*Sn	**Sn**	**04 58 17.9**	**-4.8**
	0.6nm,0.2s						
FRF	**La Foret Royal**	**2.57**	**240**	*e*Pn	**Pn**	**04 57 55.0**	**-1.1**
FRF				*e*Sn	**Sn**	**04 58 24.1**	**-3.1**
	1.7nm,0.2s						
ORIF	**Oris-en-Rattie**	**2.72**	**272**	*e*Pn	**Pn**	**04 57 58.2**	**-0.1**
ORIF				*e*Sn	**Sn**	**04 58 31.0**	**0.0**
	2.8nm,0.3s						
LMR	**La Mourre**	**2.78**	**237**	*e*Pn	**Pn**	**04 57 56.0**	**-3.1**
LMR				*e*Sn	**Sn**	**04 58 27.7**	**-4.8**
	1.6nm,0.3s						
CABF	**La Chapelle**	**3.06**	**306**	*e*Pn	**Pn**	**04 58 01.2**	**-2.0**
HINF	**Hinteralfeld**	**3.53**	**327**	*e*Sn	**Sn**	**04 58 47.0**	**-4.6**
	1.3nm,0.3s						
HAU	**Haudompre**	**3.89**	**325**	*e*Pn	**Pn**	**04 58 11.0**	**-3.9**
HAU				*e*Sn	**Sn**	**04 58 56.2**	**-4.4**
	2.4nm,0.3s						
CDF	**Champ du Feu**	**3.90**	**335**	*e*Pn	**Pn**	**04 58 10.9**	**-4.2**
CDF				*e*Sn	**Sn**	**04 58 55.7**	**-5.3**
	1.4nm,0.3s						

*NIED **21** 04:57:00,33.70N×130.20E,h5km,Mw3.5 Best double couple: M0 2.33×10^14 NP1:φs53°,δ84°,λ-150°. NP2: φs320°,δ60°,λ-6°.*

JMA 21 04:57:25.4,33.73N×130.24E,h10km±1km,M3.6,2C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.33**	**158**	⇑P	Pg	04 57 31.9	-0.3
JFI				S	Sg	04 57 36.4	-0.3
JII	**Iki**	**0.43**	**279**	⇓P	Pg	04 57 34.0	-0.1
JII				S	Sg	04 57 39.8	-0.2
JFA	**Akaike**	**0.46**	**92**	⇓P	Pg	04 57 34.3	-0.5
JFA				S	Sg	04 57 41.0	-0.1
JTA	**Tamana**	**0.80**	**162**	⇑P	Pb	04 57 40.6	-0.4
JTA				S	Sb	04 57 51.0	-0.6
JTU	**Tsushima**	**1.06**	**319**	⇓P	Pb	04 57 45.2	-0.1
JTU				S	Sb	04 57 59.3	+0.3

*NEIC **21** 04:58:50.0,37.87N×1.78W,h3km,MN2.5(MDD),After MDD.*
NEIC Felt [IV] at Dona Ines and La Paca; [III] at Coy, Zarcilla de Ramos and Zarzadilla de Totana.
*MDD **21** 04:58:50.0±0.2,37.86N×1.78W,h5km±3km,mbLg2.6/18, Error ellipse: s-maj=3.2km s-min=1.9km az=170.0, PRXIMO III-IV LA PACA III ZARCILLA DE RAMOS COY ZARZADILLA DE TOTANA*
MDD EMS: IV DOQA S.
*CSEM **21** 04:58:49.8±0.1,37.87N×1.76W,h8km,ML3.0/14,Error ellipse: s-maj=1.9km s-min=1.2km az=161.0*
*INMG **21** 04:58:50.2±1.3,37.87N×1.76W,h5km,ML2.6,Error ellipse: s-maj=2.7km s-min=1.8km az=129.0*

ISC 21 04:58:47.6±0.4,37.92N±0.03×1.85W±0.02,h7km±3km,n87, σ1s35/146,4C-1D,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMUR	**La Murta**	**0.49**	**99**	⇑Pg	**Pg**	**04 58 57.7**	**+0.2**
	37nm,0.2s,SNR=18						
EMUR				Lg		04 59 04.0	
	225nm,0.3s,SNR=13						
EMUR	**La Murta**	**0.49**	**99**	Pg	**Pg**	**04 58 57.7**	**+0.2**
	40nm,0.2s,SNR=18						
CART	**Cartagena**	**0.75**	**116**	*e*P	**Pg**	**04 59 02.1**	**-0.6**
CART				*e*S	**Sg**	**04 59 11.4**	**-1.3**
ETOB	**Tobarra**	**0.76**	**18**	Pg	**Pg**	**04 59 04.6**	**+1.7**
	23nm,0.2s,SNR=157						
ETOB				Lg		04 59 15.8	
	166nm,0.3s,SNR=13						
ETOB	**Tobarra**	**0.76**	**18**	Pg	**Pg**	**04 59 04.6**	**+1.7**
	54nm,0.2s,SNR=157						
EVIA	**Vianos**	**0.88**	**325**	Pg	**Pg**	**04 59 07.4**	**+2.1**
	36nm,0.2s,SNR=64						
EVIA				Lg		04 59 21.6	
	112nm,0.3s,SNR=17						
EQES	**Quesada**	**0.97**	**264**	⇓Pg	**Pg**	**04 59 08.9**	**+1.8**
	12nm,0.3s,SNR=18						
EQES				Lg		04 59 23.1	
	73nm,0.2s,SNR=9.9						
EQES	**Quesada**	**0.97**	**264**	Pg	**Pg**	**04 59 08.9**	**+1.8**
	21nm,0.3s,SNR=18						
ENIJ	**Nijar**	**0.99**	**197**	⇑Pg	**Pg**	**04 59 07.4**	**0.0**
	12nm,0.2s,SNR=18						
ENIJ				Lg		04 59 21.2	
	72nm,0.3s,SNR=11						
EBER	**Berja**	**1.31**	**219**	Pg	**Pg**	**04 59 13.5**	**-0.3**
EBER				Lg		04 59 32.2	
EBER	**Berja**	**1.31**	**219**	Pg	**Pg**	**04 59 13.5**	**-0.3**
	4.0nm,0.3s,SNR=20						
EBER				Lg		04 59 32.2	
	61nm,0.5s,SNR=16						
EBER	**Berja**	**1.31**	**219**	Pg	**Pg**	**04 59 13.5**	**-0.4**
	12nm,0.4s,SNR=20						
EBEN	**Beniarda**	**1.50**	**58**	Pn	**Pn**	**04 59 15.4**	**+0.3**
	0.3nm,0.1s,SNR=4.0						
EBEN				Pg	**Pg**	**04 59 16.5**	**-1.1**
	2.1nm,0.2s,SNR=15						
EBEN				Lg		04 59 36.3	
	14nm,0.3s,SNR=5.3						
EBEN	**Beniarda**	**1.50**	**58**	Pn	**Pn**	**04 59 15.4**	**+0.3**
	0.4nm,0.1s,SNR=4.0						
EBEN	**Beniarda**	**1.50**	**58**	Pg	**Pg**	**04 59 16.5**	**-1.1**
	4.5nm,0.3s,SNR=15						
ECOG	**Cogollos-Vega**	**1.51**	**245**	Pn	**Pg**	**04 59 18.7**	**+1.0**
ECOG				Lg		04 59 41.9	
ECOG	**Cogollos-Vega**	**1.51**	**245**	Pg	**Pg**	**04 59 18.7**	**+1.0**
	5.0nm,0.1s,SNR=33						
ECOG				Lg		04 59 41.4	
	43nm,0.3s,SNR=24						
EBAN	**Banos Encina**	**1.55**	**280**	⇑Pn	**Pn**	**04 59 18.0**	**+2.2**
EBAN				Sn	**Sn**	**04 59 40.3**	**+4.0**
EBAN	**Banos Encina**	**1.55**	**280**	⇑Pn	**Pn**	**04 59 18.0**	**+2.2**
	17nm,0.2s,SNR=18						
EBAN				Sn	**Sn**	**04 59 39.7**	**+3.4**
	40nm,0.2s,SNR=14						
EBAN	**Banos Encina**	**1.55**	**280**	Pn	**Pn**	**04 59 18.0**	**+2.2**
	25nm,0.5s,SNR=18						
EBAN				Sn	**Sn**	**04 59 40.3**	**+4.0**
	40nm,0.2s,SNR=14						
ERON	**Agron**	**1.80**	**241**	Pn	**Pn**	**04 59 18.7**	**-0.6**
ERON				Pg	**Pg**	**04 59 23.7**	**+0.1**
ERON				Lg		04 59 49.3	
ERON	**Agron**	**1.80**	**241**	Pn	**Pn**	**04 59 18.7**	**-0.6**
	1.2nm,0.2s,SNR=7.9						
ERON				Pg	**Pg**	**04 59 23.7**	**+0.1**
	6.1nm,0.3s,SNR=9.5						
ERON				Lg		04 59 48.0	
	4.4nm,0.2s,SNR=4.0						
ELOJ	**Sierra Loja**	**1.98**	**248**	Pn	**Pn**	**04 59 24.1**	**+2.0**
	2.4nm,0.3s,SNR=6.4						
ELOJ				Sn	**Sn**	**04 59 49.6**	**+2.1**
	4.0nm,0.3s,SNR=5.8						
ELOJ				Lg		04 59 54.7	
	8.4nm,0.4s,SNR=7.0						
EADA	**Adamuz**	**2.17**	**277**	Pn	**Pn**	**04 59 26.0**	**+1.3**
	3.3nm,0.2s,SNR=30						
EADA				Pg	**Pg**	**04 59 31.0**	**+0.1**
	2.7nm,0.1s,SNR=15						
EADA				Sn	**Sn**	**04 59 54.4**	**+2.3**
	19nm,0.2s,SNR=8.4						
EADA				Lg		05 00 00.5	
	23nm,0.2s,SNR=7.2						
EADA	**Adamuz**	**2.17**	**277**	Pn	**Pn**	**04 59 26.0**	**+1.3**
	2.9nm,0.3s,SNR=30						
EADA	**Adamuz**	**2.17**	**277**	Pg	**Pg**	**04 59 31.0**	**+0.1**
	6.8nm,0.3s,SNR=15						
EADA				Sn	**Sn**	**04 59 54.4**	**+2.3**
	8.3nm,0.3s,SNR=8.4						
ESDC	**Sonseca Array**	**2.41**	**317**	Pn	**Pn**	**04 59 29.2**	**+1.1**
ESDC				Pg	**Pg**	**04 59 35.7**	**0.0**
ESDC				Sn	**Sn**	**04 59 57.8**	**-0.4**
ESDC				Lg		05 00 06.9	
ESDC	**Sonseca Array**	**2.41**	**317**	Pn	**Pn**	**04 59 29.3**	**+1.1**
	1.0nm,0.2s,baz=126,slow=13,SNR=14						
ESDC				Pg	**Pg**	**04 59 35.7**	**0.0**
	8.4nm,0.2s,baz=130,slow=17,SNR=44						
ESDC				Sn	**Sn**	**04 59 57.9**	**-0.3**
	1.8nm,0.1s,baz=139,slow=16,SNR=7.1						
ESDC				Lg		05 00 06.9	
	18nm,0.3s,baz=138,slow=30,SNR=6.7						
ESDC	**Sonseca Array**	**2.41**	**317**	Pn	**Pn**	**04 59 29.3**	**+1.2**
	0.7nm,0.2s,slow=13,SNR=14						
ESDC	**Sonseca Array**	**2.41**	**317**	Pg	**Pg**	**04 59 35.7**	**0.0**
	3.6nm,0.3s,slow=17,SNR=44						
ESDC				Sn	**Sn**	**04 59 57.8**	**-0.4**
	1.7nm,0.3s,SNR=7.1						
ESLA	**Sonseca Array**	**2.41**	**317**	*e*P	**Pn**	**04 59 29.5**	**+1.4**
ESLA				*e*S	**Sn**	**05 00 06.3**	**+8.1**
ESLA	**Sonseca Array**	**2.41**	**317**	*e*P	**Pn**	**04 59 29.5**	**+1.4**
ESLA				*e*S	**Sn**	**05 00 06.3**	**+8.1**
EMOS	**Mosqueruela**	**2.67**	**23**	Pn	**Pn**	**04 59 33.1**	**+1.3**
EMOS				Pg	**Pg**	**04 59 39.2**	**-1.7**
EMOS				Sn	**Sn**	**05 00 05.7**	**+1.0**
EMOS				Lg		05 00 13.5	
EMOS	**Mosqueruela**	**2.67**	**23**	Pn	**Pn**	**04 59 33.1**	**+1.3**
	0.3nm,0.1s,SNR=7.9						
EMOS				Pg	**Pg**	**04 59 39.2**	**-1.7**
	2.3nm,0.3s,SNR=8.7						
EMOS				Sn	**Sn**	**05 00 05.7**	**+1.0**
	3.1nm,0.5s,SNR=7.9						
EMOS				Lg		05 00 13.5	
	8.0nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**2.67**	**23**	Pn	**Pn**	**04 59 33.1**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.67**	**23**	Pg	**Pg**	**04 59 39.2**	**-1.7**
	6.6nm,0.6s,SNR=8.7						
EMOS				Sn	**Sn**	**05 00 05.7**	**+0.9**
	2.5nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**2.69**	**241**	Pn	**Pn**	**04 59 33.9**	**+1.6**
	0.6nm,0.3s,SNR=7.9						
EMIJ				Pg	**Pg**	**04 59 39.0**	**-2.5**
	1.0nm,0.2s,SNR=5.6						
EMIJ				Sn	**Sn**	**05 00 05.5**	**+0.1**
	3.0nm,0.4s,SNR=5.7						
EMIJ				Lg		05 00 16.9	
	4.5nm,0.3s,SNR=6.0						
EMIJ	**Mijas**	**2.69**	**241**	Pg	**Pg**	**04 59 39.0**	**-2.5**
	3.4nm,0.5s,SNR=5.6						
EMIJ				Sn	**Sn**	**05 00 05.5**	**0.0**
	4.0nm,0.6s,SNR=5.7						
EIBI	**Ibiza**	**2.74**	**65**	Pn	**Pn**	**04 59 32.2**	**-0.6**
	0.6nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**05 00 03.8**	**-2.8**
	2.8nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.74**	**65**	Pn	**Pn**	**04 59 32.2**	**-0.7**
	0.5nm,0.1s,SNR=7.9						
EIBI				Sn	**Sn**	**05 00 03.8**	**-2.8**
	12nm,0.7s,SNR=7.9						
ESPR	**Espera**	**3.36**	**253**	Pn	**Pn**	**04 59 41.4**	**-0.3**
	0.7nm,0.2s,SNR=7.9						
ESPR				Sn	**Sn**	**05 00 20.3**	**-1.9**
	2.3nm,0.2s,SNR=7.9						
ESPR				Lg		05 00 39.2	
	6.0nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.82**	**269**	Pn	**Pn**	**04 59 48.0**	**-0.3**
EMIN				Pg	**Pg**	**04 59 58.9**	**-5.0**
EMIN				Sn	**Sn**	**05 00 32.9**	**-1.0**
EMIN				Lg		05 00 50.6	
EMIN	**Mina Concepcio**	**3.82**	**269**	Pn	**Pn**	**04 59 48.2**	**0.0**
	1.5nm,0.2s,SNR=17						
EMIN				Pg	**Pg**	**04 59 57.2**	**-6.7**
	1.0nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**05 00 32.9**	**-1.0**
	1.7nm,0.2s,SNR=6.9						
EMIN				Lg		05 00 50.6	
	2.5nm,0.4s,SNR=5.9						
EMIN	**Mina Concepcio**	**3.82**	**269**	Pn	**Pn**	**04 59 48.0**	**-0.2**
EMIN	**Mina Concepcio**	**3.82**	**269**	Pg	**Pg**	**04 59 58.9**	**-5.0**
	1.5nm,0.3s,SNR=7.9						
EMIN				Sn	**Sn**	**05 00 32.9**	**-1.0**
	2.7nm,0.3s,SNR=6.9						
ESAC	**San Caprasio**	**3.94**	**15**	Pn	**Pn**	**04 59 51.7**	**+1.7**
ESAC				Pg	**Pg**	**05 00 01.5**	**-4.9**
ESAC				Lg		05 00 56.2	
ESAC	**San Caprasio**	**3.94**	**15**	Pn	**Pn**	**04 59 51.7**	**+1.7**
	5.8nm,0.3s,SNR=

0.4nm,0.2s,SNR=4.0
EMIR Sn **Sn** **05 00 53.9 -3.9**
2.0nm,0.4s,SNR=7.9
EMIR Lg 05 01 23.2
3.1nm,0.3s,SNR=4.0
EMIR Miracle 4.76 32 Pn **Pn** **05 00 02.0 +0.4**
PCBR Castelo Branco 4.79 295 *e*Pn **Pn** **05 00 02.4 +0.4**
PCBR *e*Sg **Sg** **05 01 25.5 -1.7**
8.7nm,0.6s
PCBR Castelo Branco 4.79 295 *e*Pn **Pn** **05 00 02.4 +0.4**
PCBR *e*Sg **Sg** **05 01 25.5 -1.7**
8.7nm,0.6s
EBIE Bielsa 5.00 17 Pn **Pn** **05 00 05.5 +0.5**
0.4nm,0.2s,SNR=4.0
EBIE Bielsa 5.00 17 Pn **Pn** **05 00 05.4 +0.4**
MTE Manteigas 5.07 301 *e*Sg **Sg** **05 01 32.5 -4.0**
9.9nm,0.3s
MTE Manteigas 5.07 301 *e*Sg **Sg** **05 01 32.5 -4.0**
9.9nm,0.3s
EALK Alkurruntz 5.30 3 Pn **Pn** **05 00 10.4 +1.2**
EALK Sn **Sn** **05 01 08.7 -2.7**
EALK Lg 05 01 39.9
EALK Alkurruntz 5.30 3 Pn **Pn** **05 00 10.4 +1.2**
0.6nm,0.2s,SNR=4.9
EALK Sn **Sn** **05 01 08.7 -2.7**
5.2nm,0.4s,SNR=7.9
EALK Lg 05 01 40.7
3.5nm,0.4s,SNR=4.0
EALK Alkurruntz 5.30 3 Pn **Pn** **05 00 10.4 +1.2**
EALK Sn **Sn** **05 01 08.7 -2.7**
PTOM Tomar 5.40 290 *e*Sg **Sg** **05 01 43.0 -4.4**
7.4nm,0.3s
PTOM Tomar 5.40 290 Lg 05 01 43.0
3.7nm,0.3s
PBRG Braganca 5.41 317 *e*Sg **Sg** **05 01 43.5 -4.1**
5.4nm,0.6s
PBRG Braganca 5.41 317 Lg 05 01 43.5
2.7nm,0.6s
ELAN Lanestosa 5.44 348 Pn **Pn** **05 00 11.0 -0.2**
0.9nm,0.2s,SNR=4.0
ELAN Lanestosa 5.44 348 Pn **Pn** **05 00 11.0 -0.2**
PVIS Viseu 5.46 303 *e*Pn **Pn** **05 00 12.6 +1.2**
PVIS *e*Sg **Sg** **05 01 43.7 -5.6**
ECAL Calabor 5.50 318 Pn **Pn** **05 00 12.2 +0.2**
2.4nm,0.4s,SNR=7.9
ECAL Lg 05 01 45.1
9.0nm,0.3s,SNR=4.0
EARI Arriondas 5.95 336 Pn **Pn** **05 00 19.3 +0.9**
0.6nm,0.3s,SNR=4.0
EARI Arriondas 5.95 336 Pn **Pn** **05 00 19.3 +0.9**
ELOB Lobios 6.19 311 Pn **Pn** **05 00 18.2 -3.6**
1.4nm,0.3s,SNR=7.9
ELOB Sn **Sn** **05 01 28.7 -5.0**
0.9nm,0.2s,SNR=7.9
ELOB Lg 05 02 04.3
2.0nm,0.3s,SNR=7.9

*NEIC **21** 05:33:43.6±0.4,11.26N×140.98E,mb4.5/5,Error ellipse: s-maj=15.0km s-min=9.6km az=85.0*
*BJI **21** 05:33:43.2, 11.29N×141.30E,h43km,mB4.7,mb4.8*
*IDC **21** 05:33:44.0±0.6, 11.24N×141.05E,h35±4km,mb4.0/11, mb1 4.1/12,mb1mx4.0/20,mbtmp4.2/12,ML4.3/1,MS3.6/8, Ms1 3.7/8,ms1mx3.3/23,Error ellipse: s-maj=29.0km s-min=14.0km az=86.0*
ISC 21 05:33:42.3±2.6,11.19N±0.07×141.1E±0.2,h39km±24km, h36km±1.4km:pP-P,n35,σ0s86/26,mb4.3/15,MS3.7/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
GUMO	**Guam**	**4.40**	**57**	*e*P		**P**	**05 34 48.2**		**-0.2**
CBIJ	**Chichi jima**	**15.86**	**4**	LR		LR	05 43 13.4		
	comp=Z,108nm,18.1s,baz=93,slow=36								
JOW	**Kunigami**	**19.69**	**324**	P		**P**	**05 38 06.2**		**-4.9**
	1.3nm,0.3s,baz=121,slow=16,SNR=4.2								
JOW				LR		LR	05 44 39.6		
	comp=Z,103nm,20.4s,baz=242,slow=33								
PMG	**Port Moresby**	**21.33**	**163**	P		**P**	**05 38 28.1**		**-0.2**
	21nm,0.9s,mb4.5,baz=334,slow=11,SNR=7.1								
PMG				LR		LR	05 45 16.2		
	comp=Z,163nm,19.2s,MS3.4,baz=228,slow=32								
PMG	**Port Moresby**	**21.33**	**163**	*e*P		**P**	**05 38 27.7**		**-0.5**
	27nm,1.0s,mb4.5								
PMG				LR		LR	05 45 16.2		
JHJ	**Hachijo jima 2**	**21.86**	**357**	LR		LR	05 46 51.8		
	comp=Z,248nm,18.9s,MS3.6,baz=237,slow=36								
CTA	**Charters Tower**	**31.49**	**171**	LR		LR	05 52 18.4		
	comp=Z,158nm,20.4s,MS3.7,baz=51,slow=35								
WRAB	**Tennant Creek**	**31.63**	**192**	*e*P		**P**	**05 40 03.9**		**-0.2**
WRA	**Warramunga Arr**	**31.64**	**192**	P		**P**	**05 40 04.1**		**-0.1**
	2.6nm,1.0s,mb4.0,baz=9.5,slow=9.4,SNR=9.7								
ASAR	**Alice Springs**	**35.34**	**191**	P		**P**	**05 40 36.7**		**+0.5**
	0.8nm,0.7s,mb3.7,baz=15,slow=12,SNR=5.4								
ASAR				LR		LR	05 55 40.2		
	comp=Z,55nm,18.2s,MS3.4,baz=351,slow=37								
CD2	**Chengdu**	**39.72**	**305**	*e*P		**P**	**05 41 14.0**		**+1.3**
STKA	**Stephens Creek**	**42.82**	**179**	P		**P**	**05 41 38.6**		**+0.2**
	2.5nm,0.8s,mb4.0,baz=347,slow=6.5,SNR=5.6								
STKA				pP		pP	05 41 50.2		+0.7
	2.1nm,0.6s,baz=0.1,slow=2.4,SNR=3.6								
STKA				LR		LR	06 01 07.0		
	comp=Z,155nm,18.1s,MS3.9,baz=26,slow=38								
STKA	**Stephens Creek**	**42.82**	**179**	*e*P		**P**	**05 41 38.4**		**0.0**
STKA				pP		pP	05 41 50.2		+0.7
STKA				LR		LR	06 01 07.0		
SONM	**Songino Array**	**46.68**	**328**	P		**P**	**05 42 10.1**		**+1.2**
	1.0nm,0.6s,mb3.9,baz=138,slow=6.1,SNR=7.2								
SONM				PcP		PcP	05 43 42.9		+0.3
	0.5nm,0.6s,baz=141,slow=4.1,SNR=2.6								
KURK	**Kurchatov**	**64.07**	**321**	P		**P**	**05 44 14.5**		**0.0**
	60nm,0.8s,SNR=9.3								
KURK	**Kurchatov**	**64.07**	**321**	*e*P		**P**	**05 44 14.2**		**-0.3**
	7.4nm,0.8s,mb4.8								
CHKZ	**Chkalovo**	**69.50**	**323**	*e*P		**P**	**05 44 48.0**		**-0.8**
	2.5nm,0.9s,mb4.1								
BVAR	**Borovoye Array**	**69.54**	**323**	P		**P**	**05 44 49.1**		**+0.2**
	1.5nm,0.5s,mb4.2,baz=101,slow=7.6,SNR=9.7								
BVAR				pP		pP	05 44 59.6		-1.0
	2.6nm,0.6s,baz=104,slow=6.1,SNR=9.0								
PPT	**Papeete**	**74.19**	**112**	*e*LR		LR	06 08 31.6		
	72nm,22.0s								
DAWY	**Dawson**	**75.43**	**27**	*e*P		**P**	**05 45 23.5**		**-0.1**
INK	**Inuvik**	**77.98**	**22**	P		**P**	**05 45 37.6**		**-0.2**
	1.8nm,0.9s,mb4.0,baz=258,slow=7.9,SNR=8.7								
INK				pP		pP	05 45 48.4		-1.2
	2.5nm,0.8s,baz=272,slow=7.1,SNR=7.0								
INK	**Inuvik**	**77.98**	**22**	*e*P		**P**	**05 45 37.6**		**-0.2**
	2.0nm,0.7s,mb4.2								
INK				pP		pP	05 45 48.4		-1.2
YKA	**Yellowknife Ar**	**86.67**	**27**	P		**P**	**05 46 23.6**		**+0.9**
	1.8nm,0.7s,mb4.4,baz=287,slow=5.2,SNR=33								
YKA				pP		pP	05 46 34.8		0.0
	2.0nm,0.7s,baz=288,slow=5.3,SNR=11								
YKA	**Yellowknife Ar**	**86.67**	**27**	P		**P**	**05 46 23.6**		**+0.9**
YKA				pP		pP	05 46 34.8		0.0
KEV	**Kevo**	**87.63**	**341**	*e*p		**P**	**05 46 26.3**		**-1.0**
ARCES	**ARCESS Array B**	**88.20**	**341**	P		**P**	**05 46 30.7**		**+0.7**
	5.9nm,0.8s,mb4.8,baz=45,slow=6.9,SNR=6.9								
JOF	**Joensuu**	**88.88**	**334**	*e*p		**P**	**05 46 32.2**		**-1.2**
	4.1nm,1.0s,mb4.7								
NVAR	**Mina Array Bea**	**91.30**	**51**	P		**P**	**05 46 47.4**		**+2.0**
	0.7nm,0.7s,mb4.1,baz=257,slow=5.1,SNR=6.3								
NVAR				pP		pP	05 46 59.0		+1.5
	1.2nm,0.7s,baz=261,slow=3.5,SNR=6.9								
KAF	**Kangasniemi**	**91.33**	**335**	*e*p		**P**	**05 46 43.2**		**-1.7**
	2.4nm,0.7s,mb4.6,baz=59,slow=4.4								
FINES	**FINESS Array B**	**91.73**	**334**	P		**P**	**05 46 46.1**		**-0.6**
	1.7nm,0.5s,mb4.6,baz=70,slow=4.9,SNR=18								
FINES				pP		pP	05 46 57.8		-1.1
	1.3nm,0.5s,baz=60,slow=5.8,SNR=3.4								
NOA	**NORSAR Array B**	**97.92**	**338**	LR		LR	06 36 11.2		
	comp=Z,41nm,18.8s,MS4.0,baz=80,slow=38								
LVC	**Limon Verde**	**149.21**	**116**	PKPbc		PKPdf	05 53 34.5		+11
	baz=305,slow=7.6								
LVC	**Limon Verde**	**149.21**	**116**	*e*PKPab		PKPab	05 53 34.0		-0.1
LVC				PKPbc		PKPdf	05 53 34.5		+11
LPAZ	**La Paz**	**151.19**	**103**	PKPbc		PKPdf	05 53 35.5		+9.2
	2.1nm,0.8s,baz=342,slow=6.4,SNR=3.6								
LPAZ	**La Paz**	**151.19**	**103**	*e*PKPbc		PKPdf	05 53 36.0		+10

*NEIC **21** 05:35:04.7,44.87N×9.66E,h32km,MD2.3(ROM), ML2.5(GEN),ML2.3(LDG),After GEN.*
*ROM **21** 05:35:06.3±0.2,44.87N×9.72E,h10km,MD2.3/3,ML1.8/3, Error ellipse: s-maj=1.6km s-min=1.1km az=0.0*
*LDG **21** 05:35:06.4±0.3,44.74N×9.84E,h10km,Ml2.3/11,Error ellipse: s-maj=6.5km s-min=3.4km az=87.0*
ISC 21 05:35:06.0±0.4,44.79N±0.03×9.69E±0.05,h27km±4km, n38,σ1s43/55,2C,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
BOB	**Bobbio (Coli)**	**0.17**	**264**	↑*i*PG		**Pb**	**05 35 11.5**		**0.0**
BOB				SG		**Sb**	**05 35 15.1**		**-0.2**
BOB	**Bobbio (Coli)**	**0.17**	**264**	↑*i*Pg		**Pb**	**05 35 11.5**		**0.0**
BOB				*e*Sg		**Sb**	**05 35 15.2**		**-0.1**
GRAM		**0.40**	**138**	P		**Pb**	**05 35 14.4**		**-0.2**
GRAM				S		**Sb**	**05 35 21.0**		**+0.6**
CODM		**0.41**	**164**	P		**Pb**	**05 35 14.7**		**-0.1**
CODM				S		**Sb**	**05 35 21.5**		**+0.7**
VALM		**0.59**	**138**	P		**Pb**	**05 35 17.2**		**-0.4**
VALM				S		**Sb**	**05 35 25.7**		**+0.1**
ERBM	**Eremo**	**0.63**	**125**	*e*PG		**Pb**	**05 35 19.0**		**+0.7**
ERBM				SG		**Sb**	**05 35 30.2**		**+3.3**
ERBM	**Eremo**	**0.63**	**125**	*e*Pg		**Pb**	**05 35 19.0**		**+0.7**
ERBM				*e*Sg		**Sb**	**05 35 30.2**		**+3.4**
GENL	**Genova Univers**	**0.64**	**234**	P		**Pb**	**05 35 16.7**		**-1.8**
VINC	**Vinca**	**0.72**	**153**	P		**Pb**	**05 35 19.4**		**-0.5**
SARO	**Sassorosso**	**0.79**	**140**	P		**Pb**	**05 35 20.0**		**-0.9**
BDI	**Bagni Di Lucca**	**0.97**	**138**	*e*PG		**Pn**	**05 35 26.6**		**+2.6**
BDI				SG		**Sb**	**05 35 41.0**		**+4.5**
	15nm,0.5s								
BDI	**Bagni Di Lucca**	**0.97**	**138**	*e*Pg		**Pn**	**05 35 26.6**		**+2.6**
BDI				*e*Sg		**Sb**	**05 35 41.0**		**+4.5**
FIN	**Finale Ligure**	**1.21**	**242**	P		**Pn**	**05 35 24.7**		**-2.6**
VAI	**Varese**	**1.26**	**329**	*e*PN		**Pn**	**05 35 28.7**		**+0.6**
	11nm,0.4s								
VAI	**Varese**	**1.26**	**329**	*e*Pg		**Pn**	**05 35 28.7**		**+0.6**
ROB	**Roburent**	**1.39**	**250**	P		**Pn**	**05 35 27.3**		**-2.6**
ORO	**Oropa**	**1.47**	**305**	*e*PN		**Pn**	**05 35 32.7**		**+1.6**
	23nm,0.2s								
ORO	**Oropa**	**1.47**	**305**	*e*Pg		**Pn**	**05 35 32.7**		**+1.6**
ORX	**Oropa**	**1.48**	**306**	P		**Pn**	**05 35 27.4**		**-3.7**
MONE	**Monesi**	**1.56**	**244**	P		**Pn**	**05 35 29.8**		**-2.5**
IMI	**Imperia**	**1.56**	**237**	P		**Pn**	**05 35 29.6**		**-2.8**
ENR	**Entracque**	**1.72**	**252**	P		**Pn**	**05 35 31.8**		**-2.9**
STV	**Sta Anna Valdi**	**1.78**	**253**	P		**Pn**	**05 35 32.4**		**-3.1**
SBF	**Sospel**	**1.86**	**241**	*e*Pn		**Pn**	**05 35 38.1**		**+1.4**
SBF				*e*Sn		**Sn**	**05 36 00.5**		**+0.9**
	6.5nm,0.3s								
MBDF	**Montbardon**	**2.08**	**269**	*e*Pn		**Pn**	**05 35 41.2**		**+1.3**
MBDF				*e*Sn		**Sn**	**05 36 07.2**		**+2.0**
	2.2nm,0.3s								
LPG	**La Plagne**	**2.20**	**290**	*e*Pn		**Pn**	**05 35 42.3**		**+0.8**
LPG				*e*Sn		**Sn**	**05 36 09.8**		**+1.7**
	5.1nm,0.5s								
LPL	**La Plagne**	**2.22**	**290**	*e*Pn		**Pn**	**05 35 42.9**		**+1.1**
LPL				*e*Sn		**Sn**	**05 36 10.1**		**+1.5**
	2.1nm,0.3s								
PGF	**Pioggiola**	**2.29**	**193**	*e*Pn		**Pn**	**05 35 42.7**		**-0.2**
PGF				*e*Sn		**Sn**	**05 36 07.5**		**-3.0**
	1.2nm,0.3s								
FRF	**La Foret Royal**	**2.51**	**242**	*e*Sn		**Sn**	**05 36 16.3**		**+0.3**
	5.8nm,0.3s								
LMR	**La Mourre**	**2.71**	**239**	*e*Pn		**Pn**	**05 35 48.5**		**-0.4**
LMR				*e*Sn		**Sn**	**05 36 19.9**		**-1.3**
	1.7nm,0.3s								
ORIF	**Oris-en-Rattie**	**2.71**	**274**	*e*Pn		**Pn**	**05 35 52.0**		**+3.1**
ORIF				*e*Sn		**Sn**	**05 36 22.9**		**+1.7**
	3.9nm,0.4s								
CABF	**La Chapelle**	**3.12**	**307**	*e*Pn		**Pn**	**05 35 55.9**		**+1.3**
HINF	**Hinteralfeld**	**3.61**	**328**	*e*Sn		**Sn**	**05 36 42.2**		**-1.8**
	0.9nm,0.2s								
HAU	**Haudompre**	**3.97**	**325**	*e*Sn		**Sn**	**05 36 51.1**		**-1.7**
	2.4nm,0.3s								
CDF	**Champ du Feu**	**3.99**	**336**	*e*Pn		**Pn**	**05 36 06.8**		**-0.2**
CDF				*e*Sn		**Sn**	**05 36 51.3**		**-2.2**
	1.3nm,0.3s								
LASF	**Ste Croix**	**4.24**	**262**	*e*Pn		**Pn**	**05 36 10.7**		**+0.1**
SMF	**Signal de Mont**	**4.50**	**296**	*e*Pn		**Pn**	**05 36 14.8**		**+0.5**
BGF	**Bois d'Agland**	**5.12**	**293**	*e*Pn		**Pn**	**05 36 22.5**		**-0.4**

*MOS **21** 05:46:57.3±1.0,34.68N×25.80E,h10km,mb4.2/14,Error ellipse: s-maj=8.8km s-min=4.7km az=118.7*
*ISK **21** 05:46:57.9,35.13N×25.19E,h46km,ML4.2*
*ATH **21** 05:47:04.6,35.48N×25.94E,h24km±2km,MD4.1/11, ML4.0*
*NEIC **21** 05:47:05.4±0.4,35.49N×25.82E,h10km,mb4.0/20, ML4.2(ISK),ML4.0(ATH),Error ellipse: s-maj=8.1km s-min=4.2km az=179.0*
*CSEM **21** 05:47:05.1±0.1,35.53N×25.94E,h10km,Ms3.2,Error ellipse: s-maj=3.7km s-min=1.5km az=173.0*
*IDC **21** 05:47:06.5±2.7,35.50N×25.84E,h23km±23km,mb3.7/9, mb1 3.9/14,mb1mx3.8/25,mbtmp3.9/14,ML4.0/4,MS3.4/6, Ms1 3.5/6,ms1mx3.1/28,Error ellipse: s-maj=29.2km s-min=14.4km az=5.0*
ISC 21 05:47:05.6±0.4,35.33N±0.05×25.83E±0.03,h41km±4km, n145,σ1s15/152,mb3.9/18,MS3.4/6,Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
NPS	**Neapolis**	**0.19**	**251**	*e*PB		**P**	**05 47 11.9**		**-1.0**
NPS				*e*SB		**S**	**05 47 16.9**		**-1.1**
IDI	**Anoyia**	**0.77**	**267**	Pg		**P**	**05 47 21.7**		**+1.6**
	220nm,0.3s,baz=68,slow=16,SNR=911								
IDI				Lg			05 47 32.9		
	1µm,0.3s,baz=331,slow=19,SNR=66								
SANT	**Santorini**	**1.09**	**344**	*e*Pn		**P**	**05 47 23.8**		**-0.8**
SANT				*e*Sn		**S**	**05 47 38.8**		**+0.2**
SANT	**Santorini**	**1.09**	**344**	*e*Pn		**P**	**05 47 23.8**		**-0.7**
SANT				*e*Sn		**S**	**05 47 38.8**		**+0.2**
KARP	**Karpathos**	**1.11**	**78**	*e*Pb		**P**	**05 47 22.1**		**-2.7**
KARP				*e*Sn		**S**	**05 47 37.8**		**-1.4**
KARP	**Karpathos**	**1.11**	**78**	*e*PN		**P**	**05 47 24.0**		**-0.8**
KARP				*e*SN		**S**	**05 47 37.8**		**-1.4**
VAM	**Vamos**	**1.34**	**274**	*e*PN		**P**	**05 47 31.2**		**+3.0**
VAM				*e*SN		**S**	**05 47 50.8**		**+5.7**
GVD	**Gavdhos**	**1.51**	**252**	*e*Pn		**P**	**05 47 35.2**		**+4.6**
APE	**Apeiranthos**	**1.76**	**352**	*e*PB		**P**	**05 47 33.0**		**-1.1**
ARG	**Arkhangelos**	**2.06**	**64**	*e*PN		**P**	**05 47 38.4**		**-0.1**
ARG				*e*SN		**S**	**05 48 02.1**		**-1.1**
BODT	**Bodrum**	**2.10**	**34**	PN		**P**	**05 47 39.2**		**+0.1**
BODT				SN		**S**	**05 48 08.4**		**+4.2**
BODT	**Bodrum**	**2.10**	**34**	Pn		**P**	**05 47 39.2**		**+0.1**
KYTH	**Kithira**	**2.46**	**294**	*e*PN		**P**	**05 47 45.6**		**+1.3**
SMG	**Samos**	**2.51**	**18**	*e*PB		**P**	**05 47 44.6**		**-0.3**
DALT	**Dalyan (Mudla)**	**2.69**	**57**	PN		**P**	**05 47 48.9**		**+1.4**
DALT	**Dalyan (Mudla)**	**2.69**	**57**	Pn		**P**	**05 47 49.4**		**+1.9**
VLI	**Velíai**	**2.73**	**301**	*e*PN		**P**	**05 47 48.7**		**+0.7**
AYDN	**Tasoluk**	**2.85**	**35**	*i* P		**P**	**05 47 54.6**		**+4.8**
FETY	**Fethiye**	**2.94**	**63**	PN		**P**	**05 47 51.3**		**+0.2**
ATH	**Athens Observa**	**3.14**	**328**	*e*PN		**P**	**05 47 54.1**		**+0.2**
ATH	**Athens Observa**	**3.14**	**328**	*e*Pb		**P**	**05 47 55.1**		**+1.2**
PTL	**Penteli**	**3.14**	**330**	*e*PN		**P**	**05 47 54.5**		**+0.6**
BLCB	**Balcova**	**3.20**	**17**	PN		**P**	**05 47 52.7**		**-2.1**
BLCB	**Balcova**	**3.20**	**17**	Pn		**P**	**05 47 52.7**		**-2.0**
KDAG	**Bornova**	**3.28**	**20**	*i* P		**P**	**05 47 54.4**		**-1.4**
DNZL	**Cakiroluk**	**3.50**	**47**	*i* P		**P**	**05 47 59.2**		**+0.2**
DENT	**Denizli**	**3.54**	**46**	*e*PN		**P**	**05 47 59.5**		**0.0**
DENT	**Denizli**	**3.54**	**46**	Pn		**P**	**05 48 00.6**		**+1.1**
DENT	**Denizli**	**3.54**	**46**	Pn		**P**	**05 48 00.6**		**+1.1**
ELL	**Elmali**	**3.59**	**66**	*e*PN		**P**	**05 48 01.0**		**+0.7**
ELL	**Elmali**	**3.59**	**66**	Pn		**P**	**05 48 02.4**		**+2.1**
ITM	**Ithomi**	**3.66**	**302**	*e*PN		**P**	**05 48 03.2**		**+2.0**
ITM	**Ithomi**	**3.66**	**302**	*e*Pn		**P**	**05 48 03.6**		**+2.4**
LKR	**Lokris**	**4.02**	**326**	*e*PN		**P**	**05 48 06.6**		**+0.3**
AOS	**Alonnisos**	**4.14**	**338**	*e*P		**P**	**05 48 09.5**		**+1.5**
KHL	**Karahalli**	**4.21**	**44**	*e*PN		**P**	**05 48 08.5**		**-0.5**
KHL	**Karahalli**	**4.21**	**44**	Pn		**P**	**05 48 08.5**		**-0.5**
ISP	**Isparta**	**4.52**	**55**	*e*PN		**P**	**05 48 13.6**		**+0.1**
AGG	**Agios Georgios**	**4.63**	**324**	*e*P		**P**	**05 48 16.9**		**+1.9**
VLS	**Valsamata**	**5.08**	**306**	*e*PN		**P**	**05 48 22.9**		**+1.6**
LIT	**Litokhoron**	**5.45**	**332**	*e*P		**P**	**05 48 27.0**		**+0.5**
HDMB	**Hadim**	**5.63**	**71**	*e*PN		**P**	**05 48 29.3**		**+0.4**
HDMB	**Hadim**	**5.63**	**71**	Pn		**P**	**05 48 29.4**		**+0.5**
HDMB	**Hadim**	**5.63**	**71**	Pn		**P**	**05 48 29.4**		**+0.5**
LEF	**Lefka**	**5.78**	**90**	*e*PN		**P**	**05 48 31.6**		**+0.5**
LEF	**Lefka**	**5.78**	**90**	Pn		**P**	**05 48 31.6**		**+0.6**
ESKT	**Eskisehir**	**5.78**	**42**	*e*PN		**P**	**05 48 30.5**		**-0.6**
ESKT	**Eskisehir**	**5.78**	**42**	Pn		**P**	**05 48 30.5**		**-0.6**
KONT	**Konya--Tatoy**	**5.86**	**62**	*e*PN		**P**	**05 48 32.2**		**0.0**
KIZT	**Kizilcal**	**5.99**	**52**	*e*PN		**P**	**05 48 34.1**		**+0.1**
KIZT	**Kizilcal**	**5.99**	**52**	Pn		**P**	**05 48 34.2**		**+0.1**
KIZT	**Kizilcal**	**5.99**	**52**	Pn		**P**	**05 48 34.2**		**+0.2**
GRG	**Griva**	**6.24**	**335**	*e*P		**P**	**05 48 38.4**		**+0.9**
KNT	**Kendrikon**	**6.27**	**339**	*e*P		**P**	**05 48 39.1**		**+1.2**
RZN	**Rozhen**	**6.41**	**352**	*e*P		**P**	**05 48 44.0**		**+4.0**
MMB	**Musomiste**	**6.47**	**346**	*e*P		**P**	**05 48 53.5**		**+13**
KKB	**Krupnik**	**6.88**	**343**	*e*P		**P**	**05 48 54.0**		**+7.5**
ANTO	**Ankara**	**7.15**	**49**	*e*PN		**P**	**05 48 49.1**		**-1.2**
ANTO	**Ankara**	**7.15**	**49**	Pn		**P**	**05 48 49.1**		**-1.1**
PGB	**Panagyurishte**	**7.33**	**350**	*e*P		**P**	**05 48 44.0**		**-8.8**
SKO	**Skopje**	**7.47**	**334**	*e*P		**P**	**05 48 57.5**		**+2.7**
SKO				*i*			05 49 01.1		
VTS	**Vitosha**	**7.54**	**345**	*e*P		**P**	**05 49 03.5**		**+7.8**
BRTR	**Keskin Array B**	**7.60**	**52**	Pn		**P**	**05 48 55.5**		**-1.0**
	0.6nm,0.3s,baz=223,slow=14,SNR=15								
TIP	**Timpagrande**	**8.19**	**301**	*e*P		**P**	**05 49 03.5**		**-1.3**
SOI	**Samo**	**8.32**	**292**	*e*P		**P**	**05 49 05.5**		**-1.0**
SOI	**Samo**	**8.32**	**292**	*e*Pn		**P**	**05 49 05.4**		**-1.1**
PE1	**Pezze di Greco**	**8.59**	**312**	*e*Pn		**P**	**05 49 08.0**		**-2.3**
SG1	**Sgolgore (BA)**	**9.07**	**310**	*e*Pn		**P**	**05 49 14.2**		**-2.7**
VAE	**Valguarnera**	**9.46**	**286**	LR		LR	05 52 59.6		
	comp=Z,179nm,18.6s,baz=26,slow=37								
CDT	**Castel del Mon**	**9.46**	**310**	*e*Pn		**P**	**05 49 19.6**		**-2.7**
EIL	**Elat**	**9.54**	**124**	Pn		**P**	**05 49 22.4**		**-1.0**
	1.7nm,0.3s,baz=331,slow=19,SNR=18								
EIL				Sn		**S**	**05 51 05.2**		**-5.3**
	2.9nm,0.3s,baz=289,slow=31,SNR=8.2								
EIL	**Elat**	**9.54**	**124**	*e*P		**P**	**05 49 21.8**		**-1.6**
	10nm,0.4s								
EIL	**Elat**	**9.54**	**124**	*e*P		**P**	**05 49 21.8**		**-1.6**
	10nm,0.4s								
ASF	**Jabal al Asfar**	**9.73**	**106**	Pn		**P**	**05 49 26.7**		**+0.7**
	1.3nm,0.3s,baz=136,slow=8.8,SNR=5.9								
ASF				Sn		**S**	**05 51 17.9**		**+2.7**
	1.0nm,0.3s,baz=270,slow=20,SNR=2.7								
SGO	**Sicignano**	**9.82**	**305**	*e*Pn		**P**	**05 49 26.3**		**-0.8**
CSSN	**Cassano Irpino**	**10.15**	**306**	*e*Pn		**P**	**05 49 30.4**		**-1.4**
CSSN	**Cassano Irpino**	**10.15**	**306**	*e*Pn		**P**	**05 49 30.4**		**-1.3**
GNI	**Garni**	**15.71**	**67**	Pn		**P**	**05 50 47.5**		**+2.0**
	0.6nm,0.3s,baz=234,slow=17,SNR=2.4								
GNI				LR		LR	05 58 04.5		
	comp=Z,183nm,19.6s,baz=333,slow=42								
ZEI	**Tsey**	**15.86**	**57**	*e*P		**P**	**05 50 53.9**		**+6.5**
GERES	**GERESS Array B**	**16.20**	**330**	Pn		**P**	**05 50 53.0**		**+1.3**
	0.3nm,0.3s,baz=142,slow=11,SNR=8.5								
KHC	**Kasperske Hory**	**16.48**	**331**	*e*P		**P**	**05 50 58.0**		**+2.8**
KHC				*ex*		x	05 51 03.0		
MBDF	**Montbardon**	**17.32**	**309**	*e*P		**P**	**05 51 06.5**		**+0.7**
	9.1nm,0.7s								
MBDF	**Montbardon**	**17.32**	**309**	*e*P		**P**	**05 51 06.5**		**+0.7**
MBDF				pmax		pmax			
	comp=Z,5.0nm,0.7s								
LPG	**La Plagne**	**17.69**	**311**	*e*P		**P**	**05 51 10.0**		**-0.4**
LPL	**La Plagne**	**17.71**	**311**	*e*P		**P**	**05 51 10.0**		**-0.6**
	comp=Z,3.7nm,0.4s								
LPL	**La Plagne**	**17.71**	**311**	*e*P		**P**	**05 51 10.0**		**-0.6**
LPL				pmax		pmax			
	comp=Z,2.0nm,0.4s								
GRA1	**Grafenberg Arr**	**17.90**	**328**	*e*P		**P**	**05 51 14.3**		**+1.3**
	comp=Z,4.0nm,0.7s								
GRF	**Grafenberg Arr**	**17.90**	**328**	*e*P		**P**

EKA	**Eskdalemuir Ar**	**28.23**	**324**	P		**P**	**05 52 56.0**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.0,baz=120,slow=9.1,SNR=9.8							
EKA	**Eskdalemuir Ar**	**28.23**	**324**	P		**P**	**05 52 56.0**	**-0.5**
ARCES	**ARCESS Array B**	**34.26**	**360**	P		**P**	**05 53 49.3**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.3,baz=170,slow=7.4,SNR=5.1							
ARCES					LR	LR	06 09 06.3	
	comp=Z,66nm,18.2s,MS3.4,baz=20,slow=39							
CHKZ	**Chkalovo**	**36.10**	**45**	*e*P		**P**	**05 54 05.2**	**0.0**
CHKZ					pmax	pmax		
	comp=Z,36nm,0.6s							
CHKZ	**Chkalovo**	**36.10**	**45**	*e*P		**P**	**05 54 05.2**	**-0.1**
	comp=Z,36nm,0.6s							
CHKZ	**Chkalovo**	**36.10**	**45**	*e*P		**P**	**05 54 05.2**	**0.0**
	comp=Z,36nm,0.6s							
AAK	**Ala-Archa**	**38.09**	**64**	*e*P		**P**	**05 54 23.0**	**+1.0**
AAK					pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0							
AAK	**Ala-Archa**	**38.09**	**64**	*e*P		**P**	**05 54 23.0**	**+1.0**
	comp=Z,2.1nm,0.6s,mb4.0							
NVS	**Novosibirsk**	**43.58**	**45**	*i* P		**P**	**05 55 07.1**	**0.0**
ZAK	**Zakamensk**	**56.22**	**49**	*e*P		**P**	**05 56 47.8**	**+4.1**
ZAK					pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7							
SONM	**Songino Array**	**58.95**	**51**	P		**P**	**05 57 04.4**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.8,baz=289,slow=7.7,SNR=5.3							
SCHQ	**Schefferville**	**63.42**	**320**	P		**P**	**05 57 33.9**	**+0.8**
	comp=Z,1.3nm,0.3s,mb4.5,baz=59,slow=6.8,SNR=14							
INK	**Inuvik**	**75.53**	**352**	P		**P**	**05 58 46.5**	**-0.3**
	comp=Z,0.5nm,0.5s,mb3.8,baz=103,slow=1.4,SNR=9.8							
YKA	**Yellowknife Ar**	**77.46**	**342**	P		**P**	**05 58 58.0**	**+0.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=31,slow=5.1,SNR=5.1							
PDAR	**Pinedale Array**	**92.25**	**329**	LR		LR	06 41 44.5	
	comp=Z,79nm,19.8s,MS4.2,baz=241,slow=36							

NEIC ***21*** *06:13:37.0, 35.00S×70.85W, h116km, MD3.7(GUC), After GUC.*

GUC 21 06:13:37.0±0.7, 35.00S×70.85W, h116km±3km, MD3.7, ML3.8, 19C-9D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.31**	**269**	⇑*i*P	P	06 13 53.5	-0.1
NICH				*i* S	S	06 14 06.0	-0.1
SFDO	**San Fernando**	**0.40**	**341**	⇓*i*P	P	06 13 53.9	-0.1
CICH	**Cipreses**	**0.76**	**28**	⇓*i*P	P	06 13 56.4	-0.2
CACH	**El Canelo**	**0.90**	**14**	⇑*i*P	P	06 13 58.0	0.0
CACH				*i* S	S	06 14 14.0	+0.2
LNCH	**Linares**	**1.04**	**216**	⇑*i*P	P	06 14 08.7	+9.3
LNCH				*i* S	S	06 14 25.7	+9.5
LNCH				AMP		06 14 26.9	
	comp=N,6μm,0.5s						
CHCH	**Chadas Ángostu**	**1.07**	**9**	⇑*i*P	P	06 13 59.8	0.0
CHCH				*i* S	S	06 14 16.9	+0.1
LNV	**Longovilo**	**1.14**	**336**	⇑*i*P	P	06 14 00.3	-0.2
LNV				*i* S	S	06 14 18.2	+0.2
LMEL	**Las Melosas**	**1.27**	**25**	⇓*i*P	P	06 14 02.1	+0.2
LMEL				*i* S	S	06 14 21.4	+0.8
LMEL				AMP		06 14 27.6	
	comp=E,1μm,0.1s						
TACH	**Talagante**	**1.34**	**357**	⇑*i*P	P	06 14 02.6	-0.2
TACH				*i* S	S	06 14 22.1	-0.2
PCH	**Pirque**	**1.40**	**12**	⇑*i*P	P	06 14 03.6	+0.1
PCH				*i* S	S	06 14 24.0	+0.5
SJCH	**San Jose de Ma**	**1.42**	**17**	⇑*i*P	P	06 14 03.4	-0.2
SJCH				*i* S	S	06 14 23.9	+0.1
SJCH				AMP		06 14 27.0	
	comp=N,1μm,0.4s						
ANTU	**Antumapu**	**1.44**	**7**	⇓*i*P	P	06 14 04.0	+0.1
ANTU				*i* S	S	06 14 24.4	+0.2
ANTU				AMP		06 14 28.4	
	comp=E,1μm,0.3s						
SCR	**San Cristobal**	**1.50**	**355**	⇓*i*P	P	06 14 05.5	+0.9
SCR				*i* S	S	06 14 26.9	+1.5
SCR				AMP		06 14 28.6	
	comp=E,1μm,0.3s						
RCDM	**Rinconada Maip**	**1.50**	**2**	⇑*i*P	P	06 14 04.5	-0.2
RCDM				*i* S	S	06 14 25.0	-0.6
RCDM				AMP		06 14 27.3	
	comp=E,2μm,0.1s						
FSR	**Penalolen**	**1.54**	**10**	⇓*i*P	P	06 14 05.1	0.0
FSR				*i* S	S	06 14 26.4	+0.2
FSR				AMP		06 14 26.9	
	comp=E,2μm,0.4s						
SAN	**Santiago**	**1.55**	**6**	⇑*i*P	P	06 14 05.3	+0.2
SAN				*i* S	S	06 14 26.5	+0.1
SAN				AMP		06 14 27.7	
	comp=N,1μm,0.6s						
PUEX	**Pudahuel**	**1.55**	**3**	⇑*i*P	P	06 14 06.5	+1.3
PUEX				*i* S	S	06 14 28.0	+1.4
PUEX				AMP		06 14 33.2	
	comp=E,3μm,0.3s						
STL	**Santa Lucia**	**1.57**	**7**	⇑*i*P	P	06 14 05.2	-0.2
STL				*i* S	S	06 14 26.6	-0.2
STL				AMP		06 14 27.9	
	comp=N,563nm,0.2s						
DSCH	**Colegio Aleman**	**1.61**	**9**	⇑*i*P	P	06 14 06.0	0.0
DSCH				*i* S	S	06 14 28.1	+0.3
DSCH				AMP		06 14 29.7	
	comp=E,3μm,0.5s						
CLCH	**Cerro Calan**	**1.62**	**9**	⇓*i*P	P	06 14 06.0	0.0
CLCH				*i* S	S	06 14 28.1	+0.2
CLCH				AMP		06 14 29.9	
	comp=N,1μm,0.5s						
CLCH				AMP		06 14 30.2	
	comp=E,1μm,0.3s						
LCCH	**Las Cruces**	**1.63**	**338**	⇑*i*P	P	06 14 06.3	+0.1
LCCH				*i* S	S	06 14 27.6	-0.6
FCH	**Farellones**	**1.73**	**16**	⇓*i*P	P	06 14 07.5	+0.1
FCH				*i* S	S	06 14 30.8	+0.5
FCH				AMP		06 14 33.0	
	comp=E,1μm,0.5s						
PEL	**Peldehue**	**1.85**	**4**	⇑*i*P	P	06 14 08.8	0.0
PEL				*i* S	S	06 14 33.1	+0.2
ROCH	**El Roble**	**2.02**	**356**	⇑*i*P	P	06 14 11.1	+0.1
IHA	**Instituto Hidr**	**2.07**	**341**	⇓*i*S	P	06 14 12.0	+0.3
IHA				*i* S	S	06 14 38.0	+0.2
JACH	**Jahuel**	**2.32**	**5**	⇑*i*P	P	06 14 14.9	-0.1
JACH				*i* S	S	06 14 43.2	-0.4
PACH	**Papudo**	**2.50**	**349**	⇑*i*P	P	06 14 17.2	-0.2
CHNG	**Los Chungos**	**3.15**	**350**	⇑*i*P	P	06 14 25.6	-0.6
CHNG				*i* S	S	06 15 02.1	-1.3
CHNG				AMP		06 15 05.0	
	comp=N,226nm,0.3s						
ILCH	**Illapel**	**3.36**	**355**	*e*P	P	06 14 28.2	-0.8
ILCH				*i* S	S	06 15 06.7	-1.8

NEIC ***21*** *06:15:51.0±0.9, 17.62S×178.76W, h542km±13km, mb4.1/5, Error ellipse: s-maj=34.8km s-min=8.9km az=156.0*
IDC ***21*** *06:16:02.5±12.0, 17.59S×179.12W, h687km±175km, mb3.3/8, mb1 3.6/8, mb1mx3.4/15, mbtmp4.4/8, Error ellipse: s-maj=75.7km s-min=41.8km az=117.0*

ISC 21 06:15:50.1±1.4, 17.6S±0.3×178.8W±0.2, h542km±21km, n19, σ0°73/19, mb4.1/12, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.71**	**62**	P	**P**	**06 17 45.2**	**-0.3**
CTA	**Charters Tower**	**33.12**	**260**	*e*P	**P**	**06 21 42.9**	**0.0**
	2.9nm,0.8s,mb3.9						
CTA	**Charters Tower**	**33.12**	**260**	P	**P**	**06 21 43.7**	**+0.7**
	3.6nm,0.6s,mb4.1,baz=92,slow=9.3,SNR=6.4						
CTAO	**Charters Tower**	**33.12**	**260**	*e*P	**P**	**06 21 43.3**	**+0.3**
	3.6nm,0.6s,mb4.1						
CNB	**Canberra Magne**	**33.30**	**232**	*e*P	**P**	**06 21 45.2**	**+0.9**
	35nm,0.4s,mb5.2						
PMG	**Port Moresby**	**34.04**	**279**	P	**P**	**06 21 52.2**	**+1.5**
	11nm,0.6s,mb4.6,baz=80,slow=5.2,SNR=7.0						
PMG	**Port Moresby**	**34.04**	**279**	*e*P	**P**	**06 21 52.3**	**+1.6**
STKA	**Stephens Creek**	**38.44**	**241**	P	**P**	**06 22 27.8**	**+1.1**
	4.4nm,0.4s,mb4.3,baz=83,slow=9.1,SNR=25						
WB2	**Warramunga Arr**	**44.30**	**259**	*e*P	**P**	**06 23 12.8**	**-0.8**
WRA	**Warramunga Arr**	**44.31**	**259**	P	**P**	**06 23 13.3**	**-0.4**
	3.0nm,0.5s,mb4.1,baz=91,slow=6.8,SNR=39						
ASAR	**Alice Springs**	**44.51**	**254**	P	**P**	**06 23 15.1**	**0.0**
	22nm,0.4s,mb5.0,baz=89,slow=8.1,SNR=477						
ASPA	**Alice Springs**	**44.51**	**254**	⇓*i*P	**P**	**06 23 15.1**	**0.0**
KAKA	**Kakadu**	**47.21**	**269**	*e*P	**P**	**06 23 35.7**	**-0.3**
	6.0nm,0.4s,mb4.5						
FORT	**Forrest**	**49.79**	**244**	*e*P	**P**	**06 23 54.1**	**-1.0**
	214nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.70**	**260**	*e*P	**P**	**06 24 15.9**	**-0.5**
	8.4nm,1.1s,mb4.0						

MBWA	**Marble Bar**	**57.78**	**256**	*e*P		**P**	**06 24 50.6**	**-1.1**
	2.5nm,0.3s,mb3.9								
NVAR	**Mina Array Bea**	**79.48**	**44**	P		**P**	**06 27 01.8**	**+0.2**
	0.7nm,0.6s,mb3.2,baz=227,slow=8.5,SNR=5.9								
TXAR	**Lajitas Array**	**86.16**	**58**	P		**P**	**06 27 35.9**	**+0.7**
	1.0nm,0.7s,mb3.5,baz=228,slow=4.7,SNR=13								
PDAR	**Pinedale Array**	**87.41**	**44**	P		**P**	**06 27 40.5**	**-0.2**
	0.4nm,0.5s,mb3.3,baz=216,slow=4.7,SNR=5.7								

NIED ***21*** *06:37:00, 33.80N×130.10E, h8km, Mw3.9 Best double couple: M0 7.52×10^14 NP1:ϕs45°, δ87°, λ-170°. NP2: ϕs315°, δ80°, λ-3°.*
JMA ***21*** *06:37:26.4, 33.78N×130.10E, h11km±1km, M4.2 Broadband fault plane solution: P waves. NP1:ϕs47°, δ69°, λ172°. NP2:ϕs140°, δ82°, λ21°. Principal axes: T Plg20°, Azm5°; N Plg68°, Azm159°; P Plg9°, Azm272°;*
JMA Felt II J1.
IDC ***21*** *06:37:27.4±1.6, 33.39N×129.41E, mb3.7/2, mb1 4.0/4, mb1mx3.7/21, mbtmp4.1/4, ML3.5/2, MS3.0/2, Ms1 3.0/2, ms1mx2.7/10 Error ellipse: s-maj=46.7km s-min=28.0km az=54.0*

ISC 21 06:37:26.1±0.6, 33.78N±0.04×130.10E±0.04, h11km, n11, σ0°81/17, mb3.3/3, 3C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.31**	**273**	⇓P	**Pg**	**06 37 32.7**	**+0.2**
JII				*e*S	**Sg**	**06 37 37.1**	**+0.3**
JFI	**Itaya**	**0.42**	**145**	⇑P	**Pg**	**06 37 35.0**	**+0.2**
JFI				*e*S	**Sg**	**06 37 41.0**	**+0.4**
JFA	**Akaike**	**0.58**	**96**	⇓P	**Pb**	**06 37 37.5**	**-0.3**
JFA				*e*S	**Sg**	**06 37 45.9**	**+0.1**
JUR	**Ureshino**	**0.69**	**190**	⇑P	**Pb**	**06 37 39.7**	**0.0**
JUR				S	**Sb**	**06 37 49.1**	**+0.1**
JTA	**Tamana**	**0.89**	**156**	⇑P	**Pb**	**06 37 43.3**	**+0.2**
JTA				S	**Sb**	**06 37 54.9**	**+0.2**
JTY	**Toyota**	**0.94**	**59**	⇓P	**Pb**	**06 37 43.8**	**0.0**
JTY				S	**Sb**	**06 37 56.5**	**+0.5**
JOW	**Kunigami**	**7.10**	**193**	Pn	**Pn**	**06 39 15.8**	**+3.3**
	1.2nm,0.3s,baz=34,slow=3.6,SNR=3.6						
JOW				LR	LR	06 42 04.0	
	comp=Z,117nm,19.5s,baz=294,slow=42						
JHJ	**Hachijo jima 2**	**8.12**	**92**	Pn	**P**	**06 39 34.9**	**+8.1**
	9.8nm,0.3s,baz=88,slow=24,SNR=10						
JHJ				LR	LR	06 42 57.4	
	comp=Z,121nm,19.5s,baz=310,slow=38						
SONM	**Songino Array**	**22.66**	**315**	P	**P**	**06 42 29.1**	**+0.6**
	0.1nm,0.4s,mb2.6,baz=117,slow=9.7,SNR=2.9						
WRA	**Warramunga Arr**	**53.57**	**175**	P	**P**	**06 46 47.5**	**-2.0**
	0.4nm,0.6s,mb3.6,baz=352,slow=7.8,SNR=5.7						
ASAR	**Alice Springs**	**57.24**	**176**	P	**P**	**06 47 14.3**	**-1.7**
	0.6nm,0.8s,mb3.7,baz=2.5,slow=6.0,SNR=7.8						

IDC ***21*** *06:41:04.5±2.5, 68.33N×160.40W, mb3.5/3, mb1 3.8/5, mb1mx3.6/19, mbtmp3.5/5, ML3.5/3, Error ellipse: s-maj=55.5km s-min=29.3km az=41.0*
NEIC ***21*** *06:41:12.2, 68.06N×159.17W, h25km, ML3.3(AEIC), After AEIC.*

ISC 21 06:41:08.8±2.5, 68.16N±0.07×159.3W±0.1, h24km±22km, n16, σ0°72/20, mb3.5/3, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IMA	**Indian Mountai**	**3.03**	**131**	*e*P	**Pn**	**06 41 57.1**	**+0.6**
IM3	**Indian Mountai**	**3.08**	**133**	P	**Pn**	**06 41 56.7**	**-0.4**
GCSA	**Galena City Sc**	**3.56**	**163**	P	**Pn**	**06 42 04.4**	**+0.4**
GCSA				S	**Sn**	**06 42 45.5**	**-0.4**
COLD	**Coldfoot**	**3.59**	**101**	P	**Pn**	**06 42 06.2**	**+1.9**
COLD				S	**Sn**	**06 42 46.6**	**+0.1**
TNA	**Tin City**	**4.29**	**237**	P	**Pn**	**06 42 14.8**	**+0.4**
TNA				S	**Sn**	**06 43 04.1**	**-0.2**
TT01	**Tatalina**	**5.45**	**164**	P	**Pn**	**06 42 30.2**	**-0.5**
BM3	**Burnt Mountain**	**5.62**	**91**	P	**Pn**	**06 42 32.5**	**-0.5**
COLA	**College**	**5.63**	**120**	P	**Pn**	**06 42 33.2**	**-0.1**
KTH	**Kantishna Hill**	**5.75**	**140**	P	**Pn**	**06 42 34.4**	**-0.6**
ILAR	**Eielson Array**	**6.01**	**119**	Pn	**Pn**	**06 42 38.4**	**-0.3**
	0.2nm,0.3s,baz=310,slow=14,SNR=5.4						
GAMB	**Gambell**	**6.71**	**235**	P	**Pn**	**06 42 48.7**	**+0.3**
INK	**Inuvik**	**9.54**	**77**	Pn	**P**	**06 43 26.9**	**-0.8**
	0.4nm,0.3s,baz=299,slow=7.8,SNR=21						
INK				Sn	**Sn**	**06 45 15.4**	**+0.2**
	0.5nm,0.3s,baz=146,slow=23,SNR=6.9						
YKA	**Yellowknife Ar**	**19.11**	**86**	P	**P**	**06 45 31.6**	**-0.6**
	0.1nm,0.3s,baz=305,slow=12,SNR=12						
PDAR	**Pinedale Array**	**36.34**	**109**	P	**P**	**06 48 13.6**	**+1.3**
	0.3nm,0.5s,mb3.5,baz=333,slow=6.6,SNR=4.5						
TXAR	**Lajitas Array**	**50.47**	**111**	P	**P**	**06 50 06.3**	**-0.1**
	0.1nm,0.5s,mb3.1,baz=323,slow=6.3,SNR=3.6						
FINES	**FINESS Array B**	**50.63**	**357**	P	**P**	**06 50 03.5**	**-3.7**
	1.1nm,0.7s,mb3.9,baz=31,slow=8.1,SNR=3.8						

ATH ***21*** *06:51:29.1, 35.50N×25.93E, h20km±5km, MD3.5/4*
NEIC ***21*** *06:51:29.1, 35.50N×25.93E, h20km, MD3.5(ATH), After ATH.*
CSEM ***21*** *06:51:29.1, 35.50N×25.93E, h20km, MD3.5/4, After ATH*

ISC 21 06:51:29.0±2.6, 35.37N±0.05×25.99E±0.06, h9km±20km, n10, σ0°50/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.32**	**251**	*e*PB	**Pb**	**06 51 36.2**	**-0.2**
NPS				*e*SB	**Sb**	**06 51 41.3**	**-0.1**
XRY	**Khrisi**	**0.55**	**206**	*e*PN	**Pn**	**06 51 42.0**	**-0.6**
KARP	**Karpathos**	**0.98**	**79**	*e*PB	**Pb**	**06 51 47.7**	**+0.1**
KARP				*e*SN	**Sn**	**06 52 02.7**	**0.0**
THR1	**Thera Island**	**1.08**	**337**	*e*P	**Pb**	**06 51 49.8**	**+0.3**
SANT	**Santorini**	**1.09**	**337**	*e*P	**Pb**	**06 51 49.5**	**+0.1**
SANT				*e*S	**Sb**	**06 52 03.6**	**0.0**
THR3	**Thira Island,**	**1.14**	**336**	*e*P	**Pb**	**06 51 50.2**	**-0.2**
THR5	**Thira Island,**	**1.17**	**334**	*e*P	**Pb**	**06 51 50.6**	**-0.2**
VAM	**Vamos**	**1.46**	**272**	*e*PN	**Pn**	**06 51 56.4**	**+0.8**
GVD	**Gavdhos**	**1.64**	**252**	P	**Pn**	**06 51 59.3**	**+1.0**
VLI	**Veliai**	**2.81**	**299**	*e*PN	**Pn**	**06 52 14.0**	**-1.0**

JMA 21 07:08:16.1, 33.73N×130.23E, h9km±1km, M1.7, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.33**	**156**	P	Pg	07 08 22.7	-0.2
JFI				S	Sg	07 08 27.4	0.0
JII	**Iki**	**0.42**	**279**	P	Pg	07 08 24.6	0.0
JII				*e*S	Sg	07 08 30.4	+0.1
JFA	**Akaike**	**0.47**	**92**	P	Pg	07 08 25.4	-0.2
JFA				*e*S	Sg	07 08 31.9	-0.1
JUR	**Ureshino**	**0.68**	**200**	P	Pb	07 08 28.9	-0.7
JUR				*e*S	Sg	07 08 38.0	-0.8

NIED ***21*** *07:08:00, 33.80N×130.10E, h5km, Mw3.6 Best double couple: M0 3.19×10^14 NP1:ϕs314°, δ84°, λ-11°. NP2:ϕs45°, δ79°, λ-174°.*

JMA 21 07:08:26.6, 33.79N×130.10E, h12km±1km, M3.6, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.31**	**271**	⇓P	Pg	07 08 32.9	-0.2
JII				S	Sg	07 08 37.3	-0.1
JFI	**Itaya**	**0.43**	**146**	⇑P	Pg	07 08 35.1	-0.4
JFI				S	Sg	07 08 41.1	-0.4
JFA	**Akaike**	**0.58**	**97**	⇓P	Pb	07 08 37.7	-0.6
JFA				*e*S	Sb	07 08 46.0	-0.2
JUR	**Ureshino**	**0.71**	**190**	⇑P	Pb	07 08 39.9	-0.4
JUR				S	Sb	07 08 49.4	-0.3
JTA	**Tamana**	**0.90**	**156**	⇑P	Pb	07 08 43.5	-0.2
JTU	**Tsushima**	**0.94**	**322**	⇑P	Pb	07 08 44.3	0.0
JTU				S	Sb	07 08 56.6	+0.2

IDC 21 07:12:11.9±36.0, 7.27N×126.93E, mb3.5/3, mb1 3.7/3, mb1mx3.5/16, mbtmp3.5/3, Error ellipse: s-maj=615.0km s-min=167.6km az=161.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.00**	**165**	P	P	07 18 04.4	-2.4
	0.4nm,0.3s,baz=344,slow=10,SNR=8.3						
ASAR	**Alice Springs**	**31.49**	**168**	P	P	07 18 36.6	-1.2
	0.2nm,0.3s,baz=1.7,slow=8.0,SNR=4.3						
STKA	**Stephens Creek**	**41.36**	**161**	P	P	07 19 59.4	-2.1
	0.5nm,0.4s,slow=8.1,SNR=2.8						

NIED ***21*** *07:17:00, 24.70N×125.40E, h56km, Mw3.9 Best double couple: M0 7.56×10^14 NP1:ϕs55°, δ73°, λ92°. NP2:ϕs227°, δ17°, λ82°.*
JMA ***21*** *07:17:37.8±0.1, 24.73N×125.45E, h48km±1km, M3.5*
JMA Felt I J1.
IDC ***21*** *07:17:45.5±5.0, 25.77N×125.35E, h60km±47km, mb3.4/7, mb1 3.6/8, mb1mx3.5/20, mbtmp3.7/8, ML2.7/1, Error ellipse: s-maj=49.0km s-min=18.9km az=74.0*

ISC 21 07:17:38.2±0.7, 24.9N±0.2×125.4E±0.1, h45km±9km, n17, σ0°65/20, mb3.4/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.14**	**210**	P	**P**	**07 17 45.5**	**0.0**
JMJ				S	**S**	**07 17 51.0**	**+0.2**
JOGS	**Gusukube**	**0.18**	**169**	P	**P**	**07 17 45.1**	**-0.7**
JOGS				S	**S**	**07 17 50.4**	**-0.8**
JTJ	**Tarama**	**0.68**	**244**	P	**P**	**07 17 51.1**	**-0.4**
JTJ				S	**S**	**07 18 00.9**	**-0.3**
JIJ	**Ishigaki jima**	**1.25**	**243**	P	**P**	**07 17 59.4**	**-0.2**
JIJ				S	**S**	**07 18 15.6**	**0.0**
JKRS	**Kuro-shima**	**1.42**	**241**	P	**P**	**07 18 02.2**	**+0.1**
JKRS				*e*S	**S**	**07 18 20.5**	**+0.7**
IRIF	**Iriomote-Funau**	**1.61**	**248**	P	**P**	**07 18 05.0**	**+0.3**
HATJ	**Hateruma jima**	**1.67**	**239**	P	**P**	**07 18 07.0**	**+1.4**
YOJ	**Yonaguni jima**	**2.20**	**258**	P	**P**	**07 18 13.1**	**0.0**
JAGN	**Aguni-jima**	**2.36**	**45**	P	**P**	**07 18 16.9**	**+1.6**
JOW	**Kunigami**	**3.23**	**54**	P	**P**	**07 18 27.8**	**+0.1**
	2.1nm,0.3s,baz=160,slow=16,SNR=3.6						
SONM	**Songino Array**	**27.34**	**332**	P	**P**	**07 23 19.6**	**-1.4**
	0.2nm,0.4s,mb3.0,baz=141,slow=9.2,SNR=3.7						
WRA	**Warramunga Arr**	**45.45**	**168**	P	pP	07 26 04.6	-2.7
	2.0nm,0.8s,baz=350,slow=8.4,SNR=6.9						
ASAR	**Alice Springs**	**49.02**	**170**	P	pP	07 26 33.3	-1.9
	0.5nm,0.6s,baz=355,slow=15,SNR=8.5						
FINES	**FINESS Array B**	**72.71**	**330**	P	**P**	**07 29 03.0**	**+0.1**
	0.8nm,0.9s,mb3.7,baz=90,slow=15,SNR=4.1						
BRTR	**Keskin Array B**	**75.77**	**307**	P	**P**	**07 29 20.8**	**-0.4**
	0.9nm,0.8s,mb3.7,baz=101,slow=6.3,SNR=3.8						
NOA	**NORSAR Array B**	**79.31**	**333**	P	**P**	**07 29 39.8**	**-0.5**
	0.6nm,0.9s,mb3.5,baz=101,slow=14,SNR=3.2						
YKA	**Yellowknife Ar**	**80.77**	**24**	P	**P**	**07 29 48.4**	**+0.3**
	0.1nm,0.5s,mb3.0,baz=301,slow=5.6,SNR=6.2						

IDC ***21*** *07:38:47.2±0.6, 55.49S×128.44W, mb4.2/9, mb1 4.4/9, mb1mx4.2/16, mbtmp4.2/9, MS4.4/16, Ms1 4.4/16, ms1mx4.2/18, Error ellipse: s-maj=34.8km s-min=18.3km az=162.0*
NEIC ***21*** *07:38:48.8±0.3, 55.43S×128.42W, h10km, mb5.2/8, Error ellipse: s-maj=13.5km s-min=8.8km az=156.0*
HRVD ***21*** *07:38:48.8±0.2, 55.43S×128.31W, h14km±1km, MW5.1/65, Centroid moment Tensor Solution. LP body waves: s41,c65;Mantle waves: s65,c116; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.61±.15; Mθθ3.77±.18; Mθφ-3.17±.14; Mfr-0.01±.30; Mθθ4.48±.15; Mθr-0.29±.28; Best double couple: M0 5.675×10^16 NP1: ϕs289°, δ87°, λ-1°. NP2:ϕs19°, δ89°, λ-177°. Principal axes: T 5.969, Plg1°, Azm154°; N -.595, Plg87°, Azm43°; P -5.381, Plg3°, Azm244°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***21*** *07:38:51.6±2.6, 54.58S×130.30W, h10km, mb5.3/5 Error ellipse: s-maj=56.8km s-min=26.5km az=66.7*

ISC 21 07:38:47.3±0.5, 55.4S±0.1×128.5W±0.2, h10km, n64, σ0°79/26, mb4.6/14, MS4.4/16, 2C, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**31.48**	**34**	LR	LR	07 54 48.9	
	comp=Z,471nm,18.8s,MS4.2,baz=267,slow=30						
VNDA	**Vanda**	**32.35**	**202**	*e*P	**P**	**07 45 21.8**	**+3.5**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
VNDA	**Vanda**	**32.35**	**202**	P	**P**	**07 45 21.4**	**+3.0**
	comp=Z,2.8nm,0.9s,mb4.1,baz=88,slow=8.3,SNR=7.3						
VNDA				LR	LR	07 56 30.8	
	comp=Z,208nm,19.1s,MS3.8,baz=82,slow=33						
VNDA	**Vanda**	**32.35**	**202**	*e*P	**P**	**07 45 21.8**	**+3.5**
	comp=Z,7.2nm,1.0s,mb4.5						
VNDA				LR	LR	07 56 30.8	
RKT	**Rikitea**	**32.61**	**349**	*e*LQ	LR	07 52 27.0	
RKT				*e*LR	LR	07 53 33.6	
	comp=Z,2μm,28.8s,baz=172						
USHA	**Ushuaia**	**33.40**	**114**	LR	LR	07 54 38.5	
	comp=Z,833nm,20.6s,MS4.4,baz=227,slow=28						
QSPA	**South Pole Qui**	**34.77**	**180**	*e*P	**P**	**07 45 40.0**	**+0.8**
	comp=Z,167nm,2.3s,mb5.6						
TBI	**Tubuai**	**35.60**	**326**	*e*LR	LR	07 54 47.7	
	comp=Z,2μm,26.5s,baz=164						
PLCA	**Paso Flores**	**40.17**	**93**	LR	LR	07 59 08.9	
	comp=Z,377nm,19.8s,MS4.2,baz=226,slow=30						
PPT	**Papeete**	**41.06**	**328**	*e*S	**S**	**07 52 30.0**	**-15**
PPT				*e*LQ		07 55 40.1	
PPT				*e*LR	LR	07 57 20.1	
	comp=Z,2μm,26.5s,baz=165						
RAR	**Rarotonga**	**41

TXAR	**Lajitas Array**	**87.03**	**22**	P		**P**		**07 51 34.6**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.0,baz=202,slow=6.7,SNR=6.8								
JCT	**Junction City**	**89.00**	**24**	P		**P**		**07 51 43.7**	**+0.4**
JCT				pmax		pmax			
	comp=Z,53nm,1.8s,mb5.6								
JCT	**Junction City**	**89.00**	**24**	P		**P**		**07 51 43.7**	**+0.5**
	comp=Z,53nm,1.8s,mb5.6								
ANMO	**Albuquerque**	**91.95**	**18**	*i* P		**P**		**07 51 57.1**	**+0.2**
NVAR	**Mina Array Bea**	**93.87**	**8**	LR		LR		08 26 28.4	
	comp=Z,216nm,19.7s,MS4.6,baz=270,slow=30								
PDAR	**Pinedale Array**	**99.11**	**14**	LR		LR		08 28 05.8	
	comp=Z,251nm,20.4s,MS4.7,baz=210,slow=30								
YKA	**Yellowknife Ar**	**118.06**	**7**	PKP		PKPdf		07 57 34.1	-2.3
	comp=Z,0.2nm,0.8s,baz=186,slow=2.3,SNR=4.0								
ALBI	**Allahabad**	**142.66**	**229**	*e*		PKPdf		07 58 16.5	-6.9
ALBI				*e*				07 58 35.5	
TIXI	**Tiksi**	**144.96**	**327**	*e*PKIKP		PKPdf		07 58 22.6	-3.4
TIXI				pmax		pmax			
	comp=Z,30nm,1.0s								
ULN	**Ulaanbaatar**	**145.56**	**281**	*e*PKIKP		PKPdf		07 58 26.8	-0.9
SONM	**Songino Array**	**145.91**	**281**	PKPbc		PKPbc		07 58 28.2	+1.9
	comp=Z,3.8nm,0.9s,baz=127,slow=2.8,SNR=20								
AGRA	**Agra**	**145.97**	**225**	*e*P		PKPbc		07 58 25.9	-1.1
AGRA				*i*				07 58 35.4	
BOD	**Bodaibo**	**146.61**	**300**	*e*PKP2		PKPab		07 58 27.2	-3.7
BOD				pmax		pmax			
	comp=Z,7.0nm,1.2s								
SONA	**Sohna**	**147.22**	**225**	*e*P		PKPdf		07 58 30.8	-0.3
SONA				*i*				07 58 37.3	
SONA				*e*				07 58 40.5	
	comp=Z,21nm,0.8s								
AYAN	**Aya Nagar**	**147.41**	**225**	*e*P		PKPdf		07 58 30.0	-1.5
AYAN				*i*				07 58 39.8	
KHET	**Khetri**	**147.56**	**223**	*e*P		PKPdf		07 58 32.4	+0.7
KHET				*i*				07 58 40.0	
JOSI	**Joshimath**	**148.19**	**230**	*e*		PKPdf		07 58 23.4	-9.2
JOSI				*e*				07 58 32.1	
	comp=Z,105nm,1.1s								
JASL	**Jaisalmer**	**148.25**	**214**	*e*		PKPdf		07 58 35.8	+2.9
TLY	**Talaya**	**149.41**	**285**	*e*PKP2		PKPab		07 58 36.3	-6.0
KLP	**Kalpa**	**149.60**	**229**	*e*P		PKPdf		07 58 36.1	+1.2
KLP				*i*				07 58 47.1	
KLP				*e*				07 58 49.6	
	comp=Z,39nm,1.6s								
KLP				*e*				08 07 21.1	
MOY	**Mondy**	**150.87**	**284**	*e*PKP2		PKPab		07 58 48.9	+0.5
MOY				pmax		pmax			
	comp=Z,25nm,1.7s								
TIP	**Timpagrande**	**151.75**	**110**	*e*PKPbc		PKPdf		07 58 42.5	+4.6
CLL	**Collm**	**156.85**	**84**⇑	*i*PKIKP		PKPdf		07 58 51.3	+6.9
CLL	**Collm**	**156.85**	**84**⇑	P		PKPdf		07 58 51.3	+6.9
BRG	**Berggiesshubel**	**157.19**	**86**	*e*PKIKP		PKPdf		07 58 51.3	+6.4
BRTR	**Keskin Array B**	**160.30**	**135**	PKPab		PKPab		07 59 28.2	-0.8
	comp=Z,1.6nm,0.8s,baz=168,slow=4.6,SNR=6.4								
AAK	**Ala-Archa**	**160.37**	**239**	*e*PKPab		PKPab		07 59 28.0	-1.1
AAK				*e*				07 59 35.0	
ZAL	**Zalesovo**	**160.81**	**279**	PKPab		PKPab		07 59 30.9	+0.3
	comp=Z,0.8nm,0.3s,baz=3.5,slow=1.9,SNR=4.7								
KURK	**Kurchatov**	**163.11**	**265**	*i* PKIKP		PKPdf		07 58 55.4	+4.0

*IDC **21** 07:53:39.8±1.3,23.07S×66.79W,h208km±12km,mb3.0/2, mb1 3.5/6,mb1mx3.3/16,mbtmp3.8/6,Error ellipse: s-maj=22.0km s-min=20.4km az=0.0*
*NEIC **21** 07:53:40.1±1.1,23.04S×66.81W,h213km±12km,Error ellipse: s-maj=20.1km s-min=14.7km az=90.0*
ISC 21 07:53:39.0±1.3,23.1S±0.1×66.8W±0.2,h221km±13km,n9, σ0§67/11,mb2.9/2,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.00**	**284**	P	**P**	**07 54 20.1**	**+0.7**
	31nm,0.3s,baz=90,slow=6.2,SNR=334						
LVC				S	**S**	**07 54 50.3**	**-0.3**
	39nm,0.3s,baz=270,slow=21,SNR=59						
LVC	**Limon Verde**	**2.00**	**284**	P	**P**	**07 54 20.1**	**+0.7**
LVC				S	**S**	**07 54 50.3**	**-0.3**
LPAZ	**La Paz**	**6.90**	**349**	P	**P**	**07 55 19.8**	**+1.0**
	11nm,0.3s,baz=164,slow=7.7,SNR=390						
LPAZ	**La Paz**	**6.90**	**349**	P	**P**	**07 55 19.8**	**+1.0**
ARE	**Arequipa**	**7.94**	**326**	*e*P	**P**	**07 55 31.0**	**-1.3**
PLCA	**Paso Flores**	**17.85**	**189**	P	**P**	**07 57 34.1**	**-0.1**
	0.1nm,0.3s,baz=5.2,slow=13,SNR=5.7						
BDFB	**Brasilia**	**19.22**	**71**	P	**P**	**07 57 47.8**	**-0.5**
	0.3nm,0.3s,baz=252,slow=8.3,SNR=5.3						
TXAR	**Lajitas Array**	**63.06**	**324**	P	**P**	**08 03 45.0**	**+0.1**
	0.1nm,0.4s,mb2.8,baz=153,slow=8.1,SNR=3.2						
YKA	**Yellowknife Ar**	**93.35**	**340**	P	**P**	**08 06 30.0**	**+0.4**
	0.1nm,0.6s,mb3.0,baz=129,slow=4.4,SNR=6.4						

*NIED **21** 08:27:00,44.20N×141.10E,h5km,Mw3.5 Best double couple: M0≈2.16×10¹⁴ NP1:φs227°,δ57°,λ132°. NP2: φs348°,δ52°,λ44°.*
JMA 21 08:27:06.3±0.1,44.23N×141.11E,h4km±2km,M3.8,6D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYG	**Yagishiri**	**0.30**	**49**	⇓P	Pg	08 27 12.3	0.0
JYG				*e*S	Sg	08 27 16.2	-0.2
JSS	**Shosan**	**0.56**	**72**	⇓P	Pg	08 27 17.4	-0.1
JSS				*e*S	Sg	08 27 25.4	+0.4
JHR	**Hokuryu**	**0.66**	**137**	⇓P	Pg	08 27 19.1	-0.4
JHR				*e*S	Sg	08 27 28.5	+0.2
JRR	**Rishiri**	**0.92**	**9**	P	Pb	08 27 24.1	-0.3
JRR				*e*S	Sb	08 27 38.1	+1.3
JSK	**Shakotan**	**0.99**	**208**	P	Pb	08 27 25.7	+0.1
JSK				*e*S	Sb	08 27 39.6	+0.7
ASAJ	**Asahikawa**	**1.08**	**96**	⇓P	Pb	08 27 26.0	-1.1
ASAJ				*e*S	Sb	08 27 40.9	-0.4
JAB	**Ashibetsu**	**1.08**	**132**	⇓P	Pb	08 27 26.5	-0.7
JAB				*e*S	Sb	08 27 41.6	0.0
JWK2	**Keihoku**	**1.22**	**27**	P	Pb	08 27 29.3	-0.3
JWK2				*e*S	Sb	08 27 46.5	+0.9
JKK2	**Kamakawa 2**	**1.23**	**106**	⇓P	Pb	08 27 28.8	-1.0
JKK2				*e*S	Sb	08 27 45.7	-0.2

*NEIC **21** 08:46:29.0,35.47N×25.93E,h22km,MD3.5(ATH),After ATH.*
*CSEM **21** 08:46:29.0,35.47N×25.93E,h22km,MD3.5/3,After ATH*
ATH 21 08:46:28.9,35.50N×25.92E,h20km±6km,MD3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.34**	**227**	*e*PB	Pb	08 46 36.1	-0.2
NPS				*e*SB	Sb	08 46 41.0	-0.3
XRY	**Khrisi**	**0.65**	**197**	*e*PN	Pn	08 46 41.5	-1.4
SANT	**Santorini**	**0.95**	**337**	*e*P	Pb	08 46 49.7	+3.3
SANT				*e*S	Sb	08 47 04.8	+6.2
KARP	**Karpathos**	**1.01**	**87**	*e*PB	Pb	08 46 47.7	+0.1
KARP				*e*SN	Sn	08 47 03.0	+1.2
VAM	**Vamos**	**1.41**	**267**	*e*PN	Pn	08 46 56.3	+2.6
VLI	**Veliai**	**2.70**	**298**	*e*PN	Pn	08 47 13.5	+1.2

*NEIC **21** 08:46:46.3±0.7,3.61N×95.39E,mb4.3/2,Error ellipse: s-maj=20.0km s-min=9.6km az=43.0*
*IDC **21** 08:46:46.8±1.6,3.75N×95.58E,h39km±9km,mb3.6/8, mb1 3.8/8,mb1mx3.6/18,mbtmp3.9/8,Error ellipse: s-maj=65.8km s-min=18.0km az=58.0*
ISC 21 08:46:44.7±0.9,3.6N±0.1×95.4E±0.1,h40km, h40km±.8km:pP-P,n20,σ0§71/20,mb4.2/16,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.45**	**72**	*e*P	**P**	**08 48 06.3**	**+0.7**
JIRN	**Jiri**	**25.49**	**341**	*e*P	**P**	**08 52 11.3**	**+0.1**
	11nm,0.4s,mb4.7						
PKI	**Pulchoki**	**25.68**	**339**	*e*P	**P**	**08 52 13.4**	**+0.5**
	9.1nm,0.7s,mb4.4						
GUN	**Gumba**	**25.83**	**340**	*e*P	**P**	**08 52 14.5**	**+0.2**
	16nm,0.7s,mb4.7						
KKN	**Kakani**	**25.92**	**339**	*e*P	**P**	**08 52 15.9**	**+0.7**
	6.2nm,0.4s,mb4.5						
GKN	**Gorkha**	**26.35**	**338**	*e*P	**P**	**08 52 19.8**	**+0.6**
	5.8nm,0.2s,mb4.7						
LUBP	**Lubang**	**26.47**	**66**⇑	*e*P	**P**	**08 52 15.5**	**-4.9**
KOLN	**Koldanda**	**26.55**	**336**	*e*P	**P**	**08 52 21.8**	**+0.8**
	7.4nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**44.81**	**123**	P	**P**	**08 54 56.7**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=300,slow=9.3,SNR=5.2						
WRA				pP	pP	08 55 08.1	-0.2
	1.8nm,0.6s,baz=301,slow=9.2,SNR=10.0						
WRAB	**Tennant Creek**	**44.81**	**123**	*e*P	**P**	**08 54 56.8**	**-0.1**
WRAB				*e*	pP	08 55 08.6	+0.3
SONM	**Songino Array**	**45.05**	**10**	P	**P**	**08 54 57.3**	**-1.2**
	0.6nm,0.5s,mb3.7,baz=185,slow=10,SNR=8.1						
SONM				pP	pP	08 55 08.8	-1.1
	0.6nm,0.6s,baz=170,slow=7.5,SNR=4.3						
ASAR	**Alice Springs**	**46.25**	**128**	P	**P**	**08 55 08.5**	**+0.2**
	0.3nm,0.7s,mb3.4,baz=300,slow=7.9,SNR=3.8						
ASAR				pP	pP	08 55 19.4	-0.3
	0.5nm,0.5s,baz=300,slow=7.9,SNR=6.3						
KURK	**Kurchatov**	**49.03**	**346**	*e*P	**P**	**08 55 29.0**	**-0.6**
	1.5nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**50.92**	**352**	P	**P**	**08 55 43.6**	**-0.5**
	2.8nm,0.5s,mb4.5,baz=303,slow=4.2,SNR=9.5						
BVAR	**Borovoye Array**	**53.41**	**341**	P	**P**	**08 56 01.6**	**-1.1**
	0.4nm,0.4s,mb3.7,baz=144,slow=10,SNR=5.6						
CHKZ	**Chkalovo**	**53.90**	**342**	*e*P	**P**	**08 56 05.2**	**-1.2**
	2.1nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**08 58 35.0**	**-0.3**
	0.8nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=8.9						
FINES	**FINESS Array B**	**77.06**	**333**	P	**P**	**08 58 35.0**	**-0.3**
ARCES	**ARCESS Array B**	**79.69**	**340**	P	**P**	**08 58 49.7**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=182,slow=35,SNR=3.8						
HFS	**Hagfors**	**82.77**	**330**	P	**P**	**08 59 06.9**	**+1.1**
	0.6nm,0.6s,mb3.8,baz=78,slow=14,SNR=4.3						

IDC 21 09:19:36.3±4.7,4.90S×102.50E,mb3.4/3,mb1 3.6/3, mb1mx3.4/14,mbtmp3.4/3,Error ellipse: s-maj=181.0km s-min=31.1km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**34.40**	**119**	P	P	09 26 26.0	-1.6
	0.4nm,1.1s,baz=301,slow=9.6,SNR=3.7						
ASAR	**Alice Springs**	**35.54**	**125**	P	P	09 26 35.1	-2.2
	0.3nm,0.4s,baz=295,slow=7.3,SNR=8.7						
SONM	**Songino Array**	**52.62**	**3**	P	P	09 28 52.4	-1.9
	0.5nm,0.6s,baz=185,slow=7.7,SNR=5.1						
TXAR	**Lajitas Array**	**145.31**	**43**	PKP	PKPdf	09 39 15.8	-2.8
	0.2nm,0.6s,baz=320,slow=0.9,SNR=4.3						

*NEIC **21** 10:04:06.3,35.44N×25.98E,h16km,MD3.5(ATH),After ATH.*
*CSEM **21** 10:04:06.3,35.44N×25.98E,h16km,MD3.5/4,After ATH*
ATH 21 10:04:06.4,35.47N×25.96E,h12km,MD3.5/5,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.35**	**234**	*e*PB	Pb	10 04 12.9	-1.2
NPS				*e*SB	Sb	10 04 17.9	-1.3
XRY	**Khrisi**	**0.63**	**200**	*e*PB	Pb	10 04 18.5	-0.4
XRY				*e*SB	Sb	10 04 27.5	+0.1
KARP	**Karpathos**	**0.98**	**85**	*e*PB	Pb	10 04 25.0	+0.1
KARP				*e*SB	Sb	10 04 38.7	+1.1
KARP	**Karpathos**	**0.98**	**85**	*e*Pb	Pb	10 04 23.8	-1.1
KARP				*e*Sn	Sn	10 04 38.7	-1.0
VAM	**Vamos**	**1.44**	**268**	*e*PB	Pb	10 04 33.5	+0.8
VAM				*e*SB	Sb	10 04 53.5	+2.7
VAM	**Vamos**	**1.44**	**268**	*e*Pn	Pn	10 04 35.5	+3.1
VLI	**Veliai**	**2.75**	**298**	*e*PN	Pn	10 04 52.5	+1.4

ISC 21 10:20:27.7±3.9,17.9S±0.1×167.2E±0.5,h33km,n5, σ0§39/7,mb4.5/1,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.25**	**189**	*e*P	**P**	**10 21 31.4**	**-0.3**
DZM				*e*S	**S**	**10 22 20.8**	**0.0**
NOUC	**Port Laguerre**	**4.30**	**191**	*e*P	**P**	**10 21 32.7**	**+0.2**
NOUC				*e*S	**S**	**10 22 22.3**	**+0.1**
WB2	**Warramunga Arr**	**31.10**	**261**	*e*P	**P**	**10 26 45.3**	**-0.2**
ASPA	**Alice Springs**	**31.60**	**254**	*e*P	**P**	**10 26 49.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.45**	**263**	*e*P	**P**	**10 27 57.4**	**+0.7**
	6.5nm,0.6s,mb4.5						

MAN 21 10:35:35.9,13.53N×123.39E,h8km,mb3.6,ML2.3,MS1.8, 1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUQP	**San Andres**	**0.73**	**254**	*e*P	Pb	10 35 49.7	-0.6
PVCP	**Virac**	**0.74**	**85**	*e*P	Pb	10 35 50.8	+0.2
PVCP				*e*S	Sb	10 36 00.8	+0.2
GQP	**Guinayangan**	**0.99**	**292**⇓	*e*P	Pb	10 35 55.1	+0.3
GQP				*e*S	Sb	10 36 09.8	+1.9
BOAC	**Boac**	**1.51**	**267**	*e*P	Pn	10 36 02.7	-0.6
BOAC				*e*S	Sb	10 36 24.3	+1.5
CNP	**Catarman**	**1.60**	**129**	*e*P	Pn	10 36 03.7	-1.0

*TAP **21** 10:43:13.9,23.90N×122.84E,h9km±1km,ML3.2*
JMA 21 10:43:15.5±0.2,24.07N×122.86E,h18km,M2.7,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.41**	**19**	P	Pb	10 43 24.0	0.0
YOJ				S	Sb	10 43 29.6	-0.2
IRIF	**Iriomote-Funau**	**0.84**	**71**	P	Pb	10 43 31.0	-0.2
IRIF				S	Sb	10 43 43.0	+1.0
HATJ	**Hateruma jima**	**0.86**	**91**	P	Pb	10 43 31.3	-0.4
HATJ				S	Sb	10 43 43.6	+0.9
JKRS	**Kuro-shima**	**1.06**	**81**	P	Pb	10 43 35.1	+0.1
JKRS				S	Sb	10 43 50.5	+2.0
JIJ	**Ishigaki jima**	**1.21**	**76**	P	Pb	10 43 36.8	-0.7
JIJ				S	Sb	10 43 52.8	+0.1
JTJ	**Tarama**	**1.77**	**71**	P	Pn	10 43 46.3	+0.6
JTJ				*e*S	Sn	10 44 09.1	+1.1

*NIED **21** 10:47:00,34.00N×142.50E,h11km,Mw4.5 Best double couple: M0≈7×10¹⁵ NP1:φs159°,δ68°,λ-107°. NP2:φs20°, δ27°,λ-53°.*
*IDC **21** 10:47:31.8±0.5,34.04N×142.43E,mb4.6/17,mb1 4.8/20, mb1mx4.8/21,mbtmp4.7/20,ML4.6/3,Error ellipse: s-maj=17.4km s-min=13.7km az=101.0*
*JMA **21** 10:47:33.1±0.3,33.98N×142.51E,h68km,M4.6*
*BJI **21** 10:47:34.8,33.96N×142.19E,h25km,mB4.7,mb4.7, Ms4.2,Msz4.0*
*MOS **21** 10:47:35.2±0.9,34.03N×142.34E,h33km,mb5.0/46, MS3.9/7,Error ellipse: s-maj=10.7km s-min=5.7km az=104.6*
*NEIC **21** 10:47:37.0±0.1,34.00N×142.30E,mb4.8/55, MW4.5(NIED),Error ellipse: s-maj=4.5km s-min=4.3km az=150.0*
ISC 21 10:47:35.4±0.2,33.95N±0.03×142.35E±0.02,h36km, h36km±1.4km:pP-P,n232,σ1§00/253,mb4.7/98,MS4.0/14, 4C-3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.33**	**302**	P	**P**	**10 47 57.3**	**-0.7**
BSO1				*e*S	**S**	**10 48 15.3**	**+0.6**
BSO2	**Boso 2**	**1.54**	**302**	*e*S	**S**	**10 48 22.2**	**+2.2**
BSO3	**Boso 3**	**1.74**	**300**	P	**P**	**10 48 03.5**	**-0.3**
BSO3				*e*S	**S**	**10 48 26.5**	**+1.5**
BSO4	**Boso 4**	**1.96**	**302**	P	**P**	**10 48 07.1**	**+0.3**
BSO4				*e*S	**S**	**10 48 32.9**	**+2.5**
KTR	**Katsuura**	**2.06**	**306**	P	**P**	**10 48 07.3**	**-1.0**
CHOJ	**Chosi**	**2.13**	**325**	P	**P**	**10 48 08.3**	**-1.1**
CHOJ				*e*S	**S**	**10 48 34.3**	**-0.6**
JHJ2	**Mitsune**	**2.28**	**249**	P	**P**	**10 48 11.8**	**+0.4**
JHJ2				*e*S	**S**	**10 48 39.7**	**+1.2**
JCN	**Nagara**	**2.30**	**310**	P	**P**	**10 48 11.6**	**-0.1**
JCN				*e*S	**S**	**10 48 40.9**	**+1.9**
JHJ	**Hachijo jima 2**	**2.30**	**250**	Pn	**P**	**10 48 11.8**	**+0.1**
	796nm,0.3s,baz=143,slow=5.7,SNR=209						
JHJ				Sn	**S**	**10 48 39.1**	**0.0**
	512nm,0.3s,baz=22,slow=22,SNR=3.6						
JMY	**Miyakejima3**	**2.36**	**274**	P	**P**	**10 48 12.3**	**-0.3**
JIM2	**Oshima 3**	**2.53**	**288**	P	**P**	**10 48 13.8**	**-1.3**
JIM2				*e*S	**S**	**10 48 46.8**	**+1.8**
JIZS	**Izushimoda**	**2.97**	**286**	P	**P**	**10 48 20.1**	**-1.2**
JIZS				*e*S	**S**	**10 48 55.1**	**-1.1**

JOD2	**Odawara 2**	**2.99**	**297**	P		**P**		**10 48 19.9**	**-1.7**
JOD2				*e*S		**S**		**10 48 56.0**	**-0.7**
JAG	**Ashikaga**	**3.42**	**317**	P		**P**		**10 48 26.1**	**-1.6**
JYN	**Shimob**	**3.49**	**297**	P		**P**		**10 48 27.5**	**-1.2**
JYN				*e*S		**S**		**10 49 08.7**	**-0.7**
JRY	**Ryogami san**	**3.50**	**307**	P		**P**		**10 48 27.5**	**-1.3**
JRY				*e*S		**S**		**10 49 09.4**	**-0.2**
JFK	**Kawauchi**	**3.61**	**341**	P		**P**		**10 48 26.8**	**-3.6**
JFK				*e*S		**S**		**10 49 05.1**	**-7.3**
MAJO	**Matsushiro**	**4.26**	**308**	*e*P		**P**		**10 48 38.4**	**-1.3**
MAT	**Matsushiro**	**4.26**	**308**	*e*P		**P**		**10 48 37.0**	**-2.7**
MAT				*e*S		**S**		**10 49 22.0**	**-6.9**
MAT	**Matsushiro**	**4.26**	**308**	P		**P**		**10 48 37.3**	**-2.4**
MAT				S		**S**		**10 49 25.4**	**-3.5**
CBIJ	**Chichi jima**	**6.84**	**181**	Pn		**P**		**10 49 11.8**	**-4.0**
	36nm,0.3s,baz=111,slow=23,SNR=39								
CBIJ				Sn		**S**		**10 50 24.1**	**-9.3**
	173nm,0.3s,baz=264,slow=23,SNR=10.0								
ERM	**Erimo**	**8.07**	**4**	Pn		**P**		**10 49 26.2**	**-6.9**
	604nm,0.4s,SNR=68								
ASAJ	**Asahikawa**	**10.15**	**1**	Pn		**P**		**10 49 55.6**	**-6.2**
	4.4nm,0.3s,baz=219,slow=8.4,SNR=26								
ASAJ				Sn		**S**		**10 51 40.6**	**-15**
	2.4nm,0.3s,baz=319,slow=8.2,SNR=6.0								
YUK	**Yuzh-Kuril'sk**	**10.43**	**14**	P		**P**		**10 49 55.5**	**-10**
KUR	**Kuril'sk**	**12.04**	**19**	*e*P		**P**		**10 50 27.0**	**-0.4**
KUR				MLR		MLR			
	comp=E,3μm,13.0s								
KUR				MLR		MLR			
	comp=Z,1μm,13.0s								
YSS	**Yuzh-Sakhalins**	**12.99**	**1***c*	*i*P		**P**		**10 50 36.7**	**-3.4**
YSS				pmax		pmax			
	comp=Z,32nm,0.7s								
YSS	**Yuzh-Sakhalins**	**12.99**	**1**	*e*Pn		**P**		**10 50 32.0**	**-8.1**
	comp=Z,48nm,0.8s								
MDJ	**Mudanjiang**	**14.51**	**321**	P		**P**		**10 51 01.0**	**+1.0**
MDJ				AP				10 51 10.5	
MDJ				XP				10 51 14.9	
MDJ				S		**S**		**10 53 40.9**	**+0.5**
MDJ				SS		SS		10 53 59.4	+1.9
MDJ				AMB		AMB			
	comp=Z,6.0nm,0.6s								
MDJ				AMB		AMB			
	comp=Z,58nm,3.4s								
MDJ				LR		LR			
	comp=N,506nm,11.7s								
MDJ				LR		LR			
	comp=E,305nm,11.9s								
MDJ				LR		LR			
	comp=Z,641nm,12.9s								
CN2	**Changchun**	**16.40**	**312**	*e*P		**P**		**10 51 24.8**	**+0.4**
CN2				*e*XP				10 51 32.8	
CN2				*e*S		**S**		**10 54 23.9**	**-0.8**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.5s								
CN2				AMB		AMB			
	comp=Z,300nm,3.0s								
CN2				LR		LR			
	comp=N,500nm,14.0s								
CN2				LR		LR			
	comp=E,500nm,14.0s								
CN2				LR		LR			
	comp=Z,800nm,16.0s								
BJI	**Beijing**	**21.73**	**294**	*e*P		**P**		**10 52 24.5**	**-0.9**
BJI				S		**S**		**10 56 22.3**	**+3.6**
BJI				AMB		AMB			
	comp=Z,10.0nm,0.7s,mb4.3								
BJI				LR		LR			
	comp=N,238nm,13.0s,MS4.0								
BJI				LR		LR			
	comp=E,327nm,12.3s,MS4.0								
BJI				LR		LR			
	comp=Z,253nm,30.0s								
HIA	**Hailar**	**22.68**	**319**	*e*P		**P**		**10 52 33.2**	**-1.4**
HIA				pmax		pmax			
	comp=Z,10.0nm,0.9s								
HIA	**Hailar**	**22.68**	**319**	*e*P		**P**		**10 52 33.2**	**-1.4**
	comp=Z,10nm,0.9s,mb4.3								
WHN	**Wuhan**	**23.89**	**270**	*e*P		**P**		**10 52 47.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**25.32**	**295**	*e*P		**P**		**10 53 02.0**	**+1.7**
HHC				AP		pP		10 53 12.8	+2.6
HHC				XP		sP		10 53 14.6	+0.2
HHC				PP		PP		10 53 42.6	+3.2
HHC				S		**S**		**10 57 22.0**	**+0.5**
HHC				XS				10 57 36.3	
HHC				SS		SS		10 58 23.9	0.0
HHC				AMB		AMB			
	comp=Z,40nm,1.3s,mb4.8								
HHC				LR		LR			
	comp=N,203nm,17.8s,MS3.8								
HHC				LR		LR			
	comp=E,194nm,21.4s,MS3.8								
HHC				LR		LR			
	comp=Z,188nm,19.0s,MS3.6								
CLNS	**Chul'man**	**25.81**	**338**	*e*P		**P**		**10 53 04.7**	**-0.1**
CLNS				*e**PP		pP		10 53 15.3	+0.6
CLNS				*e*				10 53 59.7	
CLNS				pmax		pmax			
	comp=N,19nm,1.0s								
CLNS				pmax		pmax			
	comp=Z,36nm,1.0s,mb4.9								
CLNS				pmax		pmax			
	comp=E,9.0nm,0.9s								
CLNS				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.2								
CLNS				MLR		MLR			
	comp=Z,200nm,15.0s,MS3.8								
CLNS				MLR		MLR			
	comp=N,200nm,14.0s								
MA2	**Magadan**	**26.23**	**10**	*e*P		**P**		**10 53 08.0

GYA LR LR
comp=N,240nm,16.2s,MS4.2
GYA LR LR
comp=E,370nm,15.8s,MS4.2
GYA LR LR
comp=Z,250nm,15.5s,MS4.0
ZAK Zakamensk 32.84 312 *e*P **P** **10 54 06.5 -1.2**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
TLY Talaya 32.98 314 *e*P **P** **10 54 11.3 +2.4**
TLY pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
TLY MLR MLR
comp=Z,155nm,17.0s,MS3.8
GTA Gaotai 34.31 292 *e*P **P** **10 54 21.4 +0.9**
GTA AP pP 10 54 31.3 +0.5
GTA XP sP 10 54 35.0 -0.4
GTA PP PP 10 55 36.5 +0.3
GTA PCP PcP 10 56 58.3 +2.0
GTA S **S** **10 59 44.8 +0.5**
GTA XS 11 00 00.8
GTA SS SS 11 01 54.8 -0.4
GTA SCS ScS 11 04 40.0 +1.6
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.7
GTA AMB AMB
comp=Z,46nm,5.3s
GTA LR LR
comp=N,177nm,16.0s,MS4.0
GTA LR LR
comp=E,117nm,14.4s,MS4.0
GTA LR LR
comp=Z,112nm,16.7s,MS3.7
BILL Bilibino 36.78 15 *e*P **P** **10 54 39.0 -2.2**
BILL *e* pP 10 54 50.8 -0.7
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BILL Bilibino 36.78 15 *e*P **P** **10 54 39.0 -2.2**
comp=Z,6.8nm,1.0s,mb4.4
BILL *e* pP 10 54 50.8 -0.8
TIXI Tiksi 38.43 353 *e*P **P** **10 54 51.4 -3.6**
TIXI pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
TIXI MLR MLR
comp=Z,185nm,14.0s,MS4.0
NANT Nan 39.96 259 P **P** **10 55 08.0 -0.2**
comp=Z,88nm,0.6s,mb5.7
CHG Chiang Mai 41.39 260 P **P** **10 55 29.4 +9.4**
WMQ Urumqi 42.98 300⇓ *i*P **P** **10 55 35.3 +2.6**
WMQ AP pP 10 55 45.0 +1.8
WMQ XP sP 10 55 49.0 +1.3
WMQ PP PP 10 57 18.0 +3.1
WMQ S **S** **11 01 57.0 +1.9**
WMQ XS 11 02 13.0
WMQ AMB AMB
comp=Z,18nm,1.2s,mb4.7
WMQ AMB AMB
comp=Z,129nm,4.3s
WMQ LR LR
comp=N,514nm,19.8s,MS4.6
WMQ LR LR
comp=E,477nm,17.4s,MS4.6
WMQ LR LR
comp=Z,562nm,20.2s,MS4.5
KSM Kuching 44.06 230 *e*P **P** **10 55 39.9 -2.1**
ZAL Zalesovo 44.60 315 P **P** **10 55 46.0 +0.3**
comp=Z,1.6nm,0.5s,mb4.1,baz=351,slow=7.7,SNR=13
ZAL PcP PcP 10 57 28.3 -0.4
comp=Z,1.8nm,0.8s,baz=26,slow=4.4,SNR=4.0
NVS Novosibirsk 45.55 316 *e*P **P** **10 55 52.0 -1.3**
NVS pmax pmax
comp=E,6.0nm,0.7s
NVS pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KAKA Kakadu 47.35 193 *e*P **P** **10 56 06.6 -1.4**
comp=Z,12nm,0.8s,mb4.9
JIRN Jiri 48.14 278 *e*P **P** **10 56 14.6 +0.6**
comp=Z,58nm,0.6s,mb5.8
GUN Gumba 48.30 279 *e*P **P** **10 56 16.1 +0.8**
comp=Z,35nm,0.7s,mb5.5
KURK Kurchatov 48.47 310 P **P** **10 56 16.8 +0.6**
comp=Z,128nm,0.7s,NSR=21
KURK Kurchatov 48.47 310 *e*P **P** **10 56 15.3 -0.9**
KURK pmax pmax
comp=Z,14nm,0.7s,mb5.1
KURK Kurchatov 48.47 310 *e*P **P** **10 56 15.3 -0.9**
comp=Z,14nm,0.7s,mb5.1
PKI Pulchoki 48.82 279 *e*P **P** **10 56 19.8 +0.6**
comp=Z,12nm,0.5s,mb5.2
KKN Kakani 48.84 279 *e*P **P** **10 56 19.0 -0.4**
comp=Z,28nm,0.8s,mb5.3
DMN Daman 49.05 279 *e*P **P** **10 56 22.2 +1.2**
comp=Z,7.3nm,0.2s,mb5.3
GKN Gorkha 49.29 280 *e*P **P** **10 56 24.3 +1.4**
comp=Z,15nm,0.4s,mb5.3
KOLN Koldanda 50.23 280 *e*P **P** **10 56 30.3 +0.2**
comp=Z,26nm,0.9s,mb5.3
MCK McKinley 50.79 32 *e*P **P** **10 56 34.1 +0.2**
MCK pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MCK McKinley 50.79 32 *e*P **P** **10 56 34.1 +0.2**
comp=Z,3.0nm,1.0s,mb4.2
COLA College 51.30 31 *i*P **P** **10 56 35.6 -2.1**
ILAR Eielson Array 51.71 31 P **P** **10 56 39.1 -1.6**
comp=Z,4.2nm,0.9s,mb4.4,baz=261,slow=5.7,SNR=23
JOSI Joshimath 52.48 285 *e*P **P** **10 56 36.8 -10**
AAK Ala-Archa 52.67 301 *i*P **P** **10 56 47.4 -0.9**
AAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
AAK Ala-Archa 52.67 301 *e*P **P** **10 56 47.3 -1.0**
comp=Z,2.9nm,0.9s,mb4.2
CHKZ Chkalovo 53.00 315 *e*P **P** **10 56 49.2 -1.4**
CHKZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CHKZ Chkalovo 53.00 315 *e*P **P** **10 56 49.2 -1.4**
comp=Z,9.1nm,1.0s,mb4.7
KLP Kalpa 53.18 286 *e*P **P** **10 56 53.7 +1.5**
KLP *e* 10 56 56.6
comp=Z,18nm,1.2s
CTAO Charters Tower 53.87 175 *e*P **P** **10 56 57.2 -0.2**
CTAO pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CTAO Charters Tower 53.87 175 *e*P **P** **10 56 57.1 -0.3**
comp=Z,7.7nm,0.6s,mb4.3
WRAB Tennant Creek 54.12 189 P **P** **10 56 58.0 -1.3**
comp=Z,149nm,1.0s,SNR=16
WRAB Tennant Creek 54.12 189 *e*P **P** **10 56 58.2 -1.1**
WRAB pmax pmax
comp=Z,50nm,1.1s,mb5.4
WRAB Tennant Creek 54.12 189 *e*P **P** **10 56 58.2 -1.1**
comp=Z,50nm,1.1s,mb5.4
WB2 Warramunga Arr 54.13 189⇓ *i*P **P** **10 56 58.7 -0.7**
WRA Warramunga Arr 54.13 189 P **P** **10 56 58.7 -0.7**
comp=Z,16nm,0.7s,mb5.1,baz=6.5,slow=7.5,SNR=72
FITZ Fitzroy Crossi 54.16 200⇓ *i*P **P** **10 56 59.6 0.0**
comp=Z,12nm,0.9s,mb4.8
BISR Bishrakh 54.94 283 *e*P **P** **10 57 05.4 +0.2**
AGRA Agra 55.06 282 *e*P **P** **10 57 06.3 +0.3**
NDI New Delhi 55.07 284 *e*P **P** **10 57 06.5 +0.4**
AYAN Aya Nagar 55.22 283 *e*P **P** **10 57 06.9 -0.3**
SONA Sohna 55.35 283 *e*P **P** **10 57 07.4 -0.8**
SONA *e* 10 57 11.2
comp=Z,21nm,1.2s
KHET Khetri 56.45 283 *e*P **P** **10 57 15.8 -0.3**
KHET *e* 10 57 21.7
comp=Z,20nm,1.0s
INK Inuvik 56.79 26 *e*P **P** **10 57 16.4 -1.6**
INK pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 56.79 26 P **P** **10 57 16.8 -1.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=294,slow=6.6,SNR=28
INK Inuvik 56.79 26 *e*P **P** **10 57 16.4 -1.6**
comp=Z,4.1nm,0.9s,mb4.5
ASAR Alice Springs 57.86 189 P **P** **10 57 25.6 -0.5**
comp=Z,8.7nm,0.8s,mb4.9,baz=12,slow=8.6,SNR=84
ASAR PcP PcP 10 58 18.8 +0.7
comp=Z,2.5nm,0.8s,baz=4.3,slow=4.6,SNR=3.7
ASPA Alice Springs 57.86 189 *e*P **P** **10 57 25.5 -0.6**
SVE Sverdlovsk 57.98 320 *e*P **P** **10 57 26.7 +0.2**
SVE *e* 10 57 42.2
SVE *e* 10 58 13.5
SVE MLR MLR
comp=N,100nm,16.0s,MS4.2
SVE MLR MLR
comp=E,100nm,16.0s,MS4.2
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.6
MBWA Marble Bar 58.89 205 *e*P **P** **10 57 32.9 -0.4**
comp=Z,12nm,0.8s,mb5.0
HYB Hyderabad 58.95 271 *e*P **P** **10 57 35.0 +1.2**
ARU Arti 59.19 320 *e*P **P** **10 57 34.0 -0.9**
ARU *e* 10 58 22.2
ARU *e* 10 59 45.9
ARU *e*S **S** **11 05 40.7 +2.4**
ARU *e*SS SS 11 09 37.2 +2.7
ARU Arti 59.19 320 *e*P **P** **10 57 33.6 -1.3**
comp=Z,123nm,0.8s
RES Resolute Bay 65.39 14 *e*P **P** **10 58 14.5 -1.4**
RES *e* pP 10 58 25.2 -1.7
RES pmax pmax
comp=Z,29nm,1.3s,mb5.2
RES Resolute Bay 65.39 14 *e*P **P** **10 58 14.5 -1.4**
comp=Z,29nm,1.3s,mb5.2
RES *e* pP 10 58 25.2 -1.7
STKA Stephens Creek 65.48 181 P **P** **10 58 17.1 -0.1**
comp=Z,5.8nm,0.7s,mb4.7,baz=8.6,slow=6.9,SNR=9.3
FORT Forrest 65.78 193 *e*P **P** **10 58 15.0 -4.1**
comp=Z,552nm,0.7s
YKW3 Yellowknife Ar 66.06 30 *e*P **P** **10 58 18.3 -2.0**
YKA Yellowknife Ar 66.09 30 P **P** **10 58 19.1 -1.4**
comp=Z,2.8nm,0.8s,mb4.3,baz=296,slow=6.4,SNR=45
KEV Kevo 66.59 340 *e*p **P** **10 58 26.1 +2.5**
comp=Z,7.8nm,0.7s,mb4.8
KEV Kevo 66.59 340 *e*P **P** **10 58 26.1 +2.5**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARCES ARCESS Array B 67.15 340 P **P** **10 58 25.9 -1.2**
ARCES pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 67.15 340 P **P** **10 58 25.9 -1.1**
comp=Z,6.4nm,0.9s,mb4.7,baz=45,slow=7.7,SNR=4.4
JOF Joensuu 69.04 333 *e*p **P** **10 58 37.8 -1.2**
comp=Z,4.5nm,0.5s,mb4.7
NWAO Narrogin (SRO) 70.59 202 *e*P **P** **10 58 48.2 -0.8**
NWAO pmax pmax
comp=Z,8.0nm,0.8s
NWAO Narrogin (SRO) 70.59 202 *e*P **P** **10 58 48.2 -0.8**
comp=Z,8.0nm,0.8s,mb4.7
OBN Obninsk 71.03 324⇑ *e*P **P** **10 58 51.2 0.0**
OBN *e* 11 01 28.1
OBN *e*S S 11 08 06.7 +3.3
OBN pmax pmax
comp=Z,24nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
EDM Edmonton 71.29 38 *e*P **P** **10 58 52.2 -0.6**
KAF Kangasniemi 71.40 334 *e*p **P** **10 58 52.4 -0.9**
comp=Z,6.2nm,0.5s,mb4.8,baz=50,slow=5.7
KAF Kangasniemi 71.40 334 *e*P **P** **10 58 52.4 -0.9**
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
NEW Newport 71.81 44 *e*P **P** **10 58 55.5 -0.5**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 71.81 44 *e*P **P** **10 58 55.5 -0.5**
comp=Z,5.8nm,0.9s,mb4.5
FINES FINESS Array B 71.90 333 P **P** **10 58 55.9 -0.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=45,slow=8.1,SNR=17
BMO Blue Mountains 73.47 47 *e*P **P** **10 59 05.9 +0.1**
BMO pmax pmax
comp=Z,12nm,1.4s,mb4.6
BMO Blue Mountains 73.47 47 *e*P **P** **10 59 05.9 0.0**
comp=Z,12nm,1.4s,mb4.6
VSU Vasula 73.50 330 *i*P **P** **10 59 05.2 -0.5**
KIV Kislovodsk 73.52 312 *c i*P **P** **10 59 07.2 +1.1**
KIV *e* 10 59 24.2
KIV *e*S S 11 08 36.8 +4.7
KIV pmax pmax
comp=Z,17nm,1.2s,mb4.8
KIV MLR MLR
comp=Z,100nm,18.0s,MS4.1
SUMG Summit 73.76 0 *e*P **P** **10 59 07.9 +0.9**
comp=Z,7.6nm,0.6s,mb4.8
SUMG *e*pP pP 10 59 18.8 +0.8
WVOR Wild Horse Val 73.90 50 *e*P **P** **10 59 08.6 +0.2**
WVOR pmax pmax
comp=Z,12nm,1.4s,mb4.6
WVOR Wild Horse Val 73.90 50 *e*P **P** **10 59 08.6 +0.2**
comp=Z,12nm,1.4s,mb4.6
GNI Garni 74.18 308 *i*P **P** **10 59 10.7 +0.7**
GNI pmax pmax
comp=Z,11nm,1.6s
HRY Holter Researc 75.67 43 *e*P **P** **10 59 18.8 +0.3**
FFC Flin Flon 75.88 33 P **P** **10 59 19.7 +0.2**
comp=Z,89nm,0.8s,mb5.7,SNR=13
HLID Hailey 75.91 47 *e*P **P** **10 59 20.4 +0.5**
comp=Z,2.1nm,0.9s,mb4.1
NVAR Mina Array Bea 76.23 53 P **P** **10 59 22.6 +0.7**
comp=Z,5.6nm,0.7s,mb4.6,baz=288,slow=6.4,SNR=46
ANN Anapa 76.23 315 *e*P **P** **10 59 15.0 -6.7**
ANN pmax pmax
comp=Z,61nm,1.1s,mb5.4
MNV Mina 76.32 53 *e*P **P** **10 59 22.4 0.0**
MNV pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
MNV Mina 76.32 53 *e*P **P** **10 59 22.4 0.0**
comp=Z,6.4nm,1.2s,mb4.4
BOZ Bozeman (W) 76.39 44 *e*P **P** **10 59 23.2 +0.6**
BOZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BOZ Bozeman (W) 76.39 44 *e*P **P** **10 59 23.1 +0.5**
comp=Z,5.1nm,0.9s,mb4.5
FCC Fort Churchill 76.41 27 *e*P **P** **10 59 20.9 -1.5**
FCC pmax pmax
comp=Z,12nm,1.2s,mb4.7
FCC Fort Churchill 76.41 27 *e*P **P** **10 59 20.9 -1.5**
comp=Z,12nm,1.2s,mb4.7
QLMT Earthquake Lak 76.97 45 *e*P **P** **10 59 26.5 +0.6**
QLMT *e*pP pP 10 59 38.2 +1.2
AKASG Malin Array Be 77.21 323 P **P** **10 59 26.9 -0.3**
comp=Z,5.3nm,0.7s,mb4.6,baz=47,slow=6.0,SNR=12
AKASG PcP PcP 10 59 37.7 -0.3
comp=Z,5.9nm,0.8s,baz=45,slow=6.1,SNR=7.5
AKASG Malin Array Be 77.21 323 P **P** **10 59 26.9 -0.3**
AKASG PcP PcP 10 59 37.7 -0.3
NB2 NORSAR Subarra 77.32 338 P **P** **10 59 27.2 -0.3**
comp=Z,7.3nm,0.8s,mb4.7,baz=40,slow=5.6
NB2 NORSAR Subarra 77.32 338 P **P** **10 59 27.2 -0.3**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 77.32 338 P **P** **10 59 27.5 0.0**
comp=Z,6.2nm,0.8s,mb4.6,baz=39,slow=5.7,SNR=20
NOA PcP PcP 10 59 38.8 +0.5
comp=Z,5.4nm,0.8s,baz=39,slow=5.6,SNR=9.0
LKWY Lake 77.73 44 P **P** **10 59 30.5 +0.4**
LKWY pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LKWY Lake 77.73 44 P **P** **10 59 30.4 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
MOOW Moose Ponds 78.00 45 *e*P **P** **10 59 32.5 +0.8**
TPAW Teton Pass 78.03 45 *e*P **P** **10 59 32.9 +1.1**
SNOW Snow King Moun 78.16 45 *e*P **P** **10 59 33.5 +1.0**
LOHW Long Hollow 78.16 45 *e*P **P** **10 59 33.6 +1.1**
comp=Z,4.1nm,0.9s,mb4.3
HWUT Hardware Ranch 78.75 47 *e*P **P** **10 59 36.2 +0.4**
comp=Z,6.2nm,1.0s,mb4.5
DUG Dugway 78.79 49 *e*P **P** **10 59 36.7 +0.6**
DUG pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
DUG Dugway 78.79 49 *e*P **P** **10 59 36.7 +0.6**
comp=Z,3.6nm,0.6s,mb4.5
TCUT Toone Canyon 79.13 48 *e*P **P** **10 59 38.6 +0.7**
BW06 Boulder Array 79.28 45 *e*P **P** **10 59 38.7 0.0**
comp=Z,1.8nm,0.6s,mb4.2
PDAR Pinedale Array 79.28 45 P **P** **10 59 38.9 +0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=277,slow=1.7,SNR=22
MALT Malatya 79.29 309 *e*P **P** **10 59 39.9 +1.1**
MALT pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MALT Malatya 79.29 309 *e*P **P** **10 59 39.9 +1.1**
comp=Z,6.6nm,1.2s,mb4.4
NLU North Lily Min 79.39 49 *e*P **P** **10 59 39.5 +0.1**
JLU Jordanelle 79.41 48 *e*P **P** **10 59 40.2 +0.8**
DAU Daniels Canyon 79.64 48 *e*P **P** **10 59 41.6 +0.9**
SRU San Rafael 80.86 49 *e*P **P** **10 59 47.6 +0.4**
KWP Kalwaria 81.08 325 *e*P **P** **10 59 49.1 +1.0**
BRTR Keskin Array B 81.48 312 P **P** **10 59 51.2 +0.8**
comp=Z,4.2nm,0.9s,mb4.4,baz=108,slow=3.9,SNR=18
ULM Lac du Bonnet 81.65 33 P **P** **10 59 50.7 -0.4**
comp=Z,2.0nm,0.6s,mb4.2,baz=20,slow=3.4,SNR=4.8
KOLS Kolonicke sedl 81.77 325 *e*P **P** **10 59 51.8 +0.1**
WUAZ Wupatki 82.44 52 *e*P **P** **10 59 56.2 +0.7**
comp=Z,5.4nm,0.9s,mb4.5
KSP Ksiaz 83.13 329 *e*P **P** **10 59 59.8 +1.2**
ISCO Idaho Springs 83.44 46 *e*P **P** **11 00 01.6 +1.1**
ISCO pmax pmax
comp=Z,13nm,1.5s,mb4.7
ISCO Idaho Springs 83.44 46 *e*P **P** **11 00 01.6 +1.1**
comp=Z,12nm,1.5s,mb4.7
DPC Dobruska-Polom 83.48 329 *e*P **P** **11 00 01.4 +1.0**
DPC *e*pP pP 11 00 12.4 +0.8
DPC Dobruska-Polom 83.48 329 *e*P **P** **11 00 01.4 +1.0**
DPC *e*pP pP 11 00 12.4 +0.8
UPC Upice 83.49 329 *e*P **P** **11 00 01.7 +1.2**
PSZ Piszkesteto 83.61 325 *e*P **P** **11 00 01.9 +0.8**
PSZ *PP pP 11 00 13.9 +1.6
PSZ pmax pmax
comp=Z,32nm,1.4s,mb5.3
PSZ Piszkesteto 83.61 325 *e*P **P** **11 00 01.9 +0.8**
comp=Z,32nm,1.4s,mb5.3
PSZ pP pP 11 00 13.9 +1.6
VYHS Vyhne 83.70 326 *e*P **P** **11 00 02.1 +0.6**
BRG Berggiesshubel 84.09 330 *e*P **P** **11 00 04.4 +0.9**
BRG pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BRG Berggiesshubel 84.09 330 *e*P **P** **11 00 04.4 +0.9**
comp=Z,4.9nm,0.8s,mb4.7
CLL Collm 84.15 331 *e*P **P** **11 00 04.0 +0.3**
CLL *e* pP 11 00 14.0 -1.0
CLL pmax pmax
comp=Z,19nm,1.3s,mb5.1
CLL Collm 84.15 331 *e*P **P** **11 00 04.0 +0.3**
comp=Z,19nm,1.3s,mb5.1
CLL *e* pP 11 00 14.0 -1.0
CLL Collm 84.15 331 P **P** **11 00 04.0 +0.3**
comp=Z,logA/T=1.2,mb5.1
CLL *e**PP pP 11 00 14.0 -1.0
PRU Pruhonice 84.51 329 *e*P **P** **11 00 06.6 +1.0**
PRU *e*pP pP 11 00 16.0 -0.8
TUC Tucson 84.75 54 *e*P **P** **11 00 07.8 +0.6**
TUC pmax pmax
comp=Z,8.0nm,1.3s,mb4.7
TUC Tucson 84.75 54 *e*P **P** **11 00 07.8 +0.5**
comp=Z,7.7nm,1.3s,mb4.7
SDCO Great Sand Dun 84.81 47 *e*P **P** **11 00 08.3 +0.9**
comp=Z,7.6nm,0.9s,mb4.8
MOX Moxa 85.22 331 *e*P **P** **11 00 09.9 +0.8**
MOX pmax pmax
comp=Z,23nm,1.6s,mb5.1
MOX Moxa 85.22 331 *e*P **P** **11 00 09.9 +0.8**
comp=Z,23nm,1.6s,mb5.1
MOX Moxa 85.22 331 *i* P **P** **11 00 09.9 +0.8**
comp=Z,logA/T=1.2,mb5.1
KHC Kasperske Hory 85.57 329 *e*P **P** **11 00 11.5 +0.6**
KHC *e*pP pP 11 00 21.9 -0.2
GERES GERESS Array B 85.73 329 P **P** **11 00 12.1 +0.5**
comp=Z,1.9nm,0.7s,mb4.5,baz=34,slow=4.8,SNR=14
ANMO Albuquerque 85.97 50 *e*P **P** **11 00 14.1 +0.9**
ANMO pmax pmax
comp=Z,7.0nm,0.9s
ANMO Albuquerque 85.97 50 *e*P **P** **11 00 14.1 +0.9**
comp=Z,7.3nm,0.9s,mb4.9
GRA1 Grafenberg Arr 86.12 331 *e*P **P** **11 00 14.6 +1.1**
comp=Z,14nm,1.2s,mb5.1
GRF Grafenberg Arr 86.12 331 *e*P **P** **11 00 14.6 +1.1**
GRF pmax pmax
comp=Z,14nm,1.2s,mb5.1
GRF Grafenberg Arr 86.12 331 *e*P **P** **11 00 14.6 +1.1**
GRF pmax pmax
comp=Z,14nm,1.2s,mb5.1
GRF Grafenberg Arr 86.12 331 *e*P **P** **11 00 14.6 +1.1**
comp=Z,14nm,1.2s,mb5.1
SCHQ Schefferville 88.08 16 P **P** **11 00 23.0 +0.1**
comp=Z,5.5nm,0.9s,mb4.8,baz=288,slow=5.7,SNR=5.1
MNTX Cornudas Mount 88.73 52 *e*P **P** **11 00 26.5 -0.1**
comp=Z,1.4nm,0.6s,mb4.5
GDL2 Guadalupe Moun 89.07 51 *e*P **P** **11 00 28.5 +0.3**
WMOK Wichita Mounta 90.87 46 *e*P **P** **11 00 36.6 0.0**
WMOK pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
WMOK Wichita Mounta 90.87 46 *e*P **P** **11 00 36.6 0.0**
comp=Z,2.0nm,0.7s,mb4.6
LDF La Druitiere 91.26 336 *e*P **P** **11 00 37.9 -0.2**
comp=Z,30nm,1.2s,mb5.2
LDF La Druitiere 91.26 336 *e*P **P** **11 00 37.9 -0.2**
LDF pmax pmax
comp=Z,15nm,1.2s,mb5.2
SSF Saint Saulge 91.27 333 *e*P **P** **11 00 37.4 -0.8**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
SSF Saint Saulge 91.27 333 *e*P **P** **11 00 37.4 -0.8**
comp=Z,2.8nm,0.8s,mb4.6
LPG La Plagne 91.29 331 *e*P **P** **11 00 38.8 +0.5**
LTX Lajitas 91.38 53 *e*P **P** **11 00 39.6 +0.5**
LTX *e**PP pP 11 00 50.9 +0.4
LTX pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
LTX Lajitas 91.38 53 *e*P **P** **11 00 39.6 +0.5**
comp=Z,4.1nm,0.8s,mb4.8
LTX *e*pP pP 11 00 50.9 +0.4
TXAR Lajitas Array 91.38 53 P **P** **11 00 39.9 +0.8**
comp=Z,3.6nm,0.5s,mb5.0,baz=302,slow=3.3,SNR=70
AVF Avril sur Loir 91.56 333 *e*P **P** **11 00 39.6 +0.1**
comp=Z,20nm,0.9s,mb5.1
AVF Avril sur Loir 91.56 333 *e*P **P** **11 00 39.6 +0.1**
AVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
MBDF Montbardon 91.91 330 *e*P **P** **11 00 40.8 -0.4**
comp=Z,8.2nm,0.8s,mb4.8
MBDF Montbardon 91.91 330 *e*P **P** **11 00 40.8 -0.4**
MBDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
VIVF Saint-Julien-l 92.66 331 *e*P **P** **11 00 44.8 +0.2**
comp=Z,9.0nm,0.8s,mb5.0
VIVF Saint-Julien-l 92.66 331 *e*P **P** **11 00 44.8 +0.2**
VIVF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
PGF Pioggiola 92.70 327 *e*P **P** **11 00 45.7 +0.9**
comp=Z,23nm,1.4s,mb5.1
PGF Pioggiola 92.70 327 *e*P **P** **11 00 45.7 +0.9**
PGF pmax pmax
comp=Z,11nm,1.4s,mb5.1
LMR La Mourre 93.15 329 *e*P **P** **11 00 46.6 -0.3**
comp=Z,9.8nm,0.8s,mb5.0
LMR La Mourre 93.15 329 *e*P **P** **11 00 46.6 -0.3**
LMR pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
CAF Calviac 93.61 333 *e*P **P** **11 00 49.7 +0.8**
SDV Santo Domingo 127.14 42 *e*PKPdf PKPdf 11 06 38.0 +1.2
SDV *e*pPKPdf 11 06 49.1
DBIC Dimbokro 129.05 316 PKP PKPdf 11 06 41.3 +0.8
comp=Z,1.5nm,0.6s,baz=107,slow=2.3,SNR=3.7
LPAZ La Paz 147.45 65 *e*PKIKP PKPdf 11 07 15.7 +2.2
LPAZ *e* 11 07 18.9
LPAZ La Paz 147.45 65 PKP PKPdf 11 07 15.6 +2.1
comp=Z,9.0nm,0.6s,baz=338,slow=2.9,SNR=34
LPAZ PKPbc PKPdf 11 07 19.0 +5.5
comp=Z,9.0nm,0.6s,baz=312,slow=2.2,SNR=41
LVC Limon Verde 150.35 76 *e*PKPbc PKPdf 11 07 26.2 +8.2
RCBR Riachuelo 151.97 356 *e*PKPbc PKPdf 11 07 28.5 +7.8
PLCA Paso Flores 153.09 114 PKPbc PKPdf 11 07 31.6 +10
comp=Z,3.1nm,0.9s,baz=14,slow=1.7,SNR=5.4

NEIC ***21*** *10:54:14.1,39.16S×174.79E,h214km,MG4.5(WEL), After WEL*

WEL 21 10:54:14.1±0.2,39.19S×174.83E,h215km±2km,ML4.5/18, 28C-6D,Error ellipse: s-maj=2.3km s-min=1.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.08**	**319**	P	P	10 54 41.4	-0.9
VRZ	**Vera Road**	**0.08**	**319**	⇑PN	P	10 54 41.4	-0.9
RAEZ	**Rainy Point**	**0.35**	**253**	⇑PN	P	10 54 42.3	-0.5
TWVZ	**Taurewa**	**0.49**	**77**	P	P	10 54 42.6	-0.6
TWVZ				S	S	10 55 04.2	-1.5
TWVZ	**Taurewa**	**0.49**	**77**	⇑PN	P	10 54 42.7	-0.5
TWVZ				SN	S	10 55 04.5	-1.2
MTVZ	**Mangateitei**	**0.54**	**112**	⇑PN	P	10 54 43.1	-0.2
MTVZ				SN	S	10 55 05.0	-1.0
WPVZ	**Whakapapa**	**0.56**	**92**	P	P	10 54 43.2	-0.2
WPVZ	**Whakapapa**	**0.56**	**92**	⇑PN	P	10 54 43.2	-0.2
CNZ	**Chateau**	**0.56**	**92**	P	P	10 54 43.2	-0.2
CNZ	**Chateau**	**0.56**	**92**	⇓PN	P	10 54 43.2	-0.2
FWVZ	**Far West T-bar**	**0.57**	**97**	P	P	10 54 43.4	-0.1
FWVZ	**Far West T-bar**	**0.57**	**97**	⇓PN	P	10 54 43.4	-0.1

NEZ	**North Egmont**	**0.57**	**261**	P	P	10 54 43.3	-0.2
NEZ	**North Egmont**	**0.57**	**261**	⇓PN	P	10 54 43.3	-0.2
DRZ	**Dome Shelter**	**0.58**	**99**	P	P	10 54 43.6	+0.1
DRZ	**Dome Shelter**	**0.58**	**99**	PN	P	10 54 43.5	+0.1
WAZ	**Wanganui**	**0.58**	**168**	P	P	10 54 43.7	+0.2
WAZ	**Wanganui**	**0.58**	**168**	⇑PN	P	10 54 43.7	+0.2
WAZ				SN	S	10 55 07.1	+0.8
MGZ	**Maungaku**	**0.58**	**72**	P	P	10 54 43.2	-0.3
MGZ	**Maungaku**	**0.58**	**72**	⇑PN	P	10 54 43.2	-0.3
WTVZ	**West Tongariro**	**0.60**	**84**	P	P	10 54 43.3	-0.3
WTVZ	**West Tongariro**	**0.60**	**84**	⇑PN	P	10 54 43.2	-0.3
WTVZ				SN	S	10 55 05.1	-1.3
NGZ	**Ngauruhoe**	**0.60**	**89**	P	P	10 54 43.4	-0.2
NGZ	**Ngauruhoe**	**0.60**	**89**	⇑PN	P	10 54 43.4	-0.2
NGZ				SN	S	10 55 05.5	-1.0
WNVZ	**Wahianoa**	**0.62**	**104**	P	P	10 54 43.5	-0.1
WNVZ	**Wahianoa**	**0.62**	**104**	PN	P	10 54 43.5	-0.2
WNVZ				SN	S	10 55 05.2	-1.3
TUVZ	**Tukino**	**0.65**	**98**	P	P	10 54 43.8	0.0
TUVZ	**Tukino**	**0.65**	**98**	PN	P	10 54 43.8	0.0
TUVZ				SN	S	10 55 06.5	-0.3
OTVZ	**Oturere**	**0.65**	**88**	PN	P	10 54 43.6	-0.2
OTVZ				SN	S	10 55 06.3	-0.5
PKE	**Pukeiti**	**0.65**	**269**	P	P	10 54 43.2	-0.6
PKE	**Pukeiti**	**0.65**	**269**	PN	P	10 54 43.2	-0.6
HIZ	**Hauiti**	**0.67**	**2**	P	P	10 54 42.8	-1.1
HIZ	**Hauiti**	**0.67**	**2**	⇑PN	P	10 54 42.8	-1.1
HIZ				SN	S	10 55 05.1	-1.9
KATZ	**Kakaramea**	**0.71**	**73**	P	P	10 54 43.5	-0.5
KATZ	**Kakaramea**	**0.71**	**73**	⇑PN	P	10 54 43.5	-0.5
KATZ				SN	S	10 55 06.0	-1.3
NRZ	**Ngariki Road**	**0.71**	**257**	P	P	10 54 43.6	-0.4
NRZ	**Ngariki Road**	**0.71**	**257**	⇓PN	P	10 54 43.6	-0.4
NWEZ	**Newall Road**	**0.75**	**263**	P	P	10 54 42.0	-2.2
NWEZ	**Newall Road**	**0.75**	**263**	PN	P	10 54 43.8	-0.4
MOVZ	**Moawhango**	**0.75**	**107**	P	P	10 54 43.8	-0.4
MOVZ	**Moawhango**	**0.75**	**107**	⇑PN	P	10 54 43.8	-0.5
MOVZ				SN	S	10 55 05.2	-2.4
RATZ	**Rangitukua**	**0.80**	**67**	P	P	10 54 43.9	-0.6
RATZ				S	S	10 55 02.9	-5.1
RATZ	**Rangitukua**	**0.80**	**67**	⇑PN	P	10 54 43.9	-0.6
RATZ				SN	S	10 55 07.7	-0.3
RITZ	**Rihia Road**	**0.83**	**76**	P	P	10 54 44.5	-0.1
RITZ	**Rihia Road**	**0.83**	**76**	PN	P	10 54 44.4	-0.2
RITZ				SN	S	10 55 07.5	-0.8
WATZ	**Wairara**	**0.85**	**56**	P	P	10 54 44.4	-0.3
WATZ	**Wairara**	**0.85**	**56**	⇑PN	P	10 54 44.4	-0.3
WATZ				SN	S	10 55 07.4	-1.1
HATZ	**Hinemaiaia**	**1.03**	**74**	P	P	10 54 44.9	-0.8
HATZ	**Hinemaiaia**	**1.03**	**74**	PN	P	10 54 44.9	-0.8
HATZ				eSN	S	10 55 07.7	-2.6
TSZ	**Takapari Road**	**1.24**	**135**	P	P	10 54 47.3	0.0
TSZ	**Takapari Road**	**1.24**	**135**	⇑PN	P	10 54 47.3	0.0
TSZ				SN	S	10 55 03.9	-9.1
BKZ	**Black Stump Fm**	**1.29**	**90**	P	P	10 54 47.1	-0.7
BKZ				S	S	10 55 07.2	-6.7
BKZ	**Black Stump Fm**	**1.29**	**90**	⇑PN	P	10 54 47.1	-0.7
BKZ				SN	S	10 55 07.2	-6.7
PATZ	**Paeroa**	**1.38**	**55**	PN	P	10 54 47.8	-0.7
MRZ	**Mangatainoka R**	**1.58**	**159**	P	P	10 54 49.5	-0.7
MRZ	**Mangatainoka R**	**1.58**	**159**	⇑PN	P	10 54 49.5	-0.7
MRZ				SN	S	10 55 16.1	-1.9
TAZ	**Tarawera**	**1.62**	**55**	P	P	10 54 49.5	-1.1
TAZ	**Tarawera**	**1.62**	**55**	⇑PN	P	10 54 49.5	-1.1
KIW	**Kapiti Island**	**1.68**	**178**	P	P	10 54 50.3	-0.7
KIW	**Kapiti Island**	**1.68**	**178**	⇑PN	P	10 54 50.2	-0.8
KIW				SN	S	10 55 13.9	-2.6
DUWZ	**D'Urville Isla**	**1.76**	**203**	⇑PN	P	10 54 50.9	-0.9
DUWZ				SN	S	10 55 18.5	-2.4
PWZ	**Pawanui**	**1.78**	**119**	P	P	10 54 51.7	-0.3
PWZ	**Pawanui**	**1.78**	**119**	⇑PN	P	10 54 51.7	-0.3
PWZ				SN	S	10 55 19.7	-1.5
BFZ	**Birch Farm**	**1.85**	**144**	P	P	10 54 51.9	-0.7
BFZ	**Birch Farm**	**1.85**	**144**	⇑PN	P	10 54 51.9	-0.7
MARZ	**Manawahe**	**1.88**	**51**	P	P	10 54 51.5	-1.4
MARZ	**Manawahe**	**1.88**	**51**	PN	P	10 54 51.4	-1.5
CAW	**Cannon Point**	**1.93**	**175**	P	P	10 54 52.6	-0.8
CAW	**Cannon Point**	**1.93**	**175**	⇑PN	P	10 54 52.6	-0.8
URZ	**Urewera**	**2.01**	**63**	P	P	10 54 52.1	-2.1
URZ	**Urewera**	**2.01**	**63**	⇓PN	P	10 54 52.1	-2.1
MTW	**Mount Morrison**	**2.04**	**165**	P	P	10 54 53.4	-1.0
MTW	**Mount Morrison**	**2.04**	**165**	⇑PN	P	10 54 53.4	-1.1
MTW				SN	S	10 55 23.8	-1.7
MRW	**Makara Radio**	**2.04**	**183**	P	P	10 54 53.5	-1.0
MRW	**Makara Radio**	**2.04**	**183**	⇑PN	P	10 54 53.5	-1.0
MRW				SN	S	10 55 23.2	-1.5
WEL	**Wellington**	**2.10**	**181**	P	P	10 54 54.0	-1.1
WEL	**Wellington**	**2.10**	**181**	PN	P	10 54 54.0	-1.1
SNZO	**South Karori**	**2.12**	**182**	P	P	10 54 54.1	-1.2
SNZO	**South Karori**	**2.12**	**182**	PN	P	10 54 54.1	-1.2
SNZO				SN	S	10 55 24.7	-2.5
BHW	**Baring Head**	**2.22**	**179**	P	P	10 54 55.0	-1.4
BHW	**Baring Head**	**2.22**	**179**	PN	P	10 54 55.0	-1.4
BHW				SN	S	10 55 26.1	-2.9
KNZ	**Kokohu**	**2.22**	**87**	P	P	10 54 55.4	-1.0
KNZ	**Kokohu**	**2.22**	**87**	PN	P	10 54 55.4	-1.0
PAWZ	**Paruwai Farm**	**2.24**	**168**	⇑PN	P	10 54 55.4	-1.1
PAWZ				SN	S	10 55 27.0	-2.4
MSWZ	**Moikau Station**	**2.25**	**172**	P	P	10 54 55.5	-1.2
MSWZ	**Moikau Station**	**2.25**	**172**	⇑PN	P	10 54 55.5	-1.2
MSWZ				SN	S	10 55 26.9	-2.6
MWZ	**Matawai**	**2.28**	**69**	P	P	10 54 55.2	-1.8
MWZ	**Matawai**	**2.28**	**69**	⇓PN	P	10 54 55.2	-1.8
MWZ				SN	S	10 55 24.3	-5.7
NNZ	**Nelson**	**2.31**	**208**	*eP*	P	10 54 55.9	-1.4
NNZ	**Nelson**	**2.31**	**208**	⇑PN	P	10 54 55.9	-1.4
NNZ				SN	S	10 55 27.6	-3.1
TUWZ	**Tuamarina**	**2.34**	**196**	PN	P	10 54 56.4	-1.2
QRZ	**Quartz Range**	**2.41**	**226**	P	P	10 54 56.0	-2.4
QRZ	**Quartz Range**	**2.41**	**226**	PN	P	10 54 55.9	-2.4
BSWZ	**Blackbirch Sta**	**2.63**	**196**	P	P	10 54 59.8	-1.0
BSWZ	**Blackbirch Sta**	**2.63**	**196**	PN	P	10 54 59.7	-1.0
PUZ	**Puketiti**	**2.91**	**69**	P	P	10 55 01.6	-2.3
PUZ				S	S	10 55 36.8	-5.7
PUZ	**Puketiti**	**2.91**	**69**	PN	P	10 55 01.6	-2.3
PUZ				SN	S	10 55 36.8	-5.7
THZ	**Tophouse**	**2.96**	**209**	P	P	10 55 02.6	-1.9
MXZ	**Matakaoa Point**	**3.18**	**60**	P	P	10 55 04.6	-2.5
KHZ	**Kahutara**	**3.37**	**196**	P	P	10 55 07.4	-2.0
DSZ	**Denniston Nort**	**3.44**	**221**	P	P	10 55 07.3	-2.9
LTZ	**Lake Taylor**	**4.08**	**207**	P	P	10 55 10.2	-2.8
CRLZ	**Canterbury Las**	**4.69**	**200**	P	P	10 55 21.8	-3.8
MQZ	**McQueen's Vall**	**4.80**	**199**	P	P	10 55 22.9	-4.1
WVZ	**Waitaha Valley**	**4.96**	**217**	P	P	10 55 24.9	-4.1
RPZ	**Rata Peaks**	**5.34**	**211**	P	P	10 55 29.9	-3.9
LBZ	**Lake Benmore**	**6.25**	**212**	*eP*	P	10 55 41.1	-4.3
ODZ	**Otahua Downs**	**6.63**	**207**	P	P	10 55 47.1	-3.2
JCZ	**Jackson Bay**	**6.67**	**221**	*eP*	P	10 55 46.2	-4.7
WKZ	**Wanaka**	**7.10**	**216**	*eP*	P	10 55 50.8	-5.7
EAZ	**Earnscleugh**	**7.30**	**212**	*eP*	P	10 55 53.7	-5.3
MLZ	**Mavora Lakes**	**7.89**	**217**	*eP*	P	10 56 02.9	-3.7
WHZ	**Wether Hill Ro**	**8.41**	**215**	*eP*	P	10 56 07.6	-5.8

*IDC **21** 10:57:36.0±1.4,34.02N×142.36E,mb3.8/3,mb1 4.0/6, mb1mx3.7/21,mbtmp4.0/6,ML3.7/3,Error ellipse: s-maj=35.0km s-min=23.9km az=123.0*
*JMA **21** 10:57:38.4±0.4,34.02N×142.37E,h20km,M3.4*
ISC 21 10:57:37.4±1.9,34.01N±0.05×142.46E±0.07,h27km±18km, n19,σ1$20/29,mb3.8/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.39**	**298**	P	**Pn**	**10 58 01.8**	**+0.5**
BSO3	**Boso 3**	**1.80**	**297**	P	**Pn**	**10 58 08.3**	**+1.1**
BSO4	**Boso 4**	**2.01**	**300**	P	**Pn**	**10 58 11.7**	**+1.4**
BSO4				S	**Sn**	**10 58 37.0**	**+2.3**
CHOJ	**Chosi**	**2.15**	**323**	S	**Sn**	**10 58 39.0**	**+0.8**
JHJ2	**Mitsune**	**2.38**	**249**	P	**Pn**	**10 58 16.6**	**+1.0**
JHJ2				S	**Sn**	**10 58 44.8**	**+0.6**
JHJ	**Hachijo jima 2**	**2.41**	**249**	Pn	**Pn**	**10 58 16.6**	**+0.7**
	55nm,0.3s,baz=244,slow=22,SNR=29						
JHJ				Sn	**Sn**	**10 58 43.7**	**-1.1**
	56nm,0.3s,baz=54,slow=23,SNR=6.1						
JIM2	**Oshima 3**	**2.60**	**287**	P	**Pn**	**10 58 17.8**	**-1.0**
JIM2				S	**Sn**	**10 58 48.1**	**-1.8**
JOD2	**Odawara 2**	**3.05**	**295**	P	**Pn**	**10 58 24.8**	**-0.3**
JOD2				S	**Sn**	**10 59 00.6**	**-0.5**
JAG	**Ashikaga**	**3.45**	**315**	P	**Pn**	**10 58 30.7**	**0.0**
JAG				S	**Sn**	**10 59 11.3**	**+0.1**
JRY	**Ryogami san**	**3.54**	**305**	P	**Pn**	**10 58 31.8**	**-0.3**
JRY				S	**Sn**	**10 59 14.0**	**+0.4**
JYN	**Shimob**	**3.55**	**296**	P	**Pn**	**10 58 33.2**	**+1.0**
JYN				S	**Sn**	**10 59 12.9**	**-0.9**
JMM	**Marumori**	**4.08**	**341**	P	**Pn**	**10 58 38.3**	**-1.5**
MAT	**Matsushiro**	**4.30**	**307**	P	**Pn**	**10 58 44.4**	**+1.5**
MAT				S	**Sn**	**10 59 31.1**	**-1.7**
JMK	**Ichinoseki**	**5.04**	**349**	P	**Pn**	**10 58 51.4**	**-1.9**
CBIJ	**Chichi jima**	**6.89**	**182**	Pn	**Pn**	**10 59 16.8**	**-2.7**
	4.3nm,0.3s,baz=260,slow=19,SNR=4.2						
CBIJ				Sn	**Sn**	**11 00 28.8**	**-8.9**
	3.9nm,0.3s,baz=259,slow=23,SNR=4.2						
ASAJ	**Asahikawa**	**10.10**	**1**	Pn	**P**	**10 59 59.9**	**-3.9**
	0.6nm,0.3s,baz=300,slow=16,SNR=3.7						
WRA	**Warramunga Arr**	**54.20**	**189**	P	**P**	**11 07 03.3**	**+0.2**
	0.6nm,0.4s,mb3.9,baz=6.3,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**57.93**	**189**	P	**P**	**11 07 29.9**	**+0.2**
	0.6nm,0.8s,mb3.7,baz=359,slow=5.4,SNR=8.6						
TXAR	**Lajitas Array**	**91.27**	**53**	P	**P**	**11 10 44.7**	**+2.8**
	0.2nm,0.5s,mb3.7,baz=297,slow=4.8,SNR=5.1						

*THR **21** 11:28:06.2±0.8,31.81N×50.09E,h18km±13km,ML2.9*
*CSEM **21** 11:28:06.4±0.4,31.72N×50.02E,h35km±6km,ML3.8/2, Error ellipse: s-maj=9.0km s-min=4.1km az=96.0*
ISC 21 11:28:04.1±2.6,31.6N±0.1×50.04E±0.09,h5km±19km,n7, σ0$64/13,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**1.16**	**294**	*e*PG	**Pg**	**11 28 27.5**	**+0.3**
SHGR				*e*SG	**Sg**	**11 28 42.7**	**+0.1**
SHGR				AML	AML	11 28 47.5	
	comp=N,288nm,0.4s						
SHGR	**Shooshtar-Gavs**	**1.16**	**294**	*e*Pg	**Pg**	**11 28 27.5**	**+0.3**
	SNR=92						
SHGR				*e*Sg	**Sg**	**11 28 42.7**	**+0.1**
	comp=N,288nm,0.4s,SNR=92						
NASN	**Na'in**	**2.61**	**63**	*e*PN	**Pn**	**11 28 48.5**	**+0.8**
ASAO	**Ashtian**	**2.90**	**360**	*e*PN	**Pn**	**11 28 51.0**	**-0.8**
ASAO				*e*SG	**Sg**	**11 29 31.9**	**-8.8**
ASAO				AML	AML	11 29 41.5	
	comp=N,39nm,0.6s						
ASAO	**Ashtian**	**2.90**	**360**	*e*Pn	**Pn**	**11 28 51.0**	**-0.8**
	SNR=52						
ASAO				*e*Sg	**Sg**	**11 29 32.0**	**-8.8**
	comp=N,39nm,0.6s,SNR=91						
RST	**Umm Al-Ruwaisa**	**3.38**	**232**	*e*P	**Pn**	**11 28 58.4**	**-0.2**
RST				*e*S	**Sn**	**11 29 40.6**	**+1.0**
RDF	**Al-Radifah**	**3.46**	**219**	*e*P	**Pn**	**11 28 58.9**	**-0.7**
RDF				*e*S	**Sn**	**11 29 41.0**	**-0.5**

*IDC **21** 11:45:09.2±1.4,33.77N×142.55E,mb3.8/4,mb1 4.0/7, mb1mx3.7/20,mbtmp4.0/7,ML3.6/3,MS2.6/1,Ms1 2.6/1, ms1mx2.3/18,Error ellipse: s-maj=35.0km s-min=26.9km az=84.0*
*JMA **21** 11:45:10.0±0.5,33.97N×142.43E,h28km,M3.4*
ISC 21 11:45:10.3±1.3,34.03N±0.06×142.49E±0.08,h36km±16km, n21,σ0$99/30,mb3.8/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.39**	**297**	P	**P**	**11 45 34.0**	**+0.4**
BSO1				S	**S**	**11 45 51.9**	**+0.8**
BSO3	**Boso 3**	**1.80**	**296**	P	**P**	**11 45 40.4**	**+0.9**
BSO4	**Boso 4**	**2.01**	**299**	P	**P**	**11 45 43.9**	**+1.4**
CHOJ	**Chosi**	**2.14**	**322**	P	**P**	**11 45 45.9**	**+1.6**
CHOJ				S	**S**	**11 46 11.4**	**+1.6**
JHJ2	**Mitsune**	**2.41**	**248**	P	**P**	**11 45 48.4**	**+0.2**
JHJ2				*e*S	**S**	**11 46 16.7**	**-0.1**
JHJ	**Hachijo jima 2**	**2.43**	**249**	Pn	**P**	**11 45 48.7**	**+0.2**
	36nm,0.3s,baz=253,slow=22,SNR=19						
JHJ				Sn	**S**	**11 46 16.2**	**-1.1**
	42nm,0.3s,baz=246,slow=22,SNR=8.6						
JIM2	**Oshima 3**	**2.62**	**286**	P	**P**	**11 45 50.4**	**-0.7**
JOD2	**Odawara 2**	**3.06**	**295**	P	**P**	**11 45 56.7**	**-0.7**
JOD2				S	**S**	**11 46 33.6**	**+0.4**
JAG	**Ashikaga**	**3.44**	**315**	P	**P**	**11 46 02.6**	**-0.3**
JRY	**Ryogami san**	**3.54**	**305**	P	**P**	**11 46 04.3**	**0.0**
JYN	**Shimob**	**3.56**	**295**	P	**P**	**11 46 04.4**	**-0.1**
JYN				S	**S**	**11 46 45.4**	**-0.6**
JMM	**Marumori**	**4.06**	**341**	P	**P**	**11 46 10.8**	**-0.9**
JMM				*e*S	**S**	**11 46 54.6**	**-4.1**
MAT	**Matsushiro**	**4.30**	**307**	P	**P**	**11 46 15.4**	**+0.3**
MAT				S	**S**	**11 47 03.1**	**-1.7**
JMK	**Ichinoseki**	**5.01**	**349**	P	**P**	**11 46 23.5**	**-1.7**
JMK				*e*S	**S**	**11 47 17.2**	**-5.5**
CBIJ	**Chichi jima**	**6.92**	**182**	Pn	**P**	**11 46 47.1**	**-4.8**
	3.1nm,0.3s,baz=240,slow=18,SNR=2.6						
CBIJ				Sn	**S**	**11 48 01.7**	**-8.6**
	0.2nm,0.3s,baz=270,slow=18,SNR=2.6						
ASAJ	**Asahikawa**	**10.07**	**0**	Pn	**P**	**11 47 31.7**	**-3.8**
	0.5nm,0.3s,baz=310,slow=23,SNR=3.8						
JOW	**Kunigami**	**14.20**	**243**	LR	LR	11 53 35.3	
	comp=Z,25nm,18.2s,baz=214,slow=36						
ZAL	**Zalesovo**	**44.62**	**315**	P	**P**	**11 53 25.2**	**+4.5**
	1.5nm,0.4s,mb4.2,baz=157,slow=16,SNR=5.1						
WRA	**Warramunga Arr**	**54.23**	**189**	P	**P**	**11 54 35.3**	**+0.3**
	0.4nm,0.3s,mb3.8,baz=6.6,slow=7.4,SNR=6.1						
ASAR	**Alice Springs**	**57.96**	**189**	P	**P**	**11 55 02.0**	**+0.3**
	0.3nm,0.8s,mb3.4,baz=0.7,slow=5.8,SNR=4.8						
TXAR	**Lajitas Array**	**91.24**	**53**	P	**P**	**11 58 16.7**	**+3.3**
	0.2nm,0.5s,mb3.7,baz=298,slow=2.5,SNR=5.2						

*NEIC **21** 11:46:34.9±3.0,5.86S×150.99E,h44km±24km,mb4.1/3, Error ellipse: s-maj=35.8km s-min=20.7km az=124.0*
*IDC **21** 11:46:36.4±6.8,5.65S×150.51E,h54km±59km,mb3.7/3, mb1 3.9/4,mb1mx3.6/11,mbtmp3.9/4,ML2.3/1,Error ellipse: s-maj=86.5km s-min=34.3km az=118.0*
ISC 21 11:46:34.3±4.2,5.9S±0.2×150.8E±0.3,h45km±33km,n12, σ0$98/14,mb3.9/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.03**	**226**	P	**P**	**11 47 50.3**	**+1.0**
	0.8nm,0.3s,baz=30,slow=11,SNR=4.5						
PMG				S	**S**	**11 48 44.9**	**-2.0**
	3.5nm,0.3s,baz=355,slow=6.5,SNR=4.6						
PMG	**Port Moresby**	**5.03**	**226**	*e*Pn	**P**	**11 47 50.0**	**+0.7**
PMG				S	**S**	**11 48 45.0**	**-2.0**
KAKA	**Kakadu**	**19.35**	**248**	*e*P	**P**	**11 51 00.1**	**+1.1**
	7.8nm,1.2s						
WRAB	**Tennant Creek**	**21.24**	**227**	*e*P	**P**	**11 51 18.5**	**-0.2**
	6.7nm,0.8s,mb4.0						
WB2	**Warramunga Arr**	**21.24**	**227**	*e*P	**P**	**11 51 18.3**	**-0.5**
WRA	**Warramunga Arr**	**21.25**	**227**	P	**P**	**11 51 18.4**	**-0.5**
	2.7nm,0.6s,mb3.8,baz=52,slow=10,SNR=21						
ASAR	**Alice Springs**	**24.03**	**221**	P	**P**	**11 51 46.9**	**+0.7**
	2.4nm,0.7s,mb3.7,baz=53,slow=9.6,SNR=28						
ASPA	**Alice Springs**	**24.03**	**221**	*e*P	**P**	**11 51 47.9**	**+1.6**
STKA	**Stephens Creek**	**27.25**	**197**	P	**P**	**11 52 16.4**	**-0.1**
	1.3nm,0.6s,mb3.6,baz=31,slow=5.9,SNR=3.4						
STKA	**Stephens Creek**	**27.25**	**197**	P	**P**	**11 52 16.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**27.41**	**242**	*e*P	**P**	**11 52 18.0**	**0.0**
	10.0nm,1.6s,mb4.1						
ILAR	**Eielson Array**	**83.91**	**22**	P	**P**	**11 58 59.1**	**-1.3**
	0.5nm,0.5s,mb3.9,baz=250,slow=5.4,SNR=5.0						

CASC 21 11:48:44.0±2.1,13.99N×92.17W,h79km±63km,MD3.9, ML3.9,2C-1D,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.61**	**58**	*i*P	P	11 48 58.0	-0.8
JAT				*e*S	S	11 49 10.3	+0.6
JAT				AML	AML	11 49 11.7	
	comp=N,5μm,0.2s						
IXG	**Ixpaco**	**1.67**	**84**	*e*P	P	11 49 11.1	-0.9
IXG				*e*S	S	11 49 34.3	+1.6
IXG				AML	AML	11 49 42.4	
	comp=N,3μm,0.4s						
RBDL	**Robledal**	**2.41**	**87**	*e*P	P	11 49 22.6	+0.4
RTR	**El Retiro**	**2.45**	**92**	*e*P	P	11 49 23.3	+0.5
SBLS	**San Blas**	**2.47**	**93**	*e*P	P	11 49 23.2	+0.2
SBLS				*e*S	S	11 49 54.7	+2.5
SNJE	**San Jose**	**2.49**	**93**	*e*P	P	11 49 23.2	-0.1
LFRS	**El Faro**	**3.04**	**97**	*e*P	P	11 49 30.4	-0.5
LFRS				*e*S	S	11 50 05.6	-0.7

*NIED **21** 11:55:00,38.90N×142.50E,h23km,Mw3.9 Best double couple: M0 9.19×10^14 NP1:φs351°,δ66°,λ33°. NP2:φs246°, δ60°,λ152°.*
*JMA **21** 11:55:21.4±0.1,38.90N×142.54E,h31km±2km,M4.1 Broadband fault plane solution: P waves. NP1:φs188°, δ23°,λ19°. NP2:φs80°,δ83°,λ112°. Principal axes: T Plg48°, Azm13°; N Plg22°, Azm257°; P Plg34°, Azm151°; JMA Felt I J1.*
*IDC **21** 11:55:34.3±3.1,38.37N×141.41E,h96km±30km,mb3.4/5, mb1 3.6/6,mb1mx3.4/21,mbtmp3.8/6,MS3.0/1,Ms1 3.0/1, ms1mx2.2/14 Error ellipse: s-maj=39.2km s-min=16.1km az=105.0*
*NEIC **21** 11:55:37.1±1.6,38.39N×141.37E,h123km±16km,Error ellipse: s-maj=26.4km s-min=14.7km az=106.0*
NEIC Recorded [1 JMA] in Iwate Prefecture.
ISC 21 11:55:20.0±1.3,38.87N±0.04×142.60E±0.08,h21km±8km, n23,σ0$57/29,mb3.9/3,2C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.76**	**287**	⇓P	**Pb**	**11 55 35.0**	**+0.6**
OFUJ				S	**Sb**	**11 55 44.6**	**+0.4**
MIYJ	**Miyakonagasawa**	**0.93**	**320**	P	**Pb**	**11 55 37.3**	**-0.1**
MIYJ				S	**Sb**	**11 55 48.4**	**-0.9**
JIO	**Ouri**	**1.06**	**248**	⇑P	**Pb**	**11 55 39.6**	**0.0**
JIO				S	**Sb**	**11 55 52.2**	**-0.9**
JMK	**Ichinoseki**	**1.08**	**275**	⇓P	**Pb**	**11 55 40.1**	**+0.2**
JMK				S	**Sb**	**11 55 53.2**	**-0.4**
JOM	**Ohasama**	**1.18**	**301**	⇓P	**Pn**	**11 55 41.7**	**+0.2**
JOM				*e*S	**Sb**	**11 55 56.3**	**-0.2**
JTH	**Tanohata**	**1.21**	**332**	P	**Pn**	**11 55 41.7**	**-0.2**
JTH				*e*S	**Sb**	**11 55 57.3**	**-0.1**
JOU	**Okura**	**1.60**	**252**	P	**Pn**	**11 55 47.9**	**+0.5**
JOU				*e*S	**Sn**	**11 56 07.7**	**+0.1**
JANG	**Nango**	**1.72**	**331**	⇑P	**Pn**	**11 55 49.7**	**+0.5**
JMM	**Marumori**	**1.74**	**235**	P	**Pn**	**11 55 49.3**	**-0.1**
JMM				*e*S	**Sn**	**11 56 10.8**	**-0.3**
JYK	**Kaneyama**	**1.75**	**272**	P	**Pn**	**11 55 50.7**	**+1.1**
JYK				*e*S	**Sn**	**11 56 11.2**	**-0.2**
MAJO	**Matsushiro**	**4.19**	**238**	*e*Pn	**Pn**	**11 56 25.2**	**+0.9**
MAT	**Matsushiro**	**4.19**	**238**	*e*P	**Pn**	**11 56 25.0**	**+0.7**
MAT				S	**Sn**	**11 57 26.0**	**+13**
MAT	**Matsushiro**	**4.19**	**238**	P	**Pn**	**11 56 25.2**	**+0.9**
MAT				*e*S	**Sn**	**11 57 08.9**	**-4.3**
ASAJ	**Asahikawa**	**5.24**	**360**	LR	LR	11 59 12.8	
	comp=Z,170nm,21.9s,baz=200,slow=38						
JHJ	**Hachijo jima 2**	**6.17**	**203**	P	**Pn**	**11 56 52.4**	**0.0**
	8.2nm,0.3s,baz=276,slow=23,SNR=4.5						
JHJ				S	**Sn**	**11 57 54.0**	**-9.2**
	1.4nm,0.3s,baz=49,slow=19,SNR=2.2						
SONM	**Songino Array**	**27.60**	**301**	P	**P**	**12 01 07.6**	**0.0**
	0.2nm,0.3s,mb3.2,baz=90,slow=7.2,SNR=2.8						
ILAR	**Eielson Array**	**47.45**	**33**	P	pP	12 04 05.3	+4.3
	0.9nm,0.8s,baz=269,slow=6.0,SNR=8.9						
INK	**Inuvik**	**52.33**	**28**	P	pP	12 04 42.4	+3.9
	0.9nm,0.7s,baz=279,slow=5.2,SNR=4.5						
INK	**Inuvik**	**52.33**	**28**	P	pP	12 04 42.4	+3.9
WRA	**Warramunga Arr**	**59.01**	**189**	P	**P**	**12 05 19.5**	**-1.2**
	2.9nm,0.7s,mb4.4,baz=6.4,slow=7.0,SNR=20						
YKA	**Yellowknife Ar**	**61.75**	**31**	P	pP	12 05 48.5	+3.0
	0.2nm,0.8s,baz=302,slow=6.7,SNR=5.5						
YKA	**Yellowknife Ar**	**61.75**	**31**	P	pP	12 05 48.5	+3.0
ASAR	**Alice Springs**	**62.74**	**189**	P	**P**	**12 05 45.1**	**-0.8**
	1.0nm,0.7s,mb4.1,ba

HIA	**Hailar**	**19.78**	**308**	*e*P		**P**	**12 06 25.7**	**-3.6**
HIA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
HIA	**Hailar**	**19.78**	**308**	*e*P		**P**	**12 06 25.7**	**-3.6**
	comp=Z,9.3nm,1.0s							
YAK	**Yakutsk**	**24.41**	**344**	*e*P		**P**	**12 07 15.1**	**-0.5**
YAK				pmax		pmax		
	comp=N,3.0nm,0.9s							
YAK				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.2							
BOD	**Bodaibo**	**26.73**	**324**	*e*P		**P**	**12 07 36.1**	**-1.3**
BOD				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.1							
ULN	**Ulaanbaatar**	**27.68**	**300**	*e*P		**P**	**12 07 46.1**	**-0.1**
ULN				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.0							
ULN	**Ulaanbaatar**	**27.68**	**300**	*e*P		**P**	**12 07 46.1**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.0							
SONM	**Songino Array**	**28.12**	**300**	P		**P**	**12 07 50.3**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.8,baz=93,slow=9.1,SNR=17							
XAN	**Xi'an**	**28.22**	**270**	P		**P**	**12 07 58.1**	**+6.9**
XAN				AMB		AMB		
	comp=Z,4.0nm,0.5s,mb4.3							
TLY	**Talaya**	**30.32**	**308**	*e*P		**P**	**12 08 10.2**	**+0.3**
TLY				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb3.8							
TLY				MLR		MLR		
	comp=Z,97nm,16.0s,MS3.5							
ZAK	**Zakamensk**	**30.39**	**305**	*e*P		**P**	**12 08 07.2**	**-3.2**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.7s,mb3.6							
GTA	**Gaotai**	**33.66**	**285**	*e*P		**P**	**12 08 38.9**	**-0.3**
GTA				AMB		AMB		
	comp=Z,4.0nm,1.1s,mb4.3							
GTA				AMB		AMB		
	comp=Z,80nm,4.9s							
GTA				LR		LR		
	comp=N,65nm,12.9s,MS3.8							
GTA				LR		LR		
	comp=E,116nm,15.2s,MS3.8							
GTA				LR		LR		
	comp=Z,184nm,16.0s,MS3.9							
ZAL	**Zalesovo**	**41.81**	**311**	P		**P**	**12 09 48.1**	**+0.8**
	comp=Z,1.3nm,0.5s,mb3.8,baz=38,slow=4.5,SNR=5.8							
KURK	**Kurchatov**	**46.01**	**307**	*e*P		**P**	**12 10 20.4**	**-0.9**
KURK				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**46.01**	**307**	*e*P		**P**	**12 10 20.4**	**-0.9**
	comp=Z,7.2nm,0.8s,mb4.7							
CHKZ	**Chkalovo**	**50.14**	**312**	*e*P		**P**	**12 10 52.6**	**-0.9**
CHKZ				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.5							
CHKZ	**Chkalovo**	**50.14**	**312**	*e*P		**P**	**12 10 52.6**	**-0.8**
	comp=Z,2.5nm,0.6s,mb4.4							
BVAR	**Borovoye Array**	**50.44**	**311**	P		**P**	**12 10 55.4**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.1,baz=80,slow=9.0,SNR=9.5							
AAK	**Ala-Archa**	**51.02**	**298**	*e*P		**P**	**12 11 03.3**	**+2.9**
AAK				pmax		pmax		
	comp=Z,1.0nm,0.5s,mb4.0							
AAK	**Ala-Archa**	**51.02**	**298**	*e*P		**P**	**12 11 03.3**	**+2.9**
	comp=Z,1.1nm,0.5s,mb4.0							
INK	**Inuvik**	**51.67**	**28**	*e*P		**P**	**12 11 06.1**	**+1.2**
INK				pmax		pmax		
	comp=Z,1.0nm,0.6s							
INK	**Inuvik**	**51.67**	**28**	P		**P**	**12 11 06.3**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.9,baz=293,slow=7.6,SNR=13							
INK	**Inuvik**	**51.67**	**28**	*e*P		**P**	**12 11 06.1**	**+1.2**
	comp=Z,1.0nm,0.6s,mb3.9							
YKA	**Yellowknife Ar**	**61.07**	**31**	P		**P**	**12 12 12.7**	**+0.5**
	comp=Z,0.1nm,0.4s,mb3.3,baz=300,slow=6.2,SNR=4.4							
ASAR	**Alice Springs**	**63.18**	**190**	P		PcP	12 12 55.3	-8.9
	comp=Z,0.4nm,0.7s,baz=12,slow=5.4,SNR=4.2							
FINES	**FINESS Array B**	**67.72**	**333**	P		**P**	**12 12 55.1**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=27,slow=4.3,SNR=5.0							
KIV	**Kislovodsk**	**70.81**	**311**	*e*P		**P**	**12 13 16.2**	**+1.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.7							
HFS	**Hagfors**	**72.83**	**336**	P		**P**	**12 13 26.8**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=186,slow=40,SNR=3.8							
NB2	**NORSAR Subarra**	**72.86**	**338**	P		**P**	**12 13 26.6**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.1,baz=37,slow=5.8							
NOA	**NORSAR Array B**	**72.86**	**338**	P		**P**	**12 13 26.6**	**0.0**
	comp=Z,1.2nm,0.8s,mb3.9,baz=37,slow=6.1,SNR=4.2							
GERES	**GERESS Array B**	**81.78**	**329**	P		**P**	**12 14 17.1**	**+0.7**
	comp=Z,0.2nm,0.2s,mb3.7,baz=45,slow=3.8,SNR=3.5							

NIED ***21*** *12:18:00,43.80N×147.70E,h35km,Mw3.6 Best double couple: M₀3.1×10¹⁴ NP1:φs40°,δ78°,λ100°. NP2:φs179°, δ16°,λ50°.*

JMA 21 12:18:50.0±0.2,43.78N×147.68E,M4.2,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.47**	**254**	P	Pn	12 19 17.6	-0.2
NEM2				*e*S	Sb	12 19 37.4	+0.4
JRA	**Rausu**	**1.86**	**276**	P	Pn	12 19 23.4	0.0
JRA				*e*S	Sn	12 19 47.5	-0.4
JNK	**Nakash**	**2.16**	**266**	P	Pn	12 19 27.7	+0.1
JNK				*e*S	Sn	12 19 55.8	+0.3
JAK	**Akkeshi**	**2.31**	**251**	P	Pn	12 19 29.6	-0.3
JAK				*e*S	Sn	12 19 58.8	-0.6
JTKR	**Abashiri--Toko**	**2.73**	**275**	P	Pn	12 19 36.3	+0.4
JAR	**Ashorobuto**	**2.88**	**262**	P	Pn	12 19 38.5	+0.5
JAR				*e*S	Sn	12 20 14.3	+0.3
JOB	**Onbets**	**2.94**	**254**	P	Pn	12 19 39.0	+0.2
JMP	**Maruseppu**	**3.13**	**276**	P	Pn	12 19 41.9	+0.3
JCH	**Churui**	**3.37**	**251**	P	Pn	12 19 45.0	+0.1
JCH				*e*S	Sn	12 20 25.7	-0.4
JSE	**Soyaes**	**3.84**	**290**	P	Pn	12 19 52.3	+0.7
JNBK	**Urakawa-nobuka**	**3.91**	**249**	P	Pn	12 19 52.4	-0.2
JNBK				*e*S	Sn	12 20 40.1	+0.2

IDC ***21*** *12:22:20.8±1.5,29.76N×69.35E,mb3.7/7,mb1 3.9/7, mb1mx3.7/19,mbtmp3.7/7,Error ellipse: s-maj=43.1km s-min=25.7km az=60.0*

NEIC ***21*** *12:22:26.2±0.9,29.81N×69.36E,h35km,mb3.8/1,Error ellipse: s-maj=24.3km s-min=15.3km az=68.0*

ISC 21 12:22:25.9±0.7,30.07N±0.06×69.60E±0.06,h33km,n28, σ1$49/29,mb3.6/8,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.34**	**160**	*e*P	**P**	**12 23 16.4**	**-0.6**
AJM	**Ajmer**	**5.71**	**128**	*e*P	**P**	**12 23 53.7**	**+3.2**
AJM				*e*S	**S**	**12 24 57.6**	**+1.7**
AJM				*e*		12 25 29.1	
	comp=N,138nm,0.5s						
AJM				*e*		12 25 29.9	
	comp=E,264nm,0.5s						
THN	**Thein Dam**	**5.75**	**64**	*e*S	**S**	**12 24 55.6**	**-1.1**
PONG	**Pong**	**5.77**	**69**	*e*PG	Px	12 24 14.0	
KHET	**Khetri**	**5.79**	**109**	*e*P	**P**	**12 23 56.6**	**+4.9**
KHET				*e*S	**S**	**12 25 02.8**	**+5.0**
KHET				*e*		12 25 34.0	
	comp=N,231nm,1.0s						
KHET				*e*		12 25 34.9	
	comp=E,193nm,0.7s						
BHK	**Bhakra**	**6.02**	**75**	*e*	**S**	**12 25 04.7**	**+1.0**
BHK				*e*		12 25 36.5	
SDNR	**Sundarnagar**	**6.50**	**76**	*e*	Px	12 23 53.8	
SDNR				*e*		12 25 45.9	
AYAN	**Aya Nagar**	**6.77**	**102**	*e*P	**P**	**12 24 09.6**	**+4.2**
NDI	**New Delhi**	**6.79**	**100**	*e*P	**P**	**12 24 15.5**	**+10**
NDI				*e*		12 25 55.0	
SONA	**Sohna**	**6.79**	**104**	*e*P	**P**	**12 24 15.2**	**+9.3**
SONA				*e*S	**S**	**12 25 31.0**	**+8.1**
SONA				*e*		12 26 10.0	
	comp=E,165nm,0.9s						
SONA				*e*		12 26 10.7	
	comp=N,163nm,1.1s						
KLP	**Kalpa**	**7.59**	**77**	*e*P	**P**	**12 24 16.7**	**-0.1**
KLP				*e*S	**S**	**12 25 41.3**	**-1.3**
KALG	**Kalgarh**	**7.98**	**92**	*e*P	Px	12 24 02.2	
KALG				*e*S	Sx	12 25 30.3	
JOSI	**Joshimath**	**8.63**	**84**	*e*P	Px	12 24 19.1	
JOSI				*e*S	Sx	12 25 56.5	
LGTI	**Lohaghat**	**9.28**	**91**	*e*P	**P**	**12 24 44.0**	**+3.6**
LGTI				*e*		12 27 06.0	
BHPL	**Bhopal**	**9.76**	**132**	*e*S	**S**	**12 26 30.1**	**-6.6**
BHPL				*e*		12 27 50.1	
	comp=E,65nm,0.7s						
BHPL				*e*		12 27 50.2	
	comp=N,59nm,0.8s						
KOLN	**Koldanda**	**12.48**	**97**	*e*P	**P**	**12 25 20.6**	**-3.4**
	comp=N,7.7nm,0.4s						
KOLN				*e*S	**S**	**12 27 35.4**	**-7.5**
GKN	**Gorkha**	**13.32**	**95**	*e*P	**P**	**12 25 32.8**	**-2.4**
	comp=N,10nm,0.5s						
DMN	**Daman**	**13.82**	**96**	*e*P	**P**	**12 25 36.0**	**-5.7**
KKN	**Kakani**	**13.92**	**96**	*e*P	**P**	**12 25 38.1**	**-5.0**
	comp=N,15nm,0.6s						
GUN	**Gumba**	**14.41**	**95**	*e*P	**P**	**12 25 44.6**	**-4.9**
	comp=N,12nm,0.3s						
KURK	**Kurchatov**	**21.70**	**16**	*e*P	**P**	**12 27 17.2**	**+1.4**
	comp=N,3.6nm,0.9s,mb3.8						
BVAR	**Borovoye Array**	**22.94**	**1**	P	**P**	**12 27 30.6**	**+2.7**
	comp=N,1.6nm,0.8s,mb3.5,baz=180,slow=10,SNR=7.7						
ZAL	**Zalesovo**	**26.27**	**21**	P	**P**	**12 28 00.7**	**+0.8**
	comp=N,1.4nm,0.3s,mb3.9,baz=246,slow=5.8,SNR=3.6						
SONM	**Songino Array**	**33.27**	**47**	P	**P**	**12 29 02.8**	**+0.5**
	comp=N,0.8nm,0.8s,mb3.7,baz=247,slow=8.6,SNR=8.2						
AKASG	**Malin Array Be**	**36.41**	**316**	P	**P**	**12 29 27.3**	**-1.7**
	comp=N,0.4nm,0.4s,mb3.7,baz=73,slow=10,SNR=4.7						
WRA	**Warramunga Arr**	**79.69**	**120**	P	**P**	**12 34 31.6**	**-0.7**
	comp=N,0.4nm,0.5s,mb3.6,baz=317,slow=5.4,SNR=5.7						
ASAR	**Alice Springs**	**81.63**	**123**	P	**P**	**12 34 40.6**	**-1.8**
	comp=N,0.3nm,0.7s,mb3.3,baz=317,slow=6.1,SNR=4.8						
YKA	**Yellowknife Ar**	**87.70**	**2**	P	**P**	**12 35 12.1**	**+0.3**
	comp=N,0.2nm,0.6s,mb3.5,baz=349,slow=5.0,SNR=4.8						

ORF ***21*** *12:23:30.7,18.83S×58.26W,h30km,mb5.9*

PDG ***21*** *12:23:49.4,24.90S×63.40W,h530km*

MOS ***21*** *12:23:53.0±0.9,24.91S×63.43W,h574km,mb6.2/71, MS6.0/10,Error ellipse: s-maj=7.3km s-min=4.4km az=69.6*

BJI ***21*** *12:23:53.8,24.71S×63.95W,h577km,mB6.5*

BGS ***21*** *12:23:54.0,24.09S×64.64W,h579km,mb5.6*

HRVD ***21*** *12:23:54.1±0.1,24.88S×63.54W,h572km,MW6.8/83, Centroid moment Tensor Solution. LP body waves: s83,c223;Mantle waves: s82,c182; Half duration: 6s4 Moment tensor: Scale 10¹⁹Nm; Mrr-0.20±.01; Mθθ-0.37±.01; Mφφ0.56±.01; Mrθ-0.74±.01; Mθφ0.50±.01; Mφr2.04±.01; Best double couple: Mo2.281×10¹⁹ NP1: φs64°,δ18°,λ-8°. NP2:φs161°,δ88°,λ-107°. Principal axes: T 2.261, Plg40°, Azm267°; N .04, Plg17°, Azm162°; P -2.301, Plg45°, Azm54°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to mantle waves, cutoff=125s.*

LDG ***21*** *12:23:54.0±0.6,24.75S×63.45W,h577km,Mb6.2/39, Ms5.7/8 Error ellipse: s-maj=38.2km s-min=19.0km az=53.0*

IDC ***21*** *12:23:54.2±0.4,24.82S×63.40W,h580km±3km,mb5.4/19, mb1 5.6/23,mb1mx5.6/23,mbtmp6.4/23,Error ellipse: s-maj=9.1km s-min=5.5km az=74.0*

NEIC ***21*** *12:23:54.1±0.1,24.98S×63.47W,mb6.1/209,ME6.3, MW6.9,MD6.5(SJA),Error ellipse: s-maj=2.5km s-min=2.2km az=149.0 Broadband fault plane solution: P waves. NP1:φs162°,δ85°,λ-107°. NP2:φs56°,δ18°,λ-17°. Principal axes: T Plg38°, Azm267°; N Plg0°, Azm0°; P Plg47°, Azm54°; Moment Tensor Solution. s68 Moment tensor: Scale 10¹⁹ Nm; Mrr-0.47; Mθθ-0.34; Mφφ0.82; Mrθ-0.90; Mθφ0.60; Mφr2.40; Best double couple: Mo2.7×10¹⁹ NP1:φs58°,δ18°,λ-15°. NP2:φs162°,δ85°, λ-108°. Principal axes: T 2.66, Plg38°, Azm268°; N .13, Plg18°, Azm164°; P -2.79, Plg47°, Azm54°; Depth from broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt [III] at Catamarca, Salta, San Miguel de Tucuman and Santiago del Estero. Felt [IV] at Maria Elena and Tocopilla; [III] at Antofagasta, Mejillones and Sierra Gorda; [II] at Iquique, Chile.

CASC ***21*** *12:23:55.2±2.7,24.98S×63.47W,h579km,mb5.2, mb6.1(NEIC)*

ISC 21 12:23:53.1±0.1,24.94S±0.02×63.46W±0.02,h577km, h577km±.8km:pP-P,n1290,σ0s83/939,mb6.0/242, 165C-203D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.51**	**294**	ǁ*i*P	**P**	**12 25 29.5**	**+0.1**
LVC	**Limon Verde**	**5.51**	**294**	P	**P**	**12 25 29.4**	**+0.1**
LVC				S	**S**	**12 26 44.6**	**-1.1**
LVC	**Limon Verde**	**5.51**	**294**	P	**P**	**12 25 29.4**	**+0.1**
	3μm,0.3s,baz=107,slow=6.3,SNR=4164						
LVC				S	**S**	**12 26 44.9**	**-0.9**
	5μm,0.3s,baz=212,slow=23,SNR=24						
LVC	**Limon Verde**	**5.51**	**294**	ǁ*i*P	**P**	**12 25 29.5**	**+0.2**
LVC				*e*S	**S**	**12 26 35.6**	**-10**
CPUP	**Villa Florida**	**5.70**	**105**	P	**P**	**12 25 31.5**	**+0.5**
CPUP				sPn		12 26 51.5	
CPN1	**Cerro Paranal**	**6.32**	**271**	ǁ*i*P	**P**	**12 25 37.0**	**+0.5**
ANCH	**Antofagasta**	**6.47**	**280**	ǁ*i*P	**P**	**12 25 37.7**	**-0.1**
CPCH	**Copiapo**	**6.65**	**247**	ǁ*i*P	**P**	**12 25 38.3**	**-1.2**
VACH	**Vallenar**	**7.46**	**239**	ǁ*i*P	**P**	**12 25 46.9**	**-0.2**
LCO	**Las Campanas**	**7.63**	**236**	ǁ*i*P	**P**	**12 25 48.7**	**+0.1**
ZON	**Zonda**	**8.03**	**214**	*e*P	**P**	**12 25 52.0**	**-0.5**
TLL	**Tololo Astrono**	**8.34**	**230**	ǁ*i*P	**P**	**12 25 55.6**	**+0.1**
OVCH	**Ovalle**	**8.88**	**229**	ǁ*i*P	**P**	**12 26 00.2**	**-0.6**
ILCH	**Illapel**	**9.52**	**224**	ǁ*i*P	**P**	**12 26 06.1**	**-1.0**
LPAZ	**La Paz**	**9.66**	**332**	ǁ*e*P	**P**	**12 26 09.3**	**+0.8**
LPAZ				*e*S	**S**	**12 27 53.8**	**-3.2**
	comp=Z,25nm,0.6s			pmax	pmax		
LPAZ	**La Paz**	**9.66**	**332**	P	**P**	**12 26 09.2**	**+0.7**
	comp=Z,574nm,0.3s,baz=128,slow=6.3,SNR=1271						
LPAZ				S	**S**	**12 27 57.5**	**+0.5**
	comp=Z,191nm,0.3s,baz=62,slow=24,SNR=9.6						
LPAZ	**La Paz**	**9.66**	**332**	ǁ*e*P	**P**	**12 26 09.3**	**+0.8**
	comp=Z,25nm,0.6s						
LPAZ				*e*S	**S**	**12 27 53.8**	**-3.2**
CHNG	**Los Chungos**	**9.89**	**224**	ǁ*i*P	**P**	**12 26 09.9**	**-0.8**
JACH	**Jahuel**	**9.93**	**217**	ǁ*i*P	**P**	**12 26 11.2**	**+0.1**
FCH	**Farellones**	**10.27**	**214**	ǁ*i*P	**P**	**12 26 15.0**	**+0.5**
PACH	**Papudo**	**10.31**	**221**	ǁ*i*P	**P**	**12 26 14.2**	**-0.7**
PEL	**Peldehue**	**10.33**	**216**	ǁ*i*P	**P**	**12 26 14.7**	**-0.4**
ROCH	**El Roble**	**10.38**	**218**	ǁ*i*P	**P**	**12 26 14.9**	**-0.6**
CLCH	**Cerro Calan**	**10.45**	**215**	ǁ*i*P	**P**	**12 26 16.2**	**-0.1**
DSCH	**Colegio Aleman**	**10.47**	**215**	ǁ*i*P	**P**	**12 26 16.4**	**-0.1**
FSR	**Penalolen**	**10.51**	**214**	*i* P	**P**	**12 26 17.1**	**+0.3**
STL	**Santa Lucia**	**10.53**	**215**	ǁ*i*P	**P**	**12 26 16.8**	**-0.3**
SAN	**Santiago**	**10.56**	**215**	ǁ*i*P	**P**	**12 26 17.1**	**-0.3**
PUEX	**Pudahuel**	**10.60**	**215**	*i* P	**P**	**12 26 18.4**	**+0.6**
LMEL	**Las Melosas**	**10.64**	**212**	ǁ*i*P	**P**	**12 26 18.4**	**+0.2**
SCR	**San Cristobal**	**10.77**	**216**	*i* P	**P**	**12 26 16.2**	**-3.4**
IHA	**Instituto Hidr**	**10.78**	**220**	ǁ*i*P	**P**	**12 26 18.4**	**-1.2**
TACH	**Talagante**	**10.86**	**215**	ǁ*i*P	**P**	**12 26 19.4**	**-1.0**
CHCH	**Chadas Angostu**	**10.93**	**213**	ǁ*i*P	**P**	**12 26 20.6**	**-0.5**
LPA	**La Plata**	**11.03**	**156**	*e*P	**P**	**12 26 23.0**	**+0.9**
LPA				*e*S	P	12 28 09.0	
LPA	**La Plata**	**11.03**	**156**	ǁ*e*P	**P**	**12 26 23.0**	**+0.9**
LPA				pmax	pmax		
	comp=Z,3μm,0.8s						
LPA	**La Plata**	**11.03**	**156**	*e*Pcu		12 26 23.0	
	comp=Z,3μm,0.8s						
LPA				*e*sP		12 28 09.0	
LCCH	**Las Cruces**	**11.06**	**218**	ǁ*i*P	**P**	**12 26 21.6**	**-0.9**
ARE	**Arequipa**	**11.30**	**317**	ǁ*i*P	**P**	**12 26 26.6**	**+1.8**
ARE				*e*S		12 28 02.0	
NICH	**Los Niches**	**12.07**	**212**	ǁ*i*P	**P**	**12 26 31.7**	**-0.8**
LNCH	**Linares**	**12.94**	**211**	ǁ*i*P	**P**	**12 26 50.2**	**+9.0**
TRQA	**Tornquist**	**13.14**	**175**	*e*P	**P**	**12 26 39.9**	**-3.3**
	comp=Z,374nm,0.6s						
SAML	**Samuel**	**15.91**	**1**	P	**P**	**12 27 10.5**	**+0.1**
SAML				S	**S**	**12 29 52.3**	**+2.9**
PLCA	**Paso Flores**	**16.83**	**199**	P	**P**	**12 27 18.2**	**-0.9**
PLCA				S	**S**	**12 30 05.7**	**+0.5**
PLCA				ScS	ScS	12 37 53.9	+1.3
PLCA	**Paso Flores**	**16.83**	**199**	*e*P	**P**	**12 27 17.9**	**-1.2**
PLCA				pmax	pmax		
	comp=Z,212nm,0.6s						
PLCA	**Paso Flores**	**16.83**	**199**	P	**P**	**12 27 18.9**	**-0.1**
	comp=Z,39nm,0.3s,baz=17,slow=11,SNR=337						
PLCA				ScP		12 34 15.0	
	comp=Z,2.7nm,0.3s,baz=359,slow=2.6,SNR=6.1						
PLCA	**Paso Flores**	**16.83**	**199**	*e*P	**P**	**12 27 17.9**	**-1.2**
	comp=Z,212nm,0.6s						
BDFB	**Brasilia**	**17.17**	**60**	P	**P**	**12 27 23.1**	**+0.5**
	comp=Z,395nm,0.3s,baz=243,slow=8.3,SNR=1621						
BDFB				S	**S**	**12 30 13.7**	**+2.4**
	comp=Z,3.4nm,0.3s,baz=115,slow=22,SNR=1.7						
BAO	**Brasilia Array**	**17.20**	**60**	P	**P**	**12 27 23.0**	**+0.3**
CAM4	**Nova Friburgo**	**19.31**	**87**	ǁ*i*P	**P**	**12 27 42.7**	**+0.1**
CAM4				*i*		12 27 47.0	
CAM4				*i*		12 27 55.8	
EFI	**East Falkland**	**27.01**	**173**	P	**P**	**12 28 49.0**	**-2.5**
	comp=Z,948nm,0.5s,mb6.7,SNR=71						
OTAV	**Otavalo**	**28.93**	**328**	ǁ*i*P	**P**	**12 29 09.3**	**+0.8**
	comp=Z,421nm,1.0s,mb6.0						
USHA	**Ushuaia**	**30.08**	**186**	P	**P**	**12 29 16.7**	**-1.1**
	comp=Z,276nm,0.4s,mb6.2,baz=350,slow=8.2,SNR=323						
USHA				S	**S**	**12 33 35.8**	**-1.9**
	comp=Z,26nm,0.6s,baz=258,slow=24,SNR=3.7						
USHA				ScP		12 34 52.6	
	comp=Z,124nm,1.0s,baz=331,slow=5.2,SNR=4.0						
CS6B	**Jaguaretama**	**30.64**	**55**	ǁ*i*P	**P**	**12 29 22.3**	**-0.7**
CS6B				*e*		12 30 55.0	
CS6B				*e*		12 31 11.3	
CS6B				*i* S		12 34 51.4	
CS6B				*e*		12 36 14.9	
ROSC	**El Rosal**	**31.45**	**339**	P	**P**	**12 29 30.2**	**+0.3**
	comp=Z,672nm,0.7s,mb6.4,baz=137,slow=3.7,SNR=173						
ROSC				S	**S**	**12 33 55.6**	**-3.5**
	comp=Z,170nm,0.9s,baz=225,slow=22,SNR=11						
RCBR	**Riachuelo**	**32.54**	**59**	ǁ*e*P	**P**	**12 29 38.9**	**-0.1**
	comp=Z,2μm,1.3s,mb6.7						
RCBR				*e*		12 31 14.1	
SDV	**Santo Domingo**	**34.34**	**347**	P	**P**	**12 29 52.3**	**-1.8**
SDV				S	**S**	**12 34 34.6**	**-8.4**
SDV	**Santo Domingo**	**34.34**	**347**	P	**P**	**12 29 52.3**	**-1.8**
	comp=Z,611nm,0.4s,mb6.6,baz=178,slow=4.6,SNR=987						
SDV				S	**S**	**12 34 34.8**	**-8.3**
	comp=Z,278nm,1.0s,baz=280,slow=15,SNR=7.5						
SDV	**Santo Domingo**	**34.34**	**347**	ǁ*e*P	**P**	**12 29 52.4**	**-1.7**
	comp=Z,1μm,0.8s,mb6.5						
SDV				*e*S	**S**	**12 34 35.2**	**-7.9**
TPP	**Pointe-a-Pierr**	**35.10**	**3**	*e*P	**P**	**12 30 02.4**	**+2.0**
TBH	**Brigand Hill**	**35.29**	**4**	*e*P	**P**	**12 30 03.7**	**+1.8**
PAYG	**Puerto Ayora**	**35.42**	**309**	P	**P**	**12 30 04.2**	**+1.2**
PAYG				S	**S**	**12 35 00.9**	**+1.6**
PAYG				ScP		12 35 08.5	
PAYG	**Puerto Ayora**	**35.42**	**309**	*e*P	**P**	**12 30 03.2**	**+0.2**
	comp=Z,2μm,1.3s,mb6.5						
PAYG				*e*PcP	PcP	12 32 16.4	-0.6
PAYG				*e*ScP		12 35 09.8	
TRN	**Trinidad (W)**	**35.43**	**3**	*e*P	**P**	**12 30 03.7**	**+0.6**
BOT	**Bacolet**	**35.99**	**5**	*e*P	**P**	**12 30 08.7**	**+1.0**
AZU	**Azuero**	**36.43**	**331**	*e*P	**P**	**12 30 13.7**	**+2.4**
GRW	**Mount Saint Ca**	**36.92**	**3**	*e*P	**P**	**12 30 16.0**	**+0.8**
UPA	**Univ. de Panam**	**37.18**	**333**	ǁ*e*P	**P**	**12 30 18.6**	**+1.1**
PTP1	**Petroterminal**	**37.78**	**328**	ǁ*e*P	**P**	**12 30 26.8**	**+4.4**
FCV	**Fort Charlotte**	**37.93**	**4**	*e*P	**P**	**12 30 22.9**	**-0.6**
DVD	**David**	**37.99**	**328**	ǁ*e*P	**P**	**12 30 26.4**	**+2.3**
SVB	**Belmont**	**38.04**	**3**	*e*P	**P**	**12 30 24.0**	**-0.5**
SVB	**Belmont**	**38.04**	**3**	*e*		12 32 07.8	
ACR	**Cerro Adams**	**38.52**	**328**	ǁ*i*P	**P**	**12 30 29.6**	**+1.2**
BUS	**Buena Vista**	**39.59**	**328**	ǁ*e*P	**P**	**12 30 38.9**	**+1.8**
PMSA	**Palmer Station**	**39.83**	**180**	*e*P	**P**	**12 30 37.9**	**-0.6**
	comp=Z,373nm,1.0s,mb5.9						
PMSA				*e*pP		12 32 17.2	
LCR2	**La Lucha 2**	**39.87**	**327**	ǁ*e*P	**P**	**12 30 40.9**	**+1.6**
DBCT	**Belle View Cho**	**40.02**	**3**	*e*P	**P**	**12 30 40.3**	**-0.1**
LAJ	**Bijagual**	**40.03**	**327**	ǁ*e*P	**P**	**12 30 42.8**	**+2.2**
MDN	**Morne-Daniel**	**40.06**	**3**	*e*P	**P**	**12 30 40.1**	**-0.7**
SJS	**Escuela Geolog**	**40.07**	**327**	*e*P	**P**	**12 30 42.5**	**+1.7**
PRS1	**Puriscal**	**40.23**	**327**	*e*P	**P**	**12 30 43.5**	**+1.3**
BBL	**Barber's Block**	**40.27**	**3**	*e*P	**P**	**12 30 41.6**	**-0.8**
BBL	**Barber's Block**	**40.27**	**3**	*e*	pP	12 32 26.2	+2.6
DWS	**Wesley**	**40.32**	**3**	ǁ*e*P	**P**	**12 30 42.2**	**-0.6**
DWS	**Wesley**	**40.32**	**3**	*e*	pP	12 32 26.4	+2.4
CGA2	**Cerro Gallo 2**	**40.34**	**327**	*e*P	**P**	**12 30 44.9**	**+1.9**
VPS2	**Volcan Poas 2**	**40.37**	**327**	*e*P	**P**	**12 30 45.3**	**+2.0**
TRTC	**Tortuguero**	**40.45**	**328**	ǁ*i*P	**P**	**12 30 45.6**	**+1.7**
JTS	**JuntasAbangare**	**40.81**	**327**	P	**P**	**12 30 48.9**	**+2.1**
	comp=Z,5μm,1.0s,mb7.0						
JTS	**JuntasAbangare**	**40.81**	**327**	*e*P	**P**	**12 30 47.2**	**+0.4**
JTS				*e*	pP	12 32 33.6	+5.4
JTS				pmax	pmax		

OXX	Oaxaca	52.87	319	*i*	P		P	12 32 18.0	0.0	
EVV	El Vigia	53.15	321	*e*	P		P	12 32 18.5	-1.5	
PNIG	Pinotepa	53.20	317⇑	*i*	P		P	12 32 18.8	-1.5	
ACX	Acapulco	54.68	316	*i*	P		P	12 32 29.7	-0.9	
IISM	Ciudad Serdan	54.74	320	*i*	P		P	12 32 29.0	-2.1	
LVIG	Laguna Verde	54.77	321	*i*	P		P	12 32 29.1	-2.2	
CAIG	El Cayaco	55.03	316⇑	*i*	P		P	12 32 31.8	-1.3	
VNA3	Neumayer Olymp	55.23	161	*e*				12 36 29.1		
VNA3	Neumayer Olymp	55.23	161⇑	*i*	P		P	12 32 33.1	-0.7	
VNA3				*e*				12 33 25.0		
VNA3				*e*	pP			12 34 22.6	-1.7	
VNA3				*e*				12 34 48.1		
VNA3				*e*				12 36 29.1		
VNA3				*e*	S		S	12 39 37.1	+2.9	
VNA1	Neumayer--Stat	55.38	161	*e*				12 36 30.9		
VNA1	Neumayer--Stat	55.38	161⇑	*i*	P		P	12 32 34.7	-0.2	
VNA1				*e*				12 33 26.7		
VNA1				*e*	pP			12 34 23.8	-1.7	
VNA1				*e*				12 34 49.2		
VNA1				*e*				12 36 30.9		
VNA1				*e*	S		S	12 39 37.1	+0.9	
DWPF	Disney	55.51	341	*e*	P		P	12 32 35.1	-1.3	
	comp=N,1μm,1.3s,mb6.0									
PPM	Popocatepetl	55.55	319	*e*	P		P	12 32 37.3	+0.6	
PLIG	Platanillo	55.56	317⇑	*i*	P		P	12 32 36.2	-0.6	
YAIG	Yautepec	55.66	318⇑	*i*	P		P	12 32 37.0	-0.4	
VNA2	Neumayer--Watz	55.76	161	*e*				12 36 32.9		
VNA2	Neumayer--Watz	55.76	161⇑	*i*	P		P	12 32 37.0	-0.5	
VNA2				*e*				12 33 26.1		
VNA2				*e*	pP			12 34 26.6	-1.7	
VNA2				*e*				12 34 50.5		
VNA2				*e*				12 36 32.9		
VNA2				*e*	S		S	12 39 43.8	+2.7	
ZIIG	Zihuatanejo	56.21	315⇑	*i*	P		P	12 32 40.4	-0.9	
BBSR	BB Station	57.00	359	P	P		P	12 32 45.0	-1.5	
BBSR				S	S		S	12 39 55.8	-1.7	
BBSR				ScS	ScS			12 41 39.5	+4.8	
BBSR	BB Station	57.00	359	*e*	P		P	12 32 44.7	-1.8	
	comp=N,1μm,1.3s,mb6.0									
SNAA	Sanae	57.40	161	*e*		PcP		12 33 34.3	-0.3	
SNAA	Sanae	57.40	161	*e*				12 36 41.1		
SNAA	Sanae	57.40	161⇑	*i*	P		P	12 32 47.7	-1.0	
SNAA				*e*				12 33 34.3		
SNAA				*e*	pP			12 34 39.1	-1.5	
SNAA				*e*				12 35 01.9		
SNAA				*e*				12 36 41.1		
SNAA				*e*	S		S	12 40 07.5	+5.4	
SNAA	Sanae	57.40	161	P	P		P	12 32 47.7	-1.1	
	comp=N,73nm,0.7s,mb5.0,baz=291,slow=6.2,SNR=295									
SNAA				pP	pP			12 34 39.7	-0.9	
	comp=N,21nm,0.6s,baz=329,slow=5.3,SNR=3.8									
SNAA				S	S			12 40 00.3	-1.8	
	comp=N,1.4nm,0.6s,baz=59,slow=19,SNR=4.8									
MOIG	Morelia	57.58	317⇑	*i*	P		P	12 32 50.2	-0.3	
COLM	Colima	58.80	314⇑	*i*	P		P	12 32 58.8	0.0	
SFJM	Santa Fe	59.33	316	*i*	P		P	12 33 03.0	+0.6	
RGRS	Roger Stewart	59.70	344	*e*	P		P	12 33 04.0	-0.6	
CSU	Charleston Sou	59.74	344	*e*	P		P	12 33 03.9	-1.0	
CSU				epP	pP			12 34 57.5	-0.7	
HBF	Harts Bluff	59.77	344	*e*	P		P	12 33 05.0	-0.1	
HBF	Harts Bluff	59.77	344	epP	pP			12 34 57.9	-0.5	
PTCN	Pitcairn Islan	59.79	254	*e*	P		P	12 33 06.2	+0.9	
	comp=N,1μm,0.6s,mb6.3									
NHSC	New Hope	59.88	344	*e*	P		P	12 33 04.9	-1.0	
	comp=N,2μm,1.4s,mb6.2									
NHSC				*e*pP	pP			12 34 55.0	-4.2	
CJM	Chamela	59.91	314⇑	*i*	P		P	12 33 06.5	+0.3	
COW	Cow Castle Cre	60.28	343	*e*	P		P	12 33 07.8	-0.6	
GOGA	Godfrey	61.07	341	*e*	P		P	12 33 12.2	-1.4	
GOGA				pmax	pmax					
	comp=Z,744nm,1.3s,mb5.8									
GOGA	Godfrey	61.07	341	*e*	P		P	12 33 12.2	-1.5	
	comp=Z,744nm,1.3s,mb5.8									
JSC	Jenkinsville	61.27	343	*e*	P		P	12 33 14.2	-0.7	
MAIT	Maitri	61.80	159	*e*	P		P	12 33 17.5	-0.3	
NVL	N'lazarevskaya	61.83	159⇑	*e*	P		P	12 33 13.5	-4.6	
NVL				*i*	S		S	12 40 48.6	-8.9	
NVL				*i*				12 42 07.4		
NVL				pmax	pmax					
	comp=Z,596nm,0.6s,mb6.0									
NVL				MLR	MLR					
	comp=Z,8μm,15.8s									
LRAL	Lakeview Retre	61.86	338	*e*	P		P	12 33 17.0	-1.7	
	comp=Z,520nm,0.9s,mb5.8									
CPCT	Cooper Cave	63.28	341	*e*	P		P	12 33 26.4	-1.5	
CPCT				epP	pP			12 35 22.6	-0.7	
SWET	Sewanee	63.50	340	*e*	P		P	12 33 27.6	-1.6	
SWET				epP	pP			12 35 24.1	-0.7	
NATX	Nacogdoches	63.78	331	*e*	P		P	12 33 30.9	-0.2	
	comp=Z,1μm,0.9s,mb6.3									
NATX				epP	pP			12 35 27.1	+0.4	
BLA	Blacksburg	63.85	345	*e*	P		P	12 33 31.2	-0.2	
BLA				pmax	pmax					
	comp=Z,830nm,1.0s,mb6.0									
BLA	Blacksburg	63.85	345	*e*	P		P	12 33 31.2	-0.2	
	comp=Z,830nm,1.0s,mb6.0									
ELN	Prospectdale	63.95	345	*e*	P		P	12 33 31.9	-0.1	
PLAL	Pickwick Lake	64.00	338	*e*	P		P	12 33 30.6	-1.8	
	comp=Z,937nm,1.1s,mb6.0									
PLAL				epP	pP			12 35 27.6	-0.6	
TZTN	Tazewell	64.03	342	*e*	P		P	12 33 31.1	-1.5	
OXF	Oxford	64.05	336	*e*	P		P	12 33 30.7	-2.0	
OXF				*e*S	S		S	12 41 21.0	-3.9	
OXF				pmax	pmax					
	comp=Z,1μm,1.2s,mb6.2									
OXF	Oxford	64.05	336	*e*	P		P	12 33 30.7	-2.0	
	comp=Z,1μm,1.2s,mb6.2									
OXF				*e*S	S		S	12 41 21.0	-3.9	
CBN	Corbin	64.16	348	*e*	P		P	12 33 32.9	-0.4	
	comp=Z,857nm,1.0s,mb6.0									
FWV	Forest Hill	64.30	345	*e*	P		P	12 33 33.9	-0.4	
FWV				*e*PP	PP			12 36 02.3	-3.1	
RKT	Rikitea	64.62	255	*e*	P		P	12 33 36.8	+0.3	
	comp=Z,434nm,1.3s,mb5.7									
RKT				*e*pP	pP			12 35 32.3	-0.3	
	comp=Z,2μm,2.3s									
MET	Memphis--Engin	64.79	336	*e*	P		P	12 33 36.4	-1.0	
WVT	Waverly	64.96	338	*e*	P		P	12 33 36.5	-1.9	
WVT				*e*PP	pP			12 35 33.5	-1.2	
WVT				pmax	pmax					
	comp=Z,906nm,0.9s,mb6.2									
WVT	Waverly	64.96	338	*e*	P		P	12 33 36.5	-1.9	
	comp=Z,906nm,0.9s,mb6.2									
WVT				*e*pP	pP			12 35 33.5	-1.3	
DBIC	Dimbokro	65.08	69	P	P		P	12 33 38.7	-0.8	
	comp=Z,2μm,0.6s,mb6.7,baz=216,slow=8.4,SNR=1208									
DBIC				pP	pP			12 35 34.5	-1.3	
	comp=Z,70nm,0.5s,baz=159,slow=6.8,SNR=1.5									
DBIC				S	S			12 41 35.1	-2.3	
	comp=Z,31nm,0.7s,baz=54,slow=20,SNR=14									
DBIC	Dimbokro	65.08	69	*e*	P		P	12 33 38.3	-1.2	
	comp=Z,1.2nm,2.3s									
DBIC				*e*pP	pP			12 35 36.9	+1.0	
JCT	Junction City	65.19	326	P	P		P	12 33 39.3	-0.7	
JCT				pmax	pmax					
	comp=Z,560nm,0.6s,mb6.2									
JCT	Junction City	65.19	326⇑	*e*	P		P	12 33 39.4	-0.6	
	comp=Z,15nm,2.3s									
SDMD	Soldier's Deli	65.23	349	*e*	P		P	12 33 39.7	-0.4	
QSPA	South Pole Qui	65.27	180	*e*	P		P	12 33 39.9	+0.2	
	comp=Z,564nm,0.7s,mb6.1									
HALT	Halls	65.28	337	*e*	P		P	12 33 38.6	-1.8	
HALT				*e*pP	pP			12 35 36.8	-0.1	
UALR	University of	65.40	334⇑	*e*	P		P	12 33 39.6	-1.6	
	comp=Z,320nm,1.1s,mb5.7									
UALR				*e*pP	pP			12 35 36.7	-1.0	
HBAR	Harrisburg	65.44	336	*e*	P		P	12 33 40.4	-1.1	
UTMT	University of	65.50	338	*e*	P		P	12 33 40.2	-1.6	
	comp=Z,2μm,1.3s,mb6.4									
UTMT				*e*pP	pP			12 35 37.2	-1.2	
GNAR	Gosnell	65.57	337	*e*	P		P	12 33 41.5	-0.7	
GNAR				*e*pP	pP			12 35 39.4	+0.6	
GLAT	Glass	65.58	337	*e*	P		P	12 33 41.1	-1.2	
MIAR	Mount Ida	65.70	333	P	P		P	12 33 41.9	-1.2	
MIAR				pmax	pmax					
	comp=Z,740nm,1.2s,mb6.0									
MIAR	Mount Ida	65.70	333⇑	*e*	P		P	12 33 42.0	-1.1	
	comp=Z,36nm,0.3s,mb5.3									
MVL	Millersville	65.71	349	*e*	P		P	12 33 42.7	-0.3	
MVL				*e*PP	PP			12 36 12.5	-5.4	
PVMO	Portageville	65.86	337	*e*	P		P	12 33 42.8	-1.2	
PVMO				*e*pP	pP			12 35 40.6	-0.2	
MCWV	Mont Chateau	66.06	346	*e*	P		P	12 33 44.8	-0.4	
	comp=Z,2μm,1.3s,mb6.3									
BRNJ	Basking Ridge	66.10	351	*e*	P		P	12 33 45.9	+0.5	
BRNJ				*e*PP	PP			12 36 15.8	-5.4	
CPNY	Central Park	66.12	351	*e*	P		P	12 33 45.3	-0.3	
PAL	Palisades	66.32	351⇓	*e*	P		P	12 33 45.9	-0.9	
PAL				*e*				12 36 18.7		
PAL				pmax	pmax					
	comp=Z,406nm,1.1s,mb5.8									
PAL	Palisades	66.32	351⇓	*e*	P		P	12 33 45.9	-0.9	
	comp=Z,406nm,1.1s,mb5.8									
PAL				*e*PP	PP			12 36 18.7	-4.3	
LTX	Lajitas	66.36	322⇑	*e*	P		P	12 33 46.8	-0.4	
LTX				pmax	pmax					
	comp=Z,154nm,0.6s,mb5.6									
LTX	Lajitas	66.36	322⇑	*e*	P		P	12 33 46.8	-0.5	
	comp=Z,154nm,0.6s,mb5.6									
TXAR	Lajitas Array	66.36	322	P	P		P	12 33 46.8	-0.4	
	comp=Z,126nm,0.6s,mb5.5,baz=151,slow=5.7,SNR=924									
TXAR				S	S			12 41 52.4	0.0	
	comp=Z,5.5nm,1.0s,baz=180,slow=6.3,SNR=3.2									
TXAR				PKP2bc				13 02 15.3		
	comp=Z,7.5nm,0.9s,baz=263,slow=1.3,SNR=7.7									
TXAR	Lajitas Array	66.36	322	P	P		P	12 33 46.8	-0.4	
TXAR				S	S			12 41 52.4	0.0	
TXAR				⇑*e*				13 02 15.3		
WCI	Wyandotte Cave	66.39	341	*e*	P		P	12 33 45.4	-1.8	
WCI				pmax	pmax					
	comp=Z,1μm,0.9s,mb6.2									
WCI	Wyandotte Cave	66.39	341	*e*	P		P	12 33 45.4	-1.9	
	comp=Z,1μm,0.9s,mb6.2									
SSPA	Standing Stone	66.51	348⇓	*e*	P		P	12 33 48.4	-0.1	
	comp=Z,970nm,1.3s,mb6.1									
BRYW	Bryant College	66.94	353	*e*	P		P	12 33 54.8	+4.3	
	comp=Z,2μm,1.1s,mb6.3									
BLO	Bloomington	67.33	341	*e*	P		P	12 33 51.3	-1.7	
BLO				*e*PP	pP			12 35 45.1	-5.3	
BLO				pmax	pmax					
	comp=Z,1μm,1.2s,mb6.3									
BLO	Bloomington	67.33	341	*e*	P		P	12 33 51.3	-1.7	
	comp=Z,1μm,1.2s,mb6.3									
BLO				*e*pP	pP			12 35 45.1	-5.3	
ACSO	Alum Creek Sta	67.34	344	*e*	P		P	12 33 52.0	-1.1	
	comp=Z,974nm,1.0s,mb6.2									
WES	Weston	67.38	354	*e*	P		P	12 33 52.5	-0.7	
WES				pmax	pmax					
	comp=Z,872nm,1.3s,mb6.0									
WES	Weston	67.38	354	*e*	P		P	12 33 52.5	-0.7	
	comp=Z,872nm,1.3s,mb6.0									
QUA2	Belchertown	67.38	353	*e*	P		P	12 33 52.6	-0.6	
	comp=Z,529nm,1.1s,mb5.9									
FVM	French Village	67.52	337⇑	*e*	P		P	12 33 52.5	-1.6	
FVM				*e*PP	pP			12 35 47.8	-3.9	
FVM				*e*S	S			12 42 02.4	-3.4	
FVM				pmax	pmax					
	comp=Z,641nm,0.9s,mb6.0									
FVM	French Village	67.52	337⇑	*e*	P		P	12 33 52.5	-1.6	
	comp=Z,641nm,0.9s,mb6.0									
FVM				*e*pP	pP			12 35 47.8	-4.0	
FVM				*e*S	S			12 42 02.4	-3.4	
HRV	Harvard--Oak R	67.52	354⇓	*e*	P		P	12 33 53.8	-0.3	
HRV				pmax	pmax					
	comp=Z,763nm,1.1s,mb6.0									
HRV	Harvard--Oak R	67.52	354⇓	*e*	P		P	12 33 53.8	-0.2	
	comp=Z,763nm,1.1s,mb6.0									
CCM	Cathedral Cave	67.88	337	P	P		P	12 33 54.9	-1.4	
CCM				pP	pP			12 35 52.8	-1.2	
CCM				S	S			12 42 05.6	-4.3	
CCM				sPKiKP				12 45 33.0		
CCM	Cathedral Cave	67.88	337⇑	*e*	P		P	12 33 54.8	-1.5	
CCM				*e*PP	pP			12 35 49.7	-4.3	
CCM				pmax	pmax					
	comp=Z,855nm,0.9s,mb6.2									
CCM	Cathedral Cave	67.88	337⇑	*e*	P		P	12 33 54.8	-1.5	
	comp=Z,855nm,0.9s,mb6.2									
CCM				*e*pP	pP			12 35 49.7	-4.4	
ALLY	Alegheny Colle	68.03	347	*e*	P		P	12 33 56.8	-0.4	
SLM	Saint Louis	68.04	338	*e*	P		P	12 33 55.3	-1.9	
SLM				pmax	pmax					
	comp=Z,602nm,1.0s,mb6.0									
SLM	Saint Louis	68.04	338	*e*	P		P	12 33 55.2	-2.0	
	comp=Z,602nm,1.0s,mb6.0									
WMOK	Wichita Mounta	68.15	329⇑	*e*	P		P	12 33 56.8	-1.2	
	comp=Z,18nm,1.4s									
WMOK				*e*pP	pP			12 35 52.1	-3.8	
CHIE	El Hierro	68.28	43	P	P		P	12 33 57.9	-1.0	
	comp=Z,399nm,1.0s,mb5.8									
ERPA	Erie	68.45	347	*e*	P		P	12 33 59.3	-0.3	
	comp=Z,2μm,0.6s,mb6.7									
FFD	Franklin Falls	68.49	354	*e*	P		P	12 33 57.2	-2.7	
	comp=Z,820nm,1.0s,mb6.1									
ACCN	Adirondack Com	68.63	352	*e*	P		P	12 34 00.4	-0.3	
GENY	Geneseo	68.66	349	*e*	P		P	12 34 00.8	-0.1	
CLNB	Carlsbad	68.73	324	*e*	P		P	12 34 01.4	-0.2	
HNH	Hanover	68.79	353⇓	*e*	P		P	12 34 01.9	+0.3	
	comp=Z,149nm,1.3s,mb5.3									
GDL2	Guadalupe Moun	68.94	323	*e*	P		P	12 34 02.5	-0.3	
EGOM	La Gomera	69.06	43	P	P		P	12 34 02.4	-1.2	
	comp=Z,1μm,1.6s,mb6.1									
MNTX	Cuudas Mount	69.12	322⇑	*e*	P		P	12 34 02.4	-1.5	
	comp=Z,33nm,0.4s,mb5.1									
MNTX				*e*pP	pP			12 35 57.7	-4.4	
NCB	Newcomb	69.28	352	*e*	P		P	12 34 04.2	-0.4	
	comp=Z,359nm,1.0s,mb5.8									
MIV	Mineville/With	69.30	352	*e*	P		P	12 34 04.4	-0.3	
CPRX	Cap Rock	69.32	324	*e*	P		P	12 34 04.5	-0.5	
CPRX				*e*PcP	PcP			12 34 24.1	-0.2	
WVL	Waterville	69.40	355	*e*	P		P	12 34 05.0	-0.3	
	comp=Z,4μm,1.4s,mb6.6									
EMMW	East Machias	69.41	357⇓	*e*	P		P	12 34 05.3	0.0	
	comp=Z,5μm,1.4s,mb6.8									
AAM	Ann Arbor	69.46	344	*e*	P		P	12 34 04.5	-1.2	
AAM				pmax	pmax					
	comp=Z,156nm,0.5s,mb5.7									
AAM	Ann Arbor	69.46	344	*e*	P		P	12 34 04.5	-1.1	
	comp=Z,156nm,0.5s,mb5.7									
CCAN	Las Canadas	69.48	43	P	P		P	12 34 05.2	-0.8	
	comp=Z,76nm,0.9s,mb5.1									
AMTX	Amarillo	69.66	327⇑	*e*	P		P	12 34 06.3	-0.6	
	comp=Z,254nm,0.8s,mb5.7									
EBAJ	Bajamar	69.86	43	P	P		P	12 34 08.0	-0.3	
	comp=Z,298nm,1.1s,mb5.6									
EOSO	Osorio	70.03	44	P	P		P	12 34 09.0	-0.3	
	comp=Z,414nm,1.0s,mb5.8									
MSNY	Massena	70.37	351	*e*	P		P	12 34 10.1	-0.9	
KSU1	Kansas State U	70.85	333⇑	*e*	P		P	12 34 12.8	-1.1	
KSU1				*e*S	S			12 42 38.4	-5.3	
CALA	Caldeira	71.09	28	*e*	P		P	12 34 15.7	+0.5	
PICO	Pico	71.14	28	*e*	P		P	12 34 16.2	+0.7	
CFTV	Fuerteventura	71.20	45	P	P		P	12 34 15.4	-0.7	
	comp=Z,346nm,1.0s,mb5.8									
PQI	Presque Isle	71.39	357⇓	*e*	P		P	12 34 16.9	0.0	
	comp=Z,1μm,0.7s,mb6.6									
PSMA	Santa Maria	71.40	32	*e*	P		P	12 34 16.4	-0.7	
	comp=Z,813nm,1.4s,mb6.1									
PSMN	Pico do Norte,	71.44	32	*e*	P		P	12 34 17.4	+0.1	
PDA	Ponta Delgada	71.76	31	*i*	P		P	12 34 19.0	-0.2	
PDA				*i*	pP			12 36 16.0	-2.6	
PDA	Ponta Delgada	71.76	31	*e*	PP		PP	12 37 13.0	+4.2	
PDA				*i* S	S			12 42 55.0	+1.2	
PDA				*e*				12 47 24.0		
LPM	Los Pinos Moun	71.78	323	*e*	P		P	12 34 19.9	+0.6	
ADH	Angra Heroismo	71.79	29	*e*	P		P	12 34 20.0	+0.7	
ADH	Angra Heroismo	71.79	29	*e*	P		P	12 34 24.5	+5.2	
ADH				*e*SKKS				12 43 17.0		
ADH				*e*				12 51 19.5		
ADH				*e*LQ				12 54 09.5		
ADH				*e*LR	LR			12 57 07.5		
PSET	Sete Cidades	71.79	31	*e*	P		P	12 34 19.6	+0.2	
	comp=Z,910nm,1.4s,mb6.1									
ASBA	Santa Barbara	71.80	29	*e*	P		P	12 34 20.0	+0.6	
	comp=Z,807nm,1.3s,mb6.1									
STGR	Santa Cruz	71.80	28	*e*	P		P	12 34 20.1	+0.7	
	comp=Z,584nm,1.2s,mb6.0									
PRCH	Ribeira Ch	71.83	31	*e*	P		P	12 34 19.8	+0.2	
RIB2	Ribeirinha	71.83	29	*e*	P		P	12 34 20.3	+0.8	
	comp=Z,848nm,1.1s,mb6.2									
CML	Cha da Macela	71.83	31	*e*	P		P	12 34 20.4	+0.8	
LENM	Lemitar	71.85	323	*e*	P		P	12 34 20.1	+0.3	
VIF	Vila Franca	71.86	31	*e*	P		P	12 34 20.1	+0.3	
LFA	Lagoa do Fogo	71.86	31	*e*	P		P	12 34 19.8	0.0	
PVER	Pico Vermelho	71.87	31	*e*	P		P	12 34 19.7	-0.1	
JFWS	Jewell Farm	71.89	340⇑	*e*	P		P	12 34 18.9	-0.9	
JFWS				*e*PP	pP			12 36 15.8	-3.6	
JFWS				pmax	pmax					
	comp=Z,25nm,0.6s									
JFWS	Jewell Farm	71.89	340⇑	*e*	P		P	12 34 18.9	-1.0	
	comp=Z,25nm,0.6s									
JFWS				epP	pP			12 36 15.8	-3.6	
MESC	Monte Escuro	71.89	31	*e*	P		P	12 34 20.0	0.0	
FRA1	Furnas	71.90	31	*e*	P		P	12 34 20.4	+0.4	
PCNG	Congro	71.90	31	*e*	P		P	12 34 20.5	+0.5	
	comp=Z,728nm,1.2s,mb6.1									
PFAV	Pico das Favas	71.90	29	*e*	P		P	12 34 20.8	+0.8	
PMAT	Coroa da Mata	71.90	31	*e*	P		P	12 34 20.1	+0.1	
PVNV	Vila Nova	71.91	29	*e*	P		P	12 34 20.9	+0.9	
	comp=Z,669nm,1.4s,mb6.0									
CBKS	Cedar Bluff	71.94	331⇑	*e*	P		P	12 34 20.3	+0.1	
CBKS				*e**PP	pP			12 36 17.3	-2.5	
CBKS				pmax	pmax					
	comp=Z,3μm,1.2s,mb6.7									
CBKS	Cedar Bluff	71.94	331⇑	*e*	P		P	12 34 20.3	+0.1	
	comp=Z,3μm,1.2s,mb6.7									
CBKS				epP	pP			12 36 17.3	-2.5	
MIRA	Miradouro	71.97	31	*e*	P		P	12 34 21.2	+0.8	
PFAD	Fenais da Ajud	71.99	31	*e*	P		P	12 34 21.3	+0.8	
EFAM	Famara	72.05	45	P	P		P	12 34 20.0	-0.9	
	comp=Z,374nm,1.0s,mb5.9									
LAZ	Ladron	72.12	323	*e*	P		P	12 34 22.1	+0.8	
LAZ				epP	pP			12 36 23.0	+2.0	
ANMO	Albuquerque	72.17	324⇑	*e*	P		P	12 34 22.1	+0.5	
ANMO				*e**PP	pP			12 36 20.0	-1.3	
ANMO				pmax	pmax					
	comp=Z,176nm,0.9s									
ANMO	Albuquerque	72.17	324⇑	*e*	P		P	12 34 22.1	+0.5	
	comp=Z,176nm,0.9s,mb5.6									
ANMO				epP	pP			12 36 20.0	-1.2	
SUR	Sutherland	72.53	118	P	P		P	12 34 23.0	-0.7	
	comp=Z,2μm,0.7s,mb6.7,SNR=27									
SUR	Sutherland	72.53	118	P	P		P	12 34 23.8	+0.1	
	comp=Z,188nm,0.8s,mb5.7,baz=241,slow=5.0,SNR=93									
SUR				pP	pP			12 36 22.1	-1.5	
	comp=Z,54nm,0.8s,baz=285,slow=2.2,SNR=3.1									
SUR	Sutherland	72.53	118	*e*	P		P	12 34 23.6	-0.1	
	comp=Z,416nm,1.1s,mb5.9									
SUR				epP	pP			12 36 21.4	-2.2	
TUC	Tucson	72.66	319⇑	*e*	P		P	12 34 24.7	+0.2	
TUC				*e**PP	pP			12 36 25.0	+0.6	
TUC				pmax	pmax					
	comp=Z,687nm,1.6s,mb5.9									
TUC	Tucson	72.66	319⇑	*e*	P		P	12 34 24.7	+0.2	
	comp=Z,687nm,1.6s,mb5.9									
TUC				epP	pP			12 36 25.0	+0.6	
SBA	Scott Base	73.33	190⇑	*i*	P		P	12 34 28.2	+0.8	
SBA				*e**PP	pP			12 36 24.0	-3.6	
SBA				pmax	pmax					
	comp=Z,950nm,1.7s,mb6.0									
SBA	Scott Base	73.33	190⇑	*e*	P		P	12 34 28.4	+0.9	
	comp=Z,954nm,1.7s,mb6.0									
SBA				epP	pP			12 36 26.1	-1.5	
SDCO	Great Sand Dun	73.81	326⇑	*e*	P		P	12 34 31.8	+0.9	
	comp=Z,40nm,0.4s,mb5.3									
SDCO				epP	pP			12 36 30.6	-0.6	
TSUM	Tsumeb	74.29	104⇓	*e*	P		P	12 34 33.4	-0.5	
	comp=Z,609nm,0.8s,mb6.2									
TSUM				epP	pP			12 36 33.3	-1.2	
TAOE	Nuku Hiva Isla	74.30	267	*e*	P		P	12 34 35.0	+1.0	
TAOE				epP	pP			12

comp=Z,498nm,1.1s,mb5.7,baz=110,slow=7.0,SNR=44
PPT pP pP 12 37 05.8 +1.8
comp=Z,41nm,0.9s,baz=179,slow=14,SNR=2.1
NOQ North Oquirrh 79.39 324⇑ *eP* **P 12 35 01.5 +0.4**
NOQ *epP* pP 12 37 04.6 +0.9
DUG Dugway 79.43 324⇑ *eP* **P 12 35 02.1 +0.8**
DUG *e*PP pP 12 37 04.4 +0.5
DUG pmax pmax
comp=Z,4µm,0.6s,mb6.9
DUG Dugway 79.43 324⇑ *eP* **P 12 35 02.0 +0.8**
comp=Z,4µm,0.6s,mb6.9
DUG *epP* pP 12 37 04.3 +0.4
DAC Darwin (Calif) 79.47 318⇑ *eP* **P 12 35 02.3 +0.8**
DAC *e*PP pP 12 37 05.6 +1.4
DAC pmax pmax
comp=Z,627nm,1.3s,mb5.8
DAC Darwin (Calif) 79.47 318⇑ *eP* **P 12 35 02.3 +0.7**
comp=Z,628nm,1.3s,mb5.8
DAC *epP* pP 12 37 05.6 +1.4
SCHQ Schefferville 79.50 358 P **P 12 35 01.2 -0.1**
comp=Z,184nm,0.6s,mb5.6,baz=172,slow=4.0,SNR=175
SCHQ pP pP 12 37 03.5 -0.5
comp=Z,45nm,0.8s,baz=135,slow=3.4,SNR=2.9
SCHQ S S 12 44 12.2 -3.7
comp=Z,10nm,1.1s,baz=83,slow=19,SNR=4.6
SCHQ Schefferville 79.50 358 *eP* **P 12 35 00.9 -0.4**
comp=Z,272nm,0.7s,mb5.7
MAW Mawson 79.56 162⇑ *iP* **P 12 35 01.4 +0.1**
comp=Z,235nm,0.8s,mb5.6
MAW *i* pP pP 12 37 03.4 -0.7
MAW *eS* S 12 44 16.1 -0.2
MAW *es*S 12 47 52.7
MAW Mawson 79.56 162⇑ *iP* **P 12 35 01.4 +0.1**
MAW *i* *PP pP 12 37 03.4 -0.7
MAW *eS* S 12 44 16.1 -0.2
MAW pmax pmax
comp=Z,235nm,0.8s
MAW Mawson 79.56 162 P **P 12 35 01.5 +0.1**
comp=Z,292nm,0.8s,mb5.7,baz=225,slow=6.7,SNR=90
MAW pP pP 12 37 03.8 -0.3
comp=Z,223nm,1.2s,baz=212,slow=7.6,SNR=7.9
MAW S S 12 44 15.2 -1.1
comp=Z,5.9nm,0.9s,baz=147,slow=22,SNR=2.5
BW06 Boulder Array 79.64 327⇑ *eP* **P 12 35 02.3 0.0**
comp=Z,1µm,1.2s,mb6.2
BW06 *epP* pP 12 37 04.5 -0.5
PDAR Pinedale Array 79.64 327 P **P 12 35 02.5 +0.3**
comp=Z,64nm,0.4s,mb5.3,baz=128,slow=8.0,SNR=518
PDAR pP pP 12 37 06.2 +1.1
comp=Z,16nm,0.7s,baz=90,slow=6.3,SNR=2.5
PDAR S S 12 44 17.2 -0.4
comp=Z,8.7nm,1.0s,baz=121,slow=8.6,SNR=10
TRCR Troy Canyon 79.68 321⇑ *eP* **P 12 35 03.8 +1.2**
TRCR *epP* pP 12 37 06.7 +1.4
HWUT Hardware Ranch 79.79 325⇑ *eP* **P 12 35 03.6 +0.5**
comp=Z,13nm,2.0s
HWUT *epP* pP 12 37 06.1 +0.2
SPUT South Promonto 80.04 325⇑ *eP* **P 12 35 05.0 +0.6**
SPUT *epP* pP 12 37 07.9 +0.6
BGU Big Grassy Mou 80.07 324⇑ *eP* **P 12 35 05.1 +0.6**
BGU *epP* pP 12 37 08.3 +0.9
ULM Lac du Bonnet 80.19 340 P **P 12 35 04.5 -0.4**
comp=Z,220nm,0.8s,mb5.5,baz=150,slow=7.3,SNR=157
ULM pP pP 12 37 07.7 -0.2
comp=Z,35nm,0.9s,baz=180,slow=3.7,SNR=2.2
ULM S S 12 44 19.7 -3.2
comp=Z,64nm,1.0s,baz=62,slow=22,SNR=29
ULM Lac du Bonnet 80.19 340 P **P 12 35 04.5 -0.5**
ULM *pP* pP 12 37 07.7 -0.2
ULM S S 12 44 19.7 -3.2
AHID Auburn Hatcher 80.40 327⇑ *eP* **P 12 35 06.7 +0.4**
comp=Z,1µm,1.4s,mb6.1
AHID *epP* pP 12 37 09.9 +0.7
AHID *eS* S 12 44 26.3 +1.0
TPH Tonopah 80.45 320⇑ *eP* **P 12 35 07.3 +0.8**
TPH *e*PP pP 12 37 10.6 +1.0
TPH pmax pmax
comp=Z,676nm,1.3s,mb5.8
TPH Tonopah 80.45 320⇑ *eP* **P 12 35 07.3 +0.8**
comp=Z,676nm,1.3s,mb5.8
TPH *epP* pP 12 37 10.6 +1.0
HVU Hansel Valley 80.55 325⇑ *eP* **P 12 35 07.3 +0.3**
HVU *e*PP pP 12 37 10.4 +0.3
PTEO Sao Teotonio 80.67 41 *eP* **P 12 35 08.3 +0.6**
comp=Z,1µm,1.4s,mb6.1
PTEO *epP* pP 12 37 11.0 +0.2
SNOW Snow King Moun 80.74 327⇑ *eP* **P 12 35 08.5 +0.5**
comp=Z,191nm,0.7s,mb5.6
SNOW *epP* pP 12 37 12.4 +1.3
SNOW *eS* S 12 44 32.4 +3.7
MTUM Tungsten Hills 80.77 319 *eP* **P 12 35 08.7 +0.5**
MTUM *epP* pP 12 37 13.5 +2.1
LOHW Long Hollow 80.78 327⇑ *eP* **P 12 35 08.6 +0.4**
comp=Z,29nm,0.6s,mb4.9
LOHW *epP* pP 12 37 12.4 +1.1
LOHW *eS* S 12 44 30.3 +1.2
WUWY Wally Ulrich 80.79 327⇑ *eP* **P 12 35 08.6 +0.4**
WUWY *epP* pP 12 37 12.5 +1.1
WUWY *eS* S 12 44 30.6 +1.4
TPAW Teton Pass 80.86 327⇑ *eP* **P 12 35 09.1 +0.6**
comp=Z,943nm,0.7s,mb6.3
TPAW *epP* pP 12 37 10.4 -1.4
TPAW *eS* S 12 44 31.0 +1.1
RRI2 Red Ridge 80.94 327⇑ *eP* **P 12 35 09.5 +0.6**
comp=Z,1µm,1.3s,mb6.1
RRI2 *epP* pP 12 37 13.5 +1.3
RRI2 *eS* S 12 44 32.1 +1.5
MOOW Moose Ponds 80.95 327⇑ *eP* **P 12 35 09.3 +0.3**
comp=Z,4µm,2.0s,mb6.5
MOOW *epP* pP 12 37 13.1 +0.8
MOOW *eS* S 12 44 31.6 +0.8
LAO LASA Array 81.10 332⇑ *eP* **P 12 35 09.7 0.0**
comp=Z,184nm,2.3s,mb5.1
LAO *epP* pP 12 37 12.8 -0.2
IMW Indian Meadow 81.15 327⇑ *eP* **P 12 35 10.8 +0.7**
comp=Z,36nm,1.9s
IMW *epP* pP 12 37 14.8 +1.5
IMW *eS* S 12 44 33.4 +0.6
LIS Lisbon 81.19 40 *eP* **P 12 35 07.5 -2.8**
LIS *eS* S 12 44 29.7 -3.6
LIS *eS* S 12 44 29.7 -3.6
LIS AMS AMS 12 58 05.3
comp=Z,8µm,18.6s
LIS Lisbon 81.19 40 *eP* **P 12 35 07.5 -2.8**
LIS *eS* S 12 44 29.7 -3.6
comp=Z,8µm,18.6s
OMM Old Mammoth Mi 81.20 319⇑ *eP* **P 12 35 11.2 +0.9**
OMM *epP* pP 12 37 13.9 +0.2
MNV Mina 81.23 320⇑ *eP* **P 12 35 11.1 +0.6**
MNV *e*PP pP 12 37 12.8 -1.1
MNV pmax pmax
comp=Z,693nm,0.3s,mb6.6
MNV Mina 81.23 320⇑ *eP* **P 12 35 11.1 +0.5**
comp=Z,693nm,0.3s,mb6.6
MNV *epP* pP 12 37 12.8 -1.1
PLOU Loures 81.30 40 *eP* **P 12 35 11.3 +0.4**
PLOU *epP* pP 12 37 15.8 +1.5
NVAR Mina Array Bea 81.32 319 P **P 12 35 11.8 +0.8**
comp=Z,136nm,0.8s,mb5.5,baz=148,slow=5.4,SNR=373
NVAR pP pP 12 37 16.4 +2.0
comp=Z,21nm,0.9s,baz=129,slow=6.5,SNR=2.7
NVAR S S 12 44 38.6 +4.0
comp=Z,4.9nm,1.2s,baz=158,slow=27,SNR=4.0
NVAR PKKPbc 12 53 43.8
comp=Z,2.9nm,0.6s,baz=282,slow=2.4,SNR=8.7
PALC Alcoutim 81.36 42 *eP* **P 12 35 11.3 +0.1**
comp=Z,696nm,1.0s,mb6.0
PALC *epP* pP 12 37 15.5 +0.9
LKWY Lake 81.39 328 *eP* **P 12 35 12.5 +1.3**
LKWY *e*PP pP 12 37 17.0 +2.4
LKWY *eS* S 12 44 36.6 +1.5
LKWY pmax pmax
comp=Z,161nm,0.7s,mb5.6
LKWY Lake 81.39 328 *eP* **P 12 35 12.4 +1.3**
comp=Z,161nm,0.7s,mb5.6
LKWY *epP* pP 12 37 17.0 +2.4
LKWY *eS* S 12 44 36.6 +1.6
EGRO El Granado 81.41 42 P **P 12 35 11.8 +0.3**
comp=Z,450nm,1.0s,mb5.8
PBEJ Beja 81.50 41 *eP* **P 12 35 12.1 +0.2**
comp=Z,361nm,1.0s,mb5.8
PBEJ *epP* pP 12 37 15.9 +0.6
SFS San Fernando 81.50 43 *eP* **P 12 35 11.7 -0.3**
SFS *e*PP pP 12 37 12.6 -2.8

YFT Old Faithful 81.51 328⇑ *eP* **P 12 35 13.5 +1.7**
YFT *epP* pP 12 37 17.8 +2.5
MOE Montemor 81.53 41 *eP* **P 12 35 12.4 +0.3**
YNR Norris Junctio 81.63 328 *eP* **P 12 35 13.1 +0.7**
YNR *epP* pP 12 37 17.8 +1.9
YNR *eS* S 12 44 38.2 +0.8
LRV Little Rabbit 81.67 317 *eP* **P 12 35 14.1 +1.3**
YMR Madison River 81.73 328⇑ *eP* **P 12 35 14.1 +1.1**
YMR *epP* pP 12 37 17.9 +1.5
YMR *eS* S 12 44 39.4 +0.9
EVO Evora 81.74 41⇓ *iP* **P 12 35 12.9 -0.2**
comp=Z,438nm,0.8s,mb5.7
EVO *epP* pP 12 37 16.0 -0.6
EVO *eR*
comp=Z,6µm,20.8s
ALMR Almeirim 81.82 40 *eP* **P 12 35 11.4 -2.0**
GCMT Greycliff 81.95 329 *eP* **P 12 35 14.1 0.0**
EJIF Jimena Fronter 81.96 44 P **P 12 35 15.1 +0.8**
ESPR Espera 81.98 43 P **P 12 35 14.8 +0.5**
comp=Z,854nm,1.2s,mb6.2
BMN Battle Mountai 82.03 322 *eP* **P 12 35 14.2 -0.3**
BMN *e*PP pP 12 37 17.2 -0.9
BMN pmax pmax
comp=Z,25nm,0.6s
BMN Battle Mountai 82.03 322 *eP* **P 12 35 14.2 -0.3**
comp=Z,25nm,0.6s
BMN *epP* pP 12 37 17.2 -1.0
EMIN Mina Concepcio 82.05 42 P **P 12 35 14.9 +0.2**
comp=Z,162nm,0.4s,mb5.9
QLMT Earthquake Lak 82.08 328 *eP* **P 12 35 15.5 +0.8**
QLMT *epP* pP 12 37 20.4 +2.1
SAO San Andreas Ge 82.15 317 *eP* **P 12 35 15.2 0.0**
SAO *e*PP pP 12 37 18.7 -0.2
SAO pmax pmax
comp=Z,251nm,1.3s,mb5.6
SAO San Andreas Ge 82.15 317 *eP* **P 12 35 15.2 0.0**
comp=Z,251nm,1.3s,mb5.6
SAO *epP* pP 12 37 18.7 -0.2
PTOM Tomar 82.22 40 *eP* **P 12 35 15.6 +0.1**
comp=Z,913nm,1.3s,mb6.2
PTOM *epP* pP 12 37 19.8 +0.6
PTOM Tomar 82.22 40 *eP* **P 12 35 15.5 0.0**
CMB Columbia Colle 82.31 318 P **P 12 35 16.1 +0.1**
CMB pP pP 12 37 20.3 +0.6
CMB SKSac 12 44 42.8
CMB sS 12 48 27.0
CMB Columbia Colle 82.31 318⇑ *eP* **P 12 35 16.0 0.0**
CMB *e*PP pP 12 37 18.2 -1.5
CMB pmax pmax
comp=Z,196nm,1.3s,mb5.5
CMB Columbia Colle 82.31 318⇑ *eP* **P 12 35 16.0 0.0**
comp=Z,196nm,1.3s,mb5.5
CMB *epP* pP 12 37 18.2 -1.5
EMIJ Mijas 82.46 44 P **P 12 35 16.7 -0.2**
comp=Z,394nm,1.0s,mb5.9
EBAD Badajoz 82.48 41 P **P 12 35 17.8 +0.9**
comp=Z,214nm,0.7s,mb5.8
HLID Hailey 82.66 325⇑ *eP* **P 12 35 18.8 +1.1**
comp=Z,300nm,0.8s,mb5.9
HLID *epP* pP 12 37 22.8 +1.3
WCN Washoe City 82.75 319⇑ *eP* **P 12 35 19.1 +0.9**
WCN *e*PP pP 12 37 21.8 -0.2
WCN pmax pmax
comp=Z,406nm,1.5s,mb5.7
WCN Washoe City 82.75 319⇑ *eP* **P 12 35 19.1 +0.9**
comp=Z,406nm,1.5s,mb5.7
WCN *epP* pP 12 37 21.8 -0.2
MCMT McKenzie Canyo 82.77 327 *eP* **P 12 35 18.8 +0.6**
BOZ Bozeman (W) 82.77 328⇑ *iP* **P 12 35 17.9 -0.3**
comp=Z,6.0nm,0.6s
BOZ *epP* pP 12 37 22.3 +0.3
PAHR Pah Rah Range 82.79 320 *eP* **P 12 35 19.2 +0.8**
comp=Z,316nm,1.3s,mb5.7
PAHR *epP* pP 12 37 22.9 +0.6
PCBR Castelo Branco 82.91 40 *eP* **P 12 35 18.7 -0.3**
comp=Z,801nm,1.2s,mb6.1
PCBR *epP* pP 12 37 23.0 +0.1
ECAB El Cabril 83.01 42 P **P 12 35 19.2 -0.4**
comp=Z,241nm,1.0s,mb5.7
EALB Alboran 83.19 45 P **P 12 35 19.9 -0.6**
comp=Z,357nm,0.7s,mb6.0
ELOJ Sierra Loja 83.22 44 P **P 12 35 21.0 +0.4**
ELOJ pmax pmax
comp=Z,131nm,0.6s,mb5.6
ELOJ Sierra Loja 83.22 44 P **P 12 35 21.0 +0.4**
comp=Z,131nm,0.6s,mb5.6
MTE Manteigas 83.23 40 *eP* **P 12 35 20.7 +0.1**
comp=Z,1µm,1.4s,mb6.2
MTE *epP* pP 12 37 24.9 +0.3
MTE *ePP* PP 12 38 43.0 -0.4
MTE *eS* S 12 44 48.1 -5.1
MTE Manteigas 83.23 40⇓ *eP* **P 12 35 20.7 +0.1**
comp=Z,144nm,1.5s,mb5.3
MTE *epP* pP 12 37 24.5 -0.1
PVIS Viseu 83.24 39 *eP* **P 12 35 20.8 +0.2**
comp=Z,649nm,1.4s,mb6.0
PVIS *epP* pP 12 37 25.6 +1.0
PVIS Viseu 83.24 39 *eP* **P 12 35 20.7 +0.1**
SAC San Andreas 83.27 317 *eP* **P 12 35 22.4 +1.6**
MATP Matopo 83.31 109 PKKPbc 12 53 35.7
comp=Z,3.3nm,0.3s,baz=68,slow=2.7,SNR=13
ERON Agron 83.35 44 P **P 12 35 21.2 -0.1**
comp=Z,206nm,1.0s,mb5.6
ELUQ Luque 83.40 43 P **P 12 35 22.0 +0.5**
ELUQ pmax pmax
comp=Z,1µm,1.2s,mb6.4
ELUQ Luque 83.40 43 P **P 12 35 22.0 +0.6**
comp=Z,1µm,1.2s,mb6.4
EADA Adamuz 83.58 43 P **P 12 35 22.2 -0.2**
comp=Z,424nm,1.1s,mb5.9
HRY Holter Researc 83.64 329 *eP* **P 12 35 22.9 +0.4**
HRY *epP* pP 12 37 29.2 +2.6
ECOG Cogollos-Vega 83.66 44 P **P 12 35 22.9 +0.1**
ECOG pmax pmax
comp=Z,63nm,0.5s,mb5.4
ECOG Cogollos-Vega 83.66 44 P **P 12 35 22.9 +0.1**
comp=Z,63nm,0.5s,mb5.4
PVRL Vila Real 83.71 39 *eP* **P 12 35 22.8 -0.1**
comp=Z,2µm,1.3s,mb6.5
PVRL *epP* pP 12 37 27.3 +0.2
EZAM Zamans 83.73 38 P **P 12 35 23.2 +0.2**
EZAM pmax pmax
comp=Z,113nm,0.4s,mb5.8
EZAM Zamans 83.73 38 P **P 12 35 23.2 +0.2**
comp=Z,112nm,0.4s,mb5.8
OLHC Oulhaca 83.83 47 P **P 12 35 24.0 +0.4**
EBER Berja 83.86 45 P **P 12 35 23.5 -0.3**
comp=Z,546nm,1.1s,mb6.0
ELOB Lobios 83.90 38 P **P 12 35 22.7 -1.2**
comp=Z,33nm,0.7s,mb5.0
NSHM Saint Helena R 83.97 317 *eP* **P 12 35 24.6 +0.4**
NSHM *epP* pP 12 37 30.8 +2.3
ODZI Dziouia 83.98 47 P **P 12 35 25.0 +0.6**
EBAN Banos Encina 84.07 43 P **P 12 35 25.0 +0.3**
EBAN pmax pmax
comp=Z,301nm,0.6s,mb6.0
EBAN Banos Encina 84.07 43 P **P 12 35 25.0 +0.2**
comp=Z,301nm,0.6s,mb6.0
EMAZ Mazaricos 84.11 37 P **P 12 35 24.6 -0.2**
comp=Z,248nm,0.8s,mb5.8
WVOR Wild Horse Val 84.16 322⇑ *eP* **P 12 35 25.3 +0.3**
comp=Z,13nm,2.0s
WVOR *epP* pP 12 37 28.9 -0.4
OTSS Djebel Tessala 84.26 47 P **P 12 35 26.0 +0.2**
EQES Quesada 84.30 44 P **P 12 35 25.2 -0.7**
comp=Z,331nm,0.6s,mb6.0
STS Santiago 84.30 37 P **P 12 35 25.9 +0.1**
STS pmax pmax
comp=Z,94nm,0.5s,mb5.6
STS Santiago 84.30 37 P **P 12 35 25.9 +0.2**
comp=Z,94nm,0.5s,mb5.6
ENIJ Nijar 84.34 45 P **P 12 35 25.4 -0.7**
ENIJ pmax pmax
comp=Z,563nm,1.1s,mb6.0
ENIJ Nijar 84.34 45 P **P 12 35 25.4 -0.7**
comp=Z,563nm,1.1s,mb6.0
CHMT Chamberlain Mo 84.47 328 *eP* **P 12 35 26.6 +0.1**
CHMT *epP* pP 12 37 33.7 +2.8
HOPS Hopland 84.55 318 *eP* **P 12 35 28.2 +1.2**
comp=Z,420nm,1.4s,mb5.9
HOPS *epP* pP 12 37 33.1 +1.6
EHUE Huescar 84.60 44 P **P 12 35 26.5 -0.9**
PBRG Braganca 84.61 39 *eP* **P 12 35 27.7 +0.4**
comp=Z,1µm,1.4s,mb6.3
PBRG *epP* pP 12 37 32.3 +0.5

PBRG Braganca 84.61 39 *eP* **P 12 35 27.6 +0.3**
LBCM Butte Creek Ri 84.67 320 P **P 12 35 27.8 +0.2**
USTO Oran 84.69 47 P **P 12 35 30.0 +2.2**
ECAL Calabor 84.70 39 P **P 12 35 27.9 +0.2**
comp=Z,221nm,0.4s,mb6.1
ODJA Bouhanifia 84.72 47 P **P 12 35 29.0 +1.0**
MSO Missoula 84.74 328⇑ *eP* **P 12 35 28.1 +0.3**
comp=Z,87nm,1.1s,mb5.3
MSO *epP* pP 12 37 33.0 +0.7
MOD Modoc 84.74 321 *eP* **P 12 35 28.2 +0.3**
comp=Z,326nm,1.1s,mb5.9
MOD *epP* pP 12 37 33.0 +0.5
ERUA La Rua 84.76 38 P **P 12 35 28.6 +0.6**
ERUA pmax pmax
comp=Z,1µm,1.3s,mb6.3
ERUA La Rua 84.76 38 P **P 12 35 28.6 +0.6**
comp=Z,1µm,1.3s,mb6.3
EINC Incio 84.82 38 P **P 12 35 29.2 +0.9**
comp=Z,211nm,0.7s,mb5.9
ESDC Sonseca Array 84.89 42 P **P 12 35 28.9 +0.1**
comp=Z,118nm,0.6s,mb5.7,baz=235,slow=4.5,SNR=175
ESDC pP pP 12 37 33.9 +0.6
comp=Z,35nm,1.1s,baz=231,slow=7.1,SNR=2.9
ESDC S S 12 45 06.1 -3.0
comp=Z,1.5nm,0.3s,baz=185,slow=16,SNR=6.4
ESDC Sonseca Array 84.89 42 P **P 12 35 28.9 +0.2**
comp=Z,199nm,0.8s,mb5.8
ESLA Sonseca Array 84.89 42 *eP* **P 12 35 28.6 -0.1**
comp=Z,137nm,1.2s,mb5.5
ESLA *epP* pP 12 37 33.8 +0.5
LTIM Timbered Crate 84.96 320 P **P 12 35 29.5 +0.5**
BMO Blue Mountains 85.06 325⇑ *eP* **P 12 35 29.6 +0.2**
comp=Z,1µm,0.3s,mb6.9
BMO *epP* pP 12 37 34.6 +0.6
LSZ Lusaka 85.14 104 P **P 12 35 31.6 +1.1**
LSZ pP pP 12 37 34.8 -0.3
LSZ sP sP 12 38 32.3 +0.1
LSZ SKSac 12 45 03.9
LSZ sS 12 48 54.7
LSZ Lusaka 85.14 104 *eP* **P 12 35 31.1 +0.6**
LSZ *e*PP pP 12 37 34.2 -0.9
LSZ *e*SP sP 12 38 32.3 +0.1
LSZ pmax pmax
comp=Z,2µm,1.4s,mb6.5
LSZ Lusaka 85.14 104 *eP* **P 12 35 31.1 +0.6**
comp=Z,2µm,1.4s,mb6.5
LSZ *epP* pP 12 37 34.2 -0.9
LSZ *esP* sP 12 38 32.3 +0.1
EVIA Vianos 85.16 43 P **P 12 35 29.9 -0.2**
EVIA pmax pmax
comp=Z,163nm,0.8s,mb5.7
EVIA Vianos 85.16 43 P **P 12 35 29.9 -0.1**
comp=Z,163nm,0.8s,mb5.7
OJBR Djebel Berber 85.19 47 P **P 12 35 31.0 +0.7**
WDC Whiskeytown Da 85.21 319⇑ *eP* **P 12 35 29.1 -1.2**
WDC pmax pmax
comp=Z,314nm,0.6s,mb6.1
WDC Whiskeytown Da 85.21 319⇑ *eP* **P 12 35 29.1 -1.1**
comp=Z,314nm,0.6s,mb6.1
LASM Arnica Sink 85.28 320 P **P 12 35 31.1 +0.6**
EPON Pontenova 85.37 38 P **P 12 35 31.3 +0.4**
comp=Z,131nm,0.5s,mb5.8
OJGS Djebel Guires 85.42 47 P **P 12 35 33.0 +1.6**
EMUR La Murta 85.48 45 P **P 12 35 32.4 +0.7**
comp=Z,95nm,0.9s,mb5.4
CART Cartagena 85.48 45⇓ *eP* **P 12 35 30.2 -1.5**
comp=Z,486nm,1.1s,mb6.0
CART *epP* pP 12 37 34.9 -1.5
ETRT Tiaret 85.72 48 P **P 12 35 34.5 +1.6**
ETOB Tobarra 85.76 44 P **P 12 35 32.7 -0.3**
comp=Z,396nm,1.2s,mb5.9
HOG Hogback Mounta 85.76 321 P **P 12 35 33.6 +0.7**
BSMT Bassoo Peak 85.87 328 P **P 12 35 33.7 +0.5**
EANR 'Ain N'Sour 85.91 47 P **P 12 35 34.0 +0.3**
FFC Flin Flon 85.96 339 P **P 12 35 33.0 -0.5**
comp=Z,1µm,1.0s,mb6.5
YBH Yreka Blue Hor 86.03 320⇑ *eP* **P 12 35 33.5 -0.7**
YBH pmax pmax
comp=Z,144nm,0.7s
YBH Yreka Blue Hor 86.03 320⇑ *eP* **P 12 35 33.5 -0.6**
comp=Z,144nm,0.7s,mb5.7
BUOR Burton Butte 86.10 320 P **P 12 35 34.6 +0.2**
KHMM Horse Mountain 86.10 319 *eP* **P 12 35 35.4 +0.9**
KHMM *epP* pP 12 37 41.2 +1.7
ECHA Ech Chlef 86.20 47 P **P 12 35 36.0 +0.9**
WALA Waterton Lakes 86.31 329⇑ *eP* **P 12 35 35.2 -0.1**
comp=Z,443nm,1.2s,mb6.0
WALA *epP* pP 12 37 40.9 +0.6
EBNR Beni Rached 86.39 47 P **P 12 35 37.0 +1.0**
EARI Arriondas 86.43 38 P **P 12 35 36.1 +0.1**
comp=Z,104nm,1.0s,mb5.4
VIPM Ingram Point 86.60 323 P **P 12 35 37.7 +0.9**
EBEN Beniarda 86.63 44 P **P 12 35 36.9 -0.2**
comp=Z,114nm,0.8s,mb5.7
RAR Rarotonga 86.69 248 *eP* **P 12 35 38.5 +0.7**
RAR *e*PP pP 12 37 43.1 +0.2
RAR pmax pmax
comp=Z,122nm,1.3s
RAR Rarotonga 86.69 248 *eP* **P 12 35 38.5 +0.7**
comp=Z,122nm,1.3s,mb5.5
RAR *epP* pP 12 37 43.1 +0.2
HUMO Hull Mountain 86.71 320 *eP* **P 12 35 36.7 -0.7**
comp=Z,123nm,1.0s,mb5.6
HUMO *epP* pP 12 37 41.7 -0.8
DRV Dumont d'Urvil 86.97 189 P **P 12 35 42.0 +4.0**
DRV S S 12 45 13.0 -15
DRV SS SS 12 51 28.0 -3.8
FCC Fort Churchill 87.18 345 *eP* **P 12 35 38.8 -0.4**
comp=Z,1.8nm,1.6s
FCC *epP* pP 12 37 45.1 +0.7
HAWA Hanford 87.25 325⇑ *eP* **P 12 35 39.9 +0.1**
comp=Z,23nm,0.6s,mb5.1
HAWA *epP* pP 12 37 48.3 +3.3
NEW Newport 87.28 327⇑ *eP* **P 12 35 39.1 -0.8**
NEW *e*PP pP 12 37 45.1 -0.1
NEW pmax pmax
comp=Z,229nm,1.2s
NEW Newport 87.28 327⇑ *eP* **P 12 35 39.1 -0.8**
comp=Z,229nm,1.2s,mb5.8
NEW *epP* pP 12 37 45.1 -0.1
WRD Warden 87.32 325 P **P 12 35 40.8 +0.7**
ELAN Lanestosa 87.40 39 P **P 12 35 40.7 +0.1**
comp=Z,480nm,0.8s,mb6.3
EMOS Mosqueruela 87.45 43 P **P 12 35 41.3 +0.4**
comp=Z,276nm,0.8s,mb6.0
OD2 Odessa Site #2 87.48 326 P **P 12 35 40.9 +0.1**
ADJB Djebel Djouab 87.59 48 P **P 12 35 42.8 +1.1**
ADJB Djebel Djouab 87.59 48 P **P 12 35 42.7 +1.0**
ABA Alger-Bouzarea 87.68 47 P **P 12 35 42.8 +0.8**
EIBI Ibiza 87.82 45 P **P 12 35 43.0 +0.4**
comp=Z,119nm,0.8s,mb5.7
COR Corvallis 88.14 322 *eP* **P 12 35 44.1 +0.1**
COR *e*PP pP 12 37 52.9 +3.4
COR pmax pmax
comp=Z,494nm,1.3s,mb6.1
COR Corvallis 88.14 322 *eP* **P 12 35 44.1 +0.1**
comp=Z,494nm,1.3s,mb6.1
COR *epP* pP 12 37 52.9 +3.3
ESAC San Caprasio 88.25 42 P **P 12 35 44.8 +0.2**
comp=Z,455nm,0.9s,mb6.2
EBR Ebro Roquetas 88.31 43 *eP* **P 12 35 44.0 -0.9**
WTV Waterville 88.32 326 P **P 12 35 44.7 -0.1**
FRB Frobisher Bay 88.48 358 PKKPbc 12 53 23.3
comp=Z,4.8nm,0.6s,baz=359,slow=3.3,SNR=7.8
EALK Alkurruntz 88.51 40 P **P 12 35 46.6 +0.8**
comp=Z,47nm,0.5s,mb5.6
SJPF Ste Jean 88.62 40⇓ *iP* **P 12 35 46.6 +0.3**
SJPF *epP* pP 12 37 52.9 +0.9
OSSF Osses 88.68 40 *eP* **P 12 35 46.3 -0.3**
LARF Larrau 88.71 41 *eP* **P 12 35 47.2 +0.5**
NLW Nelson Butte 88.77 326 P **P 12 35 46.6 -0.3**
FDAF Les Forges d'A 88.83 41 *eP* **P 12 35 48.0 +0.7**
ORDF Ordiarp 88.85 40 *eP* **P 12 35 47.1 -0.3**
ETSF Etsaut 88.88 41⇓ *iP* **P 12 35 47.9 +0.3**
comp=Z,1µm,1.3s,mb6.2
ETSF Etsaut 88.88 41⇓ *iP* **P 12 35 47.9 +0.3**
ETSF pmax pmax
comp=Z,505nm,1.3s,mb6.2
CKHR Kef el Ahmar 88.93 49 P **P 12 35 45.5 -2.5**
SET Setif 88.95 49 P **P 12 35 48.0 -0.1**
CASY Casey 88.95 178 *eP* **P 12 35 48.1 +0.8**
CASY *epP* pP 12 37 52.8 -0.3
EPOB Poblet 88.98 43 P **P 12 35 47.6 -0.4**
comp=Z,220nm,1.1s,mb5.9

CMER Merouana 88.99 50 *P* **P 12 35 50.0 +1.8**
EDM Edmonton 89.05 333‖ *eP* **P 12 35 47.2 -0.9**
EDM *e**PP pP 12 37 55.1 +1.3
REYF Montagne du Re 89.08 41 *eP* **P 12 35 49.0 +0.5**
ETOS Mallorca 89.17 45 *P* **P 12 35 49.0 0.0**
comp=Z,137nm,1.0s,mb5.7
EBIE Bielsa 89.18 41 *P* **P 12 35 49.4 +0.4**
comp=Z,46nm,0.5s,mb5.6
VIEF Viey 89.22 41 *eP* **P 12 35 49.5 +0.4**
LABF Labassere 89.36 41 *eP* **P 12 35 50.1 +0.4**
RESF Ens 89.36 41 *eP* **P 12 35 50.4 +0.6**
DFRA Djebel Bou Aff 89.46 49 *P* **P 12 35 51.5 +1.1**
EPF Esparros 89.50 41‖↓*iP* **P 12 35 50.5 +0.1**
CTEI Djebel Teioual 89.57 50 *P* **P 12 35 51.0 +0.1**
EMIR Miracle 89.57 43 *P* **P 12 35 51.2 +0.4**
comp=Z,368nm,1.0s,mb6.2
VAL Valentia 89.59 30 *eP* **P 12 35 49.1 -1.5**
VAL *eS* SKS 12 45 25.8 0.0
MELF Melles 89.66 41 *eP* **P 12 35 51.9 +0.8**
SALF Salau 89.85 42 *eP* **P 12 35 52.7 +0.7**
MLS Moulis 89.91 42 *eP* **P 12 35 52.6 +0.3**
CKFL Kef-Lekhel 89.97 49 *P* **P 12 35 53.0 +0.3**
OLEF Ile d'Oleron 90.23 38 *eP* **P 12 35 53.4 -0.3**
CAEH 'Ain El Ouahch 90.25 49 *P* **P 12 35 55.0 +1.0**
CARF Carcanieres 90.38 42 *eP* **P 12 35 54.4 -0.1**
LPEF Le Peyrat 90.39 42 *eP* **P 12 35 54.3 -0.2**
ABSA Djebel Ababsia 90.42 50 *P* **P 12 35 55.5 +0.7**
QUIF Quistinic 90.44 36‖↓*iP* **P 12 35 53.7 -0.9**
comp=Z,280nm,0.8s,mb5.8
QUIF Quistinic 90.44 36‖↓*iP* **P 12 35 53.7 -0.9**
QUIF pmax pmax
comp=Z,140nm,0.8s,mb5.8
LRYF La Roche-sur-Y 90.50 37 *eP* **P 12 35 54.6 -0.3**
CMAH Djebel Manchou 90.56 49 *P* **P 12 35 55.5 0.0**
FILF Fillols 90.57 42 *eP* **P 12 35 55.1 -0.2**
CPZ Penzance 90.60 33 *eP* **P 12 35 54.9 -0.4**
CPZ AMb AMB 12 35 58.7
comp=Z,625nm,1.2s,mb6.4
ROSF Rostrenen 90.64 35‖↓*iP* **P 12 35 54.7 -0.8**
comp=Z,184nm,0.5s,mb5.9
ROSF *epP* pP 12 38 01.4 -0.2
ROSF Rostrenen 90.64 35‖↓*iP* **P 12 35 54.7 -0.8**
ROSF *e**PP pP 12 38 01.4 -0.2
ROSF pmax pmax
comp=Z,92nm,0.5s,mb6.0
EJON La Jonquera 90.71 43 *P* **P 12 35 55.8 -0.2**
comp=Z,76nm,0.9s,mb5.6
SJAF Saint Jean de 90.73 43 *eP* **P 12 35 55.8 -0.3**
PGC Sidney 90.73 325 *eP* **P 12 35 56.0 +0.1**
comp=Z,272nm,1.0s,mb6.1
PGC *epP* pP 12 38 02.3 +0.2
MATF Mathat 90.76 39 *eP* **P 12 35 56.1 0.0**
LRDF Laroque-de-Fa 90.77 42 *eP* **P 12 35 55.9 -0.3**
CMA1 Manaccan 90.78 33 *eP* **P 12 35 55.6 -0.6**
CCA1 Carnmenellis 90.80 33 *eP* **P 12 35 55.5 -0.6**
MTLF Montolieu 90.80 42‖↓*iP* **P 12 35 55.9 -0.5**
comp=Z,665nm,1.3s,mb6.1
MTLF *epP* pP 12 38 02.0 -0.5
MTLF Montolieu 90.80 42‖↓*iP* **P 12 35 55.9 -0.5**
MTLF *e**PP pP 12 38 02.0 -0.5
MTLF pmax pmax
comp=Z,332nm,1.3s,mb6.1
CRQ2 Rosemanowes 2 90.82 33 *eP* **P 12 35 55.5 -0.7**
LFF La Frestale 90.83 40‖↓*iP* **P 12 35 56.3 -0.2**
comp=Z,484nm,0.7s,mb6.2
LFF La Frestale 90.83 40‖↓*iP* **P 12 35 56.3 -0.2**
LFF pmax pmax
comp=Z,242nm,0.7s,mb6.2
SGMF Saint Gilles 90.97 36‖↓*iP* **P 12 35 56.0 -1.0**
comp=Z,140nm,0.6s,mb5.7
SGMF Saint Gilles 90.97 36‖↓*iP* **P 12 35 56.0 -1.0**
SGMF pmax pmax
comp=Z,70nm,0.6s,mb5.8
LCHF La Chataignera 91.00 38 *eP* **P 12 35 57.0 -0.2**
CSA1 St Austell 91.07 33 *eP* **P 12 35 56.8 -0.7**
MFF Saint Martin d 91.29 38‖↓*iP* **P 12 35 58.2 -0.3**
comp=Z,822nm,1.2s,mb6.2
MFF *epP* pP 12 38 04.7 -0.1
MFF Saint Martin d 91.29 38‖↓*iP* **P 12 35 58.2 -0.3**
MFF *e**PP pP 12 38 04.7 -0.1
MFF pmax pmax
comp=Z,411nm,1.2s,mb6.2
RJF Les Rejaudoux 91.49 40‖↓*iP* **P 12 35 59.0 -0.5**
RJF *eR*
comp=Z,11µm,21.5s
CAF Calviac 91.60 40‖↓*iP* **P 12 35 59.8 -0.2**
JVM Valle D.L. Mar 91.74 35 *eP* **P 12 35 59.7 -0.8**
JRS Jersey 91.78 35 *eP* **P 12 36 00.1 -0.6**
JQE Queens East 91.81 35 *eP* **P 12 35 59.9 -1.0**
DCN Croghan 91.87 30 *eP* **P 12 36 00.0 -1.0**
DCN Croghan 91.87 30 *eP* pP 12 38 06.9 -0.4
DCN Croghan 91.87 30 *eP* PP 12 39 50.6 -1.5
GRR Gorron 91.95 36‖↓*iP* **P 12 36 00.6 -0.9**
comp=Z,134nm,0.4s,mb6.0
GRR Gorron 91.95 36‖↓*iP* **P 12 36 00.6 -0.9**
GRR pmax pmax
comp=Z,67nm,0.4s,mb6.0
HEX Exmoor 92.06 33 *eP* **P 12 36 00.8 -1.1**
FRNF Fournols 92.15 40 *eP* **P 12 36 02.8 +0.4**
SFJD Kangerlussuaq 92.16 5‖↓*iP* **P 12 36 02.8 +0.8**
SFJD *i* S SKS 12 45 39.4 -0.6
SFJD *i* 12 46 15.3
SFJD *i* 12 46 18.7
SFJD *e* 12 50 07.3
SFJD *e* 12 52 42.9
comp=Z,2µm,17.0s
SFJ Sondre 92.16 5 *eP* **P 12 36 02.2 +0.2**
comp=Z,444nm,1.7s,mb6.2
DLF Lyons Farm 92.18 30 *eP* **P 12 36 01.6 -0.8**
DLF Lyons Farm 92.18 30 *eP* pP 12 38 08.5 -0.2
DLF Lyons Farm 92.18 30 *eP* PP 12 39 51.6 -2.9
LASF Ste Croix 92.20 42‖↓*iP* **P 12 36 02.6 -0.1**
comp=Z,373nm,1.2s,mb6.0
DSB Dublin 92.22 30 *eP* **P 12 36 01.8 -0.8**
comp=Z,192nm,1.1s,mb6.0
DSB *epP* pP 12 38 08.4 -0.5
DSB *ePP* PP 12 39 52.2 -2.7
VERF Verneugheol 92.31 40 *eP* **P 12 36 03.2 +0.1**
HSA Swansea 92.31 32 *eP* **P 12 36 02.0 -1.0**
FLN La Foliniere 92.38 36‖↓*iP* **P 12 36 02.6 -0.8**
comp=Z,159nm,0.5s,mb6.0
FLN *eR*
comp=Z,9µm,20.5s
FLN La Foliniere 92.38 36‖↓*iP* **P 12 36 02.6 -0.8**
FLN pmax pmax
comp=Z,79nm,0.5s,mb6.0
FLN MLR MLR
comp=Z,9µm,20.5s
TCF Toulx Ste Croi 92.45 39‖↓*iP* **P 12 36 03.3 -0.5**
comp=Z,492nm,1.3s,mb6.1
TCF *epP* pP 12 38 09.9 -0.3
TCF Toulx Ste Croi 92.45 39‖↓*iP* **P 12 36 03.3 -0.5**
TCF *e**PP pP 12 38 09.9 -0.3
TCF pmax pmax
comp=Z,246nm,1.3s,mb6.1
LBL Lubilhac 92.47 41 *eP* **P 12 36 04.5 +0.6**
LBL Lubilhac 92.47 41 *eP* **P 12 36 04.1 +0.2**
LDF La Druitiere 92.47 36‖↓*iP* **P 12 36 03.1 -0.7**
comp=Z,144nm,0.5s,mb5.9
LDF La Druitiere 92.47 36‖↓*iP* **P 12 36 03.1 -0.7**
LDF pmax pmax
comp=Z,72nm,0.5s,mb6.0
GELF Grande-Etoile 92.78 43 *eP* **P 12 36 05.9 +0.5**
GELF Grande-Etoile 92.78 43 *eP* **P 12 36 06.7 +1.3**
PRAF Pradon 92.85 42 *eP* **P 12 36 06.2 +0.5**
PRAF Pradon 92.85 42 *eP* **P 12 36 06.4 +0.7**
AGO Saint Agoulin 92.85 40 *eP* **P 12 36 05.6 0.0**
AGO Saint Agoulin 92.85 40 *eP* **P 12 36 05.9 -0.3**
TREF Trevaresse 92.89 43 *eP* **P 12 36 06.6 +0.7**
TREF Trevaresse 92.89 43 *eP* **P 12 36 07.1 +1.2**
COLF Collangettes 92.89 40 *eP* **P 12 36 06.4 +0.6**
BERF Bertagne 92.91 43 *eP* **P 12 36 06.7 +0.7**
BERF Bertagne 92.91 43 *eP* **P 12 36 06.4 +0.4**
BGF Bois d'Agland 92.97 39‖↓*iP* **P 12 36 05.8 -0.4**
comp=Z,940nm,1.3s,mb6.4
BGF Bois d'Agland 92.97 39‖↓*iP* **P 12 36 05.8 -0.4**
BGF pmax pmax
comp=Z,470nm,1.3s,mb6.4
PUYF Puyloubier 93.03 43 *eP* **P 12 36 06.8 +0.2**
PUYF Puyloubier 93.03 43 *eP* **P 12 36 06.7 +0.1**
GMM Mts of Mourne 93.05 30 *eP* **P 12 36 04.9 -1.4**
YRC Rhoscolyn 93.05 31 *eP* **P 12 36 05.3 -1.1**
YRC AMb AMB 12 36 11.2
comp=Z,274nm,2.1s,mb5.9
PLDF La Plantade 93.09 40 *eP* **P 12 36 07.2 +0.4**
PLDF La Plantade 93.09 40 *eP* **P 12 36 06.6 -0.2**
VIVF Saint-Julien-l 93.11 41‖↓*iP* **P 12 36 07.0 +0.1**
comp=Z,474nm,1.2s,mb6.1
VIVF Saint-Julien-l 93.11 41‖↓*iP* **P 12 36 07.0 +0.1**
VIVF pmax pmax
comp=Z,237nm,1.2s,mb6.1
WCB1 Church Bay 93.15 31 *eP* **P 12 36 06.0 -0.9**
WCB1 AMb AMB 12 36 09.1
comp=Z,110nm,1.1s,mb5.8
YLL Llanberis 93.17 31 *eP* **P 12 36 05.8 -1.1**
YLL AMb AMB 12 36 10.8
comp=Z,120nm,1.6s,mb5.7
SMRF Simiane la Rot 93.19 42‖↓*iP* **P 12 36 07.9 +0.6**
comp=Z,680nm,1.3s,mb6.2
SMRF *epP* pP 12 38 14.4 +0.7
comp=Z,445nm,1.7s
VILF Villemus 93.21 43 *eP* **P 12 36 08.1 +0.7**
VILF Villemus 93.21 43 *eP* **P 12 36 08.0 +0.6**
HYF Humbligny 93.24 39‖↓*iP* **P 12 36 07.0 -0.4**
WME Myndd Eilian 93.27 31 *eP* **P 12 36 06.2 -1.2**
WME AMb AMB 12 36 09.8
comp=Z,162nm,1.1s,mb6.0
TAVF Tavernes 93.30 43 *eP* **P 12 36 08.4 +0.6**
TAVF Tavernes 93.30 43 *eP* **P 12 36 07.4 -0.4**
OG26 St.-Nazaire-De 93.34 42 *eP* **P 12 36 08.7 +0.8**
VSL Villasalto 93.34 48 *eP* **P 12 36 07.9 -0.2**
comp=Z,72nm,0.9s,mb5.7
VSL *epP* pP 12 38 14.2 -0.3
WPM1 Penmaenmawr 93.37 31 *eP* **P 12 36 06.4 -1.4**
WPM1 AMb AMB 12 36 13.5
comp=Z,207nm,2.3s,mb5.8
AVF Avril sur Loir 93.39 39‖↓*iP* **P 12 36 07.5 -0.6**
comp=Z,723nm,1.4s,mb6.2
AVF *epP* pP 12 38 14.3 -0.3
AVF Avril sur Loir 93.39 39‖↓*iP* **P 12 36 07.5 -0.6**
AVF *e**PP pP 12 38 14.3 -0.3
AVF pmax pmax
comp=Z,362nm,1.4s,mb6.2
STOF St-Etienne Org 93.41 43 *eP* **P 12 36 08.9 +0.7**
LMR La Mourre 93.43 43‖↓*iP* **P 12 36 08.4 0.0**
comp=Z,982nm,1.2s,mb6.4
LMR La Mourre 93.43 43‖↓*iP* **P 12 36 08.4 0.0**
LMR pmax pmax
comp=Z,491nm,1.2s,mb6.4
GCL Cushendall 93.51 29 *eP* **P 12 36 07.3 -1.2**
MBAR Mbarara 93.56 92 *eP* **P 12 36 08.6 -1.0**
MBAR pmax pmax
comp=Z,31nm,1.2s,mb5.3
MBAR Mbarara 93.56 92 *eP* **P 12 36 08.6 -1.0**
comp=Z,31nm,1.2s,mb5.3
WIM Isle of Man 93.57 30 *eP* **P 12 36 07.4 -1.4**
WIM AMb AMB 12 36 13.6
comp=Z,352nm,2.3s,mb6.1
SMF Signal de Mont 93.59 40‖↓*iP* **P 12 36 08.8 -0.2**
comp=Z,1µm,1.3s,mb6.5
SMF Signal de Mont 93.59 40‖↓*iP* **P 12 36 08.8 -0.2**
SMF pmax pmax
comp=Z,565nm,1.3s,mb6.5
SSF Saint Saulge 93.62 39‖↓*iP* **P 12 36 08.4 -0.7**
SSF pmax pmax
comp=Z,292nm,1.2s,mb6.3
SSF Saint Saulge 93.62 39‖↓*iP* **P 12 36 08.4 -0.7**
comp=Z,292nm,1.2s,mb6.3
FRF La Foret Royal 93.63 43‖↓*iP* **P 12 36 09.3 0.0**
comp=Z,905nm,1.4s,mb6.4
FRF La Foret Royal 93.63 43‖↓*iP* **P 12 36 09.3 0.0**
FRF pmax pmax
comp=Z,452nm,1.4s,mb6.4
ORIF Oris-en-Rattie 93.87 42‖↓*iP* **P 12 36 11.0 +0.7**
comp=Z,801nm,0.9s,mb6.5
ORIF *eR*
comp=Z,8µm,22.5s
CALN Calern 93.88 43 *eP* **P 12 36 11.1 +0.7**
DGI Dorgali Grotta 93.90 47 *P* **P 12 36 10.5 -0.1**
GRN Grenoble 93.96 41 *eP* **P 12 36 11.6 +0.9**
GAL1 Galloway 94.01 30 *eP* **P 12 36 09.0 -1.6**
MVIF Mont Vial 94.12 43 *eP* **P 12 36 12.2 +0.7**
MVIF Mont Vial 94.12 43 *eP* **P 12 36 11.9 +0.4**
GDM Grand'Maison 94.16 42 *eP* **P 12 36 12.2 +0.6**
REVF Revere 94.17 43 *eP* **P 12 36 12.1 +0.4**
REVF Revere 94.17 43 *eP* **P 12 36 12.0 +0.3**
KWE Weaver Farm 94.21 32 *eP* **P 12 36 10.6 -1.0**
SURF Saint Ours 94.21 43 *eP* **P 12 36 12.9 +1.0**
TOUF Mont Tournerai 94.24 43 *eP* **P 12 36 12.6 +0.6**
SBF Sospel 94.28 43‖↓*iP* **P 12 36 12.4 +0.2**
comp=Z,1µm,1.1s,mb6.6
SBF Sospel 94.28 43‖↓*iP* **P 12 36 12.4 +0.2**
SBF pmax pmax
comp=Z,568nm,1.1s,mb6.6
MBDF Montbardon 94.31 42‖↓*iP* **P 12 36 12.9 +0.6**
comp=Z,462nm,1.1s,mb6.2
MBDF *epP* pP 12 38 19.5 +0.6
MBDF Montbardon 94.31 42‖↓*iP* **P 12 36 12.9 +0.6**
MBDF *e**PP pP 12 38 19.5 +0.6
MBDF pmax pmax
comp=Z,231nm,1.1s,mb6.2
AUTN L'Aution 94.34 43 *eP* **P 12 36 13.1 +0.6**
AUTN L'Aution 94.34 43 *eP* **P 12 36 12.8 +0.3**
PZZ Prazzo 94.40 43 *P* **P 12 36 13.2 +0.5**
STV Sta Anna Valdi 94.40 43 *P* **P 12 36 12.6 -0.1**
STV2 Anna di Valdie 94.41 43 *P* **P 12 36 12.8 +0.1**
SAOF Saorge 94.42 43 *eP* **P 12 36 13.2 +0.4**
RRL Cesana Torines 94.42 42 *P* **P 12 36 13.4 +0.6**
BNI Bardonecchia 94.42 42 *eP* **P 12 36 12.6 -0.2**
BNI pmax pmax
comp=Z,173nm,1.2s,mb6.1
BNI Bardonecchia 94.42 42 *eP* **P 12 36 12.6 -0.2**
comp=Z,173nm,1.2s,mb6.1
NEGI Negi 94.44 43 *P* **P 12 36 12.6 -0.3**
ENR Entracque 94.45 43 *P* **P 12 36 12.2 -0.8**
OG22 Abries 94.47 42 *eP* **P 12 36 13.6 +0.6**
DOI San Damiano 94.49 43 *eP* **P 12 36 13.2 +0.1**
KBI1 Birley Grange 94.50 32 *eP* **P 12 36 11.9 -1.0**
LHO Holmfirth 94.52 32 *eP* **P 12 36 12.2 -0.8**
IMI Imperia 94.58 43 *eP* **P 12 36 13.5 0.0**
MONE Monesi 94.59 43 *P* **P 12 36 13.8 +0.3**
BBO1 Bothel 94.59 30 *eP* **P 12 36 12.4 -0.9**
PGF Pioggiola 94.61 45‖↓*iP* **P 12 36 13.8 +0.1**
comp=Z,247nm,1.2s,mb5.9
PGF Pioggiola 94.61 45‖↓*iP* **P 12 36 13.8 +0.1**
PGF pmax pmax
comp=Z,124nm,1.2s,mb5.9
FENE Fenestrelle 94.65 42 *P* **P 12 36 14.1 +0.3**
BHB Bricherasio 94.67 42 *P* **P 12 36 13.5 -0.4**
BWH Wardlaw 94.68 30 *eP* **P 12 36 12.4 -1.3**
LPL La Plagne 94.70 42‖↓*iP* **P 12 36 14.8 +0.8**
comp=Z,633nm,1.1s,mb6.3
LPL La Plagne 94.70 42‖↓*iP* **P 12 36 14.8 +0.8**
LPL pmax pmax
comp=Z,317nm,1.1s,mb6.4
LPG La Plagne 94.70 42‖↓*iP* **P 12 36 15.0 +1.0**
comp=Z,846nm,1.2s,mb6.5
LPG La Plagne 94.70 42‖↓*iP* **P 12 36 15.0 +1.0**
LPG pmax pmax
comp=Z,423nm,1.2s,mb6.5
ROB Roburent 94.77 43 *P* **P 12 36 14.0 -0.4**
BDL Dobcross Hall 94.77 30 *eP* **P 12 36 13.1 -1.1**
MENF Mencas 94.81 36 *eP* **P 12 36 13.6 -0.8**
BHH Howats Hill 94.82 30 *eP* **P 12 36 13.1 -1.2**
RSP Reno Superiore 94.83 42 *P* **P 12 36 15.5 +0.9**
KHZ Kahutara 94.84 219 *pP* pP 12 38 20.3 -1.0
SNZO South Karori 94.88 220 *eP* **P 12 36 15.9 +0.9**
HPK Haverah Park 94.88 32 *eP* **P 12 36 13.9 -0.7**
CABF La Chapelle 94.88 40‖↓*iP* **P 12 36 14.9 +0.1**
comp=Z,520nm,1.1s,mb6.3
CABF La Chapelle 94.88 40‖↓*iP* **P 12 36 14.9 +0.1**
CABF pmax pmax
comp=Z,260nm,1.1s,mb6.3
LSD Ceresole Reale 94.92 42 *P* **P 12 36 15.9 +0.9**
FIN Finale Ligure 94.94 43 *eP* **P 12 36 14.7 -0.4**
GIMEL Gimel 94.94 41‖↓*iP* **P 12 36 15.2 +0.1**
BTA Talkin 94.95 30 *eP* **P 12 36 14.6 -0.3**
ESK Eskdalemuir 94.97 30 *P* **P 12 36 14.1 -0.9**
comp=Z,607nm,1.1s,mb6.6,SNR=19
ESK Eskdalemuir 94.97 30 *eP* **P 12 36 13.8 -1.2**
ESK *e**PP pP 12 38 21.1 -0.5
ESK *e* 12 40 11.3
ESK pmax pmax
comp=Z,125nm,1.0s,mb6.0
ESK Eskdalemuir 94.97 30 *eP* **P 12 36 13.8 -1.2**
comp=Z,125nm,1.0s,mb6.0
ESK *epP* pP 12 38 21.1 -0.5
ESK *ePP* PP 12 40 11.3 -4.0
ESK Eskdalemuir 94.97 30 *eP* **P 12 36 13.6 -1.4**
ESK AMb AMB 12 36 20.9
comp=Z,151nm,1.4s,mb5.9
BBH Bruntsheil 94.98 30 *eP* **P 12 36 14.3 -0.7**
PCOU Corrie 94.98 29 *eP* **P 12 36 14.0 -1.0**
EKA Eskdalemuir Ar 95.00 30 PKKPbc 12 53 07.4
comp=Z,2.2nm,0.6s,baz=48,slow=3.7,SNR=7.4
CLTB Caltabellotta 95.07 51 *P* **P 12 36 17.1 +1.2**
EMV Vieux Emosson 95.08 41‖↓*iP* **P 12 36 13.3 +0.6**
BKZ Black Stump Fm 95.14 223 *pP* pP 12 38 35.1 +12
SALAN Lac Salanfe 95.16 41‖↓*iP* **P 12 36 16.5 +0.4**
BORG Borgarnes 95.16 17 *eP* **P 12 36 16.3 +0.6**
comp=Z,469nm,1.6s,mb6.4
BORG *epP* pP 12 38 23.4 +1.2
BORG *ePP* PP 12 40 15.9 -0.7
AIGLE Aigle 95.25 41‖↓*iP* **P 12 36 16.7 +0.2**
BRANT Les Verrieres 95.28 40‖↓*iP* **P 12 36 17.0 +0.4**
MEZF Maizieres J'vi 95.28 38‖↓*iP* **P 12 36 16.1 -0.4**
comp=Z,716nm,1.3s,mb6.3
GRYON Gryon 95.30 41‖↓*iP* **P 12 36 17.0 +0.3**
TRAV 95.31 42 *P* **P 12 36 15.7 -1.1**
PCP Pian Castagno 95.31 43 *P* **P 12 36 15.8 -1.0**
DIX Grande Dixence 95.39 41‖↓*iP* **P 12 36 17.8 +0.7**
SENIN Lac Senin 95.47 41‖↓*iP* **P 12 36 18.1 +0.5**
TORNY Torny 95.48 41‖↓*iP* **P 12 36 17.8 +0.3**
ORO Oropa 95.51 42 *eP* **P 12 36 16.8 -0.9**
ORX Oropa 95.51 42 *P* **P 12 36 16.5 -1.2**
USI Ustica 95.57 50 *P* **P 12 36 19.8 +1.7**
BAIF Baives 95.64 37‖↓*iP* **P 12 36 17.5 -0.6**
comp=Z,291nm,1.3s,mb6.1
BAIF Baives 95.64 37‖↓*iP* **P 12 36 17.5 -0.6**
BAIF pmax pmax
comp=Z,146nm,1.3s,mb6.0
THEF They Montfort 95.66 39 *eP* **P 12 36 17.9 -0.4**
THEF They Montfort 95.66 39 *P* **P 12 36 18.6 +0.3**
LKBD Leukerbad 95.68 41‖↓*iP* **P 12 36 18.9 +0.5**
MCGN Macugnaga 95.68 42 *eP* **P 12 36 18.9 +0.5**
LOMF Lomont 95.69 40 *eP* **P 12 36 18.6 +0.1**
LOMF Lomont 95.69 40 *P* **P 12 36 19.1 +0.6**
MMK Mattmark 95.71 42‖↓*iP* **P 12 36 19.1 +0.5**
MMK Mattmark 95.71 42‖↓*iP* **P 12 36 19.2 +0.6**
HAU Haudompre 95.75 39‖↓*iP* **P 12 36 18.1 -0.6**
comp=Z,259nm,1.0s,mb6.1
HAU *eR*
comp=Z,4µm,22.2s
HAU Haudompre 95.75 39‖↓*iP* **P 12 36 18.1 -0.6**
HAU pmax pmax
comp=Z,129nm,1.0s,mb6.1
HAU MLR MLR
comp=Z,4µm,22.3s
WIMIS Wimmis 95.82 41‖↓*iP* **P 12 36 19.2 +0.2**
GIB Gibilmanna 95.83 51 *P* **P 12 36 20.4 +1.1**
MAON Monte Argentar 95.93 46 *P* **P 12 36 19.7 +0.1**
HINF Hinteralfeld 95.95 40‖↓*iP* **P 12 36 19.0 -0.6**
comp=Z,326nm,1.2s,mb6.2
HINF *epP* pP 12 38 25.7 -0.5
HINF Hinteralfeld 95.95 40‖↓*iP* **P 12 36 19.0 -0.6**
HINF *e**PP pP 12 38 25.7 -0.5
HINF pmax pmax
comp=Z,163nm,1.2s,mb6.1
BOURR Bourrignon 95.95 40‖↓*iP* **P 12 36 19.5 -0.1**
BOB Bobbio (Coli) 95.96 43 *eP* **P 12 36 20.5 +0.7**
GIVF Givet 96.00 37‖↓*iP* **P 12 36 19.3 -0.4**
comp=Z,733nm,1.3s,mb6.5
GIVF *epP* pP 12 38 26.1 -0.3
GIVF Givet 96.00 37‖↓*iP* **P 12 36 19.3 -0.4**
GIVF *e**PP pP 12 38 26.1 -0.3
GIVF pmax pmax
comp=Z,367nm,1.3s,mb6.5
VAI Varese 96.11 42 *eP* **P 12 36 19.3 -1.0**
MOF Molkenrain 96.13 40 *eP* **P 12 36 20.1 -0.3**
MOF Molkenrain 96.13 40 *P* **P 12 36 20.7 +0.3**
YKA Yellowknife Ar 96.14 339 *P* **P 12 36 19.7 -0.4**
comp=Z,46nm,0.6s,mb5.9,baz=126,slow=4.5,SNR=502
YKA *pP* pP 12 38 28.6 +1.9
comp=Z,68nm,1.0s,baz=127,slow=4.5,SNR=11
YKA PP PP 12 40 22.9 -1.3
comp=Z,16nm,0.8s,baz=133,slow=4.9,SNR=3.8
YKA ScS ScS 12 46 48.4 +0.7
comp=Z,4.6nm,1.0s,baz=134,slow=9.2,SNR=4.9
YKA PKKPbc 12 53 04.0
comp=Z,1.1nm,0.5s,baz=327,slow=1.1,SNR=12
YKA Yellowknife Ar 96.14 339 P **P 12 36 19.8 -0.3**
YKA pP pP 12 38 28.6 +1.9
YKA PP PP 12 40 22.9 -1.3
YKA ScS ScS 12 46 48.4 +0.7
YKA PKKPbc 12 53 04.0
BBS Basel-Blauen 96.15 40 P **P 12 36 21.5 +1.0**
BBS Basel-Blauen 96.15 40 *eP* **P 12 36 20.5 0.0**
PII Pisa 96.15 44 *eP* **P 12 36 20.3 -0.3**
GRFL Gerfalco 96.17 45 *eP* **P 12 36 20.8 +0.1**
HASLI Hasliberg 96.17 41‖↓*iP* **P 12 36 21.0 +0.4**
YKW3 Yellowknife Ar 96.19 339 *eP* **P 12 36 19.4 -0.9**
YKW3 *epP* pP 12 38 26.7 -0.3
BALST Balsthal 96.20 40‖↓*iP* **P 12 36 20.9 +0.2**
GRAM 96.23 44 *P* **P 12 36 20.6 -0.3**
VLC Villacollemand 96.28 44 *eP* **P 12 36 20.7 -0.5**
comp=Z,124nm,1.3s,mb6.0
VLC *epP* pP 12 38 26.7 -1.1
VLC *ePP* PP 12 40 21.2 +4.5
MNO Monte Soro 96.28 51 *eP* **P 12 36 24.7 +3.4**
VALM 96.28 44 *P* **P 12 36 19.4 -1.8**
SARO Sassorosso 96.30 44 *P* **P 12 36 19.4 -1.9**
MUGIO Muggio 96.30 42‖↓*iP* **P 12 36 20.3 -0.9**
ECH Echery 96.33 39 *eP* **P 12 36 21.1 -0.2**
FUSIO Fusio 96.33 41‖↓*iP* **P 12 36 21.7 +0.4**
FUSIO Fusio 96.33 41‖↓*iP* **P 12 36 21.8 +0.5**
BDI Bagni Di Lucca 96.36 44 *eP* **P 12 36 20.6 -0.9**
BNALP Bannalp 96.39 41‖↓*iP* **P 12 36 22.0 +0.4**
ERBM Eremo 96.42 44 *eP* **P 12 36 21.9 +0.1**
GSCL Gusciola 96.49 44 *eP* **P 12 36 23.5 +1.4**
CDF Champ du Feu 96.50 39‖↓*iP* **P 12 36 21.7 -0.3**
comp=Z,548nm,1.2s,mb6.4
CDF Champ du Feu 96.50 39‖↓*iP* **P 12 36 21.7 -0.3**
CDF pmax pmax
comp=Z,274nm,1.2s,mb6.4
WLF Walferdange 96.50 38 *eP* **P 12 36 22.0 0.0**
WLF *e**PP pP 12 38 28.3 -0.4
WLF *e* 12 40 23.4
WLF pmax pmax
comp=Z,360nm,1.1s,mb6.5
WLF Walferdange 96.50 38 *eP* **P 12 36 22.0 -0.1**
comp=Z,360nm,1.1s,mb6.5
WLF *epP* pP 12 38 28.3 -0.4
WLF *ePP* PP 12 40 23.4 -3.9
SULZ Sulz-Cheisache 96.54 40‖↓*iP* **P 12 36 22.3 0.0**
WLS Welschbruch 96.54 39 *eP* **P 12 36 21.8 -0.4**
LIBD Limburg 96.55 40 *eP* **P 12 36 23.3 +1.0**
LIBD Limburg 96.55 40 *eP* **P 12 36 22.4 +0.1**
MUO Muotathal 96.57 41‖↓*iPdiff* **P 12 36 22.9 +0.5**
KIZ Kirchzarten 96.64 40 *P* **P 12 36 22.8 +0.1**
KIZ Kirchzarten 96.64 40 *eP* **P 12 36 22.4 -0.3**
FELD Feldberg 96.65 40‖*eP* **P 12 36 22.7 0.0**
LLS Linth-Limmern 96.73 41‖↓*iPdiff* **P 12 36 23.4 +0.2**
ZUR Zurich 96.73 41‖↓*iPdiff* **P 12 36 23.4 +0.3**
ZCCA Zocca 96.74 44 *eP* **P 12 36 23.6 +0.4**
FNVD Fontana Vidola 96.75 44 *P* **P 12 36 23.2 -0.1**
TUE Stuetta 96.75 42 *P* **P 12 36 23.4 +0.1**
VDL Val di Lei 96.83 42‖↓*iPdiff* **P 12 36 23.7 +0.1**
SEI Scarperia 96.84 44 *eP* **P 12 36 23.9 +0.2**
SLE Schleitheim 96.88 40‖↓*iPdiff* **P 12 36 23.6 -0.2**
VMG Vicchio 96.92 45 *eP* **P 12 36 23.2 -0.8**
MNS Montasola 96.92 46 *eP* **P 12 36 23.6 -0.5**
HGN Heimansgroeve 96.95 37 *eP* **P 12 36 24.4 +0.4**
comp=Z,109nm,1.0s,mb6.0
HGN *epP* pP 12 38 29.0 -1.7
HGN *ex* x 12 39 23.2
HGN *eP* PP 12 40 23.8 -7.0
comp=Z,504nm,2.4s
HGN *eS* SKS 12 45 51.3 -14
HGN *ex* x 12 48 14.4
HGN *eP* 12 59 43.1
PGD Poggio Sodo 96.99 45 *eP* **P 12 36 23.3 -1.1**
MTTG Motta San Giov 97.01 51 *eP* **P 12 36 28.9 +4.2**
RUP Ruppelstein 97.03 38 *P* **P 12 36 25.0 +0.6**
RUP Ruppelstein 97.03 38‖*eP* **P 12 36 24.5 +0.1**
WEIN Weingarten 97.05 41‖↓*iPdiff* **P 12 36 24.6 0.0**
PLONS Plons 97.05 41‖↓*iP* **P 12 36 24.6 0.0**
PLONS Plons 97.05 41‖↓*iPdiff* **P 12 36 24.7 +0.1**
SAL Salo 97.06 43 *P* **P 12 36 25.5 +0.8**
BFO Black Forest 97.06 40 *eP* **P 12 36 24.1 -0.5**

BFO *e* 12 40 27.7
BFO pmax pmax
comp=Z,176nm,1.3s,mb6.1
BFO Black Forest 97.06 40 *e*P **P** **12 36 24.1 -0.5**
comp=Z,176nm,1.3s,mb6.1
BFO *e*PP PP 12 40 27.7 -4.1
BFO *e*SKSac 12 46 05.9
SFI Santa Sofia 97.08 45 *e*P **P** **12 36 23.4 -1.4**
LANF Langenberg 97.08 39 *e*P **P** **12 36 24.4 -0.3**
LANF Langenberg 97.08 39 P **P** **12 36 25.1 +0.4**
SISB Singen-Sch Ber 97.12 40 P **P** **12 36 25.4 +0.5**
BERNI Berninapass 97.13 42 *i*/Pdiff **P** **12 36 25.3 +0.3**
FIAM Fiamignano 97.16 47 P **P** **12 36 26.0 +0.8**
SPAK Spaichingen 97.22 40 P **P** **12 36 26.1 +0.8**
SPAK Spaichingen 97.22 40⇓ *e*P **P** **12 36 25.2 -0.1**
DAVOX Davos 97.22 42 PKKPbc 12 53 02.3
comp=Z,12nm,0.5s,baz=244,slow=3.4,SNR=14
DAVOX Davos 97.22 42⇓ *i*/Pdiff **P** **12 36 25.8 +0.4**
PTQR Pietraquaria 97.23 47 *e*P **P** **12 36 25.5 -0.1**
LIENZ Alp Oberkamor 97.24 41⇓ *i*/Pdiff **P** **12 36 25.8 +0.4**
MABI Malga Bissina 97.26 42 P **P** **12 36 25.3 -0.3**
CEL Celeste 97.27 51 P **P** **12 36 25.9 +0.1**
RFI Roccamonfina 97.30 48 *e*P **P** **12 36 28.8 +2.9**
SOI Samo 97.30 51 *e*P **P** **12 36 26.0 0.0**
SDI San Donato 97.36 47 *e*P **P** **12 36 26.7 +0.6**
BRMO Bormio 97.38 42 *e*P **P** **12 36 26.4 +0.3**
FUORN Ofenpass 97.38 42 *i*/Pdiff **P** **12 36 26.4 +0.3**
AQU L'Aquila 97.38 47 P **P** **12 36 27.4 +1.2**
AQU pmax pmax
comp=Z,39nm,0.9s,mb5.6
AQU L'Aquila 97.38 47 P **P** **12 36 27.4 +1.2**
comp=Z,39nm,0.9s,mb5.6
ABH Alteburg 97.39 38 P **P** **12 36 26.5 +0.5**
ABH Alteburg 97.39 38⇓ *e*P **P** **12 36 26.0 -0.1**
GUT Gutenstein 97.39 40 P **P** **12 36 27.2 +1.1**
GUT Gutenstein 97.39 40⇓ *e*P **P** **12 36 25.8 -0.3**
NRCA Norcia 97.41 46 *e*P **P** **12 36 26.6 +0.3**
KTD Kalmit 97.41 39 P **P** **12 36 26.7 +0.5**
KTD Kalmit 97.41 39 *e*P **P** **12 36 26.0 -0.2**
DAVA Damuels 97.47 41⇓ *i*P **P** **12 36 26.8 +0.3**
comp=Z,1µm,3.0s
RSM Repubblica di 97.48 45 *e*P **P** **12 36 27.7 +1.1**
SNTG Esanatoglia 97.49 46 *e*P **P** **12 36 26.8 +0.2**
LBG Lerchenberg 97.50 40 P **P** **12 36 26.6 0.0**
LBG Lerchenberg 97.50 40⇓ *e*P **P** **12 36 26.2 -0.4**
ARV Arcevia 97.60 46 *e*P **P** **12 36 27.0 -0.2**
TERO Teramo 97.64 47 P **P** **12 36 27.3 0.0**
CII Carovilli 97.70 48 P **P** **12 36 36.4 +8.7**
BUCH Bad Urach 97.72 40 P **P** **12 36 28.1 +0.5**
BUCH Bad Urach 97.72 40 *e*P **P** **12 36 27.7 +0.1**
STU Stuttgart 97.78 40 *e*P **P** **12 36 27.9 +0.1**
STU pmax pmax
comp=Z,290nm,1.1s,mb6.5
STU Stuttgart 97.78 40 *e*Pdif **P** **12 36 27.9 0.0**
comp=Z,290nm,1.1s,mb6.5
UBR Uberruh 97.79 41 P **P** **12 36 29.0 +1.1**
UBR Uberruh 97.79 41 *e*P **P** **12 36 28.1 +0.2**
CSSN Cassano Irpino 97.80 49 *e*P **P** **12 36 29.7 +1.6**
SWS Schriesheim 97.84 39 P **P** **12 36 28.6 +0.5**
SWS Schriesheim 97.84 39 *e*P **P** **12 36 27.8 -0.3**
MGR Morigerati 97.85 49 *e*P **P** **12 36 28.6 +0.3**
SGO Sicignano 97.87 49 *e*P **P** **12 36 29.0 +0.6**
CTI Castel Tesino 97.96 43 *e*P **P** **12 36 28.8 +0.1**
TOD Tromm 97.96 39 *e*P **P** **12 36 29.0 +0.4**
TOD Tromm 97.96 39⇓ *e*P **P** **12 36 28.2 -0.4**
CUC Castrocucco 97.97 50 P **P** **12 36 29.0 +0.1**
BUG Bochum-Univer 98.02 37 P **P** **12 36 28.2 -0.6**
WTSB Winterswijk 98.03 36 *e*P **P** **12 36 26.6 -2.3**
comp=Z,154nm,1.4s,mb6.2
WTSB *e*pP pP 12 38 34.4 -1.2
WTSB *e*P 12 40 34.8
TNS Taunus Mts 98.06 38 *e*P **P** **12 36 28.6 -0.5**
TNS *e* 12 40 35.1
TNS pmax pmax
comp=Z,269nm,1.4s,mb6.4
TNS Taunus Mts 98.06 38 *e*P **P** **12 36 28.6 -0.5**
comp=Z,269nm,1.4s,mb6.4
TNS *e*PP PP 12 40 35.1 -4.4
TNS *e*SKSac 12 46 13.0
MRLC Muro Lucano 98.08 49 *e*P **P** **12 36 29.5 +0.1**
MOTA Moosalm 98.23 41⇑ *i*P **P** **12 36 29.9 0.0**
SQTA Sankt Quirin 98.23 42⇓ *i*P **P** **12 36 30.1 +0.2**
comp=Z,156nm,1.0s,mb6.3
SQTA Sankt Quirin 98.23 42⇓ *i*P **P** **12 36 30.1 +0.2**
SQTA pmax pmax
comp=Z,156nm,1.0s,mb6.3
TIP Timpagrande 98.28 51 *e*Pdif **P** **12 36 30.3 0.0**
HDH Heidenheim 98.28 40 P **P** **12 36 30.6 +0.5**
HDH Heidenheim 98.28 40 *e*P **P** **12 36 30.3 +0.2**
SIND Sindeldorf 98.30 39 P **P** **12 36 30.4 +0.3**
SIND Sindeldorf 98.30 39⇓ *e*P **P** **12 36 30.1 0.0**
BRES Bressanone 98.31 42 P **P** **12 36 29.9 -0.4**
WIT Witteveen 98.39 35 *e*P **P** **12 36 32.5 +2.1**
WIT *e*pP pP 12 38 36.1 -1.1
WIT *e*P 12 40 38.3
CAT Caneva 98.42 43⇓ *e*P **P** **12 36 31.0 +0.2**
WATA Walderalm 98.51 42⇓ *i*P **P** **12 36 31.2 +0.1**
comp=Z,204nm,1.5s,mb6.2
WATA Walderalm 98.51 42⇓ *i*P **P** **12 36 31.2 +0.1**
WATA pmax pmax
comp=Z,204nm,1.5s,mb6.2
WTTA Wattenberg 98.51 42⇓ *i*P **P** **12 36 31.6 +0.4**
comp=Z,1µm,3.1s
WTTA Wattenberg 98.51 42⇓ *i*P **P** **12 36 31.6 +0.4**
WTTA pmax pmax
comp=Z,1µm,3.1s
SEST Monte Rota 98.63 42 P **P** **12 36 32.1 +0.4**
FUR Furstenfeldbru 98.71 41 *e*Pdif **P** **12 36 31.9 -0.1**
FUR *e*PP PP 12 40 38.4 -5.5
FUR *e*SKSac 12 46 14.7
IBBN Ibbenburen 98.71 36 P **P** **12 36 31.9 0.0**
SUMG Summit 98.74 7 *e*Pdif **P** **12 36 32.6 +0.9**
comp=Z,75nm,1.1s,mb5.9
CSMI Casera Mimoias 98.79 43⇑ *e*P **P** **12 36 32.0 -0.4**
FVI Forni Avoltri 98.90 43 *e*P **P** **12 36 32.9 0.0**
ZOU Zoufplan 99.00 43⇓ *e*P **P** **12 36 33.0 -0.4**
GMNA Gemona 99.04 43 *e*P **P** **12 36 31.3 -2.2**
PLRO Paularo 99.11 43⇑ *e*P **P** **12 36 34.0 +0.1**
TRI Trieste 99.12 44 P **P** **12 36 35.0 +1.1**
PTCC Patocco-Chiusa 99.17 43 *e*P **P** **12 36 34.1 0.0**
KMBO Kilima Mbogo 99.23 96 *e*P **P** **12 36 36.2 +1.0**
KMBO pmax pmax
comp=Z,19nm,1.1s
KMBO Kilima Mbogo 99.23 96 P **P** **12 36 37.7 +2.5**
comp=Z,5.1nm,0.9s,baz=249,slow=3.7,SNR=8.0
KMBO pP pP 12 38 44.0 +2.0
comp=Z,7.6nm,1.2s,baz=233,slow=21,SNR=2.8
KMBO Kilima Mbogo 99.23 96 *e*Pdif **P** **12 36 36.2 +1.0**
comp=Z,18nm,1.1s,mb5.3
DRE Drenchia 99.25 43⇓ *e*P **P** **12 36 35.0 +0.5**
LSR Lussari 99.31 43⇓ *e*P **P** **12 36 35.0 +0.2**
CADS Cadrg 99.33 43 *e*Pdiff **P** **12 36 35.0 +0.1**
CADS *e*pP pP 12 38 41.2 -0.5
VOY Vojsko 99.34 44 *e*Pdiff **P** **12 36 34.6 -0.3**
VOY *e*pP pP 12 38 41.2 -0.5
GRA1 Grafenberg Arr 99.39 39 *e*Pdif **P** **12 36 35.2 +0.1**
GRA1 *e*PP PP 12 40 43.2 -5.7
GRA1 *e*SKSac 12 46 20.6
GRA1 *e*Sdif 12 47 15.9
GRA1 *e*SP SP 12 48 43.7 -8.0
GRA1 *e*SS 12 51 03.3
GRA1 *e*SSS SSS 12 57 50.0 -33
GRF Grafenberg Arr 99.39 39 *e*P **P** **12 36 35.2 +0.1**
GRF *e* 12 40 43.2
GRF *e*S S 12 47 15.9 +1.0
GRF Grafenberg Arr 99.39 39 *e*Pdif **P** **12 36 35.2 +0.1**
GRF *e*PP PP 12 40 43.2 -5.7
GRF *e*SKS SKS 12 46 20.6 +2.6
GRF *e*SP SP 12 48 43.7 -8.0
GRF *e*SS 12 51 03.3
GRF *e*SSS SSS 12 57 50.0 -33
JAVS Javornik 99.39 44 *e*Pdiff **P** **12 36 35.2 0.0**
JAVS *e* 12 39 37.5
JAVS *e*SKSac 12 46 18.9
KBA Koelnbreinsper 99.47 42⇑ *i*P **P** **12 36 35.3 -0.2**
comp=Z,673nm,3.3s
KBA Koelnbreinsper 99.47 42⇑ *i*P **P** **12 36 35.3 -0.2**
KBA pmax pmax
comp=Z,673nm,3.3s
SCO Scoresbysund 99.58 13 *i* P **P** **12 36 36.8 +1.3**
SCO *i* S SKS 12 46 19.9 +1.5
SCO pmax pmax
comp=Z,7.0nm,1.3s,mb4.8
SCO Scoresbysund 99.58 13 *i* P **P** **12 36 36.8 +1.3**
comp=Z,6.7nm,1.3s,mb4.8
SCO *i* S SKS 12 46 19.9 +1.5
DLBC Dease Lake 99.60 331 *e*Pdif **P** **12 36 36.1 +0.3**
DLBC *e*pP pP 12 38 40.0 -2.6
LJU Ljubljana 99.75 44 *e*P **P** **12 36 37.1 +0.3**
LJU *e**PP pP 12 38 39.3 -4.3
LJU *e* 12 40 46.8
LJU *e*PPP PPP 12 43 03.2 -2.1
LJU *e* 12 46 19.5
LJU *e*S S 12 47 22.1 +4.1
LJU *e* 12 50 11.3
LJU *e*SS SS 12 54 27.1 -3.8
LJU Ljubljana 99.75 44 *e*Pdif **P** **12 36 37.1 +0.3**
LJU *e*pP pP 12 38 39.3 -4.2
LJU *e*PP PP 12 40 46.8 -5.0
LJU *e*pPP 12 42 36.6
LJU *e*PPP PPP 12 43 03.2 -2.1
LJU *e*sPP 12 43 35.1
LJU *e*SKSac 12 46 19.5
LJU *e*Sdif 12 47 22.1
LJU *e* 12 50 11.3
LJU *e*sS 12 51 05.6
LJU *e*SS SS 12 54 27.1 -3.8
LJU Ljubljana 99.75 44 *e*Pdiff **P** **12 36 37.1 +0.3**
LJU *e*pP pP 12 38 39.3 -4.2
LJU *e*sPdiff 12 39 39.6
LJU *e*PP PP 12 40 46.8 -5.0
LJU *e*pPP 12 42 36.6
LJU *e*PPP PPP 12 43 03.2 -2.1
LJU *e*sPP 12 43 35.1
LJU *e*SKSac 12 46 19.5
LJU *e*Sdiff 12 47 22.1
LJU *e* 12 50 11.3
LJU *e*sS 12 51 05.6
LJU *e*SS SS 12 54 27.1 -3.8
VISS Visnje 99.84 44 *e*Pdiff **P** **12 36 37.9 +0.6**
VISS *e*pP pP 12 38 42.1 -1.9
CLZ Clausthal 99.91 37 *e*Pdif **P** **12 36 37.1 -0.3**
CLZ *e*PP PP 12 40 48.1 -4.7
CLZ *e*SKSac 12 46 23.5
OBKA Obir 99.96 43⇓ *i*P **P** **12 36 38.1 +0.3**
comp=Z,1µm,3.4s
MOX Moxa 100.05 39 *e*P P 12 36 38.3 +0.2
MOX *e* 12 40 49.5
MOX pmax pmax
comp=Z,91nm,1.4s
MOX MLR MLR
comp=Z,2µm,20.0s
MOX Moxa 100.05 39 *e*P P 12 36 38.3 +0.2
comp=Z,91nm,1.4s
MOX *e*pP 12 38 41.9
MOX *e*PP PP 12 40 49.5 -4.5
MOX *e*pPP 12 42 30.0
MOX *e*SKS SKS 12 46 24.7 +3.6
MOX *e*PS PS 12 50 00.0 -8.8
MOX *e*SSS Sx 12 52 30.0
MOX *e*SSSS 12 58 00.0
MOX LR LR
comp=Z,2µm,20.0s
MOX Moxa 100.05 39 *i* P P 12 36 38.3 +0.2
comp=Z,logA/T=1.8
MOX pP 12 38 42.0
MOX PP PP 12 40 50.0 -4.0
MOX pPP 12 42 30.0
MOX SKS SKS 12 46 25.0 +3.9
MOX SKKS 12 47 20.0
MOX PS PS 12 50 00.0 -8.8
MOX sSS 12 52 30.0
MOX *e* 12 58 00.0
MOX L 13 27 39.0
WET Wettzell 100.10 40 *e*P P 12 36 38.0 -0.4
WET *e* 12 46 21.3
WET Wettzell 100.10 40 *e*Pdif P 12 36 38.0 -0.4
WET *e*PP PP 12 40 48.5 -6.0
WET *e*SKSac 12 46 21.3
NKC Novy Kostel 100.34 39 *e*P P 12 36 40.8 +1.4
NKC *e* 12 46 25.5
NKC *e*S S 12 47 29.1 +6.2
NKC Novy Kostel 100.34 39 *e*PDIF P 12 36 40.8 +1.4
NKC *e*pP 12 38 44.8
NKC *e*PP PP 12 40 49.5 -6.8
NKC *e*SKS SKS 12 46 25.5 +3.0
NKC *e*SDIF 12 47 29.1
MOA Molln 100.36 42⇑ *i*P P 12 36 39.5 -0.1
comp=Z,1µm,4.5s
GEC2 GERESS Array S 100.46 41 *e*Pdif P 12 36 39.4 -0.5
GEC2 *e*PP PP 12 40 51.6 -5.7
GEC2 *e*SKSac 12 46 22.7
GERES GERESS Array B 100.46 41 P P 12 36 39.6 -0.4
comp=Z,5.9nm,0.6s,baz=225,slow=3.8,SNR=24
GERES pP 12 38 47.1
comp=Z,4.2nm,0.9s,baz=191,slow=5.0,SNR=2.2
GERES PP PP 12 40 49.2 -8.0
comp=Z,14nm,0.9s,baz=205,slow=8.9,SNR=4.0
GERES PKKPbc 12 52 53.1
comp=Z,7.1nm,0.6s,baz=70,slow=1.3,SNR=20
GERES SKKPbc 12 55 42.7
comp=Z,2.1nm,0.8s,baz=45,slow=1.9,SNR=4.3
GERES GERESS Array B 100.46 41 P P 12 36 39.6 -0.3
GERES pP 12 38 47.1
GERES PP PP 12 40 49.2 -8.0
GERES PKKPbc 12 52 53.1
GERES SKKPbc 12 55 42.7
STON Ston 100.47 48 *i* P P 12 36 37.6 -2.5
KHC Kasperske Hory 100.51 41 *e*P P 12 36 39.8 -0.4
KHC *e* 12 46 23.6
KHC *e*S S 12 47 29.1 +4.8
KHC Kasperske Hory 100.51 41 *e*P P 12 36 39.8 -0.4
KHC *e* 12 36 45.0
KHC *e*pP 12 38 44.0
KHC *e*PP PP 12 40 48.2 -9.5
KHC *e*SKS SKS 12 46 23.6 +0.2
KHC *e*S S 12 47 29.1 +4.8
KHC *e* 12 48 55.7
KHC *e*sS 12 51 08.4
KHC *e*PKKP PKKP 12 52 53.0 +55
KHC *e* 12 53 20.0
KHC Kasperske Hory 100.51 41 *e*PDIF P 12 36 39.8 -0.4
KHC x x 12 36 45.0
KHC *e*pP 12 38 44.0
KHC *e*PP PP 12 40 48.2 -9.5
KHC *e*SKS SKS 12 46 23.6 +0.2
KHC *e*SDIF 12 47 29.1
KHC *e*x x 12 48 55.7
KHC *e*XS 12 51 08.4
KHC *e*PKKP PKKP 12 52 53.0 +55
KHC x x 12 53 20.0
SISC Sisak 100.67 45 *i* P P 12 36 40.4 +0.4
HCY Herceg Novi 100.83 48⇓ *i*P 12 40 58.5
BSEG Bad Segeberg 100.85 35 *e*P P 12 36 41.0 -0.5
BSEG *e* 12 46 27.4
BSEG Bad Segeberg 100.85 35 *e*Pdif P 12 36 41.0 -0.5
BSEG *e*PP PP 12 40 54.6 -5.6
BSEG *e*SKSac 12 46 27.4
ARSA Arzberg 100.88 43⇓ *i*P P 12 36 41.9 +0.1
comp=Z,765nm,3.5s
KOGS Kog 101.00 44 *e*Pdiff P 12 36 43.0 +0.6
KOGS *e*pPdiff 12 38 47.0
KOGS *e*PP PP 12 40 55.0 -6.6
BRY Bratogost 101.05 48⇓ *i*P 12 40 56.0
BUM Brajici-Budva 101.05 49⇓ *i*P 12 40 58.7
CLL Collm 101.13 38 *i* P P 12 36 43.1 +0.3
CLL *i* 12 46 29.0
CLL *e*S S 12 47 31.0 +1.6
CLL *i* pmax pmax
comp=Z,125nm,1.5s
CLL Collm 101.13 38 *i* P P 12 36 43.1 +0.3
comp=Z,125nm,1.5s
CLL *e*pP 12 38 49.0
CLL *i* SKS SKS 12 46 29.0 +2.7
CLL *e*S S 12 47 31.0 +1.6
CLL *i* PKKP PKKP 12 52 52.5 +56
CLL *i* PKKP 12 53 16.8
CLL *e*SKKP 12 55 24.0
CLL Collm 101.13 38 P P 12 36 43.1 +0.3
comp=Z,logA/T=1.9
CLL *e**PP 12 38 49.0
CLL *i* *SP 12 39 48.4
CLL *e* 12 40 02.0
CLL *i* PP PP 12 40 56.8 -5.5
CLL *e* 12 42 33.0
CLL *e**PPP 12 42 48.0
CLL *e* 12 43 03.0
CLL *i* 12 46 29.0
CLL *e*S S 12 47 31.0 +1.6
CLL *e*SP SP 12 49 03.0 -6.8
CLL *e* 12 50 37.0
CLL *e**SS 12 51 18.0
CLL *e* 12 52 50.0
CLL *i* PKKP PKKP 12 52 52.5 +56
CLL *i* PKKP 12 53 16.8
CLL *e*SS SS 12 54 48.0 -1.9
CLL *e*SKKP 12 55 24.0
CLL *e**SSS 12 58 06.0
CLL *e* 13 01 36.0
ULC Ulcinj 101.15 49⇓ *i*P 12 40 59.7
NKY Niksic 101.32 48⇓ *i*P 12 40 59.0
TTG Podgorica 101.34 49⇓ *i*P 12 40 59.7
UPM Unac-Piva 101.41 48⇓ *i*P 12 40 58.6
PRA Prague 101.42 40 PDIF P 12 36 49.0 +4.9
PRA PP PP 12 41 00.0 -4.3
MUD Monsted U'grnd 101.44 33⇓ *i*P P 12 36 45.2 +1.2
comp=Z,78nm,1.0s
MUD *i* 12 38 51.2
MUD *e* 12 39 38.0
MUD *i* 12 40 56.8
MUD *i* S SKS 12 46 31.7 +4.1
MUD *i* 12 47 41.4
comp=Z,5µm,20.0s
PRU Pruhonice 101.45 40 *e*P P 12 36 44.3 +0.1
PRU *e* 12 46 29.9
PRU *e*S S 12 47 35.3 +3.2
PRU *e* 12 49 09.6
PRU Pruhonice 101.45 40 *e*PDIF P 12 36 44.3 +0.1
PRU *e*pP 12 38 49.4
PRU *e*PP PP 12 40 57.1 -7.4
PRU *e*SKS SKS 12 46 29.9 +2.1
PRU *e*SDIF 12 47 35.3
PRU *e*SP SP 12 49 09.6 -3.3
RES Resolute Bay 101.45 352 P P 12 36 44.2 +0.5
RES pmax pmax
comp=Z,12nm,0.9s
RES Resolute Bay 101.45 352 *e*Pdif P 12 36 43.5 -0.2
comp=Z,0.2nm,0.5s
BRG Berggiesshubel 101.48 39 *i* P P 12 36 44.8 +0.5
BRG *i* 12 41 00.9
BRG *i* 12 46 28.0
BRG *i* S S 12 47 33.0 +0.7
BRG pmax pmax
comp=Z,60nm,1.7s
BRG MLR MLR
comp=Z,12µm,25.0s
BRG Berggiesshubel 101.48 39 *i* P P 12 36 44.8 +0.5
comp=Z,60nm,1.7s
BRG *i* pP 12 38 54.8
BRG *e*sP 12 39 39.0
BRG *i* PP PP 12 41 00.9 -3.8
BRG *i* SKS SKS 12 46 28.0 +0.1
BRG *i* S S 12 47 33.0 +0.7
BRG *i* PKKP PKKP 12 52 49.9 +54
BRG *i* 12 53 15.6
BRG *i* SKKP 12 56 03.3
BRG *i* 12 58 09.6
BRG *i* P'P' 13 00 16.7
BRG LR LR
comp=Z,12µm,25.0s
PVCC Panska Ves 101.69 40 *e*P P 12 36 45.3 0.0
PVCC *e* 12 46 32.4
PVCC Panska Ves 101.69 40 *e*PDIF P 12 36 45.3 0.0
PVCC *e*pP 12 38 49.2
PVCC *e*PP PP 12 40 59.5 -6.7
PVCC *e*SKS SKS 12 46 32.4 +3.5
PLE Pljevlja 101.79 48⇓ *i*P 12 41 02.9
VKA Vienna 101.79 42 *e*P P 12 36 45.0 -0.8
VKA *i* 12 41 01.3
comp=Z,5µm,4.5s
VKA Vienna 101.79 42 *e*P P 12 36 45.0 -0.8
VKA *i* 12 41 01.3
VKA pmax pmax
comp=Z,5µm,4.5s
VKA Vienna 101.79 42 *e*P P 12 36 45.0 -0.8
comp=Z,5µm,4.5s
VKA *i* 12 41 01.3
OHR Ohrid 101.89 50⇓ *i*P P 12 36 46.2 -0.2
OHR ⇑*i*PP PP 12 41 04.4 -3.4
OHR ⇑*i*PPP PPP 12 42 56.6 -28
PVY Plav 101.89 49⇓ *i*P 12 41 03.4
IVA Berane 101.95 48⇓ *i*P 12 41 07.1
BBLS Bajina Basta - 102.01 47 *e*(PP) 12 41 04.4
RUE Ruedersdorf 102.07 38 *e*Pdif Pdif 12 36 47.2 +0.3
comp=Z,52nm,0.8s
KRUC Moravsky 102.16 41 P Pdif 12 36 46.9 -0.5
ZST Bratislava 102.24 42 *e*pPDIF 12 38 57.0
ZST *e* 12 40 04.6
ZST *e* 12 41 01.8
ZST *e* 12 42 50.6
VRAC Vranov 102.38 41 P Pdif 12 36 49.1 +0.7
VRAC Vranov 102.38 41 PKKPbc 12 52 48.5
comp=Z,3.9nm,0.5s,baz=45,slow=7.6,SNR=4.6
PKSM Moragy 102.42 45 P Pdif 12 36 47.7 -1.0
UPC Upice 102.52 40 *e*PDIF Pdif 12 36 49.4 +0.4
UPC *e*pP 12 38 55.7
UPC *e*PP PP 12 41 06.1 -6.3
SMOL Smolenice 102.57 42 *e*P Pdif 12 36 49.0 -0.2
SMOL Smolenice 102.57 42 PDIF Pdif 12 36 49.0 -0.2
SMOL *e* 12 41 09.4
DPC Dobruska-Polom 102.64 40 *e*P Pdif 12 36 50.1 +0.6
DPC *e* 12 46 35.3
DPC *e*S S 12 47 48.4 +6.4
DPC *e* 12 49 21.4
DPC *e* 12 50 35.5
DPC Dobruska-Polom 102.64 40 *e*PDIF Pdif 12 36 50.1 +0.6
DPC *e*pP 12 38 55.7
DPC *e*PP PP 12 41 07.0 -6.3
DPC *e*SKS SKS 12 46 35.3 +2.0
DPC *e*SDIF 12 47 48.4
DPC *e*SP SP 12 49 21.4 -3.8
DPC *e*PS PS 12 50 35.5 +1.0
SKO Skopje 102.66 50 *i* P Pdif 12 36 50.5 +0.7
SKO *i* 12 41 08.9
SKO *i* 12 46 33.4
SKO *i* 12 47 17.9
SKO *i* PS PS 12 50 28.0 -6.9
SKO pmax pmax
comp=Z,234nm,1.3s
SKO Skopje 102.66 50 *i* P Pdif 12 36 50.5 +0.7
comp=Z,234nm,1.3s
SKO *e* 12 38 55.3
SKO *i* 12 39 01.0
SKO *i* 12 40 01.0
SKO ⇑*i*PP PP 12 41 08.9 -4.8
SKO *i* PPP PPP 12 42 59.0 -31
SKO *i* 12 46 33.4
SKO *i* SKS SKS 12 47 17.9 +44
SKO *i* PS PS 12 50 28.0 -6.9
SKO Skopje 102.66 50 *i* P Pdif 12 36 50.5 +0.7
SKO *e* 12 38 55.3
SKO *i* 12 39 01.0
SKO *i* 12 40 01.0
SKO ⇑*i*PP PP 12 41 08.9 -4.8
comp=Z,0.2nm,1.3s
SKO *i* PPP PPP 12 42 59.0 -31
SKO ⇓*i* 12 46 33.4
SKO *i* SKS SKS 12 47 17.9 +44
SKO *i* PS PS 12 50 28.0 -6.9
IDI Anoyia 102.69 57 P Pdif 12 36 51.6 +1.4
comp=Z,12nm,0.6s,baz=39,slow=3.7,SNR=9.0
COP Copenhagen 102.72 34⇓ *i*P Pdif 12 36 49.7 -0.1
COP *i* S SKS 12 46 36.6 +3.0
COP *i* 12 47 45.7
COP *i* 12 50 32.0
COP MLR MLR
comp=Z,3µm,21.0s
COP Copenhagen 102.72 34⇓ *i*P Pdif 12 36 49.7 -0.1
COP *i* 12 38 54.2
COP *e* 12 39 52.2
COP *i* S SKS 12 46 36.6 +3.0
COP *i* 12 47 45.7
COP *i* 12 50 32.0
comp=Z,3µm,21.0s

SRO1	**Iza**	**102.77**	**43**	*e*			12 41 10.8			
KSP	**Ksiaz**	**102.82**	**40**	*e*Pdif	Pdif		12 36 50.7	+0.4		
KSP				*e*			12 38 56.5			
KSP	**Ksiaz**	**102.82**	**40**	*e*P	Pdif		12 36 50.6	+0.3		
KSP				*e*			12 41 08.3			
KSP				*e*			12 41 19.5			
SRO	**Srobarova**	**102.84**	**43**	*e*			12 41 10.5			
SRO				*e*			12 48 32.2			
JAVC	**Velka Javorina**	**102.85**	**42**	P	Pdif		12 36 50.1	-0.4		
MORC	**Moravsky Berou**	**103.13**	**41**	*e*P	Pdif		12 36 51.7	0.0		
MORC				pmax	pmax					
	comp=Z,25nm,1.1s									
MORC	**Moravsky Berou**	**103.13**	**41**	*e*Pdif	Pdif		12 36 51.7	0.0		
	comp=Z,25nm,1.1s									
KOLL	**Kolacno**	**103.19**	**42**	*e*			12 41 11.2			
VAY	**Valandovo**	**103.21**	**51**	⇓*i*P	Pdif		12 36 52.3	+0.1		
VAY				*i*			12 41 13.5			
VAY				*i*			12 46 36.2			
VAY				*i*			12 47 18.4			
VAY	**Valandovo**	**103.21**	**51**	⇓*i*P	Pdif		12 36 52.3	+0.1		
VAY				*i*			12 38 57.5			
VAY				*i*			12 39 57.8			
VAY				⇑*i*PP	PP		12 41 13.5	-4.3		
VAY				*i* PPP	PPP		12 43 00.6	-34		
VAY				⇓*i*			12 46 36.2			
VAY				*i* SKS	SKS		12 47 18.4	+42		
BARS	**Barje**	**103.24**	**49**	*i* (PP)			12 41 13.8			
VYHS	**Vyhne**	**103.42**	**43**	*e*P	Pdif		12 36 52.9	-0.1		
VYHS				*e*			12 39 00.8			
VYHS				*e*			12 40 01.7			
VYHS	**Vyhne**	**103.42**	**43**	PDIF	Pdif		12 36 52.9	-0.1		
VYHS				*e*pPDIF			12 39 00.8			
VYHS				*e*			12 40 01.7			
VYHS				*e*			12 41 13.3			
VYHS				*e*			12 42 58.0			
OKC	**Ostrava-Krasne**	**103.52**	**41**	*e*P	Pdif		12 36 53.6	+0.2		
OKC				*e*			12 46 38.6			
OKC				*e*			12 49 32.0			
OKC				*e*			12 50 42.4			
OKC	**Ostrava-Krasne**	**103.52**	**41**	*e*PDIF	Pdif		12 36 53.6	+0.2		
OKC				*e*pP			12 38 59.0			
OKC				*e*PP	PP		12 41 13.3	-6.4		
OKC				*e*SKS	SKS		12 46 38.6	+1.3		
OKC				*e*SP	SP		12 49 32.0	-2.2		
OKC				*e*PS	PS		12 50 42.4	-0.6		
RAC	**Raciborz**	**103.64**	**41**	*e*P	Pdif		12 36 52.2	-1.7		
RAC				*e*P			12 41 15.0			
BSD	**Bornholm Skovb**	**103.77**	**35**	⇓*i*P	Pdif		12 36 54.2	-0.2		
	comp=Z,13nm,0.9s									
BSD				*i*			12 41 12.2			
BSD				*i* S	SKS		12 46 40.3	+1.9		
BSD				*i*			12 47 54.1			
BSD				*e*			12 49 35.9			
BSD				*i*			12 50 50.7			
	comp=Z,4µm,23.0s									
NAO01	**NORSAR Array S**	**104.22**	**29**	*e*Pdif	Pdif		12 36 56.8	+0.6		
	comp=Z,77nm,1.4s									
GKP	**Gorka Klasztor**	**104.31**	**38**	*e*P	Pdif		12 36 58.6	+1.8		
GKP				*e*			12 41 18.6			
GKP				*e*			12 41 23.4			
NB2	**NORSAR Subarra**	**104.45**	**29**	P	Pdif		12 36 59.8	+2.6		
	comp=Z,9.1nm,0.5s,baz=249,slow=5.8									
NB2	**NORSAR Subarra**	**104.45**	**29**	P	Pdif		12 36 59.8	+2.6		
NB2				pmax	pmax					
	comp=Z,9.0nm,0.5s									
NB2	**NORSAR Subarra**	**104.45**	**29**	P	Pdif		12 36 59.8	+2.6		
	baz=249,slow=5.9									
NOA	**NORSAR Array B**	**104.45**	**29**	Pdiff	Pdif		12 36 57.8	+0.5		
	comp=Z,2.3nm,0.8s,baz=38,slow=19,SNR=4.9									
NOA				pPdiff			12 39 05.0			
	comp=Z,0.4nm,0.5s,baz=218,slow=4.6,SNR=2.5									
NOA				PP	PP		12 41 18.3	-7.9		
	comp=Z,27nm,1.2s,baz=247,slow=6.8,SNR=6.0									
NOA				PKKPbc			12 52 40.8			
	comp=Z,2.7nm,0.5s,baz=261,slow=2.9,SNR=13									
NOA	**NORSAR Array B**	**104.45**	**29**	Pdif	Pdif		12 36 57.8	+0.5		
NOA				PP	PP		12 41 18.3	-7.9		
NOA				PKKPbc			12 52 40.8			
OJC	**Ojcow**	**104.65**	**41**	*e*Pdiff	Pdif		12 36 57.5	-0.9		
OJC				*e*PP	PP		12 41 25.9	-2.2		
OJC				⇑*e*SKSa			12 46 43.2			
OJC				⇑*e*SKKSa			12 47 27.8			
NIE	**Niedzica**	**104.67**	**42**	*e*Pdiff	Pdif		12 36 57.9	-0.6		
DAG	**Danmarks Havn**	**105.05**	**10**	*e*P	Pdif		12 37 00.0	+0.4		
DAG				pmax	pmax					
	comp=Z,18nm,1.1s									
DAG	**Danmarks Havn**	**105.05**	**10**	*e*P	Pdif		12 37 00.0	+0.4		
	comp=Z,18nm,1.1s									
DAG				*e*			12 40 27.0			
DAG	**Danmarks Havn**	**105.05**	**10**	*i* P	Pdif		12 37 00.0	+0.4		
	comp=Z,18nm,1.1s									
DAG				*e*			12 40 27.0			
HFA0	**Hagfors New Ar**	**105.19**	**30**	P	Pdif		12 37 01.7	+1.2		
HFS	**Hagfors**	**105.19**	**30**	PKKPbc			12 52 38.3			
	comp=Z,4.6nm,0.6s,baz=110,slow=4.3,SNR=9.3									
HFS				PKKPab			12 52 56.4			
	comp=Z,13nm,0.5s,baz=90,slow=3.0,SNR=18									
CRVS	**Cervenica-Dubn**	**105.19**	**43**	*e*P	Pdif		12 37 09.1	+8.3		
CRVS	**Cervenica-Dubn**	**105.19**	**43**	*e*pPDIF			12 37 09.8			
UZH	**Uzhgorod**	**105.61**	**43**	*e*P	Pdif		12 37 04.0	+1.4		
KOLS	**Kolonicke sedl**	**105.70**	**43**	*e*Pdif	Pdif		12 37 04.5	+1.5		
KOLS				*e*			12 39 52.8			
KOLS	**Kolonicke sedl**	**105.70**	**43**	PDIF	Pdif		12 37 04.5	+1.5		
KOLS				*e*			12 39 52.8			
INK	**Inuvik**	**105.91**	**339**	*e*P	Pdif		12 37 03.9	+0.4		
INK				pmax	pmax					
	comp=Z,79nm,1.1s									
INK	**Inuvik**	**105.91**	**339**	PKKPbc			12 52 36.4			
	comp=Z,13nm,0.7s,baz=339,slow=2.9,SNR=16									
INK	**Inuvik**	**105.91**	**339**	*e*Pdif	Pdif		12 37 03.9	+0.4		
	comp=Z,79nm,1.1s									
KWP	**Kalwaria**	**106.21**	**43**	*e*P	Pdif		12 37 05.8	+0.6		
KWP				*e**PP			12 41 35.3			
KWP	**Kalwaria**	**106.21**	**43**	*e*P	Pdif		12 37 05.8	+0.6		
KWP				PKP			12 41 13.2			
KWP				*e*pP			12 41 35.3			
KWP	**Kalwaria**	**106.21**	**43**	*e*Pdiff	Pdif		12 37 05.8	+0.6		
KWP				*e*			12 41 30.4			
KWP				*e*			12 41 35.3			
DAWY	**Dawson**	**106.24**	**334**	*e*Pdif	Pdif		12 37 05.7	+0.6		
LVV	**L'vov**	**107.08**	**43**	*e*P	Pdif		12 37 08.0	-1.1		
BURAR	**Bucovina Array**	**107.13**	**45**	⇓*i*P			12 39 15.6			
VRI	**Vrincioaia**	**107.58**	**47**	⇑*i*P			12 39 18.1			
SUW	**Suwalki**	**107.88**	**38**	*e*P	Pdif		12 37 14.0	+1.5		
SUW				*e*PKP			12 41 14.7			
SUW	**Suwalki**	**107.88**	**38**	*e*Pdiff	Pdif		12 37 14.0	+1.5		
ESKT	**Eskisehir**	**108.57**	**54**	*i* P			12 41 17.7			
EIL	**Elat**	**108.79**	**65**	Pdif	Pdif		12 37 19.4	+2.3		
	comp=Z,8.5nm,0.8s									
EIL				*e*PKP			12 41 18.4			
HENT	**Hendek**	**108.99**	**53**	*i* P			12 41 02.3			
CSS	**Prodhromos**	**109.11**	**60**	*e*PKP			12 41 19.4			
KIS	**Kishinev**	**109.29**	**46**	*d i*P	Pdif		12 37 18.0	-0.9		
KIS				*i*			12 47 00.0			
KIS				*i* PS	PS		12 51 40.0	+3.4		
KIS				pmax	pmax					
	comp=Z,1µm,12.0s									
KIS				pmax	pmax					
	comp=Z,4µm,6.0s									
KIS				smax						
	comp=N,2µm,10.0s									
KIS				smax						
	comp=E,6µm,18.0s									
KIS				MLR	MLR					
	comp=Z,4µm,20.0s									
KIS				MLR	MLR					
	comp=N,2µm,16.0s									
COLA	**College**	**109.96**	**333**	P	Pdif		12 37 19.8	-1.6		
KIEV	**Kiev**	**110.52**	**43**	Pdiff	Pdif		12 37 25.9	+1.7		
KIEV				pPdiff			12 39 31.8			
KIEV				PKiKP			12 41 20.3			
KIEV				PP	PP		12 42 08.7	-1.9		
KIEV				SKPdf			12 44 01.6			
KIEV				SKKSac			12 48 07.6			
BHL	**Bhannes**	**110.63**	**61**	*e*P	PP		12 42 06.0	-5.8		
MNK	**Minsk**	**110.64**	**39**	*e*P	Pdif		12 37 24.0	-0.6		
BRTR	**Keskin Array B**	**110.70**	**55**	Pdiff	Pdif		12 37 33.4	+8.1		
	comp=N,0.9nm,0.6s,baz=225,slow=4.1,SNR=4.4									
BRTR				PKiKP			12 41 21.6			
	comp=N,5.4nm,0.6s,baz=201,slow=3.2,SNR=9.5									
BRTR				PP	PP		12 41 57.0	-15		
	comp=N,9.2nm,0.6s,baz=240,slow=6.2,SNR=5.5									
BRTR				PKKPab			12 52 35.8			
	comp=N,4.7nm,0.8s,baz=111,slow=5.2,SNR=7.2									
ELDT	**Eldivan**	**110.75**	**54**	*i* P	PKPdf		12 41 25.3	+4.8		
BALT	**Daday**	**110.99**	**53**	*i* P	PKPdf		12 41 22.2	+1.2		
ASF	**Jabal al Asfar**	**111.14**	**63**	PP	PP		12 42 02.3	-13		
	comp=N,13nm,0.9s,baz=199,slow=1.2,SNR=4.1									
ASF				PKKPbc			12 52 23.2			
	comp=N,4.0nm,0.6s,baz=273,slow=6.4,SNR=3.9									
ASF				PKKPab			12 52 33.7			
	comp=N,8.4nm,0.8s,baz=23,slow=0.9,SNR=3.8									
AVNT	**Avonos**	**111.36**	**56**	*i* P	PP		12 42 04.7	-12		
FINES	**FINESS Array B**	**111.36**	**31**	Pdiff	Pdif		12 37 33.0	+5.4		
	comp=N,0.8nm,0.5s,baz=225,slow=2.7,SNR=6.4									
FINES				PKiKP			12 41 23.3			
	comp=N,3.9nm,0.4s,baz=177,slow=2.0,SNR=6.5									
FINES				PP	PP		12 42 03.6	-12		
	comp=N,8.5nm,0.8s,baz=270,slow=1.9,SNR=4.5									
FINES				PKKPbc			12 52 19.4			
	comp=N,10nm,0.6s,baz=63,slow=4.3,SNR=18									
FINES				PKKPab			12 52 30.5			
	comp=N,12nm,0.6s,baz=79,slow=4.9,SNR=14									
FINES	**FINESS Array B**	**111.36**	**31**	Pdif	Pdif		12 37 33.0	+5.4		
FINES				PKPdf	PKPdf		12 41 23.3	+2.0		
FINES				PP	PP		12 42 03.6	-12		
FINES				PKKPbc			12 52 19.4			
FINES				PKKPab			12 52 30.5			
KAF	**Kangasniemi**	**111.61**	**30**	*e*p	PKPdf		12 41 21.9	+0.2		
	comp=N,11nm,0.7s									
CTKT	**Corum**	**111.78**	**54**	*i* P	PKPdf		12 41 22.7	+0.1		
COBT	**Iskenderun**	**111.83**	**59**	*i* P	PKPdf		12 41 25.7	+2.9		
BOYT	**Boyabat**	**112.06**	**53**	*i* P	PKPdf		12 41 26.6	+3.5		
TOO	**Toolangi**	**112.12**	**205**	*e*PKP	PP		12 42 19.3	-2.8		
	comp=N,0.9nm,1.1s									
TOO				*e*SKP			12 44 07.9			
TOO				*e*PKKP	PKKP		12 52 19.8	+43		
SIM	**Simferopol'**	**112.35**	**50**	P	Pdif		12 37 35.1	+2.7		
SIM							12 42 20.8			
SIM							12 47 14.6			
SIM				PS	SP		12 51 01.1	+2.1		
SIM				pmax	pmax					
	comp=Z,1µm,10.6s									
KAHT	**Ahir Dag**	**112.59**	**58**	*i* P	PKPdf		12 41 26.1	+1.8		
IMA	**Indian Mountai**	**112.60**	**334**	*e*PKIKP	PKPdf		12 41 25.8	+2.2		
ARCES	**ARCESS Array B**	**112.75**	**22**	P	Pdif		12 37 43.2	+10		
ARCES							12 41 23.5			
ARCES							12 52 15.3			
ARCES	**ARCESS Array B**	**112.75**	**22**	Pdiff	Pdif		12 37 43.2	+10		
	comp=Z,4.7nm,0.9s,baz=270,slow=3.6,SNR=7.8									
ARCES				PKiKP			12 41 23.5			
	comp=Z,7.6nm,0.8s,baz=236,slow=4.1,SNR=10									
ARCES				PP	PP		12 42 13.8	-12		
	comp=Z,31nm,1.1s,baz=260,slow=7.4,SNR=6.0									
ARCES				PKKPbc			12 52 15.3			
	comp=Z,17nm,0.5s,baz=84,slow=2.6,SNR=30									
ARCES				PKKPab			12 52 24.6			
	comp=Z,31nm,0.6s,baz=76,slow=5.0,SNR=21									
ARCES	**ARCESS Array B**	**112.75**	**22**	Pdif	Pdif		12 37 43.2	+10		
ARCES				PKPdf	PKPdf		12 41 23.5	-0.3		
ARCES				PP	PP		12 42 13.8	-12		
ARCES				PKKPbc			12 52 15.3			
ARCES				PKKPab			12 52 24.6			
GZT	**Gaziantep**	**113.06**	**58**	*i* P	PKPdf		12 41 28.6	+3.3		
PUL	**Pulkovo**	**113.07**	**33**	*e*P	Pdif		12 37 27.3	-7.9		
KEV	**Kevo**	**113.31**	**22**	*e*p	PP		12 42 01.0	-29		
MALT	**Malatya**	**113.95**	**57**	*e*PKIKP	PKPdf		12 41 28.6	+1.7		
JOF	**Joensuu**	**114.04**	**30**	*e*p	PKPdf		12 41 26.7	+0.2		
	comp=Z,14nm,0.5s									
ELZG	**Elazig**	**114.42**	**57**	*i* P	PKPdf		12 41 30.0	+2.2		
ANN	**Anapa**	**114.62**	**50**	*d i*PKIKP	PKPdf		12 41 30.3	+2.2		
ANN				*i* PPP	PPP		12 45 06.9	-3.9		
ANN				*i*			12 47 23.9			
ANN				*i* PS	SP		12 51 16.3	-4.0		
ANN				*i*			12 52 29.7			
ANN				pmax	pmax					
	comp=Z,128nm,1.2s									
APA	**Apatity**	**115.40**	**25**	*e*P	Pdif		12 37 47.0	+1.8		
APA				*i*			12 41 31.5			
APA				*i*			12 43 34.0			
APA				*i*			12 51 22.0			
APA				*i* SS	SS		12 58 11.0	+12		
APA				pmax	pmax					
	comp=Z,47nm,1.2s									
OBN	**Obninsk**	**115.72**	**39**	*d i*PKIKP	PKPdf		12 41 30.3	+0.4		
OBN				*e*PPP	PPP		12 45 14.6	-5.0		
OBN				*e*			12 47 26.4			
OBN				*e*PS	PS		12 52 43.3	+8.0		
OBN				pmax	pmax					
	comp=Z,273nm,1.4s									
OBN				MLR	MLR					
	comp=Z,3µm,18.0s									
OBN	**Obninsk**	**115.72**	**39**	*e*PKPdf	PKPdf		12 41 30.7	+0.8		
OBN				*e*SKPdf			12 44 12.4			
LVZ	**Lovozero**	**115.89**	**25**	*e*P	Pdif		12 37 41.4	-6.0		
LVZ				*e*			12 47 24.2			
SOC	**Sochi**	**116.00**	**52**	*i* PKIKP	PKPdf		12 41 32.2	+1.4		
SOC				*e*			12 43 42.7			
SOC				*e*			12 44 36.5			
SOC				*e*PPP	PPP		12 45 17.6	-4.5		
SOC				*e*			12 47 28.9			
SOC				*e*			12 51 26.3			
SOC				*e*PS	PS		12 52 38.1	+0.1		
SOC				*e*SS	SS		12 58 09.9	+2.6		
SOC				*e*SSS	SSS		13 02 37.8	+1.2		
SOC				pmax	pmax					
	comp=Z,147nm,1.2s									
SOC				pmax	pmax					
	comp=N,65nm,1.1s									
SOC				pmax	pmax					
	comp=E,39nm,0.9s									
BEST	**Besiri**	**116.04**	**58**	*i* P	PKPdf		12 41 34.0	+3.1		
MOS	**Moscow**	**116.39**	**38**	*e*PKIKP	PKPdf		12 41 34.2	+3.0		
MOS				*i*			12 42 47.9			
MOS				*e*			12 43 44.7			
MOS				*e*			12 44 39.0			
MOS				*e*PPP	PPP		12 45 24.4	-0.9		
MOS				*i*			12 47 29.9			
MOS				*e*SP	SP		12 51 29.9	-6.2		
MOS				pmax	pmax					
	comp=Z,300nm,1.4s									
MOS				pmax	pmax					
	comp=Z,174nm,1.3s									
ERZM	**Erzurum**	**116.53**	**56**	*i* P	PKPdf		12 41 35.6	+3.7		
VRSR	**Storozhevoye**	**116.81**	**43**	*e*PKIKP	PKPdf		12 41 32.6	+0.5		
VRSR				*e*			12 42 52.1			
VRSR				*e*PPP	PPP		12 45 26.0	-3.1		
VRSR				*e*			12 47 30.2			
VRSR				*e*PS	PS		12 52 45.5	+0.8		
VRSR				*e*SPP	SPP		12 52 57.2	-5.1		
VRSR				*e*SS	SS		12 58 21.1	+3.6		
VRSR				pmax	pmax					
	comp=Z,90nm,0.9s									
VRSR				pmax	pmax					
	comp=N,70nm,1.9s									
VRSR				pmax	pmax					
	comp=E,100nm,2.7s									
VOR	**Voronezh**	**116.88**	**43**	PKIKP	PKPdf		12 41 35.0	+2.8		
VOR				*e*			12 47 33.0			
VOR				pmax	pmax					
	comp=Z,200nm,1.3s									
MSL	**Mosul**	**117.13**	**60**	*e*P	PKPdf		12 41 36.5	+3.4		
MSL				*i* PPP	PPP		12 46 26.5	+54		
MSL				*e*SKS	SKS		12 47 32.5	-0.1		
MSL				*e*S			12 51 56.0			
MSL				*e*PS			12 57 28.0			
UNV	**Unalaska Valle**	**117.34**	**319**	*e*PKPdf	PKPdf		12 41 34.1	+1.0		
TVAN	**Van**	**117.82**	**58**	*i* P	PKPdf		12 41 44.8	+10		
KIV	**Kislovodsk**	**118.19**	**52**	*i* PKIKP	PKPdf		12 41 33.6	-1.4		
KIV				*e*			12 43 03.5			
KIV				*e*			12 47 39.0			
KIV				pmax	pmax					
	comp=Z,181nm,1.2s									
KIV	**Kislovodsk**	**118.19**	**52**	*e*PKPdf	PKPdf		12 41 35.9	+0.9		
TNA	**Tin City**	**118.40**	**333**	*e*PKPdf	PKPdf		12 41 36.3	+1.4		
GOF	**Gofitskoye**	**118.59**	**51**	⇓*i*PKIKP	PKPdf		12 41 36.5	+0.8		
GOF				pmax	pmax					
	comp=Z,207nm,1.0s									
STKA	**Stephens Creek**	**118.64**	**204**	PKP	PKPdf		12 41 37.0	+0.8		
	comp=Z,15nm,0.7s,baz=89,slow=2.1,SNR=19									
STKA				SKP			12 44 18.8			
	comp=Z,17nm,0.8s,baz=81,slow=4.1,SNR=5.9									
STKA				PKKPbc			12 51 54.1			
	comp=Z,19nm,0.8s,baz=343,slow=5.6,SNR=12									
STKA	**Stephens Creek**	**118.64**	**204**	*e*PKPdf	PKPdf		12 41 37.3	+1.2		
STKA				*e*PP	PP		12 43 03.9	-3.9		
STKA				*e*SKPdf			12 44 19.7			
ZEI	**Tsey**	**118.89**	**53**	*e*PKIKP	PKPdf		12 41 37.5	+1.1		
GNI	**Garni**	**119.12**	**56**	PKP	PKPdf		12 41 38.6	+1.7		
	comp=Z,33nm,0.6s,baz=324,slow=2.6,SNR=19									
GNI				PP	PP		12 43 05.1	-5.7		
	comp=Z,15nm,0.6s,baz=353,slow=11,SNR=5.0									
TI2	**Plekhanov**	**119.37**	**55**	⇑*i*PKIKP	PKPdf		12 41 39.0	+1.6		
TI2				*i*			12 43 09.4			
TI2				*e*S	tx		12 53 14.0			
TI2				pmax	pmax					
	comp=Z,30nm,0.8s									
TI2				pmax	pmax					
	comp=Z,60nm,0.8s									
TI2				MLR	MLR					
	comp=N,2µm,20.0s									
TI2				MLR	MLR					
	comp=E,3µm,20.0s									
TI2				MLR	MLR					
	comp=Z,2µm,20.0s									
ABTO	**Aybut**	**120.97**	**84**	⇓P	PKPdf		12 41 41.5	+0.5		
	SNR=13									
MAK	**Makhachkala**	**121.55**	**54**	*e*P	Pdif		12 38 15.0	+2.1		
MAK				*i*			12 43 21.0			
MAK				*i*			12 47 51.0			
MAK				*i* PS	PS		12 53 29.0	+2.9		
MAK				pmax	pmax					
	comp=Z,700nm,10.0s									
MAK				pmax	pmax					
	comp=Z,1µm,10.0s									
MAK				pmax	pmax					
	comp=Z,400nm,1.5s									
MAK				pmax	pmax					
	comp=N,1µm,12.0s									
MAK				pmax	pmax					
	comp=E,2µm,12.0s									
MAK				pmax	pmax					
	comp=Z,6µm,12.0s									
MAK				pmax	pmax					
	comp=E,20µm,12.0s									
MAK				pmax	pmax					
	comp=N,1µm,6.0s									
WHFO	**Wadi Hawf**	**121.58**	**84**	⇑P	PKPdf		12 41 42.8	+0.7		
	SNR=19									
NWAO	**Narrogin (SRO)**	**122.45**	**181**	*e*PKIKP	PKPdf		12 41 43.8	+0.2		
SHAO	**Shalim**	**123.29**	**84**	⇑P	PKPdf		12 41 45.8	+0.3		
MUN	**Mundaring**	**123.40**	**180**	*e*PKP	PKPdf		12 41 46.0	+0.6		
	comp=N,28nm,0.4s									
MUN				*e*PP	PP		12 43 33.6	-5.8		
MUN				*e*SDIF			12 50 31.8			
MUN				*e*PKKP	PKKP		12 51 37.3	+21		
MUN				*e*SSDIF			12 54 22.5			
MUN				*e*SKKP			12 55 07.6			
FORT	**Forrest**	**123.51**	**192**	*e*PKP	PKPdf		12 41 46.1	+0.5		
	comp=N,3µm,0.6s									
FORT				*e*PP	PP		12 43 39.7	-0.4		
FORT				*e*PKKP	PKKP		12 51 36.3	+20		
KIWB	**Kanaga Island**	**123.73**	**317**	*e*PKPdf	PKPdf		12 41 44.9	-0.6		
KLBR	**Kellerberrin**	**123.78**	**181**	*e*PKP	PKPdf		12 41 46.4	+0.3		
	comp=N,753nm,0.6s									
KLBR				*e*PP	PP		12 43 35.3	-6.6		
KLBR				*e*			12 45 32.3			
ASHO	**Ashiyiah**	**125.52**	**77**	⇑P	PKPdf		12 41 49.4	-0.3		
	SNR=10									
ARQ	**Araqi**	**125.60**	**78**	⇓P	PKPdf		12 41 50.3	+0.4		
	SNR=18									
HNR	**Honiara**	**125.63**	**237**	*e*PKIKP	PKPdf		12 41 52.0	+1.9		
BANOM	**Banah**	**126.02**	**75**	⇓P	PKPdf		12 41 51.1	+0.5		
	SNR=6.3									
BSY	**Bisya**	**126.05**	**79**	⇑P	PKPdf		12 41 51.2	+0.4		
	SNR=22									
DGAR	**Diego Garcia**	**126.36**	**121**	*i* PKIKP	PKPdf		12 41 51.8	+0.2		
DGAR	**Diego Garcia**	**126.36**	**121**	*e*PKPdf	PKPdf		12 41 52.5	+0.9		
CTA	**Charters Tower**	**126.72**	**216**	*e*PKP			12 41 36.3			
	comp=N,2.9nm,0.6s									
CTA	**Charters Tower**	**126.72**	**216**	PKKPbc			12 51 27.2			
	comp=N,7.1nm,0.8s,baz=16,slow=2.7,SNR=7.4									
CTA	**Charters Tower**	**126.72**	**216**	*e*PKP			12 41 36.3			
CTA				*e*PKP	PKPdf		12 41 53.1	+1.0		
CTA				*e*PP	PP		12 43 57.8	-2.9		
CTA				*e*PKS	PKS		12 45 12.6	-14		
CTA				*e*SKKS			12 49 57.2			
CTA				*e*PKKP	PKKP		12 51 27.1	+17		
CTA				*e*SKKP			12 54 22.6			
CTAO	**Charters Tower**	**126.72**	**216**	PKPdf	PKPdf		12 41 53.2	+1.1		
CTAO				PP	PP

WRA SKKP 12 54 45.6
comp=Z,16nm,0.8s,baz=341,slow=5.6,SNR=6.7
WRAB Tennant Creek 132.15 203 *e*PKPdf PKPdf 12 42 03.6 +1.1
TIXI Tiksi 132.74 355 *i* PKIKP PKPdf 12 42 03.7 +1.5
TIXI *e* 12 44 34.3
TIXI *e*PPP PPP 12 47 32.5 -5.0
TIXI *e* 12 48 13.0
TIXI *e*SS SS 13 01 28.1 -6.4
TIXI pmax pmax
comp=Z,108nm,1.3s
MBWA Marble Bar 134.07 184 *e*PKPdf PKPdf 12 42 07.0 +1.0
PMG Port Moresby 134.65 225 SKKP 12 54 41.9
comp=Z,22nm,0.9s,baz=253,slow=14,SNR=5.6
PMG Port Moresby 134.65 225 *e*PKPpre 12 41 55.6
PMG *e*SKPbc 12 44 45.5
CHKZ Chkalovo 135.46 38 PKHKP 12 41 58.0
CHKZ pmax pmax
comp=Z,193nm,1.1s
CHKZ Chkalovo 135.46 38 *e*PKPdf PKPdf 12 42 10.4 +2.8
BVA0 Borovoye Array 135.57 38 *i* PKIKP PKPdf 12 42 07.6 -0.2
BVA0 pmax pmax
comp=Z,11nm,0.7s
BVAR Borovoye Array 135.57 38 PKhKP 12 41 56.9
comp=Z,1.7nm,0.4s,baz=286,slow=2.9,SNR=11
BVAR PKP PKPdf 12 42 07.7 -0.2
comp=Z,64nm,0.6s,baz=270,slow=4.4,SNR=48
BVAR SKP 12 44 48.6
comp=Z,44nm,0.7s,baz=298,slow=3.0,SNR=8.6
BVAR SKKPbc 12 53 51.6
comp=Z,6.8nm,0.7s,baz=111,slow=4.1,SNR=6.4
FITZ Fitzroy Crossi 136.31 193 *e*PKP 12 41 57.8
comp=Z,28nm,0.6s
FITZ Fitzroy Crossi 136.31 193 *e*PKP PKPdf 12 42 12.6 +2.5
FITZ *e* 12 44 25.4
FITZ *e*SKP 12 44 50.2
FITZ *e*SKS SKS 12 47 56.2 -29
FITZ Fitzroy Crossi 136.31 193 *e*PKP 12 41 57.8
FITZ *e*PKP PKPdf 12 42 12.6 +2.5
FITZ *e* 12 44 25.4
FITZ *e*SKP 12 44 50.2
FITZ *e*SKS SKS 12 47 56.2 -29
BHJ Bhuj 137.33 82 *e* PKPdf 12 42 01.6 -10
BHJ *e* 12 44 49.4
PET Petropavlovsk 137.82 323 *e*PKHKP 12 42 04.6
PET *e*SP tx 12 57 35.9
PET *e* 13 02 33.9
PET pmax pmax
comp=Z,500nm,12.0s
PET pmax pmax
comp=Z,143nm,1.2s
PET pmax pmax
comp=Z,500nm,18.0s
PET pmax pmax
comp=Z,3μm,16.3s
PET pmax pmax
comp=Z,3μm,15.1s
PET Petropavlovsk 137.82 323 *e*PKPpre 12 42 06.2
PET *e*PKPdf PKPdf 12 42 13.3 +1.3
PET *e*SKPbc 12 44 53.8
MA2 Magadan 137.99 335 *e*PKPpre 12 42 04.1
MA2 *e*PKPdf PKPdf 12 42 13.0 +0.9
MA2 *e*SKPbc 12 44 54.0
TRD Trivandrum 138.91 106 *e* PKPdf 12 42 07.9 -7.1
TRD *e* 12 42 22.1
comp=Z,274nm,1.3s
MNGI Mangalore 138.93 99 *i* PKPdf 12 42 08.0 -7.0
MNGI *i* 12 44 57.5
GOA Goa 138.97 95⇑ *i* 12 41 57.6
GOA *i* 12 44 52.4
JASL Jaisalmer 139.07 77 *i* PKPdf 12 42 08.6 -6.4
BOM Bombay 139.12 90 *e*P PKPdf 12 42 18.8 +3.6
BOM *e* 12 44 58.8
KAKA Kakadu 139.49 204 *e*PKP PKPdf 12 42 06.9 -9.1
comp=Z,147nm,0.6s
KAKA *e*SKP 12 44 58.9
KAKA *e*SKKP 12 53 37.1
KAD Karad 139.89 92 *e* PKPdf 12 42 10.6 -6.1
KAD AMb AMB 12 42 23.0
comp=Z,251nm,1.3s
KAD *e* 12 42 23.6
comp=Z,257nm,1.2s
KAD *i* 12 44 21.0
POO Poona 139.96 91⇑ *i* PKPdf 12 42 10.0 -6.8
SKR Severo-Kuril's 140.24 321 *e*PKHKP 12 42 07.0
SKR *e* 12 42 15.0
SKR pmax pmax
comp=E,60nm,0.5s
SKR pmax pmax
comp=Z,80nm,0.5s
SKR pmax pmax
comp=Z,2μm,8.0s
SKR MLR MLR
comp=N,3μm,20.0s
SKR MLR MLR
comp=E,3μm,20.0s
SKR MLR MLR
comp=Z,3μm,20.0s
EKS2 Erkin-Say 140.78 52 P PKPdf 12 42 13.1 -4.4
SNR=114
EKS2 Erkin-Say 140.78 52 P 12 45 04.1
SNR=7.8
AML Almayashu 140.84 53 P PKPdf 12 42 13.8 -3.9
SNR=99
USP Ospenovka 141.16 51 P PKPdf 12 42 14.3 -3.8
SNR=86
USP Ospenovka 141.16 51 P 12 45 02.5
SNR=5.5
KURK Kurchatov 141.17 39 *i* PKHKP 12 42 14.1
KURK pmax pmax
comp=Z,172nm,1.2s
KURK Kurchatov 141.17 39 *e*PKPpre 12 42 14.2
KURK *e*PKPdf PKPdf 12 42 18.8 +0.9
AAK Ala-Archa 141.30 52 P PKPdf 12 42 15.8 -2.6
SNR=202
AAK Ala-Archa 141.30 52 P 12 45 03.1
SNR=6.5
AAK Ala-Archa 141.30 52 *e*PKPpre 12 42 14.8
AAK *e*SKPdf 12 45 02.2
FRU Bishkek 141.34 52k *i* PKHKP 12 42 16.0
FRU pmax pmax
comp=Z,3μm,2.8s
FRU pmax pmax
comp=Z,8μm,7.5s
NVS Novosibirsk 141.35 31⇑ *i* PKHKP 12 42 14.6
NVS pmax pmax
comp=Z,629nm,1.6s
NVS pmax pmax
comp=E,221nm,1.7s
CHMS Chumysh 141.40 52 P PKPdf 12 42 15.9 -2.7
SNR=101
CHMS Chumysh 141.40 52 P 12 45 03.1
SNR=11
UCH Uchtor 141.41 53 P PKPdf 12 42 16.7 -1.9
SNR=204
KBK Karagaybulak 141.62 52 P PKPdf 12 42 16.9 -2.1
SNR=205
KBK Karagaybulak 141.62 52 P 12 45 06.2
SNR=6.2
YAK Yakutsk 141.87 350 *e*PKIKP PKPdf 12 42 17.7 -1.1
YAK *e*S SS 13 03 15.2 -6.2
YAK pmax pmax
comp=Z,110nm,1.1s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK smax
comp=E,3μm,17.0s
YAK smax
comp=Z,391nm,15.1s
YAK smax
comp=N,1μm,16.4s
YAK Yakutsk 141.87 350 *e*PKPdf PKPdf 12 42 17.9 -0.9
YAK *e*SKPbc 12 45 04.9
YAK *e*PP PP 12 45 32.4 -1.2
KZA Kyzart 141.98 53 P PKPdf 12 42 19.2 -0.4
SNR=42
TKM2 Tokmak 2 142.02 51 P PKPdf 12 42 19.7 0.0
SNR=32
AJM Ajmer 142.34 78 *e*P PKPdf 12 42 17.6 -3.1
AJM AMb AMB 12 42 23.3
comp=Z,444nm,1.4s
AJM *e* 12 52 37.8
comp=Z,966nm,18.8s
LATR Latur 142.38 92 *e*P PKPdf 12 42 17.6 -3.4

ZAL Zalesovo 142.62 31 PKP PKPdf 12 42 19.6 -0.8
comp=Z,165nm,0.5s,baz=182,slow=4.6,SNR=285
ZAL SKPbc 12 45 06.5
comp=Z,34nm,0.4s,baz=183,slow=0.5,SNR=3.9
ZAL SKKPbc 12 53 16.9
comp=Z,3.8nm,0.8s,baz=35,slow=2.5,SNR=3.3
ULHL Ulahol 142.65 52 P PKPdf 12 42 20.8 0.0
SNR=80
AAA Alma-Ata 142.88 50 *i* PKHKP 12 42 19.0
AAA *e*PPS PPS 12 57 16.0 -67
AAA pmax pmax
comp=Z,12μm,10.0s
AAA pmax pmax
comp=Z,7μm,12.0s
AAA pmax pmax
comp=E,4μm,8.0s
AAA pmax pmax
comp=Z,8μm,10.0s
AAA pmax pmax
comp=E,4μm,10.0s
AAA pmax pmax
comp=N,2μm,12.0s
KSH Kashi 143.05 57 *i* PKP PKPdf 12 42 20.4 -1.2
KSH PKS PKS 12 45 55.8 +0.5
KSH SKS SKS 12 48 38.8 +3.3
KSH PPP PPP 12 48 50.0 -9.0
KSH SKKS 12 51 32.6
KSH PP PP
comp=Z,17μm,6.2s
THN Thein Dam 143.59 69⇓ *i*P PKPbc 12 42 21.7 -0.3
comp=Z,312nm,0.6s
THN *e* 12 51 36.8
PONG Pong 143.79 69 *e*P PKPbc 12 42 23.0 +0.4
DLH Dalhousie 143.79 68 *e*P PKPbc 12 42 25.0 +2.4
DLH *e* 12 42 30.0
MDRS Chennai 143.82 102 *e*P PKPbc 12 42 23.0 -0.2
MDRS *e* 12 44 32.0
MDRS *e* 12 46 53.0
MDRS *e* 12 48 14.0
HYB Hyderabad 143.88 94⇓ *e*PKIKP PKPdf 12 42 23.0 -0.6
HYB *e* 12 44 32.0
HYB *e* 12 45 28.0
HYB Hyderabad 143.88 94⇓ *e*PKP PKPdf 12 42 23.0 -0.6
HYB *e*pPKP 12 44 32.0
HYB *e*sPKP 12 45 12.0
HYB *e*PP PP 12 45 28.0 -19
HYB *e* 12 47 48.0
HYB *e*SKKS 12 51 36.0
HYB Hyderabad 143.88 94⇓ *i*PKP PKPdf 12 42 23.0 -0.6
comp=Z,1μm,1.0s
HYB *e* 12 44 32.0
HYB *e*pPKP 12 45 12.0
HYB *e*PP PP 12 45 40.0 -6.9
HYB *e* 12 47 52.0
HYB *e*SKS SKS 12 48 44.0 +6.7
HYB *e* 12 49 20.0
BHK Bhakra 144.19 70 *e*P PKPdf 12 42 26.6 +2.8
BHK *e* 12 43 10.2
BHPL Bhopal 144.33 84 *e*P PKPdf 12 42 24.1 -0.2
BHPL AMb AMB 12 42 30.3
comp=Z,2μm,1.3s
BHPL *e* 13 22 15.3
comp=Z,2μm,19.8s
SDNR Sundarnagar 144.66 70 *e*P PKPdf 12 42 26.3 +1.7
NDI New Delhi 144.81 75⇓ *i*P PKPdf 12 42 25.5 +0.6
NDI *e* 12 48 50.0
MKAR Makanchi Array 145.11 43 *i* PKIKP PKPdf 12 42 26.9 +2.0
MKAR pmax pmax
comp=Z,3μm,1.0s
JHNI Jhansi 145.69 81 *e*P PKPdf 12 42 29.0 +2.5
JHNI *e* 12 43 36.0
RATI Rata 146.53 178⇓ *e*P PKPdf 12 42 29.2 +0.9
SRDI Scrawed 146.70 176⇓ *e*PKIKP PKPdf 12 42 29.4 +0.8
KEDI Kedomdong 146.77 179⇑ *e*PKHKP 12 42 28.5
BOD Bodaibo 147.10 3 *e*PKIKP PKPdf 12 42 28.9 +1.0
BOD pmax pmax
comp=Z,636nm,1.2s
PULI Pulasari 147.25 160⇓ *e*P PKPdf 12 42 29.7 +0.2
PTH Pithoragarh 147.46 74 *e*P PKPdf 12 42 31.4 +2.0
PTH *e* 12 44 46.1
LGTI Lohaghat 147.49 74⇑ *i*P PKPdf 12 42 32.5 +3.1
LGTI *i* 12 44 46.5
CLNS Chul'man 147.56 351 *c i*PKIKP PKPdf 12 42 30.5 +1.8
CLNS *e* 12 42 36.5
CLNS *i* S tx 12 44 44.7
CLNS pmax pmax
comp=Z,285nm,0.8s
CLNS pmax pmax
comp=N,57nm,0.7s
CLNS pmax pmax
comp=E,13nm,0.7s
CLNS pmax pmax
comp=Z,544nm,1.0s
CLNS pmax pmax
comp=N,115nm,0.8s
CLNS pmax pmax
comp=E,67nm,0.8s
CLNS MLR MLR
comp=Z,2μm,13.0s
CLNS MLR MLR
comp=N,400nm,14.0s
CLNS MLR MLR
comp=E,100nm,12.0s
PENI Pendagan 147.72 158⇑ *e*PKHKP 12 42 29.3
VIS Vishakhapatnam 148.30 97 *e*P PKPdf 12 42 34.1 +3.2
VIS *i* 12 44 46.2
BLSP Bilaspur 148.38 88 *i* P PKPdf 12 42 33.0 +2.0
BLSP *i* 12 44 45.0
YUK Yuzh-Kuril'sk 149.47 316 PKIKP PKPdf 12 42 32.0 -0.1
YUK *e* 12 44 46.0
YUK *e* 12 46 15.0
YUK *e* 13 04 45.0
YUK *e* 13 10 37.0
YUK pmax pmax
comp=Z,6μm,2.0s
YSS Yuzh-Sakhalins 149.71 323 *o i*PKIKP PKPdf 12 42 33.2 +0.9
YSS *e* 12 42 48.0
YSS *e* 12 46 14.0
YSS *e*PPP PPP 12 49 44.0 -5.1
YSS pmax pmax
comp=Z,440nm,1.5s
YSS pmax pmax
comp=E,140nm,1.1s
YSS pmax pmax
comp=N,100nm,0.7s
YSS pmax pmax
comp=Z,620nm,0.7s
YSS pmax pmax
comp=Z,4μm,5.0s
YSS pmax pmax
comp=Z,3μm,8.0s
YSS pmax pmax
comp=N,1μm,10.0s
YSS pmax pmax
comp=E,1μm,10.0s
YSS MLR MLR
comp=Z,2μm,20.0s
WMQ Urumqi 149.87 44 PKP PKPdf 12 42 35.0 +2.3
WMQ PKP2 PKPab 12 42 50.0 +1.2
WMQ APKP 12 44 50.0
WMQ XPKP 12 45 48.0
WMQ PKS PKS 12 46 08.0 +2.3
WMQ PP PP 12 46 23.0 +2.5
WMQ SKKS 12 52 15.0
WMQ PP PP
comp=Z,7μm,6.6s
KOLN Koldanda 150.39 77 *e*P PKPdf 12 42 36.8 +2.8
comp=Z,944nm,0.7s
VLK Valmikinagar 150.61 78 *i* P PKPdf 12 42 37.0 +2.6
VLK *i* 12 42 43.0
MOY Mondy 150.78 20 *e*PKIKP PKPdf 12 42 37.2 +3.4
MOY pmax pmax
comp=Z,2μm,1.4s
GUMO Guam 151.04 252 *e*PKPdf PKPdf 12 42 36.9 +1.6
GUMO *e*PKPbc PKPdf 12 42 42.7 +7.4
IRK Irkutsk 151.18 16 *e*PKIKP PKPdf 12 42 36.2 +1.8
IRK *e* 12 46 31.2
IRK pmax pmax
comp=Z,843nm,2.9s
GKN Gorkha 151.32 77 *e*P PKPdf 12 42 38.8 +3.4
comp=Z,1μm,0.9s
TLY Talaya 151.54 17 *e*PKIKP PKPdf 12 42 39.2 +4.3
TLY pmax pmax
comp=Z,109nm,1.0s

TLY Talaya 151.54 17 *e*PKPdf PKPdf 12 42 37.3 +2.4
TLY *e*PKPbc PKPdf 12 42 44.5 +10
TLY *e*PKPab PKPab 12 42 54.8 -0.7
DMN Daman 151.72 78 *e*P PKPdf 12 42 38.8 +2.9
comp=Z,2μm,1.0s
KKN Kakani 151.88 77 *e*P PKPdf 12 42 39.1 +3.0
comp=Z,506nm,0.6s
PKI Pulchoki 151.99 78 *e*P PKPdf 12 42 38.7 +2.4
comp=Z,382nm,0.7s
BOK Bokaro 152.08 86⇓ *i*P PKPdf 12 42 37.9 +1.4
BOK *i* 12 44 55.9
GUN Gumba 152.42 77 *e*P PKPdf 12 42 40.2 +3.3
comp=Z,876nm,0.7s
ZAK Zakamensk 152.60 19 *e*PKIKP PKPdf 12 42 39.3 +2.9
ZAK *e* 12 46 40.6
ZAK pmax pmax
comp=Z,101nm,1.3s
JIRN Jiri 152.69 78 *e*P PKPdf 12 42 40.4 +3.1
comp=Z,271nm,0.6s
KLR Kul'dur 152.99 338⇓ *e*PKIKP PKPdf 12 42 35.0 -2.0
KLR *e* 12 43 00.0
KLR *e* 12 44 49.7
KLR pmax pmax
comp=N,190nm,2.2s
KLR pmax pmax
comp=E,170nm,2.2s
KLR pmax pmax
comp=Z,330nm,2.2s
KLR pmax pmax
comp=Z,2μm,7.5s
KLR MLR MLR
comp=N,10μm,21.0s
KLR MLR MLR
comp=E,11μm,21.0s
CAL Calcutta 154.08 89 *e* PKPdf 12 42 43.0 +3.8
CAL *e* 12 45 28.0
CAL *e* 12 45 32.6
GTK Gangtok 154.84 78 *e* PKPdf 12 42 35.0 -5.2
KULM Kulim 155.21 139 *e*PKPdf PKPdf 12 42 43.0 +1.9
KULM *e*PKPab PKPab 12 43 11.3 -0.9
HIA Hailar 155.59 355 PKPdf PKPdf 12 42 42.2 +1.7
HIA PKPab PKPab 12 43 12.4 -0.3
HIA pPKPdf 12 44 58.7
HIA Hailar 155.59 355 *e*PKIKP PKPdf 12 42 42.3 +1.8
HIA *e* 12 43 12.4
HIA *e* 12 46 51.4
HIA Hailar 155.59 355 *e*PKPdf PKPdf 12 42 42.3 +1.8
HIA *e*PKPab PKPab 12 43 12.4 -0.3
HIA *e*SKPdf 12 45 21.8
HIA *e*PP PP 12 46 51.4 -0.8
SONM Songino Array 155.78 17 PKP PKPdf 12 42 43.3 +2.5
comp=E,30nm,1.1s,baz=282,slow=1.0,SNR=84
SONM PKPab PKPab 12 43 13.4 -0.1
comp=E,45nm,0.6s,baz=293,slow=2.9,SNR=18
SONM pPKP 12 44 59.7
comp=E,21nm,0.8s,baz=272,slow=1.5,SNR=2.3
SONM SKP 12 45 22.7
comp=E,23nm,0.8s,baz=327,slow=1.2,SNR=4.2
KSM Kuching 155.91 165 *e*PKPdf PKPdf 12 42 43.5 +1.5
KSM *e*PKPab PKPab 12 43 13.5 -1.6
KSM *e*SKPdf 12 45 22.4
ULN Ulaanbaatar 155.92 16 *e*PKIKP PKPdf 12 42 43.2 +2.2
ULN *e* 12 43 13.9
ULN *e* 12 46 54.0
ULN Ulaanbaatar 155.92 16 *e*PKPdf PKPdf 12 42 43.2 +2.2
ULN *e*PKPab PKPab 12 43 13.8 -0.3
ULN *e*SKPdf 12 45 24.0
ULN *e*PP PP 12 46 54.0 -0.2
SNG Songkhla 156.68 137 P PKPdf 12 42 47.0 +4.0
comp=E,346nm,0.9s
CBIJ Chichi jima 156.87 281 PKPab PKPab 12 43 18.1 -0.7
comp=E,908nm,1.2s,baz=161,slow=2.2,SNR=12
AGT Agartala 156.95 87 *i* PKPdf 12 42 48.0 +5.0
AGT *i* 12 43 19.0
LSA Lhasa 156.97 72 PKP PKPdf 12 42 45.5 +2.6
LSA SKS SKS 12 48 55.6 +2.2
LSA PP PP
comp=Z,1μm,5.4s
LSA Lhasa 156.97 72 PKPdf PKPdf 12 42 46.9 +4.0
LSA PKPab PKPab 12 43 19.0 -0.2
LSA pPKPdf 12 45 03.0
LSA PP SKS 12 48 57.7 +4.3
LSA Lhasa 156.97 72 *e*PKIKP PKPdf 12 42 46.3 +3.4
LSA *e* 12 46 58.6
LSA Lhasa 156.97 72 *e*PKPdf PKPdf 12 42 46.2 +3.3
LSA *e*PKPab PKPab 12 43 18.5 -0.7
LSA *e*PP PP 12 46 58.6 -1.5
MDJ Mudanjiang 157.69 335 PKP PKPdf 12 42 44.9 +1.5
MDJ PKP2 PKPab 12 43 22.3 +0.4
MDJ APKP 12 44 56.9
MDJ PKS PKS 12 46 16.5 +1.0
MDJ PP PP 12 47 04.3 +0.4
MDJ SKS SKS 12 48 59.4 +5.8
MDJ SKKS 12 52 52.4
MDJ PP PP
comp=Z,2μm,10.2s
MDJ Mudanjiang 157.69 335 *e*PKPdf PKPdf 12 42 44.5 +1.1
MDJ *e*PKPab PKPab 12 43 21.6 -0.2
VLA Vladivostok 157.91 329⇓ *i*PKIKP PKPdf 12 42 45.0 +1.3
VLA *i* 12 43 19.0
VLA *i* 12 45 00.0
VLA *i* 12 47 07.0
VLA pmax pmax
comp=Z,2μm,7.0s
MAJO Matsushiro 158.13 307 PKPdf PKPdf 12 42 45.2 +1.0
MAJO PKPab PKPab 12 43 22.9 -1.2
MAJO pPKPdf 12 45 00.9
MAJO Matsushiro 158.13 307 *e*PKPdf PKPdf 12 42 45.4 +1.2
MAJO *e*PKPab PKPab 12 43 23.5 -0.5
MAJO *e*PP PP 12 47 04.8 -1.8
MAT Matsushiro 158.13 307 *e*PKIKP PKPdf 12 42 45.0 +0.8
MAT MLR MLR
comp=Z,4μm,21.0s
MAT Matsushiro 158.13 307 PKP PKPdf 12 42 45.1 +0.9
CN2 Changchun 159.82 341 PKP PKPdf 12 42 48.4 +2.6
CN2 PKP2 PKPab 12 43 31.1 0.0
CN2 *e*APKP 12 44 59.0
CN2 PP PP 12 47 13.3 -1.5
GTA Gaotai 159.83 40 PKP PKPdf 12 42 48.3 +2.3
GTA PKP2 PKPab 12 43 29.5 -1.8
GTA PKS PKS 12 46 21.0 +3.2
GTA PP PP 12 47 11.9 -3.1
GTA SKS SKS 12 49 01.8 +5.9
GTA PPP PPP 12 50 59.3 -4.9
GTA SKKS 12 53 05.3
GTA PP PP
comp=Z,7μm,12.9s
DAV Davao City (W) 160.24 207 *e*P PKPdf 12 42 48.0 +0.8
KKM Kota Kinabalu 161.21 179 *e*PKPdf PKPdf 12 42 49.9 +1.8
KKM *e*PKPab PKPab 12 43 37.1 -0.9
BDT Bhumibol Dam 161.94 112 P PKPdf 12 42 51.5 +2.8
comp=Z,22nm,1.0s
NST Nakhon Sawan 162.07 118 P PKPdf 12 42 51.0 +2.1
comp=Z,125nm,0.7s
SNY Shenyang 162.18 343⇑ PKP PKPdf 12 42 50.0 +1.8
SNY PKP2 PKPab 12 43 41.9 +0.5
SNY PP PP
comp=Z,2μm,10.4s
CM31 Chiang Mai Arr 162.43 108 *e*PKPdf PKPdf 12 42 51.3 +2.1
CM31 *e*PKPab PKPab 12 43 41.9 -1.2
CM31 *e*PP PP 12 47 28.1 -1.3
CHG Chiang Mai 162.57 107⇑ P PKPdf 12 42 50.9 +1.6
comp=Z,150nm,1.2s
BTO Baotou 163.45 18 *e*PKP PKPdf 12 42 51.1 +1.5
HHC Hu-ho-hao-te 163.60 13 *e*PKP PKPdf 12 42 52.3 +2.6
HHC PKP2 PKPab 12 43 47.9 +0.3
HHC APKP 12 45 09.3
HHC XPKP 12 45 56.6
HHC PP PP 12 47 31.5 -3.7
HHC SKS SKS 12 48 57.6 -1.3
HHC SKKS 12 53 23.4
HHC PP PP
comp=Z,8μm,16.1s
CHRT Chiangrai 163.70 105⇑ P PKPdf 12 42 52.5 +2.1
comp=Z,1μm,0.8s
NANT Nan 164.08 109 P PKPdf 12 42 50.0 -0.8
KS15 Wonju Array Si 164.22 325 *e*PKPdf PKPdf 12 42 51.9 +1.5
KS15 *e*PKPab PKPab 12 43 50.3 -0.1
LZH Lanzhou 164.42 42 PKP PKPdf 12 42 53.3 +2.7
LZH APKP 12 45 10.1
LZH XPKP 12 45 57.5
LZH PP PP 12 47 40.0 +0.2

LZH				SKKS		12 53 29.0	
LZH				PP	PP		
	comp=Z,9µm,10.4s						
KKTK	**Khon Kaen**	**164.58**	**121**	P	PKPdf	12 42 53.4	+2.1
INCN	**Inchon**	**164.82**	**328**	ePKPdf	PKPdf	12 42 52.8	+1.8
INCN				ePKPab	PKPab	12 43 52.8	-0.2
BJI	**Beijing**	**164.94**	**1**	PKP	PKPdf	12 42 53.0	+2.0
BJT	**Baijiatuau**	**164.96**	**1**	ePKIKP	PKPdf	12 42 52.8	+1.8
BJT				e		12 43 52.6	
BJT				e		12 47 40.7	
DL2	**Dalian**	**165.43**	**344**	PKP	PKPdf	12 42 53.0	+1.6
DL2				PKP2	PKPab	12 43 57.5	+1.9
DL2				APKP		12 45 05.1	
DL2				XPKP		12 46 04.4	
DL2				PP	PP	12 47 39.6	-5.1
DL2				SKKS		12 53 35.8	
DL2				PP	PP		
	comp=Z,2µm,8.6s						
CD2	**Chengdu**	**167.23**	**59**	iPKP	PKPdf	12 42 56.5	+3.5
CD2				PKP2	PKPab	12 44 03.1	-0.6
CD2				PP	PP	12 47 52.3	-1.6
CD2				PP	PP		
	comp=Z,14µm,9.6s						
KMI	**Kunming**	**167.48**	**86**	PKP	PKPdf	12 42 55.3	+2.0
KMI	**Kunming**	**167.48**	**86**	PKPdf	PKPdf	12 42 55.2	+1.8
KMI				pPKPdf		12 45 12.5	
KMI				sPKPdf		12 46 10.6	
KMI				sPKPab		12 47 07.9	
KMI				PP	PP	12 47 54.5	-0.9
KMI				PP	tx	12 49 59.9	
TIA	**Tai'an**	**168.75**	**358**	PKP	PKPdf	12 42 56.0	+2.3
TIA				PKP2	PKPab	12 44 11.0	+0.8
TIA				APKP		12 45 13.5	
TIA				PP	PP	12 47 59.5	-1.8
XAN	**Xi'an**	**168.77**	**34**	PKP	PKPdf	12 42 56.0	+2.2
JOW	**Kunigami**	**169.27**	**283**	PKPab	PKPab	12 44 10.5	-2.3
	comp=Z,38nm,1.0s,baz=45,slow=6.9,SNR=2.0						
GYA	**Guiyang**	**170.96**	**78**	iPKP	PKPdf	12 42 56.6	+1.2
GYA				PKP2	PKPab	12 44 19.9	-0.4
GYA				APKP		12 45 14.3	
GYA				XPKP		12 46 03.3	
GYA				PKS	PKS	12 46 21.9	-4.7
GYA				PP	PP	12 48 11.5	-1.1
GYA				SKKS		12 54 00.1	
GYA				PP	PP		
	comp=Z,12µm,9.3s						
CVP	**Callao Caves**	**171.28**	**215**	eP	PKPdf	12 43 00.0	+4.3
QIZ	**Qiongzhong**	**171.44**	**132**	PKP	PKPdf	12 42 53.5	-2.3
QIZ				PKP2	PKPab	12 44 21.8	-0.8
QIZ				APKP		12 45 15.4	
QIZ				PP	PP	12 48 13.5	-1.7
QIZ				SKKS		12 54 05.3	
QIZ				PP	PP		
	comp=Z,4µm,6.5s						
QIZ	**Qiongzhong**	**171.44**	**132**	ePKPdf	PKPdf	12 42 58.4	+2.6
QIZ				ePKPab	PKPab	12 44 22.6	0.0
ENH	**Enshi**	**171.79**	**48**	ePKPdf	PKPdf	12 42 56.9	+1.2
ENH				ePKPab	PKPab	12 44 23.1	-0.8
ENH				ePP	PP	12 48 15.0	-1.6
SSE	**Sheshan**	**172.62**	**327**	PKPdf	PKPdf	12 42 58.3	+2.2
SSE				PKPab	PKPab	12 44 28.0	+0.5
SSE				pPKPdf		12 45 14.5	
SSE				SKKSac		12 54 12.7	
SSE				SKKSac		12 59 19.9	
SSE				SS	SS	13 08 39.9	-3.6
WHN	**Wuhan**	**174.09**	**19**	PKP	PKPdf	12 42 58.4	+1.7
WHN				PKP2	PKPab	12 44 32.3	-1.8
WHN				APKP		12 45 15.3	
WHN				XPKP		12 46 05.3	
WHN				SKKS		12 54 12.3	
GZH	**Guangzhou**	**176.54**	**122**	PKP	PKPdf	12 42 59.8	+2.3
HKC	**Hong Kong**	**176.59**	**140**	PKPdf	PKPdf	12 42 57.0	-0.5
HKC				SKSdf		12 49 12.0	
QZH	**Quanzhou**	**178.14**	**270**	PKP	PKPdf	12 42 58.3	+0.7
QZH				PKP2	PKPab	12 44 52.3	+0.2
QZH				PP	PP	12 48 41.0	-6.5
QZH				PP	PP		
	comp=Z,20µm,7.2s						

*MOS **21** 12:43:10.7±0.8, 24.62S×63.51W, h557^{km}, mb6.2/56, Error ellipse: s-maj=8.3km s-min=5.1km az=71.5*

*BJI **21** 12:43:11.9, 23.99S×63.68W, h558^{km}, mB6.2*

*NEIC **21** 12:43:12.4±0.1, 24.73S×63.51W, mb5.9/214, MD5.9(SJA), Error ellipse: s-maj=3.0km s-min=2.6km az=199.0*

NEIC Felt [III] at Catamarca, Salta, San Miguel de Tucuman and Santiago del Estero. Felt [IV] at Maria Elena and Tocopilla; [III] at Antofagasta, Mejillones and Sierra Gorda; [II] at Iquique, Chile.

*IDC **21** 12:43:12.7±0.3, 24.56S×63.49W, h571^{km}±3^{km}, mb5.4/27, mb1 5.4/31, mb1mx5.4/31, mbtmp6.3/31, Error ellipse: s-maj=8.8km s-min=5.8km az=74.0*

*LDG **21** 12:43:12.2±0.7, 24.46S×63.70W, h568^{km}, Mb6.0/44, Ms4.6/1, Error ellipse: s-maj=46.7km s-min=20.7km az=57.0*

*HRVD **21** 12:43:12.4±0.4, 24.71S×63.56W, h572^{km}±2^{km}, MW6.4/60, Centroid moment Tensor Solution. LP body waves: s37,c59;Mantle waves: s60,c87; Half duration: 3^{s}8 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.07±.10; $M_{\theta\theta}$-0.64±.14; $M_{\phi\phi}$0.71±.18; $M_{r\theta}$-2.19±.12; $M_{\theta\phi}$0.77±.13; $M_{\phi r}$4.04±.12; Best double couple: $M_0$4.701×10^{18} NP1: ϕ_s64°, δ12°, λ2°. NP2: ϕ_s333°, δ90°, λ102°. Principal axes: T 4.555, Plg44°, Azm255°; N .293, Plg12°, Azm153°; P -4.848, Plg43°, Azm51°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

*BGS **21** 12:43:14.5, 23.88S×63.92W, h579^{km}, mb5.4*

ISC 21 12:43:11.4±0.1**, 24.68S**±0.03×**63.51W**±0.02**, h567**^{km}**, h567**^{km}±.7^{km}**:pP-P, n1048,** σ**0^{s}82**/773**, mb5.8**/250**, 92C-242D, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**5.37**	**291**	iP	**P**	**12 44 44.1**	**-1.8**
LVC	**Limon Verde**	**5.37**	**291**	P	**P**	**12 44 45.0**	**-0.9**
LVC				S	**S**	**12 45 59.4**	**-1.6**
LVC	**Limon Verde**	**5.37**	**291**	P	**P**	**12 44 45.0**	**-0.9**
	4µm,0.3s,baz=100,slow=6.0,SNR=1884						
LVC				S	**S**	**12 45 59.0**	**-1.9**
	1µm,0.3s,baz=118,slow=3.5,SNR=3.6						
LVC	**Limon Verde**	**5.37**	**291**	⇓eP	**P**	**12 44 44.8**	**-1.1**
	13µm,0.4s						
CPUP	**Villa Florida**	**5.82**	**108**	P	**P**	**12 44 49.7**	**-0.2**
CPUP				sPn		12 46 10.3	
CPN1	**Cerro Paranal**	**6.27**	**269**	⇓iP	**P**	**12 44 53.4**	**-0.6**
ANCH	**Antofagasta**	**6.38**	**278**	⇓iP	**P**	**12 44 53.8**	**-1.1**
CPCH	**Copiapo**	**6.71**	**245**	⇑iP	**P**	**12 44 55.9**	**-2.1**
VACH	**Vallenar**	**7.56**	**238**	⇓iP	**P**	**12 45 04.9**	**-1.1**
LCO	**Las Campanas**	**7.74**	**235**	⇓iP	**P**	**12 45 06.8**	**-0.9**
ZON	**Zonda**	**8.22**	**213**	eP	**P**	**12 45 10.0**	**-2.4**
TLL	**Tololo Astrono**	**8.48**	**228**	⇓iP	**P**	**12 45 14.2**	**-0.8**
OVCH	**Ovalle**	**9.02**	**227**	⇑iP	**P**	**12 45 18.6**	**-1.7**
LPAZ	**La Paz**	**9.40**	**332**	eP	**P**	**12 45 24.6**	**+0.5**
LPAZ				pmax	pmax		
	comp=Z,25nm,0.6s						
LPAZ	**La Paz**	**9.40**	**332**	P	**P**	**12 45 24.6**	**+0.5**
	comp=Z,340nm,0.3s,baz=150,slow=6.5,SNR=1289						
LPAZ				S	**S**	**12 47 11.3**	**+0.9**
	comp=Z,70nm,0.3s,baz=43,slow=21,SNR=9.2						
LPAZ				ScP		12 53 22.8	
	comp=Z,2.9nm,0.3s,baz=344,slow=4.2,SNR=6.5						
LPAZ	**La Paz**	**9.40**	**332**	eP	**P**	**12 45 24.6**	**+0.5**
	comp=Z,25nm,0.6s						
ARE	**Arequipa**	**11.08**	**316**	⇑iP	**P**	**12 45 43.4**	**+2.5**
ARE				S	**S**	**12 47 41.0**	**0.0**
LPA	**La Plata**	**11.28**	**156**	beP	**P**	**12 45 43.2**	**+0.3**
	comp=Z,2µm,0.7s						
LPA				esP		12 47 44.0	
LPA				eS	**S**	**12 47 51.0**	**+6.3**
LPA	**La Plata**	**11.28**	**156**	⇑eP	**P**	**12 45 43.2**	**+0.3**
LPA				eS	**S**	**12 47 51.0**	**+6.3**
LPA				pmax	pmax		
	comp=Z,2µm,0.7s						
LPA	**La Plata**	**11.28**	**156**	ePcr		12 45 43.2	
	comp=Z,2µm,0.7s						
LPA				esP		12 47 44.0	
LPA				eS	**S**	**12 47 51.0**	**+6.3**
NICH	**Los Niches**	**12.27**	**211**	⇓iP	**P**	**12 45 51.5**	**-1.4**
TRQA	**Tornquist**	**13.40**	**175**	eP	**P**	**12 46 00.5**	**-3.6**
	comp=Z,308nm,0.6s						
SAML	**Samuel**	**15.65**	**1**	P	**P**	**12 46 26.3**	**-0.2**
SAML				S	**S**	**12 49 06.3**	**+2.6**
PLCA	**Paso Flores**	**17.06**	**199**	P	**P**	**12 46 38.7**	**-1.1**
PLCA				S	**S**	**12 49 28.7**	**+0.7**
PLCA				ScP		12 53 34.1	
PLCA				ScS	ScS	12 57 13.3	0.0
PLCA	**Paso Flores**	**17.06**	**199**	eP	**P**	**12 46 38.3**	**-1.5**
PLCA				pmax	pmax		
	comp=Z,167nm,0.6s						
PLCA	**Paso Flores**	**17.06**	**199**	P	**P**	**12 46 38.9**	**-0.9**
	comp=Z,26nm,0.3s,baz=19,slow=11,SNR=555						
PLCA				ScP		12 53 34.3	
	comp=Z,4.2nm,0.3s,baz=356,slow=3.1,SNR=9.0						
PLCA	**Paso Flores**	**17.06**	**199**	eP	**P**	**12 46 38.3**	**-1.5**
	comp=Z,167nm,0.6s						
BDFB	**Brasilia**	**17.09**	**61**	P	**P**	**12 46 40.9**	**+0.6**
	comp=Z,794nm,0.3s,baz=240,slow=9.7,SNR=923						
BDFB				S	**S**	**12 49 32.1**	**+3.5**
	comp=Z,6.6nm,0.3s,baz=105,slow=27,SNR=2.1						
BAO	**Brasilia Array**	**17.11**	**61**	P	**P**	**12 46 41.0**	**+0.5**
CAM4	**Nova Friburgo**	**19.34**	**87**	⇓iP	**P**	**12 47 01.9**	**+0.3**
CAM4				i		12 47 03.6	
CAM4				i		12 47 05.4	
EFI	**East Falkland**	**27.27**	**173**	P	**P**	**12 48 10.1**	**-2.4**
	comp=Z,1µm,0.6s,mb6.7,SNR=50						
OTAV	**Otavalo**	**28.69**	**328**	eP	**P**	**12 48 26.1**	**+0.9**
	comp=Z,253nm,0.7s,mb6.0						
USHA	**Ushuaia**	**30.34**	**186**	P	**P**	**12 48 37.7**	**-1.1**
	comp=Z,558nm,0.5s,mb6.3,baz=356,slow=7.5,SNR=388						
USHA				ScP		12 54 10.5	
	comp=Z,194nm,1.0s,baz=320,slow=5.3,SNR=7.6						
CS6B	**Jaguaretama**	**30.54**	**55**	⇓iP	**P**	**12 48 40.3**	**-0.6**
CS6B	**Jaguaretama**	**30.54**	**55**	⇓iP		12 54 11.5	
ROSC	**El Rosal**	**31.19**	**339**	P	**P**	**12 48 46.7**	**+0.2**
	comp=Z,341nm,0.5s,mb6.2,baz=125,slow=4.4,SNR=94						
ROSC				S	**S**	**12 53 13.1**	**-1.3**
	comp=Z,103nm,1.0s,baz=243,slow=20,SNR=11						
ROSC				ScP		12 54 14.3	
	comp=Z,166nm,0.8s,baz=110,slow=5.4,SNR=9.3						
SDV	**Santo Domingo**	**34.08**	**347**	P	**P**	**12 49 08.9**	**-1.8**
	comp=Z,350nm,0.5s,mb6.2,baz=183,slow=7.4,SNR=619						
SDV				S	**S**	**12 53 52.0**	**-6.4**
	comp=Z,88nm,1.0s,baz=280,slow=15,SNR=5.6						
SDV				ScP		12 54 24.5	
	comp=Z,110nm,0.8s,baz=124,slow=1.6,SNR=3.9						
SDV	**Santo Domingo**	**34.08**	**347**	eP	**P**	**12 49 08.6**	**-2.1**
	comp=Z,1µm,1.3s,mb6.3						
PAYG	**Puerto Ayora**	**35.22**	**309**	eP	**P**	**12 49 20.1**	**-0.1**
	comp=Z,307nm,0.9s,mb5.8						
UPA	**Univ. de Panam**	**36.93**	**333**	eP	**P**	**12 49 35.2**	**+0.9**
PTP1	**Petroterminal**	**37.53**	**328**	eP	**P**	**12 49 43.9**	**+4.7**
DVD	**David**	**37.74**	**328**	eP	**P**	**12 49 44.1**	**+3.2**
ACR	**Cerro Adams**	**38.28**	**328**	eP	**P**	**12 49 46.5**	**+1.2**
BUS	**Buena Vista**	**39.35**	**327**	⇑eP	**P**	**12 49 55.1**	**+1.3**
LCR2	**La Lucha 2**	**39.63**	**327**	⇑eP	**P**	**12 49 57.7**	**+1.5**
DSHT	**Scott's Head**	**39.70**	**3**	eP	**P**	**12 49 56.4**	**-0.3**
DSHT	**Scott's Head**	**39.70**	**3**	e	**P**	**12 49 56.4**	**-0.3**
ICR	**Volcan Irazu**	**39.75**	**328**	eP	**P**	**12 49 59.4**	**+2.2**
DBCT	**Belle View Cho**	**39.76**	**3**	eP	**P**	**12 49 57.9**	**+0.6**
DBCT	**Belle View Cho**	**39.76**	**3**	e	**P**	**12 49 57.9**	**+0.6**
MDN	**Morne-Daniel**	**39.81**	**3**	eP	**P**	**12 49 56.9**	**-0.7**
MDN	**Morne-Daniel**	**39.81**	**3**	e	**P**	**12 49 56.9**	**-0.7**
PRS1	**Puriscal**	**39.99**	**327**	eP	**P**	**12 50 00.9**	**+1.8**
BBL	**Barber's Block**	**40.01**	**3**	eP	**P**	**12 49 58.5**	**-0.7**
BBL	**Barber's Block**	**40.01**	**3**	e	**P**	**12 49 58.5**	**-0.7**
DWS	**Wesley**	**40.06**	**3**	eP	**P**	**12 49 59.8**	**+0.2**
DWS	**Wesley**	**40.06**	**3**	e	**P**	**12 49 59.8**	**+0.2**
PMSA	**Palmer Station**	**40.09**	**180**	eP	**P**	**12 49 59.2**	**-0.2**
	comp=Z,283nm,1.0s,mb5.8						
CGA2	**Cerro Gallo 2**	**40.09**	**327**	eP	**P**	**12 50 00.9**	**+1.0**
VPS2	**Volcan Poas 2**	**40.13**	**327**	eP	**P**	**12 50 02.4**	**+2.2**
TRTC	**Tortuguero**	**40.21**	**328**	eP	**P**	**12 50 02.4**	**+1.6**
JTS	**JuntasAbangare**	**40.57**	**326**	P	**P**	**12 50 05.2**	**+1.5**
	comp=Z,2µm,0.6s,mb6.8,SNR=49						
JTS	**JuntasAbangare**	**40.57**	**326**	eP	**P**	**12 50 04.8**	**+1.1**
JTS				pmax	pmax		
	comp=Z,248nm,2.0s						
JTS	**JuntasAbangare**	**40.57**	**326**	eP	**P**	**12 50 04.8**	**+1.0**
	comp=Z,248nm,2.0s,mb5.4						
RPN	**Rapa Nui**	**41.12**	**256**	P	**P**	**12 50 08.0**	**0.0**
	comp=Z,6µm,1.2s,SNR=33						
RPN	**Rapa Nui**	**41.12**	**256**	P	**P**	**12 50 08.7**	**+0.7**
	comp=Z,1µm,1.1s,mb6.3,baz=74,slow=3.2,SNR=36						
RPN				ScP		12 54 50.9	
	comp=Z,74nm,0.7s,baz=337,slow=3.8,SNR=4.5						
RPN	**Rapa Nui**	**41.12**	**256**	eP	**P**	**12 50 08.1**	**+0.1**
	comp=Z,480nm,1.3s,mb5.9						
BPA	**Boggy Peak**	**41.50**	**2**	eP	**P**	**12 50 20.4**	**+9.1**
BPA	**Boggy Peak**	**41.50**	**2**	e	**P**	**12 50 20.4**	**+9.1**
CPB	**Codrington**	**42.09**	**2**	eP	**P**	**12 50 12.8**	**-3.1**
CPB	**Codrington**	**42.09**	**2**	e	**P**	**12 50 12.8**	**-3.1**
SJG	**San Juan**	**42.61**	**356**	P	**P**	**12 50 17.1**	**-2.8**
SJG				pP	pP	12 52 01.6	+0.3
SJG				PcS		12 55 54.6	
SJG	**San Juan**	**42.61**	**356**	⇓eP	**P**	**12 50 17.1**	**-2.8**
SJG				e	pP	12 51 59.7	-1.6
SJG				e		12 52 10.7	
SJG				eS	**S**	**12 55 56.0**	**-7.0**
SJG				pmax	pmax		
	comp=Z,1µm,1.3s						
SJG	**San Juan**	**42.61**	**356**	P	**P**	**12 50 17.1**	**-2.8**
	comp=Z,570nm,0.9s,mb6.1,baz=113,slow=1.7,SNR=80						
SJG				pP	pP	12 52 01.8	+0.5
	comp=Z,299nm,1.1s,baz=174,slow=4.8,SNR=4.5						
SJG				S	**S**	**12 55 55.6**	**-7.4**
	comp=Z,165nm,0.9s,baz=265,slow=20,SNR=16						
SJG	**San Juan**	**42.61**	**356**	⇓eP	**P**	**12 50 17.1**	**-2.9**
	comp=Z,1µm,1.3s,mb6.3						
SJG				e	pP	12 51 59.7	-1.6
SJG				ePP	PP	12 52 10.7	+1.0
SJG				eS	**S**	**12 55 56.0**	**-6.9**
CNCH	**Conchagua**	**44.58**	**325**	eP	**P**	**12 50 34.2**	**-1.1**
BLLM	**Bellamira**	**44.93**	**325**	eP	**P**	**12 50 37.5**	**-0.5**
TRIS	**Tristan da Cun**	**45.15**	**118**	eP	**P**	**12 50 38.5**	**-1.0**
	comp=Z,839nm,0.8s,mb6.3						
SNVI	**San Vicente**	**45.38**	**324**	eP	**P**	**12 50 41.8**	**+0.2**
LCBS	**La Ceiba**	**45.49**	**324**	eP	**P**	**12 50 41.7**	**-0.7**
LFRS	**El Faro**	**45.51**	**324**	eP	**P**	**12 50 42.3**	**-0.2**
LBRS	**Las Brisas**	**45.60**	**324**	eP	**P**	**12 50 44.5**	**+1.3**
SBLS	**San Blas**	**45.99**	**324**	eP	**P**	**12 50 45.7**	**-0.5**
SNJE	**San Jose**	**46.01**	**324**	eP	**P**	**12 50 47.4**	**+1.1**
RTR	**El Retiro**	**46.05**	**324**	eP	**P**	**12 50 46.6**	**-0.1**
RBDL	**Robledal**	**46.25**	**324**	eP	**P**	**12 50 47.9**	**-0.3**
ASCN	**Ascension**	**49.73**	**79**	P	**P**	**12 51 12.5**	**-1.8**
	comp=Z,11µm,0.6s,SNR=31						
TEIG	**Tepich**	**50.73**	**329**	P	**P**	**12 51 19.7**	**-1.8**
TEIG				P		12 51 32.6	
TEIG				ScP		12 55 30.6	
TEIG				ScS	ScS	13 00 11.4	+1.5
TEIG	**Tepich**	**50.73**	**329**	eP	**P**	**12 51 19.6**	**-1.9**
	comp=Z,150nm,0.6s,mb5.5						
TEIG				eScP		12 55 30.1	
TUIG	**Tuzandepetl**	**52.06**	**322**	eP	**P**	**12 51 31.3**	**+0.1**
PNIG	**Pinotepa**	**52.98**	**317**	iP	**P**	**12 51 37.0**	**-0.6**
CAIG	**El Cayaco**	**54.81**	**316**	iP	**P**	**12 51 50.1**	**-0.5**
DWPF	**Disney**	**55.25**	**341**	⇓iP	**P**	**12 51 52.5**	**-1.0**
	comp=Z,535nm,0.9s,mb5.8						
PPM	**Popocatepetl**	**55.32**	**319**	eP	**P**	**12 51 54.8**	**+0.7**
PLIG	**Platanillo**	**55.34**	**317**	iP	**P**	**12 51 54.1**	**-0.2**
YAIG	**Yautepec**	**55.43**	**318**	iP	**P**	**12 51 55.1**	**+0.2**
VNA3	**Neumayer Olymp**	**55.49**	**162**	e	PcP	12 52 45.3	-0.8
VNA3	**Neumayer Olymp**	**55.49**	**162**	⇑iP	**P**	**12 51 54.0**	**-0.6**
VNA3				e		12 52 45.3	
VNA3				e	pP	12 53 43.1	-0.8
VNA3				e		12 55 50.5	
VNA1	**Neumayer--Stat**	**55.64**	**161**	e	PcP	12 52 46.5	-0.2
VNA1	**Neumayer--Stat**	**55.64**	**161**	⇑iP	**P**	**12 51 55.7**	**0.0**
VNA1				e		12 52 46.5	
VNA1				e	pP	12 53 44.7	-0.4
VNA1				e		12 55 51.9	
ZIIG	**Zihuatanejo**	**55.99**	**315**	iP	**P**	**12 51 58.3**	**-0.5**
VNA2	**Neumayer--Watz**	**56.02**	**161**	e	PcP	12 52 46.3	-1.9
VNA2	**Neumayer--Watz**	**56.02**	**161**	⇑iP	**P**	**12 51 57.9**	**-0.4**
VNA2				e		12 52 46.3	
VNA2				e	pP	12 53 47.2	-0.7
VNA2				e		12 55 53.0	
BBSR	**BB Station**	**56.74**	**359**	P	**P**	**12 52 02.4**	**-1.3**
BBSR				PcS		12 55 25.4	
BBSR				S	**S**	**12 59 12.2**	**-1.6**
BBSR	**BB Station**	**56.74**	**359**	⇓iP	**P**	**12 52 02.1**	**-1.6**
	comp=Z,684nm,1.0s,mb5.8						
SNAA	**Sanae**	**57.66**	**161**	e	PcP	12 52 53.7	-1.0
SNAA	**Sanae**	**57.66**	**161**	⇑iP	**P**	**12 52 08.5**	**-1.0**
SNAA				e		12 52 53.7	
SNAA				e	pP	12 53 58.9	-1.2
SNAA				e		12 56 00.7	
SNAA	**Sanae**	**57.66**	**161**	P	**P**	**12 52 08.6**	**-0.9**
	comp=Z,62nm,0.7s,mb4.9,baz=290,slow=6.3,SNR=263						
SNAA				pP	pP	12 53 58.9	-1.3
	comp=Z,53nm,1.1s,baz=285,slow=7.4,SNR=5.6						
SNAA				S	**S**	**12 59 23.9**	**-1.0**
	comp=Z,2.4nm,0.8s,baz=16,slow=24,SNR=8.2						
COLM	**Colima**	**58.58**	**314**	iP	**P**	**12 52 17.9**	**+1.5**
RGRS	**Roger Stewart**	**59.44**	**344**	eP	**P**	**12 52 21.1**	**-0.7**
HBF	**Harts Bluff**	**59.51**	**344**	eP	**P**	**12 52 21.7**	**-0.7**
NHSC	**New Hope**	**59.62**	**344**	⇓iP	**P**	**12 52 22.4**	**-0.7**
	comp=Z,844nm,0.9s,mb6.1						
CJM	**Chamela**	**59.69**	**314**	iP	**P**	**12 52 23.6**	**-0.1**
PTCN	**Pitcairn Islan**	**59.81**	**254**	⇑iP	**P**	**12 52 25.1**	**+0.6**
	comp=Z,1µm,0.6s,mb6.4						
COW	**Cow Castle Cre**	**60.02**	**343**	eP	**P**	**12 52 24.8**	**-0.9**
GOGA	**Godfrey**	**60.81**	**341**	⇓eP	**P**	**12 52 29.5**	**-1.4**
GOGA				pmax	pmax		
	comp=Z,271nm,1.0s,mb5.5						
GOGA	**Godfrey**	**60.81**	**341**	⇓eP	**P**	**12 52 29.5**	**-1.5**
	comp=Z,271nm,1.0s,mb5.5						
JSC	**Jenkinsville**	**61.01**	**343**	eP	**P**	**12 52 31.4**	**-0.8**
LRAL	**Lakeview Retre**	**61.60**	**338**	⇓eP	**P**	**12 52 34.5**	**-1.6**
	comp=Z,310nm,0.9s,mb5.7						
MAIT	**Maitri**	**62.06**	**159**	eP	**P**	**12 52 38.3**	**-0.2**
NVL	**N'lazarevskaya**	**62.09**	**159**	⇓iP	**P**	**12 52 33.8**	**-4.9**
NVL				eS	**S**	**13 00 19.8**	**-0.4**
NVL				i		13 54 28.7	
NVL				pmax	pmax		
	comp=Z,736nm,0.9s,mb6.1						
NVL				MLR	MLR		
	comp=Z,5µm,16.1s						
CPCT	**Cooper Cave**	**63.02**	**341**	⇓eP	**P**	**12 52 43.7**	**-1.4**
SWET	**Sewanee**	**63.24**	**340**	⇓iP	**P**	**12 52 45.1**	**-1.4**
NATX	**Nacogdoches**	**63.53**	**331**	eP	**P**	**12 52 48.2**	**-0.3**
	comp=Z,488nm,0.6s,mb6.1						
NATX				epP	pP	12 54 41.7	-0.9
BLA	**Blacksburg**	**63.59**	**345**	⇓eP	**P**	**12 52 48.3**	**-0.5**
BLA				e		12 55 14.0	
BLA				pmax	pmax		
	comp=Z,562nm,1.0s,mb6.0						
BLA	**Blacksburg**	**63.59**	**345**	⇓eP	**P**	**12 52 48.3**	**-0.5**
	comp=Z,562nm,1.0s,mb6.0						
BLA				ePP	PP	12 55 14.0	-4.0
ELN	**Prospectdale**	**63.68**	**345**	⇓eP	**P**	**12 52 49.1**	**-0.3**
PLAL	**Pickwick Lake**	**63.74**	**338**	⇓iP	**P**	**12 52 47.9**	**-1.9**
	comp=Z,484nm,1.1s,mb5.8						
TZTN	**Tazewell**	**63.76**	**342**	⇓iP	**P**	**12 52 48.4**	**-1.5**
OXF	**Oxford**	**63.80**	**336**	⇓eP	**P**	**12 52 48.3**	**-1.8**
OXF				eS	**S**	**13 00 38.3**	**-3.1**
OXF				pmax	pmax		
	comp=Z,576nm,0.9s,mb6.0						
OXF	**Oxford**	**63.80**	**336**	⇓eP	**P**	**12 52 48.3**	**-1.9**
	comp=Z,576nm,0.9s,mb6.0						
OXF				eS	**S**	**13 00 38.3**	**-3.1**
CBN	**Corbin**	**63.89**	**348**	⇓iP	**P**	**12 52 50.0**	**-0.7**
	comp=Z,461nm,1.0s,mb5.9						
FWV	**Forest Hill**	**64.03**	**345**	⇓eP	**P**	**12 52 51.0**	**-0.6**
FWV				ePP	PP	12 55 17.5	-4.5
MET	**Memphis--Engin**	**64.53**	**336**	eP	**P**	**12 52 53.6**	**-1.1**
RKT	**Rikitea**	**64.64**	**255**	eP	**P**	**12 52 55.9**	**+0.3**
	comp=Z,113nm,0.8s,mb5.3						
WVT	**Waverly**	**64.70**	**338**	⇓iP	**P**	**12 52 53.9**	**-1.9**
WVT				e*PP	pP	12 54 48.4	-2.2
WVT				pmax	pmax		
	comp=Z,675nm,0.8s,mb6.1						
WVT	**Waverly**	**64.70**	**338**	⇓iP	**P**	**12 52 53.9**	**-1.9**
	comp=Z,675nm,0.8s,mb6.1						
WVT				epP	pP	12 54 48.4	-2.1
JCT	**Junction City**	**64.95**	**326**	⇑iP	**P**	**12 52 56.9**	**-0.6**
	comp=Z,306nm,0.6s,mb5.9						
SDMD	**Soldier's Deli**	**64.96**	**349**	⇓iP	**P**	**12 52 57.0**	**-0.4**
HALT	**Halls**	**65.02**	**337**	⇓eP	**P**	**12 52 56.4**	**-1.5**
DBIC	**Dimbokro**	**65.03**	**69**	P	**P**	**12 52 57.4**	**-0.9**
	comp=Z,2µm,0.6s,mb6.6,baz=214,slow=6.7,SNR=2460						
DBIC				pP	pP	12 54 52.5	-0.6
	comp=Z,174nm,1.0s,baz=214,slow=6.1,SNR=2.8						
DBIC				S	S	13 00 55.3	-1.2
	comp=Z,33nm,0.9s,baz=345,slow=20,SNR=8.4						
DBIC				PKPPKP		13 21 31.7	
	comp=Z,4.1nm,0.8s,baz=334,slow=4.9,SNR=4.9						
DBIC	**Dimbokro**	**65.03**	**69**	⇓iP	**P**	**12 52 57.3**	**-0.9**
	comp=Z,1.1nm,0.4s						
DBIC				epP	pP	12 54 51.8	-1.3
UALR	**University of**	**65.15**	**334**	eP	**P**	**12 52 57.3**	**-1.3**
	comp=Z,145nm,0.8s,mb5.5						
HBAR	**Harrisburg**	**65.19**	**336**	eP	**P**	**12 52 58.0**	**-0.9**
UTMT	**University of**	**65.25**	**338**	eP	**P**	**12 52 57.6**	**-1.6**
	comp=Z,806nm,0.9s,mb6.2						
GNAR	**Gosnell**	**65.32**	**337**	eP	**P**	**12 52 58.8**	**-0.8**
GLAT	**Glass**	**65.33**	**337**	eP	**P**	**12 52 58.4**	**-1.3**
MIAR	**Mount Ida**	**65.45**	**333**	eP	**P**	**12 52 59.5**	**-1.1**
	comp=Z,302nm,0.4s,mb6.1						
MVL	**Millersville**	**65.45**	**349**	⇓eP	**P**	**12 53 00.1**	**-0.4**
QSPA	**South Pole Qui**	**65.53**	**180**	eP	**P**	**12 53 00.5**	**+0.2**
	comp=Z,549nm,0.7s,mb6.2						
PVMO	**Portageville**	**65.60**	**337**	eP	**P**	**12 53 00.6**	**-0.9**
MCWV	**Mont Chateau**	**65.80**	**346**	⇓iP	**P**	**12 53 02.3**	**-0.3**
	comp=Z,614nm,1.0s,mb6.1						
BRNJ	**Basking Ridge**	**65.84**	**351**	⇓eP	**P**	**12 53 03.2**	**+0.4**
CPNY	**Central Park**	**65.86**	**351**	eP	**P**	**12 53 01.9**	**-1.0**
PAL	**Palisades**	**66.06**	**351**	⇓eP	**P**	**12 53 03.3**	**-0.9**
	comp=Z,245nm,1.0s,mb5.7						
TXAR	**Lajitas Array**	**66.13**	**322**	P	**P**	**12 53 04.4**	**-0.4**
	comp=Z,82nm,0.6s,mb5.5,baz=149,slow=6.3,SNR=202						
TXAR				PKP2bc		13 21 34.6	
	comp=Z,3.7nm,0.8s,baz=261,slow=2.3,SNR=12						
TXAR	**Lajitas Array**	**66.13**	**322**	P	**P**	**12 53 04.4**	**-0.4**
TXAR				⇑e		13 21 34.6	
LTX	**Lajitas**	**66.13**	**322**	eP	**P**	**12 53 04.3**	**-0.5**
	comp=Z,98nm,0.6s,mb5.5						
WCI	**Wyandotte Cave**	**66.13**	**341**	⇓iP	**P**	**12 53 02.8**	**-1.9**
	comp=Z,751nm,0.8s,mb6.3						
SSPA	**Standing Stone**	**66.34**	**348**	⇓iP	**P**	**12 53 05.5**	**-0.4**
	comp=Z,305nm,1.0s,mb5.8						
BRYW	**Bryant College**	**66.68**	**353**	⇓iP	**P**	**12 53 12.1**	**+4.2**
	comp=Z,833nm,1.0s,mb6.2						
BLO	**Bloomington**	**67.07**	**341**	⇓iP	**P**	**12 53 08.8**	**-1.6**
	comp=Z,671nm,0.8s,mb6.2						
ACSO	**Alum Creek Sta**	**67.08**	**344**	⇓iP	**P**	**12 53 09.3**	**-1.2**
	comp=Z,749nm,0.9s,mb6.2						
WES	**Weston**	**67.12**	**354**	⇓eP	**P**	**12 53 10.0**	**-0.7**
	comp=Z,287nm,1.0s,mb5.8						
WES				ePP	PP	12 55 47.6	-0.6
QUA2	**Belchertown**	**67.12**	**353**	⇓iP	**P**	**12 53 09.8**	**-0.9**
	comp=Z,341nm,1.0s,mb5.8						
HRV	**Harvard--Oak R**	**67.26**	**354**	⇓iP	**P**	**12 53 10.9**	**-0.6**
	comp=Z,470nm,0.9s,mb6.0						
HRV				epP	pP	12 55 05.2	-2.3
FVM	**French Village**	**67.27**	**337**	⇓iP	**P**	**12 53 10.1**	**-1.5**
FVM				*PP	pP	12 55 06.2	-1.4
FVM				eS	S	13 01 19.9	-2.5
FVM				pmax	pmax		
	comp=Z,467nm,0.8s,mb6.1						
FVM	**French Village**	**67.27**	**337**	⇓iP	**P**	**12 53 10.1**	**-1.5**
	comp=Z,467nm,0.8s,mb6.1						
FVM				pP	pP	12 55 06.2	-1.4
FVM				eS	S	13 01 19.9	-2.6
CCM	**Cathedral Cave**	**67.62**	**337**	P	**P**	**12 53 12.6**	**-1.2**
CCM				S	S	13 01 22.3	-4.2
CCM	**Cathedral Cave**	**67.62**	**337**	⇓iP	**P**	**12 53 12.4**	**-1.4**
CCM				pmax	pmax		
	comp=Z,604nm,0.8s,mb6.2						
CCM	**Cathedral Cave**	**67.62**	**337**	⇓iP	**P**	**12 53 12.4**	**-1.4**
	comp=Z,604nm,0.8s,mb6.2						
ALLY	**Alegheny Colle**	**67.77**	**347**	⇓iP	**P**	**12 53 13.9**	**-0.7**
SLM	**Saint Louis**	**67.78**	**338**	eP	**P**	**12 53 13.1**	**-1.6**
SLM				pmax	pmax		
	comp=Z,461nm,1.0s,mb6.0						
SLM	**Saint Louis**	**67.78**	**338**	eP	**P**	**12 53 13.1**	**-1.6**
	comp=Z,461nm,1.0s,mb6.0						
WMOK	**Wichita Mounta**	**67.91**	**329**	eP	**P**	**12 53 14.3**	**-1.3**
WMOK				pmax	pmax		
	comp=Z,77nm,0.7s,mb5.3						
WMOK	**Wichita Mounta**	**67.91**	**329**	eP	**P**	**12 53 14.3**	**-1.3**
	comp=Z,77nm,0.7s,mb5.3						
CHIE	**El Hierro**	**68.12**	**43**	⇓P	**P**	**12 53 16.1**	**-0.9**
	comp=Z,136nm,0.6s,mb5.7						
ERPA	**Erie**	**68.19**	**347**	⇓iP	**P**	**12 53 16.6**	**-0.6**
	comp=Z,913nm,0.6s,mb6.5						
FFD	**Franklin Falls**	**68.22**	**354**	eP	**P**	**12 53 14.3**	**-3.1**
	comp=Z,576nm,1.0s,mb6.1						
ACCN	**Adirondack Com**	**68.37**	**352**	⇓eP	**P**	**12 53 17.7**	**-0.5**

GENY Geneseo 68.40 349 *eP* **P 12 53 17.8 -0.6**
GENY *epP* pP 12 55 13.5 -1.3
CLNB Carlsbad 68.50 324 *eP* **P 12 53 19.0 -0.1**
HNH Hanover 68.52 353⇓*iP* **P 12 53 19.2 +0.1**
comp=Z,61nm,1.0s,mb5.1
GDL2 Guadalupe Moun 68.71 323 *eP* **P 12 53 20.0 -0.4**
MNTX Cornudas Mount 68.88 322⇑*iP* **P 12 53 20.1 -1.4**
comp=Z,30nm,0.4s,mb5.2
EGOM La Gomera 68.90 43 ⇓P **P 12 53 20.5 -1.1**
comp=Z,400nm,0.7s,mb6.1
NCB Newcomb 69.02 352⇓*iP* **P 12 53 21.6 -0.5**
comp=Z,379nm,0.9s,mb5.9
NCB *epP* pP 12 55 17.7 -1.2
MIV Mineville/With 69.03 352 *eP* **P 12 53 21.6 -0.6**
CPRX Cap Rock 69.08 324 *eP* **P 12 53 22.1 -0.6**
WVL Waterville 69.14 355⇓*iP* **P 12 53 22.6 -0.2**
comp=Z,660nm,0.8s,mb6.2
WVL *epP* pP 12 55 18.0 -1.6
WVL *ePP* PP 12 56 03.5 -2.4
EMMW East Machias 69.15 357⇓*iP* **P 12 53 22.6 -0.3**
comp=Z,1µm,0.8s,mb6.5
EMMW *epP* pP 12 55 19.1 -0.6
AAM Ann Arbor 69.20 344 P **P 12 53 21.6 -1.6**
AAM pmax pmax
comp=Z,154nm,0.8s,mb5.6
AAM Ann Arbor 69.20 344 P **P 12 53 21.6 -1.5**
comp=Z,154nm,0.8s,mb5.6
CCAN Las Canadas 69.32 44 ⇓P **P 12 53 23.4 -0.7**
comp=Z,89nm,0.7s,mb5.4
AMTX Amarillo 69.42 327⇑*eP* **P 12 53 23.9 -0.7**
comp=Z,171nm,0.7s,mb5.7
EBAJ Bajamar 69.71 43 P **P 12 53 25.9 -0.5**
comp=Z,222nm,0.8s,mb5.7
EOSO Osorio 69.88 44 P **P 12 53 27.2 -0.2**
comp=Z,311nm,0.9s,mb5.8
MSNY Massena 70.11 351 *eP* **P 12 53 27.7 -0.8**
SADO Sadowa 70.57 348 P **P 12 53 30.4 -0.8**
comp=Z,231nm,0.6s,mb5.9,baz=187,slow=6.0,SNR=228
SADO pP pP 12 55 28.2 -0.4
comp=Z,12nm,0.6s,baz=170,slow=15,SNR=1.2
KSU1 Kansas State U 70.60 333 *eP* **P 12 53 30.3 -1.2**
CFTV Fuerteventura 71.06 45 ⇓P **P 12 53 33.6 -0.7**
comp=Z,159nm,0.7s,mb5.7
PQI Presque Isle 71.13 357 *eP* **P 12 53 34.2 -0.2**
comp=Z,80nm,0.9s,mb5.2
LPM Los Pinos Moun 71.54 323 *eP* **P 12 53 37.5 +0.5**
LPM *epP* pP 12 55 33.1 -1.8
LENM Lemitar 71.62 323 *eP* **P 12 53 37.7 +0.2**
JFWS Jewell Farm 71.63 340⇓*iP* **P 12 53 36.5 -0.9**
JFWS pmax pmax
comp=Z,197nm,0.6s,mb5.7
JFWS Jewell Farm 71.63 340⇓*iP* **P 12 53 36.5 -0.9**
comp=Z,197nm,0.6s,mb5.7
CBKS Cedar Bluff 71.69 331⇑*eP* **P 12 53 38.1 +0.3**
CBKS pmax pmax
comp=Z,504nm,0.6s,mb6.1
CBKS Cedar Bluff 71.69 331⇑*eP* **P 12 53 38.0 +0.2**
comp=Z,504nm,0.6s,mb6.1
LAZ Ladron 71.89 323 *eP* **P 12 53 39.7 +0.7**
LAZ *epP* pP 12 55 38.6 +1.6
EFAM Famara 71.89 45 P **P 12 53 39.2 +0.1**
comp=Z,319nm,0.7s,mb5.9
ANMO Albuquerque 71.93 324⇑*iP* **P 12 53 39.7 +0.4**
ANMO *e*PP pP 12 55 36.4 -0.9
ANMO pmax pmax
comp=Z,114nm,0.9s
ANMO Albuquerque 71.93 324⇑*iP* **P 12 53 39.6 +0.4**
comp=Z,114nm,0.9s,mb5.3
ANMO *epP* pP 12 55 36.4 -1.0
TUC Tucson 72.44 319⇑*iP* **P 12 53 42.5 +0.3**
TUC *e*PP pP 12 55 38.4 -2.1
TUC pmax pmax
comp=Z,49nm,0.8s,mb5.0
TUC Tucson 72.44 319⇑*iP* **P 12 53 42.5 +0.3**
comp=Z,49nm,0.8s,mb5.0
TUC *epP* pP 12 55 38.4 -2.1
SUR Sutherland 72.69 118 P **P 12 53 43.3 -0.4**
comp=Z,2µm,0.6s,mb6.6,SNR=63
SUR Sutherland 72.69 118 P **P 12 53 43.8 +0.1**
comp=Z,148nm,0.6s,mb5.6,baz=241,slow=5.8,SNR=167
SUR pP pP 12 55 42.6 +0.5
comp=Z,86nm,1.0s,baz=271,slow=3.7,SNR=5.2
SUR Sutherland 72.69 118⇑*iP* **P 12 53 43.8 +0.1**
comp=Z,162nm,0.6s,mb5.6
SUR *epP* pP 12 55 41.5 -0.6
SDCO Great Sand Dun 73.57 326⇑*iP* **P 12 53 49.4 +0.9**
comp=Z,80nm,1.4s,mb5.0
SBA Scott Base 73.58 190⇑*iP* **P 12 53 48.7 +0.8**
SBA *e*PP pP 12 55 45.3 -1.3
SBA pmax pmax
comp=Z,274nm,1.2s,mb5.6
SBA Scott Base 73.58 190⇑*iP* **P 12 53 48.7 +0.8**
comp=Z,274nm,1.2s,mb5.6
SBA *epP* pP 12 55 45.3 -1.3
TAOE Nuku Hiva Isla 74.26 267 *eP* **P 12 53 53.9 +1.0**
TSUM Tsumeb 74.40 104⇓*iP* **P 12 53 53.1 -0.5**
comp=Z,250nm,1.8s,mb5.3
TSUM *epP* pP 12 55 50.3 -2.4
VNDA Vanda 74.56 189 P **P 12 53 54.3 +1.0**
VNDA pP pP 12 55 51.1 -1.4
VNDA S S 13 02 47.0 +3.6
VNDA Vanda 74.56 189⇑*iP* **P 12 53 54.3 +1.0**
VNDA *e*PP pP 12 55 51.5 -1.0
VNDA pmax pmax
comp=Z,203nm,0.9s
VNDA Vanda 74.56 189 P **P 12 53 54.1 +0.8**
comp=Z,156nm,0.7s,mb5.5,baz=136,slow=4.9,SNR=254
VNDA pP pP 12 55 52.1 -0.4
comp=Z,64nm,1.0s,baz=139,slow=5.7,SNR=4.2
VNDA Vanda 74.56 189⇑*iP* **P 12 53 54.3 +0.9**
comp=Z,203nm,0.9s,mb5.5
VNDA *epP* pP 12 55 51.5 -1.0
WUAZ Wupatki 75.06 321⇑*iP* **P 12 53 58.2 +1.2**
comp=Z,286nm,1.1s,mb5.6
ISCO Idaho Springs 75.21 328⇑*eP* **P 12 53 58.7 +1.0**
ISCO pmax pmax
comp=Z,151nm,0.7s,mb5.5
ISCO Idaho Springs 75.21 328⇑*eP* **P 12 53 58.7 +1.0**
comp=Z,151nm,0.7s,mb5.5
BAR Barrett 76.30 316⇑*iP* **P 12 54 04.3 +0.5**
BAR *epP* pP 12 56 05.7 +2.0
PHWY Pilot Hill 76.31 329 *eP* **P 12 54 04.5 +0.8**
EYMN Ely 76.54 341 *eP* **P 12 54 04.0 -0.8**
comp=Z,182nm,1.0s,mb5.5
PFO Pinyon Flat Ob 76.78 317 P **P 12 54 07.0 +0.6**
comp=Z,716nm,0.6s,mb6.3,SNR=48
PFO Pinyon Flat Ob 76.78 317 *eP* **P 12 54 07.2 +0.8**
PFO pmax pmax
comp=Z,83nm,0.8s,mb5.2
PFO Pinyon Flat Ob 76.78 317 *eP* **P 12 54 07.2 +0.8**
comp=Z,83nm,0.8s,mb5.2
LDFC Landfair 76.94 319⇑*iP* **P 12 54 08.6 +1.3**
TBI Tubuai 77.14 250 *eP* **P 12 54 09.9 +1.4**
comp=Z,1µm,0.8s,mb6.4
SRU San Rafael 77.19 324 P **P 12 54 09.2 +0.7**
SRU San Rafael 77.19 324⇑*iP* **P 12 54 09.3 +0.8**
MSU Marysvale 77.65 323⇑*eP* **P 12 54 12.3 +1.3**
MVU Marysvale 77.67 323⇑*iP* **P 12 54 12.4 +1.4**
comp=Z,296nm,1.2s,mb5.5
MVU *epP* pP 12 56 12.2 +0.7
TMUT Trail Mountain 77.69 324 *eP* **P 12 54 12.2 +1.1**
ARUT Antelope Range 77.84 322 *eP* **P 12 54 13.0 +1.0**
ARUT *e*PP pP 12 56 16.3 +3.8
MEH Mehetia 77.94 256 *eP* **P 12 54 14.1 +1.2**
comp=Z,320nm,0.9s,mb5.7
MEH *epP* pP 12 56 13.8 +0.4
comp=Z,756nm,1.9s
MWC Mount Wilson 78.19 316⇑*iP* **P 12 54 14.2 +0.3**
MWC *e*PP pP 12 56 15.3 +0.8
PAS Pasadena 78.21 316 P **P 12 54 14.7 +0.7**
PAS S S 13 03 25.0 +2.2
DAU Daniels Canyon 78.53 325 *eP* **P 12 54 16.8 +1.2**
DAU *e*PP pP 12 56 18.2 +1.9
NLU North Lily Min 78.63 324 *eP* **P 12 54 17.2 +1.1**
NLU *epP* pP 12 56 16.4 -0.5
JLU Jordanelle 78.77 325⇑*iP* **P 12 54 17.9 +1.1**
PMOR Pomariorio Ree 78.88 259 *eP* **P 12 54 19.5 +1.6**
comp=Z,722nm,0.9s,mb6.0
PMOR *epP* pP 12 56 19.6 +0.8
comp=Z,1µm,1.8s
TVO Taravao 79.03 255 *eP* **P 12 54 20.2 +1.6**
comp=Z,566nm,0.8s,mb5.9
TVO *epP* pP 12 56 20.2 +0.6
comp=Z,4µm,2.0s
TCUT Toone Canyon 79.12 325 *eP* **P 12 54 19.8 +1.2**

NOQ North Oquirrh 79.16 324 *eP* **P 12 54 19.3 +0.4**
LBTB Lobatse 79.19 113⇓*iP* **P 12 54 18.5 -0.9**
LBTB pmax pmax
comp=Z,249nm,0.7s,mb5.7
LBTB Lobatse 79.19 113⇓*iP* **P 12 54 18.5 -0.9**
comp=Z,249nm,0.7s,mb5.7
TIAR Tiarei 79.19 256 *eP* **P 12 54 20.6 +1.1**
comp=Z,558nm,1.1s,mb5.8
TIAR *epP* pP 12 56 20.7 +0.2
comp=Z,2µm,2.2s
DUG Dugway 79.20 324⇑*eP* **P 12 54 20.1 +1.0**
DUG pmax pmax
comp=Z,74nm,0.8s,mb5.1
DUG Dugway 79.20 324⇑*eP* **P 12 54 20.1 +1.0**
comp=Z,74nm,0.8s,mb5.1
SCHQ Schefferville 79.24 358 P **P 12 54 18.9 -0.1**
comp=Z,460nm,0.9s,mb5.8,baz=179,slow=4.0,SNR=296
SCHQ pP pP 12 56 19.9 -0.1
comp=Z,54nm,0.8s,baz=170,slow=4.5,SNR=4.8
SCHQ S S 13 03 28.0 -4.9
comp=Z,5.6nm,1.0s,baz=130,slow=13,SNR=2.6
SCHQ PKKPbc 13 13 04.5
comp=Z,1.7nm,0.4s,baz=193,slow=13,SNR=7.7
SCHQ Schefferville 79.24 358⇓*iP* **P 12 54 18.7 -0.3**
comp=Z,395nm,0.7s,mb5.8
SCHQ *epP* pP 12 56 19.4 -0.6
DAC Darwin (Calif) 79.25 318⇑*iP* **P 12 54 20.3 +0.8**
DAC pmax pmax
comp=Z,148nm,0.9s,mb5.3
DAC Darwin (Calif) 79.25 318⇑*iP* **P 12 54 20.3 +0.8**
comp=Z,148nm,0.9s,mb5.3
PAE Paea 79.36 255 *eP* **P 12 54 21.8 +1.4**
PAE *epP* pP 12 56 21.8 +0.4
comp=Z,2µm,1.8s
PPT Papeete 79.39 256 *eP* **P 12 54 22.1 +1.6**
PPT *epP* pP 12 56 22.3 +0.7
comp=Z,1µm,2.1s
PPT Papeete 79.39 256 P **P 12 54 22.1 +1.6**
comp=Z,308nm,0.9s,mb5.6,baz=112,slow=3.2,SNR=33
PPT pP pP 12 56 23.8 +2.2
comp=Z,44nm,0.7s,baz=136,slow=5.0,SNR=3.8
PDAR Pinedale Array 79.40 327 P **P 12 54 20.5 +0.4**
comp=Z,32nm,0.5s,mb4.9,baz=127,slow=7.7,SNR=97
PDAR pP pP 12 56 23.2 +2.1
comp=Z,22nm,1.1s,baz=127,slow=7.4,SNR=3.1
PDAR PKKPbc 13 13 04.2
comp=Z,2.3nm,0.6s,baz=48,slow=2.1,SNR=12
PDAR PKPPKP 13 21 06.5
comp=Z,1.0nm,0.9s,baz=45,slow=2.1,SNR=4.5
TRCR Troy Canyon 79.45 321⇑*iP* **P 12 54 21.6 +1.2**
TRCR *epP* pP 12 56 22.5 +0.9
HWUT Hardware Ranch 79.55 325⇑*iP* **P 12 54 21.4 +0.4**
comp=Z,158nm,0.7s,mb5.5
SPUT South Promonto 79.80 325⇑*eP* **P 12 54 22.9 +0.7**
SPUT *epP* pP 12 56 25.2 +1.8
MAW Mawson 79.82 162 *eP* **P 12 54 22.0 +0.2**
comp=Z,189nm,1.0s,mb5.4
MAW *epP* pP 12 56 21.9 -1.1
MAW *eS* S 13 03 37.5 -1.1
MAW *epP* pP 13 04 20.0 -10
MAW Mawson 79.82 162 *eP* **P 12 54 22.0 +0.2**
MAW *e*PP pP 12 56 21.9 -1.1
MAW *eS* S 13 03 37.5 -1.1
MAW pmax pmax
comp=Z,189nm,1.0s
MAW Mawson 79.82 162 P **P 12 54 22.1 +0.3**
comp=Z,243nm,1.0s,mb5.5,baz=227,slow=6.2,SNR=54
MAW pP pP 12 56 22.1 -0.9
comp=Z,73nm,0.9s,baz=229,slow=6.5,SNR=8.5
MAW S S 13 03 36.5 -2.1
comp=Z,2.3nm,0.6s,baz=126,slow=2.3,SNR=2.2
BGU Big Grassy Mou 79.83 324⇑*eP* **P 12 54 23.1 +0.6**
ULM Lac du Bonnet 79.93 340 P **P 12 54 22.5 -0.2**
comp=Z,118nm,0.6s,mb5.4,baz=150,slow=6.4,SNR=100
ULM pP pP 12 56 22.1 -1.9
comp=Z,15nm,0.8s,baz=2.9,slow=11,SNR=1.8
ULM S S 13 03 32.1 -7.9
comp=Z,4.2nm,0.8s,baz=173,slow=11,SNR=2.7
ULM PKKPbc 13 13 03.6
comp=Z,3.1nm,0.6s,baz=39,slow=1.4,SNR=4.6
AHID Auburn Hatcher 80.16 327⇑*iP* **P 12 54 24.3 +0.2**
comp=Z,222nm,1.2s,mb5.4
AHID *epP* pP 12 56 23.7 -1.7
TPH Tonopah 80.22 320⇑*eP* **P 12 54 24.9 +0.4**
TPH *e*PP pP 12 56 27.8 +2.0
TPH pmax pmax
comp=Z,172nm,0.9s,mb5.4
TPH Tonopah 80.22 320⇑*eP* **P 12 54 24.9 +0.4**
comp=Z,172nm,0.9s,mb5.4
TPH *epP* pP 12 56 27.8 +1.9
HVU Hansel Valley 80.31 325 *eP* **P 12 54 25.0 +0.2**
HVU *e*PP pP 12 56 26.5 +0.3
SNOW Snow King Moun 80.50 327 *eP* **P 12 54 26.5 +0.7**
comp=Z,103nm,1.1s,mb5.2
SNOW *epP* pP 12 56 28.4 +1.2
PTEO Sao Teotonio 80.50 41 *eP* **P 12 54 26.3 +0.4**
comp=Z,800nm,0.9s,mb6.2
PTEO *epP* pP 12 56 27.0 -0.4
LOHW Long Hollow 80.54 327 *eP* **P 12 54 26.3 +0.4**
comp=Z,84nm,0.9s,mb5.2
LOHW *epP* pP 12 56 25.1 -2.3
MTUM Tungsten Hills 80.54 319 *eP* **P 12 54 26.7 +0.6**
WUWY Wally Ulrich 80.55 327 *eP* **P 12 54 26.6 +0.5**
WUWY *epP* pP 12 56 27.3 -0.2
TPAW Teton Pass 80.62 327 *eP* **P 12 54 26.9 +0.6**
comp=Z,47nm,0.9s,mb4.9
TPAW *epP* pP 12 56 26.7 -1.2
RRI2 Red Ridge 80.70 327⇑*eP* **P 12 54 27.5 +0.7**
comp=Z,95nm,0.8s,mb5.3
RRI2 *epP* pP 12 56 29.2 +0.9
MOOW Moose Ponds 80.71 327 *eP* **P 12 54 27.2 +0.4**
comp=Z,57nm,0.9s,mb5.0
MOOW *epP* pP 12 56 27.9 -0.5
LAO LASA Array 80.85 332 *eP* **P 12 54 28.0 +0.4**
comp=Z,102nm,0.8s,mb5.3
LAO *epP* pP 12 56 30.7 +1.6
IMW Indian Meadow 80.91 327⇑*eP* **P 12 54 28.8 +0.9**
comp=Z,163nm,0.7s,mb5.6
IMW *epP* pP 12 56 27.6 -1.9
OMM Old Mammoth Mi 80.97 319⇑*iP* **P 12 54 29.2 +0.9**
OMM *epP* pP 12 56 30.9 +1.0
MNV Mina 81.00 320 *eP* **P 12 54 29.1 +0.6**
MNV pmax pmax
comp=Z,71nm,1.1s,mb5.0
MNV Mina 81.00 320 *eP* **P 12 54 29.1 +0.6**
comp=Z,71nm,1.1s,mb5.0
NVAR Mina Array Bea 81.09 319 P **P 12 54 29.7 +0.8**
comp=Z,32nm,0.6s,mb5.0,baz=150,slow=5.7,SNR=95
NVAR PKKPbc 13 13 01.8
comp=Z,2.5nm,0.6s,baz=296,slow=2.8,SNR=14
NVAR Mina Array Bea 81.09 319 P **P 12 54 29.7 +0.8**
NVAR PKKPbc 13 13 01.8
PLOU Loures 81.13 40 *eP* **P 12 54 29.5 +0.4**
comp=Z,318nm,0.8s,mb5.8
PLOU *epP* pP 12 56 29.1 -1.7
LKWY Lake 81.14 328 *eP* **P 12 54 30.3 +1.3**
LKWY *e*PP pP 12 56 33.7 +3.0
LKWY pmax pmax
comp=Z,39nm,0.7s,mb5.0
LKWY Lake 81.14 328 *eP* **P 12 54 30.3 +1.3**
comp=Z,39nm,0.7s,mb5.0
LKWY *epP* pP 12 56 33.7 +3.0
PALC Alcoutim 81.20 42 *eP* **P 12 54 30.1 +0.6**
comp=Z,676nm,0.7s,mb6.2
PALC *epP* pP 12 56 31.8 +0.6
EGRO El Granado 81.24 42 ⇓P **P 12 54 30.2 +0.5**
comp=Z,330nm,0.7s,mb5.9
YFT Old Faithful 81.27 328 *eP* **P 12 54 31.8 +2.1**
YFT *epP* pP 12 56 32.8 +1.3
PBEJ Beja 81.33 41 *eP* **P 12 54 30.4 +0.2**
comp=Z,256nm,0.8s,mb5.7
PBEJ *epP* pP 12 56 31.9 0.0
SFS San Fernando 81.35 43 P **P 12 54 28.4 -1.9**
MOE Montemor 81.37 41 *eP* **P 12 54 30.7 +0.4**
YNR Norris Junctio 81.39 328 *eP* **P 12 54 32.0 +1.7**
YNR *epP* pP 12 56 33.9 +1.8
LRV Little Rabbit 81.45 317 *eP* **P 12 54 31.6 +0.9**
LRV *epP* pP 12 56 35.0 +2.4
YMR Madison River 81.49 328⇑*eP* **P 12 54 32.0 +1.2**
YMR *epP* pP 12 56 34.4 +1.8
EVO Evora 81.57 41⇓*iP* **P 12 54 31.3 -0.1**
comp=Z,340nm,0.7s,mb5.6
EVO *epP* pP 12 56 33.4 +0.2
ALMR Almeirim 81.65 40 *eP* **P 12 54 32.0 +0.3**
BMN Battle Mountai 81.80 322 *eP* **P 12 54 32.0 -0.4**

BMN pmax pmax
comp=Z,22nm,0.9s
BMN Battle Mountai 81.80 322 *eP* **P 12 54 32.0 -0.4**
comp=Z,22nm,0.9s
EJIF Jimena Fronter 81.80 44 P **P 12 54 33.3 +0.7**
ESPR Espera 81.82 43 ⇓P **P 12 54 33.3 +0.6**
comp=Z,302nm,0.7s,mb5.8
QLMT Earthquake Lak 81.83 328 *eP* **P 12 54 33.1 +0.5**
QLMT *epP* pP 12 56 36.7 +2.2
EMIN Mina Concepcio 81.89 42 P **P 12 54 33.4 +0.4**
comp=Z,141nm,0.6s,mb5.6
SAO San Andreas Ge 81.93 317 *eP* **P 12 54 33.4 +0.2**
SAO *e*PP pP 12 56 36.5 +1.3
SAO pmax pmax
comp=Z,33nm,0.8s,mb4.8
SAO San Andreas Ge 81.93 317 *eP* **P 12 54 33.4 +0.2**
comp=Z,33nm,0.8s,mb4.8
SAO *epP* pP 12 56 36.5 +1.3
PTOM Tomar 82.05 40 *eP* **P 12 54 33.9 +0.2**
comp=Z,497nm,0.8s,mb6.0
PTOM *epP* pP 12 56 35.9 +0.1
CMB Columbia Colle 82.08 318 S S 13 04 03.3 +1.6
CMB Columbia Colle 82.08 318 *eP* **P 12 54 33.5 -0.4**
CMB *e*PP pP 12 56 36.7 +0.7
CMB pmax pmax
comp=Z,25nm,0.7s,mb4.8
CMB Columbia Colle 82.08 318 *eP* **P 12 54 33.5 -0.5**
comp=Z,25nm,0.7s,mb4.8
CMB *epP* pP 12 56 36.7 +0.7
EMIJ Mijas 82.31 44 ⇓P **P 12 54 35.1 0.0**
comp=Z,142nm,0.6s,mb5.6
EBAD Badajoz 82.31 41 P **P 12 54 35.6 +0.5**
comp=Z,76nm,0.5s,mb5.4
HLID Hailey 82.42 325⇑*iP* **P 12 54 36.8 +1.3**
comp=Z,208nm,0.7s,mb5.7
HLID *epP* pP 12 56 37.3 -0.4
WCN Washoe City 82.52 319 *eP* **P 12 54 37.1 +1.0**
WCN pmax pmax
comp=Z,30nm,0.8s,mb4.9
WCN Washoe City 82.52 319 *eP* **P 12 54 37.1 +1.0**
comp=Z,30nm,0.8s,mb4.9
MCMT McKenzie Canyo 82.53 327 *eP* **P 12 54 37.0 +0.9**
MCMT *epP* pP 12 56 40.8 +2.6
PAHR Pah Rah Range 82.56 320 *eP* **P 12 54 36.5 +0.2**
comp=Z,66nm,0.9s,mb5.2
PAHR *epP* pP 12 56 38.6 +0.1
PCBR Castelo Branco 82.74 40 *eP* **P 12 54 37.2 0.0**
comp=Z,299nm,0.9s,mb5.8
PCBR *epP* pP 12 56 39.3 -0.2
ECAB El Cabril 82.85 42 P **P 12 54 37.7 -0.1**
comp=Z,47nm,0.6s,mb5.2
EALB Alboran 83.04 45 ⇓P **P 12 54 38.4 -0.4**
comp=Z,480nm,0.6s,mb6.2
ELOJ Sierra Loja 83.06 44 ⇓P **P 12 54 39.5 +0.6**
ELOJ pmax pmax
comp=Z,192nm,0.7s,mb5.7
ELOJ Sierra Loja 83.06 44 ⇓P **P 12 54 39.5 +0.6**
comp=Z,192nm,0.7s,mb5.7
MTE Manteigas 83.06 40 *eP* **P 12 54 38.9 +0.1**
comp=Z,762nm,1.0s,mb6.2
MTE *epP* pP 12 56 40.9 -0.3
MTE *ePP* PP 12 58 01.2 +0.3
MTE *eS* S 13 04 07.0 -4.3
MTE Manteigas 83.06 40⇓*iP* **P 12 54 38.9 0.0**
comp=Z,471nm,0.8s,mb6.1
MTE *epP* pP 12 56 41.2 0.0
PVIS Viseu 83.07 39 *eP* **P 12 54 38.7 -0.2**
comp=Z,256nm,0.8s,mb5.8
PVIS *epP* pP 12 56 41.8 +0.6
ERON Agron 83.20 44 P **P 12 54 39.7 +0.1**
comp=Z,160nm,0.6s,mb5.7
ELUQ Luque 83.24 43 ⇓P **P 12 54 40.5 +0.7**
ELUQ pmax pmax
comp=Z,535nm,0.7s,mb6.2
ELUQ Luque 83.24 43 ⇓P **P 12 54 40.5 +0.7**
comp=Z,535nm,0.7s,mb6.2
HRY Holter Researc 83.40 329 *eP* **P 12 54 40.8 +0.4**
EADA Adamuz 83.42 43 P **P 12 54 40.7 0.0**
comp=Z,306nm,0.7s,mb5.9
MATP Matopo 83.44 109 P **P 12 54 41.2 +0.1**
comp=Z,772nm,0.6s,mb6.4,baz=247,slow=4.5,SNR=877
MATP pP pP 12 56 43.7 +0.1
comp=Z,30nm,0.7s,baz=237,slow=6.2,SNR=2.3
MATP PKKPbc 13 12 53.5
comp=Z,3.4nm,0.4s,baz=49,slow=2.3,SNR=16
MATP Matopo 83.44 109 P **P 12 54 41.2 +0.1**
MATP pP pP 12 56 43.7 +0.1
MATP PKKPbc 13 12 53.5
ECOG Cogollos-Vega 83.51 44 P **P 12 54 41.0 -0.1**
comp=Z,115nm,0.7s,mb5.5
PVRL Vila Real 83.53 39 *eP* **P 12 54 41.2 0.0**
comp=Z,1µm,0.8s,mb6.4
PVRL *epP* pP 12 56 43.7 0.0
EZAM Zamans 83.56 38 P **P 12 54 41.5 +0.3**
EZAM pmax pmax
comp=Z,352nm,0.6s,mb6.1
EZAM Zamans 83.56 38 P **P 12 54 41.5 +0.2**
comp=Z,352nm,0.6s,mb6.1
OLHC Oulhaca 83.69 47 P **P 12 54 42.0 -0.1**
EBER Berja 83.71 45 P **P 12 54 42.0 -0.2**
comp=Z,214nm,0.8s,mb5.7
ELOB Lobios 83.73 38 ⇓P **P 12 54 42.4 +0.3**
comp=Z,484nm,0.7s,mb6.1
NSHM Saint Helena R 83.75 317 *eP* **P 12 54 42.8 +0.6**
ODZI Dziouia 83.84 47 P **P 12 54 43.0 +0.2**
EBAN Banos Encina 83.91 43 P **P 12 54 43.5 +0.4**
EBAN pmax pmax
comp=Z,848nm,0.6s,mb6.5
EBAN Banos Encina 83.91 43 P **P 12 54 43.5 +0.5**
comp=Z,848nm,0.6s,mb6.5
WVOR Wild Horse Val 83.92 322 *eP* **P 12 54 43.2 +0.2**
WVOR pmax pmax
comp=Z,64nm,1.3s,mb5.0
WVOR Wild Horse Val 83.92 322 *eP* **P 12 54 43.2 +0.2**
comp=Z,64nm,1.3s,mb5.0
EMAZ Mazaricos 83.93 37 P **P 12 54 43.0 -0.1**
comp=Z,309nm,0.6s,mb6.0
OTSS Djebel Tessala 84.12 47 P **P 12 54 44.0 -0.2**
STS Santiago 84.12 37 ⇓P **P 12 54 44.0 0.0**
STS pmax pmax
comp=Z,191nm,0.8s,mb5.7
STS Santiago 84.12 37 ⇓P **P 12 54 44.0 0.0**
comp=Z,191nm,0.8s,mb5.7
ENIJ Nijar 84.19 45 P **P 12 54 43.9 -0.6**
ENIJ pmax pmax
comp=Z,269nm,0.8s,mb5.8
ENIJ Nijar 84.19 45 P **P 12 54 43.9 -0.6**
comp=Z,269nm,0.8s,mb5.8
CHMT Chamberlain Mo 84.22 328 *eP* **P 12 54 44.5 +0.2**
HOPS Hopland 84.32 318 *eP* **P 12 54 45.2 +0.2**
comp=Z,73nm,1.0s,mb5.2
PBRG Braganca 84.43 39 *eP* **P 12 54 45.7 +0.2**
comp=Z,529nm,0.9s,mb6.1
PBRG *epP* pP 12 56 48.3 0.0
MSO Missoula 84.49 328 *eP* **P 12 54 46.1 +0.4**
comp=Z,14nm,0.8s
MOD Modoc 84.51 321⇑*eP* **P 12 54 46.6 +0.6**
comp=Z,137nm,1.1s,mb5.4
ECAL Calabor 84.52 39 P **P 12 54 46.4 +0.4**
comp=Z,504nm,1.1s,mb6.0
USTO Oran 84.55 47 P **P 12 54 46.0 -0.2**
ODJA Bouhanifia 84.58 47 P **P 12 54 48.0 +1.6**
ERUA La Rua 84.59 38 P **P 12 54 46.7 +0.4**
ERUA pmax pmax
comp=Z,367nm,0.7s,mb6.0
ERUA La Rua 84.59 38 P **P 12 54 46.7 +0.4**
comp=Z,367nm,0.7s,mb6.0
EINC Incio 84.64 38 P **P 12 54 47.6 +1.0**
comp=Z,133nm,0.7s,mb5.6
ESDC Sonseca Array 84.73 42 P **P 12 54 47.4 +0.4**
comp=Z,198nm,0.8s,mb5.7,baz=236,slow=4.3,SNR=361
ESDC pP pP 12 56 49.9 0.0
comp=Z,15nm,0.3s,baz=187,slow=25,SNR=16
ESDC PKKPbc 13 12 52.1
comp=Z,0.5nm,0.4s,baz=44,slow=1.0,SNR=4.4
ESDC Sonseca Array 84.73 42 P **P 12 54 47.3 +0.3**
comp=Z,166nm,0.8s,mb5.6
ESLA Sonseca Array 84.73 42⇓*iP* **P 12 54 47.3 +0.3**
comp=Z,67nm,0.9s,mb5.2
ESLA *epP* pP 12 56 51.0 +1.1
LTIM Timbered Crate 84.73 320 P **P 12 54 47.6 +0.6**
BMO Blue Mountains 84.82 325⇑*iP* **P 12 54 47.7 +0.4**
comp=Z,89nm,0.8s,mb5.3
BMO *epP* pP 12 56 52.6 +2.3
WDC Whiskeytown Da 84.98 319⇑*iP* **P 12 54 47.3 -1.0**
WDC pmax pmax

comp=Z,151nm,0.6s,mb5.7
WDC Whiskeytown Da 84.98 319⇑ *iP* **P 12 54 47.3 -1.0**
comp=Z,152nm,0.6s,mb5.7
EVIA Vianos 85.00 43 P **P 12 54 48.4 0.0**
EVIA pmax pmax
comp=Z,215nm,0.7s,mb5.8
EVIA Vianos 85.00 43 P **P 12 54 48.4 0.0**
comp=Z,214nm,0.7s,mb5.8
LASM Arnica Sink 85.05 320 P **P 12 54 49.1 +0.6**
OJBR Djebel Berber 85.05 47 P **P 12 54 50.0 +1.3**
EPON Pontenova 85.19 38 P **P 12 54 49.3 +0.1**
comp=Z,188nm,0.7s,mb5.7
LSZ Lusaka 85.25 105 P **P 12 54 51.4 +1.3**
LSZ pP pP 12 56 52.7 -0.4
OJGS Djebel Guires 85.28 48 P **P 12 54 52.0 +2.2**
EMUR La Murta 85.33 45 P **P 12 54 49.1 -0.9**
comp=Z,52nm,1.0s,mb5.0
CART Cartagena 85.33 45⇓ *iP* **P 12 54 48.8 -1.2**
comp=Z,280nm,0.9s,mb5.8
CART *epP* pP 12 56 52.0 -1.1
LHEM Herd Peak 85.45 320 P **P 12 54 50.9 +0.5**
HOG Hogback Mounta 85.53 321 P **P 12 54 51.6 +0.7**
ETRT Tiaret 85.58 48 P **P 12 54 52.5 +1.2**
ETOB Tobarra 85.61 44 P **P 12 54 51.2 -0.1**
comp=Z,188nm,0.7s,mb5.8
BSMT Bassoo Peak 85.62 328 P **P 12 54 51.8 +0.6**
EANR 'Ain N'Sour 85.77 47 P **P 12 54 53.5 +1.3**
YBH Yreka Blue Hor 85.80 320⇑ *eP* **P 12 54 51.6 -0.6**
YBH pmax pmax
comp=Z,69nm,0.6s
YBH Yreka Blue Hor 85.80 320 pP pP 12 56 56.4 +1.0
comp=Z,9.3nm,0.7s,baz=112,slow=5.0,SNR=3.7
YBH Yreka Blue Hor 85.80 320⇑ *eP* **P 12 54 51.6 -0.6**
comp=Z,69nm,0.6s,mb5.5
BUOR Burton Butte 85.87 321 P **P 12 54 52.8 +0.3**
KHMM Horse Mountain 85.88 319 *eP* **P 12 54 52.1 -0.5**
ECHA Ech Chlef 86.06 47 P **P 12 54 55.0 +1.5**
WALA Waterton Lakes 86.06 329 *eP* **P 12 54 53.4 +0.2**
comp=Z,92nm,1.0s,mb5.4
EBNR Beni Rached 86.25 47 P **P 12 54 56.0 +1.6**
EARI Arriondas 86.26 38 P **P 12 54 54.5 +0.2**
comp=Z,139nm,0.8s,mb5.6
VIPM Ingram Point 86.37 323 P **P 12 54 55.9 +1.1**
EBEN Beniarda 86.48 44 P **P 12 54 55.4 0.0**
comp=Z,139nm,0.7s,mb5.7
HUMO Hull Mountain 86.48 320 *eP* **P 12 54 55.1 -0.3**
comp=Z,23nm,0.6s,mb5.0
FCC Fort Churchill 86.92 345 *eP* **P 12 54 56.9 -0.1**
FCC *e*PP pP 12 57 00.7 +0.1
FCC pmax pmax
comp=Z,112nm,1.1s,mb5.4
FCC Fort Churchill 86.92 345 *eP* **P 12 54 56.9 -0.2**
comp=Z,112nm,1.1s,mb5.4
FCC *epP* pP 12 57 00.7 +0.2
HAWA Hanford 87.01 325 *eP* **P 12 54 57.9 +0.2**
comp=Z,5.6nm,1.0s
HAWA *epP* pP 12 57 02.1 +0.8
NEW Newport 87.04 327 *eP* **P 12 54 56.9 -0.9**
NEW *e*PP pP 12 57 01.8 +0.4
NEW pmax pmax
comp=Z,37nm,0.8s
NEW Newport 87.04 327 P **P 12 54 57.1 -0.7**
comp=Z,28nm,0.7s,mb5.0,baz=132,slow=6.4
NEW pP pP 12 57 02.4 +1.0
comp=Z,22nm,1.1s,baz=203,slow=4.2,SNR=3.9
NEW Newport 87.04 327 *eP* **P 12 54 56.9 -1.0**
comp=Z,37nm,0.8s,mb5.1
NEW *epP* pP 12 57 01.8 +0.4
WRD Warden 87.08 325 P **P 12 54 59.0 +0.9**
EMHD Djebel Mahouad 87.15 48 P **P 12 54 59.0 +0.3**
ELAN Lanestosa 87.23 39 ⇓P **P 12 54 59.1 +0.2**
comp=Z,622nm,0.8s,mb6.3
OD2 Odessa Site #2 87.25 326 P **P 12 54 59.0 +0.2**
EMOS Mosqueruela 87.29 43 ⇓P **P 12 54 59.9 +0.6**
comp=Z,272nm,0.7s,mb6.0
ADJB Djebel Djouab 87.46 48 P **P 12 55 01.3 +1.2**
ABA Alger-Bouzarea 87.54 47 P **P 12 55 00.9 +0.4**
EIBI Ibiza 87.67 45 P **P 12 55 01.1 +0.1**
comp=Z,98nm,0.6s,mb5.7
EBG Ellensburg 87.89 325 P **P 12 55 02.6 +0.7**
WTV Waterville 88.08 326 P **P 12 55 02.8 +0.1**
ESAC San Caprasio 88.08 42 ⇓P **P 12 55 03.3 +0.4**
comp=Z,280nm,0.8s,mb6.0
EBR Ebro Roquetas 88.15 43 *iP* **P 12 55 03.4 +0.1**
FRB Frobisher Bay 88.22 358 P **P 12 55 02.4 -0.6**
comp=Z,78nm,1.1s,mb5.4,baz=178,slow=6.7,SNR=24
FRB pP pP 12 57 07.2 +0.3
comp=Z,30nm,0.9s,baz=145,slow=8.2,SNR=3.8
EALK Alkurruntz 88.35 40 P **P 12 55 04.8 +0.7**
comp=Z,59nm,0.5s,mb5.6
SJPF Ste Jean 88.45 40⇓ *iP* **P 12 55 05.2 +0.6**
comp=Z,656nm,0.7s,mb6.2
SJPF *epP* pP 12 57 09.8 +1.2
SJPF Ste Jean 88.45 40⇓ *iP* **P 12 55 05.2 +0.6**
SJPF *e*PP pP 12 57 09.8 +1.2
SJPF pmax pmax
comp=Z,328nm,0.7s,mb6.2
OSSF Osses 88.51 40 *eP* **P 12 55 04.8 -0.1**
LARF Larrau 88.55 41 *eP* **P 12 55 05.8 +0.7**
ORDF Ordiarp 88.68 40 *eP* **P 12 55 05.5 -0.2**
ETSF Etsaut 88.72 41⇓ *iP* **P 12 55 06.5 +0.6**
comp=Z,391nm,0.7s,mb6.0
ETSF Etsaut 88.72 41⇓ *iP* **P 12 55 06.5 +0.6**
ETSF pmax pmax
comp=Z,196nm,0.7s,mb6.0
EDM Edmonton 88.80 333 *eP* **P 12 55 05.2 -0.8**
CKHR Kef el Ahmar 88.80 49 P **P 12 55 08.0 +1.6**
SET Setif 88.82 49 P **P 12 55 07.0 +0.5**
EPOB Poblet 88.82 43 ⇓P **P 12 55 06.2 -0.2**
comp=Z,160nm,0.7s,mb6.0
REYF Montagne du Re 88.92 41 *eP* **P 12 55 07.5 +0.7**
EBIE Bielsa 89.01 41 P **P 12 55 07.8 +0.5**
comp=Z,116nm,0.7s,mb5.8
ETOS Mallorca 89.03 45 P **P 12 55 07.6 +0.2**
comp=Z,78nm,0.7s,mb5.7
VIEF Viey 89.06 41 *eP* **P 12 55 07.9 +0.4**
RESF Ens 89.20 41 *eP* **P 12 55 08.7 +0.6**
CASY Casey 89.22 178 *eP* **P 12 55 08.6 +1.0**
CASY *epP* pP 12 57 11.6 -0.2
DFRA Djebel Bou Aff 89.33 49 P **P 12 55 10.0 +1.1**
EPF Esparros 89.33 41 ⇓*iP* **P 12 55 09.1 +0.4**
comp=Z,127nm,0.7s,mb5.6
EPF Esparros 89.33 41⇓ *iP* **P 12 55 09.1 +0.4**
EPF pmax pmax
comp=Z,64nm,0.7s,mb5.6
VAL Valentia 89.38 30 *eP* **P 12 55 07.3 -1.5**
EMIR Miracle 89.41 43 ⇓P **P 12 55 09.2 0.0**
comp=Z,252nm,0.7s,mb6.2
CTEI Djebel Teioual 89.44 50 P **P 12 55 09.5 +0.1**
MELF Melles 89.49 41 *eP* **P 12 55 10.2 +0.7**
CASM Ain Smara 89.60 49 P **P 12 55 10.0 -0.2**
CMW Cultus Mountai 89.66 325 P **P 12 55 09.7 -0.4**
SALF Salau 89.69 42 *eP* **P 12 55 11.2 +0.8**
MLS Moulis 89.74 42 *eP* **P 12 55 11.0 +0.4**
CKFL Kef-Lekhel 89.83 49 P **P 12 55 12.0 +0.8**
OLEF Ile d'Oleron 90.06 38 *eP* **P 12 55 11.7 -0.3**
CAEH 'Ain El Ouahch 90.12 49 P **P 12 55 12.5 0.0**
CARF Carcanieres 90.22 42 *eP* **P 12 55 13.1 +0.3**
LPEF Le Peyrat 90.23 42 *eP* **P 12 55 12.7 -0.2**
LPEF Le Peyrat 90.23 42 *eP* **P 12 55 13.2 +0.3**
QUIF Quistinic 90.25 36⇓ *iP* **P 12 55 12.2 -0.6**
comp=Z,317nm,0.7s,mb6.0
QUIF *epP* pP 12 57 17.1 -0.2
QUIF Quistinic 90.25 36⇓ *iP* **P 12 55 12.2 -0.6**
QUIF *e*PP pP 12 57 17.1 -0.2
QUIF pmax pmax
comp=Z,159nm,0.7s,mb6.0
ABSA Djebel Ababsia 90.29 50 P **P 12 55 14.0 +0.7**
LRYF La Roche-sur-Y 90.32 38 *eP* **P 12 55 12.9 -0.3**
CPZ Penzance 90.41 33 *eP* **P 12 55 12.7 -0.8**
CPZ AMb AMb 12 55 15.4
comp=Z,334nm,1.1s,mb6.1
FILF Fillols 90.41 42 *eP* **P 12 55 13.7 0.0**
CMAH Djebel Manchou 90.43 49 P **P 12 55 14.0 +0.1**
ROSF Rostrenen 90.45 35⇓ *iP* **P 12 55 13.2 -0.6**
comp=Z,389nm,0.7s,mb6.1
ROSF Rostrenen 90.45 35⇓ *iP* **P 12 55 13.2 -0.6**
ROSF pmax pmax
comp=Z,195nm,0.7s,mb6.0
PGC Sidney 90.50 325 *eP* **P 12 55 14.5 +0.6**
comp=Z,148nm,1.1s,mb5.7
PGC *epP* pP 12 57 19.0 +0.6
EJON La Jonquera 90.55 43 ⇓P **P 12 55 14.4 +0.1**
comp=Z,58nm,0.7s,mb5.6

SJAF Saint Jean de 90.57 43 *eP* **P 12 55 14.3 -0.1**
MATF Mathat 90.59 39 *eP* **P 12 55 14.1 -0.3**
CCA1 Carnmenellis 90.61 33 *eP* **P 12 55 13.3 -1.1**
LRDF Laroque-de-Fa 90.61 42 *eP* **P 12 55 14.1 -0.5**
CRQ2 Rosemanowes 2 90.62 33 *eP* **P 12 55 13.6 -0.9**
CRQ2 AMb AMb 12 55 15.4
comp=Z,148nm,1.2s,mb5.8
MTLF Montolieu 90.64 42⇓ *iP* **P 12 55 14.5 -0.2**
comp=Z,165nm,0.9s,mb5.7
MTLF *epP* pP 12 57 19.0 -0.2
MTLF Montolieu 90.64 42⇓ *iP* **P 12 55 14.5 -0.2**
MTLF *e*PP pP 12 57 19.0 -0.2
MTLF pmax pmax
comp=Z,82nm,0.9s,mb5.7
LFF La Frestale 90.67 40⇓ *iP* **P 12 55 14.9 +0.1**
comp=Z,772nm,0.7s,mb6.5
LFF La Frestale 90.67 40⇓ *iP* **P 12 55 14.9 +0.1**
LFF pmax pmax
comp=Z,386nm,0.7s,mb6.4
SGMF Saint Gilles 90.78 36⇓ *iP* **P 12 55 14.5 -0.8**
comp=Z,172nm,0.6s,mb5.8
SGMF Saint Gilles 90.78 36⇓ *iP* **P 12 55 14.5 -0.8**
SGMF pmax pmax
comp=Z,86nm,0.6s,mb5.9
LCHF La Chataignera 90.83 38 *eP* **P 12 55 15.7 +0.2**
CSA1 St Austell 90.88 33 *eP* **P 12 55 15.0 -0.7**
MFF Saint Martin d 91.12 38⇓ *iP* **P 12 55 16.8 -0.1**
comp=Z,365nm,0.8s,mb6.1
MFF *epP* pP 12 57 21.5 +0.1
MFF Saint Martin d 91.12 38⇓ *iP* **P 12 55 16.8 -0.1**
MFF *e*PP pP 12 57 21.5 +0.1
MFF pmax pmax
comp=Z,182nm,0.8s,mb6.1
RJF Les Rejaudoux 91.32 40⇓ *iP* **P 12 55 17.6 -0.2**
comp=Z,194nm,0.9s,mb5.8
RJF Les Rejaudoux 91.32 40⇓ *iP* **P 12 55 17.6 -0.2**
RJF pmax pmax
comp=Z,97nm,0.9s,mb5.7
CAF Calviac 91.43 40⇓ *iP* **P 12 55 18.5 +0.2**
comp=Z,230nm,0.8s,mb5.9
CAF Calviac 91.43 40⇓ *iP* **P 12 55 18.5 +0.2**
CAF pmax pmax
comp=Z,115nm,0.8s,mb5.9
HTL Hartland 91.48 33 *eP* **P 12 55 17.5 -0.9**
JVM Valle D.L. Mar 91.55 35 *eP* **P 12 55 17.9 -0.8**
JSA Saint Aubin 91.55 35 *eP* **P 12 55 17.8 -1.0**
JRS Jersey 91.60 35 *eP* **P 12 55 18.2 -0.7**
JLP Les Platons 91.62 35 *eP* **P 12 55 18.3 -0.8**
JQE Queens East 91.63 35 *eP* **P 12 55 18.2 -0.9**
DCN Croghan 91.67 30 *eP* pP 12 57 23.8 0.0
GRR Gorron 91.77 36⇓ *iP* **P 12 55 19.1 -0.7**
comp=Z,322nm,0.8s,mb6.1
GRR Gorron 91.77 36⇓ *iP* **P 12 55 19.1 -0.7**
GRR pmax pmax
comp=Z,161nm,0.8s,mb6.1
HEX Exmoor 91.87 33 *eP* **P 12 55 18.8 -1.3**
SFJD Kangerlussuaq 91.91 5⇓ *iP* **P 12 55 20.0 +0.1**
comp=Z,68nm,0.9s,mb5.7
SFJ Sondre 91.91 5 *eP* **P 12 55 19.7 -0.3**
comp=Z,100nm,1.0s,mb5.8
SFJ *epP* pP 12 57 25.3 +0.7
DLF Lyons Farm 91.98 30 *eP* **P 12 55 19.9 -0.7**
DLF Lyons Farm 91.98 30 *eP* pP 12 57 25.4 +0.1
FRNF Fournols 91.98 40 *eP* **P 12 55 21.2 +0.4**
DSB Dublin 92.02 30⇓ *iP* **P 12 55 19.9 -0.8**
comp=Z,110nm,0.7s,mb6.0
DSB *epP* pP 12 57 25.3 -0.1
LASF Ste Croix 92.03 42⇓ *iP* **P 12 55 21.2 +0.1**
comp=Z,136nm,0.9s,mb5.7
VERF Verneugheol 92.14 40 *eP* **P 12 55 21.7 +0.2**
FLN La Foliniere 92.19 36⇓ *iP* **P 12 55 21.1 -0.6**
comp=Z,414nm,1.1s,mb6.1
FLN *epP* pP 12 57 26.1 -0.3
FLN La Foliniere 92.19 36⇓ *iP* **P 12 55 21.1 -0.6**
FLN *e*PP pP 12 57 26.1 -0.3
FLN pmax pmax
comp=Z,207nm,1.1s,mb6.1
DMUB Kingscourt 92.20 30 *eP* **P 12 55 20.8 -0.8**
DMUB Kingscourt 92.20 30 *eP* pP 12 57 26.2 -0.1
TCF Toulx Ste Croi 92.28 39⇓ *iP* **P 12 55 21.8 -0.3**
comp=Z,112nm,0.8s,mb5.7
TCF *epP* pP 12 57 26.7 -0.2
TCF Toulx Ste Croi 92.28 39⇓ *iP* **P 12 55 21.8 -0.3**
TCF *e*PP pP 12 57 26.7 -0.2
TCF pmax pmax
comp=Z,56nm,0.8s,mb5.7
LDF La Druitiere 92.29 36⇓ *iP* **P 12 55 21.6 -0.5**
comp=Z,222nm,0.8s,mb6.0
LDF La Druitiere 92.29 36⇓ *iP* **P 12 55 21.6 -0.5**
LDF pmax pmax
comp=Z,111nm,0.8s,mb5.9
LBL Lubilhac 92.30 41 *eP* **P 12 55 23.1 +0.9**
GELF Grande-Etoile 92.63 43 *eP* **P 12 55 24.4 +0.6**
AGO Saint Agoulin 92.68 40 *eP* **P 12 55 24.3 +0.3**
PRAF Pradon 92.69 42 *eP* **P 12 55 24.8 +0.7**
COLF Collangettes 92.72 40 *eP* **P 12 55 24.8 +0.6**
TREF Trevaresse 92.73 43 *eP* **P 12 55 24.9 +0.6**
BERF Bertagne 92.75 43 *eP* **P 12 55 25.2 +0.8**
YRE Yr Eifl 92.76 31 *eP* **P 12 55 23.1 -1.0**
YRE AMb AMb 12 55 26.8
comp=Z,103nm,1.0s,mb5.8
BGF Bois d'Agland 92.80 39⇓ *iP* **P 12 55 24.3 -0.2**
comp=Z,245nm,0.9s,mb5.9
BGF *epP* pP 12 57 29.3 0.0
BGF Bois d'Agland 92.80 39⇓ *iP* **P 12 55 24.3 -0.2**
BGF *e*PP pP 12 57 29.3 0.0
BGF pmax pmax
comp=Z,123nm,0.9s,mb5.9
GMM Mts of Mourne 92.85 30 *eP* **P 12 55 23.6 -1.0**
YRC Rhoscolyn 92.86 31 *eP* **P 12 55 23.5 -1.1**
YRC AMb AMb 12 55 24.5
comp=Z,133nm,1.0s,mb5.9
PUYF Puyloubier 92.87 43 *eP* **P 12 55 25.5 +0.6**
PLDF La Plantade 92.92 40 *eP* **P 12 55 25.6 +0.5**
VIVF Saint-Julien-l 92.95 41⇓ *iP* **P 12 55 25.6 +0.4**
comp=Z,238nm,1.1s,mb5.8
VIVF *epP* pP 12 57 30.7 +0.7
VIVF Saint-Julien-l 92.95 41⇓ *iP* **P 12 55 25.6 +0.4**
VIVF *e*PP pP 12 57 30.7 +0.7
VIVF pmax pmax
comp=Z,119nm,1.1s,mb5.8
WCB1 Church Bay 92.95 31 *eP* **P 12 55 23.8 -1.3**
WCB1 AMb AMb 12 55 27.7
comp=Z,78nm,1.8s,mb5.4
YLL Llanberis 92.98 31 *eP* **P 12 55 23.6 -1.5**
YLL AMb AMb 12 55 28.1
comp=Z,62nm,1.7s,mb5.4
SMRF Simiane la Rot 93.03 42⇓ *iP* **P 12 55 26.6 +1.0**
comp=Z,337nm,0.9s,mb6.1
SMRF *epP* pP 12 57 31.3 +0.8
VILF Villemus 93.05 43 *eP* **P 12 55 26.7 +1.0**
HYF Humbligny 93.07 39⇓ *iP* **P 12 55 25.6 -0.1**
WME Myndd Eilian 93.07 31 *eP* **P 12 55 24.6 -1.0**
WME AMb AMb 12 55 25.5
comp=Z,80nm,1.0s,mb5.7
TAVF Tavernes 93.14 43 *eP* **P 12 55 27.0 +0.8**
WPM1 Penmaenmawr 93.18 31 *eP* **P 12 55 24.5 -1.6**
WPM1 AMb AMb 12 55 27.4
comp=Z,94nm,1.2s,mb5.7
VSL Villasalto 93.20 48 *eP* **P 12 55 26.4 -0.1**
comp=Z,66nm,0.8s,mb5.7
VSL *epP* pP 12 57 31.2 -0.2
AVF Avril sur Loir 93.21 39⇓ *iP* **P 12 55 26.1 -0.3**
comp=Z,177nm,0.9s,mb5.8
AVF *epP* pP 12 57 31.2 0.0
AVF Avril sur Loir 93.21 39⇓ *iP* **P 12 55 26.1 -0.3**
AVF *e*PP pP 12 57 31.2 0.0
AVF pmax pmax
comp=Z,89nm,0.9s,mb5.8
STOF St-Etienne Org 93.25 43 *eP* **P 12 55 27.5 +0.9**
LMR La Mourre 93.27 43⇓ *iP* **P 12 55 27.1 +0.3**
comp=Z,431nm,0.8s,mb6.2
LMR La Mourre 93.27 43⇓ *iP* **P 12 55 27.1 +0.3**
LMR pmax pmax
comp=Z,215nm,0.8s,mb6.2
GCL Cushendall 93.31 29 *eP* **P 12 55 25.6 -1.0**
WIM Isle of Man 93.37 30 *eP* **P 12 55 25.6 -1.4**
WIM AMb AMb 12 55 27.1
comp=Z,172nm,0.8s,mb6.1
SMF Signal de Mont 93.42 40⇓ *iP* **P 12 55 27.4 +0.1**
comp=Z,325nm,0.9s,mb6.1
SMF Signal de Mont 93.42 40⇓ *iP* **P 12 55 27.4 +0.1**
SMF pmax pmax
comp=Z,162nm,0.9s,mb6.1

SSF Saint Saulge 93.45 39⇓ *iP* **P 12 55 27.0 -0.5**
SSF *e*PP pP 12 57 32.0 -0.3
SSF pmax pmax
comp=Z,112nm,0.9s,mb5.9
SSF Saint Saulge 93.45 39⇓ *iP* **P 12 55 27.0 -0.5**
comp=Z,112nm,0.9s,mb5.9
SSF *epP* pP 12 57 32.0 -0.3
FRF La Foret Royal 93.48 43⇓ *iP* **P 12 55 28.0 +0.3**
comp=Z,336nm,0.7s,mb6.2
FRF La Foret Royal 93.48 43⇓ *iP* **P 12 55 28.0 +0.3**
FRF pmax pmax
comp=Z,168nm,0.7s,mb6.2
MBAR Mbarara 93.61 92 *eP* **P 12 55 29.5 +0.5**
MBAR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
MBAR Mbarara 93.61 92 *eP* **P 12 55 29.5 +0.5**
comp=Z,7.7nm,0.6s,mb5.0
ORIF Oris-en-Rattie 93.71 42⇓ *iP* **P 12 55 29.6 +0.9**
comp=Z,422nm,0.7s,mb6.4
ORIF Oris-en-Rattie 93.71 42⇓ *iP* **P 12 55 29.6 +0.9**
ORIF pmax pmax
comp=Z,211nm,0.7s,mb6.4
GMK Mull of Kintyr 93.72 29 *eP* **P 12 55 27.3 -1.2**
CALN Calern 93.73 43 *eP* **P 12 55 29.6 +0.8**
GRN Grenoble 93.80 41 *eP* **P 12 55 30.0 +0.9**
GAL1 Galloway 93.81 30 *eP* **P 12 55 27.8 -1.0**
MVIF Mont Vial 93.96 43 *eP* **P 12 55 30.6 +0.7**
GDM Grand'Maison 94.00 42 *eP* **P 12 55 30.6 +0.6**
KWE Weaver Farm 94.02 32 *eP* **P 12 55 28.9 -1.0**
REVF Revere 94.02 43 *eP* **P 12 55 30.5 +0.4**
SURF Saint Ours 94.05 43 *eP* **P 12 55 31.4 +1.1**
TOUF Mont Tournerai 94.08 43 *eP* **P 12 55 31.2 +0.8**
SBF Sospel 94.12 43⇓ *iP* **P 12 55 31.1 +0.5**
comp=Z,534nm,0.7s,mb6.5
SBF Sospel 94.12 43⇓ *iP* **P 12 55 31.1 +0.5**
SBF pmax pmax
comp=Z,267nm,0.7s,mb6.5
MBDF Montbardon 94.15 42⇓ *iP* **P 12 55 31.5 +0.8**
comp=Z,341nm,0.8s,mb6.2
MBDF Montbardon 94.15 42⇓ *iP* **P 12 55 31.5 +0.8**
MBDF pmax pmax
comp=Z,170nm,0.8s,mb6.2
AUTN L'Aution 94.18 43 *eP* **P 12 55 31.7 +0.8**
PZZ Prazzo 94.24 43 P **P 12 55 31.9 +0.8**
STV Sta Anna Valdi 94.25 43 P **P 12 55 31.4 +0.3**
STV2 Anna di Valdie 94.25 43 P **P 12 55 31.0 -0.1**
RRL Cesana Torines 94.26 42 P **P 12 55 32.0 +0.8**
SAOF Saorge 94.26 43 *eP* **P 12 55 31.7 +0.5**
BNI Bardonecchia 94.26 42 *eP* **P 12 55 31.5 +0.3**
BNI *e*PP pP 12 57 34.2 -1.9
BNI *e* 12 59 25.1
BNI pmax pmax
comp=Z,78nm,0.8s,mb5.9
BNI Bardonecchia 94.26 42 *eP* **P 12 55 31.5 +0.3**
comp=Z,78nm,0.8s,mb5.9
BNI *epP* pP 12 57 34.2 -1.9
BNI *ePP* PP 12 59 25.1 -4.6
NEGI Negi 94.28 43 P **P 12 55 31.1 -0.2**
ENR Entracque 94.30 43 P **P 12 55 31.5 +0.1**
OG22 Abries 94.31 42 *eP* **P 12 55 32.2 +0.8**
KBI1 Birley Grange 94.31 32 *eP* **P 12 55 30.2 -1.0**
LHO Holmfirth 94.33 32 *eP* **P 12 55 29.9 -1.4**
DOI San Damiano 94.33 43 *eP* **P 12 55 31.3 -0.2**
BBO1 Bothel 94.39 30 *eP* **P 12 55 30.4 -1.1**
IMI Imperia 94.43 43 *eP* **P 12 55 32.1 +0.2**
MONE Monesi 94.43 43 P **P 12 55 32.1 +0.1**
PGF Pioggiola 94.46 45⇓ *iP* **P 12 55 32.5 +0.4**
comp=Z,155nm,0.8s,mb5.9
PGF *epP* pP 12 57 37.3 +0.3
PGF Pioggiola 94.46 45⇓ *iP* **P 12 55 32.5 +0.4**
PGF *e*PP pP 12 57 37.3 +0.3
PGF pmax pmax
comp=Z,77nm,0.8s,mb5.9
BWH Wardlaw 94.48 30 *eP* **P 12 55 30.9 -1.0**
FENE Fenestrelle 94.48 42 P **P 12 55 32.8 +0.6**
BHB Bricherasio 94.51 42 P **P 12 55 32.0 -0.4**
PCA1 Carrot 94.53 29 *eP* **P 12 55 31.3 -0.8**
LPL La Plagne 94.53 42⇓ *iP* **P 12 55 33.5 +1.1**
comp=Z,353nm,0.7s,mb6.3
LPL La Plagne 94.53 42⇓ *iP* **P 12 55 33.5 +1.1**
LPL pmax pmax
comp=Z,177nm,0.7s,mb6.3
LPG La Plagne 94.53 42⇓ *iP* **P 12 55 33.6 +1.2**
comp=Z,422nm,0.7s,mb6.4
LPG *epP* pP 12 57 38.6 +1.3
LPG La Plagne 94.53 42⇓ *iP* **P 12 55 33.6 +1.2**
LPG *e*PP pP 12 57 38.6 +1.3
LPG pmax pmax
comp=Z,211nm,0.7s,mb6.4
BDL Dobcross Hall 94.58 30 *eP* **P 12 55 31.5 -0.9**
ROB Roburent 94.61 43 P **P 12 55 32.7 -0.1**
BHH Howats Hill 94.62 30 *eP* **P 12 55 31.0 -1.5**
MENF Mencas 94.63 36 *eP* **P 12 55 32.0 -0.7**
RSP Reno Superiore 94.67 42 P **P 12 55 33.6 +0.6**
HPK Haverah Park 94.68 32 *eP* **P 12 55 32.1 -0.7**
CABF La Chapelle 94.71 40⇓ *iP* **P 12 55 33.5 +0.3**
comp=Z,238nm,0.9s,mb6.0
CABF La Chapelle 94.71 40⇓ *iP* **P 12 55 33.5 +0.3**
CABF pmax pmax
comp=Z,119nm,0.9s,mb6.0
BTA Talkin 94.75 30 *eP* **P 12 55 32.4 -0.8**
LSD Ceresole Reale 94.76 42 P **P 12 55 34.5 +1.1**
ESK Eskdalemuir 94.77 30 P **P 12 55 32.2 -1.0**
comp=Z,1µm,0.7s,SNR=18
ESK Eskdalemuir 94.77 30⇓ *eP* **P 12 55 32.2 -1.0**
ESK *e*PP pP 12 57 37.3 -0.8
ESK pmax pmax
comp=Z,94nm,0.6s,mb6.1
ESK Eskdalemuir 94.77 30⇓ *eP* **P 12 55 32.1 -1.1**
comp=Z,94nm,0.6s,mb6.1
ESK *epP* pP 12 57 37.3 -0.8
ESK Eskdalemuir 94.77 30 *eP* **P 12 55 31.9 -1.3**
ESK AMb AMb 12 55 34.1
comp=Z,139nm,0.7s,mb6.2
GIMEL Gimel 94.78 41⇓ *iP* **P 12 55 33.7 +0.2**
FIN Finale Ligure 94.78 43 P **P 12 55 33.2 -0.3**
BBH Bruntsheil 94.78 30 *eP* **P 12 55 32.1 -1.1**
PCOU Corrie 94.78 29 *eP* **P 12 55 32.1 -1.1**
EKA Eskdalemuir Ar 94.80 30 P **P 12 55 32.5 -0.9**
comp=Z,73nm,0.9s,mb5.8,baz=225,slow=4.7,SNR=84
EKA pP pP 12 57 38.1 -0.1
comp=Z,69nm,1.0s,baz=225,slow=4.7,SNR=26
EKA PP PP 12 59 30.6 -2.4
comp=Z,6.3nm,0.9s,baz=231,slow=5.3,SNR=3.9
EKA PKKPbc 13 12 27.1
comp=Z,2.9nm,0.7s,baz=17,slow=2.7,SNR=6.3
EMV Vieux Emosson 94.91 41⇓ *iP* **P 12 55 34.8 +0.7**
BORG Borgarnes 94.93 17 P **P 12 55 35.0 +1.3**
comp=Z,810nm,0.8s,SNR=9.9
BORG Borgarnes 94.93 17 P **P 12 55 35.2 +1.5**
comp=Z,79nm,0.7s,mb6.0,baz=188,slow=1.6,SNR=32
BORG pP pP 12 57 40.1 +1.5
comp=Z,80nm,1.3s,baz=254,slow=2.7,SNR=3.4
BORG PP PP 12 59 31.6 -2.1
comp=Z,49nm,1.0s,baz=204,slow=9.8,SNR=3.7
BORG Borgarnes 94.93 17 *eP* **P 12 55 34.7 +1.0**
comp=Z,79nm,0.7s,mb6.0
BORG *epP* pP 12 57 40.2 +1.6
SALAN Lac Salanfe 95.00 41⇓ *iP* **P 12 55 35.2 +0.7**
AIGLE Aigle 95.09 41⇓ *iP* **P 12 55 35.3 +0.4**
MEZF Maizieres J'vi 95.10 38⇓ *iP* **P 12 55 34.7 -0.2**
comp=Z,176nm,0.7s,mb6.0
BRANT Les Verrieres 95.11 40⇓ *iP* **P 12 55 35.4 +0.4**
GRYON Gryon 95.14 41⇓ *iP* **P 12 55 35.6 +0.5**
GRYON Gryon 95.14 41⇓ *iP* **P 12 55 35.7 +0.6**
TRAV 95.15 42 P **P 12 55 34.2 -1.0**
PCP Pian Castagno 95.15 43 P **P 12 55 34.5 -0.7**
DIX Grande Dixence 95.23 41⇓ *iP* **P 12 55 36.3 +0.8**
SENIN Lac Senin 95.31 41⇓ *iP* **P 12 55 36.5 +0.6**
TORNY Torny 95.31 41⇓ *iP* **P 12 55 36.4 +0.5**
ORO Oropa 95.35 42 *eP* **P 12 55 35.2 -0.9**
ORX Oropa 95.35 42 P **P 12 55 35.2 -0.9**
BAIF Baives 95.46 37⇓ *iP* **P 12 55 36.0 -0.5**
comp=Z,103nm,0.9s,mb5.7
BAIF Baives 95.46 37⇓ *iP* **P 12 55 36.0 -0.5**
BAIF pmax pmax
comp=Z,52nm,0.9s,mb5.7
URZ Urewera 95.47 224 PKKPbc 13 12 23.9
comp=Z,18nm,0.7s,baz=298,slow=2.3,SNR=17
THEF They Montfort 95.49 39 *eP* **P 12 55 36.6 0.0**
LKBD Leukerbad 95.51 41⇓ *iP* **P 12 55 37.5 +0.7**
MCGN Macugnaga 95.52 42 *eP* **P 12 55 37.4 +0.6**
LOMF Lomont 95.53 40 *eP* **P 12 55 37.0 +0.2**

MMK	Mattmark	95.55	42	⇓	iP		P	12 55 37.8	+0.8
HAU	Haudompre	95.58	39	⇓	iP		P	12 55 36.8	-0.3
	comp=Z,159nm,0.8s,mb6.0								
HAU	Haudompre	95.58	39	⇓	iP		P	12 55 36.8	-0.3
HAU						pmax	pmax		
	comp=Z,80nm,0.8s,mb6.0								
WIMIS	Wimmis	95.65	41	⇓	iP		P	12 55 37.8	+0.4
VAE	Valguarnera	95.75	51		P		P	12 55 38.0	-0.1
	comp=Z,18nm,0.3s,mb5.8,baz=30,slow=23,SNR=2.8								
VAE						pP	pP	12 57 44.8	+1.8
	comp=Z,14nm,0.3s,baz=58,slow=15,SNR=1.2								
HINF	Hinteralfeld	95.78	40	⇓	iP		P	12 55 37.6	-0.3
	comp=Z,126nm,0.8s,mb5.9								
HINF	Hinteralfeld	95.78	40	⇓	iP		P	12 55 37.6	-0.3
HINF						pmax	pmax		
	comp=Z,63nm,0.8s,mb5.9								
BOURR	Bourrignon	95.78	40	⇓	iP		P	12 55 38.0	0.0
GIVF	Givet	95.82	37	⇓	iP		P	12 55 37.8	-0.3
	comp=Z,173nm,0.7s,mb6.1								
GIVF						epP	pP	12 57 43.0	0.0
GIVF	Givet	95.82	37	⇓	iP		P	12 55 37.8	-0.3
GIVF						e*PP	pP	12 57 43.0	0.0
GIVF						pmax	pmax		
	comp=Z,86nm,0.7s,mb6.1								
BOB	Bobbio (Coli)	95.83	43		eP		P	12 55 38.6	+0.4
YKA	Yellowknife Ar	95.88	339		P		P	12 55 37.9	-0.2
	comp=Z,17nm,0.7s,mb5.4,baz=127,slow=4.5,SNR=72								
YKA						pP	pP	12 57 43.9	+0.9
	comp=Z,16nm,0.7s,baz=124,slow=4.4,SNR=12								
YKA						PKKPbc		13 12 23.7	
	comp=Z,1.4nm,0.5s,baz=320,slow=3.5,SNR=10								
YKA						PKPPKP		13 20 34.7	
	comp=Z,0.8nm,1.0s,baz=302,slow=2.2,SNR=4.0								
YKA	Yellowknife Ar	95.88	339		P		P	12 55 37.9	-0.2
YKA						pP	pP	12 57 43.9	+0.9
YKA						PKKPbc		13 12 23.8	
YKA						P'P'		13 20 34.7	
YKW3	Yellowknife Ar	95.94	339		eP		P	12 55 38.0	-0.3
YKW3						epP	pP	12 57 43.3	+0.1
VAI	Varese	95.94	42		eP		P	12 55 38.0	-0.7
MOF	Molkenrain	95.96	40		eP		P	12 55 38.6	-0.2
BBS	Basel-Blauen	95.98	40	⇓	eP		P	12 55 38.8	-0.1
HASLI	Hasliberg	96.01	41	⇓	iP		P	12 55 39.5	+0.5
GRFL	Gerfalco	96.02	45		eP		P	12 55 39.4	+0.2
BALST	Balsthal	96.03	40	⇓	iP		P	12 55 39.4	+0.3
GRAM		96.08	44		P		P	12 55 39.4	0.0
VLC	Villacollemand	96.12	44		eP		P	12 55 38.6	-1.0
	comp=Z,56nm,0.9s,mb5.8								
VALM		96.12	44		P		P	12 55 39.2	-0.4
MUGIO	Muggio	96.14	42	⇓	iP		P	12 55 38.8	-0.8
SARO	Sassorosso	96.14	44		P		P	12 55 38.7	-1.0
MNO	Monte Soro	96.15	51		eP		P	12 55 41.0	+1.1
ECH	Echery	96.16	39		eP		P	12 55 39.5	-0.1
FUSIO	Fusio	96.17	41	⇓	iP		P	12 55 40.2	+0.5
BNALP	Bannalp	96.23	41	⇓	iP		P	12 55 40.5	+0.5
ERBM	Eremo	96.26	44		eP		P	12 55 40.5	+0.3
CDF	Champ du Feu	96.33	39	⇓	iP		P	12 55 40.2	-0.2
	comp=Z,231nm,1.0s,mb6.0								
CDF						epP	pP	12 57 45.3	-0.1
CDF	Champ du Feu	96.33	39	⇓	iP		P	12 55 40.2	-0.2
CDF						e*PP	pP	12 57 45.3	-0.1
CDF						pmax	pmax		
	comp=Z,116nm,1.0s,mb6.1								
WLF	Walferdange	96.33	38		eP		P	12 55 40.0	-0.4
WLF						e*PP	pP	12 57 45.8	+0.4
WLF						pmax	pmax		
	comp=Z,215nm,1.0s,mb6.3								
WLF	Walferdange	96.33	38		eP		P	12 55 40.0	-0.4
	comp=Z,214nm,1.0s,mb6.3								
WLF						epP	pP	12 57 45.8	+0.5
GSCL	Gusciola	96.34	44		eP		P	12 55 40.8	+0.2
WLS	Welschbruch	96.37	39		eP		P	12 55 40.5	-0.1
SULZ	Sulz-Cheisache	96.37	40	⇓	iP		P	12 55 40.8	+0.2
LIBD	Limburg	96.38	40		eP		P	12 55 40.9	+0.2
MUO	Muotathal	96.41	41	⇓	iPdiff		P	12 55 41.4	+0.6
KIZ	Kirchzarten	96.47	40	⇓	eP		P	12 55 40.9	-0.2
FELD	Feldberg	96.48	40	⇓	eP		P	12 55 41.1	0.0
JCZ	Jackson Bay	96.51	215	⇑	PN		P	12 55 41.7	+0.4
ZUR	Zurich	96.57	41	⇓	iPdiff		P	12 55 42.0	+0.5
LLS	Linth-Limmern	96.57	41	⇓	iPdiff		P	12 55 41.9	+0.4
ZCCA	Zocca	96.59	44		eP		P	12 55 42.2	+0.5
VDL	Val di Lei	96.67	42	⇓	iPdiff		P	12 55 42.3	+0.3
SLE	Schleitheim	96.71	40	⇓	iPdiff		P	12 55 42.1	-0.1
VMG	Vicchio	96.77	45		eP		P	12 55 41.5	-1.0
HGN	Heimansgroeve	96.77	37		ex		x	12 50 24.5	
HGN					eP			12 55 42.2	
MNS	Montasola	96.78	46		eP		P	12 55 42.4	-0.2
WILA	Wila	96.78	41	⇓	iPdiff		P	12 55 42.9	+0.4
PGG	Poggio Sodo	96.84	45		eP		P	12 55 42.0	-0.9
RUP	Ruppelstein	96.85	38	⇓	eP		P	12 55 43.0	+0.2
STEIN	Stein am Rhein	96.89	40	⇓	iPdiff		P	12 55 43.2	+0.2
WEIN	Weingarten	96.89	41	⇓	iPdiff		P	12 55 43.2	+0.2
MTTG	Motta San Giov	96.89	51		eP		P	12 55 45.6	+2.4
PLONS	Plons	96.89	41	⇓	iPdiff		P	12 55 43.2	+0.2
BFO	Black Forest	96.89	40		eP		P	12 55 42.5	-0.5
BFO					e*PP		pP	12 57 48.7	+0.7
BFO					pmax		pmax		
	comp=Z,68nm,1.0s,mb5.8								
BFO	Black Forest	96.89	40		eP		P	12 55 42.5	-0.5
	comp=Z,68nm,1.0s,mb5.8								
BFO					epP		pP	12 57 48.7	+0.7
BFO					ePP		PP	12 59 41.1	-8.2
SAL	Salo	96.90	43		eP		P	12 55 42.8	-0.3
LANF	Langenberg	96.91	39		eP		P	12 55 43.0	-0.1
BERNI	Berninapass	96.97	42	⇓	iPdiff		P	12 55 43.9	+0.5
SPAK	Spaichingen	97.05	40	⇓	eP		P	12 55 43.8	+0.1
DAVOX	Davos	97.06	42		P		P	12 55 44.4	+0.6
	comp=Z,165nm,0.6s,mb6.5,baz=229,slow=5.6,SNR=140								
DAVOX						pP	pP	12 57 49.6	+0.8
	comp=Z,16nm,0.8s,baz=219,slow=7.3,SNR=3.4								
DAVOX						PP	PP	12 59 45.6	-5.0
	comp=Z,34nm,0.7s,baz=244,slow=11,SNR=9.6								
DAVOX						PKKPbc		13 12 21.9	
	comp=Z,12nm,0.4s,baz=220,slow=1.4,SNR=16								
DAVOX	Davos	97.06	42	⇓	iPdiff		P	12 55 44.3	+0.5
LIENZ	Alp Oberkamor	97.08	41	⇓	iPdiff		P	12 55 44.3	+0.5
PTQR	Pietraquaria	97.09	47		eP		P	12 55 44.2	+0.1
RFI	Roccamonfina	97.16	48		eP		P	12 55 46.5	+2.1
BRMO	Bormio	97.21	42		eP		P	12 55 44.9	+0.4
ABH	Alteburg	97.22	38	⇓	eP		P	12 55 44.4	0.0
FUORN	Ofenpass	97.22	42	⇓	iPdiff		P	12 55 44.9	+0.4
SDI	San Donato	97.22	47		eP		P	12 55 45.7	+1.1
GUT	Gutenstein	97.23	40	⇓	eP		P	12 55 44.3	-0.2
AQU	L'Aquila	97.24	47		eP		P	12 55 45.1	+0.4
AQU						pmax	pmax		
	comp=Z,38nm,0.8s,mb5.7								
AQU	L'Aquila	97.24	47		ePdif		P	12 55 45.1	+0.4
	comp=Z,38nm,0.8s,mb5.7								
KTD	Kalmit	97.24	39		eP		P	12 55 44.6	+0.1
NRCA	Norcia	97.27	46		eP		P	12 55 44.3	-0.5
DAVA	Damuels	97.30	41	⇓	iP		P	12 55 45.4	+0.5
	comp=Z,101nm,0.7s,mb6.2								
LBG	Lerchenberg	97.33	40	⇓	eP		P	12 55 44.8	-0.1
SNTG	Esanatoglia	97.34	46		eP		P	12 55 42.5	-2.6
ARV	Arcevia	97.45	46		eP		P	12 55 41.4	-4.2
BUCH	Bad Urach	97.55	40	⇓	eP		P	12 55 46.2	+0.3
STU	Stuttgart	97.61	40		eP		P	12 55 45.6	-0.6
STU					e*PP		pP	12 57 51.4	+0.1
STU					e			12 59 49.0	
STU					pmax		pmax		
	comp=Z,138nm,0.9s,mb6.3								
STU	Stuttgart	97.61	40		ePdif		P	12 55 45.6	-0.6
	comp=Z,138nm,0.9s,mb6.3								
STU					epP		pP	12 57 51.4	+0.2
STU					ePP		PP	12 59 49.0	-6.0
UBR	Uberruh	97.62	41	⇓	eP		P	12 55 46.6	+0.3
SWS	Schriesheim	97.67	39	⇓	eP		P	12 55 46.1	-0.4
MGR	Morigerati	97.72	49		eP		P	12 55 46.4	-0.5
SGO	Sicignano	97.73	49		eP		P	12 55 46.9	-0.1
TOD	Tromm	97.79	39		eP		P	12 55 46.3	-0.7
CTI	Castel Tesino	97.80	43		eP		P	12 55 47.3	+0.2
WTSB	Winterswijk	97.85	36		eP		P	12 55 45.8	-1.4
WTSB					epP		pP	12 57 52.4	+0.1
WTSB					eP			12 59 51.4	
TNS	Taunus Mts	97.89	38		eP		P	12 55 47.2	-0.2
TNS					e*PP		pP	12 57 53.6	+1.1
TNS					pmax		pmax		
	comp=Z,95nm,1.0s,mb6.1								
TNS	Taunus Mts	97.89	38		eP		P	12 55 47.2	-0.2
	comp=Z,95nm,1.0s,mb6.1								
TNS					epP		pP	12 57 53.6	+1.1
TNS					ePP		PP	12 59 48.8	-8.2
SQTA	Sankt Quirin	98.07	42	⇑	iP		P	12 55 48.6	+0.3
	comp=Z,112nm,0.8s,mb6.2								
SQTA	Sankt Quirin	98.07	42	⇑	iP		P	12 55 48.6	+0.3
SQTA						pmax	pmax		
	comp=Z,112nm,0.8s,mb6.2								
HDH	Heidenheim	98.11	40	⇓	eP		P	12 55 48.7	+0.2
SIND	Sindeldorf	98.12	39	⇓	eP		P	12 55 48.6	+0.1
TIP	Timpagrande	98.15	51		ePdif		P	12 55 47.9	-1.0
WIT	Witteveen	98.21	35		eP		PP	12 59 56.2	-3.0
WATA	Walderalm	98.34	42	⇓	iP		P	12 55 49.7	+0.1
	comp=Z,109nm,1.3s,mb6.0								
WATA	Walderalm	98.34	42	⇓	iP		P	12 55 49.7	+0.1
WATA						pmax	pmax		
	comp=Z,109nm,1.3s,mb6.0								
WTTA	Wattenberg	98.35	42	⇑	iP		P	12 55 49.9	+0.3
	comp=Z,104nm,0.8s,mb6.2								
WTTA	Wattenberg	98.35	42	⇑	iP		P	12 55 49.9	+0.3
WTTA						pmax	pmax		
	comp=Z,104nm,0.8s,mb6.2								
SAN1	Sandwick	98.42	27		eP		P	12 55 48.6	-1.0
SUMG	Summit	98.49	7		ePdif		P	12 55 50.4	+0.7
	comp=Z,50nm,0.8s,mb5.9								
SUMG						epP	pP	12 57 56.0	+1.3
FUR	Furstenfeldbru	98.55	41		ePdif		P	12 55 49.7	-0.7
FUR						ePP	PP	12 59 53.2	-8.5
FVI	Forni Avoltri	98.75	43		eP		P	12 55 51.5	+0.1
GMNA	Gemona	98.88	43		eP		P	12 55 51.4	-0.6
PTCC	Patocco-Chiusa	99.01	43		eP		P	12 55 52.7	+0.1
VOY	Vojsko	99.19	44		ePdiff		P	12 55 53.5	+0.1
VOY					ePP		PP	13 00 01.7	-4.6
GRFO	Grafenberg	99.22	39		ePdif		P	12 55 53.2	-0.2
GRFO					ePP		PP	12 59 58.4	-8.0
GRA1	Grafenberg Arr	99.22	39		ePdif		P	12 55 53.1	-0.3
GRA1					ePP		PP	12 59 58.4	-8.0
GRF	Grafenberg Arr	99.22	39		ePdif		P	12 55 53.1	-0.3
GRF					ePP		PP	12 59 58.4	-8.0
JAVS	Javornik	99.23	44		ePdiff		P	12 55 53.8	+0.2
JAVS					epP		pP	12 57 59.6	+1.0
JAVS					ePP		PP	13 00 02.0	-4.6
JAVS					eSKSac			13 05 38.5	
KBA	Koelnbreinsper	99.31	42	⇑	iP		P	12 55 53.8	-0.1
	comp=Z,56nm,0.7s,mb6.0								
KBA	Koelnbreinsper	99.31	42	⇑	iP		P	12 55 53.8	-0.1
KBA						pmax	pmax		
	comp=Z,56nm,0.7s,mb6.0								
KMBO	Kilima Mbogo	99.31	96		P		P	12 55 56.0	+1.3
	comp=Z,3.2nm,0.7s,mb4.8,baz=245,slow=3.6,SNR=8.4								
KMBO						pP	pP	12 58 01.7	+1.9
	comp=Z,6.6nm,1.0s,baz=231,slow=4.2,SNR=6.3								
CEY	Cerknica	99.39	44		ePdiff		P	12 55 54.6	+0.3
CEY					epP		pP	12 57 59.9	+0.4
LJU	Ljubljana	99.59	44		eP		P	12 55 55.6	+0.4
LJU					e			13 00 05.4	
LJU					e			13 05 39.9	
LJU	Ljubljana	99.59	44		ePdiff		P	12 55 55.6	+0.4
LJU					ePP		PP	13 00 05.3	-4.1
LJU					epPP			13 01 53.0	
LJU					eSKSac			13 05 39.9	
CLZ	Clausthal	99.73	37		ePdif		P	12 55 55.1	-0.6
CLZ					ePP		PP	13 00 02.8	-7.5
OBKA	Obir	99.80	43	⇑	iP		P	12 55 55.8	-0.4
	comp=Z,67nm,0.7s,mb6.2								
MOX	Moxa	99.88	39		eP		P	12 55 56.6	+0.2
MOX					e		pP	12 58 02.6	+1.1
MOX					e			13 00 07.6	
MOX					pmax		pmax		
	comp=Z,52nm,1.4s,mb5.8								
MOX	Moxa	99.88	39		eP		P	12 55 56.6	+0.2
	comp=Z,52nm,1.4s,mb5.8								
MOX					epP		pP	12 58 02.6	+1.1
MOX					ePP		PP	13 00 07.6	-3.9
MOX	Moxa	99.88	39		iP		P	12 55 56.6	+0.2
	comp=Z,logA/T=1.6,mb5.8								
MOX					pP		pP	12 58 03.0	+1.5
MOX					PP		PP	13 00 08.0	-3.5
WET	Wettzell	99.94	40		ePdif		P	12 55 55.8	-0.9
WET					ePP		PP	13 00 03.7	-8.3
NKC	Novy Kostel	100.17	39		eP		P	12 55 58.1	+0.4
NKC					e			13 05 45.2	
NKC	Novy Kostel	100.17	39		ePDIF		P	12 55 58.1	+0.4
NKC					epP			12 58 04.4	
NKC					eSKS		SKS	13 05 45.2	+3.5
MOA	Molln	100.20	42	⇓	iP		P	12 55 57.8	-0.2
	comp=Z,48nm,0.8s								
GEC2	GERESS Array S	100.29	41		ePdif		P	12 55 57.4	-0.9
GEC2					ePP		PP	13 00 06.0	-8.9
GERES	GERESS Array B	100.29	41		P		P	12 55 58.1	-0.2
	comp=Z,7.8nm,0.7s,baz=214,slow=4.8,SNR=16								
GERES						pP		12 58 04.1	
	comp=Z,2.5nm,0.6s,baz=198,slow=7.3,SNR=2.5								
GERES						PP	PP	13 00 00.8	-14
	comp=Z,6.3nm,0.7s,baz=205,slow=10,SNR=4.7								
GERES						PKKPbc		13 12 12.7	
	comp=Z,6.4nm,0.6s,baz=72,slow=1.2,SNR=27								
GERES						SKKPbc		13 15 00.0	
	comp=Z,4.1nm,0.8s,baz=45,slow=1.4,SNR=8.6								
KHC	Kasperske Hory	100.34	41		eP		P	12 55 58.2	-0.4
KHC					e			13 00 10.0	
KHC					e			13 05 42.2	
KHC	Kasperske Hory	100.34	41		eP		P	12 55 58.2	-0.4
KHC					e			12 56 21.0	
KHC					epP			12 58 04.3	
KHC					ePP		PP	13 00 10.0	-5.2
KHC					e			13 05 13.4	
KHC					eSKS		SKS	13 05 42.2	-0.3
KHC					ePKKP		PKKP	13 12 13.0	+54
KHC					e			13 12 39.0	
KHC	Kasperske Hory	100.34	41		ePDIF		P	12 55 58.2	-0.4
KHC					ex		x	12 56 21.0	
KHC					epP			12 58 04.3	
KHC					ePP		PP	13 00 10.0	-5.2
KHC					ex		x	13 05 13.4	
KHC					eSKS		SKS	13 05 42.2	-0.3
KHC					ePKKP		PKKP	13 12 13.0	+54
KHC					x		x	13 12 39.0	
BSEG	Bad Segeberg	100.66	35		ePdif		P	12 55 59.1	-0.7
BSEG					ePP		PP	13 00 09.0	-8.6
HCY	Herceg Novi	100.70	48	⇓	iP			13 00 18.1	
ARSA	Arzberg	100.72	43	⇑	iP		P	12 55 59.9	-0.4
	comp=Z,23nm,0.8s								
BRY	Bratogost	100.91	48	⇓	iP			13 00 16.2	
BUM	Brajici-Budva	100.91	48	⇓	iP			13 00 17.1	
CLL	Collm	100.96	38	⇓	iP		P	12 56 01.2	0.0
CLL						pmax	pmax		
	comp=Z,27nm,0.9s								
CLL	Collm	100.96	38	⇓	iP		P	12 56 01.2	0.0
	comp=Z,27nm,0.9s								
CLL					i	pP		12 58 07.5	
CLL					i	PKKP	PKKP	13 12 10.2	+53
CLL					i	PKKP		13 12 36.5	
CLL					i	SKKP		13 14 42.4	
CLL	Collm	100.96	38	⇓		P	P	12 56 01.2	0.0
	comp=Z,logA/T=1.5								
CLL					i	*PP		12 58 07.5	
CLL					e	*SP		12 59 09.0	
CLL					i	PP	PP	13 00 16.1	-3.9
CLL					i	PKKP	PKKP	13 12 10.2	+53
CLL					i	PKKP		13 12 36.5	
CLL					i	SKKP		13 14 42.4	
CLL					e			13 14 58.0	
CLL					e	PCPPKP		13 16 29.0	
CLL					e			13 18 47.0	
ULC	Ulcinj	101.02	49	⇓	iP			13 00 17.4	
NKY	Niksic	101.18	48	⇓	iP			13 00 17.8	
TTG	Podgorica	101.21	48		eP			13 00 18.3	
MUD	Monsted U'grnd	101.25	33		iP		P	12 56 02.8	+0.5
MUD						pmax	pmax		
	comp=Z,59nm,0.8s								
MUD	Monsted U'grnd	101.25	33		iP		P	12 56 02.8	+0.5
	comp=Z,59nm,0.8s								
UPM	Unac-Piva	101.27	48		eP			13 00 19.0	
PRU	Pruhonice	101.28	40		eP		P	12 56 02.7	+0.1
PRU					e			13 05 49.2	
PRU	Pruhonice	101.28	40		eP		P	12 56 02.7	+0.1
PRU					epP			12 58 07.8	
PRU					e			13 05 29.9	
PRU					eSKS		SKS	13 05 49.2	+2.2
PVCC	Panska Ves	101.52	40		ePDIF		P	12 56 03.7	0.0
PVCC					eSKS		SKS	13 05 50.2	+2.1
PLE	Pljevlja	101.65	48		eP			13 00 21.0	
PVY	Plav	101.76	49	⇓	iP			13 00 22.7	
OHR	Ohrid	101.76	50	⇑	iPP		PP	13 00 21.8	-4.0
IVA	Berane	101.81	48	⇓	iP			13 00 22.4	
BBLS	Bajina Basta -	101.87	47	⇑	iP		P	12 56 08.4	+3.0
BBLS	Bajina Basta -	101.87	47	⇑	i(P)			13 00 22.5	
RUE	Ruedersdorf	101.89	38		ePdif		P	12 56 05.0	-0.3
	comp=Z,62nm,0.6s								
ZST	Bratislava	102.08	42		eP		Pdif	12 56 06.2	0.0
ZST					e			13 00 23.4	
ZST					e			13 05 48.3	
ZST	Bratislava	102.08	42		PDIF		Pdif	12 56 06.2	0.0
ZST					ePP		PP	13 00 23.4	-4.5
VRAC	Vranov	102.22	41		P		Pdif	12 56 07.3	+0.5
	comp=Z,12nm,0.7s,baz=272,slow=2.4,SNR=12								
VRAC						PP	PP	13 00 23.5	-5.4
	comp=Z,26nm,0.9s,baz=280,slow=6.2,SNR=4.9								
UPC	Upice	102.35	40		eP		Pdif	12 56 07.7	+0.3
UPC					epP			12 58 13.2	
DPC	Dobruska-Polom	102.47	40		eP		Pdif	12 56 08.6	+0.7
DPC					e			13 05 53.8	
DPC	Dobruska-Polom	102.47	40		ePDIF		Pdif	12 56 08.6	+0.7
DPC					epP			12 58 13.6	
DPC					eSKS		SKS	13 05 53.8	+1.3
DPC					ex		x	13 05 57.1	
SKO	Skopje	102.53	50		i PP		PP	13 00 27.8	-3.8
	comp=Z,0.2nm,1.5s								
COP	Copenhagen	102.54	34		i P			13 00 27.2	
	comp=Z,20nm,0.6s								
IDI	Anoyia	102.59	57		P		Pdif	12 56 09.9	+1.0
	comp=Z,8.8nm,0.7s,baz=258,slow=19,SNR=4.5								
KSP	Ksiaz	102.65	40		ePdif		Pdif	12 56 08.1	-0.6
KSP					e			12 58 13.1	
KSP	Ksiaz	102.65	40		ePdiff		Pdif	12 56 09.1	+0.4
KSP					e			13 00 26.7	
GRUS	Gruza	102.75	48	⇑	i(P)			13 00 27.0	
MORC	Moravsky Berou	102.97	41		eP		Pdif	12 56 10.2	+0.1
MORC					pmax		pmax		
	comp=Z,23nm,1.1s								
MORC	Moravsky Berou	102.97	41		ePdif		Pdif	12 56 10.2	+0.1
	comp=Z,23nm,1.1s								
VAY	Valandovo	103.08	50	⇑	iPP		PP	13 00 30.4	-5.4
VAY					i SKS		SKS	13 06 35.1	+40
BARS	Barje	103.11	49	⇑	i(P)			13 00 31.5	
SVIS	Svilajnac	103.24	47	⇑	i(P)			13 00 27.2	
VYHS	Vyhne	103.26	43		eP		Pdif	12 56 11.5	+0.1
VYHS					e			13 05 55.5	
VYHS	Vyhne	103.26	43		ePdif		Pdif	12 56 11.5	+0.1
VYHS					ePP		PP	13 00 23.0	-14
VYHS					e			13 05 55.5	
VYHS	Vyhne	103.26	43		PDIF		Pdif	12 56 11.5	+0.1
VYHS					epPDIF			12 58 19.5	
VYHS					e			12 58 28.0	
VYHS	Vyhne	103.26	43		ePKP			13 00 23.0	
VYHS					e			13 01 36.5	
VYHS					e			13 02 21.7	
OKC	Ostrava-Krasne	103.35	41		ePDIF		Pdif	12 56 12.6	+0.8
OKC					eSKS		SKS	13 05 57.8	+1.2
BOLS	Boljevac	103.56	48	⇓	i(P)			13 00 35.1	
KKB	Krupnik	103.63	50		iP			13 00 37.0	
VTS	Vitosha	103.98	49		iP			13 00 37.0	
MMB	Musomiste	103.99	51		iP			13 00 39.0	
NB2	NORSAR Subarra	104.25	29		P		Pdif	12 56 15.4	0.0
	comp=Z,12nm,1.2s,baz=248,slow=4.5								
NB2	NORSAR Subarra	104.25	29		P		Pdif	12 56 15.4	0.0
NB2					pmax		pmax		
	comp=Z,12nm,1.2s								
NB2	NORSAR Subarra	104.25	29		P		Pdif	12 56 15.4	0.0
	baz=248,slow=4.6								
NOA	NORSAR Array B	104.25	29		Pdiff		Pdif	12 56 15.8	+0.4
	comp=Z,3.1nm,0.6s,baz=220,slow=6.2,SNR=13								
NOA					pPdiff			12 58 21.8	
	comp=Z,23nm,1.3s,baz=237,slow=4.8,SNR=4.1								
NOA					PP		PP	13 00 37.5	-6.1
	comp=Z,15nm,0.9s,baz=241,slow=6.7,SNR=7.7								
NOA					PKKPbc			13 12 00.1	
	comp=Z,2.8nm,0.6s,baz=263,slow=3.0,SNR=10								
NOA	NORSAR Array B	104.25	29		Pdif		Pdif	12 56 15.8	+0.4
NOA					PP		PP	13 00 37.5	-6.1
NOA					PKKPbc

CTKT Corum 111.67 54 *i* P PKPdf 13 00 42.6 +1.1
COBT Iskenderun 111.73 59 *i* P PKPdf 13 01 09.0 +27
BOYT Boyabat 111.95 53 *i* P PKPdf 13 00 43.8 +1.7
TOO Toolangi 112.34 205 *e*PKP PKPdf 13 01 31.4 +48
comp=Z,0.7nm,1.6s
TOO *e*SKP 13 03 36.8
TOO *e*PKKP PKKP 13 11 35.9 +39
ARCES ARCESS Array B 112.53 22 PKIKP PKPdf 13 00 43.7 +1.1
ARCES 13 11 34.1
ARCES ARCESS Array B 112.53 22 Pdiff Pdif 12 56 57.9 +6.1
comp=Z,2.9nm,0.7s,baz=248,slow=4.9,SNR=4.5
ARCES PKIKP 13 00 43.7
comp=Z,4.6nm,0.7s,baz=242,slow=3.9,SNR=18
ARCES PKKPbc 13 11 34.1
comp=Z,9.2nm,0.6s,baz=72,slow=3.8,SNR=10
ARCES PKKPab 13 11 44.2
comp=Z,26nm,0.6s,baz=83,slow=5.3,SNR=24
ARCES SKKPbc 13 14 23.6
comp=Z,4.3nm,0.6s,baz=67,slow=3.6,SNR=6.4
ARCES ARCESS Array B 112.53 22 Pdif Pdif 12 56 57.9 +6.1
ARCES PKPdf PKPdf 13 00 43.7 +1.0
ARCES 13 11 34.1
ARCES PKKPbc 13 11 44.2
ARCES PKKPab 13 11 44.2
ARCES SKKPbc 13 14 23.6
GZT Gaziantep 112.96 58 *i* P PKPdf 13 00 46.0 +1.7
JOF Joensuu 113.84 30 *e*p PKPdf 13 00 45.5 +0.2
comp=Z,12nm,0.6s
MALT Malatya 113.85 57 *e*PKP PKPdf 13 00 47.4 +1.4
MALT *e*SKPdf 13 03 30.1
ELZG Elazig 114.32 57 *i* P PKPdf 13 00 49.5 +2.6
ANN Anapa 114.49 50 *d i*PKIKP PKPdf 13 00 54.7 +7.7
ANN *e* 13 02 54.6
ANN *e*PPP PPP 13 04 23.1 -5.4
ANN *i* 13 06 44.1
ANN *e* 13 10 44.2
ANN pmax pmax
comp=Z,27nm,0.6s
APA Apatity 115.18 25 ⇑*i*PKIKP PKPdf 13 00 48.0 +0.2
APA pmax pmax
comp=Z,14nm,0.8s
OBN Obninsk 115.55 39 *d i*PKIKP PKPdf 13 00 49.4 +0.6
OBN *e* 13 02 04.2
OBN *e* 13 04 37.2
OBN *e* 13 06 46.2
OBN pmax pmax
comp=Z,62nm,0.8s
OBN Obninsk 115.55 39 *e*PKPdf PKPdf 13 00 49.3 +0.4
SOC Sochi 115.88 52 *i* PKIKP PKPdf 13 00 49.8 +0.1
SOC *e* 13 02 05.4
SOC *e*PPP PPP 13 04 39.6 -0.4
SOC *e* 13 06 48.4
SOC *e*PS PS 13 11 54.2 -1.5
SOC *e*SS SS 13 17 21.5 -3.8
SOC *e*SSS SSS 13 21 49.3 -4.8
SOC pmax pmax
comp=N,73nm,1.3s
SOC pmax pmax
comp=Z,100nm,1.3s
SOC pmax pmax
comp=E,40nm,0.9s
BEST Besiri 115.95 58 *i* P PKPdf 13 00 51.8 +1.7
MOS Moscow 116.22 38 *e*PKIKP PKPdf 13 00 50.7 +0.6
MOS *i* 13 06 50.0
MOS *e*SP SP 13 10 48.1 -6.2
MOS pmax pmax
comp=Z,107nm,0.7s
ERZM Erzurum 116.42 56 *i* P PKPdf 13 00 52.5 +1.7
VRSR Storozhevoye 116.65 43 *e*PKIKP PKPdf 13 00 51.3 +0.3
VRSR pmax pmax
comp=Z,40nm,0.7s
VRSR pmax pmax
comp=N,10.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.6s
VOR Voronezh 116.72 43 PKIKP PKPdf 13 00 51.0 -0.1
VOR *e* 13 06 51.5
VOR pmax pmax
comp=Z,140nm,1.5s
KIV Kislovodsk 118.06 52 *d i*PKIKP PKPdf 13 00 54.8 +0.8
KIV *e* 13 02 23.7
KIV pmax pmax
comp=Z,55nm,1.1s
KIV Kislovodsk 118.06 52 *e*PKPdf PKPdf 13 00 54.9 +1.0
GOF Gofitskoye 118.46 51 ⇓*i*PKIKP PKPdf 13 00 55.0 +0.3
GOF pmax pmax
comp=Z,161nm,1.0s
STKA Stephens Creek 118.86 204 PKP PKPdf 13 00 56.9 +1.1
comp=Z,14nm,0.6s,baz=103,slow=2.0,SNR=3.5
STKA PP PP 13 02 25.2 -3.0
comp=Z,13nm,0.8s,baz=145,slow=9.4,SNR=5.8
STKA pPKP 13 03 08.6
comp=Z,8.0nm,0.8s,baz=148,slow=5.1,SNR=2.7
STKA SKP 13 03 39.3
comp=Z,18nm,0.7s,baz=76,slow=1.4,SNR=9.3
STKA PKKPbc 13 11 13.4
comp=Z,19nm,0.7s,baz=336,slow=5.7,SNR=29
STKA Stephens Creek 118.86 204 *e*PKPdf PKPdf 13 00 56.7 +0.9
STKA *e*PP PP 13 02 24.3 -3.9
STKA *e*SKPdf 13 03 39.7
GNI Garni 119.02 56 *e*PKIKP PKPdf 13 00 57.5 +1.6
GNI Garni 119.02 56 PKP PKPdf 13 00 57.5 +1.5
comp=Z,27nm,0.6s,baz=290,slow=2.0,SNR=22
GNI PP PP 13 02 18.1 -11
comp=Z,15nm,0.7s,baz=309,slow=5.2,SNR=2.6
GNI PKPPab 13 11 20.2
comp=Z,13nm,0.7s,baz=100,slow=5.3,SNR=6.6
ABTO Aybut 120.99 84 ⇓P PKPdf 13 01 01.0 +0.8
SNR=14
WHFO Wadi Hawf 121.60 83 P PKPdf 13 01 02.0 +0.6
SNR=17
RBK Rabkut 121.86 84 ⇓P PKPdf 13 01 02.0 +0.1
SNR=5.7
NWAO Narrogin (SRO) 122.71 181 PKP PKPdf 13 01 04.0 +0.7
comp=Z,33nm,0.6s,baz=155,slow=3.3,SNR=28
NWAO PP PP 13 02 41.4 -12
comp=Z,9.0nm,0.8s,baz=140,slow=13,SNR=3.4
NWAO pPKP 13 03 15.7
comp=Z,8.4nm,0.8s,baz=171,slow=8.7,SNR=1.9
NWAO PKKPbc 13 10 59.4
comp=Z,8.9nm,1.0s,baz=73,slow=5.7,SNR=5.2
NWAO Narrogin (SRO) 122.71 181 *e*PKPdf PKPdf 13 01 03.8 +0.5
NWAO *e*SKPdf 13 03 46.9
KIWB Kanaga Island 123.50 317 *e*PKPdf PKPdf 13 01 04.4 +0.1
KIWB *e*SKPdf 13 03 47.2
MUN Mundaring 123.66 180 ⇑*i*PKP PKPdf 13 01 05.7 +0.6
comp=Z,24nm,0.4s
MUN *e*PP PP 13 02 50.7 -9.4
MUN *e* 13 04 43.8
MUN *e*PKKP PKKP 13 10 55.2 +19
FORT Forrest 123.75 192 *e*PKP PKPdf 13 01 05.8 +0.5
comp=Z,2μm,0.6s
FORT *e*PKKP PKKP 13 10 55.1 +19
FORT *e*SKKP 13 13 49.6
KLBR Kellerberrin 124.03 181 *e*PKP PKPdf 13 01 06.4 +0.6
comp=Z,371nm,0.5s
KLBR *e*PP PP 13 02 53.1 -10
KLBR *e*SKP 13 03 49.6
KLBR *e* 13 04 52.9
KLBR *e*PKKP PKKP 13 10 53.0 +18
ASHO Ashiyiah 125.51 76 ⇑P PKPdf 13 01 08.8 -0.1
SNR=8.1
ARQ Araqi 125.59 78 ⇑P PKPdf 13 01 09.0 0.0
SNR=20
ARQ Araqi 125.59 78 ⇑P PKKP 13 10 49.1 +16
HNR Honiara 125.73 237 *e*PKIKP PKPdf 13 01 09.6 0.0
BANOM Banah 126.00 75 P PKPdf 13 01 10.4 +0.6
SNR=13
BANOM Banah 126.00 75 ⇑P PKKP 13 10 45.2 +13
SNR=5.9
BSY Bisya 126.05 79 ⇑P PKPdf 13 01 10.3 +0.3
SNR=12
BSY Bisya 126.05 79 ⇑P PKKP 13 10 47.3 +16
DGAR Diego Garcia 126.54 121 *e*PKIKP PKPdf 13 01 12.0 +0.8
JMDO Jabal Madar 126.76 80 ⇑P PKPdf 13 01 11.0 -0.3
SNR=12
JMDO Jabal Madar 126.76 80 ⇓P PKKP 13 10 43.6 +13
CTA Charters Tower 126.90 216 *e*PKP PKPdf 13 01 12.0 +0.3
comp=Z,38nm,0.6s
CTA *e*pPKP 13 03 25.7
CTA *e*PKS PKS 13 04 33.3 -13
CTA *e*SKS SKS 13 07 16.3 -7.9
CTA *e*SKKS 13 09 15.8
CTA *e*PKKP PKKP 13 10 45.0 +15
CTA Charters Tower 126.90 216 PKP PKPdf 13 01 12.9 +1.2
comp=Z,48nm,0.6s,baz=161,slow=0.8,SNR=52
CTA pPKP 13 03 24.9
comp=Z,29nm,1.0s,baz=196,slow=0.4,SNR=7.7
CTA PKKPbc 13 10 45.2
comp=Z,7.3nm,0.7s,baz=318,slow=4.6,SNR=7.5
CTAO Charters Tower 126.90 216 *e*PKIKP PKPdf 13 01 12.5 +0.8
CTAO *e* 13 03 25.0
BILL Bilibino 127.28 339 *e*PKIKP PKPdf 13 01 12.8 +1.7
BILL Bilibino 127.28 339 *e*PKPdf PKPdf 13 01 12.8 +1.6
WBK Wadi Bani Khal 127.60 80 ⇑P PKPdf 13 01 13.9 +0.9
SNR=12
ARU Arti 127.85 37 *i* PKIKP PKPdf 13 01 14.0 +1.5
ARU *e* 13 03 26.0
ARU *e*SS SS 13 20 23.1 +28
ARU Arti 127.85 37 *e*PKPdf PKPdf 13 01 13.8 +1.3
ASAR Alice Springs 129.06 201 PKP PKPdf 13 01 16.4 +0.7
comp=Z,102nm,0.7s,baz=144,slow=2.1,SNR=73
ASAR pPKP 13 03 28.4
comp=Z,43nm,1.0s,baz=150,slow=2.4,SNR=11
ASAR SKPbc 13 03 45.2
comp=Z,102nm,0.8s,baz=147,slow=4.8,SNR=20
ASAR PKKPbc 13 10 34.8
comp=Z,4.0nm,0.6s,baz=344,slow=3.7,SNR=14
ASAR tx tx 13 36 57.4
comp=Z,0.5nm,0.6s,baz=157,slow=3.5,SNR=14
ASPA Alice Springs 129.06 201 *e*PKP PKPdf 13 01 16.4 +0.6
ASPA *e*PP PP 13 03 28.0 -7.3
ASPA *e*SKP 13 03 45.0
ASPA *e*PKS PKS 13 04 38.6 -12
ASPA *e*SKS SKS 13 07 30.6 +0.7
ASPA *e*SKKS 13 09 26.4
ASPA *e*SKKP 13 14 15.0
ASPA Alice Springs 129.06 201 *e*PKHKP 13 03 55.0
ASPA *e* 13 01 16.4
ASPA *e* 13 07 30.6
ASPA Alice Springs 129.06 201 *e*PKP 13 00 55.0
ASPA *e*PKP PKPdf 13 01 16.4 +0.6
ASPA *e*PP PP 13 03 28.0 -7.3
ASPA *e*SKP 13 03 45.0
ASPA *e*PKS PKS 13 04 38.6 -12
ASPA *e*SKS SKS 13 07 30.6 +0.7
ASPA *e*SKKS 13 09 26.4
ASPA *e*SKKP 13 14 15.0
FX1 Attu Island--F 129.29 319 *e*PKPdf PKPdf 13 01 15.3 -0.1
FX1 *e*SKPdf 13 03 45.0
WB2 Warramunga Arr 132.36 203 *e*PKP PKPdf 13 01 22.9 +0.9
WB2 *e*SKP 13 03 57.0
WB2 *e*PKS PKS 13 04 51.0 -5.5
WB2 *e*SKS SKS 13 06 58.9 -39
WB2 *e*SKKS 13 09 48.8
WB2 *e*SKKP 13 13 54.2
WB2 Warramunga Arr 132.36 203 *e*P 13 01 02.0
WB2 *e*PKP PKPdf 13 01 22.9 +0.9
WB2 *e*SKP 13 03 57.0
WB2 *e*PKS PKS 13 04 51.0 -5.5
WB2 *e*SKS SKS 13 06 58.9 -39
WB2 *e*SKKS 13 09 48.8
WB2 *e*SKKP 13 13 54.2
WRA Warramunga Arr 132.37 203 PKHKP 13 01 02.2
WRA 13 01 22.9
WRA 13 03 57.1
WRA Warramunga Arr 132.37 203 PKhKP 13 01 02.2
comp=Z,3.4nm,0.5s,baz=159,slow=2.4,SNR=48
WRA PKP PKPdf 13 01 22.9 +0.9
comp=Z,96nm,0.6s,baz=165,slow=1.6,SNR=51
WRA pPKP 13 03 35.5
comp=Z,48nm,1.0s,baz=172,slow=1.5,SNR=14
WRA SKPbc 13 03 57.1
comp=Z,288nm,0.6s,baz=160,slow=3.1,SNR=103
WRA SKKP 13 13 54.5
comp=Z,6.7nm,0.7s,baz=338,slow=5.1,SNR=5.1
WRA tx tx 13 37 12.0
comp=Z,2.2nm,0.6s,baz=156,slow=4.0,SNR=35
WRAB Tennant Creek 132.37 203 PKHKP 13 01 03.5
WRAB Tennant Creek 132.37 203 *e*PKIKP PKPdf 13 01 23.0 +0.9
TIXI Tiksi 132.48 355 *i* PKIKP PKPdf 13 01 21.9 +1.0
TIXI *e* 13 03 55.3
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 132.48 355 *i* P PKPdf 13 01 22.4 +1.5
MBWA Marble Bar 134.33 184 *e*PKPdf PKPdf 13 01 26.0 +0.3
MBWA *e*SKPbc 13 04 03.7
PMG Port Moresby 134.80 225 *e*PKHKP 13 01 19.6
PMG *e* 13 04 06.1
PMG Port Moresby 134.80 225 PKhKP 13 01 20.2
comp=Z,26nm,0.7s,baz=284,slow=2.9,SNR=16
PMG pPKP 13 03 42.0
comp=Z,95nm,1.3s,baz=43,slow=1.7,SNR=5.3
PMG SKPbc 13 04 06.3
comp=Z,251nm,0.8s,baz=49,slow=2.9,SNR=44
SEY Seymchan 134.94 338 *e*PKHKP 13 01 17.3
SEY *e* 13 04 07.8
SEY *e* 13 07 41.3
CHKZ Chkalovo 135.28 37 *e*PKHKP 13 01 14.8
CHKZ *e* 13 01 28.2
BVA0 Borovoye Array 135.39 38 *i* PKHKP 13 01 16.9
BVA0 pmax pmax
comp=Z,16nm,1.1s
BVAR Borovoye Array 135.39 38 PKhKP 13 01 14.4
comp=Z,2.8nm,0.5s,baz=300,slow=1.6,SNR=8.6
BVAR PKP PKPdf 13 01 28.8 +2.1
comp=Z,62nm,0.6s,baz=307,slow=2.5,SNR=40
BVAR SKP 13 04 08.3
comp=Z,48nm,0.7s,baz=288,slow=4.7,SNR=12
BVAR SKKPbc 13 13 08.9
comp=Z,14nm,0.8s,baz=108,slow=4.7,SNR=11
FITZ Fitzroy Crossi 136.55 193 *e*PKP 13 01 16.6
comp=Z,17nm,0.5s
FITZ Fitzroy Crossi 136.55 193 *e*PKP PKPdf 13 01 31.5 +1.7
FITZ *e*SKP 13 04 11.2
FITZ *e*SKS SKS 13 07 14.7 -31
FITZ Fitzroy Crossi 136.55 193 *e*PKP 13 01 16.6
FITZ *e*PKP PKPdf 13 01 31.5 +1.7
FITZ *e*SKP 13 04 11.2
FITZ *e*SKS SKS 13 07 14.7 -31
BHJ Bhuj 137.34 82 *e* 13 01 21.2
PET Petropavlovsk 137.58 323 *e*PKPpre 13 01 29.0
PET *e*SKPbc 13 04 12.6
MA2 Magadan 137.73 335 *e*PKIKP PKPdf 13 01 30.1 -0.8
MA2 Magadan 137.73 335 *e*PKPpre 13 01 29.0
MA2 *e*SKPbc 13 04 13.2
JASL Jaisalmer 139.06 77 *e* PKPdf 13 01 25.7 -8.5
KAKA Kakadu 139.71 204 *e*PKP PKPdf 13 01 27.1 -8.5
comp=Z,73nm,0.4s
KAKA *e*SKP 13 04 18.7
EKS2 Erkin-Say 140.66 52 P PKPdf 13 01 32.0 -4.5
SNR=58
AML Almayashu 140.72 53 P PKPdf 13 01 32.8 -3.9
SNR=63
KURK Kurchatov 140.99 38 *i* PKHKP 13 01 33.0
KURK pmax pmax
comp=Z,33nm,0.7s
USP Ospenovka 141.03 51 P PKPdf 13 01 33.5 -3.7
SNR=8.2
NVS Novosibirsk 141.15 30 *e*PKHKP 13 01 32.8
NVS pmax pmax
comp=Z,125nm,0.7s
NVS pmax pmax
comp=E,27nm,0.6s
AAK Ala-Archa 141.18 52 P PKPdf 13 01 35.1 -2.3
SNR=20
AAK Ala-Archa 141.18 52 *e*PKHKP 13 01 32.7
AAK Ala-Archa 141.18 52 *e*PKPpre 13 01 33.1
FRU Bishkek 141.22 52 *i* PKHKP 13 01 34.5
FRU pmax pmax
comp=Z,4μm,10.0s
CHMS Chumysh 141.28 51 P PKPdf 13 01 35.2 -2.4
SNR=8.8
UCH Uchtor 141.29 53 P PKPdf 13 01 35.2 -2.4
SNR=96
KBK Karagaybulak 141.50 52 P PKPdf 13 01 36.1 -1.9
SNR=53
YAK Yakutsk 141.61 350 *e*PKPpre 13 01 34.4
YAK *e*SKPdf 13 04 21.0
YAK *e*SKPbc 13 04 23.9
KZA Kyzart 141.86 53 P PKPdf 13 01 37.8 -0.8
SNR=60
TKM2 Tokmak 2 141.90 51 P PKPdf 13 01 37.4 -1.3
SNR=20
AJM Ajmer 142.33 78 ⇓*i* PKPdf 13 01 36.0 -3.9
ZAL Zalesovo 142.43 31 PKP PKPdf 13 01 38.1 -1.1
comp=Z,143nm,0.6s,baz=184,slow=5.0,SNR=331
ZAL SKPbc 13 04 26.4
comp=Z,98nm,0.7s,baz=173,slow=3.7,SNR=8.6
ZAL SKKPbc 13 12 40.5
comp=Z,6.3nm,0.8s,baz=303,slow=2.2,SNR=8.4
LATR Latur 142.44 92 *e* 13 01 23.0
ULHL Ulahol 142.53 52 P PKPdf 13 01 39.5 -0.3
SNR=87
KSH Kashi 142.95 57 PKP PKPdf 13 01 40.5 -0.1
KSH PKS PKS 13 05 17.1 +2.6
KSH SKS SKS 13 07 58.3 +3.0
KSH PPP PPP 13 08 13.4 -3.7
KSH SKKS 13 10 52.3
KSH PP PP
comp=Z,5μm,6.7s
KHET Khetri 143.51 76 *e*P PKPbc 13 01 40.7 -0.4
THN Thein Dam 143.53 68 ⇑*i*P PKPbc 13 01 40.6 -0.5
comp=Z,251nm,0.6s
THN *e* 13 11 06.1
DLH Dalhousie 143.74 68 *e*P PKPbc 13 01 44.0 +2.3
DLH *e* 13 01 52.0
PONG Pong 143.74 69 *e*P PKPbc 13 01 42.0 +0.3
HYB Hyderabad 143.95 94 ⇓*e*P PKPbc 13 01 43.0 +0.3
HYB *e* 13 03 58.0
HYB *e* 13 04 28.0
HYB Hyderabad 143.95 94 ⇓*i*PKP PKPdf 13 01 43.0 +0.1
comp=Z,95nm,1.0s
HYB *e* 13 03 58.0
HYB *e*SKP 13 04 28.0
BHK Bhakra 144.15 70 *e*P PKPbc 13 01 46.5 +3.6
BHK *e* 13 02 13.1
BHPL Bhopal 144.35 84 *i* PKPdf 13 01 39.8 -3.8
KKR Kurukshetra 144.49 73 *e*P PKPdf 13 01 45.2 +1.6
BHGR Bahadurgarh 144.54 75 *e*P PKPdf 13 01 44.4 +0.7
SONA Sohna 144.65 75 *e*P PKPdf 13 01 44.7 +0.8
AYAN Aya Nagar 144.70 75 *e*P PKPdf 13 01 45.1 +1.1
NDI New Delhi 144.79 75 *i* P PKPdf 13 01 45.5 +1.4
NDI *e* 13 09 16.0
MKAR Makanchi Array 144.95 42 *i* PKIKP PKPdf 13 01 45.8 +2.0
MKAR pmax pmax
comp=Z,462nm,0.6s
BISR Bishrakh 144.98 75 *e*P PKPdf 13 01 46.1 +1.6
AGRA Agra 145.34 77 *e*P PKPdf 13 01 47.0 +1.9
AGRA *e* 13 07 09.7
JHNI Jhansi 145.69 81 *e*P PKPdf 13 01 47.0 +1.2
JHNI *e* 13 02 57.0
KLP Kalpa 145.71 70 *e*P PKPdf 13 01 48.4 +2.7
RATI Rata 146.79 178 ⇓*e*P PKPdf 13 01 49.1 +1.2
BOD Bodaibo 146.84 2 *e*PKIKP PKPdf 13 01 46.9 +0.2
BOD pmax pmax
comp=Z,355nm,0.9s
BOD pmax pmax
comp=Z,220nm,1.0s
SRDI Scrawed 146.96 176 ⇓*e*PKIKP PKPdf 13 01 49.2 +1.0
KEDI Kedomdong 147.03 179 ⇓*e*PKHKP 13 01 48.7
CLNS Chul'man 147.30 351 *c i*PKIKP PKPdf 13 01 51.2 +3.8
CLNS *e*PP 13 01 54.9
CLNS pmax pmax
comp=Z,162nm,0.6s
CLNS pmax pmax
comp=N,48nm,0.7s
CLNS pmax pmax
comp=E,19nm,0.6s
CLNS pmax pmax
comp=Z,62nm,0.7s
CLNS pmax pmax
comp=N,42nm,0.6s
CLNS pmax pmax
comp=E,71nm,0.9s
CLNS MLR MLR
comp=Z,1μm,13.0s
CLNS MLR MLR
comp=N,700nm,12.0s
CLNS MLR MLR
comp=E,200nm,16.0s
PTH Pithoragarh 147.44 73 *e*P PKPdf 13 01 50.4 +1.9
PTH *e* 13 04 01.8
LGTI Lohaghat 147.46 73 ⇓*i*P PKPdf 13 01 51.5 +2.9
LGTI *e* 13 04 04.0
PULI Pulasari 147.50 160 ⇑*e*P PKPdf 13 01 49.5 +0.4
PENI Pendagan 147.98 158 ⇓*e*PKIKP PKPdf 13 01 49.4 -0.4
VIS Vishakhapatnam 148.37 96 *i* PKPdf 13 01 52.0 +1.7
VIS *i* 13 04 05.0
BLSP Bilaspur 148.41 87 *i* P PKPdf 13 01 52.1 +1.9
BLSP *i* 13 04 06.2
YSS Yuzh-Sakhalins 149.47 323 *i*PKHKP 13 01 52.8
YSS *e* 13 02 05.0
YSS *e* 13 05 39.0
YSS *e* 13 07 58.0
YSS pmax pmax
comp=E,50nm,1.2s
YSS pmax pmax
comp=Z,60nm,1.2s
YSS pmax pmax
comp=Z,180nm,0.6s
YSS pmax pmax
comp=N,50nm,0.5s
YSS pmax pmax
comp=E,190nm,0.9s
YSS Yuzh-Sakhalins 149.47 323 *e*PKPdf PKPdf 13 01 53.0 +1.9
YSS *e*PKPbc PKPdf 13 01 57.9 +6.8
WMQ Urumqi 149.72 44 *e*PKP PKPdf 13 01 53.4 +1.7
KOLN Koldanda 150.38 77 *e*P PKPdf 13 01 54.6 +1.4
comp=E,763nm,0.7s
MOY Mondy 150.56 20 *e*PKIKP PKPdf 13 01 55.6 +2.9
MOY pmax pmax
comp=Z,434nm,2.2s
IRK Irkutsk 150.95 16 *e*PKIKP PKPdf 13 01 55.0 +1.7
IRK *e* 13 02 11.7
IRK pmax pmax
comp=Z,356nm,0.8s
GUMO Guam 151.07 253 *e*PKPbc PKPdf 13 02 01.7 +7.2
GUMO *e*PKPab PKPab 13 02 12.8 -1.0
GUMO *e*SKPdf 13 04 29.4
ASAJ Asahikawa 151.22 319 PKPbc PKPdf 13 02 02.0 +8.1
comp=Z,164nm,1.0s,baz=248,slow=5.4,SNR=52
TLY Talaya 151.30 17 *e*PKIKP PKPdf 13 01 56.1 +2.3
TLY *e* 13 02 12.8
TLY Talaya 151.30 17 *e*PKPdf PKPdf 13 01 56.1 +2.3
TLY *e*PKPbc PKPdf 13 02 02.6 +8.8
TLY *e*PKPab PKPab 13 02 12.8 -0.8
GKN Gorkha 151.30 76 *e*P PKPdf 13 01 56.1 +1.5
comp=Z,543nm,0.5s
DMN Daman 151.71 77 *e*P PKPdf 13 01 56.8 +1.7
comp=Z,406nm,0.6s
KKN Kakani 151.87 77 *e*P PKPdf 13 01 56.9 +1.5
comp=Z,304nm,0.6s
PKI Pulchoki 151.98 77 *e*P PKPdf 13 01 56.8 +1.3
comp=Z,178nm,0.6s
ZAK Zakamensk 152.37 18 *e*PKIKP PKPdf 13 01 57.8 +2.5
ZAK pmax pmax
comp=Z,43nm,1.7s
GUN Gumba 152.40 77 *e*P PKPdf 13 01 57.8 +1.7
comp=Z,266nm,0.5s
JIRN Jiri 152.68 77 *e*P PKPdf 13 01 58.3 +1.8
comp=Z,245nm,0.6s
KLR Kul'dur 152.74 338 *e*PKIKP PKPdf 13 01 54.8 -1.1
KLR *e* 13 02 02.7
HIA Hailar 155.33 355 PKPab PKPab 13 02 30.6 -0.1
HIA pPKPab 13 04 37.6
HIA Hailar 155.33 355 *e*PKIKP PKPdf 13 02 01.4 +2.0
HIA *e* 13 02 29.9
HIA *e* 13 06 07.7
HIA Hailar 155.33 355 *e*PKPdf PKPdf 13 02 01.4 +2.0
HIA *e*PKPab PKPab 13 02 29.9 -0.8
HIA *e*SKPdf 13 04 37.4
HIA *e*PP PP 13 06 07.7 -2.1
KULM Kulim 155.44 139 *e*PKPdf PKPdf 13 02 02.9 +2.3
KULM *e*PKPab PKPab 13 02 30.7 -1.5
SONM Songino Array 155.54 17 PKP PKPdf 13 02 02.1 +2.4
comp=Z,14nm,0.7s,baz=279,slow=1.1,SNR=48
SONM PKPab PKPab 13 02 31.6 0.0
comp=Z,67nm,0.8s,baz=312,slow=3.9,SNR=19
SONM pPKP 13 04 17.4
comp=Z,12nm,1.0s,baz=295,slow=1.8,SNR=1.8
SONM pPKPab 13 04 38.2
comp=Z,26nm,0.9s,baz=318,slow=3.9,SNR=7.4
ULN Ulaanbaatar 155.68 16 *e*PKIKP PKPdf 13 02 02.1 +2.2
ULN *e* 13 02 32.2
KSM Kuching 156.17 165 *e*PKPdf PKPdf 13 02 03.5 +1.9
KSM *e*PKPab PKPab 13 02 34.4 -1.0
KSM *e*SKPdf 13 04 40.6
CBIJ Chichi jima 156.77 281 PKPab PKPab 13 02 37.0 -0.6
comp=Z,775nm,1.1s,baz=134,slow=2.0,SNR=6.8
LSA Lhasa 156.93 72 *e*PKPdf PKPdf 13 02 04.7 +2.6
LSA *e*PKPab PKPab 13 02 37.8 -0.4

MAJO	**Matsushiro**	**157.94**	**307**	PKPdf	PKPdf	13 02 05.6	+2.4
MAJO				PKPab	PKPab	13 02 41.0	-1.3
MAJO				sSKSdf		13 12 39.5	
MAJO	**Matsushiro**	**157.94**	**307**	*e*PKPdf	PKPdf	13 02 04.2	+1.0
MAJO				*e*PKPab	PKPab	13 02 41.4	-1.0
MAJO				*e*SKPdf		13 04 47.2	
MAT	**Matsushiro**	**157.94**	**307**	*e*PKIKP	PKPdf	13 02 04.0	+0.8
MAT	**Matsushiro**	**157.94**	**307**	PKP	PKPdf	13 02 04.0	+0.8
IMP	**Imphal**	**159.51**	**85** ⇓	*i*	PKPdf	13 02 06.0	+0.7
CN2	**Changchun**	**159.56**	**341**	*e*PKP	PKPdf	13 02 06.1	+1.3
CN2				PKP2	PKPab	13 02 47.8	-1.3
CN2				*e*APKP		13 04 16.1	
CN2				*e*PP	PP	13 06 34.1	+1.4
GTA	**Gaotai**	**159.67**	**40**	PKP	PKPdf	13 02 07.4	+2.4
GTA				PKP2	PKPab	13 02 49.1	-0.6
GTA				PP	PP	13 06 32.0	-1.3
GTA				SKS	SKS	13 08 21.1	+5.3
GTA				PPP	PPP	13 10 20.9	-1.2
GTA				SKKS		13 12 25.6	
GTA				SS	SS	13 25 49.0	-5.4
GTA				PP	PP		
	comp=Z,2μm,10.7s						
NNT	**Nongplab**	**160.11**	**124**	P	PKPab	13 02 52.0	-0.2
KKM	**Kota Kinabalu**	**161.47**	**179**	*e*PKPdf	PKPdf	13 02 09.7	+2.1
KKM				*e*PKPab	PKPab	13 02 57.3	-0.9
BDT	**Bhumibol Dam**	**162.08**	**111**	P	PKPdf	13 02 10.0	+1.9
	comp=Z,16nm,0.8s						
NST	**Nakhon Sawan**	**162.24**	**117**	P	PKPdf	13 02 11.0	+2.8
CM31	**Chiang Mai Arr**	**162.55**	**107**	*e*PKPdf	PKPdf	13 02 11.0	+2.5
CM31				*e*PKPab	PKPab	13 03 01.8	-1.0
HHC	**Hu-ho-hao-te**	**163.36**	**13**	*e*PKP	PKPdf	13 02 12.8	+4.1
HHC				PKP2	PKPab	13 03 06.0	+0.4
HHC				PP	PP	13 06 51.8	-1.1
HHC				SKS	SKS	13 08 19.8	+1.1
HHC				SKKS		13 12 38.8	
HHC				SS	SS	13 26 24.4	-7.7
HHC				PP	PP		
	comp=Z,2μm,14.9s						
LZH	**Lanzhou**	**164.26**	**41**	*e*PKP	PKPdf	13 02 12.5	+2.8
LZH				APKP		13 04 27.4	
LZH				XPKP		13 05 16.8	
LZH				PP	PP	13 07 00.1	+2.0
LZH				SKKS		13 12 49.1	
LZH				SS	SS	13 26 44.0	+2.2
LZH				PP	PP		
	comp=Z,6μm,10.4s						
BJI	**Beijing**	**164.68**	**1**	PKP	PKPdf	13 02 13.5	+3.5
KKTK	**Khon Kaen**	**164.75**	**120**	P	PKPdf	13 02 13.3	+2.6
KMI	**Kunming**	**167.51**	**85**	PKP	PKPdf	13 02 13.6	+1.0
KMI	**Kunming**	**167.51**	**85**	PKPab	PKPab	13 03 23.7	-0.5
KMI				pPKPab		13 05 29.2	
JOW	**Kunigami**	**169.16**	**284**	PKP	PKPdf	13 02 16.2	+2.8
	comp=Z,79nm,1.1s,baz=159,slow=3.7,SNR=8.4						
JOW				PKPab	PKPab	13 03 31.7	+0.3
	comp=Z,49nm,0.7s,baz=113,slow=3.8,SNR=14						
GYA	**Guiyang**	**170.95**	**77**	PKP	PKPdf	13 02 16.9	+2.3
GYA				PKP2	PKPab	13 03 38.8	-0.6
GYA				APKP		13 04 31.0	
GYA				PP	PP	13 07 30.3	-1.3
GYA				SKKS		13 13 20.1	
GYA				PP	PP		
	comp=Z,3μm,7.5s						
QIZ	**Qiongzhong**	**171.65**	**131**	PKP	PKPdf	13 02 18.0	+2.8
ENH	**Enshi**	**171.65**	**47**	*e*PKPdf	PKPdf	13 02 16.5	+1.7
ENH				*e*PKPab	PKPab	13 03 41.6	-0.7
ENH				*e*PP	PP	13 07 33.1	-1.9
QZH	**Quanzhou**	**178.07**	**278**	PKP	PKPdf	13 02 18.8	+1.9
QZH				PKP2	PKPab	13 04 11.8	+0.8
QZH				PP	PP	13 08 02.1	-4.1
QZH				SKKS		13 13 56.4	
QZH				SS	SS	13 28 47.1	-6.7
QZH				PP	PP		
	comp=Z,6μm,10.6s						

*NEIC **21** 12:57:06.9,30.63S×69.78W,h149km,After GUC.*
GUC 21 12:57:06.9±1.0,30.63S×69.78W,h149km±10km,ML4.5,
14C-5D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**1.00**	**297**	*i*P	P	12 57 32.6	+1.0
TLL				*i* S	S	12 57 51.4	+0.7
TLL				AMP		12 57 54.2	
	comp=N,6μm,0.4s						
OVCH	**Ovalle**	**1.23**	**270** ⇑	*i*P	P	12 57 34.4	+0.5
OVCH				*i* S	S	12 57 54.3	-0.3
OVCH				AMP		12 57 56.3	
	comp=N,4μm,0.3s						
ILCH	**Illapel**	**1.56**	**229** ⇑	*i*P	P	12 57 37.7	+0.4
ILCH				*i* S	S	12 58 00.5	-0.3
ILCH				AMP		12 58 01.7	
	comp=E,9μm,0.2s						
LCO	**Las Campanas**	**1.80**	**333** ⇑	*i*P	P	12 57 40.5	+0.6
LCO				*i* S	S	12 58 05.1	-0.3
LCO				AMP		12 58 07.5	
	comp=E,5μm,0.3s						
CHNG	**Los Chungos**	**1.93**	**229** ⇑	*i*P	P	12 57 41.9	+0.4
CHNG				*i* S	S	12 58 07.3	-0.8
CHNG				AMP		12 58 15.6	
	comp=E,1μm,0.3s						
JACH	**Jahuel**	**2.16**	**198** ⇑	*i*P	P	12 57 44.9	+0.6
JACH				*i* S	S	12 58 13.5	+0.5
VACH	**Vallenar**	**2.21**	**337** ⇑	*i*P	P	12 57 45.3	+0.4
VACH				*i* S	S	12 58 13.4	-0.6
VACH				AMP		12 58 14.1	
	comp=N,10μm,0.3s						
PACH	**Papudo**	**2.37**	**216** ⇓	*i*P	P	12 57 47.0	0.0
PACH				*i* S	S	12 58 17.4	-0.2
ROCH	**El Roble**	**2.56**	**204** ⇑	*i*P	P	12 57 49.4	0.0
ROCH				*i* S	S	12 58 21.7	-0.1
FCH	**Farellones**	**2.73**	**189** ⇓	*i*P	P	12 57 52.3	+0.9
FCH				*i* S	S	12 58 26.5	+1.1
CLCH	**Cerro Calan**	**2.84**	**193** ⇓	*i*P	P	12 57 52.8	0.0
CLCH				*i* S	S	12 58 27.8	-0.1
CLCH				AMP		12 58 33.7	
	comp=N,1μm,0.3s						
CLCH				AMP		12 58 34.0	
	comp=N,1μm,0.5s						
DSCH	**Colegio Aleman**	**2.84**	**193** ⇓	*i*P	P	12 57 53.1	+0.2
DSCH				*i* S	S	12 58 28.0	-0.1
DSCH				AMP		12 58 31.3	
	comp=N,1μm,0.6s						
STL	**Santa Lucia**	**2.90**	**194** ⇑	*i*P	P	12 57 53.5	0.0
STL				*i* S	S	12 58 29.1	-0.1
STL				AMP		12 58 31.3	
	comp=N,378nm,0.3s						
FSR	**Penalolen**	**2.91**	**192** ⇑	*i*P	P	12 57 54.2	+0.4
FSR				*i* S	S	12 58 29.6	-0.1
FSR				AMP		12 58 33.2	
	comp=E,938nm,0.3s						
ANTU	**Antumapu**	**3.02**	**194** ⇑	*i*P	P	12 57 55.1	-0.1
ANTU				*i* S	S	12 58 31.5	-0.7
ANTU				AMP		12 58 32.5	
	comp=E,1μm,0.2s						
SJCH	**San Jose de Ma**	**3.04**	**189**	*e*P	P	12 57 55.5	+0.1
SJCH				*e*S	S	12 58 33.2	+0.5
SJCH				AMP		12 58 34.9	
	comp=N,493nm,0.2s						
SCR	**San Cristobal**	**3.05**	**200** ⇓	*i*P	P	12 57 53.1	-2.5
SCR				*i* S	S	12 58 28.8	-3.9
SCR				AMP		12 58 29.7	
	comp=E,422nm,0.4s						
PCH	**Pirque**	**3.05**	**192** ⇑	*i*P	P	12 57 55.4	-0.2
PCH				*i* S	S	12 58 33.1	+0.4
TACH	**Talagante**	**3.17**	**198** ⇑	*i*P	P	12 57 56.2	-1.0
TACH				*i* S	S	12 58 34.1	-1.5
CPCH	**Copiapo**	**3.29**	**351** ⇑	*i*P	P	12 57 58.2	-0.6
CPCH				*i* S	S	12 58 36.6	-1.8
CPCH				AMP		12 58 39.7	
	comp=E,4μm,0.1s						
CHCH	**Chadas Angostu**	**3.38**	**192**	*i* S	S	12 58 39.4	-1.0
CICH	**Cipreses**	**3.72**	**188**	*e*P	P	12 58 04.2	-0.1
CICH				*i* S	S	12 58 48.1	-0.4

*CSEM **21** 13:08:35.6,35.78N×56.42E,h10km,ML3.7,After TEH*
TEH 21 13:08:35.6,35.78N×56.42E,h10km,Mn3.7,Northern
and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISFR	**Esferayen**	**1.80**	**45**	Pn	Pn	13 09 05.6	-1.4
IKRD	**Kardeh**	**1.97**	**59**	Pn	Pn	13 09 18.7	+9.3
ISHV	**Shirvan**	**2.03**	**30**	Pn	Pn	13 09 09.8	-0.5
IANJ	**Anjiloo**	**2.06**	**262**	Pn	Pn	13 09 11.7	+0.9
IQHU	**Quchan**	**2.14**	**53**	Pn	Pn	13 09 11.1	-0.8
IPAY	**Payeh**	**2.19**	**71**	Pn	Pn	13 09 12.0	-0.6
MHI	**Mashhad**	**2.53**	**77**	Pn	Pn	13 09 16.5	-1.0
ISHM	**Shahmirzad**	**2.54**	**272**	Pn	Pn	13 09 18.6	+1.0
IFIR	**Firoozkooh**	**2.98**	**268**	Pn	Pn	13 09 22.1	-1.8
IMYA	**Miamay**	**3.04**	**78**	Pn	Pn	13 09 23.5	-1.2
IDMV	**Damavand**	**3.58**	**268**	Pn	Pn	13 09 30.4	-1.9
IAFJ	**Afjeh**	**3.82**	**273**	Pn	Pn	13 09 33.8	-2.1
ICHK	**Chekchek**	**3.90**	**206**	Pn	Pn	13 09 35.1	-1.8
IVRN	**Varamin**	**3.91**	**260**	Pn	Pn	13 09 27.0	-10
IBAF	**Bafgh**	**4.24**	**190**	Pn	Pn	13 09 39.4	-2.3
IQOM	**Qom**	**4.47**	**259**	Pn	Pn	13 09 42.7	-2.4
ISAD	**Sadrabad**	**4.47**	**211**	Pn	Pn	13 09 42.9	-2.2
IMEH	**Mehriz**	**4.63**	**199**	Pn	Pn	13 09 44.8	-2.5
IMHD	**Mahdasht**	**4.68**	**271**	Pn	Pn	13 09 45.6	-2.4
IRAZ	**Razeghan**	**5.30**	**268**	Pn	Pn	13 09 53.7	-3.1

*NEIC **21** 14:05:47.3±1.0,50.34N×18.87E,h5km,ML2.9(VIE),Error ellipse: s-maj=12.6km s-min=6.4km az=193.0*
*WAR **21** 14:05:47.6,50.25N×18.91E,h0km,ML2.8,Mining Induced*
*PRU **21** 14:05:48.4,50.28N×18.84E*
*CSEM **21** 14:05:48.6±0.2,50.29N×18.88E,h2km,ML2.9,Error ellipse: s-maj=5.5km s-min=2.7km az=7.0*
*IPEC **21** 14:05:48.0±0.2,50.27N×18.89E,h5km±1km,ML1.9/3, Error ellipse: s-maj=2.5km s-min=0.8km az=171.0*
ISC 21 14:05:46.6±0.6,50.31N±0.04×18.81E±0.04,n25,σ1§50/46,
1C,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.46**	**240**	*e*PG	**Pg**	**14 05 58.0**	**+2.3**
RAC				*e*SG	**Sg**	**14 06 06.0**	**+4.2**
RAC	**Raciborz**	**0.46**	**240**	*e*Pg	**Pg**	**14 05 58.3**	**+2.6**
RAC				*e*Sg	**Sg**	**14 06 05.6**	**+3.8**
OKC	**Ostrava-Krasne**	**0.64**	**222**	*e*PG	**Pg**	**14 06 00.5**	**+1.2**
OKC				*e*SG	**Sg**	**14 06 09.6**	**+1.8**
OJC	**Ojcow**	**0.64**	**98**	*e*Pg	**Pg**	**14 05 59.5**	**+0.2**
OJC				*e*Sg	**Sg**	**14 06 07.7**	**-0.2**
MORC	**Moravsky Berou**	**0.98**	**237**	*e*Pg	**Pg**	**14 06 06.5**	**+0.4**
MORC				*e*Sg	**Sg**	**14 06 13.7**	**-5.4**
MORC	**Moravsky Berou**	**0.98**	**237**	*e*Pg	**Pg**	**14 06 06.9**	**+0.9**
MORC				*e*Sg	**Sg**	**14 06 19.5**	**+0.4**
LIKS	**Likavka**	**1.28**	**171**	*e*SN	**Sn**	**14 06 28.2**	**-1.5**
NIE	**Niedzica**	**1.32**	**132**	*e*PG	**Pg**	**14 06 10.0**	**-2.9**
NIE				*e*SG	**Sg**	**14 06 26.0**	**-4.5**
DPC	**Dobruska-Polom**	**1.59**	**272**	*e*PG	**Pg**	**14 06 17.3**	**-1.1**
DPC				*e*SG	**Sg**	**14 06 39.4**	**-0.3**
	24nm,0.2s						
KSP	**Ksiaz**	**1.69**	**289**	*e*Pg	**Pg**	**14 06 21.1**	**+0.8**
KSP				*e*Sn	**Sn**	**14 06 41.5**	**+1.2**
KSP				*e*Sg	**Sg**	**14 06 44.8**	**+2.0**
KSP	**Ksiaz**	**1.69**	**289**	*e*Pg	**Pg**	**14 06 20.8**	**+0.5**
KSP				*e*Sg	**Sg**	**14 06 44.4**	**+1.6**
VRAC	**Vranov**	**1.75**	**236**	*e*Pn	**Pn**	**14 06 19.2**	**+0.8**
VRAC				*e*Sg	**Sg**	**14 06 43.4**	**-1.5**
KOLL	**Kolacno**	**1.75**	**189**	*e*PN	**Pn**	**14 06 21.8**	**+3.4**
UPC	**Upice**	**1.80**	**277**	*e*SG	**Sg**	**14 06 45.3**	**-1.2**
VYHS	**Vyhne**	**1.82**	**179**	*e*PN	**Pn**	**14 06 19.0**	**-0.4**
VYHS				*e*SN	**Sn**	**14 06 41.7**	**-1.7**
KRUC	**Moravsky**	**2.01**	**232**	*e*Pn	**Pn**	**14 06 22.4**	**+0.4**
KRUC				*e*Sn	**Sn**	**14 06 49.7**	**+1.5**
	5.8nm,0.3s						
KECS	**Kecovo**	**2.13**	**148**	*e*PN	**Pn**	**14 06 26.6**	**+2.8**
KECS				*i* PG	**Pg**	**14 06 48.2**	**+19**
KECS				*e*SG	**Sg**	**14 06 52.6**	**-4.9**
CRVS	**Cervenica-Dubn**	**2.23**	**128**	*e*PN	**Pn**	**14 06 28.2**	**+3.0**
CRVS				*e*SG	**Sg**	**14 06 57.0**	**-3.7**
PSZ	**Piszkesteto**	**2.50**	**163**	*e*Pg	**Pg**	**14 06 34.8**	**-1.6**
PSZ	**Piszkesteto**	**2.50**	**163**	*e*PB	**Pb**	**14 06 34.9**	**+2.8**
PRU	**Pruhonice**	**2.77**	**265**	*e*SG	**Sg**	**14 07 15.2**	**-3.4**
BRG	**Berggiesshubel**	**3.15**	**282**	*i* Pg	**Pg**	**14 06 48.2**	**-1.3**
BRG				*i* Sg	**Sg**	**14 07 30.3**	**-1.2**
KHC	**Kasperske Hory**	**3.59**	**253**	*e*PN	**Pn**	**14 06 44.5**	**-0.2**
KHC				*e*PG	**Pg**	**14 06 54.0**	**-4.3**
KHC				*e*SG	**Sg**	**14 07 42.7**	**-3.5**
CLL	**Collm**	**3.82**	**287**	*i* SG	**Sg**	**14 07 51.9**	**-1.7**
MOA	**Molln**	**3.87**	**232** ⇑	*i*PN	**Pn**	**14 06 49.0**	**+0.4**
MOA				*i* SG	**Sg**	**14 07 51.2**	**-4.2**
	5.6nm,0.4s						

*BJI **21** 14:14:07.3, 12.28N×92.42E,h23km,mB5.3,mb5.0,Ms4.8, Msz4.6*
*MOS **21** 14:14:09.3±1.1, 12.35N×92.54E,h33km,mb5.1/41,Error ellipse: s-maj=10.3km s-min=6.1km az=109.7*
*NEIC **21** 14:14:09.4±0.2, 12.34N×92.53E,mb5.0/42, Error ellipse: s-maj=6.6km s-min=4.6km az=47.0*
*IDC **21** 14:14:16.0±2.3, 12.33N×92.45E,h77km±20km,mb4.4/23, mb1 4.5/23,mb1mx4.4/27,mbtmp4.7/23,Error ellipse: s-maj=16.5km s-min=9.1km az=42.0*
ISC 21 14:14:07.3±0.9,12.26N±0.03×92.49E±0.03,h20km±6km,
h23km±1.3km:pP-P,n222,σ1§10/237,mb4.9/80,MS4.5/10,
19C-6D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**0.65**	**157**	*e*P	**Pb**	**14 14 26.1**	**+6.2**
PBA				*e*		14 14 39.4	
NNT	**Nongplab**	**7.09**	**87**	P	**Pn**	**14 15 56.6**	**+3.9**
BDT	**Bhumibol Dam**	**8.02**	**51**	P	**P**	**14 16 06.5**	**+0.8**
	71nm,0.9s						
NST	**Nakhon Sawan**	**8.16**	**65**	P	**P**	**14 16 09.0**	**+1.3**
	192nm,0.5s						
CM31	**Chiang Mai Arr**	**8.76**	**45**	*e*P	**P**	**14 16 13.5**	**-2.5**
	41nm,0.5s						
CHG	**Chiang Mai**	**9.01**	**43** ⇑	P	**P**	**14 16 18.7**	**-0.7**
	71nm,0.9s						
SNG	**Songkhla**	**9.47**	**121**	P	**P**	**14 16 30.0**	**+4.2**
	218nm,0.9s						
BWNR	**Bhubaneshwar**	**10.24**	**322**	*e*P	**P**	**14 16 32.5**	**-4.0**
BWNR				*e*S	**S**	**14 18 16.8**	**-15**
BWNR				*e*		14 18 20.3	
	comp=E,941nm,0.6s						
BWNR				*e*		14 18 21.6	
	comp=N,556nm,0.6s						
NANT	**Nan**	**10.24**	**50**	P	**P**	**14 16 39.0**	**+2.5**
	comp=N,288nm,0.5s						
CHRT	**Chiangrai**	**10.32**	**42** ⇓	P	**P**	**14 16 37.0**	**-0.5**
	comp=N,355nm,0.9s						
VIS	**Vishakhapatnam**	**10.38**	**303**	*e*P	**P**	**14 16 33.4**	**-5.0**
VIS				*e*		14 18 17.1	
VIS				*e*		14 18 20.5	
	comp=E,218nm,0.8s						
VIS				*e*		14 18 20.6	
	comp=N,259nm,0.9s						
KULM	**Kulim**	**10.63**	**130**	*e*P	**P**	**14 16 40.9**	**-1.0**
KKTK	**Khon Kaen**	**10.81**	**67** ⇑	P	**P**	**14 16 47.5**	**+3.2**
	comp=N,2μm,0.6s						
UBT	**Ubonrachathani**	**12.53**	**75**	P	**P**	**14 17 12.5**	**+4.9**
BLSP	**Bilaspur**	**13.93**	**316**	*e*	**P**	**14 17 19.9**	**-6.2**
BLSP				*e*		14 17 24.9	
	comp=Z,59nm,1.0s						
BLSP				*e*		14 19 48.0	
HYB	**Hyderabad**	**14.41**	**293**	*e*P	**P**	**14 17 26.0**	**-6.4**
HYB				*e*S	**S**	**14 19 54.0**	**-19**
HYB	**Hyderabad**	**14.41**	**293**	*i* P	**P**	**14 17 26.0**	**-6.4**
HYB				*e*S	**S**	**14 20 07.0**	**-5.5**
KMI	**Kunming**	**16.05**	**36**	P	**P**	**14 17 55.6**	**+1.8**
KMI				AP		14 18 00.0	
KMI				PP	PP	14 18 06.6	-0.2
KMI				S	**S**	**14 20 51.1**	**0.0**
KMI				AMB	AMB		
	comp=Z,47nm,1.1s						
KMI				LR	LR		
	comp=N,1μm,16.0s						
KMI				LR	LR		
	comp=E,1μm,15.1s						
KMI				LR	LR		
	comp=Z,1μm,23.1s						
JIRN	**Jiri**	**16.42**	**340**	*e*P	**P**	**14 17 57.3**	**-1.1**
	comp=Z,83nm,0.8s						
LATR	**Latur**	**16.53**	**294**	*e*P	**P**	**14 18 01.0**	**+1.2**
PKI	**Pulchoki**	**16.61**	**338**	*e*P	**P**	**14 18 00.6**	**-0.3**
	comp=Z,48nm,0.6s						
GUN	**Gumba**	**16.75**	**339**	*e*P	**P**	**14 18 02.3**	**-0.3**
	comp=Z,66nm,0.8s						

DMN	**Daman**	**16.76**	**337**	*e*P	**P**	**14 18 02.3**	**-0.4**
	comp=Z,121nm,0.8s						
KKN	**Kakani**	**16.86**	**337**	*e*P	**P**	**14 18 03.7**	**-0.3**
MNGI	**Mangalore**	**17.25**	**274**	*e*	**P**	**14 18 05.5**	**-3.5**
MNGI				*e*		14 20 53.8	
GKN	**Gorkha**	**17.30**	**336**	*e*P	**P**	**14 18 09.1**	**-0.4**
	comp=Z,78nm,0.5s						
LSA	**Lhasa**	**17.40**	**356**	*e*P	**P**	**14 18 09.7**	**-1.0**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s						
LSA	**Lhasa**	**17.40**	**356**	*e*P	**P**	**14 18 09.7**	**-1.0**
	comp=Z,79nm,0.6s						
KOLN	**Koldanda**	**17.53**	**333**	*e*P	**P**	**14 18 11.9**	**-0.5**
	comp=Z,79nm,0.6s						
BHPL	**Bhopal**	**18.01**	**309**	*e*P	**P**	**14 18 16.8**	**-1.6**
BHPL				*e*		14 18 18.0	
	comp=Z,5.8nm,0.4s						
BHPL				*e*		14 21 21.6	
QIZ	**Qiongzhong**	**18.01**	**66**	P	**P**	**14 18 20.6**	**+2.2**
QIZ	**Qiongzhong**	**18.01**	**66**	*e*P	**P**	**14 18 18.1**	**-0.3**
	comp=Z,44nm,1.0s						
KAD	**Karad**	**18.39**	**288**	*e*P	**P**	**14 18 21.3**	**-1.9**
KAD				*e*		14 18 26.5	
	comp=Z,31nm,1.0s						
KAD				*e*		14 21 26.2	
POO	**Poona**	**19.01**	**291**	*e*P	**P**	**14 18 28.6**	**-2.1**
POO				*e*		14 21 43.4	
GYA	**Guiyang**	**19.43**	**41** ⇑	*i*P	**P**	**14 18 35.5**	**+0.1**
GYA				AP		14 18 41.3	
GYA				XP		14 18 45.6	
GYA				PP	PP	14 18 53.8	+0.8
GYA				S	**S**	**14 22 12.4**	**+4.5**
GYA				AMB	AMB		
	comp=Z,60nm,0.8s						
GYA				AMB	AMB		
	comp=Z,360nm,3.6s						
GYA				LR	LR		
	comp=N,1μm,17.1s						
GYA				LR	LR		
	comp=E,2μm,15.2s						
GYA				LR	LR		
	comp=Z,2μm,16.5s						
LGTI	**Lohaghat**	**20.55**	**328**	*e*	**P**	**14 18 52.5**	**+5.1**
PTH	**Pithoragarh**	**20.64**	**328**	*e*	**P**	**14 18 52.4**	**+4.0**
PTH				*e*		14 22 21.9	
KSM	**Kuching**	**20.66**	**120**	*e*P	**P**	**14 18 48.1**	**-0.7**
CD2	**Chengdu**	**21.29**	**28** ⇑	*i*P	**P**	**14 18 54.6**	**-0.4**
CD2				AMB	AMB		
	comp=Z,119nm,1.2s,mb5.1						
NDI	**New Delhi**	**21.68**	**321**	*e*	**P**	**14 19 01.0**	**+2.1**
NDI				*e*		14 22 48.0	
AJM	**Ajmer**	**21.95**	**313**	*e*	**P**	**14 18 56.0**	**-5.6**
DDI	**Dehra Dun**	**22.40**	**326**	*e*	**P**	**14 19 07.2**	**+1.1**
DDI				*e*S	**S**	**14 23 08.5**	**+2.2**
ENH	**Enshi**	**23.86**	**39**	*e*P	**P**	**14 19 20.4**	**-0.1**
	comp=Z,151nm,0.8s,mb5.5						
SDNR	**Sundarnagar**	**23.90**	**326**	*e*	**P**	**14 19 23.5**	**+2.7**
LZH	**Lanzhou**	**25.84**	**21** ⇑	P	**P**	**14 19 40.0**	**+0.7**
LZH				AP	pP	14 19 49.0	+3.8
LZH				XP	sP	14 19 52.0	+4.1
LZH				AMB	AMB		
	comp=Z,100nm,1.2s,mb5.2						
LZH				LR	LR		
	comp=E,2μm,15.4s						
LZH				LR	LR		
	comp=Z,3μm,18.6s,MS4.8						
XAN	**Xi'an**	**26.35**	**32**	P	**P**	**14 19 43.4**	**-0.7**
XAN				AP	pP	14 19 50.4	+0.5
XAN				AMB	AMB		
	comp=Z,28nm,0.8s,mb4.8						
GTA	**Gaotai**	**27.81**	**12** ⇑	P	**P**	**14 19 58.3**	**+1.0**
GTA				AP	pP	14 20 04.3	+1.1
GTA				XP	sP	14 20 07.4	+1.5
GTA				PP	PP	14 20 46.8	+0.2
GTA				S	**S**	**14 24 36.8**	**-0.8**
GTA				XS		14 24 48.5	
GTA				SS	SS	14 25 55.8	-2.5
GTA				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,1μm,3.8s						
GTA				LR	LR		
	comp=N,472nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=E,524nm,16.4s,MS4.3						
GTA				LR	LR		
	comp=Z,933nm,17.5s,MS4.4						
KSH	**Kashi**	**30.83**	**335**	*e*P	**P**	**14 20 25.0**	**+0.7**
KSH				*e*AP	pP	14 20 31.0	+0.7
KSH				*e*XP	sP	14 20 33.8	+0.9
KSH				*e*PP	PP	14 21 27.1	+1.2
KSH				PPP	PPP	14 21 41.3	+0.6
KSH				*e*PCP	PcP	14 23 22.5	+1.2
KSH				*e*S	**S**	**14 25 26.3**	**+0.5**
KSH				*e*XS		14 25 36.1	
KSH				*e*SCP		14 27 03.4	
KSH				*e*PCS		14 27 05.3	
KSH				*e*SS	SS	14 27 09.4	+0.4
KSH				*e*SCS	ScS	14 30 55.1	-1.8
KSH				AMB	AMB		
	comp=Z,230nm,11.4s						
KSH				LR	LR		
	comp=N,480nm,7.8s						
KSH				LR	LR		
	comp=E,1μm,13.8s						
NJ2	**Nanjing**	**31.23**	**47**	*e*P	**P**	**14 20 28.4**	**+0.5**
NJ2				AP	pP	14 20 37.9	+4.1
NJ2				XP	sP	14 20 41.9	+5.5
NJ2				PP	PP	14 21 32.0	+0.9
NJ2				S	**S**	**14 25 32.0**	**0.0**
NJ2				XS		14 25 48.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,2μm,4.9s						
NJ2				LR	LR		
	comp=N,5μm,16.9s						
NJ2				LR	LR		
	comp=E,4μm,23.6s						
NJ2				LR	LR		
	comp=Z,2μm,16.4s,MS4.8						
WMQ	**Urumqi**	**31.72**	**353** ⇑	*i*P	**P**	**14 20 32.5**	**+0.4**
WMQ				AP	pP	14 20 39.0	+1.0
WMQ				XP	sP	14 20 43.0

SNR=7.5
KBK Karagaybulak 33.90 337 P P 14 20 52.0 +0.9
SNR=6.8
AML Almayashu 33.97 335 P P 14 20 52.6 +0.9
SNR=13
AAK Ala-Archa 34.06 336 P P 14 20 52.9 +0.4
comp=Z,54nm,0.8s,mb5.5,SNR=16
AAK Ala-Archa 34.06 336 *d iP* **P 14 20 52.1 -0.4**
AAK pmax pmax
comp=Z,11nm,1.0s,mb4.7
AAK MLR MLR
comp=Z,800nm,21.0s,MS4.4
AAK Ala-Archa 34.06 336 *eP* **P 14 20 51.1 -1.4**
comp=Z,9.6nm,0.9s,mb4.7
CHMS Chumysh 34.27 337 P P 14 20 54.4 +0.2
SNR=6.4
USP Ospenovka 34.59 337 P P 14 20 57.3 +0.3
SNR=18
BJT Baijiatuau 34.66 33 *eP* **P 14 20 56.2 -1.4**
BJT pmax pmax
comp=Z,17nm,0.6s
BJT Baijiatuau 34.66 33 *eP* **P 14 20 56.2 -1.4**
comp=Z,17nm,0.6s,mb5.1
BJI Beijing 34.67 33 *eP* **P 14 20 58.3 +0.5**
BJI AMB AMB
comp=Z,34nm,0.7s,mb5.4
BJI LR LR
comp=Z,1μm,24.1s,MS4.5
MKAR Makanchi Array 35.48 348 *i* P **P 14 21 04.0 -0.6**
MKAR pmax pmax
comp=Z,10.0nm,0.8s
JOW Kunigami 36.56 61 P P 14 21 15.1 +1.2
comp=Z,7.1nm,0.5s,mb4.8,baz=248,slow=19,SNR=7.4
SONM Songino Array 37.33 15 P P 14 21 20.9 +0.7
comp=Z,22nm,0.9s,mb5.0,baz=198,slow=7.8,SNR=118
SONM PcP PcP 14 23 39.7 0.0
comp=Z,1.1nm,0.7s,baz=193,slow=3.9,SNR=3.2
ULN Ulaanbaatar 37.53 16 *eP* **P 14 21 21.9 +0.1**
ULN pmax pmax
comp=Z,17nm,1.1s,mb4.7
ULN Ulaanbaatar 37.53 16 *eP* **P 14 21 21.9 +0.1**
comp=Z,17nm,1.1s,mb4.7
ZAK Zakamensk 39.03 11⇓ *iP* **P 14 21 34.5 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.6s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
MOY Mondy 39.90 8 *eP* **P 14 21 42.7 +1.1**
MOY pmax pmax
comp=Z,23nm,2.2s,mb4.5
KURK Kurchatov 39.99 346 *P* **P 14 21 42.6 +0.3**
comp=Z,90nm,0.8s,mb5.5,SNR=17
KURK Kurchatov 39.99 346 *c iP* **P 14 21 41.8 -0.5**
KURK Kurchatov 39.99 346 *eP* **P 14 21 41.2 -1.1**
comp=Z,13nm,0.9s,mb4.7
SNY Shenyang 40.02 37 ⇑P P 14 21 43.1 +0.4
SNY AMB AMB
comp=Z,30nm,1.3s,mb4.9
TLY Talaya 40.34 11 *eP* **P 14 21 45.9 +0.7**
TLY *e* 14 22 00.1
TLY pmax pmax
comp=Z,13nm,1.0s,mb4.6
TLY Talaya 40.34 11 *eP* **P 14 21 45.8 +0.6**
comp=Z,59nm,1.8s,mb5.0
KS15 Wonju Array Si 40.37 45 *eP* **P 14 21 45.4 -0.1**
ZAL Zalesovo 42.02 353 P P 14 21 58.8 -0.1
comp=Z,6.0nm,0.6s,mb4.4,baz=296,slow=7.0,SNR=34
CN2 Changchun 42.32 36 ⇑P P 14 22 02.3 +0.7
CN2 *e*AP pP 14 22 09.3 +1.7
CN2 *e*S **S 14 28 20.8 -0.4**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.0
CN2 AMB AMB
comp=Z,600nm,7.0s
CN2 LR LR
comp=N,800nm,17.0s,MS4.7
CN2 LR LR
comp=E,400nm,17.0s,MS4.7
CN2 LR LR
comp=Z,900nm,19.0s,MS4.7
MBWA Marble Bar 42.66 141 *eP* **P 14 22 04.3 -0.4**
NVS Novosibirsk 43.10 352 *eP* **P 14 22 06.0 -1.8**
NVS *e*S **S 14 28 23.3 -9.1**
NVS pmax pmax
comp=Z,12nm,1.3s,mb4.5
NVS pmax pmax
comp=N,21nm,1.7s
NVS smax
comp=N,25nm,2.5s
HIA Hailar 43.23 26 *eP* **P 14 22 08.5 -0.4**
HIA pmax pmax
comp=Z,7.0nm,0.8s
HIA Hailar 43.23 26 *eP* **P 14 22 08.5 -0.4**
comp=Z,7.3nm,0.8s,mb4.5
BVA0 Borovoye Array 44.34 341 *i* P **P 14 22 17.1 -0.7**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s
BVAR Borovoye Array 44.34 341 P **P 14 22 17.3 -0.6**
comp=Z,4.5nm,0.6s,mb4.4,baz=143,slow=8.8,SNR=42
FITZ Fitzroy Crossi 44.50 132⇑ *iP* **P 14 22 19.3 -0.4**
comp=Z,34nm,1.0s,mb5.1
FITZ *e*PP PP 14 24 03.4 -1.4
CHKZ Chkalovo 44.82 342 *eP* **P 14 22 21.1 -0.7**
CHKZ pmax pmax
comp=Z,27nm,0.6s,mb5.2
CHKZ Chkalovo 44.82 342 *eP* **P 14 22 21.1 -0.6**
comp=Z,27nm,0.6s,mb5.2
MDJ Mudanjiang 45.22 37 P P 14 22 25.6 +0.6
MDJ AMB AMB
comp=Z,11nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,710nm,8.7s
KAKA Kakadu 46.76 121 *eP* **P 14 22 36.8 -0.8**
comp=Z,7.4nm,0.6s,mb4.8
MAJO Matsushiro 47.57 51 *eP* **P 14 22 43.0 -0.8**
MAJO pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
MAJO Matsushiro 47.57 51 *eP* **P 14 22 43.0 -0.8**
comp=Z,6.6nm,0.7s,mb4.8
MAT Matsushiro 47.57 51 *eP* **P 14 22 44.0 +0.2**
MAT pmax pmax
comp=Z,15nm,1.0s,mb5.0
MAT Matsushiro 47.57 51 *eP* **P 14 22 44.0 +0.2**
comp=Z,15nm,1.0s,mb5.0
MAT Matsushiro 47.57 51 P P 14 22 44.1 +0.3
BOD Bodaibo 48.33 15⇑ *iP* **P 14 22 49.5 +0.2**
BOD pmax pmax
comp=Z,25nm,1.0s,mb5.2
KLR Kul'dur 49.05 33 *eP* **P 14 22 51.3 -3.7**
MUN Mundaring 49.51 153 *eP* **P 14 22 59.8 +1.0**
comp=Z,17nm,0.7s,mb5.2
MUN Mundaring 49.51 153 *eP* **P 14 22 59.8 +1.0**
MUN pmax pmax
comp=Z,17nm,0.7s,mb5.2
KLBR Kellerberrin 49.88 152 *eP* **P 14 23 02.0 +0.3**
comp=Z,215nm,0.8s
GNI Garni 50.26 312 *eP* **P 14 23 05.7 +1.3**
GNI pmax pmax
comp=Z,42nm,1.0s
GNI Garni 50.26 312 P P 14 23 04.9 +0.5
comp=Z,13nm,0.9s,mb5.0,baz=321,slow=3.9,SNR=8.0
GNI Garni 50.26 312 *eP* **P 14 23 05.7 +1.3**
comp=Z,42nm,1.0s,mb5.4
SVE Sverdlovsk 50.75 338 *eP* **P 14 23 07.1 -0.8**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.0
NWAO Narrogin (SRO) 50.77 153 *eP* **P 14 23 07.4 -1.0**
NWAO pmax pmax
comp=Z,36nm,1.2s
NWAO Narrogin (SRO) 50.77 153 P P 14 23 08.7 +0.3
comp=Z,33nm,1.0s,mb5.2,baz=316,slow=8.4,SNR=9.0
NWAO Narrogin (SRO) 50.77 153 *eP* **P 14 23 07.4 -1.0**
comp=Z,36nm,1.2s,mb5.2
Tl2 Plekhanov 50.80 314 *eP* **P 14 23 15.6 +7.1**
CLNS Chul'man 50.96 22 *eP* **P 14 23 00.3 -9.2**
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=E,12nm,0.7s
CLNS pmax pmax
comp=Z,25nm,0.7s,mb5.2
ARU Arti 51.24 337⇓ *iP* **P 14 23 10.8 -0.8**
ARU *e* 14 25 09.4
ARU *e*S **S 14 30 28.3 +0.6**
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6

WRA Warramunga Arr 52.16 127 P P 14 23 18.5 -0.6
WRA 14 24 31.0
WRA S **S 14 30 37.8 -3.1**
WRA Warramunga Arr 52.16 127 P P 14 23 18.5 -0.6
comp=Z,21nm,0.6s,mb5.3,baz=301,slow=10,SNR=381
WRA PcP PcP 14 24 31.0 +0.2
comp=Z,4.3nm,0.6s,baz=315,slow=3.2,SNR=8.1
WRA ScP 14 28 21.9
comp=Z,2.0nm,1.0s,baz=310,slow=3.8,SNR=2.4
WRA S **S 14 30 37.8 -3.1**
WRAB Tennant Creek 52.17 127 P P 14 23 19.0 -0.1
comp=Z,384nm,0.6s,SNR=38
WRAB Tennant Creek 52.17 127 *c iP* **P 14 23 18.8 -0.3**
WRAB Tennant Creek 52.17 127 *eP* **P 14 23 18.5 -0.7**
comp=Z,46nm,0.6s,mb5.6
WB2 Warramunga Arr 52.17 127⇑ *iP* **P 14 23 18.9 -0.3**
WB2 *i* PCP PcP 14 24 31.0 +0.1
WB2 *e*S **S 14 30 31.5 -10**
KIV Kislovodsk 53.02 316 *d iP* **P 14 23 25.1 -0.1**
KIV *i* 14 23 41.6
KIV *e*S **S 14 30 52.3 +0.2**
KIV pmax pmax
comp=Z,20nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,500nm,20.0s,MS4.6
KIV Kislovodsk 53.02 316 *eP* **P 14 23 25.5 +0.3**
comp=Z,37nm,1.1s,mb5.2
GOF Gofitskoye 53.19 318⇑ *iP* **P 14 23 35.5 +9.1**
GOF pmax pmax
comp=Z,19nm,0.8s,mb5.1
ASPA Alice Springs 53.99 131⇑ *iP* **P 14 23 32.2 -0.4**
ASPA *e*S **S 14 31 01.6 -4.1**
ASAR Alice Springs 53.99 131 P P 14 23 32.3 -0.3
ASAR 14 24 38.1
ASAR S **S 14 31 03.8 -1.9**
ASAR Alice Springs 53.99 131 P P 14 23 32.3 -0.3
comp=Z,6.7nm,0.4s,mb4.9,baz=311,slow=6.9,SNR=213
ASAR PcP PcP 14 24 38.0 +0.4
comp=Z,4.0nm,0.7s,baz=303,slow=3.7,SNR=7.4
ASAR ScP 14 28 33.2
comp=Z,1.9nm,1.0s,baz=312,slow=3.9,SNR=6.4
ASAR S **S 14 31 03.8 -2.0**
comp=Z,1.9nm,1.0s,baz=300,slow=13,SNR=6.6
YSS Yuzh-Sakhalins 54.43 40 *eP* **P 14 23 35.2 -0.3**
YSS *e* 14 23 53.1
YSS Yuzh-Sakhalins 54.43 40 *eP* **P 14 23 35.3 -0.2**
comp=Z,7.3nm,0.7s,mb4.7
MALT Malatya 54.44 308 *eP* **P 14 23 36.4 +0.7**
MALT pmax pmax
comp=Z,11nm,1.2s,mb4.7
MALT Malatya 54.44 308 *eP* **P 14 23 36.4 +0.7**
comp=Z,11nm,1.2s,mb4.7
ASF Jabal al Asfar 54.53 301 P P 14 23 36.6 +0.2
comp=Z,1.3nm,0.3s,mb4.4,baz=127,slow=5.1,SNR=3.8
FORT Forrest 54.77 142 *eP* **P 14 23 38.5 +0.3**
comp=Z,1μm,1.3s
KMBO Kilima Mbogo 56.41 260 P P 14 23 49.8 -0.5
comp=Z,0.8nm,0.4s,mb4.1,baz=61,slow=21,SNR=3.8
YAK Yakutsk 56.42 20 *eP* **P 14 23 48.1 -1.6**
YAK pmax pmax
comp=Z,58nm,0.8s,mb5.7
YAK Yakutsk 56.42 20 *eP* **P 14 23 48.1 -1.6**
comp=Z,58nm,0.8s,mb5.7
BRTR Keskin Array B 58.38 309 P P 14 24 01.9 -1.9
comp=Z,2.1nm,0.8s,mb4.2,baz=101,slow=6.3,SNR=11
PMG Port Moresby 58.44 109 *eP* **P 14 24 04.7 +0.1**
PMG pmax pmax
comp=Z,25nm,0.7s
PMG Port Moresby 58.44 109 P P 14 24 05.0 +0.5
comp=Z,24nm,0.6s,mb5.4,baz=19,slow=4.9,SNR=20
PMG Port Moresby 58.44 109 *eP* **P 14 24 04.7 +0.1**
comp=Z,24nm,0.7s,mb5.3
OBN Obninsk 60.83 327⇓ *iP* **P 14 24 19.5 -1.0**
OBN *e*S **S 14 32 36.2 +1.1**
OBN *e*SS SS 14 36 40.2 +4.5
OBN pmax pmax
comp=Z,16nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.4
CTA Charters Tower 61.90 121⇑ *iP* **P 14 24 28.6 +0.3**
comp=Z,8.5nm,0.9s,mb4.9
CTA *e*PCP PcP 14 25 10.0 +1.3
CTA Charters Tower 61.90 121⇑ *iP* **P 14 24 28.6 +0.3**
CTA *e* 14 25 10.0
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA Charters Tower 61.90 121 P P 14 24 28.3 0.0
comp=Z,11nm,0.9s,mb5.0,baz=288,slow=8.4,SNR=12
CTAO Charters Tower 61.90 121 *eP* **P 14 24 27.7 -0.6**
CTAO pmax pmax
comp=Z,20nm,1.1s,mb5.2
CTAO Charters Tower 61.90 121 *eP* **P 14 24 27.7 -0.6**
comp=Z,20nm,1.1s,mb5.2
MBAR Mbarara 62.58 263 *i* P **P 14 24 33.0 +0.1**
MBAR Mbarara 62.58 263 *eP* **P 14 24 32.8 -0.1**
comp=Z,11nm,1.4s,mb4.8
TIXI Tiksi 63.30 12⇑ *iP* **P 14 24 33.9 -2.9**
TIXI pmax pmax
comp=Z,49nm,1.3s,mb5.5
MA2 Magadan 63.70 29 *eP* **P 14 24 39.0 -0.5**
MA2 *e*S **S 14 33 09.2 -2.0**
MA2 *e*SS SS 14 37 14.4 -6.3
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
MA2 Magadan 63.70 29 *eP* **P 14 24 37.8 -1.7**
comp=Z,15nm,0.8s,mb5.1
STKA Stephens Creek 64.31 134 P P 14 24 43.9 -0.2
comp=Z,12nm,0.6s,mb5.1,baz=313,slow=6.2,SNR=32
STKA Stephens Creek 64.31 134 *eP* **P 14 24 43.7 -0.4**
IDI Anoyia 64.78 303 P P 14 24 44.8 -2.2
comp=Z,11nm,1.0s,mb4.8,baz=265,slow=7.1,SNR=3.1
JOF Joensuu 66.22 334 *ep* **P 14 24 54.5 -1.3**
comp=Z,6.3nm,0.8s,mb4.7
SUW Suwalki 68.03 323 *eP* **P 14 25 07.7 +0.3**
FINES FINESS Array B 68.10 332 P P 14 25 06.4 -1.3
comp=Z,4.6nm,0.8s,mb4.6,baz=112,slow=10,SNR=9.9
FINES PcP PcP 14 25 31.2 -2.5
comp=Z,2.2nm,0.6s,baz=101,slow=9.7,SNR=4.2
KAF Kangasniemi 68.17 332 *ep* **P 14 25 05.6 -2.6**
comp=Z,6.7nm,0.9s,mb4.7,baz=105,slow=6.2
KAF Kangasniemi 68.17 332 *eP* **P 14 25 05.6 -2.6**
KAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LSZ Lusaka 69.27 248 P P 14 25 18.2 +2.5
TOO Toolangi 70.17 138 *eP* **P 14 25 22.5 +1.7**
comp=Z,0.7nm,0.6s
TOO Toolangi 70.17 138 *eP* **P 14 25 22.5 +1.7**
TOO pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
KEV Kevo 70.18 340 *ep* **P 14 25 19.6 -0.8**
comp=Z,15nm,0.8s,mb5.0
KEV Kevo 70.18 340 *eP* **P 14 25 19.6 -0.8**
KEV pmax pmax
comp=Z,15nm,0.8s,mb5.0
HNR Honiara 70.41 105 *eP* **P 14 25 22.7 0.0**
HNR pmax pmax
comp=Z,51nm,0.9s,mb5.5
HNR Honiara 70.41 105 *eP* **P 14 25 22.7 +0.1**
comp=Z,50nm,0.9s,mb5.5
ARCES ARCESS Array B 70.61 340 P P 14 25 22.5 -0.5
comp=Z,7.1nm,0.9s,mb4.6,baz=86,slow=6.6,SNR=13
OKC Ostrava-Krasne 70.63 319 *eP* **P 14 25 26.8 +3.4**
MATP Matopo 70.80 243 P P 14 25 25.4 +0.4
comp=Z,5.7nm,1.1s,mb4.4,baz=99,slow=3.3,SNR=4.5
MORC Moravsky Berou 71.02 319 *eP* **P 14 25 25.6 -0.2**
MORC *e**PP pP 14 25 31.8 -0.3
MORC pmax pmax
comp=Z,11nm,1.0s,mb4.7
MORC Moravsky Berou 71.02 319 *eP* **P 14 25 25.6 -0.2**
comp=Z,11nm,1.0s,mb4.7
MORC *e*pP pP 14 25 31.8 -0.3
DPC Dobruska-Polom 71.83 319 *eP* **P 14 25 33.9 +3.2**
UPC Upice 72.04 319 *eP* **P 14 25 36.1 +4.2**
BILL Bilibino 72.65 22 *eP* **P 14 25 35.1 -0.1**
BILL pmax pmax
comp=Z,13nm,1.1s,mb4.8
BILL Bilibino 72.65 22 *eP* **P 14 25 35.1 -0.1**
comp=Z,13nm,1.1s,mb4.8
PRU Pruhonice 72.97 319 *eP* **P 14 25 40.7 +3.3**
VAE Valguarnera 73.23 306 P P 14 25 38.3 -0.9
comp=Z,53nm,0.4s,mb5.9,baz=100,slow=2.9,SNR=3.7
BRG Berggiesshubel 73.37 320 *eP* **P 14 25 42.6 +2.9**
BRG pmax pmax
comp=Z,16nm,1.3s,mb4.8
BRG Berggiesshubel 73.37 320 *eP* **P 14 25 42.6 +2.9**
comp=Z,16nm,1.3s,mb4.8
BRG *e* 14 25 46.9
BRG *i* 14 26 03.7
GERES GERESS Array B 73.50 317 P P 14 25 40.1 -0.4
comp=Z,2.5nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=12
KHC Kasperske Hory 73.58 318 *eP* **P 14 25 40.9 -0.1**
KHC *e* pP 14 25 47.0 -0.3
KHC *e* 14 26 05.0
KHC Kasperske Hory 73.58 318 *eP* **P 14 25 40.9 -0.1**
KHC pP pP 14 25 47.0 -0.3
KHC *x* 14 26 05.0
PTCC Patocco-Chiusa 73.75 315 *eP* **P 14 25 44.3 +2.3**
CLL Collm 73.96 320 *eP* **P 14 25 45.0 +1.9**
CLL Collm 73.96 320 P P 14 25 45.0 +1.9
CLL *e* 14 26 03.0
FX1 Attu Island--F 74.71 38 *eP* **P 14 25 47.4 -0.1**
MOX Moxa 74.84 319 *eP* **P 14 25 54.4 +6.1**
MOX pmax pmax
comp=Z,19nm,1.5s,mb4.8
MOX Moxa 74.84 319 *eP* **P 14 25 54.4 +6.1**
comp=Z,19nm,1.5s,mb4.8
MOX Moxa 74.84 319 *i P* **P 14 25 54.4 +6.1**
comp=Z,logA/T=1.1,mb4.8
LBTB Lobatse 74.97 240 P P 14 25 50.3 +0.8
comp=Z,3.3nm,0.6s,mb4.5,baz=89,slow=2.4,SNR=3.5
LBTB Lobatse 74.97 240 *eP* **P 14 25 51.0 +1.6**
GRA1 Grafenberg Arr 75.12 318 *eP* **P 14 25 49.6 -0.2**
comp=Z,12nm,1.1s,mb4.7
GRF Grafenberg Arr 75.12 318 *eP* **P 14 25 49.6 -0.2**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.7
GRF Grafenberg Arr 75.12 318 *eP* **P 14 25 49.6 -0.2**
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.7
GRF Grafenberg Arr 75.12 318 *eP* **P 14 25 49.6 -0.2**
comp=Z,12nm,1.1s,mb4.7
NB2 NORSAR Subarra 75.14 330 P P 14 25 48.6 -1.1
comp=Z,7.1nm,0.9s,mb4.6,baz=92,slow=5.8
NB2 NORSAR Subarra 75.14 330 P P 14 25 48.6 -1.1
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
NOA NORSAR Array B 75.14 330 P P 14 25 48.4 -1.4
comp=Z,5.3nm,0.8s,mb4.5,baz=91,slow=5.8,SNR=10
GSCL Guseciola 75.77 313 *eP* **P 14 25 57.2 +3.6**
ERBM Eremo 75.89 313 *eP* **P 14 25 58.1 +3.8**
KONO Kongsberg 75.92 329 *eP* **P 14 25 55.7 +1.5**
FIN Finale Ligure 77.48 313 *eP* **P 14 26 05.6 +2.3**
LPG La Plagne 78.40 314 *eP* **P 14 26 08.5 +0.3**
comp=Z,24nm,0.8s,mb4.9
LPG La Plagne 78.40 314 *eP* **P 14 26 08.5 +0.3**
LPG pmax pmax
comp=Z,12nm,0.8s,mb4.9
BNI Bardonecchia 78.49 314 *eP* **P 14 26 11.0 +2.2**
BNI pmax pmax
comp=Z,15nm,0.9s,mb4.9
BNI Bardonecchia 78.49 314 *eP* **P 14 26 11.0 +2.2**
comp=Z,16nm,0.9s,mb4.9
ESDC Sonseca Array 87.17 310 P P 14 26 54.1 +0.5
comp=Z,0.4nm,0.3s,mb4.1,baz=296,slow=37,SNR=3.7
IMA Indian Mountai 88.20 22 *eP* **P 14 26 59.1 +1.2**
IMA pmax pmax
comp=Z,21nm,0.8s,mb5.4
IMA Indian Mountai 88.20 22 *eP* **P 14 26 59.0 +1.2**
comp=Z,20nm,0.8s,mb5.4
COLA College 90.90 22 P P 14 27 11.3 +0.7
MCK McKinley 91.10 23 *eP* **P 14 27 11.8 +0.3**
MCK *e**PP pP 14 27 19.8 +1.8
MCK pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
MCK McKinley 91.10 23 *eP* **P 14 27 11.8 +0.2**
comp=Z,8.4nm,1.2s,mb5.0
MCK *e*pP pP 14 27 19.8 +1.8
SLKM Skilak Lake 92.20 26 P P 14 27 17.7 +1.0
INK Inuvik 93.24 16 *eP* **P 14 27 20.8 -0.5**
INK *e**PP pP 14 27 28.4 +0.6
INK pmax pmax
comp=Z,17nm,1.4s
INK Inuvik 93.24 16 P P 14 27 21.3 0.0
comp=Z,3.7nm,1.0s,mb4.8,baz=283,slow=4.0,SNR=12
INK Inuvik 93.24 16 *eP* **P 14 27 20.8 -0.6**
comp=Z,17nm,1.4s,mb5.3
INK *e*pP pP 14 27 28.4 +0.6
DAWY Dawson 94.35 20 *eP* **P 14 27 26.7 +0.2**
YKA Yellowknife Ar 102.55 13 PP PP 14 32 10.6 -8.7
comp=Z,0.6nm,0.8s,baz=336,slow=7.5,SNR=4.7
PDAR Pinedale Array 121.63 19 PKP PKPdf 14 33 00.0 -4.3
comp=Z,0.8nm,1.0s,baz=27,slow=3.3,SNR=4.9
NVAR Mina Array Bea 121.93 28 PKP PKPdf 14 33 03.6 -1.3
comp=Z,1.6nm,0.7s,baz=62,slow=1.5,SNR=14
MSU Marysvale 124.48 23 *e*PKIKP PKPdf 14 33 08.9 -1.0
ANMO Albuquerque 129.73 20 *i* PKIKP PKPdf 14 33 18.9 -1.2
TXAR Lajitas Array 135.81 20 PKP PKPdf 14 33 28.7 -2.9
comp=Z,0.8nm,0.8s,baz=90,slow=1.3,SNR=5.9
TXAR PP PP 14 36 05.1 -4.7
comp=Z,0.1nm,0.3s,slow=1.3,SNR=3.7
TXAR SKPab 14 37 00.3
comp=Z,0.8nm,1.0s,baz=333,slow=2.0,SNR=3.5
TXAR Lajitas Array 135.81 20 PKP PKPdf 14 33 28.7 -2.9
TXAR PP PP 14 36 05.1 -4.7
TXAR SKPab 14 37 00.3
PLCA Paso Flores 147.96 205 PKPbc PKPdf 14 33 54.2 +1.6
comp=Z,6.2nm,1.2s,baz=194,slow=4.2,SNR=3.7

TAP ***21*** *14:46:00.8,23.92N×122.47E,h5km±1km,ML2.8*
JMA 21 14:46:01.2±0.1,24.07N×122.61E,h33km,M2.1,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**43**	P	P	14 46 12.1	-0.1
YOJ				S	S	14 46 19.8	-0.3
IRIF	**Iriomote-Funau**	**1.06**	**75**	P	P	14 46 20.2	+0.5
IRIF				S	S	14 46 33.7	+0.3
HATJ	**Hateruma jima**	**1.09**	**90**	P	P	14 46 20.5	+0.3
HATJ				S	S	14 46 34.8	+0.5
JKRS	**Kuro-shima**	**1.29**	**82**	P	P	14 46 23.6	+0.7
JKRS				S	S	14 46 40.7	+1.4
JIJ	**Ishigaki jima**	**1.43**	**78**	P	P	14 46 25.2	+0.2
JIJ				S	S	14 46 43.1	+0.2
JTJ	**Tarama**	**1.99**	**73**	S	S	14 46 57.8	+0.7

NIED ***21*** *14:59:00,33.80N×130.10E,h8km,Mw4.5 Best double couple: M0 5.6×10^15 NP1:φ=49°,δ=80°,λ=-168°. NP2:φ=317°,δ=78°,λ=-10°.*
JMA ***21*** *14:59:21.9,33.79N×130.10E,h12km±1km,M4.8 Broadband fault plane solution: P waves. NP1:φ=64°,δ=66°,λ=-167°. NP2:φ=328°,δ=78°,λ=-25°. Principal axes: T Plg8°, Azm18°; N Plg63°, Azm124°; P Plg26°, Azm284°;*
JMA Felt III J1.
IDC ***21*** *14:59:21.5±0.7,33.91N×130.17E,mb4.0/13,mb1 4.3/16, mb1mx4.2/26,mbtmp4.2/16,ML3.4/2 Error ellipse: s-maj=22.7km s-min=15.5km az=77.0*
BJI ***21*** *14:59:22.3,33.68N×130.02E,h17km,mB4.8,mb4.5, Ms4.5,Msz4.0*
NEIC ***21*** *14:59:23.3±0.3,33.86N×130.02E,h10km,mb4.3/10,Error ellipse: s-maj=7.2km s-min=5.7km az=70.0*
NEIC Recorded [3 JMA] in Fukuoka; [2 JMA] in Kumamoto, Nagasaki and Saga; [1 JMA] in Oita Prefectures. Recorded [2 JMA] on Uku-jima and in the Tsushima Islands. Also recorded [2 JMA] in Shimane and [1 JMA] in Yamaguchi Prefectures, Honshu.
MOS ***21*** *14:59:24.8±0.8,33.83N×130.14E,h33km,mb4.5/10,Error ellipse: s-maj=14.9km s-min=9.3km az=88.5*
ISC 21 14:59:21.6±0.2,33.79N±0.03×130.09E±0.03,h12km,n66,σ0 s94/81,mb4.2/28,MS4.4/4,3C-4D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.30**	**272**	⇓P	**Pg**	**14 59 28.3**	**+0.4**
JII				S	**Sg**	**14 59 32.7**	**+0.6**
JFI	**Itaya**	**0.44**	**145**	⇓P	**Pg**	**14 59 30.5**	**0.0**
JFI				S	**Sg**	**14 59 36.4**	**-0.1**
JFA	**Akaike**	**0.59**	**97**	⇓P	**Pb**	**14 59 33.0**	**-0.4**
JFA				S	**Sb**	**14 59 41.4**	**0.0**
JUR	**Ureshino**	**0.70**	**190**	⇑P	**Pb**	**14 59 35.2**	**0.0**
JUR				S	**Sb**	**14 59 44.8**	**+0.3**
JTA	**Tamana**	**0.90**	**156**	⇑P	**Pb**	**14 59 38.7**	**+0.1**
JTA				S	**Sb**	**14 59 50.3**	**0.0**
JTU	**Tsushima**	**0.93**	**322**	⇓P	**Pb**	**14 59 39.6**	**+0.4**

JTU				S	**Sb**	**14 59 52.2**	**+0.9**	
KS15	**Wonju Array Si**	**4.07**	**334**	*e*Pn	**Pn**	**15 00 24.3**	**-0.8**	
KS15				*e*Pb	**Pb**	**15 00 34.3**	**+1.5**	
INCN	**Inchon**	**4.64**	**324**	*e*Pn	**Pn**	**15 00 32.2**	**-1.0**	
JOW	**Kunigami**	**7.11**	**193**	Pn	**Pn**	**15 01 09.3**	**+1.3**	
	1.5nm,0.3s,baz=31,slow=9.6,SNR=9.0							
MAJO	**Matsushiro**	**7.19**	**65**	*e*P	**Pn**	**15 01 10.0**	**+0.8**	
MAJO				pmax	pmax			
	comp=Z,47nm,1.0s							
MAJO	**Matsushiro**	**7.19**	**65**	*e*Pn	**Pn**	**15 01 10.0**	**+0.8**	
	comp=Z,47nm,1.0s							
MAJO				*e*Pb	**Pb**	**15 01 20.5**	**-5.8**	
MAJO				*e*Sg	**Sg**	**15 03 06.0**	**-15**	
MAT	**Matsushiro**	**7.19**	**65**	P	**Pn**	**15 01 10.0**	**+0.8**	
MAT				S	**Sn**	**15 02 35.0**	**+3.3**	
MAT				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MAT	**Matsushiro**	**7.19**	**65**	P	**Pn**	**15 01 10.0**	**+0.8**	
	comp=Z,7.3nm,0.6s							
MAT				S	**Sn**	**15 02 35.0**	**+3.3**	
MAT	**Matsushiro**	**7.19**	**65**	P	**Pn**	**15 01 09.7**	**+0.5**	
MAT				*e*S	**Sn**	**15 02 34.8**	**+3.1**	
JHJ	**Hachijo jima 2**	**8.13**	**92**	Pn	**P**	**15 01 20.6**	**-1.7**	
	comp=Z,30nm,0.3s,baz=61,slow=21,SNR=7.1							
MDJ	**Mudanjiang**	**10.82**	**358**	P	**P**	**15 02 02.1**	**+2.7**	
BJI	**Beijing**	**12.76**	**303**	*e*P	**P**	**15 02 29.8**	**+4.2**	
BJI				AMB	AMB			
	comp=Z,7.0nm,1.1s							
ASAJ	**Asahikawa**	**14.16**	**40**	Pn	**P**	**15 02 42.9**	**-1.2**	
	comp=Z,0.3nm,0.3s,baz=210,slow=12,SNR=5.6							
KLR	**Kul'dur**	**15.48**	**4**	*e*P	**P**	**15 03 02.0**	**+0.7**	
HHC	**Hu-ho-hao-te**	**16.32**	**301**	*e*P	**P**	**15 03 13.8**	**+1.7**	
HHC				XP		15 03 23.5		
HHC				S	**S**	**15 06 11.3**	**-1.5**	
HHC				XS		15 06 21.3		
HHC				SS	SS	15 06 30.9	-1.6	
HHC				AMB	AMB			
	comp=Z,13nm,0.8s							
HHC				AMB	AMB			
	comp=Z,125nm,3.7s							
HHC				LR	LR			
	comp=N,1μm,16.7s							
HHC				LR	LR			
	comp=E,567nm,18.4s							
HHC				LR	LR			
	comp=Z,510nm,19.0s							
HIA	**Hailar**	**17.27**	**337**	*e*P	**P**	**15 03 24.8**	**+0.8**	
HIA				pmax	pmax			
	comp=Z,20nm,1.3s							
HIA	**Hailar**	**17.27**	**337**	*e*P	**P**	**15 03 24.8**	**+0.8**	
	comp=Z,20nm,1.3s							
BTO	**Baotou**	**17.36**	**299**	*e*P	**P**	**15 03 22.1**	**-3.1**	
XAN	**Xi'an**	**17.57**	**277**	P	**P**	**15 03 27.9**	**0.0**	
XAN				LG2		15 09 03.8		
XAN				AMB	AMB			
	comp=Z,4.0nm,1.1s							
XAN				LR	LR			
	comp=N,446nm,15.1s							
XAN				LR	LR			
	comp=E,327nm,12.1s							
XAN				LR	LR			
	comp=Z,515nm,14.0s							
ENH	**Enshi**	**17.82**	**264**	*e*P	**P**	**15 03 30.8**	**-0.2**	
	comp=Z,11nm,1.0s							
GYA	**Guiyang**	**21.51**	**256**	⇑*i*P	**P**	**15 04 11.6**	**-0.9**	
GYA				AMB	AMB			
	comp=Z,20nm,0.7s,mb4.7							
GYA				LR	LR			
	comp=N,2μm,14.1s,MS4.8							
GYA				LR	LR			
	comp=E,1μm,10.5s,MS4.8							
GYA				LR	LR			
	comp=Z,430nm,15.9s							
LZH	**Lanzhou**	**21.62**	**284**	*e*P	**P**	**15 04 13.5**	**0.0**	
LZH				AMB	AMB			
	comp=Z,20nm,1.0s,mb4.5							
ULN	**Ulaanbaatar**	**22.29**	**316**	*e*P	**P**	**15 04 20.4**	**+0.3**	
ULN				pmax	pmax			
	comp=Z,20nm,1.4s,mb4.3							
ULN	**Ulaanbaatar**	**22.29**	**316**	*e*P	**P**	**15 04 20.4**	**+0.3**	
	comp=Z,20nm,1.4s,mb4.4							
CD2	**Chengdu**	**22.41**	**270**	*e*P	**P**	**15 04 20.8**	**-0.6**	
CD2				AMB	AMB			
	comp=Z,19nm,1.0s,mb4.5							
SONM	**Songino Array**	**22.65**	**315**	P	**P**	**15 04 23.6**	**-0.1**	
	comp=Z,1.3nm,0.9s,mb3.4,baz=126,slow=11,SNR=9.4							
CLNS	**Chul'man**	**23.33**	**353**	*e*P	**P**	**15 04 26.4**	**-3.7**	
CLNS				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.3							
CLNS				pmax	pmax			
	comp=N,8.0nm,0.7s							
GTA	**Gaotai**	**24.88**	**292**	*e*P	**P**	**15 04 46.0**	**+0.6**	
GTA				AP		15 04 50.5		
GTA				XP		15 04 52.9		
GTA				PP	PP	15 05 27.4	+4.9	
GTA				S	**S**	**15 09 13.8**	**+8.5**	
GTA				XS		15 09 21.3		
GTA				AMB	AMB			
	comp=Z,3.0nm,1.2s,mb3.7							
GTA				AMB	AMB			
	comp=Z,253nm,5.3s							
GTA				LR	LR			
	comp=N,691nm,16.3s,MS4.3							
GTA				LR	LR			
	comp=E,217nm,15.2s,MS4.3							
GTA				LR	LR			
	comp=Z,334nm,17.5s,MS3.9							
ZAK	**Zakamensk**	**25.70**	**318**	*e*P	**P**	**15 04 52.5**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb3.9							
BOD	**Bodaibo**	**26.39**	**341**	*e*P	**P**	**15 04 56.3**	**-3.0**	
WMQ	**Urumqi**	**34.20**	**300**	P	**P**	**15 06 09.1**	**+0.2**	
WMQ				AP	pP	15 06 16.0	+3.6	
WMQ				XP	sP	15 06 20.0	+6.1	
WMQ				PP	PP	15 07 24.0	+0.4	
WMQ				*e*S	**S**	**15 11 32.0**	**-2.0**	
WMQ				XS		15 11 45.0		
WMQ				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,85nm,4.3s							
WMQ				LR	LR			
	comp=N,1μm,21.8s,MS4.7							
WMQ				LR	LR			
	comp=E,980nm,22.7s,MS4.7							
WMQ				LR	LR			
	comp=Z,870nm,23.5s,MS4.4							
ZAL	**Zalesovo**	**37.55**	**316**	P	**P**	**15 06 37.3**	**+0.2**	
	comp=Z,0.8nm,0.7s,mb3.5,baz=18,slow=5.7,SNR=6.4							
TIXI	**Tiksi**	**37.93**	**359**	*e*P	**P**	**15 06 40.9**	**+0.7**	
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0							
TIXI				MLR	MLR			
	comp=Z,296nm,15.0s,MS4.2							
BILL	**Bilibino**	**40.03**	**20**	*e*P	**P**	**15 06 57.8**	**+0.1**	
BILL				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.3							
BILL	**Bilibino**	**40.03**	**20**	*e*P	**P**	**15 06 57.8**	**+0.1**	
	comp=Z,7.3nm,1.1s,mb4.3							
KURK	**Kurchatov**	**40.79**	**310**	*e*P	**P**	**15 07 03.2**	**-1.0**	
KURK				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.2							
KURK	**Kurchatov**	**40.79**	**310**	*e*P	**P**	**15 07 03.1**	**-1.0**	
	comp=Z,5.9nm,0.9s,mb4.2							
CHKZ	**Chkalovo**	**45.85**	**314**	*e*P	**P**	**15 07 45.0**	**0.0**	
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.0							
CHKZ	**Chkalovo**	**45.85**	**314**	*e*P	**P**	**15 07 45.0**	**-0.1**	
	comp=Z,2.4nm,0.9s,mb4.1							
BVAR	**Borovoye Array**	**45.98**	**314**	P	**P**	**15 07 45.5**	**-0.6**	
	comp=Z,1.1nm,0.6s,mb3.9,baz=90,slow=7.4,SNR=9.7							
WRAB	**Tennant Creek**	**53.57**	**175**	*e*P	**P**	**15 08 44.9**	**+0.1**	
WRAB				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
WRAB	**Tennant Creek**	**53.57**	**175**	*e*P	**P**	**15 08 44.9**	**+0.1**	
	comp=Z,5.1nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**53.58**	**175**	*e*P	**P**	**15 08 45.2**	**+0.4**	
IMA	**Indian Mountai**	**54.11**	**29**	*e*P	**P**	**15 08 48.1**	**0.0**	
IMA				pmax	pmax			
	comp=Z,39nm,1.4s,mb5.1							
IMA	**Indian Mountai**	**54.11**	**29**	*e*P	**P**	**15 08 48.0**	**0.0**	
	comp=Z,39nm,1.4s,mb5.1							
CTA	**Charters Tower**	**55.74**	**162**	P	**P**	**15 09 01.4**	**+0.8**	
	comp=Z,4.1nm,0.9s,mb4.5,baz=322,slow=10,SNR=5.2							
CTAO	**Charters Tower**	**55.74**	**162**	*e*P	**P**	**15 09 01.2**	**+0.5**	
CTAO				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
CTAO	**Charters Tower**	**55.74**	**162**	*e*P	**P**	**15 09 01.1**	**+0.5**	
	comp=Z,5.0nm,0.8s,mb4.6							
ASAR	**Alice Springs**	**57.25**	**176**	P	**P**	**15 09 09.8**	**-1.6**	
	comp=Z,3.7nm,0.9s,mb4.4,baz=359,slow=6.7,SNR=30							
ASPA	**Alice Springs**	**57.25**	**176**	*e*P	**P**	**15 09 11.8**	**+0.4**	
INK	**Inuvik**	**61.36**	**125**	P	**P**	**15 09 37.4**	**-1.8**	
	comp=Z,0.9nm,0.7s,mb4.0,baz=305,slow=12,SNR=5.8							
STKA	**Stephens Creek**	**66.21**	**169**	P	**P**	**15 10 12.8**	**+1.3**	
	comp=Z,5.8nm,0.9s,mb4.6,baz=4.9,slow=5.7,SNR=6.5							
STKA	**Stephens Creek**	**66.21**	**169**	*e*P	**P**	**15 10 12.4**	**+1.0**	
FINES	**FINESS Array B**	**67.14**	**330**	P	**P**	**15 10 17.2**	**+0.4**	
	comp=Z,0.8nm,0.7s,mb3.9,baz=34,slow=5.0,SNR=3.3							
YKA	**Yellowknife Ar**	**71.04**	**26**	P	**P**	**15 10 39.6**	**-1.3**	
	comp=Z,0.3nm,0.6s,mb3.4,baz=301,slow=6.4,SNR=8.2							
FCC	**Fort Churchill**	**80.73**	**22**	*e*P	**P**	**15 11 35.9**	**+0.2**	
FCC				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4							
FCC	**Fort Churchill**	**80.73**	**22**	*e*P	**P**	**15 11 35.9**	**+0.2**	
	comp=Z,3.7nm,0.8s,mb4.4							
FRB	**Frobisher Bay**	**81.68**	**8**	P	**P**	**15 11 39.9**	**-0.7**	
	comp=Z,3.3nm,0.8s,mb4.3,baz=20,slow=4.9,SNR=3.5							
NVAR	**Mina Array Bea**	**84.16**	**47**	P	**P**	**15 11 54.4**	**+0.5**	
	comp=Z,1.4nm,0.8s,mb4.2,baz=278,slow=6.0,SNR=11							
PDAR	**Pinedale Array**	**86.30**	**40**	P	**P**	**15 12 05.3**	**+0.9**	
	comp=Z,1.0nm,0.7s,mb4.1,baz=26,slow=1.7,SNR=10							
ULM	**Lac du Bonnet**	**86.98**	**28**	P	**P**	**15 12 07.7**	**+0.1**	
	comp=Z,1.0nm,0.4s,mb4.4,baz=327,slow=6.3,SNR=4.0							

*NEIC **21** 15:17:32.1,40.63S×175.61E,h28km,ML4.1(WEL),After WEL.*
NEIC Felt in the southern part of the North Island.
WEL 21 15:17:32.4±0.1,40.66S×175.58E,h27km,ML4.2/30,
5C-6D,Error ellipse: s-maj=0.8km s-min=0.4km az=90.0,
North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRZ	**Mangatainoka R**	**0.01**	**189**	P	Pn	15 17 36.7	+0.1
MRZ				S	Sn	15 17 40.6	+1.7
MRZ	**Mangatainoka R**	**0.01**	**189**	⇓P*	Pb	15 17 36.7	-0.3
MRZ				S*	Sb	15 17 40.6	+0.6
BFZ	**Birch Farm**	**0.51**	**93**	*e*P	Pb	15 17 42.8	0.0
BFZ	**Birch Farm**	**0.51**	**93**	⇑P*	Pb	15 17 42.7	0.0
BFZ				S*	Sb	15 17 51.3	+1.5
MTW	**Mount Morrison**	**0.51**	**187**	P	Pb	15 17 43.3	+0.5
MTW	**Mount Morrison**	**0.51**	**187**	P*	Pb	15 17 43.2	+0.4
KIW	**Kapiti Island**	**0.55**	**248**	P	Pb	15 17 43.4	-0.1
KIW	**Kapiti Island**	**0.55**	**248**	⇓P*	Pb	15 17 43.4	0.0
KIW				S*	Sb	15 17 51.7	+0.7
CAW	**Cannon Point**	**0.60**	**220**	P	Pb	15 17 44.3	+0.1
CAW	**Cannon Point**	**0.60**	**220**	⇓P*	Pb	15 17 44.3	+0.1
CAW				S*	Sb	15 17 53.5	+1.1
TSZ	**Takapari Road**	**0.66**	**26**	P	Pb	15 17 42.9	-2.4
TSZ	**Takapari Road**	**0.66**	**26**	P*	Pb	15 17 43.7	-1.6
TSZ				S*	Sb	15 17 54.8	+0.6
PAWZ	**Paruwai Farm**	**0.74**	**189**	P*	Pb	15 17 46.6	0.0
PAWZ				S*	Sb	15 17 57.6	+1.3
MSWZ	**Moikau Station**	**0.80**	**198**	P	Pb	15 17 47.5	-0.1
MSWZ	**Moikau Station**	**0.80**	**198**	P*	Pb	15 17 47.4	-0.3
MSWZ				*e*S*	Sb	15 17 58.7	+0.7
WEL	**Wellington**	**0.88**	**224**	P	Pb	15 17 48.9	-0.1
WEL	**Wellington**	**0.88**	**224**	P*	Pb	15 17 48.8	-0.2
BHW	**Baring Head**	**0.93**	**215**	P	Pb	15 17 49.2	-0.5
BHW	**Baring Head**	**0.93**	**215**	P*	Pb	15 17 49.1	-0.6
SNZO	**South Karori**	**0.93**	**225**	P	Pn	15 17 49.3	-0.5
SNZO	**South Karori**	**0.93**	**225**	P*	Pb	15 17 49.3	-0.6
SNZO				S*	Sb	15 18 02.7	+0.9
WAZ	**Wanganui**	**1.01**	**333**	P	Pn	15 17 50.5	-0.4
WAZ	**Wanganui**	**1.01**	**333**	⇑PN	Pn	15 17 50.5	-0.4
WAZ				*e*SN	Sn	15 18 03.6	-0.6
PWZ	**Pawanui**	**1.16**	**58**	P	Pn	15 17 51.1	-2.0
PWZ	**Pawanui**	**1.16**	**58**	⇓P*	Pb	15 17 51.1	-2.7
PWZ				*e*S*	Sb	15 18 07.0	-1.4
MOVZ	**Moawhango**	**1.25**	**6**	P	Pn	15 17 53.2	-1.2
MOVZ	**Moawhango**	**1.25**	**6**	PN	Pn	15 17 53.2	-1.2
MOVZ				SN	Sn	15 18 08.8	-1.7
DUWZ	**D'Urville Isla**	**1.27**	**263**	P*	Pb	15 17 53.8	-1.8
MTVZ	**Mangateitei**	**1.27**	**356**	PN	Pn	15 17 53.9	-0.8
WNVZ	**Wahianoa**	**1.32**	**1**	P	Pn	15 17 54.5	-0.9
WNVZ	**Wahianoa**	**1.32**	**1**	⇑PN	Pn	15 17 54.5	-0.9
DRZ	**Dome Shelter**	**1.38**	**359**	P	Pn	15 17 55.8	-0.4
DRZ	**Dome Shelter**	**1.38**	**359**	⇓PN	Pn	15 17 55.6	-0.6
TUVZ	**Tukino**	**1.39**	**2**	P	Pn	15 17 55.7	-0.6
TUVZ	**Tukino**	**1.39**	**2**	⇑PN	Pn	15 17 55.7	-0.6
TUVZ				SN	Sn	15 18 12.5	-1.4
FWVZ	**Far West T-bar**	**1.40**	**359**	P	Pn	15 17 55.7	-0.8
FWVZ	**Far West T-bar**	**1.40**	**359**	PN	Pn	15 17 55.7	-0.8
FWVZ				*e*SN	Sn	15 18 13.1	-1.1
WPVZ	**Whakapapa**	**1.45**	**359**	PN	Pn	15 17 56.5	-0.7
CNZ	**Chateau**	**1.45**	**359**	P	Pn	15 17 56.6	-0.7
CNZ	**Chateau**	**1.45**	**359**	PN	Pn	15 17 56.6	-0.6
TUWZ	**Tuamarina**	**1.46**	**237**	PN	Pn	15 17 56.0	-1.4
NGZ	**Ngauruhoe**	**1.48**	**1**	P	Pn	15 17 56.9	-0.7
NGZ	**Ngauruhoe**	**1.48**	**1**	PN	Pn	15 17 56.9	-0.7
OTVZ	**Oturere**	**1.49**	**3**	PN	Pn	15 17 57.1	-0.7
WTVZ	**West Tongariro**	**1.54**	**0**	P	Pn	15 17 57.8	-0.7
WTVZ	**West Tongariro**	**1.54**	**0**	⇑PN	Pn	15 17 57.8	-0.7
TWVZ	**Taurewa**	**1.58**	**356**	P	Pn	15 17 58.3	-0.9
TWVZ	**Taurewa**	**1.58**	**356**	PN	Pn	15 17 58.1	-1.1
TWVZ				*e*SN	Sn	15 18 16.9	-2.0
RAEZ	**Rainy Point**	**1.64**	**326**	P	Pn	15 17 59.8	-0.2
RAEZ	**Rainy Point**	**1.64**	**326**	PN	Pn	15 17 59.7	-0.3
BKZ	**Black Stump Fm**	**1.64**	**26**	P	Pn	15 17 57.8	-2.2
BKZ	**Black Stump Fm**	**1.64**	**26**	⇓PN	Pn	15 17 57.8	-2.2
BKZ				SN	Sn	15 18 18.4	-2.0
MGZ	**Maungaku**	**1.65**	**359**	P	Pn	15 17 59.2	-0.9
MGZ	**Maungaku**	**1.65**	**359**	PN	Pn	15 17 59.1	-1.0
VRZ	**Vera Road**	**1.65**	**337**	*e*P	Pn	15 17 57.8	-2.3
VRZ	**Vera Road**	**1.65**	**337**	PN	Pn	15 17 59.5	-0.7
VRZ				SN	Sn	15 18 20.7	+0.1
BSWZ	**Blackbirch Sta**	**1.67**	**230**	P	Pn	15 17 59.1	-1.2
BSWZ	**Blackbirch Sta**	**1.67**	**230**	PN	Pn	15 17 59.1	-1.3
KATZ	**Kakaramea**	**1.68**	**3**	P	Pn	15 17 59.8	-0.7
KATZ	**Kakaramea**	**1.68**	**3**	PN	Pn	15 17 59.7	-0.8
RITZ	**Rihia Road**	**1.69**	**7**	PN	Pn	15 17 59.5	-1.1
NNZ	**Nelson**	**1.76**	**251**	*e*P	Pn	15 18 00.8	-0.9
NNZ	**Nelson**	**1.76**	**251**	PN	Pn	15 18 00.5	-1.1
RATZ	**Rangitukua**	**1.79**	**5**	P	Pn	15 18 01.5	-0.6
RATZ	**Rangitukua**	**1.79**	**5**	*e*PN	Pn	15 18 00.8	-1.3
NEZ	**North Egmont**	**1.79**	**320**	P	Pn	15 18 02.3	+0.2
NEZ	**North Egmont**	**1.79**	**320**	*e*PN	Pn	15 18 01.9	-0.2
HATZ	**Hinemaiaia**	**1.80**	**13**	P	Pn	15 18 00.5	-1.8
NRZ	**Ngariki Road**	**1.83**	**316**	P	Pn	15 18 03.0	+0.4
NRZ	**Ngariki Road**	**1.83**	**316**	PN	Pn	15 18 03.0	+0.4
PKE	**Pukeiti**	**1.90**	**319**	P	Pn	15 18 04.3	+0.6
PKE	**Pukeiti**	**1.90**	**319**	*e*PN	Pn	15 18 04.4	+0.7
NWEZ	**Newall Road**	**1.91**	**316**	P	Pn	15 18 04.2	+0.4
NWEZ	**Newall Road**	**1.91**	**316**	PN	Pn	15 18 04.2	+0.4
WATZ	**Wairara**	**1.95**	**4**	P	Pn	15 18 02.8	-1.5
WATZ	**Wairara**	**1.95**	**4**	*e*PN	Pn	15 18 02.6	-1.7
WHTZ	**Whakaora**	**2.01**	**8**	P	Pn	15 18 03.5	-1.7
HIZ	**Hauiti**	**2.21**	**345**	P	Pn	15 18 07.4	-0.7
HIZ	**Hauiti**	**2.21**	**345**	*e*PN	Pn	15 18 06.8	-1.3
HIZ				*e*SN	Sn	15 18 32.6	-2.2
THZ	**Tophouse**	**2.30**	**240**	*e*P	Pn	15 18 07.3	-2.2
THZ	**Tophouse**	**2.30**	**240**	*e*PN	Pn	15 18 07.2	-2.2
QRZ	**Quartz Range**	**2.33**	**265**	*e*P	Pn	15 18 07.9	-1.9
QRZ	**Quartz Range**	**2.33**	**265**	PN	Pn	15 18 07.8	-2.0
QRZ				*e*SN	Sn	15 18 36.1	-1.6
PATZ	**Paeroa**	**2.33**	**13**	P	Pn	15 18 07.6	-2.2
PATZ	**Paeroa**	**2.33**	**13**	PN	Pn	15 18 07.5	-2.3
KHZ	**Kahutara**	**2.33**	**220**	*e*P	Pn	15 18 07.3	-2.6
KHZ	**Kahutara**	**2.33**	**220**	PN	Pn	15 18 07.2	-2.7
TAZ	**Tarawera**	**2.52**	**17**	P	Pn	15 18 09.7	-2.9
URZ	**Urewera**	**2.67**	**27**	P	Pn	15 18 10.2	-4.5
URZ	**Urewera**	**2.67**	**27**	*e*PN	Pn	15 18 10.0	-4.6
URZ				*e*SN	Sn	15 18 41.3	-5.2
MWZ	**Matawai**	**2.76**	**34**	P	Pn	15 18 11.5	-4.5
MARZ	**Manawahe**	**2.80**	**18**	P	Pn	15 18 14.3	-2.2
TOZ	**Tahuroa Road**	**2.92**	**359**	P	Pn	15 18 18.5	+0.2
DSZ	**Dennistone Nort**	**3.05**	**248**	*e*P	Pn	15 18 17.9	-2.2
LTZ	**Lake Taylor**	**3.27**	**228**	*e*P	Pn	15 18 19.7	-3.4
PUZ	**Puketiti**	**3.31**	**40**	*e*P	Pn	15 18 18.2	-5.6
MKAZ	**Moumakai**	**3.55**	**355**	P	Pn	15 18 26.6	-0.6
OTAZ	**Otara**	**3.73**	**352**	P	Pn	15 18 29.3	-0.5
MXZ	**Matakaoa Point**	**3.75**	**35**	*e*P	Pn	15 18 24.8	-5.1
MQZ	**McQueen's Vall**	**3.75**	**215**	*e*P	Pn	15 18 25.7	-4.3
WTAZ	**Waiatarua**	**3.80**	**348**	P	Pn	15 18 29.0	-1.7
WCZ	**Waipu Caves**	**4.81**	**348**	*e*P	Pn	15 18 43.0	-2.0
ODZ	**Otahua Downs**	**5.69**	**218**	*e*P	Pn	15 18 52.2	-5.3

*PRU **21** 15:32:42.8,51.47N×16.08E*
*WAR **21** 15:32:42.9,51.49N×16.06E,h1km,ML2.4,Mining Induced*
*CSEM **21** 15:32:42.4±0.3,51.50N×16.09E,h10km,ML3.0/2,Error ellipse: s-maj=5.4km s-min=2.3km az=21.0*
*NEIC **21** 15:32:43.6±2.4,51.41N×16.07E,h5km,ML2.6(VIE),Error ellipse: s-maj=27.7km s-min=9.1km az=35.0*
ISC 21 15:32:41.2±1.0,51.44N±0.05×16.01E±0.05,n16,σ1913/31,
1C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.62**	**163**	*e*PG	**Pg**	**15 32 55.0**	**+1.4**
KSP				*e*SG	**Sg**	**15 33 04.0**	**+2.1**
UPC	**Upice**	**0.93**	**180**	*e*PG	**Pg**	**15 33 01.2**	**+1.4**
DPC	**Dobruska-Polom**	**1.10**	**170**	*e*PG	**Pg**	**15 33 04.1**	**+0.8**
DPC				*e*SG	**Sg**	**15 33 19.0**	**+1.0**
	13nm,0.2s						
PVCC	**Panska Ves**	**1.29**	**226**	*e*PG	**Pg**	**15 33 08.4**	**+1.4**
BRG	**Berggiesshubel**	**1.42**	**247**	*i* Pg	**Pg**	**15 33 10.3**	**+0.7**
BRG				*i* Sg	**Sg**	**15 33 30.0**	**+1.5**
PRU	**Pruhonice**	**1.73**	**213**	*e*PG	**Pg**	**15 33 15.7**	**0.0**
PRU				*e*SG	**Sg**	**15 33 38.8**	**+0.1**
CLL	**Collm**	**1.89**	**267**	*e*PG	**Pg**	**15 33 18.0**	**-1.0**
CLL				*e*SG	**Sg**	**15 33 44.0**	**-0.2**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**15 33 15.8**	**+0.2**
MORC				*e*Sn	**Sn**	**15 33 40.8**	**-0.1**
MORC	**Moravsky Berou**	**1.93**	**149**	*e*Pn	**Pn**	**15 33 15.8**	**+0.2**
MORC				*e*Sn	**Sn**	**15 33 40.8**	**-0.1**
MORC				*e*SG	**Sg**	**15 33 44.0**	**-1.4**
OKC	**Ostrava-Krasne**	**2.10**	**139**	*e*PG	**Pg**	**15 33 21.7**	**-1.5**
OKC				*e*SG	**Sg**	**15 33 50.3**	**-0.9**
VRAC	**Vranov**	**2.16**	**170**	*e*SG	**Sg**	**15 33 52.9**	**-0.4**
NKC	**Novy Kostel**	**2.56**	**243**	*e*SG	**Sg**	**15 34 06.1**	**-0.4**
KHC	**Kasperske Hory**	**2.79**	**215**	*e*PN	**Pn**	**15 33 29.1**	**+1.2**
KHC				*e*PG	**Pg**	**15 33 34.7**	**-2.2**
KHC				*e*SN	**Sn**	**15 34 04.0**	**+1.3**
KHC				*e*SG	**Sg**	**15 34 12.2**	**-1.8**
KHC	**Kasperske Hory**	**2.79**	**215**	Pg	**Pg**	**15 33 34.7**	**-2.2**
KHC				Sg	**Sg**	**15 34 12.2**	**-1.8**
MOX	**Moxa**	**2.89**	**256**	*e*Pg	**Pg**	**15 33 37.7**	**-1.2**
MOX				*e*Sg	**Sg**	**15 34 17.2**	**-0.1**
MOA	**Molln**	**3.77**	**198**	⇑*i*PN	**Pn**	**15 33 41.5**	**-0.3**
MOA				*i* SG	**Sg**	**15 34 44.8**	**-1.8**
	5.7nm,0.5s						

*MOS **21** 16:14:34.8±0.8,1.02S×24.52W,h10km,mb5.2/43,MS4.7/14,Error ellipse: s-maj=12.4km s-min=5.2km az=60.5*
*IDC **21** 16:14:35.0±0.5,0.94S×24.58W,mb4.4/20,mb1 4.6/20,mb1mx4.5/25,mbtmp4.4/20,MS4.8/24,Ms1 4.7/24,ms1mx4.6/32,Error ellipse: s-maj=17.2km s-min=13.0km az=172.0*
*NEIC **21** 16:14:38.5±0.2,1.06S×24.59W,mb5.1/51,MS4.9/10,Error ellipse: s-maj=6.5km s-min=4.1km az=153.0*
*HRVD **21** 16:14:38.5±0.4,0.90S×24.50W,h16km±1km,MW5.4/65,Centroid moment Tensor Solution. LP body waves: s27,c33;Mantle waves: s65,c113; Half duration: 1ŝ3 Moment tensor: Scale 10^17Nm; Mrr-1.52±.13; Mθθ0.18±.07; Mϕϕ1.33±.08; Mrθ0.58±.27; Mrϕ-0.48±.04; Mθϕ-0.04±.17; Best double couple: M0.1.616×10^17 NP1: ϕs176°,δ43°,λ-64°. NP2:ϕs323°,δ52°,λ-112°. Principal axes: T 1.527, Plg5°, Azm68°; N .171, Plg17°, Azm337°; P -1.705, Plg72°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2

PGF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
SUR Sutherland 52.85 131 P **P 16 23 53.0 -0.4**
comp=Z,9.9nm,0.9s,mb4.7,baz=271,slow=7.7,SNR=3.8
SBF Sospel 53.02 29 *e*P **P 16 23 54.8 +0.2**
ORIF Oris-en-Rattie 53.10 27 *e*P **P 16 23 55.6 +0.4**
comp=Z,44nm,1.4s,mb4.9
ORIF *e*R
comp=Z,810nm,18.5s
BGF Bois d'Agland 53.13 23 *e*P **P 16 23 55.8 +0.5**
MBDF Montbardon 53.36 27 *e*P **P 16 23 57.3 +0.2**
comp=Z,12nm,0.8s,mb4.6
MBDF Montbardon 53.36 27 *e*P **P 16 23 57.3 +0.2**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 53.52 24 *e*P **P 16 23 58.5 +0.3**
BNI Bardonecchia 53.57 27 *e*P **P 16 23 58.3 -0.3**
BNI pmax pmax
comp=Z,13nm,1.0s,mb4.8
BNI Bardonecchia 53.57 27 *e*P **P 16 23 58.3 -0.3**
comp=Z,13nm,1.0s,mb4.8
SMF Signal de Mont 53.60 24 *e*P **P 16 23 59.1 +0.4**
FIN Finale Ligure 53.65 29 *e*P **P 16 23 59.7 +0.5**
FLN La Foliniere 53.77 20 *e*P **P 16 24 00.0 +0.1**
comp=Z,28nm,0.9s,mb4.9
FLN *e*R
comp=Z,367nm,20.5s
FLN La Foliniere 53.77 20 *e*P **P 16 24 00.0 +0.1**
FLN pmax pmax
comp=Z,14nm,0.9s,mb4.9
FLN MLR MLR
comp=Z,370nm,20.5s,MS4.4
SSF Saint Saulge 53.80 23 *e*P **P 16 24 00.5 +0.3**
SSF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SSF Saint Saulge 53.80 23 *e*P **P 16 24 00.5 +0.3**
comp=Z,8.5nm,1.0s,mb4.6
LSZ Lusaka 53.91 108 *e*P **P 16 24 00.9 -0.5**
LSZ pmax pmax
comp=Z,28nm,1.4s,mb5.0
LSZ Lusaka 53.91 108 *e*P **P 16 24 00.9 -0.5**
comp=Z,28nm,1.4s,mb5.0
LBTB Lobatse 53.92 121 P **P 16 24 01.0 -0.4**
comp=Z,4.0nm,0.8s,mb4.4,baz=302,slow=9.5,SNR=3.5
LPG La Plagne 53.94 27 *e*P **P 16 24 02.3 +1.0**
comp=Z,27nm,1.1s,mb4.8
LPG La Plagne 53.94 27 *e*P **P 16 24 02.3 +1.0**
LPG pmax pmax
comp=Z,13nm,1.1s,mb4.8
LPL La Plagne 53.95 27 *e*P **P 16 24 02.1 +0.8**
RFI Roccamonfina 54.69 35 *e*P **P 16 24 08.8 +2.0**
VLC Villacollemand 54.69 30 P **P 16 24 06.9 +0.1**
MCGN Macugnaga 54.86 27 *e*P **P 16 24 07.8 -0.2**
SDI San Donato 54.86 35 *e*P **P 16 24 08.4 +0.3**
MGR Morigerati 54.88 37 *e*P **P 16 24 08.9 +0.6**
ERBM Eremo 54.89 30 *e*P **P 16 24 09.6 +1.3**
GSCL Gusciola 54.93 30 *e*P **P 16 24 09.6 +1.0**
TIP Timpagrande 55.04 39 *e*P **P 16 24 08.3 -1.2**
ZCCA Zocca 55.13 31 *e*P **P 16 24 10.6 +0.6**
MRLC Muro Lucano 55.23 36 *e*P **P 16 24 11.4 +0.6**
MBAR Mbarara 55.26 90 *e*P **P 16 24 11.5 +0.1**
MBAR pmax pmax
comp=Z,104nm,2.1s,mb5.5
MBAR MLR MLR
comp=Z,630nm,20.0s,MS4.7
MBAR Mbarara 55.26 90 *e*P **P 16 24 11.5 +0.1**
comp=Z,104nm,2.1s,mb5.5
MBAR LR LR
comp=Z,630nm,20.0s,MS4.7
SFI Santa Sofia 55.26 31 *e*P **P 16 24 10.3 -0.7**
HAU Haudompre 55.71 25 *e*P **P 16 24 13.9 -0.3**
comp=Z,20nm,0.8s,mb4.9
HAU *e*R
comp=Z,386nm,18.8s
HAU Haudompre 55.71 25 *e*P **P 16 24 13.9 -0.3**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,390nm,18.8s,MS4.5
HINF Hinteralfeld 55.78 25 *e*P **P 16 24 14.0 -0.6**
CDF Champ du Feu 56.42 25 *e*P **P 16 24 19.8 +0.6**
comp=Z,5.4nm,0.6s,mb4.5
CDF Champ du Feu 56.42 25 *e*P **P 16 24 19.8 +0.6**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
BAIF Baives 56.52 22 *e*P **P 16 24 19.3 -0.6**
comp=Z,22nm,0.9s,mb4.9
BAIF Baives 56.52 22 *e*P **P 16 24 19.3 -0.6**
BAIF pmax pmax
comp=Z,11nm,0.9s,mb4.9
ROBS Robic 57.73 30 *e*P **P 16 24 29.1 +0.5**
HGN Heimansgroeve 57.74 22 *e*P **P 16 24 28.5 -0.1**
LJU Ljubljana 58.11 31 *e*P **P 16 24 31.0 -0.2**
BOJS Bojanci 58.13 32 *e*P **P 16 24 31.2 -0.2**
GRA1 Grafenberg Arr 59.09 26 *e*P **P 16 24 36.1 -1.9**
comp=Z,60nm,2.0s,mb5.3
GRA1 *e*pP pP 16 24 43.5 +2.4
GRF Grafenberg Arr 59.09 26 *e*P **P 16 24 36.1 -1.9**
GRF *e**PP pP 16 24 43.5 +2.4
GRF pmax pmax
comp=Z,60nm,2.0s,mb5.3
GRF Grafenberg Arr 59.09 26 *e*P **P 16 24 36.1 -1.9**
GRF *e**PP pP 16 24 43.5 +2.4
GRF pmax pmax
comp=Z,60nm,2.0s,mb5.3
GRF Grafenberg Arr 59.09 26 *e*P **P 16 24 36.1 -1.9**
comp=Z,60nm,2.0s,mb5.3
GRF *e*pP pP 16 24 43.5 +2.4
SKO Skopje 59.56 38 *e*P **P 16 24 42.5 +1.1**
GERES GERESS Array B 59.62 28 P **P 16 24 40.7 -1.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=225,slow=5.7,SNR=20
KHC Kasperske Hory 59.76 28 *e*P **P 16 24 41.5 -1.2**
KHC *e*pP pP 16 24 48.1 +2.3
KHC *e*PP PP 16 26 58.5 +2.0
KHC *e*S **S 16 32 56.5 +4.5**
KHC AMS AMS 16 49 00.0
comp=Z,400nm,16.3s
MOX Moxa 59.96 26 *e*P **P 16 24 43.7 -0.3**
MOX pmax pmax
comp=Z,31nm,1.6s,mb5.1
MOX Moxa 59.96 26 *e*P **P 16 24 43.7 -0.3**
comp=Z,31nm,1.6s,mb5.1
MOX Moxa 59.96 26 *i* P **P 16 24 43.7 -0.3**
comp=Z,logA/T=1.3,mb5.1
PRU Pruhonice 60.81 28 *e*P **P 16 24 50.2 +0.4**
PRU *e*S **S 16 33 09.9 +4.5**
PRU AMS AMS 16 50 30.0
comp=Z,400nm,18.6s
ZST Bratislava 60.86 31 *e*P **P 16 24 49.3 -0.8**
CLL Collm 61.05 26 *e*P **P 16 24 50.0 -1.4**
CLL *e*S **S 16 33 16.0 +7.6**
CLL pmax pmax
comp=Z,35nm,1.7s,mb5.2
CLL MLR MLR
comp=Z,500nm,17.1s,MS4.7
CLL Collm 61.05 26 *e*P **P 16 24 50.0 -1.4**
comp=Z,35nm,1.7s,mb5.2
CLL *e*S **S 16 33 16.0 +7.6**
CLL LR LR
comp=Z,500nm,17.1s,MS4.7
CLL Collm 61.05 26 P **P 16 24 50.0 -1.4**
CLL *e**SP sP 16 24 57.0 +1.4
CLL *e*S **S 16 33 16.0 +7.6**
BRG Berggiesshubel 61.16 27 *e*P **P 16 24 51.7 -0.4**
BRG *e* 16 24 58.7
BRG pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
BRG Berggiesshubel 61.16 27 *e*P **P 16 24 51.7 -0.4**
comp=Z,7.8nm,1.1s,mb4.8
BRG *e* 16 24 58.7
KMBO Kilima Mbogo 61.77 91 *e*P **P 16 24 56.8 0.0**
KMBO pmax pmax
comp=Z,65nm,1.9s
KMBO MLR MLR
comp=Z,3μm,20.0s
KMBO Kilima Mbogo 61.77 91 P **P 16 24 57.9 +1.0**
comp=Z,3.8nm,0.9s,mb4.5,baz=255,slow=7.8,SNR=12
KMBO LR LR 16 49 11.1
comp=Z,3μm,18.5s,MS5.4,baz=276,slow=34
KMBO Kilima Mbogo 61.77 91 *e*P **P 16 24 56.8 0.0**
comp=Z,64nm,1.9s,mb5.4
KMBO LR LR
comp=Z,3μm,20.0s,MS5.4
UPC Upice 61.85 28 *e*P **P 16 24 55.8 -1.1**
DPC Dobruska-Polom 61.90 28 *e*P **P 16 24 56.5 -0.7**

DPC *e*pP pP 16 25 03.2 +2.9
DPC *e*S **S 16 33 23.7 +4.5**
DPC AMS AMS 16 54 30.0
comp=Z,400nm,17.7s
VYHS Vyhne 61.94 31 *e*P **P 16 24 57.0 -0.5**
MORC Moravsky Berou 62.10 29 *e*P **P 16 24 57.7 -0.9**
MORC pmax pmax
comp=Z,53nm,1.8s,mb5.4
MORC Moravsky Berou 62.10 29 *e*P **P 16 24 57.7 -0.9**
comp=Z,53nm,1.8s,mb5.4
PSZ Piszkesteto 62.13 32 *e*P **P 16 24 58.2 -0.6**
PSZ pmax pmax
comp=Z,57nm,1.6s,mb5.5
PSZ Piszkesteto 62.13 32 *e*P **P 16 24 58.2 -0.6**
comp=Z,57nm,1.6s,mb5.5
PSZ Piszkesteto 62.13 32 *e*P **P 16 24 58.5 -0.3**
KSP Ksiaz 62.21 28 *e*P **P 16 25 00.3 +1.0**
KSP *e*S **S 16 33 37.0 +14**
OKC Ostrava-Krasne 62.44 30 *e*P **P 16 25 01.7 +0.9**
OKC *e*pP pP 16 25 07.2 +3.3
OKC AMS AMS 16 53 40.0
comp=Z,400nm,15.9s
OJC Ojcow 63.51 30 *e*P **P 16 25 07.2 -0.6**
EIL Elat 64.32 56 *e*P **P 16 25 13.0 -0.6**
comp=Z,125nm,2.1s,mb5.6
LVV L'vov 65.46 32 *e*P **P 16 25 21.2 +0.6**
SCHQ Schefferville 65.57 335 P **P 16 25 19.7 -1.4**
comp=Z,4.1nm,0.8s,mb4.5,baz=160,slow=5.9,SNR=5.1
SCHQ LR LR 16 50 03.1
comp=Z,415nm,18.2s,MS4.7,baz=8.0,slow=32
BORG Borgarnes 65.64 2 LR LR 16 45 57.8
comp=Z,466nm,21.6s,MS4.7,baz=227,slow=29
CPCT Cooper Cave 66.54 310 *e*P **P 16 25 27.5 -0.2**
BRTR Keskin Array B 66.70 46 P **P 16 25 27.5 -1.1**
comp=Z,3.4nm,0.8s,mb4.4,baz=222,slow=5.1,SNR=11
SWET Sewanee 67.55 309 *e*P **P 16 25 33.7 -0.4**
NB2 NORSAR Subarra 67.69 18 P **P 16 25 34.4 -0.1**
comp=Z,38nm,2.0s,mb5.1,baz=218,slow=6.2
NB2 NORSAR Subarra 67.69 18 P **P 16 25 34.4 -0.1**
NB2 pmax pmax
comp=Z,38nm,2.0s,mb5.1
NB2 NORSAR Subarra 67.69 18 P **P 16 25 34.4 -0.1**
baz=218,slow=6.5
NOA NORSAR Array B 67.69 18 P **P 16 25 34.4 -0.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=219,slow=6.3,SNR=6.8
NOA LR LR 16 54 42.6
comp=Z,165nm,21.5s,MS4.2,baz=190,slow=36
PLAL Pickwick Lake 69.16 308 *e*P **P 16 25 42.9 -1.2**
comp=Z,42nm,1.5s,mb5.2
PLAL LR LR
comp=Z,816nm,20.0s,MS5.0
WVT Waverly 69.30 309 *e*P **P 16 25 43.9 -1.1**
WVT pmax pmax
comp=Z,11nm,1.1s,mb4.7
WVT MLR MLR
comp=Z,791nm,20.0s,MS5.0
WVT Waverly 69.30 309 *e*P **P 16 25 43.9 -1.0**
comp=Z,11nm,1.1s,mb4.7
WVT LR LR
comp=Z,791nm,20.0s,MS5.0
MALT Malatya 69.71 48 *e*P **P 16 25 46.6 -0.8**
MALT pmax pmax
comp=Z,20nm,1.1s,mb5.0
MALT Malatya 69.71 48 *e*P **P 16 25 46.6 -0.8**
comp=Z,20nm,1.1s,mb5.0
VSU Vasula 71.70 26 *i* P **P 16 25 57.9 -1.2**
SOC Sochi 72.32 43 *e*P **P 16 26 01.1 -2.0**
SOC *e* 16 26 19.6
SOC *e* 16 28 41.1
SOC *e*PPP PPP 16 30 25.6 -2.4
SOC *e*S S 16 35 20.8 -4.2
SOC *e* 16 36 03.9
SOC *e*SS SS 16 39 59.1 -5.9
SOC pmax pmax
comp=Z,30nm,0.8s,mb5.3
SOC pmax pmax
comp=N,42nm,1.0s
SOC pmax pmax
comp=E,48nm,1.1s
SOC MLR MLR
comp=Z,291nm,22.0s,MS4.5
SOC MLR MLR
comp=N,183nm,18.0s,MS4.4
SOC MLR MLR
comp=E,117nm,20.0s,MS4.4
CCM Cathedral Cave 72.47 310 *e*P **P 16 26 02.4 -1.6**
CCM pmax pmax
comp=Z,37nm,1.4s,mb5.1
CCM Cathedral Cave 72.47 310 *e*P **P 16 26 02.4 -1.7**
comp=Z,37nm,1.4s,mb5.1
JMIC Jan Mayen 72.64 5 LR LR 16 51 16.1
comp=Z,206nm,20.8s,MS4.4,baz=162,slow=30
MSL Mosul 72.71 51 *e*P **P 16 26 08.0 +2.4**
FINES FINESS Array B 73.17 23 P **P 16 26 07.5 -0.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=207,slow=4.3,SNR=14
FINES LR LR 17 00 26.5
comp=Z,207nm,18.6s,MS4.4,baz=13,slow=38
KAF Kangasniemi 73.65 22 *e*p **P 16 26 09.5 -1.0**
comp=Z,8.9nm,0.9s,mb4.7
KAF Kangasniemi 73.65 22 *e*P **P 16 26 09.5 -1.0**
KAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SUMG Summit 74.00 356 *e*P **P 16 26 12.3 0.0**
comp=Z,181nm,2.3s,mb5.6
KIV Kislovodsk 74.48 44 *e*P **P 16 26 15.6 -0.1**
KIV pmax pmax
comp=Z,52nm,1.6s,mb5.2
KIV Kislovodsk 74.48 44 *e*P **P 16 26 15.6 -0.1**
comp=Z,52nm,1.6s,mb5.2
OBN Obninsk 74.73 31 *de*P **P 16 26 18.6 +1.7**
OBN *i* S S 16 35 56.9 +5.0
OBN *e*SS SS 16 40 43.5 +1.8
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.8
GNI Garni 74.93 48 *e*P **P 16 26 18.7 +0.3**
GNI pmax pmax
comp=Z,72nm,1.6s
GNI Garni 74.93 48 LR LR 17 03 53.0
comp=Z,311nm,18.6s,MS4.6,baz=178,slow=40
GNI Garni 74.93 48 *e*P **P 16 26 18.7 +0.3**
comp=Z,72nm,1.6s,mb5.3
MOS Moscow 75.54 31 *e*P **P 16 26 21.2 -0.3**
MOS *e* 16 26 28.5
MOS *e* 16 29 15.5
MOS *e*S S 16 36 04.6 +3.8
MOS pmax pmax
comp=Z,65nm,0.9s,mb5.6
MOS MLR MLR
comp=Z,800nm,21.8s,MS5.0
JOF Joensuu 76.03 23 *e*p **P 16 26 22.7 -1.5**
WMOK Wichita Mounta 77.67 306 *e*P **P 16 26 33.2 -0.7**
WMOK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
WMOK Wichita Mounta 77.67 306 *e*P **P 16 26 33.2 -0.7**
comp=Z,6.0nm,0.5s,mb4.8
JCT Junction City 77.84 301 *e*P **P 16 26 35.2 +0.3**
JCT pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
JCT Junction City 77.84 301 *e*P **P 16 26 35.2 +0.2**
comp=Z,4.3nm,0.6s,mb4.6
ARCES ARCESS Array B 77.91 16 LR LR 17 00 40.9
comp=Z,217nm,18.3s,MS4.5,baz=204,slow=36
KEV Kevo 78.46 16 *e*p **P 16 26 44.8 +7.3**
comp=Z,22nm,1.0s,mb5.0
KEV Kevo 78.46 16 *e*P **P 16 26 44.8 +7.3**
KEV pmax pmax
comp=Z,22nm,1.0s,mb5.0
ULM Lac du Bonnet 78.94 322 P **P 16 26 38.8 -1.7**
comp=Z,1.7nm,0.5s,mb4.2,baz=77,slow=3.1,SNR=4.9
ULM LR LR 16 55 21.1
comp=Z,272nm,21.2s,MS4.6,baz=102,slow=31
FCC Fort Churchill 80.38 330 *e*P **P 16 26 47.4 -0.7**
FCC pmax pmax
comp=Z,36nm,1.3s,mb5.1
FCC Fort Churchill 80.38 330 *e*P **P 16 26 47.4 -0.7**
comp=Z,36nm,1.3s,mb5.2
TXAR Lajitas Array 81.02 300 P **P 16 26 52.2 +0.1**
comp=Z,1.6nm,0.8s,mb4.0,baz=104,slow=5.2,SNR=9.5
TXAR LR LR 16 57 51.1
comp=Z,268nm,21.3s,MS4.6,baz=55,slow=32
MNTX Cornudas Mount 82.74 302 *e*P **P 16 27 00.7 -0.3**
SDCO Great Sand Dun 83.47 308 *e*P **P 16 27 05.1 +0.5**
comp=Z,50nm,1.7s,mb5.3
SDCO LR LR

comp=Z,665nm,22.0s,MS5.0
ANMO Albuquerque 83.95 305 *e*P **P 16 27 08.2 +1.0**
ANMO pmax pmax
comp=Z,27nm,1.6s
ANMO MLR MLR
comp=Z,683nm,21.0s
ANMO Albuquerque 83.95 305 LR LR 16 59 54.2
comp=Z,541nm,19.1s,MS5.0,slow=32
ANMO Albuquerque 83.95 305 *e*P **P 16 27 08.2 +0.9**
comp=Z,27nm,1.6s,mb5.1
ANMO LR LR
comp=Z,683nm,21.0s,MS5.0
LPM Los Pinos Moun 84.04 304 *e*P **P 16 27 08.8 +1.1**
LAZ Ladron 84.46 305 *e*P **P 16 27 10.8 +1.0**
LAO LASA Array 85.02 317 *e*P **P 16 27 12.4 +0.2**
comp=Z,54nm,1.3s,mb5.5
ALE Alert 85.04 355 P **P 16 27 12.0 +0.3**
comp=Z,69nm,1.0s,mb5.7,SNR=10
RES Resolute Bay 85.85 345 *e*P **P 16 27 14.3 -1.5**
RES pmax pmax
comp=Z,24nm,1.4s,mb5.2
RES Resolute Bay 85.85 345 *e*P **P 16 27 14.3 -1.5**
comp=Z,24nm,1.4s,mb5.2
ARU Arti 87.00 34⇓*i*P **P 16 27 21.9 +0.1**
ARU *e* 16 30 45.0
ARU *e*S S 16 37 44.4 -14
ARU pmax pmax
comp=Z,15nm,1.4s,mb5.0
ARU MLR MLR
comp=Z,300nm,18.5s,MS4.7
ARU MLR MLR
comp=N,100nm,18.0s,MS4.7
ARU MLR MLR
comp=E,300nm,20.0s,MS4.7
BW06 Boulder Array 87.02 313 *e*P **P 16 27 22.3 0.0**
comp=E,26nm,1.8s,mb5.2
PDAR Pinedale Array 87.02 313 P **P 16 27 22.2 -0.1**
comp=E,1.6nm,0.9s,mb4.2,baz=90,slow=4.4,SNR=10
PDAR LR LR 17 00 48.8
comp=E,673nm,21.9s,MS5.0,baz=128,slow=32
GCMT Greycliff 87.32 316 P **P 16 27 24.2 +0.6**
SRU San Rafael 87.52 309 *e*P **P 16 27 25.0 +0.3**
LKWY Lake 87.75 314 *e*P **P 16 27 27.3 +1.5**
comp=E,54nm,1.8s,mb5.5
TMUT Trail Mountain 88.06 309 *e*P **P 16 27 28.2 +0.9**
DAU Daniels Canyon 88.15 310 *e*P **P 16 27 28.2 +0.5**
YMR Madison River 88.16 315 *e*P **P 16 27 28.6 +0.9**
SVE Sverdlovsk 88.18 33 *e*P **P 16 27 29.0 +1.5**
SVE pmax pmax
comp=N,100nm,20.0s
SVE pmax pmax
comp=E,200nm,20.0s
SVE pmax pmax
comp=Z,100nm,20.0s
TCUT Toone Canyon 88.30 311 *e*P **P 16 27 29.4 +1.0**
HWUT Hardware Ranch 88.44 311 *e*P **P 16 27 29.3 +0.2**
comp=Z,37nm,1.8s,mb5.3
QLMT Earthquake Lak 88.50 315 *e*P **P 16 27 30.8 +1.5**
NLU North Lily Min 88.75 310 *e*P **P 16 27 32.2 +1.5**
MSU Marysvale 88.78 308 *e*P **P 16 27 31.4 +0.6**
QSPA South Pole Qui 89.07 180 *e*P **P 16 27 30.9 -0.4**
comp=Z,80nm,1.9s,mb5.7
DUG Dugway 89.33 310 *e*P **P 16 27 33.2 -0.2**
DUG MLR MLR
comp=Z,471nm,19.0s,MS4.9
HLID Hailey 90.60 313 *e*P **P 16 27 39.1 -0.1**
YKA Yellowknife Ar 90.92 332 *i* P **P 16 27 39.6 -0.6**
YKA pmax pmax
comp=Z,3.0nm,0.8s
YKA Yellowknife Ar 90.92 332 P **P 16 27 39.6 -0.6**
comp=Z,3.1nm,0.8s,mb4.7,baz=96,slow=5.1,SNR=53
YKA LR LR 17 03 18.3
comp=Z,620nm,21.4s,MS5.0,baz=110,slow=32
YKW3 Yellowknife Ar 90.93 332 *e*P **P 16 27 39.2 -1.0**
TRCR Troy Canyon 91.45 308 *e*P **P 16 27 44.5 +1.2**
NEW Newport 92.48 318 LR LR 17 03 33.5
comp=Z,487nm,20.7s,MS4.9,baz=91,slow=32
NVAR Mina Array Bea 93.58 308 P **P 16 27 53.4 +0.3**
comp=Z,0.2nm,0.4s,mb3.9,baz=74,slow=6.6,SNR=3.4
NVAR LR LR 17 04 35.3
comp=Z,470nm,21.6s,MS4.9,baz=80,slow=32
INK Inuvik 97.89 339 LR LR 17 07 47.4
comp=Z,242nm,20.5s,MS4.7,baz=192,slow=33
DLBC Dease Lake 98.94 329 LR LR 17 09 40.0
comp=Z,440nm,18.4s,MS5.0,baz=265,slow=33
BBB Bella Bella 99.11 323 LR LR 17 11 40.7
comp=Z,343nm,18.8s,MS4.9,baz=254,slow=35
NVS Novosibirsk 101.00 34 *e*P P 16 28 27.2 +0.9
NVS pmax pmax
comp=Z,18nm,2.1s
NVS pmax pmax
comp=N,10.0nm,2.3s
WMQ Urumqi 106.61 44 PDIF Pdif 16 28 53.0 +1.5
WMQ *e*PP PP 16 33 21.0 +1.3
WMQ PPP PPP 16 35 37.0 +1.3
WMQ PP PP
comp=Z,103nm,4.4s
WMQ LR LR
comp=N,1μm,29.8s,MS5.3
WMQ LR LR
comp=E,725nm,27.2s,MS5.3
WMQ LR LR
comp=Z,772nm,33.6s
SONM Songino Array 117.01 35 PKP PKPdf 16 33 21.6 -2.0
comp=Z,1.2nm,0.9s,baz=297,slow=2.8,SNR=6.9
KMI Kunming 123.80 60 PKP PKPdf 16 33 36.8 -0.4
KMI LR LR
comp=Z,250nm,35.1s,MS4.6
HHC Hu-ho-hao-te 123.91 39 *e*PKP PKPdf 16 33 40.8 +3.7
HHC PP PP 16 35 21.3 -1.0
HHC LR LR
comp=N,239nm,19.0s
HHC LR LR
comp=E,253nm,28.0s
HHC LR LR
comp=Z,397nm,33.9s
GYA Guiyang 126.73 57 PKP PKPdf 16 33 42.3 -0.5
GYA PP PP 16 35 43.1 +2.3
GYA SKKS 16 42 37.1
GYA PP PP
comp=Z,130nm,8.0s
GYA LR LR
comp=N,390nm,20.7s,MS5.2
GYA LR LR
comp=E,280nm,20.7s,MS5.2
GYA LR LR
comp=Z,330nm,21.5s,MS5.0
BJI Beijing 127.25 38 PKP PKPdf 16 33 44.5 +1.0
BJI LR LR
comp=N,273nm,20.8s,MS5.0
BJI LR LR
comp=E,199nm,19.6s,MS5.0
BJI LR LR
comp=Z,425nm,32.8s
CN2 Changchun 129.71 28 *e*PKP PKPdf 16 33 42.4 -5.8
CN2 *e*PP PP 16 35 57.6 -2.6
CN2 LR LR
comp=Z,800nm,21.0s,MS5.4
NJ2 Nanjing 133.69 44 *e*PKP PKPdf 16 33 54.1 -1.8
NJ2 XPKP 16 34 08.4
NJ2 PP PP 16 36 24.0 -2.1
NJ2 PKS PKS 16 37 29.0 +0.9
NJ2 SKS SKS 16 41 00.0 -6.4
NJ2 SKKS 16 43 11.0
NJ2 LR LR
comp=Z,90nm,24.2s,MS4.4
SSE Sheshan 135.86 44 PKP PKPdf 16 33 59.0 -1.1
STKA Stephens Creek 144.75 159 PKP PKPdf 16 34 12.8 -3.2
comp=Z,11nm,0.8s,baz=157,slow=1.8,SNR=24
STKA Stephens Creek 144.75 159 *e*PKP PKPdf 16 34 12.6 -3.4
FITZ Fitzroy Crossi 145.04 124 *e*PKP PKPdf 16 34 16.0 -0.8
comp=Z,16nm,0.9s
ASPA Alice Springs 147.73 141 *e*PKP PKPdf 16 34 21.8 +0.6
ASAR Alice Springs 147.74 141 PKP PKPdf 16 34 18.6 -2.6
comp=Z,5.1nm,0.7s,baz=180,slow=1.8,SNR=89
ASAR PKPbc PKPdf 16 34 21.8 +0.6
comp=Z,5.3nm,0.7s,baz=210,slow=2.2,SNR=105
WB2 Warramunga Arr 150.64 136 *e*PKP PKPdf 16 34 28.4 +2.5
WRAB Tennant Creek 150.64 136 *e*PKIKP PKPdf 16 34 28.6 +2.7

IDC ***21*** *16:35:26.7±0.9, 67.07N×21.31E, mb1 2.9/4, mb1mx2.8/18, mbtmp2.8/4, ML2.4/4, Error ellipse: s-maj=25.6km s-min=9.2km az=117.0*
HEL ***21*** *16:35:26.6±0.1, 67.07N×20.92E, ML1.9, ML1.8(UPP),*

Explosion
ISC 21 16:35:25.0±0.4,**67.02N**±0.03×**20.95E**±0.07,**n20**,σ1§**28**/29,
Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.18**	**304**	*i* P		**Pg**		**16 35 29.1**	**+0.5**
DUNU				*i* S		**Sg**		**16 35 31.3**	**+0.3**
MASU	**Masugnsbyn**	**0.60**	**42**	*i* P		**Pg**		**16 35 36.6**	**-0.3**
ERTU	**Ertsjaerv**	**0.68**	**133**	*i* P		**Pg**		**16 35 39.4**	**+0.9**
PAJU	**Pajala**	**0.85**	**89**	*i* P		**Pg**		**16 35 41.8**	**-0.1**
KUA	**Kurravaara**	**0.97**	**346**	*e*P		**Pb**		**16 35 42.9**	**-1.4**
KIF	**Kilpisjarvi**	**2.00**	**358**	*e*P		**Pn**		**16 36 01.5**	**+1.2**
KIF				*e*S		**Sn**		**16 36 27.8**	**+1.4**
KTK1	**Kautokeino**	**2.18**	**22**	*e*P		**Pn**		**16 36 04.6**	**+1.7**
SGF	**Sodankyl**	**2.21**	**76**	*e*P		**Pn**		**16 36 04.1**	**+0.7**
SGF				*e*S		**Sn**		**16 36 33.8**	**+2.0**
SGF				MSG				16 36 38.0	
	comp=Z,5.0nm,0.1s								
TRO	**Tromso**	**2.73**	**345**	*e*P		**Pn**		**16 36 10.9**	**+0.1**
MOR8	**Moi Rana**	**2.74**	**255**	*e*		**Sn**		**16 36 46.3**	**+1.1**
OUL	**Oulu**	**2.80**	**132**	*e*P		**Pn**		**16 36 13.2**	**+1.4**
OUL				*e*SG		**Sg**		**16 36 54.6**	**-3.6**
OUL				MSG				16 36 57.1	
	comp=Z,3.8nm,0.2s								
ARCES	**ARCESS Array B**	**3.04**	**32**	Pn		**Pn**		**16 36 14.7**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=209,slow=14,SNR=52								
ARCES				Sn		**Sn**		**16 36 50.6**	**-2.3**
	comp=Z,0.8nm,0.3s,baz=212,slow=23,SNR=11								
LOF	**Lofoten**	**3.05**	**295**	*e*		**Sg**		**16 37 03.6**	**-3.0**
MSF	**Maaselka**	**3.43**	**105**	*e*PG		**Pg**		**16 36 29.2**	**-4.2**
MSF				*e*SG		**Sg**		**16 37 13.5**	**-5.6**
MSF				MSG				16 37 16.9	
	comp=Z,1.9nm,0.2s								
KU4	**Liikasenvaara**	**3.49**	**97**	*e*P		**Pn**		**16 36 22.8**	**+1.2**
KU4				*e*S		**Sn**		**16 37 04.4**	**+0.1**
KEV	**Kevo**	**3.54**	**36**	*e*P		**Pn**		**16 36 21.4**	**-1.0**
KEV				*e*S		**Sn**		**16 37 03.4**	**-2.2**
KEV				MSG				16 37 21.7	
	comp=Z,2.1nm,0.2s								
KJN	**Kajaani**	**4.07**	**133**	*e*P		**Pn**		**16 36 30.8**	**+1.0**
KJN				*e*S		**Sn**		**16 37 17.1**	**-1.8**
KJN				MSG				16 37 40.7	
	comp=Z,1.8nm,0.2s								
FINES	**FINESS Array B**	**6.03**	**156**	Pn		**Pn**		**16 36 57.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=345,slow=15,SNR=5.7								
NOA	**NORSAR Array B**	**7.36**	**220**	Pn		**Pn**		**16 37 15.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=12,slow=6.3,SNR=2.4								
HFS	**Hagfors**	**7.63**	**208**	Pn		**Pn**		**16 37 18.9**	**-1.1**
	comp=Z,0.0nm,0.3s,baz=24,slow=13,SNR=5.8								

*GUC **21** 16:51:29.6±1.0,27.93S×71.42W,h36km±7km,ML5.2*
*NEIC **21** 16:51:29.6,27.93S×71.42W,h36km,mb4.9/13,*
ML5.2(GUC),After GUC.
*HRVD **21** 16:51:29.6±1.0,27.72S×71.96W,h46km±5km,MW5.3/25,*
Centroid moment Tensor Solution. LP body waves: s7,c7;
Mantle waves: s25,c30; Half duration: 1s0 Moment
tensor: Scale 10^{17}Nm; M_{rr}0.37±.20; $M_{\theta\theta}$-0.08±.11;
$M_{\phi\phi}$-0.28±.12; $M_{r\theta}$-0.06±.14; $M_{r\phi}$-0.77±.06; $M_{\theta\phi}$-0.51±.15;
Best double couple: M_0.954×10^{17} NP1:ϕ_S83°, δ50°, λ162°.
NP2:ϕ_S185°, δ76°, λ41°. Principal axes: T .827, Plg38°,
Azm52°; N .255, Plg47°, Azm200°; P -1.082, Plg17°,
Azm308°; nsta1 refers to body waves, cutoff=40s. nsta2
refers to surface waves, cutoff=50s.
*MOS **21** 16:51:31.1±1.4,27.79S×71.22W,h33km,mb5.3/8 Error*
ellipse: s-maj=23.6km s-min=9.8km az=97.3
*IDC **21** 16:51:33.1±2.4,27.81S×71.13W,h42km±21km,mb4.3/13,*
mb1 4.4/17,mb1mx4.3/22,mbtmp4.5/17,ML4.5/3,MS4.4/9,
Ms1 4.4/9,ms1mx4.2/22,Error ellipse: s-maj=25.3km
s-min=13.8km az=82.0
*BJI **21** 16:51:34.6,27.90S×71.40W,h20km,Ms5.1,Msz5.0*
ISC 21 16:51:29.7±1.4,**27.83S**±0.03×**71.24W**±0.09,**h29**km±10km,
h28km±2.6km:**pP-P,n118**,σ1§**14**/79,**mb4.7**/26,**MS4.5**/8,
15C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.86**	**150**	⇓*i*P		**Pn**		**16 51 46.0**	**+0.1**
VACH				*i* S		**Sb**		**16 51 57.7**	**+0.7**
VACH				AMP				16 52 02.9	
	comp=N,117μm,0.5s								
CPCH	**Copiapo**	**0.92**	**60**	⇓*i*P		**Pn**		**16 51 48.9**	**+2.2**
CPCH				*i* S		**Sb**		**16 52 04.5**	**+5.8**
CPCH				AMP				16 52 12.2	
	comp=E,52μm,0.9s								
LCO	**Las Campanas**	**1.27**	**158**	⇓*i*P		**Pn**		**16 51 52.3**	**+0.5**
LCO				*i* S		**Sn**		**16 52 08.9**	**+0.9**
LCO				AMP				16 52 14.0	
	comp=N,66μm,0.5s								
LSCH	**La Serena**	**2.07**	**180**	*e*P		**Pn**		**16 51 59.1**	**-4.2**
LSCH				*i* S		**Sn**		**16 52 23.7**	**-4.7**
TLL	**Tololo Astrono**	**2.36**	**171**	*e*P		**Pn**		**16 52 07.1**	**-0.3**
TLL				*i* S		**Sn**		**16 52 35.1**	**-0.7**
TLL				AMP				16 52 49.7	
	comp=N,35μm,0.6s								
CPN1	**Cerro Paranal**	**3.27**	**13**	⇑*i*P		**Pn**		**16 52 19.9**	**-0.5**
CPN1				AMP				16 53 20.5	
	comp=E,9μm,0.6s								
ANCH	**Antofagasta**	**4.20**	**10**	*i* P		**Pn**		**16 52 31.5**	**-1.9**
ZON	**Zonda**	**4.33**	**150**	*e*P		**Pn**		**16 52 37.0**	**+1.7**
CFAA	**Coronel Fontan**	**4.58**	**146**	P		**Pn**		**16 52 41.0**	**+2.1**
	comp=E,5.0nm,0.3s,baz=321,slow=12,SNR=164								
CFAA				Lg				16 53 43.7	
	comp=E,30nm,0.3s,baz=77,slow=22,SNR=9.3								
FCH	**Farellones**	**5.54**	**172**	*e*P		**Pn**		**16 52 50.9**	**-1.6**
LVC	**Limon Verde**	**5.60**	**23**	⇑*i*P		**Pn**		**16 52 53.1**	**-0.2**
LVC	**Limon Verde**	**5.60**	**23**	P		**Pn**		**16 52 53.2**	**-0.2**
	comp=E,14nm,0.3s,baz=199,slow=9.3,SNR=97								
LVC				Lg				16 54 13.2	
	comp=E,81nm,0.3s,baz=4.7,slow=5.1,SNR=4.5								
SPCH	**San Pedro de A**	**5.62**	**30**	*e*P		**Pn**		**16 52 53.5**	**0.0**
SCR	**San Cristobal**	**5.66**	**178**	*e*P		**Pn**		**16 52 50.4**	**-3.8**
ARE	**Arequipa**	**11.31**	**359**	*e*P		**P**		**16 54 09.0**	**-3.6**
LPAZ	**La Paz**	**11.84**	**15**	P		**P**		**16 54 17.9**	**-1.8**
	comp=E,1.9nm,0.3s,baz=198,slow=7.9,SNR=36								
LPAZ				LR		LR		16 58 08.2	
	comp=E,287nm,22.0s,baz=329,slow=34								
LPAZ	**La Paz**	**11.84**	**15**	P		**P**		**16 54 17.9**	**-1.8**
LPAZ				LR		LR		16 58 08.2	
TRQA	**Tornquist**	**12.82**	**145**	*e*Pn		**P**		**16 54 30.2**	**-2.6**
	comp=E,41nm,0.6s								
TRQA				*e*Sn		**S**		**16 56 53.0**	**-2.5**
PLCA	**Paso Flores**	**12.89**	**178**	P		**P**		**16 54 33.6**	**-0.1**
	comp=E,0.2nm,0.3s,baz=2.0,slow=10,SNR=3.9								
PLCA				LR		LR		16 59 32.9	
	comp=E,3μm,18.8s,baz=348,slow=37								
PLCA	**Paso Flores**	**12.89**	**178**	P		**P**		**16 54 33.6**	**-0.1**
PLCA				LR		LR		16 59 32.9	
BDFB	**Brasilia**	**24.70**	**65**	P		**P**		**16 56 49.1**	**-0.7**
	comp=E,24nm,0.6s,mb4.9,baz=243,slow=8.8,SNR=30								
BDFB				LR		LR		17 07 57.6	
	comp=E,4μm,18.8s,MS5.0,baz=244,slow=40								
BAO	**Brasilia Array**	**24.72**	**65**	P		**P**		**16 56 51.0**	**+1.0**
CAM4	**Nova Friburgo**	**26.50**	**85**	*e*P		**P**		**16 57 06.7**	**+0.1**
CAM4				*i*		pP		16 57 15.5	+0.5
CAM4				*i*				16 57 18.6	
CAM4				*i*				16 57 51.2	
USHA	**Ushuaia**	**27.06**	**176**	P		**P**		**16 57 10.5**	**-0.9**
	comp=E,21nm,1.1s,mb4.6,baz=284,slow=12,SNR=3.6								
USHA				LR		LR		17 08 43.8	
	comp=E,2μm,18.1s,MS4.7,baz=240,slow=38								
ROSC	**El Rosal**	**32.63**	**354**	P		**P**		**16 58 03.0**	**+1.6**
	comp=E,3.3nm,0.5s,mb4.5,baz=98,slow=14,SNR=3.4								
ROSC				LR		LR		17 12 23.5	
	comp=E,317nm,18.5s,MS4.0,baz=11,slow=38								
RPN	**Rapa Nui**	**33.72**	**262**	LR		LR		17 07 58.7	
	comp=E,1μm,21.3s,MS4.6,baz=111,slow=29								
SDV	**Santo Domingo**	**36.50**	**1**	P		**P**		**16 58 33.6**	**-0.9**
	comp=E,4.3nm,0.7s,mb4.5,baz=247,slow=7.7,SNR=5.9								
JTS	**JuntasAbangare**	**40.15**	**339**	*i* P		**P**		**16 59 11.4**	**+6.3**
VNA3	**Neumayer Olymp**	**54.85**	**160**	⇑*i*		**P**		**17 00 59.2**	**-0.1**
VNA3	**Neumayer Olymp**	**54.85**	**160**	⇑*i*		**P**		**17 01 04.2**	**+4.9**
VNA3	**Neumayer Olymp**	**54.85**	**160**	⇑*i*		**P**		**17 01 15.4**	**+16**
VNA1	**Neumayer--Stat**	**55.12**	**159**	⇑*i*		**P**		**17 01 01.1**	**-0.1**
VNA1	**Neumayer--Stat**	**55.12**	**159**	⇑*i*		**P**		**17 01 12.2**	**+11**
VNA2	**Neumayer--Watz**	**55.47**	**159**	⇑*i*		**P**		**17 01 03.0**	**-0.8**
VNA2	**Neumayer--Watz**	**55.47**	**159**	⇑*i*		**P**		**17 01 09.3**	**+5.5**
VNA2	**Neumayer--Watz**	**55.47**	**159**	⇑*i*		**P**		**17 01 19.2**	**+15**
SNAA	**Sanae**	**57.07**	**159**	⇑*i*		**P**		**17 01 13.9**	**-1.4**
SNAA	**Sanae**	**57.07**	**159**	⇑*i*		**P**		**17 01 19.1**	**+3.8**
SNAA	**Sanae**	**57.07**	**159**	⇑*i*		**P**		**17 01 31.5**	**+16**
SNAA	**Sanae**	**57.07**	**159**	*e*P		**P**		**17 01 14.2**	**-1.1**
SNAA					pmax	pmax			
	comp=Z,44nm,1.2s								
SNAA	**Sanae**	**57.07**	**159**	P		**P**		**17 01 13.8**	**-1.4**
	comp=Z,10nm,1.0s,mb4.8,baz=295,slow=6.5,SNR=20								
SNAA					LR	LR		17 22 44.0	
	comp=Z,163nm,21.1s,MS4.1,baz=224,slow=33								
SNAA	**Sanae**	**57.07**	**159**	*e*P		**P**		**17 01 14.2**	**-1.1**
	comp=Z,44nm,1.2s,mb5.4								
NVL	**N'lazarevskaya**	**61.74**	**158**	⇓*i*P		**P**		**17 01 42.7**	**-4.8**
NVL				*i*		pP		17 01 51.6	-4.8
NVL				*i*	*PP	pP		17 01 54.6	-1.8
NVL				*i*				17 10 43.8	
NVL					pmax	pmax			
	comp=Z,35nm,1.0s,mb5.4								
LRAL	**Lakeview Retre**	**62.35**	**345**	*e*P		**P**		**17 01 48.7**	**-3.3**
	comp=Z,6.8nm,0.7s,mb4.9								
QSPA	**South Pole Qui**	**62.39**	**180**	*e*P		**P**		**17 01 51.1**	**-0.6**
	comp=Z,23nm,1.0s,mb5.3								
TXAR	**Lajitas Array**	**64.76**	**329**	P		**P**		**17 02 08.3**	**+0.4**
	comp=Z,1.3nm,0.8s,mb4.0,baz=139,slow=8.3,SNR=2.9								
MIAR	**Mount Ida**	**65.53**	**340**	P		**P**		**17 02 12.7**	**-0.2**
MIAR					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.0								
MIAR	**Mount Ida**	**65.53**	**340**	P		**P**		**17 02 12.7**	**-0.2**
	comp=Z,14nm,1.0s,mb4.9								
WMOK	**Wichita Mounta**	**67.46**	**336**	*e*P		**P**		**17 02 23.8**	**-1.3**
WMOK					pmax	pmax			
	comp=Z,11nm,1.4s,mb4.7								
WMOK	**Wichita Mounta**	**67.46**	**336**	*e*P		**P**		**17 02 23.8**	**-1.3**
	comp=Z,11nm,1.4s,mb4.7								
MNTX	**Cornudas Mount**	**67.54**	**329**	*e*P		**P**		**17 02 24.2**	**-1.5**
	comp=Z,12nm,1.2s,mb4.8								
FVM	**French Village**	**67.89**	**344**	*e*P		**P**		**17 02 27.0**	**-0.8**
FVM				*e*PP		pP		17 02 36.3	-0.4
FVM					pmax	pmax			
	comp=Z,55nm,1.3s,mb5.4								
FVM	**French Village**	**67.89**	**344**	*e*P		**P**		**17 02 27.0**	**-0.8**
	comp=Z,56nm,1.3s,mb5.4								
FVM				*e*pP		pP		17 02 36.3	-0.4
ANMO	**Albuquerque**	**70.76**	**330**	*i* P		**P**		**17 02 51.5**	**+6.1**
SADO	**Sadowa**	**72.60**	**354**	P		**P**		**17 02 54.8**	**-1.5**
	comp=Z,8.3nm,0.9s,mb4.7,baz=178,slow=4.6,SNR=4.6								
DBIC	**Dimbokro**	**72.61**	**72**	P		**P**		**17 02 57.3**	**+0.4**
	comp=Z,36nm,0.8s,mb5.3,baz=208,slow=6.4,SNR=48								
DBIC					LR	LR		17 34 02.7	
	comp=Z,239nm,20.1s,MS4.5,baz=259,slow=35								
SDCO	**Great Sand Dun**	**72.71**	**332**	*e*P		**P**		**17 02 57.4**	**+0.3**
	comp=Z,7.4nm,1.1s,mb4.5								
DUG	**Dugway**	**77.93**	**329**	P		**P**		**17 03 27.5**	**+0.8**
DUG					pmax	pmax			
	comp=Z,25nm,1.5s,mb4.9								
DUG	**Dugway**	**77.93**	**329**	P		**P**		**17 03 27.5**	**+0.8**
	comp=Z,25nm,1.5s,mb4.9								
HWUT	**Hardware Ranch**	**78.51**	**330**	*e*P		**P**		**17 03 30.4**	**+0.6**
	comp=Z,15nm,1.1s,mb4.8								
PDAR	**Pinedale Array**	**78.61**	**332**	P		**P**		**17 03 30.5**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.9,baz=128,slow=7.7,SNR=8.0								
BW06	**Boulder Array**	**78.61**	**332**	*e*P		**P**		**17 03 30.9**	**+0.5**
	comp=Z,16nm,1.5s,mb4.7								
BW06					*e*pP	pP		17 03 39.7	+0.3
MAW	**Mawson**	**78.89**	**164**		LR	LR		17 39 48.1	
	comp=Z,338nm,18.9s,MS4.7,baz=247,slow=37								
NVAR	**Mina Array Bea**	**79.26**	**324**	P		**P**		**17 03 35.2**	**+1.3**
	comp=Z,1.1nm,0.9s,mb3.8,baz=134,slow=7.8,SNR=5.1								
LOHW	**Long Hollow**	**79.73**	**332**	*e*P		**P**		**17 03 37.4**	**+0.9**
	comp=Z,11nm,1.1s,mb4.7								
TPAW	**Teton Pass**	**79.78**	**332**	*e*P		**P**		**17 03 37.4**	**+0.7**
MOOW	**Moose Ponds**	**79.91**	**332**	*e*P		**P**		**17 03 37.4**	**0.0**
MOOW				*e*pP		pP		17 03 44.0	-2.4
ULM	**Lac du Bonnet**	**80.75**	**344**	P		**P**		**17 03 41.5**	**-0.2**
	comp=Z,4.1nm,0.9s,mb4.3,baz=141,slow=5.1,SNR=4.9								
QLMT	**Earthquake Lak**	**81.07**	**332**	*e*P		**P**		**17 03 45.1**	**+1.6**
HLID	**Hailey**	**81.33**	**330**	*e*P		**P**		**17 03 45.5**	**+0.7**
	comp=Z,10nm,1.1s,mb4.7								
MCMT	**McKenzie Canyo**	**81.66**	**331**	*e*P		**P**		**17 03 47.8**	**+1.3**
EDM	**Edmonton**	**88.62**	**336**	*e*P		**P**		**17 04 21.0**	**0.0**
RPZ	**Rata Peaks**	**88.78**	**220**	P		**P**		**17 04 24.2**	**+2.1**
	comp=Z,8.9nm,0.9s,mb5.1,baz=6.1,slow=5.3,SNR=3.8								
YKA	**Yellowknife Ar**	**96.45**	**341**	P		**P**		**17 04 56.7**	**-0.2**
YKA	**Yellowknife Ar**	**96.45**	**341**	P		**P**		**17 04 56.6**	**-0.3**
	comp=Z,0.5nm,0.6s,mb4.1,baz=140,slow=4.3,SNR=6.6								
DZM	**Mont Dzumac**	**105.41**	**234**	*e*P				17 09 45.6	
NOUC	**Port Laguerre**	**105.49**	**234**	*e*P				17 09 47.0	
NOUC	**Port Laguerre**	**105.49**	**234**	*e*P				17 09 47.0	
AKASG	**Malin Array Be**	**117.43**	**45**	PKP		PKPdf		17 10 12.9	-4.5
	comp=Z,0.1nm,0.3s,baz=275,slow=2.6,SNR=4.3								
BRTR	**Keskin Array B**	**118.10**	**58**	PKP		PKPdf		17 10 15.8	-3.2
	comp=Z,0.3nm,0.4s,baz=270,slow=1.4,SNR=3.9								
OBN	**Obninsk**	**122.39**	**40**	⇓*i*PKIKP		PKPdf		17 10 23.6	-3.3
OBN				*e*				17 11 57.4	
OBN				*e*PS		PS		17 21 56.0	+2.5
OBN				*e*SS		SS		17 29 00.1	+22
OBN					pmax	pmax			
	comp=Z,9.0nm,1.3s								
OBN					MLR	MLR			
	comp=Z,100nm,18.0s,MS4.5								
ASAR	**Alice Springs**	**123.35**	**208**	PKP		PKPdf		17 10 25.4	-4.2
	comp=Z,1.4nm,0.5s,baz=127,slow=1.6,SNR=30								
ASPA	**Alice Springs**	**123.35**	**208**	*e*P		PKPdf		17 10 25.5	-4.1
KIV	**Kislovodsk**	**125.49**	**54**	*e*PKIKP		PKPdf		17 10 42.0	+8.8
KIV					pmax	pmax			
	comp=Z,3.0nm,0.8s								
WB2	**Warramunga Arr**	**126.44**	**210**	⇓*i*P		PKPdf		17 10 31.9	-3.7
WRAB	**Tennant Creek**	**126.45**	**210**	*e*PKIKP		PKPdf		17 10 31.7	-3.9
CHKZ	**Chkalovo**	**141.96**	**37**	*e*PKIKP		PKPdf		17 10 57.0	-6.5
KAD	**Karad**	**146.50**	**101**	*e*P		PKPbc		17 11 10.4	+2.3
KAD				*e*				17 11 11.9	
	comp=Z,42nm,0.9s								
POO	**Poona**	**146.70**	**99**	*e*P		PKPbc		17 11 10.8	+1.7
POO				*e*				17 11 12.3	
	comp=Z,23nm,0.7s								
NVS	**Novosibirsk**	**147.25**	**27**	*e*PKIKP		PKPdf		17 11 09.6	-2.9
NVS					pmax	pmax			
	comp=Z,52nm,1.7s								
KURK	**Kurchatov**	**147.71**	**37**	*i* PKP2		PKPab		17 11 11.6	-4.0
KURK	**Kurchatov**	**147.71**	**37**	*e*PKPbc		PKPdf		17 11 11.0	-2.4
EKS2	**Erkin-Say**	**148.08**	**53**	P		PKPdf		17 11 13.1	-1.1
	SNR=14								
AML	**Almayashu**	**148.16**	**54**	P		PKPdf		17 11 16.9	+2.5
	SNR=5.8								
USP	**Ospenovka**	**148.41**	**52**	P		PKPdf		17 11 13.6	-1.1
	SNR=9.9								
ZAL	**Zalesovo**	**148.54**	**27**	PKPbc		PKPdf		17 11 12.5	-2.1
	comp=Z,19nm,0.9s,baz=170,slow=3.0,SNR=17								
AAK	**Ala-Archa**	**148.59**	**53**	P		PKPdf		17 11 17.5	+2.4
	SNR=11								
AAK	**Ala-Archa**	**148.59**	**53**	*e*PKPdf		PKPdf		17 11 12.2	-2.9
AAK				*e*PKPbc		PKPdf		17 11 16.1	+1.1
FRU	**Bishkek**	**148.62**	**52**	*e*PKIKP		PKPdf		17 11 14.0	-1.1
FRU					pmax	pmax			
	comp=Z,80nm,2.0s								
CHMS	**Chumysh**	**148.67**	**52**	P		PKPdf		17 11 17.4	+2.2
	SNR=7.4								
UCH	**Uchtor**	**148.72**	**54**	P		PKPdf		17 11 18.4	+3.1
	SNR=18								
CLNS	**Chul'man**	**148.82**	**343**	*e*PKIKP		PKPdf		17 11 11.3	-3.7
CLNS					pmax	pmax			
	comp=Z,23nm,0.9s								
CLNS					pmax	pmax			
	comp=N,13nm,1.0s								
KBK	**Karagaybulak**	**148.91**	**53**	P		PKPdf		17 11 18.8	+3.2
	SNR=8.9								
TKM2	**Tokmak 2**	**149.28**	**52**	P		PKPdf		17 11 19.0	+2.8
	SNR=10								
KZA	**Kyzart**	**149.29**	**54**	P		PKPdf		17 11 19.8	+3.5
	SNR=7.4								
BOD	**Bodaibo**	**149.80**	**354**	*e*PKHKP				17 11 13.1	
BOD					pmax	pmax			
	comp=Z,15nm,1.6s								
ULHL	**Ulahol**	**149.94**	**53**	P		PKPdf		17 11 21.1	+3.8
	SNR=14								
HYB	**Hyderabad**	**150.33**	**104**	⇑*e*PKIKP		PKPdf		17 11 21.0	+2.5
HYB	**Hyderabad**	**150.33**	**104**	⇑*i*PKP		PKPdf		17 11 21.0	+2.5
	comp=Z,50nm,1.0s								
HYB				*e*				17 11 27.0	
KSH	**Kashi**	**150.49**	**58**	*e*PKP		PKPdf		17 11 23.0	+4.8
BHPL	**Bhopal**	**151.40**	**92**	*e*P		PKPdf		17 11 23.5	+3.5
BHPL				*e*				17 11 24.9	
	comp=Z,7.7nm,0.4s								
NDI	**New Delhi**	**152.24**	**81**	*e*P		PKPdf		17 11 25.0	+3.9
KLR	**Kul'dur**	**152.27**	**327**	*e*PKIKP		PKPdf		17 11 24.8	+4.3
DDI	**Dehra Dun**	**153.09**	**77**	*e*P		PKPdf		17 11 27.2	+5.0
ZAK	**Zakamensk**	**157.09**	**9**	*e*PKIKP		PKPdf		17 11 24.6	-2.4
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.6s								
SONM	**Songino Array**	**159.94**	**5**	PKP		PKPdf		17 11 28.8	-1.7
	comp=Z,1.4nm,1.1s,baz=90,slow=1.2,SNR=6.4								
SONM				PKPab		PKPab		17 12 08.3	+1.0
	comp=Z,0.8nm,0.7s,baz=315,slow=5.2,SNR=4.6								
LSA	**Lhasa**	**164.44**	**79**	*e*PKP		PKPdf		17 11 35.0	-0.6
GTA	**Gaotai**	**166.26**	**30**	*e*PKP		PKPdf		17 11 35.0	-1.9
GTA					LR	LR			
	comp=N,157nm,20.2s								
GTA					LR	LR			
	comp=E,111nm,19.0s								
GTA					LR	LR			
	comp=Z,195nm,19.4s								

*IDC **21** 16:58:02.9±3.2,24.40S×179.96W,h501km±32km,mb3.6/5,*
mb1 3.7/6,mb1mx3.5/13,mbtmp4.4/6,Error ellipse:
s-maj=30.7km s-min=24.6km az=15.0
*NEIC **21** 16:58:04.2±3.0,24.41S×179.94E,h522km±33km,mb4.7/8,*
Error ellipse: s-maj=28.3km s-min=15.1km az=211.0
ISC 21 16:58:02.8±3.9,**24.3S**±0.1×**179.8E**±0.2,**h508**km±46km,
n19,σ0§**68**/19,**mb4.3**/10,**2C-3D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.07**	**189**	P		**P**		**17 01 02.7**	**-0.8**
	0.4nm,0.3s,baz=25,slow=19,SNR=4.3								
URZ					S		**S**	**17 03 30.1**	**+0.9**
	1.5nm,0.3s,baz=59,slow=23,SNR=18								
RPZ	**Rata Peaks**	**20.63**	**198**	P		**P**		**17 02 07.0**	**-0.4**
	3.5nm,0.5s,baz=38,slow=9.3,SNR=5.7								
CTA	**Charters Tower**	**31.33**	**271**	⇓*i*P		**P**		**17 03 43.7**	**+1.2**
	14nm,0.3s,mb4.9								
CTA	**Charters Tower**	**31.33**	**271**	P		**P**		**17 03 43.7**	**+1.2**
	19nm,0.3s,mb4.9,baz=94,slow=12,SNR=85								
CTAO	**Charters Tower**	**31.33**	**271**	*e*P		**P**		**17 03 43.5**	**+1.0**
	21nm,0.5s,mb4.8								
STKA	**Stephens Creek**	**34.42**	**249**	P		**P**		**17 04 09.4**	**+1.0**
	4.2nm,0.5s,mb4.1,baz=96,slow=10,SNR=12								
STKA	**Stephens Creek**	**34.42**	**249**	*e*P		**P**		**17 04 09.2**	**+0.7**
PMG	**Port Moresby**	**34.50**	**290**	*e*P		**P**		**17 04 10.1**	**+0.9**
	6.0nm,0.7s,mb4.1								
ASAR	**Alice Springs**	**41.82**	**261**	P		**P**		**17 05 09.2**	**+0.2**
	2.8nm,0.4s,mb4.1,baz=91,slow=6.3,SNR=176								
ASAR					ScP			17 09 56.2	
	1.2nm,1.0s,baz=113,slow=4.4,SNR=5.0								
ASPA	**Alice Springs**	**41.82**	**261**	⇓*i*P		**P**		**17 05 09.1**	**+0.2**
WB2	**Warramunga Arr**	**42.22**	**267**	⇓*i*P		**P**		**17 05 11.9**	**-0.2**
WRAB	**Tennant Creek**	**42.22**	**267**	*e*P		**P**		**17 05 11.6**	**-0.5**
	15nm,0.4s,m

CAW **Cannon Point** 16.80 200 *e*PN **P** 17 09 59.9 -2.0
CAW *e*SN **S** 17 12 59.1 -2.8
CAW Cannon Point 16.80 200 *e*PN **P** 17 09 59.9 -2.0
CAW *e*SN **S** 17 12 59.1 -2.8
RAR Rarotonga 16.81 79 P **P** 17 09 58.9 -3.2
1.7nm,0.3s,baz=246,slow=9.6,SNR=12
RAR S **S** 17 12 54.2 -8.2
1.4nm,0.3s,baz=44,slow=16,SNR=2.8
RAR LR LR 17 15 30.9
comp=Z,973nm,18.2s,baz=72,slow=33
RAR Rarotonga 16.81 79 *e*P **P** 17 09 59.5 -2.7
1um,1.9s
PAWZ Paruwai Farm 16.94 199 *e*SN **S** 17 13 01.1 -3.9
PAWZ Paruwai Farm 16.94 199 *e*SN **S** 17 13 01.1 -3.9
QRZ Quartz Range 17.44 206 *e*PN **P** 17 10 09.7 +0.2
QRZ Quartz Range 17.44 206 *e*PN **P** 17 10 09.7 +0.2
TUWZ Tuamarina 17.45 202 PN **P** 17 10 07.2 -2.3
TUWZ Tuamarina 17.45 202 PN **P** 17 10 07.2 -2.3
NNZ Nelson 17.46 204 *e*PN **P** 17 10 09.5 -0.2
NNZ SN **S** 17 13 15.2 -1.3
NNZ Nelson 17.46 204 *e*PN **P** 17 10 09.5 -0.2
NNZ SN **S** 17 13 15.2 -1.3
THZ Tophouse 18.11 204 *e*PN **P** 17 10 15.8 -1.1
THZ *e*SN **S** 17 13 29.5 -0.8
THZ Tophouse 18.11 204 *e*PN **P** 17 10 15.8 -1.1
THZ *e*SN **S** 17 13 29.5 -0.8
KHZ Kahutara 18.47 201 *e*PN **P** 17 10 19.0 -1.7
KHZ SN **S** 17 13 35.6 -2.2
KHZ Kahutara 18.47 201 *e*PN **P** 17 10 19.0 -1.7
KHZ SN **S** 17 13 35.6 -2.2
DSZ Denniston Nort 18.51 206 *e*PN **P** 17 10 22.2 +1.1
DSZ SN **S** 17 13 40.7 +2.0
DSZ Denniston Nort 18.51 206 *e*PN **P** 17 10 22.2 +1.1
DSZ SN **S** 17 13 40.7 +2.0
LTZ Lake Taylor 19.23 203 *e*PN **P** 17 10 29.0 +0.4
LTZ *e*SN **S** 17 13 52.0 -0.6
LTZ Lake Taylor 19.23 203 *e*PN **P** 17 10 29.0 +0.4
LTZ *e*SN **S** 17 13 52.0 -0.6
CRLZ Canterbury Las 19.80 202 *e*SN **S** 17 14 03.9 +0.4
CRLZ Canterbury Las 19.80 202 *e*SN **S** 17 14 03.9 +0.4
MQZ McQueen's Vall 19.91 201 *e*SN **S** 17 14 06.4 +1.0
MQZ McQueen's Vall 19.91 201 *e*SN **S** 17 14 06.4 +1.0
RPZ Rata Peaks 20.48 204 P **P** 17 10 42.6 +1.3
7.9nm,0.4s,baz=283,slow=1.7,SNR=12
RPZ S **S** 17 14 19.4 +3.3
7.0nm,0.3s,baz=178,slow=15,SNR=12
RPZ LR LR 17 18 54.8
comp=Z,293nm,18.5s,baz=21,slow=36
FOZ Fox Glacier 20.89 207 *e*PN **P** 17 10 46.5 +1.1
FOZ Fox Glacier 20.89 207 *e*PN **P** 17 10 46.5 +1.1
LBZ Lake Benmore 21.38 205 *e*PN **P** 17 10 53.3 +3.1
LBZ Lake Benmore 21.38 205 *e*PN **P** 17 10 53.3 +3.1
JCZ Jackson Bay 21.69 208 *e*PN **P** 17 10 54.4 +1.1
JCZ Jackson Bay 21.69 208 *e*PN **P** 17 10 54.4 +1.1
WKZ Wanaka 22.20 206 *e*PN **P** 17 11 01.0 +2.8
WKZ Wanaka 22.20 206 *e*PN **P** 17 11 01.0 +2.8
EAZ Earnscleugh 22.43 205 *e*PN **P** 17 11 03.1 +2.7
EAZ Earnscleugh 22.43 205 *e*PN **P** 17 11 03.1 +2.7
MSZ Milford Sound 22.52 208 *e*PN **P** 17 11 06.1 +4.7
MSZ Milford Sound 22.52 208 *e*PN **P** 17 11 06.1 +4.7
TUZ Tuapeka 22.92 204 *e*PN **P** 17 11 08.9 +3.7
TUZ Tuapeka 22.92 204 *e*PN **P** 17 11 08.9 +3.7
HNR Honiara 26.70 303 *e*P **P** 17 11 37.8 -3.2
66nm,0.8s,mb5.3
PAE Paea 27.05 79 *e*P **P** 17 11 43.1 -1.0
30nm,1.0s,mb4.9
PPT Papeete 27.09 79 *e*P **P** 17 11 43.6 -0.9
24nm,1.2s,mb4.7
TIAR Tiarei 27.30 79 *e*P **P** 17 11 45.6 -0.8
79nm,0.9s,mb5.3
TVO Taravao 27.30 79 *e*P **P** 17 11 45.7 -0.7
49nm,0.8s,mb5.2
TOO Toolangi 33.58 240⇑ *i*P **P** 17 12 45.0 +3.6
0.9nm,0.7s
TAU Tasmania Unive 33.61 230 *e*P **P** 17 12 44.0 +2.4
CTA Charters Tower 33.78 272⇑ *i*P **P** 17 12 44.7 +1.5
432nm,0.8s,mb6.2
CTA *i* 17 15 20.2
CTA *i* 17 15 23.9
CTA *e*S **S** **17 17 55.8 +2.0**
CTA Charters Tower 33.78 272 P **P** 17 12 44.3 +1.1
380nm,0.6s,baz=100,slow=10,SNR=492
CTAO Charters Tower 33.78 272 *e*P **P** 17 12 44.2 +1.0
CTAO pmax pmax
comp=Z,390nm,0.7s,mb6.2
CTAO Charters Tower 33.78 272 *e*P **P** 17 12 44.2 +1.0
comp=Z,393nm,0.7s,mb6.2
STKA Stephens Creek 36.30 250 P **P** 17 13 06.8 +2.3
comp=Z,5.6nm,0.3s,mb4.6,baz=92,slow=9.7,SNR=28
STKA PcP PcP 17 15 27.3 +1.2
comp=Z,21nm,0.7s,baz=60,slow=3.4,SNR=14
STKA ScP 17 18 58.9
comp=Z,1.1nm,0.4s,baz=336,slow=5.2,SNR=5.0
STKA Stephens Creek 36.30 250 *e*P **P** 17 13 06.6 +2.2
PMG Port Moresby 37.15 289 *e*P **P** 17 13 10.7 -1.0
PMG pmax pmax
comp=Z,160nm,1.0s
PMG Port Moresby 37.15 289 P **P** 17 13 11.1 -0.7
comp=Z,74nm,0.7s,mb5.4,baz=84,slow=5.0,SNR=50
PMG PcP PcP 17 15 30.1 +1.3
comp=Z,33nm,1.0s,baz=87,slow=4.8,SNR=5.6
PMG Port Moresby 37.15 289 *e*P **P** 17 13 10.7 -1.0
comp=Z,157nm,1.0s,mb5.6
ASAR Alice Springs 44.05 262 P **P** 17 14 08.5 +0.3
comp=Z,22nm,0.9s,mb4.8,baz=99,slow=6.9,SNR=119
ASAR pP pP 17 14 47.2 +2.7
comp=Z,63nm,1.1s,baz=96,slow=8.1,SNR=9.6
ASAR PcP PcP 17 15 51.5 +0.3
comp=Z,7.5nm,0.8s,baz=104,slow=3.6,SNR=5.8
ASAR ScP 17 19 28.9
comp=Z,3.5nm,1.0s,baz=76,slow=3.7,SNR=6.6
ASAR S **S** **17 20 26.6 -0.7**
comp=Z,0.9nm,0.7s,baz=98,slow=14,SNR=4.9
ASPA Alice Springs 44.05 262⇑ *i*P **P** 17 14 09.5 +1.3
ASPA *i* PCP pP 17 14 50.2 +5.6
ASPA *i* PCS 17 19 44.3
ASPA *e*S **S** **17 20 27.5 +0.1**
WB2 Warramunga Arr 44.58 267⇓ *i*P **P** 17 14 12.0 -0.5
WB2 *i* PCP pP 17 14 53.6 +4.7
WB2 *i* 17 15 54.5
WB2 *i* PCS 17 19 45.7
WB2 *e*S **S** **17 20 32.2 -2.8**
WRAB Tennant Creek 44.58 267 P **P** 17 14 12.0 -0.5
comp=Z,799nm,0.5s
WRAB Tennant Creek 44.58 267 *e*P **P** 17 14 12.3 -0.2
FORT Forrest 47.93 251⇑ *i*P **P** 17 14 38.8 +0.1
comp=Z,1um,0.6s
KAKA Kakadu 48.72 275⇑ *i*P **P** 17 14 43.8 -1.1
comp=Z,109nm,0.6s,mb5.7
FITZ Fitzroy Crossi 52.99 266 *e*P **P** 17 15 17.4 +0.4
comp=Z,157nm,0.9s,mb5.7
SBA Scott Base 52.99 184 *e*P **P** 17 15 20.1 +3.8
VNDA Vanda 53.05 186 *e*P **P** 17 15 20.1 +3.4
VNDA Vanda 53.05 186 P **P** 17 15 21.4 +4.6
comp=Z,2.6nm,0.5s,mb4.2,baz=2.4,slow=7.5,SNR=8.1
VNDA ScP 17 20 08.9
comp=Z,3.2nm,1.0s,baz=351,slow=0.8,SNR=4.2
KLBR Kellerberrin 56.50 248 *e*P **P** 17 15 42.3 0.0
comp=Z,316nm,0.6s
NWAO Narrogin (SRO) 56.68 246 *e*P **P** 17 15 44.1 +0.5
comp=Z,9.6nm,0.8s,mb4.7
MUN Mundaring 57.72 247 *e*P **P** 17 15 51.2 +0.4
comp=Z,111nm,0.9s,mb4.7
CASY Casey 59.73 206⇓ *i*P **P** 17 16 06.9 +2.6
QSPA South Pole Qui 64.64 180 *e*P **P** 17 16 41.2 +4.6
comp=Z,23nm,0.6s,mb5.2
JOW Kunigami 73.72 311 P **P** 17 17 31.1 -1.8
comp=Z,46nm,0.8s,mb5.3,baz=148,slow=4.9,SNR=13
MAJO Matsushiro 74.47 324 *e*P **P** 17 17 33.7 -3.4
MAJO pmax pmax
comp=Z,3um,0.7s
MAJO Matsushiro 74.47 324 *e*P **P** 17 17 33.7 -3.3
comp=Z,3um,0.7s
MAT Matsushiro 74.47 324 *e*P **P** 17 17 34.0 -3.1
comp=Z,10nm,0.8s,mb4.6
MAT Matsushiro 74.47 324 P **P** 17 17 34.2 -2.9
KSM Kuching 74.61 279 *e*P **P** 17 17 37.0 -1.3
KIWB Kanaga Island 76.97 0 *e*P **P** 17 17 48.5 -2.3
MAW Mawson 77.09 200⇑ *i*P **P** 17 17 55.6 +4.5
comp=Z,21nm,0.5s,mb5.0
MAW Mawson 77.09 200 *e*P **P** 17 17 55.4 +4.3
MAW pmax pmax
comp=Z,25nm,0.5s
MAW Mawson 77.09 200 P **P** 17 17 55.5 +4.4
comp=Z,21nm,0.5s,mb5.1,baz=144,slow=6.5,SNR=44
GSTR Great Sitkin T 77.22 1 *e*P **P** 17 17 49.9 -2.3
ASAJ Asahikawa 78.29 332 P **P** 17 17 57.1 -1.0
comp=Z,10.0nm,0.6s,mb4.6,baz=279,slow=12,SNR=10
FX1 Attu Island--F 78.42 354 *e*P **P** 17 17 56.2 -2.5
UNV Unalaska Valle 79.54 7 *e*P **P** 17 18 02.2 -2.5
comp=Z,61nm,0.6s,mb5.4
YSS Yuzh-Sakhalins 80.51 334 *e*P **P** 17 18 07.8 -2.2
YSS pmax pmax
comp=Z,50nm,1.2s,mb5.0
PET Petropavlovsk 80.86 346 *i* P **P** 17 18 10.0 -1.7
PET pmax pmax
comp=Z,12nm,0.7s,mb4.6
KGM Kluang 81.11 276 P **P** 17 18 16.3 +2.4
SSE Sheshan 81.22 310 P **P** 17 18 14.1 0.0
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,128nm,8.3s
SNAA Sanae 83.07 178 P **P** 17 18 26.9 +4.1
SNAA Sanae 83.07 178 **P** 17 18 30.1 +7.3
SNAA Sanae 83.07 178 *e*P **P** 17 18 26.0 +3.2
SNAA pmax pmax
comp=Z,24nm,1.0s
SNAA Sanae 83.07 178 P **P** 17 18 26.2 +3.4
comp=Z,4.0nm,0.5s,mb4.4,baz=198,slow=4.4,SNR=48
SNAA Sanae 83.07 178 *e*P **P** 17 18 26.2 +3.4
comp=Z,8.4nm,0.4s,mb4.8
VNA3 Neumayer Olymp 83.19 176⇓ *i*P **P** 17 18 27.6 +4.2
VNA3 Neumayer Olymp 83.19 176⇓ *i* **P** 17 18 31.0 +7.6
NJ2 Nanjing 83.39 310 *e*P **P** 17 18 23.9 -1.3
NJ2 PP PP 17 21 42.5 +1.5
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
NJ2 AMB AMB
comp=Z,2um,9.1s
NJ2 LR LR
comp=N,9um,20.8s
NJ2 LR LR
comp=E,5um,17.6s
NJ2 LR LR
comp=Z,700nm,28.0s
VNA2 Neumayer--Watz 83.64 177⇓ *i*P **P** 17 18 30.2 +4.6
VNA2 Neumayer--Watz 83.64 177⇓ *i* **P** 17 18 33.6 +8.0
VNA2 Neumayer--Watz 83.64 177⇓ *i* pP 17 19 12.5 +6.0
VNA1 Neumayer--Stat 83.86 176⇑ *i*P **P** 17 18 31.8 +5.1
VNA1 Neumayer--Stat 83.86 176 **P** 17 18 34.9 +8.2
YBH Yreka Blue Hor 83.87 38 P **P** 17 18 27.7 +0.3
comp=Z,7.5nm,0.9s,mb4.4,baz=318,slow=0.3,SNR=9.4
LBCM Butte Creek Ri 84.04 39 P **P** 17 18 29.1 +0.8
LHEM Herd Peak 84.07 38 P **P** 17 18 29.3 +0.9
LTIM Timbered Crate 84.19 39 P **P** 17 18 29.9 +0.9
IPM Ipoh 84.28 278 P **P** 17 18 32.1 +2.0
NVAR Mina Array Bea 84.31 43 P **P** 17 18 29.9 +0.2
comp=Z,4.5nm,0.7s,mb4.3,baz=212,slow=6.4,SNR=32
MNV Mina 84.40 43 *e*P **P** 17 18 30.8 +0.7
comp=Z,6.5nm,1.0s,mb4.3
MDJ Mudanjiang 84.82 325 P **P** 17 18 33.3 +1.2
MDJ AMB AMB
comp=Z,17nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,190nm,3.3s
KULM Kulim 84.93 278 *e*P **P** 17 18 33.4 +0.1
PLCA Paso Flores 85.55 133 *e*P **P** 17 18 38.0 +2.2
PLCA Paso Flores 85.55 133 P **P** 17 18 40.0 +4.2
comp=Z,8.9nm,1.0s,mb4.5,baz=265,slow=4.6,SNR=9.9
TUC Tucson 85.68 51 *e*P **P** 17 18 37.6 +1.0
comp=Z,6.3nm,0.9s,mb4.3
WHN Wuhan 85.75 307⇓ *i*P **P** 17 18 39.0 +2.0
CN2 Changchun 86.49 322⇑ *i*P **P** 17 18 39.8 -0.5
CN2 *e*AP pP 17 19 20.0 -1.5
CN2 *e*S S 17 28 59.5 -1.1
CN2 AMB AMB
comp=Z,30nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,600nm,5.0s
LVP Lakeview Peak 86.94 35 P **P** 17 18 43.1 +0.8
ARUT Antelope Range 86.98 46 *e*P **P** 17 18 43.7 +0.9
KLR Kul'dur 87.01 329 *e*P **P** 17 18 36.8 -5.8
WUAZ Wupatki 87.05 48 *e*P **P** 17 18 44.7 +1.5
comp=Z,8.8nm,0.9s,mb4.6
MSU Marysvale 88.22 45 *e*P **P** 17 18 49.9 +1.3
EBG Ellensburg 88.44 35 P **P** 17 18 50.7 +1.2
MA2 Magadan 88.66 344 *e*P **P** 17 18 48.4 -1.8
MA2 pmax pmax
comp=Z,60nm,0.8s,mb5.6
MA2 Magadan 88.66 344 *d i*P **P** 17 18 48.5 -1.7
MA2 Magadan 88.66 344 *e*P **P** 17 18 48.1 -2.0
comp=Z,88nm,0.8s,mb5.7
NLU North Lily Min 89.10 44 *e*P **P** 17 18 52.9 +0.2
ENH Enshi 89.19 304 *e*P **P** 17 18 53.0 -0.4
comp=Z,35nm,0.8s,mb5.3
TMUT Trail Mountain 89.28 45 *e*P **P** 17 18 54.4 +0.8
TXAR Lajitas Array 89.34 57 P **P** 17 18 54.3 +0.2
comp=Z,1.8nm,0.8s,mb4.0,baz=217,slow=6.3,SNR=12
TXAR pP pP 17 19 36.1 +0.6
comp=Z,1.6nm,0.9s,baz=233,slow=4.5,SNR=2.2
TXAR PKKPbc 17 36 32.0
comp=Z,1.0nm,0.7s,baz=108,slow=4.0,SNR=5.5
GYA Guiyang 89.49 300⇓ *i*P **P** 17 18 55.8 +0.9
GYA AP pP 17 19 36.3 -0.1
GYA XP sP 17 19 53.4 -0.8
GYA PP PP 17 22 32.0 +1.1
GYA SKS SKS 17 29 11.3 +3.8
GYA S S 17 29 30.5 +1.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,390nm,22.5s
GYA LR LR
comp=E,470nm,20.1s
GYA LR LR
comp=Z,330nm,20.4s
SRU San Rafael 89.62 46 *e*P **P** 17 18 54.9 -0.3
BJT Baijiatuan 89.72 315 *e*P **P** 17 18 54.9 -0.8
comp=Z,7.3nm,0.6s,mb4.8
BJI Beijing 89.73 315 P **P** 17 18 55.9 +0.2
BJI AMB AMB
comp=Z,23nm,1.7s,mb4.8
HLID Hailey 89.77 40 *e*P **P** 17 18 56.4 +0.6
comp=Z,4.6nm,1.1s,mb4.3
DAU Daniels Canyon 89.88 44 *e*P **P** 17 18 57.2 +0.8
DIV Divide 90.03 15 *e*P **P** 17 18 55.8 -0.7
comp=Z,87nm,0.9s,mb5.7
SML Sawmill 90.07 13 *e*P **P** 17 18 55.8 -0.9
ANMO Albuquerque 90.14 51 *i* P **P** 17 18 59.3 +1.6
ANMO Albuquerque 90.14 51 P **P** 17 18 58.5 +0.7
comp=Z,2.8nm,0.7s,mb4.3,baz=274,slow=2.9,SNR=5.2
ANMO pP pP 17 19 39.1 -0.1
comp=Z,2.0nm,0.8s,baz=234,slow=4.0,SNR=1.7
ANMO Albuquerque 90.14 51 P **P** 17 18 58.5 +0.7
ANMO pP pP 17 19 39.1 -0.1
HWUT Hardware Ranch 90.35 43 *e*P **P** 17 18 58.5 -0.1
comp=Z,3.2nm,0.6s,mb4.4
TNA Tin City 91.02 4 *e*P **P** 17 19 00.2 -0.9
comp=Z,23nm,1.1s,mb5.1
SEY Seymchan 91.28 347 *e*P **P** 17 19 04.5 +2.1
MCMT McKenzie Canyo 91.42 40 *e*P **P** 17 19 04.1 +0.6
XAN Xi'an 91.49 307 P **P** 17 19 04.8 +0.7
XAN AMB AMB
comp=Z,26nm,0.9s,mb5.3
MCK McKinley 91.69 12 *e*P **P** 17 19 02.6 -1.6
MCK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MCK McKinley 91.69 12 *e*P **P** 17 19 02.6 -1.6
comp=Z,4.6nm,0.7s,mb4.6
TPAW Teton Pass 91.79 42 *e*P **P** 17 19 05.7 +0.5
SNOW Snow King Moun 91.89 42 *e*P **P** 17 19 06.6 +0.9
KMI Kunming 92.00 297 P **P** 17 19 08.3 +1.7
KMI AP pP 17 19 50.8 +2.6
KMI S S 17 29 54.6 +3.4
KMI AMB AMB
comp=Z,6.0nm,1.4s,mb4.4
KMI AMB AMB
comp=Z,153nm,3.3s
THY Trims Highway 92.05 14 *e*P **P** 17 19 05.1 -0.8
MOOW Moose Ponds 92.06 42 *e*P **P** 17 19 06.7 +0.3
LOHW Long Hollow 92.06 42 *e*P **P** 17 19 07.0 +0.5
comp=Z,3.2nm,0.7s,mb4.5
CHRT Chiangrai 92.10 291⇓ *i*P **P** 17 19 08.0 +0.8
comp=Z,226nm,0.8s
CM31 Chiang Mai Arr 92.19 289 *e*P **P** 17 19 09.1 +1.4
comp=Z,23nm,0.9s,mb5.2
SDCO Great Sand Dun 92.23 49 *e*P **P** 17 19 08.0 +0.6
comp=Z,2.4nm,0.7s,mb4.3
BW06 Boulder Array 92.24 43 *e*P **P** 17 19 07.2 -0.1
comp=Z,3.7nm,0.7s,mb4.5
PDAR Pinedale Array 92.24 43 P **P** 17 19 07.2 -0.2
comp=Z,4.3nm,0.7s,mb4.6,baz=209,slow=3.2,SNR=42
PDAR pP pP 17 19 48.8 -0.1
comp=Z,1.1nm,0.8s,baz=207,slow=4.0,SNR=1.5
PDAR PKKPbc 17 36 23.8
comp=Z,0.8nm,0.7s,baz=65,slow=7.0,SNR=8.6
QLMT Earthquake Lak 92.25 41 *e*P **P** 17 19 08.2 +0.9
CHG Chiang Mai 92.35 290⇓ P **P** 17 19 09.9 +1.6
comp=Z,32nm,0.9s,mb5.3
CHMT Chamberlain Mo 92.40 38 *e*P **P** 17 19 07.7 -0.2
DLBC Dease Lake 92.41 23 P **P** 17 19 07.8 +0.1
comp=Z,2.3nm,0.9s,mb4.2,baz=181,slow=18,SNR=4.2
DLBC Dease Lake 92.41 23 P **P** 17 19 07.8 +0.1
YMR Madison River 92.44 41 *e*P **P** 17 19 08.8 +0.6
COLA College 92.92 12 *e*P **P** 17 19 08.3 -1.6
COLA pmax pmax
comp=Z,18nm,0.9s,mb5.2
COLA College 92.92 12 *e*P **P** 17 19 08.3 -1.6
comp=Z,18nm,0.8s,mb5.3
HIA Hailar 92.97 324 *e*P **P** 17 19 09.1 -1.4
comp=Z,3.5nm,0.9s,mb4.5
IMA Indian Mountai 93.03 9 *e*P **P** 17 19 09.5 -0.9
IMA pmax pmax
comp=Z,77nm,1.4s,mb5.6
IMA Indian Mountai 93.03 9 *e*P **P** 17 19 09.5 -0.9
comp=Z,77nm,1.4s,mb5.6
HHC Hu-ho-hao-te 93.12 314 *e*P **P** 17 19 12.3 +0.9
HHC AP pP 17 19 50.5 -2.5
HHC XP sP 17 20 08.3 -2.5
HHC PP PP 17 23 00.1 +0.8
HHC S S 17 29 58.9 -1.7
HHC AMB AMB
comp=Z,23nm,1.4s,mb5.1
CD2 Chengdu 93.83 302 *e*P **P** 17 19 15.3 +0.5
CD2 AMB AMB
comp=Z,28nm,1.0s,mb5.3
BILL Bilibino 93.98 354 *e*P **P** 17 19 12.9 -1.7
comp=Z,64nm,1.5s,mb5.5
DAWY Dawson 94.07 16 *e*P **P** 17 19 14.8 -0.3
LZH Lanzhou 96.12 307 *e*P **P** 17 19 28.0 +2.9
LZH AP pP 17 20 08.0 +1.3
LZH XP sP 17 20 25.0 +0.5
LZH AMB AMB
comp=Z,26nm,1.0s,mb5.5
YAK Yakutsk 96.85 338 *e*P **P** 17 19 25.8 -2.0
YAK pmax pmax
comp=Z,36nm,0.8s,mb5.8
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK Yakutsk 96.85 338 *e*P **P** 17 19 25.6 -2.2
comp=E,92nm,0.8s,mb6.2
INK Inuvik 98.91 15 *e*P **P** 17 19 35.1 -2.0
INK pmax pmax
comp=Z,9.0nm,1.4s
INK Inuvik 98.91 15 P **P** 17 19 35.4 -1.7
comp=Z,1.9nm,0.7s,mb4.6,baz=225,slow=4.8,SNR=11
INK PP PP 17 23 33.2 -9.2
comp=Z,1.1nm,0.8s,baz=149,slow=5.2,SNR=3.2
INK Inuvik 98.91 15 *e*P **P** 17 19 35.1 -2.0
comp=Z,8.8nm,1.4s,mb5.0
ULN Ulaanbaatar 99.38 319 *e*P **P** 17 19 39.3 -0.4
comp=Z,2.1nm,0.8s,mb4.6
LPAZ La Paz 99.72 113 P **P** 17 19 43.9 +2.0
comp=Z,0.5nm,0.3s,mb4.4,baz=173,slow=1.5,SNR=2.8
LPAZ PKKPbc 17 36 03.0
comp=Z,0.5nm,0.3s,baz=52,slow=2.8,SNR=5.6
SONM Songino Array 99.76 318 P **P** 17 19 40.5 -0.9
comp=Z,1.1nm,0.9s,mb4.3,baz=149,slow=2.0,SNR=6.6
SONM PP PP 17 23 39.3 -10
comp=Z,0.2nm,0.3s,baz=149,slow=7.2,SNR=4.6
SONM PKKPbc 17 36 03.3
comp=Z,0.4nm,0.7s,baz=253,slow=4.3,SNR=4.4
GTA Gaotai 100.44 309 *e*P P 17 19 45.1 +0.4
GTA AP 17 20 25.8
GTA XP 17 20 42.9
GTA PP PP 17 23 55.0 -0.2
GTA SKS SKS 17 30 06.5 +0.2
GTA S S 17 31 01.3 -1.2
GTA XS 17 32 13.8
GTA PS PS 17 32 54.9 -2.6
GTA SS SS 17 38 02.5 -2.9
GTA AMB AMB
comp=Z,3.0nm,1.9s
GTA AMB AMB
comp=Z,108nm,7.2s
GTA LR LR
comp=N,91nm,18.6s
GTA LR LR
comp=E,79nm,18.6s
GTA LR LR
comp=Z,115nm,19.4s
YKA Yellowknife Ar 100.79 25 P P 17 19 44.6 -1.0
comp=Z,0.4nm,0.6s,baz=239,slow=4.5,SNR=10
YKA PP PP 17 23 48.5 -8.9
comp=Z,0.2nm,0.5s,baz=241,slow=7.7,SNR=3.8
YKA PKKPbc 17 35 59.8
comp=Z,0.7nm,0.8s,baz=41,slow=2.4,SNR=7.9
YKA Yellowknife Ar 100.79 25 P P 17 19 44.6 -1.0
YKA PP PP 17 23 48.5 -8.9
YKA PKKPbc 17 35 59.9
TIXI Tiksi 103.63 345 *e*P Pdif 17 19 54.1 -3.9
TIXI pmax pmax
comp=Z,3.0nm,1.0s
ZAL Zalesovo 114.61 320 *i* PKIKP PKPdf 17 24 36.4 +1.1
ZAL pmax pmax
comp=Z,4.0nm,0.6s
ZAL Zalesovo 114.61 320 PKP PKPdf 17 24 36.4 +1.1
comp=Z,3.5nm,0.6s,baz=331,slow=1.4,SNR=20
MKAR Makanchi Array 114.88 312 *i* PKIKP PKPdf 17 24 36.7 +0.7
MKAR pmax pmax
comp=Z,10.0nm,0.6s
NVS Novosibirsk 115.65 321 *e*PKIKP PKPdf 17 24 37.0 -0.3
NVS *e*S SKS 17 31 11.0 +0.3
NVS pmax pmax
comp=Z,14nm,1.1s
NVS smax
comp=E,31nm,2.2s
NVS smax
comp=N,9.0nm,1.6s
BDFB Brasilia 116.06 124 PKKPbc 17 35 11.9
comp=N,3.1nm,0.6s,baz=185,slow=1.3,SNR=5.0
KURK Kurchatov 117.89 316 *d i*PKIKP PKPdf 17 24 41.9 +0.2
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK Kurchatov 117.89 316 *e*PKPdf PKPdf 17 24 41.7 0.0
KSH Kashi 118.03 303 *e*PKP PKPdf 17 24 47.0 +4.8
KSH *e*PKS PKS 17 28 21.8 +3.9
KSH *e*SKS SKS 17 31 41.8 +22
KSH PP PP
comp=Z,160nm,5.0s
KSH LR LR
comp=N,340nm,4.4s
KSH LR LR
comp=E,460nm,5.5s
HRV Harvard--Oak R 118.12 54 *e*PKIKP PKPdf 17 24 42.6 +0.3
HRV Harvard--Oak R 118.12 54 *e*PKPdf PKPdf 17 24 42.8 +0.5
ULHL Ulahol 118.31 306 P PKPdf 17 24 44.8 +2.0
SNR=11
TKM2 Tokmak 2 118.89 307 P PKPdf 17 24 45.0 +1.1
SNR=12
KZA Kyzart 119.01 306 P PKPdf 17 24 46.3 +2.2
SNR=13
KBK Karagaybulak 119.32 306 P PKPdf 17 24 46.1 +1.4
SNR=13
CHMS Chumysh 119.52 307 P PKPdf 17 24 46.4 +1.3
SNR=8.9
UCH Uchtor 119.58 306 P PKPdf 17 24 47.3 +2.2
SNR=12
AAK Ala-Archa 119.65 306 P PKPdf 17 24 46.8 +1.4
SNR=8.0
AAK Ala-Archa 119.65 306 *i* PKIKP PKPdf 17 24 42.8 -2.5
AAK Ala-Archa 119.65 306 *e*PKPdf PKPdf 17 24 45.6 +0.3
USP Ospenovka 119.74 307 P PKPdf 17 24 46.8 +1.4
SNR=16
SUR Sutherland 119.90 198 *e*PKPdf PKPdf 17 24 50.3 +4.3
AML Almayashu 120.16 305 P PKPdf 17 24 48.4 +2.0
SNR=25
EKS2 Erkin-Say 120.18 306 P PKPdf 17 24 48.4 +2.1
SNR=13
CHKZ Chkalovo 122.96 319 *i* PKIKP PKPdf 17 24 51.9 +0.5

CHKZ					pmax	pmax			
	comp=Z,13nm,0.7s								
CHKZ	**Chkalovo**	**122.96**	**319**	*e*PKPdf	PKPdf	17 24 51.7	+0.3		
BVA0	**Borovoye Array**	**123.11**	**318**	*i* PKIKP	PKPdf	17 24 52.7	+1.0		
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.7s								
BVAR	**Borovoye Array**	**123.11**	**318**	PKP	PKPdf	17 24 52.7	+0.9		
	comp=Z,17nm,0.6s,baz=95,slow=1.2,SNR=132								
LBTB	**Lobatse**	**125.09**	**206**	*e*PKPdf	PKPdf	17 24 59.9	+3.5		
SFJD	**Kangerlussuaq**	**127.31**	**23**	*i* P	Pdif	17 22 04.2	+22		
SVE	**Sverdlovsk**	**128.27**	**324**	*e*PKIKP	PKPdf	17 25 03.0	+1.4		
SVE					pmax	pmax			
	comp=Z,40nm,1.5s								
SVE					MLR	MLR			
	comp=N,100nm,18.0s								
SVE					MLR	MLR			
	comp=E,100nm,18.0s								
SVE					MLR	MLR			
	comp=Z,200nm,18.0s								
ARU	**Arti**	**129.48**	**323**	*i* PKIKP	PKPdf	17 25 05.0	+1.1		
ARU				*e*		17 27 18.2			
ARU	**Arti**	**129.48**	**323**	*e*PKPdf	PKPdf	17 25 04.8	+0.9		
LSZ	**Lusaka**	**132.41**	**215**	*e*PKPdf	PKPdf	17 25 13.1	+2.6		
KEV	**Kevo**	**133.39**	**349**	*ep*	PKPdf	17 25 11.4	+0.4		
	comp=Z,15nm,1.0s								
KEV	**Kevo**	**133.39**	**349**	*e*PKIKP	PKPdf	17 25 11.4	+0.4		
KEV					pmax	pmax			
	comp=Z,15nm,1.0s								
APA	**Apatity**	**133.82**	**344**	⇓*i* PKIKP	PKPdf	17 25 14.2	+2.4		
APA					pmax	pmax			
	comp=Z,18nm,0.6s								
ARCES	**ARCESS Array B**	**133.85**	**349**	PKP	PKPdf	17 25 12.5	+0.7		
	comp=Z,7.1nm,0.5s,baz=17,slow=1.4,SNR=39								
ARCES					SKPbc	17 28 26.4			
	comp=Z,7.9nm,0.9s,baz=39,slow=7.8,SNR=5.7								
ARCES	**ARCESS Array B**	**133.85**	**349**	PKP	PKPdf	17 25 12.5	+0.7		
ARCES					SKPbc	17 28 26.4			
ARE0	**ARCESS Array S**	**133.85**	**349**	*e*PKPdf	PKPdf	17 25 12.6	+0.8		
KMBO	**Kilima Mbogo**	**137.25**	**237**	*e*PKIKP	PKPdf	17 25 22.7	+3.1		
KMBO	**Kilima Mbogo**	**137.25**	**237**	PKP	PKPdf	17 25 22.9	+3.4		
	comp=Z,5.0nm,1.0s,baz=47,slow=2.3,SNR=9.7								
KMBO					SKPbc	17 28 41.8			
	comp=Z,2.0nm,0.8s,baz=194,slow=1.1,SNR=7.0								
KMBO	**Kilima Mbogo**	**137.25**	**237**	*e*PKPdf	PKPdf	17 25 22.6	+3.0		
JOF	**Joensuu**	**137.95**	**341**	*ep*	PKPdf	17 25 12.1	-7.4		
	comp=Z,18nm,0.7s								
JOF	**Joensuu**	**137.95**	**341**	*e*PKHKP		17 25 12.1			
JOF					pmax	pmax			
	comp=Z,18nm,0.7s								
KAF	**Kangasniemi**	**140.01**	**343**	*ep*	PKPdf	17 25 15.1	-8.1		
	comp=Z,5.5nm,0.5s								
KAF	**Kangasniemi**	**140.01**	**343**	*e*PKHKP		17 25 15.1			
KAF					pmax	pmax			
	comp=Z,6.0nm,0.5s								
MOS	**Moscow**	**140.42**	**329**	*e*PKIKP	PKPdf	17 25 23.8	-0.4		
FINES	**FINESS Array B**	**140.62**	**342**	PKHKP		17 25 17.9			
	comp=Z,3.3nm,0.5s,baz=36,slow=4.7,SNR=16								
FINES					PKP	PKPdf	17 25 27.1	+2.8	
	comp=Z,7.7nm,0.6s,baz=63,slow=3.1,SNR=17								
FINES					SKPbc	17 28 46.7			
	comp=Z,7.8nm,0.8s,baz=72,slow=6.0,SNR=12								
FINES	**FINESS Array B**	**140.62**	**342**	PKP	PKPdf	17 25 17.9	-6.4		
FINES					PKP	PKPdf	17 25 27.1	+2.8	
FINES					SKPbc	17 28 46.7			
OBN	**Obninsk**	**141.27**	**329**	⇓*e*PKHKP		17 25 18.7			
OBN				*i*		17 25 25.9			
OBN					pmax	pmax			
	comp=Z,6.0nm,0.9s								
OBN					pmax	pmax			
	comp=Z,16nm,0.9s								
OBN	**Obninsk**	**141.27**	**329**	*e*PKPdf	PKPdf	17 25 26.5	+0.9		
TI2	**Plekhanov**	**141.66**	**306**	*i* PKIKP	PKPdf	17 25 29.6	+2.9		
VOR	**Voronezh**	**141.77**	**323**	*e*PKIKP	PKPdf	17 25 31.0	+4.4		
VOR					pmax	pmax			
	comp=Z,70nm,1.5s								
GNI	**Garni**	**141.96**	**303**	*e*PKPpre		17 25 26.1			
GNI				*e*PKPdf	PKPdf	17 25 29.2	+1.9		
VRSR	**Storozhevoye**	**142.02**	**322**	*e*PKHKP		17 25 22.9			
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.8s								
VRSR					pmax	pmax			
	comp=N,8.0nm,0.9s								
VRSR					pmax	pmax			
	comp=E,10.0nm,0.8s								
GOF	**Gofitskoye**	**142.05**	**312**	⇓*i* PKHKP		17 25 24.0			
GOF					pmax	pmax			
	comp=Z,13nm,0.8s								
MBAR	**Mbarara**	**142.37**	**231**	*e*PKHKP		17 25 27.4			
MBAR	**Mbarara**	**142.37**	**231**	*e*PKPpre		17 25 27.6			
KIV	**Kislovodsk**	**142.60**	**310**	*i* PKIKP	PKPdf	17 25 26.3	-2.0		
KIV					pmax	pmax			
	comp=Z,12nm,0.8s								
KIV	**Kislovodsk**	**142.60**	**310**	*e*PKPpre		17 25 26.4			
KIV				*e*PKPdf	PKPdf	17 25 30.8	+2.5		
FOO	**Floro**	**143.82**	**358**	*e*P	PKPbc	17 25 29.5	+0.7		
FOO				AMb	AMB	17 25 31.8			
	comp=Z,46nm,1.0s								
NB2	**NORSAR Subarra1**	**143.93**	**353**	PKPabc	PKPdf	17 25 28.8	-1.2		
	comp=Z,50nm,1.4s,baz=20,slow=3.7								
NB2	**NORSAR Subarra1**	**143.93**	**353**	PKPa	PKPab	17 25 28.8	-1.3		
	baz=20,slow=3.7								
NOA	**NORSAR Array B**	**143.93**	**353**	PKhKP		17 25 28.1			
	comp=Z,5.5nm,0.6s,baz=52,slow=2.2,SNR=35								
NOA					SKPbc	17 28 54.5			
	comp=Z,3.0nm,0.9s,baz=14,slow=4.1,SNR=3.7								
NOA	**NORSAR Array B**	**143.93**	**353**	PKP	PKPdf	17 25 28.1	-1.8		
NOA					SKPbc	17 28 54.5			
NAO01	**NORSAR Array S**	**144.16**	**353**	*e*PKPpre		17 25 29.0			
HYA	**Hoyanger**	**144.21**	**357**	*e*P	PKPbc	17 25 31.3	+1.3		
HYA				AMb	AMB	17 25 34.5			
	comp=Z,81nm,1.7s								
HFS	**Hagfors**	**144.48**	**350**	PKhKP		17 25 29.9			
	comp=Z,44nm,0.6s,baz=90,slow=3.0,SNR=205								
ERZM	**Erzurum**	**144.55**	**304**	*i* P	PKPbc	17 25 32.8	+1.2		
SOC	**Sochi**	**144.77**	**310**	*i* PKIKP	PKPdf	17 25 31.7	-0.3		
SOC				*e*PPP	PPP	17 32 06.0	-4.4		
SOC					pmax	pmax			
	comp=Z,51nm,0.5s								
SOC					pmax	pmax			
	comp=N,13nm,0.7s								
SOC					pmax	pmax			
	comp=E,26nm,0.9s								
BEST	**Besiri**	**145.00**	**300**	*i* P	PKPdf	17 25 34.2	+1.6		
RUND	**Rundenannen**	**145.00**	**358**	*e*P	PKPdf	17 25 32.6	+0.7		
RUND				AMb	AMB	17 25 34.1			
	comp=Z,133nm,0.7s								
IZAR	**Zarasai**	**145.13**	**337**	*e*P	PKPdf	17 25 32.0	-0.2		
IZAR				AMb	AMB	17 25 35.0			
	comp=Z,37nm,1.3s								
IDID	**Didziasalis**	**145.28**	**336**	*e*P	PKPdf	17 25 33.2	+0.6		
IDID				AMb	AMB	17 25 35.5			
	comp=Z,33nm,0.9s								
ISAL	**Salakas**	**145.31**	**336**	*e*P	PKPdf	17 25 32.3	-0.2		
ODD1	**Odda**	**145.44**	**356**	*e*P	PKPdf	17 25 32.8	+0.1		
ODD1				AMb	AMB	17 25 34.3			
	comp=Z,86nm,1.4s								
IIGN	**Ignalina**	**145.44**	**336**	*e*P	PKPdf	17 25 33.8	+1.0		
IIGN				AMb	AMB	17 25 36.1			
	comp=Z,60nm,1.2s								
KONO	**Kongsberg**	**145.46**	**354**	*e*PKIKP	PKPdf	17 25 33.1	+0.4		
KONO	**Kongsberg**	**145.46**	**354**	*e*P	PKPdf	17 25 33.4	+0.6		
MNK	**Minsk**	**145.47**	**334**	⇑*i* PKIKP	PKPdf	17 25 41.0	+8.1		
ANN	**Anapa**	**145.88**	**313**	*d* PKP2	PKPab	17 25 35.6	-2.2		
ANN					pmax	pmax			
	comp=Z,369nm,0.8s								
ANN					pmax	pmax			
	comp=N,86nm,0.9s								
ANN					pmax	pmax			
	comp=E,69nm,0.9s								
BLS5	**Blasjo**	**145.94**	**356**	*e*P	PKPdf	17 25 37.3	+3.7		
BLS5				AMb	AMB	17 25 38.2			
	comp=Z,48nm,0.9s								
KELT	**Kelkit**	**146.07**	**305**	*i* P	PKPdf	17 25 35.0	+0.6		
KMY	**Karmoy**	**146.21**	**357**	*e*P	PKPdf	17 25 36.5	+2.6		
KMY				AMb	AMB	17 25 37.8			
	comp=Z,131nm,1.2s								
ELZG	**Elazig**	**146.65**	**302**	*i* P	PKPdf	17 25 40.2	+4.8		
MALT	**Malatya**	**147.12**	**302**	*e*PKIKP	PKPdf	17 25 38.5	+2.4		
MALT				*e*		17 25 41.5			
SUW	**Suwalki**	**147.59**	**337**	*e*PKP	PKPdf	17 25 40.1	+3.7		
SUW				*e*		17 25 40.7			
SUW				*e*		17 25 42.0			
SUW	**Suwalki**	**147.59**	**337**	*e*PKP	PKPdf	17 25 40.1	+3.7		
SUW				*e*		17 25 40.7			
SUW				*e*		17 25 42.0			
SVST	**Sivas**	**147.88**	**305**	*i* P	PKPdf	17 25 43.4	+6.0		
SIM	**Simferopol'**	**147.96**	**315**	⇓*e*PKP2	PKPab	17 25 42.2	-3.7		
GZT	**Gaziantep**	**147.99**	**300**	*i* P	PKPdf	17 25 42.9	+5.3		
KAHT	**Ahir Dag**	**148.47**	**301**	*i* P	PKPdf	17 25 44.2	+5.8		
MUD	**Monsted U'grnd**	**148.65**	**353**	⇓*i* PKP2	PKPab	17 25 43.7	-4.6		
MUD					pmax	pmax			
	comp=Z,60nm,0.7s								
MUD	**Monsted U'grnd**	**148.65**	**353**	⇓*i* P	PKPdf	17 25 43.7	+5.6		
	comp=Z,60nm,0.7s								
MUD				*i*		17 26 27.8			
BOYT	**Boyabat**	**148.84**	**309**	*i* P	PKPdf	17 25 45.1	+6.2		
COP	**Copenhagen**	**148.93**	**349**	⇓*i* PKP2	PKPab	17 25 44.4	-5.1		
COP					pmax	pmax			
	comp=Z,52nm,0.9s								
COP	**Copenhagen**	**148.93**	**349**	⇓*i* P	PKPdf	17 25 44.4	+5.9		
	comp=Z,52nm,0.9s								
COP				*i*		17 25 50.4			
BSD	**Bornholm Skovb**	**148.99**	**346**	⇓*i* PKP2	PKPab	17 25 44.1	-5.7		
BSD					pmax	pmax			
	comp=Z,64nm,0.7s								
BSD	**Bornholm Skovb**	**148.99**	**346**	⇓*i* P	PKPdf	17 25 44.1	+5.4		
	comp=Z,64nm,0.7s								
BSD				*i*		17 25 50.0			
COBT	**Iskenderun**	**149.18**	**299**	*i* P	PKPdf	17 25 46.4	+6.8		
CTKT	**Corum**	**149.20**	**307**	*i* P	PKPdf	17 25 45.7	+6.2		
FKH	**Fakeheh**	**149.44**	**295**	*e*P	PKPdf	17 25 48.0	+8.0		
AVNT	**Avonos**	**149.72**	**304**	*i* P	PKPdf	17 25 46.8	+6.5		
BALT	**Daday**	**149.87**	**310**	*i* P	PKPdf	17 25 47.6	+7.2		
ESK	**Eskdalemuir**	**149.87**	**7**	*e*PKHKP		17 25 46.0			
KIS	**Kishinev**	**150.03**	**323**	⇓*i* PKHKP		17 25 45.0			
KIS					pmax	pmax			
	comp=Z,200nm,1.0s								
KIS					pmax	pmax			
	comp=Z,300nm,1.0s								
BHL	**Bhannes**	**150.09**	**294**	*e*P	PKPdf	17 25 48.8	+7.8		
GKP	**Gorka Klasztor**	**150.10**	**342**	*e*PKP	PKPdf	17 25 47.5	+7.1		
GKP				*e*		17 25 53.1			
GKP	**Gorka Klasztor**	**150.10**	**342**	*e*PKP	PKPdf	17 25 47.5	+7.1		
GKP				*e*		17 25 53.1			
ELDT	**Eldivan**	**150.22**	**308**	*i* P	PKPdf	17 25 48.3	+7.3		
BRTR	**Keskin Array B**	**150.33**	**306**	PKP	PKPdf	17 25 43.5	+2.3		
	comp=Z,30nm,0.8s,baz=100,slow=1.5,SNR=30								
BRTR					PKPbc	PKPdf	17 25 48.3	+7.1	
	comp=Z,31nm,0.8s,baz=117,slow=3.2,SNR=103								
LVV	**L'vov**	**150.50**	**331**	*e*PKP2	PKPab	17 25 48.6	-7.6		
IAS	**Iasi**	**150.59**	**324**	PKIKP	PKPdf	17 25 49.3	+8.0		
MEST	**Erdemli**	**150.82**	**300**	*i* P	PKPdf	17 25 49.6	+7.6		
ANTO	**Ankara**	**150.89**	**307**	⇓PKIKP	PKPdf	17 25 49.9	+7.9		
BSEG	**Bad Segeberg**	**150.96**	**350**	*e*PKIKP	PKPdf	17 25 49.6	+7.9		
EIL	**Elat**	**150.98**	**286**	*e*PKPdf	PKPdf	17 25 45.0	+2.5		
EIL				*e*PKPbc	PKPdf	17 25 50.7	+8.2		
SGKT	**Sivrigoynuk**	**151.16**	**309**	*i* P	PKPdf	17 25 50.2	+7.8		
DCN	**Croghan**	**151.19**	**12**	*e*P	PKPdf	17 25 58.4	+16		
KWP	**Kalwaria**	**151.21**	**332**	*e*PKIKP	PKPdf	17 25 50.1	+7.9		
KWP				*e*		17 25 55.9			
KWP	**Kalwaria**	**151.21**	**332**	*e*PKPdf	PKPdf	17 25 44.4	+2.3		
KWP				*e*PKPbc	PKPdf	17 25 50.0	+7.8		
KWP				*e*PKP	PKPdf	17 25 50.1	+7.9		
KWP				*e*		17 25 50.7			
KWP				*e*		17 25 51.6			
KWP				*e*		17 25 55.9			
KWP	**Kalwaria**	**151.21**	**332**	*e*PKP	PKPdf	17 25 50.1	+7.9		
KWP				*e*		17 25 50.7			
KWP				*e*		17 25 51.6			
KWP				*e*		17 25 56.0			
PHNC	**Paralimni**	**151.24**	**297**	P	PKPdf	17 25 51.0	+8.3		
DLF	**Lyons Farm**	**151.38**	**11**	*e*P	PKPdf	17 25 58.3	+16		
CFR	**Carcaliu**	**151.48**	**320**	⇑PKIKP	PKPdf	17 25 50.7	+8.0		
CFR	**Carcaliu**	**151.48**	**320**	P	PKPdf	17 25 51.0	+8.2		
CFR	**Carcaliu**	**151.48**	**320**	⇑*i* P	PKPdf	17 25 50.8	+8.1		
RUE	**Ruedersdorf**	**151.69**	**345**	*e*PKPbc	PKPdf	17 25 50.8	+8.0		
CSS	**Prodhromos**	**151.82**	**297**	P	PKPdf	17 25 52.1	+8.5		
	comp=Z,1.3nm,0.8s								
VRI	**Vrincioaia**	**151.87**	**323**	P	PKPdf	17 25 52.2	+8.9		
VRI	**Vrincioaia**	**151.87**	**323**	⇑*i* P	PKPdf	17 25 51.7	+8.4		
MAMC	**Mammari**	**151.87**	**297**	P	PKPdf	17 25 52.4	+8.8		
HENT	**Hendek**	**151.87**	**310**	*i* P	PKPdf	17 25 50.9	+7.5		
HARR	**Harsova**	**151.88**	**319**	PKIKP	PKPdf	17 25 52.8	+9.5		
BRD	**Bordesti**	**151.89**	**322**	⇓PKIKP	PKPdf	17 25 50.4	+7.1		
OJC	**Ojcow**	**151.89**	**336**	*e*PKP	PKPdf	17 25 51.4	+8.2		
KOLS	**Kolonicke sedl**	**151.93**	**332**	*e*PKP	PKPdf	17 25 46.1	+2.8		
KOLS				*e*		17 25 53.0			
SZAC	**Souni-Zanaja**	**152.22**	**297**	P	PKPdf	17 25 53.5	+9.3		
	comp=Z,1.7nm,0.7s								
CRVS	**Cervenica-Dubn**	**152.29**	**333**	*e*PKP	PKPdf	17 25 53.5	+10		
NIE	**Niedzica**	**152.35**	**335**	*e*PKP	PKPdf	17 25 51.6	+7.7		
ALFC	**Alevga**	**152.37**	**298**	⇑P	PKPdf	17 25 53.6	+9.2		
ALFC	**Alevga**	**152.37**	**298**	⇑*e*P	PKPdf	17 25 53.6	+9.2		
ESKT	**Eskisehir**	**152.42**	**308**	*i* P	PKPdf	17 25 53.1	+8.8		
WIT	**Witteveen**	**152.49**	**355**	*e*PKP	PKPdf	17 25 54.4	+10		
KSP	**Ksiaz**	**152.52**	**341**	*e*PKP	PKPdf	17 25 46.8	+2.7		
KSP				*e*PKPdf	PKPdf	17 25 53.0	+8.9		
KSP				*e*		17 25 58.1			
KSP				*e*		17 26 03.8			
KSP	**Ksiaz**	**152.52**	**341**	*e*PKP	PKPdf	17 25 53.2	+9.1		
KSP				*e*		17 25 53.7			
KSP				*e*		17 25 59.8			
KSP				*e*		17 26 03.7			
MLR	**Muntele Rosu**	**152.53**	**323**	P	PKPdf	17 25 52.9	+8.7		
MLR	**Muntele Rosu**	**152.53**	**323**	⇓*i* P	PKPdf	17 25 52.5	+8.2		
OKC	**Ostrava-Krasne**	**152.80**	**338**	*e*PKPDF	PKPdf	17 25 47.5	+3.0		
OKC				⇑*e*PKPB	PKPdf	17 25 53.8	+9.3		
OKC				*e*PKPAB	PKPab	17 26 04.8	-1.0		
SNX	**Sinaia**	**152.85**	**323**	PKIKP	PKPdf	17 25 55.5	+11		
UPC	**Upice**	**152.90**	**341**	*e*PKIKP	PKPdf	17 25 47.8	+3.2		
UPC				*e*		17 26 05.5			
UPC	**Upice**	**152.90**	**341**	*e*PKPDF	PKPdf	17 25 47.8	+3.2		
UPC				⇑*e*PKPB	PKPdf	17 25 54.4	+10		
UPC				*e*PKPAB	PKPab	17 26 05.5	-0.7		
DPC	**Dobruska-Polom**	**152.95**	**340**	*e*PKIKP	PKPdf	17 25 47.6	+2.9		
DPC				*e*		17 26 05.7			
DPC	**Dobruska-Polom**	**152.95**	**340**	*e*PKPDF	PKPdf	17 25 47.6	+2.9		
DPC				⇑*e*PKPB	PKPdf	17 25 54.7	+10		
DPC				*e*PKPAB	PKPab	17 26 05.7	-0.7		
CLL	**Collm**	**152.96**	**345**	*e*PKIKP	PKPdf	17 25 47.0	+2.3		
CLL				*i*		17 25 54.3			
CLL				*e*		17 26 39.0			
CLL					pmax	pmax			
	comp=Z,84nm,0.9s								
CLL	**Collm**	**152.96**	**345**	*e*PKP	PKPdf	17 25 47.0	+2.3		
CLL				*i* PKP	PKPdf	17 25 54.3	+10		
CLL				*ep*PKP		17 26 39.0			
CLL				*e*PKS	PKS	17 29 22.0	+4.1		
CLL	**Collm**	**152.96**	**345**	*e*PKIKP	PKPdf	17 25 47.0	+2.3		
CLL				*i* PKP1	PKPdf	17 25 54.3	+10		
CLL				*i* PKP2	PKPab	17 26 04.6	-1.9		
CLL				*e**PPKP2		17 26 39.0			
CLL				*i*		17 26 49.4			
CLL				*e*PKS	PKS	17 29 22.0	+4.1		
CLL				*e*PP	PP	17 29 34.0	-7.0		
CLL	**Collm**	**152.96**	**345**	P	PKPdf	17 26 00.9	+16		
	comp=Z,logA/T=1.8								
CLZ	**Clausthal**	**152.97**	**349**	*e*PKPdf	PKPdf	17 25 47.7	+3.0		
CLZ				*e*PKPbc	PKPdf	17 25 54.2	+10		
KECS	**Kecovo**	**153.02**	**333**	*e*PKP	PKPdf	17 25 55.3	+10		
KECS				*e*		17 26 05.9			
MORC	**Moravsky Berou**	**153.06**	**338**	*e*PKIKP	PKPdf	17 25 47.3	+2.5		
MORC				*e*		17 25 54.3			
BRG	**Berggiesshubel**	**153.14**	**344**	*e*PKIKP	PKPdf	17 25 47.6	+2.7		
BRG				*i*		17 26 01.2			
BRG					pmax	pmax			
	comp=Z,59nm,1.0s								
BRG	**Berggiesshubel**	**153.14**	**344**	*e*PKP	PKPdf	17 25 47.6	+2.7		
BRG				*i*		17 25 55.1			
BRG				*i* PKP	PKPdf	17 26 01.2	+16		
BRG				*i*		17 26 06.3			
PVCC	**Panska Ves**	**153.29**	**343**	*e*PKPDF	PKPdf	17 25 48.2	+3.1		
PVCC				*e*PKPAB	PKPab	17 26 07.4	-0.5		
WTSB	**Winterswijk**	**153.32**	**354**	*e*PKP	PKPdf	17 25 54.8	+10		
	comp=Z,79nm,0.8s								
WTSB				*ex*	x	17 26 01.8			
ULDT	**Uludag**	**153.38**	**310**	*i* P	PKPdf	17 25 55.0	+9.4		
VYHS	**Vyhne**	**153.67**	**335**	*e*PKIKP	PKPdf	17 25 48.0	+2.3		
VYHS				*e*		17 26 08.7			
VYHS	**Vyhne**	**153.67**	**335**	*e*PKP	PKPdf	17 25 48.0	+2.3		
VYHS				*e*		17 25 56.5			
VYHS				*e*		17 26 08.7			
PSZ	**Piszkesteto**	**153.71**	**333**	*e*PKIKP	PKPdf	17 25 47.4	+1.6		
PSZ	**Piszkesteto**	**153.71**	**333**	PKP2	PKPab	17 26 09.6	-0.1		
PSZ	**Piszkesteto**	**153.71**	**333**	*e*PKP/F	PKPdf	17 25 55.1	+9.3		
KOLL	**Kolacno**	**153.76**	**336**	*e*PKIKP	PKPdf	17 25 56.7	+11		
KOLL				*e*		17 26 09.0			
KOLL	**Kolacno**	**153.76**	**336**	*e*PKP	PKPdf	17 25 56.7	+11		
KOLL				*e*		17 26 02.8			
KOLL				*e*		17 26 09.3			
VRAC	**Vranov**	**153.77**	**339**	PKP2	PKPab	17 26 09.1	-0.8		
PRU	**Pruhonice**	**153.79**	**342**	*e*PKPDF	PKPdf	17 25 48.3	+2.5		
PRU				⇑*e*PKPB	PKPdf	17 25 56.1	+10		
PRU				*e*PKPAB	PKPab	17 26 09.2	-0.8		
MOX	**Moxa**	**153.88**	**347**	*e*PKIKP	PKPdf	17 25 48.2	+2.2		
MOX				*e*		17 26 09.0			
MOX					pmax	pmax			
	comp=Z,70nm,1.8s								
MOX	**Moxa**	**153.88**	**347**	*i* P	PKPdf	17 25 48.2	+2.2		
MOX				PP2		17 25 56.0			
MOX				PKP2	PKPab	17 26 09.0	-1.4		
NKC	**Novy Kostel**	**154.09**	**345**	*e*PKIKP	PKPdf	17 25 58.4	+12		
NKC	**Novy Kostel**	**154.09**	**345**	⇑*e*PKPB	PKPdf	17 25 58.4	+12		
SMOL	**Smolenice**	**154.17**	**337**	*e*PKP	PKPdf	17 25 57.8	+11		
SMOL				*e*		17 26 11.4			
DNZL	**Cakiroluk**	**154.40**	**305**	*i* P	PKPdf	17 25 58.7	+12		
ZST	**Bratislava**	**154.56**	**337**	*e*PKP	PKPab	17 26 12.9	-0.4		
HGN	**Heimansgroeve**	**154.59**	**355**	*e*PKP	PKPdf	17 25 57.0	+10		
HGN				*ex*	x	17 26 11.4			
BZS	**Buzias**	**154.69**	**327**	P	PKPdf	17 25 58.1	+11		
BZS	**Buzias**	**154.69**	**327**	⇑*i* P	PKPdf	17 25 57.9	+11		
KHC	**Kasperske Hory**	**154.83**	**343**	*e*PKIKP	PKPdf	17 25 49.9	+2.7		
KHC				*e*		17 26 13.2			
KHC	**Kasperske Hory**	**154.83**	**343**	*e*PKPDF	PKPdf	17 25 49.9	+2.7		
KHC				⇑*e*PKPB	PKPdf	17 25 58.6	+11		
KHC				*e*PKPAB	PKPab	17 26 13.2	-1.2		
TNS	**Taunus Mts**	**154.84**	**351**	*e*PKP2	PKPab	17 26 12.9	-1.5		
TNS	**Taunus Mts**	**154.84**	**351**	*e*PKPbc	PKPdf	17 25 58.7	+11		
TNS				*e*PKPab	PKPab	17 26 12.9	-1.5		
GRA1	**Grafenberg Arr**	**154.87**	**347**	*e*PKPdf	PKPdf	17 25 50.1	+2.8		
GRA1				*e*PKPbc	PKPdf	17 25 58.4	+11		
GRA1				*e*PKPab	PKPab	17 26 13.1	-1.4		
GRF	**Grafenberg Arr**	**154.87**	**347**	*e*PKP2	PKPab	17 26 13.1	-1.4		
GRF	**Grafenberg Arr**	**154.87**	**347**	*e*PKP	PKPdf	17 25 50.1	+2.8		
GRF				*e*PKP	PKPdf	17 25 58.4	+11		
GRF				*e*PKP	PKPab	17 26 13.1	-1.4		
WET	**Wettzell**	**155.00**	**344**	*e*PKP2	PKPab	17 26 13.9	-1.2		
WET	**Wettzell**	**155.00**	**344**	*e*PKPdf	PKPdf	17 25 50.1	+2.6		
WET				*e*PKPab	PKPab	17 26 13.9	-1.2		
GEC2	**GERESS Array S**	**155.06**	**342**	*e*PKP2	PKPab	17 26 14.1	-1.3		
GEC2	**GERESS Array S**	**155.06**	**342**	*e*PKPdf	PKPdf	17 25 50.1	+2.6		
GEC2				*e*PKPbc	PKPdf	17 25 58.9	+11		
GEC2				*e*PKPab	PKPab	17 26

BUTP				*e*S		**Sg**	17 29 04.9	+1.5
MSLP	**Maasin**	**0.79**	316	*e*P		**Pb**	17 28 58.1	+0.3
MSLP				*e*S		**Sb**	17 29 11.2	+2.9
CGP	**Cagayan de Oro**	**1.31**	213⇑	*e*P		**Pb**	17 29 06.0	-0.8
CGP				*i* S		**Sb**	17 29 24.7	+1.3
TBP	**Tagbilaran**	**1.54**	275	*e*P		**Pn**	17 29 09.2	-0.9
TBP				*e*S		**Sb**	17 29 30.2	+0.1
LLP	**Lapu-Lapu**	**1.61**	298	*e*P		**Pn**	17 29 10.3	-0.9
LLP				*e*S		**Sn**	17 29 31.7	-0.5
BUKP	**Musuan**	**1.71**	192	*e*P		**Pn**	17 29 11.9	-0.6
BESP	**Borongan**	**2.02**	1	*e*P		**Pn**	17 29 17.2	+0.2
BESP				*e*S		**Sn**	17 29 48.9	+6.3
DCPH	**Dipolog City**	**2.26**	245⇑	*e*P		**Pn**	17 29 09.6	-11
DCPH				*i* S		**Sn**	17 29 49.1	+0.4
PAGZ	**Pagadian**	**2.64**	230	*e*P		**Pn**	17 29 26.6	+0.8
MATI	**Mati**	**2.73**	162	*e*P		**Pn**	17 29 27.7	+0.5
GUIM	**Jordan**	**2.98**	291	*e*P		**Pn**	17 29 29.3	-1.4
CNP	**Catarman**	**3.02**	346	*e*P		**Pn**	17 29 33.2	+1.9
ASAR	**Alice Springs**	**34.05**	166	P		**P**	17 35 29.4	+0.3
	0.3nm,0.5s,mb3.4,baz=345,slow=6.7,SNR=6.4							
FINES	**FINESS Array B**	**86.11**	332	P		**P**	17 41 20.9	-3.7
	0.3nm,0.4s,mb3.8,baz=90,slow=5.7,SNR=6.8							
YKA	**Yellowknife Ar**	**94.74**	24	P		**P**	17 42 03.1	-1.9
	0.2nm,0.8s,mb3.6,baz=294,slow=4.2,SNR=4.3							

WEL 21 17:36:19.1±0.4, 36.09S×178.12E, h167km±5km, ML3.8/12, 1C, Error ellipse: s-maj=8.2km s-min=4.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.47**	174⇑	PN	P	17 36 49.9	-0.1
MXZ				SN	S	17 37 12.7	-1.2
PUZ	**Puketiti**	**1.98**	177	PN	P	17 36 55.2	-0.1
PUZ				SN	S	17 37 22.0	-1.2
MWZ	**Matawai**	**2.29**	192	PN	P	17 36 58.8	-0.2
MWZ				SN	S	17 37 29.2	-0.5
URZ	**Urewera**	**2.31**	200	PN	P	17 36 58.9	-0.3
URZ				SN	S	17 37 30.2	0.0
KNZ	**Kokohu**	**2.94**	187	PN	P	17 37 06.0	-1.1
KNZ				SN	S	17 37 42.5	-1.4
BKZ	**Black Stump Fm**	**3.33**	202	PN	P	17 37 11.1	-0.9
BKZ				*e*SN	S	17 37 51.2	-1.3
NGZ	**Ngauruhoe**	**3.67**	212	PN	P	17 37 16.4	+0.1
WNVZ	**Wahianoa**	**3.80**	211	*e*PN	P	17 37 17.4	-0.6
PWZ	**Pawanui**	**4.05**	194	PN	P	17 37 18.6	-2.6
PWZ				SN	S	17 38 05.4	-3.8
TSZ	**Takapari Road**	**4.31**	203	*e*PN	P	17 37 21.8	-2.8
BFZ	**Birch Farm**	**4.81**	197	*e*PN	P	17 37 28.3	-2.8
BFZ				SN	S	17 38 21.8	-4.9
MRZ	**Mangatainoka R**	**4.98**	203	PN	P	17 37 29.8	-3.5
MRZ				SN	S	17 38 25.5	-5.2
KIW	**Kapiti Island**	**5.39**	207	PN	P	17 37 35.0	-3.6
MTW	**Mount Morrison**	**5.46**	201	PN	P	17 37 35.6	-4.0
CAW	**Cannon Point**	**5.55**	205	PN	P	17 37 36.7	-4.1
SNZO	**South Karori**	**5.85**	206	PN	P	17 37 40.4	-4.4
TUWZ	**Tuamarina**	**6.25**	210	*e*PN	P	17 37 45.5	-4.6
NNZ	**Nelson**	**6.32**	215	*e*SN	S	17 38 57.4	-5.1
QRZ	**Quartz Range**	**6.45**	221	PN	P	17 37 48.9	-3.8
THZ	**Tophouse**	**6.97**	214	PN	P	17 37 56.5	-3.2
THZ				*e*SN	S	17 39 12.5	-5.4
DSZ	**Denniston Nort**	**7.49**	219	*e*SN	S	17 39 23.4	-7.0
LTZ	**Lake Taylor**	**8.07**	212	*e*PN	P	17 38 09.8	-4.4
LTZ				*e*SN	S	17 39 34.8	-9.4
MQZ	**McQueen's Vall**	**8.69**	207	*e*SN	S	17 39 47.6	-11

*IDC **21** 17:51:13.3±1.2,2.46N×95.80E,mb4.2/9,mb1 4.2/9, mb1mx4.1/16,mbtmp4.2/9,Error ellipse: s-maj=61.4km s-min=18.0km az=53.0*
*BJI **21** 17:51:16.5,2.25N×96.01E,h50km,mB5.0,mb4.7*
*NEIC **21** 17:51:18.3±0.5,2.55N×95.98E,h30km,mb4.6/8,Error ellipse: s-maj=15.3km s-min=8.8km az=50.0*

ISC 21 17:51:16.7±0.7, 2.6N±0.1×96.1E±0.1, h30km, n29, σ0§84/29, mb4.5/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	59	*e*Pn	**Pn**	**17 52 37.3**	**+1.2**
JIRN	**Jiri**	**26.69**	340	*e*P	**P**	**17 56 56.6**	**+1.3**
	44nm,0.6s,mb5.1						
PKI	**Pulchoki**	**26.88**	339	*e*P	**P**	17 56 57.9	+0.8
	13nm,0.7s,mb4.6						
DMN	**Daman**	**27.02**	338	*e*P	**P**	17 56 59.3	+0.9
	22nm,0.9s,mb4.7						
KKN	**Kakani**	**27.13**	339	*e*P	**P**	17 56 59.7	+0.4
	28nm,0.9s,mb4.8						
LSA	**Lhasa**	**27.39**	351	P	**P**	**17 57 02.8**	**+1.0**
LSA	**Lhasa**	**27.39**	351	*e*P	**P**	**17 57 02.4**	**+0.7**
	12nm,0.9s,mb4.4						
GKN	**Gorkha**	**27.56**	338	*e*P	**P**	17 57 03.7	+0.4
	43nm,0.9s,mb5.1						
KOLN	**Koldanda**	**27.76**	336	*e*P	**P**	17 57 05.9	+0.8
	22nm,0.7s,mb4.9						
ENH	**Enshi**	**30.35**	23	*e*P	**P**	17 57 26.4	-1.9
	5.1nm,0.7s,mb4.4						
XAN	**Xi'an**	**33.54**	20	P	**P**	**17 57 55.0**	**-1.1**
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
GTA	**Gaotai**	**36.84**	5	P	**P**	**17 58 23.9**	**-0.3**
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
BJT	**Baijiatuan**	**41.50**	23	*e*P	**P**	**17 59 03.1**	**+0.1**
	comp=Z,38nm,1.1s,mb4.9						
BJT				*e*pP	pP	17 59 11.3	-0.7
WRAB	**Tennant Creek**	**43.71**	123	*e*P	**P**	**17 59 21.7**	**+0.4**
	comp=Z,7.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**44.31**	337	*e*P	**P**	**17 59 26.9**	**+1.0**
	comp=Z,2.1nm,0.8s,mb3.9						
ASAR	**Alice Springs**	**45.11**	127	P	**P**	**17 59 32.9**	**+0.3**
	comp=Z,0.8nm,0.6s,mb3.7,baz=301,slow=8.0,SNR=15						
SONM	**Songino Array**	**45.97**	10	P	**P**	**17 59 39.3**	**+0.3**
	comp=Z,4.5nm,0.6s,mb4.6,baz=191,slow=9.3,SNR=56						
SONM				PcP	PcP	18 01 16.3	+0.4
	comp=Z,1.4nm,0.6s,baz=198,slow=3.8,SNR=5.6						
KURK	**Kurchatov**	**50.20**	346	*e*P	**P**	**18 00 11.5**	**-0.4**
	comp=Z,3.9nm,0.7s,mb4.5						
ZAL	**Zalesovo**	**52.04**	352	P	**P**	**18 00 24.9**	**-0.9**
	comp=Z,6.1nm,0.5s,mb4.8,baz=307,slow=5.1,SNR=26						
CTA	**Charters Tower**	**54.12**	117	P	**P**	**18 00 41.6**	**0.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=265,slow=11,SNR=4.2						
BVAR	**Borovoye Array**	**54.60**	341	P	**P**	**18 00 43.6**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=140,slow=8.6,SNR=20						
CHKZ	**Chkalovo**	**55.09**	342	*e*P	**P**	**18 00 47.5**	**-0.8**
	comp=Z,26nm,0.6s,mb5.4						
STKA	**Stephens Creek**	**55.10**	132	P	**P**	**18 00 48.8**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=317,slow=23,SNR=3.8						
YAK	**Yakutsk**	**64.44**	17	*e*P	**P**	**18 01 51.4**	**-1.0**
	comp=Z,20nm,0.8s,mb5.2						
FINES	**FINESS Array B**	**78.28**	333	P	**P**	**18 03 15.3**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=90,slow=3.8,SNR=4.8						
FINES	**FINESS Array B**	**78.28**	333	P	**P**	**18 03 15.3**	**+0.1**
ARCES	**ARCESS Array B**	**80.88**	340	P	**P**	**18 03 28.2**	**-0.9**
	comp=Z,8.3nm,1.2s,mb4.5,baz=90,slow=5.4,SNR=2.8						
GERES	**GERESS Array B**	**83.05**	319	P	**P**	**18 03 39.5**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=4.9						
HFS	**Hagfors**	**83.99**	330	P	**P**	**18 03 46.0**	**+0.7**
	comp=Z,1.0nm,0.7s,mb4.0,baz=117,slow=9.7,SNR=3.5						

*NEIC **21** 17:55:16.8±0.5,35.81N×17.51W,h10km,mb4.4/4,Error ellipse: s-maj=8.2km s-min=5.9km az=125.0*
*IDC **21** 17:55:17.1±0.7,36.06N×17.80W,mb3.9/21,mb1 4.1/22, mb1mx4.0/29,mbtmp4.0/22,ML4.8/1,MS3.8/6,Ms1 3.8/6, ms1mx3.3/28,Error ellipse: s-maj=22.4km s-min=13.6km az=156.0*
*INMG **21** 17:55:18.9±2.5,36.27N×18.06W,h10km,ML3.9,Error ellipse: s-maj=21.0km s-min=12.8km az=112.0*
*MDD **21** 17:55:18.8±1.9,36.16N×17.51W,mb4.8/32,Error ellipse: s-maj=18.0km s-min=15.3km az=93.0,PRXIMO*
*CSEM **21** 17:55:18.7±0.1,35.95N×17.39W,h15km,mb4.4/2, ML4.1/2,Error ellipse: s-maj=2.8km s-min=1.6km az=107.0*
*MOS **21** 17:55:18.7±1.5,36.04N×17.27W,h10km,mb4.5/5,Error ellipse: s-maj=18.2km s-min=4.8km az=47.8*
*LDG **21** 17:55:20.1±0.3,36.13N×17.80W,h30km,Ml4.4/10, ms3.2/5,Error ellipse: s-maj=10.6km s-min=6.3km az=148.0*
*CNRM **21** 17:55:25.0,37.25N×16.19W,h30km,MD4.7*

ISC 21 17:55:18.5±0.4, 35.84N±0.04×16.97W±0.04, h10km, n158, σ1§57/242, mb4.0/26, MS3.8/6, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**6.84**	73	*e*Pn	**Pn**	**17 57 02.8**	**+1.4**
PTEO				*e*Sn	**Sn**	**17 58 21.2**	**+1.1**
	36nm,0.4s						
PTEO	**Sao Teotonio**	**6.84**	73	*e*Pn	**Pn**	**17 57 02.8**	**+1.4**
PTEO				*e*Sn	**Sn**	**17 58 21.2**	**+1.1**
	36nm,0.4s						
PLOU	**Loures**	**6.92**	62	*e*Sn	**Sn**	**17 58 21.0**	**-1.2**
	96nm,0.5s						
PLOU	**Loures**	**6.92**	62	*e*Sn	**Sn**	**17 58 21.0**	**-1.2**
	96nm,0.5s						
EFAM	**Famara**	**7.29**	156	P	**Pn**	**17 57 05.7**	**-2.1**
	29nm,0.5s,SNR=7.9						
EFAM				S	**Sn**	**17 58 25.4**	**-6.1**
	11nm,0.2s,SNR=7.9						
EFAM	**Famara**	**7.29**	156	Pn	**Pn**	**17 57 05.7**	**-2.1**
	12nm,0.2s,SNR=7.9						
EFAM				Sn	**Sn**	**17 58 25.4**	**-6.1**
	SNR=7.9						
EBAJ	**Bajamar**	**7.30**	176	P	**Pn**	**17 57 02.5**	**-5.3**
	49nm,0.4s,SNR=18						
EBAJ				S	**Sn**	**17 58 19.0**	**-13**
	14nm,0.4s,SNR=7.9						
EBAJ	**Bajamar**	**7.30**	176	Pn	**Pn**	**17 57 02.5**	**-5.3**
	48nm,0.4s,SNR=18						
MOE	**Montemor**	**7.38**	66	*e*Pn	**Pn**	**17 57 10.3**	**+1.3**
JHA	**Jbel Lahdid**	**7.47**	121	*i* P	**Pn**	**17 57 16.0**	**+5.7**
JHA				*i* S	**Sn**	**17 58 39.0**	**+3.0**
CHIO	**Chio**	**7.58**	179	P	**Pn**	**17 57 05.8**	**-6.0**
	16nm,0.2s,SNR=7.9						
CHIO				S	**Sn**	**17 58 27.4**	**-11**
	33nm,0.3s,SNR=7.9						
CHIO	**Chio**	**7.58**	179	Pn	**Pn**	**17 57 07.9**	**-3.9**
	16nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**7.60**	178	Pn	**Pn**	**17 57 06.9**	**-5.2**
CCAN				Sn	**Sn**	**17 58 23.2**	**-16**
CCAN	**Las Canadas**	**7.60**	178	P	**Pn**	**17 57 06.9**	**-5.2**
	5.2nm,0.4s,SNR=7.9						
CCAN				S	**Sn**	**17 58 26.3**	**-13**
	3.1nm,0.2s,SNR=7.9						
PBEJ	**Beja**	**7.61**	71	*e*Pn	**Pn**	**17 57 13.1**	**+0.9**
PBEJ				*e*Sn	**Sn**	**17 58 39.2**	**-0.1**
	16nm,0.4s						
PBEJ	**Beja**	**7.61**	71	*e*Pn	**Pn**	**17 57 13.1**	**+0.9**
PBEJ				*e*Sn	**Sn**	**17 58 39.2**	**-0.1**
	16nm,0.4s						
CFUE	**Fuerteventura**	**7.62**	159	P	**Pn**	**17 57 09.5**	**-2.8**
	23nm,0.2s,SNR=7.9						
CFUE				S	**Sn**	**17 58 29.7**	**-10**
	63nm,0.2s,SNR=7.9						
EVO	**Evora**	**7.63**	67	*e*Pn	**Pn**	**17 57 12.2**	**-0.3**
EVO				*e*Sn	**Sn**	**17 58 36.3**	**-3.7**
	69nm,0.4s						
EVO				*e*R			
	762nm,26.5s						
EGOM	**La Gomera**	**7.66**	182	P	**Pn**	**17 57 06.3**	**-6.6**
	7.7nm,0.2s,SNR=5.5						
EGOM				S	**Sn**	**17 58 23.6**	**-17**
	47nm,0.3s,SNR=5.2						
EGOM	**La Gomera**	**7.66**	182	Pn	**Pn**	**17 57 06.3**	**-6.6**
	8.5nm,0.2s,SNR=5.5						
PTOM	**Tomar**	**7.76**	58	*e*Pn	**Pn**	**17 57 15.9**	**+1.7**
PTOM				*e*Sn	**Sn**	**17 58 40.1**	**-2.9**
	69nm,0.5s						
PTOM	**Tomar**	**7.76**	58	*e*Pn	**Pn**	**17 57 15.9**	**+1.7**
PTOM				*e*Sn	**Sn**	**17 58 40.1**	**-2.9**
	69nm,0.5s						
CFTV	**Fuerteventura**	**7.80**	161	P	**Pn**	**17 57 12.1**	**-2.7**
	5.3nm,0.4s,SNR=4.0						
CFTV				S	**Sn**	**17 58 33.5**	**-11**
	4.4nm,0.2s,SNR=7.9						
PALC	**Alcoutim**	**7.80**	75	*e*Pn	**Pn**	**17 57 17.1**	**+2.3**
PALC				*e*Sn	**Sn**	**17 58 44.8**	**+0.7**
	26nm,0.6s						
PALC	**Alcoutim**	**7.80**	75	*e*Pn	**Pn**	**17 57 17.1**	**+2.3**
PALC				*e*Sn	**Sn**	**17 58 44.8**	**+0.7**
	26nm,0.6s						
EGRO	**El Granado**	**7.80**	75	Pn	**Pn**	**17 57 16.3**	**+1.4**
EGRO				Sn	**Sn**	**17 58 43.0**	**-1.2**
EGRO	**El Granado**	**7.80**	75	P	**Pn**	**17 57 16.3**	**+1.4**
	4.4nm,0.3s,SNR=7.3						
EGRO				S	**Sn**	**17 58 44.2**	**-0.1**
	16nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**7.80**	75	Pn	**Pn**	**17 57 16.3**	**+1.4**
	6.3nm,0.4s,SNR=7.3						
EGRO				Sn	**Sn**	**17 58 43.0**	**-1.2**
	SNR=7.9						
CIA	**Chichaoua**	**8.06**	120	*i* P	**P**	**17 57 26.0**	**+7.6**
CIA				*i* S	**Sn**	**17 58 51.0**	**+0.4**
CHIE	**El Hierro**	**8.13**	186	S	**Sn**	**17 58 33.0**	**-19**
	14nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**8.45**	67	P	**P**	**17 57 25.7**	**+1.8**
	1.3nm,0.3s,SNR=6.4						
EBAD				S	**Sn**	**17 58 58.0**	**-2.3**
	17nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**8.45**	67	Pn	**P**	**17 57 25.7**	**+1.8**
	4.0nm,0.4s,SNR=6.4						
EBAD				Sn	**Sn**	**17 58 58.0**	**-2.3**
	SNR=7.9						
EMIN	**Mina Concepcio**	**8.48**	74	Pn	**P**	**17 57 25.1**	**+0.8**
EMIN				Sn	**Sn**	**17 58 59.0**	**-2.0**
EMIN	**Mina Concepcio**	**8.48**	74	P	**P**	**17 57 25.1**	**+0.8**
	3.4nm,0.3s,SNR=14						
EMIN				S	**Sn**	**17 58 60.0**	**-1.1**
	4.1nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**8.48**	74	Pn	**P**	**17 57 25.1**	**+0.8**
	2.7nm,0.3s,SNR=14						
EMIN				Sn	**Sn**	**17 58 59.0**	**-2.0**
	SNR=7.9						
PCBR	**Castelo Branco**	**8.50**	59	*e*Pn	**P**	**17 57 26.2**	**+1.6**
PCBR				*e*Sn	**Sn**	**17 58 57.3**	**-4.3**
	24nm,0.7s						
PCBR	**Castelo Branco**	**8.50**	59	*e*Pn	**P**	**17 57 26.2**	**+1.6**
PCBR				*e*Sn	**Sn**	**17 58 57.3**	**-4.3**
	24nm,0.7s						
PVIS	**Viseu**	**8.63**	53	*e*Pn	**P**	**17 57 26.2**	**-0.3**
PVIS				*e*Sn	**Sn**	**17 58 57.9**	**-7.0**
	31nm,0.4s						
PVIS	**Viseu**	**8.63**	53	P	**P**	**17 57 26.2**	**-0.3**
PVIS				S	**Sn**	**17 58 57.9**	**-7.0**
	15nm,0.4s						
MTE	**Manteigas**	**8.71**	56	*e*Sn	**Sn**	**17 59 01.1**	**-5.6**
	49nm,0.5s						
MTE	**Manteigas**	**8.71**	56	*e*Pn	**P**	**17 57 27.1**	**-0.4**
MTE				*e*Sn	**Sn**	**17 59 03.5**	**-3.2**
MTE	**Manteigas**	**8.71**	56	S	**Sn**	**17 59 01.1**	**-5.6**
	24nm,0.5s						
OUK	**Oukaimeden**	**8.89**	119	*i* P	**P**	**17 57 35.0**	**+5.0**
OUK				*i* S	**Sn**	**17 59 12.0**	**+0.8**
EZAM	**Zamans**	**9.00**	43	P	**P**	**17 57 29.7**	**-1.8**
	7.2nm,0.3s,SNR=7.9						
EZAM				S	**Sn**	**17 59 06.0**	**-8.1**
	38nm,0.4s,SNR=7.9						
ESPR	**Espera**	**9.02**	80	Pn	**P**	**17 57 33.9**	**+2.1**
ESPR				Sn	**Sn**	**17 59 14.7**	**+0.1**
ESPR	**Espera**	**9.02**	80	P	**P**	**17 57 33.9**	**+2.1**
	24nm,0.4s,SNR=14						
ESPR				S	**Sn**	**17 59 14.7**	**+0.1**
	48nm,0.3s,SNR=7.9						
ESPR	**Espera**	**9.02**	80	Pn	**P**	**17 57 33.9**	**+2.1**
	23nm,0.4s,SNR=14						
ESPR				Sn	**Sn**	**17 59 14.7**	**+0.2**
	SNR=7.9						
PVRL	**Vila Real**	**9.05**	50	*e*Pn	**P**	**17 57 32.0**	**-0.2**
PVRL				*e*Sn	**Sn**	**17 59 06.8**	**-8.4**
	23nm,0.4s						
PVRL	**Vila Real**	**9.05**	50	P	**P**	**17 57 32.0**	**-0.2**
PVRL				S	**Sn**	**17 59 06.8**	**-8.4**
	12nm,0.4s						
ELOB	**Lobios**	**9.19**	46	P	**P**	**17 57 33.1**	**-1.0**
	28nm,0.3s,SNR=33						
ELOB				S	**Sn**	**17 59 08.6**	**-10**
	25nm,0.3s,SNR=7.9						
ELOB	**Lobios**	**9.19**	46	Pn	**P**	**17 57 33.1**	**-1.0**
	33nm,0.4s,SNR=33						
EJIF	**Jimena Fronter**	**9.32**	83	P	**P**	**17 57 38.3**	**+2.4**
	3.0nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**9.41**	39	P	**P**	**17 57 34.2**	**-3.0**
	44nm,0.4s,SNR=4.0						
EMAZ				S	**Sn**	**17 59 11.2**	**-13**
	41nm,0.3s,SNR=9.3						
EMAZ	**Mazaricos**	**9.41**	39	Pn	**P**	**17 57 34.2**	**-3.0**
	42nm,0.4s,SNR=4.0						
ECAB	**El Cabril**	**9.51**	73	Pn	**P**	**17 57 39.2**	**+0.7**
	11nm,0.4s						
ECAB	**El Cabril**	**9.51**	73	Pn	**P**	**17 57 39.2**	**+0.7**
	11nm,0.4s,SNR=17						
STS	**Santiago**	**9.59**	40	P	**P**	**17 57 37.4**	**-2.2**
	9.6nm,0.3s,SNR=7.9						
STS				S	**Sn**	**17 59 18.6**	**-10**
	32nm,0.5s,SNR=7.9						
EMIJ	**Mijas**	**9.88**	82	Pn	**P**	**17 57 44.6**	**+0.9**
	3.1nm,0.3s						
EMIJ				Sn	**Sn**	**17 59 37.2**	**+1.5**
EMIJ	**Mijas**	**9.88**	82	P	**P**	**17 57 46.2**	**+2.5**
	7.5nm,0.6s,SNR=4.0						
EMIJ				S	**Sn**	**17 59 34.7**	**-1.1**
	5.9nm,0.4s,SNR=4.0						
PBRG	**Braganca**	**9.95**	50	*e*Pn	**P**	**17 57 44.2**	**-0.4**
PBRG				*e*Sn	**Sn**	**17 59 29.2**	**-8.3**
	19nm,0.6s						
PBRG	**Braganca**	**9.95**	50	P	**P**	**17 57 44.2**	**-0.4**
PBRG				S	**Sn**	**17 59 29.2**	**-8.3**
	9.6nm,0.6s						
ECAL	**Calabor**	**10.03**	50	Pn	**P**	**17 57 45.2**	**-0.5**
	31nm,0.3s						
ECAL				Sn	**S**	**17 59 30.8**	**-8.6**
ECAL	**Calabor**	**10.03**	50	P	**P**	**17 57 45.2**	**-0.5**
	24nm,0.3s,SNR=23						
ECAL				S	**S**	**17 59 31.0**	**-8.4**
	91nm,0.4s,SNR=6.6						
ECAL	**Calabor**	**10.03**	50	Pn	**P**	**17 57 45.2**	**-0.5**
	31nm,0.3s,SNR=23						
ERUA	**La Rua**	**10.05**	46	P	**P**	**17 57 44.5**	**-1.5**
	22nm,0.6s,SNR=9.7						
ERUA				S	**S**	**17 59 31.3**	**-8.5**
	24nm,0.5s,SNR=6.5						
EINC	**Incio**	**10.09**	45	P	**P**	**17 57 44.7**	**-1.8**
	15nm,0.3s,SNR=26						
EINC				S	**S**	**17 59 29.9**	**-11**
	50nm,0.5s,SNR=7.4						
EINC	**Incio**	**10.09**	45	Pn	**P**	**17 57 44.7**	**-1.9**
	14nm,0.3s,SNR=26						
EADA	**Adamuz**	**10.18**	73	P	**P**	**17 57 48.8**	**+1.0**
	3.4nm,0.3s,SNR=9.5						
EADA				S	**S**	**17 59 41.2**	**-1.8**
	13nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**10.18**	73	Pn	**P**	**17 57 48.8**	**+1.1**
	3.9nm,0.3s,SNR=9.5						
EADA				Sn	**S**	**17 59 41.2**	**-1.8**
CZD	**Col de Zad**	**10.24**	102	*e*P	**P**	**17 57 46.0**	**-2.6**
CZD				*i* S	**S**	**17 59 34.0**	**-11**
EPON	**Pontenova**	**10.64**	42	Pn	**P**	**17 57 52.2**	**-1.8**
	15nm,0.7s						
EPON				Sn	**S**	**17 59 41.9**	**-12**
EPON	**Pontenova**	**10.64**	42	P	**P**	**17 57 52.2**	**-1.8**
	16nm,0.7s,SNR=4.0						
EPON				S	**S**	**17 59 44.0**	**-10**
	43nm,0.6s,SNR=7.9						
EPON	**Pontenova**	**10.64**	42	Pn	**P**	**17 57 52.2**	**-1.8**
	15nm,0.7s						
ESDC	**Sonseca Array**	**10.98**	66	Pn	**P**	**17 57 59.4**	**+0.7**
	1.5nm,0.3s,baz=255,slow=13,SNR=11						
ESDC				Sn	**S**	**18 00 00.7**	**-2.0**
	2.1nm,0.3s,baz=258,slow=23,SNR=5.7						
ESDC	**Sonseca Array**	**10.98**	66	Pn	**P**	**17 57 59.1**	**+0.4**
	2.0nm,0.3s						
ESDC				Sn	**S**	**17 59 59.8**	**-2.9**
ESDC	**Sonseca Array**	**10.98**	66	P	**P**	**17 57 59.1**	**+0.4**
	4.4nm,0.4s,baz=253,slow=12,SNR=6.2						
ESDC				S	**S**	**17 59 58.9**	**-3.7**
	3.2nm,0.6s,baz=261,slow=23,SNR=5.0						
ESDC	**Sonseca Array**	**10.98**	66	Pn	**P**	**17 57 59.1**	**+0.4**
	2.0nm,0.3s						
ESDC				Sn	**S**	**17 59 59.8**	**-2.9**
ESLA	**Sonseca Array**	**10.98**	66	*e*Pn	**P**	**17 57 59.6**	**+0.8**
ESLA				*e*Sn	**S**	**18 00 01.9**	**-0.8**
ESLA	**Sonseca Array**	**10.98**	66	*e*Pn	**P**	**17 57 59.6**	**+0.9**
ESLA				*e*Sn	**S**	**18 00 01.9**	**-0.8**
EQES	**Quesada**	**11.31**	76	Pn	**P**	**17 58 04.5**	**+1.3**
EQES				Sn	**S**	**18 00 09.7**	**-1.0**
EQES	**Quesada**	**11.31**	76	P	**P**	**17 58 04.5**	**+1.3**
	3.7nm,0.5s,SNR=7.9						
EQES				S	**S**	**18 00 08.1**	**-2.6**
	2.4nm,0.3s,SNR=7.9						
EQES	**Quesada**	**11.31**	76	Pn	**P**	**17 58 04.5**	**+1.3**
EQES				Sn	**S**	**18 00 09.7**	**-1.0**
EBER	**Berja**	**11.40**	81	Pn	**P**	**17 58 08.8**	**+4.3**
	1.2nm,0.3s						
EBER				Sn	**S**	**18 00 17.8**	**+4.8**
EBER	**Berja**	**11.40**	81	P	**P**	**17 58 07.9**	**+3.4**
	2.7nm,0

LDF	**La Druitiere**	**17.78**	**39**	*e*Pn	**P**		**17 59 27.9**	**+0.3**
LDF				*e*Sn	**S**		**18 02 30.1**	**-13**
	comp=Z,8.9nm,0.5s							
TCF	**Toulx Ste Croi**	**17.79**	**48**	*e*Pn	**P**		**17 59 29.3**	**+1.6**
LASF	**Ste Croix**	**17.93**	**56**	*e*Pn	**P**		**17 59 34.1**	**+4.7**
AVF	**Avril sur Loir**	**18.72**	**48**	*e*P	**P**		**17 59 41.6**	**+2.3**
SSF	**Saint Saulge**	**18.95**	**47**	*e*P	**P**		**17 59 45.2**	**+3.3**
MBDF	**Montbardon**	**20.11**	**57**	*e*P	**P**		**17 59 58.8**	**+3.6**
LPL	**La Plagne**	**20.34**	**54**	*e*P	**P**		**18 00 02.0**	**+4.4**
LPG	**La Plagne**	**20.35**	**54**	*e*P	**P**		**18 00 02.0**	**+4.3**
BAIF	**Baives**	**20.93**	**41**	*e*P	**P**		**18 00 04.5**	**+0.9**
PGF	**Pioggiola**	**21.16**	**64**	*e*P	**P**		**18 00 08.7**	**+2.6**
GIVF	**Givet**	**21.28**	**41**	*e*P	**P**		**18 00 08.2**	**+1.0**
HINF	**Hinteralfeld**	**21.31**	**48**	*e*P	**P**		**18 00 09.4**	**+1.9**
EKA	**Eskdalemuir Ar**	**21.68**	**22**	P	**P**		**18 00 10.9**	**-0.3**
	comp=Z,1.7nm,0.6s,mb3.6,baz=227,slow=8.3,SNR=6.5							
DAVOX	**Davos**	**22.83**	**53**	P	**P**		**18 00 26.9**	**+4.3**
	comp=Z,2.3nm,0.6s,mb3.8,baz=217,slow=16,SNR=2.7							
AQU	**L'Aquila**	**24.37**	**65**	P	**P**		**18 00 40.1**	**+2.5**
AQU				pmax	pmax			
	comp=Z,19nm,0.9s,mb4.5							
AQU	**L'Aquila**	**24.37**	**65**	P	**P**		**18 00 40.1**	**+2.4**
	comp=Z,20nm,0.9s,mb4.5							
AQU	**L'Aquila**	**24.37**	**65**	P	**P**		**18 00 40.1**	**+2.5**
	comp=Z,20nm,0.9s,mb4.5							
GERES	**GERESS Array B**	**25.93**	**50**	P	**P**		**18 00 53.9**	**+1.5**
	comp=Z,1.1nm,0.9s,mb3.4,baz=243,slow=9.0,SNR=7.4							
KHC	**Kasperske Hory**	**25.95**	**50**	*e*P	**P**		**18 01 02.5**	**+10**
VRAC	**Vranov**	**27.89**	**51**	P	**P**		**18 01 11.0**	**+0.7**
	comp=Z,1.8nm,0.6s,mb3.9,baz=260,slow=11,SNR=2.6							
NOA	**NORSAR Array B**	**30.93**	**27**	P	**P**		**18 01 37.0**	**-0.3**
	comp=Z,1.1nm,0.9s,mb3.7,baz=228,slow=8.5,SNR=2.8							
NOA				LR	LR		18 13 44.5	
	comp=Z,57nm,18.8s,MS3.3,baz=255,slow=36							
DBIC	**Dimbokro**	**31.09**	**156**	P	**P**		**18 01 39.5**	**+0.2**
	comp=Z,2.1nm,0.8s,mb4.0,baz=315,slow=11,SNR=3.2							
DBIC				LR	LR		18 13 38.4	
	comp=Z,91nm,18.7s,MS3.5,baz=346,slow=35							
HFS	**Hagfors**	**31.30**	**29**	P	**P**		**18 01 40.8**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=252,slow=9.4,SNR=6.1							
JMIC	**Jan Mayen**	**35.50**	**5**	LR	LR		18 13 08.0	
	comp=Z,703nm,21.5s,MS4.4,baz=59,slow=30							
AKASG	**Malin Array Be**	**36.14**	**51**	P	**P**		**18 02 23.2**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=258,slow=9.4,SNR=8.1							
FINES	**FINESS Array B**	**37.20**	**33**	P	**P**		**18 02 31.8**	**+0.5**
	comp=Z,1.5nm,0.7s,mb3.9,baz=232,slow=16,SNR=5.1							
SCHQ	**Schefferville**	**38.88**	**315**	P	**P**		**18 02 37.8**	**-7.7**
	comp=Z,4.5nm,1.0s,mb4.2,baz=232,slow=12,SNR=3.5							
SCHQ				LR	LR		18 14 31.4	
	comp=Z,150nm,18.6s,MS3.9,baz=331,slow=30							
BRTR	**Keskin Array B**	**39.76**	**69**	P	**P**		**18 02 55.8**	**+2.8**
	comp=Z,0.4nm,0.4s,mb3.5,baz=280,slow=7.5,SNR=3.7							
ARCES	**ARCESS Array B**	**40.84**	**21**	P	**P**		**18 02 59.2**	**-2.5**
	comp=Z,2.6nm,0.7s,mb4.0,baz=239,slow=7.1,SNR=8.2							
MALT	**Malatya**	**43.70**	**70**	*e*P	**P**		**18 03 26.6**	**+1.3**
MALT				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
MALT	**Malatya**	**43.70**	**70**	*e*P	**P**		**18 03 26.6**	**+1.3**
	comp=Z,2.8nm,0.8s,mb4.0							
MALT	**Malatya**	**43.70**	**70**	*e*P	**P**		**18 03 26.6**	**+1.3**
	comp=Z,2.8nm,0.8s,mb4.0							
GNI	**Garni**	**47.97**	**65**	P	**P**		**18 04 01.2**	**+1.9**
	comp=Z,2.4nm,0.6s,mb4.4,baz=246,slow=19,SNR=2.2							
SDV	**Santo Domingo**	**55.59**	**255**	P	**P**		**18 04 50.5**	**-6.3**
	comp=Z,1.2nm,0.4s,mb4.2,baz=148,slow=8.2,SNR=4.5							
CHKZ	**Chkalovo**	**60.73**	**43**	P	**P**		**18 05 32.0**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.3							
CHKZ	**Chkalovo**	**60.73**	**43**	P	**P**		**18 05 32.0**	**-0.3**
	comp=Z,2.4nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**60.84**	**44**	P	**P**		**18 05 33.4**	**+0.4**
	comp=Z,1.7nm,0.7s,mb4.3,baz=315,slow=6.3,SNR=14							
YKA	**Yellowknife Ar**	**62.22**	**329**	P	**P**		**18 05 35.5**	**-6.7**
	comp=Z,0.4nm,0.5s,mb3.8,baz=66,slow=7.2,SNR=8.8							
YKA				LR	LR		18 29 17.0	
	comp=Z,60nm,19.0s,MS3.8,baz=105,slow=33							
YKA	**Yellowknife Ar**	**62.22**	**329**	P	**P**		**18 05 35.5**	**-6.7**
YKA				LR	LR		18 29 17.0	
KURK	**Kurchatov**	**66.44**	**44**	P	**P**		**18 06 09.0**	**-0.8**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
KURK	**Kurchatov**	**66.44**	**44**	P	**P**		**18 06 09.0**	**-0.8**
	comp=Z,2.8nm,0.8s,mb4.3							
NVS	**Novosibirsk**	**66.90**	**38**	*e*P	**P**		**18 06 15.2**	**+2.5**
ZAL	**Zalesovo**	**68.15**	**39**	P	**P**		**18 06 21.8**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.8,baz=182,slow=9.8,SNR=4.8							
PDAR	**Pinedale Array**	**68.45**	**308**	P	**P**		**18 06 15.8**	**-6.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=59,slow=7.7,SNR=8.3							
TIXI	**Tiksi**	**70.12**	**11**	*e*P	**P**		**18 06 29.9**	**-2.5**
TIXI				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3							
LPAZ	**La Paz**	**70.92**	**232**	P	**P**		**18 06 36.1**	**-2.0**
	comp=Z,0.6nm,0.2s,mb4.1,baz=36,slow=9.8,SNR=5.4							
LPAZ				LR	LR		18 32 47.9	
	comp=Z,62nm,20.6s,MS3.9,baz=326,slow=32							
TXAR	**Lajitas Array**	**71.04**	**293**	P	**P**		**18 06 33.8**	**-5.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=79,slow=6.4,SNR=4.5							
NVAR	**Mina Array Bea**	**76.39**	**308**	P	**P**		**18 07 04.8**	**-4.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=192,slow=7.1,SNR=3.6							
ASAR	**Alice Springs**	**152.06**	**72**	PKPbc	PKPdf		18 15 17.1	+6.5
	comp=Z,0.3nm,0.8s,baz=314,slow=1.8,SNR=4.1							

IDC 21 17:58:43.7±4.8, 17.45S×172.63W, mb4.1/2, mb1 4.4/2, mb1mx4.0/14, mbtmp4.1/2, Error ellipse: s-maj=324.7km s-min=35.2km az=150.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**50.21**	**253**	P	P	18 07 41.6	-2.0
	3.0nm,0.7s,baz=90,slow=7.7,SNR=36						
PDAR	**Pinedale Array**	**83.30**	**41**	P	P	18 11 12.8	-1.0
	0.8nm,0.7s,baz=233,slow=2.8,SNR=8.0						
BRTR	**Keskin Array B**	**148.20**	**320**	PKPbc	PKPdf	18 18 31.8	+1.4
	0.8nm,0.7s,baz=45,slow=1.7,SNR=4.9						
GERES	**GERESS Array B**	**148.27**	**352**	PKPbc	PKPdf	18 18 31.0	+0.9
	0.3nm,0.4s,baz=342,slow=4.2,SNR=4.2						

*IDC **21** 18:04:52.7±0.9,51.76N×104.71E,mb3.8/9,mb1 4.0/11, mb1mx3.8/21,mbtmp3.8/11,ML2.5/1,Error ellipse: s-maj=27.2km s-min=13.7km az=56.0*

*MOS **21** 18:04:55.2±1.4,51.80N×104.41E,h22km,mb4.1/4,Error ellipse: s-maj=9.5km s-min=7.4km az=52.9*

MOS Felt (III-IV) at Irkutsk; (III) at Kabansk; (II-III) at Talaya; (II) at Arshan.

*BYKL **21** 18:04:55.2±0.2,51.68N×104.39E,h18km±3km, #FAULT_PLANE Typ Strike Dip Rake NP NS Plane Author # FM 100.00 42.00 90.00 25 0 IEC + 280.00 48.00 90.00 IEC #PRINAX sc T_val T_azim T_pl B_val B_azim B_pl P_val P_azim P_pl Author + eTv eTa eTp eBv eBa eBp ePv ePa ePp fCLVD # 190.00 87.00 280.00 0.00 10.00 3.00 IEC + 0.00 0.00 0.00 0.00 0.00 0.00 FELT I=IV MSK at Baykalsk, Vyadrino, Irkutsk, Bolshaya Rechka,) Homutovo, Oyek, III-IV at Listvyanka, Slyudyanka, Meget, Ust-Ordinskiy,) II at Usolye-sibirskoye)*

*NEIC **21** 18:04:55.6±1.6,51.74N×104.40E,h14km±10km,mb3.8/3, Error ellipse: s-maj=14.4km s-min=7.1km az=214.0*

NEIC Felt [IV] at Irkutsk; [III] at Kabansk and Taloye; [II] at Arshan.

*BJI **21** 18:05:00.9,51.08N×104.59E,h13km,mB4.4,mb4.3, Ms4.2,Msz3.8*

ISC 21 18:04:55.6±0.2, 51.73N±0.03×104.33E±0.03, h18km, n84, σ1°36/141, mb3.9/11, MS3.9/4, 14C-12D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSTR	**Listvyanka**	**0.34**	**66**	*e*PG	**Pb**	**18 05 01.3**	**-1.6**
LSTR				*e*		18 05 06.8	
LSTR				pmax	pmax		
	comp=Z,5μm,0.1s						
LSTR				smax			
	comp=N,2μm,0.4s						
LSTR	**Listvyanka**	**0.34**	**66**	⇓*i*Pg	**Pb**	**18 05 02.1**	**-0.8**
LSTR				Pmax		18 05 02.3	
	comp=N,6μm,0.2s						
LSTR				*i* Sg	**Sb**	**18 05 06.9**	**-0.9**
LSTR				Smax		18 05 07.6	
	comp=N,14μm,0.2s						
TLY	**Talaya**	**0.43**	**264**	⇓*i*PG	**Pb**	**18 05 04.8**	**+0.4**
TLY				*e*		18 05 11.6	
TLY				pmax	pmax		
	comp=Z,4μm,0.2s						
TLY				smax			
	comp=N,7μm,0.3s						
TLY	**Talaya**	**0.43**	**264**	⇑*e*Pn	**Pn**	**18 05 04.7**	**-2.0**
TLY	**Talaya**	**0.43**	**264**	⇑*i*Pg	**Pb**	**18 05 04.8**	**+0.4**
TLY				Pmax		18 05 05.3	
	comp=N,3μm,0.1s						
TLY				*i* Sg	**Sb**	**18 05 11.5**	**+1.2**
TLY				Smax		18 05 12.0	
	comp=N,16μm,0.3s						
IRK	**Irkutsk**	**0.52**	**356**	*e*PG	**Pb**	**18 05 05.8**	**-0.1**
IRK				*e*		18 05 13.1	
IRK				pmax	pmax		
	comp=Z,2μm,0.1s						
IRK				smax			
	comp=E,102μm,0.7s						
IRK	**Irkutsk**	**0.52**	**356**	⇑*i*Pg	**Pb**	**18 05 06.5**	**+0.6**
IRK				Pmax		18 05 06.7	
	comp=E,3μm,0.2s						
IRK				*e*Sg	**Sb**	**18 05 14.4**	**+1.6**
IRK				Smax		18 05 14.6	
	comp=E,1μm,0.7s						
ARS	**Arshan**	**1.20**	**280**	*e*PN	**Pn**	**18 05 17.9**	**+0.3**
ARS				*e*		18 05 35.2	
ARS				pmax	pmax		
	comp=Z,1μm,0.3s						
ARS				smax			
	comp=N,9μm,0.9s						
ARS	**Arshan**	**1.20**	**280**	⇓*i*Pg	**Pb**	**18 05 18.1**	**+0.6**
ARS				*e*Pb	**Pb**	**18 05 19.2**	**+1.7**
ARS				max		18 05 20.3	
	comp=N,3μm,0.8s						
ARS				*e*Sg	**Sb**	**18 05 34.9**	**+2.3**
ARS				Smax		18 05 38.5	
	comp=N,17μm,0.9s						
STDB	**Stepnoy Dvoret**	**1.33**	**70**	*i* Pg	**Pn**	**18 05 20.7**	**+1.1**
STDB				*e*Sg	**Sb**	**18 05 39.6**	**+3.1**
KAB	**Kabansk**	**1.48**	**76**	*e*PN	**Pn**	**18 05 21.4**	**-0.2**
KAB				*e*		18 05 41.6	
KAB				pmax	pmax		
	comp=Z,2μm,0.3s						
KAB				smax			
	comp=N,41μm,0.7s						
KAB	**Kabansk**	**1.48**	**76**	⇑*i*Pg	**Pn**	**18 05 21.8**	**+0.2**
KAB				*e*Pb	**Pb**	**18 05 22.6**	**+0.4**
KAB				max		18 05 22.7	
	comp=N,2μm,0.4s						
KAB				*i* Sg	**Sn**	**18 05 41.6**	**+1.1**
KAB				Smax		18 05 42.5	
	comp=N,37μm,0.6s						
ZAK	**Zakamensk**	**1.50**	**207**	⇓PN	**Pn**	**18 05 22.2**	**+0.3**
ZAK				*e*		18 05 41.2	
ZAK				pmax	pmax		
	comp=Z,3μm,0.7s						
ZAK				smax			
	comp=E,4μm,1.1s						
ZAK	**Zakamensk**	**1.50**	**207**	⇑*i*Pg	**Pn**	**18 05 22.2**	**+0.3**
	comp=E,665nm,0.7s						
ZAK				⇑*i*Pg	**Pn**	**18 05 22.2**	**+0.3**
	comp=E,310nm,0.7s						
ZAK				⇑*i*Pg	**Pn**	**18 05 22.2**	**+0.3**
	comp=E,621nm,0.7s						
ZAK				*e*Pb	**Pb**	**18 05 23.0**	**+0.4**
ZAK				max		18 05 23.5	
	comp=E,3μm,0.6s						
ZAK				*e*Sg	**Sn**	**18 05 41.9**	**+0.7**
ZAK				Smax		18 05 43.7	
	comp=E,4μm,1.0s						
FFNB	**Fofonovo**	**1.54**	**77**	*e*	**Pn**	**18 05 21.8**	**-0.7**
FFNB				*e*Pg	**Pn**	**18 05 22.8**	**+0.3**
FFNB				*e*Pb	**Pb**	**18 05 23.4**	**+0.1**
FFNB				max		18 05 23.8	
	comp=E,4μm,0.2s						
FFNB				*i* Sg	**Sn**	**18 05 43.0**	**+0.8**
FFNB				Smax		18 05 43.8	
	comp=E,26μm,0.5s						
TRG	**Tyrgan**	**1.61**	**49**	*e*PN	**Pn**	**18 05 24.2**	**+0.7**
TRG				*e*		18 05 45.2	
TRG				pmax	pmax		
	comp=Z,3μm,0.4s						
TRG				smax			
	comp=N,750nm,0.3s						
TRG	**Tyrgan**	**1.61**	**49**	⇓*i*Pg	**Pn**	**18 05 24.2**	**+0.7**
	comp=N,3μm,0.6s						
TRG				⇓*i*Pg	**Pn**	**18 05 24.2**	**+0.7**
	comp=N,2μm,0.6s						
TRG				⇓*i*Pg	**Pn**	**18 05 24.2**	**+0.7**
	comp=N,2μm,0.6s						
TRG				Pmax		18 05 24.7	
	comp=N,2μm,0.2s						
TRG				*e*Sg	**Sn**	**18 05 45.2**	**+1.2**
TRG				Smax		18 05 47.0	
	comp=N,15μm,0.3s						
TRG				*e*		18 06 02.2	
HRMR	**Khuramsha**	**1.64**	**92**	⇑*i*Pg	**Pn**	**18 05 23.1**	**-0.8**
HRMR				*e*Pb	**Pb**	**18 05 24.1**	**-0.8**
HRMR				max		18 05 24.5	
	comp=N,3μm,0.4s						
HRMR				*i* Sg	**Sn**	**18 05 45.4**	**+0.8**
HRMR				Smax		18 05 46.1	
	comp=N,87μm,0.5s						
ZRHB	**Zarechye**	**1.93**	**63**	*e*Pn	**Pn**	**18 05 27.9**	**-0.1**
ZRHB				*i* Pg	**Pn**	**18 05 29.7**	**+1.7**
ZRHB				Pmax		18 05 37.9	
	comp=N,2μm,0.8s						
ZRHB				*e*Sg	**Sn**	**18 05 55.1**	**+3.2**
ZRHB				Smax		18 06 18.3	
	comp=N,26μm,0.9s						
MOY	**Mondy**	**2.08**	**270**	*e*PN	**Pn**	**18 05 33.4**	**+3.2**
MOY				*e*S	**Sn**	**18 06 01.0**	**+5.2**
MOY				pmax	pmax		
	comp=Z,2μm,0.6s						
MOY				smax			
	comp=N,9μm,1.1s						
MOY	**Mondy**	**2.08**	**270**	*e*Pn	**Pn**	**18 05 31.6**	**+1.4**
MOY				⇓*i*Pg	**Pn**	**18 05 33.4**	**+3.2**
MOY				Pmax		18 05 34.4	
	comp=N,2μm,0.8s						
MOY				*e*		18 05 41.0	
MOY				*e*Sn	**Sn**	**18 05 57.9**	**+2.1**
MOY				*e*Sg	**Sn**	**18 06 01.5**	**+5.7**
MOY				Smax		18 06 02.8	
	comp=N,9μm,1.4s						
TRTB	**Turuntaevo**	**2.10**	**75**	*e*Pn	**Pn**	**18 05 30.5**	**0.0**
TRTB				*e*Pg	**Pn**	**18 05 32.5**	**+2.0**
TRTB				Pmax		18 05 33.7	
	comp=N,691nm,0.4s						
TRTB				*e*Sn	**Sn**	**18 05 56.4**	**0.0**
TRTB				*e*Sg	**Sn**	**18 06 00.2**	**+3.8**
TRTB				Smax		18 06 01.4	
	comp=N,5μm,0.8s						
OGRR	**Ongureny**	**2.76**	**45**	*e*PN	**Pn**	**18 05 39.9**	**-0.1**
OGRR				*e*		18 05 43.9	
OGRR				*e*		18 06 18.9	
OGRR				pmax	pmax		
	comp=Z,750nm,0.5s						
OGRR				smax			
	comp=E,4μm,0.7s						
OGRR	**Ongureny**	**2.76**	**45**	*e*Pn	**Pn**	**18 05 39.9**	**-0.1**
OGRR				*e*Pg	**Pn**	**18 05 44.1**	**+4.1**
OGRR				⇓*i*		18 05 45.5	
OGRR				max		18 05 46.7	
	comp=E,752nm,0.5s						
OGRR				*e*Sg	**Sn**	**18 06 19.0**	**+5.8**
OGRR				Smax		18 06 28.7	
	comp=E,4μm,0.6s						
ORL	**Orlik**	**2.90**	**288**	*e*PN	**Pn**	**18 05 46.0**	**+4.0**
ORL				*e*		18 06 25.1	
ORL				pmax	pmax		
	comp=Z,932nm,0.7s						
ORL				smax			
	comp=E,4μm,0.9s						
ORL	**Orlik**	**2.90**	**288**	*e*	**Pn**	**18 05 45.1**	**+3.1**
ORL				⇓*i*Pg	**Pn**	**18 05 47.1**	**+5.1**
ORL				Pmax		18 05 50.2	
	comp=E,878nm,0.8s						
ORL				*e*Sg	**Sn**	**18 06 26.1**	**+9.4**
ORL				Smax		18 06 29.1	
	comp=E,5μm,1.0s						
MXMB	**Maximikha**	**3.10**	**59**	⇑*i*Pn	**Pn**	**18 05 44.1**	**-0.7**
MXMB				*e*Pg	**Pn**	**18 05 50.1**	**+5.3**
MXMB				Pmax		18 05 53.0	
	comp=E,416nm,0.7s						
MXMB				*e*Sn	**Sn**	**18 06 21.2**	**-0.7**
MXMB				*e*Sg	**Sn**	**18 06 31.7**	**+10**
MXMB				Smax		18 06 35.7	
	comp=E,5μm,0.9s						
SYVR	**Suvo**	**3.95**	**59**	*e*PN	**Pn**	**18 05 56.7**	**-0.2**
SYVR				*e*		18 06 03.8	
SYVR				*e*S	**Sn**	**18 06 39.6**	**-3.7**
SYVR	**Suvo**	**3.95**	**59**	*e*Pn	**Pn**	**18 05 56.3**	**-0.6**
SYVR				⇑*i*Pg	**Pn**	**18 06 05.2**	**+8.3**
SYVR				Smax		18 06 05.6	
	comp=E,820nm,0.9s						
SYVR				Pmax		18 06 05.8	
	comp=E,146nm,0.6s						
SYVR				*e*Sg	**Sn**	**18 06 57.2**	**+14**
SONM	**Songino Array**	**4.12**	**160**	Pn	**Pn**	**18 05 57.5**	**-1.7**
	comp=E,12nm,0.3s,baz=333,slow=13,SNR=405						
SONM				Pg	**Pn**	**18 06 08.3**	**+9.0**
	comp=E,62nm,0.3s,baz=335,slow=19,SNR=74						
SONM				Lg		18 07 01.5	
	comp=E,182nm,0.3s,baz=344,slow=36,SNR=20						
ULN	**Ulaanbaatar**	**4.25**	**154**	*e*PN	**Pn**	**18 05 59.5**	**-1.6**
ULN				*e*		18 07 02.4	
ULN	**Ulaanbaatar**	**4.25**	**154**	*e*Pn	**Pn**	**18 05 59.5**	**-1.6**
ULN				*e*Pb	**Pb**	**18 06 10.5**	**+1.0**
ULN				*e*Sb	**Sb**	**18 07 02.4**	**+1.6**
ULN	**Ulaanbaatar**	**4.25**	**154**	*e*Pg	**Pn**	**18 06 08.9**	**+7.8**
ULN				*e*Sg	**Sn**	**18 07 04.8**	**+14**
NIZ	**Nizh Angarsk**	**5.10**	**35**	*e*PN	**Pn**	**18 06 28.2**	**+15**
NIZ				*e*		18 07 30.6	
NIZ				pmax	pmax		
	comp=Z,111nm,0.9s						
NIZ				smax			
	comp=N,959nm,0.9s						
NIZ	**Nizh Angarsk**	**5.10**	**35**	*e*Pn	**Pn**	**18 06 11.2**	**-1.9**
NIZ				Pg	**Pn**	**18 06 27.0**	**+14**
NIZ				Pmax		18 06 30.0	
	comp=N,114nm,0.6s						
NIZ				*e*Sn	**Sn**	**18 07 07.4**	**-4.8**
NIZ				*e*Sg	**Sn**	**18 07 30.7**	**+18**
NIZ				Smax		18 07 38.2	
	comp=N,1μm,1.0s						
TDJR	**Todzha**	**5.12**	**281**	*e*Pg	**Pn**	**18 06 26.4**	**+13**
TDJR				*e*Sg	**Sn**	**18 07 33.5**	**+21**
YLYR	**Ulyunkhan**	**5.17**	**50**	*e*PN	**Pn**	**18 06 12.5**	**-1.6**
YLYR				*e*		18 06 25.7	
YLYR	**Ulyunkhan**	**5.17**	**50**	⇑*i*Pn	**Pn**	**18 06 12.8**	**-1.3**
YLYR				⇑*i*Pg	**Pn**	**18 06 27.0**	**+13**
YLYR				Pmax		18 06 31.6	
	comp=N,65nm,1.2s						
YLYR				*e*Sn	**Sn**	**18 07 10.2**	**-3.8**
YLYR				*e*Sg	**Sn**	**18 07 33.0**	**+19**
YLYR				Smax		18 07 39.8	
	comp=N,741nm,1.4s						
KPC	**Khapcheranga**	**5.50**	**108**	*e*PN	**Pn**	**18 06 32.5**	**+14**
KPC				*e*		18 07 44.2	
KPC				pmax	pmax		
	comp=Z,155nm,1.3s						
KPC				smax			
	comp=N,975nm,1.1s						
KPC	**Khapcheranga**	**5.50**	**108**	⇑*i*	**Pn**	**18 06 14.1**	**-4.7**
KPC				*e*Pg	**Pn**	**18 06 32.2**	**+13**
KPC				Pmax		18 06 45.6	
	comp=N,156nm,1.5s						
KPC				*e*Sg	Sn	18 07 44.2	+22
KPC				Smax		18 07 50.1	
	comp=N,969nm,1.1s						
CIT	**Chita**	**5.72**	**83**	*e*PN	**Pn**	**18 06 36.9**	**+15**
CIT	**Chita**	**5.72**	**83**	*e*Pn	**Pn**	**18 06 18.2**	**-3.7**
CIT				*e*Sg	Sn	18 07 51.5	+24
CIT				Smax		18 08 04.3	
	comp=N,1μm,1.3s						
KMO	**Kumora**	**5.82**	**42**	*e*PN	**Pn**	**18 06 38.8**	**+15**
KMO				*e*		18 07 52.0	
KMO				pmax	pmax		
	comp=Z,80nm,0.6s						
KMO				smax			
	comp=N,1μm,1.2s						
KMO	**Kumora**	**5.82**	**42**	⇑*i*Pn	**Pn**	**18 06 21.7**	**-1.6**
KMO				*e*		18 06 26.6	
KMO				*e*Pg	**Pn**	**18 06 41.8**	**+18**
KMO				Pmax		18 06 43.4	
	comp=N,95nm,0.5s						
KMO				*e*		18 07 27.7	
KMO				*e*Sg	Sn	18 07 54.2	+24
KMO				Smax		18 08 05.7	
	comp=N,1μm,1.0s						
YOA	**Uoyan**	**6.21**	**42**	*e*PN	**Pn**	**18 06 27.2**	**-1.5**
YOA	**Uoyan**	**6.21**	**42**	*e*Pn	**Pn**	**18 06 26.5**	**-2.2**
YOA				Pg	**Pn**	**18 06 48.7**	**+20**
YOA				Pmax		18 07 00.7	
	comp=N,122nm,0.8s						
YOA				*e*Sg	Sn	18 08 08.2	+28
YOA				Smax		18 08 41.1	
	comp=N,4μm,1.4s						
UKT	**Uakit**	**6.69**	**52**	*e*Pn	**Pn**	**18 06 35.2**	**-0.4**
UKT				Pg	**Pn**	**18 06 54.7**	**+19**
UKT				*e*Sg	Sn	18 08 20.4	+28
UKT				Pmax			
	comp=N,32nm,0.7s						
UKT				Smax			
	comp=N,397nm,1.6s						
SVKR	**Severomuysk**	**7.00**	**47**	*e*Pg	Px	18 07 02.2	
SVKR				Pmax		18 07 15.3	
	comp=N,59nm,0.5s						
SVKR				*e*Sg	Sx	18 08 34.0	
SVKR				Smax		18 08 37.8	
	comp=N,1μm,0.7s						
NLYR	**Nelyaty**	**8.21**	**50**	*e*PN	**P**	**18 06 54.7**	**-2.1**
NLYR				*e*		18 07 25.0	
BOD	**Bodaibo**	**8.27**	**39**	*e*PN	**P**	**18 06 53.7**	**-4.0**
BOD				*e*		18 07 22.1	
BOD				*e*		18 09 09.8	
BOD				pmax	pmax		
	comp=Z,29nm,0.9s						
BOD				smax			
	comp=Z,541nm,1.5s						
BOD	**Bodaibo**	**8.27**	**39**	*e*Pn	**P**	**18 06 54.1**	**-3.6**
BOD				*e*		18 06 58.0	
BOD				*e*Pg	P	18 07 25.1	+27
BOD				Pmax		18 07 25.1	
	comp=Z,29nm,0.8s						
BOD				*e*Sg	Sn	18 09 10.5	+39
BOD				Smax		18 09 15.1	
	comp=Z,537nm,1

comp=Z,5.0nm,0.7s
KURK Kurchatov 16.12 277 *e*P **P 18 08 42.0 -0.7**
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURK Kurchatov 16.12 277 *e*P **P 18 08 42.0 -0.7**
comp=Z,2.7nm,0.8s
YAK Yakutsk 17.15 43 *e*P **P 18 09 02.3 +6.7**
YAK *e*S **S 18 12 08.9 +4.5**
YAK pmax pmax
comp=Z,4.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,1.2s
YAK smax
comp=E,2.0nm,0.8s
YAK smax
comp=Z,2.0nm,0.9s
YAK smax
comp=N,2.0nm,0.8s
YAK smax
comp=N,8.0nm,0.9s
YAK smax
comp=Z,13nm,1.1s
YAK smax
comp=E,8.0nm,0.9s
YAK MLR MLR
comp=Z,65nm,16.0s
XAN Xi'an 17.99 168 P **P 18 09 06.8 +0.5**
XAN LR LR
comp=N,276nm,10.7s
XAN LR LR
comp=E,386nm,17.3s
XAN LR LR
comp=Z,412nm,11.5s
CHKZ Chkalovo 20.42 289 *e*P **P 18 09 31.9 -2.3**
CHKZ pmax pmax
comp=Z,9.0nm,1.0s
CHKZ Chkalovo 20.42 289 *e*P **P 18 09 31.9 -2.3**
comp=Z,8.6nm,1.0s
BVAR Borovoye Array 20.66 287 P **P 18 09 35.0 -1.7**
comp=Z,6.0nm,0.8s,baz=90,slow=10,SNR=26
CD2 Chengdu 20.80 181 ⇓*i*P **P 18 09 37.6 -0.8**
CD2 AMB AMB
comp=Z,12nm,0.6s
AAK Ala-Archa 22.09 257 *i* P **P 18 09 52.9 +1.6**
AAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.2
AAK MLR MLR
comp=Z,100nm,19.0s,MS3.2
AAK Ala-Archa 22.09 257 P **P 18 09 52.7 +1.4**
comp=Z,7.0nm,1.5s,mb3.9
NJ2 Nanjing 22.36 146 *e*P **P 18 09 54.3 +0.3**
NJ2 AP 18 09 58.5
NJ2 XP 18 10 01.3
NJ2 PP PP 18 10 21.8 +0.4
NJ2 S **S 18 13 55.0 +1.0**
NJ2 XS 18 14 00.0
NJ2 LR LR
comp=N,3μm,14.6s,MS5.1
NJ2 LR LR
comp=E,5μm,18.7s,MS5.1
TIXI Tiksi 22.79 20 *e*P **P 18 09 54.5 -3.3**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
TIXI MLR MLR
comp=Z,128nm,12.0s,MS3.6
SVE Sverdlovsk 25.67 299 *e*P **P 18 10 25.6 -0.1**
OBN Obninsk 39.09 302 P **P 18 12 15.6 -7.5**
OBN pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.7
ARCES ARCESS Array B 39.16 327 P **P 18 12 21.9 -1.6**
comp=Z,2.5nm,0.8s,mb4.0,baz=76,slow=10.0,SNR=5.9
FINES FINESS Array B 41.62 315 P **P 18 12 42.9 -0.8**
comp=Z,1.5nm,0.5s,mb3.9,baz=70,slow=9.4,SNR=12
SOC Sochi 42.97 286 *e*P **P 18 12 53.9 -1.1**
SOC *e*S **S 18 19 20.2 +1.2**
HFS Hagfors 47.59 317 P **P 18 13 30.0 -1.6**
comp=Z,1.1nm,0.5s,mb4.2,baz=72,slow=9.1,SNR=7.1
NB2 NORSAR Subarra 48.12 319 P **P 18 13 33.2 -2.6**
comp=Z,1.3nm,0.6s,mb4.1,baz=71,slow=5.0
NOA NORSAR Array B 48.12 319 P **P 18 13 33.9 -1.9**
comp=Z,1.2nm,0.7s,mb4.0,baz=64,slow=6.3,SNR=5.5
BRTR Keskin Array B 48.92 285 P **P 18 13 41.8 -0.4**
GERES GERESS Array B 54.31 306 P **P 18 14 22.0 -0.7**
comp=Z,1.0nm,1.0s,mb3.7,baz=72,slow=6.2,SNR=5.7
YKA Yellowknife Ar 62.04 19 *i* P **P 18 15 14.5 -2.2**
YKA Yellowknife Ar 62.04 19 P **P 18 15 14.5 -2.2**
comp=Z,0.4nm,0.7s,mb3.7,baz=332,slow=6.5,SNR=7.2
ASAR Alice Springs 79.43 153 P **P 18 16 59.9 -2.3**
comp=Z,0.8nm,0.7s,mb3.8,baz=348,slow=5.9,SNR=8.1

LDG ***21*** *18:14:39.5±0.3,14.64S×167.41E,h10km,Mb4.8/2,Error ellipse: s-maj=47.1km s-min=16.2km az=93.0*
MOS ***21*** *18:14:49.6±1.0,15.46S×167.44E,h116km,mb4.9/15, Error ellipse: s-maj=14.2km s-min=12.1km az=4.4*
IDC ***21*** *18:14:49.2±2.4,15.51S×167.62E,h100km±19km, mb4.6/14,mb1 4.6/14,mb1mx4.5/17,mbtmp4.9/14,MS3.8/5, Ms1 3.7/5,ms1mx3.5/19,Error ellipse: s-maj=18.9km s-min=14.4km az=84.0*
NEIC ***21*** *18:14:50.2±1.1,15.53S×167.56E,h114km±9km,mb5.0/25, Error ellipse: s-maj=9.2km s-min=6.7km az=70.0*
BJI 18:14:52.9,14.81S×167.19E,h113km,mB5.1,mb5.1
ISC 21 18:14:49.2±1.5,15.52S±0.05×167.49E±0.09,
h115km±13km,h104km±2.5km:pP-P,n211,σ0s78/91,
mb4.9/47,52C-1D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.60**	**189**	*e*P		**P**	**18 16 24.7**	**-0.3**
DZM				*e*S		**S**	**18 17 40.1**	**+0.9**
DZM	**Mont Dzumac**	**6.60**	**189**	*e*P		**P**	**18 16 24.7**	**-0.3**
DZM				*e*S		**S**	**18 17 40.1**	**+0.9**
NOUC	**Port Laguerre**	**6.65**	**190**	*e*P		**P**	**18 16 25.6**	**-0.1**
NOUC				*e*S		**S**	**18 17 40.5**	**0.0**
NOUC	**Port Laguerre**	**6.65**	**190**	*e*P		**P**	**18 16 25.6**	**-0.1**
NOUC				*e*S		**S**	**18 17 40.5**	**0.0**
HNR	**Honiara**	**9.53**	**308**	*e*Pn		**P**	**18 17 05.3**	**+0.5**
	1μm,1.3s							
CTA	**Charters Tower**	**20.72**	**254**	⇑*i*P		**P**	**18 19 23.7**	**+1.4**
	21nm,0.9s							
CTA	**Charters Tower**	**20.72**	**254**	⇑*i*P		**P**	**18 19 23.7**	**+1.4**
CTA				pmax	pmax			
	comp=Z,21nm,0.9s							
CTA	**Charters Tower**	**20.72**	**254**	P		**P**	**18 19 23.8**	**+1.4**
	comp=Z,28nm,0.8s,baz=80,slow=12,SNR=35							
CTA				PcP	PcP		18 23 28.0	-0.1
	comp=Z,2.9nm,0.7s,baz=284,slow=4.2,SNR=3.6							
CTAO	**Charters Tower**	**20.72**	**254**	*e*P		**P**	**18 19 22.8**	**+0.5**
CTAO				*e*			18 19 44.9	
CTAO				pmax	pmax			
	comp=Z,32nm,0.9s							
CTAO	**Charters Tower**	**20.72**	**254**	*e*P		**P**	**18 19 22.8**	**+0.5**
	comp=Z,32nm,0.9s							
CTAO				*e*			18 19 44.9	
PMG	**Port Moresby**	**20.75**	**285**	*e*P		**P**	**18 19 23.3**	**+0.6**
PMG				pmax	pmax			
	comp=Z,13nm,0.8s							
PMG	**Port Moresby**	**20.75**	**285**	P		**P**	**18 19 24.3**	**+1.6**
	comp=Z,14nm,0.9s,baz=96,slow=7.0,SNR=4.8							
PMG	**Port Moresby**	**20.75**	**285**	*e*P		**P**	**18 19 23.3**	**+0.6**
	comp=Z,14nm,0.8s							
URZ	**Urewera**	**24.19**	**161**	P		**P**	**18 19 56.6**	**+0.5**
	comp=Z,13nm,0.9s,mb4.3,baz=348,slow=9.6,SNR=8.9							
URZ				LR	LR		18 27 48.9	
	comp=Z,116nm,19.9s,baz=242,slow=32							
RPZ	**Rata Peaks**	**28.27**	**175**	P		**P**	**18 20 33.2**	**-0.6**
	comp=Z,5.0nm,0.5s,mb4.3,baz=207,slow=6.8,SNR=3.1							
RPZ				LR	LR		18 30 13.9	
	comp=Z,237nm,20.1s,baz=22,slow=33							
STKA	**Stephens Creek**	**28.66**	**231**	P		**P**	**18 20 37.6**	**+0.3**
	comp=Z,20nm,0.9s,mb4.7,baz=53,slow=7.0,SNR=27							
STKA				PcP	PcP		18 23 45.3	-0.1
	comp=Z,15nm,0.7s,baz=11,slow=1.8,SNR=12							
STKA				LR	LR		18 30 54.7	
	comp=Z,115nm,19.0s,baz=196,slow=34							
STKA	**Stephens Creek**	**28.66**	**231**	*e*P		**P**	**18 20 36.9**	**-0.4**
RAR	**Rarotonga**	**31.54**	**105**	LR		LR	18 31 46.9	
	comp=Z,922nm,18.9s,baz=306,slow=32							
WB2	**Warramunga Arr**	**31.84**	**257**	⇑*i*P		**P**	**18 21 04.0**	**-1.5**
WRAB	**Tennant Creek**	**31.84**	**257**	*e*P		**P**	**18 21 03.8**	**-1.7**
WRAB				pmax	pmax			
	comp=Z,30nm,1.0s,mb5.0							
WRAB	**Tennant Creek**	**31.84**	**257**	*e*P		**P**	**18 21 03.8**	**-1.7**
	comp=Z,30nm,1.0s,mb5.0							
ASAR	**Alice Springs**	**32.60**	**250**	P		**P**	**18 21 11.3**	**-0.8**
	comp=Z,50nm,0.7s,mb5.4,baz=77,slow=9.1,SNR=442							
ASAR				PcP	PcP		18 23 55.4	-0.4
	comp=Z,1.2nm,0.6s,baz=90,slow=3.3,SNR=4.9							
ASAR				ScP			18 27 30.8	
	comp=Z,1.7nm,1.0s,baz=89,slow=2.7,SNR=8.4							
ASAR				PKiKP			18 31 21.1	
	comp=Z,0.3nm,0.7s,baz=101,slow=1.4,SNR=4.2							
ASAR				LR	LR		18 34 15.8	
	comp=Z,43nm,18.3s,baz=77,slow=36							
ASPA	**Alice Springs**	**32.61**	**250**	⇑*i*P		**P**	**18 21 11.3**	**-0.8**
KAKA	**Kakadu**	**34.09**	**270**	⇑*i*P		**P**	**18 21 24.0**	**-0.9**
	comp=Z,9.5nm,0.6s,mb4.8							
FORT	**Forrest**	**39.09**	**240**	⇑*i*P		**P**	**18 22 07.4**	**+0.6**
	comp=Z,2μm,0.7s							
FITZ	**Fitzroy Crossi**	**40.09**	**260**	⇑*i*P		**P**	**18 22 15.4**	**+0.3**
	comp=Z,68nm,0.5s,mb5.7							
MBWA	**Marble Bar**	**45.55**	**255**	*e*P		**P**	**18 22 59.3**	**-0.1**
	comp=Z,18nm,0.8s,mb4.9							
KLBR	**Kellerberrin**	**47.91**	**241**	⇓*i*P		**P**	**18 23 17.3**	**-0.6**
	comp=Z,105nm,0.5s,mb5.9							
NWAO	**Narrogin (SRO)**	**48.54**	**240**	*e*P		**P**	**18 23 22.1**	**-0.6**
NWAO				pmax	pmax			
	comp=Z,28nm,0.9s							
NWAO	**Narrogin (SRO)**	**48.54**	**240**	P		**P**	**18 23 22.3**	**-0.4**
	comp=Z,37nm,0.9s,mb5.3,baz=82,slow=8.0,SNR=15							
NWAO	**Narrogin (SRO)**	**48.54**	**240**	*e*P		**P**	**18 23 22.1**	**-0.5**
	comp=Z,28nm,0.9s,mb5.2							
MUN	**Mundaring**	**49.27**	**241**	*e*P		**P**	**18 23 28.1**	**-0.2**
	comp=Z,18nm,1.0s,mb5.0							
MUN	**Mundaring**	**49.27**	**241**	*e*P		**P**	**18 23 28.1**	**-0.2**
MUN				pmax	pmax			
	comp=Z,18nm,1.0s,mb5.0							
JOW	**Kunigami**	**56.77**	**318**	P		**P**	**18 24 23.4**	**-0.4**
	comp=Z,19nm,0.6s,mb5.3,baz=165,slow=7.4,SNR=10.0							
MAJO	**Matsushiro**	**58.70**	**333**	*e*P		**P**	**18 24 35.6**	**-1.6**
MAJO				pmax	pmax			
	comp=Z,19nm,0.8s,mb5.2							
MAJO	**Matsushiro**	**58.70**	**333**	*e*P		**P**	**18 24 35.6**	**-1.6**
	comp=Z,19nm,0.8s,mb5.2							
MAT	**Matsushiro**	**58.70**	**333**	*e*P		**P**	**18 24 36.0**	**-1.2**
MAT				pmax	pmax			
	comp=Z,13nm,0.8s,mb5.0							
MAT	**Matsushiro**	**58.70**	**333**	*e*P		**P**	**18 24 36.0**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0							
MAT	**Matsushiro**	**58.70**	**333**	P		**P**	**18 24 35.8**	**-1.4**
KSM	**Kuching**	**58.97**	**281**	*e*P		**P**	**18 24 38.7**	**-0.7**
VNDA	**Vanda**	**62.08**	**181**	P		**P**	**18 24 59.3**	**-0.4**
	comp=Z,4.4nm,0.7s,mb4.6,baz=6.9,slow=7.3,SNR=9.3							
ASAJ	**Asahikawa**	**63.55**	**340**	P		**P**	**18 25 10.1**	**+0.3**
	comp=Z,27nm,0.8s,mb5.1,baz=213,slow=10,SNR=9.5							
YSS	**Yuzh-Sakhalins**	**66.04**	**342**	*e*P		**P**	**18 25 26.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**66.04**	**342**	*e*P		**P**	**18 25 25.1**	**-0.7**
	comp=Z,24nm,0.9s,mb5.0							
WHN	**Wuhan**	**68.63**	**312**	*e*P		**P**	**18 25 41.5**	**-0.7**
MDJ	**Mudanjiang**	**69.07**	**332**	P		**P**	**18 25 44.8**	**+0.1**
MDJ				AMB	AMB			
	comp=Z,37nm,1.1s,mb5.1							
MDJ				AMB	AMB			
	comp=Z,93nm,3.1s							
MDJ	**Mudanjiang**	**69.07**	**332**	*e*P		**P**	**18 25 44.1**	**-0.6**
	comp=Z,31nm,0.9s,mb5.1							
CN2	**Changchun**	**70.43**	**329**	⇑P		**P**	**18 25 52.8**	**-0.2**
CN2				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.2							
ENH	**Enshi**	**72.03**	**310**	*e*P		**P**	**18 26 02.2**	**-0.5**
	comp=Z,25nm,0.9s,mb5.0							
BJT	**Baijiatuan**	**73.00**	**321**	*e*P		**P**	**18 26 08.1**	**-0.2**
BJT				pmax	pmax			
	comp=Z,18nm,0.8s							
BJT	**Baijiatuan**	**73.00**	**321**	*e*P		**P**	**18 26 08.1**	**-0.2**
	comp=Z,18nm,0.8s,mb4.9							
BJI	**Beijing**	**73.01**	**321**	P		**P**	**18 26 08.8**	**+0.5**
BJI				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.0							
NANT	**Nan**	**74.06**	**295**	⇑P		**P**	**18 26 15.0**	**+0.1**
	comp=Z,175nm,0.6s,mb6.0							
XAN	**Xi'an**	**74.38**	**313**	P		**P**	**18 26 16.8**	**+0.3**
XAN				AMB	AMB			
	comp=Z,23nm,0.9s,mb4.9							
QSPA	**South Pole Qui**	**74.52**	**180**	*e*P		**P**	**18 26 16.5**	**+0.2**
	comp=Z,44nm,1.0s,mb5.1							
KMI	**Kunming**	**74.90**	**302**	P		**P**	**18 26 21.3**	**+1.7**
KMI				AP	pP		18 26 47.3	-1.5
KMI				AMB	AMB			
	comp=Z,24nm,1.3s,mb4.8							
CM31	**Chiang Mai Arr**	**75.47**	**294**	*e*P		**P**	**18 26 23.5**	**+0.6**
	comp=Z,14nm,0.8s,mb4.8							
CHG	**Chiang Mai**	**75.60**	**294**	⇑P		**P**	**18 26 24.5**	**+0.9**
	comp=Z,18nm,0.9s,mb4.8							
HHC	**Hu-ho-hao-te**	**76.32**	**320**	*e*P		**P**	**18 26 28.5**	**+1.2**
HHC				AP	pP		18 26 54.8	-1.8
HHC				XP	sP		18 27 08.4	-0.7
HHC				PP	PP		18 29 22.8	+1.3
HHC				S	S		18 36 03.8	+2.7
HHC				AMB	AMB			
	comp=Z,34nm,0.8s,mb5.1							
HHC				AMB	AMB			
	comp=Z,108nm,4.6s							
CD2	**Chengdu**	**76.66**	**308**	⇑*i*P		**P**	**18 26 30.1**	**+0.7**
CD2				AMB	AMB			
	comp=Z,14nm,1.0s,mb4.7							
HIA	**Hailar**	**77.07**	**330**	*e*P		**P**	**18 26 31.3**	**0.0**
HIA				pmax	pmax			
	comp=Z,18nm,1.0s							
HIA	**Hailar**	**77.07**	**330**	*e*P		**P**	**18 26 31.3**	**0.0**
	comp=Z,18nm,1.0s,mb4.8							
LZH	**Lanzhou**	**79.01**	**312**	P		**P**	**18 26 43.5**	**+1.3**
LZH				AMB	AMB			
	comp=Z,52nm,1.2s,mb5.2							
YAK	**Yakutsk**	**82.84**	**343**	*e*P		**P**	**18 27 01.3**	**-0.5**
YAK				pmax	pmax			
	comp=Z,50nm,1.0s,mb5.3							
YAK	**Yakutsk**	**82.84**	**343**	*e*P		**P**	**18 27 01.3**	**-0.5**
	comp=Z,50nm,1.0s,mb5.3							
ULN	**Ulaanbaatar**	**82.89**	**324**	*e*P		**P**	**18 27 03.3**	**+0.9**
ULN				pmax	pmax			
	comp=Z,37nm,0.9s,mb5.2							
ULN	**Ulaanbaatar**	**82.89**	**324**	*e*P		**P**	**18 27 03.3**	**+0.9**
	comp=Z,37nm,0.9s,mb5.2							
SONM	**Songino Array**	**83.25**	**324**	P		**P**	**18 27 05.0**	**+0.8**
	comp=Z,9.9nm,0.5s,mb4.9,baz=135,slow=4.1,SNR=132							
BILL	**Bilibino**	**83.33**	**360**	*e*P		**P**	**18 27 03.5**	**-0.7**
BILL				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
BILL	**Bilibino**	**83.33**	**360**	*e*P		**P**	**18 27 03.5**	**-0.7**
	comp=Z,7.8nm,0.9s,mb4.5							
GTA	**Gaotai**	**83.36**	**314**	⇑P		**P**	**18 27 06.5**	**+1.6**
GTA				AMB	AMB			
	comp=Z,31nm,1.2s,mb5.0							
BOD	**Bodaibo**	**85.27**	**334**	*e*P		**P**	**18 27 13.7**	**-0.3**
BOD				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
LSA	**Lhasa**	**86.16**	**302**	*e*P		**P**	**18 27 20.3**	**+1.2**
LSA	**Lhasa**	**86.16**	**302**	*e*P		**P**	**18 27 19.5**	**+0.4**
LSA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
LSA	**Lhasa**	**86.16**	**302**	*e*P		**P**	**18 27 19.4**	**+0.4**
	comp=Z,4.0nm,0.6s,mb4.5							
ZAK	**Zakamensk**	**86.31**	**325**	⇑*i*P		**P**	**18 27 19.7**	**+0.4**
ZAK				pmax	pmax			
	comp=Z,12nm,1.2s,mb4.7							
TLY	**Talaya**	**86.76**	**326**	*e*P		**P**	**18 27 21.6**	**+0.2**
TLY				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
TLY	**Talaya**	**86.76**	**326**	*e*P		**P**	**18 27 21.6**	**+0.2**
	comp=Z,7.0nm,1.0s,mb4.5							
NVAR	**Mina Array Bea**	**87.62**	**49**	P		**P**	**18 27 26.3**	**+0.4**
	comp=Z,1.0nm,0.9s,mb3.9,baz=230,slow=5.3,SNR=5.3							
NVAR				PKKPbc			18 45 16.5	
	comp=Z,0.6nm,0.6s,baz=104,slow=2.1,SNR=5.7							
TIXI	**Tiksi**	**90.78**	**349**	*e*P		**P**	**18 27 38.3**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.5							
SNAA	**Sanae**	**92.78**	**183**	⇑*i*		**P**	**18 27 49.0**	**-0.2**
SNAA	**Sanae**	**92.78**	**183**	*e*P		**P**	**18 27 49.0**	**-0.2**
	comp=Z,8.6nm,0.6s,mb5.3							
WMQ	**Urumqi**	**93.43**	**314**	P		**P**	**18 27 54.0**	**+1.1**
WMQ				AP	pP		18 28 23.0	-0.1
WMQ				XP	sP		18 28 35.0	-0.4
WMQ				PP	PP		18 31 42.0	+1.0
WMQ				SKS	SKS		18 38 17.0	+2.2
WMQ				*e*S	S		18 38 50.0	+2.2
WMQ				AMB	AMB			
	comp=Z,14nm,1.2s,mb5.2							
WMQ				AMB	AMB			
	comp=Z,215nm,5.7s							
VNA3	**Neumayer Olymp**	**93.44**	**181**	⇑*i*		**P**	**18 27 52.4**	**+0.2**
VNA2	**Neumayer--Watz**	**93.70**	**182**	⇑*i*		**P**	**18 27 53.9**	**+0.4**
PDAR	**Pinedale Array**	**95.32**	**47**	PKKPbc			18 44 53.9	
	comp=Z,0.3nm,0.8s,baz=90,slow=4.4,SNR=5.9							
YKA	**Yellowknife Ar**	**98.14**	**27**	P		**P**	**18 28 12.7**	**-1.0**
	comp=Z,1.0nm,0.8s,mb4.4,baz=254,slow=4.5,SNR=19							
YKA				PKKPbc			18 44 45.9	
	comp=Z,0.2nm,0.5s,baz=73,slow=2.5,SNR=6.2							
YKA	**Yellowknife Ar**	**98.14**	**27**	P		**P**	**18 28 12.7**	**-1.0**
YKA				PKKPbc			18 44 45.9	
ZAL	**Zalesovo**	**98.16**	**324**	P		**P**	**18 28 13.8**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.9,baz=358,slow=5.5,SNR=16							
ARCES	**ARCESS Array B**	**121.06**	**345**	PKP	PKPdf		18 33 28.4	+0.5
	comp=Z,9.2nm,0.5s,baz=70,slow=1.6,SNR=70							
SCHQ	**Schefferville**	**122.83**	**34**	PKP	PKPdf		18 33 32.5	+0.9
	comp=Z,1.9nm,0.9s,baz=288,slow=6.4,SNR=2.2							
SDV	**Santo Domingo**	**122.94**	**89**	PKPdf	PKPdf		18 33 33.0	+0.2
GNI	**Garni**	**124.78**	**308**	PKP	PKPdf		18 33 38.1	+2.3
	comp=Z,8.4nm,0.8s,slow=5.1,SNR=2.9							
ZEI	**Tsey**	**124.94**	**312**	*e*P	Pdif		18 30 20.2	+7.6
LBTB	**Lobatse**	**125.20**	**223**	PKP	PKPdf		18 33 38.5	+1.5
	comp=Z,4.1nm,0.6s,baz=158,slow=1.7,SNR=6.2							
LBTB	**Lobatse**	**125.20**	**223**	*e*PKPdf	PKPdf		18 33 37.9	+0.9
BHD	**Baghdad**	**125.90**	**300**	*e*P	Pdif		18 30 21.0	+3.9
MATP	**Matopo**	**126.16**	**230**	PKP	PKPdf		18 33 40.0	+1.1
	comp=Z,6.5nm,0.9s,baz=201,slow=0.3,SNR=7.5							
MSL	**Mosul**	**126.64**	**304**	*e*P	Pdif		18 30 03.0	-17
KMBO	**Kilima Mbogo**	**128.13**	**256**	PKP	PKPdf		18 33 45.7	+2.7
	comp=Z,3.2nm,0.7s,baz=62,slow=4.9,SNR=10.0							
KMBO	**Kilima Mbogo**	**128.13**	**256**	*e*PKPdf	PKPdf		18 33 45.7	+2.7
LSZ	**Lusaka**	**129.48**	**235**	*e*PKPdf	PKPdf		18 33 47.0	+1.5
MALT	**Malatya**	**129.95**	**307**	*e*PKPdf	PKPdf		18 33 47.9	+2.1
NB2	**NORSAR Subarra**	**131.44**	**345**	PKP	PKPdf		18 33 49.1	+1.2
	comp=Z,2.0nm,0.6s,baz=34,slow=1.9							
NOA	**NORSAR Array B**	**131.44**	**345**	PKP	PKPdf		18 33 49.5	+1.6
	comp=Z,3.1nm,0.8s,baz=33,slow=1.9,SNR=11							
HFS	**Hagfors**	**131.53**	**343**	PKP	PKPdf		18 33 48.9	+0.8
	comp=Z,1.8nm,0.5s,baz=72,slow=4.7,SNR=8.5							
ASF	**Jabal al Asfar**	**132.29**	**299**	PKP	PKPdf		18 33 53.0	+2.6
	comp=Z,1.1nm,0.3s,baz=8.7,slow=0.8,SNR=6.0							
BRTR	**Keskin Array B**	**133.18**	**310**	PKP	PKPdf		18 33 53.1	+1.3
	comp=Z,3.5nm,0.8s,baz=132,slow=2.7,SNR=9.9							
EIL	**Elat**	**134.28**	**296**	PKP	PKPdf		18 33 56.7	+2.5
	comp=Z,5.9nm,0.7s,baz=3.6,slow=4.4,SNR=6.0							
EIL	**Elat**	**134.28**	**296**	*e*PKPdf	PKPdf		18 33 56.7	+2.5
MBAR	**Mbarara**	**134.38**	**253**	*e*PKIKP	PKPdf		18 33 56.1	+1.3
TSUM	**Tsumeb**	**134.54**	**222**	PKP	PKPdf		18 33 57.3	+2.4
	comp=Z,1.2nm,0.4s,baz=61,slow=2.6,SNR=4.2							
MORC	**Moravsky Berou**	**138.02**	**331**	*e*PKPdf	PKPdf		18 34 02.2	+1.7
BRG	**Berggiesshubel**	**138.81**	**335**	*e*P	PKPdf		18 34 05.8	+3.9
PRU	**Pruhonice**	**139.22**	**333**	*e*PKPDF	PKPdf		18 34 05.9	+3.3
EKA	**Eskdalemuir Ar**	**139.61**	**352**	PKhKP			18 33 53.0	
	comp=Z,1.1nm,0.6s,slow=2.5,SNR=4.4							
EKA				PKP	PKPdf		18 34 03.0	-0.1
	comp=Z,1.6nm,0.7s,baz=27,slow=1.9,SNR=3.8							
KHC	**Kasperske Hory**	**140.28**	**333**	*e*PKPDF	PKPdf		18 34 05.7	+1.1
DIVS	**Divcibare**	**140.37**	**323**	⇑*i*(P)	PKPdf		18 34 06.7	+1.8
GERES	**GERESS Array B**	**140.44**	**333**	PKP	PKPdf		18 34 05.4	+0.5
	comp=Z,2.6nm,0.7s,baz=27,slow=1.7,SNR=8.6							
GERES				SKPbc			18 37 33.9	
	comp=Z,1.2nm,0.9s,baz=315,slow=1.9,SNR=5.0							
IDI	**Anoyia**	**141.21**	**308**	PKP	PKPdf		18 34 07.0	+0.3
	comp=Z,9.4nm,0.7s,baz=126,slow=3.5,SNR=5.2							
WLF	**Walferdange**	**142.71**	**340**	*e*PKPdf	PKPdf		18 34 07.5	-1.3
BAIF	**Baives**	**142.97**	**342**	⇑*i*PKP1	PKPdf		18 34 08.6	-0.6
DAVA	**Damuels**	**143.28**	**334**	⇑*i*P	PKPbc		18 34 09.4	+1.2
	comp=Z,9.2nm,0.6s							
CDF	**Champ du Feu**	**143.38**	**338**	*e*PKP1	PKPbc		18 34 08.9	+0.5
	comp=Z,20nm,0.8s							
BRMO	**Bormio**	**143.70**	**333**	*e*PKP	PKPdf		18 34 10.8	+0.3
MOF	**Molkenrain**	**143.90**	**337**	PKP	PKPdf		18 34 10.5	-0.3
THEF	**They Montfort**	**144.00**	**339**	PKP	PKPdf		18 34 11.1	+0.1
HINF	**Hinteralfeld**	**144.04**	**338**	⇑*i*PKP1	PKPbc		18 34 10.8	+0.4
	comp=Z,18nm,0.7s							
HAU	**Haudompre**	**144.06**	**338**	⇑*i*PKP1	PKPbc		18 34 11.2	+0.7
	comp=Z,52nm,0.8s							
MEZF	**Maizieres J'vi**	**144.08**	**340**	⇑*i*PKP1	PKPbc		18 34 11.6	+1.1
LOMF	**Lomont**	**144.44**	**337**	PKP	PKPdf		18 34 12.8	+1.0
RSM	**Repubblica di**	**144.62**	**328**	*e*PKP	PKPdf		18 34 14.2	+2.0
SNTG	**Esanatoglia**	**144.84**	**327**	*e*PKP	PKPdf		18 34 14.6	+1.9
ORI	**Oriolo Calabro**	**144.87**	**320**	*e*PKP	PKPdf		18 34 14.7	+1.8
SFI	**Santa Sofia**	**144.94**	**329**	*e*PKP	PKPdf		18 34 15.3	+2.4
PGD	**Poggio Sodo**	**145.02**	**329**	*e*PKP	PKPdf		18 34 15.4	+2.4
NRCA	**Norcia**	**145.03**	**326**	*e*PKP	PKPdf		18 34 15.0	+1.9
MRLC	**Mu

LBL	**Lubilhac**	**147.53**	**339**	PKP	PKPdf	18 34 22.8	+5.7	
FRF	**La Foret Royal**	**147.62**	**334**	⇑*i*PKP1	PKPdf	18 34 21.9	+4.6	
	comp=Z,34nm,0.8s							
SMRF	**Simiane la Rot**	**147.73**	**335**	⇑*i*PKP1	PKPdf	18 34 22.8	+5.3	
	comp=Z,34nm,0.9s							
VILF	**Villemus**	**147.78**	**335**	PKP	PKPdf	18 34 23.0	+5.4	
LMR	**La Mourre**	**147.87**	**333**	⇑*i*PKP1	PKPdf	18 34 22.6	+4.9	
	comp=Z,63nm,1.1s							
OSPF	**L'Ospedale**	**147.91**	**329**	PKP	PKPdf	18 34 22.8	+4.9	
RJF	**Les Rejaudoux**	**148.04**	**341**	⇑*i*PKP1	PKPdf	18 34 23.4	+5.4	
	comp=Z,48nm,1.0s							
CAF	**Calviac**	**148.20**	**340**	⇑*i*PKP1	PKPdf	18 34 24.0	+5.8	
	comp=Z,59nm,1.1s							
BERF	**Bertagne**	**148.23**	**334**	PKP	PKPdf	18 34 24.0	+5.7	
LASF	**Ste Croix**	**148.32**	**337**	⇑*i*PKP1	PKPdf	18 34 24.3	+5.9	
	comp=Z,64nm,1.1s							
RCBR	**Riachuelo**	**148.59**	**131**	*e*PKPbc	PKPdf	18 34 23.9	+4.1	
LFF	**La Frestale**	**148.61**	**342**	⇑*i*PKP1	PKPdf	18 34 24.9	+6.0	
	comp=Z,45nm,0.8s							
VSL	**Villasalto**	**149.38**	**326**	*e*PKPdf	PKPdf	18 34 21.9	+1.6	
VSL				*e*PKPbc	PKPdf	18 34 26.4	+6.1	
VSL				*e*PKPab	PKPab	18 34 32.8	+0.7	
MTLF	**Montolieu**	**149.55**	**339**	⇑*i*PKP1	PKPdf	18 34 27.3	+6.9	
	comp=Z,36nm,0.8s							
EPF	**Esparros**	**150.45**	**341**	*e*PKP1	PKPdf	18 34 29.3	+7.5	
	comp=Z,36nm,1.0s							
SJPF	**Ste Jean**	**150.85**	**343**	*e*PKP1	PKPdf	18 34 30.6	+8.2	
	comp=Z,19nm,0.8s							
ETSF	**Etsaut**	**150.85**	**342**	⇑*i*PKP1	PKPdf	18 34 30.9	+8.5	
	comp=Z,26nm,0.6s							
ESDC	**Sonseca Array**	**154.80**	**344**	PKPab	PKPab	18 34 54.6	-0.2	
	comp=Z,0.3nm,0.3s,baz=18,slow=3.5,SNR=5.2							
DBIC	**Dimbokro**	**168.44**	**221**	PKP	PKPdf	18 34 44.0	+1.2	
	comp=Z,4.7nm,1.0s,baz=81,slow=6.3,SNR=4.1							
DBIC				PKPab	PKPab	18 35 55.1	+0.4	
	comp=Z,2.1nm,0.8s,baz=111,slow=6.3,SNR=4.0							

*NNC **21** 18:25:00.6±7.5,46.88N×89.31E,h28km±38km,mpv3.0, Error ellipse: s-maj=64.0km s-min=32.6km az=52.0*
BJI 21 18:24:54.4,46.97N×90.01E,h16km,ML3.4,3C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.55**	**208**	*e*P	Pn	18 25 53.3	+3.2
WMQ				S	Sn	18 26 37.8	+5.7
WMQ				Smax			
	comp=N,38nm,0.4s						
WMQ				Smax			
	comp=E,46nm,0.6s						
MK31	**Makanchi Array**	**5.30**	**271**	⇓Pn	Pn	18 26 14.0	-0.8
	comp=E,0.2nm,0.2s,baz=98,slow=13,SNR=42						
MK31				Pg	Pn	18 26 27.4	+12
	comp=E,3.9nm,0.6s,baz=89,slow=16,SNR=20						
MK31				⇑Lg		18 27 35.5	
	comp=E,8.9nm,0.6s,baz=88,slow=31,SNR=6.9						
KURK	**Kurchatov**	**8.39**	**301**	⇑Pn	P	18 26 56.1	-2.2
	comp=E,0.9nm,0.8s,baz=120,slow=8.9,SNR=13						
KURK				⇑Sn	Sn	18 28 27.8	-5.9
	comp=E,0.6nm,0.4s,baz=315,slow=15,SNR=8.9						
KURK				⇓Lg		18 29 16.8	
	comp=E,5.5nm,0.7s,baz=213,slow=6.8,SNR=8.8						
BVA0	**Borovoye Array**	**13.98**	**303**	Pn	P	18 28 08.7	-5.2
	comp=E,0.1nm,0.5s,baz=102,slow=13,SNR=4.3						
BVA0				Sn	S	18 30 38.3	-11
CHKZ	**Chkalovo**	**14.06**	**306**	Sn	S	18 30 42.5	-9.1

*TIF **21** 18:28:05.3,39.24N×49.09E,h15km±10km*
*TEH **21** 18:28:07.0,39.69N×49.47E,h10km,Mn4.3*
*CSEM **21** 18:28:08.9±0.1,39.57N×49.42E,h60km,mb4.6,Error ellipse: s-maj=3.1km s-min=1.4km az=45.0*
*MOS **21** 18:28:09.0±1.0,39.68N×49.39E,h42km,mb4.6/15,Error ellipse: s-maj=9.2km s-min=5.8km az=123.7*
*BJI **21** 18:28:09.0,39.88N×48.99E,h63km,mB5.1,mb4.8*
*IDC **21** 18:28:09.2±5.2,39.57N×49.38E,h30km±38km,mb4.1/14, mb1 4.2/18,mb1mx4.1/23,mbtmp4.2/18,ML3.7/2,MS3.2/6, Ms1 3.3/6,ms1mx3.1/22,Error ellipse: s-maj=19.5km s-min=15.1km az=145.0*
*NEIC **21** 18:28:10.3±0.4,39.59N×49.42E,h40km±5km,mb4.4/16, Error ellipse: s-maj=5.5km s-min=3.7km az=201.0*
*THR **21** 18:28:17.9±0.6,38.07N×48.03E,h18km±5km,ML3.6*
ISC 21 18:28:08.8±0.4,39.54N±0.02×49.42E±0.03,h45km±5km, n149,σ0s99/165,mb4.4/35,MS3.4/5,13C-9D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHE	**Samaxi**	**1.26**	**332**	*e*P	**P**	**18 28 31.0**	**+0.8**
SHE				*e*S	**S**	**18 28 50.0**	**+3.8**
GRMI	**Germi**	**1.39**	**239**	*e*Pg	**P**	**18 28 32.0**	**-0.2**
GRMI	**Germi**	**1.39**	**239**	*e*PG	**P**	**18 28 32.5**	**+0.3**
GRMI				AML	AML	18 28 54.6	
	comp=E,3μm,0.4s						
AKT	**Akhty**	**2.33**	**327**	⇑*i*P	**P**	**18 28 44.3**	**-1.2**
AKT				*e*S	**S**	**18 29 12.0**	**-1.0**
AKT				pmax	pmax		
	comp=Z,162nm,0.5s						
AKT	**Akhty**	**2.33**	**327**	*i* P	**P**	**18 28 44.3**	**-1.2**
	comp=Z,162nm,0.5s						
AKT				*e*S	**S**	**18 29 12.0**	**-1.0**
IBST	**Bostanabad**	**2.70**	**228**	Pn	**P**	**18 28 52.0**	**+1.2**
ITBZ	**Tabriz**	**2.87**	**244**	Pn	**P**	**18 28 54.1**	**+1.0**
IMRD	**Marand**	**3.00**	**255**	Pn	**P**	**18 28 56.6**	**+1.5**
GNI	**Garni**	**3.65**	**281**	Pn	**P**	**18 29 06.1**	**+1.9**
	comp=Z,7.1nm,0.3s,baz=51,slow=5.4,SNR=37						
GNI				Sn	**S**	**18 29 53.9**	**+7.4**
	comp=Z,32nm,0.3s,baz=198,slow=20,SNR=3.8						
GNI				LR	LR	18 30 44.4	
	comp=Z,266nm,20.3s,baz=175,slow=43						
MAKU	**Maku**	**3.67**	**269**	*e*Pn	**P**	**18 29 05.0**	**+0.5**
MAKU				*e*Sg	**S**	**18 29 49.0**	**+2.0**
MAKU	**Maku**	**3.67**	**269**	*e*PN	**P**	**18 29 05.5**	**+1.0**
MAKU				*e*SG	**S**	**18 29 49.2**	**+2.1**
MAKU				AML	AML	18 30 11.0	
	comp=N,172nm,0.7s						
MAKU	**Maku**	**3.67**	**269**	*e*Pn	**P**	**18 29 05.5**	**+1.0**
	SNR=52						
MAKU				*e*Sg	**S**	**18 29 49.2**	**+2.2**
	comp=N,172nm,0.7s,SNR=91						
MAK	**Makhachkala**	**3.71**	**338**	⇑*i*P	**P**	**18 29 07.6**	**+2.5**
MAK				*i* S	**S**	**18 29 50.2**	**+2.1**
MAK				pmax	pmax		
	comp=Z,259nm,0.3s						
MAK				smax			
	comp=N,578nm,0.7s						
MAK				smax			
	comp=E,2μm,0.7s						
MAK				MLR	MLR		
	comp=Z,1μm,12.0s						
IMHD	**Mahdasht**	**3.97**	**165**	Pn	**P**	**18 29 09.2**	**+0.4**
IPRN	**Paran-Amol**	**3.98**	**145**	Pn	**P**	**18 29 08.7**	**-0.2**
IAFJ	**Afjeh**	**4.10**	**153**	Pn	**P**	**18 29 10.8**	**+0.2**
MTA	**Mtatsminda**	**4.12**	**303**	P	**P**	**18 29 10.4**	**-0.6**
MTA				S	**S**	**18 29 58.3**	**-0.3**
IRAZ	**Razeghan**	**4.15**	**174**	Pn	**P**	**18 29 10.4**	**-0.9**
IRAZ	**Razeghan**	**4.15**	**174**	Sn	**S**	**18 29 59.8**	**+0.7**
TI2	**Plekhanov**	**4.17**	**303**	⇑*i*P	**P**	**18 29 11.8**	**+0.2**
TI2				*i* S	**S**	**18 30 00.0**	**+0.2**
TI2				pmax	pmax		
	comp=Z,30nm,0.6s						
TI2				smax			
	comp=N,120nm,0.8s						
TI2				smax			
	comp=E,130nm,0.8s						
TI2	**Plekhanov**	**4.17**	**303**	⇑*i*P	**P**	**18 29 11.8**	**+0.2**
	comp=E,30nm,0.6s						
TI2				*i* S	**S**	**18 30 00.0**	**+0.2**
	comp=E,120nm,0.8s						
IDMV	**Damavand**	**4.47**	**151**	Pn	**P**	**18 29 16.0**	**+0.2**
IGLO	**Galoogah**	**4.56**	**134**	Pn	**P**	**18 29 16.9**	**-0.2**
IFIR	**Firoozkooh**	**4.71**	**145**	Pn	**P**	**18 29 19.2**	**0.0**
IFIR				Sn	**S**	**18 30 12.1**	**-1.1**
IQOM	**Qom**	**4.87**	**164**	Pn	**P**	**18 29 21.3**	**-0.2**
ASAO	**Ashtian**	**5.00**	**174**	*e*Pn	**P**	**18 29 18.0**	**-5.4**
ASAO				*e*Sg	**S**	**18 30 18.0**	**-2.7**
ASAO	**Ashtian**	**5.00**	**174**	*e*PN	**P**	**18 29 18.8**	**-4.6**
ASAO				*e*SG	**S**	**18 30 18.2**	**-2.5**
ZEI	**Tsey**	**5.27**	**310**	*e*P	**P**	**18 29 22.0**	**-5.0**
ZEI				*e*		18 30 27.2	
ZEI				smax			
	comp=Z,68nm,0.4s						
ZEI	**Tsey**	**5.27**	**310**	*e*S	**S**	**18 30 27.2**	**-0.1**
	comp=Z,68nm,0.4s						
KIV	**Kislovodsk**	**6.69**	**313**	*e*P	**P**	**18 29 45.2**	**-1.8**
KIV				*i* S	**S**	**18 30 59.6**	**-3.2**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KIV				smax			
	comp=E,53nm,0.7s						
KIV	**Kislovodsk**	**6.69**	**313**	*e*Pn	**P**	**18 29 44.5**	**-2.5**
	comp=E,22nm,0.6s						
KIV	**Kislovodsk**	**6.69**	**313**	*e*P	**P**	**18 29 45.2**	**-1.8**
	comp=E,8.0nm,0.5s						
NASN	**Na'in**	**7.26**	**157**	*e*Pn	**P**	**18 29 55.0**	**+0.1**
NASN	**Na'in**	**7.26**	**157**	*e*PN	**P**	**18 29 55.2**	**+0.3**
NASN	**Na'in**	**7.26**	**157**	*e*Pn	**P**	**18 29 55.2**	**+0.3**
	SNR=52						
GOF	**Gofitskoye**	**7.26**	**321**	⇓*i*P	**P**	**18 29 53.0**	**-2.0**
GOF				*i* S	**S**	**18 31 11.0**	**-6.0**
GOF				pmax	pmax		
	comp=Z,38nm,0.8s						
GOF				smax			
	comp=N,106nm,1.0s						
GOF	**Gofitskoye**	**7.26**	**321**	*i* P	**P**	**18 29 53.0**	**-2.0**
	comp=N,38nm,0.8s						
SOC	**Sochi**	**8.32**	**302**	*e*P	**P**	**18 30 06.1**	**-3.5**
SOC				*e*		18 31 37.1	
SOC				pmax	pmax		
	comp=Z,35nm,0.8s						
SOC				pmax	pmax		
	comp=N,30nm,0.9s						
SOC				pmax	pmax		
	comp=E,27nm,0.7s						
SOC				MLR	MLR		
	comp=N,199nm,18.0s						
SOC				MLR	MLR		
	comp=E,134nm,19.0s						
SOC				MLR	MLR		
	comp=Z,186nm,19.0s						
SOC	**Sochi**	**8.32**	**302**	*e*P	**P**	**18 30 06.1**	**-3.5**
	comp=Z,30nm,0.9s						
MALT	**Malatya**	**8.65**	**265**	P	**P**	**18 30 12.7**	**-1.5**
BRTR	**Keskin Array B**	**12.17**	**276**	Pn	**P**	**18 31 01.4**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=85,slow=14,SNR=3.8						
ASF	**Jabal al Asfar**	**12.53**	**238**	LR	LR	18 36 56.6	
	comp=Z,83nm,20.9s,baz=208,slow=42						
CSS	**Prodhromos**	**13.60**	**255**	*e*Pn	**P**	**18 31 22.0**	**+0.9**
VRSR	**Storozhevoye**	**13.69**	**332**	*e*P	**P**	**18 31 19.3**	**-2.8**
VRSR				pmax	pmax		
	comp=E,4.0nm,0.4s						
VRSR				pmax	pmax		
	comp=Z,6.0nm,0.4s						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.3s						
VRSR	**Storozhevoye**	**13.69**	**332**	*e*P	**P**	**18 31 19.3**	**-2.8**
	comp=N,1.0nm,0.3s						
ASHO	**Ashiyiah**	**15.83**	**157**	⇑P	**P**	**18 31 50.3**	**+0.2**
	SNR=6.2						
CFR	**Carcaliu**	**16.69**	**297**	⇓P	**P**	**18 32 00.1**	**-0.7**
OBN	**Obninsk**	**17.80**	**335**	*e*P	**P**	**18 32 10.3**	**-4.4**
OBN				pmax	pmax		
	comp=Z,23nm,1.1s						
OBN				MLR	MLR		
	comp=Z,200nm,21.0s						
OBN	**Obninsk**	**17.80**	**335**	*e*P	**P**	**18 32 10.8**	**-3.9**
	comp=Z,60nm,0.8s						
VRI	**Vrincioaia**	**17.81**	**298**	⇑P	**P**	**18 32 14.0**	**-0.8**
ARU	**Arti**	**17.95**	**17**	*e*P	**P**	**18 32 10.5**	**-5.9**
ARU				*e*S	**S**	**18 35 22.2**	**-10**
ARU	**Arti**	**17.95**	**17**	*e*P	**P**	**18 32 12.2**	**-4.2**
	comp=Z,395nm,0.6s						
BSY	**Bisya**	**18.00**	**156**	⇓P	**P**	**18 32 17.8**	**+0.4**
MOS	**Moscow**	**18.01**	**338**	*e*P	**P**	**18 32 12.5**	**-4.7**
MOS				*e*S	**S**	**18 35 34.9**	**+1.4**
MOS				pmax	pmax		
	comp=Z,45nm,0.9s						
BSYO	**Bisya**	**18.03**	**156**	P	**P**	**18 32 17.8**	**+0.1**
BSYO	**Bisya**	**18.03**	**156**	P	**P**	**18 32 17.8**	**+0.1**
MLR	**Muntele Rosu**	**18.27**	**297**	⇓P	**P**	**18 32 19.8**	**-0.7**
AML	**Almayashu**	**18.54**	**74**	P	**P**	**18 32 24.6**	**+0.8**
	SNR=13						
EKS2	**Erkin-Say**	**18.61**	**72**	P	**P**	**18 32 25.1**	**+0.4**
	SNR=32						
SVE	**Sverdlovsk**	**18.80**	**19**	*e*P	**P**	**18 32 35.5**	**+8.6**
SVE				*e*		18 35 52.0	
SVE	**Sverdlovsk**	**18.80**	**19**	*e*S	**S**	**18 35 52.0**	**+0.5**
AAK	**Ala-Archa**	**19.14**	**73**	P	**P**	**18 32 30.9**	**+0.1**
	SNR=15						
AAK	**Ala-Archa**	**19.14**	**73**	P	**P**	**18 32 29.2**	**-1.6**
	comp=Z,83nm,1.0s,SNR=19						
AAK	**Ala-Archa**	**19.14**	**73**	*c* *i*P	**P**	**18 32 29.8**	**-1.0**
AAK				pmax	pmax		
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**19.14**	**73**	*e*P	**P**	**18 32 29.6**	**-1.2**
	comp=Z,13nm,0.9s						
AAK	**Ala-Archa**	**19.14**	**73**	*i* P	**P**	**18 32 29.8**	**-1.0**
	comp=Z,14nm,1.0s						
UCH	**Uchtor**	**19.15**	**74**	P	**P**	**18 32 31.1**	**+0.1**
	SNR=8.9						
FRU	**Bishkek**	**19.23**	**72**	*e*P	**P**	**18 32 31.5**	**-0.3**
CHMS	**Chumysh**	**19.33**	**71**	P	**P**	**18 32 32.6**	**-0.3**
	SNR=14						
KBK	**Karagaybulak**	**19.47**	**73**	P	**P**	**18 32 34.7**	**+0.2**
	SNR=19						
KZA	**Kyzart**	**19.70**	**74**	P	**P**	**18 32 37.3**	**+0.3**
	SNR=6.0						
BVAR	**Borovoye Array**	**19.70**	**40**	P	**P**	**18 32 35.6**	**-1.3**
	comp=Z,1.6nm,0.3s,baz=232,slow=11,SNR=34						
IDI	**Anoyia**	**19.92**	**265**	P	**P**	**18 32 39.3**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=50,slow=7.9,SNR=8.8						
TKM2	**Tokmak 2**	**19.95**	**72**	P	**P**	**18 32 39.4**	**-0.3**
	SNR=15						
CHKZ	**Chkalovo**	**20.19**	**39**	*e*P	**P**	**18 32 41.4**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,30nm,0.6s						
CHKZ	**Chkalovo**	**20.19**	**39**	*e*P	**P**	**18 32 41.4**	**-0.7**
	comp=Z,30nm,0.6s						
ULHL	**Ulahol**	**20.43**	**74**	P	**P**	**18 32 45.1**	**+0.4**
	SNR=19						
KSH	**Kashi**	**20.46**	**82**	*e*P	**P**	**18 32 45.3**	**+0.2**
KSH				*e*AP		18 32 55.3	
BZS	**Buzias**	**21.29**	**296**	⇓P	**P**	**18 32 53.1**	**-0.4**
KOLS	**Kolonicke sedl**	**21.50**	**305**	*e*P	**P**	**18 32 55.0**	**-0.5**
KOLS				*e*sP		18 33 09.2	
WHFO	**Wadi Hawf**	**21.87**	**169**	⇑P	**P**	**18 32 58.4**	**-1.0**
	SNR=20						
CRVS	**Cervenica-Dubn**	**22.01**	**304**	*e*P	**P**	**18 33 01.2**	**+0.6**
CRVS				*e*pP		18 33 13.8	
SHAO	**Shalim**	**22.11**	**164**	⇓P	**P**	**18 33 01.6**	**-0.1**
	SNR=15						
SHAO	**Shalim**	**22.11**	**164**	P	**P**	**18 33 01.6**	**-0.2**
	SNR=15						
RBK	**Rabkut**	**22.35**	**168**	P	**P**	**18 33 03.5**	**-0.7**
	SNR=17						
ABTO	**Aybut**	**22.36**	**170**	⇑P	**P**	**18 33 03.4**	**-0.9**
	SNR=18						
PSZ	**Piszkesteto**	**22.81**	**301**	*e*P	**P**	**18 33 09.1**	**+0.7**
PSZ				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2						
PSZ	**Piszkesteto**	**22.81**	**301**	*e*P	**P**	**18 33 09.1**	**+0.6**
	comp=Z,9.3nm,1.0s,mb4.2						
SUW	**Suwalki**	**22.89**	**318**	*e*P	**P**	**18 33 08.1**	**-1.1**
SUW				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.7						
SUW	**Suwalki**	**22.89**	**318**	*e*P	**P**	**18 33 08.1**	**-1.1**
	comp=Z,24nm,0.8s,mb4.7						
KURK	**Kurchatov**	**23.29**	**52**	P	**P**	**18 33 14.1**	**+1.1**
	comp=Z,127nm,0.9s,mb5.3,SNR=18						
KURK	**Kurchatov**	**23.29**	**52**	*e*P	**P**	**18 33 13.8**	**+0.8**
KURK				pmax	pmax		
	comp=Z,19nm,0.9s,mb4.5						
KURK	**Kurchatov**	**23.29**	**52**	*e*P	**P**	**18 33 13.8**	**+0.8**
	comp=Z,19nm,0.9s,mb4.5						
VSU	**Vasula**	**23.88**	**330**	*d* *i*P	**P**	**18 33 19.1**	**+0.4**
SMOL	**Smolenice**	**24.54**	**302**	*e*P	**P**	**18 33 26.8**	**+1.6**
DDI	**Dehra Dun**	**25.13**	**103**	*e*	**P**	**18 33 34.2**	**+3.1**
TIP	**Timpagrande**	**25.18**	**280**	*e*P	**P**	**18 33 32.5**	**+1.0**
ARSA	**Arzberg**	**25.65**	**299**	⇑*i*P	**P**	**18 33 36.4**	**+0.6**
	comp=Z,5.2nm,0.6s,mb4.2						
JOF	**Joensuu**	**25.82**	**341**	*e*pkp	**P**	**18 33 33.5**	**-3.8**
FINES	**FINESS Array B**	**26.20**	**334**	P	**P**	**18 33 39.9**	**-0.9**
	comp=Z,3.7nm,0.5s,mb4.2,baz=141,slow=8.9,SNR=32						
FINES				LR	LR	18 46 21.5	
	comp=Z,100nm,20.9s,MS3.3,baz=20,slow=42						
KAF	**Kangasniemi**	**26.62**	**336**	*e*pkp	**P**	**18 33 36.7**	**-7.9**
	baz=44,slow=1.9						
GERES	**GERESS Array B**	**27.03**	**302**	P	**P**	**18 33 48.1**	**-0.4**
	comp=Z,1.6nm,0.6s,mb3.8,baz=90,slow=9.3,SNR=16						
KBA	**Koelnbreinsper**	**27.12**	**298**	⇓*i*P	**P**	**18 33 48.0**	**-1.4**
	comp=Z,3.7nm,0.7s,mb4.0						
KBA	**Koelnbreinsper**	**27.12**	**298**	⇓*i*P	**P**	**18 33 48.0**	**-1.4**
KBA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
KHC	**Kasperske Hory**	**27.14**	**303**	*e*P	**P**	**18 33 51.5**	**+1.9**
NVS	**Novosibirsk**	**27.27**	**45**	*e*P	**P**	**18 33 50.2**	**-0.5**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.2						
NVS				pmax	pmax		
	comp=N,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.7s						
CLL	**Collm**	**27.85**	**307**	P	**P**	**18 34 03.0**	**+7.0**
ZAL	**Zalesovo**	**27.86**	**47**	P	**P**	**18 33 55.4**	**-0.7**
	comp=E,4.5nm,0.3s,mb4.5,baz=204,slow=5.7,SNR=19						
WTTA	**Wattenberg**	**28.30**	**298**	⇑*i*P	**P**	**18 33 59.6**	**-0.4**
	comp=E,6.6nm,0.6s,mb4.4						
WTTA	**Wattenberg**	**28.30**	**298**	⇑*i*P	**P**	**18 33 59.6**	**-0.4**
WTTA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.5						
DAVOX	**Davos**	**29.49**	**297**	P	**P**	**18 34 10.9**	**+0.3**
	comp=Z,13nm,0.5s,mb5.0,baz=166,slow=8.3,SNR=24						
HFS	**Hagfors**	**30.33**	**325**	P	**P**	**18 34 17.5**	**-0.5**
	comp=Z,4.4nm,0.4s,mb4.5,baz=117,slow=9.9,SNR=24						
KOLN	**Koldanda**	**30.60**	**102**	*e*P	**P**	**18 34 18.3**	**-2.5**
GKN	**Gorkha**	**31.27**	**101**	*e*P	**P**	**18 34 27.0**	**+0.4**
	comp=Z,13nm,0.6s,mb4.9						
DMN	**Daman**	**31.83**	**101**	*e*P	**P**	**18 34 31.7**	**+0.2**
	comp=Z,4.8nm,0.5s,mb4.5						
NB2	**NORSAR Subarra**	**31.83**	**325**	P	**P**	**18 34 29.8**	**-1.4**
	comp=Z,1.9nm,0.5s,mb4.2,baz=115,slow=8.6						
NB2	**NORSAR Subarra**	**31.83**	**325**	P	**P**	**18 34 29.8**	**-1.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.2						
NOA	**NORSAR Array B**	**31.83**	**325**	P	**P**	**18 34 30.3**	**-0.9**
	comp=Z,2.1nm,0.4s,mb4.3,baz=113,slow=8.2,SNR=12						
NOA				LR	LR	18 49 22.2	
	comp=Z,84nm,20.2s,MS3.4,baz=305,slow=40						
KKN	**Kakani**	**31.87**	**101**	*e*P	**P**	**18 34 32.0**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.4						
PKI	**Pulchoki**	**32.08**	**101**	*e*P	**P**	**18 34 33.4**	**-0.3**
JIRN	**Jiri**	**32.63**	**100**	*e*P	**P**	**18 34 39.6**	**+1.1**
	comp=Z,8.7nm,0.5s,mb4.9						
ARCES	**ARCESS Array B**	**32.63**	**345**	P	**P**	**18 34 38.4**	**+0.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=141,slow=9.5,SNR=12						
ARCES				LR	LR	18 50 31.9	
	comp=Z,97nm,21.1s,MS3.5,baz=200,slow=41						
LSA	**Lhasa**	**35.45**	**93**	P	**P**	**18 35 04.6**	**+1.9**
LSA	**Lhasa**	**35.45**	**93**	*e*P	**P**	**18 35 04.2**	**+1.5**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**35.45**	**93**	*e*P	**P**	**18 35 04.2**	**+1.4**
	comp=Z,4.3nm,0.7s,mb4.5						
EKA	**Eskdalemuir Ar**	**37.92**	**312**	P	**P**	**18 35 23.1**	**-0.1**
	comp=Z,3.0nm,0.6s,mb4.2,baz=100,slow=8.3,SNR=10						
ZAK	**Zakamensk**	**38.83**	**56**	*e*P	**P**	**18 35 31.6**	**+0.8**
ESDC	**Sonseca Array**	**40.61**	**288**	P	**P**	**18 35 45.1**	**-0.7**
	comp=Z,1.0nm,0.4s,mb3.8,baz=65,slow=8.6,SNR=6.3						
SONM	**Songino Array**	**41.20**	**59**	P	**P**	**18 35 51.6**	**+1.1**
	comp=Z,0.9nm,0.7s,mb3.5,baz=275,slow=9.3,SNR=12						
SONM				PcP	PcP	18 37 49.8	+0.2
	comp=Z,0.8nm,0.6s,baz=279,slow=4.3,SNR=8.6						
ULN	**Ulaanbaatar**	**41.63**	**59**	*e*P	**P**	**18 35 54.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**41.63**	**59**	*e*P	**P**	**18 35 54.9**	**+0.9**
	comp=Z,3.2nm,0.8s,mb4.0						
BOD	**Bodaibo**	**44.51**	**44**	*e*P	**P**	**18 36 16.8**	**-0.4**
BOD				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KMI	**Kunming**	**46.65**	**91**	P	**P**	**18 36 36.0**	**+1.3**
XAN	**Xi'an**	**47.22**	**77**	P	**P**	**18 36 40.0**	**+0.9**
XAN				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
ENH	**Enshi**	**49.32**	**81**	*e*P	**P**	**18 36 55.9**	**+0.4**
	comp=Z,12nm,0.9s,mb4.9						
HIA	**Hailar**	**49.49**	**54**	*e*P	**P**	**18 36 56.4**	**-0.1**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
HIA	**Hailar**	**49.49**	**54**	*e*P	**P**	**18 36 56.4**	**-0.1**
	comp=Z,4.0nm,0.7s,mb4.6						
TIXI	**Tiksi**	**49.74**	**24**	*e*P	**P**	**18 36 56.3**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,88nm,17.0s,MS3.8						
NJ2	**Nanjing**	**55.56**	**75**	*e*P	**P**	**18 37 42.1**	**+0.1**
NJ2				AMB	AMB

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCHQ	**Schefferville**	**1.79**	**1**	PN	Pn	18 49 21.1	-0.5
SCHQ				SN	Sn	18 49 44.5	-0.9
SCHQ				Trac		18 49 45.0	
	comp=Z,48nm,0.2s						
MNQ	**Manicouagan**	**2.77**	**205**	PN	Pn	18 49 34.8	-0.9
MNQ				SN	Sn	18 50 08.7	-1.7
MNQ				Trac		18 50 17.3	
	comp=Z,6.5nm,0.1s						
SMQ	**Clarke City**	**2.83**	**177**	PN	Pn	18 49 35.0	-1.7
SMQ				SN	Sn	18 50 10.7	-1.4
SMQ				Trac		18 50 15.7	
	comp=Z,13nm,0.2s						
ICQ	**Pointe Anglais**	**3.54**	**184**	PN	Pn	18 49 44.9	-1.8
ICQ				SN	Sn	18 50 26.0	-3.9
ICQ				Trac		18 50 37.2	
	comp=Z,20nm,0.4s						
CNQ	**Baie Comeau**	**3.82**	**191**	PN	Pn	18 49 48.8	-1.9
CNQ				SN	Sn	18 50 33.3	-3.7
CNQ				Trac		18 50 51.6	
	comp=Z,7.7nm,0.2s						
GSQ	**Grosses Roches**	**4.15**	**182**	PN	Pn	18 49 53.3	-2.1
GSQ				SN	Sn	18 50 42.2	-3.1
GSQ				Trac		18 50 59.8	
	comp=Z,33nm,0.4s						
LG4Q	**La Grande 4**	**4.34**	**281**	PN	Pn	18 49 54.7	-3.4
LG4Q				PG	Pg	18 50 03.4	-13
LG4Q				SN	Sn	18 50 44.9	-5.4
LG4Q				SG	Sg	18 51 00.7	-13
LG4Q				Trac		18 51 03.6	
	comp=Z,26nm,0.4s						
LMQ	**La Malbaie**	**5.93**	**203**	PN	Pn	18 50 16.9	-3.6
LMQ				SN	Sn	18 51 22.4	-7.6
LMQ				SG	Sg	18 51 50.2	-16
LMQ				Trac		18 52 00.4	
	comp=Z,5.3nm,0.2s						
DRLN	**Deer Lake**	**7.03**	**119**	PN	Pn	18 50 31.6	-4.5
DRLN				SN	Sn	18 51 51.0	-6.7
DRLN				SG	Sg	18 52 26.8	-17
DRLN				Trac		18 52 30.1	
	comp=Z,24nm,0.7s						
LMN	**Caledonia Moun**	**7.33**	**168**	PN	Pn	18 50 35.3	-5.0
LMN				SN	Sn	18 51 56.1	-9.2
LMN				Trac		18 52 49.8	
	comp=Z,4.8nm,0.8s						
VLDQ	**Val d'Or**	**8.33**	**238**	PN	P	18 50 50.3	-3.9
VLDQ				SN	Sn	18 52 16.0	-14
VLDQ				SG	Sg	18 53 02.5	-24
VLDQ				Trac		18 53 21.0	
	comp=Z,11nm,0.7s						
MALO	**McAlpine Lake**	**8.56**	**254**	PN	P	18 50 50.6	-6.8
MALO				SN	Sn	18 52 19.6	-16
MALO				SG	Sg	18 53 10.1	-24
MALO				Trac		18 53 19.4	
	comp=Z,18nm,0.5s						
VIMO	**Victor Mine**	**10.17**	**275**	PN	P	18 51 11.8	-7.7
VIMO				SN	S	18 52 56.4	-19
VIMO				SG	S	18 53 58.4	+43
VIMO				Trac		18 54 03.3	
	comp=Z,5.0nm,0.5s						
SILO	**Sutton Inlier**	**10.75**	**285**	PN	P	18 51 19.7	-7.8
SILO				SN	S	18 53 12.5	-17
SILO				LG		18 54 10.6	
SILO				Trac		18 54 36.3	
	comp=Z,2.4nm,0.4s						

*KRSC **21** 19:00:47.9±0.6,52.73N×159.90E,h29km±3km,ML4.4*
*MOS **21** 19:00:47.2±0.8,52.72N×159.90E,h47km,mb4.3/4,Error ellipse: s-maj=18.3km s-min=9.2km az=83.7*
*IDC **21** 19:00:48.5±2.7,52.87N×159.65E,h38km±26km,mb3.5/10, mb1 3.8/12,mb1mx3.7/21,mbtmp3.8/12,ML3.7/2,MS4.4/1, Ms1 4.4/1,ms1mx3.0/21,Error ellipse: s-maj=28.1km s-min=17.7km az=167.0*
*NEIC **21** 19:00:50.6±1.1,52.94N×159.57E,h58km±9km,mb4.1/4, Error ellipse: s-maj=15.8km s-min=9.3km az=154.0*

ISC 21 19:00:47.7±0.5,52.71N±0.03×159.95E±0.06,h50km±5km, n56,σ1§07/83,mb3.8/14,MS4.4/1,1D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**6**	P	**P**	**19 00 57.0**	**-0.8**
SPN				*e*S	**S**	**19 01 02.9**	**-2.1**
SPN	**Mys Shipunski**	**0.39**	**6**	*i* P	**P**	**19 00 57.1**	**-0.7**
SPN				*i* S	**S**	**19 01 03.3**	**-1.7**
NLC	**Nalytchevo**	**0.59**	**322**	*e*P	**P**	**19 00 59.5**	**-0.6**
NLC				*e*S	**S**	**19 01 07.7**	**-1.4**
UGLR	**Uglovaya**	**0.84**	**307**	*i* P	**P**	**19 01 03.5**	**+0.1**
PET	**Petropavlovsk**	**0.85**	**292**	‖ *i*PN	**P**	**19 01 03.3**	**-0.2**
PET				*i* S	**S**	**19 01 14.3**	**-0.9**
PET				pmax	pmax		
	comp=Z,2μm,0.4s						
PET				smax			
	comp=N,6μm,0.6s						
PET				smax			
	comp=E,6μm,0.9s						
PET	**Petropavlovsk**	**0.85**	**292**	*e*Pn	**P**	**19 01 03.0**	**-0.5**
PET				*e*Sn	**S**	**19 01 13.1**	**-2.1**
PET	**Petropavlovsk**	**0.85**	**292**	*e*P	**P**	**19 01 03.5**	**0.0**
PET				*i* S	**S**	**19 01 14.6**	**-0.6**
SDLR	**Sedlovina**	**0.86**	**312**	*i* P	**P**	**19 01 03.5**	**-0.1**
SMAR	**Somma**	**0.89**	**309**	*e*P	**P**	**19 01 03.9**	**-0.1**
AVH	**Avacha**	**0.92**	**308**	*i* P	**P**	**19 01 04.8**	**+0.3**
AVH				*e*S	**S**	**19 01 16.9**	**-0.1**
RUS	**Russkaya**	**0.92**	**253**	*i* P	**P**	**19 01 04.6**	**+0.1**
RUS				*e*S	**S**	**19 01 16.9**	**-0.1**
KOK	**Koryaka**	**0.98**	**307**	*i* P	**P**	**19 01 05.5**	**+0.1**
KRMR	**Karymshinskiy**	**1.11**	**277**	*i* P	**P**	**19 01 06.1**	**-1.1**
KRMR				*i* S	**S**	**19 01 20.2**	**-1.5**
GRL	**Gorelyy**	**1.16**	**263**	*i* P	**P**	**19 01 08.6**	**+0.8**
GRL				*e*S	**S**	**19 01 23.9**	**+1.2**
KII	**Karymskiy**	**1.36**	**347**	P	**P**	**19 01 10.6**	**-0.2**
KII				S	**S**	**19 01 27.0**	**-1.0**
KII	**Karymskiy**	**1.36**	**347**	*e*P	**P**	**19 01 10.7**	**-0.1**
KII				*e*S	**S**	**19 01 27.4**	**-0.6**
GNL	**Ganaly**	**1.56**	**310**	*i* P	**P**	**19 01 14.5**	**+0.9**
GNL				*e*S	**S**	**19 01 34.2**	**+1.4**
APC	**Apacha**	**1.71**	**278**	*i* P	**P**	**19 01 16.7**	**+1.1**
APC				*i* S	**S**	**19 01 37.9**	**+1.5**
APC				Smax			
	comp=E,610nm,1.0s						
PAU	**Pauzhetka**	**2.30**	**238**	*i* P	**P**	**19 01 25.6**	**+1.5**
PAU				*e*S	**S**	**19 01 51.8**	**+0.6**
PAU				Smax			
	comp=E,740nm,0.9s						
TUMR	**Tumrok**	**2.58**	**2**	*e*P	**P**	**19 01 28.9**	**+0.9**
TUMR				*e*S	**S**	**19 01 58.7**	**+0.4**
KMNR	**Kamenistaya**	**3.06**	**3**	*e*P	**P**	**19 01 35.9**	**+1.1**
KMNR				*e*S	**S**	**19 02 11.3**	**+0.9**
SKR	**Severo-Kuril's**	**3.13**	**231**	*e*S	**S**	**19 02 09.0**	**-3.3**
KPT	**Kopyto**	**3.27**	**3**	*e*P	**P**	**19 01 39.0**	**+1.3**
KPT				*e*S	**S**	**19 02 17.0**	**+1.3**
ESO	**Esso**	**3.30**	**348**	*e*P	**P**	**19 01 38.6**	**+0.3**
ESO				*e*S	**S**	**19 02 15.9**	**-0.7**
KOZ	**Kozyrevsk**	**3.35**	**359**	*e*P	**P**	**19 01 39.3**	**+0.3**
KOZ				*e*S	**S**	**19 02 17.1**	**-0.8**
KOZR	**Kozyr**	**3.36**	**359**	PN	**P**	**19 01 39.3**	**+0.2**
KOZR				S	**S**	**19 02 17.1**	**-1.0**
SRDR	**Sredinnyy**	**3.62**	**358**	*e*P	**P**	**19 01 43.7**	**+1.0**
SRDR				*e*S	**S**	**19 02 24.8**	**+0.3**
KLY	**Klyuchi**	**3.63**	**6**	P	**S**	**19 01 44.7**	**+1.8**
KLY				S	**S**	**19 02 25.7**	**+0.8**
KLY	**Klyuchi**	**3.63**	**6**	*e*P	**P**	**19 01 44.4**	**+1.5**
KLY				*e*S	**S**	**19 02 25.7**	**+0.8**
KBTR	**Krutoberegovo**	**3.88**	**24**	P	**P**	**19 01 46.8**	**+0.4**
KBTR				S	**S**	**19 02 29.6**	**-1.7**
KBTR	**Krutoberegovo**	**3.88**	**24**	*e*P	**P**	**19 01 47.0**	**+0.6**
KBTR				*e*S	**S**	**19 02 30.2**	**-1.1**
KBG	**Krutoberegovo**	**3.90**	**23**	*e*P	**P**	**19 01 48.1**	**+1.5**
KBG				*e*S	**S**	**19 02 32.4**	**+0.8**
KBG				Smax			
	comp=E,500nm,0.8s						
BKI	**Bering**	**4.35**	**53**	*e*P	**P**	**19 01 51.2**	**-1.8**
BKI				*e*S	**S**	**19 02 37.4**	**-5.5**
BKI				Smax			
	comp=E,70nm,0.5s						
FX1	**Attu Island--F**	**8.02**	**84**	PN	**P**	**19 02 43.3**	**-0.8**
FX1				pmax	pmax		
	comp=Z,9.0nm,0.3s						
FX1	**Attu Island--F**	**8.02**	**84**	Pn	**P**	**19 02 43.3**	**-0.8**
	comp=Z,8.9nm,0.3s,baz=315,slow=7.8,SNR=40						
ASAJ	**Asahikawa**	**14.35**	**240**	Pn	**P**	**19 04 09.2**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=217,slow=30,SNR=2.1						
MAJO	**Matsushiro**	**22.24**	**232**	*e*P	**P**	**19 05 42.4**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.0						
MAJO	**Matsushiro**	**22.24**	**232**	*e*P	**P**	**19 05 42.4**	**+1.2**
	comp=Z,5.3nm,0.8s,mb4.0						
HIA	**Hailar**	**25.31**	**278**	*e*P	**P**	**19 06 09.0**	**-1.8**
HIA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
HIA	**Hailar**	**25.31**	**278**	*e*P	**P**	**19 06 09.0**	**-1.8**
	comp=Z,3.5nm,0.6s,mb4.1						
SONM	**Songino Array**	**33.91**	**284**	P	**P**	**19 07 25.3**	**-2.2**
	comp=Z,0.2nm,0.4s,mb3.4,baz=75,slow=7.2,SNR=3.6						
SONM				PcP	PcP		
	comp=Z,0.2nm,0.8s,baz=142,slow=1.5,SNR=4.3						
INK	**Inuvik**	**34.23**	**37**	P	**P**	**19 07 30.1**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=284,slow=10,SNR=6.2						
ZAL	**Zalesovo**	**42.93**	**303**	P	**P**	**19 08 41.7**	**-0.9**
	comp=Z,0.4nm,0.6s,mb3.3,baz=28,slow=3.0,SNR=3.1						
YKA	**Yellowknife Ar**	**43.51**	**42**	P	**P**	**19 08 47.7**	**+0.5**
	comp=Z,0.5nm,0.8s,mb3.3,baz=295,slow=7.9,SNR=5.9						
KURK	**Kurchatov**	**47.86**	**302**	*e*P	**P**	**19 09 18.7**	**-3.3**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
KURK	**Kurchatov**	**47.86**	**302**	*e*P	**P**	**19 09 18.7**	**-3.3**
	comp=Z,1.3nm,0.4s,mb4.3						
FCC	**Fort Churchill**	**53.84**	**38**	*e*P	**P**	**19 10 06.3**	**-0.8**
FCC				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
FCC	**Fort Churchill**	**53.84**	**38**	*e*P	**P**	**19 10 06.3**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.1						
NVAR	**Mina Array Bea**	**55.96**	**70**	LR	LR	19 30 51.4	
	comp=Z,286nm,18.9s,MS4.4,baz=335,slow=32						
PDAR	**Pinedale Array**	**57.79**	**60**	P	**P**	**19 10 36.7**	**+0.9**
	comp=Z,0.5nm,0.7s,mb3.7,baz=315,slow=2.1,SNR=4.4						
FINES	**FINESS Array B**	**60.44**	**337**	P	**P**	**19 10 51.4**	**-2.4**
	comp=Z,0.3nm,0.3s,mb3.8,baz=24,slow=8.3,SNR=6.2						
NB2	**NORSAR Subarra**	**63.89**	**344**	P	**P**	**19 11 14.3**	**-2.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=21,slow=6.5						
NOA	**NORSAR Array B**	**63.89**	**344**	P	**P**	**19 11 14.6**	**-2.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=20,slow=6.5,SNR=4.0						
TXAR	**Lajitas Array**	**70.87**	**67**	P	**P**	**19 12 02.0**	**+1.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=301,slow=5.7,SNR=6.0						
GERES	**GERESS Array B**	**74.83**	**338**	P	**P**	**19 12 23.6**	**-0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=30,slow=5.6,SNR=12						
ASAR	**Alice Springs**	**79.37**	**204**	P	**P**	**19 12 50.3**	**+0.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=16,slow=4.8,SNR=5.4						

*IDC **21** 19:01:57.4±1.9,43.58N×105.32W,mb3.8/3,mb1 3.8/7, mb1mx3.6/21,mbtmp3.6/7,ML3.2/2,Error ellipse: s-maj=52.8km s-min=9.1km az=152.0*
*NEIC **21** 19:01:58.5±0.4,43.71N×105.11W,ML3.3,Error ellipse: s-maj=6.6km s-min=5.8km az=143.0,Suspected Mining explosion.*
NEIC 70 km [45 miles] SSE of Gillette.

ISC 21 19:01:56.4±0.6,43.73N±0.06×105.04W±0.07,n27, σ0§95/33,mb3.9/3,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.44**	**187**	*e*Pn	**Pn**	**19 02 40.1**	**+1.9**
PHWY				*e*Sg	**Sg**	**19 03 05.8**	**-12**
PDAR	**Pinedale Array**	**3.44**	**255**	Pn	**Pn**	**19 02 52.0**	**-0.3**
	4.5nm,0.3s,baz=76,slow=17,SNR=72						
PDAR				Lg		19 03 37.2	
	10nm,0.3s,baz=79,slow=28,SNR=10.0						
LKWY	**Lake**	**3.95**	**284**	*e*Pn	**Pn**	**19 02 58.0**	**-1.6**
ISCO	**Idaho Springs**	**3.95**	**186**	*e*Pn	**Pn**	**19 02 59.6**	**0.0**
ISCO				*e*Pg	**Pg**	**19 03 07.9**	**-7.4**
LOHW	**Long Hollow**	**4.04**	**270**	*e*Pn	**Pn**	**19 03 00.8**	**-0.1**
MOOW	**Moose Ponds**	**4.13**	**272**	*e*Pn	**Pn**	**19 03 02.8**	**+0.5**
WUWY	**Wally Ulrich**	**4.14**	**269**	*e*Pn	**Pn**	**19 03 03.7**	**+1.3**
SNOW	**Snow King Moun**	**4.16**	**268**	*e*Pn	**Pn**	**19 03 03.5**	**+0.9**
SNOW				*e*Pb	**Pb**	**19 03 09.1**	**-1.3**
YNR	**Norris Junctio**	**4.17**	**286**	*e*Pn	**Pn**	**19 03 02.9**	**+0.2**
YNR				*e*Pb	**Pb**	**19 03 11.8**	**+1.2**
YFT	**Old Faithful**	**4.24**	**282**	*e*Pn	**Pn**	**19 03 06.7**	**+3.0**
IMW	**Indian Meadow**	**4.27**	**274**	*e*Pn	**Pn**	**19 03 05.0**	**+0.8**
IMW				*e*Pb	**Pb**	**19 03 13.0**	**+0.7**
TPAW	**Teton Pass**	**4.30**	**269**	*e*Pn	**Pn**	**19 03 04.0**	**-0.5**
YMR	**Madison River**	**4.36**	**284**	*e*Pn	**Pn**	**19 03 04.8**	**-0.7**
AHID	**Auburn Hatcher**	**4.53**	**260**	*e*Pn	**Pn**	**19 03 07.4**	**-0.5**
AHID				*e*Pb	**Pb**	**19 03 17.8**	**+1.1**
RRI2	**Red Ridge**	**4.58**	**267**	*e*Pn	**Pn**	**19 03 08.0**	**-0.6**
QLMT	**Earthquake Lak**	**4.72**	**286**	*e*Pn	**Pn**	**19 03 10.2**	**-0.4**
HWUT	**Hardware Ranch**	**5.26**	**248**	*e*Pn	**Pn**	**19 03 17.0**	**-1.1**
	12nm,0.6s						
TCUT	**Toone Canyon**	**5.39**	**243**	*e*Pn	**Pn**	**19 03 19.0**	**-1.0**
DAU	**Daniels Canyon**	**5.69**	**237**	*e*Pn	**Pn**	**19 03 23.9**	**-0.3**
SDCO	**Great Sand Dun**	**5.99**	**184**	*e*Pn	**Pn**	**19 03 28.4**	**0.0**
	3.4nm,0.6s						
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**P**	**19 04 10.4**	**-0.7**
	0.4nm,0.3s,baz=232,slow=11,SNR=3.8						
NVAR	**Mina Array Bea**	**11.32**	**247**	Pn	**P**	**19 04 41.0**	**-1.4**
	0.1nm,0.3s,baz=69,slow=13,SNR=4.6						
YKA	**Yellowknife Ar**	**19.61**	**347**	P	**P**	**19 06 29.4**	**+0.5**
	0.1nm,0.3s,baz=156,slow=12,SNR=6.4						
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 12 14.9**	**-1.0**
ARCES	**ARCESS Array B**	**61.38**	**18**	P	**P**	**19 12 15.0**	**-1.0**
	2.3nm,0.9s,mb4.3,baz=333,slow=6.0,SNR=3.8						
FINES	**FINESS Array B**	**67.98**	**23**	P	**P**	**19 12 59.2**	**+0.5**
	0.4nm,0.5s,mb4.0,baz=326,slow=10.0,SNR=3.5						
SONM	**Songino Array**	**84.71**	**339**	P	**P**	**19 14 33.7**	**+0.7**
	0.2nm,0.6s,mb3.5,baz=18,slow=3.9,SNR=3.5						

*CASC **21** 19:07:36.8,12.49N×90.59W,h74km,MD4.5,ML4.8, mb5.0(NEIC)*
*NEIC **21** 19:07:39.8±0.3,12.72N×90.30W,mb5.0/49,Error ellipse: s-maj=6.9km s-min=4.5km az=216.0*
*HRVD **21** 19:07:39.8±0.4,12.53N×90.65W,h12km,MW5.1/58, Centroid moment Tensor Solution. LP body waves: s24,c32;Mantle waves: s58,c95; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.91±.22; M_{tt}5.11±.16; M_{pp}-0.20±.24; M_{rt}-1.06±.57; M_{rp}-0.91±.18; M_{tp}1.35±.84; Best double couple: M_o5.375×10^{16} NP1:ϕ_s267°,δ39°, λ-110°. NP2:ϕ_s112°,δ53°,λ-74°. Principal axes: T 5.42, Plg7°, Azm191°; N -.09, Plg13°, Azm282°; P -5.331, Plg75°, Azm72°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **21** 19:07:39.8,12.70N×90.30W,h29km,mB5.2,Ms5.0, Msz4.7*
*IDC **21** 19:07:42.6±4.4,12.74N×90.26W,h54km±41km,mb4.3/26, mb1 4.4/28,mb1mx4.3/33,mbtmp4.6/28,ML4.1/2,MS4.1/13, Ms1 4.1/13,ms1mx3.8/26,Error ellipse: s-maj=24.1km s-min=11.8km az=56.0*

ISC 21 19:07:38.6±0.5,12.59N±0.03×90.43W±0.03,h41km±4km, h30km±6.4km:pP-P,n188,σ1§13/189,mb4.8/61,MS4.2/15, 11C-13D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**1.47**	**32**	*e*P	**P**	**19 08 03.8**	**+0.8**
SNJE	**San Jose**	**1.50**	**32**	*e*P	**P**	**19 08 04.3**	**+0.7**
RTR	**El Retiro**	**1.51**	**30**	*e*P	**P**	**19 08 04.6**	**+1.0**
IXG	**Ixpaco**	**1.58**	**359**	*e*P	**P**	**19 08 03.8**	**-0.8**
IXG				*e*S	**S**	**19 08 25.4**	**+1.4**
IXG				AML	AML	19 08 30.3	
	comp=N,21μm,0.3s						
BOQS	**Boqueron**	**1.59**	**44**	*e*P	**P**	**19 08 05.8**	**+0.9**
BOQS				*e*S	**S**	**19 08 30.5**	**+6.1**
SNET	**Serv Nac Est T**	**1.60**	**47**	*e*P	**P**	**19 08 05.8**	**+0.9**
SNET				*e*S	**S**	**19 08 28.6**	**+4.2**
SNET				*i*		19 08 31.7	
	comp=Z,14μm,0.3s						
RBDL	**Robledal**	**1.68**	**25**	*e*P	**P**	**19 08 07.0**	**+1.0**
LFRS	**El Faro**	**1.68**	**52**	*e*P	**P**	**19 08 06.5**	**+0.5**
LCBS	**La Ceiba**	**1.76**	**53**	*e*P	**P**	**19 08 07.6**	**+0.4**
LBRS	**Las Brisas**	**1.77**	**50**	*e*P	**P**	**19 08 04.8**	**+1.1**
LBRS				*e*S	**S**	**19 08 33.6**	**+5.0**
SNVI	**San Vicente**	**1.85**	**56**	*e*P	**P**	**19 08 10.0**	**+1.5**
SNVI				*e*S	**S**	**19 08 36.3**	**+5.5**
MTO2	**Montecristo 2**	**2.08**	**30**	*e*P	**P**	**19 08 12.7**	**+1.0**
MTO2				*e*S	**S**	**19 08 42.7**	**+6.1**
JAT	**Jato**	**2.08**	**326**	*e*P	**P**	**19 08 10.5**	**-1.3**
JAT				*e*S	**S**	**19 08 36.0**	**-0.7**
JAT				AML	AML	19 08 39.4	
	comp=N,8μm,0.2s						
VSM	**San Miguel**	**2.26**	**68**	*e*P	**P**	**19 08 15.1**	**+0.8**
VSM				*e*S	**S**	**19 08 45.7**	**+4.6**
TP2	**Tecpan 2**	**2.26**	**345**	*e*P	**P**	**19 08 13.8**	**-0.5**
TP2				*e*S	**S**	**19 08 41.7**	**+0.6**
TP2				AMP		19 08 43.6	
	comp=N,15μm,1.0s						
BLLM	**Bellamira**	**2.29**	**68**	*e*P	**P**	**19 08 15.5**	**+0.7**
BLLM				*e*S	**S**	**19 08 45.4**	**+3.4**
CAHU	**Cacacuatique**	**2.46**	**61**	*e*P	**P**	**19 08 18.3**	**+1.2**
CNCH	**Conchagua**	**2.62**	**75**	*e*P	**P**	**19 08 19.3**	**-0.1**
CNCH				*e*S	**S**	**19 08 53.0**	**+2.7**
CRIN	**San Cristobal**	**3.30**	**88**	*e*P	**P**	**19 08 29.3**	**+0.2**
CRIN				*e*S	**S**	**19 09 08.2**	**+0.7**
LEON	**Leon**	**3.46**	**92**	*e*P	**P**	**19 08 30.1**	**-1.2**
TEL3	**Telica 3**	**3.50**	**90**	*e*P	**P**	**19 08 31.2**	**-0.7**
TELN	**Telica**	**3.51**	**89**	*e*P	**P**	**19 08 31.5**	**-0.6**
CNGN	**Cerro Negro**	**3.64**	**91**	*e*P	**P**	**19 08 33.1**	**-0.9**
COPN	**Copaltepe**	**3.77**	**96**	*e*P	**P**	**19 08 34.8**	**-1.0**
COPN				*e*S	**S**	**19 09 18.7**	**-0.8**
MOMJ	**Momotombo**	**3.80**	**92**	*e*P	**P**	**19 08 35.3**	**-0.9**
CCIG	**Comitan**	**4.03**	**336**	*e*P	**P**	**19 08 40.0**	**+0.6**
CRUN	**El Crucero**	**4.08**	**98**	*e*P	**P**	**19 08 40.6**	**+0.4**
MGAN	**Managua**	**4.11**	**96**	*e*P	**P**	**19 08 40.0**	**-0.6**
MGAN				*e*S	**S**	**19 09 28.6**	**+0.6**
MGAN				*i*		19 09 30.9	
	comp=N,2μm,0.4s						
MGAN				*i*		19 09 33.7	
	comp=E,6μm,0.6s						
TICN	**Ticuantepe**	**4.14**	**97**	*e*P	**P**	**19 08 41.1**	**+0.2**
WILN	**Americas 2**	**4.16**	**95**	*e*P	**P**	**19 08 41.0**	**-0.3**
WILN				*e*S	**S**	**19 09 27.5**	**-1.9**
PYTN	**Playitas**	**4.26**	**90**	*e*P	**P**	**19 08 41.7**	**-1.1**
PYTN				*e*S	**S**	**19 09 31.4**	**-0.6**
APON	**Apoyo**	**4.31**	**98**	*e*P	**P**	**19 08 43.1**	**-0.4**
CONN	**Concepcion**	**4.80**	**102**	*e*P	**P**	**19 08 49.8**	**-0.6**
CONN				*e*S	**S**	**19 09 43.2**	**-2.4**
VCR	**Vista de Mar**	**5.30**	**117**	*e*P	**P**	**19 08 58.4**	**+1.1**
VCR				*e*S	**S**	**19 09 57.9**	**-0.1**
JTS	**JuntasAbangare**	**5.83**	**112**	Pn	**P**	**19 09 05.1**	**+0.3**
	comp=E,956nm,1.0s,SNR=28						
JTS	**JuntasAbangare**	**5.83**	**112**	*e*P	**P**	**19 09 05.5**	**+0.7**
	comp=E,183nm,0.8s						
JTS				*e*S	**S**	**19 10 09.2**	**-2.2**
HUIG	**Huatulco**	**6.35**	**301**	*i* P	**P**	**19 09 09.6**	**-2.6**
PRS1	**Puriscal**	**6.53**	**113**	*e*S	**S**	**19 10 26.3**	**-2.4**
LAJ	**Bijagual**	**6.75**	**113**	*e*S	**S**	**19 10 22.3**	**-12**
TRTC	**Tortuguero**	**6.87**	**106**	*e*P	**P**	**19 09 19.4**	**0.0**
LCR2	**La Lucha 2**	**6.91**	**114**	*e*P	**P**	**19 09 21.4**	**+1.4**
LCR2				*e*S	**S**	**19 10 39.0**	**+0.9**
BUS	**Buena Vista**	**7.21**	**114**	*e*S	**S**	**19 10 46.4**	**+0.9**
OXX	**Oaxaca**	**7.55**	**307**	*e*P	**P**	**19 09 29.0**	**+0.1**
VHO	**Vista Hermosa**	**7.55**	**307**	*e*P	**P**	**19 09 28.4**	**-0.5**
TEIG	**Tepich**	**7.87**	**15**	*e*P	**P**	**19 09 32.1**	**-1.2**
	comp=E,70nm,0.6s						
ACR	**Cerro Adams**	**8.13**	**118**	*e*S	**S**	**19 11 08.1**	**-0.6**
ACX	**Acapulco**	**10.12**	**296**	*e*P	**P**	**19 10 03.0**	**-1.4**
PPM	**Popocatepetl**	**10.18**	**310**	*i* P	**P**	**19 10 06.7**	**+1.3**
YAIG	**Yautepec**	**10.40**	**308**	*e*P	**P**	**19 10 08.5**	**+0.3**
PLIG	**Platanillo**	**10.48**	**305**	*i* P	**P**	**19 10 09.2**	**-0.2**
CAIG	**El Cayaco**	**10.50**	**296**	*e*P	**P**	**19 10 07.7**	**-1.9**
ZIIG	**Zihuatanejo**	**11.77**	**296**	*e*P	**P**	**19 10 26.1**	**-0.8**
MOIG	**Morelia**	**12.51**	**306**	*e*P	**P**	**19 10 37.6**	**+0.8**
PAYG	**Puerto Ayora**	**13.18**	**179**	*e*P	**P**	**19 10 46.0**	**+0.3**
	comp=E,418nm,1.9s						
OTAV	**Otavalo**	**17.08**	**135**	*e*P	**P**	**19 11 37.1**	**+1.1**
	comp=E,38nm,1.2s						
ROSC	**El Rosal**	**17.66**	**114**	P	**P**	**19 11 49.5**	**+6.2**
	comp=E,3.3nm,0.3s,baz=291,slow=15,SNR=12						
NATX	**Nacogdoches**	**19.48**	**349**	*e*P	**P**	**19 12 03.4**	**-1.5**
	comp=E,101nm,0.7s						
SDV	**Santo Domingo**	**19.79**	**99**	P	**P**	**19 12 09.0**	**+0.6**
	comp=E,5.1nm,0.3s,baz=292,slow=4.9,SNR=72						
SDV	**Santo Domingo**	**19.79**	**99**	*e*P	**P**	**19 12 07.7**	**-0.7**
	comp=E,79nm,0.8s						
JCT	**Junction City**	**19.81**	**335**	*e*P	**P**	**19 12 07.5**	**-1.0**
	comp=E,70nm,0.9s						
LRAL	**Lakeview Retre**	**20.59**	**8**	*e*P	**P**	**19 12 16.1**	**-0.7**
	comp=E,66nm,0.8s						
LTX	**Lajitas**

WUWY **Wally Ulrich** 35.47 334 *e*P P 19 14 33.7 +0.5
LOHW **Long Hollow** 35.47 334 *e*P P 19 14 33.3 +0.1
comp=E,26nm,1.4s,mb5.0
TPAW **Teton Pass** 35.52 334 *e*P P 19 14 34.3 +0.6
MNV **Mina** 35.64 321 *e*P P 19 14 35.3 +0.6
comp=E,31nm,1.0s,mb5.2
NVAR **Mina Array Bea** 35.73 321 P P 19 14 37.5 +2.0
comp=E,22nm,0.9s,mb5.1,baz=127,slow=8.5,SNR=56
LPAZ **La Paz** 36.18 142 P P 19 14 40.5 +1.0
comp=E,1.3nm,0.4s,mb4.2,baz=319,slow=5.8,SNR=8.2
LPAZ LR LR 19 29 24.4
comp=E,218nm,19.8s,MS3.9,baz=291,slow=36
LPAZ **La Paz** 36.18 142 *e*P P 19 14 40.2 +0.7
comp=E,6.5nm,1.1s,mb4.5
YMR **Madison River** 36.48 335 *e*P P 19 14 42.6 +0.8
QLMT **Earthquake Lak** 36.81 335 *e*P P 19 14 45.5 +1.0
HLID **Hailey** 37.15 331 *e*P P 19 14 48.5 +1.2
comp=E,14nm,1.4s,mb4.6
MCMT **McKenzie Canyo** 37.41 333 *e*P P 19 14 51.0 +1.5
BOZ **Bozeman (W)** 37.55 335 *e*P P 19 14 51.0 +0.3
comp=E,5.1nm,0.7s,mb4.4
ULM **Lac du Bonnet** 37.82 354 P P 19 14 51.1 -1.8
comp=E,11nm,0.6s,mb4.7,baz=169,slow=9.4,SNR=26
ULM LR LR 19 32 29.1
comp=E,178nm,18.3s,MS3.9,baz=184,slow=39
HRY **Holter Researc** 38.50 336 *e*P P 19 14 59.2 +0.6
WVOR **Wild Horse Val** 38.51 326 *e*P P 19 14 59.8 +1.0
comp=E,116nm,2.0s,mb5.3
CHMT **Chamberlain Mo** 39.24 335 *e*P P 19 15 05.2 +0.5
BMO **Blue Mountains** 39.50 330 *e*P P 19 15 07.1 +0.2
comp=E,27nm,1.5s,mb4.8
BMO *e*pP pP 19 15 16.4 -1.9
YBH **Yreka Blue Hor** 40.41 322 P P 19 15 17.8 +3.2
comp=E,3.3nm,0.7s,mb4.2,baz=157,slow=7.7,SNR=7.1
LVC **Limon Verde** 40.84 149 P P 19 15 19.2 +0.9
comp=E,7.3nm,0.9s,mb4.3,baz=326,slow=7.8,SNR=6.1
LVC LR LR 19 29 40.9
comp=E,166nm,21.1s,MS3.9,baz=106,slow=32
EDM **Edmonton** 44.46 340 *e*P P 19 15 48.6 -0.7
SCHQ **Schefferville** 46.03 19 P P 19 15 57.6 -2.4
comp=E,19nm,0.8s,mb5.1,baz=230,slow=9.0,SNR=38
SCHQ LR LR 19 34 26.5
comp=E,233nm,21.1s,MS4.1,baz=187,slow=35
SCHQ **Schefferville** 46.03 19 *e*P P 19 15 57.5 -2.5
comp=E,50nm,1.2s,mb5.3
FCC **Fort Churchill** 46.17 357 *e*P P 19 15 59.2 -1.8
comp=E,46nm,1.9s,mb5.1
FCC *e*pP pP 19 16 08.7 -3.8
CFAA **Coronel Fontan** 48.82 155 P P 19 16 22.1 0.0
comp=E,1.0nm,0.8s,baz=340,slow=5.1,SNR=9.1
CFAA LR LR 19 35 17.9
comp=E,15nm,18.3s,baz=121,slow=34
BDFB **Brasilia** 50.47 123 P P 19 16 41.4 +6.4
comp=E,7.3nm,0.7s,mb4.8,baz=292,slow=6.6,SNR=4.1
BDFB LR LR 19 39 19.4
comp=E,223nm,20.7s,MS4.2,baz=304,slow=38
YKA **Yellowknife Ar** 52.75 346 P P 19 16 49.8 -1.7
comp=E,2.1nm,0.7s,mb4.2,baz=146,slow=7.4,SNR=39
YKA PcP PcP 19 18 00.3 -0.4
comp=E,1.5nm,0.8s,baz=146,slow=4.0,SNR=10.0
YKA LR LR 19 44 21.5
comp=E,212nm,18.7s,MS4.2,baz=155,slow=42
YKA **Yellowknife Ar** 52.75 346 P P 19 16 49.8 -1.7
YKA PcP PcP 19 18 00.3 -0.4
YKA LR LR 19 44 21.5
YKW3 **Yellowknife Ar** 52.81 346 *e*P P 19 16 50.2 -1.7
FRB **Frobisher Bay** 53.35 12 P P 19 16 55.4 -0.6
comp=E,6.8nm,0.7s,mb4.7,baz=208,slow=8.4,SNR=6.7
FRB LR LR 19 39 23.6
comp=E,628nm,21.6s,MS4.6,baz=269,slow=36
DLBC **Dease Lake** 54.56 336 P P 19 17 06.0 +1.1
comp=E,11nm,1.1s,mb4.8,baz=182,slow=5.0,SNR=8.0
DLBC **Dease Lake** 54.56 336 *e*P P 19 17 05.6 +0.7
PLCA **Paso Flores** 56.15 162 LR LR 19 35 12.5
comp=E,307nm,21.8s,MS4.3,baz=356,slow=29
RKT **Rikitea** 56.22 231 *e*S S 19 25 02.6 +0.3
RKT *e*LR LR 19 33 45.5
comp=E,340nm,30.8s,baz=52
CAM4 **Nova Friburgo** 58.37 126 (P) P 19 17 32.0 -0.6
CAM4 *i* 19 17 40.5
RES **Resolute Bay** 62.13 359 *e*P P 19 17 55.3 -2.3
comp=E,8.6nm,1.0s,mb4.8
INK **Inuvik** 62.22 343 *e*P P 19 17 57.0 -1.2
comp=E,35nm,1.6s,mb5.2
PPT **Papeete** 65.63 244 *e*LR LR 19 37 37.2
comp=E,304nm,28.2s
TBI **Tubuai** 67.89 238 *e*S S 19 27 28.1 -1.5
TBI *e*LR LR 19 38 54.5
comp=E,317nm,30.5s
EKA **Eskdalemuir Ar** 78.21 36 P P 19 33.6 -1.8
comp=E,3.6nm,0.8s,mb4.3,baz=264,slow=5.9,SNR=5.6
ESDC **Sonseca Array** 79.39 52 P P 19 41.0 -1.3
comp=E,0.6nm,0.5s,mb3.8,baz=294,slow=4.6,SNR=5.0
DBIC **Dimbokro** 84.27 84 P P 19 20 09.6 +1.3
comp=E,4.4nm,0.6s,mb4.8,baz=294,slow=4.9,SNR=14
DBIC **Dimbokro** 84.27 84 *e*P P 19 20 08.9 +0.6
comp=E,28nm,1.4s,mb5.2
NOA **NORSAR Array B** 84.65 29 P P 19 20 09.7 +0.7
comp=E,1.1nm,0.7s,mb4.1,baz=289,slow=5.1,SNR=3.7
NOA LR LR 20 00 25.8
comp=E,56nm,18.7s,MS4.0,baz=295,slow=38
HFS **Hagfors** 86.09 29 P P 19 20 17.1 +1.0
comp=E,4.3nm,1.0s,mb4.6,baz=315,slow=2.0,SNR=2.8
BSEG **Bad Segeberg** 86.16 36 *e*P P 19 20 19.9 +3.3
ARCES **ARCESS Array B** 86.99 18 P P 19 20 21.3 +0.9
comp=E,4.1nm,0.9s,mb4.6,baz=329,slow=5.3,SNR=4.2
ARCES LR LR 19 57 07.7
comp=E,104nm,19.7s,MS4.2,baz=113,slow=34
ARCES **ARCESS Array B** 86.99 18 P P 19 20 21.3 +0.9
ARCES LR LR 19 57 07.7
MOX **Moxa** 87.86 39 *e*P P 19 20 26.7 +1.7
comp=E,15nm,1.5s,mb5.0
MOX **Moxa** 87.86 39 *i* P P 19 20 26.7 +1.7
comp=E,logA/T=1.0,mb5.0
DAVOX **Davos** 87.86 43 P P 19 20 26.2 +1.2
comp=E,3.7nm,0.8s,mb4.7,baz=294,slow=6.0,SNR=4.3
GRA1 **Grafenberg Arr** 87.90 40 *e*P P 19 20 28.1 +2.9
comp=E,49nm,1.6s,mb5.5
GRF **Grafenberg Arr** 87.90 40 *e*P P 19 20 28.1 +2.9
comp=E,49nm,1.6s,mb5.5
CLL **Collm** 88.50 38 *e*P P 19 20 29.0 +1.0
comp=E,6.0nm,0.9s,mb4.8
CLL *e*pP pP 19 20 37.0 -3.4
CLL *e* pP 19 20 44.0 +3.6
CLL **Collm** 88.50 38 P P 19 20 29.0 +1.0
comp=E,logA/T=0.6,mb4.6
CLL *i* PcP PcP 19 20 31.0 +1.0
CLL *e**PP pP 19 20 37.0 -3.4
CLL *e* pP 19 20 44.0 +3.6
WET **Wettzell** 89.10 40 *e*P P 19 20 35.3 +3.4
comp=E,48nm,1.9s,mb5.5
BRG **Berggiesshubel** 89.20 38 *e*P P 19 20 35.3 +4.0
comp=E,9.0nm,1.3s,mb4.9
KHC **Kasperske Hory** 89.54 40 *e*P P 19 20 34.0 +1.0
KHC *e*pP pP 19 20 42.0 -3.5
GEC2 **GERESS Array S** 89.70 40 *e*P P 19 20 36.9 +3.1
comp=E,10.0nm,1.4s,mb5.0
GERES **GERESS Array B** 89.70 40 P P 19 20 34.9 +1.1
comp=E,0.9nm,0.8s,mb4.2,baz=315,slow=5.7,SNR=8.8
FINES **FINESS Array B** 91.11 25 LR LR 20 01 43.9
comp=E,67nm,18.7s,MS4.1,baz=141,slow=36
VRAC **Vranov** 91.33 39 P P 19 20 42.1 +0.7
comp=E,3.1nm,0.8s,mb4.7,baz=303,slow=8.4,SNR=3.6
VAE **Valguarnera** 93.88 50 LR LR 19 58 58.4
comp=E,244nm,19.8s,MS4.7,baz=2.2,slow=33
CN2 **Changchun** 115.05 332 *e*PKP PKPdf 19 26 17.3 +1.7
HHC **Hu-ho-hao-te** 123.07 340 *e*PKP PKPdf 19 26 38.5 +7.3
HHC PP PP 19 28 21.5 +6.0
HHC SKKS 19 35 07.5
HHC SS SS 19 44 58.5 +4.3
HHC PP PP
comp=Z,91nm,8.3s
BTO **Baotou** 123.79 341 *e*PKP PKPdf 19 26 34.8 +2.2
WMQ **Urumqi** 123.84 2 PKP PKPdf 19 26 35.0 +2.4
WMQ XPKP 19 26 50.0
WMQ PP PP 19 28 22.0 +1.1
WMQ PKS PKS 19 30 10.0 +1.6
WMQ PPP PPP 19 30 59.0 +0.2
WMQ SKS SKS 19 33 42.0 +12
WMQ PP PP
comp=Z,113nm,6.0s
WMQ LR LR
comp=N,452nm,28.4s,MS5.1
WMQ LR LR
comp=E,347nm,25.6s,MS5.1
WMQ LR LR
comp=Z,331nm,32.3s
SSE **Sheshan** 127.01 326 PKP PKPdf 19 26 40.3 +1.2
GTA **Gaotai** 127.40 350 *e*PKP PKPdf 19 26 42.1 +2.4
GTA XPKP 19 26 56.6
GTA PP PP 19 28 45.8 +1.9
GTA PKS PKS 19 30 17.4 +2.1
GTA PPP PPP 19 31 30.0 +1.6
GTA SKS SKS 19 33 48.8 +7.8
GTA SKKS 19 35 33.8
GTA SS SS 19 45 49.3 +1.1
GTA PP PP
comp=Z,119nm,5.7s
GTA LR LR
comp=N,97nm,18.2s,MS4.7
GTA LR LR
comp=E,108nm,16.3s,MS4.7
GTA LR LR
comp=Z,123nm,17.5s,MS4.6
NJ2 **Nanjing** 127.50 328 *e*PKP PKPdf 19 26 41.5 +1.4
ASAR **Alice Springs** 136.62 249 PKP PKPdf 19 26 58.7 +1.3
comp=E,1.0nm,0.8s,baz=103,slow=2.1,SNR=10
KMI **Kunming** 140.38 341 PKP PKPdf 19 27 06.8 +2.6
NANT **Nan** 146.94 340 ⇓P PKPdf 19 27 20.0 +4.3
comp=Z,100nm,1.0s
CHG **Chiang Mai** 147.46 343 P PKPdf 19 27 20.6 +4.0
CM31 **Chiang Mai Arr** 147.80 343 *e*PKPbc PKPdf 19 27 21.6 +4.4
HYB **Hyderabad** 148.26 20 *e*P PKPdf 19 27 20.0 +2.1
HYB **Hyderabad** 148.26 20 *i* PKP PKPdf 19 27 20.0 +2.1
HYB *e* 19 27 26.0
HYB *e* 19 27 32.0

*GUC **21** 19:29:57.3±0.7,24.12S×67.42W,h207km±10km, ML4.5*
*NEIC **21** 19:29:57.1±1.0,24.25S×67.02W,h188km±10km,mb4.4/3, Error ellipse: s-maj=23.6km s-min=12.2km az=82.0*
*IDC **21** 19:29:57.2±1.5,24.05S×66.97W,h180km±11km,mb3.8/6, mb1 3.9/10,mb1mx3.8/17,mbtmp4.3/10, Error ellipse: s-maj=22.5km s-min=17.6km az=60.0*
ISC 21 19:29:56.4±0.7,24.24S±0.05×67.16W±0.09,h196km±7km, n27,σ1§11/35,mb3.9/8,1C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	1.63	324	*e*P	P	19 30 32.1	+0.8
SPCH				*i* S	S	19 30 58.9	+0.7
LVC	**Limon Verde**	2.28	315	⇑*i*P	P	19 30 38.6	+0.5
LVC				*i* S	S	19 31 09.8	-0.4
LVC				AMP		19 31 13.4	
	comp=E,407nm,0.3s						
LVC	**Limon Verde**	2.28	315	P	P	19 30 38.6	+0.6
	comp=E,130nm,0.3s,baz=126,slow=6.5,SNR=1432						
LVC				S	S	19 31 09.4	-0.8
	comp=E,57nm,0.3s,baz=282,slow=23,SNR=12						
LVC	**Limon Verde**	2.28	315	P	P	19 30 38.6	+0.6
LVC				S	S	19 31 09.4	-0.8
CPN1	**Cerro Paranal**	2.98	262	*e*P	P	19 30 47.0	+1.0
CPN1				*i* S	S	19 31 24.5	0.0
CPN1				AMP		19 31 25.4	
	comp=E,2μm,0.3s						
ANCH	**Antofagasta**	3.02	280	*e*P	P	19 30 47.6	+0.9
ANCH				*i* S	S	19 31 24.3	-1.1
ANCH				AMP		19 31 26.3	
	comp=E,2μm,0.5s						
CPCH	**Copiapo**	4.23	222	*i* P	P	19 31 00.2	-1.4
CPCH				*i* S	S	19 31 51.2	-0.9
CFAA	**Coronel Fontan**	7.40	187	P	P	19 31 44.5	+1.9
	comp=E,0.3nm,0.3s,baz=360,slow=12,SNR=15						
CFAA				S	S	19 33 02.2	-3.3
	comp=E,0.9nm,0.3s,baz=290,slow=20,SNR=17						
LPAZ	**La Paz**	7.96	353	P	P	19 31 49.4	-0.6
	comp=E,1.6nm,0.3s,baz=147,slow=7.5,SNR=14						
LPAZ				S	S	19 33 14.1	-4.7
	comp=E,0.6nm,0.3s,baz=161,slow=18,SNR=4.4						
LPAZ	**La Paz**	7.96	353	*e*Pn	P	19 31 49.5	-0.5
LPAZ				S	S	19 33 14.1	-4.7
ARE	**Arequipa**	8.74	332	*e*P	P	19 32 06.0	+5.9
TRQA	**Tornquist**	14.46	163	*e*Pn	P	19 33 12.5	-0.7
	comp=E,12nm,0.7s						
PLCA	**Paso Flores**	16.69	189	P	P	19 33 48.3	+7.9
	comp=E,0.2nm,0.3s,baz=12,slow=14,SNR=5.2						
BDFB	**Brasilia**	19.91	68	P	P	19 34 13.1	-1.6
	comp=E,1.2nm,0.3s,baz=254,slow=10,SNR=17						
WVT	**Waverly**	63.14	341	*e*P	P	19 40 03.9	-1.7
	comp=E,4.2nm,0.6s,mb4.2						
TXAR	**Lajitas Array**	63.79	325	P	P	19 40 10.8	+0.9
	comp=E,0.2nm,0.4s,mb3.1,baz=225,slow=6.4,SNR=3.4						
QSPA	**South Pole Qui**	65.97	180	*e*P	P	19 40 25.0	+1.9
	comp=E,2.3nm,0.5s,mb4.1						
PDAR	**Pinedale Array**	77.28	329	P	P	19 41 32.1	+1.5
	comp=E,0.2nm,0.3s,mb3.2,baz=130,slow=7.0,SNR=3.4						
ULM	**Lac du Bonnet**	78.41	342	P	P	19 41 36.2	-0.5
	comp=E,2.1nm,0.4s,mb4.1,baz=152,slow=5.2,SNR=5.8						
ULM	**Lac du Bonnet**	78.41	342	P	P	19 41 36.2	-0.5
SCHQ	**Schefferville**	78.75	0	P	P	19 41 38.0	-0.4
	comp=E,3.5nm,1.1s,mb3.9,baz=143,slow=5.1,SNR=4.4						
SCHQ	**Schefferville**	78.75		P	P	19 41 38.0	-0.4
BBB	**Bella Bella**	92.80	327	P	P	19 42 46.5	-1.0
	comp=E,5.4nm,0.6s,mb4.8,baz=323,slow=5.1,SNR=2.7						
YKA	**Yellowknife Ar**	94.30	340	P	P	19 42 55.0	+1.0
	comp=E,0.7nm,0.5s,mb3.9,baz=130,slow=4.4,SNR=20						
YKA	**Yellowknife Ar**	94.30	340	P	P	19 42 55.0	+0.9
ZAL	**Zalesovo**	143.67	28	PKP	PKPdf	19 49 08.2	+0.8
	comp=E,0.9nm,0.4s,baz=18,slow=4.1,SNR=5.2						
SONM	**Songino Array**	155.90	11	PKPab	PKPab	19 49 57.1	+0.3
	comp=E,0.3nm,0.6s,baz=337,slow=3.0,SNR=3.7						

*NIED **21** 19:31:00,33.80N×130.10E,h5km,Mw3.5 Best double couple: Mo1.75×10^14 NP1:φs191°,δ83°,λ161°. NP2: φs283°,δ71°,λ8°.*
JMA 21 19:31:15.8,33.77N×130.11E,h14km±1km,M3.7,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	0.32	275	⇓P	Pg	19 31 22.5	-0.1
JII				*e*S	Sg	19 31 27.0	-0.1
JFI	**Itaya**	0.41	146	⇑P	Pb	19 31 24.0	-0.4
JFI				*e*S	Sb	19 31 29.9	-0.2
JFA	**Akaike**	0.57	96	⇓P	Pb	19 31 26.7	-0.4
JFA				S	Sb	19 31 34.8	0.0
JTA	**Tamana**	0.88	156	⇑P	Pb	19 31 32.1	-0.2
JTA				S	Sb	19 31 43.7	0.0
JTU	**Tsushima**	0.96	322	⇑P	Pb	19 31 33.5	-0.1
JTU				S	Sb	19 31 46.5	+0.6

*JMA **21** 19:47:25.1±0.2,29.61N×139.80E,h480km,M3.5*
*IDC **21** 19:47:25.8±0.8,29.48N×139.29E,h436km±9km,mb2.7/4, mb1 3.0/7,mb1mx2.8/19,mbtmp3.8/7, Error ellipse: s-maj=23.6km s-min=12.2km az=75.0*
ISC 21 19:47:25.3±0.6,29.53N±0.05×139.3E±0.1,h447km±7km, n17,σ1§08/26,mb3.2/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	3.52	133	P	P	19 48 35.0	-1.7
	15nm,0.3s,baz=283,slow=19,SNR=8.6						
CBIJ				S	S	19 49 32.6	-0.5
	18nm,0.3s,baz=273,slow=23,SNR=7.9						
CBIJ	**Chichi jima**	3.52	133	P	P	19 48 36.6	-0.2
JHJ2	**Mitsune**	3.60	7	P	P	19 48 39.0	+1.6
JHJ2				*e*S	S	19 49 35.7	+1.4
JHJ	**Hachijo jima 2**	3.60	7	P	P	19 48 38.2	+0.8
	9.8nm,0.3s,baz=253,slow=17,SNR=9.8						
JHJ				S	S	19 49 34.9	+0.5
	10nm,0.3s,baz=73,slow=19,SNR=4.1						
BSO3	**Boso 3**	5.36	11	P	P	19 48 53.8	0.0
BSO3				*e*S	S	19 50 04.1	+0.5
BSO4	**Boso 4**	5.52	9	*e*S	S	19 50 08.2	+1.7
JHU	**Hanno**	6.30	360	P	P	19 49 03.1	-0.5
JHU				*e*S	S	19 50 18.5	-2.6
JRY	**Ryogami san**	6.48	357	P	P	19 49 05.8	+0.4
JRY				S	S	19 50 24.4	-0.1
JYT	**Yasato**	6.72	6	P	P	19 49 07.6	-0.4
JYT				*e*S	S	19 50 27.1	-2.1
JAG	**Ashikaga**	6.88	1	P	P	19 49 08.8	-0.9
JAG				*e*S	S	19 50 28.4	-3.8
JHO	**Hitachi**	7.14	8	P	P	19 49 12.9	+0.4
JHO				S	S	19 50 36.0	-1.4
JOW	**Kunigami**	10.08	257	P	P	19 49 45.5	+0.5
	0.8nm,0.3s,baz=121,slow=12,SNR=2.9						

SONM **Songino Array** 31.19 315 P P 19 53 06.7 -0.7
0.5nm,0.9s,mb2.9,baz=143,slow=9.9,SNR=4.2
ASAR **Alice Springs** 53.14 186 P P 19 56 00.8 -1.2
0.3nm,0.5s,mb2.9,baz=4.8,slow=7.1,SNR=7.8
ARCES **ARCESS Array B** 70.40 340 P P 19 57 54.4 +0.4
10nm,1.1s,mb4.2,baz=72,slow=8.6,SNR=3.3
YKA **Yellowknife Ar** 71.22 28 P P 19 58 00.1 +1.2
0.1nm,0.4s,mb2.7,baz=291,slow=5.8,SNR=4.2
NVAR **Mina Array Bea** 81.00 51 P P 19 58 54.4 +1.2
0.4nm,0.6s,mb3.1,baz=268,slow=7.7,SNR=3.7

MEX 21 19:58:58.8±0.8,16.85N×94.88W,h121km±11km,MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	0.24	359	*i* P	P	19 59 14.6	-1.0
CMIG				*i* S	S	19 59 26.0	-2.5
HUIG	**Huatulco**	1.59	228	*i* P	P	19 59 25.5	-2.3
HUIG				*i* S	S	19 59 47.8	-2.0
OXX	**Oaxaca**	1.78	278	*e*P	P	19 59 29.5	-0.5
OXX				*e*S	S	19 59 51.0	-2.6
VHO	**Vista Hermosa**	1.79	277	*e*P	P	19 59 29.0	-1.1
VHO				*e*S	S	19 59 51.2	-2.5

*IDC **21** 20:04:28.4±0.8, 14.63S×76.05W,mb4.0/8,mb1 4.3/12, mb1mx4.1/19,mbtmp4.1/12,ML4.8/1,MS4.2/11,Ms1 4.1/11, ms1mx4.0/18, Error ellipse: s-maj=33.7km s-min=16.1km az=58.0*
*NEIC **21** 20:04:30.6±0.6, 14.98S×76.33W,mb4.6/8, Error ellipse: s-maj=23.7km s-min=7.9km az=220.0*
*BJI **21** 20:04:30.6, 15.00S×76.30W,h18km,mB5.0*
ISC 21 20:04:29.0±0.5,14.85S±0.09×76.29W±0.09,h19km, h19km±.5km:pP-P,n48,σ1§08/35,mb4.2/14,MS4.2/9,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	4.89	110	*e*P	Pn	20 05 43.0	-0.6
ARE				*e*S	Sn	20 06 56.0	+16
LPAZ	**La Paz**	7.99	101	Pn	P	20 06 29.0	+1.9
	7.0nm,0.3s,baz=287,slow=9.7,SNR=115						
LPAZ				LR	LR	20 09 48.4	
	comp=Z,1μm,18.7s,baz=78,slow=41						
LPAZ	**La Paz**	7.99	101	*e*P	P	20 06 28.6	+1.4
	21nm,0.4s						
LVC	**Limon Verde**	10.41	139	Pn	P	20 07 00.7	0.0
	5.6nm,0.3s,baz=306,slow=11,SNR=52						
LVC				Sn	S	20 08 51.6	-6.3
	4.6nm,0.3s,baz=111,slow=20,SNR=7.9						
LVC				Lg		20 09 57.6	
	baz=270,slow=20,SNR=5.3						
LVC				LR	LR	20 11 23.5	
	comp=Z,1μm,18.4s,baz=314,slow=40						
LVC	**Limon Verde**	10.41	139	*e*P	P	20 06 59.2	-1.5
	58nm,0.8s						
OTAV	**Otavalo**	15.14	352	*e*P	P	20 08 07.7	+3.9
	7.7nm,0.8s						
CFAA	**Coronel Fontan**	18.23	158	P	P	20 08 45.4	+2.4
	0.1nm,0.3s,baz=335,slow=12,SNR=12						
ROSC	**El Rosal**	19.67	6	P	P	20 09 05.2	+5.1
	0.9nm,0.3s,baz=91,slow=16,SNR=3.6						
SDV	**Santo Domingo**	24.24	14	P	P	20 09 45.7	-0.4
	7.2nm,0.6s,mb4.3,baz=213,slow=9.5,SNR=12						
SDV	**Santo Domingo**	24.24	14	*e*P	P	20 09 45.3	-0.8
	17nm,0.8s,mb4.5						
PLCA	**Paso Flores**	26.27	170	P	P	20 10 06.9	+1.8
	2.3nm,0.7s,mb3.8,baz=17,slow=11,SNR=3.3						
BDFB	**Brasilia**	27.29	95	P	P	20 10 12.9	-1.7
	7.6nm,1.0s,mb4.2,baz=263,slow=5.1,SNR=4.8						
BDFB				LR	LR	20 22 10.0	
	comp=Z,1μm,18.5s,MS4.5,baz=271,slow=39						
PCRV	**Puerto La Cruz**	27.41	26	LR	LR	20 21 58.3	
	comp=Z,662nm,19.7s,MS4.2,baz=49,slow=39						
TXAR	**Lajitas Array**	51.26	329	P	P	20 13 34.4	+0.3
	0.2nm,0.3s,mb3.6,baz=155,slow=8.3,SNR=3.0						
TXAR				LR	LR	20 34 10.5	
	comp=Z,183nm,19.5s,MS4.1,baz=145,slow=35						
MIAR	**Mount Ida**	51.80	342	P	P	20 13 37.2	-0.8
	2.6nm,0.7s,mb4.3						
WVT	**Waverly**	51.86	348	P	P	20 13 39.1	+0.6
	15nm,0.9s,mb4.9						
MNTX	**Cornudas Mount**	54.04	329	P	P	20 13 54.7	0.0
CCM	**Cathedral Cave**	54.46	346	P	P	20 13 58.0	+0.3
RKT	**Rikitea**	55.79	252	*e*S	S	20 21 48.9	-2.9
RKT				*e*LR	LR	20 30 20.3	
	291nm,30.0s						
ANMO	**Albuquerque**	57.21	331	P	P	20 14 17.4	-0.2
	3.0nm,0.9s,mb4.3						
ANMO				*e*pP	pP	20 14 23.2	-0.2
SDCO	**Great Sand Dun**	59.08	333	*e*P	P	20 14 30.3	-0.3
	8.6nm,1.1s,mb4.7						
SDCO				*e*pP	pP	20 14 36.4	0.0
MSU	**Marysvale**	62.82	329	*e*P	P	20 14 56.6	+0.6
DUG	**Dugway**	64.43	330	*e*P	P	20 15 06.9	+0.3
	8.3nm,1.0s,mb4.7						
DUG				*e*pP	pP	20 15 13.0	+0.6
HWUT	**Hardware Ranch**	64.94	331	*e*P	P	20 15 09.9	+0.1
	5.7nm,0.8s,mb4.7						
HWUT				*e*pP	pP	20 15 15.2	-0.4
PDAR	**Pinedale Array**	64.97	334	P	P	20 15 09.6	-0.4
	0.8nm,0.9s,mb3.8,baz=157,slow=6.9,SNR=3.8						
PDAR				LR	LR	20 45 09.4	
	comp=Z,96nm,19.6s,MS4.0,baz=351,slow=38						
BW06	**Boulder Array**	64.97	334	P	P	20 15 11.8	+1.9
NVAR	**Mina Array Bea**	66.00	325	P	P	20 15 16.5	-0.2
	0.6nm,0.8s,mb3.7,baz=136,slow=5.0,SNR=4.5						
NVAR				LR	LR	20 43 35.8	
	comp=Z,48nm,19.0s,MS3.7,baz=135,slow=36						
NVAR	**Mina Array Bea**	66.00	325	P	P	20 15 16.5	-0.2
NVAR				LR	LR	20 43 35.8	
ULM	**Lac du Bonnet**	67.06	346	LR	LR	20 46 55.7	
	comp=Z,85nm,18.0s,MS4.0,baz=7.6,slow=38						
HLID	**Hailey**	67.78	331	*e*P	P	20 15 28.3	+0.4
TBI	**Tubuai**	69.04	250	*e*LR	LR	20 36 30.3	
	218nm,27.2s						
SCHQ	**Schefferville**	69.87	6	LR	LR	20 42 41.6	
	comp=Z,118nm,21.6s,MS4.1,slow=33						
PPT	**Papeete**	70.02	256	*e*S	S	20 24 46.4	-3.9
PPT				*e*LR	LR	20 36 55.6	
	151nm,26.0s						
DBIC	**Dimbokro**	73.95	78	P	P	20 16 04.5	-1.1
	1.4nm,0.6s,mb4.1,baz=222,slow=19,SNR=4.1						
DBIC				LR	LR	20 46 59.2	
	comp=Z,445nm,18.6s,MS4.8,baz=230,slow=35						
DBIC	**Dimbokro**	73.95	78	*e*P	P	20 16 04.1	-1.5
EDM	**Edmonton**	74.89	338	*e*P	P	20 16 09.6	-0.7
YKA	**Yellowknife Ar**	82.72	343	P	P	20 16 52.2	-0.5
	0.9nm,0.7s,mb3.9,baz=137,slow=5.3,SNR=15						
YKA	**Yellowknife Ar**	82.72	343	P	P	20 16 52.1	-0.5
MAW	**Mawson**	92.59	165	LR	LR	20 55 34.7	
	comp=Z,105nm,19.7s,MS4.3,baz=246,slow=33						
GERES	**GERESS Array B**	101.02	42	P	P	20 18 18.3	-0.7
	0.5nm,0.8s,baz=288,slow=4.2,SNR=4.6						
ASAR	**Alice Springs**	131.66	218	PKP	PKPdf	20 23 44.8	-1.0
	0.5nm,0.9s,baz=135,slow=1.3,SNR=3.3						
ZAL	**Zalesovo**	138.27	17	PKP	PKPdf	20 23 53.7	-3.4
	1.7nm,0.9s,baz=216,slow=2.0,SNR=11						
ZAL	**Zalesovo**	138.27	17	PKP	PKPdf	20 23 53.7	-3.4
CN2	**Changchun**	145.69	332	*e*PKP	PKPdf	20 24 07.3	-3.2
ULN	**Ulaanbaatar**	146.96	356	*e*PKPbc	PKPdf	20 24 12.4	-0.1
SONM	**Songino Array**	147.03	357	PKPbc	PKPdf

THN					*e*S		**S**	**20 23 35.7**	**+0.4**
DLH	**Dalhousie**	**5.70**	**133**		*e*		**P**	**20 22 46.0**	**+15**
DLH					*e*S		**S**	**20 23 38.0**	**+1.1**
AML	**Almayashu**	**5.97**	**20**		P		**P**	**20 22 35.2**	**+0.2**
	SNR=102								
PONG	**Pong**	**6.12**	**137**		*e*P		**P**	**20 22 37.0**	**+0.1**
PONG					*e*S		**S**	**20 23 47.0**	**+0.3**
UCH	**Uchtor**	**6.31**	**24**		P		**P**	**20 22 39.8**	**+0.5**
	SNR=24								
KZA	**Kyzart**	**6.45**	**29**		P		**P**	**20 22 40.7**	**-0.4**
	SNR=6.9								
EKS2	**Erkin-Say**	**6.49**	**18**		P		**P**	**20 22 41.8**	**+0.1**
	SNR=30								
AAK	**Ala-Archa**	**6.67**	**23**		P		**P**	**20 22 44.3**	**+0.4**
	SNR=19								
AAK	**Ala-Archa**	**6.67**	**23**		Pn		**P**	**20 22 43.2**	**-0.7**
	101nm,0.3s,SNR=25								
AAK	**Ala-Archa**	**6.67**	**23**		*e*PN		**P**	**20 22 42.6**	**-1.3**
AAK					pmax	pmax			
	comp=Z,7.0nm,0.4s								
AAK	**Ala-Archa**	**6.67**	**23**		*e*P		**P**	**20 22 42.6**	**-1.3**
	comp=Z,7.3nm,0.4s								
KBK	**Karagaybulak**	**6.84**	**25**		P		**P**	**20 22 46.8**	**+0.7**
	SNR=12								
SDNR	**Sundarnagar**	**7.04**	**134**		*e*P		**P**	**20 22 48.5**	**-0.3**
SDNR					*e*S		**S**	**20 24 04.5**	**-3.5**
CHMS	**Chumysh**	**7.08**	**23**		P		**P**	**20 22 49.5**	**+0.2**
	SNR=7.0								
USP	**Ospenovka**	**7.25**	**21**		P		**P**	**20 22 51.4**	**-0.1**
	SNR=18								
TKM2	**Tokmak 2**	**7.30**	**28**		P		**P**	**20 22 52.5**	**+0.4**
	SNR=26								
DDI	**Dehra Dun**	**8.54**	**134**		*e*P		**P**	**20 23 07.5**	**-0.8**
DDI					*e*S		**S**	**20 24 45.4**	**+2.5**
NDI	**New Delhi**	**9.40**	**144**		*e*P		**P**	**20 23 18.0**	**-1.5**
KOLN	**Koldanda**	**13.77**	**126**		*e*P		**P**	**20 24 12.8**	**-2.3**
GKN	**Gorkha**	**14.31**	**123**		*e*P		**P**	**20 24 21.9**	**+0.1**
	comp=Z,43nm,0.5s								
GKN					*e*S		**S**	**20 26 51.1**	**-4.5**
DMN	**Daman**	**14.88**	**123**		*e*P		**P**	**20 24 28.8**	**-0.1**
	comp=Z,20nm,0.5s								
KKN	**Kakani**	**14.88**	**122**		*e*P		**P**	**20 24 29.3**	**+0.4**
	comp=Z,25nm,0.4s								
KKN					*e*S		**S**	**20 27 06.3**	**-2.2**
PKI	**Pulchoki**	**15.11**	**122**		*e*P		**P**	**20 24 32.0**	**+0.3**
	comp=Z,40nm,0.5s								
KURK	**Kurchatov**	**15.21**	**19**		P		**P**	**20 24 31.1**	**-1.7**
JIRN	**Jiri**	**15.59**	**120**		*e*P		**P**	**20 24 38.6**	**+0.9**
	comp=Z,31nm,0.4s								
BVAR	**Borovoye Array**	**16.51**	**359**		P		**P**	**20 24 47.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=8.0								
CHKZ	**Chkalovo**	**17.16**	**359**		*e*P		**P**	**20 24 55.6**	**-0.4**
CHKZ					pmax	pmax			
	comp=Z,1.0nm,0.5s								
CHKZ	**Chkalovo**	**17.16**	**359**		*e*P		**P**	**20 24 55.6**	**-0.4**
	comp=Z,1.4nm,0.5s								
LSA	**Lhasa**	**18.18**	**106**		P		**P**	**20 25 09.9**	**+2.9**
LSA					pmax	pmax			
	comp=Z,2.0nm,0.6s								
LSA	**Lhasa**	**18.18**	**106**		P		**P**	**20 25 09.9**	**+2.9**
	comp=Z,2.1nm,0.6s								
ZAL	**Zalesovo**	**19.87**	**24**		P		**P**	**20 25 24.8**	**+0.5**
	comp=Z,1.3nm,0.3s,baz=242,slow=7,9,SNR=4.1								
SONM	**Songino Array**	**28.31**	**55**		P		**P**	**20 26 43.6**	**-0.3**
	comp=Z,0.3nm,0.8s,mb3.0,baz=278,slow=10,SNR=2.5								
IDI	**Anoyia**	**37.10**	**282**		P		**P**	**20 27 59.0**	**-0.7**
	comp=Z,3.6nm,0.9s,mb3.9,baz=130,slow=5.2,SNR=2.1								
FINES	**FINESS Array B**	**37.47**	**326**		P		**P**	**20 28 02.7**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.4,baz=135,slow=11,SNR=5.0								
ARCES	**ARCESS Array B**	**41.13**	**338**		P		**P**	**20 28 33.6**	**+1.1**
	comp=Z,3.2nm,1.0s,mb3.7,baz=121,slow=7.5,SNR=7.4								
NOA	**NORSAR Array B**	**44.37**	**323**		P		**P**	**20 28 59.0**	**+0.4**
	comp=Z,0.8nm,0.8s,mb3.1,baz=110,slow=8.4,SNR=3.3								
YKA	**Yellowknife Ar**	**81.22**	**3**		P		**P**	**20 33 02.6**	**+1.5**
	comp=Z,0.6nm,0.4s,mb3.6,baz=350,slow=5.3,SNR=12								
WRAB	**Tennant Creek**	**82.00**	**122**		P		**P**	**20 33 05.5**	**-0.4**
ASAR	**Alice Springs**	**84.26**	**125**		P		**P**	**20 33 17.3**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.7,baz=310,slow=4.9,SNR=20								

*IDC **21** 20:47:29.3±1.8, 14.66S×76.31W, mb3.6/3, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, ML4.9/2, MS3.5/3, ms1mx2.8/22, Error ellipse: s-maj=60.1km s-min=27.9km az=47.0*
*NEIC **21** 20:47:33.9±1.1, 14.71S×76.35W, h35km, mb3.9/1, Error ellipse: s-maj=32.2km s-min=10.8km az=48.0*
ISC 21 20:47:31.2±1.2,**14.8S**±0.2×**76.4W**±0.2,**h33**km,**n14,**
σ1§08/15,mb3.6/4,MS3.6/2,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**5.03**	**110**	*e*P	**P**	**20 48 48.0**	**+1.7**
LPAZ	**La Paz**	**8.13**	**101**	Pn	**P**	**20 49 29.6**	**-0.1**
	3.9nm,0.3s,baz=286,slow=9.5,SNR=82						
LPAZ				Sn	**Sn**	**20 51 11.1**	**+9.4**
	baz=176,slow=19,SNR=1.9						
LPAZ	**La Paz**	**8.13**	**101**	Pn	**P**	**20 49 29.6**	**-0.1**
LPAZ				Sn	**Sn**	**20 51 11.1**	**+9.4**
LVC	**Limon Verde**	**10.53**	**139**	Pn	**P**	**20 50 01.2**	**-1.8**
	1.8nm,0.3s,baz=304,slow=9.6,SNR=16						
LVC				Sn	**S**	**20 51 53.1**	**-7.7**
	1.3nm,0.3s,baz=51,slow=23,SNR=11						
LVC				Lg		20 52 55.9	
	baz=247,slow=22,SNR=4.3						
LVC				LR	LR	20 54 24.3	
	comp=Z,114nm,18.3s,baz=216,slow=39						
LVC	**Limon Verde**	**10.53**	**139**	Pn	**P**	**20 50 01.2**	**-1.8**
LVC				Sn	**S**	**20 51 53.1**	**-7.7**
LVC				Lg		20 52 55.9	
LVC				LR	LR	20 54 24.3	
OTAV	**Otavalo**	**15.09**	**352**	P	**P**	**20 51 02.6**	**-1.3**
SDV	**Santo Domingo**	**24.24**	**14**	P	**P**	**20 52 45.9**	**-0.5**
	3.9nm,0.6s,mb4.0,baz=204,slow=7.0,SNR=6.9						
BDFB	**Brasilia**	**27.42**	**95**	LR	LR	21 04 43.4	
	comp=Z,200nm,18.9s,MS3.7,baz=288,slow=38						
PCRV	**Puerto La Cruz**	**27.45**	**26**	LR	LR	21 04 58.7	
	comp=Z,113nm,21.1s,MS3.4,baz=48,slow=38						
SDCO	**Great Sand Dun**	**58.99**	**333**	P	**P**	**20 57 30.6**	**+0.4**
	0.7nm,0.7s,mb3.8						
PDAR	**Pinedale Array**	**64.88**	**334**	P	**P**	**20 58 10.8**	**+1.3**
	0.2nm,0.6s,mb3.3,baz=198,slow=8.6,SNR=2.7						
YKA	**Yellowknife Ar**	**82.65**	**343**	P	**P**	**20 59 52.7**	**+0.3**
	0.2nm,0.6s,mb3.4,baz=138,slow=4.8,SNR=4.1						
YKA	**Yellowknife Ar**	**82.65**	**343**	P	**P**	**20 59 52.7**	**+0.3**
SONM	**Songino Array**	**147.00**	**357**	PKPbc	PKPbc	21 07 13.3	+3.2
	1.2nm,0.7s,baz=331,slow=2.0,SNR=11						

*IDC **21** 21:00:06.1±1.6, 14.66S×76.50W, mb3.9/3, mb1 4.0/6, mb1mx3.7/18, mbtmp3.9/6, ML4.5/1, MS3.7/6, Ms1 3.7/6, ms1mx3.2/24, Error ellipse: s-maj=48.9km s-min=23.8km az=56.0*
*NEIC **21** 21:00:08.7±6.9, 14.77S×76.54W, h19km±44km, mb4.0/2, Error ellipse: s-maj=29.5km s-min=12.0km az=63.0*
ISC 21 21:00:07.2±5.4,**14.8S**±0.1×**76.5W**±0.2,**h23**km±42km,**n14,**
σ1§11/12,mb3.8/3,MS3.7/4,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**5.14**	**109**	*e*P	**Pn**	**21 01 26.0**	**+1.2**
LPAZ	**La Paz**	**8.24**	**101**	Pn	**P**	**21 02 07.5**	**-0.9**
	2.6nm,0.3s,baz=286,slow=9.6,SNR=54						
LPAZ				LR	LR	21 05 37.4	
	comp=Z,258nm,20.8s,baz=87,slow=40						
LVC	**Limon Verde**	**10.60**	**138**	Pn	**P**	**21 02 39.0**	**-2.0**
	2.8nm,0.3s,baz=308,slow=9.2,SNR=22						
LVC				Sn	**S**	**21 04 30.5**	**-10**
	1.9nm,0.3s,baz=75,slow=19,SNR=11						
LVC				Lg		21 05 36.3	
	0.6nm,0.3s,baz=106,slow=21,SNR=7.7						
LVC				LR	LR	21 05 52.3	
	comp=Z,192nm,18.2s,baz=15,slow=32						
OTAV	**Otavalo**	**15.07**	**353**	P	**P**	**21 03 41.7**	**+0.9**
	3.5nm,0.9s						
CFAA	**Coronel Fontan**	**18.36**	**157**	P	**P**	**21 04 23.2**	**+1.0**
	0.1nm,0.3s,baz=350,slow=13,SNR=2.8						
SDV	**Santo Domingo**	**24.27**	**14**	P	**P**	**21 05 22.8**	**-1.3**
	4.3nm,0.8s,mb4.0,baz=191,slow=16,SNR=6.4						
SDV				LR	LR	21 15 54.9	
	comp=Z,174nm,18.9s,MS3.6,baz=355,slow=39						
SDV	**Santo Domingo**	**24.27**	**14**	*e*P	**P**	**21 05 22.8**	**-1.3**
	5.7nm,0.8s,mb4.0						
PCRV	**Puerto La Cruz**	**27.49**	**26**	LR	LR	21 17 00.8	
	comp=Z,127nm,20.5s,MS3.5,baz=38,slow=37						
BDFB	**Brasilia**	**27.53**	**95**	P	**P**	**21 05 55.7**	**+1.2**
	1.4nm,0.5s,mb3.9,baz=265,slow=12,SNR=3.5						
BDFB				LR	LR	21 17 48.9	
	comp=Z,259nm,20.7s,MS3.8,baz=116,slow=39						
WMOK	**Wichita Mounta**	**53.62**	**337**	P	**P**	**21 09 28.6**	**-0.6**
DBIC	**Dimbokro**	**74.19**	**79**	LR	LR	21 42 38.5	
	comp=Z,102nm,20.1s,MS4.1,baz=310,slow=34						
YKA	**Yellowknife Ar**	**82.61**	**343**	P	**P**	**21 12 29.9**	**+0.2**
	0.2nm,0.5s,mb3.4,baz=140,slow=5.8,SNR=5.7						
YKA	**Yellowknife Ar**	**82.61**	**343**	P	**P**	**21 12 29.9**	**+0.2**
SONM	**Songino Array**	**146.99**	**356**	PKPbc	PKPbc	21 19 50.8	+3.1
	0.8nm,0.6s,baz=353,slow=1.4,SNR=9.9						

CASC 21 21:13:39.4, 13.26N×89.52W, h58km, MD3.6, ML4.2, mb4.8(0)(GCG), 3C-10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNET	**Serv Nac Est T**	**0.51**	**33**	*e*P	P	21 13 51.2	-0.2
SNET				*e*S	S	21 14 01.3	+1.2
SNET				*i*		21 14 04.0	
	comp=Z,6μm,0.2s						
BOQS	**Boqueron**	**0.53**	**26**	⇓*e*P	P	21 13 51.9	+0.3
LFRS	**El Faro**	**0.58**	**51**	⇓*e*P	P	21 13 52.0	-0.1
SBLS	**San Blas**	**0.59**	**350**	⇓*e*P	P	21 13 52.6	+0.4
SNJE	**San Jose**	**0.61**	**352**	⇓*e*P	P	21 13 53.0	+0.5
SNJE				*e*S	S	21 14 03.1	+0.9
LFU	**La Fuente**	**0.63**	**39**	⇓*e*P	P	21 13 53.1	+0.4
RTR	**El Retiro**	**0.65**	**349**	⇓*e*P	P	21 13 53.5	+0.5
RTR				*e*S	S	21 14 03.7	+0.8
LCBS	**La Ceiba**	**0.66**	**53**	⇓*i*P	P	21 13 53.0	0.0
LCBS				*e*S	S	21 14 04.0	+0.8
LBRS	**Las Brisas**	**0.67**	**44**	⇓*e*P	P	21 13 53.5	+0.4
LBRS				*e*S	S	21 14 04.2	+0.8
SNVI	**San Vicente**	**0.75**	**62**	*e*P	P	21 13 54.2	0.0
SNVI				*e*S	S	21 14 06.7	+1.4
RBDL	**Robledal**	**0.86**	**349**	⇓*e*P	P	21 13 56.4	+0.7
RBDL				*e*S	S	21 14 08.0	+0.1
MTO2	**Montecristo 2**	**1.15**	**8**	⇓*e*P	P	21 13 60.0	+0.4
MTO2				*e*S	S	21 14 14.8	+0.2
VSM	**San Miguel**	**1.23**	**82**	*e*P	P	21 14 00.1	-0.6
VSM				*e*S	S	21 14 17.5	+1.0
BLLM	**Bellamira**	**1.26**	**82**	*e*P	P	21 14 01.6	+0.4
BLLM				*e*S	S	21 14 18.6	+1.1
IXG	**Ixpaco**	**1.29**	**315**	⇑*e*P	P	21 14 00.9	-0.6
IXG				*e*S	S	21 14 17.6	-0.4
IXG				AMP		21 14 20.9	
	comp=N,53μm,0.3s						
CAHU	**Cacacuatique**	**1.37**	**68**	⇑*e*P	P	21 14 02.4	-0.4
CAHU				*e*S	S	21 14 21.3	+1.1
CNCH	**Conchagua**	**1.64**	**89**	*e*P	P	21 14 05.1	-1.4
CNCH				*e*S	S	21 14 27.8	+1.2
TP2	**Tecpan 2**	**2.10**	**316**	⇑*e*P	P	21 14 13.9	+1.0
TP2				*e*S	S	21 14 41.3	+3.4
TP2				AML	AML	21 14 43.2	
	comp=N,691nm,0.5s						

*JMA **21** 21:18:14.8±0.4, 23.29N×121.71E, h81km, M2.4*
TAP 21 21:18:13.1, 23.27N×121.62E, h27km, ML3.1, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.74**	**47**	S	Sn	21 19 03.9	+0.3
HATJ	**Hateruma jima**	**2.15**	**68**	P	Pn	21 18 48.1	+0.1
HATJ				S	Sn	21 19 13.7	-0.3
IRIF	**Iriomote-Funau**	**2.20**	**61**	P	Pn	21 18 49.1	+0.4
IRIF				*e*S	Sn	21 19 13.7	-1.7
JKRS	**Kuro-shima**	**2.39**	**66**	P	Pn	21 18 51.8	+0.4
JKRS				S	Sn	21 19 19.9	-0.2
JIJ	**Ishigaki jima**	**2.55**	**64**	P	Pn	21 18 53.6	-0.1
JIJ				S	Sn	21 19 22.8	-1.4
JTJ	**Tarama**	**3.13**	**64**	P	Pn	21 19 01.7	-0.2
JTJ				S	Sn	21 19 38.0	-0.9

*IDC **21** 21:40:38.8±0.8, 14.63S×76.07W, mb4.0/9, mb1 4.2/12, mb1mx4.1/18, mbtmp4.1/12, ML5.3/2, MS3.9/8, Ms1 3.9/8, ms1mx3.5/18, Error ellipse: s-maj=33.2km s-min=16.0km az=59.0*
*NEIC **21** 21:40:44.8±1.5, 14.70S×76.23W, h43km±14km, mb4.4/2, Error ellipse: s-maj=20.0km s-min=9.0km az=64.0*
NEIC Felt [III] at Ica.
ISC 21 21:40:41.5±0.5,**14.76S**±0.09×**76.3W**±0.1,**h33**km,**n29,**
σ0§96/25,mb4.0/11,MS4.0/6,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**4.95**	**111**	*e*P	**P**	**21 41 58.0**	**+2.6**
ARE				*e*S	**S**	**21 43 02.0**	**+10**
LPAZ	**La Paz**	**8.03**	**102**	Pn	**P**	**21 42 39.6**	**+0.9**
	9.5nm,0.3s,baz=292,slow=9.6,SNR=174						
LPAZ				LR	LR	21 45 58.6	
	comp=Z,535nm,18.4s,baz=78,slow=41						
LVC	**Limon Verde**	**10.50**	**139**	Pn	**P**	**21 43 11.3**	**-1.6**
	6.1nm,0.3s,baz=311,slow=8.8,SNR=51						
LVC				Sn	**S**	**21 45 02.3**	**-8.1**
	6.4nm,0.3s,baz=77,slow=20,SNR=12						
LVC				Lg		21 46 07.5	
	baz=280,slow=18,SNR=6.2						
LVC				LR	LR	21 46 47.2	
	comp=Z,270nm,18.0s,baz=25,slow=35						
LVC	**Limon Verde**	**10.50**	**139**	Pn	**P**	**21 43 11.3**	**-1.6**
LVC				Sn	**S**	**21 45 02.3**	**-8.1**
LVC				Lg		21 46 07.5	
LVC				LR	LR	21 46 47.2	
OTAV	**Otavalo**	**15.04**	**352**	P	**P**	**21 44 14.2**	**+0.6**
	14nm,1.1s						
CFAA	**Coronel Fontan**	**18.33**	**158**	P	**P**	**21 44 55.4**	**+0.4**
	0.1nm,0.3s,baz=341,slow=9.6,SNR=6.4						
CFAA				LR	LR	21 50 27.8	
	comp=Z,20nm,18.3s,baz=136,slow=32						
SDV	**Santo Domingo**	**24.15**	**14**	P	**P**	**21 45 55.8**	**0.0**
	11nm,0.6s,mb4.5,baz=191,slow=8.5,SNR=19						
SDV				LR	LR	21 56 27.5	
	comp=Z,270nm,21.4s,MS3.7,baz=227,slow=40						
PLCA	**Paso Flores**	**26.36**	**170**	P	**P**	**21 46 17.2**	**+0.7**
	2.8nm,0.8s,mb3.8,baz=7.4,slow=10,SNR=4.0						
BDFB	**Brasilia**	**27.32**	**96**	P	**P**	**21 46 23.8**	**-1.7**
	3.0nm,0.6s,mb4.0,baz=268,slow=9.4,SNR=4.2						
BDFB				LR	LR	21 58 20.1	
	comp=Z,472nm,18.5s,MS4.1,baz=110,slow=39						
TXAR	**Lajitas Array**	**51.17**	**329**	P	**P**	**21 49 44.4**	**+0.5**
	0.4nm,0.3s,mb3.8,baz=144,slow=11,SNR=4.2						
SDCO	**Great Sand Dun**	**58.98**	**333**	*e*P	**P**	**21 50 40.5**	**+0.1**
	2.8nm,0.9s,mb4.3						
MSU	**Marysvale**	**62.73**	**329**	P	**P**	**21 51 06.3**	**+0.5**
JLU	**Jordanelle**	**64.00**	**331**	P	**P**	**21 51 13.3**	**-0.8**
PDAR	**Pinedale Array**	**64.87**	**334**	P	**P**	**21 51 20.1**	**+0.4**
	0.3nm,0.4s,mb3.7,baz=153,slow=6.0,SNR=2.0						
NVAR	**Mina Array Bea**	**65.91**	**325**	P	**P**	**21 51 27.5**	**+1.0**
	0.4nm,0.8s,mb3.5,baz=90,slow=5.4,SNR=2.8						
NVAR				LR	LR	22 19 53.9	
	comp=Z,48nm,21.0s,MS3.7,baz=275,slow=36						
ULM	**Lac du Bonnet**	**66.97**	**346**	P	**P**	**21 51 31.3**	**-1.6**
	2.6nm,0.6s,mb4.4,baz=161,slow=7.4,SNR=6.3						
HLID	**Hailey**	**67.69**	**331**	P	**P**	**21 51 38.0**	**+0.4**
	1.6nm,0.5s,mb4.3						
MCMT	**McKenzie Canyo**	**67.95**	**333**	P	**P**	**21 51 38.5**	**-0.7**
PPT	**Papeete**	**70.02**	**256**	LR	LR	22 16 56.0	
	comp=Z,106nm,19.9s,MS4.1,baz=61,slow=31						
DBIC	**Dimbokro**	**73.95**	**79**	P	**P**	**21 52 15.1**	**-0.9**
	2.7nm,0.6s,mb4.3,baz=250,slow=7.8,SNR=7.9						
DBIC				LR	LR	22 22 50.3	
	comp=Z,188nm,20.0s,MS4.4,baz=158,slow=34						
DBIC	**Dimbokro**	**73.95**	**79**	P	**P**	**21 52 15.1**	**-0.9**
DBIC				LR	LR	22 22 50.3	
FCC	**Fort Churchill**	**74.69**	**351**	P	**P**	**21 52 18.9**	**-0.4**
VNDA	**Vanda**	**82.18**	**191**	LR	LR	22 22 01.7	
	comp=Z,61nm,19.8s,MS4.0,baz=331,slow=30						
YKA	**Yellowknife Ar**	**82.62**	**343**	P	**P**	**21 53 02.8**	**+0.3**
	0.8nm,0.8s,mb3.8,baz=139,slow=5.4,SNR=15						
GERES	**GERESS Array B**	**100.96**	**42**	P	P	21 54 28.6	-0.4
	0.2nm,0.3s,baz=243,slow=2.2,SNR=4.3						
ASAR	**Alice Springs**	**131.72**	**218**	PKP	PKPdf	21 59 54.9	+2.7
	0.6nm,0.8s,baz=143,slow=3.6,SNR=6.3						
ZAL	**Zalesovo**	**138.19**	**17**	PKP	PKPdf	22 00 05.9	+2.7
	1.4nm,0.8s,baz=213,slow=3.0,SNR=10						
ULN	**Ulaanbaatar**	**146.87**	**356**	*e*PKP	PKPdf	22 00 22.8	+4.2
SONM	**Songino Array**	**146.94**	**357**	PKPbc	PKPbc	22 00 23.4	+3.1
	4.0nm,0.8s,baz=329,slow=1.9,SNR=36						

*NNC **21** 21:59:48.6±13.0, 40.71N×77.08E, mpv3.4, Error ellipse: s-maj=73.0km s-min=32.0km az=9.0*
*BJI **21** 21:59:49.3, 40.70N×77.46E, h25km, ML3.8*
ISC 21 21:59:46.2±2.6,**40.0N**±0.2×**78.0E**±0.2,**h10**km,**n15,**
σ1§44/14,6C-1D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.64**	**252**	⇓PG	**Pg**	**22 00 18.8**	**-0.1**
KSH				SG	**Sg**	**22 00 41.6**	**+0.8**
KSH				Smax			
	comp=N,800nm,0.3s						
KSH				Smax			
	comp=E,860nm,0.6s						
ULHL	**Ulahol**	**2.58**	**330**	P	**Pn**	**22 00 25.7**	**-3.0**
	SNR=66						
KZA	**Kyzart**	**2.91**	**315**	P	**Pn**	**22 00 31.8**	**-1.8**
	SNR=424						
TKM2	**Tokmak 2**	**3.40**	**329**	P	**Pn**	**22 00 41.0**	**+0.6**
	SNR=24						
UCH	**Uchtor**	**3.42**	**311**	P	**Pn**	**22 00 38.3**	**-2.5**
	SNR=7.3						
KBK	**Karagaybulak**	**3.48**	**320**	P	**Pn**	**22 00 42.5**	**+0.8**
	SNR=49						
AAK	**Ala-Archa**	**3.70**	**316**	P	**Pn**	**22 00 45.9**	**+1.2**
	SNR=70						
CHMS	**Chumysh**	**3.84**	**322**	P	**Pn**	**22 00 48.8**	**+2.2**
	SNR=17						
AML	**Almayashu**	**3.87**	**304**	P	**Pn**	**22 00 45.5**	**-1.5**
	SNR=10						
EKS2	**Erkin-Say**	**4.12**	**311**	P	**Pn**	**22 00 49.7**	**-1.0**
	SNR=14						
USP	**Ospenovka**	**4.16**	**322**	P	**Pn**	**22 00 53.9**	**+2.6**
	SNR=125						
MK31	**Makanchi Array**	**7.45**	**23**	⇑Pn	**Pn**	**22 01 37.6**	**0.0**
	comp=E,1.7nm,0.6s,baz=200,slow=16,SNR=7.4						
MK31				⇑Sn	**Sn**	**22 03 03.5**	**+0.4**
	comp=E,3.3nm,0.7s,baz=206,slow=24						
MK31				⇑Lg		22 03 33.0	
	comp=E,4.6nm,0.7s,baz=214,slow=28						
KURK	**Kurchatov**	**10.70**	**2**	⇑Lg		22 05 06.3	
	comp=E,7.7nm,1.3s,baz=93,slow=8.5,SNR=3.9						
BVA0	**Borovoye Array**	**14.00**	**341**	⇑Lg		22 06 46.0	
	comp=E,2.4nm,1.2s						
CHKZ	**Chkalovo**	**14.54**	**342**	⇑Lg		22 07 02.2	
	comp=E,14nm,1.9s						

*NNC **21** 22:26:15.8±59.0, 42.01N×80.87E, mpv2.8, Error ellipse: s-maj=1248.4km s-min=596.8km az=101.0*
BJI 21 22:26:16.4, 41.56N×81.25E, h18km, ML3.3, 3C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.51**	**245**	*e*PG	Pn	**22 27 39.6**	**+14**
KSH				Smax			
	comp=N,20nm,0.9s						
KSH				Smax			
	comp=E,40nm,1.2s						
WMQ	**Urumqi**	**5.26**	**62**	*e*P	Pn	**22 27 36.3**	**+0.1**
WMQ				Smax			
	comp=N,13nm,0.8s						
WMQ				Smax			
	comp=E,16nm,0.8s						
MK31	**Makanchi Array**	**5.29**	**8**	⇑Pn	Pn	**22 27 33.5**	**-3.0**
	comp=E,0.4nm,0.2s,baz=192,slow=14,SNR=46						
MK31				⇑Sn	Sn	**22 28 31.5**	**-6.2**
	comp=E,4.1nm,0.7s,baz=187,slow=26,SNR=4.4						
MK31				⇑Lg		**22 28 52.9**	
	comp=E,5.6nm,0.6s,baz=153,slow=39,SNR=3.8						

*IDC **21** 22:32:53.6±0.5, 0.33N×125.95E, mb4.6/17, mb1 4.6/17, mb1mx4.6/19, mbtmp4.6/17, Error ellipse: s-maj=28.8km s-min=12.4km az=63.0*
*NEIC **21** 22:32:54.9±0.2, 0.46N×126.12E, h10km, mb4.9/16, Error ellipse: s-maj=11.9km s-min=5.5km az=64.0*
*HRVD **21** 22:32:54.8±0.3, 0.48N×126.14E, h33km±2km, MW5.1/54, Centroid moment Tensor Solution. LP body waves: s21,c25;Mantle waves: s54,c91; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.13±.33; $M_{\theta\theta}$2.67±.19; $M_{\phi\phi}$-3.81±.26; $M_{r\theta}$-1.61±.29; $M_{r\phi}$-3.81±.19; $M_{\theta\phi}$0.41±.39; Best double couple: $M_0$5.345×10^{16} NP1:ϕs342°, δ72°, λ14°, NP2:ϕs248°, δ76°, λ162°. Principal axes: T5.106, Plg22°, Azm204°; N.47, Plg67°, Azm32°; P-5.585, Plg3°, Azm295°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **21** 22:32:54.8, 0.50N×126.10E, h10km, mB4.8, mb4.6, Ms4.2, Msz4.1*
*MOS **21** 22:32:56.8±1.6, 0.52N×126.11E, h33km, mb5.0/17, Error ellipse: s-maj=18.9km s-min=7.8km az=115.2*
ISC 21 22:32:56.4±0.3,**0.41N**±0.05×**126.12E**±0.08,**h33**km,
(h14km±5.5km**:pP-P),n91,σ1§27/84,mb

LZH XP sP 22 40 49.0 -3.8
LZH AMB AMB
comp=Z,22nm,1.2s,mb4.7
SNY Shenyang 41.29 357 ⇑P **P** **22 40 42.0 +1.5**
SNY S **S** **22 46 50.6 -1.6**
SNY LR LR
comp=N,330nm,20.6s,MS4.3
SNY LR LR
comp=E,260nm,22.9s,MS4.3
SNY LR LR
comp=Z,320nm,21.2s,MS4.2
MDJ Mudanjiang 44.12 4 P **P** **22 41 06.8 +3.2**
MDJ AMB AMB
comp=Z,17nm,0.9s,mb4.8
MDJ AMB AMB
comp=Z,87nm,3.2s
MDJ LR LR
comp=N,177nm,26.8s
MDJ LR LR
comp=E,113nm,34.9s
MDJ LR LR
comp=Z,202nm,26.8s,MS3.9
MDJ Mudanjiang 44.12 4 *e*P **P** **22 41 04.7 +1.1**
comp=Z,13nm,0.9s,mb4.7
LSA Lhasa 44.23 314 P **P** **22 41 05.0 +0.3**
LSA *e*S **S** **22 47 40.8 +5.3**
LSA LR LR
comp=N,100nm,20.0s,MS3.9
LSA LR LR
comp=E,90nm,20.0s,MS3.9
LSA LR LR
comp=Z,290nm,23.0s,MS4.1
LSA Lhasa 44.23 314 P **P** **22 41 04.4 -0.3**
LSA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
LSA Lhasa 44.23 314 P **P** **22 41 04.4 -0.3**
comp=Z,7.5nm,0.7s,mb4.5
GTA Gaotai 45.65 331 *e*P **P** **22 41 16.3 +0.4**
GTA AP pP 22 41 23.5 -2.3
GTA XP sP 22 41 26.4 -3.5
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,50nm,4.2s
GTA LR LR
comp=N,155nm,19.4s,MS4.2
GTA LR LR
comp=E,191nm,19.0s,MS4.2
GTA LR LR
comp=Z,386nm,21.3s,MS4.3
ASAJ Asahikawa 45.92 17 P **P** **22 41 19.2 +1.2**
comp=Z,15nm,0.9s,mb4.9,baz=221,slow=5.8,SNR=3.7
KLR Kul'dur 48.87 5 *e*P **P** **22 41 38.4 -2.5**
HYB Hyderabad 49.73 293 *e*P **P** **22 41 49.0 +1.0**
HYB Hyderabad 49.73 293 *i*P **P** **22 41 49.0 +1.0**
ULN Ulaanbaatar 50.08 343 *e*P **P** **22 41 48.6 -1.7**
ULN pmax pmax
comp=Z,28nm,0.8s,mb5.3
ULN Ulaanbaatar 50.08 343 *e*P **P** **22 41 48.5 -1.7**
comp=Z,28nm,0.8s,mb5.3
SONM Songino Array 50.25 343 P **P** **22 41 51.5 0.0**
comp=Z,1.7nm,0.6s,mb4.3,baz=158,slow=6.5,SNR=21
ZAK Zakamensk 53.45 342 *e*P **P** **22 42 09.6 -5.9**
ZAK *e* 22 43 22.4
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
TLY Talaya 54.49 343 *e*P **P** **22 42 26.7 +3.6**
TLY pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TLY MLR MLR
comp=Z,221nm,23.0s,MS4.2
WMQ Urumqi 55.11 327 *e*P **P** **22 42 26.8 -1.0**
WMQ AMB AMB
comp=Z,7.0nm,0.9s,mb4.7
MOY Mondy 55.29 341 *e*P **P** **22 42 32.0 +3.0**
MOY pmax pmax
comp=Z,21nm,2.3s,mb4.8
BOD Bodaibo 58.04 352 *e*P **P** **22 42 47.7 -0.8**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
RPZ Rata Peaks 59.45 144 P **P** **22 42 59.3 +0.9**
comp=Z,7.3nm,0.8s,mb4.7,baz=38,slow=7.6,SNR=4.2
MKAR Makanchi Array 59.94 327 *e*P **P** **22 43 00.2 -1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
YAK Yakutsk 61.52 2 P **P** **22 43 12.6 +0.3**
MA2 Magadan 62.05 14 *e*P **P** **22 43 16.4 +0.5**
MA2 pmax pmax
comp=Z,16nm,0.9s,mb5.2
MA2 Magadan 62.05 14 *e*P **P** **22 43 16.4 +0.5**
comp=Z,16nm,0.9s,mb5.2
AAK Ala-Archa 62.42 319 *e*P **P** **22 43 16.9 -1.7**
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
AAK Ala-Archa 62.42 319 *e*P **P** **22 43 16.9 -1.8**
comp=Z,6.3nm,1.0s,mb4.7
ZAL Zalesovo 63.27 334 P **P** **22 43 24.0 -0.1**
comp=Z,12nm,1.3s,mb4.9,baz=2.4,slow=6.5,SNR=12
KURK Kurchatov 64.21 329 *i*P **P** **22 43 28.6 -1.7**
KURK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KURK Kurchatov 64.21 329 *e*P **P** **22 43 28.4 -1.9**
comp=Z,18nm,0.8s,mb5.1
NVS Novosibirsk 64.55 334 *e*P **P** **22 43 29.7 -2.7**
NVS pmax pmax
comp=Z,17nm,1.4s,mb4.9
NVS pmax pmax
comp=N,11nm,1.6s
BVA0 Borovoye Array 69.77 328 P **P** **22 44 05.2 -0.1**
BVA0 pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BVAR Borovoye Array 69.77 328 P **P** **22 44 05.6 +0.4**
comp=Z,7.3nm,1.0s,mb4.6,baz=135,slow=6.3,SNR=27
CHKZ Chkalovo 69.96 329 *e*P **P** **22 44 05.2 -1.2**
CHKZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHKZ Chkalovo 69.96 329 *e*P **P** **22 44 05.2 -1.2**
comp=Z,5.0nm,0.8s,mb4.5
TIXI Tiksi 71.15 1 *e*P **P** **22 44 09.7 -3.7**
TIXI pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
TIXI MLR MLR
comp=Z,138nm,22.0s,MS4.2
SVE Sverdlovsk 76.46 329 *e*P **P** **22 44 44.0 -0.5**
SVE pmax pmax
comp=Z,30nm,1.1s,mb5.1
SVE MLR MLR
comp=E,100nm,18.0s
SVE MLR MLR
comp=Z,100nm,18.0s,MS4.2
ARU Arti 77.41 328 *e*P **P** **22 44 48.0 -1.9**
ARU pmax pmax
comp=Z,24nm,0.9s,mb5.1
ARU Arti 77.41 328 *e*P **P** **22 44 48.0 -1.9**
comp=Z,24nm,0.9s,mb5.1
VNDA Vanda 80.23 173 P **P** **22 45 04.7 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=316,slow=7.1,SNR=5.0
RAYN Ar Rayn 81.23 294 P **P** **22 45 11.2 0.0**
comp=Z,75nm,1.3s,SNR=15
GNI Garni 83.13 310 P **P** **22 45 21.1 +0.5**
GNI pmax pmax
comp=Z,12nm,0.4s
GNI Garni 83.13 310 P **P** **22 45 21.1 +0.4**
comp=Z,12nm,0.4s,mb5.3
PPT Papeete 84.69 108 *e*LR LR 23 12 13.4
comp=Z,152nm,25.0s
KIV Kislovodsk 84.98 314 *e*P **P** **22 45 21.6 -8.3**
KIV pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
TBI Tubuai 85.04 113 *e*LR LR 23 12 23.0
comp=Z,94nm,28.5s
IMA Indian Mountai 85.65 24 *e*P **P** **22 45 34.4 +1.7**
IMA pmax pmax
comp=Z,15nm,0.6s,mb5.4
IMA Indian Mountai 85.65 24 *e*P **P** **22 45 34.4 +1.7**
comp=Z,15nm,0.6s,mb5.4
MALT Malatya 87.93 308 *e*P **P** **22 45 45.6 +1.2**
MALT pmax pmax
comp=Z,6.0nm,1.3s,mb4.7
MALT Malatya 87.93 308 *e*P **P** **22 45 45.6 +1.1**
comp=Z,6.2nm,1.3s,mb4.7
KMBO Kilima Mbogo 88.87 269 P **P** **22 45 51.8 +2.3**
comp=Z,4.9nm,0.9s,mb4.8,baz=48,slow=7.2,SNR=12
ASF Jabal al Asfar 89.12 302 P **P** **22 45 52.4 +2.1**
comp=Z,3.4nm,0.6s,mb4.9,baz=244,slow=2.0,SNR=4.7
DAWY Dawson 91.61 26 *e*P **P** **22 46 01.6 +0.5**
BRTR Keskin Array B 91.65 310 P **P** **22 46 01.8 -0.2**
comp=Z,0.9nm,0.7s,mb4.2,baz=135,slow=5.2,SNR=4.4
ARCES ARCESS Array B 93.33 340 P **P** **22 46 08.9 0.0**
comp=Z,2.1nm,0.8s,mb4.6,baz=90,slow=3.6,SNR=7.2
AKASG Malin Array Be 94.06 321 P **P** **22 46 12.6 0.0**
comp=Z,0.3nm,0.4s,mb4.1,baz=220,slow=15,SNR=3.6
FINES FINESS Array B 94.44 332 P **P** **22 46 14.0 -0.1**
comp=Z,0.6nm,0.6s,mb4.2,baz=45,slow=5.4,SNR=4.0
YKA Yellowknife Ar 102.75 25 Pdiff Pdif 22 46 54.5 +2.8
comp=Z,0.3nm,0.6s,baz=298,slow=4.4,SNR=7.0
ULM Lac du Bonnet 118.14 29 PKP PKPdf 22 51 41.5 +1.3
comp=Z,0.8nm,0.4s,baz=293,slow=3.1,SNR=4.1
RPN Rapa Nui 120.58 122 PKP PKPdf 22 51 46.7 +1.1
comp=Z,35nm,0.8s,baz=90,slow=3.0,SNR=2.7
TXAR Lajitas Array 124.08 54 PKP PKPdf 22 51 54.7 +2.4
comp=Z,0.8nm,0.8s,baz=225,slow=1.8,SNR=5.5
DBIC Dimbokro 130.58 279 PKP PKPdf 22 52 07.7 +2.4
comp=Z,1.9nm,0.7s,baz=82,slow=8.1,SNR=4.1
PLCA Paso Flores 137.11 161 PKP PKPdf 22 52 20.0 +3.3
comp=Z,4.4nm,1.0s,baz=210,slow=5.3,SNR=3.6
LPAZ La Paz 158.88 139 PKP PKPdf 22 52 56.4 +4.7
comp=Z,2.3nm,1.1s,baz=8.6,slow=5.5,SNR=6.7
LPAZ PKPab PKPab 22 53 32.2 +2.0
comp=Z,1.9nm,0.8s,baz=342,slow=1.7,SNR=6.4
LPAZ La Paz 158.88 139 PKP PKPdf 22 52 56.4 +4.7
LPAZ PKPab PKPab 22 53 32.2 +2.0
BDFB Brasilia 163.80 201 PKPab PKPab 22 53 49.6 -1.8
comp=Z,0.8nm,0.5s,baz=129,slow=7.2,SNR=3.2

JMA 21 22:43:33.8±0.4, 33.83N×142.70E, h56km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.65**	**300**	P	P		22 44 00.9	-0.1
BSO1				*e*S	S		22 44 21.0	-0.1
BSO3	**Boso 3**	**2.06**	**299**	P	P		22 44 07.1	+0.4
BSO3				*e*S	S		22 44 31.9	+0.8
BSO4	**Boso 4**	**2.27**	**301**	P	P		22 44 10.5	+0.8
JHJ2	**Mitsune**	**2.51**	**254**	P	P		22 44 13.2	0.0
JHJ2				*e*S	S		22 44 39.5	-3.2
JOD2	**Odawara 2**	**3.31**	**297**	P	P		22 44 24.2	-0.2
JOD2				*e*S	S		22 45 02.5	-0.2

JMA 21 22:44:19.2±0.3, 33.78N×142.51E, h24km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.54**	**305**	P	Pn		22 44 45.7	+0.1
BSO1				*e*S	Sn		22 45 05.7	+0.7
BSO2	**Boso 2**	**1.75**	**304**	*e*S	Sn		22 45 10.9	+0.7
BSO3	**Boso 3**	**1.94**	**302**	P	Pn		22 44 52.0	+0.7
BSO3				*e*S	Sn		22 45 16.4	+1.2
BSO4	**Boso 4**	**2.16**	**305**	P	Pn		22 44 55.5	+1.0
BSO4				*e*S	Sn		22 45 21.8	+1.0
JHJ2	**Mitsune**	**2.35**	**254**	P	Pn		22 44 57.4	+0.3
JHJ2				*e*S	Sn		22 45 26.0	+0.5
JOD2	**Odawara 2**	**3.19**	**299**	*e*S	Sn		22 45 46.3	-0.5
JHU	**Hanno**	**3.37**	**309**	*e*S	Sn		22 45 50.5	-0.8
JAG	**Ashikaga**	**3.64**	**317**	*e*S	Sn		22 45 56.7	-1.5
JYN	**Shimob**	**3.69**	**299**	*e*S	Sn		22 45 58.3	-1.2
JRY	**Ryogami san**	**3.71**	**308**	*e*S	Sn		22 45 59.1	-0.9

*IDC **21** 22:45:55.5±0.5, 7.92N×94.16E, mb4.5/19, mb1 4.6/19, mb1mx4.6/22, mbtmp4.5/19, MS4.0/9, Ms1 4.0/9, ms1mx3.7/26, Error ellipse: s-maj=28.3km s-min=12.9km az=49.0*
*MOS **21** 22:45:58.5±0.9, 8.08N×94.49E, h33km, mb5.0/19, Error ellipse: s-maj=17.0km s-min=6.4km az=122.9*
*NEIC **21** 22:46:00.1±0.2, 8.16N×94.52E, h30km, mb4.7/17, Error ellipse: s-maj=9.6km s-min=5.2km az=221.0*
*BJI **21** 22:46:00.1, 8.20N×94.50E, h30km, mB5.2, mb4.5, Ms4.6, Ms2.4*
ISC 21 22:45:59.9±0.9, 8.01N±0.05×94.45E±0.04, h46km±8km, n156, σ1‰09/157, mb4.7/60, MS4.2/24, 7C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.72**	**113**	*e*P	P		**22 47 37.1**	**-1.4**
CM31	**Chiang Mai Arr**	**11.27**	**22**	*e*P	P		**22 48 35.3**	**-6.0**
CHG	**Chiang Mai**	**11.60**	**22**	⇑P	P		**22 48 46.7**	**+1.1**
	14nm,0.6s							
NANT	**Nan**	**12.33**	**29**	P	P		**22 49 00.0**	**+4.5**
VIS	**Vishakhapatnam**	**14.51**	**313**	*e*	P		**22 49 22.4**	**-1.9**
KSM	**Kuching**	**17.08**	**112**	P	P		**22 49 57.3**	**+0.2**
HYB	**Hyderabad**	**18.09**	**303**	*e*P	P		**22 50 10.0**	**+0.2**
HYB	**Hyderabad**	**18.09**	**303**	*i*P	P		**22 50 10.0**	**+0.2**
BLSP	**Bilaspur**	**18.38**	**321**	*e*P	P		**22 50 15.1**	**+1.8**
BLSP				*e*			22 50 23.3	
	comp=Z,40nm,0.9s							
QIZ	**Qiongzhong**	**18.53**	**52**	P	P		**22 50 14.1**	**-1.0**
QIZ				S	S		**22 53 34.8**	**-2.0**
QIZ				LR	LR			
	comp=N,1μm,12.2s							
JIRN	**Jiri**	**21.05**	**339**	*e*P	P		**22 50 43.3**	**+0.9**
	comp=N,172nm,1.1s,mb5.3							
PKI	**Pulchoki**	**21.26**	**337**	*e*P	P		**22 50 45.9**	**+1.4**
	comp=N,154nm,1.3s,mb5.2							
GUN	**Gumba**	**21.39**	**339**	*e*P	P		**22 50 45.4**	**-0.4**
DMN	**Daman**	**21.41**	**337**	*e*P	P		**22 50 46.0**	**0.0**
	comp=N,90nm,0.9s,mb5.1							
KKN	**Kakani**	**21.50**	**337**	*e*P	P		**22 50 47.7**	**+0.8**
	comp=N,114nm,1.2s,mb5.2							
GYA	**Guiyang**	**21.71**	**31**	⇑*i*P	P		**22 50 53.3**	**+4.3**
GYA				AP			22 51 02.4	
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.6							
GYA				AMB	AMB			
	comp=Z,90nm,2.7s,mb4.7							
GYA				LR	LR			
	comp=N,770nm,14.3s,MS4.5							
GYA				LR	LR			
	comp=E,1μm,13.4s,MS4.5							
GYA				LR	LR			
	comp=Z,580nm,15.9s,MS4.1							
LSA	**Lhasa**	**21.80**	**352**	P	P		**22 50 50.3**	**+0.4**
LSA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.6							
LSA	**Lhasa**	**21.80**	**352**	*e*P	P		**22 50 49.5**	**-0.4**
LSA				pmax	pmax			
	comp=Z,29nm,0.9s,mb4.7							
LSA	**Lhasa**	**21.80**	**352**	*e*P	P		**22 50 49.5**	**-0.4**
	comp=Z,29nm,0.9s,mb4.7							
KAD	**Karad**	**21.81**	**297**	*e*P	P		**22 50 59.0**	**+9.0**
KAD				*e*			22 51 10.5	
	comp=Z,43nm,1.4s							
GKN	**Gorkha**	**21.95**	**336**	*e*P	P		**22 50 50.5**	**-0.8**
	comp=Z,199nm,1.1s,mb5.5							
KOLN	**Koldanda**	**22.18**	**334**	*e*P	P		**22 50 53.2**	**-0.4**
BHPL	**Bhopal**	**22.28**	**315**	*e*P	P		**22 50 57.0**	**+2.4**
CD2	**Chengdu**	**24.39**	**20**	⇑*i*P	P		**22 51 17.6**	**+2.3**
CD2				AMB	AMB			
	comp=Z,23nm,1.2s,mb4.5							
LGTI	**Lohaghat**	**25.16**	**330**	*e*P	P		**22 51 23.7**	**+1.0**
NDI	**New Delhi**	**26.21**	**324**	*e*P	P		**22 51 31.5**	**-1.0**
ENH	**Enshi**	**26.25**	**30**	P	P		**22 51 30.1**	**-2.8**
	comp=Z,9.6nm,0.8s,mb4.4							
DDI	**Dehra Dun**	**26.99**	**327**	*e*	P		**22 51 40.3**	**+0.6**
XAN	**Xi'an**	**29.14**	**25**	P	P		**22 51 59.6**	**+0.6**
XAN				AMB	AMB			
	comp=Z,7.0nm,1.3s,mb4.2							
LZH	**Lanzhou**	**29.24**	**16**	*e*P	P		**22 52 01.0**	**+1.2**
LZH				AP	pP		22 52 14.5	+2.6
LZH				AMB	AMB			
	comp=Z,30nm,1.5s,mb4.8							
LZH				LR	LR			
	comp=E,760nm,13.0s							
LZH				LR	LR			
	comp=Z,730nm,13.6s,MS4.5							
GTA	**Gaotai**	**31.64**	**8**	*e*P	P		**22 52 22.9**	**+1.9**
GTA				PP	PP		22 53 25.1	-1.5
GTA				S	S		**22 57 24.3**	**-1.4**
GTA				AMB	AMB			
	comp=Z,2.0nm,1.0s,mb3.9							
GTA				AMB	AMB			
	comp=Z,65nm,5.0s							
GTA				LR	LR			
	comp=N,172nm,18.6s,MS4.0							
GTA				LR	LR			
	comp=E,210nm,18.6s,MS4.0							
GTA				LR	LR			
	comp=Z,305nm,17.1s,MS4.0							
NJ2	**Nanjing**	**32.97**	**40**	*e*P	P		**22 52 33.6**	**+0.9**
NJ2				PP	PP		22 53 44.8	+0.8
NJ2				S	S		**22 57 49.0**	**+2.4**
NJ2				AMB	AMB			
	comp=Z,2μm,4.3s							
NJ2				LR	LR			
	comp=N,1μm,22.5s,MS4.7							
NJ2				LR	LR			
	comp=E,950nm,18.2s,MS4.7							
NJ2				LR	LR			
	comp=Z,590nm,17.2s,MS4.4							
SSE	**Sheshan**	**33.91**	**44**	P	P		**22 52 38.5**	**-2.4**
SSE				S	S		**22 58 02.8**	**+1.5**
SSE				AMB	AMB			
	comp=Z,44nm,0.6s,mb5.6							
SSE				AMB	AMB			
	comp=Z,107nm,8.3s							
SSE				LR	LR			
	comp=N,514nm,15.6s,MS4.4							
SSE				LR	LR			
	comp=E,333nm,15.6s,MS4.4							
SSE				LR	LR			
	comp=Z,718nm,12.0s,MS4.6							
KSH	**Kashi**	**35.48**	**335**	*e*P	P		**22 52 52.3**	**-1.9**
KSH				*e*PCP	PcP		22 55 21.6	-1.6
KSH				*e*S	S		**22 58 22.3**	**-3.1**
KSH				*e*SCP			22 59 03.3	
KSH				*e*PCS			22 59 07.4	
KSH				*e*SCS	ScS		23 03 06.8	-0.3
KSH				AMB	AMB			
	comp=Z,180nm,4.3s							
KSH				LR	LR			
	comp=N,230nm,4.5s							
KSH				LR	LR			
	comp=E,370nm,4.8s							
HHC	**Hu-ho-hao-te**	**36.08**	**22**	*e*P	P		**22 53 01.5**	**+2.3**
HHC				PP	PP		22 54 23.0	+0.7
HHC				S	S		**22 58 39.3**	**+4.7**
HHC				PCS			22 59 14.3	
HHC				SCS	ScS		23 03 12.3	+1.9
HHC				AMB	AMB			
	comp=Z,15nm,0.4s,mb5.3							
HHC				LR	LR			
	comp=N,276nm,16.1s,MS4.3							
HHC				LR	LR			
	comp=E,344nm,17.8s,MS4.3							
HHC				LR	LR			
	comp=Z,282nm,16.6s,MS4.1							
WMQ	**Urumqi**	**36.16**	**352**	P	P		**22 52 58.8**	**-1.1**
WMQ				PP	PP		22 54 21.0	-2.3
WMQ				*e*S	S		**22 58 34.0**	**-1.8**
WMQ				PCS			22 59 11.0	
WMQ				AMB	AMB			
	comp=Z,9.0nm,1.1s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,152nm,4.6s							
WMQ				LR	LR			
	comp=N,542nm,22.8s,MS4.4							
WMQ				LR	LR			
	comp=E,415nm,22.0s,MS4.4							
WMQ				LR	LR			
	comp=Z,450nm,23.7s,MS4.2							
BJI	**Beijing**	**37.34**	**28**	*e*P	P		**22 53 13.5**	**+3.6**
BJI				AMB	AMB			
	comp=Z,10.0nm,1.3s,mb4.5							
BJI				LR	LR			
	comp=N,448nm,12.6s,MS4.5							
BJI				LR	LR			
	comp=E,250nm,11.4s,MS4.5							
BJI				LR	LR			
	comp=Z,207nm,25.2s							
KBK	**Karagaybulak**	**38.55**	**337**	P	P		**22 53 20.7**	**+0.8**
	SNR=8.5							
AML	**Almayashu**	**38.61**	**335**	P	P		**22 53 21.2**	**+0.8**
	SNR=14							
AAK	**Ala-Archa**	**38.70**	**336**	P	P		**22 53 22.4**	**+1.2**
	SNR=6.8							
AAK	**Ala-Archa**	**38.70**	**336**	P	P		**22 53 21.6**	**+0.4**
	comp=Z,32nm,1.1s,mb5.0,SNR=11							
AAK	**Ala-Archa**	**38.70**	**336**	*i*P	P		**22 53 21.1**	**-0.1**
AAK				pmax	pmax			
	comp=Z,11nm,1.6s,mb4.3							
AAK	**Ala-Archa**	**38.70**	**336**	*e*P	P		**22 53 20.0**	**-1.1**
	comp=Z,7.5nm,1.0s,mb4.4							
EKS2	**Erkin-Say**	**39.02**	**336**	P	P		**22 53 24.4**	**+0.6**
	SNR=5.6							
USP	**Ospenovka**	**39.24**	**337**	P	P		**22 53 25.6**	**+0.1**
	SNR=10							
SONM	**Songino Array**	**40.97**	**12**	P	P		**22 53 41.8**	**+1.9**
	comp=Z,2.7nm,0.9s,mb3.9,baz=200,slow=8.8,SNR=16							
SONM				PcP	PcP		22 55 41.5	+1.4
	comp=Z,1.6nm,0.6s,baz=199,slow=3.7,SNR=8.3							
ZAK	**Zakamensk**	**42.87**	**8**	*e*P	P		**22 53 56.4**	**+0.9**
ZAK				*e*			22 55 48.6	
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.1s							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.2s							
KURK	**Kurchatov**	**44.56**	**346**	*e*P	P		**22 54 08.5**	**-0.6**
KURK				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.6							
KURK	**Kurchatov**	**44.56**	**346**	*e*P	P		**22 54 08.4**	**-0.6**
	comp=Z,8.4nm,0.8s,mb4.6							
CN2	**Changchun**	**44.75**	**32**	*e*P	P		**22 54 11.8**	**+1.0**
CN2				*e*S	S		**23 00 44.8**	**+1.0**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.8							
CN2				AMB	AMB			
	comp=Z,300nm,3.0s							
CN2				LR	LR			
	comp=N,700nm,17.0s,MS4.8							
CN2				LR	LR			
	comp=E,800nm,17.0s,MS4.8							
CN2				LR	LR			
	comp=Z,1μm,18.0s,MS4.8							
NWAO	**Narrogin (SRO)**	**46.12**	**153**	P	P		**22 54 22.7**	**+0.9**
	comp=Z,20nm,0.7s,mb5.2,baz=309,slow=7.3,SNR=31							
ZAL	**Zalesovo**	**46.46**	**352**	P	P		**22 54 25.1**	**+1.0**
	comp=Z,2.7nm,0.4s,mb4.5,baz=300,slow=3.5,SNR=14							
MDJ	**Mudanjiang**	**47.53**	**34**	P	P		**22 54 32.5**	**-0.2**
MDJ				S	S		**23 01 22.5**	**-0.8**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,108nm,3.7s							
MDJ				LR	LR			
	comp=E,119nm,20.4s							
MDJ				LR	LR			
	comp=Z,118nm,19.6s,MS3.9							
NVS	**Novosibirsk**	**47.56**	**351**	*e*P	P		**22 54 31.7**	**-1.1**
NVS				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.8							
NVS				pmax	pmax			
	comp=N,9.0nm,1.4s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.3s							
WRAB	**Tennant Creek**	**48.09**	**126**	*e*P	P		**22 54 37.0**	**-0.4**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.6							
WRAB	**Tennant Creek**	**48.09**	**126**	*e*P	P		**22 54 37.0**	**-0.4**
	comp=Z,4.3nm,0.7s,mb4.6							
WB2	**Warramunga Arr**	**48.10**	**126**	*e*P	P		**22 54 38.2**	**+0.7**
JHJ	**Hachijo jima 2**	**48.74**	**53**	LR	LR		23 14 39.2	
	comp=Z,162nm,21.8s,MS4.0,baz=101,slow=35							
BVAR	**Borovoye Array**	**48.96**	**341**	P	P		**22 54 43.1**	**-0.6**
	comp=Z,3.9nm,0.9s,mb4.5,baz=135,slow=8.4,SNR=20							
BVAR				PcP	PcP		22 56 08.3	+0.6
	comp=Z,2.6nm,0.6s,baz=180,slow=2.2,SNR=11							
RAYN	**Ar Rayn**	**49.31**	**294**	P	P		**22 54 47.2**	**+0.4**
	comp=Z,118nm,0.6s,SNR=20							
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	P		**22 54 46.8**	**-0.6**
CHKZ				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0							
CHKZ	**Chkalovo**	**49.44**	**342**	*e*P	P		**22 54 46.8**	**-0.6**
	comp=Z,15nm,0.9s,mb5.0							
ASAR	**Alice Springs**	**49.77**	**130**	P	P		**22 54 50.4**	**+0.1**
	comp=Z,2.6nm,0.8s,mb4.3,baz=309,slow=7.6,SNR=22							
ASAR				PcP	PcP		22 56 11.6	+0.7
	comp=Z,1.1nm,0.7s,baz=299,slow=4.5,SNR=4.4							
ASAR				LR	LR		23 17 57.4	
	comp=Z,77nm,18.6s,MS3.7,baz=311,slow=38							
BOD	**Bodaibo**	**51.95**	**13**	*e*P	P		**22 55 06.8**	**+0.5**

BOD pmax pmax
comp=Z,6.0nm,2.1s,mb4.2
GNI Garni 54.56 314 *e*P **P 22 55 24.6 -1.4**
GNI pmax pmax
comp=Z,14nm,1.1s
GNI Garni 54.56 314 P **P 22 55 26.8 +0.8**
comp=Z,3.5nm,0.7s,mb4.5,baz=158,slow=6.7,SNR=4.3
GNI Garni 54.56 314 *e*P **P 22 55 24.6 -1.4**
comp=Z,14nm,1.1s,mb4.9
TI2 Plekhanov 55.16 316 *e*P **P 22 55 29.6 -0.7**
PMG Port Moresby 55.28 107 *e*P **P 22 55 30.9 -0.6**
PMG pmax pmax
comp=Z,8.0nm,0.6s
PMG Port Moresby 55.28 107 P **P 22 55 33.7 +2.2**
comp=Z,19nm,0.8s,mb5.2,baz=25,slow=5.2,SNR=7.2
PMG Port Moresby 55.28 107 *e*P **P 22 55 30.9 -0.6**
comp=Z,7.6nm,0.6s,mb4.9
SVE Sverdlovsk 55.39 338 *e*P **P 22 55 31.7 0.0**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.2
SVE MLR MLR
comp=E,100nm,20.0s
SVE MLR MLR
comp=Z,200nm,20.0s,MS4.2
ARU Arti 55.89 337⇓ *i*P **P 22 55 29.8 -5.5**
ARU *e*S **S 23 03 13.2 -4.6**
ARU *e*SS SS 23 07 04.5 +0.6
ARU pmax pmax
comp=Z,17nm,0.7s,mb5.2
KIV Kislovodsk 57.42 318⇓ *i*P **P 22 55 45.6 -0.9**
KIV *e*S **S 23 03 41.2 +2.9**
KIV *e*SS SS 23 07 32.0 +2.3
KIV pmax pmax
comp=Z,12nm,0.9s,mb4.9
KIV Kislovodsk 57.42 318 *e*P **P 22 55 44.6 -1.8**
comp=Z,11nm,0.9s,mb4.9
KMBO Kilima Mbogo 57.74 264 *i* P **P 22 55 50.4 +1.3**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 57.74 264 P **P 22 55 50.2 +1.1**
comp=Z,6.1nm,0.9s,mb4.7,baz=55,slow=12,SNR=22
KMBO LR LR 23 16 17.7
comp=Z,174nm,21.9s,MS4.1,baz=94,slow=32
KMBO Kilima Mbogo 57.74 264 *e*P **P 22 55 49.9 +0.8**
comp=Z,8.3nm,0.9s,mb4.8
CTA Charters Tower 58.10 120 LR LR 23 22 18.4
comp=Z,96nm,18.4s,MS3.9,baz=56,slow=37
SOC Sochi 59.30 316 *e*P **P 22 55 56.9 -2.6**
SOC *e* 22 58 09.1
SOC *e*S **S 23 04 02.4 -0.3**
SOC *e* 23 05 49.6
SOC *e*SS SS 23 08 04.7 +5.4
SOC pmax pmax
comp=Z,29nm,0.7s,mb5.4
SOC pmax pmax
comp=N,17nm,0.8s
SOC pmax pmax
comp=E,23nm,0.8s
EIL Elat 59.63 300 P **P 22 56 02.0 0.0**
comp=E,4.1nm,0.6s,mb4.7,baz=111,slow=2.7
YAK Yakutsk 59.77 18 *i* P **P 22 56 02.5 0.0**
YAK pmax pmax
comp=Z,23nm,1.4s,mb5.0
STKA Stephens Creek 59.98 134 P **P 22 56 04.6 +0.2**
comp=Z,2.6nm,1.0s,mb4.2,baz=308,slow=14,SNR=3.4
STKA LR LR 23 22 04.1
comp=Z,109nm,19.2s,MS4.0,baz=203,slow=36
STKA Stephens Creek 59.98 134 P **P 22 56 04.6 +0.2**
STKA LR LR 23 22 04.1
BRTR Keskin Array B 62.58 311 P **P 22 56 19.4 -2.3**
comp=Z,3.4nm,0.8s,mb4.5,baz=127,slow=7.2,SNR=16
MOS Moscow 65.13 329 *e*P **P 22 56 35.0 -3.2**
MOS pmax pmax
comp=Z,31nm,0.7s,mb5.5
OBN Obninsk 65.43 328 *ce*P **P 22 56 38.9 -1.3**
OBN pmax pmax
comp=Z,31nm,1.9s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.0
MA2 Magadan 66.51 28 *e*P **P 22 56 37.1 -10**
TIXI Tiksi 67.04 11 *e*P **P 22 56 48.4 -1.7**
TIXI pmax pmax
comp=Z,12nm,0.7s,mb5.0
TIXI MLR MLR
comp=Z,71nm,12.0s,MS4.1
CFR Carcaliu 67.71 316⇓P **P 22 56 53.7 -1.1**
AKASG Malin Array Be 68.24 322 P **P 22 56 56.2 -1.7**
comp=Z,3.6nm,0.7s,mb4.5,baz=88,slow=5.3,SNR=14
IDI Anoyia 68.74 305 P **P 22 56 59.9 -1.4**
comp=Z,9.3nm,0.6s,mb4.9,baz=92,slow=7.1,SNR=16
VRI Vrincioaia 68.82 316⇑P **P 22 57 01.3 -0.3**
MLR Muntele Rosu 69.29 316⇑P **P 22 57 04.1 -0.4**
BURAR Bucovina Array 70.16 318⇑P **P 22 57 09.6 -0.1**
JOF Joensuu 70.86 334 *ep* **P 22 57 12.6 -1.2**
comp=Z,6.1nm,0.7s,mb4.6
KWP Kalwaria 72.13 320 *e*P **P 22 57 21.0 -0.5**
KWP Kalwaria 72.13 320 *e*P **P 22 57 21.1 -0.5**
KOLS Kolonicke sedl 72.31 319 *e*P **P 22 57 23.2 +0.6**
SUW Suwalki 72.58 324 *e*P **P 22 57 23.7 -0.4**
SUW MLR MLR 23 32 09.5
comp=Z,200nm,21.9s,MS4.3
FINES FINESS Array B 72.74 332 P **P 22 57 24.6 -0.4**
comp=Z,3.7nm,0.6s,mb4.5,baz=89,slow=5.5,SNR=30
FINES LR LR 23 33 18.8
comp=Z,84nm,20.0s,MS4.0,baz=80,slow=39
KAF Kangasniemi 72.81 333 *ep* **P 22 57 23.5 -1.9**
comp=Z,3.5nm,0.8s,mb4.3,baz=105,slow=5.7
KAF Kangasniemi 72.81 333 *e*P **P 22 57 23.5 -1.9**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
CRVS Cervenica-Dubn 72.83 319 *e*P **P 22 57 27.4 +1.6**
OJC Ojcow 74.07 320 *e*P **P 22 57 32.8 -0.2**
OKC Ostrava-Krasne 75.09 319 *e*P **P 22 57 38.7 -0.2**
ARCES ARCESS Array B 75.25 340 P **P 22 57 39.9 +0.6**
comp=Z,3.0nm,0.5s,mb4.4,baz=99,slow=5.9,SNR=18
ARCES LR LR 23 34 06.4
comp=Z,162nm,18.4s,MS4.4,baz=48,slow=38
ARCES ARCESS Array B 75.25 340 P **P 22 57 39.9 +0.6**
ARCES LR LR 23 34 06.4
MORC Moravsky Berou 75.47 319 *e*P **P 22 57 40.8 -0.3**
MORC pmax pmax
comp=Z,13nm,1.3s,mb4.7
MORC Moravsky Berou 75.47 319 *e*P **P 22 57 40.8 -0.3**
comp=Z,13nm,1.3s,mb4.7
ZST Bratislava 75.64 318 *e*P **P 22 57 42.6 +0.6**
ZST *e* 22 57 47.1
BILL Bilibino 75.85 22 P **P 22 57 41.1 -1.7**
BILL Bilibino 75.85 22 P **P 22 57 41.1 -1.7**
VRAC Vranov 76.06 319 P **P 22 57 44.3 0.0**
comp=Z,12nm,0.4s,mb4.2,baz=90,slow=11,SNR=3.3
DPC Dobruska-Polom 76.30 320 *e*P **P 22 57 46.3 +0.5**
KSP Ksiaz 76.36 320 *e*P **P 22 57 46.2 +0.2**
KSP Ksiaz 76.36 320 *e*P **P 22 57 46.6 +0.6**
KSP MLR MLR 23 35 05.5
comp=Z,200nm,22.5s,MS4.4
UPC Upice 76.51 320 *e*P **P 22 57 47.4 +0.5**
PERS Pernice 76.90 316 *e*P **P 22 57 49.3 +0.1**
PRU Pruhonice 77.43 319 *e*P **P 22 57 52.1 0.0**
BRG Berggiesshubel 77.84 320 *e*P **P 22 57 54.9 +0.5**
BRG pmax pmax
comp=Z,12nm,1.3s,mb4.7
BRG Berggiesshubel 77.84 320 *e*P **P 22 57 54.9 +0.5**
comp=Z,12nm,1.3s,mb4.7
CADS Cadrg 77.84 316 *e*P **P 22 57 53.9 -0.5**
GERES GERESS Array B 77.93 318 P **P 22 57 55.2 +0.4**
comp=Z,4.6nm,0.8s,mb4.5,baz=90,slow=5.2,SNR=36
KHC Kasperske Hory 78.02 318 *e*P **P 22 57 55.1 -0.2**
CLL Collm 78.45 321 *e*P **P 22 57 58.0 +0.3**
CLL *e* pP 22 58 16.0 +4.9
CLL Collm 78.45 321 P **P 22 57 58.0 +0.3**
CLL *e* pP 22 58 16.0 +4.9
HFS Hagfors 78.50 330 P **P 22 57 57.8 +0.1**
comp=Z,3.3nm,0.4s,mb4.6,baz=105,slow=2.8,SNR=42
NKC Novy Kostel 78.78 320 *e*P **P 22 57 59.4 -0.1**
SFI Santa Sofia 79.18 313 *e*P **P 22 58 03.0 +1.2**
PGD Poggio Sodo 79.27 313 *e*P **P 22 58 03.3 +1.0**
MOX Moxa 79.32 320 *e*P **P 22 58 02.6 +0.2**
MOX Moxa 79.32 320 *i*P **P 22 58 02.6 +0.2**
VMG Vicchio 79.39 313 *e*P **P 22 58 04.3 +1.3**
GRA1 Grafenberg Arr 79.57 319 *e*P **P 22 58 03.7 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.57 319 *e*P **P 22 58 03.7 -0.1**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.57 319 *e*P **P 22 58 03.7 -0.1**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 79.57 319 *e*P **P 22 58 03.7 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 79.77 331 P **P 22 58 04.4 -0.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=97,slow=5.0
NB2 NORSAR Subarra 79.77 331 P **P 22 58 04.4 -0.2**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 79.77 331 P **P 22 58 04.5 -0.2**
comp=Z,2.6nm,0.8s,mb4.2,baz=92,slow=5.6,SNR=9.3
NOA LR LR 23 35 18.8
comp=Z,144nm,21.7s,MS4.3,baz=45,slow=37
GSCL Gusciola 80.07 314 *e*P **P 22 58 05.2 -1.4**
DAVOX Davos 80.51 316 P **P 22 58 09.5 +0.6**
comp=Z,4.3nm,0.6s,mb4.6,baz=123,slow=9.1,SNR=7.2
LPG La Plagne 82.74 315 *e*P **P 22 58 21.1 +0.6**
comp=Z,12nm,0.8s,mb4.7
LPG La Plagne 82.74 315 *e*P **P 22 58 21.1 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
JMIC Jan Mayen 86.68 341 LR LR 23 42 14.5
comp=Z,83nm,18.8s,MS4.2,baz=69,slow=39
EKA Eskdalemuir Ar 87.79 325 P **P 22 58 46.1 +0.9**
comp=Z,3.7nm,0.8s,mb4.7,baz=92,slow=5.6,SNR=5.7
ESDC Sonseca Array 91.37 310 P **P 22 59 03.6 +1.1**
comp=Z,1.6nm,0.5s,mb4.6,baz=66,slow=4.3,SNR=13
SCHQ Schefferville 115.46 348 PKP PKPdf 23 04 39.0 +2.2
comp=Z,3.3nm,0.9s,baz=27,slow=9.1,SNR=5.1
ULM Lac du Bonnet 121.29 8 PKP PKPdf 23 04 50.0 +1.7
comp=Z,1.6nm,0.6s,baz=328,slow=1.5,SNR=5.1
NVAR Mina Array Bea 124.65 31 PKP PKPdf 23 04 58.3 +3.2
comp=Z,1.4nm,0.8s,baz=277,slow=4.2,SNR=6.9
PDAR Pinedale Array 124.93 21 PKP PKPdf 23 04 58.2 +2.7
comp=Z,0.7nm,0.6s,baz=27,slow=3.3,SNR=5.6
MSU Marysvale 127.50 26 *e*PKP PKPdf 23 05 02.9 +2.3
BDFB Brasilia 142.53 255 PKP PKPdf 23 05 31.9 +3.0
comp=Z,2.7nm,0.8s,baz=96,slow=14,SNR=3.2
PLCA Paso Flores 144.78 200 PKP PKPdf 23 05 33.6 +1.4
comp=Z,3.3nm,0.7s,baz=348,slow=2.2,SNR=6.9
LPAZ La Paz 161.10 243 PKPab PKPab 23 06 41.9 +0.3
comp=Z,0.7nm,0.5s,baz=73,slow=6.3,SNR=5.1

DJA 21 22:58:23.8±1.0, 9.97S×113.29E, h33km, MD4.8/4, ML3.8/3, Error ellipse: s-maj=23.1km s-min=18.2km az=12.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**1.71**	**30**	*e*Pn	Pn	22 58 49.6	-2.2
	40nm,0.2s						
KELI	**Kelakatan**	**2.11**	**34**	*e*Pn	Pn	22 58 56.2	-1.4
	40nm,0.2s						
KELI				*e*Sn	Sn	22 59 21.0	-1.9
RATI	**Rata**	**2.54**	**61**	*e*Pn	Pn	22 59 02.5	-1.2
	124nm,0.2s						
RATI				*e*Sn	Sn	22 59 29.2	-4.6
KEDI	**Kedomdong**	**3.15**	**62**	*e*Pn	Pn	22 59 10.8	-1.6
KEDI				*e*Sn	Sn	22 59 44.4	-5.0

*NIED **21** 22:59:00,25.50N×128.70E,h8km,Mw4.5 Best double couple: M0 6.56×10^15 NP1:φs221°, δ46°, λ-81°. NP2:φs28°, δ45°, λ-99°.*
*IDC **21** 22:59:39.0±0.6,25.47N×128.61E,mb4.1/15,mb1 4.3/15, mb1mx4.2/21,mbtmp4.1/15,MS3.6/1,Ms1 3.6/1, ms1mx2.8/27,Error ellipse: s-maj=31.3km s-min=11.8km az=74.0*
*JMA **21** 22:59:41.1±0.3,25.47N×128.74E,h53km,M4.6*
*BJI **21** 22:59:42.3,25.16N×128.56E,h49km,mB4.7,mb4.2, Ms4.1,Ms3.9*
*NEIC **21** 22:59:44.1±0.3,25.42N×128.63E,h35km,mb4.4/8,Error ellipse: s-maj=12.9km s-min=6.4km az=59.0*

ISC 21 22:59:40.6±1.1, 25.44N±0.03×128.65E±0.04, h23km±8km, n59,σ1s902/75, mb4.2/26, MS3.7/2, 1C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.06**	**311**	P	**Pn**	**23 00 00.9**	**+0.7**
JJT2				S	**Sb**	**23 00 15.2**	**+1.6**
NAH1	**Naha**	**1.15**	**311**	P	**Pn**	**23 00 01.7**	**+0.3**
NAH1				S	**Sb**	**23 00 16.5**	**+0.5**
JOW	**Kunigami**	**1.42**	**347**	Pg	**Pn**	**23 00 05.2**	**-0.1**
	692nm,0.3s,baz=147,slow=16,SNR=1312			Lg			
JOW				1μm,0.3s,baz=156,slow=28,SNR=26		23 00 21.6	
JOW				LR	LR	23 00 33.5	
	comp=Z,900nm,20.7s,baz=314,slow=39						
JOW	**Kunigami**	**1.42**	**347**	P	**Pn**	**23 00 05.3**	**0.0**
JOW				S	**Sn**	**23 00 21.6**	**-1.8**
JIH	**Iheya**	**1.70**	**339**	P	**Pn**	**23 00 09.6**	**+0.4**
JIH				S	**Sn**	**23 00 28.9**	**-1.5**
JAGN	**Aguni-jima**	**1.70**	**312**	P	**Pn**	**23 00 09.7**	**+0.4**
JAGN				S	**Sn**	**23 00 30.5**	**0.0**
JKE	**Kume jima 2**	**1.89**	**298**	P	**Pn**	**23 00 11.9**	**-0.1**
JKE				S	**Sn**	**23 00 33.6**	**-1.7**
JTK	**Tokunoshima**	**2.35**	**7**	P	**Pn**	**23 00 18.0**	**-0.6**
JTK				S	**Sn**	**23 00 43.4**	**-3.6**
JMZ	**Minamidaito 2**	**2.35**	**80**	P	**Pn**	**23 00 16.5**	**-2.2**
JMZ				S	**Sn**	**23 00 42.1**	**-5.0**
JOGS	**Gusukube**	**3.01**	**258**	P	**Pn**	**23 00 28.1**	**0.0**
JOGS				S	**Sn**	**23 01 02.4**	**-1.5**
JAM	**Amami Oshima**	**3.08**	**16**	P	**Pn**	**23 00 27.8**	**-1.1**
JAM				S	**Sn**	**23 01 00.6**	**-4.8**
JZK	**Kikaishima**	**3.10**	**22**	P	**Pn**	**23 00 29.8**	**+0.6**
JZK				S	**Sn**	**23 01 03.7**	**-2.2**
JMJ	**Miyako jima 2**	**3.10**	**259**	P	**Pn**	**23 00 29.3**	**0.0**
JMJ				S	**Sn**	**23 01 04.4**	**-1.7**
JTJ	**Tarama**	**3.67**	**258**	P	**Pn**	**23 00 36.4**	**-0.9**
JTJ				S	**Sn**	**23 01 16.3**	**-4.0**
JIJ	**Ishigaki jima**	**4.23**	**256**	P	**Pn**	**23 00 43.7**	**-1.6**
JIJ				S	**Sn**	**23 01 29.0**	**-5.6**
JKRS	**Kuro-shima**	**4.38**	**255**	P	**Pn**	**23 00 47.3**	**-0.2**
JKRS				eS	**Sn**	**23 01 34.1**	**-4.3**
JNN	**Nakanoshima**	**4.51**	**14**	P	**Pn**	**23 00 48.5**	**-0.9**
JNN				eS	**Sn**	**23 01 37.8**	**-4.0**
IRIF	**Iriomote-Funau**	**4.60**	**257**	P	**Pn**	**23 00 50.8**	**+0.2**
IRIF				eS	**Sn**	**23 01 38.7**	**-5.2**
ENH	**Enshi**	**17.61**	**290**	P	**P**	**23 03 46.2**	**+0.1**
BJT	**Baijiatuan**	**17.90**	**327**	P	**P**	**23 03 51.0**	**+1.3**
	10nm,0.8s						
BJI	**Beijing**	**17.91**	**327**	*e*P	**P**	**23 03 52.1**	**+2.2**
BJI				AMB	AMB		
	comp=Z,12nm,0.7s						
XAN	**Xi'an**	**19.13**	**301**	P	**P**	**23 04 04.4**	**-0.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s						
GUMO	**Guam**	**19.29**	**125**	P	**P**	**23 04 05.5**	**-1.2**
GTA	**Gaotai**	**27.90**	**307**	P	**P**	**23 05 29.8**	**-1.1**
GTA				AP	pP	23 05 41.4	+3.8
GTA				XP	sP	23 05 47.1	+6.5
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
GTA				AMB	AMB		
	comp=Z,82nm,4.6s						
GTA				LR	LR		
	comp=N,154nm,12.6s,MS4.0						
GTA				LR	LR		
	comp=E,171nm,12.5s,MS4.0						
GTA				LR	LR		
	comp=Z,199nm,14.4s,MS3.8						
ULN	**Ulaanbaatar**	**28.12**	**328**	*e*P	**P**	**23 05 34.8**	**+2.0**
	comp=Z,1.5nm,0.4s,mb4.0						
SONM	**Songino Array**	**28.41**	**328**	P	**P**	**23 05 36.5**	**+1.1**
	comp=Z,1.7nm,0.4s,mb4.0,baz=143,slow=11,SNR=40						
JIRN	**Jiri**	**37.91**	**283**	*e*P	**P**	**23 06 58.4**	**+0.4**
	comp=Z,5.9nm,0.4s,mb4.7						
PKI	**Pulchoki**	**38.61**	**283**	*e*P	**P**	**23 07 04.3**	**+0.5**
	comp=Z,4.2nm,0.3s,mb4.6						
KKN	**Kakani**	**38.70**	**283**	*e*P	**P**	**23 07 06.0**	**+1.4**
	comp=Z,10nm,0.5s,mb4.8						
DMN	**Daman**	**38.87**	**283**	*e*P	**P**	**23 07 07.3**	**+1.3**
PMG	**Port Moresby**	**39.05**	**150**	LR	LR	23 20 30.0	
	comp=Z,81nm,20.0s,MS3.5,baz=170,slow=32						
GKN	**Gorkha**	**39.23**	**284**	*e*P	**P**	**23 07 10.1**	**+1.0**
	comp=Z,8.1nm,0.4s,mb4.8						
ZAL	**Zalesovo**	**43.10**	**323**	P	**P**	**23 07 40.0**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.0,baz=349,slow=9.4,SNR=9.1						
WRAB	**Tennant Creek**	**45.44**	**172**	*e*P	**P**	**23 07 58.8**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**45.45**	**172**⇑	*i*P	**P**	**23 07 59.6**	**-0.3**
KURK	**Kurchatov**	**45.65**	**317**	*e*P	**P**	**23 08 00.6**	**-0.4**
	comp=Z,9.1nm,1.2s,mb4.6						
CTA	**Charters Tower**	**48.39**	**158**	*e*P	**P**	**23 08 23.2**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.4						
CTA	**Charters Tower**	**48.39**	**158**	P	**P**	**23 08 23.1**	**+0.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=342,slow=9.7,SNR=6.5						
ASAR	**Alice Springs**	**49.08**	**174**	P	**P**	**23 08 28.1**	**-0.2**
	comp=Z,1.1nm,0.5s,mb4.1,baz=3.3,slow=15,SNR=25						
CHKZ	**Chkalovo**	**51.08**	**320**	*e*P	**P**	**23 08 42.6**	**-0.5**
	comp=Z,5.3nm,1.3s,mb4.3						
BVAR	**Borovoye Array**	**51.11**	**319**	P	**P**	**23 08 43.9**	**+0.5**
	comp=Z,1.2nm,0.5s,mb4.1,baz=82,slow=9.4,SNR=9.6						
BVAR				PcP	PcP	23 09 58.4	-0.7
	comp=Z,0.9nm,0.5s,baz=123,slow=4.6,SNR=4.6						
STKA	**Stephens Creek**	**58.33**	**167**	P	**P**	**23 09 35.4**	**-0.9**
	comp=Z,0.9nm,0.6s,mb4.0,baz=2.5,slow=6.6,SNR=7.2						
INK	**Inuvik**	**69.46**	**23**	P	**P**	**23 10 49.1**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=305,slow=5.8,SNR=22						
KIV	**Kislovodsk**	**70.03**	**310**	*e*P	**P**	**23 10 53.4**	**+0.9**
	comp=Z,8.8nm,0.9s,mb4.7						
KIV				*e*		23 11 05.3	
FINES	**FINESS Array B**	**73.73**	**331**	P	**P**	**23 11 14.3**	**+0.1**
	comp=Z,1.1nm,0.4s,mb4.1,baz=63,slow=5.9,SNR=12						
FINES	**FINESS Array B**	**73.73**	**331**	P	**P**	**23 11 14.3**	**+0.1**
MALT	**Malatya**	**74.86**	**305**	*e*P	**P**	**23 11 20.6**	**-0.6**
	comp=Z,1.8nm,0.7s,mb4.1						
AKASG	**Malin Array Be**	**76.37**	**320**	P	**P**	**23 11 29.8**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=61,slow=6.3,SNR=4.8						
BRTR	**Keskin Array B**	**77.81**	**308**	P	**P**	**23 11 38.4**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.9,baz=90,slow=4.9,SNR=5.2						
YKA	**Yellowknife Ar**	**79.08**	**25**	P	**P**	**23 11 45.0**	**+0.8**
	comp=Z,1.4nm,0.7s,mb4.0,baz=299,slow=5.6,SNR=24						
YKA	**Yellowknife Ar**	**79.08**	**25**	P	**P**	**23 11 45.0**	**+0.7**
HFS	**Hagfors**	**79.69**	**333**	P	**P**	**23 11 48.0**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.1,baz=117,slow=6.4,SNR=6.2						
NB2	**NORSAR Subarra**	**80.18**	**334**	P	**P**	**23 11 50.1**	**-0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=49,slow=5.6						
NOA	**NORSAR Array B**	**80.18**	**334**	P	**P**	**23 11 50.4**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=51,slow=5.5,SNR=5.1						
NEW	**Newport**	**85.99**	**38**	*e*P	**P**	**23 12 20.9**	**+0.7**
GERES	**GERESS Array B**	**86.05**	**323**	P	**P**	**23 12 21.5**	**+1.0**
	comp=Z,0.5nm,0.6s,mb3.9,baz=63,slow=6.0,SNR=5.7						
FCC	**Fort Churchill**	**88.94**	**21**	*e*P	**P**	**23 12 34.4**	**+0.2**
HLID	**Hailey**	**90.25**	**40**	P	**P**	**23 12 42.4**	**+1.6**
NVAR	**Mina Array Bea**	**90.78**	**46**	P	**P**	**23 12 45.1**	**+1.8**
	comp=Z,0.5nm,0.7s,mb3.9,baz=281,slow=7.6,SNR=4.1						

DJA 21 23:00:24.0±1.1, 7.20S×119.36E, h160km, MD4.5/2, ML4.4/2, 5C-1D, Error ellipse: s-maj=67.4km s-min=25.4km az=163.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEDI	**Kedomdong**	**3.46**	**248**⇑	*e*Pn	P	23 01 18.2	-0.1
	87nm,0.2s						
RATI	**Rata**	**4.08**	**248**⇑	*e*Pn	P	23 01 25.2	-1.1
	86nm,0.2s						
RATI	**Rata**	**4.08**	**248**	*e*Pg	P	23 01 27.4	+1.1
RATI				⇓*e*Sn	S	23 02 12.6	-1.8
KELI	**Kelakatan**	**4.93**	**258**⇑	*e*Pn	P	23 01 38.3	+0.9
SRDI	**Scrawed**	**5.32**	**256**⇑	*e*Pn	P	23 01 42.7	+0.1
SRDI				⇑*e*Sn	S	23 02 40.4	-3.1
WB2	**Warramunga Arr**	**19.29**	**133**	*e*P	P	23 04 28.2	-11

WEL 21 23:16:35.9±0.3, 38.16S×176.23E, h153km±2km, ML3.7/14, 5C, Error ellipse: s-maj=2.7km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**0.70**	**99**	PN	P	23 16 58.3	-0.8
URZ				SN	S	23 17 15.9	-1.0
MGZ	**Maungaku**	**1.00**	**213**	PN	P	23 17 01.3	+0.1
BKZ	**Black Stump Fm**	**1.03**	**169**	PN	P	23 17 01.3	-0.1
BKZ				SN	S	23 17 20.3	-0.7
MWZ	**Matawai**	**1.03**	**100**⇑	PN	P	23 17 01.5	+0.1
MWZ				SN	S	23 17 20.8	-0.3
NGZ	**Ngauruhoe**	**1.13**	**206**	PN	P	23 17 02.4	+0.1
CNZ	**Chateau**	**1.17**	**207**	PN	P	23 17 02.6	-0.1
TUVZ	**Tukino**	**1.20**	**202**	PN	P	23 17 02.9	-0.1
WNVZ	**Wahianoa**	**1.27**	**203**	PN	P	23 17 03.4	-0.3
MOVZ	**Moawhango**	**1.30**	**197**	PN	P	23 17 03.3	-0.8
MTVZ	**Mangateitei**	**1.36**	**206**⇑	PN	P	23 17 04.2	-0.5
KNZ	**Kokohu**	**1.42**	**128**	SN	S	23 17 27.2	-0.6
PUZ	**Puketiti**	**1.60**	**88**	PN	P	23 17 06.4	-0.7
PUZ				*e*SN	S	23 17 29.0	-2.1
MXZ	**Matakaoa Point**	**1.74**	**71**	PN	P	23 17 08.2	-0.4
MXZ				SN	S	23 17 33.4	-0.5
TSZ	**Takapari Road**	**1.91**	**186**	PN	P	23 17 09.2	-1.4
TSZ				SN	S	23 17 35.7	-1.5
BFZ	**Birch Farm**	**2.52**	**180**	PN	P	23 17 15.9	-2.1
BFZ				SN	S	23 17 47.8	-2.4
MRZ	**Mangatainoka R**	**2.55**	**191**⇑	PN	P	23 17 15.9	-2.6
MRZ				SN	S	23 17 47.8	-3.1
KIW	**Kapiti Island**	**2.89**	**200**⇑	PN	P	23 17 19.5	-3.2
MTW	**Mount Morrison**	**3.05**	**190**⇑	PN	P	23 17 21.2	-3.6
CAW	**Cannon Point**	**3.08**	**197**	PN	P	23 17 21.7	-3.4
DUWZ	**D'Urville Isla**	**3.19**	**213**	PN	P	23 17 22.8	-3.7
PAWZ	**Paruwai Farm**	**3.28**	**191**	PN	P	23 17 24.0	-3.7
MRW	**Makara Radio**	**3.29**	**201**	PN	P	23 17 24.0	-3.9
MSWZ	**Moikau Station**	**3.34**	**193**	PN	P	23 17 24.5	-4.0
SNZO	**South Karori**	**3.36**	**200**	PN	P	23 17 24.7	-4.1
BHW	**Baring Head**	**3.41**	**197**	PN	P	23 17 25.3	-4.1
QRZ	**Quartz Range**	**3.92**	**226**	PN	P	23 17 38.8	+2.8
KHZ	**Kahutara**	**4.73**	**205**	PN	P	23 17 41.6	-5.0
KHZ				SN	S	23 18 35.0	-6.2
DSZ	**Denniston Nort**	**4.94**	**222**	PN	P	23 17 43.7	-5.8
DSZ				SN	S	23 18 39.1	-7.2
LTZ	**Lake Taylor**	**5.52**	**212**	PN	P	23 17 51.4	-5.7
MQZ	**McQueen's Vall**	**6.17**	**205**	PN	P	23 17 58.8	-7.0
MQZ				*e*SN	S	23 19 04.2	-11

*NEIC **21** 23:35:55.9,38.35N×21.89E,h15km,ML3.1(ATH),After ATH.*
*ATH **21** 23:35:56.1,38.35N×21.91E,h17km±2km,MD3.4/13, ML3.1*
*THE **21** 23:35:57.0,38.38N×22.10E,h10km,ML3.1*
*CSEM **21** 23:35:56.8±0.2,38.36N×22.04E,h2km,ML3.1,Error ellipse: s-maj=4.5km s-min=2.5km az=54.0*

ISC 21 23:35:55.0±1.6, 38.35N±0.03×21.91E±0.04, h1km±13km, n27,σ1s917/32, mb2.5/1, 1C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.45**	**230**⇑	*i*PB	**Pb**	**23 36 05.3**	**-0.2**
EVR	**Evrytania**	**0.57**	**352**	*e*PN	**Pn**	**23 36 06.5**	**-3.4**
EVR				*e*SN	**Sn**	**23 36 16.0**	**-4.1**
EVR	**Evrytania**	**0.57**	**352**	*e*Pn	**Pn**	**23 36 06.3**	**-3.6**
LKR	**Lokris**	**0.91**	**70**	*e*P

ms1mx3.2/19, Error ellipse: s-maj=24.2km s-min=15.3km az=50.0
*BJI **21** 23:36:39.2, 10.11N×93.44E, h38km, mb4.5, Ms3.6, Msz3.7*
*NEIC **21** 23:36:40.1±0.3, 10.18N×93.72E, h30km, mb4.6/10, Error ellipse: s-maj=10.9km s-min=6.6km az=221.0*

ISC 21 23:36:39.7±1.3, 10.15N±0.06×93.82E±0.05, h41km±12km, n73, σ1°08/68, mb4.4/30, MS3.9/5, 2C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNT	**Nongplab**	**6.28**	**67**	P		**P**	**23 38 13.0**	**+0.8**
SNG	**Songkhla**	**7.33**	**113**	P		**P**	**23 38 25.0**	**-1.9**
KULM	**Kulim**	**8.31**	**125**	*e*P		**P**	**23 38 38.2**	**-2.2**
CM31	**Chiang Mai Arr**	**9.64**	**30**	P		**P**	**23 38 58.4**	**-0.5**
	12nm,0.3s							
CHG	**Chiang Mai**	**9.94**	**29**	P		**P**	**23 39 13.9**	**+11**
NANT	**Nan**	**10.88**	**37**	P		**P**	**23 39 20.0**	**+4.1**
VIS	**Vishakhapatnam**	**12.66**	**308**	*i* P		**S**	**23 39 53.5**	**+14**
VIS				*i* S		**S**	**23 42 01.5**	**+1.0**
HYB	**Hyderabad**	**16.49**	**298**	*e*P		**P**	**23 40 29.0**	**-0.7**
HYB				*e*S		**S**	**23 43 30.0**	**-0.7**
HYB	**Hyderabad**	**16.49**	**298**	*i* P		**P**	**23 40 29.0**	**-0.7**
HYB				*e*			23 43 21.0	
HYB				*e*S		**S**	**23 43 30.0**	**-0.7**
TRD	**Trivandrum**	**16.72**	**266**	*e*P		**P**	**23 40 35.2**	**+2.6**
LSA	**Lhasa**	**19.62**	**353**	*e*P		**P**	**23 41 06.8**	**-0.7**
LSA	**Lhasa**	**19.62**	**353**	*e*P		**P**	**23 41 05.3**	**-2.2**
	13nm,0.5s							
GYA	**Guiyang**	**20.27**	**35**	⇑*i*P		**P**	**23 41 17.3**	**+2.9**
GYA				AMB		AMB		
	comp=Z,20nm,0.7s							
GYA				LR		LR		
	comp=N,280nm,16.2s,MS3.9							
GYA				LR		LR		
	comp=E,340nm,15.0s,MS3.9							
GYA				LR		LR		
	comp=Z,260nm,16.0s,MS3.7							
KAD	**Karad**	**20.35**	**293**	*e*P		**P**	**23 41 16.0**	**+0.6**
POO	**Poona**	**21.05**	**296**	*e*P		**P**	**23 41 24.0**	**+1.4**
POO				*e*S		**S**	**23 45 17.0**	**+7.3**
KKM	**Kota Kinabalu**	**22.54**	**99**	*e*P		**P**	**23 41 36.6**	**-0.9**
CD2	**Chengdu**	**22.63**	**23**	*e*P		**P**	**23 41 38.0**	**-0.3**
CD2				AMB		AMB		
	comp=Z,12nm,0.8s,mb4.4							
NDI	**New Delhi**	**24.14**	**322**	*e*		**P**	**23 41 53.0**	**0.0**
ENH	**Enshi**	**24.78**	**34**	*e*P		**P**	**23 42 00.5**	**+1.3**
	comp=Z,13nm,0.6s,mb4.6							
DDI	**Dehra Dun**	**24.88**	**326**	*e*		**P**	**23 42 02.7**	**+2.5**
WMQ	**Urumqi**	**33.97**	**352**	*e*P		**P**	**23 43 22.3**	**+0.9**
WMQ				AMB		AMB		
	comp=Z,15nm,1.4s,mb4.7							
KZA	**Kyzart**	**35.74**	**336**	P		**P**	**23 43 36.8**	**+0.2**
	SNR=6.9							
KBK	**Karagaybulak**	**36.35**	**336**	P		**P**	**23 43 42.1**	**+0.4**
	SNR=13							
AML	**Almayashu**	**36.43**	**334**	P		**P**	**23 43 43.4**	**+1.0**
	SNR=18							
AAK	**Ala-Archa**	**36.51**	**336**	P		**P**	**23 43 43.9**	**+0.8**
	SNR=7.7							
AAK	**Ala-Archa**	**36.51**	**336**	P		**P**	**23 43 42.1**	**-1.0**
	comp=Z,60nm,1.3s,mb5.3,SNR=13							
AAK	**Ala-Archa**	**36.51**	**336**	*e*P		**P**	**23 43 42.2**	**-0.9**
	comp=Z,16nm,1.2s,mb4.7							
CHMS	**Chumysh**	**36.72**	**336**	P		**P**	**23 43 45.1**	**+0.4**
	SNR=5.8							
EKS2	**Erkin-Say**	**36.83**	**335**	P		**P**	**23 43 46.5**	**+0.8**
	SNR=17							
USP	**Ospenovka**	**37.04**	**336**	P		**P**	**23 43 47.7**	**+0.2**
	SNR=22							
SONM	**Songino Array**	**39.03**	**13**	P		**P**	**23 44 04.5**	**+0.5**
	comp=Z,1.0nm,0.5s,mb3.8,baz=197,slow=7.6,SNR=16							
SONM				PcP		PcP	23 46 15.0	+0.8
	comp=Z,1.3nm,0.5s,baz=200,slow=3.6,SNR=8.1							
ULN	**Ulaanbaatar**	**39.22**	**14**	*e*P		**P**	**23 44 05.5**	**-0.1**
	comp=Z,1.6nm,0.8s,mb3.8							
KURK	**Kurchatov**	**42.35**	**346**	*e*P		**P**	**23 44 30.1**	**-1.3**
	comp=Z,10nm,1.3s,mb4.3							
ZAL	**Zalesovo**	**44.27**	**352**	P		**P**	**23 44 47.2**	**+0.3**
	comp=Z,6.1nm,0.4s,mb4.7,baz=308,slow=6.2,SNR=27							
ZAL	**Zalesovo**	**44.27**	**352**	P		**P**	**23 44 47.2**	**+0.3**
BVAR	**Borovoye Array**	**46.75**	**341**	P		**P**	**23 45 06.0**	**-0.6**
	comp=Z,3.3nm,0.8s,mb4.3,baz=139,slow=9.0,SNR=19							
BVAR				PcP		PcP	23 46 39.6	-0.4
	comp=Z,1.4nm,0.7s,baz=117,slow=6.6,SNR=3.7							
CHKZ	**Chkalovo**	**47.23**	**341**	*e*P		**P**	**23 45 09.7**	**-0.8**
	comp=Z,10nm,0.7s,mb4.9							
RAYN	**Ar Rayn**	**47.90**	**292**	P		**P**	**23 45 17.1**	**+1.0**
	comp=Z,33nm,0.7s,SNR=8.4							
WRAB	**Tennant Creek**	**49.85**	**127**	*e*P		**P**	**23 45 31.6**	**+0.4**
	comp=Z,9.6nm,0.9s,mb4.8							
WB2	**Warramunga Arr**	**49.86**	**127**	*e*P		**P**	**23 45 32.2**	**+1.0**
ASAR	**Alice Springs**	**51.62**	**131**	P		**P**	**23 45 45.1**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=308,slow=7.3,SNR=19							
GNI	**Garni**	**52.65**	**313**	P		**P**	**23 45 49.2**	**-2.9**
	comp=Z,2.4nm,0.6s,mb4.3,baz=210,slow=20,SNR=4.7							
KIV	**Kislovodsk**	**55.45**	**317**	*e*P		**P**	**23 46 11.7**	**-0.9**
	comp=Z,19nm,0.8s,mb5.2							
PMG	**Port Moresby**	**56.52**	**108**	P		**P**	**23 46 22.1**	**+1.5**
	comp=Z,14nm,0.9s,mb5.0,baz=256,slow=9.0,SNR=4.3							
MALT	**Malatya**	**56.78**	**309**	*e*P		**P**	**23 46 20.7**	**-1.5**
KMBO	**Kilima Mbogo**	**57.39**	**262**	LR		LR	00 09 05.7	
	comp=Z,57nm,19.1s,MS3.7,baz=90,slow=34							
EIL	**Elat**	**58.05**	**299**	P		**P**	**23 46 30.4**	**-0.8**
	comp=Z,3.5nm,0.9s,mb4.4,baz=63,slow=9.0,SNR=3.5							
BRTR	**Keskin Array B**	**60.73**	**310**	P		**P**	**23 46 47.7**	**-1.9**
	comp=Z,3.5nm,0.7s,mb4.6,baz=120,slow=7.6,SNR=22							
STKA	**Stephens Creek**	**61.90**	**134**	P		**P**	**23 46 58.6**	**+1.1**
	comp=Z,0.9nm,0.5s,mb4.2,baz=310,slow=11,SNR=3.5							
FINES	**FINESS Array B**	**70.57**	**332**	P		**P**	**23 47 51.1**	**-1.2**
	comp=Z,0.5nm,0.4s,mb3.8,baz=97,slow=6.8,SNR=8.8							
MATP	**Matopo**	**71.05**	**244**	P		**P**	**23 47 56.8**	**+0.9**
	comp=Z,2.7nm,0.5s,mb4.4,baz=57,slow=7.9,SNR=16							
ARCES	**ARCESS Array B**	**73.04**	**340**	P		**P**	**23 48 07.0**	**+0.1**
	comp=Z,1.2nm,0.4s,mb4.2,baz=95,slow=6.6,SNR=16							
ARCES				LR		LR	00 22 36.1	
	comp=Z,82nm,20.9s,MS4.0,baz=22,slow=38							
MORC	**Moravsky Berou**	**73.46**	**319**	*e*P		**P**	**23 48 08.6**	**-1.1**
	comp=Z,7.1nm,1.4s,mb4.4							
KOGS	**Kog**	**74.16**	**315**	*i* P		**P**	**23 48 13.2**	**-0.6**
GROS	**Grobnik**	**74.68**	**315**	*i* P		**P**	**23 48 16.2**	**-0.6**
PDKS	**Podkum**	**75.02**	**315**	*e*P		**P**	**23 48 18.2**	**-0.6**
GERES	**GERESS Array B**	**75.94**	**318**	P		**P**	**23 48 23.6**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=21							
KHC	**Kasperske Hory**	**76.02**	**318**	*e*P		**P**	**23 48 21.5**	**-2.9**
HFS	**Hagfors**	**76.35**	**330**	P		**P**	**23 48 25.3**	**-0.8**
	comp=Z,0.7nm,0.4s,mb3.9,baz=108,slow=4.6,SNR=7.4							
NOA	**NORSAR Array B**	**77.61**	**330**	P		**P**	**23 48 32.5**	**-0.6**
	comp=Z,0.7nm,0.9s,mb3.6,baz=166,slow=12,SNR=2.7							
NOA				LR		LR	00 25 46.2	
	comp=Z,27nm,19.2s,MS3.6,baz=280,slow=38							
DAVOX	**Davos**	**78.55**	**316**	P		**P**	**23 48 38.6**	**+0.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=110,slow=10,SNR=7.7							
LPG	**La Plagne**	**80.81**	**315**	⇑*i*P		**P**	**23 48 51.2**	**+0.4**
	comp=Z,8.1nm,0.6s,mb4.5							
EKA	**Eskdalemuir Ar**	**85.69**	**325**	P		**P**	**23 49 15.9**	**+0.6**
	comp=Z,2.0nm,0.8s,mb4.4,baz=111,slow=6.1,SNR=3.9							
ESDC	**Sonseca Array**	**89.52**	**310**	P		**P**	**23 49 34.4**	**+0.2**
	comp=Z,0.3nm,0.5s,mb3.9,baz=65,slow=4.1,SNR=4.2							
BORG	**Borgarnes**	**91.23**	**337**	LR		LR	00 37 07.9	
	comp=Z,219nm,19.4s,MS4.6,baz=208,slow=40							
INK	**Inuvik**	**94.91**	**16**	P		**P**	**23 49 59.0**	**+0.7**
	comp=Z,0.9nm,0.9s,mb4.2,baz=308,slow=6.7,SNR=3.9							
NVAR	**Mina Array Bea**	**123.13**	**30**	PKP		PKPdf	23 55 35.5	+3.0
	comp=Z,1.4nm,0.6s,baz=315,slow=2.6,SNR=11							
NVAR	**Mina Array Bea**	**123.13**	**30**	PKP		PKPdf	23 55 35.5	+3.0
PDAR	**Pinedale Array**	**123.17**	**20**	PKP		PKPdf	23 55 34.5	+2.2
	comp=Z,1.0nm,0.7s,baz=39,slow=0.9,SNR=11							
TXAR	**Lajitas Array**	**137.28**	**23**	PKP		PKPdf	23 56 03.7	+4.2
	comp=Z,0.9nm,0.6s,baz=201,slow=0.6,SNR=7.3							
TXAR	**Lajitas Array**	**137.28**	**23**	PKP		PKPdf	23 56 03.7	+4.2
SJG	**San Juan**	**145.66**	**325**	PKPbc		PKPbc	23 56 16.8	+1.5
	comp=Z,3.1nm,0.3s,baz=24,slow=20,SNR=3.6							
PLCA	**Paso Flores**	**146.54**	**202**	PKPbc		PKPbc	23 56 19.4	+2.6
	comp=Z,4.1nm,0.7s,baz=143,slow=1.9,SNR=9.1							

*IDC **21** 23:52:31.6±1.4, 11.19N×126.25E, mb3.9/8, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, MS3.3/1, Ms1 3.3/1, ms1mx2.7/17, Error ellipse: s-maj=201.3km s-min=17.0km az=70.0*
*MAN **21** 23:52:35.6, 11.19N×126.06E, h12km, mb4.7, ML3.6, MS3.5*

*NEIC **21** 23:52:36.8±0.6, 11.10N×126.05E, h35km, mb4.2/3, Error ellipse: s-maj=89.4km s-min=7.9km az=69.0*

ISC 21 23:52:35.4±1.2, 11.21N±0.05×126.23E±0.08, h41km±11km, n25, σ0°91/30, mb4.0/11, MS3.1/1, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BESP	**Borongan**	**0.87**	**297**	*e*P		**P**	**23 52 49.5**	**-1.8**
BESP				*e*S		**S**	**23 53 01.9**	**-1.1**
SCPH	**Surigao**	**1.59**	**207**	‖*e*P		**P**	**23 53 01.2**	**-0.5**
SCPH				*e*S		**S**	**23 53 17.5**	**-3.7**
MSLP	**Maasin**	**1.72**	**232**	*e*P		**P**	**23 53 03.3**	**-0.1**
MSLP				*e*S		**S**	**23 53 25.7**	**+1.4**
CNP	**Catarman**	**2.01**	**310**	*e*P		**P**	**23 53 07.8**	**+0.2**
LLP	**Lapu-Lapu**	**2.40**	**249**	*e*P		**P**	**23 53 14.0**	**+0.9**
LLP				*e*S		**S**	**23 53 40.6**	**-0.8**
TBP	**Tagbilaran**	**2.77**	**237**	*e*P		**P**	**23 53 19.2**	**+0.7**
TBP				*e*S		**S**	**23 53 51.1**	**0.0**
MMPH	**Masbate**	**2.80**	**294**	*e*P		**P**	**23 53 26.0**	**+7.2**
PVCP	**Virac**	**3.12**	**320**	*e*P		**P**	**23 53 24.1**	**+0.6**
RCP	**Roxas**	**3.44**	**276**	‖*e*P		**P**	**23 53 28.7**	**+0.8**
BUKP	**Musuan**	**3.50**	**199**	*e*P		**P**	**23 53 30.3**	**+1.5**
DCPH	**Dipolog City**	**3.85**	**228**	‖*e*P		**P**	**23 53 33.0**	**-0.8**
DCPH				*e*S		**S**	**23 54 13.4**	**-5.0**
PAGZ	**Pagadian**	**4.36**	**220**	*e*P		**P**	**23 53 41.3**	**+0.3**
CBIJ	**Chichi jima**	**21.80**	**41**	LR		LR	00 04 38.5	
	comp=Z,84nm,21.5s,MS3.1,baz=90,slow=33							
WRAB	**Tennant Creek**	**31.96**	**165**	P		**P**	**23 58 58.6**	**-1.4**
WRA	**Warramunga Arr**	**31.97**	**165**	P		**P**	**23 58 58.9**	**-1.2**
	0.3nm,0.5s,mb3.4,baz=346,slow=9.4,SNR=3.5							
ASAR	**Alice Springs**	**35.46**	**168**	P		**P**	**23 59 30.3**	**+0.2**
	0.4nm,0.4s,mb3.7,baz=346,slow=6.9,SNR=7.2							
ULN	**Ulaanbaatar**	**39.93**	**340**	*e*P		**P**	**00 00 07.8**	**+0.6**
	0.9nm,0.7s,mb3.6							
SONM	**Songino Array**	**40.13**	**339**	P		**P**	**00 00 10.4**	**+1.4**
	0.8nm,0.7s,mb3.5,baz=154,slow=10.0,SNR=8.4							
STKA	**Stephens Creek**	**45.30**	**162**	P		**P**	**00 00 51.1**	**-0.1**
	3.0nm,1.0s,mb4.1,baz=331,slow=7.3,SNR=3.4							
ZAL	**Zalesovo**	**53.79**	**331**	P		**P**	**00 01 55.7**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=354,slow=5.6,SNR=7.1							
KURK	**Kurchatov**	**55.28**	**325**	*e*P		**P**	**00 02 06.4**	**-0.6**
	7.2nm,0.9s,mb4.7							
BVAR	**Borovoye Array**	**60.88**	**325**	P		**P**	**00 02 46.4**	**+0.2**
	1.2nm,0.7s,mb4.2,baz=124,slow=5.2,SNR=12							
CHKZ	**Chkalovo**	**61.00**	**326**	*e*P		**P**	**00 02 46.0**	**-0.9**
	1.3nm,0.8s,mb4.1							
ARCES	**ARCESS Array B**	**83.31**	**340**	P		**P**	**00 04 59.9**	**+0.9**
	2.0nm,0.8s,mb4.2,baz=72,slow=7.7,SNR=4.6							
FINES	**FINESS Array B**	**85.05**	**332**	P		**P**	**00 05 08.3**	**+0.5**
	1.4nm,0.6s,mb4.3,baz=61,slow=3.5,SNR=12							

*CSEM **22** 00:00:57.9±0.1, 39.86N×23.83E, h15km, ML2.8, Error ellipse: s-maj=2.8km s-min=2.1km az=75.0*
*ATH **22** 00:00:58.0, 39.95N×23.06E, h56km±5km, MD3.4/4*
*NEIC **22** 00:00:59.1, 39.94N×23.27E, h43km, MD3.4(ATH), After ATH.*
*THE **22** 00:00:59.0, 39.82N×23.87E, h21km, ML2.8*

ISC 22 00:00:57.3±0.6, 39.86N±0.03×23.86E±0.04, h9km±7km, n13, σ0°86/20, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OUR	**Ouranopolis**	**0.48**	**12**	*e*Pg		**Pg**	**00 01 08.8**	**+1.7**
OUR				*e*Sg		**Sg**	**00 01 17.8**	**+4.2**
PLG	**Polygyros**	**0.60**	**329**	*e*P		**Pg**	**00 01 09.6**	**+0.2**
PLG				*e*S		**Sg**	**00 01 19.0**	**+1.5**
AOS	**Alonnisos**	**0.69**	**178**	*e*Pg		**Pg**	**00 01 11.2**	**+0.1**
AOS				*e*Sg		**Sg**	**00 01 20.8**	**+0.4**
NEO	**Neokhori**	**0.74**	**222**	*e*P		**Pb**	**00 01 12.0**	**+0.2**
NEO				*e*S		**Sb**	**00 01 22.5**	**+0.8**
NEO	**Neokhori**	**0.74**	**222**	*e*P		**Pb**	**00 01 12.5**	**+0.7**
LOS	**Limnos**	**0.95**	**85**	*e*Pg		**Pg**	**00 01 15.1**	**-1.1**
LOS				*e*Sg		**Sg**	**00 01 28.6**	**-0.3**
THE	**Thessaloniki**	**1.03**	**319**	*e*Pg		**Pg**	**00 01 16.9**	**-0.9**
LIT	**Litokhoron**	**1.08**	**283**	*e*Pg		**Pg**	**00 01 17.8**	**-1.0**
LIT				*e*Sg		**Sg**	**00 01 32.3**	**-0.9**
SRS	**Serrai**	**1.27**	**351**	*e*Pb		**Pb**	**00 01 20.4**	**-0.5**
SRS				*e*Sb		**Sb**	**00 01 37.3**	**0.0**
NVR	**Nevrokopi**	**1.49**	**0**	*e*P		**Pn**	**00 01 24.6**	**+0.3**
GRG	**Griva**	**1.56**	**315**	*e*Pb		**Pb**	**00 01 25.1**	**-0.8**
RDO	**Rodhopi**	**1.82**	**44**	*e*P		**Pn**	**00 01 33.5**	**+4.5**
RDO	**Rodhopi**	**1.82**	**44**	*e*P		**Pn**	**00 01 34.0**	**+5.0**

BJI 22 00:25:36.6, 26.35N×99.93E, h10km, mb3.5, ML3.1, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMI	**Kunming**	**2.81**	**115**	PG		Pg	00 26 24.8	-8.0
KMI				SG		Sg	00 26 57.4	-13
KMI				Smax				
	comp=N,59nm,1.4s							
KMI				Smax				
	comp=E,70nm,1.2s							
KMI				LR		LR		
	comp=N,285nm,3.8s							
KMI				LR		LR		
	comp=E,245nm,4.4s							
CD2	**Chengdu**	**5.65**	**36**	*e*PG		Pg	00 27 19.1	-10

*BJI **22** 00:28:27.1, 15.27S×76.48W, h53km, mB4.6, Ms4.9, Msz4.6*
*NEIC **22** 00:28:28.5, 14.65S×76.08W, h41km, mb4.6/6, After LIM.*
NEIC Felt [III] at Ica.
*IDC **22** 00:28:30.0±0.7, 14.60S×75.99W, h19km±3km, mb4.0/9, mb1 4.1/12, mb1mx4.0/18, mbtmp4.1/12, ML2.7/2, MS4.0/9, Ms1 4.0/9, ms1mx3.6/20, Error ellipse: s-maj=29.8km s-min=16.8km az=60.0*

ISC 22 00:28:27.4±0.5, 14.65S±0.07×76.1W±0.1, h18km, h18km±1.0km: pP-P, n40, σ0°99/28, mb4.1/13, MS4.0/8, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LPAZ	**La Paz**	**7.81**	**103**	Pn		**Pn**	**00 30 27.4**	**+4.4**
	9.7nm,0.3s,baz=296,slow=9.8,SNR=372							
LPAZ				LR		LR	00 33 46.5	
	comp=Z,806nm,19.0s,baz=286,slow=41							
LPAZ	**La Paz**	**7.81**	**103**	*e*P		**Pn**	**00 30 27.2**	**+4.2**
LVC	**Limon Verde**	**10.41**	**141**	*e*P		**P**	**00 30 59.1**	**-0.1**
LVC				*e*S		**S**	**00 32 52.0**	**-4.4**
OTAV	**Otavalo**	**14.98**	**351**	*e*P		**P**	**00 32 07.8**	**+7.5**
	9.8nm,0.8s							
OTAV				*e*S		**S**	**00 35 02.1**	**+16**
CFAA	**Coronel Fontan**	**18.33**	**158**	P		**P**	**00 32 44.2**	**+1.6**
	0.0nm,0.3s,baz=334,slow=12,SNR=10							
CFAA				LR		LR	00 38 28.2	
	comp=Z,32nm,18.8s,baz=347,slow=33							
CFAA	**Coronel Fontan**	**18.33**	**158**	P		**P**	**00 32 44.2**	**+1.6**
ROSC	**El Rosal**	**19.46**	**5**	P		**P**	**00 32 55.9**	**-0.3**
	0.4nm,0.3s,baz=258,slow=19,SNR=1.8							
SDV	**Santo Domingo**	**24.00**	**13**	P		**P**	**00 33 44.0**	**+1.8**
	11nm,0.6s,mb4.4,baz=226,slow=8.8,SNR=18							
SDV	**Santo Domingo**	**24.00**	**13**	*e*P		**P**	**00 33 43.5**	**+1.3**
	15nm,0.7s,mb4.5							
PLCA	**Paso Flores**	**26.42**	**171**	P		**P**	**00 34 05.0**	**0.0**
	1.6nm,0.5s,mb3.8,baz=325,slow=15,SNR=3.0							
PLCA				LR		LR	00 43 20.7	
	comp=Z,67nm,21.8s,MS3.1,baz=333,slow=34							
BDFB	**Brasilia**	**27.08**	**96**	P		**P**	**00 34 11.0**	**-0.2**
	4.0nm,0.8s,mb4.0,baz=261,slow=12,SNR=4.8							
BDFB				LR		LR	00 46 07.8	
	comp=Z,683nm,18.3s,MS4.2,baz=270,slow=39							
PCRV	**Puerto La Cruz**	**27.14**	**25**	LR		LR	00 45 55.8	
	comp=Z,442nm,20.0s,MS4.0,baz=313,slow=39							
SJG	**San Juan**	**33.99**	**17**	LR		LR	00 50 40.1	
	comp=Z,251nm,18.0s,MS4.0,baz=253,slow=39							
TXAR	**Lajitas Array**	**51.22**	**329**	P		**P**	**00 37 32.4**	**+0.2**
	1.1nm,0.5s,mb4.0,baz=150,slow=9.2,SNR=6.0							
TXAR				pP		pP	00 37 38.6	+0.8
	1.2nm,0.5s,baz=154,slow=8.8,SNR=12							
TXAR	**Lajitas Array**	**51.22**	**329**	P		**P**	**00 37 32.4**	**+0.2**
TXAR				pP		pP	00 37 38.6	+0.8
WMOK	**Wichita Mounta**	**53.66**	**337**	P		**P**	**00 37 46.8**	**-3.6**
	2.3nm,1.0s,mb4.1							
RKT	**Rikitea**	**56.07**	**252**	*e*S		**S**	**00 45 53.9**	**-0.2**
RKT				eLR		LR	00 54 20.6	
	214nm,32.5s							
HWUT	**Hardware Ranch**	**64.88**	**331**	*e*P		**P**	**00 39 06.2**	**-1.7**
	4.9nm,0.9s,mb4.5							
PDAR	**Pinedale Array**	**64.89**	**333**	P		**P**	**00 39 08.0**	**0.0**
	0.4nm,0.7s,mb3.5,baz=153,slow=6.6,SNR=5.2							
PDAR				pP		pP	00 39 13.4	-0.3
	0.8nm,0.6s,baz=130,slow=8.2,SNR=5.5							
PDAR				LR		LR	01 08 31.4	
	comp=Z,53nm,19.3s,MS3.8,baz=232,slow=37							
NVAR	**Mina Array Bea**	**65.97**	**325**	P		**P**	**00 39 16.6**	**+1.6**
	0.2nm,0.3s,mb3.6,baz=130,slow=7.0,SNR=3.1							
ULM	**Lac du Bonnet**	**66.93**	**346**	P		**P**	**00 39 20.0**	**-0.9**
	1.0nm,0.4s,mb4.2,baz=172,slow=5.7,SNR=3.5							
ULM				pP		pP	00 39 25.9	-0.7
	2.7nm,0.5s,baz=160,slow=7.7,SNR=4.5							
HLID	**Hailey**	**67.72**	**331**	*e*P		**P**	**00 39 26.7**	**+0.7**
	3.1nm,1.0s,mb4.3							
TBI	**Tubuai**	**69.32**	**250**	*e*LR		LR	01 00 43.0	
	117nm,26.0s							
SCHQ	**Schefferville**	**69.65**	**6**	LR		LR	01 06 58.1	
	comp=Z,154nm,20.5s,MS4.2,baz=194,slow=33							
PPT	**Papeete**	**70.29**	**256**	*e*LR		LR	01 01 01.6	
	88nm,28.5s							
SNAA	**Sanae**	**70.92**	**161**	*e*P		**P**	**00 39 44.5**	**-0.7**
	4.9nm,0.7s,mb4.5							
DBIC	**Dimbokro**	**73.69**	**78**	P		**P**	**00 40 02.5**	**-0.2**
	6.4nm,1.0s,mb4.5,baz=206,slow=3.7,SNR=7.5							
DBIC				LR		LR	01 11 07.5	
	comp=Z,246nm,20.3s,MS4.5,baz=253,slow=35							
DBIC	**Dimbokro**	**73.69**	**78**	*e*P		**P**	**00 40 02.3**	**-0.4**
	8.9nm,1.1s,mb4.6							
EDM	**Edmonton**	**74.80**	**338**	*e*P		**P**	**00 40 07.4**	**-0.9**
YKA	**Yellowknife Ar**	**82.60**	**343**	P		**P**	**00 40 51.0**	**+0.5**
	1.1nm,1.0s,mb3.9,baz=139,slow=5.4,SNR=17							
YKA				pP		pP	00 40 56.3	-0.1
	1.1nm,0.5s,baz=143,slow=5.6,SNR=14							
YKA	**Yellowknife Ar**	**82.60**	**343**	P		**P**	**00 40 51.0**	**+0.5**
YKA				pP		pP	00 40 56.4	-0.1
URZ	**Urewera**	**93.77**	**229**	LR		LR	01 18 42.9	
	comp=Z,94nm,18.1s,MS4.3,baz=215,slow=32							
GERES	**GERESS Array B**	**100.72**	**42**	P		P	00 42 17.1	+1.0
	0.4nm,0.7s,baz=281,slow=5.0,SNR=3.5							
GERES				pP			00 42 23.4	
	0.4nm,0.7s,baz=248,slow=7.2,SNR=2.7							
WRAB	**Tennant Creek**	**134.44**	**222**	PKP		PKPdf	00 47 47.2	-2.2
WRA	**Warramunga Arr**	**134.44**	**222**	PKP		PKPdf	00 47 47.9	-1.6
	0.7nm,0.8s,baz=162,slow=1.4,SNR=4.8							
WRA				pPKP			00 47 54.8	
	0.7nm,0.6s,baz=136,slow=1.8,SNR=4.6							
ZAL	**Zalesovo**	**138.02**	**17**	PKP		PKPdf	00 47 53.9	-1.3
	1.1nm,0.7s,baz=185,slow=3.0,SNR=6.8							
ZAL				pPKP			00 48 00.9	
	0.9nm,0.8s,baz=187,slow=5.3,SNR=3.7							
CN2	**Changchun**	**145.63**	**332**	*e*PKP		PKPdf	00 48 02.8	-6.0
SONM	**Songino Array**	**146.85**	**357**	PKPbc		PKPbc	00 48 10.5	+2.1
	3.3nm,0.7s,baz=320,slow=1.8,SNR=34							
SONM				pPKPbc			00 48 18.0	
	4.3nm,0.6s,baz=335,slow=2.6,SNR=17							
WMQ	**Urumqi**	**147.78**	**22**	*e*PKP		PKPdf	00 48 05.0	-7.4
NJ2	**Nanjing**	**157.97**	**324**	*e*PKP		PKPdf	00 48 16.3	-11

**WEL 22 00:31:02.7±0.7, 47.54S×165.62E, h33km, ML4.1/5, 2C,

*MOS **22** 00:45:05.3±1.0,36.59N×71.53E,h116km,mb4.4/5,Error ellipse: s-maj=14.8km s-min=8.1km az=110.2*
*IDC **22** 00:45:05.8±0.9,36.32N×71.45E,h113km±7km,mb3.7/16, mb1 3.9/18,mb1mx3.8/23,mbtmp4.1/18,Error ellipse: s-maj=17.9km s-min=14.8km az=30.0*
*NNC **22** 00:45:26.4±26.0,38.59N×71.43E,mpv4.5,Error ellipse: s-maj=386.9km s-min=254.8km az=137.0*

ISC 22 00:45:05.3±0.7,36.48N±0.03×71.56E±0.07,h120km±8km, n77,σ1§02/86,mb4.0/22,5C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**4.62**	**48**	P	**P**	**00 46 16.6**	**+2.3**
KSH				S	**S**	**00 47 11.3**	**+4.1**
THN	**Thein Dam**	**5.30**	**138**	*eS*	**S**	**00 47 22.4**	**-1.4**
PONG	**Pong**	**5.80**	**140**	*eP*	**P**	**00 46 31.0**	**+0.9**
PONG				*eS*	**S**	**00 47 36.0**	**+0.1**
AML	**Almayashu** SNR=262	**5.88**	**16**	P	**P**	**00 46 31.1**	**-0.1**
UCH	**Uchtor** SNR=57	**6.18**	**21**	P	**P**	**00 46 35.5**	**+0.2**
KZA	**Kyzart** SNR=73	**6.28**	**26**	P	**P**	**00 46 37.1**	**+0.4**
EKS2	**Erkin-Say** SNR=107	**6.40**	**15**	P	**P**	**00 46 38.1**	**-0.3**
BHK	**Bhakra**	**6.46**	**140**	*e*	**S**	**00 47 46.4**	**-5.7**
AAK	**Ala-Archa** SNR=80	**6.55**	**19**	P	**P**	**00 46 40.6**	**+0.2**
AAK	**Ala-Archa** 32nm,0.4s	**6.55**	**19**	⇑Pn	**P**	**00 46 40.5**	**+0.1**
AAK	57nm,0.8s			⇓Lg		00 47 53.9	
AAK	**Ala-Archa** 742nm,0.3s	**6.55**	**19**	Pn	**P**	**00 46 39.7**	**-0.7**
AAK	**Ala-Archa**	**6.55**	**19**	⇓*iP*	**P**	**00 46 39.4**	**-1.1**
AAK				*eS*	**S**	**00 47 51.4**	**-2.8**
SDNR	**Sundarnagar**	**6.70**	**136**	*eP*	**P**	**00 46 41.9**	**-0.6**
SDNR				*e*		00 47 52.1	
KBK	**Karagaybulak** SNR=25	**6.70**	**22**	P	**P**	**00 46 42.9**	**+0.4**
ULHL	**Ulahol** SNR=6.5	**6.80**	**31**	P	**P**	**00 46 44.9**	**+1.0**
CHMS	**Chumysh** SNR=27	**6.96**	**20**	P	**P**	**00 46 45.9**	**-0.1**
SMLA	**Simla**	**7.09**	**137**	*i*	**P**	**00 46 43.0**	**-4.8**
SMLA				*i* S	**S**	**00 48 02.2**	**-5.1**
TKM2	**Tokmak 2** SNR=12	**7.14**	**25**	P	**P**	**00 46 49.0**	**+0.5**
USP	**Ospenovka** SNR=102	**7.14**	**18**	P	**P**	**00 46 48.3**	**-0.2**
DDI	**Dehra Dun**	**8.20**	**137**	*eP*	**P**	**00 47 04.5**	**+1.8**
DDI				*eS*	**S**	**00 48 33.8**	**-0.4**
JOSI	**Joshimath**	**8.91**	**129**	*e*	**P**	**00 47 01.1**	**-11**
NDI	**New Delhi**	**9.12**	**147**	*eP*	**P**	**00 47 14.5**	**-0.6**
NDI				*eS*	**S**	**00 48 49.0**	**-7.5**
AYAN	**Aya Nagar**	**9.26**	**148**	*eP*	**P**	**00 47 17.9**	**+1.0**
SONA	**Sohna**	**9.44**	**149**	*eP*	**P**	**00 47 18.1**	**-1.3**
SONA				*eS*	**S**	**00 48 57.0**	**-7.1**
SONA	comp=E,25nm,0.3s			*e*		00 49 35.0	
SONA	comp=N,14nm,0.3s			*e*		00 49 35.1	
JASL	**Jaisalmer**	**9.54**	**184**	*eP*	**P**	**00 47 14.8**	**-6.0**
LGTI	**Lohaghat**	**10.11**	**131**	*e*	**S**	**00 49 14.0**	**-6.3**
AGRA	**Agra**	**10.70**	**148**	*eS*	**S**	**00 49 26.4**	**-7.8**
AGRA	comp=E,61nm,0.3s			*e*		00 51 08.0	
AGRA	comp=N,82nm,0.5s			*e*		00 51 08.0	
MK31	**Makanchi Array** comp=N,9.0nm,1.2s,baz=212,slow=11,SNR=16	**13.04**	**35**	⇑P	**P**	**00 48 06.8**	**-0.2**
WMQ	**Urumqi**	**14.34**	**54**	*eP*	**P**	**00 48 22.8**	**-0.7**
WMQ				XP		00 48 57.0	
WMQ	comp=Z,8.0nm,0.8s			AMB	AMB		
WMQ	comp=Z,110nm,4.0s			AMB	AMB		
KURK	**Kurchatov**	**15.11**	**17**	P	**P**	**00 48 32.4**	**-0.9**
KURK	comp=E,6.0nm,0.8s			pmax	pmax		
KURK	**Kurchatov** comp=Z,5.8nm,0.8s	**15.11**	**17**	P	**P**	**00 48 32.4**	**-0.9**
BVA0	**Borovoye Array** comp=Z,0.4nm,0.7s,baz=167,slow=13,SNR=28	**16.56**	**358**	⇑P	**P**	**00 48 51.1**	**-0.4**
BVAR	**Borovoye Array** comp=Z,0.6nm,0.3s,baz=166,slow=12,SNR=26	**16.56**	**358**	P	**P**	**00 48 51.3**	**-0.2**
BVAR	comp=Z,0.3nm,0.3s,baz=163,slow=20,SNR=4.3			S	**S**	**00 51 46.3**	**-4.2**
CHKZ	**Chkalovo** comp=Z,2.3nm,0.5s	**17.21**	**358**	⇑P	**P**	**00 48 59.2**	**-0.2**
CHKZ	**Chkalovo**	**17.21**	**358**	*eP*	**P**	**00 48 57.2**	**-2.2**
CHKZ	comp=Z,5.0nm,0.6s			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,5.1nm,0.6s	**17.21**	**358**	*eP*	**P**	**00 48 57.2**	**-2.2**
LSA	**Lhasa**	**17.74**	**107**	P	**P**	**00 49 07.7**	**+1.7**
LSA	comp=Z,5.0nm,0.6s			pmax	pmax		
LSA	**Lhasa** comp=Z,4.7nm,0.6s	**17.74**	**107**	P	**P**	**00 49 07.7**	**+1.7**
ZAL	**Zalesovo** comp=Z,1.3nm,0.3s,baz=251,slow=8.5,SNR=19	**19.73**	**24**	P	**P**	**00 49 27.0**	**-0.5**
NVS	**Novosibirsk**	**20.04**	**20**	*eP*	**P**	**00 49 29.2**	**-1.5**
NVS				*eS*	**S**	**00 53 03.4**	**-0.8**
NVS	comp=Z,7.0nm,0.7s			pmax	pmax		
NVS	comp=N,9.0nm,0.7s			pmax	pmax		
NVS	comp=N,14nm,1.8s			smax			
GNI	**Garni**	**21.33**	**288**	*eP*	**P**	**00 49 44.1**	**+0.3**
GNI	comp=Z,34nm,0.9s			pmax	pmax		
GNI	**Garni** comp=Z,8.5nm,0.8s,mb4.1,baz=35,slow=6.3,SNR=10	**21.33**	**288**	P	**P**	**00 49 44.3**	**+0.5**
GNI	**Garni** comp=Z,34nm,0.9s,mb4.7	**21.33**	**288**	*eP*	**P**	**00 49 44.1**	**+0.3**
SVE	**Sverdlovsk**	**21.64**	**344**	*eP*	**P**	**00 49 48.5**	**+1.8**
SVE				*e*		00 50 13.0	
ZEI	**Tsey**	**22.16**	**295**	*eP*	**P**	**00 49 55.7**	**+3.8**
ZEI	comp=Z,7.0nm,0.8s,mb4.0			pmax	pmax		
GTA	**Gaotai**	**22.43**	**74**	P	**P**	**00 49 59.8**	**+5.2**
GTA	comp=Z,7.0nm,1.0s,mb4.0			AMB	AMB		
GTA	comp=Z,65nm,5.7s			AMB	AMB		
GTA	comp=N,144nm,13.3s			LR	LR		
GTA	comp=E,123nm,14.4s			LR	LR		
GTA	comp=Z,230nm,12.9s			LR	LR		
SONM	**Songino Array** comp=Z,0.4nm,0.7s,mb3.1,baz=275,slow=9.5,SNR=4.1	**27.97**	**55**	P	**P**	**00 50 48.6**	**+2.1**
SONM	comp=Z,1.1nm,1.0s,baz=252,slow=7.8,SNR=3.7			sP	sP	00 51 26.9	+0.5
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,mb3.4,baz=117,slow=11,SNR=4.2	**29.87**	**288**	P	**P**	**00 51 02.6**	**-0.9**
AKASG	**Malin Array Be** comp=Z,3.7nm,0.5s,mb4.5,baz=80,slow=8.2,SNR=21	**33.31**	**309**	P	**P**	**00 51 32.5**	**-0.9**
VRI	**Vrincioaia**	**34.63**	**300**	⇓P	**P**	**00 51 45.4**	**+0.7**
MLR	**Muntele Rosu**	**35.19**	**299**	⇑P	**P**	**00 51 50.8**	**+1.4**
JOF	**Joensuu** comp=Z,3.5nm,0.5s,mb4.5	**36.11**	**330**	*ep*	**P**	**00 51 56.6**	**-0.4**
KWP	**Kalwaria**	**37.39**	**306**	*eP*	**P**	**00 52 08.7**	**+0.8**
KOLS	**Kolonicke sedl**	**37.66**	**305**	*eP*	**P**	**00 52 10.6**	**+0.5**
FINES	**FINESS Array B** comp=Z,2.2nm,0.6s,mb4.2,baz=120,slow=10.0,SNR=17	**37.75**	**326**	P	**P**	**00 52 10.5**	**-0.3**
KAF	**Kangasniemi**	**37.89**	**327**	*ep*	**P**	**00 52 09.7**	**-2.2**
MORC	**Moravsky Berou**	**40.74**	**306**	*eP*	**P**	**00 52 35.0**	**-0.6**
MORC	comp=Z,6.0nm,0.9s,mb4.4			pmax	pmax		
MORC	**Moravsky Berou** comp=Z,5.8nm,0.9s,mb4.4	**40.74**	**306**	*eP*	**P**	**00 52 35.0**	**-0.6**
GKP	**Gorka Klasztor**	**40.92**	**312**	*eP*	**P**	**00 52 37.5**	**+0.5**
CN2	**Changchun**	**41.21**	**63**	*eP*	**P**	**00 52 40.1**	**+0.6**
ARCES	**ARCESS Array B** comp=Z,6.6nm,0.7s,mb4.6,baz=106,slow=8.8,SNR=20	**41.34**	**337**	P	**P**	**00 52 40.9**	**+0.6**
VRAC	**Vranov** comp=Z,4.4nm,0.7s,mb4.4,baz=74,slow=9.2,SNR=7.3	**41.38**	**306**	P	**P**	**00 52 41.4**	**+0.6**
BRG	**Berggiesshubel**	**42.99**	**308**	P	**P**	**00 52 53.8**	**-0.1**
BRG	comp=Z,7.0nm,1.0s,mb4.3			pmax	pmax		
BRG	**Berggiesshubel** comp=Z,6.7nm,1.0s,mb4.3	**42.99**	**308**	P	**P**	**00 52 53.8**	**-0.1**
GERES	**GERESS Array B** comp=Z,0.9nm,0.9s,mb3.5,baz=90,slow=2.7,SNR=5.5	**43.31**	**305**	P	**P**	**00 52 56.4**	**-0.1**
HFS	**Hagfors** comp=Z,4.4nm,0.5s,mb4.4,baz=100,slow=9.0,SNR=19	**43.36**	**322**	P	**P**	**00 52 56.4**	**-0.3**
CLL	**Collm**	**43.56**	**309**	P	**P**	**00 52 59.0**	**+0.5**
MDJ	**Mudanjiang**	**44.02**	**61**	P	**P**	**00 53 01.6**	**-0.7**
MDJ	comp=Z,17nm,2.0s,mb4.4			AMB	AMB		
MDJ	comp=Z,186nm,4.9s			AMB	AMB		
NB2	**NORSAR Subarra** comp=Z,2.1nm,0.6s,mb4.0,baz=97,slow=7.9	**44.67**	**323**	P	**P**	**00 53 06.0**	**-1.3**
NB2	**NORSAR Subarra**	**44.67**	**323**	P	**P**	**00 53 06.0**	**-1.3**
NB2	comp=Z,2.0nm,0.6s,mb4.0			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,4.6nm,0.8s,mb4.2,baz=96,slow=7.8,SNR=14	**44.67**	**323**	P	**P**	**00 53 06.7**	**-0.6**
MATP	**Matopo** comp=Z,0.3nm,0.4s,mb3.4,baz=327,slow=4.9,SNR=2.7	**69.70**	**223**	P	**P**	**00 56 02.1**	**-2.1**
SCHQ	**Schefferville** comp=Z,1.5nm,0.8s,mb3.9,baz=326,slow=15,SNR=2.8	**82.29**	**337**	P	**P**	**00 57 16.6**	**+2.2**
ASAR	**Alice Springs** comp=Z,0.7nm,0.8s,mb3.6,baz=322,slow=5.0,SNR=4.8	**83.87**	**125**	P	**P**	**00 57 22.4**	**-0.5**
ASAR	comp=Z,0.7nm,0.8s,baz=312,slow=4.3,SNR=4.4			pP	pP	00 57 51.8	-2.1

*IDC **22** 00:46:22.3±1.2,23.15N×121.47E,mb3.7/10,mb1 3.9/10, mb1mx3.8/20,mbtmp3.7/10,Error ellipse: s-maj=126.8km s-min=16.7km az=63.0*
*JMA **22** 00:46:26.1±0.4,23.09N×121.48E,h56km,M3.7*
*TAP **22** 00:46:26.0,23.19N×121.43E,h20km,ML4.4*
TAP Felt III J at Chenggung, II J at Yuli, II J at Hungye, II J at Lidau, I J at Tauyuan.
*NEIC **22** 00:46:27.2±0.5,23.26N×121.61E,h35km,mb4.5/3,Error ellipse: s-maj=30.7km s-min=8.0km az=73.0*
*BJI **22** 00:46:27.2,22.67N×120.88E,h7km,mb4.9,ML4.1,Ms3.9, Msz3.5*

ISC 22 00:46:25.2±0.3,23.14N±0.02×121.47E±0.02,h24km±2km, n86,σ1§06/128,mb3.8/12,15C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.11**	**246**	*i* P	**Pb**	**00 46 29.9**	**0.0**
CHKT				S	**Sb**	**00 46 32.9**	**-0.1**
TWF1	**Yuli**	**0.26**	**322**	⇑*i*P	**Pb**	**00 46 30.9**	**-0.7**
TWF1				S	**Sb**	**00 46 34.8**	**-1.3**
EHY	**Hungye**	**0.39**	**339**	⇑*i*P	**Pb**	**00 46 33.0**	**-0.5**
EHY				S	**Sb**	**00 46 37.9**	**-1.2**
ELDTW	**Lidau**	**0.42**	**276**	⇑*i*P	**Pb**	**00 46 32.9**	**-1.2**
ELDTW				S	**Sb**	**00 46 37.4**	**-2.7**
TWG	**Pinlang**	**0.49**	**229**	⇑*i*P	**Pb**	**00 46 35.1**	**-0.1**
TWG				S	**Sb**	**00 46 42.1**	**+0.1**
TTN	**Taitung**	**0.49**	**218**	*eP*	**Pb**	**00 46 36.4**	**+1.2**
TTN				S	**Sb**	**00 46 43.8**	**+1.8**
YUS	**Yu-Shan**	**0.59**	**306**	⇑*i*P	**Pb**	**00 46 36.1**	**-0.8**
YUS				S	**Sb**	**00 47 42.6**	**-2.2**
STYT	**Tauyuan**	**0.66**	**272**	⇑*i*P	**Pb**	**00 46 37.2**	**-0.8**
STYT				S	**Sb**	**00 46 44.7**	**-2.1**
ESL	**Shilin**	**0.67**	**357**	*eP*	**Pb**	**00 46 37.8**	**-0.3**
ALS	**Alishan**	**0.71**	**301**	⇑*i*P	**Pb**	**00 46 38.4**	**-0.5**
ALS				S	**Sb**	**00 46 46.7**	**-1.6**
ECL	**Taimali**	**0.73**	**221**	*eP*	**Pb**	**00 46 38.4**	**-0.8**
WTP	**Ta-pu**	**0.80**	**277**	⇑*i*P	**Pb**	**00 46 40.1**	**-0.2**
WTP				S	**Sb**	**00 46 49.9**	**-0.8**
SGST	**Jiashian**	**0.82**	**266**	⇑*i*P	**Pb**	**00 46 40.8**	**0.0**
SGST				S	**Sb**	**00 46 51.1**	**-0.4**
CHN4	**Tsaushan**	**0.84**	**284**	⇑*i*P	**Pb**	**00 46 40.8**	**-0.1**
CHN4				S	**Sb**	**00 46 51.3**	**-0.5**
HWA	**Hwalien**	**0.84**	**8**	*eP*	**Pb**	**00 46 41.6**	**+0.6**
CHN5	**Tsauling**	**0.86**	**302**	⇑*i*P	**Pb**	**00 46 41.3**	**-0.1**
CHN1	**Nanshi**	**0.87**	**273**	⇑*i*P	**Pb**	**00 46 41.7**	**+0.1**
CHN1				S	**Sb**	**00 46 52.8**	**0.0**
SSD	**Sandimen**	**0.87**	**243**	*eP*	**Pb**	**00 46 40.8**	**-0.8**
SMLT	**Sun Moon Lake**	**0.90**	**324**	⇑*i*P	**Pb**	**00 46 41.7**	**-0.4**
SMLT				S	**Sb**	**00 46 53.1**	**-0.7**
TWK	**Hsinying**	**0.92**	**278**	*i* P	**Pb**	**00 46 42.3**	**0.0**
TWK				S	**Sb**	**00 46 54.6**	**+0.6**
TWD	**Chiawan**	**0.94**	**7**	*eP*	**Pb**	**00 46 42.7**	**0.0**
TWD				S	**Sb**	**00 46 57.2**	**+2.4**
TYC	**Yuchr**	**0.94**	**323**	⇑*i*P	**Pb**	**00 46 42.3**	**-0.5**
TYC				S	**Sb**	**00 46 54.8**	**-0.1**
TAW	**Tawu**	**0.95**	**214**	*eP*	**Pb**	**00 46 41.7**	**-1.1**
EAST	**Anshuo**	**0.95**	**217**	*eP*	**Pb**	**00 46 42.2**	**-0.7**
CHN2	**Minshiung**	**1.00**	**293**	*eP*	**Pb**	**00 46 43.9**	**+0.3**
CHN2				S	**Sb**	**00 46 57.8**	**+1.4**
WGK	**Gukeng**	**1.00**	**303**	*eP*	**Pb**	**00 46 43.6**	**-0.1**
WGK				S	**Sb**	**00 46 56.2**	**-0.2**
SGLT	**Jiouru**	**1.00**	**245**	*eP*	**Pb**	**00 46 44.8**	**+1.0**
SGLT				S	**Sb**	**00 46 58.0**	**+1.6**
TWM1	**Shoushan**	**1.02**	**252**	*eP*	**Pn**	**00 46 45.6**	**+1.5**
CHN3	**Shinhua**	**1.02**	**266**	*eP*	**Pn**	**00 46 45.4**	**+1.3**
CHN3				S	**Sb**	**00 47 00.1**	**+2.9**
CHY	**Chiayi**	**1.03**	**290**	⇑*i*P	**Pn**	**00 46 44.4**	**+0.2**
CHY				S	**Sb**	**00 46 57.5**	**+0.2**
WNT	**Mingjian**	**1.03**	**315**	*eP*	**Pn**	**00 46 44.7**	**+0.5**
WNT				S	**Sb**	**00 46 58.3**	**+1.0**
NACB	**Ninganchiao**	**1.03**	**6**	*e*Pg	**Pn**	**00 46 42.4**	**-1.8**
NACB				*eS*	**Sb**	**00 46 58.1**	**+0.7**
SCZT	**Fangliau**	**1.10**	**226**	*eP*	**Pn**	**00 46 45.4**	**+0.1**
SCZT				S	**Sb**	**00 47 04.0**	**+4.6**
LAY	**Lan-yu**	**1.10**	**176**	*eP*	**Pn**	**00 46 44.9**	**-0.4**
LAY				S	**Sb**	**00 47 00.4**	**+1.0**
TWT	**Tachien**	**1.14**	**346**	*eP*	**Pn**	**00 46 45.5**	**-0.3**
TAI1	**Yung-k'ang**	**1.15**	**265**	*eP*	**Pn**	**00 46 46.2**	**+0.2**
TAI1				S	**Sb**	**00 47 02.3**	**+1.5**
SCLT	**Jiali**	**1.18**	**272**	*eP*	**Pn**	**00 46 47.6**	**+1.3**
SCLT				S	**Sb**	**00 47 04.1**	**+2.5**
CHN8	**Yiju**	**1.18**	**280**	*eP*	**Pn**	**00 46 46.1**	**+0.1**
CHN8				S	**Sb**	**00 47 05.2**	**+1.5**
KAU	**Kaohsiung**	**1.22**	**242**	*eP*	**Pn**	**00 46 51.3**	**+4.4**
TCU	**Taichung**	**1.24**	**324**	*eP*	**Pn**	**00 46 47.8**	**+0.5**
TCU				S	**Sn**	**00 47 04.1**	**+0.9**
WSF	**Szhu**	**1.25**	**293**	*eP*	**Pn**	**00 46 47.5**	**+0.1**
WSF				S	**Sn**	**00 47 04.1**	**+0.5**
NNS	**Nan Shan**	**1.29**	**356**	*eP*	**Pn**	**00 46 47.7**	**-0.3**
TWP	**Hsiaoliuchiu**	**1.30**	**232**	*eP*	**Pn**	**00 46 50.2**	**+2.2**
ENA	**Nanau**	**1.30**	**11**	*eP*	**Pn**	**00 46 48.2**	**+0.1**
WTCT	**Ta-ch'eng**	**1.31**	**303**	*eP*	**Pn**	**00 46 48.4**	**+0.2**
HEN	**Hengchun**	**1.32**	**211**	*eP*	**Pn**	**00 46 49.7**	**+1.3**
TWK1	**Hengchun**	**1.35**	**207**	*eP*	**Pn**	**00 46 48.6**	**-0.1**
TWQ1	**Liyutan**	**1.36**	**332**	*eP*	**Pn**	**00 46 50.4**	**+1.5**
NSY	**Sanyi**	**1.42**	**333**	*eP*	**Pn**	**00 46 51.1**	**+1.2**
NSY				S	**Sn**	**00 47 10.9**	**+3.0**
ENTT	**Nioudou**	**1.49**	**3**	*eP*	**Pn**	**00 46 50.4**	**-0.5**
TWC	**Suao**	**1.50**	**13**	*eP*	**Pn**	**00 46 51.5**	**+0.6**
YHNB	**Yeheng**	**1.52**	**357**	*e*Pn	**Pn**	**00 46 51.1**	**-0.1**
NSK	**Sanguang**	**1.53**	**356**	*eP*	**Pn**	**00 46 51.3**	**-0.4**
NSTT	**Nanjuang**	**1.54**	**344**	*eP*	**Pn**	**00 46 52.6**	**+1.0**
TWE	**Neicheng**	**1.58**	**6**	*eP*	**Pn**	**00 46 54.2**	**+2.1**
WDGT	**Dungji**	**1.67**	**274**	*eP*	**Pn**	**00 46 52.7**	**-0.7**
WDGT				S	**Sn**	**00 47 12.3**	**-1.9**
EGS		**1.74**	**14**	*eP*	**Pn**	**00 46 55.0**	**+0.6**
PNG	**Penghu**	**1.81**	**284**	*eP*	**Pn**	**00 46 55.0**	**-0.4**
TATO	**Taipei**	**1.82**	**0**	*e*Pn	**Pn**	**00 46 54.7**	**-0.8**
TWA	**Mucha**	**1.83**	**3**	*eP*	**Pn**	**00 46 59.0**	**+3.3**
TWB1	**Santiao Chiao**	**1.91**	**14**	*eP*	**Pn**	**00 46 57.4**	**+0.5**
YOJ	**Yonaguni jima**	**1.92**	**47**	P	**Pn**	**00 46 57.6**	**+0.6**
YOJ				*eS*	**Sn**	**00 47 21.5**	**+0.8**
NWF	**Wu-fen Shan**	**1.94**	**8**	*eP*	**Pn**	**00 46 59.1**	**+1.8**
TWS1	**Kuangyinshan**	**1.95**	**359**	*eP*	**Pn**	**00 46 59.5**	**+2.1**
HATJ	**Hateruma jima**	**2.32**	**67**	P	**Pn**	**00 47 03.1**	**+0.3**
HATJ				*eS*	**Sn**	**00 47 30.2**	**-0.6**
IRIF	**Iriomote-Funau**	**2.38**	**60**	P	**Pn**	**00 47 04.6**	**+1.0**
IRIF				*eS*	**Sn**	**00 47 32.3**	**0.0**
JKRS	**Kuro-shima**	**2.57**	**64**	P	**Pn**	**00 47 06.6**	**+0.4**
JKRS				*eS*	**Sn**	**00 47 37.4**	**+0.4**
JIJ	**Ishigaki jima**	**2.73**	**63**	P	**Pn**	**00 47 08.5**	**-0.1**
JIJ				*eS*	**Sn**	**00 47 39.6**	**-1.5**
KNM	**Kinmen**	**3.06**	**295**	*eP*	**Pn**	**00 47 11.5**	**-1.7**
QZH	**Quanzhou**	**3.19**	**305**	P	**Pn**	**00 47 13.4**	**-1.6**
QZH				S	**Sn**	**00 47 48.8**	**-3.9**
QZH	comp=N,520nm,0.6s			Smax			
JTJ	**Tarama**	**3.31**	**63**	P	**Pn**	**00 47 16.9**	**+0.1**
JTJ				*eS*	**Sn**	**00 47 55.8**	**0.0**
GZH	**Guangzhou**	**7.48**	**271**	P	**Pn**	**00 48 08.8**	**-6.9**
GZH				S	**Sn**	**00 49 25.0**	**-16**
GZH	comp=N,114nm,0.8s			Smax			
GZH	comp=E,73nm,1.2s			Smax			
NJ2	**Nanjing**	**9.17**	**346**	*e*P	**P**	**00 48 46.3**	**+7.1**
NJ2				AP		00 48 50.5	
NJ2				XP		00 48 54.0	
NJ2				S	**Sn**	**00 50 37.0**	**+14**
NJ2				XS		00 50 41.5	
NJ2	comp=Z,30nm,0.7s			AMB	AMB		
NJ2	comp=N,140nm,0.9s			Smax			
NJ2	comp=E,100nm,0.7s			Smax			
NJ2	comp=N,560nm,10.8s			LR	LR		
NJ2	comp=E,680nm,19.9s			LR	LR		
NJ2	comp=Z,300nm,12.7s			LR	LR		
SONM	**Songino Array** comp=Z,0.3nm,0.6s,mb3.0,baz=159,slow=12,SNR=2.2	**27.43**	**338**	P	**P**	**00 52 09.4**	**-1.6**
ZAL	**Zalesovo** comp=Z,0.8nm,0.3s,mb3.8,baz=358,slow=3.2,SNR=3.5	**41.26**	**328**	P	**P**	**00 54 08.9**	**-1.0**
WRAB	**Tennant Creek** comp=Z,7.2nm,1.1s,mb4.4	**44.62**	**163**	*eP*	**P**	**00 54 36.2**	**-1.6**
WRA	**Warramunga Arr** comp=Z,0.8nm,0.8s,mb3.6,baz=342,slow=8.4,SNR=6.0	**44.63**	**163**	P	**P**	**00 54 35.2**	**-2.6**
ASAR	**Alice Springs** comp=Z,0.2nm,0.4s,mb3.5,baz=344,slow=7.7,SNR=3.4	**48.07**	**165**	P	**P**	**00 55 04.1**	**-0.9**
BVAR	**Borovoye Array** comp=Z,0.4nm,0.5s,mb3.7,baz=117,slow=9.7,SNR=3.8	**48.65**	**321**	P	**P**	**00 55 09.1**	**+0.1**
CHKZ	**Chkalovo** comp=Z,3.0nm,0.7s,mb4.4	**48.72**	**322**	P	**P**	**00 55 05.9**	**-3.7**
CTA	**Charters Tower** comp=Z,1.8nm,0.6s,mb4.3,baz=307,slow=5.1,SNR=3.6	**49.30**	**149**	P	**P**	**00 55 14.4**	**-0.1**
CTAO	**Charters Tower** comp=Z,6.0nm,1.0s,mb4.6	**49.30**	**149**	*eP*	**P**	**00 55 14.3**	**-0.3**
STKA	**Stephens Creek** comp=Z,2.3nm,0.9s,mb4.2,baz=333,slow=14,SNR=3.6	**58.00**	**160**	P	**P**	**00 56 16.9**	**-1.5**
FINES	**FINESS Array B** comp=Z,0.9nm,0.6s,mb3.9,baz=74,slow=10,SNR=3.7	**72.47**	**330**	P	**P**	**00 57 49.7**	**-1.7**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,mb3.6,baz=90,slow=4.3,SNR=2.3	**74.00**	**307**	P	**P**	**00 58 00.2**	**-0.5**
GERES	**GERESS Array B** comp=Z,0.1nm,0.3s,mb3.4,baz=101,slow=10.0,SNR=2.7	**83.81**	**321**	P	**P**	**00 58 53.1**	**-0.7**

*NAO **22** 00:48:33.9±5.9,78.12N×25.60E,h21km±33km,ML2.0*
*BER **22** 00:48:34.8±4.0,78.21N×25.87E,h20km±30km,MD2.7, ML2.5,ML2.0(NAO)*

ISC 22 00:48:30.0±2.2,78.24N±0.09×26.0E±0.5,h10km,n4, σ1§48/9,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPEN	**Hopen**	**1.76**	**187**	*eP*	**Pn**	**00 49 02.4**	**+1.6**
HOPEN				*eSg*	**Sg**	**00 49 28.3**	**-0.2**
HOPEN	comp=Z,79nm,0.3s			AML	AML	00 49 30.9	
SPA0	**Spitsbergen Ar** baz=93,slow=16	**1.97**	**273**	Pn	**Pn**	**00 49 05.4**	**+1.5**
SPA0	baz=98,slow=16			Pg	**Pg**	**00 49 07.1**	**-2.3**
SPA0				Sn	**Sn**	**00 49 28.1**	**-0.7**
SPA0	baz=97,slow=37			Lg		00 49 35.1	
HSP	**Hornsund**	**2.56**	**246**	*eP*	**Pn**	**00 49 13.7**	**+1.5**
HSP				*eS*	**Sn**	**00 49 44.3**	**+0.5**
ARA0	**ARCESS Array S** baz=1.0,slow=11	**8.76**	**181**	Pn	**P**	**00 50 37.4**	**-2.3**
ARA0	baz=10,slow=22			Sn	**Sn**	**00 52 09.8**	**-10**

*IDC **22** 01:06:50.0±2.5,49.10S×161.57E,mb3.8/2,mb1 4.0/3, mb1mx3.8/9,mbtmp3.8/3,ML3.4/1,Error ellipse: s-maj=69.9km s-min=31.4km az=172.0*

ISC 22 01:06:49.6±1.9,49.25±0.3×161.5E±0.2,h10km,n10, σ1§58/11,mb3.9/2,North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUZ	**Tuapeka**	**6.43**	**62**	*e*PN	**Pn**	**01 08 27.3**	**+0.6**
TUZ				SN	**Sn**	**01 09 37.0**	**-3.9**
EAZ	**Earnscleugh**	**6.68**	**56**	*e*PN	**Pn**	**01 08 31.8**	**+1.6**
WKZ	**Wanaka**	**6.79**	**52**	*e*PN	**Pn**	**01 08 34.3**	**+2.5**
JCZ	**Jackson Bay**	**7.20**	**47**	PN	**Pn**	**01 08 40.4**	**+2.9**
JCZ				*e*SN	**Sn**	**01 10 00.2**	**-0.1**
ODZ	**Otahua Downs**	**7.54**	**60**	PN	**Pn**	**01 08 41.0**	**-1.2**
RPZ	**Rata Peaks** 0.5nm,0.3s,baz=331,slow=9.5,SNR=3.1	**8.62**	**54**	Pn	**P**	**01 08 54.7**	**-2.6**
RPZ	0.4nm,0.3s,baz=360,slow=11,SNR=5.2			Sn	**Sn**	**01 10 30.6**	**-5.0**
ASAR	**Alice Springs** 1.1nm,0.7s,mb3.9,baz=148,slow=8.6,SNR=9.8	**33.46**	**310**	P	**P**	**01 13 30.9**	**+0.1**
WRA	**Warramunga Arr** 1.4nm,0.8s,mb3.9,baz=145,slow=8.4,SNR=8.1	**36.40**	**314**	P	**P**	**01 13 55.3**	**-0.7**
ARCES	**ARCESS Array B** 3.2nm,1.0s,baz=90,slow=1.8,SNR=3.7	**150.77**	**330**	PKPbc	PKPdf	01 26 42

	comp=E,3.1nm,0.3s,SNR=22								
EGRO					Pg		Pg	01 16 58.3	-3.0
	comp=E,4.0nm,0.2s,SNR=7.9								
EGRO					Lg			01 17 20.5	
	comp=E,5.8nm,0.1s,SNR=5.0								
PALC	**Alcoutim**	**1.59**	**114**	*e*P		Pn		01 16 58.0	-1.8
PALC				*e*S		Sb		01 17 18.4	-2.5
	comp=E,8.8nm,0.3s								
PALC	**Alcoutim**	**1.59**	**114**	Pn		Pn		01 16 58.0	-1.8
PALC				Sn		Sn		01 17 18.4	-3.0
	comp=E,4.4nm,0.3s								
PTOM	**Tomar**	**1.63**	**25**	*e*S		Sb		01 17 19.9	-2.1
	comp=E,12nm,0.2s								
PTOM	**Tomar**	**1.63**	**25**	Sn		Sn		01 17 19.9	-2.5
	comp=E,6.0nm,0.2s								
EBAD	**Badajoz**	**1.90**	**70**	Pn		Pn		01 17 01.4	-2.7
	comp=E,0.1nm,0.1s,SNR=8.9								
EBAD					Pg		Pg	01 17 04.0	-4.1
	comp=E,0.6nm,0.2s,SNR=7.9								
EBAD					Lg			01 17 28.7	
	comp=E,7.6nm,0.2s,SNR=4.0								
EMIN	**Mina Concepcio**	**2.11**	**99**	Pn		Pn		01 17 05.3	-1.8
	comp=E,0.0nm,0.0s,SNR=4.0								
EMIN					Pg		Pg	01 17 09.5	-2.9
	comp=E,0.1nm,1.1s,SNR=7.9								
EMIN					Lg			01 17 36.5	
	comp=E,3.2nm,0.2s,SNR=7.9								
PCBR	**Castelo Branco**	**2.21**	**39**	*e*Pn		Pn		01 17 06.3	-2.4
PCBR				*e*Sn		Sn		01 17 33.3	-3.9
	comp=E,3.6nm,0.3s								
PCBR	**Castelo Branco**	**2.21**	**39**	Pn		Pn		01 17 06.3	-2.4
PCBR				Sn		Sn		01 17 33.3	-3.9
	comp=E,1.8nm,0.3s								
ESPR	**Espera**	**3.02**	**114**	Pg		Pg		01 17 25.9	-4.5
	comp=E,2.8nm,1.1s,SNR=4.0								
ESPR					Sn		Sn	01 17 53.0	-4.5
	comp=E,1.7nm,0.5s,SNR=4.0								
ESPR					Lg			01 18 06.8	
	comp=E,2.6nm,1.1s,SNR=4.0								
EADA	**Adamuz**	**3.72**	**88**	Pn		Pn		01 17 26.8	-3.4
	comp=E,0.2nm,0.2s,SNR=7.9								
EADA					Sn		Sn	01 18 09.1	-6.3
	comp=E,1.3nm,1.1s,SNR=7.9								
EADA					Lg			01 18 26.9	
	comp=E,2.2nm,0.5s,SNR=7.9								
ESDC	**Sonseca Array**	**4.44**	**68**	Pn		Pn		01 17 35.7	-4.6
	comp=E,0.1nm,0.1s,baz=248,slow=13,SNR=7.9								

*STR **22** 01:25:49.3±0.1, 42.64N×0.84E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **22** 01:25:49.6, 42.61N×0.83E, h7km, ML2.6(LDG), MN2.3(MDD), After LDG.*
*LDG **22** 01:25:49.6±0.0, 42.61N×0.83E, h7km, Md2.9/1, Ml2.6/10, Error ellipse: s-maj=0.7km s-min=0.5km az=24.0*
*MDD **22** 01:25:49.8±0.2, 42.61N×0.84E, h10km, mbLg2.2/19, Error ellipse: s-maj=1.8km s-min=1.2km az=24.0, PRXIMO*
*CSEM **22** 01:25:49.8±0.1, 42.61N×0.83E, h10km, ML2.7/9, Error ellipse: s-maj=1.1km s-min=0.8km az=2.0*

ISC 22 01:25:48.0±0.3, 42.68N±0.02×0.86E±0.02, h7km, n70, σ1§24/103, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.21**	**339**	Pg	**Pg**	**01 25 55.3**	**+2.9**
MELF				Sg	**Sg**	**01 25 59.2**	**+3.9**
MELF	**Melles**	**0.21**	**339**	Pg	**Pg**	**01 25 55.4**	**+3.0**
MELF				Lg		01 25 59.2	
SALF	**Salau**	**0.26**	**71**	Pg	**Pg**	**01 25 55.8**	**+2.5**
SALF				Sg	**Sg**	**01 25 59.8**	**+3.0**
SALF	**Salau**	**0.26**	**71**	Pg	**Pg**	**01 25 55.8**	**+2.5**
SALF				Lg		01 25 59.8	
MLS	**Moulis**	**0.33**	**31**	Pg	**Pg**	**01 25 57.5**	**+2.8**
MLS				Sg	**Sg**	**01 26 02.5**	**+3.3**
MLS	**Moulis**	**0.33**	**31**	Pg	**Pg**	**01 25 57.6**	**+2.9**
MLS				Lg		01 26 02.6	
CSOR	**Sort**	**0.36**	**146**	Pg	**Pg**	**01 25 55.9**	**+0.5**
CSOR				Lg		01 26 00.4	
	72nm,0.1s						
RESF	**Ens**	**0.41**	**289**	Pg	**Pg**	**01 25 57.7**	**+1.5**
RESF				Sg	**Sg**	**01 26 03.3**	**+1.6**
RESF	**Ens**	**0.41**	**289**	Pg	**Pg**	**01 25 57.7**	**+1.5**
RESF				Lg		01 26 03.2	
EPF	**Esparros**	**0.52**	**313**	*e*Pg	**Pg**	**01 26 00.3**	**+1.8**
EPF				*e*Sg	**Sg**	**01 26 07.7**	**+2.2**
	27nm,0.2s						
GRBF	**Gourbit**	**0.52**	**71**	Pg	**Pg**	**01 26 00.6**	**+2.0**
GRBF				Lg		01 26 07.5	
PAND	**Andorre**	**0.53**	**107**	Pg	**Pg**	**01 25 59.5**	**+0.9**
PAND				Lg		01 26 06.2	
EBIE	**Bielsa**	**0.53**	**271**	⇑Pg	**Pg**	**01 25 59.4**	**+0.7**
	4.6nm,0.2s,SNR=18						
EBIE				Lg		01 26 06.2	
	21nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.53**	**271**	Pg	**Pg**	**01 25 59.4**	**+0.7**
	4.6nm,0.2s,SNR=18						
CORG	**Organya**	**0.56**	**143**	Pg	**Pg**	**01 25 59.5**	**+0.2**
CORG				Lg		01 26 06.7	
	20nm,0.1s						
VIEF	**Viey**	**0.65**	**289**	Pg	**Pg**	**01 26 01.8**	**+0.7**
VIEF				Sg	**Sg**	**01 26 10.7**	**+0.9**
VIEF	**Viey**	**0.65**	**289**	Pg	**Pg**	**01 26 01.8**	**+0.8**
VIEF				Lg		01 26 10.3	
LABF	**Labassere**	**0.69**	**303**	Pg	**Pg**	**01 26 03.1**	**+1.3**
LABF				Lg		01 26 12.8	
CAVN	**Les Avellanes**	**0.80**	**186**	Pg	**Pg**	**01 26 03.7**	**-0.3**
CAVN				Lg		01 26 13.7	
	17nm,0.1s						
CLLI	**Llivia**	**0.84**	**103**	Pg	**Pg**	**01 26 05.1**	**+0.2**
CLLI				Lg		01 26 16.5	
	3.4nm,0.1s						
VALF	**Valcebollere**	**0.90**	**107**	Pg	**Pg**	**01 26 06.0**	**0.0**
VALF	**Valcebollere**	**0.90**	**107**	Pg	**Pg**	**01 26 06.1**	**+0.1**
VALF				Lg		01 26 17.6	
EMIR	**Miracle**	**0.91**	**147**	Pg	**Pg**	**01 26 05.9**	**-0.3**
EMIR				Lg		01 26 17.9	
EMIR	**Miracle**	**0.91**	**147**	Pg	**Pg**	**01 26 05.9**	**-0.3**
	4.1nm,0.1s,SNR=18						
EMIR				Lg		01 26 17.9	
	8.1nm,0.3s,SNR=9.5						
EMIR	**Miracle**	**0.91**	**147**	Pg	**Pg**	**01 26 05.9**	**-0.3**
	4.1nm,0.1s,SNR=18						
CARF	**Carcanieres**	**0.92**	**87**	Pg	**Pg**	**01 26 07.4**	**+1.0**
CARF				Pg	**Pg**	**01 26 07.6**	**+1.2**
CARF				Sg	**Sg**	**01 26 19.9**	**+1.3**
CARF	**Carcanieres**	**0.92**	**87**	Pg	**Pg**	**01 26 07.6**	**+1.2**
CARF				Lg		01 26 19.9	
CARF	**Carcanieres**	**0.92**	**87**	Pg	**Pg**	**01 26 07.6**	**+1.2**
CARF				Sg	**Sg**	**01 26 19.9**	**+1.3**
REYF	**Montagne du Re**	**1.00**	**293**	Lg		01 26 21.7	
CBRU	**Bruguera**	**1.05**	**111**	Pg	**Pg**	**01 26 09.1**	**+0.1**
CBRU				Lg		01 26 23.2	
	7.1nm,0.1s						
ETSF	**Etsaut**	**1.07**	**282**	*e*Pn	**Pn**	**01 26 08.9**	**-0.4**
ETSF				*e*Pg	**Pg**	**01 26 09.6**	**+0.2**
ETSF				*e*Sg	**Sg**	**01 26 23.4**	**-0.3**
	34nm,0.2s						
MTLF	**Montolieu**	**1.20**	**56**	*e*Pn	**Pn**	**01 26 12.1**	**+1.0**
MTLF				*e*Pg	**Pg**	**01 26 13.2**	**+1.3**
MTLF				*e*Sn	**Sn**	**01 26 28.1**	**+0.4**
MTLF				*e*Sg	**Sg**	**01 26 29.3**	**+1.4**
	11nm,0.3s						
FILF	**Fillols**	**1.26**	**95**	Pg	**Pg**	**01 26 11.8**	**-1.4**
FILF	**Fillols**	**1.26**	**95**	Pg	**Pg**	**01 26 11.8**	**-1.3**
FILF				Lg		01 26 27.1	
EPOB	**Poblet**	**1.33**	**173**	Pg	**Pg**	**01 26 13.2**	**-1.5**
EPOB				Lg		01 26 30.8	
EPOB	**Poblet**	**1.33**	**173**	Pg	**Pg**	**01 26 13.2**	**-1.5**
	1.3nm,0.1s,SNR=17						
EPOB				Lg		01 26 30.7	
	10nm,0.1s,SNR=14						
EPOB	**Poblet**	**1.33**	**173**	Pg	**Pg**	**01 26 13.2**	**-1.5**
	1.3nm,0.1s,SNR=17						
ESAC	**San Caprasio**	**1.38**	**226**	Pg	**Pg**	**01 26 15.0**	**-0.5**
ESAC				Lg		01 26 32.5	
ESAC	**San Caprasio**	**1.38**	**226**	Pg	**Pg**	**01 26 14.5**	**-1.0**
	13nm,0.1s,SNR=22						
ESAC				Lg		01 26 32.5	
	151nm,0.2s,SNR=39						
ESAC	**San Caprasio**	**1.38**	**226**	Pg	**Pg**	**01 26 15.0**	**-0.5**
	13nm,0.1s,SNR=22						
LARF	**Larrau**	**1.41**	**285**	Lg		01 26 35.3	
CFON	**Fontmartina**	**1.48**	**128**	Pg	**Pg**	**01 26 16.8**	**-0.9**
CFON				Lg		01 26 36.1	
	64nm,0.3s						
SJAF	**Saint Jean de**	**1.50**	**97**	Pg	**Pg**	**01 26 18.1**	**0.0**
SJAF	**Saint Jean de**	**1.50**	**97**	Pg	**Pg**	**01 26 18.0**	**0.0**
SJAF				Lg		01 26 38.3	
EJON	**La Jonquera**	**1.51**	**98**	Pn	**Pn**	**01 26 18.4**	**+2.7**
EJON				Pg	**Pg**	**01 26 18.9**	**+0.7**
EJON				Lg		01 26 39.5	
EJON	**La Jonquera**	**1.51**	**98**	Pg	**Pg**	**01 26 18.2**	**-0.1**
	3.5nm,0.1s,SNR=7.9						
EJON				Lg		01 26 38.2	
	5.9nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.51**	**98**	Pn	**Pn**	**01 26 18.4**	**+2.7**
	0.3nm,0.1s,SNR=30						
EJON	**La Jonquera**	**1.51**	**98**	Pg	**Pg**	**01 26 18.9**	**+0.6**
	3.5nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**1.59**	**287**	*e*Pn	**Pn**	**01 26 16.5**	**-0.3**
SJPF				*e*P		01 26 18.7	
SJPF				*e*Pg	**Pg**	**01 26 19.5**	**-0.4**
SJPF				*e*Sn	**Sn**	**01 26 36.2**	**-1.7**
SJPF				*e*Sg	**Sg**	**01 26 40.1**	**-1.0**
	32nm,0.4s						
SJPF	**Ste Jean**	**1.59**	**287**	Pn	**Pn**	**01 26 16.5**	**-0.3**
SJPF				Pg	**Pg**	**01 26 19.5**	**-0.4**
SJPF				Sn	**Sn**	**01 26 36.2**	**-1.7**
SJPF				Lg		01 26 40.1	
	16nm,0.4s						
OSSF	**Osses**	**1.66**	**291**	Lg		01 26 41.9	
EALK	**Alkurruntz**	**1.82**	**288**	Pg	**Pg**	**01 26 22.6**	**-1.8**
EALK				Lg		01 26 49.5	
EALK	**Alkurruntz**	**1.82**	**288**	Pg	**Pg**	**01 26 22.6**	**-1.8**
	1.2nm,0.1s,SNR=7.9						
EALK				Lg		01 26 48.2	
	24nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.26**	**358**	*e*Pn	**Pn**	**01 26 26.9**	**+0.5**
LFF				*e*P		01 26 29.3	
LFF				*e*Pg	**Pg**	**01 26 32.6**	**-0.6**
LFF				*e*Sn	**Sn**	**01 26 53.7**	**-1.2**
LFF				*e*Sg	**Sg**	**01 27 03.2**	**-0.2**
	10nm,0.4s						
LFF	**La Frestale**	**2.26**	**358**	Pn	**Pn**	**01 26 26.9**	**+0.5**
LFF				Pg	**Pg**	**01 26 32.6**	**-0.6**
LFF				Sn	**Sn**	**01 26 53.7**	**-1.2**
LFF				Lg		01 27 03.2	
	5.2nm,0.4s						
CAF	**Calviac**	**2.41**	**21**	*e*Pn	**Pn**	**01 26 28.9**	**+0.4**
CAF				*e*Pg	**Pg**	**01 26 36.0**	**-0.2**
CAF				*e*Sn	**Sn**	**01 26 57.3**	**-1.3**
CAF				*e*Sg	**Sg**	**01 27 07.6**	**-0.7**
	4.4nm,0.2s						
EMOS	**Mosqueruela**	**2.52**	**204**	Pg	**Pg**	**01 26 33.9**	**-4.4**
	0.5nm,0.1s,SNR=7.9						
EMOS				Lg		01 27 05.7	
	2.8nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.52**	**204**	Pg	**Pg**	**01 26 33.9**	**-4.4**
	0.5nm,0.1s,SNR=7.9						
LASF	**Ste Croix**	**2.59**	**56**	*e*Pn	**Pn**	**01 26 31.1**	**0.0**
LASF				*e*Pg	**Pg**	**01 26 38.7**	**-1.1**
LASF				*e*Sg	**Sg**	**01 27 12.9**	**-1.5**
	4.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.67**	**10**	*e*Pn	**Pn**	**01 26 32.4**	**+0.2**
RJF				*e*Pg	**Pg**	**01 26 40.5**	**-0.8**
RJF				*e*Sn	**Sn**	**01 27 03.3**	**-1.9**
RJF				*e*Sg	**Sg**	**01 27 15.7**	**-1.2**
	2.8nm,0.2s						
VIVF	**Saint-Julien-l**	**3.52**	**50**	*e*Pn	**Pn**	**01 26 43.4**	**-0.8**
VIVF				*e*Pg	**Pg**	**01 26 55.9**	**-2.3**
VIVF				*e*Sg	**Sg**	**01 27 42.0**	**-3.1**
	1.2nm,0.2s						
SMRF	**Simiane la Rot**	**3.67**	**68**	*e*Pn	**Pn**	**01 26 45.4**	**-1.1**
BGF	**Bois d'Agland**	**4.13**	**19**	*e*Sg	**Sg**	**01 28 01.4**	**-4.1**
	5.8nm,0.4s						
LMR	**La Mourre**	**4.19**	**79**	*e*Pn	**Pn**	**01 26 52.2**	**-1.7**
ORIF	**Oris-en-Rattie**	**4.27**	**57**	*e*Pn	**Pn**	**01 26 53.8**	**-1.1**
FRF	**La Foret Royal**	**4.33**	**76**	*e*Pn	**Pn**	**01 26 54.5**	**-1.3**
SMF	**Signal de Mont**	**4.50**	**27**	*e*Sg	**Sg**	**01 28 13.0**	**-4.9**
	0.6nm,0.2s						
ESDC	**Sonseca Array**	**4.72**	**232**	Pn	**Pn**	**01 27 00.2**	**-1.1**
ESDC				Lg		01 28 14.1	
ESDC	**Sonseca Array**	**4.72**	**232**	Pn	**Pn**	**01 26 59.5**	**-1.9**
	0.1nm,0.2s,baz=51,slow=13,SNR=3.5						
ESDC				Sn	**Sn**	**01 27 49.8**	**-7.3**
	0.6nm,0.2s,SNR=7.9						
ESDC				Lg		01 28 14.1	
	0.6nm,0.5s,baz=51,slow=30,SNR=3.5						
ESDC	**Sonseca Array**	**4.72**	**232**	Pn	**Pn**	**01 27 00.2**	**-1.1**
	0.1nm,0.2s,baz=51,slow=13,SNR=3.5						

*NEIC **22** 01:36:52.2±0.9, 2.57N×95.51E, mb4.2/6, Error ellipse: s-maj=21.1km s-min=12.0km az=51.0*
*IDC **22** 01:36:54.0±2.8, 2.83N×95.89E, h25km±5km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.9/4, Error ellipse: s-maj=110.2km s-min=17.2km az=62.0*

ISC 22 01:36:50.2±1.0, 2.6N±0.1×95.5E±0.1, h25km, h25km±8km: pP-P, n14, σ1§10/13, mb4.1/9, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.79**	**62**	⇑*i*P	**Pn**	**01 38 16.8**	**0.0**
CM31	**Chiang Mai Arr**	**16.12**	**12**	P	**P**	**01 40 38.9**	**+1.8**
	4.0nm,0.4s						
KKM	**Kota Kinabalu**	**20.93**	**80**	*e*P	**P**	**01 41 32.4**	**-1.3**
LSA	**Lhasa**	**27.28**	**352**	P	**P**	**01 42 30.6**	**-4.2**
	5.6nm,0.5s,mb4.3						
AAK	**Ala-Archa**	**44.07**	**338**	*e*P	**P**	**01 45 00.1**	**+2.0**
	1.2nm,0.6s,mb3.8						
WRA	**Warrnunga Arr**	**44.20**	**122**	P	**P**	**01 44 59.9**	**+0.5**
	1.3nm,0.6s,mb3.9,baz=300,slow=9.3,SNR=11						
WRA				pP	pP	01 45 07.6	+0.8
	1.4nm,0.8s,baz=300,slow=9.2,SNR=7.1						
WRAB	**Tennant Creek**	**44.21**	**122**	*e*P	**P**	**01 44 59.3**	**-0.1**
	3.0nm,0.5s,mb4.3						
ASAR	**Alice Springs**	**45.58**	**127**	P	**P**	**01 45 11.2**	**+0.9**
	0.7nm,0.7s,mb3.7,baz=302,slow=8.0,SNR=5.4						
ASAR				pP	pP	01 45 17.9	+0.1
	0.5nm,0.5s,baz=297,slow=8.0,SNR=3.9						
SONM	**Songino Array**	**46.04**	**10**	P	**P**	**01 45 13.3**	**-0.4**
	1.2nm,0.8s,mb3.9,baz=189,slow=8.0,SNR=9.9						
SONM				pP	pP	01 45 21.1	-0.1
	1.1nm,0.7s,baz=190,slow=10,SNR=6.8						
SONM				PcP	PcP	01 46 50.7	+0.2
	0.3nm,0.6s,baz=198,slow=4.6,SNR=2.3						
SONM				pPcP		01 46 58.5	
	0.7nm,0.6s,baz=183,slow=4.0,SNR=4.8						
KURK	**Kurchatov**	**50.03**	**346**	*e*P	**P**	**01 45 43.5**	**-1.2**
	1.5nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**51.93**	**352**	P	**P**	**01 45 58.9**	**-0.2**
	2.2nm,0.6s,mb4.2,baz=297,slow=7.8,SNR=13						
ZAL				pP	pP	01 46 07.0	+0.2
	1.9nm,0.7s,baz=258,slow=5.4,SNR=4.1						
ZAL	**Zalesovo**	**51.93**	**352**	P	**P**	**01 45 58.9**	**-0.2**
ZAL				pP	pP	01 46 07.0	+0.2
CHKZ	**Chkalovo**	**54.89**	**342**	*e*P	**P**	**01 46 19.7**	**-1.3**
	3.8nm,0.6s,mb4.6						
CHKZ				*e*pP	pP	01 46 27.2	-1.4
GERES	**GERESS Array B**	**82.66**	**319**	pP	pP	01 49 22.0	+1.1
	0.2nm,0.5s,baz=90,slow=4.0,SNR=2.0						

*PRU **22** 01:40:58.5, 50.27N×19.20E*

WAR 22 01:40:58.8, 50.17N×19.30E, h1km, MW2.3, Mw2.5, Location given by Central Institute of Mining, origin time based upon OJC, MW from OJC, Mw from NIE, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.33**	**81**	*e*Pg	Pg	01 41 05.4	+0.1
OJC				*e*Sg	Sg	01 41 09.7	0.0
OKC	**Ostrava-Krasne**	**0.81**	**246**	*e*PG	Pg	01 41 14.1	-1.0
OKC				*e*SG	Sg	01 41 25.6	-0.3
	20nm,0.4s						
NIE	**Niedzica**	**1.00**	**138**	*e*Pg	Pg	01 41 16.0	-2.8
NIE				*e*Sg	Sg	01 41 30.8	-1.3
DPC	**Dobruska-Polom**	**1.92**	**277**	*e*PG	Pg	01 41 31.8	-5.3
DPC				*e*SG	Sg	01 41 57.1	-5.6
UPC	**Upice**	**2.13**	**280**	*e*SG	Sg	01 42 04.5	-5.3
PRU	**Pruhonice**	**3.07**	**268**	*e*PG	Pg	01 41 52.8	-7.3
PRU				*e*SG	Sg	01 42 32.9	-8.1
KHC	**Kasperske Hory**	**3.86**	**257**	*e*SG	Sg	01 42 58.6	-8.7
MOA	**Molln**	**4.04**	**237**	*i*	Pn	01 42 09.5	+6.2
MOA	**Molln**	**4.04**	**237**	*i* SG	Sg	01 43 06.2	-7.3
	2.3nm,0.4s						
CLL	**Collm**	**4.16**	**288**	*e*SG	Sg	01 43 13.0	-4.2

NDI 22 01:50:07.2±3.8, 12.02N×78.52E, h4km±20km, ML3.8, Southern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALM	**Salem**	**0.48**	**220**	*e*P	Pg	01 50 16.0	-0.8
SALM				*e*S	Sg	01 50 23.0	-0.2
MDRS	**Chennai**	**1.99**	**58**	*e*P	Pn	01 50 42.3	+0.4
MDRS				*e*S	Sn	01 51 05.6	-2.0
TRD	**Trivandrum**	**3.81**	**204**	*e*P	Pn	01 51 06.5	-1.4
TRD				*e*S	Sn	01 51 51.1	-2.7
TRD				*e*		01 52 08.7	
	comp=N,630nm,0.2s						
TRD				*e*		01 52 08.7	
	comp=E,635nm,0.3s						
HYB	**Hyderabad**	**5.37**	**0**	*e*Pg	Pg	01 51 41.0	-13
HYB				*e*Sg	Sg	01 52 50.0	-16
LATR	**Latur**	**6.63**	**344**	*e*	Sn	01 52 52.5	-12
LATR				*e*		01 53 26.1	
KAD	**Karad**	**6.72**	**322**	*e*P	Pn	01 51 46.7	-2.4
KAD				*e*S	Sn	01 52 57.9	-9.2
KAD				*e*		01 53 34.9	
	comp=E,69nm,0.3s						
KAD				*e*		01 53 35.0	
	comp=N,56nm,0.4s						
POO	**Poona**	**7.88**	**326**	*e*	Sn	01 53 24.3	-12
POO				*e*		01 54 04.7	
BHPL	**Bhopal**	**11.21**	**355**	*e*S	S	01 54 45.6	-13

*IDC **22** 02:03:30.9±1.3, 49.46S×117.49E, mb3.7/5, mb1 3.9/6, mb1mx3.9/11, mbtmp3.8/6, ML2.3/1, MS3.8/5, Ms1 3.8/5, ms1mx3.4/14, Error ellipse: s-maj=79.2km s-min=24.0km az=116.0*
*NEIC **22** 02:03:32.2±0.5, 49.45S×117.42E, h10km, mb4.1/4, Error ellipse: s-maj=22.4km s-min=10.0km az=109.0*

ISC 22 02:03:30.4±0.8, 49.5S±0.1×117.5E±0.3, h10km, n19, σ0§86/11, mb3.7/8, MS3.7/5, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.51**	**359**	Pn	**P**	**02 07 25.1**	**+1.6**
	0.6nm,0.3s,baz=186,slow=16,SNR=7.3						
NWAO	**Narrogin (SRO)**	**16.51**	**359**	*e*P	**P**	**02 07 25.1**	**+1.5**
	18nm,0.8s						
STKA	**Stephens Creek**	**25.19**	**55**	P	**P**	**02 08 57.7**	**+0.2**
	1.9nm,0.9s,mb3.6,baz=163,slow=11,SNR=2.8						
STKA				LR	LR	02 17 05.4	
	comp=Z,111nm,20.3s,MS3.4,baz=204,slow=32						
STKA	**Stephens Creek**	**25.19**	**55**	P	**P**	**02 08 57.7**	**+0.2**
ASAR	**Alice Springs**	**28.80**	**33**	P	**P**	**02 09 30.6**	**+0.1**
	0.6nm,0.9s,mb3.3,baz=214,slow=6.5,SNR=3.7						
ASAR				LR	LR	02 19 49.5	
	comp=Z,112nm,18.2s,MS3.5,baz=133,slow=34						
WRA	**Warramunga Arr**	**32.39**	**31**	P	**P**	**02 10 01.5**	**-0.9**
	0.2nm,0.4s,mb3.3,baz=202,slow=11,SNR=4.7						
WRAB	**Tennant Creek**	**32.40**	**31**	P	**P**	**02 10 01.7**	**-0.8**
	0.8nm,0.6s,mb3.7						
VNDA	**Vanda**	**32.76**	**164**	P	**P**	**02 10 11.2**	**+6.1**
	1.7nm,1.0s,mb3.9,baz=296,slow=7.2,SNR=3.1						
VNDA				LR	LR	02 21 52.3	
	comp=Z,125nm,18.3s,MS3.6,baz=74,slow=34						
RPZ	**Rata Peaks**	**36.62**	**102**	LR	LR	02 22 06.5	
	comp=Z,377nm,18.8s,MS4.2,baz=218,slow=30						
CTA	**Charters Tower**	**37.23**	**48**	LR	LR	02 24 59.2	
	comp=Z,121nm,18.2s,MS3.7,baz=47,slow=35						
QSPA	**South Pole Qui**	**40.68**	**180**	P	**P**	**02 11 13.1**	**+1.1**
	2.1nm,0.7s,mb3.9						
SNAA	**Sanae**	**52.08**	**200**	P	**P**	**02 12 41.7**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=138,slow=14,SNR=3.0						
LSZ	**Lusaka**	**78.09**	**260**	P	**P**	**02 15 30.2**	**-0.9**
	1.9nm,0.7s,mb4.1						
HVU	**Hansel Valley**	**144.60**	**83**	*e*PKP	PKPdf	02 23 08.3	-1.3
DAU	**Daniels Canyon**	**144.89**	**86**	*e*PKP	PKPdf	02 23 10.4	+0.3
ANMO	**Albuquerque**	**144.91**	**98**	PKP	PKPdf	02 23 08.9	-1.4
	2.6nm,0.9s,baz=195,slow=5.3,SNR=7.8						
CPRX	**Cap Rock**	**145.36**	**103**	*e*PKP	PKPdf	02 23 10.4	-0.8
PDAR	**Pinedale Array**	**147.17**	**84**	PKPbc	PKPdf	02 23 15.4	+1.5
	0.5nm,0.7s,baz=236,slow=3.3,SNR=5.8						
YKA	**Yellowknife Ar**	**149.02**	**45**	PKPbc	PKPdf	02 23 18.8	+2.6
	0.2nm,0.4s,baz=280,slow=2.4,SNR=6.4						

MEX 22 02:19:06.6±0.4, 16.14N×96.03W, h51km±8km, MD3.6, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.38**	**192**	*e*P	P	02 19 15.0	-1.6
HUIG				*e*S	S	02 19 22.0	-1.8
VHO	**Vista Hermosa**	**1.15**	**324**	*e*P	P	02 19 24.9	-1.6
VHO				*e*S	S	02 19 39.2	-2.2
CMIG	**Matias Romero**	**1.45**	**49**	*i* P	P	02 19 29.0	-1.9
CMIG				*i* S	S	02 19 46.1	-2.8

*IDC **22** 02:23:10.1±1.4, 49.34S×117.21E, mb3.8/4, mb1 4.1/5, mb1mx4.0/11, mbtmp4.0/5, ML2.6/1, MS3.6/5, Ms1 3.5/5

ANMO	**Albuquerque**	**144.99**	**98**	PKPbc	PKPbc		02 42 48.3	+1.0	
	comp=Z,3.4nm,0.9s,baz=221,slow=2.4,SNR=9.8								
CPRX	**Cap Rock**	**145.44**	**103**	*e*PKP	PKPdf		02 42 49.3	-1.6	
PDAR	**Pinedale Array**	**147.24**	**84**	PKPbc	PKPdf		02 42 54.9	+1.2	
	comp=Z,0.9nm,0.7s,baz=187,slow=2.6,SNR=7.7								
YKA	**Yellowknife Ar**	**149.05**	**45**	PKPbc	PKPdf		02 42 57.9	+2.0	
	comp=Z,0.3nm,0.7s,baz=284,slow=2.1,SNR=6.4								
RES	**Resolute Bay**	**151.27**	**17**	*e*PKPbc	PKPdf		02 43 02.3	+3.3	

*NEIC **22** 02:26:57.7, 34.18N×25.82E, h36km, MD3.6(ATH), After ATH.*
*CSEM **22** 02:26:57.7, 34.18N×25.82E, h36km, MD3.6/5, After ATH*
ATH 22 02:26:58.2, 34.22N×25.89E, h30km±3km, MD3.6/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.67**	**346**	*e*PN	Pn	02 27 12.0	+0.3
NPS	**Neapolis**	**1.06**	**348**	*e*PN	Pn	02 27 17.9	+0.6
NPS				eSN	Sn	02 27 32.8	+1.7
GVD	**Gavdhos**	**1.61**	**293**	*e*Pn	Pn	02 27 25.8	+0.7
GVD	**Gavdhos**	**1.61**	**293**	*e*PN	Pn	02 27 27.0	+1.9
KARP	**Karpathos**	**1.69**	**38**	*e*PN	Pn	02 27 27.6	+1.4
VAM	**Vamos**	**1.83**	**311**	*e*PB	Pb	02 27 29.1	-1.7
APE	**Apeiranthos**	**2.86**	**354**	*e*PN	Pn	02 27 45.0	+2.1
APE	**Apeiranthos**	**2.86**	**354**	*e*Pn	Pn	02 27 42.7	-0.2
KYTH	**Kithira**	**3.11**	**312**	*e*PN	Pn	02 27 48.0	+1.5
VLI	**Veliai**	**3.47**	**317**	*e*PN	Pn	02 27 52.0	+0.5
VLI	**Veliai**	**3.47**	**317**	*e*Pn	Pn	02 27 50.7	-0.8

*IDC **22** 02:38:51.4±2.1, 49.34S×117.17E, mb3.9/5, mb1 4.1/6, mb1mx4.1/11, mbtmp4.0/6, ML2.5/1, MS3.9/3, Ms1 3.9/3, ms1mx3.2/16, Error ellipse: s-maj=74.5km s-min=27.0km az=101.0*
*NEIC **22** 02:38:52.4±0.5, 49.41S×116.98E, h10km, mb4.3/6, Error ellipse: s-maj=21.0km s-min=10.2km az=106.0*
*BJI **22** 02:38:52.3, 49.40S×117.00E, h10km, mB5.0, mb4.5, Ms4.5, Msz4.3*
ISC 22 02:38:51.6±0.7, 49.48S±0.09×117.2E±0.3, h10km, n29, σ1§38/16, mb4.0/9, MS3.9/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.54**	**0**	Pn	**P**	**02 42 44.9**	**-0.3**
	1.0nm,0.3s,baz=182,slow=13,SNR=12						
NWAO	**Narrogin (SRO)**	**16.54**	**0**	*e*P	**P**	**02 42 44.9**	**-0.3**
	16nm,0.7s						
STKA	**Stephens Creek**	**25.34**	**55**	P	**P**	**02 44 19.4**	**-0.6**
	2.8nm,1.0s,mb3.7,baz=194,slow=14,SNR=4.1						
STKA	**Stephens Creek**	**25.34**	**55**	*e*P	**P**	**02 44 19.1**	**-0.9**
ASAR	**Alice Springs**	**28.91**	**33**	P	**P**	**02 44 50.5**	**-2.2**
	0.6nm,0.8s,mb3.4,baz=213,slow=8.2,SNR=5.5						
WRA	**Warramunga Arr**	**32.50**	**31**	P	**P**	**02 45 21.9**	**-2.6**
	1.2nm,0.9s,mb3.8,baz=202,slow=8.6,SNR=5.0						
WRAB	**Tennant Creek**	**32.51**	**31**	P	**P**	**02 45 26.8**	**+2.2**
	2.8nm,1.1s,mb4.1						
VNDA	**Vanda**	**32.77**	**164**	P	**P**	**02 45 26.9**	**+0.5**
	2.0nm,0.9s,mb4.0,baz=256,slow=4.2,SNR=2.8						
VNDA				LR	LR	02 57 21.1	
	comp=Z,130nm,18.1s,MS3.7,baz=326,slow=34						
CTA	**Charters Tower**	**37.37**	**49**	P	**P**	**02 46 06.2**	**+0.1**
	1.7nm,0.8s,mb3.9,baz=219,slow=13,SNR=3.5						
CTA				LR	LR	02 59 45.0	
	comp=Z,121nm,19.3s,MS3.7,baz=229,slow=34						
CTAO	**Charters Tower**	**37.37**	**49**	P	**P**	**02 46 07.0**	**+0.9**
	5.5nm,1.0s,mb4.3						
QSPA	**South Pole Qui**	**40.64**	**180**	P	**P**	**02 46 32.2**	**-0.7**
	2.4nm,0.7s,mb3.9						
LSZ	**Lusaka**	**77.93**	**261**	P	**P**	**02 50 49.8**	**-1.6**
	5.1nm,1.0s,mb4.4						
PLCA	**Paso Flores**	**89.90**	**174**	LR	LR	03 30 30.5	
	comp=Z,99nm,19.0s,MS4.3,baz=294,slow=34						
PLCA	**Paso Flores**	**89.90**	**174**	P	**P**	**02 51 52.0**	**+0.3**
	7.7nm,1.2s,mb4.9						
CN2	**Changchun**	**93.18**	**6**	*e*P	**P**	**02 52 08.9**	**+2.2**
MDJ	**Mudanjiang**	**94.34**	**9**	P	**P**	**02 52 13.6**	**+1.6**
WMQ	**Urumqi**	**96.45**	**339**	*e*P	**P**	**02 52 22.0**	**+0.3**
NVAR	**Mina Array Bea**	**139.39**	**84**	PKP	PKPdf	02 58 20.2	-1.6
	0.2nm,0.5s,baz=293,slow=6.9,SNR=2.8						
TXAR	**Lajitas Array**	**143.13**	**108**	PKhKP		02 58 22.7	
	0.4nm,0.8s,baz=214,slow=4.5,SNR=4.6						
MSU	**Marysvale**	**143.43**	**88**	*e*PKP	PKPdf	02 58 26.1	-2.7
HVU	**Hansel Valley**	**144.76**	**83**	*e*PKP	PKPdf	02 58 29.0	-2.1
SRU	**San Rafael**	**144.83**	**89**	*e*PKP	PKPdf	02 58 29.2	-2.0
JLU	**Jordanelle**	**145.02**	**86**	*e*PKP	PKPdf	02 58 30.1	-1.4
DAU	**Daniels Canyon**	**145.05**	**86**	*e*PKP	PKPdf	02 58 30.8	-0.7
CPRX	**Cap Rock**	**145.51**	**103**	*e*PKP	PKPdf	02 58 31.2	-1.4
PDAR	**Pinedale Array**	**147.33**	**84**	PKPbc	PKPdf	02 58 36.2	+0.9
	0.9nm,0.7s,baz=187,slow=3.0,SNR=8.9						
YKA	**Yellowknife Ar**	**149.16**	**45**	PKPbc	PKPdf	02 58 39.3	+1.7
	0.3nm,0.5s,baz=278,slow=2.0,SNR=10						
YKA	**Yellowknife Ar**	**149.16**	**45**	PKPbc	PKPdf	02 58 39.3	+1.7
RES	**Resolute Bay**	**151.35**	**17**	*e*PKPbc	PKPdf	02 58 43.9	+3.1

*IDC **22** 02:45:27.6±1.1, 49.34S×117.22E, mb4.0/7, mb1 4.2/8, mb1mx4.1/11, mbtmp4.1/8, ML2.6/1, MS4.0/3, Ms1 4.0/3, ms1mx3.2/18, Error ellipse: s-maj=59.4km s-min=20.9km az=111.0*
*NEIC **22** 02:45:29.3±0.4, 49.43S×116.98E, h10km, mb4.3/4, Error ellipse: s-maj=20.5km s-min=9.3km az=104.0*
*BJI **22** 02:45:29.3, 49.40S×117.00E, h10km, mB5.1, mb4.7, Ms4.5, Msz4.2*
ISC 22 02:45:27.9±0.6, 49.47S±0.09×117.2E±0.3, h10km, n29, σ1§29/16, mb4.1/12, MS4.1/3, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.53**	**360**	Pn	**P**	**02 49 22.4**	**+1.0**
	1.0nm,0.3s,baz=175,slow=11,SNR=15						
NWAO	**Narrogin (SRO)**	**16.53**	**360**	*e*P	**P**	**02 49 22.2**	**+0.9**
	18nm,0.7s						
STKA	**Stephens Creek**	**25.32**	**55**	P	**P**	**02 50 53.3**	**-2.9**
	1.8nm,0.8s,mb3.7,baz=145,slow=16,SNR=2.1						
STKA	**Stephens Creek**	**25.32**	**55**	P	**P**	**02 50 57.6**	**+1.4**
ASAR	**Alice Springs**	**28.89**	**33**	P	**P**	**02 51 27.5**	**-1.4**
	0.7nm,1.0s,mb3.4,baz=197,slow=9.4,SNR=3.8						
WRA	**Warramunga Arr**	**32.48**	**31**	P	**P**	**02 51 59.2**	**-1.5**
	1.1nm,0.9s,mb3.7,baz=202,slow=9.4,SNR=5.0						
WRAB	**Tennant Creek**	**32.49**	**31**	P	**P**	**02 52 01.5**	**+0.7**
	2.6nm,0.6s,mb4.2						
VNDA	**Vanda**	**32.78**	**164**	P	**P**	**02 52 02.5**	**-0.2**
	1.6nm,0.9s,mb4.0,baz=277,slow=6.3,SNR=2.9						
QSPA	**South Pole Qui**	**40.66**	**180**	*e*P	**P**	**02 53 09.6**	**+0.4**
	1.8nm,0.6s,mb3.9						
SNAA	**Sanae**	**52.01**	**200**	P	**P**	**02 54 38.5**	**-0.4**
	0.8nm,0.7s,mb3.8,baz=165,slow=21,SNR=3.2						
LBTB	**Lobatse**	**72.44**	**252**	LR	LR	03 21 14.8	
	comp=Z,78nm,18.2s,MS4.0,baz=271,slow=30						
MATP	**Matopo**	**73.95**	**257**	LR	LR	03 21 44.7	
	comp=Z,75nm,18.8s,MS4.0,baz=270,slow=29						
LSZ	**Lusaka**	**77.94**	**261**	P	**P**	**02 57 26.9**	**-0.9**
	3.0nm,0.8s,mb4.3						
CBIJ	**Chichi jima**	**79.40**	**22**	LR	LR	03 34 18.4	
	comp=Z,107nm,18.1s,MS4.2,baz=111,slow=37						
GTA	**Gaotai**	**89.83**	**347**	*e*P	**P**	**02 58 27.3**	**-0.4**
GTA				AP	pP	02 58 32.9	+2.0
GTA				XP	sP	02 58 35.8	+3.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.8						
PLCA	**Paso Flores**	**89.92**	**174**	P	**P**	**02 58 29.1**	**+1.0**
	comp=Z,3.5nm,1.0s,mb4.7,baz=190,slow=6.1,SNR=3.9						
CN2	**Changchun**	**93.17**	**6**	*e*P	**P**	**02 58 45.9**	**+2.9**
MDJ	**Mudanjiang**	**94.32**	**9**	P	**P**	**02 58 50.8**	**+2.5**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,85nm,3.5s						
SONM	**Songino Array**	**97.38**	**353**	P	**P**	**02 59 00.5**	**-1.6**
	comp=Z,0.5nm,1.0s,mb3.9,baz=162,slow=4.6,SNR=3.5						
TXAR	**Lajitas Array**	**143.12**	**108**	PKhKP		03 05 00.1	
	comp=Z,0.1nm,0.6s,baz=202,slow=9.7,SNR=2.7						
HVU	**Hansel Valley**	**144.75**	**83**	*e*PKP	PKPdf	03 05 05.7	-1.7
SRU	**San Rafael**	**144.82**	**89**	*e*PKP	PKPdf	03 05 06.0	-1.5
SRU				*e*		03 05 12.4	
JLU	**Jordanelle**	**145.01**	**86**	*e*PKP	PKPdf	03 05 07.0	-0.9
DAU	**Daniels Canyon**	**145.04**	**86**	*e*PKP	PKPdf	03 05 07.6	-0.3
DAU				*e*		03 05 13.9	
CPRX	**Cap Rock**	**145.50**	**103**	*e*PKP	PKPdf	03 05 08.2	-0.7
CPRX				*e*		03 05 14.4	
IMW	**Indian Meadow**	**146.94**	**81**	*e*PKPdf	PKPdf	03 05 09.7	-1.3
PDAR	**Pinedale Array**	**147.31**	**84**	PKPbc	PKPdf	03 05 13.6	+1.9
	comp=Z,1.2nm,1.0s,baz=180,slow=3.0,SNR=8.1						
YKA	**Yellowknife Ar**	**149.14**	**45**	PKPbc	PKPdf	03 05 16.1	+2.2
	comp=Z,1.3nm,1.0s,baz=274,slow=2.5,SNR=10						
YKA	**Yellowknife Ar**	**149.14**	**45**	PKPbc	PKPdf	03 05 16.1	+2.2

*NIED **22** 02:51:00, 37.40N×138.90E, h5km, Mw3.3 Best double couple: M0 8.45×10^13 NP1:φs167°, δ74°, λ50°. NP2:φs59°, δ43°, λ156°.*
*JMA **22** 02:51:20.8, 37.42N×138.94E, h11km±1km, M3.6*
JMA Felt II J1.
ISC 22 02:51:20.5±0.8, 37.42N±0.04×138.93E±0.06, h14km±5km, n6, σ0§20/11, 1C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**158**	⇓P	**Pg**	**02 51 24.7**	**-0.2**
JHK				S	**Sg**	**02 51 27.7**	**-0.1**
JIZZ	**Izumozaki**	**0.21**	**303**	⇓P	**Pg**	**02 51 25.8**	**+0.4**
JNS	**Sasagawa**	**0.50**	**37**	⇑P	**Pb**	**02 51 30.4**	**-0.2**
JNS				S	**Sb**	**02 51 37.4**	**-0.1**
JFY	**Yanaizu**	**0.61**	**91**	⇓P	**Pb**	**02 51 32.5**	**0.0**
JFY				S	**Sb**	**02 51 40.9**	**+0.2**
JKT	**Katashina**	**0.70**	**159**	P	**Pb**	**02 51 33.9**	**0.0**
JKT				S	**Sb**	**02 51 43.3**	**+0.2**
MAT	**Matsushiro**	**1.05**	**214**	P	**Pb**	**02 51 53.3**	**-0.3**
MAT				S	**Sb**	**02 51 53.3**	**0.0**

*BJI **22** 02:55:39.8, 36.89N×71.07E, h88km, mB5.0, mb4.9, Ms4.5, Msz3.9*
*MOS **22** 02:55:40.2±0.8, 36.70N×71.25E, h92km, mb4.8/55, MS3.8/6, Error ellipse: s-maj=7.1km s-min=4.1km az=129.5*
*NEIC **22** 02:55:40.6±1.0, 36.70N×71.24E, h80km±9km, mb4.8/66, Error ellipse: s-maj=5.6km s-min=3.8km az=194.0*
*IDC **22** 02:55:43.1±5.0, 36.67N×71.21E, h103km±45km, mb4.3/20, mb1 4.5/22, mb1mx4.4/23, mbtmp4.7/22, MS3.7/11, Ms1 3.7/11, ms1mx3.5/27, Error ellipse: s-maj=15.3km s-min=13.7km az=161.0*
*NNC **22** 02:55:58.8±10.0, 38.53N×71.27E, mpv5.2, Error ellipse: s-maj=108.7km s-min=91.1km az=71.0*
ISC 22 02:55:39.2±0.4, 36.62N±0.02×71.27E±0.03, h85km±4km, h75km±3.4km: pP-P, n331, σ1§03/358, mb4.7/98, 45C-26D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.84**	**169**	⇓P	**P**	**02 56 26.9**	**+3.4**
CEP				S	**S**	**02 57 14.0**	**+17**
CHCP	**Chirah Chowk**	**3.38**	**150**	⇓P	**P**	**02 56 35.7**	**+4.7**
THW	**Thamme Wali**	**3.84**	**174**	⇓P	**P**	**02 56 39.1**	**+1.8**
SBDP	**Sheikh Budin**	**4.33**	**185**	⇑P	**P**	**02 56 45.9**	**+1.8**
KSH	**Kashi**	**4.70**	**51**	P	**P**	**02 56 53.3**	**+4.1**
KSH				S	**S**	**02 57 49.0**	**+6.0**
KSH				Smax			
	comp=N,3μm,0.6s						
KSH				Smax			
	comp=E,2μm,0.8s						
SARP	**Sargodha**	**4.83**	**166**	⇓P	**P**	**02 56 51.7**	**+0.7**
JMU	**Jammu**	**4.92**	**141**	*i* P	**P**	**02 56 55.0**	**+2.9**
JMU				*i*		02 57 51.5	
TAS	**Tashkent**	**4.94**	**342**	*e*PN	**P**	**02 56 49.0**	**-3.5**
TAS				pmax	pmax		
	comp=Z,150μm,1.0s						
DRP	**Derazinda**	**4.95**	**191**	⇓P	**P**	**02 56 53.4**	**+0.8**
THN	**Thein Dam**	**5.56**	**137**	*e*P	**P**	**02 57 03.6**	**+2.6**
	comp=Z,4.0nm,3.0s,baz=0.4						
THN				*e*		02 58 06.6	
DLH	**Dalhousie**	**5.62**	**135**	*e*	**P**	**02 57 06.0**	**+4.2**
DLH				*e*		02 58 08.0	
AML	**Almayashu**	**5.81**	**18**	P	**P**	**02 57 04.5**	**+0.1**
	SNR=1195						
PONG	**Pong**	**6.06**	**139**	*e*P	**P**	**02 57 09.0**	**+1.2**
PONG				*e*S	**S**	**02 58 16.0**	**-0.5**
UCH	**Uchtor**	**6.13**	**23**	P	**P**	**02 57 09.8**	**+0.9**
	SNR=428						
KZA	**Kyzart**	**6.26**	**28**	P	**P**	**02 57 11.6**	**+0.9**
	SNR=415						
EKS2	**Erkin-Say**	**6.33**	**17**	P	**P**	**02 57 11.9**	**+0.2**
	SNR=231						
AAK	**Ala-Archa**	**6.50**	**22**	P	**P**	**02 57 14.8**	**+0.8**
	SNR=484						
AAK	**Ala-Archa**	**6.50**	**22**	⇑Pn	**P**	**02 57 14.9**	**+0.9**
	comp=Z,150nm,0.4s						
AAK				⇑Lg		02 58 27.2	
	comp=Z,607nm,0.8s						
AAK	**Ala-Archa**	**6.50**	**22**	Pn	**P**	**02 57 13.9**	**-0.1**
	comp=Z,3μm,0.4s						
AAK	**Ala-Archa**	**6.50**	**22**	Pn	**P**	**02 57 13.2**	**-0.8**
	comp=Z,3μm,0.4s						
AAK	**Ala-Archa**	**6.50**	**22**	⇑*i*Pn	**P**	**02 57 13.7**	**-0.3**
AAK				S	**S**	**02 58 27.9**	**+0.6**
KBK	**Karagaybulak**	**6.66**	**24**	P	**P**	**02 57 17.0**	**+0.8**
	SNR=61						
FRU	**Bishkek**	**6.72**	**22**	⇑*i*PN	**P**	**02 57 18.0**	**+1.0**
FRU				pmax	pmax		
	comp=Z,600nm,1.6s						
FRU				pmax	pmax		
	comp=E,3μm,1.7s						
BHK	**Bhakra**	**6.73**	**139**	*e*	**P**	**02 57 21.3**	**+4.1**
BHK				*e*		02 58 34.7	
ULHL	**Ulahol**	**6.81**	**33**	P	**P**	**02 57 19.4**	**+1.1**
	SNR=58						
CHMS	**Chumysh**	**6.91**	**22**	P	**P**	**02 57 20.0**	**+0.3**
	SNR=391						
SDNR	**Sundarnagar**	**6.96**	**136**	*e*P	**P**	**02 57 20.7**	**+0.2**
SDNR				*e*S	**S**	**02 58 35.1**	**-3.7**
USP	**Ospenovka**	**7.08**	**20**	P	**P**	**02 57 21.6**	**-0.5**
	SNR=399						
TKM2	**Tokmak 2**	**7.12**	**27**	P	**P**	**02 57 23.1**	**+0.6**
	SNR=409						
AAA	**Alma-Ata**	**7.94**	**32**	*e*PN	**P**	**02 57 38.0**	**+4.2**
AAA				MLR	MLR		
	comp=Z,2μm,6.0s						
KKR	**Kurukshetra**	**8.11**	**143**	*e*P	**P**	**02 57 36.5**	**+0.4**
DDI	**Dehra Dun**	**8.46**	**136**	*e*P	**P**	**02 57 40.8**	**-0.1**
DDI				*e*S	**S**	**02 59 09.7**	**-5.9**
KHET	**Khetri**	**9.35**	**154**	*e*P	**P**	**02 57 51.8**	**-1.1**
KHET				*e*S	**S**	**02 59 29.2**	**-8.0**
KHET				*e*S	**S**	**02 59 31.4**	**-5.8**
NDI	**New Delhi**	**9.37**	**146**	⇑*i*P	**P**	**02 57 51.5**	**-1.7**
NDI				*e*S	**S**	**02 59 32.5**	**-5.2**
NDI	**New Delhi**	**9.37**	**146**	*e*P	**P**	**02 57 51.5**	**-1.7**
NDI				*e*S	**S**	**02 59 33.5**	**-4.2**
AYAN	**Aya Nagar**	**9.50**	**147**	*e*P	**P**	**02 57 53.9**	**-1.2**
AYAN				*e*S	**S**	**02 59 35.4**	**-5.5**
JASL	**Jaisalmer**	**9.68**	**182**	*e*P	**P**	**02 57 56.0**	**-1.4**
SONA	**Sohna**	**9.69**	**148**	*e*P	**P**	**02 57 56.6**	**-0.9**
SONA				*e*S	**S**	**02 59 39.1**	**-6.3**
PTH	**Pithoragarh**	**10.30**	**131**	*e*P	**P**	**02 58 04.9**	**-0.9**
PTH				*e*S	**S**	**02 59 54.3**	**-5.8**
LGTI	**Lohaghat**	**10.39**	**131**	⇑*i*P	**P**	**02 58 06.5**	**-0.5**
LGTI				*e*		02 59 59.5	
AJM	**Ajmer**	**10.52**	**163**	⇓*i*P	**P**	**02 58 07.0**	**-1.7**
AGRA	**Agra**	**10.95**	**147**	*e*P	**P**	**02 58 12.9**	**-1.5**
AGRA				*e*S	**S**	**03 00 08.6**	**-7.1**
JHNI	**Jhansi**	**12.74**	**149**	⇑*i*P	**P**	**02 58 37.0**	**-1.5**
JHNI				*i* S	**S**	**03 00 52.0**	**-6.7**
MK31	**Makanchi Array**	**13.06**	**36**	⇑P	**P**	**02 58 41.9**	**-0.6**
	comp=Z,78nm,0.8s,baz=220,slow=11,SNR=595						
MKAR	**Makanchi Array**	**13.06**	**36**	*i* P	**P**	**02 58 41.1**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,66nm,0.7s						
BHJ	**Bhuj**	**13.40**	**186**	*e*P	**P**	**02 58 45.2**	**-1.8**
BHJ				*e*		02 58 46.5	
	comp=Z,130nm,1.4s						
BHJ				*e*		03 01 07.2	
BHJ				*e*		03 02 59.2	
	comp=E,83nm,0.7s						
BHJ				*e*		03 02 59.3	
	comp=N,106nm,1.1s						
KOLN	**Kolđanda**	**13.66**	**127**	*e*P	**P**	**02 58 48.7**	**-1.7**
	comp=N,95nm,0.3s						
KOLN				*e*S	**S**	**03 01 15.2**	**-5.3**
GKN	**Gorkha**	**14.19**	**123**	*e*P	**P**	**02 58 55.2**	**-2.1**
	comp=N,602nm,0.6s						
GKN				*e*S	**S**	**03 01 25.4**	**-7.5**
BHPL	**Bhopal**	**14.36**	**157**	*e*	**P**	**02 58 57.2**	**-2.3**
BHPL				*e*		02 58 58.9	
	comp=Z,61nm,0.6s						
BHPL				*e*		03 01 29.6	
WMQ	**Urumqi**	**14.45**	**55**	P	**P**	**02 59 01.3**	**+0.8**
WMQ				AP		02 59 13.0	
WMQ				PP	PP	02 59 15.0	+2.1
WMQ				XP		02 59 26.0	
WMQ				S	**S**	**03 01 41.0**	**+2.0**
WMQ				XS		03 01 58.0	
WMQ				AMB	AMB		
	comp=Z,11nm,1.1s						
WMQ				AMB	AMB		
	comp=Z,206nm,3.6s						
WMQ				LR	LR		
	comp=N,1μm,7.8s						
WMQ				LR	LR		
	comp=E,974nm,8.5s						
WMQ				LR	LR		
	comp=Z,856nm,12.0s						
DMN	**Daman**	**14.76**	**124**	*e*P	**P**	**02 59 03.2**	**-1.5**
	comp=Z,272nm,0.7s						
DMN				*e*S	**S**	**03 01 39.3**	**-7.1**
KKN	**Kakani**	**14.76**	**123**	*e*P	**P**	**02 59 02.5**	**-2.2**
	comp=Z,236nm,0.5s						
KKN				*e*S	**S**	**03 01 38.5**	**-7.9**
PKI	**Pulchoki**	**14.99**	**123**	*e*P	**P**	**02 59 05.8**	**-1.8**
	comp=Z,223nm,0.6s						
PKI				*e*S	**S**	**03 01 43.8**	**-7.9**
KURK	**Kurchatov**	**15.04**	**18**	P	**P**	**02 59 07.3**	**-0.8**
	comp=Z,46nm,0.9s,baz=216,slow=11,SNR=163						
KURK	**Kurchatov**	**15.04**	**18**	*d* iP	**P**	**02 59 03.9**	**-4.2**
KURK				pmax	pmax		
	comp=Z,46nm,0.9s						
KURK	**Kurchatov**	**15.04**	**18**	*e*P	**P**	**02 59 03.6**	**-4.5**
	comp=Z,86nm,0.9s						
JIRN	**Jiri**	**15.47**	**121**	*e*P	**P**	**02 59 11.7**	**-1.9**
	comp=Z,180nm,0.3s						
JIRN				*e*S	**S**	**03 01 56.4**	**-6.2**
BVA0	**Borovoye Array**	**16.41**	**358**	P	**P**	**02 59 22.1**	**-3.2**
	comp=Z,14nm,1.4s,baz=168,slow=13,SNR=115						
BVA0				⇓S	**S**	**03 02 10.4**	**-14**
	comp=Z,7.0nm,1.4s,baz=163,slow=22,SNR=5.8						
BVA0	**Borovoye Array**	**16.41**	**358**	*i* P	**P**	**02 59 22.1**	**-3.2**
BVA0				*e*		03 02 14.6	
BVA0				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BVA0				smax			
	comp=Z,11nm,1.4s						
BVA0				MLR	MLR		
	comp=Z,56nm,1.7s						
BVAR	**Borovoye Array**	**16.41**	**358**	P	**P**	**02 59 22.4**	**-2.9**
	comp=Z,3.4nm,0.3s,baz=166,slow=13,SNR=44						
BVAR				S	**S**	**03 02 15.9**	**-8.1**
	comp=Z,3.0nm,0.3s,baz=172,slow=22,SNR=6.6						
BANOM	**Banah**	**16.64**	**234**	⇑P	**P**	**02 59 29.7**	**+1.4**
	SNR=8.4						
CHKZ	**Chkalovo**	**17.06**	**359**	⇓P	**P**	**02 59 30.8**	**-2.5**
	comp=Z,36nm,1.1s						
CHKZ				⇑S	**S**	**03 02 25.7**	**-13**
	comp=Z,35nm,1.1s						
CHKZ	**Chkalovo**	**17.06**	**359**	*i* P	**P**	**02 59 29.5**	**-3.9**
CHKZ				pmax	pmax		
	comp=Z,36nm,1.1s						
CHKZ	**Chkalovo**	**17.06**	**359**	*e*P	**P**	**02 59 30.0**	**-3.4**
	comp=Z,54nm,1.0s						
BLSP	**Bilaspur**	**17.25**	**144**	*e*	**P**	**02 59 35.1**	**-0.9**
BLSP				*e*		03 00 07.7	
	comp=Z,93nm,1.2s						
BLSP				*e*		03 02 36.9	
WBK	**Wadi Bani Khal**	**17.56**	**221**	⇑P	**P**	**02 59 41.6**	**+1.7**
ASHO	**Ashiyiah**	**17.66**	**232**	⇑P	**P**	**02 59 42.2**	**+1.1**
	SNR=11						
SMDO	**Samad**	**17.70**	**224**	⇑P	**P**	**02 59 42.1**	**+0.5**
BOK	**Bokaro**	**17.95**	**131**	*e*	**P**	**02 59 43.4**	**-1.2**
BOK				*e*		02 59 47.3	
	comp=Z,52nm,0.5s						
BOK				*e*		03 02 50.3	
LSA	**Lhasa**	**18.01**	**107**	P	**P**	**02 59 47.1**	**+1.9**
LSA				*e*S	**S**	**03 02 59.1**	**-0.8**
LSA				AMB	AMB		
	comp=Z,20nm,0.8s						
LSA				AMB	AMB		
	comp=Z,120nm,5.8s						
LSA				LR	LR		
	comp=N,120nm,10.0s						
LSA				LR	LR		
	comp=E,180nm,10.0s						
LSA				LR	LR		
	comp=Z,280nm,13.0s						
LSA	**Lhasa**	**18.01**	**107**	*e*P	**P**	**02 59 46.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,43nm,0.6s						
LSA	**Lhasa**	**18.01**	**107**	*e*P	**P**	**02 59 46.3**	**+1.0**
	comp=Z,43nm,0.6s						
POO	**Poona**	**18.17**	**172**	⇓*i*P	**P**	**02 59 48.0**	**+0.8**
POO				*i*		03 03 27.0	
JMDO	**Jabal Madar**	**18.22**	**222**	P	**P**	**02 59 48.4**	**+0.6**
	SNR=7.2						
ARQ	**Araqi**	**18.37**	**228**	⇓P	**P**	**02 59 50.7**	**+1.2**
BSY	**Bisya**	**18.43**	**225**	P	**P**	**02 59 51.5**	**+1.3**
	SNR=8.7						
LATR	**Latur**	**18.73**	**164**	*e*P	**P**	**02 59 55.5**	**+1.8**
LATR				*e*		03 03 12.0	
**KAD

GTA XP 03 01 03.9
GTA PP PP 03 01 09.3 +4.9
GTA PCP PcP 03 04 26.1 +0.8
GTA S **S** **03 04 37.9 +7.2**
GTA XS 03 05 06.1
GTA SCP 03 07 55.6
GTA AMB AMB
comp=Z,86nm,1.0s,mb5.0
GTA AMB AMB
comp=Z,172nm,4.9s
GTA LR LR
comp=N,254nm,13.7s
GTA LR LR
comp=E,104nm,12.2s
GTA LR LR
comp=Z,151nm,15.2s
KIV Kislovodsk 22.92 297 *i* P **P** **03 00 36.0 -0.3**
KIV pmax pmax
comp=Z,9.0nm,1.7s,mb3.8
KIV Kislovodsk 22.92 297 *e*P **P** **03 00 37.2 +1.0**
comp=Z,29nm,0.7s,mb4.7
MNGI Mangalore 23.80 171 *e* **P** **03 00 40.5 -4.5**
MNGI *e* 03 07 55.8
WHFO Wadi Hawf 24.20 224 P **P** **03 00 49.4 +0.5**
SNR=16
RBK Rabkut 24.29 223 ⇓P **P** **03 00 50.2 +0.5**
SNR=9.6
ABTO Aybut 24.92 224 ⇓P **P** **03 00 55.9 +0.1**
SNR=38
SOC Sochi 25.01 296 *e*P **P** **03 00 55.8 -0.7**
SOC *e* 03 04 27.7
SOC *e*S **S** **03 05 06.5 -5.0**
SOC *e* 03 11 43.2
SOC pmax pmax
comp=Z,26nm,0.7s,mb4.8
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,32nm,0.9s
RAYN Ar Rayn 25.74 247 P **P** **03 01 02.9 -0.6**
comp=E,52nm,0.6s,SNR=8.7
MALT Malatya 26.05 284 ⇑P **P** **03 01 07.5 +1.3**
MALT Malatya 26.05 284 P **P** **03 01 06.7 +0.5**
comp=E,5.2nm,1.0s,mb3.9
LZH Lanzhou 26.18 81 P **P** **03 01 13.1 +5.7**
LZH AP pP 03 01 30.4 +3.9
LZH XP sP 03 01 38.4 +1.6
LZH AMB AMB
comp=Z,90nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,180nm,5.4s
LZH LR LR
comp=E,550nm,15.5s
LZH LR LR
comp=Z,340nm,16.4s
ZAK Zakamensk 26.75 49 ⇓*i*P **P** **03 01 13.6 +1.1**
ZAK pmax pmax
comp=Z,14nm,0.8s,mb4.5
ANN Anapa 26.76 298 ⇓*i*P **P** **03 01 02.2 -11**
ANN *e**PP pP 03 01 27.0 -4.9
ANN pmax pmax
comp=Z,56nm,1.2s,mb5.0
VRSR Storozhevoye 27.06 313 *e*P **P** **03 01 14.4 -1.0**
VRSR pmax pmax
comp=Z,30nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,20nm,0.9s
TLY Talaya 27.40 46 *e*P **P** **03 01 20.1 +1.6**
TLY pmax pmax
comp=Z,11nm,0.7s,mb4.5
TLY MLR MLR
comp=Z,136nm,21.0s
TLY Talaya 27.40 46 *e*P **P** **03 01 20.0 +1.5**
comp=Z,11nm,0.6s,mb4.6
CD2 Chengdu 27.52 92 *e*P **P** **03 01 21.6 +1.8**
SONM Songino Array 28.09 55 P **P** **03 01 26.1 +1.3**
comp=Z,15nm,0.7s,mb4.7,baz=264,slow=9.9,SNR=141
SONM LR LR 03 14 11.5
comp=Z,187nm,20.7s,baz=177,slow=40
ULN Ulaanbaatar 28.53 56⇑*e*P **P** **03 01 29.4 +0.7**
ULN pmax pmax
comp=Z,17nm,0.7s,mb4.8
ULN Ulaanbaatar 28.53 56⇑*e*P **P** **03 01 29.4 +0.7**
comp=Z,18nm,0.7s,mb4.8
ASF Jabal al Asfar 28.61 271 LR LR 03 16 38.4
comp=Z,74nm,18.1s,baz=285,slow=44
KMI Kunming 29.22 104 P **P** **03 01 35.8 +0.8**
KMI AP pP 03 01 53.5 -1.0
KMI S **S** **03 06 25.1 +5.0**
KMI AMB AMB
comp=Z,12nm,0.7s,mb4.6
KMI LR LR
comp=N,218nm,14.9s
KMI LR LR
comp=E,240nm,20.9s
KMI LR LR
comp=Z,164nm,22.3s
BRTR Keskin Array B 29.60 288 P **P** **03 01 38.4 +0.1**
comp=Z,2.2nm,0.6s,mb3.9,baz=103,slow=9.6,SNR=14
MOS Moscow 29.70 321 *e*P **P** **03 01 50.2 +11**
MOS *e* 03 02 18.7
MOS *e* 03 02 40.5
MOS pmax pmax
comp=Z,43nm,0.9s,mb5.1
OBN Obninsk 29.98 319⇑*i*P **P** **03 01 40.2 -1.3**
OBN *e* 03 02 36.0
OBN pmax pmax
comp=Z,20nm,0.6s,mb4.9
OBN MLR MLR
comp=Z,100nm,22.0s
OBN Obninsk 29.98 319 P **P** **03 01 38.5 -3.0**
comp=Z,29nm,0.4s,mb5.2
XAN Xi'an 30.70 84 P **P** **03 01 49.0 +0.9**
XAN AMB AMB
comp=Z,13nm,0.7s,mb4.8
GYA Guiyang 31.67 98⇑*i*P **P** **03 01 58.4 +1.8**
GYA AP pP 03 02 16.3 -0.1
GYA XP sP 03 02 25.3 -1.2
GYA S **S** **03 07 02.0 +3.4**
GYA AMB AMB
comp=Z,20nm,1.2s,mb4.7
GYA AMB AMB
comp=Z,80nm,2.7s,mb5.0
GYA LR LR
comp=N,280nm,16.2s
GYA LR LR
comp=E,340nm,16.5s
GYA LR LR
comp=Z,170nm,17.0s
ENH Enshi 32.36 90 *e*P **P** **03 02 04.7 +2.1**
comp=Z,16nm,0.8s,mb4.8
AKASG Malin Array Be 33.03 309 P **P** **03 02 07.1 -1.1**
comp=Z,4.0nm,0.4s,mb4.6,baz=81,slow=7.8,SNR=29
CFR Carcaliu 33.37 298 ⇓P **P** **03 02 11.0 -0.2**
VRI Vrincioaia 34.35 300 ⇓P **P** **03 02 20.4 +0.8**
MLR Muntele Rosu 34.91 299 ⇓P **P** **03 02 25.8 +1.5**
MLR Muntele Rosu 34.91 299⇓*i*P **P** **03 02 26.0 +1.7**
BOD Bodaibo 35.12 39 *e*P **P** **03 02 25.4 -0.6**
BOD pmax pmax
comp=Z,16nm,1.1s,mb4.8
BURAR Bucovina Array 35.40 303 ⇓P **P** **03 02 28.9 +0.4**
JOF Joensuu 35.87 330 *e*p **P** **03 02 32.0 -0.3**
comp=Z,13nm,0.5s,mb5.1
WHN Wuhan 36.17 87 *e*P **P** **03 02 36.8 +1.6**
VSU Vasula 36.22 321 *i*P **P** **03 02 34.6 -0.8**
LVV L'vov 36.26 306 *e*P **P** **03 02 35.2 -0.6**
HIA Hailar 37.05 54 *e*P **P** **03 02 42.3 -0.1**
HIA pmax pmax
comp=Z,5.0nm,0.5s
HIA Hailar 37.05 54 *e*P **P** **03 02 42.2 -0.1**
comp=Z,4.8nm,0.5s,mb4.7
KWP Kalwaria 37.11 306 *e*P **P** **03 02 43.7 +0.8**
SUW Suwalki 37.19 313 *e*P **P** **03 02 42.9 -0.6**
KOLS Kolonicke sedl 37.38 305 *i*P **P** **03 02 45.2 0.0**
KOLS *e* pP 03 03 09.8 +4.4
KOLS *e*PCP PcP 03 05 01.5 -1.4
FINES FINESS Array B 37.50 326 P **P** **03 02 45.6 -0.4**
comp=Z,2.6nm,0.4s,mb4.4,baz=120,slow=9.4,SNR=32
FINES LR LR 03 19 50.8
comp=Z,55nm,20.6s,baz=172,slow=39
KAF Kangasniemi 37.64 327 *e*p **P** **03 02 46.9 -0.3**
comp=Z,11nm,1.1s,mb4.6,baz=112,slow=8.4
KAF Kangasniemi 37.64 327 *e*P **P** **03 02 46.9 -0.3**

KAF pmax pmax
comp=Z,11nm,1.1s,mb4.6
BZS Buzias 37.94 300 ⇑P **P** **03 02 50.1 +0.3**
NIE Niedzica 38.67 306 ⇓*i*P **P** **03 02 55.5 -0.3**
NIE *e* 03 03 01.4
OJC Ojcow 39.00 307 *e*P **P** **03 02 58.6 0.0**
NJ2 Nanjing 39.24 82 *e*P **P** **03 03 02.8 +2.0**
NJ2 AP pP 03 03 20.5 -0.6
NJ2 XP sP 03 03 29.6 -1.5
NJ2 PP PP 03 04 37.9 +2.0
NJ2 S **S** **03 08 58.0 +3.2**
NJ2 XS 03 09 29.0
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb5.1
NJ2 AMB AMB
comp=Z,130nm,4.6s
NJ2 LR LR
comp=N,250nm,18.2s
NJ2 LR LR
comp=E,310nm,23.3s
NJ2 LR LR
comp=Z,180nm,21.6s
PKSM Moragy 39.96 301 ⇓P **P** **03 03 07.0 +0.4**
MORC Moravsky Berou 40.46 306 *e*P **P** **03 03 10.4 -0.3**
MORC pmax pmax
comp=Z,12nm,1.0s,mb4.7
MORC Moravsky Berou 40.46 306 *e*P **P** **03 03 10.4 -0.3**
comp=Z,12nm,1.0s,mb4.7
GKP Gorka Klasztor 40.65 312 *e*P **P** **03 03 12.4 +0.2**
GKP *e* 03 03 20.4
GKP Gorka Klasztor 40.65 312 *e*P **P** **03 03 12.3 +0.2**
GKP *e* 03 03 20.4
KEV Kevo 40.77 338 *e*p **P** **03 03 12.4 -0.6**
VRAC Vranov 41.10 306 ⇓P **P** **03 03 17.0 +1.1**
ARCES ARCESS Array B 41.11 337 P **P** **03 03 16.1 +0.2**
comp=Z,18nm,0.6s,mb5.1,baz=112,slow=8.7,SNR=127
ARCES LR LR 03 20 58.0
comp=Z,251nm,18.4s,baz=292,slow=37
ARE0 ARCESS Array S 41.11 337 *e*P **P** **03 03 15.9 +0.1**
DPC Dobruska-Polom 41.23 307 *e*P **P** **03 03 17.9 +0.9**
DPC *ex* x 03 03 25.5
KSP Ksiaz 41.23 308 *e*P **P** **03 03 17.4 +0.4**
CN2 Changchun 41.36 63 *e*P **P** **03 03 18.3 +0.2**
CN2 *e*XP sP 03 03 45.8 -2.6
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
UPC Upice 41.42 308 *e*P **P** **03 03 19.1 +0.6**
UPC *e* 03 03 26.5
KTK1 Kautokeino 41.59 336 *e*P **P** **03 03 20.4 +0.8**
comp=Z,50nm,1.9s,mb4.9
KTK1 Kautokeino 41.59 336 *e*P **P** **03 03 20.4 +0.8**
KTK1 AMb AMB 03 03 28.4
comp=Z,50nm,1.9s,mb4.9
BSD Bornholm Skovb 42.08 314 *i* P **P** **03 03 22.5 -1.3**
BSD pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
BSD Bornholm Skovb 42.08 314 *i* P **P** **03 03 22.5 -1.3**
comp=Z,9.8nm,0.6s,mb4.7
BSD *i* 03 03 31.5
PRU Pruhonice 42.39 307 *e*P **P** **03 03 27.0 +0.5**
PRU *ex* x 03 03 34.8
BRG Berggiesshubel 42.72 308 *e*P **P** **03 03 29.6 +0.5**
BRG pmax pmax
comp=Z,13nm,0.9s,mb4.7
BRG Berggiesshubel 42.72 308 *e*P **P** **03 03 29.6 +0.5**
comp=Z,13nm,0.9s,mb4.7
BRG *e* 03 03 37.4
GEC2 GERESS Array S 43.03 305 *e*P **P** **03 03 32.0 +0.3**
GERES GERESS Array B 43.03 305 P **P** **03 03 31.5 -0.2**
comp=Z,0.7nm,0.6s,mb3.6,baz=79,slow=6.8,SNR=7.5
GERES LR LR 03 21 41.2
comp=Z,66nm,20.8s,baz=95,slow=36
KHC Kasperske Hory 43.09 306 *e*P **P** **03 03 32.6 +0.4**
KHC *e* 03 04 01.5
KHC Kasperske Hory 43.09 306 *e*P **P** **03 03 32.6 +0.4**
KHC x x 03 04 01.5
MRLC Muro Lucano 43.12 293 *e*P **P** **03 03 32.8 +0.3**
MGR Morigerati 43.21 292 *e*P **P** **03 03 33.6 +0.3**
TRO Tromso 43.24 336 *e*P **P** **03 03 32.1 -1.1**
CLL Collm 43.28 309 *e*P **P** **03 03 34.0 +0.3**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
CLL Collm 43.28 309 *e*P **P** **03 03 34.0 +0.3**
comp=Z,7.0nm,0.9s,mb4.4
CLL Collm 43.28 309 P **P** **03 03 34.0 +0.3**
comp=Z,logA/T=0.9,mb4.4
CLL *i* 03 03 41.3
CLL *e*SP sP 03 04 05.0 +1.0
CLL *e*SPP 03 05 43.0
CLL *i* PPP PPP 03 05 54.8 +0.5
SGO Sicignano 43.30 293 *e*P **P** **03 03 34.6 +0.6**
KBA Koelnbreinsper 43.48 303⇑*i*P **P** **03 03 35.5 +0.1**
comp=Z,6.8nm,1.4s,mb4.2
KBA Koelnbreinsper 43.48 303⇑*i*P **P** **03 03 35.5 +0.1**
KBA pmax pmax
comp=Z,7.0nm,1.4s,mb4.2
COP Copenhagen 43.50 315 *i* P **P** **03 03 44.2 +8.7**
COP pmax pmax
comp=Z,37nm,1.0s,mb5.1
COP Copenhagen 43.50 315 *i* P **P** **03 03 44.2 +8.7**
comp=Z,37nm,1.0s,mb5.1
WET Wettzell 43.54 306 *e*P **P** **03 03 35.9 0.0**
YAK Yakutsk 43.74 36 *e*P **P** **03 03 37.0 -0.3**
YAK pmax pmax
comp=Z,69nm,0.8s,mb5.4
YAK Yakutsk 43.74 36 *e*P **P** **03 03 37.0 -0.4**
comp=Z,69nm,0.8s,mb5.4
MOR8 Moi Rana 43.81 331 *e*P **P** **03 03 37.1 -0.8**
MOR8 Moi Rana 43.81 331⇑*i*P **P** **03 03 36.9 -0.9**
FVI Forni Avoltri 43.93 302 *e*P **P** **03 03 38.6 -0.5**
MDJ Mudanjiang 44.16 61 P **P** **03 03 40.5 -0.4**
MDJ AMB AMB
comp=Z,7.0nm,1.4s,mb4.2
MDJ AMB AMB
comp=Z,91nm,4.0s
MDJ LR LR
comp=N,73nm,31.1s
MDJ LR LR
comp=E,68nm,32.5s
MDJ LR LR
comp=Z,57nm,18.5s
MOX Moxa 44.21 308 *e*P **P** **03 03 41.7 +0.5**
MOX pmax pmax
comp=Z,12nm,1.4s,mb4.4
MOX Moxa 44.21 308 *e*P **P** **03 03 41.7 +0.5**
comp=Z,12nm,1.4s,mb4.4
MOX Moxa 44.21 308 *i* P **P** **03 03 41.7 +0.5**
comp=Z,logA/T=0.9,mb4.4
ARV Arcevia 44.37 298 *e*P **P** **03 03 43.0 +0.3**
NB2 NORSAR Subarra 44.41 323 P **P** **03 03 41.6 -1.1**
comp=Z,13nm,0.5s,mb4.9,baz=98,slow=7.4
NB2 NORSAR Subarra 44.41 323 P **P** **03 03 41.6 -1.1**
NB2 pmax pmax
comp=Z,13nm,0.5s,mb4.9
NB2 NORSAR Subarra 44.41 323 P **P** **03 03 41.6 -1.1**
baz=98,slow=7.9
NOA NORSAR Array B 44.41 323 P **P** **03 03 42.1 -0.6**
comp=Z,7.5nm,0.5s,mb4.7,baz=97,slow=7.8,SNR=42
NOA LR LR 03 22 31.6
comp=Z,53nm,21.2s,baz=120,slow=36
STOK Stokkvaagen 44.41 331 *e*P **P** **03 03 42.5 -0.2**
STOK AMb AMB 03 03 49.3
comp=Z,72nm,2.3s,mb5.0
NAO01 NORSAR Array S 44.55 323 *e*P **P** **03 03 42.5 -1.4**
comp=Z,16nm,0.9s,mb4.8
NAO01 *e* 03 03 51.6
GRA1 Grafenberg Arr 44.56 307 *e*P **P** **03 03 44.9 +0.9**
comp=Z,9.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.56 307 *e*P **P** **03 03 44.9 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.56 307 *e*P **P** **03 03 44.9 +0.9**
GRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GRF Grafenberg Arr 44.56 307 *e*P **P** **03 03 44.9 +0.9**
comp=Z,9.0nm,0.9s,mb4.5
WTTA Wattenberg 44.61 303⇑*i*P **P** **03 03 44.1 -0.4**
comp=Z,8.2nm,1.1s,mb4.4
WTTA Wattenberg 44.61 303⇑*i*P **P** **03 03 44.1 -0.4**
WTTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
FUR Furstenfeldbru 44.72 305 *e*P **P** **03 03 46.1 +0.8**
BSEG Bad Segeberg 44.77 313 *e*P **P** **03 03 45.9 +0.3**

CLZ Clausthal 44.88 310 *e*P **P** **03 03 46.8 +0.2**
comp=Z,12nm,0.9s,mb4.6
KLR Kul'dur 44.90 54 *e*P **P** **03 03 43.8 -3.0**
SQTA Sankt Quirin 44.90 303⇑*i*P **P** **03 03 45.9 -0.9**
comp=Z,3.1nm,1.2s,mb3.9
SQTA **Sankt Quirin 44.90 303**⇑*i*P **P** **03 03 45.9 -0.9**
SQTA pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
SFI Santa Sofia 45.07 298 *e*P **P** **03 03 49.1 +0.9**
KONO Kongsberg 45.12 321 *e*P **P** **03 03 46.5 -1.9**
KONO pmax pmax
comp=Z,13nm,0.7s,mb4.8
KONO Kongsberg 45.12 321 *e*P **P** **03 03 46.5 -1.9**
comp=Z,13nm,0.7s,mb4.8
KONO *e* 03 03 55.9
PGD Poggio Sodo 45.16 298 *e*P **P** **03 03 50.5 +1.6**
VMG Vicchio 45.27 299 *e*P **P** **03 03 51.4 +1.6**
MUD Monsted U'grnd 45.33 316 *e*P **P** **03 03 48.5 -1.6**
MUD *i* pP 03 04 06.2 -4.4
MUD pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
MUD Monsted U'grnd 45.33 316 *e*P **P** **03 03 48.5 -1.6**
comp=Z,6.3nm,0.7s,mb4.5
MUD *i* pP 03 04 06.2 -4.4
MUD Monsted U'grnd 45.33 316 *i* P **P** **03 03 48.5 -1.6**
comp=Z,6.3nm,0.7s,mb4.5
MUD *i* pP 03 04 06.2 -4.4
TIXI Tiksi 45.58 22 *e*P **P** **03 03 48.0 -3.9**
TIXI *e*S **S** **03 10 19.8 -7.2**
TIXI pmax pmax
comp=Z,37nm,1.2s,mb5.0
TIXI MLR MLR
comp=Z,78nm,13.0s
DAVA Damuels 45.78 304⇑*i*P **P** **03 03 53.7 -0.1**
comp=Z,9.2nm,0.7s,mb4.6
GSCL Gusciola 45.86 299 *e*P **P** **03 03 55.5 +1.1**
TNS Taunus Mts 46.27 308 *e*P **P** **03 03 57.6 0.0**
CDF Champ du Feu 47.31 305 *e*P **P** **03 04 05.8 -0.1**
PGF Pioggiola 47.40 297⇑*i*P **P** **03 04 06.0 -0.6**
comp=Z,13nm,0.7s,mb4.5
PGF Pioggiola 47.40 297⇑*i*P **P** **03 04 06.0 -0.6**
PGF pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
HINF Hinteralfeld 47.70 305 *e*P **P** **03 04 08.4 -0.5**
comp=Z,3.9nm,0.5s,mb4.2
HINF Hinteralfeld 47.70 305 *e*P **P** **03 04 08.4 -0.5**
HINF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
HAU Haudompre 48.00 305 *e*P **P** **03 04 10.7 -0.5**
comp=Z,6.2nm,0.6s,mb4.3
HAU *e*R
comp=Z,89nm,19.2s
SBF Sospel 48.18 299 *e*P **P** **03 04 12.5 -0.2**
comp=Z,30nm,0.9s,mb4.8
SBF Sospel 48.18 299 *e*P **P** **03 04 12.5 -0.2**
SBF pmax pmax
comp=Z,15nm,0.9s,mb4.8
LPG La Plagne 48.27 302 *e*P **P** **03 04 13.4 +0.1**
comp=Z,14nm,1.0s,mb4.5
LPG La Plagne 48.27 302 *e*P **P** **03 04 13.4 +0.1**
LPG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LPL La Plagne 48.27 302 *e*P **P** **03 04 13.4 +0.1**
MBDF Montbardon 48.43 301 *e*P **P** **03 04 14.0 -0.6**
comp=Z,13nm,0.7s,mb4.5
MBDF Montbardon 48.43 301 *e*P **P** **03 04 14.0 -0.6**
MBDF pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
CABF La Chapelle 48.47 303 *e*P **P** **03 04 15.0 +0.2**
comp=Z,15nm,0.6s,mb4.7
CABF La Chapelle 48.47 303 *e*P **P** **03 04 15.0 +0.2**
CABF pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
MEZF Maizieres J'vi 48.75 306 *e*P **P** **03 04 17.1 +0.1**
FRF La Foret Royal 48.81 299 *e*P **P** **03 04 16.9 -0.6**
comp=Z,13nm,0.8s,mb4.6
FRF La Foret Royal 48.81 299 *e*P **P** **03 04 16.9 -0.6**
FRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LMR La Mourre 48.97 299 *e*P **P** **03 04 17.8 -0.9**
BAIF Baives 48.99 308⇑*i*P **P** **03 04 19.0 +0.2**
comp=Z,13nm,0.9s,mb4.6
BAIF Baives 48.99 308⇑*i*P **P** **03 04 19.0 +0.2**
BAIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 49.00 301 *e*P **P** **03 04 19.2 +0.2**
ORIF *e*R
comp=Z,74nm,18.0s
KMBO Kilima Mbogo 49.07 228 *e*P **P** **03 04 20.3 +0.4**
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 49.07 228 P **P** **03 04 20.6 +0.7**
comp=Z,1.9nm,0.7s,mb4.2,baz=37,slow=13,SNR=6.3
KMBO Kilima Mbogo 49.07 228 *e*P **P** **03 04 20.2 +0.3**
comp=Z,2.0nm,0.6s,mb4.2
VIVF Saint-Julien-l 49.85 301⇑*i*P **P** **03 04 25.2 -0.3**
comp=Z,12nm,0.8s,mb4.6
VIVF Saint-Julien-l 49.85 301⇑*i*P **P** **03 04 25.2 -0.3**
VIVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SMF Signal de Mont 49.96 304⇑*i*P **P** **03 04 25.7 -0.7**
comp=Z,15nm,0.8s,mb4.7
SMF Signal de Mont 49.96 304⇑*i*P **P** **03 04 25.7 -0.7**
SMF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
SSF Saint Saulge 50.09 304 *e*P **P** **03 04 26.4 -0.9**
AVF Avril sur Loir 50.25 304⇑*i*P **P** **03 04 27.9 -0.7**
comp=Z,17nm,0.7s,mb4.8
AVF Avril sur Loir 50.25 304⇑*i*P **P** **03 04 27.9 -0.7**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HYF Humbligny 50.61 305 *e*P **P** **03 04 31.0 -0.3**
LASF Ste Croix 50.62 301 *e*P **P** **03 04 31.3 -0.1**
comp=Z,37nm,1.0s,mb5.0
TCF Toulx Ste Croi 51.14 304 *e*P **P** **03 04 35.0 -0.3**
comp=Z,17nm,0.9s,mb4.8
TCF Toulx Ste Croi 51.14 304 *e*P **P** **03 04 35.0 -0.3**
TCF pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CAF Calviac 51.61 302 *e*P **P** **03 04 38.7 -0.2**
comp=Z,16nm,0.9s,mb4.7
CAF Calviac 51.61 302 *e*P **P** **03 04 38.7 -0.2**
CAF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
RJF Les Rejaudoux 51.88 303 *e*P **P** **03 04 40.8 -0.1**
RJF *e*R
comp=Z,49nm,17.2s
MTLF Montolieu 51.97 300⇑*i*P **P** **03 04 41.2 -0.4**
comp=Z,10nm,0.7s,mb4.6
MTLF Montolieu 51.97 300⇑*i*P **P** **03 04 41.2 -0.4**
MTLF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LDF La Druitiere 52.07 307 *e*P **P** **03 04 41.2 -1.1**
comp=Z,7.8nm,0.5s,mb4.7
LDF La Druitiere 52.07 307 *e*P **P** **03 04 41.2 -1.1**
LDF pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
FLN La Foliniere 52.26 307 *e*P **P** **03 04 42.6 -1.1**
FLN *e*R
comp=Z,95nm,23.0s
LFF La Frestale 52.51 302 *e*P **P** **03 04 45.3 -0.3**
comp=Z,23nm,1.0s,mb4.9
LFF La Frestale 52.51 302 *e*P **P** **03 04 45.3 -0.3**
LFF pmax pmax
comp=Z,12nm,1.0s,mb4.9
GRR Gorron 52.60 307 *e*P **P** **03 04 45.1 -1.1**
MBAR Mbarara 52.75 235 *e*P **P** **03 04 46.4 -1.4**
MBAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
MBAR Mbarara 52.75 235 *e*P **P** **03 04 46.4 -1.5**
comp=Z,4.8nm,0.7s,mb4.6
ASAJ Asahikawa 53.31 58 LR LR 03 29 47.3
comp=Z,66nm,18.6s,baz=22,slow=38
EPF Esparros 53.37 300 *e*P **P** **03 04 51.1 -0.9**
SGMF Saint Gilles 53.73 307 *e*P **P** **03 04 53.7 -0.9**
comp=Z,12nm,0.7s,mb4.7
SGMF Saint Gilles 53.73 307 *e*P **P** **03 04 53.7 -0.9**
SGMF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
ETSF Etsaut 54.04 300 *e*P **P** **03 04 56.6 -0.3**
comp=Z,22nm,0.6s,mb5.0
ETSF Etsaut 54.04 300 *e*P **P** **03 04 56.6 -0.3**
ETSF pmax pmax
comp=Z,11nm,0.6s,mb5.1
ROSF Rostrenen 54.16 308 *e*P **P** **03 04 56.6 -1.1**
QUIF Quistinic 54.22 307 *e*P **P** **03 04 56.9 -1.2**

SJPF Ste Jean 54.43 301 *e*P P 03 04 59.4 -0.3
comp=Z,28nm,1.2s,mb4.9
SJPF Ste Jean 54.43 301 *e*P P 03 04 59.4 -0.3
SJPF pmax pmax
comp=Z,14nm,1.2s,mb4.9
JHJ Hachijo jima 2 55.23 72 LR LR 03 31 57.5
comp=Z,84nm,19.8s,baz=95,slow=39
ESDC Sonseca Array 57.59 298 P P **03 05 21.6 -0.8**
comp=Z,5.4nm,0.7s,mb4.7,baz=54,slow=7.7,SNR=17
BILL Bilibino 58.40 26 *e*P P 03 05 27.4 -0.3
BILL pmax pmax
comp=Z,15nm,1.1s,mb4.9
BILL Bilibino 58.40 26 *e*P P 03 05 27.4 -0.3
comp=Z,15nm,1.1s,mb4.9
EVO Evora 60.93 298 *e*P P 03 05 45.5 +0.1
comp=Z,103nm,1.6s,mb5.3
SUMG Summit 61.01 341 *e*P P 03 05 45.8 +0.2
comp=Z,12nm,0.8s,mb5.0
LSZ Lusaka 65.69 226 *e*P P 03 06 16.7 -0.4
LSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
LSZ Lusaka 65.69 226 *e*P P 03 06 16.7 -0.4
comp=Z,3.0nm,0.8s,mb4.2
FX1 Attu Island--F 68.16 40 LR LR 03 39 47.6
comp=Z,3.2nm,18.4s,baz=163,slow=39
RES Resolute Bay 68.59 356 *e*P P 03 06 34.1 -0.2
RES pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
RES Resolute Bay 68.59 356 *e*P P 03 06 34.1 -0.2
comp=Z,4.9nm,0.9s,mb4.3
MATP Matopo 69.64 223 P P **03 06 41.7 +0.1**
comp=Z,6.3nm,0.4s,mb4.8,baz=27,slow=6.2,SNR=30
MATP LR LR 03 41 34.6
comp=Z,48nm,19.0s,baz=272,slow=40
IMA Indian Mountai 71.94 18 *e*P P 03 06 54.1 -0.6
IMA pmax pmax
comp=Z,77nm,1.1s,mb5.5
IMA Indian Mountai 71.94 18 *e*P P 03 06 54.1 -0.6
comp=Z,77nm,1.1s,mb5.5
IMA *e* 03 07 02.3
INK Inuvik 73.75 9⇑*e*P P 03 07 05.7 +0.6
INK pmax pmax
comp=Z,34nm,1.1s
INK Inuvik 73.75 9⇑*e*P P 03 07 05.7 +0.6
comp=Z,34nm,1.1s,mb5.0
COLA College 74.30 16 *e*P P 03 07 08.5 +0.1
COLA pmax pmax
comp=Z,17nm,0.8s,mb4.8
COLA College 74.30 16 *e*P P 03 07 08.4 +0.1
comp=Z,17nm,0.8s,mb4.8
COLA *e* 03 07 16.0
LBTB Lobatse 74.91 222 *e*P P 03 07 13.3 +0.6
LBTB pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
LBTB Lobatse 74.91 222 P P **03 07 13.9 +1.2**
comp=Z,4.0nm,0.6s,mb4.3,baz=92,slow=3.6,SNR=11
LBTB Lobatse 74.91 222 *e*P P 03 07 13.3 +0.6
comp=Z,9.6nm,0.9s,mb4.5
DBIC Dimbokro 74.92 267 *e*P P 03 07 11.0 -1.9
DBIC pmax pmax
comp=Z,10.0nm,1.0s
DBIC Dimbokro 74.92 267 P P **03 07 11.6 -1.3**
comp=Z,5.3nm,0.9s,mb4.3,baz=246,slow=1.5,SNR=7.5
DBIC Dimbokro 74.92 267 *e*P P 03 07 11.0 -1.9
comp=Z,9.8nm,1.0s,mb4.5
DAWY Dawson 76.75 13 *e*P P 03 07 22.5 +0.2
YKW3 Yellowknife Ar 81.04 3 *e*P P 03 07 46.0 +0.3
YKA Yellowknife Ar 81.11 3 *i*P P 03 07 46.6 +0.6
YKA pmax pmax
comp=Z,20nm,0.7s
YKA Yellowknife Ar 81.11 3 P P **03 07 46.6 +0.6**
comp=Z,20nm,0.7s,mb5.1,baz=349,slow=5.4,SNR=348
YKA LR LR 03 44 04.5
comp=Z,76nm,21.2s,baz=320,slow=36
NWAO Narrogin (SRO) 81.43 142 P P **03 07 49.8 +1.4**
comp=Z,5.3nm,0.8s,mb4.4,baz=309,slow=4.4,SNR=3.9
WRA Warramunga Arr 81.87 122 P P **03 07 50.9 0.0**
comp=Z,4.9nm,0.7s,mb4.5,baz=325,slow=4.9,SNR=57
WRAB Tennant Creek 81.88 122 *e*P P 03 07 50.6 -0.3
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
WRAB Tennant Creek 81.88 122 *e*P P 03 07 50.6 -0.2
comp=Z,8.7nm,0.8s,mb4.6
WB2 Warramunga Arr 81.88 122⇑*i*P P 03 07 50.9 0.0
SCHQ Schefferville 82.07 337 P P **03 07 51.7 +0.6**
comp=Z,2.2nm,0.6s,mb4.2,baz=61,slow=12,SNR=5.2
SUR Sutherland 83.29 221 P P **03 07 57.6 -0.3**
comp=Z,7.6nm,1.1s,mb4.4,baz=197,slow=13,SNR=2.0
ASPA Alice Springs 84.15 125 *e*P P 03 08 02.7 +0.4
ASAR Alice Springs 84.15 125 P P **03 08 02.5 +0.2**
comp=Z,5.0nm,0.7s,mb4.4,baz=311,slow=4.8,SNR=36
FCC Fort Churchill 84.19 352 *e*P P 03 08 02.7 +1.0
FCC pmax pmax
comp=Z,26nm,0.8s,mb5.1
FCC Fort Churchill 84.19 352 *e*P P 03 08 02.7 +1.1
comp=Z,26nm,0.8s,mb5.1
FFC Flin Flon 88.83 356 P P **03 08 25.3 +0.9**
comp=Z,169nm,0.8s,SNR=23
EDM Edmonton 90.43 3 *e*P P 03 08 33.2 +1.3
ULM Lac du Bonnet 92.76 352 P P **03 08 43.5 +0.8**
comp=Z,8.5nm,0.8s,mb5.1,baz=7.5,slow=3.8,SNR=18
EYMN Ely 94.41 348 *e*P P 03 08 51.4 +1.1
comp=Z,11nm,0.9s,mb5.2
CHMT Chamberlain Mo 96.74 3 *e*P P 03 09 02.0 +1.0
PDAR Pinedale Array 100.98 1 P P 03 09 21.8 +1.5
comp=Z,0.8nm,0.8s,baz=14,slow=6.1,SNR=8.3
TXAR Lajitas Array 114.22 355 PKP PKPdf 03 14 11.5 +2.6
comp=Z,0.4nm,0.6s,baz=145,slow=0.7,SNR=6.1
LPAZ La Paz 138.78 288 *e*PKIKP PKPdf 03 14 58.1 +2.1
LPAZ La Paz 138.78 288 PKP PKPdf 03 14 58.2 +2.3
comp=Z,0.7nm,0.7s,slow=4.0,SNR=3.4
PLCA Paso Flores 150.07 250 *e*PKIKP PKPdf 03 15 21.5 +6.9
PLCA Paso Flores 150.07 250 PKPbc PKPdf 03 15 21.6 +7.0
comp=Z,6.9nm,0.9s,baz=150,slow=5.6,SNR=9.8

*BJI **22** 03:11:18.2, 7.21S×125.63E, h552km, mB4.7, mb4.3*
*MOS **22** 03:11:19.6±1.2, 6.91S×125.49E, h539km, mb4.2/9, Error ellipse: s-maj=17.1km s-min=9.4km az=129.6*
*NEIC **22** 03:11:20.1±0.6, 6.99S×125.47E, h530km±8km, mb4.4/11, Error ellipse: s-maj=13.6km s-min=6.1km az=225.0*
*IDC **22** 03:11:21.0±2.3, 6.96S×125.55E, h536km±28km, mb3.6/7, mb1 3.6/9, mb1mx3.4/16, mbtmp4.4/9, Error ellipse: s-maj=24.2km s-min=10.7km az=65.0*
ISC 22 03:11:18.9±0.8, 6.89S±0.06×125.48E±0.08, h529km±12km, n58, σ0°75/54, mb4.1/19, 2C-5D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUNI	**Buntu Taipa**	**6.05**	**302**	*e*Pn	**P**	**03 13 00.4**	**+2.6**
NINI	**Niniconang**	**6.20**	**293**	*e*Pn	**P**	**03 13 02.5**	**+3.3**
KAKA	**Kakadu**	**8.97**	**131⇑*i*P**		**P**	**03 13 25.8**	**-1.1**
	33nm,0.7s						
KEDI	**Kedomdong**	**9.42**	**260⇓*e*Pn**		**P**	**03 13 31.1**	**-0.4**
	197nm,0.2s						
RATI	**Rata**	**10.03**	**259⇓*e*Pn**		**P**	**03 13 36.5**	**-1.3**
	202nm,0.2s						
KELI	**Kelakatan**	**10.97**	**262⇓*e*Pn**		**P**	**03 13 47.8**	**+0.2**
	57nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.15**	**179⇓*i*P**		**P**	**03 13 48.9**	**-0.4**
	16nm,0.3s						
FITZ				*i* S	**S**	**03 15 49.9**	**-0.1**
SRDI	**Scrawed**	**11.35**	**261⇓*e*Pn**		**P**	**03 13 50.4**	**-1.0**
	88nm,0.2s						
MBWA	**Marble Bar**	**15.24**	**201**	P	**P**	**03 14 31.0**	**+0.1**
	4.2nm,0.6s						
WRAB	**Tennant Creek**	**15.57**	**147**	*e*P	**P**	**03 14 34.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,11nm,0.6s						
WRAB	**Tennant Creek**	**15.57**	**147**	*e*P	**P**	**03 14 34.1**	**-0.1**
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**15.57**	**147**	P	**P**	**03 14 34.3**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=335,slow=9.1,SNR=96						
WRA				S	**S**	**03 17 12.5**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=322,slow=18,SNR=5.5						
WB2	**Warramunga Arr**	**15.57**	**147**	*e*P	**P**	**03 14 34.1**	**-0.2**
WB2				*e*S	**S**	**03 17 12.5**	**+0.5**
KSM	**Kuching**	**17.27**	**298**	P	**P**	**03 14 50.6**	**-0.3**
ASPA	**Alice Springs**	**18.54**	**155⇑*i*P**		**P**	**03 15 04.0**	**+0.9**
ASAR	**Alice Springs**	**18.54**	**155**	P	**P**	**03 15 03.8**	**+0.7**
	comp=Z,1.5nm,0.3s,baz=330,slow=8.4,SNR=44						
ASAR				S	**S**	**03 18 04.0**	**+0.3**
	baz=346,slow=25,SNR=5.5						
PMG	**Port Moresby**	**21.60**	**98**	P	**P**	**03 15 32.0**	**+0.2**
	comp=Z,4.5nm,0.4s,mb4.5,baz=170,slow=3.7,SNR=3.6						

CTA Charters Tower 24.05 125 P **P 03 15 53.6 -0.3**
comp=Z,2.8nm,0.5s,mb4.2,baz=303,slow=12,SNR=6.2
CTAO Charters Tower 24.05 125 P **P 03 15 52.3 -1.6**
CTAO pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
CTAO Charters Tower 24.05 125 P **P 03 15 52.3 -1.6**
comp=Z,5.7nm,0.7s,mb4.3
NWAO Narrogin (SRO) 27.02 195 P **P 03 16 20.1 0.0**
comp=Z,3.9nm,0.8s,mb4.1,baz=10,slow=20,SNR=2.5
STKA Stephens Creek 29.06 151 P **P 03 16 37.5 -0.3**
comp=Z,1.9nm,0.4s,mb4.1,baz=337,slow=10,SNR=7.3
ENH Enshi 40.01 338 *e*P P 03 18 09.6 +0.6
comp=Z,8.4nm,0.7s,mb4.4
XAN Xi'an 43.62 340 P P **03 18 37.3 -0.5**
XAN AMB AMB
comp=Z,9.0nm,0.8s,mb4.3
LSA Lhasa 49.11 320 *e*P P 03 19 21.1 +1.3
LSA pmax pmax
comp=Z,11nm,0.7s,mb4.5
LSA Lhasa 49.11 320 *e*P P 03 19 21.1 +1.3
comp=Z,11nm,0.7s,mb4.5
JIRN Jiri 51.20 314 *e*P P 03 19 34.9 -0.3
GUN Gumba 51.57 314 *e*P P 03 19 38.4 +0.5
PKI Pulchoki 51.71 313 *e*P P 03 19 38.9 -0.1
KKN Kakani 51.93 313 *e*P P 03 19 40.2 -0.4
GKN Gorkha 52.52 313 *e*P P 03 19 45.0 +0.2
KOLN Koldanda 53.14 312 *e*P P 03 19 49.7 +0.5
ULN Ulaanbaatar 56.89 345 *e*P P 03 20 14.8 -0.3
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb3.8
ULN Ulaanbaatar 56.89 345 *e*P P 03 20 14.8 -0.3
comp=Z,4.2nm,0.6s,mb3.9
SONM Songino Array 57.03 345 P P **03 20 16.4 +0.3**
comp=Z,3.8nm,0.7s,mb3.7,baz=159,slow=8.3,SNR=37
SONM PcP PcP 03 21 03.9 +0.1
comp=Z,0.8nm,0.7s,baz=175,slow=3.4,SNR=4.1
ZAK Zakamensk 60.20 344 *e*P P 03 20 37.3 +0.1
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.1
WMQ Urumqi 60.94 330 P P **03 20 43.3 +1.1**
WMQ AMB AMB
comp=Z,21nm,1.3s,mb4.3
WMQ AMB AMB
comp=Z,204nm,5.0s
BOD Bodaibo 65.16 353 *e*P P 03 21 07.7 -1.3
BOD pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
MKAR Makanchi Array 65.74 329 *e*P P 03 21 13.0 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.6s
AAK Ala-Archa 67.61 322 *e*P P 03 21 24.3 -0.2
AAK pmax pmax
comp=Z,3.0nm,0.6s,mb4.0
AAK Ala-Archa 67.61 322 *e*P P 03 21 24.3 -0.2
comp=Z,3.2nm,0.6s,mb4.0
ZAL Zalesovo 69.57 336 P P **03 21 35.9 0.0**
comp=Z,8.4nm,0.4s,mb4.6,baz=348,slow=4.2,SNR=25
KURK Kurchatov 70.14 330 *e*P P 03 21 39.5 +0.1
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
KURK Kurchatov 70.14 330 *e*P P 03 21 39.5 0.0
comp=Z,8.8nm,0.6s,mb4.5
NVS Novosibirsk 70.85 336 *e*P P 03 21 42.4 -1.1
BVA0 Borovoye Array 75.62 329 *i*P P 03 22 10.9 +0.3
BVA0 pmax pmax
comp=Z,2.0nm,1.2s,mb3.4
BVAR Borovoye Array 75.62 329 P P **03 22 11.6 +0.9**
comp=Z,3.8nm,0.6s,mb4.0,baz=135,slow=6.3,SNR=22
CHKZ Chkalovo 75.86 330 *e*P P 03 22 12.0 +0.1
CHKZ pmax pmax
comp=Z,13nm,0.9s,mb4.4
CHKZ Chkalovo 75.86 330 *e*P P 03 22 12.0 +0.1
comp=Z,13nm,0.9s,mb4.4
TIXI Tiksi 78.41 1 *e*P P 03 22 23.7 -1.6
TIXI pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
YKA Yellowknife Ar 109.60 25 PKiKP 03 28 49.3
comp=Z,0.2nm,0.4s,baz=298,slow=1.6,SNR=5.3
YKA Yellowknife Ar 109.60 25 PKPdf 03 28 49.3
PDAR Pinedale Array 119.97 44 PKP PKPdf 03 29 11.1 +1.8
comp=Z,0.3nm,0.5s,baz=7.2,slow=1.8,SNR=4.5
TXAR Lajitas Array 128.69 58 PKP PKPdf 03 29 28.2 +1.7
comp=Z,0.2nm,0.5s,baz=233,slow=4.5,SNR=4.9
DBIC Dimbokro 130.70 273 PKP PKPdf 03 29 33.2 +2.5
comp=Z,2.7nm,1.1s,baz=53,slow=4.4,SNR=5.1
SCHQ Schefferville 131.18 9 PKP PKPdf 03 29 31.3 +0.8
comp=Z,3.3nm,1.0s,baz=23,slow=7.7,SNR=5.3
SCHQ Schefferville 131.18 9 PKP PKPdf 03 29 31.3 +0.8
LPAZ La Paz 153.32 150 PKPbc PKPdf 03 30 22.0 +13
comp=Z,0.4nm,0.5s,baz=68,slow=12,SNR=4.3
LPAZ PKPab PKPab 03 30 35.1 +0.7
comp=Z,0.8nm,0.6s,baz=219,slow=4.7,SNR=5.2

*NEIC **22** 03:15:26.3, 15.27N×95.82W, h2km, mb3.9/6, MD4.4(MEX), After MEX.*
*MEX **22** 03:15:27.2±1.4, 15.25N×95.83W, h12km±18km, MD4.4*
*IDC **22** 03:15:34.9±5.8, 15.64N×95.58W, h57km±55km, mb3.7/13, mb1 3.9/14, mb1mx3.7/25, mbtmp4.0/14, ML3.9/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/30, Error ellipse: s-maj=37.2km s-min=15.5km az=44.0*
ISC 22 03:15:26.3±1.2, 15.44N±0.06×95.71W±0.05, h11km±8km, n41, σ1°19/54, mb3.8/15, MS3.7/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.51**	**310**	*i*P	**Pg**	**03 15 36.4**	**-0.3**
HUIG				*i*S	**Sg**	**03 15 45.2**	**+1.6**
CMIG	**Matias Romero**	**1.82**	**26**	*e*P	**Pn**	**03 15 57.3**	**-0.6**
CMIG				*i*S	**Sn**	**03 16 21.7**	**+0.6**
CMIG	**Matias Romero**	**1.82**	**26**	*i*P	**Pn**	**03 15 57.3**	**-0.6**
CMIG				*i*S	**Sn**	**03 16 21.7**	**+0.6**
VHO	**Vista Hermosa**	**1.90**	**329**	*e*P	**Pn**	**03 15 58.7**	**-0.3**
VHO				*i*S	**Sn**	**03 16 22.7**	**-0.4**
OXX	**Oaxaca**	**1.90**	**329**	*e*P	**Pn**	**03 15 59.0**	**-0.1**
OXX				*e*S	**Sn**	**03 16 24.0**	**+0.8**
PNIG	**Pinotepa**	**2.52**	**292**	*e*P	**Pn**	**03 16 05.3**	**-2.5**
PNIG				*i*S	**Sn**	**03 16 31.6**	**-7.1**
PNIG	**Pinotepa**	**2.52**	**292**	*i*P	**Pn**	**03 16 05.4**	**-2.5**
PNIG				*i*S	**Sn**	**03 16 32.3**	**-6.5**
CCIG	**Comitan**	**3.53**	**76**	*e*P	**Pn**	**03 16 21.8**	**-0.6**
CCIG				*e*S	**Sn**	**03 17 05.3**	**+0.7**
ACX	**Acapulco**	**4.29**	**290**	*e*P	**Pn**	**03 16 28.0**	**-5.1**
ACX				*e*S	**Sn**	**03 17 13.0**	**-11**
PPM	**Popocatepetl**	**4.56**	**323**	*e*P	**Pn**	**03 16 38.8**	**+1.8**
PPM				*e*P		03 16 40.0	
PPM				*e*S	**Sn**	**03 17 29.8**	**-0.7**
PPM				*e*S	**Sn**	**03 17 30.0**	**-0.6**
PPM	**Popocatepetl**	**4.56**	**323**	*e*P	**Pn**	**03 16 36.8**	**-0.2**
PPM				*e*P		03 16 40.0	
PPM				*e*S	**Sn**	**03 17 29.8**	**-0.7**
PPM				*e*S	**Sn**	**03 17 30.0**	**-0.6**
PLIG	**Platanillo**	**4.67**	**309**	*e*P	**Pn**	**03 16 43.1**	**+4.5**
PLIG				*i*S	**Sn**	**03 17 28.8**	**-4.6**
PLIG	**Platanillo**	**4.67**	**309**	*i*P	**Pn**	**03 16 35.9**	**-2.7**
PLIG				*i*S	**Sn**	**03 17 28.8**	**-4.6**
TEIG	**Tepich**	**8.53**	**55**	*e*P	**P**	**03 17 28.0**	**-4.6**
JCT	**Junction City**	**15.43**	**347**	P	**P**	**03 19 05.9**	**+0.2**
	5.2nm,0.8s						
LTX	**Lajitas**	**15.65**	**333**	*e*P	**P**	**03 19 13.1**	**+4.4**
	7.6nm,0.8s						
TXAR	**Lajitas Array**	**15.65**	**333**	P	**P**	**03 19 09.5**	**+0.9**
	0.1nm,0.3s,baz=157,slow=8.6,SNR=21						
TXAR				LR	LR	03 24 48.8	
	comp=Z,71nm,20.4s,baz=85,slow=36						
CLNB	**Carlsbad**	**18.33**	**337**	*e*P	**P**	**03 19 42.1**	**-0.3**
GDL2	**Guadalupe Moun**	**18.45**	**336**	*e*P	**P**	**03 19 45.0**	**+1.1**
CPRX	**Cap Rock**	**19.01**	**339**	*e*P	**P**	**03 19 48.7**	**-1.9**
WMOK	**Wichita Mounta**	**19.41**	**352**	P	**P**	**03 19 53.3**	**-2.1**
	3.3nm,0.8s						
LPM	**Los Pinos Moun**	**21.21**	**334**	*e*P	**P**	**03 20 14.8**	**+0.4**
TUC	**Tucson**	**21.68**	**323**	*e*P	**P**	**03 20 20.2**	**+1.0**
	4.4nm,1.0s,mb3.8						
ANMO	**Albuquerque**	**21.70**	**336**	P	**P**	**03 20 20.8**	**+1.4**
	1.4nm,0.8s,mb3.5,baz=164,slow=16,SNR=5.0						
ANMO				LR	LR	03 30 04.7	
	comp=Z,84nm,18.6s,MS3.2,slow=40						
OTAV	**Otavalo**	**22.77**	**130**	*e*P	**P**	**03 20 34.0**	**+3.7**
	5.6nm,1.3s,mb3.8						
ROSC	**El Rosal**	**23.50**	**114**	P	**P**	**03 20 41.2**	**+4.0**
	6.2nm,0.7s,mb4.2,baz=102,slow=19,SNR=3.6						
SDV	**Santo Domingo**	**25.34**	**102**	P	**P**	**03 20 55.5**	**+0.4**
	2.1nm,0.8s,mb3.7,baz=354,slow=13,SNR=3.5						
SDV	**Santo Domingo**	**25.34**	**102**	*e*P	**P**	**03 20 53.1**	**-2.0**
	2.5nm,0.7s,mb3.9						
SJG	**San Juan**	**28.41**	**80**	P	**P**	**03 21 22.1**	**-1.1**
	5.0nm,0.4s,mb4.5,baz=54,slow=23,SNR=3.1						
PDAR	**Pinedale Array**	**29.71**	**339**	P	**P**	**03 21 34.8**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=150,slow=12,SNR=3.3						
NVAR	**Mina Array Bea**	**30.34**	**323**	P	**P**	**03 21 41.4**	**+1.1**
	1.5nm,0.8s,mb3.8,baz=131,slow=10.0,SNR=11						
SADO	**Sadowa**	**32.42**	**22**	P	**P**	**03 21 58.8**	**+0.3**
	2.2nm,0.7s,mb4.1,baz=329,slow=8.1,SNR=3.0						
YBH	**Yreka Blue Hor**	**35.06**	**324**	LR	LR	03 38 02.4	
	comp=Z,161nm,18.7s,MS3.8,baz=158,slow=38						
NEW	**Newport**	**37.18**	**336**	P	**P**	**03 22 39.2**	**+0.1**
	0.6nm,0.4s,mb3.8,baz=116,slow=7.2,SNR=4.1						
SCHQ	**Schefferville**	**45.22**	**23**	P	**P**	**03 23 43.2**	**-1.9**
	3.6nm,1.1s,mb4.1,baz=199,slow=11,SNR=2.2						
YKA	**Yellowknife Ar**	**48.86**	**348**	P	**P**	**03 24 12.2**	**-1.4**
	0.7nm,0.7s,mb3.8,baz=154,slow=7.3,SNR=14						
YKA				PcP	PcP	03 25 35.7	-2.8
	0.2nm,0.8s,baz=146,slow=3.1,SNR=3.7						
YKA	**Yellowknife Ar**	**48.86**	**348**	P	**P**	**03 24 12.2**	**-1.4**
YKA				PcP	PcP	03 25 35.7	-2.8
CFAA	**Coronel Fontan**	**53.69**	**151**	P	**P**	**03 24 51.7**	**+1.1**
	0.1nm,0.4s,mb3.1,baz=212,slow=7.8,SNR=3.0						
ESDC	**Sonseca Array**	**81.63**	**51**	P	**P**	**03 27 48.0**	**+2.0**
	2.2nm,0.8s,mb4.1,baz=288,slow=5.4,SNR=7.6						
GERES	**GERESS Array B**	**90.75**	**39**	P	**P**	**03 28 35.1**	**+4.4**
	0.6nm,0.7s,mb4.0,baz=297,slow=6.0,SNR=4.7						
URZ	**Urewera**	**97.23**	**232**	LR	LR	04 05 23.3	
	comp=Z,74nm,20.8s,MS4.2,baz=254,slow=31						

*NIED **22** 03:28:00,33.90N×142.50E, h5km, Mw3.9 Best double couple: M0 9.36×10^14 NP1:φs219°, δ68°, λ-78°. NP2:φs8°, δ25°, λ-118°.*
*IDC **22** 03:28:31.0±0.7, 33.84N×142.58E, mb3.9/11, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, ML3.8/3, Error ellipse: s-maj=23.3km s-min=16.4km az=111.0*
*JMA **22** 03:28:34.4±0.3, 33.90N×142.53E, h69km, M3.7*
*MOS **22** 03:28:35.8±1.9, 33.74N×142.25E, h55km, mb4.3/3, Error ellipse: s-maj=32.6km s-min=17.5km az=113.4*
*NEIC **22** 03:28:36.8±3.2, 33.77N×142.39E, h47km±29km, mb4.1/4, Error ellipse: s-maj=23.7km s-min=17.5km az=94.0*
ISC 22 03:28:33.6±1.8, 33.83N±0.04×142.51E±0.05, h31km±13km, n35, σ1°11/45, mb3.9/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.51**	**303**	P	**Pn**	**03 28 59.3**	**+0.4**
BSO1				*e*S	**Sn**	**03 29 19.2**	**+1.5**
BSO3	**Boso 3**	**1.92**	**301**	P	**Pn**	**03 29 05.5**	**+0.8**
BSO4	**Boso 4**	**2.14**	**303**	P	**Pn**	**03 29 08.9**	**+1.0**
JHJ2	**Mitsune**	**2.36**	**253**	P	**Pn**	**03 29 12.4**	**+1.3**
JHJ2				S	**Sn**	**03 29 40.3**	**+1.0**
JHJ	**Hachijo jima 2**	**2.38**	**254**	Pn	**Pn**	**03 29 12.4**	**+1.0**
	43nm,0.3s,baz=172,slow=4.6,SNR=19						
JHJ				Sn	**Sn**	**03 29 39.8**	**-0.2**
	42nm,0.3s,baz=65,slow=23,SNR=16						
JIM2	**Oshima 3**	**2.70**	**290**	P	**Pn**	**03 29 15.7**	**-0.2**
JOD2	**Odawara 2**	**3.17**	**298**	P	**Pn**	**03 29 22.5**	**0.0**
JOD2				*e*S	**Sn**	**03 29 59.6**	**-0.1**
JAG	**Ashikaga**	**3.60**	**317**	P	**Pn**	**03 29 28.3**	**-0.4**
JAG				*e*S	**Sn**	**03 30 07.8**	**-2.9**
JYN	**Shimob**	**3.67**	**298**	P	**Pn**	**03 29 29.9**	**+0.2**
JYN				*e*S	**Sn**	**03 30 12.5**	**+0.1**
JRY	**Ryogami san**	**3.68**	**307**	P	**Pn**	**03 29 29.6**	**-0.3**
JMM	**Marumori**	**4.26**	**341**	P	**Pn**	**03 29 35.2**	**-2.9**
MAJO	**Matsushiro**	**4.44**	**309**	P	**Pn**	**03 29 41.0**	**+0.3**
MAJO				*e*S	**Sn**	**03 30 31.0**	**-1.0**
MAT	**Matsushiro**	**4.44**	**309**	P	**Pn**	**03 29 40.6**	**-0.1**
MAT				S	**Sn**	**03 30 31.0**	**-1.0**
CBIJ	**Chichi jima**	**6.72**	**182**	Pn	**Pn**	**03 30 11.3**	**-1.4**
	3.7nm,0.3s,baz=114,slow=21,SNR=3.4						
CBIJ				Sn	**Sn**	**03 31 27.4**	**-1.6**
	3.3nm,0.3s,baz=300,slow=23,SNR=2.7						
ASAJ	**Asahikawa**	**10.27**	**0**	Pn	**P**	**03 30 56.1**	**-5.9**
	1.3nm,0.3s,baz=237,slow=33,SNR=5.6						
ASAJ				Sn	**S**	**03 32 47.1**	**-10**
	0.4nm,0.3s,baz=253,slow=30,SNR=3.2						
SONM	**Songino Array**	**30.39**	**308**	P	**P**	**03 34 45.5**	**+0.5**
	1.1nm,0.9s,mb3.6,baz=112,slow=6.7,SNR=5.7						
ZAL	**Zalesovo**	**44.78**	**315**	P	**P**	**03 36 46.5**	**+0.6**
	0.7nm,0.3s,mb4.0,baz=30,slow=7.4,SNR=3.5						
KURK	**Kurchatov**	**48.65**	**310**	*e*P	**P**	**03 37 14.8**	**-1.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KURK	**Kurchatov**	**48.65**	**310**	*e*P	**P**	**03 37 14.8**	**-1.6**
	comp=Z,1.9nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**53.18**	**315**	*e*P	**P**	**03 37 48.1**	**-2.6**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**53.18**	**315**	*e*P	**P**	**03 37 48.1**	**-2.7**
	comp=Z,0.6nm,0.6s,mb3.7						
WRAB	**Tennant Creek**	**54.02**	**189**	P	**P**	**03 37 53.5**	**-3.8**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**54.02**	**189**	P	**P**	**03 37 53.5**	**-3.8**
	comp=Z,2.6nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**54.03**	**190**	P	**P**	**03 37 57.5**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.1,baz=8.3,slow=7.7,SNR=19						
INK	**Inuvik**	**56.85**	**26**	P	**P**	**03 38 16.8**	**-0.4**
	comp=Z,1.5nm,1.1s,mb3.9,baz=278,slow=3.9,SNR=3.0						
ASAR	**Alice Springs**	**57.76**	**189**	P	**P**	**03 38 23.5**	**-0.7**
	comp=Z,1.4nm,1.0s,mb3.9,baz=19,slow=5.8,SNR=7.5						
YKA	**Yellowknife Ar**	**66.14**	**30**	P	**P**	**03 39 18.0**	**-1.7**
	comp=Z,0.5nm,0.7s,mb3.7,baz=295,slow=6.7,SNR=8.3						
FINES	**FINESS Array B**	**72.07**	**333**	P	**P**	**03 39 56.2**	**0.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=53,slow=9.5,SNR=4.1						
HLID	**Hailey**	**75.90**	**47**	P	**P**	**03 40 19.2**	**+0.5**
	comp=Z,1.3nm,0.8s,mb3.9						
NVAR	**Mina Array Bea**	**76.20**	**53**	P	**P**	**03 40 21.6**	**+1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=272,slow=7.8,SNR=7.9						
NB2	**NORSAR Subarra**	**77.49**	**338**	P	**P**	**03 40 28.0**	**+0.8**
	comp=Z,0.2nm,0.7s,mb3.2,baz=44,slow=5.8						
PDAR	**Pinedale Array**	**79.27**	**45**	P	**P**	**03 40 38.5**	**+1.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=214,slow=1.6,SNR=5.5						
ANMO	**Albuquerque**	**85

IKOM	**Komasi**	**3.31**	**321**	Pn		**P**	03 52 41.6	+1.4
RST	**Umm Al-Ruwaisa**	**3.39**	**232**	*e*P		**P**	03 52 44.2	+2.9
RST				*e*S		**S**	03 53 26.2	+5.5
IMOK	**Mook**	**3.46**	**138**	Pn		**P**	03 52 45.5	+3.1
RDF	**Al-Radifah**	**3.46**	**219**	*e*P		**P**	03 52 45.2	+2.8
RDF				*e*S		**S**	03 53 27.7	+5.2
ISRV	**Sarvestan**	**3.47**	**130**	Pn		**P**	03 52 44.3	+1.8
IVRN	**Varamin**	**3.63**	**22**	Pn		**P**	03 52 42.8	-1.9
ICHK	**Chekchek**	**3.75**	**80**	Pn		**P**	03 52 46.3	-0.2
IRAZ	**Razeghan**	**3.76**	**358**	Pn		**P**	03 52 46.9	+0.4
IRAZ				Sn		**S**	03 53 28.6	-1.4
IRAZ				Lg			03 53 46.6	
IMEH	**Mehriz**	**3.90**	**92**	Pn		**P**	03 52 48.8	+0.2
IVIS	**Veys**	**3.94**	**318**	Pn		**P**	03 52 49.1	+0.1
IGHG	**Ghaleghazi**	**3.97**	**313**	Pn		**P**	03 52 49.4	-0.1
IMHD	**Mahdasht**	**4.07**	**7**	Pn		**P**	03 52 50.9	0.0
IMHD				Sn		**S**	03 53 36.9	-0.9
SNGE	**Sanandaj**	**4.12**	**327**	*e*PN		**P**	03 52 51.6	-0.1
SNGE				AML	AML		03 54 04.6	
	comp=N,104nm,0.5s							
SNGE	**Sanandaj**	**4.12**	**327**	*e*Pn		**P**	03 52 51.0	-0.7
IDMV	**Damavand**	**4.26**	**22**	Pn		**P**	03 52 53.0	-0.6
DAMV	**Damavand**	**4.29**	**21**	*e*Pn		**P**	03 52 53.0	-1.1
DAMV	**Damavand**	**4.29**	**21**	*e*PN		**P**	03 52 53.3	-0.7
DAMV				AML	AML		03 54 08.6	
	comp=N,50nm,0.7s							
IDHR	**Dehrash**	**4.33**	**316**	Pn		**P**	03 52 54.3	-0.3
IAFJ	**Afjeh**	**4.43**	**18**	Pn		**P**	03 52 55.4	-0.6
IFIR	**Firoozkooh**	**4.58**	**29**	Pn		**P**	03 52 58.3	+0.1
IFIR				Lg			03 54 11.8	
IBAF	**Bafgh**	**4.71**	**89**	Pn		**P**	03 53 00.0	+0.1
BANOM	**Banah**	**7.90**	**135**	⇑P		**P**	03 53 45.0	+0.5
ASHO	**Ashiyiah**	**8.72**	**141**	⇑P		**P**	03 53 53.9	-1.9
RAYN	**Ar Rayn**	**9.04**	**208**	Pn		**P**	03 53 57.9	-2.2
	comp=N,91nm,0.5s,SNR=15							
ARQ	**Araqi**	**10.07**	**144**	⇓P		**P**	03 54 14.4	+0.1
BSY	**Bisya**	**10.90**	**143**	P		**P**	03 54 25.5	-0.2
	SNR=12							
BSYO	**Bisya**	**10.94**	**142**	P		**P**	03 54 25.5	-0.7
	SNR=12							
SMDO	**Samad**	**11.11**	**138**	⇓P		**P**	03 54 27.2	-1.3
	SNR=6.1							
ASF	**Jabal al Asfar**	**11.19**	**276**	Pn		**P**	03 54 26.9	-2.7
	comp=N,1.2nm,0.3s,baz=321,slow=14,SNR=14							
ASF				Sn		**S**	03 56 32.0	-2.2
	comp=N,0.3nm,0.3s,baz=125,slow=20,SNR=2.6							
EIL	**Elat**	**13.15**	**265**	P		**P**	03 55 05.3	+10
	comp=N,8.2nm,0.8s							
WHFO	**Wadi Hawf**	**14.07**	**165**	⇑P		**P**	03 55 06.2	-1.7
	SNR=15							
ABTO	**Aybut**	**14.53**	**168**	⇑P		**P**	03 55 12.1	-1.8
	SNR=11							
RBK	**Rabkut**	**14.57**	**164**	⇓P		**P**	03 55 12.9	-1.5
BRTR	**Keskin Array B**	**15.57**	**306**	Pn		**P**	03 55 27.7	+0.5
	comp=N,0.5nm,0.3s,baz=130,slow=12,SNR=20							
SANT	**Santorini**	**20.91**	**290**	P		**P**	03 56 35.3	+5.2
	comp=N,26nm,0.9s							
IDI	**Anoyia**	**21.29**	**287**	P		**P**	03 56 35.4	+1.5
	comp=N,15nm,0.8s,mb4.4,baz=138,slow=24,SNR=6.6							
THN	**Thein Dam**	**21.76**	**81**	*e*P		**P**	03 56 37.4	-1.3
	comp=N,36nm,1.2s,mb4.7							
AAK	**Ala-Archa**	**22.29**	**54**	P		**P**	03 56 45.0	+1.2
AAK				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb3.9							
AAK	**Ala-Archa**	**22.29**	**54**	P		**P**	03 56 45.0	+1.2
	comp=Z,5.0nm,0.9s,mb3.9							
AKASG	**Malin Array Be**	**24.52**	**327**	P		**P**	03 57 06.0	+0.5
	comp=Z,1.5nm,0.3s,mb4.0,baz=135,slow=9.5,SNR=15							
BVAR	**Borovoye Array**	**25.96**	**29**	P		**P**	03 57 19.0	0.0
	comp=Z,6.6nm,0.5s,mb3.4,baz=210,slow=9.4,SNR=6.9							
KURK	**Kurchatov**	**28.46**	**40**	P		**P**	03 57 42.8	+0.9
KURK				pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.5							
MORC	**Moravsky Berou**	**30.26**	**316**	*e*P		**P**	03 57 57.8	-0.1
MORC				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9							
MORC	**Moravsky Berou**	**30.26**	**316**	*e*P		**P**	03 57 57.8	-0.1
	comp=Z,1.7nm,0.8s,mb3.8							
MORC	**Moravsky Berou**	**30.26**	**316**	*e*P		**P**	03 57 57.8	-0.1
	comp=Z,1.7nm,0.8s,mb3.8							
KBA	**Koelnbreinsper**	**31.96**	**309**	⇑*i*P		**P**	03 58 13.6	+0.7
	comp=Z,5.1nm,0.7s,mb4.5							
KBA	**Koelnbreinsper**	**31.96**	**309**	⇑*i*P		**P**	03 58 13.6	+0.7
KBA				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
GERES	**GERESS Array B**	**32.25**	**313**	P		**P**	03 58 14.9	-0.5
	comp=Z,0.3nm,0.4s,mb3.4,baz=108,slow=8.4,SNR=3.6							
WTTA	**Wattenberg**	**33.13**	**309**	⇓*i*P		**P**	03 58 23.2	+0.1
	comp=Z,3.5nm,0.6s,mb4.5							
WTTA	**Wattenberg**	**33.13**	**309**	⇓*i*P		**P**	03 58 23.2	+0.1
WTTA				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
ZAL	**Zalesovo**	**33.34**	**38**	P		**P**	03 58 25.6	+0.7
	comp=Z,0.9nm,0.3s,mb4.2,baz=24,slow=7.6,SNR=3.0							
SQTA	**Sankt Quirin**	**33.41**	**309**	⇑*i*P		**P**	03 58 25.0	-0.5
	comp=Z,2.2nm,0.7s,mb4.2							
SQTA	**Sankt Quirin**	**33.41**	**309**	⇑*i*P		**P**	03 58 25.0	-0.5
SQTA				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
MOTA	**Moosalm**	**33.51**	**309**	⇑P		**P**	03 58 26.3	0.0
FINES	**FINESS Array B**	**33.66**	**339**	P		**P**	03 58 27.9	+0.3
	comp=Z,0.4nm,0.3s,mb3.8,baz=153,slow=8.5,SNR=9.4							
DAVOX	**Davos**	**34.20**	**308**	P		**P**	03 58 32.2	-0.1
	comp=Z,2.0nm,0.6s,mb4.2,baz=111,slow=8.6,SNR=3.7							
DAVOX	**Davos**	**34.20**	**308**	P		**P**	03 58 32.2	-0.1
DAVA	**Damuels**	**34.30**	**309**	⇑*i*P		**P**	03 58 32.9	-0.3
	comp=Z,5.8nm,0.6s,mb4.7							
MBDF	**Montbardon**	**36.03**	**304**	*e*P		**P**	03 58 47.9	0.0
	comp=Z,6.8nm,0.8s,mb4.3							
MBDF	**Montbardon**	**36.03**	**304**	*e*P		**P**	03 58 47.9	0.0
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.3							
LPG	**La Plagne**	**36.13**	**305**	*e*P		**P**	03 58 48.4	-0.4
	comp=Z,4.0nm,0.7s,mb4.2							
LPG	**La Plagne**	**36.13**	**305**	*e*P		**P**	03 58 48.4	-0.4
LPG				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb4.2							
LPL	**La Plagne**	**36.15**	**305**	*e*P		**P**	03 58 48.8	-0.1
ORIF	**Oris-en-Rattie**	**36.68**	**304**	*e*P		**P**	03 58 53.6	+0.2
CABF	**La Chapelle**	**36.74**	**307**	*e*P		**P**	03 58 54.1	+0.3
	comp=Z,10nm,0.8s,mb4.4							
CABF	**La Chapelle**	**36.74**	**307**	*e*P		**P**	03 58 54.1	+0.3
CABF				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.4							
MBAR	**Mbarara**	**36.92**	**213**	P		**P**	03 58 53.4	-2.3
	comp=Z,127nm,0.4s,SNR=13							
HFS	**Hagfors**	**37.28**	**331**	P		**P**	03 58 58.2	0.0
	comp=Z,3.0nm,0.7s,mb4.2,baz=124,slow=10,SNR=6.7							
SMF	**Signal de Mont**	**38.28**	**307**	*e*P		**P**	03 59 06.5	-0.2
	comp=Z,6.8nm,0.7s,mb4.2							
SMF	**Signal de Mont**	**38.28**	**307**	*e*P		**P**	03 59 06.5	-0.2
SMF				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.1							
SSF	**Saint Saulge**	**38.55**	**307**	*e*P		**P**	03 59 09.4	+0.4
SSF				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.1							
SSF	**Saint Saulge**	**38.55**	**307**	*e*P		**P**	03 59 09.4	+0.4
	comp=Z,3.2nm,0.8s,mb4.1							
NB2	**NORSAR Subarra**	**38.80**	**331**	P		**P**	03 59 10.2	-0.7
	comp=Z,2.2nm,0.8s,mb3.9,baz=123,slow=8.6							
NB2	**NORSAR Subarra**	**38.80**	**331**	P		**P**	03 59 10.2	-0.7
NB2				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb3.9							
NOA	**NORSAR Array B**	**38.80**	**331**	P		**P**	03 59 10.5	-0.3
	comp=Z,1.5nm,0.7s,mb3.9,baz=123,slow=8.4,SNR=7.0							
ARCES	**ARCESS Array B**	**40.40**	**347**	P		**P**	03 59 24.8	+0.7
	comp=Z,3.9nm,1.0s,mb4.1,baz=143,slow=9.6,SNR=8.5							
SONM	**Songino Array**	**45.23**	**52**	P		**P**	04 00 03.9	+0.3
	comp=Z,0.3nm,0.6s,mb3.3,baz=267,slow=7.8,SNR=3.4							
LBTB	**Lobatse**	**60.99**	**205**	P		**P**	04 02 02.6	+2.2
	comp=Z,1.6nm,0.6s,mb4.3,baz=30,slow=14,SNR=4.3							
SCHQ	**Schefferville**	**78.31**	**328**	P		**P**	04 03 46.2	+0.5
	comp=Z,2.7nm,1.0s,mb4.1,baz=78,slow=14,SNR=3.0							
SCHQ	**Schefferville**	**78.31**	**328**	P		**P**	04 03 46.2	+0.5
YKA	**Yellowknife Ar**	**85.39**	**353**	P		**P**	04 04 23.3	+1.1
	comp=Z,0.1nm,0.4s,mb3.3,baz=8.9,slow=5.3,SNR=5.1							

WEL 22 03:55:49.2±0.2, 38.23S×177.78E, h42km±3km, ML3.7/4, 2D, Error ellipse: s-maj=2.0km s-min=1.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MWZ	**Matawai**	**0.22**	**242**	⇓PN		P	03 55 56.5	-0.4
MWZ				SN		S	03 56 02.3	0.0
PUZ	**Puketiti**	**0.41**	**67**	PN		P	03 55 58.8	-0.1
PUZ				*e*SN		S	03 56 06.0	+0.3
URZ	**Urewera**	**0.53**	**267**	⇓PN		P	03 56 00.3	-0.1
URZ				*e*SN		S	03 56 09.0	+0.7
MXZ	**Matakaoa Point**	**0.79**	**32**	PN		P	03 56 04.2	+0.3
MXZ				*e*SN		S	03 56 15.4	+0.6
KNZ	**Kokohu**	**0.79**	**186**	PN		P	03 56 03.5	-0.6
EDRZ	**Edgecumbe**	**0.83**	**278**	*e*PN		P	03 56 04.2	-0.3
WIZ	**White Island**	**0.84**	**326**	PN		P	03 56 03.7	-1.0
MARZ	**Manawahe**	**0.90**	**285**	PN		P	03 56 05.2	-0.4
TAZ	**Tarawera**	**1.00**	**270**	*e*PN		P	03 56 06.8	-0.1
PATZ	**Paeroa**	**1.20**	**262**	PN		P	03 56 10.1	+0.2
BKZ	**Black Stump Fm**	**1.37**	**227**	PN		P	03 56 12.0	-0.3
BKZ				SN		S	03 56 29.3	-0.3
NGZ	**Ngauruhoe**	**1.95**	**240**	*e*PN		P	03 56 19.6	-0.8
CNZ	**Chateau**	**1.99**	**240**	*e*PN		P	03 56 19.9	-1.2
WNVZ	**Wahianoa**	**2.02**	**237**	*e*PN		P	03 56 21.2	-0.3
MRZ	**Mangatainoka R**	**2.96**	**214**	*e*PN		P	03 56 30.9	-4.1
MQZ	**McQueen's Vall**	**6.70**	**214**	*e*SN		S	03 58 29.4	-14

MAN 22 04:17:38.2, 18.57N×120.93E, h10km, mb4.2, ML3.0, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
APYP	**Conner**	**0.77**	**157**	*e*P		Pb	04 17 53.4	+0.3
APYP				*e*S		Sb	04 18 06.8	+3.5
ABRA	**Dolores**	**0.94**	**193**	*e*P		Pb	04 17 55.4	-0.8
SGCP	**Mt. Cagua**	**1.11**	**107**	*e*P		Pb	04 17 58.6	-0.5
CVP	**Callao Caves**	**1.21**	**135**	*e*P		Pb	04 17 59.0	-1.8
CAUP	**Cauayan**	**1.83**	**152**	*e*P		Pn	04 18 11.2	+1.2
PALP	**Palanan**	**2.07**	**136**	*e*P		Pn	04 18 13.6	+0.1
BALP	**Baler**	**2.88**	**168**	*e*P		Pn	04 18 25.0	-0.1

IDC 22 04:22:44.9±13.0, 10.61N×91.64E, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=447.3km s-min=31.2km az=74.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**39.13**	**16**	P		P	04 30 14.1	-1.7
	0.4nm,0.7s,baz=191,slow=7.3,SNR=3.5							
WRA	**Warramunga Arr**	**51.85**	**126**	P		P	04 31 55.1	-2.3
	0.5nm,0.7s,baz=305,slow=8.5,SNR=7.9							
ASAR	**Alice Springs**	**53.55**	**130**	P		P	04 32 08.0	-2.1
	0.7nm,0.7s,baz=308,slow=6.4,SNR=7.2							

*IDC **22** 04:23:00.8±0.9, 59.78S×26.22W, mb4.0/6, mb1 4.1/7, mb1mx3.9/15, mbtmp4.0/7, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.6/15, Error ellipse: s-maj=33.0km s-min=22.8km az=54.0*

*NEIC **22** 04:23:02.2±0.5, 59.79S×26.13W, h10km, mb4.4/3, Error ellipse: s-maj=19.9km s-min=7.2km az=56.0*

ISC 22 04:23:00.3±0.8, 59.8S±0.1×26.1W±0.3, h10km, n25, σ0§86/25, mb4.0/8, MS3.5/2, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.14**	**153**	⇑*i*P		**P**	**04 26 08.6**	**-0.8**
VNA3	**Neumayer Olymp**	**13.29**	**157**	*e*		**P**	**04 26 10.9**	**-0.5**
VNA3	**Neumayer Olymp**	**13.29**	**157**	*e*S		**S**	**04 28 24.5**	**-16**
VNA3	**Neumayer Olymp**	**13.29**	**157**	⇑*i*P		**P**	**04 26 09.8**	**-1.6**
VNA3				*e*			04 26 10.9	
VNA3				*e*S		**S**	**04 28 24.5**	**-16**
VNA2	**Neumayer--Watz**	**13.54**	**153**	*e*		**P**	**04 26 14.2**	**-0.3**
VNA2	**Neumayer--Watz**	**13.54**	**153**	*e*S		**S**	**04 28 27.6**	**-18**
VNA2	**Neumayer--Watz**	**13.54**	**153**	⇑*i*P		**P**	**04 26 13.2**	**-1.3**
VNA2				*e*			04 26 14.2	
VNA2				*e*S		**S**	**04 28 27.6**	**-18**
SNAA	**Sanae**	**15.12**	**151**	*e*		**P**	**04 26 37.5**	**+2.2**
SNAA	**Sanae**	**15.12**	**151**	*e*S		**S**	**04 29 09.7**	**-14**
SNAA	**Sanae**	**15.12**	**151**	Pn		**P**	**04 26 34.6**	**-0.7**
	0.6nm,0.3s,baz=320,slow=14,SNR=31							
SNAA				Sn		**S**	**04 29 09.9**	**-14**
	0.2nm,0.3s,baz=348,slow=18,SNR=5.8							
SNAA	**Sanae**	**15.12**	**151**	P		**P**	**04 26 36.4**	**+1.1**
SNAA				*e*			04 26 37.5	
SNAA				*e*S		**S**	**04 29 09.7**	**-14**
QSPA	**South Pole Qui**	**30.45**	**180**	*e*P		**P**	**04 29 15.6**	**+1.0**
	3.9nm,0.6s,mb4.3							
TRQA	**Tornquist**	**31.45**	**298**	*e*P		**P**	**04 29 23.1**	**-0.7**
	3.7nm,0.6s,mb4.4							
PLCA	**Paso Flores**	**33.37**	**285**	P		**P**	**04 29 40.3**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=162,slow=6.7,SNR=3.0							
PLCA	**Paso Flores**	**33.37**	**285**	P		**P**	**04 29 40.7**	**+0.1**
	3.1nm,0.9s,mb4.2							
CFAA	**Coronel Fontan**	**39.66**	**296**	P		**P**	**04 30 33.5**	**-0.4**
	0.2nm,0.6s,mb3.1,baz=126,slow=8.7,SNR=4.6							
VNDA	**Vanda**	**42.86**	**183**	P		**P**	**04 31 00.8**	**+1.4**
	1.3nm,0.6s,mb3.8,baz=188,slow=7.9,SNR=6.3							
BDFB	**Brasilia**	**46.91**	**331**	LR		LR	04 48 43.7	
	comp=Z,75nm,19.0s,MS3.7,baz=323,slow=33							
LBTB	**Lobatse**	**49.67**	**69**	LR		LR	04 49 10.8	
	comp=Z,33nm,18.6s,MS3.4,baz=237,slow=32							
LPAZ	**La Paz**	**53.04**	**306**	P		**P**	**04 32 19.4**	**-0.2**
	1.2nm,0.5s,mb4.0,baz=182,slow=7.9,SNR=8.3							
LPAZ	**La Paz**	**53.04**	**306**	P		**P**	**04 32 19.4**	**-0.2**
DBIC	**Dimbokro**	**68.37**	**23**	P		**P**	**04 34 04.5**	**+0.5**
	2.5nm,0.8s,mb4.3,baz=162,slow=22,SNR=2.2							
ASAR	**Alice Springs**	**95.25**	**162**	P		**P**	**04 36 25.4**	**+0.3**
	0.8nm,0.7s,mb4.3,baz=183,slow=4.1,SNR=9.4							
ARCES	**ARCESS Array B**	**134.19**	**23**	PKP		PKPdf	04 42 17.8	-2.0
	33nm,1.5s,baz=236,slow=3.3,SNR=3.5							
SONM	**Songino Array**	**150.19**	**92**	PKPbc		PKPdf	04 42 52.4	+4.3
	2.1nm,0.8s,baz=220,slow=2.5,SNR=15							

*IDC **22** 05:21:50.5±1.1, 27.70N×127.81E, mb3.6/4, mb1 3.8/4, mb1mx3.6/19, mbtmp3.6/4, Error ellipse: s-maj=58.1km s-min=16.7km az=71.0*

*JMA **22** 05:21:51.5±0.3, 27.67N×127.46E, h12km±4km, M2.8*

ISC 22 05:21:52.0±1.5, 27.66N±0.07×127.51E±0.08, h22km±10km, n9, σ0§43/14, mb3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIH	**Iheya**	**0.75**	**147**	P		**Pb**	**05 22 06.1**	**-0.2**
JIH				*e*S		**Sb**	**05 22 16.3**	**+0.2**
JOW	**Kunigami**	**1.07**	**140**	Pn		**Pn**	**05 22 11.6**	**-0.3**
	29nm,0.3s,baz=157,slow=22,SNR=5.2							
JOW				Sn		**Sn**	**05 22 26.7**	**+0.5**
JOW	**Kunigami**	**1.07**	**140**	P		**Pb**	**05 22 11.9**	**+0.1**
JOW				*e*S		**Sn**	**05 22 26.7**	**+0.5**
JAGN	**Aguni-jima**	**1.10**	**193**	P		**Pb**	**05 22 11.8**	**-0.4**
JAGN				*e*S		**Sb**	**05 22 26.4**	**+0.3**
JKE	**Kume jima 2**	**1.48**	**206**	P		**Pn**	**05 22 17.4**	**-0.3**
JKE				*e*S		**Sn**	**05 22 36.8**	**+0.2**
SONM	**Songino Array**	**26.00**	**326**	P		**P**	**05 27 26.1**	**+1.0**
	3.4nm,1.2s,mb3.7,baz=140,slow=9.6,SNR=6.9							
WRA	**Warramunga Arr**	**47.78**	**171**	P		**P**	**05 30 29.3**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=353,slow=8.3,SNR=9.1							
ASAR	**Alice Springs**	**51.40**	**172**	P		**P**	**05 30 57.5**	**-0.2**
	0.6nm,0.8s,mb3.6,slow=9.9,SNR=5.8							
YKA	**Yellowknife Ar**	**77.50**	**25**	P		**P**	**05 33 47.0**	**-0.2**
	0.3nm,0.8s,mb3.3,baz=300,slow=5.4,SNR=4.7							

*IDC **22** 05:24:08.6±0.9, 27.67N×127.66E, mb4.0/6, mb1 4.1/6, mb1mx3.9/20, mbtmp4.0/6, MS3.6/4, Ms1 3.6/4, ms1mx3.0/24, Error ellipse: s-maj=47.0km s-min=14.2km az=64.0*

*JMA **22** 05:24:09.2±0.2, 27.68N×127.44E, h4km±3km, M3.3*

*NEIC **22** 05:24:11.7±4.8, 27.63N×127.58E, h22km±36km, mb4.1/3, Error ellipse: s-maj=21.3km s-min=10.2km az=54.0*

*BJI **22** 05:24:15.2, 27.93N×127.14E, h16km, mb4.2, Ms4.4, Msz3.8*

ISC 22 05:24:11.4±1.1, 27.64N±0.04×127.47E±0.05, h27km±8km, n23, σ1§11/25, mb4.0/9, MS3.6/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JIH	**Iheya**	**0.75**	**144**	P		**Pb**	**05 24 24.5**	**-1.2**
JIH				S		**Sb**	**05 24 35.1**	**-0.5**
JAGN	**Aguni-jima**	**1.07**	**191**	P		**Pn**	**05 24 30.2**	**-0.5**
JAGN				S		**Sb**	**05 24 45.7**	**+1.0**
JOW	**Kunigami**	**1.08**	**138**	Pn		**Pn**	**05 24 30.4**	**-0.5**
	67nm,0.3s,baz=334,slow=13,SNR=19							
JOW				Sn		**Sn**	**05 24 45.2**	**+0.2**
	72nm,0.3s,baz=157,slow=27,SNR=16							
JOW	**Kunigami**	**1.08**	**138**	P		**Pn**	**05 24 30.4**	**-0.5**
JOW				S		**Sb**	**05 24 45.6**	**+0.6**
JTK	**Tokunoshima**	**1.32**	**84**	P		**Pn**	**05 24 34.4**	**+0.1**
JTK				*e*S		**Sn**	**05 24 52.4**	**+1.3**
JKE	**Kume jima 2**	**1.45**	**205**	P		**Pn**	**05 24 36.0**	**-0.1**
JKE				*e*S		**Sn**	**05 24 55.1**	**+0.7**
NAH1	**Naha**	**1.45**	**172**	*e*S		**Sn**	**05 24 56.3**	**+1.9**
YHNB	**Yeheng**	**6.23**	**243**	*e*P		**Pn**	**05 25 43.5**	**-0.5**
CN2	**Changchun**	**16.21**	**355**	*e*P		**P**	**05 28 01.5**	**+2.7**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.8s							
CN2				LR	LR			
	comp=N,600nm,11.0s							
CN2				LR	LR			
	comp=E,600nm,11.0s							
CN2				LR	LR			
	comp=Z,300nm,12.0s							
ASAJ	**Asahikawa**	**20.45**	**33**	LR		LR	05 37 08.5	
	comp=Z,66nm,21.4s,MS3.0,baz=145,slow=38							
CD2	**Chengdu**	**20.93**	**285**	*e*P		**P**	**05 28 56.0**	**+1.5**
ULN	**Ulaanbaatar**	**25.71**	**327**	P		**P**	**05 29 40.9**	**0.0**
	comp=Z,2.6nm,1.0s,mb3.7							
SONM	**Songino Array**	**26.00**	**326**	P		**P**	**05 29 44.9**	**+1.2**
	comp=Z,1.7nm,0.8s,mb3.6,baz=140,slow=9.6,SNR=9.2							
ZAL	**Zalesovo**	**40.72**	**322**	P		**P**	**05 31 49.8**	**-1.5**
	comp=Z,1.0nm,0.3s,mb3.9,baz=19,slow=6.2,SNR=3.8							
PMG	**Port Moresby**	**41.47**	**150**	P		**P**	**05 31 55.6**	**-2.2**
	comp=Z,5.8nm,0.7s,mb4.3,baz=318,slow=1.9,SNR=3.5							
KURK	**Kurchatov**	**43.34**	**316**	P		**P**	**05 32 12.4**	**-0.3**
	comp=Z,4.3nm,1.1s,mb4.1							
WRAB	**Tennant Creek**	**47.76**	**171**	*e*P		**P**	**05 32 46.0**	**-2.4**
	comp=Z,3.8nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**47.77**	**171**	P		**P**	**05 32 47.8**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.1,baz=351,slow=8.4,SNR=10							
ASAR	**Alice Springs**	**51.39**	**172**	P		**P**	**05 33 15.8**	**-0.3**
	comp=Z,0.9nm,0.8s,mb3.8,baz=360,slow=7.7,SNR=11							
STKA	**Stephens Creek**	**60.70**	**166**	LR		LR	06 00 27.2	
	comp=Z,47nm,18.4s,MS3.7,baz=256,slow=36							
ARCES	**ARCESS Array B**	**68.45**	**338**	LR		LR	06 08 50.7	
	comp=Z,60nm,19.7s,MS3.8,baz=201,slow=39							
YKA	**Yellowknife Ar**	**77.53**	**25**	P		**P**	**05 36 05.7**	**-0.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=300,slow=5.6,SNR=13							
NOA	**NORSAR Array B**	**77.75**	**333**	LR		LR	06 11 18.5	
	comp=Z,49nm,19.1s,MS3.9,baz=285,slow=36							

*IDC **22** 05:37:25.2±0.7, 5.34N×94.45E, mb4.2/13, mb1 4.4/13, mb1mx4.3/19, mbtmp4.2/13, MS3.4/1, Ms1 3.4/1, ms1mx2.3/20, Error ellipse: s-maj=26.1km s-min=16.2km az=53.0*

*MOS **22** 05:37:28.3±1.3, 5.29N×94.45E, h33km, mb4.6/12, Error ellipse: s-maj=21.7km s-min=9.5km az=114.4*

*BJI **22** 05:37:28.4, 5.02N×94.58E, h44km, mB4.9, mb4.5, Ms4.6, Msz4.2*

*NEIC **22** 05:37:29.9±0.4, 5.30N×94.40E, h30km, mb4.5/10, Error ellipse: s-maj=13.6km s-min=8.0km az=45.0*

ISC 22 05:37:29.9±2.3, 5.31N±0.07×94.46E±0.09, h48km±20km, h36km±6.8km: pP-P, n60, σ1§02/58, mb4.4/30, MS3.8/3, 1C-1D, Northern Sumatera

| Code | Station Name | Δ° | AZ° |

BOD	**Bodaibo**	**54.56**	**13**	*eP*	**P**	**05 46 54.7**	**-0.8**
BOD				*e*	pP	05 47 06.9	-1.8
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
CTAO	**Charters Tower**	**56.81**	**118**	*eP*	**P**	**05 47 11.8**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
CTAO	**Charters Tower**	**56.81**	**118**	*eP*	**P**	**05 47 11.8**	**-0.5**
	comp=Z,5.6nm,1.1s,mb4.5						
KMBO	**Kilima Mbogo**	**57.49**	**265**	P	**P**	**05 47 18.1**	**+0.9**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**57.49**	**265**	P	**P**	**05 47 18.2**	**+1.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=47,slow=19,SNR=3.0						
KMBO	**Kilima Mbogo**	**57.49**	**265**	P	**P**	**05 47 18.1**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**64.34**	**312**	P	**P**	**05 48 02.0**	**-1.2**
	comp=Z,1.9nm,0.7s,mb4.2,baz=119,slow=7.1,SNR=9.4						
MATP	**Matopo**	**69.60**	**246**	P	**P**	**05 48 37.2**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.4,baz=61,slow=6.0,SNR=6.3						
MATP	**Matopo**	**69.60**	**246**	P	**P**	**05 48 37.2**	**+0.6**
TIXI	**Tiksi**	**69.67**	**11**	*eP*	**P**	**05 48 34.1**	**-2.1**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TIXI				MLR	MLR		
	comp=Z,107nm,18.0s,MS4.1						
AKASG	**Malin Array Be**	**70.35**	**322**	P	**P**	**05 48 39.1**	**-1.6**
	comp=Z,0.6nm,0.4s,mb4.2,baz=89,slow=5.3,SNR=7.4						
FINES	**FINESS Array B**	**75.11**	**332**	P	**P**	**05 49 08.2**	**-0.4**
	comp=Z,3.0nm,1.0s,mb4.2,baz=85,slow=15,SNR=4.3						
MORC	**Moravsky Berou**	**77.52**	**320**	*eP*	**P**	**05 49 22.6**	**+0.2**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**77.52**	**320**	*eP*	**P**	**05 49 22.6**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.3						
ARCES	**ARCESS Array B**	**77.77**	**340**	P	**P**	**05 49 24.3**	**+0.9**
	comp=Z,1.7nm,0.8s,mb4.0,baz=97,slow=5.8,SNR=5.3						
GERES	**GERESS Array B**	**79.94**	**319**	P	**P**	**05 49 36.6**	**+0.9**
	comp=Z,3.1nm,0.7s,mb4.3,baz=90,slow=5.3,SNR=26						
KHC	**Kasperske Hory**	**80.04**	**319**	*eP*	**P**	**05 49 35.0**	**-1.1**
CLL	**Collm**	**80.53**	**321**	*eP*	**P**	**05 49 40.0**	**+1.3**
CLL	**Collm**	**80.53**	**321**	P	**P**	**05 49 40.0**	**+1.3**
TXAR	**Lajitas Array**	**141.40**	**26**	PKP	PKPdf	05 57 00.8	+4.3
	comp=Z,0.3nm,0.5s,baz=130,slow=0.8,SNR=3.6						
JCT	**Junction City**	**141.88**	**20**	PKIKP	PKPdf	05 56 59.3	+2.0

JMA ***22*** *05:53:38.9±0.4, 27.66N×127.40E, h7km±4km, M3.4*
IDC ***22*** *05:53:38.5±0.7, 27.70N×127.74E, mb4.1/8, mb1 4.2/8, mb1mx3.9/22, mbtmp4.1/8, MS3.8/12, Ms1 3.8/12, ms1mx3.5/24, Error ellipse: s-maj=35.5km s-min=12.8km az=68.0*
NEIC ***22*** *05:53:41.7±4.9, 27.72N×127.74E, h24km±36km, mb4.1/7, Error ellipse: s-maj=26.0km s-min=10.6km az=61.0*
BJI ***22*** *05:53:45.3, 27.80N×126.95E, h23km, mB4.7, mb4.2, Ms4.2, Msz3.8*

ISC 22 05:53:39.9±0.9, 27.66N±0.04×127.44E±0.06, h21km±7km, n35, σ0°89/34, mb4.1/13, MS3.8/13, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIH	**Iheya**	**0.78**	**143**	P	**Pb**	**05 53 54.2**	**-0.5**
JIH				*eS*	**Sb**	**05 54 04.6**	**-0.3**
JAGN	**Aguni-jima**	**1.08**	**189**	P	**Pb**	**05 53 59.2**	**-0.6**
JAGN				S	**Sb**	**05 54 13.6**	**+0.1**
JOW	**Kunigami**	**1.11**	**138**	Pn	**Pn**	**05 53 59.6**	**-0.8**
	101nm,0.3s,baz=332,slow=14,SNR=108						
JOW				Sn	**Sn**	**05 54 15.3**	**+0.1**
JOW	**Kunigami**	**1.11**	**138**	P	**Pb**	**05 54 00.0**	**-0.3**
JOW				*eS*	**Sb**	**05 54 15.2**	**+0.8**
JTK	**Tokunoshima**	**1.35**	**84**	P	**Pn**	**05 54 04.3**	**+0.5**
JKE	**Kume jima 2**	**1.45**	**204**	P	**Pn**	**05 54 04.6**	**-0.6**
JKE				*eS*	**Sn**	**05 54 24.5**	**+0.7**
NAH1	**Naha**	**1.47**	**171**	P	**Pn**	**05 54 06.3**	**+0.8**
NAH1				*eS*	**Sn**	**05 54 25.3**	**+1.0**
BJT	**Baijiatuau**	**15.46**	**326**	P	**P**	**05 57 18.9**	**+0.5**
	6.1nm,0.4s						
BJI	**Beijing**	**15.47**	**326**	P	**P**	**05 57 19.1**	**+0.5**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.6s						
BJI				LR	LR		
	comp=N,514nm,14.9s						
BJI				LR	LR		
	comp=E,248nm,14.9s						
BJI				LR	LR		
	comp=Z,202nm,15.9s						
ENH	**Enshi**	**15.92**	**284**	*eP*	**P**	**05 57 29.8**	**+5.4**
	comp=Z,25nm,1.4s						
CN2	**Changchun**	**16.18**	**355**	*eP*	**P**	**05 57 35.8**	**+8.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,11.0s						
CN2				LR	LR		
	comp=E,400nm,11.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
ASAJ	**Asahikawa**	**20.45**	**33**	LR	LR	06 06 47.0	
	comp=Z,129nm,18.1s,MS3.3,baz=325,slow=39						
ULN	**Ulaanbaatar**	**25.67**	**327**	*eP*	**P**	**05 59 11.2**	**+1.3**
	comp=Z,5.1nm,1.1s,mb4.0						
GTA	**Gaotai**	**25.73**	**304**	*eP*	**P**	**05 59 11.0**	**+0.4**
GTA				PP	PP	05 59 49.0	-1.8
GTA				S	**S**	**06 03 33.3**	**-2.5**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
GTA				AMB	AMB		
	comp=Z,53nm,4.2s						
GTA				LR	LR		
	comp=N,376nm,16.7s,MS4.1						
GTA				LR	LR		
	comp=E,245nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=Z,231nm,15.2s,MS3.8						
SONM	**Songino Array**	**25.97**	**326**	P	**P**	**05 59 14.5**	**+1.8**
	comp=Z,3.9nm,0.8s,mb4.0,baz=140,slow=9.7,SNR=26						
SONM				LR	LR	06 10 27.9	
	comp=Z,92nm,21.4s,MS3.3,baz=344,slow=39						
ZAL	**Zalesovo**	**40.69**	**322**	P	**P**	**06 01 20.6**	**+0.3**
	comp=Z,1.7nm,0.3s,mb4.1,baz=21,slow=8.7,SNR=7.3						
ZAL				LR	LR	06 20 29.9	
	comp=Z,150nm,18.6s,MS3.9,baz=260,slow=40						
KURK	**Kurchatov**	**43.30**	**316**	*eP*	**P**	**06 01 40.4**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.0						
WRAB	**Tennant Creek**	**47.78**	**171**	*eP*	**P**	**06 02 16.1**	**-1.8**
	comp=Z,4.0nm,0.7s,mb4.6						
WRA	**Warramunga Arr**	**47.79**	**171**	P	**P**	**06 02 17.0**	**-1.0**
	comp=Z,2.1nm,0.7s,mb4.3,baz=353,slow=8.3,SNR=21						
CHKZ	**Chkalovo**	**48.70**	**318**	*eP*	**P**	**06 02 22.6**	**-1.9**
	comp=Z,1.1nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**48.74**	**318**	P	**P**	**06 02 25.3**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.2,baz=84,slow=13,SNR=9.7						
ASAR	**Alice Springs**	**51.41**	**172**	P	**P**	**06 02 45.8**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=360,slow=8.3,SNR=14						
ASAR				LR	LR	06 23 15.7	
	comp=Z,56nm,21.6s,MS3.5,baz=270,slow=35						
STKA	**Stephens Creek**	**60.73**	**166**	LR	LR	06 29 28.0	
	comp=Z,68nm,19.7s,MS3.8,baz=25,slow=35						
NWAO	**Narrogin (SRO)**	**61.03**	**190**	P	**P**	**06 03 55.0**	**+0.5**
	comp=Z,2.4nm,0.8s,mb4.4,baz=90,slow=19,SNR=2.5						
INK	**Inuvik**	**67.86**	**23**	P	**P**	**06 04 37.4**	**-1.0**
	comp=Z,1.6nm,1.2s,mb3.9,baz=292,slow=5.4,SNR=3.6						
INK	**Inuvik**	**67.86**	**23**	*eP*	**P**	**06 04 37.5**	**-0.9**
	comp=Z,0.4nm,0.5s,mb3.7						
ARCES	**ARCESS Array B**	**68.42**	**338**	LR	LR	06 40 41.0	
	comp=Z,120nm,18.2s,MS4.2,baz=200,slow=41						
FINES	**FINESS Array B**	**71.27**	**330**	LR	LR	06 38 42.2	
	comp=Z,68nm,20.1s,MS3.9,baz=21,slow=38						
YKA	**Yellowknife Ar**	**77.53**	**25**	P	**P**	**06 05 35.4**	**+0.1**
	comp=Z,0.4nm,0.5ns,mb3.6,baz=297,slow=5.6,SNR=12						
YKA				LR	LR	06 45 19.0	
	comp=Z,42nm,18.1s,MS3.8,baz=235,slow=40						
YKA	**Yellowknife Ar**	**77.53**	**25**	P	**P**	**06 05 35.4**	**+0.1**
NOA	**NORSAR Array B**	**77.72**	**333**	LR	LR	06 44 22.8	
	comp=Z,65nm,18.2s,MS4.0,baz=225,slow=39						
GERES	**GERESS Array B**	**83.64**	**323**	LR	LR	06 46 58.3	
	comp=Z,82nm,18.5s,MS4.1,baz=104,slow=38						
IDI	**Anoyia**	**83.80**	**307**	LR	LR	06 48 01.6	
	comp=Z,22nm,18.5s,MS3.6,baz=83,slow=39						
DAVOX	**Davos**	**86.93**	**322**	LR	LR	06 48 56.3	
	comp=Z,94nm,19.3s,MS4.2,baz=184,slow=38						
MSU	**Marysvale**	**93.76**	**43**	P	**P**	**06 06 57.2**	**+0.7**

NEIC ***22*** *06:04:53.6±0.9, 19.86S×68.42W, h134km±9km, mb3.9/3, Error ellipse: s-maj=17.8km s-min=9.6km az=89.0*
IDC ***22*** *06:04:54.6±2.6, 19.81S×68.43W, h147km±23km, mb3.4/4, mb1 3.6/6, mb1mx3.4/16, mbtmp3.8/6, Error ellipse: s-maj=26.9km s-min=21.8km az=56.0*

ISC 22 06:04:49.8±1.4, 19.71S±0.09×68.4W±0.2, h114km±15km, n12, σ0°58/13, mb3.8/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.93**	**190**	*e*Pn	**P**	**06 05 36.6**	**+0.7**
LPAZ	**La Paz**	**3.41**	**4**	P	**P**	**06 05 49.4**	**+7.0**
	2.3nm,0.3s,baz=199,slow=6.4,SNR=34						
ARE	**Arequipa**	**4.38**	**317**	*e*P	**P**	**06 05 55.0**	**-0.5**
ARE				*e*S	**S**	**06 06 41.0**	**-4.8**
TRQA	**Tornquist**	**19.11**	**164**	*e*P	**P**	**06 09 05.6**	**-0.6**
	5.1nm,0.8s						
BDFB	**Brasilia**	**19.82**	**81**	P	**P**	**06 09 13.9**	**+0.1**
	0.4nm,0.3s,baz=251,slow=13,SNR=5.5						
PLCA	**Paso Flores**	**21.04**	**185**	P	**P**	**06 09 25.8**	**-0.2**
	2.3nm,0.8s,mb3.6,baz=25,slow=12,SNR=5.8						
TXAR	**Lajitas Array**	**59.46**	**324**	P	**P**	**06 14 42.2**	**-0.9**
	0.2nm,0.8s,mb3.2,baz=146,slow=6.5,SNR=3.1						
DBIC	**Dimbokro**	**67.76**	**74**	P	**P**	**06 15 37.6**	**-0.1**
	3.1nm,0.6s,mb4.3,baz=219,slow=6.6,SNR=11						
QSPA	**South Pole Qui**	**70.47**	**180**	*e*P	**P**	**06 15 53.0**	**-0.3**
	1.9nm,0.5s,mb4.2						
MSU	**Marysvale**	**71.00**	**325**	*e*P	**P**	**06 15 58.0**	**+0.9**
HLID	**Hailey**	**75.80**	**327**	P	**P**	**06 16 25.8**	**+0.8**
	0.7nm,0.6s,mb3.6						
YKA	**Yellowknife Ar**	**89.67**	**340**	P	**P**	**06 17 35.8**	**+0.2**
	0.7nm,0.6s,mb4.0,baz=132,slow=4.6,SNR=25						

NIED ***22*** *06:25:00,22.40N×123.90E, h32km, Mw4.5 Best double couple: Mo5.41×10^15 NP1:φs142°, δ85°, λ9°. NP2:φs51°, δ81°, λ175°.*
IDC ***22*** *06:25:54.8±0.9,22.33N×124.01E, mb4.1/8, mb1 4.3/9, mb1mx4.1/20, mbtmp4.2/9, ML5.0/1, MS3.5/3, Ms1 3.5/3, ms1mx3.0/22, Error ellipse: s-maj=39.0km s-min=18.3km az=72.0*
BJI ***22*** *06:25:54.6,22.14N×123.87E, h22km, mB4.8, mb4.4, ML4.1, Ms4.3, Msz4.0*
NEIC ***22*** *06:25:56.2±0.5,22.26N×123.73E, h10km, mb4.5/9, Error ellipse: s-maj=12.6km s-min=8.7km az=61.0*
MOS ***22*** *06:25:57.7±1.3,22.28N×123.79E, h33km, mb4.6/9, Error ellipse: s-maj=20.6km s-min=11.0km az=101.7*
JMA ***22*** *06:25:58.4±0.4, 22.43N×123.90E, h37km, M4.7*

ISC 22 06:25:55.0±1.3, 22.35N±0.04×123.94E±0.05, h14km±9km, n63, σ1°30/80, mb4.2/20, MS3.7/5, 2C-1D, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**1.71**	**356**	P	**Pn**	**06 26 25.5**	**+1.0**
HATJ				S	**Sn**	**06 26 45.5**	**-0.7**
JKRS	**Kuro-shima**	**1.88**	**2**	P	**Pn**	**06 26 28.5**	**+1.4**
JKRS				S	**Sn**	**06 26 50.7**	**0.0**
IRIF	**Iriomote-Funau**	**1.99**	**354**	P	**Pn**	**06 26 29.8**	**+1.2**
IRIF				S	**Sn**	**06 26 52.0**	**-1.4**
JIJ	**Ishigaki jima**	**2.02**	**5**	P	**Pn**	**06 26 29.6**	**+0.6**
JIJ				*e*S	**Sn**	**06 26 52.4**	**-1.7**
YOJ	**Yonaguni jima**	**2.27**	**338**	P	**Pn**	**06 26 33.5**	**+0.9**
YOJ				S	**Sn**	**06 26 59.0**	**-1.6**
JTJ	**Tarama**	**2.39**	**17**	P	**Pn**	**06 26 35.1**	**+0.8**
JTJ				S	**Sn**	**06 27 03.8**	**+0.3**
JMJ	**Miyako jima 2**	**2.75**	**27**	P	**Pn**	**06 26 40.8**	**+1.3**
JMJ				*e*S	**Sn**	**06 27 12.9**	**+0.1**
JOGS	**Gusukube**	**2.75**	**29**	P	**Pn**	**06 26 40.7**	**+1.2**
JOGS				*e*S	**Sn**	**06 27 13.2**	**+0.4**
NACB	**Ninganchiao**	**2.82**	**311**	*e*Pn	**Pn**	**06 26 38.9**	**-1.5**
NACB				*e*Sn	**Sn**	**06 27 03.3**	**-11**
YHNB	**Yeheng**	**3.30**	**315**	*e*Pn	**Pn**	**06 26 47.1**	**-0.2**
YHNB				S	**Sn**	**06 27 10.9**	**-16**
TATO	**Taipei**	**3.45**	**320**	*e*Pn	**Pn**	**06 26 50.1**	**+0.7**
TATO				S	**Sn**	**06 27 17.5**	**-13**
JKE	**Kume jima 2**	**4.74**	**33**	P	**Pn**	**06 27 06.8**	**-0.9**
JKE				*e*S	**Sn**	**06 27 59.1**	**-3.9**
CVP	**Callao Caves**	**5.03**	**204**	*e*P	**Pn**	**06 27 09.5**	**-2.3**
JAGN	**Aguni-jima**	**5.18**	**35**	P	**Pn**	**06 27 12.7**	**-1.3**
JAGN				*e*S	**Sn**	**06 28 10.2**	**-4.1**
QZH	**Quanzhou**	**5.54**	**299**	*i*P	**Pn**	**06 27 17.3**	**-1.8**
QZH				S	**Sn**	**06 28 15.4**	**-7.9**
QZH				Smax			
	comp=N,470nm,0.6s						
JIH	**Iheya**	**5.93**	**37**	P	**Pn**	**06 27 22.9**	**-1.6**
JOW	**Kunigami**	**5.96**	**41**	Pn	**Pn**	**06 27 23.8**	**-1.2**
	comp=N,89nm,0.3s,baz=199,slow=12,SNR=100						
JOW				Sn	**Sn**	**06 28 28.9**	**-4.8**
	comp=N,14nm,0.3s,baz=129,slow=29,SNR=7.5						
JOW				LR	LR	06 29 44.9	
	comp=N,500nm,18.8s,baz=295,slow=39						
JOW	**Kunigami**	**5.96**	**41**	P	**Pn**	**06 27 23.7**	**-1.2**
JOW				*e*S	**Sn**	**06 28 29.4**	**-4.2**
JTK	**Tokunoshima**	**7.07**	**39**	P	**Pn**	**06 27 37.8**	**-2.7**
JMZ	**Minamidaito 2**	**7.50**	**61**	P	**Pn**	**06 27 45.1**	**-1.4**
JAM	**Amami Oshima**	**7.92**	**39**	P	**Pn**	**06 27 49.7**	**-2.7**
GZH	**Guangzhou**	**9.81**	**276**	P	**P**	**06 28 12.8**	**-5.9**
KS15	**Wonju Array Si**	**15.43**	**12**	*e*P	**P**	**06 29 35.2**	**+1.4**
GYA	**Guiyang**	**16.26**	**288**	*i*P	**P**	**06 29 44.6**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MAJO	**Matsushiro**	**18.79**	**38**	*e*P	**P**	**06 30 17.9**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,41nm,0.9s						
MAJO	**Matsushiro**	**18.79**	**38**	*e*P	**P**	**06 30 17.9**	**+1.7**
	comp=Z,40nm,0.9s						
MAT	**Matsushiro**	**18.79**	**38**	*e*P	**P**	**06 30 19.0**	**+2.8**
MAT				pmax	pmax		
	comp=Z,30nm,1.0s						
MAT	**Matsushiro**	**18.79**	**38**	*e*P	**P**	**06 30 19.0**	**+2.8**
	comp=Z,30nm,1.0s						
MAT	**Matsushiro**	**18.79**	**38**	P	**P**	**06 30 18.6**	**+2.4**
CD2	**Chengdu**	**19.93**	**300**	*e*P	**P**	**06 30 31.1**	**+1.8**
CN2	**Changchun**	**21.43**	**3**	*e*P	**P**	**06 30 44.6**	**-0.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.4						
CN2				LR	LR		
	comp=N,600nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=E,500nm,10.0s,MS4.4						
CN2				LR	LR		
	comp=Z,300nm,12.0s,MS3.9						
MDJ	**Mudanjiang**	**22.69**	**11**	P	**P**	**06 30 59.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,16nm,1.7s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,128nm,4.3s						
MDJ				LR	LR		
	comp=N,25nm,22.7s,MS3.3						
MDJ				LR	LR		
	comp=E,127nm,22.7s,MS3.3						
ASAJ	**Asahikawa**	**26.62**	**31**	P	**P**	**06 31 37.7**	**+3.0**
	comp=E,14nm,0.6s,mb4.6,baz=212,slow=7.6,SNR=8.8						
HIA	**Hailar**	**27.07**	**354**	*e*P	**P**	**06 31 38.9**	**+0.1**
HIA				pmax	pmax		
	comp=Z,12nm,0.7s						
HIA	**Hailar**	**27.07**	**354**	*e*P	**P**	**06 31 38.9**	**+0.1**
	comp=Z,12nm,0.7s,mb4.5						
KLR	**Kul'dur**	**27.53**	**11**	*e*P	**P**	**06 31 40.2**	**-2.8**
ULN	**Ulaanbaatar**	**28.84**	**336**	*e*P	**P**	**06 31 54.9**	**+0.1**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
ULN	**Ulaanbaatar**	**28.84**	**336**	*e*P	**P**	**06 31 54.9**	**+0.1**
	comp=Z,5.3nm,0.7s,mb4.4						
YSS	**Yuzh-Sakhalins**	**28.87**	**27**	*i*P	**P**	**06 32 02.0**	**+6.9**
YSS				pmax	pmax		
	comp=N,50nm,0.9s						
YSS				pmax	pmax		
	comp=Z,80nm,0.9s						
YSS	**Yuzh-Sakhalins**	**28.87**	**27**	*e*P	**P**	**06 32 02.2**	**+7.1**
	comp=Z,88nm,0.9s						
SONM	**Songino Array**	**29.06**	**335**	P	**P**	**06 31 56.9**	**+0.1**
	comp=Z,6.7nm,0.7s,mb4.5,baz=149,slow=9.2,SNR=43						
SONM				LR	LR	06 43 15.5	
	comp=Z,92nm,20.6s,MS3.4,baz=22,slow=36						
ZAK	**Zakamensk**	**32.33**	**335**	*e*P	**P**	**06 32 24.0**	**-1.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
TLY	**Talaya**	**33.23**	**337**	P	**P**	**06 32 33.6**	**0.0**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
TLY	**Talaya**	**33.23**	**337**	P	**P**	**06 32 33.6**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.7						
WMQ	**Urumqi**	**36.75**	**314**	*e*P	**P**	**06 33 07.5**	**+3.8**
WMQ				AP	pP	06 33 14.0	+6.0
WMQ				XP	sP	06 33 17.0	+7.2
WMQ				PP	PP	06 34 32.3	+3.3
WMQ				*e*S	**S**	**06 38 49.0**	**+2.7**
WMQ				XS		06 39 02.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,77nm,4.2s						
WMQ				LR	LR		
	comp=N,456nm,20.6s,MS4.3						
WMQ				LR	LR		
	comp=E,262nm,18.9s,MS4.3						
WMQ				LR	LR		
	comp=Z,315nm,20.2s,MS4.1						
MKAR	**Makanchi Array**	**41.41**	**316**	*i* P	**P**	**06 33 43.1**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ZAL	**Zalesovo**	**43.16**	**327**	P	**P**	**06 33 56.8**	**+0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=354,slow=6.1,SNR=6.7						
ZAL				LR	LR	06 53 47.0	
	comp=Z,58nm,21.6s,MS3.4,baz=344,slow=39						
WRAB	**Tennant Creek**	**43.23**	**166**	*e*P	**P**	**06 33 57.0**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**43.23**	**166**	*e*P	**P**	**06 33 57.0**	**-0.7**
	comp=Z,12nm,1.0s,mb4.6						
WRA	**Warramunga Arr**	**43.24**	**166**	P	**P**	**06 33 56.8**	**-0.9**
	comp=Z,1.2nm,0.7s,mb3.8,baz=344,slow=9.3,SNR=11						
KURK	**Kurchatov**	**45.12**	**320**	*e*P	**P**	**06 34 10.3**	**-2.2**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**45.12**	**320**	*e*P	**P**	**06 34 10.3**	**-2.2**
	comp=Z,3.4nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**45.63**	**308**	P	**P**	**06 34 16.8**	**+0.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**45.63**	**308**	P	**P**	**06 34 16.8**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**46.75**	**167**	P	**P**	**06 34 26.2**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.0,baz=349,slow=6.6,SNR=11						
BVAR	**Borovoye Array**	**50.69**	**321**	P	**P**	**06 34 56.0**	**+0.2**
	comp=Z,0.6nm,0.5ns,mb3.8,baz=117,slow=6.6,SNR=5.4						
CHKZ	**Chkalovo**	**50.74**	**322**	P	**P**	**06 34 56.1**	**-0.1**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.8s,mb4.6						
DAWY	**Dawson**	**73.01**	**27**	*e*P	**P**	**06 37 25.7**	**0.0**
INK	**Inuvik**	**73.97**	**22**	*e*P	**P**	**06 37 32.1**	**+0.9**
INK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
INK	**Inuvik**	**73.97**	**22**	*e*P	**P**	**06 37 32.1**	**+0.9**
	comp=Z,4.7nm,1.1s,mb4.3						
BRTR	**Keskin Array B**	**76.30**	**307**	P	**P**	**06 37 47.5**	**+2.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=3.7,SNR=3.9						
YKA	**Yellowknife Ar**	**83.66**	**23**	P	**P**	**06 38 25.6**	**+1.7**
YKA	**Yellowknife Ar**	**83.66**	**23**	P	**P**	**06 38 25.5**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.6,baz=309,slow=4.7,SNR=10.0						

NEIC ***22*** *06:45:38.2±0.8, 32.17S×179.07W, h10km, mb4.3/4, Error ellipse: s-maj=18.7km s-min=13.2km az=76.0*
IDC ***22*** *06:45:50.8±4.4, 32.23S×179.36W, h103km±34km, mb3.7/4, mb1 4.0/5, mb1mx3.8/14, mbtmp4.2/5, MS3.4/1, Ms1 3.4/1, ms1mx2.5/19, Error ellipse: s-maj=39.3km s-min=27.2km az=41.0*

ISC 22 06:45:49.3±1.4, 32.73S±0.07×179.9W±0.2, h82km±13km, n56, σ1°26/68, mb4.2/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.06**	**197**	PN	**P**	**06 47 05.9**	**+1.7**
MXZ				*e*SN	**S**	**06 48 08.5**	**+6.6**
MXZ	**Matakaoa Point**	**5.06**	**197**	PN	**P**	**06 47 05.9**	**+1.7**
MXZ				*e*SN	**S**	**06 48 08.5**	**+6.6**
PUZ	**Puketiti**	**5.55**	**196**	PN	**P**	**06 47 11.1**	**+0.1**
PUZ				*e*SN	**S**	**06 48 16.1**	**+1.9**
PUZ	**Puketiti**	**5.55**	**196**	PN	**P**	**06 47 11.1**	**+0.1**
PUZ				*e*SN	**S**	**06 48 16.1**	**+1.9**
MWZ	**Matawai**	**5.99**	**200**	*e*PN	**P**	**06 47 18.6**	**+1.6**
MWZ	**Matawai**	**5.99**	**200**	*e*PN	**P**	**06 47 18.6**	**+1.6**
URZ	**Urewera**	**6.05**	**203**	P	**P**	**06 47 19.5**	**+1.6**
	9.8nm,0.3s,baz=287,slow=2.4,SNR=34						
URZ				S	**S**	**06 48 35.6**	**+9.1**
	8.0nm,0.3s,baz=147,slow=23,SNR=10						
URZ	**Urewera**	**6.05**	**203**	PN	**P**	**06 47 18.6**	**+0.7**
URZ				*e*SN	**S**	**06 48 34.6**	**+8.1

NB2	**NORSAR Subarra**	**150.77**	**349**	PKPabc	PKPdf	07 05 28.7	+3.1
	1.5nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.77**	**349**	PKPbc	PKPdf	07 05 29.0	+3.5
	1.6nm,0.5s,baz=17,slow=4.2,SNR=8.3						
DBIC	**Dimbokro**	**153.66**	**169**	PKPbc	PKPdf	07 05 39.8	+8.7
	1.4nm,0.5s,baz=162,slow=6.5,SNR=4.2						

JMA 22 06:55:11.6,33.77N×130.14E,h11km±1km,M1.3,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.34**	**274**	P	Pg	06 55 18.6	-0.1
JII				S	Sg	06 55 23.4	0.0
JFI	**Itaya**	**0.40**	**149**	P	Pg	06 55 19.5	-0.3
JFI				S	Sg	06 55 25.2	-0.1
JFA	**Akaike**	**0.55**	**96**	P	Pg	06 55 22.4	-0.3
JFA				S	Sg	06 55 29.8	-0.4

NIED ***22*** *06:55:00,33.70N×130.20E,h5km,Mw5.0 Best double couple: M◎3.02×10¹⁶ NP1:φs284°,δ89°,λ-5°. NP2:φs14°, δ85°,λ-179°.*

JMA ***22*** *06:55:33.4,33.73N×130.18E,h11km±1km,M5.4 Broadband fault plane solution: P waves. NP1:φs106°, δ81°,λ-1°. NP2:φs197°,δ89°,λ-171°. Principal axes: T Plg5°, Azm331°; N Plg81°, Azm206°; P Plg7°, Azm62°;*

JMA Felt IV J1.

BJI ***22*** *06:55:33.7,33.65N×130.29E,h15km,mB4.9,mb4.9, Ms5.2,Msz4.9*

NEIC ***22*** *06:55:35.1±0.3,33.72N×130.21E,h10km,mb4.8/28, MW4.9(NIED),Error ellipse: s-maj=7.2km s-min=6.8km az=33.0*

NEIC Felt at Fukuoka. Recorded [4 JMA] in Fukuoka and Saga; [3 JMA] in Nagasaki; [2 JMA] in Kumamoto and Oita Prefectures. Recorded [2 JMA] on Uku-jima and [1 JMA] in the Tsushima Islands. Also recorded [2 JMA] in Shimane Prefecture and [1 JMA] in Yamaguchi Prefecture, Honshu.

MOS ***22*** *06:55:36.5±1.3,33.67N×130.20E,h33km,mb4.9/29, MS4.6/14,Error ellipse: s-maj=10.1km s-min=6.1km az=106.2*

IDC ***22*** *06:55:40.1±3.0,33.67N×130.10E,h48km±28km,mb4.1/17, mb1 4.3/19,mb1mx4.2/24,mbtmp4.4/19,ML3.8/2,MS4.5/20, Ms1 4.5/20,ms1mx4.3/24,Error ellipse: s-maj=21.0km s-min=13.4km az=73.0*

ISC 22 06:55:33.1±0.5,33.71N±0.02×130.20E±0.02,h6km±3km, h7km±1.5km:pP-P,n192,σ1s08/215,mb4.7/66,MS4.7/34, 14C-17D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.32**	**151**	⇑P	**Pg**	**06 55 40.3**	**+0.6**
JII	**Iki**	**0.40**	**282**	⇓P	**Pg**	**06 55 41.1**	**-0.1**
JII				S	**Sg**	**06 55 46.4**	**-0.2**
JFA	**Akaike**	**0.49**	**90**	⇓P	**Pg**	**06 55 43.2**	**+0.1**
JFA				S	**Sg**	**06 55 50.6**	**+0.9**
JUR	**Ureshino**	**0.65**	**199**	⇓P	**Pg**	**06 55 46.0**	**-0.2**
JUR				S	**Sg**	**06 55 54.6**	**-0.3**
JTA	**Tamana**	**0.79**	**159**	⇑P	**Pb**	**06 55 48.9**	**-0.1**
JTA				S	**Sg**	**06 55 59.8**	**+0.2**
JNU	**Nakatsue**	**0.81**	**136**	⇑P	**Pb**	**06 55 49.2**	**-0.1**
JTY	**Toyota**	**0.90**	**52**	⇓P	**Pb**	**06 55 50.3**	**-0.5**
JTU	**Tsushima**	**1.05**	**321**	⇑P	**Pb**	**06 55 52.6**	**-0.7**
JTU				S	**Sb**	**06 56 06.5**	**-0.7**
NGSJ	**Nagasakinomoza**	**1.13**	**198**	⇑P	**Pb**	**06 55 54.2**	**-0.4**
JKI	**Kunimi**	**1.14**	**94**	⇓P	**Pb**	**06 55 55.0**	**+0.1**
JHD	**Hondo**	**1.24**	**183**	⇑P	**Pb**	**06 55 56.7**	**+0.1**
JIU2	**Izumi 2**	**1.27**	**156**	⇑P	**Pb**	**06 55 57.1**	**0.0**
JKD	**Kudamatsu**	**1.43**	**76**	⇓P	**Pn**	**06 55 59.8**	**0.0**
JKIT	**Kitakata**	**1.51**	**136**	⇑P	**Pn**	**06 56 01.1**	**+0.3**
JHIK	**Hikimi**	**1.65**	**60**	⇓P	**Pn**	**06 56 03.4**	**+0.5**
JHM	**Kurahashi**	**1.98**	**77**	⇓P	**Pn**	**06 56 08.1**	**+0.5**
JHT	**Toyohira**	**2.07**	**62**	⇓P	**Pn**	**06 56 09.8**	**+0.9**
UWA2	**Uwa jima 2**	**2.08**	**103**	⇓P	**Pn**	**06 56 09.1**	**0.0**
JGT	**Gotsu**	**2.20**	**53**	P	**Pn**	**06 56 10.5**	**-0.2**
JHS	**Saijyo**	**2.73**	**61**	P	**Pn**	**06 56 19.2**	**+0.9**
JJS	**Sakaide**	**3.17**	**77**	P	**Pn**	**06 56 24.4**	**-0.1**
MRT2	**Murotomisaki 2**	**3.31**	**95**	P	**Pn**	**06 56 25.7**	**-0.8**
JAD	**Aida**	**3.50**	**68**	P	**Pn**	**06 56 29.8**	**+0.5**
JAI	**Aioi**	**3.54**	**88**	P	**Pn**	**06 56 29.3**	**-0.5**
KS15	**Wonju Array Si**	**4.17**	**334**	*e*Pn	**Pn**	**06 56 36.9**	**-1.9**
KS15				*e*Pg	**Pg**	**06 56 51.1**	**-5.4**
KS15				*e*Sg	**Sg**	**06 57 42.3**	**-10**
JWZ	**Kozaga**	**4.60**	**91**	P	**Pn**	**06 56 43.1**	**-1.8**
INCN	**Inchon**	**4.76**	**323**	*e*Pn	**Pn**	**06 56 44.3**	**-2.8**
JFM	**Mihama**	**5.10**	**68**	P	**Pn**	**06 56 53.4**	**+1.4**
JGM	**Miyama**	**5.72**	**68**	P	**Pn**	**06 57 02.2**	**+1.5**
HMMJ	**Hamamatsu 2**	**6.33**	**78**	P	**Pn**	**06 57 08.3**	**-1.0**
JNT	**Takato**	**6.88**	**69**	P	**Pn**	**06 57 17.3**	**+0.3**
JOW	**Kunigami**	**7.05**	**194**	P	**Pn**	**06 57 21.3**	**+1.8**
	3.4nm,0.3s,baz=25,slow=11,SNR=6.2						
JYN	**Shimob**	**7.11**	**73**	P	**Pn**	**06 57 19.7**	**-0.5**
MAT	**Matsushiro**	**7.14**	**64**	*e*P	**Pn**	**06 57 20.0**	**-0.7**
MAT				S	**Sn**	**06 58 42.0**	**-1.1**
MAT				pmax	pmax		
	comp=Z,41nm,1.0s						
MAT	**Matsushiro**	**7.14**	**64**	*e*P	**Pn**	**06 57 20.0**	**-0.7**
	comp=Z,41nm,1.0s						
MAT				S	**Sn**	**06 58 42.0**	**-1.1**
MAT	**Matsushiro**	**7.14**	**64**	P	**Pn**	**06 57 20.1**	**-0.6**
MAT				*e*S	Sn	**06 58 41.6**	**-1.5**
MAT	**Matsushiro**	**7.14**	**64**	P	**Pn**	**06 57 21.6**	**+0.9**
MAJO	**Matsushiro**	**7.14**	**64**	*e*P	**Pn**	**06 57 20.8**	**+0.1**
MAJO				*e*S	Sn	06 59 17.7	+35
JRY	**Ryogami san**	**7.51**	**70**	P	**Pn**	**06 57 26.0**	**+0.1**
JSD	**Sado**	**7.84**	**54**	P	**Pn**	**06 57 30.0**	**-0.5**
JHJ	**Hachijo jima 2**	**8.03**	**92**	LR	LR	07 00 24.7	
	comp=Z,2μm,20.4s,baz=280,slow=35						
SSE	**Sheshan**	**8.06**	**254**	P	**P**	**06 57 29.3**	**-4.2**
SSE				S	**Sn**	**06 59 03.0**	**-3.0**
SSE				AMB	AMB		
	comp=Z,32nm,0.8s						
SSE				AMB	AMB		
	comp=Z,116nm,4.0s						
SSE				LR	LR		
	comp=N,16μm,12.8s						
SSE				LR	LR		
	comp=E,6μm,12.8s						
SSE				LR	LR		
	comp=Z,9μm,11.7s						
DL2	**Dalian**	**8.64**	**309**	*e*P	**P**	**06 57 40.9**	**-0.8**
DL2				S	**Sn**	**06 59 16.6**	**-4.0**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s						
DL2				LR	LR		
	comp=N,11μm,11.2s						
DL2				LR	LR		
	comp=E,6μm,10.2s						
DL2				LR	LR		
	comp=Z,4μm,12.0s						
SNY	**Shenyang**	**9.65**	**329**	⇑P	**P**	**06 57 57.3**	**+1.7**
SNY				AMB	AMB		
	comp=Z,240nm,8.4s						
SNY				LR	LR		
	comp=N,8μm,8.6s						
SNY				LR	LR		
	comp=E,9μm,8.2s						
SNY				LR	LR		
	comp=Z,10μm,8.2s						
NJ2	**Nanjing**	**9.69**	**263**	*e*P	**P**	**06 57 55.8**	**-0.3**
NJ2				AP		06 57 59.1	
NJ2				XP		06 58 01.8	
NJ2				S	**Sn**	**06 59 46.0**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,80nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,330nm,4.9s						
NJ2				LR	LR		
	comp=N,4μm,14.3s						
NJ2				LR	LR		
	comp=E,7μm,14.7s						
NJ2				LR	LR		
	comp=Z,3μm,11.0s						
CN2	**Changchun**	**10.73**	**341**	*e*P	**P**	**06 58 12.8**	**+2.3**
CN2				AP		06 58 15.8	
CN2				XP		06 58 19.1	
CN2				*e*S	**S**	**07 00 13.4**	**+1.3**
CN2				AMB	AMB		
	comp=Z,40nm,1.2s						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,11μm,13.0s						
CN2				LR	LR		
	comp=E,8μm,13.0s						
CN2				LR	LR		
	comp=Z,12μm,15.0s						
MDJ	**Mudanjiang**	**10.90**	**358**	P	**P**	**06 58 11.8**	**-1.0**
MDJ				AP		06 58 15.9	
MDJ				PP	PP	06 58 21.3	+0.3
MDJ				S	**S**	**07 00 16.8**	**+0.6**
MDJ				XS		07 00 22.9	
MDJ				SS	SS	07 00 28.4	-1.3
MDJ				AMB	AMB		
	comp=Z,17nm,1.8s						
MDJ				AMB	AMB		
	comp=Z,182nm,5.8s						
MDJ				LR	LR		
	comp=N,1μm,15.4s						
MDJ				LR	LR		
	comp=E,4μm,13.9s						
MDJ				LR	LR		
	comp=Z,4μm,10.9s						
TIA	**Tai'an**	**11.02**	**287**	*e*P	**P**	**06 58 18.3**	**+3.9**
TIA				S	**S**	**07 00 22.6**	**+3.5**
TIA				LR	LR		
	comp=E,5μm,9.0s						
TIA				LR	LR		
	comp=N,17μm,14.0s						
TIA				LR	LR		
	comp=E,12μm,12.0s						
YHNB	**Yeheng**	**11.85**	**223**	*e*P	**P**	**06 58 30.5**	**+4.7**
NACB	**Ninganchiao**	**12.12**	**221**	*e*P	**P**	**06 58 32.3**	**+2.9**
CBIJ	**Chichi jima**	**12.26**	**119**	LR	LR	07 02 45.5	
	comp=E,432nm,18.7s,baz=318,slow=35						
BJT	**Baijiatuan**	**12.87**	**303**	*e*P	**P**	**06 58 39.1**	**-0.3**
BJI	**Beijing**	**12.88**	**303**	P	**P**	**06 58 39.4**	**-0.1**
BJI				S	**S**	**07 01 11.6**	**+7.3**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s						
BJI				AMB	AMB		
	comp=Z,324nm,4.5s						
BJI				LR	LR		
	comp=N,4μm,12.8s						
BJI				LR	LR		
	comp=E,8μm,13.4s						
BJI				LR	LR		
	comp=Z,3μm,14.8s						
QZH	**Quanzhou**	**13.37**	**232**	P	**P**	**06 58 48.1**	**+2.1**
QZH				AMB	AMB		
	comp=Z,80nm,1.1s						
QZH				LR	LR		
	comp=N,3μm,10.1s						
QZH				LR	LR		
	comp=E,6μm,10.8s						
QZH				LR	LR		
	comp=Z,7μm,11.3s						
WHN	**Wuhan**	**13.80**	**261**	*e*P	**P**	**06 58 53.5**	**+1.8**
WHN				S	**S**	**07 01 27.3**	**+0.9**
WHN				LR	LR		
	comp=Z,8μm,8.3s						
ASAJ	**Asahikawa**	**14.16**	**39**	P	**P**	**06 58 58.1**	**+1.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,2μm,18.1s						
ASAJ	**Asahikawa**	**14.16**	**39**	P	**P**	**06 58 58.1**	**+1.7**
	comp=Z,0.8nm,0.3s,baz=250,slow=8.7,SNR=6.5						
ASAJ				LR	LR	07 03 59.1	
	comp=Z,2μm,18.1s,baz=71,slow=35						
KLR	**Kul'dur**	**15.55**	**4**	*e*P	**P**	**06 59 12.5**	**-2.0**
KLR				*e*		07 02 08.5	
KLR				MLR	MLR		
	comp=N,3μm,11.5s						
KLR				MLR	MLR		
	comp=Z,4μm,11.5s						
YSS	**Yuzh-Sakhalins**	**16.30**	**32**	*e*P	**P**	**06 59 19.3**	**-4.8**
YSS				*e*		07 02 25.0	
YSS				MLR	MLR		
	comp=N,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,3μm,14.0s						
HIA	**Hailar**	**17.38**	**337**	*e*P	**P**	**06 59 38.8**	**+1.1**
HIA				pmax	pmax		
	comp=Z,112nm,1.1s						
HIA	**Hailar**	**17.38**	**337**	*e*P	**P**	**06 59 38.8**	**+1.1**
	comp=Z,112nm,1.1s						
BTO	**Baotou**	**17.48**	**299**	*e*P	**P**	**06 59 38.4**	**-0.6**
BTO				S	**S**	**07 02 44.8**	**-7.4**
BTO				AMB	AMB		
	comp=Z,40nm,1.2s						
BTO				LR	LR		
	comp=E,3μm,12.8s						
XAN	**Xi'an**	**17.68**	**277**	P	**P**	**06 59 42.5**	**+0.9**
XAN				AP		06 59 50.3	
XAN				AMB	AMB		
	comp=Z,17nm,1.3s						
XAN				LR	LR		
	comp=N,3μm,11.3s						
XAN				LR	LR		
	comp=E,3μm,12.6s						
XAN				LR	LR		
	comp=Z,3μm,14.7s						
UGL	**Uglegorsk**	**17.71**	**26**	*e*P	**P**	**06 59 49.0**	**+7.1**
UGL				pmax	pmax		
	comp=E,82nm,0.9s						
UGL				MLR	MLR		
	comp=Z,2μm,14.0s						
UGL				MLR	MLR		
	comp=N,850nm,13.0s						
UGL				MLR	MLR		
	comp=E,1μm,14.0s						
ENH	**Enshi**	**17.90**	**265**	*e*P	**P**	**06 59 45.0**	**+0.6**
	comp=E,67nm,1.2s						
HKC	**Hong Kong**	**18.12**	**235**	P	**P**	**06 59 47.0**	**-0.2**
GYA	**Guiyang**	**21.58**	**257**	⇑*i*P	**P**	**07 00 25.3**	**-0.4**
GYA				AP		07 00 29.6	
GYA				XP		07 00 32.4	
GYA				PP	PP	07 00 52.8	+2.7
GYA				S	**S**	**07 04 23.3**	**+3.1**
GYA				XS		07 04 30.8	
GYA				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,110nm,2.7s,mb4.8						
GYA				LR	LR		
	comp=N,8μm,14.4s,MS5.3						
GYA				LR	LR		
	comp=E,4μm,13.2s,MS5.3						
GYA				LR	LR		
	comp=Z,2μm,12.9s,MS4.7						
LZH	**Lanzhou**	**21.73**	**284**	*e*P	**P**	**07 00 28.5**	**+1.4**
LZH				AP		07 00 33.3	
LZH				XP		07 00 35.8	
LZH				PP	PP	07 00 56.0	+4.1
LZH				S	**S**	**07 04 28.0**	**+5.2**
LZH				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,200nm,4.4s						
LZH				LR	LR		
	comp=E,7μm,13.2s						
LZH				LR	LR		
	comp=Z,7μm,14.2s,MS5.2						
ULN	**Ulaanbaatar**	**22.41**	**316**	*e*P	**P**	**07 00 33.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,78nm,1.3s,mb5.0						
ULN	**Ulaanbaatar**	**22.41**	**316**	*e*P	**P**	**07 00 33.9**	**+0.1**
	comp=Z,78nm,1.3s,mb5.0						
CD2	**Chengdu**	**22.50**	**270**	⇓*i*P	**P**	**07 00 34.8**	**0.0**
CD2				AMB	AMB		
	comp=Z,99nm,1.2s,mb5.1						
SONM	**Songino Array**	**22.77**	**315**	P	**P**	**07 00 38.2**	**+0.9**
	comp=Z,18nm,1.1s,mb4.4,baz=124,slow=8.9,SNR=50						
SONM				LR	LR	07 10 38.1	
	comp=Z,3μm,18.2s,MS4.7,baz=129,slow=40						
QIZ	**Qiongzhong**	**23.31**	**236**	P	**P**	**07 00 43.6**	**+0.7**
QIZ				AP		07 00 48.0	
QIZ				S	**S**	**07 04 51.6**	**-0.1**
QIZ				XS		07 04 58.6	
QIZ				AMB	AMB		
	comp=Z,91nm,1.6s,mb5.0						
QIZ				LR	LR		
	comp=N,2μm,16.7s						
QIZ				LR	LR		
	comp=Z,2μm,15.3s,MS4.7						
QIZ	**Qiongzhong**	**23.31**	**236**	*e*P	**P**	**07 00 44.6**	**+1.7**
	comp=Z,88nm,1.4s,mb5.0						
CLNS	**Chul'man**	**23.41**	**353**	*e*P	**P**	**07 00 43.6**	**+0.2**
CLNS				*e**PP		07 00 50.0	
CLNS				*e*PPP	PPP	07 01 14.9	-10
CLNS				*e*		07 04 30.5	
CLNS				*e*S	**S**	**07 04 48.2**	**-4.9**
CLNS				*e*SS	SS	07 05 44.7	+5.0
CLNS				pmax	pmax		
	comp=N,32nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,39nm,1.1s,mb4.8						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.1						
CLNS				pmax	pmax		
	comp=N,17nm,1.1s						
CLNS				pmax	pmax		
	comp=E,9.0nm,1.0s						
CLNS				smax			
	comp=N,627nm,11.5s						
CLNS				smax			
	comp=Z,526nm,13.5s						
CLNS				smax			
	comp=E,116nm,14.5s						
CLNS				MLR	MLR		
	comp=N,2μm,12.0s						
CLNS				MLR	MLR		
	comp=Z,2μm,12.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,100nm,9.0s						
GTA	**Gaotai**	**24.99**	**292**	*e*P	**P**	**07 00 59.4**	**+0.4**
GTA				AP		07 01 03.6	
GTA				XP		07 01 06.5	
GTA				PP	PP	07 01 37.8	+1.5
GTA				PCP	PcP	07 04 36.5	+1.4
GTA				S	**S**	**07 05 21.8**	**+1.5**
GTA				XS		07 05 29.6	
GTA				SS	SS	07 06 21.4	+2.6
GTA				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.2						
GTA				AMB	AMB		
	comp=Z,65nm,4.9s						
GTA				LR	LR		
	comp=N,8μm,15.2s,MS5.4						
GTA				LR	LR		
	comp=E,3μm,14.1s,MS5.4						
GTA				LR	LR		
	comp=Z,3μm,13.3s,MS4.9						
KMI	**Kunming**	**25.35**	**258**	⇓P	**P**	**07 01 03.8**	**+1.3**
KMI				AP	pP	07 01 06.9	+2.7
KMI				XP	sP	07 01 08.0	+3.0
KMI				PP	PP	07 01 42.0	+0.9
KMI				S	**S**	**07 05 26.4**	**0.0**
KMI				SS	SS	07 06 27.8	+0.3
KMI				AMB	AMB		
	comp=Z,30nm,1.5s,mb4.6						
KMI				AMB	AMB		
	comp=Z,211nm,3.1s						
KMI				LR	LR		
	comp=N,5μm,12.9s,MS5.3						
KMI				LR	LR		
	comp=E,3μm,13.2s,MS5.3						
KMI				LR	LR		
	comp=Z,4μm,13.9s,MS5.1						
ZAK	**Zakamensk**	**25.82**	**318**	⇓*i*P	**P**	**07 01 06.5**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5						
IRK	**Irkutsk**	**26.29**	**323**	*e*P	**P**	**07 01 10.0**	**-0.9**
IRK				pmax	pmax		
	comp=Z,47nm,1.5s,mb4.8						
TLY	**Talaya**	**26.30**	**321**	*c i*P	**P**	**07 01 12.0**	**+1.0**
TLY				*e*		07 01 25.1	
TLY				*e*S	**S**	**07 05 43.3**	**+1.3**
TLY				*e*SS	SS	07 06 44.4	-5.6
TLY				pmax	pmax		
	comp=Z,33nm,1.8s,mb4.6						
TLY				MLR	MLR		
	comp=Z,2μm,15.0s,MS4.7						
TLY	**Talaya**	**26.30**	**321**	*e*P	**P**	**07 01 11.9**	**+0.9**
	comp=Z,10nm,0.9s,mb4.3						
BOD	**Bodaibo**	**26.49**	**340**	*e*P	**P**	**07 01 11.3**	**-1.4**
BOD				pmax	pmax		
	comp=Z,14nm,1.5s,mb4.3						
MOY	**Mondy**	**27.71**	**319**	*e*P	**P**	**07 01 23.8**	**-0.1**
MOY				pmax	pmax		
	comp=Z,29nm,2.0s,mb4.6						
PET	**Petropavlovsk**	**28.00**	**38**	*e*P	**P**	**07 01 27.1**	**+0.5**
PET				*e*PPP	PPP	07 02 26.2	-2.0
PET				*e*S	**S**	**07 06 09.6**	**0.0**
PET				smax			
	comp=Z,300nm,15.3s						
PET				smax			
	comp=N,400nm,16.0s						
PET				smax			
	comp=E,500nm,15.6s						
PET				MLR	MLR		
	comp=N,900nm,15.0s,MS4.6						
PET				MLR	MLR		
	comp=Z,1μm,13.0s,MS4.6						
PET				MLR	MLR		
	comp=E,800nm,14.0s,MS4.6						
PET				MLR	MLR		
	comp=Z,1μm,17.0s						
YAK	**Yakutsk**	**28.34**	**359**	*e*P	**P**	**07 01 28.8**	**-0.7**
YAK				pmax	pmax		
	comp=N,11nm,1.0s						
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,398nm,11.0s,MS4.3						
YAK				MLR	MLR		
	comp=N,306nm,12.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,293nm,17.0s,MS4.2						
MA2	**Magadan**	**29.22**	**21**	*e*P	**P**	**07 01 39.8**	**+2.3**
MA2				*e*		07 04 49.7	
NANT	**Nan**	**30.21**	**248**	⇓P	**P**	**07 01 47.0**	**+0.3**
	comp=E,275nm,0.8s						
LSA	**Lhasa**	**33.33**	**274**	P	**P**	**07 02 15.1**	**+1.1**
LSA				XP	sP	07 02 27.6	+11
LSA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA				AMB	AMB		
	comp=Z,110nm,8.0s						
LSA				LR	LR		
	comp=N,1μm,15.0s,MS4.9						
LSA				LR	LR		
	comp=E,1μm,13.0s,MS4.9						
LSA				LR	LR		
	comp=Z,1μm,13.0s,MS4.8						
LSA	**Lhasa**	**33.33**	**274**	P	**P**	**07 02 14.1**	**+0.1**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**33.33**	**274**	P	**P**	**07 02 14.1**	**+0.1**
	comp=Z,7.9nm,0.7s,mb4.8						
WMQ	**Urumqi**	**34.31**	**300**	⇑*i*P	**P**	**07 02 22.3**	**-0.1**
WMQ				XP	sP	07 02 29.0	+4.1
WMQ				PP	PP	07 03 37.0	-0.4
WMQ				PCP	PcP	07 04 59.0	+0.3
WMQ				*e*S	**S**	**07 07 49.0**	**-0.1**
WMQ				PCS		07 08 44.0	
WMQ				SS	SS	07 09 57.0	-1.2
WMQ				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,168nm,5.5s						
WMQ				LR	LR		
	comp=N,2μm,16.0s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,12.4s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,22.8s						
ZAL	**Zalesovo**	**37.67**	**316**	P	**P**	**07 02 50.0**	**-0.7**
	comp=Z,4.0nm,1.0s,mb4.1,baz=14,slow=9.3,SNR=23						
ZAL				PcP	PcP	07 05 07.5	-1.0
	comp=Z,1.4nm,0.9s,baz=27,slow=8.3,SNR=3.2						
ZAL				LR	LR	07 19 56.1	
	comp=Z,1μm,19.2s,MS4.7,baz=1.7,slow=39						
TIXI	**Tiksi**	**38.01**	**359**	*e*P	**P**	**07 02 51.4**	**-1.9**
TIXI				*e*		07 04 17.8	
TIXI				*e*S	**S**	**07 08 38.8**	**-6.8**
TIXI				*e*SS	SS	07 11 23.2	+1.3

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,1µm,14.0s,MS4.8						
GUN	Gumba	38.28	274	eP	P	07 02 56.6	+0.5
	comp=Z,220nm,1.0s						
NVS	Novosibirsk	38.77	318	eP	P	07 02 58.4	-1.5
NVS				pmax	pmax		
	comp=Z,16nm,1.6s,mb4.5						
NVS				pmax	pmax		
	comp=N,10.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,26nm,1.8s						
PKI	Pulchoki	38.79	273	eP	P	07 03 00.7	+0.3
	comp=E,94nm,1.1s,mb5.4						
KKN	Kakani	38.82	274	eP	P	07 03 00.8	+0.2
	comp=E,108nm,1.1s,mb5.5						
DMN	Daman	39.03	273	eP	P	07 03 02.6	+0.3
	comp=E,14nm,0.3s,mb5.2						
GKN	Gorkha	39.28	274	eP	P	07 03 04.7	+0.2
	comp=E,66nm,1.1s,mb5.3						
BILL	Bilibino	40.07	20	eP	P	07 03 09.3	-1.3
BILL				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.8						
BILL	Bilibino	40.07	20	eP	P	07 03 09.3	-1.3
	comp=Z,22nm,1.2s,mb4.8						
KOLN	Koldanda	40.23	274	eP	P	07 03 12.5	+0.2
	comp=Z,111nm,1.1s,mb5.5						
KURK	Kurchatov	40.91	310	eP	P	07 03 17.1	-0.5
KURK				pmax	pmax		
	comp=Z,41nm,1.2s,mb4.9						
KURK	Kurchatov	40.91	310	eP	P	07 03 17.1	-0.6
	comp=Z,41nm,1.2s,mb4.9						
DDI	Dehra Dun	43.96	280	eP	P	07 03 42.6	-0.2
AAK	Ala-Archa	44.00	299	eP	P	07 03 41.1	-1.8
AAK				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.5						
AAK				MLR	MLR		
	comp=Z,800nm,16.0s,MS4.7						
AGRA	Agra	45.11	276	eP	P	07 03 51.4	-0.8
AGRA				e	pP	07 03 53.0	-0.9
	comp=Z,58nm,0.5s						
NDI	New Delhi	45.20	279	eP	P	07 03 52.0	-0.8
NDI				e		07 05 39.0	
AYAN	Aya Nagar	45.34	278	eP	P	07 03 54.3	+0.4
AYAN				e	pP	07 03 55.6	0.0
	comp=Z,9.3nm,1.3s						
SONA	Sohna	45.46	278	eP	P	07 03 54.7	-0.2
SONA				e	pP	07 03 55.9	-0.8
	comp=Z,22nm,0.4s						
PMG	Port Moresby	45.81	156	LR	LR	07 23 05.8	
	comp=Z,354nm,18.4s,MS4.3,baz=139,slow=36						
BVAR	Borovoye Array	46.10	314	P	P	07 03 58.7	-0.8
	comp=Z,1.9nm,0.6s,mb4.2,baz=108,slow=9.4,SNR=15						
BVAR				PcP	PcP	07 05 35.6	-0.6
	comp=Z,4.4nm,0.9s,baz=90,slow=4.4,SNR=4.7						
SVE	Sverdlovsk	51.58	319	eP	P	07 04 39.6	-2.3
SVE				e		07 05 52.5	
SVE				pmax	pmax		
	comp=Z,40nm,2.1s,mb5.0						
SVE				MLR	MLR		
	comp=N,500nm,12.0s,MS5.0						
SVE				MLR	MLR		
	comp=E,600nm,12.0s,MS5.0						
SVE				MLR	MLR		
	comp=Z,900nm,12.0s,MS5.0						
FITZ	Fitzroy Crossi	51.70	186	eP	P	07 04 41.1	-2.3
	comp=Z,7.4nm,0.9s,mb4.6						
ARU	Arti	52.76	319	⇓iP	P	07 04 53.1	+2.3
ARU				e		07 05 58.7	
ARU				e		07 06 46.0	
ARU				ePPP	PPP	07 07 54.8	-1.4
ARU				eS	S	07 12 20.8	+3.1
ARU				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.5						
ARU				MLR	MLR		
	comp=Z,600nm,16.0s,MS4.7						
ARU				MLR	MLR		
	comp=N,500nm,20.0s,MS4.8						
ARU				MLR	MLR		
	comp=E,600nm,16.0s,MS4.8						
WRAB	Tennant Creek	53.49	175	⇑iP	P	07 04 54.7	-2.0
WRAB	Tennant Creek	53.49	175	eP	P	07 04 53.4	-3.3
	comp=E,12nm,0.9s,mb4.8						
WRA	Warramunga Arr	53.50	175	P	P	07 04 54.3	-2.5
	comp=E,3.8nm,0.8s,mb4.4,baz=354,slow=7.9,SNR=23						
WB2	Warramunga Arr	53.50	175	eP	P	07 04 53.9	-2.9
IMA	Indian Mountai	54.13	29	eP	P	07 05 00.3	-0.5
IMA				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.4						
IMA	Indian Mountai	54.13	29	eP	P	07 05 00.2	-0.5
	comp=Z,58nm,1.2s,mb5.4						
CTA	Charters Tower	55.64	162	LR	LR	07 28 42.7	
	comp=Z,181nm,20.3s,MS4.2,baz=40,slow=36						
CTAO	Charters Tower	55.64	162	eP	P	07 05 09.7	-2.8
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
CTAO	Charters Tower	55.64	162	eP	P	07 05 09.7	-2.7
	comp=Z,6.3nm,0.8s,mb4.7						
ASAR	Alice Springs	57.17	176	P	P	07 05 21.9	-1.4
	comp=Z,1.7nm,0.6s,mb4.3,baz=4.0,slow=15,SNR=13						
ASAR				LR	LR	07 30 38.9	
	comp=Z,178nm,18.5s,MS4.2,baz=351,slow=37						
DAWY	Dawson	60.43	30	eP	P	07 05 45.4	0.0
INK	Inuvik	61.39	25	eP	P	07 05 48.0	-3.9
INK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
INK	Inuvik	61.39	25	P	P	07 05 51.6	-0.3
	comp=Z,2.8nm,0.9s,mb4.4,baz=285,slow=10.0,SNR=7.5						
INK	Inuvik	61.39	25	eP	P	07 05 48.0	-3.9
	comp=Z,6.5nm,1.2s,mb4.6						
INK				P	pP	07 05 51.6	-2.2
ARCES	ARCESS Array B	63.72	338	P	P	07 06 06.1	-1.2
	comp=Z,6.5nm,1.1s,mb4.5,baz=63,slow=8.1,SNR=4.4						
ARCES				LR	LR	07 38 57.4	
	comp=Z,1µm,18.4s,MS5.2,baz=55,slow=41						
OBN	Obninsk	65.05	321	⇑iP	P	07 06 15.3	-0.9
OBN				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.2						
OBN				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
VRSR	Storozhevoye	65.15	316	eP	P	07 06 15.7	-1.2
VRSR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
VRSR				pmax	pmax		
	comp=N,9.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.6s						
KIV	Kislovodsk	65.91	308	eP	P	07 06 21.7	-0.2
KIV				pmax	pmax		
	comp=Z,27nm,1.0s,mb5.2						
KIV	Kislovodsk	65.91	308	eP	P	07 06 21.7	-0.2
	comp=Z,27nm,1.0s,mb5.2						
STKA	Stephens Creek	66.11	169	P	P	07 06 22.2	-1.1
	comp=Z,4.3nm,0.7s,mb4.6,baz=345,slow=8.1,SNR=6.1						
STKA				LR	LR	07 34 06.6	
	comp=Z,293nm,20.3s,MS4.5,baz=136,slow=35						
STKA	Stephens Creek	66.11	169	eP	P	07 06 21.2	-2.1
FINES	FINESS Array B	67.25	330	P	P	07 06 28.2	-1.9
	comp=Z,5.1nm,0.9s,mb4.5,baz=76,slow=7.9,SNR=9.5						
FINES				LR	LR	07 39 25.1	
	comp=Z,631nm,18.8s,MS4.9,baz=29,slow=39						
RES	Resolute Bay	67.90	12	eP	P	07 06 31.9	-2.2
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
RES	Resolute Bay	67.90	12	eP	P	07 06 31.9	-2.2
	comp=Z,6.0nm,0.9s,mb4.6						
SOC	Sochi	68.02	308	eP	P	07 06 33.8	-1.4
SOC				e		07 07 07.9	
SOC				e		07 09 02.8	
SOC				ePPP	PPP	07 10 37.4	-6.9
SOC				eS	S	07 15 31.4	-2.0
SOC				e		07 16 32.2	
SOC				eSS	SS	07 19 54.0	-2.8
SOC				pmax	pmax		
	comp=N,33nm,0.9s						
SOC				pmax	pmax		
	comp=E,25nm,0.9s						
SOC				pmax	pmax		
	comp=Z,37nm,0.9s,mb5.4						
SOC				MLR	MLR		
	comp=N,649nm,19.0s,MS5.0						
SOC				MLR	MLR		
	comp=E,511nm,19.0s,MS5.0						
SOC				MLR	MLR		
	comp=Z,788nm,19.0s,MS5.0						
ANN	Anapa	68.95	310	eP	P	07 06 44.5	+3.5
ANN				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.3						
YKW3	Yellowknife Ar	71.02	26	P	P	07 06 53.9	+0.6
YKA	Yellowknife Ar	71.06	26	P	P	07 06 53.4	-0.2
	comp=Z,2.9nm,1.1s,mb4.1,baz=308,slow=5.1,SNR=12						
YKA				LR	LR	07 44 29.1	
	comp=Z,162nm,18.6s,MS4.3,baz=290,slow=41						
MALT	Malatya	71.29	304	eP	P	07 06 55.8	+0.4
MALT				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
MALT	Malatya	71.29	304	eP	P	07 06 55.8	+0.4
	comp=Z,1.8nm,0.6s,mb4.2						
SUW	Suwalki	72.43	324	eP	P	07 07 01.6	-0.3
RAYN	Ar Rayn	73.15	287	P	P	07 07 06.8	+0.1
	comp=Z,89nm,1.2s,SNR=15						
NB2	NORSAR Subarra	73.38	334	P	P	07 07 06.3	-1.0
	comp=Z,6.1nm,0.8s,mb4.6,baz=47,slow=5.8						
NB2	NORSAR Subarra	73.38	334	P	P	07 07 06.3	-1.0
NB2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
NOA	NORSAR Array B	73.38	334	P	P	07 07 06.2	-1.0
	comp=Z,5.1nm,0.9s,mb4.4,baz=49,slow=5.8,SNR=9.9						
NOA				LR	LR	07 42 12.4	
	comp=Z,508nm,18.6s,MS4.8,baz=25,slow=38						
BRTR	Keskin Array B	73.85	307	P	P	07 07 10.4	0.0
	comp=Z,2.2nm,0.9s,mb4.1,baz=104,slow=5.1,SNR=7.9						
KWP	Kalwaria	75.12	320	eP	P	07 07 18.0	+0.4
OJC	Ojcow	76.31	322	eP	P	07 07 23.9	-0.4
NIE	Niedzica	76.52	321	eP	P	07 07 25.5	0.0
KSP	Ksiaz	77.70	324	eP	P	07 07 32.5	+0.5
KSP	Ksiaz	77.70	324	eP	P	07 07 31.8	-0.2
MORC	Moravsky Berou	77.74	322	eP	P	07 07 32.5	+0.3
MORC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
MORC	Moravsky Berou	77.74	322	eP	P	07 07 32.5	+0.3
	comp=Z,6.9nm,1.0s,mb4.5						
HAWA	Hanford	78.53	41	eP	P	07 07 36.0	-0.7
	comp=Z,0.6nm,1.1s						
CLL	Collm	79.00	325	⇓iP	P	07 07 39.7	+0.6
CLL	Collm	79.00	325	⇓P	P	07 07 39.7	+0.6
MOX	Moxa	80.09	325	eP	P	07 07 44.0	-1.1
MOX				L		07 46 43.0	
GERES	GERESS Array B	80.27	323	P	P	07 07 45.8	-0.3
	comp=Z,0.4nm,0.2s,mb4.0,baz=56,slow=4.8,SNR=7.0						
GERES				LR	LR	07 47 29.2	
	comp=Z,1µm,18.4s,MS5.3,baz=53,slow=39						
FCC	Fort Churchill	80.77	22	eP	P	07 07 47.0	-1.4
FCC				pmax	pmax		
	comp=Z,22nm,1.3s,mb4.9						
FCC	Fort Churchill	80.77	22	eP	P	07 07 47.0	-1.4
	comp=Z,22nm,1.3s,mb4.9						
GRA1	Grafenberg Arr	80.92	325	eP	P	07 07 49.9	+0.4
	comp=Z,11nm,1.3s,mb4.6						
GRF	Grafenberg Arr	80.92	325	eP	P	07 07 49.9	+0.4
GRF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
GRF	Grafenberg Arr	80.92	325	eP	P	07 07 49.9	+0.4
GRF				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.6						
GRF	Grafenberg Arr	80.92	325	eP	P	07 07 49.9	+0.4
	comp=Z,11nm,1.3s,mb4.6						
WVOR	Wild Horse Val	81.45	44	eP	P	07 07 53.5	+1.1
WVOR				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
WVOR	Wild Horse Val	81.45	44	eP	P	07 07 53.5	+1.0
	comp=Z,9.5nm,1.3s,mb4.6						
HRY	Holter Researc	82.42	38	eP	P	07 07 57.3	-0.1
HLID	Hailey	83.13	41	P	P	07 08 03.6	+2.5
	comp=Z,19nm,2.1s,mb4.8						
NVAR	Mina Array Bea	84.14	47	P	P	07 08 07.3	+1.0
	comp=Z,4.4nm,1.1s,mb4.5,baz=319,slow=3.1,SNR=15						
NVAR				LR	LR	07 42 35.0	
	comp=Z,88nm,18.4s,MS4.2,baz=170,slow=33						
SNTG	Esanatoglia	84.36	319	eP	P	07 08 09.1	+1.8
PGD	Poggio Sodo	84.60	320	eP	P	07 08 10.6	+2.1
LKWY	Lake	84.62	39	eP	P	07 08 10.6	+2.0
LKWY				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
LKWY	Lake	84.62	39	eP	P	07 08 10.6	+2.0
	comp=Z,8.1nm,1.1s,mb4.8						
VMG	Vicchio	84.64	320	eP	P	07 08 09.1	+0.5
TPH	Tonopah	85.03	47	eP	P	07 08 11.4	+0.6
TPH				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
TPH	Tonopah	85.03	47	eP	P	07 08 11.4	+0.7
	comp=Z,7.6nm,0.9s,mb4.8						
PDAR	Pinedale Array	86.30	40	P	P	07 08 17.2	+0.2
	comp=Z,2.0nm,1.0s,mb4.3,baz=328,slow=0.5,SNR=12						
PDAR				LR	LR	07 43 40.6	
	comp=Z,115nm,21.2s,MS4.2,baz=160,slow=33						
ULM	Lac du Bonnet	87.00	28	P	P	07 08 19.6	-0.6
	comp=Z,2.8nm,0.8s,mb4.6,baz=336,slow=4.1,SNR=6.8						
ULM				LR	LR	07 53 25.0	
	comp=Z,96nm,18.6s,MS4.2,baz=58,slow=40						
MVU	Marysvale	87.73	44	eP	P	07 08 25.4	+1.4
	comp=Z,4.1nm,1.3s,mb4.5						
MSU	Marysvale	87.74	44	eP	P	07 08 24.9	+0.8
WUAZ	Wupatki	90.24	46	eP	P	07 08 37.1	+1.1
	comp=Z,11nm,1.4s,mb5.0						
ISCO	Idaho Springs	90.50	40	eP	P	07 08 37.8	+0.7
ISCO				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.5						
ISCO	Idaho Springs	90.50	40	eP	P	07 08 37.8	+0.8
	comp=Z,3.4nm,1.3s,mb4.5						
SCHQ	Schefferville	90.61	10	LR	LR	07 51 03.9	
	comp=Z,188nm,19.2s,MS4.5,baz=42,slow=37						
PPT	Papeete	91.76	110	LR	LR	07 44 53.3	
	comp=Z,169nm,20.0s,MS4.5,baz=284,slow=32						
KMBO	Kilima Mbogo	93.08	271	LR	LR	07 51 57.3	
	comp=Z,177nm,19.4s,MS4.5,baz=274,slow=36						
ANMO	Albuquerque	93.52	43	P	P	07 08 52.5	+1.4
	comp=Z,0.4nm,0.3s,mb4.3						

*IDC **22** 07:30:52.5±0.9, 27.72N×127.75E, mb3.8/8, mb1 4.0/8, mb1mx3.8/20, mbtmp3.8/8, MS3.6/7, Ms1 3.6/7, ms1mx3.3/31, Error ellipse: s-maj=49.7km s-min=14.5km az=67.0*
*BJI **22** 07:30:52.3, 27.32N×127.41E, h19km, mb4.0, Ms4.1, Msz3.4*
*NEIC **22** 07:30:53.6±0.7, 27.68N×127.55E, h10km, mb4.2/2, Error ellipse: s-maj=37.1km s-min=11.1km az=62.0*
*JMA **22** 07:30:54.6±0.2, 27.66N×127.38E, h21km±2km, M3.1*
ISC 22 07:30:56.8±0.9**, 27.60N**±0.06×**127.46E**±0.06**, h45km**±9km**, n24,** σ0s**86**/28**, mb3.9**/10**, MS3.6**/6**, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	Iheya	0.72	141	P	P	07 31 09.8	-0.8
JIH				eS	S	07 31 20.4	-0.4
JAGN	Aguni-jima	1.02	191	P	P	07 31 14.0	-0.9
JAGN				eS	S	07 31 28.3	-0.1
JOW	Kunigami	1.05	136	Pn	P	07 31 14.1	-1.3
	56nm,0.3s,baz=326,slow=13,SNR=20						
JOW				Sn	S	07 31 29.1	0.0
	61nm,0.3s,baz=335,slow=28,SNR=21						
JOW	Kunigami	1.05	136	P	P	07 31 15.2	-0.1
JOW				eS	S	07 31 29.5	+0.4
JTK	Tokunoshima	1.33	82	eS	S	07 31 37.2	+1.0
JKE	Kume jima 2	1.40	206	P	P	07 31 19.7	-0.7
JKE				eS	S	07 31 38.7	+0.7
NAH1	Naha	1.40	172	P	P	07 31 20.4	0.0
NAH1				eS	S	07 31 39.4	+1.4
NJ2	Nanjing	8.69	303	eP	P	07 32 58.0	-4.8
NJ2				S	S	07 34 47.0	+6.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
NJ2				LR	LR		
	comp=N,1µm,14.4s						
NJ2				LR	LR		
	comp=E,970nm,17.8s						
NJ2				LR	LR		
	comp=Z,300nm,14.2s						
JHJ	Hachijo jima 2	11.97	60	LR	LR	07 37 56.7	
	comp=Z,150nm,20.2s,baz=231,slow=36						
BJI	Beijing	15.54	326	P	P	07 34 39.3	+5.0
BJI				AMB	AMB		
	comp=Z,10.0nm,1.6s						
BJI				LR	LR		
	comp=N,520nm,13.4s						
BJI				LR	LR		
	comp=E,270nm,12.8s						
BJI				LR	LR		
	comp=Z,168nm,12.8s						
XAN	Xi'an	17.16	297	P	P	07 34 56.5	+1.6
ASAJ	Asahikawa	20.49	32	LR	LR	07 42 49.9	
	comp=Z,111nm,20.1s,MS3.2,baz=178,slow=35						
SONM	Songino Array	26.04	327	P	P	07 36 27.9	+0.4
	comp=Z,3.5nm,1.0s,mb3.8,baz=140,slow=9.6,SNR=10						
SONM				LR	LR	07 47 40.8	
	comp=Z,112nm,18.9s,MS3.4,baz=132,slow=39						
ZAL	Zalesovo	40.76	322	P	P	07 38 43.0	+8.1
	comp=Z,1.4nm,0.5s,mb3.9,baz=242,slow=4.1,SNR=5.4						
ZAL				LR	LR	07 57 44.0	
	comp=Z,96nm,18.7s,MS3.7,baz=9.8,slow=40						
KURK	Kurchatov	43.36	316	eP	P	07 38 54.2	-2.0
	comp=Z,4.8nm,1.3s,mb4.1						
WRAB	Tennant Creek	47.72	171	P	P	07 39 30.5	-0.8
	comp=Z,2.0nm,0.7s,mb4.3						
WRA	Warramunga Arr	47.73	171	P	P	07 39 31.2	-0.2
	comp=Z,0.9nm,0.7s,mb3.9,baz=353,slow=8.3,SNR=10						
WRA	Warramunga Arr	47.73	171	P	P	07 39 31.2	-0.2
BVAR	Borovoye Array	48.80	318	P	P	07 39 39.3	0.0
	comp=Z,0.9nm,0.9s,mb3.8,baz=90,slow=7.4,SNR=5.0						
ASAR	Alice Springs	51.34	172	P	P	07 39 59.9	+0.8
	comp=Z,1.0nm,1.0s,mb3.7,slow=12,SNR=7.7						
ASAR				LR	LR	07 59 05.6	
	comp=Z,70nm,20.9s,MS3.7,baz=325,slow=33						
STKA	Stephens Creek	60.66	166	P	P	07 41 06.0	+0.3
	comp=Z,1.0nm,0.7s,mb4.0,baz=310,slow=7.9,SNR=2.9						
BRTR	Keskin Array B	75.66	307	P	P	07 42 43.8	+4.7
	comp=Z,0.5nm,0.7s,mb3.5,baz=45,slow=8.2,SNR=2.6						
YKA	Yellowknife Ar	77.58	25	P	P	07 42 49.1	-0.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=299,slow=5.4,SNR=9.5						
YKA				LR	LR	08 19 31.3	
	comp=Z,52nm,19.8s,MS3.9,baz=95,slow=38						
DAVOX	Davos	87.00	322	LR	LR	08 25 38.0	
	comp=Z,60nm,19.6s,MS4.0,baz=200,slow=38						

*IDC **22** 08:03:27.3±0.9, 2.25S×127.85E, mb4.0/6, mb1 4.1/7, mb1mx4.1/15, mbtmp4.0/7, ML3.9/1, Error ellipse: s-maj=80.3km s-min=16.8km az=65.0*
*BJI **22** 08:03:29.4, 2.58S×128.64E, h66km, mB5.1, mb4.8*
*NEIC **22** 08:03:33.0±0.5, 2.41S×127.77E, h45km, mb4.4/5, Error ellipse: s-maj=62.0km s-min=8.2km az=67.0*
ISC 22 08:03:29.1±0.8**, 2.0S**±0.3×**128.8E**±0.7**, h33km, n16,** σ1s**20**/20**, mb4.2**/10**, Ceram Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	11.22	161	eP	P	08 06 09.3	-1.0
	6.5nm,0.6s						
KAKA				eS	S	08 08 10.1	-5.5
FITZ	Fitzroy Crossi	16.26	191	eP	P	08 07 19.9	+3.1
	3.9nm,0.6s						
WRAB	Tennant Creek	18.61	163	eP	P	08 07 45.7	-0.5
	5.0nm,0.5s						
WRA	Warramunga Arr	18.62	163	P	P	08 07 45.6	-0.7
	0.4nm,0.3s,baz=339,slow=11,SNR=24						
WRA				S	S	08 11 07.2	-2.1
	0.1nm,0.3s,baz=334,slow=21,SNR=3.0						
WB2	Warramunga Arr	18.62	163	eP	P	08 07 45.4	-0.9
WB2				eS	S	08 11 12.4	+3.0
ASPA	Alice Springs	22.08	167	eP	P	08 08 23.8	+0.8
ASAR	Alice Springs	22.08	167	P	P	08 08 23.6	+0.7
	9.7nm,0.9s,mb4.2,baz=344,slow=10,SNR=55						
ASAR				S	S	08 12 21.6	+2.2
	1.0nm,0.9s,baz=337,slow=15,SNR=5.0						
CTA	Charters Tower	24.78	138	P	P	08 08 55.0	+5.5
	0.5nm,0.3s,mb3.5,baz=13,slow=13,SNR=2.1						
STKA	Stephens Creek	32.06	159	P	P	08 09 58.5	+3.3
	2.8nm,1.1s,mb4.0,baz=345,slow=12,SNR=2.5						
ENH	Enshi	37.02	332	P	P	08 10 37.0	-0.7
	4.5nm,0.5s,mb4.5						
GTA	Gaotai	49.06	330	eP	P	08 12 15.8	+0.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
ULN	Ulaanbaatar	53.19	342	eP	P	08 12 47.0	+0.6
	comp=Z,3.3nm,0.4s,mb4.6						
SONM	Songino Array	53.37	341	P	P	08 12 48.3	+0.6
	comp=Z,1.9nm,0.8s,mb4.1,baz=150,slow=7.6,SNR=10						
ZAL	Zalesovo	66.61	333	P	P	08 14 17.6	-0.7
	comp=Z,0.9nm,0.3s,mb4.3,baz=351,slow=6.9,SNR=3.6						
KURK	Kurchatov	67.67	328	eP	P	08 14 24.1	-0.9
	comp=Z,6.2nm,0.9s,mb4.6						
KURK				e		08 14 38.1	
BVAR	Borovoye Array	73.23	328	P	P	08 14 58.7	0.0
	comp=Z,0.6nm,0.5s,mb3.8,baz=127,slow=7.2,SNR=5.5						

*NEIC **22** 08:46:15.3, 34.32N×4.11W, h19km, mb4.3/1, After MDD.*
*MDD **22** 08:46:15.8±1.1, 34.50N×4.12W, mb4.1/28, Error ellipse: s-maj=10.9km s-min=5.7km az=6.0, PRXIMO*
*MOS **22** 08:46:16.3±1.6, 34.43N×3.90W, h33km, mb4.6/1, Error ellipse: s-maj=26.2km s-min=7.6km az=80.8*
*LDG **22** 08:46:16.9±0.3, 34.49N×4.14W, h2km, Ml3.3/2, Error ellipse: s-maj=5.5km s-min=2.8km az=2.0*
*SFS **22** 08:46:16.0, 34.51N×4.10W, h1km*
*CSEM **22** 08:46:16.6±0.4, 34.49N×4.19W, h40km, mb4.2/26, Error ellipse: s-maj=7.3km s-min=4.7km az=7.0*
*INMG **22** 08:46:17.4±1.1, 34.39N×4.12W, h31km, ML3.0, Error ellipse: s-maj=5.1km s-min=3.8km az=3.0*
*CRAAG **22** 08:46:18.1, 34.62N×3.99W, Mb4.1*
ISC 22 08:46:15.9±0.6**, 34.67N**±0.04×**4.20W**±0.03**, h10km, n100,** σ1s**37**/160**, mb4.3**/1**, 1D, Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMEL	Melilla	1.20	58	⇓P	Pb	08 46 38.5	+0.2
	296nm,0.3s,SNR=18						
EMEL				S	Sb	08 46 55.4	+1.8
	2µm,0.5s,SNR=12						
EMLI	Melilla	1.20	58	P	Pb	08 46 38.5	+0.2
	231nm,0.2s,SNR=18						
EMLI				S	Sb	08 46 55.4	+1.7
	3µm,0.7s,SNR=12						
EALB	Alboran	1.58	37	P	Pn	08 46 45.2	+1.0
	22nm,0.3s,SNR=14						
EALB				S	Sb	08 47 07.3	+2.5
	139nm,0.5s						
EALB	Alboran	1.58	37	P	Pn	08 46 45.2	+1.0
	17nm,0.2s,SNR=14						
EMIJ	Mijas	1.94	346	P	Pn	08 46 48.2	-1.1
	14nm,0.3s,SNR=11						
EMIJ				S	Sn	08 47 13.4	-0.6
	84nm,0.5s						
REAL	Reales	1.98	336	P	Pn	08 46 49.8	-0.2
REAL	Reales	1.98	336	i P	Pn	08 46 49.8	-0.1
EJIF	Jimena Fronter	2.05	330	P	Pn	08 46 52.6	+1.6
	20nm,0.5s,SNR=7.9						
EJIF				S	Sn	08 47 21.2	+4.4
	40nm,0.5s,SNR=7.9						
OLHC	Oulhaca	2.35	75	P	Pn	08 46 54.0	-1.3
ERON	Agron	2.36	8	P	Pn	08 46 55.5	+0.1
ERON				S	Sn	08 47 22.8	-1.8
ERON	Agron	2.36	8	P	Pn	08 46 55.4	0.0
	5.1nm,0.3s,SNR=11						
ERON				S	Sn	08 47 27.2	+2.6
	8.5nm,0.2s						
ERON	Agron	2.36	8	P	Pn	08 46 55.5	+0.1
	30nm,0.6s,SNR=11						
LIJA	Lijar	2.43	337	P	Pn	08 46 59.0	+2.6
LIJA	Lijar	2.43	337	eP	Pn	08 46 59.0	+2.6
EBER	Berja	2.46	25	P	Pn	08 46 56.8	+0.1
EBER				S	Sn	08 47 27.7	+0.5
EBER	Berja	2.46	25	P	Pn	08 46 56.8	+0.1
	5.8nm,0.3s,SNR=10						
EBER				S	Sn	08 47 28.9	+1.7
	92nm,0.5s,SNR=6.6						
EBER	Berja	2.46	25	P	Pn	08 46 56.8	0.0
	14nm,0.5s,SNR=10						
EBER				S	Sn	08 47 27.7	+0.5
	95nm,0.5s,SNR=6.6						
ELOJ	Sierra Loja	2.47	1	P	Pn	08 46 59.0	+2.1
	11nm,0.2s,SNR=20						
ELOJ				S	Sn	08 47 29.9	+2.6
	12nm,0.3s						
ELOJ	Sierra Loja	2.47	1	P	Pn	08 46 59.0	+2.1
	20nm,0.4s,SNR=20						
ELOJ				S	Sn	08 47 30.0	+2.6
	14nm,0.4s						
ODZI	Dziouia	2.52	75	P	Pn	08 46 56.0	-1.6
ESPR	Espera	2.57	329	P	Pn	08 47 00.3	+2.0
	3.5nm,0.3s,SNR=6.9						
ESPR				S	Sn	08 47 32.7	+2.7
	23nm,0.3s,SNR=4.0						
ESPR	Espera	2.57	329	P	Pn	08 47 00.3	+2.0

	9.4nm,0.5s,SNR=6.9								
ESPR					S	Sn	08 47 32.7	+2.7	
	29nm,0.4s,SNR=4.0								
ECOG	**Cogollos-Vega**	**2.65**	**11**		P	Pn	08 47 01.3	+1.9	
	18nm,0.4s,SNR=10								
ECOG					S	Sn	08 47 35.1	+3.2	
	21nm,0.3s								
ENIJ	**Nijar**	**2.81**	**35**		P	Pn	08 47 01.0	-0.7	
ENIJ					S	Sn	08 47 32.6	-3.4	
ENIJ	**Nijar**	**2.81**	**35**		P	Pn	08 47 01.0	-0.8	
	14nm,0.4s,SNR=6.7								
ENIJ					S	Sn	08 47 32.8	-3.1	
	27nm,0.6s								
OTSS	**Djebel Tessala**	**2.86**	**77**		P	Pn	08 47 03.0	+0.5	
ELUQ	**Luque**	**2.88**	**359**		P	Pn	08 47 04.2	+1.4	
ELUQ					S	Sn	08 47 43.5	+5.7	
ELUQ	**Luque**	**2.88**	**359**		P	Pn	08 47 04.2	+1.4	
	6.2nm,0.2s,SNR=9.1								
ELUQ					S	Sn	08 47 40.6	+2.8	
	33nm,0.6s,SNR=5.1								
USTO	**Oran**	**3.17**	**69**		P	Pn	08 47 11.0	+4.1	
EQES	**Quesada**	**3.25**	**16**		P	Pn	08 47 10.1	+2.1	
	7.1nm,0.2s,SNR=23								
EQES					S	Sn	08 47 48.4	+1.1	
	62nm,0.4s								
EQES	**Quesada**	**3.25**	**16**		P	Pn	08 47 10.1	+2.0	
	14nm,0.3s,SNR=23								
EQES					S	Sn	08 47 48.4	+1.1	
	67nm,0.4s								
ODJA	**Bouhanifia**	**3.39**	**78**		P	Pn	08 47 16.0	+6.0	
EHUE	**Huescar**	**3.39**	**22**		P	Pn	08 47 11.4	+1.3	
	4.1nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**3.50**	**355**		P	Pn	08 47 12.9	+1.4	
	8.0nm,0.3s,SNR=21								
EADA					S	Sn	08 47 54.5	+1.0	
	24nm,0.5s,SNR=5.5								
EADA	**Adamuz**	**3.50**	**355**		P	Pn	08 47 12.9	+1.3	
	9.8nm,0.5s,SNR=21								
EADA					S	Sn	08 47 54.5	+1.0	
	25nm,0.5s,SNR=5.5								
EBAN	**Banos Encina**	**3.50**	**5**		P	Pn	08 47 15.2	+3.6	
EBAN					S	Sn	08 47 56.1	+2.7	
EBAN	**Banos Encina**	**3.50**	**5**		P	Pn	08 47 12.8	+1.2	
	3.3nm,0.3s,SNR=7.9								
EBAN					S	Sn	08 47 56.2	+2.7	
	9.2nm,0.4s,SNR=7.9								
EBAN	**Banos Encina**	**3.50**	**5**		S	Sn	08 47 56.2	+2.7	
	15nm,0.5s,SNR=7.9								
ECAB	**El Cabril**	**3.54**	**344**		P	Pn	08 47 12.5	+0.5	
	3.2nm,0.3s,SNR=13								
ECAB					S	Sn	08 47 53.6	-0.8	
	19nm,0.5s								
ECAB	**El Cabril**	**3.54**	**344**		P	Pn	08 47 12.5	+0.5	
	1.9nm,0.2s,SNR=13								
EMIN	**Mina Concepcio**	**3.68**	**328**		P	Pn	08 47 14.4	+0.3	
	3.1nm,0.2s,SNR=16								
EMIN					S	Sn	08 47 59.0	+1.0	
	6.2nm,0.3s								
EMIN	**Mina Concepcio**	**3.68**	**328**		P	Pn	08 47 14.4	+0.3	
	7.7nm,0.4s,SNR=16								
EMIN					S	Sn	08 47 59.0	+1.0	
	5.5nm,0.4s								
PALC	**Alcoutim**	**3.85**	**317**	*e*Pn		Pn	08 47 17.0	+0.5	
PALC				*e*Sn		Sn	08 48 01.7	-0.6	
	22nm,0.4s								
PALC	**Alcoutim**	**3.85**	**317**	*e*Pn		Pn	08 47 17.0	+0.5	
PALC				*e*Sn		Sn	08 48 01.7	-0.6	
	22nm,0.4s								
CART	**Cartagena**	**3.89**	**41**	Pn		Pn	08 47 16.1	-1.0	
CART				S		Sn	08 47 57.7	-5.7	
CART	**Cartagena**	**3.89**	**41**	Pn		Pn	08 47 16.1	-1.0	
EGRO	**El Granado**	**3.90**	**318**	P		Pn	08 47 17.8	+0.5	
	25nm,0.3s,SNR=24								
EGRO					S	Sn	08 48 04.2	+0.6	
	15nm,0.4s								
EGRO	**El Granado**	**3.90**	**318**	P		Pn	08 47 17.8	+0.6	
	25nm,0.3s,SNR=24								
EMUR	**La Murta**	**3.96**	**36**	P		Pn	08 47 16.6	-1.5	
EMUR				S		Sn	08 48 01.6	-3.6	
EMUR	**La Murta**	**3.96**	**36**	P		Pn	08 47 18.9	+0.7	
	5.2nm,0.4s,SNR=4.0								
EMUR					S	Sn	08 48 01.6	-3.6	
	36nm,0.6s,SNR=7.9								
EMUR	**La Murta**	**3.96**	**36**	P		Pn	08 47 16.6	-1.6	
	69nm,2.2s,SNR=4.0								
EVIA	**Vianos**	**4.19**	**19**	P		Pn	08 47 25.1	+3.8	
EVIA				S		Sn	08 48 11.8	+0.9	
EVIA	**Vianos**	**4.19**	**19**	P		Pn	08 47 22.8	+1.5	
	1.2nm,0.2s,SNR=4.0								
EVIA					S	Sn	08 48 10.2	-0.6	
	4.6nm,0.3s,SNR=4.0								
EVIA	**Vianos**	**4.19**	**19**	S		Sn	08 48 11.8	+0.9	
	38nm,0.6s,SNR=4.0								
PBEJ	**Beja**	**4.47**	**320**	*e*Pn		Pn	08 47 25.3	0.0	
PBEJ				*e*Sn		Sn	08 48 16.9	-1.1	
	12nm,0.4s								
PBEJ	**Beja**	**4.47**	**320**	*e*Pn		Pn	08 47 25.3	0.0	
PBEJ				*e*Sn		Sn	08 48 16.9	-1.1	
	12nm,0.4s								
ETOB	**Tobarra**	**4.50**	**28**	P		Pn	08 47 27.0	+1.2	
ETOB				S		Sn	08 48 17.1	-1.8	
ETOB	**Tobarra**	**4.50**	**28**	P		Pn	08 47 27.0	+1.2	
	6.5nm,0.3s,SNR=8.2								
ETOB					S	Sn	08 48 17.0	-1.8	
	8.1nm,0.5s								
ETOB	**Tobarra**	**4.50**	**28**	P		Pn	08 47 27.0	+1.2	
	5.3nm,0.5s,SNR=8.2								
ETOB					S	Sn	08 48 17.0	-1.8	
	22nm,0.9s								
PTEO	**Sao Teotonio**	**4.65**	**309**	*e*Pn		Pn	08 47 28.5	+0.6	
PTEO				*e*Sn		Sn	08 48 20.8	-1.8	
	22nm,0.8s								
PTEO	**Sao Teotonio**	**4.65**	**309**	*e*Pn		Pn	08 47 28.5	+0.6	
PTEO				*e*Sn		Sn	08 48 20.8	-1.8	
	22nm,0.8s								
EBAD	**Badajoz**	**4.66**	**332**	P		Pn	08 47 28.0	0.0	
EBAD				S		Sn	08 48 20.6	-2.2	
EBAD	**Badajoz**	**4.66**	**332**	P		Pn	08 47 28.0	0.0	
	4.4nm,0.3s,SNR=11								
EBAD					S	Sn	08 48 21.6	-1.3	
	6.6nm,0.3s								
EBAD	**Badajoz**	**4.66**	**332**	P		Pn	08 47 28.0	0.0	
	5.0nm,0.2s,SNR=11								
EVO	**Evora**	**4.92**	**323**	*e*Pn		Pn	08 47 32.2	+0.4	
EVO				*e*Sn		Sn	08 48 28.4	-1.1	
	28nm,0.5s								
ESLA	**Sonseca Array**	**5.00**	**2**	*e*Pn		Pn	08 47 33.2	+0.5	
ESLA	**Sonseca Array**	**5.00**	**2**	*e*Pn		Pn	08 47 33.2	+0.4	
ESDC	**Sonseca Array**	**5.00**	**2**	P		Pn	08 47 33.6	+0.8	
	0.6nm,0.1s,baz=182,slow=12,SNR=12								
ESDC	**Sonseca Array**	**5.00**	**2**	P		Pn	08 47 33.6	+0.8	
	0.6nm,0.1s,SNR=12								
MOE	**Montemor**	**5.09**	**320**	*e*Pn		Pn	08 47 35.1	+1.0	
EBEN	**Beniarda**	**5.14**	**37**	P		Pn	08 47 34.6	-0.2	
	3.4nm,0.5s,SNR=4.0								
EBEN					S	Sn	08 48 31.8	-3.0	
	10nm,0.7s,SNR=7.9								
EBEN	**Beniarda**	**5.14**	**37**	P		Pn	08 47 34.6	-0.2	
	2.4nm,0.4s,SNR=4.0								
PCBR	**Castelo Branco**	**5.78**	**334**	*e*Pn		Pn	08 47 45.1	+1.2	
PCBR				*e*Sn		Sn	08 48 50.1	-0.9	
	5.8nm,0.4s								
PCBR	**Castelo Branco**	**5.78**	**334**	P		Pn	08 47 45.1	+1.2	
PCBR				S		Sn	08 48 50.1	-0.9	
	2.9nm,0.4s								
PTOM	**Tomar**	**5.97**	**327**	*e*Pn		Pn	08 47 47.1	+0.6	
EIBI	**Ibiza**	**6.21**	**44**	P		Pn	08 47 46.5	-3.5	
EIBI				S		Sn	08 48 54.7	-7.2	
EIBI	**Ibiza**	**6.21**	**44**	P		Pn	08 47 47.9	-2.1	
	2.7nm,0.2s,SNR=7.9								
EIBI					S	Sn	08 48 55.8	-6.1	
	5.1nm,0.4s,SNR=7.9								
MTE	**Manteigas**	**6.30**	**336**	*e*Sn		Sn	08 49 03.4	-0.7	
MTE	**Manteigas**	**6.30**	**336**	P		Pn	08 47 52.1	+0.9	
MTE	**Manteigas**	**6.30**	**336**	P		Pn	08 47 52.1	+0.9	
PVIS	**Viseu**	**6.70**	**335**	*e*Sn		Sn	08 49 12.2	-1.9	
PVRL	**Vila Real**	**7.15**	**338**	*e*Pn		Pn	08 48 03.9	+0.7	
PVRL				*e*Sn		Sn	08 49 23.4	-1.9	
	9.3nm,0.3s								
PVRL	**Vila Real**	**7.15**	**338**	P		Pn	08 48 03.9	+0.7	
PVRL				S		Sn	08 49 23.4	-1.9	
	4.7nm,0.3s								
PBRG	**Braganca**	**7.39**	**345**	*e*Pn		Pn	08 48 05.9	-0.7	
PBRG				*e*Sn		Sn	08 49 30.1	-1.3	
	5.7nm,0.7s								
PBRG	**Braganca**	**7.39**	**345**	P		Pn	08 48 05.9	-0.7	
	2.8nm,0.7s								
ECAL	**Calabor**	**7.53**	**345**	P		Pn	08 48 07.4	-1.0	
	6.3nm,0.5s,SNR=7.9								
ECAL					S	Sn	08 49 30.9	-3.8	
	7.7nm,0.4s,SNR=7.9								
ETOS	**Mallorca**	**7.56**	**46**	P		Pn	08 48 07.2	-1.7	
	2.9nm,0.5s,SNR=7.9								
ETOS	**Mallorca**	**7.56**	**46**	P		Pn	08 48 07.2	-1.7	
ELOB	**Lobios**	**7.80**	**338**	P		Pn	08 48 11.5	-0.7	
	1.5nm,0.2s,SNR=4.0								
ELOB					S	Sn	08 49 37.6	-3.8	
	5.6nm,0.5s,SNR=7.9								
ELOB	**Lobios**	**7.80**	**338**	P		Pn	08 48 11.5	-0.7	
ELAN	**Lanestosa**	**8.57**	**4**	P		P	08 48 22.0	-0.9	
	1.9nm,0.3s,SNR=7.9								
EARI	**Arriondas**	**8.65**	**355**	P		P	08 48 23.6	-0.5	
	5.3nm,0.8s,SNR=7.9								
EARI					S	Sn	08 49 57.0	-5.7	
	8.8nm,0.9s,SNR=7.9								
ETSF	**Etsaut**	**8.69**	**18**	*e*Pn		P	08 48 24.0	-0.6	
SJPF	**Ste Jean**	**8.74**	**14**	*e*Pn		P	08 48 23.9	-1.4	
SJPF				*e*Sn		Sn	08 49 58.9	-6.0	
	0.7nm,0.3s								
EALK	**Alkurruntz**	**8.79**	**13**	P		P	08 48 26.4	+0.4	
	5.8nm,0.4s,SNR=4.0								
EALK					S	Sn	08 50 00.9	-5.2	
	5.1nm,0.5s,SNR=7.9								
LFF	**La Frestale**	**10.93**	**19**	*e*Pn		P	08 48 53.5	-1.9	
PGF	**Pioggiola**	**12.97**	**49**	*e*Pn		P	08 49 20.5	-2.4	
BNI	**Bardonecchia**	**13.30**	**36**	P		P	08 49 24.5	-2.8	
CHKZ	**Chkalovo**	**54.30**	**45**	P		P	08 55 42.4	-1.8	
CHKZ				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3								
CHKZ	**Chkalovo**	**54.30**	**45**	P		P	08 55 42.4	-1.8	
	comp=Z,1.8nm,0.5s,mb4.3								

IDC ***22*** *08:47:04.6±0.6, 6.26S×154.07E, mb4.4/14, mb1 4.6/16, mb1mx4.6/18, mbtmp4.5/16, ML3.8/2, MS4.2/12, Ms1 4.2/12, ms1mx4.1/15, Error ellipse: s-maj=22.4km s-min=16.8km az=116.0*

MOS ***22*** *08:47:07.7±1.4, 6.28S×154.06E, h33km, mb5.1/13, MS4.2/8, Error ellipse: s-maj=17.6km s-min=14.3km az=105.7*

BJI ***22*** *08:47:10.5, 6.02S×154.17E, h47km, mB5.3, mb5.0, Ms4.8, Msz4.5*

NEIC ***22*** *08:47:11.7±1.6, 6.34S×154.01E, h54km±14km, mb5.1/17, Error ellipse: s-maj=10.9km s-min=9.7km az=174.0*

HRVD ***22*** *08:47:11.7±0.5, 6.41S×154.21E, h16km±2km, MW4.9/44, Centroid moment Tensor Solution. LP body waves: s18,c21;Mantle waves: s44,c62; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.16±.20; $M_{\theta\theta}$-2.25±.13; $M_{\phi\phi}$1.10±.13; $M_{r\theta}$2.32±.60; $M_{\theta\phi}$0.18±.10; $M_{\phi r}$0.54±.46; Best double couple: $M_0$2.988×10^{16} NP1:ϕ_s306°,δ24°, λ139°. NP2:ϕ_s74°,δ74°,λ71°. Principal axes: T2.55, Plg57°, Azm319°; N.886, Plg18°, Azm79°; P -3.426, Plg27°, Azm179°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 08:47:09.0±1.3, 6.32S±0.06×154.05E±0.06, h41km±12km, h55km±3.7km:pP-P, n113, σ1§22/112, mb5.0/55, MS4.3/27, 3C-13D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.61**	**118**	*e*P		**P**	**08 48 47.9**	**+1.8**	
HNR				*e*S		**S**	**08 50 09.2**	**+8.2**	
PMG	**Port Moresby**	**7.49**	**245**	*d* iP		**P**	**08 48 57.0**	**-1.4**	
PMG	**Port Moresby**	**7.49**	**245**	Pn		**P**	**08 48 57.0**	**-1.4**	
	8.4nm,0.3s,baz=70,slow=7.6,SNR=33								
PMG				Sn		**S**	**08 50 26.3**	**+3.4**	
	baz=45,slow=18,SNR=2.1								
PMG				LR	LR		08 50 57.0		
	comp=Z,358nm,21.4s,baz=57,slow=31								
PMG	**Port Moresby**	**7.49**	**245**	⇓*e*P		**P**	**08 48 57.2**	**-1.2**	
CTA	**Charters Tower**	**15.64**	**208**	*e*P		**P**	**08 50 48.5**	**+0.2**	
	30nm,1.8s								
CTA	**Charters Tower**	**15.64**	**208**	Pn		**P**	**08 50 47.8**	**-0.5**	
	0.2nm,0.3s,baz=23,slow=15,SNR=6.6								
CTAO	**Charters Tower**	**15.64**	**208**	*e*P		**P**	**08 50 49.8**	**+1.4**	
	211nm,1.6s								
NOUC	**Port Laguerre**	**19.65**	**144**	*e*P		**P**	**08 51 33.3**	**-4.1**	
DZM	**Mont Dzumac**	**19.71**	**144**	*e*P		**P**	**08 51 33.4**	**-4.6**	
DZM	**Mont Dzumac**	**19.71**	**144**	*e*P		**P**	**08 51 33.4**	**-4.6**	
KAKA	**Kakadu**	**22.23**	**252**	⇓*i*P		**P**	**08 52 02.7**	**-1.1**	
	98nm,1.0s,mb5.2								
WRAB	**Tennant Creek**	**23.44**	**233**	P		**P**	**08 52 15.0**	**-0.7**	
	201nm,1.4s,mb5.4,SNR=31								
WRAB	**Tennant Creek**	**23.44**	**233**	*d* iP		**P**	**08 52 15.4**	**-0.3**	
WRAB	**Tennant Creek**	**23.44**	**233**	*e*P		**P**	**08 52 15.0**	**-0.7**	
	179nm,1.5s,mb5.3								
WB2	**Warramunga Arr**	**23.44**	**233**	⇓*i*P		**P**	**08 52 15.3**	**-0.4**	
WRA	**Warramunga Arr**	**23.45**	**233**	P		**P**	**08 52 15.4**	**-0.4**	
	14nm,0.8s,mb4.4,baz=57,slow=9.5,SNR=53								
WRA				PcP	PcP		08 56 02.4	-0.4	
	3.2nm,1.0s,baz=58,slow=2.8,SNR=12								
WRA				ScP			08 59 41.5		
	5.8nm,1.1s,baz=56,slow=3.2,SNR=10								
ASAR	**Alice Springs**	**25.94**	**226**	P		**P**	**08 52 39.2**	**-0.4**	
	12nm,1.0s,mb4.4,baz=59,slow=8.0,SNR=35								
ASAR				ScP			08 59 48.9		
	2.3nm,1.0s,baz=52,slow=3.3,SNR=8.4								
ASAR				LR	LR		09 03 00.5		
	comp=Z,501nm,18.6s,MS4.1,baz=43,slow=37								
ASPA	**Alice Springs**	**25.94**	**226**	⇓*i*P		**P**	**08 52 38.3**	**-1.4**	
STKA	**Stephens Creek**	**27.96**	**203**	P		**P**	**08 52 56.7**	**-1.4**	
	8.7nm,1.0s,mb4.3,baz=20,slow=7.7,SNR=7.4								
STKA				ScP			08 59 56.1		
	12nm,1.1s,baz=46,slow=5.3,SNR=8.2								
STKA				LR	LR		09 04 53.2		
	comp=Z,990nm,18.4s,MS4.4,baz=22,slow=38								
STKA	**Stephens Creek**	**27.96**	**203**	*e*P		**P**	**08 52 54.9**	**-3.2**	
FITZ	**Fitzroy Crossi**	**30.08**	**245**	*e*P		**P**	**08 53 15.8**	**-1.3**	
	86nm,0.9s,mb5.5								
CBIJ	**Chichi jima**	**35.15**	**341**	LR	LR		09 05 26.2		
	comp=Z,49nm,19.2s,MS3.3,baz=161,slow=31								
URZ	**Urewera**	**38.05**	**150**	P		**P**	**08 54 25.8**	**+0.4**	
	4.4nm,0.7s,mb4.3,baz=335,slow=17,SNR=4.0								
RPZ	**Rata Peaks**	**40.13**	**161**	P		**P**	**08 54 43.0**	**+0.4**	
	11nm,1.0s,mb4.5,baz=37,slow=5.6,SNR=5.5								
NWAO	**Narrogin (SRO)**	**43.25**	**227**	P		**P**	**08 55 07.9**	**-0.6**	
	2.2nm,0.3s,mb4.3,baz=54,slow=9.5,SNR=3.2								
YHNB	**Yeheng**	**44.29**	**315**	*e*P		**P**	**08 55 17.9**	**+0.9**	
KSM	**Kuching**	**44.35**	**279**	*e*P		**P**	**08 55 18.4**	**+0.8**	
QZH	**Quanzhou**	**46.44**	**313**	⇓*i*P		**P**	**08 55 35.3**	**+1.2**	
QZH				AMB	AMB				
	comp=Z,90nm,0.9s,mb5.7								
RAR	**Rarotonga**	**47.03**	**113**	LR	LR		09 13 19.8		
	comp=Z,182nm,18.4s,MS4.1,baz=257,slow=34								
SSE	**Sheshan**	**48.70**	**322**	P		**P**	**08 55 48.3**	**-3.3**	
SSE				S		**S**	**09 02 51.5**	**+1.4**	
SSE				AMB	AMB				
	comp=Z,36nm,0.7s,mb5.5								
SSE				AMB	AMB				
	comp=Z,139nm,3.8s								
SSE				LR	LR				
	comp=N,102nm,22.0s,MS3.9								
SSE				LR	LR				
	comp=E,104nm,21.8s,MS3.9								
SSE				LR	LR				
	comp=Z,193nm,19.9s,MS4.1								
NJ2	**Nanjing**	**50.80**	**321**	*e*P		**P**	**08 56 08.6**	**+0.8**	
NJ2				AMB	AMB				
	comp=Z,50nm,1.2s,mb5.3								
ASAJ	**Asahikawa**	**51.26**	**349**	P		**P**	**08 56 15.6**	**+4.5**	
	comp=Z,8.4nm,0.7s,mb4.8,baz=221,slow=15,SNR=6.5								
WHN	**Wuhan**	**52.81**	**316**	⇓P		**P**	**08 56 23.1**	**+0.3**	
WHN				AMB	AMB				
	comp=Z,37nm,1.1s,mb5.2								
YSS	**Yuzh-Sakhalins**	**53.98**	**350**	*e*P		**P**	**08 56 27.9**	**-3.4**	
YSS				pmax	pmax				
	comp=Z,45nm,2.5s,mb5.0								
YSS				MLR	MLR				
	comp=Z,200nm,19.0s,MS4.2								
MDJ	**Mudanjiang**	**55.27**	**339**	P		**P**	**08 56 40.6**	**-0.2**	
MDJ				AP	pP		08 56 56.4	+3.9	
MDJ				XP	sP		08 57 03.5	+6.3	
MDJ				PP	PP		08 58 46.3	+0.4	
MDJ				S	**S**		**09 04 20.8**	**+0.9**	
MDJ				AMB	AMB				
	comp=Z,175nm,4.8s								
MDJ				LR	LR				
	comp=N,85nm,36.6s,MS3.8								
MDJ				LR	LR				
	comp=E,115nm,33.4s,MS3.8								
MDJ				LR	LR				
	comp=Z,77nm,31.8s,MS3.6								
PPT	**Papeete**	**56.09**	**107**	LR		LR	09 16 28.5		
	comp=Z,236nm,19.0s,MS4.3,baz=270,slow=32								
ENH	**Enshi**	**56.10**	**313**	*e*P		**P**	**08 56 46.7**	**-0.2**	
	comp=Z,57nm,1.1s,mb5.5								
CN2	**Changchun**	**56.19**	**335**	*e*P		**P**	**08 56 51.9**	**+4.6**	
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s,mb4.8								
CN2				AMB		AMB			
	comp=Z,220nm,4.0s								
CN2				LR		LR			
	comp=N,200nm,12.0s,MS4.7								
CN2				LR		LR			
	comp=E,300nm,12.0s,MS4.7								
GYA	**Guiyang**	**56.30**	**308**	⇑*i*P		**P**	**08 56 52.3**	**+3.9**	
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb5.1								
GYA				AMB		AMB			
	comp=Z,120nm,5.1s								
GYA				LR		LR			
	comp=N,270nm,17.8s,MS4.7								
GYA				LR		LR			
	comp=E,420nm,18.0s,MS4.7								
GYA				LR		LR			
	comp=Z,390nm,17.5s,MS4.5								
NANT	**Nan**	**58.20**	**297**	P		**P**	**08 57 00.0**	**-1.9**	
	comp=Z,100nm,0.9s,mb5.8								
XAN	**Xi'an**	**58.58**	**316**	P		**P**	**08 57 03.9**	**-0.4**	
XAN				AP		pP	08 57 13.3	-2.8	
XAN				S		**S**	**09 05 03.3**	**-0.3**	
XAN				AMB		AMB			
	comp=Z,20nm,1.4s,mb5.0								
XAN				LR		LR			
	comp=N,155nm,19.1s,MS4.3								
XAN				LR		LR			
	comp=E,159nm,18.5s,MS4.3								
XAN				LR		LR			
	comp=Z,331nm,19.7s,MS4.5								
KLR	**Kul'dur**	**58.65**	**343**	*e*P		**P**	**08 57 05.8**	**+1.2**	
KMI	**Kunming**	**58.87**	**304**	P		**P**	**08 57 07.4**	**+0.9**	
KMI				AP		pP	08 57 23.9	+5.7	
KMI				PP		PP	08 59 20.4	+1.9	
KMI				S		**S**	**09 05 06.4**	**-1.1**	
KMI				SS		SS	09 09 01.5	-1.5	
KMI				AMB		AMB			
	comp=Z,15nm,1.3s,mb4.9								
KMI				AMB		AMB			
	comp=Z,130nm,5.6s								
KMI				LR		LR			
	comp=N,216nm,19.9s,MS4.4								
KMI				LR		LR			
	comp=E,182nm,17.7s,MS4.4								
KMI				LR		LR			
	comp=Z,183nm,19.1s,MS4.2								
PET	**Petropavlovsk**	**59.25**	**3**	*e*P		**P**	**08 57 05.6**	**-3.1**	
PET				*e*S		**S**	**09 05 10.5**	**-1.5**	
PET				MLR		MLR			
	comp=Z,200nm,17.0s,MS4.3								
CHG	**Chiang Mai**	**59.77**	**296**	⇑P		**P**	**08 57 15.3**	**+2.5**	
	comp=Z,16nm,1.3s,mb4.9								
CD2	**Chengdu**	**60.67**	**311**	P		**P**	**08 57 18.4**	**-0.4**	
CD2				AMB		AMB			
	comp=Z,17nm,1.0s,mb5.1								
HIA	**Hailar**	**62.92**	**336**	*e*P		**P**	**08 57 31.8**	**-1.9**	
	comp=Z,22nm,0.9s,mb5.3								
LZH	**Lanzhou**	**63.18**	**316**	⇓P		**P**	**08 57 36.5**	**+0.9**	
LZH				AP		pP	08 57 49.4	+1.9	
LZH				XP		sP	08 58 22.8	+2.4	
LZH				PP		PP	08 59 59.0	+2.8	
LZH				S		**S**	**09 06 08.0**	**+5.7**	
LZH				AMB		AMB			
	comp=Z,120nm,1.3s,mb5.9								
LZH				AMB		AMB			
	comp=Z,320nm,4.5s								
LZH				LR		LR			
	comp=N,630nm,18.0s								
LZH				LR		LR			
	comp=Z,470nm,20.0s,MS4.7								
GTA	**Gaotai**	**67.61**	**317**	P		**P**	**08 58 04.5**	**+0.6**	
GTA				AP		pP	08 58 17.6	+1.6	
GTA				XP		sP	08 58 22.8	+2.4	
GTA				PP		PP	09 00 35.3	+0.2	
GTA				S		S	09 06 57.8	+1.3	
GTA				XS			09 07 18.9		
GTA				PS		PS	09 07 28.6	+2.8	
GTA				SS		SS	09 11 20.9	+1.7	
GTA				AMB		AMB			
	comp=Z,28nm,1.4s,mb5.1								
GTA				AMB		AMB			
	comp=Z,152nm,4.2s								
GTA				LR		LR			
	comp=N,167nm,17.9s,MS4.5								
GTA				LR		LR			
	comp=E,157nm,17.9s,MS4.5								
GTA				LR		LR			
	comp=Z,303nm,17.5s,MS4.6								
ULN	**Ulaanbaatar**	**67.94**	**328**	*d* iP		**P**

	comp=Z,382nm,20.0s,MS4.7								
HYB	**Hyderabad**	**78.17**	**289**	*i* P		**P**	**08 59 08.0**	**+1.5**
TIXI	**Tiksi**	**79.56**	**352**	*e*P		**P**	**08 59 11.1**	**-2.0**
TIXI				*e*S		S	09 09 04.1	-6.3
TIXI				pmax		pmax		
	comp=Z,6.0nm,1.2s,mb4.4							
TIXI				MLR		MLR		
	comp=Z,94nm,17.0s,MS4.2							
IMA	**Indian Mountai**	**81.47**	**19**	P		**P**	**08 59 22.4**	**-0.9**
	comp=Z,12nm,0.7s,mb5.0							
NDI	**New Delhi**	**81.56**	**300**	*e*P		**P**	**08 59 23.0**	**-1.5**
MKAR	**Makanchi Array**	**82.28**	**319**	*i* P		**P**	**08 59 26.7**	**-1.2**
MKAR				pmax		pmax		
	comp=Z,26nm,1.1s							
SDNR	**Sundarnagar**	**82.36**	**303**	*e*P		**P**	**08 59 29.1**	**+0.5**
COLA	**College**	**82.80**	**21**	⇓*i*P		**P**	**08 59 29.7**	**-0.4**
COLA	**College**	**82.80**	**21**	P		**P**	**08 59 27.9**	**-2.2**
	comp=Z,9.5nm,0.7s,mb4.9							
ZAL	**Zalesovo**	**83.11**	**326**	P		**P**	**08 59 31.9**	**0.0**
	comp=Z,2.2nm,0.6s,mb4.4,baz=359,slow=3.9,SNR=5.8							
AJM	**Ajmer**	**83.38**	**298**	*e*P		**P**	**08 59 33.0**	**-0.9**
QSPA	**South Pole Qui**	**83.65**	**180**	P		**P**	**08 59 36.0**	**+1.9**
	comp=Z,30nm,1.2s,mb5.3							
NVS	**Novosibirsk**	**84.28**	**327**	*e*P		**P**	**08 59 37.1**	**-0.7**
NVS				pmax		pmax		
	comp=Z,60nm,2.2s,mb5.3							
NVS				pmax		pmax		
	comp=N,17nm,1.9s							
NVS				pmax		pmax		
	comp=E,32nm,1.8s							
MAW	**Mawson**	**84.65**	**203**	LR		LR	09 31 36.4	
	comp=E,206nm,19.7s,MS4.5,baz=89,slow=32							
KSH	**Kashi**	**84.86**	**311**	P		**P**	**08 59 44.1**	**+3.0**
KSH				*e*AP		pP	09 00 01.0	+7.5
KSH				*e*PP		PP	09 03 03.0	+3.5
KSH				*e*PPP		PPP	09 05 01.0	+5.5
KSH				*e*SKS		SKS	09 10 00.5	+1.9
KSH				*e*S		S	09 10 08.4	+3.4
KSH				LR		LR		
	comp=N,330nm,4.4s							
KSH				LR		LR		
	comp=E,380nm,5.4s							
ULHL	**Ulahol**	**85.26**	**313**	P		**P**	**08 59 44.6**	**+1.6**
	SNR=12							
KURK	**Kurchatov**	**85.73**	**322***d*	*i* P		**P**	**08 59 44.8**	**-0.3**
KURK				pmax		pmax		
	comp=Z,16nm,1.3s,mb5.1							
KURK	**Kurchatov**	**85.73**	**322**	*e*P		**P**	**08 59 44.7**	**-0.4**
	comp=Z,32nm,1.1s,mb5.5							
TKM2	**Tokmak 2**	**85.88**	**314**	P		**P**	**08 59 47.3**	**+1.3**
	SNR=8.7							
KZA	**Kyzart**	**85.95**	**313**	P		**P**	**08 59 48.8**	**+2.4**
	SNR=24							
UCH	**Uchtor**	**86.51**	**313**	P		**P**	**08 59 51.3**	**+2.1**
	SNR=16							
FRU	**Bishkek**	**86.56**	**314**	*e*P		**P**	**08 59 50.5**	**+1.1**
FRU				pmax		pmax		
	comp=Z,60nm,2.0s,mb5.5							
AAK	**Ala-Archa**	**86.61**	**313**	P		**P**	**08 59 49.2**	**-0.4**
	comp=Z,42nm,1.0s,mb5.6,SNR=7.6							
AAK	**Ala-Archa**	**86.61**	**313**	P		**P**	**08 59 50.5**	**+0.9**
	comp=Z,42nm,1.0s,mb5.6,SNR=7.6							
AAK	**Ala-Archa**	**86.61**	**313**	*i* P		**P**	**08 59 49.7**	**+0.1**
AAK				pmax		pmax		
	comp=Z,20nm,1.7s,mb5.1							
AAK				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.3							
AAK	**Ala-Archa**	**86.61**	**313**	*e*P		**P**	**08 59 49.4**	**-0.2**
	comp=Z,6.8nm,0.9s,mb4.9							
USP	**Ospenovka**	**86.73**	**314**	P		**P**	**08 59 51.1**	**+0.9**
	SNR=11							
AML	**Almayashu**	**87.09**	**313**	P		**P**	**08 59 53.9**	**+1.9**
	SNR=16							
DLBC	**Dease Lake**	**88.04**	**31**	P		**P**	**09 00 01.1**	**+5.0**
	comp=Z,2.9nm,0.8s,mb4.5,baz=273,slow=15,SNR=5.4							
YBH	**Yreka Blue Hor**	**89.14**	**48**	P		**P**	**09 00 09.5**	**+7.7**
	comp=Z,3.0nm,0.8s,mb4.7,baz=224,slow=3.1,SNR=5.1							
CHKZ	**Chkalovo**	**91.16**	**324**	*i* P		**P**	**09 00 09.7**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,12nm,1.5s,mb5.0							
CHKZ	**Chkalovo**	**91.16**	**324**	*e*P		**P**	**09 00 08.0**	**-3.0**
	comp=Z,16nm,1.3s,mb5.2							
BVA0	**Borovoye Array**	**91.20**	**323**	P		**P**	**09 00 10.5**	**-0.7**
BVA0				pmax		pmax		
	comp=Z,6.0nm,1.9s,mb4.6							
MWC	**Mount Wilson**	**91.77**	**56**	*e*P		**P**	**09 00 14.8**	**+0.5**
NVAR	**Mina Array Bea**	**92.04**	**52**	P		**P**	**09 00 15.8**	**+0.4**
	comp=Z,2.1nm,1.0s,mb4.4,baz=249,slow=9.9,SNR=3.9							
NVAR				LR		LR	09 39 59.7	
	comp=Z,376nm,18.6s,MS4.9,baz=280,slow=34							
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**09 00 33.0**	**-0.6**
	comp=Z,0.1nm,0.7s,baz=269,slow=4.5,SNR=4.5							
YKA				LR		LR	09 43 30.9	
	comp=Z,214nm,18.5s,baz=260,slow=35							
YKA	**Yellowknife Ar**	**96.18**	**28**	P		**P**	**09 00 33.0**	**-0.6**
ARU	**Arti**	**98.27**	**326**	*e*P		**P**	**09 00 42.2**	**-1.1**
ARU				*e*		PP	09 04 42.1	-3.9
ARU				*e*S		SKS	09 11 17.2	+0.6
ARU				*e*SS		SS	09 18 55.7	+3.4
ARU				MLR		MLR		
	comp=Z,200nm,18.0s,MS4.7							
ARU				MLR		MLR		
	comp=N,200nm,16.0s							
PDAR	**Pinedale Array**	**98.94**	**48**	P		**P**	**09 00 45.4**	**-1.3**
	comp=N,0.3nm,0.8s,mb3.9,baz=214,slow=5.3,SNR=2.8							
PDAR				LR		LR	09 39 49.8	
	comp=N,257nm,19.0s,MS4.7,baz=273,slow=32							
ANMO	**Albuquerque**	**101.36**	**56**	*i* P		P	09 00 57.8	0.0
GERES	**GERESS Array B**	**125.99**	**329**	PKP		PKPdf	09 06 09.8	+2.6
	comp=N,0.2nm,0.2s,baz=90,slow=2.9,SNR=3.2							
LPAZ	**La Paz**	**132.60**	**119**	PKP		PKPdf	09 06 24.0	+3.4
	comp=N,0.7nm,0.4s,baz=57,slow=2.0,SNR=4.9							
SDV	**Santo Domingo**	**135.65**	**84**	PKP		PKPdf	09 06 27.5	+1.2
	comp=N,1.6nm,0.5s,baz=11,slow=11,SNR=3.9							
BDFB	**Brasilia**	**149.12**	**135**	PKPbc		PKPdf	09 06 55.7	+5.9
	comp=N,2.7nm,0.6s,baz=71,slow=3.8,SNR=4.4							

*NEIC **22** 08:55:05.6, 33.28N×116.26W, h5km, ML3.7(PAS), After PAS.*
NEIC Felt in the Borrego Springs area.
*ECX **22** 08:55:05.5±0.8, 33.29N×116.26W, h3km±2km, MD3.7, ML3.9*
*IDC **22** 08:55:05.3±2.6, 33.26N×116.08W, mb1 3.4/4, mb1mx3.2/20, mbtmp3.0/4, ML3.5/3, Error ellipse: s-maj=38.8km s-min=13.8km az=45.0*

ISC 22 08:55:04.3±0.5, 33.31N±0.02×116.20W±0.04, h10km±4km, n35, σ0 97/42, 8C-2D, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YAQ	**Yaqui Meadows**	**0.19**	**222**	⇓*i*P	**Pg**	**08 55 08.4**	**-0.1**
YAQ				*i* S	**Sg**	**08 55 10.8**	**-0.4**
PFO	**Pinyon Flat Ob**	**0.37**	**325**	⇑*i*P	**Pg**	**08 55 12.4**	**+0.5**
PFO				*e*S	**Sg**	**08 55 16.7**	**-0.3**
FRK	**Frink**	**0.48**	**79**	⇑*i*P	**Pg**	**08 55 15.5**	**+1.3**
PLM	**Palomar**	**0.55**	**275**	⇑*i*P	**Pg**	**08 55 15.4**	**-0.1**
COK	**Cook Ranch**	**0.61**	**139**	⇑*i*P	**Pb**	**08 55 17.5**	**+1.0**
RMX	**La Rumorosa**	**0.71**	**171**	*e*P	**Pb**	**08 55 18.1**	**-0.2**
RMX				*e*S	**Sb**	**08 55 27.7**	**-0.2**
RMX				⇑*e*		08 55 29.6	
	comp=N,4μm,0.2s						
RMX				⇑*e*		08 55 29.9	
	comp=E,7μm,0.5s						
BAR	**Barrett**	**0.74**	**212**	*e*P	**Pb**	**08 55 18.0**	**-0.8**
CBX	**Cerro Bola**	**1.06**	**201**	⇓*i*P	**Pb**	**08 55 24.1**	**-0.2**
CBX				*e*S	**Sb**	**08 55 38.6**	**+0.5**
CPBX	**Cerro Prieto**	**1.17**	**139**	*e*P	**Pb**	**08 55 25.5**	**-0.5**
RDX	**Rancho Dowling**	**1.39**	**171**	*e*P	**Pn**	**08 55 29.4**	**-0.4**
RDX				⇑*e*		08 55 54.6	
	comp=N,1μm,0.6s						
ENX	**Ensenada**	**1.47**	**195**	*e*P	**Pn**	**08 55 30.6**	**-0.4**
ENX				*e*S	**Sb**	**08 55 50.1**	**+0.2**
EMX	**El Mayor**	**1.54**	**148**	*e*P	**Pn**	**08 55 30.9**	**-1.2**
EMX				*e*S	**Sb**	**08 55 53.3**	**+1.2**
EMX				*e*		08 56 04.2	
	comp=E,861nm,0.6s						
EMX				⇑*e*		08 56 07.6	
	comp=N,967nm,0.7s						
PBX	**Punta Banda**	**1.62**	**196**	*e*P	**Pn**	**08 55 33.4**	**+0.2**
PBX				*e*S	**Sn**	**08 55 54.5**	**+0.2**
ECNX	**Esteban Cantu**	**1.68**	**192**	*e*P	**Pn**	**08 55 34.5**	**+0.6**
MWC	**Mount Wilson**	**1.79**	**301**	*e*P	**Pn**	**08 55 36.7**	**+1.1**
LDFC	**Landfair**	**1.98**	**27**	*e*Pn	**Pn**	**08 55 38.9**	**+0.5**
SPX	**San Pedro Mart**	**2.34**	**164**	*e*PN	**Pn**	**08 55 44.5**	**+1.1**
DAC	**Darwin (Calif)**	**3.18**	**339**	Pn	**Pn**	**08 55 55.9**	**+0.5**
MTUM	**Tungsten Hills**	**4.47**	**335**	*e*Pn	**Pn**	**08 56 14.2**	**+0.4**
WUAZ	**Wupatki**	**4.56**	**60**	*e*Pn	**Pn**	**08 56 15.4**	**+0.4**
TUC	**Tucson**	**4.67**	**101**	*e*Pn	**Pn**	**08 56 14.5**	**-2.1**
TPH	**Tonopah**	**4.83**	**350**	Pn	**Pn**	**08 56 17.8**	**-1.1**
OMM	**Old Mammoth Mi**	**4.87**	**333**	Pn	**Pn**	**08 56 19.5**	**+0.2**
ARUT	**Antelope Range**	**5.00**	**26**	Pn	**Pn**	**08 56 21.2**	**-0.1**
TRCR	**Troy Canyon**	**5.06**	**6**	Pn	**Pn**	**08 56 20.6**	**-1.4**
NVAR	**Mina Array Bea**	**5.39**	**342**	Pn	**Pn**	**08 56 28.1**	**+1.4**
	comp=N,0.6nm,0.3s,baz=167,slow=15,SNR=9.3						
NVAR				Lg		08 58 00.9	
	comp=N,0.2nm,0.3s,baz=156,slow=36,SNR=2.0						
CMB	**Columbia Colle**	**5.82**	**325**	*e*Pn	**Pn**	**08 56 30.6**	**-2.2**
MVU	**Marysvale**	**6.11**	**31**	Pn	**Pn**	**08 56 38.3**	**+1.4**
MSU	**Marysvale**	**6.13**	**31**	Pn	**Pn**	**08 56 37.4**	**+0.2**
SRU	**San Rafael**	**7.39**	**37**	Pn	**Pn**	**08 56 52.8**	**-2.0**
ANMO	**Albuquerque**	**8.24**	**76**	Pn	**P**	**08 57 06.8**	**0.0**
	baz=268,slow=9.6,SNR=4.5						
ANMO				Lg		08 59 24.0	
	baz=30,slow=19,SNR=2.4						
ANMO	**Albuquerque**	**8.24**	**76**	Pn	**P**	**08 57 06.8**	**0.0**
ANMO				Lg		08 59 24.0	
MNTX	**Cornudas Mount**	**9.28**	**97**	*e*Pn	**P**	**08 57 18.6**	**-2.5**
PDAR	**Pinedale Array**	**10.79**	**27**	Pn	**P**	**08 57 44.2**	**+2.2**
	comp=N,0.1nm,0.3s,baz=225,slow=8.4,SNR=5.0						
TXAR	**Lajitas Array**	**11.43**	**107**	Pn	**P**	**08 57 50.1**	**-0.5**
	comp=N,0.1nm,0.3s,baz=290,slow=15,SNR=8.3						

*MOS **22** 09:03:10.8±1.1, 34.72N×2.90W, h33km, mb4.3/3, Error ellipse: s-maj=15.8km s-min=5.5km az=88.7*
*CRAAG **22** 09:03:11.7, 34.81N×2.83W, Mb4.4*
*INMG **22** 09:03:12.5±1.5, 34.92N×2.90W, h6km±4km, ML3.6, Error ellipse: s-maj=5.8km s-min=4.3km az=133.0*
*SFS **22** 09:03:12.0, 34.90N×2.97W*
*MDD **22** 09:03:12.9±0.5, 34.94N×2.97W, mb4.7/39, Error ellipse: s-maj=5.1km s-min=2.8km az=10.0, PRXIMO*
MDD EMS: II MELILLA.
*IAG **22** 09:03:13, 34.93N×2.98W, h6km, Mw4.4, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.73; $M_{\theta\theta}$-0.18; $M_{\phi\phi}$-0.55; $M_{r\theta}$-0.57; $M_{r\phi}$-2.53; $M_{\theta\phi}$-3.05; Best double couple: M_o4.06×10^{15} NP1:ϕ_s87°, δ37°, λ169°. NP2:ϕ_s186°, δ84°, λ53°. Principal axes: T 4.37, Plg40°, Azm63°; N -.722, Plg36°, Azm191°; P -3.65, Plg29°, Azm305°;*
*CNRM **22** 09:03:13.4, 35.11N×2.86W, h3km, MD4.4*
*CSEM **22** 09:03:13.5±0.1, 35.10N×2.99W, h20km, mb4.1/1, Error ellipse: s-maj=1.9km s-min=1.4km az=155.0*
*ZUR_RM **22** 09:03:13, 34.93N×2.98W, h12km, Mw4.5/16, Moment Tensor Solution. s16 Moment tensor: Scale 10^{15}Nm; M_{rr}1.40; $M_{\theta\theta}$0.40; $M_{\phi\phi}$-1.80; $M_{r\theta}$0.19; $M_{r\phi}$-5.09; $M_{\theta\phi}$-2.14; Best double couple: M_o5.68×10^{15} NP1:ϕ_s176°, δ82°, λ25°. NP2:ϕ_s83°, δ65°, λ172°. Principal axes: T 5.138, Plg23°, Azm42°; N 1.092, Plg64°, Azm192°; P -6.23, Plg12°, Azm307°;*
*NEIC **22** 09:03:13.0, 34.93N×2.98W, h4km, mb4.1/3, After MDD.*
NEIC Felt [II] at Melilla, Spain.
*LDG **22** 09:03:14.3±0.4, 34.92N×3.01W, h2km, Ml3.8/4, Error ellipse: s-maj=8.0km s-min=3.5km az=172.0*

ISC 22 09:03:12.6±0.3, 35.08N±0.02×2.96W±0.02, h10km, n171, σ1 9 35/279, mb4.0/2, 2C-12D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.21**	**123**	P	**Pg**	**09 03 16.0**	**-1.1**
ZAI				S	**Sg**	**09 03 19.0**	**-1.2**
EMEL	**Melilla**	**0.22**	**0**	P	**Pg**	**09 03 19.8**	**+2.5**
	3μm,0.1s,SNR=81						
EMEL				S	**Sg**	**09 03 24.7**	**+4.2**
	6μm,0.1s						
EMLI	**Melilla**	**0.22**	**2**	P	**Pg**	**09 03 19.8**	**+2.5**
	2μm,0.1s,SNR=81						
EMLI				S	**Sg**	**09 03 24.7**	**+4.2**
	13μm,0.2s						
TOU	**Touzarine**	**0.66**	**260**	*i* P	**Pb**	**09 03 27.0**	**+1.1**
TOU				*i* S	**Sb**	**09 03 37.0**	**+2.2**
MPAL	**Palemas**	**0.82**	**280**	*i* P	**Pb**	**09 03 30.0**	**+1.5**
MPAL				*i* S	**Sb**	**09 03 41.0**	**+1.7**
EALB	**Alboran**	**0.86**	**356**	⇓P	**Pb**	**09 03 31.6**	**+2.4**
	291nm,0.3s,SNR=18						
EALB				S	**Sb**	**09 03 44.9**	**+4.4**
	2μm,0.3s,SNR=17						
EALB	**Alboran**	**0.86**	**356**	P	**Pb**	**09 03 31.6**	**+2.4**
	552nm,0.2s,SNR=18						
EALB				S	**Sb**	**09 03 44.9**	**+4.4**
	3μm,0.3s,SNR=17						
OLHC	**Oulhaca**	**1.27**	**82**	P	**Pb**	**09 03 34.0**	**-2.2**
ODZI	**Dzioua**	**1.43**	**81**	P	**Pn**	**09 03 38.0**	**-0.8**
EBER	**Berja**	**1.81**	**2**	P	**Pn**	**09 03 45.0**	**+0.8**
EBER				S	**Sn**	**09 04 06.9**	**-0.5**
EBER	**Berja**	**1.81**	**2**	P	**Pn**	**09 03 45.0**	**+0.8**
	47nm,0.4s,SNR=46						
EBER				S	**Sn**	**09 04 07.4**	**0.0**
	823nm,0.4s						
EBER	**Berja**	**1.81**	**2**	P	**Pn**	**09 03 45.0**	**+0.8**
	32nm,0.2s,SNR=46						
EBER				S	**Sn**	**09 04 06.9**	**-0.6**
	2μm,1.0s						
ENIJ	**Nijar**	**1.98**	**18**	P	**Pn**	**09 03 47.0**	**+0.3**
	68nm,0.3s,SNR=20						
ENIJ				S	**Sn**	**09 04 13.5**	**+1.7**
	371nm,0.5s,SNR=14						
DKH	**Dar Kharkhour**	**2.01**	**282**	*i* P	**Pn**	**09 03 48.0**	**+1.0**
DKH				*i* S	**Sn**	**09 04 12.0**	**-0.4**
ERON	**Agron**	**2.05**	**341**	P	**Pn**	**09 03 47.6**	**0.0**
	18nm,0.2s,SNR=48						
ERON				S	**Sn**	**09 04 13.4**	**-0.1**
	118nm,0.3s,SNR=10						
EMAL	**Malaga-Limoner**	**2.06**	**325**	⇓P	**Pn**	**09 03 47.7**	**0.0**
	90nm,0.1s,SNR=18						
EMAL				S	**Sn**	**09 04 12.7**	**-0.9**
	209nm,0.3s,SNR=7.9						
USTO	**Oran**	**2.07**	**71**	P	**Pn**	**09 03 49.0**	**+1.0**
EMIJ	**Mijas**	**2.09**	**316**	⇓P	**Pn**	**09 03 47.6**	**-0.6**
EMIJ				S	**Sn**	**09 04 12.2**	**-2.2**
EMIJ	**Mijas**	**2.09**	**316**	⇓P	**Pn**	**09 03 47.6**	**-0.5**
	58nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**09 04 13.0**	**-1.5**
	625nm,0.5s,SNR=6.7						
EMIJ	**Mijas**	**2.09**	**316**	P	**Pn**	**09 03 47.6**	**-0.6**
	59nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**09 04 12.2**	**-2.3**
	595nm,0.5s,SNR=6.7						
ECOG	**Cogollos-Vega**	**2.25**	**348**	P	**Pn**	**09 03 52.4**	**+2.0**
	44nm,0.2s,SNR=47						
ECOG				S	**Sn**	**09 04 20.8**	**+2.3**
	92nm,0.3s,SNR=17						
ECOG	**Cogollos-Vega**	**2.25**	**348**	P	**Pn**	**09 03 52.4**	**+2.0**
	61nm,0.3s,SNR=47						
ECOG				S	**Sn**	**09 04 19.9**	**+1.5**
	112nm,0.4s,SNR=17						
ELOJ	**Sierra Loja**	**2.28**	**335**	P	**Pn**	**09 03 51.9**	**+1.0**
	11nm,0.2s,SNR=58						
ELOJ				S	**Sn**	**09 04 22.2**	**+2.9**
	73nm,0.4s,SNR=6.6						
REAL	**Reales**	**2.30**	**308**	⇓P	**Pn**	**09 03 51.6**	**+0.3**
REAL				S	**Sn**	**09 04 18.7**	**-1.2**
REAL	**Reales**	**2.30**	**308**	*i* P	**Pn**	**09 03 51.6**	**+0.3**
REAL				*e*S	**Sn**	**09 04 18.7**	**-1.2**
ODJA	**Bouhanifia**	**2.31**	**83**	P	**Pn**	**09 04 00.0**	**+8.6**
EJIF	**Jimena Fronter**	**2.46**	**305**	P	**Pn**	**09 03 53.4**	**-0.1**
	93nm,0.5s,SNR=7.9						
EJIF				S	**Sn**	**09 04 24.3**	**+0.5**
	61nm,0.4s,SNR=7.9						
CPS	**Cap Spartel**	**2.51**	**287**	*i* P	**Pn**	**09 03 54.0**	**-0.2**
CPS				*i* S	**Sn**	**09 04 25.0**	**-0.2**
MOMI	**Momias**	**2.57**	**300**	⇑P	**Pn**	**09 03 58.5**	**+3.4**
CZD	**Col de Zad**	**2.68**	**221**	*i* P	**Pn**	**09 03 57.0**	**+0.4**
CZD				*i* S	**Sn**	**09 04 29.0**	**-0.4**
ELUQ	**Luque**	**2.69**	**337**	P	**Pn**	**09 03 59.0**	**+2.2**
ELUQ				S	**Sn**	**09 04 29.7**	**0.0**
ELUQ	**Luque**	**2.69**	**337**	P	**Pn**	**09 03 58.1**	**+1.3**
	27nm,0.2s,SNR=68						
ELUQ				S	**Sn**	**09 04 32.3**	**+2.6**
	111nm,0.4s,SNR=6.9						
ELUQ	**Luque**	**2.69**	**337**	P	**Pn**	**09 03 59.0**	**+2.2**
	147nm,0.5s,SNR=68						
ELUQ				S	**Sn**	**09 04 29.7**	**0.0**
	247nm,0.8s,SNR=6.9						
LIJA	**Lijar**	**2.69**	**313**	⇓P	**Pn**	**09 03 59.8**	**+2.9**
LIJA				S	**Sn**	**09 04 31.8**	**+2.0**
EQES	**Quesada**	**2.72**	**358**	⇓P	**Pn**	**09 04 00.1**	**+3.0**
EQES				S	**Sn**	**09 04 33.7**	**+3.3**
EQES	**Quesada**	**2.72**	**358**	⇓P	**Pn**	**09 03 59.9**	**+2.7**
	128nm,0.5s,SNR=18						
EQES				S	**Sn**	**09 04 33.7**	**+3.3**
	559nm,0.4s						
EQES	**Quesada**	**2.72**	**358**	S	**Sn**	**09 04 33.7**	**+3.3**
	416nm,0.5s						
EHUE	**Huescar**	**2.74**	**6**	P	**Pn**	**09 04 00.9**	**+3.3**
EHUE				S	**Sn**	**09 04 34.2**	**+3.1**
EHUE	**Huescar**	**2.74**	**6**	P	**Pn**	**09 04 01.7**	**+4.1**
	25nm,0.2s,SNR=4.0						
EHUE				S	**Sn**	**09 04 34.2**	**+3.1**
	56nm,0.2s,SNR=7.9						
OJBR	**Djebel Berber**	**2.75**	**79**	P	**Pn**	**09 04 02.0**	**+4.4**
CNIL	**Conil**	**2.83**	**298**	⇑P	**Pn**	**09 04 01.7**	**+3.0**
ESPR	**Espera**	**2.95**	**308**	⇓P	**Pn**	**09 04 01.2**	**+0.7**
	19nm,0.2s,SNR=18						
ESPR				S	**Sn**	**09 04 37.3**	**+1.0**
	59nm,0.4s						
ESPR	**Espera**	**2.95**	**308**	P	**Pn**	**09 04 01.2**	**+0.7**
	20nm,0.3s,SNR=18						
ESPR				S	**Sn**	**09 04 37.3**	**+1.0**
	184nm,0.8s						
CART	**Cartagena**	**2.96**	**32**	*e*P	**Pn**	**09 03 59.1**	**-1.5**
CART				*e*S	**Sn**	**09 04 31.6**	**-4.9**
CART	**Cartagena**	**2.96**	**32**	*e*P	**Pn**	**09 03 59.2**	**-1.4**
CART				*e*S	**Sn**	**09 04 31.6**	**-4.9**
GIBL	**Gibalbin**	**3.00**	**306**	⇓P	**Pn**	**09 04 03.2**	**+2.0**
GIBL	**Gibalbin**	**3.00**	**306**	*i* P	**Pn**	**09 04 03.2**	**+2.0**
OJGS	**Djebel Guires**	**3.06**	**81**	P	**Pn**	**09 04 04.0**	**+1.9**
EMUR	**La Murta**	**3.08**	**26**	P	**Pn**	**09 04 02.5**	**+0.1**
EMUR				S	**Sn**	**09 04 36.1**	**-3.6**
EMUR	**La Murta**	**3.08**	**26**	P	**Pn**	**09 04 02.5**	**+0.1**
	28nm,0.4s,SNR=33						
EMUR				S	**Sn**	**09 04 37.1**	**-2.6**
	421nm,0.8s,SNR=7.9						
EMUR	**La Murta**	**3.08**	**26**	P	**Pn**	**09 04 02.5**	**+0.1**
	67nm,0.4s,SNR=33						
EMUR				S	**Sn**	**09 04 36.1**	**-3.6**
	134nm,0.7s,SNR=7.9						
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**09 04 04.7**	**+1.4**
EBAN				S	**Sn**	**09 04 43.0**	**+1.7**
EBAN				S	**Sn**	**09 04 44.8**	**+3.5**
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**09 04 04.7**	**+1.4**
EBAN				P		09 04 07.9	
EBAN				S	**Sn**	**09 04 43.0**	**+1.7**
EBAN				S	**Sn**	**09 04 44.8**	**+3.5**
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**09 04 04.7**	**+1.4**
	6.4nm,0.3s,SNR=13						
EBAN				S	**Sn**	**09 04 43.0**	**+1.7**
	108nm,0.6s,SNR=9.1						
EADA	**Adamuz**	**3.34**	**338**	P	**Pn**	**09 04 07.3**	**+1.2**
EADA				S	**Sn**	**09 04 44.8**	**-1.5**
EADA	**Adamuz**	**3.34**	**338**	P	**Pn**	**09 04 07.3**	**+1.2**
	59nm,0.3s,SNR=143						
EADA				S	**Sn**	**09 04 45.9**	**-0.4**
	225nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**3.34**	**338**	P	**Pn**	**09 04 07.3**	**+1.2**
	62nm,0.3s,SNR=143						
EADA				S	**Sn**	**09 04 44.8**	**-1.5**
	435nm,0.7s,SNR=7.9						
EANR	**'Ain N'Sour**	**3.42**	**74**	P	**Pn**	**09 04 08.0**	**+0.8**
ETRT	**Tiaret**	**3.50**	**84**	P	**Pn**	**09 04 09.5**	**+1.2**
EVIA	**Vianos**	**3.57**	**6**	P	**Pn**	**09 04 11.5**	**+2.2**
	15nm,0.4s,SNR=16						
EVIA				S	**Sn**	**09 04 54.1**	**+2.1**
	125nm,0.5s,SNR=14						
EVIA	**Vianos**	**3.57**	**6**	P	**Pn**	**09 04 11.5**	**+2.2**
	15nm,0.4s,SNR=16						
EVIA				S	**Sn**	**09 04 51.9**	**-0.1**
	88nm,0.6s,SNR=14						
ECAB	**El Cabril**	**3.58**	**327**	S	**Sn**	**09 04 53.2**	**+0.9**
	107nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**3.58**	**327**	S	**Sn**	**09 04 53.2**	**+0.8**
	97nm,0.7s,SNR=7.9						
ECHF	**Ech Chlef**	**3.66**	**72**	P	**Pn**	**09 04 08.6**	**-2.0**
ECHA	**Ech Chlef**	**3.68**	**72**	P	**Pn**	**09 04 08.6**	**-2.3**
ETOB	**Tobarra**	**3.73**	**17**	P	**Pn**	**09 04 13.5**	**+1.9**
ETOB				S	**Sn**	**09 04 55.9**	**-0.2**
ETOB	**Tobarra**	**3.73**	**17**	P	**Pn**	**09 04 13.5**	**+1.9**
	27nm,0.4s,SNR=29						
ETOB		

EVO					*e*Sn		**Sn**	**09 05 35.1**	**-1.1**
	86nm,0.4s								
MOE	**Montemor**	**5.52**	**310**	*e*Pn			**Pn**	**09 04 36.7**	**-0.3**
MOE					*e*Sn		**Sn**	**09 05 38.4**	**-2.9**
EMOS	**Mosqueruela**	**5.63**	**20**	P			**Pn**	**09 04 39.6**	**+1.2**
	3.6nm,0.4s,SNR=7.9								
EMOS					S		**Sn**	**09 05 41.2**	**-2.8**
	6.6nm,0.5s,SNR=7.9								
EMOS	**Mosqueruela**	**5.63**	**20**	P			**Pn**	**09 04 39.6**	**+1.1**
	11nm,0.5s,SNR=7.9								
OUK	**Oukaimeden**	**5.64**	**228**	*e*P			**Pn**	**09 04 39.0**	**+0.3**
OUK				*i* S			**Sn**	**09 05 42.0**	**-2.4**
PCBR	**Castelo Branco**	**5.96**	**324**	*e*Pn			**Pn**	**09 04 42.7**	**-0.4**
PCBR					*e*Sn		**Sn**	**09 05 47.0**	**-5.2**
	37nm,0.6s								
PCBR	**Castelo Branco**	**5.96**	**324**	P			**Pn**	**09 04 42.7**	**-0.4**
PCBR					S		**Sn**	**09 05 47.0**	**-5.2**
	18nm,0.6s								
CIA	**Chichaoua**	**5.99**	**236**	P			**Pn**	**09 04 44.0**	**+0.5**
CIA					S		**Sn**	**09 05 48.0**	**-5.0**
CIA	**Chichaoua**	**5.99**	**236**	*i* P			**Pn**	**09 04 44.0**	**+0.5**
PLOU	**Loures**	**6.24**	**309**	*e*Pn			**Pn**	**09 04 46.4**	**-0.7**
PLOU					*e*Sn		**Sn**	**09 05 53.8**	**-5.5**
	46nm,0.6s								
PLOU	**Loures**	**6.24**	**309**	P			**Pn**	**09 04 46.4**	**-0.7**
PLOU					S		**Sn**	**09 05 53.8**	**-5.5**
	23nm,0.6s								
PTOM	**Tomar**	**6.27**	**318**	*e*Pn			**Pn**	**09 04 46.7**	**-0.9**
PTOM					*e*Sn		**Sn**	**09 05 55.6**	**-4.5**
	58nm,0.6s								
PTOM	**Tomar**	**6.27**	**318**	P			**Pn**	**09 04 46.7**	**-0.9**
PTOM					S		**Sn**	**09 05 55.6**	**-4.5**
	29nm,0.6s								
EBR	**Ebro Roquetas**	**6.34**	**24**	*e*PN			**Pn**	**09 04 50.0**	**+1.4**
MTE	**Manteigas**	**6.43**	**327**	*e*Pn			**Pn**	**09 04 49.4**	**-0.4**
MTE					*e*Sn		**Sn**	**09 05 58.4**	**-5.7**
	85nm,0.6s								
MTE	**Manteigas**	**6.43**	**327**	P			**Pn**	**09 04 49.4**	**-0.4**
MTE					S		**Sn**	**09 05 58.4**	**-5.7**
	43nm,0.6s								
ETOS	**Mallorca**	**6.55**	**43**	P			**Pn**	**09 04 50.0**	**-1.5**
	13nm,0.5s,SNR=7.9								
ETOS					S		**Sn**	**09 06 03.3**	**-3.8**
	5.2nm,0.3s,SNR=7.9								
ETOS	**Mallorca**	**6.55**	**43**	P			**Pn**	**09 04 50.0**	**-1.5**
	16nm,0.5s,SNR=7.9								
PVIS	**Viseu**	**6.84**	**327**	*e*Pn			**Pn**	**09 04 54.9**	**-0.7**
PVIS					*e*Sn		**Sn**	**09 06 08.1**	**-6.3**
	24nm,0.5s								
PVIS	**Viseu**	**6.84**	**327**	P			**Pn**	**09 04 54.9**	**-0.7**
PVIS					S		**Sn**	**09 06 08.1**	**-6.3**
	12nm,0.5s								
SET	**Setif**	**6.90**	**78**	P			**Pn**	**09 05 03.0**	**+6.7**
ESAC	**San Caprasio**	**6.91**	**16**	P			**Pn**	**09 04 56.9**	**+0.4**
	4.0nm,0.2s,SNR=7.9								
ESAC	**San Caprasio**	**6.91**	**16**	P			**Pn**	**09 04 56.9**	**+0.4**
	5.5nm,0.3s,SNR=7.9								
CKHR	**Kef el Ahmar**	**6.97**	**80**	P			**Pn**	**09 05 08.0**	**+11**
EPOB	**Poblet**	**7.02**	**26**	P			**Pn**	**09 04 58.2**	**+0.1**
	3.1nm,0.3s,SNR=7.9								
EPOB					S		**Sn**	**09 06 15.2**	**-3.6**
	4.9nm,0.5s								
EPOB	**Poblet**	**7.02**	**26**	P			**Pn**	**09 04 58.2**	**+0.1**
	3.2nm,0.3s,SNR=7.9								
PVRL	**Vila Real**	**7.23**	**330**	*e*Pn			**Pn**	**09 05 00.4**	**-0.6**
PVRL					*e*Sn		**Sn**	**09 06 17.3**	**-6.7**
	64nm,0.6s								
PVRL	**Vila Real**	**7.23**	**330**	P			**Pn**	**09 05 00.4**	**-0.6**
PVRL					S		**Sn**	**09 06 17.3**	**-6.7**
	32nm,0.6s								
CMER	**Merouana**	**7.26**	**83**	P			**Pn**	**09 05 07.0**	**+5.6**
DFRA	**Djebel Bou Aff**	**7.33**	**76**	P			**Pn**	**09 05 13.0**	**+11**
PBRG	**Braganca**	**7.34**	**337**	*e*Pn			**Pn**	**09 05 01.8**	**-0.7**
PBRG					*e*Sn		**Sn**	**09 06 19.9**	**-6.8**
	29nm,0.6s								
PBRG	**Braganca**	**7.34**	**337**	P			**Pn**	**09 05 01.8**	**-0.7**
PBRG					S		**Sn**	**09 06 19.9**	**-6.8**
	14nm,0.6s								
ECAL	**Calabor**	**7.46**	**338**	P			**Pn**	**09 05 03.8**	**-0.5**
	8.8nm,0.3s,SNR=7.9								
ECAL					S		**Sn**	**09 06 22.5**	**-7.3**
	45nm,0.7s,SNR=7.9								
ECAL	**Calabor**	**7.46**	**338**	P			**Pn**	**09 05 03.8**	**-0.5**
	13nm,0.3s,SNR=7.9								
CASM	**Ain Smara**	**7.78**	**79**	P			**Pn**	**09 05 14.0**	**+5.3**
ELOB	**Lobios**	**7.87**	**331**	P			**Pn**	**09 05 08.9**	**-1.1**
	20nm,0.4s,SNR=7.9								
ELOB					S		**Sn**	**09 06 33.5**	**-6.5**
	30nm,0.6s,SNR=7.9								
ELOB	**Lobios**	**7.87**	**331**	P			**Pn**	**09 05 08.9**	**-1.0**
	37nm,0.5s,SNR=7.9								
EBIE	**Bielsa**	**7.97**	**17**	P			**Pn**	**09 05 11.8**	**+0.5**
	2.0nm,0.3s,SNR=7.9								
EBIE					S		**Sn**	**09 06 37.5**	**-5.0**
	1.7nm,0.3s,SNR=7.9								
EBIE	**Bielsa**	**7.97**	**17**	P			**Pn**	**09 05 11.8**	**+0.5**
	0.7nm,0.3s,SNR=7.9								
CKFL	**Kef-Lekhel**	**7.98**	**78**	P			**Pn**	**09 05 14.0**	**+2.5**
ERUA	**La Rua**	**8.00**	**337**	P			**Pn**	**09 05 11.5**	**-0.3**
	21nm,0.4s,SNR=14								
ERUA					S		**Sn**	**09 06 38.0**	**-5.2**
	37nm,0.7s,SNR=7.9								
ETSF	**Etsaut**	**8.03**	**13**	*e*Pn			**P**	**09 05 12.0**	**-0.1**
ETSF					*e*Sn		**Sn**	**09 06 38.9**	**-5.0**
	4.7nm,0.5s								
SJPF	**Ste Jean**	**8.13**	**9**	*e*Pn			**P**	**09 05 14.1**	**+0.5**
SJPF					*e*Sn		**Sn**	**09 06 41.2**	**-5.4**
	23nm,0.7s								
ELAN	**Lanestosa**	**8.15**	**358**	P			**P**	**09 05 13.6**	**-0.2**
ELAN					S		**Sn**	**09 06 42.6**	**-4.3**
ELAN	**Lanestosa**	**8.15**	**358**	P			**P**	**09 05 13.6**	**-0.2**
	2.2nm,0.3s,SNR=7.9								
ELAN					S		**Sn**	**09 06 42.6**	**-4.3**
	6.7nm,0.6s,SNR=7.9								
EALK	**Alkurruntz**	**8.20**	**7**	P			**P**	**09 05 14.3**	**-0.3**
	6.9nm,0.4s,SNR=7.9								
EALK					S		**Sn**	**09 06 42.6**	**-5.7**
	27nm,0.6s								
MELF	**Melles**	**8.30**	**19**	P			**P**	**09 05 17.3**	**+1.3**
EINC	**Incio**	**8.30**	**337**	P			**P**	**09 05 15.7**	**-0.3**
EINC					S		**Sn**	**09 06 43.5**	**-7.3**
EINC	**Incio**	**8.30**	**337**	P			**P**	**09 05 15.7**	**-0.3**
	8.0nm,0.3s,SNR=9.8								
EINC					S		**Sn**	**09 06 44.3**	**-6.6**
	12nm,0.6s,SNR=7.9								
EINC	**Incio**	**8.30**	**337**	P			**P**	**09 05 15.7**	**-0.3**
EPF	**Esparros**	**8.34**	**17**	*e*Pn			**P**	**09 05 17.0**	**+0.5**
EPF					*e*Sn		**Sn**	**09 06 47.0**	**-4.8**
	7.6nm,0.5s								
EZAM	**Zamans**	**8.36**	**329**	P			**P**	**09 05 16.3**	**-0.5**
	4.4nm,0.2s,SNR=7.9								
EZAM					S		**Sn**	**09 06 46.4**	**-5.8**
	14nm,0.5s,SNR=7.9								
EARI	**Arriondas**	**8.39**	**349**	P			**P**	**09 05 16.6**	**-0.6**
	12nm,0.5s,SNR=7.9								
EARI	**Arriondas**	**8.39**	**349**	P			**P**	**09 05 16.6**	**-0.6**
MLS	**Moulis**	**8.47**	**21**	P			**P**	**09 05 19.8**	**+1.4**
CMAH	**Djebel Manchou**	**8.57**	**77**	P			**P**	**09 05 19.0**	**-0.7**
EPON	**Pontenova**	**8.85**	**340**	P			**P**	**09 05 23.3**	**-0.3**
	4.9nm,0.2s,SNR=7.9								
EPON	**Pontenova**	**8.85**	**340**	P			**P**	**09 05 23.3**	**-0.3**
EMAZ	**Mazaricos**	**9.14**	**331**	P			**P**	**09 05 27.0**	**-0.7**
	2.0nm,0.1s,SNR=7.9								
EMAZ					S		**Sn**	**09 07 02.8**	**-8.9**
	8.3nm,0.5s,SNR=7.9								
LASF	**Ste Croix**	**10.40**	**28**	*e*Pn			**P**	**09 05 43.9**	**-1.1**
CAF	**Calviac**	**10.56**	**20**	*e*Pn			**P**	**09 05 46.5**	**-0.6**
VSL	**Villasalto**	**10.77**	**62**	P			**P**	**09 05 45.1**	**-4.9**
LMR	**La Mourre**	**11.03**	**39**	*e*Pn			**P**	**09 05 52.2**	**-1.4**
PGF	**Pioggiola**	**11.93**	**48**	*e*Pn			**P**	**09 06 06.0**	**+0.2**
QUIF	**Quistinic**	**12.82**	**359**	*e*Pn			**P**	**09 06 16.7**	**-1.0**
SGMF	**Saint Gilles**	**13.16**	**1**	*e*Pn			**P**	**09 06 21.3**	**-1.0**
ROSF	**Rostrenen**	**13.25**	**359**	*e*Pn			**P**	**09 06 22.2**	**-1.1**
ROBS	**Robic**	**16.71**	**43**	*e*P			**P**	**09 07 12.6**	**+4.3**
JAVS	**Javornik**	**16.82**	**45**	*e*P			**P**	**09 07 14.6**	**+4.8**
VISS	**Visnje**	**17.23**	**46**	*e*P			**P**	**09 07 19.1**	**+4.2**
MORC	**Moravsky Berou**	**20.99**	**39**	*e*P			**P**	**09 07 54.7**	**-3.7**
MORC						pmax	pmax		
	comp=Z,7.0nm,1.1s								
MORC	**Moravsky Berou**	**20.99**	**39**	*e*P			**P**	**09 07 54.7**	**-3.7**
	comp=Z,6.8nm,1.1s								
PSZ	**Piszkesteto**	**21.29**	**46**	P			**P**	**09 07 59.3**	**-2.2**
PSZ						pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0								
PSZ	**Piszkesteto**	**21.29**	**46**	P			**P**	**09 07 59.3**	**-2.2**
	comp=Z,7.0nm,0.8s,mb4.0								
PSZ	**Piszkesteto**	**21.29**	**46**	P			**P**	**09 07 59.3**	**-2.2**
	comp=Z,7.0nm,0.8s,mb4.0								
CHKZ	**Chkalovo**	**53.28**	**45**	P			**P**	**09 12 30.1**	**-3.5**
CHKZ						pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0								
CHKZ	**Chkalovo**	**53.28**	**45**	P			**P**	**09 12 30.1**	**-3.5**
	comp=Z,1.9nm,0.9s,mb4.0								

MEX 22 09:34:56.5±0.3,**16.03N**×**97.17W,h9**km±12km,**MD3.8, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.06**	**104**	*i* P	Pb	09 35 13.7	-2.8
HUIG				*i* S	Sb	09 35 27.2	-3.0
VHO	**Vista Hermosa**	**1.11**	**22**	*i* P	Pb	09 35 14.8	-2.8
VHO				*i* S	Sb	09 35 28.7	-3.3
CMIG	**Matias Romero**	**2.43**	**64**	*i* P	Pn	09 35 33.0	-4.1
CMIG				*i* S	Sn	09 36 02.6	-4.7

*MOS **22** 09:38:25.6±0.8, 13.04N×92.50E, h33km, mb5.4/79, MS4.3/7, Error ellipse: s-maj=9.7km s-min=4.0km az=125.0*

*BJI **22** 09:38:26.9, 13.02N×92.44E, h48km, mB5.2, mb4.9, Ms4.4, Msz4.2*

*IDC **22** 09:38:27.8±0.4, 12.96N×92.51E, h37km±2km, mb4.9/23, mb1 4.9/23, mb1mx4.8/25, mbtmp5.1/23, MS4.4/13, Ms1 4.4/13, ms1mx4.2/20, Error ellipse: s-maj=16.0km s-min=7.6km az=47.0*

*NEIC **22** 09:38:28.3±0.1, 13.06N×92.48E, mb5.2/84, MS4.5/40, Error ellipse: s-maj=4.4km s-min=2.7km az=215.0*

*HRVD **22** 09:38:28.3±0.3, 13.08N×92.57E, h32km±1km, MW5.0/59, Centroid moment Tensor Solution. LP body waves: s23,c36;Mantle waves: s59,c96; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.04±.20; Mθθ-0.34±.13; Mϕϕ2.38±.14; Mrθ-0.94±.17; Mθϕ2.36±.10; Mϕr-1.77±.21; Best double couple: M0 3.521×10^16^ NP1:ϕs216°,δ28°, λ-82°. NP2:ϕs27°, δ62°, λ-94°. Principal axes: T 4.371, Plg17°, Azm120°; N -1.697, Plg4°, Azm29°; P -2.671, Plg72°, Azm287°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 22 09:38:26.4±0.2,**13.01N**±0.03×**92.45E**±0.02,**h38**km, **h38**km±.5km:**pP-P,n436,**σ0**95**/420,**mb5.1**/129,**MS4.4**/68, **41C-39D,Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNT	**Nongplab**	**7.12**	**93**	P	**P**	**09 40 11.8**	**+1.1**
BDT	**Bhumibol Dam**	**7.60**	**56**	P	**P**	**09 40 15.0**	**-2.3**
	84nm,0.9s						
NST	**Nakhon Sawan**	**7.90**	**70**	P	**P**	**09 40 19.8**	**-1.7**
	68nm,0.5s						
CM31	**Chiang Mai Arr**	**8.27**	**48**	*e*P	**P**	**09 40 23.5**	**-3.1**
CHG	**Chiang Mai**	**8.50**	**46**	PG	**P**	**09 40 28.1**	**-1.8**
CHG				SG	**S**	**09 41 55.7**	**-10**
BWNR	**Bhubaneshwar**	**9.64**	**320**	*e*P	**P**	**09 40 43.7**	**-2.0**
BWNR				AMb	AMB	09 40 45.2	
	comp=Z,883nm,1.1s						
BWNR				*e*S	**S**	**09 42 21.1**	**-13**
BWNR				*e*		09 42 26.5	
	comp=N,1μm,0.4s						
BWNR				*e*		09 42 26.8	
	comp=E,4μm,0.2s						
CHRT	**Chiangrai**	**9.79**	**45**	⇑P	**P**	**09 40 48.5**	**+0.7**
	comp=E,382nm,0.9s						
SNG	**Songkhla**	**9.91**	**125**	P	**P**	**09 40 51.5**	**+2.0**
	comp=E,590nm,0.9s						
VIS	**Vishakhapatnam**	**9.96**	**299**	*e*P	**P**	**09 40 48.0**	**-2.2**
VIS				*e*S	**S**	**09 42 28.6**	**-13**
VIS				*e*		09 42 31.9	
	comp=N,2μm,0.4s						
VIS				*e*		09 42 32.0	
	comp=E,1μm,0.2s						
CAL	**Calcutta**	**10.25**	**338**	*e*	**P**	**09 40 42.0**	**-12**
CAL				*e*		09 43 35.0	
KULM	**Kulim**	**11.15**	**133**	*e*P	**P**	**09 41 07.6**	**+1.2**
MDRS	**Chennai**	**11.89**	**272**	*e*	**P**	**09 41 16.0**	**-0.4**
MDRS				*e*		09 43 15.0	
IPM	**Ipoh**	**11.91**	**134**	P	**P**	**09 41 18.2**	**+1.5**
BOK	**Bokaro**	**12.40**	**331**	*i* P	**P**	**09 41 21.2**	**-2.0**
BOK				*i* S	**S**	**09 43 26.6**	**-14**
SHL	**Shillong**	**12.50**	**358**	*e*	**P**	**09 41 19.0**	**-5.6**
SHL				*e*S	**S**	**09 43 29.0**	**-14**
BLSP	**Bilaspur**	**13.37**	**314**	*e*P	**P**	**09 41 34.6**	**-1.5**
BLSP				*e*S	**S**	**09 43 48.5**	**-16**
BLSP				*e*		09 44 36.9	
	comp=N,408nm,0.6s						
BLSP				*e*		09 44 38.6	
	comp=E,266nm,0.7s						
HYB	**Hyderabad**	**14.11**	**290**	*e*P	**P**	**09 41 44.0**	**-1.9**
HYB				*e*S	**S**	**09 44 20.0**	**-2.0**
HYB	**Hyderabad**	**14.11**	**290**	*i* P	**P**	**09 41 44.0**	**-1.9**
HYB				*e*		09 41 55.0	
HYB				*e*S	**S**	**09 44 20.0**	**-2.0**
KGM	**Kluang**	**15.33**	**135**	P	**P**	**09 42 07.2**	**+5.3**
KMI	**Kunming**	**15.47**	**37**	⇑P	**P**	**09 42 05.6**	**+2.0**
KMI				AP		09 42 13.3	
KMI				PP	PP	09 42 18.0	+2.0
KMI				XP		09 42 19.0	
KMI				S	**S**	**09 44 56.3**	**+2.3**
KMI				XS		09 45 08.5	
KMI				SS	SS	09 45 15.1	+2.5
KMI				AMB	AMB		
	comp=Z,20nm,1.2s						
KMI				AMB	AMB		
	comp=Z,85nm,3.3s						
KMI				LR	LR		
	comp=N,611nm,16.2s						
KMI				LR	LR		
	comp=E,643nm,16.2s						
KMI				LR	LR		
	comp=Z,628nm,15.5s						
JIRN	**Jiri**	**15.71**	**339**	*e*P	**P**	**09 42 05.6**	**-1.0**
PKI	**Pulchoki**	**15.91**	**337**	*e*P	**P**	**09 42 08.2**	**-1.0**
	comp=Z,96nm,0.4s						
GUN	**Gumba**	**16.04**	**339**	*e*P	**P**	**09 42 10.9**	**0.0**
	comp=Z,129nm,0.7s						
DMN	**Daman**	**16.07**	**336**	*e*P	**P**	**09 42 10.7**	**-0.5**
	comp=Z,210nm,0.7s						
KKN	**Kakani**	**16.16**	**337**	*e*P	**P**	**09 42 12.1**	**-0.2**
	comp=Z,121nm,0.7s						
LATR	**Latur**	**16.21**	**291**	*e*P	**P**	**09 42 14.1**	**+1.1**
LATR				*e*		09 44 55.9	
GKN	**Gorkha**	**16.60**	**335**	*e*P	**P**	**09 42 16.8**	**-1.1**
	comp=Z,178nm,0.6s						
AKL	**Akola**	**16.63**	**299**	*e*P	**P**	**09 42 18.0**	**-0.3**
LSA	**Lhasa**	**16.65**	**356**	P	**P**	**09 42 19.3**	**+0.8**
LSA				XP		09 42 33.6	
LSA				AMB	AMB		
	comp=Z,30nm,1.4s						
LSA				LR	LR		
	comp=N,820nm,25.0s						
LSA				LR	LR		
	comp=E,620nm,23.0s						
LSA				LR	LR		
	comp=Z,330nm,23.0s						
LSA	**Lhasa**	**16.65**	**356**	*e*P	**P**	**09 42 19.0**	**+0.5**
LSA				pmax	pmax		
	comp=Z,86nm,0.7s						
LSA	**Lhasa**	**16.65**	**356**	*e*P	**P**	**09 42 19.0**	**+0.5**
	comp=Z,86nm,0.7s						
KOLN	**Koldanda**	**16.85**	**332**	*e*P	**P**	**09 42 20.2**	**-0.9**
	comp=Z,256nm,0.8s						
MNGI	**Mangalore**	**17.18**	**272**	*i* P	**P**	**09 42 29.8**	**+4.5**
MNGI				*i*		09 45 21.9	
BHPL	**Bhopal**	**17.52**	**308**	*e*P	**P**	**09 42 29.9**	**+0.4**
BHPL				*e*		09 42 42.9	
	comp=Z,293nm,0.9s						
BHPL				*e*		09 45 29.8	
BHPL				*e*S	**S**	**09 45 41.6**	**+0.5**
QIZ	**Qiongzhong**	**17.75**	**68**	P	**P**	**09 42 33.6**	**+1.2**
QIZ				S	**S**	**09 45 46.6**	**+0.2**
QIZ				AMB	AMB		
	comp=Z,26nm,1.0s						
QIZ				LR	LR		
	comp=N,557nm,20.2s						
QIZ				LR	LR		
	comp=E,483nm,18.7s						
QIZ				LR	LR		
	comp=Z,755nm,19.5s						
QIZ	**Qiongzhong**	**17.75**	**68**	*e*P	**P**	**09 42 33.0**	**+0.6**
	comp=Z,14nm,0.6s						
KAD	**Karad**	**18.14**	**286**	*e*P	**P**	**09 42 37.4**	**+0.1**
KAD				*e*		09 45 42.8	
	comp=Z,130nm,1.3s						
KAD				*e*S	**S**	**09 45 57.5**	**+2.3**
GOA	**Goa**	**18.22**	**280**	*e*P	**P**	**09 42 37.4**	**-0.9**
GOA				*e*		09 45 44.1	
POO	**Poona**	**18.72**	**289**	*e*P	**P**	**09 42 45.9**	**+1.6**
POO				*e*		09 43 01.1	
	comp=Z,154nm,1.3s						
POO				*e*		09 45 54.2	
POO				*e*S	**S**	**09 46 12.8**	**+4.6**
GYA	**Guiyang**	**18.89**	**43**	⇑*i*P	**P**	**09 42 45.9**	**-0.5**
GYA				AP		09 42 55.3	
GYA				PP	PP	09 43 02.5	-0.3
GYA				S	**S**	**09 46 14.0**	**+1.9**
GYA				XS		09 46 25.5	
GYA				AMB	AMB		
	comp=Z,30nm,0.7s						
GYA				AMB	AMB		
	comp=Z,270nm,5.1s						
GYA				LR	LR		
	comp=N,730nm,15.5s						
GYA				LR	LR		
	comp=E,360nm,12.8s						
GYA				LR	LR		
	comp=Z,860nm,15.2s						
BOM	**Bombay**	**19.76**	**290**	*e*	**P**	**09 43 00.1**	**+4.0**
BOM				*e*		09 46 21.2	
LGTI	**Lohaghat**	**19.90**	**327**	*e*P	**P**	**09 42 59.0**	**+1.5**
LGTI				*e*		09 46 51.5	
PTH	**Pithoragarh**	**19.99**	**327**	*e*P	**P**	**09 42 59.8**	**+1.3**
PTH				*e*		09 46 21.2	
CD2	**Chengdu**	**20.64**	**29**	P	**P**	**09 43 04.4**	**-0.9**
CD2				S	**S**	**09 46 48.8**	**-0.1**
CD2				AMB	AMB		
	comp=Z,110nm,1.2s						
CD2				AMB	AMB		
	comp=Z,280nm,10.8s						
CD2				LR	LR		
	comp=E,470nm,16.8s						
CD2				LR	LR		
	comp=Z,390nm,18.0s,MS3.8						
KSM	**Kuching**	**21.07**	**122**	*e*P	**P**	**09 43 09.2**	**-0.7**
NDI	**New Delhi**	**21.08**	**320**	*e*P	**P**	**09 43 10.0**	**+0.3**
NDI				*e*		09 46 50.0	
AJM	**Ajmer**	**21.42**	**311**	*i* P	**P**	**09 43 13.0**	**-0.2**
DDI	**Dehra Dun**	**21.77**	**325**	*e*P	**P**	**09 43 18.4**	**+1.7**
DDI				*e*S	**S**	**09 47 12.0**	**+1.8**
SMLA	**Simla**	**22.88**	**324**	*i*	**P**	**09 43 25.8**	**-1.9**
SMLA				*i*		09 47 30.3	
SDNR	**Sundarnagar**	**23.27**	**325**	⇓*i*P	**P**	**09 43 33.7**	**+2.2**
SDNR				*e*S	**S**	**09 47 42.1**	**+4.8**
ENH	**Enshi**	**23.31**	**40**	*e*P	**P**	**09 43 31.2**	**-0.6**
	comp=Z,136nm,1.1s,mb5.3						
ENH				*e*		09 43 40.8	
ENH				LR	LR		
	comp=Z,623nm,19.0s,MS4.1						
BHK	**Bhakra**	**23.52**	**324**	*e*P	**P**	**09 43 38.6**	**+4.7**
BHK				*e*		09 47 47.6	
PONG	**Pong**	**24.18**	**324**	*e*P	**P**	**09 43 41.0**	**+0.6**
PONG				*e*		09 48 36.0	
KKM	**Kota Kinabalu**	**24.42**	**104**	*e*P	**P**	**09 43 43.4**	**+0.5**
KKM	**Kota Kinabalu**	**24.42**	**104**	P	**P**	**09 43 43.7**	**+0.8**
THN	**Thein Dam**	**24.67**	**324**	*e*P	**P**	**09 43 44.4**	**-0.7**
	baz=0.6						
THN				*e*		09 48 18.1	
LZH	**Lanzhou**	**25.16**	**22**	⇑P	**P**	**09 43 50.6**	**+0.8**
LZH				AP	pP	09 44 02.3	+2.2
LZH				XP	sP	09 44 06.4	+1.9
LZH				AMB	AMB		
	comp=Z,200nm,1.1s,mb5.6						
LZH				AMB	AMB		
	comp=Z,480nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,17.6s						
LZH				LR	LR		
	comp=Z,2μm,20.8s,MS4.6						
XAN	**Xi'an**	**25.74**	**33**	P	**P**	**09 43 53.8**	**-1.4**
XAN				S	**S**	**09 48 22.8**	**+3.7**
XAN				AMB	AMB		
	comp=Z,49nm,0.8s,mb5.1						
XAN				LR	LR		
	comp=N,276nm,16.7s,MS4.1						
XAN				LR	LR		
	comp=E,392nm,16.3s,MS4.1						
XAN				LR	LR		
	comp=Z,360nm,19.6s,MS3.9						
WHN	**Wuhan**	**26.71**	**46**	*e*P	**P**	**09 44 08.0**	**+3.8**
GTA	**Gaotai**	**27.09**	**13**	⇓P	**P**	**09 44 08.1**	**+0.5**
GTA				AP	pP	09 44 17.6	-0.4
GTA				XP	sP	09 44 21.9	-0.8
GTA				PP	PP	09 44 55.4	+1.0
GTA				PCP	PcP	09 47 29.0	+0.8
GTA				S	**S**	**09 48 42.4**	**+1.2**
GTA				XS		09 48 58.8	
GTA				SS	SS	09 49 59.3	+2.0
GTA				PCS		09 51 09.3	
GTA				SCS	ScS	09 54 55.8	+1.9
GTA				AMB	AMB		
	comp=Z,57nm,1.1s,mb5.0						
GTA				AMB	AMB		
	comp=Z,192nm,4.9s						
GTA				LR	LR		
	comp=N,246nm,18.3s,MS4.0						
GTA				LR	LR		
	comp=E,287nm,16.3s,MS4.0						
GTA				LR	LR		
	comp=Z,298nm,17.1s,MS3.9						
QZH	**Quanzhou**	**27.36**	**60**	⇑*i*P	**P**	**09 44 11.1**	**+0.8**
QZH				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.1						
TATO	**Taipei**	**29.85**	**62**	PFAKE		09 44 40.0	+7.5
TATO				LR	LR		
	comp=Z,437nm,19.0s,MS4.1						
KSH	**Kashi**	**30.15**	**334**	P	**P**	**09 44 35.8**	**+0.8**
KSH				*e*AP	pP	09 44 46

SSE Sheshan 31.99 51 P **P** **09 44 47.9 -3.5**
SSE S **S** **09 50 00.6 +1.4**
SSE AMB AMB
comp=Z,20nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,91nm,3.8s
SSE LR LR
comp=N,272nm,27.6s,MS3.9
SSE LR LR
comp=E,167nm,27.4s,MS3.9
SSE LR LR
comp=Z,290nm,16.9s
ULHL Ulahol 32.35 337 P **P** **09 44 54.8 +0.4**
SNR=10
KZA Kyzart 32.59 336 P **P** **09 44 57.1 +0.6**
SNR=39
UCH Uchtor 33.02 335 P **P** **09 45 01.1 +0.9**
SNR=40
TKM2 Tokmak 2 33.17 337 P **P** **09 45 01.4 -0.1**
SNR=20
AML Almayashu 33.28 334 P **P** **09 45 03.5 +1.1**
SNR=62
AAK Ala-Archa 33.36 336 P **P** **09 45 04.3 +1.2**
SNR=25
AAK Ala-Archa 33.36 336 P **P** **09 45 03.6 +0.4**
comp=Z,212nm,0.9s,mb6.1,SNR=50
AAK Ala-Archa 33.36 336 P **P** **09 45 04.2 +1.0**
AAK pmax pmax
comp=Z,53nm,1.2s,mb5.3
AAK Ala-Archa 33.36 336⇓*iP* **P** **09 45 03.0 -0.2**
comp=Z,38nm,0.9s,mb5.3
AAK LR LR
comp=Z,208nm,22.0s,MS3.8
FRU Bishkek 33.48 336 *e*P **P** **09 45 05.5 +1.3**
FRU pmax pmax
comp=Z,60nm,1.8s,mb5.2
CHMS Chumysh 33.57 336 P **P** **09 45 05.3 +0.4**
SNR=15
EKS2 Erkin-Say 33.68 335 P **P** **09 45 07.1 +1.2**
SNR=45
USP Ospenovka 33.89 336 P **P** **09 45 08.2 +0.5**
SNR=62
JMDO Jabal Madar 33.95 291⇓P **P** **09 45 11.2 +2.8**
BJT Baijiatuau 34.05 33⇓*eP* **P** **09 45 09.1 0.0**
BJT *e**PP pP 09 45 19.3 -0.5
BJT pmax pmax
comp=Z,32nm,0.7s
BJT MLR MLR
comp=Z,543nm,22.0s
BJT Baijiatuau 34.05 33⇓*eP* **P** **09 45 09.1 0.0**
comp=Z,32nm,0.7s,mb5.4
BJT *e*pP pP 09 45 19.3 -0.5
BJT LR LR
comp=Z,543nm,22.0s,MS4.2
BJI Beijing 34.07 33 P **P** **09 45 09.5 +0.2**
BJI AP pP 09 45 20.1 +0.1
BJI S **S** **09 50 26.6 -4.7**
BJI AMB AMB
comp=Z,36nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,185nm,3.8s
BJI LR LR
comp=N,194nm,18.4s,MS4.2
BJI LR LR
comp=E,360nm,18.4s,MS4.2
BJI LR LR
comp=Z,337nm,20.7s,MS4.1
BIDO Bidbid 34.15 293⇓P **P** **09 45 13.3 +3.2**
MKAR Makanchi Array 34.74 348 *i*P **P** **09 45 14.9 -0.1**
SHAO Shalim 35.79 283⇑P **P** **09 45 27.3 +3.1**
ASHO Ashiyiah 36.23 294⇓P **P** **09 45 30.8 +3.0**
SNR=8.3
JOW Kunigami 36.24 62 P **P** **09 45 28.0 +0.1**
comp=Z,8.7nm,0.3s,mb5.1,baz=318,slow=23,SNR=6.0
BANOM Banah 36.30 296⇑P **P** **09 45 31.1 +2.7**
SNR=6.6
SONM Songino Array 36.62 16 P **P** **09 45 31.2 +0.3**
comp=Z,21nm,0.7s,mb5.1,baz=205,slow=6.2,SNR=146
SONM pP pP 09 45 41.7 0.0
comp=Z,20nm,1.0s,baz=203,slow=9.4,SNR=11
SONM PcP PcP 09 47 52.5 -1.3
comp=Z,3.8nm,0.8s,baz=198,slow=3.7,SNR=4.5
ULN Ulaanbaatar 36.82 16⇓*iP* **P** **09 45 32.5 -0.1**
ULN *e**PP pP 09 45 43.5 +0.1
ULN pmax pmax
comp=Z,24nm,1.1s,mb4.9
ULN MLR MLR
comp=Z,268nm,20.0s,MS4.0
ULN Ulaanbaatar 36.82 16⇓*iP* **P** **09 45 32.5 -0.1**
comp=Z,24nm,1.1s,mb4.9
ULN *e*pP pP 09 45 43.5 +0.1
ULN LR LR
comp=Z,268nm,20.0s,MS4.0
WHFO Wadi Hawf 37.55 282 P **P** **09 45 41.3 +2.3**
SNR=32
ZAK Zakamensk 38.30 11⇑*iP* **P** **09 45 45.2 +0.2**
ZAK *e* 09 47 59.2
ZAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
INCN Inchon 39.02 45 PFAKE 09 46 00.0 +9.0
INCN LR LR
comp=Z,935nm,19.0s,MS4.6
MOY Mondy 39.17 8 *eP* **P** **09 45 53.1 +1.0**
MOY pmax pmax
comp=Z,28nm,2.3s,mb4.6
KURK Kurchatov 39.26 346*d iP* **P** **09 45 52.4 -0.5**
KURK pmax pmax
comp=Z,42nm,1.1s,mb5.1
KURK Kurchatov 39.26 346⇓*iP* **P** **09 45 52.8 0.0**
comp=Z,54nm,0.9s,mb5.3
KURK LR LR
comp=Z,155nm,19.0s,MS3.9
SNY Shenyang 39.45 37⇓P **P** **09 45 54.5 -0.1**
TLY Talaya 39.61 11 *eP* **P** **09 45 56.4 +0.6**
TLY *e*S **S** **09 52 04.8 +8.8**
TLY pmax pmax
comp=Z,24nm,1.0s,mb4.9
TLY MLR MLR
comp=Z,176nm,20.0s,MS3.9
TLY Talaya 39.61 11⇓*iP* **P** **09 45 57.1 +1.3**
comp=Z,26nm,0.9s,mb5.0
TLY LR LR
comp=Z,59nm,21.0s,MS3.4
KS15 Wonju Array Si 39.87 46 *eP* **P** **09 45 58.1 0.0**
KS15 *e* pP 09 46 08.5 -0.5
IRK Irkutsk 40.27 11 *eP* **P** **09 46 01.8 +0.5**
IRK pmax pmax
comp=Z,40nm,1.0s,mb5.1
ZAL Zalesovo 41.27 353 P **P** **09 46 09.5 -0.1**
comp=Z,24nm,0.9s,mb4.8,baz=302,slow=7.8,SNR=104
ZAL LR LR 10 08 15.1
comp=Z,241nm,18.3s,MS4.1,baz=293,slow=43
CN2 Changchun 41.74 36 *eP* **P** **09 46 13.8 +0.3**
CN2 *e*AP pP 09 46 24.3 -0.1
CN2 PCP PcP 09 48 09.9 -0.2
CN2 *e*S **S** **09 52 28.1 +0.3**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,14.0s,MS4.5
CN2 LR LR
comp=E,300nm,14.0s,MS4.5
CN2 LR LR
comp=Z,400nm,16.0s,MS4.4
NVS Novosibirsk 42.35 352 *eP* **P** **09 46 16.8 -1.6**
NVS *e* 09 46 30.9
NVS *e*S **S** **09 52 30.3 -6.3**
NVS pmax pmax
comp=Z,36nm,1.2s,mb4.9
NVS pmax pmax
comp=N,33nm,1.4s
NVS smax
comp=E,12nm,1.5s
HIA Hailar 42.57 26 PFAKE 09 46 30.0 +10
HIA LR LR
comp=Z,326nm,20.0s,MS4.2
MBWA Marble Bar 43.26 141 PFAKE 09 46 40.0 +14
MBWA LR LR
comp=Z,331nm,20.0s,MS4.2
BVA0 Borovoye Array 43.62 341 *i* P **P** **09 46 28.4 -0.3**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
BVAR Borovoye Array 43.62 341 P **P** **09 46 28.5 -0.3**
comp=Z,15nm,0.8s,mb4.8,baz=135,slow=8.4,SNR=66
CHKZ Chkalovo 44.10 341⇓*iP* **P** **09 46 32.6 0.0**
CHKZ *e* pP 09 46 44.3 +0.7
CHKZ pmax pmax
comp=Z,62nm,0.6s,mb5.5
CHKZ Chkalovo 44.10 341⇓*iP* **P** **09 46 32.6 0.0**
comp=Z,62nm,0.6s,mb5.5
CHKZ *e* pP 09 46 44.3 +0.7
MDJ Mudanjiang 44.64 38 P **P** **09 46 37.1 0.0**
MDJ PCP PcP 09 48 19.3 -0.5
MDJ PCS 09 52 13.1
MDJ S **S** **09 53 13.5 +3.4**
MDJ AMB AMB
comp=Z,12nm,2.2s,mb4.3
MDJ AMB AMB
comp=Z,162nm,5.3s
MDJ LR LR
comp=N,169nm,27.0s,MS3.9
MDJ LR LR
comp=E,81nm,27.8s,MS3.9
MDJ LR LR
comp=Z,190nm,19.6s
MDJ Mudanjiang 44.64 38 PFAKE
MDJ LR LR 09 46 50.0 +13
comp=Z,243nm,19.0s,MS4.2
FITZ Fitzroy Crossi 45.03 133⇑*iP* **P** **09 46 39.8 -0.7**
comp=Z,96nm,0.9s,mb5.6
FITZ *e*pP pP 09 46 50.9 -0.6
RAYN Ar Rayn 45.61 290 P **P** **09 46 46.7 +1.6**
comp=Z,82nm,1.2s,SNR=15
MAJO Matsushiro 47.13 52 PFAKE
MAJO LR LR 09 47 10.0 +13
comp=Z,481nm,19.0s,MS4.5
MAT Matsushiro 47.13 52 P **P** **09 46 57.0 +0.1**
MAT pmax pmax
comp=Z,20nm,1.0s,mb5.0
MAT Matsushiro 47.13 52 P **P** **09 46 57.0 +0.1**
comp=Z,20nm,1.0s,mb5.0
KAKA Kakadu 47.17 121⇑*iP* **P** **09 46 56.1 -1.4**
comp=Z,6.6nm,0.7s,mb4.7
BOD Bodaibo 47.61 15 *eP* **P** **09 46 59.9 -0.5**
BOD pmax pmax
comp=Z,40nm,1.2s,mb5.3
KLR Kul'dur 48.44 34 *eP* **P** **09 47 03.0 -4.0**
KLR MLR MLR
comp=N,1µm,20.0s,MS4.8
KLR MLR MLR
comp=E,500nm,20.0s,MS4.8
GNI Garni 49.73 312 PFAKE
GNI LR LR 09 47 30.0 +13
comp=Z,368nm,20.0s,MS4.4
SVE Sverdlovsk 50.04 338⇓*iP* **P** **09 47 19.2 0.0**
SVE pmax pmax
comp=Z,40nm,1.4s,mb5.3
SVE MLR MLR
comp=E,100nm,16.0s
SVE MLR MLR
comp=Z,300nm,16.0s,MS4.4
MUN Mundaring 50.19 154 *eP* **P** **09 47 21.2 +0.5**
comp=Z,32nm,1.2s,mb5.2
MUN Mundaring 50.19 154 *eP* **P** **09 47 21.2 +0.5**
MUN pmax pmax
comp=Z,32nm,1.2s,mb5.2
TI2 Plekhanov 50.26 314 *iP* **P** **09 47 21.4 +0.3**
TI2 pmax pmax
comp=Z,80nm,1.0s,mb5.7
CLNS Chul'man 50.28 23 *eP* **P** **09 47 18.7 -2.3**
CLNS pmax pmax
comp=Z,54nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,27nm,1.0s
CLNS pmax pmax
comp=E,29nm,1.0s
ARU Arti 50.54 336 *iP* **P** **09 47 22.3 -0.7**
ARU Arti 50.54 336 *iPr* 09 47 22.3
ARU LR LR
comp=Z,170nm,22.0s,MS4.0
KLBR Kellerberrin 50.56 152 *eP* **P** **09 47 23.1 -0.4**
comp=Z,147nm,0.8s,mb6.0
GUMO Guam 50.93 83 PFAKE
GUMO LR LR 09 47 40.0 +14
comp=Z,635nm,19.0s,MS4.7
ZEI Tsey 51.21 315 *eP* **P** **09 47 29.8 +1.5**
ZEI *i**PP pP 09 47 38.4 -0.9
ZEI *i* 09 49 28.6
ZEI pmax pmax
comp=Z,27nm,1.0s,mb5.1
NWAO Narrogin (SRO) 51.45 153 P **P** **09 47 30.1 0.0**
comp=Z,31nm,0.8s,mb5.3,baz=321,slow=8.3,SNR=22
KIV Kislovodsk 52.45 316 *eP* **P** **09 47 38.3 +0.8**
KIV *e**PP pP 09 47 49.5 +0.9
KIV pmax pmax
comp=Z,66nm,0.8s,mb5.6
KIV Kislovodsk 52.45 316 *eP* **P** **09 47 38.3 +0.8**
comp=Z,66nm,0.8s,mb5.6
KIV *e*pP pP 09 47 49.5 +0.8
KIV LR LR
comp=Z,46nm,20.0s,MS3.5
WRA Warramunga Arr 52.64 128 P **P** **09 47 38.3 -1.0**
WRA *PP pP 09 47 48.9 -1.5
WRA 09 48 47.1
WRA S **S** **09 54 58.4 -4.1**
WRA Warramunga Arr 52.64 128 P **P** **09 47 38.3 -1.0**
comp=Z,33nm,0.9s,mb5.3,baz=306,slow=9.2,SNR=157
WRA pP pP 09 47 48.9 -1.5
comp=Z,14nm,0.7s,baz=306,slow=8.6,SNR=12
WRA PcP PcP 09 48 47.1 -1.8
comp=Z,1.2nm,0.4s,baz=316,slow=3.2,SNR=4.6
WRA pPcP 09 49 00.5
comp=Z,10nm,0.9s,baz=310,slow=3.5,SNR=9.9
WRA S **S** **09 54 58.4 -4.1**
comp=Z,4.8nm,1.1s,baz=296,slow=16,SNR=13
WRAB Tennant Creek 52.65 128 P **P** **09 47 38.0 -1.3**
comp=Z,272nm,1.3s,mb6.0,SNR=7.7
WRAB Tennant Creek 52.65 128⇑*iP* **P** **09 47 38.4 -0.9**
WRAB *e**PP pP 09 47 49.5 -0.9
WRAB pmax pmax
comp=Z,41nm,0.9s,mb5.4
WRAB MLR MLR
comp=Z,110nm,21.0s,MS3.9
WRAB Tennant Creek 52.65 128⇑*iP* **P** **09 47 38.4 -0.9**
comp=Z,41nm,0.9s,mb5.3
WRAB *e*pP pP 09 47 49.5 -0.9
WRAB LR LR
comp=Z,110nm,21.0s,MS3.9
WB2 Warramunga Arr 52.65 128⇑*iP* **P** **09 47 38.5 -0.9**
WB2 *e*pP pP 09 47 49.7 -0.8
WB2 *e*PCP PcP 09 49 00.8 +12
WB2 *e*S **S** **09 54 58.2 -4.4**
ASAJ Asahikawa 52.77 44 P **P** **09 47 40.4 +0.5**
comp=Z,10nm,0.8s,mb4.8,baz=259,slow=13,SNR=4.3
ELZG Elazig 53.56 308 *iP* **P** **09 47 45.5 -0.4**
YSS Yuzh-Sakhalins 53.88 41 *eP* **P** **09 47 45.0 -3.1**
YSS *e* pP 09 47 58.0 -1.3
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.2
YSS Yuzh-Sakhalins 53.88 41⇓*iP* **P** **09 47 48.6 +0.5**
MALT Malatya 53.95 308⇓*eP* **P** **09 47 48.9 +0.2**
MALT pmax pmax
comp=Z,35nm,1.2s,mb5.2
MALT Malatya 53.95 308⇓*eP* **P** **09 47 48.9 +0.1**
comp=Z,35nm,1.2s,mb5.2
ASF Jabal al Asfar 54.12 300 LR LR 10 14 53.7
comp=Z,358nm,18.3s,MS4.5,baz=118,slow=40
SOC Sochi 54.37 315 *eP* **P** **09 47 49.8 -1.9**
SOC *e* 09 48 48.7
SOC *e* 09 49 50.0
SOC *e*PPP PPP 09 50 58.6 -8.0
SOC *e*S **S** **09 55 23.2 -2.4**
SOC *e* 09 57 29.7
SOC *e*SS SS 09 59 07.2 -0.3
SOC *e*SSS SSS 10 01 11.7 +6.2
SOC pmax pmax
comp=Z,77nm,1.2s,mb5.5
SOC pmax pmax
comp=N,57nm,1.1s
SOC pmax pmax
comp=E,25nm,1.2s
SOC MLR MLR
comp=N,331nm,22.0s,MS4.5
SOC MLR MLR
comp=E,266nm,22.0s,MS4.5
SOC MLR MLR
comp=Z,356nm,22.0s,MS4.4
GZT Gaziantep 54.42 307 *iP* **P** **09 47 52.4 +0.2**
ASPA Alice Springs 54.51 132⇑*iP* **P** **09 47 52.2 -0.9**
ASPA *e*pP pP 09 48 03.3 -0.9
ASPA *i*PCP PcP 09 49 08.1 +12
ASPA *e*S **S** **09 55 25.2 -2.5**
ASPA *e*SCS ScS 09 57 37.1 +1.5
ASPA Alice Springs 54.51 132⇑*iP* **P** **09 47 52.2 -0.9**
ASPA *e**PP pP 09 48 03.3 -0.9
ASPA *e*S **S** **09 55 25.2 -2.5**
ASPA *e* 09 57 37.1
ASAR Alice Springs 54.51 132 P **P** **09 47 52.3 -0.8**
ASAR *PP pP 09 48 03.1 -1.2
ASAR S **S** **09 55 24.9 -2.9**
ASAR Alice Springs 54.51 132 P **P** **09 47 52.3 -0.8**
comp=Z,8.9nm,0.5s,mb5.1,baz=312,slow=7.1,SNR=168
ASAR pP pP 09 48 03.1 -1.2
comp=Z,7.1nm,0.4s,baz=309,slow=6.8,SNR=10
ASAR pPcP 09 49 07.8
comp=Z,16nm,1.1s,baz=310,slow=3.4,SNR=9.8
ASAR ScP 09 52 49.9
comp=Z,0.3nm,0.8s,baz=296,slow=3.9,SNR=4.1
ASAR S **S** **09 55 24.9 -2.9**
comp=Z,3.2nm,0.9s,baz=302,slow=13,SNR=13
ASAR LR LR 10 16 46.6
comp=Z,133nm,18.9s,MS4.0,baz=304,slow=42
KAHT Ahir Dag 55.01 307 *iP* **P** **09 47 56.2 -0.2**
FORT Forrest 55.38 142 *eP* **P** **09 47 59.2 -0.1**
comp=Z,1µm,1.0s
EIL Elat 55.53 297⇓*eP* **P** **09 48 00.2 -0.1**
comp=Z,17nm,0.7s,mb5.2
YAK Yakutsk 55.73 20 *eP* **P** **09 47 58.7 -2.6**
YAK *e*S **S** **09 55 34.5 -8.9**
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,11nm,1.1s
YAK Yakutsk 55.73 20 *eP* **P** **09 48 00.2 -1.1**
comp=E,86nm,0.8s,mb5.8
YAK *e* pP 09 48 11.4 -1.2
YAK LR LR
comp=Z,201nm,19.0s,MS4.2
ANN Anapa 56.30 315 *eP* **P** **09 48 15.9 +10**
ANN pmax pmax
comp=Z,22nm,0.9s,mb5.2
ANN MLR MLR
comp=N,652nm,26.0s,MS4.8
ANN MLR MLR
comp=E,700nm,26.0s,MS4.8
ANN MLR MLR
comp=Z,441nm,26.0s,MS4.4
KMBO Kilima Mbogo 56.51 260 *eP* **P** **09 48 09.3 +1.7**
KMBO pmax pmax
comp=Z,10.0nm,1.1s
KMBO MLR MLR
comp=Z,382nm,21.0s
KMBO Kilima Mbogo 56.51 260 P **P** **09 48 09.0 +1.4**
comp=Z,5.7nm,0.9s,mb4.6,baz=48,slow=9.7,SNR=11
KMBO LR LR 10 09 54.4
comp=Z,342nm,20.3s,MS4.4,baz=94,slow=33
KMBO Kilima Mbogo 56.51 260 *eP* **P** **09 48 09.2 +1.6**
comp=Z,9.7nm,1.1s,mb4.8
KMBO LR LR
comp=Z,382nm,21.0s,MS4.5
CTKT Corum 57.19 310 *iP* **P** **09 48 11.7 -0.4**
BOYT Boyabat 57.26 311 *iP* **P** **09 48 12.2 -0.4**
VRSR Storozhevoye 57.27 323 *eP* **P** **09 48 11.2 -1.4**
VRSR *e**PP pP 09 48 26.2 +2.4
VRSR pmax pmax
comp=N,20nm,1.0s
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.3
VRSR pmax pmax
comp=E,30nm,0.8s
VOR Voronezh 57.46 324 *eP* **P** **09 48 13.5 -0.4**
VOR *e* pP 09 48 24.0 -1.1
VOR 09 50 19.0
VOR pmax pmax
comp=Z,110nm,1.2s,mb5.8
BRTR Keskin Array B 57.88 309 P **P** **09 48 16.0 -1.0**
comp=Z,23nm,0.8s,mb5.2,baz=121,slow=7.2,SNR=95
BRTR pP pP 09 48 27.5 -0.7
comp=Z,8.5nm,0.7s,baz=124,slow=7.2,SNR=8.8
ELDT Eldivan 58.18 310 *iP* **P** **09 48 18.5 -0.5**
BALT Daday 58.40 311 *iP* **P** **09 48 20.4 -0.2**
SIM Simferopol' 58.61 315 *eP* **P** **09 48 22.0 0.0**
SIM *e**PP pP 09 48 33.0 -0.2
SIM S **S** **09 56 30.0 +8.3**
SIM pmax pmax
comp=Z,54nm,1.0s,mb5.5
SIM MLR MLR
comp=Z,100nm,18.0s,MS4.0
PMG Port Moresby 58.71 110⇑*iP* **P** **09 48 22.9 -0.2**
PMG pmax pmax
comp=Z,69nm,0.9s
PMG Port Moresby 58.71 110 P **P** **09 48 22.9 -0.2**
comp=Z,55nm,0.9s,mb5.6,baz=338,slow=3.6,SNR=28
PMG Port Moresby 58.71 110⇑*iP* **P** **09 48 22.9 -0.2**
comp=Z,69nm,0.9s,mb5.7
SGKT Sivrigoynuk 59.22 310 *iP* **P** **09 48 25.0 -1.3**
MOS Moscow 59.87 328 *eP* **P** **09 48 28.9 -1.6**
MOS *e* 09 49 13.8
MOS pmax pmax
comp=Z,71nm,0.7s,mb5.8
ESKT Eskisehir 59.98 308 *iP* **P** **09 48 30.1 -1.4**
HENT Hendek 60.13 310 *iP* **P** **09 48 31.4 -1.2**
OBN Obninsk 60.19 327*d iP* **P** **09 48 31.7 -1.0**
OBN *i* pP 09 48 45.0 +1.0
OBN pmax pmax
comp=Z,81nm,1.3s,mb5.6
OBN MLR MLR
comp=Z,300nm,17.0s,MS4.5
OBN Obninsk 60.19 327 *eP* **P** **09 48 31.7 -1.0**
comp=Z,78nm,1.3s,mb5.6
OBN LR LR
comp=Z,84nm,22.0s,MS3.8
ULDT Uludag 61.37 309 *iP* **P** **09 48 39.3 -1.6**
CTA Charters Tower 62.31 121⇑*iP* **P** **09 48 47.4 -0.1**
comp=Z,19nm,1.1s,mb5.1
CTA *e*pP pP 09 48 58.4 -0.5
CTA Charters Tower 62.31 121⇑*iP* **P** **09 48 47.4 -0.1**
CTA *e**PP pP 09 48 58.4 -0.5
CTA pmax pmax
comp=Z,19nm,1.1s
CTA Charters Tower 62.31 121 P **P** **09 48 47.4 -0.1**
comp=Z,24nm,1.0s,mb5.3,baz=301,slow=8.3,SNR=21
CTA pP pP 09 48 57.7 -1.2
comp=Z,13nm,0.9s,baz=299,slow=8.0,SNR=7.3
CTAO Charters Tower 62.31 121⇑*iP* **P** **09 48 47.2 -0.3**
CTAO *e* pP 09 48 58.6 -0.3
CTAO pmax pmax
comp=Z,47nm,1.3s,mb5.5
CTAO Charters Tower 62.31 121⇑*iP* **P** **09 48 47.2 -0.4**
comp=Z,47nm,1.3s,mb5.5
CTAO *e* pP 09 48 58.6 -0.3
TLCR 62.34 314⇑P **P** **09 48 46.5 -0.9**
TIXI Tiksi 62.57 12 *iP* **P** **09 48 47.2 -1.4**
TIXI Tiksi 62.57 12 *iPr* 09 48 47.2
TIXI LR LR
comp=Z,123nm,19.0s,MS4.1
KDAG Bornova 62.63 307 *iP* **P** **09 48 48.5 -0.9**
MBAR Mbarara 62.64 262 P **P** **09 48 51.6 +1.8**
comp=Z,118nm,1.1s,mb5.9,SNR=14
MBAR Mbarara 62.64 262 *eP* **P** **09 48 50.9 +1.1**
MBAR *e**PP pP 09 49 02.4 +1.2
MBAR pmax pmax
comp=Z,35nm,1.1s,mb5.4
MBAR MLR MLR
comp=Z,67nm,20.0s,MS3.8
MBAR Mbarara 62.64 262 *eP* **P** **09 48 50.9 +1.1**
comp=Z,35nm,1.1s,mb5.4
MBAR *e*pP pP 09 49 02.4 +1.2
MBAR LR LR
comp=Z,67nm,20.0s,MS3.8
CFR Carcaliu 62.81 314 P **P** **09 48 50.5 0.0**
CFR Carcaliu 62.81 314⇑*iP* **P** **09 48 50.4 -0.1**
HARR Harsova 62.88 314 P **P** **09 48 50.7 -0.3**
HARR Harsova 62.88 314⇑P **P** **09 48 50.8 -0.2**
PRD Provadia 63.05 312 *iP* **P** **09 48 52.3 +0.2**
MA2 Magadan 63.06 29 *eP* **P** **09 48 50.6 -1.4**
MA2 pmax pmax
comp=Z,13nm,0.9s,mb5.1
MA2 Magadan 63.06 29 *eP* **P** **09 48 50.6 -1.4**
comp=Z,13nm,0.9s,mb5.1

AKASG Malin Array Be 63.14 320 P **P** **09 48 51.1 -1.5**
comp=Z,14nm,0.7s,mb5.2,baz=82,slow=5.9,SNR=61
AKASG pP pP 09 49 01.9 -2.0
comp=Z,8.0nm,0.7s,baz=81,slow=6.5,SNR=6.7
JMB Yambol 63.55 311 *i* P **P** **09 48 55.7 +0.2**
VRI Vrincioaia 63.89 315 P **P** **09 48 58.3 +0.7**
VRI Vrincioaia 63.89 315⇑ *i* P **P** **09 48 58.6 +1.0**
ISR Istrita 63.92 314⇓ *i* P **P** **09 48 50.1 -7.7**
MLR Muntele Rosu 64.39 314⇓ *i* P **P** **09 49 01.5 +0.7**
STKA Stephens Creek 64.86 135 P **P** **09 49 03.6 -0.5**
comp=Z,10nm,0.8s,mb4.9,baz=314,slow=7.8,SNR=15
STKA LR LR 10 16 54.4
comp=Z,256nm,20.8s,MS4.4,baz=111,slow=36
STKA Stephens Creek 64.86 135 *eP* **P** **09 49 03.3 -0.8**
RZN Rozhen 64.86 310 *i* P **P** **09 49 03.5 -0.5**
MTUR Matau 64.97 314 P **P** **09 49 10.5 +5.9**
BURAR Bucovina Array 65.17 317 P **P** **09 49 06.3 +0.4**
BURAR Bucovina Array 65.17 317⇓ P **P** **09 49 06.3 +0.4**
JOF Joensuu 65.53 334 *ep* **P** **09 49 07.0 -0.9**
comp=Z,28nm,0.5s,mb5.5
VTS Vitosha 66.05 311 P **P** **09 49 11.4 -0.2**
VTS Vitosha 66.05 311 *i* P **P** **09 49 11.0 -0.6**
KKB Krupnik 66.09 310 *i* P **P** **09 49 11.0 -0.9**
LVV L'vov 66.26 319 *eP* **P** **09 49 11.0 -1.8**
LVV *e* pP 09 49 22.6 -1.6
VSU Vasula 66.36 328⇑ *i* P **P** **09 49 13.0 -0.3**
BOLS Boljevac 67.05 312⇑ *i* P **P** **09 49 16.7 -1.2**
KWP Kalwaria 67.08 319 *eP* **P** **09 49 12.7 -5.3**
KOLS Kolonicke sedl 67.29 318 *eP* **P** **09 49 19.1 -0.2**
KOLS *e* 09 49 46.0
SKO Skopje 67.32 310⇑ *i* P **P** **09 49 18.5 -1.1**
SUW Suwalki 67.41 323 *eP* **P** **09 49 19.5 -0.4**
FINES FINESS Array B 67.42 332 P **P** **09 49 19.3 -0.6**
comp=Z,29nm,0.8s,mb5.3,baz=104,slow=7.9,SNR=85
FINES pP pP 09 49 30.8 -0.6
comp=Z,5.2nm,0.5s,baz=89,slow=5.5,SNR=7.9
FINES LR LR 10 22 22.7
comp=Z,187nm,21.1s,MS4.3,baz=20,slow=39
FINES FINESS Array B 67.42 332 P **P** **09 49 19.3 -0.6**
FINES pP pP 09 49 30.8 -0.6
FINES LR LR 10 22 22.7
KAF Kangasniemi 67.49 332 *ep* **P** **09 49 18.4 -1.9**
comp=Z,33nm,1.1s,mb5.3,baz=102,slow=5.7
KAF Kangasniemi 67.49 332 *eP* **P** **09 49 18.4 -1.9**
KAF pmax pmax
comp=Z,33nm,1.1s,mb5.3
CRVS Cervenica-Dubn 67.82 318 *eP* **P** **09 49 24.0 +1.4**
GRUS Gruza 67.95 312⇑ *i* P **P** **09 49 22.2 -1.3**
KECS Kecovo 68.42 317 *eP* **P** **09 49 26.6 +0.2**
KECS *e* pP 09 49 38.4 +0.5
DIVS Divcibare 68.48 312⇑ *i* P **P** **09 49 26.1 -0.7**
NIE Niedzica 68.61 318⇑ *i* P **P** **09 49 26.8 -0.7**
NIE *epP* pP 09 49 38.4 -0.7
PSZ Piszkesteto 68.77 316 P **P** **09 49 29.3 +0.7**
PSZ Piszkesteto 68.77 316 *eP* **P** **09 49 28.3 -0.3**
comp=Z,25nm,1.1s,mb5.0
PSZ Piszkesteto 68.77 316⇓ *eP* **P** **09 49 28.5 -0.1**
OJC Ojcow 69.02 319⇓ *i* P **P** **09 49 29.8 -0.2**
OJC *epP* pP 09 49 41.9 +0.4
KEV Kevo 69.47 340 *ep* **P** **09 49 31.8 -0.7**
VYHS Vyhne 69.52 317 *i* P **P** **09 49 33.2 +0.1**
VYHS *epP* pP 09 49 44.2 -0.4
LSZ Lusaka 69.52 248 *eP* **P** **09 49 35.2 +1.5**
LSZ pmax pmax
comp=Z,50nm,1.5s,mb5.2
LSZ MLR MLR
comp=Z,547nm,19.0s,MS4.8
LSZ Lusaka 69.52 248 *eP* **P** **09 49 35.2 +1.5**
comp=Z,50nm,1.5s,mb5.2
LSZ LR LR
comp=Z,547nm,19.0s,MS4.8
PKSM Moragy 69.53 315⇓ P **P** **09 49 32.9 -0.3**
ARCES ARCESS Array B 69.90 340 P **P** **09 49 34.5 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=95,slow=7.0,SNR=64
ARCES pP pP 09 49 46.4 -0.3
comp=Z,3.1nm,0.4s,baz=90,slow=6.0,SNR=3.7
ARCES LR LR 10 23 11.0
comp=Z,472nm,18.7s,MS4.8,baz=300,slow=38
OKC Ostrava-Krasne 70.05 318 *eP* **P** **09 49 36.7 +0.4**
OKC *epP* pP 09 49 48.4 +0.6
MORC Moravsky Berou 70.44 318⇓ *eP* **P** **09 49 39.0 +0.3**
MORC *e*PP* pP 09 49 50.4 +0.2
MORC pmax pmax
comp=Z,39nm,1.1s,mb5.2
MORC Moravsky Berou 70.44 318⇓ *eP* **P** **09 49 39.0 +0.3**
comp=Z,39nm,1.1s,mb5.2
MORC *epP* pP 09 49 50.4 +0.2
ZST Bratislava 70.66 317 *eP* **P** **09 49 40.7 +0.6**
ZST *e* pP 09 49 51.0 -0.6
TIP Timpagrande 70.86 307 *eP* **P** **09 49 41.1 -0.3**
KOGS Kog 71.19 315 *eP* **P** **09 49 43.3 -0.1**
KOGS *e* pP 09 49 54.9 +0.1
DPC Dobruska-Polom 71.25 319 *eP* **P** **09 49 44.2 +0.6**
DPC *epP* pP 09 49 56.1 +1.0
KSP Ksiaz 71.29 319 *eP* **P** **09 49 44.2 +0.4**
KSP *e*PP* pP 09 49 55.4 +0.1
UPC Upice 71.45 319 *eP* **P** **09 49 45.7 +0.9**
UPC *epP* pP 09 49 56.7 +0.4
ARSA Arzberg 71.70 316⇑ *i* P **P** **09 49 46.9 +0.6**
comp=Z,11nm,1.0s,mb4.8
BOJS Bojanci 71.89 314 *eP* **P** **09 49 47.3 -0.2**
BILL Bilibino 71.97 22 *eP* **P** **09 49 47.1 -0.5**
BILL pmax pmax
comp=Z,19nm,0.8s,mb5.1
BILL Bilibino 71.97 22 *eP* **P** **09 49 47.0 -0.5**
comp=Z,19nm,0.8s,mb5.1
BILL LR LR
comp=Z,263nm,21.0s,MS4.5
PERS Pernice 71.98 315 *eP* **P** **09 49 48.1 +0.1**
BSD Bornholm Skovb 72.31 324⇑ *i* P **P** **09 49 49.4 -0.3**
BSD *i* pP 09 50 00.8 -0.5
BSD pmax pmax
comp=Z,28nm,0.9s,mb5.2
BSD Bornholm Skovb 72.31 324⇑ *i* P **P** **09 49 49.4 -0.3**
comp=Z,28nm,0.9s,mb5.2
BSD *i* pP 09 50 00.8 -0.5
OBKA Obir 72.37 315⇑ *i* P **P** **09 49 50.8 +0.5**
comp=Z,33nm,1.6s,mb5.0
PVCC Panska Ves 72.37 319 *eP* **P** **09 49 50.9 +0.7**
PRU Pruhonice 72.38 319 *eP* **P** **09 49 50.9 +0.6**
PRU *epP* pP 09 50 02.6 +0.8
LJU Ljubljana 72.39 314 *eP* **P** **09 49 51.1 +0.7**
CEY Cerknica 72.46 314 *eP* **P** **09 49 50.2 -0.6**
CEY *e* pP 09 50 02.6 +0.2
MOA Molln 72.56 316⇑ *i* P **P** **09 49 51.4 0.0**
comp=Z,13nm,1.1s,mb4.8
BRG Berggiesshubel 72.78 319 *i* P **P** **09 49 53.1 +0.5**
BRG pmax pmax
comp=Z,30nm,1.1s,mb5.1
BRG Berggiesshubel 72.78 319 *i* P **P** **09 49 53.1 +0.5**
comp=Z,30nm,1.1s,mb5.1
VOY Vojsko 72.83 314 *eP* **P** **09 49 52.4 -0.7**
VOY *e* pP 09 50 04.3 -0.3
RUE Ruedersdorf 72.90 321 *eP* **P** **09 49 53.7 +0.3**
comp=Z,47nm,1.0s,mb5.4
GEC2 GERESS Array S 72.93 317 *eP* **P** **09 49 53.7 +0.1**
GEC2 pmax pmax
comp=Z,31nm,1.0s,mb5.2
GEC2 GERESS Array S 72.93 317 *eP* **P** **09 49 53.7 +0.1**
comp=Z,31nm,1.0s,mb5.2
GERES GERESS Array B 72.93 317 P **P** **09 49 53.5 -0.1**
comp=Z,21nm,0.9s,mb5.1,baz=90,slow=5.3,SNR=90
GERES pP pP 09 50 04.7 -0.4
comp=Z,8.9nm,0.8s,baz=90,slow=5.3,SNR=9.4
KHC Kasperske Hory 73.01 318 *eP* **P** **09 49 54.1 0.0**
KHC *epP* pP 09 50 05.5 -0.1
ROBS Robic 73.09 315 *eP* **P** **09 49 54.1 -0.6**
KBA Koelnbreinsper 73.19 315⇑ *i* P **P** **09 49 55.0 -0.2**
comp=Z,14nm,1.5s,mb4.7
KBA Koelnbreinsper 73.19 315⇑ *i* P **P** **09 49 55.0 -0.2**
KBA pmax pmax
comp=Z,14nm,1.5s,mb4.7
PTCC Patocco-Chiusa 73.20 315 *eP* **P** **09 49 55.0 -0.3**
CLL Collm 73.37 320⇓ *i* P **P** **09 49 56.3 +0.2**
CLL *i* pP 09 50 07.6 -0.1
CLL pmax pmax
comp=Z,34nm,1.3s,mb5.1
CLL Collm 73.37 320⇓ *i* P **P** **09 49 56.3 +0.2**
comp=Z,34nm,1.3s,mb5.1
CLL *i* pP 09 50 07.6 -0.1
CLL Collm 73.37 320⇓ P **P** **09 49 56.3 +0.2**
comp=Z,logA/T=1.4,mb5.1
CLL *i* *PP pP 09 50 07.6 -0.1
CLL *i* *SP sP 09 50 11.0 -0.9
CLL *e* 09 50 20.0
WET Wettzell 73.47 318 *eP* **P** **09 49 56.9 +0.1**
WET pmax pmax
comp=Z,30nm,1.2s,mb5.1
WET Wettzell 73.47 318 *eP* **P** **09 49 56.9 +0.1**
comp=Z,30nm,1.2s,mb5.1
ARV Arcevia 73.59 312 *eP* **P** **09 49 57.5 -0.1**
SNTG Esanatoglia 73.60 312 *eP* **P** **09 49 57.2 -0.5**
NKC Novy Kostel 73.73 319 *eP* **P** **09 49 59.1 +0.8**
FX1 Attu Island--F 74.14 38 P **P** **09 50 01.5 +1.0**
comp=Z,17nm,0.6s,mb5.2,baz=295,slow=5.3,SNR=7.1
MOX Moxa 74.26 319 *eP* **P** **09 50 01.1 -0.2**
MOX pmax pmax
comp=Z,29nm,1.4s,mb5.0
MOX Moxa 74.26 319 *eP* **P** **09 50 01.1 -0.2**
comp=Z,29nm,1.4s,mb5.0
MOX Moxa 74.26 319 *i* P **P** **09 50 01.1 -0.2**
comp=Z,logA/T=1.3,mb5.0
WTTA Wattenberg 74.35 316⇓ *i* P **P** **09 50 01.6 -0.3**
comp=Z,12nm,0.7s,mb4.9
WTTA Wattenberg 74.35 316⇓ *i* P **P** **09 50 01.6 -0.3**
WTTA pmax pmax
comp=Z,12nm,0.7s,mb4.9
SFI Santa Sofia 74.36 312 *eP* **P** **09 50 02.5 +0.5**
PGD Poggio Sodo 74.45 312 *eP* **P** **09 50 03.3 +0.7**
NB2 NORSAR Subarra 74.47 330 P **P** **09 50 01.8 -0.5**
comp=Z,22nm,0.8s,mb5.1,baz=91,slow=5.8
NB2 NORSAR Subarra 74.47 330 P **P** **09 50 01.8 -0.5**
NB2 pmax pmax
comp=Z,22nm,0.8s,mb5.1
NB2 NORSAR Subarra 74.47 330 P **P** **09 50 01.8 -0.5**
baz=91,slow=5.9
NOA NORSAR Array B 74.47 330 P **P** **09 50 01.8 -0.6**
comp=Z,19nm,0.8s,mb5.0,baz=90,slow=5.8,SNR=44
NOA pP pP 09 50 12.7 -1.2
comp=Z,4.1nm,0.5s,baz=91,slow=5.7,SNR=6.2
NOA LR LR 10 25 43.6
comp=Z,187nm,21.1s,MS4.4,baz=70,slow=38
GRA1 Grafenberg Arr 74.54 318 *eP* **P** **09 50 03.5 +0.6**
comp=Z,27nm,0.8s,mb5.2
GRA1 *epP* pP 09 50 15.1 +0.6
GRF Grafenberg Arr 74.54 318 *eP* **P** **09 50 03.5 +0.6**
GRF *e*PP* pP 09 50 15.1 +0.6
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRF Grafenberg Arr 74.54 318 *eP* **P** **09 50 03.5 +0.6**
GRF *e*PP* pP 09 50 15.1 +0.6
GRF pmax pmax
comp=Z,27nm,0.8s,mb5.2
GRF Grafenberg Arr 74.54 318 *eP* **P** **09 50 03.5 +0.6**
comp=Z,27nm,0.8s,mb5.2
GRF *epP* pP 09 50 15.1 +0.6
FUR Furstenfeldbru 74.56 317 *eP* **P** **09 50 02.8 -0.3**
VMG Vicchio 74.58 312 *eP* **P** **09 50 04.3 +1.1**
NAO01 NORSAR Array S 74.63 330 *eP* **P** **09 50 02.8 -0.5**
comp=Z,23nm,0.8s,mb5.2
SQTA Sankt Quirin 74.64 316⇓ *i* P **P** **09 50 03.1 -0.5**
comp=Z,15nm,1.1s,mb4.8
SQTA Sankt Quirin 74.64 316⇓ *i* P **P** **09 50 03.1 -0.5**
SQTA pmax pmax
comp=Z,15nm,1.1s,mb4.8
MOTA Moosalm 74.71 316⇑ *i* P **P** **09 50 03.4 -0.6**
ZCCA Zocca 74.96 313 *eP* **P** **09 50 06.7 +1.2**
BSEG Bad Segeberg 74.97 323 *eP* **P** **09 50 05.8 +0.4**
CLZ Clausthal 75.00 320 *eP* **P** **09 50 05.7 +0.1**
comp=Z,41nm,1.1s,mb5.3
GSCL Gusciola 75.24 313 *eP* **P** **09 50 08.1 +1.0**
BDI Bagni Di Lucca 75.25 312 *eP* **P** **09 50 06.4 -0.8**
KONO Kongsberg 75.27 329 *eP* **P** **09 50 06.7 -0.2**
KONO pmax pmax
comp=Z,16nm,1.1s,mb4.9
KONO Kongsberg 75.27 329 *eP* **P** **09 50 06.7 -0.2**
comp=Z,16nm,1.1s,mb4.9
ERBM Eremo 75.36 313 *eP* **P** **09 50 08.9 +1.1**
DAVA Damuels 75.54 316⇑ *i* P **P** **09 50 08.9 +0.1**
comp=Z,39nm,1.1s,mb5.2
MUD Monsted U'grnd 75.56 325⇓ *i* P **P** **09 50 09.6 +0.9**
MUD pmax pmax
comp=Z,22nm,0.6s,mb5.3
MUD Monsted U'grnd 75.56 325⇓ *i* P **P** **09 50 09.6 +0.9**
comp=Z,22nm,0.6s,mb5.3
TNS Taunus Mts 76.30 319 *eP* **P** **09 50 13.2 +0.2**
TNS pmax pmax
comp=Z,22nm,1.3s,mb4.9
TNS Taunus Mts 76.30 319 *eP* **P** **09 50 13.2 +0.2**
comp=Z,22nm,1.3s,mb4.9
VAI Varese 76.41 314 *eP* **P** **09 50 13.3 -0.4**
BFO Black Forest 76.51 317 *eP* **P** **09 50 13.8 -0.5**
BFO pmax pmax
comp=Z,19nm,1.4s,mb4.8
BFO Black Forest 76.51 317 *eP* **P** **09 50 13.8 -0.5**
comp=Z,19nm,1.4s,mb4.8
PGF Pioggiola 76.53 311 *eP* **P** **09 50 14.2 -0.3**
comp=Z,42nm,1.2s,mb5.0
PGF Pioggiola 76.53 311 *eP* **P** **09 50 14.2 -0.3**
PGF pmax pmax
comp=Z,21nm,1.2s,mb4.9
CDF Champ du Feu 77.21 317 *eP* **P** **09 50 17.8 -0.4**
comp=Z,20nm,1.0s,mb4.7
CDF Champ du Feu 77.21 317 *eP* **P** **09 50 17.8 -0.4**
CDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
SBF Sospel 77.54 312 *eP* **P** **09 50 19.9 -0.2**
comp=Z,44nm,1.0s,mb5.0
SBF Sospel 77.54 312 *eP* **P** **09 50 19.9 -0.2**
SBF pmax pmax
comp=Z,22nm,1.0s,mb5.0
HINF Hinteralfeld 77.54 317 *eP* **P** **09 50 19.8 -0.3**
LPG La Plagne 77.85 314 *eP* **P** **09 50 22.3 +0.5**
comp=Z,60nm,0.8s,mb5.2
LPG La Plagne 77.85 314 *eP* **P** **09 50 22.3 +0.5**
LPG pmax pmax
comp=Z,30nm,0.8s,mb5.3
HAU Haudompre 77.86 317 *eP* **P** **09 50 21.4 -0.4**
comp=Z,51nm,1.1s,mb5.1
HAU Haudompre 77.86 317 *eP* **P** **09 50 21.4 -0.4**
HAU pmax pmax
comp=Z,26nm,1.1s,mb5.1
LPL La Plagne 77.86 314 *eP* **P** **09 50 22.3 +0.4**
comp=Z,81nm,0.9s,mb5.3
LPL La Plagne 77.86 314 *eP* **P** **09 50 22.3 +0.4**
LPL pmax pmax
comp=Z,41nm,0.9s,mb5.4
MBDF Montbardon 77.92 313 *eP* **P** **09 50 21.7 -0.5**
comp=Z,29nm,0.9s,mb4.9
MBDF Montbardon 77.92 313 *eP* **P** **09 50 21.7 -0.5**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb4.9
BNI Bardonecchia 77.95 314 *eP* **P** **09 50 22.1 -0.3**
BNI pmax pmax
comp=Z,29nm,1.0s,mb5.2
BNI Bardonecchia 77.95 314 *eP* **P** **09 50 22.1 -0.3**
comp=Z,29nm,1.0s,mb5.2
FRF La Foret Royal 78.14 312 *eP* **P** **09 50 23.4 0.0**
comp=Z,81nm,1.3s,mb5.2
FRF La Foret Royal 78.14 312 *eP* **P** **09 50 23.4 0.0**
FRF pmax pmax
comp=Z,40nm,1.3s,mb5.2
CABF La Chapelle 78.19 315 *eP* **P** **09 50 23.9 +0.3**
comp=Z,45nm,1.1s,mb5.0
CABF La Chapelle 78.19 315 *eP* **P** **09 50 23.9 +0.3**
CABF pmax pmax
comp=Z,22nm,1.1s,mb5.0
LMR La Mourre 78.27 312 *eP* **P** **09 50 24.0 -0.1**
comp=Z,32nm,1.1s,mb4.9
LMR La Mourre 78.27 312 *eP* **P** **09 50 24.0 -0.1**
LMR pmax pmax
comp=Z,16nm,1.1s,mb4.9
ORIF Oris-en-Rattie 78.53 314 *eP* **P** **09 50 25.1 -0.4**
comp=Z,17nm,0.9s,mb4.7
ORIF Oris-en-Rattie 78.53 314 *eP* **P** **09 50 25.1 -0.4**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SMRF Simiane la Rot 78.86 313 *eP* **P** **09 50 28.0 +0.6**
comp=Z,24nm,0.9s,mb4.8
BAIF Baives 79.03 319 *eP* **P** **09 50 28.4 +0.2**
comp=Z,39nm,1.0s,mb5.0
BAIF Baives 79.03 319 *eP* **P** **09 50 28.4 +0.2**
BAIF pmax pmax
comp=Z,20nm,1.0s,mb5.0
VIVF Saint-Julien-l 79.39 314 *eP* **P** **09 50 30.3 +0.1**
comp=Z,71nm,1.2s,mb5.2
VIVF Saint-Julien-l 79.39 314 *eP* **P** **09 50 30.3 +0.1**
VIVF pmax pmax
comp=Z,36nm,1.2s,mb5.2
SMF Signal de Mont 79.72 316 *eP* **P** **09 50 31.7 -0.3**
comp=Z,46nm,1.1s,mb5.0
SMF Signal de Mont 79.72 316 *eP* **P** **09 50 31.7 -0.3**
SMF pmax pmax
comp=Z,23nm,1.1s,mb5.0
SSF Saint Saulge 79.89 316 *eP* **P** **09 50 32.7 -0.2**
SSF pmax pmax
comp=Z,28nm,1.2s,mb5.1
SSF Saint Saulge 79.89 316 *eP* **P** **09 50 32.7 -0.2**
comp=Z,28nm,1.2s,mb5.1
AVF Avril sur Loir 80.03 316 *eP* **P** **09 50 33.3 -0.4**
comp=Z,22nm,0.9s,mb4.8
AVF Avril sur Loir 80.03 316 *eP* **P** **09 50 33.3 -0.4**
AVF pmax pmax
comp=Z,11nm,0.9s,mb4.8
LASF Ste Croix 80.08 313 *eP* **P** **09 50 34.5 +0.5**
comp=Z,53nm,1.1s,mb5.1
TSUM Tsumeb 80.37 248 PFAKE 09 50 50.0 +14
TSUM LR LR
comp=Z,462nm,20.0s,MS4.8
BGF Bois d'Agland 80.41 316 *eP* **P** **09 50 35.8 +0.1**
comp=Z,17nm,0.8s,mb4.7
BGF Bois d'Agland 80.41 316 *eP* **P** **09 50 35.8 +0.1**
BGF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TCF Toulx Ste Croi 80.89 315 *eP* **P** **09 50 38.5 +0.3**
comp=Z,39nm,1.1s,mb4.9
TCF Toulx Ste Croi 80.89 315 *eP* **P** **09 50 38.5 +0.3**
TCF pmax pmax
comp=Z,19nm,1.1s,mb4.9
CAF Calviac 81.21 314 *eP* **P** **09 50 40.4 +0.5**
comp=Z,99nm,1.5s,mb5.2
CAF Calviac 81.21 314 *eP* **P** **09 50 40.4 +0.5**
CAF pmax pmax
comp=Z,49nm,1.5s,mb5.2
MTLF Montolieu 81.37 312 *eP* **P** **09 50 41.1 +0.3**
comp=Z,82nm,1.3s,mb5.2
MTLF Montolieu 81.37 312 *eP* **P** **09 50 41.1 +0.3**
MTLF pmax pmax
comp=Z,41nm,1.3s,mb5.2
RJF Les Rejaudoux 81.53 314 *eP* **P** **09 50 42.2 +0.6**
comp=Z,35nm,0.9s,mb5.0
RJF Les Rejaudoux 81.53 314 *eP* **P** **09 50 42.2 +0.6**
RJF pmax pmax
comp=Z,17nm,0.9s,mb5.0
LDF La Druitiere 82.05 318 *eP* **P** **09 50 44.2 0.0**
comp=Z,49nm,1.0s,mb5.1
LDF La Druitiere 82.05 318 *eP* **P** **09 50 44.2 0.0**
LDF pmax pmax
comp=Z,24nm,1.0s,mb5.1
LFF La Frestale 82.14 314 *eP* **P** **09 50 45.5 +0.8**
FLN La Foliniere 82.26 318 *eP* **P** **09 50 45.4 +0.1**
comp=Z,39nm,1.0s,mb5.0
FLN La Foliniere 82.26 318 *eP* **P** **09 50 45.4 +0.1**
FLN pmax pmax
comp=Z,20nm,1.0s,mb5.0
MFF Saint Martin d 82.44 316 *eP* **P** **09 50 46.3 +0.1**
comp=Z,90nm,1.2s,mb5.3
MFF Saint Martin d 82.44 316 *eP* **P** **09 50 46.3 +0.1**
MFF pmax pmax
comp=Z,45nm,1.2s,mb5.3
MAW Mawson 83.21 191 LR LR 10 18 50.3
comp=Z,243nm,20.1s,MS4.6,baz=85,slow=29
MAW Mawson 83.21 191 PFAKE 09 51 00.0 +10
MAW LR LR
comp=Z,3μm,20.0s
ETSF Etsaut 83.45 312 *eP* **P** **09 50 52.3 +0.9**
SGMF Saint Gilles 83.71 318 *eP* **P** **09 50 53.0 +0.3**
comp=Z,35nm,1.0s,mb5.2
SGMF Saint Gilles 83.71 318 *eP* **P** **09 50 53.0 +0.3**
SGMF pmax pmax
comp=Z,17nm,1.0s,mb5.1
SJPF Ste Jean 83.88 313 *eP* **P** **09 50 54.5 +0.8**
comp=Z,40nm,1.2s,mb5.1
SJPF Ste Jean 83.88 313 *eP* **P** **09 50 54.5 +0.8**
SJPF pmax pmax
comp=Z,20nm,1.2s,mb5.1
MIDW Midway 84.11 63 PFAKE 09 51 10.0 +15
MIDW LR LR
comp=Z,2μm,20.0s
ESDC Sonseca Array 86.66 310 P **P** **09 51 07.7 +0.1**
comp=Z,2.9nm,0.6s,mb4.7,baz=65,slow=4.6,SNR=16
ESDC pP pP 09 51 20.5 +1.2
comp=Z,0.5nm,0.3s,baz=61,slow=4.4,SNR=2.6
IMA Indian Mountai 87.52 22 *eP* **P** **09 51 13.0 +2.0**
SUMG Summit 88.79 347 *eP* **P** **09 51 17.4 +0.3**
comp=Z,20nm,1.0s,mb5.4
EVO Evora 90.00 310 *eP* **P** **09 51 24.1 +0.6**
comp=Z,34nm,1.3s,mb5.2
COLA College 90.22 22 *eP* **P** **09 51 24.4 +0.5**
RPZ Rata Peaks 90.83 135 LR LR 10 33 41.8
comp=Z,242nm,20.6s,MS4.6,baz=91,slow=36
INK Inuvik 92.53 16 P **P** **09 51 35.0 +0.5**
comp=Z,3.6nm,0.4s,mb5.1,baz=319,slow=4.1,SNR=22
INK pP pP 09 51 47.0 +0.6
comp=Z,6.4nm,0.9s,baz=324,slow=3.4,SNR=8.8
INK LR LR 10 39 09.1
comp=Z,133nm,19.3s,MS4.4,baz=52,slow=39
INK Inuvik 92.53 16 *eP* **P** **09 51 34.6 +0.1**
comp=Z,23nm,1.3s,mb5.4
INK *e* pP 09 51 47.2 +0.8
DAWY Dawson 93.66 20 *eP* **P** **09 51 40.3 +0.6**
DAWY *epP* pP 09 51 52.7 +1.1
URZ Urewera 93.81 128 P **P** **09 51 41.6 +0.5**
comp=Z,6.9nm,0.8s,mb5.1,baz=306,slow=3.3,SNR=4.9
URZ pP pP 09 51 52.5 -0.5
comp=Z,16nm,0.8s,baz=11,slow=4.1,SNR=8.4
DBIC Dimbokro 95.59 278 P **P** **09 51 50.0 +0.4**
comp=Z,4.6nm,0.8s,mb4.9,baz=80,slow=7.5,SNR=4.1
DBIC LR LR 10 36 06.4
comp=Z,142nm,18.6s,MS4.5,baz=45,slow=36
VNDA Vanda 98.27 168 LR LR 10 33 30.1
comp=Z,214nm,18.5s,MS4.7,baz=69,slow=34
YKA Yellowknife Ar 101.82 12 P P 09 52 16.2 -0.6
comp=Z,0.7nm,0.9s,baz=331,slow=4.4,SNR=12
YKA PP PP 09 56 22.7 -7.6
comp=Z,1.8nm,0.8s,baz=334,slow=8.0,SNR=15
YKA Yellowknife Ar 101.82 12 P P 09 52 16.2 -0.6
YKA PP PP 09 56 22.7 -7.6
SCHQ Schefferville 110.18 347 PFAKE 09 57 10.0 +16
SCHQ LR LR
comp=Z,714nm,20.0s,MS5.2
FFC Flin Flon 111.43 9 PFAKE 09 57 10.0 +14
FFC LR LR
comp=Z,49nm,19.0s,MS4.1
BOZ Bozeman (W) 117.69 19 PFAKE 09 57 20.0 +11
BOZ LR LR
comp=Z,105nm,19.0s,MS4.5
PQI Presque Isle 118.06 345 PFAKE 09 57 20.0 +11
PQI LR LR
comp=Z,5μm,20.0s
HLID Hailey 118.58 22 PFAKE 09 57 20.0 +10
HLID LR LR
comp=Z,219nm,20.0s,MS4.8
LKWY Lake 119.05 19 PFAKE 09 57 30.0 +19
LKWY LR LR
comp=Z,249nm,19.0s,MS4.9
EMMW East Machias 119.72 344 PFAKE 09 57 30.0 +17
EMMW LR LR
comp=Z,4μm,21.0s
BMN Battle Mountai 120.13 26 PFAKE 09 57 30.0 +16
BMN LR LR
comp=Z,214nm,20.0s,MS4.8
PPT Papeete 120.21 103 *e*LR LR 10 34 23.4
comp=Z,65nm,22.8s
WVL Waterville 120.44 345 PFAKE 09 57 30.0 +16
WVL LR LR
comp=Z,7μm,21.0s
TBI Tubuai 120.66 110 *e*LR LR 10 34 34.2
comp=Z,74nm,27.5s
PDAR Pinedale Array 120.94 19 PKP PKPdf 09 57 16.9 +1.7
comp=Z,1.9nm,0.8s,baz=30,slow=1.8,SNR=15
NVAR Mina Array Bea 121.29 29 PKP PKPdf 09 57 18.3 +2.4
comp=Z,4.2nm,0.8s,baz=27,slow=1.7,SNR=20
NVAR pPKP 09 57 30.9
comp=Z,1.6nm,0.7s,baz=56,slow=0.4,SNR=5.5
MNV Mina 121.36 28 PFAKE 09 57 30.0 +14
MNV LR LR
comp=Z,206nm,19.0s,MS4.8
DAC Darwin (Calif) 123.36 29 PFAKE 09 57 30.0 +10
DAC LR LR
comp=Z,289nm,20.0s,MS4.9
MSU Marysvale 123.80 23 *e*PKP PKPdf 09 57 24.4 +3.6
ERPA Erie 124.71 353 PFAKE 09 57 40.0 +18
ERPA LR LR
comp=Z,246nm,20.0s,MS4.9
ACSO Alum Creek Sta 126.86 356 PFAKE 09 57 40.0 +13

ACSO				LR	LR			
	comp=Z,833nm,21.0s,MS5.4							
LPM	**Los Pinos Moun**	**129.56**	**21**	*e*PKP		PKPdf	09 57 34.7	+2.7
BLA	**Blacksburg**	**129.60**	**353**	PFAKE			09 57 50.0	+18
BLA				LR	LR			
	comp=Z,253nm,19.0s,MS4.9							
OXF	**Oxford**	**132.71**	**2**	PFAKE			09 57 50.0	+12
OXF				LR	LR			
	comp=Z,197nm,20.0s,MS4.8							
LRAL	**Lakeview Retre**	**134.21**	**359**	PFAKE			09 57 50.0	+9.2
LRAL				LR	LR			
	comp=Z,230nm,20.0s,MS4.9							
LTX	**Lajitas**	**135.12**	**20**	PFAKE			09 58 00.0	+17
LTX				LR	LR			
	comp=Z,352nm,21.0s,MS5.1							
TXAR	**Lajitas Array**	**135.12**	**20**	PKP		PKPdf	09 57 44.5	+2.0
	comp=Z,1.9nm,0.8s,baz=233,slow=0.5,SNR=20							
TXAR				PP	PP		10 00 09.8	-12
	comp=Z,0.4nm,0.9s,baz=225,slow=1.8,SNR=3.7							
JCT	**Junction City**	**135.18**	**15**	*e*PKP		PKPdf	09 57 44.6	+1.9
BDFB	**Brasilia**	**141.64**	**261**	PKP		PKPdf	09 57 57.4	+2.7
	comp=Z,3.9nm,0.9s,baz=172,slow=14,SNR=4.2							
TEIG	**Tepich**	**146.96**	**1**	PFAKE			09 58 20.0	+16
TEIG				LR	LR			
	comp=Z,110nm,19.0s,MS4.7							
PLCA	**Paso Flores**	**148.62**	**205**	PKPbc		PKPdf	09 58 12.5	+6.6
	comp=Z,5.3nm,0.8s,baz=165,slow=2.8,SNR=11							
PLCA	**Paso Flores**	**148.62**	**205**	*e*PKPdf		PKPdf	09 58 08.4	+2.5
PLCA				PKPbc		PKPdf	09 58 12.5	+6.6
PLCA				*e*PKPbc		PKPdf	09 58 12.6	+6.7
SDV	**Santo Domingo**	**152.51**	**321**	*e*PKPdf		PKPdf	09 58 14.3	+1.7
SDV				*e*PKPbc		PKPdf	09 58 20.7	+8.1
SDV				LR	LR			
	comp=Z,151nm,19.0s,MS4.8							
JTS	**JuntasAbangare**	**156.71**	**354**	PFAKE			09 58 30.0	+12
JTS				LR	LR			
	comp=Z,46nm,20.0s,MS4.3							
ROSC	**El Rosal**	**157.92**	**323**	PKP		PKPdf	09 58 22.8	+2.9
	comp=Z,3.4nm,0.4s,baz=281,slow=23,SNR=4.8							
ROSC				PKPab		PKPab	09 58 56.3	+0.9
	comp=Z,11nm,0.7s,baz=100,slow=18,SNR=9.0							
LPAZ	**La Paz**	**160.93**	**258**	PKP		PKPdf	09 58 26.3	+3.2
	comp=Z,2.0nm,0.9s,baz=137,slow=2.2,SNR=5.7							
LPAZ				PKPab		PKPab	09 59 08.0	-0.2
	comp=Z,5.7nm,0.9s,baz=86,slow=3.9,SNR=14							
LPAZ	**La Paz**	**160.93**	**258**	*e*PKPdf		PKPdf	09 58 25.3	+2.3
LPAZ				*e*PKPab		PKPab	09 59 08.8	+0.6
LPAZ				LR	LR			
	comp=Z,169nm,20.0s							
OTAV	**Otavalo**	**164.04**	**325**	PFAKE			09 58 40.0	+14
OTAV				LR	LR			
	comp=Z,172nm,21.0s							

*IDC **22** 10:03:49.8±1.0, 4.86N×94.87E, mb4.0/10, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, Error ellipse: s-maj=46.0km s-min=18.5km az=47.0*
*NEIC **22** 10:03:54.1±0.5, 4.79N×94.78E, h30km, mb4.4/5, Error ellipse: s-maj=17.8km s-min=8.3km az=221.0*
ISC 22 10:03:57.9±4.0, 5.0N±0.1×95.0E±0.2, h77km±34km, n17, σ0s50/18, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.61**	**86**	*e*Pn		**P**	**10 05 20.9**	**+0.5**
KULM				*e*Sn		**S**	**10 06 23.7**	**-0.5**
ENH	**Enshi**	**28.64**	**27**	P		**P**	**10 09 49.1**	**-0.4**
	3.2nm,0.4s,mb4.3							
AAK	**Ala-Archa**	**41.72**	**337**	*e*P		**P**	**10 11 41.2**	**+0.3**
	1.1nm,0.6s,mb3.8							
SONM	**Songino Array**	**43.82**	**11**	P		**P**	**10 11 58.4**	**+0.4**
	0.9nm,0.8s,mb3.6,baz=191,slow=7.9,SNR=8.5							
SONM				PcP		PcP	10 13 44.0	+0.2
	0.2nm,0.5s,baz=188,slow=4.8,SNR=3.7							
WRA	**Warramunga Arr**	**45.88**	**124**	P		**P**	**10 12 15.1**	**+0.3**
	1.3nm,0.6s,mb3.8,baz=302,slow=9.2,SNR=21							
WRAB	**Tennant Creek**	**45.88**	**124**	*e*P		**P**	**10 12 14.4**	**-0.4**
	2.5nm,0.5s,mb4.2							
WB2	**Warramunga Arr**	**45.89**	**124**	*e*P		**P**	**10 12 15.0**	**+0.2**
ASAR	**Alice Springs**	**47.39**	**129**	P		**P**	**10 12 26.6**	**0.0**
	0.6nm,0.6s,mb3.5,baz=302,slow=7.9,SNR=9.9							
KURK	**Kurchatov**	**47.64**	**346**	*e*P		**P**	**10 12 28.5**	**+0.3**
	3.2nm,0.6s,mb4.3							
ZAL	**Zalesovo**	**49.54**	**352**	P		**P**	**10 12 43.4**	**+0.5**
	1.5nm,0.4s,mb4.2,baz=307,slow=7.9,SNR=5.6							
BVAR	**Borovoye Array**	**52.02**	**341**	P		**P**	**10 13 01.4**	**-0.2**
	1.2nm,0.6s,mb4.1,baz=136,slow=8.6,SNR=12							
CHKZ	**Chkalovo**	**52.51**	**342**	*e*P		**P**	**10 13 04.7**	**-0.6**
	4.3nm,0.6s,mb4.7							
ASF	**Jabal al Asfar**	**60.56**	**304**	P		**P**	**10 14 02.4**	**-0.5**
	1.3nm,0.3s,mb4.4,baz=38,slow=5.4,SNR=2.8							
BRTR	**Keskin Array B**	**65.01**	**312**	P		**P**	**10 14 31.1**	**-1.2**
	0.7nm,0.5s,mb3.7,baz=139,slow=6.6,SNR=4.0							
FINES	**FINESS Array B**	**75.69**	**332**	P		**P**	**10 15 36.4**	**-0.1**
	0.9nm,0.8s,mb3.6,baz=135,slow=3.9,SNR=3.1							
ARCES	**ARCESS Array B**	**78.30**	**340**	P		**P**	**10 15 51.4**	**+0.5**
	4.0nm,1.0s,mb4.1,baz=97,slow=6.6,SNR=6.5							
GERES	**GERESS Array B**	**80.59**	**319**	P		**P**	**10 16 04.4**	**+0.8**
	0.7nm,0.7s,mb3.6,baz=90,slow=5.3,SNR=4.2							

IDC 22 10:18:00.1±2.4, 17.86S×177.80W, mb3.8/4, mb1 4.2/4, mb1mx3.9/13, mbtmp3.8/4, Error ellipse: s-maj=214.4km s-min=25.4km az=156.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**45.20**	**259**	*e*P		P	10 26 18.6	-2.4
WRA	**Warramunga Arr**	**45.21**	**259**	P		P	10 26 18.7	-2.4
	0.1nm,0.2s,baz=96,slow=7.8,SNR=8.0							
ASAR	**Alice Springs**	**45.36**	**254**	P		P	10 26 20.9	-1.3
	2.5nm,0.4s,baz=90,slow=7.9,SNR=105							
ASPA	**Alice Springs**	**45.36**	**254**	*e*P		P	10 26 21.1	-1.1
NVAR	**Mina Array Bea**	**78.99**	**44**	P		P	10 30 06.0	-1.6
	1.0nm,0.7s,baz=229,slow=9.6,SNR=4.9							
TXAR	**Lajitas Array**	**85.48**	**57**	P		P	10 30 40.6	-0.9
	0.4nm,0.7s,baz=222,slow=6.3,SNR=7.0							

*IDC **22** 10:20:42.6±2.6, 28.76N×139.22E, h378km±47km, mb3.0/4, mb1 3.2/5, mb1mx2.9/20, mbtmp3.8/5, Error ellipse: s-maj=107.6km s-min=19.8km az=79.0*
ISC 22 10:20:42.5±2.4, 28.8N±0.2×13 9E±, h401km±49km, n5, σ0s50/6, mb3.0/4, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.96**	**123**	P		**P**	**10 21 46.2**	**+0.5**
	13nm,0.3s,baz=299,slow=24,SNR=20							
CBIJ				S		**S**	**10 22 35.2**	**-0.3**
	29nm,0.3s,baz=299,slow=20,SNR=14							
WRA	**Warramunga Arr**	**48.66**	**186**	P		**P**	**10 28 50.1**	**+0.3**
	0.4nm,0.3s,mb3.2,baz=1.3,slow=7.7,SNR=33							
ASAR	**Alice Springs**	**52.39**	**186**	P		**P**	**10 29 17.3**	**-0.3**
	0.1nm,0.4s,mb2.4,baz=1.7,slow=6.1,SNR=6.7							
BVAR	**Borovoye Array**	**55.16**	**317**	P		**P**	**10 29 36.9**	**-0.2**
	0.2nm,0.3s,mb2.8,baz=80,slow=8.8,SNR=3.3							
ARCES	**ARCESS Array B**	**71.17**	**340**	P		**P**	**10 31 20.0**	**+0.1**
	2.7nm,0.9s,mb3.8,baz=63,slow=8.1,SNR=3.5							

IDC 22 10:24:22.5±26.0, 19.54S×174.51W, mb4.1/4, mb1 4.2/4, mb1mx3.8/15, mbtmp4.1/4, Error ellipse: s-maj=483.8km s-min=142.6km az=75.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.86**	**262**	P		P	10 31 33.4	-1.2
	1.5nm,0.6s,baz=103,slow=10,SNR=4.3							
STKA	**Stephens Creek**	**41.15**	**244**	P		P	10 32 09.4	-0.9
	1.6nm,0.5s,baz=100,slow=9.1,SNR=8.1							
ASAR	**Alice Springs**	**47.93**	**255**	P		P	10 33 02.4	-2.5
	1.4nm,0.5s,baz=101,slow=7.6,SNR=38							
ASPA	**Alice Springs**	**47.93**	**255**	*e*P		P	10 33 02.4	-2.5
WB2	**Warramunga Arr**	**47.98**	**260**	*e*P		P	10 33 02.6	-2.7
WRA	**Warramunga Arr**	**47.99**	**260**	P		P	10 33 02.9	-2.5
	0.5nm,0.3s,baz=97,slow=7.6,SNR=39							

*CSEM **22** 10:44:10.0±0.2, 34.96N×2.91W, h10km, MD3.1, Error ellipse: s-maj=4.3km s-min=3.0km az=3.0*
*CNRM **22** 10:44:10.3, 34.96N×2.69W, h22km, MD3.1*
*NEIC **22** 10:44:11.9, 34.96N×3.03W, h2km, MG3.6(MDD), After MDD.*

*SFS **22** 10:44:11.0, 34.96N×3.03W*
*MDD **22** 10:44:11.4±0.8, 34.94N×2.93W, mb3.6/12, Error ellipse: s-maj=6.9km s-min=3.7km az=20.0, PRXIMO*
ISC 22 10:44:11.2±0.6, 35.02N±0.03×2.86W±0.04, h10km, n37, σ1s25/63, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.10**	**117**	P		**Pg**	**10 44 14.0**	**+0.1**
ZAI				S		**Sg**	**10 44 16.5**	**+0.7**
ZAI	**Zaio**	**0.10**	**117**	*i* P		**Pg**	**10 44 14.0**	**+0.1**
EMLI	**Melilla**	**0.29**	**345**	P		**Pg**	**10 44 18.2**	**+0.9**
	59nm,0.1s,SNR=13							
EMEL	**Melilla**	**0.29**	**344**	P		**Pg**	**10 44 18.2**	**+0.9**
	59nm,0.1s,SNR=13							
EMEL				S		**Sg**	**10 44 22.9**	**+1.6**
	1µm,0.2s,SNR=11							
TOU	**Touzarine**	**0.74**	**266**	*i* P		**Pb**	**10 44 26.0**	**+0.3**
TOU				*i* S		**Sb**	**10 44 37.0**	**+1.5**
MPAL	**Palemas**	**0.91**	**283**	*i* P		**Pb**	**10 44 28.0**	**-0.6**
MPAL				*i* S		**Sb**	**10 44 42.0**	**+1.4**
EALB	**Alboran**	**0.93**	**351**	P		**Pb**	**10 44 29.6**	**+0.7**
	5.2nm,0.1s,SNR=16							
EALB				S		**Sb**	**10 44 43.1**	**+2.0**
	138nm,0.3s,SNR=15							
EALB	**Alboran**	**0.93**	**351**	P		**Pb**	**10 44 29.6**	**+0.6**
	5.2nm,0.1s,SNR=16							
EALB				S		**Sb**	**10 44 43.1**	**+1.9**
	138nm,0.3s,SNR=15							
EBER	**Berja**	**1.88**	**359**	P		**Pn**	**10 44 44.8**	**+1.0**
	0.6nm,0.2s,SNR=4.8							
EBER				S		**Sn**	**10 45 06.3**	**-1.3**
	60nm,0.5s,SNR=13							
EBER	**Berja**	**1.88**	**359**	P		**Pn**	**10 44 44.8**	**+1.1**
	0.6nm,0.2s,SNR=4.8							
EBER				S		**Sn**	**10 45 06.3**	**-1.1**
	60nm,0.5s,SNR=13							
ERON	**Agron**	**2.14**	**339**	P		**Pn**	**10 44 47.6**	**+0.2**
	3.0nm,0.2s,SNR=4.0							
ERON				S		**Sn**	**10 45 11.6**	**-2.7**
	7.2nm,0.3s,SNR=4.9							
EMIJ	**Mijas**	**2.19**	**315**	P		**Pn**	**10 44 46.5**	**-1.7**
	3.1nm,0.2s,SNR=7.9							
EMIJ				S		**Sn**	**10 45 11.5**	**-4.2**
	24nm,0.4s,SNR=7.9							
ECOG	**Cogollos-Vega**	**2.33**	**346**	S		**Sn**	**10 45 18.9**	**-0.2**
	3.6nm,0.1s,SNR=7.9							
ELOJ	**Sierra Loja**	**2.37**	**334**	P		**Pn**	**10 44 51.0**	**+0.2**
	2.7nm,0.2s,SNR=4.0							
ELOJ				S		**Sn**	**10 45 19.5**	**-0.7**
	1.3nm,0.2s,SNR=4.0							
EQES	**Quesada**	**2.79**	**357**	P		**Pn**	**10 44 57.0**	**+0.3**
EQES				S		**Sn**	**10 45 31.9**	**+1.2**
EQES	**Quesada**	**2.79**	**357**	P		**Pn**	**10 44 58.1**	**+1.4**
	1.8nm,0.2s,SNR=12							
EQES				S		**Sn**	**10 45 31.9**	**+1.2**
	20nm,0.5s,SNR=4.5							
EQES	**Quesada**	**2.79**	**357**	P		**Pn**	**10 44 57.0**	**+0.3**
	1.8nm,0.2s,SNR=12							
EQES				S		**Sn**	**10 45 31.9**	**+1.2**
	20nm,0.5s,SNR=4.5							
LIJA	**Lijar**	**2.79**	**313**	*i* P		**Pn**	**10 44 58.0**	**+1.2**
ESPR	**Espera**	**3.05**	**308**	P		**Pn**	**10 44 59.5**	**-1.1**
	1.9nm,0.2s,SNR=4.0							
ESPR				S		**Sn**	**10 45 43.4**	**+5.9**
	2.4nm,0.3s,SNR=4.0							
ESPR	**Espera**	**3.05**	**308**	P		**Pn**	**10 44 59.5**	**-1.0**
	1.9nm,0.2s,SNR=4.0							
EADA	**Adamuz**	**3.43**	**337**	P		**Pn**	**10 45 05.5**	**-0.4**
EADA				S		**Sn**	**10 45 49.6**	**+2.5**
EADA	**Adamuz**	**3.43**	**337**	P		**Pn**	**10 45 05.5**	**-0.4**
	4.4nm,0.3s,SNR=8.7							
EADA				S		**Sn**	**10 45 43.7**	**-3.5**
	1.9nm,0.2s,SNR=7.0							
EADA	**Adamuz**	**3.43**	**337**	P		**Pn**	**10 45 05.5**	**-0.4**
	4.4nm,0.3s,SNR=8.7							
EADA				S		**Sn**	**10 45 49.6**	**+2.5**
	1.9nm,0.2s,SNR=7.0							
ECAB	**El Cabril**	**3.68**	**327**	P		**Pn**	**10 45 08.8**	**-0.7**
ECAB				S		**Sn**	**10 45 53.4**	**-0.1**
ECAB	**El Cabril**	**3.68**	**327**	P		**Pn**	**10 45 08.8**	**-0.7**
	0.5nm,0.2s,SNR=6.1							
ECAB				S		**Sn**	**10 45 49.9**	**-3.5**
	3.6nm,0.5s,SNR=4.0							
ECAB	**El Cabril**	**3.68**	**327**	P		**Pn**	**10 45 08.8**	**-0.6**
	0.5nm,0.2s,SNR=6.1							
ECAB				S		**Sn**	**10 45 53.3**	**-0.1**
	3.6nm,0.5s,SNR=4.0							
ETOB	**Tobarra**	**3.77**	**16**	P		**Pn**	**10 45 11.6**	**+0.9**
	1.8nm,0.2s,SNR=6.3							
ETOB				S		**Sn**	**10 45 53.5**	**-2.2**
	2.6nm,0.3s,SNR=7.9							
ETOB	**Tobarra**	**3.77**	**16**	P		**Pn**	**10 45 11.6**	**+0.9**
	1.8nm,0.2s,SNR=6.3							
ETOB				S		**Sn**	**10 45 53.5**	**-2.1**
	2.6nm,0.3s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.12**	**313**	P		**Pn**	**10 45 14.0**	**-1.7**
	1.3nm,0.2s,SNR=11							
EMIN				S		**Sn**	**10 45 59.0**	**-5.5**
	1.9nm,0.4s							
EMIN	**Mina Concepcio**	**4.12**	**313**	P		**Pn**	**10 45 14.0**	**-1.7**
EGRO	**El Granado**	**4.50**	**305**	P		**Pn**	**10 45 18.9**	**-2.2**
	2.8nm,0.2s,SNR=7.7							
EGRO	**El Granado**	**4.50**	**305**	P		**Pn**	**10 45 18.9**	**-2.2**
EBAD	**Badajoz**	**5.00**	**319**	P		**Pn**	**10 45 26.3**	**-1.9**
EBAD				S		**Sn**	**10 46 20.8**	**-6.0**
EBAD	**Badajoz**	**5.00**	**319**	P		**Pn**	**10 45 26.3**	**-1.9**
	2.3nm,0.2s,SNR=8.5							
EBAD				S		**Sn**	**10 46 20.8**	**-6.0**
	5.6nm,0.3s							
EBAD	**Badajoz**	**5.00**	**319**	P		**Pn**	**10 45 26.3**	**-1.9**
EIBI	**Ibiza**	**5.23**	**39**	P		**Pn**	**10 45 31.2**	**-0.1**
	0.6nm,0.2s,SNR=4.0							
EIBI	**Ibiza**	**5.23**	**39**	P		**Pn**	**10 45 31.2**	**-0.1**

*IDC **22** 11:07:18.9±1.1, 47.01N×143.54E, h397km±11km, mb2.8/5, mb1 3.1/6, mb1mx2.9/20, mbtmp3.5/6, Error ellipse: s-maj=43.2km s-min=17.1km az=109.0*
*JMA **22** 11:07:20.0±0.3, 46.57N×143.99E, h400km, M3.4*
ISC 22 11:07:19.8±0.9, 46.5N±0.1×144.0E±0.2, h407km±8km, n18, σ0s86/26, mb3.0/5, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**1.82**	**213**	P		**P**	**11 08 15.4**	**-0.3**
JWK2	**Keihoku**	**1.88**	**232**	P		**P**	**11 08 15.8**	**-0.2**
JTKR	**Abashiri--Toko**	**2.53**	**181**	P		**P**	**11 08 21.2**	**+1.0**
ASAJ	**Asahikawa**	**2.57**	**203**	P		**P**	**11 08 21.2**	**+0.7**
	2.8nm,0.3s,baz=31,slow=3.0,SNR=23							
ASAJ				S		**S**	**11 09 12.8**	**+4.3**
	0.3nm,0.3s,baz=309,slow=33,SNR=1.8							
JKK2	**Kamakawa 2**	**2.77**	**199**	P		**P**	**11 08 22.6**	**+0.6**
JAR	**Ashorobuto**	**3.20**	**183**	P		**P**	**11 08 26.5**	**+1.0**
NEM2	**Nemuro 2**	**3.37**	**158**	P		**P**	**11 08 26.6**	**-0.4**
NEM2				*e*S		**S**	**11 09 19.8**	**-0.1**
JAK	**Akkeshi**	**3.54**	**172**	P		**P**	**11 08 28.3**	**-0.2**
JAK				*e*S		**S**	**11 09 22.9**	**+0.4**
JCH	**Churui**	**3.91**	**187**	P		**P**	**11 08 31.6**	**-0.2**
JCH				*e*S		**S**	**11 09 27.4**	**-1.1**
JNBK	**Urakawa-nobuka**	**4.31**	**192**	P		**P**	**11 08 35.8**	**+0.1**
JNBK				*e*S		**S**	**11 09 35.7**	**+0.4**
JKB	**Kayabe**	**5.07**	**206**	P		**P**	**11 08 43.3**	**-0.1**
JKB				*e*S		**S**	**11 09 49.0**	**0.0**
JOT	**Ohata**	**5.53**	**204**	P		**P**	**11 08 48.3**	**+0.1**
JOT				*e*S		**S**	**11 09 56.1**	**-1.6**
JANG	**Nango**	**6.38**	**197**	P		**P**	**11 08 57.2**	**-0.2**
JANG				*e*S		**S**	**11 10 10.1**	**-4.2**
YKA	**Yellowknife Ar**	**54.77**	**34**	P		**P**	**11 16 06.4**	**-4.3**
	0.2nm,0.6s,mb2.5,baz=306,slow=6.8,SNR=7.4							
FINES	**FINESS Array B**	**61.40**	**331**	P		**P**	**11 16 50.2**	**-5.6**
	0.4nm,0.6s,mb3.0,baz=39,slow=8.9,SNR=3.4							
WRA	**Warramunga Arr**	**66.70**	**190**	P		**P**	**11 17 30.8**	**+0.5**
	0.4nm,0.5s,mb3.3,baz=6.1,slow=6.6,SNR=8.1							
PDAR	**Pinedale Array**	**69.82**	**49**	P		**P**	**11 17 47.7**	**-1.2**
	0.3nm,0.8s,mb2.9,baz=321,slow=5.8,SNR=2.6							
ASAR	**Alice Springs**	**70.42**	**190**	P		**P**	**11 17 54.6**	**+1.9**
	0.5nm,0.7s,mb3.1,baz=358,slow=5.0,SNR=7.8							

*NEIC **22** 11:25:19.9±1.0, 15.96S×74.57W, h10km, mb4.3/1, Error ellipse: s-maj=26.8km s-min=11.5km az=220.0*
*IDC **22** 11:25:26.2±2.4, 14.00S×73.52W, mb3.5/2, mb1 3.8/3, mb1mx3.6/18, mbtmp3.5/3, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.2/20, Error ellipse: s-maj=129.6km s-min=26.4km az=36.0*
ISC 22 11:25:21.1±1.1, 16.0S±0.1×74.49W±0.09, h33km, n11, σ0s84/11, mb3.7/3, MS3.1/2, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**2.92**	**99**	*e*P		**P**	**11 26 07.0**	**+0.8**
ARE				*i* S		**S**	**11 26 39.2**	**-1.3**
LPAZ	**La Paz**	**6.12**	**93**	Pn		**Pn**	**11 26 53.4**	**+1.7**
	1.2nm,0.3s,baz=278,slow=9.1,SNR=26							
LPAZ				Sn		**Sn**	**11 28 01.4**	**+0.1**
	baz=281,slow=24,SNR=1.0							
LPAZ	**La Paz**	**6.12**	**93**	Pn		**Pn**	**11 26 53.4**	**+1.7**
LPAZ				Sn		**Sn**	**11 28 01.4**	**+0.1**
LVC	**Limon Verde**	**8.42**	**142**	*e*Pn		**P**	**11 27 23.2**	**-0.4**
LVC				*e*S		**S**	**11 28 50.7**	**-7.9**
SDV	**Santo Domingo**	**25.03**	**9**	P		**P**	**11 30 43.3**	**-0.6**
	5.8nm,0.8s,mb4.2							
BDFB	**Brasilia**	**25.47**	**93**	LR	LR		11 42 46.2	
	comp=Z,44nm,19.0s,MS3.0,baz=168,slow=42							
PCRV	**Puerto La Cruz**	**27.79**	**21**	LR	LR		11 41 35.8	
	comp=Z,62nm,18.7s,MS3.2,baz=212,slow=38							
TXAR	**Lajitas Array**	**53.16**	**328**	P		**P**	**11 34 38.3**	**0.0**
	0.2nm,0.7s,mb3.2,baz=135,slow=8.9,SNR=3.4							
ANMO	**Albuquerque**	**59.08**	**330**	P		**P**	**11 35 20.5**	**-0.2**
	0.4nm,0.5s,mb3.8,baz=108,slow=9.6,SNR=2.9							
WRA	**Warramunga Arr**	**134.40**	**219**	PKP		PKPdf	11 44 51.1	+14
	0.2nm,0.8s,baz=138,slow=1.9,SNR=4.7							
SONM	**Songino Array**	**148.26**	**359**	PKPbc		PKPdf	11 45 06.2	+5.8
	0.1nm,0.3s,baz=27,slow=3.2,SNR=2.8							

IGQ 22 11:33:37.4, 2.79S×79.08W, h12km±5km, mb4.2, 5C-2D, Error ellipse: s-maj=13.7km s-min=3.6km az=29.4, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.36**	**19**	⇓P		Pn	11 34 02.7	+0.5
ARRY	**Arrayan**	**1.42**	**26**	⇑P		Pn	11 34 03.7	+0.7
ARRY				S		Sb	11 34 22.6	+1.5
CUSU	**Cusua**	**1.46**	**24**	P		Pn	11 34 05.3	+1.6
RETU	**Refugio**	**1.47**	**26**	P		Pn	11 34 05.6	+1.8
JUIV	**Juive**	**1.49**	**24**	P		Pn	11 34 05.7	+1.6
ULBA	**Ulba**	**1.49**	**27**	P		Pn	11 34 05.4	+1.3
ULBA				S		Sb	11 34 25.4	+2.2
PISA	**Pisayambo**	**1.85**	**22**	⇑P		Pn	11 34 11.5	+2.2
PISA				S		Sn	11 34 36.5	+3.7
TAMB	**Tambo**	**2.20**	**19**	⇑P		Pn	11 34 16.8	+2.6
NAS1	**Nasa**	**2.22**	**16**	P		Pn	11 34 16.6	+2.0
NAS1				S		Sn	11 34 47.3	+5.2
VC1	**Cotopaxi 1**	**2.23**	**18**	P		Pn	11 34 17.4	+2.6
ANTI	**Antisana**	**2.50**	**22**	⇑P		Pn	11 34 21.6	+3.1
JUA2	**San Juan 2**	**2.60**	**11**	P		Pn	11 34 22.3	+2.4
TERV	**Terraza Guagua**	**2.64**	**10**	P		Pn	11 34 21.5	+1.0
TERV				S		Sn	11 34 55.2	+2.5
PINO	**Pino**	**2.65**	**10**	⇑P		Pn	11 34 22.9	+2.1
PINO				S		Sn	11 34 56.2	+3.1
YANA	**Yana**	**2.70**	**11**	⇓P		Pn	11 34 23.1	+1.7
YANA				S		Sn	11 34 56.4	+2.1
CAYR	**Refugio Cayamb**	**2.98**	**21**	P		Pn	11 34 29.3	+3.9
CAYA	**Cayambe**	**3.04**	**21**	P		Pn	11 34 29.7	+3.5
COTA	**Cotacachi**	**3.19**	**13**	P		Pn	11 34 30.9	+2.5
ECEN	**Cerro Negro**	**3.75**	**17**	P		Pn	11 34 38.0	+1.6

*NEIC **22** 11:41:47.7±0.8, 20.05S×68.81W, h122km±8km, mb4.1/7, Error ellipse: s-maj=15.8km s-min=7.6km az=85.0*
*IDC **22** 11:41:47.8±0.8, 20.06S×68.82W, h122km±6km, mb3.6/9, mb1 3.8/10, mb1mx3.7/15, mbtmp4.0/10, Error ellipse: s-maj=21.2km s-min=11.6km az=90.0*
ISC 22 11:41:47.7±0.9, 20.09S±0.05×68.8W±0.1, h139km±8km, n30, σ0s96/26, mb3.9/12, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.52**	**183**	*e*Pn		**P**	**11 42 28.3**	**-0.8**
LPAZ	**La Paz**	**3.83**	**9**	P		**P**	**11 42 46.5**	**+0.2**
	4.8nm,0.3s,baz=186,slow=6.4,SNR=84							
LPAZ				S		**S**	**11 43 32.0**	**+0.8**
	1.1nm,0.3s,baz=354,slow=22,SNR=2.1							
LPAZ	**La Paz**	**3.83**	**9**	*e*Pn		**P**	**11 42 45.8**	**-0.4**
CFAA

JII Iki 0.34 276 P Pg 12 29 02.2 -0.2
JII S Sg 12 29 06.8 -0.3
JFI Itaya 0.39 148 P Pg 12 29 03.1 -0.2
JFA Akaike 0.55 95 P Pb 12 29 05.8 -0.4
JFA S Sb 12 29 13.6 -0.1
JUR Ureshino 0.68 194 P Pb 12 29 08.2 -0.4
JUR S Sb 12 29 17.5 -0.2
JTA Tamana 0.86 157 P Pb 12 29 11.5 -0.1
JTA S Sb 12 29 22.9 +0.1

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*NIED **22** 12:29:00, 33.70N×130.20E, h5km, Mw3.5 Best double couple: M0 2.36×10^14 NP1: φs126°, δ86°, λ-23°. NP2: φs218°, δ67°, λ-176°.*

JMA 22 12:29:47.1, 33.75N×130.15E, h12km±1km, M3.7, 2C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JII	Iki	0.35	278	⇓P	Pg	12 29 54.3	-0.1
JII				S	Sg	12 29 59.2	-0.1
JFI	Itaya	0.38	148	⇑P	Pg	12 29 54.6	-0.4
JFI				S	Sg	12 29 59.8	-0.4
JFA	Akaike	0.54	94	⇓P	Pb	12 29 57.3	-0.7
JFA				S	Sb	12 30 04.8	-0.6
JUR	Ureshino	0.68	194	⇑P	Pb	12 29 59.8	-0.5
JUR				S	Sb	12 30 08.7	-0.7
JTY	Toyota	0.92	56	⇓P	Pb	12 30 04.2	-0.2
JTY				S	Sb	12 30 17.5	+1.2

WEL 22 12:35:49.0±0.4, 45.06S×166.74E, h5km, ML3.5/10, 1C-1D, Error ellipse: s-maj=3.3km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.51	145	PG	Pg	12 35 59.2	0.0
DCZ				SG	Sg	12 36 06.4	+0.3
MSZ	Milford Sound	0.93	66	P*	Pb	12 36 07.0	-0.3
MSZ				S*	Sb	12 36 19.8	+0.1
MLZ	Mavora Lakes	1.06	106	⇓P*	Pb	12 36 08.5	-0.9
MLZ				S*	Sb	12 36 21.8	-1.5
MLZ				S*	Sb	12 36 22.5	-0.9
WHZ	Wether Hill Ro	1.19	135	P*	Pb	12 36 10.9	-0.9
WHZ				S*	Sb	12 36 26.9	-0.4
WKZ	Wanaka	1.64	83	PN	Pn	12 36 19.4	+0.7
WKZ				SN	Sn	12 36 42.0	+1.6
JCZ	Jackson Bay	1.75	56	PN	Pn	12 36 18.7	-1.5
EAZ	Earnscleugh	1.83	96	PN	Pn	12 36 21.3	-0.1
EAZ				SN	Sn	12 36 45.0	-0.2
TUZ	Tuapeka	2.23	115	PN	Pn	12 36 26.8	-0.2
TUZ				SN	Sn	12 36 52.2	-3.0
LBZ	Lake Benmore	2.55	76	PN	Pn	12 36 31.4	-0.3
FOZ	Fox Glacier	2.59	56	PN	Pn	12 36 31.2	-1.2
ODZ	Otahua Downs	2.77	91	⇑PN	Pn	12 36 34.0	-0.9
RPZ	Rata Peaks	3.37	68	ePN	Pn	12 36 41.5	-1.9
LTZ	Lake Taylor	4.60	62	PN	Pn	12 37 00.1	-0.8

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*IDC **22** 12:42:58.7±8.0, 4.54S×153.49E, h122km±59km, mb3.7/4, mb1 3.9/5, mb1mx3.8/12, mbtmp4.1/5, Error ellipse: s-maj=72.3km s-min=27.1km az=92.0*

*NEIC **22** 12:43:00.7±4.0, 4.44S×153.25E, h137km±26km, mb4.3/4, Error ellipse: s-maj=43.7km s-min=18.7km az=92.0*

ISC 22 12:42:58.7±4.9, 4.5S±0.2×153.4E±0.3, h139km±37km, n12, σ0ˢ77/13, mb4.1/8, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	7.89	231	P	P	12 44 51.5	-0.2
	4.7nm,0.3s,baz=42,slow=5.5,SNR=28						
PMG				S	S	12 46 19.7	-0.1
	2.0nm,0.3s,baz=131,slow=19,SNR=14						
KAKA	Kakadu	22.25	247	eP	P	12 47 45.6	+0.8
	6.6nm,0.5s,mb4.3						
WRAB	Tennant Creek	24.09	229	P	P	12 48 03.0	+0.4
	81nm,0.4s,SNR=9.2						
WRAB	Tennant Creek	24.09	229	eP	P	12 48 03.1	+0.5
	15nm,0.6s,mb4.7						
WB2	Warramunga Arr	24.09	229	⇓iP	P	12 48 03.6	+0.9
WRA	Warramunga Arr	24.10	229	P	P	12 48 03.8	+1.0
	7.2nm,0.5s,mb4.5,baz=54,slow=10.0,SNR=118						
ASAR	Alice Springs	26.79	223	P	P	12 48 27.6	-0.2
	0.7nm,0.4s,mb3.6,baz=55,slow=8.9,SNR=11						
STKA	Stephens Creek	29.43	201	P	P	12 48 50.6	-0.9
	2.3nm,0.6s,mb4.1,baz=42,slow=11,SNR=8.6						
FITZ	Fitzroy Crossi	30.33	241	eP	P	12 48 58.7	-0.8
	5.0nm,0.8s,mb4.3						
KULM	Kulim	53.55	280	eP	P	12 52 06.2	-1.6
SONM	Songino Array	66.35	327	P	P	12 53 35.4	+0.7
	0.2nm,0.4s,mb3.3,baz=148,slow=5.6,SNR=2.9						
AAK	Ala-Archa	84.85	313	P	P	12 55 19.0	-0.1
	1.9nm,0.8s,mb3.9						

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*MOS **22** 13:39:36.0±1.1, 1.30N×126.28E, h49km, mb4.9/23, Error ellipse: s-maj=18.4km s-min=7.4km az=111.7*

*BJI **22** 13:39:37.8, 1.03N×126.36E, h84km, mB5.1, mb4.8, Ms4.3, Msz4.0*

*IDC **22** 13:39:38.6±3.0, 1.30N×126.39E, h62km±26km, mb4.2/18, mb1 4.3/18, mb1mx4.2/21, mbtmp4.5/18, MS3.4/3, Ms1 3.4/3, ms1mx2.9/16, Error ellipse: s-maj=29.1km s-min=9.2km az=71.0*

*NEIC **22** 13:39:39.4±1.5, 1.32N×126.48E, h71km±14km, mb4.6/19, Error ellipse: s-maj=13.7km s-min=5.8km az=64.0*

ISC 22 13:39:40.0±0.3, 1.29N±0.04×126.37E±0.07, h89km, h89km±6.4km: pP-P, n90, σ1ˢ13/95, mb4.6/51, 5C-4D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	Kota Kinabalu	11.18	295	eP	P	13 42 18.7	+0.3
KAKA	Kakadu	15.16	157	eP	P	13 43 07.6	-2.9
	52nm,0.6s						
KSM	Kuching	16.06	271	eP	P	13 43 24.1	+2.2
FITZ	Fitzroy Crossi	19.28	182	eP	P	13 43 58.3	-2.0
	8.0nm,0.6s						
WRAB	Tennant Creek	22.49	160	P	P	13 44 33.0	+0.1
	256nm,0.9s,mb5.5,SNR=24						
WRAB	Tennant Creek	22.49	160	eP	P	13 44 32.6	-0.3
WRAB				eS	S	13 48 35.0	+6.2
WRAB				pmax	pmax		
	comp=Z,57nm,0.7s,mb5.0						
WRAB	Tennant Creek	22.49	160	eP	P	13 44 32.6	-0.3
	comp=Z,57nm,0.7s,mb5.0						
WRAB				eS	S	13 48 35.0	+6.2
WRA	Warramunga Arr	22.50	160	P	P	13 44 32.6	-0.3
	comp=Z,9.4nm,0.3s,mb4.5,baz=339,slow=11,SNR=133						
WRA				S	S	13 48 33.2	+4.3
	comp=Z,2.2nm,1.1s,baz=332,slow=14,SNR=5.6						
WB2	Warramunga Arr	22.50	160	eP	P	13 44 32.6	-0.5
WB2				eS	S	13 48 35.0	+5.9
MBWA	Marble Bar	23.23	196	eP	P	13 44 39.8	-0.3
	comp=Z,11nm,0.7s,mb4.3						
PMG	Port Moresby	23.27	118	P	P	13 44 40.7	+0.1
PMG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
PMG	Port Moresby	23.27	118	P	P	13 44 41.0	+0.5
	comp=Z,4.3nm,0.6s,mb4.0,baz=305,slow=3.4,SNR=3.6						
PMG	Port Moresby	23.27	118	P	P	13 44 40.6	+0.1
	comp=Z,9.5nm,0.9s,mb4.1						
JOW	Kunigami	25.47	4	P	P	13 44 59.8	-1.7
	comp=Z,19nm,0.7s,mb4.6,baz=188,slow=3.0,SNR=5.1						
JOW				LR	LR	13 53 37.8	
	comp=Z,67nm,19.6s,baz=250,slow=33						
ASAR	Alice Springs	25.86	164	P	P	13 45 05.0	-0.2
	comp=Z,5.8nm,0.7s,mb4.2,baz=344,slow=8.0,SNR=73						
ASAR				PcP	PcP	13 48 33.9	+1.0
	comp=Z,1.2nm,0.5s,baz=353,slow=2.1,SNR=6.4						
ASAR				S	S	13 49 33.4	+7.2
	comp=Z,0.6nm,0.7s,baz=352,slow=18,SNR=3.2						
ASPA	Alice Springs	25.86	164	⇓iP	P	13 45 05.2	0.0
CTA	Charters Tower	28.83	138	P	P	13 45 32.4	+0.1
	comp=Z,1.2nm,0.3s,mb4.0,baz=15,slow=4.3,SNR=3.9						
CTA				LR	LR	13 57 15.0	
	comp=Z,34nm,18.9s,baz=128,slow=37						
CTAO	Charters Tower	28.83	138	P	P	13 45 34.3	+2.0
CTAO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
CTAO	Charters Tower	28.83	138	P	P	13 45 34.3	+2.1
	comp=Z,3.1nm,0.6s,mb4.1						
SSE	Sheshan	30.05	351	P	P	13 45 42.3	-0.7
SSE				S	S	13 50 33.3	-0.1
SSE				XS		13 51 09.9	
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
SSE				AMB	AMB		
	comp=Z,104nm,5.0s						
SSE				LR	LR		
	comp=N,30nm,20.0s						
SSE				LR	LR		
	comp=E,44nm,20.0s						
SSE				LR	LR		
	comp=Z,51nm,20.0s						
NJ2	Nanjing	31.41	348	eP	P	13 45 55.6	+0.7
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
ENH	Enshi	32.98	333	eP	P	13 46 06.3	-2.4
	comp=Z,5.9nm,0.5s,mb4.7						
MUN	Mundaring	34.45	195	eP	P	13 46 21.3	+0.1
	comp=Z,4.6nm,0.5s,mb4.6						
MUN	Mundaring	34.45	195	eP	P	13 46 21.3	+0.1
MUN				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.6						
NWAO	Narrogin (SRO)	35.10	193	P	P	13 46 26.3	-0.4
	comp=Z,3.8nm,0.4s,mb4.5,baz=28,slow=9.3,SNR=8.9						
STKA	Stephens Creek	36.00	158	P	P	13 46 34.2	-0.2
	comp=Z,7.9nm,0.8s,mb4.7,baz=324,slow=9.9,SNR=11						
STKA	Stephens Creek	36.00	158	eP	P	13 46 33.5	-0.9
MDJ	Mudanjiang	43.24	3	P	P	13 47 35.3	+1.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,88nm,5.2s						
MDJ	Mudanjiang	43.24	3	eP	P	13 47 34.4	+0.2
	comp=Z,18nm,1.1s,mb4.7						
LSA	Lhasa	43.81	314	P	P	13 47 37.7	-1.3
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
LSA	Lhasa	43.81	314	P	P	13 47 37.7	-1.3
	comp=Z,8.0nm,0.5s,mb4.7						
ASAJ	Asahikawa	45.02	17	P	P	13 47 48.8	+0.3
	comp=Z,3.5nm,0.5s,mb4.4,baz=88,slow=18,SNR=5.8						
GUN	Gumba	46.90	308	eP	P	13 48 02.7	-0.9
	comp=Z,23nm,0.5s,mb5.2						
PKI	Pulchoki	47.12	307	eP	P	13 48 04.3	-1.0
KKN	Kakani	47.32	308	eP	P	13 48 05.6	-1.2
	comp=Z,7.3nm,0.5s,mb4.7						
YSS	Yuzh-Sakhalins	47.68	15	⇑iP	P	13 48 08.6	-0.8
YSS				pmax	pmax		
	comp=Z,36nm,1.7s,mb4.9						
GKN	Gorkha	47.92	308	eP	P	13 48 10.0	-1.5
	comp=Z,5.8nm,0.5s,mb4.7						
HIA	Hailar	48.14	354	P	P	13 48 13.6	+0.7
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	Hailar	48.14	354	P	P	13 48 13.6	+0.7
	comp=Z,5.0nm,0.7s,mb4.5						
KOLN	Koldanda	48.65	307	eP	P	13 48 16.2	-0.9
	comp=Z,27nm,0.5s,mb5.4						
ULN	Ulaanbaatar	49.32	343	eP	P	13 48 21.6	-0.5
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
ULN	Ulaanbaatar	49.32	343	eP	P	13 48 21.6	-0.4
	comp=Z,2.0nm,0.5s,mb4.3						
SONM	Songino Array	49.49	342	P	P	13 48 22.7	-0.6
	comp=Z,1.4nm,0.7s,mb4.0,baz=160,slow=6.9,SNR=11						
SONM				PcP	PcP	13 49 45.6	+1.2
	comp=Z,1.6nm,0.8s,baz=151,slow=3.2,SNR=5.7						
TLY	Talaya	53.73	343	⇑iP	P	13 48 57.3	+2.1
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
WMQ	Urumqi	54.52	326	eP	P	13 49 03.0	+1.9
WMQ				AP	pP	13 49 22.0	-1.2
WMQ				XP	sP	13 49 31.0	-2.1
WMQ				PCP	PcP	13 50 06.0	+2.8
WMQ				eS	S	13 56 35.0	+3.5
WMQ				XS		13 57 08.0	
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,71nm,4.4s						
WMQ				LR	LR		
	comp=N,272nm,25.2s						
WMQ				LR	LR		
	comp=E,124nm,23.5s						
WMQ				LR	LR		
	comp=Z,138nm,22.6s						
BOD	Bodaibo	57.22	352	eP	P	13 49 18.4	-1.8
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MKAR	Makanchi Array	59.36	326	i P	P	13 49 34.2	-1.0
MKAR				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK	Yakutsk	60.65	2	d iP	P	13 49 44.0	+0.2
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
MA2	Magadan	61.15	14	eP	P	13 49 47.7	+0.5
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KZA	Kyzart	61.18	319	P	P	13 49 48.1	+0.5
	SNR=11						
UCH	Uchtor	61.73	318	P	P	13 49 52.0	+0.6
	SNR=10						
AAK	Ala-Archa	61.93	319	⇑iP	P	13 49 52.0	-0.7
AAK				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
AAK	Ala-Archa	61.93	319	eP	P	13 49 51.2	-1.5
	comp=Z,7.1nm,1.2s,mb4.6						
USP	Ospenovka	62.22	319	P	P	13 49 54.5	-0.1
	SNR=9.6						
AML	Almayashu	62.24	318	P	P	13 49 55.0	+0.3
	SNR=9.6						
EKS2	Erkin-Say	62.41	319	P	P	13 49 56.3	+0.4
	SNR=6.5						
ZAL	Zalesovo	62.60	334	i P	P	13 50 06.4	+9.4
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.4s						
ZAL	Zalesovo	62.60	334	P	P	13 49 55.8	-1.3
	comp=Z,2.4nm,0.3s,mb4.6,baz=22,slow=3.9,SNR=6.1						
KURK	Kurchatov	63.60	328	d iP	P	13 50 02.9	-0.8
KURK				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
KURK	Kurchatov	63.60	328	⇑eP	P	13 50 02.6	-1.1
	comp=Z,22nm,0.6s,mb5.2						
NVS	Novosibirsk	63.88	334	eP	P	13 50 03.5	-1.9
NVS				pmax	pmax		
	comp=N,1.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
BVA0	Borovoye Array	69.17	328	i P	P	13 50 39.2	+0.3
BVAR	Borovoye Array	69.17	328	P	P	13 50 38.3	-0.6
	comp=Z,2.0nm,0.4s,mb4.3,baz=127,slow=7.4,SNR=18						
CHKZ	Chkalovo	69.35	328	i P	P	13 50 39.3	-0.7
CHKZ				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
CHKZ	Chkalovo	69.35	328	eP	P	13 50 39.1	-0.9
	comp=Z,3.2nm,0.7s,mb4.3						
TIXI	Tiksi	70.27	1	i P	P	13 50 45.5	+0.2
TIXI				i *PP	pP	13 51 11.2	+2.7
TIXI				pmax	pmax		
	comp=Z,13nm,2.5s,mb4.3						
SVE	Sverdlovsk	75.85	329	eP	P	13 51 19.9	+1.8
ARU	Arti	76.80	328	d iP	P	13 51 23.7	+0.2
ARU				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
VNDA	Vanda	81.06	173	P	P	13 51 47.4	+1.1
	comp=Z,1.5nm,0.6s,mb4.0,baz=352,slow=6.3,SNR=7.0						
KIV	Kislovodsk	84.56	314	eP	P	13 52 06.6	+1.9
KIV				i *PP	pP	13 52 30.6	+2.1
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
SOC	Sochi	86.69	313	eP	P	13 52 14.3	-0.9
SOC				e		13 55 37.0	
SOC				eS	SKS	14 02 30.3	-0.8
SOC				e	S	14 02 51.8	+8.5
SOC				eSS	SS	14 08 26.4	-2.9
SOC				eSSS	SSS	14 12 03.3	+2.7
SOC				pmax	pmax		
	comp=N,21nm,0.7s						
SOC				pmax	pmax		
	comp=Z,18nm,0.7s,mb5.1						
SOC				pmax	pmax		
	comp=E,11nm,0.8s						
VRSR	Storozhevoye	87.23	321	eP	P	13 52 19.3	+1.6
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.5s						
MALT	Malatya	87.59	308	eP	P	13 52 21.6	+1.9
MALT				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
MALT	Malatya	87.59	308	eP	P	13 52 21.6	+1.8
	comp=Z,4.7nm,0.7s,mb4.6						
ANN	Anapa	88.34	315	eP	P	13 52 22.8	-0.3
ANN				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
OBN	Obninsk	88.84	325	⇑iP	P	13 52 26.3	+1.1
OBN				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
KMBO	Kilima Mbogo	89.14	269	eP	P	13 52 29.8	+2.2
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KMBO	Kilima Mbogo	89.14	269	P	P	13 52 29.2	+1.6
	comp=Z,2.2nm,0.9s,mb4.2,baz=44,slow=10.0,SNR=5.3						
KMBO				LR	LR	14 27 17.2	
	comp=Z,62nm,19.9s,baz=77,slow=32						
KMBO	Kilima Mbogo	89.14	269	eP	P	13 52 29.8	+2.1
	comp=Z,4.4nm,1.0s,mb4.4						
DAWY	Dawson	90.72	26	eP	P	13 52 35.7	+1.8
QSPA	South Pole Qui	91.21	180	eP	P	13 52 37.8	+2.0
	comp=Z,3.3nm,0.9s,mb4.5						
BRTR	Keskin Array B	91.29	310	P	P	13 52 37.5	+0.5
	comp=Z,0.6nm,0.6s,mb3.9,baz=129,slow=7.9,SNR=4.3						
INK	Inuvik	92.56	21	P	P	13 52 43.0	+0.8
INK				pmax	pmax		
	comp=Z,7.0nm,1.2s						
INK	Inuvik	92.56	21	P	P	13 52 42.2	0.0
	comp=Z,2.9nm,1.1s,mb4.5,baz=249,slow=7.4,SNR=6.1						
INK	Inuvik	92.56	21	P	P	13 52 43.0	+0.8
	comp=Z,7.0nm,1.2s,mb4.9						
ARCES	ARCESS Array B	92.60	340	P	P	13 52 41.7	-0.7
	comp=Z,4.7nm,1.0s,mb4.8,baz=68,slow=6.5,SNR=7.1						
FINES	FINESS Array B	93.80	332	P	P	13 52 47.6	-0.4
	comp=Z,1.0nm,0.8s,mb4.2,baz=56,slow=5.0,SNR=3.0						
HFS	Hagfors	100.00	332	P	P	13 53 17.7	+1.5
	comp=Z,1.4nm,0.8s,mb4.6,baz=240,slow=36,SNR=2.8						
YKA	Yellowknife Ar	101.86	25	i P	P	13 53 27.0	+2.5
YKA	Yellowknife Ar	101.86	25	P	P	13 53 25.9	+1.4
	comp=Z,0.1nm,0.5s,baz=299,slow=4.8,SNR=4.3						

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*IDC **22** 13:45:47.9±0.8, 30.77S×71.97W, mb4.4/7, mb1 4.4/11, mb1mx4.3/19, mbtmp4.3/11, ML4.4/3, MS3.5/4, Ms1 3.4/4, ms1mx3.2/22, Error ellipse: s-maj=25.5km s-min=18.0km az=70.0*

*GUC **22** 13:45:50.6±0.8, 30.76S×72.13W, h27km±7km, MD4.3, ML4.4*

*NEIC **22** 13:45:50.6, 30.76S×72.13W, h27km, mb4.4/1, ML4.4(GUC), After GUC.*

ISC 22 13:45:48.2±2.1, 30.74S±0.04×72.27W±0.05, h13km±15km, n38, σ1ˢ02/39, mb4.2/7, MS3.6/2, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	0.93	82	⇑iP	Pb	13 46 05.5	-0.1
OVCH				i S	Sb	13 46 16.3	-1.3
OVCH				AMP		13 46 18.2	
	comp=E,20μm,0.4s						
LSCH	La Serena	1.21	47	⇑iP	Pb	13 46 22.0	+11
LSCH				i S	Sb	13 46 36.7	+11
LSCH				AMP		13 46 42.2	
	comp=E,12μm,0.7s						
ILCH	Illapel	1.29	134	⇑iP	Pb	13 46 11.3	-0.6
ILCH				i S	Sb	13 46 27.7	-0.6
ILCH				AMP		13 46 29.1	
	comp=E,21μm,0.3s						
CHNG	Los Chungos	1.31	150	⇑iP	Pb	13 46 12.0	-0.3
CHNG				i S	Sb	13 46 28.8	0.0
CHNG				AMP		13 46 35.4	
	comp=E,7μm,0.5s						
TLL	Tololo Astrono	1.39	66	⇓iP	Pn	13 46 13.5	+0.1
TLL				i S	Sb	13 46 30.9	0.0
TLL				AMP		13 46 37.7	
	comp=N,19μm,0.5s						
JACH	Jahuel	2.40	144	⇓iP	Pn	13 46 28.6	+0.7
LCCH	Las Cruces	2.79	168	eP	Pn	13 46 33.7	+0.2
FCH	Farellones	3.08	147	eP	Pn	13 46 38.0	+0.5
FCH				AMP		13 47 30.0	
	comp=E,2μm,0.7s						
TACH	Talagante	3.11	159	eP	Pn	13 46 38.7	+0.7
CHCH	Chadas Angostu	3.46	157	eP	Pn	13 46 43.7	+0.7
CFAA	Coronel Fontan	3.56	105	Pn	Pn	13 46 45.8	+1.4
	comp=E,13nm,0.3s,baz=298,slow=12,SNR=114						
CFAA				Pg	Pg	13 46 48.5	-11
	comp=E,21nm,0.3s,baz=295,slow=11,SNR=115						
CFAA				Sn	Sn	13 47 28.4	+1.7
	comp=E,16nm,0.3s,baz=107,slow=10.0,SNR=3.7						
CFAA				Lg		13 47 38.9	
	comp=E,32nm,0.3s,baz=176,slow=18,SNR=12						
CFAA	Coronel Fontan	3.56	105	Pn	Pn	13 46 45.8	+1.4
CFAA				Pg	Pg	13 46 48.5	-11
CFAA				Sn	Sn	13 47 28.4	+1.7
CFAA				Lg		13 47 38.9	
CACH	El Canelo	3.65	158	eP	Pn	13 46 46.8	+1.1
SFDO	San Fernando	4.00	165	eP	Pn	13 46 51.0	+0.4
LVC	Limon Verde	8.63	21	Pn	P	13 47 51.3	-4.5
	comp=E,1.4nm,0.3s,baz=203,slow=10,SNR=16						
LVC				Sn	Sn	13 49 35.6	+1.6
	comp=E,1.4nm,0.3s,baz=341,slow=24,SNR=1.7						
LVC				LR	LR	13 50 52.3	
	comp=E,175nm,20.9s,baz=208,slow=36						
LVC	Limon Verde	8.63	21	Pn	P	13 47 51.3	-4.5
LVC				Sn	Sn	13 49 35.6	+1.6
PLCA	Paso Flores	10.07	173	Pn	P	13 48 13.8	-1.8
	comp=E,0.6nm,0.3s,baz=346,slow=12,SNR=5.4						
PLCA				LR	LR	13 52 55.5	
	comp=E,172nm,18.5s,baz=351,slow=43						
TRQA	Tornquist	11.19	133	eP	P	13 48 31.6	+0.6
	comp=E,24nm,0.6s						
LPAZ	La Paz	14.88	16	Pn	P	13 49 21.1	+0.9
	comp=E,0.4nm,0.3s,baz=188,slow=8.3,SNR=29						
BDFB	Brasilia	26.80	61	P	P	13 51 28.2	-1.8
	comp=E,10nm,0.7s,mb4.5,baz=238,slow=8.1,SNR=14						
BDFB				LR	LR	14 02 28.4	
	comp=E,163nm,18.8s,MS3.6,baz=240,slow=38						
BAO	Brasilia Array	26.82	61	P	P	13 51 28.5	-1.7
OTAV	Otavalo	31.36	348	eP	P	13 52 10.1	-0.9
	comp=E,5.9nm,1.0s,mb4.4						
ROSC	El Rosal	35.45	356	LR	LR	14 06 35.5	
	comp=E,86nm,18.6s,MS3.5,baz=207,slow=35						
SDV	Santo Domingo	39.43	3	P	P	13 53 19.6	-0.2
	comp=E,4.5nm,0.7s,mb4.3,baz=284,slow=21,SNR=4.2						
SJG	San Juan	48.92	8	P	P	13 54 35.5	-0.7
	comp=E,15nm,0.3s,baz=325,slow=18,SNR=3.6						
SNAA	Sanae	54.67	159	P	P	13 55 17.3	-1.4
	comp=E,2.2nm,0.6s,mb4.3,baz=252,slow=8.9,SNR=22						
TXAR	Lajitas Array	66.81	330	P	P	13 56 42.9	+1.0
	comp=E,1.4nm,0.9s,mb4.0,baz=146,slow=9.0,SNR=8.1						
DBIC	Dimbokro	74.34	72	P	P	13 57 26.4	-1.4
	comp=E,2.1nm,0.5s,mb4.4,baz=223,slow=7.1,SNR=6.9						
PDAR	Pinedale Array	80.78	333	P	P	13 58 03.9	+1.0
	comp=E,0.7nm,0.6s,mb3.8,baz=133,slow=6.5,SNR=7.8						
AKASG	Malin Array Be	120.11	46	PKP	PKPdf	14 04 38.5	-3.4
	comp=E,0.1nm,0.2s,baz=258,slow=2.8,SNR=4.3						
AKASG	Malin Array Be	120.11	46	PKP	PKPdf	14 04 38.5	-3.4
WRA	Warramunga Arr	123.49	210	PKP	PKPdf	14 04 46.9	-2.4
	comp=E,0.2nm,0.4s,baz=159,slow=1.7,SNR=7.8						
CHKZ	Chkalovo	144.81	39	ePKP	PKPdf	14 05 25.8	-2.0
BVAR	Borovoye Array	144.97	40	PKP	PKPdf	14 05 26.7	-1.4
	comp=E,7.9nm,0.4s,baz=297,slow=2.2,SNR=105						
KURK	Kurchatov	150.55	39	ePKPbc	PKPdf	14 05 39.0	+1.8
AAK	Ala-Archa	151.00	57	ePKPbc	PKPdf	14 05 42.4	+4.3
ZAL	Zalesovo	151.52	29	PKPbc	PKPdf	14 05 43.6	+5.0
	comp=E,7.9nm,0.8s,baz=183,slow=3.0,SNR=32						
SONM	Songino Array	162.90	3	PKPab	PKPab	14 06 42.5	+1.3
	comp=E,1.0nm,0.9s,baz=347,slow=5.0,SNR=7.4						

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*NEIC **22** 13:56:10.8, 35.04S×72.30W, h21km, ML3.0(GUC), After GUC.*

GUC 22 13:56:10.8±0.5, 35.04S×72.30W, h21km±3km, MD3.5, ML3.0, 5C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.88	88	⇓iP	Pb	13 56 26.8	-0.4
NICH				i S	Sb	13 56 38.5	+0.1

SFDO	**San Fernando**	**1.14**	**68**	⇑*iP*	Pb	13 56 30.5	-1.1
SFDO				*i* S	Sb	13 56 45.8	-0.2
LNV	**Longovilo**	**1.31**	**34**	*i* P	Pn	13 56 33.3	-0.8
LNV				*i* S	Sb	13 56 50.6	-0.3
CACH	**El Canelo**	**1.68**	**57**	⇑*iP*	Pn	13 56 39.8	+0.4
CACH				*i* S	Sn	13 57 01.8	+1.4
CICH	**Cipreses**	**1.71**	**65**	⇑*iP*	Pn	13 56 40.1	+0.4
CICH				*i* S	Sn	13 57 02.4	+1.3
CHCH	**Chadas Angostu**	**1.75**	**51**	⇑*iP*	Pn	13 56 40.8	+0.3
CHCH				*i* S	Sn	13 57 02.9	+0.6
LMEL	**Las Melosas**	**2.10**	**56**	⇑*iP*	Pn	13 56 46.1	+0.7
LMEL				*i* S	Sn	13 57 13.4	+2.2
LMEL				AMP		13 57 15.8	
	comp=N,168nm,0.3s						

IDC 22 13:56:42.5±8.7, 1.84N×125.67E, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=160.5km s-min=135.9km az=68.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**159**	P	P	14 01 51.8	-1.0
	1.8nm,0.4s,baz=335,slow=11,SNR=56						
WB2	**Warramunga Arr**	**23.26**	**159**	*eP*	P	14 01 52.5	-0.3
ASAR	**Alice Springs**	**26.59**	**163**	P	P	14 02 23.8	-0.7
	0.8nm,0.6s,baz=346,slow=8.0,SNR=14						
STKA	**Stephens Creek**	**36.78**	**157**	P	P	14 03 50.9	-3.0
	2.2nm,0.4s,baz=340,slow=7.8,SNR=6.7						

*NEIC **22** 14:08:07.9, 43.29S×171.55E, h12km, ML3.8(WEL), After WEL.*

WEL 22 14:08:07.4±0.2, 43.28S×171.57E, h7km±1km, ML3.8/13, 2C-1D, Error ellipse: s-maj=1.0km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**0.57**	**220**	⇑*iP**	Pb	14 08 18.7	-0.6
RPZ				SG	Sg	14 08 26.7	+0.2
WVZ	**Waitaha Valley**	**0.64**	**289**	P	Pg	14 08 19.9	-0.3
LTZ	**Lake Taylor**	**0.72**	**46**	P	Pg	14 08 21.5	-0.3
LTZ				S	Sg	14 08 31.3	-0.1
LTZ	**Lake Taylor**	**0.72**	**46**	⇑*iP**	Pb	14 08 21.5	-0.3
LTZ				S*	Sb	14 08 31.3	-0.4
CRLZ	**Canterbury Las**	**0.82**	**111**	P	Pb	14 08 23.3	-0.3
CRLZ	**Canterbury Las**	**0.82**	**111**	⇓*iP**	Pb	14 08 23.3	-0.4
CRLZ				S*	Sb	14 08 35.3	+0.5
MQZ	**McQueen's Vall**	**0.90**	**119**	P	Pb	14 08 24.3	-0.6
MQZ				S	Sb	14 08 37.0	+0.1
MQZ	**McQueen's Vall**	**0.90**	**119**	P*	Pb	14 08 24.3	-0.6
MQZ				*e*S*	Sb	14 08 36.3	-0.5
FOZ	**Fox Glacier**	**1.40**	**258**	P*	Pb	14 08 32.1	-1.3
LBZ	**Lake Benmore**	**1.49**	**222**	*eP*	Pn	14 08 33.7	-1.0
LBZ	**Lake Benmore**	**1.49**	**222**	PN	Pn	14 08 33.3	-1.4
DSZ	**Denniston Nort**	**1.54**	**7**	*eP*	Pn	14 08 34.9	-0.6
DSZ	**Denniston Nort**	**1.54**	**7**	PN	Pn	14 08 34.8	-0.8
DSZ				SN	Sn	14 08 54.9	-1.1
KHZ	**Kahutara**	**1.69**	**60**	P	Pn	14 08 36.2	-1.4
KHZ	**Kahutara**	**1.69**	**60**	PN	Pn	14 08 36.2	-1.4
KHZ				SN	Sn	14 08 58.1	-1.6
THZ	**Tophouse**	**1.81**	**34**	P	Pn	14 08 38.8	-0.6
THZ	**Tophouse**	**1.81**	**34**	PN	Pn	14 08 38.7	-0.6
ODZ	**Otahua Downs**	**1.88**	**200**	*eP*	Pn	14 08 38.3	-2.1
ODZ	**Otahua Downs**	**1.88**	**200**	PN	Pn	14 08 38.3	-2.1
JCZ	**Jackson Bay**	**2.18**	**248**	*eP*	Pn	14 08 44.1	-0.6
JCZ	**Jackson Bay**	**2.18**	**248**	PN	Pn	14 08 44.1	-0.6
BSWZ	**Blackbirch Sta**	**2.32**	**48**	P	Pn	14 08 45.9	-0.7
BSWZ	**Blackbirch Sta**	**2.32**	**48**	PN	Pn	14 08 45.9	-0.7
WKZ	**Wanaka**	**2.40**	**229**	*eP*	Pn	14 08 45.5	-2.3
WKZ	**Wanaka**	**2.40**	**229**	PN	Pn	14 08 45.5	-2.2
NNZ	**Nelson**	**2.46**	**34**	P	Pn	14 08 48.4	-0.3
NNZ	**Nelson**	**2.46**	**34**	PN	Pn	14 08 48.3	-0.3
EAZ	**Earnscleugh**	**2.54**	**219**	*eP*	Pn	14 08 47.0	-2.7
QRZ	**Quartz Range**	**2.56**	**17**	*eP*	Pn	14 08 48.9	-1.1
TUZ	**Tuapeka**	**3.01**	**207**	*eP*	Pn	14 08 54.0	-2.4
SNZO	**South Karori**	**3.05**	**51**	*eP*	Pn	14 08 54.7	-2.4
MLZ	**Mavora Lakes**	**3.19**	**229**	*eP*	Pn	14 08 56.6	-2.5
CAW	**Cannon Point**	**3.39**	**51**	P	Pn	14 08 59.0	-2.9
KIW	**Kapiti Island**	**3.47**	**47**	P	Pn	14 09 01.9	-1.1
MTW	**Mount Morrison**	**3.61**	**55**	P	Pn	14 09 01.8	-3.2
MRZ	**Mangatainoka R**	**3.98**	**50**	*eP*	Pn	14 09 06.2	-4.0
BFZ	**Birch Farm**	**4.35**	**55**	*eP*	Pn	14 09 11.9	-3.6
PKE	**Pukeiti**	**4.47**	**25**	P	Pn	14 09 13.4	-0.2
NGZ	**Ngauruhoe**	**5.11**	**38**	P	Pn	14 09 26.4	+0.2
MGZ	**Maungaku**	**5.22**	**36**	P	Pn	14 09 30.0	+2.1
HIZ	**Hauiti**	**5.38**	**29**	*eP*	Pn	14 09 28.1	-1.9

*NEIC **22** 14:12:03.6, 45.03S×166.77E, h5km, ML4.0(WEL), After WEL.*

WEL 22 14:12:03.0±0.3, 45.06S×166.69E, h20km, ML4.0/6, 2D, Error ellipse: s-maj=3.6km s-min=1.2km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.53**	**142**	⇓*iP**	Pb	14 12 13.1	-0.5
DCZ				S*	Sb	14 12 21.8	+0.9
MSZ	**Milford Sound**	**0.96**	**67**	P*	Pb	14 12 20.5	-0.3
MSZ				S*	Sb	14 12 33.7	+0.7
MLZ	**Mavora Lakes**	**1.09**	**106**	P	Pb	14 12 22.4	-0.6
MLZ				S	Sb	14 12 36.0	-0.8
MLZ	**Mavora Lakes**	**1.09**	**106**	⇓PN	Pn	14 12 22.4	-0.9
MLZ				SN	Sn	14 12 35.9	-1.9
WHZ	**Wether Hill Ro**	**1.22**	**134**	P	Pn	14 12 24.6	-0.5
WHZ	**Wether Hill Ro**	**1.22**	**134**	PN	Pn	14 12 24.6	-0.6
WHZ				SN	Sn	14 12 41.0	-0.2
WKZ	**Wanaka**	**1.67**	**83**	*eP*	Pn	14 12 33.6	+2.0
WKZ	**Wanaka**	**1.67**	**83**	PN	Pn	14 12 33.2	+1.6
JCZ	**Jackson Bay**	**1.77**	**57**	P	Pn	14 12 32.4	-0.7
JCZ	**Jackson Bay**	**1.77**	**57**	PN	Pn	14 12 32.4	-0.7
EAZ	**Earnscleugh**	**1.86**	**96**	P	Pn	14 12 35.7	+1.4
EAZ				S	Sn	14 12 58.6	+1.1
EAZ	**Earnscleugh**	**1.86**	**96**	PN	Pn	14 12 35.4	+1.1
TUZ	**Tuapeka**	**2.26**	**115**	*eP*	Pn	14 12 40.2	+0.2
TUZ	**Tuapeka**	**2.26**	**115**	PN	Pn	14 12 40.2	+0.2
LBZ	**Lake Benmore**	**2.58**	**76**	P	Pn	14 12 45.0	+0.4
LBZ	**Lake Benmore**	**2.58**	**76**	PN	Pn	14 12 44.7	+0.1
FOZ	**Fox Glacier**	**2.62**	**56**	*ePN*	Pn	14 12 44.2	-0.9
ODZ	**Otahua Downs**	**2.80**	**91**	PN	Pn	14 12 47.8	0.0
RPZ	**Rata Peaks**	**3.40**	**68**	P	Pn	14 12 55.0	-1.3
RPZ	**Rata Peaks**	**3.40**	**68**	PN	Pn	14 12 55.0	-1.3
MQZ	**McQueen's Vall**	**4.48**	**75**	*eP*	Pn	14 13 10.0	-1.6
MQZ	**McQueen's Vall**	**4.48**	**75**	PN	Pn	14 13 10.3	-1.3
CRLZ	**Canterbury Las**	**4.50**	**73**	P	Pn	14 13 10.0	-2.0
CRLZ	**Canterbury Las**	**4.50**	**73**	*ePN*	Pn	14 13 10.0	-2.0
LTZ	**Lake Taylor**	**4.63**	**63**	P	Pn	14 13 13.1	-0.6
LTZ	**Lake Taylor**	**4.63**	**63**	*ePN*	Pn	14 13 12.1	-1.6
DSZ	**Denniston Nort**	**4.98**	**50**	*eP*	Pn	14 13 15.3	-3.4
THZ	**Tophouse**	**5.59**	**56**	*eP*	Pn	14 13 24.5	-2.9
KHZ	**Kahutara**	**5.62**	**64**	*eP*	Pn	14 13 26.2	-1.5
QRZ	**Quartz Range**	**6.02**	**47**	*eP*	Pn	14 13 29.5	-3.8
NNZ	**Nelson**	**6.22**	**54**	*eP*	Pn	14 13 32.9	-3.2
WCZ	**Waipu Caves**	**10.80**	**35**	*eP*	P	14 14 35.6	-4.2

IDC 22 14:24:37.0±7.2, 23.53N×108.85W, mb3.0/1, mb1 3.6/3, mb1mx3.4/17, mbtmp3.2/3, ML3.9/2, Error ellipse: s-maj=132.4km s-min=35.8km az=145.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**7.42**	**38**	Pn	Pn	14 26 28.1	-1.0
	0.2nm,0.3s,baz=212,slow=13,SNR=4.1						
TXAR				Lg		14 28 30.5	
	0.3nm,0.3s,baz=230,slow=33,SNR=3.7						
PDAR	**Pinedale Array**	**19.19**	**358**	P	P	14 29 02.7	-2.2
	0.1nm,0.3s,baz=170,slow=11,SNR=13						
YKA	**Yellowknife Ar**	**39.14**	**356**	P	P	14 32 05.9	-1.9
	0.1nm,0.3s,baz=170,slow=7.9,SNR=4.0						

*ISK **22** 14:27:12.2, 36.73N×27.86E, h28km, ML2.7*
*ATH **22** 14:27:13.7, 36.93N×27.98E, h20km, MD3.1/3*
*CSEM **22** 14:27:13.3±0.1, 37.01N×28.00E, h5km, MD3.1, Error ellipse: s-maj=4.4km s-min=3.1km az=19.0*

ISC 22 14:27:13.6±0.8, 36.91N±0.04×27.95E±0.04, h11km±6km, n11, σ1ᵖ34/19, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.54**	**287**	PG	**Pg**	**14 27 24.5**	**0.0**
BODT				SG	**Sg**	**14 27 32.8**	**+1.0**
DALT	**Dalyan (Mudla)**	**0.57**	**104**	*i* PG	**Pg**	**14 27 24.7**	**-0.4**
DALT				*i* SG	**Sg**	**14 27 35.5**	**+2.8**
ARG	**Arkhangelos**	**0.71**	**169**	*e*PN	**Pn**	**14 27 28.0**	**-1.3**
ARG				*e*SN	**Sn**	**14 27 38.0**	**-2.2**
ARG	**Arkhangelos**	**0.71**	**169**	*e*Pn	**Pn**	**14 27 28.5**	**-0.8**
ARG				*e*Sn	**Sn**	**14 27 43.0**	**+2.8**
AYDN	**Tasoluk**	**0.75**	**355**	*i* P	**Pb**	**14 27 27.8**	**-0.5**
AYDN				*i* S	**Sb**	**14 27 38.4**	**+0.1**
FETY	**Fethiye**	**0.95**	**106**	*e*PG	**Pg**	**14 27 30.5**	**-2.1**
DNZL	**Cakiroluk**	**1.17**	**48**	*i* P	**Pb**	**14 27 35.5**	**+0.1**
DNZL				*i* S	**Sb**	**14 27 52.5**	**+2.1**
SMG	**Samos**	**1.20**	**312**	*e*PN	**Pn**	**14 27 36.5**	**+0.2**
SMG				*e*SN	**Sn**	**14 27 53.0**	**+0.3**
DENT	**Denizli**	**1.20**	**45**	*e*PN	**Pn**	**14 27 36.0**	**-0.5**
KARP	**Karpathos**	**1.50**	**205**	*e*PN	**Pn**	**14 27 42.0**	**+1.3**
KDAG	**Bornova**	**1.59**	**340**	*i* P	**Pn**	**14 27 39.2**	**-2.7**
KDAG				*i* S	**Sb**	**14 27 58.5**	**-4.1**

*BER **22** 14:36:54.6±2.6, 58.41N×11.72E, ML2.6(NAO)*

NAO 22 14:36:54.1±6.3, 58.45N×11.72E, h4km±37km, ML2.6, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HFS	**Hagfors**	**1.97**	**30**	Pn	Pn	14 37 28.1	-0.5
	baz=212,slow=14						
HFS				Sn	Sn	14 37 53.4	-0.7
	baz=211,slow=22						
HFS				Lg		14 37 56.1	
	baz=199,slow=28						
NB2	**NORSAR Subarra**	**2.61**	**355**	Pn	Pn	14 37 37.0	-0.8
NB2				Pg	Pg	14 37 41.0	-5.3
NB2				Lg		14 38 16.1	

*BJI **22** 14:55:01.9, 20.05S×174.05W, h19km, mB5.5, mb4.9, Ms5.4, Msz4.6*
*MOS **22** 14:55:02.5±1.0, 20.34S×174.28W, h33km, mb5.1/11, Error ellipse: s-maj=18.4km s-min=13.1km az=154.6*
*NEIC **22** 14:55:02.4±0.3, 20.31S×174.19W, mb4.9/16, Error ellipse: s-maj=12.4km s-min=6.6km az=143.0*
*HRVD **22** 14:55:02.4±0.6, 20.29S×173.31W, h18km±1km, MW4.9/48, Centroid moment Tensor Solution. LP body waves: s23,c34;Mantle waves: s48,c69; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.20; $M_{\theta\theta}$-1.86±.13; $M_{\phi\phi}$-0.31±.12; $M_{r\theta}$1.05±.30; $M_{\theta\phi}$-0.84±.07; $M_{\phi r}$0.99±.37; Best double couple: $M_0$2.631×10^{16} NP1:ϕ$_b$257°,δ30°, λ108°. NP2:ϕ$_b$56°,δ62°,λ80°. Principal axes: T 2.641, Plg71°, Azm302°; N -.02, Plg9°, Azm61°; P -2.622, Plg16°, Azm153°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*IDC **22** 14:55:10.7±3.2, 20.39S×174.32W, h88km±28km, mb4.1/11, mb1 4.3/13, mb1mx4.2/18, mbtmp4.4/13, MS4.2/8, Ms1 4.2/8, ms1mx4.0/17 Error ellipse: s-maj=24.2km s-min=14.6km az=148.0*

ISC 22 14:55:01.0±0.3, 20.45S±0.08×174.10W±0.07, h25km, h25km±2.2km: pP-P, n98, σ1ᵖ04/74, mb4.7/35, MS4.2/12, 6C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.87**	**19**	*eP*	**Pn**	**14 56 32.3**	**-11**
	123nm,0.8s						
RAR	**Rarotonga**	**13.42**	**96**	P	**P**	**14 57 59.5**	**-13**
	4.1nm,0.3s,baz=258,slow=7.4,SNR=13						
RAR				S	S	15 00 13.8	-28
	0.9nm,0.3s,baz=123,slow=16,SNR=2.4						
RAR				LR	LR	15 01 41.2	
	comp=Z,501nm,21.5s,baz=285,slow=29						
RAR	**Rarotonga**	**13.42**	**96**	*eP*	**P**	**14 57 59.1**	**-13**
DZM	**Mont Dzumac**	**18.21**	**261**	*eP*	**P**	**14 59 16.9**	**+2.8**
DZM	**Mont Dzumac**	**18.21**	**261**	*eP*	**P**	**14 59 16.9**	**+2.8**
NOUC	**Port Laguerre**	**18.34**	**261**	*eP*	**P**	**14 59 18.4**	**+2.7**
URZ	**Tiarei**	**19.32**	**201**	P	**P**	**14 59 27.4**	**+0.2**
	2.4nm,0.3s,baz=22,slow=3.9,SNR=27						
URZ				S	**S**	**15 02 44.2**	**-14**
	0.3nm,0.3s,baz=65,slow=11,SNR=2.6						
TIAR	**Tiarei**	**23.57**	**87**	*eP*	**P**	**15 00 05.1**	**-5.7**
	44nm,0.9s,mb4.9						
RPZ	**Rata Peaks**	**26.31**	**205**	P	**P**	**15 00 37.4**	**+0.9**
	3.5nm,0.6s,mb4.1,baz=352,slow=19,SNR=4.6						
CTA	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**15 02 11.8**	**0.0**
	9.5nm,0.8s,mb4.7						
CTA	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**15 02 11.8**	**0.0**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
CTA	**Charters Tower**	**37.13**	**263**	P	**P**	**15 02 11.2**	**-0.5**
	comp=Z,10nm,0.7s,mb4.8,baz=100,slow=11,SNR=19						
CTAO	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**15 02 10.9**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
CTAO	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**15 02 10.9**	**-0.9**
PMG	**Port Moresby**	**38.91**	**281**	*eP*	**P**	**15 02 23.8**	**-3.0**
PMG				pmax	pmax		
	comp=Z,30nm,1.1s						
PMG	**Port Moresby**	**38.91**	**281**	P	**P**	**15 02 26.3**	**-0.4**
	comp=Z,17nm,0.9s,mb4.8,baz=97,slow=5.1,SNR=8.2						
PMG				LR	LR	15 16 51.5	
	comp=Z,251nm,19.1s,MS4.1,baz=289,slow=34						
PMG	**Port Moresby**	**38.91**	**281**	*eP*	**P**	**15 02 23.8**	**-3.0**
	comp=Z,30nm,1.1s,mb4.9						
STKA	**Stephens Creek**	**41.11**	**245**	P	**P**	**15 02 44.8**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.4,baz=81,slow=10,SNR=12						
STKA				LR	LR	15 19 19.4	
	comp=Z,243nm,18.2s,MS4.1,baz=28,slow=35						
STKA	**Stephens Creek**	**41.11**	**245**	*eP*	**P**	**15 02 44.2**	**-0.5**
ASAR	**Alice Springs**	**48.09**	**256**	P	**P**	**15 03 40.0**	**-0.9**
	comp=Z,7.4nm,0.8s,mb4.8,baz=96,slow=7.9,SNR=62						
ASAR				PcP	PcP	15 05 09.3	+0.6
	comp=Z,2.6nm,0.9s,baz=98,slow=3.5,SNR=5.1						
ASAR				S	**S**	**15 10 30.6**	**-6.3**
	comp=Z,0.4nm,0.9s,baz=208,slow=31,SNR=2.6						
ASPA	**Alice Springs**	**48.09**	**256**	⇑*iP*	**P**	**15 03 40.0**	**-0.9**
WB2	**Warramunga Arr**	**48.22**	**261**	⇓*iP*	**P**	**15 03 40.8**	**-1.1**
WRAB	**Tennant Creek**	**48.22**	**261**	⇓*iP*	**P**	**15 03 39.9**	**-2.0**
WRAB	**Tennant Creek**	**48.22**	**261**	*eP*	**P**	**15 03 39.2**	**-2.7**
	comp=Z,13nm,1.0s,mb4.9						
WRA	**Warramunga Arr**	**48.23**	**261**	P	**P**	**15 03 40.4**	**-1.6**
	comp=Z,5.0nm,0.8s,mb4.6,baz=96,slow=7.8,SNR=45						
WRA				PcP	PcP	15 05 09.5	+0.2
	comp=Z,1.6nm,0.9s,baz=97,slow=3.3,SNR=2.7						
KAKA	**Kakadu**	**51.63**	**270**	*eP*	**P**	**15 04 07.7**	**-0.4**
	comp=Z,10nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**56.66**	**261**	*eP*	**P**	**15 04 43.8**	**-1.2**
	comp=Z,11nm,1.1s,mb4.8						
VNDA	**Vanda**	**58.31**	**186**	P	**P**	**15 04 56.7**	**+0.8**
	comp=Z,2.1nm,1.1s,mb4.1,baz=81,slow=13,SNR=2.8						
VNDA				LR	LR	15 27 31.8	
	comp=Z,191nm,18.3s,MS4.2,baz=353,slow=33						
KLBR	**Kellerberrin**	**61.39**	**244**	*eP*	**P**	**15 05 17.4**	**-0.2**
	comp=Z,129nm,0.8s						
MBWA	**Marble Bar**	**61.43**	**256**	*eP*	**P**	**15 05 16.5**	**-1.4**
NWAO	**Narrogin (SRO)**	**61.66**	**243**	LR	LR	15 29 18.4	
	comp=Z,2.0nm,18.0s,baz=176,slow=33						
QSPA	**South Pole Qui**	**69.62**	**180**	*eP*	**P**	**15 06 10.3**	**+0.6**
	comp=Z,14nm,0.9s,mb4.9						
MAT	**Matsushiro**	**72.40**	**321**	*eP*	**P**	**15 06 27.0**	**-0.2**
MAT	**Matsushiro**	**72.40**	**321**	P	**P**	**15 06 26.9**	**-0.3**
PET	**Petropavlovsk**	**76.89**	**344**	*eP*	**P**	**15 06 57.5**	**+4.8**
PET				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
PET				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
KSM	**Kuching**	**77.03**	**276**	*eP*	**P**	**15 06 53.2**	**-1.0**
YSS	**Yuzh-Sakhalins**	**77.54**	**331**	*eP*	**P**	**15 06 56.7**	**+0.3**
YSS				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.9						
YSS	**Yuzh-Sakhalins**	**77.54**	**331**	*eP*	**P**	**15 06 56.7**	**+0.3**
	comp=Z,16nm,1.0s,mb4.9						
LDFC	**Landfair**	**78.60**	**46**	*eP*	**P**	**15 07 03.2**	**+0.8**
MNV	**Mina**	**78.61**	**42**	*eP*	**P**	**15 07 01.7**	**-0.8**
MNV				*e*	pP	15 07 09.8	-0.5
MNV				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
MNV				*e*	pP	15 07 09.8	-0.5
SSE	**Sheshan**	**80.50**	**308**	P	**P**	**15 07 12.9**	**+0.1**
SSE				XP	sP	15 07 25.9	+2.6
SSE				S	S	15 17 17.8	+1.4
SSE				XS		15 17 34.0	
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.4						
SSE				AMB	AMB		
	comp=Z,230nm,4.1s						
SSE				LR	LR		
	comp=Z,62nm,20.0s,MS4.0						
ARUT	**Antelope Range**	**81.25**	**44**	*eP*	**P**	**15 07 17.0**	**+0.4**
MSU	**Marysvale**	**82.48**	**44**	*eP*	**P**	**15 07 23.5**	**+0.5**
MDJ	**Mudanjiang**	**82.62**	**323**	P	**P**	**15 07 24.8**	**+1.2**
MDJ				AP	pP	15 07 31.6	+0.1
MDJ				XP	sP	15 07 34.4	+0.4
MDJ				S	S	15 17 45.1	+7.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,132nm,5.6s						
MDJ				LR	LR		
	comp=Z,102nm,30.9s,MS4.0						
NJ2	**Nanjing**	**82.70**	**308**	*eP*	**P**	**15 07 25.5**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.1						
MAW	**Mawson**	**82.83**	**199**	LR	LR	15 40 22.9	
	comp=Z,263nm,20.0s,MS4.6,baz=80,slow=33						
DUG	**Dugway**	**83.00**	**43**	*eP*	**P**	**15 07 26.2**	**+0.6**
DUG				*e*	pP	15 07 32.6	-0.9
DUG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
DUG	**Dugway**	**83.00**	**43**	*eP*	**P**	**15 07 26.2**	**+0.6**
	comp=Z,4.5nm,0.8s,mb4.5						
DUG				*e*	pP	15 07 32.6	-0.9
TMUT	**Trail Mountain**	**83.54**	**44**	*eP*	**P**	**15 07 28.4**	**-0.1**
TMUT				*e*	pP	15 07 36.5	+0.1
SRU	**San Rafael**	**83.89**	**44**	*eP*	**P**	**15 07 30.0**	**-0.2**
HLID	**Hailey**	**83.94**	**39**	*eP*	**P**	**15 07 30.0**	**-0.3**
	comp=Z,12nm,1.3s,mb4.9						
TXAR	**Lajitas Array**	**83.97**	**56**	P	**P**	**15 07 30.9**	**0.0**
	comp=Z,0.4nm,0.4s,mb3.9,baz=211,slow=7.3,SNR=5.9						
CN2	**Changchun**	**84.53**	**321**	*eP*	**P**	**15 07 34.6**	**+1.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.0						
ANMO	**Albuquerque**	**84.55**	**50**	⇑*iP*	**P**	**15 07 33.7**	**+0.1**
MCMT	**McKenzie Canyo**	**85.58**	**39**	*eP*	**P**	**15 07 37.1**	**-1.5**
BW06	**Boulder Array**	**86.45**	**42**	P	**P**	**15 07 42.2**	**-0.7**
	comp=Z,6.6nm,1.5s,mb4.6						
PDAR	**Pinedale Array**	**86.45**	**42**	P	**P**	**15 07 42.4**	**-0.5**
	comp=Z,1.0nm,0.9s,mb4.1,baz=270,slow=3.0,SNR=4.8						
PDAR				LR	LR	15 38 33.3	
	comp=Z,77nm,19.0s,MS4.1,baz=339,slow=30						
SDCO	**Great Sand Dun**	**86.58**	**48**	P	**P**	**15 07 49.0**	**+5.4**
	comp=Z,3.2nm,1.1s,mb4.5						
PLCA	**Paso Flores**	**86.63**	**132**	LR	LR	15 42 15.5	
	comp=Z,136nm,18.4s,MS4.4,baz=92,slow=32						
COLA	**College**	**87.42**	**11**	*eP*	**P**	**15 07 46.2**	**-0.8**
COLA				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.3						
COLA	**College**	**87.42**	**11**	*eP*	**P**	**15 07 46.2**	**-0.9**
	comp=Z,15nm,0.8s,mb5.3						
IMA	**Indian Mountai**	**87.62**	**8**	*eP*	**P**	**15 07 48.3**	**+0.3**
DAWY	**Dawson**	**88.45**	**15**	*eP*	**P**	**15 07 52.0**	**+0.1**
BJI	**Beijing**	**88.46**	**314**	P	**P**	**15 07 54.3**	**+1.7**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.6						
BJI				LR	LR		
	comp=Z,53nm,25.8s,MS3.8						
ENH	**Enshi**	**89.06**	**303**	*eP*	**P**	**15 07 57.5**	**+1.7**
	comp=Z,15nm,0.9s,mb5.3						
XAN	**Xi'an**	**91.03**	**306**	P	**P**	**15 08 06.6**	**+1.8**
XAN				AP	pP	15 08 16.8	+4.0
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.8						
KMI	**Kunming**	**92.60**	**296**	P	**P**	**15 08 14.9**	**+2.6**
KMI				S	S	15 19 13.3	+1.0
KMI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb5.0						
KMI				LR	LR		
	comp=Z,91nm,22.2s,MS4.2						
INK	**Inuvik**	**93.30**	**14**	*eP*	**P**	**15 08 14.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**93.30**	**14**	*eP*	**P**	**15 08 14.1**	**-0.4**
	comp=Z,4.0nm,0.9s,mb4.8						
YAK	**Yakutsk**	**93.47**	**337**	*eP*	**P**	**15 08 15.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0				

MAT	**Matsushiro**	**5.70**	**262**	P	P	15 01 18.4	+0.5
MAT				S	S	15 02 24.0	+1.1
NEM2	**Nemuro 2**	**5.81**	**4**	P	P	15 01 13.0	-6.5
NEM2				*e*S	S	15 02 14.1	-12
JTKR	**Abashiri--Toko**	**6.48**	**352**	P	P	15 01 25.0	-3.9
JTKR				*e*S	S	15 02 34.7	-7.6

NEIC ***22*** *15:13:51.5, 45.04S×165.19E, h75km, ML4.5(WEL), After WEL.*
IDC ***22*** *15:14:02.4±2.5, 44.87S×166.77E, mb3.3/1, mb1 3.7/2, mb1mx3.5/9, mbtmp3.7/2, ML4.5/1, Error ellipse: s-maj=119.3km s-min=26.9km az=174.0*
WEL ***22*** *15:14:03.4±0.5, 45.05S×166.77E, h5km, ML4.2/9, Error ellipse: s-maj=4.4km s-min=1.6km az=90.0*
ISC 22 15:13:59.9±0.9**, 44.93S**±0.04×**166.64E**±0.08**, h5**km**, n44, σ1§17/46, mb3.3/1, 2D, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.66**	**147**	PG	**Pg**	**15 14 13.4**	**+0.3**
DCZ				SG	**Sg**	**15 14 20.4**	**-1.5**
MSZ	**Milford Sound**	**0.95**	**75**	P*	**Pb**	**15 14 20.2**	**+1.6**
MSZ				*e*S*	**Sb**	**15 14 32.8**	**+1.6**
MLZ	**Mavora Lakes**	**1.16**	**112**	P	**Pb**	**15 14 22.5**	**+0.4**
MLZ	**Mavora Lakes**	**1.16**	**112**	⇓P*	**Pb**	**15 14 22.5**	**+0.3**
MLZ				S*	**Sb**	**15 14 35.9**	**-1.4**
WHZ	**Wether Hill Ro**	**1.33**	**137**	P	**Pb**	**15 14 24.8**	**-0.2**
WHZ	**Wether Hill Ro**	**1.33**	**137**	P*	**Pb**	**15 14 24.8**	**-0.2**
WKZ	**Wanaka**	**1.69**	**87**	*e*P	**Pn**	**15 14 32.7**	**+2.8**
WKZ	**Wanaka**	**1.69**	**87**	*e*PN	**Pn**	**15 14 32.7**	**+2.3**
JCZ	**Jackson Bay**	**1.74**	**61**	P	**Pn**	**15 14 32.5**	**+1.4**
JCZ	**Jackson Bay**	**1.74**	**61**	⇓PN	**Pn**	**15 14 32.5**	**+1.5**
EAZ	**Earnscleugh**	**1.91**	**100**	P	**Pn**	**15 14 35.5**	**+2.0**
EAZ	**Earnscleugh**	**1.91**	**100**	PN	**Pn**	**15 14 35.4**	**+1.8**
EAZ				*e*SN	**Sn**	**15 14 57.9**	**-0.4**
TUZ	**Tuapeka**	**2.34**	**117**	*e*P	**Pn**	**15 14 40.3**	**+0.6**
TUZ	**Tuapeka**	**2.34**	**117**	PN	**Pn**	**15 14 40.1**	**+0.4**
FOZ	**Fox Glacier**	**2.58**	**59**	PN	**Pn**	**15 14 44.1**	**+1.0**
LBZ	**Lake Benmore**	**2.59**	**79**	P	**Pn**	**15 14 45.2**	**+2.0**
LBZ	**Lake Benmore**	**2.59**	**79**	PN	**Pn**	**15 14 45.0**	**+1.8**
ODZ	**Otahua Downs**	**2.84**	**94**	*e*P	**Pn**	**15 14 47.7**	**+0.9**
ODZ	**Otahua Downs**	**2.84**	**94**	PN	**Pn**	**15 14 47.7**	**+0.9**
RPZ	**Rata Peaks**	**3.39**	**71**	Pn	**Pn**	**15 14 54.8**	**+0.2**
	45nm,0.3s,baz=226,slow=4.3,SNR=133						
RPZ				Sn	**Sn**	**15 15 36.0**	**+0.2**
	25nm,0.3s,baz=24,slow=11,SNR=3.7						
RPZ	**Rata Peaks**	**3.39**	**71**	*e*P	**Pn**	**15 14 55.2**	**+0.6**
RPZ	**Rata Peaks**	**3.39**	**71**	PN	**Pn**	**15 14 55.2**	**+0.6**
WVZ	**Waitaha Valley**	**3.49**	**59**	P	**Pn**	**15 14 55.3**	**-0.7**
MQZ	**McQueen's Vall**	**4.48**	**76**	PN	**Pn**	**15 15 10.0**	**+0.2**
CRLZ	**Canterbury Las**	**4.50**	**75**	*e*P	**Pn**	**15 15 09.8**	**-0.7**
CRLZ	**Canterbury Las**	**4.50**	**75**	*e*PN	**Pn**	**15 15 08.1**	**-2.3**
LTZ	**Lake Taylor**	**4.60**	**64**	*e*P	**Pn**	**15 15 10.9**	**-0.9**
LTZ	**Lake Taylor**	**4.60**	**64**	*e*PN	**Pn**	**15 15 10.6**	**-1.3**
DSZ	**Denniston Nort**	**4.93**	**52**	*e*P	**Pn**	**15 15 15.5**	**-1.0**
THZ	**Tophouse**	**5.56**	**57**	*e*P	**Pn**	**15 15 24.4**	**-0.9**
KHZ	**Kahutara**	**5.60**	**66**	*e*P	**Pn**	**15 15 26.4**	**+0.5**
QRZ	**Quartz Range**	**5.96**	**49**	P	**Pn**	**15 15 29.7**	**-1.3**
NNZ	**Nelson**	**6.17**	**55**	*e*P	**Pn**	**15 15 33.0**	**-1.0**
NWEZ	**Newall Road**	**7.80**	**46**	P	**Pn**	**15 15 55.1**	**-1.7**
NEZ	**North Egmont**	**7.92**	**47**	P	**Pn**	**15 15 57.0**	**-1.5**
PKE	**Pukeiti**	**7.92**	**46**	P	**Pn**	**15 15 56.9**	**-1.6**
WAZ	**Wanganui**	**8.06**	**53**	*e*P	**P**	**15 16 00.9**	**+0.5**
CNZ	**Chateau**	**8.75**	**52**	P	**P**	**15 16 10.5**	**+0.4**
NGZ	**Ngauruhoe**	**8.80**	**52**	P	**P**	**15 16 11.7**	**+0.9**
HIZ	**Hauiti**	**8.88**	**47**	*e*P	**P**	**15 16 10.3**	**-1.5**
ASAR	**Alice Springs**	**34.02**	**298**	P	**P**	**15 20 48.2**	**+1.3**
	0.3nm,0.7s,mb3.3,baz=140,slow=7.3,SNR=6.1						
BRTR	**Keskin Array B**	**145.25**	**278**	PKPbc	PKPbc	15 33 41.2	+2.6
	1.2nm,0.7s,baz=146,slow=4.5,SNR=5.8						
ARCES	**ARCESS Array B**	**148.59**	**335**	PKPbc	PKPdf	15 33 50.1	+4.8
	1.6nm,0.8s,baz=63,slow=5.4,SNR=3.9						
FINES	**FINESS Array B**	**151.75**	**320**	PKPbc	PKPdf	15 33 56.9	+6.5
	0.7nm,0.6s,baz=90,slow=3.8,SNR=6.0						

NEIC ***22*** *15:18:39.8, 46.71S×165.95E, h33km, ML3.8(WEL), After WEL.*
WEL 22 15:18:41.0±1.1**, 46.28S×165.87E, h33**km**, ML3.5/11, 1C, Error ellipse: s-maj=10.7km s-min=7.7km az=90.0, Off west coast of South Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**1.20**	**49**	PN	Pn	15 19 00.2	-1.5
DCZ				SN	Sn	15 19 15.8	-1.2
WHZ	**Wether Hill Ro**	**1.50**	**76**	P	P	15 19 04.9	-0.9
WHZ				S	S	15 19 24.0	-0.4
WHZ	**Wether Hill Ro**	**1.50**	**76**	⇑PN	Pn	15 19 04.9	-1.0
WHZ				SN	Sn	15 19 22.4	-2.1
MLZ	**Mavora Lakes**	**1.86**	**61**	P	Pn	15 19 11.3	+0.3
MLZ	**Mavora Lakes**	**1.86**	**61**	PN	Pn	15 19 11.2	+0.1
MSZ	**Milford Sound**	**2.16**	**43**	PN	Pn	15 19 15.0	-0.5
EAZ	**Earnscleugh**	**2.63**	**68**	*e*P	P	15 19 21.3	-0.6
EAZ	**Earnscleugh**	**2.63**	**68**	PN	Pn	15 19 21.3	-0.8
TUZ	**Tuapeka**	**2.64**	**84**	*e*P	P	15 19 20.2	-1.9
TUZ				S	S	15 19 51.7	-1.6
TUZ	**Tuapeka**	**2.64**	**84**	PN	Pn	15 19 20.1	-2.2
TUZ				SN	Sn	15 19 51.2	-2.3
WKZ	**Wanaka**	**2.65**	**58**	*e*P	P	15 19 23.9	+1.7
WKZ	**Wanaka**	**2.65**	**58**	*e*PN	Pn	15 19 23.2	+0.8
JCZ	**Jackson Bay**	**3.00**	**44**	*e*P	P	15 19 28.9	+1.6
JCZ	**Jackson Bay**	**3.00**	**44**	PN	Pn	15 19 28.2	+0.8
ODZ	**Otahua Downs**	**3.57**	**72**	PN	Pn	15 19 32.2	-3.3
LBZ	**Lake Benmore**	**3.58**	**60**	*e*P	P	15 19 34.6	-1.0
LBZ	**Lake Benmore**	**3.58**	**60**	PN	Pn	15 19 34.6	-1.1
FOZ	**Fox Glacier**	**3.84**	**46**	*e*PN	Pn	15 19 40.2	+0.9
RPZ	**Rata Peaks**	**4.48**	**57**	*e*P	P	15 19 45.7	-2.6
RPZ	**Rata Peaks**	**4.48**	**57**	*e*PN	Pn	15 19 45.1	-3.3
WVZ	**Waitaha Valley**	**4.72**	**49**	*e*P	P	15 19 50.8	-0.9
LTZ	**Lake Taylor**	**5.76**	**55**	*e*P	P	15 20 04.1	-2.1
DSZ	**Denniston Nort**	**6.23**	**46**	*e*P	P	15 20 11.3	-1.6
THZ	**Tophouse**	**6.79**	**51**	*e*P	P	15 20 19.0	-1.8

NEIC ***22*** *15:21:30.7±3.4, 14.78S×167.33E, h193km±29km, mb4.1/5, Error ellipse: s-maj=33.3km s-min=19.6km az=193.0*
IDC ***22*** *15:21:49.9±20.0, 14.61S±166.41E, h341km±174km, mb3.4/4, mb1 3.5/5, mb1mx3.4/12, mbtmp4.1/5, Error ellipse: s-maj=117.5km s-min=45.9km az=86.0*
ISC 22 15:21:31.8±4.1**, 14.95S**±0.2×**167.2E**±0.2**, h209**km±35km**, n15, σ0§91/15, mb3.9/8, 1D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.15**	**186**	*e*P	**P**	**15 23 14.8**	**0.0**
DZM				*e*S	**S**	**15 24 34.9**	**-0.2**
CTA	**Charters Tower**	**20.61**	**253**	P	**P**	**15 25 58.1**	**+2.0**
	0.2nm,0.3s,baz=106,slow=11,SNR=6.3						
CTAO	**Charters Tower**	**20.61**	**253**	*e*P	**P**	**15 25 57.0**	**+1.0**
	4.2nm,0.7s						
STKA	**Stephens Creek**	**28.81**	**230**	P	**P**	**15 27 14.8**	**+2.1**
	3.0nm,0.5s,mb4.2,baz=41,slow=8.7,SNR=15						
STKA	**Stephens Creek**	**28.81**	**230**	P	**P**	**15 27 14.8**	**+2.1**
WB2	**Warramunga Arr**	**31.69**	**256**	⇓*i*P	**P**	**15 27 37.1**	**-0.9**
WRAB	**Tennant Creek**	**31.69**	**256**	*e*P	**P**	**15 27 37.0**	**-1.0**
	2.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**31.70**	**256**	P	**P**	**15 27 37.1**	**-1.0**
	1.3nm,0.5s,mb3.7,baz=84,slow=8.8,SNR=27						
ASAR	**Alice Springs**	**32.53**	**249**	P	**P**	**15 27 44.9**	**-0.4**
	2.5nm,0.5s,mb4.0,baz=80,slow=9.1,SNR=125						
ASAR				PcP	PcP	15 30 26.5	-0.4
	0.2nm,0.7s,baz=55,slow=2.9,SNR=3.8						
ASPA	**Alice Springs**	**32.53**	**249**	*e*P	**P**	**15 27 44.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.90**	**260**	*e*P	**P**	**15 28 48.3**	**+1.1**
	6.0nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**45.41**	**255**	*e*P	**P**	**15 29 31.6**	**-0.1**
	9.3nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**75.11**	**180**	P	**P**	**15 32 51.8**	**-0.2**
	1.0nm,0.6s,mb3.6						
SONM	**Songino Array**	**82.60**	**324**	P	**P**	**15 33 33.0**	**+0.2**
	0.2nm,0.4s,mb3.2,baz=138,slow=5.7,SNR=5.6						
ARCES	**ARCESS Array B**	**120.42**	**345**	PKP	PKPdf	15 39 58.1	+0.3
	4.0nm,1.0s,slow=2.4,SNR=7.6						

BJI ***22*** *15:23:32.7, 19.50N×108.80W, h10km, mB5.4, mb4.5, Ms4.7, Msz4.3*
IDC ***22*** *15:23:34.0±1.6, 19.61N×108.56W, mb3.7/5, mb1 4.0/7, mb1mx3.8/18, mbtmp3.7/7, ML3.6/2, MS3.9/5, Ms1 4.0/5, ms1mx3.4/18, Error ellipse: s-maj=63.6km s-min=20.3km az=72.0*
NEIC ***22*** *15:23:35.7±0.8, 19.48N×108.83W, h10km, mb4.5/12, Error ellipse: s-maj=17.5km s-min=9.6km az=65.0*
ISC 22 15:23:34.2±0.7**, 19.50N**±0.07×**108.85W**±0.10**, h10**km**, n44, σ1§34/41, mb4.2/14, MS4.0/5, Revilla Gigedo Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTX	**Lajitas**	**10.87**	**25**	P	**P**	**15 26 13.2**	**+0.1**
TXAR	**Lajitas Array**	**10.87**	**25**	Pn	**P**	**15 26 10.5**	**-2.6**
	0.2nm,0.3s,baz=200,slow=15,SNR=13						
TUC	**Tucson**	**12.88**	**353**	*e*P	**P**	**15 26 41.6**	**+1.4**
GDL2	**Guadalupe Moun**	**13.28**	**17**	*e*P	**P**	**15 26 48.1**	**+2.7**
CLNB	**Carlsbad**	**13.47**	**18**	*e*P	**P**	**15 26 49.3**	**+1.2**
JCT	**Junction City**	**13.66**	**35**	P	**P**	**15 26 50.2**	**-0.3**
LPM	**Los Pinos Moun**	**14.89**	**7**	*e*P	**P**	**15 27 07.9**	**+1.3**
LAZ	**Ladron**	**14.92**	**6**	*e*P	**P**	**15 27 07.9**	**+0.8**
ANMO	**Albuquerque**	**15.54**	**7**	Pn	**P**	**15 27 14.6**	**-0.6**
	baz=173,slow=16,SNR=3.2						
ANMO				LR	LR	15 33 30.9	
	comp=Z,20nm,19.2s,slow=39						
LDFC	**Landfair**	**16.48**	**342**	*e*P	**P**	**15 27 30.2**	**+3.1**
NATX	**Nacogdoches**	**17.66**	**43**	*e*P	**P**	**15 27 41.5**	**-0.5**
	149nm,1.8s						
ARUT	**Antelope Range**	**18.66**	**349**	*e*P	**P**	**15 27 53.8**	**-0.6**
MSU	**Marysvale**	**19.17**	**352**	*e*P	**P**	**15 28 01.1**	**+0.6**
TEIG	**Tepich**	**19.37**	**84**	*e*P	**P**	**15 28 05.2**	**+2.2**
	36nm,1.4s						
SRU	**San Rafael**	**19.60**	**356**	*e*P	**P**	**15 28 03.7**	**-1.7**
NLU	**North Lily Min**	**20.58**	**353**	*e*P	**P**	**15 28 15.9**	**0.0**
DUG	**Dugway**	**20.91**	**351**	*e*P	**P**	**15 28 19.1**	**-0.2**
	34nm,1.3s						
DAU	**Daniels Canyon**	**20.95**	**355**	*e*P	**P**	**15 28 18.2**	**-1.5**
JLU	**Jordanelle**	**21.15**	**355**	*e*P	**P**	**15 28 21.4**	**-0.4**
TCUT	**Torche Canyon**	**21.66**	**355**	*e*P	**P**	**15 28 26.5**	**-0.4**
WCN	**Washoe City**	**21.87**	**337**	*e*P	**P**	**15 28 31.9**	**+2.9**
	39nm,1.3s,mb4.7						
HVU	**Hansel Valley**	**22.46**	**352**	*e*P	**P**	**15 28 35.6**	**+0.7**
PDAR	**Pinedale Array**	**23.21**	**359**	P	**P**	**15 28 42.4**	**+0.2**
	0.8nm,0.8s,mb3.2,baz=169,slow=7.6,SNR=6.1						
RRI2	**Red Ridge**	**23.87**	**356**	*e*P	**P**	**15 28 48.8**	**+0.2**
PLAL	**Pickwick Lake**	**23.99**	**46**	*e*P	**P**	**15 28 48.9**	**-1.1**
	10nm,0.9s,mb4.3						
HLID	**Hailey**	**24.44**	**350**	*e*P	**P**	**15 28 54.8**	**+0.5**
	7.0nm,1.2s,mb4.0						
HLID				*e*		15 29 03.2	
YBH	**Yreka Blue Hor**	**25.10**	**335**	P	**P**	**15 29 01.2**	**+0.6**
	1.8nm,0.8s,mb3.6,baz=176,slow=5.4,SNR=3.1						
QLMT	**Earthquake Lak**	**25.35**	**356**	P	**P**	**15 29 04.7**	**+1.7**
MCMT	**McKenzie Canyo**	**25.48**	**353**	*e*P	**P**	**15 29 05.0**	**+0.9**
HRY	**Holter Researc**	**27.25**	**356**	*e*P	**P**	**15 29 19.9**	**-0.6**
HRY				*e*		15 29 29.2	
CHMT	**Chamberlain Mo**	**27.58**	**353**	*e*P	**P**	**15 29 22.2**	**-1.3**
CHMT				*e*		15 29 32.0	
ACSO	**Alum Creek Sta**	**30.31**	**41**	*e*P	**P**	**15 29 45.2**	**-2.8**
	11nm,0.5s,mb4.8						
OTAV	**Otavalo**	**35.41**	**119**	*e*P	**P**	**15 30 34.8**	**+2.1**
	16nm,1.4s,mb4.8						
SDV	**Santo Domingo**	**38.44**	**100**	P	**P**	**15 30 59.3**	**+1.1**
	6.3nm,0.7s,mb4.5						
FCC	**Fort Churchill**	**40.66**	**12**	*e*P	**P**	**15 31 13.9**	**-2.3**
	9.3nm,1.2s,mb4.3						
YKA	**Yellowknife Ar**	**43.14**	**356**	P	**P**	**15 31 33.5**	**-2.8**
	0.3nm,0.5s,mb3.2,baz=171,slow=8.0,SNR=7.1						
YKA				LR	LR	15 49 58.3	
	comp=Z,205nm,18.6s,MS4.1,baz=120,slow=37						
YKA	**Yellowknife Ar**	**43.14**	**356**	P	**P**	**15 31 33.5**	**-2.8**
INK	**Inuvik**	**51.19**	**349**	*e*P	**P**	**15 32 37.5**	**-2.0**
	5.2nm,1.0s,mb4.4						
INK				*e*		15 32 46.2	
LPAZ	**La Paz**	**53.55**	**129**	P	**P**	**15 32 56.0**	**-1.8**
	0.4nm,0.3s,mb3.8,baz=355,slow=9.5,SNR=5.5						
LPAZ				LR	LR	15 52 29.1	
	comp=Z,71nm,19.9s,MS3.7,baz=278,slow=32						
LVC	**Limon Verde**	**57.21**	**135**	*e*P	**P**	**15 33 24.6**	**+0.3**
	12nm,1.1s,mb4.8						
PLCA	**Paso Flores**	**69.70**	**150**	P	**P**	**15 34 46.1**	**-0.2**
	2.6nm,0.9s,mb4.2,baz=277,slow=3.5,SNR=5.0						
PLCA				LR	LR	15 57 58.4	
	comp=Z,147nm,20.0s,MS4.2,baz=359,slow=30						
BORG	**Borgarnes**	**71.51**	**27**	LR	LR	16 07 24.1	
	comp=Z,145nm,19.0s,MS4.3,baz=327,slow=37						
NOA	**NORSAR Array B**	**86.57**	**25**	LR	LR	16 15 00.8	
	comp=Z,25nm,18.0s,MS3.6,baz=350,slow=36						
WMQ	**Urumqi**	**115.19**	**347**	*e*PKP	PKPdf	15 42 18.0	-1.0

FUNV ***22*** *15:46:02.6, 10.66N×62.45W, h84km, MW3.1*
NEIC ***22*** *15:46:05.0, 10.83N×62.30W, h108km, MD3.1(TRN), After TRN.*
TRN ***22*** *15:46:05.0, 10.83N×62.30W, h108km, MD3.1*
ISC 22 15:46:01.0±0.6**, 10.63N**±0.05×**62.56W**±0.03**, h96**km±8km**, n20, σ1§16/34, 3C-2D, Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.33**	**87**	⇑*i*P	**P**	**15 46 15.2**	**-0.1**
GUIV				*e*S	**S**	**15 46 23.8**	**-2.5**
GUNV	**Guanoco**	**0.60**	**219**	⇑*i*P	**P**	**15 46 18.6**	**+1.2**
GUNV				*e*S	**S**	**15 46 29.8**	**+0.2**
CRUV	**Carupano**	**0.67**	**274**	⇓*i*P	**P**	**15 46 18.1**	**+0.1**
TPP	**Pointe-a-Pierr**	**1.13**	**106**	*e*P	**P**	**15 46 26.7**	**+3.6**
TPP				*e*S	**S**	**15 46 42.1**	**+2.7**
TRN	**Trinidad (W)**	**1.14**	**89**	*e*P	**P**	**15 46 24.6**	**+1.5**
TRN				*e*S	**S**	**15 46 38.6**	**-1.0**
TBH	**Brigand Hill**	**1.47**	**96**	*e*P	**P**	**15 46 29.2**	**+2.1**
TBH				*e*S	**S**	**15 46 46.9**	**+0.3**
GRW	**Mount Saint Ca**	**1.76**	**30**	*e*P	**P**	**15 46 30.7**	**-0.1**
GRW				*e*S	**S**	**15 46 51.8**	**-0.9**
ORIV	**Oritupano**	**1.76**	**208**	*e*P	**P**	**15 46 32.0**	**+1.1**
BOT	**Bacolet**	**1.88**	**73**	*e*S	**S**	**15 46 53.5**	**-2.1**
PCRV	**Puerto La Cruz**	**2.09**	**258**	*e*P	**P**	**15 46 36.3**	**+1.1**
PCRV				*e*S	**S**	**15 47 01.1**	**+0.6**
IBAV	**Isla La Blanqu**	**2.31**	**301**	⇑*i*P	**P**	**15 46 38.2**	**0.0**
GURV	**El Guri**	**2.90**	**190**	*e*P	**P**	**15 46 46.5**	**+0.2**
GURV				*e*S	**S**	**15 47 18.8**	**-1.5**
CUPV	**Cœpira**	**3.23**	**260**	*e*P	**P**	**15 46 51.9**	**+1.0**
CUPV				*e*S	**S**	**15 47 28.1**	**-0.3**
BIRV	**Birongo**	**3.65**	**268**	*e*P	**P**	**15 46 57.5**	**+0.8**
BIRV				*e*S	**S**	**15 47 37.9**	**-1.0**
MERV	**Las Mercedes**	**3.93**	**250**	*e*P	**P**	**15 47 00.7**	**+0.2**
LUEV	**Luepa**	**4.88**	**167**	*e*P	**P**	**15 47 12.4**	**-1.1**
LUEV				*e*S	**S**	**15 48 03.8**	**-5.3**
CAOV	**Caicara del Or**	**4.96**	**229**	*e*P	**P**	**15 47 14.6**	**0.0**
CAOV				*e*S	**S**	**15 48 07.8**	**-3.4**
TURV	**Turiamo**	**5.20**	**268**	*e*P	**P**	**15 47 18.4**	**+0.6**
BAUV	**El Baul**	**5.66**	**253**	*e*P	**P**	**15 47 23.4**	**-0.7**
BAUV				*e*S	**S**	**15 48 24.4**	**-4.0**
SOCV	**Socops**	**8.51**	**255**	⇓*e*P	**P**	**15 48 01.8**	**-1.3**
SOCV				*e*S	**S**	**15 49 29.4**	**-8.8**

MOS ***22*** *15:53:33.0±1.1, 18.75N×121.77E, h86km, mb4.3/12, Error ellipse: s-maj=25.7km s-min=8.3km az=110.6*
BJI ***22*** *15:53:33.4, 18.70N×121.47E, h69km, mB4.7, mb4.2, ML4.2, Ms3.8, Msz3.7*
IDC ***22*** *15:53:34.3±4.6, 18.65N×121.49E, h80km±43km, mb4.1/15, mb1 4.1/16, mb1mx4.0/22, mbtmp4.4/16, ML3.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/13, Error ellipse: s-maj=28.6km s-min=13.0km az=72.0*
MAN ***22*** *15:53:35.5, 18.88N×121.41E, h74km, mb5.2, ML4.2, MS4.4*
NEIC ***22*** *15:53:35.5±0.8, 18.71N×121.72E, h92km±7km, mb4.3/15, Error ellipse: s-maj=10.6km s-min=5.3km az=76.0*
ISC 22 15:53:35.3±0.3**, 18.83N**±0.02×**121.52E**±0.05**, h97**km±3km**, n98, σ1§22/114, mb4.3/35, 8C, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SGCP	**Mt. Cagua**	**0.77**	**139**	*e*P	**P**	**15 53 54.1**	**+0.6**
SGCP				*e*S	**S**	**15 54 07.5**	**+0.7**
APYP	**Conner**	**1.00**	**195**	*e*P	**P**	**15 53 55.4**	**-0.4**
APYP				*e*S	**S**	**15 54 10.1**	**-1.0**
CVP	**Callao Caves**	**1.16**	**165**	⇑*e*P	**P**	**15 53 58.5**	**+0.7**
ABRA	**Dolores**	**1.40**	**213**	*e*P	**P**	**15 53 59.6**	**-1.1**
ABRA				*e*S	**S**	**15 54 19.7**	**+0.2**
BBP	**Basco**	**1.66**	**15**	*e*P	**P**	**15 54 04.3**	**+0.5**
BBP				*e*S	**S**	**15 54 23.4**	**-1.5**

CAUP	**Cauayan**	**1.90**	**171**	*e*P	**P**	**15 54 09.1**	**+2.2**
PALP	**Palanan**	**1.96**	**154**	*e*P	**P**	**15 54 09.2**	**+1.5**
BCPH	**Baguio City Da**	**2.59**	**200**	⇑*i*P	**P**	**15 54 16.2**	**-0.2**
BCPH				*i*S	**S**	**15 54 47.0**	**-0.2**
BOLP	**Bolinao**	**2.88**	**212**	*e*P	**P**	**15 54 20.9**	**+0.5**
BOLP				*e*S	**S**	**15 54 52.9**	**-1.2**
BALP	**Baler**	**3.07**	**179**	*e*P	**P**	**15 54 22.6**	**-0.5**
PCPH	**Palayan**	**3.27**	**187**	⇑*e*P	**P**	**15 54 26.2**	**+0.4**
PCPH				*e*S	**S**	**15 55 05.7**	**+1.8**
SCZP	**Santa Cruz**	**3.40**	**207**	*e*P	**P**	**15 54 27.8**	**+0.2**
POLP	**Polillo Island**	**4.10**	**174**	*e*P	**P**	**15 54 37.5**	**+0.4**
QVPH	**Quezon City--P**	**4.18**	**186**	⇑*e*P	**P**	**15 54 42.3**	**+4.1**
NBP	**Mount Natib**	**4.20**	**195**	⇑*e*P	**P**	**15 54 38.2**	**-0.3**
ARP	**Angono**	**4.28**	**185**	⇑*e*P	**P**	**15 54 39.8**	**+0.1**
LBPH	**Los Banos**	**4.66**	**184**	⇑*e*P	**P**	**15 54 46.0**	**+1.2**
GQP	**Guinayangan**	**4.98**	**170**	⇑*e*P	**P**	**15 54 49.2**	**+0.1**
GQP				*e*S	**S**	**15 55 44.8**	**-1.1**
LUBP	**Lubang**	**5.21**	**194**	*e*P	**P**	**15 54 54.2**	**+1.9**
NACB	**Ninganchiao**	**5.32**	**1**	*e*P	**P**	**15 54 52.5**	**-1.2**
NACB				*e*S	**S**	**15 55 49.0**	**-5.3**
BOAC	**Boac**	**5.35**	**177**	*e*P	**P**	**15 54 54.9**	**+0.7**
PVCP	**Virac**	**5.79**	**154**	*e*P	**P**	**15 55 00.4**	**+0.3**
YHNB	**Yeheng**	**5.81**	**359**	*e*P	**P**	**15 55 00.5**	**+0.1**
YHNB				*e*S	**S**	**15 56 03.6**	**-2.9**
TATO	**Taipei**	**6.12**	**360**	P	**P**	**15 55 05.4**	**+0.8**
SJMP	**San Jose**	**6.34**	**184**	*e*P	**P**	**15 55 08.8**	**+1.0**
QZH	**Quanzhou**	**6.66**	**336**	*i*P	**P**	**15 55 10.4**	**-1.9**
QZH				S	**S**	**15 56 22.0**	**-5.2**
QZH				Smax			
	comp=N,100nm,0.8s						
QZH				Smax			
	comp=E,120nm,0.8s						
BUSP	**Coron**	**6.91**	**191**	*e*P	**P**	**15 55 14.3**	**-1.3**
CNP	**Catarman**	**6.97**	**154**	*e*P	**P**	**15 55 18.2**	**+1.6**
ENPP	**El Nido**	**7.84**	**195**	*e*P	**P**	**15 55 26.9**	**-1.6**
BESP	**Borongan**	**8.12**	**152**	*e*P	**P**	**15 55 36.6**	**+4.5**
GZH	**Guangzhou**	**8.73**	**300**	P	**P**	**15 55 38.8**	**-1.6**
GZH				S	**S**	**15 57 10.3**	**-7.6**
GZH				Smax			
	comp=N,81nm,1.0s						
GZH				Smax			
	comp=E,86nm,1.0s						
JOW	**Kunigami**	**10.11**	**37**	P	**P**	**15 55 57.9**	**-1.2**
	comp=E,1.9nm,0.3s,baz=255,slow=18,SNR=8.1						
JOW				S	**S**	**15 57 45.2**	**-6.0**
	comp=E,0.8nm,0.3s,baz=87,slow=7.1,SNR=2.3						
JOW				LR	LR	15 59 38.9	
	comp=E,122nm,20.6s,baz=304,slow=36						
QIZ	**Qiongzhong**	**11.05**	**273**	P	**P**	**15 56 09.3**	**-2.4**
QIZ				S	**S**	**15 58 08.4**	**-5.4**
ENH	**Enshi**	**15.78**	**318**	P	**P**	**15 57 16.4**	**+3.2**
	comp=E,4.3nm,0.7s						
XAN	**Xi'an**	**18.86**	**326**	P	**P**	**15 57 52.0**	**+1.7**
XAN				AMB	AMB		
	comp=Z,4.0nm,1.0s						
KSM	**Kuching**	**20.45**	**214**	*e*P	**P**	**15 58 07.5**	**+0.3**
KSM				*e*		15 58 21.7	
CBIJ	**Chichi jima**	**20.71**	**63**	P	**P**	**15 58 10.1

comp=Z,0.9nm,0.4s,mb3.8,baz=78,slow=8.4,SNR=7.3
KAF Kangasniemi 75.95 331 *e*P **P 16 05 12.8 -0.1**
comp=Z,1.6nm,0.7s,mb3.9,baz=75,slow=6.1
KAF Kangasniemi 75.95 331 *e*P **P 16 05 12.8 -0.1**
KAF pmax pmax
comp=Z,2.0nm,0.7s,mb4.0
FINES FINESS Array B 76.22 330 P **P 16 05 13.9 -0.5**
comp=Z,2.6nm,0.8s,mb4.0,baz=90,slow=5.7,SNR=9.7
DAWY Dawson 77.16 26 *e*P **P 16 05 20.0 +0.4**
INK Inuvik 78.06 22 *e*P **P 16 05 24.3 -0.2**
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 78.06 22 *e*P **P 16 05 24.3 -0.2**
comp=Z,3.1nm,0.7s,mb4.2
MLR Muntele Rosu 80.60 315 P **P 16 05 38.4 -0.3**
comp=Z,2.9nm,0.6s,mb4.3,baz=206,slow=13,SNR=5.3
HFS Hagfors 82.38 331 P **P 16 05 47.8 +0.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=90,slow=3.0,SNR=9.5
NB2 NORSAR Subarra 83.09 333 P **P 16 05 50.9 -0.3**
comp=Z,1.5nm,0.6s,mb4.0,baz=66,slow=4.6
NOA NORSAR Array B 83.09 333 P **P 16 05 50.5 -0.7**
comp=Z,1.4nm,0.6s,mb4.0,baz=64,slow=4.8,SNR=8.9
RES Resolute Bay 83.87 9 *e*P **P 16 05 55.6 +0.7**
RES pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
RES Resolute Bay 83.87 9 *e*P **P 16 05 55.6 +0.7**
comp=Z,3.8nm,0.7s,mb4.3
MORC Moravsky Berou 84.49 321 P **P 16 05 59.3 +0.8**
MORC pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MORC Moravsky Berou 84.49 321 P **P 16 05 59.3 +0.8**
comp=Z,2.5nm,0.7s,mb4.2
GERES GERESS Array B 87.17 321 P **P 16 06 11.9 +0.3**
comp=Z,0.4nm,0.5s,mb3.6,baz=56,slow=4.8,SNR=5.0
YKW3 Yellowknife Ar 87.72 23 *e*P **P 16 06 14.8 +0.9**
YKA Yellowknife Ar 87.77 23 P **P 16 06 15.1 +0.9**
comp=Z,3.5nm,0.5s,mb4.7,baz=308,slow=4.5,SNR=91

NAO ***22*** *15:59:02.5±1.9, 67.66N×33.82E, ML2.5*
CSEM ***22*** *15:59:03.5±0.3, 67.72N×33.61E, h2km, ML2.5, Error ellipse: s-maj=6.7km s-min=3.3km az=102.0*
HEL 22 15:59:02.3±0.4**, 67.64N×33.89E, ML2.0, ML2.0**(BER)**, ML2.5**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.35**	**265**	*i* P	Pg	15 59 08.4	-0.8
APA0				*i* S	Sg	15 59 13.3	-0.5
APA0				*e*RG		15 59 14.7	
APA0	**Apatity Array**	**0.35**	**265**	Pg	Pg	15 59 08.4	-0.8
	baz=82,slow=22						
APA0				Lg		15 59 13.3	
	baz=86,slow=37						
APA0				Rg		15 59 14.7	
	baz=86,slow=37						
KU4	**Liikasenvaara**	**2.12**	**235**	*e*P	Pn	15 59 39.7	+0.2
KU4				*e*S	Sn	16 00 08.0	+1.1
SGF	**Sodankyl**	**2.83**	**269**	*e*P	Pn	15 59 48.1	-1.6
SGF				*e*S	Sn	16 00 23.6	-1.4
SGF				*e*SG	Sg	16 00 29.3	-7.4
SGF				MSG		16 00 30.7	
	comp=Z,5.3nm,0.2s						
SGF	**Sodankyl**	**2.83**	**269**	P	Pn	15 59 48.1	-1.6
SGF				S	Sn	16 00 23.6	-1.4
SGF				Sg	Sg	16 00 29.2	-7.5
	comp=Z,5.3nm,0.2s						
KEV	**Kevo**	**3.29**	**313**	*e*P	Pn	15 59 55.4	-0.8
KEV				*e*S	Sn	16 00 34.5	-2.0
KEV	**Kevo**	**3.29**	**313**	P	Pn	15 59 55.3	-0.8
KEV				S	Sn	16 00 34.5	-2.1
ARA0	**ARCESS Array S**	**3.62**	**306**	*e*P	Pn	15 59 59.0	-1.7
ARA0				*e*PG	Pg	16 00 08.1	-6.4
ARA0				*e*S	Sn	16 00 40.4	-4.4
ARA0				*e*SG	Sg	16 00 53.5	-9.2
ARA0	**ARCESS Array S**	**3.62**	**306**	Pn	Pn	15 59 59.0	-1.7
	baz=123,slow=16						
ARA0				Pg	Pg	16 00 08.1	-6.4
	baz=121,slow=16						
ARA0				Sn	Sn	16 00 40.4	-4.4
	baz=122,slow=28						
ARA0				Lg		16 00 53.5	
	baz=126,slow=28						
ARA0	**ARCESS Array S**	**3.62**	**306**	P	Pn	15 59 59.0	-1.8
OUL	**Oulu**	**4.12**	**235**	*e*P	Pn	16 00 10.1	+2.2
OUL				*e*S	Sn	16 00 57.5	+0.1
OUL	**Oulu**	**4.12**	**235**	P	Pn	16 00 10.0	+2.2
OUL				S	Sn	16 00 57.5	+0.1
KTK1	**Kautokeino**	**4.18**	**294**	*e*P	Pn	16 00 07.7	-1.2
KTK1				AML	AML	16 01 16.9	
	comp=Z,7.8nm,0.2s						
KTK1	**Kautokeino**	**4.18**	**294**	P	Pn	16 00 07.6	-1.2
	comp=Z,7.8nm,0.2s						
KIF	**Kilpisjarvi**	**5.04**	**292**	*e*P	Pn	16 00 17.9	-3.1
KIF				*e*S	Sn	16 01 14.2	-6.7
KIF	**Kilpisjarvi**	**5.04**	**292**	P	Pn	16 00 17.9	-3.1
KIF				S	Sn	16 01 14.1	-6.8
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	Pn	16 00 46.4	-3.2
	baz=36,slow=16						
FIA0				Sn	Sn	16 02 04.2	-7.5
	baz=35,slow=22						
FIA0				Lg		16 02 38.2	
	baz=28,slow=28						
FIA0	**FINESS Array S**	**7.07**	**212**	*e*P	Pn	16 00 46.4	-3.2
FIA0				*e*S	Sn	16 02 04.2	-7.5
FIA0				*e*SG	Sg	16 02 38.2	-19
FIA0	**FINESS Array S**	**7.07**	**212**	Pn	Pn	16 00 46.3	-3.3
FIA0				Sn	Sn	16 02 04.2	-7.4
SPA0	**Spitsbergen Ar**	**11.68**	**342**	Pn	P	16 01 46.9	-6.1
	baz=138,slow=18						
SPA0	**Spitsbergen Ar**	**11.68**	**342**	*e*P	P	16 01 46.9	-6.1

IDC ***22*** *16:04:08.3±1.3, 33.25S×72.34W, mb4.1/2, mb1 4.2/5, mb1mx4.0/14, mbtmp3.9/5, ML4.1/2, MS3.6/1, Ms1 3.5/1, ms1mx1.9/18, Error ellipse: s-maj=26.1km s-min=21.5km az=122.0*
GUC ***22*** *16:04:09.5±0.7, 33.23S×72.29W, h34km±3km, MD4.3, ML4.3*
NEIC ***22*** *16:04:09.5, 33.23S×72.29W, h34km, ML4.3(GUC), After GUC.*
NEIC Felt [II] at Valparaiso and Vina del Mar.
ISC 22 16:04:08.5±1.1**, 33.25S**±0.04×**72.35W**±0.06**, h15**km±7km**, n32**, σ0**65/43, mb4.3**/4**, MS3.5**/1**, 7C-6D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IHA	**Instituto Hidr**	**0.64**	**70**	⇓*i* P	**Pb**	**16 04 20.9**	**+0.2**
IHA				*i* S	**Sb**	**16 04 29.2**	**+0.1**
LCCH	**Las Cruces**	**0.69**	**109**	⇑*i* P	**Pb**	**16 04 21.6**	**-0.1**
PACH	**Papudo**	**1.05**	**48**	⇑*i* P	**Pb**	**16 04 27.8**	**+0.1**
PACH				*i* S	**Sb**	**16 04 41.1**	**+0.1**
LNV	**Longovilo**	**1.05**	**132**	⇓*i* P	**Pb**	**16 04 27.9**	**0.0**
LNV				*i* S	**Sb**	**16 04 41.8**	**+0.6**
ROCH	**El Roble**	**1.16**	**77**	⇑*i* P	**Pb**	**16 04 29.5**	**-0.2**
ROCH				*i* S	**Sb**	**16 04 44.0**	**-0.3**
TACH	**Talagante**	**1.25**	**109**	⇑*i* P	**Pb**	**16 04 30.6**	**-0.5**
TACH				*i* S	**Sb**	**16 04 46.7**	**-0.2**
SAN	**Santiago**	**1.43**	**99**	*i* P	**Pn**	**16 04 33.8**	**-0.2**
SAN				*i* S	**Sb**	**16 04 51.6**	**-0.5**
ANTU	**Antumapu**	**1.47**	**103**	*e*P	**Pn**	**16 04 34.4**	**-0.2**
ANTU				*i* S	**Sb**	**16 04 53.2**	**-0.2**
ANTU				AMP		16 04 54.3	
	comp=E,7μm,0.4s						
DSCH	**Colegio Aleman**	**1.50**	**96**	*e*P	**Pn**	**16 04 34.7**	**-0.3**
DSCH				*i* S	**Sb**	**16 04 54.0**	**-0.2**
DSCH				AMP		16 04 59.1	
	comp=E,12μm,0.8s						
CLCH	**Cerro Calan**	**1.53**	**96**	⇓*i* P	**Pn**	**16 04 35.5**	**+0.1**
CLCH				*i* S	**Sn**	**16 04 54.4**	**-0.6**
CLCH				AMP		16 05 05.2	
	comp=N,7μm,0.5s						
CHNG	**Los Chungos**	**1.54**	**28**	⇑*i* P	**Pn**	**16 04 35.0**	**-0.6**
CHCH	**Chadas Angostu**	**1.57**	**116**	⇓*i* P	**Pn**	**16 04 35.6**	**-0.4**
PCH	**Pirque**	**1.58**	**104**	*e*P	**Pn**	**16 04 36.1**	**-0.1**
JACH	**Jahuel**	**1.58**	**70**	⇓*i* P	**Pn**	**16 04 35.7**	**-0.5**
JACH				*i* S	**Sn**	**16 04 56.3**	**-0.1**
CACH	**El Canelo**	**1.70**	**121**	⇑*i* P	**Pn**	**16 04 38.4**	**+0.6**
FCH	**Farellones**	**1.73**	**93**	⇑*i* P	**Pn**	**16 04 38.5**	**+0.3**
FCH				*i* S	**Sn**	**16 05 00.5**	**+0.4**
FCH				AMP		16 05 06.4	
	comp=E,6μm,0.5s						
SFDO	**San Fernando**	**1.76**	**141**	*e*P	**Pn**	**16 04 39.0**	**+0.3**
CICH	**Cipreses**	**1.93**	**124**	⇓*i* P	**Pn**	**16 04 41.5**	**+0.3**
ZON	**Zonda**	**3.54**	**62**	*e*P	**Pn**	**16 05 06.0**	**+1.9**
CFAA	**Coronel Fontan**	**3.84**	**66**	Pn	**Pn**	**16 05 09.6**	**+1.1**
	comp=E,0.6nm,0.3s,baz=237,slow=12,SNR=18						
CFAA				Sn	**Sn**	**16 05 58.0**	**+4.2**
	comp=E,2.2nm,0.3s,baz=123,slow=16,SNR=5.3						
CFAA				Lg		16 06 10.7	
	comp=E,5.7nm,0.3s,baz=7.3,slow=4.1,SNR=7.4						
CFAA	**Coronel Fontan**	**3.84**	**66**	Pn	**Pn**	**16 05 09.6**	**+1.1**
CFAA				Sn	**Sn**	**16 05 58.0**	**+4.2**
CFAA				Lg		16 06 10.7	
PLCA	**Paso Flores**	**7.61**	**170**	Pn	**Pn**	**16 06 01.0**	**-0.5**
	comp=E,0.6nm,0.3s,baz=327,slow=12,SNR=8.4						
PLCA				Lg		16 08 09.3	
	baz=72,slow=20,SNR=2.1						
TRQA	**Tornquist**	**9.71**	**123**	*e*P	**P**	**16 06 32.5**	**+1.9**
LVC	**Limon Verde**	**11.02**	**17**	P	**P**	**16 06 48.0**	**-0.7**
LPAZ	**La Paz**	**17.31**	**14**	P	**P**	**16 08 11.8**	**+0.5**
	comp=E,0.4nm,0.3s,baz=213,slow=7.2,SNR=19						
LPAZ	**La Paz**	**17.31**	**14**	P	**P**	**16 08 11.8**	**+0.5**
BDFB	**Brasilia**	**28.14**	**57**	P	**P**	**16 10 01.0**	**-1.1**
	comp=E,1.9nm,0.4s,mb4.1,baz=243,slow=6.8,SNR=3.1						
BDFB				LR	LR	16 23 04.4	
	comp=E,104nm,18.5s,MS3.5,baz=115,slow=40						
SNAA	**Sanae**	**52.38**	**158**	P	**P**	**16 13 20.0**	**-1.6**
	comp=E,9.4nm,1.0s,mb4.7						
QSPA	**South Pole Qui**	**56.99**	**180**	*e*P	**P**	**16 13 55.4**	**+0.2**
	comp=E,5.7nm,0.8s,mb4.7						
TXAR	**Lajitas Array**	**68.95**	**331**	P	**P**	**16 15 15.6**	**+0.4**
	comp=E,0.5nm,0.6s,mb3.6,baz=140,slow=9.8,SNR=4.5						
BVAR	**Borovoye Array**	**146.90**	**42**	PKPbc	PKPbc	16 23 53.0	+3.6
	comp=E,0.5nm,0.5s,baz=297,slow=3.2,SNR=4.2						
ZAL	**Zalesovo**	**153.72**	**31**	PKPbc	PKPdf	16 24 07.4	+5.6
	comp=E,0.6nm,0.4s,baz=101,slow=14,SNR=3.3						

ROM ***22*** *16:09:29.3±0.1, 41.76N×12.57E, h16km±1km, MD2.6/2, ML2.1/5, Error ellipse: s-maj=0.9km s-min=0.6km az=0.0*
NEIC ***22*** *16:09:29.3, 41.76N×12.57E, h16km, MD2.6(ROM), After ROM.*
CSEM ***22*** *16:09:29.1±0.1, 41.76N×12.57E, h16km, ML2.1/5, Error ellipse: s-maj=1.8km s-min=1.3km az=24.0*
ISC 22 16:09:29.4±0.9**, 41.72N**±0.05×**12.54E**±0.05**, h16**km±6km**, n29, σ0**59/50**, 2C-2D, Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MA9	**Marino**	**0.10**	**61**	*e*PG	**Pb**	**16 09 32.6**	**-0.3**
MA9	**Marino**	**0.10**	**61**	*e*Pg	**Pb**	**16 09 32.6**	**-0.3**
ROM9	**Roma**	**0.11**	**351**	⇓*i* PG	**Pb**	**16 09 32.7**	**-0.3**
ROM9				SG	**Sb**	**16 09 34.7**	**-0.7**
ROM9	**Roma**	**0.11**	**351**	⇓*i* Pg	**Pb**	**16 09 32.7**	**-0.3**
ROM9				*e*Sg	**Sb**	**16 09 34.7**	**-0.7**
LAV9	**Lanuvio**	**0.13**	**109**	*e*PG	**Pb**	**16 09 33.5**	**+0.3**
LAV9				SG	**Sb**	**16 09 36.3**	**+0.5**
	3μm,0.3s						
LAV9	**Lanuvio**	**0.13**	**109**	*e*Pg	**Pb**	**16 09 33.5**	**+0.2**
LAV9				*e*Sg	**Sb**	**16 09 36.3**	**+0.5**
LAV9	**Lanuvio**	**0.13**	**109**	*e*Pg	**Pb**	**16 09 33.5**	**+0.3**
	3μm,0.3s						
LAV9				Sg	**Sb**	**16 09 36.3**	**+0.5**
MTCE	**Montecelio**	**0.34**	**27**	⇑*i* PG	**Pb**	**16 09 36.1**	**-0.5**
MTCE				SG	**Sb**	**16 09 40.8**	**-0.6**
MTCE	**Montecelio**	**0.34**	**27**	⇑*i* Pg	**Pb**	**16 09 36.1**	**-0.5**
MTCE				*e*Sg	**Sb**	**16 09 40.8**	**-0.6**
CERT	**Cerreto**	**0.40**	**55**	*e*PG	**Pb**	**16 09 37.4**	**-0.3**
CERT				SG	**Sb**	**16 09 43.3**	**0.0**
CERT	**Cerreto**	**0.40**	**55**	*e*Pg	**Pb**	**16 09 37.4**	**-0.3**
CERT				*e*Sg	**Sb**	**16 09 43.3**	**0.0**
TOLF	**Tolfa**	**0.53**	**311**	*e*PG	**Pb**	**16 09 40.1**	**+0.3**
TOLF				SG	**Sb**	**16 09 48.1**	**+1.2**
TOLF	**Tolfa**	**0.53**	**311**	*e*Pg	**Pb**	**16 09 40.1**	**+0.3**
TOLF				*e*Sg	**Sb**	**16 09 48.1**	**+1.2**
MNS	**Montasola**	**0.67**	**9**	*e*PG	**Pb**	**16 09 41.9**	**-0.4**
MNS				SG	**Sb**	**16 09 52.1**	**+1.0**
	63nm,0.2s						
MNS	**Montasola**	**0.67**	**9**	*e*Pg	**Pb**	**16 09 41.9**	**-0.4**
MNS				*e*Sg	**Sb**	**16 09 52.1**	**+1.0**
MNS	**Montasola**	**0.67**	**9**	*e*Pg	**Pb**	**16 09 41.9**	**-0.4**
	63nm,0.2s						
MNS				Sg	**Sb**	**16 09 52.1**	**+1.0**
FIAM	**Fiamignano**	**0.70**	**38**	*e*PG	**Pb**	**16 09 42.2**	**-0.5**
FIAM				SG	**Sb**	**16 09 52.1**	**+0.3**
FIAM	**Fiamignano**	**0.70**	**38**	*e*Pg	**Pb**	**16 09 42.2**	**-0.5**
FIAM				*e*Sg	**Sb**	**16 09 52.1**	**+0.3**
PTQR	**Pietraquaria**	**0.71**	**65**	*e*PG	**Pb**	**16 09 42.7**	**-0.2**
PTQR				SG	**Sb**	**16 09 52.7**	**+0.5**
	35nm,0.3s						
PTQR	**Pietraquaria**	**0.71**	**65**	*e*Pg	**Pb**	**16 09 42.7**	**-0.2**
PTQR				*e*Sg	**Sb**	**16 09 52.7**	**+0.4**
PTQR	**Pietraquaria**	**0.71**	**65**	*e*Pg	**Pb**	**16 09 42.7**	**-0.2**
	35nm,0.3s						
PTQR				Sg	**Sb**	**16 09 52.7**	**+0.5**
VVLD	**Villa Vallelon**	**0.82**	**79**	*e*PG	**Pb**	**16 09 44.3**	**-0.6**
VVLD				SG	**Sb**	**16 09 56.9**	**+1.4**
VVLD	**Villa Vallelon**	**0.82**	**79**	*e*Pg	**Pb**	**16 09 44.3**	**-0.6**
VVLD				*e*Sg	**Sb**	**16 09 56.9**	**+1.4**
SDI	**San Donato**	**0.95**	**90**	*e*PN	**Pn**	**16 09 47.3**	**-0.7**
	37nm,0.4s						
SDI	**San Donato**	**0.95**	**90**	*e*Pg	**Pb**	**16 09 47.3**	**+0.3**
SDI	**San Donato**	**0.95**	**90**	*e*Pn	**Pn**	**16 09 47.3**	**-0.7**
	37nm,0.4s						
NRCA	**Norcia**	**1.19**	**21**	*e*PN	**Pn**	**16 09 51.0**	**-0.4**
	13nm,0.2s						
NRCA	**Norcia**	**1.19**	**21**	*e*Pg	**Pb**	**16 09 51.0**	**-0.1**
NRCA	**Norcia**	**1.19**	**21**	*e*Pn	**Pn**	**16 09 51.0**	**-0.4**
	13nm,0.2s						

CSEM ***22*** *16:14:27.3±0.1, 34.98N×2.87W, h10km, MD4.2, Error ellipse: s-maj=1.8km s-min=1.5km az=141.0*
CNRM ***22*** *16:14:27.2, 35.13N×2.68W, h4km, MD4.2*
NEIC ***22*** *16:14:28.3, 34.90N×2.96W, MG4.2(MDD), After MDD.*
CRAAG ***22*** *16:14:28.8, 34.91N×2.83W, Mb3.8*
SFS ***22*** *16:14:28.0, 34.90N×2.76W*
MDD ***22*** *16:14:28.8±0.5, 34.94N×2.91W, mb4.4/37, Error ellipse: s-maj=4.8km s-min=3.0km az=4.0, PRXIMO*
INMG ***22*** *16:14:29.1±1.4, 34.94N×2.96W, h6km±5km, ML3.1, Error ellipse: s-maj=4.5km s-min=4.4km az=170.0*
LDG ***22*** *16:14:29.8±0.4, 34.90N×2.98W, h2km, Ml3.4/4, Error ellipse: s-maj=7.7km s-min=3.9km az=175.0*
ISC 22 16:14:27.8±0.3**, 35.02N**±0.02×**2.89W**±0.02**, h10**km**, n123,** σ1**29**/208**, 5C-14D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.13**	**111**	P	**Pg**	**16 14 31.0**	**+0.1**
ZAI				S	**Sg**	**16 14 33.5**	**+0.5**
ZAI	**Zaio**	**0.13**	**111**	*i* P	**Pg**	**16 14 31.0**	**+0.1**
EMLI	**Melilla**	**0.29**	**351**	P	**Pg**	**16 14 35.7**	**+1.9**
	114nm,0.2s,SNR=18						
EMEL	**Melilla**	**0.29**	**350**	⇓P	**Pg**	**16 14 35.7**	**+1.9**
	1μm,0.2s,SNR=18						
EMEL				S	**Sg**	**16 14 40.5**	**+2.7**
	3μm,0.2s,SNR=7.9						
TOU	**Touzarine**	**0.71**	**266**	*i* P	**Pb**	**16 14 42.5**	**+0.8**
TOU				*i* S	**Sb**	**16 14 55.0**	**+3.7**
MPAL	**Palemas**	**0.89**	**284**	*i* P	**Pb**	**16 14 46.0**	**+1.2**
MPAL				*i* S	**Sb**	**16 15 01.0**	**+4.6**
EALB	**Alboran**	**0.93**	**353**	⇓P	**Pb**	**16 14 47.3**	**+1.8**
	207nm,0.3s,SNR=18						
EALB				S	**Sb**	**16 15 01.2**	**+3.5**
	1μm,0.4s,SNR=11						
EALB	**Alboran**	**0.93**	**353**	P	**Pb**	**16 14 47.3**	**+1.8**
	65nm,0.3s,SNR=18						
EALB				S	**Sb**	**16 15 01.2**	**+3.5**
	678nm,0.6s,SNR=11						
OLHC	**Oulhaca**	**1.23**	**79**	P	**Pb**	**16 14 51.0**	**+0.4**
ODZI	**Dziouia**	**1.39**	**78**	P	**Pn**	**16 14 53.0**	**-0.3**
OTSS	**Djebel Tessala**	**1.74**	**81**	P	**Pn**	**16 15 05.0**	**+6.7**
EBER	**Berja**	**1.88**	**0**	⇓P	**Pn**	**16 15 00.5**	**+0.2**
EBER				S	**Sn**	**16 15 23.2**	**-1.1**
EBER	**Berja**	**1.88**	**0**	⇓P	**Pn**	**16 15 00.6**	**+0.3**
	26nm,0.4s,SNR=18						
EBER				S	**Sn**	**16 15 23.2**	**-1.1**
	701nm,0.6s,SNR=7.9						
EBER	**Berja**	**1.88**	**0**	P	**Pn**	**16 15 00.5**	**+0.2**
	8.4nm,0.4s,SNR=18						
EBER				S	**Sn**	**16 15 23.2**	**-1.0**
	SNR=7.9						
ENIJ	**Nijar**	**2.03**	**16**	⇑P	**Pn**	**16 15 03.0**	**+0.5**
ENIJ				S	**Sn**	**16 15 28.6**	**+0.5**
ENIJ	**Nijar**	**2.03**	**16**	⇑P	**Pn**	**16 15 03.0**	**+0.5**
	30nm,0.3s,SNR=18						
ENIJ				S	**Sn**	**16 15 30.0**	**+1.9**
	101nm,0.4s,SNR=7.1						
ENIJ	**Nijar**	**2.03**	**16**	P	**Pn**	**16 15 03.0**	**+0.5**
	20nm,0.3s,SNR=18						
ENIJ				S	**Sn**	**16 15 28.6**	**+0.5**
	147nm,0.6s,SNR=7.1						
DKH	**Dar Kharkhour**	**2.08**	**284**	*i* P	**Pn**	**16 15 04.5**	**+1.4**
DKH				*i* S	**Sn**	**16 15 30.0**	**+0.8**
ERON	**Agron**	**2.13**	**340**	⇑P	**Pn**	**16 15 03.6**	**-0.3**
ERON				S	**Sn**	**16 15 30.9**	**+0.3**
ERON	**Agron**	**2.13**	**340**	⇑P	**Pn**	**16 15 03.6**	**-0.3**
	16nm,0.2s,SNR=18						
ERON				S	**Sn**	**16 15 29.4**	**-1.3**
	25nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.13**	**340**	P	**Pn**	**16 15 03.6**	**-0.3**
	16nm,0.2s,SNR=18						
ERON				S	**Sn**	**16 15 30.9**	**+0.2**
	SNR=7.9						
EMIJ	**Mijas**	**2.17**	**316**	⇓P	**Pn**	**16 15 03.6**	**-0.9**
	31nm,0.3s,SNR=18						
EMIJ				S	**Sn**	**16 15 33.5**	**+1.8**
	102nm,0.5s,SNR=4.0						
EMIJ	**Mijas**	**2.17**	**316**	S	**Sn**	**16 15 33.5**	**+1.8**
	69nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.32**	**347**	⇑P	**Pn**	**16 15 07.9**	**+1.3**
	29nm,0.3s,SNR=18						
ECOG				S	**Sn**	**16 15 36.4**	**+0.9**
	51nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.36**	**335**	P	**Pn**	**16 15 07.5**	**+0.3**
	10nm,0.3s,SNR=29						
ELOJ				S	**Sn**	**16 15 38.9**	**+2.5**
	41nm,0.6s,SNR=7.9						
REAL	**Reales**	**2.39**	**309**	P	**Pn**	**16 15 07.3**	**-0.3**
REAL	**Reales**	**2.39**	**309**	*e*P	**Pn**	**16 15 07.3**	**-0.3**
EJIF	**Jimena Fronter**	**2.54**	**305**	P	**Pn**	**16 15 09.8**	**0.0**
	16nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**16 15 41.7**	**+0.7**
	28nm,0.5s,SNR=7.9						
MOMI	**Momias**	**2.65**	**300**	P	**Pn**	**16 15 14.7**	**+3.3**
CZD	**Col de Zad**	**2.66**	**223**	*i* P	**Pn**	**16 15 11.5**	**0.0**
CZD				*i* S	**Sn**	**16 15 46.0**	**+1.8**
ELUQ	**Luque**	**2.77**	**337**	P	**Pn**	**16 15 14.8**	**+1.7**
	64nm,0.5s,SNR=51						
ELUQ				S	**Sn**	**16 15 48.3**	**+1.4**
	19nm,0.4s,SNR=7.9						
LIJA	**Lijar**	**2.78**	**314**	⇓P	**Pn**	**16 15 15.6**	**+2.5**
LIJA				S	**Sn**	**16 15 52.0**	**+5.0**
LIJA	**Lijar**	**2.78**	**314**	*i* P	**Pn**	**16 15 15.6**	**+2.5**
LIJA				*e*S	**Sn**	**16 15 52.0**	**+5.0**
EQES	**Quesada**	**2.79**	**357**	⇓P	**Pn**	**16 15 15.9**	**+2.7**
EQES				S	**Sn**	**16 15 50.3**	**+3.1**
EQES	**Quesada**	**2.79**	**357**	⇓P	**Pn**	**16 15 15.7**	**+2.4**
	59nm,0.4s,SNR=18						
EQES				S	**Sn**	**16 15 49.4**	**+2.2**
	261nm,0.5s,SNR=14						
EQES	**Quesada**	**2.79**	**357**	P	**Pn**	**16 15 15.9**	**+2.6**
	52nm,0.3s,SNR=18						
EQES				S	**Sn**	**16 15 50.3**	**+3.0**
	221nm,0.5s,SNR=14						
CART	**Cartagena**	**2.99**	**30**	*e*Pn	**Pn**	**16 15 16.1**	**-0.1**
CART				*e*S	**Sn**	**16 15 48.5**	**-3.9**
CART	**Cartagena**	**2.99**	**30**	*e*Pn	**Pn**	**16 15 16.0**	**-0.1**
CART				*e*S	**Sn**	**16 15 48.5**	**-3.9**
ESPR	**Espera**	**3.03**	**308**	P	**Pn**	**16 15 17.7**	**+0.9**
	7.3nm,0.4s,SNR=16						
ESPR				S	**Sn**	**16 15 54.3**	**+0.8**
	31nm,0.3s,SNR=7.9						
ESPR	**Espera**	**3.03**	**308**	P	**Pn**	**16 15 17.7**	**+0.9**
	4.7nm,0.2s,SNR=16						
ESPR				S	**Sn**	**16 15 54.3**	**+0.7**
	SNR=7.9						
EMUR	**La Murta**	**3.12**	**25**	⇓P	**Pn**	**16 15 18.7**	**+0.7**
	15nm,0.3s,SNR=18						
EMUR				S	**Sn**	**16 15 53.1**	**-2.6**
	45nm,0.5s,SNR=12						
EMUR	**La Murta**	**3.12**	**25**	P	**Pn**	**16 15 18.7**	**+0.7**
	7.4nm,0.3s,SNR=18						
EMUR				S	**Sn**	**16 15 53.1**	**-2.6**
	70nm,0.7s,SNR=12						
EBAN	**Banos Encina**	**3.22**	**347**	P	**Pn**	**16 15 21.7**	**+2.2**
	9.6nm,0.3s,SNR=4.0						
EBAN				S	**Sn**	**16 16 01.3**	**+3.0**
	22nm,0.4s,SNR=7.9						
EANR	**'Ain N'Sour**	**3.39**	**73**	P	**Pn**	**16 15 24.0**	**+2.2**
EADA	**Adamuz**	**3.42**	**337**	⇓P	**Pn**	**16 15 22.7**	**+0.4**
EADA				S	**Sn**	**16 16 05.0**	**+1.5**
EADA	**Adamuz**	**3.42**	**337**	⇓P	**Pn**	**16 15 22.7**	**+0.4**
	32nm,0.3s,SNR=18						
EADA				S	**Sn**	**16 16 01.0**	**-2.4**
	60nm,0.8s,SNR=8.5						
EADA	**Adamuz**	**3.42**	**337**	P

EBAD	**Badajoz**	**4.98**	**320**	⇓P		**Pn**	**16 15 43.6**	**-0.9**	
	25nm,0.3s,SNR=18								
EBAD				S		**Sn**	**16 16 39.8**	**-3.0**	
	18nm,0.2s,SNR=7.9								
EBAD	**Badajoz**	**4.98**	**320**	P		**Pn**	**16 15 43.6**	**-0.9**	
	11nm,0.3s,SNR=18								
EBAD				S		**Sn**	**16 16 39.8**	**-3.1**	
	SNR=7.9								
PBEJ	**Beja**	**5.01**	**308**	*e*Pn		**Pn**	**16 15 43.6**	**-1.2**	
PBEJ				*e*Sn		**Sn**	**16 16 39.0**	**-4.5**	
	11nm,0.4s								
PBEJ	**Beja**	**5.01**	**308**	*e*Pn		**Pn**	**16 15 43.6**	**-1.2**	
PBEJ				*e*Sn		**Sn**	**16 16 39.0**	**-4.5**	
	11nm,0.4s								
EIBI	**Ibiza**	**5.25**	**39**	P		**Pn**	**16 15 48.2**	**+0.1**	
	15nm,0.3s,SNR=8.0								
EIBI				S		**Sn**	**16 16 46.2**	**-3.3**	
	6.0nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**5.25**	**39**	P		**Pn**	**16 15 48.2**	**0.0**	
	3.6nm,0.2s,SNR=8.0								
EIBI				S		**Sn**	**16 16 46.2**	**-3.2**	
	SNR=7.9								
PTEO	**Sao Teotonio**	**5.34**	**300**	*e*Pn		**Pn**	**16 15 49.5**	**-0.1**	
PTEO				*e*Sn		**Sn**	**16 16 47.3**	**-4.6**	
	18nm,0.4s								
PTEO	**Sao Teotonio**	**5.34**	**300**	*e*Pn		**Pn**	**16 15 49.5**	**-0.1**	
PTEO				*e*Sn		**Sn**	**16 16 47.3**	**-4.6**	
	18nm,0.4s								
EVO	**Evora**	**5.40**	**312**	*e*Pn		**Pn**	**16 15 50.0**	**-0.4**	
EVO				*e*Sn		**Sn**	**16 16 50.3**	**-3.1**	
	22nm,0.3s								
MOE	**Montemor**	**5.61**	**310**	*e*Pn		**Pn**	**16 15 52.3**	**-1.0**	
MOE				*e*Sn		**Sn**	**16 16 54.3**	**-4.2**	
EMOS	**Mosqueruela**	**5.67**	**19**	P		**Pn**	**16 15 55.9**	**+1.7**	
EMOS	**Mosqueruela**	**5.67**	**19**	P		**Pn**	**16 15 55.0**	**+0.8**	
	2.8nm,0.4s,SNR=7.9								
EMOS	**Mosqueruela**	**5.67**	**19**	P		**Pn**	**16 15 55.9**	**+1.7**	
	SNR=7.9								
CIA	**Chichaoua**	**6.00**	**237**	*i* P		**Pn**	**16 15 58.0**	**-0.8**	
CIA				*i* S		**Sn**	**16 17 06.5**	**-1.8**	
PCBR	**Castelo Branco**	**6.04**	**324**	*e*Pn		**Pn**	**16 15 58.6**	**-0.8**	
PCBR				*e*Sn		**Sn**	**16 17 03.3**	**-6.1**	
	14nm,0.5s								
PCBR	**Castelo Branco**	**6.04**	**324**	P		**Pn**	**16 15 58.6**	**-0.8**	
PCBR				S		**Sn**	**16 17 03.3**	**-6.1**	
	7.2nm,0.5s								
PLOU	**Loures**	**6.33**	**309**	*e*Pn		**Pn**	**16 16 02.4**	**-1.0**	
PTOM	**Tomar**	**6.36**	**318**	*e*Pn		**Pn**	**16 16 02.9**	**-1.0**	
PTOM				*e*Sn		**Sn**	**16 17 12.9**	**-4.4**	
	22nm,0.5s								
PTOM	**Tomar**	**6.36**	**318**	P		**Pn**	**16 16 02.9**	**-1.0**	
PTOM				S		**Sn**	**16 17 12.9**	**-4.4**	
	11nm,0.5s								
MTE	**Manteigas**	**6.52**	**327**	*e*Pn		**Pn**	**16 16 05.1**	**-1.0**	
MTE				*e*Sn		**Sn**	**16 17 16.1**	**-5.2**	
	19nm,0.6s								
MTE	**Manteigas**	**6.52**	**327**	P		**Pn**	**16 16 05.1**	**-1.0**	
MTE				S		**Sn**	**16 17 16.1**	**-5.2**	
	9.3nm,0.6s								
ETOS	**Mallorca**	**6.57**	**42**	P		**Pn**	**16 16 06.4**	**-0.4**	
ETOS				S		**Sn**	**16 17 20.7**	**-1.8**	
ETOS	**Mallorca**	**6.57**	**42**	P		**Pn**	**16 16 06.4**	**-0.4**	
	4.4nm,0.4s,SNR=7.3								
ETOS				S		**Sn**	**16 17 17.5**	**-5.0**	
	2.1nm,0.4s,SNR=7.9								
ETOS	**Mallorca**	**6.57**	**42**	P		**Pn**	**16 16 06.4**	**-0.4**	
	6.6nm,0.4s,SNR=7.3								
ETOS				S		**Sn**	**16 17 20.7**	**-1.9**	
	SNR=7.9								
PVIS	**Viseu**	**6.93**	**327**	*e*Pn		**Pn**	**16 16 10.6**	**-1.3**	
PVIS				*e*Sn		**Sn**	**16 17 26.4**	**-5.2**	
	12nm,0.3s								
PVIS	**Viseu**	**6.93**	**327**	P		**Pn**	**16 16 10.6**	**-1.3**	
PVIS				S		**Sn**	**16 17 26.4**	**-5.2**	
	5.8nm,0.3s								
EPOB	**Poblet**	**7.06**	**25**	P		**Pn**	**16 16 12.4**	**-1.2**	
	1.3nm,0.2s,SNR=7.9								
PVRL	**Vila Real**	**7.31**	**330**	*e*Pn		**Pn**	**16 16 16.4**	**-0.9**	
PVRL				*e*Sn		**Sn**	**16 17 33.6**	**-7.6**	
PBRG	**Braganca**	**7.42**	**337**	*e*Pn		**Pn**	**16 16 18.0**	**-0.8**	
PBRG				*e*Sn		**Sn**	**16 17 36.3**	**-7.6**	
	6.7nm,0.6s								
PBRG	**Braganca**	**7.42**	**337**	P		**Pn**	**16 16 18.0**	**-0.8**	
PBRG				S		**Sn**	**16 17 36.3**	**-7.6**	
	3.3nm,0.6s								
ECAL	**Calabor**	**7.54**	**338**	P		**Pn**	**16 16 19.7**	**-0.8**	
	5.8nm,0.3s,SNR=7.9								
ECAL				S		**Sn**	**16 17 40.5**	**-6.4**	
	7.3nm,0.5s,SNR=7.9								
ECAL	**Calabor**	**7.54**	**338**	P		**Pn**	**16 16 19.7**	**-0.8**	
	9.1nm,0.3s,SNR=7.9								
EMIR	**Miracle**	**7.71**	**25**	P		**Pn**	**16 16 22.0**	**-0.8**	
	1.9nm,0.2s,SNR=4.0								
EMIR	**Miracle**	**7.71**	**25**	P		**Pn**	**16 16 22.0**	**-0.8**	
	SNR=4.0								
ELOB	**Lobios**	**7.95**	**331**	P		**Pn**	**16 16 24.7**	**-1.5**	
	13nm,0.4s,SNR=4.0								
ELOB				S		**Sn**	**16 17 51.5**	**-5.6**	
	7.7nm,0.4s,SNR=7.9								
ELOB	**Lobios**	**7.95**	**331**	P		**Pn**	**16 16 24.7**	**-1.5**	
	13nm,0.4s,SNR=4.0								
EBIE	**Bielsa**	**8.02**	**16**	P		**P**	**16 16 27.1**	**0.0**	
	1.9nm,0.5s,SNR=7.9								
ERUA	**La Rua**	**8.08**	**337**	P		**P**	**16 16 26.8**	**-1.2**	
	10nm,0.4s,SNR=8.9								
ETSF	**Etsaut**	**8.08**	**12**	*e*Pn		**P**	**16 16 27.6**	**-0.4**	
ETSF				*e*Sn		**Sn**	**16 17 54.6**	**-5.7**	
	1.8nm,0.3s								
SJPF	**Ste Jean**	**8.19**	**9**	*e*Pn		**P**	**16 16 29.6**	**+0.1**	
SJPF				*e*Sn		**Sn**	**16 17 56.8**	**-6.3**	
	1.2nm,0.3s								
EALK	**Alkurruntz**	**8.26**	**7**	P		**P**	**16 16 30.9**	**+0.3**	
	5.9nm,0.5s,SNR=4.0								
EINC	**Incio**	**8.39**	**337**	P		**P**	**16 16 31.9**	**-0.4**	
	4.2nm,0.2s,SNR=7.4								
EINC	**Incio**	**8.39**	**337**	P		**P**	**16 16 31.9**	**-0.4**	
EPF	**Esparros**	**8.39**	**16**	*e*Pn		**P**	**16 16 31.8**	**-0.5**	
EPF				*e*Sn		**Sn**	**16 18 03.2**	**-4.9**	
	1.8nm,0.3s								
EARI	**Arriondas**	**8.47**	**348**	P		**P**	**16 16 31.8**	**-1.6**	
EARI	**Arriondas**	**8.47**	**348**	P		**P**	**16 16 31.8**	**-1.6**	
	10nm,0.6s,SNR=14								
EARI	**Arriondas**	**8.47**	**348**	P		**P**	**16 16 31.8**	**-1.6**	
EJON	**La Jonquera**	**8.69**	**30**	P		**P**	**16 16 36.7**	**+0.3**	
	2.0nm,0.3s,SNR=7.9								
EPON	**Pontenova**	**8.93**	**340**	P		**P**	**16 16 39.6**	**-0.3**	
	4.6nm,0.4s,SNR=5.0								
EPON	**Pontenova**	**8.93**	**340**	P		**P**	**16 16 39.6**	**-0.2**	
STS	**Santiago**	**9.01**	**332**	P		**P**	**16 16 40.3**	**-0.6**	
	4.7nm,0.3s,SNR=7.9								
LASF	**Ste Croix**	**10.44**	**28**	*e*Pn		**P**	**16 16 59.2**	**-1.3**	
PGF	**Pioggiola**	**11.94**	**47**	*e*Pn		**P**	**16 17 21.1**	**+0.1**	
QUIF	**Quistinic**	**12.89**	**359**	*e*Pn		**P**	**16 17 32.6**	**-1.2**	
ROSF	**Rostrenen**	**13.31**	**359**	*e*Pn		**P**	**16 17 38.3**	**-1.0**	

*CSEM **22** 16:20:25.4±1.1,34.91N×2.99W,h15km,mb3.6/3,Error ellipse: s-maj=27.1km s-min=15.9km az=31.0*
*NEIC **22** 16:20:29.3,35.00N×3.04W,h14km,MG3.6(MDD),After MDD.*
*MDD **22** 16:20:29.3±2.4,35.00N×3.04W,h14km±12km,mb3.6/4,Error ellipse: s-maj=28.1km s-min=16.0km az=102.0,PRXIMO*

ISC 22 16:20:27.7±1.9,**34.97N**±0.10×**3.1W**±0.1,**h20**km±10km,**n15**, σ1§**12**/25,**Morocco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.31**	**89**	*i* P	**Pb**	**16 20 30.5**	**-4.1**
EMEL	**Melilla**	**0.36**	**23**	P	**Pb**	**16 20 35.5**	**+0.1**
	34nm,0.1s,SNR=4.0						
EMEL				S	**Sb**	**16 20 39.4**	**-1.2**
	138nm,0.4s,SNR=6.7						
EMLI	**Melilla**	**0.36**	**24**	P	**Pb**	**16 20 35.5**	**+0.1**
	34nm,0.1s,SNR=4.0						
EALB	**Alboran**	**0.97**	**4**	P	**Pb**	**16 20 46.2**	**+0.4**
	2.1nm,0.1s,SNR=8.2						
EALB				S	**Sb**	**16 20 59.5**	**+1.3**
	19nm,0.3s,SNR=14						
EALB	**Alboran**	**0.97**	**4**	P	**Pb**	**16 20 46.2**	**+0.4**
	2.1nm,0.1s,SNR=8.2						
EALB				S	**Sb**	**16 20 59.5**	**+1.3**
	19nm,0.3s,SNR=14						
EBER	**Berja**	**1.94**	**6**	P	**Pn**	**16 21 00.5**	**+0.4**
EBER				S	**Sn**	**16 21 23.1**	**-1.0**
	0.6nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**16 21 23.1**	**-1.0**
	13nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.94**	**6**	P	**Pn**	**16 21 00.5**	**+0.4**
	0.6nm,0.1s,SNR=7.9						
EBER				S	**Sn**	**16 21 23.1**	**-1.0**
	SNR=7.9						
EMIJ	**Mijas**	**2.08**	**320**	S	**Sn**	**16 21 27.4**	**-0.3**
	5.8nm,0.5s,SNR=4.0						
EQES	**Quesada**	**2.83**	**1**	P	**Pn**	**16 21 15.5**	**+2.6**
EQES				S	**Sn**	**16 21 48.8**	**+2.0**
EQES	**Quesada**	**2.83**	**1**	P	**Pn**	**16 21 14.7**	**+1.8**
	3.3nm,0.2s,SNR=4.7						
EQES				S	**Sn**	**16 21 47.3**	**+0.5**
	5.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.40**	**340**	P	**Pn**	**16 21 19.5**	**-1.5**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 21 60.0**	**-1.2**
	1.8nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.40**	**340**	P	**Pn**	**16 21 19.5**	**-1.5**
	0.3nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 22 00.0**	**-1.2**
EMIN	**Mina Concepcio**	**4.00**	**315**	P	**Pn**	**16 21 30.1**	**+0.6**
	0.9nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.00**	**315**	P	**Pn**	**16 21 30.1**	**+0.6**

*TRN **22** 16:20:54.6,10.37N×62.40W,h12km,MD4.6*
TRN Felt (II) & (III) in Port of Spain and environs, (II) in santa Cruz, Curepe, Piarco and Pt. Lisas.
*NEIC **22** 16:20:55.4,10.41N×62.39W,h8km,mb4.5/15, MD4.9(CAR),MD4.6(TRN),After CAR.*
NEIC Felt [III] in northern Trinidad.
*BJI **22** 16:20:55.4,10.40N×62.40W,h8km,mB5.0,Ms5.0,Msz5.1*
*FUNV **22** 16:20:55.2,10.42N×62.39W,MW4.1*
*IDC **22** 16:20:59.0±1.2,10.53N×62.60W,h44km±11km,mb4.0/20, mb1 4.2/22,mb1mx4.1/25,mbtmp4.3/22,ML4.8/1,MS4.0/16, Ms1 4.0/16,ms1mx3.8/26,Error ellipse: s-maj=12.9km s-min=7.2km az=133.0*

ISC 22 16:20:53.3±0.3,**10.37N**±0.03×**62.47W**±0.02,**h12**km,**n112**, σ1§**30**/117,**mb4.3**/33,**MS4.0**/14,**5C-10D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.37**	**42**	⇑*i*P	**Pg**	**16 21 00.5**	**-0.5**
GUIV				*e*S	**Sg**	**16 21 05.2**	**-0.8**
GUIV	**Guiria**	**0.37**	**42**	⇑*e*P	**Pg**	**16 21 00.5**	**-0.4**
GUIV				*e*S	**Sg**	**16 21 05.8**	**-0.3**
GUNV	**Guanoco**	**0.51**	**246**	⇓*i*P	**Pg**	**16 21 05.3**	**+1.7**
GUNV				*e*S	**Sg**	**16 21 15.9**	**+5.4**
GUNV	**Guanoco**	**0.51**	**246**	⇓*e*P	**Pg**	**16 21 05.3**	**+1.7**
GUNV				*e*S	**Sg**	**16 21 15.9**	**+5.4**
CRUV	**Carupano**	**0.81**	**292**	⇓*e*P	**Pb**	**16 21 10.5**	**+1.7**
CRUV				*e*S	**Sb**	**16 21 22.6**	**+3.2**
CRUV	**Carupano**	**0.81**	**292**	*e*P	**Pb**	**16 21 10.5**	**+1.7**
CRUV				*e*S	**Sb**	**16 21 23.2**	**+3.8**
TPP	**Pointe-a-Pierr**	**1.01**	**93**	⇓*i*P	**Pb**	**16 21 13.8**	**+1.6**
TRN	**Trinidad (W)**	**1.09**	**75**	⇓*e*P	**Pb**	**16 21 13.6**	**0.0**
TRN				*e*S	**Sb**	**16 21 26.0**	**-1.5**
ITEV	**Isla Los Testi**	**1.17**	**327**	⇑*e*P	**Pb**	**16 21 16.8**	**+1.8**
ITEV				*e*S	**Sb**	**16 21 33.2**	**+3.2**
ITEV	**Isla Los Testi**	**1.17**	**327**	⇓*e*P	**Pb**	**16 21 16.8**	**+1.8**
ITEV				*e*S	**Sb**	**16 21 33.2**	**+3.2**
TBH	**Brigand Hill**	**1.39**	**85**	*e*P	**Pn**	**16 21 20.7**	**+2.1**
ORIV	**Oritupano**	**1.59**	**216**	*e*P	**Pn**	**16 21 24.8**	**+3.3**
ORIV	**Oritupano**	**1.59**	**216**	*e*P	**Pn**	**16 21 24.8**	**+3.4**
BOT	**Bacolet**	**1.90**	**65**	*e*P	**Pn**	**16 21 27.9**	**+2.0**
GRW	**Mount Saint Ca**	**1.95**	**24**	*e*P	**Pn**	**16 21 27.1**	**+0.5**
GRHS	**Sauteurs**	**2.01**	**24**	*e*P	**Pn**	**16 21 27.7**	**+0.2**
GRHS				*e*S	**Sn**	**16 21 53.3**	**+0.4**
GRIC	**Isle de Caille**	**2.09**	**25**	*e*P	**Pn**	**16 21 29.2**	**+0.5**
GRIC				*e*S	**Sn**	**16 21 55.0**	**+0.2**
GRSS	**Sisters**	**2.09**	**24**	*e*P	**Pn**	**16 21 29.2**	**+0.5**
PCRV	**Puerto La Cruz**	**2.14**	**265**	P	**Pn**	**16 21 30.4**	**+1.1**
	54nm,0.3s,baz=82,slow=5.2,SNR=184						
PCRV				S	**Sn**	**16 21 54.6**	**-1.3**
	136nm,0.3s,baz=69,slow=14,SNR=5.2						
PCRV				LR	LR	16 22 40.9	
	comp=Z,5μm,18.7s,baz=279,slow=51						
PCRV	**Puerto La Cruz**	**2.14**	**265**	*e*P	**Pn**	**16 21 32.6**	**+3.3**
PCRV	**Puerto La Cruz**	**2.14**	**265**	*e*P	**Pn**	**16 21 32.6**	**+3.3**
FCV	**Fort Charlotte**	**3.02**	**23**	*e*P	**Pn**	**16 21 42.5**	**+0.6**
FCV				*e*S	**Sn**	**16 22 18.5**	**+0.1**
SVB	**Belmont**	**3.12**	**22**	*e*P	**Pn**	**16 21 44.4**	**+1.0**
SVV	**Soufriere Volc**	**3.18**	**23**	*e*P	**Pn**	**16 21 44.9**	**+0.7**
CUPV	**Cepira**	**3.28**	**265**	⇓*e*P	**Pn**	**16 21 48.2**	**+2.6**
CUPV	**Cepira**	**3.28**	**265**	⇑*e*P	**Pn**	**16 21 48.9**	**+3.3**
BIRV	**Birongo**	**3.73**	**272**	*e*P	**Pn**	**16 21 54.3**	**+2.2**
BIRV	**Birongo**	**3.73**	**272**	*e*P	**Pn**	**16 21 54.3**	**+2.2**
MERV	**Las Mercedes**	**3.93**	**254**	*e*P	**Pn**	**16 21 56.7**	**+1.9**
FUNV	**FUNVISIS**	**4.27**	**272**	*e*P	**Pn**	**16 22 01.4**	**+1.8**
CAOV	**Caicara del Or**	**4.86**	**232**	*e*P	**Pn**	**16 22 08.1**	**+0.1**
DSHT	**Scott's Head**	**4.93**	**12**	*e*P	**Pn**	**16 22 10.9**	**+1.9**
DBCT	**Belle View Cho**	**4.99**	**13**	*e*P	**Pn**	**16 22 11.9**	**+2.0**
BBL	**Barber's Block**	**5.22**	**11**	*e*P	**Pn**	**16 22 14.6**	**+1.5**
TURV	**Turiamo**	**5.28**	**271**	⇑*e*P	**Pn**	**16 22 14.6**	**+0.7**
BAUV	**El Baul**	**5.67**	**256**	⇓*e*P	**Pn**	**16 22 19.9**	**+0.4**
BAUV	**El Baul**	**5.67**	**256**	⇓*e*P	**Pn**	**16 22 19.9**	**+0.4**
JACV	**Jacura**	**6.29**	**277**	*e*P	**Pn**	**16 22 28.4**	**+0.2**
TEPV	**Terepaima**	**6.63**	**267**	⇓*e*P	**Pn**	**16 22 33.2**	**+0.3**
SANV	**Sanarito**	**7.01**	**264**	*e*P	**Pn**	**16 22 38.6**	**+0.2**
PAYV	**Puerto Ayacuch**	**7.11**	**227**	*e*P	**Pn**	**16 22 39.7**	**-0.1**
SIQV	**Siquisique**	**7.22**	**273**	*e*P	**Pn**	**16 22 40.9**	**-0.4**
SIQV	**Siquisique**	**7.22**	**273**	*e*P	**Pn**	**16 22 41.9**	**+0.6**
CURV	**Curarigua**	**7.38**	**268**	*e*P	**Pn**	**16 22 43.1**	**-0.4**
MONV	**Montecano**	**7.52**	**283**	*e*P	**Pn**	**16 22 45.1**	**-0.4**
MONV	**Montecano**	**7.52**	**283**	*e*P	**Pn**	**16 22 45.1**	**-0.4**
ELOV	**Elorza**	**7.70**	**245**	*e*P	**Pn**	**16 22 47.4**	**-0.5**
SDV	**Santo Domingo**	**8.18**	**260**	P	**P**	**16 22 54.2**	**-0.5**
	12nm,0.3s,baz=89,slow=7.4,SNR=130						
SDV				S	**Sn**	**16 24 24.2**	**-3.8**
	16nm,0.3s,baz=56,slow=14,SNR=3.7						
SDV	**Santo Domingo**	**8.18**	**260**	*e*P	**P**	**16 22 54.0**	**-0.7**
SDV				*e*S	**Sn**	**16 24 23.5**	**-4.5**
SJG	**San Juan**	**8.48**	**336**	P	**P**	**16 22 56.7**	**-2.2**
	2.2nm,0.3s,baz=308,slow=18,SNR=2.1						
SJG				S	**Sn**	**16 24 29.2**	**-6.3**
	8.9nm,0.3s,baz=341,slow=11,SNR=6.4						
SJG				LR	LR	16 26 35.1	
	comp=Z,851nm,18.7s,baz=265,slow=41						
SOCV	**Socops**	**8.53**	**257**	*e*P	**P**	**16 22 58.6**	**-1.0**
VIGV	**El Vigia**	**8.90**	**261**	*e*P	**P**	**16 23 03.6**	**-1.1**
VIRV	**Villa del Rosa**	**9.77**	**272**	*e*P	**P**	**16 23 15.3**	**-1.5**
CAPV	**Capacho**	**10.03**	**256**	*e*P	**P**	**16 23 19.6**	**-0.9**
ROSC	**El Rosal**	**12.96**	**246**	P	**P**	**16 23 59.8**	**-0.4**
	2.6nm,0.3s,baz=91,slow=20,SNR=4.8						
ROSC				LR	LR	16 29 34.1	
	comp=Z,1μm,21.0s,baz=23,slow=40						
OTAV	**Otavalo**	**18.81**	**239**	*e*P	**P**	**16 25 18.4**	**+3.3**
	11nm,0.7s						
JTS	**JuntasAbangare**	**22.11**	**272**	P	**P**	**16 25 50.9**	**+0.5**
	12nm,0.8s,mb4.4						
DWPF	**Disney**	**25.07**	**317**	P	**P**	**16 26 21.1**	**+1.8**
	33nm,0.7s,mb5.0						
LPAZ	**La Paz**	**27.07**	**192**	P	**P**	**16 26 39.7**	**+1.8**
	2.4nm,0.7s,mb3.8,baz=26,slow=6.4,SNR=8.9						
LPAZ				LR	LR	16 38 01.3	
	comp=Z,888nm,19.1s,MS4.3,baz=12,slow=38						
LPAZ	**La Paz**	**27.07**	**192**	P	**P**	**16 26 39.7**	**+1.8**
BDFB	**Brasilia**	**29.55**	**151**	P	**P**	**16 27 01.8**	**+1.5**
	2.6nm,0.5s,mb4.2,baz=305,slow=8.9,SNR=4.3						
BAO	**Brasilia Array**	**29.55**	**151**	P	**P**	**16 27 02.0**	**+1.7**
BAO				S	Sx	16 33 19.8	
	10.0nm,0.7s,mb4.8						
ELN	**Prospectdale**	**31.41**	**331**	*e*P	**P**	**16 27 16.6**	**0.0**
LRAL	**Lakeview Retre**	**31.90**	**319**	*e*P	**P**	**16 27 18.7**	**-2.2**
	11nm,0.9s,mb4.7						
LVC	**Limon Verde**	**33.38**	**191**	*e*P	**P**	**16 27 31.8**	**-2.2**
	3.7nm,0.6s,mb4.5						
PLAL	**Pickwick Lake**	**33.83**	**320**	*e*P	**P**	**16 27 36.6**	**-1.1**
	10.0nm,0.7s,mb4.8						
WVT	**Waverly**	**34.44**	**322**	*e*P	**P**	**16 27 39.9**	**-3.0**
	10nm,0.8s,mb4.8						
JCT	**Junction City**	**40.03**	**306**	P	**P**	**16 28 29.6**	**-0.4**
	13nm,0.3s,mb5.2						
WMOK	**Wichita Mounta**	**41.03**	**312**	*e*P	**P**	**16 28 35.7**	**-2.4**
	3.3nm,0.8s,mb4.0						
CFAA	**Coronel Fontan**	**42.10**	**187**	P	**P**	**16 28 46.5**	**-0.5**
	0.7nm,0.7s,mb3.4,baz=356,slow=8.8,SNR=11						
CFAA				LR	LR	16 48 33.2	
	comp=Z,43nm,18.8s,MS3.4,baz=35,slow=39						
TXAR	**Lajitas Array**	**42.81**	**302**	P	**P**	**16 28 51.8**	**-1.2**
	1.2nm,0.6s,mb3.8,baz=122,slow=8.3,SNR=7.6						
TXAR				PcP	PcP	16 30 43.2	-1.6
	2.0nm,0.7s,baz=120,slow=5.7,SNR=5.5						
TXAR				LR	LR	16 48 54.9	
	comp=Z,66nm,21.7s,MS3.5,baz=85,slow=39						
SCHQ	**Schefferville**	**44.48**	**356**	P	**P**	**16 29 04.9**	**-1.2**
	5.2nm,0.8s,mb4.3,baz=208,slow=7.7,SNR=7.7						
SCHQ				LR	LR	16 44 37.7	
	comp=Z,190nm,20.6s,MS4.0,baz=175,slow=32						
LPM	**Los Pinos Moun**	**46.80**	**308**	*e*P	**P**	**16 29 24.8**	**0.0**
ANMO	**Albuquerque**	**46.88**	**309**	LR	LR	16 53 54.9	
	comp=Z,172nm,19.1s,MS4.0,slow=42						
LAZ	**Ladron**	**47.22**	**308**	*e*P	**P**	**16 29 28.1**	**-0.1**
SDCO	**Great Sand Dun**	**47.22**	**313**	*e*P	**P**	**16 29 26.9**	**-1.2**
	2.8nm,0.6s,mb4.4						
ULM	**Lac du Bonnet**	**48.36**	**332**	P	**P**	**16 29 34.4**	**-2.4**
	4.2nm,0.7s,mb4.6,baz=130,slow=5.7,SNR=8.1						
PLCA	**Paso Flores**	**51.39**	**188**	P	**P**	**16 30 01.1**	**+1.0**
	4.7nm,1.0s,mb4.4,baz=4.2,slow=8.1,SNR=7.3						
PLCA				LR	LR	16 53 33.6	
	comp=Z,181nm,20.7s,MS4.1,baz=15,slow=38						
PDAR	**Pinedale Array**	**52.10**	**317**	P	**P**	**16 30 04.0**	**-1.5**
	1.4nm,0.6s,mb4.1,baz=116,slow=8.6,SNR=17						
PDAR				PcP	PcP	16 31 14.3	-3.3
	1.6nm,0.9s,baz=121,slow=5.3,SNR=2.3						
PDAR				ScP		16 35 07.9	
	0.6nm,0.9s,baz=108,slow=4.7,SNR=3.5						
HWUT	**Hardware Ranch**	**53.02**	**315**	*e*P	**P**	**16 30 10.8**	**-1.6**
	4.4nm,0.7s,mb4.5						
FCC	**Fort Churchill**	**53.89**	**340**	*e*P	**P**	**16 30 14.7**	**-3.9**
	3.6nm,0.7s,mb4.4						
MCMT	**McKenzie Canyo**	**55.10**	**318**	*e*P	**P**	**16 30 20.1**	**-7.5**
DBIC	**Dimbokro**	**57.04**	**89**	P	**P**	**16 30 41.1**	**-0.9**
	4.1nm,0.8s,mb4.5,baz=306,slow=6.8,SNR=4.5						
RPN	**Rapa Nui**	**58.77**	**230**	LR	LR	16 51 25.2	
	comp=Z,124nm,20.8s,MS4.0,baz=308,slow=31						
EDM	**Edmonton**	**58.92**	**327**	P	**P**	**16 30 52.2**	**-2.4**
ESDC	**Sonseca Array**	**59.31**	**50**	P	**P**	**16 30 57.2**	**-0.3**
	0.7nm,0.4s,mb4.0,baz=259,slow=7.6,SNR=8.0						
YKA	**Yellowknife Ar**	**63.97**	**336**	P	**P**	**16 31 25.0**	**-3.5**
	1.9nm,0.7s,mb4.2,baz=111,slow=7.2,SNR=24						
YKA				LR	LR	16 58 02.9	
	comp=Z,180nm,18.4s,MS4.3,baz=110,slow=35						
DLBC	**Dease Lake**	**69.53**	**329**	P	**P**	**16 32 02.4**	**-1.4**
	4.6nm,0.9s,mb4.4,baz=149,slow=17,SNR=6.8						
DLBC	**Dease Lake**	**69.53**	**329**	P	**P**	**16 32 02.4**	**-1.4**
NB2	**NORSAR Subarra**	**73.10**	**29**	P	**P**	**16 32 24.4**	**-0.8**
	1.8nm,0.7s,mb4.1,baz=262,slow=6.2						
NOA	**NORSAR Array B**	**73.10**	**29**	P	**P**	**16 32 24.6**	**-0.5**
	4.8nm,0.9s,mb4.4,baz=262,slow=6.0,SNR=10						
NOA				LR	LR	17 01 47.7	
	comp=Z,83nm,20.1s,MS4.0,baz=160,slow=34						
GERES	**GERESS Array B**	**73.17**	**42**	P	**P**	**16 32 24.9**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=270,slow=4.0,SNR=11						
INK	**Inuvik**	**73.45**	**338**	*e*P

JMA 22 16:57:43.0±0.6, 34.07N×142.40E, h69km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.31**	**297**	P	P	16 58 05.9	-0.1
JHJ2	**Mitsune**	**2.36**	**247**	P	P	16 58 20.3	0.0
JHO	**Hitachi**	**2.94**	**330**	*e*S	S	16 59 01.3	-1.5
JYN	**Shimob**	**3.48**	**295**	*e*S	S	16 59 16.8	+0.6
JFK	**Kawauchi**	**3.52**	**340**	P	P	16 58 35.4	-1.2
JFT	**Otama**	**3.83**	**335**	P	P	16 58 40.9	0.0
JFT				S	S	16 59 23.3	-1.7
JMM	**Marumori**	**4.01**	**341**	P	P	16 58 42.2	-1.2
JMM				*e*S	S	16 59 26.7	-2.7

JMA 22 17:06:56.2, 24.88N×121.93E, h34km±2km, M2.9

TAP 22 17:06:55.6, 24.81N×121.94E, h11km, ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.03**	**109**	P	Pb	17 07 15.1	+0.1
YOJ				*e*S	Sb	17 07 28.9	+0.5
HATJ	**Hateruma jima**	**1.86**	**113**	P	Pn	17 07 27.3	-0.4
JKRS	**Kuro-shima**	**1.97**	**106**	P	Pn	17 07 28.8	-0.5
JKRS				*e*S	Sn	17 07 52.7	-1.5
JIJ	**Ishigaki jima**	**2.05**	**102**	P	Pn	17 07 30.0	-0.5
JIJ				*e*S	Sn	17 07 54.6	-1.7

IDC 22 17:08:43.8±1.6, 3.55N×92.91E, mb3.8/5, mb1 4.1/5, mb1mx3.8/15, mbtmp3.8/5, Error ellipse: s-maj=69.6km s-min=23.3km az=53.0

NEIC 22 17:08:47.9±0.8, 3.57N×92.84E, h30km, mb4.3/5, Error ellipse: s-maj=21.2km s-min=9.5km az=46.0

ISC 22 17:08:46.8±0.9, 3.6N±0.1×92.9E±0.1, h33km, n13, σ0$86/13, mb4.1/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.88**	**78**	*e*P	P	17 10 40.9	-1.0
KSM	**Kuching**	**17.50**	**97**	*e*P	P	17 12 52.7	+2.6
LSA	**Lhasa**	**25.99**	**356**	*e*P	P	17 14 19.0	+0.4
	3.3nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**38.81**	**125**	*e*P	P	17 16 10.0	-0.5
	5.7nm,0.8s,mb4.3						
SONM	**Songino Array**	**45.55**	**13**	P	P	17 17 05.7	+0.4
	0.6nm,0.8s,mb3.6,baz=188,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**46.94**	**122**	P	P	17 17 16.4	-0.2
	2.1nm,0.6s,mb4.2,baz=298,slow=9.0,SNR=19						
WRAB	**Tennant Creek**	**46.94**	**122**	*e*P	P	17 17 16.6	-0.1
	4.2nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**46.95**	**122**	*e*P	P	17 17 16.7	+0.1
ASAR	**Alice Springs**	**48.26**	**126**	P	P	17 17 26.7	-0.2
	0.6nm,0.5s,mb3.9,baz=298,slow=7.8,SNR=7.7						
KURK	**Kurchatov**	**48.45**	**348**	*e*P	P	17 17 27.4	-0.6
	1.8nm,0.7s,mb4.2						
ZAL	**Zalesovo**	**50.60**	**354**	P	P	17 17 45.1	+0.7
	0.9nm,0.3s,mb4.1,baz=240,slow=0.8,SNR=4.0						
CHKZ	**Chkalovo**	**53.15**	**344**	*e*P	P	17 18 02.1	-1.5
	3.0nm,0.6s,mb4.4						
CHKZ				*e*		17 18 09.9	
GERES	**GERESS Array B**	**80.19**	**319**	P	P	17 20 56.4	+0.9
	0.4nm,0.6s,mb3.5,baz=108,slow=6.2,SNR=4.6						

CNRM 22 17:10:02.0, 34.93N×2.59W, h28km, MD3.1

MDD 22 17:10:05.3±0.6, 34.95N×2.88W, h8km±4km, mb3.7/16, Error ellipse: s-maj=5.7km s-min=4.0km az=177.0, PRXIMO

SFS 22 17:10:05.0, 34.99N×3.09W

NEIC 22 17:10:06.4, 35.00N×3.05W, h5km, MG3.6(MDD), After MDD.

CSEM 22 17:10:06.8±0.2, 35.18N×3.19W, h5km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.3km az=142.0

ISC 22 17:10:04.4±0.8, 34.96N±0.05×2.86W±0.05, h20km±4km, n35, σ1$32/63, 1C-1D, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.10**	**82**	P	**Pb**	17 10 07.5	-0.8
ZAI				S	**Sb**	17 10 10.0	-0.9
EMLI	**Melilla**	**0.35**	**348**	P	**Pb**	17 10 12.0	+0.1
	26nm,0.1s,SNR=15						
EMEL	**Melilla**	**0.35**	**348**	P	**Pb**	17 10 12.0	+0.1
	82nm,0.1s,SNR=15						
EMEL				S	**Sb**	17 10 16.6	-0.4
	251nm,0.1s,SNR=7.9						
TOU	**Touzarine**	**0.73**	**271**	*i* P	**Pb**	17 10 18.0	-0.3
TOU				*i* S	**Sb**	17 10 30.0	+2.2
MPAL	**Palemas**	**0.92**	**287**	*i* P	**Pb**	17 10 20.0	-1.6
MPAL				*i* S	**Sb**	17 10 35.0	+1.6
EALB	**Alboran**	**0.99**	**352**	⇑P	**Pb**	17 10 23.6	+0.8
	12nm,0.1s,SNR=18						
EALB				S	**Sb**	17 10 36.0	+0.6
	51nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.99**	**352**	P	**Pb**	17 10 23.6	+0.9
	5.0nm,0.1s,SNR=18						
EALB				S	**Sb**	17 10 36.0	+0.6
	45nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.94**	**359**	P	**Pn**	17 10 36.9	0.0
	3.9nm,0.4s,SNR=6.4						
EBER				S	**Sn**	17 10 59.3	-1.5
	24nm,0.4s,SNR=10						
EBER	**Berja**	**1.94**	**359**	P	**Pn**	17 10 36.9	+0.1
	0.5nm,0.1s,SNR=6.4						
EBER				S	**Sn**	17 10 59.3	-1.5
	33nm,0.6s,SNR=10						
ENIJ	**Nijar**	**2.08**	**15**	P	**Pn**	17 10 39.4	+0.5
ENIJ				S	**Sn**	17 11 06.4	+1.9
ENIJ	**Nijar**	**2.08**	**15**	P	**Pn**	17 10 39.4	+0.5
	8.0nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	17 11 04.1	-0.4
	10.0nm,0.3s,SNR=4.5						
ENIJ	**Nijar**	**2.08**	**15**	P	**Pn**	17 10 39.4	+0.5
	0.6nm,0.1s,SNR=7.9						
ENIJ				S	**Sn**	17 11 06.4	+1.9
	19nm,0.6s,SNR=4.5						
ERON	**Agron**	**2.20**	**340**	P	**Pn**	17 10 39.6	-0.9
	3.3nm,0.3s,SNR=5.9						
ERON				S	**Sn**	17 11 06.3	-1.1
	2.5nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**2.23**	**317**	P	**Pn**	17 10 40.3	-0.8
	3.3nm,0.1s,SNR=13						
EMIJ				S	**Sn**	17 11 04.9	-3.4
	17nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.38**	**346**	P	**Pn**	17 10 44.4	+1.2
	3.9nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.42**	**335**	P	**Pn**	17 10 45.7	+1.9
	2.0nm,0.2s,SNR=7.9						
LIJA	**Lijar**	**2.83**	**314**	*i* P	**Pn**	17 10 51.0	+1.4
ELUQ	**Luque**	**2.84**	**337**	P	**Pn**	17 10 51.0	+1.4
	4.5nm,0.3s,SNR=9.5						
EQES	**Quesada**	**2.85**	**357**	P	**Pn**	17 10 51.9	+2.1
EQES				S	**Sn**	17 11 26.1	+2.2
EQES	**Quesada**	**2.85**	**357**	P	**Pn**	17 10 51.5	+1.7
	9.5nm,0.3s,SNR=15						
EQES				S	**Sn**	17 11 23.2	-0.7
	16nm,0.5s,SNR=7.9						
EQES	**Quesada**	**2.85**	**357**	P	**Pn**	17 10 51.9	+2.1
	9.5nm,0.3s,SNR=15						
EQES				S	**Sn**	17 11 26.1	+2.2
	SNR=7.9						
EHUE	**Huescar**	**2.86**	**4**	P	**Pn**	17 10 51.8	+1.7
EHUE				S	**Sn**	17 11 27.0	+2.7
EHUE	**Huescar**	**2.86**	**4**	P	**Pn**	17 10 51.2	+1.1
	1.0nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	17 11 24.3	+0.1
	1.2nm,0.3s,SNR=7.9						
EHUE	**Huescar**	**2.86**	**4**	P	**Pn**	17 10 51.8	+1.8
	0.1nm,0.1s,SNR=7.9						
EHUE				S	**Sn**	17 11 27.0	+2.7
	SNR=7.9						
EADA	**Adamuz**	**3.49**	**337**	P	**Pn**	17 10 59.0	0.0
	6.2nm,0.3s,SNR=13						
EADA				S	**Sn**	17 11 37.5	-2.6
	2.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.49**	**337**	P	**Pn**	17 10 59.0	+0.1
	1.9nm,0.1s,SNR=13						
EADA				S	**Sn**	17 11 37.5	-2.6
	SNR=7.9						
ETOB	**Tobarra**	**3.83**	**16**	P	**Pn**	17 11 03.6	-0.2
	2.0nm,0.4s,SNR=7.9						
ETOB				S	**Sn**	17 11 47.3	-1.5
	5.2nm,0.4s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.16**	**314**	⇓P	**Pn**	17 11 07.0	-1.4
	1.0nm,0.1s,SNR=18						
EMIN				S	**Sn**	17 11 51.7	-5.4
	2.0nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.16**	**314**	P	**Pn**	17 11 07.0	-1.5
	0.6nm,0.1s,SNR=18						
EMIN				S	**Sn**	17 11 51.7	-5.5
	SNR=7.9						
EGRO	**El Granado**	**4.53**	**306**	P	**Pn**	17 11 12.4	-1.3
	5.0nm,0.2s,SNR=7.7						
EGRO				S	**Sn**	17 12 02.8	-3.8
	2.5nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.53**	**306**	P	**Pn**	17 11 12.4	-1.4
	4.9nm,0.3s,SNR=7.7						
EGRO				S	**Sn**	17 12 02.8	-3.8
	SNR=7.9						
ESDC	**Sonseca Array**	**4.79**	**350**	P	**Pn**	17 11 18.0	+0.6
	1.6nm,0.3s,baz=172,slow=12,SNR=5.9						
ESDC	**Sonseca Array**	**4.79**	**350**	P	**Pn**	17 11 18.0	+0.6
EBAD	**Badajoz**	**5.04**	**320**	P	**Pn**	17 11 19.7	-1.3
	4.1nm,0.2s,SNR=15						
EBAD				S	**Sn**	17 12 14.7	-4.7
	3.0nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**5.04**	**320**	P	**Pn**	17 11 19.7	-1.3
EBAD				S	**Sn**	17 12 14.7	-4.7

BJI 22 17:27:25.5, 27.72N×51.83E, h39km, mB5.0, mb4.6, Ms4.5, Msz4.0

NEIC 22 17:27:28.2, 27.78N×52.79E, h15km, mb4.4/28, ML4.4(THR), MN4.2(TEH), After THR.

IDC 22 17:27:28.2±0.7, 27.84N×52.86E, mb4.2/19, mb1 4.3/22, mb1mx4.3/25, mbtmp4.2/22, ML4.1/2, MS3.3/6, Ms1 3.3/6, ms1mx3.2/23, Error ellipse: s-maj=17.3km s-min=16.3km az=160.0

OMAN 22 17:27:28.7±25.0, 27.83N×52.61E, h20km, Error ellipse: s-maj=11.4km s-min=3.9km az=334.0

CSEM 22 17:27:28.0±0.1, 27.75N×52.81E, h14km, mb4.5/25, Error ellipse: s-maj=2.0km s-min=1.4km az=46.0

THR 22 17:27:28.2±0.5, 27.78N×52.79E, h15km±8km, ML4.4

MOS 22 17:27:33.5±1.0, 28.02N×52.70E, h33km, mb4.7/14, Error ellipse: s-maj=15.4km s-min=6.8km az=108.3

TEH 22 17:27:35.1, 27.96N×52.71E, h24km, Mn4.2

ISC 22 17:27:27.8±0.7, 27.75N±0.02×52.80E±0.03, h10km±4km, n186, σ1$02/199, mb4.4/56, MS3.6/7, 12C-14D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.56**	**17**	*e*Pg	**Pg**	17 27 38.0	-1.1
GHIR				*e*Sg	**Sg**	17 27 46.0	-0.7
GHIR	**Ghir-Karzin**	**0.56**	**17**	*e*PG	**Pg**	17 27 38.9	-0.2
GHIR				*e*SG	**Sg**	17 27 46.7	-0.1
GHIR				AML	AML	17 27 53.7	
	comp=N,24μm,0.4s						
GHIR	**Ghir-Karzin**	**0.56**	**17**	*e*Pg	**Pg**	17 27 38.9	-0.2
	SNR=91						
GHIR				*e*Sg	**Sg**	17 27 46.7	0.0
	comp=N,24μm,0.4s,SNR=91						
IMOK	**Mook**	**1.30**	**357**	Pg	**Pg**	17 27 55.5	+1.7
ISRV	**Sarvestan**	**1.65**	**9**	Pg	**Pg**	17 28 01.3	+0.5
SHI	**Shiraz**	**1.91**	**352**	Pg	**Pg**	17 28 05.2	-0.7
IPAR	**Pars**	**2.10**	**6**	Pn	**Pn**	17 28 06.4	+3.0
BNDS	**Bandar-Abbas**	**3.01**	**96**	*e*PN	**Pn**	17 28 17.8	+1.3
BNDS				AML	AML	17 29 17.6	
	comp=N,1μm,0.5s						
BNDS	**Bandar-Abbas**	**3.01**	**96**	*e*Pn	**Pn**	17 28 17.0	+0.6
BANOM	**Banah**	**3.61**	**119**	⇓P	**Pn**	17 28 26.0	+1.0
	SNR=72						
IMEH	**Mehriz**	**3.96**	**23**	Pn	**Pn**	17 28 32.1	+2.2
KRBR	**Kerman**	**4.12**	**56**	*e*PN	**Pn**	17 28 33.3	+1.1
KRBR				AML	AML	17 29 52.8	
	comp=N,564nm,0.6s						
KRBR	**Kerman**	**4.12**	**56**	*e*Pn	**Pn**	17 28 33.0	+0.7
ASHO	**Ashiyiah**	**4.22**	**135**	⇓P	**Pn**	17 28 34.9	+1.2
	SNR=135						
ISAD	**Sadrabad**	**4.22**	**10**	Pn	**Pn**	17 28 35.7	+2.0
IBAF	**Bafgh**	**4.52**	**31**	Pn	**Pn**	17 28 39.0	+1.1
ICHK	**Chekchek**	**4.69**	**17**	Pn	**Pn**	17 28 41.9	+1.5
NASN	**Na'in**	**5.04**	**0**	*e*PN	**Pn**	17 28 45.4	+0.2
NASN	**Na'in**	**5.04**	**0**	*e*Pn	**Pn**	17 28 45.0	-0.2
ARQ	**Araqi**	**5.53**	**142**	P	**Pn**	17 28 52.5	+0.4
	SNR=40						
BSY	**Bisya**	**6.37**	**140**	⇓P	**Pn**	17 29 04.4	+0.3
	SNR=315						
BSY				⇑S	**Sn**	17 30 19.0	+1.3
BIDO	**Bidbid**	**6.38**	**130**	⇑P	**Pn**	17 29 03.8	-0.5
	SNR=22						
BSYO	**Bisya**	**6.41**	**140**	P	**Pn**	17 29 04.4	-0.2
	SNR=315						
BSYO				S	**Sn**	17 30 19.0	+0.5
ASAO	**Ashtian**	**7.19**	**341**	*e*PN	**Pn**	17 29 15.1	-0.4
ASAO	**Ashtian**	**7.19**	**341**	*e*Pn	**Pn**	17 29 15.0	-0.5
JMDO	**Jabal Madar**	**7.19**	**137**	⇑P	**Pn**	17 29 15.2	-0.4
	SNR=44						
IQOM	**Qom**	**7.23**	**349**	Pn	**Pn**	17 29 15.0	-1.1
IQOM				Sn	**Sn**	17 30 29.5	-10
ZHSF	**Zahedan**	**7.25**	**73**	*e*PN	**Pn**	17 29 15.8	-0.6
ZHSF	**Zahedan**	**7.25**	**73**	*e*Pn	**Pn**	17 29 15.0	-1.3
WBK	**Wadi Bani Khal**	**7.57**	**131**	⇓P	**Pn**	17 29 19.4	-1.5
	SNR=16						
ILAS	**Lasjerd**	**7.61**	**1**	Pn	**Pn**	17 29 40.9	+19
IANJ	**Anjiloo**	**7.76**	**7**	Pn	**Pn**	17 29 22.3	-1.2
RAYN	**Ar Rayn**	**7.81**	**239**	Pn	**Pn**	17 29 24.7	+0.4
	comp=N,229nm,0.4s,SNR=60						
IDMV	**Damavand**	**7.83**	**355**	Pn	**Pn**	17 29 23.6	-1.0
IKOM	**Komasi**	**7.85**	**326**	Pn	**Pn**	17 29 23.5	-1.3
IFIR	**Firoozkooh**	**7.87**	**360**	Pn	**Pn**	17 29 25.0	-0.1
IFIR				Sn	**Sn**	17 30 45.0	-10
DAMV	**Damavand**	**7.89**	**355**	*e*Pn	**Pn**	17 29 24.0	-1.4
DAMV	**Damavand**	**7.89**	**355**	*e*PN	**Pn**	17 29 24.3	-1.1
IRAZ	**Razeghan**	**8.02**	**343**	Pn	**P**	17 29 25.8	-1.3
IRAZ				Sn	**Sn**	17 30 48.2	-11
IMHD	**Mahdasht**	**8.12**	**348**	Pn	**P**	17 29 26.6	-2.0
IMHD				Sn	**Sn**	17 30 50.8	-11
IGHG	**Ghaleghazi**	**8.46**	**322**	Pn	**P**	17 29 34.3	+1.0
IVIS	**Veys**	**8.46**	**324**	Pn	**P**	17 29 31.9	-1.4
IDHR	**Dehrash**	**8.84**	**323**	Pn	**P**	17 29 37.6	-1.0
WHFO	**Wadi Hawf**	**9.82**	**175**	⇓P	**P**	17 29 49.8	-2.3
	SNR=22						
RBK	**Rabkut**	**10.28**	**172**	⇓P	**P**	17 29 57.3	-1.1
	SNR=5.7						
RBK				⇑S	**S**	17 31 54.5	-0.3
ABTO	**Aybut**	**10.35**	**177**	P	**P**	17 29 58.0	-1.4
	SNR=21						
ABTO	**Aybut**	**10.35**	**177**	P	**P**	17 29 58.0	-1.5
	SNR=21						
MSL	**Mosul**	**11.85**	**318**	*e*P	**P**	17 30 17.5	-2.3
MSL				*e*S	**S**	17 32 15.0	-18
BEST	**Besiri**	**14.00**	**319**	*i* P	**P**	17 30 51.5	+3.1
GNI	**Garni**	**14.05**	**334**	*i* P	**P**	17 30 52.9	+3.8
GNI	**Garni**	**14.05**	**334**	Pn	**P**	17 30 59.3	+10
	comp=N,2.6nm,0.3s,baz=307,slow=0.6,SNR=14						
GNI				LR	LR	17 36 41.8	
	comp=N,93nm,18.3s,baz=330,slow=40						
ASF	**Jabal al Asfar**	**14.47**	**292**	Pn	**P**	17 30 55.0	+0.3
	comp=N,2.1nm,0.3s,baz=323,slow=2.5,SNR=7.3						
ASF				Sn	**S**	17 33 38.8	+2.7
	comp=N,0.4nm,0.3s,baz=176,slow=23,SNR=2.5						
ASF				LR	LR	17 37 47.1	
	comp=N,66nm,19.8s,baz=26,slow=43						
ERZM	**Erzurum**	**15.39**	**325**	*i* P	**P**	17 31 07.6	+0.9
EIL	**Elat**	**15.78**	**281**	Pn	**P**	17 31 12.9	+1.2
	comp=N,0.4nm,0.3s,baz=297,slow=23,SNR=3.4						
EIL	**Elat**	**15.78**	**281**	*e*P	**P**	17 31 12.9	+1.1
	comp=N,24nm,1.1s						
EIL	**Elat**	**15.78**	**281**	*e*P	**P**	17 31 12.9	+1.1
	comp=N,24nm,1.1s						
MALT	**Malatya**	**15.99**	**315**	*e*P	**P**	17 31 13.3	-1.1
	comp=N,18nm,0.9s						
MALT	**Malatya**	**15.99**	**315**	*e*P	**P**	17 31 13.3	-1.1
	comp=N,18nm,0.9s						
GZT	**Gaziantep**	**16.01**	**311**	*i* P	**P**	17 31 10.3	-4.4
COBT	**Iskenderun**	**16.50**	**306**	*i* P	**P**	17 31 22.3	+1.3
ZEI	**Tsey**	**16.64**	**337**	*e*P	**P**	17 31 23.6	+0.9
CSS	**Prodhromos**	**18.11**	**298**	*e*P	**P**	17 31 41.1	0.0
	comp=N,32nm,0.9s						
CSS	**Prodhromos**	**18.11**	**298**	*e*P	**P**	17 31 41.1	+0.1
	comp=N,32nm,0.9s						
KIV	**Kislovodsk**	**18.11**	**336**	⇑*i*P	**P**	17 31 42.8	+1.8
KIV				pmax	pmax		
	comp=Z,17nm,1.3s						
KIV	**Kislovodsk**	**18.11**	**336**	⇑*i*P	**P**	17 31 42.8	+1.8
	comp=Z,17nm,1.3s						
AVNT	**Avonos**	**18.58**	**311**	*i* P	**P**	17 31 48.0	+1.1
SOC	**Sochi**	**19.01**	**330**	*e*P	**P**	17 31 43.3	-8.7
SOC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SOC				pmax	pmax		
	comp=N,16nm,0.9s						
SOC				pmax	pmax		
	comp=E,10.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,88nm,10.0s						
SOC				MLR	MLR		
	comp=N,62nm,11.0s						
SOC				MLR	MLR		
	comp=E,72nm,10.0s						
CTKT	**Corum**	**19.63**	**316**	*i* P	**P**	17 32 00.8	+1.7
BOYT	**Boyabat**	**20.03**	**318**	*i* P	**P**	17 32 04.2	+0.6
THN	**Thein Dam**	**20.36**	**71**	*e*P	**P**	17 32 06.2	-0.9
	comp=E,22nm,1.3s						
ELDT	**Eldivan**	**20.41**	**313**	*i* P	**P**	17 32 08.2	+0.6
ANN	**Anapa**	**20.99**	**328**	*e*P	**P**	17 32 07.2	-6.4
ANN				*e*PP		17 32 30.4	
ANN				pmax	pmax		
	comp=Z,30nm,1.0s						
BALT	**Daday**	**21.02**	**316**	*i* P	**P**	17 32 11.8	-2.1
ISP	**Isparta**	**21.23**	**304**	*ic* P	**P**	17 32 21.2	+5.2
SDNR	**Sundarnagar**	**21.33**	**74**	*e*P	**P**	17 32 17.5	+0.4
SGKT	**Sivrigoynuk**	**21.35**	**312**	*i* P	**P**	17 32 17.8	+0.6
POO	**Poona**	**21.39**	**111**	*e*	**P**	17 32 17.0	-0.8
ESKT	**Eskisehir**	**21.66**	**308**	*i* P	**P**	17 32 21.2	+0.8
KSH	**Kashi**	**22.51**	**53**	*e*P	**P**	17 32 27.3	-1.6
KSH				*e*PP	PP	17 32 55.8	-1.0
KSH				*e*PPP	PPP	17 33 04.8	-2.0
KSH				*e*PCP	PcP	17 36 23.8	-0.2
KSH				*e*S	**S**	17 36 28.0	-2.9
KSH				*e*PCS		17 40 01.5	
KSH				*e*SCS	ScS	17 43 32.3	-12
KSH				AMB	AMB		
	comp=Z,140nm,3.4s						
KSH				LR	LR		
	comp=N,300nm,5.3s						
KSH				LR	LR		
	comp=E,350nm,5.1s						
AAK	**Ala-Archa**	**23.04**	**44**	⇓*i*P	**P**	17 32 34.8	+0.8
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb3.9						
AAK				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.3						
AAK	**Ala-Archa**	**23.04**	**44**	⇓*i*P	**P**	17 32 34.8	+0.8
	comp=Z,4.0nm,0.8s,mb3.9						
AAK				LR	LR		
	comp=Z,100nm,20.0s,MS3.3						
AAK	**Ala-Archa**	**23.04**	**44**	⇓*i*P	**P**	17 32 34.8	+0.8
	comp=Z,4.0nm,0.8s,mb3.9						
ULDT	**Uludag**	**23.12**	**308**	*i* P	**P**	17 32 37.1	+2.2
FRU	**Bishkek**	**23.22**	**44**	*e*P	**P**	17 32 49.0	+13
IDI	**Anoyia**	**24.90**	**295**	P	**P**	17 32 53.9	+1.7
	comp=Z,16nm,0.6s,mb4.7,baz=101,slow=7.6,SNR=22						
VRSR	**Storozhevoye**	**25.60**	**340**	*e*P	**P**	17 32 58.6	0.0
VRSR				*e*		17 33 37.7	
VRSR				*e*		17 36 31.6	
VRSR				*e*SS	SS	17 38 21.3	-5.9
VRSR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3						
VRSR				pmax	pmax		
	comp=N,40nm,0.9s						
VRSR				pmax	pmax		
	comp=E,20nm,0.9s						
VRSR	**Storozhevoye**	**25.60**	**340**	*e*P	**P**	17 32 58.6	0.0
	comp=E,10.0nm,1.0s,mb4.3						
VOR	**Voronezh**	**26.05**	**341**	P	**P**	17 33 03.0	+0.2
VOR				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.2						
VOR	**Voronezh**	**26.05**	**341**	P	**P**	17 33 03.0	+0.2
	comp=Z,80nm,0.9s,mb5.2						
BVAR	**Borovoye Array**	**28.43**	**23**	P	**P**	17 33 24.1	-0.4
	comp=Z,1.4nm,0.6s,mb3.8,baz=206,slow=5.3,SNR=9.7						
ARU	**Arti**	**28.96**	**7**	*e*P	**P**	17 33 30.1	+0.9
ARU				*e*		17 34 24.3	
ARU				*e*		17 36 40.7	
ARU				*e*S	**S**	17 38 07.2	-11
ARU				*e*SS	SS	17 40 05.9	+19
ARU				*e*		17 44 03.4	
CHKZ	**Chkalovo**	**29.04**	**22**	*e*P	**P**	17 33 29.7	-0.3
AKASG	**Malin Array Be**	**29.08**	**328**	P	**P**	17 33 29.2	-1.1
	comp=Z,0.3nm,0.3s,mb3.5,baz=126,slow=7.2						
OBN	**Obninsk**	**29.78**	**341**	⇑*i*P	**P**	17 33 36.9	+0.3
OBN				*i* *PP	pP	17 33 52.9	+13
OBN				pmax	pmax		
	comp=Z,17nm,1.6s,mb4.5						
OBN	**Obninsk**	**29.78**	**341**	*i* P	**P**	17 33 36.9	+0.3
	comp=Z,17nm,1.6s,mb4.5						
KURK	**Kurchatov**	**30.15**	**33**	⇓*i*P	**P**	17 33 41.1	+1.1
KOLS	**Kolonicke sedl**	**31.62**	**320**	*ep*P	pP	17 33 54.6	-1.3
CRVS	**Cervenica-Dubn**	**32.06**	**320**	*i*	**P**	17 33 57.8	+1.0
WMQ	**Urumqi**	**32.25**	**51**	*e*P	**P**	17 33 59.5	+1.0
WMQ				PP	PP	17 35 06.0	+0.3
WMQ				*e*S	**S**	17 39 11.0	+0.5
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,109nm,4.8s						
WMQ				LR	LR		
	comp=N,642nm,21.6s,MS4.3						
WMQ				LR	LR		
	comp=E,275nm,20.3s,MS4.3						
WMQ				LR	LR		

	comp=Z,0.9nm,0.4s,mb3.9							
KAF	**Kangasniemi**	**38.59**	**340**	*e*P		**P**	**17 34 52.6**	**+0.3**
KAF				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
DAVA	**Damuels**	**38.64**	**312**	⇑*i*P		**P**	**17 34 52.8**	**-0.1**
	comp=Z,22nm,0.5s,mb5.2							
BSD	**Bornholm Skovb**	**38.66**	**326**	⇓*i*P		**P**	**17 34 51.8**	**-1.2**
BSD				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.6							
BSD	**Bornholm Skovb**	**38.66**	**326**	⇓*i*P		**P**	**17 34 51.8**	**-1.2**
	comp=Z,11nm,0.9s,mb4.6							
BSD				*i*		pP	17 34 56.1	0.0
SBF	**Sospel**	**39.63**	**306**	*e*P		**P**	**17 35 01.3**	**+0.1**
	comp=Z,15nm,0.8s,mb4.5							
FRF	**La Foret Royal**	**40.16**	**306**	*e*P		**P**	**17 35 05.2**	**-0.3**
	comp=Z,131nm,1.8s,mb5.1							
MBDF	**Montbardon**	**40.23**	**307**	*e*P		**P**	**17 35 06.3**	**+0.1**
	comp=Z,6.0nm,0.7s,mb4.1							
BNI	**Bardonecchia**	**40.35**	**308**	*e*P		**P**	**17 35 06.6**	**-0.5**
BNI	**Bardonecchia**	**40.35**	**308**	*e*P		**P**	**17 35 06.6**	**-0.5**
LPG	**La Plagne**	**40.38**	**309**	*e*P		**P**	**17 35 07.5**	**+0.2**
	comp=Z,10nm,0.8s,mb4.3							
LPL	**La Plagne**	**40.39**	**309**	*e*P		**P**	**17 35 07.6**	**+0.1**
	comp=Z,6.6nm,0.7s,mb4.2							
GTA	**Gaotai**	**40.45**	**61**	*e*P		**P**	**17 35 10.0**	**+2.0**
GTA				PP		PP	17 36 47.1	+2.4
GTA				S		**S**	**17 41 20.5**	**+4.3**
GTA				SS		SS	17 44 16.3	+6.6
GTA				AMB		AMB		
	comp=Z,5.0nm,0.8s,mb4.3							
GTA				AMB		AMB		
	comp=Z,29nm,3.8s							
GTA				LR		LR		
	comp=N,72nm,13.3s,MS3.9							
GTA				LR		LR		
	comp=E,97nm,12.9s,MS3.9							
GTA				LR		LR		
	comp=Z,116nm,12.5s,MS3.9							
CDF	**Champ du Feu**	**40.62**	**313**	*e*P		**P**	**17 35 09.1**	**-0.2**
HINF	**Hinteralfeld**	**40.76**	**312**	*e*P		**P**	**17 35 10.4**	**-0.1**
ORIF	**Oris-en-Rattie**	**40.89**	**308**	*e*P		**P**	**17 35 12.0**	**+0.4**
CABF	**La Chapelle**	**41.03**	**310**	*e*P		**P**	**17 35 12.8**	**+0.1**
	comp=Z,24nm,0.9s,mb4.5							
VIVF	**Saint-Julien-l**	**41.73**	**307**	*e*P		**P**	**17 35 18.7**	**+0.3**
	comp=Z,16nm,1.1s,mb4.3							
SMF	**Signal de Mont**	**42.56**	**310**	*e*P		**P**	**17 35 24.0**	**-1.2**
	comp=Z,20nm,1.0s,mb4.5							
SSF	**Saint Saulge**	**42.85**	**310**	*e*P		**P**	**17 35 27.4**	**-0.2**
	comp=Z,5.6nm,1.0s,mb4.3							
BAIF	**Baives**	**42.96**	**315**	*e*P		**P**	**17 35 28.0**	**-0.4**
	comp=Z,10nm,0.7s,mb4.4							
MTLF	**Montolieu**	**43.34**	**305**	*e*P		**P**	**17 35 31.1**	**-0.5**
NB2	**NORSAR Subarra**	**43.35**	**332**	P		**P**	**17 35 30.6**	**-0.8**
	comp=Z,1.2nm,0.5s,mb3.9,baz=121,slow=7.9							
NOA	**NORSAR Array B**	**43.35**	**332**	P		**P**	**17 35 30.7**	**-0.8**
	comp=Z,1.6nm,0.6s,mb3.9,baz=121,slow=8.1,SNR=8.7							
NOA				LR		LR	17 55 53.9	
	comp=Z,30nm,21.4s,MS3.2,baz=115,slow=39							
NOA	**NORSAR Array B**	**43.35**	**332**	P		**P**	**17 35 30.7**	**-0.8**
CAF	**Calviac**	**43.58**	**307**	*e*P		**P**	**17 35 33.0**	**-0.6**
RJF	**Les Rejaudoux**	**44.00**	**308**	*e*P		**P**	**17 35 36.8**	**-0.2**
	comp=Z,4.2nm,0.5s,mb4.1							
LFF	**La Frestale**	**44.52**	**307**	*e*P		**P**	**17 35 40.6**	**-0.6**
KEV	**Kevo**	**44.61**	**348**	*e*p		**P**	**17 35 41.3**	**-0.3**
ARCES	**ARCESS Array B**	**44.72**	**347**	P		**P**	**17 35 41.9**	**-0.6**
	comp=Z,1.8nm,0.3s,mb4.3,baz=148,slow=8.5,SNR=36							
ARCES				LR		LR	17 55 21.3	
	comp=Z,39nm,19.1s,MS3.4,baz=12,slow=38							
ARCES	**ARCESS Array B**	**44.72**	**347**	P		**P**	**17 35 41.8**	**-0.7**
LDF	**La Druitiere**	**45.49**	**312**	*e*P		**P**	**17 35 47.6**	**-1.2**
	comp=Z,5.4nm,0.5s,mb4.4							
FLN	**La Foliniere**	**45.75**	**312**	*e*P		**P**	**17 35 49.9**	**-1.0**
SONM	**Songino Array**	**45.84**	**49**	P		**P**	**17 35 51.0**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.1,baz=254,slow=9.0,SNR=10							
SJPF	**Ste Jean**	**45.84**	**304**	*e*P		**P**	**17 35 51.2**	**-0.5**
	comp=Z,5.4nm,0.4s,mb4.5							
GRR	**Gorron**	**45.95**	**312**	*e*P		**P**	**17 35 51.5**	**-1.0**
ESDC	**Sonseca Array**	**47.98**	**300**	P		**P**	**17 36 08.8**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=90,slow=5.9,SNR=4.7							
LSZ	**Lusaka**	**48.97**	**212**	P		**P**	**17 36 18.0**	**+1.4**
EVO	**Evora**	**51.23**	**299**	*e*P		**P**	**17 36 33.5**	**0.0**
	comp=Z,12nm,0.8s,mb4.6							
BOD	**Bodaibo**	**51.71**	**37**	*e*P		**P**	**17 36 35.1**	**-1.8**
BOD				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
MATP	**Matopo**	**53.35**	**209**	P		**P**	**17 36 50.1**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=336,slow=7.3,SNR=4.6							
NJ2	**Nanjing**	**56.63**	**68**	*e*P		**P**	**17 37 12.3**	**-1.1**
NJ2				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.1							
TSUM	**Tsumeb**	**57.80**	**220**	LR		LR	18 03 03.0	
	comp=Z,69nm,18.1s,MS8,baz=106,slow=37							
DBIC	**Dimbokro**	**58.37**	**260**	P		**P**	**17 37 25.3**	**-0.6**
	comp=Z,4.7nm,0.6s,mb4.7,baz=48,slow=6.2,SNR=7.2							
LBTB	**Lobatse**	**58.64**	**209**	P		**P**	**17 37 28.0**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.4,baz=8.4,slow=11,SNR=6.4							
CN2	**Changchun**	**59.28**	**54**	*e*P		**P**	**17 37 31.3**	**-0.5**
TIXI	**Tiksi**	**59.55**	**21**	*e*P		**P**	**17 37 32.2**	**-1.1**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.0							
YAK	**Yakutsk**	**59.78**	**32**	⇑*i*P		**P**	**17 37 34.6**	**-0.5**
YAK				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.5							
MDJ	**Mudanjiang**	**62.04**	**52**	P		**P**	**17 37 48.3**	**-2.4**
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.8s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,99nm,4.8s							
MA2	**Magadan**	**70.36**	**32**	*e*P		**P**	**17 38 43.6**	**+0.2**
MA2				pmax		pmax		
	comp=Z,16nm,2.5s,mb4.5							
SCHQ	**Schefferville**	**82.87**	**330**	P		**P**	**17 39 53.2**	**-0.3**
	comp=Z,3.9nm,1.0s,mb4.4,baz=260,slow=13,SNR=6.5							
SCHQ	**Schefferville**	**82.87**	**330**	P		**P**	**17 39 53.2**	**-0.3**
YKA	**Yellowknife Ar**	**89.51**	**354**	*i* P		**P**	**17 40 28.6**	**+2.6**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**89.51**	**354**	P		**P**	**17 40 26.3**	**+0.3**
	comp=Z,0.6nm,0.5s,mb4.2,baz=5.4,slow=4.9,SNR=9.6							
WRA	**Warramunga Arr**	**91.96**	**111**	*i* P		**P**	**17 40 42.2**	**+3.9**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**91.96**	**111**	P		**P**	**17 40 39.7**	**+1.4**
	comp=Z,0.7nm,0.7s,mb4.1,baz=312,slow=4.2,SNR=7.7							
WRAB	**Tennant Creek**	**91.97**	**111**	*e*P		**P**	**17 40 42.7**	**+4.4**
WRAB	**Tennant Creek**	**91.97**	**111**	P		**P**	**17 40 39.2**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.6							
ASAR	**Alice Springs**	**93.39**	**115**	P		**P**	**17 40 46.0**	**+1.2**
	comp=Z,1.1nm,0.9s,mb4.3,baz=285,slow=4.6,SNR=7.0							

ISC 22 17:47:37.8±0.5, 46.43N±0.02×13.15E±0.04, h10km, n15, σ0§61/29, 8C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BOO	**Bordano**	**0.12**	**196**	⇑*i*	Pg		**Pg**	**17 47 40.7**	**-0.1**
BOO				*i*	Sg		**Sg**	**17 47 43.2**	**+0.5**
PLRO	**Paularo**	**0.12**	**0**	⇓*i*	Pg		**Pg**	**17 47 41.3**	**+0.5**
PLRO				*i*	Sg		**Sg**	**17 47 43.8**	**+1.0**
ZOU	**Zoufplan**	**0.17**	**316**	⇓*i*	Pg		**Pg**	**17 47 41.9**	**+0.1**
BAD	**Bernadia**	**0.21**	**161**	⇑*i*	Pg		**Pg**	**17 47 42.1**	**-0.3**
BAD				*i*	Sg		**Sg**	**17 47 45.9**	**+0.5**
BUA	**Buia**	**0.21**	**184**	⇑*e*	Pg		**Pg**	**17 47 42.2**	**-0.3**
BUA				*i*	Sg		**Sg**	**17 47 46.0**	**+0.4**
MPRI	**Monte Prat**	**0.22**	**210**	⇑*i*	Pg		**Pg**	**17 47 42.3**	**-0.3**
MPRI				*e*	Sg		**Sg**	**17 47 45.9**	**+0.1**
LSR	**Lussari**	**0.27**	**81**	⇓*i*	Pg		**Pg**	**17 47 43.7**	**+0.2**
LSR				*i*	Sg		**Sg**	**17 47 48.5**	**+1.2**
ROBS	**Robic**	**0.31**	**127**	*i*	Pg		**Pg**	**17 47 43.9**	**-0.4**
ROBS				*i*	Sg		**Sg**	**17 47 49.0**	**+0.3**
	comp=Z,9.0nm,0.1s								
COLI	**Coloredo**	**0.34**	**152**	⇑*i*	Pg		**Pg**	**17 47 44.5**	**-0.4**
COLI				*i*	Sg		**Sg**	**17 47 50.0**	**+0.5**
DRE	**Drenchia**	**0.43**	**127**	⇑*i*	Pg		**Pg**	**17 47 45.7**	**-0.9**
DRE				*e*	Sg		**Sg**	**17 47 52.8**	**+0.3**
CADS	**Cadrg**	**0.46**	**116**	*i*	Pg		**Pg**	**17 47 46.4**	**-0.7**
CADS				*i*	Sg		**Sg**	**17 47 53.8**	**+0.5**
	comp=Z,8.0nm,0.1s								
GORS	**Gorjuse**	**0.60**	**101**	*i*	Pg		**Pg**	**17 47 49.3**	**-0.6**
GORS				*e*	Sg		**Sg**	**17 47 58.9**	**+0.9**
	comp=Z,5.0nm,0.1s								
VOY	**Vojsko**	**0.66**	**127**	*e*	Pg		**Pg**	**17 47 49.8**	**-1.2**
VOY				*e*	Sg		**Sg**	**17 48 00.2**	**+0.3**
KBA	**Koelnbreinsper**	**0.66**	**12**	⇑*i*	PG		**Pg**	**17 47 51.0**	**-0.1**
KBA				*i*	SG		**Sg**	**17 47 59.9**	**-0.1**
	comp=Z,5.8nm,0.1s								
OBKA	**Obir**	**0.97**	**85**	⇑*i*	PG		**Pg**	**17 47 56.7**	**-0.6**
OBKA				*i*	SG		**Sg**	**17 48 09.1**	**-1.2**
	comp=Z,2.4nm,0.3s								

*IDC **22** 17:47:59.9±1.9, 3.33N×92.82E, mb3.8/4, mb1 4.0/4, mb1mx3.7/15, mbtmp3.8/4, Error ellipse: s-maj=68.5km s-min=31.8km az=52.0*
*NEIC **22** 17:48:04.3±1.1, 3.34N×92.85E, h30km, mb4.1/3, Error ellipse: s-maj=25.7km s-min=10.7km az=211.0*
ISC 22 17:48:02.7±1.4, 3.4N±0.2×92.9E±0.1, h30km, n9, σ0§79/10, mb3.9/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KULM	**Kulim**	**7.95**	**76**	*e*P			**Pn**	**17 49 58.7**	**-0.5**
KULM				*e*S			**Sn**	**17 51 21.7**	**-7.3**
KSM	**Kuching**	**17.49**	**96**	P			**P**	**17 52 06.6**	**+0.3**
LSA	**Lhasa**	**26.22**	**357**	*e*P			**P**	**17 53 38.4**	**+1.4**
	6.1nm,0.6s,mb4.3								
SONM	**Songino Array**	**45.77**	**13**	P			**P**	**17 56 24.2**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=196,slow=9.9,SNR=5.3								
WRA	**Warramunga Arr**	**46.83**	**121**	P			**P**	**17 56 32.1**	**0.0**
	0.3nm,0.6s,mb3.4,baz=298,slow=8.8,SNR=4.8								
KURK	**Kurchatov**	**48.67**	**348**	*e*P			**P**	**17 56 45.4**	**-0.8**
	1.0nm,0.6s,mb4.0								
ZAL	**Zalesovo**	**50.82**	**354**	P			**P**	**17 57 01.9**	**-0.6**
	1.5nm,0.5s,mb4.2,baz=288,slow=3.9,SNR=5.9								
CHKZ	**Chkalovo**	**53.36**	**344**	*e*P			**P**	**17 57 20.3**	**-1.3**
	1.0nm,0.6s,mb3.9								
GERES	**GERESS Array B**	**80.35**	**319**	P			**P**	**18 00 13.3**	**+0.6**
	1.0nm,0.7s,mb3.9,baz=104,slow=5.5,SNR=8.9								

MAN 22 17:59:10.0, 17.52N×122.36E, h13km, mb4.0, ML2.8, MS2.5, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
PALP	**Palanan**	**0.46**	**172**	*e*P			Pg	17 59 20.2	+0.6
PALP				*e*S			Sg	17 59 28.5	+2.6
PALP	**Palanan**	**0.46**	**172**	*e*P			Pb	17 59 20.2	+0.6
PALP				*e*S			Sg	17 59 28.5	+2.6
CVP	**Callao Caves**	**0.54**	**289**	*e*P			Pb	17 59 22.0	+1.1
CVP				*e*S			Sb	17 59 30.0	+1.7
CAUP	**Cauayan**	**0.77**	**222**	*e*P			Pb	17 59 27.0	+2.3
CAUP	**Cauayan**	**0.77**	**222**	*e*P			Pb	17 59 27.0	+2.3
SGCP	**Mt. Cagua**	**0.77**	**337**	*e*P			Pb	17 59 24.5	-0.4
SGCP	**Mt. Cagua**	**0.77**	**337**	*e*P			Pb	17 59 24.5	-0.4
APYP	**Conner**	**1.11**	**288**	*e*P			Pb	17 59 30.6	0.0
APYP				*e*S			Sb	17 59 46.7	+1.8
APYP	**Conner**	**1.11**	**288**	*e*P			Pb	17 59 30.6	0.0
APYP				*e*S			Sb	17 59 46.7	+1.8
ABRA	**Dolores**	**1.57**	**275**	*e*P			Pn	17 59 38.0	+0.1
ABRA	**Dolores**	**1.57**	**275**	*e*P			Pn	17 59 38.0	+0.1
BALP	**Baler**	**1.92**	**203**	*e*P			Pn	17 59 42.0	-0.9
BALP	**Baler**	**1.92**	**203**	*e*P			Pn	17 59 42.0	-0.9

*NEIC **22** 18:26:19.9±0.8, 30.38S×179.33W, h351km±9km, mb3.7/3, Error ellipse: s-maj=21.0km s-min=16.8km az=128.0*
*IDC **22** 18:26:21.3±6.5, 30.77S×179.30W, h372km±70km, mb3.0/3, mb1 3.3/4, mb1mx3.1/12, mbtmp3.9/4, Error ellipse: s-maj=69.3km s-min=28.3km az=13.0*
ISC 22 18:26:18.4±1.1, 30.69S±0.08×179.1W±0.3, h373km±17km, n45, σ1§06/58, mb3.3/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RAO	**Raoul Island**	**1.78**	**36**	Pn			**P**	**18 27 09.6**	**-1.2**
MXZ	**Matakaoa Point**	**7.18**	**197**	PN			**P**	**18 28 05.1**	**+0.9**
MXZ				*e*SN			**S**	**18 29 29.9**	**+2.5**
MXZ	**Matakaoa Point**	**7.18**	**197**	PN			**P**	**18 28 05.1**	**+0.9**
MXZ				*e*SN			**S**	**18 29 29.9**	**+2.5**
PUZ	**Puketiti**	**7.67**	**196**	*e*PN			**P**	**18 28 10.3**	**+0.3**
PUZ				SN			**S**	**18 29 39.0**	**+1.2**
PUZ	**Puketiti**	**7.67**	**196**	*e*PN			**P**	**18 28 10.3**	**+0.3**
PUZ				SN			**S**	**18 29 39.0**	**+1.2**
MWZ	**Matawai**	**8.11**	**199**	*e*PN			**P**	**18 28 16.0**	**+1.0**
MWZ	**Matawai**	**8.11**	**199**	*e*PN			**P**	**18 28 16.0**	**+1.0**
URZ	**Urewera**	**8.16**	**201**	P			**P**	**18 28 17.2**	**+1.6**
	4.3nm,0.3s,baz=306,slow=4.0,SNR=39								
URZ				S			**S**	**18 29 48.4**	**+0.3**
	3.5nm,0.3s,baz=77,slow=22,SNR=14								
URZ	**Urewera**	**8.16**	**201**	*e*PN			**P**	**18 28 16.9**	**+1.2**
URZ				*e*SN			**S**	**18 29 49.3**	**+1.2**
URZ	**Urewera**	**8.16**	**201**	*e*PN			**P**	**18 28 16.9**	**+1.2**
URZ				*e*SN			**S**	**18 29 49.3**	**+1.2**
BKZ	**Black Stump Fm**	**9.19**	**202**	*e*PN			**P**	**18 28 28.7**	**+1.0**
BKZ				*e*SN			**S**	**18 30 09.5**	**-0.4**
BKZ	**Black Stump Fm**	**9.19**	**202**	*e*PN			**P**	**18 28 28.7**	**+1.0**
BKZ				*e*SN			**S**	**18 30 09.5**	**-0.4**
BFZ	**Birch Farm**	**10.65**	**199**	*e*PN			**P**	**18 28 46.0**	**+0.9**
BFZ				*e*SN			**S**	**18 30 40.6**	**-0.6**
BFZ	**Birch Farm**	**10.65**	**199**	*e*PN			**P**	**18 28 46.0**	**+0.9**
BFZ				*e*SN			**S**	**18 30 40.6**	**-0.6**
MRZ	**Mangatainoka R**	**10.84**	**202**	*e*PN			**P**	**18 28 46.1**	**-1.2**
MRZ				*e*SN			**S**	**18 30 43.0**	**-2.2**
MRZ	**Mangatainoka R**	**10.84**	**202**	*e*PN			**P**	**18 28 46.1**	**-1.2**
MRZ				*e*SN			**S**	**18 30 43.0**	**-2.2**
KIW	**Kapiti Island**	**11.24**	**204**	*e*PN			**P**	**18 28 52.3**	**+0.2**
KIW				SN			**S**	**18 30 53.6**	**-0.2**
KIW	**Kapiti Island**	**11.24**	**204**	*e*PN			**P**	**18 28 52.3**	**+0.2**
KIW				SN			**S**	**18 30 53.6**	**-0.2**
CAW	**Cannon Point**	**11.41**	**203**	*e*PN			**P**	**18 28 52.6**	**-1.4**
CAW	**Cannon Point**	**11.41**	**203**	*e*PN			**P**	**18 28 52.6**	**-1.4**
MSWZ	**Moikau Station**	**11.62**	**201**	*e*SN			**S**	**18 31 00.7**	**-1.4**
MSWZ	**Moikau Station**	**11.62**	**201**	*e*SN			**S**	**18 31 00.7**	**-1.4**
MRW	**Makara Radio**	**11.64**	**204**	*e*SN			**S**	**18 31 02.3**	**-0.1**
MRW	**Makara Radio**	**11.64**	**204**	*e*SN			**S**	**18 31 02.3**	**-0.1**
NNZ	**Nelson**	**12.13**	**208**	SN			**S**	**18 31 12.1**	**-0.6**
NNZ	**Nelson**	**12.13**	**208**	SN			**S**	**18 31 12.1**	**-0.6**
THZ	**Tophouse**	**12.78**	**208**	PN			**P**	**18 29 08.1**	**-1.9**
THZ				*e*SN			**S**	**18 31 25.8**	**-0.6**
THZ	**Tophouse**	**12.78**	**208**	PN			**P**	**18 29 08.1**	**-1.9**
THZ				*e*SN			**S**	**18 31 25.8**	**-0.6**
KHZ	**Kahutara**	**13.10**	**205**	*e*PN			**P**	**18 29 12.3**	**-1.3**
KHZ				*e*SN			**S**	**18 31 33.9**	**+0.8**
KHZ	**Kahutara**	**13.10**	**205**	*e*PN			**P**	**18 29 12.3**	**-1.3**
KHZ				*e*SN			**S**	**18 31 33.9**	**+0.8**
MQZ	**McQueen's Vall**	**14.54**	**204**	*e*SN			**S**	**18 32 03.6**	**+1.0**
MQZ	**McQueen's Vall**	**14.54**	**204**	*e*SN			**S**	**18 32 03.6**	**+1.0**
RPZ	**Rata Peaks**	**15.16**	**208**	S			**S**	**18 32 14.5**	**-0.2**
	0.3nm,0.3s,baz=84,slow=19,SNR=3.2								
CTA	**Charters Tower**	**32.89**	**280**	P			**P**	**18 32 21.6**	**+0.9**
	1.5nm,0.5s,mb3.5,baz=101,slow=10,SNR=4.6								
CTAO	**Charters Tower**	**32.89**	**280**	P			**P**	**18 32 21.7**	**+1.0**
	3.2nm,0.8s,mb3.6								
ASAR	**Alice Springs**	**42.13**	**268**	P			**P**	**18 33 37.4**	**+0.3**
	0.3nm,0.5s,mb2.7,baz=110,slow=7.2,SNR=4.3								
WRAB	**Tennant Creek**	**43.14**	**273**	*e*P			**P**	**18 33 45.2**	**0.0**
	1.6nm,0.5s,mb3.4								
WRA	**Warramunga Arr**	**43.14**	**273**	P			**P**	**18 33 45.4**	**+0.1**
	0.7nm,0.4s,mb3.1,baz=110,slow=7.9,SNR=22								
QSPA	**South Pole Qui**	**59.42**	**180**	P			**P**	**18 35 50.4**	**+6.1**
	2.6nm,0.8s,mb3.7								
KAF	**Kangasniemi**	**144.49**	**340**	*e*pkp		PKPdf		18 45 11.3	+1.4
	1.7nm,0.5s,baz=42,slow=3.3								
FINES	**FINESS Array B**	**145.08**	**339**	PKPbc		PKPbc		18 45 13.9	+2.3
	3.9nm,0.6s,baz=52,slow=4.4,SNR=35								
NB2	**NORSAR Subarra**	**148.89**	**350**	PKPabc		PKPdf		18 45 24.6	+7.5
	0.7nm,0.6s,baz=15,slow=2.6								
NOA	**NORSAR Array B**	**148.89**	**350**	PKPbc		PKPdf		18 45 24.9	+7.8
	1.1nm,0.7s,baz=16,slow=4.2,SNR=4.9								
HFS	**Hagfors**	**149.33**	**347**	PKPbc		PKPdf		18 45 25.5	+7.6
	2.6nm,0.8s,baz=90,slow=1.4,SNR=6.4								
HFS				PKPab		PKPab		18 45 30.8	-0.3
	1.0nm,0.6s,baz=45,slow=4.1,SNR=6.6								
AKASG	**Malin Array Be**	**150.94**	**322**	PKPbc		PKPdf		18 45 29.7	+9.1
	0.3nm,0.3s,baz=53,slow=2.8,SNR=6.2								

*NIED **22** 18:26:00, 34.00N×142.40E, h8km, Mw3.8 Best double couple: M₀4.85×10¹⁴ NP1:φs152°, δ62°, λ-83°. NP2: φs318°, δ29°, λ-102°.*
*IDC **22** 18:26:17.9±1.2, 34.07N×142.44E, mb3.7/4, mb1 3.9/7, mb1mx3.7/19, mbtmp3.9/7, ML4.0/3, MS3.5/1, Ms1 3.5/1, ms1mx2.3/25, Error ellipse: s-maj=34.3km s-min=20.4km az=92.0*

*JMA **22** 18:26:20.9±0.4, 34.03N×142.43E, h64km, M3.6*
*NEIC **22** 18:26:23.7±2.9, 34.04N×142.32E, h37km±23km, mb4.1/3, Error ellipse: s-maj=30.5km s-min=19.7km az=77.0*
ISC 22 18:26:20.2±1.9, 34.03N±0.05×142.45E±0.06, h32km±16km, n24, σ1§22/39, mb3.8/7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BSO1	**Boso 1**	**1.36**	**297**	P			**Pn**	**18 26 43.9**	**+0.6**
BSO1				*e*S			**Sn**	**18 27 00.6**	**+0.2**
BSO2	**Boso 2**	**1.57**	**298**	*e*S			**Sn**	**18 27 08.6**	**+2.9**
BSO3	**Boso 3**	**1.77**	**296**	P			**Pn**	**18 26 50.2**	**+1.0**
BSO3				*e*S			**Sn**	**18 27 11.8**	**+1.0**
BSO4	**Boso 4**	**1.98**	**299**	P			**Pn**	**18 26 53.7**	**+1.5**
BSO4				*e*S			**Sn**	**18 27 18.1**	**+1.9**
JHJ2	**Mitsune**	**2.38**	**248**	P			**Pn**	**18 26 58.7**	**+0.9**
JHJ2				*e*S			**Sn**	**18 27 25.8**	**-0.4**
JHJ	**Hachijo jima 2**	**2.40**	**248**	Pn			**Pn**	**18 26 58.8**	**+0.6**
	158nm,0.3s,baz=69,slow=23,SNR=22								
JHJ				Sn			**Sn**	**18 27 25.9**	**-0.9**
	124nm,0.3s,baz=48,slow=22,SNR=15								
JHJ				LR			LR	18 27 28.5	
	comp=Z,1μm,21.8s,baz=303,slow=30								
JOD2	**Odawara 2**	**3.03**	**295**	P			**Pn**	**18 27 05.1**	**-2.0**
JOD2				*e*S			**Sn**	**18 27 40.1**	**-2.5**
JAG	**Ashikaga**	**3.42**	**315**	P			**Pn**	**18 27 12.6**	**0.0**
JAG				*e*S			**Sn**	**18 27 52.2**	**-0.3**
JRY	**Ryogami san**	**3.52**	**305**	P			**Pn**	**18 27 14.2**	**+0.2**
JRY				*e*S			**Sn**	**18 27 54.1**	**-0.9**
JYN	**Shimob**	**3.53**	**296**	P			**Pn**	**18 27 14.5**	**+0.3**
JYN				*e*S			**Sn**	**18 27 53.9**	**-1.4**
JMM	**Marumori**	**4.05**	**341**	P			**Pn**	**18 27 20.3**	**-1.3**
JMM				*e*S			**Sn**	**18 28 03.6**	**-5.0**
MAJO	**Matsushiro**	**4.28**	**307**	*e*Pn			**Pn**	**18 27 25.1**	**+0.2**
MAT	**Matsushiro**	**4.28**	**307**	*e*P			**Pn**	**18 27 25.0**	**+0.2**
MAT				S			**Sn**	**18 28 08.0**	**-6.2**
MAT	**Matsushiro**	**4.28**	**307**	P			**Pn**	**18 27 25.3**	**+0.5**
MAT				*e*S			**Sn**	**18 28 08.1**	**-6.1**
MAT	**Matsushiro**	**4.28**	**307**	P			**Pn**	**18 27 25.4**	**+0.6**
MAT				*e*S			**Sn**	**18 28 11.5**	**-2.7**
CBIJ	**Chichi jima**	**6.92**	**182**	Pn			**Pn**	**18 27 59.1**	**-2.9**
	12nm,0.3s,baz=319,slow=20,SNR=23								
CBIJ				Sn			**Sn**	**18 29 09.3**	**-11**
	4.5nm,0.3s,baz=103,slow=23,SNR=3.2								
ASAJ	**Asahikawa**	**10.07**	**1**	Pn			**P**	**18 28 42.4**	**-3.3**
	0.7nm,0.3s,baz=164,slow=22,SNR=5.1								
ASAJ				Sn			**S**	**18 30 26.7**	**-12**
	0.3nm,0.3s,baz=38,slow=28,SNR=2.3								

NKY				*e*Sn		**Sn**	**18 31 42.3**	**-0.6**
SRS	**Serrai**	**3.15**	**63**	*e*Pn		**Pn**	**18 31 05.8**	**+0.3**
SRS				*e*Sn		**Sn**	**18 31 42.0**	**-1.6**
AOS	**Alonnisos**	**3.16**	**100**	*e*Pn		**Pn**	**18 31 05.9**	**+0.2**
MGER	**Gerania Oros**	**3.19**	**123**	*e*PN		**Pn**	**18 31 06.0**	**-0.1**
OUR	**Ouranopolis**	**3.21**	**78**	*e*Pn		**Pn**	**18 31 06.6**	**+0.2**
BRY	**Bratogost**	**3.29**	**343**	*e*Pn		**Pn**	**18 31 07.8**	**+0.2**
BRY				*e*Sn		**Sn**	**18 31 45.7**	**-1.5**
SLCN	**Sala Consilina**	**3.31**	**282**	*e*Pn		**Pn**	**18 31 08.7**	**+0.8**
SLCN	**Sala Consilina**	**3.31**	**282**	*e*Pn		**Pn**	**18 31 08.7**	**+0.8**
MGR	**Morigerati**	**3.34**	**278**	*e*Pn		**Pn**	**18 31 09.6**	**+1.3**
MGR	**Morigerati**	**3.34**	**278**	*e*Pn		**Pn**	**18 31 09.6**	**+1.3**
NSAL	**Nisos Salamina**	**3.36**	**122**	*e*PN		**Pn**	**18 31 08.8**	**+0.2**
NSAL	**Nisos Salamina**	**3.36**	**122**	*e*PN		**Pn**	**18 31 08.0**	**-0.6**
MPAR	**Parnis Oros**	**3.42**	**117**	*e*PN		**Pn**	**18 31 10.0**	**+0.6**
SOI	**Samo**	**3.42**	**242**	*e*Pn		**Pn**	**18 31 08.2**	**-1.2**
SOI				*e*Sn		**Sn**	**18 31 49.0**	**-1.6**
SOI	**Samo**	**3.42**	**242**	*e*Pn		**Pn**	**18 31 08.2**	**-1.2**
SOI				*e*Sn		**Sn**	**18 31 49.0**	**-1.6**
NVR	**Nevrokopi**	**3.43**	**61**	*e*PN		**Pn**	**18 31 10.1**	**+0.6**
NAIG	**Nisos Aigina**	**3.46**	**124**	*e*PN		**Pn**	**18 31 10.0**	**0.0**
ATH	**Athens Observa**	**3.49**	**120**	*e*PN		**Pn**	**18 31 10.5**	**0.0**
ATH	**Athens Observa**	**3.49**	**120**	*e*Pn		**Pn**	**18 31 10.0**	**-0.5**
MRLC	**Muro Lucano**	**3.50**	**288**	*e*Pn		**Pn**	**18 31 11.3**	**+0.8**
MRLC	**Muro Lucano**	**3.50**	**288**	*e*Pn		**Pn**	**18 31 11.3**	**+0.8**
STON	**Ston**	**3.51**	**333**	*i* Pn		**Pn**	**18 31 08.8**	**-1.9**
STON				*i* Sn		**Sn**	**18 31 48.5**	**-4.3**
STON	**Ston**	**3.51**	**333**	*i* Pn		**Pn**	**18 31 08.7**	**-2.0**
STON				*i* Sn		**Sn**	**18 31 48.5**	**-4.3**
UPM	**Unac-Piva**	**3.51**	**348**	*e*Pn		**Pn**	**18 31 11.3**	**+0.6**
UPM				*e*Sn		**Sn**	**18 31 51.8**	**-1.1**
PTL	**Penteli**	**3.56**	**118**	*e*PN		**Pn**	**18 31 10.8**	**-0.5**
PLE	**Pljevlja**	**3.58**	**354**	*e*Pn		**Pn**	**18 31 12.7**	**+1.0**
PLE				*e*Sn		**Sn**	**18 31 53.6**	**-1.0**
SGO	**Sicignano**	**3.59**	**284**	*e*Pn		**Pn**	**18 31 13.3**	**+1.5**
MTTG	**Motta San Giov**	**3.70**	**243**	*e*Pn		**Pn**	**18 31 12.4**	**-1.1**
MTTG				*e*Sn		**Sn**	**18 31 56.3**	**-1.5**
MTTG	**Motta San Giov**	**3.70**	**243**	*e*Pn		**Pn**	**18 31 12.4**	**-1.0**
MTTG				*e*Sn		**Sn**	**18 31 56.3**	**-1.4**
VLI	**Veliai**	**3.88**	**141**	*e*PN		**Pn**	**18 31 16.0**	**0.0**
KYTH	**Kithira**	**4.28**	**143**	*e*PN		**Pn**	**18 31 22.5**	**+0.8**
CII	**Carovilli**	**4.66**	**297**	*e*Pn		**Pn**	**18 31 28.4**	**+1.4**
CII	**Carovilli**	**4.66**	**297**	*e*Pn		**Pn**	**18 31 28.5**	**+1.5**
VAE	**Valguarnera**	**4.85**	**244**	Pn		**Pn**	**18 31 34.7**	**+5.1**
	comp=Z,1.1nm,0.3s,baz=69,slow=22,SNR=2.3							
VAE				Sn		**Sn**	**18 32 29.0**	**+2.4**
	comp=Z,1.8nm,0.3s,baz=20,slow=3.2,SNR=3.0							
ALN	**Alexandroupoli**	**4.85**	**75**	*e*Pn		**Pn**	**18 31 29.0**	**-0.8**
VAM	**Vamos**	**5.54**	**140**	*e*PN		**Pn**	**18 31 39.5**	**0.0**
NRCA	**Norcia**	**5.94**	**303**	*e*Pn		**Pn**	**18 31 44.5**	**-0.6**
NRCA	**Norcia**	**5.94**	**303**	*e*Pn		**Pn**	**18 31 44.5**	**-0.6**
IDI	**Anoyia**	**5.99**	**137**	Pn		**Pn**	**18 31 42.1**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=265,slow=22,SNR=14							
IDI				Sn		**Sn**	**18 32 48.4**	**-6.9**
	comp=Z,3.5nm,0.3s,baz=296,slow=23,SNR=9.1							
BOJS	**Bojanci**	**6.67**	**331**	*e*Pn		**Pn**	**18 31 52.6**	**-2.8**
VISS	**Visnje**	**7.08**	**330**	*e*Pn		**Pn**	**18 31 59.9**	**-1.2**
VOY	**Vojsko**	**7.65**	**327**	*e*Pn		**Pn**	**18 32 06.8**	**-2.3**
VOY				*e*Sn		**Sn**	**18 33 30.0**	**-6.8**
OBKA	**Obir**	**7.78**	**332**⇑	*i*PN		**Pn**	**18 32 08.3**	**-2.7**
OBKA				*i* SN		**Sn**	**18 33 33.0**	**-7.2**
KBA	**Koelnbreinsper**	**8.71**	**329**⇑	*i*PN		**P**	**18 32 20.8**	**-3.2**
KBA				*i* SN		**Sn**	**18 33 56.1**	**-7.3**
MOA	**Molln**	**9.04**	**335**⇑	*i*PN		**P**	**18 32 25.8**	**-2.7**
MOA				*i* SN		**Sn**	**18 34 04.2**	**-7.3**
GERES	**GERESS Array B**	**10.10**	**336**	Pn		**P**	**18 32 40.1**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=156,slow=13,SNR=6.1							
GERES				Sn		**S**	**18 34 32.4**	**-5.0**
	comp=Z,0.2nm,0.3s,baz=156,slow=24,SNR=3.9							
DAVOX	**Davos**	**10.11**	**317**	Pn		**P**	**18 32 43.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=161,slow=17,SNR=1.9							
DAVOX				Sn		**S**	**18 34 31.5**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=351,slow=18,SNR=2.4							
EIL	**Elat**	**15.95**	**125**	Pn		**P**	**18 33 57.9**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=303,slow=15,SNR=2.8							
HFS	**Hagfors**	**20.76**	**351**	P		**P**	**18 34 54.7**	**-3.5**
	comp=Z,1.5nm,0.4s,baz=164,slow=11,SNR=13							
NB2	**NORSAR Subarra**	**21.97**	**349**	P		**P**	**18 35 07.4**	**-3.0**
	comp=Z,6.2nm,1.4s,mb3.9,baz=154,slow=9.3							
NOA	**NORSAR Array B**	**21.97**	**349**	P		**P**	**18 35 07.8**	**-2.6**
	comp=Z,1.7nm,0.6s,mb3.6,baz=164,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**22.04**	**8**	P		**P**	**18 35 07.5**	**-3.6**
	comp=Z,0.9nm,0.5s,mb3.5,baz=169,slow=12,SNR=11							
ARCES	**ARCESS Array B**	**29.98**	**4**	P		**P**	**18 36 20.9**	**-4.5**
	comp=Z,1.1nm,0.9s,mb3.6,baz=198,slow=8.6,SNR=3.4							
ZAL	**Zalesovo**	**45.02**	**49**	P		**P**	**18 38 29.1**	**-2.9**
	comp=Z,4.1nm,0.4s,mb4.6,baz=184,slow=5.7,SNR=14							
SONM	**Songino Array**	**59.85**	**51**	P		**P**	**18 40 20.3**	**-2.5**
	comp=Z,0.1nm,0.4s,mb3.2,baz=288,slow=9.1,SNR=2.8							

MAN 22 18:43:42.3, 10.51N×126.19E, h1km, mb3.8, ML2.5, MS2.1, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SCPH	**Surigao**	**1.00**	**224**⇑	*e*P		Pb	18 44 02.0	-0.1
SCPH				*e*S		Sg	18 44 13.5	-2.1
BESP	**Borongan**	**1.31**	**326**	*e*P		Pb	18 44 07.1	-0.3
MSLP	**Maasin**	**1.36**	**254**	*e*P		Pb	18 44 08.1	-0.2

*IDC **22** 18:44:06.3±4.1, 25.96N×98.26E, mb3.6/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.6/5, Error ellipse: s-maj=184.7km s-min=25.2km az=79.0*
*BJI **22** 18:44:14.8, 26.39N×99.88E, h17km, ML3.5*
ISC 22 18:44:10.7±1.1, 26.47N±0.06×100.19E±0.08, h10km, n8, σ0§51/11, mb3.6/5, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KMI	**Kunming**	**2.66**	**120**	PG		**Pg**	**18 45 03.9**	**+0.1**
KMI				SG		**Sg**	**18 45 39.8**	**+0.5**
KMI				Smax				
	comp=N,161nm,1.2s							
KMI				Smax				
	comp=E,203nm,1.1s							
KMI				LR	LR			
	comp=N,579nm,3.8s							
KMI				LR	LR			
	comp=E,605nm,4.7s							
CD2	**Chengdu**	**5.42**	**34**	*e*P		**Pn**	**18 45 38.0**	**+4.4**
CD2				*e*PG		**Pg**	**18 45 53.4**	**-5.6**
CD2				SG		**Sg**	**18 47 11.4**	**+0.1**
CD2				Smax				
	comp=N,47nm,1.6s							
GYA	**Guiyang**	**5.80**	**89**	*i* PG		**Pg**	**18 46 05.5**	**-1.0**
SONM	**Songino Array**	**21.88**	**11**	P		**P**	**18 49 11.6**	**+6.0**
	comp=N,1.2nm,1.1s,mb3.2,baz=201,slow=11,SNR=6.8							
WRA	**Warramunga Arr**	**56.80**	**141**	P		**P**	**18 53 57.6**	**-0.2**
	comp=N,0.7nm,0.7s,mb3.8,baz=329,slow=7.6,SNR=9.0							
ASAR	**Alice Springs**	**59.55**	**144**	P		**P**	**18 54 16.6**	**-0.3**
	comp=N,0.4nm,0.7s,mb3.6,baz=330,slow=6.6,SNR=5.9							
INK	**Inuvik**	**77.63**	**18**	P		**P**	**18 56 08.7**	**+0.4**
	comp=N,0.9nm,0.8s,mb3.7,baz=311,slow=6.3,SNR=3.6							
YKA	**Yellowknife Ar**	**87.09**	**15**	P		**P**	**18 56 57.8**	**+0.4**
	comp=N,0.1nm,0.3s,mb3.5,baz=330,slow=5.0,SNR=3.8							

*IDC **22** 19:06:47.5±2.2, 43.71N×105.46W, mb3.8/3, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, ML3.3/2, Error ellipse: s-maj=61.8km s-min=8.7km az=150.0*
*NEIC **22** 19:06:48.4±0.7, 43.77N×105.25W, ML3.3, Error ellipse: s-maj=9.4km s-min=6.8km az=89.0, Suspected Mining explosion.*
NEIC 60 km [40 miles] SSE of Gillette.
ISC 22 19:06:46.6±0.6, 43.80N±0.04×105.22W±0.07, n27, σ1§10/32, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn		**Pn**	**19 07 30.0**	**+0.9**
PHWY				*e*S		**Sn**	**19 08 01.3**	**+0.5**
RWWY	**Rawlins**	**2.56**	**216**	*e*Pn		**Pn**	**19 07 31.6**	**+1.6**
RWWY				*e*S		**Sn**	**19 08 01.1**	**-1.4**
LAO	**LASA Array**	**2.98**	**347**	*e*Pn		**Pn**	**19 07 38.1**	**+2.1**
BW06	**Boulder Array**	**3.33**	**254**	*e*Pn		**Pn**	**19 07 41.6**	**+0.6**
BW06				*e*S		**Sn**	**19 08 21.9**	**+0.1**
PDAR	**Pinedale Array**	**3.33**	**254**	Pn		**Pn**	**19 07 41.8**	**+0.8**
	2.6nm,0.3s,baz=76,slow=17,SNR=53							
PDAR				Lg			19 08 25.1	
	5.7nm,0.3s,baz=74,slow=37,SNR=5.2							
GCMT	**Greycliff**	**3.74**	**304**	Pn		**Pn**	**19 07 48.4**	**+1.6**
LKWY	**Lake**	**3.81**	**283**	*e*Pn		**Pn**	**19 07 47.0**	**-0.7**
LOHW	**Long Hollow**	**3.91**	**269**	*e*Pn		**Pn**	**19 07 47.4**	**-1.8**
ISCO	**Idaho Springs**	**4.00**	**184**	*e*Pn		**Pn**	**19 07 51.4**	**+0.9**
ISCO				*e*S		**Sn**	**19 08 50.7**	**+12**
SNOW	**Snow King Moun**	**4.03**	**267**	P		**Pn**	**19 07 58.8**	**+7.9**
TPAW	**Teton Pass**	**4.17**	**268**	Pn		**Pn**	**19 07 53.2**	**+0.3**
RRI2	**Red Ridge**	**4.46**	**266**	*e*Pn		**Pn**	**19 07 57.4**	**+0.4**
BOZ	**Bozeman (W)**	**4.93**	**294**	*e*Pn		**Pn**	**19 08 03.6**	**0.0**
BOZ				*e*S		**Sn**	**19 09 21.4**	**+19**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn		**Pn**	**19 08 06.7**	**-0.3**
	13nm,0.6s							
TCUT	**Toone Canyon**	**5.30**	**242**	Pn		**Pn**	**19 08 07.7**	**-1.2**
HRY	**Holter Researc**	**5.50**	**304**	*e*Pn		**Pn**	**19 08 12.2**	**+0.4**
DAU	**Daniels Canyon**	**5.62**	**235**	Pn		**Pn**	**19 08 14.5**	**+1.1**
SDCO	**Great Sand Dun**	**6.05**	**182**	*e*Pn		**Pn**	**19 08 19.3**	**-0.1**
SRU	**San Rafael**	**6.14**	**222**	*e*Pn		**Pn**	**19 08 19.9**	**-0.9**
SRU				*e*S		Sn	19 09 54.3	+21
TMUT	**Trail Mountain**	**6.35**	**227**	Pn		**Pn**	**19 08 23.4**	**-0.4**
DUG	**Dugway**	**6.70**	**240**	*e*Pn		**Pn**	**19 08 27.3**	**-1.4**
	4.4nm,0.5s							
MSU	**Marysvale**	**7.44**	**227**	Pn		**Pn**	**19 08 35.4**	**-3.7**
ULM	**Lac du Bonnet**	**9.07**	**41**	Pn		**P**	**19 08 59.7**	**-2.1**
	0.7nm,0.3s,baz=238,slow=11,SNR=7.0							
ULM				Lg			19 11 32.6	
	0.3nm,0.3s,baz=311,slow=23,SNR=2.2							
YKA	**Yellowknife Ar**	**19.52**	**347**	P		**P**	**19 11 16.6**	**-1.4**
	baz=164,slow=13,SNR=2.6							
ARCES	**ARCESS Array B**	**61.35**	**18**	P		**P**	**19 17 04.7**	**-1.2**
	0.8nm,0.5s,mb4.1,baz=338,slow=4.9,SNR=8.2							
FINES	**FINESS Array B**	**67.97**	**23**	P		**P**	**19 17 48.6**	**-0.2**
	1.2nm,0.9s,mb4.1,baz=333,slow=8.5,SNR=4.1							
SONM	**Songino Array**	**84.60**	**339**	P		**P**	**19 19 23.9**	**+1.4**
	0.3nm,0.5s,mb3.7,baz=358,slow=2.7,SNR=4.2							

*IDC **22** 19:09:18.3±1.2, 24.37N×126.10E, mb3.4/4, mb1 3.6/5, mb1mx3.5/16, mbtmp3.5/5, ML3.7/1, MS2.9/2, Ms1 2.9/2, ms1mx2.6/14, Error ellipse: s-maj=46.8km s-min=21.4km az=77.0*
*JMA **22** 19:09:21.8±0.2, 24.34N×126.21E, h75km±5km, M3.3*
ISC 22 19:09:21.0±0.9, 24.30N±0.06×126.27E±0.04, h41km±12km, n23, σ1§18/37, mb3.5/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOGS	**Gusukube**	**0.91**	**300**	P		**P**	**19 09 38.7**	**+1.3**
JOGS				S		**S**	**19 09 51.2**	**+1.7**
JMJ	**Miyako jima 2**	**1.02**	**300**	P		**P**	**19 09 40.4**	**+1.4**
JMJ				S		**S**	**19 09 53.9**	**+1.5**
JTJ	**Tarama**	**1.47**	**284**	P		**P**	**19 09 45.9**	**+0.5**
JTJ				S		**S**	**19 10 03.9**	**+0.3**
JIJ	**Ishigaki jima**	**1.94**	**272**	P		**P**	**19 09 52.4**	**+0.3**
JIJ				S		**S**	**19 10 14.0**	**-1.4**
JKRS	**Kuro-shima**	**2.06**	**269**	P		**P**	**19 09 54.5**	**+0.7**
JKRS				S		**S**	**19 10 17.4**	**-1.1**
JKE	**Kume jima 2**	**2.07**	**13**	P		**P**	**19 09 54.4**	**+0.4**
JKE				S		**S**	**19 10 19.2**	**+0.5**
HATJ	**Hateruma jima**	**2.26**	**264**	P		**P**	**19 09 56.6**	**-0.1**
HATJ				S		**S**	**19 10 21.0**	**-2.6**
JJT2	**Tamagusuku 2**	**2.27**	**36**	P		**P**	**19 09 57.7**	**+0.9**
NAH1	**Naha**	**2.29**	**34**	*e*S		**S**	**19 10 25.9**	**+1.6**
IRIF	**Iriomote-Funau**	**2.31**	**271**	*e*S		**S**	**19 10 24.2**	**-0.7**
JAGN	**Aguni-jima**	**2.44**	**21**	P		**P**	**19 09 59.4**	**+0.1**
JAGN				S		**S**	**19 10 27.9**	**-0.3**
YOJ	**Yonaguni jima**	**2.97**	**274**	P		**P**	**19 10 06.6**	**-0.3**
YOJ				*e*S		**S**	**19 10 39.4**	**-2.2**
JOW	**Kunigami**	**3.10**	**35**	Pn		**P**	**19 10 09.1**	**+0.3**
	17nm,0.3s,baz=204,slow=12,SNR=48							
JOW				Sn		**S**	**19 10 43.4**	**-1.7**
	11nm,0.3s,baz=90,slow=29,SNR=3.7							
JOW				LR	LR		19 11 36.9	
	comp=Z,142nm,18.6s,baz=350,slow=44							
JOW	**Kunigami**	**3.10**	**35**	P		**P**	**19 10 09.0**	**+0.3**
JOW				S		**S**	**19 10 43.2**	**-1.8**
JIH	**Iheya**	**3.12**	**29**	P		**P**	**19 10 09.2**	**+0.2**
JIH				*e*S		**S**	**19 10 44.0**	**-1.5**
JTK	**Tokunoshima**	**4.23**	**34**	P		**P**	**19 10 23.9**	**-0.7**
JTK				*e*S		**S**	**19 11 08.6**	**-4.8**
JMZ	**Minamidaito 2**	**4.74**	**70**	P		**P**	**19 10 29.0**	**-2.9**
JMZ				S		**S**	**19 11 19.7**	**-6.6**
JAM	**Amami Oshima**	**5.07**	**35**	P		**P**	**19 10 35.1**	**-1.5**
JAM				S		**S**	**19 11 28.9**	**-5.8**
CBIJ	**Chichi jima**	**14.62**	**76**	LR		LR	19 17 17.6	
	comp=Z,52nm,20.1s,baz=118,slow=32							
SONM	**Songino Array**	**28.29**	**331**	P		**P**	**19 15 12.1**	**-0.5**
	0.4nm,0.5s,mb3.3,baz=151,slow=9.8,SNR=6.8							
ZAL	**Zalesovo**	**42.75**	**325**	P		**P**	**19 17 16.4**	**+0.5**
	0.7nm,0.4s,mb3.8,baz=7.5,slow=13,SNR=3.8							
WRA	**Warramunga Arr**	**44.67**	**169**	P		**P**	**19 17 32.9**	**+1.1**
	0.7nm,0.8s,mb3.5,baz=350,slow=8.7,SNR=5.9							
ASAR	**Alice Springs**	**48.25**	**171**	P		**P**	**19 18 02.5**	**+2.5**
	0.2nm,0.6s,mb3.3,slow=8.1,SNR=2.7							

*BJI **22** 19:15:04.6, 41.00N×128.10W, h10km, mB5.1, mb3.8, Ms5.1, Ms2.4*
*NEIC **22** 19:15:09.7±1.2, 40.97N×128.06W, h10km, mb4.2/4, Error ellipse: s-maj=13.9km s-min=7.7km az=77.0*
*IDC **22** 19:15:17.4±1.2, 41.36N×127.27W, mb3.9/9, mb1 4.1/12, mb1mx4.0/21, mbtmp4.0/12, ML3.6/1, MS3.6/13, Ms1 3.6/13, ms1mx3.4/30, Error ellipse: s-maj=30.0km s-min=14.5km az=15.0*
ISC 22 19:15:09.7±1.2, 40.89N±0.06×127.9W±0.1, h10km, n72, σ1§25/65, mb4.0/12, MS3.6/9, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBO	**Bosley Butte**	**3.04**	**63**	*e*P		**Pn**	**19 15 58.2**	**-0.5**
KHMM	**Horse Mountain**	**3.13**	**89**	*e*P		**Pn**	**19 15 59.4**	**-0.8**
KEBM	**Edson Butte**	**3.30**	**52**	*e*P		**Pn**	**19 16 02.0**	**-0.5**
YBH	**Yreka Blue Hor**	**3.97**	**76**	Pn		**Pn**	**19 16 13.5**	**+1.4**
	29nm,0.3s,baz=268,slow=11,SNR=448							
YBH				Sn		**Sn**	**19 16 54.5**	**-4.8**
	4.0nm,0.3s,baz=93,slow=11,SNR=2.0							
YBH	**Yreka Blue Hor**	**3.97**	**76**	*e*P		**Pn**	**19 16 12.2**	**+0.2**
LAMM	**Antelope Mount**	**4.02**	**78**	P		**Pn**	**19 16 14.1**	**+1.4**
HUMO	**Hull Mountain**	**4.05**	**63**	*e*P		**Pn**	**19 16 12.5**	**-0.7**
WDC	**Whiskeytown Da**	**4.06**	**93**	*e*P		**Pn**	**19 16 13.0**	**-0.2**
HOPS	**Hopland**	**4.14**	**116**	*e*P		**Pn**	**19 16 14.3**	**-0.1**
LHEM	**Herd Peak**	**4.32**	**78**	P		**Pn**	**19 16 18.6**	**+1.6**
BBOR	**Butler Butte**	**4.36**	**61**	P		**Pn**	**19 16 17.8**	**+0.2**
HSO	**Harness Mounta**	**4.42**	**52**	P		**Pn**	**19 16 18.9**	**+0.5**
BUOR	**Burton Butte**	**4.44**	**70**	P		**Pn**	**19 16 20.0**	**+1.4**
LASM	**Arnica Sink**	**4.79**	**79**	P		**Pn**	**19 16 24.8**	**+1.0**
HOG	**Hogback Mounta**	**4.82**	**72**	P		**Pn**	**19 16 24.7**	**+0.7**
LTIM	**Timbered Crate**	**4.83**	**85**	P		**Pn**	**19 16 24.8**	**+0.6**
LBCM	**Butte Creek Ri**	**4.94**	**88**	P		**Pn**	**19 16 25.4**	**-0.4**
COR	**Corvallis**	**5.00**	**41**	*e*P		**Pn**	**19 16 25.5**	**-1.1**
HBO	**Huckleberry Mo**	**5.06**	**52**	P		**Pn**	**19 16 28.6**	**+1.1**
SAC	**San Andreas**	**5.37**	**126**	*e*P		**Pn**	**19 16 31.4**	**-0.4**
FRIS	**Frissel Point**	**5.40**	**50**	P		**Pn**	**19 16 33.2**	**+0.9**
HUOR	**Husband**	**5.50**	**52**	P		**Pn**	**19 16 34.7**	**+1.1**
MOD	**Modoc**	**5.78**	**77**	*e*P		**Pn**	**19 16 36.8**	**-0.8**
VIPM	**Ingram Point**	**6.45**	**53**	P		**Pn**	**19 16 47.5**	**+0.5**
CMB	**Columbia Colle**	**6.45**	**114**	*e*P		**Pn**	**19 16 48.2**	**+1.1**
SAO	**San Andreas Ge**	**6.49**	**127**	*e*P		**Pn**	**19 16 46.9**	**-0.7**
WVOR	**Wild Horse Val**	**7.08**	**74**	*e*P		**Pn**	**19 16 54.2**	**-1.7**
OMM	**Old Mammoth Mi**	**7.62**	**113**	*e*P		**Pn**	**19 17 02.9**	**-0.7**
BMO	**Blue Mountains**	**8.71**	**59**	*e*P		**P**	**19 17 18.1**	**-0.6**
NEW	**Newport**	**10.63**	**42**	LR		LR	19 21 41.8	
	comp=Z,463nm,19.5s,baz=200,slow=38							
BBB	**Bella Bella**	**11.30**	**359**	LR		LR	19 21 21.4	
	comp=Z,109nm,20.7s,baz=171,slow=34							
HVU	**Hansel Valley**	**11.38**	**81**	*e*P		**P**	**19 17 56.2**	**+0.8**
DUG	**Dugway**	**11.48**	**89**	*e*P		**P**	**19 17 57.1**	**+0.5**
MSO	**Missoula**	**11.67**	**55**	P		**P**	**19 17 56.6**	**-2.6**
MCMT	**McKenzie Canyo**	**11.70**	**65**	*e*P		**P**	**19 17 56.5**	**-3.2**
CHMT	**Chamberlain Mo**	**12.13**	**55**	*e*P		**P**	**19 18 02.8**	**-2.7**
HWUT	**Hardware Ranch**	**12.29**	**81**	*e*P		**P**	**19 18 06.7**	**-1.0**
DAU	**Daniels Canyon**	**12.63**	**87**	*e*P		**P**	**19 18 09.9**	**-2.2**
BOZ	**Bozeman (W)**	**12.75**	**63**	*e*P		**P**	**19 18 11.8**	**-1.9**
TMUT	**Trail Mountain**	**12.86**	**92**	P		**P**	**19 18 15.6**	**+0.4**
HRY	**Holter Researc**	**12.96**	**58**	P		**P**	**19 18 13.3**	**-3.2**
SRU	**San Rafael**	**13.42**	**92**	P		**P**	**19 18 21.9**	**-0.8**
PDAR	**Pinedale Array**	**13.78**	**76**	Pn		**P**	**19 18 29.8**	**+2.4**
	0.0nm,0.3s,baz=280,slow=9.0,SNR=15							
PDAR				LR		LR	19 23 55.5	
	comp=Z,611nm,18.1s,baz=356,slow=39							
PHWY	**Pilot Hill**	**16.89**	**81**	*e*P		**P**	**19 19 08.2**	**+0.5**
SDCO	**Great Sand Dun**	**17.58**	**93**	P		**P**	**19 19 16.7**	**+0.3**
	146nm,1.8s							
LAZ	**Ladron**	**17.63**	**105**	P		**P**	**19 19 17.9**	**+0.9**
ANMO	**Albuquerque**	**17.88**	**102**	P		**P**	**19 19 24.9**	**+4.8**
	baz=307,slow=11,SNR=6.5							
ANMO				LR	LR		19 26 37.4	
	comp=Z,329nm,19.1s,slow=39							
LPM	**Los Pinos Moun**	**18.04**	**105**	*e*P		**P**	**19 19 21.4**	**-0.7**
MNTX	**Cornudas Mount**	**20.27**	**110**	P		**P**	**19 19 47.7**	**-0.4**
	11nm,1.3s							
CPRX	**Cap Rock**	**20.68**	**105**	P		**P**	**19 19 53.4**	**+1.1**
GDL2	**Guadalupe Moun**	**20.73**	**107**	*e*P		**P**	**19 19 52.5**	**-0.4**
FFC	**Flin Flon**	**22.06**	**42**	P		**P**	**19 20 09.1**	**+3.0**
	165nm,0.8s,SNR=12							
TXAR	**Lajitas Array**	**22.83**	**113**	P		**P**	**19 20 20.5**	**+6.5**
	2.5nm,0.9s,mb3.6,baz=270,slow=2.5,SNR=7.1							
TXAR				LR	LR		19 29 34.2	
	comp=Z,137nm,19.4s,MS3.4,baz=320,slow=38							
YKA	**Yellowknife Ar**	**23.05**	**16**	P		**P**	**19 20 19.9**	**+4.2**
	2.3nm,0.8s,mb3.7,baz=204,slow=10,SNR=14							
YKA				LR	LR		19 28 20.4	
	comp=Z,49nm,18.5s,MS3.0,baz=210,slow=35							
YKW3	**Yellowknife Ar**	**23.11**	**16**	P		**P**	**19 20 13.4**	**-2.9**
ULM	**Lac du Bonnet**	**24.11**	**56**	P		**P**	**19 20 29.4**	**+3.3**
	3.6nm,0.9s,mb3.8,baz=282,slow=12,SNR=3.9							
ULM				LR	LR		19 29 47.2	
	comp=Z,140nm,21.6s,MS3.4,baz=17,slow=37							
INK	**Inuvik**	**27.65**	**355**	LR	LR		19 31 45.5	
	comp=Z,42nm,18.7s,MS3.0,baz=189,slow=36							
FCC	**Fort Churchill**	**27.76**	**38**	P		**P**	**19 20 58.8**	**-1.4**
	2.6nm,0.8s,mb3.9							
SCHQ	**Schefferville**	**41.90**	**49**	LR	LR	LR	19 40 21.2	
	comp=Z,106nm,20.3s,MS3.7,baz=15,slow=36							
BORG	**Borgarnes**	**60.24**	**28**	LR		LR	19 52 08.4	
	comp=Z,220nm,19.1s,MS4.3,baz=120,slow=37							
ARCES	**ARCESS Array B**	**68.16**	**10**	LR		LR	19 54 22.7	
	comp=Z,48nm,18.3s,MS3.8,baz=4.2,slow=35							
MDJ	**Mudanjiang**	**70.19**	**312**	P		**P**	**19 26 19.5**	**-4.9**

CTAO	**Charters Tower**	**15.57**	**208**	P	**P**	**19**	**28**	**05.2 +0.9**
	4.4nm,0.7s							
DZM	**Mont Dzumac**	**19.66**	**144**	P	**P**	**19**	**28**	**52.7 -0.3**
	0.2nm,0.3s,baz=336,slow=18,SNR=5.1							
WRAB	**Tennant Creek**	**23.39**	**233**	P	**P**	**19**	**29**	**30.1 -0.2**
	4.3nm,0.6s,mb4.0							
WB2	**Warramunga Arr**	**23.39**	**233**	*e*P	**P**	**19**	**29**	**30.9 +0.6**
WRA	**Warramunga Arr**	**23.40**	**233**	P	**P**	**19**	**29**	**30.6 +0.1**
	2.4nm,0.6s,mb3.7,baz=54,slow=9.5,SNR=36							
ASAR	**Alice Springs**	**25.88**	**226**	P	**P**	**19**	**29**	**53.9 -0.3**
	2.8nm,0.8s,mb3.7,baz=59,slow=8.8,SNR=30							
ASPA	**Alice Springs**	**25.88**	**226**	*e*P	**P**	**19**	**29**	**54.8 +0.7**
STKA	**Stephens Creek**	**27.90**	**203**	P	**P**	**19**	**30**	**09.0 -3.5**
	1.7nm,0.6s,mb3.8,baz=23,slow=13,SNR=2.7							
ENH	**Enshi**	**56.14**	**313**	P	**P**	**19**	**34**	**02.1 +0.5**
	9.3nm,1.3s,mb4.7							
XAN	**Xi'an**	**58.62**	**316**	P	**P**	**19**	**34**	**18.5 -0.5**
XAN				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.7							
LZH	**Lanzhou**	**63.23**	**316**	*e*P	**P**	**19**	**34**	**51.5 +1.3**
LZH				AMB	AMB			
	comp=Z,20nm,1.5s,mb4.8							
GTA	**Gaotai**	**67.66**	**317**	*e*P	**P**	**19**	**35**	**19.8 +1.3**
GTA				AMB	AMB			
	comp=Z,5.0nm,1.4s,mb4.2							
SONM	**Songino Array**	**68.32**	**328**	P	**P**	**19**	**35**	**22.5 0.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=145,slow=5.1,SNR=11							
ZAL	**Zalesovo**	**83.16**	**326**	P	**P**	**19**	**36**	**46.2 -0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=349,slow=6.9,SNR=5.7							
ZAL	**Zalesovo**	**83.16**	**326**	P	**P**	**19**	**36**	**46.2 -0.1**
QSPA	**South Pole Qui**	**83.58**	**180**	*e*P	**P**	**19**	**36**	**47.7 -0.1**
	comp=Z,4.5nm,0.6s,mb4.5							
KURK	**Kurchatov**	**85.78**	**322**	*e*P	**P**	**19**	**36**	**58.8 -0.6**
	comp=Z,1.8nm,0.9s,mb4.0							
AAK	**Ala-Archa**	**86.65**	**313**	*e*P	**P**	**19**	**37**	**04.0 +0.1**
	comp=Z,2.2nm,0.7s,mb4.2							
CHKZ	**Chkalovo**	**91.22**	**324**	*e*P	**P**	**19**	**37**	**23.5 -1.6**
	comp=Z,0.7nm,0.5s,mb4.0							
BVAR	**Borovoye Array**	**91.25**	**323**	P	**P**	**19**	**37**	**25.0 -0.3**
	comp=Z,1.2nm,0.7s,mb4.1,baz=117,slow=3.2,SNR=12							

BJI ***22*** *19:29:49.7, 7.28S×129.56E, h127km, mB5.1, mb4.9*
MOS ***22*** *19:29:50.8±1.3, 7.07S×129.20E, h117km, mb4.9/15, Error ellipse: s-maj=15.5km s-min=7.4km az=111.0*
HRVD ***22*** *19:29:51.8±0.3, 7.14S×129.17E, h153km±2km, MW5.1/60, Centroid moment Tensor Solution. LP body waves: s21,c29;Mantle waves: s60,c103; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.54±.15; Mθθ1.72±.14; Mφφ-2.26±.18; Mrθ1.82±.11; Mθφ-3.93±.14; Mφr-0.80±.15; Best double couple: M₀4.848×10^16 NP1:φs169°,δ71°,λ15°. NP2:φs74°,δ76°,λ160°. Principal axes: T 5.006, Plg24°, Azm31°; N -.316, Plg66°, Azm220°; P -4.69, Plg3°, Azm122°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *19:29:52.2±1.2, 7.11S×129.20E, h110km±12km, mb4.9/30 Error ellipse: s-maj=10.1km s-min=6.1km az=62.0*
IDC ***22*** *19:29:56.8±2.7, 7.06S×129.17E, h151km±24km, mb4.6/14, mb1 4.6/16, mb1mx4.6/18, mbtmp5.1/16, MS4.1/4, Ms1 4.1/4, ms1mx3.6/12, Error ellipse: s-maj=17.0km s-min=8.7km az=66.0*

ISC 22 19:29:51.9±1.0, 7.14S±0.04×129.26E±0.05, h127km±10km, n138, σ1s20/159, mb5.0/52, 13C-13D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.36**	**151**	⇓*i*P	**P**	**19 31 26.4**	**+2.0**
	677nm,0.2s						
KAKA				*i* S	**S**	**19 32 33.5**	**-2.7**
FITZ	**Fitzroy Crossi**	**11.45**	**198**	*e*P	**P**	**19 32 31.0**	**-1.6**
	298nm,0.3s						
FITZ				*e*S	**S**	**19 34 31.9**	**-6.5**
WRAB	**Tennant Creek**	**13.64**	**159**	Pn	**P**	**19 32 59.7**	**-1.5**
	2µm,0.7s,SNR=58						
WRAB	**Tennant Creek**	**13.64**	**159**	⇓*e*P	**P**	**19 32 59.7**	**-1.5**
WRA	**Warramunga Arr**	**13.65**	**159**	P	**P**	**19 32 59.5**	**-1.8**
	6.7nm,0.3s,baz=330,slow=14,SNR=189						
WRA				S	**S**	**19 35 18.3**	**-12**
	45nm,0.3s,baz=334,slow=21,SNR=11						
WB2	**Warramunga Arr**	**13.65**	**159**	⇓*i*P	**P**	**19 32 59.7**	**-1.6**
WB2				*e*S	**S**	**19 35 24.0**	**-6.2**
TSM	**Tawau**	**16.07**	**315**	P	**P**	**19 33 35.1**	**+3.2**
MBWA	**Marble Bar**	**16.70**	**213**	*e*P	**P**	**19 33 39.6**	**-0.1**
	1.2nm,0.4s						
ASPA	**Alice Springs**	**17.02**	**165**	⇓*i*P	**P**	**19 33 44.2**	**+0.5**
ASPA				*e*S	**S**	**19 36 44.6**	**-2.6**
ASAR	**Alice Springs**	**17.02**	**165**	P	**P**	**19 33 43.8**	**0.0**
	24nm,0.3s,baz=333,slow=9.1,SNR=298						
ASAR				S	**S**	**19 36 39.0**	**-8.3**
	5.1nm,0.3s,baz=337,slow=19,SNR=3.8						
TBP	**Tagbilaran**	**17.57**	**342**	*e*P	**P**	**19 33 52.9**	**+2.5**
PMG	**Port Moresby**	**17.86**	**98**	*e*P	**P**	**19 33 54.3**	**+0.4**
PMG				S	**S**	**19 37 04.6**	**-1.3**
PMG				pmax	pmax		
	comp=Z,237nm,0.8s						
PMG	**Port Moresby**	**17.86**	**98**	P	**P**	**19 33 57.5**	**+3.6**
	comp=Z,8.8nm,0.3s,baz=285,slow=6.3,SNR=95						
PMG				S	**S**	**19 37 04.6**	**-1.3**
	comp=Z,5.7nm,0.3s,baz=335,slow=23,SNR=7.3						
PMG	**Port Moresby**	**17.86**	**98**	*e*P	**P**	**19 33 54.3**	**+0.4**
	comp=Z,237nm,0.8s						
KKM	**Kota Kinabalu**	**18.46**	**315**	*e*P	**P**	**19 34 01.1**	**+0.5**
KKM	**Kota Kinabalu**	**18.46**	**315**	P	**P**	**19 34 01.8**	**+1.2**
KSM	**Kuching**	**20.75**	**294**	*e*P	**P**	**19 34 23.5**	**-0.9**
CTA	**Charters Tower**	**20.91**	**130**	*e*P	**P**	**19 34 28.6**	**+2.7**
	comp=Z,83nm,0.8s						
CTA	**Charters Tower**	**20.91**	**130**	*e*P	**P**	**19 34 28.6**	**+2.7**
CTA				pmax	pmax		
	comp=Z,83nm,0.8s						
CTA	**Charters Tower**	**20.91**	**130**	P	**P**	**19 34 28.6**	**+2.7**
	comp=Z,112nm,0.9s,baz=304,slow=12,SNR=62						
CTA				S	**S**	**19 38 15.0**	**+8.4**
	comp=Z,13nm,0.7s,baz=226,slow=13,SNR=2.6						
CTA				LR	LR	19 43 36.0	
	comp=Z,358nm,18.9s,baz=308,slow=39						
CTAO	**Charters Tower**	**20.91**	**130**	*e*P	**P**	**19 34 27.6**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,165nm,1.0s						
CTAO	**Charters Tower**	**20.91**	**130**	*e*P	**P**	**19 34 27.6**	**+1.7**
	comp=Z,164nm,1.0s						
FORT	**Forrest**	**23.54**	**183**	*e*P	**P**	**19 34 53.5**	**+1.9**
	comp=Z,7µm,0.8s						
FORT				*e*S	S	19 39 16.1	+23
KLBR	**Kellerberrin**	**26.59**	**202**	*e*P	**P**	**19 35 20.7**	**+0.5**
	comp=Z,247nm,0.9s,mb5.7						
KLBR				*e*S	Sx	19 40 26.0	
STKA	**Stephens Creek**	**27.17**	**157**	P	**P**	**19 35 26.4**	**+0.8**
	comp=Z,56nm,0.8s,mb5.2,baz=331,slow=8.1,SNR=88						
MUN	**Mundaring**	**27.54**	**205**	*e*P	**P**	**19 35 29.1**	**+0.2**
	comp=Z,6.3nm,0.5s,mb4.4						
MUN				*e*S	Sx	19 40 44.8	
MUN	**Mundaring**	**27.54**	**205**	*e*P	**P**	**19 35 29.1**	**+0.2**
MUN				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
NWAO	**Narrogin (SRO)**	**27.98**	**202**	*e*P	**P**	**19 35 32.8**	**-0.1**
NWAO				pmax	pmax		
	comp=Z,76nm,1.0s						
NWAO	**Narrogin (SRO)**	**27.98**	**202**	P	**P**	**19 35 33.5**	**+0.6**
	comp=Z,14nm,0.8s,mb4.6,baz=32,slow=7.7,SNR=23						
NWAO	**Narrogin (SRO)**	**27.98**	**202**	*e*P	**P**	**19 35 32.8**	**-0.1**
	comp=Z,76nm,1.0s,mb5.2						
ADE	**Adelaide**	**29.02**	**164**	*e*P	**P**	**19 35 44.0**	**+1.8**
HNR	**Honiara**	**30.45**	**96**	*e*P	**P**	**19 35 53.3**	**-1.8**
HNR				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.3						
HNR	**Honiara**	**30.45**	**96**	*e*P	**P**	**19 35 53.3**	**-1.7**
	comp=Z,63nm,0.8s,mb5.3						
IPM	**Ipoh**	**30.49**	**292**	P	**P**	**19 35 54.5**	**-0.9**
KULM	**Kulim**	**31.10**	**293**	*e*P	**P**	**19 35 59.5**	**-1.3**
TOO	**Toolangi**	**33.69**	**156**	⇑*i*P	**P**	**19 36 25.8**	**+2.9**
	comp=Z,0.9nm,0.5s,mb3.9						
TOO	**Toolangi**	**33.69**	**156**	⇑*i*P	**P**	**19 36 25.8**	**+2.9**
TOO				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
JOW	**Kunigami**	**33.79**	**358**	P	**P**	**19 36 24.2**	**+0.4**
	comp=Z,31nm,0.8s,mb5.2,baz=174,slow=6.7,SNR=7.9						
CBIJ	**Chichi jima**	**36.27**	**20**	P	**P**	**19 36 43.8**	**-1.1**
	comp=Z,35nm,0.3s,mb5.7,baz=252,slow=5.5,SNR=10.0						
BDT	**Bhumibol Dam**	**38.49**	**309**	P	**P**	**19 37 04.0**	**+0.5**
NOUC	**Port Laguerre**	**38.67**	**117**	*e*P	**P**	**19 37 06.1**	**+1.1**
DZM	**Mont Dzumac**	**38.79**	**116**	*e*P	**P**	**19 37 07.3**	**+1.3**
DZM	**Mont Dzumac**	**38.79**	**116**	P	**P**	**19 37 07.9**	**+2.0**
	comp=Z,9.0nm,0.5s,mb4.9,baz=266,slow=9.0,SNR=30						
DZM				LR	LR	19 51 56.8	
	comp=Z,168nm,18.5s,baz=202,slow=34						
SSE	**Sheshan**	**38.80**	**349**	P	**P**	**19 37 06.8**	**+0.9**
SSE				S	**S**	**19 42 53.0**	**-0.6**
SSE				XS		19 43 50.4	
SSE				SS	SS	19 45 48.0	+5.1
SSE				AMB	AMB		
	comp=Z,36nm,0.8s,mb5.2						
SSE				LR	LR		
	comp=N,20nm,24.2s						
SSE				LR	LR		
	comp=E,138nm,24.2s						
SSE				LR	LR		
	comp=Z,60nm,20.0s						
SSE	**Sheshan**	**38.80**	**349**	P	**P**	**19 37 06.8**	**+0.9**
	comp=Z,36nm,0.8s,mb5.2						
SSE				S	**S**	**19 42 53.0**	**-0.6**
SSE				sS		19 43 50.4	
SSE				SS	SS	19 45 48.0	+5.1
SSE				LR	LR		
	comp=Z,60nm,20.0s						
CHG	**Chiang Mai**	**39.48**	**311**	⇓P	**P**	**19 37 12.1**	**+0.4**
	comp=Z,38nm,0.8s,mb5.3						
CHRT	**Chiangrai**	**39.52**	**313**	⇓P	**P**	**19 37 13.0**	**+1.0**
	comp=Z,213nm,0.9s,mb6.0						
GYA	**Guiyang**	**39.95**	**328**	⇑*i*P	**P**	**19 37 15.8**	**+0.3**
GYA				PP	PP	19 38 54.4	+1.6
GYA				S	**S**	**19 43 08.9**	**-2.0**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,100nm,3.8s						
GYA	**Guiyang**	**39.95**	**328**	⇑*i*P	**P**	**19 37 15.8**	**+0.3**
	comp=Z,20nm,1.0s,mb4.9						
GYA				PP	PP	19 38 54.4	+1.6
GYA				S	**S**	**19 43 08.9**	**-2.0**
WHN	**Wuhan**	**40.10**	**340**	⇓P	**P**	**19 37 17.5**	**+0.8**
NJ2	**Nanjing**	**40.22**	**346**	*e*P	**P**	**19 37 18.3**	**+0.7**
NJ2				PP	PP	19 38 57.3	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,310nm,5.5s						
NJ2				LR	LR		
	comp=N,480nm,26.6s						
NJ2				LR	LR		
	comp=E,610nm,28.8s						
NJ2				LR	LR		
	comp=Z,240nm,26.9s						
NJ2	**Nanjing**	**40.22**	**346**	*e*P	**P**	**19 37 18.3**	**+0.7**
	comp=Z,20nm,0.9s,mb5.0						
NJ2				PP	PP	19 38 57.3	+1.8
NJ2				LR	LR		
	comp=Z,240nm,26.9s						
KMI	**Kunming**	**41.17**	**322**	⇑P	**P**	**19 37 26.9**	**+1.4**
KMI				PP	PP	19 39 07.8	+2.6
KMI				S	**S**	**19 43 30.0**	**+1.1**
KMI				SS	SS	19 46 32.9	+1.2
KMI				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.6						
KMI				AMB	AMB		
	comp=Z,63nm,3.7s						
KMI				LR	LR		
	comp=N,110nm,16.0s						
KMI				LR	LR		
	comp=E,152nm,15.2s						
KMI				LR	LR		
	comp=Z,129nm,14.9s						
KMI	**Kunming**	**41.17**	**322**	⇑P	**P**	**19 37 26.9**	**+1.4**
	comp=Z,11nm,1.1s,mb4.6						
KMI				PP	PP	19 39 07.8	+2.6
KMI				S	**S**	**19 43 30.0**	**+1.1**
KMI				SS	SS	19 46 32.9	+1.2
KMI				LR	LR		
	comp=Z,130nm,14.9s						
MAT	**Matsushiro**	**44.26**	**10**	*e*P	**P**	**19 37 49.0**	**-1.5**
MAT				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.9						
MAT	**Matsushiro**	**44.26**	**10**	*e*P	**P**	**19 37 49.0**	**-1.5**
	comp=Z,25nm,0.9s,mb5.0						
MAT	**Matsushiro**	**44.26**	**10**	P	**P**	**19 37 49.1**	**-1.4**
XAN	**Xi'an**	**45.26**	**336**	P	**P**	**19 37 56.4**	**-2.2**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.2						
XAN	**Xi'an**	**45.26**	**336**	P	**P**	**19 37 56.4**	**-2.2**
	comp=Z,6.0nm,1.2s,mb4.2						
BJT	**Baijiatuau**	**48.46**	**347**	*e*P	**P**	**19 38 22.7**	**-0.8**
BJT				pmax	pmax		
	comp=Z,11nm,0.4s						
BJT	**Baijiatuau**	**48.46**	**347**	*e*P	**P**	**19 38 22.7**	**-0.8**
	comp=Z,11nm,0.4s,mb5.0						
BJI	**Beijing**	**48.48**	**347**	P	**P**	**19 38 22.9**	**-0.8**
BJI				S	**S**	**19 45 06.6**	**-7.0**
BJI				SS	SS	19 48 42.9	+1.9
BJI				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,83nm,26.8s						
BJI	**Beijing**	**48.48**	**347**	P	**P**	**19 38 22.9**	**-0.8**
	comp=Z,17nm,0.8s,mb4.9						
BJI				S	**S**	**19 45 06.6**	**-7.0**
BJI				SS	SS	19 48 42.9	+1.9
BJI				LR	LR		
	comp=Z,80nm,26.8s						
LZH	**Lanzhou**	**49.19**	**333**	*e*P	**P**	**19 38 29.9**	**+0.7**
LZH				AP	pP	19 39 02.9	+4.2
LZH				PP	PP	19 40 26.0	+1.7
LZH				SCP		19 43 32.1	
LZH				PCS		19 43 45.5	
LZH				S	**S**	**19 45 19.3**	**-4.3**
LZH				SS	SS	19 48 50.0	-2.8
LZH				AMB	AMB		
	comp=Z,50nm,1.6s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=N,650nm,17.1s						
LZH				LR	LR		
	comp=Z,600nm,17.6s						
LZH	**Lanzhou**	**49.19**	**333**	*e*P	**P**	**19 38 29.9**	**+0.7**
	comp=Z,50nm,1.6s,mb5.2						
LZH				pP	pP	19 39 02.9	+4.2
LZH				PP	PP	19 40 26.0	+1.7
LZH				ScP		19 43 32.1	
LZH				PcS		19 43 45.5	
LZH				S	**S**	**19 45 19.3**	**-4.3**
LZH				SS	SS	19 48 50.0	-2.8
LZH				LR	LR		
	comp=Z,600nm,17.6s						
CN2	**Changchun**	**50.82**	**356**	*e*P	**P**	**19 38 42.8**	**+1.3**
CN2				*e*S	**S**	**19 45 51.0**	**+4.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2	**Changchun**	**50.82**	**356**	*e*P	**P**	**19 38 42.8**	**+1.3**
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				*e*S	**S**	**19 45 51.0**	**+4.9**
MDJ	**Mudanjiang**	**51.52**	**0**	P	**P**	**19 38 46.4**	**-0.4**
MDJ				PP	PP	19 40 45.3	-0.6
MDJ				S	**S**	**19 45 55.5**	**-0.1**
MDJ				SS	SS	19 49 35.4	+3.9
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,69nm,5.4s						
MDJ	**Mudanjiang**	**51.52**	**0**	P	**P**	**19 38 46.4**	**-0.4**
	comp=Z,14nm,0.9s,mb5.0						
MDJ				PP	PP	19 40 45.3	-0.6
MDJ				S	**S**	**19 45 55.5**	**-0.1**
MDJ				SS	SS	19 49 35.4	+3.9
RPZ	**Rata Peaks**	**51.58**	**142**	P	**P**	**19 38 48.6**	**+1.4**
	comp=Z,21nm,0.6s,mb5.4,baz=306,slow=2.1,SNR=23						
LSA	**Lhasa**	**51.79**	**317**	*e*P	**P**	**19 38 50.0**	**+1.0**
ASAJ	**Asahikawa**	**52.43**	**12**	P	**P**	**19 38 53.0**	**-0.5**
	comp=Z,10nm,0.3s,mb5.3,baz=237,slow=9.7,SNR=24						
URZ	**Urewera**	**53.10**	**133**	P	**P**	**19 38 60.0**	**+1.3**
	comp=Z,3.8nm,0.4s,mb4.8,baz=263,slow=5.2,SNR=5.3						
GTA	**Gaotai**	**53.74**	**332**	*e*P	**P**	**19 39 03.3**	**0.0**
GTA				PCP	PcP	19 40 08.6	+1.0
GTA				PP	PP	19 41 08.4	+1.5
GTA				SCP		19 43 51.3	
GTA				S	**S**	**19 46 24.4**	**-1.5**
GTA				SS	SS	19 50 06.5	-1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb4.3						
GTA				AMB	AMB		
	comp=Z,79nm,5.7s						
GTA				LR	LR		
	comp=N,144nm,17.1s						
GTA				LR	LR		
	comp=E,121nm,15.6s						
GTA				LR	LR		
	comp=Z,159nm,16.7s						
GTA	**Gaotai**	**53.74**	**332**	*e*P	**P**	**19 39 03.3**	**0.0**
	comp=Z,6.0nm,1.8s,mb4.3						
GTA				PcP	PcP	19 40 08.6	+1.0
GTA				PP	PP	19 41 08.4	+1.5
GTA				ScP		19 43 51.3	
GTA				S	**S**	**19 46 24.4**	**-1.5**
GTA				SS	SS	19 50 06.5	-1.5
GTA				LR	LR		
	comp=Z,160nm,16.7s						
JIRN	**Jiri**	**54.12**	**312**	*e*P	**P**	**19 39 06.0**	**-0.3**
	comp=Z,27nm,0.3s,mb5.8						
PKI	**Pulchoki**	**54.66**	**311**	*e*P	**P**	**19 39 09.4**	**-0.8**
	comp=Z,49nm,0.6s,mb5.7						
KKN	**Kakani**	**54.87**	**311**	*e*P	**P**	**19 39 10.0**	**-1.7**
	comp=Z,55nm,0.6s,mb5.8						
DMN	**Daman**	**54.91**	**311**	*e*P	**P**	**19 39 11.4**	**-0.6**
	comp=Z,56nm,0.7s,mb5.7						
GKN	**Gorkha**	**55.47**	**311**	*e*P	**P**	**19 39 15.4**	**-0.6**
	comp=Z,112nm,0.5s						
HYB	**Hyderabad**	**55.72**	**297**	*e*P	**P**	**19 39 17.0**	**-0.9**
HYB	**Hyderabad**	**55.72**	**297**	*i* P	**P**	**19 39 17.0**	**-0.9**
KOLN	**Koldanda**	**56.12**	**310**	*e*P	**P**	**19 39 20.3**	**-0.5**
	comp=Z,135nm,0.8s,mb6.0						
KLR	**Kul'dur**	**56.18**	**2**	*e*P	**P**	**19 39 17.9**	**-2.9**
ULN	**Ulaanbaatar**	**58.17**	**343**	*e*P	**P**	**19 39 34.2**	**-0.6**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**58.17**	**343**	*e*P	**P**	**19 39 34.2**	**-0.6**
	comp=Z,6.0nm,0.8s,mb4.7						
SONM	**Songino Array**	**58.34**	**342**	P	**P**	**19 39 36.2**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.5,baz=155,slow=5.2,SNR=28						
SONM				ScP		19 44 10.6	
	comp=Z,1.3nm,0.9s,baz=153,slow=5.8,SNR=4.0						
TLY	**Talaya**	**62.58**	**342**	*e*P	**P**	**19 40 04.5**	**-0.3**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
SMLA	**Simla**	**62.66**	**310**	*i* P	**P**	**19 40 02.6**	**-3.0**
IRK	**Irkutsk**	**62.89**	**343**	*e*P	**P**	**19 40 02.8**	**-4.0**
IRK				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.8						
IRK	**Irkutsk**	**62.89**	**343**	*e*P	**P**	**19 40 02.8**	**-4.0**
	comp=Z,19nm,1.7s,mb4.8						
WMQ	**Urumqi**	**63.11**	**327**	⇓*i*P	**P**	**19 40 08.5**	**+0.1**
WMQ				PP	PP	19 42 31.0	+1.0
WMQ				*e*S	**S**	**19 48 25.0**	**-2.3**
WMQ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,112nm,3.9s						
WMQ	**Urumqi**	**63.11**	**327**	⇓*i*P	**P**	**19 40 08.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.8						
WMQ				PP	PP	19 42 31.0	+1.0
WMQ				*e*S	**S**	**19 48 25.0**	**-2.3**
MOY	**Mondy**	**63.40**	**341**	*e*P	**P**	**19 40 11.1**	**+0.9**
MOY				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.8						
MOY	**Mondy**	**63.40**	**341**	*e*P	**P**	**19 40 11.1**	**+0.9**
	comp=Z,25nm,1.9s,mb4.8						
DLH	**Dalhousie**	**64.22**	**311**	*e*P	**P**	**19 40 16.0**	**+0.2**
THN	**Thein Dam**	**64.36**	**311**	*e*P	**P**	**19 40 15.1**	**-1.6**
	comp=Z,14nm,0.5s,mb5.0						
BOD	**Bodaibo**	**65.92**	**351**	*e*P	**P**	**19 40 25.3**	**-1.0**
KSH	**Kashi**	**67.63**	**318**	*e*P	**P**	**19 40 40.1**	**+2.7**
KSH				*e*PCP	PcP	19 41 06.1	+2.7
KSH				*e*PP	PP	19 43 15.3	+5.7
KSH				*e*SCP		19 44 51.3	
KSH				*e*PCS		19 45 09.1	
KSH				*e*S	S	19 49 24.4	+1.9
KSH				*e*SCS	ScS	19 50 20.5	+0.8
KSH				*e*SS	SS	19 53 51.8	+4.5
KSH				AMB	AMB		
	comp=Z,220nm,3.9s						
KSH				LR	LR		
	comp=N,300nm,5.3s						
KSH				LR	LR		
	comp=E,410nm,4.9s						
MKAR	**Makanchi Array**	**67.94**	**327**	*i* P	**P**	**19 40 38.7**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MA2	**Magadan**	**68.68**	**12**	*c* *i*P	**P**	**19 40 43.5**	**0.0**
MA2				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.1						
MA2	**Magadan**	**68.68**	**12**	⇑*i*P	**P**	**19 40 43.5**	**0.0**
	comp=Z,35nm,1.0s,mb5.1						
ULHL	**Ulahol**	**68.86**	**321**	P	sP	19 41 29.6	-0.5
	SNR=11						
YAK	**Yakutsk**	**68.97**	**0**	*c* *i*P	**P**	**19 40 44.6**	**-0.6**
YAK				*e**PP	pP	19 41 09.8	-6.8
YAK				*e*	pP	19 41 11.4	-5.2
YAK				*e*S	S	19 49 33.4	-4.6
YAK				*e**SS		19 50 16.2	
YAK				*e*		19 50 32.9	
YAK				*e*SSS	SSS	19 57 09.7	-1.9
YAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
YAK				pmax	pmax		
	comp=N,2.0nm,0.9s						
YAK				smax			
	comp=N,3.0nm,1.3s						
YAK				smax			
	comp=E,9.0nm,1.3s						
YAK	**Yakutsk**	**68.97**	**0**	⇑*i*P	**P**	**19 40 44.6**	**-0.6**
	comp=E,28nm,1.0s,mb5.0						
YAK				*e*pP	pP	19 41 09.8	-6.8
YAK				*e*	pP	19 41 11.4	-5.2
YAK				*e*S	S	19 49 33.4	-4.6
YAK				*e*sS		19 50 16.2	
YAK				*e*		19 50 32.9	
YAK				*e*SSS	SSS	19 57 09.7	-1.9
KZA	**

TIXI				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
TIXI	**Tiksi**	**78.63**	**360**	⇓*i*	*P*	**P**	**19 41 40.1**	**-0.7**
	comp=Z,14nm,1.0s,mb4.8							
TIXI				*i*	pP	pP	19 42 21.3	+8.3
QSPA	**South Pole Qui**	**82.83**	**180**	⇑*i*	*P*	**P**	**19 42 04.3**	**+1.4**
	comp=Z,10.0nm,0.9s,mb4.7							
SVE	**Sverdlovsk**	**84.51**	**329**	⇓*eP*		**P**	**19 42 12.5**	**+0.9**
SVE				*e*			19 42 52.0	
SVE				pmax	pmax			
	comp=Z,40nm,1.2s,mb5.2							
SVE	**Sverdlovsk**	**84.51**	**329**	⇓*eP*		**P**	**19 42 12.5**	**+0.9**
	comp=Z,40nm,1.2s,mb5.2							
SVE				*e*			19 42 52.0	
ARU	**Arti**	**85.44**	**328**	⇑*i*	*P*	**P**	**19 42 14.7**	**-1.6**
ARU				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.5							
ARU	**Arti**	**85.44**	**328**	⇑*i*	*P*	**P**	**19 42 14.7**	**-1.6**
	comp=Z,7.0nm,1.0s,mb4.5							
RAYN	**Ar Rayn**	**87.13**	**294**	P		**P**	**19 42 25.1**	**-0.2**
	comp=Z,72nm,0.8s,SNR=9.3							
RAYN	**Ar Rayn**	**87.13**	**294**	P		**P**	**19 42 25.9**	**+0.7**
SVW2	**Sparrevohn**	**89.11**	**28**	*eP*		**P**	**19 42 34.4**	**+0.6**
KMBO	**Kilima Mbogo**	**91.85**	**269**	*i P*		**P**	**19 42 41.0**	**-6.7**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ARCES	**ARCESS Array B**	**101.45**	**340**	P		P	19 43 29.4	-0.6
	comp=Z,1.5nm,0.5s,baz=83,slow=7.3,SNR=9.0							
YKA	**Yellowknife Ar**	**108.20**	**26**	Pdiff		Pdif	19 44 00.4	+0.5
	comp=Z,0.2nm,0.7s,baz=294,slow=5.2,SNR=4.6							
PLCA	**Paso Flores**	**128.99**	**161**	PKP		PKPdf	19 48 48.4	+3.2
	comp=Z,1.0nm,0.6s,baz=77,slow=6.3,SNR=4.1							
JTS	**JuntasAbangare**	**146.06**	**82**	*e*PKP2		PKPab	19 49 18.6	-2.4
LPAZ	**La Paz**	**151.05**	**144**	PKPbc		PKPdf	19 49 34.0	+9.2
	comp=Z,2.4nm,0.4s,baz=41,slow=4.6,SNR=16							

AUST 22 19:51:53.7,21.00S×119.61E,h10km,ML4.4,2C, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**0.19**	**144**	⇑*i* P	Pg	19 51 57.5	-0.5
MBWA				*e*S	Sg	19 52 00.4	-0.4
GIRL	**Giralia**	**4.11**	**247**	*e*P	Pn	19 53 12.0	+14
MEEK	**Meekatharra**	**5.68**	**189**	⇑*i* P	Pn	19 53 16.1	-4.2
MEEK				*e*S	Sn	19 54 17.4	-9.0
	312nm,0.3s						
MORW	**Morawa**	**8.66**	**201**	*e*P	P	19 53 54.6	-7.4
	28nm,0.2s						
MORW				*e*S	Sn	19 55 26.0	-15
KLBR	**Kellerberrin**	**10.67**	**189**	*e*P	P	19 54 22.4	-7.5
MUN	**Mundaring**	**11.35**	**195**	*e*P	P	19 54 30.9	-8.1
FORT	**Forrest**	**12.35**	**144**	*e*P	P	19 54 44.7	-7.8
FORT				*e*S	S	19 56 53.7	-18
	320nm,0.6s						

IDC 22 20:00:24.8±1.9,21.65N×143.03E,h303km±20km,mb3.2/4, mb1 3.2/5,mb1mx3.0/19,mbtmp3.9/5,Error ellipse: s-maj=59.5km s-min=15.9km az=82.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.48**	**352**	P	P	20 01 48.0	-0.6
	5.5nm,0.3s,baz=323,slow=22,SNR=14						
CBIJ				S	S	20 02 55.5	+1.2
	6.3nm,0.3s,baz=245,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**42.20**	**192**	P	P	20 07 48.4	-1.9
	1.0nm,0.6s,baz=14,slow=8.7,SNR=13						
ASAR	**Alice Springs**	**45.91**	**192**	P	P	20 08 18.1	-1.5
	0.2nm,0.4s,baz=12,slow=13,SNR=3.6						
BVAR	**Borovoye Array**	**62.62**	**320**	P	P	20 10 17.7	-1.3
	1.3nm,0.3s,baz=99,slow=7.7,SNR=14						
FINES	**FINESS Array B**	**83.16**	**334**	P	P	20 12 15.8	-2.1
	0.3nm,0.4s,baz=56,slow=6.9,SNR=7.0						
PLCA	**Paso Flores**	**145.83**	**132**	PKPbc	PKPbc	20 19 28.4	-0.1
	1.5nm,1.0s,baz=297,slow=2.3,SNR=3.5						

*TAP **22** 20:41:13.4,25.44N×122.32E,h287km,ML4.3*
*NEIC **22** 20:41:14.6±0.5,25.41N×122.03E,h272km±5km,mb3.7/4, Error ellipse: s-maj=26.4km s-min=9.2km az=65.0*
*JMA **22** 20:41:17.3±0.3,25.48N×122.18E,h239km,M4.3*
*IDC **22** 20:41:18.7±8.1,25.40N×121.99E,h313km±83km,mb3.3/9, mb1 3.5/9,mb1mx3.3/20,mbtmp4.0/9,Error ellipse: s-maj=43.9km s-min=19.6km az=65.0*
ISC 22 20:41:13.4±0.4,25.47N±0.08×122.20E±0.05,h272km±5km, n33,σ1°11/48,mb3.6/13,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.81**	**233**	*e*Pn	P	**20 41 50.7**	**+0.7**
TATO				*e*S	S	**20 42 18.4**	**-0.3**
YHNB	**Yeheng**	**1.09**	**223**	⇓*i* Pn	P	**20 41 52.0**	**+0.6**
YHNB				*e*S	S	**20 42 18.0**	**-3.1**
YOJ	**Yonaguni jima**	**1.25**	**143**	P	P	**20 41 52.8**	**+0.4**
YOJ				*e*S	S	**20 42 22.3**	**-0.5**
NACB	**Ninganchiao**	**1.40**	**203**	⇓*i* Pn	P	**20 41 53.4**	**0.0**
IRIF	**Iriomote-Funau**	**1.79**	**129**	P	P	**20 41 57.1**	**+0.9**
IRIF				S	S	**20 42 28.2**	**-1.4**
HATJ	**Hateruma jima**	**2.03**	**134**	P	P	**20 41 59.7**	**+1.5**
HATJ				S	S	**20 42 32.2**	**-0.8**
JKRS	**Kuro-shima**	**2.06**	**126**	P	P	**20 42 00.1**	**+1.7**
JKRS				S	S	**20 42 32.6**	**-0.8**
JIJ	**Ishigaki jima**	**2.08**	**122**	P	P	**20 41 59.8**	**+1.1**
JIJ				S	S	**20 42 32.1**	**-1.8**
JTJ	**Tarama**	**2.42**	**109**	P	P	**20 42 03.7**	**+1.9**
JTJ				S	S	**20 42 38.6**	**-0.9**
JMJ	**Miyako jima 2**	**2.88**	**102**	P	P	**20 42 08.3**	**+1.9**
JMJ				S	S	**20 42 47.1**	**-0.5**
JOGS	**Gusukube**	**3.00**	**103**	P	P	**20 42 10.0**	**+2.4**
JOGS				S	S	**20 42 49.6**	**-0.1**
JKE	**Kume jima 2**	**4.22**	**77**	P	P	**20 42 22.2**	**+1.0**
JKE				*e*S	S	**20 43 16.0**	**+1.9**
JAGN	**Aguni-jima**	**4.67**	**75**	P	P	**20 42 26.7**	**+0.2**
JAGN				*e*S	S	**20 43 21.6**	**-2.1**
JJT2	**Tamagusuku 2**	**5.05**	**81**	P	P	**20 42 31.5**	**+0.5**
JJT2				*e*S	S	**20 43 31.1**	**-0.6**
JIH	**Iheya**	**5.41**	**72**	P	P	**20 42 37.1**	**+1.8**
JIH				*e*S	S	**20 43 37.3**	**-2.2**
JOW	**Kunigami**	**5.63**	**75**	P	P	**20 42 37.3**	**-0.7**
JOW				*e*S	S	**20 43 39.8**	**-4.4**
ULN	**Ulaanbaatar**	**25.35**	**336**	*e*P	P	**20 46 17.2**	**-0.1**
	1.2nm,0.4s,mb3.7						
SONM	**Songino Array**	**25.57**	**335**	P	P	**20 46 19.8**	**+0.4**
	3.0nm,0.7s,mb3.9,baz=152,slow=10,SNR=16						
ZAL	**Zalesovo**	**39.69**	**326**	P	P	**20 48 20.0**	**-0.8**
	1.2nm,0.3s,mb3.8,baz=49,slow=2.7,SNR=3.3						
ZAL	**Zalesovo**	**39.69**	**326**	P	P	**20 48 20.0**	**-0.8**
KURK	**Kurchatov**	**41.72**	**319**	*e*P	P	**20 48 36.7**	**-0.7**
	2.0nm,0.3s,mb3.8						
WRAB	**Tennant Creek**	**46.65**	**164**	*e*P	P	**20 49 16.4**	**-0.5**
	1.3nm,0.8s,mb3.3						
WRA	**Warramunga Arr**	**46.66**	**164**	P	P	**20 49 16.5**	**-0.4**
	0.2nm,0.5s,mb2.7,baz=347,slow=8.7,SNR=4.8						
BVAR	**Borovoye Array**	**47.28**	**320**	P	P	**20 49 21.0**	**-0.3**
	0.7nm,0.4s,mb3.4,baz=92,slow=8.5,SNR=9.8						
CHKZ	**Chkalovo**	**47.32**	**321**	*e*P	P	**20 49 20.7**	**-0.8**
	1.7nm,0.5s,mb3.6						
ARCES	**ARCESS Array B**	**68.69**	**338**	P	P	**20 51 48.6**	**-0.3**
	1.8nm,1.0s,mb3.8,baz=72,slow=3.8,SNR=8.3						
FINES	**FINESS Array B**	**70.81**	**330**	P	P	**20 52 01.6**	**-0.2**
	0.7nm,0.5s,mb3.6,baz=45,slow=5.4,SNR=8.3						
INK	**Inuvik**	**71.69**	**22**	P	P	**20 52 07.2**	**+0.2**
	1.2nm,0.6s,mb3.7,baz=292,slow=5.6,SNR=6.0						
INK	**Inuvik**	**71.69**	**22**	P	P	**20 52 07.2**	**+0.2**
NOA	**NORSAR Array B**	**77.52**	**332**	P	P	**20 52 39.0**	**-1.3**
	0.7nm,0.7s,mb3.5,baz=66,slow=3.0,SNR=3.4						
NOA	**NORSAR Array B**	**77.52**	**332**	P	P	**20 52 39.0**	**-1.3**
YKA	**Yellowknife Ar**	**81.43**	**23**	P	P	**20 53 01.9**	**+0.9**
	0.8nm,0.5s,mb3.7,baz=312,slow=5.0,SNR=19						
YKA	**Yellowknife Ar**	**81.43**	**23**	P	P	**20 53 01.9**	**+0.9**

*NEIC **22** 20:45:32.7±4.4,23.34S×179.79W,h534km±40km,mb4.3/6, Error ellipse: s-maj=52.6km s-min=16.9km az=216.0*
*IDC **22** 20:45:32.6±10.0,23.33S×179.75W,h532km±110km, mb3.6/4,mb1 3.7/5,mb1mx3.4/13,mbtmp4.6/5,Error ellipse: s-maj=99.9km s-min=41.0km az=27.0*
ISC 22 20:45:30.8±4.1,23.2S±0.5×179.7W±0.5,h534km,n14, σ0°63/13,mb4.2/9,1C-3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.28**	**189**	P	P	**20 48 42.9**	**-0.1**
	1.5nm,0.3s,baz=296,slow=2.6,SNR=8.4						
CTA	**Charters Tower**	**31.72**	**269**	P	P	**20 51 13.4**	**+1.1**
	8.1nm,0.4s,mb4.6,baz=99,slow=12,SNR=22						
CTAO	**Charters Tower**	**31.72**	**269**	*eP*	P	**20 51 13.2**	**+1.0**
	9.0nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**35.22**	**247**	P	P	**20 51 42.1**	**+0.7**
	2.5nm,0.5s,mb4.0,baz=92,slow=6.1,SNR=9.1						
ASAR	**Alice Springs**	**42.40**	**260**	P	P	**20 52 40.0**	**+0.3**
	3.9nm,0.6s,mb4.1,baz=99,slow=6.9,SNR=42						
ASPA	**Alice Springs**	**42.40**	**260**	⇓*i* P	P	**20 52 39.9**	**+0.1**
WB2	**Warramunga Arr**	**42.69**	**265**	⇓*i* P	P	**20 52 41.8**	**-0.3**
WRAB	**Tennant Creek**	**42.70**	**265**	⇓*eP*	P	**20 52 41.6**	**-0.5**
	11nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**42.70**	**265**	P	P	**20 52 42.0**	**-0.2**
	2.0nm,0.3s,mb4.2,baz=102,slow=8.3,SNR=135						
FITZ	**Fitzroy Crossi**	**51.13**	**265**	⇑*i* P	P	**20 53 46.8**	**+0.6**
	2.9nm,0.4s,mb4.0						
MBWA	**Marble Bar**	**55.74**	**260**	*eP*	P	**20 54 18.0**	**-0.9**
	20nm,1.1s,mb4.3						
NWAO	**Narrogin (SRO)**	**55.76**	**245**	P	P	**20 54 17.7**	**-1.2**
	12nm,1.1s,mb4.0						
QSPA	**South Pole Qui**	**66.91**	**180**	P	P	**20 55 31.4**	**+0.5**
	3.5nm,0.7s,mb4.0						
AKASG	**Malin Array Be**	**144.49**	**328**	PKP	PKPdf	21 04 08.1	+2.4
	0.9nm,0.4s,baz=47,slow=4.1,SNR=9.0						

*CSEM **22** 21:01:16.6±0.1,41.40N×22.68E,h15km,ML2.8,Error ellipse: s-maj=1.7km s-min=1.3km az=54.0*
*ATH **22** 21:01:17.2,41.38N×22.69E,h23km±5km,MD3.3/3*
*NEIC **22** 21:01:17.2,41.38N×22.69E,h23km,MD3.3(ATH),After ATH.*
*THE **22** 21:01:17.6,41.35N×22.65E,h10km,ML2.8*
ISC 22 21:01:16.1±0.5,41.42N±0.03×22.67E±0.04,h7km±4km, n19,σ0°84/28,1C-2D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.12**	**219**	⇑*i* Pg	**Pg**	**21 01 19.3**	**+0.5**
VAY				⇓*i* Sg	**Sg**	**21 01 20.8**	**+0.2**
KNT	**Kendrikon**	**0.31**	**146**	*e*Pg	**Pg**	**21 01 22.8**	**+0.5**
KNT				*e*Sg	**Sg**	**21 01 26.4**	**-0.1**
GRG	**Griva**	**0.50**	**204**	*e*Pg	**Pg**	**21 01 26.1**	**-0.1**
GRG				*e*Sg	**Sg**	**21 01 32.7**	**-0.3**
SRS	**Serrai**	**0.76**	**113**	*e*Pg	**Pg**	**21 01 31.7**	**+0.5**
SRS				*e*Sg	**Sg**	**21 01 42.2**	**+0.8**
SOH	**Sokhos**	**0.79**	**139**	*e*Pg	**Pg**	**21 01 31.6**	**-0.3**
THE	**Thessaloniki**	**0.81**	**164**	*e*Pg	**Pg**	**21 01 31.8**	**-0.6**
NVR	**Nevrokopi**	**0.90**	**94**	*e*PN	**Pn**	**21 01 34.4**	**-0.6**
SKO	**Skopje**	**1.08**	**302**	*i* Pg	**Pg**	**21 01 39.5**	**+1.9**
FNA	**Florina**	**1.16**	**238**	*e*Pg	**Pg**	**21 01 38.4**	**-1.0**
FNA				*e*Sg	**Sg**	**21 01 54.3**	**-0.6**
PLG	**Polygyros**	**1.20**	**150**	*e*PN	**Pn**	**21 01 38.7**	**-0.6**
PLG				*e*SN	**Sn**	**21 01 54.7**	**-1.2**
KZN	**Kozani**	**1.30**	**212**	*e*PN	**Pn**	**21 01 41.3**	**+0.5**
KZN				*e*SN	**Sn**	**21 02 00.0**	**+1.4**
LIT	**Litokhoron**	**1.32**	**186**	*e*Pb	**Pb**	**21 01 40.9**	**+0.1**
OUR	**Ouranopolis**	**1.47**	**137**	*e*Pb	**Pb**	**21 01 43.6**	**+0.3**
BARS	**Barje**	**1.54**	**336**	⇓*i* Pg	**Pg**	**21 01 46.4**	**-0.4**
BARS				Sg	**Sg**	**21 02 07.0**	**-0.3**
PAIG	**Paliouri**	**1.67**	**152**	*e*Pb	**Pb**	**21 01 47.0**	**0.0**
PAIG				*e*Sb	**Sb**	**21 02 09.4**	**+1.3**
NEO	**Neokhori**	**2.15**	**168**	*e*PB	**Pb**	**21 01 52.5**	**-2.5**
RDO	**Rodhopi**	**2.18**	**96**	*e*PB	**Pb**	**21 01 54.4**	**-1.1**
AGG	**Agios Georgios**	**2.41**	**186**	*e*Pn	**Pn**	**21 01 56.8**	**+0.2**
ALN	**Alexandroupoli**	**2.60**	**100**	*e*Pn	**Pn**	**21 02 00.5**	**+1.1**

IDC 22 21:02:17.5±31.0,1.54S×102.61E,mb3.7/3,mb1 3.8/3, mb1mx3.5/14,mbtmp3.7/3,Error ellipse: s-maj=558.8km s-min=213.3km az=141.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.01**	**123**	P	P	21 09 20.9	-1.6
	0.3nm,0.5s,baz=300,slow=9.9,SNR=8.1						
ASAR	**Alice Springs**	**37.45**	**128**	P	P	21 09 32.9	-1.8
	0.6nm,0.6s,baz=307,slow=6.7,SNR=8.3						
STKA	**Stephens Creek**	**47.54**	**133**	P	P	21 10 54.5	-2.3
	1.7nm,0.8s,baz=302,slow=9.5,SNR=2.5						

MEX 22 21:17:10.8±0.4,15.82N×95.70W,h11km±8km,MD3.9,1C, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.40**	**262**	⇑*i* P	Pg	21 17 18.1	-0.9
HUIG				*i* S	Sg	21 17 24.1	-0.4
CMIG	**Matias Romero**	**1.48**	**32**	*i* P	Pn	21 17 34.1	-3.4
CMIG				*i* S	Sb	21 17 51.8	-4.8
VHO	**Vista Hermosa**	**1.59**	**321**	*eP*	Pn	21 17 35.3	-3.8
VHO				*i* S	Sb	21 17 54.7	-5.1
OXX	**Oaxaca**	**1.59**	**322**	*eP*	Pn	21 17 35.0	-4.1
OXX				*e*S	Sb	21 17 55.0	-4.8
PNIG	**Pinotepa**	**2.40**	**284**	*eP*	Pn	21 17 46.4	-4.3
PNIG				*i* S	Sn	21 18 15.4	-5.0
CCIG	**Comitan**	**3.45**	**82**	*eP*	Pn	21 18 03.2	-2.5
CCIG				*i* S	Sn	21 18 41.8	-5.2
PPM	**Popocatepetl**	**4.27**	**320**	*i* P	Pn	21 18 13.1	-4.2
PPM				*i* S	Sn	21 19 02.8	-4.9
YAIG	**Yautepec**	**4.41**	**314**	*i* S	Sn	21 19 06.7	-4.6
PLIG	**Platanillo**	**4.45**	**306**	*i* S	Sn	21 19 07.6	-4.5

*CSEM **22** 21:29:03.5±0.2,34.59N×4.15W,h5km,MD3.2,Error ellipse: s-maj=6.5km s-min=2.6km az=110.0*
*NEIC **22** 21:29:04.2,34.51N×4.08W,MG3.3(MDD),After MDD.*
*CNRM **22** 21:29:04.5,34.63N×3.92W,h17km,MD3.2*
*MDD **22** 21:29:04.8±0.4,34.58N×3.98W,mb3.4/10,Error ellipse: s-maj=6.7km s-min=3.1km az=111.0,PRXIMO*
ISC 22 21:29:05.0±0.6,34.61N±0.03×4.13W±0.04,h17km±7km, n49,σ1°23/88,Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TZK	**Tazeka**	**0.53**	**185**	P	**Pb**	**21 29 14.5**	**-0.9**
TZK				S	**Sb**	**21 29 23.0**	**+0.5**
TZK	**Tazeka**	**0.53**	**185**	*i* P	**Pb**	**21 29 14.5**	**-0.9**
MPAL	**Palemas**	**0.63**	**14**	P	**Pb**	**21 29 16.0**	**-1.1**
MPAL				S	**Sb**	**21 29 24.5**	**-1.0**
MPAL	**Palemas**	**0.63**	**14**	*i* P	**Pb**	**21 29 16.0**	**-1.1**
TGT	**Taghat**	**0.94**	**235**	*eP*	**Pb**	**21 29 22.0**	**-0.4**
TGT				*i* S	**Sb**	**21 29 37.0**	**+2.6**
EMEL	**Melilla**	**1.18**	**54**	P	**Pb**	**21 29 25.8**	**-0.8**
	38nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**21 29 42.5**	**+1.0**
	203nm,0.4s,SNR=7.9						
EMLI	**Melilla**	**1.19**	**54**	P	**Pb**	**21 29 25.8**	**-0.9**
	1.8nm,0.0s,SNR=7.9						
EMLI				S	**Sb**	**21 29 43.4**	**+1.8**
	SNR=7.9						
ZAI	**Zaio**	**1.19**	**72**	P	**Pb**	**21 29 23.0**	**-3.8**
ZAI				S	**Sb**	**21 29 35.5**	**-6.3**
MIF	**Mishlifen**	**1.51**	**217**	*i* P	**Pn**	**21 29 32.0**	**+0.5**
MIF				*i* S	**Sn**	**21 29 51.0**	**+0.2**
EALB	**Alboran**	**1.60**	**34**	P	**Pn**	**21 29 31.7**	**-1.0**
	4.5nm,0.3s,SNR=7.9						
EALB				S	**Sn**	**21 29 52.3**	**-0.8**
	16nm,0.4s,SNR=7.9						
EALB	**Alboran**	**1.60**	**34**	S	**Sn**	**21 29 56.0**	**+2.9**
	SNR=7.9						
CZD	**Col de Zad**	**1.75**	**206**	*i* P	**Pn**	**21 29 34.5**	**-0.5**
CZD				*i* S	**Sn**	**21 29 56.0**	**-1.0**
EMIJ	**Mijas**	**2.02**	**345**	P	**Pn**	**21 29 35.7**	**-3.1**
	2.2nm,0.3s,SNR=5.2						
EMIJ				S	**Sn**	**21 30 01.5**	**-2.2**
	9.4nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.41**	**6**	P	**Pn**	**21 29 45.7**	**+1.2**
	1.5nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**21 30 15.4**	**+1.5**
	3.3nm,0.5s,SNR=6.6						
EBER	**Berja**	**2.49**	**24**	P	**Pn**	**21 29 45.5**	**-0.1**
EBER				S	**Sn**	**21 30 17.2**	**+1.4**
EBER	**Berja**	**2.49**	**24**	P	**Pn**	**21 29 45.5**	**-0.1**
	2.1nm,0.4s,SNR=6.3						
EBER				S	**Sn**	**21 30 17.2**	**+1.4**
	SNR=7.9						
LIJA	**Lijar**	**2.51**	**336**	P	**Pn**	**21 29 51.0**	**+5.2**
ELOJ	**Sierra Loja**	**2.53**	**360**	P	**Pn**	**21 29 46.2**	**+0.1**
ELOJ				S	**Sn**	**21 30 17.3**	**+0.6**
ELOJ	**Sierra Loja**	**2.53**	**360**	P	**Pn**	**21 29 46.2**	**+0.1**
	0.9nm,0.2s,SNR=4.0						
ELOJ				S	**Sn**	**21 30 17.3**	**+0.6**
	1.5nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.65**	**329**	P	**Pn**	**21 29 50.8**	**+2.9**
ESPR				S	**Sn**	**21 30 21.7**	**+1.8**
ESPR	**Espera**	**2.65**	**329**	P	**Pn**	**21 29 49.3**	**+1.5**
	1.3nm,0.3s,SNR=4.6						
ESPR				S	**Sn**	**21 30 21.7**	**+1.8**
	4.7nm,0.4s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.70**	**10**	P	**Pn**	**21 29 49.4**	**+0.9**
	1.1nm,0.2s,SNR=5.7						
EQES	**Quesada**	**3.30**	**15**	P	**Pn**	**21 29 57.8**	**+0.8**
EQES				S	**Sn**	**21 30 38.7**	**+2.5**
EQES	**Quesada**	**3.30**	**15**	P	**Pn**	**21 29 57.8**	**+0.8**
	1.0nm,0.2s,SNR=12						
EQES				S	**Sn**	**21 30 35.7**	**-0.5**
	6.2nm,0.5s,SNR=7.9						
EQES	**Quesada**	**3.30**	**15**	P	**Pn**	**21 29 57.8**	**+0.8**
	0.7nm,0.2s,SNR=12						
EQES				S	**Sn**	**21 30 38.7**	**+2.5**
	SNR=7.9						
EADA	**Adamuz**	**3.56**	**354**	P	**Pn**	**21 30 01.4**	**+0.6**
	0.7nm,0.2s,SNR=8.9						
EADA				S	**Sn**	**21 30 43.1**	**+0.1**
	4.0nm,0.4s,SNR=7.9						
EADA	**Adamuz**	**3.56**	**354**	P	**Pn**	**21 30 01.4**	**+0.6**
	1.6nm,0.4s,SNR=8.9						
EADA				S	**Sn**	**21 30 43.1**	**+0.1**
	SNR=7.9						
EMIN	**Mina Concepcio**	**3.76**	**328**	P	**Pn**	**21 30 02.0**	**-1.6**
EMIN				S	**Sn**	**21 30 49.0**	**+1.1**
EMIN	**Mina Concepcio**	**3.76**	**328**	P	**Pn**	**21 30 02.0**	**-1.6**
	0.5nm,0.3s,SNR=7.4						
EMIN				S	**Sn**	**21 30 48.3**	**+0.5**
	3.0nm,0.5s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.76**	**328**	P	**Pn**	**21 30 02.0**	**-1.6**
	1.9nm,0.5s,SNR=7.4						
EMIN				S	**Sn**	**21 30 49.0**	**+1.1**
	SNR=7.9						
PALC	**Alcoutim**	**3.93**	**317**	*e*Pn	**Pn**	**21 30 06.7**	**+0.7**
PALC				*e*Sn	**Sn**	**21 30 52.9**	**+0.7**
	4.5nm,0.8s						
PALC	**Alcoutim**	**3.93**	**317**	P	**Pn**	**21 30 06.7**	**+0.7**
PALC				S	**Sn**	**21 30 52.9**	**+0.7**
	2.2nm,0.8s						
EMUR	**La Murta**	**3.98**	**35**	S	**Sn**	**21 30 50.9**	**-2.5**
	8.6nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**3.98**	**35**	S	**Sn**	**21 30 50.9**	**-2.6**
	SNR=7.9						
EGRO	**El Granado**	**3.98**	**318**	P	**Pn**	**21 30 04.6**	**-2.2**
EGRO				S	**Sn**	**21 30 51.5**	**-2.1**
EGRO	**El Granado**	**3.98**	**318**	P	**Pn**	**21 30 07.1**	**+0.4**
	5.8nm,0.4s,SNR=17						
EGRO				S	**Sn**	**21 30 51.4**	**-2.1**
	2.5nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**3.98**	**318**	P	**Pn**	**21 30 04.6**	**-2.2**
	1.4nm,0.2s,SNR=17						
EGRO				S	**Sn**	**21 30 51.5**	**-2.1**
ETOB	**Tobarra**	**4.53**	**27**	P	**Pn**	**21 30 15.5**	**+1.0**
ETOB				S	**Sn**	**21 31 03.5**	**-3.8**
ETOB	**Tobarra**	**4.53**	**27**	P	**Pn**	**21 30 14.4**	**-0.1**
	2.4nm,0.4s,SNR=66						
ETOB				S	**Sn**	**21 31 03.5**	**-3.8**
	2.0nm,0.6s,SNR=7.9						
ETOB	**Tobarra**	**4.53**	**27**	P	**Pn**	**21 30 15.5**	**+1.0**
PBEJ	**Beja**	**4.55**	**320**	*e*Pn	**Pn**	**21 30 15.6**	**+0.8**
PBEJ				*e*Sn	**Sn**	**21 31 07.3**	**-0.6**
	2.5nm,0.5s						
PBEJ	**Beja**	**4.55**	**320**	P	**Pn**	**21 30 15.6**	**+0.8**
PBEJ				S	**Sn**	**21 31 07.3**	**-0.6**
	1.2nm,0.5s						
PTEO	**Sao Teotonio**	**4.73**	**310**	*e*Pn	**Pn**	**21 30 17.4**	**0.0**
PTEO				*e*Sn	**Sn**	**21 31 12.4**	**-0.1**
	6.2nm,0.6s						
PTEO	**Sao Teotonio**	**4.73**	**310**	P	**Pn**	**21 30 17.4**	**0.0**
PTEO				S	**Sn**	**21 31 12.4**	**-0.1**
	3.1nm,0.6s						
EBAD	**Badajoz**	**4.74**	**332**	P	**Pn**	**21 30 17.9**	**+0.4**
	0.8nm,0.3s,SNR=7.9						
EBAD				S	**Sn**	**21 31 10.9**	**-1.8**
	1.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.74**	**332**	P	**Pn**	**21 30 17.9**	**+0.4**
EBAD				S	**Sn**	**21 31 10.9**	**-1.8**
ESDC	**Sonseca Array**	**5.05**	**1**	P	**Pn**	**21 30 21.5**	**-0.5**
	0.4nm

ASAR				S		**S**	**21 48 10.2**	**+3.1**
	comp=Z,8.0nm,0.9s,baz=350,slow=20,SNR=7.1								
ENH	**Enshi**	**31.84**	**332**	*e*P		**P**	**21 44 20.8**	**-1.0**
	comp=Z,22nm,0.8s,mb5.0								
KMI	**Kunming**	**31.84**	**317**	P		**P**	**21 44 23.3**	**+1.4**
KMI				S		**S**	**21 49 26.8**	**+3.6**
KMI				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.6								
KMI				LR		LR			
	comp=Z,77nm,22.4s								
FORT	**Forrest**	**33.06**	**177**	*e*P		**P**	**21 44 31.5**	**-1.0**
	comp=Z,417nm,0.5s								
KLBR	**Kellerberrin**	**34.72**	**192**	*e*P		**P**	**21 44 46.7**	**+0.1**
	comp=Z,152nm,0.6s								
XAN	**Xi'an**	**35.29**	**335**	P		**P**	**21 44 50.0**	**-1.4**
XAN				AMB		AMB			
	comp=Z,11nm,0.8s,mb4.7								
MUN	**Mundaring**	**35.46**	**194**⇑	*i*P		**P**	**21 44 52.9**	**+0.1**
	comp=Z,14nm,0.6s,mb5.0								
MUN	**Mundaring**	**35.46**	**194**⇑	*i*P		**P**	**21 44 52.9**	**+0.1**
MUN				pmax		pmax			
	comp=Z,14nm,0.6s,mb5.0								
NWAO	**Narrogin (SRO)**	**36.12**	**193**	P		**P**	**21 44 57.5**	**-1.0**
NWAO	**Narrogin (SRO)**	**36.12**	**193**	P		**P**	**21 44 58.9**	**+0.4**
	comp=Z,4.1nm,0.4s,mb4.7,baz=29,slow=15,SNR=9.0								
STKA	**Stephens Creek**	**37.17**	**158**	P		**P**	**21 45 07.2**	**0.0**
	comp=Z,11nm,0.6s,mb4.9,baz=337,slow=8.5,SNR=28								
BJT	**Baijiatuau**	**38.49**	**348**	*e*P		**P**	**21 45 17.2**	**-0.9**
BJT				pmax		pmax			
	comp=Z,13nm,0.8s								
BJT	**Baijiatuau**	**38.49**	**348**	*e*P		**P**	**21 45 17.2**	**-0.9**
	comp=Z,13nm,0.8s,mb4.8								
BJI	**Beijing**	**38.51**	**348**	P		**P**	**21 45 17.1**	**-1.2**
BJI				AMB		AMB			
	comp=Z,19nm,0.7s,mb5.0								
LZH	**Lanzhou**	**39.30**	**331**	⇑P		**P**	**21 45 25.0**	**+0.1**
LZH				AP		pP	21 45 54.0	+4.1
LZH				XP		sP	21 46 07.5	+4.8
LZH				AMB		AMB			
	comp=Z,42nm,1.2s,mb5.1								
SNY	**Shenyang**	**39.30**	**357**	⇑P		**P**	**21 45 25.4**	**+0.6**
SNY				AMB		AMB			
	comp=Z,30nm,0.8s,mb5.2								
CN2	**Changchun**	**41.21**	**359**	*e*P		**P**	**21 45 41.0**	**+0.4**
CN2				*e*XP		sP	21 46 21.4	+3.0
CN2				*e*S		**S**	**21 51 44.1**	**-1.6**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.9s,mb4.7								
MDJ	**Mudanjiang**	**42.14**	**4**	P		**P**	**21 45 49.4**	**+1.2**
MDJ				AMB		AMB			
	comp=Z,17nm,1.2s,mb4.7								
MDJ				AMB		AMB			
	comp=Z,89nm,4.2s								
MDJ				LR		LR			
	comp=N,33nm,39.4s								
MDJ				LR		LR			
	comp=E,13nm,39.4s								
MDJ				LR		LR			
	comp=Z,36nm,39.4s								
LSA	**Lhasa**	**42.80**	**313**	P		**P**	**21 45 55.3**	**+1.5**
LSA	**Lhasa**	**42.80**	**313**	*e*P		**P**	**21 45 55.5**	**+1.7**
LSA				pmax		pmax			
	comp=Z,18nm,0.6s,mb5.0								
LSA	**Lhasa**	**42.80**	**313**	*e*P		**P**	**21 45 55.5**	**+1.7**
	comp=Z,18nm,0.6s,mb5.0								
GTA	**Gaotai**	**43.88**	**330**	*e*P		**P**	**21 46 02.6**	**+0.2**
GTA				AP		pP	21 46 31.0	+3.4
GTA				XP		sP	21 46 46.1	+5.9
GTA				PP		PP	21 47 46.9	-0.9
GTA				PCP		PcP	21 47 49.3	+2.0
GTA				S		**S**	**21 52 20.8**	**-4.0**
GTA				XS			21 53 10.9		
GTA				AMB		AMB			
	comp=Z,9.0nm,0.7s,mb4.6								
GTA				AMB		AMB			
	comp=Z,87nm,5.7s								
GTA				LR		LR			
	comp=N,75nm,14.1s								
GTA				LR		LR			
	comp=E,68nm,14.8s								
GTA				LR		LR			
	comp=Z,99nm,15.2s								
ASAJ	**Asahikawa**	**44.04**	**17**	P		**P**	**21 46 04.1**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7,baz=262,slow=15,SNR=7.2								
JIRN	**Jiri**	**45.60**	**307**	*e*P		**P**	**21 46 16.9**	**+0.6**
	comp=Z,9.7nm,0.4s,mb4.9								
PKI	**Pulchoki**	**46.18**	**307**	*e*P		**P**	**21 46 20.8**	**-0.1**
	comp=Z,29nm,0.9s,mb5.0								
DZM	**Mont Dzumac**	**46.36**	**124**	P		**P**	**21 46 23.3**	**+1.0**
	comp=Z,2.5nm,0.7s,mb4.0,baz=313,slow=19,SNR=4.4								
KKN	**Kakani**	**46.38**	**307**	*e*P		**P**	**21 46 22.5**	**+0.1**
	comp=Z,46nm,0.8s,mb5.3								
DMN	**Daman**	**46.44**	**307**	*e*P		**P**	**21 46 23.1**	**+0.2**
	comp=Z,51nm,0.8s,mb5.3								
GKN	**Gorkha**	**46.98**	**307**	*e*P		**P**	**21 46 27.1**	**-0.1**
	comp=Z,41nm,0.8s,mb5.2								
HIA	**Hailar**	**46.99**	**354**	*e*P		**P**	**21 46 27.1**	**+0.2**
HIA				pmax		pmax			
	comp=Z,22nm,1.1s								
HIA	**Hailar**	**46.99**	**354**	*e*P		**P**	**21 46 27.1**	**+0.2**
	comp=Z,22nm,1.1s,mb4.8								
KOLN	**Koldanda**	**47.72**	**306**	*e*Pg		**P**	**21 46 33.2**	**+0.3**
	comp=Z,102nm,0.7s,mb5.8								
ULN	**Ulaanbaatar**	**48.15**	**343**	*e*P		**P**	**21 46 35.7**	**-0.3**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.6s,mb4.4								
ULN	**Ulaanbaatar**	**48.15**	**343**	*e*P		**P**	**21 46 35.7**	**-0.4**
	comp=Z,4.1nm,0.6s,mb4.4								
SONM	**Songino Array**	**48.32**	**342**	P		**P**	**21 46 37.3**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.3,baz=158,slow=8.7,SNR=16								
SONM				PcP		PcP	21 48 03.9	+1.1
	comp=Z,3.3nm,0.8s,baz=160,slow=4.5,SNR=10.0								
ZAK	**Zakamensk**	**51.54**	**342**	*e*P		**P**	**21 47 00.7**	**-1.1**
ZAK				*e*			21 48 15.6		
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.3s,mb4.0								
ZAK				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
TLY	**Talaya**	**52.56**	**343**	*e*P		**P**	**21 47 09.4**	**-0.1**
TLY				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.5								
TLY	**Talaya**	**52.56**	**343**	*e*P		**P**	**21 47 09.4**	**-0.1**
	comp=Z,3.9nm,0.8s,mb4.5								
MOY	**Mondy**	**53.38**	**341**	*e*P		**P**	**21 47 15.8**	**+0.3**
WMQ	**Urumqi**	**53.41**	**326**	*e*P		**P**	**21 47 16.3**	**+0.4**
WMQ				AP		pP	21 47 46.0	+4.1
WMQ				XP		sP	21 48 00.0	+6.1
WMQ				PP		PP	21 49 20.0	+1.3
WMQ				*e*S		**S**	**21 54 37.0**	**-0.8**
WMQ				XS			21 55 29.0		
WMQ				AMB		AMB			
	comp=Z,9.0nm,1.0s,mb4.8								
WMQ				AMB		AMB			
	comp=Z,134nm,4.8s								
SMLA	**Simla**	**54.19**	**307**	*i* P		**P**	**21 47 19.6**	**-2.1**
BOD	**Bodaibo**	**56.06**	**352**	*e*P		**P**	**21 47 34.6**	**-0.3**
BOD				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.9								
MKAR	**Makanchi Array**	**58.24**	**326**	*e*P		**P**	**21 47 49.2**	**-1.2**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
YAK	**Yakutsk**	**59.53**	**2**	*e*P		**P**	**21 47 58.8**	**-0.3**
YAK				pmax		pmax			
	comp=Z,12nm,0.9s,mb4.9								
YAK				pmax		pmax			
	comp=N,3.0nm,1.1s								
YAK	**Yakutsk**	**59.53**	**2**	*e*P		**P**	**21 47 59.0**	**-0.2**
	comp=N,14nm,0.7s,mb5.1								
ULHL	**Ulahol**	**59.54**	**319**	P		**P**	**21 47 59.0**	**-0.5**
	SNR=6.2								
KZA	**Kyzart**	**60.12**	**318**	P		**P**	**21 48 04.1**	**+0.7**
	SNR=9.6								
MA2	**Magadan**	**60.14**	**14**	*de*P		**P**	**21 48 04.5**	**+1.2**
MA2				*e*			21 55 56.0		
MA2				pmax		pmax			
	comp=N,4.0nm,0.9s								
MA2				pmax		pmax			
	comp=E,3.0nm,0.9s								
MA2				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
MA2	**Magadan**	**60.14**	**14**	*e*P		**P**	**21 48 03.9**	**+0.6**
	comp=Z,6.9nm,0.8s,mb4.7								
TKM2	**Tokmak 2**	**60.28**	**319**	P		**P**	**21 48 04.2**	**-0.2**
	SNR=10								
UCH	**Uchtor**	**60.68**	**318**	P		**P**	**21 48 08.2**	**+1.0**
	SNR=13								
AAK	**Ala-Archa**	**60.87**	**319**	*e*P		**P**	**21 48 06.9**	**-1.6**
AAK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.2								
AAK	**Ala-Archa**	**60.87**	**319**	*e*P		**P**	**21 48 06.9**	**-1.6**
	comp=Z,2.4nm,0.8s,mb4.3								
RPZ	**Rata Peaks**	**61.10**	**144**	P		**P**	**21 48 10.2**	**+0.1**
	comp=Z,3.6nm,0.8s,mb4.5,baz=260,slow=6.1,SNR=2.8								
USP	**Ospenovka**	**61.15**	**319**	P		**P**	**21 48 09.9**	**-0.5**
	SNR=17								
AML	**Almayashu**	**61.18**	**318**	P		**P**	**21 48 11.2**	**+0.5**
	SNR=15								
EKS2	**Erkin-Say**	**61.36**	**318**	P		**P**	**21 48 12.0**	**+0.2**
	SNR=14								
ZAL	**Zalesovo**	**61.45**	**334**	P		**P**	**21 48 10.9**	**-1.3**
	comp=Z,1.5nm,0.5s,mb4.3,baz=352,slow=7.4,SNR=9.4								
KURK	**Kurchatov**	**62.48**	**328**⇑	*i*P		**P**	**21 48 18.2**	**-1.0**
KURK				pmax		pmax			
	comp=Z,16nm,0.6s,mb5.2								
KURK	**Kurchatov**	**62.48**	**328**⇑	*i*P		**P**	**21 48 18.1**	**-1.0**
	comp=Z,16nm,0.6s,mb5.2								
NVS	**Novosibirsk**	**62.73**	**334**	*e*P		**P**	**21 48 18.3**	**-2.5**
NVS				*e*			21 48 52.3		
NVS				pmax		pmax			
	comp=N,4.0nm,0.5s								
NVS				pmax		pmax			
	comp=E,5.0nm,0.5s								
NVS				pmax		pmax			
	comp=Z,6.0nm,0.5s,mb4.8								
BVA0	**Borovoye Array**	**68.04**	**327**	P		**P**	**21 48 54.1**	**-0.7**
BVA0				pmax		pmax			
	comp=Z,1.0nm,1.1s								
BVAR	**Borovoye Array**	**68.04**	**327**	P		**P**	**21 48 54.5**	**-0.3**
	comp=Z,5.8nm,0.8s,mb4.4,baz=135,slow=10,SNR=40								
BVAR				PcP		PcP	21 49 20.4	+0.2	
	comp=Z,3.5nm,0.7s,baz=117,slow=3.3,SNR=7.4								
CHKZ	**Chkalovo**	**68.22**	**328**	*e*P		**P**	**21 48 54.9**	**-1.0**
CHKZ				pmax		pmax			
	comp=Z,6.0nm,0.8s,mb4.5								
CHKZ	**Chkalovo**	**68.22**	**328**	*e*P		**P**	**21 48 54.9**	**-1.0**
	comp=Z,6.5nm,0.8s,mb4.5								
TIXI	**Tiksi**	**69.16**	**1**	*e*P		**P**	**21 49 00.0**	**-1.4**
TIXI				pmax		pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
RAR	**Rarotonga**	**76.17**	**112**	P		**P**	**21 49 44.3**	**+0.8**
	comp=Z,2.8nm,0.3s,mb4.4,baz=27,slow=9.0,SNR=4.0								
VNDA	**Vanda**	**82.22**	**173**	P		**P**	**21 50 16.5**	**+1.4**
	comp=Z,1.0nm,0.5s,mb3.9,baz=307,slow=5.3,SNR=12								
IMA	**Indian Mountai**	**83.86**	**24**	*e*P		**P**	**21 50 24.9**	**+1.5**
OBN	**Obninsk**	**87.73**	**325**⇓	*i*P		**P**	**21 50 43.8**	**+1.1**
OBN				pmax		pmax			
	comp=Z,19nm,0.6s,mb5.3								
OBN	**Obninsk**	**87.73**	**325**	*e*P		**P**	**21 50 43.3**	**+0.7**
	comp=Z,16nm,0.6s,mb5.2								
ASF	**Jabal al Asfar**	**88.00**	**302**	P		**P**	**21 50 46.8**	**+2.3**
	comp=Z,3.4nm,0.6s,mb4.6,baz=322,slow=6.8,SNR=4.4								
KMBO	**Kilima Mbogo**	**88.83**	**269**	P		**P**	**21 50 51.2**	**+2.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=47,slow=11,SNR=10.0								
JOF	**Joensuu**	**90.03**	**333**	*e*p		**P**	**21 50 53.1**	**-0.2**
	comp=Z,6.6nm,0.8s,mb4.8								
BRTR	**Keskin Array B**	**90.32**	**310**	P		**P**	**21 50 55.5**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.3,baz=124,slow=4.5,SNR=9.7								
ARCES	**ARCESS Array B**	**91.44**	**340**	P		**P**	**21 51 00.5**	**+0.7**
	comp=Z,7.8nm,0.8s,mb4.9,baz=76,slow=5.0,SNR=14								
KAF	**Kangasniemi**	**92.43**	**332**	*e*p		**P**	**21 51 04.6**	**+0.1**
	comp=Z,3.5nm,0.5s,mb4.8,baz=77,slow=4.2								
KAF	**Kangasniemi**	**92.43**	**332**	*e*P		**P**	**21 51 04.6**	**+0.1**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.5s,mb4.9								
FINES	**FINESS Array B**	**92.66**	**332**	P		**P**	**21 51 05.9**	**+0.4**
	comp=Z,4.5nm,0.7s,mb4.9,baz=72,slow=6.0,SNR=20								
NB2	**NORSAR Subarra**	**99.65**	**333**	P		**P**	**21 51 37.1**	**-0.2**
	comp=Z,2.5nm,0.8s,mb4.9,baz=68,slow=4.6								
NB2	**NORSAR Subarra**	**99.65**	**333**	P		**P**	**21 51 37.1**	**-0.2**
NB2				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb5.0								
NOA	**NORSAR Array B**	**99.65**	**333**	P		**P**	**21 51 37.4**	**0.0**
	comp=Z,2.6nm,0.8s,mb4.9,baz=68,slow=4.5,SNR=9.7								
YKA	**Yellowknife Ar**	**100.97**	**24**	P		P	21 51 45.2	+1.9	
	comp=Z,0.5nm,0.8s,baz=303,slow=4.5,SNR=8.2								
BRG	**Berggiesshubel**	**101.87**	**323**	*e*P		P	21 51 49.5	+2.0	
BRG				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BRG	**Berggiesshubel**	**101.87**	**323**	*e*P		P	21 51 49.5	+2.0	
	comp=Z,3.8nm,0.9s								
GERES	**GERESS Array B**	**102.67**	**321**	Pdiff		Pdif	21 51 53.4	+2.3	
	comp=Z,0.3nm,0.4s,baz=90,slow=4.0,SNR=7.8								
SCHQ	**Schefferville**	**121.96**	**9**	PKP		PKPdf	21 56 50.1	+3.5	
	comp=Z,3.0nm,0.5s,baz=275,slow=4.2,SNR=13								
PLCA	**Paso Flores**	**139.01**	**161**	PKP		PKPdf	21 57 23.3	+4.1	
	comp=Z,1.3nm,0.8s,baz=86,slow=1.1,SNR=3.6								

NEIC ***22*** *22:10:01.3,36.43N×9.73W,h20km,MG3.3(MDD),After MDD.*
INMG ***22*** *22:10:02.1±1.0,36.46N×9.66W,h10km,ML2.1,Error ellipse: s-maj=6.7km s-min=3.3km az=67.0*
CSEM ***22*** *22:10:02.3±0.4,36.60N×9.43W,h137km±3km,ML3.3/3, Error ellipse: s-maj=7.3km s-min=4.6km az=44.0*

MDD 22 22:10:01.2±1.9,36.51N×9.59W,mbLg2.4/17,Error ellipse: s-maj=16.6km s-min=10.6km az=71.0,PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.24**	**34**	*e*P	Pb	22 10 25.0	-0.2
PTEO				*e*S	Sb	22 10 41.8	+0.2
	17nm,0.1s						
PTEO	**Sao Teotonio**	**1.24**	**34**	P	Pb	22 10 25.0	-0.2
PTEO				S	Sb	22 10 41.8	+0.2
	8.4nm,0.1s						
PALC	**Alcoutim**	**1.94**	**60**	*e*Pn	Pn	22 10 34.3	-1.4
PALC				*e*Sn	Sn	22 10 58.2	-3.0
	6.7nm,0.1s						
PALC	**Alcoutim**	**1.94**	**60**	*e*Pn	Pn	22 10 34.3	-1.4
PALC				*e*Sn	Sn	22 10 58.2	-3.0
	6.7nm,0.1s						
EGRO	**El Granado**	**1.97**	**58**	P	Pn	22 10 34.7	-1.5
	3.3nm,0.8s,SNR=12						
EGRO				S	Sn	22 10 59.4	-2.5
	5.4nm,0.1s,SNR=6.7						
EGRO	**El Granado**	**1.97**	**58**	P	Pn	22 10 34.7	-1.4
	3.3nm,0.8s,SNR=12						
EGRO				S	Sn	22 10 59.4	-2.5
	1.2nm,0.2s,SNR=6.7						
PBEJ	**Beja**	**2.04**	**42**	*e*Pn	Pn	22 10 35.6	-1.6
PBEJ				*e*Sn	Sn	22 11 01.0	-2.8
	4.0nm,0.1s						
PBEJ	**Beja**	**2.04**	**42**	*e*Pn	Pn	22 10 35.6	-1.6
PBEJ				*e*Sn	Sn	22 11 01.0	-2.8
	4.0nm,0.1s						
MOE	**Montemor**	**2.24**	**26**	*e*Sn	Sn	22 11 05.5	-3.2
PLOU	**Loures**	**2.40**	**8**	*e*Sn	Sn	22 11 08.7	-4.0
	15nm,0.2s						
PLOU	**Loures**	**2.40**	**8**	*e*Sn	Sn	22 11 08.7	-4.0
	15nm,0.2s						
EMIN	**Mina Concepcio**	**2.65**	**61**	P	Pn	22 10 43.7	-2.1
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 11 14.7	-4.4
	2.0nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.65**	**61**	P	Pn	22 10 43.7	-2.1
	0.3nm,0.1s,SNR=7.9						
EMIN				S	Sn	22 11 14.7	-4.4
	0.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.02**	**82**	P	Pn	22 10 48.8	-2.3
	1.0nm,0.2s,SNR=7.9						
ESPR				S	Sn	22 11 23.9	-4.7
	9.6nm,0.2s,SNR=7.9						
ESPR	**Espera**	**3.02**	**82**	P	Pn	22 10 48.8	-2.4
	1.0nm,0.2s,SNR=7.9						
ESPR				S	Sn	22 11 23.9	-4.7
	2.4nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.03**	**42**	P	Pn	22 10 48.8	-2.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 11 25.1	-3.8
	7.0nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**3.03**	**42**	P	Pn	22 10 48.8	-2.5
	0.4nm,0.1s,SNR=7.9						
EBAD				S	Sn	22 11 25.1	-3.8
	2.4nm,0.1s,SNR=7.9						
PTOM	**Tomar**	**3.24**	**16**	*e*Sn	Sn	22 11 28.7	-5.4
	4.5nm,0.1s						
PTOM	**Tomar**	**3.24**	**16**	S	Sn	22 11 28.7	-5.4
	2.2nm,0.1s						
PCBR	**Castelo Branco**	**3.72**	**26**	*e*Sn	Sn	22 11 40.8	-5.4
	1.9nm,0.3s						
PCBR	**Castelo Branco**	**3.72**	**26**	S	Sn	22 11 40.8	-5.4
	0.9nm,0.3s						
MTE	**Manteigas**	**4.20**	**22**	*e*Sn	Sn	22 11 52.6	-5.9
	3.9nm,0.2s						
MTE	**Manteigas**	**4.20**	**22**	S	Sn	22 11 52.6	-5.9
	1.9nm,0.2s						
EADA	**Adamuz**	**4.32**	**66**	P	Pn	22 11 06.9	-2.8
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	22 11 53.7	-7.8
	3.3nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.32**	**66**	P	Pn	22 11 06.9	-2.7
	0.3nm,0.1s,SNR=7.9						
EADA				S	Sn	22 11 53.7	-7.8
	1.0nm,0.3s,SNR=7.9						
PVIS	**Viseu**	**4.40**	**17**	*e*Sn	Sn	22 11 57.1	-6.5
	2.9nm,0.1s						
PVIS	**Viseu**	**4.40**	**17**	S	Sn	22 11 57.1	-6.5
	1.4nm,0.1s						
PVRL	**Vila Real**	**4.98**	**16**	*e*Sn	Sn	22 12 10.9	-7.2
	3.6nm,0.1s						
PVRL	**Vila Real**	**4.98**	**16**	S	Sn	22 12 10.9	-7.2
	1.8nm,0.1s						
EQES	**Quesada**	**5.36**	**74**	P	Pn	22 11 21.5	-2.9
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	22 12 20.4	-7.4
	1.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.36**	**74**	P	Pn	22 11 21.5	-2.9
	0.1nm,0.1s,SNR=7.9						
EQES				S	Sn	22 12 20.4	-7.4
	0.4nm,0.1s,SNR=7.9						
ESDC	**Sonseca Array**	**5.45**	**53**	P	Pn	22 11 22.3	-3.3
	0.2nm,0.3s,baz=236,slow=13,SNR=7.3						
ESDC	**Sonseca Array**	**5.45**	**53**	P	Pn	22 11 22.3	-3.2
	0.2nm,0.3s,SNR=7.3						
ELOB	**Lobios**	**5.48**	**12**	P	Pn	22 11 21.9	-4.1
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	22 12 22.3	-8.4
	1.1nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**5.48**	**12**	P	Pn	22 11 21.9	-4.1
	0.5nm,0.2s,SNR=7.9						
ELOB				S	Sn	22 12 22.3	-8.4
	0.6nm,0.1s,SNR=7.9						
PBRG	**Braganca**	**5.73**	**22**	*e*Sn	Sn	22 12 28.7	-8.3
	1.0nm,0.2s						
PBRG	**Braganca**	**5.73**	**22**	S	Sn	22 12 28.7	-8.3
	0.5nm,0.2s						
ECAL	**Calabor**	**5.86**	**21**	S	Sn	22 12 31.3	-8.9
	3.4nm,0.5s,SNR=4.0						
ECAL	**Calabor**	**5.86**	**21**	S	Sn	22 12 31.3	-8.9
	1.1nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**6.73**	**69**	S	Sn	22 12 51.8	-10
	2.2nm,0.5s,SNR=4.0						
ETOB	**Tobarra**	**6.73**	**69**	S	Sn	22 12 51.8	-10
	SNR=4.0						

CNRM ***22*** *22:48:20.6,34.96N×2.60W,h17km,MD3.0*
MDD ***22*** *22:48:22.0±0.5,34.94N×2.87W,h8km±4km,mb3.6/13, Error ellipse: s-maj=5.2km s-min=5.0km az=41.0,PRXIMO*
CSEM ***22*** *22:48:21.5±0.3,35.04N×2.97W,h15km,MD3.0,Error ellipse: s-maj=7.9km s-min=4.2km az=128.0*
NEIC ***22*** *22:48:22.1,34.94N×3.06W,h7km,MG3.4(MDD),After MDD.*

ISC 22 22:48:21.1±0.5,35.04N±0.03×2.95W±0.04,h10km,n46, σ1°28/82,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.18**	**111**	P	**Pg**	**22 48 24.0**	**-1.2**
ZAI				S	**Sg**	**22 48 26.5**	**-1.4**
EMEL	**Melilla**	**0.26**	**359**	P	**Pg**	**22 48 28.5**	**+1.8**
	45nm,0.1s,SNR=14						
EMEL				S	**Sg**	**22 48 34.3**	**+3.8**
	254nm,0.1s,SNR=7.9						
EMLI	**Melilla**	**0.26**	**0**	P	**Pg**	**22 48 28.8**	**+2.1**
	155nm,0.4s,SNR=14						
EMLI				S	**Sg**	**22 48 34.3**	**+3.9**
	124nm,0.3s,SNR=7.9						
TOU	**Touzarine**	**0.66**	**264**	*i* P	**Pb**	**22 48 36.0**	**+1.7**
TOU				*i* S	**Sb**	**22 48 48.0**	**+4.7**
EALB	**Alboran**	**0.91**	**356**	P	**Pb**	**22 48 40.4**	**+1.9**
	8.1nm,0.2s,SNR=17						
EALB				S	**Sb**	**22 48 54.4**	**+4.0**
	34nm,0.2s,SNR=7.9						
EALB	**Alboran**	**0.91**	**356**	P	**Pb**	**22 48 40.4**	**+1.9**
	11nm,0.2s,SNR=17						
EALB				S	**Sb**	**22 48 54.4**	**+4.0**
	22nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.39**	**227**	*i* P	**Pn**	**22 48 46.5**	**-0.2**
TZK				*i* S	**Sb**	**22 49 05.0**	**+0.6**
EBER	**Berja**	**1.86**	**2**	P	**Pn**	**22 48 53.5**	**+0.1**
	1.8nm,0.4s,SNR=7.9						
EBER				S	**Sn**	**22 49 15.8**	**-1.3**
	29nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.86**	**2**	P	**Pn**	**22 48 53.5**	**+0.1**
	0.7nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**22 49 15.8**	**-1.3**
	4.6nm,0.3s,SNR=7.

ETOB					S		Sn	22 50 03.5	-2.2
	4.4nm,0.6s,SNR=7.9								
ETOB	**Tobarra**	**3.77**	**17**	P		Pn		22 49 22.9	+2.2
	0.4nm,0.2s,SNR=7.9								
ETOB					S		Sn	22 50 05.0	-0.7
	SNR=7.9								
EMIN	**Mina Concepcio**	**4.05**	**313**	P		Pn		22 49 23.8	-0.9
EMIN					S		Sn	22 50 07.0	-5.8
EMIN	**Mina Concepcio**	**4.05**	**313**	P		Pn		22 49 23.8	-0.9
	0.8nm,0.1s,SNR=8.8								
EMIN					S		Sn	22 50 09.2	-3.6
	0.7nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.05**	**313**	P		Pn		22 49 23.8	-0.9
	0.5nm,0.2s,SNR=8.8								
PALC	**Alcoutim**	**4.39**	**305**	*e*Pn		Pn		22 49 28.6	-0.8
PALC				*e*Sn		Sn		22 50 19.7	-1.5
	1.9nm,0.7s								
PALC	**Alcoutim**	**4.39**	**305**	P		Pn		22 49 28.6	-0.8
PALC				S		Sn		22 50 19.7	-1.5
	0.9nm,0.7s								
EGRO	**El Granado**	**4.43**	**306**	P		Pn		22 49 29.1	-0.9
	2.9nm,0.3s,SNR=11								
EGRO					S		Sn	22 50 17.7	-4.6
	1.2nm,0.4s,SNR=7.9								
EGRO	**El Granado**	**4.43**	**306**	P		Pn		22 49 29.1	-0.9
	1.8nm,0.3s,SNR=11								
EGRO					S		Sn	22 50 17.7	-4.6
	SNR=7.9								
ESDC	**Sonseca Array**	**4.70**	**350**	P		Pn		22 49 34.7	+0.9
	2.0nm,0.2s,baz=172,slow=12,SNR=11								
ESDC	**Sonseca Array**	**4.70**	**350**	P		Pn		22 49 34.7	+0.8
	2.0nm,0.2s,SNR=11								
EBAD	**Badajoz**	**4.94**	**320**	P		Pn		22 49 36.4	-0.9
	2.1nm,0.2s,SNR=7.6								
EBAD	**Badajoz**	**4.94**	**320**	P		Pn		22 49 36.4	-0.8
	1.1nm,0.2s,SNR=7.6								
PBEJ	**Beja**	**4.96**	**308**	*e*Pn		Pn		22 49 37.1	-0.4
EIBI	**Ibiza**	**5.26**	**40**	P		Pn		22 49 41.4	-0.3
EIBI	**Ibiza**	**5.26**	**40**	P		Pn		22 49 40.8	-0.9
	1.1nm,0.2s,SNR=4.0								
EIBI	**Ibiza**	**5.26**	**40**	P		Pn		22 49 41.4	-0.4

NIED ***22*** *22:49:00,40.10N×142.40E,h38km,Mw4.2 Best double couple: M0 2.38×10^15 NP1:φs 25°,δ73°,λ97°. NP2:φs 181°, δ18°,λ67°.*
JMA ***22*** *22:49:20.6±0.1,40.11N×142.43E,h35km±1km,M3.9*
JMA Felt I,J1.
IDC ***22*** *22:49:21.7±3.6,40.05N×142.37E,h49km±34km,mb3.7/13, mb1 3.9/14,mb1mx3.8/21,mbtmp4.0/14,ML4.0/1,MS3.4/4, Ms1 3.4/4,ms1mx3.0/20,Error ellipse: s-maj=25.4km s-min=18.4km az=87.0*
BJI ***22*** *22:49:21.7,40.27N×142.58E,h78km,mB5.0,mb4.5, Ms4.3,Msz4.2*
MOS ***22*** *22:49:22.8±1.0,40.28N×142.10E,h64km,mb4.4/7,Error ellipse: s-maj=14.4km s-min=7.7km az=90.8*
NEIC ***22*** *22:49:23.1±1.1,40.16N×142.45E,h62km±9km,mb4.3/13, Error ellipse: s-maj=13.2km s-min=8.7km az=109.0*
NEIC Recorded [1 JMA] in Aomori and Iwate Prefectures.
ISC 22 22:49:19.6±0.7,40.14N±0.04×142.50E±0.07,h48km±5km, n69,σ1§01/81,mb4.3/29,MS3.5/3,4C-6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.53**	**248**	⇓P	**P**	**22 49 30.7**	**-0.4**
JTH				S	**S**	**22 49 38.3**	**-1.1**
MIYJ	**Miyakonagasawa**	**0.77**	**223**	P	**P**	**22 49 33.9**	**-0.4**
MIYJ				S	**S**	**22 49 43.3**	**-1.7**
JANG	**Nango**	**0.79**	**288**	⇓P	**P**	**22 49 34.5**	**0.0**
JANG				S	**S**	**22 49 44.3**	**-1.2**
JKZ	**Kuzumaki**	**0.91**	**261**	⇓P	**P**	**22 49 36.6**	**+0.4**
JKZ				*e*S	**S**	**22 49 47.7**	**-0.8**
JOM	**Ohasama**	**1.14**	**235**	⇓P	**P**	**22 49 40.0**	**+0.5**
OFUJ	**Ofunato**	**1.24**	**211**	P	**P**	**22 49 41.4**	**+0.5**
JTM	**Tenmabayashi**	**1.27**	**301**	⇓P	**P**	**22 49 42.1**	**+0.8**
JTM				S	**S**	**22 49 57.8**	**+0.3**
JAH	**Hinai**	**1.43**	**273**	⇓P	**P**	**22 49 44.5**	**+0.8**
JAH				S	**S**	**22 50 02.3**	**+0.8**
JMK	**Ichinoseki**	**1.54**	**220**	P	**P**	**22 49 45.9**	**+0.6**
JMK				S	**S**	**22 50 05.0**	**+0.7**
ASAJ	**Asahikawa**	**3.97**	**1**	P	**P**	**22 50 21.0**	**+1.3**
ASAJ				S	**S**	**22 51 15.0**	**+9.5**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,439nm,21.1s						
ASAJ	**Asahikawa**	**3.97**	**1**	P	**P**	**22 50 20.9**	**+1.3**
	comp=Z,7.8nm,0.3s,baz=252,slow=6.3,SNR=24						
ASAJ				S	**S**	**22 51 15.0**	**+9.5**
	comp=Z,2.6nm,0.3s,baz=356,slow=32,SNR=5.7						
ASAJ				LR	LR	22 52 17.7	
	comp=Z,439nm,21.1s,baz=147,slow=43						
YUK	**Yuzh-Kuril'sk**	**4.63**	**32**	*e*P	**P**	**22 50 26.4**	**-2.5**
YUK				pmax	pmax		
	comp=Z,350nm,0.4s						
MAJO	**Matsushiro**	**4.93**	**225**	*e*P	**P**	**22 50 34.1**	**+1.0**
MAT	**Matsushiro**	**4.93**	**225**	*e*P	**P**	**22 50 35.0**	**+1.9**
MAT				S	**S**	**22 51 36.0**	**+6.5**
MAT	**Matsushiro**	**4.93**	**225**	P	**P**	**22 50 34.5**	**+1.4**
MAT				*e*S	**S**	**22 51 31.0**	**+1.5**
KUR	**Kuril'sk**	**6.45**	**36**	*e*P	**P**	**22 51 00.5**	**+6.2**
KUR				pmax	pmax		
	comp=N,50nm,0.7s						
KUR				pmax	pmax		
	comp=E,50nm,0.7s						
KUR				pmax	pmax		
	comp=Z,70nm,0.7s						
YSS	**Yuzh-Sakhalins**	**6.81**	**1**	*e*P	**P**	**22 50 59.4**	**-0.1**
MDJ	**Mudanjiang**	**10.54**	**299**	P	**P**	**22 51 53.3**	**+2.5**
MDJ				S	**S**	**22 53 52.0**	**+3.5**
MDJ				PCS		23 01 24.8	
MDJ				AMB	AMB		
	comp=Z,12nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,76nm,4.6s						
MDJ	**Mudanjiang**	**10.54**	**299**	*e*P	**P**	**22 51 51.7**	**+0.9**
HIA	**Hailar**	**18.51**	**307**	*e*P	**P**	**22 53 30.2**	**-3.9**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
HIA	**Hailar**	**18.51**	**307**	*e*P	**P**	**22 53 30.2**	**-3.9**
	comp=Z,3.5nm,0.5s						
YAK	**Yakutsk**	**23.26**	**345**	*e*P	**P**	**22 54 21.8**	**-1.4**
YAK				pmax	pmax		
	comp=N,3.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
YAK	**Yakutsk**	**23.26**	**345**	P	**P**	**22 54 22.9**	**-0.3**
	comp=Z,30nm,0.8s,mb4.8						
BOD	**Bodaibo**	**25.45**	**324**	*e*P	**P**	**22 54 43.3**	**-1.0**
BOD				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.2						
ULN	**Ulaanbaatar**	**26.46**	**299**	*e*P	**P**	**22 54 53.0**	**-0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**26.46**	**299**	*e*P	**P**	**22 54 53.0**	**-0.9**
	comp=Z,1.6nm,0.6s,mb3.7						
SONM	**Songino Array**	**26.90**	**299**	P	**P**	**22 54 57.9**	**0.0**
	comp=Z,2.0nm,0.7s,mb3.8,baz=101,slow=8.7,SNR=16						
ENH	**Enshi**	**28.57**	**260**	*e*P	**P**	**22 55 11.9**	**-1.3**
	comp=Z,5.8nm,0.6s,mb4.5						
ZAK	**Zakamensk**	**29.13**	**304**	*e*P	**P**	**22 55 16.4**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.6						
WMQ	**Urumqi**	**40.28**	**294**	*e*P	**P**	**22 56 54.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,152nm,5.2s						
ZAL	**Zalesovo**	**40.53**	**310**	P	**P**	**22 56 55.9**	**+0.4**
	comp=Z,1.9nm,0.4s,mb4.0,baz=20,slow=7.9,SNR=9.1						
LSA	**Lhasa**	**42.85**	**272**	*e*P	**P**	**22 57 17.9**	**+3.1**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**42.85**	**272**	*e*P	**P**	**22 57 17.9**	**+3.1**
	comp=Z,2.8nm,0.6s,mb4.2						
KURK	**Kurchatov**	**44.75**	**306⇑**	*e*P	**P**	**22 57 29.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.9						
KURK	**Kurchatov**	**44.75**	**306⇑**	*e*P	**P**	**22 57 29.2**	**-0.5**
	comp=Z,15nm,0.8s,mb4.9						
JIRN	**Jiri**	**47.65**	**273**	*e*P	**P**	**22 57 54.5**	**+1.5**
KKN	**Kakani**	**48.28**	**274**	*e*P	**P**	**22 57 57.4**	**-0.5**
	comp=Z,22nm,0.7s,mb5.3						
PKI	**Pulchoki**	**48.29**	**273**	*e*P	**P**	**22 57 57.2**	**-0.8**
DMN	**Daman**	**48.50**	**274**	*e*P	**P**	**22 57 58.8**	**-0.8**
	comp=Z,8.9nm,0.4s,mb5.2						
GKN	**Gorkha**	**48.66**	**274**	*e*P	**P**	**22 58 00.7**	**-0.2**
	comp=Z,15nm,0.9s,mb5.0						
CHKZ	**Chkalovo**	**48.86**	**311⇑**	*e*P	**P**	**22 58 01.5**	**-0.5**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.8						
CHKZ	**Chkalovo**	**48.86**	**311⇑**	*e*P	**P**	**22 58 01.5**	**-0.5**
	comp=Z,3.9nm,0.4s,mb4.8						
BVAR	**Borovoye Array**	**49.16**	**311**	P	**P**	**22 58 04.3**	**0.0**
	comp=Z,2.3nm,0.3s,mb4.6,baz=73,slow=9.0,SNR=31						
KOLN	**Koldanda**	**49.57**	**275**	*e*P	**P**	**22 58 04.5**	**-3.4**
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**22 58 20.9**	**+0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
INK	**Inuvik**	**51.25**	**28**	P	**P**	**22 58 21.4**	**+1.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=294,slow=6.7,SNR=12						
INK	**Inuvik**	**51.25**	**28**	*e*P	**P**	**22 58 20.9**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.2						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**22 58 44.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.0						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**22 58 44.9**	**-0.4**
	comp=Z,9.7nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**60.25**	**189**	P	**P**	**22 59 24.0**	**-1.5**
	comp=Z,0.8nm,0.6s,mb4.0,baz=7.1,slow=7.1,SNR=8.1						
YKA	**Yellowknife Ar**	**60.71**	**31**	P	**P**	**22 59 28.4**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.6,baz=301,slow=6.6,SNR=6.7						
YKA				LR	LR	23 26 47.4	
	comp=Z,42nm,18.6s,MS3.6,baz=95,slow=37						
ARCES	**ARCESS Array B**	**61.40**	**339**	P	**P**	**22 59 32.4**	**-0.3**
	comp=Z,1.3nm,0.8s,mb4.1,baz=43,slow=6.8,SNR=5.4						
JOF	**Joensuu**	**63.63**	**332**	*e*p	**P**	**22 59 47.2**	**-0.3**
ASAR	**Alice Springs**	**63.98**	**189**	P	**P**	**22 59 49.2**	**-1.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=12,slow=5.7,SNR=5.9						
KAF	**Kangasniemi**	**65.95**	**332**	*e*p	**P**	**22 59 59.4**	**-3.0**
	comp=Z,1.0nm,0.6s,mb4.0						
KAF	**Kangasniemi**	**65.95**	**332**	*e*P	**P**	**22 59 59.4**	**-3.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
FINES	**FINESS Array B**	**66.47**	**332**	P	**P**	**23 00 05.7**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.3,baz=45,slow=8.1,SNR=9.5						
FINES				LR	LR	23 29 39.8	
	comp=Z,30nm,21.9s,MS3.5,baz=302,slow=36						
KIV	**Kislovodsk**	**69.53**	**311**	*e*P	**P**	**23 00 25.6**	**+0.5**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**69.53**	**311**	*e*P	**P**	**23 00 25.6**	**+0.5**
	comp=Z,12nm,0.9s,mb4.8						
FCC	**Fort Churchill**	**70.85**	**27**	P	**P**	**23 00 33.2**	**+0.4**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
FCC	**Fort Churchill**	**70.85**	**27**	P	**P**	**23 00 33.2**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.1						
HFS	**Hagfors**	**71.61**	**336**	P	**P**	**23 00 37.2**	**-0.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=63,slow=6.6,SNR=12						
NB2	**NORSAR Subarra**	**71.65**	**337**	P	**P**	**23 00 37.7**	**+0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=38,slow=6.2						
NB2	**NORSAR Subarra**	**71.65**	**337**	P	**P**	**23 00 37.7**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**71.65**	**337**	P	**P**	**23 00 37.8**	**+0.2**
	comp=Z,3.2nm,0.9s,mb4.2,baz=38,slow=5.9,SNR=8.7						
NOA				LR	LR	23 37 28.0	
	comp=Z,22nm,18.4s,MS3.5,baz=70,slow=40						
BOZ	**Bozeman (W)**	**71.91**	**45**	P	**P**	**23 00 40.8**	**+1.4**
BRTR	**Keskin Array B**	**77.43**	**312**	P	**P**	**23 01 12.1**	**+0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=72,slow=4.6,SNR=3.7						
KHC	**Kasperske Hory**	**80.34**	**329**	*e*P	**P**	**23 01 28.0**	**+1.1**
GERES	**GERESS Array B**	**80.52**	**329**	P	**P**	**23 01 28.8**	**+0.9**
	comp=Z,0.6nm,0.6s,mb3.7,baz=18,slow=4.2,SNR=6.8						

CNRM ***22*** *23:17:22.3,35.07N×2.69W,h15km,MD2.9*
MDD ***22*** *23:17:23.8±0.5,34.96N×2.82W,h10km±3km,mb3.5/14, Error ellipse: s-maj=5.5km s-min=4.9km az=110.0, PRXIMO*
CSEM ***22*** *23:17:24.4±0.2,35.07N×2.98W,h25km,MD2.9,Error ellipse: s-maj=5.9km s-min=3.3km az=125.0*
NEIC ***22*** *23:17:25.2,35.02N×2.98W,h16km,MG3.3(MDD),After MDD.*
ISC 22 23:17:22.9±0.5,35.06N±0.03×2.93W±0.04,h10km,n39, σ1§42/73,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.17**	**120**	P	**Pg**	**23 17 25.5**	**-1.3**
ZAI				S	**Sg**	**23 17 28.0**	**-1.4**
EMLI	**Melilla**	**0.24**	**356**	P	**Pg**	**23 17 30.7**	**+2.5**
	99nm,0.1s,SNR=14						
EMLI				S	**Sg**	**23 17 35.2**	**+3.6**
	234nm,0.1s,SNR=7.9						
EMEL	**Melilla**	**0.25**	**354**	P	**Pg**	**23 17 30.6**	**+2.4**
	112nm,0.1s,SNR=14						
EMEL				S	**Sg**	**23 17 35.2**	**+3.5**
	464nm,0.2s,SNR=7.9						
TOU	**Touzarine**	**0.69**	**262**	*i* P	**Pb**	**23 17 37.5**	**+1.0**
TOU				*i* S	**Sb**	**23 17 49.5**	**+3.7**
EALB	**Alboran**	**0.89**	**354**	P	**Pb**	**23 17 42.1**	**+2.1**
	8.3nm,0.1s,SNR=20						
EALB				S	**Sb**	**23 17 55.5**	**+3.9**
	41nm,0.3s,SNR=9.0						
EALB	**Alboran**	**0.89**	**354**	P	**Pb**	**23 17 42.1**	**+2.1**
	5.7nm,0.1s,SNR=20						
EALB				S	**Sb**	**23 17 55.5**	**+3.9**
	11nm,0.2s,SNR=9.0						
TZK	**Tazeka**	**1.42**	**227**	*i* P	**Pn**	**23 17 48.5**	**-0.4**
TZK				*i* S	**Sb**	**23 18 07.0**	**0.0**
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**23 17 55.2**	**+0.3**
	1.9nm,0.4s,SNR=6.3						
EBER				S	**Sn**	**23 18 18.2**	**-0.2**
	12nm,0.4s,SNR=7.9						
EBER	**Berja**	**1.84**	**1**	P	**Pn**	**23 17 55.2**	**+0.3**
	0.8nm,0.2s,SNR=6.3						
EBER				S	**Sn**	**23 18 18.2**	**-0.2**
	1.0nm,0.1s,SNR=7.9						
ENIJ	**Nijar**	**2.00**	**17**	P	**Pn**	**23 17 57.4**	**+0.2**
	5.0nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**23 18 23.2**	**+0.7**
	3.4nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**23 17 58.3**	**-0.2**
	1.8nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**23 18 22.9**	**-1.7**
	2.5nm,0.3s,SNR=7.9						
ERON	**Agron**	**2.08**	**340**	P	**Pn**	**23 17 58.3**	**-0.1**
	1.1nm,0.2s,SNR=7.9						
ERON				S	**Sn**	**23 18 23.0**	**-1.7**
EMIJ	**Mijas**	**2.13**	**316**	P	**Pn**	**23 17 58.4**	**-0.6**
	1.2nm,0.1s,SNR=8.9						
EMIJ				S	**Sn**	**23 18 23.1**	**-2.6**
	7.4nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.28**	**347**	P	**Pn**	**23 18 01.7**	**+0.5**
	3.0nm,0.3s,SNR=9.1						
ECOG				S	**Sn**	**23 18 27.1**	**-2.4**
	2.7nm,0.3s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.31**	**335**	P	**Pn**	**23 18 01.8**	**+0.1**
	1.0nm,0.2s,SNR=7.2						
ELOJ				S	**Sn**	**23 18 27.5**	**-3.0**
	0.9nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.49**	**305**	P	**Pn**	**23 18 05.6**	**+1.3**
	1.4nm,0.2s,SNR=7.9						
EJIF				S	**Sn**	**23 18 34.6**	**-0.5**
	1.0nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.75**	**358**	P	**Pn**	**23 18 10.6**	**+2.8**
EQES				S	**Sn**	**23 18 44.3**	**+2.9**
EQES	**Quesada**	**2.75**	**358**	P	**Pn**	**23 18 09.8**	**+1.9**
	4.9nm,0.4s,SNR=33						
EQES				S	**Sn**	**23 18 43.4**	**+2.0**
	5.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.75**	**358**	S	**Sn**	**23 18 44.3**	**+2.9**
	0.1nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.99**	**308**	P	**Pn**	**23 18 12.7**	**+1.3**
	0.6nm,0.2s,SNR=7.9						
ESPR				S	**Sn**	**23 18 47.1**	**-0.5**
	1.6nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**23 18 12.9**	**0.0**
	1.8nm,0.3s,SNR=4.9						
EMUR				S	**Sn**	**23 18 47.9**	**-2.4**
	3.4nm,0.3s,SNR=7.9						
EMUR	**La Murta**	**3.10**	**26**	P	**Pn**	**23 18 12.9**	**0.0**
	0.7nm,0.2s,SNR=4.9						
EMUR				S	**Sn**	**23 18 47.9**	**-2.4**
	0.9nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**23 18 17.8**	**+1.0**
	2.2nm,0.3s,SNR=10.0						
EADA				S	**Sn**	**23 18 56.0**	**-1.5**
	1.0nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.38**	**337**	P	**Pn**	**23 18 17.8**	**+0.9**
	0.7nm,0.1s,SNR=10.0						
EADA				S	**Sn**	**23 18 56.0**	**-1.5**
	0.1nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.75**	**17**	P	**Pn**	**23 18 24.4**	**+2.2**
ETOB				S	**Sn**	**23 19 05.0**	**-1.9**
ETOB	**Tobarra**	**3.75**	**17**	P	**Pn**	**23 18 24.3**	**+2.1**
	1.1nm,0.3s,SNR=6.3						
ETOB				S	**Sn**	**23 19 04.9**	**-1.9**
	3.6nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**3.75**	**17**	P	**Pn**	**23 18 24.4**	**+2.3**
	0.5nm,0.2s,SNR=6.3						
ETOB				S	**Sn**	**23 19 04.9**	**-2.0**
	0.3nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**23 18 26.3**	**-0.2**
EMIN				S	**Sn**	**23 19 10.6**	**-4.1**
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**23 18 25.7**	**-0.8**
	0.8nm,0.1s,SNR=10						
EMIN				S	**Sn**	**23 19 10.6**	**-4.1**
	1.2nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**4.06**	**313**	P	**Pn**	**23 18 26.3**	**-0.2**
	0.6nm,0.1s,SNR=10						
EMIN				S	**Sn**	**23 19 10.6**	**-4.0**
	SNR=7.9						
EBEN	**Beniarda**	**4.24**	**30**	P	**Pn**	**23 18 28.7**	**-0.4**
	7.2nm,0.6s,SNR=7.9						
EBEN	**Beniarda**	**4.24**	**30**	P	**Pn**	**23 18 28.7**	**-0.4**
	SNR=7.9						
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**23 18 31.1**	**-0.7**
	2.4nm,0.2s,SNR=13						
EGRO				S	**Sn**	**23 19 19.7**	**-4.5**
	2.0nm,0.3s,SNR=7.9						
EGRO	**El Granado**	**4.43**	**305**	P	**Pn**	**23 18 31.1**	**-0.8**
	0.5nm,0.1s,SNR=13						
EGRO				S	**Sn**	**23 19 19.7**	**-4.5**
	SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**23 18 36.5**	**+1.0**
	2.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**4.68**	**350**	P	**Pn**	**23 18 36.5**	**+1.1**
	2.9nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.94**	**320**	P	**Pn**	**23 18 38.6**	**-0.4**
EBAD				S	**Sn**	**23 19 31.5**	**-5.3**
EBAD	**Badajoz**	**4.94**	**320**	P	**Pn**	**23 18 38.4**	**-0.6**
	1.3nm,0.2s,SNR=8.6						
EBAD				S	**Sn**	**23 19 33.0**	**-3.8**
	2.4nm,0.3s,SNR=7.9						
EBAD	**Badajoz**	**4.94**	**320**	P	**Pn**	**23 18 38.6**	**-0.4**
EBAD				S	**Sn**	**23 19 31.5**	**-5.4**

OTT 22 23:20:02.0±0.1,64.65N×110.68W,h1km,MN3.2/18, Blast, Ekati Mine, Nt Mining explosion.,Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.05**	**33**	PG	Pg	23 20 02.7	-0.4
LDGN	**Lac de Gras No**	**0.07**	**69**	PG	Pg	23 20 03.8	+0.3
DVKN	**Diavik Mine**	**0.21**	**132**	PG	Pg	23 20 06.0	-0.3
DVKN				SG	Sg	23 20 08.9	-0.2
DVKN				Trac		23 20 10.5	
	comp=Z,179nm,0.1s						
ACKN	**Achilles Lake**	**0.35**	**346**	PG	Pg	23 20 08.4	-0.6
ACKN				SG	Sg	23 20 13.1	-0.6
ACKN				Trac		23 20 13.8	
	comp=Z,124nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**143**	PG	Pg	23 20 09.3	-0.7
LGSN				SG	Sg	23 20 14.8	-0.5
LGSN				Trac		23 20 15.5	
	comp=Z,68nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**302**	PG	Pg	23 20 09.7	-0.9
YMBN				SG	Sg	23 20 15.4	-0.9
YMBN				Trac		23 20 16.9	
	comp=Z,126nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.47**	**340**	PG	Pg	23 20 10.5	-0.8
YNEN				SG	Sg	23 20 16.2	-1.3
YNEN				Trac		23 20 17.4	
	comp=Z,135nm,0.1s						
GLWN	**Glow Worm Lake**	**0.58**	**82**	PG	Pg	23 20 12.7	-1.0
GLWN				SG	Sg	23 20 20.3	-1.2
GLWN				Trac		23 20 21.7	
	comp=Z,67nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**341**	PG	Pg	23 20 14.0	-1.1
COWN				SG	Sg	23 20 22.4	-1.5
COWN				Trac		23 20 24.4	
	comp=Z,69nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**190**	PG	Pg	23 20 14.9	-1.2
NODN				SG	Sg	23 20 23.7	-1.8
NODN				Trac		23 20 26.1	
	comp=Z,168nm,0.2s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	23 20 16.0	-1.4
MLON				SG	Sg	23 20 26.8	-0.8
MLON				Trac		23 20 27.7	
	comp=Z,51nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	23 20 18.8	-1.4
BOXN				SG	Sg	23 20 29.6	-2.6
BOXN				Trac		23 20 35.2	
	comp=

*MOS **22** 23:22:12.1±1.8,55.65N×114.35E,h16km,mb4.3/1, Error ellipse: s-maj=13.3km s-min=10.5km az=74.9*

BYKL 22 23:22:12.7±0.3,**55.67N**×**114.37E,h20**km±10km,**8C-3D, East of Lake Baykal**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
UKT	**Uakit**	**0.46**	**247**	*e*PG		Pb	23 22 20.8	-1.2
UKT				*e*			23 22 26.9	
UKT				pmax	pmax			
	comp=Z,98nm,0.2s							
UKT				smax				
	comp=E,1μm,0.2s							
UKT	**Uakit**	**0.46**	**247**	⇓*i*Pg		Pb	23 22 20.8	-1.2
	comp=E,17nm,0.3s							
UKT				⇓*i*Pg		Pb	23 22 20.8	-1.2
	comp=E,44nm,0.3s							
UKT				⇑*i*Pg		Pb	23 22 20.8	-1.2
	comp=E,35nm,0.3s							
UKT				*e*Pb		Pb	23 22 23.4	+1.4
UKT				*e*Sg		Sb	23 22 25.7	-2.6
UKT				max				
	comp=E,99nm,0.2s							
UKT				Smax				
	comp=E,1μm,0.2s							
SVKR	**Severomuysk**	**0.64**	**315**	*e*PG		Pb	23 22 24.5	-0.5
SVKR				*e*			23 22 33.3	
SVKR				pmax	pmax			
	comp=Z,1μm,0.2s							
SVKR				smax				
	comp=N,3μm,0.5s							
SVKR	**Severomuysk**	**0.64**	**315**	⇑*i*Pg		Pb	23 22 24.9	-0.1
SVKR				*e*Sg		Sb	23 22 33.9	+0.4
SVKR				Pmax				
	comp=N,2μm,0.2s							
SVKR				Smax				
	comp=N,3μm,0.6s							
NLYR	**Nelyaty**	**1.11**	**42**	*e*PG		Pb	23 22 32.9	-0.2
NLYR				*e*			23 22 47.9	
NLYR				pmax	pmax			
	comp=Z,89nm,0.4s							
NLYR				smax				
	comp=N,859nm,1.1s							
NLYR	**Nelyaty**	**1.11**	**42**	⇑*i*Pg		Pb	23 22 33.1	0.0
NLYR				*e*Pb		Pb	23 22 34.2	+1.1
NLYR				*e*Sg		Sb	23 22 48.1	+1.0
NLYR				*e*Sb		Sb	23 22 50.8	+3.7
NLYR				max				
	comp=N,85nm,0.4s							
NLYR				max				
	comp=N,860nm,1.2s							
YOA	**Uoyan**	**1.56**	**288**	⇑*i*PN		Pn	23 22 40.0	+0.3
YOA				*i*			23 23 01.6	
YOA				pmax	pmax			
	comp=Z,395nm,0.3s							
YOA				smax				
	comp=N,2μm,0.5s							
YOA	**Uoyan**	**1.56**	**288**	⇑*i*Pg		Pn	23 22 40.5	+0.8
YOA				*e*Sg		Sn	23 23 01.5	+2.0
KMO	**Kumora**	**1.80**	**278**	*e*PN		Pn	23 22 43.1	-0.1
KMO				*e*			23 22 44.2	
KMO				*e*			23 23 07.9	
KMO				pmax	pmax			
	comp=Z,52nm,0.2s							
KMO				smax				
	comp=E,834nm,0.8s							
KMO	**Kumora**	**1.80**	**278**	*e*Pn		Pn	23 22 43.1	-0.1
KMO				*e*Pg		Pn	23 22 44.3	+1.1
KMO				*e*			23 22 51.0	
KMO				*e*Sg		Sn	23 23 08.0	+2.3
KMO				max				
	comp=E,95nm,0.3s							
KMO				Smax				
	comp=E,834nm,1.0s							
YLYR	**Ulyunkhan**	**2.00**	**248**	*e*PN		Pn	23 22 46.0	0.0
YLYR				*e*			23 22 47.5	
YLYR				*e*			23 23 11.4	
YLYR				pmax	pmax			
	comp=Z,44nm,0.4s							
YLYR				smax				
	comp=N,289nm,0.7s							
YLYR	**Ulyunkhan**	**2.00**	**248**	⇓*i*Pn		Pn	23 22 46.0	0.0
YLYR				*e*Pg		Pn	23 22 47.7	+1.7
YLYR				*e*			23 22 53.8	
YLYR				*e*Sn		Sn	23 23 11.4	+0.7
YLYR				*e*Sg		Sn	23 23 14.9	+4.2
YLYR				max				
	comp=N,55nm,0.6s							
YLYR				Smax				
	comp=N,289nm,1.0s							
BOD	**Bodaibo**	**2.16**	**355**	*e*PN		Pn	23 22 47.7	-0.6
BOD				*e*			23 22 51.2	
BOD				*e*			23 23 18.3	
BOD				pmax	pmax			
	comp=Z,39nm,0.2s							
BOD				smax				
	comp=E,1μm,0.5s							
BOD	**Bodaibo**	**2.16**	**355**	*e*Pn		Pn	23 22 48.0	-0.3
BOD				⇑*i*Pg		Pn	23 22 50.5	+2.2
BOD				*e*			23 22 56.9	
BOD				*e*Sg		Sn	23 23 19.0	+4.2
BOD				max				
	comp=E,102nm,0.6s							
BOD				Smax				
	comp=E,1μm,0.8s							
CRS	**Chara**	**2.50**	**59**	*e*PN		Pn	23 22 53.4	+0.3
CRS				*e*			23 22 57.8	
CRS				*e*			23 23 30.7	
CRS				pmax	pmax			
	comp=Z,50nm,0.5s							
CRS				smax				
	comp=E,117nm,0.7s							
CRS	**Chara**	**2.50**	**59**	*e*Pn		Pn	23 22 53.6	+0.5
CRS				*e*Pg		Pn	23 22 57.6	+4.5
CRS				*e*			23 23 03.8	
CRS				*e*Sg		Sn	23 23 30.9	+7.6
CRS				max				
	comp=E,50nm,1.0s							
CRS				Smax				
	comp=E,116nm,0.7s							
NIZ	**Nizh Angarsk**	**2.73**	**274**	*e*PN		Pn	23 22 56.3	-0.2
NIZ				*e*			23 23 01.5	
NIZ				*e*			23 23 37.1	
NIZ				pmax	pmax			
	comp=Z,23nm,0.4s							
NIZ				smax				
	comp=N,122nm,0.5s							
NIZ	**Nizh Angarsk**	**2.73**	**274**	*e*Pn		Pn	23 22 55.9	-0.6
NIZ				*e*Pg		Pn	23 23 01.3	+4.8
NIZ				*e*Sg		Sn	23 23 37.0	+7.7
NIZ				Pmax				
	comp=N,25nm,0.4s							
NIZ				Smax				
	comp=N,131nm,0.5s							
SYVR	**Suvo**	**3.24**	**233**	⇑*i*Pn		Pn	23 23 03.0	-0.7
SYVR				*e*Pg		Pn	23 23 10.9	+7.2
SYVR				*e*			23 23 16.1	
SYVR				*e*Sn		Sn	23 23 40.5	-1.6
SYVR				*e*Sg		Sn	23 23 54.2	+12
SYVR				max				
	comp=N,14nm,0.7s							
SYVR				Smax				
	comp=N,113nm,1.4s							
TUP	**Tupik**	**3.45**	**109**	*e*PN		Pn	23 23 05.8	-0.8
TUP				*e*			23 23 13.7	
TUP				*e*S		Sn	23 23 46.5	-0.8
TUP				*e*			23 23 59.2	
TUP				pmax	pmax			
	comp=Z,33nm,0.3s							
TUP				smax				
	comp=N,217nm,0.4s							
TUP	**Tupik**	**3.45**	**109**	⇑*i*Pn		Pn	23 23 06.1	-0.5
TUP				*e*Pg		Pn	23 23 13.4	+6.8
TUP				*e*Sn		Sn	23 23 45.7	-1.6
TUP				*e*Sg		Sn	23 24 00.0	+13
TUP				Pmax				
	comp=N,32nm,0.4s							
TUP				Smax				
	comp=N,217nm,0.5s							
CIT	**Chita**	**3.69**	**188**	*e*PN		Pn	23 23 18.6	+8.6
CIT				*e*			23 24 05.9	
CIT				pmax	pmax			
	comp=Z,22nm,0.5s							
CIT				smax				
	comp=E,201nm,0.9s							
CIT	**Chita**	**3.69**	**188**	*e*Pn		Pn	23 23 09.6	-0.4
CIT				*e*Pg		Pn	23 23 17.4	+7.4
CIT				*e*Sn		Sn	23 23 51.5	-1.9
CIT				*e*Sg		Sn	23 24 05.9	+12
CIT				Pmax				
	comp=E,31nm,0.7s							
CIT				Smax				
	comp=E,201nm,0.9s							
OGRR	**Ongureny**	**4.43**	**245**	*e*Pn		Pn	23 23 19.2	-1.3
OGRR				*e*Pg		Pn	23 23 31.0	+10
OGRR				*e*			23 24 07.2	
OGRR				*e*Sg		Sn	23 24 29.8	+18
OGRR				Pmax				
	comp=E,11nm,1.0s							
OGRR				Smax				
	comp=E,28nm,0.9s							
TRTB	**Turuntaevo**	**5.26**	**232**	*e*Pg		Pn	23 23 45.6	+13
TRTB				*e*			23 23 53.2	
TRTB				*e*Sg		Sn	23 24 56.3	+23
TRTB				Pmax				
	comp=E,22nm,2.5s							
TRTB				Smax				
	comp=E,48nm,2.0s							
ZRHB	**Zarechye**	**5.27**	**237**	*e*Pg		Pn	23 23 47.9	+15
ZRHB				*e*Sg		Sn	23 24 56.1	+23
ZRHB				Pmax				
	comp=E,21nm,1.0s							
ZRHB				Smax				
	comp=E,149nm,1.0s							
TRG	**Tyrgan**	**5.54**	**242**	*e*Pn		Pn	23 23 35.6	-0.6
TRG				*e*Pg		Pn	23 23 52.6	+16
TRG				*e*Sg		Sn	23 25 02.9	+23
TRG				Pmax				
	comp=E,2.0nm,0.4s							
TRG				Smax				
	comp=E,17nm,0.4s							
FFNB	**Fofonovo**	**5.78**	**234**	*e*Sg		Sn	23 25 13.2	+27
FFNB				Smax				
	comp=E,80nm,1.1s							
TNDR	**Tynda**	**5.92**	**91**	*e*Sg		Sn	23 25 16.0	+26
HRMR	**Khuramsha**	**5.99**	**230**	*e*Sg		Sn	23 25 18.9	+28
HRMR				Smax				
	comp=E,164nm,1.1s							
KPC	**Khapcheranga**	**6.10**	**192**	*e*PN		Pn	23 23 41.0	-3.1
KPC				*e*			23 24 01.1	
KPC				*e*			23 25 21.4	
KPC				pmax	pmax			
	comp=Z,24nm,2.4s							
KPC				smax				
	comp=E,42nm,0.9s							
KPC	**Khapcheranga**	**6.10**	**192**	*e*		Pn	23 23 41.0	-3.1
KPC				*e*			23 23 49.2	
KPC				*e*Pg		Pn	23 24 03.4	+19
KPC				*e*Sg		Sn	23 25 20.8	+27
KPC				Pmax				
	comp=E,2.0nm,0.3s							
KPC				Smax				
	comp=E,42nm,0.9s							
LSTR	**Listvyanka**	**6.81**	**240**	*e*Sn		Sn	23 25 19.2	+7.2
LSTR				*e*Sg		Sn	23 25 44.0	+32
LSTR				Smax				
	comp=E,19nm,2.2s							
TLY	**Talaya**	**7.52**	**242**	*e*Sg		Sn	23 26 05.6	+36
TLY				Smax				
	comp=E,11nm,1.0s							
MOY	**Mondy**	**8.89**	**249**	*e*Pn		P	23 24 20.3	-2.9
MOY				*e*Sg		Sn	23 26 48.5	+45
MOY				Smax				
	comp=E,39nm,1.7s							
ORL	**Orlik**	**9.11**	**256**	*e*P		P	23 24 24.2	-2.0
ORL				pmax	pmax			
	comp=Z,2.0nm,1.2s							
ORL	**Orlik**	**9.11**	**256**	*e*Pn		P	23 24 24.0	-2.2
ORL				*e*Sg		Sn	23 26 54.3	+45
ORL				Smax				
	comp=Z,15nm,1.9s							

*IDC **22** 23:44:13.4±1.1,8.66N×93.50E,mb3.8/7,mb1 4.0/7, mb1mx3.8/14,mbtmp3.8/7,Error ellipse: s-maj=50.9km s-min=21.2km az=51.0*

*NEIC **22** 23:44:17.7±0.8,8.70N×93.55E,h30km,mb4.1/4,Error ellipse: s-maj=36.4km s-min=11.4km az=53.0*

ISC 22 23:44:15.7±0.9,**8.5N**±0.2×**93.5E**±0.3,**h30**km,**n18, σ1§08/18,mb4.0**/13,**Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
JIRN	**Jiri**	**20.24**	**341**	*e*P		**P**	**23 48 53.0**	**+1.6**
	2.1nm,0.3s							
PKI	**Pulchoki**	**20.42**	**339**	*e*P		**P**	**23 48 54.8**	**+1.5**
	7.4nm,0.6s							
DMN	**Daman**	**20.56**	**338**	*e*P		**P**	**23 48 56.3**	**+1.5**
GUN	**Gumba**	**20.57**	**340**	*e*P		**P**	**23 48 56.1**	**+1.2**
KKN	**Kakani**	**20.66**	**339**	*e*P		**P**	**23 48 56.7**	**+0.8**
	9.7nm,0.7s							
GKN	**Gorkha**	**21.09**	**338**	*e*P		**P**	**23 48 59.3**	**-0.9**
	16nm,0.6s,mb4.5							
KOLN	**Koldanda**	**21.29**	**335**	*e*P		**P**	**23 49 01.4**	**-0.9**
	12nm,0.7s,mb4.3							
AAK	**Ala-Archa**	**37.85**	**337**	*e*P		**P**	**23 51 29.2**	**-2.4**
	1.2nm,0.7s,mb3.7							
SONM	**Songino Array**	**40.66**	**13**	P		**P**	**23 51 54.3**	**-0.7**
	0.3nm,0.4s,mb3.2,baz=197,slow=10,SNR=2.9							
KURK	**Kurchatov**	**43.82**	**346**	P		**P**	**23 52 19.7**	**-1.1**
	2.3nm,1.0s,mb3.9							
ZAL	**Zalesovo**	**45.81**	**353**	P		**P**	**23 52 36.3**	**-0.4**
	0.6nm,0.7s,mb3.7,baz=298,slow=12,SNR=4.1							
CHKZ	**Chkalovo**	**48.65**	**342**	*e*P		**P**	**23 52 57.5**	**-1.4**
	1.7nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**49.16**	**126**	P		**P**	**23 53 04.0**	**+0.7**
	0.6nm,0.5s,mb3.9,baz=305,slow=8.5,SNR=4.7							
WRAB	**Tennant Creek**	**49.17**	**126**	*e*P		**P**	**23 53 02.8**	**-0.6**
	2.4nm,0.6s,mb4.4							
ASAR	**Alice Springs**	**50.83**	**130**	P		**P**	**23 53 16.7**	**+0.7**
	0.7nm,0.6s,mb3.8,baz=306,slow=6.7,SNR=8.7							
BRTR	**Keskin Array B**	**61.52**	**311**	P		**P**	**23 54 31.8**	**-0.6**
	0.4nm,0.5s,mb3.8,baz=125,slow=8.1,SNR=3.5							
ARCES	**ARCESS Array B**	**74.43**	**340**	P		**P**	**23 55 52.3**	**-0.2**
	3.3nm,1.0s,mb4.2,baz=80,slow=5.5,SNR=3.5							
GERES	**GERESS Array B**	**76.91**	**318**	P		**P**	**23 56 07.7**	**+0.7**
	0.8nm,0.8s,mb3.7,baz=76,slow=5.5,SNR=6.5							

*ATH **22** 23:49:20.8,41.73N×23.82E,h3km,MD2.8/3*

*CSEM **22** 23:49:23.0±0.2,41.63N×23.72E,h12km,ML2.7,Error ellipse: s-maj=3.4km s-min=1.8km az=10.0*

*THE **22** 23:49:24.5,41.55N×23.67E,h13km,ML2.7*

ISC 22 23:49:21.3±1.8,**41.7N**±0.1×**23.69E**±0.08,**h15**km±11km, **n10,σ0§48/13,Greece-Bulgaria border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
NVR	**Nevrokopi**	**0.34**	**157**	*e*PG		**Pg**	**23 49 28.0**	**-0.5**
NVR				*e*SG		**Sg**	**23 49 33.6**	**+0.3**
SRS	**Serrai**	**0.55**	**188**	*e*Pg		**Pg**	**23 49 33.0**	**+0.5**
SRS				*e*Sg		**Sg**	**23 49 40.0**	**-0.1**
KNT	**Kendrikon**	**0.78**	**230**	*e*Pg		**Pg**	**23 49 37.5**	**+0.5**
SOH	**Sokhos**	**0.88**	**197**	*e*Pg		**Pg**	**23 49 38.9**	**0.0**
GRG	**Griva**	**1.20**	**235**	*e*Pg		**Pg**	**23 49 45.4**	**0.0**
PLG	**Polygyros**	**1.30**	**188**	*e*PG		**Pg**	**23 49 46.4**	**-0.9**
OUR	**Ouranopolis**	**1.34**	**170**	*e*Pb		**Pb**	**23 49 46.2**	**+0.5**
RDO	**Rodhopi**	**1.48**	**110**	*e*PB		**Pb**	**23 49 47.4**	**-0.7**
RDO				*e*SB		**Sb**	**23 50 06.8**	**+0.2**
PAIG	**Paliouri**	**1.73**	**180**	*e*Pb		**Pb**	**23 49 51.8**	**-0.5**
ALN	**Alexandroupoli**	**1.93**	**112**	*e*Pb		**Pb**	**23 49 56.3**	**+0.5**

ISC 22 23:50:39.5±1.3,**46.23N**±0.10×**12.70E**±0.04,**h11**km±13km, **n9,σ0§39/16,4C-2D,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MLNI	**Malnisio**	**0.10**	**220**	⇓*i*Pg		**Pg**	**23 50 42.1**	**-0.2**
MLNI				*i* Sg		**Sg**	**23 50 44.1**	**-0.1**
MPRI	**Monte Prat**	**0.20**	**86**	⇓*e*Pg		**Pg**	**23 50 43.9**	**-0.1**
MPRI				*e*Sg		**Sg**	**23 50 47.2**	**+0.3**
CSO	**Casso**	**0.27**	**280**	⇑*i*Pg		**Pg**	**23 50 45.0**	**-0.2**
CSO				*e*Sg		**Sg**	**23 50 49.6**	**+0.6**
BOO	**Bordano**	**0.29**	**71**	⇑*i*Pg		**Pg**	**23 50 44.9**	**-0.8**
BOO				*i* Sg		**Sg**	**23 50 49.7**	**0.0**
BUA	**Buia**	**0.29**	**92**	⇑*i*Pg		**Pg**	**23 50 45.1**	**-0.6**
BUA				*i* Sg		**Sg**	**23 50 49.8**	**0.0**
ROBS	**Robic**	**0.56**	**88**	*i* Pg		**Pg**	**23 50 50.8**	**-0.1**
ROBS				*i* Sg		**Sg**	**23 50 59.3**	**+0.8**
	comp=Z,2.0nm,0.1s							
CADS	**Cadrg**	**0.72**	**90**	⇑*i*Pg		**Pg**	**23 50 53.9**	**-0.1**
CADS				*i* Sg		**Sg**	**23 51 03.8**	**+0.1**
	comp=Z,3.0nm,0.1s							
VOY	**Vojsko**	**0.85**	**103**	*e*Pg		**Pg**	**23 50 57.2**	**+0.6**
GORS	**Gorjuse**	**0.90**	**84**	*i* Sg		**Sg**	**23 51 09.5**	**-0.2**

*IDC **23** 00:04:39.7±2.4, 19.95S×173.47W,mb4.0/4,mb1 4.2/7, mb1mx4.0/17,mbtmp4.1/7,ML4.2/3,MS3.5/2,Ms1 3.5/2, ms1mx3.1/18,Error ellipse: s-maj=61.5km s-min=34.4km az=10.0*

*NEIC **23** 00:04:51.3±3.7, 19.98S×173.05W,h140km±41km,mb4.1/1, Error ellipse: s-maj=41.2km s-min=19.0km az=166.0*

ISC 23 00:04:42.4±1.2,**20.1S**±0.3×**173.4W**±0.1,**h33**km,**n11, σ0§14/10,mb3.9/4,MS3.5**/1,**Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
RAR	**Rarotonga**	**12.79**	**97**	Pn		**P**	**00 07 44.8**	**+0.1**
	1.3nm,0.3s,baz=238,slow=4.9,SNR=4.6							
RAR				LR		LR	00 11 45.4	
	comp=Z,167nm,18.4s,baz=224,slow=33							
RAR	**Rarotonga**	**12.79**	**97**	Pn		**P**	**00 07 44.8**	**+0.1**
RAR				LR		LR	00 11 45.4	
DZM	**Mont Dzumac**	**18.92**	**261**	P		**P**	**00 09 03.4**	**+0.3**
	0.2nm,0.3s,baz=75,slow=18,SNR=9.7							
URZ	**Urewera**	**19.87**	**202**	P		**P**	**00 09 13.5**	**0.0**
	0.5nm,0.3s,baz=270,slow=8.1,SNR=3.3							
RPZ	**Rata Peaks**	**26.89**	**205**	LR		LR	00 20 46.4	
	comp=Z,122nm,19.9s,MS3.5,baz=31,slow=36							
CTA	**Charters Tower**	**37.83**	**263**	P		**P**	**00 11 57.8**	**-0.1**
	1.6nm,0.4s,mb4.1,baz=96,slow=10,SNR=4.3							
CTAO	**Charters Tower**	**37.83**	**263**	*e*P		**P**	**00 11 57.8**	**0.0**
	2.5nm,0.7s,mb4.0							
STKA	**Stephens Creek**	**41.85**	**244**	P		**P**	**00 12 31.1**	**0.0**
	2.7nm,0.8s,mb3.9,baz=118,slow=9.9,SNR=4.2							
ASAR	**Alice Springs**	**48.81**	**256**	P		**P**	**00 13 26.4**	**-0.2**
	1.4nm,0.8s,mb4.0,baz=89,slow=7.9,SNR=14							
WRA	**Warramunga Arr**	**48.94**	**261**	P		**P**	**00 13 27.6**	**0.0**
	0.6nm,0.7s,mb3.7,baz=96,slow=7.6,SNR=3.2							
WRA	**Warramunga Arr**	**48.94**	**261**	P		**P**	**00 13 27.6**	**-0.1**

*IDC **23** 00:05:14.3±16.0, 12.90N×88.87W,mb3.8/5,mb1 4.1/5, mb1mx3.8/14,mbtmp3.8/5,Error ellipse: s-maj=321.8km s-min=57.9km az=3.0*

*CASC **23** 00:05:26.0±1.4, 13.12N×89.47W,h50km±21km,MD3.7, ML4.1*

*NEIC **23** 00:05:26.7±1.9, 13.00N×89.07W,h102km±18km, MD4.1(SNET),Error ellipse: s-maj=38.0km s-min=14.7km az=58.0*

NEIC Felt [III] at San Salvador.

ISC 23 00:05:25.4±1.1,**13.2N**±0.1×**89.44W**±0.05,**h76**km±6km,**n27, σ0§91/39,mb4.0/4,10C-8D,El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SNET	**Serv Nac Est T**	**0.55**	**21**	⇑*e*P		**P**	**00 05 38.9**	**-0.5**
SNET				*e*S		**S**	**00 05 48.9**	**-0.7**
SNET				*i*			00 05 51.9	
	comp=Z,7μm,0.3s							
LFRS	**El Faro**	**0.58**	**39**	⇓*i*P		**P**	**00 05 39.3**	**-0.4**
LFRS				*e*S		**S**	**00 05 49.0**	**-1.1**
BOQS	**Boqueron**	**0.58**	**15**	⇑*e*P		**P**	**00 05 39.4**	**-0.3**
LFU	**La Fuente**	**0.65**	**29**	⇓*e*P		**P**	**00 05 40.6**	**+0.1**
LCBS	**La Ceiba**	**0.66**	**43**	⇓*i*P		**P**	**00 05 40.1**	**-0.4**
LCBS				*e*S		**S**	**00 05 50.5**	**-1.1**
LBRS	**Las Brisas**	**0.68**	**34**	⇑*e*P		**P**	**00 05 41.0**	**+0.2**
LBRS				*e*S		**S**	**00 05 52.0**	**0.0**
SBLS	**San Blas**	**0.69**	**345**	⇑*i*P		**P**	**00 05 40.5**	**-0.3**
SNJE	**San Jose**	**0.71**	**347**	⇑*e*P		**P**	**00 05 40.8**	**-0.3**
SNVI	**San Vicente**	**0.73**	**53**	⇑*e*P		**P**	**00 05 41.0**	**-0.3**
SNVI				*e*S		**S**	**00 05 52.9**	**-0.1**
RTR	**El Retiro**	**0.75**	**344**	⇑*i*P		**P**	**00 05 41.4**	**-0.1**
RBDL	**Robledal**	**0.96**	**345**	⇓*e*P		**P**	**00 05 44.5**	**+0.5**
RBDL				*e*S		**S**	**00 05 58.5**	**+0.6**
VSM	**San Miguel**	**1.16**	**77**	⇑*e*P		**P**	**00 05 46.9**	**+0.5**
VSM				*e*S		**S**	**00 06 03.1**	**+0.8**
BLLM	**Bellamira**	**1.20**	**77**	⇑*e*P		**P**	**00 05 47.1**	**+0.1**
BLLM				*e*S		**S**	**00 06 03.4**	**+0.3**
MTO2	**Montecristo 2**	**1.22**	**3**	⇑*e*P		**P**	**00 05 48.1**	**+0.8**
CAHU	**Cacaquatique**	**1.33**	**63**	⇓*e*P		**P**	**00 05 49.3**	**+0.4**
CAHU				*e*S		**S**	**00 06 07.4**	**+1.1**
IXG	**Ixpaco**	**1.40**	**315**	⇓*e*P		**P**	**00 05 50.1**	**+0.3**
IXG				*e*S		**S**	**00 06 06.0**	**-1.8**
IXG				AML		AML	00 06 10.8	
	comp=N,9μm,0.4s							
CNCH	**Conchagua**	**1.56**	**86**	⇓*e*P		**P**	**00 05 51.7**	**-0.3**
CNCH				*e*S		**S**	**00 06 12.2**	**+0.7**
TP2	**Tecpan 2**	**2.22**	**316**	⇓*e*P		**P**	**00 06 02.4**	**+1.5**
TP2				*e*S		**S**	**00 06 29.8**	**+2.6**
TP2				AML		AML	00 06 35.6	
	comp=N,725nm,0.5s							
JTS	**JuntasAbangare**	**5.24**	**123**	*e*P		**P**	**00 06 37.4**	**-5.6**
TEIG	**Tepich**	**7.10**	**9**	*e*P		**P**	**00 07 09.8**	**+1.1**
TXAR	**Lajitas Array**	**20.81**	**323**	P		**P**	**00 10 04.2**	**+1.5**
	comp=N,0.8nm,0.4s,baz=139,slow=12,SNR=6.6							
WMOK	**Wichita Mounta**	**23.08**	**340**	P		**P**	**00 10 25.1**	**-0.1**
PDAR	**Pinedale Array**	**34.24**	**333**	P		**P**	**00 12 06.4**	**+0.4**
	comp=N,0.3nm,0.4s,mb3.5,baz=127,slow=9.0,SNR=3.3							
ULM	**Lac du Bonnet**	**37.35**	**353**	P		**P**	**00 12 30.4**	**-1.8**
	comp=N,0.8nm,0.3s,mb4.1,baz=163,slow=2.7,SNR=3.8							
ULM	**Lac du Bonnet**	**37.35**	**353**	P		**P**	**00 12 30.4**	**-1.8**
SCHQ	**Schefferville**	**45.17**	**18**	P		**P**	**00 13 34.1**	**-2.2**
	comp=N,8.2nm,1.3s,mb4.3,baz=202,slow=7.9,SNR=6.1							
YKA	**Yellowknife Ar**	**52.42**	**346**	P		**P**	**00 14 30.7**	**-1.4**
	comp=N,0.7nm,0.5s,mb3.9,baz=144,slow=7.5,SNR=16							

*KRSC **23** 00:16:42.1±0.5,48.55N×157.28E,h40km±41km,ML4.2*

*IDC **23** 00:16:43.3±1.9,49.22N×156.24E,mb3.9/8,mb1 4.1/10, mb1mx3.9/22,mbtmp4.0/10,ML3.8/2,Error ellipse: s-maj=54.6km s-min=18.1km az=175.0*

*MOS **23** 00:16:45.9±2.5,48.80N×156.68E,h62km,mb4.4/2,Error ellipse: s-maj=19.9km s-min=8.1km az=81.9*

*NEIC **23** 00:16:50.6±1.5,49.23N×156.15E,h50km,mb4.1/2,Error ellipse: s-maj=36.6km s-min=19.6km az=158.0*

ISC 23 00:16:46.4±1.5,**48.85N**±0.08×**157.0E**±0.2,**h54**km±11km, **n38,σ1§00/51,mb3.9**/10,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
SKR	**Severo-Kuril's**	**1.93**	**342**	*e*PN		**P**	**00 17 21.0**	**+3.5**
SKR				*e*S		**S**	**00 17 33.0**	**-7.5**
SKR				smax				
	comp=N,220nm,0.5s							
SKR				smax				
	comp=E,390nm,0.5s							
ALID	**Alaid**	**2.24**	**335**	*e*P		**P**	**00 17 22.9**	**+1.1**

AVH	**Avacha**	**4.55**	**13**	*e*P	**P**	**00 17 55.2**	**+0.7**
KOK	**Koryaka**	**4.56**	**12**	*i* P	**P**	**00 17 55.4**	**+0.7**
NLC	**Nalytchevo**	**4.57**	**18**	P	**P**	**00 17 53.5**	**-1.2**
NLC				S	**S**	**00 18 45.4**	**-1.7**
NLC	**Nalytchevo**	**4.57**	**18**	*e*P	**P**	**00 17 53.6**	**-1.1**
NLC				*e*S	**S**	**00 18 45.4**	**-1.7**
SPN	**Mys Shipunski**	**4.66**	**23**	P	**P**	**00 17 55.8**	**-0.2**
SPN				S	**S**	**00 18 48.8**	**-0.5**
SPN	**Mys Shipunski**	**4.66**	**23**	*e*P	**P**	**00 17 55.7**	**-0.3**
SPN				*e*S	**S**	**00 18 49.8**	**+0.5**
GNL	**Ganaly**	**4.89**	**6**	*e*P	**P**	**00 17 59.4**	**+0.2**
KBTR	**Krutoberegovo**	**8.17**	**23**	P	**P**	**00 18 43.2**	**-1.6**
KBTR	**Krutoberegovo**	**8.17**	**23**	*e*P	**P**	**00 18 43.3**	**-1.5**
FX1	**Attu Island—F**	**10.96**	**62**	Pn	**P**	**00 19 24.1**	**+1.2**
	comp=N,1.2nm,0.3s,baz=42,slow=19,SNR=7.3						
FX1				Sn	**S**	**00 21 20.6**	**-4.4**
	comp=N,5.6nm,0.3s,baz=46,slow=18,SNR=12						
ASAJ	**Asahikawa**	**11.02**	**250**	PN	**P**	**00 19 16.2**	**-7.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**11.02**	**250**	Pn	**P**	**00 19 16.1**	**-7.6**
	comp=Z,1.3nm,0.3s,baz=236,slow=22,SNR=3.7						
BILL	**Bilibino**	**19.80**	**10**	*e*P	**P**	**00 21 15.5**	**+0.9**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s						
INK	**Inuvik**	**38.45**	**34**	P	**P**	**00 24 08.8**	**+4.8**
INK				pmax	pmax		
	comp=Z,1.0nm,0.8s						
INK	**Inuvik**	**38.45**	**34**	P	**P**	**00 24 08.8**	**+4.8**
	comp=Z,0.9nm,0.8s,mb3.5						
BVAR	**Borovoye Array**	**51.56**	**310**	P	**P**	**00 25 45.2**	**-3.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=56,slow=8.4,SNR=9.6						
BVAR				PcP	PcP	00 27 04.8	+2.7
	comp=Z,0.4nm,0.5s,baz=86,slow=2.9,SNR=4.0						
FINES	**FINESS Array B**	**63.23**	**336**	P	**P**	**00 27 08.6**	**-2.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=40,slow=7.9,SNR=13						
NOA	**NORSAR Array B**	**67.05**	**343**	P	**P**	**00 27 34.2**	**-1.0**
	comp=Z,0.8nm,0.7s,mb3.8,baz=24,slow=6.6,SNR=3.9						
TXAR	**Lajitas Array**	**74.17**	**64**	P	**P**	**00 28 22.6**	**+3.8**
	comp=Z,0.2nm,0.6s,mb3.2,baz=309,slow=5.8,SNR=3.1						
EKA	**Eskdalemuir Ar**	**74.87**	**348**	P	**P**	**00 28 23.4**	**+1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=17,slow=5.1,SNR=3.7						
CLL	**Collm**	**75.59**	**338**	*i* P	**P**	**00 28 26.6**	**+0.2**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**75.59**	**338**	*i* P	**P**	**00 28 26.6**	**+0.2**
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**75.59**	**338**	P	**P**	**00 28 26.6**	**+0.2**
	comp=Z,logA/T=0.8,mb4.5						
MLR	**Muntele Rosu**	**76.81**	**327**	P	**P**	**00 28 33.7**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=280,slow=4.7,SNR=7.3						
KHC	**Kasperske Hory**	**77.44**	**336**	*e*P	**P**	**00 28 37.5**	**+0.6**
GERES	**GERESS Array B**	**77.67**	**336**	P	**P**	**00 28 38.5**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.7,baz=34,slow=4.8,SNR=7.3						
BRTR	**Keskin Array B**	**78.61**	**319**	P	**P**	**00 28 43.4**	**-0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=65,slow=3.1,SNR=5.6						

CRAAG ***23*** *00:22:38.4, 36.44N×3.34E, Ml3.0*
MDD ***23*** *00:22:38.8±2.3, 36.36N×3.46E, h9km±9km, mb3.5/5, Error ellipse: s-maj=26.7km s-min=7.3km az=125.0, PRXIMO*
CSEM ***23*** *00:22:42.2±0.2, 36.65N×3.35E, h7km, ML2.7/2, Error ellipse: s-maj=5.0km s-min=2.8km az=138.0*

ISC 23 00:22:42.6±1.2, 36.74N±0.10×3.3E±0.1, h20km±12km, n14, σ0§83/20, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABMS	**Boumerdes**	**0.13**	**84**	P	**Pb**	**00 22 46.0**	**-0.9**
ABA	**Alger-Bouzarea**	**0.23**	**286**	P	**Pb**	**00 22 49.1**	**+0.9**
EMHD	**Djebel Mahouad**	**0.61**	**209**	P	**Pb**	**00 22 47.0**	**-7.4**
EBNR	**Beni Rached**	**1.50**	**253**	P	**Pn**	**00 23 10.0**	**+1.3**
SET	**Setif**	**1.77**	**107**	P	**Pn**	**00 23 18.0**	**+5.5**
EIBI	**Ibiza**	**2.77**	**326**	P	**Pn**	**00 23 27.1**	**+0.2**
	2.4nm,0.4s,SNR=7.9						
EIBI				S	**Sn**	**00 24 00.6**	**+0.6**
	4.4nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.77**	**326**	Pn	**Pn**	**00 23 27.1**	**+0.3**
	0.8nm,0.2s,SNR=7.9						
EIBI				Sn	**Sn**	**00 24 00.6**	**+0.6**
	4.4nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**353**	P	**Pn**	**00 23 31.2**	**+0.4**
	1.1nm,0.2s,SNR=7.9						
ETOS				S	**Sn**	**00 24 08.0**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.05**	**353**	Pn	**Pn**	**00 23 31.2**	**+0.3**
	0.6nm,0.2s,SNR=7.9						
ETOS				Sn	**Sn**	**00 24 07.3**	**+0.1**
	0.9nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.30**	**298**	P	**Pn**	**00 23 47.3**	**-1.3**
	1.2nm,0.5s,SNR=7.9						
ETOB				S	**Sn**	**00 24 37.3**	**-1.5**
	3.3nm,0.6s,SNR=7.9						
EMOS	**Mosqueruela**	**4.68**	**322**	P	**Pn**	**00 23 53.6**	**-0.4**
	2.2nm,0.5s,SNR=7.9						
EMOS	**Mosqueruela**	**4.68**	**322**	Pn	**Pn**	**00 23 53.6**	**-0.4**
	0.5nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.35**	**346**	P	**Pn**	**00 24 03.9**	**+0.5**
	2.0nm,0.3s,SNR=7.9						
EMIR				S	**Sn**	**00 25 05.1**	**-0.2**
	6.4nm,0.5s,SNR=7.9						
EMIR	**Miracle**	**5.35**	**346**	Pn	**Pn**	**00 24 03.9**	**+0.4**
	1.9nm,0.2s,SNR=7.9						

CSEM ***23*** *00:22:45.4±0.1, 46.07N×12.72E, h1km±1km, ML2.9/16, Error ellipse: s-maj=2.4km s-min=1.5km az=4.0*
ROM ***23*** *00:22:46.0±0.4, 46.18N×12.75E, h8km±3km, MD3.1/3, ML2.1/3, Error ellipse: s-maj=1.0km s-min=0.8km az=0.0*
NEIC ***23*** *00:22:46.4±0.3, 46.16N×12.73E, h10km, ML2.8(VIE), ML2.8(LDG), ML2.6(SZGRF), Error ellipse: s-maj=4.1km s-min=2.7km az=173.0*
LDG ***23*** *00:22:47.4±0.1, 46.23N×12.81E, h10km, Ml2.8/9, Error ellipse: s-maj=2.4km s-min=1.5km az=4.0*
PRU ***23*** *00:22:53.5, 46.32N×13.12E, h18km*

ISC 23 00:22:45.3±0.2, 46.15N±0.02×12.68E±0.02, h10km, n66, σ1§29/127, 12C-2D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.34**	**60**	⇑*i*Pg	**Pg**	**00 22 52.4**	**+0.1**
BOO				*i* Sg	**Sg**	**00 22 57.2**	**+0.3**
TLI	**Talmassons**	**0.37**	**128**	⇓*e*Pg	**Pg**	**00 22 54.1**	**+1.1**
BAD	**Bernadia**	**0.40**	**78**	*e*Pg	**Pg**	**00 22 53.7**	**+0.2**
BAD				*i* Sg	**Sg**	**00 22 59.6**	**+0.6**
BAD	**Bernadia**	**0.40**	**78**	*e*Pg	**Pg**	**00 22 53.7**	**+0.2**
BAD				*i* Sg	**Sg**	**00 23 01.2**	**+2.2**
GMNA	**Gemona**	**0.41**	**72**	*e*PG	**Pg**	**00 22 53.0**	**-0.6**
GMNA				SG	**Sg**	**00 22 58.1**	**-1.1**
	1μm,0.4s						
GMNA	**Gemona**	**0.41**	**72**	*e*Pg	**Pg**	**00 22 53.0**	**-0.7**
GMNA				*e*Sg	**Sg**	**00 22 58.1**	**-1.1**
GMNA	**Gemona**	**0.41**	**72**	*e*Pg	**Pg**	**00 22 53.0**	**-0.6**
	1μm,0.4s						
GMNA				Sg	**Sg**	**00 22 58.1**	**-1.1**
FVI	**Forni Avoltri**	**0.45**	**9**	*e*PG	**Pg**	**00 22 54.8**	**+0.3**
FVI				SG	**Sg**	**00 23 01.5**	**+0.9**
FVI	**Forni Avoltri**	**0.45**	**9**	*e*Pg	**Pg**	**00 22 54.8**	**+0.3**
FVI				*e*Sg	**Sg**	**00 23 01.5**	**+0.9**
ZOU	**Zoufplan**	**0.45**	**27**	⇑*i*Pg	**Pg**	**00 22 54.6**	**+0.1**
ZOU				*i* Sg	**Sg**	**00 23 01.2**	**+0.5**
COLI	**Coloredo**	**0.49**	**92**	*e*Pg	**Pg**	**00 22 55.5**	**+0.3**
COLI				*e*Sg	**Sg**	**00 23 03.1**	**+1.3**
FAU	**Forcella Aurin**	**0.49**	**279**	⇑*i*Pg	**Pg**	**00 22 56.4**	**+1.1**
FAU				*i* Sg	**Sg**	**00 23 04.5**	**+2.6**
AFL	**Alpe Faloria**	**0.51**	**318**	⇓*i*Pg	**Pg**	**00 22 57.3**	**+1.6**
PTCC	**Patocco-Chiusa**	**0.53**	**61**	*e*PG	**Pg**	**00 22 55.8**	**-0.3**
PTCC				SG	**Sg**	**00 23 04.1**	**+0.8**
	144nm,0.2s						
PTCC	**Patocco-Chiusa**	**0.53**	**61**	*e*Pg	**Pg**	**00 22 55.8**	**-0.3**
PTCC				*e*Sg	**Sg**	**00 23 04.1**	**+0.8**
PTCC	**Patocco-Chiusa**	**0.53**	**61**	*e*Pg	**Pg**	**00 22 55.8**	**-0.3**
	144nm,0.2s						
PTCC				Sg	**Sg**	**00 23 04.1**	**+0.8**
DRE	**Drenchia**	**0.67**	**88**	*e*PG	**Pg**	**00 22 58.5**	**-0.3**
DRE				*e*Sg	**Sg**	**00 23 09.6**	**+1.7**
LSR	**Lussari**	**0.67**	**61**	*e*Pg	**Pg**	**00 22 58.5**	**-0.3**
LSR				*e*Sg	**Sg**	**00 23 08.2**	**+0.4**
CTI	**Castel Tesino**	**0.72**	**262**	*e*PG	**Pg**	**00 23 01.7**	**+1.8**
	64nm,0.4s						
CTI	**Castel Tesino**	**0.72**	**262**	*e*Pg	**Pg**	**00 23 01.7**	**+1.8**
	64nm,0.4s						
VOY	**Vojsko**	**0.85**	**98**	*e*Pg	**Pg**	**00 23 01.7**	**-0.8**
VOY				*e*Sg	**Sg**	**00 23 15.0**	**+1.1**
TRI	**Trieste**	**0.88**	**120**	*e*PG	**Pg**	**00 23 02.5**	**-0.4**
TRI				SG	**Sg**	**00 23 15.6**	**+0.9**
	51nm,0.3s						
TRI	**Trieste**	**0.88**	**120**	*e*Pg	**Pg**	**00 23 02.5**	**-0.4**
TRI				*e*Sg	**Sg**	**00 23 15.6**	**+0.9**
TRI	**Trieste**	**0.88**	**120**	*e*Pg	**Pg**	**00 23 02.5**	**-0.4**
	51nm,0.3s						
GORS	**Gorjuse**	**0.93**	**79**	*i* Pg	**Pg**	**00 23 02.8**	**-1.2**
GORS				*i* Sg	**Sg**	**00 23 16.4**	**0.0**
JAVS	**Javornik**	**1.00**	**105**	*i* Pg	**Pg**	**00 23 05.1**	**-0.3**
KBA	**Koelnbreinsper**	**1.03**	**26**	⇑*i*PG	**Pg**	**00 23 05.2**	**-0.8**
KBA				*i* SG	**Sg**	**00 23 18.9**	**-1.0**
	70nm,0.3s						
APPI	**Appiano**	**1.06**	**288**	*e*PN	**Pn**	**00 23 07.8**	**+1.7**
APPI	**Appiano**	**1.06**	**288**	*e*Pg	**Pg**	**00 23 07.8**	**+1.3**
LJU	**Ljubljana**	**1.29**	**94**	*e*(Pg)	**Pg**	**00 23 11.6**	**+0.4**
LJU				*e*Sg	**Sg**	**00 23 28.6**	**+0.2**
LJU	**Ljubljana**	**1.29**	**94**	*i* Pg	**Pg**	**00 23 11.6**	**+0.4**
LJU				*e*Sg	**Sg**	**00 23 28.6**	**+0.2**
WTTA	**Wattenberg**	**1.32**	**328**	⇑*i*PG	**Pg**	**00 23 12.1**	**+0.3**
WTTA				*i* SG	**Sg**	**00 23 30.3**	**+0.8**
	29nm,0.5s						
OBKA	**Obir**	**1.34**	**74**	⇑*i*PG	**Pg**	**00 23 11.2**	**-1.0**
OBKA				*i* SG	**Sg**	**00 23 27.7**	**-2.5**
	24nm,0.2s						
WATA	**Walderalm**	**1.41**	**328**	⇑*i*PG	**Pg**	**00 23 13.2**	**-0.2**
WATA				*i* SG	**Sg**	**00 23 33.7**	**+1.5**
	12nm,0.5s						
SQTA	**Sankt Quirin**	**1.47**	**317**	⇑*i*PG	**Pg**	**00 23 15.2**	**+0.4**
SQTA				*i* SG	**Sg**	**00 23 36.2**	**+1.8**
	32nm,0.4s						
MOTA	**Moosalm**	**1.61**	**318**	⇑*i*PG	**Pg**	**00 23 17.8**	**+0.3**
MOTA				*i* SG	**Sg**	**00 23 40.6**	**+1.5**
PDKS	**Podkum**	**1.61**	**92**	*i* Pn	**Pn**	**00 23 16.1**	**+1.9**
PDKS				*i* Sn	**Sn**	**00 23 37.8**	**+2.6**
PDKS	**Podkum**	**1.61**	**92**	*i* Pn	**Pn**	**00 23 16.0**	**+1.9**
PDKS				*i* Sn	**Sn**	**00 23 37.8**	**+2.7**
VBY	**Vinica-Bojanci**	**1.92**	**109**	*e*Pn	**Pn**	**00 23 20.3**	**+1.9**
VBY				*e*Sn	**Sn**	**00 23 46.8**	**+4.1**
MOA	**Molln**	**2.02**	**32**	⇑*i*PG	**Pg**	**00 23 22.8**	**-2.8**
MOA				*i* SG	**Sg**	**00 23 50.1**	**-2.4**
	16nm,0.5s						
DAVA	**Damuels**	**2.23**	**302**	⇑*i*PN	**Pn**	**00 23 24.0**	**+1.0**
DAVA				*i* PG	**Pg**	**00 23 30.1**	**+0.1**
DAVA				*i* SG	**Sg**	**00 24 01.6**	**+1.8**
	25nm,0.5s						
ARSA	**Arzberg**	**2.24**	**60**	⇑*i*PN	**Pn**	**00 23 22.3**	**-0.8**
ARSA				*i* SN	**Sn**	**00 23 50.6**	**-0.5**
ARSA				*i* SG	**Sg**	**00 23 58.1**	**-2.0**
	8.9nm,0.5s						
GEC2	**GERESS Array S**	**2.78**	**14**	*e*Pn	**Pn**	**00 23 32.4**	**+1.6**
GEC2				*e*Sn	**Sn**	**00 24 07.2**	**+2.5**
WET	**Wettzell**	**3.00**	**2**	*e*Pn	**Pn**	**00 23 35.1**	**+1.3**
WET				*e*Sn	**Sn**	**00 24 10.7**	**+0.5**
KHC	**Kasperske Hory**	**3.04**	**11**	*e*PN	**Pn**	**00 23 36.0**	**+1.5**
KHC				*e*PG	**Pg**	**00 23 43.8**	**-2.3**
KHC				*e*SN	**Sn**	**00 24 11.8**	**+0.5**
KHC				*e*SG	**Sg**	**00 24 22.7**	**-3.9**
PRU	**Pruhonice**	**4.04**	**17**	*e*PG	**Pg**	**00 24 03.0**	**-2.9**
PRU				*e*SN	**Sn**	**00 24 25.4**	**-1.1**
PRU				*e*SG	**Sg**	**00 24 53.9**	**-5.8**
NKC	**Novy Kostel**	**4.09**	**358**	*e*PN	**Pn**	**00 23 53.8**	**+4.5**
NKC				*e*PG	**Pg**	**00 24 04.9**	**-2.0**
NKC				*e*SN	**Sn**	**00 24 37.2**	**-0.6**
LPG	**La Plagne**	**4.20**	**263**	*e*Pn	**Pn**	**00 23 50.8**	**-0.1**
LPL	**La Plagne**	**4.21**	**263**	*e*Pn	**Pn**	**00 23 51.1**	**+0.1**
LPL				*e*Sn	**Sn**	**00 24 38.3**	**-2.5**
	2.1nm,0.4s						
CDF	**Champ du Feu**	**4.32**	**304**	*e*Pn	**Pn**	**00 23 51.4**	**-1.2**
CDF				*e*Sn	**Sn**	**00 24 39.3**	**-4.3**
CDF				*e*Sg	**Sg**	**00 25 04.3**	**-4.8**
	5.2nm,0.5s						
HINF	**Hinteralfeld**	**4.32**	**295**	*e*Pn	**Pn**	**00 23 52.4**	**-0.3**
HINF				*e*Sn	**Sn**	**00 24 40.1**	**-3.6**
	9.9nm,0.6s						
SBF	**Sospel**	**4.37**	**240**	*e*Pn	**Pn**	**00 23 53.2**	**-0.1**
SBF				*e*Sn	**Sn**	**00 24 42.6**	**-2.3**
	5.0nm,0.4s						
MBDF	**Montbardon**	**4.40**	**253**	*e*Pn	**Pn**	**00 23 54.0**	**+0.3**
MBDF				*e*Sn	**Sn**	**00 24 42.9**	**-2.7**
	4.4nm,0.5s						
PGF	**Pioggiola**	**4.47**	**218**	*e*Pn	**Pn**	**00 23 54.8**	**+0.1**
PGF				*e*Sn	**Sn**	**00 24 45.1**	**-2.3**
	3.5nm,0.4s						
MOX	**Moxa**	**4.55**	**351**	*e*Pn	**Pn**	**00 23 55.8**	**-0.1**
MOX				*e*Sn	**Sn**	**00 24 47.3**	**-2.2**
MOX				*e*Sg	**Sg**	**00 25 11.9**	**-5.0**
MOX	**Moxa**	**4.55**	**351**	*i* P	**Pn**	**00 23 55.8**	**-0.1**
MOX				S	**Sn**	**00 24 47.0**	**-2.5**
MOX				Sg	**Sg**	**00 25 12.0**	**-4.9**
CABF	**La Chapelle**	**4.58**	**278**	*e*Pn	**Pn**	**00 23 55.7**	**-0.7**
HAU	**Haudompre**	**4.71**	**295**	*e*Pn	**Pn**	**00 23 57.3**	**-0.8**
HAU				*e*Sn	**Sn**	**00 24 49.3**	**-4.2**
	6.8nm,0.5s						
BRG	**Berggiesshubel**	**4.80**	**10**	*e*Pg	**Pg**	**00 24 16.3**	**-4.8**
BRG				*e*	**Sn**	**00 24 55.5**	**-0.3**
BRG				*e*Sg	**Sg**	**00 25 19.7**	**-5.4**
DPC	**Dobruska-Polom**	**4.85**	**29**	*e*SG	**Sg**	**00 25 18.4**	**-8.6**
ORIF	**Oris-en-Rattie**	**4.93**	**258**	*e*Pn	**Pn**	**00 24 01.0**	**-0.4**
FRF	**La Foret Royal**	**5.01**	**241**	*e*Pn	**Pn**	**00 24 02.6**	**+0.2**
FRF				*e*Sn	**Sn**	**00 24 57.7**	**-3.4**
	2.7nm,0.4s						
CLL	**Collm**	**5.16**	**2**	*e*SG	**Sg**	**00 25 34.0**	**-3.3**
LMR	**La Mourre**	**5.22**	**240**	*e*Pn	**Pn**	**00 24 04.7**	**-0.7**
LMR				*e*Sn	**Sn**	**00 25 02.5**	**-3.9**
	2.3nm,0.5s						
AVF	**Avril sur Loir**	**6.47**	**279**	*e*Pn	**Pn**	**00 24 22.0**	**-1.1**

THR ***23*** *00:26:39.3±0.5, 28.20N×57.23E, h26km±6km, ML3.5*
CSEM ***23*** *00:26:39.3, 28.20N×57.23E, h26km, ML3.5, After THR*
IDC ***23*** *00:26:40.4±7.4, 28.47N×57.94E, mb3.4/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=152.8km s-min=36.9km az=178.0*

ISC 23 00:26:35.5±0.6, 28.16N±0.05×57.39E±0.07, h10km, n21, σ1§04/23, mb3.4/4, 4C-5D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.32**	**235**	*e*PG	**Pg**	**00 27 01.7**	**-0.2**
BNDS				*e*SG	**Sg**	**00 27 18.6**	**-0.9**
BNDS				AML	AML	00 27 22.5	
	comp=N,1μm,0.3s						
BNDS	**Bandar-Abbas**	**1.32**	**235**	*e*Pg	**Pg**	**00 27 01.7**	**-0.2**
	SNR=95						
BNDS				*e*Sg	**Sg**	**00 27 18.6**	**-0.9**
	comp=N,1μm,0.3s,SNR=95						
KRBR	**Kerman**	**1.89**	**343**	*e*PG	**Pg**	**00 27 12.1**	**-1.2**
KRBR				AML	AML	00 27 47.0	
	comp=N,835nm,0.3s						
BANOM	**Banah**	**2.43**	**204**	⇑P	**Pn**	**00 27 17.7**	**+1.8**
	SNR=110						
ZHSF	**Zahedan**	**3.30**	**63**	*e*PN	**Pn**	**00 27 33.2**	**+4.8**
ASHO	**Ashiyiah**	**3.67**	**199**	P	**Pn**	**00 27 34.5**	**+1.1**
	SNR=13						
GHIR	**Ghir-Karzin**	**3.88**	**273**	*e*PN	**Pn**	**00 27 37.6**	**+1.0**
GHIR				AML	AML	00 28 49.3	
	comp=N,35nm,0.6s						
BIDO	**Bidbid**	**4.67**	**172**	⇓P	**Pn**	**00 27 46.4**	**-1.4**
	SNR=9.4						
ARQ	**Araqi**	**4.87**	**189**	P	**Pn**	**00 27 51.6**	**+1.0**
	SNR=13						
SMDO	**Samad**	**5.12**	**173**	⇓P	**Pn**	**00 27 53.2**	**-0.9**
BSY	**Bisya**	**5.40**	**182**	⇑P	**Pn**	**00 27 58.6**	**+0.5**
BSYO	**Bisya**	**5.41**	**181**	P	**Pn**	**00 27 58.6**	**+0.3**
WBK	**Wadi Bani Khal**	**5.71**	**165**	⇓P	**Pn**	**00 28 01.1**	**-1.4**
JMDO	**Jabal Madar**	**5.81**	**173**	⇑P	**Pn**	**00 28 04.1**	**+0.3**
WHFO	**Wadi Hawf**	**10.73**	**199**	⇓P	**P**	**00 29 08.7**	**-3.6**
RBK	**Rabkut**	**11.01**	**196**	⇓P	**P**	**00 29 12.0**	**-4.2**
ABTO	**Aybut**	**11.40**	**200**	⇑P	**P**	**00 29 16.9**	**-4.7**
BRTR	**Keskin Array B**	**22.76**	**307**	P	**P**	**00 31 46.7**	**+7.6**
	comp=N,0.8nm,0.7s,mb3.3,baz=128,slow=9.8,SNR=4.8						
BVAR	**Borovoye Array**	**26.64**	**18**	P	**P**	**00 32 16.6**	**+0.6**
	comp=N,0.3nm,0.4s,mb3.1,baz=191,slow=7.6,SNR=4.7						
ZAL	**Zalesovo**	**32.64**	**30**	P	**P**	**00 33 09.1**	**-0.4**
	comp=N,0.7nm,0.5s,mb3.9,baz=195,slow=8.0,SNR=4.2						
SONM	**Songino Array**	**42.51**	**49**	P	**P**	**00 34 33.1**	**+0.5**
	comp=N,0.3nm,0.7s,mb3.2,baz=243,slow=8.3,SNR=3.6						

ROM ***23*** *00:33:52.5±0.7, 46.17N×12.73E, h9km±6km, MD3.4/4, ML2.5/2, Error ellipse: s-maj=1.8km s-min=1.3km az=0.0*
NEIC ***23*** *00:33:53.8±0.3, 46.15N×12.78E, h10km, MD3.4(ROM), ML3.2(FUR), ML3.1(VIE), ML3.1(LDG), ML3.0(SZGRF), Error ellipse: s-maj=4.2km s-min=2.9km az=170.0*
CSEM ***23*** *00:33:53.8±0.1, 46.12N×12.81E, h2km, ML3.1/23, Error ellipse: s-maj=1.7km s-min=1.3km az=165.0*
LDG ***23*** *00:33:54.2±0.1, 46.18N×12.90E, h10km, Ml3.1/17*
BGR ***23*** *00:33:56.0±0.5, 46.20N×12.78E, h10km, ML3.0/13, Error ellipse: s-maj=7.8km s-min=4.4km az=5.0*
STR ***23*** *00:34:00.8±1.0, 46.37N×12.27E, h5km±1km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 00:33:53.9±0.2, 46.16N±0.02×12.73E±0.02, h17km±3km, n109, σ1§30/199, 18C-6D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.08**	**266**	⇓*i*Pg	**Pb**	**00 33 56.6**	**-0.6**
MLNI				*e*Sg	**Sb**	**00 33 58.7**	**-0.7**
MPRI	**Monte Prat**	**0.20**	**65**	⇑*i*Pg	**Pb**	**00 33 58.1**	**-0.7**
MPRI				*i* Sg	**Sb**	**00 34 01.5**	**-0.5**
CAE	**Caneva**	**0.25**	**234**	⇓*i*Pg	**Pb**	**00 33 59.6**	**0.0**
CAE				*i* Sg	**Sb**	**00 34 04.5**	**+1.0**
BUA	**Buia**	**0.28**	**77**	⇓*i*Pg	**Pb**	**00 33 59.4**	**-0.7**
BUA				*i* Sg	**Sb**	**00 34 04.4**	**+0.1**
BOO	**Bordano**	**0.31**	**58**	⇑*i*Pg	**Pb**	**00 33 59.2**	**-1.2**
BOO				*i* Sg	**Sb**	**00 34 04.2**	**-0.8**
TLI	**Talmassons**	**0.35**	**132**	⇓*i*Pg	**Pb**	**00 34 00.9**	**-0.3**
BAD	**Bernadia**	**0.37**	**77**	⇓*i*Pg	**Pb**	**00 34 00.4**	**-1.1**
BAD				*i* Sg	**Sb**	**00 34 06.4**	**-0.3**
GMNA	**Gemona**	**0.37**	**71**	*e*PG	**Pb**	**00 33 59.9**	**-1.7**
GMNA				SG	**Sb**	**00 34 05.1**	**-1.8**
GMNA	**Gemona**	**0.37**	**71**	*e*Pg	**Pb**	**00 33 59.9**	**-1.8**
GMNA				*e*Sg	**Sb**	**00 34 05.1**	**-1.8**
ZOU	**Zoufplan**	**0.43**	**23**	⇑*i*Pg	**Pb**	**00 34 01.5**	**-1.2**
ZOU				*i* Sg	**Sb**	**00 34 08.1**	**-0.5**
FVI	**Forni Avoltri**	**0.44**	**5**	*e*PG	**Pb**	**00 34 01.6**	**-1.2**
FVI				SG	**Sb**	**00 34 08.1**	**-0.8**
FVI	**Forni Avoltri**	**0.44**	**5**	*e*Pg	**Pb**	**00 34 01.6**	**-1.2**
FVI				*e*Sg	**Sb**	**00 34 08.1**	**-0.8**
COLI	**Coloredo**	**0.45**	**93**	⇓*i*Pg	**Pb**	**00 34 02.3**	**-0.7**
COLI				*e*Sg	**Sb**	**00 34 10.3**	**+1.2**
PLRO	**Paularo**	**0.49**	**36**	⇑*i*Pg	**Pb**	**00 34 02.5**	**-1.1**
PLRO				*e*Sg	**Sb**	**00 34 09.6**	**-0.7**
PTCC	**Patocco-Chiusa**	**0.50**	**60**	*e*PG	**Pb**	**00 34 02.5**	**-1.3**
PTCC				SG	**Sb**	**00 34 10.9**	**+0.3**
	236nm,0.4s						
PTCC	**Patocco-Chiusa**	**0.50**	**60**	*e*Pg	**Pb**	**00 34 02.5**	**-1.3**
PTCC				*e*Sg	**Sb**	**00 34 10.8**	**+0.3**
PTCC	**Patocco-Chiusa**	**0.50**	**60**	*e*Pg	**Pb**	**00 34 02.5**	**-1.3**
	236nm,0.4s						
PTCC				Sg	**Sb**	**00 34 10.9**	**+0.3**
AFL	**Alpe Faloria**	**0.53**	**315**	⇑*i*Pg	**Pb**	**00 34 03.5**	**-0.8**
DRE	**Drenchia**	**0.64**	**88**	⇑*e*Pg	**Pb**	**00 34 05.9**	**-0.3**
DRE				*i* Sg	**Sb**	**00 34 15.0**	**+0.4**
LSR	**Lussari**	**0.64**	**60**	⇑*e*Pg	**Pb**	**00 34 05.9**

BFO					*e*Sn		**Sn**	**00 35 37.9**	**+2.5**
BBS	**Basel-Blauen**	**3.81**	**292**		P		**Pn**	**00 34 54.5**	**+1.2**
PRU	**Pruhonice**	**4.02**	**17**		*e*Pn		**Pn**	**00 34 57.2**	**+1.0**
PRU					*e*Sn		**Sn**	**00 35 42.4**	**-1.1**
NKC	**Novy Kostel**	**4.08**	**357**		*e*PN		**Pn**	**00 34 59.0**	**+1.9**
NKC					*e*SN		**Sn**	**00 35 43.7**	**-1.4**
NKC					*e*SG		**Sn**	**00 36 04.2**	**+19**
MOF	**Molkenrain**	**4.19**	**296**		P		**Pn**	**00 34 59.5**	**+0.9**
MOF					S		**Sn**	**00 35 49.2**	**+1.5**
GUNZ	**Gunzen**	**4.22**	**357**		*e*Pn		**Pn**	**00 34 59.7**	**+0.7**
LPG	**La Plagne**	**4.23**	**263**		*e*Pn		**Pn**	**00 34 59.9**	**+0.7**
LPG					*e*Sn		**Sn**	**00 35 46.2**	**-2.5**
	8.4nm,0.6s								
LPL	**La Plagne**	**4.24**	**263**		*e*Pn		**Pn**	**00 35 00.0**	**+0.7**
LPL					*e*Sn		**Sn**	**00 35 46.0**	**-3.0**
	6.5nm,0.5s								
WLS	**Welschbruch**	**4.30**	**304**		P		**Pn**	**00 35 02.3**	**+2.1**
WERD	**Werda**	**4.30**	**356**		*e*Pn		**Pn**	**00 35 00.4**	**+0.1**
ECH	**Echery**	**4.32**	**300**		P		**Pn**	**00 35 01.1**	**+0.6**
ECH					S		**Sn**	**00 35 51.4**	**+0.4**
CDF	**Champ du Feu**	**4.34**	**303**		*e*Pn		**Pn**	**00 35 01.2**	**+0.4**
CDF					*e*Sn		**Sn**	**00 35 48.9**	**-2.7**
	13nm,0.5s								
CDF					*e*Sg		**Sn**	**00 36 12.9**	**+21**
	26nm,0.8s								
HINF	**Hinteralfeld**	**4.35**	**295**		*e*Pn		**Pn**	**00 35 01.0**	**+0.1**
HINF					*e*Sn		**Sn**	**00 35 49.9**	**-1.9**
	27nm,0.6s								
SBF	**Sospel**	**4.40**	**240**		*e*Pn		**Pn**	**00 35 02.1**	**+0.5**
SBF					*e*Sn		**Sn**	**00 35 50.3**	**-2.7**
	8.6nm,0.3s								
MBDF	**Montbardon**	**4.43**	**253**		*e*Pn		**Pn**	**00 35 00.9**	**-1.1**
MBDF					*e*Sn		**Sn**	**00 35 51.3**	**-2.5**
	10.0nm,0.5s								
PGF	**Pioggiola**	**4.49**	**218**		*e*Pn		**Pn**	**00 35 01.9**	**-1.0**
PGF					*e*Sn		**Sn**	**00 35 52.6**	**-2.7**
	9.4nm,0.4s								
MOX	**Moxa**	**4.55**	**351**		*e*Pn		**Pn**	**00 35 03.0**	**-0.8**
MOX					*e*Sn		**Sn**	**00 35 54.1**	**-2.8**
MOX	**Moxa**	**4.55**	**351**		*e*Pn		**Pn**	**00 35 03.1**	**-0.7**
MOX					*e*Pg		**Pn**	**00 35 20.9**	**+17**
MOX					*e*Sn		**Sn**	**00 35 53.8**	**-3.1**
MOX					*e*Sg		**Sn**	**00 36 18.8**	**+22**
MOX	**Moxa**	**4.55**	**351**	*i*	P		**Pn**	**00 35 03.1**	**-0.7**
MOX					Pg		**Pn**	**00 35 21.0**	**+17**
MOX					S		**Sn**	**00 35 53.0**	**-3.9**
MOX					Sg		**Sn**	**00 36 19.0**	**+22**
MOX	**Moxa**	**4.55**	**351**	*e*	Pg		**Pn**	**00 35 20.9**	**+17**
MOX					Sn		**Sn**	**00 35 54.1**	**-2.8**
CABF	**La Chapelle**	**4.62**	**278**	*e*	Pn		**Pn**	**00 35 03.9**	**-0.8**
CABF					*e*Pg		**Pn**	**00 35 20.2**	**+16**
CABF					*e*Sn		**Sn**	**00 35 56.5**	**-2.1**
	3.1nm,0.3s								
HAU	**Haudompre**	**4.73**	**295**		*e*Pn		**Pn**	**00 35 05.3**	**-1.0**
HAU					*e*Sn		**Sn**	**00 35 58.0**	**-3.5**
HAU					*e*Sg		**Sn**	**00 36 26.8**	**+25**
	7.1nm,0.4s								
DPC	**Dobruska-Polom**	**4.83**	**28**		*e*SG		**Sn**	**00 36 25.0**	**+21**
	16nm,0.7s								
UPC	**Upice**	**4.87**	**26**		*e*SG		**Sn**	**00 36 26.7**	**+22**
ORIF	**Oris-en-Rattie**	**4.97**	**258**		*e*Pn		**Pn**	**00 35 09.1**	**-0.5**
ORIF					*e*Sn		**Sn**	**00 36 03.7**	**-3.7**
	5.7nm,0.4s								
TNS	**Taunus Mts**	**4.97**	**326**		*e*Pn		**Pn**	**00 35 10.3**	**+0.5**
TNS	**Taunus Mts**	**4.97**	**326**		*e*Pn		**Pn**	**00 35 10.3**	**+0.6**
THEF	**They Montfort**	**5.04**	**297**		P		**Pn**	**00 35 12.7**	**+2.0**
FRF	**La Foret Royal**	**5.04**	**241**		*e*Pn		**Pn**	**00 35 10.1**	**-0.6**
FRF					*e*Sn		**Sn**	**00 36 05.7**	**-3.5**
	2.2nm,0.3s								
CLL	**Collm**	**5.16**	**2**		*e*Pn		**Pn**	**00 35 11.5**	**-0.8**
CLL	**Collm**	**5.16**	**2**		*e*PN		**Pn**	**00 35 11.0**	**-1.3**
CLL					*e*SG		**Sn**	**00 36 38.0**	**+26**
LMR	**La Mourre**	**5.25**	**240**		*e*Pn		**Pn**	**00 35 12.8**	**-0.8**
LMR					*e*Sn		**Sn**	**00 36 10.4**	**-4.1**
	2.8nm,0.3s								
SMRF	**Simiane la Rot**	**5.51**	**249**		*e*Sn		**Sn**	**00 36 16.9**	**-4.2**
	2.2nm,0.3s								
MEZF	**Maizieres J'vi**	**5.72**	**297**		*e*Pn		**Pn**	**00 35 18.3**	**-2.0**
VIVF	**Saint-Julien-l**	**5.81**	**260**		*e*Pn		**Pn**	**00 35 20.6**	**-0.9**
SMF	**Signal de Mont**	**6.17**	**278**		*e*Pn		**Pn**	**00 35 25.0**	**-1.5**
SMF					*e*Sn		**Sn**	**00 36 32.4**	**-5.0**
	2.9nm,0.3s								
AVF	**Avril sur Loir**	**6.51**	**279**		*e*Pn		**Pn**	**00 35 29.7**	**-1.6**
LASF	**Ste Croix**	**6.61**	**255**		*e*Pn		**Pn**	**00 35 31.1**	**-1.7**
LASF					*e*Sn		**Sn**	**00 36 43.1**	**-5.5**
	1.7nm,0.3s								
BGF	**Bois d'Agland**	**6.85**	**277**		*e*Pn		**Pn**	**00 35 34.0**	**-2.2**
BGF					*e*Sn		**Sn**	**00 36 48.9**	**-5.6**
	4.0nm,0.3s								
HYF	**Humbligny**	**7.03**	**283**		*e*Pn		**Pn**	**00 35 36.6**	**-2.0**
CAF	**Calviac**	**7.59**	**264**		*e*Pn		**Pn**	**00 35 44.7**	**-1.8**

IDC ***23*** *00:59:00.5±0.8, 72.94N×5.43E, mb3.5/7, mb1 3.8/11, mb1mx3.8/18, mbtmp3.6/11, ML3.7/4, MS3.2/9, Ms1 3.2/9, ms1mx3.2/17, Error ellipse: s-maj=27.0km s-min=13.3km az=47.0*

NEIC ***23*** *00:59:02.8±0.6, 73.24N×5.97E, h10km, ML2.7(BER), Error ellipse: s-maj=16.9km s-min=10.3km az=59.0*

BER ***23*** *00:59:04.8±3.0, 73.09N×5.93E, h18km±36km, MD3.4, ML2.7, ML2.4(NAO)*

NAO ***23*** *00:59:05.2±8.1, 73.19N×6.51E, h11km±72km, ML2.4*

ISC 23 00:59:00.3±0.6, 73.01N±0.05×6.4E±0.2, h10km, n43, σ1§53/45, mb3.6/10, MS3.3/6, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**4.66**	**26**	*e*P	**Pn**	**01 00 12.3**	**-0.1**
TRO	**Tromso**	**5.25**	**124**	*e*P	**Pn**	**01 00 21.7**	**+0.9**
TRO				*e*S	**Sn**	**01 01 19.0**	**-3.1**
TRO				AML	AML	01 01 23.8	
	comp=Z,7.5nm,0.7s						
LOF	**Lofoten**	**5.44**	**151**	*e*P	**Pn**	**01 00 25.9**	**+2.4**
LOF				AML	AML	01 01 27.2	
	comp=Z,21nm,0.4s						
SPA0	**Spitsbergen Ar**	**5.74**	**21**	Pn	**Pn**	**01 00 27.2**	**-0.6**
	baz=212,slow=14						
ARA0	**ARCESS Array S**	**7.04**	**110**	Pn	**Pn**	**01 00 47.2**	**+1.2**
	baz=308,slow=12						
ARA0				Sn	**Sn**	**01 02 06.0**	**-0.8**
	baz=306,slow=22						
ARCES	**ARCESS Array B**	**7.04**	**110**	Pn	**Pn**	**01 00 47.5**	**+1.5**
	comp=Z,0.9nm,0.3s,baz=320,slow=11,SNR=40						
ARCES				Sn	**Sn**	**01 02 03.8**	**-3.1**
	comp=Z,0.3nm,0.3s,baz=300,slow=20,SNR=3.2						
ARCES				LR	LR	01 03 51.3	
	comp=Z,80nm,22.0s,baz=112,slow=40						
ARCES	**ARCESS Array B**	**7.04**	**110**	Pn	**Pn**	**01 00 47.5**	**+1.5**
ARCES				Sn	**Sn**	**01 02 03.8**	**-3.1**
ARCES				LR	LR	01 03 51.3	
STOK	**Stokkvaagen**	**7.08**	**158**	*e*P	**Pn**	**01 00 45.9**	**-0.8**
STOK				*e*S	**Sn**	**01 02 00.4**	**-7.7**
STOK				AML	AML	01 02 11.0	
	comp=Z,14nm,0.7s						
KEV	**Kevo**	**7.32**	**106**	*ep*	**Pn**	**01 00 50.0**	**0.0**
	comp=Z,0.9nm,0.3s						
MOR8	**Moi Rana**	**7.41**	**154**	*e*P	**Pn**	**01 00 50.5**	**-0.7**
MOR8				*e*S	**Sn**	**01 02 08.4**	**-7.8**
MOR8				AML	AML	01 02 13.4	
	comp=Z,17nm,0.5s						
NSS	**Namsos**	**8.75**	**164**	*e*P	**P**	**01 01 08.7**	**-1.1**
NSS				*e*S	**Sn**	**01 02 38.3**	**-11**
NSS				AML	AML	01 02 46.6	
	comp=Z,12nm,0.5s						
APA0	**Apatity Array**	**10.38**	**108**	Pn	**P**	**01 01 32.7**	**+0.5**
	baz=318,slow=10						
NOA	**NORSAR Array B**	**12.16**	**169**	Pn	**P**	**01 01 55.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=349,slow=13,SNR=5.6						
NOA				Sn	**S**	**01 04 04.9**	**-8.2**
	comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=3.3						
NOA				LR	LR	01 06 19.8	
	comp=Z,59nm,18.9s,baz=340,slow=36						
KAF	**Kangasniemi**	**13.20**	**136**	*ep*	**P**	**01 02 10.9**	**+0.6**
	comp=Z,5.8nm,0.8s,baz=334,slow=13						
HFS	**Hagfors**	**13.23**	**164**	Pn	**P**	**01 02 09.3**	**-1.4**
	baz=342,slow=10						
HFS	**Hagfors**	**13.23**	**164**	Pn	**P**	**01 02 09.3**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=353,slow=12,SNR=20						
JOF	**Joensuu**	**13.62**	**125**	*ep*	**P**	**01 02 14.9**	**-0.6**
	comp=Z,6.6nm,0.8s						
FIA0	**FINESS Array S**	**13.77**	**137**	Pn	**P**	**01 02 17.6**	**+0.2**
	baz=342,slow=14						
FINES	**FINESS Array B**	**13.77**	**137**	Pn	**P**	**01 02 17.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=340,slow=12,SNR=24						
FINES				LR	LR	01 07 18.6	
	comp=Z,122nm,19.4s,baz=151,slow=36						
CLL	**Collm**	**21.97**	**169**	P	**P**	**01 04 01.0**	**+5.3**
MOX	**Moxa**	**22.56**	**171**	*e*P	**P**	**01 04 06.0**	**+4.6**
NKC	**Novy Kostel**	**23.01**	**170**	*e*P	**P**	**01 04 11.0**	**+5.2**
DPC	**Dobruska-Polom**	**23.15**	**164**	*e*P	**P**	**01 04 11.4**	**+4.2**
PRU	**Pruhonice**	**23.38**	**167**	*e*P	**P**	**01 04 13.0**	**+3.6**
GRA1	**Grafenberg Arr**	**23.50**	**172**	*e*P	**P**	**01 04 16.0**	**+5.5**
	comp=Z,19nm,1.8s,mb4.2						
GRF	**Grafenberg Arr**	**23.50**	**172**	*e*P	**P**	**01 04 16.0**	**+5.5**
	comp=Z,19nm,1.8s,mb4.2						
OKC	**Ostrava-Krasne**	**23.82**	**161**	*e*P	**P**	**01 04 18.0**	**+4.3**
MORC	**Moravsky Berou**	**23.83**	**162**	*e*P	**P**	**01 04 18.1**	**+4.4**
	comp=Z,4.7nm,0.9s,mb3.9						
KHC	**Kasperske Hory**	**24.17**	**168**	*e*P	**P**	**01 04 23.2**	**+6.1**
VRAC	**Vranov**	**24.21**	**164**	P	**P**	**01 04 20.1**	**+2.6**
	comp=Z,3.5nm,0.9s,mb3.8,baz=42,slow=19,SNR=4.3						
GERES	**GERESS Array B**	**24.47**	**168**	P	**P**	**01 04 20.6**	**+0.6**
	comp=Z,0.3nm,0.7s,mb2.8,slow=8.8,SNR=3.5						
ARU	**Arti**	**26.49**	**101**	*e*P	**P**	**01 04 42.6**	**+3.6**
	comp=Z,3.6nm,0.7s,mb4.0						
FRB	**Frobisher Bay**	**27.13**	**290**	LR	LR	01 14 39.5	
	comp=Z,33nm,18.0s,MS2.9,baz=351,slow=35						
MLR	**Muntele Rosu**	**29.04**	**151**	LR	LR	01 17 11.5	
	comp=Z,123nm,18.7s,MS3.5,baz=352,slow=38						
BRTR	**Keskin Array B**	**35.90**	**143**	P	**P**	**01 06 04.5**	**+2.5**
	comp=Z,0.7nm,0.7s,mb3.7,baz=338,slow=7.3,SNR=4.6						
ZAL	**Zalesovo**	**36.30**	**78**	LR	LR	01 24 16.4	
	comp=Z,31nm,21.2s,MS3.0,baz=242,slow=41						
GNI	**Garni**	**37.75**	**129**	LR	LR	01 22 04.4	
	comp=Z,55nm,19.0s,MS3.4,baz=355,slow=36						
YKA	**Yellowknife Ar**	**39.09**	**321**	P	**P**	**01 06 27.2**	**-1.5**
	comp=Z,0.1nm,0.3s,mb3.0,baz=18,slow=8.4,SNR=3.3						
YKA				PcP	PcP	01 08 37.6	-1.5
	comp=Z,0.1nm,0.3s,baz=14,slow=2.5,SNR=2.5						
YKA				LR	LR	01 22 30.7	
	comp=Z,55nm,18.9s,MS3.4,baz=20,slow=36						
ULM	**Lac du Bonnet**	**46.16**	**300**	LR	LR	01 26 23.2	
	comp=Z,55nm,19.6s,MS3.5,baz=350,slow=36						
SONM	**Songino Array**	**47.77**	**64**	P	**P**	**01 07 41.2**	**+2.3**
	comp=Z,0.2nm,0.5s,mb3.5,baz=297,slow=2.8,SNR=3.6						
PDAR	**Pinedale Array**	**56.51**	**307**	P	**P**	**01 08 43.2**	**-1.2**
	comp=Z,0.5nm,0.7s,mb3.6,baz=18,slow=4.7,SNR=4.0						
TXAR	**Lajitas Array**	**67.81**	**298**	P	**P**	**01 09 58.0**	**-2.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=18,slow=4.0,SNR=5.9						
ASAR	**Alice Springs**	**123.06**	**60**	PKP	PKPdf	01 17 57.8	-1.8
	comp=Z,0.5nm,0.6s,baz=344,slow=1.5,SNR=6.8						

CASC 23 01:00:02.8±1.9, 13.99N×90.23W, h144km±11km, MD3.8, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RBDL	**Robledal**	**0.54**	**76**	*e*P	P	01 00 24.1	-0.1
RTR	**El Retiro**	**0.57**	**99**	*e*P	P	01 00 23.7	-0.6
RTR				*e*S	S	01 00 40.4	-0.4
SBLS	**San Blas**	**0.60**	**104**	*e*P	P	01 00 24.7	+0.3
SBLS				*e*S	S	01 00 42.0	+0.9
SNJE	**San Jose**	**0.61**	**101**	*e*P	P	01 00 24.9	+0.3
SNJE				*e*S	S	01 00 42.0	+0.8
MTO2	**Montecristo 2**	**0.93**	**64**	*e*P	P	01 00 26.2	-0.4
BOQS	**Boqueron**	**0.95**	**105**	*e*P	P	01 00 27.2	+0.4
LFU	**La Fuente**	**1.11**	**102**	*e*P	P	01 00 27.9	-0.2
LBRS	**Las Brisas**	**1.18**	**102**	*e*P	P	01 00 28.6	-0.2
LFRS	**El Faro**	**1.19**	**108**	*e*P	P	01 00 29.1	+0.2
LFRS				*e*S	S	01 00 50.8	+1.7
LCBS	**La Ceiba**	**1.26**	**105**	*e*P	P	01 00 29.7	+0.1
VCR	**Vista de Mar**	**5.91**	**130**	*e*P	P	01 01 30.7	+1.6
VCR				*e*S	S	01 02 35.3	-0.9
PRS1	**Puriscal**	**7.02**	**124**	*e*P	P	01 01 46.7	+2.5
LAJ	**Bijagual**	**7.24**	**124**	*e*P	P	01 01 45.3	-1.9
LCR2	**La Lucha 2**	**7.41**	**124**	*e*P	P	01 01 50.7	+1.4
ICR	**Volcan Irazu**	**7.42**	**122**	*e*P	P	01 01 53.3	+3.8
BUS	**Buena Vista**	**7.71**	**124**	*e*P	P	01 01 55.5	+2.1

CSEM ***23*** *01:03:01.2±0.1, 36.31N×5.92W, h40km, ML3.8/11, Error ellipse: s-maj=3.3km s-min=2.8km az=36.0*

NEIC ***23*** *01:03:03.9, 36.36N×5.91W, h44km, MG4.1(MDD), After MDD.*

SFS ***23*** *01:03:03.0, 36.30N×5.90W, h39km*

MDD ***23*** *01:03:03.6±0.4, 36.33N×5.93W, h44km±3km, mb4.3/27, Error ellipse: s-maj=4.0km s-min=2.8km az=21.0, PRXIMO*

CNRM ***23*** *01:03:03.2, 36.19N×6.10W, h10km, MD3.4*

INMG ***23*** *01:03:04.8±1.2, 36.49N×5.89W, h31km±5km, ML3.0, Error ellipse: s-maj=4.3km s-min=2.7km az=4.0*

LDG ***23*** *01:03:04.4±0.3, 36.51N×5.96W, h10km, Md3.8/1, Ml3.5/11, Error ellipse: s-maj=6.3km s-min=2.6km az=172.0*

IGIL ***23*** *01:03:05.5, 36.53N×6.07W, h2km, ML3.6*

ISC 23 01:03:02.2±0.3, 36.46N±0.02×5.88W±0.02, h44km, n134, σ1§37/243, 7C-7D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNIL	**Conil**	**0.17**	**239**	⇓P	**P**	**01 03 10.0**	**+0.5**
CNIL				S	**S**	**01 03 14.0**	**-0.7**
CNIL	**Conil**	**0.17**	**239**	*i* P	**P**	**01 03 10.0**	**+0.5**
CNIL				*i* S	**S**	**01 03 14.0**	**-0.7**
SFS	**San Fernando**	**0.27**	**272**	*e*P	**P**	**01 03 11.8**	**+1.4**
SFS	**San Fernando**	**0.27**	**272**	⇑P	**P**	**01 03 11.9**	**+1.5**
SFS				S	**S**	**01 03 16.8**	**+0.7**
SFS	**San Fernando**	**0.27**	**272**	*i* P	**P**	**01 03 11.9**	**+1.5**
SFS				*e*S	**S**	**01 03 16.8**	**+0.6**
SCRT	**Cerro San Cris**	**0.30**	**306**	⇓P	**P**	**01 03 13.0**	**+2.2**
SCRT				S	**S**	**01 03 20.0**	**+3.3**
SCRT	**Cerro San Cris**	**0.30**	**306**	*i* P	**P**	**01 03 13.0**	**+2.2**
SCRT				*e*S	**S**	**01 03 20.0**	**+3.3**
EJIF	**Jimena Fronter**	**0.33**	**91**	⇑P	**P**	**01 03 12.9**	**+1.9**
EJIF				S	**S**	**01 03 17.9**	**+0.7**
EJIF	**Jimena Fronter**	**0.33**	**91**	⇑P	**P**	**01 03 12.9**	**+1.9**
	103nm,0.1s,SNR=18						
EJIF				S	**S**	**01 03 20.7**	**+3.5**
	292nm,0.2s,SNR=4.0						
EJIF	**Jimena Fronter**	**0.33**	**91**	P	**P**	**01 03 12.9**	**+1.9**
	103nm,0.1s,SNR=18						
EJIF				S	**S**	**01 03 17.9**	**+0.7**
	292nm,0.2s,SNR=4.0						
GIBL	**Gibalbin**	**0.38**	**349**	P	**P**	**01 03 13.8**	**+2.2**
GIBL	**Gibalbin**	**0.38**	**349**	*i* P	**P**	**01 03 13.8**	**+2.2**
ESPR	**Espera**	**0.41**	**2**	⇓P	**P**	**01 03 14.2**	**+2.3**
	304nm,0.3s,SNR=18						
ESPR				S	**S**	**01 03 22.9**	**+4.1**
	305nm,0.4s,SNR=4.0						
ESPR	**Espera**	**0.41**	**2**	P	**P**	**01 03 14.2**	**+2.3**
	304nm,0.3s,SNR=18						
ESPR				S	**S**	**01 03 22.9**	**+4.1**
	305nm,0.4s,SNR=4.0						
REAL	**Reales**	**0.54**	**87**	*i* P	**P**	**01 03 15.5**	**+1.9**
REAL				*e*S	**S**	**01 03 25.0**	**+3.3**
LIJA	**Lijar**	**0.59**	**40**	⇑P	**P**	**01 03 16.2**	**+2.1**
LIJA				S	**S**	**01 03 25.0**	**+2.1**
LIJA	**Lijar**	**0.59**	**40**	*i* P	**P**	**01 03 16.2**	**+2.0**
LIJA				*i* S	**S**	**01 03 25.0**	**+2.1**
EMIJ	**Mijas**	**0.90**	**83**	⇑P	**P**	**01 03 19.6**	**+1.2**
EMIJ				S	**S**	**01 03 30.1**	**-0.3**
EMIJ	**Mijas**	**0.90**	**83**	⇑P	**P**	**01 03 19.6**	**+1.2**
	84nm,0.3s,SNR=18						
EMIJ				S	**S**	**01 03 33.2**	**+2.8**
	107nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**0.90**	**83**	P	**P**	**01 03 19.6**	**+1.2**
	84nm,0.3s,SNR=18						
EMIJ				S	**S**	**01 03 30.1**	**-0.3**
	107nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**1.45**	**334**	⇓P	**P**	**01 03 27.8**	**+1.4**
EMIN				S	**S**	**01 03 47.7**	**+3.1**
EMIN	**Mina Concepcio**	**1.45**	**334**	⇓P	**P**	**01 03 27.8**	**+1.4**
	9.4nm,0.1s,SNR=18						
EMIN				S	**S**	**01 03 47.1**	**+2.6**
	4.2nm,0.1s,SNR=11						
EMIN	**Mina Concepcio**	**1.45**	**334**	P	**P**	**01 03 27.8**	**+1.3**
	9.4nm,0.1s,SNR=18						
EMIN				S	**S**	**01 03 47.7**	**+3.2**
	4.2nm,0.1s,SNR=11						
ELOJ	**Sierra Loja**	**1.54**	**63**	P	**P**	**01 03 30.1**	**+2.4**
	4.8nm,0.8s,SNR=7.9						
ELOJ				S	**S**	**01 03 49.0**	**+2.2**
	9.7nm,0.5s,SNR=7.9						
PALC	**Alcoutim**	**1.63**	**309**	*e*P	**P**	**01 03 30.0**	**+1.1**
PALC				*e*S	**S**	**01 03 49.0**	**+0.2**
	96nm,0.3s						
PALC	**Alcoutim**	**1.63**	**309**	*e*P	**P**	**01 03 30.0**	**+1.1**
	96nm,0.3s						
EGRO	**El Granado**	**1.68**	**310**	⇑P	**P**	**01 03 30.7**	**+1.2**
	13nm,0.1s,SNR=18						
EGRO				S	**S**	**01 03 50.1**	**+0.1**
	0.8nm,0.2s,SNR=10						
EGRO	**El Granado**	**1.68**	**310**	P	**P**	**01 03 30.7**	**+1.1**
	13nm,0.1s,SNR=18						
EGRO				S	**S**	**01 03 50.1**	**+0.1**
	0.8nm,0.2s,SNR=10						
ERON	**Agron**	**1.75**	**71**	P	**P**	**01 03 31.7**	**+1.1**
ERON				S	**S**	**01 03 54.4**	**+2.5**
ERON	**Agron**	**1.75**	**71**	P	**P**	**01 03 31.7**	**+1.1**
	2.8nm,0.2s,SNR=4.0						
ERON				S	**S**	**01 03 54.1**	**+2.2**
	3.5nm,0.2s,SNR=8.3						
ERON	**Agron**	**1.75**	**71**	P	**P**	**01 03 31.7**	**+1.0**
	2.8nm,0.2s,SNR=4.0						
ERON				S	**S**	**01 03 54.4**	**+2.5**
	3.5nm,0.2s,SNR=8.3						
EADA	**Adamuz**	**2.00**	**31**	⇓P	**P**	**01 03 35.8**	**+1.7**
	1.9nm,0.1s,SNR=18						
EADA				S	**S**	**01 03 58.2**	**+0.3**
	18nm,0.1s,SNR=7.3						
EADA	**Adamuz**	**2.00**	**31**	P	**P**	**01 03 35.8**	**+1.7**
	1.9nm,0.1s,SNR=18						
EADA				S	**S**	**01 03 58.2**	**+0.3**
	18nm,0.1s,SNR=7.3						
ECOG	**Cogollos-Vega**	**2.02**	**65**	P	**P**	**01 03 36.7**	**+2.2**
	13nm,0.3s,SNR=24						
ECOG				S	**S**	**01 04 00.7**	**+2.0**
	8.5nm,0.2s,SNR=7.6						
PBEJ	**Beja**	**2.23**	**315**	*e*Pn	**P**	**01 03 38.2**	**+0.7**
PBEJ				*e*Sn	**S**	**01 04 03.1**	**-0.8**
	28nm,0.1s						
PBEJ	**Beja**	**2.23**	**315**	*e*Pn	**P**	**01 03 38.2**	**+0.7**
PBEJ				*e*Sn	**S**	**01 04 03.1**	**-0.8**
	28nm,0.1s						
EALB	**Alboran**	**2.36**	**102**	P	**P**	**01 03 38.9**	**-0.4**
	0.0nm,0.0s,SNR=5.7						
EALB				S	**S**	**01 04 05.7**	**-1.4**
	9.7nm,0.2s						
EALB	**Alboran**	**2.36**	**102**	P	**P**	**01 03 38.9**	**-0.3**
	SNR=5.7						
EALB				S	**S**	**01 04 05.8**	**-1.3**
EBAN	**Banos Encina**	**2.38**	**44**	P	**P**	**01 03 40.9**	**+1.3**
EBAN				S	**S**	**01 04 07.0**	**-0.8**
EBAN	**Banos Encina**	**2.38**	**44**	P	**P**	**01 03 40.9**	**+1.3**
	5.5nm,0.1s,SNR=26						
EBAN				S	**S**	**01 04 07.3**	**-0.5**
	0.3nm,0.2s						
EBAN	**Banos Encina**	**2.38**	**44**	P	**P**	**01 03 40.9**	**+1.3**
	5.5nm,0.1s,SNR=26						
EBAN				S	**S**	**01 04 07.0**	**-0.8**
	0.3nm,0.2s						
EBER	**Berja**	**2.44**	**79**	P	**P**	**01 03 41.7**	**+1.2**
EBER				S	**S**	**01 04 10.3**	**+1.1**
EBER	**Berja**	**2.44**	**79**	P	**P**	**01 03 41.7**	**+1.2**
	2.5nm,0.2s,SNR=20						
EBER				S	**S**	**01 04 08.7**	**-0.5**
	13nm,0.4s,SNR=4.8						
EBER	**Berja**	**2.44**	**79**	P	**P**	**01 03 41.7**	**+1.2**
	2.5nm,0.2s,SNR=20						
EBER				S	**S**	**01 04 10.3**	**+1.0**
	13nm,0.4s,SNR=4.8						
EBAD	**Badajoz**	**2.46**	**339**	⇓P	**P**	**01 03 41.9**	**+1.1**
	11nm,0.1s,SNR=18						
EBAD				S	**S**	**01 04 09.5**	**-0.4**
	27nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**2.46**	**339**	P	**P**	**01 03 41.9**	**+1.1**
	11nm,0.1s,SNR=18						
EBAD				S	**S**	**01 04 09.5**	**-0.4**
	27nm,0.1s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.52**	**296**	*e*Pn	**P**	**01 03 42.3**	**+0.6**
PTEO				*e*Sn	**S**	**01 04 10.5**	**-0.9**
	41nm,0.2s						
PTEO	**Sao Teotonio**	**2.52**	**296**	*e*Pn	**P**	**01 03

MTE	**Manteigas**	**4.15**	**342**	*e*P	**P**	**01 04 04.8**	**+0.2**
MTE	**Manteigas**	**4.15**	**342**	P	**P**	**01 04 05.1**	**+0.4**
MTE				S	**S**	**01 04 50.4**	**-2.1**
	comp=E,9.0nm,0.3s						
MTE	**Manteigas**	**4.15**	**342**	*e*P	**P**	**01 04 04.8**	**+0.1**
EBEN	**Beniarda**	**5.02**	**62**	P	**P**	**01 04 16.2**	**-0.7**
	comp=E,0.8nm,0.1s,SNR=13						
EBEN				S	**S**	**01 05 09.7**	**-4.7**
	comp=E,0.6nm,0.6s						
EBEN	**Beniarda**	**5.02**	**62**	P	**P**	**01 04 16.2**	**-0.7**
	comp=E,0.8nm,0.1s,SNR=13						
PVRL	**Vila Real**	**5.02**	**344**	*e*Pn	**P**	**01 04 17.1**	**+0.1**
PVRL				*e*Sn	**S**	**01 05 10.8**	**-3.7**
	comp=E,39nm,0.1s						
PVRL	**Vila Real**	**5.02**	**344**	Pn	**P**	**01 04 17.1**	**+0.1**
PVRL				S	**S**	**01 05 10.8**	**-3.7**
	comp=E,20nm,0.1s						
PBRG	**Braganca**	**5.38**	**353**	*e*Pn	**P**	**01 04 22.5**	**+0.5**
PBRG				*e*Sn	**S**	**01 05 19.8**	**-3.7**
	comp=E,5.6nm,0.3s						
PBRG	**Braganca**	**5.38**	**353**	P	**P**	**01 04 22.5**	**+0.5**
PBRG				S	**S**	**01 05 19.8**	**-3.7**
	comp=E,2.8nm,0.3s						
CIA	**Chichaoua**	**5.44**	**207**	P	**P**	**01 04 19.0**	**-3.7**
CIA				S	**S**	**01 05 14.0**	**-11**
CIA	**Chichaoua**	**5.44**	**207**	*i* P	**P**	**01 04 19.0**	**-3.7**
OUK	**Oukaimeden**	**5.49**	**198**	*e*P	**P**	**01 04 20.0**	**-3.5**
OUK				*i* S	**S**	**01 05 17.0**	**-9.3**
ECAL	**Calabor**	**5.52**	**353**	P	**P**	**01 04 24.0**	**+0.2**
	comp=E,5.3nm,0.2s,SNR=28						
ECAL				S	**S**	**01 05 23.9**	**-3.0**
	comp=E,9.0nm,0.3s						
ECAL	**Calabor**	**5.52**	**353**	P	**P**	**01 04 24.0**	**+0.1**
	comp=E,5.3nm,0.2s,SNR=28						
ELOB	**Lobios**	**5.66**	**343**	P	**P**	**01 04 26.0**	**+0.2**
	comp=E,6.4nm,0.2s,SNR=23						
ELOB				S	**S**	**01 05 26.7**	**-3.8**
	comp=E,5.6nm,0.4s						
ELOB	**Lobios**	**5.66**	**343**	P	**P**	**01 04 26.0**	**+0.1**
	comp=E,6.4nm,0.2s,SNR=23						
EMOS	**Mosqueruela**	**5.76**	**46**	P	**P**	**01 04 27.7**	**+0.5**
	comp=E,0.3nm,0.1s,SNR=7.9						
EMOS				S	**S**	**01 05 29.9**	**-3.2**
	comp=E,0.8nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**5.76**	**46**	P	**P**	**01 04 27.8**	**+0.5**
ERUA	**La Rua**	**6.01**	**351**	P	**P**	**01 04 30.7**	**0.0**
	comp=E,6.5nm,0.2s,SNR=15						
ERUA				S	**S**	**01 05 34.9**	**-4.3**
	comp=E,1.6nm,0.4s,SNR=7.9						
EZAM	**Zamans**	**6.09**	**340**	P	**P**	**01 04 31.9**	**0.0**
	comp=E,1.7nm,0.1s,SNR=6.3						
EZAM				S	**S**	**01 05 33.8**	**-7.4**
	comp=E,3.9nm,0.3s,SNR=7.9						
EIBI	**Ibiza**	**6.27**	**64**	P	**P**	**01 04 32.8**	**-1.6**
EIBI				S	**S**	**01 05 40.4**	**-5.3**
EIBI	**Ibiza**	**6.27**	**64**	P	**P**	**01 04 33.6**	**-0.8**
	comp=E,0.3nm,0.1s,SNR=4.0						
EIBI				S	**S**	**01 05 40.4**	**-5.3**
	comp=E,0.7nm,0.2s,SNR=4.0						
EIBI	**Ibiza**	**6.27**	**64**	P	**P**	**01 04 32.8**	**-1.6**
	comp=E,0.3nm,0.1s,SNR=4.0						
EINC	**Incio**	**6.30**	**350**	P	**P**	**01 04 35.1**	**+0.3**
	comp=E,3.4nm,0.3s,SNR=9.7						
EINC				S	**S**	**01 05 42.4**	**-4.0**
	comp=E,3.4nm,0.3s,SNR=7.9						
EINC	**Incio**	**6.30**	**350**	P	**P**	**01 04 35.1**	**+0.3**
	comp=E,3.4nm,0.3s,SNR=9.7						
ESAC	**San Caprasio**	**6.73**	**37**	P	**P**	**01 04 42.3**	**+1.4**
ESAC				S	**S**	**01 05 55.3**	**-1.9**
ESAC	**San Caprasio**	**6.73**	**37**	P	**P**	**01 04 42.3**	**+1.4**
	comp=E,1.5nm,0.1s,SNR=4.0						
ESAC				S	**S**	**01 05 52.6**	**-4.5**
	comp=E,2.8nm,0.5s,SNR=7.9						
ESAC	**San Caprasio**	**6.73**	**37**	P	**P**	**01 04 42.3**	**+1.4**
	comp=E,1.5nm,0.1s,SNR=4.0						
STS	**Santiago**	**6.74**	**343**	P	**P**	**01 04 40.8**	**-0.3**
	comp=E,6.8nm,0.3s,SNR=7.9						
STS				S	**S**	**01 05 52.0**	**-5.5**
	comp=E,3.4nm,0.1s,SNR=4.0						
EARI	**Arriondas**	**6.85**	**4**	P	**P**	**01 04 43.1**	**+0.5**
EARI				S	**S**	**01 05 53.8**	**-6.4**
EARI	**Arriondas**	**6.85**	**4**	P	**P**	**01 04 43.1**	**+0.5**
	comp=E,1.2nm,0.1s,SNR=19						
EARI				S	**S**	**01 05 54.3**	**-5.9**
	comp=E,3.1nm,0.4s,SNR=5.0						
EARI	**Arriondas**	**6.85**	**4**	P	**P**	**01 04 43.1**	**+0.4**
	comp=E,1.2nm,0.1s,SNR=19						
EMAZ	**Mazaricos**	**6.91**	**341**	P	**P**	**01 04 42.5**	**-0.9**
	comp=E,3.1nm,0.1s,SNR=4.0						
EMAZ				S	**S**	**01 05 54.6**	**-7.0**
	comp=E,2.5nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**6.91**	**341**	P	**P**	**01 04 42.5**	**-0.9**
	comp=E,3.1nm,0.1s,SNR=4.0						
EPON	**Pontenova**	**6.93**	**352**	P	**P**	**01 04 44.5**	**+0.7**
	comp=E,0.8nm,0.1s,SNR=9.3						
EPON				S	**S**	**01 05 56.9**	**-5.2**
	comp=E,4.6nm,0.5s,SNR=7.9						
EPON	**Pontenova**	**6.93**	**352**	P	**P**	**01 04 44.5**	**+0.8**
	comp=E,0.8nm,0.1s,SNR=9.3						
ELAN	**Lanestosa**	**7.02**	**15**	P	**P**	**01 04 44.6**	**-0.3**
	comp=E,1.7nm,0.2s,SNR=15						
ELAN				S	**S**	**01 05 58.2**	**-6.1**
	comp=E,2.5nm,0.4s,SNR=5.0						
ELAN	**Lanestosa**	**7.02**	**15**	P	**P**	**01 04 44.7**	**-0.3**
EALK	**Alkurruntz**	**7.54**	**25**	P	**P**	**01 04 53.0**	**+0.8**
	comp=E,1.0nm,0.2s,SNR=9.3						
EALK				S	**S**	**01 06 11.6**	**-5.7**
	comp=E,7.8nm,0.5s,SNR=5.0						
SJPF	**Ste Jean**	**7.55**	**27**	*e*Pn	**P**	**01 04 52.7**	**+0.4**
SJPF				*e*Sn	**S**	**01 06 12.0**	**-5.5**
	comp=E,6.5nm,0.3s						
ETSF	**Etsaut**	**7.63**	**31**	*e*Pn	**P**	**01 04 53.9**	**+0.5**
ETSF				*e*Sn	**S**	**01 06 14.6**	**-4.8**
	comp=E,2.2nm,0.3s						
EBIE	**Bielsa**	**7.76**	**35**	P	**P**	**01 04 56.3**	**+1.0**
	comp=E,0.8nm,0.1s,SNR=9.1						
EBIE				S	**S**	**01 06 16.5**	**-6.3**
	comp=E,1.1nm,0.2s,SNR=5.0						
EBIE	**Bielsa**	**7.76**	**35**	P	**P**	**01 04 56.3**	**+1.0**
	comp=E,0.8nm,0.1s,SNR=9.1						
EPF	**Esparros**	**8.12**	**34**	*e*Pn	**P**	**01 05 00.8**	**+0.5**
EPF				*e*Sn	**S**	**01 06 27.4**	**-4.3**
	comp=E,4.6nm,0.3s						
EJON	**La Jonquera**	**9.04**	**46**	P	**P**	**01 05 12.0**	**-0.9**
	comp=E,0.4nm,0.1s,SNR=4.0						
MTLF	**Montolieu**	**9.27**	**40**	*e*Pn	**P**	**01 05 16.1**	**+0.1**
MTLF				*e*Sn	**S**	**01 06 55.0**	**-5.1**
	comp=E,1.2nm,0.4s						
LFF	**La Frestale**	**9.85**	**29**	*e*Pn	**P**	**01 05 22.7**	**-1.3**
LFF				*e*Sn	**S**	**01 07 08.0**	**-6.3**
	comp=E,2.1nm,0.4s						
CAF	**Calviac**	**10.38**	**33**	*e*Pn	**P**	**01 05 30.0**	**-1.3**
CAF				*e*Sn	**S**	**01 07 20.3**	**-7.1**
	comp=E,1.1nm,0.3s						
RJF	**Les Rejaudoux**	**10.45**	**30**	*e*Pn	**P**	**01 05 31.5**	**-0.8**
RJF				*e*Sn	**S**	**01 07 21.4**	**-7.7**
	comp=E,1.8nm,0.4s						
MFF	**Saint Martin d**	**11.00**	**21**	*e*Pn	**P**	**01 05 38.7**	**-1.1**
TCF	**Toulx Ste Croi**	**11.54**	**29**	*e*Pn	**P**	**01 05 45.0**	**-2.0**
TCF				*e*Sn	**S**	**01 07 47.9**	**-7.6**
QUIF	**Quistinic**	**11.62**	**9**	*e*Pn	**P**	**01 05 46.6**	**-1.6**
QUIF				*e*Sn	**S**	**01 07 48.5**	**-9.1**
	comp=E,5.3nm,0.4s						
ROSF	**Rostrenen**	**12.02**	**8**	*e*Pn	**P**	**01 05 52.2**	**-1.3**
ROSF				*e*Sn	**S**	**01 07 56.5**	**-11**
	comp=E,1.6nm,0.3s						
SGMF	**Saint Gilles**	**12.04**	**11**	*e*Pn	**P**	**01 05 52.3**	**-1.4**
SGMF				*e*Sn	**S**	**01 07 56.8**	**-11**
	comp=E,0.5nm,0.3s						
GRR	**Gorron**	**12.48**	**16**	*e*Pn	**P**	**01 05 58.3**	**-1.4**
HYF	**Humbligny**	**12.52**	**28**	*e*Pn	**P**	**01 06 00.2**	**0.0**
LDF	**La Druitiere**	**12.84**	**17**	*e*Pn	**P**	**01 06 03.4**	**-1.1**
FLN	**La Foliniere**	**12.92**	**16**	*e*Pn	**P**	**01 06 04.0**	**-1.5**
	baz=196						

IDC ***23*** *01:21:36.2±3.4, 34.78N×22.48E, mb3.4/1, mb1 3.7/6, mb1mx3.4/21, mbtmp3.4/6, ML3.6/4, Error ellipse: s-maj=60.1km s-min=22.7km az=5.0*
ATH ***23*** *01:21:41.7, 35.30N×22.69E, h20km±3km, MD3.7/13, ML3.8*
NEIC ***23*** *01:21:41.6, 35.29N×22.68E, h19km, MD3.7(ATH), After ATH.*
CSEM ***23*** *01:21:42.8±0.3, 35.36N×22.71E, h20km, MD3.7, Error ellipse: s-maj=6.7km s-min=3.5km az=22.0*
THE ***23*** *01:21:45.2, 35.50N×22.78E, h21km*
ISC 23 01:21:42.4±1.1, **35.43N**±0.05×**22.57E**±0.04, **h30**km±9km, **n45**, **σ1f23**/55, **mb3.0**/1, **1C**, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**0.93**	**24**	*e*PB	**Pb**	**01 22 00.5**	**+0.6**
VLI	**Veliai**	**1.32**	**13**	*e*PN	**Pn**	**01 22 08.1**	**+3.0**
VLI				*e*SN	**Sn**	**01 22 29.1**	**+7.3**
VAM	**Vamos**	**1.33**	**90**	*i*PN	**Pn**	**01 22 04.7**	**-0.5**
VAM				*e*SN	**Sn**	**01 22 22.9**	**+0.9**
GVD	**Gavdhos**	**1.37**	**115**	*e*PN	**Pn**	**01 22 06.0**	**+0.2**
ITM	**Ithomi**	**1.83**	**344**	*e*PN	**Pn**	**01 22 16.3**	**+4.0**
IDI	**Anoyia**	**1.90**	**93**	Pn	**Pn**	**01 22 13.0**	**-0.4**
	9.8nm,0.3s,baz=277,slow=15,SNR=150						
IDI				Sn	**Sn**	**01 22 40.3**	**+3.9**
	11nm,0.3s,baz=313,slow=19,SNR=4.7						
IDI	**Anoyia**	**1.90**	**93**	Pn	**Pn**	**01 22 12.9**	**-0.4**
NAIG	**Nisos Aigina**	**2.44**	**17**	*e*PB	**Pb**	**01 22 24.5**	**-1.0**
THR5	**Thira Island,**	**2.46**	**65**	*e*Pn	**Pn**	**01 22 20.0**	**-1.4**
NPS	**Neapolis**	**2.49**	**93**	*e*PN	**Pn**	**01 22 21.0**	**-0.8**
THR1	**Thera Island**	**2.53**	**67**	*e*Pn	**Pn**	**01 22 21.1**	**-1.3**
MGER	**Gerania Oros**	**2.62**	**12**	*e*PB	**Pb**	**01 22 27.5**	**-0.9**
MGER	**Gerania Oros**	**2.62**	**12**	*e*Pb	**Pb**	**01 22 28.5**	**+0.1**
XRY	**Khrisi**	**2.62**	**101**	*e*PN	**Pn**	**01 22 23.5**	**-0.1**
ATH	**Athens Observa**	**2.70**	**20**	*e*PN	**Pn**	**01 22 27.3**	**+2.5**
RLS	**Riolos of Patr**	**2.77**	**342**	*e*PN	**Pn**	**01 22 29.7**	**+3.9**
PTL	**Penteli**	**2.82**	**21**	*e*PN	**Pn**	**01 22 28.0**	**+1.6**
PTL	**Penteli**	**2.82**	**21**	*e*Pn	**Pn**	**01 22 27.5**	**+1.1**
MPAR	**Parnis Oros**	**2.88**	**19**	*e*PN	**Pn**	**01 22 30.5**	**+3.2**
APE	**Apeiranthos**	**2.90**	**55**	*e*PN	**Pn**	**01 22 29.0**	**+1.4**
APE	**Apeiranthos**	**2.90**	**55**	*e*Pb	**Pb**	**01 22 30.7**	**-2.6**
EVR	**Evrytania**	**3.54**	**350**	*e*PN	**Pn**	**01 22 41.1**	**+4.4**
PAIG	**Paliouri**	**4.58**	**11**	*e*Pn	**Pn**	**01 22 51.4**	**-0.1**
PAIG	**Paliouri**	**4.58**	**11**	*e*Pn	**Pn**	**01 22 51.3**	**-0.2**
LIT	**Litokhoron**	**4.67**	**359**	*e*Pn	**Pn**	**01 22 52.9**	**+0.2**
LIT				*e*Sn	**Sn**	**01 23 45.8**	**-0.8**
OUR	**Ouranopolis**	**5.03**	**12**	*e*Pn	**Pn**	**01 22 57.2**	**-0.6**
SOH	**Sokhos**	**5.42**	**6**	*e*Pn	**Pn**	**01 23 03.4**	**+0.1**
FNA	**Florina**	**5.43**	**350**	*e*Pn	**Pn**	**01 23 04.0**	**+0.5**
FNA				*e*Sn	**Sn**	**01 24 05.0**	**-0.7**
GRG	**Griva**	**5.52**	**359**	*e*Pn	**Pn**	**01 23 04.8**	**0.0**
KNT	**Kendrikon**	**5.73**	**2**	*e*Pn	**Pn**	**01 23 07.7**	**0.0**
SRS	**Serrai**	**5.74**	**8**	*e*Pn	**Pn**	**01 23 07.8**	**-0.1**
SOI	**Samo**	**5.86**	**299**	*e*Pn	**Pn**	**01 23 11.3**	**+1.8**
SOI	**Samo**	**5.86**	**299**	*e*Pn	**Pn**	**01 23 11.3**	**+1.8**
TIP	**Timpagrande**	**5.96**	**311**	*e*P	**Pn**	**01 23 11.6**	**+0.7**
MTTG	**Motta San Giov**	**6.09**	**297**	*e*Pn	**Pn**	**01 23 13.5**	**+0.7**
MTTG				*e*Sn	**Sn**	**01 24 21.1**	**-1.1**
MTTG	**Motta San Giov**	**6.09**	**297**	*e*Pn	**Pn**	**01 23 13.5**	**+0.7**
MTTG				*e*Sn	**Sn**	**01 24 21.1**	**-1.2**
ORI	**Oriolo Calabro**	**6.70**	**315**	*e*Pn	**Pn**	**01 23 23.1**	**+1.7**
ORI				*e*Sn	**Sn**	**01 24 35.3**	**-2.2**
ORI	**Oriolo Calabro**	**6.70**	**315**	*e*Pn	**Pn**	**01 23 23.1**	**+1.7**
ORI				*e*Sn	**Sn**	**01 24 35.3**	**-2.2**
VAE	**Valguarnera**	**6.89**	**290**	Pn	**Pn**	**01 23 23.6**	**-0.4**
	baz=90,slow=19,SNR=1.8						
VAE				Sn	**Sn**	**01 24 40.4**	**-1.7**
	1.0nm,0.3s,baz=176,slow=19,SNR=4.0						
MRLC	**Muro Lucano**	**7.71**	**316**	*e*Pn	**Pn**	**01 23 36.0**	**+0.4**
MRLC	**Muro Lucano**	**7.71**	**316**	*e*Pn	**Pn**	**01 23 36.0**	**+0.5**
BRTR	**Keskin Array B**	**9.78**	**61**	Pn	**P**	**01 24 02.4**	**-1.7**
	0.2nm,0.3s,baz=241,slow=15,SNR=5.5						
MLR	**Muntele Rosu**	**10.38**	**13**	Pn	**P**	**01 24 16.5**	**+4.2**
	0.2nm,0.3s,baz=322,slow=20,SNR=3.7						
GERES	**GERESS Array B**	**14.92**	**337**	Pn	**P**	**01 25 16.5**	**+3.6**
	0.1nm,0.3s,baz=148,slow=15,SNR=2.6						
YKA	**Yellowknife Ar**	**76.53**	**341**	P	**P**	**01 33 30.1**	**-0.6**
	0.1nm,0.5s,mb3.0,baz=31,slow=5.1,SNR=4.3						

JMA 23 01:46:49.8±0.4, **34.05N**×**142.50E, h68**km, **M3.5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.40**	**296**	P	P	01 47 13.7	-0.2
BSO1				*e*S	S	01 47 31.5	-0.1
BSO3	**Boso 3**	**1.81**	**295**	P	P	01 47 19.9	+0.5
JHJ2	**Mitsune**	**2.43**	**248**	P	P	01 47 28.0	-0.1
JHJ2				*e*S	S	01 47 56.3	-0.3
JOD2	**Odawara 2**	**3.06**	**294**	*e*S	S	01 48 13.6	+1.0
JRY	**Ryogami san**	**3.54**	**305**	P	P	01 47 44.0	+0.2
JFK	**Kawauchi**	**3.56**	**339**	P	P	01 47 43.2	-0.8
JMM	**Marumori**	**4.05**	**341**	P	P	01 47 50.0	-0.8
JMM				*e*S	S	01 48 34.3	-3.1

NIED ***23*** *01:50:00, 39.80N×141.90E, h101km, Mw3.8 Best double couple: Mo5.82×10^14 NP1:φs233°, δ76°, λ-147°. NP2: φs134°, δ58°, λ-17°.*
JMA 23 01:50:45.8, 39.76N×**141.85E, h57**km±1km, **M3.6, 2C-5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.18**	**3**	⇑P	P	01 50 55.0	+0.3
JTH				S	S	01 51 01.4	+0.1
MIYJ	**Miyakonagasawa**	**0.18**	**187**	P	S	01 50 55.0	+0.2
MIYJ				S	S	01 51 01.3	-0.1
JKZ	**Kuzumaki**	**0.46**	**299**	⇓P	P	01 50 57.4	+0.2
JKZ				S	S	01 51 05.3	-0.1
JOM	**Ohasama**	**0.52**	**237**	P	P	01 50 57.6	-0.2
JOM				S	S	01 51 06.2	-0.3
JANG	**Nango**	**0.66**	**337**	⇓P	S	01 50 59.2	-0.3
JANG				S	S	01 51 09.3	-0.4
OFUJ	**Ofunato**	**0.69**	**192**	⇑P	P	01 50 59.7	-0.1
OFUJ				S	S	01 51 09.7	-0.6
JMK	**Ichinoseki**	**0.94**	**211**	⇓P	P	01 51 02.8	-0.4
JMK				*e*S	S	01 51 15.5	-0.6
JAH	**Hinai**	**1.03**	**295**	⇓P	P	01 51 04.1	-0.2
JAH				*e*S	S	01 51 18.1	+0.1
JTM	**Tenmabayashi**	**1.19**	**330**	⇓P	P	01 51 06.1	-0.4
JTM				*e*S	S	01 51 21.2	-0.7

CASC 23 01:53:52.2±1.5, **13.76N**×**91.24W, h16**km±9km, **MD3.8, ML3.6, 4C-2D, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.68**	**325**	⇓*e*P	Pb	01 54 04.4	-0.7
JAT				*e*S	Sb	01 54 14.9	+0.9
JAT				AML	AML	01 54 16.2	
	comp=N,5μm,0.3s						
IXG	**Ixpaco**	**0.86**	**61**	⇑*e*P	Pb	01 54 08.8	+0.4
IXG				*e*S	Sb	01 54 21.6	+2.1
IXG				AML	AML	01 54 35.9	
	comp=N,3μm,0.4s						
TP2	**Tecpan 2**	**1.04**	**12**	⇓*e*P	Pb	01 54 11.0	-0.3
TP2				*e*S	Sb	01 54 26.2	+1.7
TP2				AML	AML	01 54 31.7	
	comp=N,661nm,0.4s						
RBDL	**Robledal**	**1.54**	**77**	⇑*e*P	Pn	01 54 19.7	+0.4
SBLS	**San Blas**	**1.57**	**87**	*e*P	Pn	01 54 19.0	-0.7
SBLS				*e*S	Sn	01 54 40.8	+1.1
SNJE	**San Jose**	**1.59**	**86**	*e*P	Pn	01 54 19.6	-0.3
SNJE				*e*S	Sn	01 54 41.1	+0.9
LFU	**La Fuente**	**2.06**	**90**	⇑*e*P	Pn	01 54 26.9	+0.2
LFRS	**El Faro**	**2.12**	**93**	⇑*e*P	Pn	01 54 27.2	-0.3
LFRS				*e*S	Sn	01 54 53.6	-0.1

SKHL ***23*** *02:13:01.4±0.7, 48.46N×132.63E, h17km±1km, mb4.8/9, Ms4.5/5*
SKHL Felt (IV-V) at Zholti Yar; (III-IV) at Birobidzhan; (II-III) at Kuldur; (II) at Khabarovsk.
IDC ***23*** *02:13:04.3±0.8, 48.58N×132.61E, mb4.0/10, mb1 4.2/11, mb1mx4.0/21, mbtmp3.9/11, ML3.9/1, MS3.4/7, Ms1 3.4/7, ms1mx3.2/25, Error ellipse: s-maj=24.1km s-min=20.6km az=80.0*
NEIC ***23*** *02:13:05.9±0.6, 48.66N×132.51E, h10km, mb4.1/6, Error ellipse: s-maj=11.3km s-min=10.2km az=130.0*
MOS ***23*** *02:13:07.8±1.6, 48.73N×132.47E, h33km, mb4.3/7, Error ellipse: s-maj=17.3km s-min=10.0km az=123.7*
BJI ***23*** *02:13:09.6, 48.44N×131.91E, h10km, mB4.4, mb4.1, ML4.7, Ms4.1, Msz3.8*
ISC 23 02:13:02.6±0.5, **48.72N**±0.04×**132.79E**±0.06, **h10**km, **n57**, **σ1f39**/71, **mb4.0**/15, **MS3.5**/8, **7C-2D**,

Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**0.86**	**307**	⇓*i*P	**Pb**	**02 13 18.5**	**-0.7**
KLR				*e*S	**Sg**	**02 13 31.5**	**+0.1**
KLR				pmax	pmax		
	comp=N,3μm,1.0s						
KLR				pmax	pmax		
	comp=E,2μm,1.0s						
KLR				pmax	pmax		
	comp=Z,2μm,1.0s						
KLR	**Kul'dur**	**0.86**	**307**	⇓*i*Pg	**Pb**	**02 13 18.5**	**-0.7**
KLR				AMB	AMB	02 13 20.0	
	comp=Z,3μm,1.0s						
KLR				AMB	AMB	02 13 20.0	
	comp=Z,2μm,1.0s						
KLR				AMB	AMB	02 13 20.0	
	comp=Z,2μm,1.0s						
KLR				*e*Sg	**Sg**	**02 13 31.5**	**+0.1**
GRNR	**Gornyy**	**3.12**	**47**	*e*Pn	**Pn**	**02 13 56.1**	**+3.1**
GRNR				*e*Pg	**Pg**	**02 14 04.0**	**-1.0**
GRNR				AMB	AMB	02 14 09.0	
	comp=Z,210nm,0.5s						
GRNR				*e*Sg	**Sg**	**02 14 48.6**	**+1.9**
GRNR				A		02 14 49.8	
	comp=Z,1μm,0.8s						
GRNR				A		02 14 49.8	
	comp=Z,2μm,0.8s						
EKMR	**Ekimchan**	**4.36**	**1**	⇑*i*Pn	**Pn**	**02 14 11.3**	**+0.8**
EKMR				sPn		02 14 19.4	
EKMR				*e*Pg	**Pg**	**02 14 23.5**	**-6.2**
EKMR				AMB	AMB	02 14 28.0	
	comp=Z,170nm,0.5s						
EKMR				AMB	AMB	02 14 28.0	
	comp=Z,81nm,0.5s						
EKMR				AMB	AMB	02 14 28.0	
	comp=Z,210nm,0.5s						
EKMR				*e*Sg	**Sg**	**02 15 23.8**	**-4.1**
EKMR				A		02 15 33.3	
	comp=Z,280nm,0.6s						
EKMR				A		02 15 33.3	
	comp=Z,480nm,0.6s						
TEY	**Ternei**	**4.51**	**143**	*e*Pn	**Pn**	**02 14 10.2**	**-2.5**
TEY				pPn		02 14 16.0	
TEY				*e*rx	rx	02 14 26.0	
TEY				*e*Sg	**Sg**	**02 15 16.3**	**-17**
TEY				A		02 15 29.5	
	comp=Z,670nm,0.9s						
MDJ	**Mudanjiang**	**4.66**	**209**	P	**Pn**	**02 14 13.3**	**-1.4**
MDJ				PG	**Pg**	**02 14 26.3**	**-9.3**
MDJ				SG	**Sg**	**02 15 24.8**	**-13**
MDJ				Smax			
	comp=N,1μm,0.7s						
MDJ				Smax			
	comp=E,1μm,0.8s						
YASR	**Yasnyy**	**5.50**	**328**	⇑*i*Pn	**Pn**	**02 14 25.6**	**-1.0**
YASR				AMB	AMB	02 14 26.6	
	comp=E,180nm,0.5s						
YASR				AMB	AMB	02 14 26.6	
	comp=E,120nm,0.5s						
YASR				AMB	AMB	02 14 26.6	
	comp=E,330nm,0.5s						
YASR				sPn		02 14 33.4	
YASR				⇑*i*Pg	**Pg**	**02 14 44.6**	**-7.8**
YASR				*e*rx	rx	02 15 43.0	
YASR				*i* Sg	**Sg**	**02 15 59.0**	**-6.6**
YASR				A		02 16 01.7	
	comp=E,130nm,0.5s						
YASR				A		02 16 01.7	
	comp=E,310nm,0.5s						
VLA	**Vladivostok**	**5.63**	**187**	*i* Sg	**Sg**	**02 15 51.0**	**-19**
ZEA	**Zeya**	**6.12**	**327**	⇑*i*Pn	**Pn**	**02 14 34.2**	**-1.1**
ZEA				AMB	AMB	02 14 34.9	
	comp=E,98nm,0.5s						
ZEA				AMB	AMB	02 14 34.9	
	comp=E,59nm,0.5s						
ZEA				AMB	AMB	02 14 34.9	
	comp=E,200nm,0.5s						
ZEA				AMB	AMB	02 14 35.0	
	comp=E,100nm,0.5s						
ZEA				AMB	AMB	02 14 35.0	
	comp=E,200nm,0.5s						
ZEA				sPn		02 14 42.0	
ZEA				*e*Pg	**Pg**	**02 14 54.9**	**-10**
ZEA				*i* Sg	**Sg**	**02 16 18.2**	**-8.1**
ZEA				A		02 16 22.8	
	comp=E,1μm,1.1s						
ZEA				A		02 16 22.8	
	comp=E,420nm,1.1s						
ZEA				A		02 16 22.8	
	comp=E,200nm,1.1s						
ZEA				A		02 16 23.0	
	comp=E,1μm,1.5s						
ZEA				AMS	AMS	02 16 56.0	
	comp=E,2μm,6.0s						
ZEA				AMS	AMS	02 16 56.0	
	comp=E,1μm,6.0s						
UGL	**Uglegorsk**	**6.13**	**83**	*e*rx	rx	02 16 08.5	
UGL				*e*Sg	**Sg**	**02 16 18.0**	**-8.6**
UGL				A		02 16 29.0	
	comp=E,270nm,0.6s						
UGL				A		02 16 29.0	
	comp=E,286nm,0.6s						
BMKR	**Bomnak**	**6.49**	**339**	⇑*i*Pn	**Pn**	**02 14 39.

comp=E,200nm,0.9s
OKH Okha 8.00 49 *e*Sg **Sg** 02 17 21.0 -8.1
OKH AMS AMS 02 18 34.0
comp=E,800nm,7.0s
ASAJ Asahikawa 8.19 121 LR LR 02 18 15.7
comp=E,178nm,19.9s,baz=335,slow=38
HIA Hailar 8.61 279 *e*P **P** 02 15 08.8 -1.4
TUP Tupik 9.82 310 *e*Pn **P** 02 15 27.0 +0.1
TUP *e*Pg P 02 16 01.2 +34
TUP AMB AMB 02 16 05.5
comp=E,17nm,0.7s
TUP *e*rx rx 02 17 14.6
TUP *e*Sg Sg 02 18 08.4 -21
TUP A 02 18 27.5
comp=E,423nm,1.3s
BOD Bodaibo 14.43 316 *e*P **P** 02 16 26.6 -2.0
BOD pmax pmax
comp=Z,8.0nm,1.3s
BOD Bodaibo 14.43 316 *e*P **P** 02 16 26.6 -2.0
comp=Z,8.0nm,1.3s
PET Petropavlovsk 16.84 65 *e*P **P** 02 17 17.0 +17
PET MLR MLR
comp=Z,200nm,14.0s
SONM Songino Array 17.57 277 P **P** 02 17 10.5 +1.5
comp=Z,0.1nm,0.3s,baz=79,slow=9.5,SNR=11
SONM Lg 02 22 13.1
comp=Z,0.2nm,0.3s,baz=75,slow=28,SNR=9.5
TLY Talaya 18.84 290 P **P** 02 17 24.2 -0.5
ZAK Zakamensk 19.17 286 *e*P **P** 02 17 30.1 +1.5
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK pmax pmax
comp=Z,2.0nm,1.0s
ZAK Zakamensk 19.17 286 *e*P **P** 02 17 30.1 +1.5
comp=Z,4.0nm,1.0s
MOY Mondy 20.49 290 *e*P **P** 02 17 45.3 +2.2
CBIJ Chichi jima 22.79 158 LR LR 02 26 54.3
comp=Z,107nm,19.3s,MS3.3,baz=122,slow=37
TIXI Tiksi 23.08 357 *e*P **P** 02 18 11.9 +3.1
TIXI pmax pmax
comp=Z,5.0nm,1.1s,mb3.9
TIXI MLR MLR
comp=Z,181nm,12.0s,MS3.7
TIXI Tiksi 23.08 357 *e*P **P** 02 18 11.9 +3.1
comp=Z,5.0nm,1.1s,mb3.9
TIXI LR LR
comp=Z,180nm,12.0s,MS3.7
GTA Gaotai 25.29 261 P **P** 02 18 34.9 +4.4
GTA AP pP 02 18 41.3 +7.9
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,40nm,4.9s
GTA LR LR
comp=N,230nm,12.9s,MS4.0
GTA LR LR
comp=E,218nm,12.5s,MS4.0
GTA LR LR
comp=Z,159nm,11.0s,MS3.8
GTA Gaotai 25.29 261 P **P** 02 18 34.9 +4.4
comp=Z,7.0nm,1.1s,mb4.1
GTA pP pP 02 18 41.3 +7.9
GTA LR LR
comp=Z,160nm,11.0s,MS3.8
BILL Bilibino 25.58 29 *e*P **P** 02 18 36.4 +3.5
BILL pmax pmax
comp=Z,6.0nm,1.3s,mb4.0
BILL Bilibino 25.58 29 *e*P **P** 02 18 36.4 +3.5
comp=Z,6.0nm,1.3s,mb4.0
ZAL Zalesovo 29.97 298 P **P** 02 19 14.8 +1.8
comp=Z,9.9nm,0.4s,mb3.9,baz=357,slow=11,SNR=3.9
KURK Kurchatov 34.43 294 *e*P **P** 02 19 51.7 -0.3
CHKZ Chkalovo 38.18 302 *e*P **P** 02 20 24.2 +0.6
CHKZ pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
BVAR Borovoye Array 38.52 301 P **P** 02 20 28.2 +1.7
comp=Z,0.9nm,0.8s,mb3.5,baz=59,slow=8.6,SNR=5.4
SML Sawmill 43.94 42 *e*P **P** 02 21 15.9 +5.1
INK Inuvik 47.18 30 *e*P **P** 02 21 38.4 +1.8
INK pmax pmax
comp=Z,4.0nm,0.8s
INK Inuvik 47.18 30 P **P** 02 21 39.4 +2.8
comp=Z,3.5nm,0.6s,mb4.4,baz=319,slow=8.7,SNR=33
INK Inuvik 47.18 30 *e*P **P** 02 21 38.4 +1.9
comp=Z,4.1nm,0.8s,mb4.4
ARCES ARCESS Array B 50.79 334 LR LR 02 46 13.3
comp=Z,42nm,20.4s,MS3.5,baz=11,slow=39
RES Resolute Bay 52.86 14 *e*P **P** 02 22 20.4 +0.4
RES pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
RES Resolute Bay 52.86 14 *e*P **P** 02 22 20.4 +0.4
comp=Z,0.9nm,0.6s,mb3.9
FINES FINESS Array B 55.56 326 P **P** 02 22 40.1 +0.1
comp=Z,3.4nm,0.9s,mb4.4,baz=18,slow=12,SNR=7.4
FINES LR LR 02 47 18.3
comp=Z,36nm,19.2s,MS3.5,baz=107,slow=37
YKA Yellowknife Ar 56.95 31 P **P** 02 22 53.6 +3.7
comp=Z,0.7nm,0.8s,mb3.8,baz=311,slow=6.7,SNR=18
YKA LR LR 02 49 16.0
comp=Z,36nm,18.1s,MS3.5,baz=90,slow=38
YKA Yellowknife Ar 56.95 31 P **P** 02 22 53.6 +3.7
YKA LR LR 02 49 16.0
NOA NORSAR Array B 60.94 332 P **P** 02 23 17.8 +0.2
comp=Z,0.9nm,0.8s,mb4.0,baz=38,slow=6.4,SNR=3.5
NOA LR LR 02 52 05.8
comp=Z,22nm,18.7s,MS3.3,baz=220,slow=38
MALT Malatya 64.98 300 P **P** 02 23 44.1 -0.5
WRA Warramunga Arr 68.36 178 P **P** 02 24 05.8 -0.6
comp=Z,1.4nm,0.7s,mb4.1,baz=356,slow=7.5,SNR=8.5
WRA Warramunga Arr 68.36 178 P **P** 02 24 05.8 -0.6
CTA Charters Tower 69.54 166 LR LR 02 50 31.0
comp=Z,46nm,20.4s,MS3.7,baz=49,slow=32
EKA Eskdalemuir Ar 69.95 335 P **P** 02 24 16.9 +1.4
comp=Z,2.9nm,0.9s,mb4.2,baz=16,slow=6.1,SNR=3.5
ASAR Alice Springs 72.06 179 P **P** 02 24 30.2 +1.5
comp=Z,0.9nm,0.8s,mb3.8,slow=6.3,SNR=5.9
TXAR Lajitas Array 87.38 47 P **P** 02 25 53.2 +2.2
comp=Z,0.4nm,0.9s,mb3.6,baz=333,slow=10,SNR=2.5

LDG ***23*** *02:17:16.0±0.4, 18.67S×169.64E, h10km, Mb4.5/2, Error ellipse: s-maj=51.5km s-min=29.8km az=36.0*
NEIC ***23*** *02:17:46.2±1.0, 18.90S×169.42E, h256km±9km, mb4.1/6, Error ellipse: s-maj=12.3km s-min=10.0km az=173.0*
IDC ***23*** *02:17:47.3±1.4, 19.02S×169.40E, h264km±13km, mb4.0/12, mb1 4.1/13, mb1mx4.0/17, mbtmp4.5/13, Error ellipse: s-maj=19.0km s-min=12.0km az=158.0*

ISC 23 02:17:46.4±1.0, 18.92S±0.10×169.32E±0.08, h267km±9km, n60, σ0§79/30, mb4.1/16, 2C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**220**↑	*e*P		**P**		**02 18 53.0**	**-0.1**
DZM	**Mont Dzumac**	**4.13**	**220**	P		**P**		**02 18 53.2**	**+0.2**
DZM	7.7nm,0.3s,baz=55,slow=17,SNR=149			S		**S**		**02 19 45.1**	**+0.2**
NOUC	**Port Laguerre**	**4.24**	**221**↑	*e*P		**P**		**02 18 54.5**	**+0.2**
NOUC	**Port Laguerre**	**4.24**	**221**↑	*e*P		**P**		**02 18 54.5**	**+0.2**
HNR	**Honiara**	**13.09**	**315**	*e*P		**P**		**02 20 42.7**	**-1.4**
URZ	**Urewera**	**20.43**	**162**	P		**P**		**02 22 03.7**	**-0.6**
CTA	**Charters Tower**	**21.77**	**263**	*e*P		**P**		**02 22 20.1**	**+2.5**
CTA	**Charters Tower**	**21.77**	**263**	P		**P**		**02 22 19.9**	**+2.3**
CTAO	**Charters Tower**	**21.77**	**263**	*e*P		**P**		**02 22 18.9**	**+1.4**
PMG	**Port Moresby**	**23.45**	**291**	P		**P**		**02 22 34.7**	**+1.0**
STKA	**Stephens Creek**	**28.08**	**237**	P		**P**		**02 23 15.9**	**+0.2**
WB2	**Warramunga Az**	**32.96**	**262**	‖ *i*P		**P**		**02 23 57.5**	**-0.9**
WRAB	**Tennant Creek**	**32.96**	**262**	*e*P		**P**		**02 23 57.2**	**-1.2**
WRA	**Warramunga Arr**	**32.97**	**262**	P		**P**		**02 23 57.6**	**-0.9**
ASAR	0.7nm,0.9s,baz=80,slow=17,SNR=5.0			ScP				02 29 57.7	
ASPA	**Alice Springs**	**33.28**	**256**↑	*i*P		**P**		**02 24 00.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**41.35**	**264**	*e*P		**P**		**02 25 09.0**	**+0.8**
MBWA	**Marble Bar**	**46.49**	**258**	P		**P**		**02 25 49.2**	**+0.1**
FX1	**Attu Island--F**	**71.58**	**2**	P		**P**		**02 28 40.6**	**+0.5**
ULN	**Ulaanbaatar**	**86.66**	**323**	*e*P		**P**		**02 30 02.0**	**+0.9**
BILL	**Bilibino**	**86.74**	**359**	*e*P		**P**		**02 30 01.0**	**0.0**
SONM	**Songino Array**	**87.01**	**323**	P		**P**		**02 30 03.9**	**+1.1**
YBH	**Yreka Blue Hor**	**87.02**	**44**	P		**P**		**02 30 03.7**	**+0.8**
HAWA	**Hanford**	**91.20**	**41**	*e*P		**P**		**02 30 22.5**	**+0.1**
INK	**Inuvik**	**96.22**	**18**	P		**P**		**02 30 43.6**	**-1.2**
PDAR	**Pinedale Array**	**96.35**	**47**	P		**P**		**02 30 45.7**	**-0.3**
TXAR	**Lajitas Array**	**96.55**	**61**	P		**P**		**02 30 46.9**	**-0.4**
YKA	**Yellowknife Ar**	**100.36**	**27**	P		P		02 31 04.3	+0.6
ARCES	**ARCESS Array B**	**124.78**	**345**	PKP		PKPdf		02 36 13.8	-0.1
ARCES	**ARCESS Array B**	**124.78**	**345**	PKP		PKPdf		02 36 13.8	-0.1
MOX	**Moxa**	**143.73**	**336**	*e*PKP		PKPdf		02 36 48.2	-1.1
MOX	**Moxa**	**143.73**	**336**	*i* P		PKPbc		02 36 48.2	-0.2
KHC	**Kasperske Hory**	**144.09**	**333**	*e*PKP		PKPdf		02 36 50.0	0.0
GEC2	**GERESS Array S**	**144.25**	**332**	*e*PKPbc		PKPbc		02 36 50.3	+0.3
GERES	**GERESS Array B**	**144.25**	**332**	PKP		PKPdf		02 36 50.2	0.0
	2.1nm,0.7s,baz=45,slow=3.8,SNR=24								
WET	**Wettzell**	**144.38**	**333**	*e*PKPbc		PKPbc		02 36 51.2	+0.8
IDI	**Anoyia**	**144.62**	**305**	PKP		PKPdf		02 36 52.5	+1.2
	16nm,1.0s,baz=104,slow=4.4,SNR=7.1								
GRA1	**Grafenberg Arr**	**144.64**	**335**	*e*PKPbc		PKPbc		02 36 52.1	+1.0
GRF	**Grafenberg Arr**	**144.64**	**335**	*e*PKP		PKPdf		02 36 52.1	+1.2
TNS	**Taunus Mts**	**145.24**	**338**	*e*PKPbc		PKPbc		02 36 53.8	+1.1
CRES	**Cresnjev**	**145.56**	**327**	*e*PKPbc		PKPbc		02 36 54.6	+1.0
PDKS	**Podkum**	**145.63**	**328**	*e*PKPbc		PKPbc		02 36 54.7	+0.9
GIVF	**Givet**	**146.51**	**342**	*e*PKP1		PKPbc		02 36 57.0	+1.3
	14nm,0.8s								
BAIF	**Baives**	**146.73**	**342**	*e*PKP1		PKPbc		02 36 57.7	+1.4
	14nm,1.0s								
CDF	**Champ du Feu**	**147.18**	**338**	*e*PKP1		PKPdf		02 36 58.9	+3.5
	10.0nm,0.9s								
HINF	**Hinteralfeld**	**147.83**	**338**	*e*PKP1		PKPdf		02 37 00.4	+4.0
	3.4nm,0.6s								
HAU	**Haudompre**	**147.85**	**338**	*e*PKP1		PKPdf		02 37 00.6	+4.2
	12nm,0.8s								
MEZF	**Maizieres J'vi**	**147.86**	**340**	*e*PKP1		PKPdf		02 37 00.2	+3.8
CABF	**La Chapelle**	**149.13**	**337**	*e*PKP1		PKPdf		02 37 04.4	+5.9
	6.7nm,0.7s								
SSF	**Saint Saulge**	**149.62**	**341**	*e*PKP1		PKPdf		02 37 05.2	+6.0
	13nm,0.9s								
LPL	**La Plagne**	**149.80**	**335**	*e*PKP1		PKPdf		02 37 06.2	+6.7
	3.7nm,0.7s								
LPG	**La Plagne**	**149.81**	**335**	*e*PKP1		PKPdf		02 37 06.3	+6.8
	4.8nm,0.7s								
SMF	**Signal de Mont**	**149.88**	**340**	*e*PKP1		PKPdf		02 37 05.7	+6.1
AVF	**Avril sur Loir**	**149.91**	**341**	*e*PKP1		PKPdf		02 37 06.2	+6.6
	12nm,1.1s								
BGF	**Bois d'Agland**	**150.27**	**341**	*e*PKP1		PKPdf		02 37 05.6	+5.4
	16nm,1.0s								
MBDF	**Montbardon**	**150.44**	**334**	*e*PKP1		PKPdf		02 37 07.0	+6.5
ORIF	**Oris-en-Rattie**	**150.63**	**336**	*e*PKP1		PKPdf		02 37 07.7	+6.9
	9.8nm,0.8s								
TCF	**Toulx Ste Croi**	**150.71**	**342**	*e*PKP1		PKPdf		02 37 07.5	+6.6
	32nm,1.4s								
PGF	**Pioggiola**	**151.15**	**329**	*e*PKP1		PKPdf		02 37 08.7	+7.1
	31nm,1.1s								
LMR	**La Mourre**	**151.68**	**333**	*e*PKP1		PKPdf		02 37 09.7	+7.3
	41nm,1.3s								

IDC 23 02:45:38.7±4.8, 45.13S×81.80W, mb3.8/4, mb1 4.0/6, mb1mx3.7/13, mbtmp3.7/6, ML3.7/1, MS3.7/4, Ms1 3.7/4, ms1mx3.0/16, Error ellipse: s-maj=124.4km s-min=36.1km az=172.0, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**9.34**	**66**	Pn		P		02 47 53.4	-4.3
	0.2nm,0.3s,baz=219,slow=13,SNR=5.1								
PLCA				LR		LR		02 51 00.9	
	comp=Z,414nm,20.4s,baz=188,slow=34								
USHA	**Ushuaia**	**12.95**	**143**	LR		LR		02 53 13.7	
	comp=Z,185nm,21.6s,baz=53,slow=35								
CFAA	**Coronel Fontan**	**17.15**	**43**	P		P		02 49 41.5	+0.2
	0.0nm,0.3s,baz=201,slow=12,SNR=7.0								
LPAZ	**La Paz**	**30.97**	**26**	P		P		02 51 57.4	-2.5
	1.3nm,0.9s,baz=181,slow=6.3,SNR=4.3								
BDFB	**Brasilia**	**40.88**	**55**	P		P		02 53 23.3	-0.8
	2.3nm,0.8s,baz=253,slow=11,SNR=3.1								
BDFB				LR		LR		03 11 15.6	
	comp=Z,118nm,18.6s,baz=281,slow=38								
ROSC	**El Rosal**	**50.21**	**10**	LR		LR		03 13 22.7	
	comp=Z,108nm,18.5s,baz=180,slow=33								
TXAR	**Lajitas Array**	**76.74**	**340**	P		P		02 57 32.4	-1.1
	0.3nm,0.9s,baz=157,slow=6.9,SNR=3.2								
PDAR	**Pinedale Array**	**90.95**	**340**	P		P		02 58 43.4	-2.0
	0.5nm,0.8s,baz=153,slow=6.6,SNR=4.7								

IDC 23 02:52:02.0±9.6, 20.63S×178.24W, h564km±90km, mb3.1/4, mb1 3.4/4, mb1mx3.1/12, mbtmp4.1/4, Error ellipse: s-maj=159.1km s-min=45.1km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.25**	**265**	P		P		02 57 53.7	-1.0
	1.1nm,0.5s,baz=89,slow=9.1,SNR=7.7								
ASAR	**Alice Springs**	**44.27**	**257**	P		P		02 59 22.3	-1.4
	2.3nm,0.7s,baz=95,slow=8.0,SNR=25								
ASAR				PcP		PcP		03 00 54.9	-1.2
	0.4nm,0.5s,baz=102,slow=4.3,SNR=5.0								
WRA	**Warramunga Arr**	**44.36**	**262**	P		P		02 59 22.6	-1.8
	1.2nm,0.4s,baz=97,slow=8.5,SNR=10								
PDAR	**Pinedale Array**	**89.21**	**43**	P		P		03 03 58.7	-0.5
	0.4nm,1.0s,baz=288,slow=4.7,SNR=3.6								
AKASG	**Malin Array Be**	**143.01**	**331**	PKP		PKPdf		03 10 29.4	-2.1
	2.2nm,0.5s,baz=43,slow=4.3,SNR=18								
BRTR	**Keskin Array B**	**146.76**	**312**	PKPbc		PKPbc		03 10 41.7	+1.4
	0.5nm,0.6s,baz=124,slow=4.5,SNR=3.6								
GERES	**GERESS Array B**	**150.26**	**344**	PKPbc		PKPdf		03 10 49.7	+6.2
	0.5nm,0.6s,baz=34,slow=3.5,SNR=5.9								

CSEM ***23*** *02:55:55.3±0.2, 35.06N×2.91W, h10km, MD3.5, Error ellipse: s-maj=3.9km s-min=2.7km az=123.0*
CNRM ***23*** *02:55:56.7, 35.10N×2.79W, h8km, MD3.5*
MDD ***23*** *02:55:57.7±0.4, 34.98N×2.87W, h7km±3km, mb3.8/19, Error ellipse: s-maj=4.2km s-min=3.5km az=169.0, PRXIMO*
INMG ***23*** *02:55:58.7±1.4, 35.03N×3.02W, h14km±4km, ML2.3, Error ellipse: s-maj=7.5km s-min=4.4km az=149.0*
NEIC ***23*** *02:55:58.2, 34.99N×2.99W, h9km, MG3.6(MDD), After MDD.*
SFS ***23*** *02:55:58.0, 34.99N×2.99W, h9km*

ISC 23 02:55:56.1±0.4, 35.07N±0.02×2.93W±0.03, h7km, n75, σ1§42/135, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZAI	**Zaio**	**0.18**	**123**	P		**P**	**g**	**02 55 59.5**	**-0.4**
ZAI				S		**S**	**g**	**02 56 02.0**	**-0.5**
ZAI	**Zaio**	**0.18**	**123**	*i* P		**P**	**g**	**02 55 59.5**	**-0.4**
EMEL	**Melilla**	**0.23**	**355**	P		**P**	**g**	**02 56 03.6**	**+2.8**
	93nm,0.1s,SNR=5.0								
EMEL				S		**S**	**g**	**02 56 08.4**	**+4.4**
	1µm,0.2s,SNR=7.9								
EMLI	**Melilla**	**0.23**	**356**	P		**P**	**g**	**02 56 03.8**	**+3.0**
	107nm,0.1s,SNR=5.0								
EMLI				S		**S**	**g**	**02 56 08.4**	**+4.4**
	758nm,0.1s,SNR=7.9								
TOU	**Touzarine**	**0.68**	**261**	*i* P		**P**	**g**	**02 56 11.5**	**+1.7**
TOU				*i* S		**S**	**g**	**02 56 22.0**	**+3.1**
MPAL	**Palemas**	**0.84**	**281**	*i* P		**P**	**b**	**02 56 13.0**	**+0.4**
MPAL				*i* S		**S**	**b**	**02 56 27.5**	**+3.6**
EALB	**Alboran**	**0.87**	**355**	P		**P**	**b**	**02 56 15.5**	**+2.4**
EALB	28nm,0.3s,SNR=18			S		**S**	**b**	**02 56 29.1**	**+4.3**
	288nm,0.4s,SNR=7.9								
EALB	**Alboran**	**0.87**	**355**	P		**P**	**b**	**02 56 15.5**	**+2.4**
	23nm,0.3s,SNR=18								
EALB				S		**S**	**b**	**02 56 29.9**	**+5.1**
	SNR=7.9								
TZK	**Tazeka**	**1.42**	**227**	*i* P		**P**	**n**	**02 56 22.0**	**-0.5**
TZK				*i* S		**S**	**b**	**02 56 41.0**	**+0.2**
EBER	**Berja**	**1.82**	**1**	P		**P**	**n**	**02 56 29.1**	**+0.8**
EBER				S		**S**	**n**	**02 56 51.0**	**-0.9**
EBER	**Berja**	**1.82**	**1**	P		**P**	**n**	**02 56 28.9**	**+0.7**
	2.4nm,0.3s,SNR=18								
EBER				S		**S**	**n**	**02 56 51.0**	**-0.9**
	145nm,0.6s,SNR=7.9								
EBER	**Berja**	**1.82**	**1**	P		**P**	**n**	**02 56 29.0**	**+0.8**
EBER				S		**S**	**n**	**02 56 51.0**	**-0.8**
	89nm,0.5s,SNR=7.9								
ENIJ	**Nijar**	**1.99**	**17**	P		**P**	**n**	**02 56 29.4**	**-1.1**
ENIJ				S		**S**	**n**	**02 56 56.8**	**+0.8**
ENIJ	**Nijar**	**1.99**	**17**	P		**P**	**n**	**02 56 30.7**	**+0.2**
	4.5nm,0.2s,SNR=8.6								
ENIJ				S		**S**	**n**	**02 56 56.8**	**+0.8**
	33nm,0.5s,SNR=7.9								
ENIJ	**Nijar**	**1.99**	**17**	P		**P**	**n**	**02 56 29.4**	**-1.1**
	4.5nm,0.2s,SNR=8.6								
ENIJ				S		**S**	**n**	**02 56 56.8**	**+0.9**
	33nm,0.5s,SNR=7.9								
ERON	**Agron**	**2.07**	**340**	P		**P**	**n**	**02 56 31.5**	**-0.2**
	3.7nm,0.3s,SNR=7.9								
ERON				S		**S**	**n**	**02 56 57.0**	**-1.1**
	9.5nm,0.4s,SNR=7.9								
EMIJ	**Mijas**	**2.11**	**315**	P		**P**	**n**	**02 56 31.4**	**-0.9**
	3.2nm,0.1s,SNR=21								
EMIJ				S		**S**	**n**	**02 56 57.2**	**-1.9**
	11nm,0.3s,SNR=7.9								
EMIJ	**Mijas**	**2.11**	**315**	P		**P**	**n**	**02 56 31.5**	**-0.8**
EMIJ				S		**S**	**n**	**02 56 57.2**	**-1.9**
	22nm,0.4s,SNR=7.9								
ECOG	**Cogollos-Vega**	**2.26**	**347**	P		**P**	**n**	**02 56 36.2**	**+1.7**
	6.0nm,0.3s,SNR=18								
ECOG				S		**S**	**n**	**02 57 03.7**	**+0.8**
	12nm,0.4s,SNR=7.9								
ELOJ	**Sierra Loja**	**2.30**	**335**	P		**P**	**n**	**02 56 37.5**	**+2.5**
ELOJ				S		**S**	**n**	**02 57 05.5**	**+1.6**
ELOJ	**Sierra Loja**	**2.30**	**335**	P		**P**	**n**	**02 56 36.1**	**+1.2**
	5.1nm,0.3s,SNR=8.3								
ELOJ				S		**S**	**n**	**02 57 05.5**	**+1.6**
	5.1nm,0.4s,SNR=7.9								
ELOJ	**Sierra Loja**	**2.30**	**335**	S		**S**	**n**	**02 57 05.5**	**+1.7**
	6.8nm,0.4s,SNR=7.9								
MIF	**Mishlifen**	**2.52**	**230**	*e*P		**Pn**		**02 56 38.0**	**-0.2**
MIF				*i* S		**Sn**		**02 57 09.5**	**-0.1**
CZD	**Col de Zad**	**2.68**	**221**	*i* P		**Pn**		**02 56 42.0**	**+1.5**
CZD				*i* S		**Sn**		**02 57 12.0**	**-1.7**
LIJA	**Lijar**	**2.72**	**313**	P		**Pn**		**02 56 43.0**	**+2.0**
LIJA				S		rx		02 57 58.2	
LIJA	**Lijar**	**2.72**	**313**	*i* P		**Pn**		**02 56 43.0**	**+2.0**
EQES	**Quesada**	**2.73**	**358**	P		**Pn**		**02 56 43.8**	**+2.7**
EQES				S		**Sn**		**02 57 17.6**	**+2.8**
EQES	**Quesada**	**2.73**	**358**	P		**Pn**		**02 56 43.8**	**+2.7**
	6.8nm,0.3s,SNR=7.9								
EQES				S		**Sn**		**02 57 17.4**	**+2.5**
	44nm,0.4s,SNR=7.9								
EQES	**Quesada**	**2.73**	**358**	S		**Sn**		**02 57 17.6**	**+2.8**
	37nm,0.4s,SNR=7.9								
ESPR	**Espera**	**2.97**	**308**	P		**Pn**		**02 56 45.9**	**+1.2**
ESPR				S		**Sn**		**02 57 24.4**	**+3.3**
ESPR	**Espera**	**2.97**	**308**	P		**Pn**		**02 56 45.9**	**+1.2**
	2.5nm,0.3s,SNR=13								
ESPR				S		**Sn**		**02 57 19.6**	**-1.4**
	6.2nm,0.4s,SNR=7.9								
ESPR	**Espera**	**2.97**	**308**	P		**Pn**		**02 56 45.9**	**+1.2**
	4.0nm,0.4s,SNR=13								
ESPR				S		**Sn**		**02 57 24.4**	**+3.4**
	6.7nm,0.4s,SNR=7.9								
EMUR	**La Murta**	**3.08**	**26**	P		**Pn**		**02 56 47.4**	**+1.2**
	5.7nm,0.3s,SNR=9.7								
EMUR				S		**Sn**		**02 57 20.5**	**-3.3**
	19nm,0.5s,SNR=7.9								
EMUR	**La Murta**	**3.08**	**26**	P		**Pn**		**02 56 47.4**	**+1.2**
	5.4nm,0.3s,SNR=9.7								
EMUR				S		**Sn**		**02 57 20.5**	**-3.3**
	11nm,0.4s,SNR=7.9								
EBAN	**Banos Encina**	**3.16**	**348**	P		**Pn**		**02 56 51.2**	**+3.9**
EBAN				S		**Sn**		**02 57 29.2**	**+3.4**
EBAN	**Banos Encina**	**3.16**	**348**	P		**Pn**		**02 56 49.8**	**+2.4**
	1.8nm,0.2s,SNR=7.9								
EBAN				S		**Sn**		**02 57 26.9**	**+1.1**
	6.8nm,0.5s,SNR=7.9								
EBAN	**Banos Encina**	**3.16**	**348**	S		**Sn**		**02 57 29.2**	**+3.4**
	9.1nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**3.36**	**337**	P		**Pn**		**02 56 51.1**	**+0.9**
	1.9nm,0.2s,SNR=24								
EADA				S		**Sn**		**02 57 28.7**	**-2.2**
	9.3nm,0.4s,SNR=7.9								
EADA	**Adamuz**	**3.36**	**337**	P		**Pn**		**02 56 51.1**	**+0.9**
	1.2nm,0.1s,SNR=24								
EADA				S		**Sn**		**02 57 28.7**	**-2.1**
	10.0nm,0.5s,SNR=7.9								
EVIA	**Vianos**	**3.58**	**5**	P		**Pn**		**02 56 56.4**	**+3.2**
EVIA				S		**Sn**		**02 57 35.7**	**-0.6**
EVIA	**Vianos**	**3.58**	**5**	P		**Pn**		**02 56 55.9**	**+2.7**
	1.2nm,0.2s,SNR=7.9								
EVIA				S		**Sn**		**02 57 35.7**	**-0.6**
	SNR=7.9								
ETOB	**Tobarra**	**3.74**	**17**	P		**Pn**		**02 56 57.0**	**+1.5**
	2.7nm,0.4s,SNR=7.9								
ETOB				S		**Sn**		**02 57 38.8**	**-1.5**
	8.4nm,0.4s,SNR=7.9								
ETOB	**Tobarra**	**3.74**	**17**	P		**Pn**		**02 56 57.0**	**+1.5**
	SNR=7.9								
ETOB				S		**Sn**		**02 57 38.8**	**-1.5**
	SNR=7.9								
EMIN	**Mina Concepcio**	**4.04**	**313**	P		**Pn**		**02 56 58.9**	**-1.0**
	4.0nm,0.3s,SNR=28								
EMIN				S		**Sn**		**02 57 43.8**	**-4.3**
	1.2nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**4.04**	**313**	P		**Pn**		**02 56 58.9**	**-0.9**
	1.2nm,0.4s,SNR=28								
EMIN				S		**Sn**		**02 57 43.8**	**-4.3**
	SNR=7.9								
EBEN	**Beniarda**	**4.23**	**30**	P		**Pn**		**02 57 03.1**	**+0.7**
	3.8nm,0.6s,SNR=7.9								
EBEN				S		**Sn**		**02 57 50.5**	**-2.3**
	3.6nm,0.4s,SNR=7.9								
EBEN	**Beniarda**	**4.23**	**30**	P		**Pn**		**02 57 03.1**	**+0.7**
	0.7nm,0.3s,SNR=7.9								
EBEN				S		**Sn**		**02 57 50.5**	**-2.2**
	SNR=7.9								
PALC	**Alcoutim**	**4.38**	**304**	*e*Pn		**Pn**		**02 57 04.0**	**-0.6**
PALC				*e*Sn		**Sn**		**02 57 52.6**	**-4.

EMOS	**Mosqueruela**	**5.63**	**20**	P	**Pn**	**02 57 23.4**	**+1.1**
	1.7nm,0.4s,SNR=7.9						
EMOS				S	**Sn**	**02 58 24.2**	**-3.9**
	2.4nm,0.6s,SNR=7.9						
PCBR	**Castelo Branco**	**5.98**	**324**	*e*Pn	**Pn**	**02 57 26.5**	**-0.7**
PCBR				*e*Sn	**Sn**	**02 58 32.4**	**-4.4**
	2.6nm,0.5s						
PCBR	**Castelo Branco**	**5.98**	**324**	P	**Pn**	**02 57 26.5**	**-0.7**
PCBR				S	**Sn**	**02 58 32.4**	**-4.4**
	1.3nm,0.5s						
PTOM	**Tomar**	**6.30**	**318**	*e*Pn	**Pn**	**02 57 30.6**	**-1.1**
ETOS	**Mallorca**	**6.55**	**43**	P	**Pn**	**02 57 34.3**	**-0.9**
	1.1nm,0.3s,SNR=4.0						
ETOS	**Mallorca**	**6.55**	**43**	P	**Pn**	**02 57 34.3**	**-1.0**
PVIS	**Viseu**	**6.87**	**327**	*e*Pn	**Pn**	**02 57 38.8**	**-0.9**
PBRG	**Braganca**	**7.36**	**337**	*e*Pn	**Pn**	**02 57 45.5**	**-1.1**
PBRG				*e*Sn	**Sn**	**02 59 05.5**	**-5.8**
ECAL	**Calabor**	**7.48**	**338**	P	**Pn**	**02 57 46.7**	**-1.6**
	1.9nm,0.3s,SNR=4.0						
ECAL				S	**Sn**	**02 59 07.1**	**-7.3**
	2.9nm,0.5s,SNR=7.9						
ECAL	**Calabor**	**7.48**	**338**	P	**Pn**	**02 57 46.7**	**-1.6**
ELOB	**Lobios**	**7.89**	**331**	P	**Pn**	**02 57 53.0**	**-1.0**
	1.0nm,0.3s,SNR=7.9						
ELOB				S	**Sn**	**02 59 19.2**	**-5.4**
	2.6nm,0.4s,SNR=4.0						
ERUA	**La Rua**	**8.02**	**337**	P	**P**	**02 57 54.5**	**-1.3**
	2.3nm,0.4s,SNR=7.9						
EARI	**Arriondas**	**8.41**	**349**	P	**P**	**02 58 00.2**	**-1.1**
	2.2nm,0.6s,SNR=7.9						

TAP ***23*** *03:43:36.3,24.28N×122.82E,h18km±1km,ML3.5*

JMA 23 03:43:34.8±0.1,24.51N×122.98E,h64km±1km,M3.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.06**	**150**	P	P	03 43 44.2	0.0
YOJ				S	S	03 43 51.1	0.0
IRIF	**Iriomote-Funau**	**0.71**	**104**	P	P	03 43 49.3	-0.1
IRIF				S	S	03 43 59.7	-0.7
HATJ	**Hateruma jima**	**0.88**	**121**	P	P	03 43 51.5	-0.1
HATJ				S	S	03 44 03.9	-0.2
JKRS	**Kuro-shima**	**0.98**	**106**	P	P	03 43 53.0	+0.1
JKRS				S	S	03 44 06.7	+0.3
JIJ	**Ishigaki jima**	**1.07**	**98**	P	P	03 43 53.8	-0.4
JIJ				S	S	03 44 07.9	-0.6
JTJ	**Tarama**	**1.57**	**85**	P	P	03 44 01.4	+0.3
JTJ				S	S	03 44 21.0	+0.4

NEIC ***23*** *04:00:06.5, 17.44N×94.80W, h134km, MD4.0(MEX), After MEX.*

MEX 23 04:00:06.1±1.5, 17.39N×94.81W, h145km±12km, MD4.0, 2C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.30**	**193**	*i* P	P	04 00 24.9	-1.6
CMIG				*i* S	S	04 00 38.6	-3.4
CMIG	**Matias Romero**	**0.30**	**193**	*i* P	P	04 00 24.9	-1.6
CMIG				*i* S	S	04 00 38.9	-3.2
EVV	**El Vigia**	**1.18**	**334**	*e*P	P	04 00 30.0	-2.3
EVV				*e*S	S	04 00 46.5	-5.9
EVV	**El Vigia**	**1.18**	**334**	*e*P	P	04 00 30.0	-2.3
EVV				*e*S	S	04 00 47.5	-4.9
OXX	**Oaxaca**	**1.85**	**261**	*i* P	P	04 00 38.0	-1.5
OXX				*i* S	S	04 01 03.0	-2.2
VHO	**Vista Hermosa**	**1.86**	**261**	⇑*i* P	P	04 00 38.7	-1.0
VHO				*i* S	S	04 01 04.0	-1.4
HUIG	**Huatulco**	**2.04**	**218**	⇑*i* P	P	04 00 38.2	-3.5
HUIG				*e*S	S	04 01 06.5	-2.5
CCIG	**Comitan**	**2.79**	**113**	*e*P	P	04 00 50.9	-0.3
CCIG				*e*S	S	04 01 22.9	-2.7
PPM	**Popocatepetl**	**3.99**	**295**	*e*P	P	04 01 06.9	-0.1
PPM				*i* S	S	04 01 48.8	-5.0
PPM	**Popocatepetl**	**3.99**	**295**	*e*P	P	04 01 06.9	-0.1
PPM				*i* P		04 01 07.0	
PPM				*i* S	S	04 01 48.8	-5.0
YAIG	**Yautepec**	**4.30**	**291**	*e*P	P	04 01 10.5	-0.6
YAIG				*e*S	S	04 01 55.0	-6.2
YAIG	**Yautepec**	**4.30**	**291**	*e*P	P	04 01 10.5	-0.6
YAIG				*i* S	S	04 01 57.7	-3.4
ACX	**Acapulco**	**4.91**	**265**	*e*P	P	04 01 15.5	-3.7

CSEM ***23*** *04:26:44.7±0.6,35.23N×4.02W, h8km, MD2.0, Error ellipse: s-maj=21.8km s-min=8.1km az=109.0*

MDD ***23*** *04:26:46.8±0.6,35.20N×3.96W, h9km±2km, mb3.3/5, Error ellipse: s-maj=6.8km s-min=4.0km az=82.0, PRXIMO*

CNRM ***23*** *04:26:46.9,35.22N×3.93W, h9km, MD2.0*

ISC 23 04:26:46.0±0.7, 35.23N±0.03×3.99W±0.06, h11km±4km, n13, σ0§54/23, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.04**	**96**	P	**Pg**	**04 26 48.0**	**-0.2**
MPAL				S	**Sg**	**04 26 50.0**	**+0.4**
MPAL	**Palemas**	**0.04**	**96**	*i* P	**Pg**	**04 26 48.0**	**-0.2**
TOU	**Touzarine**	**0.33**	**144**	P	**Pg**	**04 26 52.0**	**-0.8**
TOU				S	**Sg**	**04 26 57.0**	**-0.5**
TOU	**Touzarine**	**0.33**	**144**	*i* P	**Pg**	**04 26 52.0**	**-0.8**
EMEL	**Melilla**	**0.85**	**85**	P	**Pb**	**04 27 02.2**	**0.0**
	22nm,0.2s,SNR=7.9						
EMEL				S	**Sb**	**04 27 12.7**	**-0.6**
	28nm,0.2s,SNR=7.9						
EMLI	**Melilla**	**0.85**	**85**	P	**Pb**	**04 27 03.7**	**+1.4**
	18nm,0.1s,SNR=7.9						
EALB	**Alboran**	**1.05**	**47**	P	**Pb**	**04 27 06.0**	**+0.3**
	2.1nm,0.2s,SNR=7.9						
EALB				S	**Sb**	**04 27 19.9**	**+0.7**
	4.8nm,0.2s,SNR=7.9						
EALB	**Alboran**	**1.05**	**47**	P	**Pb**	**04 27 06.0**	**+0.3**
	0.6nm,0.1s,SNR=7.9						
EALB				S	**Sb**	**04 27 19.9**	**+0.6**
	1.6nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.15**	**188**	*i* P	**Pb**	**04 27 08.0**	**+0.7**
TZK				*i* S	**Sb**	**04 27 22.0**	**0.0**
EMIJ	**Mijas**	**1.48**	**335**	P	**Pn**	**04 27 12.7**	**+0.1**
	1.3nm,0.5s,SNR=7.9						
EMIJ				S	**Sb**	**04 27 31.3**	**-0.2**
	1.0nm,0.3s,SNR=7.9						
EBER	**Berja**	**1.89**	**28**	P	**Pn**	**04 27 18.2**	**-0.3**
	1.3nm,0.5s,SNR=4.0						
EBER				S	**Sn**	**04 27 41.8**	**-0.7**
	1.2nm,0.2s,SNR=4.0						
EBER	**Berja**	**1.89**	**28**	P	**Pn**	**04 27 18.2**	**-0.3**
	0.2nm,0.2s,SNR=4.0						
EBER				S	**Sn**	**04 27 41.8**	**-0.6**
	0.4nm,0.3s,SNR=4.0						
EQES	**Quesada**	**2.67**	**16**	P	**Pn**	**04 27 29.7**	**0.0**
	1.0nm,0.5s,SNR=7.9						
EQES				S	**Sn**	**04 28 02.1**	**-0.3**
	1.6nm,0.5s,SNR=4.0						

IDC 23 04:40:24.9±10.0, 4.58N×95.84E, mb3.7/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.7/3, Error ellipse: s-maj=359.4km s-min=31.7km az=69.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**44.04**	**10**	P	P	04 48 34.3	-1.8
	0.4nm,0.6s,baz=191,slow=9.4,SNR=4.7						
WRA	**Warramunga Arr**	**45.01**	**124**	P	P	04 48 42.1	-2.2
	1.0nm,0.6s,baz=301,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**46.53**	**129**	P	P	04 48 54.9	-1.5
	1.6nm,0.7s,baz=298,slow=7.3,SNR=14						

IDC ***23*** *04:44:41.3±0.7,26.12N×144.14E,mb4.0/10,mb1 4.2/11, mb1mx4.0/20,mbtmp4.0/11,ML4.3/1,MS3.7/1,Ms1 3.7/1, ms1mx2.1/24, Error ellipse: s-maj=26.9km s-min=18.7km az=76.0*

NEIC ***23*** *04:44:42.7±0.5,26.10N×144.11E,h10km,mb4.5/5, Error ellipse: s-maj=20.8km s-min=10.0km az=78.0*

JMA ***23*** *04:44:44.4±0.1,26.63N×144.15E*

ISC 23 04:44:49.1±1.6,26.63N±0.05×144.2E±0.1,h50km±13km, n32,σ0§81/40,mb4.1/14, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.77**	**270**	P	**P**	**04 45 16.6**	**-1.3**
JHHJ				*e*S	**S**	**04 45 40.4**	**+1.2**
CBIJ	**Chichi jima**	**1.82**	**285**	Pn	**P**	**04 45 17.4**	**-1.1**
	85nm,0.3s,baz=272,slow=22,SNR=68						
CBIJ				Sn	**S**	**04 45 40.2**	**-0.2**
	118nm,0.3s,baz=296,slow=21,SNR=7.2						
CBIJ	**Chichi jima**	**1.82**	**285**	P	**P**	**04 45 17.5**	**-1.1**
CBIJ				S	**S**	**04 45 41.4**	**+0.9**
BSO1	**Boso 1**	**8.45**	**342**	P	**P**	**04 46 51.5**	**0.0**
BSO1				*e*S	**S**	**04 48 27.1**	**+0.6**
BSO3	**Boso 3**	**8.72**	**340**	P	**P**	**04 46 55.5**	**+0.2**
BSO3				*e*S	**S**	**04 48 35.4**	**+2.1**
JOD2	**Odawara 2**	**9.64**	**334**	P	**P**	**04 47 08.4**	**+0.5**
JOD2				*e*S	**S**	**04 48 55.3**	**-0.5**
JHU	**Hanno**	**10.09**	**337**	P	**P**	**04 47 14.4**	**+0.3**
JHU				*e*S	**S**	**04 49 06.1**	**-0.8**
JRY	**Ryogami san**	**10.37**	**336**	P	**P**	**04 47 18.9**	**+0.9**
JRY				*e*S	**S**	**04 49 14.0**	**+0.2**
JAG	**Ashikaga**	**10.55**	**339**	P	**P**	**04 47 20.5**	**+0.1**
JAG				*e*S	**S**	**04 49 17.3**	**-0.8**
JFK	**Kawauchi**	**11.06**	**346**	*e*S	**S**	**04 49 26.4**	**-4.0**
MAT	**Matsushiro**	**11.10**	**334**	P	**P**	**04 47 27.0**	**-0.8**
	10nm,0.8s						
MAT				S	**S**	**04 49 29.0**	**-2.4**
MAT	**Matsushiro**	**11.10**	**334**	P	**P**	**04 47 27.0**	**-0.8**
MAT				*e*S	**S**	**04 49 29.3**	**-2.1**
JOW	**Kunigami**	**14.19**	**274**	LR	LR	04 52 17.8	
	comp=Z,306nm,21.4s,baz=238,slow=32						
SONM	**Songino Array**	**36.27**	**316**	P	**P**	**04 51 50.1**	**+0.7**
	1.6nm,0.8s,mb4.0,baz=116,slow=6.6,SNR=12						
WRAB	**Tennant Creek**	**47.26**	**193**	*e*P	**P**	**04 53 10.9**	**-8.5**
	7.7nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**47.27**	**193**	P	**P**	**04 53 11.6**	**-7.9**
	0.4nm,0.3s,mb3.8,baz=18,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**50.88**	**192**	P	**P**	**04 53 41.8**	**-6.3**
	0.1nm,0.4s,mb3.1,slow=6.3,SNR=3.2						
KURK	**Kurchatov**	**54.56**	**315**	*e*P	**P**	**04 54 14.6**	**+0.2**
	8.1nm,1.0s,mb4.7						
CHKZ	**Chkalovo**	**59.38**	**318**	*e*P	**P**	**04 54 48.2**	**-0.3**
	2.4nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**59.57**	**318**	P	**P**	**04 54 50.0**	**+0.2**
	3.3nm,0.5s,mb4.6,baz=90,slow=8.9,SNR=25						
INK	**Inuvik**	**62.72**	**24**	P	**P**	**04 55 10.9**	**+0.1**
	0.8nm,0.6s,mb4.1,baz=306,slow=6.8,SNR=6.6						
YKA	**Yellowknife Ar**	**71.71**	**29**	P	**P**	**04 56 07.7**	**+0.4**
	0.7nm,0.8s,mb3.6,baz=293,slow=5.7,SNR=11						
YKA	**Yellowknife Ar**	**71.71**	**29**	P	**P**	**04 56 07.7**	**+0.4**
JOF	**Joensuu**	**76.27**	**334**	*ep*	**P**	**04 56 33.3**	**-0.4**
KAF	**Kangasniemi**	**78.64**	**335**	*ep*	**P**	**04 56 42.1**	**-4.8**
	2.3nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**79.13**	**334**	P	**P**	**04 56 50.0**	**+0.5**
	2.0nm,0.6s,mb4.2,baz=69,slow=5.7,SNR=16						
AKASG	**Malin Array Be**	**84.02**	**325**	P	**P**	**04 57 14.6**	**-0.6**
	0.8nm,0.4s,mb4.2,baz=46,slow=5.5,SNR=7.9						
NB2	**NORSAR Subarra**	**84.68**	**339**	P	**P**	**04 57 18.8**	**+0.5**
	1.9nm,0.8s,mb4.3,baz=44,slow=4.6						
NOA	**NORSAR Array B**	**84.68**	**339**	P	**P**	**04 57 17.5**	**-0.8**
	3.0nm,0.8s,mb4.5,baz=43,slow=4.7,SNR=9.8						
GERES	**GERESS Array B**	**92.81**	**330**	P	**P**	**04 57 57.2**	**-0.1**
	0.1nm,0.3s,mb3.7,baz=56,slow=4.8,SNR=3.9						
PLCA	**Paso Flores**	**148.10**	**125**	PKPbc	PKPdf	05 04 28.5	+2.5
	1.5nm,0.7s,baz=229,slow=11,SNR=6.1						
LPAZ	**La Paz**	**148.32**	**78**	PKPbc	PKPdf	05 04 31.9	+4.9
	0.9nm,0.5s,baz=344,slow=3.9,SNR=5.4						

IDC ***23*** *04:46:00.4±4.2,47.77N×146.41E,h447km±45km,mb2.9/7, mb1 3.2/8,mb1mx3.0/20,mbtmp3.9/8, Error ellipse: s-maj=56.5km s-min=17.9km az=178.0*

ISC 23 04:46:01.1±4.6,48.0N±0.5×146.3E±0.2,h458km±53km,n8, σ0§84/8,mb3.3/7,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FX1	**Attu Island--F**	**17.74**	**64**	P	**P**	**04 49 40.7**	**+0.4**
	2.3nm,0.3s,baz=211,slow=5.9,SNR=6.2						
SONM	**Songino Array**	**26.54**	**285**	P	**P**	**04 51 01.6**	**-0.3**
	0.4nm,0.4s,mb3.2,baz=80,slow=8.1,SNR=5.0						
INK	**Inuvik**	**43.08**	**32**	P	**P**	**04 53 20.2**	**+0.2**
	0.8nm,0.3s,mb3.6,baz=301,slow=6.6,SNR=19						
YKA	**Yellowknife Ar**	**52.64**	**35**	P	**P**	**04 54 31.1**	**-1.4**
	0.2nm,0.5s,mb2.7,baz=305,slow=7.0,SNR=7.3						
FINES	**FINESS Array B**	**60.84**	**332**	P	**P**	**04 55 28.9**	**0.0**
	0.6nm,0.4s,mb3.4,baz=18,slow=6.0,SNR=5.6						
NOA	**NORSAR Array B**	**65.44**	**338**	P	**P**	**04 55 59.2**	**+0.8**
	0.5nm,0.8s,mb3.2,baz=32,slow=6.5,SNR=2.3						
PDAR	**Pinedale Array**	**67.64**	**51**	P	**P**	**04 56 12.2**	**-0.1**
	0.7nm,0.5s,mb3.5,baz=91,slow=0.5,SNR=9.2						
TXAR	**Lajitas Array**	**80.78**	**56**	P	**P**	**04 57 26.9**	**+0.3**
	0.4nm,0.4s,mb3.3,baz=295,slow=4.3,SNR=9.8						

JMA ***23*** *04:47:30.7±0.3,24.67N×121.71E,h82km,M3.4*

TAP ***23*** *04:47:30.3,24.41N×121.61E,h71km±1km,ML4.3*

TAP Felt II J at Nanau, II J at Nanshan, II J at Nioudou, II J at Neicheng, I J at Chiawan, I J at Sanguang, I J at Ilan, I J at Hualien, II J at Tachien, I J at Shilin, I J at Taipai, I J, II J at Jungli (National Central University), II J at Kuangyinshan, I J at Mingjian.

ISC 23 04:47:29.9±0.4,24.42N±0.02×121.62E±0.02,h72km±3km, n64,σ0§88/120,13C-9D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.11**	**87**	⇓*i* P	**P**	**04 47 40.5**	**0.0**
ENA				S	**S**	**04 47 48.0**	**-0.2**
ENTT	**Nioudou**	**0.22**	**346**	⇓*i* P	**P**	**04 47 41.4**	**+0.4**
ENTT				S	**S**	**04 47 49.3**	**+0.2**
NNS	**Nan Shan**	**0.23**	**274**	⇓*i* P	**P**	**04 47 41.5**	**+0.6**
NNS				S	**S**	**04 47 49.3**	**+0.1**
TWC	**Suao**	**0.28**	**48**	⇓*i* P	**P**	**04 47 41.7**	**+0.4**
TWC				S	**S**	**04 47 49.4**	**-0.3**
TWE	**Neicheng**	**0.30**	**8**	⇓*i* P	**P**	**04 47 42.0**	**+0.6**
TWE				S	**S**	**04 47 50.3**	**+0.3**
TWD	**Chiawan**	**0.34**	**184**	⇓*i* P	**P**	**04 47 41.0**	**-0.7**
TWD				S	**S**	**04 47 48.8**	**-1.7**
NSK	**Sanguang**	**0.35**	**316**	⇓*i* P	**P**	**04 47 41.8**	**0.0**
NSK				S	**S**	**04 47 50.0**	**-0.6**
ILA	**Ilan**	**0.36**	**18**	*i* P	**P**	**04 47 42.6**	**+0.7**
ILA				S	**S**	**04 47 51.5**	**+0.8**
TWT	**Tachien**	**0.44**	**248**	⇓*i* P	**P**	**04 47 43.4**	**+0.9**
TWT				S	**S**	**04 47 52.4**	**+0.5**
HWA	**Hwalien**	**0.44**	**182**	⇑P	**P**	**04 47 42.1**	**-0.5**
HWA				S	**S**	**04 47 51.1**	**-0.8**
EGS		**0.51**	**34**	*e*P	**P**	**04 47 44.2**	**+1.2**
EGS				S	**S**	**04 47 54.5**	**+1.7**
TWA	**Mucha**	**0.56**	**356**	⇑*i* P	**P**	**04 47 43.9**	**+0.2**
TWA				S	**S**	**04 47 53.2**	**-0.5**
NSTT	**Nanjuang**	**0.60**	**290**	⇓*i* P	**P**	**04 47 44.0**	**-0.1**
NSTT				S	**S**	**04 47 53.8**	**-0.8**
TAP1	**Taipei**	**0.62**	**352**	⇑*i* P	**P**	**04 47 44.3**	**0.0**
TAP1				S	**S**	**04 47 54.3**	**-0.6**
TAP	**Taipei**	**0.62**	**350**	P	**P**	**04 47 44.2**	**-0.1**
TAP				S	**S**	**04 47 54.5**	**-0.5**
ESL	**Shilin**	**0.63**	**196**	*e*P	**P**	**04 47 43.1**	**-1.3**
ESL				S	**S**	**04 47 52.6**	**-2.5**
NWF	**Wu-fen Shan**	**0.66**	**12**	⇑*i* P	**P**	**04 47 45.2**	**+0.5**
NWF				S	**S**	**04 47 55.4**	**-0.3**
TWB1	**Santiao Chiao**	**0.67**	**30**	⇑*i* P	**P**	**04 47 45.6**	**+0.8**
TWB1				S	**S**	**04 47 55.8**	**-0.1**
NCU	**National Centr**	**0.67**	**324**	⇑*i* P	**P**	**04 47 45.2**	**+0.3**
NCU				S	**S**	**04 47 56.0**	**0.0**
TWS1	**Kuangyinshan**	**0.70**	**345**	⇑*i* P	**P**	**04 47 45.5**	**+0.4**
TWS1				S	**S**	**04 47 56.5**	**0.0**
TWQ1	**Liyutan**	**0.78**	**265**	⇑*i* P	**P**	**04 47 46.1**	**0.0**
TWQ1				S	**S**	**04 47 57.5**	**-0.6**
NSY	**Sanyi**	**0.79**	**270**	P	**P**	**04 47 46.5**	**+0.3**
NSY				S	**S**	**04 47 58.1**	**-0.1**
TWY	**Chenhua**	**0.85**	**359**	⇑*i* P	**P**	**04 47 47.3**	**+0.4**
TWY				S	**S**	**04 47 59.3**	**-0.2**
SMLT	**Sun Moon Lake**	**0.85**	**231**	⇑*i* P	**P**	**04 47 47.6**	**+0.7**
SMLT				S	**S**	**04 48 00.4**	**+0.9**
TYC	**Yuchr**	**0.87**	**234**	⇑P	**P**	**04 47 47.5**	**+0.4**
TYC				S	**S**	**04 48 00.1**	**+0.1**
TCU	**Taichung**	**0.91**	**253**	⇑*i* P	**P**	**04 47 47.8**	**+0.2**
TCU				S	**S**	**04 47 59.3**	**-1.4**
EHY	**Hungye**	**0.95**	**197**	*e*P	**P**	**04 47 46.5**	**-1.7**
WNT	**Mingjian**	**1.01**	**238**	*e*P	**P**	**04 47 49.3**	**+0.3**
WNT				S	**S**	**04 48 03.2**	**+0.1**
TWF1	**Yuli**	**1.11**	**196**	*e*P	**P**	**04 47 48.4**	**-1.8**
YUS	**Yu-Shan**	**1.11**	**214**	*e*P	**P**	**04 47 51.3**	**+1.0**
YUS				S	**S**	**04 48 06.1**	**+0.8**
ALS	**Alishan**	**1.18**	**220**	P	**P**	**04 47 51.9**	**+0.9**
ALS				S	**S**	**04 48 08.9**	**+2.1**
CHN5	**Tsauling**	**1.19**	**227**	*e*P	**P**	**04 47 51.6**	**+0.3**
CHN5				S	**S**	**04 48 08.0**	**+0.8**
WGK	**Gukeng**	**1.22**	**233**	*e*P	**P**	**04 47 52.2**	**+0.6**
WGK				S	**S**	**04 48 08.3**	**+0.6**
YOJ	**Yonaguni jima**	**1.27**	**88**	P	**P**	**04 47 52.5**	**+0.2**
YOJ				S	**S**	**04 48 09.1**	**+0.2**
PCYT	**Pengchaiyu**	**1.27**	**19**	P	**P**	**04 47 52.5**	**+0.2**
PCYT				S	**S**	**04 48 08.3**	**-0.6**
CHKT	**Chengkung**	**1.34**	**190**	*e*P	**P**	**04 47 52.4**	**-1.0**
CHKT				S	**S**	**04 48 09.8**	**-0.9**
WTCT	**Ta-ch'eng**	**1.35**	**246**	*e*P	**P**	**04 47 52.9**	**-0.6**
WTCT				S	**S**	**04 48 09.9**	**-0.9**
ELDTW	**Lidau**	**1.35**	**204**	*e*P	**P**	**04 47 52.5**	**-1.0**
CHN2	**Minshiung**	**1.38**	**230**	*e*P	**P**	**04 47 54.1**	**+0.2**
CHN2				S	**S**	**04 48 12.0**	**+0.5**
CHN4	**Tsaushan**	**1.42**	**222**	*e*P	**P**	**04 47 54.8**	**+0.2**
CHN4				S	**S**	**04 48 15.4**	**+2.8**
CHY	**Chiayi**	**1.43**	**230**	⇑P	**P**	**04 47 54.7**	**0.0**
CHY				S	**S**	**04 48 12.5**	**-0.3**
STYT	**Tauyuan**	**1.48**	**213**	*e*P	**P**	**04 47 55.9**	**+0.6**
STYT				S	**S**	**04 48 15.1**	**+1.1**
WTP	**Ta-pu**	**1.49**	**218**	*e*P	**P**	**04 47 55.5**	**+0.1**
WTP				S	**S**	**04 48 15.7**	**+1.5**
WSF	**Szhu**	**1.50**	**239**	*e*P	**P**	**04 47 55.1**	**-0.4**
WSF				S	**S**	**04 48 13.9**	**-0.5**
TWK	**Hsinying**	**1.55**	**222**	*e*P	**P**	**04 47 56.2**	**0.0**
TWK				S	**S**	**04 48 16.3**	**+0.7**
CHN1	**Nanshi**	**1.59**	**219**	*e*P	**P**	**04 47 56.6**	**-0.1**
CHN1				S	**S**	**04 48 17.1**	**+0.7**
SGST	**Jiashian**	**1.64**	**216**	*e*P	**P**	**04 47 57.7**	**+0.3**
SGST				S	**S**	**04 48 17.8**	**+0.2**
TWG	**Pinlang**	**1.67**	**198**	*e*P	**P**	**04 47 55.9**	**-2.0**
TWG				S	**S**	**04 48 15.8**	**-2.5**
CHN8	**Yiju**	**1.68**	**231**	*e*P	**P**	**04 47 57.7**	**-0.2**
CHN8				S	**S**	**04 48 18.4**	**-0.1**
TTN	**Taitung**	**1.72**	**195**	*e*P	**P**	**04 47 59.8**	**+1.4**
SCLT	**Jiali**	**1.81**	**227**	*e*P	**P**	**04 47 59.5**	**0.0**
SCLT				S	**S**	**04 48 21.8**	**+0.4**
SSD	**Sandimen**	**1.90**	**209**	*e*P	**P**	**04 48 01.6**	**+0.8**
ECL	**Taimali**	**1.92**	**199**	*e*P	**P**	**04 47 59.0**	**-2.1**
IRIF	**Iriomote-Funau**	**1.92**	**92**	P	**P**	**04 48 01.3**	**+0.1**
IRIF				S	**S**	**04 48 24.1**	**-0.1**
TWM1	**Shoushan**	**1.94**	**215**	*e*P	**P**	**04 48 02.7**	**+1.3**
HATJ	**Hateruma jima**	**2.02**	**100**	P	**P**	**04 48 03.4**	**+0.8**
HATJ				S	**S**	**04 48 27.0**	**+0.3**
PNG	**Penghu**	**2.08**	**246**	*e*P	**P**	**04 48 01.6**	**-1.7**
PNG				S	**S**	**04 48 25.**	**-2.9**
EAST	**Anshuo**	**2.15**	**199**	*e*P	**P**	**04 48 02.7**	**-1.7**
EAST				S	**S**	**04 48 32.6**	**+2.7**
JKRS	**Kuro-shima**	**2.18**	**94**	P	**P**	**04 48 05.1**	**+0.3**
JKRS				S	**S**	**04 48 31.3**	**+0.6**
SCZT	**Fangliau**	**2.24**	**205**	*e*P	**P**	**04 48 05.9**	**+0.2**
SCZT				S	**S**	**04 48 33.3**	**+1.2**
JIJ	**Ishigaki jima**	**2.30**	**91**	P	**P**	**04 48 06.0**	**-0.5**
JIJ				*e*S	**S**	**04 48 32.3**	**-1.3**
LAY	**Lan-yu**	**2.37**	**182**	*e*P	**P**	**04 48 06.7**	**-0.9**
JTJ	**Tarama**	**2.81**	**85**	P	**P**	**04 48 13.9**	**+0.2**
JTJ				S	**S**	**04 48 45.5**	**-1.0**
KNM	**Kinmen**	**2.91**	**271**	*e*P	**P**	**04 48 15.1**	**0.0**
KNM				S	**S**	**04 48 46.8**	**-2.2**

IDC ***23*** *04:56:47.9±1.4,7.55N×93.84E,mb3.8/6,mb1 4.0/6, mb1mx3.9/15,mbtmp3.8/6, Error ellipse: s-maj=62.8km s-min=21.2km az=55.0*

ISC 23 04:56:51.5±1.2,7.5N±0.2×94.0E±0.3,h33km,n11, σ1§02/11,mb4.1/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKI	**Pulchoki**	**21.56**	**339**	*e*P	**P**	**05 01 43.0**	**+2.7**
	8.4nm,0.6s,mb4.4						
GUN	**Gumba**	**21.71**	**340**	*e*P	**P**	**05 01 42.1**	**+0.3**
	16nm,0.6s,mb4.6						
KKN	**Kakani**	**21.81**	**339**	*e*P	**P**	**05 01 43.7**	**+1.0**
GKN	**Gorkha**	**22.24**	**338**	*e*P	**P**	**05 01 46.9**	**-0.1**
	15nm,0.7s,mb4.5						
KOLN	**Koldanda**	**22.44**	**335**	*e*P	**P**	**05 01 49.3**	**+0.3**
	16nm,0.9s,mb4.4						
SONM	**Songino Array**	**41.56**	**13**	P	**P**	**05 04 37.1**	**-0.6**
	0.9nm,0.7s,mb3.5,baz=197,slow=8.3,SNR=9.5						
SONM				PcP	PcP	05 06 35

KIMD	**Kanaga Island**	**2.98**	**87**	P		**P**		**05 17 34.5**	**+0.1**
KIKV	**Kanaga Island**	**3.02**	**85**	P		**P**		**05 17 35.3**	**+0.3**
KIWB	**Kanaga Island**	**3.03**	**86**	P		**P**		**05 17 35.5**	**+0.3**
KIRH	**Kanaga Island**	**3.06**	**85**	P		**P**		**05 17 36.0**	**+0.3**
FX1	**Attu Island--F**	**3.17**	**293**	Pn		**P**		**05 17 35.6**	**-1.5**
	10nm,0.3s,baz=358,slow=1.0,SNR=62								
FX1				Sn		**S**		**05 18 13.8**	**-0.1**
	26nm,0.3s,baz=65,slow=23,SNR=10								
FX1	**Attu Island--F**	**3.17**	**293**	P		**P**		**05 17 36.5**	**-0.6**
ADK	**Adak**	**3.32**	**85**	P		**P**		**05 17 39.0**	**-0.2**
GSMY	**Great Sitkin M**	**3.71**	**83**	P		**P**		**05 17 44.7**	**+0.1**
GSIG	**Igitkin Island**	**3.79**	**84**	P		**P**		**05 17 45.9**	**+0.2**
ATKA	**Atka Island**	**4.87**	**81**	P		**P**		**05 18 00.4**	**-0.2**
INK	**Inuvik**	**28.35**	**36**	P		**P**		**05 22 37.0**	**+0.1**
	0.6nm,0.5s,mb3.4,baz=265,slow=14,SNR=6.6								
YKA	**Yellowknife Ar**	**36.45**	**46**	P		**P**		**05 23 46.5**	**-0.7**
	0.2nm,0.5s,mb3.3,baz=279,slow=7.8,SNR=4.9								
YKA	**Yellowknife Ar**	**36.45**	**46**	P		**P**		**05 23 46.5**	**-0.7**
SONM	**Songino Array**	**44.68**	**295**	P		**P**		**05 24 57.9**	**+2.8**
	0.3nm,0.6s,mb3.2,baz=56,slow=5.2,SNR=3.0								
BW06	**Boulder Array**	**48.11**	**71**	P		**P**		**05 25 21.8**	**-0.3**
PDAR	**Pinedale Array**	**48.11**	**71**	P		**P**		**05 25 21.2**	**-0.9**
	0.4nm,0.6s,mb3.5,baz=297,slow=3.3,SNR=4.1								
SDCO	**Great Sand Dun**	**53.69**	**73**	P		**P**		**05 26 04.3**	**-0.2**
ARCES	**ARCESS Array B**	**57.39**	**349**	P		**P**		**05 26 31.1**	**+0.4**
	1.7nm,0.8s,mb4.1,baz=32,slow=8.5,SNR=3.4								
TXAR	**Lajitas Array**	**60.58**	**79**	P		**P**		**05 26 53.0**	**-0.3**
	0.1nm,0.3s,mb3.3,baz=309,slow=5.6,SNR=6.8								
NOA	**NORSAR Array B**	**67.09**	**353**	P		**P**		**05 27 35.8**	**+0.6**
	0.9nm,0.8s,mb3.6,baz=8.7,slow=5.9,SNR=3.3								

CASC 23 05:34:37.8±2.3, 10.95N×86.33W, h1km±5km, MD3.8, ML3.0, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.07**	**140**	*e*P		Pb	05 34 56.9	-1.9
VCR				*e*S		Sb	05 35 14.2	+1.1
XAVN	**Gruta Xavier**	**1.20**	**0**	*e*P		Pb	05 35 00.7	-0.3
MGAN	**Managua**	**1.20**	**4**	*e*P		Pb	05 35 00.7	-0.3
WILN	**Americas 2**	**1.22**	**7**	*e*P		Pb	05 35 00.7	-0.6
LEON	**Leon**	**1.56**	**340**	*e*P		Pn	05 35 05.1	-1.7
PYTN	**Playitas**	**1.61**	**10**	*e*P		Pn	05 35 06.4	-1.1
TEL3	**Telica 3**	**1.69**	**343**	*e*P		Pn	05 35 07.0	-1.7
FORC	**Fortuna**	**1.70**	**106**	*e*P		Pn	05 35 08.6	-0.3
FORC				*e*S		Sb	05 35 32.8	+1.3
CGA2	**Cerro Gallo 2**	**2.06**	**116**	*e*P		Pn	05 35 14.3	+0.3
CGA2				*e*S		Sn	05 35 43.0	+2.4
PRS1	**Puriscal**	**2.21**	**115**	*e*P		Pn	05 35 16.5	+0.5
LAJ	**Bijagual**	**2.43**	**116**	*e*P		Pn	05 35 16.0	-3.3
LCR2	**La Lucha 2**	**2.59**	**117**	*e*P		Pn	05 35 22.0	+0.5
TRTC	**Tortuguero**	**2.60**	**98**	*e*P		Pn	05 35 19.5	-2.2
BUS	**Buena Vista**	**2.89**	**118**	*e*P		Pn	05 35 26.3	+0.5

LDG ***23*** *05:59:02.7±0.2,26.04N×95.08E,h33km,Mb5.2/33, Ms3.6/7,Error ellipse: s-maj=9.1km s-min=5.9km az=153.0*
MOS ***23*** *05:59:05.0±0.8,26.04N×95.25E,h60km,mb5.4/60,Error ellipse: s-maj=9.8km s-min=3.8km az=127.2*
BJI ***23*** *05:59:05.7,26.20N×95.18E,h65km,mB5.1,mb4.8,ML4.3, Ms4.4,Msz4.0*
NEIC ***23*** *05:59:07.9±0.1,26.08N×95.29E,mb5.1/71,Error ellipse: s-maj=5.2km s-min=2.8km az=47.0*
HRVD ***23*** *05:59:07.9±0.4,26.17N×95.43E,h79km±5km,MW4.9/60, Centroid moment Tensor Solution. LP body waves: s25,c34;Mantle waves: s60,c101; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.19±.21; Mθθ-2.25±.17; Mϕϕ2.06±.17; Mrθ-1.67±.10; Mθϕ-0.17±.15; Mϕr-1.68±.10; Best double couple: M₀3.21×10¹⁶ NP1: ϕs132°,ẟ42°,λ177°. NP2:ϕs225°,ẟ88°,λ48°. Principal axes: T 3.15, Plg33°, Azm100°; N .121, Plg42°, Azm226°; P -3.269, Plg30°, Azm348°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***23*** *05:59:08.2±0.5,26.06N×95.24E,h71km±4km,mb4.4/19, mb1 4.5/19,mb1mx4.5/21,mbtmp4.7/19,MS3.8/11, Ms1 3.8/11,ms1mx3.6/22 Error ellipse: s-maj=18.1km s-min=9.7km az=50.0*

ISC 23 05:59:06.4±0.5, 26.06N±0.03×95.18E±0.02, h69km±4km, h71km±1.4km:pP-P,n378,σ0s99/390,mb4.9/103,29C-73D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.01**	**261**	*e*P		**P**	**05 59 54.0**	**+1.1**
SHL				*e*S		**S**	**06 00 27.0**	**-0.9**
AGT	**Agartala**	**4.17**	**240**	*e*P		**P**	**06 00 11.0**	**+1.8**
LSA	**Lhasa**	**5.08**	**316**	*i* P		**P**	**06 00 22.8**	**+1.0**
LSA				S		**S**	**06 01 11.4**	**-8.4**
LSA				Smax				
	comp=N,260nm,0.6s							
LSA				Smax				
	comp=E,520nm,0.6s							
LSA	**Lhasa**	**5.08**	**316**	*e*P		**P**	**06 00 22.4**	**+0.6**
LSA				pmax		pmax		
	comp=Z,298nm,0.4s							
LSA	**Lhasa**	**5.08**	**316**	*e*P		**P**	**06 00 22.4**	**+0.7**
	comp=Z,298nm,0.4s							
KMI	**Kunming**	**6.89**	**96**	⇑P		**P**	**06 00 49.8**	**+2.9**
KMI				XP			06 01 07.3	
KMI				S		**S**	**06 02 06.0**	**+1.5**
KMI				AMB	AMB			
	comp=Z,168nm,1.8s							
KMI				AMB	AMB			
	comp=Z,963nm,3.1s							
KMI				LR	LR			
	comp=N,2μm,7.0s							
KMI				LR	LR			
	comp=E,1μm,5.7s							
KMI				LR	LR			
	comp=Z,1μm,17.2s							
CHRT	**Chiangrai**	**7.48**	**145**	⇑P		**P**	**06 00 56.0**	**+1.0**
	comp=Z,1μm,1.0s							
CHG	**Chiang Mai**	**8.01**	**153**	PN		**P**	**06 01 03.7**	**+1.4**
JIRN	**Jiri**	**8.19**	**283**	*e*Pn		**P**	**06 01 03.3**	**-1.4**
JIRN				*e*Sn		**S**	**06 02 30.2**	**-6.3**
	comp=Z,730nm,0.4s							
CM31	**Chiang Mai Arr**	**8.33**	**155**	*e*P		**P**	**06 01 08.3**	**+1.6**
	comp=Z,204nm,0.9s							
GUN	**Gumba**	**8.50**	**285**	*e*Pn		**P**	**06 01 07.7**	**-1.3**
GUN				*e*Sn		**S**	**06 02 37.6**	**-6.7**
	comp=Z,614nm,0.4s							
BOK	**Bokaro**	**8.73**	**257**	*i* P		**P**	**06 01 11.4**	**-0.8**
BOK				*i* S		**S**	**06 02 42.4**	**-7.6**
PKI	**Pulchoki**	**8.86**	**282**	*e*Pn		**P**	**06 01 11.6**	**-2.3**
PKI				*e*Sn		**S**	**06 02 43.8**	**-9.3**
	comp=Z,714nm,0.6s							
CD2	**Chengdu**	**8.96**	**55**	P		**P**	**06 01 14.0**	**-1.3**
KKN	**Kakani**	**9.00**	**283**	*e*Pn		**P**	**06 01 13.6**	**-2.2**
KKN				*e*Sn		**S**	**06 02 48.8**	**-7.8**
	comp=Z,431nm,0.4s							
DMN	**Daman**	**9.13**	**282**	*e*Pn		**P**	**06 01 15.0**	**-2.6**
BDT	**Bhumibol Dam**	**9.47**	**157**	⇓P		**P**	**06 01 24.0**	**+1.8**
	comp=Z,33nm,1.0s							
GKN	**Gorkha**	**9.60**	**284**	*e*Pn		**P**	**06 01 21.5**	**-2.5**
GKN				*e*Sn		**S**	**06 03 03.1**	**-8.1**
	comp=Z,674nm,0.3s							
GYA	**Guiyang**	**10.32**	**85**	⇑*i*P		**P**	**06 01 33.1**	**-0.7**
GYA				XP			06 01 51.3	
GYA				AMB	AMB			
	comp=Z,40nm,1.1s							
GYA				AMB	AMB			
	comp=Z,170nm,5.1s							
GYA				LR	LR			
	comp=N,840nm,8.7s							
GYA				LR	LR			
	comp=E,920nm,8.3s							
GYA				LR	LR			
	comp=Z,740nm,9.8s							
KOLN	**Koldanda**	**10.47**	**282**	*e*Pn		**P**	**06 01 32.5**	**-3.5**
KOLN				*e*Sn		**S**	**06 03 22.3**	**-10**
	comp=Z,432nm,0.5s							
NST	**Nakhon Sawan**	**11.32**	**155**	P		**P**	**06 01 49.0**	**+1.6**
	comp=Z,125nm,0.6s							
LZH	**Lanzhou**	**12.44**	**34**	⇑P		**P**	**06 02 00.3**	**-2.0**
LZH				AP			06 02 11.4	
LZH				XP			06 02 19.4	
LZH				S		**S**	**06 04 21.1**	**+1.3**
LZH				SS	SS		06 04 35.0	-1.4
LZH				LG			06 05 35.1	
LZH				AMB	AMB			
	comp=Z,70nm,1.0s							
LZH				AMB	AMB			
	comp=Z,350nm,4.4s							
LZH				LR	LR			
	comp=N,1μm,10.3s							
LZH				LR	LR			
	comp=Z,810nm,13.7s							
BLSP	**Bilaspur**	**12.54**	**255**	*e*P		**P**	**06 02 01.2**	**-2.5**
BLSP				*e*S		**S**	**06 04 11.7**	**-11**
BLSP				*e*			06 04 49.9	
	comp=E,191nm,0.8s							
BLSP				*e*			06 04 50.2	
	comp=N,290nm,0.5s							
ENH	**Enshi**	**13.30**	**68**	*e*P		**P**	**06 02 13.1**	**-0.5**
	comp=N,37nm,0.8s							
LGTI	**Lohaghat**	**13.65**	**288**	*e*		**P**	**06 02 17.0**	**-1.2**
LGTI				*e*			06 04 42.3	
PTH	**Pithoragarh**	**13.69**	**288**	*e*		**P**	**06 02 16.3**	**-2.5**
PTH				*e*			06 04 39.8	
VIS	**Vishakhapatnam**	**13.77**	**235**	*e*P		**P**	**06 02 20.6**	**+0.7**
VIS				*e*			06 04 15.5	
VIS				*e*			06 05 49.4	
	comp=E,43nm,0.7s							
VIS				*e*			06 05 50.2	
	comp=N,44nm,1.1s							
GTA	**Gaotai**	**13.87**	**15**	P		**P**	**06 02 17.3**	**-3.7**
GTA				AP			06 02 26.9	
GTA				XP			06 02 35.8	
GTA				S		**S**	**06 04 43.3**	**-10**
GTA				SCP			06 11 06.0	
GTA				SCS	ScS		06 14 42.4	+0.6
GTA				AMB	AMB			
	comp=Z,8.0nm,1.8s							
GTA				AMB	AMB			
	comp=Z,145nm,6.8s							
GTA				LR	LR			
	comp=N,256nm,12.5s							
GTA				LR	LR			
	comp=E,419nm,12.6s							
GTA				LR	LR			
	comp=Z,282nm,13.7s							
NNT	**Nongplab**	**14.07**	**161**	P		**P**	**06 02 29.4**	**+5.6**
XAN	**Xi'an**	**14.30**	**53**	P		**P**	**06 02 22.3**	**-4.4**
XAN				SP			06 02 30.8	
XAN				S		**S**	**06 05 09.8**	**+5.8**
XAN				AMB	AMB			
	comp=Z,17nm,1.1s							
XAN				LR	LR			
	comp=N,213nm,9.5s							
XAN				LR	LR			
	comp=E,269nm,13.6s							
XAN				LR	LR			
	comp=Z,418nm,16.5s							
QIZ	**Qiongzhong**	**15.24**	**114**	P		**P**	**06 02 40.0**	**+1.1**
QIZ				S		**S**	**06 05 31.6**	**+5.5**
QIZ				AMB	AMB			
	comp=Z,44nm,2.0s							
QIZ				LR	LR			
	comp=Z,478nm,11.2s							
DDI	**Dehra Dun**	**15.68**	**290**	*e*		**P**	**06 02 41.0**	**-3.5**
DDI				*e*			06 05 24.0	
NDI	**New Delhi**	**16.17**	**283**	*e*		**P**	**06 02 51.0**	**+0.4**
NDI				*e*			06 05 33.0	
BHPL	**Bhopal**	**16.39**	**264**	*e*P		**P**	**06 02 52.9**	**-0.5**
BHPL				*e*			06 02 57.6	
	comp=Z,103nm,0.8s							
BHPL				*e*			06 05 41.3	
BHPL				*e*			06 07 45.6	
SMLA	**Simla**	**16.60**	**292**	*i*		**P**	**06 02 50.2**	**-5.7**
SMLA				*i*			06 05 42.6	
SDNR	**Sundarnagar**	**16.85**	**293**	*e*		**P**	**06 02 54.5**	**-4.6**
SDNR				*e*			06 05 51.9	
BHK	**Bhakra**	**17.29**	**292**	*e*		**P**	**06 03 15.7**	**+11**
AKL	**Akola**	**17.50**	**256**	*e*P		**P**	**06 03 08.0**	**+0.6**
HYB	**Hyderabad**	**17.67**	**244**	*e*P		**P**	**06 03 11.0**	**+1.6**
HYB				*e*S		**S**	**06 06 12.0**	**-9.3**
HYB	**Hyderabad**	**17.67**	**244**	*i* P		**P**	**06 03 11.0**	**+1.6**
HYB				*e*			06 03 26.0	
HYB				*e*S		**S**	**06 06 12.0**	**-9.3**
PONG	**Pong**	**17.81**	**294**	*e*		**P**	**06 03 22.0**	**+11**
THN	**Thein Dam**	**18.12**	**295**	*e*P		**P**	**06 03 10.1**	**-4.8**
	comp=Z,22nm,0.7s							
THN				*e*S		**S**	**06 06 20.9**	**-10**
AJM	**Ajmer**	**18.43**	**276**	*e*P		**P**	**06 03 21.4**	**+2.9**
AJM				*e*			06 03 21.8	
	comp=Z,56nm,1.0s							
WMQ	**Urumqi**	**18.73**	**343**	⇓*i*P		**P**	**06 03 21.3**	**-0.7**
WMQ				AP			06 03 33.0	
WMQ				XP			06 03 41.0	
WMQ				S		**S**	**06 06 45.0**	**-0.1**
WMQ				SS	SS		06 07 13.0	+0.7
WMQ				AMB	AMB			
	comp=Z,15nm,0.7s							
WMQ				AMB	AMB			
	comp=Z,372nm,3.9s							
WMQ				LR	LR			
	comp=N,2μm,12.6s							
WMQ				LR	LR			
	comp=E,4μm,12.6s							
WMQ				LR	LR			
	comp=Z,2μm,18.0s							
SNG	**Songkhla**	**19.48**	**164**	P		**P**	**06 03 38.0**	**+7.5**
	comp=Z,178nm,0.8s							
HHC	**Hu-ho-hao-te**	**20.06**	**39**	*e*P		**P**	**06 03 35.3**	**-1.1**
HHC				AP			06 03 50.5	
HHC				XP			06 04 00.0	
HHC				S		**S**	**06 07 14.4**	**+1.4**
HHC				XS			06 07 35.3	
HHC				SS	SS		06 07 42.8	-2.3
HHC				AMB	AMB			
	comp=Z,20nm,1.1s							
HHC				AMB	AMB			
	comp=Z,106nm,3.4s							
HHC				LR	LR			
	comp=N,659nm,19.0s							
HHC				LR	LR			
	comp=E,729nm,16.1s							
HHC				LR	LR			
	comp=Z,343nm,20.8s							
KSH	**Kashi**	**20.94**	**315**	P		**P**	**06 03 46.4**	**+0.9**
KSH				*e*AP			06 03 59.4	
KSH				*e*XP			06 04 06.8	
KSH				*e*PP	PP		06 04 10.3	+0.5
KSH				*e*PPP	PPP		06 04 18.8	-1.0
KSH				*e*S	**S**		**06 07 28.8**	**-1.0**
KSH				*e*PCP	PcP		06 07 51.6	+0.3
KSH				*e*SS	SS		06 08 03.3	-2.8
KSH				*e*SCP			06 11 22.3	
KSH				*e*PCS			06 11 28.1	
KSH				*e*SCS	ScS		06 15 05.5	+2.9
KSH				AMB	AMB			
	comp=Z,630nm,2.3s							
KSH				LR	LR			
	comp=N,580nm,5.8s							
KSH				LR	LR			
	comp=E,860nm,6.4s							
POO	**Poona**	**21.09**	**254**	*e*		**P**	**06 03 56.5**	**+9.3**
POO				*e*			06 04 05.5	
	comp=Z,89nm,1.2s							
POO	**Poona**	**21.09**	**254**	*i* P		**P**	**06 03 47.0**	**-0.2**
POO				*i* S		**S**	**06 07 35.0**	**+2.1**
KULM	**Kulim**	**21.31**	**165**	*e*P		**P**	**06 03 49.5**	**+0.1**
KAD	**Karad**	**21.34**	**250**	*e*		**P**	**06 03 51.1**	**+1.4**
KAD				*e*			06 04 08.2	
	comp=Z,62nm,1.5s							
KAD				*e*			06 07 35.0	
IPM	**Ipoh**	**22.08**	**164**	P		**P**	**06 03 58.9**	**+1.8**
BJT	**Baijiatuau**	**22.36**	**46**	*e*P		**P**	**06 03 59.8**	**+0.2**
BJT				pmax	pmax			
	comp=Z,45nm,1.1s							
BJT	**Baijiatuau**	**22.36**	**46**	*e*P		**P**	**06 03 59.8**	**+0.2**
	comp=Z,45nm,1.1s,mb4.7							
BJI	**Beijing**	**22.38**	**46**	P		**P**	**06 04 00.0**	**+0.3**
BJI				AP			06 04 14.6	
BJI				XP			06 04 23.4	
BJI				S		**S**	**06 08 01.8**	**+5.7**
BJI				AMB	AMB			
	comp=Z,39nm,1.0s,mb4.7							
BJI				LR	LR			
	comp=N,252nm,10.8s							
BJI				LR	LR			
	comp=E,187nm,12.8s							
BJI				LR	LR			
	comp=Z,128nm,31.6s							
ULHL	**Ulahol**	**22.42**	**321**	P		**P**	**06 04 01.8**	**+1.7**
	SNR=48							
KZA	**Kyzart**	**22.89**	**319**	P		**P**	**06 04 06.0**	**+1.3**
	SNR=24							
MKAR	**Makanchi Array**	**23.08**	**337**	*e*P		**P**	**06 04 06.9**	**+0.3**
MKAR				pmax		pmax		
	comp=Z,12nm,0.5s							
TKM2	**Tokmak 2**	**23.22**	**321**	P		**P**	**06 04 09.8**	**+1.9**
	SNR=26							
UCH	**Uchtor**	**23.41**	**319**	P		**P**	**06 04 11.4**	**+1.6**
	SNR=21							
SONM	**Songino Array**	**23.46**	**19**	P		**P**	**06 04 10.6**	**+0.5**
	comp=Z,9.8nm,0.8s,mb4.2,baz=200,slow=9.6,SNR=45							
SONM				ScP			06 11 25.8	
	comp=Z,1.7nm,0.8s,baz=192,slow=3.5,SNR=10							
AAK	**Ala-Archa**	**23.67**	**320**	P		**P**	**06 04 14.2**	**+2.0**
	SNR=28							
AAK	**Ala-Archa**	**23.67**	**320**	P		**P**	**06 04 13.7**	**+1.5**
	comp=Z,204nm,1.4s,mb5.3,SNR=48							
AAK	**Ala-Archa**	**23.67**	**320**	P		**P**	**06 04 14.0**	**+1.8**
AAK				pmax		pmax		
	comp=Z,115nm,1.4s,mb5.0							
AAK	**Ala-Archa**	**23.67**	**320**	*e*P		**P**	**06 04 12.9**	**+0.7**
	comp=Z,75nm,1.4s,mb4.8							
ULN	**Ulaanbaatar**	**23.68**	**20**	*e*P		**P**	**06 04 12.1**	**-0.2**
ULN				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.2							
ULN	**Ulaanbaatar**	**23.68**	**20**	*e*P		**P**	**06 04 12.1**	**-0.2**
	comp=Z,14nm,1.0s,mb4.2							
FRU	**Bishkek**	**23.72**	**320**	*e*P		**P**	**06 04 14.5**	**+1.8**
FRU				*i*			06 04 42.0	
FRU				pmax		pmax		
	comp=Z,154nm,2.0s,mb5.0							
CHMS	**Chumysh**	**23.75**	**321**	P		**P**	**06 04 14.9**	**+1.9**
	SNR=12							
AML	**Almayashu**	**23.85**	**318**	P		**P**	**06 04 16.3**	**+2.3**
	SNR=38							
USP	**Ospenovka**	**24.06**	**321**	P		**P**	**06 04 17.2**	**+1.3**
	SNR=24							
EKS2	**Erkin-Say**	**24.11**	**319**	P		**P**	**06 04 19.1**	**+2.5**
	SNR=54							
ZAK	**Zakamensk**	**25.07**	**12**	*e*P		**P**	**06 04 26.4**	**+0.7**
ZAK				*e*			06 07 58.2	
ZAK				pmax		pmax		
	comp=Z,17nm,1.0s							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.0s							
MOY	**Mondy**	**25.95**	**8**	*e*P		**P**	**06 04 35.5**	**+1.6**
MOY				pmax		pmax		
	comp=Z,23nm,2.5s,mb4.2							
TLY	**Talaya**	**26.38**	**12**	*e*P		**P**	**06 04 39.2**	**+1.3**
TLY				*e*			06 05 34.1	
TLY				*e*S		**S**	**06 09 05.7**	**+1.6**
TLY				pmax		pmax		
	comp=Z,9.0nm,1.6s,mb4.0							
TLY				MLR	MLR			
	comp=Z,162nm,25.0s							
KURK	**Kurchatov**	**27.70**	**337**	*d i*P		**P**	**06 04 49.7**	**-0.3**
KURK	**Kurchatov**	**27.70**	**337**	*e*P		**P**	**06 04 49.6**	**-0.4**
	comp=Z,21nm,1.0s,mb4.6							
SNY	**Shenyang**	**28.16**	**49**	⇑P		**P**	**06 04 52.8**	**-1.4**
SNY				LR	LR			
	comp=Z,150nm,14.3s							
KSM	**Kuching**	**28.46**	**147**	*e*P		**P**	**06 04 56.1**	**-1.1**
ZAL	**Zalesovo**	**28.89**	**347**	P		**P**	**06 05 00.9**	**+0.3**
	comp=Z,7.4nm,0.3s,mb4.7,baz=317,slow=7.4,SNR=29							
JOW	**Kunigami**	**29.60**	**81**	LR		LR	06 17 38.7	
	comp=Z,187nm,21.3s,baz=299,slow=38							
NVS	**Novosibirsk**	**30.06**	**346**	*e*P		**P**	**06 05 10.0**	**-1.0**
NVS				*e*PP		pP	06 05 29.5	+1.9
NVS				*e*S		**S**	**06 10 01.6**	**-1.5**
NVS				pmax		pmax		
	comp=N,37nm,1.2s							
NVS				pmax		pmax		
	comp=E,29nm,1.2s							
NVS				pmax		pmax		
	comp=Z,80nm,1.2s,mb5.2							
NVS				smax				
	comp=N,18nm,1.5s							
NVS				smax				
	comp=E,30nm,1.7s							
BVA0	**Borovoye Array**	**32.70**	**332**	*i* P		**P**	**06 05 34.1**	**-0.1**
BVA0				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**32.70**	**332**	P		**P**	**06 05 34.1**	**-0.1**
	comp=Z,9.8nm,0.5s,mb4.9,baz=135,slow=10,SNR=98							
BVAR				ScP			06 11 54.5	
	comp=Z,2.5nm,0.8s,baz=135,slow=4.2,SNR=7.9							
CHKZ	**Chkalovo**	**33.08**	**333**	*e*P		**P**	**06 05 37.4**	**0.0**
MDJ	**Mudanjiang**	**33.30**	**47**	P		**P**	**06 05 37.5**	**-1.9**
MDJ				AMB	AMB			
	comp=Z,9.0nm,1.3s,mb4.4							
MDJ				AMB	AMB			
	comp=Z,118nm,3.9s							
MDJ				LR	LR			
	comp=N,127nm,35.3s							
MDJ				LR	LR			
	comp=E,48nm,34.0s							
MDJ				LR	LR			
	comp=Z,45nm,24.8s							
SMDO	**Samad**	**33.83**	**273**	P		**P**	**06 05 45.2**	**+0.9**
	SNR=8.4							
BOD	**Bodaibo**	**34.44**	**18**	*e*P		**P**	**06 05 48.8**	**-0.3**
BOD				pmax		pmax		
	comp=Z,6.0nm,2.0s,mb4.1							
BSY	**Bisya**	**34.67**	**273**	⇑P		**P**	**06 05 52.8**	**+1.4**
	SNR=5.9							
ASHO	**Ashiyiah**	**35.29**	**276**	⇑P		**P**	**06 05 58.0**	**+1.3**
	SNR=16							
KLR	**Kul'dur**	**36.53**	**41**	*e*P		**P**	**06 06 03.0**	**-3.9**
WHFO	**Wadi Hawf**	**39.11**	**267**	⇓P		**P**	**06 06 29.2**	**+0.5**
	SNR=6.8							
SVE	**Sverdlovsk**	**39.44**	**331**	⇓*i*P		**P**	**06 06 32.7**	**+1.7**
SVE				*e*			06 08 02.5	
SVE				*e*			06 15 48.0	
SVE				pmax		pmax		
	comp=Z,180nm,1.5s,mb5.7							
SVE				MLR	MLR			
	comp=N,200nm,16.0s							
SVE				MLR	MLR			
	comp=E,100nm,16.0s							
SVE				MLR	MLR			
	comp=Z,200nm,16.0s							
ARU	**Arti**	**40.15**	**329**	⇓*i*P		**P**	**06 06 37.8**	**+0.9**
ARU				*e*			06 08 10.6	
ARU				*e*S		**S**	**06 12 38.2**	**+0.1**
ARU				*e*SS	SS		06 15 41.2	+8.4
ARU				pmax		pmax		
	comp=Z,42nm,1.0s,mb5.2							
ARU	**Arti**	**40.15**	**329**	*e*P		**P**	**06 06 37.4**	**+0.5**
	comp=Z,66nm,1.2s,mb5.3							
CBIJ	**Chichi jima**	**41.86**	**78**	LR		LR	06 24 08.3	
	comp=Z,63nm,20.4s,baz=359,slow=36							
ASAJ	**Asahikawa**	**42.14**	**52**	P		**P**	**06 06 53.4**	**-0.1**
	comp=Z,7.5nm,0.4s,mb4.8,baz=224,slow=7.3,SNR=5.9							
YSS	**Yuzh-Sakhalins**	**42.77**	**48**	*i* P		**P**	**06 06 58.4**	**-0.2**
YSS				pmax		pmax		
	comp=Z,65nm,1.8s,mb5.1							
GNI	**Garni**	**43.

ELZG Elazig 48.43 299 *i* P **P 06 07 45.1 +1.5**
MALT Malatya 48.87 299 *e*P **P 06 07 47.6 +0.5**
MALT pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MALT Malatya 48.87 299 *e*P **P 06 07 47.6 +0.6**
comp=Z,3.9nm,0.7s,mb4.5
VRSR Storozhevoye 48.99 316 *e*P **P 06 07 47.5 -0.3**
VRSR pmax pmax
comp=Z,30nm,1.2s,mb5.1
VRSR pmax pmax
comp=N,5.0nm,0.4s
VRSR pmax pmax
comp=E,20nm,1.0s
VOR Voronezh 49.07 317 *e*P **P 06 07 48.0 -0.4**
VOR pmax pmax
comp=Z,110nm,1.2s,mb5.7
TIXI Tiksi 49.34 13 *e*P **P 06 07 46.8 -3.4**
TIXI pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ANN Anapa 49.56 308 *e*P **P 06 07 54.8 +2.5**
GZT Gaziantep 49.62 298 *i* P **P 06 07 53.7 +0.9**
MA2 Magadan 50.59 33 *e*P **P 06 07 59.5 -0.4**
MA2 *e**PP pP 06 08 26.3 +8.8
MA2 *eS **S** **06 15 06.8 -0.9**
MA2 *e*SSS SSS 06 20 20.7 +4.4
MA2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MA2 MLR MLR
comp=Z,100nm,14.0s
MA2 Magadan 50.59 33 *e*P **P 06 07 58.9 -1.1**
comp=Z,2.6nm,0.4s,mb4.6
MOS Moscow 50.71 322 *e*P **P 06 08 01.0 +0.1**
MOS *e* pP 06 08 19.0 +0.5
MOS pmax pmax
comp=Z,121nm,1.3s,mb5.8
COBT Iskenderun 50.73 297 *i* P **P 06 08 02.0 +0.6**
OBN Obninsk 51.18 321k *i*P **P 06 08 04.1 -0.4**
OBN *e* pP 06 08 21.3 -0.8
OBN 06 09 16.0
OBN *e* 06 09 58.1
OBN S **S** **06 15 16.0 0.0**
OBN pmax pmax
comp=Z,39nm,0.9s,mb5.4
BOYT Boyabat 51.44 303 *i* P **P 06 08 06.7 +0.1**
CTKT Corum 51.56 302 *i* P **P 06 08 08.3 +0.7**
AVNT Avonos 51.64 300 *i* P **P 06 08 08.6 +0.4**
BRTR Keskin Array B 52.50 301 P **P 06 08 14.5 -0.1**
BRTR *PP pP 06 08 31.6 -0.7
BRTR *e* pP 06 08 36.0 +3.7
BRTR Keskin Array B 52.50 301 P **P 06 08 14.4 -0.1**
comp=Z,9.7nm,0.7s,mb5.0,baz=110,slow=7.5,SNR=42
BRTR pP pP 06 08 31.6 -0.8
comp=Z,3.2nm,0.7s,baz=112,slow=8.0,SNR=4.4
BALT Daday 52.57 304 *i* P **P 06 08 15.3 +0.2**
ELDT Eldivan 52.61 302 *i* P **P 06 08 15.9 +0.5**
MBWA Marble Bar 52.64 151 *e*P **P 06 08 14.5 -1.4**
comp=Z,29nm,0.7s,mb5.4
EIL Elat 52.85 289 *e*P **P 06 08 16.9 -0.4**
comp=Z,22nm,1.1s,mb5.1
KAKA Kakadu 52.91 132 *e*P **P 06 08 15.8 -2.2**
comp=Z,13nm,1.0s,mb4.9
FITZ Fitzroy Crossi 52.95 143⇑ *i*P **P 06 08 17.0 -1.2**
comp=Z,34nm,0.6s,mb5.5
FITZ *e* pP 06 08 36.0 0.0
HENT Hendek 54.49 303 *i* P **P 06 08 28.3 -0.9**
ESKT Eskisehir 54.67 301 *i* P **P 06 08 30.1 -0.4**
ISP Isparta 55.14 299*d *i*P **P 06 08 32.9 -1.1**
AKASG Malin Array Be 55.23 315 P **P 06 08 32.6 -1.9**
comp=Z,3.7nm,0.3s,mb4.8
JOF Joensuu 55.26 330 *e*p **P 06 08 33.7 -0.8**
comp=Z,17nm,0.8s,mb5.1
KIS Kishinev 55.57 311 *e*P **P 06 08 36.0 -1.0**
ULDT Uludag 55.91 302 *i* P **P 06 08 39.5 0.0**
CFR Carcaliu 56.15 308 P **P 06 08 41.3 +0.1**
HARR Harsova 56.33 308 P **P 06 08 42.6 +0.1**
BTOK Tokmak 56.80 302 *i* P **P 06 08 45.2 -0.7**
VSU Vasula 56.95 324 *i* P **P 06 08 46.4 -0.2**
VRI Vrincioaia 57.08 309 P **P 06 08 48.5 +0.7**
VRI Vrincioaia 57.08 309⇑ *i*P **P 06 08 48.6 +0.8**
ISR Istrita 57.28 308 P **P 06 08 51.0 +1.8**
ISR Istrita 57.28 308⇑ *i*P **P 06 08 50.6 +1.4**
KAF Kangasniemi 57.45 329 *e*p **P 06 08 49.0 -1.1**
baz=91,slow=6.6
FINES FINESS Array B 57.49 328 P **P 06 08 50.1 -0.4**
comp=Z,10nm,0.7s,mb5.0,baz=87,slow=5.2,SNR=49
FINES pP pP 06 09 07.5 -1.0
comp=Z,1.8nm,0.5s,baz=104,slow=7.9,SNR=3.0
FINES LR LR 06 36 03.2
comp=Z,98nm,18.6s,baz=210,slow=38
MLR Muntele Rosu 57.66 309⇑ P **P 06 08 52.7 +0.8**
MLR Muntele Rosu 57.66 309 P **P 06 08 52.9 +1.0**
MLR Muntele Rosu 57.66 309⇑ *i*P **P 06 08 52.8 +0.9**
SNX Sinaia 57.98 309 P **P 06 08 54.9 +0.8**
KEV Kevo 58.26 338 *e*p **P 06 08 54.9 -0.8**
ARCES ARCESS Array B 58.74 337 P **P 06 08 58.8 -0.3**
comp=Z,3.0nm,0.8s,mb4.4,baz=110,slow=7.0,SNR=13
ARCES LR LR 06 38 19.6
comp=Z,40nm,18.6s,baz=190,slow=40
SUW Suwalki 58.88 319 *e*P **P 06 08 59.6 -0.6**
BILL Bilibino 59.03 25 *e*P **P 06 09 00.7 -0.4**
BILL *e* pP 06 09 19.9 +0.7
BILL pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KWP Kalwaria 59.46 314 *e*P **P 06 09 04.1 -0.1**
WRAB Tennant Creek 59.47 136 P **P 06 09 03.0 -1.7**
comp=Z,216nm,0.9s,SNR=16
WRAB Tennant Creek 59.47 136*c *i*P **P 06 09 03.6 -1.1**
WRAB Tennant Creek 59.47 136 *e*P **P 06 09 03.1 -1.7**
WRA Warramunga Arr 59.47 136 P **P 06 09 03.6 -1.2**
comp=Z,20nm,0.8s,mb5.2,baz=327,slow=7.5,SNR=64
WRA pP pP 06 09 22.5 -0.3
comp=Z,7.3nm,0.6s,baz=324,slow=7.4,SNR=5.9
WB2 Warramunga Arr 59.48 136⇑ *i*P **P 06 09 03.6 -1.2**
WB2 *epP pP 06 09 24.4 +1.5
MMB Musomiste 59.76 305 *e*P **P 06 09 05.0 -1.5**
KOLS Kolonicke sedl 59.81 313 *e*P **P 06 09 05.9 -0.8**
VTS Vitosha 59.98 306⇑ P **P 06 09 08.1 +0.1**
VTS Vitosha 59.98 306 *e*P **P 06 09 08.0 0.0**
KKB Krupnik 60.19 305 *e*P **P 06 09 08.0 -1.4**
CRVS Cervenica-Dubn 60.35 313 *i* P **P 06 09 11.5 +1.1**
CRVS *i* 06 09 13.5
BZS Buzias 60.67 309⇑ P **P 06 09 12.3 -0.3**
NIE Niedzica 61.03 314 *e*P **P 06 09 13.6 -1.4**
MUN Mundaring 61.10 160 *e*P **P 06 09 14.3 -1.5**
comp=Z,25nm,0.6s,mb5.4
MUN Mundaring 61.10 160 *e*P **P 06 09 14.3 -1.5**
MUN pmax pmax
comp=Z,25nm,0.6s,mb5.4
KLBR Kellerberrin 61.25 158 *e*P **P 06 09 15.1 -1.6**
comp=Z,99nm,0.7s,mb6.0
OJC Ojcow 61.27 315 *e*P **P 06 09 16.1 -0.5**
SKO Skopje 61.38 305⇓ *i*P **P 06 09 16.6 -0.9**
comp=Z,0.0nm,0.8s
PMG Port Moresby 61.59 118 P **P 06 09 18.3 -1.0**
comp=Z,11nm,0.6s,mb5.1,baz=23,slow=3.0,SNR=6.2
ASPA Alice Springs 62.03 140 *e*P **P 06 09 20.7 -1.4**
ASPA *e* pP 06 09 41.4 +1.1
ASAR Alice Springs 62.03 140 P **P 06 09 21.2 -0.9**
comp=Z,8.7nm,0.7s,mb4.9,baz=322,slow=6.4,SNR=48
ASAR pP pP 06 09 40.7 +0.4
comp=Z,6.6nm,0.5s,baz=323,slow=6.8,SNR=7.7
ASAR LR LR 06 38 33.9
comp=Z,55nm,20.6s,baz=323,slow=38
KMBO Kilima Mbogo 62.03 254 *e*P **P 06 09 22.7 +0.5**
KMBO *e**PP pP 06 09 40.2 -0.2
KMBO Kilima Mbogo 62.03 254 P **P 06 09 22.9 +0.7**
comp=Z,3.5nm,0.6s,mb4.5,baz=48,slow=12,SNR=8.1
KMBO pP pP 06 09 41.8 +1.3
comp=Z,5.4nm,0.8s,baz=48,slow=10,SNR=4.4
KMBO LR LR 06 35 43.7
comp=Z,50nm,19.2s,baz=123,slow=35
DIVS Divcibare 62.05 308⇑ *i*P **P 06 09 21.4 -0.5**
VYHS Vyhne 62.12 313 *i* P **P 06 09 22.5 +0.1**
PVY Plav 62.34 306⇓ *i*P **P 06 09 24.1 +0.2**
IVA Berane 62.34 307⇓ *i*P **P 06 09 24.4 +0.5**
OKC Ostrava-Krasne 62.37 315 *e*P **P 06 09 24.4 +0.4**
OKC AMS AMS 06 38 00.0
GKP Gorka Klasztor 62.47 319 *e*P **P 06 09 24.5 -0.1**
BBLS Bajina Basta - 62.50 308⇑ *i*P **P 06 09 24.8 -0.2**
PLE Pljevlja 62.62 307⇓ *i*P **P 06 09 26.7 +0.9**
PKSM Moragy 62.62 310⇑ P **P 06 09 25.0 -0.7**
MORC Moravsky Berou 62.77 315 *e*P **P 06 09 25.8 -0.9**
MORC pmax pmax
comp=Z,24nm,1.1s,mb5.0
MORC Moravsky Berou 62.77 315⇓ *e*P **P 06 09 25.8 -0.8**
comp=Z,24nm,1.1s,mb5.0
TTG Podgorica 62.89 306⇓ *i*P **P 06 09 25.7 -1.8**
ULC Ulcinj 62.99 306⇓ *i*P **P 06 09 27.2 -1.1**
UPM Unac-Piva 62.99 307⇓ *i*P **P 06 09 27.8 -0.5**
NKY Niksic 63.00 307⇓ *i*P **P 06 09 26.9 -1.4**
BUM Brajici-Budva 63.17 306⇓ *i*P **P 06 09 29.3 -0.2**
ZST Bratislava 63.31 313 *i* P **P 06 09 30.5 +0.2**
KSP Ksiaz 63.40 316 *e*P **P 06 09 30.8 0.0**
KSP *e**PP pP 06 09 49.2 +0.1
KSP Ksiaz 63.40 316 *e*P **P 06 09 31.0 +0.2**
HCY Herceg Novi 63.44 306⇓ *i*P **P 06 09 30.7 -0.4**
DPC Dobruska-Polom 63.46 315 *e*P **P 06 09 31.6 +0.4**
DPC AMS AMS 06 37 40.0
VRAC Vranov 63.46 314 ⇓P **P 06 09 31.7 +0.5**
UPC Upice 63.63 316 *e*P **P 06 09 32.8 +0.5**
PVCC Panska Ves 64.53 316 *e*P **P 06 09 39.0 +0.9**
ARSA Arzberg 64.54 312⇓ *i*P **P 06 09 37.9 -0.3**
comp=Z,32nm,1.4s,mb5.0
PRU Pruhonice 64.65 315 *e*P **P 06 09 39.5 +0.6**
PRU AMS AMS 06 38 00.0
comp=Z,100nm,21.8s
NB2 NORSAR Subarra 64.67 328 P **P 06 09 38.3 -0.6**
comp=Z,20nm,0.9s,mb4.9,baz=81,slow=6.2
NB2 NORSAR Subarra 64.67 328 P **P 06 09 38.3 -0.6**
NB2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
NB2 NORSAR Subarra 64.67 328 P **P 06 09 38.3 -0.6**
baz=81,slow=6.5
NOA NORSAR Array B 64.67 328 P **P 06 09 38.4 -0.5**
comp=Z,11nm,0.8s,mb4.7,baz=83,slow=6.5,SNR=34
NOA pP pP 06 09 56.2 -1.1
comp=Z,1.5nm,0.6s,baz=82,slow=6.6,SNR=1.9
NOA LR LR 06 39 34.7
comp=Z,100nm,18.2s,baz=20,slow=38
NOA NORSAR Array B 64.67 328 P **P 06 09 38.4 -0.5**
NOA pP pP 06 09 56.2 -1.1
NOA LR LR 06 39 34.6
FORT Forrest 64.68 149 *e*P **P 06 09 38.9 -0.6**
comp=Z,833nm,1.3s
BRG Berggiesshubel 64.86 316 *i* P **P 06 09 40.5 +0.3**
BRG *e* pP 06 09 59.0 +0.4
BRG pmax pmax
comp=Z,29nm,1.0s,mb5.1
BRG Berggiesshubel 64.86 316 *i* P **P 06 09 40.5 +0.3**
comp=Z,29nm,1.0s,mb5.1
BRG *e* pP 06 09 59.0 +0.4
NAO01 NORSAR Array S 64.86 327 *e*P **P 06 09 39.0 -1.1**
PERS Pernice 64.94 311 *i* P **P 06 09 40.7 -0.1**
PERS *e* 06 10 10.0
BOJS Bojanci 65.08 310 *i* P **P 06 09 41.8 0.0**
MOA Molln 65.25 313⇑ *i*P **P 06 09 42.7 -0.1**
comp=Z,27nm,1.1s,mb5.0
MOA *i* 06 47 12.1
OBKA Obir 65.35 311⇑ *i*P **P 06 09 43.2 -0.3**
comp=Z,49nm,1.5s,mb5.1
CLL Collm 65.35 317⇓ *i*P **P 06 09 43.1 -0.3**
CLL pmax pmax
comp=Z,21nm,1.1s,mb4.9
CLL Collm 65.35 317⇓ *i*P **P 06 09 43.1 -0.3**
comp=Z,21nm,1.1s,mb4.9
CLL Collm 65.35 317 ⇓P **P 06 09 43.1 -0.3**
comp=Z,logA/T=1.3,mb4.9
GEC2 GERESS Array S 65.41 314 *e*P **P 06 09 44.1 +0.3**
GEC2 pmax pmax
comp=Z,40nm,1.0s,mb5.2
GEC2 GERESS Array S 65.41 314 *e*P **P 06 09 44.1 +0.3**
comp=Z,40nm,1.0s,mb5.2
GERES GERESS Array B 65.41 314 P **P 06 09 43.9 +0.1**
comp=Z,18nm,0.8s,mb5.0,baz=76,slow=5.5,SNR=125
GERES pP pP 06 10 02.3 +0.1
comp=Z,2.7nm,0.7s,baz=90,slow=5.3,SNR=3.0
KHC Kasperske Hory 65.43 314*d *i*P **P 06 09 43.9 -0.1**
KHC Kasperske Hory 65.43 314 *e*P **P 06 09 44.4 +0.4**
KHC MLR MLR
comp=Z,200nm,25.6s
KHC Kasperske Hory 65.43 314 *e*P **P 06 09 44.4 +0.4**
KHC AMS AMS 06 39 20.0
comp=Z,200nm,25.6s
LJU Ljubljana 65.46 311 *e*P **P 06 09 44.6 +0.4**
TIP Timpagrande 65.47 303 *e*P **P 06 09 42.2 -2.2**
KONO Kongsberg 65.69 326*d *i*P **P 06 09 45.0 -0.5**
WET Wettzell 65.88 315 *e*P **P 06 09 47.1 +0.3**
WET pmax pmax
comp=Z,26nm,1.0s,mb5.0
WET Wettzell 65.88 315 *e*P **P 06 09 47.1 +0.3**
comp=Z,26nm,1.0s,mb5.0
VOY Vojsko 65.89 311 *i* P **P 06 09 46.3 -0.7**
NKC Novy Kostel 65.92 316 *e*P **P 06 09 47.4 +0.3**
NKC AMS AMS 06 38 40.0
comp=Z,200nm,28.0s
CADS Cadrg 65.96 311 *i* P **P 06 09 46.6 -0.8**
MRLC Muro Lucano 66.02 305 *e*P **P 06 09 47.0 -0.8**
KBA Koelnbreinsper 66.03 312⇓ *i*P **P 06 09 47.3 -0.5**
comp=Z,25nm,1.2s,mb4.9
KBA Koelnbreinsper 66.03 312⇓ *i*P **P 06 09 47.3 -0.5**
KBA pmax pmax
comp=Z,25nm,1.2s,mb4.9
TRI Trieste 66.06 311 *e*P **P 06 09 47.4 -0.6**
PTCC Patocco-Chiusa 66.17 312 *e*P **P 06 09 47.9 -0.9**
SOI Samo 66.28 302 *e*P **P 06 09 49.5 -0.1**
MOX Moxa 66.35 316 *e*P **P 06 09 49.9 +0.1**
MOX pmax pmax
comp=Z,26nm,1.2s,mb4.9
MOX Moxa 66.35 316 *e*P **P 06 09 49.9 +0.1**
comp=Z,26nm,1.2s,mb4.9
MOX Moxa 66.35 316 *i* P **P 06 09 49.9 +0.1**
comp=Z,logA/T=1.3,mb4.9
BSEG Bad Segeberg 66.42 320 *e*P **P 06 09 50.9 +0.7**
CII Carovilli 66.64 306 *e*P **P 06 09 51.4 -0.4**
comp=Z,20nm,0.4s,mb5.3
GRA1 Grafenberg Arr 66.81 315 *e*P **P 06 09 53.6 +0.9**
comp=Z,59nm,1.3s,mb5.3
GRA1 *epP pP 06 10 12.1 +0.9
GRA1 LR LR
comp=Z,200nm,31.8s
GRF Grafenberg Arr 66.81 315 *e*P **P 06 09 53.6 +0.9**
GRF *e**PP pP 06 10 12.1 +0.9
GRF pmax pmax
comp=Z,59nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,200nm,31.8s
GRF Grafenberg Arr 66.81 315 *e*P **P 06 09 53.6 +0.9**
GRF *e**PP pP 06 10 12.1 +0.9
GRF pmax pmax
comp=Z,59nm,1.3s,mb5.3
GRF MLR MLR
comp=Z,200nm,31.8s
GRF Grafenberg Arr 66.81 315 *e*P **P 06 09 53.6 +0.9**
comp=Z,59nm,1.3s,mb5.3
GRF *epP pP 06 10 12.1 +0.9
GRF LR LR
comp=Z,200nm,31.8s
GRFO Grafenberg 66.81 315 *e*P **P 06 09 53.6 +0.9**
CLZ Clausthal 66.84 318 *e*P **P 06 09 53.3 +0.4**
comp=Z,48nm,1.0s,mb5.3
SDI San Donato 67.00 306 *e*P **P 06 09 53.2 -0.8**
WTTA Wattenberg 67.12 313⇓ *i*P **P 06 09 54.2 -0.5**
comp=Z,46nm,1.3s,mb5.1
WTTA Wattenberg 67.12 313⇓ *i*P **P 06 09 54.2 -0.5**
WTTA pmax pmax
comp=Z,46nm,1.3s,mb5.2
AQU L'Aquila 67.13 307 *e*P **P 06 09 54.8 0.0**
AQU pmax pmax
comp=Z,24nm,0.9s,mb5.0
AQU L'Aquila 67.13 307 *e*P **P 06 09 54.8 0.0**
comp=Z,24nm,0.9s,mb5.0
FUR Furstenfeldbru 67.14 314 *e*P **P 06 09 55.2 +0.4**
FUR pmax pmax
comp=Z,70nm,0.9s,mb5.5
FUR Furstenfeldbru 67.14 314 *e*P **P 06 09 55.2 +0.4**
comp=Z,70nm,0.9s,mb5.5
WATA Walderalm 67.14 313⇑ *i*P **P 06 09 54.1 -0.7**
comp=Z,9.8nm,1.0s,mb4.6
WATA Walderalm 67.14 313⇑ *i*P **P 06 09 54.1 -0.7**
WATA pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
ARV Arcevia 67.16 309 *e*P **P 06 09 54.9 -0.2**
NRCA Norcia 67.21 308 *e*P **P 06 09 55.3 -0.1**
PTQR Pietraquaria 67.22 307 *e*P **P 06 09 55.3 -0.1**
SNTG Esanatoglia 67.23 308 *e*P **P 06 09 55.3 -0.1**
CTI Castel Tesino 67.41 311 *e*P **P 06 09 55.9 -0.6**
SQTA Sankt Quirin 67.41 313⇓ *i*P **P 06 09 55.9 -0.6**
comp=Z,19nm,1.0s,mb4.9
SQTA Sankt Quirin 67.41 313⇓ *i*P **P 06 09 55.9 -0.6**
SQTA pmax pmax
comp=Z,19nm,1.0s,mb4.9
MOTA Moosalm 67.45 313⇓ *i*P **P 06 09 56.2 -0.5**
MBAR Mbarara 67.45 258 *e*P **P 06 09 56.7 -0.6**
MBAR *e*PP pP 06 10 14.4 -1.4
MBAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
MBAR Mbarara 67.45 258 *e*P **P 06 09 56.6 -0.7**
comp=Z,8.3nm,0.9s,mb4.6
MBAR *epP pP 06 10 14.4 -1.4
CTA Charters Tower 67.54 128 *e*P **P 06 09 56.6 -1.2**
comp=Z,6.0nm,1.1s,mb4.3
CTA Charters Tower 67.54 128 *e*P **P 06 09 56.6 -1.2**
CTA pmax pmax
comp=Z,6.0nm,1.1s
CTA Charters Tower 67.54 128 P **P 06 09 57.2 -0.5**
comp=Z,8.1nm,1.1s,mb4.5,baz=295,slow=10,SNR=4.5
SFI Santa Sofia 67.82 309 *e*P **P 06 09 59.8 +0.7**
PGD Poggio Sodo 67.92 309 *e*P **P 06 10 00.8 +1.1**
VMG Vicchio 68.02 309 *e*P **P 06 10 01.6 +1.2**
DAVA Damuels 68.27 313⇓ *i*P **P 06 10 01.6 -0.2**
comp=Z,34nm,1.1s,mb5.1
ZCCA Zocca 68.31 310 *e*P **P 06 10 03.7 +1.5**
STU Stuttgart 68.33 315 *e*P **P 06 10 02.0 -0.2**
STU pmax pmax
comp=Z,28nm,0.8s,mb5.1
STU Stuttgart 68.33 315 *e*P **P 06 10 02.0 -0.1**
comp=Z,28nm,0.8s,mb5.2
TNS Taunus Mts 68.42 316 *e*P **P 06 10 03.0 +0.3**
TNS *e*PP pP 06 10 21.9 +0.6
TNS pmax pmax
comp=Z,24nm,0.9s,mb5.0
TNS Taunus Mts 68.42 316 *e*P **P 06 10 03.0 +0.3**
comp=Z,24nm,0.9s,mb5.0
TNS *epP pP 06 10 21.9 +0.6
GSCL Gusciola 68.58 310 *e*P **P 06 10 05.0 +1.2**
BFO Black Forest 69.00 314 *e*P **P 06 10 06.3 0.0**
BFO pmax pmax
comp=Z,27nm,1.5s,mb4.9
BFO Black Forest 69.00 314 *e*P **P 06 10 06.3 0.0**
comp=Z,27nm,1.5s,mb4.9
LANF Langenberg 69.15 315 *e*P **P 06 10 08.1 +0.8**
BOB Bobbio (Coli) 69.25 311 *e*P **P 06 10 09.0 +1.1**
VAI Varese 69.39 312 *e*P **P 06 10 07.8 -1.0**
WLS Welschbruch 69.60 315 *e*P **P 06 10 10.4 +0.4**
CDF Champ du Feu 69.65 315⇓ *i*P **P 06 10 10.2 -0.1**
comp=Z,44nm,1.0s,mb4.9
CDF Champ du Feu 69.65 315⇓ *i*P **P 06 10 10.2 -0.1**
CDF pmax pmax
comp=Z,22nm,1.0s,mb4.9
MCGN Macugnaga 69.89 312 *e*P **P 06 10 12.1 +0.2**
MOF Molkenrain 69.90 314 *e*P **P 06 10 12.3 +0.4**
WLF Walferdange 70.00 316 *e*P **P 06 10 12.1 -0.3**
WLF pmax pmax
comp=Z,17nm,0.9s,mb4.9
WLF Walferdange 70.00 316 *e*P **P 06 10 12.1 -0.3**
comp=Z,17nm,0.9s,mb4.9
HINF Hinteralfeld 70.09 314 *e*P **P 06 10 12.6 -0.4**
comp=Z,42nm,1.4s,mb4.8
HINF Hinteralfeld 70.09 314 *e*P **P 06 10 12.6 -0.4**
HINF pmax pmax
comp=Z,21nm,1.4s,mb4.8
PGF Pioggiola 70.20 308⇓ *i*P **P 06 10 13.6 -0.2**
comp=Z,84nm,1.3s,mb5.1
PGF Pioggiola 70.20 308⇓ *i*P **P 06 10 13.6 -0.2**
PGF pmax pmax
comp=Z,42nm,1.3s,mb5.1
HAU Haudompre 70.36 315⇓ *i*P **P 06 10 14.5 -0.1**
comp=Z,53nm,1.2s,mb5.0
HAU *eR 06 10 14.4
comp=Z,80nm,18.0s
HAU Haudompre 70.36 315⇓ *i*P **P 06 10 14.5 -0.1**
HAU pmax pmax
comp=Z,27nm,1.2s,mb5.0
HAU MLR MLR
comp=Z,80nm,18.0s
GIVF Givet 70.69 317 *e*P **P 06 10 16.8 +0.2**
comp=Z,101nm,1.4s,mb5.2
GIVF Givet 70.69 317 *e*P **P 06 10 16.8 +0.2**
GIVF pmax pmax
comp=Z,51nm,1.4s,mb5.2
SAOF Saorge 70.77 310 *e*P **P 06 10 16.4 -0.8**
LPG La Plagne 70.85 312⇓ *i*P **P 06 10 18.3 +0.6**
comp=Z,57nm,1.0s,mb5.1
LPG La Plagne 70.85 312⇓ *i*P **P 06 10 18.3 +0.6**
LPG pmax pmax
comp=Z,28nm,1.0s,mb5.0
LPL La Plagne 70.86 312⇓ *i*P **P 06 10 18.2 +0.5**
comp=Z,92nm,1.0s,mb5.2
LPL La Plagne 70.86 312⇓ *i*P **P 06 10 18.2 +0.5**
LPL pmax pmax
comp=Z,46nm,1.0s,mb5.3
SBF Sospel 70.89 310 *e*P **P 06 10 17.7 -0.2**
comp=Z,61nm,1.1s,mb5.0
SBF Sospel 70.89 310 *e*P **P 06 10 17.7 -0.2**
SBF pmax pmax
comp=Z,30nm,1.1s,mb5.0
CABF La Chapelle 70.95 313⇓ *i*P **P 06 10 18.3 +0.1**
comp=Z,49nm,1.1s,mb5.0
CABF La Chapelle 70.95 313⇓ *i*P **P 06 10 18.3 +0.1**
CABF pmax pmax
comp=Z,25nm,1.1s,mb5.0
MEZF Maizieres J'vi 71.04 315⇓ *i*P **P 06 10 18.9 +0.2**
comp=Z,74nm,1.0s,mb5.2
BNI Bardonecchia 71.04 311 *e*P **P 06 10 18.6 -0.2**
BNI pmax pmax
comp=Z,16nm,1.0s,mb4.8
BNI Bardonecchia 71.04 311 *e*P **P 06 10 18.6 -0.2**
comp=Z,16nm,1.0s,mb4.8
BAIF Baives 71.08 317⇓ *i*P **P 06 10 19.3 +0.4**
comp=Z,66nm,1.4s,mb5.0
BAIF Baives 71.08 317⇓ *i*P **P 06 10 19.3 +0.4**
BAIF pmax pmax
comp=Z,33nm,1.4s,mb5.0
MBDF Montbardon 71.08 311 *e*P **P 06 10 18.4 -0.6**
comp=Z,24nm,0.9s,mb4.7
MBDF Montbardon 71.08 311 *e*P **P 06 10 18.4 -0.6**
MBDF pmax pmax
comp=Z,12nm,0.9s,mb4.7
FRF La Foret Royal 71.53 310 *e*P **P 06 10 21.6 -0.2**
comp=Z,93nm,1.3s,mb5.2
FRF La Foret Royal 71.53 310 *e*P **P 06 10 21.6 -0.2**
FRF pmax pmax
comp=Z,47nm,1.3s,mb5.2
ORIF Oris-en-Rattie 71.62 312 *e*P **P 06 10 22.0 -0.3**
comp=Z,42nm,1.3s,mb4.8
ORIF *eR 06 10 14.4
comp=Z,59nm,17.5s
LMR La Mourre 71.70 310⇓ *i*P **P 06 10 22.6 -0.2**
comp=Z,37nm,1.0s,mb4.9
LMR La Mourre 71.70 310⇓ *i*P **P 06 10 22.6 -0.2**
LMR pmax pmax
comp=Z,18nm,1.0s,mb4.9
SMRF Simiane la Rot 72.13 311⇓ *i*P **P 06 10 25.6 +0.3**
comp=Z,31nm,1.1s,mb4.8
SMF Signal de Mont 72.41 314⇓ *i*P **P 06 10 26.8 -0.1**
comp=Z,70nm,1.0s,mb5.1
SMF Signal de Mont 72.41 314⇓ *i*P **P 06 10 26.8 -0.1**
SMF pmax pmax
comp=Z,35nm,1.0s,mb5.1
VIVF Saint-Julien-l 72.45 312⇓ *i*P **P 06 10 27.3 +0.1**
comp=Z,54nm,1.2s,mb5.0
VIVF Saint-Julien-l 72.45 312⇓ *i*P **P 06 10 27.3 +0.1**
VIVF pmax pmax
comp=Z,27nm,1.2s,mb5.0
SSF Saint Saulge 72.49 314⇓ *i*P **P 06 10 27.4 +0.1**
SSF pmax pmax
comp=Z,23nm,1.0s,mb5.0
SSF Saint Saulge 72.49 314⇓ *i*P **P 06 10 27.4 +0.1**
comp=Z,23nm,1.0s,mb5.0
STKA Stephens Creek 72.67 140 P **P 06 10 27.1 -1.7**
comp=Z,5.6nm,0.8s,mb4.5,baz=322,slow=5.3,SNR=11
STKA LR LR 06 47 14.4
comp=Z,65nm,19.4s,baz=23,slow=40
AVF Avril sur Loir 72.68 314⇓ *i*P **P 06 10 28.5 0.0**
comp=Z,52nm,1.1s,mb5.0
AVF Avril sur Loir 72.68 314⇓ *i*P **P 06 10 28.5 0.0**
AVF pmax pmax
comp=Z,26nm,1.1s,mb5.0
PLDF La Plantade 72.78 313 *e*P **P 06 10 30.9 +1.8**
HYF Humbligny 72.97 315 *e*P **P 06 10 30.9 +0.7**
BGF Bois d'Agland 73.08 314 *e*P **P 06 10 30.8 0.0**
comp=Z,61nm,1.4s,mb5.0
BGF Bois d'Agland 73.08 314 *e*P **P 06 10 30.8 0.0**
BGF pmax pmax
comp=Z,31nm,1.4s,mb5.0

LASF	**Ste Croix**	**73.27**	**311**	⇓*i*P	**P**	**06 10 32.5**	**+0.5**
	comp=Z,57nm,1.1s,mb5.0						
TCF	**Toulx Ste Croi**	**73.59**	**314**	⇓*i*P	**P**	**06 10 34.4**	**+0.6**
	comp=Z,53nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**73.59**	**314**	⇓*i*P	**P**	**06 10 34.4**	**+0.6**
TCF				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.9						
CAF	**Calviac**	**74.17**	**312**	⇓*i*P	**P**	**06 10 37.9**	**+0.7**
	comp=Z,32nm,1.0s,mb4.7						
CAF	**Calviac**	**74.17**	**312**	⇓*i*P	**P**	**06 10 37.9**	**+0.7**
CAF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
LDF	**La Druitiere**	**74.24**	**317**	*e*P	**P**	**06 10 37.6**	**0.0**
	comp=Z,72nm,1.4s,mb4.9						
LDF	**La Druitiere**	**74.24**	**317**	*e*P	**P**	**06 10 37.6**	**0.0**
LDF				pmax	pmax		
	comp=Z,36nm,1.4s,mb4.9						
RJF	**Les Rejaudoux**	**74.39**	**313**	⇓*i*P	**P**	**06 10 39.4**	**+0.9**
	comp=Z,126nm,1.4s,mb5.2						
RJF				*e*R			
	comp=Z,50nm,19.4s						
RJF	**Les Rejaudoux**	**74.39**	**313**	⇓*i*P	**P**	**06 10 39.4**	**+0.9**
RJF				pmax	pmax		
	comp=Z,63nm,1.4s,mb5.2						
RJF				MLR	MLR		
	comp=Z,50nm,19.4s						
IMA	**Indian Mountai**	**74.54**	**23**	*e*P	**P**	**06 10 38.6**	**-0.3**
MTLF	**Montolieu**	**74.64**	**311**	⇓*i*P	**P**	**06 10 40.3**	**+0.3**
	comp=Z,49nm,1.2s,mb4.8						
MTLF	**Montolieu**	**74.64**	**311**	⇓*i*P	**P**	**06 10 40.3**	**+0.3**
MTLF				pmax	pmax		
	comp=Z,25nm,1.2s,mb4.8						
GRR	**Gorron**	**74.77**	**317**	*e*P	**P**	**06 10 40.9**	**+0.3**
MFF	**Saint Martin d**	**74.99**	**315**	*e*P	**P**	**06 10 42.4**	**+0.5**
LFF	**La Frestale**	**75.04**	**313**	*e*P	**P**	**06 10 42.9**	**+0.7**
ROSF	**Rostrenen**	**76.28**	**317**	*e*P	**P**	**06 10 49.9**	**+0.7**
ETSF	**Etsaut**	**76.69**	**311**	⇓*i*P	**P**	**06 10 52.4**	**+0.8**
	comp=Z,20nm,0.9s,mb4.5						
ETSF	**Etsaut**	**76.69**	**311**	⇓*i*P	**P**	**06 10 52.4**	**+0.8**
ETSF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
COLA	**College**	**77.23**	**23**	*e*P	**P**	**06 10 53.8**	**-0.4**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
COLA	**College**	**77.23**	**23**	*e*P	**P**	**06 10 53.8**	**-0.5**
	comp=Z,7.4nm,0.9s,mb4.4						
INK	**Inuvik**	**79.34**	**17**	*e*P	**P**	**06 11 05.5**	**-0.2**
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**79.34**	**17**	P	P	**06 11 06.2**	**+0.5**
	comp=Z,6.7nm,1.0s,mb4.4,baz=329,slow=6.0,SNR=21						
INK	**Inuvik**	**79.34**	**17**	*e*P	**P**	**06 11 05.5**	**-0.3**
	comp=Z,8.4nm,1.0s,mb4.5						
ESDC	**Sonseca Array**	**80.36**	**309**	P	P	**06 11 12.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=44,slow=4.7,SNR=5.8						
ESDC				pP	pP	06 11 30.8	+0.1
	comp=Z,3.0nm,0.9s,baz=47,slow=7.4,SNR=2.9						
YKA	**Yellowknife Ar**	**88.59**	**13**	P	P	**06 11 52.7**	**+0.3**
	comp=Z,1.1nm,0.9s,mb3.9,baz=327,slow=4.8,SNR=18						
YKA				PKKPbc		06 29 32.0	
	comp=Z,0.5nm,0.5s,baz=160,slow=2.2,SNR=20						
YKA				LR	LR	06 56 24.7	
	comp=Z,36nm,18.7s,baz=55,slow=39						
YKA	**Yellowknife Ar**	**88.59**	**13**	P	P	**06 11 52.7**	**+0.3**
YKA				PKKPbc		06 29 32.0	
YKA				LR	LR	06 56 24.7	
FRB	**Frobisher Bay**	**89.58**	**353**	LR	LR	06 53 18.9	
	comp=Z,61nm,19.9s,baz=1.9,slow=36						
RPZ	**Rata Peaks**	**98.15**	**135**	LR	LR	07 04 32.3	
	comp=Z,79nm,18.1s,baz=190,slow=40						
VNA2	**Neumayer--Watz**	**118.49**	**201**	⇑*i*P	PKPdf	06 17 47.1	+1.5
VNA2	**Neumayer--Watz**	**118.49**	**201**	⇑*i*P	PKPdf	06 17 47.1	+1.5
VNA1	**Neumayer--Stat**	**118.80**	**202**	⇑*i*P	PKPdf	06 17 47.6	+1.4
VNA1	**Neumayer--Stat**	**118.80**	**202**	⇑*i*P	PKPdf	06 17 47.6	+1.4
VNA3	**Neumayer Olymp**	**119.21**	**201**	⇑*i*P	PKPdf	06 17 47.9	+0.9
VNA3	**Neumayer Olymp**	**119.21**	**201**	⇑*i*P	PKPdf	06 17 47.9	+0.9
JCT	**Junction City**	**121.98**	**15**	*e*PKP	PKPdf	06 17 54.5	+1.2
TXAR	**Lajitas Array**	**122.03**	**19**	PKP	PKPdf	06 17 54.6	+1.2
	comp=Z,0.8nm,0.7s,baz=177,slow=0.4,SNR=12						
SDV	**Santo Domingo**	**142.62**	**336**	*e*PKP	PKPdf	06 18 29.2	-3.1
BDFB	**Brasilia**	**144.19**	**279**	PKP	PKPdf	06 18 36.0	+1.1
	comp=Z,5.2nm,0.8s,baz=126,slow=2.3,SNR=7.6						
ROSC	**El Rosal**	**147.62**	**340**	PKPbc	PKPdf	06 18 46.9	+6.0
	comp=Z,3.3nm,0.6s,baz=112,slow=4.5,SNR=10						
PLCA	**Paso Flores**	**161.17**	**215**	PKPab	PKPab	06 19 43.2	-1.4
	comp=Z,1.9nm,0.7s,baz=151,slow=3.6,SNR=9.7						
LPAZ	**La Paz**	**161.66**	**299**	PKP	PKPdf	06 19 02.1	+2.6
	comp=Z,1.1nm,0.9s,baz=48,slow=8.0,SNR=5.1						

IDC 23 06:14:53.0±3.8, 46.87S×116.08E, mb3.4/2, mb1 3.7/2, mb1mx3.5/9, mbtmp3.4/2, MS3.4/1, Ms1 3.4/1, ms1mx3.0/6, Error ellipse: s-maj=687.3km s-min=66.5km az=124.0, South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.22**	**38**	P	P	06 20 38.1	-2.2
	1.5nm,0.9s,baz=201,slow=9.5,SNR=7.5						
WRA	**Warramunga Arr**	**30.73**	**35**	P	P	06 21 10.2	-1.7
	0.3nm,0.8s,baz=212,slow=9.7,SNR=2.7						
PMG	**Port Moresby**	**45.74**	**45**	LR	LR	06 41 54.3	
	comp=Z,46nm,20.4s,baz=158,slow=35						
YKA	**Yellowknife Ar**	**147.80**	**42**	PKPbc	PKPdf	06 34 37.8	+0.4
	1.4nm,0.9s,baz=268,slow=3.3,SNR=19						

IDC 23 06:36:31.0±7.2, 3.16N×128.31E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=115.9km s-min=69.9km az=148.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.29**	**187**	P	P	06 41 19.7	-1.9
	4.6nm,1.1s,baz=354,slow=10,SNR=2.7						
WRA	**Warramunga Arr**	**23.71**	**166**	P	P	06 41 45.3	-0.3
	1.3nm,0.4s,baz=345,slow=11,SNR=33						
ASAR	**Alice Springs**	**27.22**	**169**	P	P	06 42 16.9	-1.8
	0.5nm,0.5s,baz=349,slow=7.5,SNR=8.4						
CTA	**Charters Tower**	**29.05**	**143**	P	P	06 42 32.5	-2.8
	1.5nm,0.9s,baz=299,slow=10,SNR=3.2						
STKA	**Stephens Creek**	**37.06**	**161**	P	P	06 43 42.6	-2.1
	0.7nm,0.7s,baz=339,slow=8.6,SNR=3.6						

NIED ***23*** *06:37:00, 32.00N×132.00E, h26km, Mw4.1 Best double couple: M0 1.67×10^15 NP1:φ=6°, δ=73°, λ=73°. NP2:φ=233°, δ=24°, λ=134°.*
NEIC ***23*** *06:37:21.6±0.8, 32.02N×131.84E, h10km, mb4.0/3, Error ellipse: s-maj=16.7km s-min=15.4km az=84.0*
NEIC Recorded [1 JMA] in Miyazaki Prefecture.
BJI ***23*** *06:37:21.6, 32.00N×131.80E, h10km, mB4.6, mb4.1, Ms3.9, Msz3.8*
JMA ***23*** *06:37:23.8±0.1, 32.03N×131.98E, h21km±2km, M4.1 Broadband fault plane solution: P waves. NP1:φ=215°, δ=21°, λ=92°. NP2:φ=32°, δ=69°, λ=89°. Principal axes: T Plg66°, Azm301°; N Plg1°, Azm33°; P Plg24°, Azm123°;*
JMA Felt I J1.
IDC ***23*** *06:37:30.7±3.1, 30.24N×127.61E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, MS3.6/2, Ms1 3.6/2, ms1mx3.1/21 Error ellipse: s-maj=245.3km s-min=22.6km az=68.0*

ISC 23 06:37:23.7±0.7, 32.01N±0.05×131.98E±0.06, h45km±7km, n20, σ0§94/25, mb3.6/5, MS3.6/2, 1C-5D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSN	**Tsuno**	**0.47**	**300**	⇓P	**P**	**06 37 32.8**	**-1.5**
JTSN				S	**S**	**06 37 39.6**	**-2.2**
JKIT	**Kitakata**	**0.76**	**324**	⇓P	**P**	**06 37 38.0**	**-0.2**
JKIT				S	**S**	**06 37 48.0**	**-0.8**
JTZ	**Takazaki**	**0.77**	**262**	⇓P	**P**	**06 37 38.0**	**-0.3**
JTZ				S	**S**	**06 37 49.0**	**0.0**
JNAR	**Kushima--Naru**	**0.77**	**232**	⇓P	**P**	**06 37 38.8**	**+0.4**
JNAR				S	**S**	**06 37 49.5**	**+0.4**
JUS	**Usuki**	**1.07**	**349**	P	P	**06 37 43.7**	**+1.2**
JUS				S	**S**	**06 37 57.6**	**+1.1**
JTO	**Tosashimizu**	**1.09**	**39**	P	P	**06 37 42.8**	**-0.1**
JTO				*e*S	**S**	**06 37 57.0**	**-0.1**
JIU2	**Izumi 2**	**1.13**	**299**	⇓P	**P**	**06 37 44.1**	**+0.8**
JIU2				*e*S	**S**	**06 37 59.5**	**+1.6**
JZO	**Okuchi**	**1.18**	**277**	⇑P	**P**	**06 37 44.8**	**+0.7**
MAJO	**Matsushiro**	**6.85**	**47**	P	**P**	**06 39 04.0**	**-0.2**
CN2	**Changchun**	**12.85**	**338**	*e*P	**P**	**06 40 27.3**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
ENH	**Enshi**	**19.33**	**271**	*e*P	**P**	**06 41 47.4**	**-0.6**
	comp=Z,2.7nm,0.5s						
ENH				*e*		06 41 57.6	
HIA	**Hailar**	**19.54**	**335**	*e*P	**P**	**06 41 48.7**	**-1.4**
	comp=Z,7.4nm,0.8s						
ULN	**Ulaanbaatar**	**24.67**	**317**	*e*P	**P**	**06 42 41.5**	**0.0**
	comp=Z,2.1nm,0.9s,mb3.7						
ULN				*e*		06 42 50.0	
SONM	**Songino Array**	**25.04**	**317**	P	**P**	**06 42 45.5**	**+0.5**
	comp=Z,2.6nm,0.8s,mb3.8,baz=131,slow=9.6,SNR=20						
KURK	**Kurchatov**	**43.16**	**312**	*e*P	**P**	**06 45 19.6**	**-1.8**
KURK				*e*	pP	06 45 30.6	-3.3
WRA	**Warramunga Arr**	**51.70**	**177**	P	**P**	**06 46 28.5**	**-0.1**
	comp=Z,0.5nm,0.8s,mb3.5,baz=355,slow=8.0,SNR=7.5						
CTA	**Charters Tower**	**53.57**	**163**	LR	LR	07 08 57.6	
	comp=Z,43nm,19.2s,MS3.5,baz=228,slow=36						
ASAR	**Alice Springs**	**55.39**	**178**	P	**P**	**06 46 56.5**	**+0.6**
	comp=Z,0.2nm,0.7s,mb3.3,baz=8.7,slow=12,SNR=3.2						
FINES	**FINESS Array B**	**69.47**	**330**	P	**P**	**06 48 39.5**	**+11**
	comp=Z,0.5nm,0.4s,mb3.8,baz=76,slow=7.9,SNR=5.1						
NOA	**NORSAR Array B**	**75.57**	**334**	LR	LR	07 25 36.6	
	comp=Z,39nm,19.1s,MS3.7,baz=255,slow=38						

PRU ***23*** *06:46:04.8, 50.31N×18.78E*
WAR 23 06:46:04.1, 50.26N×18.86E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.60**	**94**	*e*PG	Pg	06 46 16.0	-0.1
OJC				*e*SG	Sg	06 46 25.0	+0.8
OKC	**Ostrava-Krasne**	**0.63**	**228**	*e*PG	Pg	06 46 17.1	+0.5
NIE	**Niedzica**	**1.26**	**131**	*e*PG	Pg	06 46 27.0	-2.3
NIE				*e*SG	Sg	06 46 45.0	-1.1
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	06 46 33.9	-2.8
DPC				*e*SG	Sg	06 46 55.1	-3.3
	27nm,0.6s						
KSP	**Ksiaz**	**1.74**	**291**	*e*PG	Pg	06 46 37.0	-1.8
KSP				*e*SG	Sg	06 47 00.0	-2.0
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	06 46 36.6	+0.5
VYHS				*e*SN	Sn	06 47 00.9	+1.3
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	Sg	06 47 32.3	-4.8
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PG	Pg	06 47 12.5	-3.7
KHC				*e*SG	Sg	06 47 58.7	-5.6
MOA	**Molln**	**3.87**	**233**	*i* SG	Sg	06 48 10.2	-2.7
	2.5nm,0.4s						
NKC	**Novy Kostel**	**4.12**	**272**	*e*SG	Sg	06 48 13.6	-7.6

IDC ***23*** *06:57:40.8±1.2, 32.51N×92.20E, mb3.7/5, mb1 3.8/6, mb1mx3.6/17, mbtmp3.6/6, ML3.8/1, Error ellipse: s-maj=58.8km s-min=19.8km az=61.0*

ISC 23 06:57:43.9±1.1, 32.6N±0.2×92.3E±0.3, h33km, n6, σ1§33/6, mb3.7/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.60**	**31**	P	**P**	**07 02 00.0**	**-0.5**
	0.1nm,0.3s,baz=216,slow=11,SNR=3.9						
ZAL	**Zalesovo**	**22.02**	**348**	P	**P**	**07 02 38.2**	**+1.4**
	1.2nm,0.3s,mb3.8,baz=102,slow=2.8,SNR=2.9						
BVAR	**Borovoye Array**	**25.83**	**329**	P	**P**	**07 03 14.1**	**+0.4**
	0.7nm,0.7s,mb3.3,baz=162,slow=9.1,SNR=2.4						
NOA	**NORSAR Array B**	**57.89**	**325**	P	**P**	**07 07 32.8**	**-1.8**
	0.9nm,0.8s,mb3.9,baz=81,slow=6.9,SNR=3.2						
WRA	**Warramunga Arr**	**65.89**	**136**	P	**P**	**07 08 28.9**	**+0.1**
	0.5nm,0.8s,mb3.6,baz=318,slow=8.0,SNR=7.4						
ASAR	**Alice Springs**	**68.58**	**139**	P	**P**	**07 08 45.9**	**+0.2**
	0.9nm,0.6s,mb3.9,baz=329,slow=6.9,SNR=13						

MAN 23 07:24:53.4, 17.20N×122.51E, h6km, mb3.9, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.16**	**209**	*e*P	Pg	07 24 57.5	+0.8
PALP				*e*S	Sg	07 25 01.8	+2.8
CAUP	**Cauayan**	**0.70**	**248**	*e*P	Pg	07 25 08.0	+0.6
CVP	**Callao Caves**	**0.82**	**307**	⇓*e*P	Pb	07 25 09.0	-0.6
CVP				*e*S	Sb	07 25 22.0	+1.3
SGCP	**Mt. Cagua**	**1.12**	**337**	*e*P	Pb	07 25 14.5	-0.3
APYP	**Conner**	**1.37**	**299**	*e*P	Pb	07 25 19.2	+0.1
APYP				*e*S	Sb	07 25 38.0	+1.3
BALP	**Baler**	**1.71**	**212**	*e*P	Pn	07 25 22.9	-1.0
ABRA	**Dolores**	**1.77**	**285**	*e*P	Pn	07 25 23.9	-0.9
POLP	**Polilio Island**	**2.52**	**193**	*e*P	Pn	07 25 37.9	+2.3

IDC ***23*** *07:26:43.2±0.6, 7.65N×93.96E, mb4.2/12, mb1 4.4/12, mb1mx4.3/18, mbtmp4.2/12, MS3.5/4, Ms1 3.6/4, ms1mx3.4/14, Error ellipse: s-maj=31.4km s-min=14.9km az=56.0*
NEIC ***23*** *07:26:47.5±0.5, 7.67N×93.98E, h30km, mb4.6/5, Error ellipse: s-maj=21.5km s-min=9.3km az=57.0*
BJI ***23*** *07:26:47.4, 7.70N×94.00E, h30km, mB5.1, mb4.5*

ISC 23 07:26:46.2±0.5, 7.65N±0.1×94.1E±0.1, h33km, n36, σ0§88/30, mb4.4/23, MS3.6/4, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.94**	**109**	P	**P**	**07 28 25.6**	**-2.7**
PKI	**Pulchoki**	**21.45**	**339**	*e*P	**P**	**07 31 34.3**	**+0.5**
	12nm,0.6s,mb4.4						
DMN	**Daman**	**21.59**	**338**	*e*P	**P**	**07 31 36.1**	**+0.8**
	30nm,0.8s,mb4.8						
GUN	**Gumba**	**21.59**	**340**	*e*P	**P**	**07 31 35.2**	**-0.1**
	45nm,0.9s,mb4.9						
KKN	**Kakani**	**21.69**	**339**	*e*P	**P**	**07 31 36.0**	**-0.3**
	24nm,0.9s,mb4.7						
LSA	**Lhasa**	**22.11**	**353**	*e*P	**P**	**07 31 38.1**	**-2.3**
GKN	**Gorkha**	**22.12**	**337**	*e*P	**P**	**07 31 40.5**	**-0.1**
	8.1nm,0.2s,mb4.7						
KOLN	**Koldanda**	**22.33**	**335**	*e*P	**P**	**07 31 42.4**	**-0.3**
	22nm,0.8s,mb4.7						
GTA	**Gaotai**	**32.04**	**8**	P	**P**	**07 33 13.1**	**+0.9**
GTA				AP	pP	07 33 21.6	-0.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.2s,mb4.4						
AAK	**Ala-Archa**	**38.88**	**337**	*e*P	**P**	**07 34 10.0**	**-0.3**
	comp=Z,2.9nm,0.9s,mb4.0						
FITZ	**Fitzroy Crossi**	**40.32**	**130**	P	**P**	**07 34 22.1**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.1,baz=327,slow=3.9,SNR=3.2						
SONM	**Songino Array**	**41.40**	**13**	P	**P**	**07 34 32.3**	**+1.2**
	comp=Z,2.0nm,0.8s,mb3.8,baz=194,slow=8.1,SNR=20						
SONM				PcP	PcP	07 36 30.3	+0.9
	comp=Z,1.2nm,0.8s,baz=195,slow=4.1,SNR=7.8						
KURK	**Kurchatov**	**44.81**	**346**	*e*P	**P**	**07 34 58.9**	**+0.1**
HIA	**Hailar**	**46.75**	**23**	*e*P	**P**	**07 35 16.2**	**+2.0**
	comp=Z,8.5nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**46.76**	**352**	P	**P**	**07 35 14.6**	**+0.4**
	comp=Z,2.9nm,0.3s,mb4.6,baz=294,slow=6.7,SNR=15						
ZAL	**Zalesovo**	**46.76**	**352**	P	**P**	**07 35 14.6**	**+0.4**
WRA	**Warramunga Arr**	**48.19**	**125**	P	**P**	**07 35 26.1**	**+0.3**
	comp=Z,2.2nm,0.6s,mb4.4,baz=306,slow=8.5,SNR=42						
WRA				PcP	PcP	07 36 53.6	+0.4
	comp=Z,0.2nm,0.5s,baz=314,slow=2.9,SNR=4.7						
WRAB	**Tennant Creek**	**48.19**	**125**	*e*P	**P**	**07 35 25.8**	**0.0**
	comp=Z,5.3nm,0.7s,mb4.7						
WB2	**Warramunga Ar**	**48.20**	**125**	*e*P	**P**	**07 35 26.1**	**+0.2**
BVAR	**Borovoye Array**	**49.18**	**341**	P	**P**	**07 35 32.1**	**-1.0**
	comp=Z,0.5nm,0.6s,mb3.7,baz=153,slow=6.6,SNR=5.2						
BVAR				PcP	PcP	07 36 56.6	+0.3
	comp=Z,1.0nm,0.6s,baz=156,slow=5.4,SNR=5.7						
ASAR	**Alice Springs**	**49.82**	**130**	P	**P**	**07 35 38.8**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=305,slow=7.2,SNR=22						
ASAR				PcP	PcP	07 36 59.6	+0.6
	comp=Z,1.4nm,0.9s,baz=307,slow=3.4,SNR=6.0						
ASAR				LR	LR	07 57 08.1	
	comp=Z,37nm,19.4s,MS3.4,baz=248,slow=37						
CTA	**Charters Tower**	**58.26**	**119**	LR	LR	08 02 53.3	
	comp=Z,41nm,19.3s,MS3.5,baz=49,slow=37						
STKA	**Stephens Creek**	**60.00**	**134**	P	**P**	**07 36 53.0**	**+0.7**
MA2	**Magadan**	**66.99**	**28**	*e*P	**P**	**07 37 37.4**	**-0.3**
	comp=Z,5.1nm,0.8s,mb4.6						
MLR	**Muntele Rosu**	**69.28**	**316**	P	**P**	**07 37 51.6**	**-0.6**
	comp=Z,4.1nm,1.0s,mb4.3,baz=91,slow=9.7,SNR=4.3						
FINES	**FINESS Array B**	**72.88**	**332**	P	**P**	**07 38 12.9**	**-0.6**
	comp=Z,2.3nm,0.8s,mb4.2,baz=90,slow=9.7,SNR=11						
LBTB	**Lobatse**	**74.08**	**241**	P	**P**	**07 38 22.1**	**+0.9**
	comp=Z,2.4nm,0.7s,mb4.2,baz=64,slow=4.4,SNR=3.6						
ARCES	**ARCESS Array B**	**75.45**	**340**	P	**P**	**07 38 28.6**	**+0.3**
	comp=Z,7.1nm,1.1s,mb4.5,baz=45,slow=6.9,SNR=4.8						
ARCES				LR	LR	08 15 02.4	
	comp=Z,57nm,19.8s,MS3.9,baz=196,slow=38						
GERES	**GERESS Array B**	**77.95**	**318**	P	**P**	**07 38 42.8**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=5.3,SNR=10						
NB2	**NORSAR Subarra**	**79.89**	**331**	P	**P**	**07 38 51.5**	**-1.6**
	comp=Z,3.3nm,1.0s,mb4.2,baz=94,slow=5.8						
NOA	**NORSAR Array B**	**79.89**	**331**	P	**P**	**07 38 51.9**	**-1.3**
	comp=Z,1.7nm,0.9s,mb4.0,baz=95,slow=5.6,SNR=3.7						
NOA				LR	LR	08 20 08.8	
	comp=Z,23nm,19.8s,MS3.5,baz=355,slow=40						
PDAR	**Pinedale Array**	**125.40**	**21**	PKP	PKPdf	07 45 46.5	+2.2
	comp=Z,0.4nm,0.6s,baz=135,slow=2.1,SNR=4.8						
TXAR	**Lajitas Array**	**139.46**	**24**	PKP	PKPdf	07 46 14.0	+2.9
	comp=Z,0.3nm,0.7s,baz=32,slow=2.0,SNR=4.6						
BDFB	**Brasilia**	**142.08**	**254**	PKP	PKPdf	07 46 18.5	+2.4
	comp=Z,2.0nm,0.6s,baz=135,slow=9.3,SNR=3.4						
PLCA	**Paso Flores**	**144.32**	**200**	PKP	PKPdf	07 46 21.2	+1.9
	comp=Z,3.1nm,1.1s,baz=35,slow=20,SNR=2.9						
CFAA	**Coronel Fontan**	**151.01**	**212**	PKPbc	PKPdf	07 46 39.0	+8.6
	comp=Z,0.9nm,0.7s,baz=159,slow=1.8,SNR=18						

ATH ***23*** *07:38:53.1, 40.16N×25.19E, h26km±1km, MD3.0/3*
THE ***23*** *07:38:54.5, 40.09N×25.25E, h22km, ML2.7*
CSEM ***23*** *07:38:54.3±0.1, 40.14N×25.19E, h25km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.5km az=131.0*

ISC 23 07:38:54.2±0.6, 40.15N±0.06×25.19E±0.06, h23km±9km, n10, σ0§54/13, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.23**	**201**	*e*Pg	**Pb**	**07 38 59.6**	**-0.4**
LIA	**Limnos Island**	**0.25**	**181**	*e*PB	**Pb**	**07 39 00.3**	**0.0**
LIA				*e*SB	**Sb**	**07 39 04.4**	**-0.1**
OUR	**Ouranopolis**	**0.94**	**282**	*e*Pg	**Pb**	**07 39 12.5**	**+0.7**
ALN	**Alexandroupoli**	**0.99**	**41**	*e*Pg	**Pb**	**07 39 12.4**	**-0.2**
ALN				*e*Sg	**Sb**	**07 39 26.0**	**+0.7**
RDO	**Rodhopi**	**1.03**	**15**	*e*PN	**Pn**	**07 39 12.7**	**-0.6**
PAIG	**Paliouri**	**1.18**	**260**	*e*Pb	**Pb**	**07 39 15.6**	**-0.1**
PAIG				*e*Sb	**Sb**	**07 39 31.3**	**+0.7**
PRK	**Paraskevi**	**1.23**	**137**	*e*PN	**Pn**	**07 39 16.5**	**+0.3**
PLG	**Polygyros**	**1.35**	**280**	*e*PN	**Pn**	**07 39 18.0**	**+0.1**
SOH	**Sokhos**	**1.55**	**296**	*e*Pb	**Pb**	**07 39 20.9**	**-1.2**
NVR	**Nevrokopi**	**1.57**	**320**	*e*PN	**Pn**	**07 39 21.0**	**0.0**

NEIC ***23*** *07:45:27.7±0.6, 23.23S×66.66W, h193km±5km, mb4.3/22, Error ellipse: s-maj=10.7km s-min=5.8km az=72.0*
IDC ***23*** *07:45:27.0±1.7, 23.26S×66.75W, h188km±15km, mb4.0/7, mb1 4.1/11, mb1mx4.0/15, mbtmp4.4/11, Error ellipse: s-maj=21.4km s-min=11.8km az=79.0*
BJI ***23*** *07:45:27.5, 23.15S×67.53W, h194km, mB5.0*
GUC ***23*** *07:45:28.8±0.9, 23.42S×66.95W, h200km±26km, ML4.3*

ISC 23 07:45:26.7±0.7, 23.31S±0.04×66.73W±0.08, h200km±6km, n67, σ1§11/68, mb4.2/26, 3C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**289**	⇑*i*P	**P**	**07 46 09.0**	**+2.0**
LVC				*i* S	**S**	**07 46 39.2**	**+1.2**
LVC				AMP		07 46 42.7	
	comp=E,1μm,0.6s						
LVC	**Limon Verde**	**2.13**	**289**	*e*P	**P**	**07 46 08.7**	**+1.7**
ANCH	**Antofagasta**	**3.40**	**263**	⇑*i*P	**P**	**07 46 22.9**	**+1.2**
ANCH				*i* S	**S**	**07 47 03.2**	**-1.0**
CPN1	**Cerro Paranal**	**3.61**	**248**	⇓*i*P	**P**	**07 46 25.4**	**+1.1**
CPN1				*i* S	**S**	**07 47 08.6**	**-0.2**
CPCH	**Copiapo**	**5.19**	**218**	⇓*i*P	**P**	**07 46 43.2**	**-1.1**
CPCH				*i* S	**S**	**07 47 42.5**	**-2.0**
LPAZ	**La Paz**	**7.11**	**349**	P	**P**	**07 47 10.1**	**+0.8**
	comp=E,4.4nm,0.3s,baz=157,slow=7.0,SNR=127						
LPAZ				S	**S**	**07 48 28.2**	**-0.9**
	comp=E,0.9nm,0.3s,baz=31,slow=22,SNR=

YKA	Yellowknife Ar	93.57	340	P	P	07 58 20.3	-0.2		
	comp=E,1.9nm,0.6s,mb4.3,baz=132,slow=4.4,SNR=74								
YKA	Yellowknife Ar	93.57	340	P	P	07 58 20.3	-0.2		
ASAR	Alice Springs	129.18	205	PKP	PKPdf	08 04 13.1	+1.3		
	comp=E,1.4nm,0.7s,baz=148,slow=2.4,SNR=14								
WRA	Warramunga Arr	132.35	207	PKP	PKPdf	08 04 19.4	+1.6		
	comp=E,0.9nm,0.5s,baz=158,slow=1.8,SNR=22								
ZAL	Zalesovo	142.67	28	PKP	PKPdf	08 04 34.4	-1.1		
	comp=E,2.0nm,0.5s,baz=143,slow=1.9,SNR=6.2								
WMQ	Urumqi	150.66	40	*e*PKP	PKPdf	08 04 53.0	+4.0		
TLY	Talaya	150.72	12	*e*PKPbc	PKPdf	08 04 55.8	+6.9		
TLY				*e*pP		08 05 04.6			
SONM	Songino Array	154.92	11	PKP	PKPdf	08 04 57.6	+2.8		
	comp=E,1.0nm,0.8s,baz=277,slow=1.8,SNR=8.9								
SONM				PKPbc	PKPdf	08 05 05.8	+11		
	comp=E,0.6nm,0.4s,baz=294,slow=1.4,SNR=10								
SONM				PKPab	PKPab	08 05 22.2	-0.3		
	comp=E,1.8nm,0.7s,baz=318,slow=4.3,SNR=12								
CN2	Changchun	157.23	337	*e*PKP	PKPdf	08 04 55.5	-2.6		

NIED ***23*** *07:46:00,33.70N×130.30E,h5km,Mw3.6 Best double couple: M0 2.61×10^14 NP1:φs31°,δ74°,λ-151°. NP2: φs292°,δ62°,λ-18°.*

JMA 23 07:46:28.1,33.67N×130.28E,h5km,M3.4,2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	Itaya	0.26	159	⇑P	Pg	07 46 33.4	+0.1
JFI				S	Sg	07 46 36.9	+0.1
JFA	Akaike	0.43	84	⇓P	Pg	07 46 36.5	-0.3
JFA				S	Sg	07 46 42.7	+0.2
JII	Iki	0.47	285	⇓P	Pg	07 46 37.6	0.0
JII				S	Sg	07 46 44.2	+0.3
JUR	Ureshino	0.64	206	P	Pg	07 46 40.4	-0.5
JUR				S	Sg	07 46 49.0	-0.4
JTA	Tamana	0.74	163	⇑P	Pg	07 46 42.3	-0.5
JTA				S	Sg	07 46 52.3	-0.3

ATH ***23*** *08:22:54.1,39.06N×28.02E,h11km±6km,MD3.5/3*
ISK ***23*** *08:22:54.8,39.03N×28.00E,h14km,MD3.5*
CSEM ***23*** *08:22:54.6±0.1,39.04N×28.03E,h10km,MD3.5,Error ellipse: s-maj=1.7km s-min=1.4km az=121.0*
NEIC ***23*** *08:22:55.1,39.03N×27.99E,h16km,MD3.4(ATH), ML3.5(ISK),After ISK.*

ISC 23 08:22:54.5±0.5,39.03N±0.02×28.04E±0.03,h4km±4km, n69,σ0:82/90,2C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	Balikesir	0.62	348		Pg	08 23 08.1	+1.1
BALB					Sg	08 23 16.1	+0.8
BALB	Balikesir	0.62	348	*i* Pg	Pg	08 23 07.9	+1.0
BALB					Sg	08 23 16.0	+0.8
MANT	Manisa	0.67	143	*i* P	Pg	08 23 07.7	-0.2
MANT				*i* S	Sg	08 23 16.1	-0.8
BTOK	Tokmak	0.73	359	*i* P	Pg	08 23 09.0	-0.1
BTOK				*i* S	Sg	08 23 19.7	+0.8
DST	Dursunbey	0.73	38	*i* PG	Pg	08 23 09.1	0.0
DST	Dursunbey	0.73	38	Pg	Pg	08 23 09.2	+0.1
DST	Dursunbey	0.73	38	Pg	Pg	08 23 09.2	+0.1
KDAG	Bornova	0.87	224	*i* P	Pb	08 23 10.9	-0.8
KDAG				*i* S	Sb	08 23 24.7	+1.1
IZM	Izmir	0.88	224	*i* PG	Pg	08 23 11.0	-1.0
IZM				*i* SG	Sg	08 23 24.5	+0.7
IZM	Izmir	0.88	224	Pg	Pg	08 23 11.3	-0.7
IZM				Sg	Sg	08 23 24.3	+0.6
BLCB	Balcova	1.01	231	*i* PG	Pg	08 23 13.7	-1.0
BLCB				*i* SG	Sg	08 23 28.9	+0.6
BLCB	Balcova	1.01	231	Pg	Pg	08 23 14.7	-0.1
BLCB				Sg	Sg	08 23 28.7	+0.4
BLCB	Balcova	1.01	231	Pg	Pg	08 23 14.7	0.0
BLCB				*i* Sg	Sg	08 23 28.9	+0.6
AYVA	Ayvalik	1.09	285	*i* P	Pb	08 23 15.8	+0.3
AYVA				*i* S	Sb	08 23 30.8	+1.0
ORLT	Orhaneli	1.21	33	*i* PN	Pn	08 23 18.2	+0.1
ORLT	Orhaneli	1.21	33	Pn	Pn	08 23 18.2	+0.1
KCT	Karacabey	1.26	11	*i* PN	Pn	08 23 18.9	+0.1
KCT	Karacabey	1.26	11	Pn	Pn	08 23 19.0	+0.2
BNT	Bandirma	1.33	356	*i* PN	Pn	08 23 19.8	0.0
BNT	Bandirma	1.33	356	Pn	Pn	08 23 19.8	0.0
KHL	Karahalli	1.36	121	PN	Pn	08 23 21.3	+1.1
KHL	Karahalli	1.36	121	Pn	Pn	08 23 20.4	+0.3
KHL	Karahalli	1.36	121	Pn	Pn	08 23 20.4	+0.2
AYDN	Tasoluk	1.37	185	*i* P	Pb	08 23 19.1	-1.3
AYDN				*i* S	Sb	08 23 34.5	-1.1
PRK	Paraskevi	1.40	279	*e*PB	Pb	08 23 20.1	-0.6
PRK				*e*SB	Sb	08 23 38.8	0.0
PRK	Paraskevi	1.40	279	*e*Pn	Pn	08 23 20.6	-0.1
PRK				*e*Sn	Sb	08 23 38.8	0.0
ULDT	Uludag	1.40	37	*i* P	Pb	08 23 20.8	+0.1
ULDT				*i* S	Sb	08 23 39.1	+0.3
DENT	Denizli	1.49	148	*e*PN	Pn	08 23 22.2	+0.1
EZN	Ezine	1.55	301	*e*Pn	Pn	08 23 23.0	0.0
DNZL	Cakiroluk	1.55	149	*i* P	Pn	08 23 22.0	-1.0
DNZL				*i* S	Sb	08 23 45.1	+1.8
MRMT	Marmara Adasi	1.61	348	PN	Pn	08 23 23.0	-0.8
SMG	Samos	1.62	216	*e*PB	Pb	08 23 24.7	0.0
SMG				*e*SB	Sb	08 23 47.0	+1.6
LPK	Lapseki	1.67	324	*e*Pn	Pn	08 23 23.9	-0.7
LPK	Lapseki	1.67	324	Pn	Pn	08 23 24.0	-0.7
LPK	Lapseki	1.67	324	Pn	Pn	08 23 24.0	-0.6
YLV	Yalova	1.84	33	*e*PN	Pn	08 23 27.9	+0.7
BADT	Buyukada	2.00	24	*e*PN	Pn	08 23 28.8	-0.6
BADT	Buyukada	2.00	24	Pn	Pn	08 23 28.8	-0.5
BODT	Bodrum	2.05	197	*e*PN	Pn	08 23 29.4	-0.7
BODT	Bodrum	2.05	197	Pn	Pn	08 23 30.6	+0.5
CTT	Catalca	2.13	8	PN	Pn	08 23 30.2	-1.1
CTT	Catalca	2.13	8	Pn	Pn	08 23 30.7	-0.6
GPA	Golpazari	2.15	54	*e*PN	Pn	08 23 31.6	0.0
GPA	Golpazari	2.15	54	Pn	Pn	08 23 31.5	-0.1
ISK	Istanbul-Kandi	2.18	21	*e*PN	Pn	08 23 31.9	0.0
HRT	Hereke	2.18	34	*e*PN	Pn	08 23 32.3	+0.3
HRT	Hereke	2.18	34	Pn	Pn	08 23 32.4	+0.4
ESKT	Eskisehir	2.23	76	*e*PN	Pn	08 23 33.4	+0.7
ESKT	Eskisehir	2.23	76	Pn	Pn	08 23 34.1	+1.4
ESKT	Eskisehir	2.23	76	*i* P	Pn	08 23 35.9	+3.2
ESKT				*i* S	Sn	08 24 06.1	+5.0
LIA	Limnos Island	2.38	292	*e*PB	Pb	08 23 34.3	-3.2
LIA	Limnos Island	2.38	292	*e*Pn	Pn	08 23 34.5	-0.3
FETY	Fethiye	2.53	161	*e*PN	Pn	08 23 36.3	-0.7
APE	Apeiranthos	2.79	226	*e*PN	Pn	08 23 42.0	+1.3
HENT	Hendek	2.83	50	*i* P	Pn	08 23 47.6	+6.3
HENT				*i* S	Sn	08 24 21.6	+5.3
MDU	Mudurnu	2.83	59	*e*PN	Pn	08 23 42.2	+0.9
MDU	Mudurnu	2.83	59	Pn	Pn	08 23 42.5	+1.2
EDRB	Edirne	2.98	341	*e*PN	Pn	08 23 42.5	-1.0
EDRB	Edirne	2.98	341	Pn	Pn	08 23 42.5	-0.9
KIZT	Kizilcal	2.99	92	*e*PN	Pn	08 23 43.6	0.0
KIZT	Kizilcal	2.99	92	Pn	Pn	08 23 43.6	0.0
SGKT	Sivrigoynuk	3.45	62	*i* P	Pn	08 23 59.5	+9.3
SGKT				*i* S	Sn	08 24 49.0	+17
ANTO	Ankara	3.77	76	*e*PN	Pn	08 23 55.5	+0.9
ELDT	Eldivan	4.40	69	*i* P	Pn	08 24 15.8	+12
ELDT				*i* S	Sn	08 25 13.9	+18
BALT	Daday	4.79	57	*i* P	Pn	08 24 19.7	+11
BALT				*i* S	Sn	08 25 27.8	+22
CFR	Carcaliu	6.14	1	⇑P	Pn	08 24 26.5	-1.7
CFR	Carcaliu	6.14	1	⇑P	Pn	08 24 26.6	-1.7
MLR	Muntele Rosu	6.64	347	⇓P	Pn	08 24 34.5	-0.7
VRI	Vrincioaia	6.90	352	⇓P	Pn	08 24 38.3	-0.6

NEIC ***23*** *08:49:16.8±1.9,5.66S×154.35E,h139km±17km,mb4.5/10, Error ellipse: s-maj=11.1km s-min=9.7km az=46.0*
IDC ***23*** *08:49:16.4±3.8,5.66S×154.41E,h131km±34km,mb4.2/12, mb1 4.3/14,mb1mx4.3/16,mbtmp4.6/14,MS3.1/4, Ms1 3.0/4,ms1mx2.5/22,Error ellipse: s-maj=22.0km s-min=16.4km az=57.0*
BJI ***23*** *08:49:16.8,5.70S×154.30E,h139km,mB4.5,mb4.7*

ISC 23 08:49:15.4±2.2,5.70S±0.07×154.36E±0.08,h138km±19km, n47,σ0:96/49,mb4.5/28,5C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	8.03	242	P	P	08 51 10.1	-0.2
	77nm,0.3s,baz=59,slow=5.8,SNR=142						
PMG				S	S	08 52 44.3	+4.4
	8.1nm,0.3s,baz=188,slow=22,SNR=6.3						
PMG				LR	LR	08 54 18.8	
	comp=Z,55nm,21.1s,baz=52,slow=37						
PMG	Port Moresby	8.03	242	*e*P	P	08 51 10.0	-0.3
	624nm,0.8s						
CTA	Charters Tower	16.32	208	P	P	08 53 00.5	+2.4
	0.6nm,0.3s,baz=35,slow=13,SNR=7.6						
CTA				LR	LR	08 58 28.5	
	comp=Z,53nm,19.7s,baz=205,slow=34						
CTA	Charters Tower	16.32	208	P	P	08 53 00.5	+2.4
CTA				LR	LR	08 58 28.5	
CTAO	Charters Tower	16.32	208	*e*P	P	08 53 00.5	+2.4
NOUC	Port Laguerre	19.98	146	⇑*e*P	P	08 53 37.9	-1.2
NOUC	Port Laguerre	19.98	146	⇑*e*P	P	08 53 37.9	-1.2
DZM	Mont Dzumac	20.04	145	⇑*e*P	P	08 53 38.5	-1.1
DZM	Mont Dzumac	20.04	145	P	P	08 53 39.2	-0.5
	24nm,0.5s,baz=9.8,slow=18,SNR=166						
KAKA	Kakadu	22.71	251	⇑*i*P	P	08 54 06.4	+0.1
	10nm,0.5s,mb4.5						
WRAB	Tennant Creek	24.05	232	P	P	08 54 20.0	+0.9
	241nm,0.5s,SNR=22						
WRAB	Tennant Creek	24.05	232	*e*P	P	08 54 19.7	+0.7
	39nm,0.6s,mb5.1						
WB2	Warramunga Arr	24.05	232	⇑*i*P	P	08 54 20.1	+1.0
WRA	Warramunga Arr	24.07	232	P	P	08 54 20.3	+1.1
	16nm,0.4s,mb4.9,baz=57,slow=10,SNR=229						
ASAR	Alice Springs	26.58	226	P	P	08 54 42.6	0.0
	6.1nm,0.4s,mb4.6,baz=56,slow=9.4,SNR=137						
ASAR				LR	LR	09 04 32.9	
	comp=Z,36nm,19.9s,baz=327,slow=34						
ASPA	Alice Springs	26.59	226	⇑*i*P	P	08 54 42.5	-0.2
ASPA				*e*		08 55 05.2	
STKA	Stephens Creek	28.65	203	P	P	08 55 00.3	-1.0
	6.0nm,0.5s,mb4.6,baz=36,slow=12,SNR=20						
STKA				LR	LR	09 04 49.7	
	comp=Z,85nm,20.5s,baz=192,slow=32						
STKA	Stephens Creek	28.65	203	*e*P	P	08 55 00.2	-1.1
FITZ	Fitzroy Crossi	30.62	244	*e*P	P	08 55 17.5	-1.4
	14nm,0.8s,mb4.7						
FORT	Forrest	35.11	222	*e*P	P	08 55 55.7	-1.7
	732nm,0.7s						
MBWA	Marble Bar	36.89	242	*e*P	P	08 56 11.8	-0.7
	4.3nm,0.6s,mb4.3						
URZ	Urewera	38.44	151	P	P	08 56 25.5	+0.3
	6.9nm,0.6s,mb4.4,baz=8.6,slow=3.4,SNR=9.7						
RPZ	Rata Peaks	40.62	161	P	P	08 56 43.6	+0.5
	10.0nm,0.6s,mb4.6,baz=350,slow=9.4,SNR=9.2						
KLBR	Kellerberrin	42.84	228	*e*P	P	08 57 00.4	-1.2
	92nm,0.5s,mb5.7						
NWAO	Narrogin (SRO)	43.89	227	P	P	08 57 09.4	-0.6
MUN	Mundaring	44.19	229	*e*P	P	08 57 12.0	-0.4
	3.7nm,0.4s,mb4.4						
CN2	Changchun	55.76	335	*e*P	P	08 58 41.8	+1.6
ENH	Enshi	55.90	313	*e*P	P	08 58 41.2	-0.2
HHC	Hu-ho-hao-te	60.68	324	*e*P	P	08 59 16.6	+2.2
HHC				AP	pP	08 59 49.4	+1.8
HHC				XP	sP	09 00 08.4	+5.6
HHC				PP	PP	09 01 36.4	+4.7
HHC				S	S	09 07 18.5	+0.4
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,77nm,4.5s						
HHC				LR	LR		
	comp=N,316nm,33.9s						
HIA	Hailar	62.49	335	*e*P	P	08 59 25.4	-1.0
	comp=N,4.2nm,0.8s,mb4.3						
SONM	Songino Array	67.91	327	P	P	09 00 01.6	+0.4
	comp=N,2.8nm,0.6s,mb4.2,baz=124,slow=4.5,SNR=4.3						
VNDA	Vanda	71.88	178	P	P	09 00 25.5	+0.7
	comp=N,4.7nm,0.8s,mb4.3,baz=322,slow=7.7,SNR=13						
PKI	Pulchoki	74.22	301	*e*P	P	09 00 38.5	-0.8
	comp=N,5.8nm,0.5s,mb4.6						
KKN	Kakani	74.39	301	*e*P	P	09 00 39.4	-0.9
	comp=N,6.7nm,0.2s,mb5.0						
DMN	Daman	74.49	301	*e*P	P	09 00 40.4	-0.5
	comp=N,11nm,0.5s,mb4.9						
GKN	Gorkha	75.00	301	*e*P	P	09 00 44.2	+0.5
	comp=N,4.6nm,0.3s,mb4.6						
KOLN	Koldanda	75.83	300	*e*P	P	09 00 48.3	-0.1
	comp=N,10.0nm,0.8s,mb4.5						
WMQ	Urumqi	77.45	317	*e*P	P	09 00 57.4	+0.3
WMQ				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
MCK	McKinley	81.10	22	*e*P	P	09 01 15.7	-0.8
	comp=Z,8.4nm,1.0s,mb4.3						
ZAL	Zalesovo	82.77	326	P	P	09 01 25.2	0.0
	comp=Z,0.9nm,0.4s,mb3.8,baz=35,slow=5.4,SNR=3.6						
QSPA	South Pole Qui	84.26	180	*e*P	P	09 01 33.4	+1.2
	comp=Z,11nm,0.8s,mb4.6						
MAW	Mawson	85.34	203	P	P	09 01 39.0	+1.3
	comp=Z,7.2nm,0.6s,mb4.6,baz=91,slow=10,SNR=8.5						
INK	Inuvik	88.74	21	P	P	09 01 54.3	+0.3
	comp=Z,1.2nm,0.7s,mb3.9,baz=238,slow=7.4,SNR=8.1						
INK	Inuvik	88.74	21	*e*P	P	09 01 54.1	+0.1
	comp=Z,1.2nm,0.8s,mb3.9						
CHKZ	Chkalovo	90.85	324	*e*P	P	09 02 02.5	-1.8
	comp=Z,1.0nm,0.6s,mb4.0						
SYO	Syowa Base	93.33	199	⇑P	P	09 02 16.2	+0.8
YKA	Yellowknife Ar	95.50	28	P	P	09 02 26.0	+0.7
	comp=Z,0.4nm,0.8s,mb3.7,baz=269,slow=4.6,SNR=9.2						

IDC 23 08:52:49.6±2.6,2.87N×128.21E,h254km±28km,mb3.5/5, mb1 3.6/5,mb1mx3.4/16,mbtmp4.1/5,Error ellipse: s-maj=43.5km s-min=27.5km az=103.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.00	187	*e*P	P	08 57 14.0	-0.2
	6.8nm,0.4s						
FITZ	Fitzroy Crossi	21.00	187	P	P	08 57 14.3	+0.1
	13nm,0.6s,baz=12,slow=6.7,SNR=7.2						
WRA	Warramunga Arr	23.46	165	P	P	08 57 37.0	-1.0
	1.3nm,0.3s,baz=343,slow=10,SNR=8.5						
WRA				S	S	09 01 31.7	+1.7
	1.1nm,0.8s,baz=340,slow=14,SNR=5.6						
WB2	Warramunga Arr	23.46	165	*e*P	P	08 57 36.8	-1.2
ASAR	Alice Springs	26.96	168	P	P	08 58 07.8	-2.2
	0.7nm,0.4s,baz=347,slow=6.8,SNR=10						
ASAR				PcP	PcP	09 01 23.2	-1.8
	0.9nm,0.5s,baz=349,slow=2.1,SNR=11						
ASAR				S	S	09 02 27.2	+0.4
	1.6nm,1.0s,baz=348,slow=16,SNR=4.7						
STKA	Stephens Creek	36.83	161	P	P	08 59 33.6	-1.6
	0.8nm,0.4s,baz=349,slow=12,SNR=3.1						
DZM	Mont Dzumac	44.84	125	P	P	09 00 38.2	-2.4
	2.0nm,0.5s,baz=261,slow=14,SNR=7.5						

CASC 23 08:55:06.5±2.7,14.72N×91.15W,h19km±13km,MD3.7, ML4.1,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	Jato	0.62	230	*e*P	Pb	08 55 17.7	-0.8
JAT				*e*S	Sb	08 55 27.2	+0.6
JAT				AML	AML	08 55 28.5	
	comp=N,9μm,0.2s						
IXG	Ixpaco	0.87	129	*e*P	Pb	08 55 24.4	+1.8
IXG				*e*S	Sb	08 55 36.3	+2.4
IXG				AML	AML	08 55 42.3	
	comp=N,8μm,0.4s						
RBDL	Robledal	1.54	113	*e*P	Pn	08 55 33.7	+0.4
RBDL				*e*S	Sn	08 55 54.0	+1.1
RTR	El Retiro	1.67	119	*e*P	Pn	08 55 34.9	-0.3
RTR				*e*S	Sn	08 55 56.9	+0.6
SBLS	San Blas	1.72	120	*e*P	Pn	08 55 35.5	-0.4
SBLS				*e*S	Sn	08 55 58.2	+0.7
SNJE	San Jose	1.72	119	*e*P	Pn	08 55 34.9	-1.0
SNJE				*e*S	Sn	08 55 58.7	+1.2
LFRS	El Faro	2.30	118	*e*P	Pn	08 55 43.0	-1.2

IDC 23 08:56:35.2±3.0,30.30S×178.05W,mb3.7/3,mb1 3.8/4, mb1mx3.8/11,mbtmp3.7/4,ML3.5/1,Error ellipse: s-maj=69.4km s-min=44.1km az=121.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	8.89	205	Pn	P	08 58 44.5	-3.4
	0.5nm,0.3s,baz=129,slow=13,SNR=6.1						
URZ				Sn	Sn	09 00 13.8	-16
	0.7nm,0.3s,baz=12,slow=23,SNR=8.1						
STKA	Stephens Creek	34.46	257	P	P	09 03 25.3	-1.5
	1.4nm,0.8s,baz=104,slow=12,SNR=3.0						
ASAR	Alice Springs	43.08	267	P	P	09 04 37.1	-1.6
	0.4nm,0.6s,baz=107,slow=8.0,SNR=4.3						
WRA	Warramunga Arr	44.05	272	P	P	09 04 44.6	-2.1
	0.8nm,0.6s,baz=111,slow=8.1,SNR=12						
FINES	FINESS Array B	145.04	340	PKPbc	PKPbc	09 16 12.4	-1.5
	0.6nm,0.4s,baz=45,slow=3.9,SNR=7.7						

MOS ***23*** *09:17:04.6±1.2,12.29N×92.59E,h33km,mb5.2/46, MS4.7/24,Error ellipse: s-maj=10.5km s-min=5.6km az=112.8*
BJI ***23*** *09:17:04.4,12.21N×92.34E,h41km,mB5.3,mb4.8,Ms5.1, Msz4.9*
NEIC ***23*** *09:17:06.0±0.2,12.31N×92.57E,h30km,mb5.0/42, MS4.7/4,Error ellipse: s-maj=7.2km s-min=4.9km az=49.0*
HRVD ***23*** *09:17:06.0±0.3,12.40N×92.11E,h20km,MW5.2/60, Centroid moment Tensor Solution. LP body waves: s44,c73;Mantle waves: s60,c92; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.19±.18; Mθθ0.80±.14; Mφφ-4.98±.14; Mrθ0.72±.32; Mrφ-0.43±.13; Mθφ-5.11±.28; Best double couple: M0 6.926×10^16 NP1:φs17°,δ22°,λ111°. NP2:φs174°,δ69°,λ82°. Principal axes: T 6.591, Plg65°, Azm71°; N .676, Plg8°, Azm177°; P -7.262, Plg24°, Azm271°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***23*** *09:17:08.3±2.5,12.34N×92.63E,h54km±20km,mb4.2/19, mb1 4.3/19,mb1mx4.2/22,mbtmp4.5/19,MS4.7/11, Ms1 4.7/11,ms1mx4.4/21 Error ellipse: s-maj=20.3km s-min=10.8km az=49.0*

ISC 23 09:17:03.3±0.2,12.26N±0.03×92.41E±0.03,h26km, h26km±1.2km:pP-P,n259,σ1:25/285,mb4.9/82,MS4.8/50, 4C-12D,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	Port Blair	0.69	152	*e*	Pb	09 17 20.5	+3.9
PBA				*e*		09 17 34.0	
NNT	Nongplab	7.16	87	P	Pn	09 18 50.9	+1.7
BDT	Bhumibol Dam	8.07	51	⇓P	P	09 19 02.0	+0.1
	40nm,0.7s						
BDT	Bhumibol Dam	8.07	51	⇓P	P	09 19 02.0	+0.1
	40nm,0.7s						
NST	Nakhon Sawan	8.23	65	P	P	09 19 04.0	-0.1
	133nm,0.7s						
CM31	Chiang Mai Arr	8.81	45	*e*P	P	09 19 10.8	-1.4
	19nm,0.3s						
NANT	Nan	10.29	50	P	P	09 19 33.0	+0.3
VIS	Vishakhapatnam	10.31	303	*e*P	P	09 19 29.0	-3.9
VIS				*e*S	S	09 21 14.7	-14
VIS				*e*		09 21 19.1	
	comp=N,570nm,0.6s						
VIS				*e*		09 21 19.3	
	comp=E,464nm,0.5s						
KULM	Kulim	10.69	130	*e*P	P	09 19 40.9	+2.8
KKTK	Khon Kaen	10.87	67	P	P	09 19 43.0	+2.4
	comp=E,864nm,1.0s						
CAL	Calcutta	10.93	340	*e*	P	09 19 58.9	+17
CAL				*e*		09 21 33.7	
MDRS	Chennai	11.90	275	*e*P	P	09 19 51.0	-3.5
MDRS				*e*		09 21 54.0	
MDRS				*e*		09 22 05.0	
MDRS				*e*		09 22 51.0	
MDRS				*e*		09 23 00.0	
BOK	Bokaro	13.04	333	*i*	P	09 20 08.2	-1.5
BOK				*i*		09 22 20.2	
SHL	Shillong	13.24	358	*e*P	P	09 20 07.0	-5.4
SHL				*e*		09 22 24.5	
BLSP	Bilaspur	13.87	316	*e*	P	09 20 18.1	-2.7
BLSP				*e*		09 20 25.2	
	comp=Z,141nm,1.1s						
BLSP				*e*		09 22 53.5	
SALM	Salem	13.92	269	*e*	P	09 20 21.0	-0.5
SALM				*e*		09 22 45.0	
HYB	Hyderabad	14.34	293	*e*P	P	09 20 24.0	-3.0
	comp=Z,70nm,1.0s						
HYB				*e*S	S	09 22 50.5	-16
HYB	Hyderabad	14.34	293	*i* P	P	09 20 24.0	-3.0
	comp=Z,70nm,1.0s						
HYB				*e*		09 20 34.0	
HYB				*e*S	S	09 22 50.5	-16
HYB				LR	LR		
	comp=Z,5.4nm,16.0s						
GTK	Gangtok	15.41	347	*e*	P	09 20 30.0	-11
TRD	Trivandrum	15.65	258	*e*	P	09 20 44.4	+0.3
TRD				*e*		09 20 52.2	
	comp=Z,178nm,1.2s						
TRD				*e*S	S	09 23 19.2	-18
TRD				*e*		09 23 37.5	
KMI	Kunming	16.09	36	P	P	09 20 51.0	+1.3
KMI				AP		09 20 55.6	
KMI				PP	PP	09 21 04.1	+1.4
KMI				S	S	09 23 50.3	+3.2
KMI				SS	SS	09 24 09.8	+3.4
KMI				AMB	AMB		
	comp=Z,88nm,1.8s						
KMI				AMB	AMB		
	comp=Z,527nm,3.8s						
KMI				LR	LR		
	comp=N,3μm,15.7s						
KMI				LR	LR		
	comp=E,4μm,16.2s						
KMI				LR	LR		
	comp=Z,3μm,15.1s						
JIRN	Jiri	16.39	340	*e*P	P	09 20 52.6	-0.8
	comp=Z,81nm,0.4s						
LATR	Latur	16.46	294	*e*P	P	09 20 51.8	-2.6
LATR				*e*S	S	09 23 38.0	-18
PKI	Pulchoki	16.58	338	*e*P	P	09 20 55.0	-0.9
	comp=Z,448nm,1.0s						
GUN	Gumba	16.72	340	*e*P	P	09 20 56.4	-1.3
DMN	Daman	16.73	337	*e*P	P

GYA XP 09 21 43.6
GYA S **S** **09 25 11.4 +7.4**
GYA AMB AMB
comp=Z,50nm,1.6s
GYA AMB AMB
comp=Z,910nm,3.6s
GYA LR LR
comp=N,2μm,16.4s
GYA LR LR
comp=E,3μm,14.6s
GYA LR LR
comp=Z,4μm,17.0s
BOM Bombay 19.99 292 *e*P **P** **09 21 37.0 0.0**
BOM *e*S **S** **09 25 02.3 -13**
LGTI Lohaghat 20.50 328 ⇓*i*P **P** **09 21 44.5 +2.2**
LGTI *e* 09 25 49.0
PTH Pithoragarh 20.60 328 *e* **P** **09 21 49.8 +6.5**
PTH *e* 09 25 20.4
KSM Kuching 20.73 120 *e*P **P** **09 21 44.5 -0.3**
CD2 Chengdu 21.32 28 ⇓*i*P **P** **09 21 50.3 -0.3**
CD2 PP PP 09 22 17.3 +2.8
CD2 PPP PPP 09 22 23.8 0.0
CD2 S **S** **09 25 44.5 +3.4**
CD2 AMB AMB
comp=Z,210nm,1.4s,mb5.3
CD2 AMB AMB
comp=Z,2μm,9.8s
CD2 LR LR
comp=N,3μm,14.4s
CD2 LR LR
comp=Z,2μm,15.6s,MS4.7
NDI New Delhi 21.63 321 *e* **P** **09 21 52.5 -1.2**
NDI *e* 09 25 40.5
AJM Ajmer 21.89 313 *i* **P** **09 21 55.0 -1.4**
DDI Dehra Dun 22.36 326 *e*P **P** **09 22 03.1 +2.1**
DDI *e* 09 26 04.1
GZH Guangzhou 22.63 59 P **P** **09 22 09.0 +5.1**
GZH LR LR
comp=N,1μm,16.5s,MS4.5
GZH LR LR
comp=E,1μm,19.6s,MS4.5
GZH LR LR
comp=Z,2μm,18.3s,MS4.6
SMLA Simla 23.46 326 *i* **P** **09 22 12.0 +0.1**
SMLA *i* S **S** **09 26 22.2 +2.1**
ENH Enshi 23.91 39 *e*P **P** **09 22 15.7 -0.5**
comp=Z,65nm,0.7s,mb5.2
BHK Bhakra 24.10 325 *e* **P** **09 22 29.0 +11**
BHK *e* 09 27 03.0
PONG Pong 24.77 325 *e* **P** **09 22 28.0 +3.5**
PONG *e* 09 27 36.0
THN Thein Dam 25.26 325 *e* **P** **09 22 27.6 -1.6**
THN *e* 09 27 13.2
LZH Lanzhou 25.87 22 P **P** **09 22 35.9 +1.1**
LZH AP pP 09 22 43.8 +1.5
LZH XP sP 09 22 48.8 +3.1
LZH PP PP 09 23 18.0 +2.4
LZH S **S** **09 27 04.0 +3.3**
LZH XS 09 27 20.0
LZH AMB AMB
comp=Z,890nm,4.8s
LZH LR LR
comp=E,5μm,15.2s
LZH LR LR
comp=Z,5μm,17.8s,MS5.0
XAN Xi'an 26.39 32 P **P** **09 22 38.6 -1.1**
XAN AP pP 09 22 47.4 +0.3
XAN PP PP 09 23 24.9 +2.1
XAN AMB AMB
comp=Z,29nm,1.3s,mb4.7
XAN LR LR
comp=N,2μm,18.8s
XAN LR LR
comp=E,2μm,13.5s
XAN LR LR
comp=Z,2μm,16.0s,MS4.8
WHN Wuhan 27.26 45 *e*P **P** **09 22 51.0 +3.3**
WHN LR LR
comp=N,540nm,10.0s,MS5.3
WHN LR LR
comp=E,5μm,13.6s,MS5.3
WHN LR LR
comp=Z,7μm,16.0s,MS5.3
QZH Quanzhou 27.77 59 ⇑P **P** **09 22 51.6 -0.8**
QZH LR LR
comp=N,1μm,12.2s,MS5.0
QZH LR LR
comp=E,2μm,16.7s,MS5.0
QZH LR LR
comp=Z,4μm,15.7s,MS5.1
GTA Gaotai 27.82 12 P **P** **09 22 53.3 +0.6**
GTA PP PP 09 23 43.8 +1.8
GTA PPP PPP 09 23 55.6 +1.6
GTA PCP PcP 09 26 09.6 +0.8
GTA S **S** **09 27 34.9 +2.3**
GTA XS 09 27 46.8
GTA SS SS 09 28 56.4 +2.8
GTA AMB AMB
comp=Z,54nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,376nm,11.0s
GTA LR LR
comp=N,1μm,17.9s,MS4.7
GTA LR LR
comp=E,1μm,15.6s,MS4.7
GTA LR LR
comp=Z,796nm,17.1s,MS4.4
KSH Kashi 30.80 335 *e*P **P** **09 23 14.9 -4.4**
KSH *e*PCP PcP 09 26 16.4 +0.1
KSH *e*S **S** **09 28 08.8 -11**
KSH *e*PCS 09 29 58.4
KSH *e*SCS ScS 09 33 48.6 -2.6
KSH AMB AMB
comp=Z,130nm,4.2s
KSH LR LR
comp=N,2μm,14.4s,MS5.2
KSH LR LR
comp=E,2μm,10.9s,MS5.2
NJ2 Nanjing 31.28 47 *e*P **P** **09 23 22.5 -1.1**
NJ2 AP pP 09 23 31.5 +0.4
NJ2 XP sP 09 23 36.3 +1.9
NJ2 PP PP 09 24 24.8 -2.2
NJ2 S **S** **09 28 26.0 -1.6**
NJ2 XS 09 28 42.0
NJ2 AMB AMB
comp=Z,30nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,720nm,4.4s
NJ2 LR LR
comp=N,4μm,12.5s,MS5.4
NJ2 LR LR
comp=E,4μm,14.2s,MS5.4
NJ2 LR LR
comp=Z,2μm,10.1s,MS5.2
WMQ Urumqi 31.71 353 P **P** **09 23 28.5 +1.3**
WMQ AP pP 09 23 38.0 +3.2
WMQ XP sP 09 23 42.0 +3.9
WMQ PP PP 09 24 33.0 +0.5
WMQ PCP PcP 09 26 19.0 +0.3
WMQ S **S** **09 28 34.8 +0.7**
WMQ XS 09 28 51.0
WMQ SS SS 09 30 26.0 +1.3
WMQ AMB AMB
comp=Z,18nm,1.2s,mb4.8
WMQ AMB AMB
comp=Z,196nm,3.9s
WMQ LR LR
comp=N,2μm,16.6s,MS5.1
WMQ LR LR
comp=E,3μm,18.0s,MS5.1
WMQ LR LR
comp=Z,1μm,22.8s,MS4.6
BTO Baotou 32.20 26 *e*P **P** **09 23 29.4 -2.2**
BTO S **S** **09 28 36.4 -5.5**
BTO LR LR
comp=N,207nm,8.5s
BTO LR LR
comp=E,1μm,17.1s
SSE Sheshan 32.50 50 P **P** **09 23 31.4 -2.9**
SSE AP pP 09 23 40.3 -1.5
SSE S **S** **09 28 44.6 -2.0**
SSE AMB AMB
comp=Z,30nm,0.7s,mb5.2
SSE AMB AMB
comp=Z,149nm,4.9s
SSE LR LR
comp=N,1μm,21.4s,MS4.5
SSE LR LR
comp=E,299nm,21.2s,MS4.5
SSE LR LR
comp=Z,599nm,17.7s,MS4.3
TIA Tai'an 32.62 39 *e*P **P** **09 23 35.3 0.0**
HHC Hu-ho-hao-te 33.07 27 *e*P **P** **09 23 38.8 -0.4**
HHC AP pP 09 23 47.8 +1.1
HHC XP sP 09 23 52.0 +2.0
HHC PP PP 09 24 46.3 -3.9
HHC S **S** **09 28 50.5 -4.9**
HHC PCS 09 30 02.8
HHC SS SS 09 31 00.5 +4.0
HHC AMB AMB
comp=Z,28nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,321nm,5.4s
HHC LR LR
comp=N,1μm,19.6s,MS4.9
HHC LR LR
comp=E,2μm,18.4s,MS4.9
AAK Ala-Archa 34.02 336 *i* P **P** **09 23 47.5 +0.1**
AAK pmax pmax
comp=Z,22nm,1.2s,mb5.0
AAK MLR MLR
comp=Z,2μm,17.0s,MS4.8
AAK Ala-Archa 34.02 336 *e*P **P** **09 23 47.0 -0.4**
comp=Z,11nm,0.9s,mb4.8
FRU Bishkek 34.15 336 *e*P **P** **09 23 50.0 +1.5**
BJT Baijiatuau 34.69 33 *e*P **P** **09 23 53.3 +0.1**
BJT pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 34.69 33 *e*P **P** **09 23 53.3 +0.1**
comp=Z,11nm,0.6s,mb5.0
BJI Beijing 34.71 33 P **P** **09 23 53.4 0.0**
BJI PP PP 09 25 09.6 -1.0
BJI S **S** **09 29 14.8 -6.0**
BJI AMB AMB
comp=Z,26nm,1.8s,mb4.9
BJI LR LR
comp=N,1μm,18.6s,MS4.8
BJI LR LR
comp=E,999nm,20.1s,MS4.8
BJI LR LR
comp=Z,1μm,19.2s,MS4.7
MKAR Makanchi Array 35.46 348 *i* P **P** **09 23 59.5 -0.2**
MKAR pmax pmax
comp=Z,14nm,0.8s
JOW Kunigami 36.62 61 LR LR 09 40 19.8
comp=Z,2μm,21.5s,MS4.8,baz=263,slow=38
SONM Songino Array 37.34 16 P **P** **09 24 15.2 -0.3**
comp=Z,15nm,1.0s,mb4.8,baz=202,slow=6.7,SNR=70
SONM ScP 09 30 18.3
comp=Z,1.1nm,1.0s,baz=217,slow=6.2,SNR=3.8
ULN Ulaanbaatar 37.55 16 *e*P **P** **09 24 17.3 +0.1**
ULN pmax pmax
comp=Z,29nm,1.4s,mb4.8
ULN Ulaanbaatar 37.55 16 *e*P **P** **09 24 17.3 +0.1**
comp=Z,29nm,1.4s,mb4.8
ZAK Zakamensk 39.04 11 *e*P **P** **09 24 29.9 +0.2**
ZAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.9
MOY Mondy 39.91 8 *e*P **P** **09 24 38.6 +1.7**
MOY pmax pmax
comp=Z,49nm,2.8s,mb4.7
KURK Kurchatov 39.97 346 *e*P **P** **09 24 37.1 -0.3**
KURK pmax pmax
comp=Z,23nm,0.9s,mb4.9
KURK Kurchatov 39.97 346 *e*P **P** **09 24 37.0 -0.4**
comp=Z,23nm,0.9s,mb4.9
SNY Shenyang 40.06 37 ⇓P **P** **09 24 36.8 -1.5**
SNY AP pP 09 24 44.9 -1.1
SNY XP sP 09 24 49.3 +0.2
SNY PP PP 09 26 11.1 -3.1
SNY S **S** **09 30 37.8 -4.7**
SNY AMB AMB
comp=Z,30nm,1.6s,mb4.8
SNY AMB AMB
comp=Z,250nm,12.0s
SNY LR LR
comp=N,890nm,14.9s,MS5.1
SNY LR LR
comp=E,2μm,17.1s,MS5.1
SNY LR LR
comp=Z,2μm,16.3s,MS5.1
TLY Talaya 40.35 11*c* *i*P **P** **09 24 41.9 +1.4**
TLY *e* 09 26 16.0
TLY *e*S **S** **09 30 49.9 +3.2**
TLY *e*SS SS 09 33 40.7 +0.4
TLY pmax pmax
comp=Z,27nm,1.3s,mb4.8
TLY MLR MLR
comp=Z,743nm,20.0s,MS4.5
TLY Talaya 40.35 11 *e*P **P** **09 24 42.1 +1.5**
comp=Z,44nm,1.6s,mb4.9
IRK Irkutsk 41.01 11 *e*P **P** **09 24 45.1 -0.8**
IRK *e* 09 26 18.4
IRK pmax pmax
comp=Z,67nm,2.1s,mb4.9
ZAL Zalesovo 42.01 353 P **P** **09 24 53.7 -0.4**
comp=Z,6.2nm,0.5s,mb4.5,baz=295,slow=10.0,SNR=4.9
ZAL LR LR 09 46 21.3
comp=Z,1μm,19.5s,MS4.8,baz=292,slow=42
ZAL Zalesovo 42.01 353 P **P** **09 24 53.7 -0.4**
ZAL LR LR 09 46 21.2
CN2 Changchun 42.36 36 *e*P **P** **09 24 56.8 -0.4**
CN2 *e*XP sP 09 25 12.1 +4.1
CN2 PP PP 09 26 38.4 +0.2
CN2 *e*S **S** **09 31 15.4 -1.2**
CN2 AMB AMB
comp=Z,30nm,1.5s,mb4.7
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.1
CN2 LR LR
comp=E,1μm,15.0s,MS5.1
CN2 LR LR
comp=Z,2μm,16.0s,MS5.0
MBWA Marble Bar 42.70 141 P **P** **09 25 00.3 0.0**
comp=Z,17nm,1.0s,mb4.7
NVS Novosibirsk 43.09 352 *e*P **P** **09 25 01.5 -1.4**
NVS *e* 09 26 44.9
NVS *e*S **S** **09 31 24.6 -2.4**
NVS pmax pmax
comp=N,17nm,1.4s
NVS pmax pmax
comp=E,8.0nm,1.4s
NVS pmax pmax
comp=Z,34nm,1.4s,mb4.9
NVS smax
comp=N,28nm,1.5s
NVS smax
comp=E,67nm,1.5s
HIA Hailar 43.26 26 *e*P **P** **09 25 03.3 -1.1**
HIA pmax pmax
comp=Z,38nm,1.5s
HIA Hailar 43.26 26 *e*P **P** **09 25 03.3 -1.1**
comp=Z,38nm,1.5s,mb4.9
BVA0 Borovoye Array 44.31 341 P **P** **09 25 12.2 -0.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.3s,mb4.1
BVAR Borovoye Array 44.31 341 P **P** **09 25 12.1 -0.8**
comp=Z,2.3nm,0.5s,mb4.2,baz=143,slow=7.4,SNR=15
FITZ Fitzroy Crossi 44.56 132 *e*P **P** **09 25 14.1 -1.3**
comp=Z,22nm,0.9s,mb5.0
CHKZ Chkalovo 44.80 342 *e*P **P** **09 25 16.8 0.0**
CHKZ pmax pmax
comp=Z,23nm,0.7s,mb5.1
CHKZ Chkalovo 44.80 342 *e*P **P** **09 25 16.8 0.0**
comp=Z,24nm,0.7s,mb5.1
MDJ Mudanjiang 45.26 37 P **P** **09 25 20.3 -0.3**
MDJ AP pP 09 25 28.1 -0.1
MDJ XP sP 09 25 32.6 +1.2
MDJ PP PP 09 27 05.0 -2.1
MDJ SCP 09 30 51.9
MDJ PCS 09 30 55.8
MDJ S **S** **09 31 56.6 -1.9**
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.6
MDJ AMB AMB
comp=Z,154nm,5.5s
MDJ LR LR
comp=N,864nm,14.5s,MS5.0
MDJ LR LR
comp=E,1μm,15.3s,MS5.0
MDJ LR LR
comp=Z,2μm,14.5s,MS5.1
MDJ Mudanjiang 45.26 37 *e*P **P** **09 25 20.4 -0.2**
KAKA Kakadu 46.83 121 *e*P **P** **09 25 31.5 -1.8**
comp=Z,3.9nm,0.5s,mb4.6
MAT Matsushiro 47.63 51 *e*P **P** **09 25 37.0 -2.4**
MAT *e*S **S** **09 32 40.0 +7.6**
MAT pmax pmax
comp=Z,121nm,1.9s,mb5.6
MAT MLR MLR
comp=Z,690nm,19.0s,MS4.7
MAT Matsushiro 47.63 51 *e*P **P** **09 25 37.0 -2.4**
comp=Z,121nm,1.9s,mb5.6
MAT *e*S **S** **09 32 40.0 +7.6**
MAT LR LR
comp=Z,690nm,19.0s,MS4.7
MAT Matsushiro 47.63 51 P **P** **09 25 37.4 -2.0**
MAT S **S** **09 32 32.0 -0.4**
BOD Bodaibo 48.34 15 *e*P **P** **09 25 43.9 -0.8**
KLR Kul'dur 49.08 33 *e*P **P** **09 25 46.0 -4.5**
KLR *e*S **S** **09 32 53.5 +0.8**
KLR *e* 09 36 20.5
KLR MLR MLR
comp=E,2μm,15.0s
KLR MLR MLR
comp=Z,2μm,15.0s,MS5.2
MUN Mundaring 49.55 153 *e*P **P** **09 25 54.3 0.0**
comp=Z,10nm,0.8s,mb4.9
MUN Mundaring 49.55 153 *e*P **P** **09 25 54.3 0.0**
MUN pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KLBR Kellerberrin 49.92 151 *e*P **P** **09 25 57.6 +0.4**
comp=Z,160nm,1.1s,mb6.0
GNI Garni 50.20 312 *e*P **P** **09 26 01.3 +2.1**
GNI pmax pmax
comp=Z,64nm,1.1s
GNI Garni 50.20 312 P **P** **09 25 59.6 +0.4**
comp=Z,4.7nm,0.5s,mb4.8,baz=359,slow=9.4,SNR=5.5
GNI Garni 50.20 312 *e*P **P** **09 26 01.3 +2.1**
comp=Z,64nm,1.1s,mb5.6
SVE Sverdlovsk 50.72 338 ⇓*e*P **P** **09 26 04.0 +1.1**
SVE *e* 09 26 19.7
SVE *e*S **S** **09 33 18.0 +2.8**
SVE MLR MLR
comp=N,400nm,16.0s,MS4.7
SVE MLR MLR
comp=E,500nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,1μm,16.0s,MS4.9
TI2 Plekhanov 50.75 314 *e*P **P** **09 25 58.0 -5.3**
NWAO Narrogin (SRO) 50.80 153 *e*P **P** **09 26 03.0 -0.9**
NWAO pmax pmax
comp=Z,8.0nm,0.7s
NWAO Narrogin (SRO) 50.80 153 P **P** **09 26 02.6 -1.3**
comp=Z,3.6nm,0.4s,mb4.7,baz=270,slow=7.1,SNR=7.3
NWAO Narrogin (SRO) 50.80 153 *e*P **P** **09 26 03.0 -0.9**
comp=Z,8.2nm,0.7s,mb4.8
CLNS Chul'man 50.99 22 *e*P **P** **09 26 05.7 +0.8**
CLNS pmax pmax
comp=Z,18nm,1.0s,mb5.0
CLNS pmax pmax
comp=N,11nm,0.9s
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS MLR MLR
comp=Z,900nm,15.0s,MS4.9
CLNS MLR MLR
comp=N,600nm,19.0s
CLNS MLR MLR
comp=E,100nm,13.0s
ARU Arti 51.21 337 *e*P **P** **09 26 06.6 0.0**
ARU *e* 09 28 02.8
ARU *e*PPP PPP 09 29 03.8 -1.1
ARU *e*S **S** **09 33 25.8 +3.8**
ARU *e* 09 35 53.3
ARU *e*SS SS 09 37 01.9 +6.5
ARU MLR MLR
comp=Z,900nm,19.0s,MS4.8
ARU MLR MLR
comp=N,800nm,18.0s,MS4.9
ARU MLR MLR
comp=E,500nm,17.0s,MS4.9
WRA Warramunga Arr 52.22 127 P **P** **09 26 13.5 -1.3**
comp=E,9.5nm,0.6s,mb4.9,baz=304,slow=8.6,SNR=83
WRA S **S** **09 33 33.6 -2.8**
comp=E,0.6nm,1.1s,baz=300,slow=12,SNR=4.6
WRAB Tennant Creek 52.23 127 P **P** **09 26 13.0 -1.8**
comp=E,176nm,0.6s,SNR=13
WRAB Tennant Creek 52.23 127 *e*P **P** **09 26 13.1 -1.7**
WRAB *e* pP 09 26 20.7 -1.9
WRAB pmax pmax
comp=Z,36nm,0.6s,mb5.5
WRAB Tennant Creek 52.23 127 *e*P **P** **09 26 13.1 -1.8**
comp=Z,36nm,0.6s,mb5.5
WRAB *e* pP 09 26 20.7 -1.9
WB2 Warramunga Arr 52.23 127 *e*P **P** **09 26 13.6 -1.3**
KIV Kislovodsk 52.96 316 *i* P **P** **09 26 19.5 -0.5**
KIV *e* 09 27 30.1
KIV *e*S **S** **09 33 51.8 +5.7**
KIV pmax pmax
comp=Z,50nm,0.9s,mb5.4
KIV MLR MLR
comp=Z,300nm,16.0s,MS4.4
KIV Kislovodsk 52.96 316 *e*P **P** **09 26 19.3 -0.8**
comp=Z,44nm,0.9s,mb5.4
ASPA Alice Springs 54.05 131 *e*P **P** **09 26 28.0 -0.2**
ASAR Alice Springs 54.05 131 P **P** **09 26 26.5 -1.7**
comp=Z,2.7nm,0.3s,mb4.7,baz=315,slow=6.8,SNR=195
ASAR S **S** **09 33 58.3 -2.9**
comp=Z,0.7nm,1.0s,baz=300,slow=12,SNR=3.7
MALT Malatya 54.38 308 *e*P **P** **09 26 31.0 +0.6**
MALT pmax pmax
comp=Z,34nm,1.4s,mb5.1
MALT Malatya 54.38 308 *e*P **P** **09 26 31.0 +0.5**
comp=Z,34nm,1.4s,mb5.1
YSS Yuzh-Sakhalins 54.47 40 ⇑*e*P **P** **09 26 39.0 +8.0**
YSS MLR MLR
comp=E,2μm,14.0s
YSS MLR MLR
comp=Z,1μm,14.0s,MS5.1
FORT Forrest 54.82 142 *e*P **P** **09 26 34.2 +0.4**
comp=Z,455nm,0.8s
GZT Gaziantep 54.83 307 *i* P **P** **09 26 34.0 +0.2**
SOC Sochi 54.87 315 *e*P **P** **09 26 35.9 +1.9**
SOC *e* 09 28 35.9
SOC *e*PPP PPP 09 29 50.8 +0.1
SOC *e*S **S** **09 34 14.4 +2.5**
SOC *e* 09 36 16.0
SOC *e*SS SS 09 37 56.5 +1.4
SOC *e*SSS SSS 09 40 04.3 +8.6
SOC pmax pmax
comp=Z,46nm,1.3s,mb5.3
SOC pmax pmax
comp=N,36nm,1.5s
SOC pmax pmax
comp=E,25nm,1.0s
SOC MLR MLR
comp=N,331nm,22.0s,MS4.5
SOC MLR MLR
comp=Z,447nm,22.0s,MS4.5
SOC MLR MLR
comp=E,190nm,20.0s,MS4.5
KMBO Kilima Mbogo 56.34 260 *e*P **P** **09 26 46.9 +1.8**
KMBO pmax pmax
comp=Z,1.0nm,0.2s
KMBO Kilima Mbogo 56.34 260 P **P** **09 26 46.1 +1.1**
comp=Z,0.6nm,0.2s,mb4.2,baz=235,slow=24,SNR=5.8
KMBO LR LR 09 47 53.7
comp=Z,631nm,20.4s,MS4.7,baz=94,slow=33
KMBO Kilima Mbogo 56.34 260 *e*P **P** **09 26 46.9 +1.8**
comp=Z,1.3nm,0.2s,mb4.6
YAK Yakutsk 56.44 20 *e*P **P** **09 26 44.1 -1.0**
YAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
YAK MLR MLR
comp=Z,500nm,14.0s,MS4.8
YAK MLR MLR
comp=N,300nm,12.0s,MS4.7
YAK MLR MLR
comp=E,300nm,13.0s,MS4.7
CTKT Corum 57.63 310 *i* P **P** **09 26 46.4 -7.4**
BOYT Boyabat 57.72 311 *i* P **P** **09 26 52.0 -2.5**

VRSR Storozhevoye 57.85 323 *e*P **P** **09 26 53.7 -1.5**
VRSR pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,3.0nm,0.5s
BRTR Keskin Array B 58.32 309 P **P** **09 26 57.8 -0.9**
comp=E,1.6nm,0.6s,mb4.2,baz=124,slow=8.9,SNR=8.7
PMG Port Moresby 58.51 109 P **P** **09 26 57.9 -2.4**
comp=E,4.4nm,0.4s,mb4.9,baz=288,slow=6.6,SNR=4.3
ELDT Eldivan 58.62 310 *i* P **P** **09 27 00.6 -0.2**
SIM Simferopol' 59.11 315 *e*P **P** **09 27 05.0 +0.9**
SIM *e*S **S** **09 35 03.0 -4.9**
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.1
MOS Moscow 60.47 328 *e*P **P** **09 27 18.1 +4.8**
MOS *e* pP 09 27 26.2 +4.9
MOS *e* 09 27 35.0
MOS *e* 09 28 01.2
MOS *e* 09 29 31.7
MOS *e*S **S** **09 35 28.2 +2.9**
MOS pmax pmax
comp=Z,51nm,0.6s,mb5.7
OBN Obninsk 60.79 327 *e*P **P** **09 27 18.8 +3.4**
OBN *i* 09 27 31.4
OBN *e* 09 28 05.2
OBN *e* 09 30 58.4
OBN *i* S **S** **09 35 34.1 +4.8**
OBN *e* 09 37 05.2
OBN *e*SS SS 09 39 27.3 -2.4
OBN pmax pmax
comp=Z,63nm,1.7s,mb5.5
OBN MLR MLR
comp=Z,800nm,19.0s,MS4.9
MBAR Mbarara 62.51 263 *e*P **P** **09 27 28.5 +0.9**
MBAR pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
MBAR Mbarara 62.51 263 *e*P **P** **09 27 28.5 +0.9**
comp=Z,6.0nm,1.0s,mb4.7
KIS Kishinev 63.16 317 *e*P **P** **09 27 30.0 -1.5**
KIS *e*PS PS 09 36 08.0 -13
KIS MLR MLR
comp=Z,400nm,20.0s,MS4.6
CFR Carcaliu 63.30 315 ||P **P** **09 27 39.3 +6.9**
TIXI Tiksi 63.31 12 *e*P **P** **09 27 27.2 -4.9**
TIXI *e* 09 29 46.9
TIXI *e*S **S** **09 35 55.0 -5.9**
TIXI *e*SS SS 09 40 02.7 -6.8
TIXI pmax pmax
comp=Z,31nm,1.2s,mb5.3
MA2 Magadan 63.73 29*c**e*P **P** **09 27 34.0 -1.0**
MA2 *e*S **S** **09 36 03.1 -3.2**
MA2 *e*PS PS 09 36 24.1 -4.6
MA2 *e* 09 37 26.2
MA2 pmax pmax
comp=E,7.0nm,1.6s
MA2 pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
MA2 Magadan 63.73 29 *e*P **P** **09 27 32.6 -2.3**
comp=Z,10nm,0.8s,mb4.9
STKA Stephens Creek 64.36 134 P **P** **09 27 39.1 -0.5**
comp=Z,2.2nm,0.3s,mb4.7,baz=316,slow=20,SNR=4.7
STKA Stephens Creek 64.36 134 *e*P **P** **09 27 39.1 -0.6**
VRI Vrincioaia 64.39 315 ||P **P** **09 27 40.8 +1.2**
MLR Muntele Rosu 64.88 315 ||P **P** **09 27 43.2 +0.5**
BURAR Bucovina Array 65.69 317 ||P **P** **09 27 48.7 +0.9**
SEY Seymchan 65.70 26 *e*P **P** **09 27 48.4 +0.7**
SEY *e* 09 30 15.6
SEY *e*PPP PPP 09 31 49.5 +0.2
SEY *e*S S 09 36 32.6 +2.0
SEY 09 37 38.1
SEY pmax pmax
comp=Z,30nm,1.4s,mb5.1
SEY pmax pmax
comp=E,10.0nm,1.3s
SEY smax
comp=N,700nm,18.7s
SEY smax
comp=E,300nm,19.9s
PET Petropavlovsk 66.04 37 *e*P **P** **09 27 52.8 +2.8**
PET *e* 09 30 21.0
PET *e*S S 09 36 38.4 +3.5
PET *e* 09 37 42.2
PET pmax pmax
comp=Z,100nm,13.7s
PET smax
comp=N,200nm,19.5s
PET MLR MLR
comp=Z,600nm,19.0s,MS4.8
IDID Didziasalis 66.21 325 *e*P **P** **09 27 51.5 +0.4**
IDID AMb AMB 09 27 60.0
comp=Z,8.2nm,1.6s,mb4.5
IIGN Ignalina 66.51 325 *e*P **P** **09 27 51.6 -1.4**
IIGN AMb AMB 09 28 02.0
comp=Z,9.2nm,1.7s,mb4.5
IZAR Zarasai 66.58 326 *e*P **P** **09 27 53.7 +0.2**
LVV L'vov 66.79 319 *e*P **P** **09 27 55.9 +1.0**
VSU Vasula 66.97 329 *i* P **P** **09 27 55.3 -0.6**
APA Apatity 67.17 339||*e*P **P** **09 27 41.5 -15**
APA pmax pmax
comp=Z,32nm,1.2s,mb5.2
APA MLR MLR
comp=Z,2μm,19.0s,MS5.2
KOLS Kolonicke sedl 67.81 318 *e*P **P** **09 28 04.5 +3.2**
SUW Suwalki 67.98 323 *e*P **P** **09 28 02.3 0.0**
SUW pmax pmax
comp=Z,50nm,1.0s,mb5.5
SUW Suwalki 67.98 323 *e*P **P** **09 28 02.3 0.0**
comp=Z,50nm,1.0s,mb5.5
FINES FINESS Array B 68.06 332 P **P** **09 28 02.0 -0.7**
comp=Z,1.8nm,0.6s,mb4.3,baz=104,slow=7.9,SNR=11
FINES LR LR 10 05 13.1
comp=Z,377nm,18.4s,MS4.7,baz=128,slow=42
CRVS Cervenica-Dubn 68.34 318 *e*P **P** **09 28 05.2 +0.6**
KECS Kecovo 68.94 317 *e*P **P** **09 28 12.7 +4.3**
KECS Kecovo 68.94 317 *e* **P** **09 28 12.7 +4.3**
LSZ Lusaka 69.21 248 *e*P **P** **09 28 12.2 +1.7**
LSZ pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
LSZ Lusaka 69.21 248 *e*P **P** **09 28 12.2 +1.6**
comp=Z,8.9nm,1.0s,mb4.7
PSZ Piszkesteto 69.29 317 P **P** **09 28 09.7 -0.8**
PSZ pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
PSZ Piszkesteto 69.29 317 P **P** **09 28 09.7 -0.8**
comp=Z,3.9nm,0.7s,mb4.5
OJC Ojcow 69.55 319 *e*P **P** **09 28 19.4 +7.3**
VYHS Vyhne 70.03 317 *e*P **P** **09 28 20.1 +5.1**
OKC Ostrava-Krasne 70.58 319 *e*P **P** **09 28 20.7 +2.4**
OKC *e*pP pP 09 28 26.2 -0.1
OKC AMS AMS 10 10 30.0
comp=Z,300nm,17.7s
ARCES ARCESS Array B 70.58 340 P **P** **09 28 18.0 0.0**
comp=Z,6.0nm,0.8s,mb4.6,baz=101,slow=6.8,SNR=12
ARCES LR LR 10 02 40.9
comp=Z,690nm,18.7s,MS4.9,baz=292,slow=39
MATP Matopo 70.73 243 P **P** **09 28 20.6 +0.8**
comp=Z,6.9nm,1.1s,mb4.5,baz=63,slow=5.2,SNR=5.8
MATP LR LR 09 57 35.6
comp=Z,198nm,18.4s,MS4.4,baz=199,slow=34
MORC Moravsky Berou 70.97 319 ||P **P** **09 28 21.8 +1.1**
TIP Timpagrande 71.27 307 *e*P **P** **09 28 21.4 -1.3**
DPC Dobruska-Polom 71.78 319 *e*P **P** **09 28 28.0 +2.4**
DPC *e**PP pP 09 28 33.5 -0.1
DPC *e*S S 09 37 45.3 +2.4
DPC MLR MLR
comp=Z,300nm,19.4s,MS4.6
DPC Dobruska-Polom 71.78 319 *e*P **P** **09 28 28.0 +2.4**
DPC *e*pP pP 09 28 33.5 -0.1
DPC *e*S S 09 37 45.3 +2.4
DPC *e*SS SS 09 42 29.0 +8.1
DPC AMS AMS 10 04 50.0
comp=Z,300nm,19.4s
KSP Ksiaz 71.83 320 *e*P **P** **09 28 25.9 +0.1**
KSP *e**PP pP 09 28 32.6 -1.2
KSP *e*S S 09 37 44.0 +0.6
UPC Upice 71.99 319 *e*pP pP 09 28 34.6 -0.2
PDKS Podkum 72.55 315 *i* P **P** **09 28 30.4 +0.1**
PDKS *e* 09 28 36.3
BILL Bilibino 72.68 22 *i* P **P** **09 28 29.8 -0.7**
BILL *e* 09 28 40.5
BILL *e* 09 28 55.2
BILL *e*PS PS 09 38 35.8 +8.1
BILL pmax pmax
comp=Z,11nm,1.1s,mb4.7
BILL MLR MLR
comp=Z,800nm,15.0s,MS5.1
BILL Bilibino 72.68 22 *e*P **P** **09 28 29.9 -0.6**
comp=Z,18nm,1.5s,mb4.8
PVCC Panska Ves 72.91 319 *e*S S 09 37 57.2 +1.5
PVCC AMS AMS 10 06 30.0
comp=Z,400nm,15.8s
PRU Pruhonice 72.92 319 *e*P **P** **09 28 32.3 0.0**
PRU *e*pP pP 09 28 40.3 0.0
PRU *e*S S 09 37 58.8 +3.0
PRU *e*SS SS 09 42 46.6 +7.8
PRU LR LR
comp=Z,300nm,17.5s,MS4.6
PRU Pruhonice 72.92 319 *e*P **P** **09 28 32.3 0.0**
PRU *e*pP pP 09 28 40.3 0.0
PRU *e*S S 09 37 58.8 +3.0
PRU *e*SS SS 09 42 46.6 +7.8
PRU AMS AMS 10 05 30.0
comp=Z,300nm,17.5s
BRG Berggiesshubel 73.32 320 *e*P **P** **09 28 35.4 +0.8**
BRG *i* S S 09 38 04.0 +3.7
BRG pmax pmax
comp=Z,52nm,1.7s,mb5.2
BRG MLR MLR
comp=Z,490nm,22.9s,MS4.7
BRG Berggiesshubel 73.32 320 *e*P **P** **09 28 35.4 +0.8**
comp=Z,52nm,1.7s,mb5.2
BRG *e*pP tx 09 29 32.0
BRG *i* S S 09 38 04.0 +3.7
BRG LR LR
comp=Z,490nm,22.9s,MS4.7
VOY Vojsko 73.32 315 *e*P **P** **09 28 34.7 0.0**
VOY *e* pP 09 28 41.6 -1.2
CADS Cadrg 73.43 315 *e*P **P** **09 28 35.5 +0.2**
GEC2 GERESS Array S 73.45 317 *e*P **P** **09 28 39.5 +4.1**
GEC2 pmax pmax
comp=Z,21nm,1.3s,mb4.9
GEC2 GERESS Array S 73.45 317 *e*P **P** **09 28 39.5 +4.1**
comp=Z,21nm,1.3s,mb4.9
GERES GERESS Array B 73.45 317 P **P** **09 28 35.2 -0.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=5.3,SNR=9.4
RUE Ruedersdorf 73.45 321 P **P** **09 28 39.2 +3.9**
KHC Kasperske Hory 73.53 318 *e*P **P** **09 28 36.4 +0.5**
KHC *e*pP pP 09 28 43.6 -0.3
KHC *e* 09 28 50.0
KHC *e*S S 09 38 03.1 +0.3
KHC *e*SS SS 09 42 53.2 +5.0
KHC LR LR
comp=Z,300nm,17.3s,MS4.6
KHC Kasperske Hory 73.53 318 *e*P **P** **09 28 36.4 +0.5**
KHC *e*pP pP 09 28 43.6 -0.3
KHC *ex* x 09 28 50.0
KHC *e*S S 09 38 03.1 +0.3
KHC *e*SS SS 09 42 53.2 +5.0
KHC AMS AMS 10 11 10.0
comp=Z,300nm,17.3s
PTCC Patocco-Chiusa 73.69 315 *e*P **P** **09 28 38.3 +1.4**
CLL Collm 73.92 320 *i* P **P** **09 28 44.3 +6.3**
CLL *e*S S 09 38 07.0 0.0
CLL pmax pmax
comp=Z,27nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,400nm,18.7s,MS4.7
CLL Collm 73.92 320 *i* *PP pP 09 28 44.3 -1.8
CLL *e*S S 09 38 07.0 0.0
CLL *e*SS SS 09 42 48.0 -5.9
WET Wettzell 73.99 318 *e*P **P** **09 28 42.7 +4.2**
WET pmax pmax
comp=Z,24nm,1.5s,mb4.9
WET Wettzell 73.99 318 *e*P **P** **09 28 42.7 +4.2**
comp=Z,24nm,1.5s,mb4.9
NKC Novy Kostel 74.27 319 *e*P **P** **09 28 40.1 0.0**
NKC *e*pP pP 09 28 48.0 -0.1
NKC AMS AMS 10 06 20.0
comp=Z,400nm,16.5s
MOX Moxa 74.79 319 *e*P **P** **09 28 50.0 +6.8**
MOX pmax pmax
comp=Z,46nm,1.8s,mb5.1
MOX MLR MLR
comp=Z,300nm,20.0s,MS4.6
MOX Moxa 74.79 319 *i* P **P** **09 28 50.0 +6.8**
comp=Z,logA/T=1.4,mb5.1
MOX S S 09 38 20.0 +3.2
MOX L 10 05 53.0
SFI Santa Sofia 74.83 312 *e*P **P** **09 28 46.3 +2.8**
LBTB Lobatse 74.90 240 *e*P **P** **09 28 46.0 +1.7**
LBTB pmax pmax
comp=Z,18nm,1.2s,mb4.9
LBTB Lobatse 74.90 240 LR LR 09 58 55.2
comp=Z,713nm,18.1s,MS5.0,baz=91,slow=33
LBTB Lobatse 74.90 240 *e*P **P** **09 28 46.0 +1.7**
comp=Z,18nm,1.2s,mb4.9
PGD Poggio Sodo 74.92 312 *e*P **P** **09 28 45.2 +1.1**
VMG Vicchio 75.05 312 *e*P **P** **09 28 45.9 +1.1**
GRA1 Grafenberg Arr 75.06 318 *e*P **P** **09 28 49.3 +4.6**
comp=Z,91nm,1.9s,mb5.4
GRA1 *e*S S 09 38 22.5 +2.6
GRA1 LR LR
comp=Z,400nm,19.1s,MS4.7
GRF Grafenberg Arr 75.06 318 *e*P **P** **09 28 49.3 +4.6**
GRF *e*S S 09 38 22.5 +2.6
GRF pmax pmax
comp=Z,91nm,1.9s,mb5.4
GRF MLR MLR
comp=Z,400nm,19.1s,MS4.7
GRF Grafenberg Arr 75.06 318 *e*P **P** **09 28 49.3 +4.6**
comp=Z,91nm,1.9s,mb5.4
GRF *e*S S 09 38 22.5 +2.6
GRF LR LR
comp=Z,400nm,19.1s,MS4.7
NB2 NORSAR Subarra 75.10 330 P **P** **09 28 44.0 -0.7**
comp=Z,9.4nm,0.9s,mb4.7,baz=91,slow=5.8
NB2 NORSAR Subarra 75.10 330 P **P** **09 28 44.0 -0.7**
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
NOA NORSAR Array B 75.10 330 P **P** **09 28 43.6 -1.0**
comp=Z,2.0nm,0.8s,mb4.1,baz=90,slow=5.8,SNR=6.0
NOA LR LR 10 07 44.7
comp=Z,370nm,18.1s,MS4.7,baz=100,slow=40
BSEG Bad Segeberg 75.54 323 *e*P **P** **09 28 51.9 +4.5**
CLZ Clausthal 75.55 321 *e*P **P** **09 28 51.7 +4.2**
comp=Z,43nm,1.6s,mb5.1
TNS Taunus Mts 76.83 319 *e*P **P** **09 28 59.0 +4.3**
TNS pmax pmax
comp=Z,46nm,2.0s,mb5.1
TNS Taunus Mts 76.83 319 *e*P **P** **09 28 59.0 +4.3**
comp=Z,46nm,2.0s,mb5.1
BFO Black Forest 77.03 317 *e*P **P** **09 29 00.2 +4.3**
BFO pmax pmax
comp=Z,30nm,1.6s,mb5.0
BFO Black Forest 77.03 317 *e*P **P** **09 29 00.2 +4.3**
comp=Z,30nm,1.6s,mb5.0
LPG La Plagne 78.34 314 *e*P **P** **09 29 03.4 +0.3**
comp=Z,34nm,0.9s,mb5.0
LPG La Plagne 78.34 314 *e*P **P** **09 29 03.4 +0.3**
LPG pmax pmax
comp=Z,17nm,0.9s,mb5.0
BNI Bardonecchia 78.44 314 P **P** **09 29 06.2 +2.5**
BNI pmax pmax
comp=Z,20nm,1.0s,mb5.0
BNI Bardonecchia 78.44 314 P **P** **09 29 06.2 +2.5**
comp=Z,20nm,1.0s,mb5.0
DZM Mont Dzumac 80.18 115 P **P** **09 29 13.5 0.0**
comp=Z,6.2nm,1.0s,mb4.5,baz=199,slow=3.3,SNR=3.6
MAW Mawson 82.47 191 P **P** **09 29 27.0 +2.3**
MAW Mawson 82.47 191 LR LR 10 03 42.0
comp=Z,550nm,18.6s,MS5.0,baz=181,slow=34
TNA Tin City 82.90 24 *e*P **P** **09 29 26.8 -0.1**
comp=Z,6.2nm,1.2s,mb4.5
ESDC Sonseca Array 87.11 310 P **P** **09 29 49.1 +0.6**
comp=Z,0.2nm,0.3s,baz=60,slow=4.0,SNR=2.5
IMA Indian Mountai 88.22 22 *e*P **P** **09 29 54.3 +1.1**
SPU Mount Spurr 91.12 26 *e*P **P** **09 30 07.4 +0.5**
MCK McKinley 91.12 23 *e*P **P** **09 30 07.6 +0.8**
MCK pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
MCK McKinley 91.12 23 *e*P **P** **09 30 07.6 +0.8**
comp=Z,5.8nm,1.0s,mb4.9
PWA Palmer West 91.81 25 *e*P **P** **09 30 10.8 +0.8**
INK Inuvik 93.26 16 *e*P **P** **09 30 17.0 +0.4**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 93.26 16 P **P** **09 30 16.4 -0.2**
comp=Z,1.0nm,0.4s,mb4.6,baz=334,slow=6.5,SNR=16
INK LR LR 10 14 54.8
comp=Z,251nm,21.3s,MS4.6,baz=101,slow=37
INK Inuvik 93.26 16 *e*P **P** **09 30 17.0 +0.4**
comp=Z,3.2nm,1.0s,mb4.7
MENT Mentasta 93.53 22 *e*P **P** **09 30 19.9 +2.0**
DAWY Dawson 94.37 20 *e*P **P** **09 30 22.6 +0.9**
VNDA Vanda 97.55 168 LR LR 10 13 38.8
comp=Z,436nm,18.1s,MS5.0,baz=300,slow=35
YKA Yellowknife Ar 102.56 12 PP PP 09 35 08.7 -5.9
comp=Z,0.5nm,0.9s,baz=333,slow=7.4,SNR=5.3
PPT Papeete 120.08 103 *e*LR LR 10 12 43.7
comp=Z,170nm,23.2s
TBI Tubuai 120.44 110 *e*LR LR 10 12 54.5
comp=Z,191nm,26.2s
PDAR Pinedale Array 121.65 19 PKP PKPdf 09 35 56.4 -3.6
comp=Z,0.2nm,0.6s,baz=56,slow=3.3,SNR=3.3
TXAR Lajitas Array 135.83 20 PKP PKPdf 09 36 23.5 -3.8
comp=Z,0.3nm,0.6s,baz=148,slow=0.6,SNR=6.4
TXAR PP PP 09 38 59.1 -6.0
comp=Z,1.8nm,1.2s,baz=315,slow=1.8,SNR=4.9
JCT Junction City 135.91 15 *e*PKIKP PKPdf 09 36 25.5 -1.9
PLCA Paso Flores 147.93 205 PKPbc PKPdf 09 36 49.4 +1.2
comp=Z,0.9nm,0.8s,baz=170,slow=6.1,SNR=2.6
LPAZ La Paz 160.72 256 PKPab PKPab 09 37 48.7 +2.6
comp=Z,0.8nm,0.5s,baz=149,slow=4.5,SNR=2.8

KRSC 23 09:20:39.6±1.9, 49.85N×156.40E, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.85**	**348**	*i* P	Pg	09 20 56.6	0.0
SKR				*i* S	Sg	09 21 10.8	+2.8
ALID	**Alaid**	**1.16**	**332**	*e*P	Pb	09 21 04.4	+2.2
ALID				*e*S	Sb	09 21 21.2	+3.6
PAU	**Pauzhetka**	**1.64**	**9**	*e*P	Pn	09 21 11.4	+1.5
PAU				*e*S	Sb	09 21 33.4	+1.8
PAU				Smax			
	640nm,0.3s						
GRL	**Gorelyy**	**2.90**	**21**	*e*P	Pn	09 21 29.7	+1.8
GRL				*e*S	Sn	09 22 05.6	+1.6
RUS	**Russkaya**	**2.91**	**26**	*e*P	Pn	09 21 28.4	+0.4
RUS				*e*S	Sn	09 22 04.8	+0.6
APC	**Apacha**	**3.12**	**8**	*e*P	Pn	09 21 32.7	+1.8
KRMR	**Karymshinskiy**	**3.17**	**19**	*e*S	Sn	09 22 10.8	-0.1
PET	**Petropavlovsk**	**3.48**	**23**	*e*P	Pn	09 21 37.9	+1.8
PET				*e*S	Sn	09 22 19.9	+1.3
UGLR	**Uglovaya**	**3.69**	**23**	*e*P	Pn	09 21 41.3	+2.2
AVH	**Avacha**	**3.72**	**22**	*e*P	Pn	09 21 41.6	+2.1
KOK	**Koryaka**	**3.72**	**21**	*e*P	Pn	09 21 42.1	+2.6
NLC	**Nalytchevo**	**3.80**	**28**	*e*P	Pn	09 21 41.5	+0.8
NLC				*e*S	Sn	09 22 25.4	-1.4
SPN	**Mys Shipunski**	**3.96**	**33**	*e*P	Pn	09 21 43.8	+0.8
SPN				*e*S	Sn	09 22 29.8	-1.1
GNL	**Ganaly**	**3.97**	**13**	*e*P	Pn	09 21 44.8	+1.8
KII	**Karymskiy**	**4.60**	**23**	*e*P	Pn	09 21 52.0	0.0
KII				*e*S	Sn	09 22 43.7	-3.2
KBTR	**Krutoberegovo**	**7.45**	**29**	*e*P	Pn	09 22 33.5	+1.3

*BJI **23** 09:54:22.4,28.60N×139.55E,h451km,mB4.8,mb4.6*
*MOS **23** 09:54:23.0±0.9,28.75N×139.38E,h439km,mb4.5/26, Error ellipse: s-maj=14.2km s-min=6.8km az=92.8*
*IDC **23** 09:54:24.3±0.6,28.79N×139.40E,h438km±6km,mb3.9/22, mb1 4.0/26,mb1mx4.0/29,mbtmp4.7/26, Error ellipse: s-maj=12.4km s-min=7.2km az=82.0*
*NEIC **23** 09:54:25.7±0.6,28.77N×139.34E,h451km±7km,mb4.4/36, Error ellipse: s-maj=6.6km s-min=4.2km az=108.0*
*JMA **23** 09:54:25.0±0.2,28.88N×139.84E,h457km, M5.1*

ISC 23 09:54:23.9±0.3, 28.77N±0.03×139.38E±0.04, h443km±2km, n200,σ0§94/209, mb4.4/75, 13C-12D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.98**	**123**	P	**P**	**09 55 30.8**	**0.0**
	393nm,0.3s,baz=59,slow=2.1,SNR=412						
CBIJ				S	**S**	**09 56 23.4**	**-0.2**
	2μm,0.3s,baz=281,slow=23,SNR=45						
CBIJ	**Chichi jima**	**2.98**	**123**	P	**P**	**09 55 30.9**	**+0.1**
JHHJ	**Haha-jima-NKT**	**3.27**	**130**	P	**P**	**09 55 33.4**	**+0.4**
JHHJ				S	**S**	**09 56 27.5**	**0.0**
JHJ2	**Mitsune**	**4.35**	**5**	P	**P**	**09 55 43.4**	**+1.0**
JHJ2				*e*S	**S**	**09 56 44.3**	**0.0**
JHJ	**Hachijo jima 2**	**4.35**	**4**	P	**P**	**09 55 42.0**	**-0.4**
	146nm,0.3s,baz=208,slow=4.5,SNR=22						
JHJ				S	**S**	**09 56 44.1**	**-0.2**
	214nm,0.3s,baz=84,slow=23,SNR=12						
JIM2	**Oshima 3**	**5.93**	**0**	P	**P**	**09 55 57.9**	**-0.2**
JIM2				*e*S	**S**	**09 57 12.3**	**-0.1**
BSO1	**Boso 1**	**6.03**	**13**	P	**P**	**09 55 58.8**	**-0.3**
BSO1				*e*S	**S**	**09 57 13.2**	**-0.9**
JIE	**Ise**	**6.05**	**339**	P	**P**	**09 56 02.7**	**+3.3**
JKN2	**Miekihoku**	**6.07**	**335**	P	**P**	**09 56 02.7**	**+3.2**
HMMJ	**Hamamatsu 2**	**6.23**	**347**	P	**P**	**09 56 03.0**	**+1.7**
SHZ3	**Shizuoka 3**	**6.36**	**351**	P	**P**	**09 56 04.1**	**+1.5**
JOD2	**Odawara 2**	**6.48**	**358**	P	**P**	**09 56 04.1**	**+0.2**
JOD2				S	**S**	**09 57 21.8**	**-1.1**
JNY	**Yasuok**	**6.70**	**349**	P	**P**	**09 56 07.7**	**+1.5**
JTO	**Tosashimizu**	**6.98**	**307**	P	**P**	**09 56 12.1**	**+2.9**
JRY	**Ryogami san**	**7.24**	**357**	P	**P**	**09 56 12.2**	**+0.1**
JRY				*e*S	**S**	**09 57 35.1**	**-2.6**
JAG	**Ashikaga**	**7.64**	**0**	P	**P**	**09 56 15.1**	**-1.4**
MAJO	**Matsushiro**	**7.82**	**353**	*e*P	**P**	**09 56 18.2**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.4s						
MAJO	**Matsushiro**	**7.82**	**353**	*e*P	**P**	**09 56 18.2**	**-0.2**
	comp=Z,10nm,0.4s						
MAT	**Matsushiro**	**7.82**	**353**	*e*P	**P**	**09 56 18.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MAT	**Matsushiro**	**7.82**	**353**	*e*P	**P**	**09 56 18.0**	**-0.4**
	comp=Z,8.2nm,0.7s						
MAT				*e*S	**S**	**09 57 34.0**	**-15**
MAT	**Matsushiro**	**7.82**	**353**	P	**P**	**09 56 17.8**	**-0.6**
MAT				*e*S	**S**	**09 57 47.0**	**-2.0**
JKT	**Katashina**	**7.98**	**359**	P	**P**	**09 56 19.1**	**-1.1**
JHS	**Saijyo**	**8.18**	**321**	P	**P**	**09 56 25.7**	**+3.2**
JHK	**Hiroka**	**8.46**	**358**	P	**P**	**09 56 24.5**	**-1.1**
JOW	**Kunigami**	**10.02**	**262**	P	**P**	**09 56 45.1**	**+2.1**
	comp=Z,9.9nm,0.3s,baz=102,slow=11,SNR=14						
JMK	**Ichinoseki**	**10.27**	**8**	P	**P**	**09 56 45.6**	**-0.2**
JMK				S	**S**	**09 58 38.2**	**-0.3**
JKZ	**Kuzumaki**	**11.30**	**8**	P	**P**	**09 56 57.7**	**+0.6**
JAH	**Hinai**	**11.44**	**5**	P	**P**	**09 56 59.2**	**+0.6**
JSR	**Shiriuchi**	**12.76**	**4**	P	**P**	**09 57 13.2**	**+0.2**
KS15	**Wonju Array Si**	**12.94**	**315**	*e*P	**P**	**09 57 14.3**	**-0.7**
JOSM	**Okushiri--Mats**	**13.29**	**0**	P	**P**	**09 57 19.0**	**+0.4**
JNB	**Noboribetsu**	**13.74**	**5**	P	**P**	**09 57 23.2**	**-0.2**
JBT2	**Biratori 2**	**14.19**	**9**	P	**P**	**09 57 28.6**	**+0.5**
ASAJ	**Asahikawa**	**15.53**	**9**	P	**P**	**09 57 42.5**	**+0.6**
	comp=Z,3.1nm,0.3s,baz=240,slow=12,SNR=13						
MDJ	**Mudanjiang**	**17.64**	**336**	P	**P**	**09 58 04.8**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,201nm,7.8s						
SNY	**Shenyang**	**18.30**	**320**	||P	**P**	**09 58 10.5**	**+0.9**
YSS	**Yuzh-Sakhalins**	**18.35**	**7**	||*e*P	**P**	**09 58 10.8**	**+0.8**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
CN2	**Changchun**	**18.70**	**327**	*e*P	**P**	**09 58 14.8**	**+1.3**
CN2				*e*XP		10 00 06.3	
CN2				*e*S	**S**	**10 01 20.9**	**+1.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s						
KLR	**Kul'dur**	**21.26**	**346**	*e*P	**P**	**09 58 35.5**	**-2.4**
BJT	**Baijiatuau**	**22.14**	**307**	*e*P	**P**	**09 58 46.4**	**+0.2**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**22.14**	**307**	*e*P	**P**	**09 58 46.4**	**+0.2**
	comp=Z,9.3nm,0.6s,mb4.4						
HIA	**Hailar**	**25.39**	**329**	*e*P	**P**	**09 59 15.2**	**-0.3**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**25.39**	**329**	*e*P	**P**	**09 59 15.2**	**-0.3**

comp=Z,9.3nm,0.8s,mb4.3
HHC Hu-ho-hao-te 25.71 305 eP P 09 59 18.5 0.0
HHC PCP PcP 10 02 35.5 +0.4
HHC S **S 10 03 11.8 -3.2**
HHC PCS 10 06 14.6
HHC AMB AMB
comp=Z,174nm,5.0s
ENH Enshi 26.03 281 eP P 09 59 21.0 -0.4
comp=Z,48nm,0.8s,mb5.0
XAN Xi'an 26.47 289 P P 09 59 25.0 -0.3
XAN AMB AMB
comp=Z,32nm,0.6s,mb4.9
PET Petropavlovsk 28.10 25 eP P 09 59 36.7 -2.7
PET pmax pmax
comp=Z,14nm,0.4s,mb4.6
GYA Guiyang 29.04 273 ⇓iP P 09 59 47.9 0.0
LZH Lanzhou 30.75 293 ⇓P P 10 00 02.5 -0.1
LZH AP pP 10 01 21.5 -0.8
LZH AMB AMB
comp=Z,42nm,1.2s,mb4.6
CD2 Chengdu 30.90 283 ⇓iP P 10 00 03.8 -0.2
CD2 AMB AMB
comp=Z,31nm,1.0s,mb4.6
ULN Ulaanbaatar 31.41 316 eP P 10 00 08.5 +0.4
ULN pmax pmax
comp=Z,26nm,0.9s,mb4.6
ULN Ulaanbaatar 31.41 316 eP P 10 00 08.5 +0.4
comp=Z,26nm,0.9s,mb4.6
MA2 Magadan 31.77 11 ceP P 10 00 11.1 0.0
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.2
MA2 pmax pmax
comp=E,3.0nm,0.9s
MA2 Magadan 31.77 11 eP P 10 00 10.9 -0.2
comp=E,18nm,0.9s,mb4.4
SONM Songino Array 31.80 316 P P 10 00 11.7 +0.3
comp=E,12nm,0.6s,mb4.4,baz=130,slow=8.9,SNR=95
SONM ScP 10 05 48.7
comp=E,1.3nm,0.6s,baz=140,slow=3.5,SNR=9.6
KMI Kunming 32.78 272 ⇑P P 10 00 21.3 +1.3
KMI AMB AMB
comp=Z,24nm,1.1s,mb4.4
YAK Yakutsk 33.88 352 eP P 10 00 28.5 -0.4
YAK eS **S 10 05 19.7 -2.0**
YAK e 10 09 53.6
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.2
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK smax
comp=N,5.0nm,1.1s
YAK smax
comp=E,4.0nm,1.0s
GTA Gaotai 34.21 299 P P 10 00 32.0 +0.1
GTA AMB AMB
comp=Z,19nm,0.8s,mb4.5
FX1 Attu Island--F 34.61 36 eP P 10 00 36.8 +1.6
ZAK Zakamensk 34.72 319 ⇑iP P 10 00 35.8 -0.3
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.0
TLY Talaya 35.08 321 ⇑iP P 10 00 40.2 +1.1
TLY pmax pmax
comp=Z,12nm,0.8s,mb4.3
TLY Talaya 35.08 321 eP P 10 00 39.6 +0.5
comp=Z,12nm,0.7s,mb4.3
NANT Nan 36.62 263 ⇑P P 10 00 52.0 -0.3
comp=Z,62nm,0.6s,mb5.1
CHG Chiang Mai 38.15 264 ⇓P P 10 01 05.0 +0.1
comp=Z,16nm,0.8s,mb4.4
PMG Port Moresby 38.68 168 P P 10 01 09.9 +0.6
comp=Z,7.0nm,0.5s,mb4.3,baz=62,slow=4.9,SNR=7.6
KIWB Kanaga Island 39.58 42 eP P 10 01 16.5 +0.2
BILL Bilibino 42.43 15 eiP P 10 01 39.1 +0.2
BILL pmax pmax
comp=Z,57nm,1.0s,mb4.9
BILL Bilibino 42.43 15 eP P 10 01 38.6 -0.3
comp=Z,51nm,0.8s,mb4.9
TIXI Tiksi 43.32 355 ⇓iP P 10 01 45.2 -0.8
TIXI pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
WMQ Urumqi 43.59 305 ⇑iP P 10 01 48.9 +0.4
WMQ AMB AMB
comp=Z,14nm,0.9s,mb4.3
WMQ AMB AMB
comp=Z,190nm,6.4s
NIKO Nikolski 44.77 42 eP P 10 01 56.9 -0.8
JIRN Jiri 46.56 282 eP P 10 02 12.6 +0.8
comp=Z,28nm,0.3s,mb5.1
ZAL Zalesovo 46.61 318 P P 10 02 11.1 -0.8
comp=Z,2.9nm,0.6s,mb3.8,baz=12,slow=7.7,SNR=9.5
GUN Gumba 46.76 282 eP P 10 02 14.0 +0.6
comp=Z,105nm,0.7s,mb5.3
PKI Pulchoki 47.25 282 eP P 10 02 17.1 0.0
comp=Z,26nm,0.8s,mb4.7
KKN Kakani 47.30 282 eP P 10 02 17.7 +0.2
comp=Z,22nm,0.4s,mb4.8
DMN Daman 47.50 282 eP P 10 02 19.1 +0.1
comp=Z,26nm,0.5s,mb4.9
NVS Novosibirsk 47.67 319 eP P 10 02 18.6 -1.3
GKN Gorkha 47.80 283 eP P 10 02 21.3 0.0
comp=Z,23nm,0.4s,mb4.9
FITZ Fitzroy Crossi 48.45 198 ⇑iP P 10 02 26.1 -0.2
comp=Z,19nm,0.6s,mb4.6
FITZ Fitzroy Crossi 48.45 198 P P 10 02 25.5 -0.8
comp=Z,26nm,0.7s,mb4.7,baz=9.6,slow=9.4,SNR=45
WRAB Tennant Creek 48.66 186 P P 10 02 27.0 -0.9
comp=Z,202nm,0.4s,SNR=18
WRAB Tennant Creek 48.66 186 eP P 10 02 26.8 -1.1
WRAB pmax pmax
comp=Z,25nm,0.5s,mb4.8
WRAB Tennant Creek 48.66 186 eP P 10 02 26.8 -1.1
comp=Z,25nm,0.5s,mb4.8
WB2 Warramunga Arr 48.67 186 ⇓iP P 10 02 27.0 -0.9
WRA Warramunga Arr 48.67 186 P P 10 02 27.0 -1.0
comp=Z,23nm,0.5s,mb4.7,baz=2.3,slow=7.7,SNR=449
KOLN Koldanda 48.75 283 eP P 10 02 28.7 +0.2
comp=Z,58nm,0.7s,mb5.0
TNA Tin City 48.95 26 eP P 10 02 29.3 -0.2
comp=Z,3.9nm,0.8s,mb3.8
CTA Charters Tower 49.02 171 P P 10 02 29.7 -0.9
comp=Z,5.5nm,0.8s,mb3.9,baz=329,slow=8.2,SNR=5.8
CTAO Charters Tower 49.02 171 eP P 10 02 30.4 -0.2
CTAO pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
CTAO Charters Tower 49.02 171 eP P 10 02 30.4 -0.2
comp=Z,5.7nm,0.8s,mb4.0
KURK Kurchatov 50.05 314 iP P 10 02 36.9 -1.0
KURK Kurchatov 50.05 314 eP P 10 02 36.2 -1.7
comp=Z,26nm,0.9s,mb4.6
ULHL Ulahol 52.03 303 P P 10 02 52.8 +0.2
SNR=5.8
ASAR Alice Springs 52.39 186 P P 10 02 54.4 -1.1
comp=Z,8.1nm,0.5s,mb4.2,baz=17,slow=11,SNR=164
ASAR PcP PcP 10 03 58.6 -0.7
comp=Z,1.5nm,0.9s,baz=14,slow=2.9,SNR=4.1
ASPA Alice Springs 52.40 186 eP P 10 02 54.6 -0.9
TKM2 Tokmak 2 52.43 304 P P 10 02 55.8 +0.2
SNR=16
KZA Kyzart 52.79 303 P P 10 02 59.2 +1.1
SNR=24
MBWA Marble Bar 53.13 203 eP P 10 02 59.9 -1.0
comp=Z,21nm,0.6s,mb4.5
USP Ospenovka 53.19 304 P P 10 03 00.5 -0.6
SNR=8.4
SVW2 Sparrevohn 53.24 33 eP P 10 03 01.5 +0.4
AAK Ala-Archa 53.27 304 P P 10 03 01.4 -0.3
SNR=6.9
AAK Ala-Archa 53.27 304 P P 10 02 59.9 -1.7
comp=Z,86nm,0.5s,mb5.2,SNR=13
AAK Ala-Archa 53.27 304 ⇓iP P 10 03 00.3 -1.3
AAK pmax pmax
comp=Z,7.0nm,0.7s,mb4.0
AAK Ala-Archa 53.27 304 eP P 10 02 59.6 -2.0
comp=Z,6.7nm,0.5s,mb4.1
UCH Uchtor 53.31 303 P P 10 03 02.8 +0.8
SNR=22
EKS2 Erkin-Say 53.79 304 P P 10 03 04.8 -0.5
SNR=7.4
AML Almayashu 53.93 303 P P 10 03 07.0 +0.8
SNR=42
NDI New Delhi 53.93 286 eP P 10 03 04.5 -2.0
IMA Indian Mountai 54.73 27 eP P 10 03 11.5 -0.2
CHKZ Chkalovo 54.97 317 eP P 10 03 11.8 -1.8
CHKZ pmax pmax
comp=Z,8.0nm,0.4s,mb4.3
CHKZ Chkalovo 54.97 317 eP P 10 03 11.8 -1.8
comp=Z,7.7nm,0.4s,mb4.3
BVAR Borovoye Array 55.14 317 P P 10 03 13.5 -1.2
comp=Z,10nm,0.5s,mb4.3,baz=94,slow=7.6,SNR=49
BVAR PcP PcP 10 04 08.2 -1.2
comp=Z,1.9nm,0.7s,baz=90,slow=5.9,SNR=4.1
PWA Palmer West 56.02 33 eP P 10 03 19.4 -1.4
PMR Palmer 56.37 33 eP P 10 03 21.8 -1.4
MCK McKinley 56.53 30 eP P 10 03 22.9 -1.4
MCK pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
MCK McKinley 56.53 30 eP P 10 03 22.9 -1.4
comp=Z,6.8nm,0.6s,mb4.2
SML Sawmill 56.76 33 eP P 10 03 24.6 -1.2
COLA College 57.05 29 eP P 10 03 27.0 -0.8
COLA pmax pmax
comp=Z,12nm,1.0s,mb4.2
COLA College 57.05 29 eP P 10 03 27.0 -0.8
comp=Z,12nm,1.0s,mb4.2
THY Trims Highway 57.95 31 eP P 10 03 32.9 -1.0
MENT Mentasta 58.88 31 eP P 10 03 40.4 +0.2
FORT Forrest 60.19 191 ⇑iP P 10 03 48.9 -0.5
comp=Z,650nm,0.4s
STKA Stephens Creek 60.34 178 P P 10 03 49.8 -0.6
comp=Z,3.4nm,0.6s,mb3.9,baz=347,slow=11,SNR=8.2
STKA Stephens Creek 60.34 178 eP P 10 03 48.5 -1.9
DAWY Dawson 60.73 30 eP P 10 03 51.8 -0.7
INK Inuvik 62.55 25 eP P 10 04 03.3 -1.1
INK pmax pmax
comp=Z,4.0nm,0.5s
INK Inuvik 62.55 25 P P 10 04 03.5 -1.0
comp=Z,3.6nm,0.4s,mb4.2,baz=295,slow=6.3,SNR=71
INK Inuvik 62.55 25 eP P 10 04 03.3 -1.2
comp=Z,3.9nm,0.5s,mb4.2
NWAO Narrogin (SRO) 64.86 201 eP P 10 04 19.2 -0.5
NWAO pmax pmax
comp=Z,13nm,0.9s
NWAO Narrogin (SRO) 64.86 201 eP P 10 04 19.2 -0.5
comp=Z,13nm,0.9s,mb4.6
DLBC Dease Lake 66.27 35 P P 10 04 28.3 +0.2
comp=Z,4.0nm,0.7s,mb4.2,baz=293,slow=6.6,SNR=13
DLBC Dease Lake 66.27 35 P P 10 04 28.3 +0.2
RES Resolute Bay 71.02 13 eP P 10 04 56.1 -0.4
RES pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
RES Resolute Bay 71.02 13 eP P 10 04 56.1 -0.4
comp=Z,8.3nm,0.9s,mb4.3
ARCES ARCESS Array B 71.15 340 P P 10 04 56.9 -0.4
comp=Z,5.6nm,0.9s,mb4.1,baz=75,slow=9.0,SNR=9.5
WBK Wadi Bani Khal 71.45 286 ⇓P P 10 05 00.4 +0.5
YKW3 Yellowknife Ar 71.81 28 eP P 10 05 00.6 -0.7
YKA Yellowknife Ar 71.85 28 P P 10 05 00.9 -0.6
YKA Yellowknife Ar 71.85 28 P P 10 05 00.8 -0.7
comp=Z,4.0nm,0.4s,mb4.3,baz=295,slow=6.0,SNR=160
BSY Bisya 72.89 287 ⇓P P 10 05 08.4 +0.1
SNR=7.8
ASHO Ashiyiah 73.04 289 ⇑P P 10 05 09.4 +0.2
SNR=6.2
ARQ Araqi 73.21 288 ⇓P P 10 05 10.5 +0.3
SNR=15
OBN Obninsk 73.74 324 eP P 10 05 12.2 -0.4
OBN *i* 10 14 59.3
OBN pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
VRSR Storozhevoye 74.07 320 eP P 10 05 14.5 0.0
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,40nm,2.3s
KIV Kislovodsk 75.10 312 ⇓iP P 10 05 21.1 +0.7
KIV pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
KIV Kislovodsk 75.10 312 P P 10 05 20.6 +0.2
FINES FINESS Array B 75.35 333 P P 10 05 20.9 -0.5
comp=Z,1.2nm,0.3s,mb4.0,baz=66,slow=5.3,SNR=23
YBH Yreka Blue Hor 76.88 50 P P 10 05 29.8 -0.5
comp=Z,4.8nm,0.7s,mb4.3,baz=303,slow=4.5,SNR=14
NEW Newport 77.33 42 eP P 10 05 32.7 +0.1
NEW pmax pmax
comp=Z,11nm,0.7s
NEW Newport 77.33 42 P P 10 05 33.3 +0.6
comp=Z,15nm,0.9s,mb4.7,baz=286,slow=4.1,SNR=16
NEW Newport 77.33 42 eP P 10 05 32.7 +0.1
comp=Z,12nm,0.7s,mb4.6
RBK Rabkut 77.67 283 ⇑P P 10 05 34.5 -0.6
WHFO Wadi Hawf 77.86 284 P P 10 05 35.2 -0.8
SNR=7.7
ANN Anapa 78.07 315 eP P 10 05 43.4 +6.7
ANN pmax pmax
comp=Z,44nm,1.3s,mb4.9
MOD Modoc 78.39 49 eP P 10 05 38.9 +0.5
comp=Z,6.3nm,0.8s,mb4.3
WALA Waterton Lakes 78.78 40 eP P 10 05 41.2 +0.8
comp=Z,14nm,0.9s,mb4.6
BMO Blue Mountains 78.89 45 eP P 10 05 41.4 +0.4
comp=Z,8.6nm,0.8s,mb4.4
WVOR Wild Horse Val 79.23 47 eP P 10 05 43.6 +0.8
WVOR pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
WVOR Wild Horse Val 79.23 47 eP P 10 05 43.5 +0.7
comp=Z,5.2nm,0.6s,mb4.3
AKASG Malin Array Be 79.80 323 P P 10 05 45.0 -0.6
comp=Z,0.7nm,0.3s,mb3.8,baz=52,slow=5.4,SNR=10.0
CMB Columbia Colle 80.18 52 eP P 10 05 48.3 +0.4
CMB pmax pmax
comp=Z,13nm,0.8s,mb4.6
CMB Columbia Colle 80.18 52 eP P 10 05 48.2 +0.3
comp=Z,13nm,0.8s,mb4.6
CHMT Chamberlain Mo 80.28 42 eP P 10 05 48.6 +0.4
NB2 NORSAR Subarra 81.13 337 P P 10 05 51.5 -0.9
comp=Z,2.2nm,0.8s,mb3.9,baz=49,slow=4.8
NOA NORSAR Array B 81.13 337 P P 10 05 51.8 -0.5
comp=Z,1.2nm,0.6s,mb3.8,baz=48,slow=4.7,SNR=5.3
HRY Holter Researc 81.21 41 eP P 10 05 53.8 +0.7
HLID Hailey 81.33 45 eP P 10 05 54.8 +1.0
comp=Z,5.1nm,0.8s,mb4.3
MNV Mina 81.52 51 eP P 10 05 55.2 +0.4
comp=Z,4.9nm,0.8s,mb4.3
MCMT McKenzie Canyo 81.62 43 eP P 10 05 54.4 -0.8
BOZ Bozeman (W) 81.91 42 eP P 10 05 57.5 +0.8
BOZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
BOZ Bozeman (W) 81.91 42 eP P 10 05 57.5 +0.8
comp=Z,5.2nm,0.7s,mb4.4
FCC Fort Churchill 82.17 25 eP P 10 05 56.3 -1.4
FCC pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
FCC Fort Churchill 82.17 25 eP P 10 05 56.3 -1.4
comp=Z,2.0nm,0.6s,mb4.0
RAYN Ar Rayn 82.22 292 P P 10 05 59.7 +1.0
comp=Z,188nm,0.5s,SNR=33
QLMT Earthquake Lak 82.47 43 eP P 10 06 00.6 +1.0
BRTR Keskin Array B 83.05 312 P P 10 06 02.1 -0.4
comp=Z,2.1nm,0.6s,mb4.1,baz=116,slow=3.6,SNR=6.9
LKWY Lake 83.23 42 eP P 10 06 04.4 +3.1
comp=Z,21nm,1.1s,mb4.8
IMW Indian Meadow 83.28 43 eP P 10 06 05.1 +1.5
HVU Hansel Valley 83.31 46 eP P 10 06 05.1 +1.3
MUDI Mud Lake 83.35 44 eP P 10 06 05.2 +1.3
RRI2 Red Ridge 83.35 44 eP P 10 06 05.3 +1.3
TPAW Teton Pass 83.50 44 eP P 10 06 06.1 +1.4
SNOW Snow King Moun 83.63 44 eP P 10 06 06.9 +1.5
DUG Dugway 84.14 47 eP P 10 06 08.8 +0.8
DUG pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
DUG Dugway 84.14 47 eP P 10 06 08.8 +0.8
comp=Z,10nm,0.7s,mb4.7
HWUT Hardware Ranch 84.16 45 eP P 10 06 09.2 +1.2
comp=Z,18nm,0.9s,mb4.8
NLU North Lily Min 84.74 47 eP P 10 06 12.0 +1.1
PDAR Pinedale Array 84.75 44 P P 10 06 11.3 +0.5
comp=Z,3.1nm,0.8s,mb4.1,baz=309,slow=1.4,SNR=27
JLU Jordanelle 84.79 46 eP P 10 06 12.4 +1.3
ULM Lac du Bonnet 87.37 32 P P 10 06 22.6 -0.7
comp=Z,1.5nm,0.5s,mb4.0,baz=317,slow=6.5,SNR=6.4
RW3 Ridgway 88.52 46 eP P 10 06 30.0 +1.0
ANMO Albuquerque 91.27 49 eP P 10 06 42.7 +0.9
ANMO pmax pmax
comp=Z,4.0nm,0.7s
ANMO Albuquerque 91.27 49 eP P 10 06 42.6 +0.9
comp=Z,4.5nm,0.7s,mb4.4
TXAR Lajitas Array 96.55 52 P P 10 07 06.5 +0.4
comp=Z,1.4nm,0.7s,mb4.2,baz=309,slow=3.2,SNR=16
TXAR pP pP 10 08 47.9 0.0
comp=Z,0.8nm,0.7s,baz=305,slow=3.6,SNR=7.1
SNAA Sanae 132.35 195 eP Pdif 10 09 42.0 -0.9
SDV Santo Domingo 132.67 42 SKPbc 10 15 32.5
comp=Z,4.2nm,0.7s,baz=337,slow=3.2,SNR=6.3
LPAZ La Paz 151.79 70 ePKIKP PKPdf 10 13 29.9 +9.2
LPAZ La Paz 151.79 70 PKPbc PKPdf 10 13 29.1 +8.4
comp=Z,2.6nm,0.7s,baz=300,slow=3.3,SNR=9.6
LPAZ PKPab PKPab 10 13 39.6 -1.4
comp=Z,1.6nm,0.5s,baz=312,slow=8.1,SNR=5.6
PLCA Paso Flores 152.79 124 PKPbc PKPdf 10 13 30.9 +10
comp=Z,1.6nm,0.6s,baz=167,slow=3.2,SNR=11
PLCA PKPab PKPab 10 13 43.1 -1.4
comp=Z,1.7nm,0.8s,baz=263,slow=12,SNR=3.9

IDC ***23*** *10:25:35.7±0.9,58.36S×23.15W,mb4.1/5,mb1 4.3/5, mb1mx3.9/14,mbtmp4.1/5,MS4.1/1,Ms1 4.1/1, ms1mx2.5/18,Error ellipse: s-maj=35.1km s-min=26.8km az=15.0*
NEIC ***23*** *10:25:37.2±0.5,58.32S×23.10W,h10km,mb4.5/2,Error ellipse: s-maj=19.5km s-min=9.3km az=65.0*
ISC 23 10:25:36.0±0.9,58.4S±0.1×23.2W±0.3,h10km,n19, σ0s78/14,mb4.2/6,MS4.0/1,3C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.84**	**159**	⇑*iP*		**P**		**10 28 53.7**	**-0.4**
VNA1	**Neumayer--Stat**	**13.84**	**159**	*e*		**P**		**10 29 03.1**	**+9.0**
VNA3	**Neumayer Olymp**	**14.09**	**162**	*e*		**P**		**10 29 05.6**	**+8.2**
VNA3	**Neumayer Olymp**	**14.09**	**162**	⇑*iP*		**P**		**10 28 56.4**	**-1.0**
VNA3				*e*				10 29 05.6	
VNA2	**Neumayer--Watz**	**14.23**	**159**	*e*		**P**		**10 29 06.5**	**+7.3**
VNA2	**Neumayer--Watz**	**14.23**	**159**	⇑*iP*		**P**		**10 28 58.1**	**-1.1**
VNA2				*e*				10 29 06.5	
SNAA	**Sanae**	**15.73**	**156**	*eP*		**P**		**10 29 19.1**	**+0.2**
	36nm,1.3s								
QSPA	**South Pole Qui**	**31.88**	**180**	⇓*iP*		**P**		**10 32 04.0**	**+1.2**
	6.2nm,0.8s,mb4.5								
PLCA	**Paso Flores**	**34.55**	**280**	P		**P**		**10 32 25.1**	**-1.3**
	2.1nm,0.9s,mb4.0,baz=240,slow=18,SNR=3.5								
PLCA				LR		LR		10 44 47.7	
	comp=Z,270nm,18.2s,MS4.0,baz=157,slow=33								
PLCA	**Paso Flores**	**34.55**	**280**	P		**P**		**10 32 25.1**	**-1.3**
PLCA				LR		LR		10 44 47.7	
VNDA	**Vanda**	**44.34**	**182**	P		**P**		**10 33 47.2**	**+0.1**
	3.4nm,1.0s,mb4.0,baz=177,slow=5.4,SNR=3.9								
MATP	**Matopo**	**53.03**	**67**	P		**P**		**10 34 54.9**	**-0.3**
	1.9nm,0.7s,mb4.1,baz=198,slow=3.2,SNR=2.9								
LPAZ	**La Paz**	**53.48**	**302**	P		**P**		**10 34 59.3**	**+0.8**
	1.6nm,0.6s,mb4.1,baz=158,slow=4.5,SNR=2.9								
ASAR	**Alice Springs**	**96.08**	**159**	P		**P**		**10 39 05.0**	**+0.4**
	0.6nm,0.8s,mb4.1,baz=204,slow=3.7,SNR=6.5								
FINES	**FINESS Array B**	**125.45**	**27**	PKP	PKPdf			10 44 35.8	-3.3
	0.9nm,0.6s,baz=180,slow=1.9,SNR=4.9								
ARCES	**ARCESS Array B**	**132.31**	**21**	PKP	PKPdf			10 44 48.1	-3.9
	3.9nm,1.0s,baz=90,slow=2.7,SNR=4.7								
YKA	**Yellowknife Ar**	**139.35**	**315**	PKhKP				10 44 50.7	
	0.5nm,0.8s,baz=113,slow=3.4,SNR=12								
YKA				PKP	PKPdf			10 45 03.8	-1.4
	0.8nm,0.7s,baz=124,slow=2.3,SNR=11								
YKA	**Yellowknife Ar**	**139.35**	**315**	PKP	PKPdf			10 45 03.8	-1.4
SONM	**Songino Array**	**148.67**	**87**	PKPbc	PKPdf			10 45 23.0	+1.6
	3.6nm,0.9s,baz=219,slow=3.0,SNR=23								

JMA ***23*** *10:38:12.3±0.3,24.97N×121.96E,h107km,M2.9*
TAP 23 10:38:12.3,24.86N×121.93E,h109km±1km,ML3.5, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.06**	**112**	P		P	P	10 38 34.3	-0.1
YOJ				eS		S	S	10 38 51.3	+0.4
IRIF	**Iriomote-Funau**	**1.72**	**107**	P		P	P	10 38 42.0	-0.2
IRIF				eS		S	S	10 39 04.8	+0.2
HATJ	**Hateruma jima**	**1.89**	**115**	P		P	P	10 38 44.7	+0.4
HATJ				eS		S	S	10 39 08.2	0.0
JKRS	**Kuro-shima**	**1.99**	**108**	P		P	P	10 38 45.7	+0.1
JKRS				eS		S	S	10 39 11.0	+0.5
JIJ	**Ishigaki jima**	**2.07**	**103**	P		P	P	10 38 46.5	-0.2
JIJ				eS		S	S	10 39 11.4	-1.1
JTJ	**Tarama**	**2.53**	**94**	P		P	P	10 38 53.1	+0.2
JTJ				eS		S	S	10 39 22.9	-0.5

IDC 23 10:43:42.9±27.0,17.45S×174.55W,mb4.1/4,mb1 4.3/4, mb1mx3.9/13,mbtmp4.1/4,Error ellipse: s-maj=544.5km s-min=155.7km az=86.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.08**	**242**	P		P	P	10 51 37.5	-0.8
	1.3nm,0.4s,baz=66,slow=12,SNR=3.5								
WB2	**Warramunga Arr**	**48.32**	**259**	*eP*		P	P	10 52 26.1	-2.2
WRA	**Warramunga Arr**	**48.33**	**259**	P		P	P	10 52 26.4	-2.0
	1.1nm,0.4s,baz=98,slow=7.3,SNR=46								
ASAR	**Alice Springs**	**48.45**	**254**	P		P	P	10 52 27.1	-2.3
	1.0nm,0.4s,baz=88,slow=8.3,SNR=35								
FITZ	**Fitzroy Crossi**	**56.73**	**260**	P		P	P	10 53 28.7	-2.4
	0.9nm,0.3s,baz=135,slow=2.9,SNR=4.2								

IDC 23 10:52:36.8±4.0,8.68S×121.15E,h82km±22km,mb3.7/1, mb1 3.6/4,mb1mx3.4/12,mbtmp3.8/4,Error ellipse: s-maj=87.6km s-min=28.0km az=52.0,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.33**	**155**	*eP*		P	P	10 55 04.6	+0.6
	3.6nm,1.1s								
FITZ				eS		S	S	10 56 54.3	-4.5
FITZ	**Fitzroy Crossi**	**10.33**	**155**	P		P	P	10 55 03.5	-0.5
	0.4nm,0.3s,baz=345,slow=11,SNR=9.0								
FITZ				S		S	S	10 56 52.8	-5.9
	0.9nm,0.3s,baz=353,slow=19,SNR=3.8								
KAKA	**Kakadu**	**11.79**	**111**	*eP*		P	P	10 55 28.9	+5.3
	5.1nm,0.3s								
KAKA				eS		S	S	10 57 37.7	+3.7
WRA	**Warramunga Arr**	**16.97**	**133**	P		P	P	10 56 31.2	+0.8
	0.3nm,0.3s,baz=306,slow=12,SNR=21								
WRA				S		S	S	10 59 35.5	+0.4
	0.3nm,0.3s,baz=308,slow=24,SNR=6.9								
WB2	**Warramunga Arr**	**16.98**	**133**	*eP*		P	P	10 56 31.9	+1.4
WB2				eS		S	S	10 59 35.8	+0.6
ASPA	**Alice Springs**	**19.26**	**142**	*eP*		P	P	10 56 56.3	-1.2
ASAR	**Alice Springs**	**19.26**	**142**	P		P	P	10 56 56.4	-1.1
	0.5nm,0.3s,baz=324,slow=12,SNR=50								
ASAR				S		S	S	11 00 30.5	+4.9
	0.1nm,0.3s,baz=327,slow=23,SNR=3.5								
ASAR				ScP				11 04 42.6	
	0.1nm,0.3s,baz=348,slow=2.7,SNR=8.3								
STKA	**Stephens Creek**	**29.89**	**143**	P		P	P	10 58 35.5	-3.6
	0.6nm,0.3s,baz=332,slow=8.9,SNR=4.0								

IDC ***23*** *10:55:51.4±0.7,55.43S×1.49W,mb4.3/8,mb1 4.4/9, mb1mx4.1/17,mbtmp4.3/9,ML4.0/1,MS4.2/15,Ms1 4.2/15, ms1mx4.0/22,Error ellipse: s-maj=24.2km s-min=22.8km az=73.0*
NEIC ***23*** *10:55:52.9±0.4,55.40S×1.35W,h10km,mb4.8/6,Error ellipse: s-maj=15.0km s-min=9.2km az=90.0*
BJI ***23*** *10:55:52.9,55.40S×1.40W,h10km,Ms5.0,Msz4.5*
ISC 23 10:55:51.8±0.6,55.41S±0.07×1.4W±0.2,h10km,n41, σ0s73/20,mb4.4/12,MS4.3/15,3C-2D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.59**	**189**	⇑*i*		**P**		**10 59 33.9**	**+1.1**
VNA2	**Neumayer--Watz**	**15.79**	**187**	⇑*i*		**P**		**10 59 35.1**	**-0.3**
VNA3	**Neumayer Olymp**	**16.29**	**190**			**P**		**10 59 41.6**	**-0.2**
SNAA	**Sanae**	**16.33**	**182**	Pn		**P**		**10 59 43.0**	**+0.6**
	0.6nm,0.3s,baz=3.7,slow=14,SNR=32								
SNAA				LR		LR		11 04 19.2	
	comp=Z,139nm,20.4s,baz=350,slow=31								
SNAA	**Sanae**	**16.33**	**182**	*eP*		**P**		**10 59 41.9**	**-0.5**
	43nm,0.9s								
SYO	**Syowa Base**	**22.88**	**143**	⇓pP				11 00 56.2	
SYO	**Syowa Base**	**22.88**	**143**	⇓P		**P**		**11 01 04.5**	**+8.6**
SUR	**Sutherland**	**27.82**	**43**	LR		LR		11 09 54.1	
	comp=Z,699nm,19.5s,MS4.2,baz=32,slow=30								
MAW	**Mawson**	**31.40**	**138**	LR		LR		11 11 52.3	
	comp=Z,473nm,19.5s,MS4.2,baz=248,slow=31								
QSPA	**South Pole Qui**	**34.83**	**180**	⇑*iP*		**P**		**11 02 44.2**	**0.0**

33nm,1.1s,mb5.2
LBTB Lobatse 36.26 44 LR LR 11 15 14.7
comp=Z,325nm,19.4s,MS4.1,baz=218,slow=32
USHA Ushuaia 36.98 242 LR LR 11 13 58.7
comp=Z,1μm,21.8s,MS4.6,baz=124,slow=29
TSUM Tsumeb 38.91 29 P **P 11 03 19.8 +0.6**
0.8nm,0.4s,mb3.8,baz=160,slow=9.3,SNR=3.9
MATP Matopo 41.53 45 P **P 11 03 41.0 +0.2**
3.1nm,0.9s,mb3.9,baz=210,slow=9.4,SNR=3.8
MATP LR LR 11 18 05.7
comp=Z,276nm,20.4s,MS4.1,baz=219,slow=32
MATP Matopo 41.53 45 P **P 11 03 41.0 +0.2**
MATP LR LR 11 18 05.7
TRQA Tornquist 43.49 267 *eP* **P 11 03 56.9 +0.3**
17nm,0.9s,mb4.8
PLCA Paso Flores 46.50 258 LR LR 11 20 53.2
comp=Z,356nm,21.9s,MS4.3,baz=149,slow=32
VNDA Vanda 46.92 175 P **P 11 04 24.0 +0.5**
8.6nm,0.8s,mb4.7,baz=216,slow=7.7,SNR=12
VNDA LR LR 11 23 25.9
comp=Z,229nm,20.9s,MS4.1,baz=192,slow=35
CFAA Coronel Fontan 51.69 268 P **P 11 04 59.6 -1.2**
1.3nm,0.8s,mb3.9,baz=132,slow=15,SNR=2.3
CFAA LR LR 11 24 41.0
comp=Z,40nm,19.9s,MS3.4,baz=77,slow=34
BDFB Brasilia 53.30 299 P **P 11 05 12.6 -0.5**
2.3nm,0.4s,mb4.5,baz=144,slow=7.4,SNR=4.7
BDFB LR LR 11 22 53.5
comp=Z,282nm,21.0s,MS4.3,baz=149,slow=30
LVC Limon Verde 58.95 275 *eP* **P 11 05 54.4 +0.8**
12nm,1.2s,mb4.8
KMBO Kilima Mbogo 62.54 45 LR LR 11 31 17.5
comp=Z,446nm,19.3s,MS4.7,baz=96,slow=34
LPAZ La Paz 63.55 280 P **P 11 06 23.8 -0.8**
3.1nm,0.4s,mb4.7,baz=135,slow=6.6,SNR=12
LPAZ La Paz 63.55 280 *eP* **P 11 06 24.0 -0.6**
6.3nm,0.8s,mb4.7
OTAV Otavalo 82.84 281 *eP* **P 11 08 19.0 +1.3**
2.7nm,0.9s,mb4.3
ROSC El Rosal 84.38 287 LR LR 11 45 34.2
comp=Z,575nm,19.1s,MS5.0,baz=321,slow=35
STKA Stephens Creek 87.47 149 P **P 11 08 39.8 -0.6**
2.1nm,0.7s,mb4.5,baz=218,slow=5.6,SNR=4.8
STKA LR LR 11 46 35.2
comp=Z,76nm,18.5s,MS4.1,baz=205,slow=35
SJG San Juan 91.28 301 LR LR 11 46 50.4
comp=Z,206nm,18.6s,MS4.6,baz=289,slow=34
ASAR Alice Springs 92.52 140 P **P 11 09 03.0 -1.2**
0.6nm,0.7s,mb4.1,baz=202,slow=4.9,SNR=11
ASAR LR LR 11 47 30.6
comp=Z,67nm,21.3s,MS4.1,baz=173,slow=34
TXAR Lajitas Array 120.40 278 PKP PKPdf 11 14 43.8 -2.4
0.4nm,0.9s,baz=135,slow=1.8,SNR=3.9
BVAR Borovoye Array 123.17 43 PKP PKPdf 11 14 48.1 -2.8
1.3nm,0.9s,slow=1.5,SNR=5.2
WMQ Urumqi 124.08 61 PKP PKPdf 11 14 48.3 -4.7
WMQ XPKP 11 15 01.0
WMQ PP PP 11 16 35.5 -3.5
WMQ PKS PKS 11 18 23.0 -2.6
WMQ PPP PPP 11 19 13.0 -4.2
WMQ SKS SKS 11 21 57.0 +0.7
WMQ LR LR
comp=N,177nm,22.6s,MS4.7
WMQ LR LR
comp=E,104nm,25.2s,MS4.7
WMQ LR LR
comp=Z,127nm,25.0s,MS4.5
ARCES ARCESS Array B 126.17 11 PKP PKPdf 11 14 55.4 -0.7
comp=Z,5.3nm,0.9s,baz=34,slow=13,SNR=4.5
ARCES ARCESS Array B 126.17 11 PKP PKPdf 11 14 55.4 -0.7
RES Resolute Bay 143.24 334 *ePKPdf* PKPdf 11 15 23.2 -4.2
CN2 Changchun 144.52 86 *ePKP* PKPdf 11 15 29.0 -1.5
YKA Yellowknife Ar 146.28 310 PKPbc PKPbc 11 15 30.4 -0.7
comp=Z,6.8nm,0.9s,baz=106,slow=2.7,SNR=51
YKA Yellowknife Ar 146.28 310 PKPbc PKPbc 11 15 30.4 -0.7
YKW3 Yellowknife Ar 146.31 310 *ePKPdf* PKPdf 11 15 31.0 -2.0
MDJ Mudanjiang 147.38 88 PKP PKPdf 11 15 31.9 -3.4
MDJ PP PP
comp=Z,4.0nm,1.2s
INK Inuvik 154.79 320 *ePKPdf* PKPdf 11 15 41.7 -3.9

*IDC **23** 11:00:55.0±1.7,33.66S×72.22W,mb3.4/2,mb1 3.9/5, mb1mx3.8/13,mbtmp3.6/5,ML4.4/1,Error ellipse: s-maj=36.2km s-min=31.1km az=114.0*
*GUC **23** 11:00:58.9±0.6,33.71S×71.73W,h40km±2km,MD4.3, ML4.1*
*NEIC **23** 11:00:58.9,33.71S×71.73W,h40km,MD4.3(GUC),After GUC.*
NEIC Felt [III] at San Antonio.
ISC 23 11:00:58.5±0.5,33.71S±0.03×71.83W±0.05,h42km±9km, n30,σ0°72/44,mb3.2/2,6C-8D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.32**	**43**	⇓*iP*	**P**	**11 01 06.6**	**-0.7**
LNV	**Longovilo**	**0.43**	**125**	⇓*iP*	**P**	**11 01 07.8**	**-0.6**
IHA	**Instituto Hidr**	**0.70**	**13**	⇑*iP*	**P**	**11 01 12.3**	**+0.3**
IHA				*i* S	**S**	**11 01 22.3**	**+0.3**
TACH	**Talagante**	**0.75**	**86**	⇑*iP*	**P**	**11 01 12.0**	**-0.7**
CHCH	**Chadas Angostu**	**1.01**	**103**	⇑*iP*	**P**	**11 01 16.1**	**-0.2**
ROCH	**El Roble**	**1.01**	**43**	*eP*	**P**	**11 01 16.5**	**+0.1**
ROCH				*i* S	**S**	**11 01 30.4**	**+0.7**
ANTU	**Antumapu**	**1.01**	**82**	*eP*	**P**	**11 01 16.1**	**-0.3**
ANTU				*i* S	**S**	**11 01 28.9**	**-0.8**
ANTU				AMP		11 01 29.6	
	comp=E,9μm,0.5s						
SAN	**Santiago**	**1.01**	**75**	*eP*	**P**	**11 01 16.1**	**-0.4**
SAN				*i* S	**S**	**11 01 28.7**	**-1.0**
CACH	**El Canelo**	**1.10**	**112**	⇓*iP*	**P**	**11 01 18.6**	**+0.9**
CACH				*i* S	**S**	**11 01 33.0**	**+1.0**
DSCH	**Colegio Aleman**	**1.10**	**74**	*eP*	**P**	**11 01 17.7**	**0.0**
DSCH				*i* S	**S**	**11 01 31.5**	**-0.4**
DSCH				AMP		11 01 39.3	
	comp=E,8μm,0.4s						
PCH	**Pirque**	**1.10**	**86**	⇑*iP*	**P**	**11 01 17.6**	**-0.1**
PCH				*i* S	**S**	**11 01 31.6**	**-0.5**
CLCH	**Cerro Calan**	**1.13**	**74**	⇓*iP*	**P**	**11 01 18.2**	**+0.2**
CLCH				*i* S	**S**	**11 01 32.3**	**-0.3**
CLCH				AMP		11 01 38.4	
	comp=N,7μm,0.7s						
SFDO	**San Fernando**	**1.13**	**143**	⇓*iP*	**P**	**11 01 18.1**	**0.0**
PACH	**Papudo**	**1.22**	**16**	*eP*	**P**	**11 01 19.2**	**-0.1**
PACH				*i* S	**S**	**11 01 35.2**	**+0.2**
CICH	**Cipreses**	**1.32**	**118**	⇑*iP*	**P**	**11 01 21.4**	**+0.4**
FCH	**Farellones**	**1.34**	**74**	⇓*iP*	**P**	**11 01 21.6**	**+0.3**
FCH				*i* S	**S**	**11 01 38.9**	**+0.7**
FCH				AMP		11 01 41.4	
	comp=N,7μm,0.2s						
LMEL	**Las Melosas**	**1.36**	**96**	⇓*iP*	**P**	**11 01 21.6**	**0.0**
LMEL				*i* S	**S**	**11 01 39.0**	**+0.3**
LMEL				AMP		11 01 42.2	
	comp=E,7μm,0.4s						
NICH	**Los Niches**	**1.38**	**159**	*eP*	**P**	**11 01 21.6**	**-0.1**
JACH	**Jahuel**	**1.46**	**46**	*eP*	**P**	**11 01 23.4**	**+0.5**
JACH				*i* S	**S**	**11 01 42.0**	**+1.0**
TALC	**Talca**	**1.69**	**174**	⇓*iP*	**P**	**11 01 26.8**	**+0.6**
TALC				*i* S	**S**	**11 01 48.1**	**+1.5**
CHNG	**Los Chungos**	**1.85**	**9**	⇑*iP*	**P**	**11 01 27.6**	**-0.7**
ILCH	**Illapel**	**2.15**	**15**	*eP*	**P**	**11 01 32.1**	**-0.5**
CCHI	**Chillan**	**2.89**	**184**	*eP*	**P**	**11 01 43.0**	**-0.2**
TLL	**Tololo Astrono**	**3.64**	**14**	*eP*	**P**	**11 01 53.4**	**-0.4**
CFAA	**Coronel Fontan**	**3.69**	**56**	Pn	**P**	**11 01 57.4**	**+2.8**
	comp=E,1.9nm,0.3s,baz=232,slow=12,SNR=48						
CFAA				Sn	**S**	**11 02 43.7**	**+6.3**
	comp=E,2.5nm,0.3s,baz=52,slow=16,SNR=4.4						
PLCA	**Paso Flores**	**7.08**	**172**	Pn	**P**	**11 02 41.2**	**-1.0**
	comp=E,1.4nm,0.3s,baz=330,slow=11,SNR=44						
TRQA	**Tornquist**	**9.09**	**121**	*eP*	**P**	**11 03 08.1**	**-2.0**
LPAZ	**La Paz**	**17.67**	**12**	P	**P**	**11 05 03.1**	**0.0**
	baz=190,slow=8.0,SNR=2.5						
TXAR	**Lajitas Array**	**69.57**	**331**	P	**P**	**11 12 04.5**	**-0.7**
	comp=E,0.2nm,0.7s,mb3.2,baz=154,slow=8.8,SNR=4.6						
PDAR	**Pinedale Array**	**83.58**	**333**	P	**P**	**11 13 24.4**	**+0.9**
	comp=E,0.2nm,0.9s,mb3.3,baz=146,slow=3.3,SNR=3.6						

IDC 23 11:02:26.6±2.9,0.92N×97.60E,mb3.9/5,mb1 4.1/5, mb1mx3.8/16,mbtmp3.9/5,Error ellipse: s-maj=120.5km s-min=21.0km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.55**	**122**	P	P	11 10 15.8	-2.0
	0.8nm,0.5s,baz=302,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**42.91**	**127**	P	P	11 10 27.4	-1.5
	0.9nm,0.7s,baz=299,slow=7.8,SNR=15						
SONM	**Songino Array**	**47.34**	**8**	P	P	11 11 02.6	-1.5
	1.1nm,0.7s,baz=183,slow=9.6,SNR=12						
ZAL	**Zalesovo**	**53.88**	**351**	P	P	11 11 51.8	-1.9
	2.2nm,0.5s,baz=281,slow=5.1,SNR=12						
BVAR	**Borovoye Array**	**56.64**	**341**	P	P	11 12 10.4	-3.3
	0.7nm,0.6s,baz=168,slow=13,SNR=5.0						

*NEIC **23** 11:13:38.4±1.0,15.10S×71.45W,h144km±11km,mb4.0/2, Error ellipse: s-maj=21.2km s-min=12.0km az=72.0*
*IDC **23** 11:13:40.3±2.7,15.01S×71.37W,h160km±28km,mb3.5/7, mb1 3.7/9,mb1mx3.6/16,mbtmp3.9/9,Error ellipse: s-maj=32.0km s-min=17.4km az=80.0*
ISC 23 11:13:37.1±0.6,15.11S±0.07×71.61W±0.09,h144km,n16, σ1°12/17,mb3.8/7,1D,Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**1.35**	**175**	⇓*iP*	**P**	**11 14 05.6**	**+0.5**
ARE				*i*		11 14 21.5	
ARE				*i* S	**S**	**11 14 33.8**	**+7.2**
LPAZ	**La Paz**	**3.55**	**110**	P	**P**	**11 14 33.3**	**+1.1**
	7.7nm,0.3s,baz=304,slow=11,SNR=184						
LPAZ				S	**S**	**11 15 15.2**	**+0.7**
	5.0nm,0.3s,baz=125,slow=15,SNR=12						
LVC	**Limon Verde**	**7.89**	**162**	*eP*	**P**	**11 15 28.8**	**-1.4**
	105nm,0.6s						
OTAV	**Otavalo**	**16.68**	**335**	*eP*	**P**	**11 17 25.8**	**+2.0**
	9.6nm,1.0s						
CFAA	**Coronel Fontan**	**16.71**	**170**	P	**P**	**11 17 25.0**	**+0.9**
	0.1nm,0.3s,baz=354,slow=10,SNR=16						
BDFB	**Brasilia**	**22.76**	**94**	P	**P**	**11 18 26.2**	**-1.6**
	2.9nm,0.4s,mb4.0,baz=274,slow=7.7,SNR=5.8						
SDV	**Santo Domingo**	**23.86**	**2**	P	**P**	**11 18 37.5**	**-0.9**
	4.9nm,0.4s,mb4.4,baz=299,slow=16,SNR=16						
TRQA	**Tornquist**	**24.40**	**161**	*eP*	**P**	**11 18 41.7**	**-1.7**
PLCA	**Paso Flores**	**25.55**	**178**	P	**P**	**11 18 54.8**	**+0.6**
	2.4nm,0.6s,mb3.8,baz=354,slow=9.3,SNR=10.0						
PLCA	**Paso Flores**	**25.55**	**178**	*eP*	**P**	**11 18 55.7**	**+1.6**
	2.2nm,0.5s,mb4.0						
TXAR	**Lajitas Array**	**53.94**	**325**	P	**P**	**11 22 48.0**	**-0.3**
	0.7nm,0.6s,mb3.5,baz=152,slow=9.2,SNR=11						
PDAR	**Pinedale Array**	**67.31**	**331**	P	**P**	**11 24 18.6**	**0.0**
	0.2nm,0.4s,mb3.3,baz=115,slow=8.9,SNR=4.2						
ULM	**Lac du Bonnet**	**68.48**	**344**	P	**P**	**11 24 24.6**	**-1.0**
	0.9nm,0.5s,mb3.8,baz=162,slow=5.7,SNR=2.5						
YKA	**Yellowknife Ar**	**84.34**	**341**	P	**P**	**11 25 54.4**	**+0.7**
	0.5nm,0.7s,mb3.4,baz=136,slow=5.2,SNR=15						
YKA				pP	pP	11 26 29.3	-1.0
	0.7nm,0.8s,baz=136,slow=5.2,SNR=8.0						
YKA	**Yellowknife Ar**	**84.34**	**341**	P	**P**	**11 25 54.4**	**+0.7**
YKA				pP	pP	11 26 29.3	-1.0
SONM	**Songino Array**	**147.32**	**2**	PKPbc	PKPdf	11 33 05.2	+4.3
	1.2nm,0.6s,baz=312,slow=2.7,SNR=13						
SONM				pPKPbc		11 33 42.8	
	1.1nm,1.0s,baz=333,slow=2.8,SNR=4.8						

GUC 23 11:18:02.6±0.7,33.59S×68.62W,h15km,MD3.5,ML2.6, 1C-4D,Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**1.34**	**258**	⇓*iP*	Pn	11 18 25.3	-1.6
LMEL				*i* S	Sb	11 18 43.0	-0.7
LMEL				AMP		11 18 48.2	
	comp=N,206nm,0.3s						
FCH	**Farellones**	**1.42**	**280**	⇓*iP*	Pn	11 18 27.2	-0.7
FCH				*i* S	Sb	11 18 46.6	+0.7
FCH				AMP		11 18 51.4	
	comp=E,88nm,0.8s						
CLCH	**Cerro Calan**	**1.61**	**276**	⇓*iP*	Pn	11 18 30.4	-0.3
CLCH				*i* S	Sn	11 18 52.2	+0.9
CLCH				AMP		11 18 56.6	
	comp=E,292nm,0.6s						
CICH	**Cipreses**	**1.66**	**243**	⇑*iP*	Pn	11 18 30.8	-0.7
CICH				*i* S	Sn	11 18 52.7	+0.1
CHCH	**Chadas Angostu**	**1.73**	**258**	⇓*iP*	Pn	11 18 32.2	-0.1
CACH	**El Canelo**	**1.73**	**252**	*iP*	Pn	11 18 32.0	-0.4

IDC 23 11:23:39.6±3.4,2.21N×127.07E,mb3.7/3,mb1 4.0/3, mb1mx3.7/11,mbtmp3.8/3,Error ellipse: s-maj=175.7km s-min=59.1km az=72.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.14**	**162**	P	P	11 28 46.6	-2.1
	1.5nm,0.5s,baz=341,slow=11,SNR=13						
WB2	**Warramunga Arr**	**23.14**	**162**	*eP*	P	11 28 48.0	-0.7
ASAR	**Alice Springs**	**26.56**	**166**	P	P	11 29 19.9	-1.3
	0.4nm,0.3s,baz=350,slow=8.5,SNR=8.7						
ASAR				PcP	PcP	11 32 43.5	-2.9
	0.2nm,0.6s,baz=346,slow=1.6,SNR=4.4						
STKA	**Stephens Creek**	**36.59**	**159**	P	P	11 30 48.5	-1.0
	0.8nm,0.3s,baz=342,slow=9.6,SNR=2.9						

*IDC **23** 11:32:03.8±0.8,14.69S×76.28W,mb4.2/9,mb1 4.4/11, mb1mx4.2/15,mbtmp4.2/11,ML5.2/1,MS4.1/6,Ms1 4.1/6, ms1mx3.5/25,Error ellipse: s-maj=35.5km s-min=18.6km az=71.0*
*NEIC **23** 11:32:07.2±0.3,14.73S×76.16W,mb4.7/12,Error ellipse: s-maj=14.6km s-min=6.3km az=56.0*
*BJI **23** 11:32:07.2,14.70S×76.20W,h22km,mB4.8,Ms5.2, Msz4.9*
ISC 23 11:32:05.3±0.4,14.75S±0.07×76.17W±0.09,h22km, h22km±7km:pP-P,n48,σ0°94/37,mb4.4/17,MS4.0/5,1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**4.82**	**111**	*eP*	**Pn**	**11 33 18.0**	**-0.5**
ARE				*e*		11 33 23.0	
ARE				*e*		11 34 22.7	
ARE				*eS*	**Sn**	**11 34 23.0**	**+8.6**
LPAZ	**La Paz**	**7.90**	**102**	Pn	**Pn**	**11 34 04.0**	**+2.2**
	14nm,0.3s,baz=290,slow=9.7,SNR=354						
LPAZ				LR	LR	11 37 23.0	
	comp=Z,1μm,19.4s,baz=79,slow=40						
LPAZ	**La Paz**	**7.90**	**102**	*eP*	**Pn**	**11 34 03.9**	**+2.2**
	62nm,0.5s						
LVC	**Limon Verde**	**10.41**	**140**	*eP*	**P**	**11 34 35.5**	**-1.1**
	55nm,0.7s						
OTAV	**Otavalo**	**15.06**	**351**	*eP*	**P**	**11 35 40.2**	**+1.4**
	15nm,1.0s						
CFAA	**Coronel Fontan**	**18.28**	**158**	P	**P**	**11 36 20.6**	**+1.2**
	0.1nm,0.3s,baz=336,slow=12,SNR=14						
SDV	**Santo Domingo**	**24.12**	**14**	P	**P**	**11 37 21.3**	**+0.5**
	16nm,0.6s,mb4.6,baz=210,slow=10.0,SNR=21						
SDV	**Santo Domingo**	**24.12**	**14**	*eP*	**P**	**11 37 21.2**	**+0.4**
	21nm,0.8s,mb4.6						
PLCA	**Paso Flores**	**26.35**	**170**	P	**P**	**11 37 41.6**	**+0.1**
	2.8nm,0.7s,mb3.9,baz=332,slow=8.1,SNR=6.3						
PLCA				LR	LR	11 45 44.7	
	comp=Z,135nm,20.4s,MS3.5,baz=334,slow=31						
PLCA	**Paso Flores**	**26.35**	**170**	*eP*	**P**	**11 37 41.9**	**+0.3**
	3.1nm,0.7s,mb4.0						
TRQA	**Tornquist**	**26.40**	**154**	P	**P**	**11 37 41.3**	**-0.7**
	4.3nm,0.9s,mb4.0						
BDFB	**Brasilia**	**27.18**	**96**	P	**P**	**11 37 48.3**	**-1.1**
	8.5nm,0.9s,mb4.3,baz=275,slow=11,SNR=8.3						
BDFB				LR	LR	11 49 44.5	
	comp=Z,939nm,18.8s,MS4.4,baz=272,slow=39						
PCRV	**Puerto La Cruz**	**27.28**	**25**	LR	LR	11 49 33.4	
	comp=Z,623nm,19.3s,MS4.2,baz=200,slow=38						
TXAR	**Lajitas Array**	**51.24**	**329**	P	**P**	**11 41 09.5**	**-0.1**
	1.5nm,0.9s,mb3.9,baz=151,slow=9.0,SNR=13						
TXAR				LR	LR	12 01 38.6	
	comp=Z,157nm,18.9s,MS4.1,baz=130,slow=35						
TXAR	**Lajitas Array**	**51.24**	**329**	P	**P**	**11 41 09.5**	**-0.1**
TXAR				LR	LR	12 01 38.6	
WCI	**Wyandotte Cave**	**53.55**	**350**	*eP*	**P**	**11 41 23.7**	**-3.1**
	8.4nm,1.0s,mb4.6						
CPRX	**Cap Rock**	**54.38**	**331**	*eP*	**P**	**11 41 33.9**	**+1.0**
RKT	**Rikitea**	**55.93**	**252**	*eS*	**S**	**11 49 29.5**	**+0.4**
RKT				*e*LR	LR	11 58 06.4	
	204nm,30.3s						
CBKS	**Cedar Bluff**	**57.66**	**338**	*eP*	**P**	**11 41 55.4**	**-1.1**
	8.1nm,0.8s,mb4.8						
DUG	**Dugway**	**64.41**	**330**	*eP*	**P**	**11 42 42.9**	**+0.7**
	8.9nm,0.9s,mb4.8						
HWUT	**Hardware Ranch**	**64.91**	**331**	*eP*	**P**	**11 42 45.2**	**-0.2**
	6.3nm,0.8s,mb4.7						
PDAR	**Pinedale Array**	**64.93**	**333**	P	**P**	**11 42 45.2**	**-0.3**
	1.9nm,1.1s,mb4.0,baz=134,slow=6.2,SNR=8.2						
PDAR				LR	LR	12 12 54.1	
	comp=Z,92nm,19.3s,MS4.0,baz=330,slow=38						
RRI2	**Red Ridge**	**66.17**	**333**	*eP*	**P**	**11 42 53.0**	**-0.4**
MUDI	**Mud Lake**	**66.28**	**333**	*eP*	**P**	**11 42 55.0**	**+0.9**
LKWY	**Lake**	**66.74**	**334**	*eP*	**P**	**11 42 58.0**	**+1.0**
	8.1nm,1.0s,mb4.7						
ULM	**Lac du Bonnet**	**67.00**	**346**	P	**P**	**11 42 57.4**	**-1.2**
	4.0nm,0.8s,mb4.5,baz=153,slow=6.9,SNR=8.9						
ULM	**Lac du Bonnet**	**67.00**	**346**	*eP*	**P**	**11 42 56.6**	**-2.0**
	5.5nm,0.8s,mb4.6						
YMR	**Madison River**	**67.07**	**334**	*eP*	**P**	**11 42 59.9**	**+0.7**
MCMT	**McKenzie Canyo**	**68.01**	**333**	*eP*	**P**	**11 43 05.7**	**+0.7**
BOZ	**Bozeman (W)**	**68.13**	**334**	*eP*	**P**	**11 43 04.7**	**-1.1**
	7.6nm,1.2s,mb4.6						
TBI	**Tubuai**	**69.18**	**250**	*eS*	S	11 52 15.8	+0.1
TBI				*e*LR	LR	12 04 10.2	
	178nm,24.0s						
SCHQ	**Schefferville**	**69.76**	**6**	P	**P**	**11 43 14.7**	**-0.9**
	2.1nm,0.7s,mb4.2,baz=189,slow=1.9,SNR=4.3						
PPT	**Papeete**	**70.15**	**256**	*eS*	S	11 52 28.2	+1.0
PPT				*e*LR	LR	12 04 17.7	
	98nm,28.0s						
SNAA	**Sanae**	**70.87**	**161**	*eP*	**P**	**11 43 22.5**	**+0.3**
	6.4nm,0.8s,mb4.6						
SNAA				*ep*P	pP	11 43 29.9	+0.8
EDM	**Edmonton**	**74.85**	**338**	*eP*	**P**	**11 43 44.8**	**-1.0**
EDM				*ep*P	pP	11 43 51.8	-1.1
YKA	**Yellowknife Ar**	**82.66**	**343**	P	**P**	**11 44 27.9**	**-0.2**
	1.1nm,0.7s,mb4.0,baz=138,slow=5.2,SNR=29						
YKW3	**Yellowknife Ar**	**82.71**	**343**	*eP*	**P**	**11 44 28.3**	**0.0**
YKW3				*ep*P	pP	11 44 35.1	-0.4
SYO	**Syowa Base**	**85.15**	**161**	⇑P	**P**	**11 44 41.0**	**+0.4**
ESDC	**Sonseca Array**	**86.14**	**47**	P	**P**	**11 44 46.7**	**+0.5**
	0.3nm,0.3s,mb4.0,baz=270,slow=7.4,SNR=5.5						
GERES	**GERESS Array B**	**100.87**	**42**	P	P	11 45 54.0	0.0
	0.1nm,0.3s,baz=225,slow=1.9,SNR=5.3						
ASAR	**Alice Springs**	**131.81**	**218**	PKP	PKPdf	11 51 19.4	-2.8
	0.4nm,0.6s,baz=127,slow=2.0,SNR=5.8						
WRA	**Warramunga Arr**	**134.29**	**222**	PKP	PKPdf	11 51 24.4	-2.4
	0.4nm,0.5s,baz=131,slow=1.9,SNR=8.5						
KSH	**Kashi**	**145.29**	**39**	*e*PKP	PKPdf	11 51 43.3	-2.7
KSH				*e*APKP		11 51 53.0	
KSH				*e*XPKP		11 51 57.0	
KSH				*e*PP	PP	11 55 09.5	+4.5
KSH				*e*PKS	PKS	11 55 16.5	+0.5
KSH				*e*PPP	PPP	11 58 28.5	+8.2
KSH				*e*SKS	SKS	11 58 46.6	-7.4
KSH				*e*SKKS		12 01 56.5	
CN2	**Changchun**	**145.66**	**332**	*e*PKP	PKPdf	11 51 47.3	+0.8
ULN	**Ulaanbaatar**	**146.87**	**356**	*e*P	PKPbc	11 51 47.4	+1.8
SONM	**Songino Array**	**146.94**	**357**	PKP	PKPdf	11 51 45.6	-2.9
	5.3nm,0.6s,baz=317,slow=2.1,SNR=48						
SONM				PKPbc	PKPbc	11 51 48.3	+2.6
	5.3nm,0.6s,baz=326,slow=2.1,SNR=45						
WMQ	**Urumqi**	**147.92**	**22**	*e*PKP	PKPdf	11 51 46.4	-3.8
HHC	**Hu-ho-hao-te**	**153.14**	**347**	*e*PKP	PKPdf	11 51 52.6	-5.6
HHC				PP	PP	11 55 51.3	+1.3
HHC				SKS	SKS	11 58 56.5	-7.8
HHC				SKKS		12 02 38.4	

*IDC **23** 11:43:58.7±0.8,14.66S×76.26W,mb4.0/9,mb1 4.2/11, mb1mx4.0/17,mbtmp4.1/11,ML4.2/2,MS3.7/4,Ms1 3.7/4, ms1mx3.2/24,Error ellipse: s-maj=33.3km s-min=18.5km az=74.0*
*NEIC **23** 11:44:03.3±3.5,14.75S×76.18W,h33km±25km,mb4.2/5, Error ellipse: s-maj=19.1km s-min=7.1km az=72.0*
ISC 23 11:44:02.9±2.7,14.78S±0.08×76.1W±0.2,h49km±27km, n28,σ0°71/23,mb4.1/12,MS4.0/2,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**4.77**	**111**	*eP*	**P**	**11 45 13.5**	**-0.5**
ARE				*e*		11 45 18.0	
ARE				*eS*	**S**	**11 46 27.0**	**+18**
LPAZ	**La Paz**	**7.85**	**102**	Pn	**P**	**11 45 58.6**	**+1.6**
	12nm,0.3s,baz=291,slow=9.4,SNR=274						
LPAZ				LR	LR	11 49 27.7	
	comp=Z,590nm,20.4s,baz=282,slow=41						
LPAZ	**La Paz**	**7.85**	**102**	*eP*	**P**	**11 45 58.4**	**+1.4**
LPAZ				LR	LR	11 49 27.8	
LVC	**Limon Verde**	**10.36**	**140**	*eP*	**P**	**11 46 30.3**	**-1.4**
	30nm,0.7s						
OTAV	**Otavalo**	**15.09**	**351**	*eP*	**P**	**11 47 34.5**	**-0.1**
	6.5nm,0.8s						
CFAA	**Coronel Fontan**	**18.24**	**158**	P	**P**	**11 48 14.7**	**+0.5**
	0.0nm,0.3s,baz=342,slow=12,SNR=7.0						
CFAA				LR	LR	11 54 10.7	
	comp=Z,21nm,20.8s,baz=302,slow=33						
CFAA	**Coronel Fontan**	**18.24**	**158**	P	**P**	**11 48 14.7**	**+0.5**
CFAA				LR	LR	11 54 10.7	
SDV	**Santo Domingo**	**24.13**	**13**	P	**P**	**11 49 15.6**	**+0.2**
	12nm,0.6s,mb4.5,baz=196,slow=10.0,SNR=19						
PLCA	**Paso Flores**	**26.31**	**170**	P	**P**	**11 49 37.1**	**+1.3**
	1.1nm,0.6s,mb3.6,baz=344,slow=19,SNR=5.5						
PLCA	**Paso Flores**	**26.31**	**170**	*eP*	**P**	**11 49 36.7**	**+0.9**
	1.7nm,0.6s,mb3.8						
TRQA	**Tornquist**	**26.36**	**154**	P	**P**	**11 49 35.6**	**-0.7**
	3.7nm,0.8s,mb4.0						
BDFB	**Brasilia**	**27.13**	**96**	LR	LR	12 01 12.4	
	comp

CLCH			*i* S	Sb	11 45 49.5	+1.0	
CLCH			AMP		11 45 53.2		
	comp=N,211nm,0.5s						
FCH	**Farellones**	**1.00 352**	*e*P	Pb	11 45 35.5	0.0	
FCH			*i* S	Sb	11 45 50.0	+1.0	
FCH			AMP		11 45 53.4		
	comp=E,119nm,0.2s						
LNV	**Longovilo**	**1.13 288**⇓	*i*P	Pb	11 45 37.0	-0.8	
LNV			*i* S	Sb	11 45 52.9	+0.1	

NEIC ***23*** *11:46:49.2±4.2,31.98S×178.88W,h614km±21km,mb3.9/3, Error ellipse: s-maj=85.3km s-min=22.9km az=48.0*
IDC ***23*** *11:46:54.1±6.8,31.82S×179.16E,h486km±89km,mb3.6/3, mb1 3.8/4,mb1mx3.5/11,mbtmp4.6/4, Error ellipse: s-maj=102.1km s-min=32.8km az=5.0*

ISC 23 11:46:57.2±1.5,32.1S±0.1×178.9E±0.4,h519km±32km, n66,σ0§71/70,mb4.1/6,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**5.47**	**185**	*e*P	**P**	**11 48 30.5**	**+0.2**
MXZ	**Matakaoa Point**	**5.47**	**185**	PN	**P**	**11 48 30.5**	**+0.3**
MXZ	**Matakaoa Point**	**5.47**	**185**	PN	**P**	**11 48 30.5**	**+0.3**
PUZ	**Puketiti**	**5.98**	**185**	*e*P	**P**	**11 48 36.1**	**+1.1**
PUZ	**Puketiti**	**5.98**	**185**	PN	**P**	**11 48 36.1**	**+1.1**
PUZ	**Puketiti**	**5.98**	**185**	PN	**P**	**11 48 36.1**	**+1.1**
URZ	**Urewera**	**6.32**	**193**	P	**P**	**11 48 37.6**	**-0.7**
	7.2nm,0.3s,baz=4.6,slow=0.9,SNR=51						
URZ				S	**S**	**11 49 57.6**	**-0.8**
	3.3nm,0.3s,baz=193,slow=23,SNR=9.2						
URZ	**Urewera**	**6.32**	**193**	*e*P	**P**	**11 48 37.4**	**-0.8**
URZ	**Urewera**	**6.32**	**193**	PN	**P**	**11 48 37.4**	**-0.8**
URZ	**Urewera**	**6.32**	**193**	PN	**P**	**11 48 37.4**	**-0.8**
MWZ	**Matawai**	**6.32**	**190**	*e*P	**P**	**11 48 38.0**	**-0.3**
MWZ	**Matawai**	**6.32**	**190**	PN	**P**	**11 48 38.0**	**-0.2**
MWZ	**Matawai**	**6.32**	**190**	PN	**P**	**11 48 38.0**	**-0.2**
BKZ	**Black Stump Fm**	**7.32**	**195**	*e*PN	**P**	**11 48 46.4**	**-1.7**
BKZ	**Black Stump Fm**	**7.32**	**195**	*e*PN	**P**	**11 48 46.4**	**-1.7**
MGZ	**Maungaku**	**7.40**	**201**	PN	**P**	**11 48 50.1**	**+1.1**
MGZ	**Maungaku**	**7.40**	**201**	PN	**P**	**11 48 50.1**	**+1.1**
NGZ	**Ngauruhoe**	**7.55**	**200**	P	**P**	**11 48 51.2**	**+0.8**
NGZ	**Ngauruhoe**	**7.55**	**200**	PN	**P**	**11 48 51.2**	**+0.8**
NGZ	**Ngauruhoe**	**7.55**	**200**	PN	**P**	**11 48 51.2**	**+0.8**
TUVZ	**Tukino**	**7.62**	**199**	P	**P**	**11 48 52.2**	**+1.0**
TUVZ	**Tukino**	**7.62**	**199**	PN	**P**	**11 48 52.2**	**+1.0**
TUVZ	**Tukino**	**7.62**	**199**	PN	**P**	**11 48 52.2**	**+1.0**
TSZ	**Takapari Road**	**8.29**	**196**	*e*P	**P**	**11 48 58.1**	**+0.1**
TSZ	**Takapari Road**	**8.29**	**196**	PN	**P**	**11 48 58.1**	**+0.1**
TSZ	**Takapari Road**	**8.29**	**196**	PN	**P**	**11 48 58.1**	**+0.1**
BFZ	**Birch Farm**	**8.82**	**193**	SN	**S**	**11 50 44.1**	**-0.1**
BFZ	**Birch Farm**	**8.82**	**193**	SN	**S**	**11 50 44.1**	**-0.1**
MRZ	**Mangatainoka R**	**8.95**	**196**	*e*P	**P**	**11 49 04.7**	**-0.1**
MRZ	**Mangatainoka R**	**8.95**	**196**	PN	**P**	**11 49 04.7**	**-0.2**
MRZ				SN	**S**	**11 50 46.0**	**-0.5**
MRZ	**Mangatainoka R**	**8.95**	**196**	PN	**P**	**11 49 04.7**	**-0.2**
MRZ				SN	**S**	**11 50 46.0**	**-0.5**
KIW	**Kapiti Island**	**9.31**	**199**	P	**P**	**11 49 07.7**	**-0.9**
KIW	**Kapiti Island**	**9.31**	**199**	PN	**P**	**11 49 07.7**	**-0.9**
KIW	**Kapiti Island**	**9.31**	**199**	PN	**P**	**11 49 07.7**	**-0.9**
CAW	**Cannon Point**	**9.50**	**198**	P	**P**	**11 49 10.5**	**0.0**
CAW	**Cannon Point**	**9.50**	**198**	PN	**P**	**11 49 10.5**	**0.0**
CAW	**Cannon Point**	**9.50**	**198**	PN	**P**	**11 49 10.5**	**0.0**
QRZ	**Quartz Range**	**10.09**	**209**	*e*P	**P**	**11 49 16.8**	**+0.1**
QRZ	**Quartz Range**	**10.09**	**209**	PN	**P**	**11 49 16.8**	**+0.1**
QRZ	**Quartz Range**	**10.09**	**209**	PN	**P**	**11 49 16.8**	**+0.1**
NNZ	**Nelson**	**10.11**	**204**	*e*P	**P**	**11 49 15.9**	**-1.0**
NNZ	**Nelson**	**10.11**	**204**	PN	**P**	**11 49 15.9**	**-1.0**
NNZ	**Nelson**	**10.11**	**204**	PN	**P**	**11 49 15.9**	**-1.0**
TUWZ	**Tuamarina**	**10.12**	**202**	PN	**P**	**11 49 17.4**	**+0.4**
TUWZ	**Tuamarina**	**10.12**	**202**	PN	**P**	**11 49 17.4**	**+0.4**
THZ	**Tophouse**	**10.76**	**205**	*e*P	**P**	**11 49 23.2**	**-0.4**
THZ	**Tophouse**	**10.76**	**205**	PN	**P**	**11 49 23.2**	**-0.4**
THZ				SN	**S**	**11 51 21.5**	**+0.7**
THZ	**Tophouse**	**10.76**	**205**	PN	**P**	**11 49 23.2**	**-0.4**
THZ				SN	**S**	**11 51 21.5**	**+0.7**
KHZ	**Kahutara**	**11.14**	**201**	*e*P	**P**	**11 49 28.2**	**+0.7**
KHZ	**Kahutara**	**11.14**	**201**	PN	**P**	**11 49 28.2**	**+0.7**
KHZ	**Kahutara**	**11.14**	**201**	PN	**P**	**11 49 28.2**	**+0.7**
DSZ	**Denniston Nort**	**11.16**	**208**	*e*P	**P**	**11 49 28.5**	**+0.8**
DSZ	**Denniston Nort**	**11.16**	**208**	PN	**P**	**11 49 28.5**	**+0.7**
DSZ	**Denniston Nort**	**11.16**	**208**	PN	**P**	**11 49 28.5**	**+0.7**
STKA	**Stephens Creek**	**31.51**	**260**	P	**P**	**11 52 38.7**	**+1.2**
	6.1nm,0.6s,mb4.3,baz=106,slow=8.2,SNR=13						
STKA	**Stephens Creek**	**31.51**	**260**	*e*P	**P**	**11 52 38.5**	**+1.0**
CTAO	**Charters Tower**	**31.51**	**284**	*e*P	**P**	**11 52 38.1**	**+0.5**
	6.1nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**40.39**	**270**	P	**P**	**11 53 50.9**	**0.0**
	3.6nm,0.7s,mb4.0,baz=104,slow=7.4,SNR=25						
WB2	**Warramunga Arr**	**41.53**	**276**⇑	*i*P	**P**	**11 53 59.5**	**-0.6**
WRAB	**Tennant Creek**	**41.53**	**276**	*e*P	**P**	**11 53 59.5**	**-0.7**
WRA	**Warramunga Arr**	**41.54**	**276**	P	**P**	**11 53 59.6**	**-0.5**
	4.4nm,0.3s,mb4.5,baz=111,slow=8.0,SNR=79						
FITZ	**Fitzroy Crossi**	**49.72**	**273**	*e*P	**P**	**11 54 53.5**	**-10**
	1.9nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**49.72**	**273**	*e*P	**P**	**11 55 02.9**	**-0.3**
	2.6nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**49.72**	**273**	*e*P	**P**	**11 55 02.9**	**-0.3**
	1.9nm,0.4s,mb3.9						
QSPA	**South Pole Qui**	**58.02**	**180**	*e*P	**P**	**11 55 45.0**	**-16**
	2.7nm,0.7s,mb3.6						
FINES	**FINESS Array B**	**145.74**	**337**	PKPbc	PKPbc	12 05 36.0	-0.5
	1.8nm,0.6s,baz=44,slow=5.0,SNR=12						

IDC ***23*** *11:47:32.6±7.5,19.53S×169.44E,h279km±35km,mb3.6/3, mb1 3.7/4,mb1mx3.5/11,mbtmp4.2/4, Error ellipse: s-maj=98.1km s-min=76.3km az=113.0*

ISC 23 11:47:31.2±4.6,19.5S±0.7×169.5E±0.6,h287km±30km,n8, σ0§27/9,mb3.9/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.84**	**227**⇑	*e*P	**P**	**11 48 35.4**	**0.0**
DZM	**Mont Dzumac**	**3.84**	**227**	P	**P**	**11 48 35.4**	**-0.1**
	5.2nm,0.3s,baz=65,slow=19,SNR=92						
DZM				S	**S**	**11 49 25.6**	**0.0**
	1.7nm,0.3s,baz=109,slow=20,SNR=4.7						
NOUC	**Port Laguerre**	**3.96**	**228**⇑	*e*P	**P**	**11 48 36.8**	**+0.1**
STKA	**Stephens Creek**	**27.91**	**238**	P	**P**	**11 52 57.0**	**-0.2**
	3.4nm,0.7s,mb3.9,baz=69,slow=12,SNR=6.5						
WB2	**Warramunga Arr**	**33.02**	**263**	*e*P	**P**	**11 53 41.6**	**-0.3**
WRA	**Warramunga Arr**	**33.03**	**263**	P	**P**	**11 53 41.7**	**-0.3**
	0.6nm,0.3s,mb3.5,baz=96,slow=8.4,SNR=46						
ASAR	**Alice Springs**	**33.28**	**256**	P	**P**	**11 53 44.5**	**+0.5**
	3.8nm,0.6s,mb4.1,baz=85,slow=9.2,SNR=84						
ASPA	**Alice Springs**	**33.28**	**256**	*e*P	**P**	**11 53 44.4**	**+0.3**

MAN 23 11:52:15.2,9.36N×126.57E,h14km,mb3.7,ML2.4,MS1.9, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.01**	**248**	*e*P	Pb	11 52 32.9	-1.1
SCPH	**Surigao**	**1.15**	**292**⇑	*e*P	Pb	11 52 35.4	-0.8
SCPH				*e*S	Sb	11 52 52.6	+1.8
MSLP	**Maasin**	**1.85**	**295**	*e*P	Pn	11 52 46.6	-0.3
BUKP	**Musuan**	**2.10**	**225**	*e*P	Pn	11 52 50.2	-0.1
BESP	**Borongan**	**2.49**	**334**	*e*P	Pn	11 52 55.4	-0.6

IDC 23 12:04:34.2±2.1,9.34N×93.03E,mb3.8/5,mb1 4.0/5, mb1mx3.7/17,mbtmp3.8/5,Error ellipse: s-maj=90.6km s-min=21.7km az=64.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**40.00**	**14**	P	P	12 12 10.7	-1.6
	1.5nm,0.9s,baz=201,slow=7.0,SNR=12						
FITZ	**Fitzroy Crossi**	**42.19**	**130**	P	P	12 12 28.4	-2.4
	3.9nm,1.0s,baz=348,slow=9.3,SNR=2.2						
BVAR	**Borovoye Array**	**47.26**	**342**	P	P	12 13 08.8	-2.2
	0.5nm,0.6s,baz=135,slow=8.4,SNR=4.1						
WRA	**Warramunga Arr**	**50.00**	**126**	P	P	12 13 30.9	-1.8
	0.9nm,0.7s,baz=303,slow=8.9,SNR=9.8						
ASAR	**Alice Springs**	**51.69**	**130**	P	P	12 13 43.4	-2.2
	0.6nm,0.5s,baz=302,slow=7.5,SNR=8.5						
ASAR				PcP	PcP	12 14 58.0	-1.2
	0.6nm,0.6s,baz=309,slow=3.2,SNR=5.1						
PDAR	**Pinedale Array**	**124.19**	**20**	PKP	PKPdf	12 23 35.0	-2.2
	0.3nm,0.9s,baz=90,slow=0.9,SNR=3.5						

IDC ***23*** *12:08:54.7±0.5,55.41S×1.45W,mb4.4/13,mb1 4.5/13, mb1mx4.3/18,mbtmp4.4/13,MS4.4/15,Ms1 4.4/15, ms1mx4.2/22,Error ellipse: s-maj=20.8km s-min=19.3km az=150.0*
NEIC ***23*** *12:08:56.2±0.3,55.41S×1.48W,h10km,mb5.0/4,Error ellipse: s-maj=11.3km s-min=7.7km az=101.0*
HRVD ***23*** *12:08:56.2±0.2,55.74S×1.28W,h12km,MW5.1/72, Centroid moment Tensor Solution. LP body waves: s42,c63;Mantle waves: s72,c123; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.71±.12; $M_{\theta\theta}$0.58±.14; $M_{\phi\phi}$4.13±.11; $M_{r\theta}$-0.42±.41; $M_{\theta\phi}$-0.89±.11; $M_{\phi r}$-3.32±.32; Best double couple: $M_0$5.617×10^{16} NP1: ϕ_s158°,δ28°,λ-108° NP2:ϕ_s358°,δ63°,λ-81°. Principal axes: T 5.344, Plg18°, Azm81°; N .545, Plg8°, Azm174°; P -5.889, Plg70°, Azm288°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***23*** *12:08:56.2,55.40S×1.50W,h10km*

ISC 23 12:08:55.1±0.4,55.40S±0.07×1.5W±0.2,h10km,n61, σ1§01/32,mb4.5/15,MS4.5/14,1D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA2	**Neumayer--Watz**	**15.79**	**187**	*e*	**P**	**12 12 38.1**	**-0.7**
VNA2	**Neumayer--Watz**	**15.79**	**187**	*e*	**P**	**12 12 40.2**	**+1.4**
VNA2	**Neumayer--Watz**	**15.79**	**187**	*e*	**P**	**12 12 47.5**	**+8.7**
VNA2	**Neumayer--Watz**	**15.79**	**187**	*e*P	**P**	**12 12 38.1**	**-0.7**
VNA2				*e*		12 12 47.5	
VNA2				*e*		12 15 09.8	
VNA3	**Neumayer Olymp**	**16.29**	**189**	*e*	**P**	**12 12 45.1**	**-0.1**
VNA3	**Neumayer Olymp**	**16.29**	**189**	*e*	**P**	**12 12 47.1**	**+1.9**
VNA3	**Neumayer Olymp**	**16.29**	**189**	*e*	**P**	**12 12 55.3**	**+10**
VNA3	**Neumayer Olymp**	**16.29**	**189**	*e*P	**P**	**12 12 45.1**	**-0.1**
VNA3				*e*		12 12 47.1	
VNA3				*e*		12 12 55.3	
VNA3				*e*		12 15 25.8	
SNAA	**Sanae**	**16.34**	**182**	*e*P	**P**	**12 12 46.0**	**+0.2**
SYO	**Syowa Base**	**22.90**	**143**	⇓P	**P**	**12 14 00.2**	**+0.7**
SUR	**Sutherland**	**27.83**	**43**	P	**P**	**12 14 42.1**	**-4.3**
	3.8nm,0.9s,mb4.0,baz=311,slow=18,SNR=1.7						
SUR				LR	LR	12 22 56.9	
	comp=Z,1μm,20.9s,MS4.5,baz=192,slow=30						
MAW	**Mawson**	**31.43**	**139**	LR	LR	12 25 31.6	
	comp=Z,612nm,20.8s,MS4.3,baz=272,slow=32						
MAW	**Mawson**	**31.43**	**139**	P	**P**	**12 15 15.7**	**-2.4**
BOSA	**Boshof**	**32.94**	**47**	*e*P	**P**	**12 15 32.7**	**+1.0**
QSPA	**South Pole Qui**	**34.84**	**180**	*e*P	**P**	**12 15 46.9**	**-0.7**
LBTB	**Lobatse**	**36.27**	**44**	P	**P**	**12 16 00.6**	**+0.3**
	2.0nm,0.8s,mb4.1,baz=226,slow=8.1,SNR=3.4						
LBTB				LR	LR	12 28 16.3	
	comp=Z,697nm,19.2s,MS4.5,baz=220,slow=32						
USHA	**Ushuaia**	**36.96**	**242**	LR	LR	12 27 27.0	
	comp=Z,2μm,21.7s,MS4.9,baz=94,slow=30						
TSUM	**Tsumeb**	**38.92**	**29**	P	**P**	**12 16 22.3**	**-0.3**
	7.0nm,1.2s,mb4.3,baz=167,slow=8.5,SNR=6.2						
TSUM				LR	LR	12 29 55.8	
	comp=Z,599nm,19.4s,MS4.4,baz=142,slow=32						
MATP	**Matopo**	**41.55**	**45**	P	**P**	**12 16 43.2**	**-1.0**
	4.2nm,0.9s,mb4.0,baz=192,slow=8.6,SNR=4.4						
MATP				LR	LR	12 31 30.1	
	comp=Z,523nm,20.0s,MS4.4,baz=203,slow=33						
TRQA	**Tornquist**	**43.46**	**267**	*e*P	**P**	**12 16 58.7**	**-0.9**
	21nm,1.0s,mb4.8						
PLCA	**Paso Flores**	**46.48**	**258**	P	**P**	**12 17 23.5**	**-0.3**
	1.4nm,0.9s,mb3.9,baz=124,slow=9.1,SNR=2.4						
PLCA				LR	LR	12 34 38.6	
	comp=Z,617nm,19.9s,MS4.6,baz=156,slow=33						
SBA	**Scott Base**	**46.81**	**177**	*e*P	**P**	**12 17 27.3**	**+1.4**
	72nm,1.3s,mb5.4						
VNDA	**Vanda**	**46.93**	**175**	P	**P**	**12 17 27.4**	**+0.4**
	19nm,1.0s,mb5.0,baz=212,slow=6.8,SNR=21						
VNDA				LR	LR	12 36 50.0	
	comp=Z,425nm,19.6s,MS4.4,baz=182,slow=36						
CFAA	**Coronel Fontan**	**51.66**	**268**	LR	LR	12 37 13.4	
	comp=Z,73nm,19.2s,MS3.7,baz=125,slow=33						
BDFB	**Brasilia**	**53.27**	**299**	P	**P**	**12 18 14.9**	**-1.3**
	2.1nm,0.6s,mb4.2,baz=152,slow=5.4,SNR=2.9						
BDFB				LR	LR	12 36 39.4	
	comp=Z,483nm,18.8s,MS4.6,baz=148,slow=31						
KMBO	**Kilima Mbogo**	**62.55**	**45**	P	**P**	**12 19 25.1**	**+3.7**
	0.4nm,0.2s,mb4.1,baz=210,slow=20,SNR=4.9						
KMBO				LR	LR	12 44 19.8	
	comp=Z,944nm,19.1s,MS5.0,baz=273,slow=34						
KMBO	**Kilima Mbogo**	**62.55**	**45**	P	**P**	**12 19 21.9**	**+0.4**
	9.2nm,1.4s,mb4.7						
LPAZ	**La Paz**	**63.51**	**280**	P	**P**	**12 19 27.8**	**+0.1**
	7.6nm,1.1s,mb4.7,baz=108,slow=7.2,SNR=7.8						
LPAZ				LR	LR	12 45 02.6	
	comp=Z,442nm,20.7s,MS4.6,baz=275,slow=34						
LPAZ	**La Paz**	**63.51**	**280**	*e*P	**P**	**12 19 27.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**77.65**	**131**	P	**P**	**12 20 52.2**	**-0.7**
	6.8nm,0.9s,baz=311,slow=20,SNR=3.0						
NWAO				LR	LR	12 49 31.0	
	comp=Z,3.8nm,21.2s,baz=52,slow=31						
OTAV	**Otavalo**	**82.81**	**281**	*e*P	**P**	**12 21 23.2**	**+2.3**
	29nm,1.5s,mb5.1						
ROSC	**El Rosal**	**84.35**	**287**	LR	LR	12 58 58.4	
	comp=Z,428nm,18.1s,MS4.9,baz=137,slow=36						
STKA	**Stephens Creek**	**87.49**	**149**	P	**P**	**12 21 43.7**	**-0.1**
	6.5nm,1.1s,mb4.8,baz=176,slow=7.3,SNR=5.9						
STKA	**Stephens Creek**	**87.49**	**149**	*e*P	**P**	**12 21 43.5**	**-0.3**
SJG	**San Juan**	**91.25**	**301**	LR	LR	12 59 43.0	
	comp=Z,385nm,18.6s,MS4.9,baz=258,slow=33						
RKT	**Rikitea**	**92.34**	**222**	*e*LR	LR	12 51 40.4	
	211nm,34.5s						
ASAR	**Alice Springs**	**92.54**	**140**	P	**P**	**12 22 07.2**	**-0.4**
	1.7nm,1.0s,mb4.4,baz=194,slow=5.2,SNR=11						
ESDC	**Sonseca Array**	**94.73**	**358**	P	**P**	**12 22 18.5**	**+1.2**
	0.4nm,0.4s,mb4.2,baz=342,slow=40,SNR=3.1						
TBI	**Tubuai**	**96.94**	**209**	*e*LR	LR	12 53 48.0	
	236nm,24.2s						
PPT	**Papeete**	**102.45**	**211**	*e*LR	LR	12 56 20.8	
	125nm,23.8s						
AAK	**Ala-Archa**	**116.89**	**53**	PKPdf	PKPdf	12 27 38.5	-3.9
FINES	**FINESS Array B**	**118.51**	**15**	PKP	PKPdf	12 27 41.5	-3.6
	1.2nm,0.9s,baz=302,slow=18,SNR=2.6						
TXAR	**Lajitas Array**	**120.37**	**278**	PKP	PKPdf	12 27 47.3	-2.2
	0.6nm,1.0s,baz=124,slow=4.5,SNR=4.4						
SCHQ	**Schefferville**	**122.17**	**322**	PKP	PKPdf	12 27 49.4	-2.9
	2.5nm,1.0s,baz=202,slow=11,SNR=3.4						
CHKZ	**Chkalovo**	**123.77**	**43**	*e*PKPdf	PKPdf	12 27 53.8	-1.7
ARCES	**ARCESS Array B**	**126.17**	**11**	PKhKP		12 27 48.2	
	4.6nm,0.9s,baz=29,slow=30,SNR=2.6						
ARCES				PKP	PKPdf	12 27 57.7	-1.8
	5.9nm,0.9s,baz=22,slow=6.5,SNR=5.1						
ARCES	**ARCESS Array B**	**126.17**	**11**	PKP		12 27 48.2	
ARCES				PKP	PKPdf	12 27 57.7	-1.8
ZAL	**Zalesovo**	**129.83**	**50**	PKP	PKPdf	12 28 04.3	-2.6
	1.0nm,0.3s,baz=251,slow=19,SNR=9.9						
ZAL	**Zalesovo**	**129.83**	**50**	PKP	PKPdf	12 28 04.3	-2.6
PDAR	**Pinedale Array**	**133.32**	**286**	PKP	PKPdf	12 28 12.2	-1.7
	0.2nm,0.6s,baz=203,slow=6.9,SNR=2.6						
SONM	**Songino Array**	**136.46**	**69**	PKP	PKPdf	12 28 16.3	-3.1
	1.1nm,1.1s,baz=260,slow=2.1,SNR=4.5						
YBH	**Yreka Blue Hor**	**140.00**	**275**	PKP	PKPdf	12 28 23.2	-2.9
	1.6nm,0.9s,baz=35,slow=1.9,SNR=3.9						
RES	**Resolute Bay**	**143.22**	**334**	*e*PKPpre		12 28 23.9	
HIA	**Hailar**	**144.51**	**75**	*e*PKPdf	PKPdf	12 28 30.9	-2.7
CN2	**Changchun**	**144.55**	**86**	*e*PKP	PKPdf	12 28 30.3	-3.6
YKA	**Yellowknife Ar**	**146.25**	**310**	PKPbc	PKPbc	12 28 34.4	0.0
	8.1nm,1.0s,baz=103,slow=2.8,SNR=29						
YKW3	**Yellowknife Ar**	**146.28**	**310**	*e*PKPdf	PKPdf	12 28 33.1	-3.2
MDJ	**Mudanjiang**	**147.41**	**89**	PKP	PKPdf	12 28 39.6	+0.9
MDJ				PP	PP		
	comp=Z,10.0nm,1.3s						
DLBC	**Dease Lake**	**152.32**	**298**	PKPbc	PKPdf	12 28 51.0	+5.1
	comp=Z,5.4nm,1.1s,baz=193,slow=5.3,SNR=5.6						
DLBC	**Dease Lake**	**152.32**	**298**	*e*PKPbc	PKPdf	12 28 51.3	+5.4
INK	**Inuvik**	**154.76**	**320**	*e*PKPdf	PKPdf	12 28 47.4	-1.5

GUC 23 12:15:21.2±0.5,27.81S×71.55W,h47km±8km,ML4.3,1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	**Copiapo**	**1.15**	**68**	*e*P	P	12 15 41.6	+0.4
CPCH				*i* S	S	12 15 56.9	+0.9
LCO	**Las Campanas**	**1.42**	**148**	⇓*i*P	P	12 15 45.4	+0.4
LCO				*i* S	S	12 16 04.2	+1.5
LCO				AMP		12 16 07.8	
	comp=N,5μm,0.5s						
TLL	**Tololo Astrono**	**2.44**	**165**	*e*P	P	12 16 00.1	+0.5
TLL				*i* S	S	12 16 29.1	+0.8
CPN1	**Cerro Paranal**	**3.33**	**18**	*e*P	P	12 16 12.1	0.0
CPN1				*i* S	S	12 16 50.5	-0.3
CPN1				AMP		12 17 13.0	
	comp=E,897nm,0.3s						

IDC ***23*** *12:20:04.5±1.3,55.19S×1.06W,mb4.1/4,mb1 4.2/5, mb1mx3.8/15,mbtmp4.1/5,ML4.1/1,MS4.2/5,Ms1 4.2/5, ms1mx3.5/18,Error ellipse: s-maj=69.9km s-min=28.4km az=93.0*
NEIC ***23*** *12:20:06.0±0.7,55.31S×1.29W,h10km,mb4.5/3,Error ellipse: s-maj=30.2km s-min=11.3km az=95.0*

ISC 23 12:20:04.1±0.9,55.21S±0.10×1.6W±0.3,h10km,n23, σ0§87/16,mb4.3/6,MS4.2/5,4C,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**15.78**	**188**⇑	*i*	**P**	**12 23 46.0**	**-1.6**
VNA1	**Neumayer--Stat**	**15.78**	**188**	*e*	**P**	**12 23 47.5**	**-0.1**
VNA2	**Neumayer--Watz**	**15.98**	**187**⇑	*i*	**P**	**12 23 49.4**	**-0.8**
VNA2	**Neumayer--Watz**	**15.98**	**187**	*e*	**P**	**12 23 51.3**	**+1.1**
VNA3	**Neumayer Olymp**	**16.48**	**189**⇑	*i*	**P**	**12 23 56.2**	**-0.3**
VNA3	**Neumayer Olymp**	**16.48**	**189**	*e*	**P**	**12 23 57.8**	**+1.3**
SNAA	**Sanae**	**16.54**	**181**	Pn	**P**	**12 23 56.9**	**-0.4**
	0.7nm,0.3s,baz=19,slow=14,SNR=59						
SNAA	**Sanae**	**16.54**	**181**	*e*P	**P**	**12 23 56.1**	**-1.2**
	7.5nm,0.6s						
SYO	**Syowa Base**	**23.09**	**143**	⇑P	**P**	**12 25 11.4**	**+1.1**
SUR	**Sutherland**	**27.72**	**44**	LR	LR	12 33 38.5	
	comp=Z,414nm,19.1s,MS4.0,baz=187,slow=30						
MAW	**Mawson**	**31.61**	**139**	LR	LR	12 36 05.4	
	comp=Z,471nm,18.9s,MS4.2,baz=109,slow=31						
QSPA	**South Pole Qui**	**35.03**	**180**	*e*P	**P**	**12 26 57.4**	**-0.9**
	12nm,0.9s,mb4.8						
USHA	**Ushuaia**	**37.01**	**242**	LR	LR	12 38 14.4	
	comp=Z,638nm,21.9s,MS4.4,baz=172,slow=29						
TSUM	**Tsumeb**	**38.77**	**30**	P	**P**	**12 27 29.2**	**-1.2**
	0.8nm,0.6s,mb3.6,baz=73,slow=19,SNR=2.1						
PLCA	**Paso Flores**	**46.47**	**258**	LR	LR	12 45 27.6	
	comp=Z,229nm,21.0s,MS4.1,baz=164,slow=33						
VNDA	**Vanda**	**47.13**	**175**	P	**P**	**12 28 37.6**	**+0.2**
	7.5nm,1.2s,mb4.5,baz=217,slow=8.0,SNR=7.9						
BDFB	**Brasilia**	**53.13**	**299**	LR	LR	12 47 05.3	
	comp=Z,265nm,18.6s,MS4.3,baz=176,slow=30						
SAML	**Samuel**	**66.69**	**289**	*e*P	**P**	**12 30 58.0**	**+0.8**
	3.2nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**87.69**	**149**	P	**P**	**12 32 54.4**	**+0.7**
	2.2nm,0.7s,mb4.5,baz=194,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**87.69**	**149**	P	**P**	**12 32 54.4**	**+0.7**
ASAR	**Alice Springs**	**92.72**	**140**	P	**P**	**12 33 17.6**	**+0.3**
	0.4nm,0.7s,mb4.0,baz=202,slow=4.2,SNR=5.4						
YKA	**Yellowknife Ar**	**146.09**	**310**	PKPbc	PKPbc	12 39 44.7	+1.7
	0.8nm,0.7s,baz=107,slow=3.1,SNR=23						
YKA	**Yellowknife Ar**	**146.09**	**310**	PKPbc	PKPbc	12 39 44.7	+1.7

IDC ***23*** *12:20:10.1±0.6,15.17S×173.79W,mb4.3/9,mb1 4.5/11

	33nm,0.9s							
ETSF	**Etsaut**	**151.81**	**11**	*e*PKP1	PKPdf	12 40 06.7	+8.6
	16nm,0.8s							
LMR	**La Mourre**	**151.99**	**360**	*e*PKP1	PKPdf	12 40 06.6	+8.3
PGF	**Pioggiola**	**152.67**	**356**	*e*PKP1	PKPdf	12 40 08.0	+8.7
	13nm,0.8s							

IDC ***23*** *12:38:12.2±0.9, 3.23S×145.79E, mb4.2/9, mb1 4.3/11, mb1mx4.3/14, mbtmp4.2/11, ML3.1/2, MS4.1/6, Ms1 4.1/6, ms1mx3.9/11, Error ellipse: s-maj=26.5km s-min=12.4km az=108.0*

BJI ***23*** *12:38:12.3, 2.80S×146.69E, h15km, mB5.1, mb4.5, Ms4.4, Msz4.2*

NEIC ***23*** *12:38:13.9±0.5, 3.29S×145.71E, h10km, mb5.0/6, Error ellipse: s-maj=11.1km s-min=8.4km az=87.0*

HRVD ***23*** *12:38:13.9±0.4, 3.38S×145.86E, h12km, MW4.7/53, Centroid moment Tensor Solution. LP body waves: s10,c10;Mantle waves: s53,c76; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.04±.10; Mθθ-0.16±.10; Mφφ0.11±.11; Mrθ-0.37±.32; Mθφ1.56±.06; Mφr0.00±.24; Best double couple: M₀1.609×10¹⁶ NP1:φ₁178°, δ77°, λ-180°. NP2:φ₂87°, δ90°, λ-13°. Principal axes: T 1.586, Plg9°, Azm133°; N .045, Plg77°, Azm267°; P -1.631, Plg9°, Azm42°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 12:38:15.7±0.5, 3.37S±0.06×145.73E±0.08, h33km, n36, σ0§97/38, mb4.7/18, MS4.1/8, 1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.16**	**167**	Pn	**Pn**	**12 39 44.6**	**-2.3**
	0.9nm,0.3s,baz=3.9,slow=6.0,SNR=8.2						
HNR	**Honiara**	**15.35**	**114**	*e*P	**P**	**12 41 51.0**	**-0.7**
	74nm,1.1s						
KAKA	**Kakadu**	**16.10**	**234**	*e*P	**P**	**12 42 01.8**	**+0.5**
	31nm,0.9s						
CTA	**Charters Tower**	**16.63**	**178**	Pn	**P**	**12 42 09.2**	**+1.3**
	0.1nm,0.3s,baz=342,slow=13,SNR=4.4						
CTAO	**Charters Tower**	**16.63**	**178**	*e*P	**P**	**12 42 09.8**	**+1.9**
	8.1nm,1.0s						
WRAB	**Tennant Creek**	**19.86**	**213**	P	**P**	**12 42 44.2**	**-2.7**
	323nm,1.1s,SNR=12						
WRAB	**Tennant Creek**	**19.86**	**213**	*e*P	**P**	**12 42 44.8**	**-2.1**
	114nm,1.1s						
WB2	**Warramunga Arr**	**19.87**	**213**	*i*P	**P**	**12 42 45.4**	**-1.6**
WB2				*e*S	**S**	**12 46 38.9**	**+15**
WRA	**Warramunga Arr**	**19.88**	**213**	P	**P**	**12 42 45.7**	**-1.4**
	24nm,1.0s,baz=38,slow=12,SNR=80						
WRA				S	**S**	**12 46 37.9**	**+14**
	0.5nm,1.0s,baz=301,slow=24,SNR=3.0						
ASAR	**Alice Springs**	**23.19**	**209**	P	**P**	**12 43 20.6**	**-0.1**
	7.1nm,1.0s,mB4.1,baz=36,slow=8.5,SNR=32						
ASAR				S	**S**	**12 47 34.2**	**+7.9**
	0.7nm,1.0s,baz=172,slow=32,SNR=2.7						
ASAR				LR	LR	12 52 29.3	
	comp=Z,267nm,19.0s,MS3.7,baz=43,slow=37						
ASPA	**Alice Springs**	**23.20**	**209**	*e*P	**P**	**12 43 21.6**	**+0.9**
ASPA				*e*S	**S**	**12 47 37.5**	**+11**
FITZ	**Fitzroy Crossi**	**24.53**	**232**	*e*P	**P**	**12 43 34.5**	**+0.7**
	51nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**24.53**	**232**	P	**P**	**12 43 33.9**	**+0.1**
	30nm,1.0s,mb4.8,baz=65,slow=7.4,SNR=7.5						
FITZ				LR	LR	12 53 52.2	
	comp=Z,444nm,18.0s,MS4.0,baz=80,slow=38						
DZM	**Mont Dzumac**	**27.38**	**134**	P	**P**	**12 44 00.9**	**+0.5**
	6.9nm,0.9s,mb4.2,baz=358,slow=17,SNR=4.5						
DZM				LR	LR	12 53 19.1	
	comp=Z,344nm,21.9s,MS3.9,baz=193,slow=33						
STKA	**Stephens Creek**	**28.62**	**187**	P	**P**	**12 44 13.1**	**+1.7**
	0.5nm,0.3s,mb3.8,baz=337,slow=15,SNR=2.5						
STKA	**Stephens Creek**	**28.62**	**187**	P	**P**	**12 44 13.1**	**+1.7**
URZ	**Urewera**	**45.01**	**145**	LR	LR	13 02 53.5	
	comp=Z,292nm,19.2s,MS4.2,baz=188,slow=33						
KMI	**Kunming**	**50.41**	**307**	P	**P**	**12 47 19.8**	**+7.5**
KMI				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,42nm,3.1s						
KMI				LR	LR		
	comp=N,212nm,17.8s						
KMI				LR	LR		
	comp=E,193nm,24.6s						
KMI				LR	LR		
	comp=Z,262nm,19.0s,MS4.3						
CHG	**Chiang Mai**	**51.04**	**297**	P	**P**	**12 47 21.3**	**+4.1**
LZH	**Lanzhou**	**55.41**	**319**	*e*P	**P**	**12 47 48.5**	**-0.8**
LZH				AP	pP	12 47 54.0	-5.4
LZH				XP	sP	12 48 01.5	-1.8
LZH				AMB	AMB		
	comp=Z,20nm,1.5s,mb4.9						
GTA	**Gaotai**	**59.92**	**320**	*e*P	**P**	**12 48 21.3**	**+0.2**
GTA				AP	pP	12 48 32.3	+1.1
GTA				XP	sP	12 48 36.1	+1.0
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.2						
SONM	**Songino Array**	**61.51**	**331**	P	**P**	**12 48 31.4**	**-0.3**
	comp=Z,0.9nm,1.0s,mb3.9,baz=153,slow=5.5,SNR=5.6						
JIRN	**Jiri**	**65.05**	**303**	*e*P	**P**	**12 48 56.0**	**+0.6**
GUN	**Gumba**	**65.39**	**303**	*e*P	**P**	**12 48 58.1**	**+0.6**
	comp=Z,75nm,1.4s,mb5.5						
KKN	**Kakani**	**65.85**	**302**	*e*P	**P**	**12 49 00.6**	**+0.1**
	comp=Z,44nm,1.1s,mb5.4						
DMN	**Daman**	**65.94**	**302**	*e*P	**P**	**12 49 01.4**	**+0.3**
	comp=Z,56nm,1.2s,mb5.5						
GKN	**Gorkha**	**66.46**	**302**	*e*P	**P**	**12 49 04.5**	**+0.1**
	comp=Z,67nm,1.3s,mb5.5						
KOLN	**Koldanda**	**67.27**	**302**	*e*P	**P**	**12 49 09.5**	**0.0**
	comp=Z,93nm,1.6s,mb5.6						
VNDA	**Vanda**	**74.60**	**176**	LR	LR	13 21 47.7	
	comp=Z,126nm,18.8s,MS4.2,baz=341,slow=35						
ZAL	**Zalesovo**	**76.13**	**328**	P	**P**	**12 50 00.5**	**-1.5**
	comp=Z,0.5nm,0.3s,mb3.9,baz=25,slow=5.2,SNR=3.6						
ZAL				LR	LR	13 23 40.1	
	comp=Z,140nm,19.8s,MS4.3,baz=280,slow=36						
KURK	**Kurchatov**	**78.36**	**323**	*e*P	**P**	**12 50 13.8**	**-0.6**
	comp=Z,21nm,1.4s,mb4.9						
KURK				LR	LR		
	comp=Z,59nm,20.0s,MS3.9						
BVAR	**Borovoye Array**	**83.91**	**324**	P	**P**	**12 50 43.7**	**+0.2**
	comp=Z,1.4nm,1.0s,mb4.1,baz=45,slow=6.1,SNR=5.3						
CHKZ	**Chkalovo**	**83.94**	**325**	*e*P	**P**	**12 50 44.1**	**+0.4**
	comp=Z,20nm,1.7s,mb5.0						
QSPA	**South Pole Qui**	**86.58**	**180**	P	**P**	**12 50 56.8**	**+0.5**
YKA	**Yellowknife Ar**	**97.44**	**27**	P	**P**	**12 51 47.5**	**+0.5**
	comp=Z,0.2nm,0.8s,mb3.6,baz=270,slow=4.9,SNR=2.5						
YKA	**Yellowknife Ar**	**97.44**	**27**	P	**P**	**12 51 47.5**	**+0.5**

ATH ***23*** *12:41:15.4, 39.68N×22.09E, h8km±4km, MD3.6/6*

NEIC ***23*** *12:41:15.4, 39.71N×22.09E, h10km, MD3.5(ATH), After ATH.*

CSEM ***23*** *12:41:17.5±0.1, 39.76N×22.13E, h15km, ML3.3, Error ellipse: s-maj=3.0km s-min=2.5km az=112.0*

THE ***23*** *12:41:19.1, 39.81N×22.18E, h20km, ML3.3*

SOF ***23*** *12:41:20.1, 40.01N×22.63E, h5km, MD3.0*

ISC 23 12:41:15.4±0.4, 39.73N±0.02×22.09E±0.04, h8km, n30, σ1§27/37, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	**Litokhoron**	**0.48**	**39**	*e*Pg	**Pg**	**12 41 26.8**	**+1.7**
LIT				*e*Sg	**Sg**	**12 41 32.9**	**+1.3**
KZN	**Kozani**	**0.63**	**337**	*e*PG	**Pg**	**12 41 27.9**	**-0.1**
KZN				*e*SB	**Sb**	**12 41 38.0**	**+1.1**
EVR	**Evrytania**	**0.84**	**195**	*e*PG	**Pg**	**12 41 30.2**	**-2.0**
EVR				*e*SB	**Sb**	**12 41 41.0**	**-1.9**
NEO	**Neokhori**	**0.97**	**115**	*e*PN	**Pn**	**12 41 34.2**	**-0.9**
NEO	**Neokhori**	**0.97**	**115**	*e*Pn	**Pn**	**12 41 34.8**	**-0.3**
THE	**Thessaloniki**	**1.13**	**36**	*e*Pg	**Pg**	**12 41 37.4**	**-0.5**
FNA	**Florina**	**1.19**	**333**	*e*Pg	**Pg**	**12 41 39.2**	**0.0**
FNA				*e*Sg	**Sg**	**12 41 54.8**	**-0.3**
PLG	**Polygyros**	**1.22**	**58**	*e*PB	**Pb**	**12 41 38.5**	**+0.1**
GRG	**Griva**	**1.25**	**11**	*e*Pg	**Pg**	**12 41 39.2**	**-1.2**
GRG				*e*Sg	**Sg**	**12 41 55.4**	**-1.8**
LKR	**Lokris**	**1.28**	**146**	*e*PB	**Pb**	**12 41 38.9**	**-0.5**
IGT	**Igoumenitsa**	**1.37**	**262**	*e*Pb	**Pb**	**12 41 43.8**	**+2.9**
AOS	**Alonnisos**	**1.49**	**111**	*e*Pb	**Pb**	**12 41 43.5**	**+0.5**
KNT	**Kendrikon**	**1.56**	**23**	*e*Pb	**Pb**	**12 41 44.1**	**0.0**
OUR	**Ouranopolis**	**1.57**	**67**	*e*Pb	**Pb**	**12 41 44.0**	**-0.3**
SRN	**Sarande**	**1.62**	**276**	*i*Pg	**Pg**	**12 41 52.8**	**+5.1**
SRN				*i*Sg	**Sg**	**12 42 07.7**	**-1.6**
VAY	**Valandovo**	**1.64**	**13**	*i*Sn	**Sn**	**12 42 13.6**	**+7.5**
OHR	**Ohrid**	**1.70**	**325**	*i*Sn	**Sn**	**12 42 13.2**	**+5.5**
RLS	**Riolos of Patr**	**1.73**	**197**	*e*PN	**Pn**	**12 41 47.9**	**+1.8**
KEK	**Kerkira**	**1.77**	**270**	*e*PN	**Pn**	**12 41 49.3**	**+2.7**
SRS	**Serrai**	**1.80**	**39**	*e*Pb	**Pb**	**12 41 47.3**	**-0.9**
VLS	**Valsamata**	**1.94**	**218**	*e*PN	**Pn**	**12 41 50.5**	**+1.5**
NVR	**Nevrokopi**	**2.11**	**39**	*e*PB	**Pb**	**12 41 51.8**	**-1.7**
MMB	**Musomiste**	**2.24**	**33**	*i*P	**Pn**	**12 41 53.0**	**-0.3**
SKO	**Skopje**	**2.30**	**348**	*e*Pn	**Pn**	**12 41 56.5**	**+2.3**
TIR	**Tirane**	**2.35**	**314**	*i*Pg	**Pg**	**12 42 01.7**	**-0.5**
TIR				*i*Sg	rx	12 42 10.3	
TIR	**Tirane**	**2.35**	**314**	*e*Pg	**Pg**	**12 42 01.7**	**-0.5**
QSH	**Qafa e Shtames**	**2.45**	**318**	*i*Pg	**Pg**	**12 42 12.5**	**+8.2**
QSH				*i*Sg	**Sg**	**12 42 33.5**	**-3.4**
RZN	**Rozhen**	**2.80**	**45**	*i*P	**Pn**	**12 42 01.0**	**-0.3**
VTS	**Vitosha**	**2.98**	**16**	*i*P	**Pn**	**12 42 05.0**	**+1.0**
VLI	**Veliai**	**3.08**	**167**	*e*PN	**Pn**	**12 42 05.9**	**+0.7**

NEIC ***23*** *12:44:20.7, 63.21N×149.69W, h96km, mb3.9/2, After AEIC.*

IDC ***23*** *12:44:23.6±5.7, 63.43N×149.57W, h121km±49km, mb3.4/8, mb1 3.6/10, mb1mx3.5/19, mbtmp3.8/10, Error ellipse: s-maj=44.7km s-min=16.7km az=47.0*

ISC 23 12:44:19.2±0.2, 63.21N±0.02×149.71W±0.06, h108km±3km, n86, σ0§72/91, mb3.8/10, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUR	**Hurricane**	**0.23**	**171**	P	**P**	**12 44 34.5**	**-0.1**
TRF	**Thorofare Moun**	**0.36**	**314**	P	**P**	**12 44 35.5**	**+0.3**
TRF				S	**S**	**12 44 47.0**	**-0.1**
RND	**Reindeer**	**0.44**	**62**	P	**P**	**12 44 36.0**	**+0.3**
MCK	**McKinley**	**0.63**	**33**	P	**P**	**12 44 37.3**	**+0.3**
MCK				S	**S**	**12 44 49.6**	**-0.8**
KTH	**Kantishna Hill**	**0.65**	**303**	P	**P**	**12 44 37.3**	**+0.2**
KTH				S	**S**	**12 44 49.7**	**-0.9**
CUT	**Chulitna**	**0.84**	**198**	P	**P**	**12 44 39.0**	**0.0**
BWN	**Browne**	**0.98**	**6**	P	**P**	**12 44 40.9**	**+0.6**
NEA	**Nenana**	**1.41**	**11**	P	**P**	**12 44 45.5**	**+0.2**
NEA				S	**S**	**12 45 04.1**	**-0.7**
GHO	**Glory Hole Cre**	**1.48**	**165**	P	**P**	**12 44 46.8**	**+0.6**
SML	**Sawmill**	**1.54**	**155**	P	**P**	**12 44 47.2**	**+0.3**
PWA	**Palmer West**	**1.56**	**183**	P	**P**	**12 44 47.6**	**+0.5**
PMR	**Palmer**	**1.64**	**170**	P	**P**	**12 44 48.6**	**+0.5**
CCB	**Clear Creek Bu**	**1.68**	**29**	P	**P**	**12 44 48.6**	**+0.1**
HDA	**Harding Lake**	**1.72**	**44**	P	**P**	**12 44 49.4**	**+0.3**
SCM	**Sheep Creek Mo**	**1.77**	**140**	P	**P**	**12 44 49.9**	**+0.2**
THY	**Trims Highway**	**1.80**	**81**	P	**P**	**12 44 51.5**	**+1.4**
DDM	**Donnelly Dome**	**1.82**	**70**	P	**P**	**12 44 51.1**	**+0.8**
COLA	**College**	**1.86**	**25**	P	**P**	**12 44 51.2**	**+0.3**
COLA				S	**S**	**12 45 14.0**	**-0.5**
MDM	**Murphy Dome**	**1.88**	**20**	P	**P**	**12 44 51.6**	**+0.6**
MLY	**Manley**	**1.89**	**347**	P	**P**	**12 44 51.7**	**+0.5**
KNK	**Knik Glacier**	**1.89**	**161**	P	**P**	**12 44 51.8**	**+0.5**
PAX	**Paxson**	**1.95**	**95**	P	**P**	**12 44 52.8**	**+0.9**
STLK	**Strandline Lak**	**1.98**	**211**	P	**P**	**12 44 52.3**	**0.0**
IL1	**Eielson Array**	**2.01**	**37**	P	**P**	**12 44 52.9**	**+0.2**
GLM	**Gilmore Dome**	**2.06**	**29**	P	**P**	**12 44 53.9**	**+0.4**
RC01	**Rabbit Creek A**	**2.12**	**180**	P	**P**	**12 44 55.6**	**+1.3**
CGLM	**Capps Glacier**	**2.19**	**210**	P	**P**	**12 44 55.8**	**+0.6**
SPU	**Mount Spurr**	**2.31**	**209**	P	**P**	**12 44 57.3**	**+0.5**
CKL	**Chakachamna La**	**2.36**	**213**	P	**P**	**12 44 57.2**	**-0.3**
DOT	**Dot Lake**	**2.58**	**78**	P	**P**	**12 45 00.3**	**-0.1**
VLZ	**Valdez**	**2.62**	**141**	P	**P**	**12 45 00.2**	**-0.8**
GLI	**Glacier Island**	**2.64**	**151**	P	**P**	**12 45 00.9**	**-0.4**
SLKM	**Skilak Lake**	**2.72**	**185**	P	**P**	**12 45 03.0**	**+0.7**
MENT	**Mentasta**	**2.74**	**93**	P	**P**	**12 45 02.8**	**+0.1**
DIV	**Divide**	**2.79**	**137**	P	**P**	**12 45 02.1**	**-1.2**
TT01	**Tatalina**	**2.89**	**267**	P	**P**	**12 45 04.2**	**-0.4**
DFR	**Drift River**	**2.98**	**210**	P	**P**	**12 45 06.8**	**+1.0**
NCT	**North Crescent**	**3.06**	**211**	P	**P**	**12 45 07.6**	**+0.7**
RDN	**Redoubt North**	**3.06**	**209**	P	**P**	**12 45 07.5**	**+0.5**
HIN	**Hinchinbrook I**	**3.21**	**150**	P	**P**	**12 45 08.0**	**-1.0**
EYAK	**Cordova Ski Ar**	**3.26**	**143**	P	**P**	**12 45 09.0**	**-0.7**
GLB	**Gilahina Butte**	**3.27**	**120**	P	**P**	**12 45 09.6**	**-0.3**
IM3	**Indian Mountai**	**3.29**	**330**	P	**P**	**12 45 09.9**	**-0.1**
LTI	**Latouche**	**3.30**	**164**	P	**P**	**12 45 09.2**	**-1.0**
IMA	**Indian Mountai**	**3.34**	**331**	*e*P	**P**	**12 45 11.2**	**+0.4**
SVW2	**Sparrevohn**	**3.47**	**235**	P	**P**	**12 45 12.0**	**-0.6**
ILIM	**Iliamna**	**3.50**	**208**	P	**P**	**12 45 13.1**	**+0.2**
GCSA	**Galena City Sc**	**3.52**	**299**	P	**P**	**12 45 13.1**	**0.0**
INE	**Iliamna NE**	**3.54**	**208**	P	**P**	**12 45 13.8**	**+0.3**
ILW	**Iliamna West**	**3.55**	**209**	P	**P**	**12 45 14.4**	**+0.7**
BCA3	**Beaver Creek A**	**3.60**	**89**	P	**P**	**12 45 13.7**	**-0.6**
CNPM	**China Poot**	**3.77**	**192**	P	**P**	**12 45 16.2**	**-0.4**
XLV	**Seldovia**	**3.89**	**195**	P	**P**	**12 45 17.4**	**-0.8**
OPT	**Oil Point**	**3.94**	**207**	P	**P**	**12 45 19.2**	**+0.2**
COLD	**Coldfoot**	**4.04**	**357**	P	**P**	**12 45 20.8**	**+0.5**
BALM	**Baldy**	**4.09**	**119**	P	**P**	**12 45 20.4**	**-0.6**
KAIM	**Kayak Island**	**4.15**	**140**	P	**P**	**12 45 20.6**	**-1.2**
AUW	**Augustine West**	**4.25**	**207**	P	**P**	**12 45 23.5**	**+0.3**
CTGM	**Chitina Glacie**	**4.54**	**116**	P	**P**	**12 45 26.9**	**-0.1**
DAWY	**Dawson**	**4.68**	**75**	P	**P**	**12 45 28.6**	**-0.4**
YAH	**Yahtse**	**4.74**	**123**	P	**P**	**12 45 29.6**	**-0.2**
BM3	**Burnt Mountain**	**4.74**	**25**	P	**P**	**12 45 29.7**	**-0.1**
SYI	**Shuyak Island**	**4.79**	**197**	P	**P**	**12 45 30.2**	**-0.3**
KAHC	**Katmai Hardscr**	**5.25**	**212**	P	**P**	**12 45 36.4**	**-0.3**
PNL	**Peninsula**	**6.09**	**121**	P	**P**	**12 45 47.2**	**-0.9**
WHY	**Whitehorse**	**7.45**	**103**	P	**P**	**12 46 06.6**	**-0.1**
ANPK	**Aniakchak Peak**	**7.64**	**217**	P	**P**	**12 46 08.9**	**-0.5**
TNA	**Tin City**	**8.23**	**295**	P	**P**	**12 46 17.2**	**-0.1**
INK	**Inuvik**	**8.38**	**45**	P	**P**	**12 46 19.8**	**+0.4**
	0.9nm,0.3s,baz=233,slow=16,SNR=62						
INK	**Inuvik**	**8.38**	**45**	*e*P	**P**	**12 46 18.4**	**-0.9**
SIT	**Sitka**	**9.45**	**124**	P	**P**	**12 46 32.2**	**-1.5**
SDPT	**Sand Point**	**9.60**	**220**	P	**P**	**12 46 33.8**	**-1.7**
YKA	**Yellowknife Ar**	**15.92**	**77**	P	**P**	**12 47 57.4**	**-0.4**
	0.2nm,0.3s,baz=290,slow=10,SNR=20						
EDM	**Edmonton**	**21.30**	**101**	*e*P	**P**	**12 48 59.0**	**+0.8**
NEW	**Newport**	**23.32**	**115**	P	**P**	**12 49 20.5**	**+2.8**
	1.3nm,0.5s,mb3.5,baz=105,slow=12,SNR=2.7						
FCC	**Fort Churchill**	**26.60**	**74**	P	**P**	**12 49 48.5**	**-0.2**
HLID	**Hailey**	**28.24**	**117**	P	**P**	**12 50 03.7**	**+0.1**
BW06	**Boulder Array**	**30.89**	**112**	*e*P	**P**	**12 50 27.0**	**-0.3**
	0.5nm,0.7s,mb3.4						
PDAR	**Pinedale Array**	**30.89**	**112**	P	**P**	**12 50 28.8**	**+1.6**
	0.5nm,0.5s,mb3.5,baz=11,slow=1.2,SNR=8.5						
SCHQ	**Schefferville**	**40.58**	**62**	P	**P**	**12 51 49.8**	**+0.8**
	1.9nm,0.9s,mb3.9,baz=245,slow=17,SNR=2.6						
TXAR	**Lajitas Array**	**44.84**	**117**	P	**P**	**12 52 25.8**	**+1.9**
	0.9nm,0.5s,mb3.8,baz=331,slow=6.2,SNR=17						
ARCES	**ARCESS Array B**	**47.50**	**2**	P	**P**	**12 52 43.8**	**-0.4**
	2.1nm,0.6s,mb4.0,baz=0.7,slow=7.1,SNR=9.0						
SONM	**Songino Array**	**54.17**	**306**	P	**P**	**12 53 35.5**	**+0.6**
	0.2nm,0.4s,mb3.5,baz=359,slow=7.6,SNR=3.8						
NOA	**NORSAR Array B**	**55.23**	**11**	P	**P**	**12 53 41.3**	**-1.2**
	1.0nm,1.0s,mb3.8,baz=336,slow=6.7,SNR=2.8						
CHKZ	**Chkalovo**	**59.27**	**333**	*e*P	**P**	**12 54 09.0**	**-2.0**
	1.1nm,0.4s,mb4.2						
BVAR	**Borovoye Array**	**59.93**	**333**	P	**P**	**12 54 14.9**	**-0.7**
	0.5nm,0.4s,mb3.9,baz=34,slow=5.2,SNR=4.5						

ROM ***23*** *13:20:44.9±0.8, 43.97N×10.09E, h10km±6km, MD2.5/3, Error ellipse: s-maj=1.9km s-min=1.7km az=90.0*

NEIC ***23*** *13:20:44.9, 43.97N×10.09E, h10km, MD2.5(ROM), ML2.4(LDG), ML2.3(GEN), After ROM.*

LDG ***23*** *13:20:46.4±0.2, 43.85N×9.77E, h10km, Ml2.4/4, Error ellipse: s-maj=4.6km s-min=2.5km az=62.0*

STR ***23*** *13:21:06.6±1.2, 44.33N×7.81E, h5km±1km, Ml1.9, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

ISC 23 13:20:41.2±0.6, 43.89N±0.04×9.83E±0.04, h2km±6km, n33, σ1§10/43, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VINC	**Vinca**	**0.34**	**42**	P	**Pg**	**13 20 48.6**	**+0.6**
VINC				S	**Sg**	**13 20 51.9**	**-0.7**
BACM		**0.43**	**24**	P	**Pg**	**13 20 50.3**	**+0.7**
BACM				S	**Sg**	**13 20 54.7**	**-0.7**
VLC	**Villacollemand**	**0.48**	**56**	*e*P	**Pg**	**13 20 50.7**	**-0.1**
CODM		**0.50**	**1**	P	**Pg**	**13 20 52.2**	**+1.0**
CODM				S	**Sg**	**13 20 57.9**	**0.0**
SARO	**Sassorosso**	**0.51**	**54**	P	**Pg**	**13 20 51.6**	**+0.3**
SARO				S	**Sg**	**13 20 56.9**	**-1.1**
PII	**Pisa**	**0.53**	**108**	*e*PG	**Pg**	**13 20 53.3**	**+1.6**
	49nm,0.2s						
PII	**Pisa**	**0.53**	**108**	*e*Pg	**Pg**	**13 20 53.3**	**+1.6**
VALM		**0.55**	**33**	P	**Pg**	**13 20 52.5**	**+0.4**
BDI	**Bagni Di Lucca**	**0.58**	**72**	*e*PG	**Pg**	**13 20 52.9**	**+0.2**
BDI				*e*SG	**Sg**	**13 20 58.5**	**-1.9**
	23nm,0.2s						
BDI	**Bagni Di Lucca**	**0.58**	**72**	*e*Pg	**Pg**	**13 20 52.9**	**+0.2**
BDI				*e*Sg	**Sg**	**13 20 58.5**	**-2.0**
GRAM		**0.63**	**15**	P	**Pg**	**13 20 54.1**	**+0.4**
ERBM	**Eremo**	**0.68**	**38**	*e*PG	**Pg**	**13 20 55.3**	**+0.6**
	39nm,0.1s						
ERBM	**Eremo**	**0.68**	**38**	*e*Pg	**Pg**	**13 20 55.3**	**+0.6**
GSCL	**Gusciola**	**0.71**	**49**	*e*PG	**Pg**	**13 20 55.9**	**+0.5**
	17nm,0.3s						
GSCL	**Gusciola**	**0.71**	**49**	*e*Pg	**Pg**	**13 20 55.9**	**+0.5**
BOB	**Bobbio (Coli)**	**0.92**	**343**	*e*PG	**Pg**	**13 21 03.0**	**+3.4**
BOB	**Bobbio (Coli)**	**0.92**	**343**	*e*Pg	**Pg**	**13 21 03.0**	**+3.5**
FNVD	**Fontana Vidola**	**0.97**	**73**	*e*PG	**Pg**	**13 21 01.2**	**+0.6**
FNVD	**Fontana Vidola**	**0.97**	**73**	*e*Pg	**Pg**	**13 21 01.2**	**+0.7**
PGD	**Poggio Sodo**	**1.36**	**90**	*e*PN	**Pn**	**13 21 07.2**	**-0.1**
	5.0nm,0.3s						
PGD	**Poggio Sodo**	**1.36**	**90**	*e*Pg	**Pg**	**13 21 07.2**	**-1.2**
SFI	**Santa Sofia**	**1.46**	**89**	*e*PN	**Pn**	**13 21 08.6**	**0.0**
	6.0nm,0.3s						
SFI	**Santa Sofia**	**1.46**	**89**	*e*Pg	**Pg**	**13 21 08.6**	**-1.6**
PGF	**Pioggiola**	**1.47**	**205**	*e*Pn	**Pn**	**13 21 10.7**	**+1.9**
PGF				*e*Sn	**Sn**	**13 21 28.5**	**-0.4**
	1.8nm,0.2s						
SAOF	**Saorge**	**1.65**	**274**	Pg	**Pg**	**13 21 13.4**	**-0.7**
SAOF				Sg	rx	13 21 20.6	
SBF	**Sospel**	**1.73**	**270**	*e*Pn	**Pn**	**13 21 14.1**	**+1.5**
SBF				*e*Sn	**Sn**	**13 21 34.8**	**-0.8**
	4.6nm,0.3s						
AUTN	**L'Aution**	**1.74**	**274**	Pg	**Pg**	**13 21 15.1**	**-0.8**
AUTN				Sg	rx	13 21 20.6	
TOUF	**Mont Tournerai**	**1.87**	**275**	Pg	**Pg**	**13 21 17.4**	**-1.1**
TOUF				Sg	rx	13 21 23.4	
MVIF	**Mont Vial**	**1.94**	**271**	Pg	**Pg**	**13 21 18.5**	**-1.4**
FRF	**La Foret Royal**	**2.33**	**263**	*e*Pn	**Pn**	**13 21 22.6**	**+1.5**
FRF				*e*Sn	**Sn**	**13 21 48.9**	**-1.9**
	5.2nm,0.3s						
MBDF	**Montbardon**	**2.35**	**292**	*e*Pn	**Pn**	**13 21 23.3**	**+1.9**
LMR	**La Mourre**	**2.48**	**258**	*e*Pn	**Pn**	**13 21 24.2**	**+1.0**
LMR				*e*Sn	**Sn**	**13 21 52.2**	**-2.3**
	3.1nm,0.2s						
SMRF	**Simiane la Rot**	**3.08**	**273**	*e*Pn	**Pn**	**13 21 32.6**	**+0.8**

BJI ***23*** *13:30:27.6, 10.11S×161.53E, h76km, mB5.2, mb5.2, Ms5.0, Msz4.5*

NEIC ***23*** *13:30:29.4±0.2, 10.15S×161.37E, mb5.3/38, Error ellipse: s-maj=6.1km s-min=4.6km az=104.0*

IDC ***23*** *13:30:29.4±0.4, 10.17S×161.56E, h72km±3km, mb4.9/16, mb1 4.9/19, mb1mx4.9/21, mbtmp5.2/19, MS4.1/6, Ms1 4.1/6, ms1mx4.0/12, Error ellipse: s-maj=15.5km s-min=10.6km az=90.0*

HRVD ***23*** *13:30:29.5±0.3, 10.20S×161.50E, h74km±2km, MW5.1/51, Centroid moment Tensor Solution. LP body waves: s45,c61;Mantle waves: s51,c82; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.09±.17; Mθθ-3.64±.14; Mφφ-0.45±.17; Mrθ-0.96±.14; Mθφ1.87±.17; Mφr1.85±.12; Best double couple: M₀4.788×10¹⁶ NP1:φ₁99°, δ37°, λ64°. NP2:φ₂311°, δ58°, λ108°. Principal axes: T 4.757, Plg71°, Azm264°; N .053, Plg15°, Azm

comp=Z,27nm,0.4s,mb5.4
CBIJ Chichi jima 41.43 334 P **P** **13 38 09.1 -0.1**
comp=Z,51nm,0.6s,mb5.5,baz=298,slow=22,SNR=6.3
CBIJ pP pP 13 38 28.1 +1.1
comp=Z,84nm,0.7s,baz=312,slow=16,SNR=3.2
KLBR Kellerberrin 45.58 235⇑*iP* **P** **13 38 43.0 +0.2**
comp=Z,175nm,0.5s,mb6.0
NWAO Narrogin (SRO) 46.42 234 *e*P **P** **13 38 48.8 -0.6**
NWAO pmax pmax
comp=Z,56nm,1.0s
NWAO Narrogin (SRO) 46.42 234 *e*P **P** **13 38 48.8 -0.6**
comp=Z,56nm,1.0s,mb5.2
MUN Mundaring 46.95 236⇑*iP* **P** **13 38 54.3 +0.7**
comp=Z,29nm,1.0s,mb5.0
MUN Mundaring 46.95 236⇑*iP* **P** **13 38 54.3 +0.7**
MUN pmax pmax
comp=Z,29nm,1.0s,mb5.0
KKM Kota Kinabalu 47.73 288 *e*P **P** **13 38 59.0 -0.9**
PAE Paea 48.12 105 *e*P **P** **13 39 02.3 -0.6**
comp=Z,28nm,1.0s,mb5.0
PPT Papeete 48.12 104 *e*S **S** **13 45 50.0 -5.0**
PPT *e*LR LR 13 52 41.0
comp=Z,282nm,25.2s
TVO Taravao 48.44 105 *e*P **P** **13 39 05.3 0.0**
comp=Z,35nm,1.0s,mb5.1
TBI Tubuai 48.68 112 *e*LR LR 13 53 13.0
JOW Kunigami 48.80 320 P **P** **13 39 09.9 +1.9**
comp=Z,37nm,0.8s,mb5.4,baz=160,slow=10,SNR=4.0
PMOR Pomariorio Ree 49.70 101 *e*P **P** **13 39 15.1 -0.1**
comp=Z,30nm,1.0s,mb5.2
MAJO Matsushiro 51.30 336 *e*P **P** **13 39 24.9 -2.1**
MAJO pmax pmax
comp=Z,13nm,0.7s,mb5.1
MAJO Matsushiro 51.30 336 *e*P **P** **13 39 24.9 -2.1**
comp=Z,13nm,0.7s,mb5.1
MAT Matsushiro 51.30 336 *e*P **P** **13 39 26.0 -1.0**
MAT S **S** **13 46 37.0 -1.9**
MAT pmax pmax
comp=Z,17nm,0.8s,mb5.1
MAT Matsushiro 51.30 336 *e*P **P** **13 39 26.0 -1.0**
comp=Z,17nm,0.8s,mb5.1
MAT S **S** **13 46 37.0 -1.9**
MAT Matsushiro 51.30 336 P **P** **13 39 26.3 -0.7**
MAT *e*S **S** **13 46 37.0 -1.9**
KSM Kuching 52.08 280 *e*P **P** **13 39 31.9 -1.3**
YHNB Yeheng 52.13 312 *e*P **P** **13 39 32.6 -0.8**
SSE Sheshan 56.25 318 P **P** **13 40 02.3 -1.2**
SSE S **S** **13 47 38.9 -7.0**
SSE SS SS 13 51 32.5 -1.3
SSE AMB AMB
comp=Z,14nm,0.6s,mb5.2
SSE AMB AMB
comp=Z,89nm,4.7s
ASAJ Asahikawa 56.63 344 P **P** **13 40 06.8 +0.8**
comp=Z,70nm,0.9s,mb5.7,baz=221,slow=9.8,SNR=26
KS15 Wonju Array Si 56.78 328 *e*P **P** **13 40 07.1 -0.1**
INCN Inchon 57.47 328 *e*P **P** **13 40 11.6 -0.5**
comp=Z,116nm,1.2s,mb5.8
INCN *e*pP pP 13 40 32.6 +1.8
YSS Yuzh-Sakhalins 59.22 345⇑*iP* **P** **13 40 23.8 -0.3**
YSS pmax pmax
comp=Z,30nm,0.9s,mb5.3
DL2 Dalian 61.22 325 P **P** **13 40 38.8 +1.0**
DL2 AMB AMB
comp=Z,40nm,1.1s,mb5.4
MDJ Mudanjiang 61.62 335 P **P** **13 40 40.8 +0.4**
MDJ AP pP 13 41 02.1 +2.8
MDJ XP sP 13 41 08.6 +1.0
MDJ PP PP 13 42 57.5 -1.5
MDJ SCP 13 45 14.8
MDJ PCS 13 45 21.9
MDJ S **S** **13 48 59.5 +4.3**
MDJ XS 13 49 31.3
MDJ AMB AMB
comp=Z,39nm,1.1s,mb5.3
MDJ AMB AMB
comp=Z,63nm,4.5s
MDJ LR LR
comp=N,55nm,25.0s
MDJ LR LR
comp=E,86nm,23.8s
MDJ LR LR
comp=Z,150nm,25.4s
MDJ Mudanjiang 61.62 335 *e*P **P** **13 40 40.5 +0.1**
comp=Z,50nm,1.1s,mb5.5
MDJ *e*pP pP 13 41 00.6 +1.3
RKT Rikitea 61.96 111 *e*S **S** **13 49 01.2 +1.4**
RKT *e*LR LR 13 59 04.1
comp=Z,393nm,30.5s
SNY Shenyang 62.27 329⇑P **P** **13 40 44.5 -0.3**
SNY AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
SNY LR LR
comp=Z,150nm,18.8s
KULM Kulim 62.35 281 P **P** **13 40 44.9 -0.9**
KULM *e*pP pP 13 41 05.0 +0.3
CN2 Changchun 62.82 332⇑*e*P **P** **13 40 48.6 +0.1**
CN2 *e*AP pP 13 41 09.6 +2.1
CN2 *e*XP sP 13 41 16.1 +0.4
CN2 PCP PcP 13 41 25.4 -0.6
CN2 *e*S **S** **13 49 11.8 +1.4**
CN2 AMB AMB
comp=Z,80nm,0.8s,mb5.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,18.0s
CN2 LR LR
comp=E,200nm,18.0s
CN2 LR LR
comp=Z,200nm,19.0s
PET Petropavlovsk 62.97 358 *e*P **P** **13 40 49.0 -0.3**
PET *e* 13 49 08.0
PET pmax pmax
comp=Z,35nm,1.2s,mb5.2
PET Petropavlovsk 62.97 358 *e*P **P** **13 40 48.7 -0.6**
comp=Z,20nm,1.1s,mb5.0
FX1 Attu Island--F 63.60 8 *e*P **P** **13 40 53.0 -0.5**
ENH Enshi 64.00 311 *e*P **P** **13 40 55.1 -1.3**
comp=Z,21nm,0.8s,mb5.0
ENH *e*pP pP 13 41 15.6 0.0
KIWB Kanaga Island 64.49 15 *e*P **P** **13 40 58.8 -0.5**
KIWB *e*pP pP 13 41 20.2 +1.9
KLR Kul'dur 64.60 339 *e*P **P** **13 40 56.9 -3.1**
KLR pmax pmax
comp=Z,30nm,1.2s,mb5.0
BJI Beijing 65.12 323 P **P** **13 41 03.4 -0.2**
BJI AP pP 13 41 22.5 -0.1
BJI XP sP 13 41 29.5 -1.1
BJI PCP PcP 13 41 31.3 -4.2
BJI S S 13 49 39.3 +0.4
BJI AMB AMB
comp=Z,23nm,0.9s,mb5.0
BJI LR LR
comp=N,94nm,12.8s
BJI LR LR
comp=E,193nm,15.5s
BJI LR LR
comp=Z,183nm,37.3s
CASY Casey 65.67 200⇑*iP* **P** **13 41 05.8 -0.8**
NST Nakhon Sawan 65.80 292 P **P** **13 41 08.0 -0.3**
NANT Nan 66.34 296 P **P** **13 41 11.0 -0.7**
XAN Xi'an 66.35 314 P **P** **13 41 11.1 -0.4**
XAN AMB AMB
comp=Z,28nm,0.8s,mb5.1
KMI Kunming 66.98 303⇑P **P** **13 41 16.3 +0.7**
KMI AP pP 13 41 36.6 +1.8
KMI XP sP 13 41 46.1 +3.5
KMI PP PP 13 43 48.1 +2.5
KMI S S 13 50 05.4 +3.7
KMI AMB AMB
comp=Z,13nm,1.4s,mb4.6
KMI AMB AMB
comp=Z,98nm,5.9s
KMI LR LR
comp=Z,77nm,26.2s
VNDA Vanda 67.35 180 P **P** **13 41 16.6 -0.5**
VNDA *SP sP 13 41 43.1 -1.0
VNDA Vanda 67.35 180 P **P** **13 41 16.6 -0.5**
comp=Z,12nm,0.8s,mb4.8,baz=345,slow=7.0,SNR=28
VNDA pP pP 13 41 35.5 -0.8
comp=Z,5.1nm,0.8s,baz=340,slow=9.2,SNR=3.5
VNDA sP sP 13 41 43.1 -1.0
comp=Z,11nm,0.8s,baz=352,slow=6.1,SNR=5.6
CHRT Chiangrai 67.53 296⇑P **P** **13 41 18.5 -0.6**
comp=Z,124nm,0.8s,mb5.8
CM31 Chiang Mai Arr 67.79 295 *e*P **P** **13 41 20.7 -0.1**
comp=Z,3.4nm,0.4s,mb4.5
CM31 *e*pP pP 13 41 42.4 +2.4
CHG Chiang Mai 67.91 295⇑P PcP 13 41 43.5 -4.0
comp=Z,14nm,0.9s
HHC Hu-ho-hao-te 68.39 321 *e*P **P** **13 41 24.9 +0.8**
HHC AP pP 13 41 43.8 +0.4
HHC XP sP 13 41 52.8 +1.6
HHC PP PP 13 43 57.5 -0.5
HHC S S 13 50 20.8 +2.3
HHC PS PS 13 50 55.8 +2.1
HHC SCS ScS 13 51 15.4 +2.0
HHC SS SS 13 54 47.4 +2.7
HHC AMB AMB
comp=Z,31nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,110nm,4.2s
CD2 Chengdu 68.64 309⇑*iP* **P** **13 41 25.8 -0.1**
BTO Baotou 69.21 321 *e*P **P** **13 41 29.4 +0.2**
BTO AMB AMB
comp=Z,33nm,1.0s,mb5.1
HIA Hailar 69.51 332 *e*P **P** **13 41 31.0 +0.1**
HIA *e**PP pP 13 41 51.7 +1.5
HIA pmax pmax
comp=Z,57nm,0.9s
HIA Hailar 69.51 332 *e*P **P** **13 41 31.0 +0.1**
comp=Z,57nm,0.9s,mb5.4
HIA *e*pP pP 13 41 51.7 +1.4
MA2 Magadan 70.01 354*ce*P **P** **13 41 33.0 -0.8**
MA2 *e* pP 13 41 52.7 -0.4
MA2 *e**PP tx 13 42 15.5
MA2 *e*S S 13 50 29.5 -7.7
MA2 pmax pmax
comp=Z,10.0nm,1.3s,mb4.5
MA2 pmax pmax
comp=N,7.0nm,1.4s
MA2 pmax pmax
comp=E,2.0nm,0.9s
MA2 Magadan 70.01 354 *e*P **P** **13 41 32.5 -1.2**
comp=E,19nm,1.1s,mb4.8
LZH Lanzhou 70.98 314⇑P **P** **13 41 41.0 +1.0**
LZH AP pP 13 42 02.0 +2.6
LZH XP sP 13 42 07.5 +0.4
LZH AMB AMB
comp=Z,42nm,1.4s,mb5.1
SEY Seymchan 73.19 356 *e*P **P** **13 41 54.8 +2.2**
SEY pmax pmax
comp=Z,20nm,0.8s,mb5.0
CLNS Chul'man 73.20 340 *e*P **P** **13 41 54.2 +1.4**
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,49nm,0.9s,mb5.3
ULN Ulaanbaatar 75.08 326 *e*P **P** **13 42 05.0 +1.2**
ULN *e**PP pP 13 42 23.4 0.0
ULN pmax pmax
comp=Z,70nm,0.9s,mb5.4
ULN Ulaanbaatar 75.08 326 *e*P **P** **13 42 05.0 +1.2**
comp=Z,70nm,0.9s,mb5.4
ULN *e*pP pP 13 42 23.4 0.0
GTA Gaotai 75.35 315⇑*iP* **P** **13 42 07.0 +1.5**
GTA PP PP 13 44 57.8 +0.8
GTA S S 13 51 41.4 +3.4
GTA AMB AMB
comp=Z,174nm,5.7s
GTA LR LR
comp=N,65nm,18.2s
GTA LR LR
comp=E,146nm,17.5s
GTA LR LR
comp=Z,166nm,25.9s
SONM Songino Array 75.43 325 P **P** **13 42 07.1 +1.3**
comp=Z,53nm,0.8s,mb5.3,baz=140,slow=5.6,SNR=388
SONM pP pP 13 42 26.2 +0.8
comp=Z,37nm,0.8s,baz=136,slow=5.4,SNR=11
YAK Yakutsk 76.08 345 *e*P **P** **13 42 09.3 +0.1**
YAK pmax pmax
comp=Z,41nm,0.9s,mb5.2
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.1
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK Yakutsk 76.08 345 *e*P **P** **13 42 08.8 -0.4**
comp=E,191nm,1.3s,mb5.7
YAK *e*pP pP 13 42 27.9 -0.9
BOD Bodaibo 77.93 336 *e*P **P** **13 42 18.8 -0.8**
BOD pmax pmax
comp=Z,22nm,1.1s,mb4.8
BILL Bilibino 78.08 2*α iP* **P** **13 42 20.6 +0.4**
BILL *e* 13 42 58.6
BILL pmax pmax
comp=Z,76nm,1.5s,mb5.2
BILL Bilibino 78.08 2 *e*P **P** **13 42 20.3 +0.1**
comp=Z,44nm,1.0s,mb5.2
BILL *e*pP pP 13 42 38.7 -1.1
LSA Lhasa 78.23 303 *e*P **P** **13 42 24.5 +2.7**
LSA Lhasa 78.23 303 P **P** **13 42 23.0 +1.2**
ZAK Zakamensk 78.52 326 *i* P **P** **13 42 23.2 +0.2**
ZAK pmax pmax
comp=Z,27nm,1.1s,mb5.0
SVW2 Sparrevohn 78.69 20 *e*P **P** **13 42 24.1 +0.4**
TNA Tin City 78.89 13 *e*P **P** **13 42 24.4 -0.4**
comp=Z,12nm,1.1s,mb4.6
TNA *e*pP pP 13 42 43.7 -0.7
IRK Irkutsk 78.99 328 *e*P **P** **13 42 25.2 -0.4**
IRK pmax pmax
comp=Z,42nm,2.0s,mb4.9
TLY Talaya 79.01 328*c iP* **P** **13 42 25.7 0.0**
TLY pmax pmax
comp=Z,48nm,1.0s,mb5.3
TLY Talaya 79.01 328 *e*P **P** **13 42 25.4 -0.3**
comp=Z,38nm,0.9s,mb5.2
TLY *e*pP pP 13 42 43.1 -2.3
QSPA South Pole Qui 79.84 180 *e*P **P** **13 42 29.8 +0.1**
comp=Z,49nm,0.8s,mb5.4
SLKM Skilak Lake 80.16 22 *e*P **P** **13 42 32.3 +0.6**
SLKM *e*pP pP 13 42 52.2 +0.8
MOY Mondy 80.42 327 *e*P **P** **13 42 34.1 +0.8**
MOY pmax pmax
comp=Z,29nm,1.5s,mb4.9
PWA Palmer West 81.04 21 *e*P **P** **13 42 36.5 +0.1**
PMR Palmer 81.28 22 *e*P **P** **13 42 37.5 -0.1**
SML Sawmill 81.70 22 *e*P **P** **13 42 40.1 +0.3**
JIRN Jiri 81.78 300 *e*P **P** **13 42 41.4 +0.5**
comp=Z,24nm,1.1s,mb4.9
GUN Gumba 82.11 300 *e*P **P** **13 42 42.4 -0.2**
comp=Z,18nm,0.8s,mb4.9
DIV Divide 82.24 23 *e*P **P** **13 42 42.8 +0.2**
comp=Z,62nm,0.9s,mb5.4
PKI Pulchoki 82.42 300 *e*P **P** **13 42 44.1 -0.1**
comp=Z,19nm,0.8s,mb5.0
KKN Kakani 82.59 300 *e*P **P** **13 42 45.0 -0.1**
comp=Z,31nm,1.2s,mb5.0
DMN Daman 82.69 300 *e*P **P** **13 42 46.5 +0.9**
comp=Z,45nm,0.8s,mb5.3
MCK McKinley 82.75 20 *e*P **P** **13 42 44.8 -0.3**
MCK pmax pmax
comp=Z,40nm,1.1s,mb5.2
MCK McKinley 82.75 20 *e*P **P** **13 42 44.8 -0.3**
comp=Z,40nm,1.1s,mb5.2
IMA Indian Mountai 82.87 17 *e*P **P** **13 42 46.8 +1.1**
GKN Gorkha 83.19 300 *e*P **P** **13 42 48.2 +0.1**
comp=Z,82nm,1.1s,mb5.5
COLA College 83.85 19 *e*P **P** **13 42 50.4 -0.2**
MAW Mawson 83.90 202 P **P** **13 42 51.5 +0.7**
MAW pmax pmax
comp=Z,84nm,1.1s
MAW Mawson 83.90 202 P **P** **13 42 52.1 +1.3**
comp=Z,19nm,1.2s,mb4.8,baz=270,slow=12,SNR=2.8
MAW pP pP 13 43 12.3 +1.6
comp=Z,11nm,0.7s,baz=98,slow=6.0,SNR=3.7
MAW sP sP 13 43 18.5 0.0
comp=Z,72nm,1.1s,baz=89,slow=8.2,SNR=8.2
MAW Mawson 83.90 202 P **P** **13 42 51.5 +0.7**
comp=Z,84nm,1.1s,mb5.5
KOLN Koldanda 84.02 299 *e*P **P** **13 42 51.9 -0.5**
comp=Z,25nm,0.8s,mb5.1
MENT Mentasta 84.10 22 *e*P **P** **13 42 53.0 +1.1**
TIXI Tiksi 84.44 350 *e*P **P** **13 42 50.1 -3.3**
TIXI *e* 13 52 55.0
TIXI *e*S S 13 53 02.9 -9.4
TIXI pmax pmax
comp=Z,25nm,1.4s,mb4.8
WMQ Urumqi 85.42 316⇑*iP* **P** **13 42 59.4 +0.5**
WMQ AP pP 13 43 20.0 +1.1
WMQ XP sP 13 43 28.0 +1.4
WMQ PP PP 13 46 20.0 +0.8
WMQ SKS SKS 13 53 14.0 -0.2
WMQ PS PS 13 54 31.0 +0.9
WMQ AMB AMB
comp=Z,13nm,1.4s,mb4.7
WMQ AMB AMB
comp=Z,117nm,4.0s
WMQ LR LR
comp=N,332nm,24.0s
WMQ LR LR
comp=E,294nm,23.4s
WMQ LR LR
comp=Z,347nm,21.2s
DAWY Dawson 86.34 22 *e*P **P** **13 43 03.7 +0.8**
DLBC Dease Lake 87.73 29 LR LR 14 23 57.9
comp=Z,151nm,18.2s,baz=312,slow=37
WVOR Wild Horse Val 89.52 47 *e*P **P** **13 43 20.0 +1.3**
WVOR pmax pmax
comp=Z,17nm,1.2s,mb5.0
WVOR Wild Horse Val 89.52 47 *e*P **P** **13 43 20.0 +1.3**
comp=Z,17nm,1.2s,mb5.0
WVOR *e*pP pP 13 43 39.1 +0.3
ZAL Zalesovo 90.33 325 P **P** **13 43 21.8 -0.4**
comp=Z,1.6nm,0.6s,mb4.4,baz=351,slow=6.0,SNR=14
ZAL pP pP 13 43 41.4 -1.0
comp=Z,1.5nm,0.7s,baz=346,slow=5.8,SNR=2.9
ZAL Zalesovo 90.33 325 P **P** **13 43 21.8 -0.4**
ZAL pP pP 13 43 41.4 -1.0
INK Inuvik 90.50 20 *e*P **P** **13 43 22.4 -0.3**
INK pmax pmax
comp=Z,15nm,1.3s
INK Inuvik 90.50 20 LR LR 14 17 34.5
comp=Z,103nm,21.1s,baz=54,slow=31
INK Inuvik 90.50 20 *e*P **P** **13 43 22.4 -0.3**
comp=Z,15nm,1.3s,mb5.0
BMO Blue Mountains 91.03 45 *e*P **P** **13 43 26.9 +1.2**
BMO pmax pmax
comp=Z,15nm,1.5s,mb4.9
BMO Blue Mountains 91.03 45 *e*P **P** **13 43 26.9 +1.2**
comp=Z,15nm,1.5s,mb4.9
NVS Novosibirsk 91.46 326 *i* P **P** **13 43 26.3 -1.1**
NVS pmax pmax
comp=Z,16nm,1.0s,mb5.1
NVS pmax pmax
comp=N,4.0nm,1.1s
NVS pmax pmax
comp=E,11nm,1.1s
NEW Newport 91.93 41 *e*P **P** **13 43 30.3 +0.5**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 91.93 41 *e*P **P** **13 43 30.3 +0.6**
comp=Z,5.9nm,0.9s,mb4.8
NEW *e*pP pP 13 43 49.7 -0.3
HLID Hailey 92.79 46 *e*P **P** **13 43 34.9 +1.1**
comp=Z,10.0nm,1.1s,mb5.1
HLID *e*pP pP 13 43 54.7 +0.6
KSH Kashi 92.83 309 P **P** **13 43 34.4 +0.2**
KSH *e*AP pP 13 43 56.0 +1.6
KSH *e*XP sP 13 44 03.1 +1.3
KSH *e*PPP PPP 13 49 22.0 -0.1
KSH *e*SKS SKS 13 54 00.3 +0.5
KSH *e*S S 13 54 30.8 +0.2
KSH *e*XS 13 55 07.3
KSH *e*SS SS 14 00 48.4 -1.0
KSH AMB AMB
comp=Z,250nm,3.9s
KSH LR LR
comp=N,350nm,4.9s
KSH LR LR
comp=E,360nm,4.7s
KURK Kurchatov 93.20 321⇑*iP* **P** **13 43 34.9 -0.6**
KURK Kurchatov 93.20 321 *e*P **P** **13 43 34.5 -1.1**
comp=E,26nm,1.3s,mb5.4
AAK Ala-Archa 94.48 312 *i* P **P** **13 43 40.2 -1.3**
AAK pmax pmax
comp=Z,8.0nm,2.5s,mb4.6
BOZ Bozeman (W) 95.11 45 *e*P **P** **13 43 45.0 +0.6**
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
BOZ Bozeman (W) 95.11 45 *e*P **P** **13 43 45.0 +0.6**
comp=Z,3.9nm,1.1s,mb4.8
QLMT Earthquake Lak 95.12 46 P **P** **13 43 44.7 +0.3**
EDM Edmonton 95.26 37 *e*P **P** **13 43 44.9 +0.1**
PDAR Pinedale Array 96.16 48 P **P** **13 43 49.9 +0.7**
comp=Z,0.8nm,1.0s,mb4.1,baz=207,slow=3.3,SNR=4.9
PDAR sP sP 13 44 15.9 -0.8
comp=Z,0.9nm,0.7s,baz=286,slow=2.7,SNR=4.7
YKA Yellowknife Ar 96.19 28 P **P** **13 43 48.5 -0.3**
comp=Z,5.4nm,0.9s,mb5.0,baz=257,slow=4.6,SNR=82
YKA pP pP 13 44 08.5 -0.5
comp=Z,3.1nm,0.8s,baz=257,slow=4.7,SNR=8.0
YKA Yellowknife Ar 96.19 28 P **P** **13 43 48.5 -0.3**
YKA pP pP 13 44 08.6 -0.5
YKW3 Yellowknife Ar 96.20 28 *e*P **P** **13 43 47.8 -1.1**
ANMO Albuquerque 97.53 56 *i* P **P** **13 43 56.5 +0.9**
CHKZ Chkalovo 98.52 323 *e*P **P** **13 43 58.0 -1.6**
CHKZ pmax pmax
comp=Z,123nm,1.2s
CHKZ Chkalovo 98.52 323 *e*P **P** **13 43 58.0 -1.6**
comp=Z,123nm,1.2s
VNA3 Neumayer Olymp 98.56 183 P **P** **13 43 58.1 -1.3**
VNA3 *e* pP 13 44 17.4 -2.3
VNA3 *e* 13 44 25.8
BVAR Borovoye Array 98.59 322 P **P** **13 43 59.0 -0.9**
comp=Z,4.2nm,0.8s,mb5.0,baz=90,slow=5.9,SNR=24
BVAR pP pP 13 44 20.1 -0.1
comp=Z,3.8nm,0.9s,baz=170,slow=9.0,SNR=6.6
VNA2 Neumayer--Watz 98.74 184⇑*iP* **P** **13 44 00.5 +0.2**
VNA2 *e* pP 13 44 20.1 -0.4
VNA2 *e* 13 44 27.7
VNA1 Neumayer--Stat 99.07 183⇑*iP* **P** **13 44 01.4 -0.4**
VNA1 *e* pP 13 44 22.2 +0.2
VNA1 *e* 13 44 31.3
ARCES ARCESS Array B 114.35 344 PKP PKPdf 13 48 59.7 +0.6
comp=Z,0.9nm,0.3s,baz=79,slow=1.6,SNR=26
OBN Obninsk 117.77 328 PKIKP PKPdf 13 49 06.0 +0.1
OBN *e*PS PS 13 59 56.9 -9.3
FINES FINESS Array B 119.32 337 PKP PKPdf 13 49 09.2 +0.4
comp=Z,0.6nm,0.5s,baz=72,slow=6.0,SNR=5.9
FINES pPKP 13 49 30.4
comp=Z,2.2nm,0.9s,baz=333,slow=4.3,SNR=4.2
SOC Sochi 119.70 315 *i* PKIKP PKPdf 13 49 08.5 -1.5
SOC *e* 13 50 35.0
SOC *e*PPP PPP 13 53 05.3 -5.8
SOC *e* 13 55 50.3
SOC *e*PS PS 14 00 23.9 +0.1
SOC *e*SS SS 14 06 44.2 -9.1
SOC *e*SSS SSS 14 11 11.4 -10
SOC pmax pmax
comp=Z,33nm,1.3s
SOC pmax pmax
comp=N,24nm,1.0s
SOC pmax pmax
comp=E,31nm,1.1s
SCHQ Schefferville 121.52 30 PKP PKPdf 13 49 13.5 +0.2
comp=E,1.7nm,0.7s,baz=14,slow=7.0,SNR=4.4
SCHQ pPKP 13 49 34.6
comp=Z,2.9nm,1.0s,baz=191,slow=5.2,SNR=2.1
AKASG Malin Array Be 123.71 325 PKP PKPdf 13 49 18.3 +0.7
comp=E,2.5nm,0.6s,baz=62,slow=2.4,SNR=8.0
AKASG pPKP 13 49 38.0
comp=E,1.2nm,0.5s,baz=50,slow=2.4,SNR=2.3
LPAZ La Paz 124.45 118 PKP PKPdf 13 49 21.9 +2.0
comp=E,1.6nm,0.7s,baz=315,slow=1.7,SNR=8.5
NB2 NORSAR Subarra124.65 343 PKPdf PKPdf 13 49 18.9 -0.2
comp=E,2.8nm,0.8s,baz=39,slow=1.8
NOA NORSAR Array B124.65 343 PKP PKPdf 13 49 19.3 +0.1
comp=E,1.7nm,0.8s,baz=38,slow=1.8,SNR=5.0
BRTR Keskin Array B 125.16 312 PKP PKPdf 13 49 21.3 +0.6
comp=E,1.9nm,0.9s,baz=135,slow=3.5,SNR=7.9
BRTR pPKP 13 49 41.1
comp=E,1.2nm,0.8s,baz=90,slow=2.9,SNR=2.8
SDV Santo Domingo 128.78 87 PKP PKPdf 13 49 29.3 +0.9
comp=E,11nm,0.7s,baz=283,slow=2.9,SNR=16
SDV pPKP 13 49 48.5

	comp=E,8.1nm,0.9s,baz=351,slow=3.2,SNR=4.1							
SDV	**Santo Domingo**	**128.78**	**87**	*e*PKPdf	PKPdf	13 49 28.6	+0.3	
CLL	**Collm**	**131.48**	**334**	*i* PKIKP	PKPdf	13 49 36.3	+3.8	
SKO	**Skopje**	**132.71**	**319**	*e*PKP	PKPdf	13 49 31.6	-3.5	
GERES	**GERESS Array B**	**132.91**	**331**	PKP	PKPdf	13 49 38.1	+2.8	
	comp=E,1.3nm,0.6s,baz=45,slow=1.9,SNR=10							
BOJS	**Bojanci**	**134.35**	**327**	*e*PKPdf	PKPdf	13 49 39.5	+1.4	
CEY	**Cerknica**	**134.64**	**327**	*e*PKPdf	PKPdf	13 49 39.7	+1.1	
CDF	**Champ du Feu**	**136.10**	**335**	*e*PKIKP	PKPdf	13 49 43.5	+2.4	
CABF	**La Chapelle**	**138.01**	**334**	*e*PKIKP	PKPdf	13 49 46.6	+1.9	
SSF	**Saint Saulge**	**138.69**	**337**	*e*PKIKP	PKPdf	13 49 46.1	+0.2	
MBDF	**Montbardon**	**139.17**	**332**	*e*PKIKP	PKPdf	13 49 50.5	+3.6	
PGF	**Pioggiola**	**139.68**	**328**	*e*PKIKP	PKPdf	13 49 49.0	+1.1	
	comp=E,28nm,1.0s							
VIVF	**Saint-Julien-l**	**140.00**	**334**	*e*PKIKP	PKPdf	13 49 52.9	+4.5	
	comp=E,30nm,1.2s							
BDFB	**Brasilia**	**141.25**	**131**	PKhKP		13 49 46.3		
	comp=E,1.6nm,0.5s,baz=184,slow=6.8,SNR=3.0							
ETSF	**Etsaut**	**143.75**	**337**	*e*PKIKP	PKPdf	13 49 55.3	+0.4	
	comp=E,48nm,0.8s							
SJPF	**Ste Jean**	**143.82**	**338**	*e*PKIKP	PKPdf	13 49 55.4	+0.4	
	comp=E,13nm,0.7s							
CMAH	**Djebel Manchou**	**144.63**	**322**	P	PKPbc	13 49 56.0	-0.6	
EBR	**Ebro Roquetas**	**145.07**	**334**	*e*	PKPdf	13 49 58.0	+0.6	
CKFL	**Kef-Lekhel**	**145.20**	**323**	P	PKPdf	13 49 59.0	+1.3	
CASM	**Ain Smara**	**145.43**	**323**	P	PKPdf	13 50 01.0	+2.9	
DFRA	**Djebel Bou Aff**	**145.60**	**324**	P	PKPdf	13 50 01.0	+2.6	
SET	**Setif**	**146.11**	**324**	P	PKPdf	13 50 02.0	+2.7	
PBRG	**Braganca**	**146.78**	**344**	*e*PKPab	PKPab	13 50 03.6	-2.0	
PVRL	**Vila Real**	**147.53**	**345**	*e*PKPab	PKPab	13 50 06.4	-2.2	
ESDC	**Sonseca Array**	**147.82**	**338**	PKPbc	PKPdf	13 50 06.6	+4.7	
	comp=E,2.6nm,0.6s,baz=4.7,slow=3.1,SNR=15							
ESDC				pPKPbc		13 50 27.4		
	comp=E,3.1nm,0.8s,baz=11,slow=4.4,SNR=3.7							
PVIS	**Viseu**	**148.10**	**344**	*e*PKPbc	PKPdf	13 50 07.5	+5.1	
MTE	**Manteigas**	**148.31**	**344**	*e*PKPbc	PKPdf	13 50 07.7	+5.0	
MTE				*e*SS	SS	14 12 33.9	-4.4	
PCBR	**Castelo Branco**	**148.81**	**343**	*e*PKPbc	PKPdf	13 50 09.0	+5.4	
PTOM	**Tomar**	**149.27**	**344**	*e*PKPbc	PKPdf	13 50 10.9	+6.6	
EVO	**Evora**	**150.17**	**343**	*e*PKIKP	PKPdf	13 50 10.4	+4.6	
	comp=E,20nm,0.8s							
PBEJ	**Beja**	**150.60**	**342**	*e*PKPbc	PKPdf	13 50 13.9	+7.5	

MAN 23 13:39:39.4, 17.81N×122.17E, h2km, mb4.1, ML2.9, MS2.6, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.35**	**253**⇑	*e*P	Pg	13 39 55.5	+9.1
CVP				*e*S	Sg	13 39 55.5	+4.4
SGCP	**Mt. Cagua**	**0.45**	**344**	*e*P	Pg	13 39 48.6	+0.3
PALP	**Palanan**	**0.78**	**162**	*e*P	Pg	13 39 54.1	-0.8
APYP	**Conner**	**0.89**	**274**	*e*P	Pg	13 39 56.6	-0.5
APYP				*e*S	Sg	13 40 11.7	+2.8
CAUP	**Cauayan**	**0.92**	**201**	*e*P	Pb	13 39 58.5	+0.7
BALP	**Baler**	**2.13**	**196**	*e*P	Pn	13 40 16.4	0.0
BALP				*e*S	Sn	13 40 44.4	+0.5

*NEIC **23** 13:56:33.8, 46.50N×7.50E, h10km, ML2.7(LDG), ML2.5(GEN), ML2.1(ZUR), After ZUR.*
*LDG **23** 13:56:33.2±0.1, 46.49N×7.54E, h4km, Md2.5/1, Ml2.7/17, Error ellipse: s-maj=1.5km s-min=1.2km az=112.0*
*ZUR **23** 13:56:33.8, 46.48N×7.51E, h10km, ML2.1/6*
*CSEM **23** 13:56:33.8±0.0, 46.46N×7.53E, h12km, ML2.7/16, Error ellipse: s-maj=1.1km s-min=0.8km az=125.0*
*STR **23** 13:56:35.2±0.6, 46.53N×7.56E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*GEN **23** 13:56:40.2, 46.28N×7.55E, h41km, ML2.5*
ISC 23 13:56:32.5±0.2, 46.50N±0.01×7.42E±0.02, h11km±2km, n71, σ1$37/116, 14C-4D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENIN	**Lac Senin**	**0.16**	**211**⇑	*i*Pg	**Pg**	**13 56 38.0**	**+1.7**
LKBD	**Leukerbad**	**0.18**	**129**⇓	*i*Pg	**Pg**	**13 56 36.9**	**+0.2**
LKBD				*i* Sg	**Sg**	**13 56 39.1**	**-0.3**
WIMIS	**Wimmis**	**0.21**	**41**⇑	*i*Pg	**Pg**	**13 56 38.0**	**+0.8**
WIMIS				*e*Sg	**Sg**	**13 56 41.2**	**+0.9**
GRYON	**Gryon**	**0.33**	**220**⇑	*i*Pg	**Pg**	**13 56 40.9**	**+1.5**
GRYON				*e*Sg	**Sg**	**13 56 46.4**	**+2.4**
AIGLE	**Aigle**	**0.36**	**243**⇑	*i*Pg	**Pg**	**13 56 41.9**	**+1.9**
TORNY	**Torny**	**0.42**	**310**⇑	*i*Pg	**Pg**	**13 56 43.8**	**+2.7**
TORNY				*i* Sg	**Sg**	**13 56 50.5**	**+3.7**
DIX	**Grande Dixence**	**0.42**	**181**⇑	*i*Pg	**Pg**	**13 56 42.2**	**+1.0**
DIX				*i* Sg	**Sg**	**13 56 47.7**	**+0.7**
SALAN	**Lac Salanfe**	**0.47**	**221**⇑	*i*Pg	**Pg**	**13 56 43.8**	**+1.6**
HASLI	**Hasliberg**	**0.56**	**63**⇑	*i*Pg	**Pg**	**13 56 43.8**	**-0.1**
HASLI				*e*Sg	**Sg**	**13 56 50.9**	**-0.6**
EMV	**Vieux Emosson**	**0.57**	**220**⇑	*i*Pg	**Pg**	**13 56 45.4**	**+1.3**
MMK	**Mattmark**	**0.59**	**140**⇓	*i*P	**Pb**	**13 56 44.4**	**0.0**
MMK	**Mattmark**	**0.59**	**140**⇓	*i*Pg	**Pg**	**13 56 44.3**	**-0.1**
MCGN	**Macugnaga**	**0.67**	**144**	*e*Pg	**Pg**	**13 56 45.9**	**-0.2**
MCGN				*e*Sg	**Sg**	**13 56 54.5**	**-0.7**
MCGN	**Macugnaga**	**0.67**	**144**	*e*Pg	**Pg**	**13 56 45.9**	**-0.2**
MCGN				*e*Sg	**Sg**	**13 56 54.5**	**-0.7**
BNALP	**Bannalp**	**0.78**	**62**	*e*Pg	**Pg**	**13 56 47.9**	**-0.4**
BRANT	**Les Verrieres**	**0.78**	**304**	*e*Pg	**Pg**	**13 56 50.7**	**+2.4**
GIMEL	**Gimel**	**0.80**	**273**	*e*Pg	**Pg**	**13 56 51.3**	**+2.7**
BALST	**Balsthal**	**0.85**	**13**⇑	*i*Pg	**Pg**	**13 56 50.4**	**+0.7**
FUSIO	**Fusio**	**0.86**	**93**	*e*Pg	**Pg**	**13 56 49.1**	**-0.7**
CABF	**La Chapelle**	**0.93**	**277**	*e*Pn	**Pn**	**13 56 52.8**	**+1.4**
CABF				*e*Sg	**Sg**	**13 57 05.4**	**+1.9**
	17nm,0.2s						
LOMF	**Lomont**	**0.94**	**335**	Pg	**Pg**	**13 56 53.1**	**+1.7**
LOMF				Sg	**Sg**	**13 57 07.3**	**+3.3**
ORX	**Oropa**	**0.95**	**156**	P	**Pb**	**13 56 54.8**	**+4.2**
ORX				S	**Sb**	**13 57 02.4**	**-0.7**
ORX	**Oropa**	**0.95**	**156**	S	**Sb**	**13 57 02.4**	**-0.7**
MUO	**Muotathal**	**0.96**	**61**	*e*Pg	**Pg**	**13 56 51.8**	**+0.1**
ORO	**Oropa**	**0.96**	**156**	*e*Pg	**Pg**	**13 56 51.4**	**-0.4**
ORO				*e*Sg	**Sg**	**13 57 03.2**	**-1.4**
ORO	**Oropa**	**0.96**	**156**	*e*Pg	**Pg**	**13 56 51.4**	**-0.4**
ORO				*e*Sg	**Sg**	**13 57 03.2**	**-1.4**
BBS	**Basel-Blauen**	**0.96**	**4**	Pg	**Pg**	**13 56 53.3**	**+1.5**
BBS				Sg	**Sg**	**13 57 06.8**	**+2.1**
TRAV		**1.02**	**167**	P	**Pb**	**13 56 54.1**	**+2.4**
TRAV				S	**Sb**	**13 57 03.5**	**-1.4**
TRAV		**1.02**	**167**	P	**Pb**	**13 56 54.1**	**+2.4**
TRAV				S	**Sb**	**13 57 03.5**	**-1.4**
LSD	**Ceresole Reale**	**1.06**	**190**	P	**Pb**	**13 56 54.8**	**+2.3**
LSD				S	**Sb**	**13 57 07.7**	**+1.5**
LSD	**Ceresole Reale**	**1.06**	**190**	P	**Pb**	**13 56 54.8**	**+2.3**
LSD				S	**Sb**	**13 57 07.7**	**+1.5**
LPL	**La Plagne**	**1.10**	**206**	*e*Pg	**Pg**	**13 56 54.7**	**+0.2**
LPL				*e*Sg	**Sg**	**13 57 09.0**	**-0.2**
	12nm,0.3s						
LPG	**La Plagne**	**1.11**	**205**	*e*Pn	**Pn**	**13 56 55.2**	**+1.2**
LPG				*e*Sg	**Sg**	**13 57 09.4**	**-0.2**
	19nm,0.4s						
SULZ	**Sulz-Cheisache**	**1.13**	**25**	*e*P	**Pb**	**13 56 55.2**	**+1.6**
SULZ	**Sulz-Cheisache**	**1.13**	**25**	*e*Pg	**Pg**	**13 56 55.3**	**+0.2**
LLS	**Linth-Limmern**	**1.15**	**72**	*e*P	**Pb**	**13 56 54.4**	**+0.5**
LLS	**Linth-Limmern**	**1.15**	**72**	*e*Pg	**Pg**	**13 56 54.3**	**-1.2**
MUGIO	**Muggio**	**1.27**	**117**	*e*Pg	**Pg**	**13 56 56.6**	**-1.3**
RSP	**Reno Superiore**	**1.36**	**185**	P	**Pn**	**13 56 59.4**	**+1.9**
RSP				S	**Sb**	**13 57 12.4**	**-2.4**
RSP	**Reno Superiore**	**1.36**	**185**	P	**Pn**	**13 56 59.4**	**+1.9**
RSP				S	**Sb**	**13 57 12.4**	**-2.4**
MOF	**Molkenrain**	**1.36**	**352**	Pg	**Pg**	**13 57 00.6**	**+0.8**
MOF				Sg	**Sg**	**13 57 19.1**	**+1.1**
WILA	**Wila**	**1.37**	**48**⇑	*i*Pn	**Pn**	**13 56 59.5**	**+1.8**
HINF	**Hinteralfeld**	**1.37**	**344**	*e*Pn	**Pn**	**13 56 58.1**	**+0.4**
HINF				*e*Pg	**Pg**	**13 56 59.7**	**-0.2**
HINF				*e*Sn	**Sn**	**13 57 16.0**	**+0.1**
HINF				*e*Sg	**Sg**	**13 57 17.9**	**-0.3**
	15nm,0.2s						
VDL	**Val di Lei**	**1.42**	**90**	*e*P*	**Pb**	**13 56 58.9**	**+0.4**
FELD	**Feldberg**	**1.43**	**16**	Pg	**Pg**	**13 57 01.2**	**+0.1**
PLONS	**Plons**	**1.45**	**67**⇓	*i*P*	**Pb**	**13 57 00.2**	**+1.0**
FENE	**Fenestrelle**	**1.50**	**190**	P	**Pn**	**13 57 01.4**	**+1.8**
FENE	**Fenestrelle**	**1.50**	**190**	P	**Pn**	**13 57 01.4**	**+1.9**
BHB	**Bricherasio**	**1.67**	**184**	P	**Pn**	**13 57 03.6**	**+1.6**
BHB	**Bricherasio**	**1.67**	**184**	P	**Pn**	**13 57 03.6**	**+1.6**
HAU	**Haudompre**	**1.67**	**334**	*e*Pn	**Pn**	**13 57 02.2**	**+0.2**
HAU				*e*Pg	**Pg**	**13 57 05.4**	**-0.5**
HAU				*e*Sn	**Sn**	**13 57 23.4**	**-0.2**
HAU				*e*Sg	**Sg**	**13 57 27.5**	**-0.7**
	15nm,0.2s						
ECH	**Echery**	**1.72**	**354**	Pn	**Pn**	**13 57 03.4**	**+0.6**
MBDF	**Montbardon**	**1.83**	**195**	*e*Pg	**Pg**	**13 57 07.9**	**-1.3**
MBDF				*e*Sg	**Sg**	**13 57 31.5**	**-2.2**
	11nm,0.5s						
DAVA	**Damuels**	**1.86**	**64**⇑	*i*PG	**Pn**	**13 57 02.7**	**-2.0**
DAVA				*i* SG	**Pg**	**13 57 08.3**	**-1.4**
	5.2nm,0.2s						
DAVA	**Damuels**	**1.86**	**64**⇑	*i*PG	**Sn**	**13 57 27.0**	**-1.4**
DAVA				*i* SG	**Sg**	**13 57 33.2**	**-1.3**
	4.1nm,0.2s						
DAVA	**Damuels**	**1.86**	**64**⇑	*i*Pg	**Pn**	**13 57 02.7**	**-2.0**
DAVA				*i* Sg	**Sg**	**13 57 33.2**	**-1.3**
	4.1nm,0.2s						
CDF	**Champ du Feu**	**1.91**	**357**	*e*Pn	**Pn**	**13 57 04.9**	**-0.6**
CDF				*e*Pg	**Pg**	**13 57 09.1**	**-1.6**
CDF				*e*Sg	**Sg**	**13 57 34.1**	**-2.1**
	7.9nm,0.3s						
ORIF	**Oris-en-Rattie**	**1.92**	**215**	*e*Pn	**Pn**	**13 57 05.7**	**+0.1**
ORIF				*e*Pg	**Pg**	**13 57 09.7**	**-1.2**
ORIF				*e*Sg	**Sg**	**13 57 34.7**	**-1.8**
	4.2nm,0.3s						
BFO	**Black Forest**	**1.93**	**18**	*e*Sn	**Sn**	**13 57 29.0**	**-1.2**
BFO				*e*Sg	**Sg**	**13 57 34.5**	**-2.3**
THEF	**They Montfort**	**1.98**	**331**	Pn	**Pn**	**13 57 08.6**	**+2.2**
PZZ	**Prazzo**	**2.01**	**187**	P	**Pn**	**13 57 08.3**	**+1.4**
PZZ	**Prazzo**	**2.01**	**187**	P	**Pn**	**13 57 08.3**	**+1.4**
SMF	**Signal de Mont**	**2.47**	**275**	*e*Pg	**Pg**	**13 57 20.4**	**-1.5**
SMF				*e*Sg	**Sg**	**13 57 52.8**	**-2.1**
	10nm,0.2s						
RFYF	**Reffroy**	**2.50**	**329**	*e*Pg	**Pg**	**13 57 20.7**	**-1.8**
VIVF	**Saint-Julien-l**	**2.54**	**230**	*e*Pn	**Pn**	**13 57 14.1**	**-0.3**
VIVF				*e*Pg	**Pg**	**13 57 21.3**	**-1.9**
VIVF				*e*Sg	**Sg**	**13 57 54.7**	**-2.3**
	3.4nm,0.2s						
MEZF	**Maizieres J'vi**	**2.56**	**322**	*e*Sg	**Sg**	**13 57 56.1**	**-1.8**
	6.3nm,0.3s						
SSF	**Saint Saulge**	**2.75**	**283**	*e*Pg	**Pg**	**13 57 25.9**	**-1.5**
SSF				*e*Sg	**Sg**	**13 58 01.2**	**-2.8**
	2.9nm,0.3s						
AVF	**Avril sur Loir**	**2.82**	**277**	*e*Pn	**Pn**	**13 57 18.3**	**-0.1**
AVF				*e*Pg	**Pg**	**13 57 27.1**	**-1.7**
AVF				*e*Sg	**Sg**	**13 58 04.7**	**-1.6**
	3.1nm,0.2s						
BGF	**Bois d'Agland**	**3.16**	**273**	*e*Pn	**Pn**	**13 57 23.7**	**+0.4**
BGF				*e*Sg	**Sg**	**13 58 15.3**	**-2.4**
	11nm,0.4s						
LASF	**Ste Croix**	**3.50**	**227**	*e*Pn	**Pn**	**13 57 27.5**	**-0.5**
TCF	**Toulx Ste Croi**	**3.61**	**268**	*e*Sn	**Sn**	**13 58 10.4**	**-2.4**
	1.7nm,0.2s						

*CSEM **23** 13:59:09.7, 55.08S×5.95W, h2km, mb5.9*
*MOS **23** 13:59:15.9±1.2, 55.54S×1.53W, h10km, mb5.7/12, MS5.5/19, Error ellipse: s-maj=22.7km s-min=12.2km az=89.7*
*IDC **23** 13:59:15.8±0.4, 55.54S×1.63W, mb5.0/19, mb1 5.0/19, mb1mx4.9/20, mbtmp5.0/19, MS5.5/17, Ms1 5.5/17, ms1mx5.2/20, Error ellipse: s-maj=16.4km s-min=14.5km az=133.0*
*NEIC **23** 13:59:17.0±0.2, 55.48S×1.54W, h10km, mb5.6/19, MS5.6/118, MW5.8, Error ellipse: s-maj=6.5km s-min=5.4km az=101.0, Moment Tensor Solution. s13 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.95; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$4.78; $M_{r\theta}$-1.15; $M_{\theta\phi}$0.86; $M_{\phi r}$-3.22; Best double couple: $M_0$5.6×10^{17} NP1:ϕ_s178°,δ27°,λ-107°. NP2:ϕ_s17°, δ64°,λ-82°. Principal axes: T 6.04, Plg19°, Azm100°; N -.87, Plg8°, Azm193°; P -5.17, Plg70°, Azm304°;*
*HRVD **23** 13:59:17.0±0.1, 55.70S×1.35W, h12km, MW5.8/80, Centroid moment Tensor Solution. LP body waves: s75,c164;Mantle waves: s80,c286; Half duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-5.31±.06; $M_{\theta\theta}$0.10±.06; $M_{\phi\phi}$5.20±.05; $M_{r\theta}$-0.74±.17; $M_{\theta\phi}$-1.22±.05; $M_{\phi r}$-2.48±.15; Best double couple: $M_0$5.983×10^{17} NP1: ϕ_s155°,δ35°,λ-110°. NP2:ϕ_s359°,δ58°,λ-77°. Principal axes: T 5.94, Plg12°, Azm80°; N .082, Plg11°, Azm172°; P -6.027, Plg74°, Azm305°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BJI **23** 13:59:17.0, 55.50S×1.50W, h10km, mB5.7, Ms6.0, Msz5.7*
ISC 23 13:59:15.8±0.3, 55.55S±0.05×1.59W±0.09, h10km, n286, σ0$90/93, mb5.2/29, MS5.5/138, 23C-4D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 02 58.4**	**+3.6**
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 03 00.5**	**+5.7**
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 03 02.1**	**+7.3**
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 03 03.7**	**+8.9**
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 03 05.4**	**+11**
VNA1	**Neumayer--Stat**	**15.44**	**188**⇑	*i*	**P**	**14 03 08.2**	**+13**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 02 59.8**	**+2.4**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 00.9**	**+3.5**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 02.6**	**+5.2**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 04.1**	**+6.7**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 06.3**	**+8.9**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 07.3**	**+10**
VNA2	**Neumayer--Watz**	**15.64**	**187**⇑	*i*	**P**	**14 03 10.0**	**+13**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 06.0**	**+2.2**
VNA3	**Neumayer Olymp**	**16.13**	**189**		**P**	**14 03 07.7**	**+3.9**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 08.1**	**+4.3**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 08.8**	**+5.0**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 09.4**	**+5.6**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 11.1**	**+7.3**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 11.5**	**+7.7**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 11.9**	**+8.1**
VNA3	**Neumayer Olymp**	**16.13**	**189**⇑	*i*	**P**	**14 03 13.0**	**+9.2**
SNAA	**Sanae**	**16.19**	**181**	*e*P	**P**	**14 03 04.3**	**-0.2**
SNAA				pmax	pmax		
	comp=Z,305nm,1.0s						
SNAA	**Sanae**	**16.19**	**181**	*e*P	**P**	**14 03 04.3**	**-0.2**
	comp=Z,305nm,1.0s						
MAIT	**Maitri**	**16.35**	**164**	*e*P	**P**	**14 03 05.8**	**-0.8**
SYO	**Syowa Base**	**22.83**	**142**⇑	P	**P**	**14 04 19.5**	**+0.1**
SYO	**Syowa Base**	**22.83**	**142**⇓	P	**P**	**14 04 20.7**	**+1.3**
SYO	**Syowa Base**	**22.83**	**142**⇓	pP		14 04 28.2	
SUR	**Sutherland**	**27.98**	**43**	P	**P**	**14 05 09.5**	**+1.1**
	comp=Z,9.0nm,0.9s,mb4.4,baz=231,slow=8.5,SNR=3.2						
SUR				LR	LR	14 13 19.9	
	comp=Z,16μm,21.5s,MS5.6,baz=203,slow=30						
SUR	**Sutherland**	**27.98**	**43**	P	**P**	**14 05 07.0**	**-1.5**
	comp=Z,56nm,1.4s,mb5.0						
SUR				LR	LR		
	comp=Z,4μm,20.0s,MS5.0						
PMSA	**Palmer Station**	**31.12**	**227**	P	**P**	**14 05 34.7**	**-1.3**
PMSA				LR	LR		
	comp=Z,9μm,21.0s,MS5.4						
MAW	**Mawson**	**31.36**	**138**	*e*P	**P**	**14 05 37.9**	**-0.3**
MAW				pmax	pmax		
	comp=Z,62nm,1.0s						
MAW				MLR	MLR		
	comp=Z,10μm,19.0s						
MAW	**Mawson**	**31.36**	**138**	P	**P**	**14 05 38.6**	**+0.4**
	comp=Z,27nm,1.0s,mb5.0,baz=270,slow=11,SNR=4.8						
MAW	**Mawson**	**31.36**	**138**	*e*P	**P**	**14 05 37.9**	**-0.3**
	comp=Z,62nm,1.0s,mb5.4						
MAW				LR	LR		
	comp=Z,10μm,19.0s,MS5.5						
BOSA	**Boshof**	**33.09**	**47**	*e*P	**P**	**14 05 52.0**	**-1.7**
BOSA				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.1						
BOSA	**Boshof**	**33.09**	**47**	*e*P	**P**	**14 05 52.0**	**-1.7**
	comp=Z,25nm,0.9s,mb5.2						
QSPA	**South Pole Qui**	**34.69**	**180**	*e*P	**P**	**14 06 07.2**	**+0.2**
	comp=Z,179nm,0.9s,mb6.0						
QSPA				*e*		14 06 15.7	
QSPA				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
LBTB	**Lobatse**	**36.43**	**44**	*e*P	**P**	**14 06 21.1**	**-1.2**
LBTB				pmax	pmax		
	comp=Z,90nm,1.4s,mb5.5						
LBTB				MLR	MLR		
	comp=Z,8μm,19.0s,MS5.5						
LBTB	**Lobatse**	**36.43**	**44**	P	**P**	**14 06 21.6**	**-0.6**
	comp=Z,9.9nm,0.8s,mb4.8,baz=218,slow=9.8,SNR=12						
LBTB	**Lobatse**	**36.43**	**44**	*e*P	**P**	**14 06 21.1**	**-1.2**
	comp=Z,90nm,1.4s,mb5.5						
LBTB				LR	LR		
	comp=Z,8μm,19.0s,MS5.5						
USHA	**Ushuaia**	**36.83**	**243**	P	**P**	**14 06 25.3**	**0.0**
	comp=Z,25nm,0.9s,mb5.0,baz=44,slow=6.1,SNR=6.1						
TSUM	**Tsumeb**	**39.08**	**29**	P	**P**	**14 06 45.6**	**+1.0**
	comp=Z,6.6nm,0.7s,mb4.5,baz=179,slow=10,SNR=13						
TSUM				LR	LR	14 20 28.0	
	comp=Z,7μm,18.9s,MS5.5,baz=189,slow=32						
TSUM	**Tsumeb**	**39.08**	**29**	*e*P	**P**	**14 06 45.3**	**+0.6**
	comp=Z,122nm,1.4s,mb5.4						
TSUM				LR	LR		
	comp=Z,7μm,19.0s,MS5.5						
MATP	**Matopo**	**41.70**	**45**	P	**P**	**14 07 05.8**	**-0.3**
	comp=Z,11nm,0.7s,mb4.6,baz=203,slow=7.7,SNR=16						
MATP				LR	LR	14 21 42.5	
	comp=Z,6μm,21.1s,MS5.5,baz=204,slow=32						
LPA	**La Plata**	**43.31**	**274**	*de*P	**P**	**14 07 19.0**	**-0.2**
LPA				*es*P	sP	14 07 31.0	+7.6
LPA				*e*PCP	PcP	14 09 08.0	-0.6
LPA				*e*S	**S**	**14 13 47.0**	**+0.8**
LPA				*e*pS		14 13 51.0	
LPA				*e*SS	SS	14 17 02.0	+9.1
	comp=Z,12μm,24.0s						
LPA	**La Plata**	**43.31**	**274**	*e*P	**P**	**14 07 19.0**	**-0.2**
LPA				*e*		14 09 08.0	
LPA				*e*S	**S**	**14 13 47.0**	**+0.8**
LPA				MLR	MLR		
	comp=Z,12μm,24.0s,MS5.7						
LPA	**La Plata**	**43.31**	**274**	*e*Pr		14 07 19.0	
LPA				*es*P	sP	14 07 31.0	+7.6
LPA				*e*PcP	PcP	14 09 08.0	-0.6
LPA				*e*S	**S**	**14 13 47.0**	**+0.8**
LPA				*e*pS		14 13 51.0	
LPA				*e*SS	SS	14 17 02.0	+9.1
LPA				LR	LR		
	comp=Z,12μm,24.0s,MS5.7						
TRQA	**Tornquist**	**43.38**	**268**	*e*P	**P**	**14 07 19.8**	**+0.1**
	comp=Z,109nm,1.0s,mb5.5						
TRQA				LR	LR		
	comp=Z,8μm,20.0s,MS5.6						
PLCA	**Paso Flores**	**46.38**	**258**	*e*P	**P**	**14 07 43.2**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,27nm,1.1s						
PLCA				MLR	MLR		
	comp=Z,8μm,21.0s						
PLCA	**Paso Flores**	**46.38**	**258**	P	**P**	**14 07 43.8**	**+0.2**
	comp=Z,11nm,0.8s,mb4.8,baz=138,slow=6.4,SNR=22						
PLCA				LR	LR	14 24 29.9	
	comp=Z,7μm,22.0s,MS5.5,baz=148,slow=33						
PLCA	**Paso Flores**	**46.38**	**258**	*e*P	**P**	**14 07 43.2**	**-0.4**
	comp=Z,27nm,1.1s,mb5.1						
PLCA				LR	LR		
	comp=Z,8μm,21.0s,MS5.6						
SBA	**Scott Base**	**46.66**	**177**	*e*P	**P**	**14 07 44.5**	**-0.9**
SBA				pmax	pmax		
	comp=Z,122nm,1.0s,mb5.8						
SBA				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.3						
SBA	**Scott Base**	**46.66**	**177**	*e*P	**P**	**14 07 44.5**	**-1.0**
	comp=Z,122nm,1.0s,mb5.8						
SBA				LR	LR		
	comp=Z,3μm,19.0s,MS5.3						
VNDA	**Vanda**	**46.79**	**175**	P	**P**	**14 07 47.6**	**+1.2**
	comp=Z,41nm,0.8s,mb5.4,baz=210,slow=7.0,SNR=65						
VNDA				LR	LR	14 27 12.3	
	comp=Z,5μm,19.7s,MS5

STKA LR LR 14 48 39.2
comp=Z,882nm,21.0s,MS5.2,baz=186,slow=34
STKA Stephens Creek 87.40 149 *e*P **P** **14 12 03.8 -0.2**
STKA *e* 14 12 11.3
PAYG Puerto Ayora 88.71 271 PFAKE 14 12 20.0 +9.3
PAYG LR LR
comp=Z,2μm,21.0s,MS5.6
MBWA Marble Bar 88.88 127 PFAKE 14 12 20.0 +8.7
MBWA LR LR
comp=Z,3μm,20.0s,MS5.6
TRD Trivandrum 90.54 76 *e*P **P** **14 12 24.2 +5.0**
TRD *i* S tx 14 22 24.2
SJG San Juan 91.27 301 PFAKE 14 12 30.0 +7.5
SJG LR LR
comp=Z,4μm,20.0s,MS5.8
RKT Rikitea 92.18 222 *e*SS SS 14 29 34.0 -5.8
RKT *e*LQ 14 37 59.5
RKT *e*LR LR 14 42 14.5
comp=Z,3μm,35.5s
ASPA Alice Springs 92.47 140 *e*P **P** **14 12 28.0 +0.1**
ASAR Alice Springs 92.47 140 P **P** **14 12 28.1 +0.1**
comp=Z,3.4nm,0.8s,mb4.7,baz=202,slow=4.6,SNR=28
ASAR PKKPbc 14 29 40.6
comp=Z,0.9nm,0.8s,baz=32,slow=1.7,SNR=6.9
ASAR LR LR 14 49 14.3
comp=Z,801nm,18.6s,MS5.2,baz=220,slow=32
ASF Jabal al Asfar 93.37 32 LR LR 14 53 58.3
comp=Z,3μm,18.7s,MS5.7,baz=74,slow=35
VAE Valguarnera 93.67 13 LR LR 14 50 29.4
comp=Z,1μm,21.3s,MS5.3,baz=259,slow=33
FITZ Fitzroy Crossi 94.18 131 LR LR 14 49 29.0
comp=Z,3μm,20.2s,MS5.7,baz=264,slow=32
JTS JuntasAbangare 94.67 281 PFAKE 14 12 50.0 +12
JTS LR LR
comp=Z,293nm,19.0s,MS4.8
ESDC Sonseca Array 94.88 358 P **P** **14 12 40.0 +1.4**
comp=Z,0.5nm,0.4s,mb4.3,baz=182,slow=4.4,SNR=7.2
ESLA Sonseca Array 94.88 358 PFAKE 14 12 50.0 +11
ESLA LR LR
comp=Z,4μm,20.0s,MS5.9
RAO Raoul Island 95.48 183 PFAKE 14 12 50.0 +8.4
RAO LR LR
comp=Z,1μm,19.0s,MS5.4
TIP Timpagrande 95.65 14 *e*P **P** **14 12 43.4 +1.2**
WRA Warramunga Arr 96.03 139 P **P** **14 12 43.6 -0.8**
comp=Z,1.6nm,1.1s,mb4.4,baz=203,slow=4.4,SNR=6.5
WRA PKKPbc 14 29 30.6
comp=Z,1.5nm,1.0s,baz=16,slow=2.7,SNR=10
WB2 Warramunga Arr 96.04 139 *e*P **P** **14 12 43.4 -1.0**
WRAB Tennant Creek 96.05 139 PFAKE 14 13 00.0 +16
WRAB LR LR
comp=Z,550nm,19.0s,MS5.0
TBI Tubuai 96.78 209 *e*PS PS 14 25 37.2 +3.5
TBI *e*SS SS 14 30 42.7 -2.2
TBI *e*LR LR 14 44 00.5
comp=Z,2μm,24.5s
BRTR Keskin Array B 99.55 27 P **P** **14 13 04.0 +4.2**
comp=Z,0.2nm,0.3s,baz=21,slow=8.2,SNR=2.3
BRTR PP PP 14 17 07.4 +1.4
comp=Z,1.4nm,0.9s,baz=170,slow=7.5,SNR=4.7
BOJS Bojanci 101.69 12 *e*Pdiff P 14 13 15.4 +6.2
BOJS *e*PP PP 14 17 21.0 -1.3
VISS Visnje 101.93 12 *e*PP PP 14 17 30.9 +6.9
JAVS Javornik 101.93 11 *e*PP PP 14 17 22.6 -1.4
LJU Ljubljana 102.13 11 *e*PP PP 14 17 28.1 +2.6
PPT Papeete 102.28 211 *e*PP PP 14 17 24.6 -2.8
PPT *e*SKSac 14 23 57.1
PPT *e*PS PS 14 26 32.1 +0.9
PPT *e*SS SS 14 32 01.2 -1.0
PPT *e*LQ 14 42 00.2
PPT *e*LR LR 14 46 36.5
comp=Z,1μm,24.2s
BBSR BB Station 102.76 309 PFAKE 14 13 30.0 +16
BBSR LR LR
comp=Z,2μm,22.0s,MS5.5
GNI Garni 103.16 35 PFAKE 14 13 30.0 +14
GNI LR LR
comp=Z,196nm,22.0s,MS4.6
TEIG Tepich 104.59 284 PFAKE 14 13 30.0 +7.2
TEIG LR LR
comp=Z,870nm,20.0s,MS5.3
GERES GERESS Array B 104.81 10 PP PP 14 17 41.5 -4.4
comp=Z,0.2nm,0.2s,baz=225,slow=9.4,SNR=4.1
KHC Kasperske Hory 105.08 10 *ex* x 14 17 31.0
KHC *e*SP SP 14 26 53.8 -4.2
KHC *e*SS SS 14 32 48.8 +9.2
KHC AMS AMS 14 58 10.0
comp=Z,700nm,19.7s
KIV Kislovodsk 105.98 32 PFAKE 14 17 50.0
KIV LR LR
comp=Z,430nm,19.0s,MS5.0
PRU Pruhonice 106.03 11 *e*SP SP 14 27 08.1 +0.7
PRU *e*SS SS 14 32 55.7 +2.9
PRU AMS AMS 14 59 10.0
comp=Z,800nm,18.5s
NKC Novy Kostel 106.06 9 AMS AMS 15 01 30.0
comp=Z,900nm,19.8s
OKC Ostrava-Krasne 106.31 13 *e*SP SP 14 27 46.7 +36
OKC *e*SS SS 14 32 59.5 +3.1
OKC AMS AMS 14 59 00.0
comp=Z,600nm,24.2s
PVCC Panska Ves 106.57 11 *e*SP SP 14 27 25.9 +13
PVCC *e*SS SS 14 33 12.6 +13
PVCC AMS AMS 14 58 30.0
comp=Z,700nm,21.4s
DPC Dobruska-Polom 106.58 12 *e*SP SP 14 27 19.0 +6.0
DPC *e*SS SS 14 33 03.5 +3.5
DPC AMS AMS 15 05 50.0
comp=Z,600nm,16.8s
TAOE Nuku Hiva Isla 107.16 223 *e*PS PS 14 27 23.6 +2.8
TAOE *e*LR LR 14 48 59.7
DWPF Disney 107.28 294 PFAKE 14 17 50.0
DWPF LR LR
comp=Z,2μm,20.0s,MS5.8
AKASG Malin Array Be 108.95 20 PP PP 14 18 15.9 -1.0
comp=Z,0.3nm,0.2s,baz=201,slow=7.8,SNR=5.4
PMG Port Moresby 110.23 147 PFAKE 14 18 00.0 +9.3
PMG LR LR
comp=Z,2μm,20.0s,MS5.6
AFI Afiamalu 110.31 190 PFAKE 14 18 00.0 +9.2
AFI LR LR
comp=Z,739nm,19.0s,MS5.3
ESK Eskdalemuir 110.52 359 PFAKE 14 18 00.0 +10
ESK LR LR
comp=Z,267nm,19.0s,MS4.8
NHSC New Hope 110.67 298 PFAKE 14 18 00.0 +8.8
NHSC LR LR
comp=Z,3μm,21.0s,MS5.8
CM31 Chiang Mai Arr 110.95 88 PFAKE 14 18 00.0 +8.0
CM31 LR LR
comp=Z,3μm,22.0s,MS5.9
GOGA Godfrey 112.57 296 PFAKE 14 18 00.0 +5.2
GOGA LR LR
comp=Z,2μm,21.0s,MS5.6
CBN Corbin 113.38 304 PFAKE 14 18 10.0 +14
CBN LR LR
comp=Z,3μm,21.0s,MS5.9
HNR Honiara 113.44 160 PFAKE 14 18 10.0 +13
HNR LR LR
comp=Z,2μm,20.0s,MS5.6
WES Weston 114.00 310 PFAKE 14 18 10.0 +13
WES LR LR
comp=Z,1μm,20.0s,MS5.5
BLA Blacksburg 114.05 301 PFAKE 14 18 10.0 +12
BLA LR LR
comp=Z,3μm,22.0s,MS5.8
LRAL Lakeview Retre 114.09 293 PFAKE 14 18 10.0 +12
LRAL LR LR
comp=Z,1μm,19.0s,MS5.5
HRV Harvard--Oak R 114.20 310 PFAKE 14 18 10.0 +12
HRV LR LR
comp=Z,210nm,19.0s,MS4.8
EMMW East Machias 114.28 314 PFAKE 14 18 10.0 +12
EMMW LR LR
comp=Z,5μm,21.0s,MS6.1
OBN Obninsk 114.63 23 PFAKE 14 18 10.0 +12
OBN LR LR
comp=Z,226nm,20.0s,MS4.8
WVL Waterville 115.07 313 PFAKE 14 18 10.0 +11
WVL LR LR
comp=Z,6μm,21.0s,MS6.2
KSH Kashi 115.27 57 *e*PKP PKPdf 14 18 01.3 +1.3
KSH *e*PKS PKS 14 21 36.6 +4.0
KSH *e*PPP PPP 14 21 47.0 +18
KSH *e*SKS SKS 14 25 08.6 +18
KSH PP PP
comp=Z,180nm,3.0s
KSH LR LR
comp=N,290nm,5.4s
KSH LR LR
comp=E,550nm,4.8s
LSA Lhasa 115.42 74 PFAKE 14 18 10.0 +9.5
LSA LR LR
comp=Z,3μm,20.0s,MS5.8
SSPA Standing Stone 115.55 305 PFAKE 14 18 10.0 +9.5
SSPA LR LR
comp=Z,2μm,22.0s,MS5.7
MCWV Mont Chateau 115.70 303 PFAKE 14 18 10.0 +9.1
MCWV LR LR
comp=Z,2μm,21.0s,MS5.8
PLAL Pickwick Lake 116.17 294 PFAKE 14 18 10.0 +8.1
PLAL LR LR
comp=Z,2μm,21.0s,MS5.6
OXF Oxford 116.50 293 PFAKE 14 18 10.0 +7.5
OXF LR LR
comp=Z,2μm,20.0s,MS5.7
NCB Newcomb 116.54 310 PFAKE 14 18 10.0 +7.6
NCB LR LR
comp=Z,1μm,20.0s,MS5.5
WVT Waverly 116.93 295 PFAKE 14 18 10.0 +6.7
WVT LR LR
comp=Z,2μm,20.0s,MS5.7
AAK Ala-Archa 117.03 54 *i* PKIKP PKPdf 14 18 00.2 -3.1
AAK Ala-Archa 117.03 54 *e*PKP PKPdf 14 18 00.1 -3.2
AAK LR LR
comp=Z,720nm,19.0s,MS5.3
NATX Nacogdoches 117.19 287 PFAKE 14 18 10.0 +6.1
NATX LR LR
comp=Z,956nm,20.0s,MS5.4
FRU Bishkek 117.24 53 *e*PKIKP PKPdf 14 18 11.0 +7.3
QIZ Qiongzhong 117.59 96 PFAKE 14 18 10.0 +5.1
QIZ LR LR
comp=Z,1μm,20.0s,MS5.6
ACSO Alum Creek Sta 117.66 301 PFAKE 14 18 10.0 +5.4
ACSO LR LR
comp=Z,2μm,22.0s,MS5.8
ERPA Erie 117.69 305 PFAKE 14 18 10.0 +5.4
ERPA LR LR
comp=Z,2μm,22.0s,MS5.6
WCI Wyandotte Cave 117.76 298 PFAKE 14 18 10.0 +5.2
WCI LR LR
comp=Z,2μm,21.0s,MS5.6
FINES FINESS Array B 118.67 15 PKP PKPdf 14 18 03.5 -2.6
comp=Z,2.0nm,0.9s,slow=1.9,SNR=5.5
MIAR Mount Ida 118.73 290 PFAKE 14 18 20.0 +13
MIAR LR LR
comp=Z,1μm,20.0s,MS5.6
JCT Junction City 119.03 282 PFAKE 14 18 20.0 +12
JCT LR LR
comp=Z,616nm,21.0s,MS5.2
AAM Ann Arbor 119.58 302 PFAKE 14 18 20.0 +12
AAM LR LR
comp=Z,2μm,21.0s,MS5.8
CCM Cathedral Cave 120.16 294 PFAKE 14 18 20.0 +11
CCM LR LR
comp=Z,1μm,20.0s,MS5.5
LTX Lajitas 120.32 278 PFAKE 14 18 20.0 +10
LTX LR LR
comp=Z,2μm,21.0s,MS5.7
TXAR Lajitas Array 120.32 278 PKP PKPdf 14 18 08.3 -1.7
comp=Z,3.0nm,1.0s,baz=162,slow=4.0,SNR=12
TXAR Lajitas Array 120.32 278 PKP PKPdf 14 18 08.3 -1.7
WMOK Wichita Mounta 121.69 286 *e*PKIKP PKPdf 14 18 09.5 -3.1
WMOK MLR MLR
comp=Z,951nm,20.0s,MS5.4
ARU Arti 121.81 35 PFAKE 14 18 20.0 +7.7
ARU LR LR
comp=Z,363nm,20.0s,MS5.0
SCHQ Schefferville 122.24 322 PKP PKPdf 14 18 10.3 -2.7
comp=Z,6.2nm,0.8s,baz=164,slow=2.9,SNR=12
SCHQ Schefferville 122.24 322 PKP PKPdf 14 18 10.3 -2.7
MNTX Cornudas Mount 123.07 279 PFAKE 14 18 20.0 +4.8
MNTX LR LR
comp=Z,2μm,21.0s,MS5.6
JFWS Jewell Farm 123.26 299 PFAKE 14 18 20.0 +4.7
JFWS LR LR
comp=Z,2μm,22.0s,MS5.7
AMTX Amarillo 123.39 284 PKP PKPdf 14 18 13.4 -2.4
AMTX LR LR
comp=Z,1μm,21.0s,MS5.5
WMQ Urumqi 124.24 61 PKP PKPdf 14 18 16.8 -0.5
WMQ PKS PKS 14 21 52.0 +2.2
WMQ PPP PPP 14 22 33.0 -9.4
WMQ SKS SKS 14 25 24.0 +3.3
WMQ PP PP
comp=Z,130nm,5.2s
WMQ LR LR
comp=N,1μm,17.4s,MS5.8
WMQ LR LR
comp=E,2μm,20.6s,MS5.8
WMQ LR LR
comp=Z,2μm,23.8s,MS5.7
KURK Kurchatov 125.01 50 *e*PKIKP PKPdf 14 18 16.1 -2.4
KURK MLR MLR
comp=Z,704nm,20.0s,MS5.3
CBKS Cedar Bluff 125.21 289 PFAKE 14 18 30.0 +11
CBKS LR LR
comp=Z,1μm,21.0s,MS5.6
APA Apatity 125.54 16 *i* PKIKP PKPdf 14 18 18.5 -0.5
APA *i* 14 18 26.2
APA pmax pmax
comp=Z,18nm,1.0s
LAZ Ladron 126.06 280 *e*PKP PKPdf 14 18 18.8 -2.1
ANMO Albuquerque 126.09 281 *e*PKIKP PKPdf 14 18 18.7 -2.2
ANMO MLR MLR
comp=Z,1μm,19.0s
ENH Enshi 126.12 88 *e*PKP PKPdf 14 18 19.3 -1.9
ENH LR LR
comp=Z,2μm,20.0s,MS5.7
ARCES ARCESS Array B 126.33 11 PKP PKPdf 14 18 18.9 -1.5
comp=Z,9.7nm,0.9s,baz=180,slow=1.2,SNR=11
TUC Tucson 126.58 275 *e*PKIKP PKPdf 14 18 19.9 -2.0
TUC MLR MLR
comp=Z,1μm,19.0s,MS5.6
LZH Lanzhou 127.23 79 PKP PKPdf 14 18 26.6 +3.5
LZH PP PP 14 20 19.3 -4.0
LZH SS SS 14 37 31.1 +1.6
LZH PP PP
comp=Z,390nm,5.4s
LZH LR LR
comp=E,820nm,16.0s
LZH LR LR
comp=Z,810nm,20.0s,MS5.4
EYMN Ely 127.48 302 *e*PKP PKPdf 14 18 20.5 -2.8
EYMN LR LR
comp=Z,2μm,20.0s,MS5.7
SDCO Great Sand Dun 127.58 284 *e*PKP PKPdf 14 18 21.8 -2.0
SDCO LR LR
comp=Z,2μm,20.0s,MS5.7
SFJ Sondre 127.60 338 PFAKE 14 18 30.0 +7.0
SFJ LR LR
comp=Z,1μm,21.0s,MS5.6
XAN Xi'an 128.60 84 PKP PKPdf 14 18 23.5 -2.4
XAN PP PP
comp=Z,263nm,12.6s
XAN LR LR
comp=N,719nm,18.9s,MS5.6
XAN LR LR
comp=E,966nm,20.0s,MS5.6
XAN LR LR
comp=Z,1μm,19.7s,MS5.7
TATO Taipei 128.83 103 PFAKE 14 18 40.0 +13
TATO LR LR
comp=Z,1μm,21.0s,MS5.6
ISCO Idaho Springs 129.10 286 PFAKE 14 18 40.0 +13
ISCO LR LR
comp=Z,1μm,19.0s,MS5.6
WUAZ Wupatki 129.26 278 PFAKE 14 18 40.0 +13
WUAZ LR LR
comp=Z,2μm,20.0s,MS5.7
FRB Frobisher Bay 129.65 328 PKP PKPdf 14 18 24.2 -2.8
comp=Z,10.0nm,0.9s,baz=128,slow=4.2,SNR=16
NVS Novosibirsk 129.91 49 *e*PKIKP PKPdf 14 18 24.0 -3.7
ZAL Zalesovo 129.98 50 PKP PKPdf 14 18 25.9 -2.0
comp=Z,1.2nm,0.8s,baz=286,slow=2.5,SNR=7.9
SUMG Summit 130.37 346 *e*PKP PKPdf 14 18 25.8 -2.4
PFO Pinyon Flat Ob 130.75 272 PFAKE 14 18 40.0 +10
PFO LR LR
comp=Z,308nm,20.0s,MS5.0
ULM Lac du Bonnet 131.16 302 PKP PKPdf 14 18 27.4 -2.9
comp=Z,1.7nm,0.6s,baz=107,slow=4.9,SNR=5.2
ULM Lac du Bonnet 131.16 302 *e*PKP PKPdf 14 18 27.2 -3.1
ULM LR LR
comp=Z,2μm,22.0s,MS5.8
RWWY Rawlins 131.28 286 PKP PKPdf 14 18 29.7 -1.1
MVU Marysvale 131.85 280 *e*PKP PKPdf 14 18 30.3 -1.6
MVU LR LR
comp=Z,1μm,22.0s,MS5.6
NJ2 Nanjing 132.77 94 *e*PKP PKPdf 14 18 32.1 -1.8
NJ2 PP PP 14 21 01.0 +1.6
NJ2 PKS PKS 14 22 07.0 +1.1
NJ2 SKS SKS 14 25 38.0 -6.0
NJ2 SKKS 14 27 48.0
NJ2 PP PP
comp=Z,1μm,8.2s
NJ2 LR LR
comp=N,10μm,21.2s
NJ2 LR LR
comp=E,17μm,24.6s
NJ2 LR LR
comp=Z,20μm,27.4s
NLU North Lily Min 132.78 281 PKP PKPdf 14 18 31.6 -2.1
TCUT Toone Canyon 133.20 283 PKP PKPdf 14 18 25.4 -8.9
BW06 Boulder Array 133.30 286 PFAKE 14 18 40.0 +5.6
BW06 LR LR
comp=Z,2μm,20.0s,MS5.7
PDAR Pinedale Array 133.30 286 PKhKP 14 18 20.6
comp=Z,0.3nm,0.7s,slow=1.5,SNR=3.5
PDAR PKP PKPdf 14 18 31.6 -2.8
comp=Z,0.7nm,0.6s,baz=142,slow=5.6,SNR=4.1
PDAR PP PP 14 20 59.5 -3.1
comp=Z,1.0nm,0.8s,baz=117,slow=6.6,SNR=4.5
DAC Darwin (Calif) 133.32 273 PFAKE 14 18 40.0 +5.3
DAC LR LR
comp=Z,1μm,20.0s,MS5.5
DUG Dugway 133.36 281 *e*PKIKP PKPdf 14 18 33.0 -1.6
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.8
SSE Sheshan 133.38 97 PKP PKPdf 14 18 30.4 -4.5
SSE PP PP 14 21 06.4 +3.0
SSE SS SS 14 38 44.1 -1.2
SSE LR LR
comp=N,611nm,20.4s,MS5.5
SSE LR LR
comp=E,605nm,20.2s,MS5.5
SSE LR LR
comp=Z,808nm,20.3s,MS5.4
HWUT Hardware Ranch 133.62 283 *e*PKP PKPdf 14 18 33.2 -1.9
HWUT LR LR
comp=Z,1μm,20.0s,MS5.6
LAO LASA Array 134.08 292 PKP PKPdf 14 18 33.6 -2.2
LAO LR LR
comp=Z,2μm,20.0s,MS5.8
AHID Auburn Hatcher 134.14 285 PFAKE 14 18 50.0 +14
AHID LR LR
comp=Z,1μm,19.0s,MS5.6
TPH Tonopah 134.37 275 PFAKE 14 18 50.0 +13
TPH LR LR
comp=Z,1μm,19.0s,MS5.6
LOHW Long Hollow 134.43 286 *e*PKP PKPdf 14 18 34.2 -2.3
TPAW Teton Pass 134.54 286 *e*PKP PKPdf 14 18 34.9 -1.8
MOOW Moose Ponds 134.60 286 *e*PKP PKPdf 14 18 34.7 -2.2
RRI2 Red Ridge 134.65 285 PKP PKPdf 14 18 35.5 -1.5
IMW Indian Meadow 134.80 286 *e*PKP PKPdf 14 18 35.8 -1.5
HHC Hu-ho-hao-te 134.88 80 *e*PKP PKPdf 14 18 35.4 -2.1
HHC PP PP 14 21 16.8 +4.0
HHC PKS PKS 14 22 10.3 +0.7
HHC SKS SKS 14 25 41.0 -6.7
HHC SKKS 14 28 02.8
HHC SS SS 14 39 07.5 +4.5
HHC PP PP
comp=Z,328nm,16.1s
HHC LR LR
comp=E,420nm,28.5s
HHC LR LR
comp=Z,298nm,26.8s,MS4.9
LKWY Lake 134.94 287 PFAKE 14 18 50.0 +12
LKWY LR LR
comp=Z,3μm,20.0s,MS6.1
MNV Mina 135.15 275 *e*PKIKP PKPdf 14 18 36.7 -1.4
MNV MLR MLR
comp=Z,829nm,19.0s,MS5.5
FCC Fort Churchill 135.66 312 *e*PKIKP PKPdf 14 18 35.2 -3.2
QLMT Earthquake Lak 135.67 287 *e*PKP PKPdf 14 18 37.5 -1.3
SAO San Andreas Ge 135.85 271 PFAKE 14 18 50.0 +11
SAO LR LR
comp=Z,1μm,20.0s,MS5.5
BMN Battle Mountai 135.99 278 PFAKE 14 18 50.0 +10
BMN LR LR
comp=Z,1μm,21.0s,MS5.6
CMB Columbia Colle 136.14 273 PFAKE 14 18 50.0 +10
CMB LR LR
comp=Z,1μm,20.0s,MS5.6
BOZ Bozeman (W) 136.30 287 PFAKE 14 18 50.0 +10
BOZ LR LR
comp=Z,2μm,22.0s,MS5.7
HLID Hailey 136.49 283 *e*PKP PKPdf 14 18 39.0 -1.3
HLID LR LR
comp=Z,1μm,19.0s,MS5.6
ZAK Zakamensk 136.51 64 *e*PKIKP PKPdf 14 18 37.8 -2.3
ZAK pmax pmax
comp=Z,22nm,1.0s
SONM Songino Array 136.58 69 PKP PKPdf 14 18 37.3 -3.0
comp=Z,2.7nm,1.0s,baz=243,slow=2.8,SNR=10.0
SONM PP PP 14 21 28.7 +6.0
comp=Z,1.0nm,1.1s,baz=225,slow=7.0,SNR=4.1
BJT Baijiatuau 136.91 84 PFAKE 14 18 50.0 +8.9
BJT LR LR
comp=Z,2μm,22.0s,MS5.8
BJI Beijing 136.93 84 PKP PKPdf 14 18 40.9 -0.2
BJI PP PP 14 21 27.5 +2.4
BJI SKKS 14 28 16.0
BJI SS SS 14 39 30.4 +2.8
BJI PP PP
comp=Z,105nm,20.9s
BJI LR LR
comp=N,991nm,23.2s,MS5.7
BJI LR LR
comp=E,1μm,23.2s,MS5.7
BJI LR LR
comp=Z,2μm,26.4s,MS5.7
ULN Ulaanbaatar 136.94 69 *i* PKIKP PKPdf 14 18 38.0 -2.9
ULN MLR MLR
comp=Z,2μm,20.0s,MS5.7
HRY Holter Researc 137.08 289 *e*PKP PKPdf 14 18 39.6 -1.7
TLY Talaya 137.47 63 *e*PKIKP PKPdf 14 18 39.8 -2.1
TLY MLR MLR
comp=Z,478nm,20.0s,MS5.2
CHMT Chamberlain Mo 137.97 288 *e*PKP PKPdf 14 18 41.0 -2.0
WVOR Wild Horse Val 138.11 279 *e*PKIKP PKPdf 14 18 41.1 -2.3
WVOR MLR MLR
comp=Z,2μm,21.0s,MS5.8
MSO Missoula 138.29 287 *e*PKP PKPdf 14 18 41.6 -2.0
MSO LR LR
comp=Z,1μm,21.0s,MS5.5
HOPS Hopland 138.32 272 PFAKE 14 18 50.0 +6.1
HOPS LR LR
comp=Z,2μm,20.0s,MS5.8
MOD Modoc 138.70 277 PFAKE 14 18 50.0 +5.5
MOD LR LR
comp=Z,1μm,20.0s,MS5.7
BMO Blue Mountains 138.92 283 *e*PKIKP PKPdf 14 18 42.6 -2.2
BMO MLR MLR
comp=Z,2μm,22.0s,MS5.8
WDC Whiskeytown Da 139.09 274 PFAKE 14 18 50.0 +4.8
WDC LR LR
comp=Z,836nm,21.0s,MS5.5
WALA Waterton Lakes 139.62 290 *e*PKP PKPdf 14 18 43.6 -2.3
YBH Yreka Blue Hor 139.95 275 PFAKE 14 19 00.0 +13
YBH LR LR
comp=Z,790nm,20.0s,MS5.5
HUMO Hull Mountain 140.66 276 PFAKE 14 19 00.0 +12
HUMO LR LR
comp=Z,1μm,20.0s,MS5.7
NEW Newport 140.88 287 PFAKE 14 19 00.0 +12
NEW LR LR
comp=Z,1μm,20.0s,MS5.7
HAWA Hanford 141.09 283 PFAKE 14 19 00.0 +11
HAWA LR LR
comp=Z,110nm,20.0s,MS4.6
INCN Inchon 141.11 96 PFAKE 14 19 00.0 +11
INCN LR LR
comp=Z,790nm,22.0s,MS5.4
EDM Edmonton 141.64 296 *e*PKHKP 14 18 39.8
COR Corvallis 142.10 278 PFAKE 14 19 00.0 +10

COR				LR	LR			
	comp=Z,1μm,22.0s,MS5.6							
RES	**Resolute Bay**	**143.32**	**334**	*e*PKIKP	PKPdf	14 18 46.4	-5.1	
PGC	**Sidney**	**144.57**	**284**	PKP	PKPdf	14 18 52.5	-2.0	
HIA	**Hailar**	**144.62**	**75**	*e*PKIKP	PKPdf	14 18 51.4	-3.1	
HIA				MLR	MLR			
	comp=Z,2μm,20.0s							
CN2	**Changchun**	**144.63**	**87**	*e*PKP	PKPdf	14 18 51.3	-3.4	
CN2				PP	PP	14 22 13.6	+1.5	
CN2				SS	SS	14 41 00.3	+3.3	
CN2				PP	PP			
	comp=Z,200nm,4.0s							
CN2				LR	LR			
	comp=N,700nm,20.0s,MS5.8							
CN2				LR	LR			
	comp=E,1μm,20.0s,MS5.8							
CN2				LR	LR			
	comp=Z,1μm,21.0s,MS5.7							
BOD	**Bodaibo**	**145.74**	**59**	*e*PKP2	PKPab	14 18 53.6	-2.4	
BOD				pmax	pmax			
	comp=Z,31nm,1.4s							
YKA	**Yellowknife Ar**	**146.30**	**310**	PKPbc	PKPbc	14 18 55.0	-0.1	
	comp=Z,19nm,0.7s,baz=105,slow=3.0,SNR=185							
YKW3	**Yellowknife Ar**	**146.32**	**310**	*e*PKPdf	PKPdf	14 18 53.7	-3.3	
MAT	**Matsushiro**	**146.86**	**108**	*e*PKP	PKPdf	14 18 58.0	-0.7	
MAT				LR	LR			
	comp=Z,740nm,22.0s,MS5.4							
MAT	**Matsushiro**	**146.86**	**108**	PKP	PKPdf	14 18 57.6	-1.1	
MDJ	**Mudanjiang**	**147.48**	**89**	PKP	PKPdf	14 18 58.4	-1.1	
MDJ				PP	PP	14 22 28.4	-0.8	
MDJ				PKS	PKS	14 22 33.3	+2.9	
MDJ				SKS	SKS	14 26 07.3	+0.1	
MDJ				SS	SS	14 41 33.3	+4.0	
MDJ				PP	PP			
	comp=Z,295nm,8.0s							
MDJ				LR	LR			
	comp=N,1μm,23.0s,MS5.6							
MDJ				LR	LR			
	comp=E,287nm,21.7s,MS5.6							
MDJ				LR	LR			
	comp=Z,1μm,19.2s,MS5.7							
MDJ	**Mudanjiang**	**147.48**	**89**	*e*PKPbc	PKPdf	14 18 59.9	+0.4	
MDJ				LR	LR			
	comp=Z,1μm,20.0s,MS5.7							
CLNS	**Chul'man**	**150.83**	**65**	*e*PKIKP	PKPdf	14 19 09.3	+4.9	
CLNS				pmax	pmax			
	comp=Z,43nm,0.8s							
CLNS				pmax	pmax			
	comp=N,20nm,1.0s							
CLNS				pmax	pmax			
	comp=E,20nm,1.0s							
KLR	**Kul'dur**	**151.29**	**83**	*e*PKIKP	PKPdf	14 19 06.6	+1.3	
KLR				*e*		14 19 07.0		
DLBC	**Dease Lake**	**152.33**	**297**	PKP	PKPdf	14 19 03.9	-2.7	
	comp=E,2.9nm,1.0s,baz=162,slow=1.8,SNR=4.3							
DLBC				PKPbc	PKPdf	14 19 12.5	+5.9	
	comp=E,13nm,0.9s,baz=100,slow=7.3,SNR=22							
DLBC	**Dease Lake**	**152.33**	**297**	PKP	PKPdf	14 19 03.9	-2.7	
DLBC				*e*PKPbc	PKPdf	14 19 11.9	+5.4	
DLBC				PKPbc	PKPdf	14 19 12.5	+6.0	
TIXI	**Tiksi**	**153.80**	**33**	*i* PKIKP	PKPdf	14 19 03.2	-5.0	
TIXI				*e*		14 23 09.0		
TIXI				*e*SS	SS	14 42 34.1	-4.0	
TIXI				*e*SSS	SSS	14 48 29.1	-0.7	
TIXI				pmax	pmax			
	comp=Z,10.0nm,1.1s							
TIXI	**Tiksi**	**153.80**	**33**	PFAKE		14 19 20.0	+12	
TIXI				LR	LR			
	comp=Z,1μm,20.0s,MS5.6							
YAK	**Yakutsk**	**154.47**	**55**	*e*PKIKP	PKPdf	14 19 15.6	+6.2	
YAK				MLR	MLR			
	comp=Z,1μm,21.0s,MS5.7							
SIT	**Sitka**	**154.66**	**293**	PFAKE		14 19 20.0	+10	
SIT				LR	LR			
	comp=Z,1μm,20.0s,MS5.8							
INK	**Inuvik**	**154.83**	**319**	*e*PKIKP	PKPdf	14 19 07.3	-2.4	
INK	**Inuvik**	**154.83**	**319**	PKP	PKPdf	14 19 08.2	-1.4	
	comp=Z,3.8nm,0.9s,baz=113,slow=3.2,SNR=9.6							
INK				PKPbc	PKPdf	14 19 16.7	+7.1	
	comp=Z,12nm,0.9s,baz=97,slow=2.5,SNR=22							
YSS	**Yuzh-Sakhalins**	**156.31**	**96**	*i* PKIKP	PKPdf	14 19 19.1	+6.8	
YSS	**Yuzh-Sakhalins**	**156.31**	**96**	PFAKE		14 19 20.0	+7.7	
YSS				LR	LR			
	comp=Z,5μm,22.0s,MS6.3							
DAWY	**Dawson**	**157.54**	**309**	*e*PKPdf	PKPdf	14 19 12.9	-0.5	
DAWY				*e*PKPab	PKPab	14 19 44.7	+0.1	
DIV	**Divide**	**160.57**	**301**	PFAKE		14 19 30.0	+13	
DIV				LR	LR			
	comp=Z,4μm,22.0s							
COLA	**College**	**161.06**	**313**	PFAKE		14 19 30.0	+13	
COLA				LR	LR			
	comp=Z,540nm,20.0s							
MCK	**McKinley**	**161.77**	**310**	PFAKE		14 19 30.0	+12	
MCK				LR	LR			
	comp=Z,643nm,21.0s							
FIB	**Fire Island**	**162.71**	**302**	PFAKE		14 19 30.0	+11	
FIB				LR	LR			
	comp=Z,1μm,19.0s							
IMA	**Indian Mountai**	**162.96**	**319**	PKIKP	PKPdf	14 19 19.9	+0.7	
SEY	**Seymchan**	**164.86**	**50**	*e*PKIKP	PKPdf	14 19 22.6	+1.4	
SEY				pmax	pmax			
	comp=Z,20nm,1.1s							
BILL	**Bilibino**	**166.26**	**19**	*d* PKIKP	PKPdf	14 19 16.9	-5.4	
BILL				pmax	pmax			
	comp=Z,200nm,4.1s							
BILL				pmax	pmax			
	comp=Z,12nm,2.3s							
BILL	**Bilibino**	**166.26**	**19**	*e*PKPdf	PKPdf	14 19 18.9	-3.3	
TNA	**Tin City**	**167.96**	**332**	PKP	PKPdf	14 19 17.6	-5.9	
TNA				LR	LR			
	comp=Z,989nm,22.0s							
PET	**Petropavlovsk**	**168.19**	**94**	*i* PKIKP	PKPdf	14 19 23.2	-0.7	
UNV	**Unalaska Valle**	**171.09**	**265**	PFAKE		14 19 30.0	+4.4	
UNV				LR	LR			
	comp=Z,6μm,21.0s							
SMY	**Shemya**	**176.20**	**136**	PFAKE		14 19 40.0	+12	
SMY				LR	LR			
	comp=Z,3μm,19.0s							

*CSEM **23** 14:21:17.7±0.2,59.31N×27.48E,h2km,ML2.0, Error ellipse: s-maj=5.1km s-min=2.4km az=139.0, Suspected Mining explosion.*
*UPP **23** 14:21:18.5,59.17N×27.71E,h0km,ML1.7, Suspected Mining explosion.*
*BER **23** 14:21:19.4±4.6,59.36N×27.77E,ML2.6(NAO), Suspected explosion*
*NAO **23** 14:21:21.2±4.1,59.45N×27.34E,ML2.6*

HEL 23 14:21:16.4±0.2,59.13N×27.88E,ML2.0,ML1.7(UPP), **ML2.6**(NAO),**Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**1.42**	**354**	*e*P	Pb	14 21 40.8	-2.6
VJF				*e*S	Sb	14 21 59.7	-2.3
VJF	**Virojoki**	**1.42**	**354**	P	Pb	14 21 40.8	-2.6
VJF				S	Sb	14 21 59.6	-2.4
PVF	**Pernaja**	**1.74**	**325**	*e*P	Pn	14 21 47.6	-0.6
PVF				*e*S	Sn	14 22 10.1	-1.3
PVF	**Pernaja**	**1.74**	**325**	P	Pn	14 21 47.5	-0.6
FIA0	**FINESS Array S**	**2.48**	**340**	*e*P	Pn	14 21 57.5	-1.3
FIA0				*e*SG	Sg	14 22 32.6	-6.5
FIA0	**FINESS Array S**	**2.48**	**340**	Pn	Pn	14 21 57.5	-1.2
	baz=156,slow=16						
FIA0				Lg		14 22 28.2	
	baz=163,slow=28						
FIA0	**FINESS Array S**	**2.48**	**340**	P	Pn	14 21 57.4	-1.3
KAF	**Kangasniemi**	**3.09**	**346**	*e*P	Pn	14 22 06.3	-1.0
KAF				MSG		14 22 51.5	
	comp=Z,2.7nm,0.2s						
KAF	**Kangasniemi**	**3.09**	**346**	P	Pn	14 22 06.3	-1.0
	comp=Z,2.7nm,0.2s						
KEF	**Keuruu**	**3.38**	**335**	*e*P	Pn	14 22 10.9	-0.6
KEF				MSG		14 23 08.1	
	comp=Z,3.8nm,0.3s						
KEF	**Keuruu**	**3.38**	**335**	P	Pn	14 22 10.9	-0.7
	comp=Z,3.8nm,0.3s						
SUF	**Sumiainen**	**3.69**	**348**	*e*P	Pn	14 22 15.0	-1.0
SUF	**Sumiainen**	**3.69**	**348**	P	Pn	14 22 14.9	-1.1
AAL	**Aland**	**4.14**	**288**	*e*P	Pn	14 22 22.3	+0.1
NRTU	**Norrtaelje**	**4.76**	**281**	*e*P	Pn	14 22 29.4	-1.7
NRTU	**Norrtaelje**	**4.76**	**281**	P	Pn	14 22 29.3	-1.8
GRAU	**Graesoe**	**4.88**	**288**	*e*P	Pn	14 22 29.6	-3.2
GRAU				*e*S	Sn	14 23 25.5	-5.3
NYNU	**Nynaeshamn**	**5.10**	**273**	*e*P	Pn	14 22 34.1	-1.8
ARNU	**Arnoeviken**	**5.80**	**301**	*e*S	Sn	14 23 48.5	-5.5
UMAU	**Umeaa**	**5.88**	**327**	*e*P	Pn	14 22 44.5	-2.3
UMAU	**Umeaa**	**5.88**	**327**	P	Pn	14 22 44.5	-2.4
BURU	**Burvik**	**6.27**	**333**	*e*P	Pn	14 22 49.2	-3.2
BREU	**Bredtraesk**	**6.52**	**321**	*e*P	Pn	14 22 53.1	-2.8
SVAU	**Svanoeiden**	**6.66**	**327**	*e*P	Pn	14 22 54.5	-3.4
SJUU	**Sjulsmark**	**7.03**	**338**	*e*P	Pn	14 22 59.7	-3.4
LILU	**Lilltraesk**	**7.22**	**332**	*e*P	Pn	14 23 01.7	-4.1
HFS	**Hagfors**	**7.26**	**284**	Pn	Pn	14 23 03.0	-3.4
	baz=122,slow=14						
HFS				Sn	Sn	14 24 22.7	-7.9
	baz=93,slow=28						
HFS				Lg		14 24 59.0	
	baz=100,slow=28						
HFS	**Hagfors**	**7.26**	**284**	*e*P	Pn	14 23 03.0	-3.4
HFS				*e*S	Sn	14 24 22.7	-7.9
HFS				*e*SG	Sg	14 24 59.0	-19
HFS	**Hagfors**	**7.26**	**284**	P	Pn	14 23 03.0	-3.4
HFS				Sg	Sg	14 24 58.9	-19
ERTU	**Ertsjaerv**	**7.89**	**343**	*e*P	Pn	14 23 11.1	-4.0
ARA0	**ARCESS Array S**	**10.49**	**355**	Pn	P	14 23 45.0	-6.0
	baz=177,slow=14						
ARA0				Sn	S	14 25 35.0	-15
	baz=174,slow=28						
ARA0	**ARCESS Array S**	**10.49**	**355**	*e*P	P	14 23 45.0	-6.0
ARA0				*e*S	S	14 25 35.0	-15

*NEIC **23** 14:32:26.0,32.63S×71.68W,h29km,ML3.0(GUC), After GUC.*

GUC 23 14:32:26.0±0.7,32.63S×71.68W,h29km±3km,MD3.9, ML3.0,2C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	**0.22**	**64**	⇓*i*P	Pb	14 32 32.8	+0.4
PACH				*i* S	Sb	14 32 37.6	+0.9
IHA	**Instituto Hidr**	**0.39**	**176**	*e*P	Pb	14 32 34.3	-0.4
IHA				*i* S	Sb	14 32 40.5	-0.1
ROCH	**El Roble**	**0.65**	**121**	⇑*i*P	Pb	14 32 38.9	+0.1
ROCH				*i* S	Sb	14 32 48.3	+0.7
CHNG	**Los Chungos**	**0.76**	**11**	⇓*i*P	Pb	14 32 40.0	-0.7
CHNG				*i* S	Sb	14 32 50.3	-0.5
CHNG				AMP		14 32 51.1	
	comp=E,432nm,0.4s						
LCCH	**Las Cruces**	**0.84**	**174**	*e*P	Pn	14 32 41.4	-0.6
JACH	**Jahuel**	**0.91**	**93**	⇑*i*P	Pn	14 32 42.7	-0.3
JACH				*i* S	Sb	14 32 55.3	+0.3
TACH	**Talagante**	**1.19**	**149**	*e*P	Pn	14 32 47.0	+0.1
CLCH	**Cerro Calan**	**1.22**	**129**	⇓*i*P	Pn	14 32 47.6	+0.2
CLCH				*i* S	Sn	14 33 03.7	+0.7
CLCH				AMP		14 33 10.6	
	comp=N,719nm,0.4s						
LNV	**Longovilo**	**1.34**	**171**	*e*P	Pn	14 32 48.8	-0.2
FCH	**Farellones**	**1.35**	**121**	⇓*i*P	Pn	14 32 49.7	+0.5
FCH				*i* S	Sn	14 33 08.1	+1.7
FCH				AMP		14 33 09.1	
	comp=E,504nm,0.2s						
PCH	**Pirque**	**1.39**	**136**	*e*P	Pn	14 32 50.2	+0.4
CHCH	**Chadas Angostu**	**1.55**	**147**	*e*P	Pn	14 32 52.8	+0.6
LMEL	**Las Melosas**	**1.73**	**135**	*e*P	Pn	14 32 55.7	+1.1
LMEL				*i* S	Sn	14 33 18.5	+2.6
LMEL				AMP		14 33 22.5	
	comp=N,575nm,0.1s						
CICH	**Cipreses**	**1.98**	**148**	*e*P	Pn	14 32 59.4	+1.1
SFDO	**San Fernando**	**2.05**	**165**	*e*P	Pn	14 32 59.5	+0.3
TLL	**Tololo Astrono**	**2.57**	**17**	*e*P	Pn	14 33 07.6	+0.9

IDC 23 14:42:39.6±1.5,1.63N×127.81E,mb3.7/4,mb1 3.8/4, mb1mx3.6/13,mbtmp3.6/4,Error ellipse: s-maj=146.3km s-min=26.7km az=72.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.38**	**164**	P	P	14 47 40.7	-0.4
	0.2nm,0.3s,baz=344,slow=11,SNR=15						
ASAR	**Alice Springs**	**25.84**	**167**	P	P	14 48 11.7	-2.9
	0.2nm,0.8s,baz=348,slow=7.8,SNR=3.9						
ARCES	**ARCESS Array B**	**92.78**	**340**	P	P	14 55 53.3	-1.5
	3.1nm,1.0s,baz=79,slow=6.2,SNR=7.9						
FINES	**FINESS Array B**	**94.18**	**332**	P	P	14 56 00.8	-0.6
	0.5nm,0.6s,baz=63,slow=3.1,SNR=5.4						

MAN 23 14:43:15.1,5.92N×126.19E,h10km,mb4.6,ML3.4,MS3.3, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.54**	**315**	⇓*e*P	Pn	14 43 42.2	-0.5
KCP				*i* S	Sb	14 44 03.8	+1.1
BUKP	**Musuan**	**2.25**	**330**	*e*P	Pn	14 43 53.1	+0.2
BUKP				*e*S	Sn	14 44 20.8	-0.1
BUTP	**Butuan**	**3.08**	**350**	*e*P	Pn	14 44 04.4	-0.5
PAGZ	**Pagadian**	**3.38**	**305**	*e*P	Pn	14 44 09.1	0.0

*SNSN **23** 14:52:29.1,27.72N×34.35E,h10km,Ml2.4*
*GII **23** 14:52:31.9±0.8,27.41N×34.55E,h6km±30km,ML3.3/2*
*CSEM **23** 14:52:32.2±0.9,27.42N×34.74E,h2km,ML2.4, Error ellipse: s-maj=33.9km s-min=9.2km az=68.0*

ISC 23 14:52:32.9±1.4,27.47N±0.06×34.8E±0.1,h10km,n13, σ1ß14/18,Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYUS	**'Aynunah**	**0.81**	**28**	P	**Pb**	**14 52 47.3**	**-1.3**
AYUS				S	**Sb**	**14 52 59.3**	**-0.2**
BDAS	**Al Bad'**	**0.99**	**14**	P	**Pb**	**14 52 48.1**	**-3.5**
HAQS	**Haql**	**1.58**	**3**	P	**Pn**	**14 52 55.0**	**-6.2**
JMQS	**Jabal Moqyreh**	**1.69**	**33**	P	**Pn**	**14 53 00.3**	**-2.4**
TBKS	**Tabuk**	**1.69**	**63**	P	**Pn**	**14 53 03.7**	**+0.9**
JMOS	**Jabal al Moall**	**1.71**	**8**	P	**Pn**	**14 52 57.3**	**-5.7**
EIL	**Elat**	**2.19**	**3**	Pn	**Pn**	**14 53 09.8**	**-0.2**
EIL				Sn	**Sn**	**14 53 38.7**	**+1.3**
MBH	**Mount Berech**	**2.32**	**2**	Sn	**Sn**	**14 53 42.0**	**+1.5**
HRFI	**Mount Harif**	**2.56**	**4**	Pn	**Pn**	**14 53 14.1**	**-1.2**
HRFI				Sn	**Sn**	**14 53 47.8**	**+1.0**
KMTI	**Karmit**	**2.63**	**358**	Pn	**Pn**	**14 53 15.0**	**-1.2**
KMTI				Sn	**Sn**	**14 53 48.5**	**+0.1**
PRNI	**Paran**	**2.88**	**3**	Pn	**Pn**	**14 53 20.0**	**+0.3**
PRNI				Sn	**Sn**	**14 53 55.0**	**+0.2**
UMJS	**Umm Lajj**	**3.14**	**135**	P	**Pn**	**14 53 25.2**	**+1.7**
KZIT	**Kziot**	**3.45**	**354**	Sn	**Sn**	**14 54 09.2**	**0.0**

GUC 23 14:53:01.5±0.8,27.91S×71.37W,h60km,ML4.1,1C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.06**	**59**	⇑*i*P	P	14 53 20.8	+0.3
CPCH				*i* S	S	14 53 35.2	+0.5
CPCH				AMP		14 53 37.4	
	comp=E,8μm,0.1s						
LCO	**Las Campanas**	**1.25**	**152**	⇓*i*P	P	14 53 23.8	+0.6
LCO				*i* S	S	14 53 41.0	+1.7
LCO				AMP		14 53 46.2	
	comp=E,4μm,0.6s						
LSCH	**La Serena**	**2.00**	**177**	*e*P	P	14 53 33.6	0.0
LSCH				AMP		14 54 38.4	
	comp=E,1μm,0.5s						
TLL	**Tololo Astrono**	**2.31**	**168**	*e*P	P	14 53 38.5	+0.6
TLL				*i* S	S	14 54 05.8	+0.7
TLL				AMP		14 54 20.3	
	comp=E,2μm,0.8s						
CPN1	**Cerro Paranal**	**3.38**	**15**	*e*P	P	14 53 50.0	-3.2
CPN1				*i* S	S	14 54 28.7	-3.6
FCH	**Farellones**	**5.48**	**170**	*e*P	P	14 54 21.4	-1.0

*BJI **23** 14:54:07.4, 6.70S×155.43E,h24km,mB5.2,mb4.7,Ms5.3, Msz4.8*
*NEIC **23** 14:54:09.1±0.3,6.88S×155.76E,mb4.9/22, Error ellipse: s-maj=7.5km s-min=6.2km az=119.0*
*HRVD **23** 14:54:09.1±0.4,7.13S×155.69E,h43km±2km,MW5.2/42, Centroid moment Tensor Solution. LP body waves: s24,c31;Mantle waves: s42,c66; Half duration: 1ß0*

Moment tensor: Scale 10^{16}Nm; M_{rr}=3.75±.73; $M_{\theta\theta}$2.07±.44; $M_{\phi\phi}$1.68±.45; $M_{r\theta}$3.58±.35; $M_{\theta\phi}$6.11±.34; $M_{\phi r}$-1.66±.38; Best double couple: M_o7.959×10^{16} NP1: ϕ_s10°,δ55°,λ-151°. NP2:ϕ_s262°,δ67°,λ-39°. Principal axes: T 8.173, Plg7°, Azm318°; N -.428, Plg46°, Azm56°; P -7.745, Plg43°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
*MOS **23** 14:54:10.8±0.9,6.91S×155.72E,h75km,mb4.8/14 Error ellipse: s-maj=13.2km s-min=8.8km az=56.2*
*CSEM **23** 14:54:10.7,6.91S×155.68E,h66km,mb5.8*
*IDC **23** 14:54:12.2±2.2,7.00S×155.71E,h71km±18km,mb4.5/11, mb1 4.7/14,mb1mx4.6/17,mbtmp4.9/14,MS4.4/9, Ms1 4.4/9,ms1mx4.1/20,Error ellipse: s-maj=17.8km s-min=13.3km az=132.0*

ISC 23 14:54:07.3±0.3,6.90S±0.04×155.75E±0.04,h44km, h44km±2.2km:pP-P,n123,σ1ß03/109,mb4.8/49,MS4.4/9, 3C-9D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.86**	**121**	*e*P	**P**	**14 55 21.7**	**+1.9**
PMG	**Port Moresby**	**8.86**	**253**	*e*P	**P**	**14 56 17.4**	**+1.7**
PMG				pmax	pmax		
	comp=Z,191nm,0.8s						
PMG	**Port Moresby**	**8.86**	**253**	P	**P**	**14 56 18.1**	**+2.4**
	comp=Z,7.1nm,0.3s,baz=47,slow=9.0,SNR=37						
PMG				S	**S**	**14 57 56.9**	**+1.7**
	comp=Z,2.7nm,0.3s,baz=146,slow=19,SNR=3.6						
PMG				LR	LR	14 59 25.6	
	comp=Z,2μm,21.9s,baz=72,slow=36						
PMG	**Port Moresby**	**8.86**	**253**	*e*P	**P**	**14 56 17.4**	**+1.8**
	comp=Z,191nm,0.8s						
CTA	**Charters Tower**	**16.02**	**214**	⇑*i*P	**P**	**14 57 53.4**	**+2.1**
	comp=Z,95nm,1.0s						
CTA	**Charters Tower**	**16.02**	**214**	⇑*i*P	**P**	**14 57 53.4**	**+2.1**
CTA				pmax	pmax		
	comp=Z,95nm,1.0s						
CTA	**Charters Tower**	**16.02**	**214**	P	**P**	**14 57 53.7**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=38,slow=12,SNR=55						
CTAO	**Charters Tower**	**16.02**	**214**	*e*P	**P**	**14 57 53.4**	**+2.1**
CTAO				pmax	pmax		
	comp=Z,226nm,1.1s						
CTAO	**Charters Tower**	**16.02**	**214**	*e*P	**P**	**14 57 53.4**	**+2.1**
	comp=Z,226nm,1.1s						
NOUC	**Port Laguerre**	**18.22**	**147**	*e*P	**P**	**14 58 19.1**	**+0.2**
DZM	**Mont Dzumac**	**18.28**	**147**	*e*P	**P**	**14 58 18.8**	**-0.7**
DZM	**Mont Dzumac**	**18.28**	**147**	P	**P**	**14 58 20.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=353,slow=8.3,SNR=12						
DZM				LR	LR	15 04 21.4	
	comp=Z,957nm,19.0s,baz=214,slow=33						
KAKA	**Kakadu**	**23.67**	**254**	⇓*i*P	**P**	**14 59 16.7**	**+0.7**
	comp=Z,43nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**24.48**	**236**	P	**P**	**14 59 24.0**	**+0.2**
	comp=Z,456nm,1.3s,mb5.7,SNR=56						
WRAB	**Tennant Creek**	**24.48**	**236**	⇓*i*P	**P**	**14 59 24.1**	**+0.3**
WRAB	**Tennant Creek**	**24.48**	**236**	*e*P	**P**	**14 59 23.6**	**-0.1**
	comp=Z,499nm,1.8s,mb5.6						
WB2	**Warramunga Arr**	**24.48**	**236**	⇓*i*P	**P**	**14 59 24.4**	**+0.6**
WRA	**Warramunga Arr**	**24.48**	**236**	P	**P**	**14 59 24.5**	**+0.6**
	comp=Z,56nm,1.0s,mb4.9,baz=63,slow=9.5,SNR=145						
WRA				S	**S**	**15 03 39.3**	**+0.9**
	comp=Z,1.6nm,1.1s,baz=56,slow=1.6,SNR=2.1						
WRA				ScP		15 06 37.0	
	comp=Z,1.7nm,0.8s,baz=53,slow=2.9,SNR=6.8						
ASAR	**Alice Springs**	**26.80**	**229**	P	**P**	**14 59 44.4**	**-1.2**
	comp=Z,17nm,0.9s,mb4.6,baz=61,slow=8.9,SNR=112						
ASAR				LR	LR	15 09 56.6	
	comp=Z,696nm,18.3s,MS4.2,baz=127,slow=35						
ASPA	**Alice Springs**	**26.80**	**229**	⇓*i*P	**P**	**14 59 44.5**	**-1.0**
STKA	**Stephens Creek**	**28.14**	**206**	P	**P**	**14 59 56.4**	**-1.3**
	comp=Z,27nm,0.8s,mb5.0,baz=32,slow=13,SNR=20						
STKA				LR	LR	15 10 23.0	
	comp=Z,1μm,20.9s,MS4.4,baz=16,slow=35						
STKA	**Stephens Creek**	**28.14**	**206**	*e*P	**P**	**14 59 56.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**31.38**	**246**	⇓*i*P	**P**	**15 00 25.6**	**-0.9**
	comp=Z,103nm,0.8s,mb5.7						
FITZ	**Fitzroy Crossi**	**31.38**	**246**	P	**P**	**15 00 25.9**	**-0.6**
	comp=Z,139nm,0.8s,mb5.8,baz=79,slow=4.1,SNR=110						
FITZ				LR	LR	15 12 44.2	
	comp=Z,683nm,18.5s,MS4.3,baz=85,slow=36						
FORT	**Forrest**	**35.17**	**224**	⇓*i*P	**P**	**15 00 58.1**	**-1.1**
	comp=Z,2μm,0.9s						
URZ	**Urewera**	**36.73**	**151**	LR	LR	15 14 59.3	
	comp=Z,494nm,18.6s,MS4.3,baz=260,slow=34						
MBWA	**Marble Bar**	**37.59**	**244**	*e*P	**P**	**15 01 19.2**	**-0.5**
RPZ	**Rata Peaks**	**39.05**	**162**	P	**P**	**15 01 31.3**	**-0.3**
	comp=Z,31nm,0.9s,mb5.0,baz=17,slow=1.1,SNR=18						
RPZ				LR	LR	15 14 59.6	
	comp=Z,780nm,21.1s,MS4.5,baz=344,slow=32						
KKM	**Kota Kinabalu**	**41.49**	**287**	*e*P	**P**	**15 01 52.6**	**+0.5**
KLBR	**Kellerberrin**	**43.12**	**230**	⇓*i*P	**P**	**15 02 04.2**	**-1.2**
	comp=Z,463nm,0.9s						
NWAO	**Narrogin (SRO)**	**44.12**	**229**	P	**P**	**15 02 11.4**	**-2.0**
	comp=Z,20nm,1.0s,mb4.8,baz=96,slow=5.1,SNR=4.4						
NWAO	**Narrogin (SRO)**	**44.12**	**229**	*e*P	**P**	**15 02 12.9**	**-0.5**
MUN	**Mundaring**	**44.47**	**231**	⇓*i*P	**P**	**15 02 15.6**	**-0.7**
	comp=Z,23nm,1.0s,mb4.9						
MUN	**Mundaring**	**44.47**	**231**	⇓*i*P	**P**	**15 02 15.6**	**-0.7**
MUN				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.9						
RAR	**Rarotonga**	**45.26**	**113**	LR	LR	15 17 38.9	
	comp=Z,486nm,18.2s,MS4.5,baz=299,slow=31						
KSM	**Kuching**	**46.10**	**279**	*e*P	**P**	**15 02 29.3**	**-0.3**
MAT	**Matsushiro**	**46.24**	**340**	P	**P**	**15 02 30.0**	**-0.3**
MAT	**Matsushiro**	**46.24**	**340**	P	**P**	**15 02 29.5**	**-0.8**
PPT	**Papeete**	**54.31**	**107**	*e*LQ		15 17 20.7	
PPT				*e*LR	LR	15 19 40.3	
	comp=Z,222nm

GTA XP sP 15 05 19.6 -10
GTA AMB AMB
comp=Z,3.0nm,1.2s,mb4.1
ULN Ulaanbaatar 69.33 327 *e*P **P 15 05 13.2 +0.9**
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ULN Ulaanbaatar 69.33 327 *e*P **P 15 05 13.2 +0.8**
comp=Z,3.6nm,0.7s,mb4.4
SONM Songino Array 69.66 327 P **P 15 05 15.3 +1.0**
comp=Z,3.9nm,0.7s,mb4.4,baz=140,slow=6.5,SNR=34
VNDA Vanda 70.66 179 P **P 15 05 19.5 -0.4**
comp=Z,3.3nm,0.9s,mb4.2,baz=2.1,slow=8.9,SNR=5.1
VNDA LR LR 15 31 43.4
comp=Z,286nm,18.0s,MS4.6,baz=352,slow=32
LSA Lhasa 71.84 304 P **P 15 05 29.6 +1.8**
LSA Lhasa 71.84 304 *e*P **P 15 05 28.4 +0.6**
LSA pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSA Lhasa 71.84 304 *e*P **P 15 05 28.4 +0.7**
comp=Z,7.2nm,0.9s,mb4.6
BOD Bodaibo 72.81 338 *e*P **P 15 05 32.3 -0.7**
BOD pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
ZAK Zakamensk 72.81 328 *e*P **P 15 05 33.5 +0.3**
ZAK pmax pmax
comp=Z,4.0nm,11.0s
TLY Talaya 73.36 329 *i* P **P 15 05 37.3 +0.9**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BILL Bilibino 75.13 4 *e*P **P 15 05 46.2 -0.1**
BILL *e**PP pP 15 06 00.3 +1.0
BILL pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BILL Bilibino 75.13 4 *e*P **P 15 05 46.2 -0.1**
comp=Z,8.4nm,0.9s,mb4.7
BILL *e*pP pP 15 06 00.3 +1.0
JIRN Jiri 75.38 301 *e*P **P 15 05 49.1 +0.5**
comp=Z,10nm,0.6s,mb5.0
GUN Gumba 75.71 301 *e*P **P 15 05 50.8 +0.3**
comp=Z,27nm,0.7s,mb5.3
PKI Pulchoki 76.02 301 *e*P **P 15 05 51.7 -0.5**
comp=Z,25nm,1.1s,mb5.0
KKN Kakani 76.19 301 *e*P **P 15 05 53.2 0.0**
comp=Z,19nm,0.8s,mb5.1
DMN Daman 76.29 300 *e*P **P 15 05 54.2 +0.4**
comp=Z,15nm,0.6s,mb5.1
GKN Gorkha 76.80 301 *e*P **P 15 05 56.5 -0.1**
comp=Z,18nm,0.7s,mb5.1
TNA Tin City 77.04 15 *e*P **P 15 06 00.6 +3.4**
comp=Z,2.3nm,0.8s,mb4.2
KOLN Koldanda 77.62 300 *e*P **P 15 06 00.8 -0.4**
comp=Z,22nm,0.8s,mb5.1
WMQ Urumqi 79.27 317 *e*P **P 15 06 11.3 +1.4**
WMQ AMB AMB
comp=Z,6.0nm,1.3s,mb4.4
WMQ AMB AMB
comp=Z,87nm,5.1s
WMQ LR LR
comp=Z,132nm,26.4s,MS4.2
HYB Hyderabad 79.95 289 *e*P **P 15 06 14.0 -0.1**
HYB Hyderabad 79.95 289 *i* P **P 15 06 14.0 -0.1**
HYB *e* pP 15 06 25.5 -1.7
TIXI Tiksi 80.37 352 *e*P pP 15 06 25.6 -2.8
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
SML Sawmill 80.84 23 *e*P **P 15 06 16.1 -1.8**
IMA Indian Mountai 81.47 19 *e*P **P 15 06 21.1 -0.1**
IMA pmax pmax
comp=Z,32nm,1.3s,mb5.1
IMA Indian Mountai 81.47 19 *e*P **P 15 06 21.1 -0.1**
comp=Z,32nm,1.3s,mb5.1
MCK McKinley 81.69 22 *e*P **P 15 06 21.5 -0.8**
MCK pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
MCK McKinley 81.69 22 *e*P **P 15 06 21.5 -0.8**
comp=Z,2.5nm,0.8s,mb4.2
MCK *e*pP pP 15 06 34.4 -1.0
COLA College 82.72 21 *e*P **P 15 06 26.8 -0.8**
COLA pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
COLA College 82.72 21 *e*P **P 15 06 26.8 -0.8**
comp=Z,4.0nm,0.7s,mb4.4
QSPA South Pole Qui 83.07 180 *e*P **P 15 06 28.8 -0.3**
comp=Z,44nm,1.3s,mb5.3
KAD Karad 84.04 288 *e*P **P 15 06 34.5 -0.9**
ZAL Zalesovo 84.53 326 P **P 15 06 37.5 +0.5**
comp=Z,1.2nm,0.6s,mb4.2,baz=18,slow=4.9,SNR=7.6
POO Poona 84.55 289 *e* **P 15 06 37.0 -0.9**
NVS Novosibirsk 85.69 326 *i* P **P 15 06 41.8 -0.9**
KSH Kashi 86.52 310 *e*P **P 15 06 48.6 +1.5**
KSH *e*PP PP 15 10 12.3 +1.1
KSH *e*PPP PPP 15 12 08.3 -0.1
KSH *e*SKS SKS 15 17 06.4 -0.8
KSH *e*S S 15 17 18.9 +0.3
KSH *e*SS SS 15 23 03.3 +0.4
KSH AMB AMB
comp=Z,310nm,3.4s
KSH LR LR
comp=N,340nm,5.5s
KSH LR LR
comp=E,440nm,5.9s
KURK Kurchatov 87.22 322 *i* P **P 15 06 50.3 0.0**
KURK Kurchatov 87.22 322 *e*P **P 15 06 46.6 -3.6**
comp=E,1.3nm,0.5s,mb4.4
AAK Ala-Archa 88.23 313 *i* P **P 15 06 55.6 +0.3**
AAK pmax pmax
comp=Z,10.0nm,2.3s,mb4.6
AAK MLR MLR
comp=Z,200nm,18.0s,MS4.6
INK Inuvik 89.37 21 *e*P **P 15 06 59.6 -0.5**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 89.37 21 P **P 15 07 00.5 +0.3**
comp=Z,0.9nm,0.6s,mb4.3,baz=255,slow=7.1,SNR=9.1
INK Inuvik 89.37 21 *e*P **P 15 06 59.5 -0.6**
comp=Z,0.7nm,0.5s,mb4.2
MNV Mina 91.19 52 P **P 15 07 14.8 +5.4**
CHKZ Chkalovo 92.63 324 *e*P **P 15 07 13.9 -1.7**
CHKZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
CHKZ Chkalovo 92.63 324 *e*P **P 15 07 13.9 -1.7**
comp=Z,3.7nm,0.9s,mb4.8
YKW3 Yellowknife Ar 95.90 28 *e*P **P 15 07 30.5 +0.3**
YKA Yellowknife Ar 95.90 28 P **P 15 07 30.6 +0.3**
comp=Z,0.3nm,0.5s,mb4.0,baz=268,slow=4.7,SNR=11
PV01 Paradox Valley 98.68 53 *e*P **P 15 07 45.8 +2.4**
MOS Moscow 111.29 328 *e*PKIKP PKPdf 15 12 43.4 +7.1
FINES FINESS Array B 114.16 336 PKP PKPdf 15 12 42.2 +0.4
comp=Z,0.8nm,0.7s,baz=90,slow=5.6,SNR=4.6
AKASG Malin Array Be 117.90 325 PKP PKPdf 15 12 50.0 +0.8
comp=Z,0.3nm,0.3s,baz=56,slow=2.7,SNR=6.1
NB2 NORSAR Subarra119.86 341 PKPdf PKPdf 15 12 53.0 +0.2
comp=Z,0.8nm,0.6s,baz=38,slow=1.8
NOA NORSAR Array B 119.86 341 PKP PKPdf 15 12 53.3 +0.4
comp=Z,0.9nm,0.6s,baz=44,slow=2.0,SNR=4.7
KHC Kasperske Hory 127.24 330 *e*PKIKP PKPdf 15 13 08.5 +1.1
KHC *e* 15 13 31.0
KHC Kasperske Hory 127.24 330 *e*PKPDF PKPdf 15 13 08.5 +1.1
KHC x x 15 13 31.0
GERES GERESS Array B 127.36 329 PKP PKPdf 15 13 09.4 +1.7
comp=Z,1.6nm,0.7s,baz=90,slow=1.3,SNR=12
TSUM Tsumeb 131.31 237 PKP PKPdf 15 13 18.2 +2.3
comp=Z,1.2nm,0.6s,baz=190,slow=7.4,SNR=3.8
BDFB Brasilia 147.51 134 PKPbc PKPdf 15 13 49.9 +4.8
comp=Z,5.7nm,0.9s,baz=234,slow=3.5,SNR=7.1
BAO Brasilia Array 147.53 134 P PKPdf 15 13 49.0 +3.9

*IDC **23** 15:07:22.1±1.4,5.86S×146.75E,mb3.7/3,mb1 3.9/6, mb1mx3.9/11,mbtmp3.8/6,ML3.5/3,Error ellipse: s-maj=40.0km s-min=17.2km az=102.0*
*NEIC **23** 15:07:23.6±0.8,5.88S×146.83E,h10km,mb4.3/2,Error ellipse: s-maj=19.2km s-min=8.7km az=89.0*
ISC 23 15:07:25.0±1.2,5.91S±0.09×146.8E±0.2,h33km,n13, σ0s80/15,mb3.9/4,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.49**	**175**	Pn	**Pn**	**15 08 18.6**	**+0.2**
	7.8nm,0.3s,baz=20,slow=8.1,SNR=24						
PMG				Sn	**Sn**	**15 09 04.1**	**+5.1**
	18nm,0.3s,baz=143,slow=22,SNR=7.6						
CTA	**Charters Tower**	**14.11**	**182**	Pn	**P**	**15 10 44.0**	**-0.7**
	0.2nm,0.3s,baz=340,slow=12,SNR=2.6						
WRAB	**Tennant Creek**	**18.48**	**220**	*e*P	**P**	**15 11 39.8**	**-0.7**
	6.1nm,0.8s						
WB2	**Warramunga Arr**	**18.49**	**220**	*e*P	**P**	**15 11 39.9**	**-0.7**
WRA	**Warramunga Ar**	**18.50**	**220**	P	**P**	**15 11 40.2**	**-0.5**
	0.2nm,0.3s,baz=44,slow=11,SNR=6.9						
WRA				PcP	PcP	15 16 09.2	-0.9
	0.1nm,0.3s,baz=29,slow=1.8,SNR=7.1						
ASAR	**Alice Springs**	**21.60**	**214**	P	**P**	**15 12 13.9**	**-0.2**
	1.5nm,0.5s,mb3.7,baz=46,slow=8.5,SNR=27						
ASAR				S	**S**	**15 16 14.6**	**+8.1**
	0.9nm,0.7s,baz=36,slow=23,SNR=4.8						
ASPA	**Alice Springs**	**21.60**	**214**	*e*P	**P**	**15 12 14.8**	**+0.7**
ASPA				*e*S	**S**	**15 16 11.3**	**+4.8**
FITZ	**Fitzroy Crossi**	**23.98**	**238**	*e*P	**P**	**15 12 39.3**	**+1.7**
	12nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**26.30**	**190**	P	**P**	**15 13 00.0**	**+0.5**
	1.4nm,0.5s,mb3.8,baz=8.1,slow=9.5,SNR=6.4						
STKA	**Stephens Creek**	**26.30**	**190**	P	**P**	**15 12 59.9**	**+0.3**
HIA	**Hailar**	**59.81**	**340**	*e*P	**P**	**15 17 28.8**	**-0.6**
SONM	**Songino Array**	**64.24**	**331**	P	**P**	**15 17 59.3**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=141,slow=7.0,SNR=4.8						
DBIC	**Dimbokro**	**151.85**	**273**	PKPbc	PKPdf	15 27 19.3	+8.3
	1.6nm,0.6s,baz=115,slow=1.5,SNR=5.0						

*NEIC **23** 15:20:14.9±4.4,23.57S×179.58E,h556km±43km,mb4.3/5, Error ellipse: s-maj=86.7km s-min=20.6km az=60.0*
*IDC **23** 15:20:20.5±2.0,23.92S×178.82E,h552km±22km,mb3.6/7, mb1 3.7/8,mb1mx3.5/15,mbtmp4.6/8,Error ellipse: s-maj=32.2km s-min=21.5km az=53.0*
ISC 23 15:20:18.2±2.0,23.7S±0.1×179.3E±0.3,h600km,n20, σ0s72/23,mb4.3/9,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.63**	**187**	P	**P**	**15 23 21.7**	**-0.9**
	1.0nm,0.3s,baz=353,slow=6.5,SNR=8.5						
URZ				S	**S**	**15 25 51.7**	**+0.8**
	0.3nm,0.3s,baz=302,slow=22,SNR=9.7						
SNZO	**South Karori**	**17.97**	**191**	*e*P	**P**	**15 23 53.4**	**-1.0**
	7.9nm,0.6s						
QRZ	**Quartz Range**	**17.99**	**197**	PN	**P**	**15 23 55.9**	**+1.3**
THZ	**Tophouse**	**18.78**	**195**	PN	**P**	**15 24 02.2**	**+0.2**
LTZ	**Lake Taylor**	**19.90**	**195**	PN	**P**	**15 24 11.2**	**-1.0**
RPZ	**Rata Peaks**	**21.08**	**197**	P	**P**	**15 24 22.9**	**-0.1**
	3.1nm,0.5s,mb4.2,baz=39,slow=17,SNR=5.2						
CTA	**Charters Tower**	**30.84**	**270**	⇓*i*P		**15 25 49.1**	**+0.5**
	15nm,0.3s,mb5.1						
CTA	**Charters Tower**	**30.84**	**270**	P	**P**	**15 25 49.2**	**+0.6**
	23nm,0.5s,mb5.1,baz=94,slow=11,SNR=31						
CTAO	**Charters Tower**	**30.84**	**270**	*e*P	**P**	**15 25 49.0**	**+0.4**
PMG	**Port Moresby**	**33.83**	**289**	P	**P**	**15 26 14.1**	**+0.4**
	27nm,0.8s,mb5.0,baz=101,slow=5.8,SNR=20						
STKA	**Stephens Creek**	**34.20**	**248**	P	**P**	**15 26 17.5**	**+0.9**
	0.7nm,0.4s,mb3.6,baz=88,slow=9.9,SNR=3.9						
STKA	**Stephens Creek**	**34.20**	**248**	P	**P**	**15 26 17.5**	**+0.9**
ASAR	**Alice Springs**	**41.43**	**261**	P	**P**	**15 27 15.8**	**+0.4**
	2.3nm,0.4s,mb4.0,baz=95,slow=6.9,SNR=59						
ASAR				PcP	PcP	15 29 01.8	+2.7
	0.4nm,0.6s,baz=108,slow=4.4,SNR=4.0						
ASAR				S	**S**	**15 32 47.9**	**-1.5**
	0.3nm,0.9s,baz=122,slow=17,SNR=2.9						
ASPA	**Alice Springs**	**41.44**	**261**	*e*P	**P**	**15 27 15.8**	**+0.3**
WB2	**Warramunga Arr**	**41.77**	**266**	⇓*i*P	**P**	**15 27 17.9**	**-0.4**
WRAB	**Tennant Creek**	**41.77**	**266**	*e*P	**P**	**15 27 17.8**	**-0.5**
	5.2nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**41.78**	**266**	P	**P**	**15 27 18.1**	**-0.2**
	1.5nm,0.3s,mb4.0,baz=103,slow=8.4,SNR=169						
WRA				ScP		15 32 02.5	
	0.3nm,0.7s,baz=105,slow=3.7,SNR=5.6						
WRA				S	**S**	**15 32 54.0**	**-0.4**
	0.3nm,0.8s,baz=96,slow=13,SNR=4.2						
KAKA	**Kakadu**	**45.65**	**275**	⇓*i*P	**P**	**15 27 47.9**	**-0.5**
	2.7nm,0.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.20**	**266**	*e*P	**P**	**15 28 23.5**	**+1.1**
	4.2nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**50.20**	**266**	P	**P**	**15 28 22.9**	**+0.5**
	4.4nm,0.5s,mb4.2,baz=97,slow=2.4,SNR=9.7						

*CSEM **23** 15:25:09.9±0.2,42.09N×45.55E,h38km,mb3.9,Error ellipse: s-maj=5.4km s-min=1.6km az=12.0,After OBN*
MOS 23 15:25:09.9±1.0,42.09N×45.55E,h38km,mb3.9/1,2C, Error ellipse: s-maj=14.3km s-min=9.9km az=130.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
XNZR	**Khunzakh**	**0.97**	**62**	⇑*i*P	P	15 25 26.5	-0.7
XNZR				*e*S	S	15 25 38.0	-1.9
UNCR	**Uncukul**	**1.11**	**55**	⇑*i*P	P	15 25 29.0	-0.2
UNCR				*i* S	S	15 25 43.3	-0.3
UNCR				pmax	pmax		
	comp=Z,36nm,0.2s						
KMKR	**Kumukh**	**1.15**	**87**	*e*P	P	15 25 31.0	+1.2
KMKR				*i* S	S	15 25 47.5	+2.9
KMKR				pmax	pmax		
	comp=Z,25nm,0.2s						
KRNR	**Karanay**	**1.25**	**53**	P	P	15 25 30.5	-0.6
KRNR				*e*S	S	15 25 45.5	-1.5
DBC	**Dubki**	**1.33**	**45**	*e*P	P	15 25 33.0	+0.7
DBC				*i* S	S	15 25 48.0	-1.0
ZEI	**Tsey**	**1.40**	**300**	*i* P	P	15 25 32.2	-1.2
ZEI				*e*S	S	15 25 50.1	-0.7
KUBR	**Kubataba**	**2.32**	**318**	*e*P	P	15 25 47.2	+0.7
KUBR				*e*S	S	15 26 14.2	+0.1
PYA	**Pyatigorsk**	**2.67**	**318**	*e*P	P	15 25 51.9	+0.5
PYA				*i* S	S	15 26 23.2	+0.4
SHAR	**Shatzhatmas**	**2.69**	**309**	*e*P	P	15 25 53.3	+1.6
SHAR				*e*S	S	15 26 24.4	+1.1
KIV0	**Kislovodsk Arr**	**2.80**	**313**	*e*P	P	15 25 53.8	+0.4
KIV0				*e*S	S	15 26 26.6	+0.3
KIV	**Kislovodsk**	**2.81**	**313**	*e*P	P	15 25 53.9	+0.4
KIV				*e*S	S	15 26 26.6	+0.2

MAN 23 15:40:28.2,12.73N×123.22E,h34km,mb3.8,ML2.6, MS2.2,1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.54**	**133**	*e*P	P	15 40 41.0	+1.8
MMPH				*i* S	S	15 40 48.5	+1.3
OTRP	**Odiongan**	**1.23**	**253**	*e*P	P	15 40 47.1	-2.0
RCP	**Roxas**	**1.25**	**202**	⇑*e*P	P	15 40 49.4	0.0
KALP	**Kalibo**	**1.36**	**220**	*e*P	P	15 40 51.0	0.0
GQP	**Guinayangan**	**1.39**	**327**	⇓*e*P	P	15 40 50.9	-0.6
GQP				*e*S	S	15 41 09.1	+0.2
GUIM	**Jordan**	**2.18**	**197**	*e*P	P	15 41 02.8	+0.1

*IDC **23** 15:41:35.2±2.7,6.97S×155.81E,h53km±21km,mb4.1/9, mb1 4.3/12,mb1mx4.2/15,mbtmp4.4/12,ML4.2/3,MS3.7/6, Ms1 3.6/6,ms1mx3.4/17,Error ellipse: s-maj=22.5km s-min=18.2km az=78.0*
*NEIC **23** 15:41:36.2±1.3,6.94S×155.73E,h65km±11km,mb4.5/11, Error ellipse: s-maj=10.4km s-min=8.6km az=178.0*
*BJI **23** 15:41:36.2,6.90S×155.70E,h64km,mB4.9,mb4.6,Ms4.7, Msz4.4*
ISC 23 15:41:34.8±1.7,6.96S±0.08×155.74E±0.06,h67km±15km, n42,σ0s90/40,mb4.4/23,2D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.83**	**121**	*e*P	**P**	**15 42 45.3**	**-1.4**
PMG	**Port Moresby**	**8.84**	**253**	P	**P**	**15 43 42.8**	**+0.8**
	9.7nm,0.3s,baz=51,slow=12,SNR=55						
PMG				S	**S**	**15 45 21.5**	**+0.4**
	1.1nm,0.3s,baz=90,slow=20,SNR=3.8						
PMG				LR	LR	15 46 40.0	
	comp=Z,208nm,19.6s,baz=229,slow=34						
PMG	**Port Moresby**	**8.84**	**253**	*e*P	**P**	**15 43 41.0**	**-1.0**
	61nm,0.6s						
CTA	**Charters Tower**	**15.97**	**214**	*e*P	**P**	**15 45 18.7**	**+2.0**
	20nm,0.9s						
CTA	**Charters Tower**	**15.97**	**214**	P	**P**	**15 45 18.7**	**+1.9**
	0.8nm,0.3s,baz=38,slow=13,SNR=21						
CTA				LR	LR	15 50 28.1	
	comp=Z,142nm,21.9s,baz=219,slow=33						
CTAO	**Charters Tower**	**15.97**	**214**	*e*P	**P**	**15 45 18.4**	**+1.6**
	40nm,1.0s						
DZM	**Mont Dzumac**	**18.23**	**147**	P	**P**	**15 45 46.9**	**+2.0**
	0.2nm,0.3s,baz=177,slow=7.4,SNR=3.6						
DZM				LR	LR	15 51 32.7	
	comp=Z,179nm,19.0s,baz=199,slow=33						
KAKA	**Kakadu**	**23.65**	**254**	*e*P	**P**	**15 46 41.9**	**+0.9**
	7.7nm,0.4s,mb4.4						
WRAB	**Tennant Creek**	**24.43**	**236**	P	**P**	**15 46 49.0**	**+0.3**
	77nm,1.1s,mb5.0,SNR=8.3						
WRAB	**Tennant Creek**	**24.43**	**236**	*e*P	**P**	**15 46 48.3**	**-0.4**
	28nm,1.1s,mb4.5						
WB2	**Warramunga Arr**	**24.44**	**236**	*e*P	**P**	**15 46 49.2**	**+0.5**
WRA	**Warramunga Ar**	**24.45**	**236**	P	**P**	**15 46 49.4**	**+0.6**
	9.9nm,0.9s,mb4.1,baz=61,slow=9.8,SNR=38						
WRA				ScP		15 54 02.2	
	0.8nm,0.8s,baz=64,slow=3.0,SNR=6.5						
ASAR	**Alice Springs**	**26.75**	**229**	P	**P**	**15 47 09.4**	**-0.9**
	4.9nm,0.8s,mb4.1,baz=61,slow=9.2,SNR=43						
ASAR				ScP		15 54 08.5	
	0.4nm,0.7s,baz=61,slow=2.5,SNR=5.6						
ASPA	**Alice Springs**	**26.75**	**229**	⇓*i*P	**P**	**15 47 09.4**	**-1.0**
STKA	**Stephens Creek**	**28.08**	**206**	P	**P**	**15 47 21.9**	**-0.6**
	14nm,0.8s,mb4.6,baz=29,slow=8.9,SNR=12						
STKA				LR	LR	15 58 40.6	
	comp=Z,165nm,19.2s,baz=24,slow=36						
STKA	**Stephens Creek**	**28.08**	**206**	*e*P	**P**	**15 47 20.9**	**-1.5**
FITZ	**Fitzroy Crossi**	**31.35**	**246**	⇓*i*P	**P**	**15 47 50.3**	**-1.1**
	19nm,0.6s,mb5.0						
FORT	**Forrest**	**35.12**	**224**	*e*P	**P**	**15 48 23.2**	**-0.8**
	631nm,0.6s						
URZ	**Urewera**	**36.67**	**151**	P	**P**	**15 48 36.7**	**-0.3**
	1.4nm,0.4s,mb4.2,baz=249,slow=8.6,SNR=3.0						
MBWA	**Marble Bar**	**37.56**	**244**	*e*P	**P**	**15 48 43.8**	**-0.7**
	8.5nm,0.7s,mb4.7						
RPZ	**Rata Peaks**	**38.99**	**162**	P	**P**	**15 48 55.9**	**-0.3**
	11nm,0.8s,mb4.7,baz=262,slow=3.8,SNR=7.6						
RPZ				LR	LR	16 01 58.3	
	comp=Z,145nm,19.4s,baz=359,slow=31						
JOW	**Kunigami**	**42.86**	**323**	LR	LR	16 03 23.3	
	comp=Z,198nm,19.7s,baz=269,slow=30						
CN2	**Changchun**	**57.48**	**334**	*e*P	**P**	**15 51 21.8**	**+2.4**
CM31	**Chiang Mai Arr**	**61.44**	**295**	*e*P	**P**	**15 51 47.3**	**+0.3**
	5.8nm,0.7s,mb4.7						
HIA	**Hailar**	**64.21**	**335**	P	**P**	**15 52 04.0**	**-0.9**
	6.2nm,1.1s,mb4.3						
SONM	**Songino Array**	**69.71**	**327**	P	**P**	**15 52 40.3**	**+0.7**
	1.9nm,0.5s,mb4.2,baz=144,slow=5.7,SNR=23						
VNDA	**Vanda**	**70.59**	**179**	P	**P**	**15 52 45.3**	**+0.8**
	1.2nm,0.8s,mb3.8,baz=7.6,slow=6.3,SNR=3.1						
BILL	**Bilibino**	**75.19**	**4**	*e*P	**P**	**15 53 11.9**	**+0.4**
	3.0nm,0.8s,mb4.1						
JIRN	**Jiri**	**75.41**	**301**	*e*P	**P**	**15 53 13.3**	**-0.3**
GUN	**Gumba**	**75.74**	**301**	*e*P	**P**	**15 53 14.8**	**-0.7**
KKN	**Kakani**	**76.22**	**301**	*e*P	**P**	**15 53 17.4**	**-0.8**
	6.0nm,0.6s,mb4.5						
DMN	**Daman**	**76.32**	**300**	*e*P	**P**	**15 53 18.3**	**-0.4**
	13nm,0.8s,mb4.7						
GKN	**Gorkha**	**76.82**	**301**	*e*P	**P**	**15 53 21.1**	**-0.5**
	11nm,0.8s,mb4.7						
KOLN	**Koldanda**	**77.65**	**300**	*e*P	**P**	**15 53 25.7**	**-0.5**
	4.7nm,0.4s,mb4.5						
WMQ	**Urumqi**	**79.31**	**317**	*e*P	**P**	**15 53 35.0**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,72nm,3.8s						
WMQ				LR	LR		
	comp=Z,86nm,22.2s						
QSPA	**South Pole Qui**	**83.01**	**180**	*e*P	**P**	**15 53 54.4**	**+0.8**
	comp=Z,2.0nm,0.5s,mb4.2						
ZAL	**Zalesovo**	**84.58**	**326**	P	**P**	**15 54 03.0**	**+1.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=72,slow=5.5,SNR=2.6						
CHKZ	**Chkalovo**	**92.67**	**324**	P	**P**	**15 54 40.0**	**-0.5**
	comp=Z,0.4nm,0.4s,mb4.1						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**15 54 55.8**	**+0.6**
	comp=Z,0.2nm,0.6s,mb3.7,baz=268,slow=4.6,SNR=5.3						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**15 54 55.8**	**+0.5**
FINES	**FINESS Array B**	**114.21**	**336**	PKP	PKPdf	16 00 07.1	+0.6
	comp=Z,0.4nm,0.7s,baz=180,slow=3.8,SNR=3.7						
GERES	**GERESS Array B**	**127.41**	**329**	PKP	PKPdf	16 00 34.1	+1.8
	comp=Z,0.4nm,0.5s,slow=1.3,SNR=4.8						

IDC 23 15:54:51.7±54.0,19.15S×176.90W,mb4.2/3,mb1 4.3/3, mb1mx3.9/12,mbtmp4.2/3,Error ellipse: s-maj=997.3km s-min=166.2km az=81.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.31**	**243**	P	P	16 02 22.5	-1.8
	1.6nm,1.0s,baz=90,slow=11,SNR=2.9						
WB2	**Warramunga Arr**	**45.81**	**261**	*e*P	P	16 03 15.5	-1.9
WRA	**Warramunga Ar**	**45.83**	**261**	P	P	16 03 16.0	-1.5
	1.0nm,0.3s,baz=97,slow=7.4,SNR=141						
ASAR	**Alice Springs**	**45.84**	**255**	P	P	16 03 15.6	-2.0
	3.1nm,0.5s,baz=92,slow=7.5,SNR=134						
ASPA	**Alice Springs**	**45.85**	**255**	*e*P	P	16 03 15.8	-1.8
KAKA	**Kakadu**	**49.00**	**270**	*e*P	P	16 03 41.4	-1.0
	5.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**54.24**	**261**	*e*P	P	16 04 18.9	-3.0
	1.6nm,0.4s						

*IDC **23** 15:56:39.0±0.8,34.14N×142.53E,mb3.7/7,mb1 4.0/10, mb1mx3.8/21,mbtmp3.9/10,ML4.1/2,Error ellipse: s-maj=29.6km s-min=17.6km az=103.0*
*NEIC **23** 15:56:40.7±0.6,34.13N×142.62E,h10km,mb4.3/2,Error ellipse: s-maj=17.6km s-min=11.7km az=73.0*
*JMA **23** 15:56:41.6±0.3,34.03N×142.48E,h62km,M3.5*
ISC 23 15:56:40.4±1.7,34.07N±0.04×142.52E±0.05,h25km±13km, n29,σ1s14/45,mb3.8/9,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.40**	**295**	P	**Pn**	**15 57 05.0**	**+0.3**
BSO1				S	**Sn**	**15 57 22.7**	**+0.1**
BSO2	**Boso 2**	**1.61**	**296**	*e*S	**Sn**	**15 57 29.1**	**+1.3**
BSO3	**Boso 3**	**1.82**	**294**	P	**Pn**	**15 57 11.3**	**+0.7**
BSO3				*e*S	**Sn**	**15 57 33.7**	**+0.7**
BSO4	**Boso 4**	**2.02**	**298**	P	**Pn**	**15 57 14.8**	**+1.2**
BSO4				S	**Sn**	**15 57 39.7**	**+1.4**
KTR	**Katsuura**	**2.12**	**301**	P	**Pn**	**15 57 16.0**	**+1.1**
KTR				S	**Sn**	**15 57 42.0**	**+1.4**
CHOJ	**Chosi**	**2.13**	**321**	P	**Pn**	**15 57 16.3**	**+1.2**
CHOJ				*e*S	**Sn**	**15 57 40.8**	**-0.2**
JHJ2	**Mitsune**	**2.45**	**248**	P	**Pn**	**15 57 20.2**	**+0.5**
JHJ2				S	**Sn**	**15 57 48.1**	**-1.0**
JHJ	**Hachijo jima 2**	**2.47**	**248**	Pn	**Pn**	**15 57 20.3**	**+0.3**
	237nm,0.3s,baz=84,slow=23,SNR=74						
JHJ				Sn	**Sn**	**15 57 48.2**	**-1.4**
	108nm,0.3s,baz=64,slow=21,SNR=8.1						

0.1nm,0.5s,mb3.1,baz=293,slow=6.4,SNR=4.9
FINES FINESS Array B 71.86 333 P **P** **16 08 03.9 +1.2**
0.5nm,0.6s,mb3.6,baz=27,slow=3.1,SNR=4.1
TXAR Lajitas Array 91.20 53 P **P** **16 09 47.8 +3.1**
0.6nm,0.5s,mb4.2,baz=305,slow=2.6,SNR=5.9

KRSC ***23*** *16:34:32.3±2.3,51.51N×152.86E,h466km±11km,ML4.3*
MOS ***23*** *16:34:37.1±1.9,51.95N×153.52E,h465km,mb4.0/1, Error ellipse: s-maj=29.0km s-min=13.4km az=63.2*
NEIC ***23*** *16:34:38.3±0.9,52.19N×152.92E,h432km±10km,mb4.1/2, Error ellipse: s-maj=15.4km s-min=13.4km az=138.0*
IDC ***23*** *16:34:41.1±3.6,52.26N×152.75E,h464km±43km,mb2.9/7, mb1 3.2/8,mb1mx3.0/19,mbtmp3.8/8, Error ellipse: s-maj=24.9km s-min=15.5km az=124.0*
ISC 23 16:34:37.6±0.5,52.12N±0.08×153.1E±0.1,h433km±6km, n44,σ1§12/57,mb3.2/7,2C,Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ALID	**Alaid**	**1.97**	**129**	*e*P		**P**	**16 35 32.9**	**-4.0**
SKR	**Severo-Kuril's**	**2.36**	**126**	*e*PN		**P**	**16 35 34.5**	**-4.8**
SKR				*e*S		**S**	**16 36 25.7**	**-2.2**
SKR				pmax	pmax			
	comp=Z,60nm,0.5s							
SKR				smax				
	comp=N,50nm,0.5s							
SKR				smax				
	comp=E,80nm,0.5s							
PAU	**Pauzhetka**	**2.38**	**105**	*e*P		**P**	**16 35 39.7**	**+0.3**
APC	**Apacha**	**2.59**	**70**	*e*P		**P**	**16 35 40.1**	**-0.7**
APC				*e*S		**S**	**16 36 29.4**	**-1.3**
APC				Smax				
	comp=E,20nm,1.1s							
GRL	**Gorelyy**	**3.07**	**80**	*e*P		**P**	**16 35 45.4**	**+1.1**
GNL	**Ganaly**	**3.31**	**60**	*e*P		**P**	**16 35 47.1**	**+0.7**
RUS	**Russkaya**	**3.32**	**82**	P		**P**	**16 35 46.3**	**-0.1**
RUS				S		**S**	**16 36 39.5**	**-1.2**
RUS	**Russkaya**	**3.32**	**82**	*i* P		**P**	**16 35 46.4**	**0.0**
RUS				*i* S		**S**	**16 36 39.8**	**-0.9**
PET	**Petropavlovsk**	**3.49**	**73**	P		**P**	**16 35 48.5**	**+0.7**
PET				S		**S**	**16 36 43.6**	**+0.4**
PET	**Petropavlovsk**	**3.49**	**73**	⇑*i*PN		**P**	**16 35 48.5**	**+0.7**
PET				*e*S		**S**	**16 36 45.3**	**+2.1**
PET				pmax	pmax			
	comp=Z,41nm,0.4s							
PET				smax				
	comp=N,37nm,0.6s							
PET				smax				
	comp=E,41nm,0.5s							
PET	**Petropavlovsk**	**3.49**	**73**	*e*P		**P**	**16 35 48.2**	**+0.3**
PET	**Petropavlovsk**	**3.49**	**73**	*e*P		**P**	**16 35 48.4**	**+0.6**
PET				*e*S		**S**	**16 36 43.6**	**+0.4**
KOK	**Koryaka**	**3.55**	**69**	*e*P		**P**	**16 35 49.3**	**+1.0**
AVH	**Avacha**	**3.60**	**69**	*e*P		**P**	**16 35 49.5**	**+0.7**
UGLR	**Uglovaya**	**3.64**	**70**	*e*P		**P**	**16 35 50.4**	**+1.3**
SMAR	**Somma**	**3.64**	**69**	*e*P		**P**	**16 35 50.6**	**+1.5**
SDLR	**Sedlovina**	**3.69**	**69**	*i* P		**P**	**16 35 50.2**	**+0.7**
NLC	**Nalytchevo**	**3.93**	**72**	P		**P**	**16 35 51.3**	**-0.4**
NLC				S		**S**	**16 36 48.4**	**-1.6**
NLC	**Nalytchevo**	**3.93**	**72**	*e*P		**P**	**16 35 51.5**	**-0.2**
NLC				*e*S		**S**	**16 36 49.5**	**-0.5**
KII	**Karymskiy**	**4.27**	**61**	P		**P**	**16 35 56.1**	**+1.3**
KII	**Karymskiy**	**4.27**	**61**	*e*P		**P**	**16 35 56.0**	**+1.2**
SPN	**Mys Shipunski**	**4.32**	**74**	P		**P**	**16 35 54.1**	**-1.2**
SPN				S		**S**	**16 36 52.9**	**-3.5**
SPN	**Mys Shipunski**	**4.32**	**74**	*i* P		**P**	**16 35 54.1**	**-1.2**
SPN				*i* S		**S**	**16 36 54.1**	**-2.3**
TUMR	**Tumrok**	**5.24**	**50**	*e*P		**P**	**16 36 06.1**	**+1.8**
KMNR	**Kamenistaya**	**5.56**	**46**	*e*P		**P**	**16 36 08.7**	**+1.2**
SRDR	**Sredinnyy**	**5.71**	**40**	*e*P		**P**	**16 36 11.5**	**+2.4**
KBG	**Krutoberegovo**	**6.98**	**50**	*e*S		**S**	**16 37 45.0**	**-0.7**
KBG				Smax				
	comp=E,150nm,0.4s							
KBTR	**Krutoberegovo**	**7.01**	**50**	P		**P**	**16 36 22.6**	**-0.4**
KBTR				S		**S**	**16 37 42.5**	**-3.8**
KBTR	**Krutoberegovo**	**7.01**	**50**	*e*P		**P**	**16 36 22.6**	**-0.4**
KBTR				*e*S		**S**	**16 37 44.8**	**-1.5**
MA2	**Magadan**	**7.59**	**351**	*ce*PN		**P**	**16 36 28.8**	**-0.6**
MA2				pmax	pmax			
	comp=Z,6.0nm,0.7s							
MA2				pmax	pmax			
	comp=N,4.0nm,0.9s							
MA2				pmax	pmax			
	comp=E,2.0nm,0.9s							
MA2	**Magadan**	**7.59**	**351**	*e*P		**P**	**16 36 28.7**	**-0.7**
	comp=E,10nm,0.8s							
YSS	**Yuzh-Sakhalins**	**8.49**	**237**	*e*PN		**P**	**16 36 39.7**	**+0.1**
ASAJ	**Asahikawa**	**10.65**	**225**	PN		**P**	**16 37 04.4**	**+0.7**
ASAJ				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASAJ	**Asahikawa**	**10.65**	**225**	P		**P**	**16 37 04.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=246,slow=8.9,SNR=5.5							
BILL	**Bilibino**	**17.19**	**17**	*e*P		**P**	**16 38 11.9**	**-0.5**
BILL				pmax	pmax			
	comp=Z,4.0nm,0.4s							
BILL	**Bilibino**	**17.19**	**17**	*e*P		**P**	**16 38 11.8**	**-0.5**
	comp=Z,3.5nm,0.4s							
SONM	**Songino Array**	**29.94**	**281**	P		**P**	**16 40 07.9**	**-1.7**
	comp=Z,0.2nm,0.3s,mb2.9,baz=62,slow=8.0,SNR=6.2							
MCK	**McKinley**	**31.71**	**46**	P		**P**	**16 40 24.3**	**-0.4**
YKA	**Yellowknife Ar**	**46.69**	**40**	P		**P**	**16 42 26.5**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.4,baz=302,slow=7.6,SNR=5.7							
FINES	**FINESS Array B**	**59.21**	**333**	P		**P**	**16 43 54.0**	**-2.5**
	comp=Z,1.0nm,1.0s,mb3.1,baz=284,slow=5.7,SNR=3.0							
PDAR	**Pinedale Array**	**61.65**	**56**	P		**P**	**16 44 13.6**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.4,baz=324,slow=1.2,SNR=6.9							
WRA	**Warramunga Arr**	**73.61**	**198**	P		**P**	**16 45 26.0**	**-0.6**
	comp=Z,0.4nm,0.5s,mb3.3,baz=15,slow=6.1,SNR=11							
TXAR	**Lajitas Array**	**74.89**	**62**	P		**P**	**16 45 34.1**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.5,baz=315,slow=5.3,SNR=4.5							
ASAR	**Alice Springs**	**77.32**	**198**	P		**P**	**16 45 47.4**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.1,baz=15,slow=5.1,SNR=9.4							

IDC ***23*** *16:44:02.6±4.0,28.76N×138.74E,h344km±51km,mb3.1/4, mb1 3.3/5,mb1mx2.9/18,mbtmp3.9/5, Error ellipse: s-maj=98.8km s-min=16.8km az=85.0*
JMA ***23*** *16:44:06.1±0.3,28.81N×139.40E,h376km,M3.3*
ISC 23 16:44:05.1±1.8,28.8N±0.1×139.6E±0.9,h400km±35km, n11,σ0§84/16,mb3.3/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CBIJ	**Chichi jima**	**2.87**	**126**	P		**P**	**16 45 07.7**	**+0.1**
	24nm,0.3s,baz=280,slow=12,SNR=54							
CBIJ				S		**S**	**16 45 56.5**	**-0.3**
	23nm,0.3s,baz=298,slow=23,SNR=10.0							
CBIJ	**Chichi jima**	**2.87**	**126**	P		**P**	**16 45 07.8**	**+0.2**
CBIJ				S		**S**	**16 45 52.9**	**-3.9**
JHHJ	**Haha-jima-NKT**	**3.17**	**133**	P		**P**	**16 45 10.2**	**+0.1**
JHHJ				S		**S**	**16 46 01.2**	**0.0**
JYT	**Yasato**	**7.40**	**4**	P		**P**	**16 45 54.4**	**+0.2**
JYT				*e*S		**S**	**16 47 18.5**	**-1.6**
JAG	**Ashikaga**	**7.58**	**359**	P		**P**	**16 45 57.0**	**+0.8**
JAG				*e*S		**S**	**16 47 22.8**	**-1.0**
JHO	**Hitachi**	**7.81**	**6**	P		**P**	**16 45 59.9**	**+1.1**
JFK	**Kawauchi**	**8.59**	**7**	P		**P**	**16 46 09.3**	**+1.5**
WRA	**Warramunga Arr**	**48.74**	**187**	P		**P**	**16 52 12.6**	**-0.7**
	0.2nm,0.3s,mb3.0,baz=2.9,slow=7.8,SNR=14							
WRA				PcP		PcP	16 53 31.8	+0.2
	0.4nm,1.1s,baz=358,slow=3.8,SNR=5.5							
ASAR	**Alice Springs**	**52.47**	**187**	P		**P**	**16 52 40.4**	**-0.6**
	0.2nm,0.5s,mb2.6,baz=359,slow=6.4,SNR=9.0							
ARCES	**ARCESS Array B**	**71.16**	**340**	P		**P**	**16 54 42.3**	**-0.4**
	5.3nm,0.9s,mb4.1,baz=63,slow=8.1,SNR=7.9							
FINES	**FINESS Array B**	**75.38**	**333**	P		**P**	**16 55 07.7**	**+0.7**
	0.6nm,0.4s,mb3.6,baz=63,slow=4.5,SNR=8.5							

PRU ***23*** *16:45:08.8,50.36N×18.79E*
WAR 23 16:45:09.3,50.28N×18.89E,h0km,ML2.4,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.59**	**95**	*e*PG		Pg	16 45 21.0	0.0
OJC				*e*SG		Sg	16 45 29.0	+0.2
OKC	**Ostrava-Krasne**	**0.65**	**228**	*e*PG		Pg	16 45 22.0	-0.3
OKC				*e*SG		Sg	16 45 31.9	+1.0
NIE	**Niedzica**	**1.26**	**132**	*e*PG		Pg	16 45 34.0	-0.4
NIE				*e*SG		Sg	16 45 50.0	-1.2
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG		Pg	16 45 38.6	-3.6
DPC				*e*SG		Sg	16 46 00.3	-3.9
	22nm,0.6s							
KSP	**Ksiaz**	**1.75**	**290**	*e*PG		Pg	16 45 42.0	-2.3
KSP				*e*SG		Sg	16 46 05.0	-2.6
VYHS	**Vyhne**	**1.78**	**181**	*e*PN		Pn	16 45 42.1	+0.6
VYHS				*e*SN		Sn	16 46 05.0	-0.2
PRU	**Pruhonice**	**2.81**	**266**	*e*SG		Sg	16 46 37.2	-5.7
KHC	**Kasperske Hory**	**3.63**	**254**	*e*PG		Pg	16 46 13.6	-8.2
KHC				*ex*		x	16 46 42.0	
KHC				*e*SG		Sg	16 47 03.7	-6.6
MOA	**Molln**	**3.89**	**233**	*i* SG		Sg	16 47 13.0	-5.8
	2.4nm,0.3s							
NKC	**Novy Kostel**	**4.13**	**272**	*e*SG		Sg	16 47 17.8	-9.1

MOS ***23*** *16:51:50.1±0.7,51.63N×16.17E,h10km,mb3.8/1, Error ellipse: s-maj=9.4km s-min=4.5km az=83.7*
BGR ***23*** *16:51:51.4±0.6,51.45N×16.26E,h1km,ML3.5/10, Error ellipse: s-maj=4.4km s-min=4.4km az=93.0*
NEIC ***23*** *16:51:52.0±0.4,51.52N×16.15E,h5km,ML3.5(SZGRF), ML3.4(VIE),ML3.0(CLL), Error ellipse: s-maj=4.6km s-min=3.5km az=201.0*
IPEC ***23*** *16:51:52.6±0.3,51.46N×16.36E,ML2.8/2, Error ellipse: s-maj=3.5km s-min=1.9km az=89.0*
PRU ***23*** *16:51:53.1,51.44N×16.16E*
CSEM ***23*** *16:51:53.5±0.1,51.42N×16.14E,h2km,ML3.7/14, Error ellipse: s-maj=2.6km s-min=1.5km az=12.0*
WAR ***23*** *16:51:53,51.46N×16.13E,h1km,ML3.3,Mining Induced*
IDC ***23*** *16:51:53.1±0.6,51.48N×15.89E,mb3.5/2,mb1 3.5/11, mb1mx3.5/21,mbtmp3.4/11,ML3.3/8, Error ellipse: s-maj=12.8km s-min=6.3km az=94.0*
LDG ***23*** *16:51:56.1±0.3,51.17N×16.02E,h1km,Ml3.8/5, Error ellipse: s-maj=8.4km s-min=5.1km az=15.0,Suspected Mining induced.*
ISC 23 16:51:51.2±0.3,51.38N±0.02×16.10E±0.02,n93, σ1§24/175,mb3.5/2,7C-7D,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KSP	**Ksiaz**	**0.55**	**167**	⇓*i*P		**Pg**	**16 52 04.6**	**+2.4**
KSP				*e*			16 52 16.5	
KSP	**Ksiaz**	**0.55**	**167**	⇓*i*Pg		**Pg**	**16 52 04.6**	**+2.4**
KSP				*e*Sg		**Sg**	**16 52 12.1**	**+2.5**
KSP				*e*			16 52 16.5	
KSP	**Ksiaz**	**0.55**	**167**	*e*PG		**Pg**	**16 52 05.0**	**+2.8**
KSP				*e*SG		**Sg**	**16 52 12.0**	**+2.4**
KSP	**Ksiaz**	**0.55**	**167**	*i* P		**Pg**	**16 52 04.6**	**+2.4**
KSP				*e*Sg		**Sg**	**16 52 12.1**	**+2.5**
KSP				*e*S		**Sg**	**16 52 16.5**	**+6.9**
UPC	**Upice**	**0.88**	**184**	*e*PG		**Pg**	**16 52 10.7**	**+2.0**
DPC	**Dobruska-Polom**	**1.04**	**172**	*e*PG		**Pg**	**16 52 13.5**	**+1.5**
DPC				*e*SG		**Sg**	**16 52 27.8**	**+2.0**
	128nm,0.5s							
DPC	**Dobruska-Polom**	**1.04**	**172**	*e*Pg		**Pg**	**16 52 13.4**	**+1.4**
DPC				*e*Sg		**Sg**	**16 52 27.8**	**+2.0**
PVCC	**Panska Ves**	**1.29**	**229**	*e*PG		**Pg**	**16 52 18.7**	**+1.7**
BRG	**Berggiesshubel**	**1.45**	**250**	*e*Pn		**Pn**	**16 52 20.7**	**+1.9**
BRG				*e*Sg		**Sg**	**16 52 41.2**	**+1.6**
BRG	**Berggiesshubel**	**1.45**	**250**	*e*P		**Pn**	**16 52 19.2**	**+0.5**
BRG				*i*			16 52 40.0	
BRG	**Berggiesshubel**	**1.45**	**250**	*e*Pn		**Pn**	**16 52 19.2**	**+0.5**
BRG				*i* Pg		**Pg**	**16 52 20.9**	**+0.7**
BRG				*i* Sg		**Sg**	**16 52 40.0**	**+0.5**
BRG	**Berggiesshubel**	**1.45**	**250**	*i* Pg		**Pg**	**16 52 20.9**	**+0.7**
BRG				Sg		**Sg**	**16 52 41.2**	**+1.7**
PRU	**Pruhonice**	**1.71**	**216**	*e*P		**Pn**	**16 52 23.7**	**+1.3**
PRU				*e*			16 52 48.7	
PRU	**Pruhonice**	**1.71**	**216**	*e*PN		**Pn**	**16 52 23.7**	**+1.3**
PRU				*e*PG		**Pg**	**16 52 25.5**	**+0.2**
PRU				*ex*		x	16 52 42.7	
PRU				*e*SG		**Sg**	**16 52 48.7**	**+0.6**
PRU	**Pruhonice**	**1.71**	**216**	*e*Pg		**Pg**	**16 52 25.5**	**+0.2**
PRU				*e*Sg		**Sg**	**16 52 48.7**	**+0.6**
RUE	**Ruedersdorf**	**1.81**	**308**	*e*Pn		**Pn**	**16 52 22.9**	**-1.0**
RUE				*e*Sg		**Sg**	**16 52 50.7**	**-0.7**
RUE	**Ruedersdorf**	**1.81**	**308**	*e*Pn		**Pn**	**16 52 22.9**	**-1.0**
RUE				*e*Sg		**Sg**	**16 52 50.7**	**-0.8**
MORC	**Moravsky Berou**	**1.85**	**150**	⇓P		**Pn**	**16 52 25.4**	**+1.0**
MORC				S		**Sn**	**16 52 51.6**	**+2.7**
MORC	**Moravsky Berou**	**1.85**	**150**	*e*Pn		**Pn**	**16 52 25.3**	**+0.9**
MORC				*e*Sg		**Sg**	**16 52 50.5**	**-2.3**
	37nm,0.3s							
RAC	**Raciborz**	**1.86**	**133**	*e*P		**Pn**	**16 52 28.5**	**+3.9**
RAC				*e*Sg		**Sg**	**16 52 53.0**	**-0.1**
RAC				*e*S		**Sg**	**16 52 53.0**	**-0.1**
CLL	**Collm**	**1.94**	**269**	*e*P		**Pn**	**16 52 26.0**	**+0.2**
CLL				*i*			16 52 55.4	
CLL	**Collm**	**1.94**	**269**	*e*Pn		**Pn**	**16 52 26.0**	**+0.2**
CLL				*e*Pg		**Pg**	**16 52 29.0**	**-1.0**
CLL				*i* Sg		**Sg**	**16 52 55.4**	**-0.5**
CLL	**Collm**	**1.94**	**269**	*e*PN		**Pn**	**16 52 26.0**	**+0.2**
CLL				*e*PG		**Pg**	**16 52 29.0**	**-1.0**
CLL				*i*			16 52 32.9	
CLL				*i* SG		**Sg**	**16 52 55.4**	**-0.5**
CLL				*i*			16 53 19.2	
CLL	**Collm**	**1.94**	**269**	*e*Pg		**Pg**	**16 52 29.0**	**-1.0**
CLL				Sg		**Sg**	**16 52 56.3**	**+0.4**
GKP	**Gorka Klasztor**	**2.02**	**20**	*e*Pg		**Pg**	**16 52 34.1**	**+2.6**
GKP				*e*Sg		**Sg**	**16 52 58.0**	**-0.3**
OKC	**Ostrava-Krasne**	**2.02**	**139**	*e*P		**Pn**	**16 52 26.6**	**-0.3**
OKC				*e*			16 52 56.9	
OKC	**Ostrava-Krasne**	**2.02**	**139**	*e*PN		**Pn**	**16 52 26.6**	**-0.3**
OKC				*e*PG		**Pg**	**16 52 31.1**	**-0.4**
OKC				*e*SG		**Sg**	**16 52 56.9**	**-1.6**
	114nm,0.8s							
VRAC	**Vranov**	**2.10**	**171**	⇓P		**Pn**	**16 52 29.9**	**+1.9**
VRAC				S		**Sn**	**16 53 03.2**	**+8.0**
VRAC	**Vranov**	**2.10**	**171**	Pn		**Pn**	**16 52 30.0**	**+2.0**
	3.8nm,0.3s,baz=338,slow=14,SNR=16							
VRAC				Lg			16 53 03.0	
	7.3nm,0.3s,baz=98,slow=22,SNR=11							
VRAC	**Vranov**	**2.10**	**171**	*e*Pn		**Pn**	**16 52 29.8**	**+1.8**
VRAC				*e*Sg		**Sg**	**16 52 59.8**	**-1.2**
KRUC	**Moravsky**	**2.33**	**175**	*e*Pg		**Pg**	**16 52 36.5**	**-1.2**
KRUC				*e*Sg		**Sg**	**16 53 08.5**	**-0.2**
	80nm,0.9s							
WERD	**Werda**	**2.58**	**250**	*e*Pn		**Pn**	**16 52 35.4**	**+0.6**
WERD				*e*Sg		**Sg**	**16 53 16.3**	**-0.6**
NKC	**Novy Kostel**	**2.59**	**245**	*e*P		**Pn**	**16 52 36.1**	**+1.1**
NKC				*e*			16 53 18.3	
NKC	**Novy Kostel**	**2.59**	**245**	*e*PN		**Pn**	**16 52 36.1**	**+1.1**
NKC				*e*PG		**Pg**	**16 52 42.3**	**-0.5**
NKC				*e*SG		**Sg**	**16 53 18.3**	**+1.0**
	54nm,0.3s							
GUNZ	**Gunzen**	**2.60**	**248**	*e*Pn		**Pn**	**16 52 36.1**	**+1.0**
OJC	**Ojcow**	**2.62**	**115**	*e*PN		**Pn**	**16 52 34.0**	**-1.4**
OJC				*e*PG		**Pg**	**16 52 43.0**	**-0.5**
OJC				*e*SG		**Sg**	**16 53 18.0**	**-0.3**
OJC	**Ojcow**	**2.62**	**115**	*e*Pg		**Pg**	**16 52 43.2**	**-0.2**
OJC				*e*Sg		**Sg**	**16 53 17.7**	**-0.6**
KHC	**Kasperske Hory**	**2.77**	**217**	*e*P		**Pn**	**16 52 39.0**	**+1.3**
KHC				*e*			16 53 12.6	
KHC	**Kasperske Hory**	**2.77**	**217**	*e*Pn		**Pn**	**16 52 39.0**	**+1.3**
KHC				*e*Pg		**Pg**	**16 52 44.8**	**-1.8**
KHC				*e*Sn		**Sn**	**16 53 12.6**	**+0.3**
KHC				*e*Sg		**Sg**	**16 53 23.9**	**+0.4**
KHC	**Kasperske Hory**	**2.77**	**217**	*e*PN		**Pn**	**16 52 39.0**	**+1.3**
KHC				*e*PG		**Pg**	**16 52 44.8**	**-1.8**
KHC				*e*SN		**Sn**	**16 53 12.6**	**+0.3**
KHC				*e*SG		**Sg**	**16 53 23.9**	**+0.4**
	48nm,0.6s							
KHC	**Kasperske Hory**	**2.77**	**217**	*e*Pg		**Pg**	**16 52 44.8**	**-1.8**
KHC				*e*Sn		**Sn**	**16 53 12.6**	**+0.3**
KHC				*e*S		**Sn**	**16 53 12.6**	**+0.3**
KHC				Sg		**Sg**	**16 53 23.9**	**+0.4**
	48nm,0.6s							
MOX	**Moxa**	**2.93**	**257**	*e*Pn		**Pn**	**16 52 40.0**	**+0.2**
MOX				*e*Sg		**Sg**	**16 53 28.0**	**-0.6**
MOX	**Moxa**	**2.93**	**257**	*e*Pn		**Pn**	**16 52 39.9**	**+0.1**
MOX				*e*Pg		**Pg**	**16 52 48.2**	**-1.4**
MOX				*e*Sg		**Sg**	**16 53 28.2**	**-0.4**
MOX	**Moxa**	**2.93**	**257**	*i* P		**Pn**	**16 52 39.9**	**+0.1**
MOX				Pg		**Pg**	**16 52 48.0**	**-1.6**
MOX				Sg		**Sg**	**16 53 28.0**	**-0.6**
MOX	**Moxa**	**2.93**	**257**	*e*Pg		**Pg**	**16 52 48.2**	**-1.4**
MOX				Sg		**Sg**	**16 53 28.0**	**-0.6**
GEC2	**GERESS Array S**	**2.97**	**212**	*e*Pn		**Pn**	**16 52 42.0**	**+1.6**
GEC2				*e*Sg		**Sg**	**16 53 29.0**	**-1.1**
GEC2	**GERESS Array S**	**2.97**	**212**	*e*Pn		**Pn**	**16 52 42.0**	**+1.5**
GEC2				*e*Sg		**Sg**	**16 53 29.0**	**-1.1**
GERES	**GERESS Array B**	**2.97**	**212**	Pn		**Pn**	**16 52 42.3**	**+1.9**
	1.7nm,0.3s,baz=30,slow=13,SNR=39							
GERES				Lg			16 53 29.1	
	7.4nm,0.3s,baz=32,slow=27,SNR=7.7							
NOTT	**Nottersdorf**	**2.98**	**240**	*e*Pn		**Pn**	**16 52 41.1**	**+0.5**
NOTT				*e*Sg		**Sg**	**16 53 31.0**	**+0.5**
SMOL	**Smolenice**	**3.00**	**163**	*e*PG		**Pg**	**16 52 50.5**	**-0.5**
SMOL				*e*SG		**Sg**	**16 53 33.4**	**+2.5**
WET	**Wettzell**	**3.05**	**224**	*e*Pn		**Pn**	**16 52 42.5**	**+1.0**
WET	**Wettzell**	**3.05**	**224**	*e*Pn		**Pn**	**16 52 42.5**	**+0.9**
VKA	**Vienna**	**3.12**	**177**	⇑*i*PG		**Pg**	**16 52 52.5**	**-1.0**
VKA				*i* SG		**Sg**	**16 53 35.8**	**+0.7**
ZST	**Bratislava**	**3.25**	**168**	*e*SG		**Sg**	**16 53 38.8**	**-0.7**
NIE	**Niedzica**	**3.33**	**124**	*e*P		**Pg**	**16 52 54.1**	**-3.6**
NIE				*e*S		**Sg**	**16 53 39.2**	**-3.0**
VYHS	**Vyhne**	**3.39**	**147**	*e*PN		**Pn**	**16 52 46.8**	**+0.4**
VYHS				*e*PG		**Pg**	**16 52 58.0**	**-0.8**
VYHS				*e*SG		**Sg**	**16 53 40.8**	**-3.1**
GRA1	**Grafenberg Arr**	**3.54**	**243**	*e*Pn		**Pn**	**16 52 49.4**	**+0.8**
GRA1				*e*Sg		**Sg**	**16 53 47.2**	**-1.9**
GRA1	**Grafenberg Arr**	**3.54**	**243**	Pn		**Pn**	**16 52 49.4**	**+0.8**
GRA1				Sg		**Sg**	**16 53 47.2**	**-1.9**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*Pn		**Pn**	**16 52 49.4**	**+0.8**
GRF				*e*Sg		**Sg**	**16 53 47.2**	**-1.9**
CLZ	**Clausthal**	**3.60**	**280**	*e*Pn		**Pn**	**16 52 49.7**	**+0.3**
CLZ				*e*Sg		**Sg**	**16 53 48.3**	**-2.8**
CLZ	**Clausthal**	**3.60**	**280**	*e*Pn		**Pn**	**16 52 49.7**	**+0.3**
CLZ				*e*Sg		**Sg**	**16 53 48.3**	**-2.8**
MOA	**Molln**	**3.73**	**199**	⇑*i*PN		**Pn**	**16 52 52.3**	**+1.0**
MOA				*i* SG		**Sg**	**16 53 53.9**	**-1.5**
	34nm,0.7s							
BSD	**Bornholm Skovb**	**3.81**	**350**	*i* P		**Pn**	**16 52 46.0**	**-6.4**
BSD				*i* S		**Sn**	**16 53 32.1**	**-6.4**
BSD	**Bornholm Skovb**	**3.81**	**350**	*i* P		**Pn**	**16 52 46.0**	**-6.4**
BSD				*i*			16 52 49.3	
BSD				*i* S		**Sn**	**16 53 32.1**	**-6.4**
ARSA	**Arzberg**	**4.15**	**185**	⇑*i*PN		**Pn**	**16 52 58.1**	**+0.9**
ARSA				*i* SG		**Sg**	**16 54 07.0**	**-2.4**
	56nm,0.8s							
CRVS	**Cervenica-Dubn**	**4.25**	**124**	*e*PN		**Pn**	**16 52 59.7**	**+1.1**
CRVS				*e*			16 53 15.8	
PSZ	**Piszkesteto**	**4.25**	**143**	⇓P		**Pn**	**16 52 59.3**	**+0.6**
KOLS	**Kolonicke sedl**	**4.66**	**119**	*e*PN		**Pn**	**16 53 04.0**	**-0.5**
KOLS				*e*PG		**Pg**	**16 53 20.3**	**-4.0**
KBA	**Koelnbreinsper**	**4.67**	**204**	⇑*i*PN		**Pn**	**16 53 05.0**	**+0.4**
KBA				*i* SG		**Sg**	**16 54 24.9**	**-1.7**
	22nm,0.6s							
WATA	**Walderalm**	**5.01**	**218**	⇓*i*Pn		**Pn**	**16 53 10.4**	**+0.9**
	11nm,0.6s							
WATA				*i* Sg		**Sg**	**16 54 36.7**	**-1.4**
	11nm,0.6s							
WTTA	**Wattenberg**	**5.05**	**217**	⇑*i*Pn		**Pn**	**16 53 11.3**	**+1.3**
	19nm,0.8s							
WTTA				*i* Sg		**Sg**	**16 54 38.3**	**-1.0**
	19nm,0.8s							
SQTA	**Sankt Quirin**	**5.25**	**219**	⇓*i*Pn		**Pn**	**16 53 13.3**	**+0.5**
	6.4nm,0.4s							
SQTA				*i* Sg		**Sg**	**16 54 44.6**	**-1.4**
	6.4nm,0.4s							
LVV	**L'vov**	**5.29**	**104**	*e*P		**Pn**	**16 53 20.7**	**+7.4**
LVV				*e*S		**Sn**	**16 54 16.3**	**+0.4**
PDKS	**Podkum**	**5.37**	**188**	*i* Pn		**Pn**	**16 53 16.0**	**+1.5**
PKSM	**Moragy**	**5.44**	**161**	⇑P		**Pn**	**16 53 16.8**	**+1.3**
DAVOX	**Davos**	**6.15**	**224**	Pn		**Pn**	**16 53

TBO					SG	Sg	17 06 11.1	-7.8
TBO					Trac		17 06 13.9	
	comp=Z,20nm,0.2s							
SOLO	**Sioux Lookout**	**2.63**	**8**	PN	Pn		17 05 38.2	-1.4
SOLO				SG	Sg		17 06 13.1	-10
SOLO				Trac			17 06 14.7	
	comp=Z,4.5nm,0.1s							
ULM	**Lac du Bonnet**	**3.53**	**324**	PN	Pn		17 05 50.8	-1.6
ULM				SN	Sn		17 06 29.9	-5.5
ULM				SG	Sg		17 06 42.2	-10
ULM				Trac			17 06 45.9	
	comp=Z,7.7nm,0.3s							
RLKO	**Red Lake**	**3.71**	**349**	PN	Pn		17 05 53.9	-1.2
RLKO				SN	Sn		17 06 34.1	-6.1
RLKO				Trac			17 06 34.6	
	comp=Z,2.6nm,0.1s							
RLKO				SG	Sg		17 06 50.0	-8.9
PKLO	**Pickle Lake**	**4.35**	**20**	PN	Pn		17 06 01.6	-2.5
PKLO				SN	Sn		17 06 48.9	-7.4
PKLO				Trac			17 06 52.3	
	comp=Z,2.7nm,0.1s							
PKLO				LG			17 07 08.5	
GTO	**Geraldton**	**4.45**	**56**	PN	Pn		17 06 00.4	-5.1
GTO				SN	Sn		17 06 58.4	-0.4
GTO				SG	Sg		17 07 15.3	-8.1
PNPO	**Pukaskwa Natio**	**4.45**	**72**	PN	Pn		17 06 04.3	-1.2
PNPO				SN	Sn		17 06 54.2	-4.6
PNPO				SG	Sg		17 07 09.7	-14
PNPO				Trac			17 07 19.6	
	comp=Z,5.4nm,0.2s							
VIMO	**Victor Mine**	**7.88**	**43**	PN	Pn		17 06 49.6	-4.2
VIMO				SN	Sn		17 08 14.5	-10
VIMO				SG	Sg		17 08 48.9	-29
SILO	**Sutton Inlier**	**8.59**	**32**	PN	P		17 06 58.1	-5.7
SILO				SN	Sn		17 08 28.5	-14
FCC	**Fort Churchill**	**11.39**	**356**	PN	P		17 07 35.8	-6.4

OTT 23 17:10:06.8±0.4,47.44N×93.03W,MN2.8/9,Blast, Minnesota, U.S. Mining explosion., Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**1.15**	**63**	PG	Pg	17 10 27.2	-2.7
EYMN				SG	Sg	17 10 43.0	-2.3
EYMN				Trac		17 10 47.6	
	comp=Z,14nm,0.1s						
ATKO	**Atikokan Iron**	**1.68**	**34**	PG	Pg	17 10 37.3	-3.1
ATKO				SG	Sg	17 10 59.2	-3.7
ATKO				Trac		17 11 03.1	
	comp=Z,9.3nm,0.1s						
EPLO	**Experimental L**	**2.28**	**349**	PN	Pn	17 10 46.2	-0.1
EPLO				SG	Sg	17 11 18.0	-4.8
EPLO				Trac		17 11 18.8	
	comp=Z,7.3nm,0.1s						
SOLO	**Sioux Lookout**	**2.66**	**13**	PN	Pn	17 10 50.6	-1.1
SOLO				SN	Sn	17 11 23.8	-1.3
SOLO				Trac		17 11 30.5	
	comp=Z,6.7nm,0.1s						
TBO	**Thunder Bay**	**2.71**	**62**	PN	Pn	17 10 50.7	-1.7
TBO				SN	Sn	17 11 22.1	-4.3
TBO				Trac		17 11 40.0	
	comp=Z,8.9nm,0.1s						
ULM	**Lac du Bonnet**	**3.38**	**327**	PN	Pn	17 10 59.9	-2.1
ULM				SN	Sn	17 11 39.5	-4.0
ULM				Trac		17 11 52.2	
	comp=Z,1.9nm,0.1s						
RLKO	**Red Lake**	**3.67**	**353**	PN	Pn	17 11 05.7	-0.3
RLKO				SN	Sn	17 11 44.9	-5.7
RLKO				Trac		17 12 02.1	
	comp=Z,2.3nm,0.1s						
PKLO	**Pickle Lake**	**4.42**	**22**	PN	Pn	17 11 13.6	-3.2
PKLO				SN	Sn	17 12 04.0	-5.8
PKLO				Trac		17 12 09.8	
	comp=Z,3.0nm,0.1s						
GTO	**Geraldton**	**4.64**	**58**	SN	Sn	17 12 14.3	-1.0
PNPO	**Pukaskwa Natio**	**4.67**	**73**	PN	Pn	17 11 18.3	-2.0
PNPO				SN	Sn	17 12 12.3	-3.8
PNPO				Trac		17 12 21.5	
	comp=Z,2.8nm,0.1s						
VIMO	**Victor Mine**	**8.03**	**44**	PN	P	17 12 02.7	-4.9
VIMO				SN	Sn	17 13 31.7	-8.5
TOBO	**Tobermory, Bru**	**8.27**	**101**	PN	P	17 12 05.2	-5.6
SILO	**Sutton Inlier**	**8.71**	**33**	PN	P	17 12 10.8	-6.2
SILO				SN	Sn	17 13 44.3	-13
VLDQ	**Val d'Or**	**10.51**	**81**	PN	P	17 12 24.9	-17
FCC	**Fort Churchill**	**11.36**	**357**	PN	P	17 12 46.8	-6.5

*IDC **23** 17:18:28.2±8.1,1.61N×124.30E,mb4.8/3,mb1 5.0/3, mb1mx4.1/14,mbtmp4.8/3,Error ellipse: s-maj=172.9km s-min=127.0km az=65.0*

ISC 23 17:18:22.0±7.6,1.8N±0.8×122.4E±0.6,h33km,n6,σ1§80/6, mb4.8/3,3C,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.56**	**146**	⇑*iP*	**P**	**17 22 26.8**	**+0.9**
	38nm,0.5s						
FITZ	**Fitzroy Crossi**	**20.07**	**171**	⇑*iP*	**P**	**17 22 55.6**	**+0.2**
	18nm,0.3s						
WRA	**Warramunga Arr**	**24.61**	**152**	P	**P**	**17 23 39.3**	**-1.5**
	13nm,0.5s,mb4.7,baz=337,slow=10,SNR=256						
WB2	**Warramunga Arr**	**24.62**	**152**	⇑*iP*	**P**	**17 23 38.9**	**-1.9**
ASAR	**Alice Springs**	**27.71**	**157**	P	**P**	**17 24 10.1**	**+0.5**
	14nm,0.4s,mb4.9,baz=343,slow=15,SNR=277						
STKA	**Stephens Creek**	**38.16**	**153**	P	**P**	**17 25 41.9**	**+1.7**
	8.6nm,0.6s,mb4.7,baz=322,slow=7.7,SNR=25						

*NEIC **23** 18:13:14.6±0.4,49.80N×12.40E,h5km,ML2.7(BRG), ML3.2(VIE),Error ellipse: s-maj=5.5km s-min=4.5km az=168.0*
NEIC 2.7 [BRG], 2.4 [CLL], 2.2 [GRF].
*BGR **23** 18:13:14.9±0.2,49.78N×12.38E,h10km,ML2.2/11,Error ellipse: s-maj=2.2km s-min=1.1km az=59.0*
*LDG **23** 18:13:15.7±0.1,49.78N×12.43E,h5km,Ml2.9/6,Error ellipse: s-maj=1.5km s-min=1.2km az=126.0*
*CSEM **23** 18:13:15.6±0.1,49.78N×12.42E,h10km,ML3.0/9,Error ellipse: s-maj=0.9km s-min=0.8km az=59.0*
*IPEC **23** 18:13:15.8±0.7,49.77N×12.44E,h12km±17km,ML2.0/6, Error ellipse: s-maj=6.7km s-min=5.2km az=82.0*

ISC 23 18:13:14.1±0.2,49.76N±0.01×12.49E±0.02,h10km,n69, σ1§25/129,3C-6D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROTZ	**Rotzenmuhle**	**0.19**	**272**	⇑*iPg*	**Pg**	**18 13 19.6**	**+1.4**
ROTZ				*i* Sg	**Sg**	**18 13 22.1**	**+1.1**
NOTT	**Nottersdorf**	**0.25**	**282**	*e*Pg	**Pg**	**18 13 19.7**	**+0.4**
NOTT				*e*Sg	**Sg**	**18 13 23.2**	**+0.4**
MGBB	**Grossbuechelbe**	**0.28**	**320**	⇓*iPg*	**Pg**	**18 13 21.0**	**+1.1**
MGBB				*i* Sg	**Sg**	**18 13 24.3**	**+0.5**
MHAI	**Haid-Arzberg**	**0.33**	**322**	⇓*iPg*	**Pg**	**18 13 21.9**	**+0.9**
MHAI				*i* Sg	**Sg**	**18 13 25.8**	**+0.2**
MANZ	**Manzenberg**	**0.34**	**312**	⇓*iPg*	**Pg**	**18 13 21.8**	**+0.8**
MANZ				*i* Sg	**Sg**	**18 13 25.6**	**-0.1**
MROB	**Rosenbuehl-Arz**	**0.38**	**328**	⇓*iPg*	**Pg**	**18 13 22.7**	**+0.8**
MROB				*i* Sg	**Sg**	**18 13 27.2**	**0.0**
VACK	**Vackovec**	**0.38**	**358**	*e*Pg	**Pg**	**18 13 23.2**	**+1.3**
VACK				*e*Sg	**Sg**	**18 13 28.0**	**+0.8**
	95nm,0.1s						
MZEK	**Zeckenberg-Ebn**	**0.41**	**300**	⇑*iPg*	**Pg**	**18 13 22.9**	**+0.5**
MZEK				*i* Sg	**Sg**	**18 13 27.5**	**-0.5**
MSBB	**Schoenbrunner**	**0.43**	**309**	⇓*iPg*	**Pg**	**18 13 23.3**	**+0.4**
MSBB				*i* Sg	**Sg**	**18 13 28.2**	**-0.6**
BERN	**Bernov**	**0.47**	**1**	*e*Pg	**Pg**	**18 13 24.9**	**+1.2**
BERN				*e*Sg	**Sg**	**18 13 30.8**	**+0.7**
	66nm,0.1s						
NKC	**Novy Kostel**	**0.47**	**356**	*e*Pg	**Pg**	**18 13 24.5**	**+0.8**
	SNR=68						
NKC				*e*Sg	**Sg**	**18 13 31.1**	**+0.9**
	SNR=6.9						
NKC	**Novy Kostel**	**0.47**	**356**	*e*PG	**Pg**	**18 13 24.9**	**+1.2**
NKC				*e*SG	**Sg**	**18 13 31.1**	**+0.9**
	80nm,0.1s						
VIEL	**Selb-Vielitz**	**0.49**	**330**	⇓*iPg*	**Pg**	**18 13 24.6**	**+0.5**
VIEL				*i* Sg	**Sg**	**18 13 30.4**	**-0.4**
LUBY	**Luby**	**0.51**	**350**	*e*Pg	**Pg**	**18 13 25.2**	**+0.8**
LUBY				*e*Sg	**Sg**	**18 13 31.5**	**+0.2**
	67nm,0.1s						
JIND	**Jindrichovice**	**0.51**	**9**	*e*Pg	**Pg**	**18 13 25.7**	**+1.3**
JIND				*e*Sg	**Sg**	**18 13 32.3**	**+1.0**
	127nm,0.1s						
POCA	**Pocatky**	**0.56**	**356**	*e*Pg	**Pg**	**18 13 26.4**	**+1.0**
POCA				*e*Sg	**Sg**	**18 13 33.2**	**+0.2**
	34nm,0.1s						
GUNZ	**Gunzen**	**0.61**	**350**	*e*Pg	**Pg**	**18 13 26.6**	**+0.1**
	SNR=71						
GUNZ				*e*Sg	**Sg**	**18 13 34.9**	**+0.2**
	SNR=6.6						
TANN	**Tannenbergstha**	**0.66**	**358**	*e*Pg	**Pg**	**18 13 28.2**	**+0.9**
	SNR=47						
TANN				*e*Sg	**Sg**	**18 13 36.5**	**+0.4**
	SNR=22						
WET	**Wettzell**	**0.67**	**158**	*e*Pg	**Pg**	**18 13 29.4**	**+1.9**
	SNR=16						
WET				*e*Sg	**Sg**	**18 13 38.5**	**+2.0**
	SNR=5.7						
WET	**Wettzell**	**0.67**	**158**	*e*Pg	**Pg**	**18 13 29.4**	**+1.9**
WET				*e*SG	**Sg**	**18 13 38.8**	**+2.4**
WET	**Wettzell**	**0.67**	**158**	Pg	**Pg**	**18 13 29.4**	**+1.9**
	SNR=16						
WET				*e*Sg	**Sg**	**18 13 38.2**	**+1.8**
WERD	**Werda**	**0.70**	**350**	*e*Pg	**Pg**	**18 13 28.2**	**+0.1**
	SNR=42						
WERD				*e*Sg	**Sg**	**18 13 37.2**	**-0.4**
	SNR=6.9						
GRA1	**Grafenberg Arr**	**0.83**	**266**	*e*Pg	**Pg**	**18 13 30.3**	**-0.4**
GRA1				*e*Sg	**Sg**	**18 13 41.3**	**-0.5**
GRA1	**Grafenberg Arr**	**0.83**	**266**	Pg	**Pg**	**18 13 30.3**	**-0.4**
GRA1				Sg	**Sg**	**18 13 41.3**	**-0.5**
GRF	**Grafenberg Arr**	**0.83**	**266**	*e*Pg	**Pg**	**18 13 30.3**	**-0.5**
GRF				*e*Sg	**Sg**	**18 13 41.3**	**-0.5**
GRFO	**Grafenberg**	**0.83**	**266**	*e*Pg	**Pg**	**18 13 30.7**	**0.0**
GRFO				*e*Sg	**Sg**	**18 13 41.2**	**-0.6**
KHC	**Kasperske Hory**	**0.95**	**131**	*e*Pg	**Pg**	**18 13 34.6**	**+1.5**
	SNR=22						
KHC				*e*Sg	**Sg**	**18 13 47.2**	**+1.4**
	SNR=14						
KHC	**Kasperske Hory**	**0.95**	**131**	*e*Pg	**Pg**	**18 13 34.5**	**+1.4**
KHC				*e*Sg	**Sg**	**18 13 48.0**	**+2.2**
KHC	**Kasperske Hory**	**0.95**	**131**	*e*PG	**Pg**	**18 13 34.5**	**+1.4**
KHC				*e*SG	**Sg**	**18 13 48.0**	**+2.2**
	45nm,0.2s						
KHC	**Kasperske Hory**	**0.95**	**131**	*e*Pg	**Pg**	**18 13 34.5**	**+1.4**
KHC				Sg	**Sg**	**18 13 47.2**	**+1.4**
	SNR=14						
MOX	**Moxa**	**1.05**	**328**	*e*Pg	**Pg**	**18 13 34.2**	**-0.9**
	SNR=12						
MOX				*e*Sg	**Sg**	**18 13 47.4**	**-1.8**
	SNR=9.5						
MOX	**Moxa**	**1.05**	**328**	*e*Pg	**Pg**	**18 13 34.1**	**-1.0**
MOX				*e*Sg	**Sg**	**18 13 47.4**	**-1.8**
GEC2	**GERESS Array S**	**1.21**	**139**	*e*Pg	**Pg**	**18 13 39.0**	**+0.7**
	SNR=14						
GEC2				*e*Sg	**Sg**	**18 13 55.5**	**+1.0**
	SNR=9.0						
GEC2	**GERESS Array S**	**1.21**	**139**	*e*Pg	**Pg**	**18 13 39.0**	**+0.7**
GEC2				*e*Sg	**Sg**	**18 13 55.5**	**+1.0**
PRU	**Pruhonice**	**1.34**	**79**	*e*Pg	**Pg**	**18 13 41.2**	**+0.2**
	SNR=12						
PRU				*e*Sg	**Sg**	**18 14 00.3**	**+1.3**
	SNR=3.9						
PRU	**Pruhonice**	**1.34**	**79**	*e*Pg	**Pg**	**18 13 41.3**	**+0.3**
PRU				*e*Sg	**Sg**	**18 14 00.3**	**+1.3**
PRU	**Pruhonice**	**1.34**	**79**	*e*PG	**Pg**	**18 13 41.3**	**+0.3**
PRU				*e*SG	**Sg**	**18 14 00.3**	**+1.3**
	18nm,0.2s						
PRU	**Pruhonice**	**1.34**	**79**	*e*Pn	**Pn**	**18 13 41.0**	**+2.0**
PRU	**Pruhonice**	**1.34**	**79**	*e*Pg	**Pg**	**18 13 41.3**	**+0.3**
PRU				*e*Sg	**Sg**	**18 13 59.3**	**+0.3**
BRG	**Berggiesshubel**	**1.45**	**39**	*e*Pn	**Pn**	**18 13 40.0**	**-0.5**
	SNR=0.7						
BRG				*e*Pg	**Pg**	**18 13 42.8**	**-0.3**
	SNR=6.9						
BRG				*e*Sg	**Sg**	**18 14 01.8**	**-0.7**
	SNR=9.3						
BRG	**Berggiesshubel**	**1.45**	**39**	*i* Pg	**Pg**	**18 13 43.1**	**0.0**
BRG				*i*		18 13 48.0	
BRG				*i* Sg	**Sg**	**18 14 02.0**	**-0.5**
NEUB	**Neuenburg**	**1.52**	**343**	*e*Pg	**Pg**	**18 13 42.7**	**-1.8**
	SNR=3.1						
NEUB				*e*Sg	**Sg**	**18 14 01.9**	**-2.9**
	SNR=3.5						
PVCC	**Panska Ves**	**1.54**	**59**	*e*PG	**Pg**	**18 13 44.4**	**-0.5**
CLL	**Collm**	**1.58**	**12**	*e*Pn	**Pn**	**18 13 42.0**	**-0.4**
	SNR=2.0						
CLL				*e*Pg	**Pg**	**18 13 45.0**	**-0.7**
	SNR=9.0						
CLL				*e*Sg	**Sg**	**18 14 05.3**	**-1.6**
	SNR=5.5						
CLL	**Collm**	**1.58**	**12**	*i* PG	**Pg**	**18 13 42.4**	**-3.3**
CLL				*i*		18 13 46.5	
CLL				*i* SG	**Sg**	**18 14 05.3**	**-1.6**
CLL	**Collm**	**1.58**	**12**	*i* Pg	**Pg**	**18 13 42.4**	**-3.3**
CLL				*i* Sg	**Sg**	**18 14 05.3**	**-1.6**
FUR	**Furstenfeldbru**	**1.79**	**207**	*e*Sg	**Sg**	**18 14 11.8**	**-1.8**
	SNR=4.8						
UBBA	**Unterbreizbach**	**1.92**	**305**	*e*Sg	**Sb**	**18 14 12.4**	**-0.3**
	SNR=10						
MOA	**Molln**	**2.24**	**148**	⇑*i*PN	**Pn**	**18 13 53.6**	**+1.8**
MOA				*i* PG	**Pg**	**18 13 59.0**	**+0.1**
MOA				*i* SG	**Sg**	**18 14 30.6**	**+1.8**
	14nm,0.3s						
UPC	**Upice**	**2.38**	**70**	*e*PG	**Pg**	**18 13 59.9**	**-1.8**
CLZ	**Clausthal**	**2.48**	**328**	*e*Pg	**Pg**	**18 14 01.3**	**-2.4**
	SNR=2.8						
CLZ				*e*Sg	**Sb**	**18 14 31.5**	**+2.4**
	SNR=4.7						
DPC	**Dobruska-Polom**	**2.54**	**75**	*e*Sg	**Sg**	**18 14 37.0**	**-1.6**
	SNR=2.4						
DPC	**Dobruska-Polom**	**2.54**	**75**	*e*PG	**Pg**	**18 14 02.4**	**-2.4**
DPC				*ex*	x	18 14 27.9	
DPC				*e*SG	**Sg**	**18 14 37.2**	**-1.4**
	16nm,0.6s						
DPC	**Dobruska-Polom**	**2.54**	**75**	*e*Pg	**Pg**	**18 14 02.4**	**-2.4**
DPC				*e*Sg	**Sg**	**18 14 37.2**	**-1.4**
	16nm,0.6s						
KRUC	**Moravsky**	**2.64**	**104**	*e*Pg	**Pg**	**18 14 04.6**	**-2.3**
TNS	**Taunus Mts**	**2.65**	**282**	*e*Sg	**Sb**	**18 14 35.9**	**+1.9**
	SNR=4.4						
VRAC	**Vranov**	**2.71**	**98**	*e*Pn	**Pn**	**18 13 59.2**	**+0.7**
VRAC	**Vranov**	**2.71**	**98**	*e*Pg	**Pg**	**18 14 05.5**	**-2.7**
VRAC				*e*Sn	**Sn**	**18 14 30.6**	**-1.1**
VRAC				*e*Sg	**Sg**	**18 14 40.9**	**-3.4**
	5.7nm,0.1s						
ARSA	**Arzberg**	**3.22**	**140**	*i*	**Pg**	**18 14 19.2**	**+0.8**
ARSA	**Arzberg**	**3.22**	**140**	*i* SG	**Sg**	**18 15 01.5**	**+0.2**
	7.9nm,0.4s						
ZST	**Bratislava**	**3.42**	**116**	*e*SG	**Sg**	**18 15 04.5**	**-3.3**
SMOL	**Smolenice**	**3.47**	**109**	*e*SG	**Sg**	**18 15 08.2**	**-1.5**
OKC	**Ostrava-Krasne**	**3.66**	**87**	*e*SG	**Sg**	**18 15 13.3**	**-2.8**
CDF	**Champ du Feu**	**3.69**	**251**	*e*Pn	**Pn**	**18 14 11.2**	**-1.2**
CDF				*e*Pg	**Pg**	**18 14 25.0**	**-2.7**
CDF				*e*Sg	**Sb**	**18 15 09.4**	**+5.4**
	12nm,0.7s						
HINF	**Hinteralfeld**	**4.21**	**245**	*e*Pn	**Pn**	**18 14 18.1**	**-1.7**
HINF				*e*Sn	**Sn**	**18 15 04.3**	**-5.2**
HINF				*e*Sg	**Sg**	**18 15 25.0**	**-9.1**
	8.7nm,0.3s						
HAU	**Haudompre**	**4.42**	**249**	*e*Pn	**Pn**	**18 14 21.1**	**-1.7**
HAU				*e*Pg	**Pg**	**18 14 36.4**	**-5.9**
HAU				*e*Sg	**Sg**	**18 15 32.0**	**-9.2**
	8.0nm,0.4s						
RFYF	**Reffroy**	**4.74**	**259**	*e*Pn	**Pn**	**18 14 24.7**	**-2.7**
CABF	**La Chapelle**	**5.32**	**236**	*e*Sg	**Sg**	**18 16 01.0**	**-10**
	4.2nm,0.6s						
LPG	**La Plagne**	**5.76**	**224**	*e*Pn	**Pn**	**18 14 39.9**	**-1.9**
LPG				*e*Sn	**Sn**	**18 15 42.6**	**-6.2**
	1.1nm,0.3s						

*NEIC **23** 18:13:22.2±0.5,10.77N×62.61W,h92km±6km,mb4.3/5, MD4.1(CAR),MD3.9(TRN),Error ellipse: s-maj=10.9km s-min=7.7km az=166.0*
NEIC Felt [II] in northern Trinidad.
*FUNV **23** 18:13:23.3,10.62N×62.45W,h78km,MW3.4*
*TRN **23** 18:13:23.8,10.85N×62.41W,h14km,MD3.9*
TRN Felt (II) in Diego Martin and Valsayn.
*IDC **23** 18:13:24.6±1.5,10.72N×62.76W,h112km±14km,mb3.9/14, mb1 4.0/16,mb1mx3.9/20,mbtmp4.2/16,Error ellipse: s-maj=17.5km s-min=14.4km az=144.0*

ISC 23 18:13:21.1±0.3,10.61N±0.04×62.57W±0.03,h98km±3km, n54,σ1§13/68,mb4.0/17,4C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.34**	**83**	⇑*iP*	**P**	**18 13 35.2**	**-0.5**
GUIV				*e*S	**S**	**18 13 43.4**	**-3.3**
CRUV	**Carupano**	**0.66**	**276**	⇑*iP*	**P**	**18 13 39.0**	**+0.9**
CRUV				*e*S	**S**	**18 13 50.6**	**-0.3**
ITEV	**Isla Los Testi**	**0.93**	**323**	⇓*iP*	**P**	**18 13 41.4**	**+0.7**
ITEV				*e*S	**S**	**18 13 54.7**	**-0.8**
TPP	**Pointe-a-Pierr**	**1.14**	**105**	⇑*iP*	**P**	**18 13 44.4**	**+1.1**
TPP				*e*S	**S**	**18 14 00.6**	**+0.8**
TRN	**Trinidad (W)**	**1.15**	**88**	⇑*iP*	**P**	**18 13 43.6**	**+0.2**
TRN				*e*S	**S**	**18 13 57.2**	**-2.8**
TBH	**Brigand Hill**	**1.48**	**95**	*eP*	**P**	**18 13 48.0**	**+0.7**
TBH				*e*S	**S**	**18 14 07.0**	**+0.1**
GRW	**Mount Saint Ca**	**1.78**	**30**	*eP*	**P**	**18 13 51.4**	**+0.2**
BOT	**Bacolet**	**1.90**	**73**	*eP*	**P**	**18 13 52.8**	**+0.1**
BOT				*e*S	**S**	**18 14 14.8**	**-1.3**
PCRV	**Puerto La Cruz**	**2.08**	**258**	P	**P**	**18 13 57.1**	**+2.0**
	20nm,0.3s,baz=86,slow=2.5,SNR=95						
PCRV				S	**S**	**18 14 20.7**	**+0.4**
	24nm,0.3s,baz=83,slow=6.9,SNR=9.1						
PCRV	**Puerto La Cruz**	**2.08**	**258**	*eP*	**P**	**18 13 57.0**	**+1.9**
GURV	**El Guri**	**2.88**	**190**	⇓*iP*	**P**	**18 14 06.5**	**+0.5**
GURV				*e*S	**S**	**18 14 38.0**	**-1.9**
CUPV	**Cœpira**	**3.22**	**261**	*eP*	**P**	**18 14 12.5**	**+1.8**
CUPV				*e*S	**S**	**18 14 48.4**	**+0.1**
BIRV	**Birongo**	**3.64**	**268**	*eP*	**P**	**18 14 18.4**	**+1.9**
LUEV	**Luepa**	**4.86**	**167**	*eP*	**P**	**18 14 32.0**	**-1.2**
LUEV				*e*S	**S**	**18 15 24.1**	**-4.5**
CAOV	**Caicara del Or**	**4.94**	**229**	*eP*	**P**	**18 14 35.0**	**+0.7**
CAOV				*e*S	**S**	**18 15 27.4**	**-3.3**
TURV	**Turiamo**	**5.19**	**269**	*eP*	**P**	**18 14 38.4**	**+0.7**
SANV	**Sanarito**	**6.95**	**262**	*eP*	**P**	**18 15 01.9**	**0.0**
SANV				*e*S	**S**	**18 16 15.9**	**-4.1**
SIQV	**Siquisique**	**7.12**	**271**	*eP*	**P**	**18 15 03.9**	**-0.4**
PAYV	**Puerto Ayacuch**	**7.21**	**225**	*eP*	**P**	**18 15 05.2**	**-0.3**
PAYV				*e*S	**S**	**18 16 20.6**	**-5.8**
SDV	**Santo Domingo**	**8.13**	**259**	P	**P**	**18 15 17.6**	**-0.4**
	0.8nm,0.3s,baz=127,slow=8.1,SNR=19						
SDV				S	**S**	**18 16 44.5**	**-4.4**
	4.9nm,0.3s,baz=54,slow=18,SNR=11						
SDV	**Santo Domingo**	**8.13**	**259**	*eP*	**P**	**18 15 17.2**	**-0.8**
	8.3nm,0.6s						
SJG	**San Juan**	**8.23**	**335**	P	**P**	**18 15 21.9**	**+2.6**
	4.3nm,0.3s,baz=306,slow=16,SNR=3.7						
SJG				S	**S**	**18 16 44.6**	**-6.7**
	6.6nm,0.3s,baz=337,slow=16,SNR=4.9						
SJG	**San Juan**	**8.23**	**335**	*eP*	**P**	**18 15 12.2**	**-7.2**
SJG				S	**S**	**18 16 44.6**	**-6.7**
SOCV	**Socops**	**8.50**	**255**	*eP*	**P**	**18 15 22.4**	**-0.6**
SOCV				*e*S	**S**	**18 16 50.8**	**-7.1**
ROSC	**El Rosal**	**12.98**	**245**	P	**P**	**18 16 23.0**	**+0.1**
	0.9nm,0.3s,baz=281,slow=12,SNR=1.7						
SAML	**Samuel**	**19.44**	**182**	*eP*	**P**	**18 17 43.4**	**+1.0**
	16nm,1.0s						
OXF	**Oxford**	**34.16**	**318**	P	**P**	**18 19 54.5**	**-4.4**
JCT	**Junction City**	**39.82**	**305**	*eP*	**P**	**18 20 46.2**	**-0.2**
	7.1nm,0.7s,mb4.6						
WMOK	**Wichita Mounta**	**40.80**	**312**	*eP*	**P**	**18 20 54.2**	**-0.2**
	2.2nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**42.60**	**302**	P	**P**	**18 21 09.8**	**+0.4**
	0.5nm,0.6s,mb3.4,baz=135,slow=8.1,SNR=9.0						
TXAR				PcP	PcP	18 23 00.5	0.0
	1.6nm,0.7s,baz=122,slow=5.6,SNR=14						
TXAR	**Lajitas Array**	**42.60**	**302**	P	**P**	**18 21 09.8**	**+0.4**
TXAR				PcP	PcP	18 23 00.5	0.0
SCHQ	**Schefferville**	**44.24**	**356**	P	**P**	**18 21 22.0**	**-0.3**
	2.7nm,0.5s,mb4.2,baz=180,slow=6.1,SNR=9.9						
ULM	**Lac du Bonnet**	**48.11**	**332**	P	**P**	**18 21 50.9**	**-1.9**
	1.3nm,0.4s,mb4.1,baz=130,slow=9.0,SNR=6.0						
ULM	**Lac du Bonnet**	**48.11**	**332**	P	**P**	**18 21 50.9**	**-1.9**
PLCA	**Paso Flores**	**51.61**	**188**	*eP*	**P**	**18 22 20.6**	**+0.9**
	2.3nm,0.7s,mb4.3,baz=346,slow=7.9,SNR=6.0						
PLCA	**Paso Flores**	**51.61**	**188**	*eP*	**P**	**18 22 20.8**	**+1.1**
	3.1nm,0.8s,mb4.4						
PDAR	**Pinedale Array**	**51.86**	**317**	P	**P**	**18 22 19.7**	**-1.8**
	0.9nm,0.5s,mb4.1,baz=115,slow=9.5,SNR=12						
PDAR				PcP	PcP	18 23 32.0	-1.2
	0.5nm,0.5s,baz=98,slow=6.4,SNR=5.2						
FCC	**Fort Churchill**	**53.64**	**340**	*eP*	**P**	**18 22 32.1**	**-2.4**
	2.7nm,0.8s,mb4.3						
DBIC	**Dimbokro**	**57.13**	**89**	P	**P**	**18 23 00.5**	**+0.2**
	2.8nm,1.0s,mb4.2,baz=277,slow=9.2,SNR=3.5						
DBIC	**Dimbokro**	**57.13**	**89**	P	**P**	**18 23 00.5**	**+0.2**
EDM	**Edmonton**	**58.67**	**327**	*eP*	**P**	**18 23 09.1**	**-1.4**
ESDC	**Sonseca Array**	**59.23**	**50**	P	**P**	**18 23 15.2**	**+0.7**
	0.2nm,0.3s,mb3.6,baz=284,slow=6.1,SNR=5.4						
**YKA

KRBR	**Kerman**	**0.76**	**189**	*e*Pg		**Pg**	**18 42 09.3**	**+0.3**
	SNR=90							
KRBR				*e*Sg		**Sg**	**18 42 18.8**	**-0.4**
	comp=N,957nm,0.6s,SNR=90							
IBAF	**Bafgh**	**1.43**	**307**	Pn		**Pn**	**18 42 18.8**	**-0.9**
IMEH	**Mehriz**	**2.07**	**289**	Pn		**Pn**	**18 42 29.2**	**+0.2**
ICHK	**Chekchek**	**2.61**	**306**	Pn		**Pn**	**18 42 36.1**	**-0.6**
BNDS	**Bandar-Abbas**	**3.39**	**191**	*e*PN		**Pn**	**18 42 48.4**	**+0.7**
BNDS				AML		AML	18 43 49.2	
	comp=N,59nm,0.5s							
NASN	**Na'in**	**4.05**	**302**	*e*PN		**Pn**	**18 42 56.7**	**-0.4**
NASN				*e*SG		**Sb**	**18 43 55.0**	**+0.9**
IPAY	**Payeh**	**5.96**	**16**	Pn		**Pn**	**18 43 24.7**	**+0.5**
IMYA	**Miamay**	**6.20**	**25**	Pn		**Pn**	**18 43 27.4**	**-0.1**
IDMV	**Damavand**	**6.32**	**321**	Pn		**Pn**	**18 43 28.4**	**-0.9**
IDMV	**Damavand**	**6.32**	**321**	Lg			18 45 13.7	
IDMV	**Damavand**	**6.32**	**321**	Pn		**Pn**	**18 43 29.7**	**+0.4**
IRAZ	**Razeghan**	**7.48**	**310**	Lg			18 45 40.3	

JMA 23 18:44:46.9±0.3, 43.89N×148.24E, M3.5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.89**	**255**	P	Pn	18 45 21.2	+0.5
NEM2				*e*S	Sn	18 45 45.5	0.0
JAK	**Akkeshi**	**2.73**	**252**	P	Pn	18 45 32.9	+0.1
JAK				*e*S	Sn	18 46 06.4	-0.6
JAR	**Ashorobuto**	**3.30**	**261**	P	Pn	18 45 41.3	+0.4
JAR				*e*S	Sn	18 46 20.3	-1.1
JCH	**Churui**	**3.78**	**252**	P	Pn	18 45 48.1	+0.4
JCH				*e*S	Sn	18 46 31.9	-1.7

*IDC **23** 19:02:21.8±2.3, 43.59N×105.41W, mb3.9/3, mb1 3.9/6, mb1mx3.6/19, mbtmp3.8/6, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.0/30, Error ellipse: s-maj=60.5km s-min=8.8km az=152.0*

*NEIC **23** 19:02:22.5±0.5, 43.76N×105.17W, ML3.5, Error ellipse: s-maj=7.9km s-min=5.2km az=120.0, Suspected Mining explosion.*

NEIC 65 km [40 miles] SSE of Gillette.

ISC 23 19:02:20.6±0.6, 43.79N±0.05×105.14W±0.08, n36, σ1§16/35, mb4.2/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHWY	**Pilot Hill**	**2.50**	**185**	*e*P	**Pn**	**19 03 04.1**	**+1.0**
RWWY	**Rawlins**	**2.59**	**217**	*e*P	**Pn**	**19 03 06.1**	**+1.7**
LAO	**LASA Array**	**3.00**	**346**	*e*P	**Pn**	**19 03 09.8**	**-0.4**
PDAR	**Pinedale Array**	**3.38**	**254**	Pn	**Pn**	**19 03 16.2**	**+0.6**
	4.1nm,0.3s,baz=72,slow=15,SNR=78						
PDAR				Lg		19 04 00.1	
	9.7nm,0.3s,baz=77,slow=26,SNR=7.0						
LKWY	**Lake**	**3.86**	**283**	*e*P	**Pn**	**19 03 24.1**	**+1.6**
LOHW	**Long Hollow**	**3.96**	**269**	*e*P	**Pn**	**19 03 24.9**	**+0.9**
ISCO	**Idaho Springs**	**4.00**	**185**	*e*P	**Pn**	**19 03 25.7**	**+1.2**
MOOW	**Moose Ponds**	**4.06**	**271**	*e*P	**Pn**	**19 03 26.4**	**+1.1**
IMW	**Indian Meadow**	**4.19**	**273**	*e*P	**Pn**	**19 03 28.9**	**+1.7**
TPAW	**Teton Pass**	**4.23**	**268**	*e*P	**Pn**	**19 03 27.1**	**-0.6**
MUDI	**Mud Lake**	**4.31**	**270**	*e*P	**Pn**	**19 03 31.1**	**+2.3**
RRI2	**Red Ridge**	**4.51**	**266**	*e*P	**Pn**	**19 03 31.9**	**+0.2**
BOZ	**Bozeman (W)**	**4.98**	**294**	*e*P	**Pn**	**19 03 37.6**	**-0.8**
HWUT	**Hardware Ranch**	**5.21**	**247**	*e*P	**Pn**	**19 03 40.5**	**-1.1**
	19nm,0.6s						
TCUT	**Toone Canyon**	**5.35**	**242**	*e*P	**Pn**	**19 03 42.7**	**-0.9**
HRY	**Holter Researc**	**5.55**	**304**	*e*P	**Pn**	**19 03 46.5**	**0.0**
DAU	**Daniels Canyon**	**5.66**	**236**	*e*P	**Pn**	**19 03 47.5**	**-0.5**
JLU	**Jordanelle**	**5.67**	**238**	*e*P	**Pn**	**19 03 47.2**	**-0.9**
RW3	**Ridgway**	**5.86**	**200**	P	**Pn**	**19 04 02.0**	**+11**
HVU	**Hansel Valley**	**5.96**	**253**	*e*P	**Pn**	**19 03 50.3**	**-2.0**
SRU	**San Rafael**	**6.18**	**223**	*e*P	**Pn**	**19 03 53.6**	**-1.7**
TMUT	**Trail Mountain**	**6.39**	**227**	*e*P	**Pn**	**19 03 57.8**	**-0.5**
CBKS	**Cedar Bluff**	**6.42**	**139**	*e*P	**Pn**	**19 04 13.3**	**+15**
CHMT	**Chamberlain Mo**	**6.51**	**301**	*e*P	**Pn**	**19 03 59.7**	**-0.3**
HLID	**Hailey**	**6.73**	**271**	*e*P	**Pn**	**19 04 04.2**	**+1.2**
	3.5nm,0.7s						
DUG	**Dugway**	**6.75**	**240**	*e*P	**Pn**	**19 04 01.8**	**-1.5**
	6.2nm,0.5s						
MSU	**Marysvale**	**7.48**	**228**	*e*P	**Pn**	**19 04 10.8**	**-2.8**
ULM	**Lac du Bonnet**	**9.04**	**41**	Pn	**P**	**19 04 35.8**	**+0.5**
	0.7nm,0.3s,baz=228,slow=11,SNR=9.2						
ULM				Lg		19 07 09.7	
	0.3nm,0.3s,baz=137,slow=19,SNR=3.1						
FFC	**Flin Flon**	**11.14**	**10**	*e*P	**P**	**19 05 02.5**	**-1.6**
	3.2nm,0.6s						
YBH	**Yreka Blue Hor**	**13.07**	**267**	LR	LR	19 10 46.3	
	comp=Z,36nm,18.4s,baz=346,slow=39						
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**19 06 51.5**	**-0.6**
YKA	**Yellowknife Ar**	**19.54**	**347**	P	**P**	**19 06 51.5**	**-0.6**
	0.1nm,0.3s,baz=163,slow=12,SNR=7.8						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**19 12 39.2**	**-0.6**
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**19 12 39.2**	**-0.6**
	4.1nm,0.9s,mb4.5,baz=333,slow=8.1,SNR=5.3						
FINES	**FINESS Array B**	**67.95**	**23**	P	**P**	**19 13 23.1**	**+0.4**
	0.7nm,0.7s,mb4.0,baz=333,slow=8.5,SNR=3.5						
SONM	**Songino Array**	**84.62**	**339**	P	**P**	**19 14 58.0**	**+1.4**
	0.5nm,0.6s,mb3.9,baz=12,slow=4.1,SNR=6.5						

IDC 23 19:40:50.8±56.0, 22.21S×178.29W, mb3.9/3, mb1 4.1/3, mb1mx3.8/11, mbtmp3.9/3, 1D, Error ellipse: s-maj=1029.0km s-min=153.0km az=85.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.83**	**246**	P	P	19 47 59.9	-2.6
	2.9nm,1.0s,baz=85,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**43.89**	**258**	P	P	19 48 59.3	-1.7
	0.5nm,0.4s,baz=93,slow=7.5,SNR=20						
WB2	**Warramunga Ar**	**44.11**	**264**	⇓*i*P	P	19 49 01.7	-1.2
WRA	**Warramunga Arr**	**44.12**	**264**	P	P	19 49 01.9	-1.1
	0.9nm,0.3s,baz=97,slow=8.3,SNR=45						

*NNC **23** 20:02:52.4±5.0, 41.02N×73.40E, mpv3.4, Error ellipse: s-maj=123.1km s-min=33.4km az=113.0*

KNET 23 20:02:51.8±0.7, 40.96N×73.98E, h1km±3km, ml3.0, 9C-12D, Error ellipse: s-maj=4.5km s-min=3.4km az=52.0, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**1.19**	**350**	P	Pb	20 03 14.5	-0.4
	150nm,0.2s,SNR=255						
AML				⇑S	Sb	20 03 32.5	+1.8
	192nm,0.2s						
UCH	**Uchtor**	**1.33**	**17**	⇓P	Pb	20 03 18.0	+0.8
	50nm,0.2s,SNR=162						
UCH				⇑S	Sb	20 03 38.5	+3.8
	103nm,0.2s						
KZA	**Kyzart**	**1.47**	**40**	⇑P	Pn	20 03 20.7	+1.1
	47nm,0.2s,SNR=139						
KZA				⇓S	Sb	20 03 42.2	+3.4
	82nm,0.1s						
EKS2	**Erkin-Say**	**1.71**	**355**	⇓P	Pn	20 03 24.0	+1.1
	24nm,0.2s,SNR=148						
EKS2				⇑S	Sb	20 03 49.5	+3.8
	34nm,0.2s						
AAK	**Ala-Archa**	**1.72**	**13**	⇓P	Pn	20 03 24.8	+1.7
	33nm,0.2s,SNR=32						
AAK				⇑S	Sb	20 03 49.5	+3.5
	102nm,0.3s						
AAK	**Ala-Archa**	**1.72**	**13**	⇓Pn	Pn	20 03 24.7	+1.7
	22nm,0.5s						
AAK				⇑Sn	Sn	20 03 49.8	+3.9
	30nm,0.4s						
KBK	**Karagaybulak**	**1.85**	**23**	⇓P	Pn	20 03 27.6	+2.7
	43nm,0.1s,SNR=246						
KBK				⇑S	Sn	20 03 54.1	+4.9
	150nm,0.2s						
CHMS	**Chumysh**	**2.12**	**16**	⇑P	Pn	20 03 31.1	+2.3
	29nm,0.3s,SNR=24						
CHMS				⇓S	Sn	20 04 02.2	+6.1
	35nm,0.2s						
ULHL	**Ulahol**	**2.13**	**52**	⇓P	Pn	20 03 30.6	+1.7
	19nm,0.2s,SNR=83						
ULHL				⇓S	Sn	20 04 01.6	+5.1
	127nm,0.3s						
USP	**Ospenovka**	**2.34**	**9**	⇓P	Pn	20 03 34.1	+2.2
	25nm,0.2s,SNR=61						
USP				⇓S	Sn	20 04 08.6	+6.8
	50nm,0.2s						
MK31	**Makanchi Array**	**8.37**	**43**	⇑Pn	P	20 05 00.5	+3.4
	0.9nm,0.8s,baz=229,slow=13,SNR=5.5						
MK31				⇓Lg		20 07 24.1	
	1.9nm,0.8s,baz=231,slow=25,SNR=4.3						
BVA0	**Borovoye Array**	**12.32**	**350**	Lg		20 09 21.5	
	0.1nm,0.9s,baz=145,slow=28,SNR=3.8						

IDC 23 20:09:06.8±2.6, 5.45S×67.87E, mb3.8/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.8/5, MS3.7/1, Ms1 3.7/1, ms1mx3.0/20, Error ellipse: s-maj=91.3km s-min=28.5km az=62.0, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBTB	**Lobatse**	**44.93**	**240**	LR	LR	20 33 51.6	
	comp=Z,82nm,18.6s,baz=15,slow=33						
BVAR	**Borovoye Array**	**58.29**	**2**	P	P	20 19 04.1	-1.5
	0.2nm,0.4s,baz=180,slow=7.2,SNR=4.0						
ZAL	**Zalesovo**	**60.85**	**11**	P	P	20 19 20.2	-3.1
	0.7nm,0.7s,baz=268,slow=3.9,SNR=5.2						
SONM	**Songino Array**	**62.93**	**28**	P	P	20 19 35.4	-1.9
	1.6nm,1.0s,baz=221,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**65.89**	**113**	P	P	20 19 55.0	-2.1
	0.6nm,0.9s,baz=278,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**66.05**	**109**	P	P	20 19 56.2	-1.9
	1.2nm,0.9s,baz=287,slow=6.1,SNR=9.8						
YKA	**Yellowknife Ar**	**123.05**	**1**	PKP	PKPdf	20 28 04.2	-2.7
	0.1nm,0.6s,slow=1.9,SNR=4.0						

*IDC **23** 20:30:03.1±1.4, 10.27N×92.78E, mb3.9/7, mb1 4.1/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=64.5km s-min=18.5km az=60.0*

*NEIC **23** 20:30:07.9±0.8, 10.30N×92.89E, h30km, mb4.2/3, Error ellipse: s-maj=30.8km s-min=10.1km az=62.0*

ISC 23 20:30:06.4±1.0, 10.3N±0.1×92.9E±0.2, h33km, n12, σ0§71/12, mb3.9/9, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**19.39**	**355**	*e*P	**P**	**20 34 33.0**	**+0.5**
	3.8nm,0.9s						
ENH	**Enshi**	**25.20**	**35**	*e*P	**P**	**20 35 30.5**	**-0.2**
	7.2nm,0.7s,mb4.3						
SONM	**Songino Array**	**39.13**	**14**	P	**P**	**20 37 33.4**	**+1.0**
	0.8nm,0.6s,mb3.6,baz=199,slow=7.4,SNR=11						
ZAL	**Zalesovo**	**44.02**	**353**	P	**P**	**20 38 10.5**	**-2.1**
	0.6nm,0.5s,mb3.6,baz=277,slow=7.6,SNR=3.1						
BVAR	**Borovoye Array**	**46.33**	**341**	P	**P**	**20 38 30.4**	**-0.6**
	0.3nm,0.5s,mb3.5,baz=148,slow=14,SNR=3.1						
CHKZ	**Chkalovo**	**46.82**	**342**	*e*P	**P**	**20 38 35.3**	**+0.5**
	3.2nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**50.66**	**126**	P	**P**	**20 39 05.1**	**+0.1**
	1.1nm,0.4s,mb4.1,baz=304,slow=8.9,SNR=58						
WRAB	**Tennant Creek**	**50.66**	**126**	*e*P	**P**	**20 39 05.1**	**+0.1**
WB2	**Warramunga Arr**	**50.67**	**126**	*e*P	**P**	**20 39 05.0**	**-0.1**
ASAR	**Alice Springs**	**52.40**	**131**	P	**P**	**20 39 17.9**	**-0.1**
	2.9nm,0.6s,mb4.4,baz=305,slow=6.7,SNR=58						
STKA	**Stephens Creek**	**62.65**	**139**	P	**P**	**20 40 30.2**	**0.0**
	1.6nm,0.6s,mb4.3,baz=26,slow=3.8,SNR=5.3						
GERES	**GERESS Array B**	**75.23**	**318**	P	**P**	**20 41 48.2**	**+0.6**
	0.3nm,0.6s,mb3.4,baz=117,slow=3.0,SNR=3.7						

*MOS **23** 20:52:32.8±1.1, 42.11N×45.42E, h2km, mb3.8/1, Error ellipse: s-maj=53.0km s-min=12.5km az=138.8*

*TIF **23** 20:52:38.0, 41.85N×46.29E, h24km±5km*

*CSEM **23** 20:52:40.0±0.4, 42.17N×45.91E, h20km, mb3.8, Error ellipse: s-maj=21.5km s-min=5.8km az=145.0*

ISC 23 20:52:37.8±1.5, 41.75N±0.09×46.39E±0.08, h23km±10km, n13, σ0§87/22, 1C, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMKR	**Kumukh**	**0.66**	**54**	*i* PG	**Pb**	**20 52 49.5**	**-1.0**
KMKR				pmax	pmax		
	comp=Z,76nm,0.2s						
XNZR	**Khunzakh**	**0.83**	**16**	*e*Pg	**Pb**	**20 52 53.0**	**-0.4**
XNZR				*i* Sg	**Sb**	**20 53 03.5**	**-0.6**
BTLR	**Botlikh**	**0.93**	**352**	⇑*i*PG	**Pb**	**20 52 50.5**	**-4.5**
BTLR				*i* S	**Sb**	**20 53 00.0**	**-6.9**
BTLR				pmax	pmax		
	comp=Z,40nm,0.2s						
BTLR	**Botlikh**	**0.93**	**352**	*i* Pg	**Pb**	**20 52 50.5**	**-4.5**
	comp=Z,40nm,0.2s						
BTLR				*i* Sg	**Sb**	**20 53 00.0**	**-6.9**
UNCR	**Uncukul**	**1.01**	**17**	*i* PG	**Pb**	**20 52 57.0**	**+0.5**
UNCR				*i* S	**Sb**	**20 53 09.5**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**1.01**	**17**	*i* Pg	**Pb**	**20 52 57.0**	**+0.5**
	comp=Z,34nm,0.2s						
UNCR				*i* Sg	**Sb**	**20 53 09.5**	**+0.1**
KRNR	**Karanay**	**1.15**	**19**	*e*PG	**Pn**	**20 52 59.0**	**+0.4**
KRNR				*i* S	**Sb**	**20 53 12.5**	**-0.8**
MTA	**Mtatsminda**	**1.20**	**268**	P	**Pn**	**20 52 59.5**	**+0.2**
MTA				S	**Sb**	**20 53 15.2**	**+0.5**
BUJR	**Buynaksk**	**1.21**	**26**	*e*Pg	**Pn**	**20 53 01.0**	**+1.6**
BUJR				*i* Sg	**Sb**	**20 53 17.0**	**+2.1**
TI2	**Plekhanov**	**1.23**	**270**	*e*Pg	**Pn**	**20 52 59.0**	**-0.7**
TBLG	**Delisi**	**1.23**	**270**	P	**Pn**	**20 53 00.1**	**+0.3**
TBLG				S	**Sn**	**20 53 16.4**	**+0.4**
DUS	**Dusheti**	**1.30**	**286**	P	**Sn**	**20 53 16.9**	**-0.8**
DBC	**Dubki**	**1.32**	**14**	*e*PG	**Pn**	**20 52 59.8**	**-1.2**

IDC 23 20:56:51.5±5.3, 15.95S×173.57W, mb4.0/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.0/3, 4C-1D, Error ellipse: s-maj=203.1km s-min=59.2km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.62**	**240**	P	P	21 04 58.1	-1.3
	1.8nm,0.7s,baz=85,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**49.56**	**257**	P	P	21 05 44.6	-2.0
	0.3nm,0.3s,baz=95,slow=7.3,SNR=19						
ASAR	**Alice Springs**	**49.79**	**252**	P	P	21 05 46.0	-2.2
	2.2nm,0.5s,baz=89,slow=7.7,SNR=34						
VNA3	**Neumayer Olymp**	**92.32**	**175**	⇓*i*	P	21 09 59.6	-4.8
VNA3	**Neumayer Olymp**	**92.32**	**175**	⇑*i*	P	21 10 02.9	-1.5
VNA3	**Neumayer Olymp**	**92.32**	**175**	⇑*i*	P	21 10 09.6	+5.2
VNA2	**Neumayer--Watz**	**92.82**	**175**	P	P	21 10 06.8	+0.1
VNA2	**Neumayer--Watz**	**92.82**	**175**	⇑*i*	P	21 10 12.0	+5.3
VNA2	**Neumayer--Watz**	**92.82**	**175**	⇑*i*	P	21 10 22.7	+16
BRTR	**Keskin Array B**	**146.48**	**320**	PKPbc	PKPbc	21 16 34.3	-0.4
	0.3nm,0.3s,baz=90,slow=1.2,SNR=3.8						

*BJI **23** 21:04:19.6, 42.24S×88.51E, h8km, mB5.3, mb4.7, Ms4.9, Msz4.7*

*IDC **23** 21:04:21.1±0.7, 42.04S×88.03E, mb4.5/11, mb1 4.6/11, mb1mx4.5/16, mbtmp4.4/11, MS4.3/8, Ms1 4.3/8, ms1mx4.3/14, Error ellipse: s-maj=30.1km s-min=17.5km az=170.0*

*NEIC **23** 21:04:22.7±0.3, 42.04S×88.03E, h10km, mb4.7/5, Error ellipse: s-maj=12.7km s-min=8.6km az=155.0*

ISC 23 21:04:21.1±0.5, 42.08S±0.1×88.1E±0.1, h10km, n35, σ0§69/27, mb4.6/20, MS4.6/8, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.80**	**78**	LR	LR	21 17 21.9	
	comp=Z,6.8nm,19.8s,baz=9,8,slow=32						
MAW	**Mawson**	**28.97**	**200**	LR	LR	21 19 22.4	
	comp=Z,2µm,19.8s,MS4.7,baz=42,slow=31						
FITZ	**Fitzroy Crossi**	**39.89**	**65**	P	**P**	**21 11 57.6**	**+0.8**
	7.9nm,1.1s,mb4.4,baz=217,slow=5.1,SNR=2.9						
FITZ				LR	LR	21 26 34.6	
	comp=Z,683nm,19.5s,MS4.5,baz=252,slow=33						
ASPA	**Alice Springs**	**42.11**	**79**	*e*P	**P**	**21 12 14.9**	**0.0**
ASAR	**Alice Springs**	**42.11**	**79**	P	**P**	**21 12 14.9**	**0.0**
	7.0nm,0.6s,mb4.5,baz=225,slow=7.4,SNR=55						
ASAR				PcP	PcP	21 14 08.9	-1.3
	3.5nm,0.7s,baz=231,slow=2.6,SNR=14						
ASAR				LR	LR	21 27 34.5	
	comp=Z,1µm,21.2s,MS4.7,baz=234,slow=33						
STKA	**Stephens Creek**	**43.35**	**94**	P	**P**	**21 12 24.7**	**-0.2**
	3.5nm,0.8s,mb4.1,baz=348,slow=20,SNR=6.5						
STKA				PcP	PcP	21 14 13.1	-1.2
	3.5nm,0.9s,baz=71,slow=5.4,SNR=4.0						
STKA				LR	LR	21 28 18.2	
	comp=Z,762nm,18.5s,MS4.6,baz=214,slow=33						
STKA	**Stephens Creek**	**43.35**	**94**	*e*P	**P**	**21 12 25.2**	**+0.2**
STKA				PcP	PcP	21 14 13.1	-1.1
WRA	**Warramunga Arr**	**44.74**	**75**	P	**P**	**21 12 36.0**	**-0.4**
	16nm,1.1s,mb4.8,baz=228,slow=7.8,SNR=51						
WRA				PcP	PcP	21 14 17.6	-1.6
	1.3nm,0.8s,baz=228,slow=2.7,SNR=6.6						
WB2	**Warramunga Arr**	**44.75**	**75**	*e*P	**P**	**21 12 37.0**	**+0.5**
WRAB	**Tennant Creek**	**44.75**	**75**	P	**P**	**21 12 36.8**	**+0.3**
	82nm,1.2s,mb5.4,SNR=8.9						
WRAB	**Tennant Creek**	**44.75**	**75**	*e*P	**P**	**21 12 36.4**	**-0.1**
	18nm,1.0s,mb4.9						
VNDA	**Vanda**	**45.82**	**163**	P	**P**	**21 12 44.4**	**+0.1**
	6.8nm,0.7s,mb4.7,baz=283,slow=9.0,SNR=34						
VNDA				LR	LR	21 29 28.1	
	comp=Z,542nm,19.5s,MS4.5,baz=272,slow=33						
QSPA	**South Pole Qui**	**48.07**	**180**	*e*P	**P**	**21 13 01.7**	**-0.3**
	66nm,1.1s,mb5.6						
SNAA	**Sanae**	**50.97**	**204**	*e*P	**P**	**21 13 24.5**	**+0.2**
	6.2nm,1.0s,mb4.5						
CTA	**Charters Tower**	**53.37**	**85**	P	**P**	**21 13 42.6**	**-0.4**
	7.3nm,0.8s,mb4.7,baz=225,slow=7.6,SNR=11						
LBTB	**Lobatse**	**53.62**	**268**	P	**P**	**21 13 43.8**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=141,slow=10,SNR=2.5						
MATP	**Matopo**	**54.16**	**274**	P	**P**	**21 13 48.4**	**-0.4**
	1.3nm,0.6s,mb4.0,baz=91,slow=20,SNR=4.3						
PMG	**Port Moresby**	**60.95**	**76**	P	**P**	**21 14 34.9**	**-1.9**
	3.5nm,0.6s,mb4.7,baz=268,slow=12,SNR=3.2						
PMG				LR	LR	21 39 45.7	
	comp=Z,1µm,18.3s,MS5.1,baz=6.8,slow=35						
KMBO	**Kilima Mbogo**	**61.09**	**298**	LR	LR	21 35 12.4	
	comp=Z,144nm,20.6s,MS4.1,baz=81,slow=30						
LSA	**Lhasa**	**71.48**	**3**	*e*P	**P**	**21 15 43.8**	**-0.1**
	1.8nm,0.5s,mb4.3						
CD2	**Chengdu**	**74.06**	**14**	P	**P**	**21 15 59.6**	**+0.7**
XAN	**Xi'an**	**78.14**	**18**	P	**P**	**21 16 21.8**	**0.0**
XAN				AMB	AMB		
	comp=Z,11nm,1.5s,mb4.6						
LZH	**Lanzhou**	**79.12**	**13**	*e*P	**P**	**21 16 27.5**	**+0.3**
LZH				AP	pP	21 16 35.0	+4.6
LZH				XP	sP	21 16 40.0	+8.5
LZH				AMB	AMB		
	comp=Z,30nm,1.5s,mb5.0						
LZH				LR	LR		
	comp=N,610nm,17.4s						
LZH				LR	LR		
	comp=Z,600nm,20.0s,MS4.9						
GTA	**Gaotai**	**81.81**	**9**	*e*P	**P**	**21 16 42.4**	**+1.0**
GTA				AP	pP	21 16 50.0	+5.4
GTA				XP	sP	21 16 53.0	+7.4
GTA				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.6						
BTO	**Baotou**	**84.68**	**17**	*e*P	**P**	**21 16 55.0**	**-1.0**
WMQ	**Urumqi**	**85.52**	**360**	*e*P	**P**	**21 17 00.6**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.8						
SONM	**Songino Array**	**90.99**	**12**	P	**P**	**21 17 25.4**	**-0.8**
	comp=Z,0.7nm,0.8s,mb4.0,baz=197,slow=4.3,SNR=7.3						
ULN	**Ulaanbaatar**	**91.13**	**13**	*e*P	**P**	**21 17 27.3**	**+0.5**
	comp=Z,6.4nm,1.4s,mb4.8						
PLCA	**Paso Flores**	**95.32**	**196**	P	**P**	**21 17 47.4**	**+1.2**
	comp=Z,1.3nm,0.6s,mb4.6,baz=162,slow=3.6,SNR=4.1						
PLCA	**Paso Flores**	**95.32**	**196**	*e*P	**P**	**21 17 48.1**	**+1.8**
INK	**Inuvik**	**145.78**	**26**	PKPbc	PKPbc	21 24 00.2	+0.7
	comp=Z,18nm,0.8s,baz=305,slow=3.0,SNR=41						
DLBC	**Dease Lake**	**151.18**	**42**	PKPbc	PKPdf	21 24 16.8	+6.2
	comp=Z,4.2nm,1.0s,baz=224,slow=2.4,SNR=7.5						
DLBC	**Dease Lake**	**151.18**	**42**	PKPbc	PKPdf	21 24 16.8	+6.2
YKA	**Yellowknife Ar**	**155.55**	**26**	PKPbc	PKPdf	21 24 24.7	+8.2
	comp=Z,0.3nm,0.7s,baz=320,slow=2.5,SNR=6.2						
PDAR	**Pinedale Array**	**166.97**	**81**	PKPab	PKPab	21 25 32.8	+0.8
	comp=Z,0.8nm,0.8s,SNR=4.0						

*IDC **23** 21:11:59.2±0.6, 11.61S×56.79W, mb4.3/18, mb1 4.5/20, mb1mx4.5/27, mbtmp4.4/20, ML5.2/2, MS4.0/7, Ms1 4.0/7, ms1mx3.4/38, Error ellipse: s-maj=17.6km s-min=15.4km az=52.0*

*NEIC **23** 21:12:00.8±0.3, 11.64S×56.83W, h10km, mb5.0/27, Error ellipse: s-maj=8.8km s-min=6.9km az=216.0*

NEIC Felt [V] at Tabapora. Felt at Juara, Novo Horizonte and Porto dos Gauchos.

*BJI **23** 21:12:00.8, 11.60S×56.80W, h10km, mB5.4, Ms5.3, Msz5.1*

ISC 23 21:11:59.6±0.3, 11.59S±0.06×56.98W±0.06, h10km, n94, σ1§32/81, mb4.7/39, MS4.6/9, 5C-2D, Brazil

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**9.60**	**116**	Pn	**P**	**21 14 14.6**	**-6.4**
	16nm,0.3s,baz=284,slow=16,SNR=66						
BDFB				Sn	**Sn**	**21 15 55.1**	**-15**

EYMN					*e*			21 23 05.6	
SNAA	**Sanae**	**68.22**	**164**		*e*P		**P**	**21 23 00.3**	**-1.9**
	7.7nm,0.9s,mb4.7								
ULM	**Lac du Bonnet**	**70.33**	**335**		P		**P**	**21 23 14.0**	**-1.4**
	4.8nm,0.6s,mb4.6,baz=139,slow=7.3,SNR=13								
ULM	**Lac du Bonnet**	**70.33**	**335**		*e*P		**P**	**21 23 13.8**	**-1.6**
	13nm,1.0s,mb4.8								
ESDC	**Sonseca Array**	**70.85**	**41**		P		**P**	**21 23 18.1**	**-0.6**
	1.3nm,0.6s,mb4.0,baz=244,slow=6.1,SNR=9.8								
ESLA	**Sonseca Array**	**70.85**	**41**		P		**P**	**21 23 17.6**	**-1.1**
	0.7nm,0.8s,mb3.6								
TSUM	**Tsumeb**	**71.83**	**107**		P		**P**	**21 23 23.9**	**-1.1**
	2.6nm,0.6s,mb4.3,baz=245,slow=6.0,SNR=12								
TSUM	**Tsumeb**	**71.83**	**107**		*e*P		**P**	**21 23 23.2**	**-1.7**
	14nm,1.3s,mb4.8								
PDAR	**Pinedale Array**	**72.34**	**322**		P		**P**	**21 23 27.9**	**+0.3**
	1.7nm,0.6s,mb4.2,baz=120,slow=7.6,SNR=22								
LOHW	**Long Hollow**	**73.45**	**322**		*e*P		**P**	**21 23 34.6**	**+0.5**
	8.1nm,0.8s,mb4.7								
RRI2	**Red Ridge**	**73.73**	**322**		*e*P		**P**	**21 23 36.4**	**+0.7**
IMW	**Indian Meadow**	**73.81**	**323**		*e*P		**P**	**21 23 37.2**	**+1.0**
HLID	**Hailey**	**75.74**	**321**		*e*P		**P**	**21 23 48.4**	**+1.0**
	1.8nm,0.6s,mb4.2								
FFC	**Flin Flon**	**76.15**	**335**		P		**P**	**21 23 49.6**	**+0.2**
	54nm,0.6s,mb5.7,SNR=10.0								
FCC	**Fort Churchill**	**76.30**	**341**		*e*P		**P**	**21 23 49.3**	**-0.8**
	8.7nm,0.8s,mb4.7								
QSPA	**South Pole Qui**	**78.56**	**180**	⇑	*i*P		**P**	**21 24 04.0**	**+1.7**
	8.4nm,0.7s,mb4.8								
EKA	**Eskdalemuir Ar**	**80.40**	**28**		P		**P**	**21 24 12.2**	**-0.4**
	1.4nm,0.8s,mb4.0,baz=236,slow=5.5,SNR=7.3								
MATP	**Matopo**	**81.85**	**109**		P		**P**	**21 24 19.6**	**-1.4**
	1.9nm,0.8s,mb4.1,baz=228,slow=10.0,SNR=5.3								
BFO	**Black Forest**	**82.84**	**38**		*e*P		**P**	**21 24 25.7**	**+0.1**
	22nm,1.5s,mb5.0								
DAVOX	**Davos**	**83.12**	**40**		P		**P**	**21 24 28.1**	**+1.0**
	3.9nm,0.8s,mb4.5,baz=194,slow=3.7,SNR=4.6								
FUR	**Furstenfeldbru**	**84.56**	**39**		*e*P		**P**	**21 24 36.1**	**+1.8**
	12nm,0.6s,mb5.2								
SUMG	**Summit**	**84.86**	**6**		*e*P		**P**	**21 24 36.8**	**+1.5**
	15nm,0.8s,mb5.2								
GRA1	**Grafenberg Arr**	**85.15**	**37**		*e*P		**P**	**21 24 38.4**	**+1.2**
	15nm,1.1s,mb5.0								
GRF	**Grafenberg Arr**	**85.15**	**37**		*e*P		**P**	**21 24 38.4**	**+1.2**
	15nm,1.1s,mb5.0								
MOX	**Moxa**	**85.77**	**36**		*e*P		**P**	**21 24 41.4**	**+1.1**
MOX	**Moxa**	**85.77**	**36**		*i*P		**P**	**21 24 41.4**	**+1.1**
WET	**Wettzell**	**85.92**	**38**		*e*P		**P**	**21 24 41.6**	**+0.5**
	16nm,1.7s,mb5.0								
NKC	**Novy Kostel**	**86.09**	**37**		*e*P		**P**	**21 24 43.5**	**+1.6**
YKA	**Yellowknife Ar**	**86.17**	**337**		P		**P**	**21 24 42.7**	**+0.7**
	0.2nm,0.8s,baz=116,slow=5.3,SNR=4.2								
YKA	**Yellowknife Ar**	**86.17**	**337**		P		**P**	**21 24 42.7**	**+0.7**
LEGS	**Legarje**	**86.28**	**42**		*e*P		**P**	**21 24 43.5**	**+0.6**
GEC2	**GERESS Array S**	**86.31**	**39**		*e*P		**P**	**21 24 43.5**	**+0.5**
	10.0nm,1.7s,mb4.8								
GERES	**GERESS Array B**	**86.31**	**39**		P		**P**	**21 24 43.0**	**0.0**
	0.8nm,0.5s,mb4.2,baz=227,slow=4.0,SNR=11								
KHC	**Kasperske Hory**	**86.34**	**38**		*e*P		**P**	**21 24 44.5**	**+1.3**
PERS	**Pernice**	**86.39**	**41**		*e*P		**P**	**21 24 44.4**	**+0.9**
BSEG	**Bad Segeberg**	**86.41**	**33**		*e*P		**P**	**21 24 44.9**	**+1.5**
GCIS	**Gornji Cirnik**	**86.45**	**42**		*e*P		**P**	**21 24 44.8**	**+1.1**
CLL	**Collm**	**86.83**	**36**	⇑	*i*P		**P**	**21 24 46.3**	**+0.8**
	8.0nm,0.9s,mb5.0								
CLL	**Collm**	**86.83**	**36**	⇑	P		**P**	**21 24 46.3**	**+0.8**
	logA/T=0.9,mb4.9								
BRG	**Berggiesshubel**	**87.22**	**37**		*e*P		**P**	**21 24 48.1**	**+0.7**
	1.3nm,0.6s,mb4.3								
BBB	**Bella Bella**	**87.83**	**324**		LR	LR		22 06 18.0	
	comp=Z,90nm,20.1s,MS4.2,baz=184,slow=37								
VNDA	**Vanda**	**88.35**	**188**		P		**P**	**21 24 52.9**	**+0.6**
	4.1nm,1.2s,mb4.5,baz=147,slow=3.7,SNR=3.9								
DPC	**Dobruska-Polom**	**88.44**	**38**		*e*P		**P**	**21 24 55.6**	**+2.3**
VYHS	**Vyhne**	**89.38**	**40**		*e*P		**P**	**21 24 58.0**	**+0.2**
VYHS	**Vyhne**	**89.38**	**40**		*e*pP		pP	21 24 58.0	-3.0
NOA	**NORSAR Array B**	**89.84**	**27**		P		**P**	**21 24 59.9**	**+0.2**
	0.7nm,0.7s,mb4.1,baz=236,slow=4.7,SNR=3.1								
CRVS	**Cervenica-Dubn**	**91.17**	**40**		*e*P		**P**	**21 25 03.0**	**-3.1**
ZAL	**Zalesovo**	**128.03**	**28**		PKP		PKPdf	21 31 06.3	-2.8
	0.7nm,0.6s,baz=188,slow=5.7,SNR=5.4								
WMQ	**Urumqi**	**135.75**	**37**		PKP		PKPdf	21 31 20.5	-3.4
WMQ					PP		PP	21 34 02.0	-0.8
WMQ					PKS		PKS	21 34 55.0	-1.0
WMQ					PPP		PPP	21 37 00.0	-1.3
WMQ					SKS		SKS	21 38 29.0	-5.0
WMQ					SKKS			21 40 51.0	
WMQ					PP		PP		
	comp=Z,95nm,6.3s								
WMQ					LR		LR		
	comp=N,175nm,19.0s,MS4.8								
WMQ					LR		LR		
	comp=E,113nm,21.3s,MS4.8								
WMQ					LR		LR		
	comp=Z,97nm,20.2s,MS4.5								
SONM	**Songino Array**	**141.27**	**18**		PKP		PKPdf	21 31 32.2	-1.6
	comp=Z,0.3nm,0.6s,baz=288,slow=2.3,SNR=4.6								
ASAR	**Alice Springs**	**143.38**	**197**		PKhKP			21 31 32.8	
	comp=Z,1.6nm,0.6s,baz=160,slow=3.8,SNR=26								
LSA	**Lhasa**	**145.32**	**54**		PKP		PKPdf	21 31 40.8	-0.6
LSA					LR		LR		
	comp=N,180nm,25.0s,MS4.9								
LSA					LR		LR		
	comp=E,180nm,21.0s,MS4.9								
LSA					LR		LR		
	comp=Z,420nm,26.0s,MS5.1								
GTA	**Gaotai**	**145.47**	**33**		PKP		PKPdf	21 31 39.8	-1.5
WB2	**Warramunga Arr**	**146.74**	**200**		*e*P		PKPbc	21 31 44.2	+1.8
WRA	**Warramunga Arr**	**146.75**	**200**		PKPbc		PKPbc	21 31 43.0	+0.5
	comp=Z,4.1nm,0.5s,baz=162,slow=3.4,SNR=48								
WRAB	**Tennant Creek**	**146.75**	**200**		*e*PKPbc		PKPbc	21 31 43.4	+0.9
CN2	**Changchun**	**147.84**	**357**		*e*PKP		PKPdf	21 31 43.8	-1.3
HHC	**Hu-ho-hao-te**	**149.16**	**17**		*e*PKP		PKPdf	21 31 40.3	-7.0
HHC					SKS		SKS	21 38 50.3	-4.4
HHC					SKKS			21 42 07.8	
HHC					LR		LR		
	comp=N,343nm,20.8s,MS5.2								
HHC					LR		LR		
	comp=E,248nm,20.8s,MS5.2								
BJI	**Beijing**	**151.02**	**11**		PKP		PKPdf	21 31 42.6	-7.6
NJ2	**Nanjing**	**159.28**	**10**		*e*PKP		PKPdf	21 31 54.8	-6.7
NJ2					APKP			21 32 05.6	
NJ2					PKS		PKS	21 35 27.0	-3.8
NJ2					PP		PP	21 36 16.0	-4.1
NJ2					PP		PP		
	comp=Z,442nm,10.4s								
NJ2					LR		LR		
	comp=N,1μm,21.4s,MS5.8								
NJ2					LR		LR		
	comp=E,1μm,24.2s,MS5.8								
NJ2					LR		LR		
	comp=Z,2μm,23.4s,MS5.9								

*IDC **23** 21:38:37.8±1.6,42.02S×87.96E,mb4.1/6,mb1 4.3/6, mb1mx4.2/12,mbtmp4.1/6,MS4.6/10,Ms1 4.6/10, ms1mx4.4/22,Error ellipse: s-maj=40.8km s-min=35.4km az=101.0*

*NEIC **23** 21:38:39.5±0.7,42.04S×87.93E,h10km,mb4.8/4,Error ellipse: s-maj=18.5km s-min=14.9km az=80.0*

*BJI **23** 21:38:39.5,42.00S×87.90E,h10km,mb4.4*

ISC 23 21:38:38.5±0.8,**42.1S**±0.1×**88.1E**±0.2,**h10**km,**n26,**
σ0s89/17,mb4.4/13,MS4.8/9,1D,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.79**	**78**	LR	LR	21 51 27.2	
	comp=Z,11nm,18.7s,baz=114,slow=31						
MAW	**Mawson**	**28.98**	**200**	LR	LR	21 53 54.1	
	comp=Z,3μm,18.9s,MS4.9,baz=37,slow=32						
FITZ	**Fitzroy Crossi**	**39.89**	**65**	LR	LR	22 00 51.4	
	comp=Z,598nm,19.3s,MS4.5,baz=252,slow=33						
ASPA	**Alice Springs**	**42.10**	**79**	*e*P	**P**	**21 46 33.6**	**+1.3**
ASAR	**Alice Springs**	**42.11**	**79**	P	**P**	**21 46 31.1**	**-1.3**
	3.3nm,0.7s,mb4.1,baz=225,slow=6.7,SNR=36						
ASAR				PcP	PcP	21 48 25.9	-1.8
	1.7nm,0.9s,baz=232,slow=2.1,SNR=6.4						
ASAR				LR	LR	22 01 51.6	
	comp=Z,1μm,21.4s,MS4.8,baz=233,slow=33						
STKA	**Stephens Creek**	**43.35**	**95**	P	**P**	**21 46 43.1**	**+0.7**
	1.9nm,0.8s,mb3.9,baz=229,slow=5.2,SNR=4.0						
STKA				LR	LR	22 02 44.8	
	comp=Z,1μm,18.2s,MS4.8,baz=218,slow=33						
WRA	**Warramunga Arr**	**44.74**	**75**	P	**P**	**21 46 52.4**	**-1.4**
	2.9nm,0.8s,mb4.2,baz=230,slow=8.0,SNR=17						
WB2	**Warramunga Arr**	**44.74**	**75**	*e*P	**P**	**21 46 54.6**	**+0.7**
VNDA	**Vanda**	**45.84**	**163**	P	**P**	**21 47 01.1**	**-0.7**
	1.2nm,0.6s,mb4.0,baz=302,slow=8.7,SNR=7.4						
VNDA				LR	LR	22 03 48.9	
	comp=Z,768nm,20.0s,MS4.6,baz=276,slow=33						
QSPA	**South Pole Qui**	**48.09**	**180**	⇓	*i*P	**P**	**21 47 19.7**	**+0.2**
	18nm,0.8s,mb5.2						
CTA	**Charters Tower**	**53.37**	**85**		P	**P**	**21 48 00.8**	**+0.4**
	5.3nm,0.7s,mb4.6,baz=252,slow=10,SNR=5.6						
CTA				LR	LR	22 07 36.2	
	comp=Z,484nm,20.2s,MS4.5,baz=233,slow=32						
CTA	**Charters Tower**	**53.37**	**85**		P	**P**	**21 48 00.8**	**+0.3**
CTA				LR	LR	22 07 36.2	
LBTB	**Lobatse**	**53.62**	**268**	LR	LR	22 06 09.1	
	comp=Z,883nm,20.6s,MS4.8,baz=206,slow=31						
PMG	**Port Moresby**	**60.95**	**76**	LR	LR	22 14 20.8	
	comp=Z,2μm,18.0s,MS5.2,baz=62,slow=35						
CM31	**Chiang Mai Arr**	**61.05**	**12**	*e*P	**P**	**21 48 52.6**	**-2.2**
	7.3nm,0.9s,mb4.8						
TSUM	**Tsumeb**	**63.03**	**268**	LR	LR	22 11 58.6	
	comp=Z,945nm,21.8s,MS4.9,baz=19,slow=32						
LSA	**Lhasa**	**71.46**	**3**	*e*P	**P**	**21 50 01.1**	**0.0**
	8.8nm,0.9s,mb4.7						
ENH	**Enshi**	**74.64**	**19**	P	**P**	**21 50 19.7**	**0.0**
	11nm,1.1s,mb4.7						
XAN	**Xi'an**	**78.12**	**18**	P	**P**	**21 50 39.3**	**+0.1**
XAN				AP	pP	21 50 47.8	+5.5
XAN				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb4.2						
GTA	**Gaotai**	**81.79**	**9**	*e*P	**P**	**21 50 58.8**	**+0.1**
GTA				AP	pP	21 51 05.0	+3.1
GTA				XP	sP	21 51 08.6	+5.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.1						
WMQ	**Urumqi**	**85.50**	**360**	P	**P**	**21 51 18.8**	**+1.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb5.0						
SONM	**Songino Array**	**90.97**	**12**	P	**P**	**21 51 43.3**	**-0.2**
	comp=Z,0.3nm,0.9s,mb3.6,baz=162,slow=4.6,SNR=3.0						
ULN	**Ulaanbaatar**	**91.11**	**13**	P	**P**	**21 51 44.6**	**+0.5**
ULN				*e*		21 51 49.9	
RKT	**Rikitea**	**103.93**	**140**	eLR	LR	21 52 38.2	
	comp=Z,109nm,24.8s						
INK	**Inuvik**	**145.77**	**26**	PKPbc	PKPbc	21 58 16.7	-0.1
	comp=Z,7.5nm,0.8s,baz=9.4,slow=1.0,SNR=5.4						
RES	**Resolute Bay**	**147.25**	**1**	*e*PKPdf	PKPdf	21 58 19.1	-2.4
RES				*e*PKPbc	PKPdf	21 58 23.0	+1.6

*ISK **23** 21:44:50.7,39.39N×40.80E,h5km,ML5.5*

*BJI **23** 21:44:50.9,39.50N×40.29E,h33km,mB5.5,mb5.0,Ms5.7, Msz5.3*

*MOS **23** 21:44:51.3±1.2,39.43N×40.88E,h10km,mb5.4/87, MS5.1/51,Error ellipse: s-maj=4.2km s-min=2.2km az=42.2*

*IDC **23** 21:44:51.6±0.4,39.46N×40.88E,mb4.9/27,mb1 5.0/35, mb1mx5.0/36,mbtmp4.9/35,ML4.0/8,MS5.2/24,Ms1 5.2/24, ms1mx5.1/27,Error ellipse: s-maj=9.8km s-min=8.7km az=13.0*

*NEIC **23** 21:44:53.0±0.2,39.43N×40.93E,h10km,mb5.3/145, MS5.3/17,MW5.7,ML5.5(ISK),Error ellipse: s-maj=3.1km s-min=2.6km az=173.0,Moment Tensor Solution. s4 Moment tensor: Scale 10^17^Nm; Mrr=0.05; Mθθ=-2.56; Mφφ=2.51; Mrθ=0.07; Mrφ=-2.73; Mθr=0.73; Best double couple: M=3.8×10^17^ NP1:ϕs111°,δ80°,λ175°. NP2:ϕs202°, δ85°,λ10°. Principal axes: T 3.83, Plg10°, Azm67°; N -.06, Plg79°, Azm228°; P -3.77, Plg3°, Azm336°;*

NEIC Felt at Karliova.

*ZUR_RM **23** 21:44:53,39.43N×40.93E,h21km,Mw5.8/18,Moment Tensor Solution. s18 Moment tensor: Scale 10^17^Nm; Mrr=0.43; Mθθ- 1.43; Mφφ1.86; Mrθ-0.43; Mθφ-4.61; Mφr0.20; Best double couple: M=0.4.92×10^17^ NP1:ϕs280°,δ89°,λ175°. NP2:ϕs10°,δ85°,λ1°. Principal axes: T 5.142, Plg4°, Azm235°; N -.448, Plg85°, Azm93°; P -4.693, Plg3°, Azm325°;*

*HRVD **23** 21:44:53.0±0.2,39.42N×40.71E,h15km,MW5.6/80, Centroid moment Tensor Solution. LP body waves: s68,c122;Mantle waves: s80,c176; Half duration: 1s6 Moment tensor: Scale 10^17^Nm; Mrr-0.09±.05; Mθθ-0.89±.05; Mφφ0.98±.05; Mrθ0.85±.16; Mθφ-2.80±.04; Mφr0.59±.15; Best double couple: M=3.122×10^17^ NP1: ϕs188°,δ77°,λ-13°. NP2:ϕs281°,δ77°,λ-167°. Principal axes: T 2.998, Plg0°, Azm54°; N .247, Plg72°, Azm323°; P -3.245, Plg18°, Azm144°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*CSEM **23** 21:44:54.2,39.38N×40.86E,h30km,mb5.4*

ISC 23 21:44:52.1±0.4,**39.40N**±0.01×**40.88E**±0.01,**h13**km±2km,
h17km±2.5km:**pP-P,n987,**σ1s**19**/1067,**mb5.1**/211,**MS5.3**/75,
59C-87D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRT	**Varto**	**0.57**	**118**	*i* PG	**Pg**	**21 45 03.5**	**-0.2**
VRT	**Varto**	**0.57**	**118**	Pg	**Pg**	**21 45 03.5**	**-0.2**
BINT	**Bingol**	**0.61**	**210**	*i* PG	**Pg**	**21 45 02.7**	**-1.7**
EZM	**Erzurum**	**0.63**	**36**	*i* PG	**Pg**	**21 45 04.5**	**-0.3**
ERZM	**Erzurum**	**0.63**	**36**	*i* P	**Pb**	**21 45 04.4**	**0.0**
ERZM				*i* S	**Sb**	**21 45 14.3**	**+1.5**
EZC	**Erzincan**	**0.89**	**293**	*i* PN	**Pn**	**21 45 13.8**	**+3.6**
PTK	**Pertek**	**1.26**	**247**	*i* PN	**Pn**	**21 45 14.0**	**-1.5**
BTMT	**Batman**	**1.30**	**158**	*i* PN	**Pn**	**21 45 16.4**	**+0.5**
GUMT	**Gumushane**	**1.51**	**315**	*i* PN	**Pn**	**21 45 18.6**	**-0.4**
GUMT	**Gumushane**	**1.51**	**315**	Pn	**Pn**	**21 45 19.1**	**+0.1**
BEST	**Besiri**	**1.54**	**168**	*i* P	**Pn**	**21 45 20.8**	**+1.4**
BEST				*i* S	**Sb**	**21 45 42.7**	**+3.5**
DIY	**Diyarbakir**	**1.59**	**199**	*i* PN	**Pn**	**21 45 21.2**	**+1.1**
DIY	**Diyarbakir**	**1.59**	**199**	Pn	**Pn**	**21 45 20.7**	**+0.6**
ELZG	**Elazig**	**1.73**	**239**	*i* P	**Pn**	**21 45 21.3**	**-0.8**
ELZG				*i* S	rx	21 46 01.4	
KARS	**Kars**	**2.08**	**54**	*i* PN	**Pn**	**21 45 29.0**	**+1.8**
VANB	**Van**	**2.11**	**112**	*i* PN	**Pn**	**21 45 30.2**	**+2.6**
VANB	**Van**	**2.11**	**112**	Pn	**Pn**	**21 45 29.1**	**+1.4**
BCA	**Borcka**	**2.12**	**15**	*i* PN	**Pn**	**21 45 29.3**	**+1.6**
BCA	**Borcka**	**2.12**	**15**	Pn	**Pn**	**21 45 29.4**	**+1.7**
TVAN	**Van**	**2.15**	**113**	*i* P	**Pn**	**21 45 30.2**	**+2.0**
TVAN				*i* S	rx	21 46 27.3	
VANT	**Van**	**2.18**	**115**	*i* PN	**Pn**	**21 45 29.6**	**+1.1**
VANT	**Van**	**2.18**	**115**	Pn	**Pn**	**21 45 28.8**	**+0.2**
MYA	**Malataya**	**2.20**	**242**	*i* PN	**Pn**	**21 45 29.1**	**+0.3**
MYA	**Malataya**	**2.20**	**242**	Pn	**Pn**	**21 45 29.1**	**+0.2**
MALT	**Malatya**	**2.20**	**241**	*i* PN	**Pn**	**21 45 28.8**	**-0.1**
MALT	**Malatya**	**2.20**	**241**	⇑P	**Pn**	**21 45 29.3**	**+0.4**
MALT	**Malatya**	**2.20**	**241**	Pn	**Pn**	**21 45 29.1**	**+0.2**
CLDR	**Caldiran**	**2.37**	**95**	*i* PN	**Pn**	**21 45 32.9**	**+1.6**
URFA	**Urfa**	**2.54**	**220**	*i* PN	**Pn**	**21 45 34.4**	**+0.7**
HKR	**Hakkari**	**2.89**	**128**	*i* PN	**Pn**	**21 45 40.9**	**+2.2**
HKR	**Hakkari**	**2.89**	**128**	Pn	**Pn**	**21 45 39.8**	**+1.1**
SVST	**Sivas**	**3.06**	**278**	*i* P	**Pn**	**21 45 42.1**	**+1.0**
SVST				*i* S	rx	21 46 42.2	
GNI	**Garni**	**3.07**	**75**	PN	**Pn**	**21 45 42.3**	**+1.0**
GNI	**Garni**	**3.07**	**75**	Pn	**Pn**	**21 45 42.5**	**+1.3**
	28nm,0.3s,baz=278,slow=3.2,SNR=154						
GNI				Lg		21 46 41.1	
	139nm,0.3s,baz=203,slow=22,SNR=3.2						
GNI	**Garni**	**3.07**	**75**	Pn	**Pn**	**21 45 43.0**	**+1.8**
GZT	**Gaziantep**	**3.31**	**233**	*i* P	**Pn**	**21 45 44.0**	**-0.7**
GZT				*i* S	rx	21 47 19.7	
TOKT	**Tokat**	**3.46**	**287**	PN	**Pn**	**21 45 47.8**	**+1.0**
TOKT	**Tokat**	**3.46**	**287**	Pn	**Pn**	**21 45 47.9**	**+1.1**
MSL	**Mosul**	**3.56**	**150**	*i* Pn	Px	21 45 49.0	
MSL				*i* Pb	Px	21 45 57.5	
MSL				*i* Pg	Px	21 46 08.5	
MSL				*i* Sn	**Sn**	**21 46 42.5**	**+12**
MSL				*i* Sb	**Sb**	**21 46 56.0**	**+18**
GAZ	**Gaziantep**	**3.65**	**234**	PN	**Pn**	**21 45 49.0**	**-0.4**
TBLG	**Delisi**	**3.75**	**50**	P	**Pn**	**21 45 52.1**	**+1.2**
TI2	**Plekhanov**	**3.76**	**50**	*i* P	**Pn**	**21 45 51.0**	**0.0**
TI2				pmax	pmax		
	comp=Z,26μm,4.0s						
TI2				MLR	MLR		
	comp=N,32μm,5.0s						
TI2				MLR	MLR		
	comp=E,35μm,5.0s						
TI2				MLR	MLR		
	comp=Z,25μm,5.0s						
TI2	**Plekhanov**	**3.76**	**50**	⇑ *i* P	**Pn**	**21 45 51.4**	**+0.4**
MTA	**Mtatsminda**	**3.76**	**51**	P	**Pn**	**21 45 51.9**	**+0.9**
MTA				S	**Sg**	**21 46 55.2**	**-2.1**
BNN	**Bunyan**	**3.95**	**264**	PN	**Pn**	**21 45 54.5**	**+0.7**
BNN	**Bunyan**	**3.95**	**264**	Pn	**Pn**	**21 45 54.6**	**+0.7**
DUS	**Dusheti**	**3.96**	**46**	P	**Pn**	**21 45 54.7**	**+0.9**
DUS				S	**Pg**	**21 46 10.4**	**-0.7**
SOC	**Sochi**	**4.27**	**349**	*i* P	**Pn**	**21 45 58.2**	**-0.1**
SOC				*i*		21 46 47.9	
SOC				pmax	pmax		
	comp=Z,1μm,0.9s						
SOC				pmax	pmax		
	comp=N,2μm,1.1s						
SOC				pmax	pmax		
	comp=E,718nm,0.8s						
SOC				MLR	MLR		
	comp=Z,36μm,13.0s						
SOC				MLR	MLR		
	comp=N,57μm,17.0s						
SOC				MLR	MLR		
	comp=E,106μm,17.0s						
SOC	**Sochi**	**4.27**	**349**	*i* P	**Pn**	**21 45 58.2**	**-0.1**
	comp=E,2μm,1.1s						
SOC				*i* S	**Sn**	**21 46 47.9**	**-0.6**
	comp=E,36μm,13.0s						
YOZ	**Yozgat**	**4.31**	**275**	*e*PN	**Pn**	**21 45 59.2**	**+0.3**
COBT	**Iskenderun**	**4.65**	**233**	*i* P	**Pn**	**21 46 03.1**	**-0.7**
COBT				*i* S	**Sg**	**21 47 27.8**	**+0.8**
CEYT	**Ceyhan**	**4.70**	**241**	*e*PN	**Pn**	**21 46 03.9**	**-0.5**
AVNT	**Avonos**	**4.73**	**264**	*i* P	**Pn**	**21 46 05.0**	**+0.1**
AVNT				*i* S	rx	21 47 20.2	
KIV	**Kislovodsk**	**4.75**	**16**	*e*P	**Pn**	**21 46 06.2**	**+1.1**
KIV				*e*		21 46 55.4	
KIV				pmax	pmax		
	comp=Z,238nm,1.4s						
KIV				pmax	pmax		
	comp=Z,1μm,1.1s						
KIV				smax			
	comp=N,1μm,0.9s						
KIV				smax			
	comp=E,2μm,1.3s						
KIV	**Kislovodsk**	**4.75**	**16**	*e*P	**Pn**	**21 46 06.6**	**+1.5**
KIV	**Kislovodsk**	**4.75**	**16**	*e*S	**Sn**	**21 46 55.4**	**-5.2**
	comp=E,1μm,0.9s						
CTKT	**Corum**	**4.83**	**287**	*i* P	**Pn**	**21 46 07.8**	**+1.5**
CTKT				*i* S	rx	21 47 24.2	
CORM	**Corum**	**4.88**	**281**	PN	**Pn**	**21 46 07.7**	**+0.8**
HTY	**Hatay**	**4.98**	**230**	PN	**Pn**	**21 46 08.0**	**-0.4**
BOYT	**Boyabat**	**4.99**	**296**	*i* P	**Pn**	**21 46 11.1**	**+2.6**
BOYT				*i* S	rx	21 47 59.1	
BYBT	**Boyabat**	**5.10**	**296**	*e*PN	**Pn**	**21 46 10.8**	**+0.7**
TOS	**Tosya**	**5.50**	**289**	PN	**Pn**	**21 46 16.7**	**+1.0**
TOS	**Tosya**	**5.50**	**289**	Pn	**Pn**	**21 46 16.8**	**+1.1**
KAMT	**Kaman**	**5.55**	**272**	PN	**Pn**	**21 46 16.6**	**+0.1**
KAMT	**Kaman**	**5.55**	**272**	Pn	**Pn**	**21 46 16.8**	**+0.4**
BRTR	**Keskin Array B**	**5.61**	**276**	Pn	**Pn**	**21 46 16.7**	**-0.5**
	comp=E,3.0nm,0.3s,baz=104,slow=14,SNR=206						
BRTR				Pg	**Pg**	**21 46 33.0**	**-11**
	comp=E,15nm,0.3s,baz=98,slow=13,SNR=15						
BRTR				Lg		21 47 53.8	
	baz=104,slow=25,SNR=1.9						
CANT	**Cankiri**	**5.70**	**284**	*e*PN	**Pn**	**21 46 19.1**	**+0.5**
ELDT	**Eldivan**	**5.83**	**283**	*i* P	**Pn**	**21 46 21.7**	**+1.3**
ELDT				*i* S	rx	21 47 57.8	
GOF	**Gofitskoye**	**5.87**	**15**	*i* P	**Pn**	**21 46 22.1**	**+1.1**
GOF				pmax	pmax		
	comp=Z,300nm,1.0s						
GOF				MLR	MLR		
	comp=Z,31μm,14.0s						
ANN	**Anapa**	**5.97**	**336**	*d i* P	**Pn**	**21 46 22.6**	**+0.2**
ANN				*e*S	**Sn**	**21 47 33.5**	**+2.1**
ANN				pmax	pmax		
	comp=Z,274nm,1.5s						
ANN				MLR	MLR		
	comp=N,21μm,14.0s						
ANN				MLR	MLR		
	comp=E,20μm,14.0s						
ANN				MLR	MLR		
	comp=Z,24μm,14.0s						
MAK	**Makhachkala**	**6.13**	**52**	*d i* P	**Pn**	**21 46 28.0**	**+3.3**
MAK				S	**Sn**	**21 47 41.0**	**+5.6**
MAK				pmax	pmax		
	comp=N,2μm,10.0s	

DALT	Dalyan (Mudla)	10.00 259	*e*	PN	**P**	21 47 17.8	-0.8
BNT	Bandirma	10.01 280	*e*	PN	**P**	21 47 18.5	-0.1
BALB	Balikesir	10.05 275	*e*	PN	**P**	21 47 17.8	-1.4
MRMT	Marmara Adasi	10.27 281	*e*	PN	**P**	21 47 20.5	-1.6
PSN	Preselentsi	10.43 298	*e*	P	**P**	21 47 25.0	+0.6
MFT	Murefte	10.51 282	*e*	PN	**P**	21 47 24.0	-1.5
KMTI	Karmit	10.56 210		P	**P**	21 47 26.4	+0.2
ARG	Arkhangelos	10.58 257	*e*	P	**P**	21 47 38.0	+12
TLCR		10.64 307	⇑	P	**P**	21 47 24.9	-2.3
IZM	Izmir	10.66 269	*e*	PN	**P**	21 47 26.8	-0.8
PRD	Provadia	10.83 295	*e*	P	**P**	21 47 30.0	+0.2
BLCB	Balcova	10.84 269	*e*	PN	**P**	21 47 28.3	-1.7
BLCB	Balcova	10.84 269		Pn	**P**	21 47 30.3	+0.4
EIL	Elat	10.87 208		Pn	**P**	21 47 29.2	-1.2
	comp=Z,0.8nm,0.3s,baz=6.9,slow=18,SNR=14						
EIL				Sn	rx	21 49 46.8	
	comp=Z,0.3nm,0.3s,baz=11,slow=16,SNR=1.7						
EIL				Lg		21 50 40.5	
	comp=Z,1.1nm,0.3s,baz=79,slow=21,SNR=3.1						
EIL				LR	LR	21 52 25.7	
	comp=Z,6μm,21.4s,baz=37,slow=42						
EIL	Elat	10.87 208	*e*	P	**P**	21 47 28.6	-1.8
	comp=Z,185nm,0.9s						
BODT	Bodrum	10.93 262	*e*	PN	**P**	21 47 29.4	-1.8
BODT	Bodrum	10.93 262		Pn	**P**	21 47 29.4	-1.8
HARR	Harsova	10.98 303		P	**P**	21 47 30.9	-1.0
HARR	Harsova	10.98 303	⇓	P	**P**	21 47 31.2	-0.7
EDRB	Edirne	11.02 287	*e*	PN	**P**	21 47 32.0	-0.5
EDRB	Edirne	11.02 287		Pn	**P**	21 47 33.0	+0.6
CFR	Carcaliu	11.06 306		P	**P**	21 47 31.1	-1.9
CFR	Carcaliu	11.06 306	⇓	P	**P**	21 47 29.9	-3.1
SMG	Samos	11.13 266	*e*	P	**P**	21 47 38.0	+4.1
JMB	Yambol	11.24 290	*e*	P	**P**	21 47 40.0	+4.5
PRK	Paraskevi	11.32 274	*e*	P	**P**	21 47 39.5	+2.9
ALN	Alexandroupoli	11.46 282	*e*	P	**P**	21 47 38.4	0.0
KARP	Karpathos	11.56 255	*e*	P	**P**	21 47 47.0	+7.2
KIS	Kishinev	11.62 315	*e*	P	**P**	21 47 34.0	-6.5
KIS			*e*	S	**S**	21 49 46.0	-5.1
KIS				pmax	pmax		
	comp=Z,400nm,2.0s						
KIS				pmax	pmax		
	comp=Z,500nm,2.0s						
KIS				MLR	MLR		
	comp=Z,10μm,12.0s						
KIS				MLR	MLR		
	comp=N,8μm,14.0s						
KIS				MLR	MLR		
	comp=E,14μm,15.0s						
RDO	Rodhopi	11.85 283	*e*	P	**P**	21 47 45.5	+1.7
VRSR	Storozhevoye	11.87 355	*e*	P	**P**	21 47 41.1	-2.9
VRSR				pmax	pmax		
	comp=Z,60nm,1.2s						
VRSR				pmax	pmax		
	comp=N,180nm,1.8s						
VRSR				pmax	pmax		
	comp=E,8.0nm,0.6s						
VRSR				MLR	MLR		
	comp=Z,7μm,20.0s						
VRSR				MLR	MLR		
	comp=N,5μm,21.0s						
VRSR				MLR	MLR		
	comp=E,17μm,21.0s						
SZH	Strazhica	11.88 294	*e*	P	**P**	21 47 44.0	-0.1
BRD	Bordesti	11.93 306	⇑	P	**P**	21 47 50.0	+5.2
ISR	Istrita	12.06 303		P	**P**	21 47 47.2	+0.7
BUC1	Bucharest	12.12 299		P	**P**	21 47 47.1	-0.3
BUC1	Bucharest	12.12 299	⇑	P	**P**	21 47 48.0	+0.6
LOS	Limnos	12.19 278	*e*	P	**P**	21 47 49.1	+0.8
VRI	Vrincioaia	12.26 306		P	**P**	21 47 49.3	+0.1
VRI	Vrincioaia	12.26 306	⇓	P	**P**	21 47 47.0	-2.2
APE	Apeiranthos	12.29 264	*e*	PN	**P**	21 47 48.8	-0.9
APE	Apeiranthos	12.29 264		Pn	**P**	21 47 50.0	+0.3
APE	Apeiranthos	12.29 264	*e*	P	**P**	21 47 51.5	+1.8
PVL	Pavlikeni	12.30 293	*e*	P	**P**	21 47 52.0	+2.3
VOR	Voronezh	12.39 355	*e*	P	**P**	21 47 48.8	-2.1
VOR				pmax	pmax		
	comp=Z,220nm,1.2s						
IAS	Iasi	12.43 313		P	**P**	21 47 53.5	+2.0
IAS	Iasi	12.43 313	⇓	P	**P**	21 47 55.8	+4.3
RZN	Rozhen	12.51 286	*e*	P	**P**	21 47 53.0	+0.4
SANT	Santorini	12.55 261	*e*	P	**P**	21 47 52.5	-0.7
	comp=Z,127nm,1.0s						
THR1	Thera Island	12.55 261	*e*	P	**P**	21 47 55.3	+2.0
PLD	Plovdiv	12.56 288		P	**P**	21 47 54.0	+0.7
PLD	Plovdiv	12.56 288	*e*	P	**P**	21 47 53.0	-0.3
THR3	Thira Island,	12.59 261	*e*	P	**P**	21 47 55.6	+2.0
MLR	Muntele Rosu	12.59 304		Pn	**P**	21 47 52.3	-1.4
	comp=Z,0.2nm,0.3s,baz=102,slow=5.9,SNR=46						
MLR				Sn	rx	21 50 26.7	
	comp=Z,0.7nm,0.3s,baz=142,slow=19,SNR=3.1						
MLR				LR	LR	21 53 27.8	
	comp=Z,8μm,19.9s,baz=301,slow=41						
MLR	Muntele Rosu	12.59 304		P	**P**	21 47 53.5	-0.2
MLR	Muntele Rosu	12.59 304	⇓	P	**P**	21 47 52.6	-1.1
THR5	Thira Island,	12.62 261	*e*	P	**P**	21 47 56.2	+2.1
THR5	Thira Island,	12.62 261	*e*	P	**P**	21 47 56.2	+2.0
SNX	Sinaia	12.82 303	⇑	P	**P**	21 47 58.6	+1.9
NPS	Neapolis	12.83 256	*e*	P	**P**	21 47 56.5	-0.4
XRY	Khrisi	12.93 254	*e*	P	**P**	21 47 57.5	-0.7
PGB	Panagyurishte	13.02 289	*e*	P	**P**	21 48 01.0	+1.7
OUR	Ouranopolis	13.02 279	*e*	P	**P**	21 48 00.7	+1.3
AOS	Alonnisos	13.18 274	*e*	P	**P**	21 48 03.7	+2.2
MMB	Musomiste	13.24 285	*e*	P	**P**	21 48 03.0	+0.7
PAIG	Paliouri	13.27 278	*e*	P	**P**	21 48 04.3	+1.6
SRS	Serrai	13.32 283	*e*	P	**P**	21 48 04.5	+1.1
IDI	Anoyia	13.37 257		Pn	**P**	21 48 03.1	-0.9
	comp=Z,0.7nm,0.3s,baz=62,slow=9.7,SNR=18						
PLG	Polygyros	13.43 280	*e*	P	**P**	21 48 07.5	+2.7
SOH	Sokhos	13.49 282	*e*	P	**P**	21 48 07.4	+1.8
NSAL	Nisos Salamina	13.70 269	*e*	P	**P**	21 48 10.5	+2.2
NAIG	Nisos Aigina	13.71 269	*e*	P	**P**	21 48 18.5	+10
VTS	Vitosha	13.72 289	⇑	P	**P**	21 48 06.0	-2.6
VTS	Vitosha	13.72 289	*e*	P	**P**	21 48 10.0	+1.4
ASH	Ashkhabad	13.73 91	*e*	P	**P**	21 48 08.0	-0.7
KKB	Krupnik	13.74 280	*e*	P	**P**	21 48 10.0	+1.1
THE	Thessaloniki	13.79 281	*e*	P	**P**	21 48 11.6	+2.1
KNT	Kendrikon	13.84 283	*e*	P	**P**	21 48 11.9	+1.7
VAM	Vamos	13.85 258	*e*	P	**P**	21 48 10.0	-0.3
AKASG	Malin Array Be	13.96 328		Pn	**P**	21 48 08.1	-3.6
	comp=Z,4.4nm,0.3s,baz=134,slow=14,SNR=159						
AKASG				Sn	**S**	21 50 52.5	+5.0
	comp=Z,1.3nm,0.3s,baz=134,slow=25,SNR=4.4						
BURAR	Bucovina Array	14.00 311		P	**P**	21 48 11.6	-0.7
BURAR	Bucovina Array	14.00 311	⇑	P	**P**	21 48 09.8	-2.5
VAY	Valandovo	14.10 284	⇓	P	**P**	21 48 14.8	+1.3
VAY			*i*	S	rx	21 51 12.9	
VAY			*i*			21 52 12.7	
GVD	Gavdhos	14.15 256	*e*	P	**P**	21 48 14.0	-0.3
	comp=Z,266nm,1.0s						
LIT	Litokhoron	14.17 279	*e*	P	**P**	21 48 17.2	+2.7
GRG	Griva	14.22 282	*e*	P	**P**	21 48 17.3	+2.2
VLI	Veliai	14.39 265	*e*	P	**P**	21 48 18.0	+0.6
AGG	Agios Georgios	14.39 274	*e*	P	**P**	21 48 20.9	+3.5
KYTH	Kithira	14.44 263	*e*	P	**P**	21 48 18.5	+0.4
KZN	Kozani	14.71 280	*e*	P	**P**	21 48 35.0	+13
BARS	Barje	14.76 290	⇓	P	**P**	21 48 23.3	+1.1
EVR	Evrytania	14.81 274	*e*	P	**P**	21 48 25.5	+2.6
BOLS	Boljevac	14.82 293	⇑	P	**P**	21 48 24.1	+1.0
SKO	Skopje	14.97 286	⇓	P	**P**	21 48 26.2	+1.2
SKO			*i*	SS	SS	21 51 32.0	+2.9
SKO			*i*			21 52 29.4	
FNA	Florina	14.99 282	*e*	P	**P**	21 48 28.6	+3.3
OHR	Ohrid	15.43 283	⇑	P	**P**	21 48 34.8	+3.8
SVIS	Svilajnac	15.44 295	⇑	P	**P**	21 48 31.7	+0.7
JAN	Janina	15.46 277	*e*	P	**P**	21 48 34.5	+3.1
BZS	Buzias	15.49 300		P	**P**	21 48 31.2	-0.5
BZS	Buzias	15.49 300	⇑	P	**P**	21 48 31.5	-0.2
GRUS	Gruza	15.72 293	⇑	P	**P**	21 48 35.2	+0.4
LVV	L'vov	15.85 317	*i*	P	**P**	21 48 34.7	-1.7
LVV			*e*	S	**S**	21 51 35.7	+3.6
LVV				MLR	MLR		
	comp=Z,4μm,15.0s						
LVV				MLR	MLR		
	comp=E,2μm,16.0s						
LVV				MLR	MLR		
	comp=N,3μm,13.0s						
IGT	Igoumenitsa	15.87 277	*e*	P	**P**	21 48 41.8	+5.1
VLS	Valsamata	15.87 272	*e*	P	**P**	21 48 41.5	+4.8
OBN	Obninsk	15.98 351		Pn	**P**	21 48 36.1	-1.9
	comp=N,1μm,0.8s,SNR=49						
OBN	Obninsk	15.98 351	*d*	P	**P**	21 48 35.4	-2.6
OBN			*i*	S	**S**	21 51 37.2	+2.1
OBN				pmax	pmax		
	comp=Z,800nm,1.9s						
OBN				pmax	pmax		
	comp=Z,476nm,1.5s						
OBN				MLR	MLR		
	comp=Z,8μm,13.0s						
OBN	Obninsk	15.98 351	*e*	P	**P**	21 48 36.4	-1.7
	comp=Z,350nm,1.0s						
BEO	Belgrade	16.08 296	⇓	P	**P**	21 48 40.4	+1.0
PVY	Plav	16.10 288	⇓	P	**P**	21 48 41.9	+2.3
IVA	Berane	16.18 289	⇓	P	**P**	21 48 42.5	+1.9
UZH	Uzhgorod	16.21 311	*d*	P	**P**	21 48 38.0	-3.0
KEK	Kerkira	16.26 278	*e*	P	**P**	21 48 43.5	+1.8
DIVS	Divcibare	16.27 294	⇑	P	**P**	21 48 42.7	+1.0
RAYN	Ar Rayn	16.31 165		Pn	**P**	21 48 38.2	-4.2
	comp=Z,362nm,1.1s,SNR=11						
KOLS	Kolonicke sedl	16.36 312	*e*	PN	**P**	21 48 41.7	-1.2
KOLS			*e*			21 48 47.1	
KOLS			*e*			21 48 52.9	
KWP	Kalwaria	16.47 314	*e*	P	**P**	21 48 42.7	-1.5
KWP			*e*	S	**S**	21 51 50.5	+4.1
KWP				MLR	MLR		
	comp=Z,8μm,17.0s						
KWP	Kalwaria	16.47 314	*e*	P	**P**	21 48 42.7	-1.5
KWP			*e*	P		21 48 49.1	
KWP			*e*	S	**S**	21 51 50.5	+4.1
KWP	Kalwaria	16.47 314	*e*	P	**P**	21 48 42.7	-1.6
KWP			*e*	P		21 48 49.1	
KWP			*e*	S	**S**	21 51 50.5	+4.1
KWP				MLR	MLR	21 57 41.3	
	comp=Z,8μm,17.0s						
MOS	Moscow	16.49 354	*k*	P	**P**	21 48 43.0	-1.5
MOS			*e*	S	**S**	21 51 45.8	-1.0
MOS				pmax	pmax		
	comp=Z,1μm,2.0s						
MOS				pmax	pmax		
	comp=Z,374nm,1.1s						
MOS				MLR	MLR		
	comp=Z,5μm,10.1s						
MOS				MLR	MLR		
	comp=N,4μm,11.1s						
MOS				MLR	MLR		
	comp=E,5μm,11.1s						
PLE	Pljevlja	16.59 291	⇓	P	**P**	21 48 47.4	+1.5
ULC	Ulcinj	16.60 286	⇓	P	**P**	21 48 47.7	+1.7
TTG	Podgorica	16.61 287	⇓	P	**P**	21 48 47.4	+1.3
BBLS	Bajina Basta -	16.65 292	⇓	P	**P**	21 48 48.1	+1.5
CRVS	Cervenica-Dubn	16.82 311	*e*	PN	**P**	21 48 48.2	-0.5
CRVS			*e*			21 48 51.6	
CRVS			*e*	S	**S**	21 52 07.6	+13
NKY	Niksic	16.83 289	*e*	P	**P**	21 48 50.4	+1.5
BUM	Brajici-Budva	16.88 287	⇓	P	**P**	21 48 50.9	+1.4
UPM	Unac-Piva	16.93 290	⇓	P	**P**	21 48 51.6	+1.5
PECR	Pechory	17.06 6	*e*	P	**P**	21 48 50.0	-1.6
PECR				pmax	pmax		
	comp=Z,760nm,2.4s						
PECR				pmax	pmax		
	comp=Z,1μm,3.0s						
PECR				MLR	MLR		
	comp=Z,12μm,15.0s						
PECR				MLR	MLR		
	comp=N,9μm,16.0s						
PECR				MLR	MLR		
	comp=E,18μm,16.0s						
BRY	Bratogost	17.17 289	*i*	P	**P**	21 48 55.0	+1.8
HCY	Herceg Novi	17.18 287	⇓	P	**P**	21 48 56.0	+2.7
KECS	Kecovo	17.22 308	*e*	PN	**P**	21 48 53.5	-0.3
PSZ	Piszkesteto	17.37 306	*e*	P	**P**	21 48 55.5	-0.1
PSZ				pmax	pmax		
	comp=Z,336nm,1.4s						
PSZ	Piszkesteto	17.37 306	*e*	P	**P**	21 48 55.5	-0.1
	comp=Z,336nm,1.4s						
PSZ	Piszkesteto	17.37 306	*e*		**P**	21 48 56.3	+0.7
MNK	Minsk	17.49 334	⇑	P	**P**	21 48 51.0	-6.0
LCI	Lecce	17.50 280	*e*	P	**P**	21 48 59.0	+1.7
PKSM	Moragy	17.65 300	⇓	P	**P**	21 48 59.1	0.0
PKSM	Moragy	17.65 300	⇓	*e* P	**P**	21 48 59.8	+0.7
NIE	Niedzica	17.73 311	⇓	*e* P	**P**	21 48 57.6	-2.5
BUD	Budapest	17.77 304	⇑	*i* P	**P**	21 49 01.9	+1.3
STON	Ston	17.79 289	*i*	P	**P**	21 48 58.8	-2.1
VYHS	Vyhne	18.24 307	*e*	P	**P**	21 49 06.1	-0.4
VYHS			*e*	S	**S**	21 52 39.9	+13
SRO2	Moca	18.26 305	*e*	P	**P**	21 49 08.5	+1.7
LIKS	Likavka	18.29 309	*e*	P	**P**	21 49 05.9	-1.2
LIKS			*e*			21 49 12.4	
SRO	Srobarova	18.33 305	*e*	P	**P**	21 49 08.8	+1.2
SRO1	Iza	18.36 304	*e*	P	**P**	21 49 09.9	+1.9
SRO1			*e*			21 49 20.2	
OJC	Ojcow	18.39 313	⇓	*e* P	**P**	21 49 06.1	-2.3
OJC			*e*	S	**S**	21 52 30.6	+0.3
OJC				MLR	MLR		
	comp=Z,6μm,17.7s						
OJC	Ojcow	18.39 313	⇓	*e* P	**P**	21 49 06.1	-2.3
OJC			*e*	pP		21 49 13.5	
OJC			*e*	S	**S**	21 52 30.6	+0.3
OJC				MLR	MLR	21 59 29.3	
	comp=Z,6μm,17.7s						
LTRZ	Laterza	18.46 281	*e*	P	**P**	21 49 09.8	+0.5
IDID	Didziasalis	18.52 334	*i*	P	**P**	21 49 06.7	-3.1
IDID				AMb	AMB	21 49 13.8	
	comp=Z,44nm,1.7s						
IDID	Didziasalis	18.52 334	*i*	P	**P**	21 49 06.7	-3.2
	comp=Z,44nm,1.7s,SNR=46						
KOLL	Kolacno	18.54 307		P	**P**	21 49 10.7	+0.5
BANOM	Banah	18.65 132		P	**P**	21 49 11.2	-0.5
	SNR=7.6						
TIP	Timpagrande	18.67 277	*e*	P	**P**	21 49 10.5	-1.3
IIGN	Ignalina	18.73 333	*e*	P	**P**	21 49 09.5	-2.9
ORI	Oriolo Calabro	18.79 280	*e*	P	**P**	21 49 14.1	+0.8
WAR	Warsaw	18.80 320	*e*	P	**P**	21 49 11.5	-1.8
WAR			*e*	S	**S**	21 52 45.9	+6.5
WAR				MLR	MLR		
	comp=Z,9μm,18.9s						
WAR	Warsaw	18.80 320	*e*	P	**P**	21 49 11.5	-1.8
WAR			*e*	pP		21 49 17.4	
WAR			*e*	S	**S**	21 52 45.9	+6.5
WAR			*e*	SS		21 52 54.3	
WAR	Warsaw	18.80 320	*e*	P	**P**	21 49 11.5	-1.8
WAR			*e*	pP		21 49 17.4	
WAR			*e*	S	**S**	21 52 45.9	+6.5
WAR			*e*	sS		21 52 54.3	
WAR				MLR	MLR	21 57 53.3	
	comp=Z,9μm,18.9s						
SUW	Suwalki	18.92 326	*e*	P	**P**	21 49 11.0	-3.7
SUW			*e*	S	**S**	21 52 44.4	+2.4
SUW				MLR	MLR		
	comp=Z,5μm,22.3s						
SUW	Suwalki	18.92 326	*e*	P	**P**	21 49 11.0	-3.7
SUW			*e*	pP		21 49 17.7	
SUW			*e*	S	**S**	21 52 44.4	+2.4
SUW	Suwalki	18.92 326	*e*	P	**P**	21 49 11.0	-3.7
SUW			*e*	pP		21 49 17.7	
SUW			*e*	S	**S**	21 52 44.4	+2.4
SUW				MLR	MLR	21 57 15.3	
	comp=Z,5μm,22.3s						
ISAL	Salakas	18.94 334	*e*	P	**P**	21 49 11.7	-3.2
ISAL				AMb	AMB	21 49 16.2	
	comp=Z,50nm,1.6s						
ISAL	Salakas	18.94 334	*e*	P	**P**	21 49 11.7	-3.2
	comp=Z,50nm,1.6s,SNR=46						
GRI	Girifalco	18.98 276	*e*	P	**P**	21 49 16.4	+0.9
IZAR	Zarasai	19.04 334	*e*	P	**P**	21 49 12.9	-3.2
IZAR				AMb	AMB	21 49 17.5	
	comp=Z,105nm,1.6s						
IZAR	Zarasai	19.04 334	*e*	P	**P**	21 49 12.9	-3.2
	comp=Z,105nm,1.6s,SNR=46						
SISC	Sisak	19.04 297	*i*	P	**P**	21 49 16.0	-0.2
FGMS	Monte Sant'Ang	19.07 285	*e*	P	**P**	21 49 15.7	-0.8
JAVC	Velka Javorina	19.09 307		P	**P**	21 49 17.8	+1.0
SMOL	Smolenice	19.12 306	*e*	P	**P**	21 49 17.9	+0.7
SMOL			*e*			21 49 31.5	
OKC	Ostrava-Krasne	19.18 310	*e*	P	**P**	21 49 16.8	-1.0
OKC			*e*	S	**S**	21 52 57.4	+9.3
OKC				AMS	AMS	21 58 50.0	
	comp=Z,8μm,14.8s						
ZST	Bratislava	19.22 305	*e*	P	**P**	21 49 18.1	-0.3
ZST			*e*	S		21 53 01.6	
ZST			*e*	L		21 58 17.9	
RAC	Raciborz	19.26 311	*e*	P	**P**	21 49 17.9	-0.8
RAC			*e*	S	**S**	21 52 53.6	+3.8
RAC				MLR	MLR		
	comp=Z,4μm,22.6s						
RAC				MLR	MLR		
	comp=Z,8μm,16.9s						
RAC				MLR	MLR		
	comp=E,17μm,16.4s						
RAC				MLR	MLR		
	comp=N,14μm,16.8s						
RGNG	Rignano Grg	19.34 285	*e*	P	**P**	21 49 19.1	-0.7
SLCN	Sala Consilina	19.38 281	*e*	P	**P**	21 49 20.7	+0.4
SOI	Samo	19.40 274	*e*	P	**P**	21 49 20.3	-0.2
FG4	Candela	19.42 283	*e*	P	**P**	21 49 20.6	0.0
SOP	Sopron	19.42 303		P	**P**	21 49 21.3	+0.7
SOP	Sopron	19.42 303	*e*	P	**P**	21 49 20.9	+0.3
MRLC	Muro Lucano	19.46 282	*e*	P	**P**	21 49 20.4	-0.7
MGR	Morigerati	19.47 280	*e*	P	**P**	21 49 20.6	-0.7
ASHO	Ashiyiah	19.47 134		P	**P**	21 49 20.2	-1.2
	SNR=622						
MORC	Moravsky Berou	19.52 310	*e*	P	**P**	21 49 19.6	-2.1
MORC				pmax	pmax		
	comp=Z,113nm,1.4s						
MORC	Moravsky Berou	19.52 310	*e*	P	**P**	21 49 19.6	-2.1
	comp=Z,113nm,1.4s						
MORC	Moravsky Berou	19.52 310	*e*	P	**P**	21 49 20.6	-1.1
FG5	Orsara di Pugl	19.60 284	*e*	P	**P**	21 49 22.8	+0.1
SGO	Sicignano	19.62 282	*e*	P	**P**	21 49 22.5	-0.4
SCLL	Scilla	19.63 275	*e*	P	**P**	21 49 22.6	-0.4
MTTG	Motta San Giov	19.69 274	*e*	P	**P**	21 49 23.1	-0.7
VKA	Vienna	19.74 305	⇓	P	**P**	21 49 23.4	-0.9
	comp=Z,2μm,3.0s						
VKA	Vienna	19.74 305	⇓	*i* P	**P**	21 49 23.4	-0.9
VKA				pmax	pmax		
	comp=Z,2μm,3.0s						
CSSN	Cassano Irpino	19.81 283	*e*	P	**P**	21 49 24.7	-0.4
MRB1	Monte Rocchett	19.83 283		P	**P**	21 49 25.1	-0.2
CIGN	Sant'Elia a Pi	19.85 285		P	**P**	21 49 25.0	-0.5
VRAC	Vranov	19.91 308	⇑	P	**P**	21 49 24.5	-1.7
VRAC	Vranov	19.91 308		P	**P**	21 49 25.7	-0.5
	comp=Z,0.3nm,0.3s,baz=98,slow=11,SNR=34						
VRAC	Vranov	19.91 308		P	**P**	21 49 26.4	+0.2
VRAC	Vranov	19.91 308	*e*	P	**P**	21 49 25.6	-0.6
PSB1	Pescosannita	19.94 284		P	**P**	21 49 26.2	-0.4
KRUC	Moravsky	19.95 307		P	**P**	21 49 26.2	-0.4
ARSA	Arzberg	19.98 301	⇓	*i* P	**P**	21 49 26.1	-0.9
	comp=Z,756nm,2.2s						
VISS	Visnje	20.16 297	*e*	P	**P**	21 49 28.1	-0.7
VISS			*e*	S	**S**	21 53 13.8	+4.5
VISS			*e*			21 56 37.4	
AGST	Augusta-Monte	20.22 272	*e*	P	**P**	21 49 28.4	-1.1
SLNA	Salina	20.25 276	*e*	P	**P**	21 49 28.5	-1.3
CII	Carovilli	20.30 285	*e*	P	**P**	21 49 30.1	-0.1
MIDA	Miranda	20.34 285		P	**P**	21 49 30.5	-0.2
SSY	Sortino	20.37 272		P	**P**	21 49 29.6	-1.4
LJU	Ljubljana	20.41 298	*e*	P	**P**	21 49 30.9	-0.5
LJU			*e*	S	**S**	21 53 24.1	+10
RNI2	Rionero Sannit	20.41 285		P	**P**	21 49 30.0	-1.5
DPC	Dobruska-Polom	20.46 310	*e*	P	**P**	21 49 30.8	-1.1
DPC				MLR	MLR		
	comp=Z,10μm,14.2s,MS5.3						
DPC	Dobruska-Polom	20.46 310	*e*	P	**P**	21 49 30.8	-1.1
DPC			*e*	S	**S**	21 53 24.3	+8.8
DPC				AMS	AMS	21 59 40.0	
	comp=Z,10μm,14.2s						
OBKA	Obir	20.48 299	⇑	*i* P	**P**	21 49 31.6	-0.5
	comp=Z,450nm,1.9s						
MNO	Monte Soro	20.48 274	*e*	P	**P**	21 49 32.6	+0.4
INTR	Introdacqua	20.59 286		P	**P**	21 49 32.5	-0.8
ARU	Arti	20.65 29	⇑	*i* P	**P**	21 49 32.3	-1.5
ARU			*i*			21 49 52.2	
ARU			*i*	S	**S**	21 53 22.5	+3.3
ARU			*i*	SS	SS	21 53 46.2	-3.9
ARU				pmax	pmax		
	comp=Z,167nm,1.1s						
ARU				MLR	MLR		
	comp=Z,7μm,17.0s,MS5.1						
ARU				MLR	MLR		
	comp=N,1μm,16.0s,MS5.2						
ARU				MLR	MLR		
	comp=E,7μm,16.0s,MS5.2						
ARU	Arti	20.65 29	*e*	P	**P**	21 49 32.0	-1.7
	comp=E,190nm,0.9s						
SDI	San Donato	20.67 285	*e*	P	**P**	21 49 33.2	-0.9
KSP	Ksiaz	20.68 312	⇓	*e* P	**P**	21 49 33.0	-1.1
KSP			*e*	S	**S**	21 53 24.5	+4.7
KSP				MLR	MLR		
	comp=Z,14μm,15.9s,MS5.4						
KSP	Ksiaz	20.68 312	⇓	*e* P	**P**	21 49 33.0	-1.1
KSP			*e*			21 49 46.5	
KSP			*e*	S	**S**	21 53 24.5	+4.7
KSP				LR	LR		
	comp=Z,14μm,15.9s,MS5.4						
KSP	Ksiaz	20.68 312	*e*	P	**P**	21 49 33.3	-0.9
KSP			*e*	S		21 53 31.6	
KSP				MLR	MLR	21 58 22.9	
	comp=Z,7μm,23.7s,MS5.0						
UPC	Upice	20.71 311	*e*	P	**P**	21 49 33.7	-0.7
UPC			*e*	S		21 53 35.0	
TERO	Teramo	20.80 288		P	**P**	21 49 34.9	-0.5
VAE	Valguarnera	20.80 273		P	**P**	21 49 35.9	+0.4
	comp=Z,72nm,0.9s,baz=68,slow=6.3,SNR=24						
VAE				LR	LR	21 57 58.4	
	comp=Z,8μm,18.0s,MS5.1,baz=1.3,slow=38						
ARQ	Araqi	20.80 136		P	**P**	21 49 34.7	-0.9
	SNR=73						
VVLD	Villa Vallelon	20.80 286		P	**P**	21 49 35.1	-0.4
AOI	Ancona	20.82 290		P	**P**	21 49 34.9	-0.7
VOY	Vojsko	20.85 297	*e*	P	**P**	21

PUL smax
comp=E,1µm,1.4s
PUL MLR MLR
comp=Z,6µm,18.0s,MS5.0
PUL MLR MLR
comp=N,3µm,14.0s,MS5.0
PUL MLR MLR
comp=E,3µm,14.0s,MS5.0
MNS Montasola 21.49 287 *e*P **P 21 49 41.6 -0.8**
PRA Prague 21.49 308 P **P 21 49 45.0 +2.6**
PRA AMS AMS 22 00 40.0
USI Ustica 21.50 277 *e*P **P 21 49 44.0 +1.5**
MA9 Marino 21.53 285 *e*P **P 21 49 43.0 +0.2**
BIDO Bidbid 21.55 132 P **P 21 49 43.0 -0.2**
SNR=35
ZOU Zoufplan 21.56 298⇓*e*P **P 21 49 43.0 -0.1**
PVCC Panska Ves 21.57 310 *e*P **P 21 49 42.7 -0.5**
PVCC *e*S **S 21 53 47.2 +10**
PVCC AMS AMS 22 00 20.0
comp=E,7µm,13.0s
GEC2 GERESS Array S 21.57 305 *e*P **P 21 49 42.6 -0.7**
GEC2 pmax pmax
comp=Z,224nm,1.4s,mb5.4
GEC2 GERESS Array S 21.57 305 *e*P **P 21 49 42.6 -0.7**
comp=Z,224nm,1.4s,mb5.4
GERES GERESS Array B 21.57 305 P **P 21 49 42.7 -0.6**
comp=Z,39nm,0.9s,mb4.8,baz=113,slow=10,SNR=129
GERES S **S 21 53 42.9 +5.9**
comp=Z,0.5nm,0.7s,baz=50,slow=24,SNR=1.9
MURB Monte Urbino 21.59 289 P **P 21 49 43.5 0.0**
ROM9 Roma 21.63 286 P **P 21 49 45.9 +2.0**
BSY Bisya 21.65 135 P **P 21 49 43.4 -0.8**
SNR=497
RSM Repubblica di 21.66 291 *e*P **P 21 49 44.6 +0.4**
BSYO Bisya 21.68 135 P **P 21 49 43.4 -1.1**
SNR=497
FVI Forni Avoltri 21.70 299 *e*P **P 21 49 44.4 -0.1**
CLTB Caltabellotta 21.70 274 P **P 21 49 46.2 +1.6**
SVE Sverdlovsk 21.73 30⇑*i*P **P 21 49 44.0 -0.7**
SVE *e* 21 50 15.0
SVE *i*S **S 21 53 39.0 -0.7**
SVE *e*SSS SSS 21 54 34.0 +3.0
SVE pmax pmax
comp=Z,300nm,2.0s,mb5.4
SVE pmax pmax
comp=N,900nm,3.0s
SVE pmax pmax
comp=E,1µm,3.0s
SVE pmax pmax
comp=Z,1µm,3.0s
SVE MLR MLR
comp=N,4µm,18.0s,MS5.0
SVE MLR MLR
comp=E,5µm,18.0s,MS5.0
SVE MLR MLR
comp=Z,9µm,18.0s,MS5.2
KHC Kasperske Hory 21.73 306 *e*P **P 21 49 44.3 -0.6**
KHC *e*pP 21 49 48.5
KHC *e*S 21 53 49.5
KHC AMS AMS 22 02 10.0
comp=Z,7µm,14.0s
MLNI Malnisio 21.75 297⇑*e*P **P 21 49 45.0 0.0**
SMDO Samad 21.87 133 P **P 21 49 46.3 0.0**
SNR=248
BRSN Barisano 21.95 292 *e*P **P 21 49 48.8 +1.7**
TOLF Tolfa 22.00 286 P **P 21 49 47.3 -0.3**
BRG Berggiesshubel 22.07 310 *i*P **P 21 49 48.3 +0.1**
BRG *i* 21 50 13.9
BRG *e*S **S 21 53 49.0 +2.9**
BRG pmax pmax
comp=Z,193nm,1.9s,mb5.2
BRG MLR MLR
comp=Z,7µm,13.2s,MS5.3
BRG Berggiesshubel 22.07 310 *i*P **P 21 49 48.3 +0.1**
comp=Z,193nm,1.9s,mb5.2
BRG *i* 21 50 13.9
BRG *e*S **S 21 53 49.0 +2.9**
BRG LR LR
comp=Z,7µm,13.2s,MS5.3
BRG Berggiesshubel 22.07 310 *e*P **P 21 49 47.5 -0.7**
comp=Z,264nm,1.7s,mb5.4
SFI Santa Sofia 22.10 291 *e*P **P 21 49 49.4 +0.8**
SEST Monte Rota 22.11 299 P **P 21 49 49.0 +0.4**
WET Wettzell 22.18 305 *e*P **P 21 49 48.4 -0.9**
WET pmax pmax
comp=Z,147nm,1.3s,mb5.2
WET Wettzell 22.18 305 *e*P **P 21 49 48.4 -0.9**
comp=Z,147nm,1.3s,mb5.2
PGD Poggio Sodo 22.19 291 *e*P **P 21 49 51.0 +1.5**
VMG Vicchio 22.32 291 *e*P **P 21 49 52.7 +2.0**
CTI Castel Tesino 22.40 297 *e*P **P 21 49 51.5 0.0**
JMDO Jabal Madar 22.44 134 P **P 21 49 52.3 +0.2**
SNR=79
SEI Scarperia 22.46 292 *e*P **P 21 49 53.9 +1.8**
WTTA Wattenberg 22.58 300⇓*i*P **P 21 49 53.1 -0.1**
comp=Z,1µm,3.9s
WTTA Wattenberg 22.58 300⇓*i*P **P 21 49 53.1 -0.1**
WTTA pmax pmax
comp=Z,1µm,3.9s
FNVD Fontana Vidola 22.63 292 P **P 21 49 55.5 +1.7**
WATA Walderalm 22.63 300⇑*i*P **P 21 49 53.9 +0.1**
comp=Z,192nm,1.3s,mb5.4
WATA Walderalm 22.63 300⇑*i*P **P 21 49 53.9 +0.1**
WATA pmax pmax
comp=Z,192nm,1.3s,mb5.4
RAVA Ravarino 22.66 293 P **P 21 49 55.2 +1.2**
GRFL Gerfalco 22.73 289 *e*P **P 21 49 54.7 -0.1**
ZCCA Zocca 22.74 292 *e*P **P 21 49 57.5 +2.7**
WBK Wadi Bani Khal 22.74 132 P **P 21 49 55.8 +0.7**
SNR=25
NKC Novy Kostel 22.76 308 *e*P **P 21 49 55.2 +0.3**
NKC *e*S 21 54 07.5
NKC AMS AMS 22 01 00.0
comp=Z,9µm,14.6s
CLL Collm 22.77 311⇓*i*P **P 21 49 55.0 -0.1**
CLL *i* 21 50 01.1
CLL *e*S **S 21 54 05.0 +6.1**
CLL pmax pmax
comp=Z,181nm,1.5s,mb5.3
CLL Collm 22.77 311⇓*i*P **P 21 49 55.0 -0.1**
comp=Z,181nm,1.5s,mb5.3
CLL *i* 21 50 01.1
CLL *e*S **S 21 54 05.0 +6.1**
CLL Collm 22.77 311 ⇓P **P 21 49 55.0 -0.1**
comp=Z,logA/T=2.1,mb5.3
CLL *i* 21 50 01.1
CLL *i* 21 50 10.0
CLL *i* 21 50 15.2
CLL *i* 21 50 37.9
CLL *e*S **S 21 54 05.0 +6.1**
CLL Collm 22.77 311 *e*P **P 21 49 54.9 -0.2**
comp=Z,181nm,1.5s,mb5.3
RUE Ruedersdorf 22.78 314 *e*P **P 21 49 55.2 0.0**
comp=Z,304nm,1.3s,mb5.6
RUE Ruedersdorf 22.78 314 *e*P **P 21 49 54.8 -0.3**
comp=Z,412nm,1.4s,mb5.7
NOTT Nottersdorf 22.83 307 *e*P **P 21 49 55.6 -0.1**
comp=Z,130nm,1.2s,mb5.2
SQTA Sankt Quirin 22.86 300⇑*i*P **P 21 49 56.5 +0.5**
comp=Z,178nm,1.3s,mb5.3
SQTA Sankt Quirin 22.86 300⇑*i*P **P 21 49 56.5 +0.5**
SQTA pmax pmax
comp=Z,178nm,1.3s,mb5.3
GUNZ Gunzen 22.87 308 *e*P **P 21 49 56.1 +0.1**
comp=Z,128nm,1.3s,mb5.2
WERD Werda 22.91 308 *e*P **P 21 49 56.3 -0.1**
comp=Z,129nm,1.6s,mb5.1
MOTA Moosalm 22.95 300⇑*i*P **P 21 49 56.7 -0.2**
FUR Furstenfeldbru 22.98 302 *e*P **P 21 49 57.2 0.0**
FUR pmax pmax
comp=Z,254nm,1.2s,mb5.5
FUR Furstenfeldbru 22.98 302 *e*P **P 21 49 57.2 0.0**
comp=Z,254nm,1.2s,mb5.5
BDI Bagni Di Lucca 23.00 292 *e*P **P 21 49 58.2 +0.8**
GSCL Gusciola 23.02 292 *e*P **P 21 49 59.6 +2.0**
PII Pisa 23.05 291 *e*P **P 21 49 58.2 +0.3**
SAL Salo 23.14 295 *e*P **P 21 50 00.7 +2.0**
ERBM Eremo 23.15 292 *e*P **P 21 50 01.1 +2.3**
SARO Sassorosso 23.15 292 P **P 21 50 01.9 +3.1**
VLC Villacollemand 23.16 292 *e*P **P 21 49 59.2 +0.3**
comp=Z,224nm,1.4s,mb5.4
MABI Malga Bissina 23.18 297 P **P 21 50 00.4 +1.2**
VALM 23.26 292 P **P 21 50 02.9 +3.0**
BRMO Bormio 23.33 298 *e*P **P 21 50 01.5 +1.0**
VINC Vinca 23.33 292 P **P 21 50 03.7 +3.1**

GRA1 Grafenberg Arr 23.37 306 *e*P **P 21 50 01.3 +0.4**
comp=Z,1µm,1.8s,mb6.0
GRA1 *e*S **S 21 54 16.7 +7.3**
GRA1 LR LR
comp=Z,5µm,19.0s,MS5.0
GRF Grafenberg Arr 23.37 306 *e*P **P 21 50 01.3 +0.4**
GRF *e*S **S 21 54 16.7 +7.3**
GRF pmax pmax
comp=Z,1µm,1.8s,mb6.0
GRF MLR MLR
comp=Z,5µm,19.0s,MS5.0
GRF Grafenberg Arr 23.37 306 *e*P **P 21 50 01.3 +0.4**
GRF *e*S **S 21 54 16.7 +7.3**
GRF pmax pmax
comp=Z,1µm,1.8s,mb6.0
GRF MLR MLR
comp=Z,5µm,19.0s,MS5.0
GRF Grafenberg Arr 23.37 306 *e*P **P 21 50 01.3 +0.4**
comp=Z,1µm,1.8s,mb6.0
GRF *e*S **S 21 54 16.7 +7.3**
GRF LR LR
comp=Z,5µm,19.0s,MS5.0
BACM 23.39 292 P **P 21 50 03.8 +2.7**
MOX Moxa 23.39 308 *e*P **P 21 50 01.7 +0.6**
MOX pmax pmax
comp=Z,111nm,1.6s,mb5.0
MOX MLR MLR
comp=Z,6µm,18.0s,MS5.1
MOX Moxa 23.39 308 *e*P **P 21 50 01.7 +0.6**
comp=Z,111nm,1.6s,mb5.0
MOX LR LR
comp=Z,6µm,18.0s,MS5.1
MOX Moxa 23.39 308 *i*P **P 21 50 01.7 +0.6**
comp=Z,logA/T=1.8,mb5.0
MOX S **S 21 54 12.0 +2.3**
MOX L 22 01 38.0
MOX Moxa 23.39 308 *e*P **P 21 50 01.0 -0.1**
comp=Z,59nm,1.3s,mb4.9
GRAM 23.40 293 P **P 21 50 04.3 +3.1**
BSD Bornholm Skovb 23.41 321⇓*i*P **P 21 50 00.5 -0.8**
BSD *i*S **S 21 54 17.5 +7.3**
BSD pmax pmax
comp=Z,98nm,0.9s,mb5.2
BSD MLR MLR
comp=Z,3µm,17.0s,MS4.8
BSD Bornholm Skovb 23.41 321⇓*i*P **P 21 50 00.5 -0.8**
comp=Z,98nm,0.9s,mb5.2
BSD *i* 21 50 17.2
BSD *i*S **S 21 54 17.5 +7.3**
comp=Z,3µm,17.0s
FUORN Ofenpass 23.42 298⇓*i*P **P 21 50 02.5 +1.1**
CODM 23.55 292 P **P 21 50 05.0 +2.3**
CODM 23.55 292 P **P 21 50 05.0 +2.3**
BERNI Berninapass 23.56 297⇓*i*P **P 21 50 04.0 +1.2**
UBR Uberruh 23.67 301 P **P 21 50 03.9 0.0**
UBR Uberruh 23.67 301⇑*e*P **P 21 50 04.3 +0.4**
DAVOX Davos 23.70 298 P **P 21 50 04.9 +0.7**
comp=Z,23nm,0.6s,mb4.8,baz=98,slow=6.3,SNR=36
DAVOX Davos 23.70 298⇓*i*P **P 21 50 04.9 +0.7**
DAVA Damuels 23.77 300⇓*i*P **P 21 50 04.7 -0.1**
comp=Z,724nm,2.6s,mb5.6
HDH Heidenheim 23.77 303 P **P 21 50 05.7 +0.9**
HDH Heidenheim 23.77 303⇑*e*P **P 21 50 05.3 +0.5**
BOB Bobbio (Coli) 23.85 293 *e*P **P 21 50 07.8 +2.2**
FINES FINESS Array B 23.88 342 P **P 21 50 06.7 +0.9**
comp=Z,35nm,0.7s,mb4.9,baz=143,slow=9.5,SNR=84
FINES LR LR 22 01 27.3
comp=Z,4µm,18.8s,MS4.9,baz=141,slow=42
RGN Rugen 23.93 318 *e*P **P 21 50 07.4 +1.0**
comp=Z,576nm,1.4s,mb5.8
RGN Rugen 23.93 318 *e*P **P 21 50 07.4 +1.0**
comp=Z,698nm,1.7s,mb5.8
VDL Val di Lei 23.95 297⇓*i*P **P 21 50 07.5 +0.9**
LIENZ Alp Oberkamor 24.03 299⇓*i*P **P 21 50 07.4 +0.1**
PLONS Plons 24.07 299⇓*i*P **P 21 50 07.7 -0.1**
OSPF L'Ospedale 24.12 286 *e*P **P 21 50 09.4 +1.0**
WHFO Wadi Hawf 24.16 149 P **P 21 50 09.1 +0.2**
SNR=120
MUGIO Muggio 24.20 296⇓*i*P **P 21 50 09.0 0.0**
PGF Pioggiola 24.20 288 *e*P **P 21 50 08.5 -0.6**
comp=Z,453nm,1.4s,mb5.4
PGF Pioggiola 24.20 288 *e*P **P 21 50 08.5 -0.6**
PGF pmax pmax
comp=Z,227nm,1.4s,mb5.4
JOF Joensuu 24.25 349 *e*p **P 21 50 09.7 +0.4**
comp=Z,42nm,0.7s,mb5.0
VSL Villasalto 24.27 280 *e*P **P 21 50 10.4 +0.7**
comp=Z,118nm,1.3s,mb5.2
BUCH Bad Urach 24.30 302 P **P 21 50 11.6 +1.6**
BUCH Bad Urach 24.30 302⇑*e*P **P 21 50 10.4 +0.4**
LLS Linth-Limmern 24.30 298⇓*i*P **P 21 50 10.0 0.0**
SIND Sindeldorf 24.31 304 P **P 21 50 10.4 +0.3**
SIND Sindeldorf 24.31 304⇑*e*P **P 21 50 10.7 +0.6**
BVA0 Borovoye Array 24.34 46 *i*P **P 21 50 09.2 -1.1**
BVA0 *i*S **S 21 54 33.3 +7.2**
BVA0 pmax pmax
comp=Z,22nm,1.0s,mb4.5
BVA0 smax
comp=Z,5µm,9.0s
BVAR Borovoye Array 24.34 46 P **P 21 50 10.2 -0.1**
comp=Z,15nm,0.8s,mb4.4,baz=240,slow=5.2,SNR=61
VAI Varese 24.38 296 *e*P **P 21 50 11.3 +0.5**
GUT Gutenstein 24.39 301 P **P 21 50 11.5 +0.6**
GUT Gutenstein 24.39 301⇑*e*P **P 21 50 11.3 +0.4**
WEIN Weingarten 24.40 300⇓*i*P **P 21 50 10.9 -0.1**
KAF Kangasniemi 24.42 343 *e*p **P 21 50 11.2 +0.2**
comp=Z,174nm,1.2s,mb5.4,baz=149,slow=9.8
KAF Kangasniemi 24.42 343 *e*P **P 21 50 11.2 +0.2**
KAF pmax pmax
comp=Z,175nm,1.2s,mb5.4
UBBA Unterbreizbach 24.42 308 *e*P **P 21 50 10.9 -0.2**
comp=Z,102nm,1.6s,mb5.0
SISB Singen-Sch Ber 24.44 300 P **P 21 50 12.4 +1.1**
WILA Wila 24.44 300⇓*i*P **P 21 50 11.4 +0.1**
STU Stuttgart 24.46 303 *e*P **P 21 50 11.7 +0.2**
STU pmax pmax
comp=Z,185nm,1.3s,mb5.3
STU Stuttgart 24.46 303 *e*P **P 21 50 11.7 +0.2**
comp=Z,185nm,1.3s,mb5.3
STU Stuttgart 24.46 303 *e*P **P 21 50 11.2 -0.3**
comp=Z,321nm,1.8s,mb5.5
ABTO Aybut 24.48 150 P **P 21 50 12.3 +0.2**
SNR=39
PCP Pian Castagno 24.49 293 P **P 21 50 11.9 +0.1**
STEIN Stein am Rhein 24.50 300⇓*i*P **P 21 50 11.9 0.0**
CLZ Clausthal 24.50 311 *e*P **P 21 50 11.8 -0.1**
comp=Z,151nm,1.5s,mb5.2
FUSIO Fusio 24.50 297⇓*i*P **P 21 50 12.0 0.0**
MUO Muotathal 24.57 298⇓*i*P **P 21 50 12.6 0.0**
SPAK Spaichingen 24.61 301 P **P 21 50 13.1 0.0**
SPAK Spaichingen 24.61 301⇑*e*P **P 21 50 13.7 +0.6**
TRULL Truellikon 24.62 300⇓*i*P **P 21 50 12.2 -0.9**
ZUR Zurich 24.65 299⇓*i*P **P 21 50 13.4 0.0**
FLACH Flaach 24.69 300⇓*i*P **P 21 50 13.6 -0.1**
LBG Lerchenberg 24.70 303⇑*e*P **P 21 50 14.1 +0.2**
BNALP Bannalp 24.70 298⇓*i*P **P 21 50 13.6 -0.3**
RBK Rabkut 24.71 148 P **P 21 50 14.8 +0.6**
SNR=52
CHKZ Chkalovo 24.71 45 P **P 21 50 12.7 -1.2**
CHKZ S **S 21 54 32.6 +0.1**
CHKZ pmax pmax
comp=Z,261nm,1.6s,mb5.5
CHKZ smax
comp=Z,93nm,2.4s
FIN Finale Ligure 24.73 292 *e*P **P 21 50 15.0 +0.8**
FIN Finale Ligure 24.73 292 P **P 21 50 14.3 +0.1**
SLE Schleitheim 24.76 300⇓*i*P **P 21 50 14.1 -0.4**
SHAO Shalim 24.85 145 P **P 21 50 16.2 +0.6**
SNR=7.6
NRDL Niedersach Rie 24.87 312 *e*P **P 21 50 15.9 +0.5**
comp=Z,232nm,2.2s,mb5.3
TOD Tromm 24.87 305 P **P 21 50 16.3 +0.8**
TOD Tromm 24.87 305⇑*e*P **P 21 50 16.4 +0.9**
HASLI Hasliberg 24.88 298⇓*i*P **P 21 50 15.1 -0.5**
SWS Schriesheim 24.91 304 P **P 21 50 16.8 +0.9**
SWS Schriesheim 24.91 304⇑*e*P **P 21 50 16.7 +0.8**
ORO Oropa 24.92 295 *e*P **P 21 50 15.3 -0.7**
ORX Oropa 24.92 295 P **P 21 50 13.8 -2.2**
AML Almayashu 24.92 73 P **P 21 50 17.6 +1.6**
SNR=24
COP Copenhagen 24.93 320⇓*i*P **P 21 50 16.9 +0.9**
COP *i*S **S 21 54 45.5 +9.4**
COP pmax pmax
comp=Z,71nm,0.9s,mb5.2
COP MLR MLR
comp=Z,2µm,16.0s,MS4.7
COP Copenhagen 24.93 320⇓*i*P **P 21 50 16.9 +0.9**
comp=Z,71nm,0.9s,mb5.2
COP *i*S **S 21 54 45.5 +9.4**
comp=Z,2µm,16.0s
DHBB Dhamar BB 24.93 172⇓*e*P **P 21 50 18.2 +1.8**
MCGN Macugnaga 24.93 296 *e*P **P 21 50 16.4 +0.3**
EKS2 Erkin-Say 24.94 72 P **P 21 50 17.9 +1.6**
SNR=82
BFO Black Forest 24.95 302 P **P 21 50 17.1 +0.8**
comp=Z,167nm,1.6s,mb5.3,SNR=9.5
BFO Black Forest 24.95 302 *e*P **P 21 50 16.5 +0.2**
BFO pmax pmax
comp=Z,132nm,1.8s,mb5.2
BFO Black Forest 24.95 302 *e*P **P 21 50 16.5 +0.2**
comp=Z,132nm,1.8s,mb5.2
MMK Mattmark 24.95 296⇓*i*P **P 21 50 15.5 -0.8**
IMI Imperia 24.96 291 *e*P **P 21 50 17.3 +0.9**
IMI Imperia 24.96 291 P **P 21 50 16.9 +0.5**
ROB Roburent 24.97 292 P **P 21 50 16.2 -0.3**
SULZ Sulz-Cheisache 24.98 300⇑P **P 21 50 16.8 +0.2**
TROT Trozza 25.05 271⇑*e*P **P 21 50 17.5 +0.1**
MONE Monesi 25.05 292 P **P 21 50 18.7 +1.4**
MONE Monesi 25.05 292 P **P 21 50 18.7 +1.4**
TRAV 25.08 295 P **P 21 50 15.4 -2.1**
TRAV 25.08 295 P **P 21 50 15.4 -2.1**
NEGI Negi 25.09 291 P **P 21 50 18.8 +1.1**
NEGI Negi 25.09 291 P **P 21 50 18.8 +1.1**
FELD Feldberg 25.10 301⇑*e*P **P 21 50 17.7 0.0**
KIZ Kirchzarten 25.17 301 P **P 21 50 18.5 +0.1**
KIZ Kirchzarten 25.17 301⇑*e*P **P 21 50 18.2 -0.2**
SAOF Saorge 25.20 291 *e*P **P 21 50 20.6 +1.9**
LKBD Leukerbad 25.21 297⇓*i*P **P 21 50 18.1 -0.6**
TNS Taunus Mts 25.23 306 *e*P **P 21 50 19.3 +0.4**
TNS pmax pmax
comp=Z,435nm,2.0s,mb5.6
TNS Taunus Mts 25.23 306 *e*P **P 21 50 19.3 +0.4**
comp=Z,435nm,2.0s,mb5.6
BALST Balsthal 25.25 299⇓*i*P **P 21 50 18.4 -0.7**
BSEG Bad Segeberg 25.27 315 *e*P **P 21 50 19.8 +0.6**
comp=Z,236nm,1.5s,mb5.5
KTD Kalmit 25.28 304 P **P 21 50 20.0 +0.6**
KTD Kalmit 25.28 304 *e*P **P 21 50 19.6 +0.2**
SBF Sospel 25.29 291 *e*P **P 21 50 19.0 -0.5**
comp=Z,651nm,1.2s,mb5.7
SBF Sospel 25.29 291 *e*P **P 21 50 19.0 -0.5**
SBF pmax pmax
comp=Z,325nm,1.2s,mb5.7
AUTN L'Aution 25.29 291 *e*P **P 21 50 21.3 +1.8**
AUTN L'Aution 25.29 291 P **P 21 50 21.5 +2.0**
ENR Entracque 25.29 292 P **P 21 50 19.5 -0.1**
DIX Grande Dixence 25.34 296⇓*i*P **P 21 50 19.8 -0.2**
REVF Revere 25.34 291 P **P 21 50 20.4 +0.4**
STV2 Anna di Valdie 25.36 292 P **P 21 50 20.0 -0.2**
STV2 Anna di Valdie 25.36 292 P **P 21 50 20.0 -0.2**
STV Sta Anna Valdi 25.36 292 P **P 21 50 19.8 -0.4**
STR Strasbourg 25.36 302 *e*P **P 21 50 21.4 +1.2**
BBS Basel-Blauen 25.39 299 P **P 21 50 20.9 +0.5**
BBS Basel-Blauen 25.39 299⇑*e*P **P 21 50 20.3 -0.1**
LANF Langenberg 25.40 303 *e*P **P 21 50 20.3 -0.2**
LANF Langenberg 25.40 303 P **P 21 50 20.8 +0.3**
BHB Bricherasio 25.40 293 P **P 21 50 18.1 -2.5**
LIBD Limburg 25.41 301 P **P 21 50 21.8 +1.2**
LIBD Limburg 25.41 301 *e*P **P 21 50 20.5 -0.1**
RSP Reno Superiore 25.41 294 P **P 21 50 19.0 -1.7**
DOI San Damiano 25.41 293 *e*P **P 21 50 19.6 -1.1**
TOUF Mont Tournerai 25.42 291 *e*P **P 21 50 22.1 +1.3**
USP Ospenovka 25.44 70 P **P 21 50 21.2 +0.3**
SNR=26
AAK Ala-Archa 25.47 72 P **P 21 50 22.7 +1.5**
SNR=33
AAK Ala-Archa 25.47 72 P **P 21 50 21.4 +0.1**
comp=Z,225nm,1.2s,mb5.6,SNR=60
AAK Ala-Archa 25.47 72 P **P 21 50 22.5 +1.2**
AAK S **S 21 54 53.8 +8.5**
AAK pmax pmax
comp=Z,531nm,2.1s,mb5.7
AAK smax
comp=Z,294nm,2.8s
AAK Ala-Archa 25.47 72 *e*P **P 21 50 21.3 +0.1**
comp=Z,92nm,0.9s,mb5.3
LSD Ceresole Reale 25.49 295 P **P 21 50 20.0 -1.4**
LSD Ceresole Reale 25.49 295 P **P 21 50 20.0 -1.4**
MVIF Mont Vial 25.49 291 *e*P **P 21 50 22.7 +1.3**
MVIF Mont Vial 25.49 291 P **P 21 50 23.1 +1.7**
UCH Uchtor 25.52 73 P **P 21 50 23.1 +1.4**
SNR=22
PZZ Prazzo 25.52 293 P **P 21 50 20.7 -1.0**
FRU Bishkek 25.55 71⇑*i*P **P 21 50 24.0 +2.0**
FRU *e* 21 54 54.0
FRU pmax pmax
comp=Z,170nm,1.5s,mb5.3
FENE Fenestrelle 25.55 294 P **P 21 50 20.6 -1.4**
WLS Welschbruch 25.61 302 *e*P **P 21 50 21.7 -0.8**
WLS Welschbruch 25.61 302 P **P 21 50 23.7 +1.2**
OG22 Abries 25.63 293 *e*P **P 21 50 24.2 +1.5**
CHMS Chumysh 25.64 71 P **P 21 50 23.8 +1.0**
SNR=31
CDF Champ du Feu 25.66 302 *e*P **P 21 50 20.9 -2.0**
comp=Z,77nm,1.1s,mb4.8
CDF Champ du Feu 25.66 302 *e*P **P 21 50 20.9 -2.0**
CDF pmax pmax
comp=Z,38nm,1.1s,mb4.8
MOF Molkenrain 25.68 300 *e*P **P 21 50 23.0 -0.2**
MOF Molkenrain 25.68 300 P **P 21 50 24.2 +1.0**
CALN Calern 25.69 291 *e*P **P 21 50 24.1 +0.8**
EMV Vieux Emosson 25.70 296⇓P **P 21 50 22.6 -0.7**
ECH Echery 25.71 301 *e*P **P 21 50 23.2 -0.2**
ECH Echery 25.71 301 P **P 21 50 23.7 +0.3**
SURF Saint Ours 25.73 293 *e*P **P 21 50 25.4 +1.8**
ABH Alteburg 25.73 305 P **P 21 50 24.5 +0.9**
ABH Alteburg 25.73 305⇑*e*P **P 21 50 23.9 +0.3**
RRL Cesana Torines 25.74 294 P **P 21 50 23.1 -0.7**
MBDF Montbardon 25.75 293 *e*P **P 21 50 23.2 -0.7**
comp=Z,128nm,0.7s,mb5.2
MBDF Montbardon 25.75 293 *e*P **P 21 50 23.2 -0.7**
MBDF pmax pmax
comp=Z,64nm,0.7s,mb5.3
LPG La Plagne 25.78 295 *e*P **P 21 50 23.3 -0.8**
comp=Z,337nm,1.1s,mb5.5
LPG La Plagne 25.78 295 *e*P **P 21 50 23.3 -0.8**
LPG pmax pmax
comp=Z,168nm,1.1s,mb5.5
LPL La Plagne 25.79 295 *e*P **P 21 50 23.1 -1.1**
comp=Z,529nm,1.5s,mb5.5
LPL La Plagne 25.79 295 *e*P **P 21 50 23.1 -1.1**
LPL pmax pmax
comp=Z,265nm,1.5s,mb5.5
KBK Karagaybulak 25.80 72 P **P 21 50 25.6 +1.2**
SNR=26
BNI Bardonecchia 25.82 294 *e*P **P 21 50 23.8 -0.7**
BNI pmax pmax
comp=Z,150nm,1.1s,mb5.4
BNI Bardonecchia 25.82 294 *e*P **P 21 50 23.8 -0.7**
comp=Z,150nm,1.1s,mb5.4
LOMF Lomont 25.84 299 *e*P **P 21 50 24.7 +0.1**
LOMF Lomont 25.84 299 P **P 21 50 25.3 +0.7**
MUKL Al Mukalla 25.84 162⇓*e*P **P 21 50 26.4 +1.3**
OG01 Vacheresse 25.86 297 *e*P **P 21 50 25.0 +0.2**
HINF Hinteralfeld 25.87 300 *e*P **P 21 50 23.0 -1.9**
comp=Z,26nm,0.7s,mb4.6
HINF Hinteralfeld 25.87 300 *e*P **P 21 50 23.0 -1.9**
HINF pmax pmax
comp=Z,13nm,0.7s,mb4.6
FRF La Foret Royal 25.87 290 *e*P **P 21 50 24.0 -1.0**
comp=Z,512nm,1.3s,mb5.6
FRF La Foret Royal 25.87 290 *e*P **P 21 50 24.0 -1.0**
FRF pmax pmax
comp=Z,256nm,1.3s,mb5.6
RSL Roselend 25.87 295 *e*P **P 21 50 24.2 -0.8**
LMR La Mourre 25.98 290 *e*P **P 21 50 25.0 -1.0**
comp=Z,264nm,1.4s,mb5.3
LMR La Mourre 25.98 290 *e*P **P 21 50 25.0 -1.0**
LMR pmax pmax
comp=Z,132nm,1.4s,mb5.3
RUP Ruppelstein 26.00 304 P **P 21 50 26.1 -0.1**
RUP Ruppelstein 26.00 304⇑*e*P **P 21 50 26.3 +0.1**
KZA Kyzart 26.08 73 P **P 21 50 28.7 +1.8**
SNR=33
IBBN Ibbenburen 26.18 310 *e*P **P 21 50 28.7 +1.0**
comp=Z,295nm,1.8s,mb5.5
GDM Grand'Maison 26.22 294 *e*P **P 21 50 28.2 0.0**
HAU Haudompre 26.22 301 *e*P **P 21 50 26.4 -1.8**

comp=Z,186nm,1.6s,mb5.1
HAU eR
comp=Z,7μm,18.8s
HAU Haudompre 26.22 301 eP **P 21 50 26.4 -1.8**
HAU pmax pmax
comp=Z,93nm,1.6s,mb5.1
HAU MLR MLR
comp=Z,7μm,18.8s,MS5.2
BUG Bochum-Univer 26.24 308 eP **P 21 50 28.7 +0.4**
comp=Z,58nm,1.2s,mb5.0
TKM2 Tokmak 2 26.26 71 P **P 21 50 28.7 +0.1**
SNR=43
CABF La Chapelle 26.29 297 eP **P 21 50 27.9 -0.9**
comp=Z,546nm,1.2s,mb5.7
CABF La Chapelle 26.29 297 eP **P 21 50 27.9 -0.9**
CABF pmax pmax
comp=Z,273nm,1.2s,mb5.7
TAVF Tavernes 26.30 291 eP **P 21 50 29.7 +0.8**
STOF St-Etienne Org 26.39 291 eP **P 21 50 31.1 +1.4**
ORIF Oris-en-Rattie 26.39 294 eP **P 21 50 27.8 -1.9**
comp=Z,366nm,1.4s,mb5.4
ORIF eR
comp=Z,9μm,20.2s
CMAH Djebel Manchou 26.43 275 P **P 21 50 34.0 +3.8**
THEF They Montfort 26.49 301 P **P 21 50 29.6 -1.0**
VILF Villemus 26.53 291 P **P 21 50 32.6 +1.5**
PUYF Puyloubier 26.56 290 eP **P 21 50 29.7 -1.6**
WLF Walferdange 26.58 304 eP **P 21 50 31.0 -0.4**
WLF pmax pmax
comp=Z,73nm,1.2s,mb5.1
WLF Walferdange 26.58 304 eP **P 21 50 31.0 -0.5**
comp=Z,73nm,1.2s,mb5.1
WLF Walferdange 26.58 304 eP **P 21 50 31.2 -0.2**
comp=Z,51nm,1.1s,mb5.0
SMRF Simiane la Rot 26.63 291 eP **P 21 50 30.7 -1.3**
WTSB Winterswijk 26.66 309 eP **P 21 50 31.4 -0.8**
comp=Z,127nm,1.5s,mb5.2
HLG Helgoland 26.70 315 eP **P 21 50 35.7 +3.2**
comp=Z,328nm,1.3s,mb5.7
ULHL Ulahol 26.79 72 P **P 21 50 35.2 +1.7**
SNR=38
CAEH 'Ain El Ouahch 26.82 275 P **P 21 50 37.0 +3.2**
HFS Hagfors 26.84 330 P **P 21 50 33.4 -0.4**
comp=Z,55nm,0.9s,mb5.1,baz=129,slow=9.5,SNR=34
MUD Monsted U'grnd 26.90 320⇓ *i* P **P 21 50 35.5 +1.2**
MUD pmax pmax
comp=Z,110nm,1.2s,mb5.3
MUD MLR MLR
comp=Z,6μm,17.0s,MS5.2
MUD Monsted U'grnd 26.90 320⇓ *i* P **P 21 50 35.5 +1.2**
comp=Z,111nm,1.2s,mb5.3
MUD *i* 21 50 51.0
MUD *i* S tx 21 55 46.5
comp=Z,6μm,17.0s
HGN Heimansgroeve 26.92 307 eP **P 21 50 34.9 +0.4**
comp=Z,117nm,1.7s,mb5.1
HGN ex x 21 50 46.8
HGN eS **S 21 55 21.0 +12**
PRAF Pradon 26.93 291 eP **P 21 50 33.0 -1.7**
PRAF Pradon 26.93 291 P **P 21 50 35.5 +0.8**
WIT Witteveen 26.96 311 eP **P 21 50 36.3 +1.4**
KSH Kashi 26.99 78 P **P 21 50 36.8 +1.4**
KSH eAP pP 21 50 40.6 +1.4
KSH ePP PP 21 51 21.1 -0.2
KSH ePPP PPP 21 51 34.0 +0.7
KSH PCP PcP 21 53 57.6 +0.2
KSH S **S 21 55 10.8 +0.2**
KSH eSS SS 21 56 25.8 +1.3
KSH SCP 21 57 34.8
KSH PCS 21 57 39.0
KSH eSCS ScS 22 01 24.6 -1.0
KSH AMB AMB
comp=Z,620nm,4.6s
KSH LR LR
comp=N,9μm,10.8s
KSH LR LR
comp=E,6μm,8.9s
CKFL Kef-Lekhel 27.03 275 P **P 21 50 38.0 +2.3**
MEZF Maizieres J'vi 27.14 301 eP **P 21 50 34.9 -1.7**
comp=E,258nm,1.6s,mb5.2
AAA Alma-Ata 27.22 70 P **P 21 50 38.0 +0.6**
AAA MLR MLR
comp=Z,3μm,14.0s,MS5.0
VIVF Saint-Julien-l 27.25 293 eP **P 21 50 35.6 -2.0**
comp=Z,123nm,1.2s,mb5.0
VIVF Saint-Julien-l 27.25 293 eP **P 21 50 35.6 -2.0**
VIVF pmax pmax
comp=Z,62nm,1.2s,mb5.0
CASM Ain Smara 27.25 274 P **P 21 50 45.0 +7.3**
CTEI Djebel Teioual 27.37 274 P **P 21 50 42.0 +3.2**
GIVF Givet 27.50 305 eP **P 21 50 38.9 -0.9**
DFRA Djebel Bou Aff 27.64 275 P **P 21 50 44.0 +2.7**
SMF Signal de Mont 27.83 297 eP **P 21 50 41.2 -1.7**
comp=Z,228nm,1.6s,mb5.3
SMF Signal de Mont 27.83 297 eP **P 21 50 41.2 -1.7**
SMF pmax pmax
comp=Z,114nm,1.5s,mb5.3
LASF Ste Croix 27.86 292 eP **P 21 50 41.5 -1.7**
comp=Z,242nm,1.4s,mb5.3
BAIF Baives 27.88 305 eP **P 21 50 42.3 -1.0**
comp=Z,163nm,1.6s,mb5.1
BAIF Baives 27.88 305 eP **P 21 50 42.3 -1.0**
BAIF pmax pmax
comp=Z,81nm,1.6s,mb5.1
CMER Merouana 27.90 273 P **P 21 50 46.0 +2.4**
JASL Jaisalmer 27.91 107 eP **P 21 50 44.6 +0.8**
CKHR Kef el Ahmar 28.07 274 P **P 21 50 42.5 -2.7**
SSF Saint Saulge 28.08 298 eP **P 21 50 43.3 -1.8**
SSF pmax pmax
comp=Z,70nm,1.3s,mb5.1
SSF Saint Saulge 28.08 298 eP **P 21 50 43.3 -1.8**
comp=Z,70nm,1.3s,mb5.1
SET Setif 28.11 275 P **P 21 50 48.0 +2.5**
AVF Avril sur Loir 28.17 298 eP **P 21 50 44.0 -2.0**
comp=Z,138nm,1.3s,mb5.1
AVF Avril sur Loir 28.17 298 eP **P 21 50 44.0 -2.0**
AVF pmax pmax
comp=Z,69nm,1.3s,mb5.1
KONO Kongsberg 28.25 326 eP **P 21 50 47.7 +1.1**
KONO MLR MLR
comp=Z,614μm,17.2s
NB2 NORSAR Subarra 28.36 330 P **P 21 50 46.3 -1.3**
comp=Z,59nm,1.4s,mb5.0,baz=126,slow=8.6
NB2 NORSAR Subarra 28.36 330 P **P 21 50 46.3 -1.3**
NB2 pmax pmax
comp=Z,59nm,1.4s,mb5.0
NB2 NORSAR Subarra 28.36 330 P **P 21 50 46.3 -1.3**
baz=126,slow=9.3
NOA NORSAR Array B 28.36 330 P **P 21 50 46.4 -1.2**
comp=Z,9.9nm,1.0s,mb4.4,baz=126,slow=8.9,SNR=13
NOA LR LR 22 03 21.3
comp=Z,5μm,19.2s,MS5.1,baz=125,slow=39
NAO01 NORSAR Array S 28.38 329 eP **P 21 50 46.1 -1.6**
comp=Z,92nm,1.2s,mb5.3
BGF Bois d'Agland 28.52 297 eP **P 21 50 47.4 -1.7**
comp=Z,44nm,1.1s,mb4.8
BGF Bois d'Agland 28.52 297 eP **P 21 50 47.4 -1.7**
BGF pmax pmax
comp=Z,22nm,1.1s,mb4.8
APA Apatity 28.52 354⇓ eP **P 21 50 49.0 +0.1**
APA *i* S **S 21 55 37.0 +2.1**
APA *i* SS SS 21 57 04.0 +3.6
APA pmax pmax
comp=Z,29nm,1.0s,mb5.0
APA smax
comp=E,2μm,5.0s
APA smax
comp=N,2μm,5.0s
APA MLR MLR
comp=Z,6μm,12.0s,MS5.4
KURK Kurchatov 28.66 54 eP **P 21 50 49.6 -0.7**
KURK pmax pmax
comp=Z,73nm,1.1s,mb5.3
KURK Kurchatov 28.66 54 eP **P 21 50 49.5 -0.7**
comp=Z,73nm,1.1s,mb5.3
HYF Humbligny 28.67 299 eP **P 21 50 49.0 -1.5**
EJON La Jonquera 28.71 288 P **P 21 50 50.6 -0.3**
comp=Z,12nm,0.9s,mb4.6
LVZ Lovozero 28.76 355 eP **P 21 50 52.7 +1.7**
LVZ eS **S 21 55 41.6 +2.9**
LVZ pmax pmax
comp=Z,111nm,2.1s,mb5.2
LVZ pmax pmax
comp=N,23nm,1.3s
LVZ pmax pmax
comp=E,26nm,1.9s
LVZ smax
comp=N,664nm,5.2s
LVZ smax
comp=E,736nm,4.7s
LVZ MLR MLR
comp=Z,3μm,17.0s,MS5.0
LVZ MLR MLR
comp=N,2μm,14.0s,MS5.0
LVZ MLR MLR
comp=E,896nm,10.0s,MS5.0
TCF Toulx Ste Croi 28.96 296 eP **P 21 50 51.4 -1.6**
comp=E,129nm,1.4s,mb5.2
TCF Toulx Ste Croi 28.96 296 eP **P 21 50 51.4 -1.6**
TCF pmax pmax
comp=Z,65nm,1.4s,mb5.2
CAF Calviac 29.10 294 eP **P 21 50 52.8 -1.5**
comp=Z,61nm,1.3s,mb4.8
CAF Calviac 29.10 294 eP **P 21 50 52.8 -1.5**
CAF pmax pmax
comp=Z,30nm,1.3s,mb4.9
MTLF Montolieu 29.10 290 eP **P 21 50 52.4 -2.0**
comp=Z,148nm,1.6s,mb5.2
MTLF Montolieu 29.10 290 eP **P 21 50 52.4 -2.0**
MTLF pmax pmax
comp=Z,74nm,1.6s,mb5.2
ETOS Mallorca 29.20 283 P **P 21 50 54.1 -1.2**
comp=Z,25nm,0.8s,mb5.0
BHJ Bhuj 29.21 115 *e* **P 21 50 58.8 +3.2**
BHJ eS **S 21 55 48.6 +2.2**
PONG Pong 29.30 94 *e* **P 21 51 03.0 +6.6**
RJF Les Rejaudoux 29.47 295 eP **P 21 50 56.5 -1.2**
comp=Z,152nm,1.3s,mb5.2
RJF eR
comp=Z,8μm,18.0s
RJF Les Rejaudoux 29.47 295 eP **P 21 50 56.5 -1.2**
RJF pmax pmax
comp=Z,76nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,8μm,18.0s,MS5.4
EMIR Miracle 29.79 288 P **P 21 51 00.7 +0.1**
comp=Z,35nm,1.3s,mb4.9
BHK Bhakra 29.89 94 *e* **P 21 51 18.0 +16**
MLS Moulis 29.96 290 eP **P 21 51 00.3 -1.8**
MLS Moulis 29.96 290 eP **P 21 51 00.4 -1.7**
LFF La Frestale 30.04 294 eP **P 21 51 01.1 -1.6**
comp=Z,67nm,1.1s,mb5.0
LFF La Frestale 30.04 294 eP **P 21 51 01.1 -1.6**
LFF pmax pmax
comp=Z,34nm,1.1s,mb5.0
EPOB Poblet 30.20 287 P **P 21 51 02.2 -2.0**
comp=Z,13nm,1.0s,mb4.6
SDNR Sundarnagar 30.28 94 eP **P 21 51 04.5 -0.6**
NSS Namsos 30.31 336 eP **P 21 51 03.6 -1.4**
NSS AMS AMS 22 05 31.9
comp=Z,4μm,17.9s,MS5.2
EIBI Ibiza 30.47 282 P **P 21 51 04.8 -1.8**
comp=Z,13nm,0.9s,mb4.7
BER Bergen 30.48 325 eP **P 21 51 11.3 +4.8**
BER eS **S 21 56 06.5 +0.5**
BER AMS AMS 22 05 13.0
comp=Z,4μm,18.7s,MS5.1
EPF Esparros 30.50 290 eP **P 21 51 03.6 -3.3**
comp=Z,34nm,1.0s,mb4.8
EPF Esparros 30.50 290 eP **P 21 51 03.6 -3.3**
EPF pmax pmax
comp=Z,17nm,1.0s,mb4.8
RESF Ens 30.53 290 eP **P 21 51 07.8 +0.7**
LDF La Druitiere 30.57 301 eP **P 21 51 05.0 -2.4**
comp=Z,43nm,1.2s,mb4.9
LDF La Druitiere 30.57 301 eP **P 21 51 05.0 -2.4**
LDF pmax pmax
comp=Z,22nm,1.2s,mb4.9
MFF Saint Martin d 30.58 297 eP **P 21 51 05.2 -2.3**
comp=Z,204nm,1.7s,mb5.4
MFF Saint Martin d 30.58 297 eP **P 21 51 05.2 -2.3**
MFF pmax pmax
comp=Z,102nm,1.7s,mb5.4
SMLA Simla 30.59 94 *i* P **P 21 51 07.1 -0.7**
SMLA *i* 21 57 44.5
EBIE Bielsa 30.69 289 P **P 21 51 07.0 -1.5**
comp=Z,31nm,1.2s,mb5.0
EBR Ebro Roquetas 30.73 286 eP **P 21 51 08.4 -0.5**
MOR8 Moi Rana 30.74 339 eP **P 21 51 08.9 +0.2**
VIEF Viey 30.75 290 eP **P 21 51 08.6 -0.5**
FLN La Foliniere 30.82 301 eP **P 21 51 07.3 -2.3**
comp=Z,132nm,1.6s,mb5.2
FLN eR
comp=Z,5μm,18.2s
FLN La Foliniere 30.82 301 eP **P 21 51 07.3 -2.3**
FLN pmax pmax
comp=Z,66nm,1.6s,mb5.2
FLN MLR MLR
comp=Z,5μm,18.3s,MS5.2
MKAR Makanchi Array 30.84 62 *i* P **P 21 51 09.6 -0.2**
MKAR pmax pmax
comp=Z,5.0nm,0.6s
KKR Kurukshetra 30.85 97 eP **P 21 51 09.4 -0.7**
AJM Ajmer 30.94 104 *i* P **P 21 51 10.0 -0.9**
KHET Khetri 30.98 101 eP **P 21 51 11.9 +0.7**
KHET *e* pP 21 51 17.0 +1.9
comp=Z,25nm,0.6s
GRR Gorron 31.06 301 eP **P 21 51 09.1 -2.6**
comp=Z,216nm,1.7s,mb5.4
GRR Gorron 31.06 301 eP **P 21 51 09.1 -2.6**
GRR pmax pmax
comp=Z,108nm,1.7s,mb5.4
KTK1 Kautokeino 31.16 348 eP **P 21 51 14.1 +1.8**
ETSF Etsaut 31.17 290 eP **P 21 51 10.7 -2.1**
comp=Z,81nm,1.1s,mb5.2
ETSF Etsaut 31.17 290 eP **P 21 51 10.7 -2.1**
ETSF pmax pmax
comp=Z,41nm,1.1s,mb5.2
KLP Kalpa 31.26 93 eP **P 21 51 13.5 -0.2**
KLP *e* 21 51 21.6
comp=Z,53nm,1.0s
ESAC San Caprasio 31.29 288 P **P 21 51 12.9 -0.9**
comp=Z,40nm,0.7s,mb5.3
ARCES ARCESS Array B 31.29 350 P **P 21 51 12.8 -0.7**
comp=Z,12nm,0.6s,mb4.9,baz=157,slow=7.5,SNR=31
ARCES LR LR 22 04 54.0
comp=Z,6μm,21.8s,MS5.2,baz=153,slow=38
KEV Kevo 31.30 351 *ep* **P 21 51 12.8 -0.8**
comp=Z,39nm,1.4s,mb5.0
KEV Kevo 31.30 351 eP **P 21 51 12.8 -0.8**
KEV pmax pmax
comp=Z,39nm,1.4s,mb5.0
LARF Larrau 31.47 290 eP **P 21 51 14.6 -0.8**
BHGR Bahadurgarh 31.54 99 eP **P 21 51 16.9 +0.7**
EMOS Mosqueruela 31.54 285 P **P 21 51 15.4 -0.7**
comp=Z,47nm,0.8s,mb5.4
SJPF Ste Jean 31.63 291 eP **P 21 51 14.7 -2.1**
comp=Z,86nm,1.3s,mb5.1
SJPF Ste Jean 31.63 291 eP **P 21 51 14.7 -2.1**
SJPF pmax pmax
comp=Z,43nm,1.3s,mb5.1
DDI Dehra Dun 31.64 95 eP **P 21 51 20.1 +3.1**
EBEN Beniarda 31.74 282 P **P 21 51 14.7 -3.1**
comp=Z,22nm,0.8s,mb5.0
NDI New Delhi 31.76 98 eP **P 21 51 18.0 -0.1**
NDI eS **S 21 56 30.0 +3.5**
AYAN Aya Nagar 31.79 99 eP **P 21 51 18.5 +0.2**
AYAN *e* pP 21 51 22.8 +0.5
comp=Z,19nm,0.9s
EALK Alkurruntz 31.82 291 P **P 21 51 09.6 -8.9**
comp=Z,2.8nm,1.1s
SONA Sohna 31.87 99 eP **P 21 51 18.8 -0.2**
SONA *e* 21 51 25.4
comp=Z,30nm,1.0s
NVS Novosibirsk 32.12 47 *i* P **P 21 51 19.8 -1.2**
NVS *i* 21 52 37.9
NVS eS **S 21 56 40.2 +8.3**
NVS pmax pmax
comp=N,25nm,1.6s
NVS pmax pmax
comp=E,23nm,1.6s
NVS pmax pmax
comp=Z,53nm,1.6s,mb5.1
NVS smax
comp=N,40nm,1.9s
NVS smax
comp=E,21nm,1.6s
SGMF Saint Gilles 32.19 300 eP **P 21 51 19.3 -2.4**
comp=E,133nm,1.1s,mb5.4
SGMF Saint Gilles 32.19 300 eP **P 21 51 19.3 -2.4**
SGMF pmax pmax
comp=Z,66nm,1.1s,mb5.4
TRO Tromso 32.46 346 eP **P 21 51 23.2 -0.6**
TRO eS **S 21 56 37.1 +0.2**
TRO eScP 21 57 54.2
TRO AMS AMS 22 06 07.7
comp=Z,4μm,21.5s,MS5.1
QUIF Quistinic 32.60 300 eP **P 21 51 22.8 -2.5**
comp=Z,262nm,1.6s,mb5.6
QUIF Quistinic 32.60 300 eP **P 21 51 22.8 -2.5**
QUIF pmax pmax
comp=Z,131nm,1.6s,mb5.6
ROSF Rostrenen 32.67 301 eP **P 21 51 22.1 -3.7**
comp=Z,78nm,1.1s,mb5.2
ROSF Rostrenen 32.67 301 eP **P 21 51 22.1 -3.7**
ROSF pmax pmax
comp=Z,39nm,1.1s,mb5.2
EMUR La Murta 32.73 281 P **P 21 51 25.4 -1.1**
comp=Z,16nm,1.2s,mb4.8
ETOB Tobarra 32.75 282 P **P 21 51 25.7 -0.9**
comp=Z,16nm,0.7s,mb5.0
ZAL Zalesovo 32.88 49 P **P 21 51 26.7 -0.9**
comp=Z,2.3nm,0.5s,mb4.4,baz=215,slow=9.1,SNR=15
ZAL LR LR 22 06 52.3
comp=Z,4μm,20.8s,MS5.1,baz=210,slow=40
ZAL Zalesovo 32.88 49 P **P 21 51 26.7 -0.9**
ZAL LR LR 22 06 52.3
EKA Eskdalemuir Ar 33.17 313 P **P 21 51 29.2 -0.9**
comp=Z,12nm,0.7s,mb5.0,baz=108,slow=7.9,SNR=31
ESK Eskdalemuir 33.19 313 eP **P 21 51 29.1 -1.2**
ESK pmax pmax
comp=Z,44nm,1.1s,mb5.3
ESK Eskdalemuir 33.19 313 eP **P 21 51 29.1 -1.2**
comp=Z,44nm,1.1s,mb5.3
ELAN Lanestosa 33.21 291 P **P 21 51 29.9 -0.7**
comp=Z,23nm,1.6s,mb4.9
EVIA Vianos 33.48 283 P **P 21 51 32.2 -0.7**
EVIA pmax pmax
comp=Z,33nm,0.7s,mb5.4
EVIA Vianos 33.48 283 P **P 21 51 32.2 -0.8**
comp=Z,33nm,0.7s,mb5.4
ENIJ Nijar 33.72 280 P **P 21 51 33.4 -1.7**
ENIJ pmax pmax
comp=Z,18nm,0.6s,mb5.2
ENIJ Nijar 33.72 280 P **P 21 51 33.4 -1.7**
comp=Z,18nm,0.6s,mb5.2
EQES Quesada 34.13 282 P **P 21 51 37.7 -1.0**
comp=Z,54nm,0.8s,mb5.5
EBER Berja 34.26 280 P **P 21 51 38.4 -1.4**
comp=Z,34nm,0.8s,mb5.3
ESDC Sonseca Array 34.31 285 P **P 21 51 38.6 -1.6**
comp=Z,28nm,1.0s,mb5.2,baz=66,slow=8.9,SNR=59
ESDC Sonseca Array 34.31 285 P **P 21 51 37.4 -2.8**
comp=Z,20nm,0.9s,mb5.1
ESLA Sonseca Array 34.31 285 eP **P 21 51 38.4 -1.8**
comp=Z,22nm,1.2s,mb5.0
EARI Arriondas 34.48 292 P **P 21 51 39.8 -1.8**
comp=Z,14nm,0.8s,mb5.0
EBAN Banos Encina 34.58 282 P **P 21 51 41.4 -1.1**
EBAN pmax pmax
comp=Z,26nm,0.6s,mb5.3
EBAN Banos Encina 34.58 282 P **P 21 51 41.4 -1.1**
comp=Z,26nm,0.6s,mb5.3
ECOG Cogollos-Vega 34.66 281 P **P 21 51 41.2 -2.0**
ECOG pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
ECOG Cogollos-Vega 34.66 281 P **P 21 51 41.2 -2.0**
comp=Z,9.6nm,0.5s,mb5.0
EALB Alboran 34.68 278 P **P 21 51 40.4 -2.9**
comp=Z,18nm,0.6s,mb5.2
BHPL Bhopal 34.85 107 eP **P 21 51 45.8 +0.8**
BHPL *e* pP 21 51 48.2 -0.7
comp=Z,80nm,1.1s
DLF Lyons Farm 34.88 309 eP **P 21 51 45.2 +0.3**
WMQ Urumqi 34.91 67⇑ *i* P **P 21 51 46.3 +1.0**
WMQ PP PP 21 53 04.0 +0.8
WMQ PCP PcP 21 54 20.0 +1.8
WMQ S **S 21 57 16.5 +1.2**
WMQ PCS 21 58 05.0
WMQ SS SS 21 59 30.0 +0.4
WMQ AMB AMB
comp=Z,35nm,0.8s,mb5.3
WMQ AMB AMB
comp=Z,396nm,4.8s
WMQ LR LR
comp=N,7μm,16.5s,MS5.6
WMQ LR LR
comp=E,5μm,14.8s,MS5.6
WMQ LR LR
comp=Z,3μm,17.4s,MS5.1
ERON Agron 34.93 281 P **P 21 51 42.8 -2.6**
comp=Z,12nm,0.8s,mb4.9
ELOJ Sierra Loja 35.15 281 P **P 21 51 46.0 -1.4**
ELOJ pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ELOJ Sierra Loja 35.15 281 P **P 21 51 46.0 -1.4**
comp=Z,7.2nm,0.6s,mb4.8
EADA Adamuz 35.17 283 P **P 21 51 46.0 -1.6**
comp=Z,19nm,0.9s,mb5.0
POO Poona 35.27 117 eP **P 21 51 49.6 +1.0**
POO *e* 21 51 51.4
comp=Z,36nm,1.1s
DCN Croghan 35.33 309 eP **P 21 51 49.1 +0.4**
EMIJ Mijas 35.80 280 P **P 21 51 49.5 -3.5**
comp=Z,31nm,0.9s,mb5.2
ECAL Calabor 35.84 290 P **P 21 51 52.6 -0.7**
comp=Z,12nm,1.0s,mb4.8
PBRG Braganca 35.88 290 eP **P 21 51 52.7 -0.8**
comp=Z,33nm,1.4s,mb5.1
ERUA La Rua 36.05 291 P **P 21 51 54.8 -0.1**
ERUA pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ERUA La Rua 36.05 291 P **P 21 51 54.8 -0.1**
comp=Z,8.9nm,0.9s,mb4.7
EINC Incio 36.14 291 P **P 21 51 55.3 -0.5**
comp=Z,25nm,1.2s,mb5.0
KAD Karad 36.34 118 eP **P 21 51 57.9 +0.3**
KAD *e* 21 52 05.9
comp=Z,38nm,1.5s
EJIF Jimena Fronter 36.37 280 P **P 21 51 56.4 -1.3**
EJIF pmax pmax
comp=Z,17nm,0.6s,mb5.2
EJIF Jimena Fronter 36.37 280 P **P 21 51 56.4 -1.4**
comp=Z,17nm,0.6s,mb5.2
ESPR Espera 36.53 281 P **P 21 51 57.2 -1.9**
comp=Z,10.0nm,0.8s,mb4.7
PVRL Vila Real 36.71 289 eP **P 21 52 00.4 -0.1**
comp=Z,63nm,1.5s,mb5.2
MTE Manteigas 36.79 287 eP **P 21 52 00.9 -0.3**
comp=Z,125nm,1.1s,mb5.7
MTE eS **S 21 57 48.0 +3.7**
MTE Manteigas 36.79 287 eP **P 21 51 59.5 -1.7**
comp=Z,173nm,1.4s,mb5.7
EBAD Badajoz 36.84 285 P **P 21 51 58.8 -2.8**
comp=Z,7.0nm,0.8s,mb4.5
EMIN Mina Concepcio 36.87 283 P **P 21 51 59.6 -2.3**
comp=Z,13nm,0.8s,mb4.8
PCBR Castelo Branco 36.89 287 eP **P 21 52 01.0 -1.0**
comp=Z,61nm,1.4s,mb5.2
PVIS Viseu 36.97 288 eP **P 21 52 02.0 -0.7**
comp=Z,64nm,1.3s,mb5.3
KOLN Koldanda 37.12 95 eP **P 21 52 04.5 +0.4**
comp=Z,160nm,1.2s,mb5.7
LATR Latur 37.24 114 eP **P 21 52 05.4 +0.2**
MIF Mishlifen 37.27 275 *i* P **P 21 52 05.0 -0.3**
EGRO El Granado 37.56 283 P **P 21 52 05.2 -2.5**
comp=Z,9.3nm,0.8s,mb4.6
PALC Alcoutim 37.57 283 eP **P 21 52 07.8 0.0**
comp=Z,44nm,1.5s,mb5.0
PTOM Tomar 37.64 287 eP **P 21 52 08.1 -0.3**
comp=Z,93nm,1.4s,mb5.3
EVO Evora 37.65 285 eP **P 21 52 07.8 -0.7**
comp=Z,55nm,1.2s,mb4.8
EVO eR
comp=Z,5μm,19.0s
PBEJ Beja 37.69 284 eP **P 21 52 08.8 0.0**
comp=Z,36nm,1.3s,mb4.9
GKN Gorkha 37.80 94 eP **P 21 52 10.1 +0.3**
comp=Z,162nm,1.0s,mb5.7
DMN Daman 38.36 94 eP **P 21 52 15.2 +0.7**
comp=Z,211nm,1.1s,mb5.8
KKN Kakani 38.40 94 eP **P 21 52 15.4 +0.5**
comp=Z,75nm,1.0s,mb5.4
PKI Pulchoki 38.61 94 eP **P 21 52 17.1 +0.5**
comp=Z,115nm,1.2s,mb5.5
BLSP Bilaspur 39.02 104 eP **P 21 52 19.8 -0.3**
BLSP *e* pP 21 52 22.5 -1.6
comp=Z,41nm,1.1s

JIRN Jiri 39.17 93 *e*P **P** **21 52 22.3 +1.0**
comp=Z,53nm,0.7s,mb5.3
HYB Hyderabad 39.32 113⇓*e*P **P** **21 52 22.5 -0.2**
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.3
HYB Hyderabad 39.32 113⇓*e*P **P** **21 52 22.5 -0.2**
comp=Z,60nm,1.0s,mb5.3
HYB Hyderabad 39.32 113⇓*i*P **P** **21 52 22.5 -0.2**
comp=Z,60nm,1.0s,mb5.3
HYB *e*PP PP 21 52 55.0 -62
HYB *e*S **S** **21 58 24.0 +1.0**
HYB *e* 22 01 32.0
JMIC Jan Mayen 40.31 337 LR LR 22 10 07.2
comp=Z,4µm,19.7s,MS5.2,baz=117,slow=38
KMBO Kilima Mbogo 40.47 186 P **P** **21 52 33.0 +0.8**
KMBO pmax pmax
comp=Z,2.0nm,0.3s
KMBO MLR MLR
comp=Z,7µm,18.6s
KMBO Kilima Mbogo 40.47 186 P **P** **21 52 33.0 +0.8**
comp=Z,1.6nm,0.3s,mb4.2,baz=28,slow=10.0,SNR=8.4
KMBO LR LR 22 08 13.5
comp=Z,7µm,18.6s,MS5.5,baz=352,slow=35
KMBO Kilima Mbogo 40.47 186 *e*P **P** **21 52 33.2 +1.1**
comp=Z,19nm,1.4s,mb4.6
KMBO LR LR
comp=Z,4µm,20.0s,MS5.3
MBAR Mbarara 40.88 196 *e*P **P** **21 52 35.4 -0.1**
MBAR pmax pmax
comp=Z,28nm,1.5s,mb4.7
MBAR MLR MLR
comp=Z,721nm,19.0s,MS4.5
MBAR Mbarara 40.88 196 *e*P **P** **21 52 35.4 -0.1**
comp=Z,28nm,1.5s,mb4.7
MBAR LR LR
comp=Z,721nm,19.0s,MS4.5
LSA Lhasa 42.05 87 P **P** **21 52 45.8 +0.8**
LSA XP sP 21 52 58.6 +8.0
LSA PPP PP 21 54 24.5 -1.1
LSA S **S** **21 58 58.5 -5.0**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.7
LSA AMB AMB
comp=Z,160nm,6.0s
LSA LR LR
comp=N,1µm,21.0s,MS5.2
LSA LR LR
comp=E,3µm,19.0s,MS5.2
LSA LR LR
comp=Z,3µm,19.0s,MS5.2
LSA Lhasa 42.05 87 *e*P **P** **21 52 46.4 +1.4**
LSA pmax pmax
comp=Z,30nm,0.8s,mb5.0
LSA Lhasa 42.05 87 *e*P **P** **21 52 46.4 +1.4**
comp=Z,30nm,0.8s,mb5.0
VIS Vishakhapatnam 42.59 108 *e*P **P** **21 52 51.3 +1.7**
VIS *e* pP 21 52 55.6 +2.1
comp=Z,100nm,1.2s
MOY Mondy 42.69 53 *e*P **P** **21 52 50.9 +1.0**
MOY pmax pmax
comp=Z,30nm,2.1s,mb4.7
BORG Borgarnes 43.44 327 LR LR 22 11 34.4
comp=Z,2µm,21.3s,MS5.1,baz=101,slow=37
TLY Talaya 44.32 52*d i*P **P** **21 53 01.1 -2.0**
TLY *e* 21 54 44.6
TLY *e*S **S** **21 59 35.8 -0.4**
TLY *e*SS SS 22 02 44.5 -2.2
TLY pmax pmax
comp=Z,20nm,1.6s,mb4.6
TLY MLR MLR
comp=Z,2µm,19.0s,MS5.1
TLY Talaya 44.32 52 *e*P **P** **21 53 03.5 +0.4**
comp=Z,21nm,1.4s,mb4.7
ZAK Zakamensk 44.32 54 *e*P **P** **21 53 03.2 0.0**
ZAK *e* 21 54 46.6
ZAK pmax pmax
comp=Z,8.0nm,1.5s,mb4.2
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
SCO Scoresbysund 44.41 335 *i*P **P** **21 53 05.1 +1.4**
SCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
SCO Scoresbysund 44.41 335 *i*P **P** **21 53 05.1 +1.4**
comp=Z,5.4nm,0.8s,mb4.3
IRK Irkutsk 44.61 52 *e*P **P** **21 53 04.6 -0.9**
IRK *e* 21 54 53.6
IRK pmax pmax
comp=Z,38nm,1.1s,mb5.1
GTA Gaotai 44.81 70 *e*P **P** **21 53 07.8 +0.5**
GTA AP pP 21 53 14.5 +3.3
GTA XP sP 21 53 17.3 +4.5
GTA AMB AMB
comp=Z,9.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,372nm,4.6s
GTA LR LR
comp=N,3µm,15.3s,MS5.4
GTA LR LR
comp=E,2µm,15.3s,MS5.4
GTA LR LR
comp=Z,4µm,20.3s,MS5.3
DAG Danmarks Havn 45.12 344⇓*i*P **P** **21 53 10.0 +0.7**
DAG pmax pmax
comp=Z,23nm,1.0s,mb5.0
DAG Danmarks Havn 45.12 344⇓*i*P **P** **21 53 10.0 +0.7**
comp=Z,23nm,1.0s,mb5.0
CFTV Fuerteventura 46.28 274 P **P** **21 53 15.4 -3.7**
comp=Z,11nm,0.7s,mb4.9
SONM Songino Array 46.88 57 P **P** **21 53 22.8 -0.7**
comp=Z,2.4nm,0.6s,mb4.3,baz=281,slow=9.0,SNR=20
SONM PcP PcP 21 54 55.8 -1.0
comp=Z,5.5nm,0.6s,baz=265,slow=3.6,SNR=16
ULN Ulaanbaatar 47.30 57 *e*P **P** **21 53 26.7 -0.2**
ULN pmax pmax
comp=Z,23nm,0.8s,mb5.2
ULN Ulaanbaatar 47.30 57 *e*P **P** **21 53 26.6 -0.2**
comp=Z,23nm,0.8s,mb5.2
EOSO Osorio 47.59 274 P **P** **21 53 28.3 -1.1**
comp=Z,57nm,1.3s,mb5.4
LZH Lanzhou 49.00 73 P **P** **21 53 40.9 +0.6**
LZH AP pP 21 53 47.3 +3.0
LZH XP sP 21 53 51.5 +5.6
LZH PP PP 21 55 35.0 +0.9
LZH S **S** **22 00 48.0 +4.8**
LZH XS 22 00 58.0
LZH AMB AMB
comp=Z,60nm,1.4s,mb5.4
LZH AMB AMB
comp=Z,460nm,4.6s
LZH LR LR
comp=N,7µm,15.4s
LZH LR LR
comp=Z,6µm,17.2s,MS5.6
BOD Bodaibo 49.12 43 *e*P **P** **21 53 39.1 -1.8**
BOD pmax pmax
comp=Z,37nm,1.3s,mb5.2
SUMG Summit 49.76 337 *e*P **P** **21 53 45.8 +0.2**
comp=Z,52nm,1.3s,mb5.4
CD2 Chengdu 51.19 79⇓*i*P **P** **21 53 57.3 +0.2**
CD2 AMB AMB
comp=Z,27nm,1.2s,mb5.0
BTO Baotou 51.69 65 *e*P **P** **21 53 59.5 -1.2**
BTO LR LR
comp=E,1µm,14.5s
DBIC Dimbokro 52.40 244 P **P** **21 54 04.6 -1.8**
comp=E,20nm,0.6s,mb5.2,baz=24,slow=8.9,SNR=25
TIXI Tiksi 52.54 24 *e*P **P** **21 54 04.4 -2.3**
TIXI *e* 21 55 59.7
TIXI *e*S **S** **22 01 30.2 -1.2**
TIXI pmax pmax
comp=Z,15nm,1.1s,mb4.8
TIXI MLR MLR
comp=Z,3µm,17.0s,MS5.4
HHC Hu-ho-hao-te 52.67 64 *e*P **P** **21 54 08.6 +0.5**
HHC PCP PcP 21 55 19.1 +1.1
HHC PP PP 21 56 09.3 +0.6
HHC SCP 21 59 12.8
HHC S **S** **22 01 29.6 -4.1**
HHC PS PS 22 01 45.0 -0.2
HHC SS SS 22 05 14.4 +3.2
HHC AMB AMB
comp=Z,22nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,341nm,5.3s
HHC LR LR
comp=N,3µm,18.4s,MS5.5
HHC LR LR
comp=E,3µm,18.4s,MS5.5
HHC LR LR
comp=Z,2µm,21.4s,MS5.2
KMI Kunming 53.26 86 P **P** **21 54 12.3 -0.4**
KMI PP PP 21 56 14.8 +0.3
KMI S **S** **22 01 42.3 +0.4**
KMI SS SS 22 05 23.8 +2.7
KMI AMB AMB
comp=Z,23nm,1.2s,mb5.0
KMI AMB AMB
comp=Z,294nm,4.3s
KMI LR LR
comp=N,2µm,19.5s,MS5.3
KMI LR LR
comp=E,2µm,18.8s,MS5.3
KMI LR LR
comp=Z,2µm,26.0s
XAN Xi'an 53.64 73 P **P** **21 54 14.3 -1.1**
XAN AP pP 21 54 24.0 +4.6
XAN AMB AMB
comp=Z,15nm,1.1s,mb4.8
XAN LR LR
comp=N,2µm,20.2s,MS5.5
XAN LR LR
comp=E,3µm,17.5s,MS5.5
XAN LR LR
comp=Z,2µm,17.0s,MS5.3
CHG Chiang Mai 53.78 95 ⇓P **P** **21 54 18.6 +2.1**
comp=Z,17nm,0.9s,mb5.0
CM31 Chiang Mai Arr 53.98 95 *e*P **P** **21 54 16.2 -1.8**
comp=Z,4.4nm,0.3s,mb4.9
BDT Bhumibol Dam 54.74 96 P **P** **21 54 22.0 -1.6**
HIA Hailar 54.85 52 *e*P **P** **21 54 23.5 -0.5**
HIA pmax pmax
comp=Z,23nm,1.1s
HIA Hailar 54.85 52 *e*P **P** **21 54 23.5 -0.5**
comp=Z,23nm,1.1s,mb5.1
CLNS Chul'man 55.07 42 *e*P **P** **21 54 24.3 -1.2**
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.9s
CLNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS MLR MLR
comp=N,4µm,16.0s,MS5.6
CLNS MLR MLR
comp=Z,6µm,16.0s,MS5.7
CLNS MLR MLR
comp=E,600nm,14.0s,MS5.6
NANT Nan 55.15 94 P **P** **21 54 25.0 -1.6**
YAK Yakutsk 55.59 35 *e*P **P** **21 54 27.8 -1.4**
YAK *e* 21 55 26.3
YAK *e* 21 56 30.0
YAK *e*S **S** **22 02 09.6 -3.1**
YAK *e* 22 04 11.2
YAK *e*SS SS 22 06 04.5 +6.7
YAK *e*SSS SSS 22 08 07.3 +5.2
YAK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,2.0nm,1.0s
YAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK smax
comp=E,81nm,7.8s
YAK smax
comp=N,45nm,6.9s
YAK MLR MLR
comp=N,831nm,13.0s,MS5.4
YAK MLR MLR
comp=Z,2µm,13.0s,MS5.3
YAK MLR MLR
comp=E,2µm,14.0s,MS5.4
GYA Guiyang 55.59 82⇑*i*P **P** **21 54 28.3 -1.4**
GYA PP PP 21 56 38.8 +3.3
GYA S **S** **22 02 15.5 +2.2**
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,210nm,4.5s
GYA LR LR
comp=N,3µm,23.1s,MS5.4
GYA LR LR
comp=E,2µm,21.3s,MS5.4
GYA LR LR
comp=Z,2µm,20.6s,MS5.3
ENH Enshi 55.83 77 *e*P **P** **21 54 30.1 -1.3**
comp=Z,45nm,1.1s,mb5.4
BJI Beijing 56.21 63 P **P** **21 54 33.4 -0.6**
BJI PCP PcP 21 55 27.1 -4.5
BJI AMB AMB
comp=Z,9.0nm,1.3s,mb4.6
BJI LR LR
comp=N,4µm,18.5s,MS5.6
BJI LR LR
comp=E,3µm,20.1s,MS5.6
BJI LR LR
comp=Z,3µm,18.7s,MS5.4
NST Nakhon Sawan 56.54 97 P **P** **21 54 36.0 -0.7**
NNT Nongplab 58.12 100 P **P** **21 54 48.2 +0.4**
KKTK Khon Kaen 58.22 95 P **P** **21 54 48.6 +0.1**
comp=Z,432nm,0.8s
WHN Wuhan 59.34 74 *e*P **P** **21 54 55.4 -0.8**
WHN LR LR
comp=Z,4µm,18.0s,MS5.6
DL2 Dalian 60.49 62 *e*P **P** **21 55 02.1 -1.8**
DL2 *e*S **S** **22 03 10.9 -6.3**
DL2 AMB AMB
comp=Z,30nm,1.2s,mb5.2
DL2 LR LR
comp=N,2µm,24.9s,MS5.2
DL2 LR LR
comp=E,1µm,25.5s,MS5.2
DL2 LR LR
comp=Z,930nm,14.3s
MATP Matopo 60.63 193 P **P** **21 55 04.3 -0.8**
comp=Z,10nm,0.8s,mb5.0,baz=8.4,slow=8.5,SNR=27
CN2 Changchun 60.72 56 *e*P **P** **21 55 04.3 -1.1**
CN2 *e*S **S** **22 03 20.4 +0.4**
CN2 SS SS 22 07 23.1 +3.0
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,5µm,17.0s,MS5.8
CN2 LR LR
comp=E,2µm,17.0s,MS5.8
CN2 LR LR
comp=Z,1µm,19.0s,MS5.1
NJ2 Nanjing 61.90 70 *e*P **P** **21 55 12.4 -1.2**
NJ2 AP pP 21 55 22.6 +4.9
NJ2 XP sP 21 55 27.0 +7.8
NJ2 PP PP 21 57 30.5 -1.7
NJ2 S **S** **22 03 31.0 -4.3**
NJ2 XS 22 03 48.0
NJ2 AMB AMB
comp=Z,10.0nm,0.6s
NJ2 AMB AMB
comp=Z,1µm,4.7s
NJ2 LR LR
comp=N,11µm,20.2s
NJ2 LR LR
comp=E,32µm,20.4s
NJ2 LR LR
comp=Z,24µm,21.4s
KLR Kul'dur 61.99 48 *e*P **P** **21 55 10.0 -3.9**
KLR *e*S **S** **22 03 33.5 -2.6**
KLR MLR MLR
comp=E,3µm,15.5s
KLR MLR MLR
comp=Z,4µm,15.5s,MS5.7
QIZ Qiongzhong 62.09 88 ⇓P **P** **21 55 14.0 -1.0**
QIZ S **S** **22 03 36.1 -1.8**
QIZ SS SS 22 07 43.3 +0.8
QIZ LR LR
comp=N,811nm,23.9s,MS5.0
QIZ LR LR
comp=E,756nm,20.8s,MS5.0
QIZ LR LR
comp=Z,581nm,31.9s
TSUM Tsumeb 62.23 205 *e*P **P** **21 55 15.3 -0.7**
comp=Z,27nm,1.5s,mb5.2
TSUM LR LR
comp=Z,4µm,19.0s,MS5.6
RES Resolute Bay 62.49 348 *e*P **P** **21 55 16.9 -0.1**
RES pmax pmax
comp=Z,40nm,1.8s,mb5.2
RES Resolute Bay 62.49 348 *e*P **P** **21 55 16.9 -0.1**
comp=Z,40nm,1.8s,mb5.2
MDJ Mudanjiang 62.94 53 P **P** **21 55 17.5 -2.8**
MDJ S **S** **22 03 47.8 -0.4**
MDJ SCS ScS 22 05 09.5 +0.5
MDJ SS SS 22 07 51.8 -3.9
MDJ AMB AMB
comp=Z,10.0nm,2.1s,mb4.6
MDJ AMB AMB
comp=Z,144nm,3.7s
MDJ LR LR
comp=N,4µm,21.3s,MS5.6
MDJ LR LR
comp=E,2µm,22.3s,MS5.6
MDJ LR LR
comp=Z,3µm,14.2s
FRB Frobisher Bay 63.15 332 P **P** **21 55 20.6 -0.9**
comp=Z,18nm,0.7s,mb5.3,baz=60,slow=7.5,SNR=27
KULM Kulim 63.49 106 *e*P **P** **21 55 22.1 -2.2**
SSE Sheshan 64.10 70 P **P** **21 55 26.5 -1.6**
SSE S **S** **22 04 00.8 -2.0**
SSE AMB AMB
comp=Z,38nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,104nm,4.9s
SSE LR LR
comp=N,2µm,25.0s,MS5.3
SSE LR LR
comp=E,2µm,25.2s,MS5.3
SSE LR LR
comp=Z,898nm,18.1s
SEY Seymchan 64.39 28 *e*P **P** **21 55 32.3 +2.9**
SEY *e* 21 55 59.5
SEY *e* 21 57 51.7
SEY *e*PPP PPP 21 59 23.9 -1.9
SEY *e*S **S** **22 04 12.2 +6.3**
SEY *e* 22 05 20.9
SEY *e*SSS SSS 22 11 09.3 +2.2
SEY pmax pmax
comp=E,30nm,0.9s
SEY pmax pmax
comp=Z,70nm,0.9s,mb5.7
SEY smax
comp=N,200nm,6.2s
SEY smax
comp=E,2µm,11.6s
BILL Bilibino 65.36 20α*i*P **P** **21 55 35.3 -0.3**
BILL *e* 21 56 14.6
BILL *i*S S 22 04 22.0 +4.3
BILL *e*PS PS 22 04 40.2 +0.2
BILL SS SS 22 08 40.0 +7.4
BILL *i*SSS SSS 22 11 30.3 +5.1
BILL pmax pmax
comp=Z,11nm,1.0s,mb4.8
BILL MLR MLR
comp=Z,2µm,16.0s,MS5.4
BILL Bilibino 65.36 20 *e*P **P** **21 55 35.1 -0.5**
comp=Z,11nm,0.8s,mb4.9
LBTB Lobatse 65.65 195 P **P** **21 55 37.8 -0.4**
LBTB pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
LBTB Lobatse 65.65 195 P **P** **21 55 37.8 -0.4**
comp=Z,9.7nm,0.7s,mb5.0,baz=360,slow=4.0,SNR=12
LBTB Lobatse 65.65 195 *e*P **P** **21 55 37.6 -0.6**
MA2 Magadan 65.79 32*de*P **P** **21 55 38.9 +0.4**
MA2 *e*PPP PPP 21 59 36.3 -4.2
MA2 *e*S S 22 04 22.1 -1.0
MA2 *e*SSS SSS 22 11 36.4 +2.9
MA2 pmax pmax
comp=Z,30nm,1.9s,mb5.0
MA2 MLR MLR
comp=Z,21µm,25.0s,MS6.2
MA2 Magadan 65.79 32 *e*P **P** **21 55 38.3 -0.3**
comp=Z,26nm,1.0s,mb5.2
SCHQ Schefferville 67.71 323 P **P** **21 55 49.5 -1.3**
comp=Z,5.4nm,0.6s,mb4.8,baz=42,slow=6.9,SNR=13
SCHQ LR LR 22 28 47.7
comp=Z,896nm,18.2s,MS5.0,baz=53,slow=39
SCHQ Schefferville 67.71 323 *e*P **P** **21 55 49.7 -1.1**
comp=Z,7.7nm,0.7s,mb4.8
SCHQ LR LR
comp=Z,2µm,19.0s,MS5.2
BOSA Boshof 69.21 195 *e*P **P** **21 55 59.5 -1.1**
BOSA pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BOSA Boshof 69.21 195 *e*P **P** **21 55 59.5 -1.2**
comp=Z,9.9nm,0.6s,mb4.9
YSS Yuzh-Sakhalins 69.43 46 P **P** **21 56 04.8 +3.2**
YSS *e**SP sP 21 56 09.2 +2.0
YSS *e*S S 22 05 12.0 +5.0
YSS *e*PS PS 22 05 28.0 -6.8
YSS *e*PPS PPS 22 05 46.0 -1.3
YSS MLR MLR
comp=Z,2µm,18.0s,MS5.4
YSS MLR MLR
comp=N,3µm,17.0s,MS5.7
YSS MLR MLR
comp=E,2µm,17.0s,MS5.7
ASAJ Asahikawa 71.02 48 P **P** **21 56 11.2 -0.1**
ASAJ pmax pmax
comp=Z,10.0nm,1.0s
ASAJ MLR MLR
comp=Z,3µm,20.9s
ASAJ Asahikawa 71.02 48 P **P** **21 56 11.2 -0.1**
comp=Z,10nm,1.0s,mb4.7,baz=300,slow=20,SNR=3.5
ASAJ LR LR 22 28 12.2
comp=Z,3µm,20.9s,MS5.5,baz=315,slow=37
JOW Kunigami 71.62 70 LR LR 22 34 12.8
comp=Z,1µm,20.1s,MS5.2,baz=280,slow=41
INK Inuvik 72.53 358 P **P** **21 56 19.3 -0.5**
INK pmax pmax
comp=Z,12nm,1.0s
INK MLR MLR
comp=Z,815nm,21.2s
INK Inuvik 72.53 358 P **P** **21 56 19.3 -0.5**
comp=Z,12nm,1.0s,mb4.8,baz=348,slow=7.3,SNR=10
INK LR LR 22 30 17.9
comp=Z,814nm,21.2s,MS5.0,baz=134,slow=38
INK Inuvik 72.53 358 *e*P **P** **21 56 20.0 +0.1**
comp=Z,20nm,1.2s,mb4.9
MAT Matsushiro 72.83 57 *e*P **P** **21 56 20.0 -2.2**
MAT *e*S S 22 05 51.0 +4.5
MAT pmax pmax
comp=Z,33nm,1.4s,mb5.1
MAT MLR MLR
comp=Z,2µm,19.0s,MS5.4
MAT Matsushiro 72.83 57 *e*P **P** **21 56 20.0 -2.2**
comp=Z,33nm,1.4s,mb5.1
MAT *e*S S 22 05 51.0 +4.5
MAT LR LR
comp=Z,2µm,19.0s,MS5.4
MAT Matsushiro 72.83 57 P **P** **21 56 20.3 -1.9**
MAT S S 22 05 51.0 +4.5
TNA Tin City 73.00 12 *e*P **P** **21 56 22.0 -0.6**
comp=Z,28nm,1.6s,mb5.0
PET Petropavlovsk 73.40 34 *e*P **P** **21 56 27.9 +2.7**
PET *e*S S 22 05 52.3 -0.3
PET pmax pmax
comp=Z,100nm,25.5s
PET smax
comp=E,300nm,24.1s
PET MLR MLR
comp=Z,2µm,20.0s,MS5.5
SUR Sutherland 73.81 198 P **P** **21 56 28.9 +0.9**
comp=Z,4.4nm,0.7s,mb4.5,baz=16,slow=5.1,SNR=4.6
SUR LR LR 22 29 22.6
comp=Z,4µm,19.8s,MS5.7,baz=189,slow=36
IMA Indian Mountai 74.26 6 *e*P **P** **21 56 30.2 +0.3**
FCC Fort Churchill 75.28 338 *e*P **P** **21 56 35.6 -0.3**
FCC pmax pmax
comp=Z,75nm,1.6s,mb5.4
FCC Fort Churchill 75.28 338 *e*P **P** **21 56 35.6 -0.3**

comp=Z,75nm,1.6s,mb5.4
COLA College 75.84 4 *e*P **P 21 56 41.8 +2.8**
JHJ Hachijo jima 2 75.93 59 LR LR 22 31 22.2
comp=Z,1μm,22.0s,MS5.2,baz=340,slow=37
YKW3 Yellowknife Ar 76.49 349 *e*P **P 21 56 42.0 -0.7**
YKA Yellowknife Ar 76.55 349 *i* P **P 21 56 43.5 +0.4**
YKA pmax pmax
comp=Z,6.0nm,0.8s
YKA Yellowknife Ar 76.55 349 P P **21 56 43.3 +0.2**
comp=Z,6.1nm,0.8s,mb4.6,baz=20,slow=6.1,SNR=88
YKA LR LR 22 31 52.6
comp=Z,1μm,19.1s,MS5.2,baz=345,slow=37
YKA Yellowknife Ar 76.55 349 P P **21 56 43.3 +0.2**
YKA LR LR 22 31 52.6
DAWY Dawson 76.88 0 *e*P **P 21 56 45.2 +0.4**
MCK McKinley 76.91 4 *e*P **P 21 56 45.6 +0.6**
MCK pmax pmax
comp=Z,15nm,1.3s,mb4.8
MCK McKinley 76.91 4 *e*P **P 21 56 45.6 +0.6**
comp=Z,15nm,1.3s,mb4.8
THY Trims Highway 77.39 3 *e*P **P 21 56 47.8 +0.1**
MENT Mentasta 77.94 2 *e*P **P 21 56 54.2 +3.5**
SML Sawmill 78.86 4 *e*P **P 21 56 56.2 +0.4**
SPU Mount Spurr 79.22 6 P **P 21 57 01.0 +3.3**
FIB Fire Island 79.38 5 P **P 21 56 58.2 -0.4**
DIV Divide 79.67 3 *e*P **P 21 57 00.5 +0.3**
comp=Z,90nm,1.1s,mb5.6
SLKM Skilak Lake 80.03 6 P **P 21 57 02.1 0.0**
EYAK Cordova Ski Ar 80.26 3 P **P 21 57 03.3 0.0**
SADO Sadowa 80.35 321 P **P 21 57 06.3 +2.1**
comp=Z,6.5nm,1.1s,mb4.5,baz=113,slow=7.5,SNR=2.7
SADO Sadowa 80.35 321 P **P 21 57 06.3 +2.1**
FFC Flin Flon 80.99 339 P **P 21 57 08.5 +1.2**
comp=Z,72nm,1.3s,mb5.5,SNR=8.8
FFC Flin Flon 80.99 339 *e*P **P 21 57 07.7 +0.4**
FFC pmax pmax
comp=Z,13nm,0.8s,mb4.9
FFC Flin Flon 80.99 339 *e*P **P 21 57 07.7 +0.3**
comp=Z,12nm,0.8s,mb4.9
CBIJ Chichi jima 81.31 62 LR LR 22 35 54.7
comp=Z,1μm,20.7s,MS5.2,baz=321,slow=38
DLBC Dease Lake 82.23 355 P **P 21 57 13.7 0.0**
comp=Z,4.7nm,0.9s,mb4.4,baz=334,slow=6.8,SNR=8.3
DLBC Dease Lake 82.23 355 *e*P **P 21 57 12.4 -1.3**
ERPA Erie 82.73 320 P **P 21 57 16.7 0.0**
ULM Lac du Bonnet 82.97 334 P **P 21 57 17.9 +0.1**
comp=Z,4.6nm,0.6s,mb4.7,baz=20,slow=4.3,SNR=9.0
ULM LR LR 22 39 01.9
comp=Z,952nm,18.2s,MS5.2,baz=144,slow=39
ULM Lac du Bonnet 82.97 334 *e*P **P 21 57 17.1 -0.7**
comp=Z,49nm,1.4s,mb5.3
EYMN Ely 83.29 330 *e*P **P 21 57 18.4 -1.0**
comp=Z,28nm,1.4s,mb5.1
EYMN LR LR
comp=Z,2μm,19.0s,MS5.5
MCWV Mont Chateau 84.48 318 P **P 21 57 26.4 +0.8**
comp=Z,62nm,1.3s,mb5.6
EDM Edmonton 85.09 345 *e*P **P 21 57 29.4 +1.1**
ACSO Alum Creek Sta 85.63 320 *e*P **P 21 57 32.7 +1.4**
comp=Z,45nm,1.2s,mb5.6
ACSO LR LR
comp=Z,2μm,21.0s,MS5.5
LAO LASA Array 89.39 338 P **P 21 57 50.8 +1.4**
NEW Newport 90.56 346 *e*P **P 21 57 55.9 +1.2**
NEW pmax pmax
comp=Z,28nm,1.1s
NEW MLR MLR
comp=Z,1μm,19.0s
NEW Newport 90.56 346 P **P 21 57 56.9 +2.2**
comp=Z,7.8nm,0.7s,mb5.2,baz=15,slow=5.5,SNR=14
NEW Newport 90.56 346 *e*P **P 21 57 55.9 +1.2**
comp=Z,28nm,1.1s,mb5.5
NEW LR LR
comp=Z,1μm,19.0s,MS5.4
HRY Holter Researc 90.87 342 *e*P **P 21 57 56.9 +0.8**
CHMT Chamberlain Mo 91.01 343 *e*P **P 21 57 58.1 +1.3**
GCMT Greycliff 91.17 340 *e*P **P 21 58 00.1 +2.5**
SJG San Juan 91.17 295 LR LR 22 35 07.1
comp=Z,741nm,21.4s,MS5.1,baz=34,slow=33
WVT Waverly 91.21 321 P **P 21 57 57.4 -0.7**
WVT pmax pmax
comp=Z,54nm,1.4s,mb5.7
WVT Waverly 91.21 321 P **P 21 57 57.4 -0.7**
comp=Z,54nm,1.4s,mb5.7
BOZ Bozeman (W) 91.81 341 *e*P **P 21 58 02.0 +1.4**
BOZ pmax pmax
comp=Z,10.0nm,1.3s,mb5.0
BOZ Bozeman (W) 91.81 341 *e*P **P 21 58 01.9 +1.4**
comp=Z,10nm,1.3s,mb5.0
LRAL Lakeview Retre 93.25 318 *e*P **P 21 58 07.1 -0.4**
comp=Z,56nm,1.3s,mb5.8
IMW Indian Meadow 93.26 340 *e*P **P 21 58 09.2 +1.9**
MOOW Moose Ponds 93.35 340 *e*P **P 21 58 08.9 +1.2**
TPAW Teton Pass 93.65 340 *e*P **P 21 58 11.0 +2.0**
BMO Blue Mountains 93.86 345 *e*P **P 21 58 10.5 +0.5**
comp=Z,13nm,1.3s,mb5.2
RRI2 Red Ridge 93.88 340 *e*P **P 21 58 14.3 +4.2**
PDAR Pinedale Array 93.93 339 P **P 21 58 11.3 +0.9**
comp=Z,1.5nm,0.9s,mb4.4,baz=45,slow=2.1,SNR=9.4
PDAR LR LR 22 42 01.4
comp=Z,2μm,20.1s,MS5.6,baz=26,slow=36
HLID Hailey 94.45 342 P **P 21 58 13.8 +1.1**
HLID LR LR
comp=Z,2μm,22.0s,MS5.4
DUG Dugway 97.22 340 *e*P **P 21 58 27.3 +1.9**
DUG MLR MLR
comp=Z,2μm,21.0s,MS5.5
SDCO Great Sand Dun 97.25 334 PFAKE 21 58 40.0 +14
SDCO LR LR
comp=Z,2μm,21.0s,MS5.6
FITZ Fitzroy Crossi 97.35 107 LR LR 22 46 38.5
comp=Z,474nm,18.1s,MS5.0,baz=288,slow=38
BDFB Brasilia 98.92 257 LR LR 22 44 18.7
comp=Z,2μm,20.9s,MS5.5,baz=59,slow=36
PLCA Paso Flores 128.76 245 PKP PKPdf 22 04 01.7 -0.9
comp=Z,5.1nm,0.9s,baz=122,slow=17,SNR=4.4
SNZO South Karori 145.08 108 *e*PKP PKPdf 22 04 30.6 -1.6
PPT Papeete 156.42 26 *e*LR LR 22 57 19.6
comp=Z,2μm,31.2s
TBI Tubuai 161.75 32 *e*LR LR 22 59 52.2
comp=Z,794nm,27.2s
RKT Rikitea 163.39 347 *e*LR LR 23 00 44.0
comp=Z,867nm,31.2s

IDC 23 21:47:58.6±4.1, 42.13S×88.04E, mb3.9/3, mb1 4.1/3, mb1mx3.9/11, mbtmp3.9/3, Error ellipse: s-maj=112.7km s-min=37.3km az=120.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.12**	**79**	P	P	21 55 52.9	-1.3
	1.5nm,0.7s,baz=224,slow=7.4,SNR=21						
ASAR				PcP	PcP	21 57 47.0	-2.4
	1.6nm,0.8s,baz=217,slow=3.1,SNR=14						
WRA	**Warramunga Arr**	**44.76**	**75**	P	P	21 56 13.4	-2.2
	0.7nm,0.9s,baz=232,slow=11,SNR=11						
VNDA	**Vanda**	**45.78**	**163**	P	P	21 56 21.3	-1.8
	2.4nm,0.8s,baz=286,slow=10,SNR=6.7						

*BJI **23** 21:54:28.5, 42.10S×88.10E, h10km, mB5.5, mb4.6*
*IDC **23** 21:54:30.8±0.8, 42.08S×88.06E, mb4.3/8, mb1 4.4/8, mb1mx4.3/14, mbtmp4.2/8, MS4.4/5, Ms1 4.3/5, ms1mx3.8/23, Error ellipse: s-maj=35.6km s-min=18.6km az=177.0*
*NEIC **23** 21:54:32.5±0.4, 42.10S×88.10E, h10km, mb4.7/5, Error ellipse: s-maj=14.3km s-min=12.1km az=172.0*
ISC 23 21:54:30.8±0.5, 42.1S±0.1×88.1E±0.1, h10km, n29, σ0§56/21, mb4.5/19, MS4.3/5, 1C, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAW	**Mawson**	**28.98**	**200**	LR	LR	22 10 12.6	
	comp=Z,790nm,21.0s,MS4.3,baz=288,slow=32						
ASAR	**Alice Springs**	**42.10**	**79**	P	P	**22 02 24.8**	**+0.1**
	7.4nm,0.7s,mb4.4,baz=226,slow=7.2,SNR=33						
ASAR				PcP	PcP	22 04 18.6	-1.4
	3.2nm,0.7s,baz=229,slow=2.5,SNR=5.6						
ASAR				LR	LR	22 17 44.0	
	comp=Z,471nm,20.9s,MS4.3,baz=242,slow=33						
ASAR	**Alice Springs**	**42.10**	**79**	P	P	**22 02 24.8**	**+0.1**
ASAR				PcP	PcP	22 04 18.6	-1.4
ASAR				LR	LR	22 17 44.0	

STKA Stephens Creek 43.35 95 P **P 22 02 34.3 -0.4**
3.8nm,0.9s,mb4.1,baz=242,slow=11,SNR=5.3
STKA LR LR 22 16 52.2
comp=Z,456nm,19.9s,MS4.4,baz=192,slow=31
STKA Stephens Creek 43.35 95 *e*P **P 22 02 32.6 -2.0**
STKA LR LR 22 16 52.2
WRA Warramunga Arr 44.73 75 P **P 22 02 45.6 -0.5**
7.7nm,0.9s,mb4.5,baz=229,slow=7.9,SNR=16
WRAB Tennant Creek 44.75 75 *e*P **P 22 02 46.6 +0.4**
14nm,0.9s,mb4.8
VNDA Vanda 45.84 163 P **P 22 02 53.4 -0.7**
2.5nm,0.8s,mb4.2,baz=304,slow=6.3,SNR=4.8
VNDA LR LR 22 19 41.8
comp=Z,319nm,20.6s,MS4.2,baz=285,slow=33
QSPA South Pole Qui 48.09 180 *i* P **P 22 03 12.8 +1.0**
31nm,1.1s,mb5.2
CTA Charters Tower 53.37 85 P **P 22 03 53.5 +0.8**
3.9nm,0.6s,mb4.5,baz=234,slow=12,SNR=5.0
LBTB Lobatse 53.62 268 P **P 22 03 54.0 -0.5**
1.5nm,0.7s,mb4.1,baz=179,slow=13,SNR=2.6
MATP Matopo 54.16 274 P **P 22 03 58.8 +0.3**
2.0nm,0.8s,mb4.1,baz=140,slow=11,SNR=2.4
RPZ Rata Peaks 58.30 122 LR LR 22 23 31.7
comp=Z,288nm,18.4s,MS4.4,baz=98,slow=30
CM31 Chiang Mai Arr 61.05 12 P **P 22 04 47.4 +0.2**
1.5nm,0.6s,mb4.3
DMN Daman 69.38 357 *e*P **P 22 05 40.4 -0.4**
27nm,1.2s,mb5.0
JIRN Jiri 69.40 358 *e*P **P 22 05 41.1 +0.2**
29nm,1.5s,mb5.0
KKN Kakani 69.55 357 *e*P **P 22 05 41.7 -0.1**
18nm,1.1s,mb4.9
KOLN Koldanda 69.61 356 *e*P **P 22 05 41.8 -0.4**
28nm,1.4s,mb5.0
GKN Gorkha 69.79 357 *e*P **P 22 05 42.8 -0.5**
14nm,1.1s,mb4.8
LSA Lhasa 71.47 3 *e*P **P 22 05 53.6 +0.2**
9.1nm,1.3s,mb4.5
ENH Enshi 74.64 19 P **P 22 06 12.7 +0.7**
7.2nm,1.0s,mb4.6
GTA Gaotai 81.80 9 *e*P **P 22 06 51.5 +0.5**
GTA AP pP 22 06 58.5 +4.3
GTA XP sP 22 07 03.6 +8.3
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
SONM Songino Array 90.98 12 P **P 22 07 35.6 -0.2**
comp=Z,0.7nm,0.9s,mb4.0,baz=202,slow=6.1,SNR=5.5
INK Inuvik 145.77 26 PKPbc PKPbc 22 14 10.0 +0.8
comp=Z,16nm,1.0s,baz=318,slow=2.5,SNR=39
INK Inuvik 145.77 26 *e*PKPdf PKPdf 22 14 10.1 -1.2
RES Resolute Bay 147.26 1 *e*PKPbc PKPdf 22 14 14.8 +1.1
DLBC Dease Lake 151.16 42 PKPbc PKPdf 22 14 24.8 +4.5
comp=Z,3.1nm,1.0s,baz=276,slow=9.2,SNR=3.1
YKA Yellowknife Ar 155.54 26 PKPbc PKPdf 22 14 34.5 +8.3
comp=Z,0.1nm,0.3s,baz=326,slow=2.2,SNR=4.9
YKA PKPab PKPab 22 14 50.5 -1.0
comp=Z,0.1nm,0.3s,baz=319,slow=4.9,SNR=6.2
YKA Yellowknife Ar 155.54 26 PKPab PKPab 22 14 50.5 -1.0

*NEIC **23** 21:56:27.4, 18.28N×100.17W, h76km, MD3.7(MEX), After MEX.*
MEX 23 21:56:27.7±0.8, 18.27N×100.20W, h71km±30km, MD3.7, 2C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLIG	**Platanillo**	**0.68**	**80**	*i* P	P	21 56 41.4	-1.2
PLIG				*i* S	S	21 56 51.4	-2.2
PLIG	**Platanillo**	**0.68**	**80**	*i* P	P	21 56 41.4	-1.2
PLIG				*i* S	S	21 56 51.8	-1.8
CAIG	**El Cayaco**	**1.22**	**183**	*i* P	P	21 56 47.5	-1.8
CAIG				*i* S	S	21 57 02.7	-2.7
CAIG	**El Cayaco**	**1.22**	**183**	*i* P	P	21 56 47.5	-1.8
CAIG				*e*S	S	21 57 03.1	-2.4
ACX	**Acapulco**	**1.42**	**169**	*e*P	P	21 56 50.5	-1.7
ACX				*e*S	S	21 57 09.0	-1.3
PPM	**Popocatepetl**	**1.69**	**62**	*e*P	P	21 56 58.8	+3.0
PPM	**Popocatepetl**	**1.69**	**62**	*e*P	P	21 56 56.2	+0.4
PPM				*e*S	S	21 57 12.6	-3.9

*ISK **23** 21:58:59.7, 39.36N×40.86E, h19km, ML3.7*
ISC 23 21:59:00.8±0.6, 39.37N±0.04×40.88E±0.06, h23km±8km, n16, σ0§96/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRT	**Varto**	**0.56**	**115**	*i* PG	**Pb**	**21 59 12.1**	**+0.3**
VRT				*i* SG	**Sb**	**21 59 19.9**	**+0.5**
BINT	**Bingol**	**0.58**	**212**	*i* PG	**Pb**	**21 59 11.2**	**-1.0**
BINT				*i* SG	**Sb**	**21 59 19.8**	**-0.2**
EZM	**Erzurum**	**0.65**	**35**	*i* PG	**Pb**	**21 59 13.1**	**-0.3**
ERZM	**Erzurum**	**0.65**	**35**	*i* P	**Pb**	**21 59 12.9**	**-0.5**
ERZM				*i* S	**Sb**	**21 59 23.1**	**+1.0**
EZC	**Erzincan**	**0.91**	**295**	*i* PN	**Pn**	**21 59 09.9**	**+3.7**
PTK	**Pertek**	**1.25**	**248**	PN	**Pn**	**21 59 22.6**	**-0.5**
BTMT	**Batman**	**1.27**	**158**	PN	**Pn**	**21 59 23.5**	**+0.1**
BEST	**Besiri**	**1.51**	**168**	*i* P	**Pn**	**21 59 29.3**	**+2.5**
GUMT	**Gumushane**	**1.53**	**316**	PN	**Pn**	**21 59 27.3**	**+0.2**
DIY	**Diyarbakir**	**1.56**	**199**	*e*PN	**Pn**	**21 59 27.4**	**-0.1**
ELZG	**Elazig**	**1.71**	**240**	*i* P	**Pn**	**21 59 31.6**	**+1.8**
KARS	**Kars**	**2.11**	**53**	*e*PN	**Pn**	**21 59 35.0**	**-0.4**
BCA	**Borcka**	**2.15**	**15**	*e*PN	**Pn**	**21 59 35.6**	**-0.4**
VANT	**Van**	**2.16**	**114**	*e*PN	**Pn**	**21 59 34.2**	**-2.0**
URFA	**Urfa**	**2.51**	**221**	*e*PN	**Pn**	**21 59 40.4**	**-0.8**
GAZ	**Gaziantep**	**3.62**	**234**	*e*PN	**Pn**	**21 59 57.2**	**+0.2**

*ISK **23** 22:02:58.2, 39.39N×40.83E, h15km, MD3.5*
*CSEM **23** 22:02:58.2±0.1, 39.38N×40.83E, h15km, MD3.5, Error ellipse: s-maj=2.9km s-min=2.0km az=16.0*
ISC 23 22:02:59.1±0.4, 39.42N±0.03×40.86E±0.04, h15km, n24, σ1§09/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRT	**Varto**	**0.59**	**119**	*i* PG	**Pg**	**22 03 11.0**	**-0.2**
VRT				*i* SG	**Sg**	**22 03 19.1**	**-0.2**
EZM	**Erzurum**	**0.62**	**39**	*i* PG	**Pg**	**22 03 11.4**	**-0.2**
ERZM	**Erzurum**	**0.62**	**39**	*i* P	**Pb**	**22 03 11.2**	**+0.2**
ERZM				*i* S	**Sb**	**22 03 20.3**	**+1.1**
BINT	**Bingol**	**0.62**	**208**	*i* PG	**Pg**	**22 03 09.6**	**-2.1**
EZC	**Erzincan**	**0.87**	**292**	*i* PN	**Pn**	**22 03 20.8**	**+4.2**
PTK	**Pertek**	**1.26**	**246**	PN	**Pn**	**22 03 21.4**	**-0.8**
BTMT	**Batman**	**1.32**	**158**	PN	**Pn**	**22 03 23.1**	**0.0**
GUMT	**Gumushane**	**1.48**	**315**	PN	**Pn**	**22 03 25.4**	**0.0**
BEST	**Besiri**	**1.56**	**168**	*i* P	**Pn**	**22 03 27.5**	**+0.9**
BEST				*i* S	**Sn**	**22 03 48.8**	**+2.2**
DIY	**Diyarbakir**	**1.61**	**198**	PN	**Pn**	**22 03 26.3**	**-0.8**
ELZG	**Elazig**	**1.73**	**238**	*i* P	**Pn**	**22 03 30.0**	**+1.0**
ELZG				*i* S	**Sn**	**22 03 53.9**	**+3.1**
KARS	**Kars**	**2.08**	**55**	*e*PN	**Pn**	**22 03 33.8**	**-0.2**
BCA	**Borcka**	**2.10**	**16**	PN	**Pn**	**22 03 34.7**	**+0.5**
VANB	**Van**	**2.13**	**112**	*e*PN	**Pn**	**22 03 34.4**	**-0.3**
TVAN	**Van**	**2.17**	**113**	*i* P	**Pn**	**22 03 38.3**	**+3.0**
TVAN				*i* S	**Sn**	**22 04 09.0**	**+6.9**
MYA	**Malataya**	**2.20**	**241**	*e*PN	**Pn**	**22 03 34.7**	**-0.9**
VANT	**Van**	**2.20**	**116**	*e*PN	**Pn**	**22 03 34.4**	**-1.2**
MALT	**Malatya**	**2.20**	**241**	*e*PN	**Pn**	**22 03 35.0**	**-0.7**
CLDR	**Caldiran**	**2.39**	**96**	*e*PN	**Pn**	**22 03 37.6**	**-0.7**
URFA	**Urfa**	**2.55**	**220**	*e*PN	**Pn**	**22 03 40.2**	**-0.4**
SVST	**Sivas**	**3.04**	**278**	*i* P	**Pn**	**22 03 53.4**	**+5.7**
SVST				*i* S	**Sn**	**22 04 37.3**	**+13**
GNI	**Garni**	**3.08**	**75**	*e*PN	**Pn**	**22 03 47.4**	**-0.7**
TOKT	**Tokat**	**3.44**	**286**	*e*PN	**Pn**	**22 03 53.2**	**-0.1**
MSL	**Mosul**	**3.59**	**150**	*e*Pn	Px	22 03 53.0	
MSL				*e*Sn	**Sn**	**22 04 49.0**	**+11**
MSL				*e*Sb	**Sb**	**22 05 02.0**	**+16**

*ISK **23** 22:04:21.4, 39.36N×40.85E, h14km, ML3.9*
*IDC **23** 22:04:26.5±1.2, 39.59N×40.67E, mb3.6/4, mb1 3.7/8, mb1mx3.6/20, mbtmp3.7/8, ML2.6/4, Error ellipse: s-maj=21.8km s-min=14.5km az=8.0*
*NEIC **23** 22:04:27.9±0.8, 39.61N×40.55E, h10km, Error ellipse: s-maj=14.4km s-min=10.7km az=138.0*
ISC 23 22:04:22.2±0.3, 39.37N±0.03×40.86E±0.04, h10km, n36, σ1§34/41, mb3.4/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRT	**Varto**	**0.57**	**115**	*i* PG	**Pg**	**22 04 33.4**	**-0.4**

BINT Bingol 0.57 211 *i* PG **Pg 22 04 32.7 -1.1**
EZM Erzurum 0.66 36 PG **Pg 22 04 34.3 -1.2**
ERZM Erzurum 0.66 36 *i* P **Pb 22 04 34.0 -1.4**
ERZM *i* S **Sb 22 04 45.8 +1.5**
EZC Erzincan 0.89 295 PN **Pn 22 04 44.8 +4.1**
PTK Pertek 1.24 248 PN **Pn 22 04 44.4 -1.2**
PTK SN **Sn 22 05 01.5 -1.0**
BTMT Batman 1.28 157 PN **Pn 22 04 45.8 -0.3**
BEST Besiri 1.51 168 *i* P **Pn 22 04 50.4 +0.8**
BEST *i* S **Sb 22 05 12.5 +3.4**
GUMT Gumushane 1.52 316 PN **Pn 22 04 49.5 -0.1**
DIY Diyarbakir 1.56 199 PN **Pn 22 04 49.1 -1.1**
ELZG Elazig 1.71 240 *i* P **Pn 22 04 52.7 +0.4**
ELZG *i* S **Sn 22 05 14.7 +0.4**
KARS Kars 2.11 53 *e*PN **Pn 22 04 57.1 -1.0**
VANB Van 2.12 111 *e*PN **Pn 22 04 58.0 -0.2**
BCA Borcka 2.15 15 *e*PN **Pn 22 04 58.5 -0.2**
TVAN Van 2.15 112 *i* P **Pn 22 05 01.8 +3.1**
TVAN *i* S **Sn 22 05 33.7 +7.9**
MYA Malataya 2.17 242 *e*PN **Pn 22 04 58.0 -1.0**
MALT Malatya 2.18 242 *e*PN **Pn 22 04 58.0 -1.0**
MALT Malatya 2.18 242 *e*P **Pn 22 05 00.8 +1.7**
VANT Van 2.18 114 *e*PN **Pn 22 04 57.1 -2.0**
CLDR Caldiran 2.38 95 *e*PN **Pn 22 05 00.4 -1.6**
URFA Urfa 2.51 220 *e*PN **Pn 22 05 02.8 -1.0**
GNI Garni 3.09 74 *e*PN **Pn 22 05 11.3 -0.8**
GNI Garni 3.09 74 Pn **Pn 22 05 19.9 +7.8**
13nm,0.3s,baz=274,slow=3.2,SNR=12
GAZ Gaziantep 3.62 234 *e*PN **Pn 22 05 18.8 -0.8**
TBLG Delisi 3.78 50 P **Pn 22 05 22.2 +0.4**
KIV Kislovodsk 4.78 16 *e*P **Pn 22 05 37.2 +1.2**
BRTR Keskin Array B 5.59 276 Pn **Pn 22 05 48.0 +0.4**
0.2nm,0.3s,baz=108,slow=14,SNR=3.1
HWQ Hawqa 6.43 219 *e*PN **Pn 22 06 01.2 +1.8**
BHL Bhannes 6.88 219 *e*PN **Pn 22 06 08.1 +2.4**
ASF Jabal al Asfar 7.87 205 Pn **Pn 22 06 25.8 +6.2**
0.3nm,0.3s,baz=245,slow=21,SNR=3.6
ASF Lg 22 08 38.8
0.5nm,0.3s,baz=264,slow=22,SNR=4.6
AKASG Malin Array Be 13.98 328 Pn **P 22 07 41.0 -1.5**
0.2nm,0.3s,baz=133,slow=14,SNR=6.3
GERES GERESS Array B 21.58 305 P **P 22 09 14.9 +0.9**
0.3nm,0.4s,mb3.0,baz=132,slow=12,SNR=4.6
FINES FINESS Array B 23.91 342 P **P 22 09 39.7 +3.0**
4.6nm,0.7s,mb4.0,baz=135,slow=11,SNR=14
FINES FINESS Array B 23.91 342 P **P 22 09 39.7 +3.0**
BVAR Borovoye Array 24.37 46 P **P 22 09 44.9 +3.6**
0.6nm,0.7s,mb3.1,baz=225,slow=10,SNR=3.9
HFS Hagfors 26.86 330 P **P 22 10 06.3 +1.8**
1.5nm,0.7s,mb3.6,baz=142,slow=16,SNR=3.5

IDC 23 22:19:11.8±1.5, 2.10N×128.84E, mb3.7/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=144.2km s-min=23.4km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.55**	**166**	P	P	22 24 14.0	-1.2
	2.1nm,0.7s,baz=346,slow=11,SNR=8.3						
ASAR	**Alice Springs**	**26.08**	**169**	P	P	22 24 47.4	-1.7
	1.9nm,0.9s,baz=4.2,slow=6.5,SNR=9.4						
STKA	**Stephens Creek**	**35.89**	**161**	P	P	22 26 13.3	-2.4
	2.1nm,0.5s,baz=333,slow=9.6,SNR=6.7						
SONM	**Songino Array**	**49.52**	**340**	P	P	22 28 04.5	-1.7
	0.2nm,0.6s,baz=169,slow=7.3,SNR=3.2						

IDC 23 22:36:28.1±8.8, 29.64S×77.68E, mb3.5/2, mb1 3.7/2, mb1mx3.4/13, mbtmp3.5/2, Error ellipse: s-maj=417.2km s-min=57.1km az=28.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**50.20**	**97**	P	P	22 45 24.9	-3.0
	0.4nm,0.6s,baz=243,slow=6.0,SNR=3.9						
WRA	**Warramunga Arr**	**51.91**	**93**	P	P	22 45 39.6	-1.3
	0.5nm,0.9s,baz=249,slow=7.2,SNR=2.4						
YKA	**Yellowknife Ar**	**146.17**	**10**	PKPbc	PKPbc	22 56 08.8	-0.8
	0.2nm,0.6s,baz=326,slow=3.4,SNR=5.2						

IDC 23 22:39:39.5±53.0, 19.21S×177.06W, mb4.0/3, mb1 4.2/3, mb1mx3.9/12, mbtmp4.0/3, Error ellipse: s-maj=983.0km s-min=164.0km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.15**	**243**	P	P	22 47 09.4	-1.3
	2.0nm,1.1s,baz=54,slow=8.7,SNR=3.2						
WRA	**Warramunga Arr**	**45.67**	**261**	P	P	22 48 02.3	-1.7
	0.6nm,0.3s,baz=97,slow=7.5,SNR=24						
ASAR	**Alice Springs**	**45.68**	**255**	P	P	22 48 02.0	-2.1
	2.7nm,0.7s,baz=98,slow=7.5,SNR=26						

IDC 23 22:49:26.4±5.1, 9.62N×87.03E, mb3.4/4, mb1 3.7/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=174.0km s-min=26.8km az=69.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**41.46**	**20**	P	P	22 57 16.1	-0.5
	0.2nm,0.6s,baz=210,slow=8.1,SNR=3.2						
ZAL	**Zalesovo**	**44.24**	**358**	P	P	22 57 36.1	-3.0
	0.5nm,0.4s,baz=144,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**55.05**	**122**	P	P	22 58 59.2	-3.5
	0.5nm,0.4s,baz=307,slow=8.2,SNR=6.6						
ASAR	**Alice Springs**	**56.50**	**127**	P	P	22 59 11.7	-1.4
	0.3nm,0.8s,baz=309,slow=5.8,SNR=2.7						

*BJI **23** 22:58:34.5, 42.73S×87.78E, h20km, mB5.3, mb4.6, Ms4.9, Msz4.6*
*IDC **23** 22:58:37.3±0.7, 42.12S×88.13E, mb4.3/10, mb1 4.4/10, mb1mx4.3/14, mbtmp4.2/10, MS4.3/7, Ms1 4.3/7, ms1mx4.2/12, Error ellipse: s-maj=33.4km s-min=18.0km az=179.0*
*NEIC **23** 22:58:38.5±0.3, 42.13S×88.13E, h10km, mb4.7/3, Error ellipse: s-maj=11.3km s-min=7.4km az=174.0*
ISC 23 22:58:37.0±0.5, 42.1S±0.1×88.1E±0.1, h10km, n33, σ0§60/27, mb4.4/16, MS4.6/6, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NWAO	**Narrogin (SRO)**	**24.74**	**78**	LR	LR	23 11 37.3	
	comp=Z,8.4nm,19.9s,baz=31,slow=32						
NWAO	**Narrogin (SRO)**	**24.74**	**78**	P	**P**	**23 04 00.2**	**+0.4**
MAW	**Mawson**	**28.94**	**200**	LR	LR	23 13 58.2	
	comp=Z,1μm,18.2s,MS4.6,baz=31,slow=32						
ASPA	**Alice Springs**	**42.05**	**79**	*e*P	**P**	**23 06 30.6**	**+0.1**
ASAR	**Alice Springs**	**42.05**	**79**	P	**P**	**23 06 30.5**	**0.0**
	6.0nm,1.0s,mb4.2,baz=224,slow=7.2,SNR=27						
ASAR				PcP	PcP	23 08 25.9	-0.2
	3.2nm,0.7s,baz=224,slow=2.5,SNR=17						
ASAR				LR	LR	23 21 49.6	
	comp=Z,1μm,20.8s,MS4.7,baz=237,slow=33						
STKA	**Stephens Creek**	**43.28**	**94**	P	**P**	**23 06 40.7**	**+0.3**
	2.9nm,0.8s,mb4.0,baz=254,slow=2.1,SNR=3.3						
STKA				PcP	PcP	23 08 29.5	-0.5
	1.9nm,0.7s,baz=339,slow=20,SNR=3.1						
STKA				LR	LR	23 22 42.5	
	comp=Z,703nm,18.4s,MS4.6,baz=208,slow=33						
STKA	**Stephens Creek**	**43.28**	**94**	P	**P**	**23 06 40.7**	**+0.3**
STKA				PcP	PcP	23 08 29.5	-0.5
STKA				LR	LR	23 22 42.5	
WRA	**Warramunga Arr**	**44.69**	**75**	P	**P**	**23 06 52.0**	**0.0**
	6.5nm,1.0s,mb4.4,baz=229,slow=7.3,SNR=19						
WRA				PcP	PcP	23 08 34.4	-0.5

CTA	**Charters Tower**	**53.31**	**84**	P		**P**	**23 07 58.2**	**-0.3**
	4.6nm,0.7s,mb4.5,baz=244,slow=9.6,SNR=4.2							
CTAO	**Charters Tower**	**53.31**	**84**	*eP*		**P**	**23 07 58.3**	**-0.2**
LBTB	**Lobatse**	**53.68**	**268**	P		**P**	**23 07 59.9**	**-1.3**
	2.0nm,0.7s,mb4.1,baz=101,slow=9.9,SNR=3.9							
MATP	**Matopo**	**54.23**	**274**	P		**P**	**23 08 06.0**	**+0.8**
	1.4nm,0.7s,mb4.0,baz=131,slow=11,SNR=3.7							
KMBO	**Kilima Mbogo**	**61.16**	**298**	P		**P**	**23 08 54.0**	**-0.3**
	0.5nm,0.3s,mb4.2,baz=82,slow=22,SNR=4.5							
KMBO				LR		LR	23 28 31.5	
	comp=Z,204nm,18.8s,MS4.3,baz=96,slow=29							
KMBO	**Kilima Mbogo**	**61.16**	**298**	P		**P**	**23 08 54.0**	**-0.3**
KMBO				LR		LR	23 28 31.5	
LSA	**Lhasa**	**71.53**	**3**	*eP*		**P**	**23 10 00.8**	**+0.8**
LSA	**Lhasa**	**71.53**	**3**	*eP*		**P**	**23 09 59.8**	**-0.3**
	7.3nm,0.9s,mb4.6							
DDI	**Dehra Dun**	**72.69**	**351**	*e*		**P**	**23 10 06.3**	**-0.6**
ENH	**Enshi**	**74.69**	**19**	P		**P**	**23 10 18.1**	**-0.4**
XAN	**Xi'an**	**78.16**	**18**	P		**P**	**23 10 37.6**	**-0.4**
XAN				AMB		AMB		
	comp=Z,8.0nm,1.5s,mb4.4							
GTA	**Gaotai**	**81.85**	**9**	*eP*		**P**	**23 10 57.8**	**+0.2**
GTA				AP		pP	23 11 02.3	+1.5
GTA				XP		sP	23 11 05.0	+3.2
GTA				AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.5							
WMQ	**Urumqi**	**85.57**	**360**	P		**P**	**23 11 17.5**	**+1.2**
WMQ				AMB	AMB			
	comp=Z,14nm,1.2s,mb5.1							
SONM	**Songino Array**	**91.03**	**12**	P		**P**	**23 11 42.7**	**+0.4**
	comp=Z,1.0nm,0.9s,mb4.1,baz=198,slow=4.6,SNR=6.4							
PLCA	**Paso Flores**	**95.29**	**196**	P		**P**	**23 12 03.2**	**+1.2**
	comp=Z,0.8nm,0.4s,mb4.5,baz=122,slow=8.3,SNR=3.6							
DBIC	**Dimbokro**	**96.64**	**273**	LR		LR	23 48 46.3	
	comp=Z,267nm,21.9s,MS4.7,baz=174,slow=31							
DAWY	**Dawson**	**145.20**	**35**	*e*PKPdf		PKPdf	23 18 13.9	-2.8
INK	**Inuvik**	**145.80**	**26**	*e*PKPdf		PKPdf	23 18 16.4	-1.3
RES	**Resolute Bay**	**147.32**	**1**	*e*PKPbc		PKPdf	23 18 20.8	+0.8

MAN 23 23:12:17.2, 9.79N×124.49E, h28km, mb4.3, ML3.1, MS2.9, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.50**	**46**	*e*P	Pb	23 12 27.4	-0.1
MSLP				*e*S	Sb	23 12 37.5	+2.9
TBP	**Tagbilaran**	**0.63**	**262**	⇓*i*P	Pb	23 12 30.4	+0.7
TBP				*i* S	Sb	23 12 40.4	+2.2
LLP	**Lapu-Lapu**	**0.74**	**316**	⇓*i*P	Pb	23 12 31.9	+0.4
LLP				*i* S	Sb	23 12 43.6	+2.3
SCPH	**Surigao**	**0.98**	**90**	⇓*e*P	Pn	23 12 33.9	-1.4
SNPH	**Sibulan**	**1.32**	**251**	*e*P	Pn	23 12 38.5	-1.6
CGP	**Cagayan de Oro**	**1.34**	**171**	⇑*i*P	Pn	23 12 39.7	-0.7
CGP				*e*S	Sn	23 12 56.8	+0.5
BUTP	**Butuan**	**1.38**	**126**	*e*P	Pn	23 12 48.6	+7.7
DCPH	**Dipolog City**	**1.64**	**223**	⇓*e*P	Pn	23 12 45.1	+0.4
DCPH				*e*S	Sn	23 13 04.5	-0.5
BUKP	**Musuan**	**1.98**	**163**	*e*P	Pn	23 12 50.2	+0.8
BUKP				*e*S	Sn	23 13 16.4	+2.9
BESP	**Borongan**	**2.03**	**27**	*e*P	Pn	23 12 55.3	+5.0

*IDC **23** 23:12:35.8±1.9, 39.53N×20.57E, mb3.6/5, mb1 3.8/10, mb1mx3.6/23, mbtmp3.6/10, ML3.6/5, MS4.2/1, Ms1 4.2/1, ms1mx2.9/24, Error ellipse: s-maj=35.6km s-min=22.1km az=42.0*
*THE **23** 23:12:35.4, 39.37N×20.17E, h2km, ML3.8*
*ATH **23** 23:12:36.6, 39.45N×20.46E, h5km±4km, MD3.8/13*
*MOS **23** 23:12:36.6±1.1, 39.46N×20.38E, h10km, mb3.8/5, Error ellipse: s-maj=6.8km s-min=4.5km az=94.6*
*NEIC **23** 23:12:36.6, 39.46N×20.47E, h5km, MD3.8(ATH), MD3.3(PDG), After ATH.*
*PDG **23** 23:12:37.6±0.3, 39.52N×20.35E, h4km±1km*
*CSEM **23** 23:12:37.7±0.1, 39.49N×20.44E, h2km±1km, ML3.8, Error ellipse: s-maj=2.0km s-min=1.5km az=16.0*
*SOF **23** 23:12:44.4, 39.78N×21.11E, h2km, MD3.3*

ISC 23 23:12:37.2±0.2, 39.44N±0.02×20.36E±0.02, h10km, n125, σ1℘31/160, mb3.6/5, MS4.3/1, 17C-4D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.09**	**348**	*e*Pg	**Pg**	**23 12 39.6**	**-0.2**
IGT				*e*Sg	**Sg**	**23 12 42.6**	**+1.1**
JAN	**Janina**	**0.44**	**60**	*e*PG	**Pg**	**23 12 43.6**	**-2.5**
KEK	**Kerkira**	**0.51**	**302**	*e*PB	**Pb**	**23 12 48.0**	**+0.2**
SRN	**Sarande**	**0.52**	**328**	*i* Pg	**Pg**	**23 12 47.6**	**-0.1**
SRN				*i* Sg	**Sg**	**23 12 59.4**	**+4.7**
LSK	**Leskovik**	**0.73**	**15**	*i* Pg	**Pg**	**23 12 51.0**	**-0.9**
LSK				*i* Sg	**Sg**	**23 13 05.1**	**+3.3**
LSK	**Leskovik**	**0.73**	**15**	*e*Pg	**Pg**	**23 12 51.0**	**-0.9**
LSK				*i* Sg	**Sg**	**23 13 05.1**	**+3.3**
TPE	**Tepelena**	**0.89**	**343**	*i* Pg	**Pg**	**23 12 55.5**	**+0.3**
TPE				*i* Sg	**Sg**	**23 13 13.6**	**+6.5**
KBN	**Korca**	**1.23**	**15**	*i* Pg	**Pg**	**23 12 58.6**	**-3.2**
KBN				*i* Sg	**Sg**	**23 13 16.6**	**-1.5**
EVR	**Evrytania**	**1.24**	**114**	*e*PN	**Pn**	**23 12 58.5**	**-2.2**
EVR				*e*SB	**Sb**	**23 13 15.0**	**-1.3**
VLS	**Valsamata**	**1.27**	**172**	*e*PG	**Pg**	**23 13 00.4**	**-2.4**
VLS				*e*SB	**Sb**	**23 13 20.1**	**+2.9**
VLS	**Valsamata**	**1.27**	**172**	*e*Pg	**Pg**	**23 13 00.4**	**-2.4**
VLS				*e*Sb	**Sb**	**23 13 20.3**	**+3.1**
KZN	**Kozani**	**1.39**	**51**	*e*PB	**Pb**	**23 13 01.9**	**-0.9**
KZN				*e*SB	**Sb**	**23 13 21.0**	**+0.5**
FNA	**Florina**	**1.55**	**30**	*e*Pb	**Pb**	**23 13 05.1**	**-0.5**
FNA				*e*Sb	**Sb**	**23 13 28.3**	**+3.1**
AGG	**Agios Georgios**	**1.59**	**105**	*e*Pb	**Pb**	**23 13 05.5**	**-0.7**
AGG				*e*Sb	**Sb**	**23 13 29.4**	**+3.1**
RLS	**Riolos of Patr**	**1.63**	**148**	*e*PB	**Pb**	**23 13 06.9**	**-0.1**
OHR	**Ohrid**	**1.70**	**11**	⇓*i*Pn	**Pn**	**23 13 08.7**	**+1.5**
OHR				*i* Sn	**Sn**	**23 13 34.8**	**+5.6**
LIT	**Litokhoron**	**1.77**	**67**	*e*Pb	**Pb**	**23 13 08.9**	**-0.4**
LIT				*e*Sb	**Sb**	**23 13 34.2**	**+2.7**
TIR	**Tirane**	**1.94**	**349**	*e*Pn	**Pn**	**23 13 15.0**	**+4.3**
TIR				*i* Sn	**Sn**	**23 13 43.0**	**+7.7**
GRG	**Griva**	**2.18**	**45**	*e*Pn	**Pn**	**23 13 14.6**	**+0.5**
LKR	**Lokris**	**2.20**	**110**	*e*PG	**Pg**	**23 13 16.2**	**-5.0**
NEO	**Neokhori**	**2.23**	**93**	*e*Pb	**Pb**	**23 13 14.2**	**-2.9**
NEO	**Neokhori**	**2.23**	**93**	*e*PN	**Pn**	**23 13 16.0**	**+1.3**
THE	**Thessaloniki**	**2.33**	**58**	*e*Pn	**Pn**	**23 13 16.6**	**+0.4**
VAY	**Valandovo**	**2.53**	**41**	*i* Pn	**Pn**	**23 13 20.1**	**+1.1**
VAY				*i*		23 13 23.9	
PLG	**Polygyros**	**2.55**	**68**	*e*PN	**Pn**	**23 13 19.9**	**+0.5**
PLG	**Polygyros**	**2.55**	**68**	*e*P	**Pn**	**23 13 19.9**	**-0.5**
ITM	**Ithomi**	**2.57**	**151**	*e*PN	**Pn**	**23 13 20.7**	**+1.0**
PAIG	**Paliouri**	**2.61**	**78**	*e*Pn	**Pn**	**23 13 19.8**	**-0.5**
PE1	**Pezze di Greco**	**2.63**	**302**	*e*Pn	**Pn**	**23 13 20.7**	**+0.2**
ULC	**Ulcinj**	**2.66**	**342**	⇑*i*Pn	**Pn**	**23 13 21.1**	**+0.2**
ULC				*e*Sn	**Sn**	**23 13 55.5**	**+2.0**
SKO	**Skopje**	**2.66**	**18**	*i* Pn	**Pn**	**23 13 22.0**	**+1.1**
SKO				*i*		23 13 28.1	
SKO				*i*		23 13 36.8	
SOH	**Sokhos**	**2.68**	**58**	*e*Pn	**Pn**	**23 13 21.7**	**+0.5**
TIP	**Timpagrande**	**2.81**	**266**	*e*Pn	**Pn**	**23 13 23.0**	**0.0**
TIP	**Timpagrande**	**2.81**	**266**	*e*Pn	**Pn**	**23 13 23.0**	**0.0**
NSAL	**Nisos Salamina**	**2.87**	**121**	*e*PN	**Pn**	**23 13 26.0**	**+2.0**
OUR	**Ouranopolis**	**2.93**	**71**	*e*Pn	**Pn**	**23 13 24.0**	**-0.7**
NAIG	**Nisos Aigina**	**2.97**	**123**	*e*PN	**Pn**	**23 13 27.5**	**+2.1**
SRS	**Serrai**	**2.99**	**55**	*e*Pn	**Pn**	**23 13 25.8**	**+0.2**
ATH	**Athens Observa**	**3.01**	**118**	*e*PN	**Pn**	**23 13 27.5**	**+1.6**
BUM	**Brajici-Budva**	**3.06**	**339**	*e*Pn	**Pn**	**23 13 26.4**	**-0.3**
BUM				*e*Sn	**Sn**	**23 14 05.0**	**+1.3**
PTL	**Penteli**	**3.07**	**116**	*e*PN	**Pn**	**23 13 28.5**	**+1.7**
ORI	**Oriolo Calabro**	**3.08**	**283**	*e*Pn	**Pn**	**23 13 27.7**	**+0.8**
TTG	**Podgorica**	**3.10**	**345**	⇑*i*Pn	**Pn**	**23 13 27.1**	**0.0**
TTG				*e*Sn	**Sn**	**23 14 05.9**	**+1.2**
GRI	**Girifalco**	**3.12**	**260**	*e*Pn	**Pn**	**23 13 28.6**	**+1.0**
SG1	**Sgolgore (BA)**	**3.15**	**298**	*e*Pn	**Pn**	**23 13 27.5**	**-0.4**
PVY	**Plav**	**3.16**	**355**	⇑*i*Pn	**Pn**	**23 13 28.4**	**+0.3**
PVY				*e*Sn	**Sn**	**23 14 07.5**	**+1.2**
KKB	**Krupnik**	**3.19**	**40**	*i* P	**Pn**	**23 13 29.0**	**+0.5**
NVR	**Nevrokopi**	**3.29**	**53**	*e*PN	**Pn**	**23 13 30.9**	**+1.1**
HCY	**Herceg Novi**	**3.32**	**335**	⇑*i*Pn	**Pn**	**23 13 29.6**	**-0.6**
HCY				*e*Sn	**Sn**	**23 14 11.2**	**+1.0**
MMB	**Musomiste**	**3.35**	**49**	*i* P	**Pn**	**23 13 30.0**	**-0.7**
IVA	**Berane**	**3.44**	**354**	*e*Pn	**Pn**	**23 13 32.6**	**+0.5**
IVA				*e*Sn	**Sn**	**23 14 14.6**	**+1.1**
NKY	**Niksic**	**3.52**	**343**	⇑*i*Pn	**Pn**	**23 13 32.8**	**-0.4**
NKY				*e*Sn	**Sn**	**23 14 16.2**	**+0.8**
CDT	**Castel del Mon**	**3.53**	**299**	*e*Pn	**Pn**	**23 13 33.8**	**+0.5**
TREB	**Trebinje**	**3.61**	**336**	Pn	**Pn**	**23 13 33.9**	**-0.5**
TREB				Sn	**Sn**	**23 14 17.9**	**+0.4**
SOI	**Samo**	**3.63**	**249**	*e*Pn	**Pn**	**23 13 33.9**	**-0.9**
LOS	**Limnos**	**3.68**	**81**	*e*Pn	**Pn**	**23 13 34.5**	**-1.0**
BRY	**Bratogost**	**3.72**	**339**	⇑*i*Pn	**Pn**	**23 13 36.2**	**+0.2**
BRY				*e*Sn	**Sn**	**23 14 21.0**	**+0.7**
SLCN	**Sala Consilina**	**3.75**	**286**	*e*Pn	**Pn**	**23 13 37.9**	**+1.4**
SLCN	**Sala Consilina**	**3.75**	**286**	*e*Pn	**Pn**	**23 13 37.9**	**+1.4**
MGR	**Morigerati**	**3.77**	**282**	*e*Pn	**Pn**	**23 13 37.9**	**+1.2**
MGR	**Morigerati**	**3.77**	**282**	*e*Pn	**Pn**	**23 13 37.9**	**+1.2**
KYTH	**Kithira**	**3.80**	**145**	*e*PN	**Pn**	**23 13 39.0**	**+1.8**
VTS	**Vitosha**	**3.81**	**34**	⇑P	**Pn**	**23 13 37.9**	**+0.5**
VTS	**Vitosha**	**3.81**	**34**	*i* P	**Pn**	**23 13 38.0**	**+0.6**
VTS	**Vitosha**	**3.81**	**34**	⇑P	**Pn**	**23 13 37.8**	**+0.4**
UPM	**Unac-Piva**	**3.91**	**344**	⇑*i*Pn	**Pn**	**23 13 38.8**	**0.0**
UPM				*e*Sn	**Sn**	**23 14 25.7**	**+0.4**
MTTG	**Motta San Giov**	**3.92**	**250**	*e*Pn	**Pn**	**23 13 37.8**	**-1.1**
PLE	**Pljevlja**	**3.95**	**350**	*e*Pn	**Pn**	**23 13 39.1**	**-0.2**
PLE				*e*Sn	**Sn**	**23 14 26.7**	**+0.4**
MRLC	**Muro Lucano**	**3.96**	**291**	*e*Pn	**Pn**	**23 13 40.2**	**+0.8**
MRLC	**Muro Lucano**	**3.96**	**291**	*e*Pn	**Pn**	**23 13 40.2**	**+0.8**
STON	**Ston**	**3.97**	**331**	*i* Pn	**Pn**	**23 13 38.4**	**-1.2**
STON				*i* Sn	**Sn**	**23 14 25.4**	**-1.3**
STON	**Ston**	**3.97**	**331**	*i* Pn	**Pn**	**23 13 38.3**	**-1.3**
STON				*i* Sn	**Sn**	**23 14 25.4**	**-1.3**
RZN	**Rozhen**	**4.01**	**55**	*i* P	**Pn**	**23 13 40.0**	**-0.1**
SGO	**Sicignano**	**4.04**	**288**	*e*Pn	**Pn**	**23 13 41.8**	**+1.3**
FGMS	**Monte Sant'Ang**	**4.05**	**305**	*e*Pn	**Pn**	**23 13 41.1**	**+0.5**
FGMS	**Monte Sant'Ang**	**4.05**	**305**	*e*Pn	**Pn**	**23 13 41.1**	**+0.4**
MS1	**Monte Sant'Ang**	**4.05**	**305**	*e*Pn	**Pn**	**23 13 40.6**	**-0.1**
FG5	**Orsara di Pugl**	**4.30**	**297**	*e*P	**Pn**	**23 13 46.1**	**+1.8**
CSSN	**Cassano Irpino**	**4.33**	**291**	*e*Pn	**Pn**	**23 13 46.2**	**+1.6**
CSSN	**Cassano Irpino**	**4.33**	**291**	*e*Pn	**Pn**	**23 13 46.2**	**+1.6**
BBLS	**Bajina Basta -**	**4.48**	**351**	*e*P/Pn		23 13 48.8	
VAE	**Valguarnera**	**5.06**	**249**	Pn	**Pn**	**23 14 00.9**	**+5.9**
	0.5nm,0.3s,baz=248,slow=16,SNR=3.0							
VAE				Sn	**Sn**	**23 14 59.9**	**+5.6**
	1.6nm,0.3s,baz=357,slow=8.3,SNR=7.3							
CII	**Carovilli**	**5.14**	**298**	*e*Pn	**Pn**	**23 13 56.9**	**+0.7**
CII	**Carovilli**	**5.14**	**298**	*e*Pn	**Pn**	**23 13 56.9**	**+0.7**
SDI	**San Donato**	**5.48**	**297**	*e*P	**Pn**	**23 14 02.0**	**+1.1**
IDI	**Anoyia**	**5.50**	**138**	Pn	**Pn**	**23 13 57.9**	**-3.3**
	0.3nm,0.3s,baz=7.8,slow=17,SNR=4.4							
IDI				Sn	**Sn**	**23 15 00.5**	**-4.7**
	0.6nm,0.3s,baz=59,slow=22,SNR=4.6							
PTQR	**Pietraquaria**	**5.88**	**298**	*e*Pn	**Pn**	**23 14 07.4**	**+0.9**
PTQR	**Pietraquaria**	**5.88**	**298**	*e*Pn	**Pn**	**23 14 07.4**	**+0.8**
AQU	**L'Aquila**	**6.02**	**301**	⇑P	**Pn**	**23 14 09.3**	**+0.7**
NRCA	**Norcia**	**6.43**	**304**	*e*Pn	**Pn**	**23 14 14.1**	**-0.3**
NRCA	**Norcia**	**6.43**	**304**	*e*Pn	**Pn**	**23 14 14.1**	**-0.3**
MNS	**Montasola**	**6.52**	**299**	*e*Pn	**Pn**	**23 14 15.9**	**+0.3**
PKSM	**Moragy**	**6.88**	**350**	⇑P	**Pn**	**23 14 13.2**	**-7.5**
SNX	**Sinaia**	**7.03**	**31**	⇑P	**Pn**	**23 14 22.8**	**0.0**
BOJS	**Bojanci**	**7.14**	**330**	*i* Pn	**Pn**	**23 14 22.0**	**-2.3**
MLR	**Muntele Rosu**	**7.32**	**33**	⇓P	**Pn**	**23 14 27.7**	**+0.8**
MLR	**Muntele Rosu**	**7.32**	**33**	Pn	**Pn**	**23 14 28.4**	**+1.5**
	0.4nm,0.3s,baz=142,slow=3.9,SNR=9.8							
CEY	**Cerknica**	**7.66**	**327**	*i* Pn	**Pn**	**23 14 29.3**	**-2.4**
SFI	**Santa Sofia**	**7.78**	**308**	*e*Pn	**Pn**	**23 14 33.3**	**+0.1**
VRI	**Vrincioaia**	**7.95**	**34**	⇑P	**Pn**	**23 14 35.2**	**-0.5**
VOY	**Vojsko**	**8.12**	**326**	*e*Pn	**P**	**23 14 35.3**	**-2.8**
VOY				*e*Sn	**Sn**	**23 16 05.8**	**-5.1**
OBKA	**Obir**	**8.25**	**331**	⇑*i*PN	**P**	**23 14 36.8**	**-3.0**
OBKA				*i* SN	**Sn**	**23 16 08.5**	**-5.5**
FVI	**Forni Avoltri**	**9.05**	**325**	*e*Pn	**P**	**23 14 48.1**	**-2.8**
KBA	**Koelnbreinsper**	**9.19**	**328**	⇑*i*PN	**P**	**23 14 49.8**	**-3.0**
KBA				*i* SN	**Sn**	**23 16 32.0**	**-5.3**
MOA	**Molln**	**9.49**	**334**	⇓*i*PN	**P**	**23 14 53.2**	**-3.8**
MOA				*i* SN	**Sn**	**23 16 38.8**	**-6.0**
WTTA	**Wattenberg**	**10.07**	**324**	⇑*i*PN	**P**	**23 15 02.4**	**-2.5**
WTTA				*i* SN	**S**	**23 16 55.5**	**-3.5**
SQTA	**Sankt Quirin**	**10.23**	**322**	⇓*i*PN	**P**	**23 15 04.6**	**-2.6**
SQTA				*i* SN	**S**	**23 16 59.1**	**-4.0**
MOTA	**Moosalm**	**10.37**	**323**	⇑*i*PN	**P**	**23 15 06.6**	**-2.5**
MOTA				*i* SN	**S**	**23 17 02.8**	**-3.7**
GERES	**GERESS Array B**	**10.54**	**335**	Pn	**P**	**23 15 09.2**	**-2.2**
	0.2nm,0.3s,baz=158,slow=15,SNR=9.8							
KHC	**Kasperske Hory**	**10.83**	**336**	*e*P	**P**	**23 15 14.0**	**-1.4**
KHC				*e*		23 15 26.0	
KHC	**Kasperske Hory**	**10.83**	**336**	*e*P	**P**	**23 15 14.0**	**-1.4**
KHC				x	x	23 15 26.0	
KIV	**Kislovodsk**	**17.26**	**68**	*e*P	**P**	**23 16 35.2**	**-4.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.3s							
ESDC	**Sonseca Array**	**18.75**	**278**	P	**P**	**23 16 58.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=67,slow=11,SNR=4.3							
HFS	**Hagfors**	**21.13**	**351**	P	**P**	**23 17 20.8**	**-3.5**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.6s							
HFS	**Hagfors**	**21.13**	**351**	P	**P**	**23 17 20.8**	**-3.5**
	comp=Z,2.0nm,0.6s,mb3.6,baz=162,slow=9.4,SNR=5.5							
FINES	**FINESS Array B**	**22.31**	**7**	P	**P**	**23 17 33.6**	**-2.5**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**22.31**	**7**	P	**P**	**23 17 33.6**	**-2.5**
	comp=Z,1.2nm,0.6s,mb3.5,baz=178,slow=9.2,SNR=7.7							
EKA	**Eskdalemuir Ar**	**22.33**	**323**	P	**P**	**23 17 35.3**	**-1.1**
EKA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**22.33**	**323**	P	**P**	**23 17 35.3**	**-1.1**
	comp=Z,1.9nm,0.8s,mb3.6,baz=119,slow=10,SNR=7.0							
NB2	**NORSAR Subarra**	**22.36**	**348**	P	**P**	**23 17 34.3**	**-2.3**
	comp=Z,1.4nm,0.7s,mb3.5,baz=163,slow=11							
NOA	**NORSAR Array B**	**22.36**	**348**	P	**P**	**23 17 34.3**	**-2.3**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA	**NORSAR Array B**	**22.36**	**348**	P	**P**	**23 17 34.3**	**-2.3**
	comp=Z,1.7nm,0.7s,mb3.6,baz=165,slow=10,SNR=6.3							
ZAL	**Zalesovo**	**44.94**	**49**	P	**P**	**23 20 50.9**	**-2.9**
ZAL				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ZAL	**Zalesovo**	**44.94**	**49**	P	**P**	**23 20 50.9**	**-2.9**
	comp=Z,1.0nm,0.5s,mb3.9,baz=207,slow=9.3,SNR=6.0							
SONM	**Songino Array**	**59.76**	**51**	LR	LR	23 52 33.6		
	comp=Z,201nm,18.5s,MS4.3,baz=274,slow=40							

*ISK **23** 23:15:06.4, 39.41N×40.79E, h12km, ML3.6*

ISC 23 23:15:06.9±0.5, 39.43N±0.04×40.81E±0.05, h12km, n22, σ0℘86/28, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.61**	**205**	*i* PG	**Pg**	**23 15 18.0**	**-1.2**
BINT				*i* SG	**Sg**	**23 15 26.9**	**-0.5**
VRT	**Varto**	**0.63**	**118**	*i* PG	**Pg**	**23 15 19.0**	**-0.7**
EZM	**Erzurum**	**0.64**	**42**	*i* PG	**Pg**	**23 15 19.8**	**0.0**
ERZM	**Erzurum**	**0.64**	**42**	*i* P	**Pb**	**23 15 19.7**	**+0.1**
ERZM				*i* S	**Sb**	**23 15 28.4**	**+0.2**
EZC	**Erzincan**	**0.83**	**293**	*i* PN	**Pn**	**23 15 28.7**	**+4.4**
BTMT	**Batman**	**1.34**	**157**	PN	**Pn**	**23 15 31.9**	**+0.3**
GUMT	**Gumushane**	**1.45**	**316**	PN	**Pn**	**23 15 33.5**	**+0.4**
BEST	**Besiri**	**1.58**	**167**	*i* P	**Pn**	**23 15 36.1**	**+1.2**
BEST				*i* S	**Sn**	**23 15 58.0**	**+2.7**
DIY	**Diyarbakir**	**1.60**	**197**	PN	**Pn**	**23 15 35.7**	**+0.5**
ELZG	**Elazig**	**1.70**	**237**	*i* P	**Pn**	**23 15 37.7**	**+1.0**
ELZG				*i* S	**Sn**	**23 16 04.9**	**+6.4**
BCA	**Borcka**	**2.11**	**17**	*e*PN	**Pn**	**23 15 42.2**	**-0.3**
MYA	**Malataya**	**2.16**	**240**	*e*PN	**Pn**	**23 15 42.8**	**-0.5**
MALT	**Malatya**	**2.17**	**240**	*e*PN	**Pn**	**23 15 42.8**	**-0.6**
VANB	**Van**	**2.17**	**112**	*e*PN	**Pn**	**23 15 43.9**	**+0.5**
TVAN	**Van**	**2.21**	**113**	*i* P	**Pn**	**23 15 40.3**	**-3.7**
TVAN				*i* S	**Sn**	**23 16 19.1**	**+7.6**
VANT	**Van**	**2.24**	**115**	*e*PN	**Pn**	**23 15 43.4**	**-1.0**
URFA	**Urfa**	**2.53**	**219**	*e*PN	**Pn**	**23 15 47.3**	**-1.2**
HKR	**Hakkari**	**2.95**	**128**	*e*PN	**Pn**	**23 15 53.6**	**-0.9**
GNI	**Garni**	**3.11**	**75**	*e*PN	**Pn**	**23 15 57.0**	**+0.1**
TOKT	**Tokat**	**3.40**	**287**	*e*PN	**Pn**	**23 16 01.6**	**+0.6**
MSL	**Mosul**	**3.61**	**149**	*e*Pn	Px	23 16 07.0	
MSL				*e*Sn	**Sn**	**23 17 02.0**	**+15**
MSL				*e*Sb	**Sb**	**23 17 14.9**	**+20**
GAZ	**Gaziantep**	**3.62**	**233**	*e*PN	**Pn**	**23 16 04.4**	**+0.4**

IGQ 23 23:21:51.7, 3.72S×80.19W, h22km±19km, mb4.7, 4C-3D, Error ellipse: s-maj=16.5km s-min=4.3km az=97.5, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**1.72**	**332**	P	Pn	23 22 22.4	+1.6
SALI				S	Sn	23 22 38.1	-4.3
IGUA	**Igualata**	**2.71**	**35**	⇑P	Pn	23 22 36.2	+1.2
IGUA				S	Sn	23 23 07.9	+0.5
ARRY	**Arrayan**	**2.80**	**38**	P	Pn	23 22 37.5	+1.2
CUSU	**Cusua**	**2.84**	**37**	P	Pn	23 22 39.1	+2.3
RETU	**Refugio**	**2.85**	**38**	P	Pn	23 22 39.0	+2.0
JUIV	**Juive**	**2.86**	**37**	⇓P	Pn	23 22 39.1	+2.0
ULBA	**Ulba**	**2.88**	**38**	⇑P	Pn	23 22 39.4	+2.0
PISA	**Pisayambo**	**3.20**	**34**	P	Pn	23 22 44.0	+2.0
NAS1	**Nasa**	**3.52**	**29**	P	Pn	23 22 48.2	+1.8
TAMB	**Tambo**	**3.52**	**31**	⇑P	Pn	23 22 48.8	+2.3
VC1	**Cotopaxi 1**	**3.54**	**30**	⇓P	Pn	23 22 48.9	+2.1
JUA2	**San Juan 2**	**3.83**	**24**	P	Pn	23 22 52.5	+1.6
JUA2				S	Sn	23 23 35.9	+0.1
ANTI	**Antisana**	**3.83**	**32**	P	Pn	23 22 52.0	+1.0
TERV	**Terraza Guagua**	**3.87**	**24**	P	Pn	23 22 53.0	+1.6
TERV				S	Sn	23 23 37.2	+0.5
PINO	**Pino**	**3.88**	**24**	⇑P	Pn	23 22 53.0	+1.4
PINO				S	Sn	23 23 36.6	-0.4
YANA	**Yana**	**3.93**	**24**	⇓P	Pn	23 22 53.9	+1.6
JOR1	**San Jorge 1**	**4.01**	**23**	P	Pn	23 22 51.5	-1.9
JOR1				S	Sn	23 23 33.1	-7.3
CAYR	**Refugio Cayamb**	**4.31**	**30**	P	Pn	23 22 59.2	+1.5
CAYA	**Cayambe**	**4.37**	**30**	P	Pn	23 22 59.9	+1.4
COTA	**Cotacachi**	**4.44**	**25**	P	Pn	23 23 00.9	+1.4
COTA				S	Sn	23 23 51.3	+0.1
ECEN	**Cerro Negro**	**5.03**	**26**	P	Pn	23 23 09.0	+1.1
LORE	**San Lorenzo**	**5.17**	**15**	P	Pn	23 23 08.6	-1.2

*ISK **23** 23:23:19.2, 39.42N×40.77E, h5km, MD3.6*
*CSEM **23** 23:23:19.2, 39.42N×40.77E, h5km, MD3.6, After ISK*

ISC 23 23:23:19.6±0.5, 39.45N±0.04×40.76E±0.06, h5km, n16, σ0℘68/20, Turkey

| Code | Station Name |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.55**	**114**	*i* PG	**Pg**	**23 43 54.2**	**+0.8**
VRT	**Varto**	**0.55**	**114**	Pg	**Pg**	**23 43 54.2**	**+0.9**
BINT	**Bingol**	**0.57**	**213**	*i* PG	**Pg**	**23 43 53.4**	**-0.5**
BINT	**Bingol**	**0.57**	**213**	Pg	**Pg**	**23 43 53.4**	**-0.5**
EZM	**Erzurum**	**0.66**	**33**	*i* PG	**Pg**	**23 43 55.6**	**-0.1**
ERZM	**Erzurum**	**0.66**	**34**	*i* P	**Pg**	**23 43 55.0**	**-0.7**
ERZM				*i* S	rx	23 44 33.3	
EZC	**Erzincan**	**0.92**	**296**	*i* PN	**Pn**	**23 44 04.3**	**+2.4**
EZC	**Erzincan**	**0.92**	**296**	Pn	**Pn**	**23 44 04.3**	**+2.5**
BTMT	**Batman**	**1.25**	**158**	*i* PN	**Pn**	**23 44 07.2**	**+0.6**
BEST	**Besiri**	**1.49**	**168**	*i* P	**Pn**	**23 44 11.5**	**+1.4**
BEST				*i* S	rx	23 44 40.9	
GUMT	**Gumushane**	**1.55**	**316**	*i* PN	**Pn**	**23 44 09.9**	**-0.9**
DIY	**Diyarbakir**	**1.55**	**200**	*i* PN	**Pn**	**23 44 12.1**	**+1.2**
DIY	**Diyarbakir**	**1.55**	**200**	Pn	**Pn**	**23 44 12.2**	**+1.3**
ELZG	**Elazig**	**1.72**	**241**	*i* P	**Pn**	**23 44 12.0**	**-1.2**
ELZG				*i* S	rx	23 44 50.7	
VANB	**Van**	**2.09**	**111**	*e*PN	**Pn**	**23 44 20.3**	**+1.7**
VANB	**Van**	**2.09**	**111**	Pn	**Pn**	**23 44 20.4**	**+1.7**
KARS	**Kars**	**2.11**	**53**	PN	**Pn**	**23 44 19.8**	**+0.9**
TVAN	**Van**	**2.13**	**112**	*i* P	**Pn**	**23 44 21.4**	**+2.2**
TVAN				*i* S	rx	23 44 36.3	
VANT	**Van**	**2.15**	**114**	PN	**Pn**	**23 44 20.3**	**+0.8**
VANT	**Van**	**2.15**	**114**	Pn	**Pn**	**23 44 20.4**	**+0.9**
BCA	**Borcka**	**2.16**	**15**	PN	**Pn**	**23 44 20.1**	**+0.5**
MYA	**Malataya**	**2.18**	**243**	PN	**Pn**	**23 44 19.8**	**-0.1**
MALT	**Malatya**	**2.19**	**242**	PN	**Pn**	**23 44 19.1**	**-0.9**
MALT	**Malatya**	**2.19**	**242**	Pn	**Pn**	**23 44 19.1**	**-0.9**
CLDR	**Caldiran**	**2.36**	**94**	*e*PN	**Pn**	**23 44 23.7**	**+1.2**
URFA	**Urfa**	**2.51**	**221**	*e*PN	**Pn**	**23 44 25.0**	**+0.4**
HKR	**Hakkari**	**2.86**	**128**	*e*PN	**Pn**	**23 44 31.7**	**+2.1**
HKR	**Hakkari**	**2.86**	**128**	Pn	**Pn**	**23 44 32.7**	**+3.1**
GNI	**Garni**	**3.07**	**74**	P	**Pn**	**23 44 34.2**	**+1.5**
GNI				pmax	pmax		
	comp=Z,12nm,0.3s						
GNI				pmax	pmax		
	comp=Z,100nm,0.3s						
GNI	**Garni**	**3.07**	**74**	Pn	**Pn**	**23 44 34.2**	**+1.5**
	comp=Z,12nm,0.3s,baz=270,slow=3.9,SNR=15						
GNI				Pg	**Pg**	**23 44 40.0**	**-3.8**
	comp=Z,100nm,0.3s,baz=280,slow=2.6,SNR=56						
GNI	**Garni**	**3.07**	**74**	*e*Pn	**Pn**	**23 44 34.4**	**+1.7**
TOKT	**Tokat**	**3.48**	**287**	*e*PN	**Pn**	**23 44 37.7**	**-0.8**
TOKT	**Tokat**	**3.48**	**287**	Pn	**Pn**	**23 44 37.8**	**-0.7**
MSL	**Mosul**	**3.52**	**150**	*e*Pn	Px	23 44 39.0	
MSL				*e*Pb	**Pb**	**23 44 48.0**	**+3.0**
MSL				*e*Pg	**Pg**	**23 44 58.0**	**+5.2**
MSL				*e*Sn	**Sn**	**23 45 33.0**	**+11**
GAZ	**Gaziantep**	**3.62**	**234**	*e*PN	**Pn**	**23 44 40.5**	**0.0**
GAZ	**Gaziantep**	**3.62**	**234**	Pn	**Pn**	**23 44 40.6**	**+0.1**
TBLG	**Delisi**	**3.77**	**50**	P	**Pn**	**23 44 42.6**	**+0.1**
TI2	**Plekhanov**	**3.78**	**50**α	*i* P	**Pn**	**23 44 42.4**	**-0.3**
TI2	**Plekhanov**	**3.78**	**50**⇑	*i* P	**Pn**	**23 44 42.4**	**-0.3**
MTA	**Mtatsminda**	**3.78**	**51**	P	**Pn**	**23 44 42.7**	**0.0**
MTA				S	**Sb**	**23 45 38.3**	**+2.3**
SOC	**Sochi**	**4.32**	**349**	*i* P	**Pn**	**23 44 48.5**	**-1.8**
SOC				*i*		23 45 37.7	
SOC				pmax	pmax		
	comp=Z,375nm,0.8s						
SOC				pmax	pmax		
	comp=N,500nm,1.0s						
SOC				pmax	pmax		
	comp=E,298nm,0.8s						
SOC				MLR	MLR		
	comp=Z,4μm,14.0s						
SOC				MLR	MLR		
	comp=N,5μm,12.0s						
SOC				MLR	MLR		
	comp=E,11μm,15.0s						
SOC	**Sochi**	**4.32**	**349**	⇓*i* P	**Pn**	**23 44 48.8**	**-1.5**
SOC	**Sochi**	**4.32**	**349**	*i* P	**Pn**	**23 44 48.5**	**-1.8**
	comp=E,500nm,1.0s						
SOC				*i* S	**Sn**	**23 45 37.7**	**-4.0**
	comp=E,5μm,12.0s						
KIV	**Kislovodsk**	**4.79**	**16**	*e*P	**Pn**	**23 44 56.0**	**-1.0**
KIV				*e*		23 45 53.3	
KIV				pmax	pmax		
	comp=Z,15nm,0.9s						
KIV				pmax	pmax		
	comp=Z,137nm,0.9s						
KIV				smax			
	comp=N,224nm,1.3s						
KIV				smax			
	comp=E,479nm,1.5s						
KIV	**Kislovodsk**	**4.79**	**16**	Pn	**Pn**	**23 44 55.8**	**-1.2**
KIV				*e*Pb	**Pb**	**23 45 05.9**	**-0.8**
KIV				*e*Pg	**Pg**	**23 45 13.2**	**-4.8**
KIV	**Kislovodsk**	**4.79**	**16**	Pn	**Pn**	**23 44 55.8**	**-1.2**
KIV				*e*S	**Sn**	**23 45 53.3**	**-0.4**
	comp=E,224nm,1.3s						
BRTR	**Keskin Array B**	**5.62**	**276**	Pn	**Pn**	**23 45 08.1**	**-0.7**
	comp=E,1.0nm,0.3s,baz=105,slow=14,SNR=15						
BRTR				Lg		23 46 43.3	
	baz=102,slow=40,SNR=1.8						
GOF	**Gofitskoye**	**5.92**	**15**	*i* P	**Pn**	**23 45 13.1**	**+0.2**
GOF				pmax	pmax		
	comp=Z,30nm,0.8s						
ANN	**Anapa**	**6.02**	**336**	*e*P	**Pn**	**23 45 17.1**	**+2.7**
ANN				*e*S	**Sn**	**23 46 28.8**	**+4.3**
ANN				pmax	pmax		
	comp=Z,88nm,1.6s						
ANN				MLR	MLR		
	comp=N,3μm,16.0s						
ANN				MLR	MLR		
	comp=E,1μm,16.0s						
ANN				MLR	MLR		
	comp=Z,2μm,16.0s						
MAK	**Makhachkala**	**6.16**	**52**	*e*P	**Pn**	**23 45 22.5**	**+6.2**
MAK				*e*S	**Sn**	**23 46 36.0**	**+8.0**
MAK				pmax	pmax		
	comp=Z,1μm,6.0s						
MAK				smax			
	comp=N,900nm,8.0s						
MAK				smax			
	comp=E,2μm,8.0s						
MAK				MLR	MLR		
	comp=Z,13μm,8.0s						
MAK				MLR	MLR		
	comp=N,6μm,9.0s						
MAK				MLR	MLR		
	comp=E,6μm,9.0s						
ANTO	**Ankara**	**6.27**	**277**	⇓P	**Pn**	**23 45 22.1**	**+4.1**
HWQ	**Hawqa**	**6.43**	**220**	*e*PN	**Pn**	**23 45 19.4**	**-0.8**
HWQ	**Hawqa**	**6.43**	**220**	P	**Pn**	**23 45 19.1**	**-1.1**
BHD	**Baghdad**	**6.69**	**154**	*e*Pn	**Pn**	**23 45 15.0**	**-8.9**
BHD				*i* Pg	**Pg**	**23 45 44.0**	**-12**
BHD				*i* Sn	**Sn**	**23 46 39.0**	**-2.5**
BHD				*i* Sb	**Sb**	**23 47 04.0**	**+3.5**
BHD				*i* Sg	**Sg**	**23 47 22.0**	**-3.4**
BHL	**Bhannes**	**6.88**	**219**	P	**Pn**	**23 45 25.3**	**-1.2**
SIM	**Simferopol'**	**7.52**	**320**	P	**Pn**	**23 45 36.0**	**+0.5**
SIM				S	**Sn**	**23 47 06.0**	**+3.9**
SIM				pmax	pmax		
	comp=Z,25nm,0.8s						
ASF	**Jabal al Asfar**	**7.87**	**206**	Pn	**Pn**	**23 45 40.2**	**-0.2**
	comp=Z,2.0nm,0.3s,baz=272,slow=3.1,SNR=11						
ASF				Lg		23 47 57.7	
	comp=Z,2.7nm,0.3s,baz=268,slow=21,SNR=4.1						
ASF				LR	LR	23 48 58.7	
	comp=Z,2μm,19.1s,baz=162,slow=40						
TLCR		**10.67**	**307**	⇑P	**P**	**23 46 19.8**	**+0.7**
EIL	**Elat**	**10.83**	**209**	Pn	**P**	**23 46 24.3**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=18,slow=13,SNR=4.3						
EIL				Lg		23 49 30.9	
	comp=Z,0.3nm,0.3s,baz=258,slow=38,SNR=2.5						
EIL				LR	LR	23 51 07.4	
	comp=Z,1μm,18.3s,baz=34,slow=41						
EIL	**Elat**	**10.83**	**209**	P	**P**	**23 46 19.6**	**-1.7**
	comp=Z,36nm,0.9s						
EIL				Pn	**P**	**23 46 24.3**	**+3.0**
EIL				Lg		23 49 30.9	
EIL				LR	LR	23 51 07.4	
HARR	**Harsova**	**11.01**	**303**	⇓P	**P**	**23 46 26.8**	**+3.1**
CFR	**Carcaliu**	**11.09**	**306**	⇓P	**P**	**23 46 24.6**	**-0.2**
KIS	**Kishinev**	**11.65**	**315**	*e*P	**P**	**23 46 35.0**	**+2.6**
KIS				*e*S	**S**	**23 48 50.0**	**+5.9**
KIS				MLR	MLR		
	comp=N,800nm,13.0s						
KIS				MLR	MLR		
	comp=E,2μm,13.0s						
KIS				MLR	MLR		
	comp=Z,900nm,13.0s						
VRSR	**Storozhevoye**	**11.92**	**355**	*e*P	**P**	**23 46 32.8**	**-3.2**
VRSR				pmax	pmax		
	comp=Z,10.0nm,0.6s						
VRSR				pmax	pmax		
	comp=N,30nm,0.8s						
VRSR				pmax	pmax		
	comp=E,9.0nm,0.9s						
VRSR				MLR	MLR		
	comp=N,520nm,19.0s						
VRSR				MLR	MLR		
	comp=Z,840nm,19.0s						
VRSR				MLR	MLR		
	comp=E,2μm,21.0s						
VRI	**Vrincioaia**	**12.29**	**307**	⇑P	**P**	**23 46 44.9**	**+3.9**
MLR	**Muntele Rosu**	**12.62**	**304**	Pn	**P**	**23 46 45.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=142,slow=5.3,SNR=11						
MLR				Sn	**S**	**23 49 20.9**	**+13**
	comp=E,0.1nm,0.3s,baz=157,slow=17,SNR=2.7						
MLR				LR	LR	23 52 17.0	
	comp=E,820nm,19.4s,baz=306,slow=41						
MLR	**Muntele Rosu**	**12.62**	**304**	⇓P	**P**	**23 46 45.3**	**-0.1**
MLR	**Muntele Rosu**	**12.62**	**304**	⇓P	**P**	**23 46 45.3**	**-0.2**
IDI	**Anoyia**	**13.37**	**257**	Pn	**P**	**23 46 55.3**	**-0.1**
	comp=E,0.3nm,0.3s,baz=57,slow=7.7,SNR=6.0						
IDI				LR	LR	23 52 05.9	
	comp=E,1μm,21.9s,baz=227,slow=38						
VTS	**Vitosha**	**13.75**	**289**	⇓P	**P**	**23 47 03.0**	**+2.7**
AKASG	**Malin Array Be**	**14.01**	**328**	Pn	**P**	**23 47 00.8**	**-2.9**
	comp=E,1.3nm,0.3s,baz=130,slow=14,SNR=37						
BURAR	**Bucovina Array**	**14.04**	**311**	⇑P	**P**	**23 47 04.4**	**+0.2**
BURAR	**Bucovina Array**	**14.04**	**311**	⇑P	**P**	**23 47 04.4**	**+0.2**
GVD	**Gavdhos**	**14.15**	**257**	*e*P	**P**	**23 47 04.8**	**-0.9**
	comp=E,87nm,1.0s						
SKO	**Skopje**	**14.99**	**286**	*e*P	**P**	**23 47 22.0**	**+5.3**
OHR	**Ohrid**	**15.45**	**283**	⇑*i* P	**P**	**23 47 27.1**	**+4.5**
BZS	**Buzias**	**15.52**	**300**	⇓P	**P**	**23 47 23.7**	**+0.2**
OBN	**Obninsk**	**16.03**	**351**	Pn	**P**	**23 47 28.0**	**-2.1**
	comp=E,686nm,0.5s,SNR=25						
OBN	**Obninsk**	**16.03**	**351**α	*i* P	**P**	**23 47 27.4**	**-2.7**
OBN				*e*S	**S**	**23 50 26.0**	**-2.3**
OBN				pmax	pmax		
	comp=Z,100nm,1.0s						
OBN				pmax	pmax		
	comp=Z,53nm,0.8s						
OBN				MLR	MLR		
	comp=Z,600nm,10.0s						
OBN	**Obninsk**	**16.03**	**351**	*e*P	**P**	**23 47 27.3**	**-2.7**
	comp=Z,56nm,0.5s						
OBN				*e*		23 47 33.0	
DIVS	**Divcibare**	**16.29**	**294**	⇓*i* P	**P**	**23 47 33.6**	**+0.1**
KOLS	**Kolonicke sedl**	**16.40**	**312**	*e*P	**P**	**23 47 34.6**	**-0.2**
KOLS				*e*		23 47 40.8	
KWP	**Kalwaria**	**16.50**	**314**	*e*P	**P**	**23 47 30.9**	**-5.3**
KWP				MLR	MLR		
	comp=Z,900nm,17.1s						
KWP	**Kalwaria**	**16.50**	**314**	*e*P	**P**	**23 47 30.9**	**-5.3**
KWP				*e*pP		23 47 38.2	
KWP	**Kalwaria**	**16.50**	**314**	*e*P	**P**	**23 47 30.9**	**-5.3**
KWP				*e*pP		23 47 38.2	
KWP				MLR	MLR	23 56 28.5	
	comp=Z,900nm,17.1s						
MOS	**Moscow**	**16.54**	**354**α	*i* P	**P**	**23 47 34.3**	**-2.2**
MOS				*e*S	**S**	**23 50 47.0**	**+7.0**
MOS				pmax	pmax		
	comp=Z,71nm,1.0s						
MOS				MLR	MLR		
	comp=Z,1μm,18.4s						
BBLS	**Bajina Basta -**	**16.67**	**293**	*e*P	**P**	**23 47 39.3**	**+0.9**
CRVS	**Cervenica-Dubn**	**16.86**	**311**	*e*P	**P**	**23 47 42.0**	**+1.4**
CRVS	**Cervenica-Dubn**	**16.86**	**311**	*e*sP		23 47 42.0	
PECR	**Pechory**	**17.10**	**6**	*e*P	**P**	**23 47 41.4**	**-2.3**
PECR				MLR	MLR		
	comp=Z,1μm,15.0s						
PSZ	**Piszkesteto**	**17.40**	**306**	*e*P	**P**	**23 47 46.5**	**-1.0**
PSZ				pmax	pmax		
	comp=Z,132nm,1.9s						
PSZ	**Piszkesteto**	**17.40**	**306**	*e*P	**P**	**23 47 46.5**	**-1.0**
	comp=Z,132nm,1.9s						
PSZ				P		23 47 50.3	
PSZ	**Piszkesteto**	**17.40**	**306**⇑	*e*P	**P**	**23 47 47.4**	**-0.1**
MNK	**Minsk**	**17.53**	**334**	*e*P	**P**	**23 47 44.0**	**-5.0**
PKSM	**Moragy**	**17.68**	**300**	⇑P	**P**	**23 47 51.6**	**+0.7**
NIE	**Niedzica**	**17.77**	**311**	*e*P	**P**	**23 47 48.8**	**-3.2**
VYHS	**Vyhne**	**18.27**	**307**	*e*P	**P**	**23 47 57.9**	**-0.4**
VYHS				*e*		23 48 04.0	
VYHS				*e*S	**S**	**23 51 31.8**	**+12**
SRO1	**Iza**	**18.40**	**305**	*e*P	**P**	**23 48 01.2**	**+1.3**
OJC	**Ojcow**	**18.43**	**313**	*e*P	**P**	**23 47 57.4**	**-2.9**
BANOM	**Banah**	**18.61**	**131**	P	**P**	**23 48 01.3**	**-1.4**
	SNR=11						
TIP	**Timpagrande**	**18.68**	**277**	P	**P**	**23 47 58.6**	**-4.8**
WAR	**Warsaw**	**18.84**	**320**	*e*P	**P**	**23 48 02.9**	**-2.4**
WAR				MLR	MLR	23 56 42.4	
	comp=Z,1μm,18.8s						
SUW	**Suwalki**	**18.96**	**326**	*e*P	**P**	**23 48 03.5**	**-3.2**
SUW				MLR	MLR		
	comp=Z,700nm,19.3s						
SUW	**Suwalki**	**18.96**	**326**	*e*P	**P**	**23 48 03.5**	**-3.2**
SUW				*e*pP		23 48 06.8	
SUW	**Suwalki**	**18.96**	**326**	*e*P	**P**	**23 48 03.5**	**-3.1**
SUW				*e*pP		23 48 06.8	
SUW				MLR	MLR	23 56 16.1	
	comp=Z,700nm,19.3s						
GRI	**Girifalco**	**18.99**	**276**	*e*P	**P**	**23 48 06.9**	**-0.3**
SMOL	**Smolenice**	**19.15**	**306**	*e*P	**P**	**23 48 09.6**	**+0.6**
SMOL				*e*sP		23 48 13.1	
OKC	**Ostrava-Krasne**	**19.22**	**310**	*e*P	**P**	**23 48 08.4**	**-1.4**
OKC				*e*S	**S**	**23 51 52.5**	**+11**
ZST	**Bratislava**	**19.25**	**305**	*e*P	**P**	**23 48 13.3**	**+3.1**
ZST				*e*S	**S**	**23 51 55.2**	**+13**
ZST				*e*L		23 57 44.7	
SLCN	**Sala Consilina**	**19.40**	**281**	*e*P	**P**	**23 48 11.9**	**-0.1**
SOI	**Samo**	**19.41**	**274**	*e*P	**P**	**23 48 11.4**	**-0.7**
ASHO	**Ashiyiah**	**19.44**	**134**	⇓P	**P**	**23 48 10.7**	**-1.8**
	SNR=44						
MRLC	**Muro Lucano**	**19.48**	**282**	*e*P	**P**	**23 48 12.1**	**-0.7**
MGR	**Morigerati**	**19.48**	**280**	*e*P	**P**	**23 48 14.2**	**+1.3**
MORC	**Moravsky Berou**	**19.55**	**310**	*e*P	**P**	**23 48 11.8**	**-1.8**
MORC				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MORC	**Moravsky Berou**	**19.55**	**310**	*e*P	**P**	**23 48 11.8**	**-1.8**
	comp=Z,10nm,1.2s						
MORC				P		23 48 15.1	
MORC	**Moravsky Berou**	**19.55**	**310**	*e*P	**P**	**23 48 12.6**	**-1.0**
FG5	**Orsara di Pugl**	**19.61**	**284**	P	**P**	**23 48 14.0**	**-0.4**
SGO	**Sicignano**	**19.63**	**282**	*e*P	**P**	**23 48 13.2**	**-1.4**
MTTG	**Motta San Giov**	**19.70**	**274**	*e*P	**P**	**23 48 13.7**	**-1.8**
CSSN	**Cassano Irpino**	**19.82**	**283**	*e*P	**P**	**23 48 15.6**	**-1.2**
MRB1	**Monte Rocchett**	**19.84**	**283**	P	**P**	**23 48 16.7**	**-0.3**
BOJS	**Bojanci**	**19.85**	**296**	*e*P	**P**	**23 48 17.5**	**+0.5**
BOJS				*e*S	**S**	**23 52 01.7**	**+6.5**
BOJS				*e*		23 55 13.1	
VRAC	**Vranov**	**19.95**	**308**	P	**P**	**23 48 17.4**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=88,slow=10,SNR=6.5						
PSB1	**Pescosannita**	**19.96**	**284**	P	**P**	**23 48 17.7**	**-0.6**
KRUC	**Moravsky**	**19.98**	**307**	P	**P**	**23 48 20.7**	**+2.2**
ARSA	**Arzberg**	**20.02**	**301**	⇑*i* P	**P**	**23 48 19.5**	**+0.7**
	comp=Z,6.6nm,1.1s						
VISS	**Visnje**	**20.18**	**297**	*e*P	**P**	**23 48 23.2**	**+2.6**
SLNA	**Salina**	**20.26**	**276**	*e*P	**P**	**23 48 21.3**	**-0.2**
CII	**Carovilli**	**20.32**	**285**	*e*P	**P**	**23 48 22.4**	**+0.4**
MIDA	**Miranda**	**20.36**	**285**	P	**P**	**23 48 21.5**	**-1.0**
RNI2	**Rionero Sannit**	**20.43**	**285**	P	**P**	**23 48 23.8**	**+0.6**
LJU	**Ljubljana**	**20.44**	**298**	*e*P	**P**	**23 48 27.2**	**+3.9**
MNO	**Monte Soro**	**20.49**	**274**	P	**P**	**23 48 24.8**	**+0.9**
DPC	**Dobruska-Polom**	**20.50**	**310**	*e*P	**P**	**23 48 23.7**	**-0.2**
DPC				*e*pP		23 48 26.3	
DPC				*e*S	**S**	**23 52 17.4**	**+8.8**
OBKA	**Obir**	**20.51**	**299**	⇑*i* P	**P**	**23 48 26.1**	**+2.1**
	comp=Z,23nm,1.4s						
INTR	**Introdacqua**	**20.61**	**286**	P	**P**	**23 48 24.5**	**-0.5**
ARU	**Arti**	**20.68**	**29**	⇓*i* P	**P**	**23 48 23.4**	**-2.3**
ARU				*e*		23 48 43.6	
ARU				*e*S	**S**	**23 52 13.6**	**+1.3**
ARU				*i* SS	SS	23 52 34.8	-8.0
ARU				pmax	pmax		
	comp=Z,28nm,0.9s						
ARU				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.1						
ARU				MLR	MLR		
	comp=N,100nm,16.5s,MS4.2						
ARU				MLR	MLR		
	comp=E,700nm,14.0s,MS4.2						
ARU	**Arti**	**20.68**	**29**	*e*P	**P**	**23 48 22.6**	**-3.2**
	comp=E,25nm,0.9s						
SDI	**San Donato**	**20.69**	**285**	*e*P	**P**	**23 48 25.3**	**-0.6**
KSP	**Ksiaz**	**20.71**	**312**	*e*P	**P**	**23 48 23.7**	**-2.4**
KSP				*e*		23 48 49.8	
KSP				*e*S	**S**	**23 52 12.0**	**-0.9**
KSP	**Ksiaz**	**20.71**	**312**	*e*P	**P**	**23 48 23.7**	**-2.4**
KSP				*e*		23 48 37.3	
KSP				*e*		23 48 49.8	
KSP				*e*S	**S**	**23 52 12.0**	**-0.9**
KSP	**Ksiaz**	**20.71**	**312**	*e*P	**P**	**23 48 24.4**	**-1.7**
KSP				MLR	MLR	23 56 45.2	
	comp=E,600nm,24.3s,MS3.9						
UPC	**Upice**	**20.74**	**311**	*e*P	**P**	**23 48 27.1**	**+0.7**
ARQ	**Araqi**	**20.76**	**136**	P	**P**	**23 48 26.4**	**-0.4**
	SNR=26						
VAE	**Valguarnera**	**20.81**	**273**	P	**P**	**23 48 27.4**	**+0.2**
	comp=E,20nm,0.9s,baz=348,slow=2.7,SNR=6.9						
TERO	**Teramo**	**20.82**	**288**	P	**P**	**23 48 27.3**	**+0.1**
AOI	**Ancona**	**20.84**	**290**	P	**P**	**23 48 26.8**	**-0.6**
VOY	**Vojsko**	**20.87**	**297**	*e*P	**P**	**23 48 28.7**	**+0.9**
VOY				*e*		23 48 46.5	
TRI	**Trieste**	**20.91**	**296**	P	**P**	**23 48 29.9**	**+1.7**
AQU	**L'Aquila**	**20.97**	**287**	*e*P	**P**	**23 48 28.7**	**-0.1**
PTQR	**Pietraquaria**	**20.98**	**286**	*e*P	**P**	**23 48 28.9**	**0.0**
MOA	**Molln**	**20.99**	**303**	⇑*i* P	**P**	**23 48 29.3**	**+0.4**
	comp=E,13nm,1.1s						
NRCA	**Norcia**	**21.18**	**288**	*e*P	**P**	**23 48 31.1**	**+0.2**
VSU	**Vasula**	**21.18**	**339**	*i* P	**P**	**23 48 29.8**	**-1.0**
FIAM	**Fiamignano**	**21.18**	**287**	P	**P**	**23 48 32.4**	**+1.4**
PTCC	**Patocco-Chiusa**	**21.30**	**298**	*e*P	**P**	**23 48 31.6**	**-0.5**
SNTG	**Esanatoglia**	**21.31**	**290**	*e*P	**P**	**23 48 32.8**	**+0.6**
ARV	**Arcevia**	**21.32**	**290**	*e*P	**P**	**23 48 32.1**	**-0.2**
GKP	**Gorka Klasztor**	**21.33**	**319**	*e*P	**P**	**23 48 31.4**	**-0.9**
GKP				*e*pP		23 48 34.0	
GKP				MLR	MLR	23 59 26.6	
	comp=E,2μm,15.4s,MS4.6						
GMNA	**Gemona**	**21.36**	**298**	*e*P	**P**	**23 48 34.5**	**+1.8**
KBA	**Koelnbreinsper**	**21.43**	**300**	⇑*i* P	**P**	**23 48 33.9**	**+0.5**
	comp=E,24nm,1.0s,mb4.5						
KBA	**Koelnbreinsper**	**21.43**	**300**	⇑*i* P	**P**	**23 48 33.9**	**+0.5**
KBA				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.5						
PRU	**Pruhonice**	**21.43**	**308**	*e*P	**P**	**23 48 34.4**	**+1.0**
PRU				*e*pP		23 48 36.5	
PRU				*e*S	**S**	**23 52 37.2**	**+10**
PUL	**Pulkovo**	**21.50**	**345**	*e*P	**P**	**23 48 32.1**	**-1.9**
PUL				*e*S	**S**	**23 52 32.0**	**+4.1**
PUL				pmax	pmax		
	comp=Z,122nm,0.7s,mb5.3						
PUL				pmax	pmax		
	comp=N,107nm,0.6s						
PUL				pmax	pmax		
	comp=E,54nm,0.6s						
PUL				smax			
	comp=N,209nm,1.1s						
PUL				smax			
	comp=E,55nm,0.6s						
PUL				MLR	MLR		
	comp=Z,996nm,21.0s,MS4.2						
PUL				MLR	MLR		
	comp=N,705nm,17.0s						
PUL				MLR	MLR		
	comp=E,313nm,11.0s						
MNS	**Montasola**	**21.51**	**287**	*e*P	**P**	**23 48 34.0**	**-0.2**
PVCC	**Panska Ves**	**21.61**	**310**	*e*P	**P**	**23 48 36.4**	**+1.2**
PVCC				*e*S	**S**	**23 52 42.5**	**+13**
GERES	**GERESS Array B**	**21.61**	**305**	P	**P**	**23 48 33.8**	**-1.4**
	comp=E,1.2nm,0.6s,mb3.5,baz=113,slow=10,SNR=14						
BSY	**Bisya**	**21.61**	**135**	P	**P**	**23 48 34.7**	**-0.6**
	SNR=64						
MURB	**Monte Urbino**	**21.62**	**290**	P	**P**	**23 48 37.4**	**+2.1**
BSYO	**Bisya**	**21.64**	**135**	P	**P**	**23 48 34.7**	**-1.0**
	SNR=64						
RSM	**Repubblica di**	**21.69**	**291**	*e*P	**P**	**23 48 38.9**	**+2.9**
FVI	**Forni Avoltri**	**21.73**	**299**	*e*P	**P**	**23 48 38.0**	**+1.6**
SVE	**Sverdlovsk**	**21.76**	**30**⇓	*e*P	**P**	**23 48 35.2**	**-1.5**
SVE				*e*		23 49 06.0	
SVE				*e*S	**S**	**23 52 38.0**	**+5.2**
SVE				*e*		23 53 02.0	
SVE				*e*SS	SS	23 53 26.0	+17
SVE				pmax	pmax		
	comp=Z,105nm,3.0s						
SVE				MLR	MLR		
	comp=N,400nm,17.0s,MS4.1						
SVE				MLR	MLR		
	comp=E,500nm,17.0s,MS4.1						
SVE				MLR	MLR		
	comp=Z,1μm,17.0s,MS4.3						
KHC	**Kasperske Hory**	**21.77**	**306**	*e*P	**P**	**23 48 36.9**	**+0.1**
KHC				*e*pP		23 48 39.9	
KHC				*e*S	**S**	**23 52 42.7**	**+10**
SMDO	**Samad**	**21.83**	**133**	P	**P**	**23 48 37.8**	**+0.2**
	SNR=44						
BRG	**Berggiesshubel**	**22.10**	**310**	*e*P	**P**	**23 48 40.5**	**+0.4**
BRG				pmax	pmax		

GRF pmax pmax
comp=Z,104nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,500nm,19.4s,MS4.0
GRF Grafenberg Arr 23.40 306 *eP* **P 23 48 54.0 +1.2**
comp=Z,104nm,1.3s,mb5.1
GRF *eS* **S 23 53 13.4 +11**
GRF LR LR
comp=Z,500nm,19.4s,MS4.0
MOX Moxa 23.42 308 *eP* **P 23 49 02.7 +10**
MOX LR LR
comp=Z,300nm,22.0s,MS3.7
MOX Moxa 23.42 308 *i* P **P 23 49 02.7 +10**
MOX S **S 23 53 07.0 +4.2**
MOX L 23 59 11.0
MOX Moxa 23.42 308 *eP* **P 23 48 53.3 +0.3**
comp=Z,21nm,1.5s,mb4.3
BSD Bornholm Skovb 23.45 321 *eP* **P 23 48 53.6 +0.3**
BSD *i* S **S 23 53 09.6 +6.2**
BSD pmax pmax
comp=Z,24nm,0.9s,mb4.6
BSD MLR MLR
comp=Z,340nm,16.0s,MS3.9
BSD Bornholm Skovb 23.45 321 *eP* **P 23 48 53.6 +0.3**
comp=Z,24nm,0.9s,mb4.6
BSD *i* S **S 23 53 09.6 +6.2**
BSD Bornholm Skovb 23.45 321 *i* P **P 23 48 53.6 +0.3**
comp=Z,24nm,0.9s,mb4.6
BSD *i* S **S 23 53 09.6 +6.2**
comp=Z,340nm,16.0s
DAVOX Davos 23.73 298 P **P 23 48 56.2 +0.2**
comp=Z,2.9nm,0.5s,mb4.0,baz=123,slow=7.7,SNR=7.1
DAVOX LR LR 23 59 13.3
comp=Z,686nm,20.6s,MS4.1,baz=98,slow=39
DAVA Damuels 23.79 300⇑ *i* P **P 23 48 56.9 +0.2**
comp=Z,8.2nm,0.7s,mb4.3
BOB Bobbio (Coli) 23.87 293 *eP* **P 23 48 59.8 +2.3**
FINES FINESS Array B 23.93 342 P **P 23 48 57.5 -0.3**
comp=Z,5.2nm,0.6s,mb4.2,baz=142,slow=10,SNR=31
FINES LR LR 00 00 17.3
comp=Z,406nm,19.6s,MS3.9,baz=303,slow=42
RGN Rugen 23.97 318 *eP* **P 23 48 54.4 -3.9**
comp=Z,176nm,1.8s,mb5.2
WHFO Wadi Hawf 24.11 149 P **P 23 48 60.0 -0.1**
SNR=25
PGF Pioggiola 24.22 288 *eP* **P 23 49 00.0 -0.9**
comp=Z,188nm,1.7s,mb5.0
PGF Pioggiola 24.22 288 *eP* **P 23 49 00.0 -0.9**
PGF pmax pmax
comp=Z,94nm,1.7s,mb4.9
JOF Joensuu 24.29 349 *ep* **P 23 49 00.3 -1.1**
comp=Z,16nm,0.7s,mb4.6
BVAR Borovoye Array 24.36 46 P **P 23 49 03.2 +1.0**
comp=Z,4.8nm,0.8s,mb4.0,baz=248,slow=8.0,SNR=20
ABTO Aybut 24.44 150 P **P 23 49 03.2 -0.1**
SNR=7.8
KAF Kangasniemi 24.46 343 *ep* **P 23 49 02.3 -0.8**
comp=Z,11nm,0.8s,mb4.3,baz=153,slow=9.3
KAF Kangasniemi 24.46 343 *eP* **P 23 49 02.3 -0.8**
KAF pmax pmax
comp=Z,11nm,0.8s,mb4.3
WILA Wila 24.47 300⇑ P **P 23 49 04.1 +0.9**
STU Stuttgart 24.49 303 *eP* **P 23 49 05.5 +2.0**
comp=Z,57nm,1.6s,mb4.8
CLZ Clausthal 24.54 311 *eP* **P 23 49 04.3 +0.5**
comp=Z,24nm,1.8s,mb4.4
SPAK Spaichingen 24.64 301 *eP* **P 23 49 07.6 +2.6**
RBK Rabkut 24.66 148 P **P 23 49 05.9 +0.5**
SNR=13
CHKZ Chkalovo 24.74 45 *eP* **P 23 49 04.2 -1.6**
CHKZ pmax pmax
comp=Z,19nm,1.1s,mb4.5
CHKZ Chkalovo 24.74 45 *eP* **P 23 49 04.2 -1.6**
comp=Z,19nm,1.1s,mb4.5
TOD Tromm 24.91 305 *eP* **P 23 49 09.7 +2.3**
COP Copenhagen 24.97 320 *eP* **P 23 49 14.7 +6.7**
COP *eS* **S 23 53 35.2 +6.0**
COP MLR MLR
comp=Z,220nm,18.0s,MS3.7
COP Copenhagen 24.97 320 *i* P **P 23 49 14.7 +6.7**
COP *eS* **S 23 53 35.2 +6.0**
comp=Z,220nm,18.0s
BFO Black Forest 24.98 302 *eP* **P 23 49 10.3 +2.1**
BFO pmax pmax
comp=Z,166nm,3.2s
BFO Black Forest 24.98 302 *eP* **P 23 49 10.3 +2.1**
comp=Z,166nm,3.2s
TROT Trozza 25.06 271⇓ *i* P **P 23 49 08.5 -0.6**
FELD Feldberg 25.13 301 *eP* **P 23 49 11.9 +2.3**
SAOF Saorge 25.22 291 *eP* **P 23 49 11.9 +1.4**
BLIT Baltah 25.23 274⇓ *eP* **P 23 49 09.5 -1.1**
TNS Taunus Mts 25.27 306 *eP* **P 23 49 09.7 -1.1**
TNS pmax pmax
comp=Z,138nm,2.3s,mb5.1
TNS Taunus Mts 25.27 306 *eP* **P 23 49 09.7 -1.1**
comp=Z,138nm,2.3s,mb5.1
BSEG Bad Segeberg 25.30 315 *eP* **P 23 49 11.0 -0.2**
comp=Z,156nm,2.5s,mb5.1
SBF Sospel 25.31 291 *eP* **P 23 49 10.5 -0.9**
comp=Z,142nm,1.2s,mb5.1
SBF Sospel 25.31 291 *eP* **P 23 49 10.5 -0.9**
SBF pmax pmax
comp=Z,71nm,1.2s,mb5.1
AUTN L'Aution 25.31 291 *eP* **P 23 49 13.4 +2.0**
REVF Revere 25.36 291 *eP* **P 23 49 11.6 -0.2**
DIX Grande Dixence 25.37 296⇑ P **P 23 49 11.4 -0.4**
DOI San Damiano 25.44 293 P **P 23 49 12.8 +0.3**
TOUF Mont Tournerai 25.44 292 *eP* **P 23 49 13.8 +1.2**
AAK Ala-Archa 25.48 72 P **P 23 49 14.5 +1.6**
comp=Z,57nm,1.5s,mb4.9,SNR=8.8
AAK Ala-Archa 25.48 72 *eP* **P 23 49 12.4 -0.5**
AAK pmax pmax
comp=Z,11nm,0.9s,mb4.4
AAK Ala-Archa 25.48 72 *eP* **P 23 49 12.4 -0.5**
comp=Z,12nm,0.9s,mb4.4
MVIF Mont Vial 25.52 291 *eP* **P 23 49 14.5 +1.2**
FRU Bishkek 25.55 71 *eP* **P 23 49 17.0 +3.3**
FRU pmax pmax
comp=Z,77nm,1.6s,mb5.0
CDF Champ du Feu 25.69 302 *eP* **P 23 49 14.3 -0.5**
comp=Z,9.4nm,1.0s,mb4.0
CDF Champ du Feu 25.69 302 *eP* **P 23 49 14.3 -0.5**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.0
CALN Calern 25.71 291 *eP* **P 23 49 16.7 +1.6**
ECH Echery 25.74 301 *eP* **P 23 49 19.4 +4.1**
MBDF Montbardon 25.78 293 *eP* **P 23 49 15.4 -0.3**
comp=Z,39nm,0.9s,mb4.6
MBDF Montbardon 25.78 293 *eP* **P 23 49 15.4 -0.3**
MBDF pmax pmax
comp=Z,20nm,0.9s,mb4.7
LPG La Plagne 25.80 295 *eP* **P 23 49 15.5 -0.4**
comp=Z,63nm,1.2s,mb4.7
LPG La Plagne 25.80 295 *eP* **P 23 49 15.5 -0.4**
LPG pmax pmax
comp=Z,31nm,1.2s,mb4.7
LPL La Plagne 25.82 295 *eP* **P 23 49 14.9 -1.2**
comp=Z,55nm,1.2s,mb4.7
LPL La Plagne 25.82 295 *eP* **P 23 49 14.9 -1.2**
LPL pmax pmax
comp=Z,28nm,1.2s,mb4.7
BNI Bardonecchia 25.84 294 *eP* **P 23 49 11.6 -4.8**
BNI pmax pmax
comp=Z,29nm,1.0s,mb4.8
BNI Bardonecchia 25.84 294 *eP* **P 23 49 11.6 -4.8**
comp=Z,29nm,1.0s,mb4.8
FRF La Foret Royal 25.89 290 *eP* **P 23 49 16.1 -0.7**
comp=Z,56nm,1.0s,mb4.8
FRF La Foret Royal 25.89 290 *eP* **P 23 49 16.1 -0.7**
FRF pmax pmax
comp=Z,28nm,1.0s,mb4.8
HINF Hinteralfeld 25.89 300 *eP* **P 23 49 16.4 -0.4**
comp=Z,28nm,1.2s,mb4.4
HINF Hinteralfeld 25.89 300 *eP* **P 23 49 16.4 -0.4**
HINF pmax pmax
comp=Z,14nm,1.2s,mb4.4
LMR La Mourre 26.00 290 *eP* **P 23 49 16.5 -1.3**
HAU Haudompre 26.25 301 *eP* **P 23 49 19.4 -0.7**
HAU *eR*
comp=Z,720nm,18.8s
CABF La Chapelle 26.31 297 *eP* **P 23 49 20.3 -0.4**
comp=Z,97nm,1.1s,mb4.9
CABF La Chapelle 26.31 297 *eP* **P 23 49 20.3 -0.4**
CABF pmax pmax
comp=Z,48nm,1.1s,mb4.9
ORIF Oris-en-Rattie 26.41 294 *eP* **P 23 49 20.9 -0.7**
comp=Z,21nm,1.0s,mb4.3
ORIF *eR*
comp=Z,901nm,20.2s
SMRF Simiane la Rot 26.65 291 *eP* **P 23 49 23.3 -0.5**
HFS Hagfors 26.88 330 P **P 23 49 25.0 -0.8**
comp=Z,6.9nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=14
HFS LR LR 00 01 16.3
comp=Z,700nm,19.1s,MS4.2,baz=163,slow=39
MUD Monsted U'grnd 26.94 320⇑ *eP* **P 23 49 29.7 +3.4**
MUD pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
MUD MLR MLR
comp=Z,550nm,17.0s,MS4.2
MUD Monsted U'grnd 26.94 320⇑ *eP* **P 23 49 29.7 +3.4**
comp=Z,10nm,0.9s,mb4.3
MUD *eS* S 23 54 36.5 +34
MUD Monsted U'grnd 26.94 320⇑ *i* P **P 23 49 29.7 +3.4**
comp=Z,10nm,0.9s,mb4.3
MUD *eS* S 23 54 36.5 +34
comp=Z,540nm,17.0s
KSH Kashi 27.00 78 P **P 23 49 30.5 +3.5**
KSH *eAP* pP 23 49 34.4 +5.9
KSH *eXP* sP 23 49 37.4 +8.3
KSH *ePP* PP 23 50 17.6 +4.9
KSH *ePPP* PPP 23 50 29.8 +5.1
KSH *ePCP* PcP 23 52 49.3 +0.2
KSH *eSS* SS 23 55 23.3 +6.9
KSH *eSCP* 23 56 26.8
KSH *ePCS* 23 56 29.1
KSH AMB AMB
comp=Z,230nm,5.4s
KSH LR LR
comp=N,600nm,9.0s
KSH LR LR
comp=E,630nm,7.6s
VIVF Saint-Julien-l 27.27 293 *eP* **P 23 49 27.8 -1.7**
comp=E,34nm,1.1s,mb4.5
VIVF Saint-Julien-l 27.27 293 *eP* **P 23 49 27.8 -1.7**
VIVF pmax pmax
comp=Z,17nm,1.1s,mb4.5
SMF Signal de Mont 27.86 297 *eP* **P 23 49 34.0 -0.8**
LASF Ste Croix 27.88 292 *eP* **P 23 49 34.6 -0.4**
comp=Z,52nm,1.4s,mb4.7
SSF Saint Saulge 28.10 298 *eP* **P 23 49 35.4 -1.6**
SSF pmax pmax
comp=Z,22nm,1.5s,mb4.6
SSF Saint Saulge 28.10 298 *eP* **P 23 49 35.4 -1.6**
comp=Z,22nm,1.5s,mb4.6
AVF Avril sur Loir 28.20 298 *eP* **P 23 49 36.4 -1.5**
comp=Z,18nm,0.9s,mb4.4
AVF Avril sur Loir 28.20 298 *eP* **P 23 49 36.4 -1.5**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
NB2 NORSAR Subarra 28.41 330 P **P 23 49 36.0 -3.6**
comp=Z,1.7nm,0.7s,mb3.8,baz=127,slow=8.6
NB2 NORSAR Subarra 28.41 330 P **P 23 49 36.0 -3.6**
NB2 pmax pmax
comp=Z,2.0nm,0.7s,mb3.9
NOA NORSAR Array B 28.41 330 P **P 23 49 39.4 -0.2**
comp=Z,1.2nm,0.7s,mb3.6,baz=126,slow=8.8,SNR=6.2
NOA LR LR 00 02 11.6
comp=Z,540nm,19.8s,MS4.2,baz=125,slow=39
KURK Kurchatov 28.68 54 *i* P **P 23 49 42.0 -0.1**
KURK Kurchatov 28.68 54 *eP* **P 23 49 39.3 -2.8**
comp=Z,14nm,1.1s,mb4.6
TCF Toulx Ste Croi 28.98 297 *eP* **P 23 49 44.3 -0.6**
comp=Z,26nm,1.0s,mb4.6
TCF Toulx Ste Croi 28.98 297 *eP* **P 23 49 44.3 -0.6**
TCF pmax pmax
comp=Z,13nm,1.0s,mb4.6
CAF Calviac 29.12 294 *eP* **P 23 49 45.5 -0.7**
MTLF Montolieu 29.13 291 *eP* **P 23 49 44.6 -1.6**
comp=Z,24nm,1.4s,mb4.4
MTLF Montolieu 29.13 291 *eP* **P 23 49 44.6 -1.6**
MTLF pmax pmax
comp=Z,12nm,1.4s,mb4.4
ETOS Mallorca 29.21 283 P **P 23 49 47.4 +0.3**
comp=Z,6.7nm,0.8s,mb4.4
ETOS Mallorca 29.21 283 P **P 23 49 47.4 +0.3**
comp=Z,6.7nm,0.8s,mb4.4,SNR=7.9
RJF Les Rejaudoux 29.49 295 *eP* **P 23 49 48.4 -1.1**
RJF *eR*
comp=Z,768nm,18.2s
LFF La Frestale 30.06 294 *eP* **P 23 49 53.3 -1.3**
EBIE Bielsa 30.71 290 P **P 23 50 00.8 +0.4**
comp=Z,4.5nm,1.5s,mb4.1
EBIE Bielsa 30.71 290 P **P 23 50 00.8 +0.4**
comp=Z,4.5nm,1.5s,mb4.1,SNR=7.9
ARCES ARCESS Array B 31.34 350 P **P 23 50 06.0 +0.4**
comp=Z,6.1nm,0.7s,mb4.5,baz=153,slow=8.1,SNR=18
ARCES LR LR 00 03 32.6
comp=Z,768nm,20.7s,MS4.3,baz=154,slow=38
EMOS Mosqueruela 31.56 285 P **P 23 50 05.9 -2.0**
comp=Z,8.1nm,0.8s,mb4.6
EMOS Mosqueruela 31.56 285 P **P 23 50 05.9 -2.0**
comp=Z,8.1nm,0.8s,mb4.6,SNR=6.7
NDI New Delhi 31.75 98 *eP* **P 23 50 09.0 -0.6**
NVS Novosibirsk 32.15 47 *i* P **P 23 50 12.8 -0.1**
SGMF Saint Gilles 32.22 300 *eP* **P 23 50 12.6 -1.0**
comp=Z,130nm,1.5s,mb5.2
SGMF Saint Gilles 32.22 300 *eP* **P 23 50 12.6 -1.0**
SGMF pmax pmax
comp=Z,65nm,1.5s,mb5.2
EMUR La Murta 32.75 281 P **P 23 50 20.5 +2.3**
comp=Z,6.0nm,0.6s,mb4.7
EMUR La Murta 32.75 281 P **P 23 50 20.5 +2.2**
comp=Z,6.0nm,0.6s,mb4.7,SNR=7.9
ETOB Tobarra 32.77 283 P **P 23 50 18.3 -0.2**
comp=Z,6.4nm,1.0s,mb4.5
ETOB Tobarra 32.77 283 P **P 23 50 18.3 -0.1**
comp=Z,6.4nm,1.0s,mb4.5,SNR=4.6
ZAL Zasovo 32.90 49 P **P 23 50 20.2 +0.8**
comp=Z,0.9nm,0.3s,mb4.1,baz=217,slow=8.3,SNR=5.5
ZAL LR LR 00 06 07.5
comp=Z,469nm,19.8s,MS4.2,baz=211,slow=41
ENIJ Nijar 33.74 280 P **P 23 50 26.5 -0.4**
ENIJ pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ENIJ Nijar 33.74 280 P **P 23 50 26.5 -0.4**
comp=Z,6.4nm,0.6s,mb4.7,SNR=7.9
EQES Quesada 34.15 282 P **P 23 50 29.2 -1.2**
comp=Z,15nm,0.8s,mb5.0
EQES Quesada 34.15 282 P **P 23 50 29.2 -1.3**
comp=Z,15nm,0.8s,mb5.0,SNR=14
ESDC Sonseca Array 34.33 285 P **P 23 50 30.0 -2.0**
comp=Z,4.9nm,0.8s,mb4.5,baz=66,slow=8.7,SNR=14
ESDC Sonseca Array 34.33 285 P **P 23 50 29.1 -2.9**
comp=Z,3.9nm,0.6s,mb4.5
EBAN Banos Encina 34.59 283 P **P 23 50 32.9 -1.3**
EBAN pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
EBAN Banos Encina 34.59 283 P **P 23 50 32.9 -1.4**
comp=Z,6.1nm,0.6s,mb4.7
EBAN Banos Encina 34.59 283 P **P 23 50 32.9 -1.3**
comp=Z,6.1nm,0.6s,mb4.7,SNR=10
ECOG Cogollos-Vega 34.68 281 P **P 23 50 33.5 -1.5**
ECOG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
ECOG Cogollos-Vega 34.68 281 P **P 23 50 33.5 -1.6**
comp=Z,2.3nm,0.7s,mb4.2
ECOG Cogollos-Vega 34.68 281 P **P 23 50 33.5 -1.5**
comp=Z,2.3nm,0.7s,mb4.2,SNR=7.9
WMQ Urumqi 34.92 67 P **P 23 50 36.3 -0.7**
WMQ PP PP 23 51 54.0 -0.8
WMQ PCP PcP 23 53 10.0 +0.1
WMQ S **S 23 56 06.5 -1.6**
WMQ PCS 23 56 55.0
WMQ AMB AMB
comp=Z,12nm,0.9s,mb4.8
WMQ AMB AMB
comp=Z,117nm,5.3s
WMQ LR LR
comp=N,1μm,14.8s,MS4.8
WMQ LR LR
comp=E,584nm,15.7s,MS4.8
WMQ LR LR
comp=Z,713nm,17.2s,MS4.5
EADA Adamuz 35.19 283 P **P 23 50 37.4 -2.0**
comp=Z,3.0nm,0.7s,mb4.3,SNR=7.9
EMIJ Mijas 35.82 280 P **P 23 50 42.1 -2.7**
comp=Z,6.1nm,0.8s,mb4.6
EMIJ Mijas 35.82 280 P **P 23 50 42.1 -2.6**
comp=Z,6.1nm,0.8s,mb4.6,SNR=7.9
EMIN Mina Concepcio 36.89 283 P **P 23 50 51.0 -2.8**
comp=Z,3.8nm,0.7s,mb4.3
EMIN Mina Concepcio 36.89 283 P **P 23 50 51.0 -2.7**
comp=Z,3.8nm,0.7s,mb4.3,SNR=7.9
KOLN Koldanda 37.10 95 *eP* **P 23 50 57.1 +1.5**
comp=Z,21nm,1.1s,mb4.9
EVO Evora 37.67 285 *eP* **P 23 50 59.7 -0.6**
comp=Z,63nm,1.7s,mb4.8
EVO *eR*
comp=Z,586nm,19.5s
GKN Gorkha 37.79 94 *eP* **P 23 51 02.9 +1.5**
comp=Z,13nm,0.7s,mb4.8
DMN Daman 38.35 94 *eP* **P 23 51 07.0 +0.9**
comp=Z,21nm,0.8s,mb4.9
KKN Kakani 38.39 94 *eP* **P 23 51 07.3 +0.8**
comp=Z,24nm,1.1s,mb4.8
PKI Pulchoki 38.60 94 *eP* **P 23 51 08.6 +0.4**
comp=Z,19nm,0.9s,mb4.8
JIRN Jiri 39.16 93 *eP* **P 23 51 13.2 +0.3**
comp=Z,15nm,0.7s,mb4.8
HYB Hyderabad 39.30 113 *eP* **P 23 51 14.0 -0.1**
HYB Hyderabad 39.30 113 *i* P **P 23 51 14.0 -0.1**
KMBO Kilima Mbogo 40.42 186 LR LR 00 07 03.5
comp=Z,686nm,18.9s,MS4.5,baz=291,slow=35
LSA Lhasa 42.05 87 P **P 23 51 37.6 +1.0**
LSA Lhasa 42.05 87 P **P 23 51 35.9 -0.7**
LSA pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
LSA Lhasa 42.05 87 P **P 23 51 35.9 -0.7**
comp=Z,4.7nm,0.6s,mb4.3
TLY Talaya 44.34 52 *eP* **P 23 51 53.9 -1.1**
TLY *e* 23 53 42.6
TLY *e* 23 58 31.3
TLY *e* 00 01 41.3
TLY pmax pmax
comp=Z,11nm,2.4s,mb4.2
TLY MLR MLR
comp=Z,243nm,17.0s,MS4.2
ZAK Zakamensk 44.34 54 *eP* **P 23 51 56.3 +1.3**
ZAK *e* 23 53 38.7
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.6
ZAK pmax pmax
comp=Z,3.0nm,1.9s,mb3.7
GTA Gaotai 44.81 70 *eP* **P 23 52 02.9 +3.9**
GTA AP pP 23 52 07.4 +6.9
GTA XP sP 23 52 10.8 +10
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb4.1
SONM Songino Array 46.90 57 P **P 23 52 14.7 -0.6**
comp=Z,1.1nm,0.8s,mb3.9,baz=277,slow=10.0,SNR=7.7
SONM PcP PcP 23 53 47.4 -1.2
comp=Z,1.8nm,0.8s,baz=271,slow=3.8,SNR=9.7
SONM LR LR 00 14 20.6
comp=Z,2μm,19.6s,MS5.1,baz=305,slow=39
ULN Ulaanbaatar 47.32 57 *eP* **P 23 52 17.3 -1.4**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 47.32 57 *eP* **P 23 52 17.3 -1.4**
comp=Z,6.9nm,0.9s,mb4.6
BOD Bodaibo 49.15 43 *eP* **P 23 52 29.9 -2.9**
BOD pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
DBIC Dimbokro 52.39 244 P **P 23 52 55.3 -2.7**
comp=Z,9.8nm,0.8s,mb4.8,baz=42,slow=7.9,SNR=8.9
TIXI Tiksi 52.58 23 *eP* **P 23 52 57.1 -1.6**
TIXI pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
TIXI Tiksi 52.58 23 *i* P **P 23 52 58.3 -0.4**
HHC Hu-ho-hao-te 52.69 64 *eP* **P 23 52 58.3 -1.6**
HHC PP PP 23 54 58.3 -2.2
HHC SCP 23 58 04.6
HHC AMB AMB
comp=Z,10.0nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,143nm,5.2s
HHC LR LR
comp=N,321nm,16.7s,MS4.6
HHC LR LR
comp=E,339nm,19.6s,MS4.6
HHC LR LR
comp=Z,348nm,20.8s,MS4.4
KMI Kunming 53.26 86 P **P 23 53 01.4 -3.0**
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
XAN Xi'an 53.65 73 P **P 23 53 10.3 +3.2**
MATP Matopo 60.59 193 P **P 23 53 54.3 -2.2**
comp=Z,5.2nm,0.9s,mb4.7,baz=12,slow=8.8,SNR=7.8
CN2 Changchun 60.73 56 *eP* **P 23 53 54.8 -2.4**
NJ2 Nanjing 61.91 70 *eP* **P 23 54 09.9 +4.5**
NJ2 XP sP 23 54 24.0 +17
NJ2 PP PP 23 56 29.3 +5.4
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,1μm,4.2s
NJ2 LR LR
comp=N,2μm,21.4s,MS5.3
NJ2 LR LR
comp=E,1μm,25.4s,MS5.3
NJ2 LR LR
comp=Z,2μm,24.2s,MS5.2
TSUM Tsumeb 62.20 205 P **P 23 54 07.9 +0.5**
comp=Z,1.5nm,0.9s,mb4.1,baz=21,slow=14,SNR=3.6
SEY Seymchan 64.43 28 *eP* **P 23 54 24.3 +2.9**
SEY *e* 00 03 32.8
SEY pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
BILL Bilibino 65.40 20 *eP* **P 23 54 27.1 -0.5**
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
BILL MLR MLR
comp=Z,200nm,16.0s,MS4.4
BILL Bilibino 65.40 20 *i* P **P 23 54 27.1 -0.5**
LBTB Lobatse 65.61 195 P **P 23 54 29.7 0.0**
comp=Z,3.9nm,0.9s,mb4.5,baz=42,slow=6.3,SNR=5.0
SCHQ Schefferville 67.75 323 P **P 23 54 41.2 -1.6**
comp=Z,1.5nm,0.7s,mb4.1,baz=103,slow=6.9,SNR=5.6
SCHQ LR LR 00 24 28.9
comp=Z,301nm,21.7s,MS4.5,baz=70,slow=36
INK Inuvik 72.58 358 *eP* **P 23 55 11.5 -0.3**
INK pmax pmax
comp=Z,2.0nm,0.7s
INK Inuvik 72.58 358 *eP* **P 23 55 11.5 -0.3**
comp=Z,1.7nm,0.7s,mb4.1
YKW3 Yellowknife Ar 76.53 349 *eP* **P 23 55 34.5 -0.2**
YKA Yellowknife Ar 76.60 349 P **P 23 55 35.4 +0.4**
comp=Z,2.1nm,0.9s,mb4.1,baz=19,slow=6.2,SNR=23
YKA LR LR 00 30 42.5
comp=Z,176nm,19.8s,MS4.4,baz=350,slow=37
YKA Yellowknife Ar 76.60 349 P **P 23 55 35.4 +0.4**
YKA LR LR 00 30 42.5
DAWY Dawson 76.92 0 *eP* **P 23 55 36.9 0.0**
ULM Lac du Bonnet 83.02 334 P **P 23 56 10.4 +0.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=44,slow=7.1,SNR=3.6
ULM LR LR 00 33 19.1
comp=Z,145nm,20.5s,MS4.3,baz=45,slow=36
CHMT Chamberlain Mo 91.06 343 *eP* **P 23 56 50.2 +1.4**
PDAR Pinedale Array 93.98 339 LR LR 00 45 07.0
comp=Z,220nm,18.9s,MS4.6,baz=22,slow=39
BDFB Brasilia 98.91 257 LR LR 00 42 58.0
comp=Z,201nm,21.1s,MS4.6,baz=60,slow=36

NIED ***23*** *23:49:00,37.30N×142.10E,h29km,Mw3.6 Best double couple: M0 2.61×10^14 NP1:*φ*s257°,*δ*55°,*λ*-125°. NP2:* φs*128°,*δ*47°,*λ*-50°.*

JMA ***23*** *23:49:51.0±0.2,37.32N×142.14E,h26km,M3.5*

ISC 23 23:49:50.5±2.0,37.38N±0.06×142.1E±0.1,h4km±20km,n9,
σ0838/17,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.96**	**269**	P	**Pb**	**23 50 09.4**	**0.0**
JFK				S	**Sb**	**23 50 22.3**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.06**	**255**	P	**Pb**	**23 50 10.5**	**-0.6**
ONAJ				S	**Sb**	**23 50 24.6**	**-0.5**
JMM	**Marumori**	**1.13**	**296**	P	**Pb**	**23 50 12.2**	**-0.1**
JMM				S	**Sb**	**23 50 27.4**	**+0.3**
JIO	**Ouri**	**1.22**	**332**	P	**Pb**	**23 50 13.4**	**-0.4**
JIO				*e*S	**Sb**	**23 50 29.2**	**-0.5**
JFT	**Otama**	**1.39**	**276**	P	**Pb**	**23 50 16.8**	**0.0**
JFT				S	**Sb**	**23 50 34.8**	**0.0**
JOU	**Okura**	**1.49**	**312**	P	**Pn**	**23 50 18.5**	**+0.3**
JOU				S	**Sb**	**23 50 38.1**	**+0.5**
JMK	**Ichinoseki**	**1.71**	**337**	P	**Pn**	**23 50 21.2**	**-0.1**
JYS	**Shirataka**	**1.80**	**298**	P	**Pn**	**23 50 23.5**	**+0.8**

JYS				*e*S		**Sn**	**23 50 45.8 -0.4**
MAT	**Matsushiro**	**3.21**	**256**	P		**Pn**	**23 50 43.1 +0.3**
MAT				*e*S		**Sn**	**23 51 22.3 +0.3**

CSEM ***24*** *00:40:17.9±0.1,35.05N×2.90W, h2km, ML3.4/1, Error ellipse: s-maj=2.3km s-min=1.4km az=122.0*
INMG ***24*** *00:40:19.0±1.4,34.92N×2.92W, h5km, ML2.6, Error ellipse: s-maj=6.1km s-min=4.6km az=118.0*
NEIC ***24*** *00:40:19.1,34.93N×2.99W, h3km, MG4.1(MDD), After MDD.*
CNRM ***24*** *00:40:19.8,35.04N×2.83W, h3km, MD3.5*
SFS ***24*** *00:40:19.0,34.93N×2.99W*
MDD ***24*** *00:40:19.9±0.4,34.98N×2.87W, h6km±3km, mb3.9/29, Error ellipse: s-maj=3.6km s-min=3.2km az=37.0, PRXIMO*
CRAAG ***24*** *00:40:20.7,35.03N×2.87W, Mb3.3*

ISC 24 00:40:18.4±0.3, 35.08N±0.02×2.94W±0.03, h6km, n90, σ1§33/153, 2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAI	**Zaio**	**0.19**	**126**	P	**Pg**	**00 40 21.5**	**-0.9**
ZAI				S	**Sg**	**00 40 24.0**	**-1.0**
ZAI	**Zaio**	**0.19**	**126**	*i* P	**Pg**	**00 40 21.5**	**-0.9**
EMEL	**Melilla**	**0.22**	**356**	P	**Pg**	**00 40 25.9**	**+3.1**
	111nm,0.2s,SNR=24						
EMEL				S	**Sg**	**00 40 30.7**	**+4.8**
	864nm,0.2s,SNR=14						
EMLI	**Melilla**	**0.22**	**357**	P	**Pg**	**00 40 25.9**	**+3.0**
	108nm,0.1s,SNR=24						
EMLI				S	**Sg**	**00 40 30.7**	**+4.8**
	873nm,0.1s,SNR=14						
TOU	**Touzarine**	**0.68**	**260**	*i* P	**Pg**	**00 40 33.0**	**+1.0**
TOU				*i* S	**Sg**	**00 40 44.0**	**+2.9**
MPAL	**Palemas**	**0.84**	**280**	*i* P	**Pb**	**00 40 37.0**	**+2.1**
MPAL				*i* S	**Sb**	**00 40 49.0**	**+2.9**
EALB	**Alboran**	**0.86**	**355**	P	**Pb**	**00 40 37.7**	**+2.4**
	27nm,0.2s,SNR=17						
EALB				S	**Sb**	**00 40 51.0**	**+4.2**
	390nm,0.5s,SNR=10						
EALB	**Alboran**	**0.86**	**355**	P	**Pb**	**00 40 37.7**	**+2.4**
	91nm,0.3s,SNR=17						
EALB				S	**Sb**	**00 40 51.0**	**+4.2**
	404nm,0.4s,SNR=10						
OLHC	**Oulhaca**	**1.25**	**82**	P	**Pb**	**00 40 43.0**	**+1.0**
ODZI	**Dziouia**	**1.41**	**81**	P	**Pn**	**00 40 45.0**	**+0.3**
EBER	**Berja**	**1.81**	**1**	P	**Pn**	**00 40 51.0**	**+0.6**
	9.3nm,0.4s,SNR=10						
EBER				S	**Sn**	**00 41 13.2**	**-0.7**
	112nm,0.6s,SNR=19						
EBER	**Berja**	**1.81**	**1**	P	**Pn**	**00 40 51.0**	**+0.6**
	17nm,0.4s,SNR=10						
EBER				S	**Sn**	**00 41 13.2**	**-0.7**
	150nm,0.7s,SNR=19						
ENIJ	**Nijar**	**1.98**	**17**	P	**Pn**	**00 40 52.9**	**+0.2**
	6.0nm,0.2s,SNR=9.6						
ENIJ				S	**Sn**	**00 41 18.4**	**+0.3**
	23nm,0.4s,SNR=5.0						
TGT	**Taghat**	**2.02**	**241**	*e*P	**Pn**	**00 40 54.0**	**+0.7**
TGT				*i* S	**Sn**	**00 41 20.0**	**+0.8**
DKH	**Dar Khrkhour**	**2.02**	**282**	*e*P	**Pn**	**00 40 54.0**	**+0.6**
DKH				*i* S	**Sn**	**00 41 20.5**	**+1.2**
ERON	**Agron**	**2.06**	**340**	P	**Pn**	**00 40 53.6**	**-0.3**
	5.8nm,0.2s,SNR=22						
ERON				S	**Sn**	**00 41 19.4**	**-0.7**
	4.3nm,0.2s,SNR=4.0						
EMIJ	**Mijas**	**2.10**	**315**	P	**Pn**	**00 40 53.8**	**-0.7**
	4.5nm,0.1s,SNR=46						
EMIJ				S	**Sn**	**00 41 19.0**	**-2.3**
	37nm,0.4s,SNR=9.2						
ECOG	**Cogollos-Vega**	**2.25**	**347**	P	**Pn**	**00 40 58.4**	**+1.7**
	13nm,0.3s,SNR=20						
ECOG				S	**Sn**	**00 41 26.9**	**+1.9**
	12nm,0.3s						
ELOJ	**Sierra Loja**	**2.29**	**335**	P	**Pn**	**00 40 58.4**	**+1.2**
	12nm,0.4s,SNR=25						
ELOJ				S	**Sn**	**00 41 27.7**	**+1.8**
	3.2nm,0.4s,SNR=4.0						
EJIF	**Jimena Fronter**	**2.47**	**304**	P	**Pn**	**00 40 59.7**	**-0.1**
	5.0nm,0.3s,SNR=7.9						
EJIF				S	**Sn**	**00 41 31.0**	**+0.3**
	13nm,0.5s,SNR=4.0						
MIF	**Mishlifen**	**2.53**	**229**	*i* P	**Pn**	**00 41 01.0**	**+0.4**
MIF				*i* S	**Sn**	**00 41 30.0**	**-2.1**
CZD	**Col de Zad**	**2.69**	**221**	*e*P	**Pn**	**00 41 03.0**	**+0.1**
CZD				*i* S	**Sn**	**00 41 35.0**	**-1.2**
LIJA	**Lijar**	**2.71**	**313**	*e*P	**Pn**	**00 41 05.0**	**+1.8**
LIJA				*e*S	**Sn**	**00 41 40.0**	**+3.4**
EQES	**Quesada**	**2.72**	**358**	‖P	**Sn**	**00 41 05.9**	**+2.6**
EQES				S	**Sn**	**00 41 39.9**	**+3.0**
EQES	**Quesada**	**2.72**	**358**	‖P	**Pn**	**00 41 05.5**	**+2.1**
	19nm,0.4s,SNR=18						
EQES				S	**Sn**	**00 41 39.3**	**+2.4**
	37nm,0.4s						
EQES	**Quesada**	**2.72**	**358**	P	**Pn**	**00 41 05.9**	**+2.6**
	16nm,0.4s,SNR=18						
EQES				S	**Sn**	**00 41 39.9**	**+3.0**
	95nm,0.6s						
ESPR	**Espera**	**2.96**	**308**	P	**Pn**	**00 41 07.7**	**+0.9**
	2.5nm,0.3s,SNR=15						
ESPR				S	**Sn**	**00 41 43.5**	**+0.3**
	10nm,0.2s						
ESPR	**Espera**	**2.96**	**308**	P	**Pn**	**00 41 07.7**	**+0.8**
	9.4nm,0.5s,SNR=15						
ESPR				S	**Sn**	**00 41 43.5**	**+0.3**
	25nm,0.4s						
EMUR	**La Murta**	**3.08**	**26**	P	**Pn**	**00 41 08.6**	**+0.2**
	2.5nm,0.3s,SNR=10						
EMUR				S	**Sn**	**00 41 42.8**	**-3.2**
	13nm,0.6s,SNR=8.5						
EMUR	**La Murta**	**3.08**	**26**	P	**Pn**	**00 41 08.6**	**+0.2**
	5.2nm,0.3s,SNR=10						
EMUR				S	**Sn**	**00 41 42.8**	**-3.2**
	28nm,0.7s,SNR=8.5						
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**00 41 11.6**	**+2.1**
EBAN				S	**Sn**	**00 41 52.7**	**+4.8**
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**00 41 10.3**	**+0.8**
	2.3nm,0.2s,SNR=5.0						
EBAN				S	**Sn**	**00 41 48.2**	**+0.3**
	5.4nm,0.3s,SNR=5.7						
EBAN	**Banos Encina**	**3.15**	**348**	P	**Pn**	**00 41 11.6**	**+2.1**
	7.9nm,0.4s,SNR=5.0						
EBAN				S	**Sn**	**00 41 52.7**	**+4.8**
	15nm,0.5s,SNR=5.7						
EADA	**Adamuz**	**3.35**	**337**	P	**Pn**	**00 41 12.9**	**+0.6**
	7.8nm,0.4s,SNR=54						
EADA				S	**Sn**	**00 41 51.8**	**-1.2**
	5.4nm,0.2s						
EADA	**Adamuz**	**3.35**	**337**	P	**Pn**	**00 41 12.9**	**+0.6**
	9.6nm,0.2s,SNR=54						
EADA				S	**Sn**	**00 41 51.8**	**-1.1**
	15nm,0.5s						
EVIA	**Vianos**	**3.57**	**5**	P	**Pn**	**00 41 18.5**	**+3.0**
	1.4nm,0.2s,SNR=4.0						
EVIA				S	**Sn**	**00 41 59.7**	**+1.3**
	13nm,0.5s,SNR=4.8						
ETOB	**Tobarra**	**3.73**	**17**	P	**Pn**	**00 41 19.2**	**+1.6**
ETOB				S	**Sn**	**00 42 02.2**	**-0.2**
ETOB	**Tobarra**	**3.73**	**17**	P	**Pn**	**00 41 18.4**	**+0.7**
	1.9nm,0.3s,SNR=11						
ETOB				S	**Sn**	**00 42 01.0**	**-1.4**
	7.7nm,0.4s,SNR=4.5						
ETOB	**Tobarra**	**3.73**	**17**	P	**Pn**	**00 41 19.2**	**+1.5**
	1.6nm,0.2s,SNR=11						
ETOB				S	**Sn**	**00 42 02.2**	**-0.2**
	15nm,0.6s,SNR=4.5						
EMIN	**Mina Concepcio**	**4.03**	**313**	P	**Pn**	**00 41 21.1**	**-0.9**
	2.1nm,0.2s,SNR=25						
EMIN				S	**Sn**	**00 42 06.1**	**-4.1**
	3.1nm,0.3s						
EMIN	**Mina Concepcio**	**4.03**	**313**	P	**Pn**	**00 41 21.1**	**-0.9**
	2.6nm,0.2s,SNR=25						
EBEN	**Beniarda**	**4.22**	**30**	P	**Pn**	**00 41 25.4**	**+0.7**
	2.3nm,0.4s,SNR=4.0						
EBEN				S	**Sn**	**00 42 11.9**	**-2.9**
	3.5nm,0.5s,SNR=7.9						
EBEN	**Beniarda**	**4.22**	**30**	P	**Pn**	**00 41 25.4**	**+0.7**
	0.6nm,0.2s,SNR=4.0						
EBEN				S	**Sn**	**00 42 11.9**	**-3.0**
	3.7nm,0.5s,SNR=7.9						
PALC	**Alcoutim**	**4.37**	**304**	*e*Pn	**Pn**	**00 41 26.3**	**-0.6**
PALC				*e*Sn	**Sn**	**00 42 14.1**	**-4.7**
	13nm,0.6s						
PALC	**Alcoutim**	**4.37**	**304**	*e*Pn	**Pn**	**00 41 26.3**	**-0.6**
PALC				*e*Sn	**Sn**	**00 42 14.1**	**-4.7**
	13nm,0.6s						
EGRO	**El Granado**	**4.41**	**305**	P	**Pn**	**00 41 26.2**	**-1.2**
	9.8nm,0.2s,SNR=43						
EGRO				S	**Sn**	**00 42 15.5**	**-4.4**
	9.4nm,0.4s						
EGRO	**El Granado**	**4.41**	**305**	P	**Pn**	**00 41 26.2**	**-1.2**
	9.4nm,0.2s,SNR=43						
ESDC	**Sonseca Array**	**4.66**	**350**	P	**Pn**	**00 41 31.8**	**+0.9**
ESDC				S	**Sn**	**00 42 23.9**	**-2.1**
ESDC				Lg		00 42 37.9	
ESDC	**Sonseca Array**	**4.66**	**350**	P	**Pn**	**00 41 32.1**	**+1.2**
	12nm,0.5s,baz=173,slow=12,SNR=49						
ESDC				S	**Sn**	**00 42 23.9**	**-2.1**
	1.3nm,0.5s,baz=171,slow=23,SNR=8.3						
ESDC	**Sonseca Array**	**4.66**	**350**	P	**Pn**	**00 41 31.8**	**+0.9**
ESDC				S	**Sn**	**00 42 23.9**	**-2.1**
	1.3nm,0.5s,SNR=8.3						
ESBB	**Sonseca Array**	**4.66**	**350**	P	**Pn**	**00 41 31.8**	**+0.9**
	3.6nm,0.2s,SNR=7.9						
ESBB				S	**Sn**	**00 42 24.1**	**-1.9**
	3.3nm,0.5s,SNR=7.9						
EBAD	**Badajoz**	**4.91**	**319**	P	**Pn**	**00 41 33.6**	**-0.8**
	5.8nm,0.3s,SNR=42						
EBAD				S	**Sn**	**00 42 27.8**	**-4.6**
	9.0nm,0.2s						
EBAD	**Badajoz**	**4.91**	**319**	P	**Pn**	**00 41 33.7**	**-0.8**
	4.5nm,0.2s,SNR=42						
PBEJ	**Beja**	**4.94**	**308**	*e*Pn	**Pn**	**00 41 34.3**	**-0.6**
PBEJ				*e*Sn	**Sn**	**00 42 29.1**	**-4.0**
	4.5nm,0.3s						
PBEJ	**Beja**	**4.94**	**308**	*e*Pn	**Pn**	**00 41 34.3**	**-0.6**
PBEJ				*e*Sn	**Sn**	**00 42 29.1**	**-4.0**
	4.5nm,0.3s						
EIBI	**Ibiza**	**5.22**	**40**	P	**Pn**	**00 41 38.2**	**-0.6**
EIBI				S	**Sn**	**00 42 37.0**	**-3.0**
EIBI	**Ibiza**	**5.22**	**40**	P	**Pn**	**00 41 38.2**	**-0.6**
	2.8nm,0.3s,SNR=7.9						
EIBI				S	**Sn**	**00 42 36.2**	**-3.9**
	1.6nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**5.22**	**40**	P	**Pn**	**00 41 38.2**	**-0.6**
	0.7nm,0.1s,SNR=7.9						
EIBI				S	**Sn**	**00 42 37.0**	**-3.1**
	4.7nm,0.5s,SNR=7.9						
PTEO	**Sao Teotonio**	**5.28**	**299**	*e*Pn	**Pn**	**00 41 39.1**	**-0.6**
PTEO				*e*Sn	**Sn**	**00 42 37.7**	**-4.0**
	8.8nm,0.6s						
PTEO	**Sao Teotonio**	**5.28**	**299**	*e*Pn	**Pn**	**00 41 39.1**	**-0.6**
PTEO				*e*Sn	**Sn**	**00 42 37.7**	**-4.0**
	8.8nm,0.6s						
MOE	**Montemor**	**5.54**	**310**	*e*Sn	**Sn**	**00 42 44.6**	**-3.6**
EMOS	**Mosqueruela**	**5.62**	**20**	P	**Pn**	**00 41 45.5**	**+1.0**
	0.6nm,0.4s,SNR=4.0						
EMOS	**Mosqueruela**	**5.62**	**20**	P	**Pn**	**00 41 45.5**	**+1.0**
	SNR=4.0						
PCBR	**Castelo Branco**	**5.97**	**324**	*e*Pn	**Pn**	**00 41 48.8**	**-0.6**
PCBR				*e*Sn	**Sn**	**00 42 53.6**	**-5.3**
	3.6nm,0.5s						
PCBR	**Castelo Branco**	**5.97**	**324**	P	**Pn**	**00 41 48.8**	**-0.6**
PCBR				S	**Sn**	**00 42 53.6**	**-5.3**
	1.8nm,0.5s						
PLOU	**Loures**	**6.26**	**309**	*e*Pn	**Pn**	**00 41 52.3**	**-1.2**
PTOM	**Tomar**	**6.29**	**318**	*e*Pn	**Pn**	**00 41 53.6**	**-0.3**
PTOM				*e*Sn	**Sn**	**00 43 02.9**	**-4.0**
	3.8nm,0.3s						
PTOM	**Tomar**	**6.29**	**318**	P	**Pn**	**00 41 53.6**	**-0.3**
PTOM				S	**Sn**	**00 43 02.9**	**-4.0**
	1.9nm,0.3s						
MTE	**Manteigas**	**6.44**	**327**	*e*Pn	**Pn**	**00 41 56.0**	**-0.1**
MTE				*e*Sn	**Sn**	**00 43 08.8**	**-2.0**
	3.6nm,0.5s						
MTE	**Manteigas**	**6.44**	**327**	P	**Pn**	**00 41 56.0**	**-0.1**
MTE				S	**Sn**	**00 43 08.8**	**-2.0**
	1.8nm,0.5s						
ETOS	**Mallorca**	**6.54**	**43**	P	**Pn**	**00 41 56.9**	**-0.6**
	1.1nm,0.4s,SNR=4.0						
ETOS	**Mallorca**	**6.54**	**43**	P	**Pn**	**00 41 56.9**	**-0.6**
PVIS	**Viseu**	**6.86**	**327**	*e*Pn	**Pn**	**00 42 00.9**	**-1.0**
PVRL	**Vila Real**	**7.24**	**330**	*e*Pn	**Pn**	**00 42 06.4**	**-0.9**
PVRL				*e*Sn	**Sn**	**00 43 28.1**	**-2.6**
	5.0nm,0.5s						
PVRL	**Vila Real**	**7.24**	**330**	P	**Pn**	**00 42 06.4**	**-0.9**
PVRL				S	**Sn**	**00 43 28.1**	**-2.6**
	2.5nm,0.5s						
PBRG	**Braganca**	**7.35**	**337**	*e*Pn	**Pn**	**00 42 08.0**	**-0.8**
PBRG				*e*Sn	**Sn**	**00 43 29.1**	**-4.3**
ECAL	**Calabor**	**7.47**	**338**	P	**Pn**	**00 42 09.7**	**-0.8**
	2.7nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**7.47**	**338**	P	**Pn**	**00 42 09.8**	**-0.7**
ELOB	**Lobios**	**7.88**	**331**	P	**Pn**	**00 42 15.5**	**-0.7**
	3.2nm,0.4s,SNR=6.4						
ELOB	**Lobios**	**7.88**	**331**	P	**Pn**	**00 42 15.5**	**-0.7**
ERUA	**La Rua**	**8.00**	**337**	P	**P**	**00 42 16.0**	**-2.0**
	3.2nm,0.2s,SNR=7.7						
ELAN	**Lanestosa**	**8.15**	**357**	P	**P**	**00 42 20.2**	**+0.2**
	0.6nm,0.3s,SNR=7.9						
ELAN	**Lanestosa**	**8.15**	**357**	P	**P**	**00 42 20.2**	**+0.2**
EALK	**Alkurruntz**	**8.20**	**7**	P	**P**	**00 42 21.5**	**+0.7**
EALK	**Alkurruntz**	**8.20**	**7**	P	**P**	**00 42 20.8**	**0.0**
	1.7nm,0.4s,SNR=7.9						
EALK	**Alkurruntz**	**8.20**	**7**	P	**P**	**00 42 21.5**	**+0.7**
EINC	**Incio**	**8.31**	**337**	P	**P**	**00 42 21.3**	**-1.0**
	2.8nm,0.4s,SNR=7.9						
EINC	**Incio**	**8.31**	**337**	P	**P**	**00 42 21.3**	**-1.0**
EARI	**Arriondas**	**8.39**	**349**	P	**P**	**00 42 22.8**	**-0.6**
	3.3nm,0.6s,SNR=7.9						
EARI	**Arriondas**	**8.39**	**349**	P	**P**	**00 42 22.8**	**-0.7**

ISK ***24*** *00:52:52.9,39.43N×40.78E, h10km, MD3.7*
CSEM ***24*** *00:52:52.9,39.43N×40.78E, h10km, MD3.7, After ISK*

ISC 24 00:52:53.0±0.8, 39.45N±0.03×40.77E±0.05, h5km±7km, n19, σ0§60/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BINT	**Bingol**	**0.62**	**201**	*i* PG	**Pg**	**00 53 04.3**	**-1.0**
BINT				*i* SG	**Sg**	**00 53 14.3**	**+0.7**
EZM	**Erzurum**	**0.64**	**45**	*i* PG	**Pg**	**00 53 05.9**	**+0.1**
ERZM	**Erzurum**	**0.64**	**45**	*i* P	**Pg**	**00 53 05.8**	**0.0**
ERZM				*i* S	**Sg**	**00 53 14.7**	**+0.2**
VRT	**Varto**	**0.67**	**118**	*i* PG	**Pg**	**00 53 05.7**	**-0.6**
VRT				*i* SG	**Sg**	**00 53 15.9**	**+0.6**
EZC	**Erzincan**	**0.80**	**292**	*i* PN	**Pn**	**00 53 15.3**	**+4.7**
BTMT	**Batman**	**1.38**	**156**	PN	**Pn**	**00 53 18.7**	**-0.2**
GUMT	**Gumushane**	**1.41**	**316**	PN	**Pn**	**00 53 20.1**	**+0.7**
BEST	**Besiri**	**1.61**	**166**	*i* P	**Pn**	**00 53 22.5**	**+0.4**
BEST				*i* S	**Sb**	**00 53 44.1**	**+0.9**
DIY	**Diyarbakir**	**1.61**	**196**	PN	**Pn**	**00 53 22.1**	**-0.1**
ELZG	**Elazig**	**1.69**	**236**	*i* P	**Pn**	**00 53 24.3**	**+0.9**
ELZG				*i* S	**Sn**	**00 53 50.2**	**+4.6**
BCA	**Borcka**	**2.09**	**18**	*e*PN	**Pn**	**00 53 29.9**	**+0.8**
KARS	**Kars**	**2.12**	**56**	*e*PN	**Pn**	**00 53 29.2**	**-0.4**
MYA	**Malataya**	**2.15**	**239**	*e*PN	**Pn**	**00 53 29.5**	**-0.4**
MALT	**Malatya**	**2.16**	**239**	*e*PN	**Pn**	**00 53 29.7**	**-0.3**
VANT	**Van**	**2.27**	**115**	*e*PN	**Pn**	**00 53 30.5**	**-1.2**
URFA	**Urfa**	**2.53**	**218**	*e*PN	**Pn**	**00 53 35.1**	**-0.2**
GNI	**Garni**	**3.14**	**76**	*e*PN	**Pn**	**00 53 43.7**	**-0.3**
TOKT	**Tokat**	**3.37**	**286**	*e*PN	**Pn**	**00 53 47.3**	**0.0**
GAZ	**Gaziantep**	**3.61**	**232**	*e*PN	**Pn**	**00 53 50.0**	**-0.7**

NEIC ***24*** *00:57:38.7±4.8, 14.99S×171.95W, h10km, mb4.4/4, Error ellipse: s-maj=127.0km s-min=12.8km az=118.0*
IDC ***24*** *00:57:40.8±7.9, 15.74S×172.16W, mb4.3/6, mb1 4.5/6, mb1mx4.1/17, mbtmp4.3/6, Error ellipse: s-maj=164.9km s-min=125.6km az=119.0*

ISC 24 00:57:39.3±6.2, 15.1S±0.4×171.8W±1.0, h33km, n13, σ0§98/13, mb4.4/8, 2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.20**	**0**	*e*P	**P**	**00 57 59.6**	**-0.2**
DZM	**Mont Dzumac**	**21.75**	**248**	P	**P**	**01 02 29.8**	**-0.1**
	3.0nm,0.6s,mb3.9,baz=94,slow=18,SNR=4.7						
CTA	**Charters Tower**	**40.23**	**257**	P	**P**	**01 05 13.8**	**-0.9**
	2.9nm,0.8s,mb4.0,baz=90,slow=14,SNR=3.4						
STKA	**Stephens Creek**	**45.53**	**240**	‖*i*P	**P**	**01 05 57.5**	**-0.4**
	2.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**45.53**	**240**	P	**P**	**01 05 57.5**	**-0.3**
	2.7nm,0.5s,mb4.4,baz=96,slow=11,SNR=14						
WB2	**Warramunga Arr**	**51.42**	**256**	*e*P	**P**	**01 06 43.4**	**-0.2**
WRAB	**Tennant Creek**	**51.42**	**256**	*e*P	**P**	**01 06 42.9**	**-0.7**
	2.0nm,0.4s,mb4.4						
WRA	**Warramunga Arr**	**51.43**	**256**	P	**P**	**01 06 43.6**	**-0.1**
	1.2nm,0.3s,mb4.2,baz=95,slow=7.4,SNR=18						
ASAR	**Alice Springs**	**51.69**	**252**	P	**P**	**01 06 45.3**	**-0.2**
	14nm,0.6s,mb5.1,baz=88,slow=8.4,SNR=203						
ASPA	**Alice Springs**	**51.69**	**252**	‖*i*P	**P**	**01 06 45.2**	**-0.4**
KAKA	**Kakadu**	**54.08**	**265**	*e*P	**P**	**01 07 06.3**	**+2.8**
	3.3nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**59.80**	**258**	*e*P	**P**	**01 07 46.2**	**+2.1**
	4.1nm,1.2s,mb4.3						
FITZ	**Fitzroy Crossi**	**59.80**	**258**	P	**P**	**01 07 46.5**	**+2.4**
	1.1nm,0.3s,mb4.4,baz=164,slow=4.0,SNR=11						

IDC 24 01:01:05.6±3.0, 15.80S×176.51W, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.9/4, Error ellipse: s-maj=160.0km s-min=51.4km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**41.25**	**240**	P	P	01 08 52.5	-1.7
	0.8nm,0.4s,baz=93,slow=9.4,SNR=4.6						
WRA	**Warramunga Arr**	**46.84**	**257**	P	P	01 09 37.0	-2.4
	0.4nm,0.6s,baz=94,slow=7.1,SNR=2.7						
WRA				S	S	01 16 23.0	-7.1
	0.7nm,0.8s,baz=85,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**47.14**	**252**	P	P	01 09 39.5	-2.3
	0.9nm,0.3s,baz=87,slow=7.9,SNR=13						
ASAR				PcP	PcP	01 11 12.2	-1.7
	0.5nm,0.6s,baz=102,slow=4.5,SNR=4.3						
ASAR				S	S	01 16 35.0	+0.6
	0.5nm,1.0s,baz=83,slow=24,SNR=2.9						
FITZ	**Fitzroy Crossi**	**55.20**	**259**	P	P	01 10 40.8	-2.1
	2.4nm,0.6s,baz=149,slow=5.9,SNR=4.9						

IDC 24 01:11:48.2±2.5, 16.13S×176.83W, mb4.2/3, mb1 4.5/3, mb1mx3.9/12, mbtmp4.2/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/22, 1C, Error ellipse: s-maj=320.6km s-min=30.3km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.26**	**258**	LR	LR	01 30 29.8	
	comp=Z,97nm,21.6s,baz=46,slow=32						
WB2	**Warramunga Arr**	**46.45**	**258**	*e*P	P	01 20 17.1	-1.9
WRA	**Warramunga Arr**	**46.47**	**258**	P	P	01 20 16.5	-2.6
	0.5nm,0.4s,baz=95,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**46.75**	**253**	P	P	01 20 20.1	-1.2
	13nm,0.4s,baz=85,slow=8.3,SNR=250						
ASPA	**Alice Springs**	**46.75**	**253**	‖*i*P	P	01 20 20.0	-1.3
TXAR	**Lajitas Array**	**83.77**	**57**	P	P	01 24 19.9	-1.2
	0.8nm,0.8s,baz=216,slow=6.2,SNR=8.9						
USHA	**Ushuaia**	**87.15**	**147**	LR	LR	01 53 11.7	
	comp=Z,3μm,21.2s,baz=234,slow=28						
SNAA	**Sanae**	**92.32**	**178**	LR	LR	01 57 53.4	
	comp=Z,42nm,21.6s,baz=201,slow=30						

IDC 24 01:53:27.0±4.7, 46.06N×149.94E, mb3.7/6, mb1 4.0/6, mb1mx3.7/18, mbtmp3.7/6, Error ellipse: s-maj=134.8km s-min=33.8km az=12.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YKA	**Yellowknife Ar**	**52.78**	**35**	P	P	02 02 44.1	-1.4
	0.3nm,0.6s,baz=298,slow=7.0,SNR=7.7						
FINES	**FINESS Array B**	**63.70**	**334**	P	P	02 03 59.1	-2.7
	1.2nm,0.5s,baz=37,slow=9.5,SNR=12						
PDAR	**Pinedale Array**	**66.92**	**52**	P	P	02 04 20.2	-2.7
	0.4nm,0.6s,baz=288,slow=2.9,SNR=3.9						
NOA	**NORSAR Array B**	**68.14**	**340**	P	P	02 04 27.9	-2.4
	0.3nm,0.7s,baz=51,slow=4.4,SNR=3.0						
GERES	**GERESS Array B**	**78.08**	**332**	P	P	02 05 28.7	0.0
	0.3nm,0.6s,baz=45,slow=5.6,SNR=3.2						
TXAR	**Lajitas Array**	**79.74**	**58**	P	P	02 05 37.1	-1.1
	0.3nm,0.6s,baz=304,slow=4.3,SNR=7.2						

IDC 24 02:12:27.9±3.7, 8.92S×119.48E, mb3.4/2, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML3.8/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/10, Error ellipse: s-maj=196.2km s-min=27.1km az=60.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**10.91**	**147**	Pn	P	02 15 05.7	-2.9
	1.4nm,0.3s,baz=323,slow=9.8,SNR=26						
FITZ				Sn	S	02 16 57.2	-15
	0.6nm,0.3s,baz=185,slow=18,SNR=5.1						
WRA	**Warramunga Arr**	**18.07**	**129**	P	P	02 16 39.8	-2.5
	0.2nm,0.3s,baz=299,slow=14,SNR=5.3						
WRA				S	S	02 19 49.2	-13
	0.1nm,0.3s,baz=309,slow=20,SNR=2.2

KMY	**Karmoy**	**0.38**	**219**	*eP*		**Pg**	**02 41 44.7**	**+0.6**
KMY				*eS*		**Sg**	**02 41 48.7**	**-0.4**
KMY					AML	AML	02 41 49.9	
	comp=Z,255nm,0.1s							
KMY	**Karmoy**	**0.38**	**219**	*eP*		**Pg**	**02 41 44.7**	**+0.6**
	SNR=98							
KMY				*eS*		**Sg**	**02 41 48.7**	**-0.5**
	comp=Z,255nm,0.1s,SNR=98							
BLS5	**Blasjo**	**0.39**	**102**	*eP*		**Pg**	**02 41 47.0**	**+2.7**
BLS5				*eS*		**Sg**	**02 41 52.8**	**+3.3**
BLS5					AML	AML	02 41 53.3	
	comp=Z,158nm,0.1s							
STAV	**Stavanger**	**0.57**	**181**	*eP*		**Pg**	**02 41 48.0**	**+0.1**
STAV				*eS*		**Sg**	**02 41 55.3**	**-0.3**
STAV					AML	AML	02 41 55.9	
	comp=Z,196nm,0.2s							
STAV	**Stavanger**	**0.57**	**181**	*eP*		**Pg**	**02 41 48.0**	**+0.1**
	SNR=92							
STAV				*eS*		**Sg**	**02 41 55.3**	**-0.3**
	comp=Z,196nm,0.2s,SNR=92							
ODD1	**Odda**	**0.62**	**48**	*eP*		**Pg**	**02 41 49.3**	**+0.4**
ODD1				*eSg*		**Sg**	**02 41 58.0**	**+0.9**
ODD1					AML	AML	02 41 58.5	
	comp=Z,500nm,0.2s							
OSGS	**Os**	**0.70**	**350**	*eP*		**Pg**	**02 41 51.2**	**+0.7**
OSGS				*eS*		**Sg**	**02 42 00.6**	**+0.7**
EGD	**Espegrend**	**0.81**	**343**	*eP*		**Pb**	**02 41 52.9**	**+0.4**
EGD				*eS*		**Sb**	**02 42 03.8**	**+0.5**
EGD					AML	AML	02 42 05.2	
	comp=Z,124nm,0.4s							
EGD	**Espegrend**	**0.81**	**343**	*eP*		**Pb**	**02 41 52.9**	**+0.5**
	SNR=91							
EGD				*eS*		**Sb**	**02 42 03.8**	**+0.5**
	comp=Z,124nm,0.4s,SNR=91							
BER	**Bergen**	**0.90**	**348**	*eP*		**Pb**	**02 41 54.7**	**+0.7**
BER				*eS*		**Sb**	**02 42 06.7**	**+0.6**
BER					AML	AML	02 42 08.7	
	comp=Z,77nm,0.3s							
BER	**Bergen**	**0.90**	**348**	*eP*		**Pb**	**02 41 54.7**	**+0.7**
	SNR=91							
BER				*eS*		**Sb**	**02 42 06.7**	**+0.6**
	comp=Z,77nm,0.3s,SNR=91							
RUND	**Rundenannen**	**0.93**	**349**	*eP*		**Pb**	**02 41 55.3**	**+0.8**
RUND				*eS*		**Sb**	**02 42 07.6**	**+0.8**
RUND					AML	AML	02 42 09.3	
	comp=Z,116nm,0.2s							
RUND	**Rundenannen**	**0.93**	**349**	*eP*		**Pb**	**02 41 55.3**	**+0.8**
	SNR=91							
RUND				*eS*		**Sb**	**02 42 07.6**	**+0.8**
	comp=Z,116nm,0.2s,SNR=91							
ASK	**Askoy**	**1.02**	**345**	*eP*		**Pb**	**02 41 56.4**	**+0.4**
ASK				*eS*		**Sb**	**02 42 10.1**	**+0.7**
SNART	**Snartemo**	**1.40**	**146**	*eP*		**Pn**	**02 42 04.7**	**+2.2**
SNART				*eSg*		**Sg**	**02 42 22.9**	**-0.3**
SNART					AML	AML	02 42 23.5	
	comp=Z,325nm,0.2s							
SUE	**Sulen**	**1.63**	**343**	*eP*		**Pn**	**02 42 04.9**	**-0.8**
SUE				*ePg*		**Pg**	**02 42 07.0**	**-2.0**
SUE				*eSg*		**Sg**	**02 42 28.1**	**-2.7**
SUE					AML	AML	02 42 28.9	
	comp=Z,93nm,0.3s							
SUE	**Sulen**	**1.63**	**343**	*ePg*		**Pg**	**02 42 07.0**	**-2.0**
	SNR=90							
SUE				*eSg*		**Sg**	**02 42 28.1**	**-2.6**
	comp=Z,93nm,0.3s,SNR=90							
HYA	**Hoyanger**	**1.69**	**8**	*eP*		**Pn**	**02 42 06.9**	**+0.4**
HYA				*eSg*		**Sg**	**02 42 32.0**	**-0.5**
HYA					AML	AML	02 42 32.8	
	comp=Z,55nm,0.3s							
HYA	**Hoyanger**	**1.69**	**8**	*eP*		**Pn**	**02 42 06.9**	**+0.3**
	SNR=55							
HYA				*eSg*		**Sg**	**02 42 32.0**	**-0.6**
	comp=Z,55nm,0.3s,SNR=90							
KONO	**Kongsberg**	**1.98**	**84**	*eP*		**Pn**	**02 42 10.5**	**-0.3**
KONO				*eSg*		**Sg**	**02 42 38.4**	**-4.1**
FOO	**Floro**	**2.13**	**351**	*eP*		**Pn**	**02 42 11.7**	**-1.2**
FOO				*eSg*		**Sg**	**02 42 42.9**	**-4.5**
FOO					AML	AML	02 42 44.2	
	comp=Z,50nm,0.1s							
FOO	**Floro**	**2.13**	**351**	*eP*		**Pn**	**02 42 11.7**	**-1.2**
	SNR=55							
FOO				*eSg*		**Sg**	**02 42 42.8**	**-4.5**
	comp=Z,50nm,0.1s,SNR=90							
DOMB	**Dombas**	**3.03**	**31**	*e*		**Pn**	**02 42 31.5**	**+5.7**
NB2	**NORSAR Subarra**	**3.15**	**58**	Pn		**Pn**	**02 42 26.1**	**-1.3**
NB2				Pg		**Pg**	**02 42 32.8**	**-6.4**
NB2				Lg			02 43 16.7	
MOL	**Molde**	**3.20**	**15**	*eP*		**Pn**	**02 42 27.2**	**-1.1**
MOL				*eS*		**Sn**	**02 43 03.6**	**-3.6**
HFS	**Hagfors**	**4.08**	**78**	Pn		**Pn**	**02 42 39.5**	**-1.2**
	baz=257,slow=12							
HFS				Pg		**Pg**	**02 42 48.1**	**-10**
	baz=259,slow=16							
HFS				Lg			02 43 43.9	
	baz=264,slow=37							
HFS	**Hagfors**	**4.08**	**78**	Pg		**Pg**	**02 42 48.1**	**-10**
	SNR=7.1							
FIA0	**FINESS Array S**	**10.23**	**70**	Lg			02 46 55.2	
	baz=267,slow=37							
FIA0	**FINESS Array S**	**10.23**	**70**	Lg			02 46 55.2	
	baz=267,slow=37							

NEIC ***24*** *03:09:49.7,59.23N×153.60W,h100km,MG3.6(AEIC), After AEIC.*
IDC ***24*** *03:09:49.0±4.5,59.36N×153.69W,h98km±48km,mb3.5/2, mb1 3.7/6,mb1mx3.3/20,mbtmp3.9/6,MS3.0/1,Ms1 3.0/1, ms1mx2.5/25,Error ellipse: s-maj=43.6km s-min=20.3km az=7.0*

ISC 24 03:09:47.3±0.3,59.23N±0.03×153.55W±0.07, h118km±4km,n91,σ0°73/93,mb3.8/2,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUI	**Augustine Isla**	**0.13**	**29**	P	**P**	**03 10 03.6**	**-0.1**
AGU	**Augustine-Summ**	**0.15**	**24**	P	**P**	**03 10 03.8**	**+0.1**
AUW	**Augustine West**	**0.15**	**15**	P	**P**	**03 10 03.8**	**+0.1**
MCNL	**McNeil River**	**0.41**	**265**	P	**P**	**03 10 04.2**	**-0.4**
OPT	**Oil Point**	**0.46**	**21**	P	**P**	**03 10 05.1**	**+0.2**
KAPH	**Katmai Pasha**	**0.76**	**214**	P	**P**	**03 10 07.1**	**0.0**
KAPH				S	**S**	**03 10 20.7**	**-1.3**
IVS	**Iliamna South**	**0.82**	**17**	P	**P**	**03 10 08.0**	**+0.3**
IVE	**Iliamna Volcan**	**0.84**	**19**	P	**P**	**03 10 07.8**	**0.0**
IVE				S	**S**	**03 10 22.2**	**-1.1**
SYI	**Shuyak Island**	**0.86**	**135**	P	**P**	**03 10 08.4**	**+0.3**
ILW	**Iliamna West**	**0.86**	**14**	P	**P**	**03 10 08.3**	**+0.2**
INE	**Iliamna NE**	**0.87**	**16**	P	**P**	**03 10 08.4**	**+0.2**
ILIM	**Iliamna**	**0.91**	**19**	P	**P**	**03 10 08.6**	**0.0**
KAHC	**Katmai Hardscr**	**0.95**	**233**	P	**P**	**03 10 08.7**	**-0.3**
XLV	**Seldovia**	**0.96**	**75**	P	**P**	**03 10 09.4**	**+0.3**
KAWH	**Katmai**	**1.07**	**218**	P	**P**	**03 10 09.9**	**-0.2**
CNPM	**China Poot**	**1.22**	**75**	P	**P**	**03 10 12.2**	**+0.3**
REF	**Redoubt East F**	**1.34**	**18**	P	**P**	**03 10 13.4**	**+0.3**
REF				S	**S**	**03 10 32.6**	**-0.2**
RDN	**Redoubt North**	**1.35**	**17**	P	**P**	**03 10 13.7**	**+0.4**
NCT	**North Crescent**	**1.38**	**13**	P	**P**	**03 10 13.9**	**+0.3**
ACHA	**Angle Creek He**	**1.38**	**223**	P	**P**	**03 10 13.4**	**-0.2**
NNL	**Ninilchik**	**1.41**	**53**	P	**P**	**03 10 15.3**	**+1.4**
DFR	**Drift River**	**1.44**	**17**	P	**P**	**03 10 14.7**	**+0.4**
ANCK	**Angle Creek**	**1.45**	**225**	P	**P**	**03 10 14.4**	**0.0**
CAHL	**Cahill**	**1.49**	**219**	P	**P**	**03 10 15.1**	**+0.2**
CNTC	**Contact Creek**	**1.55**	**233**	P	**P**	**03 10 15.6**	**-0.1**
KJL	**Kejulik**	**1.58**	**223**	P	**P**	**03 10 16.5**	**+0.5**
NKA	**Nikishka**	**1.91**	**36**	P	**P**	**03 10 22.1**	**+2.0**
CKL	**Chakachamna La**	**2.07**	**16**	P	**P**	**03 10 22.7**	**+0.7**
CKT	**Bend**	**2.09**	**18**	P	**P**	**03 10 22.8**	**+0.5**
SLKM	**Skilak Lake**	**2.11**	**51**	P	**P**	**03 10 23.5**	**+0.9**
CKN	**Chakachatna No**	**2.12**	**18**	P	**P**	**03 10 23.4**	**+0.7**
BGL	**Barrier Glacie**	**2.12**	**15**	P	**P**	**03 10 23.5**	**+0.8**
SVW2	**Sparrevohn**	**2.13**	**332**	P	**P**	**03 10 22.7**	**-0.2**
CP2	**Crater Peak Tw**	**2.15**	**17**	P	**P**	**03 10 24.1**	**+1.1**
CRP	**Crater Peak**	**2.16**	**18**	P	**P**	**03 10 24.0**	**+0.8**
CGLM	**Capps Glacier**	**2.23**	**20**	P	**P**	**03 10 24.7**	**+0.6**
VOGL	**Vogel Lake**	**2.36**	**40**	P	**P**	**03 10 27.7**	**+1.8**
STLK	**Strandline Lak**	**2.43**	**20**	P	**P**	**03 10 27.6**	**+0.7**
FIB	**Fire Island**	**2.57**	**39**	P	**P**	**03 10 30.0**	**+1.3**
RC01	**Rabbit Creek A**	**2.67**	**44**	P	**P**	**03 10 30.1**	**+0.1**
LTI	**Latouche**	**3.00**	**72**	P	**P**	**03 10 34.4**	**-0.2**
PWA	**Palmer West**	**3.04**	**35**	P	**P**	**03 10 35.2**	**+0.3**
PMR	**Palmer**	**3.23**	**41**	P	**P**	**03 10 36.7**	**-0.8**
ANPK	**Aniakchak Peak**	**3.41**	**227**	P	**P**	**03 10 39.9**	**-0.1**
GHO	**Glory Hole Cre**	**3.43**	**40**	P	**P**	**03 10 39.5**	**-0.7**
SML	**Sawmill**	**3.65**	**43**	P	**P**	**03 10 42.6**	**-0.6**
MID	**Middleton Isla**	**3.70**	**84**	P	**P**	**03 10 43.7**	**-0.2**
HIN	**Hinchinbrook I**	**3.75**	**69**	P	**P**	**03 10 44.0**	**-0.5**
TT01	**Tatalina**	**3.88**	**343**	P	**P**	**03 10 45.9**	**-0.4**
JPK	**Jack Peak**	**3.93**	**59**	P	**P**	**03 10 46.6**	**-0.3**
SCM	**Sheep Creek Mo**	**4.04**	**47**	P	**P**	**03 10 47.9**	**-0.5**
VLZ	**Valdez**	**4.08**	**59**	P	**P**	**03 10 48.4**	**-0.6**
CVA	**Cordova**	**4.15**	**68**	P	**P**	**03 10 49.2**	**-0.7**
EYAK	**Cordova Ski Ar**	**4.15**	**68**	P	**P**	**03 10 49.1**	**-0.8**
HUR	**Hurricane**	**4.22**	**25**	P	**P**	**03 10 51.1**	**+0.3**
TRF	**Thorofare Moun**	**4.52**	**19**	P	**P**	**03 10 54.0**	**-0.9**
KTH	**Kantishna Hill**	**4.52**	**15**	P	**P**	**03 10 54.8**	**-0.2**
KAIM	**Kayak Island**	**4.70**	**77**	P	**P**	**03 10 57.7**	**+0.4**
RND	**Reindeer**	**4.76**	**26**	P	**P**	**03 10 57.8**	**-0.4**
MCK	**McKinley**	**5.03**	**24**	P	**P**	**03 11 01.4**	**-0.4**
GLB	**Gilahina Butte**	**5.32**	**61**	P	**P**	**03 11 05.5**	**-0.3**
PAX	**Paxson**	**5.43**	**43**	P	**P**	**03 11 06.7**	**-0.5**
TGL	**Tana Glacier**	**5.59**	**70**	P	**P**	**03 11 09.5**	**+0.1**
THY	**Trims Highway**	**5.63**	**38**	*eP*	**P**	**03 11 09.9**	**0.0**
BALM	**Baldy**	**5.89**	**67**	P	**P**	**03 11 13.4**	**0.0**
HDA	**Harding Lake**	**6.06**	**28**	P	**P**	**03 11 14.8**	**-0.9**
CCB	**Clear Creek Bu**	**6.08**	**24**	P	**P**	**03 11 14.5**	**-1.4**
COLA	**College**	**6.27**	**23**	P	**P**	**03 11 17.0**	**-1.5**
MDM	**Murphy Dome**	**6.27**	**21**	P	**P**	**03 11 17.6**	**-1.0**
DOT	**Dot Lake**	**6.35**	**42**	P	**P**	**03 11 18.7**	**-1.0**
CTGM	**Chitina Glacie**	**6.35**	**69**	P	**P**	**03 11 20.4**	**+0.6**
DRIA	**Deer Island**	**6.38**	**232**	P	**P**	**03 11 20.0**	**-0.2**
IL1	**Eielson Array**	**6.38**	**27**	P	**P**	**03 11 18.9**	**-1.4**
BCA3	**Beaver Creek A**	**6.87**	**51**	P	**P**	**03 11 26.5**	**-0.4**
IMA	**Indian Mountai**	**6.87**	**360**	*eP*	**P**	**03 11 26.7**	**-0.1**
PNL	**Peninsula**	**7.23**	**80**	P	**P**	**03 11 31.5**	**-0.3**
COLD	**Coldfoot**	**8.17**	**9**	P	**P**	**03 11 43.5**	**-0.9**
DAWY	**Dawson**	**8.29**	**48**	P	**P**	**03 11 45.8**	**-0.3**
TNA	**Tin City**	**9.20**	**320**	P	**P**	**03 11 59.4**	**+1.2**
SIT	**Sitka**	**9.87**	**95**	P	**P**	**03 12 05.7**	**-1.3**
DLBC	**Dease Lake**	**12.20**	**84**	P	**P**	**03 12 40.2**	**+2.4**
	1.9nm,0.3s,baz=255,slow=10,SNR=43						
DLBC	**Dease Lake**	**12.20**	**84**	*eP*	**P**	**03 12 39.9**	**+2.1**
INK	**Inuvik**	**12.63**	**36**	P	**P**	**03 12 43.6**	**+0.1**
	0.2nm,0.3s,baz=245,slow=14,SNR=6.2						
INK	**Inuvik**	**12.63**	**36**	*eP*	**P**	**03 12 43.5**	**0.0**
YKA	**Yellowknife Ar**	**19.04**	**63**	P	**P**	**03 14 02.9**	**+0.8**
	0.1nm,0.3s,baz=276,slow=11,SNR=7.3						
YKA	**Yellowknife Ar**	**19.04**	**63**	P	**P**	**03 14 02.9**	**+0.7**
FX1	**Attu Island--F**	**19.49**	**266**	P	**P**	**03 14 07.3**	**+0.3**
	1.6nm,0.3s,baz=243,slow=12,SNR=21						
FX1	**Attu Island--F**	**19.49**	**266**	P	**P**	**03 14 06.6**	**-0.4**
YBH	**Yreka Blue Hor**	**25.94**	**119**	LR	LR	03 24 01.2	
	comp=Z,32nm,18.5s,baz=86,slow=33						
TXAR	**Lajitas Array**	**44.98**	**109**	P	**P**	**03 17 55.2**	**+3.1**
	0.4nm,0.8s,mb3.2,baz=333,slow=5.6,SNR=4.7						
SONM	**Songino Array**	**55.02**	**306**	P	**P**	**03 19 09.0**	**+0.7**
	1.9nm,0.6s,mb4.3,baz=38,slow=7.2,SNR=17						

MOS ***24*** *03:18:55.8±1.0,50.05N×156.51E,h60km,mb4.2/5,Error ellipse: s-maj=29.0km s-min=8.8km az=68.3*
NEIC ***24*** *03:18:56.1±2.4,50.12N×156.19E,h55km±18km,mb4.1/3, Error ellipse: s-maj=24.5km s-min=19.2km az=173.0*
KRSC ***24*** *03:18:57.0±0.6,50.13N×156.66E,h25km±7km,ML4.9*
IDC ***24*** *03:18:59.1±3.1,50.13N×156.39E,h77km±29km,mb3.6/8, mb1 4.0/10,mb1mx3.7/21,mbtmp4.2/10,Error ellipse: s-maj=37.1km s-min=18.7km az=144.0*

ISC 24 03:18:57.2±0.9,50.10N±0.08×156.6E±0.1,h73km±9km, n48,σ1°08/68,mb3.8/10,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.66**	**332**	*i* P	**P**	**03 19 09.5**	**-2.6**
SKR				*i* S	**S**	**03 19 18.5**	**-4.6**
SKR				pmax	pmax		
	comp=N,6μm,0.2s						
SKR				pmax	pmax		
	comp=E,6μm,0.2s						
SKR				pmax	pmax		
	comp=Z,7μm,0.2s						
SKR				pmax	pmax		
	comp=N,8μm,1.0s						
SKR				pmax	pmax		
	comp=E,8μm,1.0s						
SKR				pmax	pmax		
	comp=Z,7μm,1.0s						
SKR				smax			
	comp=E,9μm,0.4s						
SKR				smax			
	comp=N,5μm,0.5s						
SKR				smax			
	comp=N,18μm,1.0s						
SKR				smax			
	comp=E,10μm,1.0s						
SKR	**Severo-Kuril's**	**0.66**	**332**	*i* P	**P**	**03 19 09.5**	**-2.6**
SKR				*i* S	**S**	**03 19 18.5**	**-4.6**
ALID	**Alaid**	**1.02**	**319**	*eP*	**P**	**03 19 16.2**	**-0.2**
ALID				*eS*	**S**	**03 19 31.0**	**+0.3**
PAU	**Pauzhetka**	**1.37**	**5**	*i* P	**P**	**03 19 21.0**	**-0.1**
PAU				*eS*	**S**	**03 19 38.5**	**-0.3**
PAU				Smax			
	comp=E,4μm,0.2s						
GRL	**Gorelyy**	**2.62**	**20**	*eP*	**P**	**03 19 39.2**	**+0.9**
GRL				*eS*	**S**	**03 20 09.9**	**+0.9**
RUS	**Russkaya**	**2.62**	**26**	P	**P**	**03 19 37.7**	**-0.6**
RUS				S	**S**	**03 20 07.6**	**-1.5**
RUS	**Russkaya**	**2.62**	**26**	*eP*	**P**	**03 19 37.6**	**-0.7**
RUS				*eS*	**S**	**03 20 07.6**	**-1.5**
APC	**Apacha**	**2.85**	**7**	*eP*	**P**	**03 19 42.2**	**+0.7**
APC				*eS*	**S**	**03 20 14.9**	**+0.2**
APC				Smax			
	comp=E,160nm,0.9s						
PET	**Petropavlovsk**	**3.19**	**23**	P	**P**	**03 19 46.8**	**+0.5**
PET				S	**S**	**03 20 23.2**	**-0.1**
PET	**Petropavlovsk**	**3.19**	**23**	*eP*	**P**	**03 19 45.9**	**-0.4**
PET				*eS*	**S**	**03 20 22.2**	**-1.1**
PET	**Petropavlovsk**	**3.19**	**23**	*eP*	**P**	**03 19 46.6**	**+0.3**
PET				*eS*	**S**	**03 20 23.2**	**-0.1**
UGLR	**Uglovaya**	**3.40**	**23**	*eP*	**P**	**03 19 50.5**	**+1.2**
AVH	**Avacha**	**3.43**	**22**	*eP*	**P**	**03 19 50.2**	**+0.5**
AVH				*eS*	**S**	**03 20 28.9**	**-0.5**
KOK	**Koryaka**	**3.44**	**21**	*eP*	**P**	**03 19 51.4**	**+1.7**
SMAR	**Somma**	**3.45**	**22**	*eP*	**P**	**03 19 51.5**	**+1.6**
NLC	**Nalytchevo**	**3.52**	**28**	P	**P**	**03 19 49.3**	**-1.5**
NLC				S	**S**	**03 20 27.7**	**-3.7**
NLC	**Nalytchevo**	**3.52**	**28**	*eP*	**P**	**03 19 50.4**	**-0.4**
NLC				*eS*	**S**	**03 20 29.2**	**-2.2**
SPN	**Mys Shipunski**	**3.68**	**34**	*eP*	**P**	**03 19 52.9**	**-0.2**
SPN				*eS*	**S**	**03 20 33.7**	**-1.8**
GNL	**Ganaly**	**3.69**	**12**	*i* P	**P**	**03 19 54.2**	**+0.9**
KII	**Karymskiy**	**4.31**	**23**	P	**P**	**03 20 04.0**	**+2.1**
KII				S	**S**	**03 20 53.2**	**+1.9**
KII	**Karymskiy**	**4.31**	**23**	*eP*	**P**	**03 20 03.7**	**+1.8**
KII				*eS*	**S**	**03 20 51.7**	**+0.4**
TUMR	**Tumrok**	**5.62**	**21**	*eP*	**P**	**03 20 20.7**	**+0.8**
KMNR	**Kamenistaya**	**6.07**	**20**	*eP*	**P**	**03 20 25.2**	**-1.0**
KBTR	**Krutoberegovo**	**7.16**	**29**	P	**P**	**03 20 41.8**	**+0.3**
KBTR	**Krutoberegovo**	**7.16**	**29**	*eP*	**P**	**03 20 42.2**	**+0.7**
KBG	**Krutoberegovo**	**7.17**	**28**	*eP*	**P**	**03 20 41.6**	**+0.1**
KBG				*eS*	**S**	**03 21 58.9**	**-3.2**
BKI	**Bering**	**7.65**	**44**	*eS*	**S**	**03 22 02.5**	**-11**
BKI				Smax			
	comp=E,50nm,0.7s						
FX1	**Attu Island--F**	**10.69**	**69**	P	**P**	**03 21 29.4**	**0.0**
	comp=E,6.3nm,0.3s,baz=270,slow=4.0,SNR=41						
FX1				S	**S**	**03 23 18.5**	**-10**
	comp=E,9.8nm,0.3s,baz=330,slow=23,SNR=14						
FX1	**Attu Island--F**	**10.69**	**69**	*eP*	**P**	**03 21 28.8**	**-0.6**
FX1				*eS*	**S**	**03 23 18.5**	**-10**
ASAJ	**Asahikawa**	**11.26**	**243**	PN	**P**	**03 21 36.7**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**11.26**	**243**	P	**P**	**03 21 36.6**	**-0.5**
	comp=Z,2.8nm,0.3s,baz=67,slow=13,SNR=27						
INK	**Inuvik**	**37.57**	**35**	*eP*	**P**	**03 26 05.4**	**-0.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**37.57**	**35**	P	**P**	**03 26 05.6**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.0,baz=296,slow=7.1,SNR=14						
INK	**Inuvik**	**37.57**	**35**	*eP*	**P**	**03 26 05.4**	**-0.3**
	comp=Z,1.6nm,0.7s,mb4.0						
YKA	**Yellowknife Ar**	**46.85**	**40**	P	**P**	**03 27 21.3**	**+0.2**
YKA	**Yellowknife Ar**	**46.85**	**40**	P	**P**	**03 27 21.2**	**+0.1**
	comp=Z,1.5nm,0.6s,mb3.9,baz=297,slow=7.6,SNR=23						
CHKZ	**Chkalovo**	**50.08**	**309**	*eP*	**P**	**03 27 41.9**	**-4.4**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
CHKZ	**Chkalovo**	**50.08**	**309**	*eP*	**P**	**03 27 41.9**	**-4.4**
	comp=Z,1.0nm,0.6s,mb3.9						
YBH	**Yreka Blue Hor**	**54.17**	**66**	P	**P**	**03 28 18.8**	**+1.8**
YBH				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YBH	**Yreka Blue Hor**	**54.17**	**66**	P	**P**	**03 28 18.8**	**+1.8**
	comp=Z,1.3nm,0.6s,mb4.2,baz=256,slow=8.3,SNR=3.7						
FCC	**Fort Churchill**	**57.18**	**36**	*eP*	**P**	**03 28 37.2**	**-1.2**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**57.18**	**36**	*eP*	**P**	**03 28 37.1**	**-1.3**
	comp=Z,1.6nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**60.93**	**57**	P	**P**	**03 29 05.1**	**+0.6**
	comp=Z,1.3nm,0.8s,mb4.0,baz=325,slow=4.7,SNR=11						
SCHQ	**Schefferville**	**69.30**	**25**	P	**P**	**03 29 56.8**	**-1.3**
	comp=Z,1.2nm,0.8s,mb3.8,baz=130,slow=7.9,SNR=6.1						
WRA	**Warramunga Arr**	**72.47**	**202**	P	**P**	**03 30 16.2**	**-1.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=18,slow=6.1,SNR=4.9						
TXAR	**Lajitas Array**	**73.86**	**64**	P	**P**	**03 30 26.4**	**+0.7**
	comp=Z,1.4nm,0.7s,mb3.8,baz=294,slow=4.3,SNR=23						
BRTR	**Keskin Array B**	**77.48**	**318**	P	**P**	**03 30 46.3**	**+0.3**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
BRTR	**Keskin Array B**	**77.48**	**318**	P	**P**	**03 30 46.3**	**+0.3**
	comp=Z,0.5nm,0.8s,mb3.3,baz=117,slow=6.4,SNR=4.3						

NEIC 24 03:21:23.6±2.7,41.78N×126.25W,h10km,mb3.4/3,Error ellipse: s-maj=31.8km s-min=11.9km az=76.0,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**2.10**	**115**	*eP*	Pn	03 21 58.0	-1.2
HUMO	**Hull Mountain**	**2.58**	**70**	*eP*	Pn	03 22 03.8	-2.4
DBO	**Dodson Butte**	**2.60**	**58**	P	Pn	03 22 05.0	-1.4
YBH	**Yreka Blue Hor**	**2.65**	**90**	P	Pn	03 22 06.7	-0.4
BBOR	**Butler Butte**	**2.87**	**66**	P	Pn	03 22 09.1	-1.2
HSO	**Harness Mounta**	**2.91**	**52**	P	Pn	03 22 09.8	-1.1
LHEM	**Herd Peak**	**3.02**	**91**	P	Pn	03 22 11.9	-0.5
BUOR	**Burton Butte**	**3.02**	**79**	P	Pn	03 22 11.8	-0.6
WDC	**Whiskeytown Da**	**3.04**	**112**	P	Pn	03 22 12.6	-0.1
IRO	**Indian Ridge**	**3.68**	**51**	P	Pn	03 22 21.5	-0.3
FRIS	**Frissel Point**	**3.90**	**50**	P	Pn	03 22 24.7	-0.1
HUOR	**Husband**	**3.99**	**53**	P	Pn	03 22 25.7	-0.4
NCOR	**Newberry Crate**	**4.23**	**61**	P	Pn	03 22 28.6	-0.9
MOD	**Modoc**	**4.44**	**86**	*eP*	Pn	03 22 29.7	-2.9
BMO	**Blue Mountains**	**7.21**	**62**	*eP*	Pn	03 23 09.4	-2.2
FFC	**Flin Flon**	**20.58**	**43**	P	P	03 26 02.5	-2.5
	0.9nm,0.6s						
WMOK	**Wichita Mounta**	**22.62**	**99**	P	P	03 26 25.9	+0.2
	1.2nm,0.4s						
FCC	**Fort Churchill**	**26.30**	**39**	P	P	03 26 57.7	-3.0
	0.2nm,0.5s						

BGS ***24*** *03:26:52.5±1.4,50.16N×24.59W,h10km,mb5.1*
CSEM ***24*** *03:27:05.0±0.1,50.70N×22.96W,h2km,mb4.5/30,Ms3.4, Error ellipse: s-maj=3.4km s-min=1.8km az=28.0*
IDC ***24*** *03:27:06.9±1.1,50.84N×22.95W,mb4.0/19,mb1 4.2/21, mb1mx4.1/27,mbtmp4.1/21,ML4.7/2,MS3.6/16,Ms1 3.6/16, ms1mx3.5/24,Error ellipse: s-maj=31.3km s-min=13.1km az=9.0*
BJI ***24*** *03:27:06.0,50.60N×22.90W,h10km,mB5.2,mb4.8*
MOS ***24*** *03:27:07.2±1.1,50.83N×22.82W,h10km,mb4.6/32,Error ellipse: s-maj=8.3km s-min=4.7km az=173.3*
NEIC ***24*** *03:27:08.1±0.3,50.63N×22.91W,h10km,mb4.3/85, MS3.6/1,Error ellipse: s-maj=6.2km s-min=3.2km az=207.0*
ZUR_RM ***24*** *03:27:08,50.63N×22.91W,h15km,Mw4.5/16,Moment Tensor Solution. s16 Moment tensor: Scale 10¹⁵Nm; Mrr-6.82; Mθθ3.69; Mϕϕ3.13; Mrθ1.59; Mθϕ-0.06; Mϕr-5.05; Best double couple: M₀7.31×10¹⁵ NP1:ϕs338°,δ68°,λ-87°. NP2:ϕs151°,δ22°,λ-97°. Principal axes: T 5.

EZAM Zamans 12.95 126 P **P** 03 30 10.9 -2.3
comp=Z,9,6nm,0.2s
EZAM S **S** 03 32 17.5 -21
EZAM Zamans 12.95 126 P **P** 03 30 10.9 -2.2
comp=Z,9,6nm,0.2s,SNR=24
EZAM S **S** 03 32 17.5 -21
comp=Z,16nm,0.4s,SNR=5.3
EPON Pontenova 12.98 118 P **P** 03 30 11.1 -2.5
comp=Z,9,4nm,0.2s
EPON S S 03 32 16.1 -23
EPON Pontenova 12.98 118 P **P** 03 30 11.1 -2.5
comp=Z,9,4nm,0.2s,SNR=21
EPON S S 03 32 16.1 -23
comp=Z,98nm,0.4s,SNR=14
QUIF Quistinic 13.15 94 *e*P **P** 03 30 14.0 -1.8
comp=Z,40nm,0.6s
QUIF Quistinic 13.15 94 *e*P **P** 03 30 14.0 -1.8
QUIF pmax pmax
comp=Z,20nm,0.6s
LHO Holmfirth 13.23 69 *i* P **P** 03 30 19.8 +3.0
EINC Incio 13.31 121 P **P** 03 30 15.5 -2.4
comp=Z,6.3nm,0.3s
EINC S **S** 03 32 25.0 -22
EINC Incio 13.31 121 P **P** 03 30 15.5 -2.4
comp=Z,6.3nm,0.3s,SNR=16
EINC S **S** 03 32 25.0 -22
comp=Z,86nm,0.7s,SNR=10
JVM Valle D.L. Mar 13.38 88 *e*P **P** 03 30 18.3 -0.5
JSA Saint Aubin 13.41 88 *e*P **P** 03 30 18.6 -0.6
SGMF Saint Gilles 13.43 92 *e*P **P** 03 30 17.4 -2.0
comp=Z,16nm,0.2s
SGMF Saint Gilles 13.43 92 *e*P **P** 03 30 17.4 -2.0
SGMF pmax pmax
comp=Z,8.0nm,0.3s
JRS Jersey 13.46 88 *e*P **P** 03 30 19.0 -0.9
ELOB Lobios 13.48 125 P **P** 03 30 18.2 -1.9
comp=Z,8.7nm,0.4s
ELOB S **S** 03 32 30.5 -20
ELOB Lobios 13.48 125 P **P** 03 30 18.2 -2.0
comp=Z,8.7nm,0.4s,SNR=18
ELOB S **S** 03 32 30.5 -21
comp=Z,29nm,0.5s,SNR=5.4
JQE Queens East 13.50 88 *e*P **P** 03 30 19.6 -0.8
ERUA La Rua 13.60 121 P **P** 03 30 19.3 -2.4
comp=Z,12nm,0.4s
ERUA S **S** 03 32 32.2 -22
ERUA La Rua 13.60 121 P **P** 03 30 19.3 -2.4
comp=Z,12nm,0.4s,SNR=12
ERUA S **S** 03 32 32.2 -22
comp=Z,36nm,0.5s,SNR=9.8
PVRL Vila Real 14.09 126 *e*P **P** 03 30 26.3 -1.8
comp=Z,46nm,2.1s
PVRL *e*S **S** 03 32 45.8 -20
EARI Arriondas 14.10 115 P **P** 03 30 26.2 -2.1
comp=Z,10.0nm,0.3s
EARI S **S** 03 32 45.2 -21
EARI Arriondas 14.10 115 P **P** 03 30 26.2 -2.1
comp=Z,10.0nm,0.3s,SNR=62
EARI S **S** 03 32 45.2 -21
comp=Z,46nm,0.6s,SNR=9.3
ECAL Calabor 14.13 122 P **P** 03 30 27.8 -0.8
comp=Z,11nm,0.3s
ECAL S **S** 03 32 46.1 -20
ECAL Calabor 14.13 122 P **P** 03 30 27.8 -0.8
comp=Z,11nm,0.3s,SNR=8.4
ECAL S **S** 03 32 46.1 -20
comp=Z,87nm,0.4s,SNR=9.2
BORG Borgarnes 14.15 3 LR LR 03 33 42.9
comp=Z,137nm,18.3s,baz=154,slow=28
BORG Borgarnes 14.15 3 P **P** 03 30 29.5 +0.8
comp=Z,7nm,1.0s
BORG Borgarnes 14.15 3 P **P** 03 30 29.5 +0.7
comp=Z,67nm,1.0s
PBRG Braganca 14.22 122 *e*P **P** 03 30 29.0 -0.9
comp=Z,33nm,1.8s
PBRG *e*S S 03 32 45.3 -23
PVIS Viseu 14.41 128 *e*P **P** 03 30 32.9 +0.6
comp=Z,31nm,2.0s
PVIS *e*S **S** 03 32 53.4 -20
GRR Gorron 14.47 91 *e*P **P** 03 30 32.3 -0.7
comp=Z,40nm,0.4s
GRR Gorron 14.47 91 *e*P **P** 03 30 32.3 -0.7
GRR pmax pmax
comp=Z,20nm,0.4s
FLN La Foliniere 14.60 89 *e*P **P** 03 30 35.2 +0.5
comp=Z,32nm,0.4s
FLN *e*R
comp=Z,333nm,21.2s
MTE Manteigas 14.82 128 *e*P **P** 03 30 38.4 +0.7
comp=Z,24nm,1.6s
MTE *e*S **S** 03 33 03.4 -19
LDF La Druitiere 14.88 89 *e*P **P** 03 30 38.1 -0.3
comp=Z,15nm,0.3s
LDF La Druitiere 14.88 89 *e*P **P** 03 30 38.1 -0.3
LDF pmax pmax
comp=Z,7.0nm,0.3s
PTOM Tomar 15.00 132 *e*P **P** 03 30 39.4 -0.7
comp=Z,34nm,1.2s
PTOM *e*S **S** 03 33 07.1 -20
ELAN Lanestosa 15.18 112 P **P** 03 30 40.3 -2.1
comp=Z,4.2nm,0.1s
ELAN S **S** 03 33 09.2 -22
ELAN Lanestosa 15.18 112 P **P** 03 30 40.3 -2.1
comp=Z,4.2nm,0.1s,SNR=14
ELAN S **S** 03 33 09.2 -22
comp=Z,53nm,0.5s,SNR=11
PLOU Loures 15.25 135 *e*P **P** 03 30 42.8 -0.5
PLOU *e*S **S** 03 33 11.2 -22
PCBR Castelo Branco 15.28 129 *e*P **P** 03 30 44.9 +1.2
comp=Z,19nm,2.0s
PCBR *e*S **S** 03 33 16.8 -17
MFF Saint Martin d 15.54 96 *e*P **P** 03 30 46.0 -1.1
MENF Mencas 15.87 81 *e*P **P** 03 30 56.0 +4.7
MOE Montemor 15.91 134 *e*P **P** 03 30 52.7 +0.9
MOE *e*S **S** 03 33 27.0 -21
EVO Evora 16.05 133 *e*P **P** 03 30 51.9 -1.8
comp=Z,9,7nm,0.3s
EVO *e*R
comp=Z,174nm,18.5s
EALK Alkurruntz 16.34 109 P **P** 03 30 55.9 -1.4
comp=Z,20nm,0.3s
EALK S **S** 03 33 37.1 -21
EALK Alkurruntz 16.34 109 P **P** 03 30 55.9 -1.4
comp=Z,20nm,0.3s,SNR=30
EALK S **S** 03 33 37.1 -21
comp=Z,56nm,0.4s,SNR=8.9
EBAD Badajoz 16.35 131 P **P** 03 30 57.5 0.0
comp=Z,1.0nm,0.2s
EBAD S **S** 03 33 38.8 -20
EBAD Badajoz 16.35 131 P **P** 03 30 57.5 0.0
comp=Z,1.0nm,0.2s,SNR=5.6
EBAD S **S** 03 33 38.8 -20
comp=Z,2.8nm,0.3s,SNR=6.1
PBEJ Beja 16.53 134 *e*P **P** 03 30 59.6 -0.2
comp=Z,21nm,1.8s
PBEJ *e*S **S** 03 33 43.9 -19
PTEO Sao Teotonio 16.55 137 *e*P **P** 03 31 00.5 +0.5
comp=Z,66nm,1.4s
PTEO *e*S **S** 03 33 45.1 -18
SJPF Ste Jean 16.57 109 *e*P **P** 03 30 59.0 -1.3
comp=Z,15nm,0.2s
SJPF Ste Jean 16.57 109 *e*P **P** 03 30 59.0 -1.3
SJPF pmax pmax
comp=Z,8.0nm,0.2s
LFF La Frestale 16.83 101 *e*P **P** 03 31 04.1 +0.6
comp=Z,13nm,0.3s
LFF La Frestale 16.83 101 *e*P **P** 03 31 04.1 +0.6
LFF pmax pmax
comp=Z,7.0nm,0.3s
HYF Humbligny 17.06 92 *e*P **P** 03 31 06.8 +0.4
ETSF Etsaut 17.09 108 *e*P **P** 03 31 08.2 +1.3
comp=Z,19nm,0.3s
ETSF Etsaut 17.09 108 *e*P **P** 03 31 08.2 +1.3
ETSF pmax pmax
comp=Z,10.0nm,0.3s
EGRO El Granado 17.11 134 P **P** 03 31 06.7 -0.4
comp=Z,3.6nm,0.3s
EGRO S **S** 03 33 54.9 -21
RJF Les Rejaudoux 17.14 99 *e*P **P** 03 31 07.6 +0.1
comp=Z,9,3nm,0.3s
RJF *e*R
comp=Z,223nm,20.8s
TCF Toulx Ste Croi 17.16 95 *e*P **P** 03 31 08.8 +1.1
comp=Z,55nm,0.4s
TCF Toulx Ste Croi 17.16 95 *e*P **P** 03 31 08.8 +1.1
TCF pmax pmax
comp=Z,27nm,0.4s
PALC Alcoutim 17.17 134 *e*P **P** 03 31 07.8 0.0
PALC *e*S **S** 03 33 59.6 -18
SNF Seneffe 17.21 80 P **P** 03 31 09.9 +1.6
ESBB Sonseca Array 17.22 122 S **S** 03 34 00.6 -18
comp=Z,2.7nm,0.4s,SNR=7.9
ESDC Sonseca Array 17.22 122 P **P** 03 31 09.7 +1.2
comp=Z,1.3nm,0.3s,baz=319,slow=12,SNR=22
ESDC S **S** 03 34 02.5 -16
comp=Z,2.3nm,0.3s,baz=321,slow=23,SNR=12
ESDC Sonseca Array 17.22 122 P **P** 03 31 11.2 +2.8
comp=Z,2.9nm,0.2s
ESDC S **S** 03 34 00.6 -18
ESDC S **S** 03 34 01.3 -17
ESDC Sonseca Array 17.22 122 S **S** 03 34 01.3 -17
comp=Z,7.8nm,0.6s,SNR=8.4
ESLA Sonseca Array 17.22 122 *e*P **P** 03 31 10.2 +1.7
comp=Z,2.5nm,1.0s
ESLA *e*S **S** 03 33 56.3 -22
ESLA Sonseca Array 17.22 122 *e*P **P** 03 31 10.2 +1.7
comp=Z,2.5nm,1.0s
BAIF Baives 17.26 81 *e*P **P** 03 31 09.9 +1.0
EMIN Mina Concepcio 17.30 132 P **P** 03 31 12.5 +3.1
comp=Z,4.8nm,0.5s
EMIN S **S** 03 34 00.0 -20
BGF Bois d'Agland 17.46 94 *e*P **P** 03 31 12.4 +1.0
comp=Z,157nm,0.7s
BGF Bois d'Agland 17.46 94 *e*P **P** 03 31 12.4 +1.0
BGF pmax pmax
comp=Z,79nm,0.7s
DOU Dourbes 17.49 81 P **P** 03 31 13.2 +1.4
EPF Esparros 17.57 107 *e*P **P** 03 31 12.5 -0.3
comp=Z,3.7nm,0.2s
EPF Esparros 17.57 107 *e*P **P** 03 31 12.5 -0.3
EPF pmax pmax
comp=Z,2.0nm,0.2s
GIVF Givet 17.64 81 *e*P **P** 03 31 14.6 +1.0
comp=Z,17nm,0.4s
GIVF Givet 17.64 81 *e*P **P** 03 31 14.6 +1.0
GIVF pmax pmax
comp=Z,8.0nm,0.4s
EBIE Bielsa 17.64 108 P **P** 03 31 15.4 +1.7
comp=Z,7.4nm,0.2s
EBIE S **S** 03 34 11.2 -17
CAF Calviac 17.66 99 *e*P **P** 03 31 14.7 +0.7
comp=Z,20nm,0.4s
CAF Calviac 17.66 99 *e*P **P** 03 31 14.7 +0.7
CAF pmax pmax
comp=Z,10.0nm,0.4s
SSF Saint Saulge 17.69 91 *e*P **P** 03 31 15.2 +1.0
SSF pmax pmax
comp=Z,13nm,0.5s
SSF Saint Saulge 17.69 91 *e*P **P** 03 31 15.2 +1.0
comp=Z,13nm,0.5s
RESF Ens 17.69 107 *e*P **P** 03 31 17.1 +2.8
AVF Avril sur Loir 17.69 92 *e*P **P** 03 31 14.7 +0.4
comp=Z,28nm,0.4s
AVF Avril sur Loir 17.69 92 *e*P **P** 03 31 14.7 +0.4
AVF pmax pmax
comp=Z,14nm,0.4s
ESAC San Caprasio 17.84 111 P **P** 03 31 17.8 +1.5
comp=Z,7.5nm,0.3s
ESAC S **S** 03 34 13.2 -20
ESAC San Caprasio 17.84 111 S **S** 03 34 13.2 -20
comp=Z,65nm,0.4s,SNR=7.8
EADA Adamuz 18.01 127 P **P** 03 31 20.4 +2.1
comp=Z,0.4nm,0.3s
EADA S **S** 03 34 21.3 -15
EADA Adamuz 18.01 127 P **P** 03 31 20.5 +2.1
comp=Z,0.4nm,0.3s
SMF Signal de Mont 18.06 92 *e*P **P** 03 31 20.2 +1.3
PLDF La Plantade 18.19 95 *e*P **P** 03 31 22.0 +1.5
MEZF Maizieres J'vi 18.19 86 *e*P **P** 03 31 21.5 +0.9
comp=Z,28nm,0.4s
HGN Heimansgroeve 18.20 78 *e*P **P** 03 31 22.0 +1.5
comp=Z,8.8nm,0.9s
HGN *ex* x 03 31 28.7
LBL Lubilhac 18.27 97 *e*P **P** 03 31 23.7 +2.2
ESPR Espera 18.40 132 P **P** 03 31 26.4 +3.1
comp=Z,2.6nm,0.2s
ESPR S **S** 03 34 30.4 -15
ESPR Espera 18.40 132 P **P** 03 31 26.4 +3.1
comp=Z,2.6nm,0.2s
ESPR S **S** 03 34 30.4 -15
comp=Z,6.0nm,0.5s,SNR=5.2
WTSB Winterswijk 18.54 74 *e*P **P** 03 31 23.8 -1.0
comp=Z,20nm,1.0s
MTLF Montolieu 18.55 104 *e*P **P** 03 31 25.5 +0.5
comp=Z,11nm,0.4s
MTLF Montolieu 18.55 104 *e*P **P** 03 31 25.5 +0.5
MTLF pmax pmax
comp=Z,6.0nm,0.4s
WLF Walferdange 18.57 82 P **P** 03 31 22.5 -2.7
WLF pmax pmax
comp=Z,12nm,0.8s
WLF Walferdange 18.57 82 P **P** 03 31 22.5 -2.8
comp=Z,12nm,0.8s
WLF Walferdange 18.57 82 P **P** 03 31 22.5 -2.7
comp=Z,12nm,0.8s
EMOS Mosqueruela 18.70 115 P **P** 03 31 28.4 +1.5
comp=Z,8.3nm,0.8s
EMOS S **S** 03 34 37.5 -15
EVIA Vianos 18.75 122 P **P** 03 31 29.1 +1.6
EVIA pmax pmax
comp=Z,2.0nm,0.4s
EVIA Vianos 18.75 122 P **P** 03 31 29.1 +1.6
comp=Z,2.3nm,0.4s
THEF They Montfort 18.87 86 *e*P **P** 03 31 28.7 -0.1
EMIR Miracle 18.92 108 P **P** 03 31 30.7 +1.2
comp=Z,3.1nm,0.2s
EMIR S **S** 03 34 41.4 -16
EBR Ebro Roquetas 18.97 112 *e*P **P** 03 31 34.0 +3.9
EBR *e*S **S** 03 34 49.0 -9.3
EPOB Poblet 18.99 110 P **P** 03 31 32.4 +2.1
comp=Z,1.8nm,0.3s
EPOB S **S** 03 34 42.8 -16
EQES Quesada 19.07 125 P **P** 03 31 36.9 +5.6
comp=Z,3.7nm,0.6s
EQES S **S** 03 34 46.6 -14
EMIJ Mijas 19.17 130 P **P** 03 31 37.6 +5.1
comp=Z,2.8nm,0.4s
HAU Haudompre 19.17 87 *e*P **P** 03 31 32.4 0.0
comp=Z,12nm,0.4s
HAU *e*R
comp=Z,187nm,22.0s
LASF Ste Croix 19.20 100 *e*P **P** 03 31 32.3 -0.5
comp=Z,3.0nm,0.2s
ETOB Tobarra 19.27 120 P **P** 03 31 38.8 +5.2
comp=Z,5.1nm,0.7s
ETOB S **S** 03 34 49.4 -16
VIVF Saint-Julien-l 19.34 97 *e*P **P** 03 31 35.1 +0.7
comp=Z,39nm,1.2s
VIVF Saint-Julien-l 19.34 97 *e*P **P** 03 31 35.1 +0.7
VIVF pmax pmax
comp=Z,20nm,1.2s
EJON La Jonquera 19.45 105 P **P** 03 31 40.5 +4.8
comp=Z,3.8nm,0.2s
EJON S **S** 03 34 55.5 -14
CABF La Chapelle 19.50 91 *e*P **P** 03 31 35.4 -0.8
HINF Hinteralfeld 19.55 87 *e*P **P** 03 31 36.2 -0.7
comp=Z,22nm,1.0s
HINF Hinteralfeld 19.55 87 *e*P **P** 03 31 36.2 -0.7
HINF pmax pmax
comp=Z,11nm,1.0s
ECH Echery 19.62 85 *e*P **P** 03 31 37.1 -0.5
CDF Champ du Feu 19.63 85 *e*P **P** 03 31 37.5 -0.2
comp=Z,8.0nm,0.3s
CDF Champ du Feu 19.63 85 *e*P **P** 03 31 37.5 -0.2
CDF pmax pmax
comp=Z,4.0nm,0.3s
WLS Welschbruch 19.68 85 *e*P **P** 03 31 38.3 0.0
LOMF Lomont 19.70 88 *e*P **P** 03 31 45.0 +6.5
MOF Molkenrain 19.72 87 *e*P **P** 03 31 38.6 -0.1
MUD Monsted U'grnd 19.77 61 *i* P **P** 03 31 39.5 +0.2
MUD pmax pmax
comp=Z,10.0nm,1.0s
MUD Monsted U'grnd 19.77 61 *i* P **P** 03 31 39.5 +0.2
comp=Z,10nm,1.0s
LANF Langenberg 19.80 83 *e*P **P** 03 31 40.4 +0.8
EBER Berja 19.85 126 P **P** 03 31 45.6 +5.4
comp=Z,1.2nm,0.4s
EBEN Beniarda 19.96 118 P **P** 03 31 45.8 +4.3
comp=Z,0.5nm,0.2s
EBEN S **S** 03 35 06.4 -14
ORIF Oris-en-Rattie 20.08 95 *e*P **P** 03 31 45.1 +2.5
comp=Z,8.0nm,0.6s
ORIF *e*R
comp=Z,169nm,20.5s
FELD Feldberg 20.26 86 *e*P **P** 03 31 45.0 +0.4
SMRF Simiane la Rot 20.33 98 *e*P **P** 03 31 47.9 +2.6
LPL La Plagne 20.35 93 *e*P **P** 03 31 48.0 +2.5
comp=Z,8.7nm,0.5s
LPL La Plagne 20.35 93 *e*P **P** 03 31 48.0 +2.5
LPL pmax pmax
comp=Z,4.0nm,0.5s
LPG La Plagne 20.37 93 *e*P **P** 03 31 48.6 +2.9
comp=Z,14nm,0.7s
LPG La Plagne 20.37 93 *e*P **P** 03 31 48.6 +2.9
LPG pmax pmax
comp=Z,7.0nm,0.6s
KONO Kongsberg 20.42 51 *e*P **P** 03 31 43.8 -2.3
KONO pmax pmax
comp=Z,15nm,1.0s
KONO Kongsberg 20.42 51 *e*P **P** 03 31 43.8 -2.4
comp=Z,15nm,1.0s
KONO Kongsberg 20.42 51 *e*P **P** 03 31 43.8 -2.3
comp=Z,15nm,1.0s
EIBI Ibiza 20.63 115 P **P** 03 31 52.1 +3.7
comp=Z,0.5nm,0.2s
EIBI S **S** 03 35 21.3 -13
MBDF Montbardon 20.73 95 *e*P **P** 03 31 50.0 +0.6
comp=Z,36nm,1.0s
MBDF Montbardon 20.73 95 *e*P **P** 03 31 50.0 +0.6
MBDF pmax pmax
comp=Z,18nm,1.0s
STU Stuttgart 20.73 83 *e*P **P** 03 31 50.0 +0.5
STU *e* 03 31 53.6
STU pmax pmax
comp=Z,40nm,1.0s
STU Stuttgart 20.73 83 *e*P **P** 03 31 50.0 +0.5
comp=Z,40nm,1.0s
STU *e* 03 31 53.6
MCGN Macugnaga 20.97 91 *e*P **P** 03 31 53.4 +1.5
MCGN Macugnaga 20.97 91 *e*P **P** 03 31 53.3 +1.4
ORO Oropa 21.10 92 *e*P **P** 03 31 54.9 +1.7
FRF La Foret Royal 21.21 98 *e*P **P** 03 31 57.3 +3.0
LMR La Mourre 21.23 99 *e*P **P** 03 31 55.0 +0.4
comp=Z,34nm,1.1s,mb4.3
LMR La Mourre 21.23 99 *e*P **P** 03 31 55.0 +0.4
LMR pmax pmax
comp=Z,17nm,1.1s,mb4.3
JMIC Jan Mayen 21.44 13 LR LR 03 38 49.9
comp=Z,103nm,19.1s,MS3.2,baz=118,slow=33
SFJ Sondre 21.47 330 *e*P **P** 03 31 55.8 -1.0
comp=Z,26nm,1.0s,mb4.5
SFJ Sondre 21.47 330 *e*P **P** 03 31 55.8 -1.0
comp=Z,26nm,1.0s,mb4.5
SFJD Kangerlussuaq 21.47 330 *e*P **P** 03 31 56.1 -0.7
SFJD pmax pmax
comp=Z,18nm,0.9s,mb4.4
SFJD Kangerlussuaq 21.47 330 *i* P **P** 03 31 56.1 -0.7
comp=Z,18nm,0.9s,mb4.4
SFJD Kangerlussuaq 21.47 330 *e*P **P** 03 31 56.1 -0.7
comp=Z,18nm,0.9s,mb4.4
VAI Varese 21.50 91 *e*P **P** 03 31 55.5 -1.8
NB2 NORSAR Subarra 21.51 48 P **P** 03 31 56.5 -0.8
comp=Z,7.2nm,0.9s,mb4.1,baz=257,slow=10
NB2 NORSAR Subarra 21.51 48 P **P** 03 31 56.5 -0.8
NB2 pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
NOA NORSAR Array B 21.51 48 P **P** 03 31 55.9 -1.4
comp=Z,4.5nm,0.9s,mb3.9,baz=259,slow=9.9,SNR=5.9
NOA LR LR 03 40 17.9
comp=Z,87nm,18.7s,MS3.2,baz=280,slow=37
SBF Sospel 21.56 97 *e*P **P** 03 31 54.2 -3.6
DAVA Damuels 21.66 86 ⇑ *i*P **P** 03 31 59.8 +0.9
comp=Z,11nm,1.1s,mb4.2
GRA1 Grafenberg Arr 21.75 79 *e*P **P** 03 32 00.7 +1.0
comp=Z,29nm,1.0s,mb4.7
GRF Grafenberg Arr 21.75 79 *e*P **P** 03 32 00.7 +1.0
GRF pmax pmax
comp=Z,29nm,1.0s,mb4.7
MOX Moxa 21.75 77 *e*P **P** 03 32 00.0 +0.2
MOX pmax pmax
comp=Z,53nm,1.6s,mb4.7
MOX MLR MLR
comp=Z,200nm,17.0s,MS3.6
MOX Moxa 21.75 77 *e*P **P** 03 32 00.0 +0.2
comp=Z,53nm,1.6s,mb4.7
MOX LR LR
comp=Z,200nm,17.0s,MS3.6
MOX Moxa 21.75 77 *i* P **P** 03 32 00.0 +0.2
comp=Z,logA/T=1.5,mb4.7
MOX L 03 40 39.0
DAVOX Davos 21.85 87 LR LR 03 40 27.6
comp=Z,158nm,18.8s,MS3.5,baz=285,slow=37
NKC Novy Kostel 22.37 77 *e*P **P** 03 32 07.8 +1.9
NKC AMS AMS 03 40 30.0
comp=Z,300nm,20.4s
MOTA Moosalm 22.41 85 ⇑ *i*P **P** 03 32 08.3 +1.9
CLL Collm 22.46 74 ⇓ *i*P **P** 03 32 07.8 +1.0
CLL pmax pmax
comp=Z,37nm,1.1s,mb4.7
CLL Collm 22.46 74 ⇓ *i*P **P** 03 32 07.8 +1.0
comp=Z,37nm,1.1s,mb4.7
CLL *e* 03 32 17.0
CLL Collm 22.46 74 ⇓ P **P** 03 32 07.8 +1.0
comp=Z,logA/T=1.5,mb4.7
CLL *e* 03 32 14.0
CLL *e* 03 32 17.0
SQTA Sankt Quirin 22.53 85 ⇑ *i*P **P** 03 32 09.9 +2.5
comp=Z,25nm,1.5s,mb4.4
SQTA Sankt Quirin 22.53 85 ⇑ *i*P **P** 03 32 09.9 +2.5
SQTA pmax pmax
comp=Z,25nm,1.5s,mb4.4
HFS Hagfors 22.54 51 P **P** 03 32 07.9 +0.5
comp=Z,3.2nm,0.8s,mb3.8,baz=243,slow=13,SNR=4.6
HFS LR LR 03 41 25.2
comp=Z,152nm,19.8s,MS3.4,baz=262,slow=38
WTTA Wattenberg 22.78 85 ⇑ *i*P **P** 03 32 11.5 +1.6
comp=Z,28nm,1.2s,mb4.6
WTTA Wattenberg 22.78 85 ⇑ *i*P **P** 03 32 11.5 +1.6
WTTA pmax pmax
comp=Z,28nm,1.2s,mb4.6
SUMG Summit 23.05 348 *e*P **P** 03 32 13.1 +0.8
comp=Z,14nm,1.2s,mb4.3
SUMG Summit 23.05 348 *e*P **P** 03 32 13.1 +0.8
comp=Z,14nm,1.2s,mb4.3
BRG Berggiesshubel 23.13 75 *e*P **P** 03 32 14.4 +1.1
BRG pmax pmax
comp=Z,32nm,1.0s,mb4.7
BRG MLR MLR
comp=Z,240nm,13.7s,MS3.8
BRG Berggiesshubel 23.13 75 *e*P **P** 03 32 14.4 +1.1
comp=Z,32nm,1.0s,mb4.7
BRG LR LR
comp=Z,240nm,13.7s,MS3.8
BRG Berggiesshubel 23.13 75 *e*P **P** 03 32 14.4 +1.1
comp=Z,32nm,1.0s,mb4.7
CTI Castel Tesino 23.26 88 *e*P **P** 03 32 16.9 +2.3
KHC Kasperske Hory 23.38 79 *e*P **P** 03 32 17.2 +1.4
KHC *e* 03 32 43.5
KHC MLR MLR
comp=Z,300nm,17.6s,MS3.8
KHC Kasperske Hory 23.38 79 *e*P **P** 03 32 17.2 +1.4
KHC *e* 03 32 36.5
KHC *e* 03 32 43.5
KHC LR LR
comp=Z,300nm,17.6s,MS3.8
KHC Kasperske Hory 23.38 79 *e*P **P** 03 32 17.2 +1.4
KHC *ex* x 03 32 36.5
KHC x x 03 32 43.5
KHC AMS AMS 03 41 10.0
comp=Z,300nm,17.6s
GERES GERESS Array B 23.55 80 P **P** 03 32 18.8 +1.4
comp=Z,5.2nm,0.8s,mb4.0,baz=286,slow=8.5,SNR=35
GERES LR LR 03 41 48.3
comp=Z,201nm,18.5s,MS3.6,baz=127,slow=37
PVCC Panska Ves 23.61 76 *e*P **P** 03 32 19.1 +1.2
PVCC AMS AMS 03 41 10.0
comp=Z,200nm,15.6s
PRU Pruhonice 23.73 77 *e*P **P** 03 32 20.3 +1.2
PRU AMS AMS 03 41 00.0
comp=Z,200nm,19.5s
FVI Forni Avoltri 23.76 86 *e*P **P** 03 32 21.3 +1.9
UPC Upice 24.50 75 *e*P **P** 03 32 27.4 +0.8
KSP Ksiaz 24.58 74 *e*P **P** 03 32 28.5 +1.1
KSP Ksiaz 24.58 74 *e*P **P** 03 32 28.4 +1.0
DPC Dobruska-Polom 24.73 75 *e*P **P** 03 32 29.6 +0.7
DPC AMS AMS 03 42 10.0
comp=Z,200nm,17.8s
TRI Trieste 24.75 87 *e*P **P** 03 32 30.4 +1.4

JAVS	**Javornik**	**24.86**	**87**	*e*P		**P**	**03 32 31.0**	**+0.9**
OBKA	**Obir**	**24.92**	**85**	⇑*i*P		**P**	**03 32 31.3**	**+0.6**
	comp=Z,28nm,0.9s,mb4.8							
LJU	**Ljubljana**	**25.09**	**86**	*e*P		**P**	**03 32 33.0**	**+0.7**
CEY	**Cerknica**	**25.15**	**87**	*e*P		**P**	**03 32 33.7**	**+0.7**
VSL	**Villasalto**	**25.16**	**104**	P		**P**	**03 32 31.2**	**-1.8**
	comp=Z,21nm,1.2s,mb4.5							
VSL	**Villasalto**	**25.16**	**104**	P		**P**	**03 32 31.2**	**-1.9**
	comp=Z,21nm,1.2s,mb4.5							
VRAC	**Vranov**	**25.21**	**78**	P		**P**	**03 32 33.8**	**+0.4**
	comp=Z,10nm,1.1s,mb4.3,baz=310,slow=10.0,SNR=8.9							
VRAC	**Vranov**	**25.21**	**78**	*e*P		**P**	**03 32 33.8**	**+0.4**
ARSA	**Arzberg**	**25.25**	**83**	⇓*i*P		**P**	**03 32 34.8**	**+1.0**
	comp=Z,24nm,1.0s,mb4.7							
MORC	**Moravsky Berou**	**25.65**	**76**	*e*P		**P**	**03 32 37.8**	**+0.2**
MORC				pmax	pmax			
	comp=Z,18nm,1.0s,mb4.6							
MORC	**Moravsky Berou**	**25.65**	**76**	*e*P		**P**	**03 32 37.8**	**+0.2**
	comp=Z,18nm,1.0s,mb4.5							
ZST	**Bratislava**	**25.90**	**80**	*e*P		**P**	**03 32 40.7**	**+0.8**
SMOL	**Smolenice**	**25.99**	**79**	*e*P		**P**	**03 32 41.4**	**+0.7**
OKC	**Ostrava-Krasne**	**26.01**	**76**	*e*P		**P**	**03 32 41.4**	**+0.5**
OKC				AMS	AMS		03 43 00.0	
	comp=Z,200nm,14.8s							
AQU	**L'Aquila**	**26.09**	**94**	*e*P		**P**	**03 32 40.6**	**-1.1**
AQU				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.3							
AQU	**L'Aquila**	**26.09**	**94**	*e*P		**P**	**03 32 40.6**	**-1.1**
	comp=Z,11nm,1.1s,mb4.3							
SCHQ	**Schefferville**	**26.60**	**296**	P		**P**	**03 32 49.3**	**+3.0**
	comp=Z,21nm,0.9s,mb3.6,baz=75,slow=12,SNR=2.7							
SCHQ				LR	LR		03 41 26.4	
	comp=Z,112nm,18.3s,MS3.5,baz=359,slow=32							
SCHQ	**Schefferville**	**26.60**	**296**	P		**P**	**03 32 46.2**	**-0.1**
SCHQ				LR	LR		03 41 26.4	
SCHQ	**Schefferville**	**26.60**	**296**	P		**P**	**03 32 46.2**	**-0.1**
VYHS	**Vyhne**	**26.88**	**78**	*e*P		**P**	**03 32 49.0**	**+0.1**
FRB	**Frobisher Bay**	**27.30**	**316**	P		**P**	**03 32 52.0**	**-0.6**
	comp=Z,2.5nm,0.9s,mb3.7,baz=94,slow=7.0,SNR=4.2							
FRB				LR	LR		03 41 59.3	
	comp=Z,85nm,18.3s,MS3.4,baz=271,slow=33							
NIE	**Niedzica**	**27.48**	**76**	*e*P		**P**	**03 32 53.6**	**-0.8**
PSZ	**Piszkesteto**	**27.74**	**79**	P		**P**	**03 32 57.1**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,14nm,1.1s,mb4.5							
PSZ	**Piszkesteto**	**27.74**	**79**	P		**P**	**03 32 57.1**	**+0.3**
	comp=Z,14nm,1.1s,mb4.5							
PSZ	**Piszkesteto**	**27.74**	**79**	P		**P**	**03 32 57.1**	**+0.3**
	comp=Z,14nm,1.1s,mb4.5							
SUW	**Suwalki**	**27.95**	**65**	*e*P		**P**	**03 32 58.1**	**-0.5**
FINES	**FINESS Array B**	**28.68**	**49**	P		**P**	**03 33 04.3**	**-0.8**
	comp=Z,2.0nm,0.8s,mb3.9,baz=270,slow=3.8,SNR=7.3							
FINES				LR	LR		03 43 43.4	
	comp=Z,103nm,19.7s,MS3.4,baz=333,slow=35							
FINES	**FINESS Array B**	**28.68**	**49**	P		**P**	**03 33 04.3**	**-0.8**
KAF	**Kangasniemi**	**28.79**	**48**	*e*p		**P**	**03 33 05.4**	**-0.7**
	comp=Z,1.3nm,0.5s,mb3.9							
KAF	**Kangasniemi**	**28.79**	**48**	*e*P		**P**	**03 33 05.4**	**-0.7**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.8							
KOLS	**Kolonicke sedl**	**28.85**	**76**	*e*P		**P**	**03 33 07.1**	**+0.3**
KWP	**Kalwaria**	**28.88**	**74**	*e*P		**P**	**03 33 07.4**	**+0.4**
ARCES	**ARCESS Array B**	**29.46**	**32**	P		**P**	**03 33 11.4**	**-0.7**
	comp=Z,3.8nm,1.0s,mb4.1,baz=254,slow=9.2,SNR=9.0							
ARCES				LR	LR		03 44 20.4	
	comp=Z,92nm,18.4s,MS3.4,baz=340,slow=35							
VAE	**Valguarnera**	**29.52**	**102**	P		**P**	**03 33 13.5**	**+0.6**
	comp=Z,3.8nm,0.5s,mb4.4,baz=16,slow=3.4,SNR=3.2							
JOF	**Joensuu**	**31.10**	**46**	*e*p		**P**	**03 33 12.4**	**-14**
	comp=Z,2.9nm,0.8s,mb4.2							
AKASG	**Malin Array Be**	**32.44**	**69**	P		**P**	**03 33 37.9**	**-0.6**
OBN	**Obninsk**	**35.19**	**59**	*e*P		**P**	**03 34 01.8**	**-0.5**
OBN				*i*			03 35 17.0	
OBN				*e*			03 36 32.6	
OBN				pmax	pmax			
	comp=Z,9.0nm,1.2s,mb4.6							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.6							
OBN	**Obninsk**	**35.19**	**59**	*e*P		**P**	**03 34 01.8**	**-0.5**
	comp=Z,9.0nm,1.2s,mb4.6							
OBN	**Obninsk**	**35.19**	**59**	*e*PcP		PcP	03 36 32.6	-1.0
RES	**Resolute Bay**	**37.27**	**335**	*e*P		**P**	**03 34 19.1**	**-0.6**
RES				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.4							
RES	**Resolute Bay**	**37.27**	**335**	*e*P		**P**	**03 34 19.1**	**-0.6**
	comp=Z,5.6nm,1.0s,mb4.3							
RES	**Resolute Bay**	**37.27**	**335**	*e*P		**P**	**03 34 19.1**	**-0.6**
	comp=Z,5.6nm,1.0s,mb4.3							
FCC	**Fort Churchill**	**40.09**	**310**	*e*P		**P**	**03 34 42.7**	**-0.6**
FCC				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**40.09**	**310**	*e*P		**P**	**03 34 42.7**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.2							
FCC	**Fort Churchill**	**40.09**	**310**	*e*P		**P**	**03 34 42.7**	**-0.6**
	comp=Z,3.6nm,0.8s,mb4.2							
BRTR	**Keskin Array B**	**40.37**	**83**	P		**P**	**03 34 47.2**	**+1.4**
	comp=Z,1.5nm,0.7s,mb3.8,baz=301,slow=5.6,SNR=9.8							
BRTR	**Keskin Array B**	**40.37**	**83**	*e*P		**P**	**03 34 47.2**	**+1.4**
MALT	**Malatya**	**44.22**	**82**	P		**P**	**03 35 18.5**	**+1.3**
MALT				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.1							
MALT	**Malatya**	**44.22**	**82**	P		**P**	**03 35 18.4**	**+1.2**
	comp=Z,3.6nm,1.0s,mb4.1							
MALT	**Malatya**	**44.22**	**82**	P		**P**	**03 35 18.5**	**+1.3**
	comp=Z,3.6nm,1.0s,mb4.1							
ULM	**Lac du Bonnet**	**44.70**	**299**	P		**P**	**03 35 25.8**	**+4.9**
	comp=Z,3.5nm,0.9s,mb4.2,baz=69,slow=6.8,SNR=6.8							
ULM				LR	LR		03 51 41.0	
	comp=Z,78nm,18.3s,MS3.7,baz=348,slow=33							
ARU	**Arti**	**46.05**	**50**	*i* P		**P**	**03 35 31.7**	**+0.1**
ARU	**Arti**	**46.05**	**50**	*e*P		**P**	**03 35 31.3**	**-0.2**
	comp=Z,10nm,0.8s,mb4.8							
ARU	**Arti**	**46.05**	**50**	*e*P		**P**	**03 35 31.3**	**-0.3**
	comp=Z,10nm,0.8s,mb4.8							
DBIC	**Dimbokro**	**46.35**	**155**	P		**P**	**03 35 39.6**	**+5.1**
	comp=Z,2.1nm,0.5s,mb4.3,baz=357,slow=12,SNR=10							
EIL	**Elat**	**47.56**	**93**	P		**P**	**03 35 42.0**	**-1.9**
	comp=Z,5.1nm,0.9s,mb4.5							
YKA	**Yellowknife Ar**	**47.61**	**321**	P		**P**	**03 35 42.1**	**-1.7**
	comp=Z,0.9nm,0.9s,mb3.8,baz=56,slow=8.0,SNR=15							
YKA				PcP	PcP		03 37 21.7	+7.8
	comp=Z,0.7nm,0.9s,baz=57,slow=4.1,SNR=4.4							
YKA				LR	LR		03 52 54.7	
	comp=Z,56nm,20.4s,MS3.5,baz=75,slow=33							
WVT	**Waverly**	**47.87**	**278**	*e*P		**P**	**03 35 47.4**	**+1.2**
WVT				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.5							
WVT	**Waverly**	**47.87**	**278**	*e*P		**P**	**03 35 47.4**	**+1.2**
	comp=Z,5.5nm,0.9s,mb4.6							
WVT	**Waverly**	**47.87**	**278**	*e*P		**P**	**03 35 47.4**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.5							
CCM	**Cathedral Cave**	**48.81**	**283**	*e*P		**P**	**03 35 54.5**	**+1.1**
CCM				*e*		pP	03 35 58.2	+1.7
CCM				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
CCM	**Cathedral Cave**	**48.81**	**283**	*e*P		**P**	**03 35 54.5**	**+1.1**
	comp=Z,8.0nm,1.0s,mb4.7							
CCM				*e*		pP	03 35 58.1	+1.7
CCM				*e*			03 36 03.8	
CCM	**Cathedral Cave**	**48.81**	**283**	*e*P		**P**	**03 35 54.5**	**+1.1**
	comp=Z,8.0nm,1.0s,mb4.7							
INK	**Inuvik**	**50.76**	**333**	*e*P		**P**	**03 36 06.9**	**-1.1**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**50.76**	**333**	P		**P**	**03 36 06.8**	**-1.2**
	comp=Z,1.6nm,0.8s,mb4.0,baz=54,slow=8.0,SNR=5.6							
INK	**Inuvik**	**50.76**	**333**	*e*P		**P**	**03 36 06.8**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.2							
INK	**Inuvik**	**50.76**	**333**	*e*P		**P**	**03 36 06.9**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.2							
MIAR	**Mount Ida**	**52.48**	**281**	*e*P		**P**	**03 36 22.1**	**+0.6**
MIAR				pmax	pmax			
	comp=Z,8.0nm,1.3s,mb4.5							
MIAR	**Mount Ida**	**52.48**	**281**	*e*P		**P**	**03 36 22.1**	**+0.6**
	comp=Z,8.3nm,1.3s,mb4.5							
MIAR	**Mount Ida**	**52.48**	**281**	*e*P		**P**	**03 36 22.1**	**+0.6**
	comp=Z,8.0nm,1.3s,mb4.5							
CHKZ	**Chkalovo**	**53.35**	**48**	*e*P		**P**	**03 36 26.8**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.4							
CHKZ	**Chkalovo**	**53.35**	**48**	*e*P		**P**	**03 36 26.8**	**-0.9**
	comp=Z,5.2nm,0.9s,mb4.5							
BVAR	**Borovoye Array**	**53.64**	**48**	P		**P**	**03 36 29.4**	**-0.4**
	comp=Z,8.8nm,0.7s,mb4.3,baz=315,slow=6.3,SNR=18							
BOZ	**Bozeman (W)**	**55.99**	**302**	P		**P**	**03 36 48.1**	**+1.1**
BOZ				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5							
BOZ	**Bozeman (W)**	**55.99**	**302**	P		**P**	**03 36 48.1**	**+1.1**
	comp=Z,4.7nm,1.0s,mb4.5							
BOZ	**Bozeman (W)**	**55.99**	**302**	P		**P**	**03 36 48.1**	**+1.1**
	comp=Z,5.0nm,1.0s,mb4.5							
DLBC	**Dease Lake**	**56.14**	**323**	P		**P**	**03 36 45.1**	**-2.7**
	comp=Z,1.3nm,1.0s,mb3.9,baz=319,slow=11,SNR=3.0							
ISCO	**Idaho Springs**	**56.38**	**293**	P		**P**	**03 36 54.8**	**+4.9**
ISCO				pmax	pmax			
	comp=Z,4.0nm,1.1s,mb4.4							
ISCO	**Idaho Springs**	**56.38**	**293**	P		**P**	**03 36 54.8**	**+4.8**
	comp=Z,3.7nm,1.1s,mb4.3							
BW06	**Boulder Array**	**56.71**	**298**	P		**P**	**03 36 50.3**	**-1.9**
	comp=Z,3.6nm,1.0s,mb4.4							
PDAR	**Pinedale Array**	**56.71**	**298**	P		**P**	**03 36 50.5**	**-1.7**
	comp=Z,0.5nm,0.6s,mb3.7,baz=64,slow=7.0,SNR=5.9							
PDAR				LR	LR		03 59 05.2	
	comp=Z,92nm,19.9s,MS3.9,baz=156,slow=34							
NEW	**Newport**	**57.16**	**308**	P		**P**	**03 36 56.3**	**+0.9**
NEW				pmax	pmax			
	comp=Z,4.0nm,1.1s							
NEW	**Newport**	**57.16**	**308**	P		**P**	**03 36 56.3**	**+0.9**
	comp=Z,3.9nm,1.1s,mb4.3							
NEW				*e*			03 37 06.0	
IMA	**Indian Mountai**	**57.69**	**339**	*e*P		**P**	**03 36 59.1**	**+0.3**
IMA				pmax	pmax			
	comp=Z,12nm,0.8s,mb5.0							
IMA	**Indian Mountai**	**57.69**	**339**	*e*P		**P**	**03 36 59.1**	**+0.2**
	comp=Z,12nm,0.8s,mb5.0							
IMA	**Indian Mountai**	**57.69**	**339**	*e*P		**P**	**03 36 59.1**	**+0.3**
	comp=Z,12nm,0.8s,mb5.0							
NVS	**Novosibirsk**	**58.19**	**41**	*i* P		**P**	**03 37 00.0**	**-2.5**
HLID	**Hailey**	**58.86**	**302**	P		**P**	**03 37 07.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.9							
HLID				*e*			03 37 17.9	
KURK	**Kurchatov**	**59.02**	**47**	*i* P		**P**	**03 37 07.0**	**-1.3**
KURK	**Kurchatov**	**59.02**	**47**	*e*P		**P**	**03 37 06.7**	**-1.6**
	comp=Z,2.2nm,1.0s,mb4.1							
PV10	**Paradox Valley**	**59.32**	**294**	*e*P		**P**	**03 37 10.8**	**+0.3**
TNA	**Tin City**	**61.03**	**344**	*e*P		**P**	**03 37 21.7**	**-0.3**
	comp=Z,3.5nm,1.2s,mb4.4							
TNA				*e*			03 37 27.9	
BILL	**Bilibino**	**61.43**	**356**	*e*P		**P**	**03 37 24.9**	**+0.3**
BILL				*e*			03 38 06.5	
BILL				*e*S		**S**	**03 45 42.0**	**-1.8**
BILL				*e*SS		SS	03 49 43.2	-3.0
BILL				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
BILL	**Bilibino**	**61.43**	**356**	*e*PcP		PcP	03 38 06.5	0.0
TXAR	**Lajitas Array**	**62.30**	**283**	P		**P**	**03 37 32.1**	**+1.0**
	comp=Z,0.6nm,0.9s,mb3.7,baz=45,slow=7.1,SNR=5.5							
TXAR				LR	LR		04 03 12.3	
	comp=Z,86nm,18.9s,MS3.9,baz=10.0,slow=35							
AAK	**Ala-Archa**	**62.59**	**56**	*i* P		**P**	**03 37 32.4**	**-0.3**
AAK	**Ala-Archa**	**62.59**	**56**	*e*P		**P**	**03 37 32.5**	**-0.3**
	comp=Z,3.3nm,1.1s,mb4.4							
ROSC	**El Rosal**	**62.61**	**241**	LR		LR	03 57 56.3	
	comp=Z,75nm,21.1s,MS3.8,baz=183,slow=30							
BOD	**Bodaibo**	**66.24**	**24**	*e*P		**P**	**03 37 51.7**	**-4.4**
WMQ	**Urumqi**	**68.26**	**47**	*e*P		**P**	**03 38 11.5**	**+2.4**
WMQ				AMB	AMB			
	comp=Z,56nm,3.9s							
BDFB	**Brasilia**	**69.61**	**206**	LR		LR	04 03 59.6	
	comp=Z,84nm,19.1s,MS4.0,baz=286,slow=32							
SONM	**Songino Array**	**72.63**	**33**	P		**P**	**03 38 34.8**	**-0.6**
	comp=Z,1.5nm,0.9s,mb3.9,baz=317,slow=7.3,SNR=12							
ULN	**Ulaanbaatar**	**72.83**	**33**	*e*P		**P**	**03 38 36.6**	**0.0**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.1							
ULN	**Ulaanbaatar**	**72.83**	**33**	*e*P		**P**	**03 38 36.5**	**-0.1**
	comp=Z,3.1nm,1.1s,mb4.2							
TSUM	**Tsumeb**	**78.14**	**141**	P		**P**	**03 39 07.0**	**-0.3**
	comp=Z,4.2nm,1.0s,mb4.3							
HHC	**Hu-ho-hao-te**	**80.53**	**33**	*e*P		**P**	**03 39 19.8**	**-0.1**
HHC				AMB	AMB			
	comp=Z,113nm,5.8s							
CN2	**Changchun**	**81.96**	**23**	*e*P		**P**	**03 39 26.8**	**-0.5**
WRA	**Warramunga Arr**	**144.44**	**39**	PKhKP			03 46 41.6	
	comp=Z,0.9nm,0.6s,baz=338,slow=2.6,SNR=17							
ASAR	**Alice Springs**	**147.58**	**42**	PKPbc	PKPdf		03 46 51.0	-0.1
	comp=Z,1.7nm,0.6s,baz=345,slow=3.0,SNR=18							

JMA 24 03:30:01.4, 33.70N×130.25E, h10km, M3.5, 2C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFI	**Itaya**	**0.30**	**157**	⇑P		Pg	03 30 07.3	-0.3
JFI				S		Sg	03 30 11.5	-0.2
JII	**Iki**	**0.44**	**283**	⇓P		Pg	03 30 10.2	-0.2
JII				S		Sg	03 30 16.5	+0.1
JFA	**Akaike**	**0.46**	**88**	⇓P		Pg	03 30 10.1	-0.6
JFA				S		Sg	03 30 16.4	-0.4
JTA	**Tamana**	**0.77**	**162**	⇑P		Pb	03 30 15.9	-0.6

OTT 24 03:41:43.6±0.3, 44.83N×56.54W, h18km, ML2.8/14, Laurentian Slope Seismic Zone. 259km south from Grand Bank, Nl, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DRLN	**Deer Lake**	**4.48**	**352**	PN		Pn	03 42 49.9	-2.4
DRLN				SN		Sn	03 43 39.4	-5.2
DRLN				Trac			03 43 42.5	
	comp=Z,2.4nm,0.1s							
HAL	**Halifax**	**5.03**	**270**	PN		Pn	03 42 57.2	-3.0
HAL				SN		Sn	03 43 52.2	-6.3
HAL				Trac			03 43 56.6	
	comp=Z,3.0nm,0.1s							
LMN	**Caledonia Moun**	**5.92**	**283**	PN		Pn	03 43 10.3	-2.4
LMN				SN		Sn	03 44 13.9	-6.9
LMN				Trac			03 44 20.5	
	comp=Z,1.1nm,0.2s							
GGN	**Saint George**	**7.32**	**276**	PN		Pn	03 43 27.9	-4.5
GGN				SN		Sn	03 44 46.1	-10
GGN				Trac			03 45 18.8	
	comp=Z,1.5nm,0.1s							
GSQ	**Grosses Roches**	**8.31**	**303**	PN		P	03 43 42.1	-4.2
GSQ				SN		Sn	03 45 10.1	-11
GSQ				Trac			03 45 18.0	
	comp=Z,0.3nm,0.1s							
ICQ	**Pointe Anglais**	**8.69**	**306**	PN		P	03 43 47.5	-3.9
ICQ				SN		Sn	03 45 19.8	-10
ICQ				Trac			03 45 28.4	
	comp=Z,1.3nm,0.3s							
SMQ	**Clarke City**	**8.74**	**312**	PN		P	03 43 47.9	-4.2
SMQ				SN		Sn	03 45 19.7	-12
SMQ				Trac			03 45 24.1	
	comp=Z,0.5nm,0.1s							
CNQ	**Baie Comeau**	**9.05**	**304**	SN		Sn	03 45 27.7	-11
CNQ				Trac			03 45 39.5	
	comp=Z,0.6nm,0.2s							
A64	**Saint Simeon**	**9.71**	**293**	PN		P	03 44 00.9	-4.6
A64				SN		Sn	03 45 43.5	-12
A64				Trac			03 46 01.8	
	comp=Z,0.6nm,0.1s							
A61	**Sainte Mathild**	**9.82**	**292**	SN		Sn	03 45 45.4	-12
A61				Trac			03 45 51.7	
	comp=Z,0.4nm,0.1s							
LMQ	**La Malbaie**	**9.94**	**291**	PN		P	03 44 02.8	-6.0
LMQ				SN		Sn	03 45 48.3	-13
LMQ				Trac			03 45 57.5	
	comp=Z,0.8nm,0.2s							
A54	**Misere**	**9.98**	**290**	PN		P	03 43 55.4	-14
A54				SN		Sn	03 45 50.3	-12
A54				Trac			03 45 58.3	
	comp=Z,0.4nm,0.1s							
MNQ	**Manicouagan**	**10.03**	**309**	SN		S	03 45 48.6	-14
MNQ				Trac			03 45 59.2	
	comp=Z,0.5nm,0.2s							
SCHQ	**Schefferville**	**12.00**	**330**	PN		P	03 44 31.7	-5.0
SCHQ				SN		S	03 46 37.5	-14
SCHQ				Trac			03 47 21.3	
	comp=Z,0.1nm,0.2s							

IDC 24 03:50:55.9±4.3, 22.38S×147.86E, mb3.7/1, mb1 3.8/5, mb1mx3.7/10, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=50.7km s-min=19.6km az=83.0, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CTA	**Charters Tower**	**2.73**	**326**	Pn		Pn	03 51 40.5	-1.1
	7.7nm,0.3s,baz=152,slow=18,SNR=84							
CTA				Sn		Sn	03 52 15.8	0.0
	28nm,0.3s,baz=112,slow=20,SNR=5.5							
CTA				Lg			03 52 22.8	
	106nm,0.3s,baz=54,slow=20,SNR=17							
STKA	**Stephens Creek**	**10.98**	**209**	Pn		P	03 53 33.6	-3.8
	0.4nm,0.3s,baz=33,slow=14,SNR=6.8							
STKA				Sn		S	03 55 38.8	-3.5
	0.3nm,0.3s,baz=6.3,slow=18,SNR=2.4							
STKA				Lg			03 56 56.1	
	0.1nm,0.3s,baz=300,slow=20,SNR=2.2							
WRA	**Warramunga Arr**	**12.85**	**278**	Pn		P	03 53 59.4	-3.2
	0.6nm,0.3s,baz=103,slow=14,SNR=20							
WRA				Sn		S	03 56 26.2	-1.4
	0.2nm,0.3s,baz=98,slow=24,SNR=2.9							
WRA				Lg			03 57 49.4	
	0.2nm,0.3s,baz=106,slow=27,SNR=7.5							
ASAR	**Alice Springs**	**12.92**	**262**	Pn		P	03 54 00.5	-3.1
	0.3nm,0.3s,baz=88,slow=13,SNR=8.1							
ASAR				Sn		S	03 56 27.6	-1.8
	0.1nm,0.3s,baz=85,slow=20,SNR=3.2							
ASAR				Lg			03 57 53.6	
	0.1nm,0.3s,baz=88,slow=26,SNR=5.6							
FITZ	**Fitzroy Crossi**	**21.28**	**278**	P		P	03 55 44.8	-1.5
	1.0nm,0.3s,baz=85,slow=6.2,SNR=4.3							
FITZ				Lg			04 02 18.1	
	2.1nm,0.7s,baz=194,slow=12,SNR=3.4							

LDG ***24*** *04:20:11.7±0.3, 14.80S×166.96E, h10km, Mb3.8/1, Error ellipse: s-maj=68.0km s-min=3.9km az=90.0*
NEIC ***24*** *04:20:12.9±4.7, 14.90S×166.84E, h23km±32km, mb4.5/8, Error ellipse: s-maj=15.4km s-min=12.0km az=218.0*
IDC ***24*** *04:20:15.3±4.9, 14.85S×166.80E, h44km±43km, mb3.9/10, mb1 4.0/12, mb1mx4.0/17, mbtmp4.1/12, ML3.8/2, Error ellipse: s-maj=32.0km s-min=20.7km az=34.0*

ISC 24 04:20:07.6±4.8, 14.87S±0.07×166.8E±0.1, h1km±29km, n52, σ1s10/29, mb4.4/15, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.17**	**182**	*e*P		**Pn**	**04 21 56.0**	**-0.2**
DZM				*e*S		**Sn**	**04 23 12.1**	**-7.1**
DZM	**Mont Dzumac**	**7.17**	**182**	P		**Pn**	**04 21 56.1**	**-0.1**
	5.5nm,0.3s,baz=328,slow=14,SNR=72							
DZM				S		**Sn**	**04 23 20.1**	**+0.8**
	4.5nm,0.3s,baz=166,slow=21,SNR=5.3							
NOUC	**Port Laguerre**	**7.21**	**183**	*e*P		**Pn**	**04 21 56.4**	**-0.3**
PMG	**Port Moresby**	**19.93**	**284**	P		**P**	**04 24 43.6**	**-0.2**
	0.4nm,0.3s,baz=87,slow=5.9,SNR=2.0							
CTA	**Charters Tower**	**20.24**	**252**	P		**P**	**04 24 48.8**	**+1.5**
	3.5nm,0.7s,baz=80,slow=11,SNR=10							
CTAO	**Charters Tower**	**20.24**	**252**	*e*P		**P**	**04 24 49.0**	**+1.8**
	5.6nm,0.8s							
URZ	**Urewera**	**25.03**	**160**	P		**P**	**04 25 36.8**	**+2.2**
	3.7nm,0.4s,mb4.5,baz=119,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**28.54**	**229**	P		**P**	**04 26 08.6**	**+1.6**
	1.5nm,0.7s,mb3.9,baz=3.8,slow=6.6,SNR=4.3							
STKA	**Stephens Creek**	**28.54**	**229**	P		**P**	**04 26 07.2**	**+0.2**
WRAB	**Tennant Creek**	**31.32**	**256**	P		**P**	**04 26 28.7**	**-3.1**
	6.9nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**31.33**	**256**	P		**P**	**04 26 31.3**	**-0.7**
	0.8nm,0.6s,mb3.9,baz=86,slow=9.3,SNR=21							
ASAR	**Alice Springs**	**32.18**	**249**	P		**P**	**04 26 39.0**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=76,slow=9.4,SNR=14							
FITZ	**Fitzroy Crossi**	**39.52**	**260**	*e*P		**P**	**04 27 42.5**	**+0.6**
	6.4nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**39.52**	**260**	P		**P**	**04 27 42.3**	**+0.5**
	4.7nm,0.5s,mb4.3,baz=63,slow=5.7,SNR=11							
PPT	**Papeete**	**41.93**	**100**	*e*LR		LR	04 39 34.9	
	56nm,23.8s							
TBI	**Tubuai**	**42.07**	**108**	*e*LR		LR	04

*PRU **24** 05:00:56.9,51.45N×16.14E*
*BGR **24** 05:00:56.8±1.0,51.45N×16.16E,h1km,ML3.1/4,Error ellipse: s-maj=12.2km s-min=8.9km az=14.0*
*IDC **24** 05:00:57.7±0.7,51.45N×15.90E,mb3.3/2,mb1 3.3/8,mb1mx3.3/18,mbtmp3.2/8,ML2.8/6,Error ellipse: s-maj=12.6km s-min=6.9km az=105.0*
*WAR **24** 05:00:57.1,51.48N×16.11E,h1km,ML3.2,Mining Induced*

ISC 24 05:00:54.6±0.4,51.43N±0.02×16.14E±0.03,n64,σ1§35/119,mb3.5/1,3C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSP	**Ksiaz**	**0.59**	**171**	*e*P		**Pg**	**05 01 08.9**	**+2.5**
KSP				*e*			05 01 22.0	
KSP	**Ksiaz**	**0.59**	**171**	*e*Pg		**Pg**	**05 01 08.9**	**+2.5**
KSP				*e*Sg		**Sg**	**05 01 17.6**	**+3.3**
KSP				*e*			05 01 22.0	
KSP	**Ksiaz**	**0.59**	**171**	*e*Pg		**Pg**	**05 01 08.9**	**+2.5**
KSP				*e*Sg		**Sg**	**05 01 17.6**	**+3.3**
KSP	**Ksiaz**	**0.59**	**171**	*e*Pg		**Pg**	**05 01 08.8**	**+2.4**
KSP				*e*Sg		**Sg**	**05 01 17.5**	**+3.2**
UPC	**Upice**	**0.92**	**185**	*e*PG		**Pg**	**05 01 14.8**	**+1.7**
DPC	**Dobruska-Polom**	**1.08**	**174**	*e*P		**Pg**	**05 01 17.7**	**+1.4**
DPC				*e*			05 01 32.6	
DPC				smax				
	comp=N,99nm,0.8s							
DPC	**Dobruska-Polom**	**1.08**	**174**	*e*PG		**Pg**	**05 01 17.7**	**+1.4**
DPC				*e*SG		**Sg**	**05 01 32.6**	**+1.9**
	comp=N,99nm,0.8s							
PVCC	**Panska Ves**	**1.34**	**229**	*e*Pg		**Pg**	**05 01 21.9**	**+0.5**
PVCC				*e*Sg		**Sg**	**05 01 41.2**	**+1.9**
BRG	**Berggiesshubel**	**1.49**	**249**	*e*Pg		**Pg**	**05 01 24.2**	**-0.2**
BRG				*e*Sg		**Sg**	**05 01 45.2**	**+0.9**
BRG	**Berggiesshubel**	**1.49**	**249**	*e*P		**Pn**	**05 01 23.4**	**+0.6**
BRG				*i*			05 01 45.1	
BRG	**Berggiesshubel**	**1.49**	**249**	*e*Pn		**Pn**	**05 01 23.4**	**+0.6**
BRG				*i* Pg		**Pg**	**05 01 24.9**	**+0.5**
BRG				*i* Sg		**Sg**	**05 01 45.1**	**+0.8**
BRG	**Berggiesshubel**	**1.49**	**249**	Pg		**Pg**	**05 01 24.2**	**-0.2**
BRG				Sg		**Sg**	**05 01 45.2**	**+0.9**
PRU	**Pruhonice**	**1.76**	**216**	*e*P		**Pn**	**05 01 27.2**	**+0.5**
PRU				*e*			05 01 53.2	
PRU	**Pruhonice**	**1.76**	**216**	*e*PN		**Pn**	**05 01 27.2**	**+0.5**
PRU				*e*PG		**Pg**	**05 01 29.3**	**-0.5**
PRU				*e*SG		**Sg**	**05 01 53.2**	**-0.1**
PRU	**Pruhonice**	**1.76**	**216**	*e*Pg		**Pg**	**05 01 29.3**	**-0.5**
PRU				*e*Sg		**Sg**	**05 01 53.2**	**-0.1**
RUE	**Ruedersdorf**	**1.81**	**307**	*e*Pn		**Pn**	**05 01 26.6**	**-0.7**
RUE				*e*S		**Sn**	**05 01 52.9**	**+1.7**
RUE	**Ruedersdorf**	**1.81**	**307**	*e*Pn		**Pn**	**05 01 26.6**	**-0.7**
RAC	**Raciborz**	**1.87**	**135**	*e*P		**Pn**	**05 01 32.0**	**+3.8**
RAC				*e*S		**Sn**	**05 01 57.0**	**+4.1**
MORC	**Moravsky Berou**	**1.88**	**151**	*e*Pn		**Pn**	**05 01 29.3**	**+1.0**
MORC				*e*Sn		**Sn**	**05 01 51.1**	**-1.9**
MORC	**Moravsky Berou**	**1.88**	**151**	*e*Pn		**Pn**	**05 01 29.3**	**+1.0**
MORC				*e*Sn		**Sn**	**05 01 51.1**	**-1.9**
MORC				*e*Sg		**Sg**	**05 01 56.2**	**-0.9**
	comp=N,9.6nm,0.3s							
GKP	**Gorka Klasztor**	**1.97**	**20**	*e*Pg		**Pg**	**05 01 30.9**	**-3.0**
GKP				*e*Sg		**Sg**	**05 01 59.4**	**-0.7**
CLL	**Collm**	**1.97**	**268**	*e*P		**Pn**	**05 01 29.0**	**-0.7**
CLL				*i*			05 01 58.0	
CLL	**Collm**	**1.97**	**268**	*e*Pn		**Pn**	**05 01 29.0**	**-0.7**
CLL				*e*Pg		**Pg**	**05 01 33.0**	**-1.0**
CLL				*i* Sg		**Sg**	**05 01 58.0**	**-2.3**
CLL	**Collm**	**1.97**	**268**	*e*PN		**Pn**	**05 01 29.0**	**-0.7**
CLL				*e*PG		**Pg**	**05 01 33.0**	**-1.0**
CLL				*i*			05 01 36.3	
CLL				*i*			05 01 47.7	
CLL				*i* SG		**Sg**	**05 01 58.0**	**-2.3**
CLL				*i*			05 02 07.9	
CLL	**Collm**	**1.97**	**268**	*e*Pg		**Pg**	**05 01 33.0**	**-1.0**
CLL				Sg		**Sg**	**05 01 58.5**	**-1.8**
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*P		**Pn**	**05 01 31.0**	**+0.4**
OKC				*e*			05 02 01.6	
OKC	**Ostrava-Krasne**	**2.04**	**140**	*e*PN		**Pn**	**05 01 31.0**	**+0.4**
OKC				*e*PG		**Pg**	**05 01 35.3**	**0.0**
OKC				*e*SG		**Sg**	**05 02 01.6**	**-0.9**
OKC	**Ostrava-Krasne**	**2.04**	**140**	Pg		**Pg**	**05 01 35.3**	**0.0**
OKC				Sg		**Sg**	**05 02 01.6**	**-0.9**
VRAC	**Vranov**	**2.14**	**172**	Pn		**Pn**	**05 01 34.8**	**+2.8**
	comp=N,3.1nm,0.3s,baz=344,slow=12,SNR=9.4							
VRAC				Pg		**Pg**	**05 01 38.0**	**+0.7**
	comp=N,3.1nm,0.3s,baz=349,slow=17,SNR=9.6							
VRAC				Lg			05 02 08.3	
	comp=N,2.8nm,0.3s,baz=95,slow=18,SNR=4.7							
VRAC	**Vranov**	**2.14**	**172**	*e*Pn		**Pn**	**05 01 34.0**	**+2.0**
VRAC	**Vranov**	**2.14**	**172**	Pg		**Pg**	**05 01 38.0**	**+0.7**
VRAC				*e*Sg		**Sg**	**05 02 05.7**	**-0.2**
	comp=N,36nm,0.8s							
KRUC	**Moravsky**	**2.37**	**176**	*e*Pn		**Pn**	**05 01 37.1**	**+1.7**
KRUC				*e*Sg		**Sg**	**05 02 12.8**	**-0.8**
	comp=N,34nm,0.8s							
TANN	**Tannenbergstha**	**2.54**	**248**	*e*Pn		**Pn**	**05 01 39.4**	**+1.6**
OJC	**Ojcow**	**2.61**	**116**	*e*P		**Pn**	**05 01 38.6**	**-0.2**
OJC				*e*			05 02 09.4	
OJC	**Ojcow**	**2.61**	**116**	*e*Pn		**Pn**	**05 01 38.6**	**-0.2**
OJC				*e*Pg		**Pg**	**05 01 47.6**	**+0.8**
OJC				*e*Sn		**Sn**	**05 02 09.4**	**-2.3**
OJC				*e*Sg		**Sg**	**05 02 22.6**	**+1.0**
NKC	**Novy Kostel**	**2.63**	**244**	*e*P		**Pn**	**05 01 40.2**	**+1.1**
NKC				*e*			05 02 21.0	
NKC	**Novy Kostel**	**2.63**	**244**	*e*PN		**Pn**	**05 01 40.2**	**+1.1**
NKC				*e*PG		**Pg**	**05 01 45.9**	**-1.2**
NKC				*e*SG		**Sg**	**05 02 21.0**	**-1.2**
NKC	**Novy Kostel**	**2.63**	**244**	*e*Pg		**Pg**	**05 01 45.9**	**-1.2**
NKC				*e*Sg		**Sg**	**05 02 21.0**	**-1.2**
KHC	**Kasperske Hory**	**2.83**	**217**	*e*P		**Pn**	**05 01 42.4**	**+0.5**
KHC				*e*			05 02 17.5	
KHC	**Kasperske Hory**	**2.83**	**217**	*e*PN		**Pn**	**05 01 42.4**	**+0.5**
KHC				*e*PG		**Pg**	**05 01 48.8**	**-2.3**
KHC				*e*SN		**Sn**	**05 02 17.5**	**+0.4**
KHC				*e*SG		**Sg**	**05 02 27.2**	**-1.5**
KHC	**Kasperske Hory**	**2.83**	**217**	*e*Pg		**Pg**	**05 01 48.8**	**-2.3**
KHC				*e*S		**Sn**	**05 02 17.5**	**+0.4**
KHC				*e*Sg		**Sg**	**05 02 27.2**	**-1.5**
MOX	**Moxa**	**2.96**	**256**	*e*Pn		**Pn**	**05 01 44.8**	**+1.0**
MOX				*e*Pg		**Pg**	**05 01 52.7**	**-1.1**
MOX				*e*Sg		**Sg**	**05 02 31.9**	**-1.4**
MOX	**Moxa**	**2.96**	**256**	*i* P		**Pn**	**05 01 44.8**	**+1.0**
MOX				Pg		**Pg**	**05 01 53.0**	**-0.8**
MOX				Sg		**Sg**	**05 02 32.0**	**-1.3**
MOX	**Moxa**	**2.96**	**256**	*e*Pg		**Pg**	**05 01 52.7**	**-1.1**
MOX				Sg		**Sg**	**05 02 32.0**	**-1.3**
GEC2	**GERESS Array S**	**3.02**	**212**	*e*Pn		**Pn**	**05 01 46.5**	**+1.8**
GEC2				*e*Sg		**Sg**	**05 02 32.9**	**-2.4**
GEC2	**GERESS Array S**	**3.02**	**212**	*e*Pn		**Pn**	**05 01 46.5**	**+1.8**
GEC2				*e*Sg		**Sg**	**05 02 32.9**	**-2.4**
GERES	**GERESS Array B**	**3.02**	**212**	P		**Pn**	**05 01 46.3**	**+1.6**
GERES							05 02 22.9	
GERES				pmax		pmax		
	comp=Z,1.0nm,0.3s							
GERES				pmax		pmax		
	comp=Z,3.0nm,0.3s							
GERES	**GERESS Array B**	**3.02**	**212**	Pn		**Pn**	**05 01 46.3**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=30,slow=12,SNR=26							
GERES				Pg		**Pg**	**05 01 51.3**	**-3.7**
	comp=Z,2.7nm,0.3s,baz=27,slow=17,SNR=32							
GERES				Sn		**Sn**	**05 02 22.9**	**+0.8**
	comp=Z,1.3nm,0.3s,baz=38,slow=27,SNR=5.8							
GERES				Lg			05 02 32.2	
	comp=Z,2.0nm,0.3s,baz=37,slow=27,SNR=5.4							
GERES	**GERESS Array B**	**3.02**	**212**	Pg		**Pg**	**05 01 51.3**	**-3.7**
GERES				S		**Sn**	**05 02 22.9**	**+0.8**
NOTT	**Nottersdorf**	**3.03**	**239**	*e*Pn		**Pn**	**05 01 45.3**	**+0.5**
NIE	**Niedzica**	**3.34**	**125**	*e*P		**Pg**	**05 01 58.2**	**-3.1**
NIE				*e*S		**Sg**	**05 02 44.8**	**-1.0**
GRA1	**Grafenberg Arr**	**3.59**	**243**	*e*P		**Pn**	**05 01 53.5**	**+0.8**
GRF	**Grafenberg Arr**	**3.59**	**243**	*e*Pn		**Pn**	**05 01 53.5**	**+0.8**
MOA	**Molln**	**3.78**	**200**	*i*PN		**Pn**	**05 01 56.5**	**+1.1**
MOA				*i* SG		**Sg**	**05 02 58.6**	**-1.9**
	comp=Z,18nm,0.7s							
ARSA	**Arzberg**	**4.20**	**186**	*i*PN		**Pn**	**05 02 02.0**	**+0.6**
ARSA				*i* SG		**Sg**	**05 03 11.7**	**-2.7**
	comp=Z,23nm,0.9s							
KWP	**Kalwaria**	**4.56**	**111**	*e*Pg		**Pg**	**05 02 21.0**	**-4.6**
KWP				*e*Sg		**Sg**	**05 03 25.8**	**-0.5**
KBA	**Koelnbreinsper**	**4.72**	**204**	*i*PN		**Pn**	**05 02 09.8**	**+1.0**
KBA				*i* SG		**Sg**	**05 03 28.5**	**-3.3**
	comp=Z,11nm,0.7s							
DAVOX	**Davos**		**6.21**	**224**	Pn	**Pn**	**05 02 28.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=25,slow=17,SNR=3.1							
AKASG	**Malin Array Be**		**8.28**	**90**	P	**P**	**05 02 57.3**	**-1.5**
AKASG					pmax	pmax		
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**		**8.28**	**90**	Pn	**P**	**05 02 57.3**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=280,slow=12,SNR=4.5							
HFS	**Hagfors**		**8.84**	**352**	Pn	**P**	**05 03 02.9**	**-3.6**
	comp=Z,0.0nm,0.3s,baz=166,slow=12,SNR=4.0							
FINES	**FINESS Array B**		**11.43**	**25**	Pn	**P**	**05 03 37.3**	**-4.7**
	comp=Z,0.1nm,0.3s,baz=185,slow=15,SNR=3.2							
SONM	**Songino Array**		**54.95**	**55**	P	**P**	**05 10 32.7**	**+3.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=285,slow=14,SNR=3.7							
YKA	**Yellowknife Ar**		**59.95**	**336**	P	**P**	**05 11 04.8**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=38,slow=8.0,SNR=3.9							

*GUC **24** 05:58:37.9±0.9,21.51S×67.86W,h233km±8km,MD3.8,ML3.3*
*NEIC **24** 05:58:37.9,21.51S×67.86W,h233km,MD3.8(GUC),After GUC.*
*IDC **24** 05:58:37.7±1.6,21.42S×67.47W,h195km±16km,mb3.6/3,mb1 3.5/7,mb1mx3.3/15,mbtmp3.8/7,Error ellipse: s-maj=29.2km s-min=14.4km az=88.0*

ISC 24 05:58:38.2±0.6,21.39S±0.05×67.6W±0.1,h223km±7km,n13,σ1§07/21,mb3.5/3,1C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.60**	**200**	*i*P		**P**	**05 59 15.3**	**+0.1**
SPCH				*i* S		**S**	**05 59 44.8**	**+1.1**
SPCH				AMP			05 59 50.0	
	comp=E,115nm,0.8s							
LVC	**Limon Verde**	**1.71**	**224**	*e*P		**P**	**05 59 16.0**	**-0.1**
LVC				*i* S		**S**	**05 59 45.1**	**-0.3**
LVC				AMP			05 59 46.7	
	comp=E,264nm,0.5s							
ANCH	**Antofagasta**	**3.44**	**228**	*e*P		**P**	**05 59 36.0**	**+1.2**
ANCH				*i* S		**S**	**06 00 18.4**	**-0.1**
CPN1	**Cerro Paranal**	**4.12**	**218**	*e*P		**P**	**05 59 43.5**	**+0.6**
CPN1				*i* S		**S**	**06 00 32.1**	**-0.8**
LPAZ	**La Paz**	**5.10**	**354**	P		**P**	**05 59 54.9**	**-0.2**
	comp=E,1.5nm,0.3s,baz=169,slow=8.7,SNR=61							
LPAZ				S		**S**	**06 00 55.4**	**+0.5**
	comp=E,0.3nm,0.3s,baz=338,slow=14,SNR=5.5							
ARE	**Arequipa**	**6.12**	**323**	*e*P		**P**	**06 00 08.0**	**-0.1**
ARE				*e*S		**S**	**06 01 15.0**	**-3.1**
CFAA	**Coronel Fontan**	**10.19**	**183**	P		**P**	**06 00 58.7**	**-1.7**
	comp=E,0.1nm,0.3s,baz=8.4,slow=11,SNR=18							
CFAA				S		**S**	**06 02 45.0**	**-6.8**
	comp=E,0.1nm,0.3s,baz=228,slow=17,SNR=5.4							
CFAA	**Coronel Fontan**	**10.19**	**183**	P		**P**	**06 00 58.7**	**-1.7**
CFAA				S		**S**	**06 02 45.0**	**-6.9**
PLCA	**Paso Flores**	**19.44**	**187**	P		**P**	**06 02 49.6**	**+0.1**
	comp=E,0.1nm,0.3s,baz=25,slow=12,SNR=3.0							
BDFB	**Brasilia**	**19.44**	**76**	P		**P**	**06 02 48.0**	**-1.7**
	comp=E,0.6nm,0.3s,baz=244,slow=9.5,SNR=9.5							
ULM	**Lac du Bonnet**	**75.58**	**342**	P		**P**	**06 09 59.5**	**-0.5**
	comp=E,0.8nm,0.5s,mb3.6,baz=161,slow=4.5,SNR=3.6							
ESDC	**Sonseca Array**	**84.92**	**44**	P		**P**	**06 10 50.8**	**+1.4**
	comp=E,0.2nm,0.3s,mb3.3,baz=262,slow=5.2,SNR=6.4							
YKA	**Yellowknife Ar**	**91.49**	**340**	P		**P**	**06 11 22.5**	**+2.6**
	comp=E,0.6nm,0.6s,mb3.7,baz=129,slow=4.6,SNR=18							

*IDC **24** 06:03:48.9±2.4,7.71S×124.23E,mb4.6/1,mb1 4.3/4,mb1mx4.0/12,mbtmp4.2/4,ML4.0/3,MS3.2/1,Ms1 3.1/1,ms1mx2.4/17,Error ellipse: s-maj=120.5km s-min=32.5km az=59.0*

ISC 24 06:04:09.4±2.3,9.1S±0.1×124.10E±0.10,h125km±19km,n13,σ0§91/18,mb4.4/1,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAKA	**Kakadu**	**8.95**	**114**	*e*P		**P**	**06 06 17.6**	**+0.8**
	5.1nm,0.4s							
KAKA				*e*S		**S**	**06 07 55.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.08**	**171**	*e*P		**P**	**06 06 17.3**	**-1.3**
	4.6nm,0.4s							
FITZ				*e*S		**S**	**06 07 59.3**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.08**	**171**	Pn		**P**	**06 06 17.8**	**-0.8**
	2.2nm,0.3s,baz=353,slow=12,SNR=20							
FITZ				Sn		**S**	**06 07 59.7**	**+0.2**
	4.1nm,0.3s,baz=250,slow=2.3,SNR=11							
WRA	**Warramunga Arr**	**14.64**	**139**	Pn		**P**	**06 07 31.5**	**-0.1**
	0.8nm,0.3s,baz=322,slow=14,SNR=30							
WRA				Sn		**S**	**06 10 11.0**	**+0.1**
	0.2nm,0.3s,baz=319,slow=25,SNR=5.3							
WB2	**Warramunga Arr**	**14.65**	**139**	*e*P		**P**	**06 07 31.8**	**+0.1**
WB2				*e*S		**S**	**06 10 11.2**	**+0.2**
ASAR	**Alice Springs**	**17.27**	**148**	P		**P**	**06 08 06.2**	**+2.0**
	0.3nm,0.3s,baz=329,slow=13,SNR=12							
ASAR				S		**S**	**06 11 18.2**	**+7.9**
	0.2nm,0.3s,baz=312,slow=19,SNR=4.6							
LUBP	**Lubang**	**22.99**	**350**	*e*P		**P**	**06 09 14.9**	**+11**
STKA	**Stephens Creek**	**27.89**	**147**	LR		LR	06 23 07.5	
	comp=Z,40nm,18.4s,baz=206,slow=40							
SNAA	**Sanae**	**92.23**	**195**	*e*		**P**	**06 17 16.7**	**+11**
VNA2	**Neumayer--Watz**	**93.83**	**194**	*e*		**P**	**06 17 14.3**	**+1.2**
VNA3	**Neumayer Olymp**	**94.16**	**194**	*e*		**P**	**06 17 13.5**	**-1.0**
VNA1	**Neumayer--Stat**	**94.23**	**194**	*e*		**P**	**06 17 14.0**	**-0.9**
BRTR	**Keskin Array B**	**96.08**	**309**	P		**P**	**06 17 15.3**	**-8.7**
	1.1nm,0.6s,mb4.4,baz=79,slow=3.3,SNR=5.7							

*IDC **24** 06:08:37.5±1.6,55.99S×27.19W,h57km±13km,mb4.6/16,mb1 4.5/17,mb1mx4.3/22,mbtmp4.8/17,MS4.1/10,Ms1 4.1/10,ms1mx3.8/17,Error ellipse: s-maj=15.3km s-min=12.8km az=17.0*
*NEIC **24** 06:08:38.5±1.7,55.99S×27.08W,h70km±15km,mb5.0/23,Error ellipse: s-maj=7.6km s-min=6.1km az=217.0*
*HRVD **24** 06:08:38.5±0.6,55.77S×27.34W,h65km±5km,MW5.0/33,Centroid moment Tensor Solution. LP body waves: s21,c24;Mantle waves: s33,c39; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.31±.28; Mθθ=1.33±.28; Mφφ=1.02±.29; Mrθ=-0.23±.25; Mrφ=3.28±.22; Mθφ=1.24±.16; Best double couple: Mo=3.708×10^16 NP1:ϕ=80°, δ70°, λ2° NP2:ϕ=350°, δ88°, λ160°. Principal axes: T 3.574, Plg16°, Azm303°; N .267, Plg70°, Azm164°; P -3.842, Plg13°, Azm37°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **24** 06:08:38.4,56.00S×27.10W,h69km,mB5.3,Ms5.5,Msz5.1*

ISC 24 06:08:37.9±3.2,55.97S±0.06×27.1W±0.1,h77km±29km,n123,σ1§01/70,mb4.8/29,6C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**16.84**	**158**	*i*P		**P**	**06 12 34.2**	**+4.6**
VNA1	**Neumayer--Stat**	**16.84**	**158**	*e*		**P**	**06 12 35.3**	**+5.7**
VNA1	**Neumayer--Stat**	**16.84**	**158**	*e*		**P**	**06 12 45.3**	**+16**
VNA1	**Neumayer--Stat**	**16.84**	**158**	*e*		**P**	**06 12 45.9**	**+16**
VNA1	**Neumayer--Stat**	**16.84**	**158**	*e*		**P**	**06 12 48.6**	**+19**
VNA1	**Neumayer--Stat**	**16.84**	**158**	*e*			06 12 55.4	
VNA3	**Neumayer Olymp**	**17.05**	**161**	*i*P		**P**	**06 12 33.3**	**+1.2**
VNA3	**Neumayer Olymp**	**17.05**	**161**	*e*		**P**	**06 12 34.5**	**+2.4**
VNA3	**Neumayer Olymp**	**17.05**	**161**	*e*		**P**	**06 12 44.8**	**+13**
VNA3	**Neumayer Olymp**	**17.05**	**161**	*e*		**P**	**06 12 45.1**	**+13**
VNA3	**Neumayer Olymp**	**17.05**	**161**	*e*		**P**	**06 12 48.2**	**+16**
VNA3	**Neumayer Olymp**	**17.05**	**161**	*e*			06 12 55.1	
VNA2	**Neumayer--Watz**	**17.24**	**158**	*i*P		**P**	**06 12 36.4**	**+1.8**
VNA2	**Neumayer--Watz**	**17.24**	**158**	*e*		**P**	**06 12 37.5**	**+2.9**
VNA2	**Neumayer--Watz**	**17.24**	**158**	*e*		**P**	**06 12 46.8**	**+12**
VNA2	**Neumayer--Watz**	**17.24**	**158**	*e*		**P**	**06 12 47.3**	**+13**
VNA2	**Neumayer--Watz**	**17.24**	**158**	*e*		**P**	**06 12 49.3**	**+15**
VNA2	**Neumayer--Watz**	**17.24**	**158**	*e*		**P**	**06 12 55.8**	**+21**
SNAA	**Sanae**	**18.79**	**156**	*i*P		**P**	**06 12 51.7**	**-1.5**
SNAA	**Sanae**	**18.79**	**156**	*e*		**P**	**06 12 52.8**	**-0.4**
SNAA	**Sanae**	**18.79**	**156**	*e*		**P**	**06 13 01.2**	**+8.0**
SNAA	**Sanae**	**18.79**	**156**	*e*		**P**	**06 13 01.2**	**+8.0**
SNAA	**Sanae**	**18.79**	**156**	*e*		**P**	**06 13 01.7**	**+8.5**
SNAA	**Sanae**	**18.79**	**156**	*e*		**P**	**06 13 07.5**	**+14**
SNAA	**Sanae**	**18.79**	**156**	P		**P**	**06 12 51.5**	**-1.7**
	0.5nm,0.3s,baz=318,slow=11,SNR=35							
SNAA				PcP		PcP	06 17 16.5	-0.9
	0.3nm,0.3s,baz=267,slow=4.3,SNR=5.7							
SNAA				LR		LR	06 18 11.2	
	comp=Z,231nm,18.7s,baz=207,slow=30							
SNAA				ScP			06 20 48.2	
	0.1nm,0.3s,baz=277,slow=3.5,SNR=8.5							
SNAA	**Sanae**		**18.79**	**156**	*e*P	**P**	**06 12 51.0**	**-2.2**
	15nm,0.6s							
SNAA					*e*PcP	PcP	06 17 16.6	-0.8
PMSA	**Palmer Station**		**20.01**	**229**	*e*P	**P**	**06 13 04.4**	**-2.0**
	79nm,0.6s							
MAIT	**Maitri**		**22.27**	**147**	*e*P	**P**	**06 13 29.1**	**0.0**
USHA	**Ushuaia**		**23.28**	**255**	P	**P**	**06 13 39.0**	**+0.1**
	8.6nm,0.5s,mb4.3,baz=94,slow=14,SNR=12							
USHA					LR	LR	06 20 18.2	
	comp=Z,748nm,21.9s,baz=49,slow=30							
TRQA	**Tornquist**		**29.36**	**293**	*e*P	**P**	**06 14 33.9**	**-1.6**
	11nm,0.6s,mb4.7							
SYO	**Syowa Base**		**31.60**	**141**	⇑P	**P**	**06 14 53.2**	**-1.7**
SYO	**Syowa Base**		**31.60**	**141**	⇓pP	pP	06 15 05.2	-7.9
PLCA	**Paso Flores**		**32.06**	**280**	P	**P**	**06 14 56.5**	**-2.7**
	2.5nm,0.8s,mb4.0,baz=142,slow=7.1,SNR=9.2							
PLCA					PcP	PcP	06 17 46.7	-0.5
	3.7nm,0.8s,baz=149,slow=1.9,SNR=6.7							
PLCA					ScP		06 21 24.6	
	1.1nm,0.6s,baz=1.3,slow=2.8,SNR=5.9							
PLCA					LR	LR	06 26 12.4	
	comp=Z,215nm,21.2s,baz=136,slow=33							
PLCA	**Paso Flores**		**32.06**	**280**	*e*P	**P**	**06 14 56.5**	**-2.7**
	4.4nm,1.0s,mb4.1							
QSPA	**South Pole Qui**		**34.29**	**180**	*e*P	**P**	**06 15 18.3**	**+0.3**
	19nm,0.6s,mb5.1							
CAM4	**Nova Friburgo**		**35.48**	**335**	⇑*i*P	**P**	**06 15 29.6**	**+0.8**
CAM4					*i*		06 15 35.6	
CFAA	**Coronel Fontan**		**37.60**	**293**	LR	LR	06 28 53.9	
	comp=Z,24nm,22.0s,baz=138,slow=32							
MAW	**Mawson**		**40.17**	**144**	LR	LR	06 30 52.1	
	comp=Z,568nm,18.5s,baz=176,slow=33							
SUR	**Sutherland**		**40.54**	**75**	P	**P**	**06 16 12.8**	**+2.0**
	7.0nm,0.7s,mb4.6,baz=176,slow=3.9,SNR=7.9							
SUR	**Sutherland**		**40.54**	**75**	*e*P	**P**	**06 16 11.6**	**+0.8**
	11nm,0.8s,mb4.7							
BAO	**Brasilia Array**		**43.33**	**330**	P	**P**	**06 16 34.5**	**+0.7**
BDFB	**Brasilia**		**43.33**	**330**	P	**P**	**06 16 34.7**	**+0.8**
	9.4nm,0.6s,mb4.7,baz=151,slow=2.6,SNR=22							
BDFB					LR	LR	06 31 44.0	
	comp=Z,238nm,18.9s,baz=166,slow=32							
BDFB	**Brasilia**		**43.33**	**330**	P	**P**	**06 16 34.7**	**+0.8**
BDFB					LR	LR	06 31 44.0	
LVC	**Limon Verde**		**45.32**	**300**	*e*P	**P**	**06 16 50.1**	**+0.3**
	54nm,0.6s,mb5.5							
LVC					*e*PcP	PcP	06 18 27.0	-1.7
BOSA	**Boshof**		**45.87**	**76**	*e*P	**P**	**06 16 53.2**	**-0.8**
	4.2nm,0.7s,mb4.3							
SBA	**Scott Base**		**46.17**	**184**	*e*P	**P**	**06 16 56.6**	**+0.8**
	9.2nm,0.8s,mb4.6							
VNDA	**Vanda**		**46.66**	**183**	P	**P**	**06 17 00.1**	**+0.5**
	15nm,0.6s,mb4.9,baz=183,slow=6.6,SNR=57							
LBTB	**Lobatse**		**48.91**	**73**	P	**P**	**06 17 18.0**	**+0.2**
	5.0nm,0.6s,mb4.6,baz=226,slow=8.9,SNR=8.6							
LBTB	**Lobatse**		**48.91**	**73**	*e*P	**P**	**06 17 16.9**	**-0.9**
	12nm,0.9s,mb4.8							
TSUM	**Tsumeb**		**49.57**	**61**	P	**P**	**06 17 22.4**	**-0.6**
	2.5nm,0.6s,mb4.3,baz=191,slow=7.6,SNR=7.1							
TSUM	**Tsumeb**		**49.57**	**61**	*e*P	**P**	**06 17 22.2**	**-0.8**
	3.1nm,0.7s,mb4.3							
LPAZ	**La Paz**		**

	comp=Z,0.2nm,0.4s,baz=123,slow=3.4,SNR=6.5							
YKA				PKP	PKPdf	06 27 50.2	+1.1	
	comp=Z,2.9nm,0.6s,baz=128,slow=2.3,SNR=30							
YKA				PP	PP	06 30 25.5	-7.7	
	comp=Z,0.9nm,0.8s,baz=123,slow=6.4,SNR=4.0							
YKA				SKPbc		06 31 16.0		
	comp=Z,0.9nm,0.6s,baz=129,slow=3.5,SNR=7.7							
YKA	**Yellowknife Ar**	**136.16 318**		PKP	PKPdf	06 27 41.5	-7.6	
YKA				PKP	PKPdf	06 27 50.2	+1.1	
YKA				PP	PP	06 30 25.6	-7.7	
YKA				SKPbc		06 31 16.0		
YKW3	**Yellowknife Ar**	**136.20 318**	*e*	PKPdf	PKPdf	06 27 50.2	+1.0	
YKW3			*e*	SKP		06 31 18.7		
RES	**Resolute Bay**	**137.81 339**	*e*	PKPpre		06 27 39.7		
WMQ	**Urumqi**	**137.81 78**	*e*	PKP	PKPdf	06 27 54.5	+1.8	
WMQ				LR	LR			
	comp=Z,115nm,28.4s							
DLBC	**Dease Lake**	**140.33 307**		SKPbc		06 31 29.8		
	comp=Z,2.1nm,1.0s,baz=166,slow=6.6,SNR=4.4							
INK	**Inuvik**	**145.78 321**		PKPbc	PKPbc	06 28 08.3	+1.6	
	comp=Z,22nm,0.7s,baz=74,slow=3.3,SNR=16							
INK				SKPbc		06 31 41.8		
	comp=Z,0.9nm,0.6s,baz=88,slow=3.6,SNR=4.0							
NJ2	**Nanjing**	**146.32 121**	*e*	PKP	PKPdf	06 28 12.6	+4.7	
NJ2				PKP2	PKPab	06 28 17.1	+4.9	
NJ2				PP	PP	06 31 40.0	+4.3	
NJ2				PP	PP			
	comp=Z,530nm,6.0s							
NJ2				LR	LR			
	comp=N,1μm,15.6s							
NJ2				LR	LR			
	comp=E,1μm,17.0s							
NJ2				LR	LR			
	comp=Z,510nm,17.2s							
SSE	**Sheshan**	**146.62 125**		PKP	PKPdf	06 28 12.5	+4.1	
DAWY	**Dawson**	**146.79 312**	*e*	PKPdf	PKPdf	06 28 10.7	+3.1	
EYAK	**Cordova Ski Ar**	**148.47 304**	*e*	PKPbc	PKPdf	06 28 15.9	+5.5	
HHC	**Hu-ho-hao-te**	**149.19 102**	*e*	PKP	PKPdf	06 28 16.8	+4.6	
HHC				PKS	PKS	06 31 50.1	+4.0	
HHC				PP	PP	06 31 54.9	+3.3	
HHC				SKKS		06 38 39.8		
HHC				LR	LR			
	comp=N,197nm,20.8s							
HHC				LR	LR			
	comp=E,261nm,25.0s							
HHC				LR	LR			
	comp=Z,181nm,21.4s							
SML	**Sawmill**	**150.04 306**	*e*	PKPbc	PKPdf	06 28 19.8	+6.9	
COLA	**College**	**150.54 312**	*e*	PKPbc	PKPdf	06 28 19.4	+5.8	
SLKM	**Skilak Lake**	**150.56 303**	*e*	PKPbc	PKPdf	06 28 21.0	+7.3	
SONM	**Songino Array**	**150.64 86**		PKPbc	PKPdf	06 28 21.8	+7.5	
	comp=Z,11nm,0.6s,baz=222,slow=3.6,SNR=57							
FIB	**Fire Island**	**150.72 304**	*e*	PKPbc	PKPdf	06 28 22.0	+8.1	
MCK	**McKinley**	**150.78 309**	*e*	PKPbc	PKPdf	06 28 21.5	+7.5	
ULN	**Ulaanbaatar**	**151.03 87**	*e*	PKPbc	PKPdf	06 28 22.3	+7.5	
TLY	**Talaya**	**151.09 78**	*e*	PKPbc	PKPdf	06 28 22.7	+7.9	
IMA	**Indian Mountai**	**153.11 314**	*e*	PKPbc	PKPdf	06 28 26.4	+9.1	
CN2	**Changchun**	**158.67 113**	*e*	PKP	PKPdf	06 28 30.1	+4.8	
FX1	**Attu Island--F**	**167.84 264**		PKPab	PKPab	06 29 41.8	-1.1	
	comp=Z,7.8nm,0.6s,baz=259,slow=5.0,SNR=4.8							

MAN 24 06:14:06.6, 15.46N×121.98E, h1^{km}, mb3.8, ML2.5, MS2.1, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BALP	**Baler**	**0.48**	**306**	*e*P		Pg	06 14 16.4	+0.1
BALP				*e*S		Sg	06 14 23.9	+1.1
POLP	**Polilio Island**	**0.73**	**183**	*e*P		Pg	06 14 21.5	+0.3
POLP				*e*S		Sg	06 14 31.4	+0.5
PCPH	**Palayan**	**0.86**	**277**	*e*P		Pg	06 14 21.2	-2.7
PCPH				*i* S		Sg	06 14 33.7	-1.6
TGY	**Tagaytay City**	**1.69**	**217**	*e*P		Pn	06 14 37.9	+0.4
TGY				*e*S		Sb	06 14 59.9	0.0

NIED ***24*** *06:18:00, 40.80N×143.10E, h20^{km}, Mw4.6 Best double couple: M$_0$9.93×10^{15} NP1:φ$_s$39°, δ72°, λ109°. NP2:φ$_s$171°, δ26°, λ45°.*
JMA ***24*** *06:18:26.2±0.2, 40.81N×143.28E, h11^{km}*
MOS ***24*** *06:18:30.1±1.6, 41.07N×142.78E, h33^{km}, mb4.9/38, MS4.0/13, Error ellipse: s-maj=10.3km s-min=6.2km az=95.5*
IDC ***24*** *06:18:30.5±3.6, 40.80N×142.98E, h38^{km}±31^{km}, mb3.9/16, mb1 4.1/18, mb1mx4.0/23, mbtmp4.2/18, ML3.9/2, Error ellipse: s-maj=18.5km s-min=15.2km az=98.0*
ISC 24 06:18:29.4±0.6, 40.87N±0.04×143.23E±0.05, h42^{km}±4^{km}, n163, σ1^{s}30/170, mb4.7/63, MS4.2/9, 3C-5D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ERM	**Erimo**	**1.14**	**357**	Pn		**P**	**06 18 48.9**	**+0.3**
	16μm,0.8s,SNR=59							
JEM	**Erimo**	**1.15**	**357**	P		**P**	**06 18 48.9**	**-0.2**
JANG	**Nango**	**1.40**	**250**	P		**P**	**06 18 51.7**	**-1.2**
JNBK	**Urakawa-nobuka**	**1.45**	**346**	P		**P**	**06 18 53.6**	**0.0**
JTM	**Tenmabayashi**	**1.64**	**268**	P		**P**	**06 18 56.1**	**-0.2**
JTM				*e*S		**S**	**06 19 16.8**	**+0.4**
JOT	**Ohata**	**1.73**	**288**	P		**P**	**06 18 57.3**	**-0.2**
JOT				*e*S		**S**	**06 19 20.7**	**+2.3**
JCH	**Churui**	**1.75**	**3**	P		**P**	**06 18 57.3**	**-0.5**
JCH				*e*S		**S**	**06 19 19.4**	**+0.5**
JBT2	**Biratori 2**	**2.01**	**342**	P		**P**	**06 19 02.0**	**+0.4**
JOM	**Ohasama**	**2.04**	**227**	P		**P**	**06 19 01.9**	**0.0**
JFR	**Furan**	**2.34**	**349**	P		**P**	**06 19 07.2**	**+1.0**
JEW	**Eniwo**	**2.38**	**327**	P		**P**	**06 19 06.7**	**0.0**
JAK	**Akkeshi**	**2.39**	**27**	P		**P**	**06 19 05.5**	**-1.4**
JMK	**Ichinoseki**	**2.46**	**220**	P		**P**	**06 19 07.8**	**-0.2**
ASAJ	**Asahikawa**	**3.28**	**352**	P		**P**	**06 19 19.6**	**0.0**
ASAJ				pmax		pmax		
	comp=Z,7.0nm,0.3s							
ASAJ	**Asahikawa**	**3.28**	**352**	Pn		**P**	**06 19 19.6**	**0.0**
	comp=Z,6.9nm,0.3s,baz=215,slow=8.8,SNR=12							
YUK	**Yuzh-Kuril'sk**	**3.71**	**31**	*e*P		**P**	**06 19 29.0**	**+3.3**
YUK				*e*S		**S**	**06 20 08.9**	**+0.1**
YUK				pmax		pmax		
	comp=Z,460nm,0.3s							
YUK				smax				
	comp=N,2μm,0.5s							
YUK				smax				
	comp=E,1μm,0.5s							
YUK				smax				
	comp=N,7μm,1.7s							
YUK				smax				
	comp=E,4μm,1.3s							
YUK				MLR		MLR		
	comp=Z,3μm,15.0s							
KUR	**Kuril'sk**	**5.53**	**36**	*i*P		**P**	**06 19 47.3**	**-4.0**
KUR				*i* S		**S**	**06 20 47.0**	**-7.4**
KUR				pmax		pmax		
	comp=N,130nm,0.7s							
KUR				pmax		pmax		
	comp=E,130nm,0.7s							
KUR				pmax		pmax		
	comp=Z,390nm,0.7s							
KUR				smax				
	comp=N,600nm,0.7s							
KUR				smax				
	comp=E,600nm,0.7s							
MAJO	**Matsushiro**	**5.84**	**224**	*e*P		**P**	**06 19 55.0**	**-0.6**
MAJO				pmax		pmax		
	comp=Z,104nm,0.6s							
MAJO	**Matsushiro**	**5.84**	**224**	*e*Pn		**P**	**06 19 55.0**	**-0.7**
	comp=Z,104nm,0.6s							
MAT	**Matsushiro**	**5.84**	**224**	*e*P		**P**	**06 19 55.0**	**-0.6**
MAT				*e*S		**S**	**06 21 04.0**	**+1.7**
MAT				pmax		pmax		
	comp=Z,20nm,0.9s							
MAT	**Matsushiro**	**5.84**	**224**	*e*P		**P**	**06 19 55.0**	**-0.6**
	comp=Z,20nm,0.9s							
MAT				*e*S		**S**	**06 21 04.0**	**+1.7**
MAT	**Matsushiro**	**5.84**	**224**	P		**P**	**06 19 55.1**	**-0.5**
MAT				S		**S**	**06 21 03.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**6.09**	**357**	P		**P**	**06 19 59.4**	**+0.2**
YSS				S		**S**	**06 21 14.0**	**+5.5**
YSS				MLR		MLR		
	comp=N,1μm,15.0s							
YSS				MLR		MLR		
	comp=Z,1μm,15.0s							
YSS				MLR		MLR		
	comp=E,500nm,13.0s							
YSS	**Yuzh-Sakhalins**	**6.09**	**357**	Pn		**P**	**06 19 56.3**	**-2.9**
	comp=E,56nm,1.0s							
JHJ	**Hachijo jima 2**	**8.21**	**201**	Pn		**P**	**06 20 23.4**	**-5.4**
	comp=E,12nm,0.3s,baz=85,slow=13,SNR=2.9							
MDJ	**Mudanjiang**	**10.71**	**295**	P		**P**	**06 21 02.8**	**-0.2**
MDJ				S		**S**	**06 22 51.6**	**-11**
MDJ				AMB		AMB		
	comp=Z,13nm,1.1s							
MDJ				AMB		AMB		
	comp=Z,95nm,4.8s							
MDJ				LR		LR		
	comp=N,553nm,17.5s							
MDJ				LR		LR		
	comp=E,967nm,14.8s							
MDJ				LR		LR		
	comp=Z,1μm,18.8s							
MDJ	**Mudanjiang**	**10.71**	**295**	*e*P		**P**	**06 21 03.0**	**0.0**
	comp=Z,90nm,1.1s							
KLR	**Kul'dur**	**11.64**	**320**	*e*P		**P**	**06 21 12.8**	**-2.9**
KLR				MLR		MLR		
	comp=E,1μm,13.0s							
KLR				MLR		MLR		
	comp=Z,1μm,13.0s							
KS15	**Wonju Array Si**	**12.39**	**259**	P		**P**	**06 21 26.3**	**+0.5**
PET	**Petropavlovsk**	**16.04**	**36**	*e*P		**P**	**06 22 06.6**	**-6.7**
PET				MLR		MLR		
	comp=Z,400nm,17.0s							
HIA	**Hailar**	**18.54**	**305**	*e*P		**P**	**06 22 39.0**	**-5.5**
HIA				pmax		pmax		
	comp=Z,63nm,0.8s							
HIA	**Hailar**	**18.54**	**305**	*e*P		**P**	**06 22 39.0**	**-5.5**
	comp=Z,63nm,0.8s							
MA2	**Magadan**	**19.31**	**12**	*e*P		**P**	**06 22 49.0**	**-4.4**
MA2				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MA2	**Magadan**	**19.31**	**12**	P		**P**	**06 22 59.0**	**+5.6**
	comp=Z,13nm,0.9s							
BJI	**Beijing**	**20.58**	**277**	*e*P		**P**	**06 23 12.3**	**+5.2**
BJI				AMB		AMB		
	comp=Z,24nm,0.7s							
BJI				LR		LR		
	comp=N,471nm,12.2s,MS4.2							
BJI				LR		LR		
	comp=E,617nm,16.9s,MS4.2							
BJI				LR		LR		
	comp=Z,443nm,18.4s,MS3.9							
BJT	**Baijiatuau**	**20.59**	**277**	P		**P**	**06 23 03.1**	**-4.1**
BJT				*e*			06 23 12.8	
BJT				pmax		pmax		
	comp=Z,38nm,0.8s							
BJT	**Baijiatuau**	**20.59**	**277**	P		**P**	**06 23 03.1**	**-4.1**
	comp=Z,38nm,0.8s							
BJT				*e*			06 23 12.8	
YAK	**Yakutsk**	**22.72**	**343**	P		**P**	**06 23 24.7**	**-3.4**
	comp=Z,66nm,0.8s,mb5.1							
SEY	**Seymchan**	**22.76**	**11**	*e*P		**P**	**06 23 28.7**	**+0.1**
SEY				pmax		pmax		
	comp=Z,30nm,0.9s,mb4.7							
FX1	**Attu Island--F**	**23.54**	**49**	P		**P**	**06 23 40.3**	**+4.0**
FX1				pmax		pmax		
	comp=Z,7.0nm,0.7s							
FX1	**Attu Island--F**	**23.54**	**49**	P		**P**	**06 23 40.3**	**+4.0**
	comp=Z,7.4nm,0.7s,mb4.2,baz=30,slow=19,SNR=2.7							
FX1	**Attu Island--F**	**23.54**	**49**	*e*P		**P**	**06 23 42.2**	**+6.0**
BOD	**Bodaibo**	**25.20**	**322**	*e*P		**P**	**06 23 50.8**	**-1.5**
BOD				pmax		pmax		
	comp=Z,29nm,0.7s,mb4.9							
ULN	**Ulaanbaatar**	**26.61**	**297**	*e*P		**P**	**06 24 05.2**	**-0.3**
ULN				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**26.61**	**297**	*e*P		**P**	**06 24 05.2**	**-0.3**
	comp=Z,14nm,0.8s,mb4.5							
SONM	**Songino Array**	**27.05**	**297**	P		**P**	**06 24 08.8**	**-0.7**
	comp=Z,2.5nm,0.6s,mb4.0,baz=82,slow=7.9,SNR=24							
TLY	**Talaya**	**29.08**	**305**	*e*P		**P**	**06 24 27.2**	**-0.5**
	comp=Z,21nm,0.7s,mb5.0							
ZAK	**Zakamensk**	**29.20**	**303**	*e*P		**P**	**06 24 27.8**	**-1.0**
ZAK				pmax		pmax		
	comp=Z,13nm,1.0s,mb4.6							
ENH	**Enshi**	**29.25**	**260**	*e*P		**P**	**06 24 27.6**	**-1.9**
	comp=Z,20nm,0.6s,mb5.0							
BILL	**Bilibino**	**29.95**	**17**	*e*P		**P**	**06 24 34.7**	**-0.6**
BILL				*e*S		**S**	**06 29 23.5**	**-5.2**
BILL				pmax		pmax		
	comp=Z,6.0nm,0.7s,mb4.4							
BILL				MLR		MLR		
	comp=Z,200nm,17.0s,MS3.8							
BILL	**Bilibino**	**29.95**	**17**	*e*P		**P**	**06 24 34.4**	**-1.0**
	comp=Z,36nm,1.1s,mb5.0							
MOY	**Mondy**	**30.72**	**305**	*e*P		**P**	**06 24 43.6**	**+1.2**
MOY				pmax		pmax		
	comp=Z,29nm,1.5s,mb4.9							
TIXI	**Tiksi**	**31.68**	**351**	*e*P		**P**	**06 24 46.9**	**-3.7**
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.3							
TIXI				MLR		MLR		
	comp=Z,251nm,15.0s,MS4.0							
TNA	**Tin City**	**36.83**	**32**	*e*P		**P**	**06 25 35.0**	**+0.1**
	comp=Z,4.7nm,1.1s,mb4.2							
ZAL	**Zalesovo**	**40.50**	**309**	P		**P**	**06 26 05.2**	**-0.3**
ZAL				pmax		pmax		
	comp=Z,3.0nm,0.5s							
ZAL	**Zalesovo**	**40.50**	**309**	P		**P**	**06 26 05.2**	**-0.3**
	comp=Z,3.2nm,0.5s,mb4.3,baz=26,slow=9.3,SNR=14							
WMQ	**Urumqi**	**40.50**	**293**	*e*P		**P**	**06 26 07.5**	**+1.9**
WMQ				PP		PP	06 27 44.0	+1.5
WMQ				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,105nm,4.3s							
WMQ				LR		LR		
	comp=N,684nm,16.8s							
WMQ				LR		LR		
	comp=E,586nm,22.1s							
WMQ				LR		LR		
	comp=Z,742nm,17.9s,MS4.6							
NVS	**Novosibirsk**	**41.32**	**311**	*e*P		**P**	**06 26 15.3**	**+3.1**
NVS				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.4							
NVS				pmax		pmax		
	comp=N,4.0nm,1.3s							
NVS				pmax		pmax		
	comp=E,1.0nm,0.5s							
NANT	**Nan**	**42.42**	**252**	P		**P**	**06 26 22.0**	**+0.3**
	comp=E,188nm,0.6s							
IMA	**Indian Mountai**	**42.68**	**32**	*e*P		**P**	**06 26 24.8**	**+1.6**
IMA				pmax		pmax		
	comp=Z,49nm,0.7s,mb5.3							
IMA	**Indian Mountai**	**42.68**	**32**	*e*P		**P**	**06 26 24.8**	**+1.6**
	comp=Z,50nm,0.7s,mb5.3							
LSA	**Lhasa**	**43.38**	**272**	P		**P**	**06 26 29.8**	**+0.4**
LSA				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.9							
LSA	**Lhasa**	**43.38**	**272**	P		**P**	**06 26 29.8**	**+0.5**
	comp=Z,19nm,0.7s,mb4.9							
MKAR	**Makanchi Array**	**43.39**	**299**	*i* P		**P**	**06 26 28.2**	**-1.0**
MKAR				pmax		pmax		
	comp=Z,12nm,0.7s							
FIB	**Fire Island**	**44.26**	**40**	*e*P		**P**	**06 26 37.7**	**+1.6**
MCK	**McKinley**	**44.68**	**36**	P		**P**	**06 26 41.1**	**+1.7**
MCK				pmax		pmax		
	comp=Z,4.0nm,1.0s,mb4.2							
MCK	**McKinley**	**44.68**	**36**	P		**P**	**06 26 41.1**	**+1.7**
	comp=Z,4.3nm,1.0s,mb4.2							
KURK	**Kurchatov**	**44.77**	**305**	*e*P		**P**	**06 26 39.1**	**-1.2**
KURK				pmax		pmax		
	comp=Z,70nm,0.9s,mb5.5							
KURK	**Kurchatov**	**44.77**	**305**	*e*P		**P**	**06 26 39.1**	**-1.2**
	comp=Z,70nm,0.9s,mb5.5							
COLA	**College**	**45.10**	**34**	P		**P**	**06 26 45.4**	**+2.7**
COLA				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.7							
COLA	**College**	**45.10**	**34**	P		**P**	**06 26 45.4**	**+2.7**
	comp=Z,11nm,0.8s,mb4.7							
JIRN	**Jiri**	**48.17**	**273**	*e*P		**P**	**06 27 09.4**	**+2.0**
KKN	**Kakani**	**48.79**	**273**	*e*P		**P**	**06 27 14.5**	**+2.3**
	comp=Z,91nm,0.9s,mb5.8							
CHKZ	**Chkalovo**	**48.80**	**311**	*e*P		**P**	**06 27 10.8**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,34nm,0.7s,mb5.5							
CHKZ	**Chkalovo**	**48.80**	**311**	*e*P		**P**	**06 27 10.8**	**-1.0**
	comp=Z,34nm,0.7s,mb5.5							
PKI	**Pulchoki**	**48.80**	**273**	*e*P		**P**	**06 27 13.9**	**+1.6**
	comp=Z,25nm,0.5s,mb5.5							
DMN	**Daman**	**49.01**	**273**	*e*P		**P**	**06 27 16.5**	**+2.6**
BVA0	**Borovoye Array**	**49.11**	**310**	*i* P		**P**	**06 27 13.7**	**-0.6**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
BVAR	**Borovoye Array**	**49.11**	**310**	P		**P**	**06 27 13.8**	**-0.5**
	comp=Z,3.0nm,0.5s,mb4.6,baz=69,slow=8.6,SNR=24							
GKN	**Gorkha**	**49.16**	**274**	*e*P		**P**	**06 27 17.1**	**+2.0**
	comp=Z,31nm,0.5s,mb5.6							
AAK	**Ala-Archa**	**50.00**	**296**	*e*P		**P**	**06 27 23.9**	**+2.6**
AAK				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.9							
AAK	**Ala-Archa**	**50.00**	**296**	*e*P		**P**	**06 27 23.9**	**+2.6**
	comp=Z,11nm,0.8s,mb4.9							
KOLN	**Koldanda**	**50.07**	**274**	*e*P		**P**	**06 27 24.3**	**+2.2**
	comp=Z,48nm,0.9s,mb5.5							
INK	**Inuvik**	**50.34**	**29**	*e*P		**P**	**06 27 23.9**	**+0.3**
INK				pmax		pmax		
	comp=Z,17nm,1.0s							
INK	**Inuvik**	**50.34**	**29**	P		**P**	**06 27 24.1**	**+0.5**
	comp=Z,2.7nm,0.5s,mb4.6,baz=298,slow=6.4,SNR=25							
INK	**Inuvik**	**50.34**	**29**	*e*P		**P**	**06 27 23.9**	**+0.3**
	comp=Z,17nm,1.0s,mb5.0							
KULM	**Kulim**	**51.99**	**239**	*e*P		**P**	**06 27 36.3**	**-0.4**
SMLA	**Simla**	**53.19**	**282**	*i* P		**P**	**06 27 42.7**	**-2.8**
SMLA				*i* S		**S**	**06 35 22.1**	**+10**
ARU	**Arti**	**54.47**	**317**	*i*P		**P**	**06 27 53.7**	**-0.8**
ARU				*e*			06 28 54.4	
ARU				*e*			06 29 50.4	
ARU				*e*S		**S**	**06 35 27.5**	**-1.1**
ARU				*e*SS		SS	06 39 13.7	+2.8
ARU				pmax		pmax		
	comp=Z,54nm,1.0s,mb5.4							
ARU				MLR		MLR		
	comp=Z,300nm,17.0s,MS4.4							
ARU				MLR		MLR		
	comp=N,100nm,16.0s,MS4.5							
ARU				MLR		MLR		
	comp=E,300nm,18.0s,MS4.5							
ARU	**Arti**	**54.47**	**317**	*e*P		**P**	**06 27 51.8**	**-2.8**
	comp=E,85nm,1.2s,mb5.5							
DLBC	**Dease Lake**	**54.76**	**40**	P		**P**	**06 27 50.0**	**-6.6**
RES	**Resolute Bay**	**58.53**	**15**	*e*P		**P**	**06 28 21.6**	**-1.7**
RES				pmax		pmax		
	comp=Z,12nm,0.8s,mb5.0							
RES	**Resolute Bay**	**58.53**	**15**	*e*P		**P**	**06 28 21.6**	**-1.7**
	comp=Z,12nm,0.8s,mb5.0							
YKA	**Yellowknife Ar**	**59.79**	**32**	P		**P**	**06 28 32.3**	**+0.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**59.79**	**32**	P		**P**	**06 28 32.3**	**+0.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=126,slow=2.4,SNR=5.7							
KEV	**Kevo**	**60.37**	**339**	*e*p		**P**	**06 28 32.0**	**-4.0**
	comp=Z,0.4nm,0.4s,mb3.8							
ARCES	**ARCESS Array B**	**60.91**	**339**	P		**P**	**06 28 39.0**	**-0.7**
ARCES				pmax		pmax		
	comp=Z,6.0nm,0.9s							
ARCES	**ARCESS Array B**	**60.91**	**339**	P		**P**	**06 28 39.0**	**-0.8**
	comp=Z,6.3nm,0.9s,mb4.7,baz=42,slow=20,SNR=2.9							
ARCES	**ARCESS Array B**	**60.91**	**339**	P		**P**	**06 28 39.0**	**-0.8**
WB2	**Warramunga Arr**	**61.06**	**190**	*e*P		**P**	**06 28 39.5**	**-1.9**
WRA	**Warramunga Arr**	**61.06**	**190**	P		**P**	**06 28 39.8**	**-1.6**
	comp=Z,0.9nm,0.7s,mb4.0,baz=7.5,slow=6.9,SNR=12							
JOF	**Joensuu**	**63.26**	**332**	*e*p		**P**	**06 28 52.2**	**-3.3**
	comp=Z,1.6nm,0.4s,mb4.5							
JOF	**Joensuu**	**63.26**	**332**	*e*P		**P**	**06 28 52.2**	**-3.3**
JOF				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.6							
ASAR	**Alice Springs**	**64.79**	**189**	P		**P**	**06 29 05.0**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=1.6,slow=5.6,SNR=9.4							
KAF	**Kangasniemi**	**65.56**	**333**	*e*p		**P**	**06 29 08.1**	**-2.1**
	comp=Z,1.6nm,0.6s,mb4.2,baz=48,slow=6.1							
KAF	**Kangasniemi**	**65.56**	**333**	*e*P		**P**	**06 29 08.1**	**-2.1**
KAF				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
OBN	**Obninsk**	**65.88**	**323**	*e*P		**P**	**06 29 12.0**	**-0.5**
OBN				*e*		pP	06 29 22.1	-2.8
OBN				*e*			06 31 36.4	
OBN				*e*S		S	06 37 52.5	-2.4
OBN				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.9							
OBN				MLR		MLR		
	comp=Z,200nm,16.0s,MS4.4							
OBN	**Obninsk**	**65.88**	**323**	P		**P**	**06 29 12.3**	**-0.2**
	comp=Z,46nm,1.4s,mb5.3							
FINES	**FINESS Array B**	**66.09**	**332**	P		**P**	**06 29 12.5**	**-1.1**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.5s							
FINES	**FINESS Array B**	**66.09**	**332**	P		**P**	**06 29 12.5**	**-1.1**
	comp=Z,3.0nm,0.5s,mb4.6,baz=44,slow=8.0,SNR=14							
FINES	**FINESS Array B**	**66.09**	**332**	P		**P**	**06 29 12.5**	**-1.1**
NEW	**Newport**	**66.42**	**46**	*e*P		**P**	**06 29 19.2**	**+3.2**
NEW				pmax		pmax		
	comp=Z,9.0nm,1.2s							
NEW	**Newport**	**66.42**	**46**	*e*P		**P**	**06 29 19.2**	**+3.2**
	comp=Z,9.1nm,1.2s,mb4.7							
SUMG	**Summit**	**66.85**	**1**	*e*P		**P**	**06 29 18.1**	**-0.2**
	comp=Z,23nm,0.9s,mb5.2							
GOF	**Gofitskoye**	**68.61**	**311**	*e*P		**P**	**06 29 30.0**	**+0.2**
GOF				pmax		pmax		
	comp=Z,20nm,1.3s,mb4.9							
CHMT	**Chamberlain Mo**	**69.33**	**45**	P		**P**	**06 29 40.4**	**+6.3**
KIV	**Kislovodsk**	**69.47**	**311**	*e*P		**P**	**06 29 36.2**	**+1.1**
KIV				*i* SS			06 39 26.8	
KIV				pmax		pmax		
	comp=Z,12nm,0.7s,mb4.9							
KIV				MLR		MLR		
	comp=Z,100nm,16.0s,MS4.2							
KIV	**Kislovodsk**	**69.47**	**311**	*e*P		**P**	**06 29 35.6**	**+0.5**
	comp=Z,98nm,1.1s,mb5.7							
FCC	**Fort Churchill**	**69.95**	**28**	*e*P

comp=Z,4.0nm,0.8s,mb4.4
IMW Indian Meadow 72.49 47 *e*P **P 06 29 54.9 +1.7**
comp=Z,8.2nm,1.0s,mb4.6
MOOW Moose Ponds 72.70 47 P **P 06 29 58.8 +4.4**
comp=Z,5.8nm,1.0s,mb4.5
TPAW Teton Pass 72.75 47 P **P 06 29 56.5 +1.8**
comp=Z,5.5nm,1.0s,mb4.4
HWUT Hardware Ranch 73.62 49 P **P 06 30 03.9 +4.1**
comp=Z,5.6nm,1.2s,mb4.4
PDAR Pinedale Array 73.99 47 P **P 06 30 03.4 +1.4**
comp=Z,0.3nm,0.5s,baz=219,slow=2.8,SNR=3.9
MALT Malatya 75.52 308 P **P 06 30 11.7 +0.8**
MALT pmax pmax
comp=Z,13nm,1.0s,mb4.8
MALT Malatya 75.52 308 P **P 06 30 11.7 +0.8**
comp=Z,13nm,1.0s,mb4.8
KWP Kalwaria 75.83 325 P **P 06 30 12.3 -0.1**
KWP pmax pmax
comp=Z,32nm,1.0s,mb5.2
KWP Kalwaria 75.83 325 P **P 06 30 12.3 -0.1**
comp=Z,32nm,1.0s,mb5.2
PV10 Paradox Valley 77.20 50 P **P 06 30 18.5 -1.9**
MORC Moravsky Berou 77.91 327 *e*P **P 06 30 24.4 +0.3**
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MORC Moravsky Berou 77.91 327 *e*P **P 06 30 24.4 +0.4**
comp=Z,8.2nm,0.8s,mb4.7
MOX Moxa 79.51 331 *e*P **P 06 30 35.0 +2.2**
MOX MLR MLR
comp=Z,200nm,19.0s,MS4.5
MOX Moxa 79.51 331 *i* P **P 06 30 35.0 +2.2**
MOX L 07 09 12.0
KHC Kasperske Hory 80.00 329 *e*P **P 06 30 39.5 +4.0**
KHC Kasperske Hory 80.00 329 *e*P **P 06 30 39.5 +4.0**
GERES GERESS Array B 80.18 329 P **P 06 30 36.5 +0.1**
comp=Z,0.3nm,0.3s,mb3.8,baz=31,slow=5.7,SNR=3.2
SCHQ Schefferville 81.26 17 P **P 06 30 41.7 -0.3**
comp=Z,0.7nm,0.5s,mb3.9,baz=108,slow=3.3,SNR=3.1
SCHQ Schefferville 81.26 17 P **P 06 30 41.7 -0.3**
TXAR Lajitas Array 86.68 54 P **P 06 31 12.4 +2.6**
comp=Z,0.1nm,0.5s,baz=284,slow=5.2,SNR=3.2
SNAA Sanae 144.83 198 P PKPdf 06 38 02.8 +2.4
VNA2 Neumayer--Watz 146.39 197⇑*i*P PKPdf 06 38 07.6 +4.5
VNA2 Neumayer--Watz 146.39 197 *e* PKPdf 06 38 10.8 +7.7
VNA3 Neumayer Olymp 146.63 196⇑*i*P PKPdf 06 38 08.4 +4.9
VNA3 Neumayer Olymp 146.63 196 *e* PKPdf 06 38 11.2 +7.7
VNA1 Neumayer--Stat 146.79 197⇑*i*P PKPdf 06 38 08.7 +4.9

NEIC ***24*** *06:18:33.5±0.6,41.39N×142.89E,h35km,mb4.9/62, MS4.4/4,MW4.6(NIED),Error ellipse: s-maj=14.0km s-min=7.9km az=168.0*

NEIC Felt at Misawa, Honshu. Recorded [2 JMA] in Aomori and Iwate; [1 JMA] in Miyagi Prefectures, Honshu.

HRVD ***24*** *06:18:33.5±0.9,40.79N×143.35E,h34km±2km,MW4.8/42, Centroid moment Tensor Solution. LP body waves: s13,c15;Mantle waves: s42,c57; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.47±.22; $M_{\theta\theta}$0.04±.15; $M_{\phi\phi}$-1.51±.15; $M_{r\theta}$1.05±.16; $M_{\theta\phi}$-0.69±.09; $M_{r\phi}$0.91±.11; Best double couple: M_o2.146×10^{16} NP1:ϕ_s180°,δ30°,λ55°. NP2:ϕ_s40°,δ66°,λ108°. Principal axes: T 2.097, Plg64°, Azm340°; N .097, Plg17°, Azm212°; P -2.195, Plg19°, Azm116°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***24*** *06:18:34.8±0.6,40.83N×143.05E,mb4.4/22,mb1 4.6/23, mb1mx4.5/25,mbtmp4.4/23,ML4.0/1 Error ellipse: s-maj=16.8km s-min=14.6km az=96.0*

BJI ***24*** *06:18:35.2,42.28N×143.39E,h54km,mB5.0,mb4.8, Ms4.4,Msz4.2*

JMA ***24*** *06:18:39.1±0.3,40.83N×143.07E,h9km±4km,M4.7*

JMA Felt II J1.

ISC 24 06:18:40.6±0.6,40.79N±0.03×143.14E±0.05,h53km±4km, h39km±4.3km:pP-P,n197,σ0s96/183,mb4.8/64,MS4.4/7, 7C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JEM	**Erimo**	**1.23**	**1**	P		**P**	**06 19 01.5**	**-0.2**
JEM				*e*S		**S**	**06 19 16.6**	**-0.9**
JTH	**Tanohata**	**1.29**	**229**	*e*S		**S**	**06 19 19.2**	**0.0**
JANG	**Nango**	**1.30**	**252**	⇑P		**P**	**06 19 02.2**	**-0.8**
JANG				*e*S		**S**	**06 19 20.0**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.52**	**349**	*e*S		**S**	**06 19 25.1**	**+0.4**
JTM	**Tenmabayashi**	**1.57**	**271**	P		**P**	**06 19 06.5**	**-0.2**
JTM				*e*S		**S**	**06 19 27.5**	**+1.5**
JOT	**Ohata**	**1.69**	**291**	⇑P		**P**	**06 19 07.6**	**-0.7**
JOT				*e*S		**S**	**06 19 29.2**	**+0.4**
JCH	**Churui**	**1.83**	**5**	P		**P**	**06 19 11.5**	**+1.3**
JKB	**Kayabe**	**1.93**	**305**	*e*S		**S**	**06 19 35.5**	**+0.8**
JOM	**Ohasama**	**1.93**	**228**	P		**P**	**06 19 12.6**	**+1.0**
JMK	**Ichinoseki**	**2.36**	**219**	P		**P**	**06 19 17.9**	**+0.2**
JMK				*e*S		**S**	**06 19 46.8**	**+1.4**
JEW	**Eniwo**	**2.41**	**329**	*e*S		**S**	**06 19 49.6**	**+2.8**
ASAJ	**Asahikawa**	**3.35**	**353**	Pn		**P**	**06 19 25.4**	**-6.3**
	12nm,0.3s,baz=314,slow=3.1,SNR=14							
ASAJ				Sn		**S**	**06 20 09.3**	**-1.3**
	32nm,0.3s,baz=81,slow=19,SNR=5.3							
UGL	**Uglegorsk**	**8.32**	**355**	*e*P		**P**	**06 20 34.9**	**-6.3**
UGL				pmax	pmax			
	comp=Z,31nm,0.5s							
UGL				MLR	MLR			
	comp=N,500nm,14.0s							
UGL				MLR	MLR			
	comp=E,550nm,14.0s							
UGL				MLR	MLR			
	comp=Z,700nm,14.0s							
VLA	**Vladivostok**	**8.70**	**289**	*e*P		**P**	**06 20 45.0**	**-1.3**
VLA				MLR	MLR			
	comp=N,2μm,13.0s							
VLA				MLR	MLR			
	comp=E,2μm,13.0s							
VLA				MLR	MLR			
	comp=Z,2μm,13.0s							
MDJ	**Mudanjiang**	**10.68**	**295**	*e*		**P**	**06 21 12.8**	**-0.5**
DL2	**Dalian**	**16.63**	**271**	P		**P**	**06 22 31.0**	**-0.3**
DL2				AMB	AMB			
	comp=Z,50nm,1.0s							
HIA	**Hailar**	**18.53**	**305**	*e*		**P**	**06 22 50.8**	**-4.0**
CLNS	**Chul'man**	**19.95**	**330**	*e*P		**P**	**06 23 05.8**	**-4.8**
CLNS				*e*S		S	06 26 25.9	-21
CLNS				pmax	pmax			
	comp=N,31nm,1.2s							
CLNS				pmax	pmax			
	comp=Z,39nm,1.2s							
CLNS				pmax	pmax			
	comp=E,21nm,1.1s							
CLNS				pmax	pmax			
	comp=Z,72nm,0.8s							
CLNS				pmax	pmax			
	comp=N,36nm,0.7s							
CLNS				pmax	pmax			
	comp=E,47nm,1.1s							
CLNS				smax				
	comp=N,5.0nm,0.8s							
CLNS				smax				
	comp=E,4.0nm,0.8s							
CLNS				smax				
	comp=Z,7.0nm,0.8s							
CLNS				MLR	MLR			
	comp=Z,800nm,16.0s							
CLNS				MLR	MLR			
	comp=N,500nm,17.0s							
CLNS				MLR	MLR			
	comp=E,100nm,13.0s							
TIA	**Tai'an**	**20.84**	**266**	*e*P		**P**	**06 23 18.3**	**-1.7**
TIA				AMB	AMB			
	comp=Z,101nm,1.3s							
NJ2	**Nanjing**	**21.35**	**254**	*e*P		**P**	**06 23 24.1**	**-1.0**
NJ2				PP	PP		06 23 48.8	-1.3
NJ2				PPP	PPP		06 23 58.3	-1.7
NJ2				S	S		**06 27 16.0**	**+2.0**
NJ2				AMB	AMB			
	comp=Z,70nm,0.7s,mb5.1							
NJ2				AMB	AMB			
	comp=Z,330nm,4.4s							
NJ2				LR	LR			
	comp=N,2μm,18.9s,MS4.7							
NJ2				LR	LR			
	comp=E,2μm,18.8s,MS4.7							
NJ2				LR	LR			
	comp=Z,1μm,13.4s							
YAK	**Yakutsk**	**22.77**	**344**	*e*P		**P**	**06 23 34.7**	**-4.2**
YAK				*e**PP			06 23 43.5	
YAK				*e*			06 23 55.7	
YAK				*e*PPP	PPP		06 24 08.3	-11
YAK				*e*SS	SS		06 28 01.3	-24
YAK				*e*SSS	SSS		06 28 28.2	-14
YAK				pmax	pmax			
	comp=N,19nm,1.0s							
YAK				pmax	pmax			
	comp=Z,37nm,1.0s,mb4.8							
YAK				pmax	pmax			
	comp=E,14nm,1.1s							
YAK				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.4							
YAK				pmax	pmax			
	comp=N,13nm,1.1s							
YAK				pmax	pmax			
	comp=E,8.0nm,0.9s							
YAK				MLR	MLR			
	comp=Z,232nm,16.0s,MS3.7							
YAK				MLR	MLR			
	comp=N,156nm,14.0s,MS3.8							
YAK				MLR	MLR			
	comp=E,228nm,15.0s,MS3.8							
YAK	**Yakutsk**	**22.77**	**344**	*e*		**P**	**06 23 35.0**	**-3.9**
FX1	**Attu Island--F**	**23.65**	**49**	P		**P**	**06 23 49.1**	**+1.7**
	comp=E,13nm,0.7s,mb4.5,baz=241,slow=4.6,SNR=4.8							
FX1	**Attu Island--F**	**23.65**	**49**	*e*		**P**	**06 23 51.1**	**+3.7**
FX1				*e*			06 24 00.5	
BTO	**Baotou**	**25.03**	**281**	*e*P		**P**	**06 23 59.3**	**-1.7**
BOD	**Bodaibo**	**25.22**	**322**	*e*		**P**	**06 24 01.3**	**-1.3**
WHN	**Wuhan**	**25.42**	**255**	P		**P**	**06 24 04.5**	**-0.3**
WHN				S		**S**	**06 28 25.3**	**0.0**
WHN				LR	LR			
	comp=Z,2μm,14.1s,MS4.8							
ULN	**Ulaanbaatar**	**26.58**	**298**	*e*		**P**	**06 24 14.2**	**-1.2**
ULN	**Ulaanbaatar**	**26.58**	**298**	*e*		**P**	**06 24 14.2**	**-1.2**
SONM	**Songino Array**	**27.03**	**297**	P		**P**	**06 24 18.9**	**-0.6**
	comp=Z,9.2nm,0.6s,mb4.5,baz=90,slow=8.6,SNR=36							
TLY	**Talaya**	**29.07**	**305**	*e*P		**P**	**06 24 36.8**	**-1.0**
TLY				pmax	pmax			
	comp=Z,18nm,0.7s,mb4.9							
TLY				MLR	MLR			
	comp=Z,338nm,16.0s,MS4.0							
TLY	**Talaya**	**29.07**	**305**	*e*		**P**	**06 24 37.3**	**-0.5**
ENH	**Enshi**	**29.17**	**260**	*e*		**P**	**06 24 37.5**	**-1.4**
ZAK	**Zakamensk**	**29.18**	**303**	*e*		**P**	**06 24 37.6**	**-1.2**
BILL	**Bilibino**	**30.05**	**17**	*e*		**P**	**06 24 44.8**	**-1.5**
BILL	**Bilibino**	**30.05**	**17**	*i*		**P**	**06 24 44.8**	**-1.5**
CD2	**Chengdu**	**33.17**	**265**	P		**P**	**06 25 13.0**	**-1.1**
CD2				AMB	AMB			
	comp=Z,30nm,0.6s,mb5.4							
GYA	**Guiyang**	**33.31**	**256**	⇑*i*P		**P**	**06 25 14.4**	**-0.9**
GYA				PP	PP		06 26 27.8	-0.2
GYA				AMB	AMB			
	comp=Z,50nm,0.7s,mb5.5							
GYA				AMB	AMB			
	comp=Z,70nm,3.6s							
GYA				LR	LR			
	comp=N,390nm,15.2s,MS4.5							
GYA				LR	LR			
	comp=E,620nm,14.7s,MS4.5							
GYA				LR	LR			
	comp=Z,990nm,14.5s,MS4.7							
TNA	**Tin City**	**36.94**	**31**	*e*		**P**	**06 25 45.4**	**-0.5**
KMI	**Kunming**	**36.97**	**258**	P		**P**	**06 25 46.3**	**-0.2**
KMI				S		**S**	**06 31 25.0**	**-2.5**
KMI				AMB	AMB			
	comp=Z,35nm,1.1s,mb5.1							
KMI				LR	LR			
	comp=N,345nm,15.4s,MS4.4							
KMI				LR	LR			
	comp=E,376nm,15.6s,MS4.4							
KMI				LR	LR			
	comp=Z,442nm,16.1s,MS4.3							
ZAL	**Zalesovo**	**40.50**	**309**	P		**P**	**06 26 15.1**	**-0.4**
	comp=Z,15nm,0.7s,mb4.8,baz=24,slow=9.7,SNR=25							
ZAL				PcP	PcP		06 28 17.7	-0.3
	comp=Z,3.5nm,0.8s,baz=6.5,slow=3.4,SNR=4.1							
CHRT	**Chiangrai**	**42.31**	**254**	⇓P		**P**	**06 26 31.0**	**+0.2**
	comp=Z,108nm,0.8s,mb5.5							
IMA	**Indian Mountai**	**42.79**	**32**	*e*		**P**	**06 26 35.2**	**+1.1**
IMA	**Indian Mountai**	**42.79**	**32**	*e*		**P**	**06 26 35.2**	**+1.1**
LSA	**Lhasa**	**43.31**	**272**	*e*		**P**	**06 26 40.1**	**+1.2**
LSA	**Lhasa**	**43.31**	**272**	*e*		**P**	**06 26 40.1**	**+1.2**
CM31	**Chiang Mai Arr**	**43.82**	**253**	P		**P**	**06 26 41.5**	**-1.6**
	comp=Z,6.3nm,0.9s,mb4.3							
KURK	**Kurchatov**	**44.77**	**305**	*e*		**P**	**06 26 49.4**	**-0.9**
KURK				*e*			06 26 54.2	
KURK	**Kurchatov**	**44.77**	**305**	*e*		**P**	**06 26 49.4**	**-0.9**
KURK				*e*			06 26 54.2	
MCK	**McKinley**	**44.79**	**36**	*e*		**P**	**06 26 49.5**	**-0.7**
MCK	**McKinley**	**44.79**	**36**	*e*		**P**	**06 26 49.6**	**-0.7**
BVAR	**Borovoye Array**	**49.11**	**310**	P		**P**	**06 27 24.1**	**-0.3**
	comp=Z,10nm,0.5s,mb5.1,baz=79,slow=7.6,SNR=26							
AAK	**Ala-Archa**	**49.97**	**296**	*e*		**P**	**06 27 34.1**	**+3.0**
AAK	**Ala-Archa**	**49.97**	**296**	*e*		**P**	**06 27 34.1**	**+3.0**
INK	**Inuvik**	**50.44**	**29**	P		**P**	**06 27 34.2**	**-0.1**
	comp=Z,12nm,0.9s,mb5.0,baz=306,slow=6.2,SNR=25							
INK	**Inuvik**	**50.44**	**29**	*e*		**P**	**06 27 33.4**	**-0.9**
INK				*e*			06 28 07.8	
INK	**Inuvik**	**50.44**	**29**	*e*		**P**	**06 27 33.4**	**-1.0**
KULM	**Kulim**	**51.89**	**239**	*e*		**P**	**06 27 46.8**	**+0.8**
KULM				*e*		pP	06 27 56.7	-3.5
SVE	**Sverdlovsk**	**53.27**	**317**	⇑*e*P		**P**	**06 27 55.5**	**-0.2**
SVE				*e*		pP	06 28 05.5	-4.6
SVE				pmax	pmax			
	comp=Z,68nm,1.0s,mb5.5							
SVE				MLR	MLR			
	comp=N,100nm,14.0s,MS4.6							
SVE				MLR	MLR			
	comp=E,400nm,14.0s,MS4.6							
SVE				MLR	MLR			
	comp=Z,500nm,14.0s,MS4.7							
KAKA	**Kakadu**	**54.14**	**193**	*e*P		**P**	**06 28 03.0**	**+0.3**
	comp=Z,4.7nm,0.6s,mb4.6							
ARU	**Arti**	**54.48**	**317**	*e*		**P**	**06 28 03.1**	**-1.5**
DLBC	**Dease Lake**	**54.87**	**40**	P		**P**	**06 28 08.0**	**+0.6**
	comp=Z,4.2nm,1.0s,mb4.4,baz=278,slow=7.5,SNR=6.7							
DLBC	**Dease Lake**	**54.87**	**40**	*e*		**P**	**06 28 07.3**	**-0.1**
RES	**Resolute Bay**	**58.63**	**15**	*e*		**P**	**06 28 32.1**	**-1.8**
RES	**Resolute Bay**	**58.63**	**15**	*e*		**P**	**06 28 32.2**	**-1.8**
YKA	**Yellowknife Ar**	**59.90**	**32**	P		**P**	**06 28 41.3**	**-1.6**
	comp=Z,1.6nm,0.8s,mb4.1,baz=298,slow=6.8,SNR=16							
KEV	**Kevo**	**60.42**	**339**	*e*p		**P**	**06 28 49.9**	**+3.5**
	comp=Z,0.5nm,0.3s,mb4.0							
CTAO	**Charters Tower**	**60.63**	**177**	P		**P**	**06 28 45.6**	**-2.8**
CTAO				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.5							
CTAO	**Charters Tower**	**60.63**	**177**	P		**P**	**06 28 45.6**	**-2.8**
	comp=Z,4.0nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**60.80**	**199**	*e*P		**P**	**06 28 49.3**	**-0.3**
	comp=Z,5.5nm,0.9s,mb4.7							
WRAB	**Tennant Creek**	**60.96**	**189**	*e*P		**P**	**06 28 48.9**	**-1.8**
WRAB				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**60.96**	**189**	*e*P		**P**	**06 28 48.9**	**-1.7**
	comp=Z,8.3nm,0.8s,mb4.9							
ARCES	**ARCESS Array B**	**60.97**	**339**	P		**P**	**06 28 49.0**	**-1.1**
	comp=Z,1.7nm,0.6s,mb4.4,baz=39,slow=7.8,SNR=5.1							
WB2	**Warramunga Arr**	**60.97**	**189**	*e*		**P**	**06 28 49.7**	**-1.0**
WRA	**Warramunga Arr**	**60.97**	**189**	P		**P**	**06 28 49.8**	**-0.9**
WRA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**60.97**	**189**	P		**P**	**06 28 49.8**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.6,baz=6.7,slow=6.9,SNR=22							
DAG	**Danmarks Havn**	**62.15**	**355**	⇓*e*P		**P**	**06 28 56.6**	**-1.3**
DAG				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8							
DAG	**Danmarks Havn**	**62.15**	**355**	⇓*i*P		**P**	**06 28 56.6**	**-1.3**
	comp=Z,4.8nm,0.7s,mb4.7							
KAD	**Karad**	**63.07**	**270**	*e*P		**P**	**06 29 03.5**	**-1.3**
JOF	**Joensuu**	**63.30**	**332**	*e*p		**P**	**06 29 07.1**	**+1.4**
	comp=Z,1.0nm,0.3s,mb4.4							
ASAR	**Alice Springs**	**64.70**	**189**	P		**P**	**06 29 15.0**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=2.1,slow=5.1,SNR=20							
MOS	**Moscow**	**65.05**	**323**	*e*P		**P**	**06 29 17.3**	**+0.2**
MOS				pmax	pmax			
	comp=Z,41nm,0.7s,mb5.6							
MBWA	**Marble Bar**	**65.36**	**204**	P		**P**	**06 29 21.6**	**+1.9**
	comp=Z,4.4nm,0.8s,mb4.5							
KAF	**Kangasniemi**	**65.60**	**333**	*e*p		**P**	**06 29 18.7**	**-1.8**
	comp=Z,3.5nm,0.6s,mb4.6,baz=46,slow=6.1							
FINES	**FINESS Array B**	**66.13**	**332**	P		**P**	**06 29 22.6**	**-1.3**
	comp=Z,7.9nm,0.6s,mb5.0,baz=45,slow=8.1,SNR=20							
NEW	**Newport**	**66.53**	**46**	P		**P**	**06 29 26.6**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.1,baz=35,slow=11,SNR=3.0							
SUMG	**Summit**	**66.93**	**1**	*e*		**P**	**06 29 28.9**	**+0.1**
VRSR	**Storozhevoye**	**67.00**	**318**	*e*P		**P**	**06 29 28.8**	**-0.7**
VRSR				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.2							
VRSR				pmax	pmax			
	comp=N,10.0nm,0.6s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.6s							
GOF	**Gofitskoye**	**68.61**	**311**	*i*		**P**	**06 29 40.0**	**+0.3**
KIV	**Kislovodsk**	**69.48**	**311**	*e*		**P**	**06 29 45.8**	**+0.8**
FCC	**Fort Churchill**	**70.05**	**28**	*e*		**P**	**06 29 47.4**	**-0.9**
FCC	**Fort Churchill**	**70.05**	**28**	*e*		**P**	**06 29 47.4**	**-0.9**
HRY	**Holter Researc**	**70.33**	**45**	*e*		**P**	**06 29 49.5**	**-0.6**
GNI	**Garni**	**70.55**	**306**	P		**P**	**06 29 50.7**	**-1.0**
	comp=E,4.3nm,0.6s,mb4.6,baz=240,slow=4.9,SNR=4.6							
HLID	**Hailey**	**70.86**	**49**	*e*		**P**	**06 29 54.5**	**+1.1**
BOZ	**Bozeman (W)**	**71.10**	**46**	*e*		**P**	**06 29 54.8**	**-0.1**
BOZ	**Bozeman (W)**	**71.10**	**46**	*e*		**P**	**06 29 54.8**	**-0.1**
NOA	**NORSAR Array B**	**71.24**	**338**	P		**P**	**06 29 54.5**	**-1.0**
	comp=E,6.8nm,0.8s,mb4.6,baz=36,slow=6.1,SNR=18							
QLMT	**Earthquake Lak**	**71.73**	**46**	*e*P		**P**	**06 29 58.5**	**-0.1**
GCMT	**Greycliff**	**72.07**	**45**	*e*P		**P**	**06 30 01.3**	**+0.7**
GCMT				*e*		pP	06 30 12.8	-2.8
AKASG	**Malin Array Be**	**72.15**	**322**	P		**P**	**06 30 00.5**	**-0.5**
	comp=E,10nm,0.7s,mb4.9,baz=43,slow=5.9,SNR=6.4							
STKA	**Stephens Creek**	**72.32**	**181**	P		**P**	**06 30 02.8**	**+0.4**
	comp=E,0.6nm,0.4s,mb3.8,baz=359,slow=18,SNR=2.9							
IMW	**Indian Meadow**	**72.60**	**47**	*e*		**P**	**06 30 05.1**	**+1.4**
DUG	**Dugway**	**73.91**	**51**	P		**P**	**06 30 09.1**	**-2.4**
DUG				pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.3							
DUG	**Dugway**	**73.91**	**51**	P		**P**	**06 30 09.1**	**-2.4**
	comp=Z,4.2nm,1.0s,mb4.3							
PDAR	**Pinedale Array**	**74.10**	**47**	P		**P**	**06 30 12.9**	**+0.3**
	comp=Z,1.4nm,0.9s,mb3.9,baz=315,slow=1.0,SNR=5.3							
BSD	**Bornholm Skovb**	**74.77**	**332**	*i* P		**P**	**06 30 15.5**	**-0.7**
BSD				*e*			06 30 38.9	
MALT	**Malatya**	**75.52**	**308**	*e*		**P**	**06 30 22.3**	**+1.5**
MALT	**Malatya**	**75.52**	**308**	*e*		**P**	**06 30 22.3**	**+1.5**
MUD	**Monsted U'grnd**	**75.61**	**336**	*i* P		**P**	**06 30 20.8**	**-0.1**
	comp=Z,12nm,0.9s,mb4.8							
ULM	**Lac du Bonnet**	**75.64**	**35**	P		**P**	**06 30 20.6**	**-0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=300,slow=6.0,SNR=4.5							
KWP	**Kalwaria**	**75.86**	**325**	*e*		**P**	**06 30 22.9**	**+0.4**
KWP	**Kalwaria**	**75.86**	**325**	*e*P		**P**	**06 30 23.3**	**+0.8**
KWP	**Kalwaria**	**75.86**	**325**	*e*		**P**	**06 30 22.9**	**+0.4**
KOLS	**Kolonicke sedl**	**76.57**	**324**	*e*P		**P**	**06 30 26.4**	**-0.1**
KOLS	**Kolonicke sedl**	**76.57**	**324**	*e*pP		**P**	**06 30 26.4**	**-0.1**
OJC	**Ojcow**	**76.67**	**327**	*e*P		**P**	**06 30 27.3**	**+0.2**
NIE	**Niedzica**	**77.06**	**326**	*e*P		**P**	**06 30 29.5**	**+0.2**
PV10	**Paradox Valley**	**77.31**	**50**	*e*		**P**	**06 30 31.6**	**+0.7**
BRTR	**Keskin Array B**	**77.36**	**312**	P		**P**	**06 30 30.6**	**-0.6**
	comp=Z,2.3nm,1.0s,mb4.1,baz=56,slow=4.5,SNR=8.6							
KSP	**Ksiaz**	**77.61**	**329**	*e*P		**P**	**06 30 33.1**	**+0.8**
KSP	**Ksiaz**	**77.61**	**329**	*e*P		**P**	**06 30 32.8**	**+0.5**
MORC	**Moravsky Berou**	**77.94**	**327**	*e*		**P**	**06 30 34.3**	**+0.2**
MORC	**Moravsky Berou**	**77.94**	**327**	*e*		**P**	**06 30 34.3**	**+0.2**
UPC	**Upice**	**77.98**	**329**	*e*P		**P**	**06 30 35.2**	**+0.8**
DPC	**Dobruska-Polom**	**77.99**	**328**	*e*P		**P**	**06 30 34.8**	**+0.4**
VYHS	**Vyhne**	**78.39**	**326**	*e*P		**P**	**06 30 37.4**	**+0.8**
VYHS	**Vyhne**	**78.39**	**326**	*e*pP		**P**	**06 30 37.4**	**+0.8**
BRG	**Berggiesshubel**	**78.50**	**330**	P		**P**	**06 30 37.7**	**+0.5**
BRG				*e*		pP	06 30 52.8	+0.5
CLL	**Collm**	**78.50**	**331**	*i* P		**P**	**06 30 36.9**	**-0.3**
	comp=Z,14nm,0.9s,mb4.9							
CLL	**Collm**	**78.50**	**331**	*i* *PP		**P**	**06 30 36.9**	**-0.3**
PVCC	**Panska Ves**	**78.53**	**329**	*e*P		**P**	**06 30 37.7**	**+0.3**
PRU	**Pruhonice**	**78.97**	**329**	*e*P		**P**	**06 30 40.6**	**+0.8**
KHC	**Kasperske Hory**	**80.04**	**329**	*e*pP		pP	06 30 46.4	-14
KHC				*e*			06 31 12.5	
KHC	**Kasperske Hory**	**80.04**	**329**	*e*pP		pP	06 30 46.4	-14
KHC				x		x	06 31 12.5	
GERES	**GERESS Array B**	**80.22**	**329**	P		**P**	**06 30 46.5**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=34,slow=4.8,SNR=12							
GRA1	**Grafenberg Arr**	**80.48**	**331**	*e*P		**P**	**06 30 48.6**	**+0.7**
ANMO	**Albuquerque**	**81.16**	**51**	P		**P**	**06 30 51.3**	**-0.5**
	comp=Z,6.4nm,1.3s,mb4.4							
SCHQ	**Schefferville**	**81.36**	**17**	P		**P**	**06 30 52.5**	**+0.1**
	comp=Z,3.7nm,1.0s,mb4.3,baz=328,slow=7.0,SNR=4.1							
PERS	**Pernice**	**81.41**	**327**	*i* P		**P**	**06 30 53.5**	**+0.6**
	comp=Z,24nm,0.8s,mb5.2							
BBLS	**Bajina Basta -**	**81.69**	**323**	⇓*i*P		**P**	**06 30 55.1**	**+0.7**
OBKA	**Obir**	**81.75**	**327**	⇑*i*P		**P**	**06 30 54.3**	**-0.4**
	comp=Z,6.0nm,0.8s,mb4.6							
KBA	**Koelnbreinsper**	**81.78**	**328**	⇑*i*P		**P**	**06 30 56.5**	**+1.7**
	comp=Z,9.6nm,0.8s,mb4.8							
CRES	**Cresnjev**	**81.92**	**326**	*e*P		**P**	**06 30 55.6**	**0.0**
VISS	**Visnje**	**82.19**	**326**	*e*P		**P**	**06 30 57.0**	**0.0**
**DAV

CFAA	**Coronel Fontan**	**153.19**	**80**	PKPbc	PKPdf	06 38 33.7	+9.1
	comp=Z,0.1nm,0.4s,baz=236,slow=2.3,SNR=4.8						
PLCA	**Paso Flores**	**154.57**	**101**	PKP	PKPdf	06 38 26.1	-0.1
	comp=Z,1.2nm,0.9s,baz=143,slow=6.4,SNR=2.8						

IDC ***24*** *06:25:47.4±2.4,21.89S×68.58W,h110km±26km,mb3.7/3, mb1 3.6/6,mb1mx3.4/15,mbtmp3.9/6, Error ellipse: s-maj=25.6km s-min=19.9km az=127.0*

GUC ***24*** *06:25:49.8±0.4,21.96S×68.83W,h124km±3km,MD3.9, ML3.8*

NEIC ***24*** *06:25:49.8,21.96S×68.83W,h124km, MD3.9(GUC), After GUC.*

ISC 24 06:25:47.4±0.6,**21.80S**±0.05×**68.77W**±0.08,**h134**km±7km, **n11**,σ1§**26**/18,**mb3.8**/2,**1C-1D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
LVC	**Limon Verde**	**0.82**	**189**	⇑*i*P		**P**	**06 26 10.1**	**+0.9**
LVC				*i* S		**S**	**06 26 25.6**	**-0.4**
LVC				AMP			06 26 27.8	
	comp=E,2μm,0.3s							
SPCH	**San Pedro de A**	**1.22**	**155**	⇓*i*P		**P**	**06 26 14.2**	**+1.1**
SPCH				*i* S		**S**	**06 26 33.0**	**+0.3**
SPCH				AMP			06 26 47.5	
	comp=E,1μm,0.3s							
ANCH	**Antofagasta**	**2.41**	**219**	*e*P		**P**	**06 26 28.2**	**+1.0**
ANCH				*i* S		**S**	**06 26 56.6**	**-1.0**
CPN1	**Cerro Paranal**	**3.19**	**208**	*e*P		**P**	**06 26 38.5**	**+1.1**
CPN1				*i* S		**S**	**06 27 15.5**	**-0.1**
CPN1				AMP			06 27 24.4	
	comp=E,621nm,0.3s							
LPAZ	**La Paz**	**5.52**	**6**	P		**P**	**06 27 09.8**	**+1.3**
	comp=E,2.5nm,0.3s,baz=199,slow=8.7,SNR=106							
ARE	**Arequipa**	**5.90**	**334**	*e*P		**P**	**06 27 14.0**	**+0.3**
ARE				*i* S		**S**	**06 28 18.6**	**-2.0**
CFAA	**Coronel Fontan**	**9.77**	**177**	P		**P**	**06 28 02.8**	**-2.8**
	comp=E,0.3nm,0.3s,baz=354,slow=13,SNR=27							
CFAA				S		**S**	**06 29 46.8**	**-6.9**
	comp=E,0.1nm,0.3s,baz=252,slow=22,SNR=3.5							
PLCA	**Paso Flores**	**18.93**	**184**	P		**P**	**06 30 00.5**	**+0.2**
	comp=E,0.1nm,0.3s,baz=1.7,slow=12,SNR=5.8							
BDFB	**Brasilia**	**20.58**	**76**	P		**P**	**06 30 14.9**	**-2.5**
	comp=E,3.6nm,0.4s,baz=253,slow=8.6,SNR=9.4							
BDFB				S		**S**	**06 34 01.1**	**+6.3**
	comp=E,0.6nm,0.4s,baz=76,slow=18,SNR=2.7							
DBIC	**Dimbokro**	**68.69**	**73**	P		**P**	**06 36 38.2**	**-0.7**
	comp=E,3.6nm,0.6s,mb4.3,baz=234,slow=8.7,SNR=7.9							
YKA	**Yellowknife Ar**	**91.52**	**341**	P		**P**	**06 38 41.7**	**+2.2**
	comp=E,0.1nm,0.4s,mb3.2,baz=132,slow=4.1,SNR=5.8							
YKA				pP		pP	06 39 13.4	-0.8
	comp=E,0.3nm,0.6s,baz=136,slow=4.2,SNR=3.2							

IDC ***24*** *06:37:41.9±1.4,40.56N×73.06E,mb3.7/7,mb1 3.9/9, mb1mx3.7/20,mbtmp3.7/9,ML3.2/2,Error ellipse: s-maj=41.8km s-min=24.2km az=55.0*

NNC ***24*** *06:37:44.8±3.4,40.76N×72.72E,mpv4.2,Error ellipse: s-maj=51.9km s-min=23.4km az=91.0*

MOS ***24*** *06:37:45.8±1.9,40.67N×72.74E,h33km,mb4.1/4,Error ellipse: s-maj=27.3km s-min=12.8km az=82.5*

NEIC ***24*** *06:37:47.8±0.9,40.68N×72.95E,h35km,Error ellipse: s-maj=16.5km s-min=14.3km az=147.0*

ISC 24 06:37:44.8±1.4,**40.39N**±0.08×**72.9E**±0.1,**h36**km±12km, **n34**,σ1§**17**/38,**mb3.6**/7,**6C-1D**,**Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
AML	**Almayashu**	**1.83**	**18**	P		**P**	**06 38 13.7**	**-0.8**
	SNR=2039							
UCH	**Uchtor**	**2.19**	**33**	P		**P**	**06 38 19.4**	**-0.2**
	SNR=103							
EKS2	**Erkin-Say**	**2.36**	**16**	P		**P**	**06 38 22.2**	**+0.3**
	SNR=122							
KZA	**Kyzart**	**2.44**	**45**	P		**P**	**06 38 22.8**	**-0.3**
	SNR=50							
AAK	**Ala-Archa**	**2.53**	**27**	P		**P**	**06 38 24.7**	**+0.2**
	SNR=42							
AAK	**Ala-Archa**	**2.53**	**27**	⇑Pn		**P**	**06 38 24.6**	**+0.2**
	136nm,0.8s							
AAK				⇑Sn		**S**	**06 38 55.1**	**+0.7**
	136nm,0.3s							
AAK	**Ala-Archa**	**2.53**	**27**	Pn		**P**	**06 38 23.3**	**-1.2**
	1μm,0.4s							
AAK	**Ala-Archa**	**2.53**	**27**	*e*Pn		**P**	**06 38 23.4**	**-1.1**
AAK				*e*Sn		**S**	**06 38 51.4**	**-3.0**
KBK	**Karagaybulak**	**2.73**	**33**	P		**P**	**06 38 27.7**	**+0.4**
	SNR=7.0							
FRU	**Bishkek**	**2.75**	**27**	*e*PN		**P**	**06 38 30.0**	**+2.4**
FRU				*i*			06 38 33.0	
FRU				*i* S		**S**	**06 39 02.0**	**+2.0**
FRU				pmax	pmax			
	comp=Z,200nm,1.4s							
FRU				smax				
	comp=E,520nm,1.6s							
CHMS	**Chumysh**	**2.94**	**27**	P		**P**	**06 38 30.3**	**-0.1**
	SNR=18							
USP	**Ospenovka**	**3.11**	**22**	P		**P**	**06 38 32.1**	**-0.6**
	SNR=12							
ULHL	**Ulahol**	**3.11**	**52**	P		**P**	**06 38 32.0**	**-0.7**
	SNR=16							
TKM2	**Tokmak 2**	**3.23**	**38**	P		**P**	**06 38 33.9**	**-0.5**
	SNR=14							
MK31	**Makanchi Array**	**9.33**	**44**	Pn		**P**	**06 40 01.9**	**+2.0**
	comp=E,1.5nm,0.7s,baz=227,slow=15,SNR=4.8							
MK31				⇑Lg			06 42 29.0	
	comp=E,3.2nm,0.7s,baz=226,slow=25,SNR=3.6							
MKAR	**Makanchi Array**	**9.33**	**44**	*e*P		**P**	**06 39 56.1**	**-3.8**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**11.07**	**19**	⇑Lg			06 43 22.8	
	comp=Z,12nm,1.2s							
BVA0	**Borovoye Array**	**12.76**	**353**	⇑Pn		**P**	**06 40 40.7**	**-5.6**
	comp=Z,0.6nm,1.1s,baz=156,slow=12,SNR=4.8							
BVA0				⇑Lg			06 44 17.8	
	comp=Z,3.0nm,1.5s,baz=154,slow=26,SNR=3.9							
BVA0	**Borovoye Array**	**12.76**	**353**	*i* P		**P**	**06 40 40.7**	**-5.7**
BVA0				pmax	pmax			
	comp=Z,1.0nm,1.2s							
BVAR	**Borovoye Array**	**12.76**	**353**	Pn		**P**	**06 40 41.7**	**-4.7**
	comp=Z,0.3nm,0.3s,baz=160,slow=11,SNR=6.6							
BVAR				Sn		**S**	**06 43 09.4**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=155,slow=28,SNR=3.3							
BVAR				Lg			06 44 13.5	
	comp=Z,0.2nm,0.3s,baz=171,slow=28,SNR=2.8							
CHKZ	**Chkalovo**	**13.38**	**354**	⇓Lg			06 44 39.9	
	comp=Z,11nm,1.1s							
ZAL	**Zalesovo**	**15.74**	**27**	Pn		**P**	**06 41 23.8**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=233,slow=8.3,SNR=4.3							
ZAL				Sn		**S**	**06 44 17.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=230,slow=24,SNR=2.2							
ZAL				Lg			06 45 48.7	
	comp=Z,0.2nm,0.3s,baz=355,slow=15,SNR=1.8							
ZAL	**Zalesovo**	**15.74**	**27**	Pn		**P**	**06 41 23.8**	**-1.5**
ZAL				Sn		**S**	**06 44 17.9**	**-0.7**
ZAL				Lg			06 45 48.7	
FINES	**FINESS Array B**	**35.20**	**323**	P		**P**	**06 44 36.4**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.5,baz=104,slow=7.9,SNR=4.8							
ARCES	**ARCESS Array B**	**38.19**	**335**	P		**P**	**06 45 01.3**	**-0.9**
ARCES				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**38.19**	**335**	P		**P**	**06 45 01.3**	**-0.9**
	comp=Z,3.1nm,1.0s,mb4.0,baz=106,slow=8.8,SNR=4.6							
GERES	**GERESS Array B**	**42.03**	**302**	P		**P**	**06 45 35.7**	**+1.5**
	comp=Z,0.2nm,0.2s,mb3.4,baz=68,slow=7.2,SNR=4.8							
NOA	**NORSAR Array B**	**42.26**	**320**	P		**P**	**06 45 35.6**	**-0.3**
NOA				pmax	pmax			
	comp=Z,1.0nm,1.0s							
NOA	**NORSAR Array B**	**42.26**	**320**	P		**P**	**06 45 35.6**	**-0.3**
	comp=Z,1.2nm,1.0s,mb3.5,baz=78,slow=8.2,SNR=2.7							
INK	**Inuvik**	**69.82**	**10**	P		**P**	**06 48 52.1**	**-0.8**
INK				pmax	pmax			
	comp=Z,1.0nm,0.5s							
INK	**Inuvik**	**69.82**	**10**	P		**P**	**06 48 52.0**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=316,slow=32,SNR=11							
YKA	**Yellowknife Ar**	**77.29**	**4**	P		**P**	**06 49 35.9**	**-0.6**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
YKA	**Yellowknife Ar**	**77.29**	**4**	P		**P**	**06 49 35.9**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=350,slow=6.0,SNR=19							
WRA	**Warramunga Arr**	**82.83**	**124**	P		**P**	**06 50 09.0**	**+2.1**
	comp=Z,0.1nm,0.5s,mb3.1,baz=320,slow=3.9,SNR=4.1							

MAN 24 06:37:50.6,8.30N×122.44E,h23km,mb4.5,ML3.3,MS3.2, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IPIL	**Ipil**	**0.53**	**165**	*e*P		Pb	06 38 01.9	+0.8
IPIL				*e*S		Sb	06 38 09.8	+1.4
DCPH	**Dipolog City**	**0.95**	**73**	⇑*e*P		Pb	06 38 07.2	-1.0
DCPH				*i* S		Sb	06 38 20.0	-0.4
PAGZ	**Pagadian**	**1.04**	**116**	*e*P		Pb	06 38 08.7	-1.1
PAGZ				*e*S		Sb	06 38 21.7	-1.3
SNPH	**Sibulan**	**1.30**	**37**	⇓*i*P		Pn	06 38 13.5	-0.2
SNPH				*i* S		Sn	06 38 31.0	+0.5
ZMPH	**Zamboanga City**	**1.39**	**195**	⇑*i*P		Pn	06 38 15.0	+0.1
ZMPH				*i* S		Sn	06 38 35.3	+2.6
GUIM	**Jordan**	**2.31**	**4**	*e*P		Pn	06 38 28.1	0.0
GUIM				*e*S		Sn	06 38 56.1	-0.1
BUKP	**Musuan**	**2.63**	**99**	*e*P		Pn	06 38 35.0	+2.3
CUYO	**Cuyo Island**	**2.89**	**331**	*e*P		Pn	06 38 36.4	0.0
ENPP	**El Nido**	**4.14**	**314**	*e*P		Pn	06 38 53.5	-0.6
SJMP	**San Jose**	**4.33**	**343**	*e*P		Pn	06 38 56.2	-0.6

NIED ***24*** *06:43:00, 40.80N×143.30E,h26km,Mw4.5 Best double couple: M0 7.02×10^15 NP1:φs43°,δ72°,λ111°. NP2:φs171°, δ27°,λ41°.*

JMA ***24*** *06:43:28.0±0.1,40.81N×143.30E,h22km,M4.7*

JMA Felt I J1.

MOS ***24*** *06:43:29.6±1.2,40.91N×142.99E,h33km,mb4.8/39,Error ellipse: s-maj=10.2km s-min=5.5km az=100.5*

BJI ***24*** *06:43:29.3,40.90N×143.04E,h36km,mB5.0,mb4.8, Ms4.3,Msz4.0*

IDC ***24*** *06:43:31.2±4.0,40.85N×143.16E,h36km±32km,mb4.1/20, mb1 4.2/22,mb1mx4.2/26,mbtmp4.3/22,ML3.9/2,MS3.9/7, Ms1 3.9/7,ms1mx3.4/29,Error ellipse: s-maj=19.1km s-min=14.1km az=87.0*

NEIC ***24*** *06:43:32.0±0.8,40.89N×143.11E,h43km±7km,mb4.6/35, MS4.4/1,MW4.5(NIED),Error ellipse: s-maj=7.2km s-min=5.5km az=112.0*

NEIC Felt at Misawa. Recorded [1 JMA] in Aomori and Iwate Prefectures.

ISC 24 06:43:29.9±0.5,**40.85N**±0.03×**143.21E**±0.04,**h42**km±3km, **h48**km±2.5km:**pP-P**,**n185**,σ1§**18**/209,**mb4.6**/73,**MS4.0**/22, **12C-6D**,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ERM	**Erimo**	**1.17**	**358**	Pn		**P**	**06 43 50.9**	**+1.0**
	13μm,0.5s,SNR=45							
JEM	**Erimo**	**1.17**	**358**	⇑P		**P**	**06 43 49.8**	**-0.2**
JEM				*e*S		**S**	**06 44 05.4**	**+0.4**
JTH	**Tanohata**	**1.37**	**229**	⇑P		**P**	**06 43 52.8**	**-0.2**
JTH				*e*S		**S**	**06 44 10.1**	**-0.1**
JANG	**Nango**	**1.38**	**250**	⇓P		**P**	**06 43 52.8**	**-0.2**
JANG				*e*S		**S**	**06 44 10.9**	**+0.6**
JNBK	**Urakawa-nobuka**	**1.47**	**347**	⇑P		**P**	**06 43 54.4**	**0.0**
JNBK				*e*S		**S**	**06 44 14.2**	**+1.5**
JTM	**Tenmabayashi**	**1.63**	**269**	⇑P		**P**	**06 43 57.3**	**+0.7**
JTM				*e*S		**S**	**06 44 18.2**	**+1.7**
JOT	**Ohata**	**1.72**	**289**	⇓P		**P**	**06 43 58.2**	**+0.3**
JOT				*e*S		**S**	**06 44 20.2**	**+1.4**
JCH	**Churui**	**1.77**	**4**	P		**P**	**06 43 58.3**	**-0.3**
JCH				*e*S		**S**	**06 44 20.2**	**+0.2**
JKB	**Kayabe**	**1.94**	**303**	P		**P**	**06 44 01.4**	**+0.4**
JKB				*e*S		**S**	**06 44 26.0**	**+1.7**
JOM	**Ohasama**	**2.01**	**228**	⇑P		**P**	**06 44 03.9**	**+1.9**
JEW	**Eniwo**	**2.39**	**327**	P		**P**	**06 44 08.2**	**+0.8**
JAK	**Akkeshi**	**2.42**	**27**	P		**P**	**06 44 06.6**	**-1.2**
JAK				*e*S		**S**	**06 44 34.4**	**-2.0**
JMK	**Ichinoseki**	**2.44**	**220**	⇑P		**P**	**06 44 08.8**	**+0.7**
JAR	**Ashorobuto**	**2.48**	**9**	⇑P		**P**	**06 44 07.6**	**-1.2**
JAR				*e*S		**S**	**06 44 35.9**	**-2.2**
ASAJ	**Asahikawa**	**3.30**	**352**	P		**P**	**06 44 20.5**	**+0.1**
ASAJ							06 45 00.1	
ASAJ				pmax	pmax			
	comp=Z,6.0nm,0.3s							
ASAJ				MLR	MLR			
	comp=Z,432nm,21.8s							
ASAJ	**Asahikawa**	**3.30**	**352**	Pn		**P**	**06 44 20.4**	**+0.1**
	comp=Z,5.6nm,0.3s,baz=233,slow=12,SNR=13							
ASAJ				Sn		**S**	**06 45 00.1**	**+1.3**
	comp=Z,35nm,0.3s,baz=52,slow=29,SNR=4.2							
ASAJ				LR	LR		06 45 45.2	
	comp=Z,432nm,21.8s,baz=331,slow=41							
YUK	**Yuzh-Kuril'sk**	**3.74**	**31**	⇓*i*P		**P**	**06 44 30.0**	**+3.4**
YUK				*e*S		**S**	**06 45 10.0**	**0.0**
YUK				pmax	pmax			
	comp=Z,850nm,0.3s							
YUK				pmax	pmax			
	comp=N,230nm,0.5s							
YUK				pmax	pmax			
	comp=E,180nm,0.4s							
YUK				smax				
	comp=N,4μm,0.6s							
YUK				smax				
	comp=E,5μm,0.8s							
YUK				smax				
	comp=N,3μm,0.5s							
YUK				smax				
	comp=E,2μm,0.5s							
KUR	**Kuril'sk**	**5.55**	**36**	*e*P		**P**	**06 44 48.0**	**-4.1**
KUR				*i* S		**S**	**06 45 49.0**	**-6.6**
KUR				pmax	pmax			
	comp=N,110nm,0.6s							
KUR				pmax	pmax			
	comp=E,110nm,0.6s							
KUR				pmax	pmax			
	comp=Z,340nm,0.6s							
KUR				smax				
	comp=N,340nm,0.7s							
KUR				smax				
	comp=E,410nm,0.7s							
MAJO	**Matsushiro**	**5.81**	**224**	*e*P		**P**	**06 44 55.9**	**+0.2**
MAJO				pmax	pmax			
	comp=Z,47nm,0.6s							
MAJO	**Matsushiro**	**5.81**	**224**	*e*Pn		**P**	**06 44 55.9**	**+0.2**
	comp=Z,47nm,0.6s							
MAT	**Matsushiro**	**5.81**	**224**	*e*P		**P**	**06 44 56.0**	**+0.3**
MAT				*e*S		**S**	**06 46 08.0**	**+5.9**
MAT				pmax	pmax			
	comp=Z,33nm,0.6s							
MAT	**Matsushiro**	**5.81**	**224**	*e*P		**P**	**06 44 56.0**	**+0.3**
	comp=Z,33nm,0.6s							
MAT				*e*S		**S**	**06 46 08.0**	**+5.9**
MAT	**Matsushiro**	**5.81**	**224**	P		**P**	**06 44 56.1**	**+0.4**
MAT				S		**S**	**06 46 08.1**	**+6.0**
YSS	**Yuzh-Sakhalins**	**6.11**	**357**	*e*P		**P**	**06 44 58.8**	**-1.2**
JHJ	**Hachijo jima 2**	**8.19**	**201**	Pn		**P**	**06 45 25.9**	**-2.9**
	comp=Z,19nm,0.3s,baz=235,slow=22,SNR=5.2							
UGL	**Uglegorsk**	**8.27**	**355**	*e*P		**P**	**06 45 25.8**	**-4.3**
UGL				pmax	pmax			
	comp=Z,31nm,0.5s							
UGL				MLR	MLR			
	comp=N,450nm,14.0s							
UGL				MLR	MLR			
	comp=E,300nm,14.0s							
UGL				MLR	MLR			
	comp=Z,500nm,14.0s							
MDJ	**Mudanjiang**	**10.70**	**295**	P		**P**	**06 46 00.6**	**-2.9**
MDJ				XP			06 46 09.0	
MDJ				S		**S**	**06 47 59.5**	**-3.5**
MDJ				PCP		PcP	06 52 02.3	-0.7
MDJ				SCP			06 55 34.3	
MDJ				SCS		ScS	06 59 04.4	-0.1
MDJ				AMB	AMB			
	comp=Z,30nm,0.9s							
MDJ				AMB	AMB			
	comp=Z,138nm,5.9s							
MDJ				LR	LR			
	comp=N,375nm,14.0s							
MDJ				LR	LR			
	comp=E,576nm,17.4s							
MDJ				LR	LR			
	comp=Z,881nm,15.8s							
MDJ	**Mudanjiang**	**10.70**	**295**	*e*P		**P**	**06 46 02.7**	**-0.8**
	comp=Z,43nm,1.1s							
KLR	**Kul'dur**	**11.65**	**320**	*e*P		**P**	**06 46 03.2**	**-13**
CN2	**Changchun**	**13.47**	**289**	*e*P		**P**	**06 46 40.3**	**-0.2**
CN2				*e*S		**S**	**06 48 58.8**	**-11**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.0s							
CN2				AMB	AMB			
	comp=Z,400nm,4.0s							
CN2				LR	LR			
	comp=N,400nm,16.0s							
CN2				LR	LR			
	comp=E,600nm,16.0s							
CN2				LR	LR			
	comp=Z,800nm,17.0s							
HIA	**Hailar**	**18.54**	**305**	*e*P		**P**	**06 47 41.9**	**-3.1**
HIA				pmax	pmax			
	comp=Z,37nm,0.8s							
HIA	**Hailar**	**18.54**	**305**	*e*P		**P**	**06 47 41.9**	**-3.1**
	comp=Z,37nm,0.8s							
MA2	**Magadan**	**19.34**	**12**	*e*P		**P**	**06 47 53.5**	**-0.7**
MA2				pmax	pmax			
	comp=Z,30nm,0.7s							
MA2				MLR	MLR			
	comp=Z,600nm,24.0s							
MA2	**Magadan**	**19.34**	**12**	*e*P		**P**	**06 47 53.7**	**-0.5**
	comp=E,6.1nm,0.6s							
CLNS	**Chul'man**	**19.93**	**330**	*e*P		**P**	**06 47 58.1**	**-2.5**
CLNS				*e*S		**S**	**06 51 26.0**	**-12**
CLNS				pmax	pmax			
	comp=Z,21nm,0.9s							
CLNS				pmax	pmax			
	comp=N,13nm,0.8s							
CLNS				pmax	pmax			
	comp=E,10.0nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,27nm,0.7s							
CLNS				pmax	pmax			
	comp=N,18nm,0.8s							
CLNS				pmax	pmax			
	comp=E,30nm,1.2s							
CLNS				smax				
	comp=N,5.0nm,0.9s							
CLNS				smax				
	comp=Z,1.0nm,0.9s							
CLNS				smax				
	comp=E,3.0nm,1.2s							
CLNS				MLR	MLR			
	comp=Z,700nm,22.0s							
CLNS				MLR	MLR			
	comp=N,400nm,18.0s							
CLNS				MLR	MLR			
	comp=E,100nm,17.0s							
SSE	**Sheshan**	**20.26**	**248**	P		**P**	**06 48 03.4**	**-0.9**
SSE				S		**S**	**06 51 45.6**	**+1.3**
SSE				AMB	AMB			
	comp=Z,19nm,0.9s							
SSE				AMB	AMB			
	comp=Z,205nm,5.0s							
SSE				LR	LR			
	comp=N,86nm,21.1s,MS3.2							
SSE				LR	LR			
	comp=E,95nm,21.0s,MS3.2							
SSE				LR	LR			
	comp=Z,112nm,18.2s,MS3.3							
BJI	**Beijing**	**20.57**	**277**	*e*P		**P**	**06 48 03.9**	**-3.5**
BJI				AMB	AMB			
	comp=Z,12nm,0.8s							
BJI				LR	LR			
	comp=N,285nm,15.0s,MS4.0							
BJI				LR	LR			
	comp=E,422nm,16.7s,MS4.0							
BJI				LR	LR			
	comp=Z,286nm,19.4s,MS3.6							
BJT	**Baijiatuau**	**20.58**	**277**	*e*P		**P**	**06 48 04.2**	**-3.3**
BJT				pmax	pmax			
	comp=Z,16nm,0.7s							
BJT	**Baijiatuau**	**20.58**	**277**	*e*P		**P**	**06 48 04.2**	**-3.4**
	comp=Z,16nm,0.7s							
TIA	**Tai'an**	**20.90**	**266**	*e*P		**P**	**06 48 08.9**	**-1.9**
TIA				AMB	AMB			
	comp=Z,58nm,1.4s							
NJ2	**Nanjing**	**21.42**	**254**	*e*P		**P**	**06 48 14.9**	**-1.2**
NJ2				AP			06 48 24.8	
NJ2				XP			06 48 30.1	
NJ2				PP	PP		06 48 37.6	-3.2
NJ2				PPP	PPP		06 48 49.3	-1.2
NJ2				AMB	AMB			
	comp=Z,30nm,0.7s,mb4.7							
NJ2				AMB	AMB			
	comp=Z,280nm,4.3s							
NJ2				LR	LR			
	comp=N,1μm,15.6s,MS4.6							
NJ2				LR	LR			
	comp=E,1μm,17.0s,MS4.6							
NJ2				LR	LR			
	comp=Z,510nm,17.2s,MS4.0							
YAK	**Yakutsk**	**22.73**	**343**	*e*P		**P**	**06 48 24.9**	**-3.9**
YAK				*e**PP			06 48 33.9	
YAK				*e*PPP	PPP		06 48 56.7	-12
YAK				*e*S		**S**	**06 52 31.2**	**+1.1**
YAK				*e**SS			06 52 41.8	
YAK				*e*			06 53 17.5	
YAK				*e*			06 59 41.8	
YAK				pmax	pmax			
	comp=N,10.0nm,1.0s							
YAK				pmax	pmax			
	comp=Z,24nm,1.0s,mb4.6							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
YAK				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.1							
YAK				pmax	pmax			
	comp=N,8.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.0s							
YAK				smax				
	comp=N,13nm,1.0s							
YAK				smax				
	comp=E,4.0nm,1.2s							
YAK				MLR	MLR			
	comp=Z,160nm,17.0s,MS3.5							
YAK				MLR	MLR			
	comp=N,155nm,18.0s,MS3.6							
YAK				MLR	MLR			
	comp=E,138nm,18.0s,MS3.6							
YAK	**Yakutsk**	**22.73**	**343**	*e*P		**P**	**06 48 25.7**	**-3.2**
HHC	**Hu-ho-hao-te**	**23.88**	**280**	*e*P		**P**	**06 48 40.4**	**+0.2**
HHC				AP			06 48 53.3	
HHC				PP	PP		06 49 15.3	+0.7
HHC				PCP	PcP		06 52 24.1	+0.2
HHC				S		**S**	**06 52 50.0**	**-0.4**
HHC				SS	SS		06 53 39.3	-3.0
HHC				AMB	AMB			
	comp=Z,89nm,4.3s							
HHC				LR	LR			
	comp=N,191nm,21.4s,MS3.9							
HHC				LR	LR			
	comp=E,332nm,17.8s,MS3.9							
HHC				LR	LR			
	comp=Z,425nm,19.0s,MS3.9							
BOD	**Bodaibo**	**25.21**	**322**	⇓*i*P		**P**	**06 48 51.4**	**-1.5**
BOD				pmax	pmax			
	comp=Z,16nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**26.61**	**297**	*e*P		**P**	**06 49 06.3**	**+0.3**
ULN				pmax	pmax			
	comp=Z,7.0nm,0.6s,mb4.4							
ULN	**Ulaanbaatar**	**26.61**	**297**	*e*P		**P**	**06 49 06.3**	**+0.3**
	comp=Z,6.7nm,0.6s,mb4.3							
SONM	**Songino Array**	**27.05**	**297**	P		**P**	**06 49 09.8**	**-0.2**
	comp=Z,5.3nm,0.6s,mb4.3,baz=80,slow=7.9,SNR=46							
SONM				LR	LR		07 00 38.2	
	comp=Z,435nm,

comp=Z,100nm,17.0s,MS3.5
BILL Bilibino 29.98 17 *e*P **P 06 49 35.1 -0.9**
comp=Z,35nm,1.2s,mb5.0
MOY Mondy 30.72 305 *e*P **P 06 49 44.8 +1.9**
LZH Lanzhou 31.01 274 *e*P **P 06 49 45.4 -0.1**
LZH AP pP 06 49 59.6 +2.7
LZH XP sP 06 50 02.6 +0.3
LZH AMB AMB
comp=Z,20nm,1.3s,mb4.8
LZH LR LR
comp=E,620nm,15.2s
LZH LR LR
comp=Z,360nm,16.2s,MS4.1
TIXI Tiksi 31.70 351 *e*P **P 06 49 47.5 -3.8**
TIXI pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
TIXI MLR MLR
comp=Z,167nm,15.0s,MS3.8
GTA Gaotai 32.97 282 *e*P **P 06 50 00.3 -2.3**
GTA AP pP 06 50 12.8 -1.3
GTA XP sP 06 50 17.6 -1.9
GTA PP PP 06 51 11.8 -1.9
GTA S **S 06 55 19.5 +2.7**
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
GTA AMB AMB
comp=Z,75nm,5.6s
GTA LR LR
comp=N,152nm,19.0s,MS4.1
GTA LR LR
comp=E,296nm,17.9s,MS4.1
GTA LR LR
comp=Z,440nm,17.5s,MS4.2
GYA Guiyang 33.38 256⇑ *i*P **P 06 50 05.3 -1.0**
GYA AP pP 06 50 17.8 0.0
GYA XP sP 06 50 22.6 -0.6
GYA PP PP 06 51 16.8 -2.0
GYA S **S 06 55 19.5 -3.8**
GYA XS 06 55 39.8
GYA AMB AMB
comp=Z,20nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,80nm,2.8s,mb5.2
GYA LR LR
comp=N,210nm,15.2s,MS4.2
GYA LR LR
comp=E,340nm,14.8s,MS4.2
GYA LR LR
comp=Z,460nm,15.0s,MS4.3
TNA Tin City 36.86 31 *e*P **P 06 50 36.1 +0.5**
comp=Z,5.0nm,1.2s,mb4.2
KMI Kunming 37.04 258 P **P 06 50 37.5 0.0**
KMI AP pP 06 50 51.8 +2.7
KMI S **S 06 56 19.8 0.0**
KMI AMB AMB
comp=Z,18nm,0.8s,mb5.0
KMI LR LR
comp=N,250nm,13.5s,MS4.3
KMI LR LR
comp=E,255nm,14.4s,MS4.3
KMI LR LR
comp=Z,299nm,17.0s,MS4.2
WMQ Urumqi 40.50 293 *e*P **P 06 51 07.3 +1.2**
WMQ AP pP 06 51 20.0 +2.2
WMQ XP sP 06 51 25.0 +2.0
WMQ PP PP 06 52 45.0 +2.0
WMQ *e*S **S 06 57 12.0 +0.2**
WMQ XS 06 57 33.0
WMQ AMB AMB
comp=Z,11nm,0.8s,mb4.6
WMQ AMB AMB
comp=Z,133nm,4.6s
WMQ LR LR
comp=N,416nm,16.8s,MS4.6
WMQ LR LR
comp=E,633nm,20.6s,MS4.6
WMQ LR LR
comp=Z,562nm,19.8s,MS4.4
ZAL Zalesovo 40.50 309 *i*P **P 06 51 06.2 +0.2**
ZAL pmax pmax
comp=Z,8.0nm,0.7s
ZAL Zalesovo 40.50 309 P **P 06 51 05.8 -0.2**
comp=Z,7.7nm,0.7s,mb4.4,baz=19,slow=8.0,SNR=35
IMA Indian Mountai 42.71 32 *e*P **P 06 51 25.3 +1.4**
IMA pmax pmax
comp=Z,43nm,0.9s,mb5.2
IMA Indian Mountai 42.71 32 *e*P **P 06 51 25.3 +1.4**
comp=Z,43nm,0.9s,mb5.2
LSA Lhasa 43.37 272 P **P 06 51 26.9 -2.9**
LSA pmax pmax
comp=Z,22nm,1.4s,mb4.7
LSA Lhasa 43.37 272 P **P 06 51 26.9 -2.9**
comp=Z,22nm,1.4s,mb4.7
MKAR Makanchi Array 43.39 299 *i*P **P 06 51 29.4 -0.3**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
CM31 Chiang Mai Arr 43.89 253 P **P 06 51 34.7 +0.5**
comp=Z,7.7nm,1.0s,mb4.4
MCK McKinley 44.71 36 P **P 06 51 40.1 0.0**
MCK pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
MCK McKinley 44.71 36 P **P 06 51 40.1 0.0**
comp=Z,3.7nm,1.1s,mb4.1
KURK Kurchatov 44.78 305 *e*P **P 06 51 40.1 -0.7**
KURK *e* 06 51 45.3
KURK pmax pmax
comp=Z,33nm,0.7s,mb5.3
KURK Kurchatov 44.78 305 *e*P **P 06 51 40.1 -0.7**
comp=Z,33nm,0.7s,mb5.3
KURK *e* 06 51 45.3
COLA College 45.12 34 *e*P **P 06 51 45.4 +2.0**
COLA College 45.12 34 P **P 06 51 39.8 -3.6**
comp=Z,3.9nm,0.8s,mb4.3
JIRN Jiri 48.16 273 *e*P **P 06 52 08.5 +0.7**
comp=Z,26nm,0.6s,mb5.5
KKN Kakani 48.78 273 *e*P **P 06 52 12.6 0.0**
comp=Z,28nm,0.6s,mb5.5
PKI Pulchoki 48.79 273 *e*P **P 06 52 11.8 -0.9**
comp=Z,14nm,0.5s,mb5.2
CHKZ Chkalovo 48.80 311 P **P 06 52 11.9 -0.5**
CHKZ pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
DMN Daman 49.00 273 *e*P **P 06 52 14.1 -0.2**
comp=Z,18nm,0.6s,mb5.3
BVA0 Borovoye Array 49.12 310 *i*P **P 06 52 14.7 -0.1**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BVAR Borovoye Array 49.12 310 P **P 06 52 14.8 0.0**
comp=Z,5.3nm,0.5s,mb4.9,baz=71,slow=8.6,SNR=45
GKN Gorkha 49.15 274 *e*P **P 06 52 15.3 -0.2**
comp=Z,20nm,0.5s,mb5.4
AAK Ala-Archa 49.99 296⇑ *e*P **P 06 52 20.4 -1.4**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
AAK MLR MLR
comp=Z,200nm,24.0s,MS4.0
AAK Ala-Archa 49.99 296 *e*P **P 06 52 20.2 -1.6**
comp=Z,4.4nm,0.6s,mb4.7
KOLN Koldanda 50.06 274 *e*P **P 06 52 22.3 -0.2**
comp=Z,9.9nm,0.4s,mb5.2
INK Inuvik 50.37 29 *e*P **P 06 52 24.3 +0.1**
INK pmax pmax
comp=Z,5.0nm,0.7s
INK Inuvik 50.37 29 P **P 06 52 25.1 +0.8**
comp=Z,4.1nm,0.5s,mb4.7,baz=300,slow=7.2,SNR=41
INK Inuvik 50.37 29 *e*P **P 06 52 24.3 +0.1**
comp=Z,5.3nm,0.7s,mb4.7
SMLA Simla 53.18 282 *i*P **P 06 52 43.7 -2.2**
SMLA *i*S **S 07 00 15.4 +3.4**
SVE Sverdlovsk 53.27 317⇑ *e*P **P 06 52 46.5 +0.3**
SVE pmax pmax
comp=Z,44nm,1.0s,mb5.3
SVE MLR MLR
comp=N,100nm,15.0s,MS4.3
SVE MLR MLR
comp=E,200nm,15.0s,MS4.3
SVE MLR MLR
comp=Z,300nm,15.0s,MS4.5
ARU Arti 54.48 317⇑ *i*P **P 06 52 54.6 -0.5**
ARU *e* 06 53 54.4
ARU *e* 06 54 54.8
ARU *e*S **S 07 00 23.6 -5.6**
ARU *e*SS SS 07 04 17.6 +6.1
ARU pmax pmax
comp=Z,32nm,1.1s,mb5.2
ARU Arti 54.48 317 *e*P **P 06 52 53.7 -1.4**
comp=Z,35nm,1.0s,mb5.2
RES Resolute Bay 58.56 15 *e*P **P 06 53 22.9 -1.1**
RES pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
RES Resolute Bay 58.56 15 *e*P **P 06 53 22.9 -1.1**
comp=Z,6.3nm,0.8s,mb4.7
YKA Yellowknife Ar 59.82 32 P **P 06 53 32.5 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA MLR MLR
comp=Z,50nm,21.6s
YKA Yellowknife Ar 59.82 32 P **P 06 53 32.5 -0.3**
comp=Z,0.6nm,0.6s,mb3.8,baz=299,slow=6.3,SNR=16
YKA LR LR 07 19 32.9
comp=Z,50nm,21.6s,MS3.6,baz=135,slow=36
YKA Yellowknife Ar 59.82 32 P **P 06 53 32.5 -0.3**
YKA LR LR 07 19 32.9
KEV Kevo 60.39 339 *e*p **P 06 53 35.1 -1.5**
comp=Z,3.9nm,0.8s,mb4.5
KEV Kevo 60.39 339 *e*P **P 06 53 35.1 -1.5**
KEV pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
CTAO Charters Tower 60.69 177 P **P 06 53 39.2 -0.1**
CTAO pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
CTAO Charters Tower 60.69 177 P **P 06 53 39.2 -0.1**
comp=Z,4.3nm,1.0s,mb4.5
ARCES ARCESS Array B 60.93 339 P **P 06 53 40.0 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
ARCES MLR MLR
comp=Z,146nm,18.4s
ARCES ARCESS Array B 60.93 339 P **P 06 53 40.0 -0.4**
comp=Z,1.9nm,0.6s,mb4.4,baz=45,slow=6.9,SNR=8.9
ARCES LR LR 07 22 50.8
comp=Z,146nm,18.4s,MS4.2,baz=278,slow=39
WRAB Tennant Creek 61.02 190 *e*P **P 06 53 41.4 -0.2**
WRAB pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
WRAB Tennant Creek 61.02 190 *e*P **P 06 53 41.4 -0.2**
comp=Z,7.7nm,1.0s,mb4.8
WB2 Warramunga Arr 61.03 190 *e*P **P 06 53 40.6 -1.1**
WRA Warramunga Arr 61.04 190 P **P 06 53 40.7 -1.0**
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 61.04 190 P **P 06 53 40.7 -1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=8.0,slow=6.8,SNR=17
JOF Joensuu 63.27 332 *e*p **P 06 53 54.6 -1.5**
comp=Z,3.0nm,0.5s,mb4.7
JOF Joensuu 63.27 332 *e*P **P 06 53 54.6 -1.5**
JOF pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
ASAR Alice Springs 64.76 189 P **P 06 54 06.8 +0.5**
comp=Z,1.6nm,0.8s,mb4.1,baz=9.0,slow=4.8,SNR=15
MOS Moscow 65.04 323 *e*P **P 06 54 05.5 -2.0**
MOS *e* 06 54 44.2
MOS *e* 06 56 28.6
MOS pmax pmax
comp=Z,42nm,0.7s,mb5.6
MBWA Marble Bar 65.44 204 P **P 06 54 13.1 +2.4**
KAF Kangasniemi 65.57 333 *e*p **P 06 54 08.8 -2.0**
comp=Z,1.9nm,0.5s,mb4.4,baz=46,slow=6.1
KAF Kangasniemi 65.57 333 *e*P **P 06 54 08.8 -2.0**
KAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
OBN Obninsk 65.90 323⇓ *e*P **P 06 54 13.1 +0.1**
OBN *e* pP 06 54 24.9 -0.5
OBN *e* 06 54 51.0
OBN pmax pmax
comp=Z,14nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.3
FINES FINESS Array B 66.10 332 P **P 06 54 13.5 -0.7**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES MLR MLR
comp=Z,197nm,18.8s
FINES FINESS Array B 66.10 332 P **P 06 54 13.5 -0.7**
comp=Z,5.8nm,0.6s,mb4.8,baz=48,slow=8.0,SNR=46
FINES LR LR 07 25 40.5
comp=Z,197nm,18.8s,MS4.3,baz=20,slow=38
DZM Mont Dzumac 66.22 156 LR LR 07 22 53.8
comp=Z,86nm,18.2s,MS4.0,baz=25,slow=36
NEW Newport 66.45 46 *e*P **P 06 54 19.6 +3.0**
NEW pmax pmax
comp=Z,6.0nm,1.1s
NEW Newport 66.45 46 *e*P **P 06 54 19.6 +3.0**
comp=Z,5.7nm,1.1s,mb4.5
SUMG Summit 66.87 1 *e*P **P 06 54 18.6 -0.3**
comp=Z,10nm,0.8s,mb4.9
GOF Gofitskoye 68.62 311 *e*P **P 06 54 31.0 +0.7**
KIV Kislovodsk 69.48 311 *c i*P **P 06 54 36.6 +1.0**
KIV pmax pmax
comp=Z,43nm,1.0s,mb5.3
KIV Kislovodsk 69.48 311 *e*P **P 06 54 36.5 +0.9**
comp=Z,67nm,1.1s,mb5.5
FCC Fort Churchill 69.97 28 *e*P **P 06 54 37.7 -0.6**
GNI Garni 70.56 306 P **P 06 54 44.2 +1.9**
GNI pmax pmax
comp=Z,3.0nm,0.5s
GNI Garni 70.56 306 P **P 06 54 44.2 +1.9**
comp=Z,3.4nm,0.5s,mb4.5,baz=337,slow=6.3,SNR=3.1
HLID Hailey 70.78 49 P **P 06 54 48.2 +4.7**
comp=Z,1.4nm,0.9s,mb3.9
BOZ Bozeman (W) 71.02 46 *e*P **P 06 54 45.1 +0.1**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
BOZ Bozeman (W) 71.02 46 *e*P **P 06 54 45.1 +0.2**
comp=Z,3.3nm,0.8s,mb4.3
HFS Hagfors 71.19 336 P **P 06 54 45.3 -0.4**
HFS pmax pmax
comp=Z,3.0nm,0.5s
HFS Hagfors 71.19 336 P **P 06 54 45.3 -0.4**
comp=Z,2.9nm,0.5s,mb4.5,baz=34,slow=5.3,SNR=20
NB2 NORSAR Subarra 71.21 338 P **P 06 54 45.2 -0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=36,slow=6.2
NB2 NORSAR Subarra 71.21 338 P **P 06 54 45.2 -0.6**
NB2 pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
NOA NORSAR Array B 71.21 338 P **P 06 54 45.6 -0.2**
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA MLR MLR
comp=Z,113nm,19.3s
NOA NORSAR Array B 71.21 338 P **P 06 54 45.6 -0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=37,slow=6.1,SNR=12
NOA LR LR 07 29 41.7
comp=Z,113nm,19.3s,MS4.1,baz=50,slow=39
SOC Sochi 71.40 312 *e*P **P 06 54 45.7 -1.6**
SOC *e* 06 55 06.5
SOC *e*PPP PPP 06 59 04.2 -5.2
SOC *e* 07 04 36.9
SOC *e*SSS SSS 07 11 44.5 -0.9
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.9
SOC pmax pmax
comp=N,5.0nm,0.5s
SOC pmax pmax
comp=E,22nm,0.8s
AKASG Malin Array Be 72.14 322 P **P 06 54 50.5 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 72.14 322 P **P 06 54 50.5 -0.9**
comp=Z,4.4nm,0.5s,mb4.6
STKA Stephens Creek 72.38 181 P **P 06 54 52.0 -1.3**
IMW Indian Meadow 72.52 47 *e*P **P 06 54 55.2 +1.3**
DUG Dugway 73.83 51 P **P 06 55 03.8 +2.2**
DUG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
DUG Dugway 73.83 51 P **P 06 55 03.8 +2.2**
comp=Z,5.2nm,1.1s,mb4.4
PDAR Pinedale Array 74.02 47 P **P 06 55 04.2 +1.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=256,slow=2.6,SNR=6.7
OJC Ojcow 76.65 327 *e*P **P 06 55 18.3 +0.8**
BRTR Keskin Array B 77.37 312 P **P 06 55 22.8 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 77.37 312 P **P 06 55 22.8 +1.0**
comp=Z,0.8nm,0.8s,mb3.7,baz=76,slow=5.9,SNR=3.2
MLR Muntele Rosu 77.37 320 P **P 06 55 22.2 +0.5**
MLR pmax pmax
comp=Z,1.0nm,0.4s
MLR Muntele Rosu 77.37 320 P **P 06 55 22.2 +0.4**
comp=Z,0.6nm,0.4s,mb3.9,baz=339,slow=2.6,SNR=2.6
MORC Moravsky Berou 77.92 327 *e*P **P 06 55 25.0 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MORC Moravsky Berou 77.92 327 *e*P **P 06 55 25.0 +0.3**
comp=Z,4.5nm,0.8s,mb4.5
CLL Collm 78.48 331 *e*P **P 06 55 28.0 +0.4**
CLL Collm 78.48 331 P **P 06 55 28.0 +0.4**
VRAC Vranov 78.67 328 P **P 06 55 29.8 +1.0**
VRAC pmax pmax
comp=Z,3.0nm,0.4s
VRAC Vranov 78.67 328 P **P 06 55 29.8 +1.0**
comp=Z,3.4nm,0.4s,mb4.6,baz=324,slow=11,SNR=3.1
PRU Pruhonice 78.95 329 *e*P **P 06 55 31.0 +0.7**
KHC Kasperske Hory 80.02 329 *e*P **P 06 55 37.0 +1.0**
GERES GERESS Array B 80.20 329 P **P 06 55 37.5 +0.5**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 80.20 329 P **P 06 55 37.5 +0.5**
comp=Z,0.6nm,0.6s,mb3.7,baz=34,slow=4.8,SNR=6.1
SCHQ Schefferville 81.29 17 P **P 06 55 43.1 +0.4**
comp=Z,1.4nm,1.0s,mb3.9,baz=354,slow=4.0,SNR=3.9
SCHQ Schefferville 81.29 17 P **P 06 55 42.6 0.0**
comp=Z,12nm,1.3s,mb4.7
GROS Grobnik 81.37 326 *i*P **P 06 55 43.9 +0.6**
PERS Pernice 81.40 327 *e*P **P 06 55 44.3 +0.9**
CEY Cerknica 82.40 327 *i*P **P 06 55 48.9 +0.3**
CABF La Chapelle 84.91 332 *e*P **P 06 56 02.8 +1.6**
LDF La Druitiere 85.23 337 *e*P **P 06 56 04.0 +1.3**
LPL La Plagne 85.61 331 *e*P **P 06 56 06.2 +1.5**
comp=Z,12nm,0.8s,mb4.9
LPL La Plagne 85.61 331 *e*P **P 06 56 06.2 +1.5**
LPL pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
LPG La Plagne 85.62 331 *e*P **P 06 56 06.4 +1.7**
comp=Z,7.3nm,0.7s,mb4.8
LPG La Plagne 85.62 331 *e*P **P 06 56 06.4 +1.7**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
SMF Signal de Mont 85.67 333 *e*P **P 06 56 06.1 +1.2**
comp=Z,9.6nm,0.8s,mb4.8
SMF Signal de Mont 85.67 333 *e*P **P 06 56 06.1 +1.2**
SMF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
AVF Avril sur Loir 85.71 334 *e*P **P 06 56 06.3 +1.2**
comp=Z,16nm,0.7s,mb5.0
AVF Avril sur Loir 85.71 334 *e*P **P 06 56 06.3 +1.2**
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
TXAR Lajitas Array 86.71 54 P **P 06 56 10.6 +0.1**
comp=Z,0.2nm,0.5s,mb3.6,baz=304,slow=4.5,SNR=4.0
MFF Saint Martin d 87.01 336 *e*P **P 06 56 13.0 +1.5**
RJF Les Rejaudoux 87.62 334 *e*P **P 06 56 16.1 +1.6**
RJF *e*R
comp=Z,160nm,19.8s
CAF Calviac 87.78 334 *e*P **P 06 56 16.3 +1.1**
ROSC El Rosal 123.00 46 PKP PKPdf 07 02 24.8 +2.6
comp=Z,1.3nm,0.3s,baz=107,slow=20,SNR=2.8
BDFB Brasilia 153.06 24 PKIKP PKPdf 07 03 20.4 +4.9
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB Brasilia 153.06 24 PKP PKPdf 07 03 20.4 +4.9
comp=Z,1.4nm,0.4s,baz=161,slow=24,SNR=4.5

NEIC ***24*** *06:46:14.7±0.2,52.75N×173.56W,h175km±4km,mb3.4/2, Error ellipse: s-maj=22.1km s-min=4.0km az=158.0*
IDC ***24*** *06:46:24.0±3.0,52.95N×174.60W,h322km±41km, mb3.0/5, mb1 3.2/6, mb1mx2.9/22, mbtmp3.6/6, Error ellipse: s-maj=49.2km s-min=28.9km az=4.0*
ISC 24 06:46:13.7±0.4,52.6N±0.2×173.4W±0.1,h178km±6km,n27, σ0§55/28,mb3.4/7,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**0.61**	**230**	P	**P**	**06 46 39.4**	**+0.2**
ATKA				S	**S**	**06 46 58.1**	**-0.5**
GSIG	**Igitkin Island**	**1.65**	**249**	P	**P**	**06 46 47.2**	**-0.1**
GSTR	**Great Sitkin T**	**1.68**	**254**	P	**P**	**06 46 48.0**	**+0.3**
GSMY	**Great Sitkin M**	**1.70**	**252**	P	**P**	**06 46 47.8**	**-0.1**
GSTD	**Great Sitkin T**	**1.75**	**253**	P	**P**	**06 46 48.4**	**+0.1**
GSTD				S	**S**	**06 47 13.7**	**-1.4**
GSSP	**Great Sitkin S**	**1.75**	**254**	P	**P**	**06 46 48.6**	**+0.2**
ADAG	**Mount Adagdak**	**2.04**	**254**	P	**P**	**06 46 51.5**	**+0.1**
KIWB	**Kanaga Island**	**2.40**	**253**	P	**P**	**06 46 56.1**	**+0.4**
KIKV	**Kanaga Island**	**2.40**	**254**	P	**P**	**06 46 56.0**	**+0.3**
KIMD	**Kanaga Island**	**2.48**	**252**	P	**P**	**06 46 56.8**	**+0.2**
MSW	**Makushin Switc**	**4.21**	**69**	P	**P**	**06 47 19.0**	**+0.8**
MTBL	**Makushin Table**	**4.28**	**69**	P	**P**	**06 47 20.2**	**+1.1**
UNV	**Unalaska Valle**	**4.35**	**71**	P	**P**	**06 47 20.6**	**+0.6**
DRIA	**Deer Island**	**7.04**	**66**	P	**P**	**06 47 54.6**	**-0.5**
DT1	**Dutton Round H**	**7.06**	**65**	P	**P**	**06 47 55.2**	**-0.3**
DOL	**Dolgoi Island**	**7.30**	**65**	P	**P**	**06 47 58.5**	**-0.2**
SDPT	**Sand Point**	**8.12**	**65**	P	**P**	**06 48 08.6**	**-0.9**
FX1	**Attu Island--F**	**8.14**	**277**	P	**P**	**06 48 10.5**	**+0.8**
	0.6nm,0.3s,baz=102,slow=18,SNR=6.3						
INK	**Inuvik**	**24.56**	**35**	P	**P**	**06 51 16.9**	**-1.0**
	0.3nm,0.5s,mb3.1,baz=263,slow=12,SNR=4.6						
DLBC	**Dease Lake**	**24.91**	**59**	P	**P**	**06 51 21.3**	**+0.1**
	0.4nm,0.4s,mb3.4,baz=298,slow=12,SNR=4.3						
BW06	**Boulder Array**	**42.79**	**77**	*e*P		**06 53 55.2**	**+0.3**
	0.4nm,0.4s,mb3.4						
PDAR	**Pinedale Array**	**42.79**	**77**	P	**P**	**06 53 55.2**	**+0.3**
	0.6nm,0.5s,mb3.5,baz=318,slow=3.1,SNR=7.6						
MNTX	**Cornudas Mount**	**52.51**	**85**	*e*P		**06 55 09.8**	**-0.4**
	0.5nm,0.6s,mb3.4						
WMOK	**Wichita Mounta**	**54.38**	**78**	P	**P**	**06 55 23.9**	**0.0**
TXAR	**Lajitas Array**	**55.22**	**86**	P	**P**	**06 55 29.7**	**-0.4**
	0.5nm,0.6s,mb3.5,baz=294,slow=5.3,SNR=6.8						
PPT	**Papeete**	**72.88**	**156**	*e*LR	LR	06 57 30.4	
	163nm,20.8s,baz=320						
BRTR	**Keskin Array B**	**85.09**	**339**	P	**P**	**06 58 20.8**	**-9.3**
	0.5nm,0.5s,mb3.5,baz=22,slow=6.5,SNR=3.7						

CNRM ***24*** *06:47:37.0,34.93N×2.64W,h18km,MD2.8*
NEIC ***24*** *06:47:40.9,35.12N×3.22W,MG3.3(MDD),After MDD.*
CSEM ***24*** *06:47:41.0±0.3,35.24N×3.22W,h10km,MD2.8,Error ellipse: s-maj=5.7km s-min=4.5km az=140.0*
MDD 24 06:47:40.3±1.2,35.08N×3.22W,mb3.3/13,1C,Error ellipse: s-maj=10.8km s-min=5.1km az=177.0,PRXIMO, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMEL	**Melilla**	**0.31**	**44**	⇑P	Pg	06 47 46.2	-0.3
	42nm,0.1s,SNR=18						
EMEL				S	Sg	06 47 49.4	-1.1
	190nm,0.2s,SNR=8.1						
EMLI	**Melilla**	**0.31**	**45**	P	Pg	06 47 46.2	-0.3
	42nm,0.1s,SNR=18						
TOU	**Touzarine**	**0.46**	**255**	*i*P	Pg	06 47 53.0	+3.5
TOU				*i*S	Sg	06 48 04.0	+8.5
EALB	**Alboran**	**0.87**	**10**	P	Pg	06 47 56.0	-1.8
EALB				S	Sg	06 48 08.1	-1.2
EALB	**Alboran**	**0.87**	**10**	P	Pg	06 47 55.9	-1.8
	3.0nm,0.1s,SNR=7.1						
EALB				S	Sg	06 48 09.6	+0.3
	56nm,0.3s,SNR=9.1						
EALB	**Alboran**	**0.87**	**10**	P	Pg	06 47 55.9	-1.8
	3.0nm,0.1s,SNR=7.1						
EALB				S	Sg	06 48 08.1	-1.2
	56nm,0.3s,SNR=9.1						
EBER	**Berja**	**1.83**	**8**	P	Pn	06 48 10.4	-3.0
	2.0nm,0.4s,SNR=8.3						
EBER				S	Sn	06 48 31.7	-5.9
	13nm,0.4s						
EBER	**Berja**	**1.83**	**8**	P	Pn	06 48 10.4	-3.0
	2.0nm,0.4s,SNR=8.3						
EBER				S	Sn	06 48 31.7	-5.9
	13nm,0.4s						
EMIJ	**Mijas**	**1.95**	**320**	P	Pn	06 48 12.5	-2.5
	1.2nm,0.1s,SNR=7.9						
EMIJ				S	Sn	06 48 37.5	-3.0
	8.5nm,0.5s,SNR=7.9						
ERON	**Agron**	**1.99**	**346**	P	Pn	06 48 11.5	-4.1
	1.6nm,0.3s,SNR=7.9						
ERON				S	Sn	06 48 37.8	-3.8
	1.9nm,0.3s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.21**	**353**	P	Pn	06 48 17.1	-1.7
	1.4nm,0.3s,SNR=7.9						
ECOG				S	Sn	06 48 45.4	-1.8
	1.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.72**	**2**	P	Pn	06 48 24.3	-1.8
EQES				S	Sn	06 48 57.3	-2.8
EQES	**Quesada**	**2.72**	**2**	P	Pn	06 48 23.9	-2.2
	1.4nm,0.2s,SNR=7.9						

EQES S Sn 06 48 57.3 -2.8
7.4nm,0.3s,SNR=8.5
EQES Quesada 2.72 2 P Pn 06 48 24.3 -1.7
1.4nm,0.2s,SNR=7.9
EQES S Sn 06 48 57.3 -2.8
7.4nm,0.3s,SNR=8.5
EHUE Huescar 2.77 10 P Pn 06 48 25.0 -1.8
0.4nm,0.2s,SNR=7.9
EHUE S Sn 06 48 57.7 -3.8
1.0nm,0.2s,SNR=7.9
EADA Adamuz 3.27 341 P Pn 06 48 31.7 -2.2
1.2nm,0.3s,SNR=7.0
EADA S Sn 06 49 09.5 -4.6
2.1nm,0.3s
EADA Adamuz 3.27 341 P Pn 06 48 31.7 -2.2
1.2nm,0.3s,SNR=7.0
EADA S Sn 06 49 09.5 -4.6
2.1nm,0.3s
ECAB El Cabril 3.48 330 P Pn 06 48 34.7 -2.1
2.4nm,0.7s,SNR=7.9
ECAB El Cabril 3.48 330 P Pn 06 48 34.7 -2.1
2.4nm,0.7s,SNR=7.9
ETOB Tobarra 3.80 20 P Pn 06 48 38.2 -3.2
2.2nm,0.7s,SNR=7.9
ETOB S Sn 06 49 20.7 -6.8
2.2nm,0.4s,SNR=7.9
ETOB Tobarra 3.80 20 P Pn 06 48 38.2 -3.2
2.2nm,0.7s,SNR=7.9
ETOB S Sn 06 49 20.7 -6.8
2.2nm,0.4s,SNR=7.9
EMIN Mina Concepcio 3.87 315 P Pn 06 48 39.9 -2.5
2.7nm,0.3s,SNR=7.9
EMIN S Sn 06 49 24.7 -4.5
0.6nm,0.2s,SNR=7.9
EMIN Mina Concepcio 3.87 315 P Pn 06 48 39.9 -2.5
2.7nm,0.3s,SNR=7.9
EMIN S Sn 06 49 24.7 -4.5
0.6nm,0.2s,SNR=7.9
EGRO El Granado 4.23 307 P Pn 06 48 45.0 -2.5
3.4nm,0.3s,SNR=7.9
EGRO S Sn 06 49 32.6 -5.7
1.5nm,0.4s
EGRO El Granado 4.23 307 P Pn 06 48 45.0 -2.5
3.4nm,0.3s,SNR=7.9
EGRO S Sn 06 49 32.7 -5.6
1.5nm,0.4s
ESDC Sonseca Array 4.62 353 P Pn 06 48 51.0 -2.1
0.2nm,0.3s,baz=176,slow=12,SNR=3.6
ESDC Sonseca Array 4.62 353 P Pn 06 48 51.0 -2.1
0.2nm,0.3s,SNR=3.6
EBAD Badajoz 4.76 321 P Pn 06 48 52.6 -2.5
1.4nm,0.2s,SNR=5.2
EBAD S Sn 06 49 46.5 -5.4
1.5nm,0.2s
EBAD Badajoz 4.76 321 P Pn 06 48 52.7 -2.4
EBAD S Sn 06 49 46.5 -5.4

IDC 24 06:48:40.7±2.6, 17.60S×173.48W, mb3.7/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.7/3, MS3.7/4, Ms1 3.7/4, ms1mx3.3/23, Error ellipse: s-maj=186.0km s-min=30.8km az=154.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**39.06**	**277**	LR	LR	07 09 11.9	
	comp=Z,64nm,20.8s,baz=92,slow=32						
WRA	**Warramunga Arr**	**49.30**	**259**	P	P	06 57 30.7	-2.9
	0.3nm,0.4s,baz=94,slow=6.8,SNR=8.4						
ASAR	**Alice Springs**	**49.39**	**254**	P	P	06 57 32.8	-1.6
	1.5nm,0.6s,baz=86,slow=7.8,SNR=16						
ASAR				LR	LR	07 16 13.8	
	comp=Z,70nm,18.5s,baz=162,slow=34						
FITZ	**Fitzroy Crossi**	**57.71**	**259**	LR	LR	07 21 45.2	
	comp=Z,64nm,18.9s,baz=96,slow=34						
TXAR	**Lajitas Array**	**81.90**	**56**	P	P	07 01 02.1	-1.7
	0.5nm,0.8s,baz=248,slow=4.9,SNR=3.7						
NEW	**Newport**	**82.56**	**34**	LR	LR	07 28 25.3	
	comp=Z,66nm,20.2s,baz=22,slow=29						
BRTR	**Keskin Array B**	**147.78**	**319**	PKPbc	PKPdf	07 08 29.4	+2.8
	1.3nm,0.8s,baz=43,slow=1.0,SNR=4.2						
GERES	**GERESS Array B**	**148.29**	**351**	PKPbc	PKPdf	07 08 27.7	+0.6
	0.4nm,0.6s,baz=315,slow=2.8,SNR=3.1						

*IDC **24** 06:53:22.4±1.6, 12.46N×124.55E, mb4.1/4, mb1 4.3/4, mb1mx3.9/16, mbtmp4.1/4, Error ellipse: s-maj=172.0km s-min=24.6km az=75.0*
*MAN **24** 06:53:24.6, 12.63N×125.94E, h29km, mb4.3, ML3.2, MS3.0*
ISC 24 06:53:23.6±3.8, 12.70N±0.06×125.91E±0.10, h26km±30km, n8, σ0§96/12, mb3.5/3, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.19**	**203**	*e*P	**Pn**	**06 53 44.9**	**+0.2**
BESP				*e*S	**Sn**	**06 54 00.5**	**+0.3**
CNP	**Catarman**	**1.23**	**261**	*e*P	**Pn**	**06 53 46.5**	**+1.1**
CNP				*e*S	**Sn**	**06 54 05.1**	**+3.9**
PLP	**Palo**	**1.78**	**211**	*e*P	**Pn**	**06 53 52.3**	**-0.9**
PLP				*e*S	**Sn**	**06 54 14.3**	**-0.9**
PVCP	**Virac**	**1.92**	**298**	*e*P	**Pn**	**06 53 55.0**	**-0.3**
PVCP				*e*S	**Sn**	**06 54 19.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**30.61**	**181**	P	**P**	**06 59 36.6**	**-1.4**
	20nm,0.8s,baz=4.8,slow=9.6,SNR=23						
WRA	**Warramunga Arr**	**33.48**	**166**	P	**P**	**07 00 04.4**	**+1.2**
	0.4nm,0.5s,mb3.6,baz=342,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**36.98**	**168**	P	**P**	**07 00 34.2**	**+1.3**
	0.3nm,0.6s,mb3.3,baz=347,slow=8.3,SNR=4.1						
SONM	**Songino Array**	**38.63**	**339**	P	**P**	**07 00 45.5**	**-1.0**
	0.6nm,0.7s,mb3.4,baz=146,slow=8.9,SNR=5.2						

*STR **24** 07:23:53.3±0.1, 43.06N×0.40W, h10km±1km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 07:23:53.7, 43.09N×0.40W, h5km, ML3.0(LDG), MN2.5(MDD), After LDG.*
*LDG **24** 07:23:53.7±0.1, 43.09N×0.40W, h5km, Md2.9/3, Ml3.0/14, Error ellipse: s-maj=1.0km s-min=0.9km az=174.0*
*MDD **24** 07:23:53.8±0.2, 43.10N×0.39W, h9km±1km, mbLg2.4/24, Error ellipse: s-maj=2.1km s-min=1.3km az=7.0, PRXIMO*
*CSEM **24** 07:23:53.7±0.0, 43.10N×0.39W, h5km, ML3.0/18, Error ellipse: s-maj=0.8km s-min=0.7km az=132.0*
ISC 24 07:23:51.4±0.2, 43.20N±0.02×0.37W±0.02, h13km±2km, n89, σ1§39/155, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
REYF	**Montagne du Re**	**0.13**	**187**	Pg	**Pg**	**07 23 55.2**	**+0.2**
REYF				Sg	**Sg**	**07 23 56.7**	**-0.6**
REYF	**Montagne du Re**	**0.13**	**187**	Pg	**Pg**	**07 23 55.2**	**+0.2**
REYF				Lg		07 23 56.4	
ETSF	**Etsaut**	**0.33**	**205**	*e*Pg	**Pg**	**07 23 58.1**	**-0.4**
ETSF				*e*Sg	**Sg**	**07 24 01.4**	**-1.7**
	476nm,0.2s						
LABF	**Labassere**	**0.36**	**115**	Pg	**Pg**	**07 24 00.6**	**+1.6**
LABF				Sg	**Sg**	**07 24 05.7**	**+1.7**
LABF	**Labassere**	**0.36**	**115**	Pg	**Pg**	**07 23 59.8**	**+0.9**
LABF				Lg		07 24 05.3	
FDAF	**Les Forges d'A**	**0.41**	**201**	Pg	**Pg**	**07 23 59.4**	**-0.5**
FDAF				Sg	**Sg**	**07 24 03.7**	**-1.8**
FDAF	**Les Forges d'A**	**0.41**	**201**	Pg	**Pg**	**07 23 59.5**	**-0.4**
FDAF				Lg		07 24 03.9	
ORDF	**Ordiarp**	**0.41**	**272**	Pg	**Pg**	**07 24 01.7**	**+1.6**
ORDF				Sg	**Sg**	**07 24 07.8**	**+2.0**
ORDF	**Ordiarp**	**0.41**	**272**	Pg	**Pg**	**07 24 01.7**	**+1.6**
ORDF				Lg		07 24 07.9	
VIEF	**Viey**	**0.43**	**137**	Pg	**Pg**	**07 24 00.3**	**0.0**
VIEF				Sg	**Sg**	**07 24 05.1**	**-1.1**
VIEF	**Viey**	**0.43**	**137**	Pg	**Pg**	**07 24 00.5**	**+0.2**
VIEF				Lg		07 24 05.6	
LARF	**Larrau**	**0.48**	**251**	Pg	**Pg**	**07 24 02.0**	**+0.7**
LARF				Sg	**Sg**	**07 24 08.6**	**+0.7**
LARF	**Larrau**	**0.48**	**251**	Pg	**Pg**	**07 24 02.1**	**+0.8**
LARF				Lg		07 24 08.6	
EPF	**Esparros**	**0.55**	**108**	*e*Pg	**Pg**	**07 24 03.5**	**+0.9**
EPF				*e*Sg	**Sg**	**07 24 11.5**	**+1.4**
	68nm,0.2s						
SJPF	**Ste Jean**	**0.63**	**263**	*e*Pg	**Pg**	**07 24 05.0**	**+0.7**
SJPF				*e*Pn	**Pn**	**07 24 06.3**	**+0.5**
SJPF				*e*Sg	**Sg**	**07 24 13.3**	**+0.5**
	51nm,0.2s						
SJPF	**Ste Jean**	**0.63**	**263**	Pg	**Pg**	**07 24 05.0**	**+0.7**
SJPF				Lg		07 24 13.3	
	26nm,0.2s						
EBIE	**Bielsa**	**0.64**	**143**	⇑Pg	**Pg**	**07 24 04.1**	**-0.3**
	12nm,0.2s,SNR=18						
EBIE				Lg		07 24 11.7	
	88nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**0.64**	**143**	Pg	**Pg**	**07 24 04.1**	**-0.3**
	12nm,0.2s,SNR=18						
RESF	**Ens**	**0.65**	**127**	Pg	**Pg**	**07 24 04.9**	**+0.3**
RESF				Sg	**Sg**	**07 24 13.0**	**-0.5**
RESF	**Ens**	**0.65**	**127**	Pg	**Pg**	**07 24 04.9**	**+0.2**
RESF				Lg		07 24 13.3	
OSSF	**Osses**	**0.65**	**275**	Pg	**Pg**	**07 24 04.9**	**+0.2**
OSSF				Sg	**Sg**	**07 24 15.6**	**+2.0**
OSSF	**Osses**	**0.65**	**275**	Pg	**Pg**	**07 24 04.7**	**0.0**
OSSF				Lg		07 24 14.8	
EALK	**Alkurruntz**	**0.83**	**272**	Pg	**Pg**	**07 24 08.2**	**-0.1**
	2.8nm,0.1s,SNR=16						
EALK				Lg		07 24 20.6	
	32nm,0.3s,SNR=14						
MELF	**Melles**	**0.89**	**111**	Pg	**Pg**	**07 24 10.2**	**+0.8**
MELF				Sg	**Sg**	**07 24 22.3**	**+1.0**
MELF	**Melles**	**0.89**	**111**	Pg	**Pg**	**07 24 10.2**	**+0.8**
MELF				Lg		07 24 22.3	
MLS	**Moulis**	**1.10**	**102**	Lg		07 24 28.6	
SALF	**Salau**	**1.23**	**110**	Pg	**Pg**	**07 24 16.7**	**+0.7**
SALF				Sg	**Sg**	**07 24 32.4**	**0.0**
SALF	**Salau**	**1.23**	**110**	Pg	**Pg**	**07 24 16.6**	**+0.6**
SALF				Lg		07 24 32.4	
ESAC	**San Caprasio**	**1.48**	**183**	Pg	**Pg**	**07 24 20.2**	**-0.8**
	25nm,0.2s,SNR=19						
ESAC				Lg		07 24 38.7	
	119nm,0.2s,SNR=15						
ESAC	**San Caprasio**	**1.48**	**183**	Pg	**Pg**	**07 24 20.2**	**-0.8**
	25nm,0.2s,SNR=19						
PAND	**Andorre**	**1.56**	**115**	Lg		07 24 42.3	
CARF	**Carcanieres**	**1.88**	**104**	Lg		07 24 54.4	
MTLF	**Montolieu**	**1.90**	**85**	*e*Pn	**Pn**	**07 24 25.7**	**+1.9**
MTLF				*e*Pg	**Pg**	**07 24 28.3**	**-1.1**
MTLF				*e*Sg	**Sg**	**07 24 55.0**	**+0.3**
	21nm,0.3s						
EMIR	**Miracle**	**1.90**	**132**	Pg	**Pg**	**07 24 28.5**	**-0.9**
	5.7nm,0.1s,SNR=10						
EMIR				Lg		07 24 53.4	
	24nm,0.1s,SNR=8.6						
EMIR	**Miracle**	**1.90**	**132**	Pg	**Pg**	**07 24 28.5**	**-0.9**
	5.7nm,0.1s,SNR=10						
LFF	**La Frestale**	**1.92**	**24**	*e*Pn	**Pn**	**07 24 26.3**	**+2.2**
LFF				*e*Pg	**Pg**	**07 24 31.4**	**+1.6**
LFF				*e*Sn	**Sn**	**07 24 51.4**	**+3.2**
LFF				*e*Sg	**Sg**	**07 24 57.5**	**+2.1**
	37nm,0.2s						
VALF	**Valcebollere**	**1.93**	**114**	Pg	**Pg**	**07 24 30.2**	**+0.2**
VALF				Sg	**Sg**	**07 24 56.6**	**+0.8**
VALF	**Valcebollere**	**1.93**	**114**	Pg	**Pg**	**07 24 30.6**	**+0.6**
VALF				Lg		07 24 55.4	
EPOB	**Poblet**	**2.13**	**149**	Pg	**Pg**	**07 24 31.7**	**-2.4**
	2.4nm,0.1s,SNR=8.7						
EPOB				Lg		07 24 58.6	
	22nm,0.2s,SNR=17						
EPOB	**Poblet**	**2.13**	**149**	Pg	**Pg**	**07 24 31.7**	**-2.4**
	2.4nm,0.1s,SNR=8.7						
ELAN	**Lanestosa**	**2.24**	**272**	Pn	**Pn**	**07 24 30.2**	**+1.4**
	1.6nm,0.4s,SNR=7.9						
ELAN				Pg	**Pg**	**07 24 35.2**	**-1.0**
	1.4nm,0.3s,SNR=7.9						
ELAN				Lg		07 25 01.6	
	4.7nm,0.3s,SNR=6.9						
ELAN	**Lanestosa**	**2.24**	**272**	Pn	**Pn**	**07 24 30.2**	**+1.4**
	1.6nm,0.4s,SNR=7.9						
ELAN	**Lanestosa**	**2.24**	**272**	Pg	**Pg**	**07 24 35.2**	**-1.0**
	1.4nm,0.3s,SNR=7.9						
EBR	**Ebro Roquetas**	**2.46**	**165**	*e*SG	**Sg**	**07 25 11.7**	**-1.8**
CAF	**Calviac**	**2.46**	**45**	*e*Pn	**Pn**	**07 24 34.3**	**+2.3**
CAF				*e*Pg	**Pg**	**07 24 41.0**	**+0.3**
CAF				*e*Sn	**Sn**	**07 25 03.4**	**+1.3**
CAF				*e*Sg	**Sg**	**07 25 14.0**	**+0.5**
	13nm,0.2s						
RJF	**Les Rejaudoux**	**2.50**	**32**	*e*Pn	**Pn**	**07 24 34.8**	**+2.2**
RJF				*e*Pg	**Pg**	**07 24 41.7**	**+0.2**
RJF				*e*Sn	**Sn**	**07 25 05.0**	**+1.8**
RJF				*e*Sg	**Sg**	**07 25 15.5**	**+0.6**
	19nm,0.2s						
EJON	**La Jonquera**	**2.51**	**106**	Pn	**Pn**	**07 24 34.4**	**+1.7**
	0.3nm,0.1s,SNR=9.9						
EJON				Pg	**Pg**	**07 24 39.1**	**-2.6**
	0.7nm,0.2s,SNR=7.9						
EJON				Lg		07 25 12.8	
	7.3nm,0.2s,SNR=5.0						
EJON	**La Jonquera**	**2.51**	**106**	Pn	**Pn**	**07 24 34.4**	**+1.7**
	0.3nm,0.1s,SNR=9.9						
EJON	**La Jonquera**	**2.51**	**106**	Pg	**Pg**	**07 24 39.1**	**-2.5**
	0.7nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.83**	**182**	Pn	**Pn**	**07 24 37.3**	**+0.1**
	0.7nm,0.2s,SNR=5.7						
EMOS				Pg	**Pg**	**07 24 44.3**	**-3.8**
	0.6nm,0.1s,SNR=6.3						
EMOS				Lg		07 25 18.5	
	5.6nm,0.3s,SNR=5.0						
EMOS	**Mosqueruela**	**2.83**	**182**	Pn	**Pn**	**07 24 37.3**	**+0.1**
	0.7nm,0.2s,SNR=5.7						
EMOS	**Mosqueruela**	**2.83**	**182**	Pg	**Pg**	**07 24 44.3**	**-3.8**
	0.6nm,0.1s,SNR=6.3						
LASF	**Ste Croix**	**3.19**	**73**	*e*Pn	**Pn**	**07 24 44.1**	**+1.8**
LASF				*e*Pg	**Pg**	**07 24 53.8**	**-1.4**
LASF				*e*Sg	**Sg**	**07 25 35.8**	**-2.0**
	5.7nm,0.3s						
MFF	**Saint Martin d**	**3.41**	**3**	*e*Pn	**Pn**	**07 24 47.1**	**+1.7**
MFF				*e*Pg	**Pg**	**07 24 58.3**	**-1.2**
MFF				*e*Sn	**Sn**	**07 25 26.6**	**+0.6**
MFF				*e*Sg	**Sg**	**07 25 44.1**	**-0.9**
	7.1nm,0.3s						
EARI	**Arriondas**	**3.54**	**273**	Pn	**Pn**	**07 24 48.3**	**+1.0**
EARI				Sn	**Sn**	**07 25 30.5**	**+1.2**
EARI	**Arriondas**	**3.54**	**273**	Pn	**Pn**	**07 24 48.3**	**+1.0**
	0.1nm,0.3s,SNR=4.6						
EARI				Sn	**Sn**	**07 25 29.8**	**+0.5**
	1.5nm,0.3s,SNR=7.9						
EARI	**Arriondas**	**3.54**	**273**	Pn	**Pn**	**07 24 48.3**	**+1.1**
	0.1nm,0.3s,SNR=4.6						
EARI				Sn	**Sn**	**07 25 30.5**	**+1.2**
	1.5nm,0.3s,SNR=7.9						
TCF	**Toulx Ste Croi**	**3.59**	**30**	*e*Pn	**Pn**	**07 24 49.6**	**+1.5**
TCF				*e*Pg	**Pg**	**07 25 02.3**	**-0.9**
TCF				*e*Sn	**Sn**	**07 25 30.6**	**-0.2**
TCF				*e*Sg	**Sg**	**07 25 49.9**	**-1.3**
	5.5nm,0.2s						
VIVF	**Saint-Julien-l**	**4.00**	**64**	*e*Pg	**Pg**	**07 25 08.9**	**-2.4**
VIVF				*e*Sg	**Sg**	**07 26 01.7**	**-2.9**
	7.0nm,0.5s						
BGF	**Bois d'Agland**	**4.06**	**33**	*e*Pn	**Pn**	**07 24 55.9**	**+1.2**
BGF				*e*Sn	**Sn**	**07 25 41.5**	**-1.1**
BGF				*e*Sg	**Sg**	**07 26 04.1**	**-2.7**
	26nm,0.4s						
ESDC	**Sonseca Array**	**4.44**	**219**	Pn	**Pn**	**07 24 59.6**	**-0.4**
ESDC				Sn	**Sn**	**07 25 48.8**	**-3.3**
ESDC	**Sonseca Array**	**4.44**	**219**	Pn	**Pn**	**07 24 59.6**	**-0.4**
	0.3nm,0.2s,baz=40,slow=13,SNR=8.9						
ESDC				Sn	**Sn**	**07 25 47.6**	**-4.5**
	0.5nm,0.3s,baz=40,slow=24,SNR=3.8						
ESDC	**Sonseca Array**	**4.44**	**219**	Pn	**Pn**	**07 24 59.6**	**-0.4**
	0.3nm,0.2s,baz=40,SNR=8.9						
ESDC				Sn	**Sn**	**07 25 48.8**	**-3.3**
	0.5nm,0.3s,baz=40,SNR=3.8						
AVF	**Avril sur Loir**	**4.46**	**35**	*e*Pn	**Pn**	**07 25 01.4**	**+1.1**
AVF				*e*Sn	**Sn**	**07 25 52.0**	**-0.6**
AVF				*e*Sg	**Sg**	**07 26 16.1**	**-3.8**
	5.5nm,0.4s						
SMF	**Signal de Mont**	**4.56**	**39**	*e*Pn	**Pn**	**07 25 02.8**	**+1.0**
SMF				*e*Sg	**Sg**	**07 26 20.3**	**-3.1**
	3.4nm,0.3s						
HYF	**Humbligny**	**4.59**	**27**	*e*Pn	**Pn**	**07 25 03.2**	**+1.0**
HYF				*e*Pg	**Pg**	**07 25 20.9**	**-2.2**
ETOB	**Tobarra**	**4.64**	**191**	Pn	**Pn**	**07 25 02.2**	**-0.7**
	0.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.64**	**191**	Pn	**Pn**	**07 25 02.2**	**-0.7**
	0.2nm,0.2s,SNR=4.0						
SSF	**Saint Saulge**	**4.74**	**34**	*e*Pn	**Pn**	**07 25 04.8**	**+0.5**
SSF				*e*Pg	**Pg**	**07 25 23.1**	**-2.9**
SSF				*e*Sn	**Sn**	**07 25 58.1**	**-1.6**
SSF				*e*Sg	**Sg**	**07 26 24.9**	**-4.3**
	3.8nm,0.3s						
ECAL	**Calabor**	**4.87**	**257**	Pn	**Pn**	**07 25 07.1**	**+0.9**
ECAL				Sn	**Sn**	**07 26 02.4**	**-0.6**
ECAL				Lg		07 26 25.5	
ECAL	**Calabor**	**4.87**	**257**	Pn	**Pn**	**07 25 07.1**	**+0.9**
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**07 25 58.8**	**-4.1**
	3.8nm,0.2s,SNR=7.9						
ECAL				Lg		07 26 24.8	
	2.3nm,0.2s,SNR=4.0						
ECAL	**Calabor**	**4.87**	**257**	Pn	**Pn**	**07 25 07.1**	**+1.0**
	0.3nm,0.1s,SNR=7.9						
ECAL				Sn	**Sn**	**07 26 02.3**	**-0.7**
	3.8nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**4.95**	**274**	Sn	**Sn**	**07 26 02.5**	**-2.6**
	2.2nm,0.4s,SNR=7.9						
LMR	**La Mourre**	**5.03**	**86**	*e*Pn	**Pn**	**07 25 10.0**	**+1.6**
ERUA	**La Rua**	**5.05**	**263**	Pn	**Pn**	**07 25 09.9**	**+1.2**
ERUA				Sn	**Sn**	**07 26 04.4**	**-3.1**
ERUA	**La Rua**	**5.05**	**263**	Pn	**Pn**	**07 25 07.1**	**-1.6**
	0.6nm,0.1s,SNR=7.9						
ERUA				Sn	**Sn**	**07 26 04.4**	**-3.1**
	1.6nm,0.3s,SNR=7.9						
ERUA	**La Rua**	**5.05**	**263**	Pn	**Pn**	**07 25 09.9**	**+1.2**
	0.6nm,0.1s,SNR=7.9						
ERUA				Sn	**Sn**	**07 26 04.4**	**-3.1**
	1.6nm,0.3s,SNR=7.9						
QUIF	**Quistinic**	**5.11**	**338**	*e*Pn	**Pn**	**07 25 10.1**	**+0.5**
QUIF				*e*Sn	**Sn**	**07 26 07.0**	**-2.1**
EINC	**Incio**	**5.15**	**266**	Pn	**Pn**	**07 25 11.7**	**+1.6**
EINC				Sn	**Sn**	**07 26 07.1**	**-3.0**
EINC	**Incio**	**5.15**	**266**	Pn	**Pn**	**07 25 10.5**	**+0.4**
	0.7nm,0.2s,SNR=7.9						
EINC				Sn	**Sn**	**07 26 05.1**	**-5.1**
	0.9nm,0.2s,SNR=7.9						
EINC	**Incio**	**5.15**	**266**	Pn	**Pn**	**07 25 11.7**	**+1.5**
	0.7nm,0.2s,SNR=7.9						
EINC				Sn	**Sn**	**07 26 07.1**	**-3.1**
	0.9nm,0.2s,SNR=7.9						
GRR	**Gorron**	**5.20**	**356**	*e*Pn	**Pn**	**07 25 11.5**	**+0.6**
GRR				*e*Sn	**Sn**	**07 26 09.1**	**-2.3**
SGMF	**Saint Gilles**	**5.28**	**344**	*e*Pn	**Pn**	**07 25 12.2**	**+0.2**
SGMF				*e*Pg	**Pg**	**07 25 32.1**	**-4.8**
SGMF				*e*Sn	**Sn**	**07 26 11.0**	**-2.4**
LDF	**La Druitiere**	**5.40**	**2**	*e*Pn	**Pn**	**07 25 14.1**	**+0.5**
LDF				*e*Sn	**Sn**	**07 26 13.9**	**-2.4**
	1.1nm,0.2s						
ROSF	**Rostrenen**	**5.53**	**339**	*e*Pn	**Pn**	**07 25 15.3**	**-0.1**
ROSF				*e*Sn	**Sn**	**07 26 16.2**	**-3.3**
FLN	**La Foliniere**	**5.57**	**359**	*e*Sn	**Sn**	**07 26 17.9**	**-2.6**
EADA	**Adamuz**	**5.96**	**214**	Pn	**Pn**	**07 25 20.6**	**-0.9**
	0.3nm,0.2s,SNR=7.9						
EADA				Sn	**Sn**	**07 26 22.7**	**-7.6**
	0.9nm,0.4s,SNR=7.9						
EADA				Lg		07 26 58.4	
	1.7nm,0.8s,SNR=7.9						
EADA	**Adamuz**	**5.96**	**214**	Pn	**Pn**	**07 25 20.6**	**-0.9**
	0.3nm,0.2s,SNR=7.9						
BAIF	**Baives**	**7.55**	**23**	*e*Pg	**Pg**	**07 26 14.7**	**-7.5**

MAN 24 07:31:47.8, 14.07N×121.16E, h25km, mb3.8, ML2.5, MS2.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.22**	**279**	⇑*e*P	Pb	07 31 52.7	-1.0
TGY				*e*S	Sb	07 31 58.4	+0.7
BOAC	**Boac**	**0.90**	**132**	*e*P	Pb	07 32 03.9	-0.8
BOAC				*e*S	Sb	07 32 18.5	+2.3
LUBP	**Lubang**	**0.95**	**250**	*e*P	Pb	07 32 05.5	0.0
POLP	**Polillo Island**	**1.00**	**49**	*e*P	Pb	07 32 18.6	+12
PCPH	**Palayan**	**1.49**	**358**	⇑*e*P	Pn	07 32 12.1	-1.2
PCPH				*i* S	Sn	07 32 32.4	+0.4
AUQP	**San Andres**	**1.65**	**117**	*e*P	Pn	07 32 18.3	+2.7

*MOS **24** 07:33:49.6±0.8, 7.16N×34.12W, h10km, mb5.4/84, MS4.8/24, Error ellipse: s-maj=7.1km s-min=3.6km az=54.9*
*IDC **24** 07:33:49.8±0.4, 7.16N×34.09W, mb4.8/26, mb1 4.9/26, mb1mx4.8/29, mbtmp4.8/26, MS4.8/16, Ms1 4.8/16, ms1mx4.5/21, Error ellipse: s-maj=16.2km s-min=8.7km az=137.0*
*NEIC **24** 07:33:53.0±2.2, 7.10N×34.12W, h21km±15km, mb5.3/165, MS4.9/49, MW5.4, Error ellipse: s-maj=4.6km s-min=2.3km az=159.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{17}Nm; Mrr0.08; Mθθ-0.74; Mφφ0.66; Mrθ-0.23; Mφθ-1.47; Mφr-0.41; Best double couple: M0 1.7×10^{17} NP1:φs103°,δ75°,λ-177°; NP2:φs12°,δ87°,λ-15°. Principal axes: T 1.62, Plg9°, Azm59°; N .14, Plg75°, Azm182°; P -1.76, Plg13°, Azm327°;*
*HRVD **24** 07:33:53.0±0.2, 7.28N×34.02W, h12km, MW5.3/76, Centroid moment Tensor Solution. LP body waves: s62,c115;Mantle waves: s76,c159; Half duration: 1§2 Moment tensor: Scale 10^{17}Nm; Mrr-0.16±.02; Mθθ-0.17±.02; Mφφ0.32±.02; Mrθ-0.03±.05; Mφφ-1.28±.02; Mφr-0.16±.06; Best double couple: M0 1.315×10^{17} NP1: φs96°,δ83°,λ-178°. NP2:φs5°,δ88°,λ-7°. Principal axes: T 1.391, Plg4°, Azm51°; N -.151, Plg82°, Azm171°; P -1.238, Plg7°, Azm320°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **24** 07:33:53.0, 7.10N×34.10W, h21km, mB5.7, Ms5.2, Msz5.3*
ISC 24 07:33:49.4±0.2, 7.09N±0.04×34.10W±0.02, h10km, (h20km±3.2km: pP-P), n526, σ0§91/500, mb5.2/193, MS4.9/79, 16C-15D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.95**	**188**	*e*P	**P**	**07 36 55.6**	**-0.8**
RCBR				*e*S	**S**	**07 39 08.3**	**-13**
CS6B	**Jaguaretama**	**13.30**	**200**	⇓*i*P	**P**	**07 37 00.3**	**-0.7**
CS6B				*i*		07 37 01.8	
CS6B				*e*		07 37 06.4	
CS6B				*i*		07 37 07.7	
CS6B				*i*		07 37 13.3	
CS6B				*e*		07 37 19.1	
CS6B				*i*		07 37 48.9	
CHIE	**El Hierro**	**25.61**	**35**	P	**P**	**07 39 21.4**	**+0.6**
	66nm,0.8s,mb5.2						
EGOM	**La Gomera**	**26.36

EJIF Jimena Fronter 39.21 38 P **P** 07 41 20.8 +1.1
comp=Z,82nm,1.4s,mb5.3
ESPR Espera 39.26 37 P **P** 07 41 20.8 +0.8
comp=Z,68nm,1.4s,mb5.2
EMIN Mina Concepcio 39.39 35 P **P** 07 41 22.7 +1.6
comp=Z,206nm,2.7s,mb5.4
EMIJ Mijas 39.71 38 P **P** 07 41 23.9 +0.1
comp=Z,117nm,2.0s,mb5.3
PTOM Tomar 39.77 32 *e*P **P** 07 41 25.0 +0.8
comp=Z,113nm,1.1s,mb5.5
EBAD Badajoz 39.89 34 P **P** 07 41 24.9 -0.3
comp=Z,121nm,1.9s,mb5.3
ROSC El Rosal 40.06 269 P **P** 07 41 29.2 +2.4
comp=Z,6.6nm,0.7s,mb4.5,baz=100,slow=12,SNR=10
ROSC LR LR 07 58 43.1
comp=Z,995nm,19.1s,MS4.7,baz=64,slow=37
ECAB El Cabril 40.33 36 P **P** 07 41 29.2 +0.4
comp=Z,121nm,0.6s,mb5.0
EALB Alboran 40.41 40 P **P** 07 41 30.4 +0.9
comp=Z,87nm,1.5s,mb5.3
PCBR Castelo Branco 40.42 32 *e*P **P** 07 41 29.8 +0.2
comp=Z,49nm,1.6s,mb5.0
ELOJ Sierra Loja 40.47 38 P **P** 07 41 31.3 +1.3
ELOJ pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ELOJ Sierra Loja 40.47 38 P **P** 07 41 31.3 +1.3
comp=Z,8.1nm,0.7s,mb4.6
ERON Agron 40.60 38 P **P** 07 41 32.1 +1.1
comp=Z,10.0nm,0.8s,mb4.5
ELUQ Luque 40.66 37 P **P** 07 41 32.7 +1.1
ELUQ pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
ELUQ Luque 40.66 37 P **P** 07 41 32.7 +1.1
comp=Z,8.6nm,0.8s,mb4.4
MTE Manteigas 40.80 32 *e*P **P** 07 41 33.0 +0.4
comp=Z,77nm,2.7s,mb4.8
MTE *e*S **S** 07 47 47.4 +4.2
MTE *e*SS SS 07 50 51.5 +12
MTE Manteigas 40.80 32 *e*P **P** 07 41 32.8 +0.2
comp=Z,42nm,0.9s,mb5.1
PVIS Viseu 40.85 31 *e*P **P** 07 41 33.6 +0.5
comp=Z,58nm,1.4s,mb5.0
LPAZ La Paz 40.91 235 *e*P **P** 07 41 35.6 +1.8
LPAZ pmax pmax
comp=Z,27nm,0.9s
LPAZ La Paz 40.91 235 P **P** 07 41 36.1 +2.4
comp=Z,17nm,0.8s,mb4.7,baz=57,slow=7.4,SNR=76
LPAZ S **S** 07 47 52.0 +6.9
comp=Z,0.4nm,0.5s,baz=196,slow=22,SNR=1.0
LPAZ LR LR 07 58 03.1
comp=Z,1µm,18.3s,MS4.9,baz=238,slow=36
LPAZ La Paz 40.91 235 *e*P **P** 07 41 35.6 +1.8
comp=Z,27nm,0.9s,mb4.9
ECOG Cogollos-Vega 40.91 38 P **P** 07 41 34.8 +1.2
ECOG pmax pmax
comp=Z,3.0nm,0.4s,mb4.3
ECOG Cogollos-Vega 40.91 38 P **P** 07 41 34.8 +1.2
comp=Z,3.4nm,0.4s,mb4.3
EBER Berja 41.09 39 P **P** 07 41 37.3 +2.2
comp=Z,238nm,3.0s
EBAN Banos Encina 41.35 37 P **P** 07 41 38.0 +0.8
EBAN pmax pmax
comp=Z,12nm,0.7s,mb4.6
EBAN Banos Encina 41.35 37 P **P** 07 41 38.0 +0.9
comp=Z,12nm,0.7s,mb4.6
PVRL Vila Real 41.35 30 *e*P **P** 07 41 37.8 +0.6
comp=Z,50nm,1.4s,mb5.2
EQES Quesada 41.55 38 P **P** 07 41 39.9 +1.0
comp=Z,232nm,3.4s
ENIJ Nijar 41.57 40 P **P** 07 41 39.9 +0.8
ENIJ pmax pmax
comp=Z,48nm,0.7s,mb5.2
ENIJ Nijar 41.57 40 P **P** 07 41 39.9 +0.8
comp=Z,48nm,0.7s,mb5.2
ELOB Lobios 41.63 30 P **P** 07 41 40.2 +0.7
comp=Z,287nm,2.4s,mb5.5
STS Santiago 42.17 28 P **P** 07 41 43.5 -0.4
STS pmax pmax
comp=Z,25nm,0.8s,mb4.9
STS Santiago 42.17 28 P **P** 07 41 43.5 -0.4
comp=Z,25nm,0.8s,mb4.9
PBRG Braganca 42.24 31 *e*P **P** 07 41 44.7 +0.2
comp=Z,90nm,1.6s,mb5.2
ESDC Sonseca Array 42.24 35 P **P** 07 41 44.7 +0.1
comp=Z,1.5nm,0.6s,baz=234,slow=8.3,SNR=14
ESLA Sonseca Array 42.24 35 *e*P **P** 07 41 44.3 -0.3
comp=Z,28nm,1.8s,mb4.6
ESLA LR LR
comp=Z,6µm,20.0s,MS5.5
ECAL Calabor 42.34 31 P **P** 07 41 46.0 +0.6
comp=Z,149nm,1.8s,mb5.3
EVIA Vianos 42.42 37 P **P** 07 41 47.2 +1.1
EVIA pmax pmax
comp=Z,40nm,0.6s,mb5.2
EVIA Vianos 42.42 37 P **P** 07 41 47.2 +1.1
comp=Z,40nm,0.6s,mb5.2
ERUA La Rua 42.47 30 P **P** 07 41 47.2 +0.8
ERUA pmax pmax
comp=Z,43nm,1.1s,mb5.0
ERUA La Rua 42.47 30 P **P** 07 41 47.2 +0.8
comp=Z,43nm,1.1s,mb5.0
EINC Incio 42.57 29 P **P** 07 41 50.2 +3.0
comp=Z,392nm,2.9s,mb5.6
CART Cartagena 42.70 40 *e*P **P** 07 41 47.1 -1.3
comp=Z,23nm,0.9s,mb4.9
CART *e* 07 41 55.1
ETOB Tobarra 43.01 38 P **P** 07 41 52.0 +1.2
comp=Z,8.6nm,0.8s,mb4.5
EPON Pontenova 43.17 29 P **P** 07 41 52.2 +0.1
comp=Z,324nm,2.2s,mb5.7
EBEN Beniarda 43.86 39 P **P** 07 41 57.6 -0.2
comp=Z,139nm,1.9s,mb5.4
EARI Arriondas 44.10 30 P **P** 07 42 01.0 +1.3
comp=Z,306nm,2.6s,mb5.6
EMOS Mosqueruela 44.73 37 P **P** 07 42 06.1 +1.3
comp=Z,107nm,1.6s,mb5.4
OTAV Otavalo 44.75 263 *e*P **P** 07 42 07.0 +1.8
comp=Z,20nm,1.4s,mb4.8
ELAN Lanestosa 44.97 32 P **P** 07 42 07.3 +0.7
comp=Z,60nm,0.7s,mb5.5
LVC Limon Verde 45.08 228 P **P** 07 42 07.4 -0.4
comp=Z,4.4nm,0.6s,mb4.5,baz=65,slow=6.4,SNR=14
LVC Limon Verde 45.08 228 *e*P **P** 07 42 07.4 -0.4
comp=Z,25nm,1.3s,mb4.9
ESAC San Caprasio 45.59 35 P **P** 07 42 12.8 +1.2
comp=Z,95nm,1.7s,mb5.5
SJPF Ste Jean 46.07 34 *e*P **P** 07 42 16.1 +0.8
comp=Z,54nm,1.2s,mb5.1
SJPF Ste Jean 46.07 34 *e*P **P** 07 42 16.1 +0.8
SJPF pmax pmax
comp=Z,27nm,1.2s,mb5.0
EPOB Poblet 46.26 37 P **P** 07 42 17.3 +0.4
comp=Z,177nm,2.4s,mb5.6
ETSF Etsaut 46.30 34 *e*P **P** 07 42 18.2 +1.1
comp=Z,34nm,0.9s,mb5.0
ETSF Etsaut 46.30 34 *e*P **P** 07 42 18.2 +1.1
ETSF pmax pmax
comp=Z,17nm,0.9s,mb5.0
ETOS Mallorca 46.40 40 P **P** 07 42 18.9 +0.9
comp=Z,96nm,1.6s,mb5.5
EBIE Bielsa 46.55 35 P **P** 07 42 20.3 +1.1
comp=Z,108nm,2.3s,mb5.4
LABF Labassere 46.74 34 *e*P **P** 07 42 21.7 +1.0
DFRA Djebel Bou Aff 46.76 45 P **P** 07 42 22.5 +1.6
EPF Esparros 46.88 35 *e*P **P** 07 42 23.0 +1.2
comp=Z,124nm,1.4s,mb5.4
EPF Esparros 46.88 35 *e*P **P** 07 42 23.0 +1.2
EPF pmax pmax
comp=Z,62nm,1.4s,mb5.3
CTEI Djebel Teioual 46.91 46 P **P** 07 42 23.0 +0.9
MELF Melles 47.02 35 *e*P **P** 07 42 24.4 +1.5
CASM Ain Smara 47.06 46 P **P** 07 42 24.0 +0.7
SALF Salau 47.20 35 *e*P **P** 07 42 25.4 +1.1
MLS Moulis 47.27 35 *e*P **P** 07 42 26.0 +1.2
CKFL Kef-Lekhel 47.29 46 P **P** 07 42 26.0 +0.9
VALF Valcebollere 47.46 36 *e*P **P** 07 42 27.0 +0.6
FILF Fillols 47.87 37 *e*P **P** 07 42 29.3 -0.3
CMAH Djebel Manchou 47.89 46 P **P** 07 42 30.0 +0.1
MTLF Montolieu 48.15 35 *e*P **P** 07 42 31.7 0.0
comp=Z,86nm,1.3s,mb5.3
MTLF Montolieu 48.15 35 *e*P **P** 07 42 31.7 0.0
MTLF pmax pmax
comp=Z,43nm,1.3s,mb5.3
LFF La Frestale 48.34 33 *e*P **P** 07 42 33.6 +0.4
comp=Z,104nm,1.2s,mb5.4
LFF La Frestale 48.34 33 *e*P **P** 07 42 33.6 +0.4
LFF pmax pmax
comp=Z,52nm,1.2s,mb5.4
QUIF Quistinic 48.45 28 *e*P **P** 07 42 33.8 -0.2
ROSF Rostrenen 48.71 27 *e*P **P** 07 42 36.0 0.0
comp=Z,85nm,0.9s,mb5.5
ROSF Rostrenen 48.71 27 *e*P **P** 07 42 36.0 0.0
ROSF pmax pmax
comp=Z,43nm,0.9s,mb5.5
LCHF La Chataignera 48.73 30 *e*P **P** 07 42 36.2 +0.1
SGMF Saint Gilles 48.97 28 *e*P **P** 07 42 38.3 +0.3
comp=Z,238nm,1.3s,mb5.8
SGMF Saint Gilles 48.97 28 *e*P **P** 07 42 38.3 +0.3
SGMF pmax pmax
comp=Z,119nm,1.3s,mb5.8
MFF Saint Martin d 48.98 31 *e*P **P** 07 42 38.0 -0.1
comp=Z,50nm,1.1s,mb5.2
MFF Saint Martin d 48.98 31 *e*P **P** 07 42 38.0 -0.1
MFF pmax pmax
comp=Z,25nm,1.1s,mb5.2
RJF Les Rejaudoux 48.99 33 *e*P **P** 07 42 38.0 -0.2
comp=Z,35nm,1.0s,mb5.0
RJF *e*R
comp=Z,2µm,21.2s
RJF Les Rejaudoux 48.99 33 *e*P **P** 07 42 38.0 -0.2
RJF pmax pmax
comp=Z,17nm,1.0s,mb5.0
RJF MLR MLR
comp=Z,2µm,21.3s,MS5.0
CAF Calviac 49.05 34 *e*P **P** 07 42 38.8 +0.1
comp=Z,101nm,1.1s,mb5.5
CAF Calviac 49.05 34 *e*P **P** 07 42 38.8 +0.1
CAF pmax pmax
comp=Z,51nm,1.1s,mb5.5
DWPF Disney 49.33 301 P **P** 07 42 40.9 -0.2
LASF Ste Croix 49.54 36 *e*P **P** 07 42 42.7 +0.2
GRR Gorron 49.86 29 *e*P **P** 07 42 44.7 -0.2
comp=Z,37nm,0.9s,mb5.1
GRR Gorron 49.86 29 *e*P **P** 07 42 44.7 -0.2
GRR pmax pmax
comp=Z,18nm,0.9s,mb5.1
NHSC New Hope 49.87 308 *e*P **P** 07 42 44.9 -0.2
comp=Z,288nm,1.4s,mb6.1
LBL Lubilhac 49.90 34 *e*P **P** 07 42 47.1 +1.9
TCF Toulx Ste Croi 49.99 32 *e*P **P** 07 42 45.9 0.0
comp=Z,50nm,1.3s,mb5.1
TCF Toulx Ste Croi 49.99 32 *e*P **P** 07 42 45.9 0.0
TCF pmax pmax
comp=Z,25nm,1.3s,mb5.1
MVL Millersville 50.00 318 *e*P **P** 07 42 46.2 +0.2
SDMD Soldier's Deli 50.04 317 *e*P **P** 07 42 46.5 +0.1
FLN La Foliniere 50.30 28 *e*P **P** 07 42 47.9 -0.3
comp=Z,50nm,0.9s,mb5.2
FLN *e*R
comp=Z,1µm,19.5s
FLN La Foliniere 50.30 28 *e*P **P** 07 42 47.9 -0.3
FLN pmax pmax
comp=Z,25nm,0.9s,mb5.2
FLN MLR MLR
comp=Z,1µm,19.5s,MS4.9
COLF Collangettes 50.32 34 *e*P **P** 07 42 49.0 +0.6
LDF La Druitiere 50.36 29 *e*P **P** 07 42 48.3 -0.3
comp=Z,144nm,1.3s,mb5.5
LDF La Druitiere 50.36 29 *e*P **P** 07 42 48.3 -0.3
LDF pmax pmax
comp=Z,72nm,1.3s,mb5.5
MIV Mineville/With 50.40 324 *e*P **P** 07 42 49.1 +0.1
CFAA Coronel Fontan 50.43 218 P **P** 07 42 49.0 -0.4
comp=Z,0.4nm,0.6s,baz=25,slow=6.9,SNR=10
VIVF Saint-Julien-l 50.47 35 *e*P **P** 07 42 50.1 +0.5
SMRF Simiane la Rot 50.49 37 *e*P **P** 07 42 50.4 +0.7
comp=Z,80nm,1.4s,mb5.2
BGF Bois d'Agland 50.51 33 *e*P **P** 07 42 50.0 +0.2
comp=Z,101nm,1.1s,mb5.4
BGF Bois d'Agland 50.51 33 *e*P **P** 07 42 50.0 +0.2
BGF pmax pmax
comp=Z,50nm,1.1s,mb5.4
PLDF La Plantade 50.56 34 *e*P **P** 07 42 51.4 +1.2
VSL Villasalto 50.59 44 P **P** 07 42 49.8 -0.7
comp=Z,45nm,1.1s,mb5.3
HYF Humbligny 50.85 32 *e*P **P** 07 42 52.6 +0.2
FRF La Foret Royal 50.90 38 *e*P **P** 07 42 52.8 0.0
AVF Avril sur Loir 50.92 33 *e*P **P** 07 42 52.8 -0.2
comp=Z,36nm,1.1s,mb4.9
AVF Avril sur Loir 50.92 33 *e*P **P** 07 42 52.8 -0.2
AVF pmax pmax
comp=Z,18nm,1.1s,mb4.9
DCN Croghan 51.02 20 *e*P **P** 07 42 53.0 -0.6
SMF Signal de Mont 51.09 33 *e*P **P** 07 42 54.4 +0.1
SSF Saint Saulge 51.18 32 *e*P **P** 07 42 54.7 -0.2
ORIF Oris-en-Rattie 51.21 36 *e*P **P** 07 42 55.6 +0.5
ORIF *e*R
comp=Z,1µm,23.0s
TOUF Mont Tournerai 51.51 38 *e*P **P** 07 42 57.7 +0.2
SBF Sospel 51.54 38 *e*P **P** 07 42 57.7 0.0
comp=Z,144nm,1.1s,mb5.5
SBF Sospel 51.54 38 *e*P **P** 07 42 57.7 0.0
SBF pmax pmax
comp=Z,72nm,1.1s,mb5.5
BLA Blacksburg 51.61 313 *e*P **P** 07 42 58.4 +0.1
BLA pmax pmax
comp=Z,116nm,1.2s,mb5.7
BLA Blacksburg 51.61 313 *e*P **P** 07 42 58.4 +0.1
comp=Z,116nm,1.2s,mb5.7
MBDF Montbardon 51.62 37 *e*P **P** 07 42 58.9 +0.6
comp=Z,51nm,1.1s,mb5.1
MBDF Montbardon 51.62 37 *e*P **P** 07 42 58.9 +0.6
MBDF pmax pmax
comp=Z,26nm,1.1s,mb5.1
SAOF Saorge 51.68 38 *e*P **P** 07 42 58.8 0.0
BNI Bardonecchia 51.75 36 *e*P **P** 07 42 59.9 +0.6
BNI pmax pmax
comp=Z,34nm,1.0s,mb5.2
BNI Bardonecchia 51.75 36 *e*P **P** 07 42 59.9 +0.7
comp=Z,34nm,1.0s,mb5.2
DOI San Damiano 51.78 37 *e*P **P** 07 43 00.2 +0.7
PGF Pioggiola 51.83 40 *e*P **P** 07 42 59.5 -0.4
TRQA Tornquist 51.88 208 *e*P **P** 07 42 59.0 -1.3
comp=Z,146nm,1.1s,mb4.8
FWV Forest Hill 52.04 313 *e*P **P** 07 42 59.7 -1.8
LPG La Plagne 52.04 36 *e*P **P** 07 43 02.2 +0.7
comp=Z,64nm,1.4s,mb5.1
LPG La Plagne 52.04 36 *e*P **P** 07 43 02.2 +0.7
LPG pmax pmax
comp=Z,32nm,1.4s,mb5.1
LPL La Plagne 52.04 36 *e*P **P** 07 43 02.1 +0.6
comp=Z,60nm,1.3s,mb5.1
LPL La Plagne 52.04 36 *e*P **P** 07 43 02.1 +0.6
LPL pmax pmax
comp=Z,30nm,1.3s,mb5.1
CABF La Chapelle 52.31 34 *e*P **P** 07 43 03.4 -0.1
comp=Z,48nm,1.1s,mb5.0
CABF La Chapelle 52.31 34 *e*P **P** 07 43 03.4 -0.1
CABF pmax pmax
comp=Z,24nm,1.1s,mb5.0
GOGA Godfrey 52.57 307 *e*P **P** 07 43 06.2 +0.6
GOGA pmax pmax
comp=Z,42nm,1.4s,mb5.2
GOGA Godfrey 52.57 307 *e*P **P** 07 43 06.2 +0.6
comp=Z,42nm,1.4s,mb5.2
MENF Mencas 52.78 28 *e*P **P** 07 43 06.1 -0.9
ORO Oropa 52.83 36 *e*P **P** 07 43 07.1 -0.3
MEZF Maizieres J'vi 52.89 32 *e*P **P** 07 43 08.0 +0.2
MCGN Macugnaga 53.02 36 *e*P **P** 07 43 09.1 +0.3
LOMF Lomont 53.15 34 *e*P **P** 07 43 09.4 -0.3
LHO Holmfirth 53.19 23 *i* P **P** 07 43 08.8 -1.1
THEF They Montfort 53.22 33 *e*P **P** 07 43 09.8 -0.4
HAU Haudompre 53.28 33 *e*P **P** 07 43 10.2 -0.5
comp=Z,69nm,1.1s,mb5.2
HAU *e*R
comp=Z,853nm,20.8s
HAU Haudompre 53.28 33 *e*P **P** 07 43 10.2 -0.5
HAU pmax pmax
comp=Z,34nm,1.1s,mb5.2
HAU MLR MLR
comp=Z,850nm,20.8s,MS4.8
ALLY Alegheny Colle 53.31 318 *e*P **P** 07 43 11.2 +0.2
HINF Hinteralfeld 53.44 33 *e*P **P** 07 43 11.4 -0.4
comp=Z,99nm,1.5s,mb5.2
HINF Hinteralfeld 53.44 33 *e*P **P** 07 43 11.4 -0.4
HINF pmax pmax
comp=Z,50nm,1.5s,mb5.2
BAIF Baives 53.44 30 *e*P **P** 07 43 11.2 -0.6
comp=Z,84nm,1.1s,mb5.3
BAIF Baives 53.44 30 *e*P **P** 07 43 11.2 -0.6
BAIF pmax pmax
comp=Z,42nm,1.1s,mb5.3
MOF Molkenrain 53.61 33 *e*P **P** 07 43 12.2 -0.9
ERBM Eremo 53.66 39 *e*P **P** 07 43 13.8 +0.3
TZTN Tazewell 53.68 311 *e*P **P** 07 43 13.5 -0.3
GSCL Gusciola 53.73 39 *e*P **P** 07 43 13.5 -0.6
GIVF Givet 53.78 30 *e*P **P** 07 43 13.5 -0.8
comp=Z,54nm,1.0s,mb5.1
GIVF Givet 53.78 30 *e*P **P** 07 43 13.5 -0.8
GIVF pmax pmax
comp=Z,27nm,1.0s,mb5.1
ECH Echery 53.84 33 *e*P **P** 07 43 13.5 -1.2
TEIG Tepich 54.01 290 *e*P **P** 07 43 15.8 -0.6
comp=Z,10nm,1.1s,mb4.7
CDF Champ du Feu 54.02 33 *e*P **P** 07 43 15.4 -0.6
comp=Z,75nm,1.3s,mb5.2
CDF Champ du Feu 54.02 33 *e*P **P** 07 43 15.4 -0.6
CDF pmax pmax
comp=Z,37nm,1.3s,mb5.2
ESK Eskdalemuir 54.03 21 PFAKE 07 43 30.0 +14
ESK LR LR
comp=Z,363nm,21.0s,MS4.4
CPCT Cooper Cave 54.05 309 *e*P **P** 07 43 16.2 -0.3
WLS Welschbruch 54.06 33 *e*P **P** 07 43 15.7 -0.7
SFI Santa Sofia 54.31 40 *e*P **P** 07 43 18.1 -0.1
SCHQ Schefferville 54.34 337 P **P** 07 43 17.8 -0.6
comp=Z,17nm,0.9s,mb5.0,baz=136,slow=6.1,SNR=26
SCHQ PcP PcP 07 44 21.0 -1.3
comp=Z,3.9nm,0.8s,baz=162,slow=6.4,SNR=1.9
SCHQ LR LR 08 04 04.2
comp=Z,714nm,18.1s,MS4.8,baz=326,slow=33
SCHQ Schefferville 54.34 337 *e*P **P** 07 43 17.3 -1.0
comp=Z,66nm,1.4s,mb5.4
SCHQ *e*PcP PcP 07 44 19.8 -2.5
SCHQ LR LR
comp=Z,1µm,22.0s,MS4.9
MTTG Motta San Giov 54.46 48 *e*P **P** 07 43 20.3 +0.9
SDI San Donato 54.60 43 *e*P **P** 07 43 20.2 -0.2
AQU L'Aquila 54.61 42 *e*P **P** 07 43 20.7 +0.2
AQU pmax pmax
comp=Z,82nm,1.2s,mb5.6
AQU L'Aquila 54.61 42 *e*P **P** 07 43 20.7 +0.2
comp=Z,82nm,1.2s,mb5.6
LANF Langenberg 54.63 33 *e*P **P** 07 43 19.8 -0.8
ACSO Alum Creek Sta 54.65 315 *e*P **P** 07 43 20.8 -0.1
comp=Z,86nm,1.1s,mb5.7
ACSO LR LR
comp=Z,713nm,22.0s,MS4.7
BRMO Bormio 54.69 36 *e*P **P** 07 43 20.2 -0.9
SNTG Esanatoglia 54.71 41 *e*P **P** 07 43 20.3 -0.9
SOI Samo 54.76 48 *e*P **P** 07 43 21.7 +0.1
ARV Arcevia 54.82 41 *e*P **P** 07 43 22.4 +0.4
DAVA Damuels 54.84 35⇑ *i*P **P** 07 43 22.0 -0.1
comp=Z,56nm,1.6s,mb5.3
SWET Sewanee 55.07 308 *e*P **P** 07 43 23.7 -0.3
CSSN Cassano Irpino 55.08 44 *e*P **P** 07 43 23.6 -0.3
SGO Scignano 55.16 45 *e*P **P** 07 43 24.5 -0.1
MGR Morigerati 55.16 45 *e*P **P** 07 43 23.5 -1.1
STU Stuttgart 55.27 34 P **P** 07 43 24.5 -0.7
STU pmax pmax
comp=Z,52nm,1.6s,mb5.3
STU Stuttgart 55.27 34 P **P** 07 43 24.5 -0.8
comp=Z,52nm,1.6s,mb5.3
LRAL Lakeview Retre 55.29 305 *e*P **P** 07 43 25.6 0.0
comp=Z,46nm,1.1s,mb5.4
MRLC Muro Lucano 55.36 45 *e*P **P** 07 43 25.7 -0.4
SQTA Sankt Quirin 55.57 36⇓ *i*P **P** 07 43 26.7 -0.7
comp=Z,28nm,1.1s,mb5.2
SQTA Sankt Quirin 55.57 36⇓ *i*P **P** 07 43 26.7 -0.7
SQTA pmax pmax
comp=Z,28nm,1.1s,mb5.2
TIP Timpagrande 55.67 47 *e*P **P** 07 43 26.4 -1.8
WTTA Wattenberg 55.84 36⇑ *i*P **P** 07 43 28.4 -1.0
comp=Z,34nm,1.4s,mb5.2
WTTA Wattenberg 55.84 36⇑ *i*P **P** 07 43 28.4 -1.0
WTTA pmax pmax
comp=Z,34nm,1.4s,mb5.2
AAM Ann Arbor 55.96 317 *e*P **P** 07 43 30.2 -0.1
AAM pmax pmax
comp=Z,105nm,1.2s,mb5.7
AAM Ann Arbor 55.96 317 *e*P **P** 07 43 30.2 -0.1
comp=Z,105nm,1.2s,mb5.7
FVI Forni Avoltri 56.19 37 *e*P **P** 07 43 31.1 -0.8
GMNA Gemona 56.31 38 *e*P **P** 07 43 32.0 -0.8
WCI Wyandotte Cave 56.31 312 *e*P **P** 07 43 33.1 +0.2
WCI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
WCI Wyandotte Cave 56.31 312 *e*P **P** 07 43 33.1 +0.2
comp=Z,10nm,0.7s,mb5.0
PTCC Patocco-Chiusa 56.44 38 *e*P **P** 07 43 32.9 -0.8
PLAL Pickwick Lake 56.68 307 *e*P **P** 07 43 35.1 -0.5
comp=Z,77nm,1.4s,mb5.5
KBA Koelnbreinsper 56.76 37⇑ *i*P **P** 07 43 35.0 -1.0
comp=Z,22nm,1.2s,mb5.1
KBA Koelnbreinsper 56.76 37⇑ *i*P **P** 07 43 35.0 -1.0
KBA pmax pmax
comp=Z,22nm,1.2s,mb5.1
CEY Cerknica 56.79 39 *i* P **P** 07 43 35.7 -0.5
comp=Z,74nm,1.7s,mb5.4
CEY *e* 07 46 20.9
BLO Bloomington 56.80 313 *e*P **P** 07 43 36.3 -0.1
BLO pmax pmax
comp=Z,111nm,1.6s,mb5.6
BLO Bloomington 56.80 313 *e*P **P** 07 43 36.3 -0.1
comp=Z,111nm,1.6s,mb5.6
WVT Waverly 56.82 309 *e*P **P** 07 43 35.7 -0.9
WVT pmax pmax
comp=Z,27nm,1.0s,mb5.2
WVT MLR MLR
comp=Z,553nm,19.0s,MS4.7
WVT Waverly 56.82 309 *e*P **P** 07 43 35.7 -0.8
comp=Z,27nm,1.0s,mb5.2
WVT LR LR
comp=Z,553nm,19.0s,MS4.7
GRA1 Grafenberg Arr 56.88 33 *e*P **P** 07 43 35.8 -1.0
comp=Z,55nm,1.4s,mb5.4
GRF Grafenberg Arr 56.88 33 *e*P **P** 07 43 35.8 -1.0
GRF pmax pmax
comp=Z,55nm,1.4s,mb5.4
LJU Ljubljana 56.99 39 *e*P **P** 07 43 37.3 -0.4
OBKA Obir 57.22 38⇑ *i*P **P** 07 43 39.4 +0.1
comp=Z,39nm,1.5s,mb5.2
TSUM Tsumeb 57.22 118 *e*P **P** 07 43 38.8 -0.9
comp=Z,39nm,1.3s,mb5.3
TSUM LR LR
comp=Z,876nm,21.0s,MS4.8
MOX Moxa 57.61 33 *e*P **P** 07 43 41.3 -0.7
MOX pmax pmax
comp=Z,44nm,1.9s,mb5.2
MOX MLR MLR
comp=Z,400nm,22.0s,MS4.5
MOX Moxa 57.61 33 *e*P **P** 07 43 41.3 -0.7
comp=Z,44nm,1.9s,mb5.2
MOX LR LR
comp=Z,400nm,22.0s,MS4.5
MOX Moxa 57.61 33 *i* P **P** 07 43 41.3 -0.7
comp=Z,logA/T=1.4,mb5.2
MOX S **S** 07 51 42.0 +3.8
MOX L 08 03 37.0
OXF Oxford 57.62 306 *e*P **P** 07 43 41.2 -1.0
OXF pmax pmax
comp=Z,56nm,1.1s,mb5.5
OXF MLR MLR
comp=Z,805nm,19.0s,MS4.8
OXF Oxford 57.62 306 *e*P **P** 07 43 41.2 -1.0
comp=Z,56nm,1.1s,mb5.5
OXF LR LR
comp=Z,805nm,19.0s,MS4.8
PERS Pernice 57.62 38 *i* P **P** 07 43 41.4 -0.7
comp=Z,109nm,1.7s,mb5.6
MOA Molln 57.68 37⇓ *i*P **P** 07 43 41.4 -1.1
comp=Z,17nm,1.1s,mb5.0
GERES GERESS Array B 57.84 35 P **P** 07 43 42.6 -0.9
comp=Z,3.8nm,1.0s,mb4.4,baz=288,slow=4.2,SNR=22
GERES LR LR 08 05 43.7
comp=Z,1µm,20.8s,MS5.0,baz=255,slow=33
NKC Novy Kostel 57.84 33 *e*P **P** 07 43 43.1 -0.5
NKC AMS AMS 08 06 50.0
comp=Z,1µm,14.5s
KHC Kasperske Hory 57.91 35*c* *i*P **P** 07 43 42.7 -1.3
KHC Kasperske Hory 57.91 35⇑ *i*P **P** 07 43 42.8 -1.2
KHC Kasperske Hory 57.91 35 *e*P **P** 07 43 42.6 -1.4
KHC *ex* x 07 46 19.1
KHC *e*S **S** 07 51 42.8 +0.7
KHC AMS AMS 08 04 50.0
comp=Z,900nm,21.5s
HALT Halls 57.93 308 *e*P **P** 07 43 40.9 -3.5

ARSA Arzberg 58.15 38⇑ *i*P P 07 43 44.5 -1.3
comp=Z,13nm,1.0s,mb4.9
PLCA Paso Flores 58.19 212 *e*P P 07 43 46.1 -0.1
PLCA pmax pmax
comp=Z,18nm,1.4s
PLCA Paso Flores 58.19 212 P P 07 43 46.6 +0.5
comp=Z,3.7nm,1.2s,mb4.3,baz=74,slow=9.4,SNR=3.0
PLCA LR LR 08 09 18.2
comp=Z,4µm,18.0s,MS5.6,baz=51,slow=36
PLCA Paso Flores 58.19 212 *e*P P 07 43 46.1 0.0
comp=Z,18nm,1.4s,mb4.9
GNAR Gosnell 58.47 308 *e*P P 07 43 47.4 -0.8
CLL Collm 58.71 33⇓ *i*P P 07 43 49.2 -0.4
CLL *e*S S 07 51 55.0 +2.4
CLL pmax pmax
comp=Z,109nm,2.5s,mb5.4
CLL Collm 58.71 33⇓ *i*P P 07 43 49.2 -0.4
comp=Z,109nm,2.5s,mb5.4
CLL *e*S S 07 51 55.0 +2.4
CLL Collm 58.71 33 ⇓P P 07 43 49.2 -0.4
comp=Z,logA/T=1.6,mb5.4
CLL *e**SP sP 07 44 00.0 +6.2
CLL *e*S S 07 51 55.0 +2.4
CLL *e*SSS SSS 07 58 18.0 +7.9
HBAR Harrisburg 58.87 307 *e*P P 07 43 48.5 -2.5
PRU Pruhonice 58.88 34 *e*P P 07 43 50.4 -0.4
PRU *e*S S 07 51 53.6 -1.2
PRU MLR MLR
comp=Z,800nm,16.5s,MS4.9
PRU Pruhonice 58.88 34 *e*P P 07 43 50.4 -0.4
PRU *e*x x 07 46 12.7
PRU *e*S S 07 51 53.6 -1.2
PRU AMS AMS 08 05 50.0
comp=Z,800nm,16.5s
BRG Berggiesshubel 58.99 33 *e*P P 07 43 51.1 -0.5
BRG pmax pmax
comp=Z,31nm,1.5s,mb5.1
BRG Berggiesshubel 58.99 33 *e*P P 07 43 51.1 -0.5
comp=Z,31nm,1.5s,mb5.1
BRG *e* 07 45 38.0
PVCC Panska Ves 59.16 34 *e*P P 07 43 52.3 -0.5
PVCC *e*PP PP 07 46 08.1 +2.7
PVCC AMS AMS 08 05 40.0
comp=Z,900nm,14.4s
BBLS Bajina Basta - 59.24 43⇑ *i*P P 07 43 53.4 0.0
FVM French Village 59.34 310 *e*P P 07 43 52.9 -1.3
FVM pmax pmax
comp=Z,28nm,1.0s,mb5.2
FVM French Village 59.34 310 *e*P P 07 43 52.9 -1.3
comp=Z,28nm,1.0s,mb5.2
ZST Bratislava 59.53 37 *e*P P 07 43 54.7 -0.7
ZST *e* 08 10 16.8
DIVS Divcibare 59.72 43⇓ *i*P P 07 43 56.1 -0.6
VRAC Vranov 59.73 36 P P 07 43 56.5 -0.2
SMOL Smolenice 59.87 37 *e*P P 07 43 56.9 -0.8
UPC Upice 59.96 34 *e*P P 07 43 57.5 -0.8
UPC *e*PP PP 07 46 04.4 -8.1
SKO Skopje 59.98 45⇑ *i*P P 07 43 58.4 -0.1
CCM Cathedral Cave 59.98 310 *e*P P 07 43 57.2 -1.4
CCM pmax pmax
comp=Z,24nm,1.0s,mb5.2
CCM Cathedral Cave 59.98 310 *e*P P 07 43 57.2 -1.4
comp=Z,24nm,1.0s,mb5.2
GVD Gavdhos 60.00 54 *e*P P 07 43 58.1 -0.7
comp=Z,83nm,0.8s,mb5.8
UALR University of 60.03 306 *e*P P 07 43 57.4 -1.6
comp=Z,60nm,1.0s,mb5.6
DPC Dobruska-Polom 60.06 35 *e*P P 07 43 58.6 -0.3
DPC *e*S S 07 52 15.0 +5.0
DPC MLR MLR
comp=Z,900nm,18.0s,MS5.0
DPC Dobruska-Polom 60.06 35 *e*P P 07 43 58.6 -0.3
DPC *e*PP PP 07 46 03.2 -10
DPC *e*S S 07 52 15.0 +5.0
DPC AMS AMS 08 04 50.0
comp=Z,900nm,18.0s
KSP Ksiaz 60.27 34 *e*P P 07 44 00.2 -0.2
KSP *e*pP pP 07 44 07.7 +4.2
KSP *e*S S 07 52 12.0 -0.8
KSP LR LR
comp=Z,2µm,27.0s,MS5.0
KSP Ksiaz 60.27 34 *e*P P 07 43 59.3 -1.2
KSP MLR MLR 08 03 21.7
comp=Z,1µm,27.0s,MS5.0
MORC Moravsky Berou 60.49 36 *e*P P 07 44 01.1 -0.8
MORC pmax pmax
comp=Z,49nm,1.8s,mb5.2
MORC Moravsky Berou 60.49 36 *e*P P 07 44 01.1 -0.8
comp=Z,49nm,1.8s,mb5.2
BARS Barje 60.52 44⇑ *i*P P 07 44 01.8 -0.5
VAY Valandovo 60.57 46⇑ *i*P P 07 44 02.6 0.0
VYHS Vyhne 60.70 37 *e*P P 07 44 02.1 -1.3
JFWS Jewell Farm 60.70 316 *e*P P 07 44 02.6 -0.9
JFWS pmax pmax
comp=Z,41nm,1.1s,mb5.5
JFWS Jewell Farm 60.70 316 *e*P P 07 44 02.6 -0.8
comp=Z,41nm,1.1s,mb5.5
OKC Ostrava-Krasne 60.87 36 *e*P P 07 44 03.7 -0.8
OKC AMS AMS 08 04 40.0
comp=Z,600nm,16.6s
MIAR Mount Ida 60.97 306 *e*P P 07 44 04.0 -1.4
MIAR pmax pmax
comp=Z,20nm,1.2s,mb5.1
MIAR MLR MLR
comp=Z,813nm,22.0s,MS4.8
MIAR Mount Ida 60.97 306 *e*P P 07 44 04.0 -1.4
comp=Z,20nm,1.2s,mb5.1
MIAR LR LR
comp=Z,813nm,22.0s,MS4.8
KKB Krupnik 61.11 46 *e*P P 07 44 07.0 +0.8
PSZ Piszkesteto 61.11 38 *e*P P 07 44 05.3 -0.9
PSZ pmax pmax
comp=Z,19nm,0.9s,mb5.2
PSZ Piszkesteto 61.11 38 *e*P P 07 44 05.2 -0.9
comp=Z,19nm,0.9s,mb5.2
PSZ Piszkesteto 61.11 38‖ *e*PcP P 07 44 06.3 +0.1
NATX Nacogdoches 61.33 302 *e*P P 07 44 07.5 -0.3
comp=Z,135nm,1.2s,mb6.0
BZS Buzias 61.34 41 P P 07 44 08.2 +0.5
VTS Vitosha 61.42 45 P P 07 44 09.3 +1.0
VTS Vitosha 61.42 45 *e*P P 07 44 09.0 +0.7
SANT Santorini 61.44 52 *e*P P 07 44 07.4 -1.1
comp=Z,126nm,0.9s,mb6.0
SANT *e* 07 44 13.7
MMB Musomiste 61.48 46 *e*P P 07 44 10.0 +1.2
APE Apeiranthos 61.65 52‖ *e*P P 07 44 10.1 +0.1
NIE Niedzica 61.97 37 *e*P P 07 44 10.6 -1.4
KONO Kongsberg 61.97 23 *d i*P P 07 44 09.3 -2.5
KONO Kongsberg 61.97 23 P P 07 44 10.0 -1.8
comp=Z,6.9nm,0.8s,mb4.8
KONO LR LR
comp=Z,1µm,20.0s,MS5.1
OJC Ojcow 62.00 36 *e*P P 07 44 11.0 -1.1
PGB Panagyurishte 62.08 45 *e*P P 07 44 13.2 +0.4
RZN Rozhen 62.22 46 *e*P P 07 44 14.0 +0.2
KOLS Kolonicke sedl 62.97 38 *e*P P 07 44 19.2 +0.7
AYVA Ayvalik 63.06 49 *i*P P 07 44 19.7 +0.4
NAO01 NORSAR Array S 63.22 23 *e*P P 07 44 18.1 -2.0
comp=Z,24nm,1.2s,mb5.2
NAO01 LR LR
comp=Z,1µm,20.0s,MS5.1
EYMN Ely 63.24 321 *e*P P 07 44 18.3 -2.0
comp=Z,15nm,1.3s,mb5.0
KDAG Bornova 63.29 51 *i*P P 07 44 17.8 -3.0
NB2 NORSAR Subarra 63.47 23 P P 07 44 20.8 -0.9
comp=Z,0.9nm,0.7s,baz=226,slow=7.0
NB2 NORSAR Subarra 63.47 23 P P 07 44 20.8 -0.9
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 63.47 23 P P 07 44 21.0 -0.7
comp=Z,9.2nm,0.8s,mb5.0,baz=232,slow=6.7,SNR=25
KWP Kalwaria 63.49 37 *e*P P 07 44 21.8 -0.2
KWP MLR MLR 08 04 06.1
comp=Z,700nm,25.8s,MS4.7
SZH Strazhica 63.53 45 *e*P P 07 44 22.8 +0.4
JMB Yambol 63.77 46 *e*P P 07 44 24.0 0.0
SNX Sinaia 63.84 43 P P 07 44 25.0 +0.6
HFS Hagfors 63.91 24 P P 07 44 23.6 -1.0
comp=Z,8.2nm,0.6s,mb4.9,baz=214,slow=5.3,SNR=17
MLR Muntele Rosu 64.17 43 P P 07 44 26.7 +0.1
BTOK Tokmak 64.18 49 *i*P P 07 44 26.4 -0.3
MANT Manisa 64.30 51 *i*P P 07 44 27.5 -0.1
KSU1 Kansas State U 64.31 310 *e*P P 07 44 25.8 -1.8
BURAR Bucovina Array 64.35 40 P P 07 44 28.2 +0.5

LVV L'vov 64.36 38 *e*P P 07 44 26.7 -1.0
LVV *e* 07 46 53.1
LVV MLR MLR
comp=Z,300nm,17.0s,MS4.5
LVV MLR MLR
comp=N,300nm,16.0s,MS4.6
LVV MLR MLR
comp=E,200nm,17.0s,MS4.6
ISR Istrita 64.47 43 P P 07 44 28.8 +0.3
PRD Provadia 64.54 45 *e*P P 07 44 29.0 0.0
VRI Vrincioaia 64.81 42 P P 07 44 31.0 +0.3
ULDT Uludag 65.09 49 *i*P P 07 44 32.0 -0.6
MBAR Mbarara 65.13 94 *e*P P 07 44 30.1 -3.2
MBAR pmax pmax
comp=Z,22nm,1.4s,mb5.0
MBAR MLR MLR
comp=Z,147nm,21.0s,MS4.2
MBAR Mbarara 65.13 94 *e*P P 07 44 30.1 -3.2
comp=Z,22nm,1.4s,mb5.0
MBAR LR LR
comp=Z,147nm,21.0s,MS4.2
PSN Preselentsi 65.22 45 *e*P P 07 44 33.0 -0.4
WMOK Wichita Mounta 65.22 305 *e*P P 07 44 31.5 -2.1
WMOK pmax pmax
comp=Z,15nm,1.2s,mb4.9
WMOK MLR MLR
comp=Z,1µm,22.0s,MS5.0
WMOK Wichita Mounta 65.22 305 *e*P P 07 44 31.5 -2.1
comp=Z,15nm,1.2s,mb4.9
WMOK LR LR
comp=Z,1µm,22.0s,MS5.0
HARR Harsova 65.30 44 P P 07 44 33.1 -0.8
SUR Sutherland 65.33 130 *e*P P 07 44 34.4 +0.1
comp=Z,28nm,1.1s,mb5.2
SUR LR LR
comp=Z,295nm,22.0s,MS4.4
SUW Suwalki 65.45 33 *e*P P 07 44 34.0 -0.7
SUW MLR MLR 08 05 49.7
comp=Z,800nm,27.0s,MS4.8
SUMG Summit 65.48 359 *e*P P 07 44 34.7 +0.1
comp=Z,33nm,1.0s,mb5.3
JCT Junction City 65.52 300 *e*P P 07 44 34.5 -1.0
JCT pmax pmax
comp=Z,82nm,1.4s,mb5.6
JCT Junction City 65.52 300 *e*P P 07 44 34.5 -1.0
comp=Z,82nm,1.4s,mb5.6
CFR Carcaliu 65.57 43 P P 07 44 34.7 -0.9
LBTB Lobatse 66.25 121 *e*P P 07 44 39.4 -0.9
LBTB pmax pmax
comp=Z,36nm,1.3s,mb5.2
LBTB MLR MLR
comp=Z,1µm,22.0s,MS5.0
LBTB Lobatse 66.25 121 *e*P P 07 44 39.4 -0.9
comp=Z,36nm,1.3s,mb5.2
LBTB LR LR
comp=Z,1µm,22.0s,MS5.0
ESKT Eskisehir 66.26 50 *i*P P 07 44 39.8 -0.3
KIS Kishinev 66.51 42 *e*P P 07 44 36.0 -5.6
KIS MLR MLR
comp=Z,600nm,19.0s,MS4.8
HENT Hendek 66.54 49 *i*P P 07 44 41.1 -0.8
CBKS Cedar Bluff 66.65 309 *e*P P 07 44 41.3 -1.3
CBKS pmax pmax
comp=Z,73nm,1.2s,mb5.6
CBKS Cedar Bluff 66.65 309 *e*P P 07 44 41.3 -1.3
comp=Z,72nm,1.2s,mb5.6
ULM Lac du Bonnet 66.71 322 P P 07 44 41.0 -1.8
comp=Z,14nm,1.0s,mb4.9,baz=108,slow=6.0,SNR=15
ULM LR LR 08 08 59.0
comp=Z,560nm,19.6s,MS4.8,baz=235,slow=32
ULM Lac du Bonnet 66.71 322 *e*P P 07 44 40.9 -2.0
comp=Z,35nm,1.3s,mb5.2
BOSA Boshof 67.27 125 *e*P P 07 44 45.7 -1.1
BOSA pmax pmax
comp=Z,30nm,1.2s,mb5.2
BOSA Boshof 67.27 125 *e*P P 07 44 45.7 -1.0
comp=Z,30nm,1.2s,mb5.2
SGKT Sivrigoynuk 67.36 49 *i*P P 07 44 46.8 -0.3
CSS Prodhromos 67.50 55 *e*P P 07 44 47.2 -0.9
comp=Z,56nm,1.1s,mb5.5
AMTX Amarillo 67.61 305 *e*P P 07 44 47.3 -1.5
comp=Z,34nm,1.2s,mb5.2
AKASG Malin Array Be 67.80 38 P P 07 44 49.0 -0.7
comp=Z,0.8nm,0.3s,mb4.3,baz=257,slow=6.1,SNR=7.6
EIL Elat 68.34 61 *e*P P 07 44 53.5 +0.1
comp=Z,59nm,1.3s,mb5.5
EIL *e* 07 45 00.2
BR131 Keskin Array S 68.41 50 PFAKE 07 45 10.0 +16
BR131 LR LR
comp=Z,478nm,19.0s,MS4.8
BRTR Keskin Array B 68.41 50 P P 07 44 53.8 0.0
comp=Z,18nm,0.9s,mb5.1,baz=252,slow=3.9,SNR=26
FCC Fort Churchill 68.69 331 *e*P P 07 44 53.4 -1.7
FCC pmax pmax
comp=Z,18nm,0.6s,mb5.2
FCC Fort Churchill 68.69 331 *e*P P 07 44 53.4 -1.7
comp=Z,18nm,0.6s,mb5.2
LTX Lajitas 68.76 299 PFAKE 07 45 10.0 +14
LTX LR LR
comp=Z,11nm,19.0s
TXAR Lajitas Array 68.76 299 P P 07 44 56.1 +0.1
comp=Z,2.0nm,0.5s,mb4.3,baz=101,slow=5.9,SNR=32
TXAR LR LR 08 11 58.8
comp=Z,555nm,21.8s,MS4.8,baz=30,slow=33
VSU Vasula 69.00 29‖ *e*P P 07 44 56.6 -0.4
CLNB Carlsbad 69.16 302 *e*P P 07 44 58.4 -0.1
CPRX Cap Rock 69.22 303 *e*P P 07 44 58.7 -0.1
GDL2 Guadalupe Moun 69.56 302 *e*P P 07 45 01.1 +0.2
FINES FINESS Array B 69.84 26 P P 07 45 01.9 -0.2
comp=Z,8.8nm,0.8s,mb4.8,baz=243,slow=4.3,SNR=20
FINES LR LR 08 11 37.4
comp=Z,611nm,19.4s,MS4.9,baz=350,slow=32
ASF Jabal al Asfar 70.19 59 P P 07 45 05.4 +0.7
comp=Z,19nm,0.9s,mb5.0,baz=128,slow=3.1,SNR=10.0
KAF Kangasniemi 70.21 26 *ep* P 07 45 03.3 -1.0
comp=Z,8.2nm,0.7s,mb4.8
KAF Kangasniemi 70.21 26 *e*P P 07 45 03.3 -1.0
KAF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MNTX Cornudas Mount 70.39 301 *e*P P 07 45 04.9 -1.1
comp=Z,20nm,1.2s,mb4.9
SDCO Great Sand Dun 70.99 307 *e*P P 07 45 10.1 +0.5
comp=Z,22nm,1.1s,mb5.0
SDCO LR LR
comp=Z,796nm,22.0s,MS4.9
GZT Gaziantep 71.17 53 *i*P P 07 45 11.3 +0.7
ISCO Idaho Springs 71.30 310 *e*P P 07 45 11.1 -0.3
ISCO pmax pmax
comp=Z,34nm,1.3s,mb5.1
ISCO Idaho Springs 71.30 310 *e*P P 07 45 11.1 -0.2
comp=Z,34nm,1.3s,mb5.1
PHWY Pilot Hill 71.36 311 *e*P P 07 45 11.6 0.0
ANMO Albuquerque 71.52 304 *e*P P 07 45 13.5 +0.8
ANMO Albuquerque 71.52 304‖ *e*P P 07 45 13.6 +0.8
ANMO Albuquerque 71.52 304 *e*P P 07 45 12.8 +0.1
comp=Z,22nm,1.3s,mb4.9
ANMO LR LR
comp=Z,905nm,22.0s,MS5.0
FFC Flin Flon 71.54 325 P P 07 45 11.5 -1.0
comp=Z,181nm,1.3s,mb5.8,SNR=30
LPM Los Pinos Moun 71.61 304 *e*P P 07 45 14.6 +1.2
KMBO Kilima Mbogo 71.65 94 *e*P P 07 45 16.1 +2.2
KMBO Kilima Mbogo 71.65 94 *e*P P 07 45 15.3 +1.5
comp=Z,7.7nm,0.6s,mb4.3
LENM Lemitar 71.89 304 P P 07 45 13.5 -1.5
MALT Malatya 71.94 52 *e*P P 07 45 15.4 +0.2
MALT *e* 07 45 23.0
MALT pmax pmax
comp=Z,15nm,0.8s,mb5.0
MALT Malatya 71.94 52 *e*P P 07 45 15.4 +0.2
comp=Z,15nm,0.8s,mb5.0
MALT *e* 07 45 23.0
ANN Anapa 71.95 45 *e*P P 07 45 18.5 +3.3
ANN *e* 07 45 32.2
ANN *i* 07 48 00.1
ANN *e*PPP PPP 07 49 40.3 +1.7
ANN *e*S S 07 54 41.2 +6.2
ANN pmax pmax
comp=Z,111nm,1.3s,mb5.6
ANN MLR MLR
comp=N,445nm,18.0s,MS4.9
ANN MLR MLR
comp=E,352nm,18.0s,MS4.9
ANN MLR MLR
comp=Z,429nm,18.0s,MS4.8
LAZ Ladron 72.04 304 *e*P P 07 45 17.4 +1.5

ELZG Elazig 72.39 52 *i*P P 07 45 18.7 +0.8
LAO LASA Array 72.62 317 *e*P P 07 45 19.7 +0.6
comp=Z,68nm,1.1s,mb5.5
RWWY Rawlins 72.71 311 *e*P P 07 45 20.4 +0.7
ARCES ARCESS Array B 73.06 18 P P 07 45 20.4 -0.9
comp=Z,4.6nm,0.7s,mb4.5,baz=239,slow=5.7,SNR=12
ARCES LR LR 08 13 11.7
comp=Z,328nm,21.9s,MS4.6,baz=226,slow=32
AREO ARCESS Array S 73.06 19 *e*P P 07 45 20.2 -1.1
OBN Obninsk 73.20 34⇓ *e*P P 07 45 22.2 -0.1
OBN *e* 07 45 38.4
OBN *e* 07 48 01.5
OBN *e*S S 07 54 47.4 -1.6
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.7
OBN Obninsk 73.20 34 P P 07 45 19.7 -2.6
comp=Z,72nm,1.6s,mb5.3
OBN LR LR
comp=Z,171nm,21.0s,MS4.3
SOC Sochi 73.43 47 *e*P P 07 45 23.4 -0.5
SOC *e* 07 45 39.1
SOC *e* 07 48 07.9
SOC *e*PPP PPP 07 49 51.0 -2.5
SOC *e*S S 07 54 49.4 -2.5
SOC *e* 07 55 26.2
SOC *e*SS SS 07 59 33.8 -2.9
SOC *e*SSS SSS 08 02 49.7 +2.1
SOC pmax pmax
comp=Z,37nm,0.8s,mb5.4
SOC pmax pmax
comp=N,24nm,0.9s
SOC pmax pmax
comp=E,40nm,0.9s
SOC MLR MLR
comp=N,175nm,19.0s,MS4.6
SOC MLR MLR
comp=E,258nm,19.0s,MS4.6
SOC MLR MLR
comp=Z,348nm,19.0s,MS4.7
PV01 Paradox Valley 73.44 308 *e*P P 07 45 25.4 +1.3
PV10 Paradox Valley 73.83 308 *e*P P 07 45 23.9 -2.4
PV10 *e* pP 07 45 27.9 -1.6
MOS Moscow 73.92 34 *e*P P 07 45 25.6 -0.9
VRSR Storozhevoye 74.06 39 *e*P P 07 45 26.4 -1.0
VRSR pmax pmax
comp=Z,30nm,0.7s,mb5.3
VRSR pmax pmax
comp=N,40nm,1.1s
VRSR pmax pmax
comp=E,20nm,0.8s
VOR Voronezh 74.14 38 *e*P P 07 45 28.0 +0.2
VOR 07 45 46.0
VOR pmax pmax
comp=Z,160nm,1.6s,mb5.7
VOR pmax pmax
comp=E,160nm,1.4s
BW06 Boulder Array 74.55 312 *e*P P 07 45 29.8 -0.6
comp=E,20nm,1.0s,mb5.0
PDAR Pinedale Array 74.55 312 P P 07 45 30.4 0.0
comp=E,15nm,1.0s,mb4.9,baz=93,slow=7.3,SNR=38
PDAR LR LR 08 13 26.8
comp=E,552nm,21.8s,MS4.8,baz=126,slow=32
GCMT Greycliff 74.89 315 *e*P P 07 45 32.9 +0.6
APA Apatity 75.00 22⇑ *e*P P 07 45 35.5 +3.0
APA *e*S S 07 55 14.0 +5.1
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
APA MLR MLR
comp=Z,1µm,20.0s,MS5.1
TUC Tucson 75.00 301 *e*P P 07 45 33.9 +0.6
TUC pmax pmax
comp=Z,20nm,1.3s,mb4.9
TUC Tucson 75.00 301 *e*P P 07 45 33.9 +0.6
comp=Z,20nm,1.3s,mb4.9
SRU San Rafael 75.03 308 *e*P P 07 45 33.8 +0.5
LKWY Lake 75.30 314 *e*P P 07 45 36.3 +1.6
LKWY pmax pmax
comp=Z,20nm,1.1s,mb5.0
LKWY Lake 75.30 314 *e*P P 07 45 36.3 +1.6
comp=Z,20nm,1.1s,mb5.0
LOHW Long Hollow 75.37 313 *e*P P 07 45 35.3 +0.2
comp=Z,39nm,1.1s,mb5.2
SNOW Snow King Moun 75.47 313 *e*P P 07 45 36.4 +0.7
MOOW Moose Ponds 75.49 313 *e*P P 07 45 35.5 -0.2
YNR Norris Junctio 75.51 314 *e*P P 07 45 37.0 +1.1
REDW Red Top Meadow 75.54 313 *e*P P 07 45 36.1 0.0
WUAZ Wupatki 75.56 305 *e*P P 07 45 37.5 +1.1
comp=Z,51nm,1.2s,mb5.3
YFT Old Faithful 75.60 314 *e*P P 07 45 38.6 +2.1
KIV Kislovodsk 75.61 47 *e*P P 07 45 36.8 +0.3
KIV MLR MLR
comp=Z,77nm,20.0s,MS4.0
KIV Kislovodsk 75.61 47 *e*P P 07 45 36.8 +0.4
KIV LR LR
comp=Z,77nm,20.0s,MS4.0
TPAW Teton Pass 75.62 313 *e*P P 07 45 37.0 +0.5
IMW Indian Meadow 75.64 313 *e*P P 07 45 37.1 +0.4
DAU Daniels Canyon 75.66 310 *e*P P 07 45 37.5 +0.6
AHID Auburn Hatcher 75.68 312 *e*P P 07 45 37.0 +0.1
comp=Z,24nm,1.2s,mb5.0
YMR Madison River 75.71 314 *e*P P 07 45 38.4 +1.4
RES Resolute Bay 75.71 346 *e*P P 07 45 35.9 -0.6
RES pmax pmax
comp=Z,18nm,1.2s,mb4.9
RES Resolute Bay 75.71 346 *e*P P 07 45 35.9 -0.5
comp=Z,18nm,1.2s,mb4.9
MUDI Mud Lake 75.72 313 *e*P P 07 45 38.1 +1.1
TCUT Toone Canyon 75.81 311 *e*P P 07 45 37.9 +0.2
JLU Jordanelle 75.82 310 *e*P P 07 45 37.8 +0.1
RRI2 Red Ridge 75.88 313 *e*P P 07 45 38.4 +0.4
ATD Arta Tunnel 75.88 80 P P 07 45 40.4 +1.8
comp=Z,1.9nm,0.3s,mb4.5,baz=246,slow=22,SNR=2.6
GOF Gofitskoye 75.94 45⇑ *i*P P 07 45 39.5 +1.2
HWUT Hardware Ranch 75.96 311 *e*P P 07 45 38.8 +0.3
comp=Z,34nm,1.0s,mb5.2
HWUT LR LR
comp=Z,749nm,20.0s,MS5.0
QLMT Earthquake Lak 76.05 314 *e*P P 07 45 40.3 +1.4
QLMT *e*PcP PcP 07 45 52.2 +0.6
QLMT *e*PP PP 07 48 29.7 -1.8
BOZ Bozeman (W) 76.25 315 *e*P P 07 45 40.1 0.0
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOZ Bozeman (W) 76.25 315 *e*P P 07 45 40.1 +0.1
comp=Z,8.4nm,1.0s,mb4.6
NLU North Lily Min 76.27 309 *e*P P 07 45 41.0 +0.8
MSU Marysvale 76.30 308 *e*P P 07 45 42.0 +1.5
MVU Marysvale 76.32 308 *e*P P 07 45 41.9 +1.3
comp=Z,40nm,1.2s,mb5.2
ZEI Tsey 76.42 48 *e*P P 07 45 42.2 +1.1
ZEI *i* *PP pP 07 45 49.5 +5.3
ZEI pmax pmax
comp=Z,18nm,1.1s,mb4.9
HRY Holter Researc 76.46 316 *e*P P 07 45 41.1 -0.1
DUG Dugway 76.84 310 *e*P P 07 45 44.3 +0.8
DUG pmax pmax
comp=Z,48nm,1.4s,mb5.2
DUG Dugway 76.84 310 *e*P P 07 45 44.3 +0.8
comp=Z,48nm,1.4s,mb5.2
GNI Garni 76.95 51⇓ *e*P P 07 45 40.0 -4.1
GNI Garni 76.95 51 P P 07 45 45.1 +1.1
comp=Z,6.4nm,0.5s,mb4.8,baz=343,slow=4.8,SNR=2.6
GNI Garni 76.95 51 P P 07 45 45.1 +1.0
GNI LR LR
comp=Z,422nm,20.0s,MS4.8
MCMT McKenzie Canyo 77.06 314 *e*P P 07 45 43.9 -0.7
ARUT Antelope Range 77.28 307 *e*P P 07 45 47.5 +1.6
CHMT Chamberlain Mo 77.45 316 *e*P P 07 45 46.4 -0.3
MSO Missoula 77.92 316 *e*P P 07 45 48.8 -0.5
comp=Z,5.7nm,1.1s,mb4.4
EDM Edmonton 77.92 323 *e*P P 07 45 48.7 -0.4
WALA Waterton Lakes 78.01 319 *e*P P 07 45 49.8 +0.1
comp=Z,27nm,1.1s,mb5.1
HLID Hailey 78.14 313 PFAKE 07 46 00.0 +9.5
HLID LR LR
comp=Z,598nm,22.0s,MS4.9
TRCR Troy Canyon 78.97 308 *e*P P 07 45 56.6 +1.3
YKA Yellowknife Ar 79.36 332 P P 07 45 56.2 -0.6
comp=Z,5.6nm,0.8s,mb4.5,baz=96,slow=5.5,SNR=104
YKA LR LR 08 18 40.4
comp=Z,474nm,18.5s,MS4.9,baz=85,slow=34
YKA Yellowknife Ar 79.36 332 P P 07 45 56.2 -0.6
YKA LR LR 08 18 40.4

YKW3	Yellowknife Ar	79.38	332	eP		P	07 45 56.0	-1.0		
NEW	Newport	80.11	318	eP		P	07 46 00.8	-0.4		
NEW	comp=Z,17nm,1.3s			pmax	pmax					
NEW	comp=Z,677nm,21.0s			MLR	MLR					
NEW	Newport	80.11	318	eP		P	07 46 00.8	-0.4		
NEW	comp=Z,17nm,1.3s,mb4.8			LR	LR					
BMN	comp=Z,677nm,21.0s,MS5.0 Battle Mountai	80.22	310	eP		P	07 46 03.1	+1.2		
BMN	comp=Z,47nm,1.5s,mb5.2			pmax	pmax					
BMN	Battle Mountai	80.22	310	eP		P	07 46 03.1	+1.2		
RPN	comp=Z,47nm,1.5s,mb5.2 Rapa Nui	80.22	241	LR	LR		08 16 59.0			
BMO	comp=Z,598nm,21.7s,MS4.9,baz=86,slow=32 Blue Mountains	80.23	314	eP		P	07 46 01.0	-0.9		
BMO	comp=Z,18nm,1.4s,mb4.8			pmax	pmax					
BMO	Blue Mountains	80.23	314	eP		P	07 46 01.0	-0.9		
TPH	comp=Z,18nm,1.4s,mb4.8 Tonopah	80.26	307	eP		P	07 46 03.6	+1.4		
TPH	comp=Z,49nm,1.3s,mb5.3			pmax	pmax					
TPH	comp=Z,435nm,20.0s,MS4.8			MLR	MLR					
TPH	Tonopah	80.26	307	eP		P	07 46 03.6	+1.4		
WVOR	comp=Z,49nm,1.3s,mb5.3 Wild Horse Val	81.23	312	eP		P	07 46 08.1	+0.9		
WVOR	comp=Z,435nm,20.0s,MS4.8			pmax	pmax					
WVOR	comp=Z,32nm,1.4s,mb5.1 Wild Horse Val	81.23	312	eP		P	07 46 08.1	+0.9		
SNAA	comp=Z,32nm,1.4s,mb5.0 Sanae	81.25	170	P		P	07 46 12.1	+5.4		
SNAA	comp=Z,5.0nm,0.8s			pmax	pmax					
SNAA	Sanae	81.25	170	LR	LR		08 16 17.0			
ARU	comp=Z,106nm,19.1s,MS4.2,baz=71,slow=31			MLR	MLR					
ARU	comp=Z,600nm,19.0s,MS5.0			MLR	MLR					
ARU	comp=N,100nm,18.0s,MS4.9			MLR	MLR					
ARU	comp=E,500nm,20.0s,MS4.9			MLR	MLR					
ARU	Arti	85.63	34	eP		P	07 46 30.4	+1.0		
ARU	comp=E,20nm,1.0s,mb5.3			LR	LR					
ARU	comp=Z,185nm,21.0s,MS4.5			e			07 49 49.5			
ARU				eS	S		07 56 52.4	-7.5		
ARU				eSS	SS		08 02 39.6	+0.3		
SVE	Sverdlovsk	86.72	33	eP		P	07 46 36.7	+2.0		
SVE				e			07 50 00.0			
SVE				e			07 57 16.0			
SVE				e			07 58 14.0			
SVE	comp=N,100nm,16.0s,MS4.8			MLR	MLR					
SVE	comp=E,300nm,16.0s,MS4.8			MLR	MLR					
SVE	comp=Z,500nm,16.0s,MS5.0			MLR	MLR					
INK	Inuvik	86.94	338	eP		P	07 46 35.7	+0.2		
INK	comp=Z,13nm,1.2s			pmax	pmax					
INK	Inuvik	86.94	338	P		P	07 46 35.7	+0.1		
INK	comp=Z,7.1nm,1.0s,mb4.8,baz=71,slow=6.4,SNR=20 Inuvik	86.94	338	eP		P	07 46 35.7	+0.2		
DLBC	comp=Z,13nm,1.2s,mb5.0 Dease Lake	87.11	328	eP		P	07 46 38.1	+1.5		
DAWY	Dawson	90.29	335	eP		P	07 46 51.8	+0.2		
THY	Trims Highway	93.17	335	eP		P	07 47 05.4	+0.6		
COLA	College	93.43	337	⇑eP		P	07 47 07.9	+1.9		
COLA	College	93.43	337	P		P	07 47 07.4	+1.4		
COLA	comp=Z,478nm,39.0s			LR	LR					
BILL	Bilibino	103.68	352	eP		Pdif	07 47 52.2	-0.1		
BILL				e			07 52 05.9			
BILL				eSS	SS		08 06 48.7	-5.8		
BILL	comp=Z,1.0nm,0.9s			pmax	pmax					
BILL	Bilibino	103.68	352	PFAKE			07 48 00.0	+7.7		
BILL	comp=Z,364nm,21.0s,MS4.9			LR	LR					
WMQ	Urumqi	107.10	40	PDIF	Pdif		07 48 09.3	+1.4		
WMQ				PP	PP		07 52 39.0	+1.2		
WMQ				SS	SS		08 07 42.0	+0.4		
WMQ	comp=Z,154nm,6.0s			PP	PP					
WMQ	comp=Z,990nm,22.9s,MS5.3			LR	LR					
YAK	Yakutsk	109.95	8	PFAKE			07 52 30.0			
YAK	comp=Z,232nm,20.0s,MS4.8			LR	LR					
TLY	Talaya	111.19	27	eP		Pdif	07 48 12.6	-13		
TLY	comp=Z,11nm,1.6s			pmax	pmax					
TLY	Talaya	111.19	27	PFAKE			07 52 40.0	+14		
TLY	comp=Z,104nm,22.0s,MS4.4			LR	LR					
ULN	Ulaanbaatar	115.46	28	PFAKE			07 52 50.0	+15		
ULN	comp=Z,349nm,21.0s,MS4.9			LR	LR					
LSA	Lhasa	115.98	52	PFAKE			07 52 50.0	+14		
LSA	comp=Z,278nm,20.0s,MS4.9			LR	LR					
TBI	Tubuai	116.03	248	eSS	SS		08 09 36.2	-5.0		
TBI				eLR	LR		08 27 40.4			
CASY	comp=Z,341nm,28.0s Casey	116.07	165	PFAKE			07 52 50.0	+14		
CASY	comp=Z,1μm,20.0s,MS5.5			LR	LR					
PPT	Papeete	116.36	254	eSS	SS		08 09 53.1	+7.7		
PPT				eLR	LR		08 28 04.5			
HIA	comp=Z,287nm,23.2s Hailar	119.41	19	PFAKE			07 52 50.0	+7.7		
HIA	comp=Z,399nm,19.0s,MS5.1			LR	LR					
HHC	Hu-ho-hao-te	122.81	31	ePKP		PKPdf	07 52 48.8	-0.3		
HHC				PP	PP		07 54 30.6	+1.7		
HHC				SKS	SKS		07 59 58.3	+7.3		
HHC				SKKS			08 01 22.1			
HHC				SS	SS		08 11 09.3	+0.4		
HHC	comp=Z,419nm,20.2s			PP	PP					
HHC	comp=N,160nm,26.8s,MS4.8			LR	LR					
HHC	comp=E,282nm,26.8s,MS4.8			LR	LR					
HHC	comp=Z,193nm,46.4s			LR	LR					
BJI	Beijing	125.67	28	PKP		PKPdf	07 52 51.9	-2.9		
BJI	comp=N,407nm,19.3s,MS5.2			LR	LR					
BJI	comp=E,291nm,21.2s,MS5.2			LR	LR					
BJI	comp=Z,400nm,21.0s,MS5.1			LR	LR					
BJT	Baijiatuao	125.69	28	PFAKE			07 53 10.0	+15		
BJT	comp=Z,648nm,21.0s,MS5.3			LR	LR					
CN2	Changchun	126.07	18	ePKP		PKPdf	07 52 54.9	-0.5		
YSS	Yuzh-Sakhalins	126.13	3	PFAKE			07 53 10.0	+15		
YSS	comp=Z,297nm,20.0s,MS5.0			LR	LR					
MDJ	Mudanjiang	126.48	14	PFAKE			07 53 10.0	+14		
MDJ	comp=Z,247nm,19.0s,MS4.9			LR	LR					
CM31	Chiang Mai Arr	127.19	61	ePKPdf		PKPdf	07 52 60.0	+1.8		
CM31	comp=Z,284nm,20.0s,MS5.0			LR	LR					
KMI	Kunming	127.20	51	PKP		PKPdf	07 52 53.4	-4.7		
KMI				SS	SS		08 12 01.3	-2.9		
KMI	comp=Z,256nm,40.3s,MS4.6			LR	LR					
ENH	Enshi	129.02	41	ePKPdf		PKPdf	07 53 02.1	+0.6		
ENH	comp=Z,257nm,20.0s,MS4.9			LR	LR					
GYA	Guiyang	129.41	47	PKP		PKPdf	07 53 04.0	+1.6		
GYA				PKS	PKS		07 56 39.8	+5.2		
GYA	comp=Z,140nm,7.2s			PP	PP					
GYA	comp=Z,540nm,18.5s,MS5.3			LR	LR					
MAJO	Matsushiro	136.01	9	PFAKE			07 53 20.0	+5.6		
MAJO	comp=Z,328nm,21.0s,MS5.0			LR	LR					
NWAO	Narrogin (SRO)	143.01	138	PFAKE			07 53 40.0	+18		
NWAO	comp=Z,290nm,20.0s,MS5.0			LR	LR					
MBWA	Marble Bar	151.09	122	PFAKE			07 53 50.0	+9.2		
MBWA	comp=Z,365nm,19.0s,MS5.2			LR	LR					
ASAR	Alice Springs	159.89	146	PKP		PKPdf	07 53 51.0	-1.4		
WRA	comp=Z,3.6nm,1.0s,baz=183,slow=1.2,SNR=10 Warramunga Arr	163.00	140	PKP		PKPdf	07 53 55.0	-0.6		
WRA	comp=Z,1.5nm,1.1s,baz=250,slow=1.5,SNR=5.7			PKPab		PKPab	07 54 49.7	+5.2		
WRAB	comp=Z,1.4nm,0.9s,baz=211,slow=3.4,SNR=5.1 Tennant Creek	163.01	140	PFAKE			07 54 10.0	+14		
WRAB	comp=Z,117nm,19.0s			LR	LR					
CTAO	Charters Tower	167.07	182	PFAKE			07 54 10.0	+11		
CTAO	comp=Z,350nm,19.0s			LR	LR					
PMG	Port Moresby	177.38	208	PFAKE			07 54 10.0	+6.0		
PMG	comp=Z,303nm,20.0s			LR	LR					

MOS ***24*** *07:38:00.6±0.9,39.85N×77.68E,h29km,mb5.0/63,Error ellipse: s-maj=7.8km s-min=4.6km az=121.6*

BJI ***24*** *07:38:00.5,39.95N×77.78E,h24km,mB5.1,mb4.6,ML5.1, Ms4.6,Msz4.3*

NEIC ***24*** *07:38:01.2±1.8,39.87N×77.71E,h20km±12km,mb5.0/88, MS4.8/1,Error ellipse: s-maj=6.0km s-min=3.5km az=199.0*

HRVD ***24*** *07:38:01.2±0.8,39.81N×77.99E,h31km±2km,MW4.8/41, Centroid moment Tensor Solution. LP body waves: s9,c10;Mantle waves: s41,c56; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.81±.24; Mθθ-0.42±.16; Mϕϕ-0.38±.16; Mrθ1.09±.20; Mθϕ-1.46±.10; Mϕr0.69±.18; Best double couple: M₀1.919×10¹⁶ NP1:ϕ₉187°,δ35°,λ32°. NP2:ϕ₉70°,δ73°,λ120°. Principal axes: T 1.469, Plg53°, Azm16°; N .899, Plg29°, Azm240°; P -2.368, Plg22°, Azm137°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NNC ***24*** *07:38:03.5±3.7,40.15N×77.67E,mpv5.0 Error ellipse: s-maj=23.9km s-min=17.9km az=137.0*

IDC ***24*** *07:38:04.1±3.5,39.91N×77.74E,h40km±30km,mb4.3/16, mb1 4.5/18,mb1mx4.3/23,mbtmp4.6/18,ML3.5/2,MS3.9/3, Ms1 3.9/3,ms1mx3.6/20,Error ellipse: s-maj=20.3km s-min=14.5km az=4.0*

ISC 24 07:38:02.7±0.4,39.80N±0.02×77.72E±0.03,h50km±3km, h13km±6.1km:pP-P,n308,σ1§15/325,mb4.9/116,MS4.2/18, 36C-6D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSH	Kashi	1.38	259	⇑iPG	P	07 38 26.4	+0.4
KSH				SG	S	07 38 46.0	+2.6
KSH	comp=N,18μm,0.5s			Smax			
KSH	comp=E,16μm,1.2s			Smax			
ULHL	Ulahol	2.69	336	P	P	07 38 45.5	+1.0
KZA	SNR=225 Kyzart	2.95	321	P	P	07 38 48.9	+0.7
UCH	SNR=215 Uchtor	3.43	316	P	P	07 38 55.8	+0.7
TKM2	SNR=188 Tokmak 2	3.50	334	P	P	07 38 56.9	+0.8
AAA	SNR=46 Alma-Ata	3.52	351	iPN	P	07 38 59.0	+2.7
AAA				e		07 39 41.0	
AAA	comp=Z,4μm,1.0s			pmax	pmax		
AAA	comp=N,5μm,5.0s			MLR	MLR		
AAA	comp=E,12μm,5.0s			MLR	MLR		
AAA	comp=Z,7μm,5.0s			MLR	MLR		
KBK	Karagaybulak	3.54	325	P	P	07 38 57.7	+1.1
AAK	SNR=18 Ala-Archa	3.73	320	P	P	07 39 00.1	+0.8
AAK	SNR=91 Ala-Archa	3.73	320	⇑Pn	P	07 39 00.2	+0.9
AAK	comp=Z,770nm,0.9s			⇑Lg		07 39 53.9	
AAK	comp=Z,4μm,1.2s			Pn	P	07 38 59.8	+0.5
AAK	comp=Z,4μm,0.6s Ala-Archa	3.73	320	ePn	P	07 38 58.8	-0.5
AAK				eSn	S	07 39 51.5	+9.0
FRU	Bishkek	3.83	323	⇑iPN	P	07 39 02.0	+1.4
FRU				i		07 39 56.0	
FRU	comp=Z,2μm,1.6s			pmax	pmax		
FRU	comp=Z,2μm,2.0s			pmax	pmax		
FRU	comp=E,10μm,3.0s			smax			
AML	Almayashu	3.84	309	P	P	07 39 02.0	+1.3
CHMS	SNR=1030 Chumysh	3.90	326	P	P	07 39 02.0	+0.4
EKS2	SNR=49 Erkin-Say	4.13	315	P	P	07 39 05.8	+1.0
USP	SNR=295 Ospenovka	4.23	326	P	P	07 39 06.7	+0.4
TAS	SNR=18 Tashkent	6.60	286	ePN	P	07 39 34.5	-4.9
TAS	comp=Z,60μm,1.5s			pmax	pmax		
CHCP	Chirah Chowk	7.10	212	P	P	07 39 47.3	+0.9
DLH	Dalhousie	7.38	192	eP	P	07 39 52.0	+1.7
DLH				e		07 41 18.0	
CEP	Cherat	7.57	220	⇑P	P	07 39 52.6	-0.3
MK31	Makanchi Array	7.74	24	Pn	P	07 39 53.2	-2.1
MK31	comp=Z,41nm,0.8s,baz=204,slow=12,SNR=120			⇓Lg		07 41 57.9	
MKAR	comp=Z,84nm,0.8s,baz=192,slow=14,SNR=4.0 Makanchi Array	7.74	24	iP	P	07 39 53.2	-2.2
MKAR	comp=Z,219nm,1.3s			pmax	pmax		
PONG	Pong	7.96	191	eP	P	07 39 59.0	+0.7
PONG				e		07 41 27.0	
KLP	Kalpa	8.26	177	eP	P	07 40 03.9	+1.4
KLP				e		07 41 24.0	
KLP	comp=E,578nm,0.6s			AML	AML	07 41 45.6	
KLP	comp=N,603nm,0.2s			AML	AML	07 41 47.0	
WMQ	Urumqi	8.46	58	⇑iP	P	07 40 03.8	-1.5
WMQ				AP		07 40 09.0	
WMQ				XP		07 40 13.0	
WMQ				S	S	07 41 38.5	-1.9
WMQ				XS		07 41 48.0	
WMQ				LG1		07 42 23.5	
WMQ				LG2		07 42 35.0	
WMQ	comp=Z,21nm,1.0s			AMB	AMB		
WMQ	comp=Z,137nm,5.5s			AMB	AMB		
WMQ	comp=N,414nm,1.0s			Smax			
WMQ	comp=E,405nm,1.0s			Smax			
WMQ	comp=N,2μm,4.8s			LR	LR		
WMQ	comp=E,2μm,4.2s			LR	LR		
WMQ	comp=Z,2μm,12.0s			LR	LR		
THW	Thamme Wali	8.49	216	P	P	07 40 04.1	-1.6
SMLA	Simla	8.66	183	iP	P	07 40 05.2	-2.8
SMLA				iS	S	07 41 38.2	-7.2
SBDP	Sheikh Budin	9.34	219	P	P	07 40 14.9	-2.5
DDI	Dehra Dun	9.46	178	eP	P	07 40 20.3	+1.3
LGTI	Lohaghat	10.53	168	e	P	07 40 35.0	+1.3
LGTI				e		07 42 27.5	
LGTI	Lohaghat	10.53	168	eP	P	07 40 35.0	+1.3
LGTI				eS	S	07 42 27.5	-3.7
KURK	Kurchatov	10.94	3	⇑Pn	P	07 40 35.1	-4.0
KURK	comp=Z,21nm,1.4s			⇑Lg		07 43 40.9	
KURK	comp=Z,246nm,1.6s						
KURK	Kurchatov	10.94	3	iP	P	07 40 36.4	-2.7
KURK	Kurchatov	10.94	3	eP	P	07 40 34.4	-4.7
NDI	comp=Z,31nm,1.0s New Delhi	11.10	182	e	P	07 40 36.0	-5.3
NDI				eS	S	07 42 36.5	-8.4
AYAN	Aya Nagar	11.30	183	e	P	07 40 45.6	+1.5
AYAN				eP		07 40 45.6	
KHET	Khetri	11.80	188	eP	P	07 40 48.0	-2.8
KHET				eS	S	07 42 49.7	-12
KOLN	Koldanda	12.95	156	eP	P	07 41 02.4	-3.8
KOLN	comp=Z,38nm,0.7s			eS	S	07 43 21.3	-8.3
GKN	Gorkha	13.09	152	eP	P	07 41 04.8	-3.2
KKN	comp=Z,38nm,0.5s Kakani	13.52	150	eP	P	07 41 10.4	-3.2
KKN	comp=Z,62nm,0.6s			eS	S	07 43 35.2	-7.9
AJM	Ajmer	13.53	192	⇑i	P	07 41 09.0	-4.8
AJM				i		07 43 33.0	
DMN	Daman	13.62	151	eP	P	07 41 12.1	-2.8
DMN	comp=Z,61nm,0.8s			eS	S	07 43 37.8	-7.6
PKI	Pulchoki	13.76	150	eP	P	07 41 13.2	-3.6
PKI	comp=Z,66nm,0.4s			eS	S	07 43 41.1	-7.9
JIRN	Jiri	14.00	147	eP	P	07 41 16.9	-3.0
JIRN	comp=Z,84nm,0.5s			eS	S	07 43 46.0	-8.5
BVA0	Borovoye Array	14.15	342	⇑Pn	P	07 41 19.6	-2.2
BVA0	comp=Z,3.1nm,0.8s,baz=155,slow=13,SNR=99			⇑Lg		07 45 17.5	
BVA0	comp=Z,43nm,1.4s Borovoye Array	14.15	342	iP	P	07 41 19.5	-2.2
BVAR	Borovoye Array	14.15	342	Pn	P	07 41 17.6	-4.1
BVAR	comp=Z,0.4nm,0.3s,baz=156,slow=13,SNR=16			Lg		07 45 15.6	
CHKZ	comp=Z,0.7nm,0.3s,baz=155,slow=24,SNR=3.8 Chkalovo	14.70	343	⇑Pn	P	07 41 26.9	-2.0
CHKZ	comp=Z,7.2nm,0.8s			⇑Lg		07 45 34.8	
CHKZ	comp=Z,200nm,1.4s Chkalovo	14.70	343	P	P	07 41 29.5	+0.6
CHKZ	comp=Z,6.0nm,0.8s			pmax	pmax		
LSA	Lhasa	14.93	128	eP	P	07 41 30.9	-1.1
LSA	comp=Z,17nm,0.8s			pmax	pmax		
LSA	Lhasa	14.93	128	eP	P	07 41 30.9	-1.1
ZAL	comp=Z,17nm,0.8s Zalesovo	14.94	16	Pn	P	07 41 28.6	-3.4
ZAL	comp=Z,0.4nm,0.3s,baz=262,slow=12,SNR=23			Lg		07 45 42.2	
ZAL	comp=Z,0.5nm,0.3s,baz=175,slow=19,SNR=2.2 Zalesovo	14.94	16	Pn	P	07 41 28.6	-3.4
ZAL				Lg		07 45 42.2	
NVS	Novosibirsk	15.50	12	iP	P	07 41 38.3	-0.9
NVS				iS	S	07 44 19.4	-10
NVS	comp=Z,39nm,1.3s			pmax	pmax		
NVS	comp=N,40nm,1.2s			pmax	pmax		
NVS	comp=E,10.0nm,1.3s			pmax	pmax		
NVS	comp=N,25nm,1.7s			smax			
NVS	comp=E,95nm,1.2s			smax			
BHPL	Bhopal	16.51	181	eP	P	07 41 52.0	-0.2
BHPL	comp=Z,38nm,0.6s			e		07 41 55.3	
BHPL	comp=Z,38nm,0.6s			e		07 41 55.3	
BHPL				e		07 44 40.6	
GTA	Gaotai	17.03	84	eP	P	07 41 56.6	-2.0
GTA				AP		07 42 01.3	
GTA				XP		07 42 05.3	
GTA				PP	PP	07 42 10.0	-3.3
GTA				S	S	07 45 10.1	+5.2
GTA	comp=Z,33nm,1.1s			AMB	AMB		
GTA	comp=Z,95nm,4.2s			AMB	AMB		
GTA	comp=N,861nm,15.6s			LR	LR		
GTA	comp=E,1μm,10.6s			LR	LR		
GTA	comp=Z,1μm,9.9s			LR	LR		
BLSP	Bilaspur	18.01	167	e	P	07 42 04.1	-6.9
BLSP	comp=Z,19nm,0.3s			e		07 42 04.6	
BLSP				e		07 45 18.2	
MOY	Mondy	20.02	46	eP	P	07 42 36.7	+3.0
MOY	comp=Z,31nm,2.1s			pmax	pmax		
SVE	Sverdlovsk	20.38	332	⇓eP	P	07 42 36.7	-0.8
SVE				e		07 43 11.5	
SVE	comp=Z,40nm,1.5s			pmax	pmax		
SVE	comp=N,500nm,12.0s,MS4.2			MLR	MLR		
SVE	comp=E,500nm,12.0s,MS4.2			MLR	MLR		
SVE	comp=Z,1μm,12.0s,MS4.4			MLR	MLR		
ZAK	Zakamensk	20.82	51	eP	P	07 42 42.4	+0.4
ZAK	comp=Z,18nm,1.5s			pmax	pmax		
ARU	Arti	20.87	329	⇓iP	P	07 42 42.2	-0.3
ARU				e		07 43 02.8	
ARU				eS	S	07 46 33.2	+5.8
ARU				eSS	SS	07 46 55.2	-6.3
ARU	comp=Z,38nm,1.2s			pmax	pmax		
ARU	Arti	20.87	329	eP	P	07 42 41.3	-1.2
LZH	comp=Z,39nm,1.0s Lanzhou	20.91	92	P	P	07 42 43.0	-0.1
LZH				AP		07 42 54.0	
LZH				XP		07 42 58.1	
LZH	comp=Z,60nm,1.5s			AMB	AMB		
LZH	comp=Z,510nm,5.3s			AMB	AMB		
LZH	comp=E,1μm,11.7s			LR	LR		
LZH	comp=Z,2μm,18.7s			LR	LR		
POO	Poona	21.46	190	eP	P	07 42 48.5	-0.2
POO				i		07 46 44.0	
TLY	Talaya	21.52	48	eP	P	07 42 53.9	+4.8
TLY				eS	S	07 46 40.4	+0.8
TLY				pmax	pmax		

comp=Z,16nm,1.4s,mb4.3
TLY MLR MLR

comp=Z,219nm,11.0s,MS3.8
TLY Talaya 21.52 48 *e*P **P 07 42 51.8 +2.7**
comp=Z,6.5nm,0.8s,mb4.1
IRK Irkutsk 22.10 47 *e*P **P 07 42 56.4 +1.6**
IRK pmax pmax

comp=Z,75nm,1.8s,mb4.8
SONM Songino Array 22.10 59 P **P 07 42 55.9 +1.0**
comp=Z,12nm,0.8s,mb4.4,baz=263,slow=8.2,SNR=28
SONM Lg 07 49 27.2

comp=Z,1.6nm,1.2s,baz=243,slow=12,SNR=2.5
SONM LR LR 07 53 02.1

comp=Z,391nm,18.2s,MS3.9,baz=209,slow=41
HYB Hyderabad 22.31 178 *e*P **P 07 43 01.0 +3.8**
HYB *e*S **S 07 46 58.0 +3.6**
HYB Hyderabad 22.31 178 *i* P **P 07 43 01.0 +3.8**
HYB *e*S **S 07 46 58.0 +3.6**
ULN Ulaanbaatar 22.54 59 *e*P **P 07 43 00.7 +1.5**
ULN pmax pmax

comp=Z,15nm,0.8s,mb4.5
ULN Ulaanbaatar 22.54 59 *e*P **P 07 43 00.7 +1.5**
comp=Z,14nm,0.8s,mb4.5
KAD Karad 22.62 189 *e* **P 07 42 58.7 -1.6**
KAD *e* 07 43 03.0

comp=Z,29nm,0.9s
KAD *e* 07 43 03.0

comp=Z,29nm,0.9s
CD2 Chengdu 22.95 105 P **P 07 43 06.8 +3.4**
CD2 AMB AMB

comp=Z,10.0nm,0.8s,mb4.3
WBK Wadi Bani Khal 23.39 228 ⇑P **P 07 43 10.6 +2.9**
ASHO Ashiyiah 23.64 237 P **P 07 43 11.9 +1.8**
SNR=6.0
JMDO Jabal Madar 24.08 230 P **P 07 43 15.5 +1.1**
SNR=5.8
ARQ Araqi 24.31 234 P **P 07 43 18.7 +2.0**
SNR=15
BTO Baotou 24.61 78 *e*P **P 07 43 22.0 +2.6**
BTO AMB AMB

comp=Z,27nm,1.7s,mb4.5
GNI Garni 25.20 281 P **P 07 43 26.5 +1.5**
GNI pmax pmax

comp=Z,17nm,0.7s
GNI Garni 25.20 281 P **P 07 43 26.5 +1.5**
comp=Z,17nm,0.7s,mb4.7,baz=335,slow=2.9,SNR=16
GNI Garni 25.20 281 *e*P **P 07 43 26.6 +1.6**
comp=Z,60nm,1.0s,mb5.1
XAN Xi'an 25.52 93 P **P 07 43 29.6 +1.5**
XAN AP pP 07 43 34.4 -6.2
XAN S **S 07 47 57.1 +7.6**
XAN AMB AMB

comp=Z,27nm,1.0s,mb4.7
XAN LR LR

comp=E,629nm,14.7s
XAN LR LR

comp=Z,680nm,16.4s,MS4.2
HHC Hu-ho-hao-te 25.73 77 *e*P **P 07 43 31.8 +1.8**
HHC XP sP 07 43 43.3 -5.3
HHC PP PP 07 44 13.1 +1.8
HHC S **S 07 47 57.8 +4.8**
HHC XS 07 48 10.3
HHC SS SS 07 49 01.5 +1.4
HHC PCS 07 50 40.5
HHC AMB AMB

comp=Z,24nm,0.9s,mb4.7
HHC LR LR

comp=N,507nm,14.9s,MS4.2
HHC LR LR

comp=E,293nm,15.5s,MS4.2
HHC LR LR

comp=Z,419nm,23.2s
GOF Gofitskoye 26.01 293 ⇓*i*P **P 07 43 35.5 +3.0**
GOF pmax pmax

comp=Z,22nm,1.3s,mb4.5
KIV Kislovodsk 26.29 291 ⇓*e*P **P 07 43 35.3 +0.1**
KIV pmax pmax

comp=Z,9.0nm,0.7s,mb4.4
KIV MLR MLR

comp=Z,200nm,16.0s,MS3.8
KIV Kislovodsk 26.29 291 P **P 07 43 35.4 +0.2**
comp=Z,10nm,0.7s,mb4.5
ENH Enshi 27.57 100 *e*P **P 07 43 48.5 +1.5**
comp=Z,19nm,1.1s,mb4.6
SOC Sochi 28.46 290 *e*P **P 07 43 53.2 -1.7**
SOC *e*PPP PPP 07 44 50.8 -10
SOC *e* 07 47 05.1
SOC *e*S **S 07 48 38.0 +0.7**
SOC *e*SS SS 07 49 56.5 -8.5
SOC *e*SSS SSS 07 50 17.2 -7.6
SOC pmax pmax

comp=Z,14nm,0.8s,mb4.6
SOC pmax pmax

comp=N,19nm,0.7s
SOC pmax pmax

comp=E,9.0nm,0.9s
SOC MLR MLR

comp=Z,262nm,12.0s,MS4.0
SOC MLR MLR

comp=N,239nm,15.0s,MS4.1
SOC MLR MLR

comp=E,229nm,13.0s,MS4.1
VRSR Storozhevoye 28.99 306 *e*P **P 07 43 58.4 -1.1**
VRSR pmax pmax

comp=Z,20nm,1.4s,mb4.7
VRSR pmax pmax

comp=N,5.0nm,0.5s
VRSR pmax pmax

comp=E,20nm,0.9s
BJI Beijing 29.34 77 *e*P **P 07 44 02.6 -0.2**
BJI S **S 07 48 57.4 +6.1**
BJI AMB AMB

comp=Z,4.0nm,0.9s,mb4.2
BJI LR LR

comp=N,659nm,17.9s,MS4.4
BJI LR LR

comp=E,605nm,20.7s,MS4.4
BJI LR LR

comp=Z,508nm,20.3s,MS4.1
BOD Bodaibo 29.43 40 *e*P **P 07 44 01.5 -1.9**
MALT Malatya 30.39 280 *e*P **P 07 44 11.6 -0.5**
MALT pmax pmax

comp=Z,34nm,1.1s,mb5.0
MALT Malatya 30.39 280 *e*P **P 07 44 11.6 -0.5**
comp=Z,34nm,1.1s,mb5.0
WHN Wuhan 31.15 96 *e*P **P 07 44 20.5 +1.6**
OBN Obninsk 31.23 313⇑*e*P **P 07 44 18.6 -0.7**
OBN *e* 07 47 12.5
OBN *e*S **S 07 49 25.6 +4.7**
OBN *e*SS SS 07 51 09.6 +0.2
OBN pmax pmax

comp=Z,7.0nm,0.5s,mb4.8
OBN MLR MLR

comp=Z,500nm,15.0s,MS4.3
BOYT Boyabat 32.31 287 *i* P **P 07 44 29.4 +0.4**
CTKT Corum 32.56 286 *i* P **P 07 44 29.4 -1.8**
COBT Iskenderun 32.56 278 *i* P **P 07 44 32.1 +0.9**
ELDT Eldivan 33.60 286 *i* P **P 07 44 41.3 +1.2**
BRTR Keskin Array B 33.63 284 P **P 07 44 41.0 +0.6**
BRTR pmax pmax

comp=Z,25nm,0.7s
BRTR Keskin Array B 33.63 284 P **P 07 44 41.0 +0.6**
comp=Z,25nm,0.7s,mb5.3,baz=92,slow=8.2,SNR=113
ASF Jabal al Asfar 33.67 270 P **P 07 44 41.9 +1.1**
comp=Z,2.2nm,0.3s,mb4.5,baz=281,slow=2.5,SNR=4.4
ASF LR LR 07 59 44.7

comp=Z,161nm,19.0s,MS3.8,baz=22,slow=39
NJ2 Nanjing 33.96 90 *e*P **P 07 44 44.0 +0.7**
NJ2 AP pP 07 44 51.5 -4.9
NJ2 XP sP 07 44 54.9 -7.8
NJ2 PP PP 07 45 58.1 0.0
NJ2 PPP PPP 07 46 15.1 -1.1
NJ2 S **S 07 50 08.0 +4.3**
NJ2 XS 07 50 20.0
NJ2 AMB AMB

comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB

comp=Z,300nm,4.9s
NJ2 LR LR

comp=N,810nm,17.4s
NJ2 LR LR

comp=E,530nm,11.5s
NJ2 LR LR

comp=Z,310nm,13.7s,MS4.2
CN2 Changchun 35.41 68 *e*P **P 07 44 56.0 +0.4**
CN2 S **S 07 50 28.0 +1.9**
CN2 AMB AMB

comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB

comp=Z,200nm,3.0s
CN2 LR LR

comp=N,400nm,16.0s,MS4.3
CN2 LR LR

comp=E,200nm,16.0s,MS4.3
CN2 LR LR

comp=Z,300nm,17.0s,MS4.1
JOF Joensuu 35.91 326 *e*p **P 07 44 59.3 -0.3**
comp=Z,5.0nm,0.8s,mb4.5
JOF Joensuu 35.91 326 *e*P **P 07 44 59.3 -0.3**
JOF pmax pmax

comp=Z,5.0nm,0.8s,mb4.5
SSE Sheshan 36.16 90 P **P 07 45 01.6 -0.5**
SSE XP sP 07 45 14.3 -7.2
SSE PP PP 07 46 23.3 -2.4
SSE S **S 07 50 39.4 +1.7**
SSE XS 07 50 55.5
SSE AMB AMB

comp=Z,26nm,0.8s,mb5.2
SSE AMB AMB

comp=Z,216nm,5.6s
SSE LR LR

comp=N,155nm,28.1s,MS3.8
SSE LR LR

comp=E,172nm,28.1s,MS3.8
SSE LR LR

comp=Z,164nm,16.3s
LVZ Lovozero 36.57 334 *e*P **P 07 45 09.0 +3.8**
LVZ *e*S ScS 07 55 13.2 -1.2
LVZ smax

comp=N,274nm,12.6s
FINES FINESS Array B 37.92 322 P **P 07 45 16.7 +0.2**
FINES pmax pmax

comp=Z,4.0nm,0.7s
FINES FINESS Array B 37.92 322 P **P 07 45 16.7 +0.2**
comp=Z,3.8nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=6.2
YAK Yakutsk 38.18 37 *e*P **P 07 45 19.1 +0.4**
YAK pmax pmax

comp=E,12nm,1.3s
YAK pmax pmax

comp=Z,11nm,1.3s,mb4.4
YAK Yakutsk 38.18 37 *e*P **P 07 45 19.2 +0.5**
MDJ Mudanjiang 38.19 65 P **P 07 45 18.1 -0.8**
MDJ AP pP 07 45 24.3 -7.8
MDJ XP sP 07 45 26.8 -11
MDJ PP PP 07 46 45.3 -4.8
MDJ PCP PcP 07 47 32.8 -0.5
MDJ S **S 07 51 07.8 -0.7**
MDJ AMB AMB

comp=Z,11nm,2.1s,mb4.2
MDJ LR LR

comp=N,465nm,11.8s,MS4.5
MDJ LR LR

comp=E,213nm,14.0s,MS4.5
MDJ LR LR

comp=Z,347nm,10.8s,MS4.4
KS15 Wonju Array Si 38.85 77 P **P 07 45 25.4 +0.9**
KLR Kul'dur 38.91 58 *e*P **P 07 45 25.2 +0.3**
KLR MLR MLR

comp=E,500nm,12.5s
KLR MLR MLR

comp=Z,900nm,12.5s,MS4.8
KWP Kalwaria 39.50 303 P **P 07 45 30.0 +0.2**
ARCES ARCESS Array B 40.29 335 P **P 07 45 37.2 +1.1**
ARCES pmax pmax

comp=Z,11nm,0.7s
ARCES ARCESS Array B 40.29 335 P **P 07 45 37.2 +1.1**
comp=Z,11nm,0.7s,mb4.7,baz=97,slow=7.3,SNR=12
ARE0 ARCESS Array S 40.29 335 P **P 07 45 37.3 +1.2**
TIXI Tiksi 40.73 22 *e*P **P 07 45 38.7 -1.0**
TIXI pmax pmax

comp=Z,17nm,0.8s,mb4.7
TIXI MLR MLR

comp=Z,414nm,12.0s,MS4.5
NIE Niedzica 41.08 303 *e*P **P 07 45 41.8 -1.0**
OJC Ojcow 41.29 304 *e*P **P 07 45 44.8 +0.3**
VYHS Vyhne 42.20 302 *e*P **P 07 45 51.8 -0.1**
GVD Gavdhos 42.41 281 *e*P **P 07 45 53.7 -0.2**
comp=Z,124nm,0.8s,mb5.6
MORC Moravsky Berou 42.80 304 *e*P **P 07 45 57.2 +0.4**
MORC pmax pmax

comp=Z,7.0nm,0.9s,mb4.4
MORC Moravsky Berou 42.80 304 *e*P **P 07 45 57.2 +0.3**
comp=Z,7.1nm,0.9s,mb4.4
KSP Ksiaz 43.40 306 *e*P **P 07 46 01.7 0.0**
KSP *e* 07 47 43.0
DPC Dobruska-Polom 43.47 305 *e*P **P 07 46 03.3 +1.0**
UPC Upice 43.63 305 *e*P **P 07 46 04.3 +0.7**
HFS Hagfors 43.88 320 P **P 07 46 05.1 -0.4**
HFS pmax pmax

comp=Z,3.0nm,0.7s
HFS Hagfors 43.88 320 P **P 07 46 05.1 -0.4**
comp=Z,3.0nm,0.7s,mb4.1,baz=90,slow=10,SNR=3.8
PRU Pruhonice 44.66 305 *e*P **P 07 46 12.8 +0.9**
BRG Berggiesshubel 44.85 306 *e*P **P 07 46 14.2 +0.8**
BRG pmax pmax

comp=Z,11nm,1.0s,mb4.6
BRG MLR MLR

comp=N,620nm,19.3s,MS4.7
BRG MLR MLR

comp=E,700nm,19.3s,MS4.7
BRG MLR MLR

comp=Z,1μm,19.3s,MS4.8
BRG Berggiesshubel 44.85 306 *e*P **P 07 46 14.2 +0.8**
comp=Z,11nm,1.0s,mb4.7
BRG *e*S tx 07 52 02.0
BRG LR LR

comp=Z,1μm,19.3s,MS4.8
NB2 NORSAR Subarra 45.06 321 P **P 07 46 14.3 -0.6**
comp=Z,7.6nm,0.9s,mb4.5,baz=87,slow=7.9
NB2 NORSAR Subarra 45.06 321 P **P 07 46 14.3 -0.6**
NB2 pmax pmax

comp=Z,8.0nm,0.9s,mb4.5
NOA NORSAR Array B 45.06 321 P **P 07 46 14.5 -0.4**
NOA pmax pmax

comp=Z,5.0nm,0.8s
NOA NORSAR Array B 45.06 321 P **P 07 46 14.5 -0.4**
comp=Z,4.6nm,0.8s,mb4.3,baz=88,slow=7.8,SNR=8.7
NAO01 NORSAR Array S 45.23 321 *e*P **P 07 46 13.7 -2.6**
comp=Z,5.7nm,0.8s,mb4.5
CLL Collm 45.35 307 *i* P **P 07 46 17.5 +0.1**
CLL *i* 07 46 21.4
CLL pmax pmax

comp=Z,22nm,1.2s,mb4.9
CLL Collm 45.35 307 *i* P **P 07 46 17.5 +0.1**
comp=Z,22nm,1.2s,mb4.9
CLL *i* 07 46 21.4
CLL Collm 45.35 307 P **P 07 46 17.5 +0.1**
comp=Z,logA/T=1.3,mb4.9
CLL *i* *PP pP 07 46 21.4 -9.4
GERES GERESS Array B 45.45 304 P **P 07 46 18.7 +0.5**
GERES pmax pmax

comp=Z,7.0nm,0.7s
GERES GERESS Array B 45.45 304 P **P 07 46 18.7 +0.5**
comp=Z,6.9nm,0.7s,mb4.6,baz=70,slow=7.8,SNR=27
KHC Kasperske Hory 45.46 304 *e*P **P 07 46 18.9 +0.6**
KONO Kongsberg 45.97 319 *e*P **P 07 46 21.2 -1.0**
KONO pmax pmax

comp=Z,14nm,1.3s,mb4.7
KONO Kongsberg 45.97 319 *e*P **P 07 46 21.2 -1.0**
comp=Z,14nm,1.3s,mb4.7
TIP Timpagrande 46.23 290 *e*P **P 07 46 24.5 -0.1**
GRA1 Grafenberg Arr 46.82 305 *e*P **P 07 46 29.9 +0.9**
comp=Z,34nm,1.1s,mb5.2
GRF Grafenberg Arr 46.82 305 *e*P **P 07 46 29.9 +0.9**
GRF pmax pmax

comp=Z,34nm,1.1s,mb5.2
AQU L'Aquila 47.52 295 P **P 07 46 36.1 +1.5**
AQU pmax pmax

comp=Z,32nm,1.1s,mb5.3
AQU L'Aquila 47.52 295 P **P 07 46 36.1 +1.5**
comp=Z,32nm,1.1s,mb5.3
MA2 Magadan 48.46 41 *e*P **P 07 46 44.2 +2.5**
MA2 *e* 07 48 29.7
MA2 pmax pmax

comp=Z,7.0nm,1.3s,mb4.5
MA2 Magadan 48.46 41 P **P 07 46 43.9 +2.2**
comp=Z,8.0nm,0.9s,mb4.8
CDF Champ du Feu 49.67 305⇑*i*P **P 07 46 51.1 -0.1**
comp=Z,37nm,1.2s,mb5.0
CDF Champ du Feu 49.67 305⇑*i*P **P 07 46 51.1 -0.1**
CDF pmax pmax

comp=Z,19nm,1.2s,mb5.0
HINF Hinteralfeld 50.12 304 *e*P **P 07 46 54.6 -0.1**
comp=Z,27nm,0.9s,mb5.0
HAU Haudompre 50.38 304⇑*i*P **P 07 46 56.5 -0.2**
comp=Z,37nm,1.1s,mb5.0
HAU Haudompre 50.38 304⇑*i*P **P 07 46 56.5 -0.2**
HAU pmax pmax

comp=Z,19nm,1.1s,mb5.0
PGF Pioggiola 50.50 297 *e*P **P 07 46 58.8 +1.2**
comp=Z,67nm,1.2s,mb5.2
PGF Pioggiola 50.50 297 *e*P **P 07 46 58.8 +1.2**
PGF pmax pmax

comp=Z,34nm,1.2s,mb5.2
GIVF Givet 50.68 307 *e*P **P 07 46 58.3 -0.6**
LPG La Plagne 50.96 301 *e*P **P 07 47 01.7 +0.7**
comp=Z,46nm,1.2s,mb5.0
LPG La Plagne 50.96 301 *e*P **P 07 47 01.7 +0.7**
LPG pmax pmax

comp=Z,23nm,1.2s,mb5.0
LPL La Plagne 50.97 301 *e*P **P 07 47 01.6 +0.5**
comp=Z,52nm,1.2s,mb5.0
LPL La Plagne 50.97 301 *e*P **P 07 47 01.6 +0.5**
LPL pmax pmax

comp=Z,26nm,1.2s,mb5.0
CABF La Chapelle 51.01 303 *e*P **P 07 47 01.3 -0.1**
comp=Z,26nm,1.1s,mb4.8
CABF La Chapelle 51.01 303 *e*P **P 07 47 01.3 -0.1**
CABF pmax pmax

comp=Z,13nm,1.1s,mb4.8
MEZF Maizieres J'vi 51.05 305 *e*P **P 07 47 01.9 +0.3**
BAIF Baives 51.07 307 *e*P **P 07 47 01.3 -0.5**
BNI Bardonecchia 51.16 301 *e*P **P 07 47 02.5 -0.1**
BNI pmax pmax

comp=Z,24nm,1.2s,mb5.0
BNI Bardonecchia 51.16 301 *e*P **P 07 47 02.5 -0.1**
comp=Z,24nm,1.2s,mb5.0
MBDF Montbardon 51.22 300 *e*P **P 07 47 03.9 +0.9**
VSL Villasalto 51.40 293 P **P 07 47 03.5 -1.0**
comp=Z,22nm,1.0s,mb5.0
ORIF Oris-en-Rattie 51.74 301 *e*P **P 07 47 07.1 +0.2**
SMRF Simiane la Rot 52.29 300 *e*P **P 07 47 11.2 +0.1**
comp=Z,26nm,1.1s,mb4.8
SMF Signal de Mont 52.45 303⇑*i*P **P 07 47 11.7 -0.5**
comp=Z,65nm,1.2s,mb5.1
SMF Signal de Mont 52.45 303⇑*i*P **P 07 47 11.7 -0.5**
SMF pmax pmax

comp=Z,33nm,1.2s,mb5.1
SSF Saint Saulge 52.52 304⇑*i*P **P 07 47 12.1 -0.6**
SSF pmax pmax

comp=Z,18nm,1.1s,mb4.9
SSF Saint Saulge 52.52 304⇑*i*P **P 07 47 12.1 -0.6**
comp=Z,18nm,1.1s,mb4.9
VIVF Saint-Julien-l 52.56 301 *e*P **P 07 47 13.0 -0.1**
comp=Z,19nm,0.8s,mb4.8
VIVF Saint-Julien-l 52.56 301 *e*P **P 07 47 13.0 -0.1**
VIVF pmax pmax

comp=Z,9.0nm,0.8s,mb4.8
AVF Avril sur Loir 52.71 304⇑*i*P **P 07 47 13.7 -0.5**
comp=Z,69nm,1.0s,mb5.2
AVF Avril sur Loir 52.71 304⇑*i*P **P 07 47 13.7 -0.5**
AVF pmax pmax

comp=Z,34nm,1.0s,mb5.2
BGF Bois d'Agland 53.12 304 *e*P **P 07 47 16.8 -0.5**
BILL Bilibino 53.27 28 *e*P **P 07 47 18.4 +0.3**
BILL pmax pmax

comp=Z,7.0nm,0.9s,mb4.6
BILL Bilibino 53.27 28 *e*P **P 07 47 18.4 +0.4**
comp=Z,6.8nm,0.9s,mb4.6
LASF Ste Croix 53.40 300 *e*P **P 07 47 19.5 +0.2**
TCF Toulx Ste Croi 53.63 304⇑*i*P **P 07 47 20.9 -0.1**
comp=Z,29nm,1.0s,mb4.9
TCF Toulx Ste Croi 53.63 304⇑*i*P **P 07 47 20.9 -0.1**
TCF pmax pmax

comp=Z,15nm,1.0s,mb4.9
ESK Eskdalemuir 53.66 316 P **P 07 47 21.0 -0.1**
ESK pmax pmax

comp=Z,31nm,1.2s,mb5.1
ESK Eskdalemuir 53.66 316 P **P 07 47 20.9 -0.2**
comp=Z,31nm,1.2s,mb5.1
LDF La Druitiere 54.23 307 *e*P **P 07 47 24.6 -0.8**
comp=Z,18nm,0.6s,mb4.8
LDF La Druitiere 54.23 307 *e*P **P 07 47 24.6 -0.8**
LDF pmax pmax

comp=Z,9.0nm,0.6s,mb4.9
CAF Calviac 54.25 302 *e*P **P 07 47 25.8 +0.2**
comp=Z,16nm,0.9s,mb4.6
CAF Calviac 54.25 302 *e*P **P 07 47 25.8 +0.2**
CAF pmax pmax

comp=Z,8.0nm,0.9s,mb4.7
FLN La Foliniere 54.39 307 *e*P **P 07 47 25.7 -0.9**
RJF Les Rejaudoux 54.46 303 *e*P **P 07 47 27.3 +0.2**
EJON La Jonquera 54.70 299 P **P 07 47 27.4 -1.5**
comp=Z,31nm,1.0s,mb5.3
GRR Gorron 54.77 307⇑*i*P **P 07 47 28.4 -0.9**
comp=Z,52nm,1.0s,mb5.2
GRR Gorron 54.77 307⇑*i*P **P 07 47 28.4 -0.9**
GRR pmax pmax

comp=Z,26nm,1.0s,mb5.2
MTLF Montolieu 54.78 300 *e*P **P 07 47 29.4 -0.1**
KMBO Kilima Mbogo 55.00 232 P **P 07 47 32.5 +1.0**
KMBO pmax pmax

comp=Z,14nm,1.1s
KMBO Kilima Mbogo 55.00 232 P **P 07 47 32.5 +1.0**
comp=Z,14nm,1.1s,mb4.9,baz=25,slow=9.9,SNR=7.3
KMBO Kilima Mbogo 55.00 232 *e*P **P 07 47 31.6 +0.1**
comp=Z,18nm,1.2s,mb5.0
MFF Saint Martin d 55.01 305⇑*i*P **P 07 47 30.3 -0.8**
comp=Z,34nm,1.1s,mb5.0
MFF Saint Martin d 55.01 305⇑*i*P **P 07 47 30.3 -0.8**
MFF pmax pmax

comp=Z,17nm,1.1s,mb5.0
LFF La Frestale 55.11 302 *e*P **P 07 47 32.0 +0.2**
EMIR Miracle 55.84 299 P **P 07 47 36.7 -0.4**
comp=Z,33nm,0.9s,mb5.4
SGMF Saint Gilles 55.86 307⇑*i*P **P 07 47 36.7 -0.5**
comp=Z,72nm,1.1s,mb5.3
SGMF Saint Gilles 55.86 307⇑*i*P **P 07 47 36.7 -0.5**
SGMF pmax pmax

comp=Z,36nm,1.1s,mb5.3
ETOS Mallorca 55.89 296 P **P 07 47 37.8 +0.2**
comp=Z,29nm,0.8s,mb5.4
ROSF Rostrenen 56.27 308 *e*P **P 07 47 39.5 -0.6**
comp=Z,74nm,1.1s,mb5.3
ROSF Rostrenen 56.27 308 *e*P **P 07 47 39.5 -0.6**
ROSF pmax pmax

comp=Z,37nm,1.1s,mb5.3
QUIF Quistinic 56.37 307 *e*P **P 07 47 40.1 -0.8**
EPOB Poblet 56.38 298 P **P 07 47 39.9 -1.1**
comp=Z,13nm,0.9s,mb5.0
EBIE Bielsa 56.44 300 P **P 07 47 41.0 -0.5**
comp=Z,15nm,0.7s,mb5.1
ETSF Etsaut 56.81 301 *e*P **P 07 47 44.2 +0.1**
comp=Z,43nm,1.3s,mb5.0
ETSF Etsaut 56.81 301 *e*P **P 07 47 44.2 +0.1**
ETSF pmax pmax

comp=Z,22nm,1.3s,mb5.0
SJPF Ste Jean 57.16 301 *e*P **P 07 47 46.0 -0.6**
comp=Z,12nm,0.9s,mb4.6
SJPF Ste Jean 57.16 301 *e*P **P 07 47 46.0 -0.6**
SJPF pmax pmax

comp=Z,6.0nm,0.9s,mb4.6
EALK Alkurruntz 57.30 301 P **P 07 47 46.7 -0.9**
comp=Z,15nm,0.8s,mb5.1
EMOS Mosqueruela 57.88 298 P **P 07 47 50.8 -0.8**
comp=Z,30nm,1.1s,mb5.2
ELAN Lanestosa 58.55 302 P **P 07 47 56.0 -0.2**
comp=Z,38nm,1.1s,mb5.3
MBAR Mbarara 58.74 239 *e*P **P 07 47 57.0 -1.0**
MBAR pmax pmax

comp=Z,5.0nm,0.7s,mb4.7
MBAR Mbarara 58.74 239 *e*P **P 07 47 57.0 -1.0**
comp=Z,5.3nm,0.7s,mb4.7
ETOB Tobarra 59.41 297 P **P 07 48 02.2 -0.1**
comp=Z,15nm,1.3s,mb4.9
CART Cartagena 59.54 295 *e*P **P 07 48 00.8 -2.4**
comp=Z,41nm,1.0s,mb5.4
EMUR La Murta 59.59 296 P **P 07 48 03.8 +0.3**
comp=Z,16nm,0.7s,mb5.2
SUMG Summit 59.63 342 *e*P **P 07 48 03.1 -0.3**
EARI Arriondas 59.68 303 P **P 07 48 04.5 +0.4**
comp=Z,324nm,3.0s
EVIA Vianos 60.07 297 P **P 07 48 07.3 +0.4**
EVIA pmax pmax

comp=Z,18nm,0.8s,mb5.2
EVIA Vianos 60.07 297 P **P 07 48 07.3 +0.4**

comp=Z,18nm,0.8s,mb5.2
ESDC Sonseca Array 60.57 299 P **P** 07 48 09.7 -0.5
comp=Z,4.4nm,0.7s,mb4.7,baz=58,slow=7.2,SNR=25
ESDC Sonseca Array 60.57 299 P **P** 07 48 09.9 -0.4
comp=Z,2.9nm,0.6s,mb4.6
ESLA Sonseca Array 60.57 299 *e*P **P** 07 48 09.6 -0.6
comp=Z,3.6nm,1.0s,mb4.5
EQES Quesada 60.87 296 P **P** 07 48 11.3 -1.0
comp=Z,301nm,3.0s
EPON Pontenova 60.91 304 P **P** 07 48 11.8 -0.7
comp=Z,73nm,1.5s,mb5.6
EBAN Banos Encina 61.19 297 P **P** 07 48 13.5 -0.9
EBAN pmax pmax
comp=Z,5.0nm,0.5s,mb4.9
EBAN Banos Encina 61.19 297 P **P** 07 48 13.5 -0.9
comp=Z,4.8nm,0.5s,mb4.9
EBER Berja 61.19 295 P **P** 07 48 13.5 -1.0
comp=Z,17nm,0.8s,mb5.2
ECAL Calabor 61.31 302 P **P** 07 48 13.9 -1.3
comp=Z,46nm,1.1s,mb5.5
ERUA La Rua 61.36 303 P **P** 07 48 14.1 -1.4
ERUA pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ERUA La Rua 61.36 303 P **P** 07 48 14.1 -1.4
comp=Z,7.2nm,1.0s,mb4.8
EINC Incio 61.36 303 P **P** 07 48 14.8 -0.7
comp=Z,133nm,1.5s,mb5.8
EADA Adamuz 61.73 298 P **P** 07 48 16.6 -1.4
comp=Z,30nm,1.4s,mb5.2
ELUQ Luque 61.81 297 P **P** 07 48 17.9 -0.8
ELUQ pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
ELUQ Luque 61.81 297 P **P** 07 48 17.9 -0.8
comp=Z,10nm,0.7s,mb5.1
ELOB Lobios 62.21 303 P **P** 07 48 21.0 -0.3
comp=Z,75nm,1.3s,mb5.7
FX1 Attu Island--F 62.43 43 *e*P **P** 07 48 21.9 -0.6
EMIJ Mijas 62.67 296 P **P** 07 48 21.8 -2.6
comp=Z,22nm,1.2s,mb5.2
PVIS Viseu 62.68 301 *e*P **P** 07 48 25.0 +0.6
comp=Z,40nm,1.3s,mb5.4
EBAD Badajoz 63.08 299 P **P** 07 48 26.4 -0.7
comp=Z,10nm,0.7s,mb5.1
EJIF Jimena Fronter 63.21 296 P **P** 07 48 26.5 -1.5
EJIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
EJIF Jimena Fronter 63.21 296 P **P** 07 48 26.5 -1.4
comp=Z,4.2nm,0.6s,mb4.8
ESPR Espera 63.26 297 P **P** 07 48 26.9 -1.4
comp=Z,18nm,1.2s,mb5.1
EMIN Mina Concepcio 63.35 298 P **P** 07 48 28.1 -0.8
comp=Z,94nm,1.5s,mb5.7
TNA Tin City 63.41 25 *e*P **P** 07 48 29.1 +0.2
comp=Z,4.0nm,1.1s,mb4.5
EVO Evora 63.87 299 *e*P **P** 07 48 33.4 +1.2
comp=Z,50nm,1.4s,mb5.0
EGRO El Granado 64.03 298 P **P** 07 48 32.9 -0.4
comp=Z,23nm,1.0s,mb5.2
PBEJ Beja 64.03 299 *e*P **P** 07 48 33.5 +0.2
comp=Z,36nm,1.2s,mb5.3
PALC Alcoutim 64.06 298 *e*P **P** 07 48 34.0 +0.6
IMA Indian Mountai 67.29 20 *e*P **P** 07 48 53.5 -0.1
IMA pmax pmax
comp=Z,16nm,1.1s,mb5.0
IMA Indian Mountai 67.29 20 *e*P **P** 07 48 53.5 -0.1
comp=Z,16nm,1.1s,mb5.0
INK Inuvik 69.70 12 *e*P **P** 07 49 08.1 -0.4
INK pmax pmax
comp=Z,8.0nm,1.0s
INK Inuvik 69.70 12 P **P** 07 49 08.7 +0.2
comp=Z,5.5nm,1.0s,mb4.4,baz=342,slow=6.1,SNR=12
INK Inuvik 69.70 12 *e*P **P** 07 49 08.1 -0.4
comp=Z,7.9nm,1.0s,mb4.6
COLA College 69.74 19⇓ *e*P **P** 07 49 12.1 +3.3
MCK McKinley 70.39 20 *e*P **P** 07 49 11.5 -1.2
MCK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
MCK McKinley 70.39 20 *e*P **P** 07 49 11.5 -1.2
comp=Z,2.0nm,1.1s,mb4.0
THY Trims Highway 71.47 19 *e*P **P** 07 49 18.8 -0.5
SML Sawmill 72.11 21 *e*P **P** 07 49 22.9 -0.2
MBWA Marble Bar 72.21 139 *e*P **P** 07 49 25.4 +1.0
comp=Z,22nm,1.4s,mb4.9
KAKA Kakadu 72.85 124 *e*P **P** 07 49 29.0 +0.7
comp=Z,4.8nm,0.8s,mb4.5
FITZ Fitzroy Crossi 72.89 132 *e*P **P** 07 49 29.3 +0.9
comp=Z,5.3nm,1.2s,mb4.3
FITZ Fitzroy Crossi 72.89 132 LR LR 08 25 18.5
comp=Z,71nm,19.2s,MS4.0,baz=276,slow=39
YKW3 Yellowknife Ar 77.50 6 *e*P **P** 07 49 53.6 -0.3
YKA Yellowknife Ar 77.57 6 P **P** 07 49 54.6 +0.2
YKA pmax pmax
comp=Z,3.0nm,0.6s
YKA Yellowknife Ar 77.57 6 P **P** 07 49 54.6 +0.2
comp=Z,2.7nm,0.6s,mb4.3,baz=345,slow=5.4,SNR=44
WRA Warramunga Arr 79.48 127 P **P** 07 50 07.1 +1.4
WRA pmax pmax
comp=Z,5.0nm,0.9s
WRA Warramunga Arr 79.48 127 P **P** 07 50 07.1 +1.4
comp=Z,5.1nm,0.9s,mb4.5,baz=324,slow=5.5,SNR=47
WRAB Tennant Creek 79.48 127 *e*P **P** 07 50 06.2 +0.5
WRAB pmax pmax
comp=Z,19nm,1.3s,mb4.9
WRAB Tennant Creek 79.48 127 *e*P **P** 07 50 06.2 +0.6
comp=Z,19nm,1.3s,mb4.9
WB2 Warramunga Arr 79.48 127⇑ *i*P **P** 07 50 06.7 +1.0
DBIC Dimbokro 80.07 270 P **P** 07 50 09.2 +0.2
DBIC pmax pmax
comp=Z,3.0nm,0.6s
DBIC Dimbokro 80.07 270 P **P** 07 50 09.2 +0.2
comp=Z,2.9nm,0.6s,mb4.4,baz=36,slow=4.0,SNR=11
LBTB Lobatse 80.73 227 P **P** 07 50 13.3 +1.0
LBTB pmax pmax
comp=Z,13nm,1.3s,mb4.7
LBTB Lobatse 80.73 227 P **P** 07 50 13.2 +1.0
comp=Z,13nm,1.3s,mb4.7
TSUM Tsumeb 81.14 236 *e*P **P** 07 50 15.9 +1.5
comp=Z,16nm,1.4s,mb4.8
ASPA Alice Springs 82.03 130 *e*P **P** 07 50 20.2 +1.1
ASAR Alice Springs 82.03 130 P **P** 07 50 20.1 +1.1
comp=Z,5.7nm,0.8s,mb4.6,baz=321,slow=5.3,SNR=62
BOSA Boshof 83.75 225 *e*P **P** 07 50 28.6 +0.9
BOSA pmax pmax
comp=Z,25nm,1.6s,mb5.1
BOSA Boshof 83.75 225 *e*P **P** 07 50 28.6 +0.9
comp=Z,25nm,1.6s,mb5.1
CTA Charters Tower 87.29 119 *e*P **P** 07 50 46.8 +1.4
comp=Z,3.6nm,0.8s,mb4.7
CTA Charters Tower 87.29 119 *e*P **P** 07 50 46.8 +1.4
CTA pmax pmax
comp=Z,4.0nm,0.8s
CTAO Charters Tower 87.29 119 *e*P **P** 07 50 46.4 +1.0
CTAO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CTAO Charters Tower 87.29 119 *e*P **P** 07 50 46.4 +1.0
comp=Z,5.4nm,0.8s,mb4.8
ACSO Alum Creek Sta 98.42 345 *e*P **P** 07 51 39.9 +3.6
comp=Z,16nm,1.1s,mb5.5
GDL2 Guadalupe Moun 108.34 2 *e*P Pdif 07 52 14.6 -6.0
VNA2 Neumayer--Watz 125.49 204⇑ *i*P PKPdf 07 56 56.6 -0.7
VNA3 Neumayer Olymp 126.29 204⇑ *i*P PKPdf 07 56 57.1 -1.8
LPAZ La Paz 142.19 298 PKIKP PKPdf 07 57 34.3 +4.5
LPAZ pmax pmax
comp=Z,1.0nm,0.9s
LPAZ La Paz 142.19 298 PKP PKPdf 07 57 34.2 +4.5
comp=Z,0.9nm,0.9s,baz=86,slow=12,SNR=3.4
LVC Limon Verde 146.96 291 *e*PKPbc PKPbc 07 57 43.4 +3.9
TRQA Tornquist 148.78 260 *e*PKPbc PKPdf 07 57 47.0 +6.7
PLCA Paso Flores 155.84 257 PKIKP PKPdf 07 57 53.4 +3.0
PLCA pmax pmax
comp=Z,1.0nm,0.9s
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 155.84 257 PKP PKPdf 07 57 53.4 +3.0
comp=Z,1.1nm,0.9s,baz=272,slow=2.6,SNR=2.9
PLCA PKPab PKPab 07 58 20.2 +0.4
comp=Z,2.2nm,0.8s,baz=100,slow=3.6,SNR=7.7

*STR **24** 07:55:00.1±0.8, 46.38N×1.66E, h10km±1km, Ml3.0, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **24** 07:55:00.5, 46.36N×1.70E, h3km, ML3.1(LDG), MN2.4(MDD), After LDG.*
*LDG **24** 07:55:00.5±0.0, 46.36N×1.70E, h3km, Md3.1/4, Ml3.1/31, Error ellipse: s-maj=0.6km s-min=0.5km az=176.0*

*CSEM **24** 07:55:00.8±0.1, 46.36N×1.71E, h8km, ML3.1/29, Error ellipse: s-maj=1.1km s-min=1.0km az=164.0*
MDD 24 07:55:00.9±0.4, 46.36N×1.71E, h10km±1km, mbLg2.4/26, Error ellipse: s-maj=3.2km s-min=2.5km az=151.0, PRXIMO SIN SOLUCIN, France

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TCF	**Toulx Ste Croi**	**0.35**	**101**	*e*Pg		Pg	07 55 07.5	-0.7
TCF				*e*Sg		Sg	07 55 12.3	-0.7
	126nm,0.1s							
BGF	**Bois d'Agland**	**0.81**	**75**	*e*Pg		Pg	07 55 16.0	-1.2
BGF				*e*Sg		Sg	07 55 26.4	-1.6
BGF				*e*Sn		Sn	07 55 29.5	-0.7
	721nm,0.3s							
RJF	**Les Rejaudoux**	**1.06**	**188**	*e*Pg		Pg	07 55 20.4	-1.8
RJF				*e*Pn		Pn	07 55 20.9	-0.9
RJF				*e*Sg		Sg	07 55 34.0	-2.4
	159nm,0.3s							
RJF	**Les Rejaudoux**	**1.06**	**188**	Pg		Pg	07 55 20.4	-1.8
RJF				Lg			07 55 34.0	
	79nm,0.3s							
RJF	**Les Rejaudoux**	**1.06**	**188**	*e*Pn		Pn	07 55 20.9	-0.9
RJF				*e*Sg		Sg	07 55 34.0	-2.4
	79nm,0.3s							
HYF	**Humbligny**	**1.11**	**35**	*e*Pg		Pg	07 55 21.4	-1.8
HYF				*e*Pn		Pn	07 55 21.6	-0.9
HYF				*e*Sg		Sg	07 55 35.8	-2.3
HYF				*e*Sn		Sn	07 55 36.6	-1.3
HYF	**Humbligny**	**1.11**	**35**	Pg		Pg	07 55 21.4	-1.8
HYF				Lg			07 55 35.8	
HYF	**Humbligny**	**1.11**	**35**	*e*Pn		Pn	07 55 21.6	-0.9
HYF				*e*Sg		Sg	07 55 35.8	-2.3
HYF				*e*Sn		Sn	07 55 36.6	-1.3
AVF	**Avril sur Loir**	**1.21**	**68**	*e*Pn		Pn	07 55 23.0	-0.9
AVF				*e*Pg		Pg	07 55 23.3	-1.9
AVF				*e*Sg		Sg	07 55 38.5	-2.9
	37nm,0.3s							
AVF	**Avril sur Loir**	**1.21**	**68**	Pn		Pn	07 55 23.0	-0.9
AVF				Lg			07 55 38.5	
	18nm,0.3s							
AVF	**Avril sur Loir**	**1.21**	**68**	*e*Pg		Pg	07 55 23.3	-1.9
AVF				*e*Sg		Sg	07 55 38.5	-2.9
	18nm,0.3s							
MFF	**Saint Martin d**	**1.31**	**282**	*e*Pn		Pn	07 55 23.8	-1.5
MFF				*e*Pg		Pg	07 55 24.4	-2.7
MFF				*e*Sn		Sn	07 55 40.4	-2.5
	55nm,0.2s							
MFF				*e*Sg		Sg	07 55 41.3	-3.3
	65nm,0.2s							
MFF	**Saint Martin d**	**1.31**	**282**	Pn		Pn	07 55 23.8	-1.5
MFF				Sn		Sn	07 55 40.4	-2.5
	28nm,0.2s							
PLDF	**La Plantade**	**1.38**	**106**	Pg		Pg	07 55 27.7	-0.9
SSF	**Saint Saulge**	**1.42**	**60**	*e*Pn		Pn	07 55 25.9	-1.0
SSF				*e*Pg		Pg	07 55 27.1	-2.3
SSF				*e*Sn		Sn	07 55 44.0	-1.8
	33nm,0.2s							
SSF				*e*Sg		Sg	07 55 45.6	-2.7
	41nm,0.2s							
SSF	**Saint Saulge**	**1.42**	**60**	*e*Pg		Pg	07 55 27.1	-2.3
SSF				*e*Sn		Sn	07 55 44.0	-1.8
	17nm,0.2s							
SSF				*e*Sg		Sg	07 55 45.6	-2.7
	21nm,0.2s							
CAF	**Calviac**	**1.45**	**170**	*e*Pn		Pn	07 55 26.1	-1.3
CAF				*e*Pg		Pg	07 55 27.4	-2.6
CAF				*e*Sn		Sn	07 55 44.5	-2.1
CAF				*e*Sg		Sg	07 55 46.5	-2.8
	98nm,0.2s							
MATF	**Mathat**	**1.49**	**250**	Pg		Pg	07 55 28.7	-2.0
MATF				Sg		Sg	07 55 47.8	-2.8
SMF	**Signal de Mont**	**1.50**	**78**	*e*Pn		Pn	07 55 27.0	-1.0
SMF				*e*Pg		Pg	07 55 28.7	-2.2
SMF				*e*Sn		Sn	07 55 45.6	-2.1
SMF				*e*Sg		Sg	07 55 48.0	-2.9
	33nm,0.2s							
LBL	**Lubilhac**	**1.55**	**136**	Pn		Pn	07 55 29.0	+0.2
LBL				Pg		Pg	07 55 30.6	-1.4
LFF	**La Frestale**	**1.57**	**206**	*e*Pn		Pn	07 55 27.7	-1.4
LFF				*e*Pg		Pg	07 55 29.8	-2.6
LFF				*e*Sn		Sn	07 55 47.6	-2.0
	75nm,0.4s							
LFF				*e*Sg		Sg	07 55 50.0	-3.4
	84nm,0.4s							
COLF	**Collangettes**	**1.62**	**121**	Pg		Pg	07 55 30.8	-2.5
COLF				Sg		Sg	07 55 52.1	-2.7
LCHF	**La Chataignera**	**1.72**	**281**	Pg		Pg	07 55 32.2	-3.2
LCHF				Sg		Sg	07 55 54.0	-4.4
LDF	**La Druitiere**	**2.56**	**332**	*e*Pn		Pn	07 55 41.3	-1.9
LDF				*e*Pg		Pg	07 55 48.3	-3.8
LDF				*e*Sn		Sn	07 56 10.8	-4.0
LDF	**La Druitiere**	**2.56**	**332**	*e*Pg		Pg	07 55 48.3	-3.8
LDF				*e*Sn		Sn	07 56 10.8	-4.0
VIVF	**Saint-Julien-l**	**2.56**	**125**	*e*Pn		Pn	07 55 41.2	-2.1
VIVF				*e*Pg		Pg	07 55 48.2	-3.6
VIVF				*e*Sg		Sg	07 56 21.5	-4.8
	11nm,0.3s							
GRR	**Gorron**	**2.68**	**320**	*e*Pn		Pn	07 55 42.5	-2.5
GRR				*e*Pg		Pg	07 55 49.8	-4.7
GRR				*e*Sn		Sn	07 56 13.6	-4.2
GRR				*e*Sg		Sg	07 56 24.0	-6.2
	18nm,0.2s							
LASF	**Ste Croix**	**2.74**	**146**	*e*Pn		Pn	07 55 43.8	-2.0
LASF				*e*Pg		Pg	07 55 51.9	-3.7
LASF				*e*Sg		Sg	07 56 26.7	-5.4
	10nm,0.3s							
FLN	**La Foliniere**	**2.83**	**329**	*e*Pn		Pn	07 55 44.8	-2.3
FLN				*e*Pg		Pg	07 55 52.6	-4.8
	baz=143							
FLN				*e*Sn		Sn	07 56 17.6	-4.0
FLN				*e*Sg		Sg	07 56 29.0	-6.2
	8.9nm,0.2s							
SFTF	**Sexfontaines**	**2.92**	**50**	*e*Pg		Pg	07 55 54.7	-4.6
SFTF				*e*Sg		Sg	07 56 31.2	-7.1
	9.1nm,0.2s							
CABF	**La Chapelle**	**3.03**	**84**	*e*Pn		Pn	07 55 47.8	-2.2
CABF				*e*Pg		Pg	07 55 57.0	-4.5
CABF				*e*Sn		Sn	07 56 22.2	-4.5
CABF				*e*Sg		Sg	07 56 37.2	-4.7
	6.2nm,0.3s							
MTLF	**Montolieu**	**3.04**	**173**	*e*Pn		Pn	07 55 48.0	-2.0
MTLF				*e*Pg		Pg	07 55 57.0	-4.6
MTLF				*e*Sg		Sg	07 56 36.2	-5.8
	17nm,0.4s							
MEZF	**Maizieres J'vi**	**3.12**	**45**	*e*Pg		Pg	07 55 58.3	-5.0
	baz=234							
MEZF				*e*Sg		Sg	07 56 38.6	-6.3
	11nm,0.3s							
ORIF	**Oris-en-Rattie**	**3.26**	**115**	*e*Pn		Pn	07 55 51.2	-1.9
ORIF				*e*Pg		Pg	07 56 01.3	-4.7
ORIF				*e*Sg		Sg	07 56 42.8	-6.6
	4.9nm,0.3s							
RFYF	**Reffroy**	**3.42**	**47**	*e*Pn		Pn	07 55 52.8	-2.6
RFYF				*e*Pg		Pg	07 56 03.5	-5.7
RFYF				*e*Sg		Sg	07 56 47.5	-7.2
	11nm,0.3s							
EPF	**Esparros**	**3.47**	**197**	*e*Pn		Pn	07 55 53.2	-2.9
EPF				*e*Pg		Pg	07 56 04.8	-5.3
EPF				*e*Sn		Sn	07 56 31.6	-6.1
EPF				*e*Sg		Sg	07 56 49.6	-6.8
	12nm,0.4s							
SGMF	**Saint Gilles**	**3.47**	**305**	*e*Pn		Pn	07 55 53.7	-2.5
SGMF				*e*Sn		Sn	07 56 31.8	-6.0
SGMF				*e*Sg		Sg	07 56 49.4	-7.1
	10nm,0.4s							
HAU	**Haudompre**	**3.56**	**61**	*e*Pg		Pg	07 56 06.6	-5.5
HAU				*e*Sg		Sg	07 56 52.3	-7.4
	9.2nm,0.3s							
LPG	**La Plagne**	**3.62**	**102**	*e*Pg		Pg	07 56 07.7	-5.5
LPG				*e*Sg		Sg	07 56 54.5	-7.0
	4.8nm,0.4s							
QUIF	**Quistinic**	**3.68**	**297**	*e*Pn		Pn	07 55 56.6	-2.5
QUIF				*e*Pg		Pg	07 56 08.2	-6.2
QUIF				*e*Sn		Sn	07 56 37.8	-5.2
QUIF				*e*Sg		Sg	07 56 55.0	-8.4
	5.7nm,0.2s							
HINF	**Hinteralfeld**	**3.80**	**66**	*e*Pg		Pg	07 56 11.0	-5.9
HINF				*e*Sn		Sn	07 56 40.9	-5.3
HINF				*e*Sg		Sg	07 56 59.3	-8.3
	9.0nm,0.3s							
ETSF	**Etsaut**	**3.82**	**206**	*e*Pn		Pn	07 55 59.1	-2.0
ETSF				*e*Pg		Pg	07 56 10.8	-6.4
ETSF				*e*Sg		Sg	07 57 00.4	-7.7
	7.4nm,0.3s							
EBIE	**Bielsa**	**3.84**	**198**	Pn		Pn	07 56 02.8	+1.5
EBIE				Sn		Sn	07 56 45.2	-1.8
EBIE				Lg			07 57 00.2	
EBIE	**Bielsa**	**3.84**	**198**	Pn		Pn	07 55 60.0	-1.4
	0.7nm,0.2s,SNR=6.2							
EBIE				Sn		Sn	07 56 41.1	-6.0
	1.3nm,0.2s,SNR=7.9							
EBIE				Lg			07 57 00.2	
	3.4nm,0.3s,SNR=7.9							
EBIE	**Bielsa**	**3.84**	**198**	Pn		Pn	07 56 02.8	+1.4
	0.7nm,0.2s,SNR=6.2							
EBIE				Sn		Sn	07 56 45.2	-1.9
	SNR=7.9							
SJPF	**Ste Jean**	**3.86**	**214**	*e*Pn		Pn	07 55 58.7	-3.0
SJPF				*e*Pg		Pg	07 56 11.8	-6.2
SJPF				*e*Sg		Sg	07 57 01.5	-8.0
	4.4nm,0.4s							
EALK	**Alkurruntz**	**3.88**	**217**	Pn		Pn	07 56 02.2	+0.1
EALK				Sn		Sn	07 56 42.0	-6.3
EALK				Lg			07 57 01.3	
EALK	**Alkurruntz**	**3.88**	**217**	Pn		Pn	07 56 00.5	-1.6
	1.0nm,0.3s,SNR=4.0							
EALK				Pg		Pg	07 56 12.1	-6.4
	1.9nm,0.3s,SNR=7.9							
EALK				Sn		Sn	07 56 42.0	-6.3
	1.7nm,0.2s,SNR=7.9							
EALK				Lg			07 57 01.3	
	17nm,0.8s,SNR=7.9							
EALK	**Alkurruntz**	**3.88**	**217**	Pn		Pn	07 56 02.2	+0.1
	1.0nm,0.3s,SNR=4.0							
EALK				Sn		Sn	07 56 42.0	-6.3
	SNR=7.9							
ROSF	**Rostrenen**	**3.93**	**302**	*e*Pn		Pn	07 55 59.7	-3.0
ROSF				*e*Sn		Sn	07 56 42.6	-6.7
	13nm,0.9s							
ROSF				*e*Sg		Sg	07 57 02.7	-9.0
	3.2nm,0.2s							
EJON	**La Jonquera**	**4.00**	**167**	Pn		Pn	07 56 06.9	+3.3
EJON				Lg			07 57 07.4	
EJON	**La Jonquera**	**4.00**	**167**	Pn		Pn	07 56 01.9	-1.8
	22nm,1.3s,SNR=4.7							
EJON				Pg		Pg	07 56 13.6	-7.1
	1.7nm,0.2s,SNR=7.9							
EJON				Lg			07 57 07.4	
	3.4nm,0.2s,SNR=11							
GIVF	**Givet**	**4.29**	**28**	*e*Pg		Pg	07 56 19.6	-6.9
CDF	**Champ du Feu**	**4.30**	**59**	*e*Pn		Pn	07 56 05.0	-3.0
CDF				*e*Pg		Pg	07 56 20.3	-6.5
EMIR	**Miracle**	**4.44**	**182**	Pn		Pn	07 56 12.0	+2.0
EMIR	**Miracle**	**4.44**	**182**	Pn		Pn	07 56 07.7	-2.3
	2.2nm,0.1s,SNR=7.9							

*IDC **24** 08:08:32.5±0.9, 27.88S×71.24W, mb4.0/5, mb1 4.0/9, mb1mx3.9/18, mbtmp3.9/9, ML4.0/3, MS3.9/1, Ms1 3.8/1, ms1mx2.3/18, Error ellipse: s-maj=32.6km s-min=20.7km az=99.0*
*NEIC **24** 08:08:38.1±1.5, 27.86S×71.26W, h38km±13km, mb4.3/6, Error ellipse: s-maj=24.0km s-min=10.2km az=89.0*
ISC 24 08:08:35.9±0.8, 27.83S±0.05×71.2W±0.2, h33km, n24, σ1§33/22, mb4.1/8, MS3.8/1, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CFAA	**Coronel Fontan**	**4.58**	**146**	Pn		**Pn**	**08 09 46.8**	**+2.1**
	1.3nm,0.3s,baz=320,slow=12,SNR=142							
CFAA				Lg			08 10 49.3	
	1.8nm,0.3s,baz=148,slow=22,SNR=6.6							
LVC	**Limon Verde**	**5.60**	**22**	Pn		**Pn**	**08 09 58.1**	**-1.0**
	8.2nm,0.3s,baz=202,slow=9.3,SNR=75							
LVC				Sn		**Sn**	**08 11 03.2**	**+0.1**
	5.5nm,0.3s,baz=117,slow=16,SNR=2.8							
LVC				Lg			08 11 25.4	
	13nm,0.3s,baz=17,slow=13,SNR=5.7							
LVC	**Limon Verde**	**5.60**	**22**	Pn		**Pn**	**08 09 58.1**	**-1.0**
LVC				*e*Pg		**P**	**08 10 16.5**	**+18**
LVC				Sn		**Sn**	**08 11 03.2**	**+0.1**
LVC				Lg			08 11 25.4	
LPAZ	**La Paz**	**11.83**	**15**	Pn		**P**	**08 11 22.6**	**-2.8**
	0.5nm,0.3s,baz=197,slow=7.2,SNR=28							
LPAZ	**La Paz**	**11.83**	**15**	*e*P		**P**	**08 11 22.0**	**-3.3**
TRQA	**Tornquist**	**12.81**	**145**	*e*P		**P**	**08 11 38.9**	**+0.5**
	8.9nm,0.7s							
PLCA	**Paso Flores**	**12.89**	**178**	Pn		**P**	**08 11 36.4**	**-3.0**
	0.1nm,0.3s,baz=140,slow=10,SNR=2.1							
SAML	**Samuel**	**20.25**	**24**	*e*P		**P**	**08 13 10.3**	**-0.9**
	10.0nm,1.2s							
BDFB	**Brasilia**	**24.68**	**65**	P		**P**	**08 13 54.7**	**-0.5**
	1.1nm,0.5s,mb3.7,baz=196,slow=8.4,SNR=3.9							
BDFB				LR		LR	08 24 53.5	
	comp=Z,254nm,18.3s,MS3.8,baz=143,slow=40							
OTAV	**Otavalo**	**28.75**	**345**	*e*P		**P**	**08 14 35.1**	**+2.4**
	3.9nm,1.2s,mb4.0							
SDV	**Santo Domingo**	**36.50**	**1**	*e*P		**P**	**08 15 41.1**	**+1.0**
	8.4nm,1.3s,mb4.5							
SNAA	**Sanae**	**57.07**	**159**	P		**P**	**08 18 19.8**	**-1.0**
	1.1nm,0.7s,mb4.0,baz=299,slow=8.7,SNR=5.6							
QSPA	**South Pole Qui**	**62.39**	**180**	*e*P		**P**	**08 18 55.5**	**-1.8**
	6.9nm,0.9s,mb4.8							
TXAR	**Lajitas Array**	**64.76**	**329**	P		**P**	**08 19 14.1**	**+0.6**
	0.3nm,0.7s,mb3.4,baz=146,slow=9.0,SNR=4.1							
TXAR	**Lajitas Array**	**64.76**	**329**	P		**P**	**08 19 14.1**	**+0.6**
DBIC	**Dimbokro**	**72.60**	**72**	P		**P**	**08 20 03.0**	**+0.8**
	4.1nm,0.6s,mb4.5,baz=194,slow=6.3,SNR=9.1							
DBIC	**Dimbokro**	**72.60**	**72**	*e*P		**P**	**08 20 02.4**	**+0.2**
	6.9nm,0.8s,mb4.6							
DBIC				*e*			08 20 10.4	
TSUM	**Tsumeb**	**80.26**	**107**	P		**P**	**08 20 46.5**	**+1.2**
	0.9nm,0.7s,mb3.8,baz=275,slow=5.1,SNR=4.8							
TSUM	**Tsumeb**	**80.26**	**107**	*e*P		**P**	**08 20 46.0**	**+0.7**
	1.5nm,0.6s,mb4.1							
ASAR	**Alice Springs**	**123.36**	**208**	PKP		PKPdf	08 27 30.6	+0.4
	0.2nm,0.6s,baz=135,slow=1.7,SNR=4.7							
WRA	**Warramunga Arr**	**126.46**	**210**	PKP		PKPdf	08 27 37.1	+0.8
	0.5nm,0.6s,baz=166,slow=1.6,SNR=16							
KURK	**Kurchatov**	**147.70**	**37**	*e*PKPdf		PKPdf	08 28 15.5	+1.6
KURK				*e*PKPbc		PKPdf	08 28 18.8	+4.9
ZAL	**Zalesovo**	**148.53**	**27**	PKPbc		PKPdf	08 28 21.3	+6.2
	3.4nm,0.6s,baz=163,slow=4.8,SNR=15							
AAK	**Ala-Archa**	**148.58**	**53**	*e*PKPbc		PKPdf	08 28 21.6	+6.0

*TAP **24** 08:47:11.8, 24.18N×122.25E, h20km±1km, ML3.1*
JMA 24 08:47:12.7±0.1, 24.84N×122.31E, h44km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.74**	**120**	P		P	08 47 26.8	0.0
YOJ				*e*S		S	08 47 36.9	-0.3
IRIF	**Iriomote-Funau**	**1.39**	**111**	P		P	08 47 35.9	-0.2
IRIF				*e*S		S	08 47 53.2	-0.2
HATJ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.44**	**274**	*eP*	Pn	09 17 39.5	+0.9
DZM	**Mont Dzumac**	**2.44**	**274**	Pn	Pn	09 17 40.0	+1.4
	1.3nm,0.3s,baz=325,slow=23,SNR=38						
NOUC	**Port Laguerre**	**2.57**	**273**	*eP*	Pn	09 17 41.0	+0.5
STKA	**Stephens Creek**	**26.20**	**243**	*eP*	P	09 22 34.2	-0.9
	3.1nm,0.9s						
STKA	**Stephens Creek**	**26.20**	**243**	P	P	09 22 34.0	-1.1
	3.0nm,0.8s,baz=79,slow=10.0,SNR=5.7						
ASAR	**Alice Springs**	**32.36**	**261**	P	P	09 23 27.3	-3.0
	0.9nm,0.9s,baz=88,slow=8.5,SNR=6.8						
WRA	**Warramunga Arr**	**32.44**	**268**	P	P	09 23 27.6	-3.5
	0.3nm,0.8s,baz=98,slow=8.2,SNR=3.6						
EKA	**Eskdalemuir Ar**	**146.49**	**352**	PKPbc	PKPbc	09 36 39.2	-0.3
	1.6nm,0.8s,baz=34,slow=2.6,SNR=4.4						
GERES	**GERESS Array B**	**147.06**	**330**	PKPbc	PKPdf	09 36 41.4	+0.1
	0.5nm,0.2s,baz=18,slow=3.1,SNR=3.9						

NEIC ***24*** *09:21:56.0±0.8,23.08S×169.29E,h10km,mb4.6/6, Error ellipse: s-maj=25.1km s-min=14.1km az=179.0*
IDC ***24*** *09:21:56.9±2.3,22.77S×169.09E,mb3.7/4,mb1 3.8/5, mb1mx3.8/12,mbtmp3.7/5,ML4.0/1,MS3.6/7,Ms1 3.6/7, ms1mx3.5/18, Error ellipse: s-maj=54.9km s-min=37.4km az=180.0*

ISC 24 09:21:57.4±2.8,22.9S±0.2×169.34E±0.10,h39km±27km, n21,σ1§04/19,mb4.2/9,MS3.6/6,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.79**	**286**	*eP*	**P**	**09 22 40.2**	**-0.5**
DZM				*eS*	**S**	**09 23 13.6**	**+0.2**
DZM	**Mont Dzumac**	**2.79**	**286**	Pn	**P**	**09 22 40.5**	**-0.1**
	7.1nm,0.3s,baz=103,slow=17,SNR=43						
DZM				Sn	**S**	**09 23 13.2**	**-0.2**
	33nm,0.3s,baz=118,slow=20,SNR=6.1						
DZM				LR	LR	09 23 32.7	
	comp=Z,293nm,19.2s,baz=2.3,slow=38						
AFI	**Afiamalu**	**20.00**	**67**	P	**P**	**09 26 29.7**	**+0.2**
	23nm,0.9s						
RPZ	**Rata Peaks**	**20.85**	**176**	LR	LR	09 33 30.4	
	comp=Z,405nm,20.2s,MS3.8,baz=349,slow=33						
CTA	**Charters Tower**	**21.65**	**273**	P	**P**	**09 26 48.0**	**+1.5**
	1.5nm,0.7s,mb3.5,baz=90,slow=6.4,SNR=3.0						
CTA				LR	LR	09 34 04.7	
	comp=Z,153nm,18.5s,MS3.4,baz=96,slow=34						
CTA	**Charters Tower**	**21.65**	**273**	P	**P**	**09 26 48.0**	**+1.6**
CTA				LR	LR	09 34 04.7	
STKA	**Stephens Creek**	**26.16**	**244**	*eP*	**P**	**09 27 30.2**	**+0.1**
	6.4nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**26.16**	**244**	P	**P**	**09 27 32.0**	**+2.0**
	6.5nm,1.0s,mb4.1,baz=78,slow=9.0,SNR=5.8						
STKA				LR	LR	09 37 08.9	
	comp=Z,93nm,18.4s,MS3.4,baz=6.5,slow=35						
STKA	**Stephens Creek**	**26.16**	**244**	*eP*	**P**	**09 27 28.3**	**-1.8**
ASAR	**Alice Springs**	**32.51**	**261**	P	**P**	**09 28 27.4**	**+0.5**
	1.0nm,0.9s,mb3.8,baz=79,slow=7.7,SNR=8.0						
ASAR				LR	LR	09 39 30.0	
	comp=Z,89nm,19.0s,MS3.5,baz=97,slow=33						
WB2	**Warramunga Arr**	**32.66**	**268**	*eP*	**P**	**09 28 28.1**	**-0.1**
WRAB	**Tennant Creek**	**32.66**	**268**	P	**P**	**09 28 26.5**	**-1.7**
	5.9nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**32.67**	**268**	P	**P**	**09 28 27.2**	**-1.1**
	0.3nm,0.5s,mb3.5,baz=99,slow=8.4,SNR=8.6						
FITZ	**Fitzroy Crossi**	**41.10**	**268**	*eP*	**P**	**09 29 40.3**	**+1.0**
	4.2nm,0.6s,mb4.2						
MBWA	**Marble Bar**	**45.85**	**262**	*eP*	**P**	**09 30 17.2**	**-0.7**
	5.6nm,0.7s,mb4.6						
NWAO	**Narrogin (SRO)**	**46.73**	**246**	*eP*	**P**	**09 30 26.2**	**+1.6**
	11nm,1.1s,mb4.7						
VNDA	**Vanda**	**54.83**	**182**	LR	LR	09 52 22.6	
	comp=Z,45nm,18.3s,MS3.6,baz=160,slow=33						
QSPA	**South Pole Qui**	**67.21**	**180**	*eP*	**P**	**09 32 49.6**	**+0.5**
	4.4nm,1.0s,mb4.4						
MAW	**Mawson**	**75.13**	**202**	P	**P**	**09 33 35.4**	**-1.5**
	102nm,1.3s						
TXAR	**Lajitas Array**	**98.40**	**62**	LR	LR	10 09 25.2	
	comp=Z,61nm,21.6s,MS4.1,baz=170,slow=29						
GERES	**GERESS Array B**	**147.68**	**329**	PKPbc	PKPdf	09 41 42.9	+8.1
	0.3nm,0.2s,baz=34,slow=3.5,SNR=5.1						

HEL ***24*** *09:24:47.9±0.0,60.97N×29.05E,ML1.6,Explosion*
IDC ***24*** *09:24:49.5±1.8,60.99N×28.94E,mb1 3.3/3, mb1mx3.0/16,mbtmp3.2/3,ML2.5/3, Error ellipse: s-maj=16.8km s-min=10.4km az=162.0*

ISC 24 09:24:45.9±1.1,60.95N±0.06×29.1E±0.1,n10,σ1§15/20, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.84**	**242**	*eP*	**Pg**	**09 25 03.7**	**+1.0**
VJF				*eS*	**Sg**	**09 25 14.0**	**0.0**
FIA0	**FINESS Array S**	**1.53**	**290**	*eP*	**Pn**	**09 25 14.9**	**+0.3**
FIA0				*eS*	**Sb**	**09 25 34.5**	**-0.2**
FINES	**FINESS Array B**	**1.53**	**290**	Pg	**Pg**	**09 25 14.9**	**-1.5**
	0.9nm,0.3s,baz=108,slow=18,SNR=38						
FINES				Lg		09 25 35.4	
	3.6nm,0.3s,baz=100,slow=31,SNR=27						
FINES				Sn	**Sn**	**09 25 38.2**	**+2.8**
	3.6nm,0.3s,baz=108,slow=25,SNR=26						
FINES				Rg		09 25 43.2	
	16nm,0.9s,baz=96,slow=28,SNR=23						
PVF	**Pernaja**	**1.62**	**257**	*eP*	**Pn**	**09 25 16.6**	**+0.8**
PVF				*eS*	**Sb**	**09 25 37.6**	**+0.3**
KAF	**Kangasniemi**	**1.76**	**313**	*eP*	**Pn**	**09 25 18.7**	**+0.7**
KAF				*eS*	**Sn**	**09 25 41.1**	**-0.3**
JOF	**Joensuu**	**2.25**	**27**	*eP*	**Pn**	**09 25 25.9**	**+1.1**
JOF				*eS*	**Sn**	**09 25 53.8**	**0.0**
SUF	**Sumiainen**	**2.25**	**324**	*eP*	**Pn**	**09 25 25.9**	**+1.0**
SUF				*eS*	**Sn**	**09 25 54.4**	**+0.5**
SUF				MSG		09 25 58.2	
	comp=Z,2.2nm,0.1s						
HFS	**Hagfors**	**7.62**	**271**	Pn	**Pn**	**09 26 39.3**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=93,slow=12,SNR=2.7						
HFS				Sn	**Sn**	**09 28 02.8**	**-6.2**
	comp=Z,0.0nm,0.3s,baz=164,slow=37,SNR=2.4						
HFS				Lg		09 28 47.6	
	comp=Z,0.0nm,0.3s,baz=70,slow=22,SNR=2.9						
NOA	**NORSAR Array B**	**8.67**	**278**	Pn	**P**	**09 26 53.4**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=58,slow=17,SNR=2.8						
NOA				Sn	**Sn**	**09 28 26.9**	**-8.3**
	comp=Z,0.1nm,0.3s,baz=72,slow=16,SNR=2.5						
NOA				Lg		09 29 18.6	
	comp=Z,0.1nm,0.3s,baz=284,slow=20,SNR=3.0						
ARCES	**ARCESS Array B**	**8.75**	**352**	Pn	**P**	**09 26 54.2**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=173,slow=12,SNR=7.2						
ARCES				Sn	**Sn**	**09 28 28.6**	**-8.6**
	comp=Z,0.1nm,0.3s,baz=175,slow=22,SNR=2.5						

MOS ***24*** *10:00:58.5±1.3,0.01N×122.76E,h146km,mb4.4/15,Error ellipse: s-maj=19.7km s-min=8.8km az=114.7*
NEIC ***24*** *10:01:03.2±1.2,0.07S×122.80E,h178km±11km,mb4.6/15, Error ellipse: s-maj=11.3km s-min=5.4km az=61.0*
BJI ***24*** *10:01:03.5,0.34S×122.82E,h199km,mB4.8,mb4.5*
IDC ***24*** *10:01:04.2±1.5,0.14S×122.68E,h187km±12km,mb4.0/14, mb1 4.0/15,mb1mx4.0/20,mbtmp4.5/15,MS3.9/3, Ms1 3.9/3,ms1mx3.2/20,Error ellipse: s-maj=22.2km s-min=8.0km az=67.0*

ISC 24 10:01:01.4±1.0,0.07S±0.04×122.87E±0.07,h171km±10km, n97,σ1§27/94,mb4.5/44,6C-3D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSM	**Tawau**	**6.61**	**311**	P	**P**	**10 02 36.6**	**-0.6**
KKM	**Kota Kinabalu**	**9.00**	**313**	*ePn*	**P**	**10 03 09.6**	**+0.8**
KKM				*eSn*	**S**	**10 04 44.7**	**-3.6**
KKM	**Kota Kinabalu**	**9.00**	**313**	P	**P**	**10 03 10.3**	**+1.6**
KSM	**Kuching**	**12.66**	**277**	*eP*	**P**	**10 03 56.7**	**+0.3**
KSM				*e*		10 04 03.2	
KAKA	**Kakadu**	**15.74**	**143**	*eP*	**P**	**10 04 34.6**	**-0.6**
	25nm,0.4s						
KAKA				*eS*	S	10 07 53.3	+29
FITZ	**Fitzroy Crossi**	**18.13**	**172**	*i/P*	**P**	**10 05 02.2**	**-1.0**
	12nm,0.3s						
FITZ				*eS*	**S**	**10 08 18.2**	**+1.6**
FITZ	**Fitzroy Crossi**	**18.13**	**172**	P	**P**	**10 05 01.2**	**-1.9**
	6.8nm,0.3s,baz=5.3,slow=11,SNR=73						
FITZ				S	**S**	**10 08 18.8**	**+2.2**
	0.3nm,0.3s,baz=182,slow=20,SNR=10						
MBWA	**Marble Bar**	**21.19**	**188**	*eP*	**P**	**10 05 33.5**	**-0.8**
	9.1nm,0.5s,mb4.4						
IPM	**Ipoh**	**22.31**	**282**	P	**P**	**10 05 46.8**	**+1.4**
WRAB	**Tennant Creek**	**22.72**	**151**	P	**P**	**10 05 50.0**	**+0.6**
	116nm,1.4s,mb5.1,SNR=15						
WRAB	**Tennant Creek**	**22.72**	**151**	*eP*	**P**	**10 05 47.2**	**-2.2**
WRAB				*eS*	**S**	**10 09 43.0**	**+1.5**
WRAB				pmax	pmax		
	comp=Z,46nm,1.1s,mb4.8						
WRAB	**Tennant Creek**	**22.72**	**151**	*eP*	**P**	**10 05 47.1**	**-2.3**
	comp=Z,46nm,1.1s,mb4.8						
WRAB				*eS*	**S**	**10 09 43.0**	**+1.5**
WRAB				*e*ScP		10 12 58.9	
WRA	**Warramunga Arr**	**22.72**	**151**	P	**P**	**10 05 49.8**	**+0.3**
	comp=Z,7.3nm,0.6s,mb4.3,baz=329,slow=11,SNR=201						
WRA				S	**S**	**10 09 41.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=336,slow=15,SNR=5.1						
WRA				ScP		10 12 56.9	
	comp=Z,6.7nm,0.6s,baz=329,slow=2.6,SNR=54						
WB2	**Warramunga Arr**	**22.73**	**151**	*eP*	**P**	**10 05 49.7**	**+0.2**
WB2				*eS*	**S**	**10 09 43.3**	**+1.7**
KULM	**Kulim**	**22.82**	**284**	*eP*	**P**	**10 05 50.9**	**+0.4**
KKTK	**Khon Kaen**	**25.63**	**310**	P	**P**	**10 06 18.0**	**+1.0**
ASAR	**Alice Springs**	**25.79**	**156**	P	**P**	**10 06 19.9**	**+1.5**
	comp=Z,1.7nm,0.5s,mb4.0,baz=346,slow=15,SNR=28						
ASAR				PcP	PcP	10 09 43.1	-0.8
	comp=Z,3.0nm,0.3s,baz=342,slow=2.0,SNR=39						
ASAR				S	**S**	**10 10 33.8**	**+1.0**
	comp=Z,1.9nm,1.0s,baz=345,slow=21,SNR=3.8						
ASAR				ScP		10 13 05.0	
	comp=Z,6.9nm,0.7s,baz=342,slow=2.5,SNR=52						
ASPA	**Alice Springs**	**25.79**	**156**	*eP*	**P**	**10 06 19.4**	**+1.0**
PMG	**Port Moresby**	**25.89**	**112**	P	**P**	**10 06 19.1**	**-0.4**
PMG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PMG	**Port Moresby**	**25.89**	**112**	P	**P**	**10 06 19.0**	**-0.4**
	comp=Z,3.6nm,0.7s,mb4.1,baz=315,slow=19,SNR=3.6						
PMG	**Port Moresby**	**25.89**	**112**	P	**P**	**10 06 19.1**	**-0.4**
	comp=Z,6.1nm,0.9s,mb4.2						
NANT	**Nan**	**28.73**	**312**	⇑P	**P**	**10 06 47.0**	**+1.9**
	comp=Z,325nm,0.6s						
BDT	**Bhumibol Dam**	**29.13**	**307**	P	**P**	**10 06 49.0**	**+0.4**
CM31	**Chiang Mai Arr**	**29.86**	**309**	*eP*	**P**	**10 06 55.5**	**+0.4**
	comp=Z,8.3nm,0.7s,mb4.6						
CHG	**Chiang Mai**	**30.07**	**310**	⇑P	**P**	**10 06 57.6**	**+0.7**
	comp=Z,24nm,0.9s,mb4.9						
CTA	**Charters Tower**	**30.33**	**132**	P	**P**	**10 06 59.7**	**+0.5**
	comp=Z,2.8nm,0.8s,mb4.0,baz=331,slow=10.0,SNR=3.4						
CTA				ScP		10 13 20.3	
	comp=Z,2.7nm,0.5s,baz=320,slow=3.9,SNR=6.5						
CTA				LR	LR	10 19 02.8	
	comp=Z,53nm,18.4s,baz=64,slow=36						
CTAO	**Charters Tower**	**30.33**	**132**	P	**P**	**10 06 59.5**	**+0.3**
GYA	**Guiyang**	**30.65**	**331**	⇑*i*P	**P**	**10 07 03.3**	**+1.3**
GYA				S	**S**	**10 11 51.9**	**+1.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
GYA				AMB	AMB		
	comp=Z,80nm,2.8s,mb5.0						
FORT	**Forrest**	**30.94**	**171**	*eP*	**P**	**10 07 02.5**	**-2.0**
	comp=Z,274nm,0.6s						
SSE	**Sheshan**	**31.03**	**357**	P	**P**	**10 07 06.6**	**+1.3**
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,103nm,5.9s						
KLBR	**Kellerberrin**	**31.73**	**188**	*eP*	**P**	**10 07 09.4**	**-1.9**
	comp=Z,48nm,0.3s						
NJ2	**Nanjing**	**32.17**	**354**	*eP*	**P**	**10 07 17.3**	**+2.1**
NJ2				PP	PP	10 08 30.8	+2.5
NJ2				S	**S**	**10 12 19.0**	**+5.0**
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,230nm,5.3s						
NJ2				LR	LR		
	comp=N,290nm,12.7s						
NJ2				LR	LR		
	comp=E,290nm,15.3s						
NJ2				LR	LR		
	comp=Z,250nm,15.3s						
ENH	**Enshi**	**32.75**	**338**	*eP*	**P**	**10 07 19.6**	**-0.6**
	comp=Z,8.0nm,0.6s,mb4.6						
NWAO	**Narrogin (SRO)**	**33.11**	**189**	*eP*	**P**	**10 07 22.2**	**-1.1**
NWAO				pmax	pmax		
	comp=Z,17nm,1.0s						
NWAO	**Narrogin (SRO)**	**33.11**	**189**	P	**P**	**10 07 21.9**	**-1.4**
	comp=Z,7.6nm,0.5s,mb4.7,baz=357,slow=4.7,SNR=8.9						
NWAO	**Narrogin (SRO)**	**33.11**	**189**	*eP*	**P**	**10 07 22.2**	**-1.1**
	comp=Z,17nm,1.0s,mb4.7						
CD2	**Chengdu**	**35.76**	**331**	P	**P**	**10 07 46.8**	**+1.1**
CD2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**36.26**	**152**	P	**P**	**10 07 50.5**	**+0.6**
	comp=Z,2.5nm,0.5s,mb4.1,baz=306,slow=13,SNR=6.9						
STKA				PcP	PcP	10 10 11.1	-0.4
	comp=Z,2.2nm,0.4s,baz=331,slow=5.3,SNR=4.0						
STKA				ScP		10 13 41.3	
	comp=Z,1.6nm,0.3s,baz=322,slow=5.3,SNR=4.8						
STKA	**Stephens Creek**	**36.26**	**152**	P	**P**	**10 07 52.4**	**+2.5**
MAT	**Matsushiro**	**39.11**	**20**	*eP*	**P**	**10 08 13.0**	**-0.6**
MAT	**Matsushiro**	**39.11**	**20**	P	**P**	**10 08 12.7**	**-0.9**
MAT				*eS*	S	10 14 29.6	+30
MAJO	**Matsushiro**	**39.11**	**20**	P	**P**	**10 08 11.9**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.6						
MAJO	**Matsushiro**	**39.11**	**20**	P	**P**	**10 08 11.9**	**-1.8**
	comp=Z,15nm,1.0s,mb4.6						
HHC	**Hu-ho-hao-te**	**42.00**	**347**	*eP*	**P**	**10 08 40.6**	**+3.2**
HHC				PP	PP	10 10 23.3	+3.7
HHC				PCS		10 14 23.3	
HHC				S	**S**	**10 14 47.3**	**+4.6**
HHC				AMB	AMB		
	comp=Z,111nm,6.3s						
LSA	**Lhasa**	**42.31**	**317**	*eP*	**P**	**10 08 41.2**	**+1.2**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.6						
LSA	**Lhasa**	**42.31**	**317**	*eP*	**P**	**10 08 41.2**	**+1.2**
	comp=Z,11nm,0.7s,mb4.6						
CN2	**Changchun**	**43.74**	**3**	*eP*	**P**	**10 08 53.5**	**+2.2**
JIRN	**Jiri**	**44.70**	**311**	*eP*	**P**	**10 08 59.8**	**+0.6**
	comp=Z,19nm,0.3s,mb5.2						
MDJ	**Mudanjiang**	**44.89**	**7**	P	**P**	**10 09 03.5**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,105nm,4.8s						
PKI	**Pulchoki**	**45.25**	**311**	*eP*	**P**	**10 09 03.4**	**-0.2**
	comp=Z,14nm,0.6s,mb4.8						
KKN	**Kakani**	**45.46**	**311**	*eP*	**P**	**10 09 05.2**	**0.0**
	comp=Z,10nm,0.4s,mb4.9						
DMN	**Daman**	**45.50**	**310**	*eP*	**P**	**10 09 05.7**	**+0.2**
	comp=Z,47nm,0.9s,mb5.1						
GKN	**Gorkha**	**46.05**	**311**	*eP*	**P**	**10 09 10.0**	**+0.1**
	comp=Z,40nm,0.7s,mb5.2						
KOLN	**Koldanda**	**46.73**	**310**	*eP*	**P**	**10 09 15.2**	**0.0**
	comp=Z,45nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**49.69**	**346**	*eP*	**P**	**10 09 37.9**	**+0.2**
SONM	**Songino Array**	**49.82**	**346**	P	**P**	**10 09 37.4**	**-1.3**
	comp=Z,1.6nm,0.7s,mb3.7,baz=164,slow=9.0,SNR=6.7						
SONM				ScP		10 14 33.7	
	comp=Z,1.3nm,0.8s,baz=153,slow=4.6,SNR=7.6						
WMQ	**Urumqi**	**53.78**	**329**	*eP*	**P**	**10 10 10.3**	**+2.0**
WMQ				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,132nm,5.1s						
TLY	**Talaya**	**54.06**	**345**	*i* P	**P**	**10 10 08.7**	**-1.5**
TLY				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.0						
MKAR	**Makanchi Array**	**58.60**	**328**	*eP*	**P**	**10 10 41.2**	**-1.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AAK	**Ala-Archa**	**60.70**	**321**	⇓*eP*	**P**	**10 10 55.4**	**-1.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0						
AAK	**Ala-Archa**	**60.70**	**321**	*eP*	**P**	**10 10 55.7**	**-1.2**
	comp=Z,3.1nm,0.8s,mb4.2						
RPZ	**Rata Peaks**	**61.03**	**142**	LR	LR	10 39 22.1	
	comp=Z,150nm,18.7s,baz=181,slow=38						
YAK	**Yakutsk**	**62.15**	**4**	⇓*eP*	**P**	**10 11 07.0**	**+0.6**
ZAL	**Zalesovo**	**62.32**	**336**	*i* P	**P**	**10 11 06.7**	**-0.9**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAL	**Zalesovo**	**62.32**	**336**	P	**P**	**10 11 05.5**	**-2.1**
	comp=Z,1.6nm,0.2s,mb4.4,baz=356,slow=7.0,SNR=7.7						
KURK	**Kurchatov**	**62.97**	**330**	*eP*	**P**	**10 11 10.2**	**-1.8**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**62.97**	**330**	*eP*	**P**	**10 11 10.2**	**-1.7**
	comp=Z,7.7nm,0.9s,mb4.5						
MA2	**Magadan**	**63.33**	**15**	*eP*	**P**	**10 11 14.1**	**-0.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7						
MA2	**Magadan**	**63.33**	**15**	*eP*	**P**	**10 11 14.1**	**-0.1**
	comp=Z,8.5nm,0.7s,mb4.7						
CASY	**Casey**	**66.65**	**185**	P	**P**	**10 11 34.6**	**-0.9**
	comp=Z,57nm,1.4s,mb5.2						
BVA0	**Borovoye Array**	**68.47**	**329**	*i* P	**P**	**10 11 45.4**	**-1.5**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
BVAR	**Borovoye Array**	**68.47**	**329**	P	**P**	**10 11 44.3**	**-2.6**
	comp=Z,0.6nm,0.4s,mb3.7,baz=117,slow=6.6,SNR=9.9						
CHKZ	**Chkalovo**	**68.70**	**330**	*eP*	**P**	**10 11 45.8**	**-2.5**
CHKZ				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.2						
CHKZ	**Chkalovo**	**68.70**	**330**	*eP*	**P**	**10 11 45.8**	**-2.5**
	comp=Z,6.7nm,1.3s,mb4.2						
TIXI	**Tiksi**	**71.70**	**2**	⇑*eP*	**P**	**10 12 04.1**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
BILL	**Bilibino**	**74.20**	**16**	⇑*eP*	**P**	**10 12 19.8**	**-0.9**
BILL				*e**PP	pP	10 13 08.2	+5.8
BILL				*e*		10 15 04.9	
BILL				*eS*	S	10 21 37.6	-0.8
BILL				*e*SS	SS	10 26 23.5	-6.4
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
VNDA	**Vanda**	**80.20**	**172**	P	**P**	**10 12 54.0**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.0,baz=320,slow=5.7,SNR=19						
KIV	**Kislovodsk**	**82.98**	**314**	*eP*	**P**	**10 13 20.1**	**+11**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.6						
ASF	**Jabal al Asfar**	**86.62**	**302**	P	**P**	**10 13 26.2**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.3,baz=186,slow=7.0,SNR=2.3						
SYO	**Syowa Base**	**87.52**	**201**	⇓P	**P**	**10 13 30.2**	**-0.2**
PPT	**Papeete**	**87.64**	**107**	P	**P**	**10 13 34.6**	**+2.4**
	comp=Z,16nm,0.6s,mb5.0,baz=31,slow=8.9,SNR=3.8						
OBN	**Obninsk**	**87.93**	**325**	*eP*	**P**	**10 13 32.7**	**0.0**
OBN				*e*SS	SS	10 29 53.6	-0.8
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.1						
BRTR	**Keskin Array B**	**89.45**	**310**	P	**P**	**10 13 39.0**	**-1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=135,slow=1.7,SNR=4.4						
MATP	**Matopo**	**94.08**	**250**	P	**P**	**10 14 01.4**	**-0.6**
	comp=Z,2.1nm,0.4s,mb4.6,baz=162,slow=4.0,SNR=6.9						
SUR	**Sutherland**	**100.15**	**237**	LR	LR	10 55 28.0	
	comp=Z,85nm,18.4s,baz=13,slow=33						
YKA	**Yellowknife Ar**	**104.52**	**24**	PKiKP		10 19 02.4	
	comp=Z,0.1nm,0.4s,baz=299,slow=1.8,SNR=5.5						
YKA				SKiKP		10 22 21.1	
	comp=Z,0.1nm,0.6s,baz=316,slow=1.5,SNR=5.1						
PDAR	**Pinedale Array**	**116.73**	**41**	PKP	PKPdf	10 19 26.9	+1.4
	comp=Z,0.3nm,0.4s,baz=86,slow=2.1,SNR=7.3						
ULM	**Lac du Bonnet**	**120.11**	**28**	PKP	PKPdf	10 19 32.2	+0.5
	comp=Z,0.7nm,0.3s,baz=282,slow=4.1,SNR=3.4						
ANMO	**Albuquerque**	**122.41**	**48**	PKP	PKPdf	10 19 39.3	+2.6
	comp=Z,1.7nm,0.8s,baz=215,slow=5.4,SNR=7.6						
SCHQ	**Schefferville**	**124.84**	**7**	PKP	PKPdf	10 19 41.2	+0.4
	comp=Z,1.1nm,0.8s,baz=283,slow=5.6,SNR=3.9						
SCHQ	**Schefferville**	**124.84**	**7**	PKP	PKPdf	10 19 41.2	+0.4
TXAR	**Lajitas Array**	**126.95**	**52**	PKP	PKPdf	10 19 47.5	+1.9
	comp=Z,0.4nm,0.6s,baz=185,slow=2.1,SNR=7.5						
DBIC	**Dimbokro**	**127.44**	**278**	PKP	PKPdf	10 19 47.3	+0.3
	comp=Z,1.6nm,0.6s,baz=102,slow=3.6,SNR=4.2						
JCT	**Junction City**	**129.44**	**49**	*e*PKiKP	PKPdf	10 19 52.3	+1.9
CFAA	**Coronel Fontan**	**146.79**	**163**	PKPbc	PKPbc	10 20 24.9	+1.5
	comp=Z,1.2nm,0.5s,baz=197,slow=3.6,SNR=22						
LPAZ	**La Paz**	**160.46**	**147**	PKP	PKPdf	10 20 44.5	+3.5
	comp=Z,1.6nm,1.0s,baz=50,slow=6.1,SNR=4.6						
BDFB	**Brasilia**	**161.98**	**210**	PKPab	PKPab	10 21 30.6	-1.5
	comp=Z,5.2nm,0.8s,baz=223,slow=1.2,SNR=5.5						

**IDC 24 10:31:17.5±2.4,49.17S×116.28E,mb3.8/3,mb1 4.0/4, mb1mx3.9/10,mbtmp3.9/4,ML2.

JKG	**Kaga**	**0.73**	**263**	⇓P	Pb	11 07 59.7	-0.3
JKG				S	Sb	11 08 09.7	0.0
JGM	**Miyama**	**0.79**	**212**	⇑P	Pb	11 08 00.8	-0.1
JGM				S	Sb	11 08 11.2	-0.1
MAT	**Matsushiro**	**0.81**	**77**	P	Pb	11 08 01.6	+0.3
MAT				S	Sb	11 08 14.1	+2.2
MAT	**Matsushiro**	**0.81**	**77**	P	Pb	11 08 01.3	0.0

*NEIC **24** 11:22:24.8, 27.80S×71.39W, h35km, ML3.9(GUC), After GUC.*

GUC 24 11:22:24.8±0.9, 27.80S×71.39W, h35km±7km, ML3.9, 1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.02**	**65**	*e*P	P	11 22 46.6	+3.8
CPCH				*i* S	S	11 23 00.6	+4.6
CPCH				AMP		11 23 08.2	
	comp=E,4μm,0.1s						
LCO	**Las Campanas**	**1.35**	**154**	⇓*i* P	P	11 22 49.3	+1.8
LCO				*i* S	S	11 23 06.6	+2.2
LCO				AMP		11 23 13.1	
	comp=N,2μm,0.7s						
TLL	**Tololo Astrono**	**2.41**	**168**	*e*P	P	11 23 04.0	+1.3
TLL				*i* S	S	11 23 33.4	+2.1
TLL				AMP		11 23 44.5	
	comp=E,2μm,0.8s						
CPN1	**Cerro Paranal**	**3.28**	**16**	*e*P	P	11 23 15.5	+0.4
CPN1				*i* S	S	11 23 54.7	+1.2
FCH	**Farellones**	**5.59**	**171**	*e*P	P	11 23 47.2	-0.5
LVC	**Limon Verde**	**5.63**	**24**	*e*Pn	P	11 23 49.7	+1.4
	comp=E,18nm,0.5s						

IDC 24 11:26:54.3±24.0, 21.44S×171.92W, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=454.8km s-min=150.2km az=76.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**39.05**	**264**	*e*P	P	11 34 24.2	-0.6
	2.4nm,0.3s						
CTA	**Charters Tower**	**39.05**	**264**	P	P	11 34 24.2	-0.6
	3.0nm,0.3s,baz=95,slow=10,SNR=14						
STKA	**Stephens Creek**	**42.55**	**246**	P	P	11 34 50.4	-3.2
	2.0nm,1.0s,baz=85,slow=12,SNR=4.6						
ASAR	**Alice Springs**	**49.84**	**257**	P	P	11 35 48.7	-2.7
	0.5nm,0.4s,baz=94,slow=7.2,SNR=13						
WB2	**Warramunga Arr**	**50.08**	**261**	*e*P	P	11 35 52.5	-0.8
WRA	**Warramunga Arr**	**50.09**	**261**	P	P	11 35 52.1	-1.2
	1.1nm,0.4s,baz=98,slow=8.3,SNR=50						

*ISK **24** 11:27:08.2, 39.37N×40.91E, h3km, MD3.7*
*NEIC **24** 11:27:08.2, 39.37N×40.90E, h3km, ML3.6(ISK), After ISK.*
*CSEM **24** 11:27:08.2, 39.37N×40.91E, h3km, MD3.7, After ISK*

ISC 24 11:27:08.9±0.4, 39.40N±0.03×40.91E±0.03, h3km, n37, σ0§94/48, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.55**	**119**	*i* PG	**Pg**	**11 27 19.4**	**-0.5**
VRT				*i* SG	**Sg**	**11 27 27.2**	**-0.1**
VRT	**Varto**	**0.55**	**119**	Pg	**Pg**	**11 27 19.7**	**-0.2**
VRT				Sg	**Sg**	**11 27 27.7**	**+0.5**
EZM	**Erzurum**	**0.61**	**34**	*i* PG	**Pg**	**11 27 21.3**	**+0.1**
EZM	**Erzurum**	**0.61**	**34**	Pg	**Pg**	**11 27 21.2**	**+0.1**
ERZM	**Erzurum**	**0.61**	**35**	*i* P	**Pg**	**11 27 21.4**	**+0.2**
ERZM				*i* S	**Sg**	**11 27 29.4**	**0.0**
BINT	**Bingol**	**0.62**	**212**	*i* PG	**Pg**	**11 27 20.0**	**-1.3**
BINT	**Bingol**	**0.62**	**212**	Pg	**Pg**	**11 27 19.9**	**-1.3**
BTMT	**Batman**	**1.29**	**159**	*i* PN	**Pn**	**11 27 32.6**	**-1.2**
BTMT				*i* SN	**Sn**	**11 27 52.6**	**+0.8**
KELT	**Kelkit**	**1.48**	**301**	*i* P	**Pn**	**11 27 36.4**	**-0.1**
KELT				*i* S	**Sb**	**11 27 59.7**	**+3.9**
GUMT	**Gumushane**	**1.53**	**314**	*i* PN	**Pn**	**11 27 37.7**	**+0.5**
GUMT				*i* SN	**Sn**	**11 27 58.6**	**+0.8**
GUMT	**Gumushane**	**1.53**	**314**	Pn	**Pn**	**11 27 37.8**	**+0.6**
GUMT				Sg	**Sg**	**11 27 58.8**	**-1.0**
BEST	**Besiri**	**1.53**	**169**	*i* P	**Pn**	**11 27 37.2**	**-0.1**
BEST				*i* S	**Sb**	**11 27 59.4**	**+2.0**
DIY	**Diyarbakir**	**1.59**	**200**	*i* PN	**Pn**	**11 27 38.4**	**+0.2**
DIY	**Diyarbakir**	**1.59**	**200**	Pn	**Pn**	**11 27 38.2**	**0.0**
ELZG	**Elazig**	**1.75**	**240**	*i* P	**Pn**	**11 27 40.2**	**-0.2**
ELZG				*i* S	**Sn**	**11 28 06.6**	**+3.1**
KARS	**Kars**	**2.07**	**53**	*e*PN	**Pn**	**11 27 44.1**	**-0.9**
KARS	**Kars**	**2.07**	**53**	Pn	**Pn**	**11 27 46.1**	**+1.2**
VANB	**Van**	**2.09**	**112**	*e*PN	**Pn**	**11 27 45.1**	**-0.2**
VANB	**Van**	**2.09**	**112**	Pn	**Pn**	**11 27 45.1**	**-0.2**
BCA	**Borcka**	**2.11**	**15**	PN	**Pn**	**11 27 46.7**	**+1.1**
BCA	**Borcka**	**2.11**	**15**	Pn	**Pn**	**11 27 46.7**	**+1.1**
TVAN	**Van**	**2.13**	**113**	*i* P	**Pn**	**11 27 46.9**	**+1.0**
TVAN				*i* S	**Sn**	**11 28 17.7**	**+4.5**
VANT	**Van**	**2.15**	**115**	*e*PN	**Pn**	**11 27 45.7**	**-0.5**
VANT	**Van**	**2.15**	**115**	Pn	**Pn**	**11 27 44.6**	**-1.6**
MYA	**Malataya**	**2.22**	**242**	*e*PN	**Pn**	**11 27 47.0**	**-0.1**
MALT	**Malatya**	**2.22**	**242**	*e*PN	**Pn**	**11 27 47.6**	**+0.4**
MALT	**Malatya**	**2.22**	**242**	Pn	**Pn**	**11 27 47.7**	**+0.5**
URFA	**Urfa**	**2.55**	**221**	*e*PN	**Pn**	**11 27 50.6**	**-1.3**
HKR	**Hakkari**	**2.87**	**128**	*e*PN	**Pn**	**11 27 55.1**	**-1.3**
HKR	**Hakkari**	**2.87**	**128**	Pn	**Pn**	**11 27 55.1**	**-1.3**
GZT	**Gaziantep**	**3.33**	**233**	*i* P	**Pn**	**11 28 08.8**	**+5.8**
GZT				*i* S	**Sn**	**11 28 50.2**	**+6.7**
TOKT	**Tokat**	**3.48**	**287**	*e*PN	**Pn**	**11 28 05.0**	**-0.2**
GAZ	**Gaziantep**	**3.66**	**234**	*e*PN	**Pn**	**11 28 07.0**	**-0.7**
BNN	**Bunyan**	**3.98**	**264**	*e*PN	**Pn**	**11 28 12.0**	**-0.2**
COBT	**Iskenderun**	**4.67**	**233**	*i* P	**Pn**	**11 28 37.9**	**+16**
CTKT	**Corum**	**4.86**	**287**	*i* P	**Pn**	**11 28 36.7**	**+12**
BOYT	**Boyabat**	**5.01**	**296**	*i* P	**Pn**	**11 28 41.7**	**+15**

*INMG **24** 11:31:28.3±1.0, 34.42N×5.62W, h31km, ML2.7, Error ellipse: s-maj=7.4km s-min=4.5km az=176.0*
*MDD **24** 11:31:28.7±0.7, 34.56N×5.55W, h17km±6km, mb3.8/12, Error ellipse: s-maj=6.1km s-min=3.6km az=76.0, PRXIMO*
*CSEM **24** 11:31:28.3±0.2, 34.61N×5.59W, h40km, MD3.5, Error ellipse: s-maj=5.6km s-min=3.6km az=86.0*
*NEIC **24** 11:31:29.0, 34.72N×5.64W, MG3.7(MDD), After MDD.*
*CNRM **24** 11:31:29.3, 34.56N×5.53W, h17km, MD3.5*

ISC 24 11:31:26.7±0.3, 34.64N±0.02×5.59W±0.03, h17km, n41, σ1§16/76, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGT	**Taghat**	**0.72**	**142**	P	**Pb**	**11 31 40.5**	**0.0**
TGT				S	**Sb**	**11 31 49.0**	**-0.9**
TGT	**Taghat**	**0.72**	**142**	*i* P	**Pb**	**11 31 40.5**	**0.0**
DKH	**Dar Kharkhour**	**0.86**	**13**	*i* P	**Pb**	**11 31 46.0**	**+3.2**
DKH				*i* S	**Sb**	**11 31 58.5**	**+4.5**
RTC	**Rabat Centre**	**1.23**	**238**	*e*P	**Pb**	**11 31 50.0**	**+0.8**
RTC				*i* S	**Sb**	**11 32 06.0**	**+1.3**
MIF	**Mishlifen**	**1.27**	**166**	*i* P	**Pb**	**11 31 49.0**	**-0.8**
MIF				*i* S	**Sb**	**11 32 05.5**	**-0.1**
TZK	**Tazeka**	**1.29**	**115**	*i* P	**Pn**	**11 31 49.5**	**-0.6**
TZK				*i* S	**Sb**	**11 32 05.5**	**-0.8**
TOU	**Touzarine**	**1.54**	**78**	*i* P	**Pn**	**11 31 55.0**	**+1.2**
TOU				*i* S	**Sn**	**11 32 12.0**	**-1.5**
CZD	**Col de Zad**	**1.67**	**164**	*i* P	**Pn**	**11 31 56.0**	**+0.4**
CZD				*i* S	**Sn**	**11 32 16.0**	**-0.7**
EJIF	**Jimena Fronter**	**1.81**	**3**	P	**Pn**	**11 32 00.0**	**+2.5**
	1.3nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.03**	**19**	P	**Pn**	**11 32 02.2**	**+1.5**
EMIJ				S	**Sn**	**11 32 28.4**	**+2.5**
EMIJ	**Mijas**	**2.03**	**19**	P	**Pn**	**11 32 02.2**	**+1.5**
	2.0nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**11 32 27.3**	**+1.5**
	4.6nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**2.03**	**19**	P	**Pn**	**11 32 02.2**	**+1.5**
	2.0nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**11 32 28.4**	**+2.6**
	4.6nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.23**	**355**	P	**Pn**	**11 32 04.4**	**+0.8**
	4.2nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**11 32 31.0**	**+0.1**
	11nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.23**	**355**	P	**Pn**	**11 32 04.4**	**+0.8**
	4.2nm,0.3s,SNR=7.9						
ESPR				S	**Sn**	**11 32 31.0**	**0.0**
	11nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.14**	**44**	P	**Pn**	**11 32 18.0**	**+1.4**
	9.1nm,0.5s,SNR=6.1						
EBER				S	**Sn**	**11 32 54.3**	**+0.2**
	9.6nm,0.5s,SNR=4.7						
EBER	**Berja**	**3.14**	**44**	P	**Pn**	**11 32 18.0**	**+1.4**
	9.1nm,0.5s,SNR=6.1						
EBER				S	**Sn**	**11 32 54.3**	**+0.2**
	9.6nm,0.5s,SNR=4.7						
EMIN	**Mina Concepcio**	**3.24**	**345**	P	**Pn**	**11 32 18.2**	**+0.3**
	1.5nm,0.3s,SNR=8.3						
EMIN				S	**Sn**	**11 32 55.9**	**-0.6**
	2.0nm,0.1s,SNR=6.1						
EMIN	**Mina Concepcio**	**3.24**	**345**	P	**Pn**	**11 32 18.2**	**+0.3**
	1.5nm,0.3s,SNR=8.3						
EMIN				S	**Sn**	**11 32 55.9**	**-0.6**
	2.0nm,0.1s,SNR=6.1						
EGRO	**El Granado**	**3.27**	**333**	P	**Pn**	**11 32 18.9**	**+0.6**
	11nm,0.3s,SNR=18						
EGRO				S	**Sn**	**11 32 55.8**	**-1.4**
	14nm,0.2s,SNR=9.4						
EGRO	**El Granado**	**3.27**	**333**	P	**Pn**	**11 32 18.9**	**+0.6**
	11nm,0.3s,SNR=18						
EGRO				S	**Sn**	**11 32 55.8**	**-1.4**
	14nm,0.2s,SNR=9.4						
ECAB	**El Cabril**	**3.43**	**2**	P	**Pn**	**11 32 21.0**	**+0.4**
	1.0nm,0.2s,SNR=7.2						
ECAB				S	**Sn**	**11 32 59.3**	**-1.9**
	7.4nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**3.43**	**2**	P	**Pn**	**11 32 21.0**	**+0.4**
	1.0nm,0.2s,SNR=7.2						
ECAB				S	**Sn**	**11 32 59.3**	**-2.0**
	7.4nm,0.5s,SNR=7.9						
EADA	**Adamuz**	**3.61**	**13**	P	**Pn**	**11 32 24.6**	**+1.4**
	6.9nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**11 33 04.1**	**-1.8**
	2.0nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.61**	**13**	P	**Pn**	**11 32 24.6**	**+1.4**
	6.9nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**11 33 04.1**	**-1.8**
	2.0nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.75**	**32**	P	**Pn**	**11 32 26.3**	**+1.0**
EQES				S	**Sn**	**11 33 09.5**	**0.0**
EQES	**Quesada**	**3.75**	**32**	P	**Pn**	**11 32 26.3**	**+1.0**
	2.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**11 33 08.8**	**-0.8**
	4.9nm,0.5s,SNR=7.9						
EQES	**Quesada**	**3.75**	**32**	P	**Pn**	**11 32 26.3**	**+1.0**
	2.1nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**11 33 09.5**	**0.0**
	4.9nm,0.5s,SNR=7.9						
PBEJ	**Beja**	**3.84**	**332**	*e*Pn	**Pn**	**11 32 27.8**	**+1.3**
PBEJ				*e*Sn	**Sn**	**11 33 10.2**	**-1.6**
	8.8nm,0.3s						
PBEJ	**Beja**	**3.84**	**332**	*e*Pn	**Pn**	**11 32 27.8**	**+1.3**
PBEJ				*e*Sn	**Sn**	**11 33 10.2**	**-1.6**
	8.8nm,0.3s						
PTEO	**Sao Teotonio**	**3.85**	**320**	*e*Pn	**Pn**	**11 32 26.8**	**+0.2**
PTEO				*e*Sn	**Sn**	**11 33 10.9**	**-1.1**
	12nm,0.5s						
PTEO	**Sao Teotonio**	**3.85**	**320**	*e*Pn	**Pn**	**11 32 26.8**	**+0.2**
PTEO				*e*Sn	**Sn**	**11 33 10.9**	**-1.1**
	12nm,0.5s						
OUK	**Oukaimeden**	**3.92**	**210**	*e*P	**Pn**	**11 32 29.0**	**+1.3**
OUK				*i* S	**Sn**	**11 33 13.0**	**-0.8**
CIA	**Chichaoua**	**4.06**	**222**	P	**Pn**	**11 32 27.5**	**-2.1**
CIA				S	**Sn**	**11 33 09.0**	**-8.3**
CIA	**Chichaoua**	**4.06**	**222**	*i* P	**Pn**	**11 32 27.5**	**-2.1**
EBAD	**Badajoz**	**4.26**	**345**	P	**Pn**	**11 32 33.5**	**+1.1**
	1.6nm,0.1s,SNR=8.7						
EBAD				S	**Sn**	**11 33 20.4**	**-1.9**
	4.3nm,0.2s						
EBAD	**Badajoz**	**4.26**	**345**	P	**Pn**	**11 32 33.5**	**+1.0**
	1.6nm,0.1s,SNR=8.7						
EBAD				S	**Sn**	**11 33 20.5**	**-1.9**
	4.3nm,0.2s						
MOE	**Montemor**	**4.46**	**331**	*e*Pn	**Pn**	**11 32 35.7**	**+0.4**
MOE				*e*Sn	**Sn**	**11 33 26.5**	**-1.0**
PCBR	**Castelo Branco**	**5.40**	**344**	*e*Pn	**Pn**	**11 32 48.9**	**+0.3**
PCBR				*e*Sn	**Sn**	**11 33 50.6**	**-0.5**
EMOS	**Mosqueruela**	**7.01**	**34**	P	**Pn**	**11 33 07.7**	**-3.6**
	2.5nm,0.3s,SNR=4.0						
ECAL	**Calabor**	**7.34**	**353**	P	**Pn**	**11 33 15.3**	**-0.6**
	2.8nm,0.4s,SNR=7.9						
ECAL	**Calabor**	**7.34**	**353**	P	**Pn**	**11 33 15.3**	**-0.6**

*ATH **24** 11:36:12.1, 38.58N×23.75E, h29km±2km, MD2.9/7, ML3.0*
*NEIC **24** 11:36:12.9, 38.54N×23.53E, h23km, ML3.0(ATH), After ATH.*
*THE **24** 11:36:12.8, 38.54N×23.53E, h9km, ML2.8*
*CSEM **24** 11:36:13.3±0.1, 38.55N×23.54E, h13km±1km, ML3.0, Error ellipse: s-maj=3.6km s-min=1.8km az=77.0*

ISC 24 11:36:12.7±0.5, 38.58N±0.03×23.64E±0.08, h26km±7km, n13, σ0§90/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.43**	**170**	*e*PB	**Pb**	**11 36 21.4**	**-0.4**
MPAR				*e*SB	**Sb**	**11 36 28.2**	**+0.3**
PTL	**Penteli**	**0.55**	**161**	*e*PN	**Pn**	**11 36 24.0**	**-0.8**
ATH	**Athens Observa**	**0.60**	**174**	*e*PN	**Pn**	**11 36 24.6**	**-0.9**
ATH				*e*SN	**Sn**	**11 36 34.0**	**-0.5**
AOS	**Alonnisos**	**0.62**	**17**	*e*Pg	**Pb**	**11 36 25.7**	**+0.8**
AOS				*e*Sg	**Sb**	**11 36 36.0**	**+2.6**
NSAL	**Nisos Salamina**	**0.68**	**192**	*e*PB	**Pb**	**11 36 25.5**	**-0.4**
NSAL				*e*SN	**Sn**	**11 36 37.0**	**+0.6**
NEO	**Neokhori**	**0.80**	**336**	*e*PN	**Pn**	**11 36 28.5**	**+0.2**
NAIG	**Nisos Aigina**	**0.82**	**188**	*e*PN	**Pn**	**11 36 28.5**	**-0.2**
NAIG				*e*SN	**Sn**	**11 36 41.5**	**+1.5**
AGG	**Agios Georgios**	**1.12**	**294**	*e*Pg	**Pn**	**11 36 32.6**	**-0.3**
AGG				*e*Sg	**Sb**	**11 36 47.9**	**+0.5**
LOS	**Limnos**	**1.76**	**39**	*e*Pb	**Pb**	**11 36 43.8**	**-0.4**
LIT	**Litokhoron**	**1.77**	**330**	*e*Pb	**Pb**	**11 36 42.3**	**-1.9**
OUR	**Ouranopolis**	**1.78**	**8**	*e*Pb	**Pb**	**11 36 43.9**	**-0.6**
OUR	**Ouranopolis**	**1.78**	**8**	*e*Pb	**Pb**	**11 36 43.8**	**-0.7**
VLI	**Veliai**	**1.94**	**197**	*e*PN	**Pn**	**11 36 45.5**	**+0.9**

*NEIC **24** 11:36:41.2±2.1, 19.27S×176.22W, h172km±30km, mb4.2/7, Error ellipse: s-maj=23.8km s-min=14.3km az=50.0*
*IDC **24** 11:36:53.1±20.0, 19.75S×176.64W, h255km±141km, mb3.7/6, mb1 3.9/7, mb1mx3.6/15, mbtmp4.4/7, Error ellipse: s-maj=172.7km s-min=23.9km az=45.0*

ISC 24 11:36:40.0±2.9, 19.3S±0.2×176.2W±0.2, h176km±40km, n17, σ0§68/18, mb4.2/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.86**	**39**	*e*Pn	**P**	**11 38 18.9**	**-0.1**
AFI				*e*Sn	**S**	**11 39 29.5**	**-6.7**
URZ	**Urewera**	**19.75**	**196**	P	**P**	**11 40 58.5**	**+0.4**
	2.8nm,0.3s,baz=106,slow=3.6,SNR=11						
RPZ	**Rata Peaks**	**26.57**	**201**	P	**P**	**11 42 02.5**	**-1.0**
	5.1nm,0.4s,mb4.5,baz=17,slow=21,SNR=11						
CTA	**Charters Tower**	**35.29**	**262**	*e*P	**P**	**11 43 21.3**	**+1.3**
	2.1nm,0.4s,mb4.1						
CTA	**Charters Tower**	**35.29**	**262**	P	**P**	**11 43 21.1**	**+1.1**
	3.3nm,0.4s,mb4.3,baz=88,slow=11,SNR=15						
CTAO	**Charters Tower**	**35.29**	**262**	*e*P	**P**	**11 43 20.2**	**+0.3**
	4.1nm,0.6s,mb4.2						
CTAO				*e*		11 44 06.4	
PMG	**Port Moresby**	**36.75**	**280**	P	**P**	**11 43 33.5**	**+1.2**
	3.2nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**39.81**	**243**	P	**P**	**11 43 58.0**	**+0.4**
	2.6nm,1.0s,mb3.8,baz=93,slow=11,SNR=3.2						
WB2	**Warramunga Arr**	**46.42**	**261**	*e*P	**P**	**11 44 50.3**	**-0.6**
WRAB	**Tennant Creek**	**46.43**	**261**	*e*P	**P**	**11 44 50.3**	**-0.7**
	9.3nm,1.1s,mb4.3						
ASAR	**Alice Springs**	**46.43**	**255**	P	**P**	**11 44 50.9**	**-0.1**
	4.9nm,0.5s,mb4.4,baz=91,slow=8.4,SNR=94						
ASPA	**Alice Springs**	**46.43**	**255**	*e*P	**P**	**11 44 51.1**	**+0.1**
WRA	**Warramunga Arr**	**46.44**	**261**	P	**P**	**11 44 50.6**	**-0.4**
	1.3nm,0.3s,mb4.1,baz=96,slow=7.3,SNR=184						
KAKA	**Kakadu**	**49.64**	**270**	*e*P	**P**	**11 45 15.0**	**-0.8**
	1.4nm,0.3s,mb4.1						
SBA	**Scott Base**	**59.16**	**184**	*e*P	**P**	**11 46 25.3**	**+1.2**
	24nm,1.1s,mb4.9						
VNDA	**Vanda**	**59.24**	**185**	P	**P**	**11 46 24.4**	**-0.2**
	1.7nm,0.7s,mb4.0,baz=12,slow=6.7,SNR=4.3						
QSPA	**South Pole Qui**	**70.75**	**180**	*e*P	**P**	**11 47 38.0**	**-0.3**
	7.3nm,0.9s,mb4.4						

*NEIC **24** 11:56:02.6±1.6, 50.34N×18.78E, h5km, MG2.5(WAR),*
Error ellipse: s-maj=24.3km s-min=9.8km az=174.0
*PRU **24** 11:56:02.4, 50.26N×18.82E*

WAR 24 11:56:02.1, 50.28N×18.89E, h0km, ML2.5, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.59**	**95**	*e*PG	Pg	11 56 14.0	+0.2
OJC				*e*SG	Sg	11 56 22.0	+0.4
OKC	**Ostrava-Krasne**	**0.65**	**228**	*e*PG	Pg	11 56 15.1	+0.1
MORC	**Moravsky Berou**	**1.00**	**241**	*e*Pg	Pg	11 56 20.7	-1.4
MORC				*e*Sg	Sg	11 56 33.7	-1.7
NIE	**Niedzica**	**1.26**	**132**	*e*PG	Pg	11 56 25.0	-2.2
NIE				*e*SG	Sg	11 56 43.0	-1.0
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG	Pg	11 56 31.5	-3.5
DPC				*e*SG	Sg	11 56 54.2	-2.7
	30nm,0.5s						
KSP	**Ksiaz**	**1.75**	**290**	*e*PN	Pn	11 56 33.0	-0.9
KSP				*e*PG	Pg	11 56 35.0	-2.0
KSP				*e*SG	Sg	11 56 58.0	-2.4
KSP	**Ksiaz**	**1.75**	**290**	*e*PKP	Pg	11 56 35.3	-1.8
VYHS	**Vyhne**	**1.78**	**181**	*e*PG	Pg	11 56 34.2	-3.5
VYHS				*e*SG	Sg	11 56 58.9	-2.6
UPC	**Upice**	**1.86**	**278**	*e*SG	Sg	11 57 01.2	-2.7
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*i* PG	Pg	11 56 42.8	-2.5
CRVS				*i* SG	Sg	11 57 12.8	-1.4
PRU	**Pruhonice**	**2.81**	**266**	*e*SG	Sg	11 57 29.1	-6.6
KHC	**Kasperske Hory**	**3.63**	**254**	*e*SG	Sg	11 57 56.3	-6.7

*NEIC **24** 11:57:25.9, 39.77N×23.49E, h5km, ML3.5(ATH), After ATH.*
*CSEM **24** 11:57:25.9, 39.77N×23.49E, h5km, MD3.2/3, After ATH*

ATH 24 11:57:48.5, 38.41N×24.02E, h35km±1km, MD3.0/5, ML2.7, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAR	**Parnis Oros**	**0.34**	**221**	*e*PB	P	11 57 56.6	-0.3
MPAR				*e*SB	S	11 58 03.5	+0.7
MPAR	**Parnis Oros**	**0.34**	**221**	*e*Pb	P	11 57 56.4	-0.5
PTL	**Penteli**	**0.38**	**199**	*e*PB	P	11 57 57.6	+0.2
PTL				*e*SB	S	11 58 03.5	-0.2
ATH	**Athens Observa**	**0.50**	**209**	*e*PB	P	11 57 59.5	+0.5
NSAL	**Nisos Salamina**	**0.67**	**221**	*e*PN	P	11 58 02.1	+0.7
NAIG	**Nisos Aigina**	**0.77**	**213**	*e*PN	P	11 58 04.0	+1.1
NAIG				*e*SN	S	11 58 15.0	+1.5
NEO	**Neokhori**	**1.09**	**325**	*e*PN	P	11 58 09.0	+1.5
NEO				*e*SN	S	11 58 24.0	+2.4
VLI	**Veliai**	**1.90**	**207**	*e*PN	P	11 58 20.0	+1.0

WEL 24 12:08:06.2±0.2, 36.74S×178.88W, h33km, ML3.5/6, Error ellipse: s-maj=3.5km s-min=2.4km az=0.0, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**2.64**	**239**	PN	Pn	12 08 45.8	-1.7
PUZ				SN	Sn	12 09 16.0	-2.7
PUZ				SN	Sn	12 09 16.2	-2.5
MWZ	**Matawai**	**3.27**	**240**	PN	Pn	12 08 54.2	-2.2
MWZ				SN	Sn	12 09 58.0	-4.4
URZ	**Urewera**	**3.53**	**243**	PN	Pn	12 08 58.0	-2.2
URZ				SN	Sn	12 09 36.8	-4.4
KNZ	**Kokohu**	**3.55**	**229**	PN	Pn	12 08 58.2	-2.2
BKZ	**Black Stump Fm**	**4.39**	**235**	PN	Pn	12 09 09.4	-2.9
BKZ				SN	Sn	12 09 58.3	-4.6

*NEIC **24** 12:49:59.1±0.8, 50.20N×18.61E, h5km, MG2.6(WAR), Error ellipse: s-maj=10.6km s-min=5.5km az=196.0*
*PRU **24** 12:49:59.6, 50.12N×18.63E*
*WAR **24** 12:50:00.7, 50.26N×18.90E, h0km, ML2.6, Mining Induced*

ISC 24 12:49:57.9±0.5, 50.16N±0.03×18.65E±0.03, n24, σ1§41/44, 2C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.30**	**256**	⇑*i* PG	**Pg**	**12 50 06.1**	**+2.2**
RAC				⇑*e*SG	**Sg**	**12 50 10.1**	**+2.2**
RAC	**Raciborz**	**0.30**	**256**	⇓*i* Pg	**Pg**	**12 50 06.1**	**+2.2**
RAC				*e*Sg	**Sg**	**12 50 09.5**	**+1.6**
OKC	**Ostrava-Krasne**	**0.45**	**225**	*e*PG	**Pg**	**12 50 08.2**	**+1.2**
OKC				*e*SG	**Sg**	**12 50 13.1**	**+0.1**
	72nm,0.4s						
OJC	**Ojcow**	**0.74**	**85**	*e*PG	**Pg**	**12 50 13.0**	**+0.2**
OJC				*e*SG	**Sg**	**12 50 21.0**	**-1.7**
MORC	**Moravsky Berou**	**0.81**	**242**	*e*Pg	**Pg**	**12 50 14.1**	**+0.1**
LIKS	**Likavka**	**1.15**	**165**	*e*SG	**Sg**	**12 50 40.7**	**+4.5**
NIE	**Niedzica**	**1.31**	**124**	*e*PG	**Pg**	**12 50 24.0**	**-0.1**
NIE				*e*SG	**Sg**	**12 50 41.0**	**-0.5**
DPC	**Dobruska-

ROCH	**El Roble**	**1.16**	**169**	*i*	S	S	14 26 25.5	+2.5
TLL	**Tololo Astrono**	**1.71**	**14**	*e*	P	P	14 26 16.4	+0.6
TLL				*i*	S	S	14 26 38.4	+1.8
TLL					AMP		14 26 42.0	
	comp=N,98nm,0.5s							
FCH	**Farellones**	**1.71**	**151⇑**	*e*	P	P	14 26 16.6	+0.7
FCH				*i*	S	S	14 26 38.9	+2.3
FCH					AMP		14 26 44.8	
	comp=E,51nm,0.1s							
LMEL	**Las Melosas**	**2.20**	**156**	*e*	P	P	14 26 23.9	+1.0
LMEL				*i*	S	S	14 26 50.2	+1.1
LMEL					AMP		14 26 58.5	
	comp=N,84nm,0.1s							

IDC ***24*** *14:30:04.4±0.8, 13.29N×50.63E, mb4.0/12, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML3.9/2, MS3.6/9, Ms1 3.6/9, ms1mx3.4/24, Error ellipse: s-maj=24.2km s-min=19.6km az=49.0*

CSEM ***24*** *14:30:05.0±0.3, 13.58N×50.43E, h2km, mb4.1/4, Error ellipse: s-maj=12.8km s-min=5.9km az=144.0*

NEIC ***24*** *14:30:06.1±0.4, 13.29N×50.64E, h10km, mb4.2/8, Error ellipse: s-maj=11.2km s-min=8.2km az=140.0*

OMAN ***24*** *14:30:10.4±0.2, 16.67N×53.99E, h640km, Error ellipse: s-maj=280.4km s-min=32.5km az=44.0*

ISC 24 14:30:04.2±0.5, 13.43N±0.08×50.60E±0.06, h10km, n34, σ1♀06/31, mb4.0/18, MS3.6/7, 4D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
ABTO	**Aybut**	**4.69**	**33**	⇓P		**Pn**	**14 31 15.9**	**-0.9**
	SNR=10							
BDHA	**Al Bayda'**	**4.92**	**277**	⇓*e*P		**Pn**	**14 31 19.5**	**-0.7**
LBOS		**5.22**	**275**	⇓*e*P		**Pn**	**14 31 23.2**	**-1.2**
RBK	**Rabkut**	**5.33**	**40**	P		**Pn**	**14 31 25.2**	**-0.7**
	SNR=21							
RBK				⇓S		**Sn**	**14 32 26.5**	**-1.7**
WHFO	**Wadi Hawf**	**5.41**	**34**	P		**Pn**	**14 31 26.1**	**-0.9**
	SNR=9.3							
ATD	**Arta Tunnel**	**7.81**	**257**	Pn		**Pn**	**14 32 00.2**	**-0.4**
	4.0nm,0.3s,baz=79,slow=16,SNR=11							
ATD				LR		LR	14 34 19.1	
	comp=Z,454nm,19.1s,baz=84,slow=33							
ATD	**Arta Tunnel**	**7.81**	**257**	Pn		**Pn**	**14 32 00.2**	**-0.5**
KMBO	**Kilima Mbogo**	**19.61**	**223**	P		**P**	**14 34 34.3**	**-1.4**
	0.1nm,0.3s,baz=32,slow=12,SNR=6.7							
KMBO				LR		LR	14 42 39.1	
	comp=Z,129nm,19.0s,baz=96,slow=39							
KMBO	**Kilima Mbogo**	**19.61**	**223**	*e*P		**P**	**14 34 34.0**	**-1.7**
	14nm,1.4s							
KMBO				LR		LR	14 42 39.1	
ASF	**Jabal al Asfar**	**22.49**	**328**	LR		LR	14 43 43.4	
	comp=Z,73nm,20.2s,MS3.1,baz=198,slow=36							
MBAR	**Mbarara**	**24.12**	**236**	*e*P		**P**	**14 35 22.7**	**+1.2**
	7.0nm,1.3s,mb3.9							
MBAR	**Mbarara**	**24.12**	**236**	*e*P		**P**	**14 35 22.7**	**+1.2**
	7.0nm,1.3s,mb3.9							
MALT	**Malatya**	**27.04**	**339**	P		**P**	**14 35 55.5**	**+6.9**
	6.3nm,1.1s,mb4.1							
GNI	**Garni**	**27.11**	**350**	P		**P**	**14 35 49.4**	**+0.2**
	3.3nm,0.4s,mb4.2,baz=163,slow=17,SNR=2.3							
GNI				LR		LR	14 48 24.8	
	comp=Z,214nm,21.1s,MS3.7,baz=357,slow=40							
GNI	**Garni**	**27.11**	**350**	P		**P**	**14 35 47.0**	**-2.3**
	8.4nm,0.9s,mb4.3							
GNI				LR		LR	14 48 24.8	
BRTR	**Keskin Array B**	**30.16**	**333**	P		**P**	**14 36 21.6**	**+4.8**
	0.2nm,0.3s,mb3.3,baz=121,slow=8.4,SNR=2.8							
AAK	**Ala-Archa**	**35.68**	**31**	*e*P		**P**	**14 37 07.0**	**+2.3**
	3.8nm,1.0s,mb4.3							
AAK	**Ala-Archa**	**35.68**	**31**	*e*P		**P**	**14 37 07.1**	**+2.4**
	3.8nm,1.0s,mb4.3							
BVAR	**Borovoye Array**	**42.53**	**18**	P		**P**	**14 38 03.2**	**+1.7**
	0.8nm,0.6s,mb3.6,baz=200,slow=7.6,SNR=8.7							
BVAR				PcP		PcP	14 39 54.9	+0.1
	0.7nm,0.7s,baz=198,slow=4.7,SNR=3.6							
BVAR	**Borovoye Array**	**42.53**	**18**	PcP		PcP	14 39 54.9	+0.1
CHKZ	**Chkalovo**	**43.16**	**17**	P		**P**	**14 38 06.9**	**+0.2**
	4.1nm,1.4s,mb4.0							
KURK	**Kurchatov**	**43.60**	**26**	P		**P**	**14 38 11.6**	**+1.4**
	5.2nm,1.1s,mb4.2							
GERES	**GERESS Array B**	**46.59**	**327**	P		**P**	**14 38 35.5**	**+1.4**
	0.5nm,0.6s,mb3.6,baz=139,slow=9.0,SNR=3.3							
BOSA	**Boshof**	**48.46**	**210**	LR		LR	15 01 25.1	
	comp=Z,87nm,18.3s,MS3.8,baz=82,slow=39							
FINES	**FINESS Array B**	**51.12**	**345**	P		**P**	**14 39 09.7**	**+0.7**
	1.2nm,0.7s,mb3.9,baz=143,slow=9.5,SNR=4.5							
FINES				LR		LR	15 00 29.0	
	comp=Z,50nm,18.4s,MS3.6,baz=103,slow=36							
HFS	**Hagfors**	**53.90**	**338**	P		**P**	**14 39 29.5**	**-0.3**
	1.0nm,0.6s,mb4.0,baz=108,slow=4.7,SNR=4.4							
ESDC	**Sonseca Array**	**54.40**	**309**	P		**P**	**14 39 34.3**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=98,slow=7.1,SNR=4.6							
NOA	**NORSAR Array B**	**55.42**	**338**	P		**P**	**14 39 40.9**	**0.0**
	0.9nm,0.9s,mb3.8,baz=84,slow=12,SNR=3.4							
NOA				LR		LR	15 06 52.4	
	comp=Z,30nm,19.4s,MS3.4,baz=225,slow=40							
SONM	**Songino Array**	**57.38**	**41**	P		**P**	**14 39 56.3**	**+1.1**
	0.9nm,0.9s,mb3.8,baz=243,slow=7.6,SNR=6.3							
SONM				LR		LR	15 05 12.3	
	comp=Z,61nm,18.9s,MS3.7,baz=183,slow=37							
ARCES	**ARCESS Array B**	**58.27**	**350**	LR		LR	15 07 35.9	
	comp=Z,91nm,18.6s,MS3.9,baz=186,slow=38							
FITZ	**Fitzroy Crossi**	**80.35**	**111**	P		**P**	**14 42 16.7**	**-1.1**
	7.2nm,1.1s,mb4.5,baz=348,slow=1.4,SNR=4.5							
WRA	**Warramunga Arr**	**88.76**	**111**	P		**P**	**14 43 00.4**	**+0.2**
	3.1nm,0.9s,mb4.7,baz=301,slow=3.8,SNR=23							
WRAB	**Tennant Creek**	**88.77**	**111**	*e*P		**P**	**14 43 00.1**	**-0.2**
	5.4nm,0.9s,mb4.9							
WRAB				*e*			14 43 05.4	
ASAR	**Alice Springs**	**89.32**	**114**	P		**P**	**14 43 03.0**	**+0.2**
	2.7nm,0.9s,mb4.6,baz=291,slow=4.8,SNR=19							

NIED ***24*** *14:38:00,33.70N×130.20E, h8km, Mw3.8 Best double couple: M0 5.37×10^14 NP1:φs23°, δ88°, λ-143°. NP2: φs291°, δ53°, λ-2°.*

IDC ***24*** *14:38:34.8±11.0, 34.75N×132.74E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/17, Error ellipse: s-maj=504.7km s-min=29.4km az=61.0*

JMA ***24*** *14:38:42.8, 33.74N×130.17E, h11km, M4.3 Broadband fault plane solution: P waves. NP1:φs290°, δ58°, λ-10°. NP2:φs26°, δ81°, λ-147°. Principal axes: T Plg16°, Azm154°; N Plg56°, Azm39°; P Plg29°, Azm253°; JMA Felt III J1.*

ISC 24 14:38:42.7±0.8, 33.73N±0.04×130.17E±0.05, h14km±5km, n11, σ0♀79/15, mb3.2/3, MS3.7/2, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
JFI	**Itaya**	**0.35**	**149**	⇑P		**Pg**	**14 38 50.1**	**+0.1**
JFI				S		**Sg**	**14 38 55.1**	**+0.2**
JII	**Iki**	**0.37**	**281**	⇓P		**Pg**	**14 38 50.4**	**-0.1**
JII				S		**Sg**	**14 38 55.5**	**-0.3**
JFA	**Akaike**	**0.52**	**91**	⇓P		**Pb**	**14 38 52.8**	**-0.3**
JFA				S		**Sb**	**14 39 00.2**	**0.0**
JUR	**Ureshino**	**0.66**	**197**	⇑P		**Pb**	**14 38 55.6**	**+0.1**
JUR				S		**Sb**	**14 39 04.3**	**+0.1**
JTA	**Tamana**	**0.82**	**158**	⇑P		**Pb**	**14 38 58.6**	**+0.4**
JTA				S		**Sb**	**14 39 09.7**	**+0.9**
JTU	**Tsushima**	**1.02**	**321**	⇑P		**Pb**	**14 39 01.7**	**0.0**
JTU				*i* S		**Sb**	**14 39 15.3**	**+0.5**
SONM	**Songino Array**	**22.75**	**315**	P		**P**	**14 43 47.2**	**+1.7**
	0.4nm,0.8s,mb2.9,baz=121,slow=8.4,SNR=3.5							
ZAL	**Zalesovo**	**37.64**	**316**	LR		LR	15 02 00.6	
	comp=Z,68nm,18.6s,MS3.5,baz=109,slow=37							
WRA	**Warramunga Arr**	**53.51**	**175**	P		**P**	**14 48 03.5**	**-1.7**
	0.4nm,0.7s,mb3.5,baz=355,slow=7.9,SNR=5.2							
ASAR	**Alice Springs**	**57.18**	**176**	P		**P**	**14 48 30.2**	**-1.6**
	0.2nm,0.6s,mb3.3,baz=7.6,slow=13,SNR=6.6							
DZM	**Mont Dzumac**	**65.36**	**143**	LR		LR	15 14 25.5	
	comp=Z,80nm,19.2s,MS3.9,baz=253,slow=33							

IDC 24 14:49:49.2±38.0, 18.34S×178.18E, h686km±134km, mb3.0/5, mb1 3.1/6, mb1mx2.9/14, mbtmp4.2/6, Error ellipse: s-maj=543.3km s-min=58.1km az=80.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
DZM	**Mont Dzumac**	**11.63**	**249**	P		P	14 52 23.9	-0.6
	0.5nm,0.3s,baz=288,slow=20,SNR=7.6							
PMG	**Port Moresby**	**31.36**	**282**	P		P	14 55 19.1	-1.0
	1.4nm,0.6s,baz=54,slow=8.7,SNR=3.9							
STKA	**Stephens Creek**	**35.59**	**241**	P		P	14 55 54.0	-0.9
	1.5nm,0.5s,baz=88,slow=9.7,SNR=9.4							
WB2	**Warramunga Arr**	**41.35**	**260**	*e*P		P	14 56 39.2	-2.0
WRA	**Warramunga Arr**	**41.37**	**260**	P		P	14 56 39.1	-2.2
	0.8nm,0.5s,baz=97,slow=6.9,SNR=20							
ASAR	**Alice Springs**	**41.55**	**255**	P		P	14 56 41.5	-1.4
	6.5nm,0.4s,baz=90,slow=7.8,SNR=281							
ASPA	**Alice Springs**	**41.55**	**255**	*e*P		P	14 56 41.3	-1.6
KAKA	**Kakadu**	**44.34**	**270**	*e*P		P	14 57 02.3	-2.2
	1.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**49.76**	**262**	P		P	14 57 42.9	-1.9
	1.0nm,0.4s,baz=66,slow=3.3,SNR=3.7							

MAN 24 14:55:05.7, 8.77N×126.39E, h33km, mb4.5, ML3.3, MS3.2, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
BIPH	**Bislig**	**0.59**	**182**	⇓*i*P		P	14 55 17.5	+0.1
BIPH				*i* S		S	14 55 26.4	+0.5
BUTP	**Butuan**	**0.78**	**285**	*e*P		P	14 55 21.1	+0.9
BUTP				*e*S		S	14 55 34.8	+3.9
SCPH	**Surigao**	**1.34**	**319**	⇓*e*P		P	14 55 28.2	0.0
SCPH				*e*S		S	14 55 47.0	+2.0
BUKP	**Musuan**	**1.58**	**236**	*e*P		P	14 55 32.4	+0.7
BUKP				*e*S		S	14 55 53.6	+2.4
CGP	**Cagayan de Oro**	**1.70**	**259**	⇑*e*P		P	14 55 38.0	+4.6
CGP				*i* S		S	14 55 56.0	+1.8
MATI	**Mati**	**1.82**	**184**	*e*P		P	14 55 35.1	+0.1
MSLP	**Maasin**	**2.02**	**312**	*e*P		P	14 55 40.7	+2.6
TBP	**Tagbilaran**	**2.65**	**290**	*e*P		P	14 55 46.7	-0.3
BESP	**Borongan**	**2.96**	**342**	*e*P		P	14 55 52.1	+0.7
DCPH	**Dipolog City**	**3.00**	**267**	⇑*e*P		P	14 55 51.9	-0.2
DCPH				*e*S		S	14 56 26.5	-0.8
PAGZ	**Pagadian**	**3.11**	**253**	*e*P		P	14 55 54.3	+0.7
CNP	**Catarman**	**4.08**	**336**	*e*P		P	14 56 06.5	-0.9

IDC 24 14:58:51.6±32.0, 21.52S×179.55W, mb3.8/4, mb1 4.0/4, mb1mx3.8/12, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=608.1km s-min=140.8km az=89.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
URZ	**Urewera**	**16.94**	**189**	LR		LR	15 08 31.9	
	comp=Z,72nm,19.2s,baz=354,slow=34							
STKA	**Stephens Creek**	**36.05**	**245**	P		P	15 05 54.2	-2.6
	2.4nm,1.1s,baz=103,slow=14,SNR=3.3							
ASAR	**Alice Springs**	**42.88**	**258**	P		P	15 06 52.0	-1.6
	0.3nm,0.6s,baz=97,slow=6.9,SNR=9.2							
WRA	**Warramunga Arr**	**43.04**	**263**	P		P	15 06 53.6	-1.4
	0.6nm,0.7s,baz=96,slow=7.7,SNR=7.9							
FITZ	**Fitzroy Crossi**	**51.47**	**264**	P		P	15 07 59.3	-1.9
	4.3nm,1.1s,baz=135,slow=4.3,SNR=3.2							

NEIC ***24*** *15:08:00.9±1.1, 21.03S×178.45W, h552km±13km, mb4.0/1, Error ellipse: s-maj=24.3km s-min=12.5km az=148.0*

IDC ***24*** *15:08:01.8±1.8, 21.03S×178.48W, h562km±22km, mb2.8/5, mb1 3.2/8, mb1mx3.1/15, mbtmp4.1/8, Error ellipse: s-maj=31.9km s-min=15.4km az=148.0*

ISC 24 15:08:01.0±1.2, 21.0S±0.2×178.5W±0.2, h561km±25km, n18, σ0♀91/14, mb3.5/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
AFI	**Afiamalu**	**9.56**	**43**	P		**P**	**15 10 16.0**	**+0.7**
	3.8nm,0.3s,baz=11,slow=3.7,SNR=11							
AFI				S		**S**	**15 12 03.6**	**+0.9**
	0.7nm,0.3s,baz=252,slow=20,SNR=3.1							
AFI	**Afiamalu**	**9.56**	**43**	*e*Pn		**P**	**15 10 13.8**	**-1.5**
AFI				*e*S		**S**	**15 12 01.7**	**-1.0**
DZM	**Mont Dzumac**	**14.04**	**263**	P		**P**	**15 11 02.0**	**+1.5**
	0.2nm,0.3s,baz=88,slow=15,SNR=3.7							
URZ	**Urewera**	**17.59**	**191**	P		**P**	**15 11 34.6**	**-0.2**
	1.9nm,0.3s,baz=256,slow=19,SNR=7.0							
PMG	**Port Moresby**	**35.01**	**284**	P		**P**	**15 14 08.1**	**-0.4**
	2.2nm,0.6s,mb3.9,baz=112,slow=19,SNR=4.1							
PMG	**Port Moresby**	**35.01**	**284**	P		**P**	**15 14 07.8**	**-0.7**
	2.4nm,0.6s,mb3.9							
STKA	**Stephens Creek**	**37.13**	**245**	P		**P**	**15 14 26.6**	**+0.8**
	0.9nm,0.5s,mb3.5,baz=94,slow=14,SNR=4.7							
STKA	**Stephens Creek**	**37.13**	**245**	*e*P		**P**	**15 14 25.8**	**-0.1**
ASAR	**Alice Springs**	**43.94**	**257**	P		**P**	**15 15 19.8**	**-0.6**
	0.6nm,0.5s,mb3.4,baz=93,slow=7.8,SNR=23							
ASAR				PcP		PcP	15 16 53.4	-0.9
	0.3nm,0.6s,baz=93,slow=3.8,SNR=5.6							
ASAR				S		**S**	**15 21 07.2**	**-4.9**
	0.5nm,0.8s,baz=90,slow=16,SNR=5.6							
WRA	**Warramunga Arr**	**44.06**	**263**	P		**P**	**15 15 20.5**	**-0.9**
	0.1nm,0.2s,mb2.9,baz=97,slow=6.8,SNR=15							
PDAR	**Pinedale Array**	**89.67**	**43**	P		**P**	**15 20 01.6**	**+1.0**
	0.6nm,0.6s,mb3.6,baz=186,slow=3.5,SNR=6.5							
ARCES	**ARCESS Array B**	**129.35**	**349**	PKP		PKPdf	15 26 05.1	-0.4
	2.3nm,0.9s,slow=2.4,SNR=3.9							
ARCES	**ARCESS Array B**	**129.35**	**349**	PKP		PKPdf	15 26 05.1	-0.4
FINES	**FINESS Array B**	**136.14**	**343**	PKP		PKPdf	15 26 20.0	+1.8
	0.4nm,0.7s,baz=76,slow=7.9,SNR=3.6							
FINES	**FINESS Array B**	**136.14**	**343**	PKP		PKPdf	15 26 20.0	+1.8
AKASG	**Malin Array Be**	**143.24**	**330**	PKP		PKPdf	15 26 29.3	-1.9
	1.4nm,0.4s,baz=41,slow=4.4,SNR=8.1							
AKASG	**Malin Array Be**	**143.24**	**330**	PKP		PKPdf	15 26 29.3	-1.9
GERES	**GERESS Array B**	**150.58**	**343**	PKPbc		PKPdf	15 26 50.3	+7.0
	0.4nm,0.6s,baz=63,slow=3.0,SNR=3.5							

NEIC ***24*** *15:10:27.1±0.8, 50.04N×19.10E, h5km, MG2.6(WAR), Error ellipse: s-maj=12.0km s-min=6.8km az=190.0*

PRU ***24*** *15:10:28.0, 50.10N×19.07E*

WAR 24 15:10:27.3, 50.08N×19.13E, h0km, ML2.7, 1D, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
OJC	**Ojcow**	**0.46**	**71**	*e*Pg		Pg	15 10 36.6	+0.2
OJC				*e*Sg		Sg	15 10 43.2	+0.8
RAC	**Raciborz**	**0.60**	**271**	*e*PG		Pg	15 10 39.0	-0.3
RAC				*e*SG		Sg	15 10 48.0	+0.7
OKC	**Ostrava-Krasne**	**0.68**	**250**	*e*PG		Pg	15 10 41.0	+0.2
OKC				*e*SG		Sg	15 10 50.4	+0.6
	38nm,0.2s							
NIE	**Niedzica**	**1.01**	**130**	⇓*e*Pg		Pg	15 10 45.4	-2.1
NIE				*e*Sg		Sg	15 11 01.5	+0.5
LIKS	**Likavka**	**1.03**	**181**	*i* SG		Sg	15 11 02.7	+1.2
MORC	**Moravsky Berou**	**1.07**	**254**	*e*Pg		Pg	15 10 47.0	-1.6
MORC				*e*Sg		Sg	15 11 00.8	-2.0
VYHS	**Vyhne**	**1.60**	**187**	*i* PG		Pg	15 10 56.1	-3.1
VYHS				*e*SG		Sg	15 11 17.7	-2.7
DPC	**Dobruska-Polom**	**1.82**	**280**	*e*PG		Pg	15 10 59.7	-4.0
DPC				*e*SG		Sg	15 11 23.8	-4.2
	46nm,0.3s							
SMOL	**Smolenice**	**1.92**	**216**	*e*SG		Sg	15 11 27.7	-3.5
CRVS	**Cervenica-Dubn**	**1.92**	**127**	*i* PG		Pg	15 11 03.7	-2.0
CRVS				*e*SG		Sg	15 11 32.0	+0.7
KSP	**Ksiaz**	**1.97**	**294**	*e*Pn		Pn	15 11 02.2	0.0
KSP				*e*Pg		Pg	15 11 04.3	-2.3
KSP				*e*Sg		Sg	15 11 30.5	-2.3
KSP	**Ksiaz**	**1.97**	**294**	*e*PN		Pn	15 11 02.0	-0.2
KSP				*e*PG		Pg	15 11 04.0	-2.6
KSP				*e*SG		Sg	15 11 30.0	-2.8
UPC	**Upice**	**2.04**	**283**	*e*PG		Pg	15 11 04.8	-3.3
PSZ	**Piszkesteto**	**2.22**	**167**	*e*Pn		Pn	15 11 07.9	+2.1
ZST	**Bratislava**	**2.31**	**216**	*e*SG		Sg	15 11 40.6	-3.4
KOLS	**Kolonicke sedl**	**2.35**	**118**	*i* PG		Pg	15 11 13.9	-0.3
PVCC	**Panska Ves**	**2.96**	**281**	*e*PG		Pg	15 11 20.8	-5.5
PRU	**Pruhonice**	**2.96**	**270**	*e*SG		Sg	15 12 00.3	-5.5
	8.3nm,0.3s							
KHC	**Kasperske Hory**	**3.73**	**257**	*e*PN		Pn	15 11 25.5	-1.8
KHC				*e*PG		Pg	15 11 35.5	-6.3
KHC				*ex*		x	15 11 41.0	
KHC				*e*SN		Sn	15 12 09.0	-3.6
KHC				*e*SG		Sg	15 12 25.8	-5.7
	13nm,0.5s							
MOA	**Molln**	**3.90**	**237**	*i*		Pg	15 11 43.6	-1.6
MOA	**Molln**	**3.90**	**237**	*i* SG		Sg	15 12 32.4	-4.8
	5.6nm,0.5s							
CLL	**Collm**	**4.08**	**290**	*e*SG		Sg	15 12 37.0	-6.3
NKC	**Novy Kostel**	**4.30**	**275**	*e*SG		Sg	15 12 42.3	-8.1

JMA ***24*** *15:23:37.9, 35.41N×136.27E, h39km±1km, M3.5 Broadband fault plane solution: P waves. NP1:φs333°, δ23°, λ-126°. NP2:φs191°, δ71°, λ-76°. Principal axes: T Plg25°, Azm270°; N Plg13°, Azm6°; P Plg61°, Azm122°; JMA Felt II J1.*

ISC 24 15:23:38.1±0.6, 35.41N±0.04×136.28E±0.05, h36km±11km, n9, σ0♀21/17, 4C-1D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
JFM	**Mihama**	**0.27**	**297**	⇓P		**P**	**15 23 45.6**	**-0.1**
JFM				S		**S**	**15 23 51.2**	**+0.1**
JEG	**Eigenji**	**0.28**	**162**	P		**P**	**15 23 46.0**	**+0.1**
JEG				S		**S**	**15 23 51.0**	**-0.3**
JGM	**Miyama**	**0.46**	**50**	⇑P		**P**	**15 23 48.2**	**0.0**
JGM				S		**S**	**15 23 55.5**	**+0.2**
TSUJ	**Tsu 2**	**0.70**	**171**	⇑P		**P**	**15 23 51.4**	**-0.2**
TSUJ				S		**S**	**15 24 01.4**	**0.0**
JWT	**Wachi**	**0.73**	**261**	⇑P		**P**	**15 23 51.8**	**-0.1**
JWT				S		**S**	**15 24 02.0**	**0.0**
JKG	**Kaga**	**0.87**	**3**	P		**P**	**15 23 54.2**	**+0.3**
JKG				S		**S**	**15 24 05.5**	**-0.1**
JHE	**Heguri**	**0.90**	**213**	P		**P**	**15 23 54.3**	**0.0**
JHE				S		**S**	**15 24 06.7**	**+0.5**
JKY	**Yasaka**	**0.98**	**283**	⇑P		**P**	**15 23 55.3**	**-0.3**
MAT	**Matsushiro**	**1.93**	**53**	P		**P**	**15 24 08.8**	**-0.3**
MAT				*e*S		**S**	**15 24 32.5**	**+0.1**

OTT 24 16:46:08.5±0.3, 52.91N×66.88W, MN3.0/8, Blast, Labrador City, NI Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
SCHQ	**Schefferville**	**1.92**	**1**	PN		Pn	16 46 42.5	-0.3
SCHQ				SG		Sg	16 47 08.9	-3.6
SCHQ				Trac			16 47 10.5	
	comp=Z,47nm,0.2s							
MNQ	**Manicouagan**	**2.66**	**207**	PN		Pn	16 46 53.0	-0.3
MNQ				SN		Sn	16 47 26.0	-0.7
MNQ				Trac			16 47 35.1	
	comp=Z,28nm,0.3s							
SMQ	**Clarke City**	**2.70**	**178**	PN		Pn	16 46 52.2	-1.6
SMQ				SN		Sn	16 47 25.0	-2.6
SMQ				Trac			16 47 34.6	
	comp=Z,58nm,0.5s							
ICQ	**Pointe Anglais**	**3.41**	**184**	PN		Pn	16 47 01.6	-2.4
ICQ				SN		Sn	16 47 42.0	-3.6
ICQ				Trac			16 47 58.0	
	comp=Z,29nm,0.5s							
CNQ	**Baie Comeau**	**3.69**	**192**	PN		Pn	16 47 07.2	-0.9
CNQ				SN		Sn	16 47 50.0	-2.9
CNQ				SG		Sg	16 48 02.2	-9.2
CNQ				Trac			16 48 06.0	
	comp=Z,18nm,0.3s							
GSQ	**Grosses Roches**	**4.01**	**182**	PN		Pn	16 47 10.3	-2.2
GSQ				SN		Sn	16 47 58.0	-3.0
GSQ				SG		Sg	16 48 11.0	-11
GSQ				Trac			16 48 17.2	
	comp=Z,13nm,0.3s							
LG4Q	**La Grande 4**	**4.39**	**282**	PN		Pn	16 47 14.7	-3.3
LG4Q				PG		Pg	16 47 25.4	-11
LG4Q				SG		Sg	16 48 18.3	-16
LG4Q				Trac			16 48 27.4	
	comp=Z,11nm,0.3s							
LMQ	**La Malbaie**	**5.81**	**204**	SN		Sn	16 48 41.0	-5.3
DRLN	**Deer Lake**	**6.95**	**118**	PN		Pn	16 47 50.1	-3.8
DRLN				SN		Sn	16 49 05.7	-9.0
DRLN				LG			16 49 42.1	
DRLN				Trac			16 49 57.1	
	comp=Z,37nm,0.9s							
LMN	**Caledonia Moun**	**7.20**	**168**	PN		Pn	16 47 52.9	-4.6
LMN				SN		Sn	16 49 10.7	-10
VLDQ	**Val d'Or**	**8.28**	**239**	PN		P	16 48 08.2	-4.4
VLDQ				SN		Sn	16 49 38.2	-10
VLDQ				LG			16 50 25.8	
VIMO	**Victor Mine**	**10.20**	**276**	PN		P	16 48 32.5	-6.6
VIMO				SN		S	16 50 19.9	-16
VIMO				LG			16 51 21.1	
SILO	**Sutton Inlier**	**10.81**	**286**	PN		P	16 48 40.3	-7.1
SILO				SN		S	16 50 34.8	-16
SILO				LG			16 51 35.8	

OTT 24 16:58:43.2±0.3, 52.73N×67.42W, MN2.7/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time	Res
SCHQ	**Schefferville**	**2.13**	**9**	PN		Pn	16 59 19.6	-0.9
SCHQ				SN		Sn	16 59 47.0	-1.1
SCHQ				Trac			16 59 48.9	
	comp=Z,32nm,0.2s							

48nm,0.9s
RPZ Rata Peaks 21.20 182 P **P** 17 07 33.6 +2.1
9.2nm,0.7s,mb4.2,baz=138,slow=15,SNR=5.6
RPZ LR LR 17 14 38.8
comp=Z,366nm,20.1s,baz=351,slow=33
CNB Canberra Magne 23.44 232 *e*P **P** **17 07 57.7 +4.1**
767nm,0.7s
CTA Charters Tower 23.99 271 *e*P **P** **17 08 01.8 +2.8**
4.9nm,0.9s,mb3.9
CTA Charters Tower 23.99 271 P **P** **17 08 00.7 +1.7**
3.5nm,0.7s,mb3.9,baz=112,slow=11,SNR=8.0
CTA LR LR 17 16 26.7
comp=Z,583nm,21.7s,baz=135,slow=34
CTAO Charters Tower 23.99 271 *e*P **P** **17 08 00.3 +1.3**
9.3nm,0.9s,mb4.2
CTAO *e*pP 17 08 16.1
RAR Rarotonga 26.33 93 LR LR 17 16 14.5
comp=Z,294nm,20.5s,baz=247,slow=30
PMG Port Moresby 27.03 295 P **P** **17 08 27.0 -0.7**
3.8nm,0.7s,mb4.0,baz=125,slow=8.1,SNR=5.8
PMG LR LR 17 17 38.3
comp=Z,195nm,20.1s,baz=340,slow=33
PMG Port Moresby 27.03 295 *e*P **P** **17 08 26.7 -1.1**
5.2nm,0.9s,mb4.1
STKA Stephens Creek 28.45 244 *e*P **P** **17 08 41.2 +0.8**
3.1nm,0.6s,mb4.1
STKA Stephens Creek 28.45 244 P **P** **17 08 40.9 +0.5**
3.0nm,0.6s,mb4.1,baz=93,slow=10,SNR=14
STKA PcP PcP 17 11 50.4 -1.0
2.8nm,0.6s,baz=298,slow=10,SNR=4.7
STKA LR LR 17 19 08.3
comp=Z,358nm,21.3s,baz=42,slow=34
STKA Stephens Creek 28.45 244 *e*P **P** **17 08 37.1 -3.3**
ASAR Alice Springs 34.89 260 P **P** **17 09 36.1 -0.7**
8.0nm,0.8s,mb4.7,baz=88,slow=9.2,SNR=77
ASAR pP pP 17 09 52.6 +0.1
4.5nm,0.6s,baz=86,slow=9.5,SNR=6.5
ASAR PcP PcP 17 12 07.2 -1.5
1.8nm,0.7s,baz=115,slow=3.1,SNR=7.1
ASAR S **S** **17 15 02.3 -0.4**
0.8nm,0.9s,baz=90,slow=13,SNR=3.4
ASAR LR LR 17 23 41.2
comp=Z,255nm,20.7s,baz=95,slow=36
ASPA Alice Springs 34.90 260 ⇓*i*P **P** **17 09 36.4 -0.5**
WB2 Warramunga Arr 35.02 267 ⇑*i*P **P** **17 09 36.3 -1.6**
WB2 *i* pP 17 09 52.6 -1.0
WRAB Tennant Creek 35.02 267 *e*P **P** **17 09 36.0 -2.0**
4.6nm,0.6s,mb4.6
WRA Warramunga Arr 35.03 267 P **P** **17 09 36.6 -1.5**
1.6nm,0.5s,mb4.2,baz=97,slow=8.5,SNR=39
WRA pP pP 17 09 52.6 -1.1
1.7nm,0.5s,baz=96,slow=8.3,SNR=6.2
WRA PcP PcP 17 12 08.0 -1.2
1.3nm,0.7s,baz=96,slow=2.7,SNR=6.4
WRA S **S** **17 15 03.0 -1.9**
0.9nm,1.0s,baz=97,slow=14,SNR=4.9
TBI Tubuai 35.55 99 *e*LQ 17 17 25.3
TBI *e*LR LR 17 19 04.2
633nm,30.0s,baz=265
PPT Papeete 36.47 89 *e*LQ 17 17 48.2
PPT *e*LR LR 17 19 28.4
759nm,30.8s,baz=250
PPT Papeete 36.47 89 LR LR 17 20 43.4
comp=Z,281nm,19.2s,baz=248,slow=29
KAKA Kakadu 38.73 278 ⇓*i*P **P** **17 10 09.5 +0.4**
3.7nm,0.6s,mb4.3
KAKA *i* pP 17 10 25.1 +0.2
FITZ Fitzroy Crossi 43.46 267 ⇓*i*P **P** **17 10 48.5 +0.4**
18nm,0.8s,mb4.8
FITZ *i* pP 17 11 04.8 +0.8
FITZ Fitzroy Crossi 43.46 267 P **P** **17 10 48.5 +0.4**
27nm,0.8s,mb5.0,baz=154,slow=7.1,SNR=7.8
FITZ pP pP 17 11 04.9 +0.9
20nm,0.6s,baz=168,slow=11,SNR=5.7
FITZ LR LR 17 28 18.9
comp=Z,203nm,18.1s,baz=94,slow=35
MBWA Marble Bar 48.23 261 *e*P **P** **17 11 25.6 -0.3**
9.5nm,0.8s,mb4.9
RKT Rikitea 48.77 102 *e*LR LR 17 25 09.3
358nm,28.5s,baz=280
NWAO Narrogin (SRO) 49.03 245 *e*P **P** **17 11 32.1 +0.3**
35nm,1.4s,mb5.2
VNDA Vanda 55.32 183 P **P** **17 12 18.1 -0.3**
1.8nm,0.8s,mb4.2,baz=6.8,slow=7.7,SNR=16
VNDA LR LR 17 31 45.8
comp=Z,212nm,19.4s,baz=321,slow=31
VNDA Vanda 55.32 183 *e*P **P** **17 12 17.6 -0.8**
1.8nm,0.7s,mb4.2
SBA Scott Base 55.49 181 *e*P **P** **17 12 20.3 +0.6**
30nm,1.0s,mb5.3
CASY Casey 58.20 205 P **P** **17 12 32.1 -6.9**
11nm,0.8s,mb4.9
MAJO Matsushiro 66.75 331 *e*P **P** **17 13 36.6 +0.4**
20nm,1.0s,mb5.1
QSPA South Pole Qui 67.60 180 ⇓*i*P **P** **17 13 40.6 -0.2**
28nm,0.6s,mb5.5
ASAJ Asahikawa 71.49 338 LR LR 17 43 44.5
comp=Z,69nm,18.2s,baz=157,slow=34
NJ2 Nanjing 74.23 315 *e*P **P** **17 14 21.8 +0.3**
NJ2 AP pP 17 14 37.1 -1.6
NJ2 XP sP 17 14 49.6 +4.2
NJ2 PP PP 17 17 11.1 +1.5
NJ2 S S 17 23 56.0 +7.2
NJ2 AMB AMB
comp=Z,340nm,4.8s
NJ2 LR LR
comp=N,490nm,16.2s
NJ2 LR LR
comp=E,780nm,15.1s
NJ2 LR LR
comp=Z,500nm,14.9s
MAW Mawson 76.38 202 P **P** **17 14 33.3 +0.3**
comp=Z,23nm,0.8s,mb5.2,baz=135,slow=8.1,SNR=6.3
MAW LR LR 17 42 23.3
comp=Z,476nm,19.8s,baz=173,slow=31
MAW Mawson 76.38 202 *e*P **P** **17 14 33.1 +0.1**
comp=Z,28nm,0.8s,mb5.2
CN2 Changchun 78.49 328 *e*P **P** **17 14 46.9 +1.7**
ENH Enshi 79.61 309 *e*P **P** **17 14 50.8 -0.9**
comp=Z,6.1nm,0.7s,mb4.6
BJT Baijiatuan 80.98 320 P **P** **17 14 58.4 -0.3**
comp=Z,7.1nm,1.0s,mb4.5
SYO Syowa Base 82.52 196 ⇓P **P** **17 15 04.6 -1.5**
HHC Hu-ho-hao-te 84.26 319 *e*P **P** **17 15 17.3 +1.8**
HHC PP PP 17 18 31.6 -0.6
HHC S S 17 25 38.1 +3.7
HHC PS PS 17 26 38.5 +0.8
HHC AMB AMB
comp=Z,11nm,0.5s,mb5.2
SNAA Sanae 86.04 182 ⇑*i* **P** **17 15 22.9 -0.6**
SNAA Sanae 86.04 182 P **P** **17 15 23.0 -0.6**
comp=Z,4.5nm,0.7s,mb4.8,baz=197,slow=7.6,SNR=24
SNAA Sanae 86.04 182 *e*P **P** **17 15 22.3 -1.3**
comp=Z,16nm,0.8s,mb5.3
VNA3 Neumayer Olymp 86.54 179 ⇑*i* **P** **17 15 25.6 -0.4**
VNA3 Neumayer Olymp 86.54 179 ⇑*i* **P** **17 15 31.8 +5.8**
VNA3 Neumayer Olymp 86.54 179 **P** **17 15 38.5 +13**
VNA3 Neumayer Olymp 86.54 179 pP 17 15 48.8 +5.2
VNA2 Neumayer--Watz 86.86 180 ⇑*i* **P** **17 15 27.5 -0.1**
VNA2 Neumayer--Watz 86.86 180 ⇑*i* **P** **17 15 32.7 +5.1**
VNA2 Neumayer--Watz 86.86 180 **P** **17 15 39.5 +12**
VNA2 Neumayer--Watz 86.86 180 ⇑*i* pP 17 15 49.2 +4.0
VNA1 Neumayer--Stat 87.14 180 **P** **17 15 23.1 -5.8**
BILL Bilibino 90.33 358 P **P** **17 15 46.2 +2.1**
comp=Z,11nm,1.8s,mb4.9
SONM Songino Array 91.27 322 P **P** **17 15 48.4 -0.6**
comp=Z,0.6nm,0.6s,mb4.1,baz=143,slow=6.2,SNR=3.6
SONM LR LR 17 52 39.0
comp=Z,59nm,19.7s,baz=121,slow=33
DLBC Dease Lake 93.78 27 LR LR 17 52 10.1
comp=Z,80nm,18.4s,baz=276,slow=32
PLCA Paso Flores 94.49 137 P **P** **17 16 04.2 +0.4**
comp=Z,2.7nm,0.8s,mb4.7,baz=192,slow=5.8,SNR=9.1
PLCA Paso Flores 94.49 137 *e*P **P** **17 16 03.7 -0.2**
comp=Z,3.1nm,0.8s,mb4.8
TXAR Lajitas Array 96.15 61 P **P** **17 16 12.0 +0.4**
comp=Z,1.3nm,1.0s,mb4.3,baz=225,slow=3.5,SNR=4.3
TXAR LR LR 17 50 17.6
comp=Z,106nm,19.6s,baz=195,slow=30
TXAR Lajitas Array 96.15 61 P **P** **17 16 12.0 +0.4**
TXAR LR LR 17 50 17.6
PDAR Pinedale Array 97.01 47 PP PP 17 20 09.2 -5.0
comp=Z,0.2nm,0.8s,baz=243,slow=4.0,SNR=2.4
PDAR LR LR 17 51 06.7
comp=Z,80nm,21.5s,baz=255,slow=30
INK Inuvik 98.83 18 LR LR 17 54 51.9
comp=Z,113nm,19.6s,baz=256,slow=32

WMQ Urumqi 101.20 313 *e*P P 17 16 35.0 +0.8
WMQ AMB AMB
comp=Z,8.0nm,1.0s
WMQ AMB AMB
comp=Z,109nm,4.3s
WMQ LR LR
comp=Z,116nm,18.7s
WMOK Wichita Mounta 101.93 57 P P 17 16 46.0 +8.3
comp=Z,3.9nm,0.6s
BOSA Boshof 119.88 214 PKP PKPdf 17 21 32.7 -0.3
comp=Z,1.2nm,0.7s,baz=187,slow=8.1,SNR=4.6
BOSA Boshof 119.88 214 PKP PKPdf 17 21 32.7 -0.3
MATP Matopo 124.37 223 PKP PKPdf 17 21 42.6 +0.7
comp=Z,2.0nm,0.6s,baz=207,slow=6.8,SNR=6.8
TSUM Tsumeb 131.56 213 PKP PKPdf 17 21 56.6 +0.8
comp=Z,1.0nm,0.7s,baz=153,slow=2.0,SNR=4.2
CLL Collm 146.87 336 *e*PKP1 PKPbc 17 22 25.0 +1.1
EKA Eskdalemuir Ar 146.97 355 PKPbc PKPbc 17 22 22.9 -1.1
comp=Z,2.5nm,0.8s,baz=327,slow=2.9,SNR=5.7
GERES GERESS Array B 148.49 332 PKPbc PKPdf 17 22 28.7 +3.7
comp=Z,1.8nm,0.8s,baz=27,slow=3.0,SNR=12
DBIC Dimbokro 163.98 192 PKPab PKPab 17 23 40.1 -1.3
comp=Z,3.6nm,0.7s,baz=124,slow=3.9,SNR=6.0

MOS ***24*** *17:04:29.8±1.2,36.42N×71.24E,h101km,mb4.7/54,Error ellipse: s-maj=7.1km s-min=4.2km az=119.9*
BJI ***24*** *17:04:30.4,36.58N×71.09E,h107km,mB5.1,mb5.0*
NEIC ***24*** *17:04:31.6±1.4,36.32N×71.23E,h106km±13km,mb4.6/60, Error ellipse: s-maj=7.9km s-min=4.6km az=200.0*
NNC ***24*** *17:04:38.2±8.0,36.79N×71.68E,h187km±97km,mpv5.6, Error ellipse: s-maj=229.0km s-min=78.2km az=101.0*
IDC ***24*** *17:04:39.0±5.0,36.35N×71.21E,h175km±46km,mb4.2/30, mb1 4.3/31,mb1mx4.3/31,mbtmp4.7/31,MS3.6/4, Ms1 3.6/4,ms1mx3.1/29,Error ellipse: s-maj=12.7km s-min=11.6km az=171.0*

ISC 24 17:04:29.5±0.4,36.32N±0.02×71.30E±0.03,h103km±4km, h100km±5.6km:pP-P,n301,σ1918/330,mb4.6/94,27C-25D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CEP	**Cherat**	**2.54**	**169**	⇓P	**P**	**17 05 12.9**	**+2.9**
CHCP	**Chirah Chowk**	**3.11**	**148**	⇓P	**P**	**17 05 21.5**	**+3.7**
THW	**Thamme Wali**	**3.54**	**174**	⇓P	**P**	**17 05 23.0**	**-0.6**
SRNI	**Srinagar**	**3.66**	**126**	*e*	**P**	**17 05 13.0**	**-12**
SRNI				*e*		17 05 16.0	
SBDP	**Sheikh Budin**	**4.03**	**186**	⇑P	**P**	**17 05 31.5**	**+1.1**
SARP	**Sargodha**	**4.53**	**165**	P	**P**	**17 05 37.9**	**+0.7**
SARP				S	**S**	**17 06 29.0**	**-0.1**
DRP	**Derazinda**	**4.66**	**192**	⇑P	**P**	**17 05 39.9**	**+1.0**
JMU	**Jammu**	**4.67**	**139**	⇓*i*P	**P**	**17 05 41.5**	**+2.5**
JMU				*i*		17 06 35.0	
KSH	**Kashi**	**4.88**	**48**	*e*P	**P**	**17 05 46.1**	**+4.2**
KSH				S	**S**	**17 06 41.6**	**+4.0**
KSH				Smax			
	comp=N,1μm,0.4s						
KSH				Smax			
	comp=E,1μm,0.7s						
TAS	**Tashkent**	**5.24**	**343**	*e*PN	**P**	**17 05 42.0**	**-4.7**
TAS				pmax	pmax		
	comp=Z,525μm,1.0s						
THN	**Thein Dam**	**5.33**	**135**	*e*P	**P**	**17 05 49.6**	**+1.6**
	comp=Z,1μm,0.2s						
THN				*e*		17 06 50.8	
DLH	**Dalhousie**	**5.39**	**133**	*e*	**P**	**17 05 53.0**	**+4.1**
DLH				*e*		17 06 54.0	
PONG	**Pong**	**5.82**	**137**	*e*P	**P**	**17 05 58.0**	**+3.4**
PONG				*e*		17 07 03.0	
AML	**Almayashu**	**6.09**	**17**	P	**P**	**17 05 58.7**	**+0.3**
	SNR=705						
UCH	**Uchtor**	**6.40**	**22**	P	**P**	**17 06 03.2**	**+0.5**
	SNR=209						
BHK	**Bhakra**	**6.48**	**138**	*e*	**P**	**17 06 07.6**	**+3.7**
BHK				*e*S	**S**	**17 07 14.0**	**-2.9**
KZA	**Kyzart**	**6.51**	**27**	P	**P**	**17 06 04.7**	**+0.4**
	SNR=214						
EKS2	**Erkin-Say**	**6.61**	**16**	P	**P**	**17 06 05.8**	**+0.1**
	SNR=165						
SDNR	**Sundarnagar**	**6.73**	**134**	*e*P	**P**	**17 06 07.9**	**+0.6**
SDNR				*e*S	**S**	**17 07 19.5**	**-3.5**
AAK	**Ala-Archa**	**6.77**	**20**	⇓P	**P**	**17 06 08.2**	**+0.4**
	comp=Z,272nm,0.5s						
AAK				⇑S	**S**	**17 07 20.5**	**-3.4**
	comp=Z,331nm,0.7s						
AAK	**Ala-Archa**	**6.77**	**20**	Pn	**P**	**17 06 07.0**	**-0.8**
	comp=Z,5μm,0.4s,SNR=88						
AAK	**Ala-Archa**	**6.77**	**20**	⇓*i*P	**P**	**17 06 07.1**	**-0.7**
	comp=Z,426nm,0.5s						
KBK	**Karagaybulak**	**6.92**	**23**	P	**P**	**17 06 10.3**	**+0.3**
	SNR=224						
FRU	**Bishkek**	**6.99**	**20**	⇓*i*PN	**P**	**17 06 11.8**	**+1.0**
FRU				*i* S	**S**	**17 07 32.0**	**+2.7**
FRU				pmax	pmax		
	comp=Z,240nm,1.2s						
FRU				smax			
	comp=N,800nm,1.2s						
ULHL	**Ulahol**	**7.05**	**31**	P	**P**	**17 06 11.8**	**+0.2**
	SNR=101						
SMLA	**Simla**	**7.12**	**135**	*i* P	**P**	**17 06 11.6**	**-1.0**
SMLA				*i* S	**S**	**17 07 30.2**	**-2.3**
CHMS	**Chumysh**	**7.18**	**21**	P	**P**	**17 06 13.2**	**-0.2**
	SNR=354						
USP	**Ospenovka**	**7.36**	**19**	P	**P**	**17 06 15.0**	**-0.9**
	SNR=162						
TKM2	**Tokmak 2**	**7.38**	**25**	P	**P**	**17 06 16.4**	**+0.2**
	SNR=278						
KLP	**Kalpa**	**7.49**	**128**	*e*P	**P**	**17 06 18.7**	**+1.0**
KKR	**Kurukshetra**	**7.85**	**142**	*e*P	**P**	**17 06 22.9**	**+0.3**
DDI	**Dehra Dun**	**8.23**	**135**	*e*P	**P**	**17 06 28.6**	**+1.0**
DDI				*e*		17 07 58.7	
KHET	**Khetri**	**9.06**	**154**	*e*P	**P**	**17 06 37.2**	**-1.7**
KHET				*e*S	**S**	**17 08 13.1**	**-6.9**
KHET				*e*		17 08 15.7	
	comp=E,398nm,0.3s						
KHET				*e*		17 08 17.8	
	comp=N,253nm,0.2s						
NDI	**New Delhi**	**9.11**	**145**	*e*P	**P**	**17 06 37.5**	**-2.0**
NDI				*e*		17 08 17.0	
AYAN	**Aya Nagar**	**9.24**	**146**	*e*P	**P**	**17 06 40.0**	**-1.2**
AYAN				*e*		17 08 13.4	
AYAN				*e*		17 08 25.1	
	comp=Z,115nm,0.8s						
JASL	**Jaisalmer**	**9.38**	**182**	*e*P	**P**	**17 06 40.9**	**-2.2**
JASL				*e*		17 08 26.9	
	comp=Z,929nm,0.1s						
SONA	**Sohna**	**9.42**	**147**	*e*P	**P**	**17 06 44.6**	**+0.9**
SONA				*e*S	**S**	**17 08 19.7**	**-8.7**
SONA				*e*		17 08 26.4	
	comp=E,497nm,0.3s						
SONA				*e*		17 08 26.7	
	comp=N,190nm,0.3s						
PTH	**Pithoragarh**	**10.08**	**130**	*e*P	**P**	**17 06 53.2**	**+0.6**
PTH				*e*S	**S**	**17 08 40.2**	**-4.2**
LGTI	**Lohaghat**	**10.17**	**130**	*e*P	**P**	**17 06 53.5**	**-0.3**
LGTI				*e*		17 08 46.7	
AJM	**Ajmer**	**10.22**	**163**	*e*P	**P**	**17 06 53.6**	**-0.8**
AJM				*e*S	**S**	**17 08 40.9**	**-6.8**
AJM				*e*		17 08 45.5	
	comp=N,304nm,0.3s						
AJM				*e*		17 08 45.9	
	comp=E,240nm,0.1s						
JHNI	**Jhansi**	**12.47**	**148**	⇑*i*P	**P**	**17 07 24.5**	**+0.1**
JHNI				*i*		17 09 35.0	
BHJ	**Bhuj**	**13.10**	**187**	*e*P	**P**	**17 07 30.7**	**-2.0**
BHJ				*e*S	**S**	**17 09 46.0**	**-10**
BHJ				*e*		17 09 54.2	
	comp=E,262nm,0.8s						
BHJ				*e*		17 09 57.2	
	comp=N,129nm,0.2s						
MK31	**Makanchi Array**	**13.30**	**35**	⇑P	**P**	**17 07 34.2**	**-0.9**
	comp=N,24nm,0.8s,baz=99,slow=20,SNR=2.8						
MKAR	**Makanchi Array**	**13.30**	**35**	*i* P	**P**	**17 07 33.6**	**-1.5**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
KOLN	**Koldanda**	**13.46**	**126**	*e*P	**P**	**17 07 35.9**	**-1.4**
	comp=Z,148nm,0.7s						
KOLN				*e*S	**S**	**17 09 58.2**	**-6.6**
GKN	**Gorkha**	**14.00**	**123**	*e*P	**P**	**17 07 43.2**	**-1.1**
	comp=Z,248nm,0.4s						
GKN				*e*S	**S**	**17 10 10.2**	**-7.3**
BHPL	**Bhopal**	**14.07**	**156**	*e*	**P**	**17 07 43.8**	**-1.4**
BHPL				*e*		17 10 11.3	

DMN Daman 14.57 123 *e*P **P** **17 07 50.5 -1.2**
comp=Z,129nm,0.5s
DMN *e*S **S** **17 10 25.3 -5.6**
KKN Kakani 14.58 122 *e*P **P** **17 07 50.0 -1.7**
comp=Z,143nm,0.5s
KKN *e*S **S** **17 10 24.2 -6.8**
WMQ Urumqi 14.60 54 ⇑*i*P **P** **17 07 52.1 +0.2**
WMQ AP 17 08 06.0
WMQ PP PP 17 08 07.0 +2.3
WMQ XP 17 08 20.0
WMQ S **S** **17 10 32.0 +0.6**
WMQ XS 17 10 52.0
WMQ AMB AMB
comp=Z,23nm,0.8s
WMQ AMB AMB
comp=Z,149nm,4.8s
WMQ LR LR
comp=N,488nm,14.0s
WMQ LR LR
comp=E,290nm,16.2s
WMQ LR LR
comp=Z,392nm,18.0s
PKI Pulchoki 14.80 122 *e*P **P** **17 07 53.4 -1.2**
comp=Z,95nm,0.4s
PKI *e*S **S** **17 10 31.0 -5.3**
JIRN Jiri 15.29 120 *e*P **P** **17 08 00.0 -0.8**
comp=Z,317nm,0.4s
JIRN *e*S **S** **17 10 41.2 -6.2**
KURK Kurchatov 15.32 18 ⇑P **P** **17 07 57.3 -3.7**
comp=Z,10nm,0.7s
KURK Kurchatov 15.32 18 *e*P **P** **17 07 56.5 -4.5**
KURK pmax pmax
comp=Z,20nm,0.7s
KURK Kurchatov 15.32 18 *e*P **P** **17 07 56.5 -4.5**
comp=Z,20nm,0.7s
BANOM Banah 16.48 235 P **P** **17 08 16.8 +1.1**
SNR=8.2
BVA0 Borovoye Array 16.71 358 P **P** **17 08 15.4 -2.9**
comp=Z,2.6nm,0.5s,baz=161,slow=12,SNR=193
BVA0 ⇑S **S** **17 11 11.1 -8.5**
comp=Z,3.7nm,1.1s,baz=168,slow=28,SNR=5.2
BVA0 Borovoye Array 16.71 358 *i* P **P** **17 08 15.4 -3.0**
BVA0 pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 16.71 358 P **P** **17 08 15.2 -3.2**
comp=Z,4.3nm,0.3s,baz=166,slow=11,SNR=67
BVAR S **S** **17 11 13.5 -6.2**
comp=Z,2.0nm,0.3s,baz=164,slow=23,SNR=5.6
BLSP Bilaspur 16.99 143 *e* **P** **17 08 21.6 -0.4**
BLSP *e* 17 11 14.5
WBK Wadi Bani Khal 17.35 221 ⇑P **P** **17 08 29.2 +2.6**
CHKZ Chkalovo 17.36 359 ⇓P **P** **17 08 23.1 -3.4**
comp=Z,12nm,0.5s
CHKZ ⇓S **S** **17 11 27.6 -6.5**
comp=Z,21nm,1.2s
CHKZ Chkalovo 17.36 359 P **P** **17 08 23.0 -3.4**
CHKZ pmax pmax
comp=Z,5.0nm,0.5s
ASHO Ashiyiah 17.50 233 ⇑P **P** **17 08 28.8 +0.4**
POO Poona 17.87 172 *e*P **P** **17 08 36.0 +3.2**
POO *i* 17 11 46.0
LSA Lhasa 17.90 106 P **P** **17 08 35.0 +1.9**
LSA Lhasa 17.90 106 *e*P **P** **17 08 34.6 +1.5**
LSA pmax pmax
comp=Z,19nm,0.8s
LSA Lhasa 17.90 106 *e*P **P** **17 08 34.6 +1.5**
comp=Z,19nm,0.8s
JMDO Jabal Madar 18.02 223 ⇑P **P** **17 08 36.1 +1.6**
ARQ Araqi 18.19 229 ⇑P **P** **17 08 38.4 +1.9**
BSY Bisya 18.23 226 ⇑P **P** **17 08 38.3 +1.2**
LATR Latur 18.43 164 *e*P **P** **17 08 43.0 +3.7**
KAD Karad 19.11 172 *e*P **P** **17 08 51.7 +4.9**
KAD *e* 17 12 13.8
HYB Hyderabad 19.90 159 *e*P **P** **17 08 58.0 +2.9**
HYB *e*S **S** **17 12 40.0 +12**
HYB pmax pmax
comp=Z,100nm,1.0s
HYB Hyderabad 19.90 159 *e*P **P** **17 08 58.0 +2.9**
comp=Z,100nm,1.0s
HYB *e*S **S** **17 12 40.0 +12**
HYB Hyderabad 19.90 159 *i* P **P** **17 08 58.0 +2.9**
comp=Z,100nm,1.0s
HYB *e*S **S** **17 12 30.0 +1.7**
NVS Novosibirsk 20.26 20 ⇓*i*P **P** **17 08 56.9 -1.7**
NVS *e* 17 09 18.2
NVS *e*PPP PPP 17 09 30.9 -2.0
NVS *e*S **S** **17 12 30.3 -4.8**
NVS *e*SS SS 17 13 17.8 +6.3
NVS pmax pmax
comp=N,27nm,0.7s
NVS pmax pmax
comp=Z,35nm,0.7s
NVS pmax pmax
comp=E,16nm,0.8s
NVS smax
comp=N,32nm,1.8s
NVS smax
comp=E,11nm,1.6s
GNI Garni 21.18 288 *e*P **P** **17 09 09.2 +1.2**
GNI pmax pmax
comp=Z,79nm,0.9s
GNI Garni 21.18 288 P **P** **17 09 10.4 +2.5**
comp=Z,61nm,0.9s,mb5.0,baz=12,slow=1.4,SNR=20
GNI Garni 21.18 288 *e*P **P** **17 09 09.2 +1.2**
comp=Z,79nm,0.9s,mb5.0
SVE Sverdlovsk 21.73 344 ⇓*e*P **P** **17 09 12.9 -0.4**
SVE *e* 17 09 43.5
SVE *e* 17 13 14.0
SVE pmax pmax
comp=Z,20nm,0.7s,mb4.6
ARU Arti 21.88 341 ⇓*i*P **P** **17 09 14.3 -0.5**
ARU *e*S **S** **17 13 11.1 +6.2**
ARU pmax pmax
comp=Z,53nm,1.0s,mb4.8
ARU Arti 21.88 341 *e*P **P** **17 09 13.9 -0.9**
comp=Z,48nm,0.8s,mb4.9
ZEI Tsey 22.03 295 *e*P **P** **17 09 17.6 +1.2**
ZEI pmax pmax
comp=Z,13nm,0.7s,mb4.4
GTA Gaotai 22.68 74 *e*P **P** **17 09 27.3 +4.6**
GTA AP 17 09 47.8
GTA XP 17 09 59.8
GTA AMB AMB
comp=Z,31nm,1.2s,mb4.5
GOF Gofitskoye 23.05 301 ⇑*i*P **P** **17 09 27.6 +1.4**
GOF *e*S **S** **17 13 32.0 +6.5**
GOF pmax pmax
comp=Z,40nm,0.8s,mb4.8
KIV Kislovodsk 23.09 298 ⇓*e*P **P** **17 09 28.6 +2.1**
KIV *i* 17 09 50.1
KIV *i* 17 10 02.0
KIV *e* 17 13 34.2
KIV pmax pmax
comp=Z,22nm,1.1s,mb4.4
KIV MLR MLR
comp=Z,100nm,17.0s
KIV Kislovodsk 23.09 298 *e*P **P** **17 09 27.0 +0.4**
comp=Z,32nm,0.7s,mb4.8
WHFO Wadi Hawf 24.00 225 P **P** **17 09 36.1 +0.5**
SNR=11
RBK Rabkut 24.09 223 ⇑P **P** **17 09 36.7 +0.2**
ABTO Aybut 24.72 225 P **P** **17 09 42.7 +0.1**
SNR=16
MOY Mondy 26.06 45 *e*P **P** **17 09 57.8 +3.0**
MOY pmax pmax
comp=Z,23nm,3.5s
ZAK Zakamensk 26.93 48 *e*P **P** **17 10 04.6 +1.9**
ZAK *e* pP 17 10 31.5 +6.3
ZAK *e* 17 13 20.4
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.6
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
ANN Anapa 26.93 299 *e*P **P** **17 09 54.6 -8.3**
ANN *i* *PP pP 17 10 17.3 -8.1
ANN *i* *SS **S** **17 14 33.0 +2.6**
ANN *i* SSS 17 15 14.0
ANN pmax pmax
comp=Z,29nm,1.1s,mb4.7
VRSR Storozhevoye 27.29 313 *e*P **P** **17 10 05.5 -0.5**
VRSR pmax pmax
comp=Z,20nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,1.0nm,0.4s
TLY Talaya 27.59 46 *i* P **P** **17 10 11.2 +2.4**

SONM Songino Array 28.24 55 P **P** 17 10 16.4 +1.7
comp=N,3.3nm,0.7s,mb4.0,baz=262,slow=9.3,SNR=46
ULN Ulaanbaatar 28.68 55⇓*eP* **P** 17 10 19.5 +0.9
ULN Ulaanbaatar 28.68 55 *eP* **P** 17 10 19.8 +1.2
comp=N,2.7nm,0.7s,mb4.0
BRTR Keskin Array B 29.72 288 P **P** 17 10 28.9 +0.9
comp=N,1.5nm,0.7s,mb3.7,baz=98,slow=8.7,SNR=4.2
MOS Moscow 29.95 321K *iP* **P** 17 10 28.7 -1.1
MOS pmax pmax
comp=Z,101nm,1.1s,mb5.4
CM31 Chiang Mai Arr 30.16 119 P **P** 17 10 33.4 +1.3
OBN Obninsk 30.23 319 P **P** 17 10 31.0 -1.3
comp=Z,463nm,0.4s,SNR=9.7
OBN Obninsk 30.23 319*d iP* **P** 17 10 31.6 -0.7
OBN *e**PP pP 17 10 51.2 -4.1
OBN *e* 17 11 29.6
OBN *e* 17 13 28.3
OBN *e*S **S** 17 15 25.0 +2.1
OBN *e*SS SS 17 17 06.9 -2.1
OBN pmax pmax
comp=Z,37nm,0.5s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 30.23 319 *eP* **P** 17 10 31.2 -1.1
comp=Z,41nm,0.6s,mb5.2
ENH Enshi 32.33 90 *eP* **P** 17 10 52.9 +2.0
comp=Z,14nm,1.0s,mb4.6
KIS Kishinev 33.11 302 *eP* **P** 17 10 56.0 -1.5
AKASG Malin Array Be 33.25 309 P **P** 17 10 57.7 -0.9
comp=Z,4.8nm,0.4s,mb4.7,baz=81,slow=7.8,SNR=29
AKASG S **S** 17 15 53.9 -16
comp=Z,0.3nm,0.3s,baz=309,slow=30,SNR=4.4
MLR Muntele Rosu 35.08 299 P **P** 17 11 15.7 +1.4
MLR pmax pmax
comp=Z,15nm,1.0s
MLR Muntele Rosu 35.08 299 P **P** 17 11 15.7 +1.3
comp=Z,15nm,0.9s,mb4.8,baz=102,slow=2.8,SNR=27
BOD Bodaibo 35.34 39 *eP* **P** 17 11 15.2 -1.2
JOF Joensuu 36.14 330 *ep* **P** 17 11 21.5 -1.7
comp=Z,16nm,0.3s,mb5.4
JOF Joensuu 36.14 330 *eP* **P** 17 11 21.5 -1.7
JOF pmax pmax
comp=Z,16nm,0.3s,mb5.4
WHN Wuhan 36.16 86 *eP* **P** 17 11 23.5 -0.2
LVV L'vov 36.46 307 *eP* **P** 17 11 26.3 +0.3
LVV *e* pP 17 11 51.9 +2.2
LVV *e* 17 12 52.3
LVV *e*PPP PPP 17 13 16.9 +3.5
VSU Vasula 36.47 322*d iP* **P** 17 11 25.5 -0.5
KWP Kalwaria 37.31 306 P **P** 17 11 34.0 +0.9
KWP pmax pmax
comp=Z,23nm,0.4s,mb5.5
KWP Kalwaria 37.31 306 P **P** 17 11 34.0 +0.9
comp=Z,23nm,0.4s,mb5.5
IDI Anoyia 37.37 283 P **P** 17 11 32.6 -1.2
comp=Z,6.5nm,0.6s,mb4.8,baz=52,slow=12,SNR=9.2
KOLS Kolonicke sedl 37.58 305 *iP* **P** 17 11 36.2 +0.9
FINES FINESS Array B 37.77 326 P **P** 17 11 36.8 +0.1
FINES pmax pmax
comp=Z,12nm,0.6s
FINES MLR MLR
comp=Z,46nm,21.9s
FINES FINESS Array B 37.77 326 P **P** 17 11 36.8 +0.1
comp=Z,12nm,0.6s,mb5.0,baz=106,slow=9.2,SNR=123
FINES LR LR 17 28 14.9
comp=Z,46nm,21.9s,baz=79,slow=38
KAF Kangasniemi 37.91 327 *ep* **P** 17 11 36.3 -1.6
comp=Z,1.9nm,0.4s,mb4.3,baz=111,slow=8.6
KAF Kangasniemi 37.91 327 *eP* **P** 17 11 36.3 -1.6
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
CRVS Cervenica-Dubn 38.11 305 *iP* **P** 17 11 41.5 +1.7
NJ2 Nanjing 39.26 82 *eP* **P** 17 11 50.3 +0.8
NJ2 AP pP 17 12 13.5 +0.2
NJ2 XP sP 17 12 24.3 -1.1
NJ2 PP PP 17 13 25.1 +0.3
NJ2 PPP PPP 17 13 52.6 +1.9
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,560nm,4.6s
NJ2 LR LR
comp=N,340nm,19.4s
NJ2 LR LR
comp=E,540nm,15.0s
NJ2 LR LR
comp=Z,240nm,15.0s
VYHS Vyhne 39.86 305 *iP* **P** 17 11 55.7 +1.5
OKC Ostrava-Krasne 40.27 307 *eP* **P** 17 11 59.4 +1.8
MORC Moravsky Berou 40.66 307 *eP* **P** 17 12 01.4 +0.6
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.7
MORC Moravsky Berou 40.66 307 *eP* **P** 17 12 01.4 +0.6
comp=Z,13nm,1.0s,mb4.7
ZST Bratislava 41.03 304 *eP* **P** 17 12 05.2 +1.3
KEV Kevo 41.06 338 *ep* **P** 17 12 03.4 -0.5
comp=Z,3.1nm,0.4s,mb4.5
KEV Kevo 41.06 338 *eP* **P** 17 12 03.4 -0.5
KEV pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
VRAC Vranov 41.30 306 P **P** 17 12 07.4 +1.3
VRAC pmax pmax
comp=Z,8.0nm,0.7s
VRAC Vranov 41.30 306 P **P** 17 12 07.4 +1.4
comp=Z,7.7nm,0.7s,mb4.6,baz=75,slow=9.6,SNR=8.9
ARCES ARCESS Array B 41.40 338 P **P** 17 12 07.6 +0.9
ARCES pmax pmax
comp=Z,16nm,0.5s
ARCES MLR MLR
comp=Z,124nm,18.0s
ARCES ARCESS Array B 41.40 338 P **P** 17 12 07.5 +0.8
comp=Z,16nm,0.5s,mb5.1,baz=111,slow=8.3,SNR=156
ARCES LR LR 17 30 19.5
comp=Z,124nm,18.0s,baz=198,slow=37
ARE0 ARCESS Array S 41.40 338 *eP* **P** 17 12 07.0 +0.3
DPC Dobruska-Polom 41.43 308 *eP* **P** 17 12 08.2 +1.1
SSE Sheshan 41.46 82 P **P** 17 12 07.5 -0.1
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,281nm,5.3s
SSE LR LR
comp=N,32nm,27.5s
SSE LR LR
comp=E,30nm,27.5s
SSE LR LR
comp=Z,45nm,29.6s
CN2 Changchun 41.48 62 *eP* **P** 17 12 08.3 +0.7
UPC Upice 41.62 308 *eP* **P** 17 12 09.6 +0.9
KTK1 Kautokeino 41.88 336 *eP* **P** 17 12 11.7 +1.2
PERS Pernice 42.52 302 *iP* **P** 17 12 17.1 +1.1
comp=Z,12nm,0.9s,mb4.6
PRU Pruhonice 42.59 307 *eP* **P** 17 12 17.7 +1.1
BRG Berggiesshubel 42.92 308 *eP* **P** 17 12 20.2 +0.9
BRG pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
BRG Berggiesshubel 42.92 308 *eP* **P** 17 12 20.2 +0.9
comp=Z,6.8nm,0.6s,mb4.5
MOA Molln 42.96 304⇑*iP* **P** 17 12 19.1 -0.5
comp=Z,8.3nm,0.9s,mb4.5
GERES GERESS Array B 43.23 305 P **P** 17 12 22.6 +0.8
GERES 17 14 03.2
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 43.23 305 P **P** 17 12 22.6 +0.8
comp=Z,1.1nm,0.8s,mb3.7,baz=90,slow=8.0,SNR=9.8
GERES PP PP 17 14 03.2 -2.8
comp=Z,0.6nm,0.7s,baz=83,slow=11,SNR=4.5
KHC Kasperske Hory 43.28 306 *eP* **P** 17 12 24.0 +1.7
KHC *e* 17 14 03.0
KHC Kasperske Hory 43.28 306 *eP* **P** 17 12 24.0 +1.7
KHC *e* 17 12 33.0
KHC *e* 17 14 03.0
KHC Kasperske Hory 43.28 306 *eP* **P** 17 12 22.5 +0.2
KHC *ex* x 17 12 24.0
KHC *ex* x 17 12 33.0
KHC *e*PP PP 17 14 03.0 -3.5
HFS Hagfors 43.36 322 P **P** 17 12 22.6 -0.1
HFS 17 14 06.8
HFS pmax pmax
comp=Z,42nm,0.6s
HFS pmax pmax
comp=Z,5.0nm,0.5s

HFS Hagfors 43.36 322 P **P** 17 12 22.6 0.0
comp=Z,42nm,0.6s,mb5.3,baz=100,slow=9.0,SNR=110
HFS PP PP 17 14 06.8 -0.3
comp=Z,5.1nm,0.5s,baz=111,slow=12,SNR=2.4
CLL Collm 43.49 309⇓*iP* **P** 17 12 24.1 +0.2
CLL pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
CLL Collm 43.49 309⇓*iP* **P** 17 12 24.1 +0.2
comp=Z,7.0nm,1.0s,mb4.3
CLL *e* 17 12 35.0
CLL Collm 43.49 309 ⇓P **P** 17 12 24.1 +0.2
comp=Z,logA/T=0.8,mb4.3
TRO Tromso 43.53 336 *eP* **P** 17 12 23.3 -0.6
comp=Z,49nm,1.6s,mb5.0
TRO Tromso 43.53 336 *eP* **P** 17 12 23.3 -0.6
TRO AMb AMB 17 12 34.1
comp=Z,49nm,1.6s,mb5.0
KBA Koelnbreinsper 43.67 303⇑*iP* **P** 17 12 26.6 +1.2
comp=Z,5.8nm,1.2s,mb4.2
KBA Koelnbreinsper 43.67 303⇑*iP* **P** 17 12 26.6 +1.2
KBA pmax pmax
comp=Z,6.0nm,1.2s,mb4.2
ROBS Robic 43.67 302 *eP* **P** 17 12 25.2 -0.3
NKC Novy Kostel 43.92 308 *eP* **P** 17 12 28.8 +1.4
YAK Yakutsk 43.97 35⇓*eP* **P** 17 12 28.3 +0.7
YAK pmax pmax
comp=Z,5.0nm,0.5s,mb4.5
MOR8 Moi Rana 44.09 331 *eP* **P** 17 12 27.9 -0.6
comp=Z,73nm,0.9s,mb5.4
MOR8 Moi Rana 44.09 331 *eP* **P** 17 12 27.9 -0.6
MOR8 AMb AMB 17 12 29.2
comp=Z,73nm,0.9s,mb5.4
MOX Moxa 44.41 308 *eP* **P** 17 12 34.0 +2.7
NB2 NORSAR Subarra 44.67 323 P **P** 17 12 32.7 -0.5
comp=Z,47nm,0.8s,mb5.3,baz=95,slow=7.4
NB2 NORSAR Subarra 44.67 323 P **P** 17 12 32.7 -0.5
NB2 pmax pmax
comp=Z,47nm,0.8s,mb5.3
NB2 NORSAR Subarra 44.67 323 P **P** 17 12 32.7 -0.5
baz=95,slow=7.9
NOA NORSAR Array B 44.67 323 P **P** 17 12 32.8 -0.4
NOA pmax pmax
comp=Z,34nm,0.7s
NOA MLR MLR
comp=Z,27nm,19.0s
NOA NORSAR Array B 44.67 323 P **P** 17 12 32.8 -0.4
comp=Z,34nm,0.7s,mb5.2,baz=96,slow=7.8,SNR=192
NOA LR LR 17 35 43.0
comp=Z,27nm,19.0s,baz=80,slow=42
KS15 Wonju Array Si 44.68 71 P **P** 17 12 33.1 -0.5
GRA1 Grafenberg Arr 44.76 307 *eP* **P** 17 12 35.3 +1.2
comp=Z,18nm,1.3s,mb4.6
GRF Grafenberg Arr 44.76 307 *eP* **P** 17 12 35.3 +1.2
GRF pmax pmax
comp=Z,18nm,1.3s,mb4.6
WTTA Wattenberg 44.80 303⇑*iP* **P** 17 12 32.3 -2.1
comp=Z,7.2nm,1.2s,mb4.3
WTTA Wattenberg 44.80 303⇑*iP* **P** 17 12 32.3 -2.1
WTTA pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
NAO01 NORSAR Array S 44.81 323 *eP* **P** 17 12 33.2 -1.2
comp=Z,18nm,0.8s,mb4.8
LOF Lofoten 44.91 333 *eP* **P** 17 12 37.9 +2.9
KLR Kul'dur 45.05 54 *eP* **P** 17 12 34.5 -2.0
KONO Kongsberg 45.38 321*d iP* **P** 17 12 38.0 -0.9
TIXI Tiksi 45.85 22⇑*eP* **P** 17 12 42.6 +0.2
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.6
DAVA Damuels 45.97 304⇑*iP* **P** 17 12 43.1 -0.7
comp=Z,12nm,0.6s,mb4.8
DAVOX Davos 46.06 303 P **P** 17 12 44.8 +0.3
comp=Z,4.2nm,0.6s,mb4.3,baz=98,slow=11,SNR=6.6
MOL Molde 46.52 325 *eP* **P** 17 12 49.2 +1.3
comp=Z,59nm,1.6s,mb5.1
MOL Molde 46.52 325 *eP* **P** 17 12 49.2 +1.3
MOL AMb AMB 17 12 52.5
comp=Z,59nm,1.6s,mb5.1
CDF Champ du Feu 47.51 306 *eP* **P** 17 12 55.1 -0.7
PGF Pioggiola 47.57 298 *eP* **P** 17 12 54.7 -1.7
HINF Hinteralfeld 47.90 305 *eP* **P** 17 12 57.5 -1.4
comp=Z,10.0nm,0.8s,mb4.4
HINF Hinteralfeld 47.90 305 *eP* **P** 17 12 57.5 -1.4
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
HAU Haudompre 48.20 305 *eP* **P** 17 12 59.9 -1.3
comp=Z,9.3nm,0.8s,mb4.4
HAU Haudompre 48.20 305 *eP* **P** 17 12 59.9 -1.3
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SBF Sospel 48.35 300 *eP* **P** 17 13 00.9 -1.5
comp=Z,36nm,0.9s,mb4.9
SBF Sospel 48.35 300 *eP* **P** 17 13 00.9 -1.5
SBF pmax pmax
comp=Z,18nm,0.9s,mb4.9
LPG La Plagne 48.45 302 *eP* **P** 17 13 02.6 -0.5
comp=Z,13nm,0.8s,mb4.5
LPG La Plagne 48.45 302 *eP* **P** 17 13 02.6 -0.5
LPG pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
LPL La Plagne 48.46 302 *eP* **P** 17 13 02.6 -0.6
MBDF Montbardon 48.61 301 *eP* **P** 17 13 03.0 -1.4
comp=Z,17nm,0.9s,mb4.7
MBDF Montbardon 48.61 301 *eP* **P** 17 13 03.0 -1.4
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CABF La Chapelle 48.65 304 *eP* **P** 17 13 04.1 -0.6
comp=Z,16nm,0.8s,mb4.7
CABF La Chapelle 48.65 304 *eP* **P** 17 13 04.1 -0.6
CABF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KMBO Kilima Mbogo 48.89 228 P **P** 17 13 08.0 +1.0
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 48.89 228 P **P** 17 13 08.0 +1.0
comp=Z,1.4nm,0.5s,mb4.2,baz=50,slow=20,SNR=4.5
MEZF Maizieres J'vi 48.95 306 *eP* **P** 17 13 06.3 -0.6
comp=Z,15nm,0.7s,mb4.8
BAIF Baives 49.19 308 *eP* **P** 17 13 08.2 -0.6
comp=Z,27nm,1.1s,mb4.8
BAIF Baives 49.19 308 *eP* **P** 17 13 08.2 -0.6
BAIF pmax pmax
comp=Z,14nm,1.1s,mb4.8
VIVF Saint-Julien-l 50.03 302 *eP* **P** 17 13 14.5 -0.8
comp=Z,9.4nm,0.7s,mb4.5
VIVF Saint-Julien-l 50.03 302 *eP* **P** 17 13 14.5 -0.8
VIVF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
SMF Signal de Mont 50.15 304 *eP* **P** 17 13 14.9 -1.3
comp=Z,16nm,0.7s,mb4.8
SMF Signal de Mont 50.15 304 *eP* **P** 17 13 14.9 -1.3
SMF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SSF Saint Saulge 50.28 305 *eP* **P** 17 13 15.9 -1.3
AVF Avril sur Loir 50.45 304 *eP* **P** 17 13 17.0 -1.4
comp=Z,16nm,0.7s,mb4.7
AVF Avril sur Loir 50.45 304 *eP* **P** 17 13 17.0 -1.4
AVF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
LASF Ste Croix 50.80 301 *eP* **P** 17 13 19.6 -1.5
comp=Z,7.5nm,0.7s,mb4.5
HYF Humbligny 50.80 305 *eP* **P** 17 13 20.1 -1.1
BGF Bois d'Agland 50.84 304 *eP* **P** 17 13 19.9 -1.5
comp=Z,5.3nm,0.6s,mb4.5
BGF Bois d'Agland 50.84 304 *eP* **P** 17 13 19.9 -1.5
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TCF Toulx Ste Croi 51.34 304 *eP* **P** 17 13 24.1 -1.1
comp=Z,6.6nm,0.7s,mb4.5
TCF Toulx Ste Croi 51.34 304 *eP* **P** 17 13 24.1 -1.1
TCF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CAF Calviac 51.80 302 *eP* **P** 17 13 27.6 -1.1
RJF Les Rejaudoux 52.06 303 *eP* **P** 17 13 29.7 -1.0
MTLF Montolieu 52.15 300 *eP* **P** 17 13 30.1 -1.2
LDF La Druitiere 52.28 307 *eP* **P** 17 13 31.4 -0.8
FLN La Foliniere 52.47 308 *eP* **P** 17 13 32.5 -1.1
EKA Eskdalemuir Ar 52.58 316 P **P** 17 13 33.8 -0.6
EKA pmax pmax
comp=Z,8.0nm,0.8s
EKA Eskdalemuir Ar 52.58 316 P **P** 17 13 33.8 -0.6
comp=Z,7.6nm,0.8s,mb4.8,baz=92,slow=7.2,SNR=15
LFF La Frestale 52.70 303 *eP* **P** 17 13 34.2 -1.2
GRR Gorron 52.80 307 *eP* **P** 17 13 34.9 -1.3
MFF Saint Martin d 52.82 305 *eP* **P** 17 13 35.4 -0.9
EPF Esparros 53.55 300 *eP* **P** 17 13 40.5 -1.2
comp=Z,3.7nm,0.5s,mb4.3

EPF Esparros 53.55 300 *eP* **P** 17 13 40.5 -1.2
EPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
ETSF Etsaut 54.22 301 *eP* **P** 17 13 44.6 -2.0
comp=Z,8.2nm,0.6s,mb4.6
ETSF Etsaut 54.22 301 *eP* **P** 17 13 44.6 -2.0
ETSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ROSF Rostrenen 54.37 308 *eP* **P** 17 13 46.4 -1.2
DAG Danmarks Havn 54.97 344⇑*eP* **P** 17 13 51.7 0.0
DAG pmax pmax
comp=Z,12nm,0.7s,mb5.0
DAG Danmarks Havn 54.97 344⇑*eP* **P** 17 13 51.7 0.0
comp=Z,12nm,0.7s,mb5.0
DAG Danmarks Havn 54.97 344⇑*iP* **P** 17 13 51.7 0.0
comp=Z,12nm,0.7s,mb5.0
ESDC Sonseca Array 57.76 298 P **P** 17 14 10.4 -1.5
comp=Z,0.6nm,0.4s,mb4.0,baz=52,slow=7.9,SNR=8.6
ESLA Sonseca Array 57.76 298 P **P** 17 14 11.1 -0.8
BILL Bilibino 58.66 26⇑*eP* **P** 17 14 18.2 +0.4
BILL *e**PP pP 17 14 40.7 -2.4
BILL *e* 17 15 06.2
BILL *e*S **S** 17 22 15.7 +3.4
BILL pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BILL Bilibino 58.66 26 *eP* **P** 17 14 18.1 +0.3
comp=Z,3.4nm,0.6s,mb4.5
SUMG Summit 61.31 341 *eP* **P** 17 14 36.5 +0.6
comp=Z,7.3nm,0.5s,mb5.0
FX1 Attu Island--F 68.38 40 *eP* **P** 17 15 21.6 0.0
TNA Tin City 68.63 23 *eP* **P** 17 15 23.4 +0.4
comp=Z,1.6nm,0.7s,mb4.0
RES Resolute Bay 68.89 356 *eP* **P** 17 15 24.9 +0.4
RES pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
RES Resolute Bay 68.89 356 *eP* **P** 17 15 24.9 +0.4
comp=Z,2.2nm,0.5s,mb4.2
MATP Matopo 69.44 223 P **P** 17 15 28.4 -0.3
comp=Z,30nm,0.5s,mb5.4,baz=27,slow=6.0,SNR=126
MATP Matopo 69.44 223 P **P** 17 15 28.4 -0.3
IMA Indian Mountai 72.22 18 *eP* **P** 17 15 44.4 -0.2
IMA pmax pmax
comp=Z,21nm,0.8s,mb5.0
IMA Indian Mountai 72.22 18 *eP* **P** 17 15 44.4 -0.2
comp=Z,20nm,0.8s,mb5.0
INK Inuvik 74.04 9 *eP* **P** 17 15 55.9 +0.8
INK pmax pmax
comp=Z,5.0nm,0.6s
INK Inuvik 74.04 9 *eP* **P** 17 15 55.9 +0.7
comp=Z,5.0nm,0.6s,mb4.4
COLA College 74.58 16⇓*eP* **P** 17 15 59.4 +1.1
COLA College 74.58 16 *eP* **P** 17 15 58.5 +0.2
comp=Z,9.4nm,0.8s,mb4.6
FITZ Fitzroy Crossi 74.59 127 *eP* **P** 17 16 00.2 +0.9
comp=Z,4.6nm,1.0s,mb4.2
FITZ Fitzroy Crossi 74.59 127 P **P** 17 15 59.3 +0.1
comp=Z,6.6nm,0.9s,mb4.4,baz=332,slow=6.5,SNR=8.7
LBTB Lobatse 74.71 222 *eP* **P** 17 15 59.8 0.0
LBTB pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
LBTB Lobatse 74.71 222 P **P** 17 16 00.1 +0.3
comp=Z,14nm,0.6s,mb4.9,baz=48,slow=4.9,SNR=42
LBTB Lobatse 74.71 222 *eP* **P** 17 15 59.8 0.0
comp=Z,10nm,0.6s,mb4.7
DBIC Dimbokro 74.93 267 P **P** 17 15 59.2 -2.1
DBIC pmax pmax
comp=Z,3.0nm,0.5s
DBIC Dimbokro 74.93 267 P **P** 17 15 59.2 -2.1
comp=Z,3.3nm,0.5s,mb4.3,baz=33,slow=7.6,SNR=10
DBIC Dimbokro 74.93 267 P **P** 17 15 59.2 -2.1
TSUM Tsumeb 75.00 232 P **P** 17 16 01.4 -0.2
comp=Z,4.4nm,0.4s,mb4.2,baz=30,slow=7.4,SNR=9.1
TSUM Tsumeb 75.00 232 *eP* **P** 17 16 00.9 -0.7
comp=Z,3.7nm,0.8s,mb4.2
MCK McKinley 75.30 17 *eP* **P** 17 16 01.8 -0.5
MCK pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
MCK McKinley 75.30 17 *eP* **P** 17 16 01.8 -0.5
comp=Z,1.8nm,0.5s,mb4.1
KAKA Kakadu 75.44 118 *eP* **P** 17 16 04.5 +0.4
comp=Z,2.2nm,0.4s,mb4.2
DAWY Dawson 77.04 13 *eP* **P** 17 16 12.7 +0.5
SML Sawmill 77.08 18 *eP* **P** 17 16 12.5 +0.1
BOSA Boshof 77.77 220 *eP* **P** 17 16 16.7 -0.2
BOSA pmax pmax
comp=Z,14nm,0.7s,mb4.8
BOSA Boshof 77.77 220 P **P** 17 16 16.9 0.0
comp=Z,16nm,0.7s,mb4.9,baz=35,slow=5.1,SNR=30
BOSA Boshof 77.77 220 *eP* **P** 17 16 16.6 -0.3
comp=Z,14nm,0.7s,mb4.8
YKW3 Yellowknife Ar 81.34 3 *eP* **P** 17 16 36.0 +0.6
YKA Yellowknife Ar 81.41 3 P **P** 17 16 36.7 +0.9
YKA pmax pmax
comp=Z,5.0nm,0.5s
YKA MLR MLR
comp=Z,78nm,18.7s
YKA Yellowknife Ar 81.41 3 P **P** 17 16 36.7 +0.9
comp=Z,5.1nm,0.5s,mb4.6,baz=350,slow=5.4,SNR=130
YKA LR LR 17 54 18.1
comp=Z,78nm,18.6s,baz=265,slow=37
WRA Warramunga Arr 81.69 122 P **P** 17 16 38.1 0.0
WRA pmax pmax
comp=Z,3.0nm,0.4s
WRA Warramunga Arr 81.69 122 P **P** 17 16 38.1 0.0
comp=Z,2.7nm,0.4s,mb4.4,baz=323,slow=4.9,SNR=91
WRAB Tennant Creek 81.69 122 P **P** 17 16 38.0 -0.1
comp=Z,48nm,0.5s,mb5.6,SNR=7.4
WRAB Tennant Creek 81.69 122 *eP* **P** 17 16 37.5 -0.6
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
WRAB Tennant Creek 81.69 122 *eP* **P** 17 16 37.5 -0.7
comp=Z,8.4nm,0.8s,mb4.6
WB2 Warramunga Ar 81.70 122⇑*iP* **P** 17 16 38.3 +0.1
SCHQ Schefferville 82.36 337 P **P** 17 16 41.3 +0.4
comp=Z,2.5nm,0.8s,mb4.1,baz=20,slow=6.9,SNR=7.2
SUR Sutherland 83.08 221 P **P** 17 16 46.2 +1.2
comp=Z,11nm,1.0s,mb4.6,baz=26,slow=8.1,SNR=3.6
ASPA Alice Springs 83.95 125 *eP* **P** 17 16 49.8 +0.2
ASAR Alice Springs 83.95 125 P **P** 17 16 49.9 +0.3
comp=Z,5.0nm,0.8s,mb4.4,baz=311,slow=4.9,SNR=54
FCC Fort Churchill 84.49 352 *eP* **P** 17 16 52.2 +0.8
comp=Z,3.5nm,0.8s,mb4.2
FORT Forrest 85.37 134⇓*iP* **P** 17 16 57.3 +0.8
comp=Z,353nm,0.5s
FFC Flin Flon 89.14 356 P **P** 17 17 15.0 +1.0
comp=Z,50nm,1.0s,mb5.5,SNR=8.1
FFC Flin Flon 89.14 356 *eP* **P** 17 17 14.8 +0.8
FFC pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
FFC Flin Flon 89.14 356 *eP* **P** 17 17 14.8 +0.8
comp=Z,7.4nm,0.9s,mb4.7
CTA Charters Tower 90.25 115 *eP* **P** 17 17 20.5 +0.5
comp=Z,5.4nm,0.9s,mb4.7
CTA Charters Tower 90.25 115 *eP* **P** 17 17 20.5 +0.5
CTA pmax pmax
comp=Z,5.0nm,0.9s
CTA Charters Tower 90.25 115 P **P** 17 17 20.2 +0.2
comp=Z,6.3nm,0.7s,mb4.8,baz=351,slow=8.4,SNR=12
ULM Lac du Bonnet 93.06 352 P **P** 17 17 32.4 +0.1
comp=Z,1.3nm,0.5s,mb4.5,baz=44,slow=2.4,SNR=3.7
ULM Lac du Bonnet 93.06 352 P **P** 17 17 32.4 +0.1
STKA Stephens Creek 94.49 127 P **P** 17 17 38.1 -1.1
comp=Z,1.2nm,0.6s,mb4.4,baz=328,slow=8.1,SNR=3.8
WALA Waterton Lakes 94.87 3 *eP* **P** 17 17 42.3 +1.7
comp=Z,3.9nm,1.0s,mb4.8
PDAR Pinedale Array 101.28 1 P P 17 18 12.5 +2.7
comp=Z,0.6nm,0.9s,baz=27,slow=3.3,SNR=4.4
PLCA Paso Flores 149.99 250 PKP2 PKPab 17 24 08.8 -7.0
PLCA pmax pmax
comp=Z,2.0nm,0.5s
PLCA Paso Flores 149.99 250 PKPbc PKPdf 17 24 08.8 +6.3
comp=Z,1.8nm,0.5s,baz=106,slow=5.1,SNR=9.4

IDC ***24*** *17:22:01.3±6.7,23.49S×178.99W,h165km,38km, mb3.8/5, mb1 3.9/5, mb1mx3.6/13, mbtmp4.2/5, Error ellipse: s-maj=82.9km s-min=48.4km az=131.0*
NEIC ***24*** *17:22:49.6±0.9,23.655×179.00E,h600km, mb4.2/7, Error ellipse: s-maj=22.6km s-min=16.9km az=220.0*
ISC 24 17:22:48.3±1.7, 23.6S±0.2×179.0E±0.3, h600km, n17,
σ0°44/16, mb4.0/10, 1C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**30.56**	**270**	⇑*iP*	**P**	**17 28 17.2**	**+0.9**
	2.2nm,0.3s,mb4.3						

CTA	**Charters Tower**	**30.56 270**	P	**P**	**17 28 17.2**	**+0.9**
	2.3nm,0.3s,mb4.3,baz=97,slow=9.5,SNR=15						
CTAO	**Charters Tower**	**30.56 270**	*e*P	**P**	**17 28 16.6**	**+0.3**
	3.8nm,0.4s,mb4.4						
PMG	**Port Moresby**	**33.54 290**	P	**P**	**17 28 41.1**	**-0.3**
	1.0nm,0.4s,mb3.8,baz=131,slow=9.3,SNR=3.8						
STKA	**Stephens Creek**	**33.98 248**	P	**P**	**17 28 44.8**	**-0.1**
	2.1nm,0.9s,mb3.8,baz=92,slow=12,SNR=6.5						
STKA	**Stephens Creek**	**33.98 248**	P	**P**	**17 28 43.9**	**-1.0**
ASAR	**Alice Springs**	**41.18 261**	P	**P**	**17 29 43.8**	**+0.3**
	1.3nm,0.4s,mb3.8,baz=94,slow=8.0,SNR=59						
ASPA	**Alice Springs**	**41.18 261**	*e*P	**P**	**17 29 43.7**	**+0.1**
WB2	**Warramunga Arr**	**41.50 266**	*e*P	**P**	**17 29 46.0**	**-0.2**
WRAB	**Tennant Creek**	**41.51 266**	*e*P	**P**	**17 29 45.6**	**-0.6**
	7.3nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**41.52 266**	P	**P**	**17 29 46.1**	**-0.2**
	1.9nm,0.3s,mb4.1,baz=96,slow=8.4,SNR=66						
WRA			ScP		17 35 09.0		
	0.3nm,0.8s,baz=129,slow=2.2,SNR=5.4						
KAKA	**Kakadu**	**45.38 275** ⇓	*i*P	**P**	**17 30 16.2**	**-0.1**
	1.0nm,0.2s,mb4.0						
FITZ	**Fitzroy Crossi**	**49.94 266**	*e*P	**P**	**17 30 51.4**	**+0.9**
	2.4nm,0.8s,mb3.7						
QSPA	**South Pole Qui**	**66.46 180**	*e*P	**P**	**17 32 40.3**	**-0.1**
	1.3nm,0.5s,mb3.6						
KS15	**Wonju Array Si**	**77.46 321**	P	**P**	**17 33 44.2**	**0.0**
MAW	**Mawson**	**77.69 201**	P	**P**	**17 33 45.0**	**+0.2**
	42nm,1.2s,mb4.7						
AKASG	**Malin Array Be**	**144.24 327**	PKPbc	PKPbc	17 41 18.1	+1.7	
	0.2nm,0.3s,baz=46,slow=4.0,SNR=5.1						

*NEIC **24** 17:33:36.0±1.1,23.85N×179.37E,h525km±15km,mb4.0/6, Error ellipse: s-maj=14.4km s-min=13.9km az=164.0*
*IDC **24** 17:33:36.9±2.4,23.84S×179.29E,h527km±30km,mb3.1/6, mb1 3.2/9,mb1mx3.2/16,mbtmp4.2/9,Error ellipse: s-maj=25.9km s-min=23.1km az=59.0*
ISC 24 17:33:36.6±1.4,23.8S±0.1×179.4E±0.1,h558km±26km, n23,σ0°77/19,mb3.9/9,1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.05 276**		P		**P**		**17 36 16.9**	**+0.9**
	0.1nm,0.3s,baz=104,slow=9.2,SNR=2.9								
AFI	**Afiamalu**	**12.93 42**		P		**P**		**17 36 25.4**	**+0.5**
	2.0nm,0.3s,baz=55,slow=18,SNR=4.3								
AFI	**Afiamalu**	**12.93 42**		*e*P		**P**		**17 36 24.2**	**-0.7**
URZ	**Urewera**	**14.51 187**		P		**P**		**17 36 39.4**	**-1.2**
	2.4nm,0.3s,baz=330,slow=3.4,SNR=10								
RPZ	**Rata Peaks**	**20.98 197**		P		**P**		**17 37 42.8**	**+0.6**
	11nm,1.1s,baz=119,slow=12,SNR=3.6								
RPZ	**Rata Peaks**	**20.98 197**		P		**P**		**17 37 42.8**	**+0.6**
CTA	**Charters Tower**	**30.91 270**		P		**P**		**17 39 10.3**	**+0.5**
	0.8nm,0.3s,mb3.7,baz=100,slow=11,SNR=4.9								
CTA	**Charters Tower**	**30.91 270**		P		**P**		**17 39 10.3**	**+0.5**
CTAO	**Charters Tower**	**30.91 270**		*e*P		**P**		**17 39 10.1**	**+0.2**
	2.9nm,0.9s,mb3.8								
PMG	**Port Moresby**	**33.94 290**		P		**P**		**17 39 36.0**	**+0.7**
	2.6nm,0.6s,mb3.9,baz=55,slow=7.0,SNR=3.9								
PMG	**Port Moresby**	**33.94 290**		*e*P		**P**		**17 39 35.3**	**0.0**
	11nm,1.2s,mb4.3								
STKA	**Stephens Creek**	**34.23 248**		P		**P**		**17 39 38.1**	**+0.6**
	1.1nm,0.6s,mb3.6,baz=90,slow=6.2,SNR=3.4								
ASAR	**Alice Springs**	**41.49 261**		P		**P**		**17 40 36.9**	**+0.1**
	0.8nm,0.5s,mb3.5,baz=93,slow=7.7,SNR=31								
WB2	**Warramunga Arr**	**41.84 266**		*e*P		**P**		**17 40 39.1**	**-0.6**
WRAB	**Tennant Creek**	**41.84 266**		*e*P		**P**		**17 40 38.9**	**-0.8**
	3.0nm,0.5s,mb4.1								
WRA	**Warramunga Arr**	**41.85 266**		P		**P**		**17 40 39.4**	**-0.3**
	1.3nm,0.3s,mb3.9,baz=96,slow=8.4,SNR=101								
KAKA	**Kakadu**	**45.74 275** ⇓		*i*P		**P**		**17 41 09.3**	**-0.8**
	0.9nm,0.2s,mb4.0								
CASY	**Casey**	**59.93 206**		P		**P**		**17 42 50.0**	**-0.6**
	14nm,0.9s,mb4.3								
QSPA	**South Pole Qui**	**66.25 180**		P		**P**		**17 43 32.2**	**+1.5**
	0.9nm,0.5s,mb3.6								
ARCES	**ARCESS Array B**	**131.71 348**		PKP		PKPdf		17 51 50.0	+4.3
	1.6nm,0.8s,baz=64,slow=3.5,SNR=5.3								
ARCES	**ARCESS Array B**	**131.71 348**		PKP		PKPdf		17 51 50.0	+4.3
AKASG	**Malin Array Be**	**144.61 327**		PKP		PKPdf		17 52 12.8	+3.6
	0.7nm,0.4s,baz=47,slow=4.1,SNR=11								
CLL	**Collm**	**150.62 342**		*e*PKP1		PKPdf		17 52 30.0	+11

IDC 24 17:51:38.0±7.2,17.70S×173.31W,mb3.7/3,mb1 3.9/3, mb1mx3.7/14,mbtmp3.7/3,MS3.8/1,Ms1 3.8/1, ms1mx2.9/26,Error ellipse: s-maj=355.1km s-min=42.0km az=144.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.44 259**		P		P		18 00 30.0	-2.1
	0.2nm,0.4s,baz=97,slow=7.1,SNR=6.4								
ASAR	**Alice Springs**	**49.52 254**		P		P		18 00 30.9	-1.8
	0.4nm,0.5s,baz=94,slow=7.9,SNR=6.2								
RPN	**Rapa Nui**	**59.35 111**		LR		LR		18 22 39.8	
	comp=Z,72nm,18.1s,baz=189,slow=31								
INK	**Inuvik**	**90.46 14**		P		P		18 04 40.8	-1.6
	0.7nm,0.4s,baz=212,slow=6.2,SNR=3.6								
AKASG	**Malin Array Be**	**142.47 336**		PKP		PKPdf		18 11 13.3	-1.2
	0.6nm,0.5s,baz=348,slow=1.8,SNR=4.0								

IDC 24 18:06:57.9±1.3,67.89N×18.77W,mb3.3/3,mb1 3.5/6, mb1mx3.4/20,mbtmp3.3/6,ML3.2/3,MS3.1/6,Ms1 3.1/6, ms1mx3.0/17,Error ellipse: s-maj=30.4km s-min=21.7km az=26.0,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**3.32 199**		Pn		Pn		18 07 50.5	-1.6
	1.8nm,0.3s,baz=352,slow=7.9,SNR=5.1								
BORG				S			Sn	18 08 32.1	-0.9
	0.7nm,0.3s,baz=270,slow=20,SNR=4.2								
JMIC	**Jan Mayen**	**4.76 45**		LR		LR		18 09 02.7	
	comp=Z,84nm,19.9s,baz=238,slow=26								
NOA	**NORSAR Array B**	**14.50 104**		Pn		P		18 10 20.2	-5.7
	0.1nm,0.3s,baz=246,slow=15,SNR=3.2								
NOA				LR		LR		18 15 33.3	
	comp=Z,50nm,18.6s,baz=185,slow=36								
FINES	**FINESS Array B**	**19.83 87**		P		P		18 11 30.1	-2.5
	0.1nm,0.3s,baz=315,slow=11,SNR=5.5								
FINES				LR		LR		18 18 22.9	
	comp=Z,78nm,20.1s,baz=242,slow=34								
FRB	**Frobisher Bay**	**20.33 282**		LR		LR		18 19 27.5	
	comp=Z,51nm,20.4s,baz=359,slow=37								
GERES	**GERESS Array B**	**25.06 123**		P		P		18 12 24.1	-0.7
	0.4nm,0.6s,baz=315,slow=7.5,SNR=5.2								
SCHQ	**Schefferville**	**25.67 263**		LR		LR		18 21 36.4	
	comp=Z,59nm,18.1s,baz=150,slow=34								
YKA	**Yellowknife Ar**	**36.69 309**		P		P		18 14 05.1	-2.6
	0.2nm,0.5s,baz=39,slow=8.7,SNR=5.7								
YKA				LR		LR		18 28 55.0	
	comp=Z,43nm,18.5s,baz=55,slow=36								
PDAR	**Pinedale Array**	**51.51 290**		P		P		18 16 05.7	-1.1
	0.6nm,0.9s,baz=72,slow=4.7,SNR=3.8								

GUC 24 18:15:55.8±0.5,33.23S×70.20W,h5km±1km,MD3.7, ML2.1,3C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.13 216** ⇑		*i*P		Pg		18 15 59.3	+0.8
FCH				*i* S		Sg		18 16 02.0	+1.7
FCH				AMP				18 16 03.2	
	comp=E,1μm,0.2s								
CLCH	**Cerro Calan**	**0.33 239** ⇑		*i*P		Pg		18 16 02.6	+0.2
CLCH				*i* S		Sg		18 16 07.7	+0.9
CLCH				AMP				18 16 09.7	
	comp=E,370nm,0.4s								
DSCH	**Colegio Aleman**	**0.35 241** ⇓		*i*P		Pg		18 16 03.1	+0.2
DSCH				*i* S		Sg		18 16 08.9	+1.3
DSCH				AMP				18 16 11.5	
	comp=N,336nm,0.3s								
PCH	**Pirque**	**0.47 213** ⇓		*i*P		Pg		18 16 05.7	+0.4
PCH				*i* S		Sg		18 16 13.1	+1.5
LMEL	**Las Melosas**	**0.62 180** ⇑		*i*P		Pg		18 16 08.6	+0.4
LMEL				*i* S		Sg		18 16 18.3	+1.8
LMEL				AMP				18 16 20.4	
	comp=E,227nm,0.2s								
TACH	**Talagante**	**0.75 235**		*i* P		Pg		18 16 09.9	-0.9
CHCH	**Chadas Angostu**	**0.80 208** ⇓		*i*P		Pb		18 16 11.6	-0.2
CHCH				*i* S		Sg		18 16 23.4	+0.9
CACH	**El Canelo**	**0.95 200**		*e*P		Pb		18 16 14.6	+0.2
CICH	**Cipreses**	**1.11 189**		*e*P		Pb		18 16 16.6	-0.4
LNV	**Longovilo**	**1.24 234** ⇓		*i*P		Pb		18 16 18.1	-1.2
PACH	**Papudo**	**1.25 303**		*e*P		Pb		18 16 16.4	-3.0
SFDO	**San Fernando**	**1.54 206**		*e*P		Pn		18 16 23.6	-0.4

*CSEM **24** 18:25:17.5±0.1,67.91N×18.08W,h2km,mb4.2/4,Error ellipse: s-maj=4.4km s-min=2.8km az=73.0*
*MOS **24** 18:25:19.2±1.3,68.05N×18.47W,h10km,mb4.3/11,Error ellipse: s-maj=30.9km s-min=13.6km az=118.0*
*IDC **24** 18:25:19.5±1.0,67.89N×18.68W,mb3.8/5,mb1 3.9/10, mb1mx3.7/23,mbtmp3.7/10,ML3.2/5,MS3.5/16,Ms1 3.5/16, ms1mx3.3/29,Error ellipse: s-maj=27.8km s-min=16.0km az=21.0*
*NEIC **24** 18:25:21.1±0.4,67.97N×18.63W,h10km,mb4.2/13,Error ellipse: s-maj=11.8km s-min=5.9km az=206.0*
ISC 24 18:25:18.8±0.3,67.91N±0.03×18.3W±0.1,h10km,n90, σ1§19/92,mb4.1/16,MS3.5/11,1D,Iceland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IGRI	**Grimsey**	**1.38 175**		P		**P**		**18 25 42.7**	**-1.5**
IGRI				S			**Sb**	**18 26 02.1**	**+0.4**
ILEI	**Leirhofn**	**1.67 154**		P		**P**		**18 25 46.6**	**-1.7**
IFLA	**Flatey**	**1.77 174**		P		**P**		**18 25 48.8**	**-0.9**
IFLA				S			**Sn**	**18 26 13.0**	**+0.6**
ISIG	**Siglufjorour**	**1.80 188**		P		**P**		**18 25 50.7**	**+0.5**
ISIG				S			**Sn**	**18 26 13.2**	**0.0**
IBRE	**Brettingsstaoi**	**1.80 174**		P		**P**		**18 25 49.2**	**-1.0**
IHED	**Heoinshofoi**	**1.88 167**		P		**P**		**18 25 49.9**	**-1.4**
IHRN	**Hraun**	**1.94 202**		P		**P**		**18 25 50.8**	**-1.4**
IHLA	**Hella**	**1.97 181**		P		**P**		**18 25 52.0**	**-0.7**
IGIL	**Gilhagi**	**2.00 156**		P		**P**		**18 25 51.6**	**-1.4**
IGIL				S			**Sn**	**18 26 16.7**	**-1.6**
IGRA	**Granastaoir**	**2.02 171**		P		**P**		**18 25 52.2**	**-1.2**
IKVO	**Krokottuvotn**	**2.28 165**		P		**P**		**18 25 57.0**	**0.0**
IREN	**Reynihlio**	**2.34 165**		P		**P**		**18 25 56.9**	**-1.0**
IGRS	**Grimsstaoir**	**2.44 158**		P		**P**		**18 25 58.5**	**-0.9**
IGRS				S			**Sn**	**18 26 29.3**	**-0.3**
ISVA	**Svartarkot**	**2.62 170**		P		**P**		**18 26 01.3**	**-0.6**
ISVA				S			**Sn**	**18 26 34.4**	**+0.4**
IHVE	**Hveravellir**	**3.09 190**		P		**P**		**18 26 09.4**	**+0.8**
IHVE				S			**Sn**	**18 26 48.1**	**+2.1**
IADA	**Aoalbol**	**3.10 158**		P		**P**		**18 26 07.9**	**-0.9**
IADA				S			**Sn**	**18 26 47.0**	**+0.6**
IHVA	**Hvannstoosfjol**	**3.13 160**		P		**P**		**18 26 08.9**	**-0.2**
IBRU	**Bruarjokull**	**3.22 163**		P		**P**		**18 26 10.0**	**-0.5**
IVSH	**V-Sauoahnukur**	**3.29 160**		P		**P**		**18 26 10.6**	**-0.8**
ISKR	**Skrokkalda**	**3.36 180**		P		**P**		**18 26 12.9**	**+0.4**
IASB	**`sbjarnarst**	**3.40 202**		P		**P**		**18 26 11.9**	**-1.0**
BORG	**Borgarnes**	**3.40 202**		Pn		**Pn**		**18 26 11.9**	**-1.0**
	4.6nm,0.3s,baz=24,slow=7.6,SNR=16								
BORG				S			**Sn**	**18 26 52.6**	**-1.1**
	6.1nm,0.3s,baz=33,slow=21,SNR=11								
IGYG	**Gygjarholskot**	**3.72 193**		P		**P**		**18 26 18.8**	**+1.2**
IVAT	**Vatnsfell**	**3.75 184**		P		**P**		**18 26 19.4**	**+1.0**
IHEI	**Heioarbar**	**3.91 199**		P		**P**		**18 26 20.7**	**+0.5**
IKRO	**Krokur**	**3.99 198**		P		**P**		**18 26 22.7**	**+1.3**
IKRO				S			**Sn**	**18 27 10.9**	**+2.1**
IHAU	**Haukadalur**	**4.01 190**		P		**P**		**18 26 22.6**	**+0.9**
ISAU	**Saurbar**	**4.03 193**		P		**P**		**18 26 22.8**	**+0.9**
ISOL	**Solvholt**	**4.14 196**		P		**P**		**18 26 25.1**	**+1.6**
JMIC	**Jan Mayen**	**4.64 44**		LR		LR		18 27 47.0	
	comp=Z,231nm,21.1s,baz=245,slow=31								
SUMG	**Summit**	**8.23 314**		*e*Pn		**P**		**18 27 17.2**	**-3.9**
	4.7nm,0.6s								
SUMG	**Summit**	**8.23 314**		*e*Pn		**P**		**18 27 17.2**	**-4.0**
	4.7nm,0.6s								
NB2	**NORSAR Subarra**	**14.35 104**		P		**P**		**18 28 51.9**	**+8.3**
	2.5nm,0.9s,baz=312,slow=10								
NB2	**NORSAR Subarra**	**14.35 104**		P		**P**		**18 28 51.9**	**+8.3**
NB2				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NOA	**NORSAR Array B**	**14.35 104**		Pn		**P**		**18 28 45.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=306,slow=10,SNR=2.6								
NOA				LR		LR		18 33 38.4	
	comp=Z,56nm,22.0s,baz=300,slow=34								
EKA	**Eskdalemuir Ar**	**14.46 143**		Pn		**P**		**18 28 47.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=331,slow=8.9,SNR=3.1								
KONO	**Kongsberg**	**14.72 111**		P		**P**		**18 28 51.7**	**+3.2**
ARCES	**ARCESS Array B**	**15.74 64**		LR		LR		18 33 54.6	
	comp=Z,104nm,18.2s,baz=220,slow=32								
HFS	**Hagfors**	**15.86 104**		Pn		**P**		**18 29 02.5**	**-0.9**
	comp=Z,0.0nm,0.3s,baz=315,slow=6.1,SNR=2.3								
HFS				LR		LR		18 35 09.4	
	comp=Z,91nm,19.9s,baz=69,slow=37								
KAF	**Kangasniemi**	**19.35 86**		*e*p		**P**		**18 29 45.7**	**-0.9**
	comp=Z,1.7nm,0.7s								
KAF	**Kangasniemi**	**19.35 86**		*e*P		**P**		**18 29 45.7**	**-0.9**
KAF				pmax		pmax			
	comp=Z,2.0nm,0.7s								
FINES	**FINESS Array B**	**19.67 88**		P		**P**		**18 29 50.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=315,slow=5.4,SNR=10								
FINES				LR		LR		18 36 53.9	
	comp=Z,172nm,19.2s,baz=72,slow=35								
FINES	**FINESS Array B**	**19.67 88**		P		**P**		**18 29 50.7**	**+0.4**
FINES				LR		LR		18 36 53.9	
RGN	**Rugen**	**19.96 116**		*e*P		**P**		**18 29 44.3**	**-9.3**
FRB	**Frobisher Bay**	**20.48 282**		P		**P**		**18 29 57.3**	**-1.7**
	comp=Z,4.7nm,1.0s,baz=55,slow=9.8,SNR=6.0								
FRB				LR		LR		18 37 11.4	
	comp=Z,106nm,21.5s,MS3.2,baz=115,slow=35								
JOF	**Joensuu**	**20.75 80**		*e*p		**P**		**18 29 55.7**	**-6.0**
	comp=Z,2.4nm,0.8s								
CLL	**Collm**	**22.57 122** ⇓		P		**P**		**18 30 23.3**	**+3.3**
	comp=Z,logA/T=1.0,mb4.2								
MOX	**Moxa**	**22.70 125**		*e*P		**P**		**18 30 25.4**	**+4.1**
MOX				pmax		pmax			
	comp=Z,19nm,1.8s,mb4.2								
MOX	**Moxa**	**22.70 125**		*e*P		**P**		**18 30 25.4**	**+4.1**
	comp=Z,19nm,1.8s,mb4.2								
MOX	**Moxa**	**22.70 125**		*i* P		**P**		**18 30 25.4**	**+4.1**
	comp=Z,logA/T=1.0,mb4.2								
BRG	**Berggiesshubel**	**23.25 121**		P		**P**		**18 30 37.8**	**+11**
BRG				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb3.8								
BRG	**Berggiesshubel**	**23.25 121**		P		**P**		**18 30 37.8**	**+11**
	comp=Z,2.6nm,0.7s,mb3.8								
RES	**Resolute Bay**	**23.69 320**		*e*P		**P**		**18 30 31.5**	**+0.9**
RES				pmax		pmax			
	comp=Z,25nm,2.0s,mb4.3								
RES	**Resolute Bay**	**23.69 320**		*e*P		**P**		**18 30 31.5**	**+0.8**
	comp=Z,25nm,2.0s,mb4.3								
RES	**Resolute Bay**	**23.69 320**		*e*P		**P**		**18 30 31.5**	**+0.9**
	comp=Z,25nm,2.0s,mb4.3								
GERES	**GERESS Array B**	**24.93 124**		P		**P**		**18 30 44.9**	**+1.9**
	comp=Z,2.2nm,0.8s,mb3.7,baz=329,slow=7.8,SNR=14								
GERES				LR		LR		18 39 55.4	
	comp=Z,57nm,20.4s,MS3.1,baz=299,slow=35								
MORC	**Moravsky Berou**	**25.38 118**		*e*P		**P**		**18 30 50.0**	**+2.9**
MORC				pmax		pmax			
	comp=Z,10.0nm,1.5s,mb4.1								
MORC	**Moravsky Berou**	**25.38 118**		*e*P		**P**		**18 30 50.0**	**+2.9**
	comp=Z,9.5nm,1.5s,mb4.1								
DAVOX	**Davos**	**25.64 131**		LR		LR		18 42 11.4	
	comp=Z,144nm,18.0s,MS3.5,baz=60,slow=39								
SCHQ	**Schefferville**	**25.84 264**		P		**P**		**18 30 51.2**	**-0.2**
	comp=Z,7.7nm,1.0s,mb3.7,baz=14,slow=4.2,SNR=3.0								
SCHQ				LR		LR		18 40 17.3	
	comp=Z,138nm,18.6s,MS3.5,baz=33,slow=35								
SCHQ	**Schefferville**	**25.84 264**		*e*P		**P**		**18 30 52.6**	**+1.2**
	comp=Z,9.0nm,1.3s,mb4.1								
SCHQ				LR		LR		18 40 17.4	
SCHQ	**Schefferville**	**25.84 264**		*e*P		**P**		**18 30 52.6**	**+1.2**
	comp=Z,9.0nm,1.3s,mb4.1								
PSZ	**Piszkesteto**	**27.77 117**		*e*P		**P**		**18 31 07.0**	**-2.2**
OBN	**Obninsk**	**28.04 90**		P		**P**		**18 31 06.9**	**-4.7**
MLR	**Mustele Rosu**	**31.95 112**		LR		LR		18 46 00.4	
	comp=Z,80nm,19.5s,MS3.4,baz=259,slow=39								
FCC	**Fort Churchill**	**33.01 292**		P		**P**		**18 31 53.4**	**-2.2**
FCC				pmax		pmax			
	comp=Z,7.0nm,1.4s,mb4.4								
FCC	**Fort Churchill**	**33.01 292**		P		**P**		**18 31 53.4**	**-2.2**
	comp=Z,6.7nm,1.4s,mb4.4								
TIP	**Timpagrande**	**34.61 128**		*e*P		**P**		**18 32 12.3**	**+2.6**
ARU	**Arti**	**35.18 70**		*e*P		**P**		**18 32 15.3**	**+1.0**
ARU				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
ARU	**Arti**	**35.18 70**		*e*P		**P**		**18 32 15.3**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.2								
ARU	**Arti**	**35.18 70**		*e*P		**P**		**18 32 15.3**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.2								
YKA	**Yellowknife Ar**	**36.81 310**		P		**P**		**18 32 26.4**	**-1.6**
	comp=Z,0.7nm,0.8s,mb3.6,baz=38,slow=8.4,SNR=13								
YKA				LR		LR		18 46 56.4	
	comp=Z,65nm,21.4s,MS3.4,baz=35,slow=35								
INK	**Inuvik**	**36.92 326**		*e*P		**P**		**18 32 28.5**	**-0.4**
INK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**36.92 326**		*e*P		**P**		**18 32 28.5**	**-0.4**
	comp=Z,3.3nm,1.1s,mb4.1								
INK	**Inuvik**	**36.92 326**		*e*P		**P**		**18 32 28.5**	**-0.4**
	comp=Z,3.3nm,1.1s,mb4.1								
ULM	**Lac du Bonnet**	**40.35 284**		LR		LR		18 49 23.8	
	comp=Z,86nm,19.3s,MS3.6,baz=338,slow=36								
IDI	**Anoyia**	**40.72 121**		LR		LR		18 47 25.5	
	comp=Z,148nm,21.5s,MS3.8,baz=105,slow=32								
DAWY	**Dawson**	**41.79 326**		*e*P		**P**		**18 33 09.7**	**+0.5**
GNI	**Garni**	**43.47 97**		LR		LR		18 52 05.6	
	comp=Z,72nm,19.5s,MS3.6,baz=143,slow=37								
MCK	**McKinley**	**43.99 331**		*e*P		**P**		**18 33 27.7**	**+0.6**
MCK				pmax		pmax			
	comp=Z,4.0nm,1.1s,mb4.1								
MCK	**McKinley**	**43.99 331**		*e*P		**P**		**18 33 27.7**	**+0.6**
	comp=Z,4.3nm,1.1s,mb4.1								
KURK	**Kurchatov**	**46.73 60**		P		**P**		**18 33 49.6**	**+0.5**
KURK				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
KURK	**Kurchatov**	**46.73 60**		P		**P**		**18 33 49.6**	**+0.5**
	comp=Z,1.8nm,0.8s,mb4.0								
BOZ	**Bozeman (W)**	**49.87 294**		*e*P		**P**		**18 34 13.6**	**0.0**
BOZ				pmax		pmax			
	comp=Z,4.0nm,1.2s,mb4.3								
BOZ	**Bozeman (W)**	**49.87 294**		*e*P		**P**		**18 34 13.6**	**0.0**
	comp=Z,3.9nm,1.2s,mb4.3								
PDAR	**Pinedale Array**	**51.66 290**		P		**P**		**18 34 28.3**	**+1.0**
	comp=Z,1.0nm,0.9s,mb3.7,baz=79,slow=7.6,SNR=6.3								
PDAR				LR		LR		18 56 26.9	
	comp=Z,91nm,18.3s,MS3.8,baz=219,slow=36								
WMOK	**Wichita Mounta**	**54.77 276**		*e*P		**P**		**18 34 50.8**	**+0.3**
WMOK				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
WMOK	**Wichita Mounta**	**54.77 276**		*e*P		**P**		**18 34 50.8**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.4								
PV01	**Paradox Valley**	**55.39 287**		*e*P		**P**		**18 34 54.9**	**0.0**
TXAR	**Lajitas Array**	**61.44 278**		LR		LR		19 02 22.4	
	comp=Z,85nm,18.1s,MS3.9,baz=30,slow=36								

IDC 24 18:39:28.1±2.4,11.63S×162.03E,mb3.6/3,mb1 3.9/5, mb1mx3.8/13,mbtmp3.7/5,ML3.8/2,MS3.6/2,Ms1 3.6/2, ms1mx2.9/18,Error ellipse: s-maj=51.1km s-min=37.5km az=82.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.21 158**		Pn		P		18 42 10.1	-2.6
	0.2nm,0.3s,baz=322,slow=19,SNR=5.2								
DZM				LR		LR		18 45 55.3	
	comp=Z,72nm,19.4s,baz=313,slow=34								
CTA	**Charters Tower**	**17.34 239**		P		P		18 43 35.2	+1.9
	0.2nm,0.3s,baz=69,slow=16,SNR=4.8								
WRA	**Warramunga Arr**	**27.86 249**		P		P		18 45 19.8	-1.8
	0.5nm,0.7s,baz=80,slow=8.9,SNR=8.2								
ASAR	**Alice Springs**	**29.29 242**		P		P		18 45 32.3	-2.2
	0.5nm,0.7s,baz=69,slow=9.9,SNR=7.8

TPP					*e*S	**S**	**18 42 00.2**	**+1.6**
TBH	**Brigand Hill**	**1.47**	**96**		*e*P	**P**	**18 41 47.3**	**+0.9**
TBH					*e*S	**S**	**18 42 07.2**	**+1.5**
GRW	**Mount Saint Ca**	**1.74**	**30**		*e*P	**P**	**18 41 50.5**	**+0.7**
GRW					*e*S	**S**	**18 42 09.3**	**-2.2**
GRHS	**Sauteurs**	**1.80**	**30**		*e*P	**P**	**18 41 50.8**	**+0.2**
BOT	**Bacolet**	**1.88**	**74**		*e*P	**P**	**18 41 50.2**	**-1.3**
PCRV	**Puerto La Cruz**	**2.10**	**257**		*e*P	**P**	**18 41 55.8**	**+1.2**
PCRV					*e*S	**S**	**18 42 20.9**	**+1.0**
IBAV	**Isla La Blanqu**	**2.30**	**301**		*e*P	**P**	**18 41 58.0**	**+0.6**
GURV	**El Guri**	**2.92**	**190**	⇓	*i*P	**P**	**18 42 06.0**	**+0.1**
GURV					*e*S	**S**	**18 42 38.3**	**-1.8**
CUPV	**Cœpira**	**3.23**	**260**		*e*P	**P**	**18 42 11.6**	**+1.4**
CUPV					*e*S	**S**	**18 42 48.1**	**+0.3**
MERV	**Las Mercedes**	**3.94**	**250**		*e*P	**P**	**18 42 20.2**	**+0.3**
MERV					*e*S	**S**	**18 43 04.3**	**-1.0**
LUEV	**Luepa**	**4.90**	**167**		*e*P	**P**	**18 42 31.4**	**-1.6**
LUEV					*e*S	**S**	**18 43 23.3**	**-5.7**
CAOV	**Caicara del Or**	**4.98**	**229**		*e*P	**P**	**18 42 34.4**	**+0.3**
CAOV					*e*S	**S**	**18 43 27.3**	**-3.5**
BAUV	**El Baul**	**5.67**	**253**		*e*P	**P**	**18 42 42.8**	**-0.7**
BAUV					*e*S	**S**	**18 43 44.2**	**-3.7**
PAYV	**Puerto Ayacuch**	**7.25**	**225**		*e*P	**P**	**18 43 04.6**	**-0.7**
PAYV					*e*S	**S**	**18 44 20.4**	**-6.2**

*NIED **24** 18:43:00,33.70N×130.20E,h5km,Mw3.9 Best double couple: M0 6.84×10^14 NP1:φs185°,δ74°,λ156°. NP2: φs282°,δ67°,λ18°.*

JMA 24 18:43:18.9,33.72N×130.22E,h11km,M4.0,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.32**	**154**	⇑*i*P	Pg	18 43 25.5	-0.2
JFI				S	Sg	18 43 30.6	+0.4
JII	**Iki**	**0.41**	**281**	⇓P	Pg	18 43 27.2	-0.2
JII				S	Sg	18 43 32.8	-0.3
JFA	**Akaike**	**0.48**	**91**	⇓P	Pg	18 43 28.2	-0.5
JFA				S	Sg	18 43 34.9	-0.3
JTA	**Tamana**	**0.80**	**161**	⇑P	Pb	18 43 34.0	-0.3
JTA				S	Sb	18 43 44.6	-0.3
JTU	**Tsushima**	**1.05**	**320**	⇑P	Pb	18 43 38.4	-0.3
JTU				S	Sb	18 43 52.5	+0.3

*THE **24** 18:45:41.5,35.38N×22.16E,h22km,ML4.1*
*CSEM **24** 18:45:42.8±0.2,35.52N×22.31E,h20km,ML3.9,Error ellipse: s-maj=4.9km s-min=2.1km az=20.0*
*ATH **24** 18:45:43.1,35.53N×22.39E,h29km±7km,MD3.8/14, ML3.9*
*NEIC **24** 18:45:43.5,35.55N×22.39E,h34km,ML3.9(ATH),After ATH.*
*IDC **24** 18:45:48.0±2.3,35.81N×22.60E,h66km±21km,mb3.4/7, mb1 3.6/12,mb1mx3.4/24,mbtmp3.6/12,Error ellipse: s-maj=39.2km s-min=20.1km az=21.0*

ISC 24 18:45:42.9±0.7,35.49N±0.06×22.26E±0.06,h71km±7km, n67,σ0s97/76,mb3.5/10,1C-2D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KYTH	**Kithira**	**1.01**	**38**	*e*PN	**P**	**18 46 00.9**	**-1.0**
VLI	**Veliai**	**1.35**	**24**	⇑*i*PN	**P**	**18 46 06.9**	**+0.5**
VLI				*e*SN	**S**	**18 46 24.8**	**+1.0**
VAM	**Vamos**	**1.59**	**92**	*e*PN	**P**	**18 46 10.3**	**+0.7**
VAM				*e*SN	**S**	**18 46 29.0**	**-0.3**
GVD	**Gavdhos**	**1.63**	**113**	*e*PN	**P**	**18 46 10.9**	**+0.7**
ITM	**Ithomi**	**1.71**	**351**	*e*PN	**P**	**18 46 13.2**	**+2.0**
IDI	**Anoyia**	**2.16**	**94**	P	**P**	**18 46 17.9**	**+0.5**
	3.5nm,0.3s,baz=278,slow=13,SNR=57						
NAIG	**Nisos Aigina**	**2.48**	**23**	*e*PN	**P**	**18 46 21.8**	**-0.1**
THR5	**Thira Island,**	**2.68**	**69**	*e*Pn	**P**	**18 46 23.6**	**-1.1**
THR3	**Thira Island,**	**2.71**	**69**	*e*Pn	**P**	**18 46 24.3**	**-0.9**
ATH	**Athens Observa**	**2.75**	**25**	*e*PN	**P**	**18 46 26.5**	**+0.8**
ATH	**Athens Observa**	**2.75**	**25**	*e*Pb	**P**	**18 46 27.5**	**+1.8**
SANT	**Santorini**	**2.75**	**70**	*e*Pn	**P**	**18 46 24.4**	**-1.3**
THR1	**Thera Island**	**2.75**	**70**	*e*Pn	**P**	**18 46 25.1**	**-0.6**
NPS	**Neapolis**	**2.75**	**94**	*e*PB	**P**	**18 46 27.7**	**+1.9**
PTL	**Penteli**	**2.87**	**26**	*e*PN	**P**	**18 46 27.0**	**-0.4**
PTL	**Penteli**	**2.87**	**26**	*e*Pn	**P**	**18 46 26.4**	**-1.0**
XRY	**Khrisi**	**2.88**	**101**	*e*PN	**P**	**18 46 28.0**	**+0.4**
MPAR	**Parnis Oros**	**2.91**	**24**	*e*PN	**P**	**18 46 29.0**	**+1.0**
VLS	**Valsamata**	**3.00**	**334**	*e*PN	**P**	**18 46 31.0**	**+1.8**
VLS	**Valsamata**	**3.00**	**334**	*e*Pn	**P**	**18 46 29.5**	**+0.3**
APE	**Apeiranthos**	**3.08**	**58**	*e*PN	**P**	**18 46 30.3**	**-0.1**
EVR	**Evrytania**	**3.44**	**354**	*e*PN	**P**	**18 46 37.5**	**+2.1**
EVR	**Evrytania**	**3.44**	**354**	*e*Pn	**P**	**18 46 38.0**	**+2.6**
AGG	**Agios Georgios**	**3.53**	**1**	*e*Pn	**P**	**18 46 36.4**	**-0.2**
AGG				*e*Sn	**S**	**18 47 18.2**	**+0.8**
NEO	**Neokhori**	**3.89**	**11**	*e*PN	**P**	**18 46 42.0**	**+0.3**
NEO	**Neokhori**	**3.89**	**11**	*e*Pn	**P**	**18 46 41.6**	**-0.1**
AOS	**Alonnisos**	**3.90**	**19**	*e*Pn	**P**	**18 46 41.8**	**+0.1**
KARP	**Karpathos**	**4.00**	**88**	*e*PN	**P**	**18 46 42.8**	**-0.4**
KARP	**Karpathos**	**4.00**	**88**	*e*Pn	**P**	**18 46 42.5**	**-0.7**
JAN	**Janina**	**4.31**	**345**	*e*PN	**P**	**18 46 48.5**	**+1.0**
JAN	**Janina**	**4.31**	**345**	*e*Pn	**P**	**18 46 47.5**	**0.0**
OUR	**Ouranopolis**	**5.03**	**15**	*e*Pn	**P**	**18 46 56.6**	**-0.9**
FNA	**Florina**	**5.33**	**353**	*e*Pn	**P**	**18 47 01.2**	**-0.5**
SOH	**Sokhos**	**5.40**	**9**	*e*Pn	**P**	**18 47 01.7**	**-0.8**
GRG	**Griva**	**5.46**	**1**	*e*Pn	**P**	**18 47 02.5**	**-0.9**
SOI	**Samo**	**5.61**	**299**	*e*Pn	**P**	**18 47 05.2**	**-0.2**
SOI				*e*Sn	**S**	**18 48 03.4**	**-5.8**
SOI	**Samo**	**5.61**	**299**	*e*Pn	**P**	**18 47 05.2**	**-0.2**
KNT	**Kendrikon**	**5.69**	**5**	*e*Pn	**P**	**18 47 06.0**	**-0.6**
SRS	**Serrai**	**5.72**	**10**	*e*Pn	**P**	**18 47 06.9**	**-0.1**
TIP	**Timpagrande**	**5.72**	**312**	*e*Pn	**P**	**18 47 05.5**	**-1.5**
TIP				*e*Sn	**S**	**18 47 58.1**	**-14**
TIP	**Timpagrande**	**5.72**	**312**	*e*Pn	**P**	**18 47 05.5**	**-1.5**
ALN	**Alexandroupoli**	**6.17**	**28**	*e*Pn	**P**	**18 47 13.1**	**-0.2**
SKO	**Skopje**	**6.51**	**355**	⇓*i*Pn	**P**	**18 47 16.5**	**-1.5**
VAE	**Valguarnera**	**6.62**	**290**	P	**P**	**18 47 25.5**	**+5.9**
	1.2nm,0.3s,baz=60,slow=14,SNR=2.9						
MGR	**Morigerati**	**7.05**	**313**	*e*Pn	**P**	**18 47 24.4**	**-1.1**
MGR				*e*Sn	**S**	**18 48 39.1**	**-5.7**
MGR	**Morigerati**	**7.05**	**313**	*e*Pn	**P**	**18 47 24.4**	**-1.1**
MGR				*e*Sn	**S**	**18 48 39.1**	**-5.8**
SGO	**Sicignano**	**7.46**	**315**	*e*Pn	**P**	**18 47 31.2**	**-0.1**
SGO				*e*Sn	**S**	**18 48 49.5**	**-5.6**
SGO	**Sicignano**	**7.46**	**315**	*e*Pn	**P**	**18 47 31.2**	**0.0**
SGO				*e*Sn	**S**	**18 48 49.5**	**-5.6**
MRLC	**Muro Lucano**	**7.49**	**317**	*e*Pn	**P**	**18 47 31.2**	**-0.4**
MRLC	**Muro Lucano**	**7.49**	**317**	*e*Pn	**P**	**18 47 31.2**	**-0.4**
BRTR	**Keskin Array B**	**9.97**	**62**	P	**P**	**18 48 05.0**	**-0.5**
	0.2nm,0.3s,baz=241,slow=13,SNR=4.1						
BRTR	**Keskin Array B**	**9.97**	**62**	P	**P**	**18 48 04.9**	**-0.6**
MLR	**Muntele Rosu**	**10.38**	**15**	P	**P**	**18 48 10.3**	**-0.7**
	baz=228,slow=15						
EIL	**Elat**	**12.17**	**115**	P	**P**	**18 48 30.0**	**-5.1**
	0.2nm,0.3s,baz=11,slow=10,SNR=4.5						
GERES	**GERESS Array B**	**14.76**	**337**	P	**P**	**18 49 11.4**	**+2.5**
	0.1nm,0.3s,baz=153,slow=13,SNR=2.4						
BSD	**Bornholm Skovb**	**20.27**	**348**	⇓*i*P	**P**	**18 50 13.8**	**-1.0**
	5.3nm,0.5s						
HFS	**Hagfors**	**25.28**	**350**	P	**P**	**18 51 04.5**	**+0.7**
	1.1nm,0.4s,mb3.6,baz=157,slow=11,SNR=20						
FINES	**FINESS Array B**	**26.09**	**4**	P	**P**	**18 51 11.5**	**+0.2**
	0.6nm,0.6s,mb3.2,baz=161,slow=10,SNR=7.7						
EKA	**Eskdalemuir Ar**	**26.43**	**327**	P	**P**	**18 51 18.2**	**+3.7**
	1.2nm,0.5s,mb3.6,baz=126,slow=8.8,SNR=11						
NB2	**NORSAR Subarra**	**26.53**	**348**	P	**P**	**18 51 15.9**	**+0.5**
	0.5nm,0.5s,mb3.3,baz=147,slow=10						
NOA	**NORSAR Array B**	**26.53**	**349**	P	**P**	**18 51 16.3**	**+0.9**
	0.5nm,0.5s,mb3.3,baz=140,slow=9.1,SNR=4.6						
KAF	**Kangasniemi**	**26.77**	**4**	*ep*	**P**	**18 51 15.9**	**-1.7**
	0.3nm,0.4s,mb3.2						
JOF	**Joensuu**	**28.03**	**9**	*ep*	**P**	**18 51 29.3**	**+0.2**
	0.2nm,0.3s,mb3.1						
ARCES	**ARCESS Array B**	**34.15**	**2**	P	**P**	**18 52 23.0**	**+0.3**
	1.4nm,0.5s,mb4.1,baz=188,slow=8.6,SNR=20						
KEV	**Kevo**	**34.42**	**3**	*ep*	**P**	**18 52 24.8**	**-0.2**
	0.3nm,0.3s,mb3.6						
SONM	**Songino Array**	**61.11**	**50**	P	**P**	**18 55 52.8**	**+1.2**
	0.2nm,0.4s,mb3.5,baz=282,slow=6.8,SNR=6.1						
YKA	**Yellowknife Ar**	**76.39**	**341**	P	**P**	**18 57 29.2**	**+3.6**
	0.3nm,0.5s,mb3.3,baz=33,slow=5.3,SNR=8.7						

*JMA **24** 19:08:13.3,38.94N×141.63E,h73km±1km,M3.7*
Broadband fault plane solution: P waves. NP1:φs25°,δ16°, λ85°. NP2:φs210°,δ74°,λ91°. Principal axes: T Plg61°, Azm122°; N Plg1°, Azm30°; P Plg29°, Azm299°;
JMA Felt II J1.
*IDC **24** 19:08:21.3±2.3,36.67N×135.57E,mb3.7/5,mb1 3.9/5, mb1mx3.5/21,mbtmp3.7/5 Error ellipse: s-maj=118.3km s-min=21.8km az=70.0*

ISC 24 19:08:11.7±0.8,38.92N±0.04×141.7E±0.1,h81km±4km, n16,σ0s77/24,mb3.7/4,7C,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.16**	**355**	⇑P	**P**	**19 08 24.1**	**+0.6**
OFUJ				S	**S**	**19 08 31.9**	**-0.4**
JMK	**Ichinoseki**	**0.37**	**276**	⇑P	**P**	**19 08 24.8**	**+0.2**
JMK				S	**S**	**19 08 33.4**	**-1.0**
JIO	**Ouri**	**0.53**	**210**	⇑P	**P**	**19 08 26.6**	**+0.6**
JIO				S	**S**	**19 08 36.0**	**-0.7**
JOM	**Ohasama**	**0.64**	**331**	⇑P	**P**	**19 08 27.4**	**+0.4**
JOM				S	**S**	**19 08 37.7**	**-0.7**
JOU	**Okura**	**0.97**	**236**	⇑P	**P**	**19 08 31.5**	**+0.8**
JOU				S	**S**	**19 08 45.2**	**+0.1**
JYK	**Kaneyama**	**1.04**	**270**	⇑P	**P**	**19 08 32.1**	**+0.6**
JYK				S	**S**	**19 08 46.5**	**+0.1**
JMM	**Marumori**	**1.26**	**214**	P	**P**	**19 08 34.9**	**+0.5**
JMM				S	**S**	**19 08 50.8**	**-0.6**
JYS	**Shirataka**	**1.45**	**242**	P	**P**	**19 08 38.0**	**+1.1**
JANG	**Nango**	**1.46**	**355**	P	**P**	**19 08 37.2**	**+0.1**
JANG				S	**S**	**19 08 55.3**	**-0.5**
JAH	**Hinai**	**1.51**	**328**	⇑P	**P**	**19 08 38.5**	**+0.8**
MAT	**Matsushiro**	**3.64**	**230**	P	**P**	**19 09 09.4**	**+2.4**
MAT				S	**S**	**19 09 47.5**	**-1.5**
ZAL	**Zalesovo**	**40.84**	**311**	P	**P**	**19 15 46.5**	**-0.2**
	1.2nm,0.4s,mb4.0,baz=44,slow=7.5,SNR=6.3						
BVAR	**Borovoye Array**	**49.48**	**311**	P	**P**	**19 16 55.0**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=64,slow=9.9,SNR=4.0						
WRA	**Warramunga Arr**	**58.95**	**188**	P	**P**	**19 18 04.0**	**-1.0**
	0.5nm,0.4s,mb3.9,baz=5.9,slow=7.2,SNR=27						
ASAR	**Alice Springs**	**62.68**	**188**	P	**P**	**19 18 29.7**	**-0.5**
	0.2nm,0.5s,mb3.3,baz=358,slow=6.7,SNR=6.6						
HFS	**Hagfors**	**72.47**	**336**	P	pP	19 19 50.1	-2.1
	0.6nm,0.3s,baz=45,slow=4.2,SNR=7.7						

*NEIC **24** 19:19:01.8,37.92N×22.27E,h24km,ML3.3(ATH),After ATH.*
*ATH **24** 19:19:02.1,37.90N×22.29E,h22km±2km,MD3.4/12, ML3.3*
*CSEM **24** 19:19:02.4±0.1,37.90N×22.29E,h10km,ML3.3,Error ellipse: s-maj=2.2km s-min=1.6km az=82.0*
*THE **24** 19:19:04.8,37.91N×22.36E,h21km,ML3.2*

ISC 24 19:19:01.9±1.0,37.95N±0.03×22.35E±0.04,h8km±6km, n24,σ0s80/34,1C,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MGER	**Gerania Oros**	**0.72**	**87**	*e*PN	**Pn**	**19 19 17.3**	**-0.7**
MGER				*e*SN	**Sn**	**19 19 28.0**	**-1.3**
ITM	**Ithomi**	**0.84**	**204**	*e*PN	**Pn**	**19 19 17.1**	**-2.6**
NSAL	**Nisos Salamina**	**0.88**	**92**	*e*PB	**Pb**	**19 19 19.4**	**+0.5**
NSAL				*e*SN	**Sn**	**19 19 33.0**	**-0.4**
NAIG	**Nisos Aigina**	**0.92**	**102**	*e*PN	**Pn**	**19 19 20.7**	**-0.2**
EVR	**Evrytania**	**1.06**	**336**	*e*PB	**Pb**	**19 19 22.0**	**0.0**
EVR				*e*SN	**Sn**	**19 19 38.8**	**+0.9**
AGG	**Agios Georgios**	**1.07**	**359**	*e*Pg	**Pg**	**19 19 23.3**	**0.0**
AGG				*e*Sg	**Sg**	**19 19 38.0**	**+0.3**
ATH	**Athens Observa**	**1.08**	**88**	*e*PN	**Pn**	**19 19 24.0**	**+0.8**
ATH				*e*SN	**Sn**	**19 19 40.0**	**+1.6**
MPAR	**Parnis Oros**	**1.11**	**79**	*e*PN	**Pn**	**19 19 25.0**	**+1.4**
PTL	**Penteli**	**1.20**	**85**	*e*PN	**Pn**	**19 19 25.5**	**+0.6**
PTL				*e*SN	**Sn**	**19 19 42.0**	**+0.5**
VLI	**Veliai**	**1.31**	**159**	⇑*i*PN	**Pn**	**19 19 26.5**	**0.0**
VLS	**Valsamata**	**1.41**	**280**	*e*PN	**Pn**	**19 19 27.5**	**-0.4**
VLS				*e*SN	**Sn**	**19 19 48.0**	**+1.2**
NEO	**Neokhori**	**1.52**	**26**	*e*PB	**Pb**	**19 19 30.0**	**+0.1**
AOS	**Alonnisos**	**1.71**	**44**	*e*Pb	**Pb**	**19 19 32.3**	**-0.8**
KYTH	**Kithira**	**1.75**	**162**	*e*PN	**Pn**	**19 19 34.0**	**+1.2**
KYTH	**Kithira**	**1.75**	**162**	*e*Pn	**Pn**	**19 19 34.5**	**+1.7**
OUR	**Ouranopolis**	**2.70**	**27**	*e*Pn	**Pn**	**19 19 45.9**	**-0.5**
THR5	**Thira Island,**	**2.84**	**122**	*e*Pn	**Pn**	**19 19 47.5**	**-0.8**
LOS	**Limnos**	**2.91**	**46**	*e*Pn	**Pn**	**19 19 49.1**	**-0.2**
FNA	**Florina**	**2.93**	**345**	*e*Pn	**Pn**	**19 19 50.0**	**+0.3**
FNA				*e*Sn	**Sn**	**19 20 24.9**	**-0.6**
VAM	**Vamos**	**2.94**	**149**	*e*PN	**Pn**	**19 19 49.3**	**-0.5**
SOH	**Sokhos**	**2.97**	**15**	*e*Pn	**Pn**	**19 19 50.4**	**+0.1**
GRG	**Griva**	**3.00**	**1**	*e*Pn	**Pn**	**19 19 50.4**	**-0.3**
GRG				*e*Sn	**Sn**	**19 20 26.4**	**-1.0**
KNT	**Kendrikon**	**3.24**	**7**	*e*Pn	**Pn**	**19 19 54.2**	**+0.2**
SRS	**Serrai**	**3.31**	**16**	*e*Pn	**Pn**	**19 19 55.3**	**+0.3**
SRS				*e*Sn	**Sn**	**19 20 34.4**	**-0.5**

*MOS **24** 19:30:02.7±1.3,7.33S×128.23E,h106km,mb4.2/11,Error ellipse: s-maj=20.9km s-min=8.8km az=114.4*
*NEIC **24** 19:30:05.5±1.8,7.35S×128.30E,h118km±18km,mb4.5/16, Error ellipse: s-maj=13.8km s-min=10.6km az=62.0*
*BJI **24** 19:30:05.4,7.40S×128.30E,h118km,mB5.2,mb4.6*
*IDC **24** 19:30:08.7±4.2,7.46S×128.10E,h148km±40km,mb3.8/7, mb1 4.1/11,mb1mx4.0/16,mbtmp4.5/11,MS3.0/2, Ms1 3.0/2,ms1mx2.5/21,Error ellipse: s-maj=25.7km s-min=16.4km az=73.0*

ISC 24 19:30:06.8±1.4,7.50S±0.05×128.28E±0.06,h148km±14km, h132km±8.4km:pP-P,n58,σ1s32/68,mb4.2/24,3C-3D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.61**	**142**	*e*P	**P**	**19 31 43.0**	**+0.4**
	18nm,0.1s						
KAKA				*e*S	**S**	**19 32 51.0**	**-6.0**
FITZ	**Fitzroy Crossi**	**10.85**	**193**	*e*P	**P**	**19 32 38.1**	**-0.9**
	23nm,0.3s						
FITZ				*e*S	**S**	**19 34 34.9**	**-3.3**
FITZ	**Fitzroy Crossi**	**10.85**	**193**	P	**P**	**19 32 38.9**	**0.0**
	7.3nm,0.3s,baz=16,slow=9.6,SNR=92						
FITZ				S	**S**	**19 34 30.1**	**-8.1**
	8.8nm,0.3s,baz=33,slow=7.9,SNR=4.0						
WRAB	**Tennant Creek**	**13.70**	**155**	Pn	**P**	**19 33 15.7**	**-0.2**
	248nm,0.6s,SNR=9.4						
WRAB	**Tennant Creek**	**13.70**	**155**	⇑*e*P	**P**	**19 33 14.5**	**-1.4**
WRAB	**Tennant Creek**	**13.70**	**155**	*e*P	**P**	**19 33 14.3**	**-1.6**
	36nm,0.6s						
WRA	**Warramunga Arr**	**13.70**	**155**	P	**P**	**19 33 13.9**	**-2.0**
	0.8nm,0.3s,baz=327,slow=14,SNR=48						
WRA				S	**S**	**19 35 36.7**	**-8.1**
	5.3nm,0.3s,baz=334,slow=22,SNR=7.9						
WB2	**Warramunga Arr**	**13.70**	**155**	*e*P	**P**	**19 33 14.4**	**-1.6**
WB2				*e*		19 33 21.6	
WB2				*e*S	**S**	**19 35 38.1**	**-6.8**
MBWA	**Marble Bar**	**15.90**	**210**	*e*P	**P**	**19 33 45.4**	**+1.8**
	21nm,0.6s						
ASAR	**Alice Springs**	**16.96**	**162**	P	**P**	**19 33 58.3**	**+1.6**
	2.9nm,0.3s,baz=339,slow=9.9,SNR=329						
ASAR				S	**S**	**19 36 58.2**	**-0.6**
	2.2nm,0.3s,baz=312,slow=18,SNR=12						
ASAR				LR	LR	19 41 20.5	
	comp=Z,63nm,18.8s,baz=97,slow=39						
ASPA	**Alice Springs**	**16.96**	**162**	⇓*i*P	**P**	**19 33 58.4**	**+1.7**
ASPA				*e*S	**S**	**19 36 56.5**	**-2.3**
PMG	**Port Moresby**	**18.77**	**97**	*e*P	**P**	**19 34 17.5**	**+0.3**
PMG				*e*S	**S**	**19 37 38.3**	**+0.4**
PMG				pmax	pmax		
	comp=Z,55nm,0.8s						
PMG	**Port Moresby**	**18.77**	**97**	P	**P**	**19 34 19.6**	**+2.4**
	comp=Z,1.7nm,0.3s,baz=105,slow=11,SNR=54						
PMG	**Port Moresby**	**18.77**	**97**	*e*P	**P**	**19 34 17.5**	**+0.4**
	comp=Z,55nm,0.8s						
PMG				*e*S	**S**	**19 37 38.3**	**+0.4**
KSM	**Kuching**	**20.02**	**296**	*e*P	**P**	**19 34 29.7**	**-0.4**
CTA	**Charters Tower**	**21.45**	**128**	P	**P**	**19 34 46.1**	**+1.8**
	comp=Z,3.0nm,0.8s,mb3.7,baz=304,slow=16,SNR=4.1						
CTA				LR	LR	19 43 23.4	
	comp=Z,36nm,20.3s,baz=43,slow=37						
CTAO	**Charters Tower**	**21.45**	**128**	P	**P**	**19 34 45.7**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb3.9						
CTAO	**Charters Tower**	**21.45**	**128**	P	**P**	**19 34 45.7**	**+1.4**
	comp=Z,7.5nm,1.1s,mb3.9						
FORT	**Forrest**	**23.16**	**180**	*e*P	**P**	**19 35 03.6**	**+2.6**
	comp=Z,788nm,0.8s						
KLBR	**Kellerberrin**	**25.91**	**201**	*e*P	**P**	**19 35 28.4**	**+1.5**
	comp=Z,53nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**27.25**	**155**	*e*P	**P**	**19 35 39.6**	**+0.4**
	comp=Z,4.7nm,0.6s,mb4.3						
STKA				*e*pP	pP	19 36 15.8	+5.8
STKA	**Stephens Creek**	**27.25**	**155**	P	**P**	**19 35 39.9**	**+0.7**
	comp=Z,9.7nm,0.8s,mb4.5,baz=319,slow=7.4,SNR=21						
NWAO	**Narrogin (SRO)**	**27.30**	**201**	*e*P	**P**	**19 35 41.0**	**+1.4**
NWAO				*e*	pP	19 36 12.6	+2.1
NWAO	**Narrogin (SRO)**	**27.30**	**201**	P	**P**	**19 35 40.5**	**+0.9**
	comp=Z,3.2nm,0.5s,mb4.2,baz=48,slow=8.8,SNR=7.1						
SSE	**Sheshan**	**38.97**	**350**	P	**P**	**19 37 19.6**	**-0.6**
SSE				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.9						
SSE				AMB	AMB		
	comp=Z,129nm,3.6s						
NJ2	**Nanjing**	**40.34**	**348**	*e*P	**P**	**19 37 33.1**	**+1.7**
NJ2				AP	pP	19 38 01.1	-3.2
NJ2				XP	sP	19 38 15.6	-6.3
NJ2				PP	PP	19 39 11.0	+1.5
NJ2				PPP	PPP	19 39 44.4	+4.1
NJ2				S	**S**	**19 43 34.0**	**+6.2**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,300nm,5.6s						
NJ2				LR	LR		
	comp=N,600nm,15.0s						
NJ2				LR	LR		
	comp=E,470nm,18.2s						
NJ2				LR	LR		
	comp=Z,180nm,20.6s						
MAJO	**Matsushiro**	**44.78**	**11**	P	**P**	**19 38 04.8**	**-2.7**
MAJO				pmax	pmax		
	comp=Z,38nm,1.3s,mb4.9						
MAJO	**Matsushiro**	**44.78**	**11**	P	**P**	**19 38 04.8**	**-2.7**
	comp=Z,38nm,1.3s,mb4.9						
BJT	**Baijiatuan**	**48.58**	**348**	P	**P**	**19 38 35.8**	**-1.3**
BJT				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BJT	**Baijiatuan**	**48.58**	**348**	P	**P**	**19 38 35.8**	**-1.4**
	comp=Z,9.2nm,1.1s,mb4.3						
HHC	**Hu-ho-hao-te**	**50.51**	**344**	*e*P	**P**	**19 38 55.0**	**+3.2**
HHC				AP	pP	19 39 24.3	-1.5
HHC				XP	sP	19 39 36.6	-5.6
HHC				PP	PP	19 40 52.8	+3.2
HHC				S	**S**	**19 45 57.6**	**+4.9**
HHC				SCS	ScS	19 48 30.6	+6.4
HHC				AMB	AMB		
	comp=Z,18nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,82nm,4.4s						
CN2	**Changchun**	**51.12**	**357**	*e*P	**P**	**19 38 57.5**	**+1.1**
LSA	**Lhasa**	**51.39**	**318**	P	**P**	**19 38 59.3**	**+0.6**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
LSA	**Lhasa**	**51.39**	**318**	P	**P**	**19 38 59.3**	**+0.6**
	comp=Z,2.8nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**58.22**	**343**	*e*P	**P**	**19 39 47.3**	**-0.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**58.22**	**343**	*e*P	**P**	**19 39 47.2**	**-0.5**
	comp=Z,1.4nm,0.6s,mb4.0						
SONM	**Songino Array**	**58.39**	**343**	P	**P**	**19 39 48.8**	**-0.1**
	comp=Z,2.1nm,0.8s,mb4.0,baz=161,slow=8.1,SNR=15						
WMQ	**Urumqi**	**62.89**	**328**	*e*P	**P**	**19 40 19.5**	**0.0**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.3						
YAK	**Yakutsk**	**69.32**	**1**	*e*P	**P**	**19 40 57.8**	**-2.1**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
YAK	**Yakutsk**	**69.32**	**1**	*e*P	**P**	**19 40 57.7**	**-2.2**
	comp=Z,10nm,0.8s,mb4.6						
AAK	**Ala-Archa**	**69.82**	**321**	⇑*e*P	**P**	**19 41 02.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb3.9						
**AAK

OTAZ	Otara	1.92 298	PN	P	19 32 48.7	+1.0
MTAZ	Motutapu	2.01 302	P	P	19 32 49.7	+0.9
MTAZ	Motutapu	2.01 302	PN	P	19 32 49.7	+0.9
PWZ	Pawanui	2.15 184	P	P	19 32 52.0	+1.4
PWZ	Pawanui	2.15 184	PN	P	19 32 52.0	+1.4
PWZ			SN	S	19 33 20.0	+0.8
WTAZ	Waiatarua	2.18 295	P	P	19 32 49.8	-1.0
TSZ	Takapari Road	2.34 201	P	P	19 32 53.5	+0.6
TSZ	Takapari Road	2.34 201	PN	P	19 32 53.5	+0.7
TSZ			SN	S	19 33 23.8	+0.7
BFZ	Birch Farm	2.87 192 *eP*		P	19 32 59.9	+0.3
BFZ	Birch Farm	2.87 192	PN	P	19 32 59.9	+0.2
BFZ			SN	S	19 33 35.5	+0.5
MRZ	Mangatainoka R	3.00 202	P	P	19 33 01.3	-0.1
MRZ	Mangatainoka R	3.00 202	PN	P	19 33 01.3	-0.1
MRZ			SN	S	19 33 36.9	-1.2
KIW	Kapiti Island	3.41 208	P	P	19 33 06.2	-0.4
KIW	Kapiti Island	3.41 208	PN	P	19 33 06.2	-0.5
KIW			SN	S	19 33 46.0	-1.5
MTW	Mount Morrison	3.49 199	P	P	19 33 06.7	-1.0
MTW	Mount Morrison	3.49 199	PN	P	19 33 06.7	-1.0
CAW	Cannon Point	3.57 205	P	P	19 33 07.9	-0.9
CAW	Cannon Point	3.57 205	PN	P	19 33 07.9	-0.8
MSWZ	Moikau Station	3.79 201	P	P	19 33 10.4	-1.3
MRW	Makara Radio	3.81 208	P	P	19 33 10.9	-0.9
SNZO	South Karori	3.87 207	P	P	19 33 11.6	-1.1
BHW	Baring Head	3.91 205	P	P	19 33 11.8	-1.3

IDC 24 19:39:43.0±28.0, 22.41S×175.15W, mb4.1/4, mb1 4.2/4, mb1mx3.9/13, mbtmp4.1/4, 1D, Error ellipse: s-maj=508.4km s-min=139.0km az=78.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**35.98**	**266**	*e*P	P	19 46 47.4	-0.3
	2.1nm,0.5s						
CTA	**Charters Tower**	**35.98**	**266**	P	P	19 46 47.3	-0.4
	2.7nm,0.5s,baz=93,slow=12,SNR=8.1						
STKA	**Stephens Creek**	**39.41**	**247**	P	P	19 47 13.9	-2.4
	1.0nm,0.7s,baz=131,slow=9.3,SNR=2.2						
ASAR	**Alice Springs**	**46.70**	**258**	P	P	19 48 13.4	-2.2
	1.6nm,0.8s,baz=94,slow=9.2,SNR=20						
WB2	**Warramunga Arr**	**46.98**	**263**	⇓*i*P	P	19 48 15.6	-2.3
WRA	**Warramunga Arr**	**46.99**	**263**	P	P	19 48 15.9	-2.0
	1.5nm,0.4s,baz=97,slow=8.3,SNR=52						

IDC 24 19:48:37.1±1.1, 5.86N×82.78W, mb3.7/3, mb1 3.8/5, mb1mx3.5/20, mbtmp3.8/5, ML2.8/2, MS3.3/5, Ms1 3.3/5, ms1mx2.7/25, Error ellipse: s-maj=40.9km s-min=24.8km az=45.0, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**8.47**	**96**	Pn	P	19 50 43.2	-0.8
	0.8nm,0.3s,baz=90,slow=19,SNR=2.8						
SDV	**Santo Domingo**	**12.41**	**75**	Pn	P	19 51 36.6	-1.5
	0.3nm,0.3s,baz=248,slow=16,SNR=4.2						
LPAZ	**La Paz**	**26.35**	**147**	LR	LR	20 04 59.4	
	comp=Z,90nm,19.4s,baz=314,slow=37						
SIV	**San Ignacio**	**30.55**	**136**	P	P	19 54 51.2	-3.6
	0.9nm,0.8s,baz=313,slow=13,SNR=5.8						
TXAR	**Lajitas Array**	**30.57**	**322**	LR	LR	20 06 33.9	
	comp=Z,36nm,21.2s,baz=130,slow=35						
LVC	**Limon Verde**	**31.39**	**155**	LR	LR	20 08 23.4	
	comp=Z,69nm,20.3s,baz=302,slow=38						
ANMO	**Albuquerque**	**36.27**	**326**	LR	LR	20 10 49.4	
	comp=Z,40nm,20.5s,baz=240,slow=37						
ULM	**Lac du Bonnet**	**45.58**	**348**	P	P	19 56 57.1	-3.6
	1.4nm,0.6s,baz=132,slow=2.9,SNR=3.6						
YKA	**Yellowknife Ar**	**61.16**	**344**	P	P	19 58 52.8	-2.8
	0.3nm,0.7s,baz=136,slow=7.1,SNR=6.7						
YKA				PcP	PcP	19 59 37.7	-0.5
	0.1nm,0.4s,baz=130,slow=4.4,SNR=2.8						
YKA				LR	LR	20 27 52.0	
	comp=Z,28nm,18.4s,baz=220,slow=38						
ASAR	**Alice Springs**	**140.54**	**240**	PKhKP		20 08 02.5	
	0.9nm,0.9s,baz=119,slow=4.0,SNR=4.1						
ASAR				PKP	PKPdf	20 08 08.8	-2.6
	0.9nm,0.9s,baz=106,slow=2.1,SNR=6.6						
WRA	**Warramunga Arr**	**141.32**	**245**	PKP	PKPdf	20 08 10.2	-2.6
	0.7nm,0.7s,baz=90,slow=2.1,SNR=9.3						
KAKA	**Kakadu**	**144.61**	**256**	*e*P	PKPbc	20 08 15.5	-1.0
	5.0nm,0.9s						
FITZ	**Fitzroy Crossi**	**149.72**	**244**	*e*P	PKPdf	20 08 29.2	+2.2
	5.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**149.72**	**244**	PKPbc	PKPdf	20 08 30.1	+3.1
	7.2nm,0.7s,baz=179,slow=2.3,SNR=12						

IDC 24 19:51:11.2±3.4, 14.99N×147.82E, mb3.6/4, mb1 3.7/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=144.7km s-min=25.6km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.16**	**201**	P	P	19 58 23.1	-2.8
	0.4nm,0.7s,baz=22,slow=9.2,SNR=4.7						
ASAR	**Alice Springs**	**40.76**	**200**	P	P	19 58 55.0	-0.8
	0.1nm,0.4s,baz=18,slow=6.9,SNR=3.4						
SONM	**Songino Array**	**47.30**	**323**	P	P	19 59 47.2	-1.2
	1.4nm,0.6s,baz=136,slow=6.4,SNR=16						
FINES	**FINESS Array B**	**91.09**	**336**	P	P	20 04 16.8	-1.9
	1.7nm,1.1s,baz=72,slow=8.8,SNR=3.6						

*IDC **24** 20:06:02.5±2.5, 8.12S×119.25E, mb3.6/3, mb1 3.9/5, mb1mx3.8/15, mbtmp3.8/5, ML3.9/2, Error ellipse: s-maj=167.1km s-min=21.5km az=58.0*
*NEIC **24** 20:06:06.1±1.5, 8.02S×118.94E, h81km±24km, mb4.8/2, Error ellipse: s-maj=26.7km s-min=11.0km az=72.0*
ISC 24 20:06:04.9±1.0, 8.2S±0.1×119.4E±0.2, h33km, n11, σ1°05/18, mb4.0/2, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.62**	**149**	*e*P	P	20 08 53.1	+1.6
	2.2nm,0.3s						
FITZ				*e*S	S	20 10 50.9	-10
FITZ	**Fitzroy Crossi**	**11.62**	**149**	Pn	P	20 08 52.9	+1.4
	1.1nm,0.3s,baz=344,slow=5.1,SNR=32						
FITZ				Sn	S	20 10 50.7	-10
	1.3nm,0.3s,baz=183,slow=19,SNR=11						
MBWA	**Marble Bar**	**12.93**	**178**	*e*P	P	20 09 08.5	-0.5
MBWA				*e*S	S	20 11 17.5	-15
KAKA	**Kakadu**	**13.64**	**110**	*e*P	P	20 09 21.8	+3.3
	3.6nm,0.3s						
KKM	**Kota Kinabalu**	**14.45**	**347**	*e*P	P	20 09 24.4	-4.9
WRA	**Warramunga Arr**	**18.65**	**130**	P	P	20 10 22.0	-0.5
	0.2nm,0.3s,baz=305,slow=13,SNR=19						
WRA				S	S	20 13 38.6	-7.2
	0.3nm,0.3s,baz=302,slow=24,SNR=8.3						
WRAB	**Tennant Creek**	**18.65**	**130**	*e*P	P	20 10 21.6	-0.9
	2.6nm,0.7s						
WRAB				*e*S	S	20 13 29.0	-17
WB2	**Warramunga Arr**	**18.66**	**130**	*e*P	P	20 10 21.8	-0.7
WB2				*e*S	S	20 13 38.1	-7.8
ASAR	**Alice Springs**	**20.79**	**140**	P	P	20 10 46.8	+0.9
	0.4nm,0.5s,baz=314,slow=9.3,SNR=13						
ASAR				S	S	20 14 33.9	+2.9
	0.7nm,0.9s,baz=310,slow=20,SNR=6.8						
SONM	**Songino Array**	**56.92**	**350**	P	P	20 15 50.0	+0.8
	0.5nm,0.6s,mb3.7,baz=164,slow=8.6,SNR=6.5						
ZAL	**Zalesovo**	**68.39**	**339**	P	P	20 17 04.4	-0.7
	1.1nm,0.4s,mb4.2,baz=345,slow=7.0,SNR=5.4						

*ATH **24** 20:24:42.9, 38.46N×24.07E, h6km±2km, MD3.2/8, ML3.0*
*THE **24** 20:24:44.9, 38.45N×23.99E, h6km, ML2.9*
*CSEM **24** 20:24:44.5±0.1, 38.44N×23.98E, h2km, ML2.9, Error ellipse: s-maj=3.8km s-min=2.0km az=97.0*
*NEIC **24** 20:24:46.1, 38.28N×23.93E, h26km, ML2.7(ATH), After ATH.*
ISC 24 20:24:43.1±1.0, 38.43N±0.03×24.01E±0.06, h3km±8km, n20, σ0°71/27, 3C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAR	**Parnis Oros**	**0.35**	**217**	⇓*i*PB	Pb	20 24 51.2	-0.4
MPAR				*e*SB	Sb	20 24 56.1	-1.2
PTL	**Penteli**	**0.40**	**197**	⇑*i*PB	Pb	20 24 51.8	-0.6
PTL	**Penteli**	**0.40**	**197**	⇑*i*Pb	Pb	20 24 52.5	+0.1
ATH	**Athens Observa**	**0.52**	**207**	⇑*i*PB	Pb	20 24 54.4	0.0
ATH				*e*SB	Sb	20 25 02.0	0.0
NSAL	**Nisos Salamina**	**0.68**	**219**	*e*PG	Pg	20 24 56.6	-0.1
NSAL				*e*SB	Sb	20 25 06.0	-0.7
MGER	**Gerania Oros**	**0.74**	**233**	*e*PG	Pg	20 24 57.6	-0.3
MGER				*e*SB	Sb	20 25 09.0	+0.5
AOS	**Alonnisos**	**0.74**	**352**	*e*Pg	Pg	20 24 58.4	+0.5
NAIG	**Nisos Aigina**	**0.79**	**212**	*e*PB	Pb	20 24 59.1	0.0
NAIG				*e*SB	Sb	20 25 10.0	+0.1
NEO	**Neokhori**	**1.07**	**325**	*e*PB	Pb	20 25 03.0	-0.8
AGG	**Agios Georgios**	**1.44**	**295**	*e*Pb	Pb	20 25 10.1	-0.1
AGG				*e*Sb	Sb	20 25 30.0	+1.2
PAIG	**Paliouri**	**1.51**	**350**	*e*Pb	Pb	20 25 11.0	-0.5
LOS	**Limnos**	**1.71**	**29**	*e*Pb	Pb	20 25 14.4	-0.5
EVR	**Evrytania**	**1.79**	**286**	*e*PN	Pn	20 25 17.0	+1.9
EVR	**Evrytania**	**1.79**	**286**	*e*Pn	Pn	20 25 18.0	+2.9
APE	**Apeiranthos**	**1.82**	**138**	*e*PN	Pn	20 25 16.7	+1.2
OUR	**Ouranopolis**	**1.90**	**359**	*e*Pb	Pb	20 25 16.9	-1.1
THR5	**Thira Island,**	**2.28**	**152**	*e*Pn	Pn	20 25 22.3	+0.2
THR3	**Thira Island,**	**2.31**	**151**	*e*Pn	Pn	20 25 23.1	+0.6
SOH	**Sokhos**	**2.44**	**348**	*e*Pn	Pn	20 25 24.5	+0.1
SRS	**Serrai**	**2.70**	**353**	*e*Pn	Pn	20 25 28.4	+0.3
SRS				*e*Sn	Sn	20 26 01.2	-0.5

*ATH **24** 20:31:00.7, 38.43N×23.92E, h27km±1km, MD3.2/11, ML3.0*
*NEIC **24** 20:31:00.6, 38.43N×23.90E, h26km, ML3.0(ATH), After ATH.*
*CSEM **24** 20:31:01.5±0.1, 38.41N×23.93E, h12km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.6km az=92.0*
*THE **24** 20:31:03.6, 38.59N×23.75E, h3km, ML2.9*
ISC 24 20:31:00.6±1.1, 38.42N±0.02×23.87E±0.07, h14km±8km, n21, σ0°85/28, 2C-3D, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPAR	**Parnis Oros**	**0.28**	**201**	⇓*i*PB	Pb	20 31 07.4	+0.4
PTL	**Penteli**	**0.37**	**180**	⇑*i*PB	Pb	20 31 08.9	+0.5
ATH	**Athens Observa**	**0.46**	**195**	⇑*i*PB	Pb	20 31 10.6	+0.6
NSAL	**Nisos Salamina**	**0.60**	**212**	⇓*i*PN	Pn	20 31 13.3	-1.2
MGER	**Gerania Oros**	**0.64**	**228**	⇓*i*PN	Pn	20 31 13.9	-1.2
MGER				*e*SN	Sn	20 31 24.4	-0.6
NAIG	**Nisos Aigina**	**0.72**	**205**	*e*PN	Pn	20 31 15.2	-1.0
NAIG				*e*SN	Sn	20 31 26.0	-1.0
AOS	**Alonnisos**	**0.75**	**1**	*e*Pg	Pg	20 31 14.7	-1.2
NEO	**Neokhori**	**1.02**	**331**	*e*PN	Pn	20 31 20.3	-0.2
NEO				*e*SN	Sn	20 31 35.5	+0.9
AGG	**Agios Georgios**	**1.34**	**297**	*e*Pb	Pb	20 31 26.3	+1.1
AGG				*e*Sb	Sb	20 31 42.8	+0.7
EVR	**Evrytania**	**1.69**	**288**	*e*PN	Pn	20 31 31.0	+1.0
VLI	**Veliai**	**1.85**	**204**	*e*PN	Pn	20 31 33.3	+0.8
APE	**Apeiranthos**	**1.88**	**135**	*e*PN	Pn	20 31 33.2	+0.4
OUR	**Ouranopolis**	**1.92**	**3**	*e*Pb	Pb	20 31 33.3	-1.6
PLG	**Polygyros**	**1.98**	**351**	*e*PN	Pn	20 31 34.0	-0.2
KYTH	**Kithira**	**2.23**	**197**	*e*PN	Pn	20 31 38.6	+0.8
THR5	**Thira Island,**	**2.32**	**149**	*e*Pn	Pn	20 31 45.0	+5.9
THR3	**Thira Island,**	**2.35**	**148**	*e*Pn	Pn	20 31 45.0	+5.5
SRS	**Serrai**	**2.71**	**356**	*e*Pn	Pn	20 31 44.4	-0.2
SRS				*e*Sn	Sn	20 32 17.1	-0.4
GRG	**Griva**	**2.78**	**336**	*e*Pn	Pn	20 31 45.8	+0.2
GRG				*e*Sn	Sn	20 32 18.4	-0.8
KNT	**Kendrikon**	**2.84**	**345**	*e*Pn	Pn	20 31 46.8	+0.2
KNT				*e*Sn	Sn	20 32 20.7	-0.2
ALN	**Alexandroupoli**	**3.00**	**33**	*e*Pn	Pn	20 31 50.7	+2.0

OTT 24 20:37:20.6±0.3, 52.80N×67.22W, MN2.8/7, Blast, Mount Wright, Qc Mining explosion., Northern Quebec

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCHQ	**Schefferville**	**2.05**	**6**	PN	Pn	20 37 55.9	-0.8
SCHQ				SG	Sg	20 38 23.9	-4.8
SCHQ				Trac		20 38 27.7	
	comp=Z,54nm,0.2s						
MNQ	**Manicouagan**	**2.47**	**204**	PN	Pn	20 38 01.7	-1.1
MNQ				SN	Sn	20 38 32.7	-1.4
MNQ				Trac		20 38 41.8	
	comp=Z,11nm,0.2s						
SMQ	**Clarke City**	**2.60**	**173**	PN	Pn	20 38 02.6	-2.1
SMQ				SN	Sn	20 38 34.9	-2.6
SMQ				Trac		20 38 41.3	
	comp=Z,12nm,0.1s						
ICQ	**Pointe Anglais**	**3.29**	**181**	PN	Pn	20 38 11.1	-3.3
ICQ				SN	Sn	20 38 49.7	-5.1
ICQ				Trac		20 39 01.4	
	comp=Z,8.1nm,0.2s						
CNQ	**Baie Comeau**	**3.55**	**189**	PN	Pn	20 38 17.1	-1.0
CNQ				SN	Sn	20 38 55.9	-5.4
CNQ				Trac		20 39 17.6	
	comp=Z,5.3nm,0.2s						
GSQ	**Grosses Roches**	**3.90**	**179**	PN	Pn	20 38 21.2	-1.9
GSQ				SN	Sn	20 39 03.8	-6.4
GSQ				Trac		20 39 22.9	
	comp=Z,7.7nm,0.2s						
LG4Q	**La Grande 4**	**4.21**	**284**	PN	Pn	20 38 24.2	-3.4
LG4Q				SN	Sn	20 39 05.7	-13
LG4Q				LG		20 39 27.7	
LG4Q				Trac		20 39 31.7	
	comp=Z,6.2nm,0.2s						
LMQ	**La Malbaie**	**5.63**	**202**	PN	Pn	20 38 42.9	-4.6
LMQ				SN	Sn	20 39 47.5	-6.4
DRLN	**Deer Lake**	**7.08**	**116**	PN	Pn	20 39 04.2	-3.9
DRLN				SN	Sn	20 40 14.6	-16
LMN	**Caledonia Moun**	**7.13**	**166**	PN	Pn	20 39 04.3	-4.5
MALO	**McAlpine Lake**	**8.32**	**255**	PN	P	20 39 18.7	-6.7
VIMO	**Victor Mine**	**10.01**	**277**	PN	P	20 39 42.2	-6.4
SILO	**Sutton Inlier**	**10.64**	**286**	PN	P	20 39 50.2	-7.1

*TRN **24** 20:43:52.1, 14.24N×61.01W, h157km, MD3.7, M3.8(FDF), Md2.5(FDF)*
*IDC **24** 20:43:53.8±0.7, 14.33N×61.27W, h135km±7km, mb3.4/7, mb1 3.6/8, mb1mx3.3/22, mbtmp3.9/8, Error ellipse: s-maj=27.6km s-min=10.4km az=82.0*
*NEIC **24** 20:43:54.9±0.5, 14.28N×61.39W, h147km±4km, mb3.6/2, MD3.8(TRN), Error ellipse: s-maj=18.6km s-min=7.6km az=77.0*
ISC 24 20:43:53.9±0.6, 14.23N±0.06×61.4W±0.2, h153km±4km, n14, σ0°82/18, mb3.6/9, 2C-1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SVB	**Belmont**	**0.96**	**171**	⇑*i*P	P	20 44 19.5	+0.8
SVB				*e*S	S	20 44 37.2	-0.6
DSHT	**Scott's Head**	**0.98**	**2**	⇑*i*P	P	20 44 19.4	+0.6
DSHT				*e*S	S	20 44 37.3	-0.8
FCV	**Fort Charlotte**	**1.07**	**172**	⇓*i*P	P	20 44 20.1	+0.4
FCV				*e*S	S	20 44 38.7	-0.9
BBL	**Barber's Block**	**1.29**	**357**	*e*P	P	20 44 21.6	-0.2
BBL				*e*S	S	20 44 45.0	+1.5
SJG	**San Juan**	**5.98**	**311**	P	P	20 45 20.5	-0.6
	2.4nm,0.3s,baz=133,slow=11,SNR=7.4						
OTAV	**Otavalo**	**21.86**	**232**	P	P	20 48 46.6	+12
	1.9nm,0.6s,mb3.7						
SAML	**Samuel**	**23.09**	**184**	*e*P	P	20 48 48.3	+1.2
	1.8nm,0.8s,mb3.5						
SIV	**San Ignacio**	**30.03**	**179**	P	P	20 49 51.1	+0.3
	0.6nm,0.6s,mb3.5,baz=9.9,slow=12,SNR=3.6						
SCHQ	**Schefferville**	**40.74**	**355**	P	P	20 51 21.1	+0.1
	1.3nm,1.0s,mb3.5,baz=184,slow=13,SNR=2.5						
TXAR	**Lajitas Array**	**41.78**	**298**	P	P	20 51 31.0	+1.0
	0.3nm,0.7s,mb3.1,baz=100,slow=10,SNR=2.8						
ULM	**Lac du Bonnet**	**45.53**	**329**	P	P	20 51 58.6	-1.2
	1.2nm,0.4s,mb3.9,baz=112,slow=10,SNR=2.9						
PDAR	**Pinedale Array**	**50.09**	**314**	P	P	20 52 35.5	+0.3
	1.3nm,0.4s,mb3.9,baz=108,slow=8.6,SNR=14						
YKA	**Yellowknife Ar**	**60.92**	**335**	P	P	20 53 51.3	-1.3
	1.5nm,0.6s,mb4.0,baz=108,slow=7.1,SNR=31						
FINES	**FINESS Array B**	**76.43**	**30**	P	P	20 55 27.4	-0.4
	0.8nm,0.8s,mb3.4,baz=281,slow=7.1,SNR=4.0						

*IDC **24** 21:02:49.5±2.3, 43.40N×105.25W, mb3.9/3, mb1 3.8/6, mb1mx3.5/20, mbtmp3.7/6, ML3.6/3, MS3.5/2, Ms1 3.5/2, ms1mx2.5/38, Error ellipse: s-maj=56.8km s-min=9.0km az=154.0*
*NEIC **24** 21:02:51.9±0.5, 43.75N×105.19W, ML3.2, Error ellipse: s-maj=6.5km s-min=5.0km az=108.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 24 21:02:49.9±0.6, 43.77N±0.04×105.15W±0.07, n40, σ1°11/38, mb4.1/3, MS4.5/1, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHWY	**Pilot Hill**	**2.48**	**185**	*e*Pn	Pn	21 03 33.4	+1.2
RWWY	**Rawlins**	**2.57**	**217**	*e*Pn	Pn	21 03 34.6	+1.1
LAO	**LASA Array**	**3.02**	**346**	*e*Pn	Pn	21 03 41.3	+1.4
PDAR	**Pinedale Array**	**3.37**	**254**	Pn	Pn	21 03 44.8	-0.1
	3.0nm,0.3s,baz=71,slow=15,SNR=93						
PDAR				Lg		21 04 30.2	
	9.5nm,0.3s,baz=78,slow=34,SNR=7.6						
LKWY	**Lake**	**3.86**	**284**	*e*Pn	Pn	21 03 52.1	+0.3
LOHW	**Long Hollow**	**3.96**	**270**	*e*Pn	Pn	21 03 53.0	-0.2
ISCO	**Idaho Springs**	**3.98**	**185**	*e*Pn	Pn	21 03 54.2	+0.7
MOOW	**Moose Ponds**	**4.05**	**272**	*e*Pn	Pn	21 03 55.3	+0.7
SNOW	**Snow King Moun**	**4.08**	**268**	*e*Pn	Pn	21 03 55.5	+0.5
YNR	**Norris Junctio**	**4.08**	**285**	P	Pn	21 03 57.7	+2.6
REDW	**Red Top Meadow**	**4.16**	**266**	*e*Pn	Pn	21 03 59.6	+3.4
IMW	**Indian Meadow**	**4.19**	**274**	*e*Pn	Pn	21 03 57.7	+1.2
TPAW	**Teton Pass**	**4.22**	**268**	*e*Pn	Pn	21 03 56.0	-1.0
YMR	**Madison River**	**4.28**	**284**	*e*Pn	Pn	21 03 53.2	-4.6
MUDI	**Mud Lake**	**4.30**	**270**	*e*Pn	Pn	21 03 60.0	+1.8
AHID	**Auburn Hatcher**	**4.46**	**259**	P	Pn	21 04 01.8	+1.4
RRI2	**Red Ridge**	**4.50**	**267**	*e*Pn	Pn	21 04 00.9	-0.1
QLMT	**Earthquake Lak**	**4.63**	**285**	*e*Pn	Pn	21 04 07.0	+4.2
HWUT	**Hardware Ranch**	**5.20**	**248**	*e*Pn	Pn	21 04 09.6	-1.2
	11nm,0.5s						
TCUT	**Toone Canyon**	**5.33**	**242**	*e*Pn	Pn	21 04 11.3	-1.5
HRY	**Holter Researc**	**5.56**	**304**	*e*Pn	Pn	21 04 15.2	-0.7
MCMT	**McKenzie Canyo**	**5.63**	**284**	*e*Pn	Pn	21 04 20.7	+3.9
DAU	**Daniels Canyon**	**5.64**	**236**	*e*Pn	Pn	21 04 17.1	0.0
JLU	**Jordanelle**	**5.65**	**238**	*e*Pn	Pn	21 04 16.0	-1.1
HVU	**Hansel Valley**	**5.95**	**253**	*e*Pn	Pn	21 04 20.9	-0.5
SDCO	**Great Sand Dun**	**6.02**	**183**	*e*Pn	Pn	21 04 23.4	+0.9
	2.6nm,0.5s						
SRU	**San Rafael**	**6.16**	**223**	*e*Pn	Pn	21 04 22.7	-1.7
PV01	**Paradox Valley**	**6.19**	**206**	*e*Pn	Pn	21 04 25.1	+0.2
TMUT	**Trail Mountain**	**6.37**	**228**	*e*Pn	Pn	21 04 27.0	-0.4
CHMT	**Chamberlain Mo**	**6.52**	**302**	*e*Pn	Pn	21 04 27.8	-1.6
HLID	**Hailey**	**6.72**	**271**	*e*Pn	Pn	21 04 32.6	+0.2
	1.6nm,0.5s						
DUG	**Dugway**	**6.73**	**241**	*e*Pn	Pn	21 04 30.3	-2.1
	4.1nm,0.5s						
MSU	**Marysvale**	**7.46**	**228**	*e*Pn	Pn	21 04 41.8	-0.9
ANMO	**Albuquerque**	**8.86**	**187**	LR	LR	21 08 29.4	
	comp=Z,37nm,21.1s,baz=65,slow=40						
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	P	21 05 04.0	-1.0
	1.1nm,0.3s,baz=234,slow=10,SNR=7.1						
ULM				Lg		21 07 40.0	
	0.4nm,0.3s,baz=159,slow=13,SNR=4.2						
YKA	**Yellowknife Ar**	**19.56**	**347**	P	P	21 07 21.0	-0.7
	0.2nm,0.3s,baz=168,slow=12,SNR=4.4						
ARCES	**ARCESS Array B**	**61.36**	**18**	P	P	21 13 08.3	-1.0
	4.7nm,1.1s,mb4.5,baz=338,slow=6.5,SNR=6.5						
FINES	**FINESS Array B**	**67.97**	**23**	P	P	21 13 52.3	+0.1
	1.8nm,1.1s,mb4.2,baz=315,slow=7.9,SNR=4.9						
SONM	**Songino Array**	**84.64**	**339**	P	P	21 15 27.2	+1.1
	0.2nm,0.5s,mb3.6,baz=5.4,slow=3.8,SNR=4.4						
IDI	**Anoyia**	**89.13**	**39**	LR	LR	21 54 00.6	
	comp=Z,165nm,18.4s,MS4.5,baz=27,slow=34						

IDC 24 21:04:15.6±1.7, 6.32N×90.46E, mb3.6/5, mb1 3.8/5, mb1mx3.5/16, mbtmp3.6/5, Error ellipse: s-maj=65.4km s-min=28.7km az=51.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**43.55**	**16**	P	P	21 12 21.1	-1.7
	0.3nm,0.5s,baz=194,slow=10,SNR=3.9						
ZAL	**Zalesovo**	**47.70**	**355**	P	P	21 12 53.8	-2.0
	0.6nm,0.3s,baz=324,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**50.43**	**122**	P	P	21 13 15.4	-2.0
	0.3nm,0.9s,baz=296,slow=9.3,SNR=3.1						
FINES	**FINESS Array B**	**72.40**	**333**	P	P	21 15 43.0	-2.3
	0.6nm,0.8s,baz=90,slow=2.8,SNR=2.2						
GERES	**GERESS Array B**	**76.56**	**319**	P	P	21 16 08.5	-1.0
	0.3nm,0.5s,baz=117,slow=6.0,SNR=4.2						

*NIED **24** 21:05:00, 33.80N×130.20E, h14km, Mw3.4 Best double couple: M0 1.52×10^14 NP1:φs203°, δ81°, λ155°. NP2: φs297°, δ65°, λ10°.*
JMA 24 21:05:00.3, 33.76N×130.15E, h13km, M3.6, 4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.35**	**276**	⇓P	Pg	21 05 07.6	-0.1
JII				S	Sg	21 05 12.4	-0.2
JFI	**Itaya**	**0.39**	**149**	⇑P	Pg	21 05 07.9	-0.5
JFI				S	Sg	21 05 13.5	-0.3
JFA	**Akaike**	**0.54**	**95**	⇓P	Pb	21 05 10.6	-0.5
JFA				S	Sb	21 05 18.1	-0.4
JUR	**Ureshino**	**0.69**	**194**	⇑P	Pb	21 05 13.2	-0.4
JUR				S	Sb	21 05

3.4nm,0.6s,mb4.5
SBA Scott Base 61.41 185 *e*P P 21 33 02.5 +0.5
8.4nm,0.9s,mb4.8
VNDA Vanda 61.52 186 P P 21 33 02.4 -0.3
2.1nm,0.8s,mb4.2,baz=9.7,slow=4.9,SNR=9.4
VNDA Vanda 61.52 186 P P 21 33 02.4 -0.3
MBWA Marble Bar 62.09 255 *e*P P 21 33 06.5 -0.8
KLBR Kellerberrin 62.69 243 *e*P P 21 33 10.1 -1.1
65nm,0.7s,mb5.7
NWAO Narrogin (SRO) 63.04 241 *e*P P 21 33 13.6 +0.2
4.5nm,0.8s,mb4.5
CASY Casey 68.45 205 P P 21 33 47.5 +0.2
CMB Columbia Colle 74.64 41 P P 21 34 24.0 -0.7
2.2nm,0.6s,mb4.1
YBH Yreka Blue Hor 75.51 37 P P 21 34 29.8 +0.3
4.2nm,0.7s,mb4.3,baz=216,slow=0.9,SNR=12
TPH Tonopah 76.69 43 P P 21 34 36.4 +0.1
7.2nm,0.9s,mb4.4
NJ2 Nanjing 80.60 308 *e*P P 21 34 58.1 +0.4
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CN2 Changchun 81.94 321 *e*P P 21 35 06.1 +1.7
TXAR Lajitas Array 82.28 56 P P 21 35 07.0 +0.5
comp=Z,1.1nm,0.8s,mb3.7,baz=233,slow=6.3,SNR=6.5
TXAR Lajitas Array 82.28 56 P P 21 35 07.0 +0.5
ANMO Albuquerque 82.57 50 P P 21 35 06.9 -1.0
comp=Z,1.5nm,0.6s,mb4.0
MCK McKinley 83.03 11 *e*P P 21 35 08.5 -1.1
comp=Z,1.6nm,0.9s,mb3.9
MCMT McKenzie Canyo 83.15 39 *e*P P 21 35 10.5 -0.1
MCMT *e* 21 35 46.5
IMW Indian Meadow 83.83 41 *e*P P 21 35 14.7 +0.6
PDAR Pinedale Array 84.14 42 P P 21 35 15.6 0.0
comp=Z,2.6nm,0.6s,mb4.2,baz=217,slow=2.9,SNR=25
COLA College 84.27 11 *e*P P 21 35 15.8 +0.1
comp=Z,8.6nm,0.9s,mb4.6
HHC Hu-ho-hao-te 89.65 313 *e*P P 21 35 44.3 +2.0
HHC AP pP 21 36 13.3 +2.0
HHC XP sP 21 36 27.5 +4.3
HHC PP PP 21 39 20.6 +3.0
HHC SKS SKS 21 46 03.9 +3.5
HHC S S 21 46 22.4 +0.5
HHC XS 21 47 18.4
HHC PS PS 21 47 46.3 +1.0
HHC AMB AMB
comp=Z,15nm,0.4s,mb5.5
HHC AMB AMB
comp=Z,125nm,5.1s
SYO Syowa Base 90.69 192 ⇓X 21 35 37.5
FINES FINESS Array B 133.50 347 PKP PKPdf 21 42 01.8 +3.1
comp=Z,0.6nm,0.8s,baz=144,slow=26,SNR=3.8
KMBO Kilima Mbogo 144.01 243 PKP PKPdf 21 42 20.1 +1.1
comp=Z,5.8nm,0.8s,baz=65,slow=5.6,SNR=28
KMBO Kilima Mbogo 144.01 243 *e*PKPdf PKPdf 21 42 19.8 +0.8
CLL Collm 145.48 352 *e*PKP1 PKPbc 21 42 23.0 +1.9
BRTR Keskin Array B 146.99 319 PKPbc PKPbc 21 42 27.8 +2.7
comp=Z,1.8nm,0.8s,baz=130,slow=2.7,SNR=8.3

*NEIC **24** 21:43:11.2, 19.15N×69.30W, h142km, mb4.0/1, MD4.1(RSPR), After RSPR.*
RSPR 24 21:43:11.2, 19.15N×69.30W, h142km±12km, MD4.0/16, MD4.0/16, 15C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**2.18**	**108**↑	*e*P	P	21 43 48.0	-0.4
AGPR				*e*S	S	21 44 17.0	0.0
LSP	**Las Mesas**	**2.31**	**114**↑	*e*P	P	21 43 49.1	-1.0
LSP				*e*S	S	21 44 19.2	-0.7
CRPR	**Cabo Rojo, PR**	**2.37**	**118**↑	*e*P	P	21 43 49.6	-1.2
CRPR				*e*S	S	21 44 20.4	-0.7
MGP	**Maguayo**	**2.38**	**118**↑	*e*P	P	21 43 50.0	-1.0
MGP				*e*S	S	21 44 20.1	-1.4
LRS	**Lares**	**2.48**	**110**↑	*e*P	P	21 43 51.9	-0.3
LRS				*e*S	S	21 44 22.6	-1.0
AOPR	**Arecibo Observ**	**2.54**	**108**↑	*e*P	P	21 43 52.7	-0.4
AOPR				*e*S	S	21 44 25.9	+0.9
PORP	**Portuguez**	**2.75**	**113**↑	*e*P	P	21 43 55.6	-0.1
PORP				*e*S	S	21 44 30.9	+1.1
CELP	**Cerrillos**	**2.79**	**112**↑	*e*P	P	21 43 56.4	+0.2
CELP				*e*S	S	21 44 31.4	+0.7
ICM	**Isla Caja Muer**	**2.92**	**115**↑	*e*P	P	21 43 56.9	-1.0
ICM	**Isla Caja Muer**	**2.92**	**115**	*e*S	S	21 44 31.6	-2.0
CSB	**Colonia Sabana**	**3.10**	**105**↑	*e*P	P	21 43 59.2	-1.0
CSB				*e*S	S	21 44 37.6	-0.2
SJG	**San Juan**	**3.16**	**108**⇓	*e*P	P	21 44 01.6	+0.5
SJG	**San Juan**	**3.16**	**108**↑	*e*P	P	21 44 01.5	+0.5
SJG				*e*S	S	21 44 37.6	-1.6
SJG	**San Juan**	**3.16**	**108**	*e*P	P	21 44 00.4	-0.7
CBYP	**Canovanas**	**3.38**	**104**↑	*e*P	P	21 44 02.6	-1.4
CBYP	**Canovanas**	**3.38**	**104**	*e*S	S	21 44 44.1	-0.2
CPD	**Cerro la Pandu**	**3.40**	**108**↑	*e*P	P	21 44 03.4	-0.8
CPD	**Cerro la Pandu**	**3.40**	**108**	*e*S	S	21 44 44.8	+0.2
HUMP	**Col San Antoni**	**3.42**	**106**↑	*e*P	P	21 44 03.7	-0.8
HUMP	**Col San Antoni**	**3.42**	**106**	*e*S	S	21 44 45.9	+0.6
MTP	**Monte Pirata**	**3.70**	**106**	*e*S	S	21 44 51.5	-0.4
MTP	**Monte Pirata**	**3.70**	**106**↑	*e*P	P	21 44 07.3	-0.8
SDV	**Santo Domingo**	**10.28**	**187**	*e*P	P	21 45 33.1	-2.9
OTAV	**Otavalo**	**20.82**	**207**	*e*P	P	21 47 41.7	-1.3
	7.7nm,1.1s						

*NEIC **24** 21:47:08.7±3.8, 21.29S×178.73W, h491km±36km, mb4.3/10, Error ellipse: s-maj=30.4km s-min=25.9km az=104.0*
*IDC **24** 21:47:09.2±9.2, 21.39S×178.79W, h491km±84km, mb3.6/4, mb1 3.7/5, mb1mx3.4/13, mbtmp4.5/5, Error ellipse: s-maj=80.2km s-min=42.7km az=121.0*
ISC 24 21:47:12.3±6.3, 21.65S±0.4×179.1W±0.5, h517km±50km, n25, σ0§60/18, mb4.3/12, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.41**	**265**	P	P	21 50 05.8	-0.3
	0.3nm,0.3s,baz=85,slow=17,SNR=7.5						
CTA	**Charters Tower**	**32.35**	**266**	*e*P	P	21 53 01.3	+1.2
	4.3nm,0.4s,mb4.3						
CTAO	**Charters Tower**	**32.35**	**266**	*e*P	P	21 53 01.1	+1.0
	3.7nm,0.4s,mb4.3						
PMG	**Port Moresby**	**34.58**	**285**	P	P	21 53 17.9	-0.9
	3.7nm,0.5s,mb4.2,baz=93,slow=8.0,SNR=3.6						
STKA	**Stephens Creek**	**36.38**	**245**	P	P	21 53 34.1	+0.4
	6.5nm,0.5s,mb4.4,baz=90,slow=9.9,SNR=20						
STKA	**Stephens Creek**	**36.38**	**245**	⇓*i*P	P	21 53 33.7	0.0
	5.7nm,0.9s,mb4.1						
STKA				*e*pP	pP	21 54 59.4	-6.4
STKA				*e*PP	PP	21 55 11.4	+1.9
ASAR	**Alice Springs**	**43.26**	**258**	P	P	21 54 29.6	+0.4
	6.2nm,0.7s,mb4.3,baz=95,slow=7.9,SNR=77						
ASAR				PcP	PcP	21 56 06.4	-0.9
	0.7nm,0.4s,baz=108,slow=3.0,SNR=5.7						
ASPA	**Alice Springs**	**43.26**	**258**	*e*P	P	21 54 29.8	+0.6
WB2	**Warramunga Arr**	**43.41**	**263**	*e*P	P	21 54 30.2	-0.2
WRAB	**Tennant Creek**	**43.41**	**263**	*e*P	P	21 54 30.5	0.0
	6.8nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**43.42**	**263**	P	P	21 54 30.5	0.0
	2.3nm,0.4s,mb4.1,baz=95,slow=7.6,SNR=59						
KAKA	**Kakadu**	**46.95**	**273**	*e*P	P	21 54 58.3	+0.4
	3.8nm,0.4s,mb4.3						
FORT	**Forrest**	**47.91**	**248**	*e*P	P	21 55 04.2	-0.8
	295nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.85**	**263**	*e*P	P	21 55 35.2	+0.9
	2.6nm,0.6s,mb3.7						
MBWA	**Marble Bar**	**56.60**	**258**	*e*P	P	21 56 07.5	-0.2
	8.1nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**56.66**	**246**	*e*P	P	21 56 06.9	-1.1
	137nm,1.0s,mb5.1						
NWAO	**Narrogin (SRO)**	**56.95**	**244**	*e*P	P	21 56 09.5	-0.5
	21nm,1.3s,mb4.2						
QSPA	**South Pole Qui**	**68.51**	**180**	*e*P	P	21 57 23.9	+0.3
	5.3nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**119.20**	**320**	PKP	PKPdf	22 05 00.2	-1.7
	0.3nm,0.3s,baz=120,slow=2.8,SNR=5.3						
ARCES	**ARCESS Array B**	**129.76**	**349**	PKP	PKPdf	22 05 20.0	-1.9
	1.7nm,0.7s,baz=27,slow=2.7,SNR=7.5						
FINES	**FINESS Array B**	**136.48**	**343**	PKP	PKPdf	22 05 32.4	-2.1
	0.2nm,0.5s,baz=14,slow=7.9,SNR=3.7						
AKASG	**Malin Array Be**	**143.41**	**330**	PKP	PKPdf	22 05 44.4	-2.6
	2.0nm,0.5s,baz=43,slow=4.1,SNR=12						
EKA	**Eskdalemuir Ar**	**146.14**	**4**	PKPbc	PKPbc	22 05 53.9	+0.6
	1.4nm,0.7s,baz=304,slow=3.0,SNR=4.3						
MLR	**Muntele Rosu**	**148.51**	**325**	PKPbc	PKPdf	22 06 01.5	+5.7
	baz=176,slow=19						

GERES GERESS Array B 150.91 342 PKPbc PKPdf 22 06 04.7 +5.3
0.6nm,0.6s,slow=2.7,SNR=6.7

*NEIC **24** 21:47:45.1±0.5, 44.49N×17.22E, h10km, MD3.4(ROM), ML3.2(LDG), Error ellipse: s-maj=7.8km s-min=4.2km az=108.0*
*ROM **24** 21:47:46.1±1.1, 44.45N×17.30E, h10km, MD3.4/2, ML3.0/8, Error ellipse: s-maj=10.7km s-min=5.0km az=90.0*
*LDG **24** 21:47:46.0±0.3, 44.60N×17.30E, h10km, ML3.2/5, Error ellipse: s-maj=8.7km s-min=4.0km az=137.0*
*CSEM **24** 21:47:48.4±0.1, 44.52N×16.93E, h40km, MD3.4, Error ellipse: s-maj=2.8km s-min=1.7km az=109.0*
ISC 24 21:47:43.4±0.3, 44.51N±0.02×17.29E±0.03, h10km, n70, σ1§17/111, 8C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SISC	**Sisak**	**1.16**	**326**	*i* Pg	Pg	21 48 06.5	-0.2
SISC				*i* Sg	Sg	21 48 22.6	+0.3
SISC	**Sisak**	**1.16**	**326**	*i* Pg	Pg	21 48 06.5	-0.2
SISC				*i* Sg	Sg	21 48 22.5	+0.2
RHK3	**Tenkes**	**1.54**	**26**⇓	*e*P	Pn	21 48 11.6	+0.5
RHK3				*e*S	Sb	21 48 34.6	+3.6
	5.6nm,0.5s						
BBLS	**Bajina Basta -**	**1.65**	**112**⇓	*i*Pn	Pn	21 48 13.6	+0.8
BBLS				Sg	Sg	21 48 38.0	-0.5
STON	**Ston**	**1.66**	**170**	*i* Pn	Pn	21 48 12.7	-0.1
STON				*i* Sn	Sn	21 48 35.3	+1.0
STON				*i* Sg	Sg	21 48 36.5	-2.3
STON	**Ston**	**1.66**	**170**	*i* Pn	Pn	21 48 12.8	0.0
STON				*i* Pg	Pg	21 48 14.9	-1.7
STON				*i* Sg	Sg	21 48 38.2	-0.5
STON	**Ston**	**1.66**	**170**	*i* Pn	Pn	21 48 12.8	0.0
STON				*i* Pg	Pg	21 48 14.9	-1.7
STON				*i* Sn	Sn	21 48 35.3	+1.0
STON				*i* Sg	Sg	21 48 36.6	-2.3
STON				*i* Sg	Sg	21 48 38.2	-0.5
STON	**Ston**	**1.66**	**170**	*i* Pg	Pg	21 48 14.8	-1.8
STON				*i* Sn	Sn	21 48 35.3	+1.0
STON				*i* Sg	Sg	21 48 38.2	-0.6
RHK1	**Bakonya**	**1.68**	**19**	*e*P	Pn	21 48 13.7	+0.6
RHK1				*e*S	Sn	21 48 35.0	+0.1
BOJS	**Bojanci**	**1.76**	**305**	*i* Pn	Pn	21 48 15.8	+1.6
BOJS				*i* Sn	Sn	21 48 38.5	+1.7
GOLS	**Golise**	**1.91**	**323**	*i* Pn	Pn	21 48 18.3	+1.9
PKSM	**Moragy**	**1.95**	**29**⇓	*e*P	Pn	21 48 17.2	+0.2
PKSM				*e*S	Sn	21 48 41.8	0.0
DIVS	**Divcibare**	**1.98**	**101**⇓	*i*Pn	Pn	21 48 17.5	+0.1
DIVS				Sg	Sg	21 48 50.2	+0.8
VISS	**Visnje**	**2.17**	**308**	*i* Pn	Pn	21 48 21.1	+1.0
BEO	**Belgrade**	**2.28**	**81**↑	*i*Pn	Pn	21 48 28.5	+6.8
TRI	**Trieste**	**2.77**	**297**	*e*PN	Pn	21 48 30.7	+2.0
	34nm,0.4s						
TRI	**Trieste**	**2.77**	**297**	*e*Pn	Pn	21 48 30.7	+1.9
TRI	**Trieste**	**2.77**	**297**	*e*Pn	Pn	21 48 30.7	+2.0
	34nm,0.4s						
OBKA	**Obir**	**2.78**	**317**↑	*i*PN	Pn	21 48 29.2	+0.4
OBKA				*i* SN	Sn	21 49 04.3	+1.5
VOY	**Vojsko**	**2.84**	**304**	*e*Pn	Pn	21 48 31.3	+1.6
VOY				*e*		21 48 35.3	
VOY				*e*Sn	Sn	21 49 10.9	+6.5
PKSG		**2.99**	**14**↑	*e*P	Pn	21 48 32.5	+0.7
PKSN	**Nyarlorinc**	**3.00**	**36**	*e*S	Sn	21 49 09.5	+1.3
	2.4nm,0.6s						
ARSA	**Arzberg**	**3.01**	**336**↑	*i*PN	Pn	21 48 32.4	+0.3
ARSA				*i* SN	Sn	21 49 08.4	-0.2
SNTG	**Esanatoglia**	**3.38**	**250**	*e*PN	Pn	21 48 37.6	+0.2
	18nm,0.6s						
SNTG	**Esanatoglia**	**3.38**	**250**	*e*Pn	Pn	21 48 37.6	+0.1
SNTG	**Esanatoglia**	**3.38**	**250**	*e*Pn	Pn	21 48 37.6	+0.2
	18nm,0.6s						
CII	**Carovilli**	**3.54**	**219**	*e*PN	Pn	21 48 40.8	+1.2
	22nm,0.5s						
CII	**Carovilli**	**3.54**	**219**	*e*Pn	Pn	21 48 40.8	+1.2
	22nm,0.5s						
ZST	**Bratislava**	**3.69**	**358**	*e*PN	Pn	21 48 41.5	-0.3
KBA	**Koelnbreinsper**	**3.77**	**314**↑	*i*PN	Pn	21 48 43.3	+0.4
KBA				*i* SN	Sn	21 49 27.2	-0.7
PTQR	**Pietraquaria**	**3.77**	**230**	*e*PN	Pn	21 48 44.1	+1.2
	11nm,0.3s						
PTQR	**Pietraquaria**	**3.77**	**230**	*e*Pn	Pn	21 48 44.1	+1.2
PTQR	**Pietraquaria**	**3.77**	**230**	*e*Pn	Pn	21 48 44.1	+1.2
	11nm,0.3s						
SDI	**San Donato**	**3.78**	**224**	*e*PN	Pn	21 48 42.7	-0.4
	20nm,0.4s						
SDI	**San Donato**	**3.78**	**224**	*e*Pn	Pn	21 48 42.7	-0.3
SDI	**San Donato**	**3.78**	**224**	*e*Pn	Pn	21 48 42.7	-0.4
	20nm,0.4s						
PSZ	**Piszkesteto**	**3.86**	**27**⇓	*e*Pn	Pn	21 48 44.0	-0.2
PSZ				*e*Sn	Sn	21 49 27.9	-2.2
MOA	**Molln**	**3.95**	**329**↑	*i*PN	Pn	21 48 46.1	+0.7
MOA				*i* SN	Sn	21 49 32.8	+0.4
MNS	**Montasola**	**3.97**	**239**	*e*PN	Pn	21 48 46.8	+1.1
	15nm,0.5s						
MNS	**Montasola**	**3.97**	**239**	*e*Pn	Pn	21 48 46.8	+1.0
MNS	**Montasola**	**3.97**	**239**	*e*Pn	Pn	21 48 46.8	+1.1
	15nm,0.5s						
MRLC	**Muro Lucano**	**3.98**	**200**	*e*PN	Pn	21 48 46.0	+0.2
	11nm,0.6s						
MRLC	**Muro Lucano**	**3.98**	**200**	*e*Pn	Pn	21 48 46.0	+0.1
MRLC	**Muro Lucano**	**3.98**	**200**	*e*Pn	Pn	21 48 46.0	+0.2
	11nm,0.6s						
CSSN	**Cassano Irpino**	**4.01**	**205**	*e*PN	Pn	21 48 46.5	+0.2
	14nm,0.5s						
CSSN	**Cassano Irpino**	**4.01**	**205**	*e*Pn	Pn	21 48 46.5	+0.3
CSSN	**Cassano Irpino**	**4.01**	**205**	*e*Pn	Pn	21 48 46.5	+0.2
	14nm,0.5s						
SMOL	**Smolenice**	**4.01**	**1**	*i* PN	Pn	21 48 46.5	+0.2
SMOL				*i* SN	Sn	21 49 30.7	-3.2
VYHS	**Vyhne**	**4.13**	**14**	*i* PN	Pn	21 48 48.6	+0.6
VYHS				*i* SN	Sn	21 49 34.9	-2.0
KOLL	**Kolacno**	**4.14**	**10**	*i* PN	Pn	21 48 48.8	+0.6
KOLL				*i* SN	Sn	21 49 35.0	-2.3
WTTA	**Wattenberg**	**4.82**	**307**↑	*i*PN	Pn	21 48 57.7	0.0
WTTA				*i* SN	Sn	21 49 54.1	-0.2
VRAC	**Vranov**	**4.83**	**355**	*e*Pn	Pn	21 48 57.1	-0.8
VRAC				*e*Sg	Sn	21 49 52.7	-1.9
SQTA	**Sankt Quirin**	**5.04**	**305**↑	*i*PN	Pn	21 49 00.8	-0.1
SQTA				*i* SN	Sn	21 50 01.0	+1.0
MOTA	**Moosalm**	**5.17**	**306**⇓	*i*Pn	Pn	21 49 02.3	-0.4
MOTA				*i* SN	Sn	21 50 02.9	-0.2
MORC	**Moravsky Berou**	**5.28**	**2**	*e*Pn	Pn	21 49 03.6	-0.7
MORC	**Moravsky Berou**	**5.28**	**2**	*e*Pn	Pn	21 49 03.6	-0.6
KHC	**Kasperske Hory**	**5.28**	**332**	*e*PN	Pn	21 49 04.9	+0.6
KHC				*ex*	x	21 49 13.0	
KHC				*ex*	x	21 49 31.0	
KHC				*e*SN	Sn	21 50 03.1	-2.9
KHC	**Kasperske Hory**	**5.28**	**332**	*e*Pn	Pn	21 49 04.9	+0.6
KHC				*e*Sn	Sn	21 50 03.1	-2.9
OKC	**Ostrava-Krasne**	**5.37**	**6**	*e*Pn	Pn	21 49 06.4	+0.9
OKC				*e*Sn	Sn	21 50 04.5	-3.6
PRU	**Pruhonice**	**5.79**	**342**	*e*Pn	Pn	21 49 12.3	+0.7
PRU				*e*		21 50 27.2	
DPC	**Dobruska-Polom**	**5.88**	**354**	*e*PN	Pn	21 49 12.6	-0.2
DPC				*e*SN	Sn	21 50 17.4	-3.7
PGF	**Pioggiola**	**6.34**	**255**	*e*Pn	Pn	21 49 18.1	-1.1
PGF				*e*Sn	Sn	21 50 25.1	-7.4
SBF	**Sospel**	**7.12**	**268**	*e*Pn	Pn	21 49 27.7	-2.5
SBF				*e*Sn	Sn	21 50 44.3	-7.6
	6.3nm,0.4s						
MBDF	**Montbardon**	**7.51**	**275**	*e*Pn	Pn	21 49 32.8	-2.9
LPG	**La Plagne**	**7.54**	**281**	*e*Pn	Pn	21 49 35.7	-0.4
LPL	**La Plagne**	**7.55**	**281**	*e*Pn	Pn	21 49 34.4	-1.9
LPL				*e*Sn	Sn	21 50 54.3	-8.5
	5.1nm,0.6s						
FRF	**La Foret Royal**	**7.73**	**267**	*e*Pn	Pn	21 49 35.5	-3.3
FRF				*e*Sn	Sn	21 51 00.0	-7.3
	1.3nm,0.3s						
LMR	**La Mourre**	**7.87**	**265**	*e*Pn	Pn	21 49 36.6	-4.2
LMR				*e*Sn	Sn	21 51 02.5	-8.3
	1.0nm,0.3s						
ORIF	**Oris-en-Rattie**	**8.14**	**277**	*e*Pn	P	21 49 42.9	-1.6
ORIF				*e*Sn	Sn	21 51 08.4	-9.1
	5.0nm,0.5s						
VIVF	**Saint-Julien-l**	**9.00**	**277**	*e*Pn	P	21 49 53.3	-3.1

NNC 24 21:49:01.8±1.1, 45.90N×80.69E, h6km±11km, mpv3.4, 5C-1D, Error ellipse: s-maj=7.4km s-min=5.1km az=164.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**1.42**	**51**↑	P	Pn	21 49 28.2	-0.1
	30nm,0.3s,baz=226,slow=17,SNR=1286						
MK31				S	Sb	21 49 46.6	0.0
	31nm,0.2s,baz=232,slow=32,SNR=22						
KURK	**Kurchatov**	**5.01**	**345**	Pn	Pn	21 50 18.2	-1.2
	2.3nm,1.1s,baz=147,slow=12,SNR=13						
KURK				↑Lg		21 51 38.5	
	5.6nm,0.5s,baz=267,slow=17,SNR=12						
AAK	**Ala-Archa**	**5.52**	**236**	Pg	Pg	21 50 43.1	-9.0
	1.8nm,0.3s						
AAK				Lg		21 51 56.0	
	4.7nm,0.8s						
BVA0	**Borovoye Array**	**9.78**	**321**	↑Lg		21 54 08.5	
	0.5nm,0.7s,baz=141,slow=34,SNR=6.0						
CHKZ	**Chkalovo**	**10.14**	**324**	⇓Pn	P	21 51 27.7	-3.1
	1.8nm,1.1s						
CHKZ				↑Lg		21 54 24.0	
	2.4nm,0.7s						

WEL 24 21:50:24.9±0.3, 41.65S×175.50E, h24km±1km, ML3.5/12, 3C-2D, Error ellipse: s-maj=1.6km s-min=1.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAWZ	**Paruwai Farm**	**0.27**	**348**	⇓P*	Pb	21 50 31.2	-0.2
PAWZ				S*	Sb	21 50 36.0	+0.2
MSWZ	**Moikau Station**	**0.30**	**321**	⇓P*	Pb	21 50 31.3	-0.5
MSWZ				S*	Sb	21 50 36.4	-0.1
MTW	**Mount Morrison**	**0.49**	**0**	P*	Pb	21 50 35.2	+0.4
MTW				S*	Sb	21 50 43.2	+1.7
BHW	**Baring Head**	**0.53**	**297**	↑P*	Pb	21 50 35.6	+0.2
BHW				S*	Sb	21 50 43.3	+0.6
CAW	**Cannon Point**	**0.63**	**329**	↑P*	Pb	21 50 37.3	+0.2
CAW				S*	Sb	21 50 46.6	+1.1
WEL	**Wellington**	**0.66**	**303**	P*	Pb	21 50 37.7	+0.1
WEL				S*	Sb	21 50 47.3	+0.9
SNZO	**South Karori**	**0.69**	**299**	↑P*	Pb	21 50 38.1	0.0
SNZO				P*	Pb	21 50 38.2	+0.1
SNZO				*e*S*	Sb	21 50 48.0	+0.8
SNZO				S*	Sb	21 50 48.2	+1.0
MRW	**Makara Radio**	**0.73**	**305**	P*	Pb	21 50 38.9	0.0
MRW				S*	Sb	21 50 49.1	+0.6
KIW	**Kapiti Island**	**0.90**	**330**	P*	Pb	21 50 41.6	-0.2
KIW				S*	Sb	21 50 53.4	0.0
MRZ	**Mangatainoka R**	**0.99**	**3**	P*	Pb	21 50 42.6	-0.6
MRZ				S*	Sb	21 50 55.5	-0.3
BFZ	**Birch Farm**	**1.12**	**30**	P*	Pb	21 50 44.3	-1.0
TUWZ	**Tuamarina**	**1.19**	**280**	P*	Pb	21 50 45.2	-1.4
TUWZ				*e*S*	Sb	21 51 01.0	-0.6
BSWZ	**Blackbirch Sta**	**1.22**	**266**	P*	Pb	21 50 45.9	-1.2
DUWZ	**D'Urville Isla**	**1.46**	**305**	PN	Pn	21 50 50.0	-0.1
TSZ	**Takapari Road**	**1.62**	**13**	PN	Pn	21 50 51.7	-0.7
KHZ	**Kahutara**	**1.65**	**242**	PN	Pn	21 50 51.3	-1.5
KHZ				S*	Sb	21 51 11.0	-3.9
NNZ	**Nelson**	**1.65**	**284**	PN	Pn	21 50 52.0	-0.8
QRZ	**Quartz Range**	**2.39**	**289**	PN	Pn	21 51 03.3	0.0
OTVZ	**Oturere**	**2.48**	**3**	PN	Pn	21 51 04.6	-0.1
LTZ	**Lake Taylor**	**2.65**	**244**	PN	Pn	21 51 05.3	-1.9
LTZ				SN	Sn	21 51 35.0	-3.9

*NEIC **24** 21:53:10.7, 35.51N×25.87E, h14km, MD3.7(ATH), After ATH.*
ATH 24 21:53:10.7, 35.50N×25.87E, h15km±3km, MD3.7/9, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPS	**Neapolis**	**0.32**	**222**↑	*i*PB	Pb	21 53 17.0	-0.5
XRY	**Khrisi**	**0.64**	**193**	*e*PB	Pb	21 53 22.8	-0.2
THR1	**Thera Island**	**0.93**	**339**	*e*P	Pb	21 53 30.3	+2.3
SANT	**Santorini**	**0.93**	**339**	*e*Pg	Pg	21 53 29.1	-0.4
SANT				*e*Sg	Sg	21 53 43.6	+1.6
THR6	**Thira Island,**	**0.94**	**336**	*e*P	Pb	21 53 31.1	+3.0
THR3	**Thira Island,**	**0.98**	**337**	*e*P	Pb	21 53 31.1	+2.2
THR5	**Thira Island,**	**1.01**	**335**	*e*P	Pb	21 53 31.4	+2.1
KARP	**Karpathos**	**1.05**	**87**	*e*PN	Pn	21 53 30.3	-0.6
KARP				*e*SN	Sn	21 53 45.5	+0.2
VAM	**Vamos**	**1.37**	**267**	*e*PN	Pn	21 53 37.2	+1.8
APE	**Apeiranthos**	**1.59**	**350**	*e*PN	Pn	21 53 40.4	+1.9
GVD	**Gavdhos**	**1.60**	**246**	*e*PN	Pn	21 53 41.3	+2.6
ARG	**Arkhangelos**	**1.97**	**68**	*e*PN	Pn	21 53 46.5	+2.6
KYTH	**Kithira**	**2.43**	**290**	*e*Pb	Pb	21 53 50.8	-2.8
KYTH	**Kithira**	**2.43**	**290**	*e*PB	Pb	21 53 52.0	-1.6
VLI	**Veliai**	**2.67**	**298**	*e*PN	Pn	21 53 54.8	+0.8

*CSEM **24** 21:58:19.8±0.1, 37.39N×17.07E, h40km, ML2.2/3, Error ellipse: s-maj=5.4km s-min=2.1km az=165.0*
*ROM **24** 21:58:20.8±0.4, 37.38N×16.88

0.8nm,0.5s,baz=200,slow=11,SNR=6.5
VNDA Vanda 32.65 164 P P 22 06 36.7 -2.3
0.8nm,0.9s,baz=308,slow=9.5,SNR=3.0
CTA Charters Tower 37.14 48 LR LR 22 22 16.8
comp=Z,77nm,18.3s,baz=47,slow=36
PDAR Pinedale Array 147.00 83 PKPbc PKPdf 22 19 48.0 +0.5
0.8nm,0.8s,baz=180,slow=1.5,SNR=7.0
YKA Yellowknife Ar 148.94 45 PKPbc PKPdf 22 19 51.3 +1.4
0.9nm,0.7s,baz=281,slow=2.2,SNR=19

NEIC ***24*** *22:03:22.8±1.6,5.64S×145.27E,h85km±15km,mb4.2/5, Error ellipse: s-maj=13.0km s-min=10.9km az=143.0*
IDC ***24*** *22:03:22.2±3.9,5.66S×145.10E,h74km±36km,mb3.5/6, mb1 3.8/9,mb1mx3.8/12,mbtmp4.0/9,ML3.7/3,Error ellipse: s-maj=32.2km s-min=24.0km az=81.0*

ISC 24 22:03:21.8±2.5,5.7S±0.1×145.36E±0.10,h90km±24km, n20,σ0s92/20,mb3.8/8,1C-1D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.08 154**		P	**P**	**22 04 24.5**	**+1.2**
	14nm,0.3s,baz=352,slow=5.8,SNR=54						
PMG				S	**S**	**22 05 08.6**	**-1.5**
	23nm,0.3s,baz=126,slow=23,SNR=45						
CTA	**Charters Tower**	**14.32 177**		*e*P	**P**	**22 06 42.2**	**+0.8**
	0.1nm,0.3s,baz=335,slow=14,SNR=3.7						
CTAO	**Charters Tower**	**14.32 177**		*e*P	**P**	**22 06 43.2**	**+1.8**
	9.2nm,1.1s						
KAKA	**Kakadu**	**14.52 240**		*i*P	**P**	**22 06 44.4**	**+0.3**
	19nm,0.5s						
WRAB	**Tennant Creek**	**17.73 216**		*e*P	**P**	**22 07 23.7**	**-0.7**
	14nm,0.8s						
WB2	**Warramunga Arr**	**17.74 216**		*i*P	**P**	**22 07 24.0**	**-0.5**
WRA	**Warramunga Ar**	**17.75 216**		*e*P	**P**	**22 07 24.2**	**-0.3**
	0.5nm,0.3s,baz=38,slow=11,SNR=76						
ASAR	**Alice Springs**	**20.98 211**		P	**P**	**22 07 58.9**	**-0.7**
	0.8nm,0.5s,baz=44,slow=7.5,SNR=20						
ASPA	**Alice Springs**	**20.99 211**		*e*P	**P**	**22 08 00.9**	**+1.2**
FITZ	**Fitzroy Crossi**	**22.86 236**		*e*P	**P**	**22 08 18.6**	**+0.4**
	3.6nm,0.4s,mb4.0						
FITZ	**Fitzroy Crossi**	**22.86 236**		P	**P**	**22 08 17.2**	**-0.9**
	5.5nm,0.5s,mb4.1,baz=63,slow=2.9,SNR=8.4						
STKA	**Stephens Creek**	**26.27 187**		P	**P**	**22 08 50.8**	**+0.2**
	1.2nm,0.6s,mb3.5,baz=16,slow=7.4,SNR=3.0						
SONM	**Songino Array**	**63.37 332**		P	**P**	**22 13 42.1**	**-1.7**
	0.2nm,0.5s,mb3.3,baz=143,slow=7.2,SNR=2.4						
VNDA	**Vanda**	**72.30 176**		P	**P**	**22 14 39.5**	**+0.5**
	1.0nm,0.8s,mb3.7,baz=322,slow=8.1,SNR=5.2						
VNDA	**Vanda**	**72.30 176**		P	**P**	**22 14 39.5**	**+0.5**
ZAL	**Zalesovo**	**77.91 328**		P	**P**	**22 15 12.1**	**+0.8**
	0.4nm,0.3s,mb3.7,baz=22,slow=5.4,SNR=3.1						
MCK	**McKinley**	**84.63 24**		P	**P**	**22 15 45.1**	**-1.1**
	3.2nm,1.1s,mb4.2						
COLA	**College**	**85.52 23**		*e*P	**P**	**22 15 51.4**	**+0.8**
	2.9nm,0.7s,mb4.3						
CHKZ	**Chkalovo**	**85.62 325**		P	**P**	**22 15 51.6**	**+0.3**
	0.6nm,0.7s,mb3.6						
SIV	**San Ignacio**	**146.10 130**		PKPbc	PKPbc	22 22 55.0	+2.5
	1.2nm,0.6s,baz=255,slow=7.8,SNR=7.0						

IDC 24 22:16:43.6±8.4,6.05S×146.23E,h102km±57km,mb3.2/2, mb1 3.2/5,mb1mx3.1/11,mbtmp3.5/5,Error ellipse: s-maj=94.8km s-min=56.8km az=51.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.46 165**		P	P	22 17 35.6	-1.2
	1.7nm,0.3s,slow=10,SNR=8.5						
PMG				S	S	22 18 16.4	-0.6
	2.2nm,0.3s,baz=162,slow=20,SNR=6.4						
CTA	**Charters Tower**	**13.96 180**		P	P	22 19 57.7	-0.4
	0.2nm,0.3s,baz=12,slow=8.3,SNR=2.7						
WRA	**Warramunga Arr**	**18.01 219**		P	P	22 20 46.0	-2.8
	0.1nm,0.3s,baz=41,slow=11,SNR=5.1						
ASAR	**Alice Springs**	**21.16 213**		P	P	22 21 20.4	-1.8
	0.7nm,0.6s,baz=53,slow=9.0,SNR=10						
STKA	**Stephens Creek**	**26.06 189**		P	P	22 22 08.0	-1.4
	2.3nm,0.8s,baz=61,slow=13,SNR=3.3						

CASC 24 22:53:40.1±1.7,12.58N×88.04W,h35km±999km,MD3.5, 1D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.72 16**		*e*P	P	22 53 54.1	+0.3
CNCH				*e*S	S	22 54 03.9	+0.2
VSM	**San Miguel**	**0.87 345**		*e*P	P	22 53 55.7	-0.2
VSM				*e*S	S	22 54 08.8	+1.1
BLLM	**Bellamira**	**0.88 347**		*e*P	P	22 53 56.4	+0.4
BLLM				*e*S	S	22 54 09.2	+1.5
TEL3	**Telica 3**	**1.17 90**		*e*P	P	22 54 00.4	+0.2
TELN	**Telica**	**1.18 89**		*e*P	P	22 54 00.4	+0.1
SNVI	**San Vicente**	**1.29 323**		*e*P	P	22 54 02.6	+0.7
SNVI				*e*S	S	22 54 18.2	+0.1
CNGN	**Cerro Negro**	**1.31 93**		*e*P	P	22 54 02.0	-0.3
LCBS	**La Ceiba**	**1.41 320**		*e*P	P	22 54 03.6	0.0
LCBS				*e*S	S	22 54 20.8	-0.4
LFRS	**El Faro**	**1.44 316**		*e*P	P	22 54 04.1	0.0
LFRS				*e*S	S	22 54 22.1	+0.2
COPN	**Copaltepe**	**1.47 106**		*e*P	P	22 54 04.4	-0.2
MOMJ	**Momotombo**	**1.48 97**		*e*P	P	22 54 04.4	-0.2
BOQS	**Boqueron**	**1.67 314**		*e*P	P	22 54 07.7	+0.3
BOQS				*e*S	S	22 54 28.1	+0.4
TICN	**Ticuantepe**	**1.85 107**		*e*P	P	22 54 09.9	0.0

MAN ***24*** *23:08:55.0,5.87N×126.20E,h5km,mb4.3,ML3.1,MS2.8*
IDC ***24*** *23:09:05.4±8.4,5.72N×126.01E,h202km±83km,mb3.6/12, mb1 3.7/12,mb1mx3.6/19,mbtmp4.1/12,Error ellipse: s-maj=36.4km s-min=18.1km az=74.0*
NEIC ***24*** *23:09:08.8±3.8,5.59N×125.80E,h241km±38km,mb4.1/9, Error ellipse: s-maj=21.2km s-min=10.3km az=76.0*

ISC 24 23:08:55.7±0.6,5.80N±0.06×125.9E±0.1,h127km±6km, n34,σ1s01/37,mb3.9/19,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**1.18 15**		*e*P	**P**	**23 09 16.8**	**-3.7**
MATI				*e*S	**S**	**23 09 32.2**	**-6.9**
KCP	**Kidapawan**	**1.47 325**		*i*P	**P**	**23 09 23.9**	**+0.3**
KCP				*i*S	**S**	**23 09 45.2**	**+0.3**
BUKP	**Musuan**	**2.24 337**		*e*P	**P**	**23 09 32.8**	**-0.3**
BUKP				*e*S	**S**	**23 10 01.1**	**-0.3**
BIPH	**Bislig**	**2.40 10**		*e*P	**P**	**23 09 35.2**	**-0.1**
BIPH				*e*S	**S**	**23 10 04.4**	**-0.8**
PAGZ	**Pagadian**	**3.25 309**		*e*P	**P**	**23 09 47.0**	**+0.5**
SCPH	**Surigao**	**3.98 354**		*e*P	**P**	**23 09 56.0**	**-0.2**
MSLP	**Maasin**	**4.44 346**		*e*P	**P**	**23 10 03.6**	**+1.3**
KAKA	**Kakadu**	**19.49 161**		*e*P	**P**	**23 13 16.7**	**+1.4**
	3.7nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.75 181**		*e*P	**P**	**23 13 58.1**	**+0.6**
	4.9nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**23.75 181**		P	**P**	**23 13 58.6**	**+1.1**
	5.8nm,0.5s,mb4.2,baz=15,slow=7.1,SNR=18						
PMG	**Port Moresby**	**25.99 125**		P	**P**	**23 14 18.8**	**+0.2**
	1.8nm,0.3s,mb3.9,baz=315,slow=7.1,SNR=3.3						
WRAB	**Tennant Creek**	**26.88 162**		*e*P	**P**	**23 14 25.3**	**-1.4**
	4.9nm,0.9s,mb4.0						
WRA	**Warramunga Arr**	**26.88 162**		P	**P**	**23 14 25.9**	**-0.9**
	0.3nm,0.3s,mb3.3,baz=344,slow=9.6,SNR=2.4						
WB2	**Warramunga Arr**	**26.89 162**		*e*P	**P**	**23 14 27.1**	**+0.3**
ASAR	**Alice Springs**	**30.30 165**		P	**P**	**23 14 56.9**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=347,slow=7.3,SNR=13						
ASPA	**Alice Springs**	**30.30 165**		*e*P	**P**	**23 14 57.4**	**0.0**
MDJ	**Mudanjiang**	**38.79 4**		*e*P	**P**	**23 16 11.9**	**+2.4**
	7.8nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**39.39 192**		P	**P**	**23 16 15.4**	**+0.8**
	4.6nm,0.6s,mb4.5,baz=41,slow=9.3,SNR=10						
NWAO	**Narrogin (SRO)**	**39.39 192**		*e*P	**P**	**23 16 13.6**	**-1.0**
	37nm,1.5s,mb5.0						
STKA	**Stephens Creek**	**40.33 159**		P	**P**	**23 16 23.5**	**+1.1**
	3.1nm,0.8s,mb4.2,baz=343,slow=10,SNR=5.5						
STKA	**Stephens Creek**	**40.33 159**		*e*P	**P**	**23 16 21.7**	**-0.6**
SONM	**Songino Array**	**45.10 341**		P	**P**	**23 17 02.9**	**+2.0**
	0.5nm,1.0s,mb3.2,baz=168,slow=9.3,SNR=3.1						
SONM				PcP	PcP	23 18 40.5	+0.7
	0.6nm,0.8s,baz=171,slow=3.3,SNR=5.1						
KURK	**Kurchatov**	**59.58 327**		*e*P	**P**	**23 18 47.6**	**-0.8**
	2.3nm,0.8s,mb4.3						
BVAR	**Borovoye Array**	**65.17 327**		P	**P**	**23 19 25.1**	**-0.3**
	0.4nm,0.4s,mb3.6,baz=99,slow=4.4,SNR=6.0						
ARU	**Arti**	**72.78 328**		*e*P	**P**	**23 20 11.0**	**-0.9**
	2.5nm,0.6s,mb4.2						
MCK	**McKinley**	**82.67 27**		*e*P	**P**	**23 21 08.1**	**+2.0**
	1.3nm,0.7s,mb3.9						
JOF	**Joensuu**	**86.99 333**		*e*p	**P**	**23 21 24.1**	**-3.3**
	0.4nm,0.4s,mb3.7						
ARCES	**ARCESS Array B**	**88.25 340**		P	**P**	**23 21 31.9**	**-1.4**
	2.2nm,0.7s,mb4.3,baz=73,slow=9.4,SNR=4.9						
KAF	**Kangasniemi**	**89.41 332**		*e*p	**P**	**23 21 37.9**	**-1.1**
	0.3nm,0.3s,mb3.8						
FINES	**FINESS Array B**	**89.65 332**		P	**P**	**23 21 40.2**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=45,slow=3.9,SNR=8.0						
NOA	**NORSAR Array B**	**96.59 334**		P	**P**	**23 22 11.7**	**-0.3**
	0.3nm,0.8s,mb3.8,baz=184,slow=14,SNR=3.3						
YKA	**Yellowknife Ar**	**97.95 24**		P	**P**	**23 22 18.3**	**+0.3**
	0.2nm,0.4s,mb4.0,baz=295,slow=4.3,SNR=5.1						
YKA	**Yellowknife Ar**	**97.95 24**		P	**P**	**23 22 18.3**	**+0.3**
SUMG	**Summit**	**101.13 355**		*e*Pdif	P	23 22 33.1	+0.8

NIED ***24*** *23:25:00,34.10N×142.50E,h8km,Mw3.9 Best double couple: M0 7.45×10^14 NP1:φs168°,δ67°,λ-105°. NP2: φs21°,δ28°,λ-59°.*
IDC ***24*** *23:25:27.9±0.7,34.08N×142.50E,mb3.9/14,mb1 4.1/16, mb1mx4.0/23,mbtmp4.0/16,ML4.6/2,Error ellipse: s-maj=22.9km s-min=15.8km az=100.0*
JMA ***24*** *23:25:30.1±0.3,34.05N×142.45E,h58km,M3.8*
MOS ***24*** *23:25:31.3±1.1,34.03N×142.51E,h41km,mb4.3/17,Error ellipse: s-maj=22.4km s-min=10.9km az=115.6*
BJI ***24*** *23:25:31.7,33.87N×142.14E,h29km,mB4.9,mb4.6*
NEIC ***24*** *23:25:34.0±1.8,34.07N×142.42E,h45km±15km,mb4.2/11, Error ellipse: s-maj=13.9km s-min=10.4km az=94.0*

ISC 24 23:25:29.6±1.5,34.12N±0.04×142.42E±0.04,h24km±10km, n78,σ1s17/92,mb4.0/28,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.31 295**		P	**Pn**	**23 25 53.0**	**+0.4**
BSO1				S	**Sn**	**23 26 11.0**	**+1.6**
BSO3	**Boso 3**	**1.72 294**		P	**Pn**	**23 25 59.4**	**+0.9**
BSO4	**Boso 4**	**1.93 297**		P	**Pn**	**23 26 02.8**	**+1.4**
CHOJ	**Chosi**	**2.04 321**		P	**Pn**	**23 26 04.2**	**+1.2**
JHJ2	**Mitsune**	**2.39 246**		P	**Pn**	**23 26 08.1**	**0.0**
JHJ2				*e*S	**Sn**	**23 26 35.7**	**-1.3**
JHJ	**Hachijo jima 2**	**2.41 246**		Pn	**Pn**	**23 26 08.2**	**-0.2**
	512nm,0.3s,baz=63,slow=22,SNR=30						
JHJ				Sn	**Sn**	**23 26 35.8**	**-1.7**
	296nm,0.3s,baz=52,slow=22,SNR=7.8						
JOD2	**Odawara 2**	**2.97 294**		P	**Pn**	**23 26 16.0**	**-0.4**
JOD2				S	**Sn**	**23 26 51.4**	**-0.3**
JHU	**Hanno**	**3.10 305**		P	**Pn**	**23 26 18.8**	**+0.6**
JHU				S	**Sn**	**23 26 55.4**	**+0.4**
JAG	**Ashikaga**	**3.34 314**		P	**Pn**	**23 26 21.5**	**-0.2**
JAG				S	**Sn**	**23 27 00.4**	**-0.7**
JRY	**Ryogami san**	**3.45 304**		P	**Pn**	**23 26 23.3**	**+0.1**
JRY				S	**Sn**	**23 27 04.6**	**+0.8**
JYN	**Shimob**	**3.47 294**		P	**Pn**	**23 26 23.3**	**-0.2**
JYN				S	**Sn**	**23 27 03.8**	**-0.5**
JFK	**Kawauchi**	**3.48 339**		P	**Pn**	**23 26 22.3**	**-1.2**
JFK				S	**Sn**	**23 27 00.6**	**-3.8**
JFT	**Otama**	**3.79 334**		P	**Pn**	**23 26 27.9**	**-0.1**
JFT				S	**Sn**	**23 27 09.5**	**-2.9**
JMM	**Marumori**	**3.97 341**		P	**Pn**	**23 26 29.0**	**-1.5**
JMM				S	**Sn**	**23 27 13.6**	**-3.2**
JHK	**Hiroka**	**4.17 319**		S	**Sn**	**23 27 21.6**	**-0.5**
JNG	**Nsakai**	**4.21 304**		P	**Pn**	**23 26 34.5**	**+0.6**
JNG				S	**Sn**	**23 27 22.4**	**-0.5**
MAJO	**Matsushiro**	**4.21 306**		*e*P	**Pn**	**23 26 35.3**	**+1.4**
MAT	**Matsushiro**	**4.21 306**		*e*P	**Pn**	**23 26 37.0**	**+3.1**
MAT				*e*S	**Sn**	**23 27 23.0**	**0.0**
MAT	**Matsushiro**	**4.21 306**		P	**Pn**	**23 26 36.6**	**+2.7**
MAT				S	**Sn**	**23 27 23.0**	**0.0**
MAT	**Matsushiro**	**4.21 306**		S	**Sn**	**23 27 22.7**	**-0.3**
JMK	**Ichinoseki**	**4.92 349**		P	**Pn**	**23 26 42.0**	**-2.0**
JYK	**Kaneyama**	**5.07 341**		P	**Pn**	**23 26 45.0**	**-1.1**
CBIJ	**Chichi jima**	**7.00 182**		Sn	**Sn**	**23 28 23.6**	**-9.4**
	18nm,0.3s,baz=290,slow=20,SNR=3.4						
ASAJ	**Asahikawa**	**9.99 1**		Pn	**P**	**23 27 50.9**	**-3.8**
	4.5nm,0.3s,baz=232,slow=5.3,SNR=11						
ASAJ				Sn	**Sn**	**23 29 38.4**	**-8.7**
	1.7nm,0.3s,baz=250,slow=27,SNR=4.0						
YSS	**Yuzh-Sakhalins**	**12.82 1**		*e*P	**P**	**23 28 29.5**	**-3.7**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**12.82 1**		*e*P	**P**	**23 28 29.5**	**-3.7**
	comp=Z,40nm,1.0s						
CN2	**Changchun**	**16.34 311**		*e*P	**P**	**23 29 21.5**	**+2.6**
HHC	**Hu-ho-hao-te**	**25.30 294**		*e*P	**P**	**23 30 58.0**	**+2.2**
HHC				XP	sP	23 31 09.8	+3.7
HHC				PP	PP	23 31 36.5	+2.0
HHC				S	**S**	**23 35 21.3**	**+3.7**
HHC				XS		23 35 37.8	
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,157nm,5.2s						
XAN	**Xi'an**	**27.68 279**		P	**P**	**23 31 16.5**	**-1.2**
XAN				AP	pP	23 31 24.3	-0.5
XAN				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
ENH	**Enshi**	**28.06 271**		*e*P	**P**	**23 31 19.7**	**-1.5**
	comp=Z,5.6nm,0.5s,mb4.5						
ULN	**Ulaanbaatar**	**29.74 308**		*e*P	**P**	**23 31 37.9**	**+1.8**
ULN				*e*		23 31 47.5	
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb3.9						
ULN	**Ulaanbaatar**	**29.74 308**		*e*P	**P**	**23 31 37.9**	**+1.8**
	comp=Z,2.5nm,0.9s,mb3.9						
ULN				*e*		23 31 47.5	
SONM	**Songino Array**	**30.16 308**		P	**P**	**23 31 41.8**	**+2.0**
	comp=Z,0.7nm,0.8s,mb3.4,baz=111,slow=7.9,SNR=6.0						
BILL	**Bilibino**	**36.61 15**		*e*P	**P**	**23 32 35.4**	**0.0**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.2s,mb4.3						
BILL	**Bilibino**	**36.61 15**		P	**P**	**23 32 35.0**	**-0.4**
WMQ	**Urumqi**	**42.94 300**		*e*P	**P**	**23 33 29.3**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,86nm,4.3s						
KURK	**Kurchatov**	**48.41 310**		P	**P**	**23 34 10.8**	**-0.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**48.41 310**		P	**P**	**23 34 10.8**	**-0.7**
	comp=Z,4.9nm,0.9s,mb4.5						
CHKZ	**Chkalovo**	**52.92 315**		P	**P**	**23 34 45.5**	**-0.3**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
CHKZ	**Chkalovo**	**52.92 315**		P	**P**	**23 34 45.5**	**-0.3**
	comp=Z,2.7nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**53.16 314**		P	**P**	**23 34 47.7**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=108,slow=4.6,SNR=2.8						
WRAB	**Tennant Creek**	**54.30 189**		*e*P	**P**	**23 34 55.0**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**54.30 189**		*e*P	**P**	**23 34 55.0**	**-1.3**
	comp=Z,10nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**54.31 189**		P	**P**	**23 34 55.5**	**-0.9**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
WRA	**Warramunga Arr**	**54.31 189**		P	**P**	**23 34 55.5**	**-0.9**
	comp=Z,2.9nm,0.7s,mb4.3,baz=6.7,slow=7.7,SNR=16						
FITZ	**Fitzroy Crossi**	**54.33 200**		P	**P**	**23 34 55.9**	**-0.6**
	comp=Z,2.1nm,0.7s,mb4.2,baz=37,slow=5.4,SNR=4.1						
INK	**Inuvik**	**56.62 26**		P	**P**	**23 35 12.7**	**+0.2**
INK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
INK	**Inuvik**	**56.62 26**		P	**P**	**23 35 12.2**	**-0.3**
	comp=Z,0.6nm,0.6s,mb3.8,baz=264,slow=8.6,SNR=4.0						
INK	**Inuvik**	**56.62 26**		P	**P**	**23 35 12.7**	**+0.2**
	comp=Z,2.0nm,1.1s,mb4.1						
ASAR	**Alice Springs**	**58.03 189**		P	**P**	**23 35 22.4**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=10,slow=6.6,SNR=14						
ARU	**Arti**	**59.10 320**		P	**P**	**23 35 29.4**	**-0.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARU	**Arti**	**59.10 320**		P	**P**	**23 35 29.4**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3						
RES	**Resolute Bay**	**65.22 14**		*e*P	**P**	**23 36 10.8**	**+0.2**
RES				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
RES	**Resolute Bay**	**65.22 14**		*e*P	**P**	**23 36 10.8**	**+0.2**
	comp=Z,3.5nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**65.92 30**		P	**P**	**23 36 14.7**	**-0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**65.92 30**		P	**P**	**23 36 14.7**	**-0.6**
	comp=Z,0.5nm,0.8s,mb3.6,baz=297,slow=6.4,SNR=8.8						
YKA	**Yellowknife Ar**	**65.92 30**		P	**P**	**23 36 14.7**	**-0.6**
JOF	**Joensuu**	**68.92 333**		*e*p	**P**	**23 36 31.7**	**-2.4**
	comp=Z,0.4nm,0.3s,mb3.8						
KAF	**Kangasniemi**	**71.28 334**		*e*p	**P**	**23 36 47.5**	**-1.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=48,slow=5.7						
KAF	**Kangasniemi**	**71.28 334**		*e*P	**P**	**23 36 47.5**	**-1.0**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
FINES	**FINESS Array B**	**71.78 333**		P	**P**	**23 36 52.1**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**71.78 333**		P	**P**	**23 36 52.0**	**+0.6**
	comp=Z,0.5nm,0.4s,mb3.8,baz=39,slow=6.6,SNR=10						
FCC	**Fort Churchill**	**76.24 27**		*e*P	**P**	**23 37 17.5**	**+0.2**
FCC				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.7						
FCC	**Fort Churchill**	**76.24 27**		*e*P	**P**	**23 37 17.5**	**+0.2**
	comp=Z,1.4nm,1.0s,mb3.9						
HFS	**Hagfors**	**77.08 336**		P	**P**	**23 37 22.7**	**+0.7**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**77.08 336**		P	**P**	**23 37 22.7**	**+0.7**
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=2.9,SNR=8.3						
AKASG	**Malin Array Be**	**77.11 323**		P	**P**	**23 37 22.9**	**+0.6**
	comp=Z,0.2nm,0.3s,mb3.6,baz=44,slow=6.4,SNR=4.7						
NB2	**NORSAR Subarra**	**77.19 338**		P	**P**	**23 37 23.3**	**+0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=39,slow=5.6						
NB2	**NORSAR Subarra**	**77.19 338**		P	**P**	**23 37 23.3**	**+0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**77.19 338**		P	**P**	**23 37 23.7**	**+1.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**77.19 338**		P	**P**	**23 37 23.6**	**+1.1**
	comp=Z,1.1nm,0.8s,mb3.9,baz=39,slow=5.6,SNR=5.1						
PDAR	**Pinedale Array**	**79.12 45**		P	**P**	**23 37 34.6**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=333,slow=3.3,SNR=4.3						
BRTR	**Keskin Array B**	**81.41 312**		P	**P**	**23 37 48.2**	**+2.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**81.41 312**		P	**P**	**23 37 48.1**	**+2.4**
	comp=Z,1.0nm,0.9s,mb3.8,baz=76,slow=5.9,SNR=4.4						
PV10	**Paradox Valley**	**82.08 49**		*e*P	**P**	**23 37 49.6**	**+0.3**
TXAR	**Lajitas Array**	**91.23 53**		P	**P**	**23 38 35.9**	**+1.6**
	comp=Z,0.7nm,0.5s,mb4.3,baz=279,slow=3.8,SNR=6.8						
LPAZ	**La Paz**	**147.33 65**		PKP2	PKPab	23 45 15.1	-0.5
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**147.33 65**		PKPbc	PKPdf	23 45 15.1	+1.3
	comp=Z,1.4nm,0.8s,baz=11,slow=10,SNR=9.5						

IDC ***25*** *00:07:13.1±0.6,19.99S×70.58W,mb4.4/13,mb1 4.7/15, mb1mx4.6/17,mbtmp4.5/15,ML4.8/2,MS4.0/11,Ms1 4.0/11, ms1mx3.9/23,Error ellipse: s-maj=21.8km s-min=14.6km az=77.0*
LDG ***25*** *00:07:15.3±0.3,19.35S×70.62W,h10km,Mb5.1/8, Ms4.2/6,Error ellipse: s-maj=18.2km s-min=8.7km az=26.0*
NEIC ***25*** *00:07:19.1±0.8,20.01S×70.44W,h39km±7km,mb4.8/41, Error ellipse: s-maj=7.2km s-min=4.3km az=61.0*
BJI ***25*** *00:07:20.1,20.70S×70.18W,h53km,mB5.6,Ms5.5, Msz4.7*

ISC 25 00:07:17.3±1.1,20.03S±0.04×70.52W±0.05,h38km±9km, n134,σ0s99/111,mb4.7/51,MS4.1/9,4C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.97 150**		Pn	**P**	**00 08 04.4**	**+1.2**
	100nm,0.3s,baz=316,slow=9.2,SNR=557						
LVC				LR	LR	00 08 37.9	
	comp=Z,676nm,20.4s,baz=327,slow=28						
LVC				Sn	**S**	**00 08 46.0**	**+8.0**
	290nm,0.3s,baz=51,slow=19,SNR=17						
LVC	**Limon Verde**	**2.97 150**		*e*Pn	**P**	**00 08 04.3**	**+1.0**
LVC			

VNA3				*e*			00 17 52.2	
VNA3				*e*			00 17 59.2	
VNA3				*e*			00 18 15.0	
VNA3				*e*			00 22 08.2	
VNA3				*e*			00 22 20.2	
ALLY	**Alegheny Colle**	**62.01**	**352**	*e*P		**P**	**00 17 34.9**	**-1.2**
ERPA	**Erie**	**62.45**	**352**	*e*P		**P**	**00 17 38.3**	**-0.8**
	16nm,0.8s,mb5.2							
VNA2	**Neumayer--Watz**	**62.53**	**161**	*e*P		**P**	**00 17 39.2**	**0.0**
VNA2				*e*			00 17 54.2	
VNA2				*e*			00 18 02.3	
VNA2				*e*			00 18 16.3	
VNA2				*e*			00 22 10.7	
VNA2				*e*			00 22 21.8	
SNAA	**Sanae**	**64.15**	**161**	*e*P		**P**	**00 17 49.5**	**-0.3**
SNAA				*e*			00 18 05.1	
SNAA				*e*			00 18 11.7	
SNAA				*e*			00 18 25.3	
SNAA				*e*			00 22 30.4	
SNAA				*e*			00 22 40.0	
ANMO	**Albuquerque**	**64.46**	**328**	*e*P		**P**	**00 17 52.6**	**+0.2**
	2.0nm,0.7s,mb4.3							
SDCO	**Great Sand Dun**	**66.23**	**330**	*e*P		**P**	**00 18 04.3**	**+0.6**
	6.8nm,0.9s,mb4.7							
WUAZ	**Wupatki**	**67.47**	**325**	*e*P		**P**	**00 18 12.6**	**+1.1**
	2.1nm,0.7s,mb4.3							
ISCO	**Idaho Springs**	**67.94**	**331**	*e*P		**P**	**00 18 14.4**	**0.0**
	12nm,1.4s,mb4.7							
SRU	**San Rafael**	**69.73**	**328**	*e*P		**P**	**00 18 25.6**	**+0.1**
MSU	**Marysvale**	**70.13**	**326**	*e*P		**P**	**00 18 29.2**	**+1.2**
MVU	**Marysvale**	**70.14**	**326**	*e*P		**P**	**00 18 27.9**	**0.0**
	9.5nm,1.3s,mb4.6							
QSPA	**South Pole Qui**	**70.15**	**180⇑**	*i*P		**P**	**00 18 29.2**	**+1.8**
	13nm,0.9s,mb4.9							
RWWY	**Rawlins**	**70.18**	**332**	P		**P**	**00 18 27.8**	**-0.4**
ARUT	**Antelope Range**	**70.26**	**325**	*e*P		**P**	**00 18 29.6**	**+0.8**
JLU	**Jordanelle**	**71.33**	**328**	*e*P		**P**	**00 18 35.2**	**+0.1**
DUG	**Dugway**	**71.71**	**327**	*e*P		**P**	**00 18 38.2**	**+0.8**
	6.0nm,1.5s,mb4.4							
PDAR	**Pinedale Array**	**72.10**	**331**	P		**P**	**00 18 39.6**	**0.0**
	1.4nm,0.7s,mb4.0,baz=124,slow=5.7,SNR=12							
PDAR				LR	LR		00 51 40.7	
	comp=Z,52nm,18.1s,MS3.8,baz=1.7,slow=37							
HWUT	**Hardware Ranch**	**72.15**	**329**	*e*P		**P**	**00 18 39.7**	**-0.2**
	5.1nm,0.8s,mb4.5							
TBI	**Tubuai**	**72.55**	**251**	*e*LR	LR		00 41 10.1	
	186nm,25.0s							
AHID	**Auburn Hatcher**	**72.81**	**330**	*e*P		**P**	**00 18 44.0**	**+0.1**
	6.6nm,0.9s,mb4.6							
SNOW	**Snow King Moun**	**73.19**	**331**	*e*P		**P**	**00 18 45.8**	**-0.4**
LOHW	**Long Hollow**	**73.23**	**331**	*e*P		**P**	**00 18 46.4**	**0.0**
	10nm,1.3s,mb4.6							
OMM	**Old Mammoth Mi**	**73.26**	**322**	*e*P		**P**	**00 18 48.1**	**+1.4**
TPAW	**Teton Pass**	**73.30**	**330**	*e*P		**P**	**00 18 47.9**	**+1.1**
RRI2	**Red Ridge**	**73.36**	**330**	*e*P		**P**	**00 18 47.4**	**+0.2**
MOOW	**Moose Ponds**	**73.41**	**331**	*e*P		**P**	**00 18 48.1**	**+0.7**
ULM	**Lac du Bonnet**	**73.48**	**343**	P		**P**	**00 18 46.4**	**-1.3**
	3.3nm,0.7s,mb4.4,baz=161,slow=8.8,SNR=6.3							
IMW	**Indian Meadow**	**73.61**	**331**	*e*P		**P**	**00 18 49.1**	**+0.5**
LKWY	**Lake**	**73.88**	**332**	*e*P		**P**	**00 18 51.2**	**+1.0**
	7.9nm,0.9s,mb4.6							
PPT	**Papeete**	**74.19**	**257**	*e*LR	LR		00 41 52.5	
	221nm,24.8s							
PPT	**Papeete**	**74.19**	**257**	LR	LR		00 41 21.5	
	comp=Z,82nm,21.4s,MS4.0,baz=127,slow=28							
YMR	**Madison River**	**74.22**	**331**	*e*P		**P**	**00 18 53.5**	**+1.4**
SCHQ	**Schefferville**	**74.62**	**2**	P		**P**	**00 18 54.1**	**-0.2**
	4.3nm,0.9s,mb4.4,baz=192,slow=4.2,SNR=7.5							
SCHQ				LR	LR		00 51 03.9	
	comp=Z,94nm,20.3s,MS4.1,baz=182,slow=35							
HLID	**Hailey**	**75.01**	**329**	*e*P		**P**	**00 18 57.5**	**+0.8**
	11nm,1.0s,mb4.7							
MCMT	**McKenzie Canyo**	**75.20**	**330**	*e*P		**P**	**00 18 58.7**	**+0.9**
BOZ	**Bozeman (W)**	**75.27**	**332**	*e*P		**P**	**00 18 58.4**	**+0.2**
	12nm,1.4s,mb4.6							
HRY	**Holter Researc**	**76.18**	**332**	*e*P		**P**	**00 19 04.3**	**+1.0**
CHMT	**Chamberlain Mo**	**76.97**	**331**	*e*P		**P**	**00 19 08.6**	**+0.8**
WDC	**Whiskeytown Da**	**77.29**	**322**	*e*P		**P**	**00 19 08.8**	**-0.9**
	3.0nm,0.7s,mb4.3							
VNDA	**Vanda**	**78.03**	**190**	P		**P**	**00 19 13.6**	**+0.5**
	2.3nm,0.9s,mb4.1,baz=149,slow=6.4,SNR=9.8							
YBH	**Yreka Blue Hor**	**78.14**	**323**	P		**P**	**00 19 13.9**	**-0.4**
	0.6nm,0.5s,mb3.8,baz=125,slow=11,SNR=3.8							
SYO	**Syowa Base**	**78.40**	**160**	⇑P		**P**	**00 19 15.5**	**+0.3**
SYO	**Syowa Base**	**78.40**	**160**	⇑PcP		PcP	00 19 20.5	-4.2
WALA	**Waterton Lakes**	**78.88**	**333**	*e*P		**P**	**00 19 18.9**	**+0.7**
	23nm,1.4s,mb4.9							
FFC	**Flin Flon**	**79.17**	**342**	*e*P		**P**	**00 19 18.8**	**-0.9**
	13nm,1.6s,mb4.6							
HAWA	**Hanford**	**79.57**	**328**	*e*P		**P**	**00 19 23.0**	**+0.9**
	1.9nm,1.4s,mb3.8							
NEW	**Newport**	**79.73**	**330**	*e*P		**P**	**00 19 22.1**	**-0.8**
	4.1nm,1.0s,mb4.3							
FCC	**Fort Churchill**	**80.88**	**348**	*e*P		**P**	**00 19 28.7**	**-0.1**
	12nm,1.3s,mb4.7							
EDM	**Edmonton**	**81.81**	**336**	*e*P		**P**	**00 19 33.2**	**-0.6**
PGC	**Sidney**	**83.05**	**328**	*e*P		**P**	**00 19 41.0**	**+0.8**
	37nm,1.3s,mb5.2							
BOSA	**Boshof**	**85.47**	**119**	P		**P**	**00 19 53.8**	**+1.0**
	11nm,1.1s,mb4.9,baz=250,slow=8.3,SNR=6.1							
ESDC	**Sonseca Array**	**85.86**	**45**	P		**P**	**00 19 55.4**	**+0.9**
	3.3nm,1.0s,mb4.5,baz=241,slow=4.7,SNR=12							
LBTB	**Lobatse**	**87.00**	**115**	*e*P		**P**	**00 20 00.8**	**+0.4**
	7.1nm,0.7s,mb5.0							
YKA	**Yellowknife Ar**	**89.31**	**341**	P		**P**	**00 20 10.9**	**+0.3**
	12nm,0.8s,mb5.3,baz=135,slow=4.7,SNR=198							
SJPF	**Ste Jean**	**89.34**	**43**	*e*P		**P**	**00 20 12.2**	**+1.1**
	23nm,1.2s,mb5.1							
YKW3	**Yellowknife Ar**	**89.37**	**341**	*e*P		**P**	**00 20 10.8**	**0.0**
ETSF	**Etsaut**	**89.67**	**44**	*e*P		**P**	**00 20 13.7**	**+1.0**
ROSF	**Rostrenen**	**90.63**	**38**	*e*P		**P**	**00 20 17.1**	**0.0**
	45nm,1.2s,mb5.4							
SGMF	**Saint Gilles**	**91.00**	**38**	*e*P		**P**	**00 20 18.6**	**-0.2**
	15nm,0.9s,mb5.0							
LFF	**La Frestale**	**91.44**	**42**	*e*P		**P**	**00 20 21.4**	**+0.5**
	16nm,0.9s,mb5.1							
MTLF	**Montolieu**	**91.68**	**44**	*e*P		**P**	**00 20 22.2**	**+0.1**
RJF	**Les Rejaudoux**	**92.10**	**42**	*e*P		**P**	**00 20 24.1**	**+0.2**
RJF				*e*R				
	141nm,17.5s							
DLBC	**Dease Lake**	**92.22**	**333**	*e*P		**P**	**00 20 25.2**	**+1.0**
CAF	**Calviac**	**92.28**	**43**	*e*P		**P**	**00 20 25.1**	**+0.3**
	7.5nm,0.9s,mb4.7							
TCF	**Toulx Ste Croi**	**92.97**	**42**	*e*P		**P**	**00 20 28.0**	**+0.1**
	13nm,1.3s,mb4.9							
BGF	**Bois d'Agland**	**93.48**	**41**	*e*P		**P**	**00 20 30.4**	**+0.2**
AVF	**Avril sur Loir**	**93.89**	**41**	*e*P		**P**	**00 20 32.0**	**-0.1**
URZ	**Urewera**	**94.11**	**227**	LR	LR		00 55 22.2	
	comp=Z,212nm,19.1s,MS4.6,baz=161,slow=31							
SMF	**Signal de Mont**	**94.14**	**42**	*e*P		**P**	**00 20 33.4**	**+0.2**
ORIF	**Oris-en-Rattie**	**94.73**	**44**	*e*P		**P**	**00 20 37.1**	**+1.1**
ORIF				*e*R				
	275nm,20.2s							
LPL	**La Plagne**	**95.52**	**44**	*e*P		**P**	**00 20 39.4**	**-0.2**
CABF	**La Chapelle**	**95.54**	**42**	*e*P		**P**	**00 20 39.3**	**-0.3**
PGF	**Pioggiola**	**95.91**	**47**	*e*P		**P**	**00 20 41.4**	**0.0**
HAU	**Haudompre**	**96.25**	**41**	*e*P		**P**	**00 20 42.9**	**+0.1**
HAU				*e*R				
	142nm,22.0s							
HINF	**Hinteralfeld**	**96.49**	**41**	*e*P		**P**	**00 20 43.7**	**-0.2**
CDF	**Champ du Feu**	**96.98**	**41**	*e*P		**P**	**00 20 45.4**	**-0.7**
GERES	**GERESS Array B**	**101.13**	**42**	P		P	00 21 03.4	-1.5
	0.4nm,0.7s,baz=302,slow=13,SNR=5.0							
MALT	**Malatya**	**116.77**	**56**	*e*PKPdf	PKPdf		00 25 58.9	+0.9
ARU	**Arti**	**127.77**	**33**	*e*PKPdf	PKPdf		00 26 20.6	+1.8
ASAR	**Alice Springs**	**130.47**	**210**	PKP	PKPdf		00 26 25.2	+0.3
	2.7nm,0.9s,baz=148,slow=2.2,SNR=21							
WRA	**Warramunga Arr**	**133.41**	**213**	PKP	PKPdf		00 26 31.0	+0.5
	1.7nm,0.6s,baz=160,slow=1.7,SNR=8.8							
WRAB	**Tennant Creek**	**133.41**	**213**	*e*PKPdf	PKPdf		00 26 31.7	+1.2
ZAL	**Zalesovo**	**141.24**	**23**	PKhKP			00 26 38.4	
	1.8nm,0.7s,baz=270,slow=1.8,SNR=6.8							
AAK	**Ala-Archa**	**142.96**	**45**	*e*PKPdf	PKPdf		00 26 47.2	+0.1
HIA	**Hailar**	**149.69**	**347**	*e*PKPbc	PKPdf		00 27 04.2	+6.0
DDI	**Dehra Dun**	**149.86**	**64**	*e*	PKPdf		00 27 06.4	+7.3
MAJO	**Matsushiro**	**149.98**	**309**	*e*PKPbc	PKPdf		00 27 05.9	+6.8
MAJO				*e*PKPab	PKPab		00 27 11.7	-0.2
MAT	**Matsushiro**	**149.98**	**309**	*e*PKP	PKPdf		00 27 06.0	+6.9
MAT	**Matsushiro**	**149.98**	**309**	PKP	PKPdf		00 27 06.0	+6.9
WMQ	**Urumqi**	**150.10**	**33**	*e*PKP	PKPdf		00 26 59.0	0.0
MDJ	**Mudanjiang**	**150.33**	**330**	PKP	PKPdf		00 27 02.1	+2.8
MDJ				PP	PP			
	comp=Z,13nm,1.6s							
MDJ				PP	PP			
	comp=Z,106nm,5.4s							
SONM	**Songino Array**	**152.15**	**4**	PKP	PKPdf		00 27 04.2	+2.2
	comp=Z,1.2nm,0.9s,baz=335,slow=1.7,SNR=8.8							
SONM				PKPbc	PKPdf		00 27 11.4	+9.5
	comp=Z,7.3nm,0.8s,baz=324,slow=1.5,SNR=44							
SONM				PKPab	PKPab		00 27 19.0	-1.7
	comp=Z,3.4nm,0.9s,baz=329,slow=1.6,SNR=7.5							
SONM	**Songino Array**	**152.15**	**4**	PKP	PKPdf		00 27 04.2	+2.2
SONM				PKPbc	PKPdf		00 27 11.4	+9.5
SONM				PKPab	PKPab		00 27 19.0	-1.7
ULN	**Ulaanbaatar**	**152.16**	**4**	*e*PKPdf	PKPdf		00 27 04.6	+2.6
ULN				*e*PKPbc	PKPdf		00 27 11.2	+9.3
ULN				*e*PKPab	PKPab		00 27 20.7	0.0
CN2	**Changchun**	**152.80**	**334**	*e*PKP	PKPdf		00 27 06.1	+3.1
GTA	**Gaotai**	**158.97**	**21**	*e*PKP	PKPdf		00 27 14.3	+3.1
GTA				PP	PP			
	comp=Z,4.0nm,0.9s							
HHC	**Hu-ho-hao-te**	**159.17**	**356**	*e*PKP	PKPdf		00 27 16.8	+5.4
HHC				PP	PP		00 31 37.1	+4.3
HHC				SKS	SKS		00 34 14.3	+3.2
HHC				SKKS			00 38 22.5	
HHC				SS	SS		00 51 35.8	+3.5
HHC				PP	PP			
	comp=Z,102nm,13.1s							
BJI	**Beijing**	**159.25**	**345**	*e*PKP	PKPdf		00 27 15.4	+3.9
NJ2	**Nanjing**	**165.38**	**327**	*e*PKP	PKPdf		00 27 21.9	+3.9
NJ2				APKP			00 27 33.3	
NJ2				PKS	PKS		00 30 53.0	+3.2
NJ2				PP	PP		00 32 09.0	+2.9
NJ2				PP	PP			
	comp=Z,430nm,6.9s							
NJ2				LR	LR			
	comp=N,620nm,32.1s							
NJ2				LR	LR			
	comp=E,520nm,32.3s							
NJ2				LR	LR			
	comp=Z,270nm,26.3s							

*STR **25** 00:07:29.4±0.1,49.14N×6.81E,h1km±1km,Ml2.6,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*NEIC **25** 00:07:29.2,49.16N×6.80E,h1km,ML2.9(LDG),After LDG.*

*CSEM **25** 00:07:29.1±0.1,49.15N×6.83E,h2km,ML2.9/16,Error ellipse: s-maj=0.9km s-min=0.9km az=150.0*

*LDG **25** 00:07:29.2±0.1,49.16N×6.80E,h1km,Md3.2/3,Ml2.9/19, Error ellipse: s-maj=1.4km s-min=1.2km az=109.0, Suspected Mining induced.*

*BGR **25** 00:07:30.2±0.4,49.18N×6.95E,h1km,ML2.4/5,Error ellipse: s-maj=4.4km s-min=3.3km az=34.0*

*BNS **25** 00:07:30.2±0.9,49.18N×6.96E,h1km,ML2.1*

*PRU **25** 00:07:34.9,49.23N×7.16E,h20km*

ISC 25 00:07:26.8±0.2,49.14N±0.01×6.75E±0.02,n63,σ1§33/121, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.60**	**20**	Pg	**Pg**	**00 07 40.4**	**+1.7**
RUP				Sg	**Sg**	**00 07 48.8**	**+2.1**
WLF	**Walferdange**	**0.65**	**324**	*e*Pg	**Pg**	**00 07 43.2**	**+3.5**
	SNR=20						
WLF				*e*Sg	**Sg**	**00 07 52.6**	**+4.1**
	SNR=54						
LANF	**Langenberg**	**0.71**	**103**	Pg	**Pg**	**00 07 41.8**	**+0.8**
CDF	**Champ du Feu**	**0.81**	**154**	*e*Pg	**Pg**	**00 07 44.0**	**+1.1**
CDF				*e*Pn	**Pn**	**00 07 45.6**	**+0.5**
CDF				*e*Sg	**Sg**	**00 07 55.3**	**+1.6**
	58nm,0.2s						
WLS	**Welschbruch**	**0.83**	**151**	Pg	**Pg**	**00 07 44.4**	**+1.0**
WLS				Sg	**Sg**	**00 07 56.9**	**+2.4**
ABH	**Alteburg**	**0.91**	**35**	Pg	**Pg**	**00 07 46.4**	**+1.5**
ECH	**Echery**	**0.96**	**163**	Pg	**Pg**	**00 07 47.2**	**+1.2**
RFYF	**Reffroy**	**0.98**	**239**	*e*Pn	**Pn**	**00 07 49.2**	**+1.6**
	baz=53						
RFYF				*e*Sn	**Sn**	**00 08 03.3**	**+0.9**
	87nm,0.2s						
THEF	**They Montfort**	**1.04**	**209**	Pg	**Pg**	**00 07 49.4**	**+1.8**
THEF				Sg	**Sg**	**00 08 04.3**	**+2.8**
BGG	**Burgeitz**	**1.13**	**20**	*e*Pg	**Pg**	**00 07 50.0**	**+0.6**
BGG				*e*Sg	**Sg**	**00 08 04.3**	**-0.2**
	57nm,0.2s						
LIBD	**Limburg**	**1.14**	**150**	Pg	**Pg**	**00 07 51.0**	**+1.4**
HAU	**Haudompre**	**1.17**	**193**	*e*Pn	**Pn**	**00 07 51.3**	**+1.1**
HAU				*e*Sg	**Sg**	**00 08 07.0**	**+1.4**
	65nm,0.3s						
MEZF	**Maizieres J'vi**	**1.29**	**241**	*e*Pg	**Pg**	**00 07 54.0**	**+1.5**
	baz=55						
MEZF				*e*Sn	**Sn**	**00 08 10.3**	**+0.1**
	39nm,0.4s,baz=62						
MOF	**Molkenrain**	**1.32**	**169**	Pg	**Pg**	**00 07 53.9**	**+0.9**
BFO	**Black Forest**	**1.33**	**127**	*e*Pg	**Pg**	**00 07 52.7**	**-0.6**
	SNR=18						
BFO				*e*Sg	**Sg**	**00 08 09.2**	**-1.7**
	SNR=42						
HINF	**Hinteralfeld**	**1.33**	**177**	*e*Pn	**Pn**	**00 07 53.6**	**+1.1**
HINF				*e*Pg	**Pg**	**00 07 54.4**	**+1.1**
HINF				*e*Sn	**Sn**	**00 08 10.8**	**-0.4**
HINF				*e*Sg	**Sg**	**00 08 11.8**	**+0.9**
	60nm,0.3s						
STB	**Steinbach**	**1.46**	**2**	*e*Pg	**Pg**	**00 07 55.8**	**-0.1**
STB				*e*Sg	**Sg**	**00 08 14.7**	**-0.6**
	22nm,0.7s						
SFTF	**Sexfontaines**	**1.47**	**231**	*e*Pn	**Pn**	**00 07 56.3**	**+1.7**
SFTF				*e*Sn	**Sn**	**00 08 14.6**	**-0.2**
SFTF				*e*Sg	**Sg**	**00 08 17.1**	**+1.4**
	35nm,0.3s						
FELD	**Feldberg**	**1.52**	**146**	Pg	**Pg**	**00 07 57.3**	**+0.2**
FELD				Sg	**Sg**	**00 08 16.1**	**-1.2**
KLL	**Kalltalsperre**	**1.53**	**350**	*e*Pg	**Pg**	**00 07 56.0**	**-1.4**
KLL				*e*Sg	**Sg**	**00 08 16.1**	**-1.8**
	24nm,0.6s						
KLL	**Kalltalsperre**	**1.53**	**350**	Pg	**Pg**	**00 07 56.0**	**-1.4**
KLL				Sg	**Sg**	**00 08 16.0**	**-1.8**
	24nm,0.6s						
TNS	**Taunus Mts**	**1.55**	**45**	*e*Pn	**Pn**	**00 07 56.5**	**+0.8**
	SNR=1.7						
TNS				*e*Pg	**Pg**	**00 07 58.1**	**+0.4**
	SNR=10						
TNS				*e*Sg	**Sg**	**00 08 15.4**	**-2.9**
	SNR=33						
TNS	**Taunus Mts**	**1.55**	**45**	Pg	**Pg**	**00 07 58.1**	**+0.4**
	SNR=10						
TNS				Sg	**Sg**	**00 08 15.4**	**-2.9**
	SNR=33						
GIVF	**Givet**	**1.58**	**308**	*e*Pn	**Pn**	**00 07 56.8**	**+0.7**
GIVF				*e*Pg	**Pg**	**00 07 58.3**	**0.0**
GIVF				*e*Sg	**Sg**	**00 08 19.6**	**+0.3**
	30nm,0.3s						
STU	**Stuttgart**	**1.66**	**102**	*e*Pg	**Pg**	**00 07 59.9**	**+0.1**
	SNR=1.6						
STU				*e*Sg	**Sg**	**00 08 19.9**	**-2.0**
	SNR=4.1						
DOU	**Dourbes**	**1.69**	**305**	P	**Pn**	**00 08 00.2**	**+2.4**
DOU				S	**Sb**	**00 08 21.7**	**+1.4**
HGN	**Heimansgroeve**	**1.71**	**342**	*e*Pg	**Pg**	**00 08 01.9**	**+1.1**
	14nm,0.2s						
HGN				*e*Sg	**Sg**	**00 08 23.3**	**-0.4**
BBS	**Basel-Blauen**	**1.75**	**163**	Pg	**Pg**	**00 08 02.1**	**+0.3**
LOMF	**Lomont**	**1.79**	**178**	Pg	**Pg**	**00 08 02.8**	**+0.3**
BAIF	**Baives**	**1.89**	**300**	*e*Pn	**Pn**	**00 08 01.3**	**+0.7**
BAIF				*e*Pg	**Pg**	**00 08 04.8**	**+0.3**
BAIF				*e*Sg	**Sg**	**00 08 29.4**	**-0.3**
	27nm,0.4s						
BUG	**Bochum--Univer**	**2.33**	**8**	*e*Sg	**Sg**	**00 08 42.5**	**-1.8**
	SNR=3.2						
CABF	**La Chapelle**	**2.57**	**190**	*e*Pn	**Pn**	**00 08 10.9**	**+0.6**
CABF				*e*Pg	**Pg**	**00 08 17.4**	**-0.7**
CABF				*e*Sg	**Sg**	**00 08 51.0**	**-1.3**
	22nm,0.7s						
UBBA	**Unterbreizbach**	**2.69**	**50**	*e*Sg	**Sg**	**00 08 52.7**	**-3.6**
	SNR=2.5						
SSF	**Saint Saulge**	**3.01**	**227**	*e*Pn	**Pn**	**00 08 16.9**	**+0.3**
SSF				*e*Pg	**Pg**	**00 08 25.4**	**-1.4**
SSF				*e*Sn	**Sn**	**00 08 51.6**	**-2.2**
SSF				*e*Sg	**Sg**	**00 09 04.4**	**-2.5**
	12nm,0.5s						
SSF	**Saint Saulge**	**3.01**	**227**	*e*Pg	**Pg**	**00 08 25.4**	**-1.4**
SSF				*e*Sn	**Sn**	**00 08 51.6**	**-2.2**
SSF				*e*Sg	**Sg**	**00 09 04.4**	**-2.5**
	6.0nm,0.5s						
SMF	**Signal de Mont**	**3.17**	**219**	*e*Pn	**Pn**	**00 08 18.4**	**-0.5**
SMF				*e*Pg	**Pg**	**00 08 28.1**	**-2.0**
SMF				*e*Sn	**Sn**	**00 08 55.0**	**-3.0**
SMF				*e*Sg	**Sg**	**00 09 10.6**	**-1.7**
	9.4nm,0.3s						
AVF	**Avril sur Loir**	**3.27**	**225**	*e*Pn	**Pn**	**00 08 20.0**	**-0.4**
AVF				*e*Pg	**Pg**	**00 08 30.8**	**-1.3**
AVF				*e*Sn	**Sn**	**00 08 58.2**	**-2.4**
AVF				*e*Sg	**Sg**	**00 09 13.4**	**-2.4**
	12nm,0.6s						
HYF	**Humbligny**	**3.32**	**237**	*e*Pn	**Pn**	**00 08 21.9**	**+0.8**
MOX	**Moxa**	**3.49**	**63**	*e*Pg	**Pg**	**00 08 35.1**	**-1.3**
MOX				*e*Sg	**Sg**	**00 09 15.6**	**-7.4**
	SNR=2.0						
CLZ	**Clausthal**	**3.56**	**39**	*e*Pn	**Pn**	**00 08 24.2**	**-0.2**
	SNR=1.8						
LPL	**La Plagne**	**3.63**	**180**	*e*Sg	**Sg**	**00 09 24.2**	**-3.3**
	2.7nm,0.4s						
LPL	**La Plagne**	**3.63**	**180**	*e*Pn	**Pn**	**00 08 26.4**	**+1.0**
LPL				*e*Pg	**Pg**	**00 08 37.0**	**-2.2**
LPL				*e*Sg	**Sg**	**00 09 24.2**	**-3.3**
LPL	**La Plagne**	**3.63**	**180**	*e*Pg	**Pg**	**00 08 37.0**	**-2.2**
LPL				*e*Sg	**Sg**	**00 09 24.2**	**-3.3**
	1.4nm,0.4s						
LPG	**La Plagne**	**3.65**	**180**	*e*Pn	**Pn**	**00 08 25.4**	**-0.2**
BGF	**Bois d'Agland**	**3.68**	**227**	*e*Pn	**Pn**	**00 08 26.4**	**+0.2**
BGF				*e*Sn	**Sn**	**00 09 07.6**	**-3.4**
BGF				*e*Sg	**Sg**	**00 09 26.4**	**-3.0**
	7.8nm,0.3s						
GUNZ	**Gunzen**	**3.82**	**69**	*e*Sg	**Sg**	**00 09 27.9**	**-6.1**
	SNR=3.1						
WERD	**Werda**	**3.83**	**68**	*e*Sg	**Sg**	**00 09 27.1**	**-7.2**
	SNR=3.1						
NKC	**Novy Kostel**	**3.86**	**71**	*e*SG	**Sg**	**00 09 28.8**	**-6.5**
TANN	**Tannenbergstha**	**3.92**	**69**	*e*Sg	**Sg**	**00 09 29.3**	**-7.9**
	SNR=3.7						
WET	**Wettzell**	**4.03**	**88**	*e*Sg	**Sg**	**00 09 33.5**	**-7.3**
	SNR=5.9						
TCF	**Toulx Ste Croi**	**4.18**	**229**	*e*Pn	**Pn**	**00 08 32.9**	**-0.4**
TCF				*e*Sg	**Sg**	**00 09 41.9**	**-4.2**
	4.7nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.26**	**188**	*e*Pn	**Pn**	**00 08 33.9**	**-0.5**
ORIF				*e*Sg	**Sg**	**00 09 44.0**	**-4.8**
	5.7nm,0.6s						
MBDF	**Montbardon**	**4.42**	**180**	*e*Sn	**Sn**	**00 09 24.7**	**-4.8**
	2.3nm,0.6s						
KHC	**Kasperske Hory**	**4.49**	**88**	*e*PN	**Pn**	**00 08 36.8**	**-0.8**
KHC				*ex*	x	00 08 44.0	
KHC				*e*SN	**Sn**	**00 09 26.0**	**-5.3**
KHC				*e*SG	**Sg**	**00 09 47.4**	**-8.7**
KHC	**Kasperske Hory**	**4.49**	**88**	*e*Pn	**Pn**	**00 08 36.8**	**-0.8**
KHC				*e*Sn	**Sn**	**00 09 26.0**	**-5.3**
KHC				*e*Sg	**Sg**	**00 09 47.4**	**-8.7**
VIVF	**Saint-Julien-l**	**4.51**	**199**	*e*Sg	**Sg**	**00 09 52.2**	**-4.9**
	4.7nm,0.6s						
CLL	**Collm**	**4.56**	**59**	*e*SG	**Sg**	**00 10 01.0**	**+2.2**
GEC2	**GERESS Array S**	**4.59**	**91**	*e*Pn	**Pn**	**00 08 38.5**	**-0.5**
	SNR=3.1						
GEC2				*e*Sn	**Sn**	**00 09 27.6**	**-6.3**
GEC2				*e*Sg	**Sg**	**00 09 50.6**	**-8.9**
	SNR=5.3						
BRG	**Berggiesshubel**	**4.96**	**67**	*e*Sg	**Sg**	**00 10 06.7**	**-5.0**
GRR	**Gorron**	**5.08**	**264**	*e*Pn	**Pn**	**00 08 45.0**	**-1.1**
GRR				*e*Sn	**Sn**	**00 09 41.5**	**-4.9**
MFF	**Saint Martin d**	**5.29**	**244**	*e*Pn	**Pn**	**00 08 47.9**	**-1.0**
CAF	**Calviac**	**5.29**	**219**	*e*Pn	**Pn**	**00 08 48.5**	**-0.5**
DPC	**Dobruska-Polom**	**6.33**	**75**	*e*SG	**Sg**	**00 10 47.5**	**-10**

CASC 25 00:13:17.0±2.1,12.45N×87.85W,h38km±999km,MD3.6, ML3.4,1C-2D,Near coast of Nicaragua

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

CASY	**Casey**	**61.53**	**206**	*e*P		**P**		**00 56 37.6**		**-0.4**
	2.3nm,0.5s,mb4.6									
TXAR	**Lajitas Array**	**87.58**	**56**	P		**P**		**00 59 13.9**		**+5.3**
	0.8nm,1.0s,mb3.9,baz=188,slow=6.4,SNR=6.1									
PDAR	**Pinedale Array**	**90.40**	**43**	P		**P**		**00 59 25.9**		**+4.3**
	1.0nm,0.9s,mb4.2,SNR=7.8									
BVAR	**Borovoye Array**	**122.80**	**319**	PKP		PKPdf		01 05 17.9		+3.0
	0.5nm,0.4s,baz=135,slow=2.1,SNR=4.5									
ARCES	**ARCESS Array B**	**132.65**	**350**	PKP		PKPdf		01 05 37.1		+3.8
	2.8nm,0.8s,baz=45,slow=3.4,SNR=5.9									
FINES	**FINESS Array B**	**139.59**	**344**	PKhKP				01 05 39.6		
	0.3nm,0.5s,baz=90,slow=3.8,SNR=3.7									
NOA	**NORSAR Array B**	**142.63**	**354**	PKhKP				01 05 49.9		
	0.6nm,0.9s,baz=20,slow=3.8,SNR=3.9									
NOA	**NORSAR Array B**	**142.63**	**354**	PKP		PKPdf		01 05 49.9		-1.5
HFS	**Hagfors**	**143.24**	**352**	PKhKP				01 05 53.2		
	2.4nm,0.6s,baz=72,slow=4.7,SNR=12									
AKASG	**Malin Array Be**	**146.86**	**330**	PKPbc		PKPbc		01 06 04.0		+3.5
	2.0nm,0.3s,baz=42,slow=4.0,SNR=11									
EKA	**Eskdalemuir Ar**	**148.29**	**8**	PKPbc		PKPdf		01 06 08.6		+7.4
	0.9nm,0.7s,baz=297,slow=3.7,SNR=4.2									
ASF	**Jabal al Asfar**	**149.76**	**293**	PKPbc		PKPdf		01 06 12.7		+8.4
	2.1nm,0.8s,baz=63,slow=7.5,SNR=5.5									
BRTR	**Keskin Array B**	**150.37**	**309**	PKPbc		PKPdf		01 06 13.9		+8.9
	1.8nm,0.9s,baz=148,slow=3.8,SNR=7.0									
BRTR				PKPab		PKPab		01 06 20.9		+2.0
	1.3nm,0.5s,baz=72,slow=3.9,SNR=6.5									
KSP	**Ksiaz**	**151.51**	**343**	*e*P		PKPdf		01 06 17.4		+11
EIL	**Elat**	**151.67**	**288**	PKP		PKPdf		01 06 10.8		+3.5
	4.6nm,1.1s,baz=169,slow=5.2,SNR=2.9									
EIL				PKPab		PKPab		01 06 25.6		+0.9
	5.6nm,0.8s,baz=268,slow=6.3,SNR=5.2									
CLL	**Collm**	**151.83**	**348**	*i* PKP1		PKPdf		01 06 17.8		+11
MLR	**Muntele Rosu**	**152.04**	**326**	PKPbc		PKPdf		01 06 17.9		+11
	0.7nm,0.5s,baz=159,slow=12,SNR=5.0									
MLR				PKPab		PKPab		01 06 28.1		+2.4
	1.1nm,0.5s,baz=165,slow=6.1,SNR=4.1									
BRG	**Berggiesshubel**	**152.05**	**346**	*e*P		PKPdf		01 06 18.8		+12

IDC ***25*** *00:45:41.0±3.6,31.51S×173.81W,mb4.0/2,mb1 4.3/3, mb1mx3.8/12,mbtmp4.1/3,ML4.2/1,Error ellipse: s-maj=100.7km s-min=51.2km az=135.0*

ISC 25 00:46:55.3±2.5,34.5S±0.3×179.7E±0.4,h331km±34km, **n13,σ0 42/16,mb3.2/2,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**3.75**	**198**			PN	**P**	**00 48 00.3**	**-0.7**
PUZ						SN	**S**	**00 48 52.2**	**-0.3**
MWZ	**Matawai**	**4.21**	**204**			PN	**P**	**00 48 06.0**	**+0.1**
MWZ						SN	**S**	**00 49 00.7**	**-0.5**
URZ	**Urewera**	**4.30**	**209**			Pn	**P**	**00 48 07.1**	**+0.3**
	1.9nm,0.3s,baz=64,slow=13,SNR=28								
URZ	**Urewera**	**4.30**	**209**			PN	**P**	**00 48 07.3**	**+0.5**
URZ						SN	**S**	**00 49 03.3**	**+0.4**
KNZ	**Kokohu**	**4.79**	**200**	*e*	P	N	**P**	**00 48 12.6**	**+0.4**
KNZ						SN	**S**	**00 49 12.5**	**-0.2**
BKZ	**Black Stump Fm**	**5.32**	**208**			PN	**P**	**00 48 18.7**	**+0.4**
BFZ	**Birch Farm**	**6.75**	**203**			PN	**P**	**00 48 35.2**	**+0.2**
MRZ	**Mangatainoka R**	**6.97**	**207**			PN	**P**	**00 48 37.6**	**0.0**
CAW	**Cannon Point**	**7.55**	**208**			PN	**P**	**00 48 44.5**	**0.0**
ASAR	**Alice Springs**	**41.17**	**273**	P		P	**P**	**00 54 10.6**	**+0.7**
	1.7nm,0.7s,mb3.4,baz=110,slow=7.5,SNR=17								
WB2	**Warramunga Arr**	**42.53**	**278**	*e*P		P	**P**	**00 54 20.2**	**-0.6**
WRA	**Warramunga Arr**	**42.54**	**278**	P		P	**P**	**00 54 20.5**	**-0.4**
	1.0nm,0.5s,mb3.2,baz=115,slow=7.8,SNR=4.7								
AKASG	**Malin Array Be**	**153.17**	**316**	PKPbc		PKPdf		01 05 42.7	-23
	1.0nm,0.5s,baz=31,slow=5.3,SNR=4.2								

BGS ***25*** *01:04:40.6,3.44N×95.86E,h33km,mb5.8*

MOS ***25*** *01:04:50.5±0.9,5.53N×94.42E,h32km,mb6.1/105, MS5.4/60,Error ellipse: s-maj=7.6km s-min=3.4km az=126.5*

BJI ***25*** *01:04:51.2,5.34N×94.27E,h52km,mB6.1,mb6.0,Ms5.8, Msz5.7*

NEIC ***25*** *01:04:53.0±0.1,5.49N×94.37E,h39km,mb5.9/149,ME5.5, MS5.7/140,MW5.7,Error ellipse: s-maj=3.9km s-min=2.3km az=208.0 Broadband fault plane solution: P waves. NP1:φs135°,δ70°,λ90°. NP2:φs315°,δ20°,λ90°. Principal axes: T Plg65°, Azm45°; N Plg0°, Azm0°; P Plg25°, Azm225°; Moment Tensor Solution. s39 Moment tensor: Scale 10¹⁷ Nm; Mrr3.60; Mθθ-2.26; Mφφ-1.34; Mrθ2.69; Mrφ1.53; Mθφ-2.85; Best double couple: Ms5.3×10¹⁷ NP1:φs301°,δ21°,λ78°. NP2:φs134°, δ69°,λ95°. Principal axes: T 5.38, Plg65°, Azm52°; N -.26, Plg4°, Azm312°; P -5.13, Plg24°, Azm220°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Banda Aceh.

HRVD ***25*** *01:04:53.0±0.1,5.30N×94.25E,h34km,MW5.8/81, Centroid moment Tensor Solution. LP body waves: s81,c176;Mantle waves: s79,c251; Half duration: 2s0 Moment tensor: Scale 10¹⁷Nm; Mrr4.68±.07; Mθθ-1.48±.06; Mφφ-3.20±.06; Mrθ3.59±.08; Mrφ2.95±.05; Mθφ-4.09±.09; Best double couple: Mo7.423×10¹⁷ NP1: φs328°,δ22°,λ97°. NP2:φs140°,δ69°,λ87°. Principal axes: T 7.067, Plg66°, Azm45°; N .713, Plg3°, Azm141°; P -7.78, Plg24°, Azm232°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***25*** *01:04:54.0±0.4,5.53N×94.47E,h49km,3km,mb5.3/25, mb1 5.4/25,mb1mx5.4/25,mbtmp5.6/25,MS5.3/23, Ms1 5.3/23,ms1mx5.3/30 Error ellipse: s-maj=15.0km s-min=8.4km az=48.0*

ISC 25 01:04:52.4±0.1,5.48N±0.02×94.39E±0.02,h48km, **h48**km±1.0km**:pP-P,n1072,σ0s96**/953,**mb5.9**/237, **MS5.6**/203,**332C-22D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.23**	**91**	*e*	Pn		**P**	**01 06 24.4**	**+0.3**
PBA	**Port Blair**	**6.35**	**345**	*e*	P		**P**	**01 06 22.2**	**-3.5**
PBA					eS		**S**	**01 07 36.3**	**-1.5**
SNG	**Songkhla**	**6.41**	**74**		P		**P**	**01 06 27.0**	**+0.3**
	1μm,1.0s								
IPM	**Ipoh**	**6.67**	**97**		P		**P**	**01 06 30.4**	**+0.1**
NNT	**Nongplab**	**8.81**	**36**		P		**P**	**01 07 02.5**	**+2.5**
NST	**Nakhon Sawan**	**11.59**	**29**	⇓	P		**P**	**01 07 41.0**	**+3.0**
	375nm,0.6s								
BDT	**Bhumibol Dam**	**12.53**	**21**		P		**P**	**01 07 57.0**	**+6.4**
	200nm,0.7s								
CM31	**Chiang Mai Arr**	**13.64**	**19**		Pn		**P**	**01 08 06.1**	**+0.8**
	679nm,0.8s								
CHG	**Chiang Mai**	**13.97**	**18**	⇑	P		**P**	**01 08 10.9**	**+1.2**
	150nm,1.0s								
CHRT	**Chiangrai**	**15.23**	**20**	⇑	P		**P**	**01 08 28.0**	**+1.9**
	3μm,0.9s								
MDRS	**Chennai**	**15.86**	**299**	*e*	P		**P**	**01 08 33.0**	**-1.1**
MDRS					eS		**S**	**01 11 10.0**	**-18**
VIS	**Vishakhapatnam**	**16.28**	**319**	*e*	P		**P**	**01 08 36.9**	**-2.5**
VIS					eS		**S**	**01 11 26.0**	**-12**
KSM	**Kuching**	**16.38**	**103**	*e*	P		**P**	**01 08 40.4**	**-0.3**
BWNR	**Bhubaneshwar**	**16.93**	**331**	*e*	P		**P**	**01 08 46.0**	**-1.5**
BWNR				*e*				01 08 51.5	
	comp=Z,516nm,1.0s								
BWNR					eS		**S**	**01 11 42.2**	**-11**
TRD	**Trivandrum**	**17.56**	**281**	*e*	P		**P**	**01 08 51.2**	**-4.4**
TRD					*i* S		**S**	**01 11 57.2**	**-10**
CAL	**Calcutta**	**17.94**	**342**	*e*	P		**P**	**01 08 58.4**	**-1.8**
CAL					eS		**S**	**01 12 23.1**	**+7.4**
AGT	**Agartala**	**18.54**	**351**	*i*	P		**P**	**01 09 06.0**	**-1.6**
AGT					*i* S		rx	01 10 49.0	
IMP	**Imphal**	**19.20**	**359**	*e*	P		**P**	**01 09 12.0**	**-3.1**
HYB	**Hyderabad**	**19.51**	**309**	⇑	eP		**P**	**01 09 18.5**	**-0.2**
HYB					eS		rx	01 09 52.0	
HYB	**Hyderabad**	**19.51**	**309**	⇑	*i* P		**P**	**01 09 18.5**	**-0.2**
HYB					*e*			01 12 38.0	
HYB					eS		**S**	**01 12 52.0**	**+1.1**
HYB					LR		LR		
	comp=Z,12nm,18.0s								
BOK	**Bokaro**	**19.96**	**337**	*i*	P		**P**	**01 09 23.5**	**0.0**
BOK					*i* S		**S**	**01 13 02.5**	**+2.1**
SHL	**Shillong**	**20.12**	**353**	*e*	P		**P**	**01 09 22.0**	**-3.1**
SHL					eS		**S**	**01 13 02.0**	**-1.4**
QIZ	**Qiongzhong**	**20.20**	**47**		P		**P**	**01 09 27.3**	**+1.3**
QIZ					XP			01 09 41.8	
QIZ					S		**S**	**01 13 03.3**	**-1.8**
QIZ					SS		SS	01 13 33.8	-2.0
QIZ					AMB		AMB		
	comp=Z,458nm,1.1s								
QIZ					LR		LR		
	comp=N,22μm,16.4s,MS5.8								
QIZ					LR		LR		
	comp=E,23μm,15.8s,MS5.8								
QIZ					LR		LR		
	comp=Z,24μm,19.3s,MS5.6								
QIZ	**Qiongzhong**	**20.20**	**47**	*e*	P		**P**	**01 09 26.2**	**+0.2**
	comp=Z,416nm,1.0s								
QIZ					LR		LR		
	comp=Z,25μm,20.0s,MS5.6								
BLSP	**Bilaspur**	**20.36**	**326**	*e*	P		**P**	**01 09 27.2**	**-0.5**
BLSP				*e*				01 09 33.1	
	comp=Z,1μm,1.3s								
BLSP				*i*	S		**S**	**01 13 15.0**	**+6.9**
KMI	**Kunming**	**21.11**	**21**		P		**P**	**01 09 37.3**	**+2.0**
KMI					AP			01 09 51.3	
KMI					XP			01 09 58.6	
KMI					PP		PP	01 10 02.4	+3.1
KMI					PPP		PPP	01 10 12.3	+3.4
KMI					S		**S**	**01 13 23.8**	**+1.4**
KMI					XS			01 13 46.8	
KMI					SS		SS	01 14 00.5	+2.9
KMI					SSS		SSS	01 14 15.3	+2.3
KMI					AMB		AMB		
	comp=Z,490nm,1.2s,mb5.7								
KMI					AMB		AMB		
	comp=Z,2μm,3.1s								
KMI					LR		LR		
	comp=N,12μm,18.8s,MS5.5								
KMI					LR		LR		
	comp=E,13μm,15.6s,MS5.5								
KMI					LR		LR		
	comp=Z,15μm,20.4s,MS5.4								
NGP	**Nagpur**	**21.54**	**318**	*e*	P		**P**	**01 09 40.8**	**+1.1**
NGP				*e*	S		**S**	**01 13 34.0**	**+3.5**
LATR	**Latur**	**21.64**	**308**	*e*	P		**P**	**01 09 42.1**	**+1.5**
KKM	**Kota Kinabalu**	**21.72**	**87**	⇑	*i* P		**P**	**01 09 41.6**	**+0.2**
KKM	**Kota Kinabalu**	**21.72**	**87**		P		**P**	**01 09 41.8**	**+0.3**
SLGI	**Shiliguri**	**21.86**	**346**	*e*	PG		**P**	**01 09 42.6**	**-0.2**
SLGI					eSG		rx	01 09 47.0	
GOA	**Goa**	**22.51**	**298**	*i*	P		**P**	**01 09 47.6**	**-1.9**
GOA				*i*	S		**S**	**01 13 49.4**	**+1.0**
KAD	**Karad**	**23.00**	**302**	*e*	P		**P**	**01 09 55.5**	**+1.3**
KAD				*e*				01 10 16.3	
	comp=Z,215nm,0.9s								
KAD				*i*	S		**S**	**01 14 01.2**	**+4.1**
JIRN	**Jiri**	**23.40**	**341**	*e*	P		**P**	**01 09 58.0**	**+0.1**
	comp=Z,235nm,0.5s,mb5.9								
TSM	**Tawau**	**23.42**	**92**		P		**P**	**01 09 59.1**	**+0.7**
BATP	**Bataraza**	**23.46**	**81**	*e*	P		**P**	**01 09 59.8**	**+1.2**
PKI	**Pulchoki**	**23.57**	**340**	*e*	P		**P**	**01 09 59.5**	**-0.1**
	comp=Z,596nm,0.7s,mb6.1								
DMN	**Daman**	**23.71**	**339**	*e*	P		**P**	**01 10 01.2**	**+0.2**
	comp=Z,1μm,0.7s,mb6.3								
KKN	**Kakani**	**23.82**	**340**	*e*	P		**P**	**01 10 01.8**	**-0.2**
	comp=Z,979nm,0.9s,mb6.2								
POO	**Poona**	**23.88**	**305**	*e*	P		**P**	**01 10 03.7**	**+1.1**
POO				*e*				01 10 08.8	
	comp=Z,120nm,1.4s								
POO				*i*	S		**S**	**01 14 22.0**	**+10**
VLK	**Valmikinagar**	**23.92**	**336**	*i*	P		**P**	**01 10 03.0**	**0.0**
VLK				*i*	S		rx	01 10 13.0	
GYA	**Guiyang**	**23.93**	**28**	⇑	*i* P		**P**	**01 10 04.5**	**+1.4**
GYA					AP			01 10 14.5	
GYA					XP			01 10 20.4	
GYA					PP		PP	01 10 39.0	+1.0
GYA					S		**S**	**01 14 14.8**	**+1.6**
GYA					XS			01 14 32.4	
GYA					AMB		AMB		
	comp=Z,580nm,0.8s,mb6.1								
GYA					AMB		AMB		
	comp=Z,4μm,7.8s								
GYA					LR		LR		
	comp=N,15μm,20.7s,MS5.6								
GYA					LR		LR		
	comp=E,13μm,18.3s,MS5.6								
GYA					LR		LR		
	comp=Z,23μm,20.4s,MS5.7								
BHPL	**Bhopal**	**24.07**	**319**	*e*	P		**P**	**01 10 06.4**	**+1.9**
BHPL				*e*				01 10 12.9	
	comp=Z,358nm,1.5s								
BHPL					eS		**S**	**01 14 21.2**	**+5.5**
GKN	**Gorkha**	**24.24**	**339**	*e*	P		**P**	**01 10 07.2**	**+1.1**
	comp=Z,1μm,0.7s,mb6.5								
LSA	**Lhasa**	**24.28**	**353**		P		**P**	**01 10 07.0**	**+0.5**
LSA					S		**S**	**01 14 21.9**	**+2.7**
LSA					AMB		AMB		
	comp=Z,3μm,6.6s								
LSA					LR		LR		
	comp=N,6μm,27.0s,MS5.1								
LSA					LR		LR		
	comp=E,7μm,27.0s,MS5.1								
LSA					LR		LR		
	comp=Z,11μm,27.0s,MS5.2								
LSA	**Lhasa**	**24.28**	**353**	*e*	P		**P**	**01 10 06.6**	**+0.1**
LSA					pmax		pmax		
	comp=Z,538nm,0.6s,mb6.2								
LSA					MLR		MLR		
	comp=Z,7μm,20.0s,MS5.2								
LSA	**Lhasa**	**24.28**	**353**	*e*	P		**P**	**01 10 06.5**	**0.0**
	comp=Z,538nm,0.6s,mb6.2								
LSA					LR		LR		
	comp=Z,7μm,20.0s,MS5.2								
KOLN	**Koldanda**	**24.43**	**336**	*e*	P		**P**	**01 10 08.8**	**+0.8**
	comp=Z,1μm,0.9s,mb6.4								
PPR	**Puerto Princes**	**24.49**	**78**	⇓	*i* P		**P**	**01 10 09.6**	**+0.9**
BOM	**Bombay**	**24.91**	**304**	*e*	P		**P**	**01 10 15.4**	**+2.7**
BOM					eS		**S**	**01 14 38.0**	**+8.1**
JHNI	**Jhansi**	**25.01**	**324**	*e*	P		**P**	**01 10 14.5**	**+0.9**
DGAR	**Diego Garcia**	**25.36**	**240**	*e*	P		**P**	**01 10 16.5**	**-0.5**
DGAR					pmax		pmax		
	comp=Z,1μm,1.4s,mb6.2								
DGAR					MLR		MLR		
	comp=Z,4μm,21.0s,MS4.9								
DGAR	**Diego Garcia**	**25.36**	**240**	*e*	P		**P**	**01 10 16.4**	**-0.6**
	comp=Z,1μm,1.4s,mb6.2								
DGAR					LR		LR		
	comp=Z,4μm,21.0s,MS4.9								
ENPP	**El Nido**	**25.40**	**75**	*e*	P		**P**	**01 10 14.6**	**-2.8**
HKC	**Hong Kong**	**25.40**	**47**	⇑	*i* P		**P**	**01 10 18.0**	**+0.7**
HKC					*i* S		**S**	**01 14 48.0**	**+10**
HKC	**Hong Kong**	**25.40**	**47**	*e*	P		**P**	**01 10 18.0**	**+0.7**
BUSP	**Coron**	**26.30**	**74**	*e*	P		**P**	**01 10 24.7**	**-1.1**
LUBP	**Lubang**	**26.75**	**70**	*e*	P		**P**	**01 10 29.6**	**-0.3**
CD2	**Chengdu**	**26.78**	**18**	⇑	*i* P		**P**	**01 10 28.6**	**-1.4**
CD2					PP		PP	01 11 12.5	-3.5
CD2					PPP		PPP	01 11 25.1	-3.0
CD2					S		**S**	**01 14 58.8**	**-1.9**
CD2					XS			01 15 19.3	
CD2					SS		SS	01 16 12.4	-3.1
CD2					AMB		AMB		
	comp=Z,70nm,1.0s,mb5.2								
CD2					AMB		AMB		
	comp=Z,1μm,3.5s								
CD2					LR		LR		
	comp=N,10μm,15.6s								
CD2					LR		LR		
	comp=Z,9μm,15.6s,MS5.5								
CUYO	**Cuyo Island**	**26.88**	**77**	*e*	P		**P**	**01 10 30.8**	**-0.3**
SCZP	**Santa Cruz**	**27.05**	**66**	*e*	P		**P**	**01 10 34.7**	**+2.1**
SJMP	**San Jose**	**27.28**	**73**	*e*	P		**P**	**01 10 36.2**	**+1.5**
LGTI	**Lohaghat**	**27.33**	**332**	⇓	*i* P		**P**	**01 10 35.5**	**+0.4**
LGTI					eS		rx	01 13 55.0	
PTH	**Pithoragarh**	**27.43**	**332**	*e*	P		**P**	**01 10 35.5**	**-0.5**
PTH					eS		rx	01 15 39.3	
PCPH	**Palayan**	**28.06**	**67**	⇑	eP		**P**	**01 10 41.5**	**-0.3**
OTRP	**Odiongan**	**28.12**	**74**	*e*	P		**P**	**01 10 42.7**	**+0.3**
AJM	**Ajmer**	**28.13**	**320**	*i*	P		**P**	**01 10 43.0**	**+0.6**
BOAC	**Boac**	**28.19**	**72**	*e*	P		**P**	**01 10 42.1**	**-0.8**
NDI	**New Delhi**	**28.24**	**327**	*e*	P		**P**	**01 10 42.0**	**-1.3**
NDI					eS		**S**	**01 15 15.0**	**-9.2**
GUIM	**Jordan**	**28.37**	**78**	*e*	P		**P**	**01 10 44.4**	**-0.2**
ABRA	**Dolores**	**28.43**	**63**	*e*	P		**P**	**01 10 42.7**	**-2.3**
ENH	**Enshi**	**28.47**	**28**	⇑	eP		**P**	**01 10 44.2**	**-1.1**
	comp=Z,278nm,0.7s,mb6.0								
ENH					eS		**S**	**01 15 27.8**	**0.0**
ENH					LR		LR		
	comp=Z,25μm,20.0s,MS5.8								
BALP	**Baler**	**28.56**	**67**	*e*	P		**P**	**01 10 47.6**	**+1.3**
POLP	**Polilio Island**	**28.60**	**69**	*e*	P		**P**	**01 10 46.0**	**-0.7**
RCP	**Roxas**	**28.67**	**76**	⇑	eP		**P**	**01 10 48.0**	**+0.8**
SNPH	**Sibulan**	**28.85**	**81**	*e*	P		**P**	**01 10 50.0**	**+1.1**
PAGZ	**Pagadian**	**28.89**	**84**	*e*	P		**P**	**01 10 50.8**	**+1.7**
DCPH	**Dipolog City**	**28.90**	**82**	*e*	P		**P**	**01 10 50.1**	**+0.8**
AUQP	**San Andres**	**28.95**	**72**	*e*	P		**P**	**01 10 50.7**	**+1.1**
APYP	**Conner**	**28.98**	**63**	*e*	P		**P**	**01 10 50.6**	**+0.7**
DDI	**Dehra Dun**	**29.11**	**330**	*e*	P		**P**	**01 10 50.5**	**-0.5**
DDI					eS		**S**	**01 15 48.1**	**+10**
CAUP	**Cauayan**	**29.17**	**65**	*e*	P		**P**	**01 10 52.8**	**+1.1**
CVP	**Callao Caves**	**29.43**	**63**	⇓	*e* P		**P**	**01 10 55.0**	**+1.0**
LLP	**Lapu-Lapu**	**29.67**	**79**	⇓	eP		**P**	**01 10 56.8**	**+0.7**
PALP	**Palanan**	**29.75**	**65**	*e*	P		**P**	**01 10 46.1**	**-11**
QZH	**Quanzhou**	**30.22**	**48**	⇑	*i* P		**P**	**01 11 02.5**	**+1.5**
QZH						S	S	**01 15 55.5**	**-0.2**
QZH						AMB	AMB		
	comp=Z,680nm,1.4s,mb6.2								
QZH						AMB	AMB		
	comp=Z,3μm,2.8s,mb6.5								
QZH						LR	LR		
	comp=N,13μm,15.0s,MS5.9								
QZH						LR	LR		
	comp=E,15μm,12.7s,MS5.9								
QZH						LR	LR		
	comp=Z,36μm,18.2s								
PVCP	**Virac**	**30.41**	**72**	*e*	P		**P**	**01 11 02.1**	**-0.6**
MSLP	**Maasin**	**30.52**	**79**	*e*	P		**P**	**01 10 58.9**	**-4.8**
BUKP	**Musuan**	**30.55**	**84**	*e*	P		**P**	**01 11 03.9**	**-0.1**
SDNR	**Sundarnagar**	**30.61**	**330**	*e*	P		**P**	**01 11 04.1**	**-0.2**
CNP	**Catarman**	**30.68**	**75**	*e*	P		**P**	**01 11 05.1**	**0.0**
BHK	**Bhakra**	**30.82**	**329**	*e*	P		**P**	**01 11 06.6**	**+0.4**
DAV	**Davao City (W)**	**31.04**	**85**	⇑	eP		**P**	**01 11 10.5**	**+2.2**
BUTP	**Butuan**	**31.17**	**82**	*e*	P		**P**	**01 11 08.9**	**-0.5**
WHN	**Wuhan**	**31.21**	**35**	⇑	P		**P**	**01 11 10.0**	**+0.3**
WHN					LR		LR		
	comp=Z,40μm,15.5s,MS6.2								
BESP	**Borongan**	**31.28**	**77**	*e*	P		**P**	**01 11 10.0**	**-0.4**
XAN	**Xi'an**	**31.45**	**24**		P		**P**	**01 11 10.5**	**-1.2**
XAN					PP		PP	01 12 17.3	+0.6
XAN					AMB		AMB		
	comp=Z,328nm,0.7s,mb6.3								
XAN					LR		LR		
	comp=N,10μm,19.9s,MS5.7								
XAN					LR		LR		
	comp=E,9μm,16.9s,MS5.7								
XAN					LR		LR		
	comp=Z,17μm,19.9s,MS5.7								
PONG	**Pong**	**31.49**	**329**	*e*	P		**P**	**01 11 12.0**	**-0.1**
PONG					eS			01 16 49.0	
LZH	**Lanzhou**	**31.67**	**15**	⇑	P		**P**	**01 11 12.8**	**-0.9**
LZH					AP		pP	01 11 26.0	-0.3
LZH					XP		sP	01 11 32.0	-0.3
LZH					PP		PP	01 12 23.0	+3.5
LZH					PCP		PcP	01 14 06.8	+2.0
LZH					S		**S**	**01 16 22.3**	**+3.8**
LZH					XS			01 16 38.0	
LZH					PCS			01 17 51.0	
LZH					AMB		AMB		
	comp=Z,480nm,1.0s,mb6.3								
LZH					AMB		AMB		
	comp=Z,3μm,4.0s								
LZH					LR		LR		
	comp=E,10μm,14.3s								
LZH					LR		LR		
	comp=Z,23μm,21.4s								
DLH	**Dalhousie**	**31.95**	**330**	*e*	P		**P**	**01 11 16.0**	**-0.1**
DLH					eS		PcP	01 14 07.0	+1.5
TATO	**Taipei**	**32.42**	**50**	*e*	P		**P**	**01 11 20.8**	**+0.5**
	comp=Z,160nm,0.8s,mb5.9								
TATO					LR		LR		
	comp=Z,11μm,20.0s,MS5.6								
GTA	**Gaotai**	**34.13**	**7**		P		**P**	**01 11 34.0**	**-0.9**
GTA					AP		pP	01 11 46.8	-0.9
GTA					XP		sP	01 11 51.4	-2.3
GTA					PP		PP	01 12 47.6	-2.8
GTA					PCP		PcP	01 14 12.9	+1.4
GTA					S		**S**	**01 16 51.5**	**-5.1**
GTA					PCS			01 17 58.9	
GTA					SCS		ScS	01 21 54.5	+2.6
GTA					AMB		AMB		
	comp=Z,86nm,1.0s,mb5.6								
GTA					AMB		AMB		
	comp=Z,2μm,8.4s								
GTA					LR		LR		
	comp=N,6μm,23.2s,MS5.3								
GTA					LR		LR		
	comp=E,4μm,24.3s,MS5.3								
GTA					LR		LR		
	comp=Z,7μm,23.9s,MS5.3								
NJ2	**Nanjing**	**34.96**	**38**	*e*	P		**P**	**01 11 42.6**	**+0.5**
NJ2					AP		pP	01 11 54.5	-0.4
NJ2					XP		sP	01 11 58.8	-2.1
NJ2					PP		PP	01 13 03.3	+2.1
NJ2					S		**S**	**01 17 11.0**	**+1.5**
NJ2					XS			01 17 29.0	
NJ2					AMB		AMB		
	comp=Z,1μm,1.0s,mb6.7								
NJ2					AMB		AMB		
	comp=Z,1μm,4.5s	

comp=Z,2µm,3.8s
HHC LR LR
comp=N,12µm,19.6s,MS5.8
HHC LR LR
comp=E,7µm,18.4s,MS5.8
HHC LR LR
comp=Z,12µm,19.6s,MS5.7
WMQ Urumqi 38.64 352⇑ *i*P **P 01 12 13.4 +0.5**
WMQ AP pP 01 12 26.3 +0.6
WMQ XP sP 01 12 31.0 -0.6
WMQ PP PP 01 13 47.0 +1.5
WMQ PCP PcP 01 14 25.0 0.0
WMQ S **S 01 18 06.0 +0.3**
WMQ XS 01 18 27.5
WMQ SS SS 01 20 49.0 +0.2
WMQ SCS ScS 01 22 18.0 +1.2
WMQ AMB AMB
comp=Z,314nm,0.8s,mb6.1
WMQ AMB AMB
comp=Z,2µm,4.2s
WMQ LR LR
comp=N,8µm,18.0s,MS5.8
WMQ LR LR
comp=E,9µm,20.0s,MS5.8
WMQ LR LR
comp=Z,12µm,26.0s
JOW Kunigami 38.64 53 P **P 01 12 13.2 +0.2**
comp=Z,278nm,0.7s,mb6.1,baz=243,slow=4.4
JOW PcP PcP 01 14 25.1 0.0
comp=Z,31nm,0.5s,baz=225,slow=7.1,SNR=3.7
FITZ Fitzroy Crossi 38.72 128⇑ *i*P **P 01 12 12.5 -1.3**
comp=Z,214nm,0.8s,mb5.9
FITZ *e*S **S 01 18 04.8 -2.4**
FITZ *e*SCS ScS 01 22 19.7 +2.1
FITZ Fitzroy Crossi 38.72 128 P **P 01 12 12.7 -1.2**
baz=329,slow=9.4
FITZ PcP PcP 01 14 24.9 -0.6
comp=Z,19nm,0.5s,baz=8.4,slow=3.5,SNR=2.6
FITZ LR LR 01 30 04.2
comp=Z,5µm,19.6s,MS5.4,baz=288,slow=39
SMDO Samad 39.15 300 P **P 01 12 19.7 +2.4**
SNR=7.8
BIDO Bidbid 39.25 301 P **P 01 12 21.1 +2.9**
SNR=9.0
BJT Baijiatuau 39.58 27 *e*P **P 01 12 21.4 +0.6**
BJT pmax pmax
comp=Z,557nm,1.0s
BJT MLR MLR
comp=Z,13µm,21.0s
BJT Baijiatuau 39.58 27 *e*P **P 01 12 21.4 +0.7**
comp=Z,556nm,1.0s,mb6.2
BJT LR LR
comp=Z,13µm,21.0s,MS5.8
BJI Beijing 39.60 27 *e*P **P 01 12 22.3 +1.4**
BJI AP pP 01 12 33.5 -0.3
BJI PP PP 01 13 53.1 -3.1
BJI S **S 01 18 17.8 -2.4**
BJI AMB AMB
comp=Z,526nm,1.0s,mb6.2
BJI AMB AMB
comp=Z,3µm,3.3s
BJI LR LR
comp=N,8µm,20.1s,MS5.6
BJI LR LR
comp=E,5µm,21.0s,MS5.6
BJI LR LR
comp=Z,9µm,26.4s
BSY Bisya 39.78 299 P **P 01 12 25.2 +2.6**
SNR=15
ULHL Ulahol 40.01 339 P **P 01 12 24.7 +0.5**
SNR=221
KZA Kyzart 40.23 338 P **P 01 12 26.9 +0.8**
SNR=74
UCH Uchtor 40.64 337 P **P 01 12 30.4 +1.0**
SNR=147
AAA Alma-Ata 40.67 340 *e*P **P 01 12 30.0 +0.3**
AAA *e* 01 14 05.0
AAA MLR MLR
comp=Z,2µm,18.0s,MS5.0
TKM2 Tokmak 2 40.83 339 P **P 01 12 31.7 +0.6**
SNR=91
KBK Karagaybulak 40.84 338 P **P 01 12 32.3 +1.2**
SNR=267
AML Almayashu 40.88 336 P **P 01 12 32.5 +1.0**
SNR=467
AAK Ala-Archa 40.99 337 P **P 01 12 34.2 +1.8**
SNR=75
AAK Ala-Archa 40.99 337 P **P 01 12 32.5 +0.1**
comp=Z,695nm,0.8s,mb6.3
AAK Ala-Archa 40.99 337*c* *i*P **P 01 12 32.4 0.0**
AAK pmax pmax
comp=Z,145nm,1.3s,mb5.5
AAK MLR MLR
comp=Z,9µm,23.0s,MS5.5
AAK Ala-Archa 40.99 337⇑ *i*P **P 01 12 32.0 -0.3**
comp=Z,227nm,1.0s,mb5.8
AAK *e*PP PP 01 14 06.5 -3.8
AAK LR LR
comp=Z,2µm,20.0s,MS4.9
RBK Rabkut 41.05 290 P **P 01 12 35.1 +1.9**
SNR=7.3
FRU Bishkek 41.12 338 *i* P **P 01 12 35.0 +1.6**
FRU *i* pP 01 12 49.0 +2.7
FRU pmax pmax
comp=Z,440nm,2.0s,mb5.7
FRU MLR MLR
comp=Z,7µm,20.0s,MS5.5
CHMS Chumysh 41.21 338 P **P 01 12 34.4 +0.2**
SNR=57
EKS2 Erkin-Say 41.29 337 P **P 01 12 35.8 +0.9**
SNR=162
DL2 Dalian 41.41 33 ⇑P **P 01 12 36.4 +0.5**
DL2 AP pP 01 12 48.9 +0.1
DL2 PP PP 01 14 16.6 +1.6
DL2 S **S 01 18 51.1 +3.9**
DL2 AMB AMB
comp=Z,200nm,0.7s,mb5.9
DL2 AMB AMB
comp=Z,900nm,4.9s
DL2 LR LR
comp=N,4µm,20.1s,MS5.4
DL2 LR LR
comp=E,3µm,18.3s,MS5.4
DL2 LR LR
comp=Z,5µm,19.4s,MS5.4
USP Ospenovka 41.53 338 P **P 01 12 37.2 +0.3**
SNR=249
WHFO Wadi Hawf 41.55 291 P **P 01 12 38.6 +1.3**
SNR=27
ABTO Aybut 41.87 290 P **P 01 12 41.6 +1.6**
SNR=13
KAKA Kakadu 41.91 116⇑ *i*P **P 01 12 38.4 -1.9**
comp=Z,84nm,0.6s,mb5.5
MKAR Makanchi Array 42.46 348 *i* P **P 01 12 44.4 -0.1**
KLBR Kellerberrin 43.08 150 *e*P **P 01 12 49.4 -0.3**
comp=Z,363nm,0.8s,mb6.2
INCN Inchon 43.34 38 *e*P **P 01 12 50.8 -1.0**
comp=Z,135nm,0.9s,mb5.7
INCN LR LR
comp=Z,15µm,19.0s,MS5.9
SONM Songino Array 43.43 12 P **P 01 12 51.7 -0.7**
comp=Z,214nm,0.9s,mb5.9,baz=198,slow=5.6,SNR=267
SONM PcP PcP 01 14 39.3 -1.2
comp=Z,36nm,0.6s,baz=191,slow=3.4,SNR=13
SONM pPcP 01 14 52.8
comp=Z,24nm,0.8s,baz=195,slow=3.5,SNR=5.8
SONM LR LR 01 33 08.0
comp=Z,7µm,21.3s,MS5.6,baz=196,slow=39
SONM PKPPKP 01 44 21.3
comp=Z,1.2nm,1.2s,baz=90,slow=1.2,SNR=4.5
ULN Ulaanbaatar 43.60 12⇑ *e*P **P 01 12 53.2 -0.5**
ULN *e* 01 14 40.9
ULN pmax pmax
comp=Z,145nm,1.0s,mb5.7
ULN MLR MLR
comp=Z,5µm,19.0s,MS5.5
ULN Ulaanbaatar 43.60 12⇑ *e*P **P 01 12 53.1 -0.6**
comp=Z,145nm,1.0s,mb5.7
ULN *e*PcP PcP 01 14 40.9 -0.2
ULN *e*ScP 01 18 28.4
ULN LR LR
comp=Z,5µm,19.0s,MS5.5
NWAO Narrogin (SRO) 43.92 152 *e*P **P 01 12 56.0 -0.6**
NWAO pmax pmax
comp=Z,48nm,0.8s
NWAO MLR MLR
comp=Z,3µm,20.0s
NWAO Narrogin (SRO) 43.92 152 P **P 01 12 55.6 -0.9**
comp=Z,26nm,0.9s,baz=325,slow=13,SNR=8.4
NWAO LR LR 01 31 41.4
comp=Z,19nm,20.2s,baz=338,slow=37
NWAO Narrogin (SRO) 43.92 152 *e*P **P 01 12 56.0 -0.5**
comp=Z,48nm,0.8s,mb5.3
NWAO LR LR
comp=Z,3µm,20.0s,MS5.2
KS15 Wonju Array Si 44.09 39 *e*P **P 01 12 58.2 +0.4**
SNY Shenyang 44.55 31 ⇑P **P 01 13 01.5 0.0**
SNY S **S 01 19 33.8 +0.7**
SNY AMB AMB
comp=Z,110nm,0.7s,mb5.8
SNY LR LR
comp=N,7µm,18.0s,MS5.7
SNY LR LR
comp=E,5µm,18.6s,MS5.7
SNY LR LR
comp=Z,9µm,18.6s,MS5.7
ZAK Zakamensk 45.37 8⇓ *i*P **P 01 13 07.4 -0.5**
ZAK pmax pmax
comp=Z,70nm,1.7s,mb5.2
MOY Mondy 46.36 6 *e*P **P 01 13 15.3 -0.4**
MOY pmax pmax
comp=Z,167nm,2.8s,mb5.5
TLY Talaya 46.69 8 *e*P **P 01 13 18.4 +0.2**
TLY *e*S **S 01 20 03.5 +0.1**
TLY *e*SS SS 01 23 06.7 -16
TLY pmax pmax
comp=Z,129nm,1.0s,mb5.8
TLY MLR MLR
comp=Z,6µm,19.0s,MS5.6
TLY Talaya 46.69 8⇑ *e*P **P 01 13 18.3 +0.1**
comp=Z,95nm,0.9s,mb5.7
TLY *e*PcP PcP 01 14 51.5 -0.2
TLY *e*ScP 01 18 40.5
TLY LR LR
comp=Z,2µm,20.0s,MS5.0
WRA Warramunga Arr 46.70 124 P **P 01 13 18.0 -0.8**
comp=Z,243nm,0.8s,mb6.2,baz=303,slow=9.0,SNR=364
WRA pP pP 01 13 30.5 -1.3
comp=Z,266nm,0.9s,baz=302,slow=9.3,SNR=14
WRA P4KPbc 01 51 03.8
comp=Z,1.0nm,0.9s,baz=302,slow=3.9,SNR=5.1
WRAB Tennant Creek 46.71 124 P **P 01 13 18.3 -0.5**
comp=Z,2µm,0.9s
WRAB Tennant Creek 46.71 124⇑ *e*P **P 01 13 18.3 -0.5**
WRAB *e**PP pP 01 13 31.5 -0.4
WRAB *e*S **S 01 20 02.8 -1.3**
WRAB pmax pmax
comp=Z,697nm,1.0s,mb6.5
WRAB MLR MLR
comp=Z,1µm,21.0s,MS4.9
WRAB Tennant Creek 46.71 124⇑ *e*P **P 01 13 18.3 -0.6**
comp=Z,697nm,1.0s,mb6.5
WRAB *e*pP pP 01 13 31.5 -0.4
WRAB *e*S **S 01 20 02.8 -1.4**
WRAB LR LR
comp=Z,1µm,21.0s,MS4.9
WB2 Warramunga Arr 46.71 124⇑ *i*P **P 01 13 18.2 -0.7**
WB2 *e*S **S 01 20 03.3 -0.9**
WB2 *e*SCS ScS 01 23 08.4 +1.8
CN2 Changchun 46.93 31 *e*P **P 01 13 19.9 -0.3**
CN2 PCP PcP 01 14 51.5 -1.2
CN2 PP PP 01 15 10.4 -0.2
CN2 SS SS 01 23 29.8 +2.9
CN2 AMB AMB
comp=Z,260nm,0.8s,mb6.2
CN2 AMB AMB
comp=Z,2µm,4.0s
CN2 LR LR
comp=N,7µm,17.0s,MS5.8
CN2 LR LR
comp=E,6µm,17.0s,MS5.8
CN2 LR LR
comp=Z,7µm,18.0s,MS5.7
KURK Kurchatov 46.98 346⇑ *i*P **P 01 13 20.8 +0.3**
KURK *e*S **S 01 20 09.3 +1.7**
KURK pmax pmax
comp=Z,388nm,0.8s,mb6.4
KURK MLR MLR
comp=Z,1µm,21.0s,MS4.9
KURK Kurchatov 46.98 346⇑ *i*P **P 01 13 20.8 +0.2**
comp=Z,388nm,0.8s,mb6.4
KURK *e*S **S 01 20 09.3 +1.7**
KURK LR LR
comp=Z,1µm,21.0s,MS4.9
IRK Irkutsk 47.32 8 *e*P **P 01 13 22.7 -0.6**
IRK *e* 01 14 46.5
IRK pmax pmax
comp=Z,382nm,2.1s,mb6.0
ASPA Alice Springs 48.22 129⇑ *i*P **P 01 13 29.8 -0.8**
ASPA *e*S **S 01 20 23.2 -2.2**
ASPA *e*SCS ScS 01 23 18.7 +2.3
ASAR Alice Springs 48.22 129 P **P 01 13 29.4 -1.2**
comp=Z,72nm,0.8s,mb5.8,baz=301,slow=7.4,SNR=698
ASAR pP pP 01 13 43.7 0.0
comp=Z,102nm,0.8s,baz=302,slow=8.0,SNR=12
ASAR LR LR 01 38 05.1
comp=Z,2µm,18.8s,MS5.1,baz=299,slow=41
ASAR PKPPKP 01 44 19.7
comp=Z,0.7nm,1.0s,baz=77,slow=3.1,SNR=4.2
ASAR P4KPbc 01 51 09.6
comp=Z,0.4nm,0.7s,baz=307,slow=4.4,SNR=5.7
FORT Forrest 48.34 140 *e*P **P 01 13 31.2 -0.3**
comp=Z,2µm,0.7s
FORT *e*S **S 01 20 26.9 -0.1**
HIA Hailar 48.62 22 P **P 01 13 33.2 -0.2**
HIA Hailar 48.62 22⇑ *e*P **P 01 13 32.9 -0.5**
HIA *e* 01 14 58.5
HIA *e* 01 15 26.8
HIA pmax pmax
comp=Z,199nm,0.9s
HIA MLR MLR
comp=Z,21µm,20.0s
HIA Hailar 48.62 22⇑ *e*P **P 01 13 32.9 -0.5**
comp=Z,199nm,0.9s,mb6.1
HIA *e*PcP PcP 01 14 58.5 -0.2
HIA *e*PP PP 01 15 26.8 +0.4
HIA LR LR
comp=Z,21µm,20.0s,MS6.1
ZAL Zalesovo 48.94 352 P **P 01 13 35.8 0.0**
comp=Z,211nm,0.6s,mb6.4,baz=310,slow=5.7,SNR=740
ZAL pP pP 01 13 49.3 +0.5
comp=Z,92nm,0.6s,baz=345,slow=9.4,SNR=7.6
MDJ Mudanjiang 49.66 33 P **P 01 13 41.9 +0.5**
MDJ AP pP 01 13 50.8 -3.8
MDJ SCP 01 18 48.1
MDJ PCS 01 18 53.5
MDJ AMB AMB
comp=Z,231nm,1.3s,mb6.0
MDJ AMB AMB
comp=Z,1µm,4.7s
MDJ LR LR
comp=N,5µm,17.2s,MS5.8
MDJ LR LR
comp=E,5µm,16.4s,MS5.8
MDJ LR LR
comp=Z,7µm,18.0s,MS5.7
MDJ Mudanjiang 49.66 33⇑ *e*P **P 01 13 41.8 +0.3**
comp=Z,351nm,1.3s,mb6.2
MDJ LR LR
comp=Z,7µm,20.0s,MS5.6
VLA Vladivostok 49.99 36⇓ *i*P **P 01 13 43.0 -1.0**
VLA *i* pP 01 13 55.0 -2.2
VLA *i* 01 15 40.0
VLA pmax pmax
comp=Z,2µm,4.0s
VLA pmax pmax
comp=N,1µm,4.4s
VLA pmax pmax
comp=E,1µm,6.0s
VLA pmax pmax
comp=Z,2µm,10.0s
VLA pmax pmax
comp=E,500nm,7.0s
VLA MLR MLR
comp=Z,17µm,17.0s,MS6.1
VLA MLR MLR
comp=N,8µm,18.0s,MS6.0
VLA MLR MLR
comp=E,9µm,16.0s,MS6.0
NVS Novosibirsk 50.03 352⇑ *i*P **P 01 13 43.1 -1.1**
NVS *i* *PP pP 01 13 55.6 -1.7
NVS *i* S **S 01 20 45.5 -4.8**
NVS *e* 01 23 25.6
NVS pmax pmax
comp=E,207nm,1.0s
NVS pmax pmax
comp=Z,400nm,1.0s,mb6.4
NVS pmax pmax
comp=N,308nm,1.1s
NVS smax
comp=N,214nm,1.8s
NVS smax
comp=E,138nm,1.8s
GUMO Guam 50.34 77 PFAKE 01 14 00.0 +13
GUMO LR LR
comp=Z,3µm,22.0s,MS5.2
MAJO Matsushiro 50.60 46 *e*P **P 01 13 48.7 -0.1**
MAJO pmax pmax
comp=Z,414nm,1.8s,mb6.1
MAJO MLR MLR
comp=Z,8µm,20.0s,MS5.7
MAJO Matsushiro 50.60 46 *e*P **P 01 13 48.7 -0.1**
comp=Z,414nm,1.8s,mb6.1
MAJO LR LR
comp=Z,8µm,20.0s,MS5.7
MAT Matsushiro 50.60 46 *e*P **P 01 13 48.0 -0.8**
MAT pmax pmax
comp=Z,495nm,1.8s,mb6.1
MAT MLR MLR
comp=Z,9µm,22.0s,MS5.8
MAT Matsushiro 50.60 46 *e*P **P 01 13 48.0 -0.8**
comp=Z,496nm,1.8s,mb6.1
MAT *e*S S 01 21 28.0 +30
MAT LR LR
comp=Z,9µm,22.0s,MS5.8
MAT Matsushiro 50.60 46 P **P 01 13 48.2 -0.6**
MAT S **S 01 21 16.0 +18**
BVA0 Borovoye Array 51.32 342 P **P 01 13 53.2 -0.8**
BVAR Borovoye Array 51.32 342 P **P 01 13 53.2 -0.8**
comp=Z,148nm,0.7s,mb6.0,baz=144,slow=9.5,SNR=404
BVAR pP pP 01 14 06.6 -0.6
comp=Z,98nm,0.8s,baz=146,slow=13,SNR=5.3
CHKZ Chkalovo 51.81 342⇑ *e*P **P 01 13 57.2 -0.4**
CHKZ *e**PP pP 01 14 08.8 -2.0
CHKZ pmax pmax
comp=Z,466nm,0.7s,mb6.5
CHKZ Chkalovo 51.81 342⇑ *e*P **P 01 13 57.1 -0.5**
comp=Z,466nm,0.7s,mb6.5
CHKZ *e*pP pP 01 14 08.8 -2.0
KLR Kul'dur 53.82 30⇓ *i*P **P 01 14 09.2 -3.5**
KLR *e* pP 01 14 22.8 -3.2
KLR *e*S **S 01 21 40.0 -2.2**
KLR *e* 01 25 26.0
KLR pmax pmax
comp=N,700nm,7.5s
KLR pmax pmax
comp=E,800nm,7.5s
KLR pmax pmax
comp=Z,2µm,7.5s
KLR MLR MLR
comp=Z,4µm,14.0s,MS5.7
BHD Baghdad 54.00 307 *e*P **P 01 14 05.0 -9.2**
BHD *e*S **S 01 21 36.0 -8.9**
BOD Bodaibo 54.41 13⇑ *i*P **P 01 14 16.2 -0.7**
BOD pmax pmax
comp=Z,346nm,1.2s,mb6.2
PMG Port Moresby 54.62 106⇑ *e*P **P 01 14 17.7 -1.3**
PMG *e**PP pP 01 14 30.6 -1.8
PMG pmax pmax
comp=Z,119nm,0.8s
PMG MLR MLR
comp=Z,2µm,19.0s
PMG Port Moresby 54.62 106⇑ *e*P **P 01 14 17.6 -1.4**
comp=Z,119nm,0.8s,mb6.0
PMG *e*pP pP 01 14 30.6 -1.8
PMG *e*ScP 01 19 15.5
PMG LR LR
comp=Z,2µm,19.0s,MS5.1
MAK Makhachkala 55.67 320 *e*P **P 01 14 23.0 -3.3**
MAK *e* 01 15 24.0
MAK *e*S **S 01 22 04.0 -3.2**
MAK *i* 01 24 10.0
MAK pmax pmax
comp=Z,2µm,7.0s
MAK smax
comp=N,2µm,5.0s
MSL Mosul 56.03 311 *e*P **P 01 14 28.5 -0.4**
MSL *e*pP pP 01 14 42.0 -0.3
MSL *e*PcP PcP 01 15 06.0 -21
MSL *e*S **S 01 22 06.0 -6.0**
GNI Garni 56.29 315*c* *i*P **P 01 14 30.1 -0.6**
GNI pmax pmax
comp=Z,191nm,1.9s
GNI Garni 56.29 315 P **P 01 14 29.5 -1.2**
comp=Z,23nm,0.7s,mb5.3,baz=240,slow=5.8,SNR=25
GNI Garni 56.29 315⇑ *i*P **P 01 14 29.9 -0.8**
comp=Z,61nm,0.8s,mb5.7
GNI LR LR
comp=Z,2µm,21.0s,MS5.1
CLNS Chul'man 56.59 20 *e*P **P 01 14 32.1 -0.5**
CLNS *e**PP pP 01 14 39.9 -6.1
CLNS *e* 01 15 27.7
CLNS *e* 01 16 35.0
CLNS *e*S **S 01 22 17.7 -1.4**
CLNS *e*PS PS 01 22 45.1 +6.8
CLNS *e* 01 24 21.0
CLNS *e*SSS SSS 01 28 15.7 -4.5
CLNS pmax pmax
comp=E,71nm,0.9s
CLNS pmax pmax
comp=Z,152nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,66nm,0.8s
CLNS pmax pmax
comp=Z,11nm,1.0s,mb4.8
CLNS pmax pmax
comp=N,15nm,0.6s
CLNS pmax pmax
comp=E,13nm,0.8s
CLNS smax
comp=N,15nm,1.2s
CLNS smax
comp=E,8.0nm,1.1s
CLNS MLR MLR
comp=Z,9µm,20.0s,MS5.8
CLNS MLR MLR
comp=N,4µm,17.0s,MS5.6
CLNS MLR MLR
comp=E,1µm,16.0s,MS5.6
CTA Charters Tower 56.95 118⇑ *i*P **P 01 14 34.1 -1.6**
comp=E,49nm,0.9s,mb5.5
CTA *e*S **S 01 22 24.0 -0.3**
CTA Charters Tower 56.95 118⇑ *i*P **P 01 14 34.1 -1.6**
CTA *e*S **S 01 22 24.0 -0.3**
CTA pmax pmax
comp=Z,49nm,0.9s
CTA Charters Tower 56.95 118 LR LR 01 41 16.3
comp=Z,5µm,21.3s,MS5.5,baz=287,slow=38
CTAO Charters Tower 56.95 118⇑ *e*P **P 01 14 34.1 -1.6**
CTAO pmax pmax
comp=Z,92nm,1.0s,mb5.8
CTAO MLR MLR
comp=Z,5µm,22.0s,MS5.5
CTAO Charters Tower 56.95 118⇑ *e*P **P 01 14 34.1 -1.6**
comp=Z,92nm,1.0s,mb5.8
CTAO LR LR
comp=Z,5µm,22.0s,MS5.5
TI2 Plekhanov 56.95 317α *i*P **P 01 14 34.6 -0.8**
TI2 *i* S **S 01 22 24.6 +0.5**
TI2 *i* 01 24 21.6
TI2 pmax pmax
comp=Z,70nm,0.8s,mb5.7
TI2 MLR MLR
comp=N,500nm,17.0s,MS5.0
TI2 MLR MLR
comp=E,1µm,17.0s,MS5.0
TI2 MLR MLR
comp=Z,1µm,17.0s,MS5.0
TBLG Delisi 56.95 317 P **P 01 14 34.5 -1.0**
KMBO Kilima Mbogo 57.44 265 *e*P **P 01 14 39.9 +0.6**
KMBO pmax pmax
comp=Z,73nm,1.3s
KMBO MLR MLR
comp=Z,8µm,22.0s
KMBO Kilima Mbogo 57.44 265 P **P 01 14 39.9 +0.6**
comp=Z,17nm,0.9s,mb5.1,baz=66,slow=9.0,SNR=35
KMBO pP pP 01 14 52.6 -0.1
comp=Z,24nm,0.9s,baz=59,slow=10,SNR=14
KMBO LR LR 01 35 02.9

comp=Z,8μm,21.9s,MS5.8,baz=76,slow=31
KMBO Kilima Mbogo 57.44 265 *e*P **P 01 14 39.9 +0.6**
comp=Z,73nm,1.3s,mb5.5
KMBO LR LR
comp=Z,8μm,22.0s,MS5.8
SVE Sverdlovsk 57.70 339⇑ *e*P **P 01 14 41.8 +1.3**
SVE *e* 01 16 50.0
SVE *e*PPP PPP 01 18 10.0 -2.5
SVE *i* S **S 01 22 35.0 +1.2**
SVE *e*PS PS 01 23 00.0 +6.1
SVE *e* 01 24 25.0
SVE pmax pmax
comp=Z,260nm,2.0s,mb5.9
SVE pmax pmax
comp=N,600nm,4.0s
SVE pmax pmax
comp=E,700nm,4.0s
SVE pmax pmax
comp=Z,2μm,4.0s
SVE smax
comp=N,2μm,10.0s
SVE smax
comp=E,2μm,10.0s
SVE MLR MLR
comp=N,2μm,19.0s,MS5.5
SVE MLR MLR
comp=E,3μm,19.0s,MS5.5
SVE MLR MLR
comp=Z,4μm,19.0s,MS5.5
BEST Besiri 57.95 312 *i* P **P 01 14 41.6 -0.9**
ZEI Tsey 57.96 318 *i* P **P 01 14 41.0 -1.5**
ZEI *i* 01 16 50.9
ZEI *e*S **S 01 22 38.9 +1.6**
ZEI pmax pmax
comp=Z,30nm,0.7s,mb5.4
ARU Arti 58.18 337⇑ *i*P **P 01 14 42.6 -1.2**
ARU *e* pP 01 14 57.2 -0.1
ARU *i* 01 15 32.3
ARU *i* 01 16 51.8
ARU *i* PPP PPP 01 18 10.7 -7.2
ARU *i* S **S 01 22 41.1 +1.1**
ARU *i* PS PS 01 22 58.9 -1.6
ARU *i* SS tx 01 23 09.0
ARU *i* 01 24 26.4
ARU *e*SS SS 01 26 39.0 +5.3
ARU pmax pmax
comp=Z,119nm,1.0s,mb5.9
ARU MLR MLR
comp=N,2μm,21.0s,MS5.5
ARU MLR MLR
comp=Z,4μm,21.0s,MS5.6
ARU MLR MLR
comp=E,2μm,20.0s,MS5.5
ARU Arti 58.18 337⇑ *i*P **P 01 14 42.4 -1.4**
comp=E,72nm,0.7s,mb5.8
ARU LR LR
comp=Z,1μm,20.0s,MS5.0
STKA Stephens Creek 58.30 133⇑ *i*P **P 01 14 43.8 -1.2**
comp=Z,66nm,0.9s,mb5.7
STKA *e*S **S 01 22 41.8 -0.1**
STKA Stephens Creek 58.30 133 P **P 01 14 43.9 -1.1**
comp=Z,78nm,0.8s,mb5.8,baz=309,slow=6.5,SNR=111
STKA pP pP 01 14 57.9 -0.5
comp=Z,70nm,1.1s,baz=33,slow=2.2,SNR=5.5
STKA PcP PcP 01 15 34.8 -0.7
comp=Z,21nm,0.7s,baz=350,slow=5.1,SNR=3.3
STKA PKPPKP 01 44 17.3
comp=Z,1.4nm,0.8s,baz=220,slow=6.8,SNR=3.1
YSS Yuzh-Sakhalins 58.52 37*c* *i*P **P 01 14 46.0 -0.3**
YSS *e* pP 01 14 58.0 -1.8
YSS *e* 01 16 56.0
YSS *e*S **S 01 22 44.0 -0.6**
YSS pmax pmax
comp=Z,1μm,4.0s
YSS MLR MLR
comp=N,2μm,16.0s,MS5.7
YSS MLR MLR
comp=E,4μm,16.0s,MS5.7
YSS MLR MLR
comp=Z,3μm,16.0s,MS5.6
YSS Yuzh-Sakhalins 58.52 37⇑ *e*P **P 01 14 45.8 -0.5**
comp=Z,344nm,1.2s,mb6.3
YSS *e*pP pP 01 14 57.8 -2.0
YSS LR LR
comp=Z,5μm,20.0s,MS5.6
ERZM Erzurum 58.59 314 *i* P **P 01 14 47.4 +0.5**
YUK Yuzh-Kuril'sk 59.14 41 *e*P **P 01 14 55.0 +4.3**
YUK S **S 01 22 48.0 -4.7**
YUK pmax pmax
comp=N,2μm,2.0s
YUK pmax pmax
comp=E,2μm,2.0s
YUK pmax pmax
comp=Z,4μm,2.0s
YUK smax
comp=E,2μm,2.0s
YUK smax
comp=N,2μm,3.0s
YUK MLR MLR
comp=Z,9μm,19.0s
YUK MLR MLR
comp=N,7μm,22.0s
YUK MLR MLR
comp=E,6μm,18.0s
KIV Kislovodsk 59.26 319*c* *i*P **P 01 14 50.1 -1.4**
KIV *e* 01 17 05.4
KIV *i* S **S 01 22 49.9 -4.4**
KIV pmax pmax
comp=Z,67nm,0.5s,mb5.9
KIV MLR MLR
comp=Z,2μm,22.0s,MS5.2
KIV Kislovodsk 59.26 319⇑ *e*P **P 01 14 50.0 -1.5**
comp=Z,204nm,1.2s,mb6.0
KIV LR LR
comp=Z,427nm,20.0s,MS4.6
GOF Gofitskoye 59.50 320⇑ *i*P **P 01 14 51.0 -2.2**
GOF *i* S **S 01 22 57.5 +0.1**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.5
GOF smax
comp=N,29nm,1.7s
ASF Jabal al Asfar 59.74 304 P **P 01 14 55.1 +0.2**
comp=N,18nm,0.7s,mb5.2,baz=331,slow=7.4,SNR=31
ASF LR LR 01 43 09.4
comp=N,4μm,18.6s,MS5.6,baz=146,slow=38
ELZG Elazig 59.85 312 *i* P **P 01 14 56.1 +0.4**
MALT Malatya 60.21 311⇑ *i*P **P 01 14 57.2 -0.9**
MALT pmax pmax
comp=Z,158nm,1.6s,mb5.8
MALT Malatya 60.21 311⇑ *i*P **P 01 14 57.2 -0.9**
comp=Z,158nm,1.6s,mb5.8
GZT Gaziantep 60.57 310 *i* P **P 01 15 00.1 -0.5**
EIL Elat 60.84 301 P **P 01 15 02.5 0.0**
comp=Z,20nm,0.6s,mb5.5,baz=103,slow=4.6,SNR=55
EIL LR LR 01 41 40.6
comp=Z,6μm,19.3s,MS5.8,baz=105,slow=36
EIL Elat 60.84 301⇑ *e*P **P 01 15 02.3 -0.2**
comp=Z,100nm,1.2s,mb5.8
EIL *e* pP 01 15 18.9 +2.8
HWQ Hawqa 61.02 306 *e*P **P 01 15 03.8 +0.2**
SOC Sochi 61.09 317 *i* P **P 01 15 01.0 -3.0**
SOC *e* 01 15 42.4
SOC *e* 01 17 14.2
SOC *e*S **S 01 23 14.7 -3.0**
SOC *e* 01 24 43.6
SOC *e*SS SS 01 27 19.8 +0.4
SOC pmax pmax
comp=E,43nm,1.2s
SOC pmax pmax
comp=Z,105nm,1.2s,mb5.8
SOC pmax pmax
comp=N,29nm,0.8s
BHL Bhannes 61.16 306 *e*P **P 01 15 05.1 +0.5**
KAHT Ahir Dag 61.17 310 *i* P **P 01 15 04.5 -0.2**
COBT Iskenderun 61.34 309 *i* P **P 01 15 05.8 0.0**
YAK Yakutsk 62.17 18*c* *i*P **P 01 15 09.3 -1.7**
YAK *i* *PP pP 01 15 20.1 -4.5
YAK *i* 01 15 49.2
YAK *i* 01 17 25.2
YAK *e*S **S 01 23 28.2 -3.0**
YAK *i* 01 24 53.0
YAK *i* SS SS 01 27 38.4 +1.9
YAK pmax pmax
comp=Z,220nm,0.8s,mb6.3
YAK pmax pmax
comp=N,92nm,1.1s
YAK pmax pmax
comp=E,96nm,1.2s
YAK smax
comp=E,550nm,19.0s
YAK smax
comp=Z,258nm,15.1s
YAK smax
comp=N,429nm,19.2s
YAK MLR MLR
comp=N,4μm,18.0s,MS5.8
YAK MLR MLR
comp=E,4μm,17.0s,MS5.8
YAK MLR MLR
comp=Z,7μm,17.0s,MS5.9
YAK Yakutsk 62.17 18⇑ *e*P **P 01 15 09.1 -1.9**
comp=Z,355nm,0.8s,mb6.5
YAK *e*pP pP 01 15 22.2 -2.4
YAK LR LR
comp=Z,5μm,20.0s,MS5.7
MEST Erdemli 63.00 308 *i* P **P 01 15 16.1 -0.8**
AVNT Avonos 63.02 311 *i* P **P 01 15 15.7 -1.4**
ANN Anapa 63.06 318 *e*P **P 01 15 13.1 -4.1**
ANN *e**PP pP 01 15 29.9 -0.9
ANN *e* 01 17 34.7
ANN *e*PPP PPP 01 19 12.9 +4.0
ANN *e*S **S 01 23 35.9 -6.7**
ANN *i* 01 25 02.9
ANN pmax pmax
comp=Z,72nm,1.7s,mb5.5
CSS Prodhromos 63.27 306 P **P 01 15 19.0 +0.3**
MAMC Mammari 63.41 307⇑ P **P 01 15 19.7 +0.1**
MAMC Mammari 63.41 307⇑ *e*P **P 01 15 19.7 +0.1**
CTKT Corum 63.58 313 *i* P **P 01 15 19.9 -0.9**
SZAC Souni-Zanaja 63.59 306 P **P 01 15 20.7 -0.2**
comp=Z,3.3nm,0.8s
BOYT Boyabat 63.73 314 *i* P **P 01 15 20.7 -1.0**
MBAR Mbarara 63.85 267 P **P 01 15 23.6 +0.7**
comp=Z,140nm,1.2s,mb5.9,SNR=18
MBAR Mbarara 63.85 267 *e*P **P 01 15 22.8 -0.1**
MBAR pmax pmax
comp=Z,52nm,1.0s,mb5.5
MBAR MLR MLR
comp=Z,2μm,20.0s,MS5.4
MBAR Mbarara 63.85 267 *e*P **P 01 15 22.8 -0.1**
comp=Z,52nm,1.0s,mb5.5
MBAR LR LR
comp=Z,2μm,20.0s,MS5.4
ALFC Alevga 63.90 306⇑ P **P 01 15 22.0 -0.9**
comp=Z,3.5nm,0.7s
ALFC Alevga 63.90 306⇑ *e*P **P 01 15 22.0 -0.9**
TOO Toolangi 63.95 137 *e*P **P 01 15 23.6 +0.4**
comp=Z,5.2nm,0.8s
AKMC Akamas 64.09 306 P **P 01 15 23.5 -0.6**
BR131 Keskin Array S 64.18 312 PFAKE 01 15 40.0 +15
BR131 LR LR
comp=Z,2μm,21.0s,MS5.2
BRTR Keskin Array B 64.18 312 P **P 01 15 23.1 -1.6**
comp=Z,18nm,0.6s,mb5.3,baz=131,slow=6.9,SNR=137
BRTR pP pP 01 15 39.7 +1.4
comp=Z,15nm,0.6s,baz=133,slow=6.4,SNR=6.2
BRTR PKPPKP 01 44 09.1
comp=Z,0.3nm,0.5s,baz=45,slow=7.0,SNR=3.5
PECR Pechory 64.34 332α *i*P **P 01 15 23.4 -1.9**
PECR *i* S **S 01 23 55.0 -3.3**
PECR *e* 01 24 20.0
PECR *i* 01 25 14.0
PECR pmax pmax
comp=Z,1μm,2.0s,mb6.7
PECR smax
comp=N,2μm,11.0s
PECR smax
comp=E,1μm,6.0s
PECR MLR MLR
comp=Z,3μm,20.0s,MS5.4
PECR MLR MLR
comp=N,3μm,21.0s,MS5.5
PECR MLR MLR
comp=E,2μm,24.0s,MS5.5
PECR MLR MLR
comp=N,1μm,20.0s
PECR MLR MLR
comp=Z,3μm,20.0s
PECR MLR MLR
comp=E,3μm,24.0s
VRSR Storozhevoye 64.46 325 *e*P **P 01 15 23.6 -2.6**
VRSR *e**PP pP 01 15 39.7 -0.2
VRSR *e* 01 17 47.5
VRSR *e*S **S 01 23 55.7 -4.2**
VRSR *e**SS 01 24 24.8
VRSR *e* 01 25 08.4
VRSR pmax pmax
comp=Z,110nm,0.8s,mb5.9
VRSR pmax pmax
comp=N,70nm,1.4s
VRSR pmax pmax
comp=E,130nm,1.3s
VRSR smax
comp=N,450nm,3.9s
VRSR smax
comp=Z,70nm,3.6s
VRSR smax
comp=E,140nm,3.5s
VRSR MLR MLR
comp=Z,2μm,20.0s,MS5.3
VRSR MLR MLR
comp=N,1μm,23.0s,MS5.2
VRSR MLR MLR
comp=E,1μm,19.0s,MS5.2
ELDT Eldivan 64.54 312 *i* P **P 01 15 26.2 -0.8**
VOR Voronezh 64.68 326 P **P 01 15 25.5 -2.1**
VOR *e**PP pP 01 15 40.0 -1.3
VOR S **S 01 24 00.0 -2.5**
VOR *e* 01 24 27.0
VOR pmax pmax
comp=Z,440nm,1.6s,mb6.2
VOR pmax pmax
comp=N,110nm,1.4s
VOR pmax pmax
comp=E,190nm,1.5s
VOR smax
comp=N,70nm,1.5s
VOR smax
comp=E,90nm,1.5s
ANTO Ankara 64.85 312 ⇓P **P 01 15 27.8 -1.2**
BALT Daday 64.85 313 *i* P **P 01 15 28.4 -0.5**
SIM Simferopol' 65.33 317⇑ *e*P **P 01 15 30.7 -1.3**
SIM 01 17 55.7
SIM PPP PPP 01 19 28.8 -3.9
SIM *e*S S 01 24 07.9 -2.8
SIM 01 25 21.2
SIM pmax pmax
comp=Z,64nm,0.9s,mb5.7
SIM MLR MLR
comp=Z,1μm,20.0s,MS5.2
SGKT Sivrigoynuk 65.57 312 *i* P **P 01 15 32.3 -1.3**
CNB Canberra Magne 65.62 133 ⇓*i*P **P 01 15 33.7 -0.3**
comp=Z,792nm,1.0s,mb6.7
ISP Isparta 66.11 309⇑ *i*P **P 01 15 35.6 -1.5**
ISP pmax pmax
comp=Z,62nm,0.6s,mb5.8
ISP Isparta 66.11 309⇑ *i*P **P 01 15 35.6 -1.5**
comp=Z,62nm,0.6s,mb5.8
ESKT Eskisehir 66.22 311 *i* P **P 01 15 36.6 -1.1**
HENT Hendek 66.49 312 *i* P **P 01 15 38.3 -1.1**
KSL Kastellorizon 66.50 307 *e*P **P 01 15 38.4 -1.2**
HNR Honiara 66.98 103 *e*P **P 01 15 41.8 -1.2**
comp=Z,740nm,0.9s,mb6.7
HNR LR LR
comp=Z,808nm,21.0s,MS4.9
DNZL Cakiroluk 67.22 309 *i* P **P 01 15 42.2 -1.8**
MOS Moscow 67.24 329α *i*P **P 01 15 42.8 -1.1**
MOS *e* pP 01 15 56.5 -1.1
MOS *e* 01 16 11.8
MOS *e* 01 18 08.4
MOS *e*S S 01 24 31.0 -2.7
MOS *e*PS PS 01 24 54.5 -9.0
MOS *e* 01 25 35.0
MOS pmax pmax
comp=Z,379nm,0.6s,mb6.6
MOS pmax pmax
comp=Z,2μm,2.0s,mb6.7
MOS smax
comp=N,1μm,3.7s
MOS smax
comp=E,1μm,3.7s
MOS MLR MLR
comp=Z,4μm,20.9s,MS5.6
OBN Obninsk 67.53 328 P **P 01 15 44.1 -1.6**
comp=Z,2μm,0.7s,SNR=47
OBN Obninsk 67.53 328*c* *i*P **P 01 15 44.2 -1.5**
OBN *e**PP pP 01 15 59.3 -0.1
OBN *e* 01 18 12.3
OBN *i* S S 01 24 31.6 -5.5
OBN pmax pmax
comp=Z,158nm,0.6s,mb6.2
OBN MLR MLR
comp=Z,1μm,13.0s,MS5.3
OBN Obninsk 67.53 328⇑ *e*P **P 01 15 44.0 -1.6**
comp=Z,172nm,0.7s,mb6.2
OBN LR LR
comp=Z,547nm,20.0s,MS4.8
ULDT Uludag 67.64 311 P **P 01 15 46.0 -0.7**
ARG Arkhangelos 67.68 307 *e*P **P 01 15 48.0 +1.1**
MANT Manisa 67.75 309 P **P 01 15 46.6 -0.7**
TAU Tasmania Unive 67.88 141 *e*P **P 01 15 48.3 +0.2**
TAU MLR MLR
comp=Z,1μm,22.0s,MS5.0
SKR Severo-Kuril's 68.09 37 *e*P **P 01 15 45.7 -3.5**
SKR *e* pP 01 16 01.5 -1.5
SKR pmax pmax
comp=Z,450nm,1.0s,mb6.5
SKR MLR MLR
comp=N,5μm,14.0s,MS6.1
SKR MLR MLR
comp=E,6μm,16.0s,MS6.1
SKR MLR MLR
comp=Z,8μm,16.0s,MS6.1
AYDN Tasoluk 68.12 308 P **P 01 15 49.4 -0.4**
KARP Karpathos 68.34 306 *e*P **P 01 15 51.0 -0.1**
BTOK Tokmak 68.40 311 P **P 01 15 50.4 -1.0**
KDAG Bornova 68.73 309 P **P 01 15 53.1 -0.3**
MA2 Magadan 68.76 27*c* *i*P **P 01 15 52.5 -0.8**
MA2 *e* pP 01 16 06.3 -0.8
MA2 *e* 01 25 41.6
MA2 pmax pmax
comp=Z,200nm,1.2s,mb5.9
MA2 Magadan 68.76 27 *e*P **P 01 15 52.6 -0.7**
MA2 LR LR
comp=Z,4μm,19.0s,MS5.7
SMG Samos 68.95 308 *e*P **P 01 15 54.7 -0.1**
TLCR 69.01 316 ⇓P **P 01 15 55.2 +0.1**
PSN Preselentsi 69.11 315 P **P 01 16 15.0 +19**
SART Tekirdag 69.22 311 P **P 01 15 56.5 +0.1**
AYVA Ayvalik 69.33 310 P **P 01 15 56.5 -0.7**
XRY Khrisi 69.43 305 *e*P **P 01 15 57.5 -0.3**
KIS Kishinev 69.45 318α *i*P **P 01 15 54.0 -3.8**
KIS *e* 01 16 22.0
KIS *e* 01 18 36.0
KIS *e* 01 20 08.0
KIS *i* S S 01 24 55.0 -5.2
KIS *e*PS PS 01 25 25.0 -7.8
KIS *i* 01 25 50.0
KIS pmax pmax
comp=Z,400nm,1.6s,mb6.1
KIS pmax pmax
comp=Z,1μm,2.0s,mb6.4
KIS smax
comp=N,1μm,3.0s
KIS smax
comp=E,1μm,4.0s
KIS MLR MLR
comp=N,2μm,20.0s,MS5.4
KIS MLR MLR
comp=E,1μm,20.0s,MS5.4
KIS MLR MLR
comp=Z,2μm,20.0s,MS5.3
CFR Carcaliu 69.48 316⇑ P **P 01 15 56.8 -1.1**
HARR Harsova 69.51 316⇑ P **P 01 15 57.5 -0.6**
TIXI Tiksi 69.52 11 PFAKE 01 16 10.0 +12
TIXI LR LR
comp=Z,8μm,20.0s,MS5.9
NPS Neapolis 69.55 305 *e*P **P 01 15 59.0 +0.4**
PRD Provadia 69.56 314 P **P 01 15 58.0 -0.5**
PRK Paraskevi 69.64 310 P **P 01 15 58.5 -0.6**
THR1 Thera Island 69.83 307 *e*P **P 01 15 59.4 -0.8**
SANT Santorini 69.83 307 *e*P **P 01 15 58.8 -1.4**
comp=Z,74nm,0.6s,mb5.8
SANT *e*pP pP 01 16 11.8 -2.2
SANT *e*sP sP 01 16 17.0 -2.2
APE Apeiranthos 69.87 307 P **P 01 15 55.3 -5.2**
THR3 Thira Island, 69.88 307 *e*P **P 01 15 59.5 -1.1**
THR5 Thira Island, 69.92 307 *e*P **P 01 16 01.4 +0.6**
JMB Yambol 70.00 313 P **P 01 16 01.0 -0.2**
ALN Alexandroupoli 70.10 311 *e*P **P 01 16 01.3 -0.5**
IDI Anoyia 70.14 305 P **P 01 16 01.5 -0.7**
comp=Z,60nm,0.6s,mb5.7,baz=81,slow=8.1,SNR=131
AKASG Malin Array Be 70.18 322 P **P 01 16 00.2 -1.9**
comp=Z,44nm,0.6s,mb5.6,baz=89,slow=5.6,SNR=163
AKASG PKPPKP 01 43 59.5
comp=Z,0.2nm,0.3s,baz=286,slow=3.9,SNR=6.8
AKASG Malin Array Be 70.18 322 P **P 01 16 00.2 -1.9**
AKASG P'P' 01 43 59.5
PET Petropavlovsk 70.32 35 *e*P **P 01 16 01.5 -1.4**
PET *e* 01 16 25.2
PET *e* 01 18 38.3
PET *e*S S 01 25 07.0 -3.2
PET *e*PPS PPS 01 25 42.1 -15
PET *e*SS SS 01 29 37.6 -5.4
PET pmax pmax
comp=Z,101nm,1.5s,mb5.5
PET pmax pmax
comp=Z,300nm,13.3s
PET pmax pmax
comp=Z,200nm,16.0s
PET smax
comp=E,300nm,16.6s
PET MLR MLR
comp=Z,3μm,17.0s,MS5.7
PET Petropavlovsk 70.32 35 *e*P **P 01 16 02.2 -0.7**
PET LR LR
comp=Z,5μm,19.0s,MS5.8
BRD Bordesti 70.32 316⇑ P **P 01 16 04.0 +0.9**
IAS Iasi 70.33 318 P **P 01 16 02.5 -0.6**
ISR Istrita 70.56 316 ⇓P **P 01 16 05.4 +0.9**
VRI Vrincioaia 70.60 317⇑ P **P 01 16 04.4 -0.3**
SZH Strazhica 70.62 314 P **P 01 16 04.0 -0.9**
LOS Limnos 70.67 310 *e*P **P 01 16 04.8 -0.5**
DIM Dimitrovgrad 70.69 313 P **P 01 16 05.0 -0.3**
KDZ Kurdzhali 70.70 312 P **P 01 16 05.0 -0.4**
VAM Vamos 70.71 305⇑ *i*P **P 01 16 01.0 -4.6**
GVD Gavdhos 70.74 305⇑ *i*P **P 01 16 05.0 -0.8**
comp=Z,104nm,1.0s,mb5.7
BUC1 Bucharest 70.77 315⇑ P **P 01 16 05.5 -0.3**
BUC1 Bucharest 70.77 315⇑ P **P 01 16 05.6 -0.2**
SEY Seymchan 70.99 24 *e*P **P 01 16 04.7 -2.1**
SEY *e**PP pP 01 16 21.2 +0.6
SEY 01 16 23.6
SEY *e*S S 01 25 17.2 -0.5
SEY *e* 01 26 10.0
SEY pmax pmax
comp=Z,100nm,0.7s,mb5.8
SEY pmax pmax
comp=N,30nm,0.6s
SEY smax
comp=N,3μm,24.8s
SEY smax
comp=E,1μm,24.1s
SEY MLR MLR
comp=Z,21μm,19.0s,MS6.4
SEY MLR MLR
comp=N,9μm,18.0s,MS6.3
SEY MLR MLR
comp=E,14μm,21.0s,MS6.3
PVL Pavlikeni 71.04 314 P **P 01 16 07.8 +0.3**
MLR Muntele Rosu 71.05 316⇑ P **P 01 16 07.3 -0.2**
MLR Muntele Rosu 71.05 316 P **P 01 16 07.2 -0.3**
comp=E,76nm,0.9s,mb5.6,baz=64,slow=2.1
ZIMR 71.10 314⇑ P **P 01 16 07.8 0.0**
RZN Rozhen 71.23 312 P **P 01 16 08.0 -0.6**
PLD Plovdiv 71.31 313 P **P 01 16 08.0 -1.1**
SNX Sinaia 71.32 316 ⇓P **P 01 16 08.7 -0.4**
PTL Penteli 71.32 308 *e*P **P 01 16 01.7 -7.5**
ATH Athens Observa 71.43 308 *e*P **P 01 16 08.3 -1.6**
MPAR Parnis Oros 71.44 308 *e*P **P 01 16 09.2 -0.7**
AOS Alonnisos 71.47 309 *e*P **P 01 16 09.5 -0.6**
OUR Ouranopolis 71.56 311 *e*P **P 01 16 09.9 -0.7**
NAIG Nisos Aigina 71.58 308 *e*P **P 01 16 08.8 -2.0**
NSAL Nisos Salamina 71.62 308 *e*P **P 01 16 08.4 -2.6**

PAIG Paliouri 71.73 310 *e*P **P** **01 16 11.2 -0.4**
KYTH Kithira 71.76 306 *e*P **P** **01 16 20.5 +8.6**
PGB Panagyurishte 71.77 313 P **P** **01 16 15.0 +3.2**
MGER Geranía Oros 71.79 308 *e*P **P** **01 16 10.5 -1.5**
VLI Veliai 71.89 307 *e*P **P** **01 16 10.5 -2.1**
MMB Musomiste 71.94 312 P **P** **01 16 11.6 -1.2**
SRS Serrai 71.97 311 *e*P **P** **01 16 12.1 -0.9**
PLG Polygyros 71.97 311 *e*P **P** **01 16 12.0 -1.0**
BURAR Bucovina Array 71.98 318⇑P **P** **01 16 12.9 0.0**
BURAR Bucovina Array 71.98 318⇑P **P** **01 16 13.0 0.0**
SOH Sokhos 72.11 311 *e*P **P** **01 16 12.8 -1.0**
THE Thessaloniki 72.37 311 *e*P **P** **01 16 14.1 -1.3**
PUL Pulkovo 72.42 331⇓*i*P **P** **01 16 13.3 -2.0**
PUL *i* *PP pP 01 16 29.7 +0.5
PUL *i* PPP PPP 01 20 42.2 +1.1
PUL *e*S S 01 25 32.5 -1.8
PUL pmax pmax
comp=N,170nm,0.6s
PUL pmax pmax
comp=Z,428nm,0.6s,mb6.5
PUL pmax pmax
comp=E,247nm,0.7s
PUL smax
comp=N,1μm,2.3s
PUL smax
comp=E,645nm,2.6s
PUL smax
comp=N,550nm,9.3s
PUL smax
comp=Z,162nm,12.3s
PUL smax
comp=E,207nm,11.2s
PUL MLR MLR
comp=Z,3μm,21.0s,MS5.5
PUL MLR MLR
comp=N,3μm,22.0s,MS5.7
PUL MLR MLR
comp=E,2μm,20.0s,MS5.7
PUL Pulkovo 72.42 331⇓*e*P **P** **01 16 15.2 -0.1**
KKB Krupnik 72.46 312 P **P** **01 16 14.5 -1.4**
VTS Vitosha 72.48 313⇑P **P** **01 16 15.1 -0.9**
VTS Vitosha 72.48 313 P **P** **01 16 15.0 -1.0**
KNT Kendrikon 72.50 311 *e*P **P** **01 16 15.4 -0.7**
CASY Casey 72.54 173 *e*P **P** **01 16 16.1 +0.2**
AGG Agios Georgios 72.64 309 *e*P **P** **01 16 14.9 -2.2**
ITM Ithomi 72.74 307 *e*P **P** **01 16 16.5 -1.2**
VAV Valandovo 72.76 311⇑P **P** **01 16 16.4 -1.4**
GRG Griva 72.84 311 *e*P **P** **01 16 17.0 -1.2**
IDID Didziasalis 72.89 326 *i* P **P** **01 16 17.6 -0.6**
IDID AMb AMB 01 16 20.2
comp=Z,60nm,0.8s,mb5.6
EVR Evrytania 73.03 309 *e*P **P** **01 16 17.9 -1.5**
JOF Joensuu 73.10 335 *e*p **P** **01 16 17.7 -1.6**
IIGN Ignalina 73.18 326 *i* P **P** **01 16 19.4 -0.6**
IIGN AMb AMB 01 16 22.0
comp=Z,60nm,0.9s,mb5.5
LVV L'vov 73.20 320 *e*P **P** **01 16 18.8 -1.4**
LVV *e* 01 19 00.0
LVV *e*PPP PPP 01 20 46.6 -2.5
LVV *e*S S 01 25 41.4 -1.9
LVV *e*SS SS 01 30 22.6 -5.3
LVV *e*SSS SSS 01 33 44.0 +5.5
IZAR Zarasai 73.28 327 *i* P **P** **01 16 19.8 -0.7**
IZAR AMb AMB 01 16 23.4
comp=Z,46nm,1.3s,mb5.2
ISAL Salakas 73.29 327 *i* P **P** **01 16 19.9 -0.7**
ISAL AMb AMB 01 16 22.8
comp=Z,44nm,1.5s,mb5.2
LBTB Lobatse 73.33 242 *e*P **P** **01 16 22.0 +0.5**
LBTB pmax pmax
comp=Z,291nm,1.8s,mb5.9
LBTB MLR MLR
comp=Z,8μm,20.0s,MS6.0
LBTB Lobatse 73.33 242 *e*P **P** **01 16 22.0 +0.5**
comp=Z,291nm,1.8s,mb5.9
LBTB LR LR
comp=Z,8μm,20.0s,MS6.0
BARS Barje 73.52 313⇑*i*P **P** **01 16 20.7 -1.5**
BOLS Boljevac 73.56 314⇑*i*P **P** **01 16 21.5 -1.0**
FNA Florina 73.59 311 *e*P **P** **01 16 20.8 -1.8**
SKO Skopje 73.69 312⇑*i*P **P** **01 16 21.8 -1.4**
VSU Vasula 73.76 330⇑*i*P **P** **01 16 22.4 -0.9**
JAN Janina 73.86 310 *e*P **P** **01 16 23.1 -1.1**
LVZ Lovozero 73.88 340⇓*e*P **P** **01 16 24.2 +0.4**
LVZ *e* pP 01 16 40.3 +2.7
LVZ *i* 01 19 12.5
LVZ *e*S S 01 25 49.7 -0.8
LVZ *i* SS SS 01 30 31.0 -6.7
LVZ pmax pmax
comp=Z,30nm,0.7s,mb5.3
LVZ pmax pmax
comp=N,16nm,1.5s
LVZ pmax pmax
comp=E,6.0nm,0.6s
LVZ pmax pmax
comp=Z,331nm,1.9s,mb5.9
LVZ pmax pmax
comp=N,214nm,2.6s
LVZ pmax pmax
comp=E,248nm,3.0s
LVZ smax
comp=N,611nm,10.6s
LVZ smax
comp=N,762nm,3.5s
LVZ smax
comp=E,237nm,2.7s
LVZ MLR MLR
comp=N,1μm,18.0s,MS5.5
LVZ MLR MLR
comp=E,2μm,22.0s,MS5.5
LVZ MLR MLR
comp=Z,4μm,22.0s,MS5.6
VLS Valsamata 73.90 308 *e*P **P** **01 16 23.2 -1.3**
KWP Kalwaria 74.01 320⇑*i*P **P** **01 16 24.6 -0.2**
KWP MLR MLR 01 50 59.2
comp=Z,2μm,25.4s,MS5.2
OHR Ohrid 74.06 311⇑*i*P **P** **01 16 23.4 -2.0**
OHR *i* pP 01 16 37.7 -1.5
BZS Buzias 74.07 316 ⇓P **P** **01 16 24.8 -0.5**
UZH Uzhgorod 74.10 319 *e*P **P** **01 16 24.0 -1.4**
UZH *e*S S 01 25 50.0 -3.3
SVIS Svilajnac 74.16 314⇓*i*P **P** **01 16 24.9 -1.0**
APA Apatity 74.16 340α*i*P **P** **01 16 25.0 -0.4**
APA *i* pP 01 16 39.2 -0.1
APA *i* S S 01 25 55.0 +1.3
APA *i* 01 26 20.0
APA *e*SS SS 01 30 47.0 +5.1
APA pmax pmax
comp=Z,280nm,1.8s,mb5.9
APA pmax pmax
comp=Z,2μm,6.0s
APA MLR MLR
comp=Z,3μm,20.0s,MS5.6
KOLS Kolonicke sedl 74.16 319 *i* P **P** **01 16 26.3 +0.5**
KOLS *e*S S 01 25 53.4 -0.7
IGT Igoumenitsa 74.24 309 *e*P **P** **01 16 25.1 -1.3**
GRUS Gruza 74.46 314⇓*i*P **P** **01 16 27.0 -0.7**
BOSA Boshof 74.54 238 *e*P **P** **01 16 29.3 +0.9**
BOSA pmax pmax
comp=Z,127nm,1.3s,mb5.7
BOSA MLR MLR
comp=Z,5μm,22.0s,MS5.8
BOSA Boshof 74.54 238 P **P** **01 16 28.8 +0.3**
comp=Z,26nm,0.8s,mb5.2,baz=77,slow=5.8,SNR=34
BOSA LR LR 01 43 39.0
comp=Z,4μm,21.6s,MS5.7,baz=70,slow=31
BOSA Boshof 74.54 238 *e*P **P** **01 16 29.3 +0.8**
comp=Z,127nm,1.3s,mb5.7
BOSA LR LR
comp=Z,5μm,22.0s,MS5.8
SUW Suwalki 74.58 325⇑*i*P **P** **01 16 27.0 -1.1**
SUW MLR MLR 01 53 23.5
comp=Z,2μm,22.4s,MS5.3
KEK Kerkira 74.67 310 *e*P **P** **01 16 27.5 -1.4**
CRVS Cervenica-Dubn 74.69 319 *i* P **P** **01 16 29.2 +0.4**
CRVS *i* S S 01 25 58.4 -1.5
PVY Plav 74.84 313⇑*i*P **P** **01 16 29.3 -0.5**
FINES FINESS Array B 74.93 332 P **P** **01 16 29.1 -0.8**
comp=Z,43nm,0.6s,mb5.5,baz=92,slow=5.3,SNR=248
FINES pP pP 01 16 42.5 -1.4
comp=Z,31nm,0.7s,baz=92,slow=5.7,SNR=6.5
FINES PKIKP 01 22 19.4
comp=Z,3.6nm,1.0s,baz=72,slow=4.4,SNR=4.1
FINES LR LR 01 53 33.5
comp=Z,3μm,21.6s,MS5.5,baz=104,slow=39
IVA Berane 74.93 313⇑*i*P **P** **01 16 29.5 -0.9**
DIVS Divcibare 75.01 314⇓*i*P **P** **01 16 29.9 -0.8**
KAF Kangasniemi 75.02 333 *ep* **P** **01 16 29.1 -1.4**
comp=Z,50nm,0.7s,mb5.6,baz=102,slow=5.4
KAF Kangasniemi 75.02 333 *e*P **P** **01 16 29.1 -1.4**
KAF pmax pmax
comp=Z,50nm,0.7s,mb5.5
KECS Kecovo 75.26 319 *i* P **P** **01 16 32.2 +0.1**
KECS *e* 01 16 39.8
ULC Ulcinj 75.31 312⇑*i*P **P** **01 16 31.5 -1.0**
PLE Pljevlja 75.35 313⇑*i*P **P** **01 16 32.6 -0.1**
TTG Podgorica 75.35 312⇑*i*P **P** **01 16 31.0 -1.8**
NOUC Port Laguerre 75.45 114 *e*P **P** **01 16 34.2 +0.4**
NOUC Port Laguerre 75.45 114 *e*P **P** **01 16 34.2 +0.4**
NIE Niedzica 75.51 320 *e*P **P** **01 16 32.0 -1.5**
WAR Warsaw 75.52 323 *e*P **P** **01 16 33.3 -0.2**
WAR MLR MLR 01 54 22.8
comp=Z,3μm,21.9s,MS5.5
PSZ Piszkesteto 75.57 318⇑*e*P **P** **01 16 33.7 -0.2**
PSZ pmax pmax
comp=Z,280nm,1.5s,mb6.0
PSZ Piszkesteto 75.57 318⇑*e*P **P** **01 16 33.6 -0.2**
comp=Z,280nm,1.5s,mb6.0
PSZ Piszkesteto 75.57 318⇑*e*P **P** **01 16 33.8 -0.1**
DZM Mont Dzumac 75.58 114⇑*e*P **P** **01 16 35.2 +0.7**
DZM Mont Dzumac 75.58 114 LR LR 01 54 31.5
comp=Z,1μm,18.4s,MS5.3,baz=250,slow=39
DZM Mont Dzumac 75.58 114⇑*e*P **P** **01 16 35.2 +0.7**
NKY Niksic 75.58 313⇑*i*P **P** **01 16 33.4 -0.7**
BUM Brajici-Budva 75.60 312⇑*i*P **P** **01 16 33.1 -1.1**
UPM Unac-Piva 75.69 313⇑*i*P **P** **01 16 33.6 -1.1**
HCY Herceg Novi 75.91 312⇑*i*P **P** **01 16 35.3 -0.7**
BRY Bratogost 75.92 313⇑*i*P **P** **01 16 34.7 -1.3**
OJC Ojcow 75.96 320⇑*i*P **P** **01 16 35.9 -0.2**
OJC *e**PP pP 01 16 43.6 -6.4
OJC *e* pP 01 16 50.1 +0.1
OJC *e*S S 01 26 11.6 -2.3
OJC MLR MLR
comp=Z,1μm,21.7s,MS5.2
OJC Ojcow 75.96 320⇑*i*P **P** **01 16 35.9 -0.2**
OJC *e*pP pP 01 16 43.6 -6.4
OJC *e*PcP PcP 01 16 50.1 +1.5
OJC *e*S S 01 26 11.6 -2.3
OJC *e*SS SS 01 31 03.0 -7.1
OJC MLR MLR 01 55 06.2
comp=Z,1μm,21.7s,MS5.2
PKSM Moragy 76.21 316⇑P **P** **01 16 36.5 -1.1**
LIKS Likavka 76.24 319 *e*P **P** **01 16 38.3 +0.6**
MAW Mawson 76.26 192 *e*P **P** **01 16 42.9 +5.5**
comp=Z,27nm,1.1s,mb5.1
MAW Mawson 76.26 192 P **P** **01 16 38.3 +0.9**
comp=Z,15nm,0.9s,mb4.9,baz=53,slow=15,SNR=2.5
MAW LR LR 01 45 00.6
comp=Z,4μm,18.8s,MS5.7,baz=16,slow=32
MAW Mawson 76.26 192 *e*P **P** **01 16 37.6 +0.2**
MAW LR LR
comp=Z,9μm,19.0s,MS6.1
VYHS Vyhne 76.35 318 *i* P **P** **01 16 38.2 -0.1**
VYHS *i* 01 26 14.6
STON Ston 76.54 313 *i* P **P** **01 16 38.0 -1.5**
SRO Srobarova 76.61 318 *i* P **P** **01 16 41.9 +2.1**
KOLL Kolacno 76.64 319 *i* P **P** **01 16 39.8 -0.2**
SRO1 Iza 76.66 318 *i* P **P** **01 16 42.4 +2.3**
OKC Ostrava-Krasne 76.96 320⇑*i*P **P** **01 16 41.7 -0.1**
OKC *e*S S 01 26 19.1 -5.8
OKC AMS AMS 01 55 20.0
comp=Z,1μm,21.5s
RAC Raciborz 76.96 320 *e*P **P** **01 16 42.4 +0.6**
RAC MLR MLR 01 52 53.7
comp=Z,1μm,22.5s,MS5.2
TIP Timpagrande 76.97 309⇑*i*P **P** **01 16 41.8 -0.3**
LTRZ Laterza 77.02 310 *e*P **P** **01 16 41.6 -0.7**
KEV Kevo 77.16 341 *ep* **P** **01 16 41.5 -1.0**
GRI Girifalco 77.22 308 *e*P **P** **01 16 43.7 +0.3**
ORI Oriolo Calabro 77.27 310 *e*P **P** **01 16 43.9 +0.2**
SMOL Smolenice 77.28 318 *i* P **P** **01 16 43.6 0.0**
MORC Moravsky Berou 77.34 320⇑*e*P **P** **01 16 44.1 +0.2**
MORC pmax pmax
comp=Z,92nm,0.7s,mb5.8
MORC Moravsky Berou 77.34 320⇑*e*P **P** **01 16 44.0 +0.2**
comp=Z,92nm,0.7s,mb5.8
SOI Samo 77.46 308 *e*P **P** **01 16 44.8 0.0**
ZST Bratislava 77.46 318 *i* P **P** **01 16 44.9 +0.3**
ZST *i* 01 26 26.2
ARCES ARCESS Array B 77.59 340 P **P** **01 16 44.5 -0.3**
comp=Z,28nm,0.6s,mb5.4,baz=87,slow=3.7,SNR=75
ARCES pP pP 01 16 58.8 0.0
comp=Z,18nm,0.7s,baz=90,slow=7.3,SNR=5.0
ARCES PP PP 01 19 37.8 -4.0
comp=Z,6.3nm,0.7s,baz=119,slow=9.3,SNR=4.5
ARCES LR LR 01 53 32.9
comp=Z,5μm,21.8s,MS5.8,baz=113,slow=38
ARE0 ARCESS Array S 77.59 340 *e*P **P** **01 16 44.5 -0.3**
SISC Sisak 77.71 315⇑*i*P **P** **01 16 45.7 -0.3**
MTTG Motta San Giov 77.74 308 *e*P **P** **01 16 47.2 +0.9**
FGMS Monte Sant'Ang 77.74 311 *e*P **P** **01 16 45.5 -0.8**
SOP Sopron 77.78 317⇑*e*P **P** **01 16 46.3 0.0**
KOGS Kog 77.88 316 *e*P **P** **01 16 46.8 -0.1**
SLCN Sala Consilina 77.91 310 *e*P **P** **01 16 47.5 +0.3**
VRAC Vranov 77.91 319⇑P **P** **01 16 46.9 -0.1**
GKP Gorka Klasztor 77.95 323⇑*i*P **P** **01 16 46.7 -0.4**
GKP MLR MLR 01 52 21.4
comp=Z,2μm,26.7s,MS5.2
MGR Morigerati 77.96 310 *e*P **P** **01 16 46.3 -1.1**
VKA Vienna 77.99 318⇑*i*P **P** **01 16 47.6 +0.1**
comp=Z,896nm,2.0s,mb6.3
VKA Vienna 77.99 318⇑*i*P **P** **01 16 47.6 +0.1**
VKA pmax pmax
comp=Z,896nm,2.0s,mb6.3
MRLC Muro Lucano 78.04 310 *e*P **P** **01 16 47.2 -0.7**
AGST Augusta-Monte 78.08 307 *e*P **P** **01 16 47.6 -0.6**
SGO Sicignano 78.17 310 *e*P **P** **01 16 48.1 -0.5**
DPC Dobruska-Polom 78.19 320⇑*i*P **P** **01 16 49.1 +0.6**
DPC *e*S S 01 26 38.3 +0.2
DPC AMS AMS 01 55 50.0
comp=Z,1μm,21.2s
BILL Bilibino 78.21 21*c* *i*P **P** **01 16 47.2 -1.0**
BILL pmax pmax
comp=Z,78nm,0.6s,mb5.8
BILL MLR MLR
comp=Z,14μm,24.0s,MS6.2
BILL Bilibino 78.21 21⇑*e*P **P** **01 16 47.1 -1.2**
comp=Z,78nm,0.8s,mb5.7
BILL LR LR
comp=Z,11μm,19.0s,MS6.2
KTK1 Kautokeino 78.21 340 *e*P **P** **01 16 48.6 +0.3**
KTK1 Kautokeino 78.21 340 *e* **P** **01 16 48.6 +0.3**
KSP Ksiaz 78.26 321⇑*e*P **P** **01 16 49.1 +0.2**
KSP *e*pP pP 01 17 01.9 -0.9
KSP *e*S S 01 26 36.0 -2.8
KSP *e*SKS SKS 01 26 55.0 +1.0
KSP *e*SSS SSS 01 35 03.5 +0.5
KSP LR LR
comp=Z,3μm,21.1s,MS5.6
KSP Ksiaz 78.26 321⇑*i*P **P** **01 16 49.3 +0.4**
KSP MLR MLR 01 58 14.4
comp=Z,2μm,21.1s,MS5.5
CSSN Cassano Irpino 78.40 310 *e*P **P** **01 16 49.2 -0.6**
UPC Upice 78.40 320⇑*i*P **P** **01 16 50.1 +0.4**
ARSA Arzberg 78.44 317⇑*i*P **P** **01 16 50.2 +0.3**
comp=Z,926nm,2.1s,mb6.3
SLNA Salina 78.44 308 *e*P **P** **01 16 49.3 -0.9**
BOJS Bojanci 78.50 315⇑*i*P **P** **01 16 50.2 -0.2**
comp=Z,642nm,2.0s,mb6.2
MNO Monte Soro 78.53 307 *e*P **P** **01 16 51.8 +1.2**
VAE Valguarnera 78.74 307 P **P** **01 16 53.3 +1.5**
comp=Z,34nm,1.0s,mb5.2,baz=69,slow=6.1,SNR=9.9
VAE LR LR 01 52 45.8
comp=Z,1μm,18.3s,MS5.3,baz=0.5,slow=36
FX1 Attu Island--F 78.88 37 *e*P **P** **01 16 51.9 -0.4**
CII Carovilli 78.98 311 *e*P **P** **01 16 53.0 0.0**
DRV Dumont d'Urvil 79.03 163 P **P** **01 17 04.0 +11**
DRV S S 01 26 49.0 +2.3
LJU Ljubljana 79.04 316⇑*e*P **P** **01 16 53.5 +0.2**
LJU *e* pP 01 17 07.6 +0.3
LJU *e*S S 01 26 44.8 -2.4
LJU Ljubljana 79.04 316⇑*e*P **P** **01 16 53.5 +0.2**
LJU *e* pP 01 17 07.5 +0.3
LJU *e* 01 19 49.3
LJU *e*S S 01 26 44.8 -2.5
OBKA Obir 79.06 316⇑*i*P **P** **01 16 53.7 +0.4**
comp=Z,906nm,2.1s,mb6.3
SUR Sutherland 79.19 236 *e*P **P** **01 16 54.4 0.0**
comp=Z,64nm,0.8s,mb5.6
SUR LR LR
comp=Z,1μm,19.0s,MS5.3
PRU Pruhonice 79.30 320⇑*i*P **P** **01 16 54.7 +0.1**
PRU *e*S S 01 26 48.6 -1.2
PRU AMS AMS 01 56 50.0
comp=Z,1μm,23.2s
PVCC Panska Ves 79.32 320⇑*i*P **P** **01 16 55.2 +0.5**
PVCC *e*S S 01 26 47.7 -2.4
PVCC AMS AMS 01 57 20.0
comp=Z,900nm,18.4s
MOA Molln 79.33 318⇑*i*P **P** **01 16 54.5 -0.3**
comp=Z,462nm,2.1s,mb6.0
SDI San Donato 79.35 311 *e*P **P** **01 16 54.0 -1.0**
JAVS Javornik 79.36 316⇑*e*P **P** **01 16 54.6 -0.4**
comp=Z,749nm,2.5s,mb6.2
JAVS *e* pP 01 17 08.8 -0.2
TSUM Tsumeb 79.42 249 *e*P **P** **01 16 56.4 +0.5**
comp=Z,19nm,0.9s,mb5.0
TSUM LR LR
comp=Z,4μm,20.0s,MS5.8
SMY Shemya 79.43 37 P **P** **01 16 54.1 -1.1**
SMY pmax pmax
comp=Z,460nm,0.9s,mb6.4
SMY Shemya 79.43 37 *e*P **P** **01 16 54.5 -0.7**
VOY Vojsko 79.48 316 *e*P **P** **01 16 55.4 -0.3**
VOY *e* pP 01 17 09.8 +0.1
TRI Trieste 79.56 315 *e*P **P** **01 16 55.3 -0.8**
PTQR Pietraquaria 79.66 312 *e*P **P** **01 16 56.4 -0.4**
AQU L'Aquila 79.67 312 P **P** **01 16 56.3 -0.5**
AQU pmax pmax
comp=Z,150nm,1.2s,mb5.8
AQU L'Aquila 79.67 312 *e*P **P** **01 16 56.6 -0.1**
USI Ustica 79.74 308 *e*P **P** **01 16 55.8 -1.4**
BRG Berggiesshubel 79.74 321⇑*i*P **P** **01 16 57.3 +0.3**
BRG *i* pP 01 17 10.9 -0.1
BRG *i*S S 01 26 54.0 -0.5
BRG *i*SS SS 01 32 00.0 -6.8
BRG pmax pmax
comp=Z,100nm,1.1s,mb5.7
BRG MLR MLR
comp=N,2μm,20.2s,MS5.5
BRG MLR MLR
comp=E,1μm,20.2s,MS5.5
BRG MLR MLR
comp=Z,2μm,20.2s,MS5.3
BRG Berggiesshubel 79.74 321⇑*i*P **P** **01 16 57.3 +0.3**
comp=Z,100nm,1.1s,mb5.7
BRG *i* pP 01 17 10.9 -0.1
BRG *i*S S 01 26 54.0 -0.5
BRG *i*SS SS 01 32 00.0 -6.8
BRG LR LR
comp=Z,2μm,20.2s,MS5.3
GEC2 GERESS Array S 79.77 319 *e*P **P** **01 16 57.5 +0.3**
GEC2 pmax pmax
comp=Z,224nm,0.9s,mb6.1
GEC2 GERESS Array S 79.77 319 *e*P **P** **01 16 57.5 +0.3**
comp=Z,224nm,0.9s,mb6.1
GERES GERESS Array B 79.77 319 P **P** **01 16 57.4 +0.3**
comp=Z,76nm,0.6s,mb5.8,baz=96,slow=5.5,SNR=533
GERES pP pP 01 17 10.6 -0.5
comp=Z,70nm,0.9s,baz=108,slow=4.2,SNR=6.1
GERES LR LR 01 55 13.6
comp=Z,880nm,21.4s,MS5.1,baz=185,slow=38
TRO Tromso 79.84 340 *e*P **P** **01 16 55.0 -2.1**
TRO LR LR
comp=Z,2794μm,21.7s
TRO Tromso 79.84 340 *e*P **P** **01 16 55.0 -2.1**
TRO *e*S S 01 26 56.1 +0.9
TRO AMS AMS 01 55 34.9
comp=Z,3μm,21.7s,MS5.6
KHC Kasperske Hory 79.87 319⇑*i*P **P** **01 16 57.6 -0.1**
KHC *e* pP 01 17 12.0 +0.3
KHC *e*S S 01 26 56.2 +0.4
KHC MLR MLR
comp=Z,2μm,22.2s,MS5.3
KHC Kasperske Hory 79.87 319⇑*i*P **P** **01 16 57.6 -0.1**
KHC pP pP 01 17 12.0 +0.3
KHC *e*S S 01 26 56.2 +0.4
KHC AMS AMS 01 56 50.0
comp=Z,2μm,22.2s
PTCC Patocco-Chiusa 79.88 316 *e*P **P** **01 16 57.6 -0.2**
NRCA Norcia 79.90 312 *e*P **P** **01 16 57.7 -0.3**
KBA Koelnbreinsper 79.91 317⇑*i*P **P** **01 16 57.6 -0.4**
comp=Z,339nm,1.9s,mb6.0
KBA Koelnbreinsper 79.91 317⇑*i*P **P** **01 16 57.6 -0.4**
KBA pmax pmax
comp=Z,339nm,1.9s,mb6.0
GMNA Gemona 79.95 316 *e*P **P** **01 16 57.9 -0.3**
RUE Ruedersdorf 79.96 322⇑*e*P **P** **01 16 58.0 -0.1**
comp=Z,315nm,0.6s,mb6.4
SNTG Esanatoglia 80.04 313 *e*P **P** **01 16 58.5 -0.3**
ARV Arcevia 80.05 313 *e*P **P** **01 16 58.9 +0.1**
MNS Montasola 80.21 312 *e*P **P** **01 16 58.6 -1.1**
FVI Forni Avoltri 80.28 316 *e*P **P** **01 16 59.7 -0.2**
WET Wettzell 80.33 319 *e*P **P** **01 17 00.3 +0.2**
CLL Collm 80.36 321⇑*i*P **P** **01 17 00.0 -0.3**
CLL *e* pP 01 17 14.0 -0.3
CLL *e*S S 01 26 59.0 -1.9
CLL pmax pmax
comp=Z,138nm,1.3s,mb5.7
CLL MLR MLR
comp=Z,2μm,19.0s,MS5.4
CLL Collm 80.36 321⇑*i*P **P** **01 17 00.0 -0.3**
comp=Z,138nm,1.3s,mb5.7
CLL *e* pP 01 17 14.0 -0.3
CLL *e*S S 01 26 59.0 -1.9
CLL *e*ScS ScS 01 27 19.0 +0.3
CLL LR LR
comp=Z,2μm,19.0s,MS5.4
CLL Collm 80.36 321⇑P **P** **01 17 00.0 -0.3**
comp=Z,logA/T=2.0,mb5.7
CLL *e* pP 01 17 14.0 -0.3
CLL *e* 01 17 27.0
CLL *e*PPP PPP 01 22 06.0 +10
CLL *e*S S 01 26 59.0 -1.9
CLL *e*SCS ScS 01 27 19.0 +0.3
CLL *e*PS PS 01 27 42.0 -11
CLL *e*SS SS 01 32 24.0 +7.9
CLL *e*SSS SSS 01 35 54.0 +16
RGN Rugen 80.38 324 *e*P **P** **01 17 00.4 +0.1**
comp=Z,143nm,0.6s,mb6.1
RSM Repubblica di 80.42 313 *e*P **P** **01 17 01.4 +0.7**
NKC Novy Kostel 80.66 320⇑*i*P **P** **01 17 02.2 +0.3**
NKC *e*S S 01 27 05.2 +1.1
NKC AMS AMS 01 58 10.0
comp=Z,1μm,18.5s
SFI Santa Sofia 80.86 313 *e*P **P** **01 17 04.1 +1.1**
PGD Poggio Sodo 80.94 313 *e*P **P** **01 17 04.6 +1.1**
MOR8 Moi Rana 80.95 336 *e*P **P** **01 17 01.9 -1.2**
comp=Z,109nm,1.7s,mb5.5
MOR8 Moi Rana 80.95 336 *e*P **P** **01 17 01.9 -1.2**
MOR8 AMb AMB 01 17 18.9
comp=Z,109nm,1.7s,mb5.5
CTI Castel Tesino 81.04 316 *e*P **P** **01 17 04.5 +0.5**
VMG Vicchio 81.08 314 *e*P **P** **01 17 05.0 +0.8**
WTTA Wattenberg 81.08 317⇑*i*P **P** **01 17 03.7 -0.5**
comp=Z,505nm,1.6s,mb6.2
WTTA Wattenberg 81.08 317⇑*i*P **P** **01 17 03.7 -0.5**
WTTA pmax pmax
comp=Z,505nm,1.6s,mb6.2
WATA Walderalm 81.13 317⇑*i*P **P** **01 17 03.8 -0.6**
comp=Z,202nm,1.4s,mb5.9
WATA Walderalm 81.13 317⇑*i*P **P** **01 17 03.8 -0.6**
WATA pmax pmax
comp=Z,202nm,1.4s,mb5.9
MOX Moxa 81.21 320 *e*P **P** **01 17 04.8 +0.1**
MOX *e* pP 01 17 18.0 -0.8
MOX pmax pmax
comp=Z,319nm,1.9s,mb5.9
MOX MLR MLR
comp=Z,1μm,20.0s,MS5.2
MOX Moxa 81.21 320 *ep* **P** **01 17 04.8 +0.1**
comp=Z,319nm,1.9s,mb5.9
MOX *ep*P pP 01 17 18.0 -0.8
MOX *e*S S 01 27 11.0 +1.3
MOX LR LR
comp=Z,1μm,20.0s,MS5.2
MOX Moxa 81.21 320 *i* P **P** **01 17 04.8 +0.1**
comp=Z,logA/T=2.2,mb5.9
MOX pP pP 01 17 18.0 -0.8
MOX S S 01 27 11.0 +1.3
MOX L 01 59 31.0

SEI Scarperia 81.21 314 *eP* **P 01 17 05.5 +0.6**
FUR Furstenfeldbru 81.35 318 *eP* **P 01 17 05.3 -0.3**
FUR pmax pmax
comp=Z,205nm,1.4s,mb5.9
FUR Furstenfeldbru 81.35 318 *eP* **P 01 17 05.3 -0.3**
comp=Z,205nm,1.4s,mb5.9
SQTA Sankt Quirin 81.38 317⇑ *iP* **P 01 17 05.3 -0.4**
comp=Z,68nm,0.8s,mb5.6
SQTA Sankt Quirin 81.38 317⇑ *iP* **P 01 17 05.3 -0.4**
SQTA pmax pmax
comp=Z,68nm,0.8s,mb5.6
GRA1 Grafenberg Arr 81.43 319 *eP* **P 01 17 06.5 +0.6**
comp=Z,194nm,0.9s,mb6.0
GRA1 *eS* S 01 27 14.3 +2.3
GRA1 LR LR
comp=Z,1µm,21.6s,MS5.2
GRF Grafenberg Arr 81.43 319 *eP* **P 01 17 06.5 +0.6**
GRF *eS* S 01 27 14.3 +2.3
GRF pmax pmax
comp=Z,194nm,0.9s,mb6.0
GRFL Gerfalco 81.48 313 *eP* **P 01 17 05.7 -0.6**
ZCCA Zocca 81.49 314 *eP* **P 01 17 07.8 +1.5**
LOF Lofoten 81.53 338 *eP* **P 01 17 09.2 +3.1**
comp=Z,145nm,1.7s,mb5.6
LOF Lofoten 81.53 338 *eP* **P 01 17 08.6 +2.5**
LOF AMb AMB 01 17 16.8
comp=Z,145nm,1.7s,mb5.6
BDI Bagni Di Lucca 81.76 314 *eP* **P 01 17 06.9 -0.9**
GSCL Gusciola 81.77 314 *eP* **P 01 17 08.7 +0.9**
PII Pisa 81.81 313 *eP* **P 01 17 06.7 -1.3**
NSS Namsos 81.82 334 *eP* **P 01 17 06.1 -1.5**
NSS *eS* S 01 27 16.7 +1.0
NSS AMS AMS 01 58 54.6
comp=Z,3µm,19.7s,MS5.6
SAL Salo 81.82 315 *eP* **P 01 17 09.0 +0.9**
ERBM Eremo 81.89 314 *eP* **P 01 17 09.5 +1.1**
SARO Sassorosso 81.90 314 P **P 01 17 08.1 -0.4**
VLC Villacollemand 81.91 314 *eP* **P 01 17 08.1 -0.5**
comp=Z,67nm,1.1s,mb5.5
NB2 NORSAR Subarra 81.93 331 P **P 01 17 07.5 -0.8**
comp=Z,28nm,0.8s,mb5.2,baz=94,slow=5.6
NB2 NORSAR Subarra 81.93 331 P **P 01 17 07.5 -0.8**
NB2 pmax pmax
comp=Z,28nm,0.8s,mb5.2
NB2 NORSAR Subarra 81.93 331 P **P 01 17 07.5 -0.8**
baz=94,slow=5.6
NOA NORSAR Array B 81.93 331 P **P 01 17 07.4 -0.9**
comp=Z,12nm,0.6s,mb5.0,baz=95,slow=5.6,SNR=76
NOA PP PP 01 20 16.2 -1.9
comp=Z,2.8nm,0.7s,baz=90,slow=8.6,SNR=4.2
NOA LR LR 01 56 35.7
comp=Z,2µm,21.5s,MS5.5,baz=75,slow=38
BRMO Bormio 81.94 316 *eP* **P 01 17 09.0 +0.4**
VALM 82.01 314 P **P 01 17 09.3 +0.3**
FUORN Ofenpass 82.01 316⇑ *iP* **P 01 17 09.7 +0.7**
CLZ Clausthal 82.02 321 *eP* **P 01 17 09.1 +0.1**
comp=Z,168nm,1.1s,mb5.9
HDH Heidenheim 82.07 318⇑ *eP* **P 01 17 08.9 -0.4**
NAO01 NORSAR Array S 82.08 331 *eP* **P 01 17 07.8 -1.3**
comp=Z,17nm,0.8s,mb5.0
NAO01 LR LR
comp=Z,2µm,19.0s,MS5.6
VINC Vinca 82.08 314 P **P 01 17 08.8 -0.7**
BSEG Bad Segeberg 82.11 324 *eP* **P 01 17 09.6 +0.3**
UBR Uberruh 82.13 317⇑ *eP* **P 01 17 09.4 -0.2**
BACM 82.14 314 P **P 01 17 08.3 -0.4**
GRAM 82.14 314 P **P 01 17 10.4 +0.7**
BERNI Berninapass 82.18 316⇑ *iP* **P 01 17 10.7 +0.8**
HSP Hornsund 82.18 347 *eP* **P 01 17 09.2 -0.1**
DAVOX Davos 82.28 316 LR LR 01 56 34.6
comp=Z,944nm,21.7s,MS5.1,baz=85,slow=38
DAVOX Davos 82.28 316⇑ *iP* **P 01 17 11.0 +0.6**
DAVA Damuels 82.28 317⇑ *iP* **P 01 17 10.5 +0.1**
comp=Z,542nm,1.7s,mb6.2
CODM 82.30 314 P **P 01 17 10.3 -0.2**
TRON Trondheim 82.42 333 *eP* **P 01 17 12.8 +2.1**
SIND Sindeldorf 82.48 319⇑ *eP* **P 01 17 11.6 +0.3**
LIENZ Alp Oberkamor 82.54 317⇑ *iP* **P 01 17 12.0 +0.3**
BOB Bobbio (Coli) 82.58 314 *eP* **P 01 17 12.7 +0.7**
PLONS Plons 82.62 317⇑ *iP* **P 01 17 12.5 +0.4**
BUCH Bad Urach 82.64 318⇑ *eP* **P 01 17 12.3 +0.1**
KONO Kongsberg 82.67 329 *eP* **P 01 17 08.8 -3.2**
KONO LR LR
comp=Z,201µm,20.7s
KONO Kongsberg 82.67 329 *eP* **P 01 17 08.8 -3.2**
KONO *eS* S 01 27 27.2 +2.8
VSL Villasalto 82.70 309 *eP* **P 01 17 12.6 -0.1**
comp=Z,62nm,1.0s,mb5.6
STU Stuttgart 82.74 318⇑ *eP* **P 01 17 12.6 -0.1**
STU pmax pmax
comp=Z,63nm,0.8s,mb5.7
STU Stuttgart 82.74 318⇑ *eP* **P 01 17 12.6 -0.1**
comp=Z,63nm,0.8s,mb5.7
GUT Gutenstein 82.80 318⇑ *eP* **P 01 17 12.9 -0.1**
MUD Monsted U'grnd 82.82 326⇑ *iP* **P 01 17 13.5 +0.6**
MUD *i* S S 01 27 28.4 +2.4
MUD pmax pmax
comp=Z,34nm,0.7s,mb5.5
MUD MLR MLR
comp=Z,1µm,20.0s,MS5.2
MUD Monsted U'grnd 82.82 326⇑ *iP* **P 01 17 13.5 +0.6**
comp=Z,34nm,0.7s,mb5.5
MUD *i* S S 01 27 28.4 +2.4
MUD Monsted U'grnd 82.82 326⇑ *iP* **P 01 17 13.5 +0.6**
comp=Z,34nm,0.7s,mb5.5
MUD Monsted U'grnd 82.82 326 *i* S S 01 27 28.4 +2.4
comp=Z,1µm,20.0s
MUGIO Muggio 82.86 315⇑ *iP* **P 01 17 12.6 -0.8**
LLS Linth-Limmern 82.88 316⇑ *iP* **P 01 17 13.8 +0.4**
WEIN Weingarten 82.89 317⇑ *iP* **P 01 17 13.5 0.0**
GENL Genova Univers 82.93 314 P **P 01 17 12.8 -1.0**
PGF Pioggiola 82.93 312⇑ *iP* **P 01 17 14.0 +0.2**
comp=Z,180nm,1.2s,mb5.7
PGF Pioggiola 82.93 312⇑ *iP* **P 01 17 14.0 +0.2**
PGF pmax pmax
comp=Z,90nm,1.2s,mb5.7
WILA Wila 82.94 317⇑ *iP* **P 01 17 13.9 +0.2**
STEIN Stein am Rhein 82.97 317⇑ *iP* **P 01 17 14.0 +0.1**
DOMB Dombas 83.00 332 *eP* **P 01 17 13.9 +0.2**
comp=Z,62nm,1.8s,mb5.3
DOMB Dombas 83.00 332 *eP* **P 01 17 13.9 +0.2**
DOMB AMb AMB 01 17 16.6
comp=Z,62nm,1.8s,mb5.3
DOMB *eS*P sP 01 17 30.6 -2.4
TOD Tromm 83.00 319⇑ *eP* **P 01 17 14.1 +0.1**
LBG Lerchenberg 83.01 318⇑ *eP* **P 01 17 14.1 +0.1**
SPAK Spaichingen 83.02 318⇑ *eP* **P 01 17 14.3 +0.2**
VAI Varese 83.05 315 *eP* **P 01 17 13.6 -0.7**
SWS Schriesheim 83.07 319⇑ *eP* **P 01 17 14.3 0.0**
TRULL Truellikon 83.09 317⇑ *iP* **P 01 17 13.8 -0.7**
MUO Muotathal 83.13 317⇑ *iP* **P 01 17 15.3 +0.6**
SYO Syowa Base 83.21 197 ⇑P **P 01 17 15.5 +0.8**
SYO Syowa Base 83.21 197 ⇑pP pP 01 17 25.4 -3.4
SLE Schleitheim 83.22 317⇑ *iP* **P 01 17 14.9 -0.2**
TNS Taunus Mts 83.23 320 *eP* **P 01 17 15.5 +0.4**
PCP Pian Castagno 83.23 314 P **P 01 17 14.8 -0.5**
BNALP Bannalp 83.28 316⇑ *iP* **P 01 17 15.8 +0.4**
BFO Black Forest 83.32 318 P **P 01 17 15.5 -0.1**
comp=Z,442nm,0.7s,mb6.6,SNR=38
BFO Black Forest 83.32 318 *eP* **P 01 17 15.4 -0.2**
comp=Z,93nm,1.1s,mb5.7
HASLI Hasliberg 83.47 316⇑ *iP* **P 01 17 16.7 +0.3**
KTD Kalmit 83.47 319 *eP* **P 01 17 17.2 +0.8**
FIN Finale Ligure 83.48 314 *eP* **P 01 17 16.6 +0.1**
SULZ Sulz-Cheisache 83.48 317⇑ *iP* **P 01 17 16.4 -0.1**
FELD Feldberg 83.55 317⇑ *eP* **P 01 17 16.9 +0.1**
MCGN Macugnaga 83.60 316 *eP* **P 01 17 17.2 +0.1**
KIZ Kirchzarten 83.60 318⇑ *eP* **P 01 17 17.0 -0.1**
ORX Oropa 83.61 315 P **P 01 17 16.1 -1.1**
ORO Oropa 83.61 315 *eP* **P 01 17 16.1 -1.1**
MMK Mattmark 83.61 316⇑ *iP* **P 01 17 17.5 +0.3**
LANF Langenberg 83.66 319⇑ *eP* **P 01 17 17.6 +0.2**
STR Strasbourg 83.69 318⇑ *eP* **P 01 17 17.4 -0.1**
MOL Molde 83.72 332 *eP* **P 01 17 19.4 +2.1**
comp=Z,108nm,1.6s,mb5.7
MOL Molde 83.72 332 *eP* **P 01 17 19.4 +2.1**
MOL AMb AMB 01 17 22.6
comp=Z,108nm,1.6s,mb5.7
IMI Imperia 83.72 313 *eP* **P 01 17 18.0 +0.3**
ROB Roburent 83.72 314 P **P 01 17 17.9 +0.1**
BALST Balsthal 83.77 317⇑ *eP* **P 01 17 17.9 0.0**
TRAV 83.78 315 P **P 01 17 17.3 -0.8**
MONE Monesi 83.81 314 P **P 01 17 18.3 0.0**

ABH Alteburg 83.81 319⇑ *eP* **P 01 17 18.6 +0.5**
LIBD Limburg 83.81 318 *eP* **P 01 17 18.6 +0.5**
WIMIS Wimmis 83.83 316⇑ *iP* **P 01 17 18.5 +0.2**
LKBD Leukerbad 83.84 316⇑ *iP* **P 01 17 18.9 +0.6**
NEGI Negi 83.85 313 P **P 01 17 18.0 -0.4**
BBS Basel-Blauen 83.89 317⇑ *eP* **P 01 17 18.5 -0.1**
SAOF Saorge 83.95 314⇑ *eP* **P 01 17 19.4 +0.4**
WLS Welschbruch 83.97 318⇑ *eP* **P 01 17 18.7 -0.3**
DIX Grande Dixence 84.00 316⇑ *iP* **P 01 17 20.2 +1.1**
CDF Champ du Feu 84.02 318⇑ *iP* **P 01 17 19.1 -0.1**
comp=Z,51nm,0.6s,mb5.5
CDF Champ du Feu 84.02 318⇑ *iP* **P 01 17 19.1 -0.1**
CDF pmax pmax
comp=Z,25nm,0.6s,mb5.5
ENR Entracque 84.04 314 P **P 01 17 19.0 -0.4**
SBF Sospel 84.05 313⇑ *iP* **P 01 17 19.7 +0.3**
comp=Z,204nm,0.8s,mb6.0
SBF Sospel 84.05 313⇑ *iP* **P 01 17 19.7 +0.3**
SBF pmax pmax
comp=Z,102nm,0.8s,mb6.0
AUTN L'Aution 84.05 314⇑ *eP* **P 01 17 19.9 +0.5**
SENIN Lac Senin 84.06 316⇑ *eP* **P 01 17 20.0 +0.5**
REVF Revere 84.10 313⇑ *eP* **P 01 17 19.7 0.0**
ECH Echery 84.11 318⇑ *eP* **P 01 17 20.0 +0.4**
STV2 Anna di Valdie 84.11 314 P **P 01 17 18.9 -0.9**
STV Sta Anna Valdi 84.11 314 P **P 01 17 18.6 -1.2**
RSP Reno Superiore 84.13 315 P **P 01 17 18.9 -0.9**
RUP Ruppelstein 84.13 319⇑ *eP* **P 01 17 20.1 +0.4**
MOF Molkenrain 84.13 317⇑ *eP* **P 01 17 20.0 +0.2**
BHB Bricherasio 84.14 314 P **P 01 17 19.4 -0.4**
DOI San Damiano 84.16 314 *eP* **P 01 17 18.8 -1.2**
TOUF Mont Tournerai 84.17 314⇑ *eP* **P 01 17 20.7 +0.6**
LSD Ceresole Reale 84.19 315 P **P 01 17 20.7 +0.6**
RPZ Rata Peaks 84.19 135 LR LR 01 53 42.2
comp=Z,3µm,20.1s,MS5.6,baz=187,slow=35
GRYON Gryon 84.20 316⇑ *eP* **P 01 17 20.7 +0.6**
WTSB Winterswijk 84.24 322 *eP* **P 01 17 20.6 +0.4**
comp=Z,133nm,1.0s,mb6.0
WTSB *ex* x 01 17 33.6
MVIF Mont Vial 84.25 313⇑ *eP* **P 01 17 21.1 +0.6**
PZZ Prazzo 84.26 314 P **P 01 17 19.2 -1.3**
BLS5 Blasjo 84.27 329 *eP* **P 01 17 21.6 +1.5**
comp=Z,62nm,0.8s,mb5.8
BLS5 Blasjo 84.27 329 *eP* **P 01 17 21.6 +1.5**
BLS5 AMb AMB 01 17 24.3
comp=Z,62nm,0.8s,mb5.8
BLS5 *ep*P pP 01 17 32.2 -2.1
FENE Fenestrelle 84.27 315 P **P 01 17 20.4 -0.2**
TORNY Torny 84.29 316⇑ *iP* **P 01 17 21.0 +0.4**
WIT Witteveen 84.30 322 *eP* **P 01 17 21.4 +0.9**
SALAN Lac Salanfe 84.30 316⇑ *iP* **P 01 17 21.2 +0.6**
AIGLE Aigle 84.30 316⇑ *eP* **P 01 17 20.8 +0.1**
ABSA Djebel Ababsia 84.31 306 P **P 01 17 23.0 +2.0**
HINF Hinteralfeld 84.32 317⇑ *iP* **P 01 17 20.1 -0.6**
comp=Z,36nm,0.6s,mb5.4
HINF Hinteralfeld 84.32 317⇑ *iP* **P 01 17 20.1 -0.6**
HINF pmax pmax
comp=Z,18nm,0.6s,mb5.4
CMAH Djebel Manchou 84.34 306 P **P 01 17 23.0 +1.9**
EMV Vieux Emosson 84.35 316⇑ *iP* **P 01 17 21.5 +0.6**
LOMF Lomont 84.36 317⇑ *eP* **P 01 17 20.8 -0.1**
CALN Calern 84.44 313⇑ *eP* **P 01 17 22.2 +0.8**
SURF Saint Ours 84.47 314⇑ *eP* **P 01 17 22.3 +0.7**
RRL Cesana Torines 84.47 315 P **P 01 17 21.3 -0.3**
LPG La Plagne 84.47 315⇑ *iP* **P 01 17 22.2 +0.6**
comp=Z,89nm,0.7s,mb5.7
LPG La Plagne 84.47 315⇑ *iP* **P 01 17 22.2 +0.6**
LPG pmax pmax
comp=Z,45nm,0.7s,mb5.7
LPL La Plagne 84.49 315⇑ *iP* **P 01 17 22.2 +0.6**
comp=Z,413nm,1.2s,mb6.1
LPL La Plagne 84.49 315⇑ *iP* **P 01 17 22.2 +0.6**
LPL pmax pmax
comp=Z,206nm,1.2s,mb6.1
MBDF Montbardon 84.49 314⇑ *iP* **P 01 17 21.4 -0.3**
comp=Z,65nm,0.6s,mb5.6
MBDF Montbardon 84.49 314⇑ *iP* **P 01 17 21.4 -0.3**
MBDF pmax pmax
comp=Z,33nm,0.6s,mb5.6
BNI Bardonecchia 84.54 315 *eP* **P 01 17 21.5 -0.4**
BNI pmax pmax
comp=Z,61nm,0.9s,mb5.7
BNI Bardonecchia 84.54 315 *eP* **P 01 17 21.5 -0.4**
comp=Z,61nm,0.9s,mb5.7
BRANT Les Verrieres 84.61 317⇑ *iP* **P 01 17 22.3 +0.1**
FRF La Foret Royal 84.63 313⇑ *iP* **P 01 17 22.8 +0.4**
comp=Z,193nm,0.7s,mb6.0
FRF La Foret Royal 84.63 313⇑ *iP* **P 01 17 22.8 +0.4**
FRF pmax pmax
comp=Z,97nm,0.7s,mb6.0
HAU Haudompre 84.66 318⇑ *iP* **P 01 17 22.3 -0.1**
comp=Z,220nm,0.8s,mb6.0
HAU *eR*
comp=Z,2µm,22.8s
HAU Haudompre 84.66 318⇑ *iP* **P 01 17 22.3 -0.1**
HAU pmax pmax
comp=Z,110nm,0.8s,mb6.0
HAU MLR MLR
comp=Z,2µm,22.8s,MS5.3
WLF Walferdange 84.72 319 *eP* **P 01 17 23.1 +0.4**
WLF pmax pmax
comp=Z,363nm,1.6s,mb6.3
WLF Walferdange 84.72 319 *eP* **P 01 17 23.1 +0.5**
comp=Z,363nm,1.6s,mb6.3
LMR La Mourre 84.74 313⇑ *iP* **P 01 17 23.2 +0.3**
comp=Z,88nm,0.8s,mb5.7
LMR La Mourre 84.74 313⇑ *iP* **P 01 17 23.2 +0.3**
LMR pmax pmax
comp=Z,44nm,0.8s,mb5.6
GIMEL Gimel 84.77 316⇑ *iP* **P 01 17 23.5 +0.5**
KIWB Kanaga Island 84.78 39 *eP* **P 01 17 22.6 -0.3**
CAEH 'Ain El Ouahch 84.79 306 P **P 01 17 25.0 +1.7**
BER Bergen 84.81 330 *eP* **P 01 17 25.8 +3.0**
BER LR LR
comp=Z,2187µm,19.4s
BER Bergen 84.81 330 *eP* **P 01 17 25.8 +3.0**
BER *eSKSa* 01 27 44.0
BER AMS AMS 01 58 32.8
comp=Z,2µm,19.4s,MS5.5
HGN Heimansgroeve 84.82 320 *eP* **P 01 17 23.1 -0.1**
comp=Z,88nm,2.3s,mb5.5
HGN *ex* x 01 17 37.0
HGN Heimansgroeve 84.82 320 *eS* S 01 27 46.1 0.0
HGN *eSS* SS 01 33 10.8 -11
THEF They Montfort 84.89 318⇑ *eP* **P 01 17 23.4 -0.2**
CABF La Chapelle 84.89 316⇑ *iP* **P 01 17 24.1 +0.5**
comp=Z,118nm,0.7s,mb5.8
CABF La Chapelle 84.89 316⇑ *iP* **P 01 17 24.1 +0.5**
CABF pmax pmax
comp=Z,59nm,0.7s,mb5.8
CKFL Kef-Lekhel 84.91 306 P **P 01 17 26.0 +2.0**
GDM Grand'Maison 84.94 315⇑ *eP* **P 01 17 24.1 +0.2**
TAVF Tavernes 85.05 313⇑ *eP* **P 01 17 25.4 +0.9**
ADK Adak 85.06 38 P **P 01 17 24.0 -0.3**
ADK pmax pmax
comp=Z,110nm,0.8s,mb6.0
ADK Adak 85.06 38 *eP* **P 01 17 23.6 -0.7**
CASM Ain Smara 85.11 306 P **P 01 17 28.0 +3.1**
ORIF Oris-en-Rattie 85.12 315⇑ *iP* **P 01 17 24.9 +0.1**
comp=Z,66nm,0.8s,mb5.5
ORIF *eR*
comp=Z,2µm,23.0s
STOF St-Etienne Org 85.14 314⇑ *eP* **P 01 17 26.3 +1.4**
CTEI Djebel Teioual 85.18 306 P **P 01 17 27.0 +1.7**
GRN Grenoble 85.19 315⇑ *eP* **P 01 17 25.5 +0.4**
VILF Villemus 85.29 313⇑ *eP* **P 01 17 27.3 +1.7**
PUYF Puyloubier 85.32 313⇑ *eP* **P 01 17 27.1 +1.3**
BERF Bertagne 85.33 313⇑ *eP* **P 01 17 26.7 +0.8**
GSTR Great Sitkin T 85.44 38 *eP* **P 01 17 26.2 0.0**
MEZF Maizieres J'vi 85.50 318 *eP* **P 01 17 26.5 0.0**
GELF Grande-Etoile 85.52 313⇑ *eP* **P 01 17 28.2 +1.4**
TREF Trevaresse 85.54 313⇑ *eP* **P 01 17 28.6 +1.7**
GIVF Givet 85.56 320⇑ *iP* **P 01 17 27.1 +0.3**
comp=Z,114nm,1.1s,mb5.7
GIVF Givet 85.56 320⇑ *iP* **P 01 17 27.1 +0.3**
GIVF pmax pmax
comp=Z,57nm,1.1s,mb5.7
DFRA Djebel Bou Aff 85.58 306 P **P 01 17 30.0 +2.7**
PRAF Pradon 85.69 313⇑ *eP* **P 01 17 28.6 +1.0**
MIDW Midway 85.89 62 PFAKE 01 17 40.0 +11
MIDW LR LR
comp=Z,3µm,19.0s,MS5.7
BAIF Baives 85.96 320⇑ *iP* **P 01 17 29.3 +0.6**
comp=Z,137nm,0.8s,mb6.0

BAIF Baives 85.96 320⇑ *iP* **P 01 17 29.3 +0.6**
BAIF pmax pmax
comp=Z,69nm,0.8s,mb5.9
VIVF Saint-Julien-l 85.98 315⇑ *iP* **P 01 17 29.4 +0.4**
comp=Z,110nm,0.9s,mb5.8
VIVF Saint-Julien-l 85.98 315⇑ *iP* **P 01 17 29.4 +0.4**
VIVF pmax pmax
comp=Z,55nm,0.9s,mb5.8
SET Setif 85.99 306 P **P 01 17 32.0 +2.7**
SNZO South Karori 86.34 132 PFAKE 01 17 40.0 +9.1
SNZO LR LR
comp=Z,3µm,21.0s,MS5.7
SMF Signal de Mont 86.44 316⇑ *iP* **P 01 17 31.3 +0.1**
comp=Z,192nm,0.9s,mb6.0
SMF Signal de Mont 86.44 316⇑ *iP* **P 01 17 31.3 +0.1**
SMF pmax pmax
comp=Z,96nm,0.9s,mb6.0
LASF Ste Croix 86.61 314⇑ *iP* **P 01 17 32.8 +0.7**
comp=Z,548nm,1.7s,mb6.2
SSF Saint Saulge 86.63 317⇑ *iP* **P 01 17 32.4 +0.3**
SSF pmax pmax
comp=Z,40nm,0.8s,mb5.7
SSF Saint Saulge 86.63 317⇑ *iP* **P 01 17 32.4 +0.3**
comp=Z,40nm,0.8s,mb5.7
AVF Avril sur Loir 86.76 317⇑ *iP* **P 01 17 32.8 0.0**
comp=Z,233nm,1.3s,mb6.0
AVF Avril sur Loir 86.76 317⇑ *iP* **P 01 17 32.8 0.0**
AVF pmax pmax
comp=Z,117nm,1.3s,mb6.0
BGF Bois d'Agland 87.13 316⇑ *iP* **P 01 17 35.2 +0.6**
comp=Z,404nm,1.4s,mb6.2
BGF Bois d'Agland 87.13 316⇑ *iP* **P 01 17 35.2 +0.6**
BGF pmax pmax
comp=Z,202nm,1.4s,mb6.2
HYF Humbligny 87.21 317⇑ *iP* **P 01 17 35.7 +0.8**
MENF Mencas 87.23 320⇑ *eP* **P 01 17 35.6 +0.6**
EJON La Jonquera 87.45 312 P **P 01 17 36.7 +0.4**
comp=Z,45nm,1.1s,mb5.6
APAE Packway 87.49 322⇑ *eP* **P 01 17 36.8 +0.7**
TCF Toulx Ste Croi 87.59 316⇑ *iP* **P 01 17 37.2 +0.4**
comp=Z,51nm,0.9s,mb5.5
ABA1 Baconsthorpe 87.63 323 *eP* **P 01 17 38.1 +1.3**
URZ Urewera 87.66 129 LR LR 01 59 37.4
comp=Z,2µm,18.8s,MS5.5,baz=292,slow=38
LRDF Laroque-de-Fa 87.66 313⇑ *eP* **P 01 17 37.9 +0.7**
FILF Fillols 87.68 312⇑ *eP* **P 01 17 38.1 +0.8**
ETOS Mallorca 87.75 310 P **P 01 17 38.8 +1.1**
comp=Z,622nm,2.4s,mb6.4
AWH Whinburgh 87.78 322⇑ *eP* **P 01 17 37.9 +0.4**
CAF Calviac 87.82 315⇑ *iP* **P 01 17 38.7 +0.8**
ABA Alger-Bouzarea 87.84 307 P **P 01 17 42.0 +3.8**
MTLF Montolieu 87.86 313⇑ *iP* **P 01 17 38.8 +0.6**
comp=Z,347nm,1.5s,mb6.0
MTLF Montolieu 87.86 313⇑ *iP* **P 01 17 38.8 +0.6**
MTLF pmax pmax
comp=Z,173nm,1.5s,mb6.1
EMHD Djebel Mahouad 87.96 306 P **P 01 17 42.0 +3.2**
VALF Valcebollere 88.10 312⇑ *eP* **P 01 17 40.6 +1.3**
LPEF Le Peyrat 88.12 313⇑ *eP* **P 01 17 39.9 +0.5**
RJF Les Rejaudoux 88.17 315⇑ *iP* **P 01 17 40.5 +0.9**
comp=Z,65nm,0.8s,mb5.6
RJF *eR*
comp=Z,1µm,23.0s
RJF Les Rejaudoux 88.17 315⇑ *iP* **P 01 17 40.5 +0.9**
RJF pmax pmax
comp=Z,32nm,0.8s,mb5.6
RJF MLR MLR
comp=Z,1µm,23.0s,MS5.3
TNA Tin City 88.23 24⇑ *eP* **P 01 17 39.6 +0.2**
comp=Z,60nm,0.7s,mb5.9
TNA LR LR
comp=Z,3µm,19.0s,MS5.8
WAL1 Walls 88.27 330 *eP* **P 01 17 40.9 +1.2**
LMK Market Rasen 88.45 323⇑ *eP* **P 01 17 41.3 +0.5**
EMIR Miracle 88.51 312 P **P 01 17 42.4 +1.0**
comp=Z,170nm,1.0s,mb6.3
KTG1 Tilbrook Grang 88.63 322⇑ *eP* **P 01 17 42.0 +0.4**
MLS Moulis 88.72 313⇑ *eP* **P 01 17 42.2 -0.1**
LFF La Frestale 88.75 315⇑ *iP* **P 01 17 43.3 +0.9**
comp=Z,68nm,0.8s,mb5.7
LFF La Frestale 88.75 315⇑ *iP* **P 01 17 43.3 +0.9**
LFF pmax pmax
comp=Z,34nm,0.8s,mb5.7
EPOB Poblet 88.90 311 P **P 01 17 44.2 +1.0**
comp=Z,342nm,2.0s,mb6.3
LDF La Druitiere 88.92 319⇑ *iP* **P 01 17 43.5 +0.4**
comp=Z,284nm,1.3s,mb6.2
LDF La Druitiere 88.92 319⇑ *iP* **P 01 17 43.5 +0.4**
LDF pmax pmax
comp=Z,142nm,1.3s,mb6.1
LCP Cassop 88.95 325⇑ *eP* **P 01 17 43.8 +0.7**
EIBI Ibiza 88.95 309 P **P 01 17 45.1 +1.6**
comp=Z,290nm,1.7s,mb6.3
SKP1 Kophill 88.96 322⇑ *eP* **P 01 17 43.8 +0.6**
JMIC Jan Mayen 89.04 341 LR LR 01 59 45.8
comp=Z,1µm,21.4s,MS5.3,baz=74,slow=37
JMIC Jan Mayen 89.04 341 *eP* **P 01 17 45.2 +2.1**
JMIC LR LR
comp=Z,1127µm,25.1s
JMIC Jan Mayen 89.04 341 *eP* **P 01 17 45.2 +2.1**
JMIC *e* 01 28 32.3
JMIC AMS AMS 01 59 59.0
comp=Z,1µm,25.1s,MS5.2
EBNR Beni Rached 89.10 306 P **P 01 17 47.5 +3.3**
FLN La Foliniere 89.13 319⇑ *iP* **P 01 17 44.5 +0.4**
comp=Z,228nm,1.1s,mb6.1
FLN *eR*
comp=Z,2µm,22.5s
FLN La Foliniere 89.13 319⇑ *iP* **P 01 17 44.5 +0.4**
FLN pmax pmax
comp=Z,114nm,1.1s,mb6.1
FLN MLR MLR
comp=Z,2µm,22.5s,MS5.4
HPK Haverah Park 89.15 324⇑ *eP* **P 01 17 44.6 +0.6**
HPK AMb AMB 01 17 48.4
comp=Z,386nm,1.8s,mb6.4
MFF Saint Martin d 89.17 317⇑ *iP* **P 01 17 44.7 +0.4**
comp=Z,72nm,0.7s,mb5.8
MFF Saint Martin d 89.17 317⇑ *iP* **P 01 17 44.7 +0.4**
MFF pmax pmax
comp=Z,36nm,0.7s,mb5.8
KBI1 Birley Grange 89.19 323⇑ *eP* **P 01 17 44.3 +0.1**
ECHA Ech Chlef 89.24 306 P **P 01 17 48.0 +3.1**
EPF Esparros 89.26 313⇑ *iP* **P 01 17 44.8 0.0**
comp=Z,18nm,0.8s,mb5.2
EPF Esparros 89.26 313⇑ *iP* **P 01 17 44.8 0.0**
EPF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
RESF Ens 89.29 313 *eP* **P 01 17 46.1 +1.1**
LHO Holmfirth 89.34 324 *i* P **P 01 17 43.2 -1.8**
LHO Holmfirth 89.34 324⇑ *eP* **P 01 17 45.4 +0.4**
ETRT Tiaret 89.38 305 P **P 01 17 51.0 +5.4**
EBR Ebro Roquetas 89.40 311 *eP* **P 01 17 46.5 +0.9**
KWE Weaver Farm 89.41 323⇑ *eP* **P 01 17 45.6 +0.4**
GRR Gorron 89.43 318⇑ *iP* **P 01 17 45.8 +0.3**
comp=Z,421nm,1.6s,mb6.2
GRR Gorron 89.43 318⇑ *iP* **P 01 17 45.8 +0.3**
GRR pmax pmax
comp=Z,211nm,1.6s,mb6.2
EBIE Bielsa 89.44 313 P **P 01 17 46.2 +0.5**
comp=Z,313nm,2.3s,mb6.2
LABF Labassere 89.45 313⇑ *eP* **P 01 17 46.4 +0.7**
SIW Isle of Wight 89.45 321 *eP* **P 01 17 46.3 +0.8**
EANR 'Ain N'Sour 89.48 306 P **P 01 17 50.0 +3.9**
VIEF Viey 89.51 313⇑ *eP* **P 01 17 46.9 +0.9**
SWN1 Swindon 89.60 322 *eP* **P 01 17 47.1 +0.8**
BTA Talkin 89.62 325⇑ *eP* **P 01 17 46.7 +0.5**
NIKO Nikolski 89.73 37 *eP* **P 01 17 46.0 -0.8**
EDI Edinburgh 89.74 326 *eP* **P 01 17 47.1 +0.3**
EDI AMb AMB 01 17 51.0
comp=Z,87nm,2.3s,mb5.7
EKA Eskdalemuir Ar 89.82 325 P **P 01 17 47.8 +0.6**
comp=Z,28nm,0.6s,mb5.7,baz=99,slow=5.3,SNR=140
EKA PKKPbc 01 35 19.2
comp=Z,1.0nm,0.7s,baz=252,slow=2.6,SNR=4.6
ESK Eskdalemuir 89.85 325 P **P 01 17 48.0 +0.7**
comp=Z,362nm,0.8s,mb6.8,SNR=12
ESK Eskdalemuir 89.85 325 *eP* **P 01 17 47.8 +0.5**
ESK pmax pmax
comp=Z,37nm,0.8s,mb5.8
ESK MLR MLR
comp=Z,361nm,20.0s,MS4.8
ESK Eskdalemuir 89.85 325 *eP* **P 01 17 47.8 +0.5**
comp=Z,37nm,0.8s,mb5.8
ESK LR LR

comp=Z,361nm,20.0s,MS4.8
ESK Eskdalemuir 89.85 325⇑ *e*P **P 01 17 47.6 +0.3**
ESK AMb AMB 01 17 51.0
comp=Z,88nm,1.1s,mb6.0
DAG Danmarks Havn 89.85 348⇓ *i*P **P 01 17 46.1 -0.8**
DAG *i* 01 21 20.3
DAG pmax pmax
comp=Z,12nm,0.7s,mb5.3
DAG MLR MLR
comp=Z,2μm,20.0s,MS5.6
DAG Danmarks Havn 89.85 348⇓ *i*P **P 01 17 46.1 -0.8**
comp=Z,12nm,0.7s,mb5.3
DAG *i* 01 21 20.3
comp=Z,2μm,20.0s
BHH Howats Hill 89.89 325 *e*P **P 01 17 47.8 +0.3**
ETSF Etsaut 89.93 313⇑ *i*P **P 01 17 49.1 +1.1**
comp=Z,38nm,0.6s,mb5.6
ETSF Etsaut 89.93 313⇑ *i*P **P 01 17 49.1 +1.1**
ETSF pmax pmax
comp=Z,19nm,0.6s,mb5.6
SWK Warminster 89.93 321 *e*P **P 01 17 48.8 +1.1**
BBO1 Bothel 89.97 325 *e*P **P 01 17 48.8 +1.0**
ESAC San Caprasio 90.01 312 P **P 01 17 49.3 +0.9**
comp=Z,275nm,1.4s,mb6.4
JQE Queens East 90.09 319⇑ *e*P **P 01 17 49.0 +0.4**
JRS Jersey 90.12 319⇑ *e*P **P 01 17 49.1 +0.4**
JRS AMb AMB 01 17 51.3
comp=Z,44nm,1.5s,mb5.6
JLP Les Platons 90.12 319⇑ *e*P **P 01 17 49.0 +0.3**
JLP AMb AMB 01 17 51.9
comp=Z,166nm,1.8s,mb6.1
BWH Wardlaw 90.13 325⇑ *e*P **P 01 17 49.2 +0.6**
BWH AMb AMB 01 17 51.5
comp=Z,87nm,1.0s,mb6.0
EMOS Mosqueruela 90.19 310 P **P 01 17 51.2 +1.9**
comp=Z,662nm,2.1s,mb6.6
JVM Valle D.L. Mar 90.19 319⇑ *e*P **P 01 17 49.3 +0.3**
SMD Mendips 90.20 321⇑ *e*P **P 01 17 49.2 +0.2**
EBEN Beniarda 90.21 309 P **P 01 17 50.3 +0.9**
comp=Z,486nm,2.5s,mb6.4
LARF Larrau 90.22 313⇑ *e*P **P 01 17 50.5 +1.1**
SJPF Ste Jean 90.39 313⇑ *i*P **P 01 17 51.3 +1.2**
comp=Z,57nm,0.8s,mb5.6
SJPF Ste Jean 90.39 313⇑ *i*P **P 01 17 51.3 +1.2**
SJPF pmax pmax
comp=Z,28nm,0.8s,mb5.6
OSSF Osses 90.39 313⇑ *e*P **P 01 17 50.3 +0.1**
VNDA Vanda 90.55 168 P **P 01 17 50.5 +0.3**
comp=Z,7.3nm,0.9s,mb5.0,baz=282,slow=5.2,SNR=18
VNDA PKKPbc 01 35 17.1
comp=Z,0.7nm,0.6s,baz=141,slow=1.2,SNR=7.2
VNDA LR LR 01 54 45.1
comp=Z,3μm,19.4s,MS5.8,baz=297,slow=33
VNDA Vanda 90.55 168 P **P 01 17 50.5 +0.3**
VNDA PKKPbc 01 35 17.1
VNDA LR LR 01 54 45.1
SGMF Saint Gilles 90.57 318⇑ *i*P **P 01 17 51.3 +0.5**
comp=Z,210nm,1.1s,mb6.1
SGMF Saint Gilles 90.57 318⇑ *i*P **P 01 17 51.3 +0.5**
SGMF pmax pmax
comp=Z,105nm,1.1s,mb6.1
EALK Alkurruntz 90.58 313 P **P 01 17 51.5 +0.5**
comp=Z,310nm,1.7s,mb6.4
RAO Raoul Island 90.63 119 PFAKE 01 18 00.0 +8.4
RAO LR LR
comp=Z,2μm,22.0s,MS5.4
HEX Exmoor 90.91 321 *e*P **P 01 17 52.3 -0.1**
CART Cartagena 90.96 308 *e*P **P 01 17 53.5 +0.5**
comp=Z,250nm,1.9s,mb6.2
UNV Unalaska Valle 90.97 36 *e*P **P 01 17 52.3 -0.3**
UNV LR LR
comp=Z,4μm,20.0s,MS5.9
HSA Swansea 91.01 322 *e*P **P 01 17 53.3 +0.5**
QUIF Quistinic 91.02 318⇑ *i*P **P 01 17 53.2 +0.2**
comp=Z,108nm,0.7s,mb6.0
QUIF Quistinic 91.02 318⇑ *i*P **P 01 17 53.2 +0.2**
QUIF pmax pmax
comp=Z,54nm,0.7s,mb6.0
ROSF Rostrenen 91.03 319⇑ *i*P **P 01 17 53.5 +0.5**
comp=Z,147nm,0.9s,mb6.0
ROSF Rostrenen 91.03 319⇑ *i*P **P 01 17 53.5 +0.5**
ROSF pmax pmax
comp=Z,74nm,0.9s,mb6.0
EMUR La Murta 91.11 308 P **P 01 17 54.5 +0.8**
comp=Z,150nm,1.7s,mb6.0
ETOB Tobarra 91.24 309 P **P 01 17 55.8 +1.6**
comp=Z,425nm,2.2s,mb6.4
SBA Scott Base 91.65 168 *e*P **P 01 17 56.5 +1.2**
SBA pmax pmax
comp=Z,35nm,1.0s,mb5.6
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.6
SBA Scott Base 91.65 168 *e*P **P 01 17 56.5 +1.2**
comp=Z,35nm,1.0s,mb5.7
SBA LR LR
comp=Z,2μm,20.0s,MS5.6
ELAN Lanestosa 91.97 314 P **P 01 17 57.5 +0.1**
comp=Z,181nm,1.6s,mb6.2
EVIA Vianos 91.98 309 P **P 01 17 59.9 +2.3**
EVIA pmax pmax
comp=Z,32nm,1.0s,mb5.6
EVIA Vianos 91.98 309 P **P 01 17 59.9 +2.2**
comp=Z,32nm,1.0s,mb5.6
ENIJ Nijar 91.99 307 P **P 01 17 59.6 +1.9**
ENIJ pmax pmax
comp=Z,145nm,1.7s,mb6.0
ENIJ Nijar 91.99 307 P **P 01 17 59.6 +1.8**
comp=Z,145nm,1.7s,mb6.0
DLF Lyons Farm 92.14 324 *e*P **P 01 17 58.7 +0.7**
EBER Berja 92.55 307 P **P 01 18 00.9 +0.7**
comp=Z,282nm,1.7s,mb6.4
EQES Quesada 92.55 308 P **P 01 18 00.5 +0.2**
comp=Z,362nm,2.8s,mb6.3
DCN Croghan 92.57 324 *e*P **P 01 18 00.7 +0.7**
NVL N'lazarevskaya 92.68 199⇑ *i*P **P 01 18 01.6 +1.5**
NVL *i* *PP pP 01 18 11.6 -2.8
NVL *i* *SP sP 01 18 16.9 -2.4
NVL *i* PP 01 21 41.1 -3.8
NVL *e*S SKS 01 28 23.7 -4.3
NVL pmax pmax
comp=Z,23nm,0.5s,mb5.9
NVL MLR MLR
comp=Z,4μm,17.3s,MS5.9
ESDC Sonseca Array 92.94 310 P **P 01 18 02.8 +0.8**
comp=Z,5.0nm,0.5s,mb5.2,baz=62,slow=4.1,SNR=81
ESDC pP pP 01 18 16.5 +0.1
comp=Z,5.6nm,0.6s,baz=59,slow=4.1,SNR=7.6
ESDC PP PP 01 21 49.3 +1.6
comp=Z,0.7nm,0.6s,baz=80,slow=7.2,SNR=4.1
ESDC PKKPbc 01 35 11.3
comp=Z,1.4nm,0.9s,baz=302,slow=2.9,SNR=6.8
ESDC Sonseca Array 92.94 310 P **P 01 18 02.5 +0.5**
comp=Z,16nm,0.6s,mb5.6
ESLA Sonseca Array 92.94 310 *e*P **P 01 18 02.6 +0.6**
comp=Z,29nm,1.5s,mb5.5
ESLA LR LR
comp=Z,7μm,21.0s,MS6.1
ECOG Cogollos-Vega 93.02 308 P **P 01 18 03.4 +0.9**
ECOG pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
ECOG Cogollos-Vega 93.02 308 P **P 01 18 03.4 +0.9**
comp=Z,3.8nm,0.9s,mb4.8
EARI Arriondas 93.23 314 P **P 01 18 04.7 +1.4**
comp=Z,280nm,2.0s,mb6.3
SCO Scoresbysund 93.39 342 *e*P **P 01 18 04.0 +0.7**
SCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
SCO Scoresbysund 93.39 342 *e*P **P 01 18 04.0 +0.7**
comp=Z,3.3nm,0.8s,mb4.8
SCO Scoresbysund 93.39 342 *i* P **P 01 18 04.0 +0.7**
comp=Z,3.3nm,0.8s,mb4.8
ELOJ Sierra Loja 93.50 308 P **P 01 18 05.1 +0.5**
ELOJ pmax pmax
comp=Z,18nm,1.4s,mb5.3
ELOJ Sierra Loja 93.50 308 P **P 01 18 05.1 +0.5**
comp=Z,16nm,1.4s,mb5.3
EADA Adamuz 93.67 309 P **P 01 18 05.5 +0.2**
comp=Z,281nm,2.2s,mb6.3
IMA Indian Mountai 93.73 22 P **P 01 18 06.4 +1.5**
IMA pmax pmax
comp=Z,850nm,1.1s
IMA Indian Mountai 93.73 22 *e*P **P 01 18 05.2 +0.3**
SDPT Sand Point 94.05 34 *e*P **P 01 18 06.3 -0.3**
EMIJ Mijas 94.09 307 P **P 01 18 06.6 -0.7**
comp=Z,117nm,2.1s,mb5.9
EJIF Jimena Fronter 94.67 307 P **P 01 18 10.8 +0.9**
EJIF pmax pmax
comp=Z,104nm,1.7s,mb6.0
EJIF Jimena Fronter 94.67 307 P **P 01 18 10.8 +0.9**
comp=Z,104nm,1.7s,mb6.0
SVW2 Sparrevohn 94.74 27 *e*P **P 01 18 09.9 +0.2**
AFI Afiamalu 95.00 103 *e*P **P 01 18 12.8 +0.9**
QSPA South Pole Qui 95.40 180 PFAKE 01 18 20.0 +7.7
QSPA LR LR
comp=Z,7μm,19.0s,MS6.2
PVRL Vila Real 95.45 312 *e*P **P 01 18 16.1 +2.7**
comp=Z,44nm,1.6s,mb5.6
MTE Manteigas 95.51 311 *e*P **P 01 18 14.7 +1.0**
comp=Z,56nm,1.8s,mb5.7
PVIS Viseu 95.70 312 *e*P **P 01 18 16.6 +2.1**
comp=Z,42nm,1.9s,mb5.5
BORG Borgarnes 95.72 337 LR LR 02 07 01.0
comp=Z,1μm,19.2s,MS5.5,baz=70,slow=39
BORG Borgarnes 95.72 337 PFAKE 01 18 30.0 +16
BORG LR LR
comp=Z,589nm,21.0s,MS5.0
PTOM Tomar 96.32 311 *e*P **P 01 18 19.1 +1.7**
comp=Z,57nm,1.7s,mb5.7
COLA College 96.44 22 *e*P **P 01 18 14.3 -3.0**
COLA pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
COLA MLR MLR
comp=Z,3μm,21.0s,MS5.8
COLA College 96.44 22 *e*P **P 01 18 14.3 -3.0**
comp=Z,8.7nm,0.8s,mb5.2
COLA LR LR
comp=Z,3μm,21.0s,MS5.8
SUMG Summit 96.52 347 *e*P **P 01 18 18.6 +1.1**
comp=Z,31nm,1.3s,mb5.6
SUMG *e*PP PP 01 22 14.3 -0.2
MCK McKinley 96.54 24 *e*P **P 01 18 17.9 +0.1**
MCK pmax pmax
comp=Z,12nm,0.6s,mb5.5
MCK MLR MLR
comp=Z,2μm,19.0s,MS5.6
MCK McKinley 96.54 24 *e*P **P 01 18 17.9 +0.1**
comp=Z,12nm,0.6s,mb5.5
MCK LR LR
comp=Z,2μm,19.0s,MS5.6
PWA Palmer West 97.06 26 *e*P **P 01 18 20.4 +0.2**
FIB Fire Island 97.14 26 PFAKE 01 18 30.0 +9.4
FIB LR LR
comp=Z,826nm,22.0s,MS5.2
SLKM Skilak Lake 97.40 27 *e*P **P 01 18 21.6 -0.2**
SML Sawmill 97.65 25 *e*P **P 01 18 23.2 +0.3**
THY Trims Highway 97.94 23 *e*P **P 01 18 24.8 +0.6**
MENT Mentasta 98.98 23 *e*P **P 01 18 29.6 +0.7**
DIV Divide 99.06 25 *e*Pdif **P 01 18 29.4 +0.2**
comp=Z,27nm,0.6s,mb6.0
DIV LR LR
comp=Z,8μm,20.0s,MS6.2
INK Inuvik 99.21 16 *e*P **P 01 18 29.1 -0.7**
INK pmax pmax
comp=Z,46nm,1.0s
INK Inuvik 99.21 16 PKKPbc 01 34 52.2
comp=Z,0.5nm,0.5s,baz=40,slow=3.3,SNR=3.1
INK LR LR 02 10 34.7
comp=Z,3μm,20.9s,MS5.8,baz=295,slow=40
INK Inuvik 99.21 16 *e*P **P 01 18 29.1 -0.7**
comp=Z,46nm,1.0s,mb6.0
EYAK Cordova Ski Ar 99.35 26 *e*Pdif **P 01 18 31.0 +0.4**
RES Resolute Bay 99.77 2 *e*P **P 01 18 32.6 +0.4**
RES *e* 01 22 33.8
RES pmax pmax
comp=Z,23nm,0.8s,mb5.7
RES Resolute Bay 99.77 2 *e*Pdif **P 01 18 32.6 +0.4**
comp=Z,23nm,0.8s,mb5.7
RES *e*PP PP 01 22 33.8 -5.7
DAWY Dawson 99.99 21 *e*Pdif **P 01 18 33.8 +0.4**
SFJ Sondre 103.49 347 PFAKE 01 19 00.0 +11
SFJ LR LR
comp=Z,2μm,22.0s,MS5.7
SFJD Kangerlussuaq 103.49 347 *i* P 01 23 06.0
comp=Z,8.4nm,0.5s
SFJD *i* 01 30 40.7
SFJD *i* PS 01 32 15.9 0.0
SFJD *i* S SS 01 37 50.0 +3.3
comp=Z,2μm,22.0s
SIT Sitka 105.80 26 PFAKE 01 23 20.0
SIT LR LR
comp=Z,4μm,20.0s,MS5.9
POHA Pohakuloa 106.86 68 PFAKE 01 23 30.0
POHA LR LR
comp=Z,20μm,19.0s,MS6.7
DLBC Dease Lake 107.06 23 *e*PKP 01 23 15.0
YKW3 Yellowknife Ar 108.62 14 *e*Pdif Pdif 01 19 12.8 +1.1
YKW3 *e*PP PP 01 23 39.2 -7.3
YKA Yellowknife Ar 108.68 14 Pdiff Pdif 01 19 13.3 +1.4
comp=Z,2.4nm,0.6s,baz=327,slow=4.2,SNR=40
YKA PKKP 01 23 16.9
comp=Z,1.2nm,0.6s,baz=345,slow=2.0,SNR=13
YKA PP PP 01 23 37.8 -9.2
comp=Z,9.5nm,0.7s,baz=334,slow=7.8,SNR=16
YKA PKKPbc 01 34 25.1
comp=Z,0.8nm,0.8s,baz=148,slow=3.1,SNR=11
FCC Fort Churchill 115.60 5 *e*PKPdf PKPdf 01 23 30.3 +1.0
FCC *e*PP PP 01 24 30.9 -6.1
TBI Tubuai 116.14 113 *e*SP SP 01 34 25.5 +12
TBI *e*SS SS 01 40 43.0 +6.0
TBI *e*LR LR 01 58 36.3
comp=Z,3μm,23.5s
PPT Papeete 116.44 107 *e*PP PP 01 24 44.7 +1.0
PPT *e*SP SP 01 34 26.8 +11
PPT *e*SS SS 01 40 45.2 +4.2
PPT *e*LR LR 01 58 53.5
comp=Z,2μm,24.5s
EDM Edmonton 117.00 18 *e*PKPdf PKPdf 01 23 33.1 +1.1
EDM *e*PP PP 01 24 41.9 -4.9
SCHQ Schefferville 117.90 348 PKP PKPdf 01 23 34.9 +1.2
comp=Z,6.8nm,0.6s,baz=24,slow=3.5,SNR=39
SCHQ PP PP 01 24 45.1 -8.0
comp=Z,6.4nm,0.8s,baz=49,slow=9.2,SNR=3.6
SCHQ PKKPbc 01 33 53.3
comp=Z,1.3nm,0.6s,baz=225,slow=2.9,SNR=7.6
SCHQ Schefferville 117.90 348 *e*PKPdf PKPdf 01 23 34.9 +1.2
SCHQ *e*PP PP 01 24 48.0 -5.0
SCHQ LR LR
comp=Z,2μm,21.0s,MS5.7
FFC Flin Flon 118.47 11 *e*PKPdf PKPdf 01 23 35.8 +1.0
FFC *e*pPKPdf 01 23 49.9
FFC *e*PP PP 01 24 49.3 -7.8
PMSA Palmer Station 118.85 190 PFAKE 01 23 50.0 +15
PMSA LR LR
comp=Z,2μm,21.0s,MS5.7
TBM Table Mountain 119.15 27 P PKPdf 01 23 38.1 +1.7
EBG Ellensburg 119.36 27 P PKPdf 01 23 38.7 +1.9
NEW Newport 119.77 24 *e*PKPdf PKPdf 01 23 38.6 +1.0
NEW LR LR
comp=Z,2μm,22.0s,MS5.8
COR Corvallis 119.77 30 *e*PKPdf PKPdf 01 23 39.0 +1.3
COR LR LR
comp=Z,2μm,22.0s,MS5.6
HAWA Hanford 120.22 27 *e*PKPdf PKPdf 01 23 40.0 +1.5
HAWA LR LR
comp=Z,118nm,22.0s
WALA Waterton Lakes 120.34 21 *e*PKPdf PKPdf 01 23 39.7 +1.1
WALA *e*PP PP 01 25 05.8 -3.5
LNOR Lincton Mounta 121.17 26 P PKPdf 01 23 41.9 +1.5
HUMO Hull Mountain 121.35 32 *e*PKPdf PKPdf 01 23 42.9 +2.1
HUMO LR LR
comp=Z,1μm,22.0s,MS5.6
YBH Yreka Blue Hor 122.10 32 *e*PKPdf PKPdf 01 23 43.7 +1.4
YBH LR LR
comp=Z,1μm,20.0s,MS5.6
KHMM Horse Mountain 122.14 34 *e*PKPdf PKPdf 01 23 44.7 +2.3
MSO Missoula 122.19 23 *e*PKPdf PKPdf 01 23 43.1 +0.8
MSO *e*PP PP 01 25 18.7 -3.6
MSO LR LR
comp=Z,2μm,21.0s,MS5.8
CHMT Chamberlain Mo 122.38 22 *e*PKPdf PKPdf 01 23 43.6 +1.0
CHMT *e*PP PP 01 25 20.3 -3.3
BMO Blue Mountains 122.40 26 *e*PKPdf PKPdf 01 23 43.4 +0.6
BMO *e*PP PP 01 25 20.9 -2.8
BMO LR LR
comp=Z,1μm,19.0s,MS5.5
LASM Arnica Sink 122.79 32 P PKPdf 01 23 45.8 +2.2
WDC Whiskeytown Da 123.00 33 *e*PKPdf PKPdf 01 23 45.2 +1.2
WDC *e*PP PP 01 25 23.7 -4.4
WDC LR LR
comp=Z,1μm,20.0s,MS5.5
HRY Holter Researc 123.07 21 *e*PKPdf PKPdf 01 23 45.4 +1.4
HRY *e*PP PP 01 25 24.6 -3.8
MOD Modoc 123.22 31 *e*PKPdf PKPdf 01 23 46.6 +2.2
MOD LR LR
comp=Z,2μm,22.0s,MS5.7
WVOR Wild Horse Val 123.65 29 *e*PKPdf PKPdf 01 23 47.7 +2.4
WVOR LR LR
comp=Z,2μm,21.0s,MS5.7
ULM Lac du Bonnet 123.79 8 PKP PKPdf 01 23 45.8 +0.5
comp=Z,14nm,0.6s,baz=356,slow=2.3,SNR=29
ULM pPKP 01 24 00.6
comp=Z,16nm,0.6s,baz=336,slow=3.9,SNR=8.7
ULM PP PP 01 25 25.1 -8.2
comp=Z,7.6nm,0.7s,baz=353,slow=7.1,SNR=3.9
ULM PKKPbc 01 33 31.4
comp=Z,1.2nm,0.6s,baz=131,slow=2.1,SNR=4.0
ULM Lac du Bonnet 123.79 8 *e*PKPdf PKPdf 01 23 45.6 +0.3
ULM *ep*PKPdf 01 24 00.2
ULM *e*PP PP 01 25 25.5 -7.9
ULM LR LR
comp=Z,2μm,20.0s,MS5.7
HOPS Hopland 123.80 35 *e*PKPdf PKPdf 01 23 47.9 +2.3
HOPS LR LR
comp=Z,1μm,21.0s,MS5.5
BOZ Bozeman (W) 124.05 22 *e*PKPdf PKPdf 01 23 47.2 +1.3
BOZ *e*PP PP 01 25 32.2 -3.1
BOZ LR LR
comp=Z,2μm,19.0s,MS5.9
MCMT McKenzie Canyo 124.27 23 *e*PKPdf PKPdf 01 23 48.1 +1.7
GCMT Greycliff 124.63 20 *e*PKPdf PKPdf 01 23 49.1 +2.1
HLID Hailey 124.68 25 *e*PKPdf PKPdf 01 23 49.2 +2.0
HLID LR LR
comp=Z,2μm,20.0s,MS5.8
QLMT Earthquake Lak 124.82 22 *e*PKPdf PKPdf 01 23 49.9 +2.5
LAO LASA Array 124.93 17 *e*PKPdf PKPdf 01 23 49.8 +2.2
LAO LR LR
comp=Z,4μm,21.0s,MS6.0
YMR Madison River 125.13 22 *e*PKPdf PKPdf 01 23 49.9 +1.8
YNR Norris Junctio 125.19 22 *e*PKPdf PKPdf 01 23 50.6 +2.5
YFT Old Faithful 125.36 22 *e*PKPdf PKPdf 01 23 51.9 +3.4
WCN Washoe City 125.41 32 *e*PKPdf PKPdf 01 23 50.6 +1.9
LKWY Lake 125.43 22 *e*PKPdf PKPdf 01 23 52.0 +3.4
LKWY *e*PP PP 01 25 40.1 -4.0
LKWY LR LR
comp=Z,4μm,19.0s,MS6.1
PQI Presque Isle 125.78 345 PFAKE 01 24 00.0 +11
PQI LR LR
comp=Z,8μm,20.0s,MS6.4
IMW Indian Meadow 125.80 22 *e*PKPdf PKPdf 01 23 51.4 +2.0
BMN Battle Mountai 125.86 30 *e*PKPdf PKPdf 01 23 51.9 +2.3
BMN LR LR
comp=Z,853nm,19.0s,MS5.4
CMB Columbia Colle 125.98 34 P Pdif 01 20 33.2 +4.5
CMB *e* 01 23 52.1
CMB Columbia Colle 125.98 34 *e*PKPdf PKPdf 01 23 51.1 +1.3
CMB LR LR
comp=Z,1μm,22.0s,MS5.5
MUDI Mud Lake 125.98 23 *e*PKPdf PKPdf 01 23 50.4 +0.7
MOOW Moose Ponds 126.00 22 *e*PKPdf PKPdf 01 23 51.8 +2.0
MOOW *e*PP PP 01 25 44.5 -3.5
RRI2 Red Ridge 126.11 23 *e*PKPdf PKPdf 01 23 52.4 +2.4
RRI2 *e*PP PP 01 25 45.7 -3.1
TPAW Teton Pass 126.14 23 *e*PKPdf PKPdf 01 23 52.2 +2.2
TPAW *e*PP PP 01 25 44.7 -4.2
LOHW Long Hollow 126.17 22 *e*PKPdf PKPdf 01 23 52.0 +1.9
LOHW *e*PP PP 01 25 45.2 -3.9
SNOW Snow King Moun 126.24 23 *e*PKPdf PKPdf 01 23 52.6 +2.4
SAO San Andreas Ge 126.26 36 *e*PKPdf PKPdf 01 23 52.5 +2.1
SAO LR LR
comp=Z,1μm,21.0s,MS5.5
REDW Red Top Meadow 126.28 23 *e*PKPdf PKPdf 01 23 52.6 +2.3
REDW *e*PP PP 01 25 45.6 -4.2
EYMN Ely 126.55 5 *e*PKPdf PKPdf 01 23 51.9 +1.2
EYMN *e*PP PP 01 25 44.0 -7.2
EYMN LR LR
comp=Z,2μm,20.0s,MS5.8
AHID Auburn Hatcher 126.69 23 *e*PKPdf PKPdf 01 23 52.0 +0.9
AHID LR LR
comp=Z,2μm,20.0s,MS5.8
HVU Hansel Valley 126.83 25 *e*PKPdf PKPdf 01 23 52.7 +1.3
MNV Mina 126.89 32 P Pdif 01 20 28.8 -3.9
MNV *e* 01 23 54.1
MNV Mina 126.89 32 *e*PKPdf PKPdf 01 23 53.6 +2.0
MNV LR LR
comp=Z,1μm,21.0s,MS5.6
OMM Old Mammoth Mi 127.04 33 *e*PKPdf PKPdf 01 23 54.0 +2.0
PDAR Pinedale Array 127.28 22 PKP PKPdf 01 23 52.4 +0.1
comp=Z,51nm,1.2s,baz=102,slow=2.3,SNR=44
PDAR pPKP 01 24 09.1
comp=Z,18nm,0.9s,baz=115,slow=2.1,SNR=8.7
PDAR PP PP 01 25 52.8 -3.3
comp=Z,4.0nm,0.7s,baz=54,slow=4.7,SNR=4.2
BGU Big Grassy Mou 127.42 26 *e*PKPdf PKPdf 01 23 54.4 +1.8
EMMW East Machias 127.44 344 PFAKE 01 24 10.0 +17
EMMW LR LR
comp=Z,9μm,20.0s,MS6.5
HWUT Hardware Ranch 127.48 24 *e*PKPdf PKPdf 01 23 54.4 +1.7
HWUT *e*PP PP 01 25 54.2 -3.3
HWUT LR LR
comp=Z,4μm,22.0s,MS6.0
TPH Tonopah 127.65 32 P Pdif 01 20 35.5 -0.5
TPH Tonopah 127.65 32 *e*PKPdf PKPdf 01 23 55.1 +2.0
TPH *ep*PKPdf 01 24 08.5
TPH LR LR
comp=Z,1μm,20.0s,MS5.5
TCUT Toone Canyon 127.95 25 *e*PKPdf PKPdf 01 23 55.5 +1.8
NOQ North Oquirrh 128.04 26 *e*PKPdf PKPdf 01 23 54.3 +0.5
DUG Dugway 128.11 26 *e*PKPdf PKPdf 01 23 55.9 +1.9
DUG LR LR
comp=Z,1μm,21.0s,MS5.6
WVL Waterville 128.16 346 PFAKE 01 24 10.0 +16
WVL LR LR
comp=Z,8μm,21.0s,MS6.4
TRCR Troy Canyon 128.27 30 *e*PKPdf PKPdf 01 23 57.2 +2.9
JLU Jordanelle 128.37 25 *e*PKPdf PKPdf 01 23 56.6 +2.1
JLU *e*PP PP 01 26 00.2 -3.6
DAU Daniels Canyon 128.60 25 *e*PKPdf PKPdf 01 23 57.3 +2.4
NLU North Lily Min 128.63 26 *e*PKPdf PKPdf 01 23 56.5 +1.5
NLU *e*PP PP 01 26 01.0 -4.6
DAC Darwin (Calif) 128.78 33 *e*PKPdf PKPdf 01 23 58.3 +2.9
DAC LR LR
comp=Z,1μm,20.0s,MS5.5
RWWY Rawlins 129.08 21 *e*PKPdf PKPdf 01 23 57.3 +1.5
RKT Rikitea 129.34 115 *e*PP PP 01 26 04.8 -5.9
RKT *e*SP SP 01 36 15.4 +5.5
RKT *e*SS SS 01 43 34.0 +8.7
RKT *e*LR LR 02 05 03.4
comp=Z,2μm,34.5s
TMUT Trail Mountain 129.55 26 *e*PKPdf PKPdf 01 23 59.9 +3.2
NCB Newcomb 129.72 349 *e*PKPdf PKPdf 01 23 58.6 +1.7
NCB LR LR
comp=Z,2μm,22.0s,MS5.7
MVU Marysvale 129.76 27 *e*PKPdf PKPdf 01 23 59.6 +2.4
MVU LR LR
comp=Z,1μm,22.0s,MS5.6
ARUT Antelope Range 129.76 29 *e*PKPdf PKPdf 01 23 59.2 +2.0
MSU Marysvale 129.77 27 *e*PKPdf PKPdf 01 23 59.5 +2.4
MSU *e*PP PP 01 26 09.8 -3.1
SRU San Rafael 130.00 25 *e*PKPdf PKPdf 01 23 59.7 +2.1
MWC Mount Wilson 130.01 35 *e*PKPpre 01 23 55.2
MWC *e*PKPdf PKPdf 01 23 59.7 +2.0
PHWY Pilot Hill 130.02 20 *e*PKPdf PKPdf 01 23 58.5 +0.9
PHWY *e*PP PP 01 26 10.3 -4.0
RCBR Riachuelo 130.55 267 PFAKE 01 24 10.0 +11
RCBR LR LR
comp=Z,2μm,21.0s,MS5.9
HRV Harvard--Oak R 130.56 346 PFAKE 01 24 10.0 +11
HRV LR LR
comp=Z,2μm,20.0s,MS5.8
WES Weston 130.62 346 PFAKE 01 24 10.0 +11
WES LR LR
comp=Z,2μm,19.0s,MS5.9
LDFC Landfair 131.02 32 *e*PKPdf PKPdf 01 24 03.0 +3.3
LDFC *e*SKPbc 01 27 23.2
PV10 Paradox Valley 131.24 25 *e*PKPdf PKPdf 01 24 02.6 +2.6
PV10 *e*PP PP 01 26 16.8 -5.9
PV10 *e*SKPbc 01 27 23.5
PFO Pinyon Flat Ob 131.38 35 *e*PKPdf PKPdf 01 24 01.6 +1.3
PFO *e*SKPbc 01 27 21.9
PFO LR LR
comp=Z,395nm,22.0s,MS5.1
GENY Geneseo 131.46 352 *e*PKPdf PKPdf 01 24 01.3 +1.0
GENY *e*PP PP 01 26 20.6 -3.2
GENY *e*SKPbc 01 27 23.9

PV01	**Paradox Valley**	**131.64**	**24**	*e*PKPdf	PKPdf	01 24 03.3	+2.6
PV01				*e*SKPbc		01 27 23.6	
JFWS	**Jewell Farm**	**131.65**	**5**	*e*PKPdf	PKPdf	01 24 01.7	+1.1
JFWS				*e*PP	PP	01 26 16.4	-8.6
JFWS				*e*SKPbc		01 27 23.9	
JFWS				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
BAR	**Barrett**	**131.93**	**36**	*e*PKPdf	PKPdf	01 24 03.4	+2.0
BAR				*e*SKPbc		01 27 25.3	
ERPA	**Erie**	**132.35**	**354**	*e*PKPdf	PKPdf	01 24 03.2	+1.3
ERPA				*e*SKPbc		01 27 27.0	
ERPA				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
AAM	**Ann Arbor**	**132.41**	**358**	PFAKE		01 24 20.0	+18
AAM				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
WUAZ	**Wupatki**	**132.57**	**29**	*e*PKPdf	PKPdf	01 24 05.0	+2.4
WUAZ				*e*SKPbc		01 27 29.5	
WUAZ				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
ALLY	**Alegheny Colle**	**132.83**	**354**	*e*PKPdf	PKPdf	01 24 05.3	+2.4
SDCO	**Great Sand Dun**	**133.17**	**22**	*e*PKPpre		01 23 59.2	
SDCO				*e*PKPdf	PKPdf	01 24 05.9	+2.3
SDCO				*e*PP	PP	01 26 27.0	-7.5
SDCO				*e*SKPbc		01 27 31.2	
SDCO				*e*SKPdf		01 27 38.0	
SDCO				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
SSPA	**Standing Stone**	**133.56**	**352**	*e*PKPdf	PKPdf	01 24 05.4	+1.1
SSPA				*e*SKPbc		01 27 33.1	
SSPA				LR	LR		
	comp=Z,2µm,22.0s,MS5.8						
MVL	**Millersville**	**133.95**	**350**	*e*PKPdf	PKPdf	01 24 06.5	+1.5
MVL				*e*SKPab		01 27 34.6	
CBKS	**Cedar Bluff**	**134.02**	**15**	PFAKE		01 24 20.0	+15
CBKS				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
ACSO	**Alum Creek Sta**	**134.45**	**357**	*e*PKPdf	PKPdf	01 24 07.0	+1.0
ACSO				*e*SKPbc		01 27 33.0	
ACSO				LR	LR		
	comp=Z,3µm,21.0s,MS5.9						
KSU1	**Kansas State U**	**134.49**	**12**	*e*PKPdf	PKPdf	01 24 06.3	+0.3
KSU1				*e*SKPbc		01 27 33.2	
SDMD	**Soldier's Deli**	**134.60**	**350**	*e*PKPdf	PKPdf	01 24 08.2	+1.9
MCWV	**Mont Chateau**	**134.77**	**354**	PFAKE		01 24 20.0	+13
MCWV				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
ANMO	**Albuquerque**	**135.24**	**25**	*e*PKPdf	PKPdf	01 24 09.0	+1.5
ANMO				*e*SKPbc		01 27 37.0	
ANMO				LR	LR		
	comp=Z,2µm,21.0s,MS5.7						
TUC	**Tucson**	**135.43**	**31**	*e*PKPdf	PKPdf	01 24 10.2	+2.3
TUC				*e*SKPbc		01 27 37.1	
TUC				LR	LR		
	comp=Z,1µm,22.0s,MS5.5						
BLO	**Bloomington**	**135.56**	**1**	*e*PKPdf	PKPdf	01 24 09.3	+1.3
LENM	**Lemitar**	**135.70**	**26**	*e*PKPdf	PKPdf	01 24 10.7	+2.3
LPM	**Los Pinos Moun**	**135.72**	**25**	*e*PKPdf	PKPdf	01 24 11.1	+2.7
CBN	**Corbin**	**135.87**	**351**	PFAKE		01 24 20.0	+11
CBN				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
CCM	**Cathedral Cave**	**136.37**	**6**	*e*PKPpre		01 23 58.7	
CCM				*e*PKPdf	PKPdf	01 24 11.5	+2.0
CCM				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
WCI	**Wyandotte Cave**	**136.51**	**1**	*e*PKPdf	PKPdf	01 24 10.6	+0.8
WCI				*e*PP	PP	01 26 50.1	-5.1
WCI				LR	LR		
	comp=Z,1µm,21.0s,MS5.7						
FVM	**French Village**	**136.53**	**6**	*e*PKPdf	PKPdf	01 24 10.7	+0.9
FWV	**Forest Hill**	**136.93**	**354**	*e*PKPdf	PKPdf	01 24 11.4	+0.9
AMTX	**Amarillo**	**137.09**	**20**	PFAKE		01 24 20.0	+9.1
AMTX				LR	LR		
	comp=Z,2µm,19.0s,MS5.9						
BLA	**Blacksburg**	**137.25**	**354**	*e*PKPdf	PKPdf	01 24 12.9	+1.8
BLA				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
ELN	**Prospectdale**	**137.27**	**354**	*e*PKPdf	PKPdf	01 24 12.5	+1.3
BBSR	**BB Station**	**137.42**	**333**	PFAKE		01 24 20.0	+8.4
BBSR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
CPRX	**Cap Rock**	**137.96**	**23**	*e*PKPdf	PKPdf	01 24 13.4	+0.8
CPRX				*e*SKPbc		01 27 44.3	
WMOK	**Wichita Mounta**	**138.11**	**16**	PKPdf	PKPdf	01 24 14.1	+1.3
WMOK				*e*PP	PP	01 26 60.0	-5.8
WMOK				*e*SKPbc		01 27 44.0	
WMOK				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
TZTN	**Tazewell**	**138.15**	**358**	*e*PKPpre		01 24 05.1	
TZTN				*e*PKPdf	PKPdf	01 24 14.0	+1.2
GDL2	**Guadalupe Moun**	**138.49**	**24**	PKPdf	PKPdf	01 24 15.7	+2.1
GDL2				*e*SKPbc		01 27 46.3	
MNTX	**Cornudas Mount**	**138.50**	**26**	*e*PKPpre		01 24 06.2	
MNTX				*e*PKPdf	PKPdf	01 24 15.3	+1.7
MNTX				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
WVT	**Waverly**	**138.56**	**3**	*e*PKPdf	PKPdf	01 24 15.0	+1.5
WVT				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
CLNB	**Carlsbad**	**138.63**	**24**	*e*PKPdf	PKPdf	01 24 16.4	+2.6
CPCT	**Cooper Cave**	**139.28**	**359**	*e*PKPdf	PKPdf	01 24 15.9	+1.0
CPCT				*e*SKPdf		01 27 47.8	
UALR	**University of**	**139.46**	**9**	*e*PKPdf	PKPdf	01 24 16.9	+1.7
MIAR	**Mount Ida**	**139.49**	**10**	*e*PKPpre		01 24 07.6	
MIAR				*e*SKPdf		01 27 48.5	
MIAR				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
SWET	**Sewanee**	**139.52**	**0**	*e*PKPpre		01 24 12.3	
SWET				*e*PKPdf	PKPdf	01 24 16.9	+1.6
PLAL	**Pickwick Lake**	**139.69**	**3**	*e*PKPpre		01 24 09.4	
PLAL				*e*PKPdf	PKPdf	01 24 17.6	+2.0
PLAL				*e*SKPdf		01 27 48.4	
PLAL				LR	LR		
	comp=Z,2µm,20.0s,MS5.8						
OXF	**Oxford**	**140.06**	**5**	*e*PKPpre		01 24 09.5	
OXF				*e*PKPdf	PKPdf	01 24 18.0	+1.7
OXF				*ep*PKPdf		01 24 28.8	
OXF				*e*PP	PP	01 27 10.4	-7.1
OXF				*e*PKPbc	PKS	01 27 51.0	-0.2
OXF				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
JSC	**Jenkinsville**	**140.24**	**354**	*e*PKPdf	PKPdf	01 24 18.1	+1.5
TRQA	**Tornquist**	**141.10**	**210**	*e*PKPpre		01 24 14.0	
TRQA				*e*PKPdf	PKPdf	01 24 19.9	+1.7
TRQA				*e*SKPdf		01 27 51.8	
TRQA				LR	LR		
	comp=Z,3µm,19.0s,MS6.0						
GOGA	**Godfrey**	**141.27**	**357**	PFAKE		01 24 30.0	+11
GOGA				LR	LR		
	comp=Z,2µm,20.0s,MS6.0						
TXAR	**Lajitas Array**	**141.28**	**26**	PKhKP		01 24 13.0	
	comp=Z,3.4nm,0.6s,baz=322,slow=1.7,SNR=33						
TXAR				PP	PP	01 27 21.4	-3.6
	comp=Z,8.8nm,0.9s,baz=349,slow=6.4,SNR=6.6						
TXAR	**Lajitas Array**	**141.28**	**26**	PKP	PKPdf	01 24 13.0	-5.7
TXAR				PP	PP	01 27 21.4	-3.6
NHSC	**New Hope**	**141.28**	**353**	PFAKE		01 24 30.0	+11
NHSC				LR	LR		
	comp=Z,1µm,19.0s,MS5.8						
LRAL	**Lakeview Retre**	**141.67**	**2**	*e*PKPdf	PKPdf	01 24 14.4	-4.9
LRAL				LR	LR		
	comp=Z,3µm,20.0s,MS6.0						
BAO	**Brasilia Array**	**141.73**	**252**	P	PKPdf	01 24 23.0	+3.2
JCT	**Junction City**	**141.75**	**20**	*e*PKPpre		01 24 14.7	
JCT				*e*PKPdf	PKPdf	01 24 21.4	+1.9
JCT				*e*PKPbc	PKS	01 27 54.7	+0.5
JCT				LR	LR		
	comp=Z,3µm,22.0s,MS6.0						
BDFB	**Brasilia**	**141.75**	**252**	PKhKP		01 24 14.6	
	comp=Z,1.6nm,0.7s,baz=214,slow=20,SNR=1.4						
NATX	**Nacogdoches**	**141.97**	**13**	*e*PKPpre		01 24 15.3	
NATX				LR	LR		
	comp=Z,3µm,20.0s,MS6.1						
PLCA	**Paso Flores**	**142.39**	**199**	PKhKP		01 24 16.7	
	comp=Z,4.1nm,0.9s,baz=150,slow=8.1,SNR=8.4						
PLCA				PP	PP	01 27 18.4	-13
	comp=Z,2.2nm,0.9s,baz=216,slow=8.7,SNR=2.1						
PLCA	**Paso Flores**	**142.39**	**199**	PKP	PKPdf	01 24 16.7	-3.5
PLCA				PP	PP	01 27 18.4	-13
PLCA				LR	LR		
	comp=Z,2µm,21.0s,MS5.9						
CPUP	**Villa Florida**	**145.96**	**229**	PKPdf	PKPdf	01 24 28.8	+1.9
DWPF	**Disney**	**146.36**	**353**	*e*PKPbc	PKPbc	01 24 30.6	+1.9
DWPF				LR	LR		
	comp=Z,2µm,19.0s,MS6.0						
BBL	**Barber's Block**	**148.26**	**311**	*e*P	PKPdf	01 24 37.2	+6.3
RPN	**Rapa Nui**	**148.79**	**136**	*e*PKPbc	PKPdf	01 24 38.1	+6.6
RPN				LR	LR		
	comp=Z,402nm,20.0s,MS5.2						
TRN	**Trinidad (W)**	**151.06**	**304**	*e*P	PKPdf	01 24 45.3	+10
TEIG	**Tepich**	**154.32**	**6**	*e*PKPdf	PKPdf	01 24 42.6	+2.9
TEIG				*e*PKPbc	PKPdf	01 24 50.0	+10
TEIG				*e*PKPab	PKPab	01 25 03.7	-1.0
TEIG				LR	LR		
	comp=Z,757nm,21.0s,MS5.5						
LVC	**Limon Verde**	**156.54**	**222**	*e*PKPdf	PKPdf	01 24 46.2	+3.6
LVC				LR	LR		
	comp=Z,2µm,22.0s,MS5.9						
SDV	**Santo Domingo**	**159.35**	**314**	*e*PKPdf	PKPdf	01 24 48.1	+1.7
SDV				*e*PKPab	PKPab	01 25 26.5	0.0
SDV				LR	LR		
	comp=Z,2µm,22.0s,MS5.9						
LPAZ	**La Paz**	**159.78**	**237**	PKP	PKPdf	01 24 49.5	+2.7
	comp=Z,6.3nm,0.9s,baz=44,slow=3.5,SNR=22						
LPAZ				PKPab	PKPab	01 25 29.1	+0.9
	comp=Z,11nm,0.9s,baz=88,slow=20,SNR=8.7						
LPAZ	**La Paz**	**159.78**	**237**	*e*PKPdf	PKPdf	01 24 49.6	+2.9
LPAZ				*e*PKPab	PKPab	01 25 29.5	+1.3
LPAZ				LR	LR		
	comp=Z,2µm,22.0s,MS6.0						
ARE	**Arequipa**	**162.38**	**231**	*e*P	PKPdf	01 24 53.0	+3.6
JTS	**JuntasAbangare**	**164.32**	**358**	PFAKE		01 25 00.0	+8.6
JTS				LR	LR		
	comp=Z,494nm,20.0s						
ROSC	**El Rosal**	**164.76**	**312**	PKP	PKPdf	01 24 53.6	+1.7
	comp=Z,19nm,0.8s,baz=136,slow=3.0,SNR=23						
OTAV	**Otavalo**	**170.87**	**308**	*e*PKPdf	PKPdf	01 24 58.5	+2.4
OTAV				*e*PKPab	PKPab	01 26 17.4	+0.6
OTAV				LR	LR		
	comp=Z,3µm,21.0s						
PAYG	**Puerto Ayora**	**173.32**	**45**	PFAKE		01 25 10.0	+13
PAYG				LR	LR		
	comp=Z,2µm,22.0s						

NEIC ***25*** *01:36:29.6, 16.27N×98.08W, h10km, MD3.5(MEX), After MEX.*

MEX 25 01:36:20.8±0.7, 17.16N×94.73W, h63km±9km, MD3.9, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.17**	**245**	*i* P	P	01 36 29.1	-1.2
CMIG				*i* S	S	01 36 35.8	-1.6
OXX	**Oaxaca**	**1.91**	**268**	*e*P	P	01 36 50.0	-1.7
OXX				*e*S	S	01 37 13.0	-1.6
HUIG	**Huatulco**	**1.92**	**224**	*e*P	P	01 36 49.9	-1.9
HUIG				*i* S	S	01 37 23.3	+8.6
HUIG	**Huatulco**	**1.92**	**224**	*e*P	P	01 36 49.9	-1.9
HUIG				*i* S	S	01 37 13.1	-1.6
VHO	**Vista Hermosa**	**1.92**	**268**	*e*P	P	01 36 53.6	+1.8
VHO				*i* S	S	01 37 12.2	-2.6
VHO	**Vista Hermosa**	**1.92**	**268**	*i* P	P	01 36 52.4	+0.5
VHO				*i* S	S	01 37 12.2	-2.6
PPM	**Popocatepetl**	**4.17**	**298**	*e*P	P	01 37 19.5	-3.9

IDC 25 01:41:00.2±4.3, 13.59S×111.75W, mb3.6/5, mb1 4.0/5, mb1mx3.7/15, mbtmp3.6/5, MS4.0/1, Ms1 4.0/1, ms1mx2.7/15, Error ellipse: s-maj=128.4km s-min=33.2km az=45.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**13.66**	**171**	LR	LR	01 48 04.1	
	comp=Z,644nm,20.8s,baz=209,slow=31						
LPAZ	**La Paz**	**42.17**	**99**	P	P	01 48 55.6	-1.0
	1.2nm,0.6s,baz=257,slow=6.5,SNR=9.6						
TXAR	**Lajitas Array**	**43.38**	**10**	P	P	01 49 05.2	-1.1
	0.3nm,0.9s,baz=180,slow=6.3,SNR=4.3						
PDAR	**Pinedale Array**	**56.11**	**2**	P	P	01 50 40.8	-2.9
	0.2nm,0.4s,baz=162,slow=8.6,SNR=1.6						
YKA	**Yellowknife Ar**	**75.87**	**359**	P	P	01 52 47.7	-2.2
	0.1nm,0.4s,baz=173,slow=5.3,SNR=4.4						
INK	**Inuvik**	**83.17**	**352**	P	P	01 53 28.3	-0.8
	0.7nm,0.8s,baz=127,slow=7.8,SNR=3.0						

IDC ***25*** *01:56:55.8±0.7, 11.74N×143.06E, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, Error ellipse: s-maj=37.0km s-min=18.1km az=89.0*
NEIC ***25*** *01:57:01.9±0.4, 11.73N×143.18E, mb4.3/3, Error ellipse: s-maj=17.6km s-min=9.5km az=102.0*

ISC 25 01:56:60.0±0.5, 11.69N±0.08×143.2E±0.1, h44km, h44km±.7km: pP-P, n20, σ0s79/18, mb4.1/12, 1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.52**	**41**	*e*Pn	**P**	**01 57 37.9**	**-1.5**
GUMO				*e*Sn	**S**	**01 58 09.1**	**-0.1**
WRAB	**Tennant Creek**	**32.59**	**196**	*e*P	**P**	**02 03 29.4**	**-0.5**
	5.6nm,0.6s,mb4.7						
WRAB				*e*	pP	02 03 41.0	-0.6
WB2	**Warramunga Arr**	**32.60**	**196**	*i*P	**P**	**02 03 29.6**	**-0.3**
WRA	**Warramunga Arr**	**32.61**	**196**	P	**P**	**02 03 29.0**	**-0.9**
	2.2nm,0.5s,mb4.3,baz=19,slow=9.7,SNR=18						
WRA				pP	pP	02 03 41.1	-0.6
	2.3nm,0.6s,baz=18,slow=9.7,SNR=7.5						
ASAR	**Alice Springs**	**36.28**	**194**	P	**P**	**02 04 01.9**	**+0.5**
	1.1nm,0.6s,mb4.0,baz=23,slow=11,SNR=8.8						
ASAR				pP	pP	02 04 13.6	+0.3
	0.7nm,0.6s,baz=19,slow=12,SNR=5.6						
DZM	**Mont Dzumac**	**40.59**	**146**	P	**P**	**02 04 37.7**	**+0.5**
	4.0nm,0.6s,mb4.2,baz=289,slow=18,SNR=10						
SONM	**Songino Array**	**47.36**	**327**	P	**P**	**02 05 32.0**	**+0.5**
	0.3nm,0.4s,mb3.6,baz=138,slow=6.0,SNR=5.1						
KURK	**Kurchatov**	**64.97**	**321**	*e*P	**P**	**02 07 37.2**	**-0.3**
	2.2nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**70.33**	**323**	*e*P	**P**	**02 08 10.3**	**-0.6**
	1.0nm,0.5s,mb4.0						
THY	**Trims Highway**	**71.18**	**27**	*e*P	**P**	**02 08 16.2**	**+0.2**
INK	**Inuvik**	**76.75**	**22**	P	**P**	**02 08 47.9**	**-0.3**
	0.3nm,0.4s,mb3.6,baz=297,slow=6.4,SNR=6.0						
INK	**Inuvik**	**76.75**	**22**	*e*P	**P**	**02 08 48.0**	**-0.2**
DLBC	**Dease Lake**	**78.47**	**32**	P	**P**	**02 08 59.7**	**+1.8**
	0.6nm,0.5s,mb3.8,baz=135,slow=17,SNR=3.1						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	**P**	**02 09 34.3**	**+1.0**
	0.8nm,0.4s,mb4.2,baz=287,slow=4.9,SNR=15						
YKA	**Yellowknife Ar**	**85.31**	**27**	P	**P**	**02 09 34.3**	**+1.0**
ARCES	**ARCESS Array B**	**88.37**	**342**	P	**P**	**02 09 48.8**	**+0.8**
	1.2nm,0.5s,mb4.3,baz=59,slow=7.1,SNR=10.0						
FINES	**FINESS Array B**	**92.17**	**335**	P	**P**	**02 10 05.2**	**-0.8**
	1.8nm,0.9s,mb4.4,baz=64,slow=5.0,SNR=9.8						
CFAA	**Coronel Fontan**	**144.92**	**129**	PKPbc	PKPbc	02 16 35.0	+1.9
	0.2nm,0.5s,baz=180,slow=2.0,SNR=3.0						
LPAZ	**La Paz**	**149.31**	**102**	PKPbc	PKPdf	02 16 49.2	+8.6
	0.6nm,0.7s,baz=279,slow=4.3,SNR=5.1						
LPAZ	**La Paz**	**149.31**	**102**	PKPbc	PKPdf	02 16 49.2	+8.6

KRSC 25 02:14:24.4±0.3, 54.67N×163.29E, h14km±3km, ML3.8, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.56**	**350**	*e*P	Pn	02 14 52.5	+0.5
KBTR				*e*S	Sn	02 15 12.6	+0.5
KBG	**Krutoberegovo**	**1.62**	**348**	*e*P	Pn	02 14 53.3	+0.5
KBG				*e*S	Sn	02 15 14.2	+0.6
KBG				Smax			
	270nm,0.9s						
BKI	**Bering**	**1.64**	**70**	*e*S	Sn	02 15 13.0	-1.0
TUMR	**Tumrok**	**1.91**	**290**	*e*P	Pn	02 14 57.6	+0.6
TUMR				*e*S	Sn	02 15 21.6	+0.6
KMNR	**Kamenistaya**	**2.06**	**303**	*e*P	Pn	02 14 59.6	+0.5
KMNR				*e*S	Sn	02 15 25.5	+0.8
KLY	**Klyuchi**	**2.23**	**319**	*e*P	Pn	02 15 01.2	-0.3
KLY				*e*S	Sn	02 15 28.3	-0.7
KII	**Karymskiy**	**2.34**	**256**	*e*P	Pn	02 15 03.2	+0.2
KII				*e*S	Sn	02 15 31.2	-0.5
SPN	**Mys Shipunski**	**2.49**	**232**	*e*P	Pn	02 15 05.1	-0.2
SPN				*e*S	Sn	02 15 34.6	-1.1
SRDR	**Sredinnyy**	**2.62**	**311**	*e*P	Pn	02 15 08.3	+1.2
SRDR				*e*S	Sn	02 15 40.2	+1.3
NLC	**Nalytchevo**	**2.77**	**239**	*e*P	Pn	02 15 10.4	+1.1
NLC				*e*S	Sn	02 15 44.2	+1.3
ESO	**Esso**	**2.91**	**297**	*e*P	Pn	02 15 10.8	-0.4
ESO				*e*S	Sn	02 15 44.9	-1.4
UGLR	**Uglovaya**	**3.02**	**243**	*e*P	Pn	02 15 13.3	+0.5
AVH	**Avacha**	**3.04**	**244**	*e*P	Pn	02 15 13.7	+0.7
AVH				*e*S	Sn	02 15 49.5	0.0
KOK	**Koryaka**	**3.08**	**245**	*e*P	Pn	02 15 14.0	+0.4
PET	**Petropavlovsk**	**3.20**	**241**	*e*P	Pn	02 15 15.4	0.0
PET				*e*S	Sn	02 15 52.8	-0.9
GNL	**Ganaly**	**3.29**	**255**	*e*P	Pn	02 15 17.4	+0.8
GNL				*e*S	Sn	02 15 56.4	+0.5
RUS	**Russkaya**	**3.62**	**234**	*e*P	Pn	02 15 23.0	+1.6
RUS				*e*S	Sn	02 16 05.9	+1.5
GRL	**Gorelyy**	**3.76**	**238**	*e*P	Pn	02 15 25.7	+2.4

NEIC ***25*** *02:19:47.7, 31.70S×71.65W, h28km, ML3.6(GUC), After GUC.*

GUC 25 02:19:47.7±0.9, 31.70S×71.65W, h28km±2km, MD3.9, ML3.6, 14C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.22**	**144**	↑*i*P	Pb	02 19 54.4	+0.4
CHNG				*i* S	Sb	02 19 58.5	+0.2
CHNG				AMP		02 19 59.4	
	comp=E,15µm,0.2s						
ILCH	**Illapel**	**0.42**	**81**	↑*i*P	Pb	02 19 56.9	+0.1
ILCH				*i* S	Sb	02 20 03.4	+0.5
ILCH				AMP		02 20 03.6	
	comp=N,11µm,0.2s						
PACH	**Papudo**	**0.85**	**168**	↑*i*P	Pb	02 20 03.3	-0.5
PACH				*i* S	Sb	02 20 14.8	-0.1
IHA	**Instituto Hidr**	**1.32**	**180**	↑*i*P	Pn	02 20 10.4	-0.1
IHA				*i* S	Sn	02 20 27.6	+0.3
JACH	**Jahuel**	**1.33**	**138**	↓*i*P	Pn	02 20 11.1	+0.5
JACH				*i* S	Sn	02 20 28.6	+1.1
ROCH	**El Roble**	**1.38**	**157**	↓*i*P	Pn	02 20 11.5	+0.1
ROCH				*i* S	Sn	02 20 30.1	+1.3
TLL	**Tololo Astrono**	**1.70**	**26**	↑*i*P	Pn	02 20 16.5	+0.6
TLL				*i* S	Sn	02 20 39.2	+2.3
TLL				AMP		02 20 43.8	
	comp=N,1µm,0.4s						
LCCH	**Las Cruces**	**1.77**	**178**	*e*P	Pn	02 20 17.0	+0.1
LSCH	**La Serena**	**1.82**	**11**	↑*i*P	Pn	02 21 10.3	+53
LSCH				*i* S	Sn	02 21 32.9	+53
LSCH				AMP		02 21 40.9	
	comp=N,898nm,0.3s						
DSCH	**Colegio Aleman**	**1.92**	**152**	↑*i*P	Pn	02 20 19.9	+0.8
DSCH				*i* S	Sn	02 20 44.2	+1.6
DSCH				AMP		02 20 52.8	
	comp=E,1µm,0.5s						
CLCH	**Cerro Calan**	**1.93**	**151**	↑*i*P	Pn	02 20 20.0	+0.7
CLCH				*i* S	Sn	02 20 44.8	+1.9
CLCH				AMP		02 20 53.2	
	comp=E,751nm,0.4s						
CLCH				AMP		02 20 55.0	
	comp=E,1µm,0.5s						
FCH	**Farellones**	**1.99**	**145**	↑*i*P	Pn	02 20 21.1	+1.1
FCH				*i* S	Sn	02 20 47.1	+2.9
FCH				AMP		02 20 55.9	
	comp=N,418nm,0.3s						
TACH	**Talagante**	**2.04**	**163**	↑*i*P	Pn	02 20 21.3	+0.5
ANTU	**Antumapu**	**2.05**	**155**	*i* S	Sn	02 20 47.5	+1.6
ANTU				AMP		02 20 57.3	
	comp=E,555nm,0.4s						
PCH	**Pirque**	**2.14**	**154**	↑*i*P	Pn	02 20 23.1	+0.9
LNV	**Longovilo**	**2.25**	**175**	*i* P	Pn	02 20 23.1	-0.8
CHCH	**Chadas Angostu**	**2.38**	**160**	*e*P	Pn	02 20 26.5	+0.8
CHCH				*i* S	Sn	02 20 55.1	+1.0
LMEL	**Las Melosas**	**2.46**	**151**	↑*i*P	Pn	02 20 27.8	+0.9
LMEL				*i* S	Sn	02 20 58.0	+1.7
LMEL				AMP		02 21 07.5	
	comp=N,438nm,0.2s						
ZON	**Zonda**	**2.54**	**87**	*e*P	Pn	02 20 30.0	+2.0
ZON				*e*S	Sn	02 21 06.0	+7.6
CACH	**El Canelo**	**2.56**	**160**	↑*i*P	Pn	02 20 29.9	+1.5
CICH	**Cipreses**	**2.81**	**159**	↑*i*P	Pn	02 20 32.6	+0.9

IDC ***25*** *02:24:03.3±1.2, 32.92N×138.84E, mb3.8/3, mb1 4.1/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=28.9km s-min=17.3km az=158.0*
JMA ***25*** *02:24:05.2±0.2, 33.51N×140.93E, h38km, MD3.4*

ISC 25 02:24:04.4±1.0, 33.43N±0.05×140.9E±0.1, h66km±11km, n15, σ0s65/21, mb3.8/3, 1D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.98**	**252**	P	**P**	**02 24 23.4**	**+0.8**
JHJ2				S	**S**	**02 24 36.7**	**+0.6**
JHJ	**Hachijo jima 2**	**1.00**	**253**	Pn	**P**	**02 24 23.1**	**+0.2**
	545nm,0.3s,baz=232,slow=19,SNR=43						
JHJ				Sn	**S**	**02 24 35.0**	**-1.8**
	325nm,0.3s,baz=246,slow=23,SNR=5.7						
BSO1	**Boso 1**	**1.23**	**2**	P	**P**	**02 24 25.3**	**-0.6**
BSO3	**Boso 3**	**1.42**	**346**	P	**P**	**02 24 28.4**	**-0.2**
BSO4	**Boso 4**	**1.63**	**343**	P	**P**	**02 24 31.7**	**+0.1**
NJJJ	**Nii jima 2**	**1.68**	**306**	P	**P**	**02 24 32.5**	**+0.4**
**JI

PCH	**Pirque**	**1.48**	**39**	⇑*iP*	P		03 12 01.0	+0.2
PCH				*i* S	S		03 12 20.6	+1.5
LMEL	**Las Melosas**	**1.51**	**53**	⇑*iP*	P		03 12 01.7	+0.6
LMEL				*i* S	S		03 12 21.3	+1.5
LMEL				AMP			03 12 24.9	
	comp=N,195nm,0.3s							
CLCH	**Cerro Calan**	**1.65**	**34**	⇑*iP*	P		03 12 03.8	+0.6
CLCH				*i* S	S		03 12 24.9	+1.6
CLCH				AMP			03 12 30.0	
	comp=E,153nm,0.3s							
FCH	**Farellones**	**1.83**	**38**	⇑*iP*	P		03 12 06.1	+0.5
FCH				*i* S	S		03 12 29.9	+2.2
FCH				AMP			03 12 36.1	
	comp=N,121nm,0.2s							
JACH	**Jahuel**	**2.26**	**23**	*i* P	P		03 12 12.1	+0.2

IDC ***25*** *03:27:14.4±0.5,7.71N×93.93E,mb4.3/19,mb1 4.5/19, mb1mx4.5/21,mbtmp4.3/19,Error ellipse: s-maj=23.7km s-min=11.5km az=49.0*

MOS ***25*** *03:27:15.8±1.1,7.54N×93.82E,h25km,mb4.8/14,Error ellipse: s-maj=16.2km s-min=8.4km az=120.1*

BJI ***25*** *03:27:18.1,7.28N×93.68E,h59km,mB5.0,mb4.5,Ms4.5, Ms2.4*

NEIC ***25*** *03:27:19.6±1.5,7.54N×93.80E,h38km±13km,mb4.5/15, Error ellipse: s-maj=12.7km s-min=5.8km az=55.0*

ISC 25 03:27:15.4±1.7,7.46N±0.05×93.74E±0.05,h20km±12km, n100,σ1^{s}11/103,mb4.5/45,MS4.2/4,3C-2D,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**7.20**	**107**	*eP*		**Pn**	**03 29 02.3**	**0.0**
CM31	**Chiang Mai Arr**	**12.05**	**24**	*eP*		**P**	**03 30 08.5**	**-0.7**
VIS	**Vishakhapatnam**	**14.39**	**316**	*eP*		**P**	**03 30 41.6**	**+1.4**
VIS				*eS*		**S**	**03 33 12.6**	**-7.5**
BWNR	**Bhubaneshwar**	**14.90**	**330**	*eP*		**P**	**03 30 46.0**	**-0.9**
BWNR				*eS*		**S**	**03 33 29.3**	**-2.8**
KSM	**Kuching**	**17.55**	**109**	P		**P**	**03 31 21.2**	**+0.4**
HYB	**Hyderabad**	**17.81**	**305**	*eP*		**P**	**03 31 20.0**	**-4.0**
HYB				*eS*		**S**	**03 34 44.0**	**+4.5**
HYB	**Hyderabad**	**17.81**	**305**	*i* P		**P**	**03 31 20.0**	**-4.0**
HYB				*eS*		**S**	**03 34 44.0**	**+4.5**
BOK	**Bokaro**	**17.91**	**336**	*eP*		**P**	**03 31 24.8**	**-0.4**
BOK				*e*			03 31 28.5	
	comp=Z,17nm,0.9s							
BOK				*eS*		**S**	**03 34 41.7**	**+0.1**
BLSP	**Bilaspur**	**18.38**	**324**	*eP*		**P**	**03 31 31.3**	**+0.2**
BLSP				*e*			03 31 53.4	
	comp=Z,23nm,0.9s							
KMI	**Kunming**	**19.56**	**25**	P		**P**	**03 31 47.3**	**+2.3**
KMI				AMB		AMB		
	comp=Z,12nm,0.6s							
JIRN	**Jiri**	**21.33**	**341**	*eP*		**P**	**03 32 04.6**	**+1.1**
	comp=Z,8.4nm,0.3s,mb4.6							
PKI	**Pulchoki**	**21.51**	**339**	*eP*		**P**	**03 32 06.1**	**+0.8**
	comp=Z,21nm,0.5s,mb4.8							
DMN	**Daman**	**21.65**	**339**	*eP*		**P**	**03 32 08.2**	**+1.5**
	comp=Z,54nm,0.9s,mb5.0							
KKN	**Kakani**	**21.75**	**339**	*eP*		**P**	**03 32 07.9**	**+0.1**
	comp=Z,20nm,0.5s,mb4.8							
GKN	**Gorkha**	**22.18**	**338**	*eP*		**P**	**03 32 11.8**	**-0.2**
	comp=Z,49nm,0.7s,mb5.0							
LSA	**Lhasa**	**22.26**	**354**	*eP*		**P**	**03 32 12.1**	**-0.7**
LSA				pmax		pmax		
	comp=Z,12nm,0.5s,mb4.6							
LSA	**Lhasa**	**22.26**	**354**	*eP*		**P**	**03 32 12.1**	**-0.7**
	comp=Z,12nm,0.5s,mb4.6							
KOLN	**Koldanda**	**22.37**	**336**	*eP*		**P**	**03 32 14.8**	**+0.9**
	comp=Z,35nm,0.8s,mb4.9							
GYA	**Guiyang**	**22.55**	**32**	P		**P**	**03 32 18.5**	**+2.7**
GYA				AP			03 32 27.0	
GYA				S		**S**	**03 36 21.8**	**+4.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.2							
GYA				AMB		AMB		
	comp=Z,140nm,5.7s							
GYA				LR		LR		
	comp=N,360nm,15.0s,MS4.0							
GYA				LR		LR		
	comp=E,280nm,14.8s,MS4.0							
GYA				LR		LR		
	comp=Z,260nm,14.4s,MS3.8							
LGTI	**Lohaghat**	**25.30**	**332**	*e*		**P**	**03 32 43.7**	**+1.4**
NDI	**New Delhi**	**26.25**	**326**	*e*		**P**	**03 32 51.0**	**-0.2**
ENH	**Enshi**	**27.08**	**31**	P		**P**	**03 32 57.9**	**-0.9**
GTA	**Gaotai**	**32.28**	**9**	*eP*		**P**	**03 33 45.3**	**+0.2**
GTA				AMB		AMB		
	comp=Z,7.0nm,0.8s,mb4.5							
NJ2	**Nanjing**	**33.85**	**40**	*eP*		**P**	**03 33 58.0**	**-0.8**
NJ2				AP		pP	03 34 09.9	+5.1
NJ2				PP		PP	03 35 14.1	+1.8
NJ2				S		**S**	**03 39 22.0**	**+1.2**
NJ2				AMB		AMB		
	comp=Z,640nm,4.9s							
NJ2				LR		LR		
	comp=N,850nm,15.3s,MS4.6							
NJ2				LR		LR		
	comp=E,360nm,18.2s,MS4.6							
NJ2				LR		LR		
	comp=Z,440nm,11.9s							
WMQ	**Urumqi**	**36.61**	**353**	P		**P**	**03 34 22.5**	**+0.3**
WMQ				AP		pP	03 34 32.0	+3.8
WMQ				PP		PP	03 35 48.0	+1.1
WMQ				PCP		PcP	03 36 46.0	+0.4
WMQ				S		**S**	**03 40 03.0**	**-0.3**
WMQ				AMB		AMB		
	comp=Z,6.0nm,0.8s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,127nm,4.6s							
WMQ				LR		LR		
	comp=N,562nm,22.8s,MS4.4							
WMQ				LR		LR		
	comp=E,396nm,24.2s,MS4.4							
WMQ				LR		LR		
	comp=Z,445nm,21.6s,MS4.2							
HHC	**Hu-ho-hao-te**	**36.86**	**23**	*eP*		**P**	**03 34 25.5**	**+1.2**
HHC				PCP		PcP	03 36 48.0	+1.7
HHC				S		**S**	**03 40 08.4**	**+1.2**
HHC				XS			03 40 26.3	
HHC				SS		SS	03 42 39.8	+4.1
HHC				AMB		AMB		
	comp=Z,12nm,0.6s,mb4.9							
HHC				AMB		AMB		
	comp=Z,134nm,4.8s							
HHC				LR		LR		
	comp=N,254nm,20.8s,MS4.2							
HHC				LR		LR		
	comp=E,374nm,24.4s,MS4.2							
HHC				LR		LR		
	comp=Z,229nm,25.0s,MS3.9							
AAK	**Ala-Archa**	**38.93**	**337**	P		**P**	**03 34 42.8**	**+1.1**
	comp=Z,39nm,0.9s,mb5.1,SNR=8.5							
AAK	**Ala-Archa**	**38.93**	**337**	*eP*		**P**	**03 34 41.7**	**0.0**
AAK				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.2							
AAK	**Ala-Archa**	**38.93**	**337**	*eP*		**P**	**03 34 41.7**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.2							
FITZ	**Fitzroy Crossi**	**40.46**	**129**	*eP*		**P**	**03 34 54.6**	**0.0**
	comp=Z,5.8nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**40.46**	**129**	P		**P**	**03 34 54.2**	**-0.4**
	comp=Z,4.7nm,0.7s,mb4.3,baz=347,slow=7.4,SNR=8.4							
FITZ				PcP		PcP	03 36 58.5	+0.7
	comp=Z,4.8nm,0.8s,baz=345,slow=12,SNR=4.1							
SONM	**Songino Array**	**41.66**	**13**	P		**P**	**03 35 04.0**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.0,baz=196,slow=8.1,SNR=29							
SONM				PcP		PcP	03 37 00.7	-0.8
	comp=Z,2.1nm,0.7s,baz=203,slow=3.6,SNR=11							
ZAK	**Zakamensk**	**43.52**	**9**	*eP*		**P**	**03 35 18.7**	**-0.6**
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb3.6							
KURK	**Kurchatov**	**44.92**	**346**	*eP*		**P**	**03 35 30.2**	**-0.4**
KURK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.4							
KURK	**Kurchatov**	**44.92**	**346**	*eP*		**P**	**03 35 30.2**	**-0.4**
	comp=Z,6.4nm,1.0s,mb4.4							
CN2	**Changchun**	**45.59**	**32**	*eP*		**P**	**03 35 36.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**45.96**	**152**	P		**P**	**03 35 41.6**	**+2.5**
	comp=Z,4.7nm,0.6s,mb4.6,baz=280,slow=22,SNR=7.0							
ZAL	**Zalesovo**	**46.91**	**353**	P		**P**	**03 35 45.4**	**-0.9**
	comp=Z,5.2nm,0.4s,mb4.8,baz=298,slow=6.0,SNR=21							
HIA	**Hailar**	**47.06**	**23**	*eP*		**P**	**03 35 47.6**	**0.0**
HIA				pmax		pmax		
	comp=Z,25nm,1.3s							
HIA	**Hailar**	**47.06**	**23**	*eP*		**P**	**03 35 47.5**	**0.0**
	comp=Z,25nm,1.3s,mb5.0							
NVS	**Novosibirsk**	**48.00**	**352**	*i* P		**P**	**03 35 53.6**	**-1.3**
NVS				pmax		pmax		
	comp=N,5.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,3.0nm,1.0s							
NVS				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7							
WRA	**Warramunga Arr**	**48.35**	**125**	P		**P**	**03 35 57.4**	**-0.7**
	comp=Z,5.2nm,0.6s,mb4.7,baz=307,slow=8.8,SNR=32							
WRA				PcP		PcP	03 37 24.9	-0.1
	comp=Z,0.5nm,0.5s,baz=315,slow=2.9,SNR=6.2							
WRAB	**Tennant Creek**	**48.35**	**125**	*eP*		**P**	**03 35 57.6**	**-0.5**
WRAB				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
WRAB	**Tennant Creek**	**48.35**	**125**	*eP*		**P**	**03 35 57.6**	**-0.5**
	comp=Z,8.2nm,0.6s,mb4.9							
WB2	**Warramunga Arr**	**48.36**	**125**	⇓*iP*		**P**	**03 35 58.1**	**0.0**
MDJ	**Mudanjiang**	**48.38**	**34**	P		**P**	**03 35 58.1**	**+0.2**
MDJ				AMB		AMB		
	comp=Z,9.0nm,2.1s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,101nm,4.8s							
BVAR	**Borovoye Array**	**49.25**	**342**	P		**P**	**03 36 02.5**	**-2.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=127,slow=15,SNR=7.5							
BVAR				PcP		PcP	03 37 27.3	-0.5
	comp=Z,1.8nm,0.6s,baz=153,slow=3.3,SNR=7.5							
CHKZ	**Chkalovo**	**49.74**	**342**	*eP*		**P**	**03 36 07.3**	**-1.1**
CHKZ				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
CHKZ	**Chkalovo**	**49.74**	**342**	*eP*		**P**	**03 36 07.3**	**-1.0**
	comp=Z,6.8nm,1.0s,mb4.6							
ASPA	**Alice Springs**	**49.96**	**129**	*eP*		**P**	**03 36 10.4**	**0.0**
ASAR	**Alice Springs**	**49.96**	**129**	P		**P**	**03 36 10.1**	**-0.4**
	comp=Z,3.9nm,0.6s,mb4.6,baz=303,slow=7.2,SNR=72							
ASAR				PcP		PcP	03 37 30.9	+0.2
	comp=Z,1.8nm,0.6s,baz=307,slow=3.8,SNR=7.7							
BOD	**Bodaibo**	**52.65**	**13**	*eP*		**P**	**03 36 24.3**	**-6.0**
PMG	**Port Moresby**	**55.80**	**107**	*eP*		**P**	**03 36 52.5**	**-1.4**
PMG				pmax		pmax		
	comp=Z,8.0nm,0.7s							
PMG	**Port Moresby**	**55.80**	**107**	P		**P**	**03 36 53.6**	**-0.4**
	comp=Z,9.9nm,0.7s,mb5.0,baz=0.5,slow=7.6,SNR=6.9							
PMG	**Port Moresby**	**55.80**	**107**	*eP*		**P**	**03 36 52.5**	**-1.5**
	comp=Z,8.2nm,0.7s,mb4.9							
ARU	**Arti**	**56.12**	**337**	*eP*		**P**	**03 36 55.0**	**-0.7**
ARU	**Arti**	**56.12**	**337**	*eP*		**P**	**03 36 53.7**	**-1.9**
	comp=Z,3.2nm,0.7s,mb4.5							
KMBO	**Kilima Mbogo**	**56.98**	**264**	P		**P**	**03 37 01.6**	**-0.9**
KMBO				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KMBO	**Kilima Mbogo**	**56.98**	**264**	P		**P**	**03 37 05.3**	**+2.8**
	comp=Z,1.4nm,0.9s,mb4.0,baz=55,slow=12,SNR=4.7							
KMBO	**Kilima Mbogo**	**56.98**	**264**	P		**P**	**03 37 01.6**	**-0.9**
	comp=Z,3.6nm,1.0s,mb4.4							
CTA	**Charters Tower**	**58.46**	**119**	P		**P**	**03 37 11.1**	**-1.6**
	comp=Z,0.7nm,0.5s,mb4.0,baz=304,slow=4.9,SNR=4.2							
CTAO	**Charters Tower**	**58.46**	**119**	P		**P**	**03 37 11.8**	**-0.9**
STKA	**Stephens Creek**	**60.11**	**133**	P		**P**	**03 37 24.4**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.4,baz=302,slow=8.5,SNR=4.2							
STKA	**Stephens Creek**	**60.11**	**133**	P		**P**	**03 37 22.5**	**-1.5**
BRTR	**Keskin Array B**	**62.40**	**311**	P		**P**	**03 37 37.7**	**-1.7**
	comp=Z,1.3nm,0.7s,mb4.2,baz=123,slow=8.3,SNR=7.2							
MBAR	**Mbarara**	**63.33**	**266**	P		**P**	**03 37 44.4**	**-1.5**
TIXI	**Tiksi**	**67.72**	**11**	*eP*		**P**	**03 38 10.8**	**-2.5**
TIXI				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.9							
AKASG	**Malin Array Be**	**68.23**	**322**	P		**P**	**03 38 15.0**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.6,baz=84,slow=5.9,SNR=5.5							
AKASG	**Malin Array Be**	**68.23**	**322**	P		**P**	**03 38 15.0**	**-1.8**
VRI	**Vrincioaia**	**68.72**	**316**	⇑*iP*		**P**	**03 38 20.6**	**+0.7**
PET	**Petropavlovsk**	**69.10**	**36**	*eP*		**P**	**03 38 25.4**	**+3.2**
MLR	**Muntele Rosu**	**69.19**	**316**	⇑*iP*		**P**	**03 38 23.5**	**+0.7**
BURAR	**Bucovina Array**	**70.08**	**318**	⇑*iP*		**P**	**03 38 28.8**	**+0.6**
JOF	**Joensuu**	**71.05**	**335**	*ep*		**P**	**03 38 32.3**	**-1.5**
APA	**Apatity**	**72.10**	**339**	⇓*iP*		**P**	**03 38 39.8**	**-0.2**
APA				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.1							
FINES	**FINESS Array B**	**72.89**	**332**	P		**P**	**03 38 44.6**	**-0.2**
	comp=Z,3.9nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=25							
KAF	**Kangasniemi**	**72.98**	**333**	*ep*		**P**	**03 38 45.1**	**-0.2**
	comp=Z,6.0nm,0.8s,mb4.6,baz=104,slow=5.6							
KAF	**Kangasniemi**	**72.98**	**333**	*eP*		**P**	**03 38 45.1**	**-0.2**
KAF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.6							
LBTB	**Lobatse**	**73.69**	**241**	*eP*		**P**	**03 38 49.8**	**-0.4**
BOSA	**Boshof**	**75.02**	**238**	P		**P**	**03 39 00.3**	**+2.5**
	comp=Z,5.3nm,0.9s,mb4.5,baz=54,slow=10,SNR=6.8							
ARCES	**ARCESS Array B**	**75.52**	**340**	P		**P**	**03 38 58.8**	**-1.1**
	comp=Z,6.0nm,0.8s,mb4.5,baz=104,slow=5.0,SNR=16							
BRG	**Berggiesshubel**	**77.81**	**320**	*eP*		**P**	**03 39 14.3**	**+1.3**
BRG				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.1							
BRG	**Berggiesshubel**	**77.81**	**320**	*eP*		**P**	**03 39 14.3**	**+1.3**
	comp=Z,2.4nm,0.8s,mb4.2							
GERES	**GERESS Array B**	**77.87**	**318**	P		**P**	**03 39 14.4**	**+1.0**
	comp=Z,2.5nm,0.8s,mb4.2,baz=90,slow=5.3,SNR=23							
CLL	**Collm**	**78.43**	**321**	*eP*		**P**	**03 39 17.0**	**+0.6**
CLL	**Collm**	**78.43**	**321**	P		**P**	**03 39 17.0**	**+0.6**
GRA1	**Grafenberg Arr**	**79.52**	**319**	*eP*		**P**	**03 39 23.9**	**+1.5**
	comp=Z,4.0nm,0.9s,mb4.3							
GRF	**Grafenberg Arr**	**79.52**	**319**	*eP*		**P**	**03 39 23.9**	**+1.5**
GRF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3							
NB2	**NORSAR Subarra**	**79.90**	**331**	P		**P**	**03 39 24.0**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=97,slow=5.0							
NB2	**NORSAR Subarra**	**79.90**	**331**	P		**P**	**03 39 24.0**	**-0.1**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**79.90**	**331**	P		**P**	**03 39 24.3**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=94,slow=5.6,SNR=7.9							
LPG	**La Plagne**	**82.63**	**315**	*eP*		**P**	**03 39 40.2**	**+1.4**
	comp=Z,10nm,0.8s,mb4.6							
LPG	**La Plagne**	**82.63**	**315**	*eP*		**P**	**03 39 40.2**	**+1.4**
LPG				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.6							
ESDC	**Sonseca Array**	**91.18**	**310**	P		**P**	**03 40 22.2**	**+1.6**
	comp=Z,1.3nm,0.6s,mb4.5,baz=65,slow=4.1,SNR=17							
ULM	**Lac du Bonnet**	**121.93**	**7**	PKP		PKPdf	03 46 09.4	-3.4
	comp=Z,1.4nm,0.6s,baz=64,slow=2.2,SNR=4.0							
PDAR	**Pinedale Array**	**125.70**	**21**	PKP		PKPdf	03 46 18.0	-2.3
	comp=Z,1.2nm,0.8s,baz=357,slow=2.0,SNR=11							
TXAR	**Lajitas Array**	**139.77**	**24**	PKP		PKPdf	03 46 44.8	-2.2
	comp=Z,0.5nm,0.6s,baz=209,slow=1.0,SNR=7.8							
BDFB	**Brasilia**	**141.71**	**254**	PKP		PKPdf	03 46 49.0	-1.8
	comp=Z,3.0nm,0.8s,baz=124,slow=4.7,SNR=4.0							
PLCA	**Paso Flores**	**144.02**	**201**	PKP		PKPdf	03 46 52.0	-2.0
	comp=Z,1.3nm,0.7s,baz=145,slow=4.6,SNR=4.7							
LPAZ	**La Paz**	**160.22**	**242**	PKP		PKPdf	03 47 18.8	+0.5
	comp=Z,1.3nm,0.7s,baz=30,slow=1.7,SNR=7.7							

NEIC ***25*** *03:54:26.7±0.2,20.29S×68.94W,mb5.0/60,Error ellipse: s-maj=6.6km s-min=3.8km az=67.0*

NEIC Felt [IV] at Iquique; [III] at Camina, Cuya, Huara, Pica, Pisagua and Pozo Almonte; [II] at Arica.

IDC ***25*** *03:54:26.5±0.4,20.32S×68.98W,h98km±3km,mb4.4/17, mb1 4.5/19,mb1mx4.5/21,mbtmp4.8/19,MS3.9/10, Ms1 3.8/10,ms1mx3.6/25,Error ellipse: s-maj=15.5km s-min=7.0km az=86.0*

HRVD ***25*** *03:54:26.7±0.3,20.49S×69.38W,h122km±3km,MW5.1/65, Centroid moment Tensor Solution. LP body waves: s27,c32;Mantle waves: s65,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.76±.24; $M_{\theta\theta}$1.20±.27; $M_{\phi\phi}$0.55±.36; $M_{r\theta}$-0.61±.12; $M_{r\phi}$0.81±.24; $M_{\theta r}$-4.95±.16; Best double couple: M_o5.227×10^{16} NP1:$\varphi_0$244°,δ12°, λ-37°. NP2:$\varphi_0$11°,δ82°,λ-100°. Principal axes: T 4.768, Plg37°, Azm110°; N .914, Plg10°, Azm12°; P -5.686, Plg52°, Azm270°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***25*** *03:54:26.7,20.30S×68.90W,h96km,mB5.2*

GUC ***25*** *03:54:27.1±0.6,20.44S×69.21W,h95km,ML5.2*

ISC 25 03:54:25.2±0.2,20.25S±0.03×68.89W±0.05,h97km, h97km±.7km:pP-P,n185,σ1^{s}04/169,mb4.9/70,5C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.35**	**180**	⇑*eP*		**P**	**03 55 03.2**	**+0.1**
LVC				*i* S		**S**	**03 55 31.0**	**-0.2**
LVC				AMP			03 55 36.4	
	comp=E,19μm,0.6s							
LVC	**Limon Verde**	**2.35**	**180**	P		**P**	**03 55 03.2**	**+0.2**
	comp=E,415nm,0.3s,baz=4.3,slow=9.1,SNR=2082							
LVC				S		**S**	**03 55 30.5**	**-0.6**
	comp=E,861nm,0.3s,baz=349,slow=11,SNR=38							
LVC	**Limon Verde**	**2.35**	**180**	*ePn*		**P**	**03 55 03.0**	**0.0**
LVC				*eSn*		**S**	**03 55 30.1**	**-1.1**
SPCH	**San Pedro de A**	**2.72**	**166**	*eP*		**P**	**03 55 09.4**	**+1.2**
SPCH				*i* S		**S**	**03 55 41.9**	**+1.6**
ANCH	**Antofagasta**	**3.70**	**202**	*eP*		**P**	**03 55 18.8**	**-2.6**
ANCH				*i* S		**S**	**03 55 59.7**	**-4.5**
LPAZ	**La Paz**	**4.00**	**11**	P		**P**	**03 55 31.4**	**+5.7**
	comp=E,31nm,0.3s,baz=204,slow=5.9,SNR=361							
LPAZ				S		**S**	**03 56 11.3**	**-0.4**
	comp=E,21nm,0.3s,baz=187,slow=15,SNR=4.6							
LPAZ	**La Paz**	**4.00**	**11**	*ePn*		**P**	**03 55 30.6**	**+4.9**
ARE	**Arequipa**	**4.50**	**326**	⇓*iP*		**P**	**03 55 31.7**	**-0.8**
ARE				*i*			03 55 38.6	
ARE				S		**S**	**03 56 13.0**	**-11**
CPN1	**Cerro Paranal**	**4.58**	**198**	*eP*		**P**	**03 55 30.4**	**-3.1**
CPN1				*i* S		**S**	**03 56 20.1**	**-5.8**
SIV	**San Ignacio**	**8.55**	**62**	P		**P**	**03 56 28.8**	**+0.9**
	comp=E,46nm,0.3s,baz=249,slow=13,SNR=467							
SIV				S		**S**	**03 58 00.7**	**-2.7**
	baz=271,slow=19,SNR=1.5							
CFAA	**Coronel Fontan**	**11.32**	**177**	P		**P**	**03 56 59.0**	**-6.2**
	comp=E,0.2nm,0.3s,baz=343,slow=13,SNR=11							
CFAA				S		**S**	**03 58 55.4**	**-15**
	comp=E,0.5nm,0.3s,baz=26,slow=15,SNR=2.7							
TRQA	**Tornquist**	**18.73**	**163**	⇑*iP*		**P**	**03 58 36.7**	**-2.0**
	comp=E,68nm,0.8s							
BDFB	**Brasilia**	**20.38**	**80**	P		**P**	**03 58 56.6**	**+0.3**
	comp=E,31nm,0.5s,baz=261,slow=11,SNR=28							
BDFB				LR		LR	04 08 12.5	
	comp=E,882nm,18.0s,baz=276,slow=40							
BAO	**Brasilia Array**	**20.40**	**80**	P		**P**	**03 58 57.0**	**+0.4**
PLCA	**Paso Flores**	**20.47**	**184**	P		**P**	**03 58 55.7**	**-1.4**
	comp=E,23nm,0.8s,baz=5.0,slow=12,SNR=48							
PLCA	**Paso Flores**	**20.47**	**184**	*eP*		**P**	**03 58 55.2**	**-1.9**
	comp=E,36nm,1.0s							
OTAV	**Otavalo**	**22.41**	**334**	*eP*		**P**	**03 59 17.8**	**+1.3**
	comp=E,58nm,1.1s,mb4.8							
CAM4	**Nova Friburgo**	**24.61**	**100**	*eP*		**P**	**03 59 37.4**	**-0.5**
CAM4				*i*			04 00 13.1	
ROSC	**El Rosal**	**25.51**	**347**	P		**P**	**03 59 47.6**	**+1.1**
	comp=E,8.3nm,0.4s,mb4.5,baz=119,slow=3.2,SNR=17							
ROSC				LR		LR	04 10 42.2	
	comp=E,199nm,19.3s,baz=201,slow=38							
SDV	**Santo Domingo**	**29.00**	**356**	P		**P**	**04 00 17.5**	**-0.6**
	comp=E,9.2nm,0.8s,mb4.5,baz=206,slow=6.1,SNR=13							
SDV				LR		LR	04 12 48.2	
	comp=E,197nm,20.8s,baz=75,slow=38							
SDV	**Santo Domingo**	**29.00**	**356**	*eP*		**P**	**04 00 16.2**	**-2.0**
	comp=E,18nm,0.8s,mb4.8							
PCRV	**Puerto La Cruz**	**30.52**	**8**	P		**P**	**04 00 32.4**	**+0.8**
	comp=E,8.4nm,0.5s,mb4.7,baz=181,slow=5.3,SNR=7.0							
CS6B	**Jaguaretama**	**32.82**	**68**	*eP*		**P**	**04 00 51.9**	**+0.2**
CS6B				*i*			04 00 53.3	
CS6B				*e*		pP	04 01 16.7	+2.6
JTS	**JuntasAbangare**	**34.22**	**331**	*eP*		**P**	**04 01 04.7**	**+1.0**
	comp=E,82nm,1.6s,mb5.3							
USHA	**Ushuaia**	**34.53**	**180**	P		**P**	**04 01 03.7**	**-2.3**
	comp=E,11nm,0.9s,mb4.7,baz=23,slow=8.3,SNR=2.6							
RCBR	**Riachuelo**	**35.09**	**70**	*eP*		**P**	**04 01 11.8**	**+0.6**
	comp=E,62nm,1.1s,mb5.3							
RPN	**Rapa Nui**	**37.54**	**252**	LR		LR	04 13 26.2	
	comp=E,210nm,19.1s,baz=274,slow=30							
SJG	**San Juan**	**38.22**	**4**	P		**P**	**04 01 36.1**	**-1.2**
	comp=E,28nm,0.5s,mb5.4,baz=164,slow=2.2,SNR=16							
TEIG	**Tepich**	**44.48**	**334**	*eP*		**P**	**04 02 27.6**	**-1.1**
	comp=E,18nm,1.1s,mb4.7							
NHSC	**New Hope**	**54.14**	**348**	*eP*		**P**	**04 03 42.8**	**+0.1**
	comp=E,169nm,1.0s,mb6.0							
NHSC				*ep*

SDCO epP pP 04 05 35.9 +0.1
MAIT Maitri 67.96 159 *e*P **P 04 05 15.6 +0.3**
WUAZ Wupatki 68.53 324 *e*P **P 04 05 20.0 +0.6**
comp=E,45nm,1.0s,mb5.2
ISCO Idaho Springs 68.87 330 *e*P **P 04 05 21.6 +0.2**
comp=E,34nm,1.6s,mb4.9
PV01 Paradox Valley 69.00 327 *e*P **P 04 05 22.6 +0.3**
PV10 Paradox Valley 69.43 327 *e*P **P 04 05 24.7 -0.2**
BAR Barrett 69.68 318 *e*P **P 04 05 26.7 +0.1**
QSPA South Pole Qui 69.94 180‖ *i*P pP 04 05 52.8 +0.4
PHWY Pilot Hill 70.00 331 *e*P **P 04 05 28.3 0.0**
PFO Pinyon Flat Ob 70.17 319 P **P 04 05 30.0 +0.5**
comp=E,136nm,1.0s,mb5.7,SNR=14
PFO Pinyon Flat Ob 70.17 319 *e*P **P 04 05 30.2 +0.7**
comp=E,24nm,1.0s,mb5.0
LDFC Landfair 70.36 321 *e*P **P 04 05 31.4 +0.8**
SRU San Rafael 70.74 327 *e*P **P 04 05 32.9 +0.1**
MSU Marysvale 71.16 325 *e*P **P 04 05 36.2 +0.9**
MVU Marysvale 71.17 325 *e*P **P 04 05 36.3 +0.9**
comp=E,32nm,1.0s,mb5.1
ARUT Antelope Range 71.32 324 *e*P **P 04 05 37.6 +1.2**
MWC Mount Wilson 71.57 319 *e*P **P 04 05 38.6 +0.7**
DAU Daniels Canyon 72.09 327 *e*P **P 04 05 41.5 +0.7**
NLU North Lily Min 72.17 326 *e*P **P 04 05 42.0 +0.6**
JLU Jordanelle 72.33 327 *e*P **P 04 05 43.2 +0.9**
JLU epP pP 04 06 07.8 +0.4
JLU esP sP 04 06 18.1 +0.3
TCUT Toone Canyon 72.69 328 *e*P **P 04 05 45.2 +0.8**
DUG Dugway 72.73 326 *e*P **P 04 05 45.1 +0.5**
comp=E,35nm,1.3s,mb5.0
TRCR Troy Canyon 72.91 323 *e*P **P 04 05 46.8 +1.1**
TRCR epP pP 04 06 11.2 +0.3
PDAR Pinedale Array 73.04 330 P **P 04 05 46.2 -0.2**
comp=E,4.2nm,1.1s,mb4.2,baz=146,slow=5.3,SNR=18
PDAR pP pP 04 06 11.9 +0.4
comp=E,1.4nm,0.7s,baz=120,slow=5.1,SNR=3.7
HWUT Hardware Ranch 73.13 328 *e*P **P 04 05 47.2 +0.2**
comp=E,19nm,0.8s,mb5.0
BGU Big Grassy Mou 73.38 327 *e*P **P 04 05 49.0 +0.7**
TPH Tonopah 73.66 322 *e*P **P 04 05 50.7 +0.6**
comp=E,29nm,1.1s,mb4.9
TPH epP pP 04 06 15.2 -0.2
TPH esP sP 04 06 26.4 +0.7
AHID Auburn Hatcher 73.77 329 *e*P **P 04 05 50.8 +0.1**
comp=E,35nm,1.1s,mb5.0
HVU Hansel Valley 73.87 327 *e*P **P 04 05 51.8 +0.5**
HVU epP pP 04 06 15.6 -0.9
REDW Red Top Meadow 74.11 330 *e*P **P 04 05 52.9 +0.3**
ULM Lac du Bonnet 74.13 342 P **P 04 05 51.6 -1.0**
comp=E,9.3nm,0.8s,mb4.5,baz=153,slow=6.4,SNR=19
ULM pP pP 04 06 16.2 -1.7
comp=E,3.4nm,0.6s,baz=122,slow=4.3,SNR=3.1
ULM Lac du Bonnet 74.13 342 *e*P **P 04 05 51.5 -1.2**
comp=E,52nm,1.5s,mb5.0
SNOW Snow King Moun 74.14 330 *e*P **P 04 05 53.5 +0.7**
LOHW Long Hollow 74.18 330 *e*P **P 04 05 53.3 +0.3**
comp=E,49nm,1.7s,mb5.0
LOHW epP pP 04 06 18.4 +0.1
TPAW Teton Pass 74.25 330 *e*P **P 04 05 54.3 +0.9**
TPAW epP pP 04 06 18.9 +0.2
RRI2 Red Ridge 74.32 329 *e*P **P 04 05 54.5 +0.6**
RRI2 epP pP 04 06 19.2 0.0
OMM Old Mammoth Mi 74.39 321 *e*P **P 04 05 55.4 +1.0**
MUDI Mud Lake 74.41 330 *e*P **P 04 05 55.3 +0.9**
MNV Mina 74.44 322 *e*P **P 04 05 54.4 -0.3**
comp=E,12nm,1.0s,mb4.6
IMW Indian Meadow 74.55 330 *e*P **P 04 05 55.8 +0.6**
IMW epP pP 04 06 20.0 -0.5
LAO LASA Array 74.67 334 *e*P **P 04 05 56.0 +0.3**
comp=E,47nm,1.3s,mb5.1
LAO epP pP 04 06 20.2 -0.9
SCHQ Schefferville 74.79 1 P **P 04 05 55.5 -0.8**
comp=E,5.4nm,0.8s,mb4.3,baz=214,slow=5.0,SNR=9.6
SCHQ pP pP 04 06 20.6 -1.0
comp=E,3.6nm,0.7s,baz=206,slow=4.5,SNR=2.9
SCHQ Schefferville 74.79 1 *e*P **P 04 05 56.5 +0.2**
comp=E,6.7nm,0.8s,mb4.4
LKWY Lake 74.81 331 *e*P **P 04 05 58.4 +1.7**
comp=E,28nm,1.1s,mb4.9
PMOR Pomariorio Ree 74.84 259 *e*P **P 04 05 57.7 +0.4**
comp=E,105nm,1.4s,mb5.4
LRV Little Rabbit 74.84 319 *e*P **P 04 05 58.4 +1.4**
YMR Madison River 75.15 330 *e*P **P 04 05 59.9 +1.4**
GCMT Greycliff 75.42 332 *e*P **P 04 06 00.5 +0.4**
QLMT Earthquake Lak 75.49 330 *e*P **P 04 06 02.0 +1.6**
CMB Columbia Colle 75.49 320 *e*P **P 04 06 00.4 -0.2**
comp=E,8.8nm,1.0s,mb4.4
PPT Papeete 75.63 256 LR LR 04 29 20.0
comp=E,61nm,21.5s,baz=99,slow=28
WCN Washoe City 75.95 322 *e*P **P 04 06 04.4 +1.2**
comp=E,8.7nm,1.0s,mb4.4
HLID Hailey 76.00 328 *e*P **P 04 06 04.3 +0.9**
comp=E,29nm,1.0s,mb5.0
HLID epP pP 04 06 28.7 0.0
MCMT McKenzie Canyo 76.16 329 *e*P **P 04 06 05.6 +1.3**
BOZ Bozeman (W) 76.20 331 *e*P **P 04 06 04.3 -0.1**
comp=E,38nm,1.6s,mb4.9
BOZ epP pP 04 06 30.0 +0.1
BOZ esP sP 04 06 39.8 -0.7
HRY Holter Researc 77.09 331 *e*P **P 04 06 10.6 +1.1**
WVOR Wild Horse Val 77.41 325 *e*P **P 04 06 11.6 +0.2**
comp=E,6.5nm,1.3s,mb4.2
SYO Syowa Base 77.66 160‖ P **P 04 06 11.8 -0.4**
LBCM Butte Creek Ri 77.88 322 P **P 04 06 14.3 +0.5**
CHMT Chamberlain Mo 77.89 331 *e*P **P 04 06 14.9 +1.0**
CHMT epP pP 04 06 39.8 +0.5
MOD Modoc 77.98 323 *e*P **P 04 06 15.2 +0.8**
comp=E,22nm,1.3s,mb4.7
VNDA Vanda 78.08 190 P **P 04 06 14.8 +0.5**
comp=E,0.5nm,0.4s,baz=132,slow=3.1,SNR=6.3
MSO Missoula 78.15 330 *e*P **P 04 06 16.1 +0.9**
comp=E,15nm,1.4s,mb4.5
BMO Blue Mountains 78.38 327 *e*P **P 04 06 17.1 +0.6**
comp=E,25nm,1.1s,mb4.8
WDC Whiskeytown Da 78.41 321 *e*P **P 04 06 15.9 -0.9**
comp=E,9.8nm,0.9s,mb4.5
SUR Sutherland 79.19 121 *e*P **P 04 06 22.3 +1.0**
comp=E,11nm,0.9s,mb4.7
YBH Yreka Blue Hor 79.24 322 *e*P **P 04 06 20.7 -0.6**
comp=E,9.4nm,1.0s,mb4.6
KHMM Horse Mountain 79.29 321 *e*P **P 04 06 22.3 +0.6**
WALA Waterton Lakes 79.78 332 *e*P **P 04 06 24.5 +0.4**
comp=E,19nm,1.0s,mb4.9
KRMB Red Mountain 79.80 321 *e*P **P 04 06 25.3 +0.9**
FFC Flin Flon 79.86 341 P **P 04 06 24.2 -0.2**
comp=E,70nm,1.1s,mb5.4,SNR=12
HUMO Hull Mountain 79.93 323 *e*P **P 04 06 24.5 -0.5**
comp=E,8.9nm,1.1s,mb4.5
TSUM Tsumeb 80.39 107 *e*P **P 04 06 28.5 +0.6**
comp=E,24nm,1.1s,mb4.9
TSUM epP pP 04 06 53.2 -0.3
HAWA Hanford 80.57 327 *e*P **P 04 06 28.9 +0.6**
comp=E,8.1nm,1.8s,mb4.2
HAWA epP pP 04 06 54.3 +0.3
NEW Newport 80.68 330 *e*P **P 04 06 28.8 -0.1**
comp=E,15nm,1.5s,mb4.6
BROR Big Rock Looko 80.71 324 P **P 04 06 29.6 +0.5**
OD2 Odessa Site #2 80.84 328 P **P 04 06 30.8 +1.0**
VFP Flag Point 80.86 325 P **P 04 06 31.3 +1.4**
FCC Fort Churchill 81.42 347 *e*P **P 04 06 32.6 0.0**
comp=E,19nm,0.9s,mb4.9
EBG Ellensburg 81.45 327 P **P 04 06 34.5 +1.5**
MPOR Mary's Peak 81.47 324 P **P 04 06 34.8 +1.6**
WTV Waterville 81.67 328 P **P 04 06 35.0 +1.0**
GSM Grass Mountain 82.27 327 P **P 04 06 37.6 +0.4**
EDM Edmonton 82.64 335 *e*P **P 04 06 38.5 -0.5**
CMW Cultus Mountai 83.23 327 P **P 04 06 42.5 +0.5**
RAR Rarotonga 83.67 250 LR LR 04 34 09.1
comp=E,16nm,20.4s,baz=104,slow=28
BOSA Boshof 84.02 118 P **P 04 06 46.6 +0.1**
comp=E,7.6nm,0.9s,mb4.5,baz=259,slow=4.7,SNR=7.2
BOSA pP pP 04 07 13.2 +1.0
comp=E,21nm,1.0s,baz=242,slow=4.2,SNR=13
BOSA LR LR 04 39 22.7
comp=E,104nm,18.3s,baz=181,slow=32
BOSA Boshof 84.02 118 *e*P **P 04 06 46.5 0.0**
comp=E,7.3nm,0.8s,mb4.6
PGC Sidney 84.06 327 *e*P **P 04 06 46.8 +0.6**
comp=E,53nm,1.1s,mb5.3
PGC epP pP 04 07 10.9 -1.0
ESDC Sonseca Array 84.93 45 P **P 04 06 51.3 +0.5**
comp=E,2.9nm,0.9s,mb4.2,baz=246,slow=5.8,SNR=12
ESDC pP pP 04 07 18.4 +1.8
comp=E,5.3nm,1.1s,baz=236,slow=5.9,SNR=3.5
LBTB Lobatse 85.53 115 *e*P **P 04 06 54.7 +0.6**
comp=E,6.8nm,0.9s,mb4.6
YKA Yellowknife Ar 90.02 341 P **P 04 07 14.8 +0.2**
comp=E,19nm,0.9s,mb5.2,baz=134,slow=4.7,SNR=273
YKA pP pP 04 07 40.5 -0.2
comp=E,17nm,1.0s,baz=131,slow=4.7,SNR=5.2
YKA sP sP 04 07 51.3 +0.4
comp=E,6.5nm,0.7s,baz=135,slow=4.6,SNR=4.4
YKA LR LR 04 52 20.6
comp=E,52nm,19.0s,baz=85,slow=39
YKA Yellowknife Ar 90.02 341 P **P 04 07 14.8 +0.2**
YKA pP pP 04 07 40.5 -0.2
YKA sP sP 04 07 51.4 +0.4
YKA LR LR 04 52 20.6
YKW3 Yellowknife Ar 90.07 341 *e*P **P 04 07 15.2 +0.4**
YKW3 epP pP 04 07 41.0 0.0
YKW3 esP sP 04 07 51.5 +0.3
DLBC Dease Lake 93.11 333 *e*P **P 04 07 29.7 +0.7**
DLBC epP pP 04 07 55.4 +0.2
EKA Eskdalemuir Ar 93.55 31 P **P 04 07 32.4 +1.3**
comp=E,0.5nm,0.6s,mb4.0,baz=148,slow=7.9,SNR=4.2
RES Resolute Bay 96.17 353 *e*P **P 04 07 40.2 -2.4**
comp=E,2.1nm,0.7s,mb4.7
RES epP pP 04 08 08.9 +0.1
DAVOX Davos 97.14 43 LR LR 04 51 32.0
comp=E,58nm,18.1s,baz=267,slow=35
ASAR Alice Springs 131.02 208 PKP PKPdf 04 13 27.1 +0.8
comp=E,2.4nm,0.8s,baz=151,slow=2.6,SNR=16
ASAR SKPbc 04 16 42.5
comp=E,0.7nm,1.0s,baz=133,slow=6.2,SNR=4.2
WRA Warramunga Arr 134.03 211 PKP PKPdf 04 13 32.8 +0.8
comp=E,1.6nm,0.7s,baz=155,slow=1.7,SNR=9.8
WRA pPKP 04 13 60.0
comp=E,0.7nm,0.7s,baz=168,slow=2.2,SNR=2.6
WRA SKPbc 04 16 51.7
comp=E,2.3nm,1.1s,baz=160,slow=3.2,SNR=7.1
WRAB Tennant Creek 134.04 211 *e*PKPdf PKPdf 04 13 33.3 +1.3
CHKZ Chkalovo 134.53 33 *e*PKPdf PKPdf 04 13 34.6 +2.6
BVAR Borovoye Array 134.75 34 PKP PKPdf 04 13 34.7 +2.2
comp=E,1.1nm,0.7s,baz=270,slow=3.0,SNR=7.2
BVAR pPKP 04 14 01.3
comp=E,1.7nm,0.8s,baz=270,slow=1.5,SNR=5.5
KURK Kurchatov 140.27 32 *e*PKPdf PKPdf 04 13 44.4 +1.8
ZAL Zalesovo 140.82 25 PKP PKPdf 04 13 45.7 +2.2
comp=E,2.0nm,0.4s,baz=172,slow=2.4,SNR=11
ZAL pPKP 04 14 12.0
comp=E,4.7nm,0.9s,baz=193,slow=2.3,SNR=5.3
ZAL SKPbc 04 17 13.1
comp=E,3.1nm,0.3s,baz=175,slow=2.7,SNR=8.5
ZAL Zalesovo 140.82 25 PKP PKPdf 04 13 45.7 +2.2
ZAL pPKP 04 14 12.0
ZAL SKPbc 04 17 13.1
AAK Ala-Archa 142.03 46 *e*PKPdf PKPdf 04 13 47.9 +2.0
KSH Kashi 144.29 50 *e*PKP PKPdf 04 13 51.3 +1.4
KSH *e*APKP 04 14 17.1
KSH *e*XPKP 04 14 28.0
KSH PP PP 04 17 12.1 +2.9
KSH *e*PKS PKS 04 17 25.3 +0.8
KSH *e*PPP PPP 04 20 27.4 +3.6
KSH *e*SKS SKS 04 20 48.3 +0.7
KSH *e*SS SS 04 35 49.0 +3.5
KSH PP PP
comp=Z,370nm,3.2s
KSH LR LR
comp=N,240nm,5.6s
KSH LR LR
comp=E,260nm,4.2s
MKAR Makanchi Array 144.61 35 PKP PKPdf 04 13 51.9 +1.7
comp=E,4.3nm,0.6s,baz=313,slow=3.6,SNR=59
MKAR pPKP 04 14 19.0
comp=E,13nm,1.0s,baz=297,slow=2.7,SNR=8.0
NDI New Delhi 148.11 68 *e*P PKPdf 04 14 01.0 +4.3
DDI Dehra Dun 148.57 65 *e* PKPdf 04 14 07.5 +10
WMQ Urumqi 149.44 34 *e*PKP PKPdf 04 14 00.3 +2.0
WMQ PP PP
comp=Z,10.0nm,1.2s
WMQ PP PP
comp=Z,109nm,4.3s
WMQ LR LR
comp=Z,92nm,28.2s
HIA Hailar 150.23 349 *e*PKPbc PKPdf 04 14 06.7 +7.3
MDJ Mudanjiang 151.26 332 PKP PKPdf 04 13 59.3 -1.8
MDJ PP PP
comp=Z,7.0nm,1.0s
MDJ PP PP
comp=Z,48nm,4.1s
SONM Songino Array 152.22 7 PKP PKPdf 04 14 05.5 +3.0
comp=Z,1.5nm,0.9s,baz=8.6,slow=2.7,SNR=9.3
SONM PKPbc PKPdf 04 14 11.7 +9.3
comp=Z,3.3nm,0.5s,baz=298,slow=1.1,SNR=38
SONM PKPab PKPab 04 14 21.4 -0.3
comp=Z,1.7nm,0.8s,baz=317,slow=2.2,SNR=5.8
SONM pPKPbc 04 14 38.3
comp=Z,6.6nm,1.0s,baz=315,slow=1.7,SNR=6.0
SONM pPKPab 04 14 50.1
comp=Z,3.4nm,0.6s,baz=323,slow=1.2,SNR=5.3
CN2 Changchun 153.63 336 *e*PKP PKPdf 04 14 05.3 +0.8
HHC Hu-ho-hao-te 159.46 359 *e*PKP PKPdf 04 14 13.3 +1.2
HHC APKP 04 14 40.0
HHC XPKP 04 14 52.5
HHC PP PP
comp=Z,187nm,9.5s
NJ2 Nanjing 166.35 331 *e*PKP PKPdf 04 14 19.6 +0.5
NJ2 APKP 04 14 46.1
NJ2 XPKP 04 14 56.1
NJ2 PKS PKS 04 17 52.0 +1.2
NJ2 PP PP 04 19 11.0 -0.4
NJ2 SKS SKS 04 21 11.0 -0.4
NJ2 PP PP
comp=Z,170nm,8.5s
NJ2 LR LR
comp=N,690nm,31.4s
NJ2 LR LR
comp=E,480nm,25.5s
NJ2 LR LR
comp=Z,830nm,25.4s
GYA Guiyang 172.59 33 *e*PKP PKPdf 04 14 25.5 +2.5
GYA PP PP
comp=Z,160nm,6.6s

*NEIC **25** 04:01:29.8±0.6, 13.38N×92.66E, mb4.0/3, Error ellipse: s-maj=42.0km s-min=9.5km az=52.0*
*IDC **25** 04:01:29.7±1.0, 13.28N×92.50E, h32km±6km, mb3.6/5, mb1 3.9/5, mb1mx3.6/13, mbtmp3.8/5, Error ellipse: s-maj=61.2km s-min=16.1km az=48.0*
ISC 25 04:01:27.4±0.7, 13.3N±0.2×92.6E±0.2, h33km, h33km±1.0km:pP-P, n15, σ0s23/12, mb4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**9.95**	**297**	*i* P	**P**	**04 03 51.1**	**-0.3**
VIS				*i* S	**Sn**	**04 05 31.9**	**-11**
MKAR	**Makanchi Array**	**34.47**	**347**	P	**P**	**04 08 14.2**	**-0.1**
	0.5nm,0.7s,mb3.5,baz=162,slow=7.7,SNR=6.5						
MKAR				pP	pP	04 08 23.8	-0.3
	0.8nm,0.6s,baz=172,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**34.47**	**347**	P	**P**	**04 08 14.2**	**-0.1**
MKAR				pP	pP	04 08 23.8	-0.3
SONM	**Songino Array**	**36.27**	**16**	pP	pP	04 08 41.1	+1.7
	0.5nm,0.8s,baz=198,slow=3.9,SNR=3.5						
KURK	**Kurchatov**	**38.98**	**346**	*e*P	**P**	**04 08 52.2**	**-0.2**
	2.5nm,1.0s,mb3.9						
KURK				*e*pP	pP	04 09 02.1	-0.1
ZAL	**Zalesovo**	**40.98**	**353**	pP	pP	04 09 18.2	-0.4
	1.0nm,0.3s,baz=288,slow=3.8,SNR=1.3						
CHKZ	**Chkalovo**	**43.85**	**341**	*e*P	**P**	**04 09 32.4**	**+0.2**
	1.0nm,0.7s,mb3.6						
CHKZ				*e*pP	pP	04 09 42.5	+0.4
WRA	**Warramunga Arr**	**52.72**	**128**	P	**P**	**04 10 41.6**	**-0.1**
	3.4nm,0.7s,mb4.4,baz=308,slow=8.2,SNR=19						
WRA				pP	pP	04 10 52.5	+0.8
	0.9nm,0.5s,baz=300,slow=9.8,SNR=4.4						
WRA				PcP	PcP	04 11 51.7	+0.7
	0.4nm,0.4s,baz=318,slow=3.1,SNR=3.5						
WRAB	**Tennant Creek**	**52.73**	**128**	*e*P	**P**	**04 10 41.6**	**0.0**
	5.1nm,0.5s,mb4.7						
WB2	**Warramunga Arr**	**52.73**	**128**	*e*P	**P**	**04 10 41.5**	**-0.2**
ASAR	**Alice Springs**	**54.62**	**132**	P	**P**	**04 10 55.7**	**+0.2**
	1.0nm,0.4s,mb4.2,baz=307,slow=6.8,SNR=39						
BRTR	**Keskin Array B**	**57.80**	**309**	P	**P**	**04 11 18.6**	**+0.5**
	0.4nm,0.5s,mb3.7,baz=98,slow=10,SNR=3.2						
BRTR				pP	pP	04 11 27.6	-0.6
	0.6nm,0.7s,baz=135,slow=8.7,SNR=2.8						
FINES	**FINESS Array B**	**67.22**	**331**	pP	pP	04 12 30.0	-0.7
	0.6nm,0.6s,baz=112,slow=10,SNR=1.9						
ARCES	**ARCESS Array B**	**69.65**	**340**	pP	pP	04 12 45.9	+0.2
	1.7nm,0.8s,baz=117,slow=2.7,SNR=1.2						
GERES	**GERESS Array B**	**72.80**	**317**	P	**P**	**04 12 54.7**	**0.0**
	0.5nm,0.8s,mb3.5,baz=112,slow=5.3,SNR=4.9						

*IDC **25** 04:15:17.8±0.9, 40.85N×107.64E, mb3.7/8, mb1 3.8/10, mb1mx3.7/20, mbtmp3.6/10, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.6/31, Error ellipse: s-maj=33.9km s-min=15.8km az=68.0*
*BJI **25** 04:15:18.9, 41.10N×107.63E, h15km, ML4.1, Ms3.5, Msz3.3*
*MOS **25** 04:15:19.8±1.5, 40.59N×107.29E, h33km, mb4.0/6, Error ellipse: s-maj=39.2km s-min=15.4km az=110.5*
*NEIC **25** 04:15:19.4±0.5, 40.83N×107.60E, h10km, mb3.8/3, Error ellipse: s-maj=12.0km s-min=7.2km az=215.0*
ISC 25 04:15:16.5±0.5, 40.81N±0.05×107.79E±0.05, h10km, n29, σ1s23/39, mb3.6/9, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTO	**Baotou**	**1.71**	**96**	*e*PG	**Pg**	**04 15 50.3**	**-0.3**
BTO				SG	**Sg**	**04 16 12.8**	**-0.6**
BTO				Smax			
	comp=N,2μm,0.3s						
BTO				Smax			
	comp=E,1μm,0.3s						
HHC	**Hu-ho-hao-te**	**2.86**	**88**	*e*P	**Pn**	**04 16 06.8**	**+3.7**
HHC				PG	**Pg**	**04 16 10.3**	**-3.4**
HHC				SG	**Sg**	**04 16 49.5**	**-2.3**
HHC				Smax			
	comp=N,1μm,0.3s						
HHC				Smax			
	comp=E,1μm,0.3s						
LZH	**Lanzhou**	**5.65**	**215**	PG	**Pg**	**04 17 06.3**	**-2.9**
LZH				SG	**Sg**	**04 18 15.9**	**-8.6**
LZH				Smax			
	comp=N,300nm,0.9s						
LZH				Smax			
	comp=E,520nm,1.3s						
LZH				LR	LR		
	comp=E,30μm,1.4s						
GTA	**Gaotai**	**6.28**	**260**	P	**Pn**	**04 16 53.0**	**+1.6**
GTA				PG	**Pg**	**04 17 12.8**	**-9.0**
GTA				S	**Sn**	**04 18 03.5**	**-0.5**
GTA				SG	**Sg**	**04 18 34.3**	**-11**
GTA				Smax			
	comp=N,83nm,0.7s						
GTA				Smax			
	comp=E,57nm,0.9s						
GTA				LR	LR		
	comp=N,348nm,12.6s						
GTA				LR	LR		
	comp=E,285nm,7.3s						
GTA				LR	LR		
	comp=Z,224nm,9.2s						
BJT	**Baijiatuau**	**6.44**	**94**	*e*P	**Pn**	**04 17 14.1**	**+20**
BJT				pmax	pmax		
	comp=Z,27nm,0.6s						
BJT	**Baijiatuau**	**6.44**	**94**	*e*Pb	**Pb**	**04 17 14.1**	**+5.6**
	comp=Z,27nm,0.6s						
BJI	**Beijing**	**6.44**	**94**	*e*PG	**Pg**	**04 17 14.9**	**-10**
XAN	**Xi'an**	**6.82**	**172**	P	**Pn**	**04 17 03.3**	**+4.2**
XAN				PG	**Pg**	**04 17 23.8**	**-8.9**
XAN				Smax			
	comp=N,99nm,0.8s						
XAN				Smax			
	comp=E,77nm,1.0s						
ULN	**Ulaanbaatar**	**7.07**	**356**	*e*P	**Pn**	**04 17 02.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,14nm,0.8s						
ULN	**Ulaanbaatar**	**7.07**	**356**	*e*Pn	**Pn**	**04 17 02.9**	**+0.3**
	comp=Z,14nm,0.8s						
ULN				*e*Sg	**Sg**	**04 19 04.2**	**-7.7**
SONM	**Songino Array**	**7.09**	**352**	Pn	**Pn**	**04 17 02.8**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=171,slow=15,SNR=16						
SONM				Pg	**Pg**	**04 17 25.6**	**-13**
	comp=Z,1.5nm,0.3s,baz=166,slow=15,SNR=6.7						
SONM				Sn	**Sn**	**04 18 23.7**	**-0.7**
	comp=Z,6.7nm,0.3s,baz=180,slow=25,SNR=11						
SONM				Lg		04 19 00.4	
	comp=Z,3.4nm,0.3s,baz=175,slow=28,SNR=4.3						
SONM				LR	LR	04 19 25.3	
	comp=Z,66nm,18.1s,baz=323,slow=35						
MKAR	**Makanchi Array**	**19.31**	**297**	Pn	**P**	**04 19 43.6**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=94,slow=13,SNR=4.5						
ZAL	**Zalesovo**	**20.25**	**318**	P	**P**	**04 19 52.7**	**-1.8**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ZAL	**Zalesovo**	**20.25**	**318**	P	**P**	**04 19 52.6**	**-1.9**
	comp=Z,1.1nm,0.3s,baz=141,slow=20,SNR=2.4						
KURK	**Kurchatov**	**22.50**	**306**	*e*P	**P**	**04 20 22.5**	**+5.2**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
KURK	**Kurchatov**	**22.50**	**306**	*e*P	**P**	**04 20 22.5**	**+5.2**
	comp=Z,4.1nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**27.98**	**310**	*e*P	**P**	**04 21 09.6**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
CHKZ	**Chkalovo**	**27.98**	**310**	*e*P	**P**	**04 21 09.6**	**+0.6**
	comp=Z,1.0nm,0.6s,mb3.6						
BVAR	**Borovoye Array**	**27.98**	**309**	P	**P**	**04 21 09.0**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.3,baz=124,slow=10,SNR=3.1						
FINES	**FINESS Array B**	**51.42**	**323**	P	**P**	**04 24 24.3**	**+1.0**
	comp=Z,0.4nm,0.4s,mb3.7,baz=70,slow=8.2,SNR=8.1						
NB2	**NORSAR Subarra**	**58.23**	**325**	P	**P**	**04 25 12.9**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=62,slow=7.0						
NOA	**NORSAR Array B**	**58.23**	**325**	P	**P**	**04 25 11.9**	**-1.0**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**58.23**	**325**	P	**P**	**04 25 11.8**	**-1.1**
	comp=Z,0.6nm,0.6s,mb3.8,baz=62,slow=6.9,SNR=4.7						
INK	**Inuvik**	**62.03**	**22**	P	**P**	**04 25 39.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**62.03**	**22**	P	**P**	**04 25 39.6**	**+0.7**
	comp=Z,0.5nm,0.6s,mb3.8,baz=333,slow=5.4,SNR=4.8						
WRA	**Warramunga Arr**	**65.29**	**152**	P	**P**	**04 26 01.5**	**+0.6**
	comp=Z,0.4nm,0.8s,mb3.5,baz=343,slow=6.9,SNR=4.0						
ASAR	**Alice Springs**	**68.59**	**154**	P	**P**	**04 26 23.4**	**+1.6**
	comp=Z,0.6nm,0.8s,mb3.6,baz=344,slow=6.6,SNR=5.1						
YKA	**Yellowknife Ar**	**71.56**	**19**	P	**P**	**04 26 40.2**	**+1.0**
	comp=Z,0.3nm,0.7s,mb3.3,baz=328,slow=5.5,SNR=7.7						
PPT	**Papeete**	**110.71**	**96**	*e*LR	LR	04 29 40.3	
	comp=Z,228nm,29.8s						

*IDC **25** 04:16:19.6±4.6, 5.75S×153.72E, h76km±39km, mb4.2/9, mb1 4.3/11, mb1mx4.2/15, mbtmp4.5/11, ML4.2/2, MS3.6/3, Ms1 3.6/3, ms1mx3.0/26, Error ellipse: s-maj=27.7km s-min=21.7km az=66.0*
*NEIC **25** 04:16:20.5±2.3, 5.69S×153.68E, h86km±19km, mb4.3/8, Error ellipse: s-maj=16.6km s-min=13.3km az=71.0*
ISC 25 04:16:17.2±3.6, 5.7S±0.1×153.8E±0.1, h71km±30km, n25, σ0s79/24, mb4.3/13, 1D, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.50**	**240**	P	**P**	**04 18 05.7**	**-0.5**
	35nm,0.3s,baz=55,slow=5.8,SNR=63						
PMG				S	**S**	**04 19 30.2**	**-0.3**
	7.8nm,0.3s,baz=173,slow=21,SNR=8.7						
CTA	**Charters Tower**	**16.05**	**206**	*e*P	**P**	**04 20 02.5**	**+2.5**
	5.7nm,0.9s						
CTA	**Charters Tower**	**16.05**	**206**	P	**P**	**04 20 01.5**	**+1.5**
	0.5nm,0.3s,baz=26,slow=13,SNR=9.8						
CTA				LR	LR	04 25 21.9	
	comp=Z,115nm,19.0s,baz=225,slow=34						
CTAO	**Charters Tower**	**16.05**	**206**	*e*P	**P**	**04 20 02.4**	**+2.4**
	9.1nm,0.9s						
DZM	**Mont Dzumac**	**20.38**	**144**	P	**P**	**04 20 50.2**	**-0.4**
	4.3nm,0.4s,baz=329,slow=14,SNR=18						
KAKA	**Kakadu**	**22.15**	**250**	*e*P	**P**	**04 21 08.1**	**-0.4**
	2.4nm,0.4s,mb3.9						
KAKA				*i*		04 21 14.8	
WRAB	**Tennant Creek**	**23.58**	**231**	P	**P**	**04 21 23.0**	**+0.6**
	71nm,0.6s,mb5.2,SNR=9.0						
WRAB	**Tennant Creek**	**23.58**	**231**	*e*P	**P**	**04 21 23.1**	**+0.7**
	43nm,1.4s,mb4.6						
WB2	**Warramunga Arr**	**23.59**	**231**	*e*P	**P**	**04 21 23.5**	**+1.1**
WRA	**Warramunga Arr**	**23.59**	**231**	P	**P**	**04 21 23.2**	**+0.7**
	7.8nm,0.8s,mb4.1,baz=56,slow=9.6,SNR=43						
WRA				PcP	PcP	04 25 06.4	-1.1
	0.4nm,0.3s,baz=54,slow=2.5,SNR=6.6						

ASAR	**Alice Springs**	**26.16**	**225**	P	**P**		**04 21 46.7**	**-0.2**
	7.8nm,0.9s,mb4.1,baz=59,slow=8.7,SNR=34							
ASAR				PcP	PcP		04 25 13.4	+0.4
	0.4nm,0.5s,baz=60,slow=2.3,SNR=5.6							
ASPA	**Alice Springs**	**26.16**	**225**	*eP*	**P**		**04 21 46.8**	**-0.2**
STKA	**Stephens Creek**	**28.42**	**202**	P	**P**		**04 22 06.1**	**-1.4**
	1.6nm,0.8s,mb3.6,baz=40,slow=13,SNR=2.6							
STKA				LR	LR		04 32 37.4	
	comp=Z,137nm,18.5s,baz=24,slow=34							
STKA	**Stephens Creek**	**28.42**	**202**	P	**P**		**04 22 06.1**	**-1.4**
STKA				LR	LR		04 32 37.4	
FITZ	**Fitzroy Crossi**	**30.09**	**243**	⇓*iP*	**P**		**04 22 20.9**	**-1.5**
	16nm,0.9s,mb4.7							
FITZ	**Fitzroy Crossi**	**30.09**	**243**	P	**P**		**04 22 21.3**	**-1.2**
	22nm,0.8s,mb4.8,baz=86,slow=4.4,SNR=30							
SONM	**Songino Array**	**67.59**	**328**	P	**P**		**04 27 08.5**	**0.0**
	0.9nm,0.5s,mb3.9,baz=140,slow=4.3,SNR=9.0							
MKAR	**Makanchi Array**	**81.63**	**319**	P	**P**		**04 28 30.1**	**+1.0**
	1.8nm,0.5s,mb4.2,baz=92,slow=8.4,SNR=29							
ZAL	**Zalesovo**	**82.44**	**326**	P	**P**		**04 28 33.2**	**0.0**
	2.7nm,0.3s,mb4.6,baz=82,slow=5.0,SNR=4.3							
KURK	**Kurchatov**	**85.06**	**322**	*eP*	**P**		**04 28 46.5**	**0.0**
	4.7nm,0.9s,mb4.4							
AAK	**Ala-Archa**	**85.97**	**313**	*eP*	**P**		**04 28 51.6**	**+0.5**
	5.5nm,1.5s,mb4.3							
CHKZ	**Chkalovo**	**90.50**	**324**	*eP*	**P**		**04 29 11.5**	**-0.9**
	1.1nm,0.4s,mb4.3							
BVAR	**Borovoye Array**	**90.53**	**323**	P	**P**		**04 29 12.5**	**-0.1**
	2.5nm,0.7s,mb4.4,baz=108,slow=4.7,SNR=11							
YKA	**Yellowknife Ar**	**95.78**	**28**	pP	pP		04 29 58.0	+1.8
	0.3nm,0.7s,baz=268,slow=4.5,SNR=6.1							
PDAR	**Pinedale Array**	**98.75**	**48**	LR	LR		05 11 39.8	
	comp=Z,39nm,18.7s,baz=167,slow=34							

*IDC **25** 04:27:08.6±1.2,2.39S×139.58E,mb4.0/4,mb1 4.3/7, mb1mx4.1/14, mbtmp4.2/7, ML3.8/3, Error ellipse: s-maj=38.1km s-min=20.9km az=79.0*
*NEIC **25** 04:27:10.2±0.8,2.37S×139.64E,h10km,mb4.4/2, Error ellipse: s-maj=14.6km s-min=11.5km az=89.0*
ISC 25 04:27:11.4±0.9,2.43S±0.07×139.7E±0.1,h33km,n15, σ0s78/21,mb3.9/3,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**10.15**	**133**	Pn	**P**		**04 29 38.4**	**+0.5**
	0.3nm,0.3s,baz=230,slow=12,SNR=3.2							
KAKA	**Kakadu**	**12.49**	**215**	*eP*	**P**		**04 30 08.8**	**-0.9**
	32nm,0.6s							
KAKA				*eS*	**S**		**04 32 28.5**	**-0.1**
WRAB	**Tennant Creek**	**18.16**	**196**	Pn	**P**		**04 31 23.0**	**+0.1**
	134nm,0.8s,SNR=19							
WRAB	**Tennant Creek**	**18.16**	**196**	*eP*	**P**		**04 31 23.6**	**+0.7**
	25nm,0.7s							
WB2	**Warramunga Arr**	**18.17**	**196**	*eP*	**P**		**04 31 23.4**	**+0.4**
WB2				*eS*	**S**		**04 34 42.1**	**+0.6**
WRA	**Warramunga Arr**	**18.18**	**196**	P	**P**		**04 31 23.8**	**+0.7**
	0.9nm,0.3s,baz=19,slow=12,SNR=48							
WRA				S	**S**		**04 34 40.9**	**-0.7**
	0.2nm,0.3s,baz=16,slow=22,SNR=5.0							
WRA				Lg			04 36 46.0	
	baz=24,slow=27,SNR=3.0							
CTA	**Charters Tower**	**18.68**	**160**	P	**P**		**04 31 28.4**	**-0.9**
	0.3nm,0.3s,baz=324,slow=13,SNR=5.5							
CTA				Lg			04 37 10.7	
	0.1nm,0.3s,baz=68,slow=21,SNR=2.7							
FITZ	**Fitzroy Crossi**	**20.80**	**221**	*eP*	**P**		**04 31 52.8**	**+0.3**
	14nm,1.0s							
FITZ				*eS*	**S**		**04 35 40.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**20.80**	**221**	P	**P**		**04 31 51.3**	**-1.2**
	25nm,1.0s,baz=26,slow=9.0,SNR=20							
FITZ				S	**S**		**04 35 40.9**	**+3.1**
	10nm,0.8s,baz=177,slow=15,SNR=3.7							
ASAR	**Alice Springs**	**21.84**	**194**	P	**P**		**04 32 02.5**	**-0.4**
	4.6nm,0.6s,mb4.1,baz=26,slow=9.9,SNR=44							
ASAR				S	**S**		**04 36 01.9**	**+4.5**
	0.8nm,1.0s,baz=16,slow=26,SNR=2.3							
ASAR				Lg			04 38 40.5	
	1.1nm,0.8s,baz=17,slow=27,SNR=2.5							
ASPA	**Alice Springs**	**21.84**	**194**	*eP*	**P**		**04 32 02.9**	**0.0**
ASPA				*eS*	**S**		**04 36 08.1**	**+11**
MKAR	**Makanchi Array**	**70.17**	**322**	P	**P**		**04 38 21.9**	**-0.9**
	0.5nm,0.6s,mb3.6,baz=108,slow=7.7,SNR=8.1							
MKAR	**Makanchi Array**	**70.17**	**322**	P	**P**		**04 38 21.9**	**-0.9**
BVAR	**Borovoye Array**	**79.65**	**325**	P	**P**		**04 39 18.2**	**+1.1**
	0.7nm,0.5s,mb3.8,baz=112,slow=7.8,SNR=5.0							
LPAZ	**La Paz**	**146.80**	**125**	PKPbc	PKPbc		04 46 54.2	+3.4
	1.3nm,0.9s,baz=217,slow=4.7,SNR=4.9							

*IDC **25** 04:27:30.8±1.5,2.65S×138.84E,mb4.1/3,mb1 4.4/6, mb1mx4.2/13, mbtmp4.3/6, ML3.8/3, MS3.6/5, Ms1 3.5/5, ms1mx3.1/19, Error ellipse: s-maj=39.2km s-min=26.7km az=76.0*
*NEIC **25** 04:27:32.2±0.8,2.68S×138.80E,h10km,mb4.2/2, Error ellipse: s-maj=17.7km s-min=12.5km az=76.0*
ISC 25 04:27:33.2±1.0,2.7S±0.1×138.9E±0.1,h33km,n13, σ0s73/10,mb4.0/3,MS3.5/4,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**10.60**	**129**	Pn	**P**		**04 30 06.7**	**+0.7**
	0.7nm,0.3s,baz=320,slow=9.3,SNR=11							
PMG	**Port Moresby**	**10.60**	**129**	*ePn*	**P**		**04 30 06.1**	**+0.1**
PMG				Pn	**P**		**04 30 06.7**	**+0.7**
WRAB	**Tennant Creek**	**17.66**	**194**	*eP*	**P**		**04 31 38.8**	**+0.3**
	13nm,0.6s							
WRA	**Warramunga Arr**	**17.68**	**194**	P	**P**		**04 31 37.9**	**-0.8**
	1.0nm,0.3s,baz=18,slow=12,SNR=12							
CTA	**Charters Tower**	**18.72**	**158**	P	**P**		**04 31 50.6**	**-1.0**
	0.2nm,0.3s,baz=331,slow=11,SNR=3.6							
CTA				LR	LR		04 39 20.2	
	comp=Z,206nm,20.6s,baz=227,slow=38							
FITZ	**Fitzroy Crossi**	**20.04**	**219**	P	**P**		**04 32 06.3**	**0.0**
	9.7nm,0.7s,baz=25,slow=14,SNR=6.7							
ASAR	**Alice Springs**	**21.37**	**193**	P	**P**		**04 32 21.1**	**+1.1**
	12nm,0.7s,mb4.3,baz=22,slow=9.7,SNR=14							
ASAR				LR	LR		04 41 13.9	
	comp=Z,107nm,19.9s,MS3.2,baz=266,slow=38							
STKA	**Stephens Creek**	**29.12**	**175**	LR	LR		04 46 35.2	
	comp=Z,118nm,18.5s,MS3.5,baz=22,slow=39							
ASAJ	**Asahikawa**	**46.74**	**4**	LR	LR		04 53 50.0	
	comp=Z,34nm,21.6s,MS3.3,baz=61,slow=34							
URZ	**Urewera**	**49.72**	**140**	LR	LR		04 53 27.3	
	comp=Z,106nm,19.4s,MS3.9,baz=222,slow=31							
ULN	**Ulaanbaatar**	**57.53**	**335**	P	**P**		**04 37 21.1**	**-0.8**
	0.9nm,0.5s,mb4.1							
MKAR	**Makanchi Array**	**69.88**	**322**	P	**P**		**04 38 43.5**	**+0.7**
	0.7nm,0.6s,mb3.6,baz=114,slow=7.3,SNR=3.6							
LPAZ	**La Paz**	**147.33**	**126**	PKPbc	PKPdf		04 47 17.6	+5.5
	0.8nm,0.9s,baz=217,slow=9.6,SNR=4.2							

*NEIC **25** 04:27:46.8, 38.36S×175.87E, h178km, MG4.1(WEL), After WEL.*
WEL 25 04:27:49.6±0.2,38.39S×175.91E,h152km±1km,ML4.0/14, 4C,Error ellipse: s-maj=1.3km s-min=1.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PATZ	**Paeroa**	**0.28**	**89**	PN	**P**		**04 28 10.6**	**-0.2**
TAZ	**Tarawera**	**0.50**	**72**	P	**P**		**04 28 11.4**	**-0.2**
TAZ	**Tarawera**	**0.50**	**72**	PN	**P**		**04 28 11.4**	**-0.2**
KATZ	**Kakaramea**	**0.61**	**196**	P	**P**		**04 28 12.0**	**-0.2**
KATZ	**Kakaramea**	**0.61**	**196**	PN	**P**		**04 28 11.9**	**-0.3**
KATZ				SN	S		**04 28 28.5**	**-1.1**
MGZ	**Maungaku**	**0.68**	**205**	PN	**P**		**04 28 12.4**	**-0.1**
MGZ				SN	S		**04 28 29.7**	**-0.5**
EDRZ	**Edgecumbe**	**0.71**	**67**	P	**P**		**04 28 12.5**	**-0.2**
EDRZ	**Edgecumbe**	**0.71**	**67**	PN	**P**		**04 28 12.5**	**-0.2**
TGRZ	**Tauranga**	**0.71**	**23**	P	**P**		**04 28 12.5**	**-0.2**
TGRZ	**Tauranga**	**0.71**	**23**	PN	**P**		**04 28 12.5**	**-0.3**
MARZ	**Manawahe**	**0.72**	**57**	P	**P**		**04 28 12.8**	**0.0**
MARZ	**Manawahe**	**0.72**	**57**	PN	**P**		**04 28 12.8**	**0.0**
KRVZ	**Karewarewa**	**0.74**	**196**	PN	**P**		**04 28 12.5**	**-0.3**
WTVZ	**West Tongariro**	**0.77**	**199**	P	**P**		**04 28 12.8**	**-0.3**
WTVZ	**West Tongariro**	**0.77**	**199**	PN	**P**		**04 28 12.9**	**-0.2**
TWVZ	**Taurewa**	**0.78**	**208**	P	**P**		**04 28 12.7**	**-0.4**
TWVZ	**Taurewa**	**0.78**	**208**	PN	**P**		**04 28 12.8**	**-0.4**
TWVZ				SN	S		**04 28 30.6**	**-0.6**
OTVZ	**Oturere**	**0.80**	**194**	PN	**P**		**04 28 13.2**	**-0.1**
OTVZ				SN	S		**04 28 31.1**	**-0.4**
NGZ	**Ngauruhoe**	**0.82**	**197**	P	**P**		**04 28 13.3**	**-0.1**
NGZ	**Ngauruhoe**	**0.82**	**197**	PN	**P**		**04 28 13.4**	**0.0**
HIZ	**Hauiti**	**0.84**	**261**	P	**P**		**04 28 12.9**	**-0.6**
HIZ	**Hauiti**	**0.84**	**261**	PN	**P**		**04 28 12.9**	**-0.6**
CNZ	**Chateau**	**0.86**	**199**	P	**P**		**04 28 13.6**	**-0.1**
CNZ	**Chateau**	**0.86**	**199**	PN	**P**		**04 28 13.6**	**-0.1**
WPVZ	**Whakapapa**	**0.86**	**199**	P	**P**		**04 28 13.6**	**-0.1**
WPVZ				S	S		**04 28 34.9**	**+2.6**
WPVZ	**Whakapapa**	**0.86**	**199**	PN	**P**		**04 28 13.6**	**-0.1**
WPVZ				SN	S		**04 28 29.1**	**-3.1**
TUVZ	**Tukino**	**0.90**	**193**	P	**P**		**04 28 13.9**	**-0.1**
TUVZ	**Tukino**	**0.90**	**193**	PN	**P**		**04 28 13.9**	**0.0**
BKZ	**Black Stump Fm**	**0.90**	**150**	*eP*	**P**		**04 28 13.9**	**-0.1**
BKZ	**Black Stump Fm**	**0.90**	**150**	PN	**P**		**04 28 13.9**	**0.0**
BKZ				SN	S		**04 28 31.6**	**-1.1**
FWVZ	**Far West T-bar**	**0.91**	**198**	P	**P**		**04 28 13.9**	**-0.1**
FWVZ	**Far West T-bar**	**0.91**	**198**	PN	**P**		**04 28 13.6**	**-0.4**
URZ	**Urewera**	**0.95**	**83**	P	**P**		**04 28 13.8**	**-0.5**
URZ	**Urewera**	**0.95**	**83**	PN	**P**		**04 28 13.8**	**-0.5**
URZ				SN	S		**04 28 32.4**	**-1.0**
WNVZ	**Wahianoa**	**0.97**	**194**	P	**P**		**04 28 14.0**	**-0.5**
WNVZ	**Wahianoa**	**0.97**	**194**	PN	**P**		**04 28 14.5**	**+0.1**
MOVZ	**Moawhango**	**1.03**	**187**	P	**P**		**04 28 14.4**	**-0.5**
MOVZ				S	S		**04 28 30.8**	**-3.7**
MOVZ	**Moawhango**	**1.03**	**187**	PN	**P**		**04 28 14.4**	**-0.5**
MOVZ				SN	S		**04 28 32.5**	**-1.9**
VRZ	**Vera Road**	**1.16**	**230**	*eP*	**P**		**04 28 12.8**	**-3.4**
MWZ	**Matawai**	**1.27**	**88**	P	**P**		**04 28 17.0**	**-0.3**
MWZ	**Matawai**	**1.27**	**88**	PN	**P**		**04 28 17.0**	**-0.3**
KNZ	**Kokohu**	**1.52**	**115**	P	**P**		**04 28 19.7**	**-0.1**
KNZ	**Kokohu**	**1.52**	**115**	PN	**P**		**04 28 19.7**	**-0.1**
WAZ	**Wanganui**	**1.54**	**207**	*eP*	**P**		**04 28 15.8**	**-4.3**
WAZ	**Wanganui**	**1.54**	**207**	PN	**P**		**04 28 19.5**	**-0.6**
KUZ	**Kuaotunu**	**1.64**	**355**	P	**P**		**04 28 20.5**	**-0.6**
KUZ	**Kuaotunu**	**1.64**	**355**	PN	**P**		**04 28 20.5**	**-0.7**
TSZ	**Takapari Road**	**1.67**	**179**	P	**P**		**04 28 20.6**	**-0.9**
TSZ	**Takapari Road**	**1.67**	**179**	PN	**P**		**04 28 20.6**	**-0.8**
PWZ	**Pawanui**	**1.80**	**156**	*eP*	**P**		**04 28 22.4**	**-0.5**
PWZ	**Pawanui**	**1.80**	**156**	PN	**P**		**04 28 22.4**	**-0.4**
PUZ	**Puketiti**	**1.88**	**81**	P	**P**		**04 28 23.3**	**-0.4**
PUZ	**Puketiti**	**1.88**	**81**	PN	**P**		**04 28 23.3**	**-0.5**
MXZ	**Matakaoa Point**	**2.07**	**67**	P	**P**		**04 28 25.9**	**0.0**
MXZ	**Matakaoa Point**	**2.07**	**67**	PN	**P**		**04 28 25.9**	**-0.1**
MRZ	**Mangatainoka R**	**2.29**	**186**	P	**P**		**04 28 26.6**	**-2.1**
MRZ	**Mangatainoka R**	**2.29**	**186**	⇑PN	**P**		**04 28 26.6**	**-2.1**
BFZ	**Birch Farm**	**2.31**	**174**	P	**P**		**04 28 27.2**	**-1.7**
BFZ	**Birch Farm**	**2.31**	**174**	⇑PN	**P**		**04 28 27.2**	**-1.8**
MTW	**Mount Morrison**	**2.79**	**186**	P	**P**		**04 28 31.9**	**-3.1**
MTW	**Mount Morrison**	**2.79**	**186**	⇑PN	**P**		**04 28 31.9**	**-3.1**
CAW	**Cannon Point**	**2.79**	**193**	P	**P**		**04 28 32.0**	**-3.1**
CAW	**Cannon Point**	**2.79**	**193**	PN	**P**		**04 28 32.0**	**-3.1**
MRW	**Makara Radio**	**2.99**	**198**	P	**P**		**04 28 34.1**	**-3.4**
MRW	**Makara Radio**	**2.99**	**198**	PN	**P**		**04 28 34.0**	**-3.5**
PAWZ	**Paruwai Farm**	**3.02**	**187**	PN	**P**		**04 28 34.5**	**-3.4**
WEL	**Wellington**	**3.03**	**196**	P	**P**		**04 28 34.5**	**-3.5**
SNZO	**South Karori**	**3.06**	**197**	P	**P**		**04 28 34.9**	**-3.6**
SNZO	**South Karori**	**3.06**	**197**	PN	**P**		**04 28 34.8**	**-3.7**
MSWZ	**Moikau Station**	**3.07**	**189**	⇑PN	**P**		**04 28 35.1**	**-3.5**
BHW	**Baring Head**	**3.12**	**194**	PN	**P**		**04 28 35.6**	**-3.7**
NNZ	**Nelson**	**3.43**	**214**	*eP*	**P**		**04 28 39.3**	**-4.0**
QRZ	**Quartz Range**	**3.57**	**226**	*eP*	**P**		**04 28 40.7**	**-4.4**
BSWZ	**Blackbirch Sta**	**3.67**	**204**	P	**P**		**04 28 42.4**	**-4.0**
THZ	**Tophouse**	**4.08**	**213**	*eP*	**P**		**04 28 48.3**	**-3.5**
LTZ	**Lake Taylor**	**5.19**	**211**	*eP*	**P**		**04 29 00.8**	**-5.6**
ODZ	**Otahua Downs**	**7.73**	**209**	*eP*	**P**		**04 29 34.0**	**-6.3**

*CSEM **25** 04:32:58.0, 36.17N×23.00E, h33km, MD3.5/3, After ATH*
ATH 25 04:32:58.6,36.43N×23.29E,h58km±2km,MD3.1/4,1C-2D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KYTH	**Kithira**	**0.25**	**234**	*eP*	**P**		**04 33 08.5**	**+0.3**
KYTH				*eS*	S		**04 33 16.0**	**+0.8**
VLI	**Veliai**	**0.40**	**315**	*eP*	**P**		**04 33 10.5**	**+1.0**
VLI				*eS*	S		**04 33 17.9**	**+0.4**
VLI	**Veliai**	**0.40**	**315**	⇓*iPn*	**P**		**04 33 10.5**	**+1.0**
VLI				*eSn*	S		**04 33 17.9**	**+0.4**
VAM	**Vamos**	**1.26**	**144**	*eP*	**P**		**04 33 21.1**	**+0.7**
VAM				*eS*	S		**04 33 37.7**	**+1.1**
VAM	**Vamos**	**1.26**	**144**	⇑*iPn*	**P**		**04 33 21.1**	**+0.7**
VAM				*eSn*	S		**04 33 37.7**	**+1.1**
ITM	**Ithomi**	**1.33**	**305**	*eP*	**P**		**04 33 22.0**	**+0.6**
ITM	**Ithomi**	**1.33**	**305**	⇓*iPn*	**P**		**04 33 22.0**	**+0.6**

IDC 25 04:33:37.6±7.8,18.99S×172.88W,mb4.1/5,mb1 4.3/6, mb1mx3.9/17,mbtmp4.1/6,ML4.8/1,Error ellipse: s-maj=160.1km s-min=140.8km az=168.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**19.61**	**257**	P	**P**		**04 38 08.1**	**-2.4**
	0.7nm,0.3s,baz=74,slow=18,SNR=16							
CTA	**Charters Tower**	**38.47**	**261**	P	**P**		**04 41 00.7**	**-2.6**
	2.8nm,0.4s,baz=82,slow=11,SNR=7.4							
STKA	**Stephens Creek**	**42.78**	**243**	P	**P**		**04 41 37.4**	**-1.4**
	0.7nm,0.4s,baz=73,slow=12,SNR=2.8							
ASAR	**Alice Springs**	**49.57**	**255**	P	**P**		**04 42 30.4**	**-2.2**
	2.3nm,0.7s,baz=96,slow=8.1,SNR=33							
WRA	**Warramunga Arr**	**49.61**	**260**	P	**P**		**04 42 30.3**	**-2.6**
	0.6nm,0.4s,baz=97,slow=6.1,SNR=16							
FITZ	**Fitzroy Crossi**	**58.03**	**260**	P	**P**		**04 43 34.2**	**-0.8**
	1.3nm,0.5s,baz=60,slow=3.4,SNR=5.1							

IDC 25 04:40:22.8±1.6,15.60N×92.44E,mb3.5/5,mb1 3.8/5, mb1mx3.5/18,mbtmp3.5/5,Error ellipse: s-maj=115.7km s-min=21.7km az=54.0,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**32.23**	**347**	P	**P**		**04 46 52.7**	**-2.2**
	0.3nm,0.8s,baz=172,slow=10,SNR=3.5							
FITZ	**Fitzroy Crossi**	**46.81**	**134**	P	**P**		**04 48 54.5**	**-1.9**
	2.3nm,0.9s,baz=341,slow=5.6,SNR=3.1							
WRA	**Warramunga Arr**	**54.26**	**129**	P	**P**		**04 49 50.6**	**-2.5**
	0.2nm,0.7s,baz=4.3,slow=2.7,SNR=4.1							
ASAR	**Alice Springs**	**56.26**	**133**	P	**P**		**04 50 05.5**	**-2.1**
	0.3nm,0.6s,baz=308,slow=6.5,SNR=7.2							
GERES	**GERESS Array B**	**71.04**	**317**	P	**P**		**04 51 42.9**	**-1.6**
	0.3nm,0.7s,baz=90,slow=4.0,SNR=4.0							

IDC 25 04:43:57.0±7.1,15.93N×94.03E,mb3.6/4,mb1 3.8/4, mb1mx3.5/17,mbtmp3.6/4,Error ellipse: s-maj=424.5km s-min=23.1km az=62.0,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**32.29**	**345**	P	**P**		**04 50 27.4**	**-2.2**
	0.7nm,0.8s,baz=146,slow=8.7,SNR=6.6							
ZAL	**Zalesovo**	**38.60**	**351**	P	**P**		**04 51 21.7**	**-1.8**
	0.7nm,0.3s,baz=314,slow=7.0,SNR=3.5							
WRA	**Warramunga Arr**	**53.29**	**131**	P	**P**		**04 53 17.8**	**-2.5**
	0.1nm,0.3s,baz=311,slow=7.7,SNR=2.6							
ASAR	**Alice Springs**	**55.38**	**134**	P	**P**		**04 53 33.4**	**-2.1**
	0.4nm,0.6s,baz=311,slow=6.8,SNR=9.2							

*NEIC **25** 05:26:32.9±1.3,5.52S×148.81E,h200km±12km,mb4.6/13, Error ellipse: s-maj=11.7km s-min=8.7km az=120.0*
*IDC **25** 05:26:32.6±1.0,5.53S×148.80E,h194km±8km,mb4.1/12, mb1 4.2/14,mb1mx4.2/16,mbtmp4.6/14,MS3.0/1, Ms1 3.0/1,ms1mx2.6/20,Error ellipse: s-maj=17.2km s-min=9.2km az=113.0*
ISC 25 05:26:30.4±1.5,5.48S±0.09×148.8E±0.1,h189km±14km, n37,σ0s94/40,mb4.4/20,4C,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**4.23**	**203**	P	**P**		**05 27 36.8**	**+1.4**
	31nm,0.3s,baz=31,slow=5.6,SNR=67							
PMG				S	**S**		**05 28 24.7**	**-1.0**
	10.0nm,0.3s,baz=93,slow=9.7,SNR=3.6							
PMG	**Port Moresby**	**4.23**	**203**	*ePn*	**P**		**05 27 36.7**	**+1.3**
CTA	**Charters Tower**	**14.73**	**190**	*eP*	**P**		**05 29 52.8**	**+1.8**
	6.3nm,0.8s							
CTA	**Charters Tower**	**14.73**	**190**	P	**P**		**05 29 52.4**	**+1.5**
	0.5nm,0.3s,baz=19,slow=13,SNR=14							
CTA				LR	LR		05 34 44.0	
	comp=Z,61nm,19.1s,baz=229,slow=34							
CTAO	**Charters Tower**	**14.73**	**190**	*ePn*	**P**		**05 29 52.4**	**+1.5**
	19nm,1.1s							
KAKA	**Kakadu**	**17.68**	**245**	⇑*iP*	**P**		**05 30 25.2**	**-1.0**
	120nm,0.4s							
WRAB	**Tennant Creek**	**20.11**	**223**	P	**P**		**05 30 51.0**	**-0.3**
	324nm,0.6s,SNR=43							
WRAB	**Tennant Creek**	**20.11**	**223**	*eP*	**P**		**05 30 51.2**	**-0.1**
	60nm,0.7s							
WB2	**Warramunga Arr**	**20.11**	**223**	⇑*iP*	**P**		**05 30 51.4**	**+0.1**
WB2				*eS*	**S**		**05 34 25.4**	**+3.8**
WRA	**Warramunga Arr**	**20.12**	**223**	P	**P**		**05 30 51.5**	**+0.1**
	15nm,0.4s,baz=48,slow=10,SNR=120							
WRA				S	**S**		**05 34 25.4**	**+3.7**
	4.2nm,0.8s,baz=46,slow=19,SNR=8.7							
WRA				ScP			05 38 15.8	
	0.5nm,0.6s,baz=45,slow=2.5,SNR=4.9							
ASAR	**Alice Springs**	**23.09**	**217**	P	**P**		**05 31 21.4**	**+0.8**
	16nm,0.7s,mb4.5,baz=50,slow=8.4,SNR=246							
ASAR				pP			05 31 57.5	
	5.6nm,0.6s,baz=46,slow=10,SNR=2.6							
ASAR				S	**S**		**05 35 21.5**	**+7.4**
	0.8nm,1.0s,baz=47,slow=17,SNR=2.6							
ASAR				ScP			05 38 23.6	
	1.7nm,0.8s,baz=45,slow=3.3,SNR=9.4							
ASPA	**Alice Springs**	**23.09**	**217**	⇑*iP*	**P**		**05 31 21.5**	**+0.9**
ASPA				*eS*	S		05 35 37.7	+24
DZM	**Mont Dzumac**	**23.73**	**136**	*eP*	**P**		**05 31 25.4**	**-1.2**
DZM	**Mont Dzumac**	**23.73**	**136**	P	**P**		**05 31 26.7**	**+0.1**
	18nm,0.6s,mb4.8,baz=107,slow=21,SNR=33							
DZM	**Mont Dzumac**	**23.73**	**136**	*eP*	**P**		**05 31 25.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**25.88**	**239**	⇑*iP*	**P**		**05 31 46.1**	**-0.6**
	53nm,0.6s,mb5.3							
FITZ	**Fitzroy Crossi**	**25.88**	**239**	P	**P**		**05 31 46.1**	**-0.6**
	71nm,0.6s,mb5.5,baz=46,slow=6.3,SNR=126							
FITZ				pP	pP		05 32 26.7	+2.2
	14nm,0.5s,baz=56,slow=5.3,SNR=2.3							
STKA	**Stephens Creek**	**27.12**	**194**	P	**P**		**05 31 56.0**	**-1.9**
	1.7nm,0.5s,mb3.9,baz=34,slow=11,SNR=6.3							
STKA				pP	pP		05 32 37.9	+1.8
	3.3nm,0.8s,baz=335,slow=6.3,SNR=2.4							
STKA	**Stephens Creek**	**27.12**	**194**	*eP*	**P**		**05 31 56.1**	**-1.8**
MBWA	**Marble Bar**	**32.21**	**238**	*eP*	**P**		**05 32 41.7**	**-1.4**
	12nm,0.6s,mb4.8							
FX1	**Attu Island--F**	**61.70**	**16**	P	**P**		**05 36 31.3**	**+0.7**
	24nm,0.6s,mb5.2,baz=296,slow=2.7,SNR=7.5							
SONM	**Songino Array**	**64.85**	**330**	P	**P**		**05 36 51.1**	**-0.2**
	1.2nm,0.6s,mb3.9,baz=157,slow=7.1,SNR=12							
UNV	**Unalaska Valle**	**69.94**	**26**	*eP*	**P**		**05 37 22.4**	**-0.6**
	31nm,0.5s,mb5.3							
VNDA	**Vanda**	**72.33**	**177**	P	**P**		**05 37 36.1**	**-0.7**
	2.2nm,0.7s,mb4.0,baz=319,slow=8.4,SNR=3.6							
BILL	**Bilibino**	**74.38**	**7**	*eP*	**P**		**05 37 49.9**	**+1.1**
	4.0nm,0.7s,mb4.3							
MKAR	**Makanchi Array**	**78.26**	**320**	P	**P**		**05 38 11.1**	**+0.3**
	0.6nm,0.5s,mb3.5,baz=100,slow=8.5,SNR=9.1							
ZAL	**Zalesovo**	**79.55**	**327**	P	**P**		**05 38 17.4**	**-0.3**
	0.9nm,0.3s,

	comp=Z,4.1nm,1.1s								
BVA0	**Borovoye Array**	**12.21**	**350**	*e*P		**P**		**05 41 24.0**	**-1.1**
BVA0				pmax	pmax				
	comp=Z,1.0nm,1.1s								
BVA0				pmax	pmax				
	comp=Z,3.0nm,1.2s								
BVAR	**Borovoye Array**	**12.21**	**350**	Pn		**P**		**05 41 22.9**	**-2.2**
	comp=Z,0.7nm,0.3s,baz=168,slow=14,SNR=18								
BVAR				Sn		**S**		**05 43 48.8**	**+6.5**
	comp=Z,0.3nm,0.3s,baz=167,slow=20,SNR=3.7								
BVAR				Lg				05 44 51.1	
	comp=Z,0.4nm,0.3s,baz=173,slow=24,SNR=4.7								
CHKZ	**Chkalovo**	**12.82**	**351**	⇑Pn		**P**		**05 41 31.8**	**-1.5**
	comp=Z,0.9nm,0.5s								
CHKZ				⇑Lg				05 45 09.8	
	comp=Z,20nm,1.3s								
CHKZ	**Chkalovo**	**12.82**	**351**	*e*P		**P**		**05 41 31.8**	**-1.5**
CHKZ				pmax	pmax				
	comp=Z,39nm,0.7s								
CHKZ	**Chkalovo**	**12.82**	**351**	*e*Pn		**P**		**05 41 31.8**	**-1.5**
	comp=Z,39nm,0.7s								
ZAL	**Zalesovo**	**14.82**	**26**	Pn		**P**		**05 41 59.0**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=261,slow=12,SNR=3.8								
ZAL				Lg				05 46 20.5	
	comp=Z,0.2nm,0.3s,baz=178,slow=10,SNR=4.1								
ZAL	**Zalesovo**	**14.82**	**26**	Pn		**P**		**05 41 59.0**	**-0.5**
ZAL				Lg				05 46 20.5	
ZAK	**Zakamensk**	**22.41**	**55**	*e*P		**P**		**05 43 28.3**	**0.0**
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.7s,mb3.3								
SONM	**Songino Array**	**24.05**	**63**	P		**P**		**05 43 45.9**	**+1.7**
	comp=Z,0.5nm,0.6s,mb3.1,baz=263,slow=9.4,SNR=5.8								
FINES	**FINESS Array B**	**35.13**	**322**	P		**P**		**05 45 23.7**	**0.0**
FINES				pmax	pmax				
	comp=Z,1.0nm,0.6s								
FINES	**FINESS Array B**	**35.13**	**322**	P		**P**		**05 45 23.7**	**0.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=121,slow=11,SNR=4.7								
FINES	**FINESS Array B**	**35.13**	**322**	P		**P**		**05 45 23.7**	**0.0**
ARCES	**ARCESS Array B**	**37.90**	**335**	P		**P**		**05 45 47.2**	**+0.3**
ARCES				pmax	pmax				
	comp=Z,3.0nm,1.0s								
ARCES	**ARCESS Array B**	**37.90**	**335**	P		**P**		**05 45 47.2**	**+0.3**
	comp=Z,3.1nm,1.0s,mb4.0,baz=121,slow=7.1,SNR=6.7								
NB2	**NORSAR Subarra**	**42.23**	**320**	P		**P**		**05 46 23.1**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.2,baz=89,slow=7.9								
NOA	**NORSAR Array B**	**42.23**	**320**	P		**P**		**05 46 23.1**	**+0.4**
NOA				pmax	pmax				
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**42.23**	**320**	P		**P**		**05 46 23.1**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.3,baz=89,slow=8.1,SNR=3.8								
YKA	**Yellowknife Ar**	**76.57**	**4**	P		**P**		**05 50 19.5**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=350,slow=5.7,SNR=7.5								

IDC ***25*** *05:46:06.3±1.3,33.95N×142.42E,mb3.5/4,mb1 3.8/5, mb1mx3.5/19,mbtmp3.6/5,ML4.3/1,MS3.2/1,Ms1 3.2/1, ms1mx2.4/20,Error ellipse: s-maj=31.8km s-min=28.2km az=155.0*

JMA ***25*** *05:46:07.3±0.4,34.09N×142.51E,h65km,M3.3*

ISC 25 05:46:08.3±2.1,34.09N±0.07×142.40E±0.08,h30km±14km, n14,σ1§01/16,mb3.5/4,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BSO1	**Boso 1**	**1.30**	**296**	P		**Pn**	**05 46 30.9**	**+0.2**
BSO1				S		**Sb**	**05 46 49.0**	**+0.6**
BSO3	**Boso 3**	**1.71**	**295**	P		**Pn**	**05 46 37.1**	**+0.5**
BSO3				S		**Sn**	**05 46 57.6**	**-0.1**
BSO4	**Boso 4**	**1.92**	**299**	S		**Sn**	**05 47 03.8**	**+0.8**
JHJ2	**Mitsune**	**2.36**	**246**	P		**Pn**	**05 46 46.0**	**+0.1**
JHJ	**Hachijo jima 2**	**2.38**	**247**	Pn		**Pn**	**05 46 46.1**	**-0.1**
	164nm,0.3s,baz=58,slow=19,SNR=8.2							
JHJ				Sn		**Sn**	**05 47 14.2**	**-0.6**
	54nm,0.3s,baz=38,slow=20,SNR=4.1							
JOD2	**Odawara 2**	**2.97**	**294**	S		**Sn**	**05 47 29.9**	**+0.4**
JAG	**Ashikaga**	**3.35**	**315**	*e*S		**Sn**	**05 47 37.8**	**-1.4**
JYN	**Shimob**	**3.47**	**295**	S		**Sn**	**05 47 42.0**	**-0.2**
JMM	**Marumori**	**3.99**	**341**	P		**Pn**	**05 47 07.0**	**-2.0**
CBIJ	**Chichi jima**	**6.97**	**182**	LR		LR	05 49 41.5	
	comp=Z,176nm,20.5s,baz=122,slow=32							
MKAR	**Makanchi Array**	**46.41**	**305**	P		**P**	**05 54 35.5**	**+1.7**
	0.2nm,0.7s,mb3.2,baz=83,slow=12,SNR=2.8							
WRA	**Warramunga Arr**	**54.27**	**189**	P		**P**	**05 55 32.9**	**-1.2**
	0.7nm,0.8s,mb3.6,baz=5.8,slow=7.7,SNR=5.5							
ASAR	**Alice Springs**	**58.00**	**189**	P		**P**	**05 56 00.5**	**-0.2**
	0.4nm,0.8s,mb3.5,baz=14,slow=6.5,SNR=4.6							
TXAR	**Lajitas Array**	**91.27**	**53**	P		**P**	**05 59 13.8**	**+1.5**
	0.2nm,0.5s,mb3.7,baz=289,slow=2.5,SNR=5.4							

MOS ***25*** *06:13:36.8±3.2,39.34N×40.56E,h10km,mb4.1/15,Error ellipse: s-maj=8.8km s-min=6.6km az=103.9*

ISK ***25*** *06:13:37.9,39.44N×40.73E,h17km,ML4.1*

NEIC ***25*** *06:13:37.8,39.45N×40.70E,h5km,mb4.2/10,ML4.1(ISK), After ISK.*

CSEM ***25*** *06:13:37.8±0.1,39.38N×40.65E,h8km,mb4.0/5,Error ellipse: s-maj=1.8km s-min=1.4km az=163.0*

IDC ***25*** *06:13:38.6±1.0,39.44N×40.89E,mb3.7/9,mb1 3.8/14, mb1mx3.7/22,mbtmp3.6/14,ML3.1/5,MS3.3/7,Ms1 3.3/7, ms1mx3.0/25,Error ellipse: s-maj=20.9km s-min=8.8km az=3.0*

ZUR_RM ***25*** *06:13:39,39.36N×40.78E,h18km,Mw4.3/13,Moment Tensor Solution. s13 Moment tensor: Scale 10¹⁵Nm; Mrr0.26; Mθθ-1.16; Mφφ 0.90; Mrθ-0.51; Mθφ-3.50; Mφr0.41; Best double couple: M₀3.71×10¹⁵ NP1:φs278°,δ84°,λ171°. NP2:φs9°,δ81°,λ6°. Principal axes: T 3.64, Plg11°, Azm233°; N .142, Plg79°, Azm66°; P -3.782, Plg2°, Azm323°;*

ISC 25 06:13:38.3±0.6,39.45N±0.02×40.71E±0.03,h6km±4km, n125,σ1§09/144,mb3.8/19,MS3.3/5,3C-2D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BINT	**Bingol**	**0.60**	**197**	*i* PG		**Pg**	**06 13 49.6**	**-0.7**
BINT	**Bingol**	**0.60**	**197**	Pg		**Pg**	**06 13 49.6**	**-0.8**
EZM	**Erzurum**	**0.68**	**48**	*i* PG		**Pg**	**06 13 51.9**	**0.0**
EZM	**Erzurum**	**0.68**	**48**	Pg		**Pg**	**06 13 51.9**	**0.0**
ERZM	**Erzurum**	**0.68**	**48**	P		**Pg**	**06 13 51.9**	**0.0**
ERZM				S		**Sg**	**06 14 03.2**	**+2.1**
VRT	**Varto**	**0.71**	**116**	*i* PG		**Pg**	**06 13 51.8**	**-0.8**
VRT				*i* SG		**Sg**	**06 14 02.4**	**+0.3**
VRT	**Varto**	**0.71**	**116**	Pg		**Pg**	**06 13 51.9**	**-0.7**
VRT				Sg		**Sg**	**06 14 01.9**	**-0.2**
VRT	**Varto**	**0.71**	**116**	Pg		**Pg**	**06 13 51.9**	**-0.7**
VRT				*i* Sg		**Sg**	**06 14 02.4**	**+0.3**
EZC	**Erzincan**	**0.75**	**294**	*i* PN		**Pn**	**06 13 59.0**	**+3.9**
PTK	**Pertek**	**1.17**	**242**	*i* PN		**Pn**	**06 13 59.9**	**-1.2**
PTK				*i* SN		**Sn**	**06 14 16.9**	**-0.5**
PTK	**Pertek**	**1.17**	**242**	Pn		**Pn**	**06 13 60.0**	**-1.1**
PTK				Sg		**Sg**	**06 14 18.0**	**+0.8**
PTK	**Pertek**	**1.17**	**242**	Pn		**Pn**	**06 14 00.0**	**-1.1**
PTK				*i* Sn		**Sn**	**06 14 16.9**	**-0.5**
PTK				Sg		**Sg**	**06 14 18.0**	**+0.8**
KELT	**Kelkit**	**1.32**	**302**	P		**Pb**	**06 14 03.2**	**+0.1**
KELT				S		**Sb**	**06 14 27.9**	**+7.8**
GUMT	**Gumushane**	**1.38**	**317**	PN		**Pn**	**06 14 03.5**	**-0.7**
GUMT	**Gumushane**	**1.38**	**317**	Pn		**Pn**	**06 14 04.4**	**+0.2**
GUMT				Sg		**Sg**	**06 14 23.4**	**-1.0**
BTMT	**Batman**	**1.40**	**154**	PN		**Pn**	**06 14 03.4**	**-1.0**
DIY	**Diyarbakir**	**1.60**	**194**	PN		**Pn**	**06 14 06.3**	**-1.0**
DIY	**Diyarbakir**	**1.60**	**194**	Pn		**Pn**	**06 14 07.5**	**+0.3**
BEST	**Besiri**	**1.62**	**164**	P		**Pn**	**06 14 08.4**	**+0.8**
BEST				S		**Sb**	**06 14 31.0**	**+2.3**
ELZG	**Elazig**	**1.65**	**235**	P		**Pn**	**06 14 08.9**	**+0.9**
ELZG				S		**Sb**	**06 14 34.8**	**+5.2**
MYA	**Malataya**	**2.11**	**239**	*e*PN		**Pn**	**06 14 13.6**	**-0.9**
MYA	**Malataya**	**2.11**	**239**	Pn		**Pn**	**06 14 14.6**	**+0.1**
MALT	**Malatya**	**2.11**	**238**	*e*PN		**Pn**	**06 14 13.6**	**-1.0**
MALT	**Malatya**	**2.11**	**238**	*e*P		**Pn**	**06 14 14.5**	**-0.1**
MALT	**Malatya**	**2.11**	**238**	*e*P		**Pn**	**06 14 14.5**	**-0.1**
KARS	**Kars**	**2.17**	**57**	*e*PN		**Pn**	**06 14 14.1**	**-1.3**
KARS	**Kars**	**2.17**	**57**	Pn		**Pn**	**06 14 15.6**	**+0.2**
VANB	**Van**	**2.25**	**111**	*e*PN		**Pn**	**06 14 15.1**	**-1.6**
VANB	**Van**	**2.25**	**111**	Pn		**Pn**	**06 14 17.0**	**+0.3**
VANB	**Van**	**2.25**	**111**	Pn		**Pn**	**06 14 17.0**	**+0.3**
TVAN	**Van**	**2.29**	**113**	P		**Pn**	**06 14 19.8**	**+2.6**
URFA	**Urfa**	**2.50**	**217**	*e*PN		**Pn**	**06 14 18.7**	**-1.4**
URFA	**Urfa**	**2.50**	**217**	Pn		**Pn**	**06 14 20.9**	**+0.8**
CLDR	**Caldiran**	**2.51**	**96**	*e*PN		**Pn**	**06 14 18.8**	**-1.5**
CLDR	**Caldiran**	**2.51**	**96**	Pn		**Pn**	**06 14 21.2**	**+1.0**
CLDR	**Caldiran**	**2.51**	**96**	Pn		**Pn**	**06 14 21.2**	**+0.9**
SVST	**Sivas**	**2.92**	**277**	P		**Pn**	**06 14 32.5**	**+6.3**
HKR	**Hakkari**	**3.02**	**127**	*e*PN		**Pn**	**06 14 25.4**	**-2.2**
HKR	**Hakkari**	**3.02**	**127**	Pn		**Pn**	**06 14 27.9**	**+0.3**
GNI	**Garni**	**3.18**	**76**	*e*PN		**Pn**	**06 14 27.8**	**-2.1**
GNI	**Garni**	**3.18**	**76**	P		**Pn**	**06 14 28.4**	**-1.5**
GNI				pmax	pmax			
	comp=Z,4.0nm,0.3s							
GNI				pmax	pmax			
	comp=Z,15nm,0.3s							
GNI	**Garni**	**3.18**	**76**	Pn		**Pn**	**06 14 28.4**	**-1.5**
	comp=Z,3.7nm,0.3s,baz=217,slow=2.2,SNR=11							
GNI				Pg		**Pg**	**06 14 36.5**	**-5.4**
	comp=Z,15nm,0.3s,baz=212,slow=1.4,SNR=21							
GNI				Lg			06 15 24.0	
	baz=9.5,slow=23,SNR=1.7							
GNI				LR		LR	06 16 04.1	
	comp=Z,282nm,19.1s,baz=256,slow=48							
GNI	**Garni**	**3.18**	**76**	*e*P		**Pn**	**06 14 30.5**	**+0.6**
GNI	**Garni**	**3.18**	**76**	*e*P		**Pn**	**06 14 30.5**	**+0.6**
GZT	**Gaziantep**	**3.24**	**231**	P		**Pn**	**06 14 31.9**	**+1.2**
TOKT	**Tokat**	**3.32**	**286**	*e*PN		**Pn**	**06 14 30.7**	**-1.1**
TOKT	**Tokat**	**3.32**	**286**	Pn		**Pn**	**06 14 31.2**	**-0.7**
TOKT	**Tokat**	**3.32**	**286**	Pn		**Pn**	**06 14 31.2**	**-0.6**
KAHT	**Ahir Dag**	**3.51**	**240**	P		**Pn**	**06 14 35.1**	**+0.5**
MSL	**Mosul**	**3.67**	**148**	*e*Pn		**Pn**	**06 14 35.5**	**-1.4**
MSL				*e*Sn		**Sn**	**06 15 29.0**	**+8.0**
TI2	**Plekhanov**	**3.83**	**52**	⇑*i* P		**Pn**	**06 14 39.4**	**+0.3**
TI2				pmax	pmax			
	comp=Z,30nm,0.6s							
TI2				MLR	MLR			
	comp=N,2μm,5.0s							
TI2				MLR	MLR			
	comp=E,1μm,5.0s							
TI2				MLR	MLR			
	comp=Z,1μm,5.0s							
TI2	**Plekhanov**	**3.83**	**52**	⇑*i* P		**Pn**	**06 14 39.4**	**+0.3**
	comp=Z,30nm,0.6s							
ZEI	**Tsey**	**4.10**	**35**	*e*P		**Pn**	**06 14 42.1**	**-0.8**
ZEI				*e*			06 16 32.5	
ZEI				pmax	pmax			
	comp=Z,74nm,0.9s							
ZEI				smax				
	comp=Z,128nm,1.3s							
ZEI	**Tsey**	**4.10**	**35**	*e*P		**Pn**	**06 14 42.1**	**-0.8**
	comp=Z,74nm,0.9s							
ZEI				*e*S		**Sn**	**06 15 32.5**	**+0.7**
	comp=Z,128nm,1.3s							
SOC	**Sochi**	**4.20**	**350**	*i* P		**Pn**	**06 14 44.3**	**0.0**
SOC				*e*			06 15 31.1	
SOC				pmax	pmax			
	comp=Z,74nm,0.6s							
SOC				pmax	pmax			
	comp=N,15nm,0.5s							
SOC				pmax	pmax			
	comp=E,16nm,0.4s							
SOC				smax				
	comp=N,155nm,0.8s							
SOC				MLR	MLR			
	comp=Z,311nm,18.0s							
SOC				MLR	MLR			
	comp=N,274nm,15.0s							
SOC				MLR	MLR			
	comp=E,349nm,17.0s							
SOC	**Sochi**	**4.20**	**350**	*i* P		**Pn**	**06 14 44.3**	**0.0**
	comp=E,15nm,0.5s							
SOC				*e*S		**Sn**	**06 15 31.1**	**-3.1**
	comp=E,274nm,15.0s							
COBT	**Iskenderun**	**4.58**	**232**	P		**Pn**	**06 14 48.5**	**-1.2**
KIV	**Kislovodsk**	**4.74**	**18**	*de*P		**Pn**	**06 14 55.8**	**+3.8**
KIV				*e*S		**Sn**	**06 15 44.6**	**-3.3**
KIV				pmax	pmax			
	comp=Z,19nm,1.5s							
KIV				MLR	MLR			
	comp=Z,300nm,17.0s							
KIV	**Kislovodsk**	**4.74**	**18**	*e*P		**Pn**	**06 14 52.8**	**+0.8**
KIV	**Kislovodsk**	**4.74**	**18**	*e*P		**Pn**	**06 14 52.8**	**+0.8**
KIV				*e*S		**Sn**	**06 15 44.6**	**-3.3**
BRTR	**Keskin Array B**	**5.47**	**275**	Pn		**Pn**	**06 15 02.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=104,slow=14,SNR=8.1							
BRTR				Lg			06 16 36.0	
	baz=206,slow=29,SNR=1.7							
ANN	**Anapa**	**5.87**	**337**	*e*P		**Pn**	**06 15 00.9**	**-7.1**
ANN				pmax	pmax			
	comp=Z,34nm,1.2s							
ANTO	**Ankara**	**6.12**	**276**	Pn		**Pn**	**06 15 11.3**	**-0.2**
ANTO	**Ankara**	**6.12**	**276**	Pn		**Pn**	**06 15 11.3**	**-0.2**
HWQ	**Hawqa**	**6.42**	**218**	*e*PN		**Pn**	**06 15 15.7**	**-0.1**
BHD	**Baghdad**	**6.84**	**153**	*e*Pn		**Pn**	**06 15 31.0**	**+9.3**
BHD				*e*Sn		**Sn**	**06 17 00.0**	**+19**
ASF	**Jabal al Asfar**	**7.89**	**204**	Pn		**Pn**	**06 15 36.5**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=260,slow=14,SNR=4.1							
ASF				Lg			06 17 53.0	
	comp=Z,1.2nm,0.3s,baz=76,slow=19,SNR=4.9							
MLR	**Muntele Rosu**	**12.45**	**304**	Pn		**P**	**06 16 40.9**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=103,slow=6.2,SNR=4.1							
IDI	**Anoyia**	**13.25**	**257**	LR		LR	06 21 59.2	
	comp=Z,68nm,19.2s,baz=228,slow=37							
AKASG	**Malin Array Be**	**13.85**	**328**	P		**P**	**06 16 56.3**	**-1.0**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.3s							
AKASG	**Malin Array Be**	**13.85**	**328**	Pn		**P**	**06 16 56.3**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=130,slow=14,SNR=6.9							
OBN	**Obninsk**	**15.91**	**351**	⇑*e*P		**P**	**06 17 23.8**	**-0.5**
OBN				*e*S		**S**	**06 20 24.3**	**+3.1**
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s							
OBN	**Obninsk**	**15.91**	**351**	*e*P		**P**	**06 17 23.8**	**-0.5**
	comp=Z,9.0nm,0.5s							
OBN				*e*S		**S**	**06 20 24.3**	**+3.1**
	comp=Z,100nm,18.0s							
ARU	**Arti**	**20.67**	**29**	⇓*i* P		**P**	**06 18 22.7**	**+1.5**
ARU				*e*			06 18 41.5	
ARU				*e*S		**S**	**06 22 11.9**	**+4.5**
ARU				*e*SS		SS	06 22 33.0	-5.0
ARU				pmax	pmax			
	comp=Z,6.0nm,0.8s							
ARU	**Arti**	**20.67**	**29**	*i* P		**P**	**06 18 22.7**	**+1.5**
	comp=Z,6.0nm,0.8s							
VSU	**Vasula**	**21.04**	**339**	*i* P		**P**	**06 18 27.4**	**+2.4**
GERES	**GERESS Array B**	**21.44**	**305**	P		**P**	**06 18 30.7**	**+1.6**
GERES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
GERES				MLR	MLR			
	comp=Z,46nm,19.4s							
GERES	**GERESS Array B**	**21.44**	**305**	P		**P**	**06 18 30.7**	**+1.6**
	comp=Z,0.8nm,0.7s,mb3.1,baz=108,slow=8.4,SNR=7.7							
GERES				LR		LR	06 29 02.0	
	comp=Z,46nm,19.4s,MS2.9,baz=108,slow=43							
KHC	**Kasperske Hory**	**21.59**	**306**	*e*P		**P**	**06 18 32.0**	**+1.3**
CLL	**Collm**	**22.64**	**311**	*e*P		**P**	**06 18 34.0**	**-7.0**
CLL	**Collm**	**22.64**	**311**	*e*		**P**	**06 18 46.0**	**+5.0**
GRA1	**Grafenberg Arr**	**23.23**	**306**	*e*P		**P**	**06 18 47.1**	**+0.3**
	comp=Z,20nm,1.1s,mb4.5							
GRF	**Grafenberg Arr**	**23.23**	**306**	*e*P		**P**	**06 18 47.1**	**+0.3**
GRF				pmax	pmax			
	comp=Z,20nm,1.1s,mb4.5							
FINES	**FINESS Array B**	**23.80**	**342**	P		**P**	**06 18 53.3**	**+1.1**
FINES				pmax	pmax			
	comp=Z,7.0nm,0.7s							
FINES	**FINESS Array B**	**23.80**	**342**	P		**P**	**06 18 53.3**	**+1.1**
	comp=Z,6.8nm,0.7s,mb4.2,baz=150,slow=9.5,SNR=13							
PGF	**Pioggiola**	**24.06**	**288**	*e*P		**P**	**06 18 49.7**	**-5.2**
	comp=Z,44nm,1.4s,mb4.4							
PGF	**Pioggiola**	**24.06**	**288**	*e*P		**P**	**06 18 49.7**	**-5.2**
PGF				pmax	pmax			
	comp=Z,22nm,1.4s,mb4.4							
KAF	**Kangasniemi**	**24.34**	**344**	*ep*		**P**	**06 18 57.8**	**+0.4**
BVAR	**Borovoye Array**	**24.40**	**46**	P		**P**	**06 18 57.2**	**-1.0**
	comp=Z,1.0nm,0.7s,mb3.4,baz=219,slow=38,SNR=3.8							
CHKZ	**Chkalovo**	**24.77**	**45**	*e*P		**P**	**06 19 00.9**	**-0.8**
CHKZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.5							
CHKZ	**Chkalovo**	**24.77**	**45**	*e*P		**P**	**06 19 00.9**	**-0.9**
	comp=Z,1.4nm,0.7s,mb3.6							
CHKZ	**Chkalovo**	**24.77**	**45**	*e*P		**P**	**06 19 00.9**	**-0.8**
	comp=Z,1.4nm,0.7s,mb3.6							
AAK	**Ala-Archa**	**25.58**	**72**	*e*P		**P**	**06 19 09.7**	**+0.2**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.8							
AAK	**Ala-Archa**	**25.58**	**72**	*e*P		**P**	**06 19 09.7**	**+0.1**
	comp=Z,1.6nm,0.7s,mb3.7							
AAK	**Ala-Archa**	**25.58**	**72**	*e*P		**P**	**06 19 09.7**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.7							
MBDF	**Montbardon**	**25.61**	**293**	*e*P		**P**	**06 19 02.7**	**-7.1**
	comp=Z,5.4nm,0.6s,mb3.9							
MBDF	**Montbardon**	**25.61**	**293**	*e*P		**P**	**06 19 02.7**	**-7.1**
MBDF				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
LPG	**La Plagne**	**25.64**	**295**	*e*P		**P**	**06 19 03.4**	**-6.6**
	comp=Z,10nm,0.9s,mb4.0							
LPG	**La Plagne**	**25.64**	**295**	*e*P		**P**	**06 19 03.4**	**-6.6**
LPG				pmax	pmax			
	comp=Z,5.0nm,0.9s,mb4.0							
LPL	**La Plagne**	**25.65**	**295**	*e*P		**P**	**06 19 03.2**	**-6.9**
	comp=Z,5.0nm,0.6s,mb3.9							
LPL	**La Plagne**	**25.65**	**295**	*e*P		**P**	**06 19 03.2**	**-6.9**
LPL				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.0							
BNI	**Bardonecchia**	**25.68**	**294**	P		**P**	**06 19 11.1**	**+0.7**
BNI				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb3.9							
BNI	**Bardonecchia**	**25.68**	**294**	P		**P**	**06 19 11.1**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.0							
BNI	**Bardonecchia**	**25.68**	**294**	P		**P**	**06 19 11.1**	**+0.7**
	comp=Z,3.3nm,0.7s,mb4.0							
CABF	**La Chapelle**	**26.14**	**297**	*e*P		**P**	**06 19 06.7**	**-8.0**
	comp=Z,46nm,1.4s,mb4.5							
CABF	**La Chapelle**	**26.14**	**297**	*e*P		**P**	**06 19 06.7**	**-8.0**
CABF				pmax	pmax			
	comp=Z,23nm,1.4s,mb4.5							
HFS	**Hagfors**	**26.73**	**330**	P		**P**	**06 19 20.3**	**+0.3**
HFS				pmax	pmax			
	comp=Z,3.0nm,0.6s							
HFS	**Hagfors**	**26.73**	**330**	P		**P**	**06 19 20.3**	**+0.3**
	comp=Z,2.5nm,0.6s,mb3.9,baz=135,slow=10,SNR=7.5							
SMF	**Signal de Mont**	**27.69**	**297**	*e*P		**P**	**06 19 21.7**	**-7.2**
NOA	**NORSAR Array B**	**28.25**	**330**	P		**P**	**06 19 33.1**	**-0.7**
NOA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
NOA				MLR	MLR			
	comp=Z,43nm,18.6s							
NOA	**NORSAR Array B**	**28.25**	**330**	P		**P**	**06 19 33.1**	**-0.8**
	comp=Z,0.5nm,0.9s,mb3.1,baz=44,slow=15,SNR=3.1							
NOA				LR		LR	06 31 57.4	
	comp=Z,43nm,18.6s,MS3.1,baz=85,slow=39							
KURK	**Kurchatov**	**28.73**	**54**	*e*P		**P**	**06 19 37.1**	**-1.1**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb3.6							
KURK	**Kurchatov**	**28.73**	**54**	*e*P		**P**	**06 19 37.1**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.6							
KURK	**Kurchatov**	**28.73**	**54**	*e*P		**P**	**06 19 37.1**	**-1.1**
	comp=Z,0.8nm,0.7s,mb3.6							
MKAR	**Makanchi Array**	**30.93**	**63**	P		**P**	**06 19 56.6**	**-1.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**30.93**	**63**	P		**P**	**06 19 56.6**	**-1.3**
	comp=Z,1.0nm,0.8s,mb3.7,baz=280,slow=7.4,SNR=4.5							
ARCES	**ARCESS Array B**	**31.22**	**350**	P		**P**	**06 19 59.8**	**-0.4**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ARCES				MLR	MLR			
	comp=Z,89nm,19.2s							
ARCES	**ARCESS Array B**	**31.22**	**350**	P		**P**	**06 19 59.8**	**-0.4**
	comp=Z,1.3nm,0.7s,mb3.9,baz=164,slow=8.8,SNR=5.2							
ARCES				LR		LR	06 33 26.9	
	comp=Z,89nm,19.2s,MS3.5,baz=21,slow=38							
ZAL	**Zalesovo**	**32.94**	**49**	LR		LR	06 36 04.3	
	comp=Z,48nm,21.1s,MS3.2,baz=305,slow=41							
ESDC	**Sonseca Array**	**34.17**	**285**	P		**P**	**06 20 25.0**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=64,slow=8.8,SNR=4.8							
SONM	**Songino Array**	**46.97**	**57**	LR		LR	06 44 18.9	
	comp=Z,143nm,18.9s,MS4.0,baz=177,slow=39							
ULN	**Ulaanbaatar**	**47.38**	**57**	P		**P**	**06 22 13.7**	**-1.1**
YKA	**Yellowknife Ar**	**76.47**	**348**	P		**P**	**06 25 30.7**	**+0.7**
YKA				pmax	p

PVCP	**Virac**	**3.71**	**125**	*eP*	**P**	**06 32 17.4**	**-0.2**
WRAB	**Tennant Creek**	**37.79**	**159**	*eP*	**P**	**06 38 34.2**	**-2.1**
	2.6nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**37.80**	**159**	P	**P**	**06 38 34.3**	**-2.1**
	4.0nm,0.8s,mb4.2,baz=338,slow=9.4,SNR=20						
WB2	**Warramunga Arr**	**37.80**	**159**	*eP*	**P**	**06 38 34.1**	**-2.3**
ASPA	**Alice Springs**	**41.14**	**162**	*eP*	**P**	**06 39 05.1**	**+1.0**
ASAR	**Alice Springs**	**41.14**	**162**	P	**P**	**06 39 03.9**	**-0.2**
	2.6nm,0.8s,mb3.9,baz=341,slow=6.5,SNR=22						
MKAR	**Makanchi Array**	**44.60**	**322**	P	**P**	**06 39 31.2**	**-0.8**
	0.6nm,0.8s,mb3.5,baz=124,slow=8.7,SNR=5.1						
MKAR				PcP	PcP	06 41 13.5	-1.6
	0.5nm,0.7s,baz=90,slow=3.6,SNR=4.2						
STKA	**Stephens Creek**	**51.29**	**157**	P	**P**	**06 40 22.4**	**-2.0**
	1.6nm,0.6s,mb4.2,baz=168,slow=16,SNR=4.0						
BVAR	**Borovoye Array**	**54.28**	**325**	P	**P**	**06 40 44.9**	**-1.4**
	0.7nm,0.7s,mb3.7,baz=121,slow=8.6,SNR=4.8						
ARU	**Arti**	**61.87**	**326**	*eP*	**P**	**06 41 37.5**	**-1.9**
	2.8nm,0.4s,mb4.8						
ARCES	**ARCESS Array B**	**77.30**	**339**	P	**P**	**06 43 12.3**	**-1.4**
	2.9nm,0.8s,mb4.3,baz=61,slow=12,SNR=3.5						
FINES	**FINESS Array B**	**78.67**	**331**	P	**P**	**06 43 19.9**	**-1.5**
	0.3nm,0.6s,mb3.4,baz=63,slow=8.5,SNR=4.5						
NOA	**NORSAR Array B**	**85.60**	**333**	P	**P**	**06 43 55.7**	**-1.5**
	0.6nm,0.7s,mb3.9,baz=68,slow=4.8,SNR=3.9						
NOA	**NORSAR Array B**	**85.60**	**333**	P	**P**	**06 43 55.7**	**-1.5**
YKA	**Yellowknife Ar**	**90.79**	**23**	P	**P**	**06 44 20.7**	**-1.3**
	0.1nm,0.6s,mb3.3,baz=307,slow=4.6,SNR=6.1						

TAP ***25*** *06:35:01.8, 24.61N×122.43E, h6km, ML2.9*
JMA 25 06:35:00.7±0.4, 24.89N×122.31E, h18km, M2.4, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.77**	**124**	P	Pb	06 35 15.1	-0.1
YOJ				S	Sb	06 35 25.1	0.0
IRIF	**Iriomote-Funau**	**1.41**	**113**	P	Pn	06 35 25.4	-0.3
IRIF				*eS*	Sb	06 35 45.2	+1.6
HATJ	**Hateruma jima**	**1.59**	**121**	S	Sn	06 35 48.5	-0.1
JIJ	**Ishigaki jima**	**1.75**	**107**	P	Pn	06 35 30.5	-0.1
JIJ				S	Sn	06 35 51.5	-1.0

STR ***25*** *06:41:47.5±0.1, 43.97N×7.34E, h5km±1km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***25*** *06:41:47.2, 43.99N×7.34E, h5km, ML2.5(GEN), ML2.1(LDG), After LDG.*
LDG ***25*** *06:41:47.2±0.1, 43.99N×7.34E, h5km, Md2.0/1, Ml2.1/5, Error ellipse: s-maj=2.1km s-min=1.7km az=77.0*
ISC 25 06:41:46.4±0.3, 43.98N±0.02×7.32E±0.02, h13km±2km, n31, σ0ş86/56, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOUF	**Mont Tournerai**	**0.06**	**301**	Pg	**Pg**	**06 41 49.8**	**+0.8**
TOUF				Sg	**Sg**	**06 41 51.6**	**+0.8**
AUTN	**L'Aution**	**0.08**	**79**	Pg	**Pg**	**06 41 49.6**	**+0.4**
AUTN				Sg	**Sg**	**06 41 51.3**	**+0.3**
SBF	**Sospel**	**0.14**	**146**	*ePg*	**Pg**	**06 41 49.0**	**-1.1**
SBF				*eSg*	**Sg**	**06 41 50.9**	**-1.6**
	113nm,0.2s						
MVIF	**Mont Vial**	**0.15**	**236**	Pg	**Pg**	**06 41 50.8**	**+0.6**
MVIF				Sg	**Sg**	**06 41 52.9**	**+0.2**
SAOF	**Saorge**	**0.17**	**88**	Pg	**Pg**	**06 41 50.7**	**+0.3**
REVF	**Revere**	**0.24**	**173**	Pg	**Pg**	**06 41 52.6**	**+0.8**
REVF				Sg	**Sg**	**06 41 56.1**	**+0.7**
ENR	**Entracque**	**0.26**	**16**	P	**Pg**	**06 41 52.5**	**+0.5**
ENR				S	**Sg**	**06 41 56.6**	**+0.9**
STV	**Sta Anna Valdi**	**0.26**	**0**	P	**Pg**	**06 41 52.5**	**+0.4**
STV				S	**Sg**	**06 41 56.6**	**+0.7**
STV2	**Anna di Valdie**	**0.26**	**0**	P	**Pg**	**06 41 52.5**	**+0.3**
STV2				S	**Sg**	**06 41 56.6**	**+0.6**
NEGI	**Negi**	**0.30**	**116**	P	**Pg**	**06 41 52.4**	**-0.5**
NEGI				S	**Sg**	**06 41 56.3**	**-0.9**
MONE	**Monesi**	**0.33**	**72**	P	**Pg**	**06 41 53.4**	**+0.1**
MONE				S	**Sg**	**06 41 58.1**	**+0.2**
CALN	**Calern**	**0.39**	**234**	Pg	**Pg**	**06 41 55.6**	**+1.1**
CALN				Sg	**Sg**	**06 42 01.0**	**+1.1**
IMI	**Imperia**	**0.41**	**100**	P	**Pg**	**06 41 54.6**	**-0.4**
IMI				S	**Sg**	**06 42 00.3**	**-0.5**
ROB	**Roburent**	**0.50**	**51**	P	**Pb**	**06 41 56.7**	**+0.2**
ROB				S	**Sb**	**06 42 03.8**	**+0.3**
PZZ	**Prazzo**	**0.55**	**343**	P	**Pb**	**06 41 57.7**	**+0.4**
PZZ				S	**Sb**	**06 42 05.4**	**+0.6**
SURF	**Saint Ours**	**0.62**	**324**	Pg	**Pg**	**06 41 59.2**	**+0.2**
SURF				Sg	**Sg**	**06 42 07.9**	**+0.5**
FRF	**La Foret Royal**	**0.65**	**230**	*ePg*	**Pg**	**06 41 58.9**	**-0.6**
FRF				*eSg*	**Sg**	**06 42 08.1**	**-0.1**
	5.9nm,0.2s						
FIN	**Finale Ligure**	**0.68**	**70**	P	**Pb**	**06 41 59.8**	**+0.3**
MBDF	**Montbardon**	**0.84**	**332**	*ePg*	**Pg**	**06 42 03.0**	**-0.4**
MBDF				*eSg*	**Sg**	**06 42 14.6**	**-0.1**
	5.5nm,0.2s						
BHB	**Bricherasio**	**0.86**	**357**	P	**Pb**	**06 42 03.1**	**+0.5**
BHB				S	**Sb**	**06 42 14.5**	**+0.6**
LMR	**La Mourre**	**0.88**	**223**	*ePg*	**Pg**	**06 42 02.7**	**-1.3**
LMR				*eSg*	**Sg**	**06 42 15.2**	**-0.6**
LMR				*eSn*	**Sn**	**06 42 17.4**	**+0.6**
	9.8nm,0.3s						
TAVF	**Tavernes**	**0.99**	**249**	Pg	**Pg**	**06 42 06.2**	**0.0**
RRL	**Cesana Torines**	**1.01**	**338**	P	**Pb**	**06 42 06.3**	**+1.0**
STOF	**St-Etienne Org**	**1.02**	**271**	Pg	**Pg**	**06 42 09.0**	**+2.1**
PCP	**Pian Castagno**	**1.04**	**57**	P	**Pb**	**06 42 06.2**	**+0.4**
FENE	**Fenestrelle**	**1.06**	**350**	P	**Pb**	**06 42 06.9**	**+0.7**
ORIF	**Oris-en-Rattie**	**1.40**	**313**	*ePg*	**Pg**	**06 42 13.2**	**-1.1**
ORIF				*eSg*	**Sg**	**06 42 31.8**	**-1.2**
	3.5nm,0.3s						
LPG	**La Plagne**	**1.57**	**345**	*ePg*	**Pg**	**06 42 16.3**	**-1.5**
LPG				*eSg*	**Sg**	**06 42 37.2**	**-1.6**
	1.5nm,0.2s						
LPL	**La Plagne**	**1.59**	**345**	*ePg*	**Pg**	**06 42 16.4**	**-1.8**
LPL				*eSg*	**Sg**	**06 42 37.5**	**-2.0**
	4.0nm,0.4s						
PGF	**Pioggiola**	**1.88**	**139**	*ePn*	**Pn**	**06 42 18.5**	**-0.1**
VIVF	**Saint-Julien-l**	**2.09**	**296**	*ePn*	**Pn**	**06 42 21.7**	**+0.1**
VIVF				*ePg*	**Pg**	**06 42 26.2**	**-2.0**
VIVF				*eSn*	**Sn**	**06 42 47.0**	**-0.7**
	2.0nm,0.2s						

IDC ***25*** *06:42:56.4±0.7, 14.55S×76.04W, mb4.3/13, mb1 4.4/18, mb1mx4.3/22, mbtmp4.3/18, ML3.9/3, Error ellipse: s-maj=25.4km s-min=14.2km az=78.0*
NEIC ***25*** *06:43:06.3±1.6, 14.49S×75.78W, h74km±14km, mb4.6/33, Error ellipse: s-maj=16.1km s-min=7.1km az=64.0*
NEIC Felt [III] at Ica and Pisco.
BJI ***25*** *06:43:06.0, 15.24S×76.30W, h87km, mB5.4, Ms4.9, Ms24.7*
ISC 25 06:43:01.8±1.8, 14.58S±0.05×75.93W±0.09, h52km±17km, n94, σ1ş24/81, mb4.5/43, 1C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**4.67**	**114**	*eP*	**P**	**06 44 11.0**	**-0.6**
ARE				*e*		06 44 16.0	
ARE				*i*		06 44 20.8	
ARE				S	**S**	**06 45 06.0**	**+0.9**
LPAZ	**La Paz**	**7.71**	**104**	Pn	**P**	**06 44 56.8**	**+2.8**
	3.4nm,0.3s,baz=293,slow=10,SNR=160						
LPAZ				Lg		06 46 57.8	
	0.5nm,0.3s,baz=342,slow=24,SNR=2.3						
LPAZ	**La Paz**	**7.71**	**104**	*ePn*	**P**	**06 44 57.2**	**+3.2**
	1.1nm,1.2s						
LVC	**Limon Verde**	**10.39**	**141**	Pn	**P**	**06 45 28.3**	**-2.7**
	2.5nm,0.3s,baz=305,slow=10,SNR=51						
LVC	**Limon Verde**	**10.39**	**141**	*ePn*	**P**	**06 45 28.0**	**-3.0**
	56nm,0.8s						
SIV	**San Ignacio**	**14.40**	**98**	Pn	**P**	**06 46 22.0**	**-2.4**
	0.2nm,0.3s,baz=277,slow=13,SNR=23						
SIV				Sn	**S**	**06 49 17.2**	**+14**
	0.1nm,0.3s,baz=289,slow=12,SNR=3.9						
SIV				Lg		06 50 44.6	
	0.1nm,0.3s,baz=221,slow=24,SNR=3.6						
OTAV	**Otavalo**	**14.93**	**350**	*ePn*	**P**	**06 46 34.4**	**+3.0**
	24nm,0.9s						
CFAA	**Coronel Fontan**	**18.35**	**159**	P	**P**	**06 47 13.2**	**-1.1**
	0.1nm,0.3s,baz=334,slow=12,SNR=22						
FCH	**Farellones**	**19.36**	**166**	*ieP*	**P**	**06 47 26.7**	**+0.8**
ROSC	**El Rosal**	**19.37**	**5**	P	**P**	**06 47 29.6**	**+3.4**
	0.1nm,0.3s,baz=97,slow=16,SNR=6.2						
ROSC				S	**S**	**06 51 15.2**	**+18**
	0.2nm,0.3s,baz=259,slow=23,SNR=3.6						
SDV	**Santo Domingo**	**23.90**	**13**	P	**P**	**06 48 13.1**	**+1.3**
	20nm,0.8s,mb4.6,baz=211,slow=12,SNR=26						
SDV	**Santo Domingo**	**23.90**	**13**	*eP*	**P**	**06 48 10.7**	**-1.1**
	32nm,0.8s,mb4.8						
TRQA	**Tornquist**	**26.45**	**155**	*eP*	**P**	**06 48 34.3**	**-1.5**
	13nm,1.3s,mb4.3						
PLCA	**Paso Flores**	**26.48**	**171**	P	**P**	**06 48 35.6**	**-0.5**
	2.5nm,0.9s,mb3.8,baz=358,slow=12,SNR=4.0						
PLCA	**Paso Flores**	**26.48**	**171**	*eP*	**P**	**06 48 35.4**	**-0.7**
	8.4nm,1.0s,mb4.2						
BDFB	**Brasilia**	**26.96**	**96**	P	**P**	**06 48 40.8**	**+0.1**
	12nm,0.9s,mb4.4,baz=273,slow=11,SNR=13						
BAO	**Brasilia Array**	**26.98**	**96**	P	**P**	**06 48 42.5**	**+1.5**
PCRV	**Puerto La Cruz**	**27.02**	**25**	P	**P**	**06 48 42.5**	**+1.1**
	7.8nm,0.6s,mb4.4,baz=304,slow=4.9,SNR=6.6						
SJG	**San Juan**	**33.88**	**17**	P	**P**	**06 49 40.5**	**-1.4**
	4.1nm,0.6s,mb4.5,baz=235,slow=11,SNR=2.2						
TEIG	**Tepich**	**36.66**	**340**	*eP*	**P**	**06 50 05.7**	**+0.1**
	6.9nm,0.8s,mb4.5						
RCBR	**Riachuelo**	**40.28**	**82**	*eP*	**P**	**06 50 34.0**	**-1.8**
	30nm,1.1s,mb4.9						
USHA	**Ushuaia**	**40.59**	**173**	P	**P**	**06 50 37.5**	**-0.4**
	8.1nm,0.9s,mb4.3,baz=58,slow=3.9,SNR=3.1						
LRAL	**Lakeview Retre**	**48.51**	**348**	*eP*	**P**	**06 51 41.1**	**-0.6**
	103nm,1.1s						
JCT	**Junction City**	**50.35**	**333**	*eP*	**P**	**06 51 57.1**	**+1.2**
	4.3nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	**51.22**	**329**	P	**P**	**06 52 01.8**	**-0.7**
	1.5nm,1.0s,mb3.9,baz=131,slow=12,SNR=5.5						
MIAR	**Mount Ida**	**51.65**	**341**	*eP*	**P**	**06 52 04.8**	**-0.9**
	4.7nm,0.8s,mb4.5						
ELN	**Prospectdale**	**51.73**	**355**	P	**P**	**06 52 04.2**	**-2.0**
WCI	**Wyandotte Cave**	**53.42**	**350**	*eP*	**P**	**06 52 15.9**	**-2.9**
	15nm,0.9s,mb4.9						
WMOK	**Wichita Mounta**	**53.64**	**337**	*eP*	**P**	**06 52 19.4**	**-1.0**
	2.4nm,0.9s,mb4.1						
GDL2	**Guadalupe Moun**	**53.90**	**330**	*eP*	**P**	**06 52 22.7**	**+0.2**
MNTX	**Cornudas Mount**	**54.00**	**329**	*eP*	**P**	**06 52 24.7**	**+1.5**
	20nm,1.8s,mb4.7						
CPRX	**Cap Rock**	**54.35**	**331**	*eP*	**P**	**06 52 25.9**	**+0.2**
RKT	**Rikitea**	**56.21**	**252**	*eS*	**S**	**07 00 21.7**	**-1.5**
RKT				*eLR*	LR	07 08 46.3	
	517nm,27.8s						
ANMO	**Albuquerque**	**57.15**	**330**	*eP*	**P**	**06 52 47.3**	**+1.4**
	6.0nm,1.1s,mb4.5						
TUC	**Tucson**	**57.34**	**325**	*eP*	**P**	**06 52 46.7**	**-0.5**
	4.4nm,1.2s,mb4.4						
SDCO	**Great Sand Dun**	**59.00**	**333**	*eP*	**P**	**06 52 58.2**	**-0.5**
	10nm,1.0s,mb4.8						
WUAZ	**Wupatki**	**60.08**	**327**	*eP*	**P**	**06 53 07.3**	**+1.1**
	16nm,1.2s,mb4.9						
ISCO	**Idaho Springs**	**60.76**	**334**	*eP*	**P**	**06 53 10.0**	**-0.7**
	9.7nm,1.5s,mb4.7						
PV10	**Paradox Valley**	**61.13**	**331**	*eP*	**P**	**06 53 11.6**	**-1.8**
SRU	**San Rafael**	**62.42**	**330**	*eP*	**P**	**06 53 21.0**	**-0.9**
MSU	**Marysvale**	**62.78**	**329**	*eP*	**P**	**06 53 25.6**	**+1.3**
MVU	**Marysvale**	**62.79**	**329**	*eP*	**P**	**06 53 27.2**	**+2.8**
	7.6nm,1.2s,mb4.7						
ARUT	**Antelope Range**	**62.88**	**327**	*eP*	**P**	**06 53 26.9**	**+1.9**
TAOE	**Nuku Hiva Isla**	**62.98**	**267**	*eLR*	LR	07 11 55.1	
DAU	**Daniels Canyon**	**63.79**	**331**	*eP*	**P**	**06 53 30.6**	**-0.4**
JLU	**Jordanelle**	**64.03**	**331**	*eP*	**P**	**06 53 31.6**	**-1.0**
DUG	**Dugway**	**64.38**	**329**	*eP*	**P**	**06 53 35.0**	**+0.2**
	12nm,0.9s,mb4.9						
HWUT	**Hardware Ranch**	**64.87**	**331**	*eP*	**P**	**06 53 37.1**	**-0.9**
	9.9nm,1.0s,mb4.8						
PDAR	**Pinedale Array**	**64.89**	**333**	P	**P**	**06 53 38.0**	**0.0**
	0.5nm,0.8s,mb3.6,baz=124,slow=11,SNR=4.0						
LOHW	**Long Hollow**	**66.02**	**333**	*eP*	**P**	**06 53 46.6**	**+1.3**
	3.1nm,0.8s,mb4.4						
TPAW	**Teton Pass**	**66.08**	**333**	P	**P**	**06 53 46.2**	**+0.5**
RRI2	**Red Ridge**	**66.13**	**332**	*eP*	**P**	**06 53 45.5**	**-0.5**
MOOW	**Moose Ponds**	**66.19**	**333**	*eP*	**P**	**06 53 45.9**	**-0.4**
LKWY	**Lake**	**66.69**	**334**	*eP*	**P**	**06 53 50.9**	**+1.4**
	10nm,1.1s,mb4.8						
ULM	**Lac du Bonnet**	**66.89**	**346**	P	**P**	**06 53 48.3**	**-2.3**
	6.4nm,1.1s,mb4.5,baz=174,slow=7.5,SNR=6.9						
ULM	**Lac du Bonnet**	**66.89**	**346**	*eP*	**P**	**06 53 48.3**	**-2.4**
	8.9nm,0.8s,mb4.8						
GCMT	**Greycliff**	**67.38**	**335**	*eP*	**P**	**06 53 53.0**	**-0.9**
HLID	**Hailey**	**67.72**	**331**	*eP*	**P**	**06 53 56.9**	**+1.0**
	3.0nm,0.8s,mb4.4						
BOZ	**Bozeman (W)**	**68.08**	**334**	*eP*	**P**	**06 53 58.0**	**-0.2**
	6.7nm,1.1s,mb4.6						
VNA3	**Neumayer Olymp**	**68.73**	**161**	*eP*	**P**	**06 54 04.8**	**+3.0**
VNA3				*e*		06 54 28.5	
VNA3				*e*		06 54 37.1	
VNA2	**Neumayer--Watz**	**69.35**	**161**	*eP*	**P**	**06 54 06.9**	**+1.3**
VNA2				*e*		06 54 29.3	
VNA2				*e*		06 54 38.2	
TBI	**Tubuai**	**69.46**	**250**	*eS*	S	07 03 06.1	-3.2
TBI				*eLR*	LR	07 14 55.0	
	488nm,27.2s						
MOD	**Modoc**	**69.50**	**326**	*eP*	**P**	**06 54 07.1**	**+0.1**
	7.1nm,1.2s,mb4.5						
SCHQ	**Schefferville**	**69.57**	**6**	P	**P**	**06 54 06.3**	**-0.9**
	2.3nm,1.1s,mb4.0,baz=140,slow=5.9,SNR=3.7						
MSO	**Missoula**	**70.01**	**333**	*eP*	**P**	**06 54 10.1**	**+0.1**
	4.7nm,1.0s,mb4.4						
PPT	**Papeete**	**70.42**	**256**	*eS*	S	07 03 16.7	-3.9
PPT				*eLR*	LR	07 15 12.4	
	342nm,27.8s						
SNAA	**Sanae**	**70.95**	**161**	*eP*	**P**	**06 54 02.0**	**-13**
SNAA	**Sanae**	**70.95**	**161**	*e*	**P**	**06 54 23.6**	**+8.3**
SNAA	**Sanae**	**70.95**	**161**	*eP*	**P**	**06 54 15.7**	**+0.4**
	7.7nm,0.8s,mb4.7						
SNAA				*e*		06 54 23.6	
WALA	**Waterton Lakes**	**71.72**	**335**	*eP*	**P**	**06 54 20.0**	**-0.3**
	7.2nm,1.0s,mb4.6						
NEW	**Newport**	**72.50**	**333**	P	**P**	**06 54 24.5**	**-0.4**
	4.3nm,1.0s,mb4.3						
FCC	**Fort Churchill**	**74.58**	**350**	*eP*	**P**	**06 54 35.5**	**-1.3**
	5.5nm,1.1s,mb4.4						
QSPA	**South Pole Qui**	**75.57**	**180**	*iP*	**P**	**06 54 45.1**	**+2.9**
	11nm,1.0s,mb4.7						
VNDA	**Vanda**	**82.42**	**191**	P	**P**	**06 55 21.3**	**+1.8**
	1.8nm,1.1s,mb3.9,baz=72,slow=3.2,SNR=3.4						
VNDA	**Vanda**	**82.42**	**191**	P	**P**	**06 55 21.3**	**+1.8**
YKA	**Yellowknife Ar**	**82.56**	**343**	P	**P**	**06 55 19.3**	**-1.1**
	2.4nm,0.9s,mb4.2,baz=138,slow=5.5,SNR=31						
DLBC	**Dease Lake**	**85.07**	**335**	*eP*	**P**	**06 55 34.5**	**+1.5**
ESDC	**Sonseca Array**	**85.85**	**47**	P	**P**	**06 55 38.6**	**+1.2**
	1.1nm,0.8s,mb4.2,baz=251,slow=5.5,SNR=5.7						
RES	**Resolute Bay**	**89.87**	**355**	*eP*	**P**	**06 55 56.2**	**+0.3**
	5.3nm,1.2s,mb4.8						
SUMG	**Summit**	**90.40**	**11**	*eP*	**P**	**06 55 58.7**	**+0.3**
	7.7nm,0.8s,mb5.1						
INK	**Inuvik**	**92.25**	**342**	*eP*	**P**	**06 56 07.1**	**+0.1**
	4.7nm,1.1s,mb4.7						
ASAR	**Alice Springs**	**132.09**	**218**	PKP	PKPdf	07 02 13.2	+2.4
	0.4nm,0.7s,baz=118,slow=1.8,SNR=4.9						
WRA	**Warramunga Arr**	**134.58**	**222**	PKP	PKPdf	07 02 17.2	+1.7
	1.1nm,0.7s,baz=141,slow=1.6,SNR=8.0						
WRAB	**Tennant Creek**	**134.58**	**222**	PKPdf	PKPdf	07 02 18.0	+2.5
ZAL	**Zalesovo**	**137.91**	**17**	PKP	PKPdf	07 02 23.5	+2.8
	2.8nm,0.9s,baz=209,slow=2.4,SNR=15						
ZAL	**Zalesovo**	**137.91**	**17**	PKP	PKPdf	07 02 23.5	+2.8
KURK	**Kurchatov**	**138.49**	**24**	*ePKP*	PKPdf	07 02 22.6	+0.8
MDJ	**Mudanjiang**	**143.04**	**329**	PKP	PKPdf	07 02 28.0	-2.0
MDJ				PP	PP		
	comp=Z,128nm,4.9s						
MDJ				PP	PP		
	comp=Z,8.0nm,1.7s						
MKAR	**Makanchi Array**	**143.08**	**25**	PKP	PKPdf	07 02 29.9	-0.1
	comp=Z,1.0nm,0.9s,baz=315,slow=1.7,SNR=7.8						
CN2	**Changchun**	**145.62**	**332**	*ePKP*	PKPdf	07 02 35.8	+1.3
ULN	**Ulaanbaatar**	**146.72**	**356**	*ePKPbc*	PKPbc	07 02 38.8	+1.1
SONM	**Songino Array**	**146.79**	**357**	PKPbc	PKPbc	07 02 39.9	+2.0
	comp=Z,3.8nm,0.9s,baz=341,slow=1.8,SNR=21						
WMQ	**Urumqi**	**147.67**	**22**	*ePKP*	PKPdf	07 02 38.5	+0.6
WMQ				PP	PP		
	comp=Z,12nm,1.0s						
NJ2	**Nanjing**	**157.98**	**325**	*ePKP*	PKPdf	07 02 58.0	+4.9
NJ2				PP	PP		
	comp=Z,10.0nm,0.7s						

IDC ***25*** *06:47:59.4±1.4, 15.03S×76.47W, mb3.5/4, mb1 3.9/7, mb1mx3.6/16, mbtmp3.6/7, ML4.0/3, Error ellipse: s-maj=69.3km s-min=22.5km az=51.0*
NEIC ***25*** *06:48:07.4±5.1, 15.12S×76.28W, h66km±52km, mb4.3/1, Error ellipse: s-maj=60.2km s-min=23.7km az=85.0*
ISC 25 06:48:07.9±4.1, 15.1S±0.1×76.2W±0.3, h91km±41km, n13, σ1ş01/15, mb3.5/5, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARE	**Arequipa**	**4.67**	**107**	*eP*	**P**	**06 49 19.0**	**+1.4**
ARE				*eS*	**S**	**06 50 24.0**	**+13**
LPAZ	**La Paz**	**7.81**	**100**	Pn	**P**	**06 49 59.8**	**-0.8**
	1.6nm,0.3s,baz=315,slow=21,SNR=12						
LPAZ	**La Paz**	**7.81**	**100**	*ePn*	**P**	**06 49 59.7**	**-0.9**
LVC	**Limon Verde**	**10.11**	**138**	Pn	**P**	**06 50 30.4**	**-1.5**
	1.5nm,0.3s,baz=294,slow=10,SNR=7.8						
LVC				Sn	**S**	**06 52 24.2**	**+0.1**
	1.4nm,0.3s,baz=64,slow=21,SNR=7.9						
LVC	**Limon Verde**	**10.11**	**138**	*ePn*	**P**	**06 50 30.0**	**-1.9**
LVC				Sn	**S**	**06 52 24.2**	**+0.1**
CFAA	**Coronel Fontan**	**17.92**	**158**	P	**P**	**06 52 13.7**	**+1.0**
	0.0nm,0.3s,baz=338,slow=15,SNR=4.2						
SDV	**Santo Domingo**	**24.48**	**13**	*eP*	**P**	**06 53 15.3**	**-4.7**
	7.7nm,0.7s,mb4.1						
TXAR	**Lajitas Array**	**51.58**	**329**	P	**P**	**06 57 06.6**	**-0.5**
	0.3nm,0.8s,mb3.4,baz=141,slow=12,SNR=2.5						
PDAR	**Pinedale Array**	**65.28**	**333**	P	**P**	**06 58 42.0**	**-0.4**
	0.3nm,0.8s,mb3.2,baz=127,slow=9.0,SNR=2.7						
ULM	**Lac du Bonnet**	**67.37**	**346**	P	**P**	**06 58 56.9**	**+1.4**
	1.5nm,0.6s,mb4.0,baz=121,slow=2.9,SNR=3.5						
YKA	**Yellowknife Ar**	**83.03**	**343**	P	**P**	**07 00 23.8**	**-0.4**
	0.1nm,0.4s,mb3.0,baz=147,slow=5.7,SNR=3.2						
YKA	**Yellowknife Ar**	**83.03**	**343**	P	**P**	**07 00 23.8**	**-0.4**
SONM	**Songino Array**	**147.33**	**357**	PKPbc	PKPdf	07 07 42.7	+4.2
	0.9nm,0.7s,baz=306,slow=2.1,SNR=4.3						

KRSC 25 06:59:50.3±0.2, 51.06N×157.95E, h20km±6km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.82**	**300**	*eP*	Pb	07 00 06.0	+0.2
PAU				*eS*	Sb	07 00 17.5	+1.1
PAU				Smax			
	480nm,0.3s						
RUS	**Russkaya**	**1.42**	**14**	*i* P	Pn	07 00 14.7	-0.6
RUS				*eS*	Sn	07 00 32.6	-0.9
GRL	**Gorelyy**	**1.50**	**3**	*i* P	Pn	07 00 16.7	+0.3
GRL				*i* S	Sn	07 00 35.9	+0.4
ALID	**Alaid**	**1.53**	**264**	*eP*	Pn	07 00 17.1	+0.2
KRMR	**Karymshinskiy**	**1.78**	**4**	*eP*	Pn	07 00 21.1	+0.7
KRMR				*eS*	Sn	07 00 43.6	+1.0
APC	**Apacha**	**1.93**	**346**	*eP*	Pn	07 00 23.1	+0.5
APC				*eS*	Sn	07 00 47.0	+0.5
PET	**Petropavlovsk**	**2.01**	**12**	*eP*	Pn	07 00 23.6	-0.2
PET				*eS*	Sn	07 00 47.9	-0.7
UGLR	**Uglovaya**	**2.22**	**14**	*eP*	Pn	07 00 26.7	0.0
AVH	**Avacha**	**2.26**	**12**	*eP*	Pn	07 00 27.9	+0.6
AVH				*eS*	Sn	07 00 55.3	+0.4
KOK	**Koryaka**	**2.27**	**10**	*i P*	Pn	07 00 28.4	+0.9
NLC	**Nalytchevo**	**2.28**	**22**	*eP*	Pn	07 00 27.5	-0.1
NLC				*eS*	Sn	07 00 54.6	-0.9
SPN	**Mys Shipunski**	**2.41**	**31**	*eP*	Pn	07 00 29.3	-0.1
SPN				*eS*	Sn	07 00 58.2	-0.5
GNL	**Ganaly**	**2.64**	**360**	*eP*	Pn	07 00 33.2	+0.5
GNL				*eS*	Sn	07 01 04.5	0.0
KBTR	**Krutoberegovo**	**5.91**	**27**	*eP*	Pn	07 01 18.9	-0.2

*NIED

2µm,0.3s,baz=118,slow=23,SNR=30
RAO Raoul Island 0.20 154 *e*Pg P 07 26 45.9 +0.5
RAO Sn S 07 26 56.8 0.0
RAO S S 07 26 57.9 +1.1
CTA Charters Tower 33.59 277 P P 07 33 01.9 -0.6
1.3nm,0.7s,baz=40,slow=7.8,SNR=3.5
ASAR Alice Springs 43.18 266 P P 07 34 20.1 -2.1
0.8nm,0.6s,baz=98,slow=6.2,SNR=6.5
WRAB Tennant Creek 44.04 271 *e*P P 07 34 27.9 -1.4
0.9nm,0.3s
WRA Warramunga Arr 44.05 271 P P 07 34 27.2 -2.1
0.6nm,0.3s,baz=109,slow=8.0,SNR=12
FINES FINESS Array B 143.89 341 PKP PKPdf 07 45 51.2 -1.0
0.9nm,0.5s,baz=45,slow=3.9,SNR=14
NOA NORSAR Array B 147.44 352 PKPbc PKPdf 07 46 02.0 +3.8
0.8nm,0.7s,baz=15,slow=4.4,SNR=4.1
HFS Hagfors 147.94 349 PKPbc PKPdf 07 46 01.1 +2.0
2.0nm,0.7s,baz=270,slow=3.0,SNR=5.3
AKASG Malin Array Be 150.23 324 PKPbc PKPdf 07 46 07.3 +4.3
1.5nm,0.5s,baz=48,slow=2.7,SNR=7.0

IDC 25 07:36:13.5±27.0, 1.70N×124.10E, h341km±313km, mb2.8/3, mb1 3.1/4, mb1mx3.0/16, mbtmpg3.6/4, ML4.3/1, Error ellipse: s-maj=181.0km s-min=32.0km az=49.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.74**	**176**	*e*P	P	07 40 21.3	+1.6
	3.5nm,1.4s						
FITZ	**Fitzroy Crossi**	**19.74**	**176**	P	P	07 40 19.2	-0.5
	0.6nm,0.3s,baz=4.1,slow=10.0,SNR=12						
WRA	**Warramunga Arr**	**23.74**	**155**	P	P	07 40 56.1	-1.8
	1.0nm,0.3s,baz=334,slow=10,SNR=30						
WB2	**Warramunga Arr**	**23.75**	**155**	*e*P	P	07 40 55.8	-2.1
ASAR	**Alice Springs**	**26.96**	**160**	P	P	07 41 25.4	-1.5
	0.2nm,0.3s,baz=331,slow=8.0,SNR=8.0						
MKAR	**Makanchi Array**	**57.77**	**327**	P	P	07 45 29.9	-1.9
	0.2nm,0.3s,baz=127,slow=7.2,SNR=3.4						

IDC 25 07:36:28.1±1.2, 1.54N×127.03E, mb3.9/5, mb1 4.0/6, mb1mx3.9/14, mbtmpg3.9/6, ML4.3/1, Error ellipse: s-maj=95.2km s-min=17.6km az=71.0
NEIC 25 07:36:39.2±0.7, 1.49N×127.17E, h100km, mb4.0/3, Error ellipse: s-maj=58.0km s-min=10.0km az=71.0
ISC 25 07:36:37.7±0.9, 1.4N±0.2×126.8E±0.5, h100km, n11, σ0s63/11, mb3.9/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.44**	**183**	*e*P	**P**	**07 40 59.3**	**+0.4**
	1.0nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.44**	**183**	P	**P**	**07 40 59.4**	**+0.5**
	0.6nm,0.3s,baz=19,slow=9.0,SNR=6.5						
WRAB	**Tennant Creek**	**22.48**	**161**	*e*P	**P**	**07 41 29.5**	**0.0**
	3.5nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**22.48**	**161**	P	**P**	**07 41 29.5**	**0.0**
	1.5nm,0.3s,mb3.7,baz=340,slow=11,SNR=20						
WB2	**Warramunga Arr**	**22.49**	**161**	*e*P	**P**	**07 41 29.9**	**+0.3**
ASAR	**Alice Springs**	**25.88**	**165**	P	**P**	**07 42 02.0**	**-0.1**
	0.4nm,0.3s,mb3.3,baz=343,slow=8.7,SNR=12						
STKA	**Stephens Creek**	**35.96**	**158**	P	**P**	**07 43 30.2**	**-0.5**
	0.5nm,0.3s,mb3.9,baz=327,slow=8.6,SNR=4.7						
STKA	**Stephens Creek**	**35.96**	**158**	P	**P**	**07 43 29.9**	**-0.8**
SONM	**Songino Array**	**49.50**	**342**	P	**P**	**07 45 21.2**	**+1.3**
	0.3nm,0.4s,mb3.6,baz=169,slow=7.3,SNR=1.6						
MKAR	**Makanchi Array**	**59.49**	**326**	P	**P**	**07 46 32.5**	**-0.1**
	2.0nm,0.4s,mb4.5,baz=120,slow=7.5,SNR=18						
KURK	**Kurchatov**	**63.72**	**328**	*e*P	**P**	**07 46 59.9**	**-1.1**
	5.0nm,0.8s,mb4.4						

LDG 25 07:50:25.4±0.2, 43.12N×2.01W, h4km, Md2.5/2, Ml2.4/4, Error ellipse: s-maj=4.1km s-min=3.1km az=15.0
CSEM 25 07:50:26.3±0.1, 43.12N×1.96W, h12km, ML2.4/6, Error ellipse: s-maj=4.1km s-min=1.3km az=1.0
STR 25 07:50:27.2±0.8, 43.73N×1.06W, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
MDD 25 07:50:26.0±0.5, 43.03N×2.00W, h8km±4km, mbLg1.8/8, Error ellipse: s-maj=5.5km s-min=3.3km az=166.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EALK	**Alkurruntz**	**0.41**	**63**	Pg	Pg	07 50 32.9	-1.4
	3.2nm,0.1s,SNR=12						
EALK				Lg		07 50 39.9	
	27nm,0.1s,SNR=15						
SJPF	**Ste Jean**	**0.57**	**82**	*e*Pg	Pg	07 50 36.1	-1.4
SJPF				*e*Sg	Sg	07 50 44.2	-1.0
	12nm,0.2s						
OSSF	**Osses**	**0.58**	**67**	Pg	Pg	07 50 36.4	-1.4
OSSF				Sg	Sg	07 50 43.8	-1.8
OSSF	**Osses**	**0.58**	**67**	Pg	Pg	07 50 36.5	-1.3
OSSF				Lg		07 50 43.7	
LARF	**Larrau**	**0.74**	**89**	Pg	Pg	07 50 40.6	-0.3
LARF				Sg	Sg	07 50 49.9	-0.9
LARF	**Larrau**	**0.74**	**89**	Pg	Pg	07 50 40.4	-0.5
LARF				Lg		07 50 50.0	
ORDF	**Ordiarp**	**0.80**	**77**	Pg	Pg	07 50 40.3	-1.8
ORDF				Lg		07 50 50.4	
ETSF	**Etsaut**	**1.07**	**97**	*e*Pg	Pg	07 50 45.8	-1.5
ETSF				*e*Sg	Sg	07 50 59.8	-1.8
	11nm,0.2s						
ELAN	**Lanestosa**	**1.07**	**281**	Pg	Pg	07 50 45.8	-1.6
	0.9nm,0.2s,SNR=7.0						
ELAN				Lg		07 51 00.8	
	5.2nm,0.2s,SNR=5.1						
ELAN	**Lanestosa**	**1.07**	**281**	Pg	Pg	07 50 45.8	-1.6
	6.7nm,0.8s,SNR=7.0						
EBIE	**Bielsa**	**1.61**	**102**	Pn	Pn	07 50 55.0	0.0
	0.3nm,0.2s,SNR=11						
EBIE				Pg	Pg	07 50 56.6	-1.7
	0.9nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	07 51 15.2	-1.0
	1.0nm,0.1s,SNR=9.7						
EBIE				Lg		07 51 17.2	
	7.5nm,0.2s,SNR=7.9						
EBIE	**Bielsa**	**1.61**	**102**	Pn	Pn	07 50 55.0	0.0
	1.1nm,0.5s,SNR=11						
EBIE	**Bielsa**	**1.61**	**102**	Pg	Pg	07 50 57.7	-0.5
	1.4nm,0.1s,SNR=7.9						
EBIE				Sn	Sn	07 51 15.2	-0.9
	5.4nm,0.5s,SNR=9.7						
EPF	**Esparros**	**1.72**	**89**	*e*Pn	Pn	07 50 54.7	-1.7
EPF				*e*Pg	Pg	07 50 57.9	-2.4
EPF				*e*Sg	Sg	07 51 20.1	-3.1
	5.2nm,0.3s						
ESAC	**San Caprasio**	**1.73**	**139**	Pg	Pg	07 51 02.3	+1.7
	4.8nm,0.2s,SNR=4.0						
ESAC				Lg		07 51 22.2	
	21nm,0.3s,SNR=4.6						
EARI	**Arriondas**	**2.36**	**278**	Pn	Pn	07 51 04.3	-1.4
	0.2nm,0.1s,SNR=7.9						
EARI				Sn	Sn	07 51 31.6	-3.6
	1.6nm,0.3s,SNR=5.8						
EARI	**Arriondas**	**2.36**	**278**	Pn	Pn	07 51 04.3	-1.4
	0.9nm,0.2s,SNR=7.9						
EARI				Sn	Sn	07 51 31.6	-3.6
	3.0nm,0.7s,SNR=5.8						
LFF	**La Frestale**	**2.75**	**45**	*e*Sg	Sg	07 51 50.0	-7.5
	11nm,0.5s						
EMIR	**Miracle**	**2.84**	**112**	Sn	Sn	07 51 43.8	-3.5
	0.5nm,0.2s,SNR=7.9						
EMIR				Lg		07 51 55.2	
	1.5nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**2.84**	**112**	Sn	Sn	07 51 45.0	-2.2
	SNR=7.9						
EPOB	**Poblet**	**2.84**	**125**	Sn	Sn	07 51 42.6	-4.6
	0.8nm,0.1s,SNR=4.0						
EPOB				Lg		07 51 54.6	
	1.7nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.84**	**125**	Sn	Sn	07 51 42.6	-4.6
	SNR=4.0						
EMOS	**Mosqueruela**	**2.90**	**156**	Sn	Sn	07 51 46.3	-2.5
	0.6nm,0.2s,SNR=7.9						
EMOS				Lg		07 51 58.8	
	0.9nm,0.3s,SNR=4.0						
MTLF	**Montolieu**	**3.10**	**83**	*e*Pn	Pn	07 51 13.5	-2.7
MTLF				*e*Sn	Sn	07 51 48.2	-5.7
MTLF				*e*Sg	Sg	07 52 02.6	-6.6
	1.7nm,0.4s						
RJF	**Les Rejaudoux**	**3.40**	**47**	*e*Pn	Pn	07 51 15.5	-5.0
CAF	**Calviac**	**3.49**	**56**	*e*Pn	Pn	07 51 17.8	-4.0
ECAL	**Calabor**	**3.67**	**254**	Pn	Pn	07 51 21.9	-2.3
	0.3nm,0.1s,SNR=4.0						
ECAL				Sn	Sn	07 52 04.3	-3.9
	2.4nm,0.4s,SNR=4.0						

CSEM 25 08:50:33.0±0.2, 39.32N×40.87E, h51km±2km, MD2.8, Error ellipse: s-maj=7.1km s-min=4.5km az=110.0
ISK 25 08:50:35.2, 39.37N×40.87E, h29km, MD2.8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRT	**Varto**	**0.57**	**115**	PG	Pb	08 50 47.0	+0.4
VRT				SG	Sb	08 50 56.6	+2.2
BINT	**Bingol**	**0.58**	**211**	PG	Pb	08 50 47.9	+1.1
BINT				SG	Sb	08 50 56.5	+1.7
EZM	**Erzurum**	**0.65**	**35**	PG	Pb	08 50 48.4	+0.4
EZM				SG	Sb	08 50 58.7	+1.8
ERZM	**Erzurum**	**0.65**	**36**	*i* P	Pb	08 50 48.6	+0.6
ERZM				*i* S	Sb	08 50 58.5	+1.7
BEST	**Besiri**	**1.51**	**168**	*i* P	Pn	08 51 05.1	+4.3
BEST				*i* S	Sn	08 51 26.8	+7.1

NIED 25 09:13:00, 33.70N×130.30E, h8km, Mw3.3 Best double couple: Mo1.13×10^14 NP1:φs328°, δ90°, λ-35°. NP2:φs58°, δ55°, λ-180°.
JMA 25 09:13:13.5, 33.71N×130.26E, h13km, M3.5, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**159**	↑P	Pg	09 13 19.8	-0.2
JFI				S	Sg	09 13 23.9	-0.4
JFA	**Akaike**	**0.45**	**90**	↓P	Pb	09 13 22.1	-0.6
JFA				S	Sg	09 13 28.4	-0.5
JII	**Iki**	**0.45**	**281**	↓P	Pb	09 13 22.5	-0.2
JII				S	Sg	09 13 28.8	-0.1
JUR	**Ureshino**	**0.67**	**203**	↑P	Pb	09 13 26.1	-0.4
JUR				S	Sb	09 13 34.9	-0.5
JTA	**Tamana**	**0.78**	**163**	↑P	Pb	09 13 28.0	-0.4
JTA				S	Sb	09 13 38.2	-0.4
JTU	**Tsushima**	**1.08**	**319**	P	Pb	09 13 33.3	-0.3
JTU				S	Sb	09 13 47.9	+0.5

IDC 25 09:19:16.3±20.0, 36.76N×71.33E, h275km±142km, mb2.9/2, mb1 3.0/5, mb1mx2.7/19, mbtmpg3.7/5, MS2.9/1, Ms1 3.0/1, ms1mx2.4/22, Error ellipse: s-maj=216.9km s-min=79.0km az=172.0
ISC 25 09:18:54.2±2.8, 36.2N±0.1×71.2E±0.3, h92km±29km, n17, σ0s89/19, mb3.5/2, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.40**	**131**	*e*P	**P**	**09 20 16.0**	**+2.3**
DLH				*e*S	**S**	**09 21 20.0**	**+4.8**
AML	**Almayashu**	**6.23**	**18**	P	**P**	**09 20 25.1**	**-0.1**
	SNR=15						
UCH	**Uchtor**	**6.54**	**22**	P	**P**	**09 20 29.9**	**+0.3**
	SNR=9.6						
KZA	**Kyzart**	**6.66**	**27**	P	**P**	**09 20 31.2**	**0.0**
	SNR=10						
SDNR	**Sundarnagar**	**6.74**	**133**	*e*P	**P**	**09 20 31.5**	**-0.7**
SDNR				*e*S	**S**	**09 21 47.5**	**-0.5**
EKS2	**Erkin-Say**	**6.75**	**17**	P	**P**	**09 20 32.6**	**+0.2**
	SNR=14						
AAK	**Ala-Archa**	**6.91**	**21**	P	**P**	**09 20 34.6**	**0.0**
	SNR=11						
SMLA	**Simla**	**7.12**	**134**	*i* P	**P**	**09 20 28.2**	**-9.4**
SMLA				*i* S	**S**	**09 21 47.1**	**-10**
CHMS	**Chumysh**	**7.32**	**21**	P	**P**	**09 20 40.0**	**-0.3**
	SNR=6.7						
USP	**Ospenovka**	**7.50**	**19**	P	**P**	**09 20 41.4**	**-1.3**
	SNR=5.4						
TKM2	**Tokmak 2**	**7.52**	**26**	P	**P**	**09 20 48.6**	**+5.6**
	SNR=5.4						
MKAR	**Makanchi Array**	**13.45**	**35**	P	**P**	**09 22 11.5**	**+9.3**
	0.2nm,0.3s,baz=207,slow=9.7,SNR=6.7						
BVAR	**Borovoye Array**	**16.82**	**358**	P	**P**	**09 22 48.3**	**+3.3**
	0.2nm,0.3s,baz=159,slow=13,SNR=5.9						
ZAL	**Zalesovo**	**20.10**	**24**	P	**P**	**09 23 23.3**	**+0.6**
	1.5nm,0.3s,baz=246,slow=7.7,SNR=6.7						
FINES	**FINESS Array B**	**37.80**	**326**	P	**P**	**09 26 02.0**	**-0.8**
	0.2nm,0.4s,mb3.3,baz=124,slow=10.0,SNR=4.1						
ARCES	**ARCESS Array B**	**41.46**	**338**	P	**P**	**09 26 33.2**	**+0.1**
	0.9nm,0.7s,mb3.7,baz=115,slow=7.4,SNR=6.1						
NOA	**NORSAR Array B**	**44.69**	**323**	LR	LR	09 49 24.7	
	comp=Z,14nm,19.8s,baz=290,slow=41						

IDC 25 09:20:21.2±1.2, 0.51S×21.57W, mb3.8/4, mb1 3.9/4, mb1mx3.5/21, mbtmpg3.8/4, MS4.0/1, Ms1 3.9/1, ms1mx2.5/22, Error ellipse: s-maj=82.4km s-min=24.9km az=143.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**30.12**	**239**	P	P	09 26 31.6	-3.6
	1.3nm,0.5s,baz=45,slow=11,SNR=4.0						
LPAZ	**La Paz**	**48.48**	**249**	P	P	09 29 08.0	-0.1
	0.9nm,0.8s,baz=68,slow=11,SNR=5.2						
PLCA	**Paso Flores**	**59.70**	**222**	LR	LR	09 58 05.7	
	comp=Z,107nm,18.7s,baz=84,slow=38						
BRTR	**Keskin Array B**	**64.26**	**45**	P	P	09 30 58.1	-2.6
	0.2nm,0.4s,baz=233,slow=6.2,SNR=3.6						
AKASG	**Malin Array Be**	**66.73**	**32**	P	P	09 31 14.4	-2.0
	0.3nm,0.2s,baz=236,slow=6.5,SNR=5.5						
ASAR	**Alice Springs**	**146.16**	**137**	PKPbc	PKPbc	09 40 04.0	-0.4
	0.6nm,0.7s,baz=218,slow=2.9,SNR=6.8						

NEIC 25 09:35:18.0±3.1, 6.13S×129.83E, h202km±32km, mb4.0/2, Error ellipse: s-maj=39.4km s-min=24.3km az=62.0
IDC 25 09:35:23.8±4.8, 6.40S×129.71E, h269km±48km, mb3.4/1, mb1 3.4/4, mb1mx3.1/13, mbtmpg4.0/4, Error ellipse: s-maj=76.5km s-min=17.6km az=70.0
ISC 25 09:35:17.9±1.8, 6.23S±0.09×129.7E±0.1, h217km±18km, n9, σ0s79/14, mb3.6/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.97**	**158**	*e*P	**P**	**09 36 58.9**	**+0.4**
	1.7nm,0.2s						
KAKA				*e*S	**S**	**09 38 14.1**	**-3.1**
FITZ	**Fitzroy Crossi**	**12.46**	**198**	P	**P**	**09 38 10.1**	**+1.2**
	0.6nm,0.3s,baz=15,slow=11,SNR=9.2						
FITZ				S	**S**	**09 40 23.1**	**-0.7**
	0.7nm,0.3s,baz=164,slow=14,SNR=6.0						
WRAB	**Tennant Creek**	**14.34**	**162**	P	**P**	**09 38 33.3**	**+0.8**
	2.7nm,0.3s						
WRA	**Warramunga Arr**	**14.35**	**162**	P	**P**	**09 38 31.5**	**-1.0**
	0.5nm,0.3s,baz=344,slow=12,SNR=33						
WRA				S	**S**	**09 41 06.8**	**+0.4**
	0.2nm,0.3s,baz=339,slow=21,SNR=6.7						
WB2	**Warramunga Arr**	**14.35**	**162**	*e*P	**P**	**09 38 32.5**	**-0.1**
WB2				*e*S	**S**	**09 41 07.0**	**+0.5**
ASAR	**Alice Springs**	**17.79**	**167**	P	**P**	**09 39 12.8**	**0.0**
	0.7nm,0.3s,baz=352,slow=11,SNR=43						
ASAR				S	**S**	**09 42 21.1**	**-0.1**
	0.1nm,0.3s,baz=352,slow=25,SNR=4.5						
ASPA	**Alice Springs**	**17.79**	**167**	*e*P	**P**	**09 39 13.1**	**+0.3**
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**09 45 51.5**	**-0.6**
	0.8nm,0.5s,mb3.6,baz=126,slow=7.1,SNR=17						
MKAR	**Makanchi Array**	**67.44**	**327**	P	**P**	**09 45 51.5**	**-0.6**

NEIC 25 10:10:50.1, 18.02N×68.44W, h131km, MD3.8(RSPR), After RSPR.
RSPR 25 10:10:50.1, 18.02N×68.44W, h131km±2km, MD3.8/16, MD3.8/16, 9C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPR	**Mayaguez**	**1.25**	**81**	↓*e*P	P	10 11 15.8	-0.1
MPR				*e*S	S	10 11 35.5	0.0
CRPR	**Cabo Rojo, PR**	**1.27**	**91**	↓*e*P	P	10 11 15.3	-0.8
CRPR				*e*S	S	10 11 34.8	-1.0
MGP	**Maguayo**	**1.29**	**90**	↑*e*P	P	10 11 15.6	-0.7
MGP				*e*S	S	10 11 35.5	-0.7
LSP	**Las Mesas**	**1.30**	**83**	↓*e*P	P	10 11 16.1	-0.3
AGPR	**Aguadilla, PR**	**1.34**	**71**	↓*e*P	P	10 11 16.2	-0.7
AGPR				*e*S	S	10 11 36.2	-1.1
LRS	**Lares**	**1.54**	**80**	↑*e*P	P	10 11 18.6	-0.5
LRS				*e*S	S	10 11 40.8	-0.5
AOPR	**Arecibo Observ**	**1.64**	**78**	↑*e*P	P	10 11 19.5	-0.8
AOPR				*e*S	S	10 11 42.9	-0.3
PORP	**Portuguez**	**1.72**	**89**	↑*e*P	P	10 11 20.6	-0.6
PORP				*e*S	S	10 11 44.8	0.0
CELP	**Cerrillos**	**1.77**	**88**	↓*e*P	P	10 11 21.1	-0.7
CELP				*e*S	S	10 11 46.1	+0.2
ICM	**Isla Caja Muer**	**1.83**	**94**	↓*i*P	P	10 11 21.9	-0.6
ICM				*e*S	S	10 11 46.0	-1.2
SJG	**San Juan**	**2.18**	**87**	↑*e*P	P	10 11 26.2	-0.6
SJG				*e*S	S	10 11 54.7	-0.1
CSB	**Colonia Sabana**	**2.19**	**83**	↑*e*P	P	10 11 25.8	-1.2
CSB				*e*S	S	10 11 54.5	-0.5
CPD	**Cerro la Pandu**	**2.41**	**89**	↑*e*P	P	10 11 29.6	-0.1
CPD				*e*S	S	10 11 59.6	-0.3
HUMP	**Col San Antoni**	**2.47**	**87**	↑*e*P	P	10 11 30.0	-0.6
HUMP				*e*S	S	10 12 00.4	-1.0
CBYP	**Canovanas**	**2.47**	**84**	↑*e*P	P	10 11 29.3	-1.3
CBYP				*e*S	S	10 12 00.0	-1.4
MTP	**Monte Pirata**	**2.75**	**88**	↓*e*P	P	10 11 34.1	-0.1
MTP				*e*S	S	10 12 07.6	-0.1
CDVI	**St. Croix**	**3.51**	**94**	*e*S	S	10 12 25.8	0.0
SDV	**Santo Domingo**	**9.33**	**193**	*e*P	P	10 13 03.1	+0.7

IDC 25 10:37:46.1±7.3, 6.58S×150.32E, h43km±54km, mb3.7/4, mb1 3.9/5, mb1mx3.6/12, mbtmpg3.9/5, ML2.5/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/18, Error ellipse: s-maj=63.0km s-min=49.4km az=145.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**228**	P	P	10 38 49.0	-0.5
	2.2nm,0.3s,baz=26,slow=7.3,SNR=18						
PMG				S	S	10 39 36.0	-2.0
	7.6nm,0.3s,baz=126,slow=22,SNR=16						
WB2	**Warramunga Arr**	**20.42**	**228**	*e*P	P	10 42 19.9	-2.5
WRA	**Warramunga Arr**	**20.43**	**228**	P	P	10 42 19.7	-2.8
	3.2nm,0.7s,baz=52,slow=11,SNR=35						
DZM	**Mont Dzumac**	**21.90**	**136**	LR	LR	10 49 27.2	
	comp=Z,83nm,19.2s,baz=197,slow=32						
ASAR	**Alice Springs**	**23.19**	**221**	P	P	10 42 49.0	-1.1
	1.2nm,0.7s,baz=55,slow=9.1,SNR=13						
STKA	**Stephens Creek**	**26.45**	**197**	P	P	10 43 18.6	-2.6
	2.2nm,0.8s,baz=26,slow=13,SNR=4.2						
FITZ	**Fitzroy Crossi**	**26.65**	**242**	P	P	10 43 21.9	-1.2
	2.3nm,0.6s,baz=44,slow=8.4,SNR=7.7						

IDC 25 11:03:10.7±0.8, 50.13N×176.25W, mb3.7/14, mb1 3.9/15, mb1mx3.9/25, mbtmpg3.8/15, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.0/26, Error ellipse: s-maj=21.5km s-min=11.3km az=6.0
NEIC 25 11:03:15.7±0.6, 50.41N×176.29W, h30km, mb3.8/3, ML3.5(AEIC), Error ellipse: s-maj=9.8km s-min=9.3km az=54.0
ISC 25 11:03:12.9±2.0, 50.34N±0.04×176.21W±0.09, h23km±15km, n33, σ0s89/41, mb3.7/17, MS3.0/1, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.56**	**336**	P	**Pn**	**11 03 39.9**	**+0.2**
KIMD				S	**Sn**	**11 03 58.7**	**-0.6**
KIWB	**Kanaga Island**	**1.62**	**339**	P	**Pn**	**11 03 41.0**	**+0.4**
KIKV	**Kanaga Island**	**1.65**	**339**	P	**Pn**	**11 03 41.3**	**+0.4**
GSIG	**Igitkin Island**	**1.66**	**6**	P	**Pn**	**11 03 40.9**	**-0.1**
GSIG				S	**Sn**	**11 04 00.8**	**-0.9**
ADAG	**Mount Adagdak**	**1.66**	**352**	P	**Pn**	**11 03 41.3**	**+0.3**
ADAG				S	**Sn**	**11 04 01.5**	**-0.3**
GSMY	**Great Sitkin M**	**1.71**	**3**	P	**Pn**	**11 04 01.9**	**+0.2**
GSMY				S	**Sn**	**11 04 03.5**	**+0.5**
GSTD	**Great Sitkin T**	**1.72**	**1**	P	**Pn**	**11 03 42.2**	**+0.4**
GSTD				S	**Sn**	**11 04 03.3**	**+0.1**
GSTR	**Great Sitkin T**	**1.76**	**3**	P	**Pn**	**11 03 43.0**	**+0.6**
GSTR				S	**Sn**	**11 04 05.0**	**+0.7**
ATKA	**Atka Island**	**2.25**	**33**	P	**Pn**	**11 03 48.9**	**-0.6**
ATKA				S	**Sn**	**11 04 14.6**	**-2.2**
UNV	**Unalaska Valle**	**6.93**	**56**	P	**Pn**	**11 04 53.2**	**-2.6**
FX1	**Attu Island--F**	**7.09**	**295**	Pn	**Pn**	**11 04 57.2**	**-0.8**
	0.8nm,0.3s,baz=85,slow=7.3,SNR=11						
FX1				Sn	**Sn**	**11 06 14.0**	**-4.7**
	0.4nm,0.3s,baz=233,slow=20,SNR=3.3						
IMA	**Indian Mountai**	**19.54**	**28**	P	**P**	**11 07 41.7**	**+0.3**
THY	**Trims Highway**	**20.91**	**40**	*e*P	**P**	**11 07 56.5**	**+0.6**
INK	**Inuvik**	**27.40**	**33**	P	**P**	**11 08 58.0**	**-0.1**
	0.7nm,0.9s,mb3.2,baz=115,slow=4.0,SNR=6.7						
INK	**Inuvik**	**27.40**	**33**	P	**P**	**11 08 58.0**	**-0.1**
DLBC	**Dease Lake**	**27.59**	**55**	P	**P**	**11 09 00.8**	**+1.0**
	0.6nm,0.6s,mb3.4,baz=243,slow=16,SNR=2.8						
YKA	**Yellowknife Ar**	**34.77**	**46**	P	**P**	**11 10 04.4**	**+1.2**
	0.3nm,0.6s,mb3.4,baz=268,slow=8.1,SNR=12						
YKA				LR	LR	11 25 09.7	
	comp=Z,26nm,20.6s,MS3.0,baz=125,slow=38						
YKA	**Yellowknife Ar**	**34.77**	**46**	P	**P**	**11 10 04.4**	**+1.2**
YKA				LR	LR	11 25 09.7	
BW06	**Boulder Array**	**45.05**	**73**	P	**P**	**11 11 28.4**	**-0.1**
	0.5nm,0.5s,mb3.6						
PDAR	**Pinedale Array**	**45.05**	**73**	P	**P**	**11 11 29.8**	**+1.3**
	0.7nm,0.6s,mb3.6,baz=319,slow=4.4,SNR=7.4						
FCC	**Fort Churchill**	**45.49**	**46**	*e*P	**P**	**11 11 31.8**	**+0.2**
	2.1nm,0.6s,mb4.1						
SONM	**Songino Array**	**48.58**	**299**	P	**P**	**11 11 56.7**	**+0.6**
	0.4nm,0.9s,mb3.5,baz=51,slow=9.2,SNR=3.5						
MNTX	**Cornudas Mount**	**54.49**	**82**	P	**P**	**11 12 40.2**	**-0.7**
	0.6nm,0.7s,mb3.6						
WMOK	**Wichita Mounta**	**56.61**	**74**	P	**P**	**11 12 56.6**	**+0.5**
TXAR	**Lajitas Array**	**57.17**	**82**	P	**P**	**11 12 58.9**	**-1.4**
	0.7nm,0.7s,mb3.8,baz=301,slow=5.0,SNR=11			

MAT				S		S	11 04 45.3	-1.0
JYT	Yasato	2.42	43	P		P	11 04 14.3	-0.8
JYT				S		S	11 04 49.9	-2.5
SONM	Songino Array	27.17	309	P		P	11 08 48.6	+0.5
	0.5nm,0.7s,mb3.1,baz=100,slow=8.8,SNR=3.5							
FITZ	Fitzroy Crossi	53.62	195	P		P	11 12 22.7	-0.6
	1.4nm,0.5s,mb3.5,baz=6.9,slow=18,SNR=5.5							
WB2	Warramunga Arr	54.23	184	*e*P		P	11 12 26.8	-0.9
WRA	Warramunga Arr	54.23	184	P		P	11 12 26.0	-1.7
	0.5nm,0.3s,mb3.3,baz=360,slow=7.6,SNR=43							
ASAR	Alice Springs	57.96	185	P		P	11 12 53.4	-0.6
	0.2nm,0.3s,mb3.0,baz=2.8,slow=6.7,SNR=14							
YKA	Yellowknife Ar	67.34	29	P		P	11 13 56.2	+1.3
	0.0nm,0.4s,baz=294,slow=6.9,SNR=3.7							
TXAR	Lajitas Array	93.79	50	P		P	11 16 17.6	+2.3
	0.2nm,0.6s,mb3.3,baz=301,slow=5.3,SNR=3.1							

KNET ***25*** *11:07:09.5±0.4,43.29N×77.00E,h7km±2km,ml2.0, Error ellipse: s-maj=4.2km s-min=2.4km az=159.0*
NNC ***25*** *11:07:09.9±6.7,42.60N×77.56E,h30km±216km,mpv2.8, Error ellipse: s-maj=322.2km s-min=11.4km az=155.0*

ISC 25 11:07:10.1±1.3,43.3N±0.2×77.1E±0.2,h7km,n8,σ0§95/10, 4C-5D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**1.18**	**249**	⇑P	**Pb**	**11 07 30.4**	**-1.9**
	13nm,0.2s,SNR=14						
TKM2				⇓S	**Sb**	**11 07 46.9**	**-0.8**
	7.5nm,0.2s						
KBK	**Karagaybulak**	**1.72**	**247**	⇓P	**Pn**	**11 07 40.3**	**-0.3**
	14nm,0.3s,SNR=10						
KZA	**Kyzart**	**1.86**	**228**	⇑P	**Pn**	**11 07 42.5**	**-0.1**
	4.4nm,0.3s,SNR=6.9						
USP	**Ospenovka**	**1.90**	**269**	⇓P	**Pn**	**11 07 43.3**	**0.0**
	6.8nm,0.3s,SNR=5.8						
AAK	**Ala-Archa**	**2.04**	**250**	⇓P	**Pn**	**11 07 45.5**	**+0.3**
	5.3nm,0.2s,SNR=8.2						
AAK	**Ala-Archa**	**2.04**	**250**	P	**Pn**	**11 07 45.4**	**+0.1**
	2.9nm,0.3s						
AAK				⇓S	**Sn**	**11 08 13.0**	**+1.8**
	6.0nm,0.6s						
UCH	**Uchtor**	**2.21**	**240**	⇑P	**Pn**	**11 07 48.6**	**+1.0**
	12nm,0.4s,SNR=25						
MK31	**Makanchi Array**	**5.04**	**45**	⇑P	**Pn**	**11 08 28.0**	**+0.1**
	0.4nm,0.3s,baz=220,slow=15,SNR=12						

JMA 25 11:09:05.4,33.75N×130.14E,h12km±1km,M1.0,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.34**	**278**	P	Pg	11 09 12.3	-0.3
JII				S	Sg	11 09 17.0	-0.4
JFI	**Itaya**	**0.38**	**147**	P	Pg	11 09 13.1	-0.2
JFA	**Akaike**	**0.55**	**94**	P	Pb	11 09 16.0	-0.4
JFA				S	Sb	11 09 23.7	-0.2
JUR	**Ureshino**	**0.67**	**194**	P	Pb	11 09 18.1	-0.5

NIED ***25*** *11:09:00,33.70N×130.30E,h14km,Mw3.4 Best double couple: Mo1.21×10^14 NP1:φ±220°,δ86°,λ167°. NP2: φ±311°,δ77°,λ4°.*

JMA 25 11:09:53.9,33.72N×130.28E,h14km,M3.5,4C-2D Broadband fault plane solution: P waves. NP1:φ±303°, δ64°,λ-21°. NP2:φ±43°,δ71°,λ-152°. Principal axes: T Plg5°, Azm172°; N Plg57°, Azm74°; P Plg33°, Azm265°; **Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.31**	**163**	⇑P	Pg	11 10 00.1	-0.4
JFI				S	Sg	11 10 04.5	-0.4
JFA	**Akaike**	**0.43**	**91**	⇓P	Pb	11 10 02.1	-0.6
JII	**Iki**	**0.46**	**280**	⇓P	Pb	11 10 03.2	-0.1
JII				S	Sb	11 10 09.6	-0.1
JUR	**Ureshino**	**0.68**	**204**	⇑P	Pb	11 10 06.7	-0.4
JUR				S	Sb	11 10 15.7	-0.4
JTA	**Tamana**	**0.78**	**164**	⇑P	Pb	11 10 08.5	-0.3
JTU	**Tsushima**	**1.08**	**318**	⇑P	Pb	11 10 13.8	-0.1
JTU				*i* S	Sb	11 10 28.6	+0.8

IDC ***25*** *11:19:29.9±2.1,6.49S×129.60E,mb3.6/1,mb1 4.0/4, mb1mx3.8/13,mbtmp3.8/4,ML3.7/3 Error ellipse: s-maj=80.7km s-min=27.9km az=76.0*
NEIC ***25*** *11:19:31.9±1.2,6.51S×129.80E,h15km,Error ellipse: s-maj=32.1km s-min=13.4km az=67.0*

ISC 25 11:19:45.5±2.8,7.2S±0.1×129.4E±0.1,h171km±33km,n9, σ1§03/14,mb3.4/1,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.22**	**151**	*e*P	**P**	**11 21 08.1**	**-8.0**
	10nm,0.2s						
FITZ	**Fitzroy Crossi**	**11.41**	**198**	Pn	**P**	**11 22 25.1**	**+0.7**
	0.6nm,0.3s,baz=15,slow=11,SNR=18						
FITZ				Sn	**S**	**11 24 28.6**	**-0.6**
	1.5nm,0.3s,baz=181,slow=16,SNR=6.7						
WRAB	**Tennant Creek**	**13.52**	**160**	*e*Pn	**P**	**11 22 50.5**	**-1.0**
	8.0nm,1.2s						
WRAB				*e*Sn	**S**	**11 25 18.0**	**+0.1**
WRA	**Warramunga Arr**	**13.52**	**160**	Pn	**P**	**11 22 50.9**	**-0.7**
	0.3nm,0.3s,baz=340,slow=13,SNR=24						
WRA				Sn	**S**	**11 25 17.6**	**-0.4**
	0.4nm,0.3s,baz=186,slow=19,SNR=6.6						
WB2	**Warramunga Arr**	**13.52**	**160**	*e*P	**P**	**11 22 50.9**	**-0.7**
WB2				*e*S	**S**	**11 25 18.5**	**+0.3**
ASAR	**Alice Springs**	**16.91**	**166**	P	**P**	**11 23 36.5**	**+2.9**
	0.3nm,0.3s,baz=345,slow=10,SNR=29						
ASAR				S	**S**	**11 26 43.1**	**+8.6**
	0.1nm,0.3s,baz=340,slow=24,SNR=5.0						
ASPA	**Alice Springs**	**16.91**	**166**	*e*P	**P**	**11 23 36.5**	**+2.9**
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**11 30 28.4**	**-0.4**
	0.3nm,0.4s,mb3.4,baz=114,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**68.09**	**327**	P	**P**	**11 30 28.4**	**-0.4**

FUNV ***25*** *11:39:59.8,10.84N×62.19W,h95km,MW2.8*
NEIC ***25*** *11:40:02.0,10.92N×62.23W,h76km,MD3.1(TRN),After TRN.*
TRN ***25*** *11:40:02.0,10.92N×62.23W,h77km,MD3.1*

ISC 25 11:39:58.7±0.7,10.76N±0.05×62.31W±0.03,h105km±6km, n18,σ1§17/34,1C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.14**	**143**	*e*P	**P**	**11 40 13.5**	**0.0**
GUIV				*e*S	**S**	**11 40 22.2**	**-2.4**
GUNV	**Guanoco**	**0.86**	**226**	*e*P	**P**	**11 40 20.4**	**+1.9**
GUNV				*e*S	**S**	**11 40 34.4**	**+1.2**
TRN	**Trinidad (W)**	**0.90**	**97**	⇑P	**P**	**11 40 19.0**	**+0.2**
TRN				*e*S	**S**	**11 40 31.1**	**-2.7**
CRUV	**Carupano**	**0.91**	**265**	*e*P	**P**	**11 40 20.0**	**+1.1**
CRUV				*e*S	**S**	**11 40 34.1**	**0.0**
TPP	**Pointe-a-Pierr**	**0.95**	**117**	*e*P	**P**	**11 40 20.4**	**+1.0**
TPP				*e*S	**S**	**11 40 34.9**	**+0.1**
ITEV	**Isla Los Testi**	**1.00**	**306**	*e*P	**P**	**11 40 20.2**	**+0.4**
ITEV				*e*S	**S**	**11 40 34.3**	**-1.4**
TBH	**Brigand Hill**	**1.25**	**103**	*e*P	**P**	**11 40 23.9**	**+1.1**
TBH				*e*S	**S**	**11 40 40.6**	**-0.2**
GRW	**Mount Saint Ca**	**1.53**	**25**	*e*P	**P**	**11 40 26.2**	**+0.1**
BOT	**Bacolet**	**1.61**	**75**	*e*P	**P**	**11 40 26.6**	**-0.5**
ORIV	**Oritupano**	**2.00**	**213**	*e*P	**P**	**11 40 34.1**	**+2.1**
ORIV				*e*S	**S**	**11 40 59.0**	**+2.3**
PCRV	**Puerto La Cruz**	**2.36**	**256**	*e*P	**P**	**11 40 37.9**	**+1.0**
PCRV				*e*S	**S**	**11 41 05.5**	**0.0**
GURV	**El Guri**	**3.08**	**194**	*e*P	**P**	**11 40 46.5**	**-0.1**
GURV				*e*S	**S**	**11 41 21.4**	**-1.4**
CUPV	**Cœpira**	**3.49**	**259**	*e*P	**P**	**11 40 53.0**	**+0.7**
CUPV				*e*S	**S**	**11 41 32.4**	**-0.5**
MERV	**Las Mercedes**	**4.20**	**249**	*e*P	**P**	**11 41 02.5**	**+0.5**
MERV				*e*S	**S**	**11 41 48.3**	**-2.0**
LUEV	**Luepa**	**4.96**	**170**	*e*P	**P**	**11 41 11.5**	**-0.8**
LUEV				*e*S	**S**	**11 42 03.8**	**-5.0**
CAOV	**Caicara del Or**	**5.23**	**230**	*e*P	**P**	**11 41 15.9**	**0.0**
CAOV				*e*S	**S**	**11 42 12.1**	**-3.3**
BAUV	**El Baul**	**5.93**	**253**	*e*P	**P**	**11 41 24.9**	**-0.5**
BAUV				*e*S	**S**	**11 42 27.4**	**-5.2**
PAYV	**Puerto Ayacuch**	**7.49**	**225**	*e*P	**P**	**11 41 46.0**	**-0.9**
PAYV				*e*S	**S**	**11 43 04.1**	**-6.8**

NIED ***25*** *12:03:00,33.80N×130.10E,h8km,Mw4.0 Best double couple: Mo1.14×1015 NP1:φ132°,δ85°,λ-21°. NP2: φ223°,δ70°,λ-175°.*
IDC ***25*** *12:03:18.7±2.2,33.79N×130.37E,mb3.5/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.6/5,MS3.1/1,Ms1 3.1/1, ms1mx2.5/22,Error ellipse: s-maj=114.7km s-min=20.6km az=65.0*
JMA ***25*** *12:03:19.8,33.79N×130.12E,h12km±1km,M4.1 Broadband fault plane solution: P waves. NP1:φ±49°,δ81°, λ-175°. NP2:φ±318°,δ85°,λ-9°. Principal axes: T Plg3°, Azm4°; N Plg80°, Azm110°; P Plg10°, Azm273°;*
JMA Felt II J1.
NEIC ***25*** *12:03:29.8±2.1,33.83N×130.36E,h95km±23km,mb3.7/2 Error ellipse: s-maj=31.3km s-min=13.0km az=220.0*

ISC 25 12:03:19.9±0.7,33.76N±0.04×130.10E±0.04,h13km±5km, n17,σ0§83/25,mb3.6/7,4C-2D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.31**	**277**	⇓P	**Pg**	**12 03 26.4**	**-0.1**
JII				S	**Sg**	**12 03 31.0**	**+0.1**
JFI	**Itaya**	**0.41**	**144**	⇑P	**Pg**	**12 03 28.2**	**-0.1**
JFI				S	**Sg**	**12 03 33.9**	**-0.1**
JFA	**Akaike**	**0.58**	**94**	⇓P	**Pb**	**12 03 30.6**	**-0.8**
JFA				S	**Sb**	**12 03 38.9**	**-0.3**
JUR	**Ureshino**	**0.68**	**191**	⇑P	**Pb**	**12 03 33.1**	**+0.1**
JUR				S	**Sb**	**12 03 42.5**	**+0.5**
JTA	**Tamana**	**0.87**	**155**	⇑P	**Pb**	**12 03 36.6**	**+0.3**
JTA				S	**Sb**	**12 03 48.3**	**+0.7**
JTU	**Tsushima**	**0.96**	**323**	⇑P	**Pb**	**12 03 37.6**	**-0.3**
JTU				S	**Sb**	**12 03 50.2**	**-0.1**
KS15	**Wonju Array Si**	**4.10**	**334**	*e*Pn	**Pn**	**12 04 31.2**	**+7.5**
KS15				*e*Sn	**Sn**	**12 05 26.4**	**+14**
JOW	**Kunigami**	**7.08**	**193**	LR	LR	12 07 58.0	
	comp=Z,154nm,18.9s,baz=3.0,slow=39						
MAT	**Matsushiro**	**7.20**	**65**	P	**Pn**	**12 05 09.0**	**+1.6**
MAT				S	**Sn**	**12 06 30.0**	**+0.2**
MAT	**Matsushiro**	**7.20**	**65**	P	**Pn**	**12 05 09.4**	**+2.0**
MAT				*e*S	**Sn**	**12 06 30.0**	**+0.2**
ULN	**Ulaanbaatar**	**22.32**	**316**	*e*P	**P**	**12 08 21.8**	**+3.3**
	2.2nm,0.8s,mb3.6						
SONM	**Songino Array**	**22.68**	**315**	P	**P**	**12 08 23.2**	**+1.0**
	0.7nm,0.6s,mb3.2,baz=120,slow=10.0,SNR=7.3						
MKAR	**Makanchi Array**	**38.16**	**305**	P	**P**	**12 10 40.9**	**+0.4**
	0.4nm,0.8s,mb3.2,baz=96,slow=11,SNR=4.1						
KURK	**Kurchatov**	**40.82**	**310**	P	**P**	**12 11 01.8**	**-0.7**
	1.1nm,0.8s,mb3.5						
WRA	**Warramunga Arr**	**53.55**	**175**	P	**P**	**12 12 40.9**	**-1.9**
	0.6nm,0.5s,mb3.8,baz=354,slow=7.9,SNR=10						
ASAR	**Alice Springs**	**57.22**	**176**	P	**P**	**12 13 08.2**	**-1.1**
	0.4nm,0.5s,mb3.7,baz=6.0,slow=14,SNR=13						
FINES	**FINESS Array B**	**67.17**	**330**	P	**P**	**12 14 14.8**	**-0.5**
	1.0nm,0.8s,mb3.9,baz=177,slow=36,SNR=3.5						

IDC 25 12:05:47.1±9.4,30.22S×179.18W,h404km±97km, mb2.9/2,mb1 3.2/3,mb1mx3.0/11,mbtmp3.8/3,Error ellipse: s-maj=90.3km s-min=48.5km az=21.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**8.59**	**200**	P	P	12 07 49.8	0.0
	0.5nm,0.3s,baz=195,slow=21,SNR=6.2						
URZ				S	S	12 09 27.5	+0.8
	2.4nm,0.3s,baz=125,slow=23,SNR=10						
ASAR	**Alice Springs**	**42.10**	**267**	P	P	12 13 01.8	-1.2
	0.2nm,0.3s,baz=101,slow=6.6,SNR=7.5						
WRA	**Warramunga Arr**	**43.07**	**273**	P	P	12 13 09.3	-1.6
	1.2nm,0.4s,baz=112,slow=6.6,SNR=47						
FINES	**FINESS Array B**	**144.62**	**339**	PKP	PKPdf	12 24 35.1	-0.1
	0.3nm,0.3s,baz=54,slow=4.0,SNR=8.0						

BJI ***25*** *12:06:21.7,53.89N×166.53W,h50km,mB4.9,mb4.5, Ms4.3,Msz4.0*
NEIC ***25*** *12:06:23.9±0.3,53.90N×165.95W,h68km±2km,mb4.3/17, ML4.8(AEIC),ML4.7(PMR), Error ellipse: s-maj=6.0km s-min=2.7km az=156.0*
IDC ***25*** *12:06:24.6±2.7,54.05N×166.03W,h68km±23km,mb3.8/21, mb1 4.0/22,mb1mx4.0/27,mbtmp4.2/22,MS3.2/4, Ms1 3.2/4,ms1mx2.8/29,Error ellipse: s-maj=20.5km s-min=12.9km az=7.0*

ISC 25 12:06:22.9±0.3,53.96N±0.04×165.98W±0.04,h74km±2km, n145,σ1§07/146,mb4.2/34,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHB	**Akutan Harbor**	**0.19**	**30**	P	**P**	**12 06 34.4**	**+0.5**
LVA	**Lava Point**	**0.21**	**351**	P	**P**	**12 06 35.0**	**+0.9**
AKUT	**Akutan**	**0.22**	**34**	P	**P**	**12 06 34.4**	**+0.3**
AKUT				S	**S**	**12 06 43.3**	**+0.9**
AKA	**Akutan**	**0.22**	**34**	P	**P**	**12 06 34.5**	**+0.4**
UNV	**Unalaska Valle**	**0.33**	**251**	P	**P**	**12 06 34.2**	**-0.6**
UNV				S	**S**	**12 06 42.6**	**-1.1**
MTBL	**Makushin Table**	**0.41**	**272**	P	**P**	**12 06 36.0**	**+0.5**
MNAT	**Makushin Natee**	**0.42**	**261**	P	**P**	**12 06 35.5**	**0.0**
MSW	**Makushin Switc**	**0.48**	**265**	P	**P**	**12 06 36.1**	**+0.1**
WESS	**West Dahl Sout**	**0.91**	**54**	P	**P**	**12 06 41.9**	**+1.2**
WFAR	**Faris Peak**	**0.91**	**50**	P	**P**	**12 06 42.2**	**+1.5**
WESN	**West Dahl Nort**	**1.02**	**52**	P	**P**	**12 06 43.6**	**+1.4**
OKFG	**Magazine Ridge**	**1.27**	**245**	P	**P**	**12 06 45.1**	**-0.3**
OKFG				S	**S**	**12 07 01.5**	**-0.7**
SSLW	**Shishaldin Wes**	**1.36**	**52**	P	**P**	**12 06 47.7**	**+1.0**
SSLN	**Shishaldin Nor**	**1.44**	**53**	P	**P**	**12 06 49.1**	**+1.3**
FALS	**False Pass**	**1.75**	**58**	P	**P**	**12 06 52.8**	**+0.9**
NIKO	**Nikolski**	**1.98**	**241**	P	**P**	**12 06 54.4**	**-0.6**
NIKO				S	**S**	**12 07 18.3**	**-0.4**
BALA	**Baldy Mountain**	**2.23**	**55**	P	**P**	**12 07 00.3**	**+1.7**
DT1	**Dutton Round H**	**2.44**	**60**	P	**P**	**12 07 02.0**	**+0.6**
DTNA	**Dutton South F**	**2.48**	**60**	P	**P**	**12 07 02.8**	**+0.8**
DOL	**Dolgoi Island**	**2.68**	**62**	P	**P**	**12 07 06.3**	**+0.6**
HAG	**Hague Volcano**	**2.73**	**58**	P	**P**	**12 07 06.8**	**+1.2**
PVV	**Pavlof Volcano**	**2.82**	**58**	P	**P**	**12 07 07.8**	**+1.1**
BLHA	**Black Hill**	**2.86**	**51**	P	**P**	**12 07 08.3**	**+0.9**
SDPT	**Sand Point**	**3.49**	**64**	P	**P**	**12 07 16.0**	**-0.1**
SPIA	**Saint Paul Isl**	**4.04**	**325**	P	**P**	**12 07 26.6**	**+2.8**
SPIA				S	**S**	**12 08 15.1**	**+5.0**
ATKA	**Atka Island**	**5.26**	**254**	P	**P**	**12 07 39.0**	**-1.6**
ATKA				S	**S**	**12 08 40.7**	**+0.2**
GSTR	**Great Sitkin T**	**6.36**	**257**	P	**P**	**12 07 54.5**	**-1.4**
GSTD	**Great Sitkin T**	**6.43**	**257**	P	**P**	**12 07 56.6**	**-0.3**
ADAG	**Mount Adagdak**	**6.72**	**257**	P	**P**	**12 07 59.0**	**-1.9**
KIWB	**Kanaga Island**	**7.08**	**257**	*e*P	**P**	**12 08 06.3**	**+0.4**
KJL	**Kejulik**	**7.13**	**51**	P	**P**	**12 08 05.5**	**-1.2**
KIMD	**Kanaga Island**	**7.16**	**257**	P	**P**	**12 08 05.2**	**-1.9**
ANCK	**Angle Creek**	**7.24**	**50**	P	**P**	**12 08 07.6**	**-0.6**
CAHL	**Cahill**	**7.26**	**51**	P	**P**	**12 08 06.9**	**-1.4**
MGLS	**Magpik LS**	**7.33**	**50**	P	**P**	**12 08 08.2**	**-1.0**
MCNL	**McNeil River**	**8.29**	**46**	P	**P**	**12 08 21.9**	**-0.6**
SVW2	**Sparrevohn**	**9.07**	**34**	*e*P	**P**	**12 08 34.0**	**+0.8**
ILS	**Iliamna Low So**	**9.26**	**44**	P	**P**	**12 08 34.3**	**-1.4**
NCT	**North Crescent**	**9.67**	**42**	P	**P**	**12 08 39.9**	**-1.2**
RDN	**Redoubt North**	**9.71**	**42**	P	**P**	**12 08 41.3**	**-0.4**
CNPM	**China Poot**	**9.82**	**49**	P	**P**	**12 08 42.4**	**-0.8**
BRLK	**Bradley Lake**	**10.09**	**49**	P	**P**	**12 08 46.1**	**-0.8**
GAMB	**Gambell**	**10.28**	**346**	P	**P**	**12 08 50.8**	**+1.4**
TT01	**Tatalina**	**10.37**	**26**	P	**P**	**12 08 51.6**	**+1.0**
STLK	**Strandline Lak**	**10.67**	**39**	P	**P**	**12 08 55.7**	**+1.0**
SLKM	**Skilak Lake**	**10.75**	**46**	P	**P**	**12 08 54.1**	**-1.7**
RC01	**Rabbit Creek A**	**11.26**	**44**	P	**P**	**12 09 00.8**	**-1.8**
PWA	**Palmer West**	**11.51**	**42**	P	**P**	**12 09 04.2**	**-1.8**
LTI	**Latouche**	**11.59**	**51**	P	**P**	**12 09 04.7**	**-2.3**
TNA	**Tin City**	**11.68**	**356**	P	**P**	**12 09 08.9**	**+0.7**
GCSA	**Galena City Sc**	**11.76**	**19**	P	**P**	**12 09 09.1**	**-0.2**
PMR	**Palmer**	**11.78**	**43**	*e*P	**P**	**12 09 10.6**	**+1.1**
CUT	**Chulitna**	**11.82**	**38**	P	**P**	**12 09 09.2**	**-0.8**
KNK	**Knik Glacier**	**11.96**	**44**	P	**P**	**12 09 10.6**	**-1.3**
GHO	**Glory Hole Cre**	**11.96**	**42**	P	**P**	**12 09 11.7**	**-0.3**
MID	**Middleton Isla**	**12.08**	**55**	*e*P	**P**	**12 09 12.7**	**-0.9**
SML	**Sawmill**	**12.21**	**43**	P	**P**	**12 09 14.2**	**-1.2**
HIN	**Hinchinbrook I**	**12.35**	**51**	P	**P**	**12 09 15.0**	**-2.2**
KTH	**Kantishna Hill**	**12.36**	**33**	P	**P**	**12 09 17.3**	**0.0**
FX1	**Attu Island--F**	**12.49**	**274**	P	**P**	**12 09 20.4**	**+1.4**
	3.1nm,0.3s,baz=311,slow=13,SNR=18						
SCM	**Sheep Creek Mo**	**12.63**	**44**	P	**P**	**12 09 19.5**	**-1.4**
VLZ	**Valdez**	**12.73**	**48**	P	**P**	**12 09 20.2**	**-1.9**
EYAK	**Cordova Ski Ar**	**12.75**	**51**	P	**P**	**12 09 20.1**	**-2.4**
DIV	**Divide**	**12.97**	**48**	P	**P**	**12 09 24.2**	**-1.3**
MCK	**McKinley**	**13.13**	**35**	P	**P**	**12 09 26.2**	**-1.3**
IMA	**Indian Mountai**	**13.58**	**22**	*e*P	**P**	**12 09 37.6**	**+4.5**
GLB	**Gilahina Butte**	**13.97**	**49**	P	**P**	**12 09 37.1**	**-1.1**
THY	**Trims Highway**	**14.09**	**40**	P	**P**	**12 09 40.0**	**+0.3**
HDA	**Harding Lake**	**14.24**	**35**	P	**P**	**12 09 42.2**	**+0.5**
COLA	**College**	**14.24**	**33**	*e*P	**P**	**12 09 41.2**	**-0.6**
	8.7nm,0.9s						
BALM	**Baldy**	**14.49**	**51**	P	**P**	**12 09 44.4**	**-0.5**
MENT	**Mentasta**	**14.64**	**43**	*e*P	**P**	**12 09 47.5**	**+0.5**
CTGM	**Chitina Glacie**	**14.93**	**52**	P	**P**	**12 09 50.0**	**-0.7**
PCA	**Pinnacle**	**15.23**	**56**	P	**P**	**12 09 53.3**	**-1.2**
BCA3	**Beaver Creek A**	**15.49**	**44**	P	**P**	**12 09 57.4**	**-0.5**
PNL	**Peninsula**	**15.57**	**58**	P	**P**	**12 09 57.4**	**-1.5**
DAWY	**Dawson**	**16.88**	**43**	P	**P**	**12 10 16.3**	**+1.0**
BM3	**Burnt Mountain**	**16.94**	**29**	P	**P**	**12 10 18.4**	**+2.5**
WHY	**Whitehorse**	**17.95**	**56**	P	**P**	**12 10 30.6**	**+2.0**
BILL	**Bilibino**	**19.24**	**328**	*e*P	**P**	**12 10 44.9**	**+1.5**
	16nm,1.5s						
DLBC	**Dease Lake**	**20.33**	**63**	P	**P**	**12 10 56.1**	**+1.2**
	3.7nm,0.7s,baz=269,slow=11,SNR=5.9						
DLBC	**Dease Lake**	**20.33**	**63**	*e*P	**P**	**12 10 54.6**	**-0.4**
INK	**Inuvik**	**20.89**	**34**	P	**P**	**12 10 59.0**	**-1.6**
	6.6nm,0.4s,baz=226,slow=12,SNR=61						
INK				LR	LR	12 19 37.9	
	comp=Z,57nm,19.6s,baz=232,slow=38						
INK	**Inuvik**	**20.89**	**34**	*e*P	**P**	**12 10 58.5**	**-2.2**
	19nm,0.7s						
YKA	**Yellowknife Ar**	**27.66**	**51**	P	**P**	**12 12 05.6**	**+0.5**
	2.6nm,0.4s,mb4.1,baz=275,slow=8.2,SNR=104						
YKA				PcP	PcP	12 15 20.8	-0.1
	0.4nm,0.6s,baz=297,slow=2.0,SNR=4.2						
YKA				ScP		12 18 56.0	
	0.4nm,0.8s,baz=288,slow=3.3,SNR=6.9						
YKA				LR	LR	12 24 34.0	
	comp=Z,320nm,20.2s,baz=240,slow=39						
YKA	**Yellowknife Ar**	**27.66**	**51**	P	**P**	**12 12 05.6**	**+0.5**
YKA				PcP	PcP	12 15 20.8	-0.1
YKA				ScP		12 18 56.0	
YKA				LR	LR	12 24 34.0	
NEW	**Newport**	**30.68**	**80**	P	**P**	**12 12 33.0**	**+0.7**
	2.0nm,0.8s,mb3.9,baz=288,slow=9.6,SNR=6.4						
NEW	**Newport**	**30.68**	**80**	*e*P	**P**	**12 12 31.6**	**-0.6**
	1.6nm,0.6s,mb3.9						
YBH	**Yreka Blue Hor**	**31.01**	**95**	P	**P**	**12 12 36.9**	**+1.7**
	3.1nm,0.8s,mb4.1,baz=344,slow=2.7,SNR=9.9						
YBH				LR	LR	12 22 13.0	
	comp=Z,30nm,20.3s,baz=181,slow=30						
MOD	**Modoc**	**32.33**	**93**	*e*P	**P**	**12 12 47.2**	**+0.5**
	2.7nm,0.7s,mb4.1						
RES	**Resolute Bay**	**34.05**	**27**	*e*P	**P**	**12 13 00.6**	**-0.6**
	2.4nm,0.6s,mb4.2						
CMB	**Columbia Colle**	**34.76**	**98**	*e*P	**P**	**12 13 07.6**	**-0.1**
	5.7nm,1.3s,mb4.2						
HLID	**Hailey**	**34.81**	**86**	*e*P	**P**	**12 13 08.1**	**0.0**
	1.2nm,0.6s,mb3.9						
MCMT	**McKenzie Canyo**	**35.01**	**83**	*e*P	**P**	**12 13 09.9**	**+0.2**
BOZ	**Bozeman (W)**	**35.26**	**81**	*e*P	**P**	**12 13 12.2**	**+0.3**
	3.1nm,0.6s,mb4.3						
FFC	**Flin Flon**	**36.16**	**62**	P	**P**	**12 13 19.8**	**+0.4**
YMR	**Madison River**	**36.20**	**82**	*e*P	**P**	**12 13 20.6**	**+0.7**
LKWY	**Lake**	**36.59**	**82**	*e*P	**P**	**12 13 24.5**	**+1.4**
	7.7nm,0.6s,mb4.8						
RRI2	**Red Ridge**	**36.76**	**84**	*e*P	**P**	**12 13 25.0**	**+0.4**
TPAW	**Teton Pass**	**36.89**	**83**	*e*P	**P**	**12 13 26.6**	**+0.9**
LOHW	**Long Hollow**	**37.02**	**83**	*e*P	**P**	**12 13 27.3**	**+0.5**
	1.9nm,0.6s,mb4.2						
PDAR	**Pinedale Array**	**38.14**	**83**	P	**P**	**12 13 36.8**	**+0.7**
	2.5nm,0.7s,mb4.2,baz=302,slow=4.8,SNR=27						
FCC	**Fort Churchill**	**38.35**	**53**	*e*P	**P**	**12 13 38.1**	**+0.5**
	4.4nm,0.5s,mb4.5						
SRU	**San Rafael**	**39.87**	**89**	*e*P	**P**	**12 13 50.9**	**+0.4**
PV10	**Paradox Valley**	**41.22**	**88**	*e*P	**P**	**12 14 02.9**	**+1.3**
ULM	**Lac du Bonnet**	**41.62**	**65**	P	**P**	**12 14 05.3**	**+0.7**
	1.2nm,0.5s,mb3.9,ba

THR ***25*** *12:48:54.7±0.7,35.01N×50.05E,h14km±6km,ML4.3*
MOS ***25*** *12:48:57.3±0.9,34.86N×49.94E,h33km,mb4.7/27,Error ellipse: s-maj=10.3km s-min=5.2km az=128.3*
ZUR_RM ***25*** *12:48:57,34.88N×50.01E,h15km,Mw4.5/6,Moment Tensor Solution. s6 Moment tensor: Scale 10^{15}Nm; M_{rr}5.93; $M_{\theta\theta}$-5.98; $M_{\phi\phi}$0.04; $M_{r\theta}$1.19; $M_{\theta\phi}$0.72; $M_{r\text{-}r}$-1.68; Best double couple: $M_0$6.34×10^{15} NP1:ϕ_s110°,δ53°,λ107°. NP2:ϕ_s264°,δ40°,λ69°. Principal axes: T 6.457, Plg75°, Azm72°; N -.233, Plg13°, Azm280°; P -6.224, Plg7°, Azm188°;*
BJI ***25*** *12:48:57.6,34.90N×50.00E,h23km,mB5.0,mb4.6,Ms4.4,Msz4.0*
TEH ***25*** *12:48:59.0,32.17N×48.82E,h18km,Mn4.4*
OMAN ***25*** *12:49:01.1,33.91N×49.24E,Error ellipse: s-maj=781.5km s-min=163.0km az=319.0*
CSEM ***25*** *12:49:13.2,35.44N×49.95E,h150km,mb4.8*

ISC 25 12:48:54.8±0.2,34.85N±0.02×49.95E±0.03,h14km,n173,
σ1§17/189,mb4.5/48,MS3.3/7,7C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DAMV	**Damavand**	**1.82**	**64**	*e*PG		**Pg**	**12 49 25.5**	**-5.8**
DAMV				*e*SG		**Sg**	**12 49 48.7**	**-6.9**
DAMV				AML		AML	12 49 53.6	
	comp=N,3μm,0.6s							
DAMV	**Damavand**	**1.82**	**64**	*e*Pg		**Pg**	**12 49 25.0**	**-6.3**
DAMV				*e*Sg		**Sg**	**12 49 48.0**	**-7.6**
IKOM	**Komasi**	**2.12**	**252**	Pn		**Pn**	**12 49 36.5**	**+6.1**
SNGE	**Sanandaj**	**2.15**	**277**	*e*Pg		**Pg**	**12 49 34.0**	**-3.9**
SNGE				*e*Sg		**Sg**	**12 50 04.0**	**-2.6**
SNGE	**Sanandaj**	**2.15**	**277**	*e*PG		**Pg**	**12 49 34.9**	**-3.0**
SNGE				*e*SG		**Sg**	**12 50 04.5**	**-2.1**
SNGE				AML		AML	12 50 07.8	
	comp=N,2μm,0.6s							
SNGE	**Sanandaj**	**2.15**	**277**	*e*Pg		**Pg**	**12 49 34.9**	**-3.0**
	SNR=90							
SNGE				*e*Sg		**Sg**	**12 50 04.0**	**-2.6**
IVIS	**Veys**	**2.58**	**264**	Pn		**Pn**	**12 49 44.0**	**+7.2**
IGHG	**Ghaleghazi**	**2.84**	**260**	Pn		**Pn**	**12 49 44.3**	**+3.7**
SHGR	**Shooshtar-Gavs**	**2.90**	**200**	*e*PN		**Pn**	**12 49 45.0**	**+3.5**
SHGR				AML		AML	12 50 43.9	
	comp=N,881nm,0.8s							
SHGR	**Shooshtar-Gavs**	**2.90**	**200**	*e*Pn		**Pn**	**12 49 44.0**	**+2.5**
IDHR	**Dehrash**	**2.94**	**268**	Pn		**Pn**	**12 49 49.4**	**+7.4**
NASN	**Na'in**	**3.14**	**130**	*e*Pn		**Pn**	**12 49 46.0**	**+1.2**
NASN				*e*Sg		**Sg**	**12 50 33.0**	**-6.3**
NASN	**Na'in**	**3.14**	**130**	*e*PN		**Pn**	**12 49 46.8**	**+2.0**
NASN				*e*SG		**Sg**	**12 50 33.9**	**-5.4**
NASN	**Na'in**	**3.14**	**130**	*e*Pn		**Pn**	**12 49 46.8**	**+2.0**
	SNR=52							
NASN				*e*Sg		**Sg**	**12 50 33.0**	**-6.3**
ISAD	**Sadrabad**	**4.28**	**132**	Pn		**Pn**	**12 49 57.3**	**-3.8**
ICHK	**Chekchek**	**4.54**	**124**	Pn		**Pn**	**12 50 05.1**	**+0.4**
BHD	**Baghdad**	**4.89**	**253**	*e*Pn		**Pn**	**12 50 05.0**	**-4.7**
BHD				*e*Pg		**Pg**	**12 50 22.5**	**-10**
BHD				*e*Sn		**Sn**	**12 50 56.0**	**-11**
BHD				*e*Sg		**Sg**	**12 51 24.0**	**-14**
BHD	**Baghdad**	**4.89**	**253**	*e*Pn		**Pn**	**12 50 05.0**	**-4.7**
BHD				*e*Sn		**Sn**	**12 50 56.0**	**-11**
IMEH	**Mehriz**	**5.21**	**130**	Pn		**Pn**	**12 50 08.7**	**-5.6**
UMR	**Umm Al-Rimmam**	**5.62**	**200**	*e*P		**Pn**	**12 50 22.3**	**+2.4**
SHI	**Shiraz**	**5.63**	**157**	Pn		**Pn**	**12 50 18.7**	**-1.4**
IPAR	**Pars**	**5.64**	**152**	Pn		**Pn**	**12 50 21.8**	**+1.5**
IBAF	**Bafgh**	**5.72**	**123**	Pn		**Pn**	**12 50 19.3**	**-2.1**
MSL	**Mosul**	**5.78**	**286**	*e*Pn		Px	12 50 24.5	
MSL				*e*Sn		Sx	12 51 19.5	
MSL				*e*Lg			12 51 38.0	
RST	**Umm Al-Ruwaisa**	**5.90**	**206**	*e*P		**Pn**	**12 50 25.9**	**+2.0**
RST				*e*S		**Sn**	**12 51 31.3**	**-0.7**
NAY	**Al-Naaiem**	**6.04**	**203**	*e*P		**Pn**	**12 50 27.9**	**+1.9**
NAY				*e*S		**Sn**	**12 51 35.2**	**-0.5**
ISRV	**Sarvestan**	**6.08**	**153**	Pn		**Pn**	**12 50 26.9**	**+0.4**
IMOK	**Mook**	**6.25**	**157**	Pn		**Pn**	**12 50 25.6**	**-3.2**
RDF	**Al-Radifah**	**6.25**	**200**	*e*P		**Pn**	**12 50 31.0**	**+2.1**
RDF				*e*S		**Sn**	**12 51 41.5**	**+0.6**
GNI	**Garni**	**6.71**	**323**	*e*P		**Pn**	**12 50 36.1**	**+0.7**
GNI				pmax	pmax			
	comp=Z,55nm,0.8s							
GNI	**Garni**	**6.71**	**323**	Pn		**Pn**	**12 50 41.1**	**+5.7**
	comp=Z,0.4nm,0.3s,baz=8.6,slow=18,SNR=3.0							
GNI				Pg		**Pg**	**12 50 58.7**	**-10**
	comp=Z,1.2nm,0.3s,baz=12,slow=10,SNR=7.7							
GNI				Lg			12 52 33.6	
	comp=Z,1.6nm,0.3s,baz=234,slow=21,SNR=3.8							
GNI				LR		LR	12 53 29.8	
	comp=Z,116nm,20.5s,baz=138,slow=41							
GNI	**Garni**	**6.71**	**323**	*e*P		**Pn**	**12 50 36.1**	**+0.7**
	comp=Z,55nm,0.8s							
ZEI	**Tsey**	**9.21**	**331**	*e*P		**P**	**12 51 15.9**	**+5.7**
MALT	**Malatya**	**9.89**	**294**	*e*P		**P**	**12 51 18.0**	**-1.6**
KIV	**Kislovodsk**	**10.68**	**330**	⇑*i*P		**P**	**12 51 36.2**	**+5.8**
KIV				pmax	pmax			
	comp=Z,13nm,1.0s							
KIV				MLR	MLR			
	comp=Z,200nm,22.0s							
ASF	**Jabal al Asfar**	**11.22**	**260**	Pn		**P**	**12 51 36.7**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=327,slow=1.6,SNR=5.4							
ASF				Lg			12 55 09.0	
	comp=Z,0.3nm,0.3s,baz=117,slow=22,SNR=2.2							
ASHO	**Ashiyiah**	**11.43**	**151**	⇑P		**P**	**12 51 38.5**	**-2.3**
	SNR=6.1							
SOC	**Sochi**	**11.78**	**321**	*e*P		**P**	**12 51 55.2**	**+10**
SOC				*e*			12 53 59.7	
SOC				pmax	pmax			
	comp=N,23nm,1.0s							
SOC				pmax	pmax			
	comp=Z,30nm,1.0s							
SOC				pmax	pmax			
	comp=E,17nm,1.1s							
SOC				smax				
	comp=N,59nm,1.5s							
SOC				MLR	MLR			
	comp=N,333nm,13.0s							
SOC				MLR	MLR			
	comp=Z,220nm,13.0s							
SOC				MLR	MLR			
	comp=E,106nm,11.0s							
ARQ	**Araqi**	**12.83**	**152**	⇑P		**P**	**12 51 58.6**	**-0.9**
EIL	**Elat**	**13.70**	**252**	Pn		**P**	**12 52 10.6**	**-0.4**
	comp=E,0.3nm,0.3s,baz=15,slow=8.2,SNR=5.6							
EIL	**Elat**	**13.70**	**252**	*e*P		**P**	**12 52 10.5**	**-0.5**
	comp=E,12nm,0.8s							
EIL	**Elat**	**13.70**	**252**	*e*P		**P**	**12 52 10.5**	**-0.6**
	comp=E,12nm,0.8s							
BRTR	**Keskin Array B**	**13.87**	**295**	Pn		**P**	**12 52 16.5**	**+3.4**
	comp=E,0.1nm,0.3s,baz=119,slow=13,SNR=13							
WHFO	**Wadi Hawf**	**17.21**	**168**	P		**P**	**12 52 53.9**	**-2.5**
	SNR=19							
ABTO	**Aybut**	**17.68**	**169**	P		**P**	**12 52 59.8**	**-2.5**
	SNR=17							
RBK	**Rabkut**	**17.69**	**167**	⇑P		**P**	**12 53 01.6**	**-0.8**
	SNR=22							
VRSR	**Storozhevoye**	**18.11**	**338**	*e*P		**P**	**12 53 08.5**	**+1.0**
VRSR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
VRSR				pmax	pmax			
	comp=N,20nm,0.7s							
VRSR				pmax	pmax			
	comp=E,10.0nm,0.9s							
VRSR	**Storozhevoye**	**18.11**	**338**	*e*P		**P**	**12 53 08.5**	**+1.0**
	comp=E,20nm,0.7s							
IDI	**Anoyia**	**20.51**	**278**	P		**P**	**12 53 36.4**	**+1.3**
	comp=E,16nm,0.7s,baz=73,slow=11,SNR=18							
IDI				LR		LR	13 02 56.8	
	comp=E,45nm,21.2s,MS2.8,baz=273,slow=41							
AAK	**Ala-Archa**	**20.61**	**61**	*i* P		**P**	**12 53 34.6**	**-1.5**
AAK				pmax	pmax			
	comp=Z,6.0nm,1.7s							
AAK	**Ala-Archa**	**20.61**	**61**	*i* P		**P**	**12 53 34.6**	**-1.5**
	comp=Z,6.0nm,1.7s							
MLR	**Muntele Rosu**	**21.12**	**307**	P		**P**	**12 53 41.8**	**+0.5**
MLR				pmax	pmax			
	comp=Z,5.0nm,0.9s							
MLR	**Muntele Rosu**	**21.12**	**307**	P		**P**	**12 53 41.8**	**+0.4**
	comp=Z,5.3nm,0.9s,mb3.9,baz=180,slow=12,SNR=3.2							
LBOS		**21.32**	**193**	*e*P		**P**	**12 53 44.6**	**+1.1**
AKASG	**Malin Array Be**	**21.85**	**323**	P		**P**	**12 53 49.5**	**+0.9**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**21.85**	**323**	P		**P**	**12 53 49.5**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.5,baz=128,slow=11,SNR=11							
OBN	**Obninsk**	**22.29**	**339**	*d* iP		**P**	**12 53 58.5**	**+5.6**
OBN				*e*			12 54 20.0	
OBN				*e*S		**S**	**12 57 56.5**	**+3.9**
OBN				pmax	pmax			
	comp=Z,47nm,1.7s,mb4.6							
OBN				MLR	MLR			
	comp=Z,100nm,18.0s,MS3.3							
ARU	**Arti**	**22.37**	**13**	⇑*i*P		**P**	**12 53 51.7**	**-2.0**
ARU				pmax	pmax			
	comp=Z,17nm,0.8s,mb4.5							
ARU	**Arti**	**22.37**	**13**	⇑*i*P		**P**	**12 53 51.7**	**-2.0**
	comp=Z,17nm,0.8s,mb4.6							
MOS	**Moscow**	**22.55**	**342**	*e*P		**P**	**12 53 56.8**	**+1.4**
MOS				*e*			12 54 21.8	
BVAR	**Borovoye Array**	**23.23**	**32**	P		**P**	**12 54 03.3**	**+1.1**
	comp=Z,5.5nm,0.8s,mb4.0,baz=225,slow=6.3,SNR=23							
BOLS	**Boljevac**	**23.34**	**301**	⇑*i*P		**P**	**12 54 06.2**	**+2.9**
CHKZ	**Chkalovo**	**23.78**	**31**	*e*P		**P**	**12 54 07.5**	**0.0**
CHKZ				pmax	pmax			
	comp=E,6.0nm,1.0s,mb4.0							
ATD	**Arta Tunnel**	**24.10**	**197**	LR		LR	13 04 41.7	
	comp=Z,36nm,21.9s,MS2.8,baz=11,slow=39							
KOLS	**Kolonicke sedl**	**24.78**	**313**	*i* P		**P**	**12 54 19.9**	**+2.7**
CRVS	**Cervenica-Dubn**	**25.26**	**312**	*i* P		**P**	**12 54 23.8**	**+2.0**
PSZ	**Piszkesteto**	**25.87**	**309**	*e*P		**P**	**12 54 26.9**	**-0.7**
PSZ				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.2							
PSZ	**Piszkesteto**	**25.87**	**309**	*e*P		**P**	**12 54 28.6**	**+1.0**
PSZ	**Piszkesteto**	**25.87**	**309**	*e*P		**P**	**12 54 26.9**	**-0.7**
	comp=Z,7.0nm,0.8s,mb4.2							
KURK	**Kurchatov**	**26.12**	**44**	*e*P		**P**	**12 54 29.7**	**-0.1**
KURK				pmax	pmax			
	comp=E,11nm,1.0s,mb4.3							
VYHS	**Vyhne**	**26.73**	**310**	*e*P		**P**	**12 54 37.1**	**+1.6**
OJC	**Ojcow**	**26.77**	**314**	*e*P		**P**	**12 54 36.7**	**+0.9**
MKAR	**Makanchi Array**	**27.03**	**54**	P		**P**	**12 54 38.3**	**+0.1**
MKAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MKAR	**Makanchi Array**	**27.03**	**54**	P		**P**	**12 54 38.2**	**+0.1**
	comp=Z,4.2nm,0.8s,mb4.0,baz=243,slow=8.1,SNR=19							
CRES	**Cresnjev**	**28.28**	**303**	*e*P		**P**	**12 54 50.7**	**+1.2**
BOJS	**Bojanci**	**28.37**	**303**	*e*P		**P**	**12 54 51.0**	**+0.6**
PDKS	**Podkum**	**28.64**	**304**	*e*P		**P**	**12 54 52.5**	**-0.2**
PDKS	**Podkum**	**28.64**	**304**	*e*P		**P**	**12 54 52.5**	**-0.3**
DPC	**Dobruska-Polom**	**28.90**	**313**	*e*P		**P**	**12 54 55.5**	**+0.5**
GERES	**GERESS Array B**	**30.09**	**309**	P		**P**	**12 55 05.9**	**+0.1**
GERES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
GERES	**GERESS Array B**	**30.09**	**309**	P		**P**	**12 55 05.9**	**+0.1**
	comp=Z,2.9nm,0.8s,mb4.1,baz=108,slow=8.4,SNR=24							
KHC	**Kasperske Hory**	**30.24**	**309**	*e*P		**P**	**12 55 07.1**	**0.0**
WMQ	**Urumqi**	**30.31**	**61**	*e*P		**P**	**12 55 08.5**	**+0.7**
WMQ				XP		sP	12 55 16.0	+2.2
WMQ				PP		PP	12 56 07.0	-0.1
WMQ				*e*S		**S**	**13 00 07.0**	**+0.9**
WMQ				XS			13 00 15.0	
WMQ				AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,94nm,3.7s							
WMQ				LR		LR		
	comp=N,344nm,17.6s,MS4.2							
WMQ				LR		LR		
	comp=E,399nm,18.2s,MS4.2							
WMQ				LR		LR		
	comp=Z,303nm,20.0s,MS3.9							
NVS	**Novosibirsk**	**30.49**	**39**	*e*P		**P**	**12 55 05.7**	**-3.5**
NVS				pmax	pmax			
	comp=Z,9.0nm,1.8s,mb4.2							
NVS				pmax	pmax			
	comp=N,6.0nm,1.5s							
FINES	**FINESS Array B**	**30.65**	**338**	P		**P**	**12 55 10.5**	**-0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**30.65**	**338**	P		**P**	**12 55 10.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.8,baz=135,slow=5.4,SNR=7.6							
FINES	**FINESS Array B**	**30.65**	**338**	P		**P**	**12 55 10.4**	**-0.2**
KAF	**Kangasniemi**	**31.10**	**339**	*e*p		**P**	**12 55 14.7**	**+0.2**
GRA1	**Grafenberg Arr**	**31.87**	**310**	*e*P		**P**	**12 55 21.7**	**+0.3**
	comp=Z,11nm,0.9s,mb4.7							
GRF	**Grafenberg Arr**	**31.87**	**310**	*e*P		**P**	**12 55 21.7**	**+0.3**
GRF				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.7							
DAVOX	**Davos**	**32.25**	**304**	P		**P**	**12 55 24.9**	**+0.1**
	comp=Z,11nm,0.7s,mb4.8,baz=112,slow=12,SNR=14							
DAVOX				LR		LR	13 09 56.0	
	comp=Z,70nm,19.3s,MS3.4,baz=80,slow=39							
PGF	**Pioggiola**	**32.62**	**296**	*e*P		**P**	**12 55 27.6**	**-0.4**
	comp=Z,16nm,0.9s,mb4.7							
PGF	**Pioggiola**	**32.62**	**296**	*e*P		**P**	**12 55 27.6**	**-0.4**
PGF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
SBF	**Sospel**	**33.77**	**298**	*e*P		**P**	**12 55 38.0**	**0.0**
	comp=Z,66nm,0.9s,mb5.2							
SBF	**Sospel**	**33.77**	**298**	*e*P		**P**	**12 55 38.0**	**0.0**
SBF				pmax	pmax			
	comp=Z,33nm,0.9s,mb5.3							
CDF	**Champ du Feu**	**34.20**	**307**	*e*P		**P**	**12 55 42.2**	**+0.5**
MBDF	**Montbardon**	**34.26**	**300**	*e*P		**P**	**12 55 42.1**	**-0.2**
	comp=Z,28nm,0.9s,mb4.9							
MBDF	**Montbardon**	**34.26**	**300**	*e*P		**P**	**12 55 42.1**	**-0.2**
MBDF				pmax	pmax			
	comp=Z,14nm,0.9s,mb4.9							
LPG	**La Plagne**	**34.31**	**301**	*e*P		**P**	**12 55 42.4**	**-0.3**
	comp=Z,14nm,0.8s,mb4.6							
LPG	**La Plagne**	**34.31**	**301**	*e*P		**P**	**12 55 42.4**	**-0.3**
LPG				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
LPL	**La Plagne**	**34.32**	**301**	*e*P		**P**	**12 55 42.4**	**-0.4**
BNI	**Bardonecchia**	**34.34**	**301**	*e*P		**P**	**12 55 42.1**	**-0.8**
BNI				pmax	pmax			
	comp=Z,25nm,0.9s,mb5.1							
BNI	**Bardonecchia**	**34.34**	**301**	*e*P		**P**	**12 55 42.1**	**-0.9**
	comp=Z,25nm,0.9s,mb5.2							
BNI	**Bardonecchia**	**34.34**	**301**	*e*P		**P**	**12 55 42.1**	**-0.8**
	comp=Z,25nm,0.9s,mb5.2							
HINF	**Hinteralfeld**	**34.41**	**305**	*e*P		**P**	**12 55 42.9**	**-0.7**
HFS	**Hagfors**	**34.47**	**328**	P		**P**	**12 55 43.7**	**-0.2**
HFS				pmax	pmax			
	comp=Z,2.0nm,0.5s							
HFS	**Hagfors**	**34.47**	**328**	P		**P**	**12 55 43.7**	**-0.2**
	comp=Z,2.2nm,0.5s,mb4.4,baz=124,slow=11,SNR=25							
HAU	**Haudompre**	**34.77**	**306**	*e*P		**P**	**12 55 46.0**	**-0.6**
CABF	**La Chapelle**	**34.83**	**303**	*e*P		**P**	**12 55 47.1**	**0.0**
	comp=Z,22nm,0.7s,mb4.9							
CABF	**La Chapelle**	**34.83**	**303**	*e*P		**P**	**12 55 47.1**	**0.0**
CABF				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.9							
LSA	**Lhasa**	**35.03**	**87**	*e*P		**P**	**12 55 49.0**	**0.0**
LSA	**Lhasa**	**35.03**	**87**	*e*P		**P**	**12 55 48.3**	**-0.7**
HGN	**Heimansgroeve**	**35.41**	**310**	*e*P		**P**	**12 55 53.0**	**+1.0**
	comp=Z,19nm,1.2s,mb4.9							
VIVF	**Saint-Julien-l**	**35.76**	**300**	*e*P		**P**	**12 55 54.2**	**-0.9**
NB2	**NORSAR Subarra**	**35.98**	**329**	P		**P**	**12 55 55.8**	**-1.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=120,slow=8.6							
NB2	**NORSAR Subarra**	**35.98**	**329**	P		**P**	**12 55 55.8**	**-1.0**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
NOA	**NORSAR Array B**	**35.98**	**329**	P		**P**	**12 55 56.2**	**-0.6**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
NOA				MLR	MLR			
	comp=Z,58nm,19.0s							
NOA	**NORSAR Array B**	**35.98**	**329**	P		**P**	**12 55 56.1**	**-0.7**
	comp=Z,1.8nm,0.8s,mb4.0,baz=121,slow=8.5,SNR=9.9							
NOA				LR		LR	13 11 08.0	
	comp=Z,58nm,18.9s,MS3.4,baz=195,slow=37							
GIVF	**Givet**	**36.02**	**309**	*e*P		**P**	**12 55 56.7**	**-0.5**
LASF	**Ste Croix**	**36.35**	**299**	*e*P		**P**	**12 55 59.4**	**-0.7**
	comp=Z,9.4nm,0.9s,mb4.4							
SMF	**Signal de Mont**	**36.38**	**303**	*e*P		**P**	**12 55 59.8**	**-0.5**
	comp=Z,28nm,1.0s,mb4.8							
SMF	**Signal de Mont**	**36.38**	**303**	*e*P		**P**	**12 55 59.8**	**-0.5**
SMF				pmax	pmax			
	comp=Z,14nm,1.0s,mb4.8							
BAIF	**Baives**	**36.40**	**309**	*e*P		**P**	**12 56 00.4**	**0.0**
	comp=Z,14nm,0.9s,mb4.6							
BAIF	**Baives**	**36.40**	**309**	*e*P		**P**	**12 56 00.4**	**0.0**
BAIF				pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6							
SSF	**Saint Saulge**	**36.62**	**304**	*e*P		**P**	**12 56 01.9**	**-0.4**
SSF				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.7							
SSF	**Saint Saulge**	**36.62**	**304**	*e*P		**P**	**12 56 01.9**	**-0.4**
	comp=Z,12nm,1.1s,mb4.7							
AVF	**Avril sur Loir**	**36.72**	**303**	*e*P		**P**	**12 56 02.5**	**-0.6**
	comp=Z,16nm,0.9s,mb4.5							
AVF	**Avril sur Loir**	**36.72**	**303**	*e*P		**P**	**12 56 02.5**	**-0.6**
AVF				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.5							
ARCES	**ARCESS Array B**	**37.26**	**346**	P		**P**	**12 56 07.8**	**+0.3**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ARCES	**ARCESS Array B**	**37.26**	**346**	P		**P**	**12 56 07.8**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.1,baz=140,slow=9.5,SNR=8.1							
ARCES	**ARCESS Array B**	**37.26**	**346**	P		**P**	**12 56 07.8**	**+0.3**
TCF	**Toulx Ste Croi**	**37.50**	**303**	*e*P		**P**	**12 56 09.6**	**-0.1**
	comp=Z,30nm,1.2s,mb4.7							
TCF	**Toulx Ste Croi**	**37.50**	**303**	*e*P		**P**	**12 56 09.6**	**-0.1**
TCF				pmax	pmax			
	comp=Z,15nm,1.2s,mb4.7							
MTLF	**Montolieu**	**37.57**	**298**	*e*P		**P**	**12 56 09.5**	**-0.8**
CAF	**Calviac**	**37.61**	**300**	*e*P		**P**	**12 56 09.9**	**-0.8**
KMBO	**Kilima Mbogo**	**37.72**	**201**	LR		LR	13 12 11.5	
	comp=Z,71nm,18.8s,MS3.5,baz=85,slow=37							
LDF	**La Druitiere**	**39.12**	**306**	*e*P		**P**	**12 56 22.6**	**-0.7**
	comp=Z,11nm,0.6s,mb4.4							
LDF	**La Druitiere**	**39.12**	**306**	*e*P		**P**	**12 56 22.6**	**-0.7**
LDF				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.4							
MFF	**Saint Martin d**	**39.12**	**303**	*e*P		**P**	**12 56 22.6**	**-0.7**
	comp=Z,24nm,1.0s,mb4.6							
MFF	**Saint Martin d**	**39.12**	**303**	*e*P		**P**	**12 56 22.6**	**-0.7**
MFF				pmax	pmax			
	comp=Z,12nm,1.0s,mb4.6							
FLN	**La Foliniere**	**39.36**	**306**	*e*P		**P**	**12 56 24.6**	**-0.7**
	comp=Z,17nm,0.7s,mb4.6							
FLN	**La Foliniere**	**39.36**	**306**	*e*P		**P**	**12 56 24.6**	**-0.7**
FLN				pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.6							
GRR	**Gorron**	**39.60**	**306**	*e*P		**P**	**12 56 26.8**	**-0.5**
	comp=Z,48nm,0.9s,mb4.9							
GRR	**Gorron**	**39.60**	**306**	*e*P		**P**	**12 56 26.8**	**-0.5**
GRR				pmax	pmax			
	comp=Z,24nm,0.9s,mb4.9							
SJPF	**Ste Jean**	**40.10**	**298**	*e*P		**P**	**12 56 29.0**	**-2.4**
SGMF	**Saint Gilles**	**40.74**	**306**	*e*P		**P**	**12 56 36.2**	**-0.4**
QUIF	**Quistinic**	**41.15**	**305**	*e*P		**P**	**12 56 39.4**	**-0.6**
	comp=Z,59nm,1.1s,mb4.8							
QUIF	**Quistinic**	**41.15**	**305**	*e*P		**P**	**12 56 39.4**	**-0.6**
QUIF				pmax	pmax			
	comp=Z,30nm,1.1s,mb4.8							
ROSF	**Rostrenen**	**41.22**	**306**	*e*P		**P**	**12 56 40.1**	**-0.4**
EKA	**Eskdalemuir Ar**	**41.50**	**316**	P		**P**	**12 56 42.8**	**+0.1**
EKA				pmax	pmax			
	comp=Z,7.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**41.50**	**316**	P		**P**	**12 56 42.8**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.3,baz=105,slow=7.9,SNR=26							
TLY	**Talaya**	**41.55**	**49**	*i* P		**P**	**12 56 44.4**	**+1.2**
TLY				pmax	pmax			
	comp=Z,1.0nm,0.9s,mb3.5							
TLY	**Talaya**	**41.55**	**49**	*i* P		**P**	**12 56 44.4**	**+1.2**
	comp=Z,1.0nm,0.9s,mb3.5							
ESDC	**Sonseca Array**	**42.65**	**293**	P		**P**	**12 56 51.1**	**-1.2**
	comp=Z,1.8nm,0.8s,mb3.9,baz=66,slow=8.0,SNR=8.3							
SONM	**Songino Array**	**43.39**	**55**	P		**P**	**12 56 58.7**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=279,slow=9.3,SNR=4.4							
ULN	**Ulaanbaatar**	**43.83**	**55**	P		**P**	**12 57 01.0**	**-0.8**
BOD	**Bodaibo**	**47.69**	**41**	*e*P		**P**	**12 57 33.7**	**+1.3**
HHC	**Hu-ho-hao-te**	**48.14**	**64**	*e*P		**P**	**12 57 35.0**	**-1.2**
HHC				PP		PP	12 59 34.0	+6.0
HHC				S		**S**	**13 04 33.3**	**-0.2**
HHC				SS		SS	13 07 58.0	+0.3
HHC				AMB		AMB		
	comp=Z,11nm,0.6s,mb5.1							
TIXI	**Tiksi**	**53.87**	**23**	*e*P		**P**	**12 58 17.4**	**-1.7**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.3s,mb4.1							
**TIXI

*IDC **25** 13:34:41.3±0.5,25.57N×94.89E,h74km±3km,mb4.8/19, mb1 4.9/19,mb1mx4.9/20,mbtmp5.1/19,MS4.0/10, Ms1 4.0/10,ms1mx3.7/22 Error ellipse: s-maj=17.6km s-min=10.4km az=51.0*

ISC 25 13:34:37.9±0.4,25.46N±0.02×94.77E±0.02,h62km±4km, h68km±.8km:pP-P,n562,s0°99/576,mb5.2/175,32C-43D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.01**	**229**	⇑*i*		**P**		**13 34 59.0**	**+2.6**
LKP	**Lekhapani**	**2.20**	**32**	*e*		**P**		**13 35 13.0**	**+0.2**
LKP				*eS*		**S**		**13 35 34.0**	**-4.8**
SHL	**Shillong**	**2.61**	**273**	*eP*		**P**		**13 35 20.0**	**+1.4**
SHL				*eS*		**S**		**13 35 48.5**	**-0.7**
AGT	**Agartala**	**3.56**	**245**	*e*		**P**		**13 35 32.0**	**-0.1**
LSA	**Lhasa**	**5.31**	**324**	P		**P**		**13 35 58.0**	**+1.6**
LSA				S		**S**		**13 36 51.0**	**-5.9**
LSA				Smax					
	comp=N,2μm,0.6s								
LSA				Smax					
	comp=E,6μm,0.7s								
LSA	**Lhasa**	**5.31**	**324**	*eP*		**P**		**13 35 58.2**	**+1.8**
LSA				*e*				13 36 54.6	
LSA				pmax		pmax			
	comp=Z,784nm,0.6s								
LSA	**Lhasa**	**5.31**	**324**	*ePn*		**P**		**13 35 58.2**	**+1.8**
	comp=Z,784nm,0.6s								
LSA				*eSn*		**S**		**13 36 54.6**	**-2.3**
GTK	**Gangtok**	**5.82**	**290**	*e*		**P**		**13 35 52.0**	**-12**
SLGI	**Shiliguri**	**5.84**	**284**	⇓*i*		**P**		**13 36 04.3**	**+0.5**
SLGI				*i*				13 36 13.0	
SHBG	**Sahibganj**	**6.43**	**269**	*eP*		**P**		**13 36 15.5**	**+3.4**
SHBG				*eS*		**S**		**13 37 23.0**	**-1.8**
CAL	**Calcutta**	**6.56**	**245**	*e*		**P**		**13 36 16.0**	**+2.1**
CAL				*e*				13 37 24.0	
CAL				*e*				13 37 24.8	
KMI	**Kunming**	**7.22**	**91**	P		**P**		**13 36 27.3**	**+4.2**
KMI				XP				13 36 43.5	
KMI				S		**S**		**13 37 48.3**	**+3.9**
KMI				AMB	AMB				
	comp=Z,518nm,1.0s								
KMI				AMB	AMB				
	comp=Z,2μm,3.1s								
KMI				LR	LR				
	comp=N,2μm,6.7s								
KMI				LR	LR				
	comp=E,2μm,4.8s								
KMI				LR	LR				
	comp=Z,3μm,15.5s								
CHRT	**Chiangrai**	**7.24**	**139**	⇑PN		**P**		**13 36 24.0**	**+0.7**
CHRT				PG		P		13 36 54.0	+31
CHRT				SG		S		13 38 37.0	+52
CHG	**Chiang Mai**	**7.66**	**149**	⇑P		**P**		**13 36 31.6**	**+2.5**
	comp=Z,138nm,0.9s								
CM31	**Chiang Mai Arr**	**7.97**	**150**	*eP*		**P**		**13 36 35.5**	**+2.1**
	comp=Z,154nm,0.7s								
NANT	**Nan**	**8.61**	**139**	PG		**P**		**13 36 42.0**	**-0.1**
NANT				SG		**P**		**13 36 42.0**	**-0.1**
BDT	**Bhumibol Dam**	**9.08**	**153**	PG		**P**		**13 36 50.0**	**+1.5**
BDT				SG		S		13 39 16.0	+46
CD2	**Chengdu**	**9.61**	**54**	⇑*iP*		**P**		**13 36 55.5**	**-0.4**
CD2				AMB	AMB				
	comp=Z,10.0nm,0.4s								
VLK	**Valmikinagar**	**9.95**	**283**	*i* P		**P**		**13 36 57.0**	**-3.5**
VLK				*i*				13 37 07.0	
GYA	**Guiyang**	**10.75**	**82**	⇓*iP*		**P**		**13 37 13.0**	**+1.6**
GYA				XP				13 37 34.5	
GYA				S		**S**		**13 39 08.8**	**-2.2**
GYA				AMB	AMB				
	comp=Z,340nm,3.9s								
GYA				LR	LR				
	comp=N,1μm,9.3s								
GYA				LR	LR				
	comp=E,2μm,8.4s								
GYA				LR	LR				
	comp=Z,1μm,10.5s								
NST	**Nakhon Sawan**	**10.95**	**152**	P		**P**		**13 37 16.6**	**+2.4**
BLSP	**Bilaspur**	**12.03**	**257**	*eP*		**P**		**13 37 26.9**	**-1.8**
BLSP				*eS*		**S**		**13 39 29.9**	**-12**
BLSP				*e*				13 40 07.4	
	comp=E,328nm,1.1s								
BLSP				*e*				13 40 07.4	
	comp=N,636nm,1.0s								
VIS	**Vishakhapatnam**	**13.13**	**236**	*i*		**P**		**13 37 42.5**	**-0.7**
VIS				*i* S		**S**		**13 39 50.3**	**-18**
LZH	**Lanzhou**	**13.15**	**34**	⇓P		**P**		**13 37 42.0**	**-1.4**
LZH				AP				13 37 52.3	
LZH				AMB	AMB				
	comp=Z,730nm,4.0s								
LZH				LR	LR				
	comp=E,6μm,17.4s								
LZH				LR	LR				
	comp=Z,7μm,20.9s								
LGTI	**Lohaghat**	**13.49**	**290**	⇓*iP*		**P**		**13 37 46.2**	**-1.7**
LGTI				*e*				13 40 12.5	
PTH	**Pithoragarh**	**13.54**	**291**	*eP*		**P**		**13 37 45.5**	**-3.1**
PTH				*e*				13 40 07.6	
NNT	**Nongplab**	**13.63**	**159**	P		**P**		**13 37 56.0**	**+6.1**
ENH	**Enshi**	**13.87**	**66**	*ePn*		**P**		**13 37 51.6**	**-1.3**
	comp=Z,168nm,0.8s								
GTA	**Gaotai**	**14.54**	**16**	⇓P		**P**		**13 37 58.5**	**-3.1**
GTA				SCP				13 46 39.5	
GTA				SCS		ScS		13 50 16.0	-0.5
GTA				AMB	AMB				
	comp=Z,45nm,1.7s								
GTA				AMB	AMB				
	comp=Z,376nm,5.7s								
GTA				LR	LR				
	comp=N,511nm,12.5s								
GTA				LR	LR				
	comp=E,2μm,11.4s								
GTA				LR	LR				
	comp=Z,893nm,19.9s								
JHNI	**Jhansi**	**14.66**	**274**	*eP*		**P**		**13 38 00.0**	**-3.2**
JHNI				*e*				13 40 34.0	
NGP	**Nagpur**	**15.06**	**257**	*eP*		**P**		**13 38 06.9**	**-1.5**
NGP				*e*				13 40 44.0	
QIZ	**Qiongzhong**	**15.35**	**112**	P		**P**		**13 38 13.5**	**+1.4**
QIZ				XS				13 41 19.3	
QIZ				AMB	AMB				
	comp=Z,89nm,1.2s								
QIZ				LR	LR				
	comp=N,1μm,9.4s								
QIZ	**Qiongzhong**	**15.35**	**112**	*eP*		**P**		**13 38 15.4**	**+3.3**
	comp=N,142nm,1.3s								
DDI	**Dehra Dun**	**15.55**	**292**	*eP*		**P**		**13 38 11.2**	**-3.4**
DDI				*e*				13 40 53.8	
NDI	**New Delhi**	**15.96**	**286**	*eP*		**P**		**13 38 14.8**	**-5.1**
NDI				*e*				13 41 01.5	
BHPL	**Bhopal**	**15.96**	**266**	*eP*		**P**		**13 38 17.1**	**-2.8**
BHPL				*e*				13 41 06.4	
SMLA	**Simla**	**16.49**	**294**	*i*		**P**		**13 38 12.3**	**-14**
SMLA				*i*				13 41 05.3	
SDNR	**Sundarnagar**	**16.76**	**295**	*eP*		**P**		**13 38 26.5**	**-3.3**
SDNR				*eS*		**S**		**13 41 23.1**	**-10**
HYB	**Hyderabad**	**17.07**	**245**	*eP*		**P**		**13 38 34.5**	**+0.6**
HYB				*eS*		**S**		**13 41 41.0**	**+0.8**
HYB				pmax	pmax				
	comp=Z,220nm,1.0s								
HYB	**Hyderabad**	**17.07**	**245**	*eP*		**P**		**13 38 34.5**	**+0.6**
	comp=Z,220nm,1.0s								
HYB				*e*				13 41 29.0	
HYB				*eS*		**S**		**13 41 41.0**	**+0.8**
HYB	**Hyderabad**	**17.07**	**245**	*i* P		**P**		**13 38 34.5**	**+0.6**
	comp=Z,220nm,1.0s								
HYB				*e*				13 41 29.0	
HYB				*eS*		**S**		**13 41 41.0**	**+0.8**
GZH	**Guangzhou**	**17.10**	**94**	P		**P**		**13 38 38.0**	**+3.8**
BHK	**Bhakra**	**17.19**	**294**	*eP*		**P**		**13 38 33.3**	**-2.0**
BHK				*eS*		**S**		**13 41 32.5**	**-10**
DLH	**Dalhousie**	**17.88**	**298**	*eP*		**P**		**13 38 42.0**	**-1.9**
DLH				*eS*		**S**		**13 41 55.0**	**-3.2**
WHN	**Wuhan**	**18.01**	**69**	⇑P		**P**		**13 38 45.0**	**-0.5**
WHN				S		**S**		**13 42 08.0**	**+6.9**
WHN				LR	LR				
	comp=Z,1μm,13.6s								
AJM	**Ajmer**	**18.13**	**278**	⇓*iP*		**P**		**13 38 44.0**	**-2.9**
AJM				*i* S		**S**		**13 41 54.0**	**-10**
SNG	**Songkhla**	**19.02**	**162**	P		**P**		**13 39 03.0**	**+5.5**
WMQ	**Urumqi**	**19.20**	**344**	⇑*iP*		**P**		**13 38 59.8**	**+0.5**
WMQ				AP				13 39 11.0	
WMQ				PP	PP			13 39 19.5	+2.1
WMQ				S		**S**		**13 42 28.0**	**+0.4**
WMQ				XS				13 42 47.5	
WMQ				SS	SS			13 42 56.5	+0.7
WMQ				AMB	AMB				
	comp=Z,219nm,0.7s								
WMQ				AMB	AMB				
	comp=Z,880nm,3.9s								
WMQ				LR	LR				
	comp=N,3μm,11.7s								
WMQ				LR	LR				
	comp=E,6μm,12.2s								
WMQ				LR	LR				
	comp=Z,3μm,16.0s								
BTO	**Baotou**	**19.75**	**36**	*eP*		**P**		**13 39 03.8**	**-1.4**
BTO				S		**S**		**13 42 40.5**	**+1.4**
BTO				AMB	AMB				
	comp=Z,72nm,1.1s								
BTO				LR	LR				
	comp=N,249nm,4.3s								
BTO				LR	LR				
	comp=E,779nm,10.3s								
POO	**Poona**	**20.57**	**255**	*i* P		**P**		**13 39 14.0**	**0.0**
POO				*i* S		**S**		**13 42 54.0**	**-1.5**
HHC	**Hu-ho-hao-te**	**20.76**	**38**	*eP*		**P**		**13 39 15.5**	**-0.2**
HHC				AP				13 39 29.5	
HHC				XP				13 39 38.5	
HHC				PP	PP			13 39 40.0	+0.9
HHC				S		**S**		**13 42 58.0**	**-0.9**
HHC				XS				13 43 22.3	
HHC				SS	SS			13 43 33.5	-0.1
HHC				AMB	AMB				
	comp=Z,106nm,1.0s								
HHC				AMB	AMB				
	comp=Z,442nm,2.7s								
HHC				LR	LR				
	comp=N,882nm,13.1s								
HHC				LR	LR				
	comp=E,876nm,13.1s								
KULM	**Kulim**	**20.83**	**163**	*eP*		**P**		**13 39 17.1**	**+0.5**
KSH	**Kashi**	**21.10**	**316**	P		**P**		**13 39 19.8**	**+0.6**
KSH				*eAP*				13 39 33.5	
KSH				*eXP*				13 39 40.3	
KSH				*ePP*	PP			13 39 44.0	+0.2
KSH				*ePPP*	PPP			13 39 53.0	-0.8
KSH				*eS*		**S**		**13 43 03.5**	**-1.9**
KSH				*eXS*				13 43 24.8	
KSH				*ePCP*	PcP			13 43 27.8	+3.9
KSH				*eSS*	SS			13 43 37.5	-4.5
KSH				*eSCP*				13 46 56.0	
KSH				*ePCS*				13 47 01.5	
KSH				AMB	AMB				
	comp=Z,1μm,1.3s,mb6.0								
KSH				LR	LR				
	comp=N,2μm,7.3s								
KSH				LR	LR				
	comp=E,4μm,6.7s								
IPM	**Ipoh**	**21.61**	**163**	P		**P**		**13 39 26.3**	**+1.9**
TIA	**Tai'an**	**21.93**	**55**	*eP*		**P**		**13 39 25.0**	**-2.5**
GOA	**Goa**	**21.96**	**247**	*eS*		**S**		**13 43 25.4**	**+4.2**
NJ2	**Nanjing**	**22.09**	**67**	*eP*		**P**		**13 39 27.3**	**-1.8**
NJ2				LR	LR				
	comp=N,3μm,12.0s								
NJ2				LR	LR				
	comp=E,1μm,18.1s								
NJ2				LR	LR				
	comp=Z,590nm,12.2s								
BHJ	**Bhuj**	**22.98**	**270**	*eP*		**P**		**13 39 41.9**	**+4.0**
BHJ				*e*				13 39 57.8	
	comp=Z,194nm,1.0s								
BHJ				*eS*		**S**		**13 43 49.7**	**+10**
BJT	**Baijiatuau**	**23.04**	**46**	*eP*		**P**		**13 39 38.4**	**0.0**
BJT				pmax	pmax				
	comp=Z,30nm,0.8s								
BJT	**Baijiatuau**	**23.04**	**46**	*eP*		**P**		**13 39 38.4**	**0.0**
	comp=Z,30nm,0.8s,mb4.8								
BJI	**Beijing**	**23.06**	**46**	*eP*		**P**		**13 39 39.0**	**+0.5**
BJI				XP				13 40 03.0	
BJI				S		**S**		**13 43 45.3**	**+4.4**
BJI				AMB	AMB				
	comp=Z,42nm,1.2s,mb4.7								
BJI				LR	LR				
	comp=N,796nm,11.6s								
BJI				LR	LR				
	comp=E,491nm,11.9s								
BJI				LR	LR				
	comp=Z,205nm,26.0s								
KZA	**Kyzart**	**23.11**	**321**	P		**P**		**13 39 41.5**	**+2.5**
	SNR=26								
TKM2	**Tokmak 2**	**23.46**	**323**	P		**P**		**13 39 44.8**	**+2.4**
	SNR=96								
MKAR	**Makanchi Array**	**23.50**	**338**	P		**P**		**13 39 43.8**	**+1.2**
	comp=Z,84nm,0.7s,mb5.3,baz=150,slow=7.3,SNR=438								
MKAR				ScP				13 46 60.0	
	comp=Z,6.6nm,0.9s,baz=124,slow=4.4,SNR=9.3								
MKAR	**Makanchi Array**	**23.50**	**338**	P		**P**		**13 39 43.8**	**+1.2**
MKAR				ScP				13 46 60.0	
UCH	**Uchtor**	**23.63**	**320**	P		**P**		**13 39 46.6**	**+2.6**
	SNR=33								
KBK	**Karagaybulak**	**23.65**	**321**	P		**P**		**13 39 47.0**	**+2.9**
	SNR=24								
AAK	**Ala-Archa**	**23.89**	**321**	P		**P**		**13 39 49.3**	**+2.8**
	SNR=42								
AAK	**Ala-Archa**	**23.89**	**321**	P		**P**		**13 39 48.3**	**+1.8**
	comp=Z,302nm,1.5s,mb5.5,SNR=76								
AAK	**Ala-Archa**	**23.89**	**321**	*d iP*		**P**		**13 39 47.9**	**+1.4**
AAK				pmax	pmax				
	comp=Z,80nm,1.3s,mb5.0								
AAK	**Ala-Archa**	**23.89**	**321**	*eP*		**P**		**13 39 47.4**	**+0.9**
	comp=Z,118nm,1.3s,mb5.2								
SSE	**Sheshan**	**23.91**	**70**	P		**P**		**13 39 45.0**	**-1.8**
SSE				S		**S**		**13 43 58.5**	**+2.9**
SSE				AMB	AMB				
	comp=Z,30nm,0.8s,mb4.8								
SSE				AMB	AMB				
	comp=Z,131nm,7.6s								
SSE				LR	LR				
	comp=N,436nm,22.4s								
SSE				LR	LR				
	comp=E,131nm,22.3s								
SSE				LR	LR				
	comp=Z,226nm,25.5s								
TRD	**Trivandrum**	**23.91**	**228**	*eP*		**P**		**13 39 42.3**	**-4.6**
TRD				*e*				13 40 11.2	
	comp=Z,129nm,1.5s								
FRU	**Bishkek**	**23.95**	**321**	⇓*eP*		**P**		**13 39 50.0**	**+2.9**
FRU				*e*				13 40 04.0	
FRU				pmax	pmax				
	comp=Z,190nm,2.1s,mb5.2								
CHMS	**Chumysh**	**23.98**	**322**	P		**P**		**13 39 49.7**	**+2.4**
	SNR=18								
AML	**Almayashu**	**24.05**	**319**	P		**P**		**13 39 50.8**	**+2.8**
	SNR=42								
YHNB	**Yeheng**	**24.10**	**86**	*eP*		**P**		**13 39 48.4**	**-0.4**
SONM	**Songino Array**	**24.15**	**19**	P		**P**		**13 39 50.4**	**+1.4**
	comp=Z,61nm,0.8s,mb5.1,baz=198,slow=9.3,SNR=405								
SONM				ScP				13 47 00.6	
	comp=Z,8.5nm,1.0s,baz=180,slow=3.7,SNR=14								
SONM				LR	LR			13 50 24.6	
	comp=Z,469nm,21.6s,baz=207,slow=39								
USP	**Ospenovka**	**24.30**	**322**	P		**P**		**13 39 52.6**	**+2.2**
	SNR=37								
EKS2	**Erkin-Say**	**24.32**	**320**	P		**P**		**13 39 53.0**	**+2.3**
	SNR=53								
NACB	**Ninganchiao**	**24.37**	**87**	*eP*		**P**		**13 39 52.3**	**+0.9**
ULN	**Ulaanbaatar**	**24.38**	**20**	*eP*		**P**		**13 39 51.7**	**+0.5**
ULN				pmax	pmax				
	comp=Z,20nm,3.0s								
ULN	**Ulaanbaatar**	**24.38**	**20**	*eP*		**P**		**13 39 51.7**	**+0.5**
	comp=Z,20nm,3.0s								
KGM	**Kluang**	**24.72**	**159**	P		**P**		**13 39 55.9**	**+1.0**
ZAK	**Zakamensk**	**25.74**	**13**	⇑*iP*		**P**		**13 40 04.7**	**+0.6**
ZAK				pmax	pmax				
	comp=Z,66nm,1.3s,mb5.0								
ZAK				pmax	pmax				
	comp=Z,40nm,1.2s,mb4.8								
DL2	**Dalian**	**26.28**	**53**	P		**P**		**13 40 08.0**	**-1.3**
DL2				AMB	AMB				
	comp=Z,20nm,1.3s,mb4.5								
MOY	**Mondy**	**26.60**	**9**	*eP*		**P**		**13 40 13.4**	**+1.4**
MOY				pmax	pmax				
	comp=Z,69nm,2.2s,mb4.8								
TLY	**Talaya**	**27.05**	**12**	*eP*		**P**		**13 40 17.8**	**+1.6**
TLY				*e*				13 41 14.7	
TLY				*eS*		**S**		**13 44 48.0**	**+0.4**
TLY				pmax	pmax				
	comp=Z,22nm,1.1s,mb4.6								
TLY				MLR	MLR				
	comp=Z,123nm,10.0s								
TLY	**Talaya**	**27.05**	**12**	*eP*		**P**		**13 40 17.3**	**+1.2**
	comp=Z,27nm,1.1s,mb4.7								
IRK	**Irkutsk**	**27.70**	**13**	*eP*		**P**		**13 40 23.1**	**+1.0**
IRK				*e*				13 41 13.2	
IRK				pmax	pmax				
	comp=Z,95nm,2.2s,mb5.0								
KURK	**Kurchatov**	**28.11**	**338**	*d iP*		**P**		**13 40 26.0**	**+0.2**
KURK				pmax	pmax				
	comp=Z,32nm,0.8s,mb5.0								
KURK	**Kurchatov**	**28.11**	**338**	*eP*		**P**		**13 40 25.6**	**-0.2**
	comp=Z,63nm,0.8s,mb5.3								
KSM	**Kuching**	**28.16**	**145**	*eP*		**P**		**13 40 26.6**	**-0.1**
KKM	**Kota Kinabalu**	**28.17**	**130**	P		**P**		**13 40 26.5**	**-0.2**
OTRP	**Odiongan**	**28.81**	**112**	*eP*		**P**		**13 40 30.4**	**-2.1**
SNY	**Shenyang**	**28.83**	**48**	⇓P		**P**		**13 40 31.0**	**-1.3**
SNY				AMB	AMB				
	comp=Z,30nm,1.0s,mb5.0								
SNY				LR	LR				
	comp=N,640nm,13.5s								
SNY				LR	LR				
	comp=E,260nm,13.5s								
SNY				LR	LR				
	comp=Z,330nm,15.0s								
PVCP	**Virac**	**30.03**	**108**	*eP*		**P**		**13 40 41.9**	**-1.3**
JOW	**Kunigami**	**30.06**	**80**	LR		LR		13 53 26.6	
	comp=Z,416nm,19.6s,baz=263,slow=38								
NVS	**Novosibirsk**	**30.56**	**347**	⇓*iP*		**P**		**13 40 47.3**	**-0.3**
NVS				*i* *PP		pP		13 41 05.4	+2.5
NVS				*i* S		**S**		**13 45 41.7**	**-1.9**
NVS				pmax	pmax				
	comp=Z,133nm,1.0s,mb5.7								
NVS				pmax	pmax				
	comp=N,82nm,0.9s								
NVS				pmax	pmax				
	comp=E,43nm,0.8s								
NVS				smax					
	comp=N,50nm,1.7s								
NVS				smax					
	comp=E,66nm,2.0s								
HIA	**Hailar**	**30.70**	**33**	*eP*		**P**		**13 40 49.1**	**+0.2**
HIA				pmax	pmax				
	comp=Z,67nm,1.0s								
HIA	**Hailar**	**30.70**	**33**	*eP*		**P**		**13 40 49.0**	**+0.2**
	comp=Z,67nm,1.0s,mb5.4								
CN2	**Changchun**	**30.93**	**46**	*eP*		**P**		**13 40 49.3**	**-1.6**
CN2				*eAP*		pP		13 41 06.8	+0.5
CN2				*eXP*		sP		13 41 16.8	+3.0
CN2				*eS*		**S**		**13 45 38.3**	**-11**
CN2				AMB	AMB				
	comp=Z,20nm,1.5s,mb4.7								
CN2				AMB	AMB				
	comp=Z,240nm,5.0s								
CN2				LR	LR				
	comp=N,400nm,10.0s								
CN2				LR	LR				
	comp=E,400nm,10.0s								
CN2				LR	LR				
	comp=Z,400nm,10.0s								
DCPH	**Dipolog City**	**31.96**	**117**	*eP*		**P**		**13 41 00.0**	**-0.2**
BESP	**Borongan**	**32.08**	**110**	*eP*		pP		13 41 20.4	+3.6
MSLP	**Maasin**	**32.34**	**113**	*eP*		**P**		**13 41 03.9**	**+0.3**
PAGZ	**Pagadian**	**32.41**	**118**	*eP*		**P**		**13 41 04.4**	**+0.2**
SCPH	**Surigao**	**33.05**	**113**	⇑*eP*		**P**		**13 41 05.8**	**-4.0**
SCPH				*eS*		pP		13 41 17.1	-8.2
BVA0	**Borovoye Array**	**33.06**	**333**	*i* P		**P**		**13 41 09.6**	**+0.1**
BVA0				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.2								
CHKZ	**Chkalovo**	**33.45**	**334**	P		**P**		**13 41 13.3**	**+0.5**
CHKZ				pmax	pmax				
	comp=Z,44nm,0.9s,mb5.4								
BUTP	**Butuan**	**33.60**	**114**	*eP*		**P**		**13 41 06.6**	**-7.9**
BUKP	**Musuan**	**33.75**	**116**	*eP*		**P**		**13 41 15.3**	**-0.4**
MDJ	**Mudanjiang**	**33.98**	**47**	P		**P**		**13 41 15.8**	**-1.6**
MDJ				AP		pP		13 41 30.5	-2.5
MDJ				XP		sP		13 41 37.8	-2.9
MDJ				PP	PP			13 42 35.8	+3.0
MDJ				PCP	PcP			13 43 48.3	-6.2
MDJ				S		**S**		**13 46 38.0**	**+1.0**
MDJ				SCP				13 47 29.0	
MDJ				PCS				13 47 36.5	
MDJ				SCS		ScS		13 51 32.5	-0.7
MDJ				AMB	AMB				
	comp=Z,21nm,1.2s,mb4.9								
MDJ				AMB	AMB				
	comp=Z,67nm,4.6s								
MDJ				LR	LR				
	comp=N,358nm,35.4s								
MDJ				LR	LR				
	comp=E,132nm,36.8s								
MDJ				LR	LR				
	comp=Z,79nm,26.9s								
MDJ	**Mudanjiang**	**33.98**	**47**	*eP*		**P**		**13 41 15.4**	**-2.1**
	comp=Z,43nm,1.4s,mb5.2								
BOD	**Bodaibo**	**35.12**	**18**	⇑*iP*		**P**		**13 41 26.9**	**-0.2**
BOD				*e*				13 51 36.6	
BOD				pmax	pmax				
	comp=Z,37nm,1.1s,mb5.2								
MATI	**Mati**	**35.25**	**116**	*eP*		**P**		**13 41 22.5**	**-6.1**
KLR	**Kul'dur**	**37.23**	**41**	*eP*		**P**		**13 41 36.1**	**-8.8**
KLR				MLR	MLR				
	comp=E,500nm,13.0s								
KLR				MLR	MLR				
	comp=Z,600nm,13.0s								
CLNS	**Chul'man**	**38.10**	**27**	*d iP*		**P**		**13 41 53.4**	**+1.3**
CLNS				*e*PP		pP		13 42 00.5	-7.4
CLNS				*ePPP		PPP		13 43 41.0	-5.3
CLNS				*e*				13 44 02.2	
CLNS				*e*				13 47 41.4	
CLNS				*eSS		SS		13 50 28.3	+7.6
CLNS				pmax	pmax				
	comp=Z,28nm,0.8s,mb5.0								
CLNS				pmax	pmax				
	comp=N,11nm,0.6s								
CLNS				pmax	pmax				
	comp=E,14nm,0.7s								
CLNS				pmax	pmax				
	comp=Z,20nm,0.9s,mb4.8								
CLNS				pmax	pmax				
	comp=N,11nm,0.8s								
CLNS				pmax	pmax				
	comp=E,10.0nm,0.8s								
CLNS				MLR	MLR				
	comp=Z,200nm,14.0s								
CLNS				MLR	MLR				
	comp=N,100nm,12.0s								
CLNS				MLR	MLR				
	comp=E,100nm,14.0s								
MAT	**Matsushiro**	**38.55**	**63**	*eP*		**P**		**13 41 53.0**	**-3.1**
MAT	**Matsushiro**	**38.55**	**63**	P		**P**		**13 41 52.5**	**-3.6**
SVE	**Sverdlovsk**	**39.78**	**331**	⇓*iP*		**P**		**13 42 07.8**	**+1.7**
SVE				*e*		pP		13 42 25.9	+4.0
SVE				*e*				13 43 42.8	
SVE				pmax	pmax				
	comp=Z,140nm,1.5s,mb5.5								
ARU	**Arti**	**40.47**	**330**	⇓*iP*		**P**		**13 42 12.4**	**+0.6**
ARU				*e*				13 43 48.4	
ARU				*e*				13 44 10.2	
ARU				*ePPP	PPP			13 44 13.6	-3.9
ARU				*eS	

comp=Z,58nm,20.6s
YAK smax
comp=N,58nm,16.9s
YAK MLR MLR
comp=Z,163nm,21.0s
YAK MLR MLR
comp=N,60nm,18.0s
YAK MLR MLR
comp=E,79nm,18.0s
YAK Yakutsk 43.41 23 *e*P **P 13 42 35.2 -0.6**
comp=E,30nm,0.8s,mb5.1
YSS Yuzh-Sakhalins 43.45 48⇓ *e*P **P 13 42 35.2 -1.1**
YSS *e* 13 48 58.0
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.4
YSS Yuzh-Sakhalins 43.45 48 *e*P **P 13 42 35.5 -0.9**
comp=Z,88nm,1.3s,mb5.3
GNI Garni 43.97 302 *e*P **P 13 42 43.0 +2.4**
GNI pmax pmax
comp=Z,104nm,1.3s
GNI Garni 43.97 302 *e*P **P 13 42 43.0 +2.5**
comp=Z,104nm,1.3s,mb5.4
TI2 Plekhanov 44.09 304 *e*P **P 13 42 42.0 +0.5**
BHD Baghdad 44.25 292 *e*P **P 13 42 52.0 +9.0**
ZEI Tsey 44.82 306 *e*P **P 13 42 49.2 +1.8**
ZEI *i* *PP pP 13 43 06.1 +2.8
ZEI pmax pmax
comp=Z,28nm,0.9s,mb5.1
MSL Mosul 45.19 297 *e*P **P 13 42 40.5 -10**
GOF Gofitskoye 45.70 309⇑ *i*P **P 13 42 55.0 +0.6**
GOF pmax pmax
comp=Z,95nm,1.3s,mb5.6
KIV Kislovodsk 45.82 307 *d* *i*P **P 13 42 56.0 +0.7**
KIV *i* S **S 13 49 32.8 -1.0**
KIV *i* SS SS 13 52 43.5 -7.4
KIV pmax pmax
comp=Z,36nm,1.0s,mb5.3
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 45.82 307 *e*P **P 13 42 55.9 +0.6**
comp=Z,69nm,1.0s,mb5.5
ERZM Erzurum 46.55 302 *i*P **P 13 43 03.3 +2.1**
SOC Sochi 47.93 307 *e*P **P 13 43 10.2 -1.7**
SOC *e* 13 44 34.6
SOC *e* 13 45 00.6
SOC *e*PPP PPP 13 45 54.6 -0.5
SOC *e*S **S 13 50 05.5 +1.8**
SOC *e* 13 52 56.3
SOC *e*SSS SSS 13 54 50.9 +4.2
SOC pmax pmax
comp=Z,48nm,1.3s,mb5.4
SOC pmax pmax
comp=N,33nm,1.4s
SOC pmax pmax
comp=E,23nm,0.9s
GUMO Guam 48.42 94 P **P 13 43 16.3 +0.2**
MALT Malatya 48.84 300 *e*P **P 13 43 20.2 +1.2**
MALT pmax pmax
comp=Z,22nm,1.2s,mb5.1
MALT Malatya 48.84 300 *e*P **P 13 43 20.2 +1.2**
comp=Z,22nm,1.2s,mb5.1
VRSR Storozhevoye 49.17 317 *e*P **P 13 43 21.1 -0.3**
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRSR pmax pmax
comp=E,20nm,0.9s
VOR Voronezh 49.26 317 *e*P **P 13 43 22.0 0.0**
VOR *e**PP pP 13 43 29.0 -9.1
VOR pmax pmax
comp=E,130nm,1.0s
VOR pmax pmax
comp=Z,140nm,1.0s,mb6.0
GZT Gaziantep 49.57 298 *i*P **P 13 43 25.6 +0.9**
ANN Anapa 49.64 308 *e*P **P 13 43 19.9 -5.2**
ANN pmax pmax
comp=Z,29nm,1.3s,mb5.2
TIXI Tiksi 50.01 13 *e*P **P 13 43 24.6 -3.0**
TIXI *e* 13 45 20.0
TIXI *e*S **S 13 50 24.8 -7.6**
TIXI pmax pmax
comp=Z,38nm,0.9s,mb5.4
TIXI MLR MLR
comp=Z,101nm,13.0s
COBT Iskenderun 50.68 297 *i*P **P 13 43 33.7 +0.6**
MOS Moscow 50.95 322k *i*P **P 13 43 35.2 +0.3**
MOS *e* pP 13 43 51.1 0.0
MOS *e*S **S 13 50 43.1 -2.5**
MOS pmax pmax
comp=Z,200nm,1.2s,mb5.9
MOS pmax pmax
comp=Z,155nm,1.3s,mb5.8
MA2 Magadan 51.30 33 *e*P **P 13 43 37.2 -0.3**
MA2 S **S 13 50 52.5 +2.2**
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.1
MA2 Magadan 51.30 33 *e*P **P 13 43 36.0 -1.5**
comp=Z,48nm,1.1s,mb5.3
OBN Obninsk 51.42 321 *d* *i*P **P 13 43 38.2 -0.3**
OBN *e**PP pP 13 43 55.5 +0.9
OBN *e* 13 45 42.0
OBN pmax pmax
comp=Z,74nm,1.2s,mb5.5
OBN MLR MLR
comp=Z,100nm,26.0s
OBN Obninsk 51.42 321 *e*P **P 13 43 37.6 -0.8**
comp=Z,85nm,1.3s,mb5.5
BOYT Boyabat 51.46 304 *i*P **P 13 43 40.0 +1.0**
AVNT Avonos 51.62 300 *i*P **P 13 43 41.0 +0.8**
SIM Simferopol' 52.00 308 P **P 13 43 43.4 +0.4**
SIM pmax pmax
comp=Z,30nm,0.8s,mb5.3
MBWA Marble Bar 52.30 150 *e*P **P 13 43 44.1 -1.4**
comp=Z,121nm,0.7s,mb5.9
MEST Erdemli 52.36 298 *i*P **P 13 43 45.7 -0.1**
BRTR Keskin Array B 52.50 302 P **P 13 43 47.0 +0.2**
comp=Z,8.3nm,0.6s,mb4.8,baz=113,slow=7.3,SNR=44
BRTR pP pP 13 44 04.8 +1.7
comp=Z,9.6nm,0.7s,baz=117,slow=5.5,SNR=8.9
ELDT Eldivan 52.62 303 *i*P **P 13 43 48.3 +0.7**
EIL Elat 52.69 289 *e*P **P 13 43 47.6 -0.8**
comp=Z,33nm,1.0s,mb5.2
FITZ Fitzroy Crossi 52.70 142⇑ *i*P **P 13 43 47.4 -1.2**
comp=Z,42nm,0.8s,mb5.4
FITZ Fitzroy Crossi 52.70 142 LR LR 14 07 17.3
comp=Z,124nm,21.4s,baz=289,slow=37
KAKA Kakadu 52.79 132⇑ *i*P **P 13 43 47.1 -2.2**
comp=Z,42nm,0.9s,mb5.4
SGKT Sivrigoynuk 53.65 303 *i*P **P 13 43 55.7 +0.4**
PET Petropavlovsk 54.47 42 *e*P **P 13 44 00.6 -0.5**
PET *e**PP pP 13 44 18.5 +1.0
PET *e*S **S 13 51 35.9 +2.4**
PET pmax pmax
comp=Z,40nm,1.3s,mb5.2
PET pmax pmax
comp=Z,29nm,1.2s,mb5.1
PET smax
comp=N,100nm,16.9s
PET MLR MLR
comp=Z,100nm,17.0s
HENT Hendek 54.51 303 *i*P **P 13 44 01.0 -0.6**
ESKT Eskisehir 54.66 302 *i*P **P 13 44 01.7 -1.0**
ISP Isparta 55.11 300 *e*P **P 13 44 05.2 -0.8**
ISP pmax pmax
comp=Z,33nm,0.8s,mb5.4
ISP Isparta 55.11 300 *e*P **P 13 44 05.2 -0.8**
comp=Z,33nm,0.8s,mb5.4
AKASG Malin Array Be 55.39 315 P **P 13 44 06.8 -1.0**
comp=Z,21nm,0.7s,mb5.3,baz=79,slow=7.0,SNR=69
AKASG pP pP 13 44 24.6 +0.3
comp=Z,16nm,0.6s,baz=72,slow=6.1,SNR=10
LVZ Lovozero 55.52 337 *i*P **P 13 44 08.6 +0.1**
LVZ pmax pmax
comp=Z,110nm,1.1s,mb5.8
PUL Pulkovo 55.53 326⇓ *e*P **P 13 44 08.8 +0.1**
PUL pmax pmax
comp=N,105nm,0.6s
PUL pmax pmax
comp=Z,76nm,0.6s,mb5.9
PUL pmax pmax
comp=E,173nm,0.9s
KIS Kishinev 55.68 311 *e*P **P 13 44 08.0 -2.0**
KIS *e* pP 13 44 23.0 -3.4
KIS *e* 13 52 10.0

APA Apatity 55.87 336⇓ *i*P **P 13 44 11.0 -0.1**
APA *i* pP 13 44 28.6 +1.1
APA pmax pmax
comp=Z,52nm,1.0s,mb5.5
ULDT Uludag 55.91 303 *i*P **P 13 44 08.9 -2.9**
CFR Carcaliu 56.23 309 P **P 13 44 14.2 +0.2**
CFR Carcaliu 56.23 309⇑ P **P 13 44 13.9 -0.1**
MNK Minsk 56.37 320⇑ *e*P **P 13 44 12.0 -2.8**
HARR Harsova 56.41 308 P **P 13 44 15.5 +0.3**
BTOK Tokmak 56.80 302 *i*P **P 13 44 18.0 -0.1**
VRI Vrincioaia 57.18 310⇑ P **P 13 44 21.3 +0.6**
VSU Vasula 57.22 325 *d* *i*P **P 13 44 -0.4**
MLR Muntele Rosu 57.75 309 P **P 13 44 25.5 +0.8**
MLR Muntele Rosu 57.75 309⇓ P **P 13 44 25.2 +0.5**
KAF Kangasniemi 57.77 329 *ep* **P 13 44 23.4 -1.2**
comp=Z,27nm,1.1s,mb5.2,baz=93,slow=6.9
KAF Kangasniemi 57.77 329 *e*P **P 13 44 23.4 -1.2**
KAF pmax pmax
comp=Z,27nm,1.1s,mb5.2
FINES FINESS Array B 57.81 328 P **P 13 44 24.6 -0.3**
comp=Z,18nm,0.7s,mb5.2,baz=101,slow=9.7,SNR=116
FINES pP pP 13 44 42.0 +0.5
comp=Z,12nm,0.6s,baz=112,slow=10,SNR=7.3
SMG Samos 58.01 300 *e*P **P 13 44 34.0 +7.4**
SNX Sinaia 58.06 309 P **P 13 44 27.9 +1.0**
BURAR Bucovina Array 58.10 312⇑ P **P 13 44 26.9 -0.2**
KARP Karpathos 58.11 297 *e*P **P 13 44 27.0 -0.4**
RDO Rodhopi 58.51 304 *e*P **P 13 44 30.0 -0.1**
KDZ Kurdzhali 58.54 305 *e*P **P 13 44 31.0 +0.8**
KEV Kevo 58.68 338 *ep* **P 13 44 29.9 -0.9**
LVV L'vov 58.74 314 *i*P **P 13 44 31.0 -0.5**
LVV *e* 13 45 19.8
LVV *e* 13 46 40.4
LVV *e*S **S 13 52 28.8 -1.2**
LVV *e*SS SS 13 56 24.4 -1.2
PLD Plovdiv 59.01 305 *e*P **P 13 44 34.0 +0.5**
RZN Rozhen 59.05 305 *i*P **P 13 44 34.5 +0.7**
SUW Suwalki 59.09 319 *e*P **P 13 44 33.4 -0.5**
SUW MLR MLR 14 09 49.2
comp=Z,200nm,27.4s
ARCES ARCESS Array B 59.15 337 P **P 13 44 34.1 0.0**
comp=Z,23nm,0.8s,mb5.3,baz=90,slow=6.1,SNR=38
ARCES LR LR 14 12 50.7
comp=Z,132nm,20.6s,baz=64,slow=39
WRA Warramunga Arr 59.30 136 P **P 13 44 34.1 -1.6**
comp=Z,128nm,0.7s,mb6.0,baz=324,slow=7.4,SNR=721
WRAB Tennant Creek 59.30 136 P **P 13 44 34.0 -1.8**
comp=Z,1µm,0.8s,SNR=43
WRAB Tennant Creek 59.30 136 *c* *i*P **P 13 44 34.7 -1.1**
WRAB Tennant Creek 59.30 136 *e*P **P 13 44 34.4 -1.3**
comp=Z,231nm,0.8s,mb6.3
WB2 Warramunga Arr 59.30 136⇑ *i*P **P 13 44 34.9 -0.9**
SANT Santorini 59.32 299 *e*P **P 13 44 34.4 -1.4**
comp=Z,124nm,1.1s,mb5.8
SANT *ep*P pP 13 44 51.3 -1.0
PGB Panagyurishte 59.34 306 *e*P **P 13 44 37.0 +1.2**
NPS Neapolis 59.41 297 *e*P **P 13 44 36.5 +0.2**
XRY Khrisi 59.41 297 *e*P **P 13 44 36.2 -0.2**
KWP Kalwaria 59.61 314 *e*P **P 13 44 37.8 +0.2**
KWP MLR MLR 14 09 04.2
comp=Z,200nm,36.2s
BILL Bilibino 59.73 24 *d* *i*P **P 13 44 37.8 -0.4**
BILL *e*S **S 13 52 38.8 -3.8**
BILL pmax pmax
comp=Z,45nm,1.0s,mb5.5
BILL MLR MLR
comp=Z,200nm,20.0s
BILL Bilibino 59.73 24 *e*P **P 13 44 37.4 -0.8**
comp=Z,31nm,0.8s,mb5.4
MMB Musomiste 59.80 305 *e*P **P 13 44 39.0 0.0**
KTK1 Kautokeino 59.87 337⇓ *i*P **P 13 44 39.9 +0.8**
comp=Z,61nm,1.0s,mb5.6
KTK1 Kautokeino 59.87 337⇓ **P 13 44 39.9 +0.8**
KTK1 AMb AMB 13 44 41.3
comp=Z,61nm,1.0s,mb5.6
KOLS Kolonicke sedl 59.95 313 *i*P **P 13 44 39.7 -0.2**
KOLS *i* pP 13 45 01.1 +4.6
VTS Vitosha 60.04 306 *i*P **P 13 44 41.0 +0.4**
PLG Polygyros 60.20 303 *e*P **P 13 44 41.2 -0.5**
CRVS Cervenica-Dubn 60.49 313 *i*P **P 13 44 43.9 +0.3**
VAM Vamos 60.51 298 *e*P **P 13 44 43.5 -0.4**
GVD Gavdhos 60.72 297 *e*P **P 13 44 43.6 -1.7**
comp=Z,47nm,0.8s,mb5.7
KLBR Kellerberrin 60.83 158 *e*P **P 13 44 44.4 -1.8**
comp=Z,327nm,0.8s
KECS Kecovo 61.18 313 *e*P **P 13 44 47.6 -0.6**
NIE Niedzica 61.19 314 *e*P **P 13 44 47.0 -1.3**
KYTH Kithira 61.26 299 *e*P **P 13 44 48.0 -1.0**
OJC Ojcow 61.43 315 *e*P **P 13 44 49.6 -0.3**
SKO Skopje 61.43 306⇑ *i*P **P 13 44 49.5 -0.5**
SKO *i* 13 44 56.7
SKO *i* pP 13 45 06.7 0.0
TRO Tromso 61.45 337 *e*P **P 13 44 48.5 -1.3**
comp=Z,52nm,0.9s,mb5.7
TRO Tromso 61.45 337 *e*P **P 13 44 48.5 -1.3**
TRO AMb AMB 13 44 49.7
TRO comp=Z,52nm,0.9s,mb5.7
TRO *ep*P pP 13 45 07.0 +0.5
KMBO Kilima Mbogo 61.51 254 *e*P **P 13 44 52.6 +1.7**
KMBO *e**PP pP 13 45 10.4 +2.8
KMBO pmax pmax
comp=Z,16nm,0.8s
KMBO Kilima Mbogo 61.51 254 P **P 13 44 53.3 +2.4**
comp=Z,5.5nm,0.7s,mb4.8,baz=49,slow=12,SNR=13
KMBO pP pP 13 45 12.5 +4.9
comp=Z,16nm,0.9s,baz=42,slow=12,SNR=12
KMBO LR LR 14 13 35.3
comp=Z,117nm,18.8s,baz=92,slow=38
KMBO Kilima Mbogo 61.51 254 *e*P **P 13 44 52.6 +1.6**
comp=Z,16nm,0.8s,mb5.2
KMBO *ep*P pP 13 45 10.4 +2.8
PSZ Piszkesteto 61.64 312 *e*P **P 13 44 50.9 -0.5**
PSZ pmax pmax
comp=Z,29nm,1.4s,mb5.2
PSZ Piszkesteto 61.64 312 *e*P **P 13 44 50.9 -0.4**
comp=Z,29nm,1.4s,mb5.2
PSZ Piszkesteto 61.64 312⇑ *i*PcP **P 13 44 51.6 +0.2**
PMG Port Moresby 61.64 117 *e*P **P 13 44 50.8 -1.0**
PMG pmax pmax
comp=Z,78nm,0.8s
PMG Port Moresby 61.64 117 *e*P **P 13 44 50.8 -1.0**
comp=Z,78nm,0.8s,mb5.9
EVR Evrytania 61.70 302 *e*P **P 13 44 49.9 -2.0**
ASPA Alice Springs 61.82 139⇑ *i*P **P 13 44 52.0 -0.9**
ASAR Alice Springs 61.82 139 P **P 13 44 52.1 -0.8**
comp=Z,90nm,0.8s,mb6.0,baz=322,slow=7.0,SNR=807
ASAR pP pP 13 45 13.3 +3.7
comp=Z,16nm,0.7s,baz=322,slow=6.6,SNR=3.4
ASAR LR LR 14 14 18.3
comp=Z,81nm,18.3s,baz=316,slow=38
NWAO Narrogin (SRO) 61.88 159 *e*P **P 13 44 50.8 -2.4**
NWAO *e**PP pP 13 45 09.8 -0.1
NWAO pmax pmax
comp=Z,35nm,0.8s
NWAO Narrogin (SRO) 61.88 159 *e*P **P 13 44 50.8 -2.4**
comp=Z,35nm,0.8s,mb5.5
NWAO *ep*P pP 13 45 09.8 0.0
ITM Ithomi 61.95 300 *e*P **P 13 44 52.0 -1.6**
DIVS Divcibare 62.13 308⇑ *i*P **P 13 44 54.3 -0.4**
VYHS Vyhne 62.27 313 *i*P **P 13 44 55.3 -0.2**
VYHS *i* pP pP 13 45 13.0 +0.8
OKC Ostrava-Krasne 62.53 315 *e*P **P 13 44 57.3 0.0**
OKC *ep*P pP 13 45 15.0 +1.0
GKP Gorka Klasztor 62.67 319 *e*P **P 13 44 57.8 -0.4**
GKP MLR MLR
comp=Z,200nm,27.5s
GKP Gorka Klasztor 62.67 319 *e*P **P 13 44 57.9 -0.4**
GKP MLR MLR 14 12 09.4
comp=Z,200nm,27.5s
MORC Moravsky Berou 62.93 315 *e*P **P 13 44 59.2 -0.8**
MORC *e**PP pP 13 45 17.6 +0.9
MORC pmax pmax
comp=Z,18nm,0.8s,mb5.2
MORC Moravsky Berou 62.93 315 *e*P **P 13 44 59.2 -0.8**
comp=Z,18nm,0.8s,mb5.2
MORC *ep*P pP 13 45 17.6 +0.9
MOR8 Moi Rana 63.10 333 *e*P **P 13 44 59.7 -1.2**
comp=Z,62nm,1.8s,mb5.4
MOR8 Moi Rana 63.10 333 *e*P **P 13 44 59.7 -1.2**
MOR8 AMb AMB 13 45 02.6
comp=Z,62nm,1.8s,mb5.4
FX1 Attu Island--F 63.24 42 *e*P **P 13 45 01.3 -0.6**
ZST Bratislava 63.45 313 *i*P **P 13 45 03.5 +0.1**
ZST *i* pP 13 45 23.5 +3.3

KSP Ksiaz 63.57 316 *e*P **P 13 45 04.1 0.0**
KSP *e**PP pP 13 45 21.3 +0.4
KSP Ksiaz 63.57 316 *e*P **P 13 45 04.4 +0.2**
KSP MLR MLR 14 13 07.9
comp=Z,200nm,33.9s
DPC Dobruska-Polom 63.62 316 *e*P **P 13 45 05.0 +0.5**
DPC *ep*P pP 13 45 21.8 +0.5
UPC Upice 63.80 316 *e*P **P 13 45 05.8 +0.2**
UPC *ep*P pP 13 45 23.7 +1.3
FORT Forrest 64.36 148 *e*P **P 13 45 04.9 -4.7**
comp=Z,1µm,1.2s
ARSA Arzberg 64.67 312⇑ *i*P **P 13 45 11.0 -0.3**
comp=Z,13nm,0.7s,mb5.1
PVCC Panska Ves 64.70 316 *e*P **P 13 45 11.9 +0.4**
PVCC *ep*P pP 13 45 29.5 +1.2
PRU Pruhonice 64.81 315 *e*P **P 13 45 12.5 +0.3**
PRU *ep*P pP 13 45 30.2 +1.2
RUE Ruedersdorf 64.86 318 *e*P **P 13 45 12.0 -0.5**
comp=Z,46nm,0.9s,mb5.5
RUE *ep*P pP 13 45 30.3 +1.0
CRES Cresnjev 64.98 311⇓ *e*P **P 13 45 13.4 +0.1**
CRES *e* pP 13 45 31.0 +0.8
CRES *e* pP 13 45 34.2 +4.0
NB2 NORSAR Subarra 64.98 328 P **P 13 45 12.7 -0.4**
comp=Z,46nm,0.9s,mb5.5,baz=83,slow=6.5
NB2 NORSAR Subarra 64.98 328 P **P 13 45 12.7 -0.4**
NB2 pmax pmax
comp=Z,46nm,0.9s,mb5.5
NB2 NORSAR Subarra 64.98 328 P **P 13 45 12.7 -0.4**
baz=83,slow=6.5
NOA NORSAR Array B 64.98 328 P **P 13 45 12.6 -0.5**
comp=Z,25nm,0.8s,mb5.3,baz=83,slow=6.4,SNR=115
BRG Berggiesshubel 65.03 316 *i*P **P 13 45 13.9 +0.3**
BRG *i* pP 13 45 31.8 +1.3
BRG *i* 13 45 42.1
BRG pmax pmax
comp=Z,361nm,1.2s,mb6.3
BRG Berggiesshubel 65.03 316 *i*P **P 13 45 13.9 +0.3**
comp=Z,361nm,1.2s,mb6.3
BRG *i* pP 13 45 31.8 +1.3
BRG *i* 13 45 42.1
NAO01 NORSAR Array S 65.17 328 *e*P **P 13 45 13.4 -0.9**
comp=Z,27nm,1.0s,mb5.2
BOJS Bojanci 65.19 310⇓ *e*P **P 13 45 14.5 -0.2**
OSL Oslo 65.38 327 *e*P **P 13 45 15.9 +0.2**
comp=Z,104nm,0.9s,mb5.9
OSL Oslo 65.38 327 *e*P **P 13 45 15.9 +0.2**
OSL AMb AMB 13 45 16.9
comp=Z,104nm,0.9s,mb5.9
MOA Molln 65.39 313⇑ *i*P **P 13 45 15.8 -0.2**
comp=Z,34nm,1.0s,mb5.3
OBKA Obir 65.47 312⇓ *i*P **P 13 45 16.5 0.0**
comp=Z,18nm,0.9s,mb5.1
TIP Timpagrande 65.48 303 *e*P **P 13 45 15.1 -1.6**
CLL Collm 65.54 317⇓ *i*P **P 13 45 16.7 -0.2**
CLL pmax pmax
comp=Z,29nm,1.1s,mb5.2
CLL Collm 65.54 317⇓ *i*P **P 13 45 16.7 -0.2**
comp=Z,29nm,1.1s,mb5.2
CLL *i* pP 13 45 36.5 +2.8
CLL Collm 65.54 317 ⇓ P **P 13 45 16.7 -0.2**
comp=Z,logA/T=1.4,mb5.2
CLL *e* 13 45 26.0
CLL *i* *PP pP 13 45 36.5 +2.8
CLL *i* PCP PcP 13 45 48.3 +0.3
GEC2 GERESS Array S 65.56 314 *e*P **P 13 45 17.2 +0.1**
GEC2 pmax pmax
comp=Z,42nm,1.1s,mb5.4
GEC2 GERESS Array S 65.56 314 *e*P **P 13 45 17.2 +0.1**
comp=Z,42nm,1.1s,mb5.4
GERES GERESS Array B 65.56 314 P **P 13 45 17.4 +0.4**
comp=Z,20nm,0.7s,mb5.2,baz=76,slow=5.5,SNR=171
GERES pP pP 13 45 38.0 +4.1
comp=Z,15nm,0.7s,baz=74,slow=6.1,SNR=11
GERES LR LR 14 15 04.4
comp=Z,91nm,20.1s,baz=78,slow=37
LJU Ljubljana 65.58 311⇓ *e*P **P 13 45 17.2 0.0**
KHC Kasperske Hory 65.59 315 *e*P **P 13 45 17.1 -0.1**
KHC *ep*P pP 13 45 35.1 +1.0
KHC *ex* x 13 47 12.0
DOMB Dombas 65.86 329 *e*P **P 13 45 19.0 +0.3**
comp=Z,69nm,1.1s,mb5.6
DOMB Dombas 65.86 329 *e*P **P 13 45 19.0 +0.3**
DOMB AMb AMB 13 45 20.0
comp=Z,69nm,1.1s,mb5.6
DOMB *ep*P pP 13 45 36.7 +1.1
KONO Kongsberg 65.99 326 *e*P **P 13 45 18.5 -1.1**
KONO pmax pmax
comp=Z,42nm,1.2s,mb5.3
KONO Kongsberg 65.99 326 *e*P **P 13 45 18.5 -1.0**
comp=Z,42nm,1.2s,mb5.3
VOY Vojsko 66.01 311 *e*P **P 13 45 19.4 -0.6**
VOY *e* pP 13 45 37.3 +0.5
WET Wettzell 66.04 315 *e*P **P 13 45 20.2 +0.1**
WET pmax pmax
comp=Z,23nm,0.8s,mb5.3
WET Wettzell 66.04 315 *e*P **P 13 45 20.2 +0.1**
comp=Z,23nm,0.8s,mb5.3
NKC Novy Kostel 66.09 316 *e*P **P 13 45 20.5 +0.1**
NKC *ep*P pP 13 45 38.0 +0.7
KBA Koelnbreinsper 66.16 312⇑ *i*P **P 13 45 20.5 -0.4**
comp=Z,13nm,0.7s,mb5.1
KBA Koelnbreinsper 66.16 312⇑ *i*P **P 13 45 20.5 -0.4**
KBA pmax pmax
comp=Z,13nm,0.7s,mb5.1
PTCC Patocco-Chiusa 66.30 312 *e*P **P 13 45 21.0 -0.7**
MOL Molde 66.47 330⇓ *i*P **P 13 45 24.9 +2.3**
comp=Z,81nm,1.2s,mb5.6
MOL Molde 66.47 330⇓ *i*P **P 13 45 24.9 +2.3**
MOL AMb AMB 13 45 27.7
comp=Z,81nm,1.2s,mb5.6
MOL *ep*P pP 13 45 42.9 +3.4
MOX Moxa 66.53 316 *e*P **P 13 45 22.9 -0.2**
MOX pmax pmax
comp=Z,38nm,1.3s,mb5.3
MOX Moxa 66.53 316 *e*P **P 13 45 22.9 -0.2**
comp=Z,38nm,1.3s,mb5.3
MOX Moxa 66.53 316 *i*P **P 13 45 22.9 -0.2**
comp=Z,logA/T=1.5,mb5.3
MTTG Motta San Giov 66.58 302 *e*P **P 13 45 23.9 +0.2**
FVI Forni Avoltri 66.64 312 *e*P **P 13 45 23.0 -0.9**
BSEG Bad Segeberg 66.64 320 *e*P **P 13 45 24.3 +0.5**
CII Carovilli 66.70 307 *e*P **P 13 45 24.1 -0.2**
MUD Monsted U'grnd 66.79 323 *i*P **P 13 45 25.5 +0.8**
MUD pmax pmax
comp=Z,22nm,0.9s,mb5.2
MUD Monsted U'grnd 66.79 323 *i*P **P 13 45 25.5 +0.8**
comp=Z,22nm,0.9s,mb5.2
MBAR Mbarara 66.96 258 *e*P **P 13 45 26.8 +0.3**
MBAR pmax pmax
comp=Z,17nm,0.7s,mb5.2
MBAR Mbarara 66.96 258 *e*P **P 13 45 26.8 +0.3**
comp=Z,17nm,0.7s,mb5.2
GRA1 Grafenberg Arr 66.98 315 *e*P **P 13 45 26.6 +0.6**
comp=Z,107nm,1.7s,mb5.6
GRA1 *e* pP 13 45 44.2 +1.3
GRF Grafenberg Arr 66.98 315 *e*P **P 13 45 26.6 +0.6**
GRF *e* pP 13 45 44.2 +1.3
GRF pmax pmax
comp=Z,107nm,1.7s,mb5.6
CLZ Clausthal 67.04 318 *e*P **P 13 45 26.6 +0.3**
comp=Z,52nm,1.0s,mb5.5
SDI San Donato 67.06 307 *e*P **P 13 45 26.0 -0.7**
AQU L'Aquila 67.20 307 *e*P **P 13 45 27.2 -0.3**
AQU pmax pmax
comp=Z,92nm,1.2s,mb5.7
AQU L'Aquila 67.20 307 *e*P **P 13 45 27.2 -0.3**
comp=Z,92nm,1.2s,mb5.7
ARV Arcevia 67.25 309 *e*P **P 13 45 27.5 -0.3**
WTTA Wattenberg 67.25 313⇓ *i*P **P 13 45 27.2 -0.6**
comp=Z,25nm,0.7s,mb5.4
WTTA Wattenberg 67.25 313⇓ *i*P **P 13 45 27.2 -0.6**
WTTA pmax pmax
comp=Z,25nm,0.7s,mb5.3
WATA Walderalm 67.28 313⇑ *i*P **P 13 45 27.5 -0.4**
comp=Z,13nm,0.7s,mb5.1
WATA Walderalm 67.28 313⇑ *i*P **P 13 45 27.5 -0.4**
WATA pmax pmax
comp=Z,13nm,0.7s,mb5.1
PTQR Pietraquaria 67.28 307 *e*P **P 13 45 27.8 -0.3**
FUR Furstenfeldbru 67.28 314 *e*P **P 13 45 28.1 +0.2**
FUR pmax pmax
comp=Z,50nm,0.9s,mb5.5
FUR Furstenfeldbru 67.28 314 *e*P **P 13 45 28.1 +0.2**
comp=Z,50nm,0.9s,mb5.5

NRCA Norcia 67.29 308 *e*P **P** **13 45 28.0 0.0**
SNTG Esanatoglia 67.31 308 *e*P **P** **13 45 28.3 +0.1**
CTA Charters Tower 67.47 127⇑ *i*P **P** **13 45 28.9 -0.7**
comp=Z,34nm,0.9s,mb5.4
CTA Charters Tower 67.47 127⇑ *i*P **P** **13 45 28.9 -0.7**
CTA pmax pmax
comp=Z,34nm,0.9s
CTAO Charters Tower 67.47 127 *e*P **P** **13 45 28.5 -1.1**
CTAO *e**PP pP 13 45 49.1 +2.6
CTAO pmax pmax
comp=Z,81nm,1.1s,mb5.7
CTAO Charters Tower 67.47 127 *e*P **P** **13 45 28.5 -1.1**
comp=Z,81nm,1.1s,mb5.7
CTAO *e*pP pP 13 45 49.1 +2.6
SQTA Sankt Quirin 67.55 313⇓ *i*P **P** **13 45 28.9 -0.7**
comp=Z,22nm,0.6s,mb5.4
SQTA Sankt Quirin 67.55 313⇓ *i*P **P** **13 45 28.9 -0.7**
SQTA pmax pmax
comp=Z,22nm,0.6s,mb5.4
MOTA Moosalm 67.59 313⇑ *i*P **P** **13 45 29.6 -0.2**
comp=Z,1.2nm,0.8s
MOTA Moosalm 67.59 313⇑ *i*P **P** **13 45 29.6 -0.2**
MOTA pmax pmax
comp=Z,1.0nm,0.8s
MNS Montasola 67.71 308 *e*P **P** **13 45 29.7 -1.0**
SFI Santa Sofia 67.92 309 *e*P **P** **13 45 32.8 +0.8**
RUND Rundenannen 67.92 328 *e*P **P** **13 45 32.3 +0.6**
RUND AMb AMB 13 45 33.6
comp=Z,31nm,1.3s,mb5.2
PGD Poggio Sodo 68.01 309 *e*P **P** **13 45 33.6 +1.1**
VMG Vicchio 68.11 309 *e*P **P** **13 45 34.5 +1.3**
BRMO Bormio 68.28 312 *e*P **P** **13 45 33.7 -0.5**
DAVA Damuels 68.41 313⇓ *i*P **P** **13 45 34.8 -0.1**
comp=Z,32nm,0.8s,mb5.4
ZCCA Zocca 68.41 310 *e*P **P** **13 45 36.6 +1.6**
STU Stuttgart 68.48 315 *e*P **P** **13 45 35.3 -0.1**
STU pmax pmax
comp=Z,47nm,0.8s,mb5.6
STU Stuttgart 68.48 315 *e*P **P** **13 45 35.3 -0.1**
comp=Z,47nm,0.8s,mb5.6
TOD Tromm 68.53 316 *e*P **P** **13 45 36.3 +0.7**
TNS Taunus Mts 68.60 316 *e*P **P** **13 45 36.2 +0.1**
TNS pmax pmax
comp=Z,33nm,0.9s,mb5.3
TNS Taunus Mts 68.60 316 *e*P **P** **13 45 36.2 +0.1**
comp=Z,33nm,0.9s,mb5.3
SARO Sassorosso 68.85 310 P **P** **13 45 38.0 +0.3**
VLC Villacollemand 68.87 310 *e*P **P** **13 45 37.9 +0.1**
comp=Z,18nm,1.0s,mb5.0
SPAK Spaichingen 68.92 314 *e*P **P** **13 45 38.4 +0.3**
GRAM 69.00 310 P **P** **13 45 38.9 +0.2**
BACM 69.06 310 P **P** **13 45 38.8 -0.2**
BFO Black Forest 69.15 315 *e*P **P** **13 45 39.2 -0.3**
BFO pmax pmax
comp=Z,15nm,0.9s,mb4.9
BFO Black Forest 69.15 315 *e*P **P** **13 45 39.2 -0.3**
comp=Z,15nm,0.9s,mb4.9
CODM 69.18 310 P **P** **13 45 39.9 +0.1**
ABH Alteburg 69.25 316 *e*P **P** **13 45 40.7 +0.6**
LANF Langenberg 69.32 315 *e*P **P** **13 45 41.2 +0.7**
BOB Bobbio (Coli) 69.36 311 *e*P **P** **13 45 41.8 +1.0**
FELD Feldberg 69.48 314 *e*P **P** **13 45 41.7 +0.1**
VAI Varese 69.52 312 *e*P **P** **13 45 41.1 -0.7**
RUP Ruppelstein 69.60 316 *e*P **P** **13 45 43.3 +1.1**
WLS Welschbruch 69.76 315 *e*P **P** **13 45 43.6 +0.4**
CDF Champ du Feu 69.81 315 *e*P **P** **13 45 43.5 0.0**
comp=Z,42nm,0.8s,mb5.1
CDF *e*pP pP 13 46 01.2 +0.6
CDF Champ du Feu 69.81 315 *e*P **P** **13 45 43.5 0.0**
CDF *e**PP pP 13 46 01.2 +0.6
CDF pmax pmax
comp=Z,21nm,0.8s,mb5.1
BBS Basel-Blauen 69.92 314 *e*P **P** **13 45 44.2 0.0**
ECH Echery 69.94 315 *e*P **P** **13 45 44.5 +0.2**
MCGN Macugnaga 70.02 312 *e*P **P** **13 45 44.7 -0.2**
PCP Pian Castagno 70.04 311 P **P** **13 45 44.5 -0.5**
MOF Molkenrain 70.06 314 *e*P **P** **13 45 44.7 -0.3**
TNA Tin City 70.07 26 *e*P **P** **13 45 43.8 -1.0**
comp=Z,7.9nm,0.9s,mb4.6
WLF Walferdange 70.17 316 *e*P **P** **13 45 46.3 +0.6**
WLF *e**PP pP 13 46 04.5 +1.7
WLF pmax pmax
comp=Z,66nm,0.9s,mb5.6
WLF Walferdange 70.17 316 *e*P **P** **13 45 46.3 +0.6**
comp=Z,66nm,0.9s,mb5.6
WLF *e*pP pP 13 46 04.5 +1.7
HINF Hinteralfeld 70.25 314 *e*P **P** **13 45 45.9 -0.3**
comp=Z,26nm,0.9s,mb4.8
HINF Hinteralfeld 70.25 314 *e*P **P** **13 45 45.9 -0.3**
HINF pmax pmax
comp=Z,13nm,0.9s,mb4.9
PGF Pioggiola 70.29 308 *e*P **P** **13 45 46.4 -0.1**
comp=Z,50nm,0.7s,mb5.2
PGF Pioggiola 70.29 308 *e*P **P** **13 45 46.4 -0.1**
PGF pmax pmax
comp=Z,25nm,0.7s,mb5.2
FIN Finale Ligure 70.36 310 P **P** **13 45 46.0 -1.0**
LOMF Lomont 70.39 314 *e*P **P** **13 45 47.1 0.0**
HAU Haudompre 70.52 315 *e*P **P** **13 45 47.8 0.0**
comp=Z,48nm,1.0s,mb5.1
HAU *e*R
comp=Z,96nm,20.8s
HAU Haudompre 70.52 315 *e*P **P** **13 45 47.8 0.0**
HAU pmax pmax
comp=Z,24nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,100nm,20.8s
DAG Danmarks Havn 70.53 347⇓ *i*P **P** **13 45 47.0 -0.5**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
DAG Danmarks Havn 70.53 347⇓ *i*P **P** **13 45 47.0 -0.5**
comp=Z,5.2nm,0.8s,mb4.5
ROB Roburent 70.57 311 P **P** **13 45 47.9 -0.3**
IMI Imperia 70.67 310 *e*P **P** **13 45 49.3 +0.4**
THEF They Montfort 70.69 315 *e*P **P** **13 45 48.5 -0.4**
MONE Monesi 70.71 310 P **P** **13 45 48.9 -0.2**
LSD Ceresole Reale 70.72 312 P **P** **13 45 49.8 +0.7**
RSP Reno Superiore 70.74 312 P **P** **13 45 48.3 -0.9**
NEGI Negi 70.81 310 P **P** **13 45 49.3 -0.4**
BHB Bricherasio 70.83 311 P **P** **13 45 48.6 -1.1**
GIVF Givet 70.88 317 *e*P **P** **13 45 50.2 +0.2**
comp=Z,55nm,1.2s,mb5.1
GIVF *e*pP pP 13 46 08.1 +1.1
GIVF Givet 70.88 317 *e*P **P** **13 45 50.2 +0.2**
GIVF *e**PP pP 13 46 08.1 +1.1
GIVF pmax pmax
comp=Z,28nm,1.2s,mb5.1
SAOF Saorge 70.88 310 *e*P **P** **13 45 50.2 +0.1**
ENR Entracque 70.90 311 P **P** **13 45 49.6 -0.6**
FENE Fenestrelle 70.91 311 P **P** **13 45 49.6 -0.6**
VSL Villasalto 70.91 305 *e*P **P** **13 45 49.8 -0.6**
comp=Z,54nm,1.4s,mb5.3
STV2 Anna di Valdie 70.96 311 P **P** **13 45 49.2 -1.3**
STV Sta Anna Valdi 70.96 311 P **P** **13 45 49.4 -1.2**
AUTN L'Aution 70.96 310 *e*P **P** **13 45 51.3 +0.7**
LPG La Plagne 70.98 312 *e*P **P** **13 45 51.2 +0.5**
comp=Z,62nm,0.7s,mb5.3
LPG *e*pP pP 13 46 09.0 +1.2
LPG La Plagne 70.98 312 *e*P **P** **13 45 51.2 +0.5**
LPG *e**PP pP 13 46 09.0 +1.2
LPG pmax pmax
comp=Z,31nm,0.7s,mb5.3
LPL La Plagne 70.99 312 *e*P **P** **13 45 51.2 +0.5**
comp=Z,78nm,0.7s,mb5.4
LPL La Plagne 70.99 312 *e*P **P** **13 45 51.2 +0.5**
LPL pmax pmax
comp=Z,39nm,0.7s,mb5.5
SBF Sospel 71.00 310 *e*P **P** **13 45 50.7 -0.1**
comp=Z,53nm,0.9s,mb5.2
SBF Sospel 71.00 310 *e*P **P** **13 45 50.7 -0.1**
SBF pmax pmax
comp=Z,26nm,0.9s,mb5.2
PZZ Prazzo 71.04 311 P **P** **13 45 50.0 -1.0**
TOUF Mont Tournerai 71.08 310 *e*P **P** **13 45 52.1 +0.8**
CABF La Chapelle 71.09 313 *e*P **P** **13 45 51.4 +0.1**
comp=Z,39nm,1.0s,mb5.0
CABF La Chapelle 71.09 313 *e*P **P** **13 45 51.4 +0.1**
CABF pmax pmax
comp=Z,19nm,1.0s,mb5.0
RRL Cesana Torines 71.13 311 P **P** **13 45 51.4 -0.2**
BNI Bardonecchia 71.16 312 *e*P **P** **13 45 50.7 -1.1**
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.0
BNI Bardonecchia 71.16 312 *e*P **P** **13 45 50.7 -1.1**
comp=Z,18nm,0.9s,mb5.0
MVIF Mont Vial 71.18 310 *e*P **P** **13 45 52.4 +0.5**
MBDF Montbardon 71.19 311 *e*P **P** **13 45 51.3 -0.7**
comp=Z,41nm,0.6s,mb5.2
MBDF Montbardon 71.19 311 *e*P **P** **13 45 51.3 -0.7**
MBDF pmax pmax
comp=Z,21nm,0.6s,mb5.2
MEZF Maizieres J'vi 71.20 315 *e*P **P** **13 45 52.3 +0.3**
comp=Z,95nm,0.8s,mb5.5
MEZF *e*pP pP 13 46 10.1 +1.1
BAIF Baives 71.27 317 *e*P **P** **13 45 52.7 +0.4**
comp=Z,61nm,1.3s,mb5.1
BAIF Baives 71.27 317 *e*P **P** **13 45 52.7 +0.4**
BAIF pmax pmax
comp=Z,30nm,1.3s,mb5.1
CALN Calern 71.41 310 *e*P **P** **13 45 53.2 -0.1**
FRF La Foret Royal 71.63 310 *e*P **P** **13 45 54.4 -0.2**
comp=Z,57nm,1.0s,mb5.2
FRF La Foret Royal 71.63 310 *e*P **P** **13 45 54.4 -0.2**
FRF pmax pmax
comp=Z,29nm,1.0s,mb5.2
OG05 Jujurieux 71.68 313 *e*P **P** **13 45 55.6 +0.7**
ORIF Oris-en-Rattie 71.74 312 *e*P **P** **13 45 55.0 -0.2**
comp=Z,25nm,0.7s,mb4.9
ORIF *e*R
comp=Z,142nm,21.2s
LMR La Mourre 71.80 310 *e*P **P** **13 45 55.5 -0.1**
comp=Z,58nm,1.0s,mb5.2
LMR La Mourre 71.80 310 *e*P **P** **13 45 55.5 -0.1**
LMR pmax pmax
comp=Z,29nm,1.0s,mb5.2
STOF St-Étienne Org 72.01 311 *e*P **P** **13 45 57.9 +1.1**
TAVF Tavernes 72.02 310 *e*P **P** **13 45 57.5 +0.6**
VILF Villemus 72.19 311 *e*P **P** **13 45 58.6 +0.7**
PUYF Puyloubier 72.30 310 *e*P **P** **13 45 59.1 +0.6**
BERF Bertagne 72.37 310 *e*P **P** **13 45 59.8 +0.8**
STKA Stephens Creek 72.45 139 *e*P **P** **13 45 58.8 -0.9**
comp=Z,22nm,0.9s,mb5.1
STKA Stephens Creek 72.45 139 P **P** **13 45 59.4 -0.3**
comp=Z,39nm,1.0s,mb5.3,baz=324,slow=6.7,SNR=36
STKA LR LR 14 20 20.2
comp=Z,120nm,18.4s,baz=157,slow=38
SMF Signal de Mont 72.56 314 *e*P **P** **13 45 59.9 -0.1**
comp=Z,74nm,0.8s,mb5.3
SMF *e*pP pP 13 46 17.8 +0.7
SMF Signal de Mont 72.56 314 *e*P **P** **13 45 59.9 -0.1**
SMF *e**PP pP 13 46 17.8 +0.7
SMF pmax pmax
comp=Z,37nm,0.8s,mb5.4
PRAF Pradon 72.58 311 *e*P **P** **13 46 00.5 +0.3**
VIVF Saint-Julien-l 72.58 312 *e*P **P** **13 46 00.2 0.0**
comp=Z,45nm,0.9s,mb5.1
VIVF Saint-Julien-l 72.58 312 *e*P **P** **13 46 00.2 0.0**
VIVF pmax pmax
comp=Z,23nm,0.9s,mb5.1
SSF Saint Saulge 72.64 314 *e*P **P** **13 46 00.6 +0.1**
SSF *e**PP pP 13 46 18.5 +0.9
SSF pmax pmax
comp=Z,37nm,0.9s,mb5.3
SSF Saint Saulge 72.64 314 *e*P **P** **13 46 00.6 +0.1**
comp=Z,37nm,0.9s,mb5.3
SSF *e*pP pP 13 46 18.5 +0.9
AVF Avril sur Loir 72.83 314 *e*P **P** **13 46 01.7 +0.1**
comp=Z,58nm,0.9s,mb5.2
AVF Avril sur Loir 72.83 314 *e*P **P** **13 46 01.7 +0.1**
AVF pmax pmax
comp=Z,29nm,0.9s,mb5.2
PLDF La Plantade 72.92 313 *e*P **P** **13 46 02.7 +0.6**
HYF Humbligny 73.13 315 *e*P **P** **13 46 04.1 +0.7**
BGF Bois d'Agland 73.23 314 *e*P **P** **13 46 04.1 +0.1**
comp=Z,28nm,0.8s,mb4.9
BGF Bois d'Agland 73.23 314 *e*P **P** **13 46 04.1 +0.1**
BGF pmax pmax
comp=Z,14nm,0.8s,mb4.9
CMAH Djebel Manchou 73.29 303 P **P** **13 46 05.0 +0.5**
LASF Ste Croix 73.38 311 *e*P **P** **13 46 05.4 +0.5**
comp=Z,62nm,0.9s,mb5.2
LBL Lubilhac 73.41 313 *e*P **P** **13 46 06.0 +1.0**
TCF Toulx Ste Croi 73.74 314 *e*P **P** **13 46 07.5 +0.6**
comp=Z,57nm,0.9s,mb5.2
TCF *e*pP pP 13 46 25.5 +1.4
TCF Toulx Ste Croi 73.74 314 *e*P **P** **13 46 07.5 +0.6**
TCF *e**PP pP 13 46 25.5 +1.4
TCF pmax pmax
comp=Z,28nm,0.9s,mb5.2
ESK Eskdalemuir 73.79 324 *e*P **P** **13 46 06.8 -0.3**
ESK pmax pmax
comp=Z,27nm,0.8s,mb5.2
ESK Eskdalemuir 73.79 324 *e*P **P** **13 46 06.8 -0.3**
comp=Z,27nm,0.8s,mb5.2
CKFL Kef-Lekhel 73.89 303 P **P** **13 46 07.0 -1.1**
CTEI Djebel Teioual 74.25 303 P **P** **13 46 09.0 -1.1**
CAF Calviac 74.30 313 *e*P **P** **13 46 10.9 +0.6**
comp=Z,42nm,0.8s,mb5.1
CAF Calviac 74.30 313 *e*P **P** **13 46 10.9 +0.6**
CAF pmax pmax
comp=Z,21nm,0.8s,mb5.1
LDF La Druitiere 74.42 317 *e*P **P** **13 46 10.9 0.0**
comp=Z,39nm,1.0s,mb5.0
LDF *e*pP pP 13 46 29.0 +0.9
LDF La Druitiere 74.42 317 *e*P **P** **13 46 10.9 0.0**
LDF *e**PP pP 13 46 29.0 +0.9
LDF pmax pmax
comp=Z,20nm,1.0s,mb5.0
DFRA Djebel Bou Aff 74.48 303 P **P** **13 46 10.0 -1.5**
RJF Les Rejaudoux 74.53 313 *e*P **P** **13 46 12.4 +0.8**
comp=Z,81nm,1.0s,mb5.3
RJF *e*R
comp=Z,96nm,22.2s
RJF Les Rejaudoux 74.53 313 *e*P **P** **13 46 12.4 +0.8**
RJF pmax pmax
comp=Z,41nm,1.0s,mb5.3
RJF MLR MLR
comp=Z,100nm,22.2s
SCO Scoresbysund 74.57 342 *i* P **P** **13 46 12.2 +0.9**
SCO *i* pP 13 46 31.2 +2.7
SCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
SCO Scoresbysund 74.57 342 *i* P **P** **13 46 12.2 +0.9**
comp=Z,3.9nm,1.0s,mb4.3
SCO *i* pP 13 46 31.2 +2.7
FLN La Foliniere 74.58 317 *e*P **P** **13 46 11.9 +0.1**
FLN *e*R
comp=Z,118nm,19.8s
MTLF Montolieu 74.75 311 *e*P **P** **13 46 13.2 +0.3**
comp=Z,46nm,0.8s,mb5.1
MTLF Montolieu 74.75 311 *e*P **P** **13 46 13.2 +0.3**
MTLF pmax pmax
comp=Z,23nm,0.8s,mb5.2
GRR Gorron 74.95 317 *e*P **P** **13 46 14.0 +0.1**
GRR *e*pP pP 13 46 32.3 +1.2
SET Setif 74.96 303 P **P** **13 46 11.0 -3.2**
MFF Saint Martin d 75.15 315 *e*P **P** **13 46 15.4 +0.3**
comp=Z,20nm,0.9s,mb4.7
MFF Saint Martin d 75.15 315 *e*P **P** **13 46 15.4 +0.3**
MFF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
LFF La Frestale 75.18 313 *e*P **P** **13 46 16.0 +0.7**
comp=Z,52nm,1.0s,mb5.1
LFF La Frestale 75.18 313 *e*P **P** **13 46 16.0 +0.7**
LFF pmax pmax
comp=Z,26nm,1.0s,mb5.1
IMA Indian Mountai 75.23 23 *e*P **P** **13 46 15.5 +0.3**
EMIR Miracle 75.74 310 P **P** **13 46 19.3 +0.7**
comp=Z,34nm,0.8s,mb5.3
SGMF Saint Gilles 76.06 317 *e*P **P** **13 46 20.8 +0.6**
comp=Z,27nm,0.9s,mb4.9
SGMF Saint Gilles 76.06 317 *e*P **P** **13 46 20.8 +0.6**
SGMF pmax pmax
comp=Z,14nm,0.9s,mb4.9
EPF Esparros 76.14 311 *e*P **P** **13 46 20.3 -0.5**
comp=Z,16nm,1.0s,mb4.6
EPF Esparros 76.14 311 *e*P **P** **13 46 20.3 -0.5**
EPF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
EPOB Poblet 76.26 309 P **P** **13 46 21.2 -0.3**
comp=Z,30nm,0.9s,mb5.2
EBIE Bielsa 76.41 311 P **P** **13 46 23.3 +1.0**
comp=Z,8.4nm,0.9s,mb4.7
ROSF Rostrenen 76.47 317 *e*P **P** **13 46 23.0 +0.5**
ROSF *e*pP pP 13 46 41.4 +1.6
ETSF Etsaut 76.80 311 *e*P **P** **13 46 25.3 +0.7**
comp=Z,30nm,0.8s,mb5.0
ETSF Etsaut 76.80 311 *e*P **P** **13 46 25.3 +0.7**
ETSF pmax pmax
comp=Z,15nm,0.8s,mb5.0
EBR Ebro Roquetas 76.86 309 *e*PCP PcP 13 46 36.5 +0.3
SVW2 Sparrevohn 76.94 28 *e*P **P** **13 46 25.7 +0.8**
SJPF Ste Jean 77.17 312 *e*P **P** **13 46 27.6 +1.0**
ESAC San Caprasio 77.19 310 P **P** **13 46 26.9 +0.1**
comp=Z,26nm,0.6s,mb5.3
SUMG Summit 77.22 347 *e*P **P** **13 46 26.9 +0.6**
comp=Z,38nm,1.0s,mb5.3
SUMG *e*pP pP 13 46 45.9 +2.3
EMOS Mosqueruela 77.72 309 P **P** **13 46 29.7 0.0**
comp=Z,50nm,1.6s,mb5.2
ARMA Armidale 77.79 132 *e*P **P** **13 46 31.5 +1.2**
COLA College 77.93 23 *e*P **P** **13 46 30.9 +0.6**
MCK McKinley 78.19 24 *e*P **P** **13 46 31.2 -0.6**
MCK pmax pmax
comp=Z,11nm,0.8s,mb4.8
MCK McKinley 78.19 24 *e*P **P** **13 46 31.2 -0.5**
comp=Z,11nm,0.8s,mb4.8
ELAN Lanestosa 78.61 312 P **P** **13 46 39.1 +4.6**
comp=Z,54nm,1.3s,mb5.3
TOO Toolangi 78.75 141 *e*P **P** **13 46 35.6 +0.2**
comp=Z,1.5nm,0.9s
TOO Toolangi 78.75 141 *e*P **P** **13 46 35.6 +0.2**
TOO pmax pmax
comp=Z,2.0nm,0.9s
PWA Palmer West 79.00 26 *e*P **P** **13 46 36.1 -0.1**
ETOB Tobarra 79.16 308 P **P** **13 46 37.4 -0.3**
comp=Z,152nm,2.3s,mb5.5
EMUR La Murta 79.27 307 P **P** **13 46 38.0 -0.3**
comp=Z,108nm,2.0s,mb5.4
PMR Palmer 79.32 26 *e*P **P** **13 46 37.8 -0.2**
CNB Canberra Magne 79.50 137 *e*P **P** **13 46 39.6 +0.1**
comp=Z,538nm,1.1s
SML Sawmill 79.51 26 *e*P **P** **13 46 39.0 -0.1**
THY Trims Highway 79.53 23 *e*P **P** **13 46 39.3 +0.2**
EARI Arriondas 79.76 313 P **P** **13 46 44.3 +3.5**
comp=Z,65nm,1.6s,mb5.3
EVIA Vianos 79.85 308 P **P** **13 46 42.3 +0.9**
EVIA pmax pmax
comp=Z,17nm,1.0s,mb4.9
EVIA Vianos 79.85 308 P **P** **13 46 42.3 +0.9**
comp=Z,17nm,1.0s,mb4.9
RES Resolute Bay 79.90 3 *e*P **P** **13 46 40.7 -0.2**
RES pmax pmax
comp=Z,11nm,1.0s,mb4.7
RES Resolute Bay 79.90 3 *e*P **P** **13 46 40.7 -0.3**
comp=Z,11nm,1.0s,mb4.8
INK Inuvik 80.02 16 *e*P **P** **13 46 41.3 -0.4**
INK pmax pmax
comp=Z,63nm,1.2s
INK Inuvik 80.02 16 *e*P **P** **13 46 41.3 -0.4**
comp=Z,63nm,1.2s,mb5.4
EHUE Huescar 80.25 307 P **P** **13 46 43.8 +0.3**
EHUE pmax pmax
comp=Z,20nm,1.5s,mb4.8
EHUE Huescar 80.25 307 P **P** **13 46 43.8 +0.3**
comp=Z,20nm,1.5s,mb4.8
ENIJ Nijar 80.32 306 P **P** **13 46 45.7 +1.8**
ENIJ pmax pmax
comp=Z,14nm,0.7s,mb5.0
ENIJ Nijar 80.32 306 P **P** **13 46 45.7 +1.7**
comp=Z,14nm,0.7s,mb5.0
ESDC Sonseca Array 80.45 309 P **P** **13 46 44.7 +0.2**
comp=Z,2.8nm,0.7s,mb4.3,baz=45,slow=4.8,SNR=18
ESDC pP pP 13 47 03.6 +1.7
comp=Z,3.5nm,0.7s,baz=56,slow=5.1,SNR=8.1
ESDC PP PP 13 49 49.5 -0.2
comp=Z,1.4nm,0.8s,baz=60,slow=8.5,SNR=4.5
ESDC Sonseca Array 80.45 309 P **P** **13 46 45.0 +0.5**
comp=Z,3.2nm,0.7s,mb4.4
MENT Mentasta 80.56 23 *e*P **P** **13 46 45.1 +0.5**
EQES Quesada 80.60 307 P **P** **13 46 45.1 -0.3**
comp=Z,50nm,1.1s,mb5.4
EBER Berja 80.85 306 P **P** **13 46 47.5 +0.7**
comp=Z,56nm,1.1s,mb5.4
DIV Divide 80.91 25 *e*P **P** **13 46 46.9 +0.4**
comp=Z,37nm,0.7s,mb5.4
EYAK Cordova Ski Ar 81.27 26 *e*P **P** **13 46 48.9 +0.5**
DAWY Dawson 81.30 21 *e*P **P** **13 46 48.7 +0.2**
EADA Adamuz 81.53 308 P **P** **13 46 50.4 +0.2**
comp=Z,186nm,2.5s,mb5.6
ELUQ Luque 81.56 307 P **P** **13 46 51.8 +1.3**
comp=Z,2.4nm,0.6s,mb4.3
ECAB El Cabril 82.16 308 P **P** **13 46 54.1 +0.6**
comp=Z,98nm,1.9s,mb5.4
MTE Manteigas 82.60 311 *e*pP pP 13 47 14.8 +1.7
PCBR Castelo Branco 82.81 311 *e*pP pP 13 47 16.2 +2.0
EBAD Badajoz 82.98 310 P **P** **13 46 58.6 +0.9**
comp=Z,101nm,2.4s,mb5.4
EMIN Mina Concepcio 83.19 309 P **P** **13 46 59.3 +0.6**
comp=Z,118nm,2.2s,mb5.5
LBTB Lobatse 83.58 239 *e*P **P** **13 47 02.0 +1.0**
comp=Z,38nm,0.8s,mb5.6
LBTB *e*pP pP 13 47 21.0 +2.5
PBEJ Beja 83.91 309 *e*pP pP 13 47 22.2 +2.3
DZM Mont Dzumac 84.03 118 P **P** **13 47 04.1 +0.7**
comp=Z,6.4nm,0.7s,mb4.9,baz=47,slow=3.3,SNR=9.6
SFJD Kangerlussuaq 84.22 347 *i* P **P** **13 47 03.3 +0.1**
SFJD pmax pmax
comp=Z,19nm,0.9s,mb5.2
SFJD Kangerlussuaq 84.22 347 *i* P **P** **13 47 03.3 +0.1**
comp=Z,19nm,0.9s,mb5.2
SFJD *i* pP 13 47 23.4 +2.7
PTEO Sao Teotonio 84.73 309 *e*pP pP 13 47 26.6 +2.6
BOSA Boshof 85.73 236 P **P** **13 47 12.8 +1.1**
comp=Z,4.1nm,0.9s,mb4.7,baz=45,slow=5.3,SNR=6.3
BOSA LR LR 14 24 35.2
comp=Z,137nm,18.9s,baz=160,slow=35
BOSA Boshof 85.73 236 *e*P **P** **13 47 11.9 +0.3**
comp=Z,30nm,0.9s,mb5.5
TSUM Tsumeb 87.15 247 *e*P **P** **13 47 19.4 +0.6**
comp=Z,2.8nm,0.6s,mb4.7
DLBC Dease Lake 88.50 22 *e*P **P** **13 47 25.4 +1.1**
YKW3 Yellowknife Ar 89.20 13 *e*P **P** **13 47 27.0 -0.6**
YKA Yellowknife Ar 89.26 13 P **P** **13 47 28.2 +0.4**
comp=Z,5.8nm,1.0s,mb4.9,baz=328,slow=4.3,SNR=51
YKA PP PP 13 50 57.2 -4.0
comp=Z,1.9nm,0.7s,baz=333,slow=8.0,SNR=8.9
YKA PKKPbc 14 05 03.1
comp=Z,0.1nm,0.5s,baz=156,slow=2.4,SNR=5.7
YKA Yellowknife Ar 89.26 13 P **P** **13 47 28.2 +0.4**
YKA PP PP 13 50 57.2 -4.0
YKA PKKPbc 14 05 03.1
FCC Fort Churchill 95.78 5 *e*P **P** **13 47 57.4 -0.5**
comp=Z,5.9nm,1.2s,mb4.9
FCC *e*pP pP 13 48 15.8 +0.2
DBIC Dimbokro 95.79 280 P **P** **13 47 58.8 -0.2**
comp=Z,1.5nm,0.5s,mb4.7,baz=96,slow=3.9,SNR=4.7
SCHQ Schefferville 98.49 349 P **P** **13 48 09.8 -0.5**
comp=Z,2.1nm,0.8s,mb4.7,baz=335,slow=2.1,SNR=4.5
SCHQ LR LR 14 34 58.8
comp=Z,54nm,20.6s,baz=77,slow=37
SCHQ Schefferville 98.49 349 P **P** **13 48 09.8 -0.5**
SCHQ LR LR 14 34 58.8
PDAR Pinedale Array 108.50 19 PKiKP 13 53 00.2
comp=Z,0.5nm,0.8s,baz=45,slow=2.1,SNR=4.4
PDAR PKKPab 14 04 43.0
comp=Z,0.5nm,0.7s,baz=153,slow=6.0,SNR=4.9
MIAR Mount Ida 119.80 8 *e*PKP PKPdf 13 53 22.9 +1.6
GDL2 Guadalupe Moun 119.83 19 PKP PKPdf 13 53 22.5 +1.0
MNTX Cornudas Mount 119.99 20 *e*PKP PKPdf 13 53 23.1 +1.3
JCT Junction City 122.65 15 PKP PKPdf 13 53 28.3 +1.3
TXAR Lajitas Array 122.72 19 PKP PKPdf 13 53 29.2 +2.1
comp=Z,0.8nm,0.6s,baz=195,slow=0.8,SNR=8.7
TXAR pPKP 13 53 49.5
comp=Z,4.2nm,0.9s,baz=270,slow=1.3,SNR=11
SDV Santo Domingo 143.02 336 PKhKP 13 54 03.8
comp=Z,24nm,0.7s,baz=25,slow=3.5,SNR=14
SDV Santo Domingo 143.02 336 *e*PKP PKPdf 13 54 03.0 -2.3
BAO Brasilia Array 143.89 278 P PKPbc 13 54 07.0 +1.1
BDFB Brasilia 143.91 278 PKP PKPdf 13 54 07.4 +0.6
comp=Z,3.3nm,0.7s,baz=47,slow=5.0,SNR=6.7
ROSC El Rosal 148.06 339 PKPbc PKPdf 13 54 17.5 +3.6
comp=Z,51nm,0.6s,baz=108,slow=14,SNR=28
USHA Ushuaia 148.15 198 PKPbc PKPdf 13 54 18.1 +5.2
comp=Z,13nm,0.9s,baz=294,slow=15,SNR=3.0
USHA pPKPbc 13 54 39.9
comp=Z,24nm,1.1s,baz=63,slow=7.1,SNR=2.8
OTAV Otavalo 153.63 345 *e*PKP PKPdf 13 54 26.4 +4.0
SIV San Ignacio 155.56 288 PKP PKPdf 13 54 27.8 +3.0
comp=Z,0.7nm,0.8s,baz=81,slow=8.4,SNR=4.3
PLCA Paso Flores 160.47 215 PKP PKPdf 13 54 33.8 +3.7
comp=Z,2.3nm,0.9s,baz=60,slow=1.9,SNR=4.1
PLCA pPKP 13 54 54.8
comp=Z,4.5nm,1.0s,baz=252,slow=4.1,SNR=5.2
LPAZ La Paz 161.62 296 PKP PKPdf 13 54 35.7 +3.8

comp=Z,1.4nm,0.9s,baz=127,slow=1.9,SNR=5.2
LPAZ pPKP 13 54 55.7
comp=Z,3.1nm,0.9s,baz=59,slow=7.7,SNR=5.6
CFAA Coronel Fontan 163.87 244 PKP PKPdf 13 54 37.3 +3.6
comp=Z,0.8nm,0.8s,baz=300,slow=1.1,SNR=14
CFAA pPKP 13 54 58.2
comp=Z,0.6nm,0.9s,baz=17,slow=2.2,SNR=2.3
CFAA Coronel Fontan 163.87 244 PKP PKPdf 13 54 37.3 +3.6
CFAA pPKP 13 54 58.2

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*MOS **25** 14:02:45.2±1.0,35.53N×89.32E,h33km,mb4.7/21,Error ellipse: s-maj=12.3km s-min=7.5km az=98.7*
*IDC **25** 14:02:46.9±7.5,35.43N×89.46E,h34km±56km,mb3.9/12, mb1 4.1/14,mb1mx4.0/19,mbtmp4.1/14,ML3.7/2,MS3.7/7, Ms1 3.7/7,ms1mx3.4/22,Error ellipse: s-maj=36.9km s-min=16.9km az=39.0*
*BJI **25** 14:02:48.3,35.65N×89.42E,h85km,mB5.0,mb4.3,Ms4.4, Msz4.1*
*NEIC **25** 14:02:53.1±1.1,35.61N×89.48E,h87km±10km,mb4.5/21, Error ellipse: s-maj=9.2km s-min=6.0km az=215.0*
ISC 25 14:02:51.2±0.3,35.68N±0.05×89.58E±0.05,h85km,n96, σ1§13/95,mb4.3/32,1C,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.11**	**167**	*e*	**P**		**P**	**14 04 21.1**	**+0.6**
LSA						pmax	pmax		
	comp=Z,32nm,1.2s								
LSA	**Lhasa**	**6.11**	**167**	*e*	**Pn**		**P**	**14 04 21.1**	**+0.5**
	comp=Z,32nm,1.2s								
GTA	**Gaotai**	**8.94**	**62**	*e*	**P**		**P**	**14 04 58.0**	**-1.4**
GTA					AP			14 05 02.8	
GTA					S		**S**	**14 06 37.5**	**-1.8**
GTA					AMB		AMB		
	comp=Z,5.0nm,0.8s								
GTA					AMB		AMB		
	comp=Z,192nm,5.4s								
GTA					LR		LR		
	comp=N,2μm,14.9s								
GTA					LR		LR		
	comp=E,1μm,9.9s								
GTA					LR		LR		
	comp=Z,989nm,7.6s								
JOSI	**Joshimath**	**9.83**	**242**	*e*		**P**		**14 04 56.2**	**-15**
JOSI				*e*				14 06 54.2	
SMLA	**Simla**	**11.32**	**250**	*i*		**P**		**14 05 36.8**	**+5.3**
SMLA				*i*				14 07 09.4	
KSH	**Kashi**	**11.45**	**294**	P		**P**		**14 05 28.3**	**-5.0**
KSH				*e*AP				14 05 37.5	
KSH				AMB		AMB			
	comp=Z,540nm,4.7s								
MKAR	**Makanchi Array**	**12.38**	**336**	Pn		**P**		**14 05 40.7**	**-4.9**
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=10								
MKAR				LR		LR		14 10 38.1	
	comp=Z,232nm,19.5s,baz=221,slow=38								
AAK	**Ala-Archa**	**13.60**	**305**	*e*	**P**		**P**	**14 06 02.1**	**+0.6**
AAK				pmax		pmax			
	comp=Z,14nm,1.1s								
AAK	**Ala-Archa**	**13.60**	**305**	*e*	**P**		**P**	**14 06 02.1**	**+0.5**
	comp=Z,14nm,1.1s								
XAN	**Xi'an**	**15.96**	**90**	P		**P**		**14 06 29.5**	**-2.4**
XAN				AMB		AMB			
	comp=Z,14nm,1.0s								
XAN				LR		LR			
	comp=N,250nm,7.0s								
XAN				LR		LR			
	comp=E,274nm,8.3s								
XAN				LR		LR			
	comp=Z,317nm,6.7s								
KURK	**Kurchatov**	**16.99**	**336**	*e*	**P**		**P**	**14 06 41.1**	**-3.5**
KURK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
KURK	**Kurchatov**	**16.99**	**336**	*e*	**P**		**P**	**14 06 41.1**	**-3.4**
	comp=Z,8.0nm,0.8s								
GYA	**Guiyang**	**17.26**	**117**	P		**P**		**14 06 43.0**	**-5.2**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.3s								
SONM	**Songino Array**	**17.42**	**41**	P		**P**		**14 06 50.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=229,slow=11,SNR=33								
SONM				PcP		PcP		14 11 28.4	+0.6
	comp=Z,0.1nm,0.3s,baz=150,slow=1.1,SNR=3.6								
SONM				LR		LR		14 14 18.1	
	comp=Z,254nm,18.0s,baz=231,slow=39								
ENH	**Enshi**	**17.54**	**102**	*e*	**P**		**P**	**14 06 51.5**	**-0.2**
	comp=Z,4.2nm,0.4s								
ZAK	**Zakamensk**	**17.74**	**30**	*e*	**P**		**P**	**14 06 52.8**	**-1.1**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.7s								
ULN	**Ulaanbaatar**	**17.79**	**41**	*e*	**P**		**P**	**14 06 54.4**	**-0.1**
ULN				pmax		pmax			
	comp=Z,11nm,1.3s								
ULN	**Ulaanbaatar**	**17.79**	**41**	*e*	**P**		**P**	**14 06 54.4**	**-0.1**
	comp=Z,11nm,1.3s								
MOY	**Mondy**	**17.95**	**24**	*e*	**P**		**P**	**14 06 57.1**	**+0.6**
ZAL	**Zalesovo**	**18.56**	**351**	LR		LR		14 15 20.4	
	comp=Z,272nm,18.7s,baz=294,slow=40								
TLY	**Talaya**	**18.90**	**28**	*e*	**P**		**P**	**14 07 07.8**	**+0.4**
TLY				pmax		pmax			
	comp=Z,3.0nm,1.2s								
TLY				MLR		MLR			
	comp=Z,143nm,11.0s								
CM31	**Chiang Mai Arr**	**19.05**	**152**	*e*	**P**		**P**	**14 07 11.0**	**+1.7**
	comp=Z,1.9nm,0.4s								
NVS	**Novosibirsk**	**19.66**	**349**	*e*	**P**		**P**	**14 07 13.0**	**-2.6**
NVS				pmax		pmax			
	comp=Z,6.0nm,1.2s								
NVS				pmax		pmax			
	comp=N,4.0nm,1.0s								
NVS				pmax		pmax			
	comp=E,5.0nm,1.0s								
BJT	**Baijiatuan**	**21.41**	**70**	*e*	**P**		**P**	**14 07 34.8**	**+1.3**
BJT				pmax		pmax			
	comp=Z,18nm,0.9s								
BJT	**Baijiatuan**	**21.41**	**70**	*e*	**P**		**P**	**14 07 34.8**	**+1.3**
	comp=Z,18nm,0.9s,mb4.4								
BJI	**Beijing**	**21.41**	**70**	*e*	**P**		**P**	**14 07 34.8**	**+1.2**
BJI				AMB		AMB			
	comp=Z,14nm,0.9s,mb4.3								
BJI				LR		LR			
	comp=N,783nm,18.1s								
BJI				LR		LR			
	comp=E,697nm,16.5s								
BJI				LR		LR			
	comp=Z,407nm,16.8s								
BVAR	**Borovoye Array**	**22.00**	**328**	P		**P**		**14 07 39.7**	**+0.4**
	comp=Z,2.3nm,0.7s,mb3.6,baz=135,slow=10,SNR=15								
CHKZ	**Chkalovo**	**22.36**	**329**	*e*	**P**		**P**	**14 07 44.6**	**+1.7**
CHKZ				pmax		pmax			
	comp=Z,40nm,0.7s,mb4.9								
CHKZ	**Chkalovo**	**22.36**	**329**	*e*	**P**		**P**	**14 07 44.6**	**+1.7**
	comp=Z,40nm,0.7s,mb4.9								
BOD	**Bodaibo**	**27.48**	**29**	*e*	**P**		**P**	**14 08 30.7**	**-0.4**
CN2	**Changchun**	**28.57**	**62**	*e*	**P**		**P**	**14 08 40.5**	**-0.6**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.4s,mb4.2								
MDJ	**Mudanjiang**	**31.60**	**61**	*e*	**P**		**P**	**14 09 08.7**	**+0.9**
	comp=Z,2.9nm,0.4s,mb4.4								
KLR	**Kul'dur**	**33.48**	**53**	*e*	**P**		**P**	**14 09 20.7**	**-3.5**
TIXI	**Tiksi**	**41.38**	**18**	*e*	**P**		**P**	**14 10 30.4**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.2								
TIXI				MLR		MLR			
	comp=Z,138nm,12.0s								
BRTR	**Keskin Array B**	**43.84**	**293**	P		**P**		**14 10 50.3**	**-0.1**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
BRTR	**Keskin Array B**	**43.84**	**293**	P		**P**		**14 10 50.2**	**-0.2**
	comp=Z,1.6nm,0.8s,mb3.8,baz=96,slow=8.3,SNR=8.6								
AKASG	**Malin Array Be**	**45.24**	**309**	P		**P**		**14 11 00.8**	**-0.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=74,slow=6.5,SNR=5.9								
AKASG	**Malin Array Be**	**45.24**	**309**	P		**P**		**14 11 00.8**	**-0.6**
KAF	**Kangasniemi**	**46.80**	**325**	*ep*		**P**		**14 11 12.2**	**-1.4**
FINES	**FINESS Array B**	**46.86**	**324**	P		**P**		**14 11 14.2**	**+0.1**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.7s								
FINES				MLR		MLR			
	comp=Z,94nm,18.2s								
FINES	**FINESS Array B**	**46.86**	**324**	P		**P**		**14 11 14.2**	**+0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=90,slow=11,SNR=8.8								
FINES				LR		LR		14 32 11.4	
	comp=Z,94nm,18.2s,baz=138,slow=38								
ARCES	**ARCESS Array B**	**48.03**	**335**	P		**P**		**14 11 24.0**	**+0.8**
ARCES				pmax		pmax			
	comp=Z,4.0nm,0.9s								
ARCES				MLR		MLR			
	comp=Z,55nm,19.8s								
ARCES	**ARCESS Array B**	**48.03**	**335**	P		**P**		**14 11 24.0**	**+0.8**
	comp=Z,4.4nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=4.7								
ARCES				LR		LR		14 35 24.2	
	comp=Z,55nm,19.8s,baz=33,slow=41								
BILL	**Bilibino**	**52.52**	**27**	*e*P		**P**		**14 11 59.3**	**+1.9**
BILL				pmax		pmax			
	comp=Z,13nm,1.1s,mb4.9								
BILL	**Bilibino**	**52.52**	**27**	*e*	**P**		**P**	**14 11 59.3**	**+1.9**
	comp=Z,9.4nm,1.0s,mb4.8								
NB2	**NORSAR Subarra**	**54.05**	**324**	P		**P**		**14 12 07.9**	**-0.8**
	comp=Z,3.7nm,0.7s,mb4.5,baz=82,slow=7.4								
NB2	**NORSAR Subarra**	**54.05**	**324**	P		**P**		**14 12 07.9**	**-0.8**
NB2				pmax		pmax			
	comp=Z,4.0nm,0.7s,mb4.6								
NOA	**NORSAR Array B**	**54.05**	**324**	P		**P**		**14 12 08.2**	**-0.5**
NOA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
NOA				MLR		MLR			
	comp=Z,70nm,20.0s								
NOA	**NORSAR Array B**	**54.05**	**324**	P		**P**		**14 12 08.2**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5,baz=81,slow=7.2,SNR=17								
NOA				LR		LR		14 36 22.6	
	comp=Z,70nm,20.0s,baz=75,slow=37								
CLL	**Collm**	**55.21**	**312**	P		**P**		**14 12 17.0**	**-0.3**
GERES	**GERESS Array B**	**55.45**	**309**	P		**P**		**14 12 19.4**	**+0.3**
GERES				pmax		pmax			
	comp=Z,3.0nm,1.0s								
GERES				MLR		MLR			
	comp=Z,80nm,18.6s								
GERES	**GERESS Array B**	**55.45**	**309**	P		**P**		**14 12 19.4**	**+0.3**
	comp=Z,2.6nm,1.0s,mb4.2,baz=76,slow=5.5,SNR=11								
GERES				LR		LR		14 40 11.5	
	comp=Z,80nm,18.6s,baz=101,slow=40								
CDF	**Champ du Feu**	**59.63**	**310**	*e*P		**P**		**14 12 47.5**	**-0.9**
	comp=Z,11nm,0.9s,mb4.5								
CDF	**Champ du Feu**	**59.63**	**310**	*e*P		**P**		**14 12 47.5**	**-0.9**
CDF				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.5								
LPG	**La Plagne**	**61.04**	**307**	*e*P		**P**		**14 12 57.9**	**-0.2**
LPL	**La Plagne**	**61.04**	**307**	*e*P		**P**		**14 12 58.0**	**-0.1**
MBDF	**Montbardon**	**61.32**	**306**	*e*P		**P**		**14 13 00.1**	**+0.1**
	comp=Z,7.3nm,0.9s,mb4.4								
MBDF	**Montbardon**	**61.32**	**306**	*e*P		**P**		**14 13 00.1**	**+0.1**
MBDF				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb4.5								
SMF	**Signal de Mont**	**62.45**	**309**	*e*P		**P**		**14 13 06.3**	**-1.2**
	comp=Z,19nm,1.0s,mb4.8								
SMF	**Signal de Mont**	**62.45**	**309**	*e*P		**P**		**14 13 06.3**	**-1.2**
SMF				pmax		pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
SSF	**Saint Saulge**	**62.49**	**310**	*e*P		**P**		**14 13 06.6**	**-1.2**
AVF	**Avril sur Loir**	**62.70**	**310**	*e*P		**P**		**14 13 08.1**	**-1.1**
	comp=Z,11nm,0.9s,mb4.5								
AVF	**Avril sur Loir**	**62.70**	**310**	*e*P		**P**		**14 13 08.1**	**-1.1**
AVF				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
LASF	**Ste Croix**	**63.50**	**307**	*e*P		**P**		**14 13 14.5**	**0.0**
TCF	**Toulx Ste Croi**	**63.62**	**309**	*e*P		**P**		**14 13 14.6**	**-0.7**
	comp=Z,20nm,1.0s,mb4.6								
TCF	**Toulx Ste Croi**	**63.62**	**309**	*e*P		**P**		**14 13 14.6**	**-0.7**
TCF				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.6								
LDF	**La Druitiere**	**64.09**	**312**	*e*P		**P**		**14 13 17.0**	**-1.2**
CAF	**Calviac**	**64.30**	**308**	*e*P		**P**		**14 13 19.2**	**-0.4**
RJF	**Les Rejaudoux**	**64.48**	**309**	*e*P		**P**		**14 13 20.7**	**-0.1**
RJF				*e*R					
	comp=Z,111nm,17.5s								
MFF	**Saint Martin d**	**64.96**	**310**	*e*P		**P**		**14 13 22.9**	**-1.0**
IMA	**Indian Mountai**	**67.62**	**23**	*e*P		**P**		**14 13 42.7**	**+2.3**
IMA				pmax		pmax			
	comp=Z,39nm,1.4s,mb5.0								
IMA	**Indian Mountai**	**67.62**	**23**	*e*P		**P**		**14 13 42.7**	**+2.3**
	comp=Z,39nm,1.4s,mb5.0								
WRAB	**Tennant Creek**	**69.69**	**135**	*e*P		**P**		**14 13 53.3**	**-0.7**
WRAB				pmax		pmax			
	comp=Z,9.0nm,1.1s,mb4.5								
WRAB	**Tennant Creek**	**69.69**	**135**	*e*P		**P**		**14 13 53.2**	**-0.7**
	comp=Z,9.2nm,1.1s,mb4.5								
WRA	**Warramunga Arr**	**69.69**	**135**	P		**P**		**14 13 52.8**	**-1.2**
WRA				pmax		pmax			
	comp=Z,2.0nm,0.9s								
WRA	**Warramunga Arr**	**69.69**	**135**	P		**P**		**14 13 52.8**	**-1.1**
	comp=Z,2.0nm,0.9s,mb4.0,baz=330,slow=6.1,SNR=7.5								
COLA	**College**	**70.25**	**22**	*e*P		**P**		**14 13 58.2**	**+1.6**
COLA				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.3								
COLA	**College**	**70.25**	**22**	*e*P		**P**		**14 13 58.2**	**+1.7**
	comp=Z,3.9nm,0.8s,mb4.3								
ESDC	**Sonseca Array**	**70.71**	**305**	P		**P**		**14 13 59.7**	**-0.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=51,slow=5.5,SNR=5.8								
INK	**Inuvik**	**71.46**	**16**	*e*P		**P**		**14 14 05.3**	**+1.5**
INK				pmax		pmax			
	comp=Z,5.0nm,1.1s								
INK	**Inuvik**	**71.46**	**16**	*e*	**P**		**P**	**14 14 05.3**	**+1.6**
	comp=Z,4.8nm,1.1s,mb4.2								
SML	**Sawmill**	**72.21**	**25**	*e*P		**P**		**14 14 10.2**	**+1.9**
ASAR	**Alice Springs**	**72.40**	**138**	P		**P**		**14 14 09.2**	**-0.9**
	comp=Z,1.2nm,0.8s,mb3.8,baz=329,slow=7.1,SNR=6.5								
EVO	**Evora**	**73.99**	**306**	*e*P		**P**		**14 14 20.3**	**+1.1**
	comp=Z,121nm,1.8s,mb5.0								
CTAO	**Charters Tower**	**77.16**	**126**	P		**P**		**14 14 37.4**	**-0.1**
CTAO				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.3								
CTAO	**Charters Tower**	**77.16**	**126**	P		**P**		**14 14 37.4**	**-0.1**
	comp=Z,6.8nm,1.0s,mb4.3								
YKA	**Yellowknife Ar**	**80.25**	**11**	P		**P**		**14 14 55.2**	**+1.7**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.8s								
YKA	**Yellowknife Ar**	**80.25**	**11**	P		**P**		**14 14 55.2**	**+1.8**
	comp=Z,2.1nm,0.8s,mb4.0,baz=332,slow=5.2,SNR=41								
YKA	**Yellowknife Ar**	**80.25**	**11**	P		**P**		**14 14 55.2**	**+1.8**
STKA	**Stephens Creek**	**83.04**	**138**	P		**P**		**14 15 07.6**	**-1.0**
	comp=Z,0.8nm,0.3s,mb4.0,baz=332,slow=13,SNR=3.0								
STKA	**Stephens Creek**	**83.04**	**138**	P		**P**		**14 15 07.6**	**-1.0**
FCC	**Fort Churchill**	**85.86**	**2**	P		**P**		**14 15 23.9**	**+1.9**
FCC				pmax		pmax			
	comp=Z,2.0nm,0.8s,mb4.1								
FCC	**Fort Churchill**	**85.86**	**2**	P		**P**		**14 15 23.9**	**+1.9**
	comp=Z,2.1nm,0.8s,mb4.1								
FFC	**Flin Flon**	**89.41**	**7**	*e*P		**P**		**14 15 40.7**	**+1.6**
FFC				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
FFC	**Flin Flon**	**89.41**	**7**	*e*P		**P**		**14 15 40.7**	**+1.6**
	comp=Z,3.3nm,0.9s,mb4.4								
SIV	**San Ignacio**	**147.30**	**299**	PKPbc		PKPdf		14 22 26.0	+3.1
	comp=Z,2.1nm,0.9s,baz=73,slow=4.6,SNR=12								

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*NEIC **25** 14:03:32.8±1.2,22.16S×176.63W,h110km±11km, mb4.7/12,Error ellipse: s-maj=12.8km s-min=7.1km az=150.0*
*IDC **25** 14:03:38.1±4.7,22.41S×176.59W,h156km±42km, mb4.0/11,mb1 4.2/15,mb1mx4.1/20,mbtmp4.6/15,Error ellipse: s-maj=26.2km s-min=14.7km az=169.0*
ISC 25 14:03:30.6±1.7,22.15S±0.09×176.70W±0.08, h99km±17km,n61,σ0§81/38,mb4.4/17,7C,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.44**	**31**	P		P	**P**	**14 05 44.3**	**-0.9**
	6.3nm,0.3s,baz=250,slow=4.0,SNR=14								
AFI				S			**S**	**14 07 23.4**	**-6.8**
	14nm,0.3s,baz=66,slow=18,SNR=6.5								
AFI	**Afiamalu**	**9.44**	**31**	*e*Pn			**P**	**14 05 44.2**	**-0.9**
	19nm,0.4s								
DZM	**Mont Dzumac**	**15.62**	**267**	*e*P			**P**	**14 07 15.8**	**+9.4**
DZM	**Mont Dzumac**	**15.62**	**267**	P			**P**	**14 07 16.2**	**+10**
	1.1nm,0.3s,baz=83,slow=16,SNR=22								
DZM	**Mont Dzumac**	**15.62**	**267**	*e*P			**P**	**14 07 15.8**	**+9.4**
RAR	**Rarotonga**	**15.76**	**90**	P			**P**	**14 07 08.8**	**+0.7**
	1.0nm,0.3s,baz=246,slow=8.2,SNR=5.8								
URZ	**Urewera**	**16.91**	**197**	P			**P**	**14 07 22.7**	**+0.4**
	2.3nm,0.3s,baz=37,slow=12,SNR=11								
URZ				S			**S**	**14 10 16.7**	**-9.0**
	0.9nm,0.3s,baz=83,slow=7.6,SNR=3.0								
RPZ	**Rata Peaks**	**23.78**	**202**	P			**P**	**14 08 33.8**	**-1.0**
	10nm,0.6s,mb4.4,baz=29,slow=16,SNR=5.4								
ARMA	**Armidale**	**29.49**	**247**	*e*P			**P**	**14 09 29.4**	**+1.8**
CTA	**Charters Tower**	**34.56**	**266**	⇑*i*P			**P**	**14 10 13.6**	**+1.8**
	20nm,0.7s,mb5.1								
CTA	**Charters Tower**	**34.56**	**266**	P			**P**	**14 10 13.7**	**+1.9**
	20nm,0.6s,mb5.1,baz=99,slow=10,SNR=38								
CTAO	**Charters Tower**	**34.56**	**266**	*e*P			**P**	**14 10 13.1**	**+1.3**
	23nm,0.7s,mb5.1								
PMG	**Port Moresby**	**36.91**	**284**	P			**P**	**14 10 33.3**	**+1.7**
	12nm,0.7s,mb4.9,baz=87,slow=5.5,SNR=14								
PMG	**Port Moresby**	**36.91**	**284**	*e*P			**P**	**14 10 32.8**	**+1.1**
	12nm,0.8s,mb4.9								
STKA	**Stephens Creek**	**38.20**	**246**	*e*P			**P**	**14 10 43.1**	**+0.9**
	4.1nm,0.5s,mb4.5								
STKA	**Stephens Creek**	**38.20**	**246**	P			**P**	**14 10 42.9**	**+0.6**
	4.9nm,0.5s,mb4.6,baz=89,slow=11,SNR=15								
ASAR	**Alice Springs**	**45.34**	**258**	P			**P**	**14 11 40.6**	**-0.1**
	3.5nm,0.7s,mb4.2,baz=82,slow=10.0,SNR=75								
ASAR				PcP		PcP	PcP	14 13 18.1	-1.0
	4.3nm,0.7s,baz=108,slow=3.6,SNR=16								
ASPA	**Alice Springs**	**45.34**	**258**	*e*P			**P**	**14 11 40.5**	**-0.3**
ASPA				*e*				14 13 18.2	
WB2	**Warramunga Arr**	**45.58**	**263**	*e*P			**P**	**14 11 41.8**	**-0.9**
WRAB	**Tennant Creek**	**45.58**	**263**	*e*P			**P**	**14 11 42.0**	**-0.7**
	5.5nm,0.6s,mb4.5								
WRA	**Warramunga Arr**	**45.59**	**263**	P			**P**	**14 11 42.5**	**-0.3**
	2.9nm,0.5s,mb4.3,baz=96,slow=7.8,SNR=98								
WRA				PcP		PcP	PcP	14 13 19.2	-0.9
	2.9nm,0.9s,baz=97,slow=3.6,SNR=11								
KAKA	**Kakadu**	**49.23**	**272**	*e*P			**P**	**14 12 10.4**	**-0.8**
	9.0nm,0.4s,mb5.0								
FORT	**Forrest**	**49.77**	**248**	*e*P			**P**	**14 12 14.0**	**-1.2**
	747nm,0.5s								
FITZ	**Fitzroy Crossi**	**54.02**	**263**	*e*P			**P**	**14 12 46.7**	**-0.4**
	5.8nm,0.8s,mb4.7								
FITZ	**Fitzroy Crossi**	**54.02**	**263**	P			**P**	**14 12 47.4**	**+0.2**
	7.3nm,0.7s,mb4.8,baz=133,slow=2.2,SNR=22								
CASY	**Casey**	**63.00**	**206**	*e*P			**P**	**14 13 48.1**	**-0.8**
YBH	**Yreka Blue Hor**	**80.83**	**38**	P			**P**	**14 15 36.0**	**+1.0**
	2.4nm,0.6s,mb4.2,baz=188,slow=1.7,SNR=8.7								
TUC	**Tucson**	**83.06**	**51**	*e*P			**P**	**14 15 46.8**	**+0.2**
	2.6nm,0.8s,mb4.1								
WVOR	**Wild Horse Val**	**83.63**	**39**	*e*P			**P**	**14 15 49.1**	**-0.3**
	1.9nm,0.9s,mb3.9								
SRU	**San Rafael**	**86.80**	**45**	*e*P			**P**	**14 16 05.2**	**+0.1**
TXAR	**Lajitas Array**	**86.93**	**57**	P			**P**	**14 16 06.5**	**+0.5**
	1.6nm,0.7s,mb4.0,baz=211,slow=7.3,SNR=12								
PLCA	**Paso Flores**	**87.26**	**133**	P			**P**	**14 16 07.2**	**-0.1**
	0.8nm,0.8s,mb3.7,baz=56,slow=17,SNR=3.2								
GDL2	**Guadalupe Moun**	**87.73**	**54**	*e*P			**P**	**14 16 09.6**	**-0.1**
ENH	**Enshi**	**87.96**	**304**	*e*P			**P**	**14 16 11.2**	**+0.3**
	3.4nm,0.5s,mb4.6								
PDAR	**Pinedale Array**	**89.34**	**43**	P			**P**	**14 16 17.4**	**+0.3**
	0.6nm,0.8s,mb3.7,baz=243,slow=3.3,SNR=4.6								
COLA	**College**	**89.56**	**12**	*e*P			**P**	**14 16 16.5**	**-1.0**
	2.1nm,0.7s,mb4.4								
MKAR	**Makanchi Array**	**113.21**	**313**	PKiKP				14 21 56.6	
	0.2nm,0.5s,baz=90,slow=2.9,SNR=3.2								
ARCES	**ARCESS Array B**	**130.76**	**350**	PKP			PKPdf	14 22 29.0	-0.7
	2.4nm,0.7s,baz=45,slow=3.4,SNR=7.7								
ARCES	**ARCESS Array B**	**130.76**	**350**	PKP			PKPdf	14 22 29.0	-0.7
NB2	**NORSAR Subarra**	**140.75**	**354**	PKPabc			PKPdf	14 22 41.4	-6.9
	0.5nm,0.7s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**140.75**	**354**	PKhKP				14 22 41.8	
	0.6nm,0.6s,baz=16,slow=4.6,SNR=5.0								
SUW	**Suwalki**	**144.81**	**340**	*e*PKPdf		PKPdf	PKPdf	14 22 55.6	+0.1
MBAR	**Mbarara**	**144.97**	**233**	*e*PKPdf		PKPdf	PKPdf	14 22 57.0	0.0
AKASG	**Malin Array Be**	**145.04**	**331**	PKPbc		PKPbc	PKPbc	14 22 55.6	-0.7
	9.1nm,0.5s,baz=41,slow=4.2,SNR=57								
MALT	**Malatya**	**145.89**	**306**	*e*PKPbc		PKPbc	PKPbc	14 22 60.0	+1.1
BRTR	**Keskin Array B**	**148.84**	**311**	PKPbc		PKPdf	PKPdf	14 23 07.2	+4.6
	2.6nm,0.7s,baz=126,slow=3.6,SNR=16								
KOLS	**Kolonicke sedl**	**149.31**	**335**	*e*PKP		PKPdf	PKPdf	14 23 10.3	+7.2
CLL	**Collm**	**149.93**	**348**	⇑*i*PKP1		PKPdf	PKPdf	14 23 09.2	+5.2
CLL				*i*				14 23 16.1	
CLL				*i*				14 23 19.8	
OKC	**Ostrava-Krasne**	**149.99**	**341**	*e*PKPDF		PKPdf	PKPdf	14 23 04.6	+0.5
OKC				*e*PKPAB		PKPab	PKPab	14 23 14.0	-3.4
UPC	**Upice**	**150.00**	**344**	*e*P		PKP

FITZ	**Fitzroy Crossi**	**50.81**	**272**	*e*P		**P**	**15 12 45.3**	**-0.1**
	1.7nm,0.6s,mb3.5								
FINES	**FINESS Array B**	**145.92**	**338**	PKPbc	PKPbc		15 23 17.4	+2.7
	0.7nm,0.5s,baz=61,slow=3.4,SNR=15								
NB2	**NORSAR Subarra**	**149.90**	**349**	PKPabc	PKPdf		15 23 28.3	+8.5
	0.1nm,0.4s,baz=17,slow=4.1								

*IDC **25** 15:21:03.4±5.8,36.08N×71.10E,h46km±50km,mb3.8/10, mb1 4.0/12,mb1mx3.8/20,mbtmp4.0/12,ML3.6/2, Error ellipse: s-maj=38.8km s-min=18.7km az=33.0*
*BJI **25** 15:21:05.9,36.26N×70.92E,h101km*
*NEIC **25** 15:21:06.5±3.1,36.22N×71.08E,h72km±25km,mb3.9/6, Error ellipse: s-maj=26.9km s-min=10.5km az=217.0*
*MOS **25** 15:21:07.1±1.1,36.28N×71.13E,h91km,mb4.2/9,Error ellipse: s-maj=19.9km s-min=9.4km az=88.7*
*NNC **25** 15:21:16.8±5.6,37.54N×70.35E,mpv4.2, Error ellipse: s-maj=59.2km s-min=43.5km az=55.0*

ISC 25 15:21:06.9±0.9,36.26N±0.03×71.05E±0.09,h91km±9km, n68,σ1$20/81,mb3.9/11,4C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**5.07**	**49**	*e*P		**P**	**15 22 25.0**	**+3.1**
KSH				S		**S**	**15 23 21.3**	**+1.6**
KSH				Smax				
	comp=N,210nm,0.4s							
KSH				Smax				
	comp=E,170nm,0.4s							
THN	**Thein Dam**	**5.43**	**133**	*e*P		**P**	**15 22 28.1**	**+1.3**
THN				*e*S		**S**	**15 23 28.6**	**0.0**
DLH	**Dalhousie**	**5.50**	**131**	*e*P		**P**	**15 22 30.0**	**+2.2**
DLH				*e*S		**S**	**15 23 32.0**	**+1.5**
PONG	**Pong**	**5.92**	**135**	*e*P		**P**	**15 22 37.0**	**+3.5**
PONG				*e*S		**S**	**15 23 45.0**	**+4.4**
AML	**Almayashu**	**6.21**	**18**	P		**P**	**15 22 37.4**	**-0.1**
	SNR=52							
UCH	**Uchtor**	**6.53**	**23**	P		**P**	**15 22 42.1**	**0.0**
	SNR=23							
BHK	**Bhakra**	**6.58**	**136**	*e*		**S**	**15 23 58.2**	**+1.3**
KZA	**Kyzart**	**6.66**	**28**	P		**P**	**15 22 43.2**	**-0.7**
	SNR=17							
EKS2	**Erkin-Say**	**6.73**	**17**	P		**P**	**15 22 44.6**	**-0.3**
	SNR=26							
SDNR	**Sundarnagar**	**6.84**	**132**	*e*P		**P**	**15 22 46.5**	**+0.1**
SDNR				*e*S		**S**	**15 24 01.6**	**-1.7**
AAK	**Ala-Archa**	**6.90**	**22**	P		**P**	**15 22 47.0**	**-0.1**
	SNR=22							
AAK	**Ala-Archa**	**6.90**	**22**	⇓P		**P**	**15 22 46.9**	**-0.2**
	comp=E,14nm,0.6s							
AAK				⇑S		**S**	**15 23 59.5**	**-5.2**
	comp=E,61nm,0.8s							
AAK	**Ala-Archa**	**6.90**	**22**	Pn		**P**	**15 22 46.2**	**-0.9**
	comp=E,212nm,0.6s,SNR=41							
AAK	**Ala-Archa**	**6.90**	**22**	*e*PN		**P**	**15 22 45.6**	**-1.5**
AAK				pmax	pmax			
	comp=Z,18nm,0.6s							
AAK	**Ala-Archa**	**6.90**	**22**	*e*Pn		**P**	**15 22 45.6**	**-1.5**
	comp=Z,18nm,0.6s							
AAK				*e*Sn		**S**	**15 23 58.4**	**-6.2**
ULHL	**Ulahol**	**7.20**	**32**	P		**P**	**15 22 51.0**	**-0.4**
	SNR=6.4							
SMLA	**Simla**	**7.22**	**133**	*i* P		**P**	**15 22 42.9**	**-8.7**
SMLA				*i* S		**S**	**15 24 00.6**	**-12**
CHMS	**Chumysh**	**7.31**	**22**	P		**P**	**15 22 52.3**	**-0.4**
	SNR=14							
KLP	**Kalpa**	**7.62**	**126**	*e*P		**P**	**15 22 55.9**	**-1.1**
KLP				*e*			15 23 58.0	
KLP				*e*			15 24 51.0	
	comp=E,386nm,1.0s							
KLP				*e*			15 24 51.0	
	comp=N,408nm,1.0s							
RTK	**Rohtak**	**8.51**	**146**	*e*P		**P**	**15 23 06.8**	**-2.3**
RTK				*e*			15 24 29.5	
KHET	**Khetri**	**9.10**	**152**	*e*		**P**	**15 23 17.0**	**-0.1**
KHET				*e*			15 24 45.5	
KHET				*e*			15 24 54.4	
	comp=E,37nm,0.4s							
KHET				*e*			15 24 54.5	
	comp=N,27nm,0.3s							
JOSI	**Joshimath**	**9.11**	**126**	*e*		**P**	**15 23 06.6**	**-11**
NDI	**New Delhi**	**9.18**	**144**	*e*P		**P**	**15 23 13.5**	**-4.6**
NDI				*e*S		**S**	**15 24 53.0**	**-7.5**
AYAN	**Aya Nagar**	**9.30**	**145**	*e*P		**P**	**15 23 15.7**	**-4.2**
JASL	**Jaisalmer**	**9.31**	**181**	*e*		**P**	**15 23 20.6**	**+0.7**
SONA	**Sohna**	**9.48**	**146**	*e*P		**P**	**15 23 20.1**	**-2.1**
SONA				*e*			15 25 00.0	
SONA				*e*			15 25 04.6	
	comp=N,15nm,0.2s							
SONA				*e*			15 25 04.7	
	comp=E,44nm,0.3s							
MK31	**Makanchi Array**	**13.46**	**35**	⇓P		**P**	**15 24 19.4**	**+4.3**
	comp=E,2.2nm,0.7s,baz=212,slow=12,SNR=4.2							
MKAR	**Makanchi Array**	**13.46**	**35**	P		**P**	**15 24 13.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=217,slow=14,SNR=6.6							
KURK	**Kurchatov**	**15.44**	**18**	P		**P**	**15 24 40.7**	**+0.2**
KURK	**Kurchatov**	**15.44**	**18**	*e*P		**P**	**15 24 41.5**	**+1.0**
KURK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KURK	**Kurchatov**	**15.44**	**18**	*e*P		**P**	**15 24 41.5**	**+0.9**
	comp=Z,2.3nm,0.8s							
BVA0	**Borovoye Array**	**16.77**	**359**	⇓P		**P**	**15 25 00.3**	**+3.3**
	comp=Z,1.2nm,1.4s,baz=158,slow=10.0,SNR=6.5							
BVA0				⇑S		**S**	**15 27 50.8**	**-8.5**
	comp=Z,0.7nm,1.1s,baz=168,slow=22,SNR=5.2							
BVAR	**Borovoye Array**	**16.77**	**359**	P		**P**	**15 24 55.5**	**-1.5**
	comp=Z,0.5nm,0.3s,baz=160,slow=9.5,SNR=8.7							
BVAR				S		**S**	**15 27 52.8**	**-6.5**
	comp=Z,0.4nm,0.3s,baz=166,slow=23,SNR=4.9							
CHKZ	**Chkalovo**	**17.41**	**359**	⇑P		**P**	**15 25 04.6**	**-0.6**
	comp=Z,1.4nm,0.6s							
CHKZ				⇑S		**S**	**15 28 04.2**	**-10**
	comp=Z,2.0nm,0.8s							
CHKZ	**Chkalovo**	**17.41**	**359**	*e*P		**P**	**15 25 04.9**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.5s							
CHKZ	**Chkalovo**	**17.41**	**359**	*e*P		**P**	**15 25 04.9**	**-0.3**
	comp=Z,2.0nm,0.5s							
LSA	**Lhasa**	**18.07**	**105**	*e*P		**P**	**15 25 11.0**	**-2.3**
LSA	**Lhasa**	**18.07**	**105**	*e*P		**P**	**15 25 13.4**	**+0.1**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**18.07**	**105**	*e*P		**P**	**15 25 13.4**	**0.0**
	comp=Z,6.0nm,0.8s							
ZAL	**Zalesovo**	**20.10**	**24**	P		**P**	**15 25 32.7**	**-2.6**
ZAL				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ZAL	**Zalesovo**	**20.10**	**24**	P		**P**	**15 25 32.7**	**-2.6**
	comp=Z,5.8nm,0.4s,baz=251,slow=7.7,SNR=19							
ZAL	**Zalesovo**	**20.10**	**24**	P		**P**	**15 25 32.7**	**-2.6**
NVS	**Novosibirsk**	**20.39**	**21**	*e*P		**P**	**15 25 38.3**	**0.0**
ARU	**Arti**	**21.87**	**341**	*e*P		**P**	**15 25 55.2**	**+2.1**
ARU				*e*S		**S**	**15 29 48.1**	**+4.2**
ARU	**Arti**	**21.87**	**341**	*e*P		**P**	**15 25 55.2**	**+2.0**
	comp=Z,3.7nm,0.6s,mb3.9							
SONM	**Songino Array**	**28.44**	**55**	P		**P**	**15 26 56.1**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.3,baz=271,slow=8.7,SNR=8.0							
AKASG	**Malin Array Be**	**33.13**	**309**	P		**P**	**15 27 36.7**	**+0.6**
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.5s							
AKASG	**Malin Array Be**	**33.13**	**309**	P		**P**	**15 27 36.7**	**+0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=80,slow=7.7,SNR=6.2							
FINES	**FINESS Array B**	**37.70**	**326**	P		**P**	**15 28 15.7**	**+0.9**
FINES				pmax	pmax			
	comp=Z,2.0nm,0.5s							
FINES	**FINESS Array B**	**37.70**	**326**	P		**P**	**15 28 15.7**	**+0.9**
	comp=Z,1.9nm,0.5s,mb4.2,baz=121,slow=9.5,SNR=24							
KAF	**Kangasniemi**	**37.85**	**327**	*ep*		**P**	**15 28 14.9**	**-1.1**
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**15 28 45.9**	**+0.8**
ARCES				pmax	pmax			
	comp=Z,3.0nm,0.7s							
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**15 28 45.9**	**+0.8**
	comp=Z,3.2nm,0.7s,mb4.2,baz=113,slow=8.8,SNR=16							
ARCES	**ARCESS Array B**	**41.38**	**338**	P		**P**	**15 28 45.9**	**+0.8**
NB2	**NORSAR Subarra**	**44.59**	**323**	P		**P**	**15 29 11.1**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.1,baz=94,slow=7.4							
NB2	**NORSAR Subarra**	**44.59**	**323**	P		**P**	**15 29 11.1**	**-0.1**
NB2				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.1							
NOA	**NORSAR Array B**	**44.59**	**323**	P		**P**	**15 29 12.0**	**+0.8**
NOA				pmax	pmax			
	comp=Z,2.0nm,0.5s							
NOA	**NORSAR Array B**	**44.59**	**323**	P		**P**	**15 29 12.0**	**+0.8**
	comp=Z,2.2nm,0.5s,mb4.1,baz=97,slow=7.7,SNR=30							
NOA	**NORSAR Array B**	**44.59**	**323**	P		**P**	**15 29 12.0**	**+0.8**
TIXI	**Tiksi**	**45.98**	**22**	*e*P		**P**	**15 29 21.1**	**-1.0**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
INK	**Inuvik**	**74.13**	**9**	*e*P		**P**	**15 32 35.3**	**+0.9**
INK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
INK	**Inuvik**	**74.13**	**9**	P		**P**	**15 32 35.5**	**+1.2**
	comp=Z,1.8nm,0.6s,mb4.0,baz=356,slow=6.0,SNR=20							
INK	**Inuvik**	**74.13**	**9**	*e*P		**P**	**15 32 35.3**	**+0.9**
	comp=Z,1.9nm,0.6s,mb4.0							
YKA	**Yellowknife Ar**	**81.48**	**3**	P		**P**	**15 33 15.8**	**+0.9**
YKA				pmax	pmax			
	comp=Z,2.0nm,0.6s							
YKA	**Yellowknife Ar**	**81.48**	**3**	P		**P**	**15 33 15.8**	**+0.9**
	comp=Z,2.3nm,0.6s,mb4.2,baz=349,slow=5.3,SNR=45							
WRA	**Warramunga Arr**	**81.83**	**122**	P		**P**	**15 33 16.9**	**-0.7**
	comp=Z,2.4nm,0.6s,mb3.4,baz=323,slow=4.8,SNR=13							
WB2	**Warramunga Arr**	**81.84**	**122**	*e*P		**P**	**15 33 17.2**	**-0.5**
ASAR	**Alice Springs**	**84.08**	**125**	P		**P**	**15 33 28.5**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.8,baz=318,slow=4.7,SNR=18							

*NIED **25** 15:33:00,42.90N×145.50E,h38km,Mw3.8 Best double couple: M0:6.5×10^14 NP1:φs22°,δ64°,λ81°. NP2:φs222°, δ27°,λ108°.*
*JMA **25** 15:33:31.6±0.1,42.94N×145.53E,h45km±1km,M4.1*
*SKHL **25** 15:33:34.7±2.0,43.11N×145.27E,h33km*
*IDC **25** 15:33:44.6±1.6,45.38N×143.65E,mb3.9/6,mb1 4.0/6, mb1mx3.7/20,mbtmp4.0/6,Error ellipse: s-maj=39.3km s-min=20.2km az=114.0*

ISC 25 15:33:31.3±1.2,42.95N±0.08×145.52E±0.08,h51km±7km, n17,σ0$55/24,mb3.7/5,1C-6D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.44**	**21**	⇑P		**P**	**15 33 41.8**	**-0.2**
NEM2				*e*S		**S**	**15 33 49.0**	**-0.7**
JAK	**Akkeshi**	**0.61**	**274**	⇓P		**P**	**15 33 44.1**	**+0.1**
JAK				*e*S		**S**	**15 33 53.1**	**-0.2**
JNK	**Nakash**	**0.86**	**317**	⇓P		**P**	**15 33 47.4**	**+0.1**
JNK				*e*S		**S**	**15 33 58.4**	**-0.9**
JRA	**Rausu**	**1.03**	**344**	⇓P		**P**	**15 33 49.9**	**+0.3**
JRA				*e*S		**S**	**15 34 03.6**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.11**	**13**	*e*P		**P**	**15 33 52.0**	**+1.2**
YUK				*i* S		**S**	**15 34 05.0**	**-0.2**
YUK				A			15 34 06.9	
	5μm,1.0s							
YUK				A			15 34 06.9	
	8μm,1.0s							
YUK				A			15 34 09.3	
	7μm,0.5s							
YUK				A			15 34 09.3	
	4μm,0.5s							
JOB	**Onbets**	**1.24**	**268**	⇓P		**P**	**15 33 52.6**	**-0.1**
JOB				*e*S		**S**	**15 34 08.1**	**-0.5**
JAR	**Ashorobuto**	**1.33**	**286**	⇓P		**P**	**15 33 54.1**	**+0.1**
JAR				*e*S		**S**	**15 34 11.0**	**+0.1**
JTKR	**Abashiri--Toko**	**1.55**	**311**	⇓P		**P**	**15 33 57.8**	**+0.6**
ASAJ	**Asahikawa**	**2.42**	**300**	Pg		**P**	**15 34 10.8**	**+1.4**
	23nm,0.3s,baz=110,slow=10,SNR=87							
ASAJ				Lg			15 34 43.4	
	14nm,0.3s,baz=8,3,slow=28,SNR=6.6							
YSS	**Yuzh-Sakhalins**	**4.46**	**335**	*e*P		**P**	**15 34 38.0**	**-0.1**
YSS				*e*S		**S**	**15 35 23.0**	**-6.3**
JOW	**Kunigami**	**21.35**	**227**	P		tx	15 38 43.1	
	15nm,0.8s,baz=217,slow=21,SNR=4.6							
SONM	**Songino Array**	**27.70**	**294**	P		**P**	**15 39 16.5**	**0.0**
	1.5nm,0.7s,mb3.8,baz=85,slow=8.2,SNR=12							
MKAR	**Makanchi Array**	**43.91**	**298**	P		**P**	**15 41 34.5**	**+0.1**
	1.2nm,0.5s,mb3.9,baz=82,slow=9.3,SNR=22							
YKA	**Yellowknife Ar**	**57.12**	**33**	P		**P**	**15 43 24.7**	**+10**
	0.1nm,0.6s,mb3.0,baz=302,slow=6.8,SNR=4.8							
FINES	**FINESS Array B**	**65.04**	**333**	P		**P**	**15 44 07.3**	**-0.6**
	0.5nm,0.4s,mb3.9,baz=46,slow=8.0,SNR=14							
NB2	**NORSAR Subarra**	**69.91**	**338**	P		**P**	**15 44 37.4**	**-1.0**
	0.6nm,0.4s,mb3.9,baz=41,slow=5.6							
NOA	**NORSAR Array B**	**69.91**	**338**	P		**P**	**15 44 38.0**	**-0.4**
	0.8nm,0.4s,mb4.0,baz=33,slow=6.4,SNR=9.5							

*IDC **25** 15:38:48.2±1.2,8.77N×93.62E,mb3.6/8,mb1 3.8/8, mb1mx3.7/17,mbtmp3.6/8, Error ellipse: s-maj=61.1km s-min=20.1km az=54.0*
*NEIC **25** 15:38:52.8±0.7,8.79N×93.66E,h30km,mb3.8/3, Error ellipse: s-maj=35.1km s-min=10.1km az=53.0*

ISC 25 15:38:50.9±1.0,8.8N±0.2×93.7E±0.3,h30km,n11, σ0$48/11,mb3.6/10,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.10**	**348**	P		**P**	**15 46 17.1**	**-0.2**
	0.4nm,0.6s,mb3.4,baz=178,slow=7.2,SNR=6.5							
SONM	**Songino Array**	**40.38**	**13**	P		**P**	**15 46 28.2**	**+0.4**
	0.1nm,0.3s,mb3.0,baz=201,slow=12,SNR=2.9							
CHKZ	**Chkalovo**	**48.47**	**342**	*e*P		**P**	**15 47 32.3**	**-0.4**
	0.0nm,0.5s,mb4.1							
WRA	**Warramunga Arr**	**49.16**	**126**	P		**P**	**15 47 38.7**	**+0.3**
	0.4nm,0.5s,mb3.7,baz=303,slow=8.9,SNR=12							
WRAB	**Tennant Creek**	**49.16**	**126**	P		**P**	**15 47 38.6**	**+0.1**
	0.7nm,0.5s,mb4.0							
ASAR	**Alice Springs**	**50.84**	**130**	P		**P**	**15 47 50.9**	**-0.4**
	0.3nm,0.6s,mb3.4,baz=303,slow=7.2,SNR=7.8							
FINES	**FINESS Array B**	**71.70**	**332**	P		**P**	**15 50 11.1**	**-0.8**
	0.4nm,0.6s,mb3.5,baz=139,slow=13,SNR=3.1							
ARCES	**ARCESS Array B**	**74.26**	**340**	P		**P**	**15 50 27.1**	**+0.4**
	1.4nm,0.7s,mb4.0,baz=84,slow=12,SNR=3.7							
GERES	**GERESS Array B**	**76.85**	**318**	P		**P**	**15 50 42.6**	**+0.8**
	0.4nm,0.6s,mb3.5,baz=90,slow=4.0,SNR=4.1							
NB2	**NORSAR Subarra**	**78.72**	**331**	P		**P**	**15 50 51.4**	**-0.5**
	0.1nm,0.6s,mb2.9,baz=94,slow=5.8							
NOA	**NORSAR Array B**	**78.72**	**331**	P		**P**	**15 50 52.4**	**+0.5**
	0.3nm,0.5s,mb3.5,baz=95,slow=5.0,SNR=3.6							

*NEIC **25** 15:55:59.7±0.7,20.24S×68.47W,h136km±8km,mb4.1/2, Error ellipse: s-maj=13.5km s-min=9.0km az=99.0*
*IDC **25** 15:56:00.7±0.6,20.34S×68.37W,h144km±6km,mb3.7/3, mb1 3.8/8,mb1mx3.6/17,mbtmp4.1/8,MS3.8/2,Ms1 3.7/2, ms1mx2.5/27,Error ellipse: s-maj=26.2km s-min=7.5km az=100.0*

ISC 25 15:55:58.9±0.6,20.26S±0.04×68.52W±0.10,h146km±9km, n19,σ1$26/17,mb3.9/3,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.37**	**189**	P		**P**	**15 56 40.0**	**+1.2**
	16nm,0.3s,baz=17,slow=11,SNR=43							
LVC				S		**S**	**15 57 09.4**	**+0.1**
	58nm,0.3s,baz=118,slow=20,SNR=34							
LPAZ	**La Paz**	**3.96**	**5**	P		**P**	**15 57 01.8**	**+2.3**
	3.6nm,0.3s,baz=187,slow=7.5,SNR=79							
LPAZ				S		**S**	**15 57 47.6**	**+1.7**
	1.9nm,0.3s,baz=309,slow=14,SNR=6.3							
ARE	**Arequipa**	**4.71**	**323**	*e*P		**P**	**15 57 08.0**	**-1.4**
ARE				*i* S		**S**	**15 58 01.8**	**-1.9**
SIV	**San Ignacio**	**8.25**	**60**	P		**P**	**15 57 54.7**	**-2.0**
	6.5nm,0.3s,baz=255,slow=12,SNR=138							
CFAA	**Coronel Fontan**	**11.30**	**179**	P		**P**	**15 58 35.8**	**-1.2**
	0.1nm,0.3s,baz=19,slow=10,SNR=3.1							
CFAA				S		**S**	**16 00 36.1**	**-4.8**
	0.1nm,0.3s,baz=143,slow=16,SNR=3.6							
TRQA	**Tornquist**	**18.62**	**164**	*e*P		**P**	**16 00 07.1**	**-0.6**
	3.9nm,0.6s							
BDFB	**Brasilia**	**20.03**	**80**	P		**P**	**16 00 21.9**	**-0.5**
	4.0nm,0.3s,baz=261,slow=9.9,SNR=34							
BDFB				LR		LR	16 07 34.0	
	comp=Z,76nm,18.4s,baz=20,slow=35							
BAO	**Brasilia Array**	**20.06**	**80**	P		**P**	**16 00 21.9**	**-0.8**
PLCA	**Paso Flores**	**20.48**	**184**	P		**P**	**16 00 28.3**	**+1.4**
	8.3nm,0.7s,baz=7.8,slow=14,SNR=26							
PLCA	**Paso Flores**	**20.48**	**184**	P		**P**	**16 00 28.3**	**+1.4**
RCBR	**Riachuelo**	**34.76**	**70**	*e*P		**P**	**16 02 37.3**	**-0.1**
	3.0nm,0.5s,mb4.2							
ESDC	**Sonseca Array**	**84.69**	**44**	P		**P**	**16 08 18.6**	**+0.9**
	1.1nm,0.9s,mb3.6,baz=243,slow=6.6,SNR=4.4							
YKA	**Yellowknife Ar**	**90.14**	**340**	P		**P**	**16 08 44.1**	**+0.9**
	0.8nm,0.4s,mb4.0,baz=133,slow=4.5,SNR=24							
YKA				pP		pP	16 09 22.0	+1.4
	1.2nm,0.7s,baz=135,slow=4.6,SNR=6.8							
RPZ	**Rata Peaks**	**96.19**	**219**	LR		LR	16 42 27.6	
	comp=Z,118nm,18.1s,baz=360,slow=29							
ASAR	**Alice Springs**	**131.18**	**208**	PKP		PKPdf	16 14 56.4	+2.0
	0.2nm,0.6s,baz=119,slow=1.7,SNR=6.4							
WRA	**Warramunga Arr**	**134.21**	**211**	PKP		PKPdf	16 15 02.6	+2.6
	0.4nm,0.8s,baz=152,slow=1.9,SNR=7.7							
MKAR	**Makanchi Array**	**144.41**	**35**	PKP		PKPdf	16 15 18.6	+1.0
	0.3nm,0.4s,baz=358,slow=2.8,SNR=8.3							
MKAR				pPKP			16 15 59.2	
	0.6nm,0.7s,baz=319,slow=2.8,SNR=3.9							
MKAR	**Makanchi Array**	**144.41**	**35**	PKP		PKPdf	16 15 18.6	+1.0
MKAR				pPKP			16 15 59.2	
SONM	**Songino Array**	**152.18**	**7**	PKPbc		PKPdf	16 15 39.6	+10
	0.3nm,0.6s,baz=344,slow=1.2,SNR=3.9							
SONM				pPKPbc			16 16 19.2	
	0.8nm,0.9s,baz=342,slow=2.1,SNR=2.7							

*IDC **25** 15:58:17.6±3.4,48.89N×153.23E,mb3.8/7,mb1 4.0/7, mb1mx3.7/21,mbtmp3.8/7,MS3.3/1,Ms1 3.3/1, ms1mx2.5/30,Error ellipse: s-maj=92.0km s-min=29.9km az=178.0*
*NEIC **25** 15:58:22.1±2.5,48.78N×153.14E,h35km,mb4.2/4, Error ellipse: s-maj=68.3km s-min=20.6km az=174.0*

ISC 25 15:58:20.9±2.7,48.9N±0.5×153.1E±0.2,h33km,n13, σ0$97/12,mb3.9/10,MS3.2/1,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SONM	**Songino Array**	**30.65**	**286**	LR		LR	16 18 24.1	
	comp=Z,51nm,19.4s,MS3.2,baz=191,slow=39							
INK	**Inuvik**	**39.83**	**34**	P		**P**	**16 05 50.5**	**-1.7**
	0.5nm,0.8s,mb3.3,baz=283,slow=7.0,SNR=3.7							
MKAR	**Makanchi Array**	**45.95**	**295**	P		**P**	**16 06 41.9**	**-0.3**
	1.0nm,0.7s,mb3.8,baz=66,slow=8.2,SNR=12							
KURK	**Kurchatov**	**46.16**	**302**	*e*P		**P**	**16 06 44.0**	**+0.3**
	3.1nm,0.9s,mb4.2							
CHKZ	**Chkalovo**	**49.02**	**309**	*e*P		**P**	**16 07 05.9**	**-0.1**
	2.4nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**49.47**	**308**	P		**P**	**16 07 10.4**	**+1.0**
	1.0nm,0.6s,mb4.0,baz=56,slow=8.3,SNR=10.0							
AAK	**Ala-Archa**	**52.87**	**295**	*e*P		**P**	**16 07 33.2**	**-2.1**
	0.8nm,0.6s,mb3.8							
FINES	**FINESS Array B**	**62.05**	**334**	P		**P**	**16 08 40.5**	**+0.7**
	1.0nm,0.6s,mb4.1,baz=37,slow=9.5,SNR=9.3							
NB2	**NORSAR Subarra**	**66.15**	**341**	P		**P**	**16 09 07.0**	**+0.6**
	1.2nm,0.6s,mb4.1,baz=2,slow=6.2							
NOA	**NORSAR Array B**	**66.15**	**341**	P		**P**	**16 09 07.5**	**+1.0**
	1.3nm,0.7s,mb4.1,baz=26,slow=6.3,SNR=9.8							
NOA	**NORSAR Array B**	**66.15**	**341**	P		**P**	**16 09 07.5**	**+1.0**
AKASG	**Malin Array Be**	**69.72**	**326**	P		**P**	**16 09 28.9**	**0.0**
	0.4nm,0.2s,mb3.9,baz=30,slow=5.8,SNR=4.0							
TXAR	**Lajitas Array**	**76.44**	**61**	P		**P**	**16 10 09.6**	**+0.8**
	0.5nm,0.8s,mb3.5,baz=307,slow=6.3,SNR=3.4							

*NEIC **25** 15:59:19.9±1.5,31.34N×88.64E,h86km±14km,Error ellipse: s-maj=25.5km s-min=10.6km az=60.0*
*IDC **25** 15:59:19.3±9.7,31.33N×88.65E,h80km±87km,mb3.2/6, mb1 3.5/7,mb1mx3.3/18,mbtmp3.5/7,ML2.8/1,Error ellipse: s-maj=53.4km s-min=21.2km az=46.0*

ISC 25 15:59:18.6±2.3,31.3N±0.2×88.6E±0.3,h92km±20km,n9, σ0$31/10,mb3.4/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**2.75**	**125**	*e*Pn		**P**	**16 00 01.9**	**+0.2**
LSA				*e*Sn		**S**	**16 00 41.7**	**+7.7**
MKAR	**Makanchi Array**	**16.21**	**344**	P		**P**	**16 03 01.6**	**-0.3**
	0.0nm,0.3s,baz=164,slow=11,SNR=6.2							
SONM	**Songino Array**	**21.40**	**34**	P		**P**	**16 04 00.1**	**-0.2**
	0.3nm,0.7s,mb2.7,baz=229,slow=11,SNR=4.6							
NOA	**NORSAR Array B**	**57.12**	**326**	P		**P**	**16 08 57.6**	**+0.1**
	0.7nm,0.8s,mb3.8,baz=84,slow=5.6,SNR=4.2							
GERES	**GERESS Array B**	**57.60**	**311**	P		**P**	**16 09 01.0**	**0.0**
	0.5nm,0.7s,mb3.7,baz=79,slow=5.0,SNR=5.5							
WRA	**Warramunga Arr**	**67.28**	**133**	P		**P**	**16 10 05.3**	**-0.4**
	0.9nm,0.8s,mb3.6,baz=325,slow=6.4,SNR=12							
ASAR	**Alice Springs**	**69.80**

ABTO	**Aybut**	**16.37**	**164**	P	**P**		**16 09 48.8**	**-4.7**
	SNR=26							
RBK	**Rabkut**	**16.45**	**161**	P	**P**		**16 09 50.4**	**-4.2**
	SNR=17							
IDI	**Anoyia**	**19.71**	**283**	P	**P**		**16 10 35.8**	**+1.4**
	comp=N,0.4nm,0.3s,baz=100,slow=11,SNR=6.9							
MLR	**Muntele Rosu**	**21.29**	**312**	P	**P**		**16 10 51.6**	**+0.8**
	comp=N,3.3nm,0.8s,mb3.7,baz=218,slow=6.2,SNR=6.0							
BVAR	**Borovoye Array**	**25.19**	**32**	P	**P**		**16 11 28.3**	**-0.6**
	comp=N,1.8nm,0.7s,mb3.7,baz=229,slow=8.9,SNR=10							
CHKZ	**Chkalovo**	**25.74**	**31**	*e*P	**P**		**16 11 33.0**	**-1.0**
	comp=N,0.6nm,0.5s,mb3.4							
CHKZ	**Chkalovo**	**25.74**	**31**	*e*P	**P**		**16 11 33.0**	**-1.1**
	comp=N,0.6nm,0.5s,mb3.4							
PSZ	**Piszkesteto**	**26.09**	**313**	*e*P	**P**		**16 11 36.8**	**-0.7**
	comp=N,6.6nm,0.9s,mb4.2							
PSZ	**Piszkesteto**	**26.09**	**313**	*e*P	**P**		**16 11 36.8**	**-0.6**
	comp=N,6.6nm,0.9s,mb4.2							
KURK	**Kurchatov**	**28.06**	**43**	*e*P	**P**		**16 11 54.1**	**-1.3**
	comp=N,4.2nm,1.3s,mb3.9							
KURK	**Kurchatov**	**28.06**	**43**	*e*P	**P**		**16 11 54.1**	**-1.2**
	comp=N,4.2nm,1.3s,mb3.9							
MKAR	**Makanchi Array**	**28.89**	**52**	P	**P**		**16 12 01.5**	**-1.4**
	comp=N,0.4nm,0.6s,mb3.3,baz=244,slow=8.1,SNR=6.2							
CLL	**Collm**	**31.53**	**316**	P	**P**		**16 12 26.0**	**-0.3**
FINES	**FINESS Array B**	**31.75**	**340**	P	**P**		**16 12 25.8**	**-2.3**
	comp=N,0.7nm,0.5s,mb3.7,baz=153,slow=8.5,SNR=7.3							
ZAL	**Zalesovo**	**32.87**	**40**	P	**P**		**16 12 35.7**	**-2.3**
	comp=N,1.0nm,0.4s,mb4.1,baz=184,slow=9.4,SNR=4.9							
ZAL	**Zalesovo**	**32.87**	**40**	P	**P**		**16 12 35.7**	**-2.3**
NB2	**NORSAR Subarra**	**36.81**	**330**	P	**P**		**16 13 09.3**	**-2.3**
	comp=N,1.6nm,1.0s,mb3.8,baz=123,slow=7.9							
NOA	**NORSAR Array B**	**36.81**	**330**	P	**P**		**16 13 11.0**	**-0.6**
	comp=N,0.7nm,0.8s,mb3.5,baz=122,slow=8.4,SNR=4.1							
SONM	**Songino Array**	**45.24**	**53**	P	**P**		**16 14 20.0**	**-1.1**
	comp=N,0.3nm,0.7s,mb3.2,baz=286,slow=10,SNR=3.3							
MATP	**Matopo**	**56.71**	**203**	LR	LR		16 41 32.7	
	comp=N,91nm,19.7s,MS3.9,baz=193,slow=37							
BOSA	**Boshof**	**65.38**	**203**	P	**P**		**16 16 50.0**	**+3.0**
	comp=N,1.4nm,0.8s,mb4.1,baz=14,slow=8.3,SNR=3.7							
FRB	**Frobisher Bay**	**71.43**	**335**	P	**P**		**16 17 21.6**	**-2.3**
	comp=N,2.9nm,0.7s,mb4.3,baz=43,slow=6.8,SNR=8.5							
YKA	**Yellowknife Ar**	**83.65**	**352**	P	**P**		**16 18 31.7**	**+0.3**
	comp=N,0.1nm,0.4s,mb3.3,baz=13,slow=5.1,SNR=6.0							
YKA	**Yellowknife Ar**	**83.65**	**352**	P	**P**		**16 18 31.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**89.40**	**112**	P	**P**		**16 19 00.4**	**-0.2**
	comp=N,3.3nm,1.0s,mb4.6,baz=218,slow=5.3,SNR=3.2							
LPAZ	**La Paz**	**120.95**	**270**	PKP	PKPdf		16 24 55.5	-2.8
	comp=N,0.7nm,0.3s,baz=42,slow=12,SNR=7.5							

*IDC **25** 16:13:58.3±2.5,20.13S×177.86W,h492km±26km,mb3.6/9, mb1 3.7/11,mb1mx3.6/17,mbtmp4.5/11,Error ellipse: s-maj=54.6km s-min=11.8km az=153.0*
*NEIC **25** 16:13:59.0±1.4,20.19S×177.88W,h508km±14km,mb4.3/6, Error ellipse: s-maj=44.8km s-min=9.4km az=154.0*
ISC 25 16:13:59.1±1.1,19.7S±0.1×178.2W±0.1,h507km±17km, n28,σt=11/25,mb4.2/13,3D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.39**	**48**	P		**P**	**16 16 00.4**	**-0.4**
	3.0nm,0.3s,baz=214,slow=12,SNR=7.0							
AFI				S		**S**	**16 17 36.9**	**-0.6**
	10nm,0.3s,baz=31,slow=22,SNR=9.1							
DZM	**Mont Dzumac**	**14.56**	**258**	P		**P**	**16 17 08.0**	**+3.0**
	0.3nm,0.3s,baz=83,slow=17,SNR=9.5							
PUZ	**Puketiti**	**18.61**	**189**	*e*PN		**P**	**16 17 45.2**	**+0.3**
URZ	**Urewera**	**18.99**	**191**	*e*PN		**P**	**16 17 49.2**	**+0.8**
CTA	**Charters Tower**	**33.40**	**263**	P		**P**	**16 19 57.9**	**+1.5**
	11nm,0.7s,mb4.4,baz=90,slow=9.6,SNR=20							
CTAO	**Charters Tower**	**33.40**	**263**	*e*P		**P**	**16 19 57.8**	**+1.4**
	5.5nm,0.6s,mb4.2							
PMG	**Port Moresby**	**34.98**	**282**	P		**P**	**16 20 12.8**	**+3.1**
	6.5nm,0.7s,mb4.2,baz=89,slow=6.7,SNR=9.8							
PMG	**Port Moresby**	**34.98**	**282**	*e*P		**P**	**16 20 12.2**	**+2.5**
	7.7nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**38.00**	**243**	P		**P**	**16 20 34.0**	**-0.3**
	2.2nm,0.4s,mb3.9,baz=97,slow=10,SNR=10							
WB2	**Warramunga Arr**	**44.53**	**261**	⇓*i*P		**P**	**16 21 26.5**	**-0.2**
WRAB	**Tennant Creek**	**44.53**	**261**	P		**P**	**16 21 26.0**	**-0.8**
	53nm,0.4s,mb5.3,SNR=20							
WRAB	**Tennant Creek**	**44.53**	**261**	*e*P		**P**	**16 21 26.3**	**-0.5**
	7.4nm,0.8s,mb4.2							
ASAR	**Alice Springs**	**44.54**	**256**	P		**P**	**16 21 26.9**	**+0.2**
	9.3nm,0.5s,mb4.5,baz=91,slow=7.7,SNR=334							
WRA	**Warramunga Arr**	**44.54**	**261**	P		**P**	**16 21 26.9**	**0.0**
	3.6nm,0.3s,mb4.2,baz=97,slow=7.6,SNR=269							
ASPA	**Alice Springs**	**44.54**	**256**	⇓*i*P		**P**	**16 21 26.7**	**-0.1**
KAKA	**Kakadu**	**47.78**	**270**	*e*P		**P**	**16 21 52.2**	**+0.5**
	7.0nm,0.4s,mb4.3							
FORT	**Forrest**	**49.47**	**246**	*e*P		**P**	**16 22 02.3**	**-1.9**
	311nm,1.0s							
FITZ	**Fitzroy Crossi**	**52.96**	**262**	⇓*i*P		**P**	**16 22 29.4**	**-0.5**
	4.6nm,0.5s,mb4.1							
FITZ	**Fitzroy Crossi**	**52.96**	**262**	P		**P**	**16 22 29.8**	**-0.1**
	4.6nm,0.5s,mb4.1,baz=116,slow=2.7,SNR=27							
MBWA	**Marble Bar**	**57.86**	**257**	*e*P		**P**	**16 23 01.8**	**-2.1**
	5.1nm,0.4s,mb4.2							
KLBR	**Kellerberrin**	**58.25**	**244**	*e*P		**P**	**16 23 04.4**	**-2.0**
	304nm,1.5s,mb5.4							
YBH	**Yreka Blue Hor**	**79.74**	**39**	P		**P**	**16 25 16.2**	**+1.2**
	2.3nm,0.6s,mb3.9,baz=173,slow=1.8,SNR=7.0							
TXAR	**Lajitas Array**	**86.75**	**57**	P		**P**	**16 25 50.8**	**+0.6**
	0.8nm,0.7s,mb3.6,baz=219,slow=8.0,SNR=6.3							
PDAR	**Pinedale Array**	**88.47**	**43**	P		**P**	**16 25 58.1**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=216,slow=2.9,SNR=7.5							
AKASG	**Malin Array Be**	**142.19**	**331**	PKhKP			16 32 30.2	
	0.5nm,0.3s,baz=34,slow=4.1,SNR=5.6							
AKASG	**Malin Array Be**	**142.19**	**331**	PKP		PKPdf	16 32 30.2	-2.7
BRTR	**Keskin Array B**	**146.13**	**313**	PKPbc		PKPbc	16 32 43.1	+1.5
	0.3nm,0.4s,baz=180,slow=1.4,SNR=3.8							
CLL	**Collm**	**147.20**	**347**	*e*PKP1		PKPdf	16 32 46.6	+5.3

*IDC **25** 16:15:08.4±1.2,21.46S×173.91W,mb3.9/4,mb1 4.3/6, mb1mx4.0/17,mbtmp4.3/6,ML4.8/2,MS3.4/3,Ms1 3.5/3, ms1mx2.9/28,Error ellipse: s-maj=49.6km s-min=26.2km az=157.0*
*NEIC **25** 16:15:13.3±0.5,21.60S×173.82W,h35km,mb4.3/1,Error ellipse: s-maj=16.8km s-min=10.0km az=164.0*
ISC 25 16:15:10.8±1.0,21.7S±0.2×173.8W±0.1,h33km,n15, σ0s=36/7,mb4.0/5,MS3.7/2,1C,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.45**	**205**	Pn		**P**	**16 17 13.6**	**0.0**
	65nm,0.3s,baz=252,slow=20,SNR=3.3							
RAR	**Rarotonga**	**13.05**	**91**	Pn		**P**	**16 18 16.5**	**0.0**
	1.0nm,0.3s,baz=241,slow=13,SNR=18							
DZM	**Mont Dzumac**	**18.37**	**265**	LR		LR	16 24 17.2	
	comp=Z,46nm,19.1s,baz=34,slow=30							
CTA	**Charters Tower**	**37.31**	**265**	P		**P**	**16 22 21.8**	**-0.1**
	0.9nm,0.5s,mb3.9,baz=100,slow=11,SNR=2.2							
ASAR	**Alice Springs**	**45.10**	**257**	P		**P**	**16 23 49.9**	**+0.3**
	0.9nm,0.6s,mb4.0,baz=98,slow=7.4,SNR=6.4							
WRAB	**Tennant Creek**	**48.34**	**262**	P		**P**	**16 23 52.0**	**+0.6**
	1.9nm,0.6s,mb4.3							
WRA	**Warramunga Arr**	**48.35**	**262**	P		**P**	**16 23 51.4**	**-0.1**
	0.8nm,0.7s,mb3.9,baz=97,slow=7.1,SNR=5.2							
FITZ	**Fitzroy Crossi**	**56.78**	**262**	P		**P**	**16 24 53.7**	**-0.7**
	1.1nm,0.4s,mb4.2,baz=185,slow=9.7,SNR=2.1							
PLCA	**Paso Flores**	**85.60**	**132**	LR		LR	16 59 21.9	
	comp=Z,89nm,20.3s,MS4.2,baz=276,slow=31							
CFAA	**Coronel Fontan**	**91.22**	**125**	LR		LR	17 03 43.9	
	comp=Z,11nm,18.5s,MS3.3,baz=91,slow=32							
BVAR	**Borovoye Array**	**122.49**	**320**	PKP		PKPdf	16 34 05.5	+2.7
	0.6nm,0.7s,baz=63,slow=3.3,SNR=4.6							
AKASG	**Malin Array Be**	**145.86**	**334**	PKPbc		PKPbc	16 34 48.1	+1.4
	1.0nm,0.5s,baz=46,slow=4.4,SNR=6.4							
MLR	**Muntele Rosu**	**151.25**	**330**	PKPbc		PKPdf	16 35 02.6	+7.9
	1.9nm,0.9s,baz=337,slow=1.1,SNR=3.4							
KHC	**Kasperske Hory**	**151.96**	**350**	*e*PKPB			16 35 06.0	
GERES	**GERESS Array B**	**152.21**	**349**	PKPbc		PKPdf	16 35 05.8	+10
	0.4nm,0.6s,slow=1.3,SNR=5.7							

*IDC **25** 16:29:47.9±4.4,0.39S×102.45E,h75km±33km,mb4.4/6, mb1 4.4/6,mb1mx3.7/19,mbtmp4.7/6,Error ellipse: s-maj=68.5km s-min=29.7km az=51.0*
ISC 25 16:29:42.2±1.5,0.4S±0.3×102.5E±0.4,h33km,n10, σ0s=82/10,mb4.3/5,2C,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**28.75**	**129**	⇑*i*P		**P**	**16 35 37.0**	**-2.1**
	2.7nm,0.4s,mb4.3							
FITZ				*e*S		**S**	**16 40 14.4**	**-10**
FITZ	**Fitzroy Crossi**	**28.75**	**129**	P		**P**	**16 35 37.3**	**-1.8**
	3.7nm,0.5s,mb4.4,baz=262,slow=2.3,SNR=16							
NWAO	**Narrogin (SRO)**	**35.21**	**158**	P		**P**	**16 36 35.4**	**-0.1**
	2.6nm,0.6s,mb4.4,baz=284,slow=4.2,SNR=4.5							
WRA	**Warramunga Arr**	**36.72**	**124**	P		**P**	**16 36 49.0**	**+0.7**
	0.8nm,0.4s,mb3.9,baz=300,slow=11,SNR=48							
WB2	**Warramunga Arr**	**36.73**	**124**	⇑*i*P		**P**	**16 36 48.6**	**+0.2**
ASPA	**Alice Springs**	**38.24**	**130**	*e*P		**P**	**16 37 01.0**	**-0.1**
ASAR	**Alice Springs**	**38.25**	**130**	P		**P**	**16 37 01.1**	**0.0**
	2.7nm,0.4s,mb4.3,baz=302,slow=8.3,SNR=52							
ASAR				ScP			16 42 55.3	
	0.5nm,0.6s,baz=304,slow=3.2,SNR=6.5							
STKA	**Stephens Creek**	**48.40**	**134**	P		**P**	**16 38 24.6**	**+1.3**
	2.8nm,0.4s,mb4.7,baz=315,slow=9.0,SNR=24							
JMIC	**Jan Mayen**	**97.12**	**342**	P		**P**	**16 43 11.7**	**-0.1**
	31nm,0.5s,baz=199,slow=7.1,SNR=4.2							
LPAZ	**La Paz**	**161.03**	**209**	PKP		PKPdf	16 49 39.1	-0.6
	1.3nm,0.3s,baz=149,slow=2.5,SNR=9.3							

*IDC **25** 16:37:21.7±2.0,21.09S×174.24W,mb4.1/6,mb1 4.1/6, mb1mx3.9/16,mbtmp4.1/6,Error ellipse: s-maj=99.4km s-min=28.9km az=152.0*
NEIC 25 16:37:24.1±0.9,20.89S×174.27W,h15km,mb4.2/5,1C, Error ellipse: s-maj=46.3km s-min=13.3km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**23.11**	**101**	*e*LR		LR	16 47 40.7	
	104nm,29.2s							
PPT	**Papeete**	**23.55**	**86**	*e*LR		LR	16 47 55.8	
	84nm,26.2s							
CTA	**Charters Tower**	**36.92**	**264**	*e*P		P	16 44 32.8	-1.6
	1.6nm,0.9s							
CTA	**Charters Tower**	**36.92**	**264**	P		P	16 44 32.8	-1.6
	0.9nm,0.3s,baz=73,slow=13,SNR=5.0							
CTAO	**Charters Tower**	**36.92**	**264**	*e*P		P	16 44 32.7	-1.7
	1.7nm,0.4s							
PMG	**Port Moresby**	**38.83**	**281**	P		P	16 44 48.6	-1.9
	1.1nm,0.3s,baz=45,slow=8.6,SNR=3.7							
STKA	**Stephens Creek**	**40.78**	**245**	P		P	16 45 03.5	-2.9
	1.1nm,0.6s,baz=64,slow=9.7,SNR=4.7							
STKA	**Stephens Creek**	**40.78**	**245**	*e*P		P	16 45 04.9	-1.5
ASAR	**Alice Springs**	**47.82**	**257**	P		P	16 46 01.1	-2.1
	1.3nm,0.6s,baz=98,slow=7.7,SNR=37							
ASPA	**Alice Springs**	**47.83**	**257**	*e*P		P	16 46 01.3	-2.0
WB2	**Warramunga Arr**	**47.99**	**262**	*e*P		P	16 46 02.9	-1.7
WRAB	**Tennant Creek**	**47.99**	**262**	*e*P		P	16 46 02.6	-2.0
	1.9nm,0.8s							
WRA	**Warramunga Arr**	**48.00**	**262**	P		P	16 46 02.8	-1.9
	0.7nm,0.3s,baz=96,slow=7.6,SNR=45							
FITZ	**Fitzroy Crossi**	**56.43**	**262**	*e*P		P	16 47 06.6	-1.2
	2.9nm,1.1s							
FITZ	**Fitzroy Crossi**	**56.43**	**262**	P		P	16 47 06.5	-1.3
	1.3nm,0.4s,baz=62,slow=2.1,SNR=8.4							
MBWA	**Marble Bar**	**61.17**	**257**	*e*P		P	16 47 38.1	-2.5
	1.7nm,0.3s							
MKAR	**Makanchi Array**	**114.00**	**313**	PKiKP			16 56 02.2	
	0.2nm,0.3s,baz=90,slow=2.4,SNR=3.7							
BVAR	**Borovoye Array**	**121.61**	**320**	PKP		PKPdf	16 56 17.3	-3.6
	0.7nm,0.5s,baz=89,slow=1.7,SNR=8.0							
AKASG	**Malin Array Be**	**144.97**	**334**	PKPbc		PKPbc	16 56 59.8	-1.0
	1.0nm,0.4s,baz=40,slow=4.4,SNR=10							
CLL	**Collm**	**149.11**	**351**	⇑*i*PKP1		PKPdf	16 57 12.3	+1.3
BRTR	**Keskin Array B**	**149.64**	**314**	PKPbc		PKPdf	16 57 13.7	+1.5
	0.7nm,0.6s,baz=123,slow=3.3,SNR=5.2							
GERES	**GERESS Array B**	**151.38**	**349**	PKPbc		PKPdf	16 57 17.8	+3.3
	0.6nm,0.6s,baz=27,slow=3.0,SNR=7.6							

IDC 25 17:19:27.5±1.5,0.81N×127.10E,mb3.5/4,mb1 3.7/4, mb1mx3.5/15,mbtmp3.6/4,Error ellipse: s-maj=63.1km s-min=24.9km az=59.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.81**	**161**	P		P	17 24 21.2	-2.2
	0.5nm,0.5s,baz=337,slow=11,SNR=7.9							
WB2	**Warramunga Arr**	**21.81**	**161**	*e*P		P	17 24 21.4	-2.0
PMG	**Port Moresby**	**22.41**	**117**	P		P	17 24 26.9	-2.5
	1.6nm,0.6s,baz=301,slow=12,SNR=3.4							
ASPA	**Alice Springs**	**25.21**	**165**	*e*P		P	17 24 55.9	-0.8
ASAR	**Alice Springs**	**25.21**	**165**	P		P	17 24 56.0	-0.7
	0.9nm,0.9s,baz=346,slow=12,SNR=9.1							
MKAR	**Makanchi Array**	**60.16**	**326**	P		P	17 29 37.1	-2.3
	0.2nm,0.3s,baz=116,slow=8.2,SNR=5.6							

WEL 25 17:24:45.4±0.2,40.51S×176.50E,h38km±3km,ML3.5/5, 1C-1D,Error ellipse: s-maj=2.1km s-min=1.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**0.26**	**228**	P*		P	17 24 53.5	+0.5
BFZ				S*		S	17 24 58.8	+0.4
PWZ	**Pawanui**	**0.55**	**30**	P*		P	17 24 59.2	-0.5
PWZ				S*		S	17 25 04.9	+0.1
TSZ	**Takapari Road**	**0.61**	**317**	P*		P	17 24 56.8	-0.7
TSZ				S*		S	17 25 05.0	-1.3
MRZ	**Mangatainoka R**	**0.72**	**257**	⇓P*		P	17 24 58.9	-0.1
MRZ				S*		S	17 25 08.6	-0.5
MTW	**Mount Morrison**	**1.00**	**229**	P*		P	17 25 02.7	-0.3
PAWZ	**Paruwai Farm**	**1.20**	**223**	PN		P	17 25 05.5	-0.3
PAWZ				S*		S	17 25 20.1	-1.0
MOVZ	**Moawhango**	**1.24**	**332**	⇑PN		P	17 25 06.4	-0.1
MOVZ				SN		S	17 25 21.2	-1.1
CAW	**Cannon Point**	**1.24**	**241**	PN		P	17 25 05.9	-0.6
CAW				S*		S	17 25 20.5	-1.8
KIW	**Kapiti Island**	**1.26**	**253**	PN		P	17 25 06.4	-0.3
KIW				S*		S	17 25 21.8	-1.0
MSWZ	**Moikau Station**	**1.31**	**226**	PN		P	17 25 06.6	-1.0
MSWZ				S*		S	17 25 23.1	-1.1
BKZ	**Black Stump Fm**	**1.34**	**360**	PN		P	17 25 07.5	-0.5
WNVZ	**Wahianoa**	**1.37**	**329**	PN		P	17 25 08.0	-0.4

NEIC 25 17:32:40.9,51.12N×178.09W,h8km,ML3.5(AEIC),After AEIC.,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**0.84**	**39**	P		Pb	17 32 56.0	-1.3
KIMD				S		Sb	17 33 07.6	-0.9
KIWB	**Kanaga Island**	**0.94**	**38**	P		Pb	17 32 57.8	-1.3
KIWB				S		Sb	17 33 10.5	-1.0
KIKV	**Kanaga Island**	**0.96**	**37**	P		Pb	17 32 58.0	-1.3
ADAG	**Mount Adagdak**	**1.27**	**47**	P		Pb	17 33 02.6	-2.0
GSTD	**Great Sitkin T**	**1.54**	**52**	P		Pn	17 33 07.0	-1.7
GSTD				S		Sb	17 33 27.3	-1.4
GSMY	**Great Sitkin M**	**1.57**	**53**	P		Pn	17 33 07.1	-2.2
GSMY				S		Sb	17 33 28.3	-1.5
GSTR	**Great Sitkin T**	**1.60**	**52**	P		Pn	17 33 07.7	-1.9
GSTR				S		Sb	17 33 28.7	-1.9
GSIG	**Igitkin Island**	**1.61**	**56**	P		Pn	17 33 07.3	-2.5
ATKA	**Atka Island**	**2.66**	**64**	P		Pn	17 33 22.0	-2.8
ATKA				S		Sn	17 33 54.1	-3.5
FX1	**Attu Island--F**	**5.68**	**292**	P		Pn	17 34 04.2	-3.5

OTT 25 17:44:31.9±1.1,38.04N×81.47W,MN3.5/2,Probable blast, West Virginia, U.S. Mining explosion.,West Virginia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PLIO	**Pelee Island,**	**3.81**	**347**	PN		Pn	17 45 31.0	-2.2
PLIO				PG		Pg	17 45 36.3	-12
PLIO				SN		Sn	17 46 16.1	-3.3
PLIO				SG		Sg	17 46 26.8	-12
PLIO				Trac			17 46 37.5	
	comp=Z,236nm,0.9s							
HGVO	**Hagersville**	**5.02**	**11**	PN		Pn	17 45 47.3	-3.1
HGVO				SN		Sn	17 46 43.2	-6.8
HGVO				SG		Sg	17 47 04.2	-15
HGVO				Trac			17 47 07.0	
	comp=Z,5.0nm,0.2s							
PTCO	**Port Colborne**	**5.11**	**18**	PN		Pn	17 45 52.2	+0.6
PTCO				SN		Sn	17 46 44.9	-7.4
PTCO				SG		Sg	17 47 06.8	-15
PTCO				Trac			17 47 10.7	
	comp=Z,242nm,1.0s							

ELFO	**Elginfield**	**5.15**	**1**	SN		Sn	17 46 48.7	-4.5
ELFO				SG		Sg	17 47 11.1	-12
ELFO				Trac			17 47 19.4	
	comp=Z,13nm,0.2s							
MEDO	**Medina**	**5.61**	**23**	PN		Pn	17 45 55.3	-3.3
MEDO				SN		Sn	17 46 59.0	-5.7
MEDO				LG			17 47 23.0	
MEDO				Trac			17 47 44.3	
	comp=Z,28nm,0.3s							
ACTO	**Acton**	**5.67**	**10**	SN		Sn	17 46 56.6	-10
ACTO				SG		Sg	17 47 25.3	-15
ACTO				Trac			17 47 26.1	
	comp=Z,159nm,0.7s							
ELGO	**Elora Gorge**	**5.69**	**8**	PN		Pn	17 45 57.7	-2.0
ELGO				LG			17 47 22.3	
ELGO				Trac			17 47 35.5	
	comp=Z,87nm,0.7s							
BRCO	**Bruce Peninsul**	**6.20**	**0**	SG		Sg	17 47 38.9	-19
SADO	**Sadowa**	**6.95**	**14**	SN		Sn	17 47 27.7	-11
SADO				LG			17 48 01.0	
CRLO	**Chalk River**	**8.55**	**19**	SN		Sn	17 48 07.0	-11
CRLO				LG			17 48 52.5	
CRLO				Trac			17 49 02.0	
	comp=Z,34nm,0.7s							
EEO	**Eldee**	**8.78**	**11**	PN		P	17 46 36.3	-6.7
EEO				SN		Sn	17 48 12.7	-11
EEO				LG			17 49 00.3	
EEO				Trac			17 49 09.9	
	comp=Z,20nm,0.6s							

MEX 25 18:38:01.3±0.6,17.30N×101.14W,h15km±11km,MD3.7, 1D,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.44**	**315**	*i* P		Pb	18 38 08.6	-1.6
ZIIG				*i* S		Sb	18 38 15.1	-1.1
CAIG	**El Cayaco**	**0.87**	**106**	*e*P		Pb	18 38 15.2	-2.4
CAIG				*i* S		Sb	18 38 25.8	-2.9
ACX	**Acapulco**	**1.25**	**110**	*e*P		Pb	18 38 22.0	-2.0
MOIG	**Morelia**	**2.37**	**359**	*i* P		Pn	18 38 36.4	-3.9
MOIG				⇓*i*S		Sn	18 39 04.4	-4.9
PPM	**Popocatepetl**	**2.97**	**53**	*e*P		Pn	18 38 54.0	+5.1

*IDC **25** 18:42:31.5±1.1,33.87S×71.94W,mb4.2/3,mb1 4.2/7, mb1mx4.0/17,mbtmp4.0/7,ML4.2/3,MS3.6/3,Ms1 3.6/3, ms1mx2.9/19,Error ellipse: s-maj=38.7km s-min=18.7km az=124.0*
*GUC **25** 18:42:34.5±1.1,33.75S×72.17W,h7km±5km,ML4.3*
*NEIC **25** 18:42:34.5,33.755S×72.17W,h7km,mb3.7/1,ML4.3(GUC), After GUC.*
ISC 25 18:42:33.5±1.0,33.73S±0.04×72.37W±0.05,h31km±8km, n40,σ0s=83/50,mb4.1/2,MS3.6/2,13C-8D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.72**	**70**	⇑*i*P		**Pb**	**18 42 46.2**	**-1.2**
LNV	**Longovilo**	**0.83**	**106**	⇓*i*P		**Pn**	**18 42 48.1**	**-1.0**
IHA	**Instituto Hidr**	**0.93**	**41**	⇑*i*P		**Pn**	**18 42 51.0**	**+0.5**
IHA				*i* S		**Sb**	**18 43 03.0**	**-0.1**
TACH	**Talagante**	**1.20**	**87**	⇑*i*P		**Pn**	**18 42 53.5**	**-0.9**
ROCH	**El Roble**	**1.37**	**57**	⇑*i*P		**Pn**	**18 42 57.5**	**+0.8**
PUEX	**Pudahuel**	**1.38**	**78**	⇑*i*P		**Pn**	**18 42 58.2**	**+1.3**
PUEX				*i* S		**Sn**	**18 43 14.3**	**+0.1**
PUEX				AMP			18 43 21.4	
	comp=N,17μm,0.5s							
PACH	**Papudo**	**1.43**	**34**	⇑*i*P		**Pn**	**18 42 57.8**	**+0.2**
PACH				*i* S		**Sn**	**18 43 15.4**	**+0.1**
SFDO	**San Fernando**	**1.43**	**128**	⇑*i*P		**Pn**	**18 42 57.5**	**-0.1**
CHCH	**Chadas Angostu**	**1.45**	**99**	⇑*i*P		**Pn**	**18 42 57.7**	**-0.2**
SAN	**Santiago**	**1.46**	**80**	⇑*i*P		**Pn**	**18 42 57.9**	**-0.1**
SAN				*i* S		**Sn**	**18 43 15.5**	**-0.7**
SAN				AMP			18 43 23.1	
	comp=E,8μm,0.5s							
ANTU	**Antumapu**	**1.46**	**84**	⇓*i*P		**Pn**	**18 42 58.0**	**0.0**
ANTU				*i* S		**Sn**	**18 43 15.5**	**-0.8**
ANTU				AMP			18 43 17.4	
	comp=N,14μm,0.5s							
STL	**Santa Lucia**	**

*IDC **25** 19:03:42.6±1.7,21.68N×143.09E,h284km±16km, mb3.3/12,mb1 3.4/13,mb1mx3.3/23,mbtmp4.0/13,Error ellipse: s-maj=25.7km s-min=10.1km az=86.0*
*NEIC **25** 19:03:44.0±0.5,21.68N×143.06E,h300km,mb3.5/2,Error ellipse: s-maj=25.7km s-min=9.9km az=79.0*
ISC 25 19:03:42.2±1.4,21.66N±0.09×143.1E±0.3,h298km±13km, n20,σ0§66/20,mb3.5/14,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.47**	**352**	P	**P**	**19 05 04.8**	**-0.9**
	20nm,0.3s,baz=162,slow=20,SNR=3.7						
CBIJ				S	**S**	**19 06 11.9**	**+0.7**
	18nm,0.3s,baz=140,slow=23,SNR=4.3						
ASAJ	**Asahikawa**	**22.40**	**359**	P	**P**	**19 08 16.8**	**-0.1**
	5.6nm,0.6s,mb4.1,baz=241,slow=10,SNR=3.4						
SONM	**Songino Array**	**39.31**	**321**	P	**P**	**19 10 45.2**	**+1.1**
	0.2nm,0.4s,mb2.9,baz=124,slow=7.7,SNR=6.7						
CTA	**Charters Tower**	**41.61**	**176**	P	**P**	**19 11 03.2**	**-0.1**
	2.3nm,0.9s,mb3.4,baz=313,slow=14,SNR=2.2						
CTA	**Charters Tower**	**41.61**	**176**	P	**P**	**19 11 03.2**	**-0.1**
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**19 11 08.5**	**+0.3**
	0.2nm,0.3s,mb2.8,baz=17,slow=9.6,SNR=9.2						
FITZ	**Fitzroy Crossi**	**43.05**	**205**	P	**P**	**19 11 14.9**	**0.0**
	0.9nm,0.3s,mb3.4,baz=357,slow=9.0,SNR=4.4						
ASAR	**Alice Springs**	**45.93**	**192**	P	**P**	**19 11 37.8**	**+0.2**
	0.1nm,0.5s,mb2.4,baz=13,slow=12,SNR=4.2						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**19 12 37.7**	**-1.3**
	0.7nm,0.4s,mb3.3,baz=344,slow=6.1,SNR=4.7						
ZAL	**Zalesovo**	**54.19**	**322**	P	**P**	**19 12 37.7**	**-1.3**
MKAR	**Makanchi Array**	**54.66**	**313**	P	**P**	**19 12 43.1**	**+0.7**
	0.3nm,0.3s,mb3.1,baz=90,slow=9.5,SNR=5.8						
KURK	**Kurchatov**	**57.44**	**317**	*eP*	**P**	**19 13 01.5**	**-0.5**
	1.2nm,0.7s,mb3.4						
CHKZ	**Chkalovo**	**62.51**	**320**	*eP*	**P**	**19 13 35.6**	**-0.5**
	0.6nm,0.4s,mb3.6						
BVAR	**Borovoye Array**	**62.64**	**320**	P	**P**	**19 13 37.2**	**+0.3**
	2.3nm,0.4s,mb4.2,baz=99,slow=8.0,SNR=22						
YKA	**Yellowknife Ar**	**76.53**	**28**	P	**P**	**19 15 01.2**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=292,slow=5.7,SNR=12						
ARCES	**ARCESS Array B**	**78.93**	**341**	P	**P**	**19 15 14.8**	**+1.0**
	2.6nm,0.6s,mb4.2,baz=72,slow=7.7,SNR=14						
KAF	**Kangasniemi**	**82.72**	**335**	*ep*	**P**	**19 15 32.5**	**-1.1**
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**19 15 35.7**	**-0.2**
	1.0nm,0.4s,mb4.0,baz=59,slow=5.1,SNR=33						
FINES	**FINESS Array B**	**83.18**	**334**	P	**P**	**19 15 35.7**	**-0.2**
PLCA	**Paso Flores**	**145.80**	**132**	PKPbc	PKPbc	19 22 49.1	+2.7
	1.0nm,0.6s,baz=248,slow=8.3,SNR=6.1						

*TAP **25** 19:52:57.5,24.99N×121.51E,h144km,ML3.0*
JMA 25 19:52:58.9±0.4,25.09N×121.95E,h126km,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.15**	**123**	P	P	19 53 23.2	0.0
YOJ				S	S	19 53 40.9	-0.7
IRIF	**Iriomote-Funau**	**1.79**	**115**	P	P	19 53 29.9	-0.6
IRIF				S	S	19 53 54.6	+0.2
HATJ	**Hateruma jima**	**1.98**	**121**	S	S	19 53 59.4	+0.9
JKRS	**Kuro-shima**	**2.06**	**114**	P	P	19 53 33.6	-0.2
JKRS				S	S	19 54 00.8	+0.5
JIJ	**Ishigaki jima**	**2.12**	**109**	P	P	19 53 34.3	-0.4
JIJ				S	S	19 54 01.6	-0.2
JTJ	**Tarama**	**2.54**	**100**	P	P	19 53 40.3	+0.1
JTJ				S	S	19 54 11.7	+0.3

*CSEM **25** 20:01:20.8±0.1,39.93N×40.67E,h2km,MD3.8,Error ellipse: s-maj=1.8km s-min=1.3km az=159.0*
*TIF **25** 20:01:21.2,39.91N×40.75E,h10km±3km*
*ISK **25** 20:01:21.6,39.91N×40.74E,h4km,MD3.8*
ISC 25 20:01:25.6±0.5,39.92N±0.05×40.81E±0.04,h33km,n29, σ1§62/39,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZM	**Erzurum**	**0.42**	**92**	*i* PG	**Pb**	**20 01 30.7**	**-4.3**
ERZM	**Erzurum**	**0.43**	**92**	*i* P	**P**	**20 01 30.5**	**-4.5**
ERZM				*i* S	**S**	**20 01 41.9**	**+0.1**
EZC	**Erzincan**	**0.79**	**258**	*i* PN	**Pn**	**20 01 43.0**	**+2.6**
BINT	**Bingol**	**1.07**	**194**	*i* PG	**P**	**20 01 42.2**	**-2.1**
BINT				*i* SG	**S**	**20 01 57.0**	**-1.2**
GUMT	**Gumushane**	**1.15**	**298**	*i* PN	**Pn**	**20 01 43.5**	**-2.1**
KELT	**Kelkit**	**1.22**	**281**	*i* P	**P**	**20 01 45.0**	**-1.3**
KELT				*i* S	**S**	**20 02 02.7**	**+0.8**
PTK	**Pertek**	**1.50**	**227**	*i* PN	**Pn**	**20 01 49.1**	**-1.6**
BCA	**Borcka**	**1.64**	**22**	PN	**Pn**	**20 01 52.0**	**-0.6**
BTMT	**Batman**	**1.81**	**163**	PN	**Pn**	**20 01 55.2**	**+0.2**
KARS	**Kars**	**1.88**	**68**	PN	**Pn**	**20 01 56.8**	**+0.8**
ELZG	**Elazig**	**2.01**	**226**	*i* P	**P**	**20 01 55.9**	**-1.8**
ELZG				*i* S	**S**	**20 02 24.3**	**+2.4**
BEST	**Besiri**	**2.06**	**170**	*i* P	**P**	**20 01 58.8**	**+0.3**
BEST				*i* S	**S**	**20 02 28.9**	**+5.7**
DIY	**Diyarbakir**	**2.07**	**193**	*e*PN	**Pn**	**20 01 57.6**	**-1.2**
VANB	**Van**	**2.40**	**123**	*e*PN	**Pn**	**20 02 03.8**	**+0.3**
MYA	**Malataya**	**2.45**	**230**	*e*PN	**Pn**	**20 02 03.1**	**-1.0**
TVAN	**Van**	**2.45**	**124**	*i* P	**P**	**20 02 07.1**	**+3.1**
TVAN				*i* S	**S**	**20 02 41.3**	**+8.2**
MALT	**Malatya**	**2.45**	**230**	*e*PN	**Pn**	**20 02 02.2**	**-2.0**
VANT	**Van**	**2.49**	**126**	*e*PN	**Pn**	**20 02 04.3**	**-0.4**
CLDR	**Caldiran**	**2.52**	**107**	*e*PN	**Pn**	**20 02 06.1**	**+0.8**
URFA	**Urfa**	**2.93**	**213**	*e*PN	**Pn**	**20 02 09.7**	**-1.3**
SVST	**Sivas**	**2.97**	**268**	*i* P	**P**	**20 02 15.7**	**+4.2**
SVST				*i* S	**S**	**20 03 00.1**	**+14**
GNI	**Garni**	**3.03**	**84**	*e*PN	**Pn**	**20 02 12.8**	**+0.4**
TBLG	**Delisi**	**3.48**	**58**	P	**P**	**20 02 26.8**	**+8.0**
TI2	**Plekhanov**	**3.49**	**58**	*e*P	**P**	**20 02 17.6**	**-1.3**
GZT	**Gaziantep**	**3.61**	**226**	*i* P	**P**	**20 02 19.5**	**-1.0**
GZT				*i* S	**S**	**20 03 12.4**	**+10**
MSL	**Mosul**	**4.05**	**153**	*e*Pn	Px	20 02 23.0	
MSL				*e*Pb	Px	20 02 36.5	
MSL				*e*Sn	Sx	20 03 25.0	
MSL				*e*Sb	**Sb**	**20 03 41.5**	**+17**
BOYT	**Boyabat**	**4.74**	**290**	*i* P	**P**	**20 02 43.2**	**+6.6**
BOYT				*i* S	**S**	**20 03 42.7**	**+12**
AVNT	**Avonos**	**4.75**	**258**	*i* P	**P**	**20 02 47.0**	**+10**
AVNT				*i* S	S	20 04 02.6	+31
COBT	**Iskenderun**	**4.94**	**228**	*i* P	**P**	**20 02 41.0**	**+1.6**
COBT				*i* S	**S**	**20 03 53.1**	**+17**

*IDC **25** 20:36:05.4±1.6,3.06N×127.94E,mb3.7/5,mb1 3.9/5, mb1mx3.7/17,mbtmp3.8/5,Error ellipse: s-maj=89.8km s-min=21.6km az=69.0*
*NEIC **25** 20:36:23.4±5.6,2.82N×127.88E,h161km±54km,mb3.9/4, Error ellipse: s-maj=73.8km s-min=18.2km az=65.0*
ISC 25 20:36:20.3±6.6,2.9N±0.3×127.9E±0.6,h150km±64km,n10, σ0§55/10,mb3.7/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**16.18**	**164**	*eP*	**P**	**20 40 00.6**	**+0.1**
	3.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.01**	**186**	P	**P**	**20 40 53.2**	**-0.2**
	1.5nm,0.6s,mb3.5,baz,10,slow=8.6,SNR=3.8						
WRAB	**Tennant Creek**	**23.58**	**165**	P	**P**	**20 41 19.3**	**+0.8**
	2.6nm,0.6s,mb3.9						
WRA	**Warramunga Arr**	**23.59**	**165**	P	**P**	**20 41 18.1**	**-0.4**
	1.0nm,0.3s,mb3.8,baz=343,slow=10,SNR=36						
WB2	**Warramunga Arr**	**23.59**	**165**	*eP*	**P**	**20 41 17.5**	**-1.1**
ASAR	**Alice Springs**	**27.07**	**168**	P	**P**	**20 41 51.8**	**+0.8**
	0.3nm,0.5s,mb3.2,baz=347,slow=7.3,SNR=8.0						
ASAR				PcP	PcP	20 45 14.8	+6.4
	0.2nm,0.5s,baz=346,slow=2.5,SNR=4.5						
STKA	**Stephens Creek**	**36.98**	**160**	*eP*	**P**	**20 43 16.6**	**-0.3**
	1.6nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**36.98**	**160**	P	**P**	**20 43 16.9**	**0.0**
	1.9nm,0.5s,mb4.0,baz=337,slow=10,SNR=12						
MKAR	**Makanchi Array**	**58.87**	**325**	P	**P**	**20 46 05.8**	**+0.1**
	0.5nm,0.6s,mb3.5,baz=120,slow=8.1,SNR=10						
KURK	**Kurchatov**	**63.04**	**327**	*eP*	**P**	**20 46 33.5**	**-0.1**
	1.7nm,0.6s,mb4.0						

*NIED **25** 20:45:00,33.80N×130.10E,h11km,Mw3.4 Best double couple: M0 1.2×10^14 NP1:φs312°,δ80°,λ-26°. NP2:φs47°, δ64°,λ-169°.*
JMA 25 20:45:39.9,33.77N×130.12E,h16km,M3.7,4C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JII	**Iki**	**0.32**	**275**	‖P	Pb	20 45 46.7	-0.1
JII				S	Sb	20 45 51.3	-0.2
JFI	**Itaya**	**0.41**	**147**	↑P	Pb	20 45 48.0	-0.3
JFI				S	Sb	20 45 53.9	0.0
JFA	**Akaike**	**0.57**	**96**	‖P	Pb	20 45 50.6	-0.4
JFA				S	Sb	20 45 58.4	-0.1
JUR	**Ureshino**	**0.69**	**192**	↑P	Pb	20 45 52.8	-0.3
JUR				S	Sb	20 46 01.9	-0.2
JTA	**Tamana**	**0.88**	**157**	↑P	Pb	20 45 56.0	-0.2
JTA				S	Sb	20 46 07.8	+0.3
JTU	**Tsushima**	**0.96**	**322**	↑P	Pb	20 45 57.6	-0.1
JTU				*i* S	Sb	20 46 10.6	+0.6

IDC 25 20:52:06.4±8.9,7.50S×130.98E,h164km±95km,mb3.2/1, mb1 3.3/4,mb1mx3.1/11,mbtmp3.7/4,Error ellipse: s-maj=62.0km s-min=40.4km az=39.0,Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.75**	**206**	P	P	20 54 49.8	-0.1
	1.5nm,0.3s,baz=22,slow=13,SNR=25						
FITZ				S	S	20 57 00.3	+2.1
	0.2nm,0.3s,baz=5.2,slow=11,SNR=3.0						
WRA	**Warramunga Arr**	**12.79**	**166**	P	P	20 55 00.9	-2.4
	0.2nm,0.3s,baz=345,slow=14,SNR=21						
WRA				S	S	20 57 24.6	+2.0
	0.3nm,0.3s,baz=343,slow=25,SNR=8.2						
ASAR	**Alice Springs**	**16.32**	**170**	P	P	20 55 47.7	0.0
	0.2nm,0.3s,baz=353,slow=12,SNR=16						
ASAR				S	S	20 58 48.3	+5.4
	0.1nm,0.3s,baz=357,slow=27,SNR=5.6						
MKAR	**Makanchi Array**	**69.17**	**326**	P	P	21 02 55.1	-2.0
	0.4nm,0.5s,baz=117,slow=6.2,SNR=8.5						

*IDC **25** 21:02:48.5±1.4,5.44N×94.36E,mb3.7/7,mb1 3.9/7, mb1mx3.7/17,mbtmp3.7/7,Error ellipse: s-maj=66.2km s-min=20.2km az=55.0*
*NEIC **25** 21:02:52.9±0.7,5.39N×94.30E,h30km,mb4.2/3,Error ellipse: s-maj=22.4km s-min=8.7km az=224.0*
ISC 25 21:02:56.7±5.1,5.6N±0.2×94.7E±0.2,h73km±43km,n12, σ0§38/13,mb3.7/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.98**	**93**	*e*Pn	**P**	**21 04 24.6**	**+0.2**
KULM				*e*Sn	**S**	**21 05 32.0**	**-0.3**
MKAR	**Makanchi Array**	**42.39**	**347**	P	**P**	**21 10 45.7**	**+0.2**
	1.7nm,0.6s,mb4.0,baz=168,slow=7.7,SNR=29						
MKAR	**Makanchi Array**	**42.39**	**347**	P	**P**	**21 10 45.7**	**+0.2**
SONM	**Songino Array**	**43.25**	**12**	P	**P**	**21 10 53.3**	**+0.8**
	0.3nm,0.4s,mb3.3,baz=189,slow=8.9,SNR=5.5						
WRA	**Warramunga Arr**	**46.56**	**124**	P	**P**	**21 11 19.5**	**+0.2**
	0.7nm,0.5s,mb3.6,baz=304,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**46.57**	**124**	P	**P**	**21 11 19.5**	**+0.1**
	1.5nm,0.6s,mb3.9						
KURK	**Kurchatov**	**46.91**	**346**	*eP*	**P**	**21 11 21.6**	**0.0**
	1.8nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**48.10**	**129**	P	**P**	**21 11 31.3**	**0.0**
	0.4nm,0.6s,mb3.5,baz=298,slow=7.9,SNR=7.0						
ZAL	**Zalesovo**	**48.84**	**352**	P	**P**	**21 11 36.7**	**+0.1**
	0.9nm,0.3s,mb4.1,baz=293,slow=8.1,SNR=4.7						
CHKZ	**Chkalovo**	**51.77**	**342**	*eP*	**P**	**21 11 58.2**	**-0.7**
	0.8nm,0.3s,mb4.2						
FINES	**FINESS Array B**	**74.93**	**332**	P	**P**	**21 14 30.7**	**-0.6**
	0.3nm,0.5s,mb3.3,baz=108,slow=4.4,SNR=4.3						
GERES	**GERESS Array B**	**79.84**	**318**	P	**P**	**21 14 59.1**	**+0.2**
	0.4nm,0.6s,mb3.4,baz=108,slow=4.2,SNR=6.1						

*NEIC **25** 21:06:13.7±1.8,24.04S×179.25E,h566km±19km,mb4.4/6, Error ellipse: s-maj=21.7km s-min=13.9km az=212.0*
*IDC **25** 21:06:14.6±1.8,24.06S×179.16E,h570km±20km,mb3.5/8, mb1 3.6/11,mb1mx3.5/16,mbtmp4.5/11,Error ellipse: s-maj=21.5km s-min=14.3km az=171.0*
ISC 25 21:06:09.6±1.4,23.81S±0.08×179.4E±0.1,h534km±25km, n35,σ1§13/24,mb4.0/9,3C-2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.04**	**276**	P	**P**	**21 08 52.3**	**+3.3**
	0.7nm,0.3s,baz=81,slow=20,SNR=12						
AFI	**Afiamalu**	**12.93**	**42**	P	**P**	**21 08 57.0**	**-1.1**
	8.5nm,0.3s,baz=24,slow=2.2,SNR=16						
AFI				S	**S**	**21 11 13.3**	**-0.5**
	0.8nm,0.3s,baz=249,slow=20,SNR=3.4						
URZ	**Urewera**	**14.53**	**187**	P	**P**	**21 09 14.4**	**0.0**
	3.7nm,0.3s,baz=16,slow=5.6,SNR=17						
URZ				S	**S**	**21 11 43.2**	**-0.1**
	1.6nm,0.3s,baz=72,slow=20,SNR=10						
RPZ	**Rata Peaks**	**21.00**	**197**	P	**P**	**21 10 16.1**	**-0.3**
	8.6nm,0.7s,baz=174,slow=17,SNR=6.0						
ARMA	**Armidale**	**25.52**	**249**	*eP*	**P**	**21 10 58.5**	**+1.2**
CTA	**Charters Tower**	**30.90**	**270**	*eP*	**P**	**21 11 44.8**	**+0.7**
	8.9nm,0.3s,mb4.8						
CTA	**Charters Tower**	**30.90**	**270**	P	**P**	**21 11 44.0**	**0.0**
	10nm,0.4s,mb4.8,baz=96,slow=11,SNR=21						
CTAO	**Charters Tower**	**30.90**	**270**	*eP*	**P**	**21 11 44.5**	**+0.4**
	10nm,0.4s,mb4.7						
PMG	**Port Moresby**	**33.92**	**290**	P	**P**	**21 12 10.3**	**+0.6**
	14nm,0.7s,mb4.6,baz=119,slow=5.5,SNR=13						
PMG	**Port Moresby**	**33.92**	**290**	*eP*	**P**	**21 12 09.8**	**+0.1**
	14nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**34.22**	**248**	*eP*	**P**	**21 12 12.6**	**+0.6**
	2.7nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**34.22**	**248**	P	**P**	**21 12 11.7**	**-0.3**
	3.6nm,0.7s,mb4.0,baz=102,slow=9.2,SNR=8.8						
ASAR	**Alice Springs**	**41.48**	**261**	P	**P**	**21 13 11.0**	**-0.2**
	1.8nm,0.5s,mb3.9,baz=96,slow=7.9,SNR=25						
ASAR				PcP	PcP	21 14 56.5	-0.4
	0.8nm,0.6s,baz=103,slow=4.8,SNR=5.3						
ASAR				S	**S**	**21 18 46.3**	**-2.7**
	0.5nm,0.8s,baz=91,slow=15,SNR=7.7						
ASPA	**Alice Springs**	**41.48**	**261**	*eP*	**P**	**21 13 11.5**	**+0.3**
WB2	**Warramunga Arr**	**41.83**	**266**	*eP*	**P**	**21 13 13.0**	**-1.1**
WRAB	**Tennant Creek**	**41.83**	**266**	*eP*	**P**	**21 13 13.2**	**-0.9**
	6.9nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**41.84**	**266**	P	**P**	**21 13 13.6**	**-0.6**
	0.8nm,0.3s,mb3.7,baz=90,slow=5.9,SNR=36						
WRA				S	**S**	**21 18 48.5**	**-5.7**
	0.6nm,0.9s,baz=104,slow=19,SNR=5.7						
KAKA	**Kakadu**	**45.73**	**275**	*eP*	**P**	**21 13 43.5**	**-1.2**
	1.8nm,0.4s,mb4.0						
TXAR	**Lajitas Array**	**90.87**	**58**	P	**P**	**21 18 19.9**	**+2.6**
	0.8nm,0.7s,mb3.7,baz=202,slow=6.7,SNR=5.3						
SONM	**Songino Array**	**96.66**	**320**	P	**P**	**21 18 45.1**	**+1.8**
	0.1nm,0.3s,mb3.5,baz=63,slow=2.8,SNR=3.6						
FRB	**Frobisher Bay**	**120.84**	**29**	PKP	PKPdf	21 24 00.9	+0.5
	1.4nm,0.3s,baz=66,slow=9.7,SNR=4.0						
ARCES	**ARCESS Array B**	**131.68**	**348**	PKP	PKPdf	21 24 22.4	+1.4
	4.5nm,1.0s,baz=58,slow=2.0,SNR=11						
FINES	**FINESS Array B**	**138.18**	**341**	PKhKP		21 24 25.9	
	0.2nm,0.3s,baz=90,slow=1.9,SNR=8.9						
FINES				PKP	PKPdf	21 24 31.9	-1.3
	0.6nm,0.4s,baz=94,slow=3.3,SNR=12						
FINES	**FINESS Array B**	**138.18**	**341**	PKP	PKPdf	21 24 31.9	-1.3
NB2	**NORSAR Subarra**	**141.90**	**351**	PKPabc	PKPdf	21 24 37.3	-2.4
	0.8nm,0.5s,baz=14,slow=2.8						
NOA	**NORSAR Array B**	**141.90**	**351**	PKP	PKPdf	21 24 37.5	-2.2
	0.9nm,0.5s,baz=17,slow=4.3,SNR=9.9						
MALT	**Malatya**	**143.84**	**303**	*e*PKPdf	PKPdf	21 24 45.2	+1.5
AKASG	**Malin Array Be**	**144.59**	**327**	PKP	PKPdf	21 24 45.9	+1.2
	3.0nm,0.6s,baz=46,slow=4.0,SNR=18						
BRTR	**Keskin Array B**	**147.07**	**307**	PKPbc	PKPdf	21 24 53.8	+4.6
	2.6nm,0.6s,baz=106,slow=3.1,SNR=11						
CFR	**Carcaliu**	**148.39**	**320**	‖P	PKPdf	21 24 57.1	+6.0
BURAR	**Bucovina Array**	**148.57**	**326**	‖P	PKPdf	21 24 58.7	+7.4
MLR	**Muntele Rosu**	**149.49**	**322**	‖P	PKPdf	21 24 59.7	+6.8
CLL	**Collm**	**150.60**	**342**	↑/PKP1	PKPdf	21 25 02.6	+8.2
KHC	**Kasperske Hory**	**152.36**	**340**	↑*e*PKPB		21 25 06.5	
KHC				*e*PKPAB	PKPab	21 25 19.5	+0.1
GERES	**GERESS Array B**	**152.57**	**339**	PKPbc	PKPdf	21 25 06.7	+9.5
	0.4nm,0.6s,baz=27,slow=3.0,SNR=6.1						
GERES				PKPab	PKPab	21 25 20.6	+0.3
	0.4nm,0.6s,baz=45,slow=5.7,SNR=4.7						

*MOS **25** 21:18:48.8±1.3,42.64N×138.86E,h209km,mb3.5/5,Error ellipse: s-maj=21.8km s-min=13.3km az=79.4*
*NEIC **25** 21:18:49.8±0.9,42.61N×139.04E,h202km±10km,mb3.7/3, Error ellipse: s-maj=15.0km s-min=9.7km az=102.0*
*IDC **25** 21:18:49.3±1.5,42.55N×139.03E,h196km±14km, mb3.0/11,mb1 3.3/12,mb1mx3.2/22,mbtmp3.6/12,Error ellipse: s-maj=16.7km s-min=14.6km az=76.0*
*JMA **25** 21:18:50.2±0.1,42.61N×139.18E,h206km±1km,M3.3*
ISC 25 21:18:49.1±0.4,42.55N±0.05×139.23E±0.08,h214km±4km, n41,σ0§80/53,mb3.2/11,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOSM	**Okushiri--Mats**	**0.50**	**159**	P	**P**	**21 19 18.3**	**+0.2**
JOSM				*e*S	**S**	**21 19 39.4**	**-1.2**
JSH	**Shimam**	**0.61**	**81**	P	**P**	**21 19 18.5**	**0.0**
JYM2	**Yakumo 2**	**0.95**	**117**	P	**P**	**21 19 20.9**	**+0.7**
JYM2				*e*S	**S**	**21 19 44.5**	**+0.3**
JSK	**Shakotan**	**1.21**	**48**	P	**P**	**21 19 22.2**	**+0.1**
JSK				*e*S	**S**	**21 19 46.9**	**-0.7**
JNB	**Noboribetsu**	**1.34**	**93**	P	**P**	**21 19 23.4**	**+0.3**
JSR	**Shiriuchi**	**1.35**	**139**	P	**P**	**21 19 24.0**	**+0.8**
JSR				*e*S	**S**	**21 19 50.0**	**+0.5**
JKB	**Kayabe**	**1.49**	**116**	P	**P**	**21 19 25.2**	**+0.8**
JEW	**Eniwo**	**1.66**	**79**	P	**P**	**21 19 26.5**	**+0.7**
JOT	**Ohata**	**1.79**	**130**	P	**P**	**21 19 27.3**	**+0.3**
JHR	**Hokuryu**	**2.18**	**56**	P	**P**	**21 19 31.6**	**+0.7**
JFR	**Furan**	**2.54**	**75**	P	**P**	**21 19 35.2**	**+0.4**
JFR				*e*S	**S**	**21 20 09.6**	**-0.6**
JNBK	**Urakawa-nobuka**	**2.62**	**95**	P	**P**	**21 19 35.8**	**+0.1**
JNBK				*e*S	**S**	**21 20 10.8**	**-0.9**
JANG	**Nango**	**2.77**	**141**	P	**P**	**21 19 37.4**	**+0.1**
JANG				*e*S	**S**	**21 20 13.2**	**-1.4**
JKK2	**Kamakawa 2**	**2.89**	**62**	P	**P**	**21 19 39.3**	**+0.6**
JKK2				*e*S	**S**	**21 20 17.0**	**-0.1**
ASAJ	**Asahikawa**	**2.91**	**56**	P	**P**	**21 19 39.4**	**+0.5**
ASAJ				S	**S**	**21 20 18.4**	**+0.9**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.3s						
ASAJ	**Asahikawa**	**2.91**	**56**	P	**P**	**21 19 39.4**	**+0.5**
	comp=Z,16nm,0.3s,baz=246,slow=9.1,SNR=81						
ASAJ				S	**S**	**21 20 18.4**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=146,slow=31,SNR=2.5						
JCH	**Churui**	**3.05**	**87**	P	**P**	**21 19 40.1**	**-0.4**
JCH				*e*S	**S**	**21 20 18.2**	**-2.2**
YUK	**Yuzh-Kuril'sk**	**5.06**	**71**	*e*P	**P**	**21 20 09.9**	**+4.6**
YUK				S	**S**	**21 21 09.9**	**+5.5**
YUK				pmax	pmax		
	comp=Z,280nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.07**	**28**	*e*P	**P**	**21 20 04.8**	**-0.6**
YSS	**Yuzh-Sakhalins**	**5.07**	**28**	*e*Pn	**P**	**21 20 05.0**	**-0.4**
	comp=Z,17nm,0.5s						
MAJO	**Matsushiro**	**6.05**	**188**	*e*P	**P**	**21 20 18.6**	**+0.6**
SONM	**Songino Array**	**23.62**	**294**	P	**P**	**21 23 41.8**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.1,baz=90,slow=7.2,SNR=2.6						
ZAL	**Zalesovo**	**37.11**	**307**	P	**P**	**21 25 40.2**	**-0.1**
ZAL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ZAL	**Zalesovo**	**37.11**	**307**	P	**P**	**21 25 40.1**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.4,baz=182,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**39.96**	**296**	P	**P**	**21 26 02.1**	**-1.9**
	comp=Z,0.2nm,0.6s,mb2.8,baz=79,slow=7.3,SNR=2.5						
INK	**Inuvik**	**50.31**	**29**	*eP*	**P**	**21 27 25.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**50.31**	**29**	P	**P**	**21 27 26.3**	**+1.1**
	comp=Z,1.0nm,0.5s,mb3.4,baz=297,slow=8.4,SNR=8.4						
INK	**Inuvik**	**50.31**	**29**	*eP*	**P**	**21 27 25.6**	**+0.4**
	comp=Z,1.0nm,0.5s,mb3.4						
YKA	**Yellowknife Ar**	**59.92**	**31**	P	**P**	**21 28 34.6**	**+0.4**
	comp=Z,0.1nm,0.5s,mb2.7,baz=302,slow=6.1,SNR=4.0						
YKA				PcP	PcP	21 29 17.7	-0.3
	comp=Z,0.1nm,0.4s,baz=306,slow=3.2,SNR=5.4						
WRA	**Warramunga Arr**	**62.34**	**185**	P	**P**	**21 28 50.7**	**-0.3**
WRA						21 29 28.4	
WRA				pmax	pmax	

EIL Elat 5.20 156 Pn Pn 21 50 11.6 +0.6

IDC 25 21:49:30.4±2.6, 7.01N×127.25E, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=207.1km s-min=26.7km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.68**	**166**	P	P	21 55 19.7	-2.7
	0.3nm,0.5s,baz=346,slow=10.0,SNR=5.3						
ASAR	**Alice Springs**	**31.18**	**168**	P	P	21 55 52.5	-1.1
	0.2nm,0.4s,baz=348,slow=6.9,SNR=4.2						
STKA	**Stephens Creek**	**41.02**	**161**	P	P	21 57 15.2	-2.0
	0.9nm,0.5s,baz=346,slow=11,SNR=3.7						
MKAR	**Makanchi Array**	**55.20**	**324**	P	P	21 59 05.1	-2.4
	0.2nm,0.4s,baz=104,slow=7.2,SNR=4.7						

*IDC **25** 21:51:31.0±7.6, 4.46S×152.14E, mb4.1/3, mb1 4.3/4, mb1mx3.8/12, mbtmp4.2/4, ML3.1/1, Error ellipse: s-maj=125.5km s-min=81.5km az=2.0*
*NEIC **25** 21:51:51.6±13.0, 5.49S×151.50E, h84km±52km, mb4.2/3, Error ellipse: s-maj=148.9km s-min=39.4km az=219.0*
ISC 25 21:51:44.0±5.7, 5.2S±0.3×151.8E±0.3, h59km±40km, n10, σ0§64/11, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.21**	**227**	Pn	**P**	**21 53 15.1**	**0.0**
	2.0nm,0.3s,baz=40,slow=8.8,SNR=25						
PMG				Sn	**S**	**21 54 25.5**	**0.0**
	2.1nm,0.3s,baz=127,slow=23,SNR=6.0						
KAKA	**Kakadu**	**20.49**	**247**	*e*P	**P**	**21 56 19.2**	**-0.5**
	4.4nm,0.4s						
WRAB	**Tennant Creek**	**22.42**	**228**	*e*P	**P**	**21 56 40.7**	**+1.8**
	4.2nm,0.7s,mb4.0						
WB2	**Warramunga Arr**	**22.42**	**228**	*e*P	**P**	**21 56 39.1**	**+0.2**
WRA	**Warramunga Arr**	**22.43**	**228**	P	**P**	**21 56 38.6**	**-0.4**
	2.4nm,0.7s,mb3.7,baz=54,slow=10.0,SNR=19						
ASAR	**Alice Springs**	**25.19**	**221**	P	**P**	**21 57 05.5**	**-0.3**
	5.1nm,0.7s,mb4.2,baz=56,slow=8.9,SNR=48						
ASPA	**Alice Springs**	**25.19**	**221**	*e*P	**P**	**21 57 05.1**	**-0.7**
STKA	**Stephens Creek**	**28.23**	**199**	P	**P**	**21 57 33.7**	**+0.1**
	1.0nm,0.5s,mb3.7,baz=5.7,slow=10,SNR=3.4						
STKA	**Stephens Creek**	**28.23**	**199**	*e*P	**P**	**21 57 33.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**28.58**	**241**	*e*P	**P**	**21 57 37.0**	**+0.1**
	5.1nm,0.4s,mb4.6						

*NEIC **25** 21:57:46.6, 38.555S×175.77E, h153km, MG4.0(WEL), After WEL.*
WEL 25 21:57:46.0±0.3, 38.51S×175.74E, h156km±2km, ML3.9/7, Error ellipse: s-maj=2.6km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGZ	**Maungaku**	**0.52**	**197**	P	P	21 58 08.2	-0.4
MGZ	**Maungaku**	**0.52**	**197**	PN	P	21 58 08.3	-0.3
MGZ				SN	S	21 58 24.6	-1.3
TWVZ	**Taurewa**	**0.61**	**202**	PN	P	21 58 08.5	-0.5
TWVZ				SN	S	21 58 26.1	-0.7
WTVZ	**West Tongariro**	**0.62**	**191**	P	P	21 58 08.7	-0.4
WTVZ				S	S	21 58 26.5	-0.3
WTVZ	**West Tongariro**	**0.62**	**191**	PN	P	21 58 08.7	-0.3
WTVZ				SN	S	21 58 26.4	-0.4
NGZ	**Ngauruhoe**	**0.68**	**189**	P	P	21 58 08.5	-0.9
NGZ	**Ngauruhoe**	**0.68**	**189**	PN	P	21 58 08.6	-0.8
CNZ	**Chateau**	**0.71**	**192**	P	P	21 58 09.3	-0.3
CNZ	**Chateau**	**0.71**	**192**	PN	P	21 58 09.4	-0.1
FWVZ	**Far West T-bar**	**0.76**	**191**	*e*P	P	21 58 09.8	-0.1
FWVZ	**Far West T-bar**	**0.76**	**191**	PN	P	21 58 09.8	-0.1
TUVZ	**Tukino**	**0.77**	**185**	P	P	21 58 09.7	-0.2
TUVZ				S	S	21 58 27.8	-0.5
TUVZ	**Tukino**	**0.77**	**185**	PN	P	21 58 10.0	+0.1
TUVZ				SN	S	21 58 27.7	-0.6
WNVZ	**Wahianoa**	**0.83**	**187**	P	P	21 58 10.3	0.0
WNVZ	**Wahianoa**	**0.83**	**187**	PN	P	21 58 10.3	0.0
BKZ	**Black Stump Fm**	**0.89**	**138**	P	P	21 58 10.7	0.0
BKZ				S	S	21 58 28.9	-0.8
BKZ	**Black Stump Fm**	**0.89**	**138**	PN	P	21 58 10.7	0.0
BKZ				SN	S	21 58 28.9	-0.8
MOVZ	**Moawhango**	**0.90**	**179**	P	P	21 58 10.3	-0.5
MOVZ				S	S	21 58 28.0	-1.9
MOVZ	**Moawhango**	**0.90**	**179**	PN	P	21 58 10.3	-0.4
MOVZ				SN	S	21 58 28.1	-1.8
URZ	**Urewera**	**1.11**	**78**	P	P	21 58 12.2	-0.3
URZ	**Urewera**	**1.11**	**78**	PN	P	21 58 12.2	-0.3
URZ				SN	S	21 58 32.4	-0.6
WAZ	**Wanganui**	**1.38**	**205**	*e*P	P	21 58 14.6	-0.5
WAZ	**Wanganui**	**1.38**	**205**	PN	P	21 58 14.6	-0.5
MWZ	**Matawai**	**1.42**	**84**	P	P	21 58 15.2	-0.3
MWZ	**Matawai**	**1.42**	**84**	PN	P	21 58 15.2	-0.3
TSZ	**Takapari Road**	**1.56**	**174**	P	P	21 58 16.3	-0.7
TSZ				S	S	21 58 38.1	-2.9
TSZ	**Takapari Road**	**1.56**	**174**	PN	P	21 58 16.3	-0.7
KNZ	**Kokohu**	**1.60**	**109**	P	P	21 58 17.5	+0.1
KNZ	**Kokohu**	**1.60**	**109**	PN	P	21 58 17.5	+0.1
PWZ	**Pawanui**	**1.75**	**150**	P	P	21 58 18.6	-0.5
PWZ	**Pawanui**	**1.75**	**150**	PN	P	21 58 18.6	-0.4
PUZ	**Puketiti**	**2.03**	**79**	P	P	21 58 21.7	-0.5
PUZ	**Puketiti**	**2.03**	**79**	PN	P	21 58 21.7	-0.5
MRZ	**Mangatainoka R**	**2.16**	**183**	P	P	21 58 21.7	-2.0
BFZ	**Birch Farm**	**2.21**	**170**	P	P	21 58 22.7	-1.7
MXZ	**Matakaoa Point**	**2.24**	**66**	P	P	21 58 24.5	-0.2
MXZ	**Matakaoa Point**	**2.24**	**66**	PN	P	21 58 24.5	-0.2
KIW	**Kapiti Island**	**2.44**	**195**	P	P	21 58 24.5	-2.7
CAW	**Cannon Point**	**2.65**	**191**	P	P	21 58 26.9	-3.0
MRW	**Makara Radio**	**2.83**	**196**	P	P	21 58 28.8	-3.4
SNZO	**South Karori**	**2.91**	**195**	P	P	21 58 29.5	-3.6
MSWZ	**Moikau Station**	**2.93**	**187**	P	P	21 58 29.9	-3.5
BHW	**Baring Head**	**2.98**	**193**	P	P	21 58 30.3	-3.7
NNZ	**Nelson**	**3.26**	**213**	*e*P	P	21 58 33.3	-4.3
QRZ	**Quartz Range**	**3.39**	**226**	*e*P	P	21 58 34.5	-4.8
BSWZ	**Blackbirch Sta**	**3.51**	**203**	P	P	21 58 36.8	-4.0
THZ	**Tophouse**	**3.91**	**213**	*e*P	P	21 58 41.4	-4.7
KHZ	**Kahutara**	**4.25**	**202**	*e*P	P	21 58 46.0	-4.5

*MOS **25** 21:57:56.7±1.1, 2.71N×97.48E, h33km, mb5.0/6, Error ellipse: s-maj=45.8km s-min=14.1km az=108.8*
*IDC **25** 21:58:00.7±0.6, 3.04N×95.61E, mb4.3/18, mb1 4.5/18, mb1mx4.4/24, mbtmp4.3/18, MS3.5/2, Ms1 3.6/2, ms1mx3.2/23, Error ellipse: s-maj=24.7km s-min=12.6km az=44.0*
*BJI **25** 21:58:03.7, 2.83N×95.59E, h48km, mB4.9, mb4.4, Ms4.4, Msz4.0*
*NEIC **25** 21:58:05.9±1.6, 3.02N×95.65E, h36km±14km, mb4.6/17, Error ellipse: s-maj=12.2km s-min=5.7km az=47.0*
ISC 25 21:58:01.8±2.2, 2.97N±0.06×95.63E±0.06, h20km±15km, h33km±.9km: pP-P, n84, σ0§96/86, mb4.5/49, MS4.0/10, 5C-3D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.51**	**65**	*e*P	**Pn**	**21 59 24.7**	**-0.1**
CM31	**Chiang Mai Arr**	**15.73**	**12**	*e*P	**P**	**22 01 44.5**	**+0.4**
	14nm,0.9s						
HYB	**Hyderabad**	**22.07**	**312**	*e*P	**P**	**22 02 58.0**	**+0.6**
HYB	**Hyderabad**	**22.07**	**312**	*i* P	**P**	**22 02 58.0**	**+0.6**
KMI	**Kunming**	**23.06**	**17**	P	**P**	**22 03 09.3**	**+2.1**
KMI				S	**S**	**22 07 20.0**	**+7.3**
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.4						
KMI				LR	LR		
	comp=N,381nm,13.5s,MS4.0						
KMI				LR	LR		
	comp=E,145nm,15.2s,MS4.0						
KMI				LR	LR		
	comp=Z,326nm,13.7s,MS3.9						
GYA	**Guiyang**	**25.64**	**23**	P	**P**	**22 03 32.5**	**+0.5**
GYA				S	**S**	**22 07 57.3**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
GYA				AMB	AMB		
	comp=Z,100nm,4.2s						
GYA				LR	LR		
	comp=N,450nm,15.7s,MS4.2						
GYA				LR	LR		
	comp=E,380nm,15.4s,MS4.2						
GYA				LR	LR		
	comp=Z,250nm,15.7s,MS3.8						
LSA	**Lhasa**	**26.92**	**351**	P	**P**	**22 03 44.8**	**+1.0**
LSA	**Lhasa**	**26.92**	**351**	*e*P	**P**	**22 03 44.4**	**+0.6**
	comp=Z,19nm,0.8s,mb4.7						
XAN	**Xi'an**	**33.30**	**20**	P	**P**	**22 04 38.5**	**-2.0**
XAN				AP	pP	22 04 48.5	+2.1
XAN				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**36.23**	**126**	⇑*i*P	**P**	**22 05 05.1**	**-0.6**
	comp=Z,7.9nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**36.23**	**126**	P	**P**	**22 05 05.2**	**-0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=308,slow=4.6,SNR=13						
NJ2	**Nanjing**	**36.24**	**34**	*e*P	**P**	**22 05 06.3**	**+0.6**
NJ2				AP	pP	22 05 17.0	+5.4
NJ2				XP	sP	22 05 20.5	+6.4
NJ2				S	**S**	**22 10 45.0**	**+0.7**
NJ2				XS		22 11 01.0	
NJ2				AMB	AMB		
	comp=Z,470nm,4.6s						
NJ2				LR	LR		
	comp=N,640nm,11.3s,MS4.7						
NJ2				LR	LR		
	comp=E,370nm,12.4s,MS4.7						
NJ2				LR	LR		
	comp=Z,600nm,12.4s,MS4.6						
GTA	**Gaotai**	**36.47**	**5**	*e*P	**P**	**22 05 07.0**	**-0.5**
GTA				AP	pP	22 05 16.0	+2.6
GTA				XP	sP	22 05 20.8	+4.8
GTA				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
KAKA	**Kakadu**	**39.74**	**114**	*e*P	**P**	**22 05 34.1**	**-1.0**
	comp=Z,9.8nm,1.6s,mb4.3						
HHC	**Hu-ho-hao-te**	**40.35**	**19**	*e*P	**P**	**22 05 42.3**	**+2.4**
HHC				XP	sP	22 05 55.8	+7.4
HHC				PP	PP	22 07 18.5	+2.1
HHC				S	**S**	**22 11 50.8**	**+4.2**
HHC				XS		22 12 06.5	
HHC				SS	SS	22 14 45.5	+5.5
HHC				SCS	ScS	22 15 41.3	-1.8
HHC				AMB	AMB		
	comp=Z,24nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,146nm,4.3s						
HHC				LR	LR		
	comp=N,225nm,18.4s,MS4.2						
HHC				LR	LR		
	comp=E,223nm,16.7s,MS4.2						
WMQ	**Urumqi**	**41.28**	**351**	*e*P	**P**	**22 05 48.0**	**+0.5**
WMQ				AP	pP	22 05 58.0	+4.5
WMQ				XP	sP	22 06 02.0	+6.0
WMQ				PCP	PcP	22 07 49.0	+2.3
WMQ				*e*S	**S**	**22 12 00.0**	**-0.3**
WMQ				XS		22 12 16.0	
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,83nm,5.6s						
WMQ				LR	LR		
	comp=N,306nm,19.6s,MS4.3						
WMQ				LR	LR		
	comp=E,323nm,22.1s,MS4.3						
WMQ				LR	LR		
	comp=Z,198nm,21.3s,MS4.0						
BJT	**Baijiatuan**	**41.31**	**24**	*e*P	**P**	**22 05 48.2**	**+0.4**
	comp=Z,31nm,1.0s,mb4.9						
BJI	**Beijing**	**41.33**	**24**	*e*P	**P**	**22 05 48.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,24nm,0.9s,mb4.8						
UCH	**Uchtor**	**43.41**	**337**	P	**P**	**22 06 06.1**	**+1.1**
	SNR=14						
KBK	**Karagaybulak**	**43.61**	**338**	P	**P**	**22 06 08.0**	**+1.3**
	SNR=10.0						
AML	**Almayashu**	**43.66**	**336**	P	**P**	**22 06 07.8**	**+0.8**
	SNR=12						
AAK	**Ala-Archa**	**43.77**	**337**	*e*P	**P**	**22 06 07.7**	**-0.1**
	comp=Z,5.4nm,1.1s,mb4.2						
EKS2	**Erkin-Say**	**44.07**	**337**	P	**P**	**22 06 11.1**	**+0.8**
	SNR=5.0						
WRA	**Warramunga Arr**	**44.30**	**123**	P	**P**	**22 06 12.8**	**+0.4**
	comp=Z,6.4nm,0.8s,mb4.4,baz=302,slow=9.0,SNR=32						
WRAB	**Tennant Creek**	**44.30**	**123**	*e*P	**P**	**22 06 12.2**	**-0.3**
	comp=Z,14nm,1.0s,mb4.7						
USP	**Ospenovka**	**44.31**	**338**	P	**P**	**22 06 13.0**	**+0.8**
	SNR=7.4						
WB2	**Warramunga Arr**	**44.31**	**123**	⇑*i*P	**P**	**22 06 12.8**	**+0.2**
MKAR	**Makanchi Array**	**45.16**	**347**	*i* P	**P**	**22 06 18.9**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MKAR	**Makanchi Array**	**45.16**	**347**	P	**P**	**22 06 18.9**	**-0.2**
	comp=Z,12nm,0.8s,mb4.8,baz=165,slow=8.1,SNR=123						
SONM	**Songino Array**	**45.65**	**10**	P	**P**	**22 06 22.9**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=189,slow=8.7,SNR=31						
SONM				PcP	PcP	22 08 01.3	-0.1
	comp=Z,0.9nm,0.7s,baz=188,slow=3.6,SNR=4.1						
ASAR	**Alice Springs**	**45.71**	**127**	P	**P**	**22 06 24.1**	**+0.4**
	comp=Z,2.4nm,0.9s,mb4.1,baz=301,slow=7.3,SNR=18						
ASAR				PcP	PcP	22 08 02.3	+0.3
	comp=Z,1.3nm,0.9s,baz=303,slow=4.1,SNR=6.2						
ULN	**Ulaanbaatar**	**45.80**	**11**	*e*P	**P**	**22 06 23.3**	**-0.7**
	comp=Z,3.3nm,1.0s,mb4.2						
ZAK	**Zakamensk**	**47.68**	**7**	*e*P	**P**	**22 06 38.1**	**-0.8**
ZAK				*e*		22 07 55.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s,mb3.6						
CN2	**Changchun**	**48.48**	**29**	*e*P	**P**	**22 06 45.0**	**-0.2**
CN2				*e*AP	pP	22 06 55.0	+3.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
TLY	**Talaya**	**49.00**	**7**	*e*P	**P**	**22 06 48.6**	**-0.5**
	comp=Z,4.8nm,1.0s,mb4.5						
KURK	**Kurchatov**	**49.70**	**346**	P	**P**	**22 06 54.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
KURK	**Kurchatov**	**49.70**	**346**	*e*P	**P**	**22 06 53.8**	**-0.6**
	comp=Z,5.4nm,0.6s,mb4.8						
HIA	**Hailar**	**50.50**	**20**	*e*P	**P**	**22 07 00.4**	**-0.2**
	comp=Z,5.4nm,0.8s,mb4.5						
MDJ	**Mudanjiang**	**51.12**	**31**	P	**P**	**22 07 03.5**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,32nm,6.5s						
ZAL	**Zalesovo**	**51.58**	**352**	P	**P**	**22 07 08.5**	**-0.2**
	comp=Z,6.9nm,0.7s,mb4.7,baz=296,slow=8.2,SNR=36						
NVS	**Novosibirsk**	**52.68**	**351**	⇑*i*P	**P**	**22 07 15.4**	**-1.6**
NVS				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
NVS				pmax	pmax		
	comp=N,10.0nm,1.3s						
NVS				pmax	pmax		
	comp=E,5.0nm,1.3s						
PMG	**Port Moresby**	**52.79**	**104**	P	**P**	**22 07 18.6**	**+0.2**
	comp=E,5.7nm,0.6s,mb4.7,baz=285,slow=6.1,SNR=5.2						
BVA0	**Borovoye Array**	**54.08**	**341**	*e*P	**P**	**22 07 24.7**	**-2.6**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**54.08**	**341**	P	**P**	**22 07 26.6**	**-0.7**
	comp=Z,5.8nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=27						
CHKZ	**Chkalovo**	**54.56**	**342**	P	**P**	**22 07 30.3**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
CHKZ	**Chkalovo**	**54.56**	**342**	*e*P	**P**	**22 07 30.0**	**-0.9**
	comp=Z,31nm,0.6s,mb5.5						
CTA	**Charters Tower**	**54.69**	**117**	P	**P**	**22 07 32.9**	**+0.6**
	comp=Z,5.7nm,0.9s,mb4.6,baz=267,slow=9.2,SNR=5.5						
CTA				LR	LR	22 34 08.4	
	comp=Z,43nm,18.1s,MS3.6,baz=50,slow=40						
KLR	**Kul'dur**	**55.41**	**28**	*e*P	**P**	**22 07 24.8**	**-12**
BOD	**Bodaibo**	**56.58**	**12**	*e*P	**P**	**22 07 41.6**	**-3.8**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.3						
KMBO	**Kilima Mbogo**	**58.50**	**267**	P	**P**	**22 08 00.5**	**+1.0**
	comp=Z,1.4nm,0.8s,mb4.0,baz=37,slow=9.0,SNR=6.2						
KMBO	**Kilima Mbogo**	**58.50**	**267**	P	**P**	**22 08 00.5**	**+1.0**
GNI	**Garni**	**58.94**	**316**	P	**P**	**22 08 01.0**	**-1.3**
	comp=Z,2.5nm,0.7s,mb4.3,baz=15,slow=22,SNR=3.1						
SVE	**Sverdlovsk**	**60.48**	**339**	*e*P	**P**	**22 08 12.0**	**-0.6**
SVE				pmax	pmax		
	comp=Z,40nm,1.5s,mb5.2						
ARU	**Arti**	**60.95**	**337**	*e*P	**P**	**22 08 14.5**	**-1.3**
ARU	**Arti**	**60.95**	**337**	*e*P	**P**	**22 08 13.9**	**-1.9**
	comp=Z,13nm,1.1s,mb5.0						
BRTR	**Keskin Array B**	**66.77**	**312**	P	**P**	**22 08 53.0**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.9,baz=124,slow=8.9,SNR=4.9						
MATP	**Matopo**	**69.75**	**247**	P	**P**	**22 09 13.7**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=106,slow=7.4,SNR=3.5						
OBN	**Obninsk**	**70.30**	**328**	⇓*i*P	**P**	**22 09 15.0**	**-0.8**
OBN				*e*		22 11 58.6	
OBN				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.1						
TIXI	**Tiksi**	**71.73**	**11**	*e*P	**P**	**22 09 17.9**	**-6.4**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,68nm,16.0s,MS4.0						
AKASG	**Malin Array Be**	**72.91**	**322**	P	**P**	**22 09 30.1**	**-1.5**
	comp=Z,2.3nm,0.8s,mb4.2,baz=94,slow=4.6,SNR=9.3						
VRI	**Vrincioaia**	**73.26**	**317**	⇓P	**P**	**22 09 33.2**	**-0.5**
MLR	**Muntele Rosu**	**73.71**	**317**	P	**P**	**22 09 36.7**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.4,baz=306,slow=22,SNR=6.7						
MLR	**Muntele Rosu**	**73.71**	**317**	P	**P**	**22 09 36.7**	**+0.4**
MLR	**Muntele Rosu**	**73.71**	**317**	⇑P	**P**	**22 09 36.2**	**-0.1**
BURAR	**Bucovina Array**	**74.67**	**319**	⇑P	**P**	**22 09 41.5**	**-0.3**
KOLS	**Kolonicke sedl**	**76.86**	**320**	*i* P	**P**	**22 09 54.6**	**+0.4**
KOLS				*i*		22 09 57.7	
SUW	**Suwalki**	**77.33**	**325**	*e*P	**P**	**22 09 55.8**	**-1.0**
	comp=Z,17nm,0.8s,mb5.0						
CRVS	**Cervenica-Dubn**	**77.38**	**319**	*i* P	**P**	**22 09 58.9**	**+1.8**
FINES	**FINESS Array B**	**77.71**	**333**	P	**P**	**22 09 58.5**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=89,slow=2.7,SNR=13						
KAF	**Kangasniemi**	**77.81**	**333**	*e*p	**P**	**22 09 56.7**	**-2.5**
BILL	**Bilibino**	**80.08**	**21**	⇓*e*P	**P**	**22 10 12.4**	**+1.0**
BILL				*e*		22 13 12.3	
BILL				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.3						
ZST	**Bratislava**	**80.15**	**318**	*i* P	**P**	**22 10 13.2**	**+1.0**
PERS	**Pernice**	**81.33**	**317**	*e*P	**P**	**22 10 19.2**	**+0.7**
PDKS	**Podkum**	**81.37**	**316**	*e*P	**P**	**22 10 19.4**	**+0.7**
BRG	**Berggiesshubel**	**82.45**	**321**	*e*P	**P**	**22 10 25.1**	**+0.9**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
BRG	**Berggiesshubel**	**82.45**	**321**	*e*P	**P**	**22 10 25.1**	**+0.9**
	comp=Z,6.2nm,1.2s,mb4.4						
GERES	**GERESS Array B**	**82.46**	**319**	P	**P**	**22 10 25.3**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.1,baz=104,slow=5.5,SNR=19						
NB2	**NORSAR Subarra**	**84.71**	**331**	P	**P**	**22 10 35.4**	**0.0**
	comp=Z,0.7nm,0.8s,mb3.8,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**84.71**	**331**	P	**P**	**22 10 35.7**	**+0.3**
	comp=Z,1.4nm,0.9s,mb4.1,baz=95,slow=4.9,SNR=5.0						
NOA				LR	LR	22 52 36.1	
	comp=Z,25nm,20.0s,MS3.6,baz=225,slow=39						
NOA	**NORSAR Array B**	**84.71**	**331**		**P**	**22 10 35.7**	**+0.3**
NOA				LR	LR	22 52 36.1	
LPG	**La Plagne**	**87.11**	**315**	*e*P	**P**	**22 10 47.5**	**-0.2**
	comp=Z,8.6nm,0.9s,mb4.7						
YKA	**Yellowknife Ar**	**110.79**	**14**	PP	PP	22 17 07.6	-7.5
	comp=Z,0.1nm,0.4s,baz=333,slow=7.7,SNR=3.9						
ULM	**Lac du Bonnet**	**126.07**	**9**	PKP	PKPdf	22 17 04.7	-2.5
	comp=Z,1.0nm,0.5s,baz=159,slow=2.1,SNR=3.6						
TXAR	**Lajitas Array**	**142.93**	**29**	PKP	PKPdf	22 17 37.8	-1.2
	comp=Z,0.6nm,0.9s,slow=1.3,SNR=5.6						

*IDC **25** 22:28:50.7±2.1, 5.22N×97.22E, mb3.7/5, mb1 3.9/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=87.7km s-min=27.3km az=56.0*
*NEIC **25** 22:28:51.1±1.4, 4.72N×97.62E, h30km, mb4.2/2, Error ellipse: s-maj=37.0km s-min=16.9km az=212.0*
ISC 25 22:28:48.9±1.5, 4.7N±0.2×97.5E±0.2, h30km, n9, σ1§25/9, mb3.8/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**3.15**	**79**	*e*Pn	**Pn**	**22 29 37.6**	**-0.1**
SONM	**Songino Array**	**43.64**	**9**	P	**P**	**22 36 53.3**	**+0.8**
	0.7nm,0.5s,mb3.6,baz=192,slow=9.5,SNR=10						
WRA	**Warramunga Arr**	**43.68**	**125**	P	**P**	**22 37 02.1**	**+8.9**
	0.2nm,0.3s,mb3.3,baz=307,slow=8.3,SNR=5.1						
WRAB	**Tennant Creek**	**43.68**	**125**	*e*P	**P**	**22 36 53.2**	**-0.1**
	3.1nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**43.96**	**345**	P	**P**	**22 36 56.2**	**+1.0**
	0.9nm,0.5s,mb3.8,baz=151,slow=7.9,SNR=16						
ZAL	**Zalesovo**	**50.17**	**350**	P	**P**	**22 37 43.6**	**-0.2**
	0.8nm,0.5s,mb4.0,baz=343,slow=2.7,SNR=4.5						
BVAR	**Borovoye Array**	**53.09**	**340**	P	**P**	**22 38 03.7**	**-2.1**
	baz=144,slow=9.6						
CHKZ	**Chkalovo**	**53.55**	**340**	*e*P	**P**	**22 38 06.3**	**-2.9**
	1.2nm,0.7s,mb3.9						
FINES	**FINESS Array B**	**77.08**	**332**	P	**P**	**22 40 42.4**	**+1.5**
	0.6nm,0.8s,mb3.6,baz=76,slow=7.9,SNR=4.5						

*IDC **25** 22:32:49.8±7.5, 8.23S×119.65E, h139km±79km, mb3.4/3, mb1 3.5/5, mb1mx3.2/16, mbtmp3.8/5, Error ellipse: s-maj=164.0km s-min=29.7km az=53.0*
ISC 25 22:32:48.9±4.6, 7.8S±0.5×120.2E±0.5, h146km±51km, n8, σ0§20/11, mb3.8/2, Flores Sea

ENR Entracque 0.29 161 P Pb 23 19 34.6 +0.6
SURF Saint Ours 0.34 267 Pg Pg 23 19 35.2 +0.2
BHB Bricherasio 0.34 357 ⇑P Pb 23 19 35.8 +0.8
BHB Bricherasio 0.34 357 ⇑P Pb 23 19 35.8 +0.8
OG22 Abries 0.41 323 Pg Pg 23 19 36.8 +0.5
OG22 Sg Sg 23 19 43.8 +1.8
MBDF Montbardon 0.43 302 ePg Pg 23 19 37.3 +0.5
MBDF eSg Sg 23 19 43.1 +0.2
8µm,0.5s
ROB Roburent 0.46 116 ⇑P Pb 23 19 38.2 +1.2
TOUF Mont Tournerai 0.48 183 Pg Pg 23 19 37.9 +0.2
TOUF Sg Sg 23 19 44.4 0.0
AUTN L'Aution 0.51 169 Pg Pg 23 19 38.6 +0.3
AUTN Sg Sg 23 19 45.0 -0.3
MONE Monesi 0.54 141 P Pb 23 19 38.9 +0.6
MONE S Sb 23 19 45.8 +0.4
MONE Monesi 0.54 141 P Pb 23 19 38.9 +0.7
MONE S Sb 23 19 45.8 +0.4
SAOF Saorge 0.55 159 Pg Pg 23 19 38.9 0.0
SAOF Sg Sg 23 19 46.2 -0.2
RRL Cesana Torines 0.56 320 ⇑P Pb 23 19 39.5 +0.9
RRL S Sb 23 19 46.7 +0.7
FENE Fenestrelle 0.56 343 ⇑P Pb 23 19 39.4 +0.8
FENE S Sb 23 19 46.7 +0.6
FENE Fenestrelle 0.56 343 ⇑P Pb 23 19 39.4 +0.8
FENE S Sb 23 19 46.7 +0.7
MVIF Mont Vial 0.61 189 Pg Pg 23 19 40.3 +0.2
MVIF Sg Sg 23 19 48.3 -0.2
SBF Sospel 0.64 171 ePg Pg 23 19 40.7 -0.1
SBF ePn Pn 23 19 41.8 -0.2
SBF eSg Sg 23 19 49.3 -0.3
2µm,0.2s
SBF Sospel 0.64 171 eP Pg 23 19 40.7 -0.1
SBF e 23 19 49.3
RSP Reno Superiore 0.65 358 ⇑P Pb 23 19 40.7 +0.4
RSP S Sb 23 19 49.3 +0.4
BNI Bardonecchia 0.70 322 i/PG Pg 23 19 42.2 +0.2
BNI SG Sg 23 19 51.3 -0.3
BNI Bardonecchia 0.70 322 ⇑i/Pg Pg 23 19 42.2 +0.2
BNI eSg Sg 23 19 51.3 -0.3
NEGI Negi 0.71 155 P Pb 23 19 42.0 +0.7
NEGI S Sb 23 19 51.2 +0.5
NEGI Negi 0.71 155 P Pb 23 19 42.0 +0.7
NEGI S Sb 23 19 51.2 +0.6
FIN Finale Ligure 0.72 113 ⇑i/Pg Pg 23 19 42.5 +0.2
FIN eSg Sg 23 19 52.7 +0.7
FIN Finale Ligure 0.72 113 ⇑i/Pg Pg 23 19 42.5 +0.2
FIN eS Sb 23 19 52.7 +1.9
IMI Imperia 0.73 143 ⇑i/PG Pg 23 19 42.5 0.0
IMI Imperia 0.73 143 ⇑i/Pg Pg 23 19 42.5 0.0
REVF Revere 0.76 176 Pg Pg 23 19 43.7 +0.6
REVF Sg Sg 23 19 53.4 0.0
CALN Calern 0.80 201 Pg Pg 23 19 43.7 -0.2
CALN Sg Sg 23 19 53.9 -0.8
OG25 Le Caire 0.88 262 Pg Pg 23 19 45.6 +0.1
PCP Pian Castagno 0.90 87 ⇑P Pb 23 19 45.9 +1.4
PCP S Sb 23 19 57.5 +1.5
PCP Pian Castagno 0.90 87 ⇑P Pb 23 19 45.8 +1.3
PCP S Sb 23 19 57.5 +1.5
LSD Ceresole Reale 0.96 354 P Pb 23 19 46.7 +1.1
LSD S Sb 23 19 59.3 +1.4
FRF La Foret Royal 1.04 207 ePg Pb 23 19 47.8 +0.8
FRF ePn Pn 23 19 48.5 +0.8
FRF eSg Sg 23 20 00.9 -1.9
3µm,0.2s
FRF La Foret Royal 1.04 207 eP Pb 23 19 47.8 +0.8
FRF e 23 20 00.9
TRAV 1.07 18 P Pb 23 19 48.3 +1.0
TRAV 1.07 18 P Pb 23 19 48.3 +1.0
LPG La Plagne 1.07 339 ePn Pn 23 19 48.7 +0.6
LPG eSg Sg 23 20 04.2 +0.6
829nm,0.4s
ORIF Oris-en-Rattie 1.09 293 ePn Pn 23 19 49.1 +0.7
ORIF eSg Sg 23 20 05.8 +1.6
2µm,0.6s
GDM Grand'Maison 1.09 311 Pg Pg 23 19 49.4 -0.3
LPL La Plagne 1.09 339 ePn Pn 23 19 49.3 +0.9
LPL eSg Sg 23 20 04.5 +0.2
758nm,0.4s
GENL Genova Univers 1.21 94 P Pb 23 19 49.4 -0.3
GENL Genova Univers 1.21 94 P Pb 23 19 49.4 -0.3
ORO Oropa 1.23 23 ePN Pn 23 19 49.3 -1.1
ORO SN Sn 23 20 05.9 -0.9
222nm,0.3s
ORO Oropa 1.23 23 ePg Pg 23 19 49.3 -3.1
ORO eSg Sg 23 20 05.9 -3.0
ORO Oropa 1.23 23 ePn Pn 23 19 49.3 -1.1
222nm,0.3s
ORO Sn Sn 23 20 05.9 -0.9
ORX Oropa 1.24 23 ⇑P Pb 23 19 49.3 -0.9
RSL Roselend 1.28 339 Pn Pn 23 19 53.2 +2.1
RSL Sg Sg 23 20 12.2 +1.7
LMR La Mourre 1.29 206 ePn Pn 23 19 52.0 +0.7
LMR ePg Pg 23 19 52.6 -1.0
LMR eSn Sn 23 20 08.2 -0.1
3µm,0.2s
LMR La Mourre 1.29 206 eP Pn 23 19 52.0 +0.7
LMR e 23 20 08.2
LMR La Mourre 1.29 206 ePg Pg 23 19 52.6 -1.0
LMR eSn Sn 23 20 08.2 -0.1
1µm,0.2s
GRN Grenoble 1.33 305 Pg Pg 23 19 54.1 -0.2
GRN Sg Sg 23 20 13.7 +1.6
OCF Saint Nazaire 1.42 274 Pg Pg 23 19 56.0 -0.2
OG26 St.-Nazaire-De 1.42 274 Pg Pg 23 19 56.0 -0.2
MCGN Macugnaga 1.54 18 ePN Pn 23 19 54.1 -0.7
118nm,0.4s
MCGN Macugnaga 1.54 18 ePg Pg 23 19 54.1 -4.4
MCGN Macugnaga 1.54 18 ePn Pn 23 19 54.1 -0.7
118nm,0.4s
DIX Grande Dixence 1.58 3 ⇑i/Pn Pn 23 19 55.7 +0.2
EMV Vieux Emosson 1.59 350 ⇓i/Pn Pn 23 19 57.7 +2.2
MMK Mattmark 1.63 17 ⇓i/Pn Pn 23 19 55.8 -0.2
SALAN Lac Salanfe 1.66 352 ePn Pn 23 19 58.8 +2.2
VAI Varese 1.72 37 ePN Pn 23 19 57.6 +0.2
VAI Varese 1.72 37 ePg Pg 23 19 57.6 -4.6
GRYON Gryon 1.76 356 ePn Pn 23 20 00.5 +2.6
CODM 1.84 92 P Pn 23 19 59.1 +0.1
CODM 1.84 92 P Pn 23 19 59.1 0.0
AIGLE Aigle 1.86 353 ⇑ePn Pn 23 20 02.5 +3.1
OG01 Vacheresse 1.88 347 Pg Pg 23 20 05.5 +0.2
MUGIO Muggio 1.89 40 ⇓i/Pn Pn 23 20 00.1 +0.3
VIVF Saint-Julien-I 1.90 282 ePn Pn 23 20 01.6 +1.6
VIVF ePg Pg 23 20 05.4 -0.3
VIVF eSn Sn 23 20 24.7 +0.9
VIVF eSg Sg 23 20 30.4 -0.7
639nm,0.5s
VIVF Saint-Julien-I 1.90 282 eP Pn 23 20 01.6 +1.6
VIVF e 23 20 24.7
VIVF Saint-Julien-I 1.90 282 ePg Pg 23 20 05.4 -0.3
VIVF eS Sn 23 20 24.7 +0.9
VIVF eSg Sg 23 20 30.4 -0.7
320nm,0.5s
GRAM 1.99 89 P Pn 23 20 01.7 +0.5
OG05 Jujurieux 2.01 321 Pn Pn 23 20 03.1 +1.5
OG05 Sg Sg 23 20 35.7 +0.8
VINC Vinca 2.09 99 P Pn 23 20 02.6 0.0
VINC Vinca 2.09 99 P Pn 23 20 02.7 +0.1
VINC Vinca 2.09 99 P Pn 23 20 02.7 +0.1
VALM 2.12 93 P Pn 23 20 03.9 +0.8
VALM 2.12 93 P Pn 23 20 03.9 +0.7
WIMIS Wimmis 2.18 6 ePn Pn 23 20 06.7 +2.7
FUSIO Fusio 2.18 26 ⇓i/Pn Pn 23 20 03.5 -0.5
VLC Villacollemand 2.25 98 ePn Pn 23 20 04.9 0.0
VLC Villacollemand 2.25 98 ePn Pn 23 20 04.9 -0.1
SARO Sassorosso 2.25 97 P Pn 23 20 05.2 +0.2
SARO Sassorosso 2.25 97 P Pn 23 20 05.2 +0.1
SARO Sassorosso 2.25 97 P Pn 23 20 05.2 +0.1
CABF La Chapelle 2.28 339 ePn Pn 23 20 07.6 +2.2
CABF eSn Sn 23 20 32.4 -0.9
CABF eSg Sg 23 20 42.2 -1.4
226nm,0.7s
TORNY Torny 2.29 354 ⇑i/Pn Pn 23 20 07.8 +2.3
PGF Pioggiola 2.31 147 ePn Pn 23 20 04.7 -1.2
PGF eSn Sn 23 20 30.6 -3.6
169nm,0.2s
BDI Bagni Di Lucca 2.42 99 ePN Pn 23 20 07.3 0.0
49nm,0.5s
BDI Bagni Di Lucca 2.42 99 ePn Pn 23 20 07.3 0.0
49nm,0.5s
PII Pisa 2.46 107 ePN Pn 23 20 07.9 0.0
81nm,0.3s
PII Pisa 2.46 107 eP Pn 23 20 08.0 +0.1
PII Pisa 2.46 107 ePn Pn 23 20 07.9 0.0
81nm,0.3s
LASF Ste Croix 2.50 261 ePn Pn 23 20 08.9 +0.3
LASF eSn Sn 23 20 38.2 -0.8
174nm,0.4s
BNALP Bannalp 2.50 18 ePn Pn 23 20 10.1 +1.5
SAL Salo 2.55 63 ePN Pn 23 20 09.4 +0.1
351nm,0.8s
SAL Salo 2.55 63 ePg Pg 23 20 09.4 -9.2
SAL Salo 2.55 63 ePn Pn 23 20 09.4 +0.1
351nm,0.8s
LLS Linth-Limmern 2.64 27 ePn Pn 23 20 10.5 -0.1
BERNI Berninapass 2.71 44 ePn Pn 23 20 12.4 +0.8
COLF Collangettes 2.75 293 Pn Pn 23 20 13.3 +1.2
DAVOX Davos 2.92 38 Pn Pn 23 20 15.5 +0.9
9.5nm,0.3s,baz=253,slow=4.9,SNR=99
DAVOX Sn Sn 23 20 50.0 +0.4
8.7nm,0.3s,baz=170,slow=15,SNR=4.9
DAVOX Lg 23 20 57.2
9.7nm,0.3s,baz=304,slow=16,SNR=6.2
DAVOX Davos 2.92 38 ⇓i/Pn Pn 23 20 15.4 +0.9
SEI Scarperia 2.96 97 ePN Pn 23 20 15.6 +0.6
156nm,0.4s
SEI Scarperia 2.96 97 ePn Pn 23 20 15.6 +0.5
SEI Scarperia 2.96 97 ePn Pn 23 20 15.6 +0.6
156nm,0.4s
LBL Lubilhac 2.97 286 Pn Pn 23 20 15.8 +0.6
BBS Basel-Blauen 2.97 3 Pn Pn 23 20 15.7 +0.4
PLDF La Plantade 2.98 301 Pn Pn 23 20 16.8 +1.4
GRFL Gerfalco 2.99 116 ePN Pn 23 20 15.6 +0.1
13nm,0.6s
GRFL Gerfalco 2.99 116 ePn Pn 23 20 15.6 +0.1
GRFL Gerfalco 2.99 116 ePn Pn 23 20 15.6 +0.1
13nm,0.6s
SULZ Sulz-Cheisache 3.08 10 ⇓i/Pn Pn 23 20 17.4 +0.5
LIENZ Alp Oberkamor 3.19 28 ePn Pn 23 20 20.1 +1.7
SMF Signal de Mont 3.24 313 ePn Pn 23 20 20.5 +1.5
SMF eSn Sn 23 20 57.2 -0.4
SMF eSg Sg 23 21 12.9 -2.6
79nm,0.4s
DAVA Damuels 3.33 32 ⇑i/PN Pn 23 20 21.2 +0.9
DAVA i SN Sn 23 20 58.7 -1.2
DAVA Damuels 3.33 32 ⇑i/Pn Pn 23 20 21.2 +0.9
DAVA eSn Sn 23 21 02.0 +2.1
HINF Hinteralfeld 3.33 355 ePn Pn 23 20 20.9 +0.5
HINF eSn Sn 23 20 57.2 -2.9
HINF eSg Sg 23 21 13.0 -5.8
85nm,0.5s
MOF Molkenrain 3.36 358 Pn Pn 23 20 21.4 +0.7
SLE Schleitheim 3.38 14 ⇓i/Pn Pn 23 20 20.7 -0.3
CTI Castel Tesino 3.45 62 ePN Pn 23 20 21.6 -0.4
37nm,0.5s
CTI Castel Tesino 3.45 62 ePn Pn 23 20 21.6 -0.4
CTI Castel Tesino 3.45 62 ePn Pn 23 20 21.6 -0.4
37nm,0.5s
AVF Avril sur Loir 3.59 311 ePn Pn 23 20 25.4 +1.4
AVF eSn Sn 23 21 05.8 -0.8
AVF eSg Sg 23 21 23.1 -4.2
195nm,0.9s
SSF Saint Saulge 3.69 315 ePn Pn 23 20 26.7 +1.3
SSF ePg Pg 23 20 37.9 -3.4
SSF eSg Sg 23 21 26.1 -4.4
40nm,0.4s
ECH Echery 3.72 359 Pn Pn 23 20 26.1 +0.2
BGF Bois d'Agland 3.74 305 ePn Pn 23 20 27.6 +1.4
BGF eSg Sg 23 21 28.8 -3.5
230nm,0.6s
CAF Calviac 3.75 278 ePn Pn 23 20 27.1 +0.8
CAF eSn Sn 23 21 10.1 -0.5
CAF eSg Sg 23 21 28.7 -3.9
72nm,0.5s
LRDF Laroque-de-Fa 3.78 247 Pn Pn 23 20 26.8 0.0
SJAF Saint Jean de 3.79 239 Pn Pn 23 20 26.4 -0.4
EJON La Jonquera 3.80 239 Pn Pn 23 20 26.9 -0.2
EJON Sn Sn 23 21 11.4 -0.6
EJON La Jonquera 3.80 239 Pn Pn 23 20 26.9 -0.2
2.1nm,0.1s,SNR=41
EJON Sn Sn 23 21 11.4 -0.5
23nm,0.3s,SNR=4.6
THEF They Montfort 3.84 347 Pn Pn 23 20 28.5 +0.9
MTLF Montolieu 3.84 254 ePn Pn 23 20 27.8 +0.2
MTLF eSn Sn 23 21 10.6 -2.4
MTLF eSg Sg 23 21 31.9 -3.8
51nm,0.4s
SQTA Sankt Quirin 3.86 44 ⇑i/PN Pn 23 20 28.1 +0.2
SQTA i SN Sn 23 21 10.3 -3.2
MOTA Moosalm 3.90 42 ⇑i/PN Pn 23 20 28.7 +0.3
MOTA i SN Sn 23 21 11.5 -2.9
BFO Black Forest 3.90 10 Pn Pn 23 20 27.5 -1.0
120nm,0.3s,SNR=12
BFO Black Forest 3.90 10 eP Pn 23 20 27.4 -1.1
BFO eS Sn 23 21 12.6 -1.8
CDF Champ du Feu 3.92 360 ePn Pn 23 20 28.3 -0.4
CDF eSn Sn 23 21 11.4 -3.4
28nm,0.3s
WLS Welschbruch 3.92 1 Pn Pn 23 20 28.5 -0.2
FILF Fillols 3.95 242 Pn Pn 23 20 30.6 +1.5
TCF Toulx Ste Croi 4.00 298 ePn Pn 23 20 30.8 +0.9
TCF ePg Pg 23 20 44.5 -3.1
TCF eSn Sn 23 21 15.5 -1.5
TCF eSg Sg 23 21 37.1 -3.9
50nm,0.6s
TCF Toulx Ste Croi 4.00 298 eP Pn 23 20 30.8 +0.9
TCF e 23 21 15.5
SFTF Sexfontaines 4.02 338 ePn Pn 23 20 31.4 +1.2
baz=154
SFTF eSn Sn 23 21 15.3 -2.2
51nm,0.3s
WTTA Wattenberg 4.11 46 ⇑i/Pn Pn 23 20 31.1 -0.3
WTTA i S Sn 23 21 16.2 -3.5
WTTA eSn Sn 23 21 24.3 +4.6
WATA Walderalm 4.12 45 ⇑i/PN Pn 23 20 31.5 -0.1
WATA i SN Sn 23 21 16.6 -3.5
CARF Carcanieres 4.16 246 Pn Pn 23 20 32.2 0.0
RJF Les Rejaudoux 4.18 283 ePn Pn 23 20 33.6 +1.1
RJF eSg Sg 23 21 41.3 -5.6
64nm,0.6s
LPEF Le Peyrat 4.20 250 Pn Pn 23 20 33.0 +0.3
HYF Humbligny 4.27 312 ePn Pn 23 20 34.8 +1.1
HYF eSg Sg 23 21 45.0 -4.9
MEZF Maizieres J'vi 4.29 340 ePn Pn 23 20 35.2 +1.1
baz=160
MEZF eSn Sn 23 21 21.0 -3.4
MEZF eSg Sg 23 21 43.9 -6.8
77nm,0.5s
RFYF Reffroy 4.32 344 ePn Pn 23 20 35.5 +1.1
baz=152
RFYF eSn Sn 23 21 21.0 -4.0
66nm,0.3s
VALF Valcebollere 4.37 243 Pn Pn 23 20 35.9 +0.7
STU Stuttgart 4.47 16 eP Pn 23 20 35.7 -0.9
LFF La Frestale 4.69 278 ePn Pn 23 20 40.0 +0.3
LFF eSn Sn 23 21 32.6 -1.8
LFF eSg Sg 23 21 56.8 -7.0
128nm,0.6s
MLS Moulis 4.75 253 Pn Pn 23 20 40.0 -0.5
MLS Moulis 4.75 253 Pn Pn 23 20 40.3 -0.2
SALF Salau 4.76 251 Pn Pn 23 20 40.5 -0.1
VOY Vojsko 4.91 69 ePn Pn 23 20 41.8 -1.0
VOY e(Sn) Sn 23 21 33.5 -6.4
VOY Vojsko 4.91 69 ePn Pn 23 20 41.8 -1.0
VOY Sn Sn 23 21 33.5 -6.4
AQU L'Aquila 4.94 114 eP Pn 23 20 42.7 -0.5
EMIR Miracle 4.94 240 Pn Pn 23 20 44.1 +0.9
EMIR Sn Sn 23 21 41.7 +0.9
EMIR Miracle 4.94 240 Pn Pn 23 20 44.1 +0.9
15nm,0.2s,SNR=48
KBA Koelnbreinsper 4.96 57 ⇑i/PN Pn 23 20 43.4 -0.1
KBA i SN Sn 23 21 35.8 -5.4
WLF Walferdange 5.23 352 eP Pn 23 20 47.1 -0.2
WLF pmax pmax
comp=Z,9.0nm,0.6s
WLF Walferdange 5.23 352 ePn Pn 23 20 47.1 -0.1
comp=Z,9.1nm,0.6s
WLF Walferdange 5.23 352 eP Pn 23 20 47.1 -0.2
comp=Z,9.0nm,0.6s
VSL Villasalto 5.23 162 ePn Pn 23 20 46.5 -0.9
comp=Z,9.9nm,0.4s
VSL eSn Sn 23 21 42.4 -5.7
VSL Villasalto 5.23 162 ePn Pn 23 20 46.5 -0.9
comp=Z,9.9nm,0.4s
VSL eSn Sn 23 21 42.4 -5.7
EPF Esparros 5.24 256 ePn Pn 23 20 46.3 -1.2
EPF eSn Sn 23 21 44.2 -4.1
EPF eSg Sg 23 22 16.1 -6.2
comp=Z,38nm,0.5s
LABF Labassere 5.42 257 Pn Pn 23 20 48.5 -1.5
OBKA Obir 5.49 66 ⇑i/PN Pn 23 20 50.0 -0.9
OBKA i SN Sn 23 21 50.0 -4.4
OBKA Obir 5.49 66 ePn Pn 23 20 50.3 -0.6
EBIE Bielsa 5.50 253 Pn Pn 23 20 51.1 +0.1
EBIE Sn Sn 23 21 55.0 +0.3
EBIE Bielsa 5.50 253 Pn Pn 23 20 51.2 +0.1
comp=Z,1.3nm,0.2s,SNR=19
EPOB Poblet 5.54 238 Pn Pn 23 20 52.0 +0.4
EPOB Sn Sn 23 21 55.3 -0.4
EPOB Poblet 5.54 238 Pn Pn 23 20 52.0 +0.4
comp=Z,4.6nm,0.3s,SNR=17
MFF Saint Martin d 5.63 295 ePn Pn 23 20 53.7 +0.8
MFF eSg Sg 23 22 28.3 -6.9
comp=Z,40nm,0.7s
ETOS Mallorca 5.78 217 Pn Pn 23 20 55.4 +0.3
ETOS Sn Sn 23 22 01.4 -0.3
ETOS Mallorca 5.78 217 Pn Pn 23 20 55.4 +0.4
comp=Z,11nm,0.4s,SNR=21
CII Carovilli 5.84 116 Pn Pn 23 20 56.6 +0.8
GIVF Givet 5.85 344 ePn Pn 23 20 56.1 0.0
GIVF eSn Sn 23 21 58.1 -5.5
comp=Z,17nm,0.5s
MOA Molln 5.89 53 ⇑i/PN Pn 23 20 55.6 -1.0
MOA i SN Sn 23 21 59.3 -5.3
DOU Dourbes 5.89 343 P Pn 23 20 56.7 0.0
ETSF Etsaut 5.91 257 ePn Pn 23 20 58.6 +1.7
ETSF eSn Sn 23 22 01.1 -4.0
comp=Z,28nm,0.6s
BAIF Baives 5.95 340 ePn Pn 23 20 57.6 +0.2
BAIF eSn Sn 23 22 00.7 -5.3
comp=Z,16nm,0.5s
WET Wettzell 6.03 38 ePn Pn 23 20 55.9 -2.6
GEC2 GERESS Array S 6.19 43 eP Pn 23 20 59.3 -1.6
GERES GERESS Array B 6.19 43 P Pn 23 20 59.2 -1.7
GERES 23 22 09.7
GERES pmax pmax
comp=Z,5.0nm,0.3s
GERES GERESS Array B 6.19 43 Pn Pn 23 20 59.2 -1.7
comp=Z,4.5nm,0.3s,baz=226,slow=13,SNR=158
GERES Sn Sn 23 22 09.7 -2.5
comp=Z,2.9nm,0.3s,baz=231,slow=26,SNR=7.4
EBR Ebro Roquetas 6.21 236 ePs 23 21 05.0
EBR eRs 23 22 28.0
SJPF Ste Jean 6.32 260 ePn Pn 23 21 01.0 -1.6
SJPF eSn Sn 23 22 10.9 -4.3
comp=Z,7.4nm,0.4s
ESAC San Caprasio 6.32 247 Pn Pn 23 21 02.7 0.0
ESAC San Caprasio 6.32 247 Pn Pn 23 21 02.7 0.0
comp=Z,5.2nm,0.3s,SNR=8.8
KHC Kasperske Hory 6.33 41 eP Pn 23 21 01.0 -1.9
KHC e 23 22 12.7
KHC Kasperske Hory 6.33 41 ePN Pn 23 21 01.0 -1.9
KHC ex x 23 21 13.0
KHC eSN Sn 23 22 12.7 -2.9
ARSA Arzberg 6.37 62 ⇑i/PN Pn 23 21 02.1 -1.3
ARSA i SN Sn 23 22 09.9 -6.7
ARSA Arzberg 6.37 62 ePn Pn 23 21 02.2 -1.2
EALK Alkurruntz 6.49 262 Pn Pn 23 21 04.3 -0.7
EALK Sn Sn 23 22 15.8 -3.7
EALK Alkurruntz 6.49 262 Pn Pn 23 21 04.3 -0.7
comp=Z,2.0nm,0.2s,SNR=7.0
EALK Sn Sn 23 22 15.8 -3.7
comp=Z,8.7nm,0.4s,SNR=7.9
LDF La Druitiere 6.55 311 ePn Pn 23 21 06.5 +0.6
LDF eSg Sg 23 22 56.5 -9.3
comp=Z,23nm,0.6s
MOX Moxa 6.81 24 ePn Pn 23 21 05.6 -4.0
MOX eSn Sn 23 22 20.5 -7.1
MOX Moxa 6.81 24 i P Pn 23 21 05.6 -4.0
MOX S Sn 23 22 20.0 -7.6
FLN La Foliniere 6.84 311 ePn Pn 23 21 09.7 -0.3
baz=133
FLN eSg Sg 23 23 05.0 -10
comp=Z,27nm,0.7s
GRR Gorron 6.84 308 ePn Pn 23 21 10.0 0.0
EIBI Ibiza 7.04 221 Pn Pn 23 21 12.8 -0.1
EIBI Sn Sn 23 22 28.0 -5.4
EIBI Ibiza 7.04 221 Pn Pn 23 21 12.8 -0.1
comp=Z,1.9nm,0.2s,SNR=7.8
EIBI Sn Sn 23 22 28.0 -5.4
comp=Z,4.1nm,0.2s,SNR=5.0
EMOS Mosqueruela 7.07 237 Pn Pn 23 21 13.9 +0.6
EMOS Sn Sn 23 22 33.6 -0.5
EMOS Mosqueruela 7.07 237 Pn Pn 23 21 13.9 +0.6
comp=Z,3.4nm,0.3s,SNR=24
SGMF Saint Gilles 7.78 302 ePn Pn 23 21 21.5 -1.6
ELAN Lanestosa 7.85 264 Pn Pn 23 21 23.0 -1.2
ELAN Sn Sn 23 22 48.9 -4.8
ELAN Lanestosa 7.85 264 Pn Pn 23 21 23.0 -1.2
comp=Z,1.1nm,0.2s,SNR=5.0
ELAN Sn Sn 23 22 48.8 -4.8
QUIF Quistinic 8.02 299 ePn P 23 21 26.1 -0.4
EBEN Beniarda 8.07 227 Sn Sn 23 22 54.1 -5.0
comp=Z,1.5nm,0.6s,SNR=4.0
ROSF Rostrenen 8.24 301 ePn P 23 21 29.1 -0.6
UPC Upice 8.42 41 ePN P 23 21 29.1 -3.0
UPC eSN Sn 23 23 01.1 -6.8
DPC Dobruska-Polom 8.47 43 ePN P 23 21 29.7 -3.1
DPC eSN Sn 23 23 02.7 -6.3
MORC Moravsky Berou 8.76 49 ePn P 23 21 32.6 -4.2
ETOB Tobarra 8.83 232 Pn P 23 21 36.7 -1.1
ETOB Sn Sn 23 23 12.1 -5.9
ETOB Tobarra 8.83 232 Pn P 23 21 36.7 -1.1
comp=Z,0.6nm,0.2s,SNR=11
ETOB Sn Sn 23 23 12.1 -5.9
comp=Z,0.9nm,0.5s,SNR=7.9
EARI Arriondas 9.11 267 Pn P 23 21 39.9 -1.7
EARI Sn Sn 23 23 14.4 -10
EARI Arriondas 9.11 267 Pn P 23 21 39.9 -1.7
comp=Z,3.4nm,0.4s,SNR=7.9
ESDC Sonseca Array 9.65 244 Pn P 23 21 47.4 -1.7
comp=Z,1.3nm,0.3s,baz=58,slow=14,SNR=40
ESDC Sonseca Array 9.65 244 Pn P 23 21 47.4 -1.7
ESLA Sonseca Array 9.65 244 ePn P 23 21 47.1 -1.9
ESLA Sonseca Array 9.65 244 ePn P 23 21 47.1 -2.0
EPON Pontenova 10.49 269 Pn P 23 21 58.6 -1.9
comp=Z,2.3nm,0.3s,SNR=7.9
ECAL Calabor 10.55 261 Pn P 23 22 00.2 -1.2
comp=Z,1.6nm,0.4s,SNR=7.9
EKA Eskdalemuir Ar 12.75 332 P P 23 22 30.2 -0.9
EKA pmax pmax
comp=Z,1.0nm,0.3s
EKA Eskdalemuir Ar 12.75 332 Pn P 23 22 30.2 -0.9
comp=Z,0.5nm,0.3s,baz=139,slow=15,SNR=10
ESK Eskdalemuir 12.75 332 eP P 23 22 29.2 -1.9
BRTR Keskin Array B 20.08 95 P P 23 24 06.6 +3.3
BRTR pmax pmax
comp=Z,1.0nm,0.6s
BRTR Keskin Array B 20.08 95 P P 23 24 06.5 +3.2
comp=Z,0.9nm,0.6s,baz=284,slow=9.7,SNR=5.4
FINES FINESS Array B 20.27 27 P P 23 24 03.6 -1.5
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 20.27 27 P P 23 24 03.6 -1.5
comp=Z,0.5nm,0.5s,baz=202,slow=7.5,SNR=6.9
MKAR Makanchi Array 50.60 59 P P 23 28 27.5 -0.1
comp=Z,0.1nm,0.4s,mb3.1,baz=288,slow=7.9,SNR=3.6

CSEM ***25*** *23:33:53.4±0.6,45.46N×26.31E,h112km±5km,MD3.8/6, Error ellipse: s-maj=4.0km s-min=3.5km az=45.0, After BUC*

BUC 25 23:33:52.7±0.9,45.51N×26.29E,h118km±8km,MD3.8/6, 8C-7D, Error ellipse: s-maj=5.2km s-min=4.7km az=69.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	Muntele Rosu	0.24	266	⇓i/P	P	23 34 09.5	+0.2
MLR				i S	S	23 34 21.5	-0.4
ISR	Istrita	0.43	155	⇑i/P	P	23 34 10.6	+0.4
VRI	Vrincioaia	0.47	41	⇑i/P	P	23 34 10.7	+0.2
VRI				i S	S	23 34 23.6	-0.2
BRD	Bordesti	0.53	85	⇑i/P	P	23 34 12.1	+1.3
BRD				i S	S	23 34 27.0	+2.6
SNX	Sinaia	0.56	254	⇓i/P	P	23 34 11.3	+0.3
SNX				i S	S	23 34 24.8	-0.1
OZUR		0.68	329	⇓i/P	P	23 34 11.6	-0.2

OZUR		**0.68**	**329**	S	S	23	34	24.5	-1.9
PGOR	**Pogoanele**	**0.78**	**140**	⇓*i*P	P	23	34	13.3	+0.6
PGOR				*i* S	S	23	34	28.6	+0.8
SULR		**0.83**	**181**	⇓*i*P	P	23	34	13.4	+0.2
SULR				*i* S	S	23	34	28.7	+0.1
BUC	**Bucharest**	**1.10**	**187**	*i* S	S	23	34	33.7	+0.3
AMRR		**1.17**	**140**	⇓*i*P	P	23	34	16.9	+0.2
AMRR				*i* S	S	23	34	34.2	-0.4
BUC1	**Bucharest**	**1.18**	**189**	⇓*i*P	P	23	34	16.6	-0.2
BUC1				*i* S	S	23	34	33.7	-1.1
CFR	**Carcaliu**	**1.35**	**104**	⇑*i*P	P	23	34	18.3	-0.4
CFR				*i* S	S	23	34	36.8	-1.6
HARR	**Harsova**	**1.43**	**125**	⇑*i*P	P	23	34	19.5	-0.1
HARR				*i* S	S	23	34	38.5	-1.5
TLCR		**1.81**	**99**	⇑*i*P	P	23	34	24.3	+0.1
TLCR				*i* S	S	23	34	47.4	-0.6
IAS	**Iasi**	**1.90**	**27**	⇑*e*P	P	23	34	25.4	+0.1
IAS				*i* S	S	23	34	48.5	-1.4
CRAR	**CRAIOVA**	**2.13**	**237**	S	S	23	34	52.7	-2.3
BURAR	**Bucovina Array**	**2.23**	**341**	⇑*i*P	P	23	34	31.0	+1.4
BURAR				*i* S	S	23	34	58.8	+1.4

*BJI **26** 00:03:16.4, 12.13N×92.51E, h50km, mB4.5, mb4.3*
*NEIC **26** 00:03:27.7±0.3, 12.91N×93.30E, mb4.3/2, Error ellipse: s-maj=10.7km s-min=6.2km az=59.0*
*IDC **26** 00:03:27.9±0.8, 12.90N×93.28E, h51km±5km, mb3.6/14, mb1 3.8/14, mb1mx3.7/18, mbtmp3.9/14, MS3.8/1, Ms1 3.8/1, ms1mx3.1/20, Error ellipse: s-maj=25.4km s-min=13.5km az=56.0*
ISC 26 00:03:24.4±1.4, 12.78N±0.08×93.10E±0.07, h41km±13km, h49km±2.8km:pP-P, n35, σ0§95/38, mb4.0/17, MS3.8/1, 2D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDT	**Bhumibol Dam**	**7.23**	**51**	P	**P**	**00 05 10.0**	**-0.2**
	24nm,0.6s						
NST	**Nakhon Sawan**	**7.40**	**66**	⇓P	**P**	**00 05 14.5**	**+1.9**
	133nm,0.5s						
CM31	**Chiang Mai Arr**	**7.97**	**44**	*e*P	**P**	**00 05 18.3**	**-2.2**
	34nm,0.4s						
CHG	**Chiang Mai**	**8.22**	**42**	⇓P	**P**	**00 05 25.0**	**+1.0**
	61nm,0.7s						
BWNR	**Bhubaneshwar**	**10.23**	**318**	*e*P	**P**	**00 05 51.1**	**-0.7**
BWNR				*e*S	**S**	**00 07 33.2**	**-13**
BWNR				*e*S	**S**	**00 07 34.5**	**-12**
BWNR				*e*		00 07 39.8	
	comp=E,396nm,0.4s						
BWNR				*e*		00 07 39.8	
	comp=N,245nm,0.2s						
KULM	**Kulim**	**10.53**	**134**	P	**P**	**00 05 56.3**	**+0.4**
VIS	**Vishakhapatnam**	**10.63**	**299**	*e*P	**P**	**00 05 57.0**	**-0.3**
VIS				*e*S	**S**	**00 07 44.7**	**-11**
VIS				*e*S	**S**	**00 07 44.8**	**-11**
VIS				*e*		00 07 50.5	
	comp=E,110nm,0.3s						
VIS				*e*		00 07 50.5	
	comp=N,89nm,0.2s						
PALK	**Pallekele**	**13.38**	**247**	P	**P**	**00 06 44.7**	**+11**
BLSP	**Bilaspur**	**13.99**	**313**	*e*	**P**	**00 06 33.8**	**-8.4**
BLSP				*e*		00 06 35.3	
	comp=Z,5.0nm,0.8s						
BLSP				*e*S	**S**	**00 09 00.6**	**-16**
KMI	**Kunming**	**15.28**	**35**	P	**P**	**00 07 05.0**	**+6.0**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s						
LSA	**Lhasa**	**16.94**	**354**	P	**P**	**00 07 20.0**	**0.0**
ENH	**Enshi**	**23.09**	**38**	*e*P	**P**	**00 08 26.2**	**-1.4**
	comp=Z,35nm,0.7s,mb4.9						
LZH	**Lanzhou**	**25.15**	**21**	*e*P	**P**	**00 08 49.3**	**+1.9**
LZH				AP	pP	00 08 57.5	-0.7
LZH				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
AAK	**Ala-Archa**	**33.84**	**335**	P	**P**	**00 10 04.7**	**-0.4**
MKAR	**Makanchi Array**	**35.11**	**347**	P	**P**	**00 10 16.2**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=162,slow=8.1,SNR=15						
MKAR				pP	pP	00 10 28.6	+1.3
	comp=Z,1.1nm,0.7s,baz=162,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**35.11**	**347**	P	**P**	**00 10 16.2**	**+0.3**
MKAR				pP	pP	00 10 28.6	+1.3
SONM	**Songino Array**	**36.67**	**15**	P	**P**	**00 10 29.2**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.5,baz=206,slow=6.6,SNR=4.7						
SONM				pP	pP	00 10 41.3	+0.9
	comp=Z,0.9nm,0.8s,baz=203,slow=7.7,SNR=3.1						
KURK	**Kurchatov**	**39.63**	**346**	*e*P	**P**	**00 10 54.0**	**+0.2**
	comp=Z,0.8nm,0.6s,mb3.6						
ZAL	**Zalesovo**	**41.58**	**353**	P	**P**	**00 11 09.1**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.7,baz=344,slow=8.7,SNR=4.7						
ZAL				pP	pP	00 11 24.1	+2.9
	comp=Z,0.9nm,0.4s,baz=323,slow=4.6,SNR=2.7						
ZAL	**Zalesovo**	**41.58**	**353**	P	**P**	**00 11 09.1**	**-0.7**
ZAL				pP	pP	00 11 24.1	+2.9
BVAR	**Borovoye Array**	**44.05**	**340**	P	**P**	**00 11 30.3**	**+0.4**
	comp=Z,0.9nm,0.5s,mb3.8,baz=142,slow=10,SNR=13						
FITZ	**Fitzroy Crossi**	**44.41**	**133**	P	**P**	**00 11 32.9**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.1,baz=337,slow=6.2,SNR=5.8						
WRA	**Warramunga Arr**	**52.00**	**128**	P	**P**	**00 12 31.2**	**-1.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=302,slow=9.8,SNR=4.1						
WRA				PcP	PcP	00 13 45.5	+1.2
	comp=Z,0.3nm,0.5s,baz=331,slow=3.5,SNR=2.8						
WRA				pPcP		00 13 58.8	
	comp=Z,0.7nm,0.7s,baz=314,slow=3.0,SNR=7.2						
WRAB	**Tennant Creek**	**52.01**	**128**	*e*P	**P**	**00 12 31.7**	**-0.5**
ASAR	**Alice Springs**	**53.89**	**132**	P	**P**	**00 12 45.8**	**-0.5**
	comp=Z,0.3nm,0.4s,mb3.6,baz=309,slow=6.6,SNR=9.6						
ASAR				pPcP		00 14 06.0	
	comp=Z,0.5nm,0.6s,baz=319,slow=4.0,SNR=5.7						
KMBO	**Kilima Mbogo**	**57.09**	**260**	LR	LR	00 34 01.3	
	comp=Z,76nm,19.6s,MS3.8,baz=90,slow=32						
BRTR	**Keskin Array B**	**58.52**	**309**	P	**P**	**00 13 19.4**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.2,baz=122,slow=7.3,SNR=15						
BRTR				pP	pP	00 13 33.0	+2.0
	comp=Z,1.4nm,0.8s,baz=120,slow=8.3,SNR=6.8						
AKASG	**Malin Array Be**	**63.72**	**320**	P	**P**	**00 13 53.2**	**-1.0**
	comp=Z,0.3nm,0.3s,mb3.8,baz=78,slow=6.6,SNR=4.8						
STKA	**Stephens Creek**	**64.25**	**135**	pP	pP	00 14 12.2	+2.3
	comp=Z,2.1nm,1.0s,baz=315,slow=5.7,SNR=2.0						
FINES	**FINESS Array B**	**67.93**	**331**	P	**P**	**00 14 21.0**	**+0.2**
	comp=Z,1.0nm,0.7s,mb4.0,baz=98,slow=6.2,SNR=10.0						
ARCES	**ARCESS Array B**	**70.34**	**340**	P	**P**	**00 14 35.0**	**-0.5**
	comp=Z,2.3nm,0.8s,mb4.1,baz=98,slow=6.4,SNR=3.3						
GERES	**GERESS Array B**	**73.53**	**317**	P	**P**	**00 14 56.1**	**+1.2**
	comp=Z,1.7nm,0.6s,mb4.1,baz=84,slow=5.7,SNR=22						
GERES				pP	pP	00 15 10.7	+3.6
	comp=Z,1.4nm,0.7s,baz=90,slow=5.3,SNR=8.5						
NB2	**NORSAR Subarra**	**74.99**	**330**	P	**P**	**00 15 03.0**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.7,baz=90,slow=5.8						
NOA	**NORSAR Array B**	**74.99**	**330**	P	**P**	**00 15 03.3**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=91,slow=5.7,SNR=6.6						
NOA				pP	pP	00 15 18.2	+3.0
	comp=Z,0.4nm,0.6s,baz=90,slow=5.7,SNR=2.8						
BOSA	**Boshof**	**77.36**	**237**	P	**P**	**00 15 19.9**	**+2.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=93,slow=4.6,SNR=7.7						
BOSA				pP	pP	00 15 34.2	+4.8
	comp=Z,1.0nm,0.6s,baz=71,slow=3.6,SNR=1.9						

*IDC **26** 00:18:10.8±1.1, 67.79N×20.27E, mb1 2.8/3, mb1mx2.7/17, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=16.9km s-min=8.2km az=120.0*
*HEL **26** 00:18:10.8±0.1, 67.84N×20.21E, ML1.8, ML2.3(UPP), Explosion*
ISC 26 00:18:09.1±0.4, 67.79N±0.03×20.18E±0.07, n23, σ1§08/33, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.18**	**20**	*i* P	**Pg**	**00 18 12.8**	**+0.1**
KUA				*i* S	**Sg**	**00 18 14.7**	**-0.4**
NIKU	**Nikkaluokta**	**0.44**	**281**	*i* P	**Pg**	**00 18 18.5**	**+0.6**
NIKU				*i* S	**Sg**	**00 18 24.7**	**+0.9**
DUNU	**Dundret**	**0.69**	**167**	*i* P	**Pg**	**00 18 23.7**	**+0.9**
LANU	**Lannavaara**	**0.73**	**68**	*i* P	**Pg**	**00 18 23.4**	**-0.4**
MASU	**Masugnsbyn**	**0.77**	**115**	*i* P	**Pg**	**00 18 24.8**	**+0.3**
KIF	**Kilpisjarvi**	**1.25**	**10**	*e*P	**Pb**	**00 18 33.0**	**-0.2**
KIF				*e*S	**Sb**	**00 18 48.8**	**-0.9**
PAJU	**Pajala**	**1.37**	**123**	*e*P	**Pb**	**00 18 35.5**	**+0.2**
ERTU	**Ertsjaerv**	**1.47**	**147**	*e*P	**Pn**	**00 18 37.5**	**+0.6**
KTK1	**Kautokeino**	**1.67**	**41**	*e*P	**Pn**	**00 18 41.2**	**+1.4**
TRO	**Tromso**	**1.91**	**347**	*e*P	**Pn**	**00 18 42.9**	**-0.3**
SGF	**Sodankyl**	**2.46**	**95**	*e*P	**Pn**	**00 18 52.0**	**+1.0**
SGF				*e*S	**Sn**	**00 19 22.5**	**+0.3**
SGF				MSG		00 19 26.3	
	comp=Z,2.6nm,0.2s						
LOF	**Lofoten**	**2.53**	**281**	*e*PG	**Pg**	**00 18 57.4**	**-2.2**
LOF	**Lofoten**	**2.53**	**281**	*e*	**Pg**	**00 18 57.4**	**-2.2**
ARCES	**ARCESS Array B**	**2.62**	**46**	Pn	**Pn**	**00 18 54.2**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=228,slow=14,SNR=38						
ARCES				Sn	**Sn**	**00 19 27.3**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=229,slow=26,SNR=16						
MOR8	**Moi Rana**	**2.78**	**237**	*e*PB	**Pn**	**00 18 57.3**	**+1.7**
MOR8	**Moi Rana**	**2.78**	**237**	*e*	**Pn**	**00 18 57.3**	**+1.7**
STOK	**Stokkvaagen**	**3.16**	**246**	*e*PG	**Pg**	**00 19 08.3**	**-3.9**
STOK	**Stokkvaagen**	**3.16**	**246**	*e*	**Pg**	**00 19 08.3**	**-3.9**
KEV	**Kevo**	**3.18**	**48**	*e*P	**Pn**	**00 19 01.4**	**+0.1**
KEV				*e*S	**Sn**	**00 19 39.2**	**-1.3**
KEV				MSG		00 19 47.0	
	comp=Z,2.3nm,0.2s						
OUL	**Oulu**	**3.55**	**137**	*e*PG	**Pg**	**00 19 14.9**	**-5.2**
OUL				*e*SG	**Sg**	**00 20 01.8**	**-5.7**
OUL				MSG		00 20 09.1	
	comp=Z,2.0nm,0.3s						
MSF	**Maaselka**	**3.97**	**114**	*e*P	**Pn**	**00 19 13.4**	**+0.8**
MSF				*e*S	**Sn**	**00 19 59.5**	**-1.1**
MSF				MSG		00 20 19.0	
	comp=Z,1.5nm,0.3s						
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**00 19 52.8**	**-0.6**
	comp=Z,0.0nm,0.3s,baz=343,slow=14,SNR=4.3						
FINES				Sn	**Sn**	**00 21 09.8**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=343,slow=24,SNR=2.8						
FINES				Lg		00 21 44.3	
	comp=Z,0.2nm,0.3s,baz=341,slow=27,SNR=6.5						
NOA	**NORSAR Array B**	**7.80**	**214**	Pn	**Pn**	**00 20 03.9**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=29,slow=14,SNR=2.9						
NOA				Sn	**Sn**	**00 21 29.6**	**-7.0**
	comp=Z,0.1nm,0.3s,baz=25,slow=25,SNR=2.4						
NOA				Lg		00 22 14.8	
	comp=Z,0.2nm,0.3s,baz=45,slow=13,SNR=2.8						

CASC 26 00:23:23.4±2.0, 11.32N×86.23W, h68km±16km, MD3.9, ML3.3, 11C-4D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APON	**Apoyo**	**0.61**	**15**	⇑*e*P	P	00 23 37.4	0.0
APON				*e*S	S	00 23 47.9	+0.2
CONN	**Concepcion**	**0.64**	**68**	⇓*i*P	P	00 23 36.9	-0.7
MASN	**Masaya**	**0.66**	**7**	*e*P	P	00 23 38.5	+0.6
MASN				*e*S	S	00 23 49.6	+0.9
TICN	**Ticuantepe**	**0.70**	**360**	⇑*e*P	P	00 23 39.1	+0.7
MGAN	**Managua**	**0.82**	**359**	*e*P	P	00 23 39.6	-0.1
MGAN				⇓*e*P		00 23 39.7	
MGAN				*e*S	S	00 23 52.0	+0.2
MGAN				*e*S	S	00 23 52.2	+0.3
MGAN				*i*		00 23 52.8	
	comp=E,598nm,0.4s						
WILN	**Americas 2**	**0.83**	**3**	⇓*e*P	P	00 23 39.8	-0.1
WILN				*e*S	S	00 23 52.1	-0.1
MOMJ	**Momotombo**	**1.12**	**344**	⇑*e*P	P	00 23 43.4	-0.2
MOMJ				*e*S	S	00 23 58.6	0.0
MOMJ				*i*		00 23 59.0	
	comp=Z,174nm,0.2s						
PYTN	**Playitas**	**1.22**	**8**	⇑*e*P	P	00 23 44.5	-0.5
PYTN				*e*S	S	00 24 00.3	-0.7
CNGN	**Cerro Negro**	**1.25**	**339**	⇑*e*P	P	00 23 45.5	0.0
CNGN				*e*S	S	00 24 02.1	+0.2
LEON	**Leon**	**1.26**	**329**	⇑*e*P	P	00 23 45.9	+0.3
LEON				*e*S	S	00 24 02.9	+0.8
LEON				*i*		00 24 03.6	
	comp=Z,937nm,0.4s						
VCR	**Vista de Mar**	**1.33**	**154**	⇑*i*P	P	00 23 46.6	0.0
TEL3	**Telica 3**	**1.38**	**334**	⇑*e*P	P	00 23 47.5	+0.2
TEL3				*e*S	S	00 24 05.6	+0.7
TELN	**Telica**	**1.40**	**335**	⇑*e*P	P	00 23 47.7	+0.2
TELN				*e*S	S	00 24 05.9	+0.5
CRIN	**San Cristobal**	**1.58**	**330**	*e*S	S	00 24 10.8	+1.2
CGA2	**Cerro Gallo 2**	**2.17**	**127**	*e*P	P	00 23 57.5	-0.5
CGA2				*e*S	S	00 24 24.9	+1.2
PRS1	**Puriscal**	**2.31**	**125**	⇑*e*P	P	00 24 00.0	0.0
LAJ	**Bijagual**	**2.53**	**125**	*e*P	P	00 23 59.8	-3.3
SJS	**Escuela Geolog**	**2.54**	**123**	*e*S	S	00 24 35.8	+2.7
TRTC	**Tortuguero**	**2.58**	**107**	⇑*e*P	P	00 24 01.9	-1.9
LCR2	**La Lucha 2**	**2.70**	**125**	⇓*e*P	P	00 24 04.7	-0.8
LCR2				*e*S	S	00 24 39.7	+2.7
ICR	**Volcan Irazu**	**2.71**	**119**	*e*P	P	00 24 04.0	-1.7
BUS	**Buena Vista**	**3.00**	**126**	*e*P	P	00 24 09.4	-0.3
SNVI	**San Vicente**	**3.42**	**312**	*e*P	P	00 24 16.4	+0.9
SNVI				*e*S	S	00 24 53.8	-1.2
LCBS	**La Ceiba**	**3.55**	**311**	*e*P	P	00 24 17.4	0.0
LCBS				*e*S	S	00 24 56.8	-1.6
LFRS	**El Faro**	**3.59**	**310**	*e*P	P	00 24 17.7	-0.3
LFRS				*e*S	S	00 24 57.6	-1.8
BOQS	**Boqueron**	**3.82**	**309**	*e*P	P	00 24 21.1	-0.1
BOQS				*e*S	S	00 25 04.7	-0.6
SBLS	**San Blas**	**4.15**	**307**	*e*P	P	00 24 25.8	-0.1

*NIED **26** 00:27:00, 33.70N×130.30E, h5km, Mw3.3 Best double couple: M0 1.04×10^14 NP1:φs163°, δ55°, λ133°. NP2: φs284°, δ53°, λ45°.*
JMA 26 00:27:59.3, 33.69N×130.27E, h8km, M3.5, 2C-1D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.28**	**159**	⇑P	Pg	00 28 05.0	-0.1
JFI				*e*S	Sg	00 28 09.0	+0.1
JFA	**Akaike**	**0.44**	**87**	⇓P	Pg	00 28 07.7	-0.5
JFA				S	Sg	00 28 13.9	-0.2
JII	**Iki**	**0.46**	**283**	P	Pg	00 28 08.6	0.0
JII				S	Sg	00 28 14.7	-0.1
JTA	**Tamana**	**0.76**	**163**	⇑P	Pb	00 28 13.7	-0.6
JTA				S	Sb	00 28 23.8	-0.7

*STR **26** 00:48:01.7±0.1, 42.61N×0.84E, h5km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 00:48:01.6±0.1, 42.59N×0.81E, h7km, Md2.7/2, Ml2.4/9, Error ellipse: s-maj=1.7km s-min=0.9km az=6.0*
*CSEM **26** 00:48:02.0±0.1, 42.60N×0.82E, h8km, ML2.4/9, Error ellipse: s-maj=1.2km s-min=0.9km az=4.0*
MDD 26 00:48:02.1±0.2, 42.61N×0.83E, h10km±1km, mbLg1.9/18, 1C, Error ellipse: s-maj=1.9km s-min=1.2km az=23.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MELF	**Melles**	**0.27**	**349**	Pg	Pg	00 48 07.7	-0.1
MELF				Sg	Sg	00 48 11.5	-0.1
MELF	**Melles**	**0.27**	**349**	Pg	Pg	00 48 07.7	-0.1
MELF				Lg		00 48 11.5	
SALF	**Salau**	**0.31**	**60**	Pg	Pg	00 48 08.2	-0.3
SALF				Sg	Sg	00 48 12.1	-0.7
SALF	**Salau**	**0.31**	**60**	Pg	Pg	00 48 08.2	-0.4
SALF				Lg		00 48 12.2	
CSOR	**Sort**	**0.33**	**136**	Pg	Pg	00 48 08.3	-0.6
CSOR				Lg		00 48 12.8	
	37nm,0.1s						
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	00 48 09.9	-0.4
MLS				Sg	Sg	00 48 14.9	-0.9
MLS	**Moulis**	**0.40**	**29**	Pg	Pg	00 48 09.9	-0.4
MLS				Lg		00 48 14.9	
RESF	**Ens**	**0.41**	**299**	Pg	Pg	00 48 10.1	-0.5
RESF				Sg	Sg	00 48 15.7	-0.5
RESF	**Ens**	**0.41**	**299**	Pg	Pg	00 48 10.1	-0.4
RESF				Lg		00 48 15.7	
EBIE	**Bielsa**	**0.51**	**279**	⇑Pg	Pg	00 48 11.7	-0.8
	5.0nm,0.1s,SNR=18						
EBIE				Lg		00 48 18.6	
	20nm,0.1s,SNR=7.9						
EBIE	**Bielsa**	**0.51**	**279**	Pg	Pg	00 48 11.7	-0.8
	5.0nm,0.1s,SNR=18						
CORG	**Organya**	**0.52**	**136**	Pg	Pg	00 48 11.9	-0.9
CORG				Lg		00 48 19.0	
	11nm,0.1s						
PAND	**Andorre**	**0.54**	**99**	Pg	Pg	00 48 11.9	-1.1
PAND				Lg		00 48 18.6	
EPF	**Esparros**	**0.55**	**320**	*e*Pg	Pg	00 48 12.4	-1.0
EPF				*e*Sg	Sg	00 48 19.7	-1.1
	15nm,0.2s						
GRBF	**Gourbit**	**0.57**	**66**	Pg	Pg	00 48 13.0	-0.7
GRBF				Lg		00 48 20.4	
VIEF	**Viey**	**0.65**	**295**	Pg	Pg	00 48 14.2	-1.1
VIEF				Sg	Sg	00 48 23.1	-1.0
VIEF	**Viey**	**0.65**	**295**	Pg	Pg	00 48 14.2	-1.1
VIEF				Lg		00 48 22.5	
LABF	**Labassere**	**0.71**	**309**	Pg	Pg	00 48 15.6	-0.8
LABF				Sg	Sg	00 48 25.0	-0.9
LABF	**Labassere**	**0.71**	**309**	Pg	Pg	00 48 15.5	-0.8
LABF				Lg		00 48 25.1	
CAVN	**Les Avellanes**	**0.73**	**185**	Pg	Pg	00 48 16.1	-0.7
CLLI	**Llivia**	**0.86**	**98**	Pg	Pg	00 48 17.5	-1.8
CLLI				Lg		00 48 29.0	
	2.3nm,0.1s						
EMIR	**Miracle**	**0.87**	**143**	Pg	Pg	00 48 18.3	-1.2
	1.9nm,0.1s,SNR=13						
EMIR				Lg		00 48 30.5	
	2.5nm,0.1s,SNR=8.8						
EMIR	**Miracle**	**0.87**	**143**	Pg	Pg	00 48 18.3	-1.2
	1.9nm,0.1s,SNR=13						
VALF	**Valcebollere**	**0.90**	**103**	Pg	Pg	00 48 18.4	-1.9
VALF				Sg	Sg	00 48 30.7	-1.7
VALF	**Valcebollere**	**0.90**	**103**	Pg	Pg	00 48 18.5	-1.8
VALF				Lg		00 48 29.7	
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	00 48 19.8	-1.4
CARF				Sg	Sg	00 48 32.3	-1.6
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	00 48 19.9	-1.2
CARF				Lg		00 48 32.2	
REYF	**Montagne du Re**	**1.01**	**298**	Lg		00 48 34.0	
CBRU	**Bruguera**	**1.05**	**107**	Pg	Pg	00 48 21.4	-1.8
ETSF	**Etsaut**	**1.06**	**286**	*e*Pn	Pn	00 48 21.2	-1.8
ETSF				*e*Pg	Pg	00 48 21.6	-1.8
ETSF				*e*Sg	Sg	00 48 35.1	-2.5
	18nm,0.2s						
ETSF	**Etsaut**	**1.06**	**286**	Pn	Pn	00 48 21.2	-1.8
ETSF				Lg		00 48 35.1	
	8.8nm,0.2s						
ETSF	**Etsaut**	**1.06**	**286**	*e*Pg	Pg	00 48 21.6	-1.8
ETSF				*e*Sg	Sg	00 48 35.1	-2.5
	8.8nm,0.2s						
ATE	**Arette**	**1.22**	**293**	Lg		00 48 40.5	
MTLF	**Montolieu**	**1.25**	**54**	*e*Pn	Pn	00 48 24.7	-1.1
MTLF				*e*Pg	Pg	00 48 25.5	-1.8
MTLF				*e*Sg	Sg	00 48 42.0	-2.0
	3.8nm,0.2s						
MTLF	**Montolieu**	**1.25**	**54**	*e*Pn	Pn	00 48 24.7	-1.1
MTLF				*e*Sg	Sg	00 48 42.0	-2.0
	1.9nm,0.2s						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	00 48 25.5	-2.1
	0.6nm,0.1s,SNR=17						
EPOB				Lg		00 48 42.8	
	4.3nm,0.1s,SNR=12						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	00 48 25.5	-2.1
	0.6nm,0.1s,SNR=17						
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	00 48 24.6	-3.2
FILF				Sg	Sg	00 48 39.5	-5.4
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	00 48 24.3	-3.4
FILF				Lg		00 48 40.1	
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	00 48 26.9	-1.5
	19nm,0.3s,SNR=30						
ESAC				Lg		00 48 44.9	
	62nm,0.2s,SNR=36						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	00 48 26.9	-1.5
	19nm,0.3s,SNR=30						
CGAR	**Garraf**	**1.33**	**170**	Lg		00 48 51.4	
	1.8nm,0.1s						
LARF	**Larrau**	**1.40**	**288**	Lg		00 48 47.4	
CFON	**Fontmartina**	**1.46**	**125**	Pg	Pg	00 48 29.0	-2.4
CFON				Lg		00 48 48.7	
	32nm,0.2s						
SJAF	**Saint Jean de**	**1.52**	**94**	Pg	Pg	00 48 30.5	-2.1
SJAF				Lg		00 48 50.7	
EJON	**La Jonquera**	**1.53**	**95**	Pn	Pn	00 48 29.9	+0.2
	0.1nm,0.1s,SNR=7.9						
EJON				Pg	Pg	00 48 31.1	-1.7
	2.5nm,0.2s,SNR=16						
EJON				Lg		00 48 51.5	
	3.3nm,0.0s,SNR=7.8						
EJON	**La Jonquera**	**1.53**	**95**	Pn	Pn	00 48 30.0	+0.3
	SNR=7.9						
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	00 48 31.3	-1.5
	2.5nm,0.2s,SNR=16						
SJPF	**Ste Jean**	**1.59**	**289**	*e*Pg	Pg	00 48 30.8	-3.2
SJPF				*e*Sn	Sn	00 48 47.6	-3.7
SJPF				*e*Sg	Sg	00 48 51.5	-3.7
	17nm,0.4s						
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	00 48 36.1	-2.5
	0.6nm,0.1s,SNR=7.9						
EALK				Lg		00 49 00.9	
	25nm,0.4s,SNR=7.9						
LFF	**La Frestale**	**2.33**	**358**	*e*Pn	Pn

BHPL	**Bhopal**	**6.93**	**28**	*e*P		**Pn**		**00 58 19.1**	**-0.8**
BHPL				*e*S		**Sn**		**00 59 31.3**	**-7.5**
BHPL				*e*				01 00 15.7	
	comp=N,171nm,0.3s								
BHPL				*e*				01 00 16.1	
	comp=E,282nm,0.9s								
VIS	**Vishakhapatnam**	**9.03**	**85**	*e*P		**P**		**00 58 49.7**	**+0.6**
VIS				*e*S		**Sn**		**01 00 24.2**	**-6.9**
VIS				*e*				01 01 19.5	
	comp=N,234nm,0.9s								
VIS				*e*				01 01 19.6	
	comp=E,110nm,0.4s								
TRD	**Trivandrum**	**9.07**	**160**	*e*P		**P**		**00 58 54.7**	**+5.0**
TRD				*e*S		**Sn**		**01 00 31.4**	**-0.6**
BLSP	**Bilaspur**	**9.23**	**56**	*e*P		**P**		**00 58 51.1**	**-0.7**
BLSP				*e*S		**Sn**		**01 00 27.2**	**-8.7**
BLSP				*e*				01 01 27.4	
	comp=N,241nm,0.4s								
BLSP				*e*				01 01 27.7	
	comp=E,193nm,0.6s								
PALK	**Pallekele**	**11.84**	**145**	P		**P**		**00 59 24.5**	**-3.1**
PALK				*e*S		**S**		**01 01 41.4**	**+1.5**
LSA	**Lhasa**	**20.16**	**49**	*e*P		**P**		**01 01 18.8**	**+6.2**
	comp=E,5.7nm,0.8s								
MKAR	**Makanchi Array**	**30.39**	**11**	P		**P**		**01 02 49.1**	**-0.5**
	comp=E,0.2nm,0.7s,mb2.9,baz=198,slow=9.1,SNR=2.7								
CHKZ	**Chkalovo**	**36.57**	**357**	P		**P**		**01 03 42.6**	**-0.2**
	comp=E,0.7nm,0.7s,mb3.6								
ZAL	**Zalesovo**	**37.71**	**11**	P		**P**		**01 03 52.5**	**+0.1**
	comp=E,0.5nm,0.5s,mb3.5,baz=283,slow=8.1,SNR=3.5								
SONM	**Songino Array**	**40.58**	**34**	P		**P**		**01 04 17.9**	**+1.6**
	comp=E,0.7nm,0.8s,mb3.4,baz=229,slow=9.5,SNR=6.0								
ARCES	**ARCESS Array B**	**60.18**	**342**	P		**P**		**01 06 44.2**	**-0.8**
	comp=E,3.2nm,1.0s,mb4.3,baz=68,slow=6.5,SNR=3.8								
ARCES	**ARCESS Array B**	**60.18**	**342**	P		**P**		**01 06 44.2**	**-0.8**
NOA	**NORSAR Array B**	**62.02**	**331**	P		**P**		**01 06 55.6**	**-2.0**
	comp=E,0.4nm,0.7s,mb3.6,baz=106,slow=6.9,SNR=3.7								
WRA	**Warramunga Arr**	**69.85**	**119**	P		**P**		**01 07 49.0**	**+0.8**
	comp=E,1.0nm,0.7s,mb3.9,baz=305,slow=5.7,SNR=4.5								
WRAB	**Tennant Creek**	**69.86**	**119**	P		**P**		**01 07 48.2**	**-0.1**
ASAR	**Alice Springs**	**71.25**	**123**	P		**P**		**01 07 57.0**	**+0.2**
	comp=E,1.0nm,0.6s,mb3.9,baz=302,slow=5.5,SNR=6.7								

NEIC ***26*** *00:59:07.8±1.0,23.37S×179.93W,h532km±12km, mb4.1/5, Error ellipse: s-maj=16.6km s-min=10.3km az=154.0*
IDC ***26*** *00:59:08.2±2.1,23.30S×179.96W,h533km±25km, mb3.5/8, mb1 3.6/11,mb1mx3.5/16,mbtmp4.4/11, Error ellipse: s-maj=20.3km s-min=15.0km az=152.0*

ISC 26 00:59:08.7±1.2,23.40S±0.08×179.98E±0.09, h555km±19km,n26,σ0§83/21,mb4.0/12,4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.25**	**41**	P	**P**	**01 01 47.7**	**-2.5**
	1.7nm,0.3s,baz=227,slow=18,SNR=4.3						
AFI				S	**S**	**01 04 00.7**	**+0.8**
	1.1nm,0.3s,baz=217,slow=20,SNR=3.3						
DZM	**Mont Dzumac**	**12.56**	**273**	P	**P**	**01 01 55.2**	**+1.9**
	0.2nm,0.3s,baz=95,slow=17,SNR=2.1						
URZ	**Urewera**	**15.01**	**189**	P	**P**	**01 02 17.0**	**-0.7**
	2.5nm,0.3s,baz=8.7,slow=2.3,SNR=14						
URZ				S	**S**	**01 04 50.5**	**+0.4**
	1.0nm,0.3s,baz=143,slow=20,SNR=3.4						
PMG	**Port Moresby**	**34.32**	**288**	P	**P**	**01 05 10.8**	**+0.1**
	7.8nm,0.6s,mb4.4,baz=135,slow=7.1,SNR=7.5						
STKA	**Stephens Creek**	**34.89**	**247**	*i*P	**P**	**01 05 16.3**	**+0.9**
	3.4nm,0.8s,mb3.9						
STKA	**Stephens Creek**	**34.89**	**247**	P	**P**	**01 05 16.4**	**+1.0**
	2.8nm,0.4s,mb4.2,baz=81,slow=8.3,SNR=12						
ASAR	**Alice Springs**	**42.10**	**260**	P	**P**	**01 06 14.2**	**+0.3**
	5.6nm,0.5s,mb4.4,baz=94,slow=8.1,SNR=76						
ASPA	**Alice Springs**	**42.10**	**260**	*i*P	**P**	**01 06 14.1**	**+0.1**
WB2	**Warramunga Arr**	**42.41**	**266**	*i*P	**P**	**01 06 16.1**	**-0.4**
WRAB	**Tennant Creek**	**42.42**	**266**	P	**P**	**01 06 16.0**	**-0.5**
	60nm,0.4s,SNR=21						
WRAB	**Tennant Creek**	**42.42**	**266**	*e*P	**P**	**01 06 15.5**	**-1.1**
	14nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.42**	**266**	P	**P**	**01 06 16.3**	**-0.3**
	3.8nm,0.3s,mb4.4,baz=89,slow=5.9,SNR=109						
KAKA	**Kakadu**	**46.25**	**275**	*i*P	**P**	**01 06 45.4**	**-0.9**
	5.6nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.85**	**265**	*e*P	**P**	**01 07 20.3**	**-0.3**
	9.0nm,0.9s,mb4.1						
VNDA	**Vanda**	**54.87**	**185**	P	**P**	**01 07 48.9**	**+0.4**
	1.1nm,0.7s,mb3.2,baz=343,slow=7.4,SNR=11						
NWAO	**Narrogin (SRO)**	**55.43**	**245**	P	**P**	**01 07 52.2**	**-0.7**
	7.1nm,1.0s,mb3.9,baz=163,slow=11,SNR=4.0						
HLID	**Hailey**	**89.73**	**41**	*e*P	**P**	**01 11 09.2**	**+0.2**
	0.6nm,0.6s,mb3.6						
TXAR	**Lajitas Array**	**90.18**	**58**	P	**P**	**01 11 12.0**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=218,slow=7.5,SNR=10						
PDAR	**Pinedale Array**	**92.34**	**44**	P	**P**	**01 11 21.3**	**+0.3**
	0.7nm,0.8s,mb3.7,baz=207,slow=3.3,SNR=5.1						
FINES	**FINESS Array B**	**137.97**	**342**	PKP	PKPdf	01 17 32.3	+2.5
	0.8nm,0.8s,baz=90,slow=1.4,SNR=3.6						
NB2	**NORSAR Subarra**	**141.59**	**351**	PKPabc		01 17 32.1	
	0.3nm,0.7s,baz=20,slow=2.9						
NOA	**NORSAR Array B**	**141.59**	**351**	PKhKP		01 17 31.2	
	0.4nm,0.7s,baz=16,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**144.54**	**328**	PKP	PKPdf	01 17 42.2	+0.6
	1.1nm,0.5s,baz=38,slow=4.0,SNR=10						
AKASG	**Malin Array Be**	**144.54**	**328**	PKP	PKPdf	01 17 42.2	+0.6
CLL	**Coll m**	**150.38**	**343**	*i* PKP1	PKPdf	01 17 58.3	+7.3
GERES	**GERESS Array B**	**152.38**	**340**	PKP	PKPdf	01 17 57.2	+3.2
	0.1nm,0.4s,slow=1.0,SNR=3.6						
GERES				PKPbc	PKPdf	01 18 02.8	+8.9
	0.3nm,0.7s,baz=22,slow=2.1,SNR=3.1						

IDC ***26*** *01:04:52.1±0.7,28.49S×66.33W,mb3.6/4,mb1 3.8/8, mb1mx3.7/16,mbtmp3.5/8,ML3.4/3,MS3.4/2,Ms1 3.4/2, ms1mx2.9/15,Error ellipse: s-maj=38.1km s-min=15.0km az=112.0*
NEIC ***26*** *01:04:57.2±0.8,28.61S×66.06W,h35km±8km,mb3.9/2, MD4.5(SJA),Error ellipse: s-maj=16.4km s-min=7.8km az=99.0*
NEIC Felt [IV] at Catamarca.

ISC 26 01:04:53.8±2.6,28.60S±0.06×65.9W±0.1,h26km±21km, n25,σ1§03/20,mb3.7/5,MS3.2/1,Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**3.60**	**213**	Pn	**Pn**	**01 05 50.2**	**+0.8**
	baz=33,slow=14						
CFAA				Pg	**Pn**	**01 06 00.2**	**+11**
	baz=27,slow=14						
CFAA				Sn	**Sn**	**01 06 32.0**	**+0.5**
	4.0nm,0.3s,baz=148,slow=24,SNR=5.3						
CFAA				Lg		01 06 44.4	
	12nm,0.3s,baz=248,slow=19,SNR=15						
CFAA	**Coronel Fontan**	**3.60**	**213**	Pn	**Pn**	**01 05 50.2**	**+0.8**
CFAA				Pg	**Pn**	**01 06 00.2**	**+11**
CFAA				Sn	**Sn**	**01 06 32.0**	**+0.5**
CFAA				Lg		01 06 44.4	
ZON	**Zonda**	**3.78**	**218**	*e*P	**Pn**	**01 05 52.0**	**+0.1**
ZON				*e*S	**Sn**	**01 06 46.0**	**+10**
LVC	**Limon Verde**	**6.54**	**335**	*e*Pn	**Pn**	**01 06 32.3**	**+1.4**
	15nm,0.9s						
TRQA	**Tornquist**	**9.99**	**162**	*e*Pn	**P**	**01 07 18.7**	**-0.1**
	65nm,0.6s						
LPAZ	**La Paz**	**12.42**	**350**	Pn	**P**	**01 07 51.7**	**-0.3**
	0.1nm,0.3s,baz=148,slow=15,SNR=2.5						
PLCA	**Paso Flores**	**12.68**	**196**	Pn	**P**	**01 07 53.8**	**-1.6**
	0.1nm,0.3s,baz=358,slow=12,SNR=3.9						
PLCA				LR	LR	01 13 21.2	
	comp=Z,202nm,18.2s,baz=56,slow=40						
SIV	**San Ignacio**	**13.33**	**21**	Pn	**P**	**01 08 02.8**	**-1.1**
	0.0nm,0.3s,baz=219,slow=13,SNR=2.0						
BDFB	**Brasilia**	**20.98**	**56**	P	**P**	**01 09 40.2**	**+2.6**
	3.3nm,0.8s,baz=257,slow=6.9,SNR=4.6						
ROSC	**El Rosal**	**34.23**	**345**	LR	LR	01 27 40.0	
	comp=Z,39nm,18.9s,MS3.2,baz=149,slow=40						
TXAR	**Lajitas Array**	**67.97**	**325**	P	**P**	**01 15 51.7**	**-1.2**
	0.2nm,0.6s,mb3.3,baz=144,slow=7.8,SNR=3.5						
VNDA	**Vanda**	**70.35**	**190**	P	**P**	**01 16 07.6**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=101,slow=5.4,SNR=3.4						
VNDA	**Vanda**	**70.35**	**190**	P	**P**	**01 16 07.6**	**+0.8**
ANMO	**Albuquerque**	**73.90**	**326**	P	**P**	**01 16 28.1**	**-0.3**
	0.5nm,0.6s,mb3.6						
PDAR	**Pinedale Array**	**81.58**	**329**	P	**P**	**01 17 09.8**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=127,slow=8.9,SNR=6.2						
HLID	**Hailey**	**84.46**	**327**	*e*P	**P**	**01 17 26.2**	**+0.8**
	0.9nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**124.64**	**202**	PKP	PKPdf	01 23 52.2	-4.2
	1.1nm,0.7s,baz=157,slow=2.9,SNR=9.4						
WRA	**Warramunga Arr**	**127.92**	**204**	PKP	PKPdf	01 23 59.1	-3.7
	1.4nm,0.6s,baz=172,slow=1.8,SNR=6.8						
BVAR	**Borovoye Array**	**139.78**	**40**	PKP	PKPdf	01 24 22.3	-1.7
	0.4nm,0.7s,slow=4.4,SNR=3.6						
AAK	**Ala-Archa**	**145.24**	**56**	*e*PKP	PKPdf	01 24 31.2	-2.6
ZAL	**Zalesovo**	**146.88**	**32**	PKPbc	PKPbc	01 24 34.7	+1.7
	1.4nm,0.4s,baz=180,slow=5.1,SNR=8.3						
ZAL	**Zalesovo**	**146.88**	**32**	PKPbc	PKPbc	01 24 34.7	+1.6
MKAR	**Makanchi Array**	**149.27**	**45**	PKPbc	PKPdf	01 24 42.9	+2.6
	1.1nm,0.6s,baz=300,slow=2.8,SNR=15						
MKAR	**Makanchi Array**	**149.27**	**45**	PKPbc	PKPdf	01 24 42.9	+2.6
SONM	**Songino Array**	**159.89**	**15**	PKP	PKPdf	01 24 53.9	-0.8
	0.4nm,0.6s,baz=225,slow=2.0,SNR=3.6						
SONM				PKPab	PKPab	01 25 33.0	+1.3
	0.3nm,0.6s,baz=326,slow=5.2,SNR=3.3						

IDC ***26*** *01:13:48.0±0.9,12.72N×93.07E,mb3.7/11,mb1 3.9/11, mb1mx3.8/19,mbtmp3.7/11,Error ellipse: s-maj=47.8km s-min=16.2km az=55.0*
BJI ***26*** *01:13:51.6,12.70N×93.10E,h30km,mB5.0,mb4.4*
NEIC ***26*** *01:13:52.6±0.5,12.72N×93.14E,h30km,mb4.5/2,Error ellipse: s-maj=14.7km s-min=9.3km az=60.0*

ISC 26 01:13:52.1±4.1,12.7N±0.1×93.2E±0.2,h42km±33km,n24, σ0§82/23,mb3.9/14,1C,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDT	**Bhumibol Dam**	**7.23**	**51**	P	**P**	**01 15 32.5**	**-5.4**
CM31	**Chiang Mai Arr**	**7.99**	**44**	*e*P	**P**	**01 15 46.9**	**-1.5**
	18nm,0.6s						
CHG	**Chiang Mai**	**8.24**	**42**	⇑P	**P**	**01 15 53.1**	**+1.2**
	31nm,0.6s						
NANT	**Nan**	**9.46**	**49**	P	**P**	**01 16 08.0**	**-0.7**
LSA	**Lhasa**	**17.02**	**354**	*e*P	**P**	**01 17 50.0**	**+1.5**
ENH	**Enshi**	**23.11**	**38**	*e*P	**P**	**01 18 54.2**	**-1.1**
	24nm,0.6s,mb4.8						
LZH	**Lanzhou**	**25.20**	**21**	*e*P	**P**	**01 19 16.5**	**+1.1**
LZH				AMB	AMB		
	comp=Z,38nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,190nm,4.9s						
AAK	**Ala-Archa**	**33.93**	**335**	P	**P**	**01 20 22.7**	**-11**
MKAR	**Makanchi Array**	**35.20**	**347**	P	**P**	**01 20 44.0**	**-0.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=162,slow=7.7,SNR=12						
SONM	**Songino Array**	**36.73**	**15**	P	**P**	**01 20 56.9**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=198,slow=7.8,SNR=6.4						
ULN	**Ulaanbaatar**	**36.93**	**16**	P	**P**	**01 21 00.3**	**+1.5**
ZAL	**Zalesovo**	**41.66**	**353**	P	**P**	**01 21 37.6**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.7,baz=294,slow=10.0,SNR=4.1						
BVAR	**Borovoye Array**	**44.14**	**340**	P	**P**	**01 21 57.8**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=136,slow=9.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	**44.32**	**133**	P	**P**	**01 22 00.5**	**+0.4**
	comp=Z,3.5nm,1.0s,mb4.1,baz=337,slow=6.6,SNR=5.7						
CHKZ	**Chkalovo**	**44.62**	**341**	*e*P	**P**	**01 22 01.6**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.1						
WRA	**Warramunga Arr**	**51.91**	**128**	P	**P**	**01 22 59.4**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=306,slow=8.7,SNR=5.4						
WRAB	**Tennant Creek**	**51.91**	**128**	P	**P**	**01 22 59.0**	**-0.1**
ASAR	**Alice Springs**	**53.80**	**132**	P	**P**	**01 23 13.2**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=307,slow=6.8,SNR=6.3						
BRTR	**Keskin Array B**	**58.51**	**309**	P	**P**	**01 23 46.5**	**-0.9**
	comp=Z,0.5nm,0.9s,mb3.5,baz=109,slow=7.0,SNR=3.7						
FINES	**FINESS Array B**	**68.03**	**331**	P	**P**	**01 24 48.6**	**-0.3**
	comp=Z,0.3nm,0.6s,mb3.5,baz=63,slow=4.3,SNR=5.0						
GERES	**GERESS Array B**	**73.62**	**317**	P	**P**	**01 25 23.7**	**+0.8**
	comp=Z,0.6nm,0.6s,mb3.7,baz=90,slow=5.3,SNR=7.5						
NB2	**NORSAR Subarra**	**75.08**	**330**	P	**P**	**01 25 30.9**	**-0.2**
	comp=Z,0.0nm,0.5s,baz=89,slow=6.5						
NOA	**NORSAR Array B**	**75.08**	**330**	P	**P**	**01 25 30.1**	**-1.0**
	comp=Z,0.4nm,0.6s,mb3.5,baz=90,slow=5.8,SNR=3.6						
TXAR	**Lajitas Array**	**135.16**	**21**	PKP	PKPdf	01 33 11.2	+3.4
	comp=Z,0.1nm,0.6s,baz=217,slow=0.5,SNR=4.4						

NEIC ***26*** *01:28:44.1±0.3,10.60S×161.77E,mb4.9/21,Error ellipse: s-maj=8.4km s-min=7.2km az=128.0*
IDC ***26*** *01:28:44.2±0.6,10.51S×161.68E,h35km±4km,mb4.4/15, mb1 4.5/18,mb1mx4.5/19,mbtmp4.7/18,ML4.9/2,MS4.0/14, Ms1 4.0/14,ms1mx4.0/15,Error ellipse: s-maj=17.0km s-min=14.0km az=102.0*
HRVD ***26*** *01:28:44.1±0.8,10.85S×161.76E,h36km±1km,MW4.8/35, Centroid moment Tensor Solution. LP body waves: s17,c19;Mantle waves: s35,c41; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.02±.23; $M_{\theta\theta}$-0.67±.21; $M_{\phi\phi}$-1.34±.20; $M_{r\theta}$-0.61±.15; $M_{\theta\phi}$1.22±.12; $M_{\phi r}$-0.58±.14; Best double couple: $M_0$2.315×10^{16} NP1:ϕ_s302°, δ48°, λ60°. NP2:ϕ_s163°, δ50°, λ119°. Principal axes: T 2.355, Plg68°, Azm140°; N -.075, Plg22°, Azm324°; P -2.274, Plg1°, Azm233°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***26*** *01:28:44.0,10.60S×161.80E,h32km,mB5.3,mb4.8, Ms5.1,Msz4.7*

ISC 26 01:28:42.7±0.3,10.67S±0.05×161.68E±0.06,h33km, h33km±1.0km:pP-P,n76,σ1§00/64,mb4.8/34,MS4.1/15,2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.10**	**306**	*e*P	**P**	**01 29 20.0**	**+3.8**
NOUC	**Port Laguerre**	**12.20**	**159**	*e*P	**P**	**01 31 36.9**	**-0.2**
DZM	**Mont Dzumac**	**12.22**	**159**	*e*P	**P**	**01 31 36.9**	**-0.6**
DZM				*e*S	**S**	**01 33 44.9**	**-8.5**
DZM	**Mont Dzumac**	**12.22**	**159**	Pn	**P**	**01 31 37.6**	**+0.2**
	4.9nm,0.3s,baz=337,slow=23,SNR=36						
DZM				Sn	**S**	**01 33 48.0**	**-5.5**
	1.6nm,0.3s,baz=268,slow=20,SNR=5.2						
DZM				LR	LR	01 35 34.4	
	comp=Z,484nm,19.1s,baz=23,slow=33						
DZM	**Mont Dzumac**	**12.22**	**159**	*e*P	**P**	**01 31 36.9**	**-0.6**
DZM				*e*S	**S**	**01 33 44.9**	**-8.5**
PMG	**Port Moresby**	**14.35**	**274**	Pn	**P**	**01 32 10.1**	**+4.4**
	0.5nm,0.3s,baz=92,slow=8.4,SNR=19						
PMG	**Port Moresby**	**14.35**	**274**	*e*P	**P**	**01 32 08.7**	**+3.0**
	23nm,0.7s						
CTA	**Charters Tower**	**17.56**	**236**	*e*P	**P**	**01 32 50.0**	**+3.4**
	33nm,0.8s						
CTA	**Charters Tower**	**17.56**	**236**	Pn	**P**	**01 32 49.7**	**+3.0**
	3.1nm,0.3s,baz=66,slow=13,SNR=44						
CTAO	**Charters Tower**	**17.56**	**236**	*e*P	**P**	**01 32 49.0**	**+2.4**
	47nm,0.9s						
AFI	**Afiamalu**	**26.13**	**100**	P	**P**	**01 34 15.7**	**-0.1**
	14nm,0.8s,mb4.5,baz=59,slow=12,SNR=2.5						
AFI				LR	LR	01 42 22.7	
	comp=Z,454nm,20.0s,MS4.0,baz=255,slow=31						
AFI	**Afiamalu**	**26.13**	**100**	P	**P**	**01 34 15.7**	**-0.2**
AFI				LR	LR	01 42 22.7	
RAO	**Raoul Island**	**26.55**	**137**	LR	LR	01 42 54.5	
	comp=Z,164nm,18.1s,MS3.6,baz=344,slow=32						
WRAB	**Tennant Creek**	**27.88**	**247**	*e*P	**P**	**01 34 30.6**	**-1.3**
	28nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**27.88**	**247**	*e*P	**P**	**01 34 31.7**	**-0.2**
WRA	**Warramunga Arr**	**27.89**	**247**	P	**P**	**01 34 32.0**	**0.0**
	3.9nm,0.5s,mb4.3,baz=75,slow=9.4,SNR=27						
STKA	**Stephens Creek**	**28.10**	**218**	*e*P	**P**	**01 34 34.8**	**+1.1**
	3.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**28.10**	**218**	P	**P**	**01 34 33.8**	**0.0**
	2.9nm,0.7s,mb4.0,baz=48,slow=5.8,SNR=10						
STKA				LR	LR	01 45 59.5	
	comp=Z,738nm,18.0s,MS4.3,baz=34,slow=37						
KAKA	**Kakadu**	**28.70**	**263**	*i*P	**P**	**01 34 38.8**	**-0.4**
	20nm,0.6s,mb5.0						
ASAR	**Alice Springs**	**29.44**	**240**	P	**P**	**01 34 44.6**	**-1.1**
	1.5nm,0.4s,mb4.1,baz=63,slow=10,SNR=20						
ASAR				LR	LR	01 46 45.3	
	comp=Z,320nm,18.4s,MS4.0,baz=9.3,slow=37						
ASPA	**Alice Springs**	**29.44**	**240**	*e*P	**P**	**01 34 44.7**	**-1.1**
TOO	**Toolangi**	**30.48**	**206**	*e*P	**P**	**01 34 55.5**	**+0.6**
	0.6nm,0.5s						
URZ	**Urewera**	**30.76**	**156**	P	**P**	**01 34 58.5**	**+1.2**
	11nm,0.7s,mb4.8,baz=134,slow=7.5,SNR=7.4						
RPZ	**Rata Peaks**	**33.91**	**168**	P	**P**	**01 35 26.3**	**+1.5**
	23nm,0.9s,mb5.1,baz=290,slow=3.5,SNR=4.5						
FITZ	**Fitzroy Crossi**	**35.63**	**254**	*i*P	**P**	**01 35 39.3**	**-0.4**
	21nm,0.5s,mb5.3						
FITZ	**Fitzroy Crossi**	**35.63**	**254**	LR	LR	01 48 26.5	
	comp=Z,139nm,18.9s,MS3.7,baz=81,slow=33						
FORT	**Forrest**	**37.05**	**232**	*e*P	**P**	**01 35 51.7**	**+0.2**
	306nm,0.6s						
PPT	**Papeete**	**47.66**	**104**	*e*LQ		01 48 58.4	
PPT				*e*LR	LR	01 51 04.6	
	237nm,25.5s						
PPT	**Papeete**	**47.66**	**104**	LR	LR	01 52 39.2	
	comp=Z,207nm,19.7s,MS4.1,baz=153,slow=30						
TBI	**Tubuai**	**48.18**	**112**	*e*LQ		01 49 09.7	
TBI				*e*LR	LR	01 51 21.6	
	157nm,33.0s						
ASAJ	**Asahikawa**	**57.22**	**344**	P	**P**	**01 38 28.4**	**-0.8**
	5.8nm,0.5s,mb4.8,baz=53,slow=5.1,SNR=4.8						
RKT	**Rikitea**	**61.46**	**111**	*e*LR	LR	01 57 37.7	
	225nm,26.2s						
MDJ	**Mudanjiang**	**62.23**	**335**	P	**P**	**01 39 03.0**	**-0.5**
MDJ				AP	pP	01 39 13.5	-0.3
MDJ				PP	PP	01 41 21.0	-1.6
MDJ				S	**S**	**01 47 34.3**	**+9.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,60nm,3.5s						
CN2	**Changchun**	**63.44**	**331**	*e*P	**P**	**01 39 14.8**	**+3.2**
CN2				*e*XP	sP	01 39 29.5	+3.8
CN2				*e*S	**S**	**01 47 47.5**	**+7.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
CN2				AMB	AMB		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,320nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=E,210nm,18.0s,MS4.6						
CN2				LR	LR		
	comp=Z,250nm,19.0s,MS4.4						
KIWB	**Kanaga Island**	**64.90**	**14**	P	**P**	**01 39 21.6**	**+0.7**
CASY	**Casey**	**65.31**	**200**	*e*P	**P**	**01 39 21.8**	**-1.6**
VNDA	**Vanda**	**66.83**	**180**	P	**P**	**01 39 32.9**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1,baz=344,slow=6.5,SNR=93						
VNDA				LR	LR	02 01 47.1	
	comp=Z,120nm,20.0s,MS4.1,baz=15,slow=30						
VNDA	**Vanda**	**66.83**	**180**	*e*P	**P**	**01 39 32.5**	**-0.4**
	comp=Z,15nm,0.8s,mb5.1						
SBA	**Scott Base**	**67.22**	**179**	*e*P	**P**	**01 39 35.5**	**+0.2**
	comp=Z,12nm,0.9s,mb4.9						
HHC	**Hu-ho-hao-te**	**69.00**	**321**	*e*P	**P**	**01 39 49.5**	**+2.5**
HHC				AP	pP	01 40 02.3	+4.8
HHC				PP	PP	01 42 26.3	+4.3
HHC				S	S	01 48 54.0	+5.9
HHC				SS	SS	01 53 20.8	+4.8
HHC				AMB	AMB		
	comp=Z,136nm,4.9s						
HIA	**Hailar**	**70.12**	**332**	*e*P	**P**	**01 39 53.0**	**-0.7**
	comp=Z,16nm,0.9s,mb5.0						
ULN	**Ulaanbaatar**	**75.69**	**325**	*e*P	**P**	**01 40 26.1**	**-0.4**
	comp=Z,19nm,0.9s,mb5.0						
ULN				*e*	pP	01 40 36.0	-1.0
SONM	**Songino Array**	**76.04**	**325**	P	**P**	**01 40 28.6**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.5,baz=142,slow=5.3,SNR=44						
SONM				pP	pP	01 40 38.8	-0.2
	comp=Z,12nm,0.7s,baz=140,slow=5.9,SNR=29						
SONM				LR	LR	02 10 46.9	
	comp=Z,82nm,19.0s,MS4.1,baz=175,slow=33						
BILL	**Bilibino**	**78.58**	**2**	*e*P	**P**	**01 40 42.0**	**-0.3**
	comp=Z,12nm,1.1s,mb4.7						
BILL				*e*	pP	01 40 52.5	-0.2
QSPA	**South Pole Qui**	**79.33**	**180**	*e*P	**P**	**01 40 45.2**	**-1.0**
	comp=Z,16nm,1.0s,mb4.9						
TLY	**Talaya**	**79.63**	**328**	*e*P	**P**	**01 40 47.5**	**-0.8**
	comp=Z,8.6nm,1.1s,mb4.6						
TLY				*e*	pP	01 40 57.0	-1.9
MCK	**McKinley**	**83.11**	**20**	*e*P	**P**	**01 41 05.3**	**-1.0**
	comp=Z,11nm,1.1s,mb4.8						
IMA	**Indian Mountai**	**83.26**	**17**	*e*P	**P**	**01 41 07.3**	**+0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.57**	**90⇑**	*eP*	P	01 34 54.2	-0.5
AGPR				*eS*	S	01 35 16.8	-0.4
LSP	**Las Mesas**	**1.62**	**100⇑**	*eP*	P	01 34 55.2	-0.1
LSP				*eS*	S	01 35 18.3	+0.1
CRPR	**Cabo Rojo, PR**	**1.64**	**106⇑**	*eP*	P	01 34 54.7	-0.8
CRPR				*eS*	S	01 35 17.6	-0.9
MGP	**Maguayo**	**1.66**	**106⇑**	*eP*	P	01 34 55.0	-0.7
MGP				*eS*	S	01 35 17.9	-0.9
LRS	**Lares**	**1.84**	**95⇑**	*eP*	P	01 34 56.9	-0.8
LRS				*eS*	S	01 35 21.9	-0.6
AOPR	**Arecibo Observ**	**1.92**	**93⇑**	*eP*	P	01 34 57.7	-1.1
AOPR				*eS*	S	01 35 23.6	-0.6
PORP	**Portuguez**	**2.07**	**101⇑**	*eP*	P	01 35 00.1	-0.5
PORP				*eS*	S	01 35 27.3	-0.1
CELP	**Cerrillos**	**2.12**	**100⇑**	*eP*	P	01 35 00.5	-0.8
CELP				*eS*	S	01 35 28.3	-0.2
CSB	**Colonia Sabana**	**2.49**	**94⇑**	*eP*	P	01 35 05.7	-0.3
CSB				*eS*	S	01 35 36.1	-0.9
SJG	**San Juan**	**2.51**	**98⇑**	*eP*	P	01 35 06.5	+0.1
SJG				*eS*	S	01 35 36.9	-0.7
CPD	**Cerro la Pandu**	**2.75**	**98⇑**	*eP*	P	01 35 09.4	0.0
CPD				*eS*	S	01 35 43.2	+0.2
CBYP	**Canovanas**	**2.77**	**93⇑**	*eP*	P	01 35 08.7	-1.1
CBYP				*eS*	S	01 35 43.2	-0.4
HUMP	**Col San Antoni**	**2.79**	**96⇑**	*eP*	P	01 35 08.4	-1.7
HUMP				*eS*	S	01 35 42.3	-1.8
MTP	**Monte Pirata**	**3.08**	**96⇑**	*eP*	P	01 35 12.8	-0.9
MTP				*eS*	S	01 35 50.5	-0.1

NEIC ***26*** *01:46:10.1, 15.72N×61.55W, h24km, MD3.5(TRN), After TRN.*

TRN 26 01:46:09.2, 15.75N×61.58W, h18km, MD3.5, M3.1(FDF), **Md3.0**(FDF), **3C, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**0.25**	**154⇑**	*iP*	Pb	01 46 17.8	+2.9
BBL				*iS*	Sb	01 46 20.4	+1.6
DWS	**Wesley**	**0.32**	**125⇑**	*iP*	Pb	01 46 18.7	+2.7
DWS				*iS*	Sb	01 46 23.6	+2.9
MDN	**Morne-Daniel**	**0.47**	**157⇑**	*iP*	Pb	01 46 21.7	+3.1
MDN				*eS*	Sb	01 46 28.7	+3.7
DBCT	**Belle View Cho**	**0.53**	**154**	*eP*	Pb	01 46 23.1	+3.4
DBCT				*eS*	Sb	01 46 30.3	+3.5
DSHT	**Scott's Head**	**0.57**	**159**	*eP*	Pb	01 46 23.7	+3.3
DSHT				*eS*	Sb	01 46 31.2	+3.2
BPA	**Boggy Peak**	**1.31**	**348**	*eP*	Pn	01 46 35.2	+2.3
BPA				*eS*	Sb	01 46 51.6	+2.1
CPB	**Codrington**	**1.89**	**353**	*eP*	Pn	01 46 43.5	+2.4
CPB				*eS*	Sn	01 47 07.6	+2.9
SKI	**Saint Kitts**	**1.93**	**325**	*eP*	Pn	01 46 48.7	+7.1
SKI				*eS*	Sn	01 47 11.7	+6.1

IDC ***26*** *01:58:24.5±0.8, 55.64S×27.10W, mb4.3/7, mb1 4.4/7, mb1mx4.0/17, mbtmp4.3/7, MS3.7/6, Ms1 3.7/6, ms1mx3.3/18, Error ellipse: s-maj=34.6km s-min=19.9km az=32.0*

NEIC ***26*** *01:58:25.6±0.4, 55.64S×27.18W, h10km, mb4.4/2, Error ellipse: s-maj=16.7km s-min=10.2km az=52.0*

ISC 26 01:58:24.1±0.7, 55.7S±0.1×27.2W±0.3, h10km, n24, σ0$79/14, **mb4.3/9, MS3.7/6, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRQA	**Tornquist**	**29.17**	**293**	*eP*	**P**	**02 04 24.6**	**-2.8**
PLCA	**Paso Flores**	**31.93**	**279**	LR	LR	02 15 42.1	
	comp=Z,87nm,19.7s,MS3.4,baz=143,slow=32						
PLCA	**Paso Flores**	**31.93**	**279**	P	**P**	**02 04 51.3**	**-0.5**
QSPA	**South Pole Qui**	**34.58**	**180**	*eP*	**P**	**02 05 14.8**	**+0.3**
	3.1nm,0.4s,mb4.6						
BDFB	**Brasilia**	**43.03**	**330**	LR	LR	02 22 13.4	
	comp=Z,130nm,20.0s,MS3.8,baz=292,slow=33						
LVC	**Limon Verde**	**45.10**	**300**	P	**P**	**02 06 43.3**	**+1.1**
	6.5nm,0.8s,mb4.5,baz=150,slow=7.6,SNR=8.7						
LVC				LR	LR	02 22 46.8	
	comp=Z,80nm,18.6s,MS3.7,baz=173,slow=32						
LVC	**Limon Verde**	**45.10**	**300**	P	**P**	**02 06 43.3**	**+1.1**
LVC				LR	LR	02 22 46.8	
BOSA	**Boshof**	**45.88**	**76**	P	**P**	**02 06 47.9**	**-0.3**
	2.3nm,0.9s,mb4.1,baz=221,slow=11,SNR=3.3						
BOSA				LR	LR	02 22 11.1	
	comp=Z,186nm,18.5s,MS4.1,baz=165,slow=31						
BOSA	**Boshof**	**45.88**	**76**	P	**P**	**02 06 47.9**	**-0.3**
BOSA				LR	LR	02 22 11.1	
SBA	**Scott Base**	**46.46**	**184**	P	**P**	**02 06 52.1**	**0.0**
	2.6nm,0.8s,mb4.2						
VNDA	**Vanda**	**46.95**	**183**	P	**P**	**02 06 56.4**	**+0.3**
	2.2nm,0.9s,mb4.1,baz=191,slow=5.9,SNR=11						
SIV	**San Ignacio**	**47.31**	**313**	P	**P**	**02 06 59.2**	**-0.5**
	2.3nm,0.9s,mb4.1,baz=169,slow=6.7,SNR=11						
LPAZ	**La Paz**	**50.15**	**305**	P	**P**	**02 07 22.6**	**+0.9**
	3.9nm,0.9s,mb4.5,baz=144,slow=6.6,SNR=16						
LPAZ				LR	LR	02 29 09.2	
	comp=Z,47nm,18.3s,MS3.5,baz=236,slow=37						
CASY	**Casey**	**54.27**	**160**	P	**P**	**02 07 51.4**	**-0.4**
ROSC	**El Rosal**	**71.65**	**310**	LR	LR	02 39 38.3	
	comp=Z,61nm,20.9s,MS3.9,baz=195,slow=34						
PCRV	**Puerto La Cruz**	**72.65**	**321**	P	**P**	**02 09 54.2**	**+0.4**
	20nm,1.1s,mb5.0,baz=149,slow=5.9,SNR=2.6						
SDV	**Santo Domingo**	**73.74**	**315**	P	**P**	**02 10 00.4**	**+0.2**
	1.5nm,0.5s,mb4.2,baz=31,slow=5.9,SNR=2.9						
FINES	**FINESS Array B**	**124.05**	**28**	PKP	PKPdf	02 17 22.0	-2.9
	0.5nm,0.7s,baz=225,slow=2.0,SNR=5.2						
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	PKPdf	02 17 45.5	-1.6
	0.3nm,0.8s,baz=128,slow=2.2,SNR=4.3						
YKA	**Yellowknife Ar**	**135.88**	**318**	PKP	PKPdf	02 17 45.5	-1.6
INK	**Inuvik**	**145.50**	**321**	*e*PKP	PKPdf	02 18 01.3	-2.5
DAWY	**Dawson**	**146.53**	**312**	*e*PKP	PKPdf	02 18 04.8	-0.9
MCK	**McKinley**	**150.53**	**310**	*e*PKPbc	PKPdf	02 18 15.7	+3.6
SONM	**Songino Array**	**150.71**	**86**	PKPbc	PKPdf	02 18 16.6	+3.8
	1.7nm,0.7s,baz=242,slow=2.8,SNR=17						
SONM				PKPab	PKPab	02 18 25.5	+0.9
	2.1nm,0.8s,baz=250,slow=2.8,SNR=9.4						

IDC ***26*** *02:02:40.9±1.5, 6.30N×92.39E, mb3.7/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=66.4km s-min=21.9km az=55.0*

NEIC ***26*** *02:02:45.3±1.1, 6.40N×92.56E, h30km, mb4.2/2, Error ellipse: s-maj=36.9km s-min=14.2km az=45.0*

ISC 26 02:02:43.8±1.2, 6.4N±0.2×92.7E±0.2, h30km, n9, σ1$01/9, **mb3.8/7, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.03**	**98**	P	**P**	**02 04 40.7**	**-0.7**
MKAR	**Makanchi Array**	**41.20**	**349**	P	**P**	**02 10 27.7**	**+0.2**
	0.8nm,0.7s,mb3.5,baz=164,slow=8.4,SNR=10.0						
MKAR	**Makanchi Array**	**41.20**	**349**	P	**P**	**02 10 27.7**	**+0.2**
SONM	**Songino Array**	**42.90**	**14**	P	**P**	**02 10 42.9**	**+1.4**
	0.4nm,0.6s,mb3.3,baz=192,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**48.65**	**124**	P	**P**	**02 11 28.3**	**+0.8**
	1.5nm,0.7s,mb4.2,baz=303,slow=8.7,SNR=8.4						
WRAB	**Tennant Creek**	**48.66**	**124**	*eP*	**P**	**02 11 26.9**	**-0.6**
	3.0nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**50.15**	**128**	P	**P**	**02 11 39.4**	**+0.5**
	1.1nm,0.7s,mb4.0,baz=300,slow=7.3,SNR=17						
CHKZ	**Chkalovo**	**50.41**	**343**	*eP*	**P**	**02 11 37.6**	**-2.9**
	0.6nm,0.4s,mb4.0						
GERES	**GERESS Array B**	**77.93**	**318**	P	**P**	**02 14 40.6**	**0.0**
	0.2nm,0.6s,mb3.2,baz=108,slow=3.1,SNR=2.9						

NIED ***26*** *02:18:00, 33.70N×130.20E, h35km, Mw3.6 Best double couple: Mₓ3.03×10¹⁴ NP1:φₛ18°, δ84°, λ-140°. NP2: φₛ282°, δ50°, λ-8°.*

JMA 26 02:18:42.3, 33.73N×130.24E, h15km, M3.8, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.33**	**158**	⇑P	Pb	02 18 49.1	-0.2
JFI				S	Sb	02 18 53.8	-0.2
JII	**Iki**	**0.43**	**279**	⇓P	Pb	02 18 50.9	-0.1
JII				S	Sb	02 18 56.8	-0.1
JFA	**Akaike**	**0.46**	**92**	⇓P	Pb	02 18 51.2	-0.4
JFA				S	Sb	02 18 58.0	+0.1
JTA	**Tamana**	**0.80**	**162**	⇑P	Pb	02 18 57.3	-0.1
JTA				S	Sb	02 19 08.1	+0.3
JTU	**Tsushima**	**1.06**	**319**	⇑P	Pb	02 19 01.6	-0.1
JTU				S	Sb	02 19 15.8	+0.6

BJI ***26*** *02:40:36.9, 43.77S×91.86E, h18km, mB5.2, mb4.7, Ms4.8, Msz4.5*

IDC ***26*** *02:40:38.0±0.7, 43.19S×91.63E, mb4.3/10, mb1 4.4/10, mb1mx4.4/13, mbtmp4.3/10, MS4.3/10, Ms1 4.3/10, ms1mx4.0/18, Error ellipse: s-maj=25.5km s-min=19.5km az=149.0*

NEIC ***26*** *02:40:39.6±0.3, 43.16S×91.59E, h10km, mb4.6/8, Error ellipse: s-maj=10.7km s-min=8.1km az=143.0*

ISC 26 02:40:38.2±0.4, 43.22S±0.08×91.6E±0.1, h10km, n46, σ0$80/32, **mb4.4**/22, **MS4.4**/14, **3C-1D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**22.57**	**71**	P	**P**	**02 45 39.7**	**0.0**
CASY	**Casey**	**25.35**	**162**	*eP*	**P**	**02 46 08.1**	**+1.7**
	18nm,1.0s,mb4.6						
MAW	**Mawson**	**28.85**	**202**	P	**P**	**02 46 37.6**	**-0.7**
	4.1nm,0.7s,mb4.3,baz=48,slow=16,SNR=3.3						
MAW				LR	LR	02 55 39.4	
	comp=Z,662nm,20.1s,MS4.2,baz=42,slow=31						
SYO	**Syowa Base**	**37.00**	**208**	⇑P	**P**	**02 47 48.5**	**-0.7**
SYO	**Syowa Base**	**37.00**	**208**	⇑pP	pP	02 47 50.0	-2.2
FITZ	**Fitzroy Crossi**	**38.10**	**60**	P	**P**	**02 47 58.3**	**-0.7**
	6.3nm,1.0s,mb4.3,baz=197,slow=7.9,SNR=4.1						
ASPA	**Alice Springs**	**39.82**	**75**	*eP*	**P**	**02 48 13.7**	**+0.5**
ASAR	**Alice Springs**	**39.82**	**75**	P	**P**	**02 48 12.8**	**-0.4**
	6.5nm,0.9s,mb4.4,baz=225,slow=7.8,SNR=40						
ASAR				PcP	PcP	02 50 18.8	-1.2
	0.4nm,0.7s,baz=229,slow=1.6,SNR=2.7						
STKA	**Stephens Creek**	**40.68**	**91**	*eP*	**P**	**02 48 20.9**	**+0.7**
	5.5nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**40.68**	**91**	P	**P**	**02 48 20.5**	**+0.3**
	7.5nm,1.0s,mb4.3,baz=219,slow=6.4,SNR=7.2						
STKA				LR	LR	03 02 37.4	
	comp=Z,625nm,19.0s,MS4.5,baz=311,slow=32						
WRA	**Warramunga Arr**	**42.57**	**71**	P	**P**	**02 48 36.0**	**+0.1**
	5.2nm,0.8s,mb4.3,baz=228,slow=8.3,SNR=20						
WRA				PcP	PcP	02 50 27.8	-1.1
	0.4nm,0.7s,baz=248,slow=4.5,SNR=3.0						
WB2	**Warramunga Arr**	**42.58**	**71**	*eP*	**P**	**02 48 35.7**	**-0.3**
WRAB	**Tennant Creek**	**42.58**	**71**	*eP*	**P**	**02 48 35.2**	**-0.8**
	8.3nm,0.8s,mb4.5						
VNDA	**Vanda**	**43.97**	**163**	P	**P**	**02 48 46.1**	**-0.5**
	3.3nm,0.7s,mb4.2,baz=303,slow=7.7,SNR=13						
VNDA				LR	LR	03 05 02.5	
	comp=Z,385nm,18.1s,MS4.4,baz=294,slow=33						
SBA	**Scott Base**	**45.05**	**163**	*eP*	**P**	**02 48 55.6**	**+0.3**
	15nm,1.1s,mb4.7						
KAKA	**Kakadu**	**46.46**	**62**	*eP*	**P**	**02 49 07.0**	**-0.2**
	6.7nm,0.9s,mb4.6						
QSPA	**South Pole Qui**	**46.93**	**180**	*eP*	**P**	**02 49 09.6**	**-0.5**
	10.0nm,0.8s,mb4.8						
QSPA				⇑*iP*		02 49 24.1	
VNA3	**Neumayer Olymp**	**53.17**	**203**	*i*	**P**	**02 49 53.2**	**-4.8**
BOSA	**Boshof**	**54.34**	**262**	P	**P**	**02 50 07.8**	**+0.8**
	6.1nm,1.0s,mb4.5,baz=126,slow=4.5,SNR=5.3						
BOSA				LR	LR	03 07 45.8	
	comp=Z,229nm,20.9s,MS4.2,baz=190,slow=30						
BOSA	**Boshof**	**54.34**	**262**	*eP*	**P**	**02 50 06.9**	**-0.1**
LBTB	**Lobatse**	**56.17**	**266**	*eP*	**P**	**02 50 20.6**	**+0.1**
	4.1nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**63.94**	**295**	P	**P**	**02 51 18.3**	**+4.4**
	1.7nm,0.9s,mb4.0,baz=155,slow=7.5,SNR=4.4						
KMBO				LR	LR	03 14 22.2	
	comp=Z,116nm,18.9s,MS4.1,baz=277,slow=32						
RAO	**Raoul Island**	**70.95**	**112**	LR	LR	03 15 38.9	
	comp=Z,152nm,18.3s,MS4.3,baz=107,slow=30						
XAN	**Xi'an**	**78.50**	**15**	P	**P**	**02 52 40.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.5						
GTA	**Gaotai**	**82.58**	**6**	*eP*	**P**	**02 53 03.0**	**+0.5**
GTA				AP	pP	02 53 07.0	+1.3
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.5						
GTA				AMB	AMB		
	comp=Z,58nm,4.9s						
GTA				LR	LR		
	comp=N,127nm,17.1s,MS4.5						
GTA				LR	LR		
	comp=E,144nm,16.4s,MS4.5						
GTA				LR	LR		
	comp=Z,188nm,20.9s,MS4.4						
HHC	**Hu-ho-hao-te**	**85.60**	**15**	*eP*	**P**	**02 53 20.0**	**+2.3**
HHC				XP	sP	02 53 26.3	+4.4
HHC				AMB	AMB		
	comp=Z,136nm,6.2s						
HHC				LR	LR		
	comp=N,228nm,23.8s,MS4.6						
HHC				LR	LR		
	comp=E,169nm,25.6s,MS4.6						
HHC				LR	LR		
	comp=E,241nm,22.6s,MS4.5						
WMQ	**Urumqi**	**86.72**	**357**	*eP*	**P**	**02 53 23.5**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,86nm,4.2s						
WMQ				LR	LR		
	comp=N,363nm,22.5s,MS4.8						
WMQ				LR	LR		
	comp=E,182nm,22.5s,MS4.8						
WMQ				LR	LR		
	comp=Z,212nm,24.0s,MS4.5						
AAK	**Ala-Archa**	**86.84**	**347**	P	**P**	**02 53 23.2**	**-0.5**
RAR	**Rarotonga**	**88.42**	**118**	LR	LR	03 26 55.2	
	comp=Z,98nm,20.8s,MS4.2,baz=153,slow=31						
MKAR	**Makanchi Array**	**90.00**	**354**	P	**P**	**02 53 37.9**	**-0.8**
	comp=Z,0.4nm,0.7s,mb3.8,baz=169,slow=6.2,SNR=4.7						
MKAR				LR	LR	03 32 58.7	
	comp=Z,190nm,18.7s,MS4.5,baz=269,slow=35						
SONM	**Songino Array**	**91.60**	**10**	P	**P**	**02 53 45.1**	**-1.0**
	comp=Z,1.1nm,0.9s,mb4.2,baz=180,slow=2.5,SNR=7.6						
ULN	**Ulaanbaatar**	**91.72**	**10**	*eP*	**P**	**02 53 45.8**	**-0.8**
	comp=Z,3.3nm,1.0s,mb4.6						
CN2	**Changchun**	**91.78**	**24**	*eP*	**P**	**02 53 48.5**	**+1.5**
TBI	**Tubuai**	**93.22**	**126**	*e*LR	LR	03 24 05.6	
	comp=Z,122nm,31.0s						
MDJ	**Mudanjiang**	**93.79**	**26**	P	**P**	**02 53 57.0**	**+0.8**
MDJ				AP	pP	02 54 01.0	+1.6
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,23nm,3.4s						
MDJ				LR	LR		
	comp=N,157nm,22.6s						
MDJ				LR	LR		
	comp=Z,167nm,20.1s,MS4.5						
PLCA	**Paso Flores**	**94.89**	**194**	LR	LR	03 35 30.4	
	comp=Z,246nm,19.7s,MS4.7,baz=197,slow=35						
PPT	**Papeete**	**97.56**	**123**	*e*LR	LR	03 26 06.1	
	comp=Z,148nm,27.5s						
PPT	**Papeete**	**97.56**	**123**	LR	LR	03 27 42.6	
	comp=Z,194nm,19.2s,MS4.6,baz=238,slow=29						
BRTR	**Keskin Array B**	**97.77**	**319**	P	**P**	**02 54 14.9**	**+0.4**
	comp=Z,0.3nm,0.7s,mb3.9,baz=76,slow=5.9,SNR=2.2						
INK	**Inuvik**	**145.61**	**28**	PKPbc	PKPbc	03 00 17.1	+1.0
	comp=Z,5.0nm,1.0s,baz=273,slow=3.2,SNR=12						
INK	**Inuvik**	**145.61**	**28**	*e*PKP	PKPdf	03 00 16.4	-2.0
RES	**Resolute Bay**	**148.30**	**3**	*e*PKPbc	PKPdf	03 00 26.7	+3.9
YKA	**Yellowknife Ar**	**155.35**	**29**	PKPbc	PKPdf	03 00 41.7	+8.4
	comp=Z,0.1nm,0.4s,baz=271,slow=1.5,SNR=3.5						
YKA				PKPab	PKPab	03 00 56.9	-1.2
	comp=Z,0.6nm,1.0s,baz=323,slow=2.8,SNR=5.4						
YKA	**Yellowknife Ar**	**155.35**	**29**	PKPbc	PKPdf	03 00 41.7	+8.4
YKA				PKPab	PKPab	03 00 56.9	-1.2
TXAR	**Lajitas Array**	**161.51**	**134**	PKP	PKPdf	03 00 40.8	-0.9
	comp=Z,0.1nm,0.6s,slow=0.9,SNR=2.3						
TXAR				PKPab	PKPab	03 01 24.6	-1.1
	comp=Z,0.5nm,0.8s,baz=198,slow=7.9,SNR=4.5						
PDAR	**Pinedale Array**	**164.51**	**84**	PKP	PKPdf	03 00 42.7	-1.6
	comp=Z,0.3nm,0.9s,baz=292,slow=4.9,SNR=2.6						
PDAR				PKPab	PKPab	03 01 36.9	-1.5
	comp=Z,0.3nm,0.8s,baz=270,slow=3.6,SNR=2.4						

IDC ***26*** *02:42:03.3±0.6, 15.07S×173.48W, mb4.5/16, mb1 4.6/18, mb1mx4.6/22, mbtmp4.5/18, ML4.4/1, MS4.4/12, Ms1 4.4/12, ms1mx4.2/19, Error ellipse: s-maj=25.7km s-min=13.7km az=137.0*

NEIC ***26*** *02:42:04.4±0.2, 15.06S×173.46W, h10km, mb5.1/42, MS4.7/9, Error ellipse: s-maj=10.3km s-min=4.1km az=144.0*

HRVD ***26*** *02:42:04.4±0.3, 14.97S×173.18W, h15km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s42,c63;Mantle waves: s64,c110; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.43±.14; Mθθ4.99±.12; Mθφ-1.56±.11; Mrθ3.00±.41; Mφφ0.62±.11; Mφr4.11±.48; Best double couple: M₀6.75×10¹⁶ NP1: φₛ114°, δ34°, λ-32°. NP2:φₛ231°, δ73°, λ-119°. Principal axes: T 6.453, Plg22°, Azm344°; N .594, Plg28°, Azm241°; P -7.047, Plg53°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***26*** *02:42:04.9, 14.695×173.38W, h11km, mB5.4, mb5.1, Ms5.1, Msz4.7*

ISC 26 02:42:02.7±0.3, 15.12S±0.08×173.46W±0.06, h10km, (h12km±1.5km:pP-P), n238, σ0$79/114, **mb4.9**/65, **MS4.6**/26, **12C-7D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**54**	Pn	**Pn**	**02 42 32.2**	**-5.2**
	145nm,0.3s,baz=67,slow=2.6,SNR=111						
AFI				Sn	**Sn**	**02 42 50.3**	**-13**
	677nm,0.3s,baz=73,slow=19,SNR=18						
AFI	**Afiamalu**	**2.02**	**54**	*eP*	**Pn**	**02 42 31.7**	**-5.7**
RAR	**Rarotonga**	**14.35**	**117**	Pn	**P**	**02 45 22.0**	**-6.1**
	1.6nm,0.3s,baz=257,slow=8.3,SNR=9.9						
RAR				LR	LR	02 49 27.8	
	comp=Z,1μm,19.6s,baz=309,slow=31						
RAR	**Rarotonga**	**14.35**	**117**	*eP*	**P**	**02 45 21.7**	**-6.5**
	21nm,0.8s						
RAO	**Raoul Island**	**14.66**	**196**	LR	LR	02 50 11.5	
	comp=Z,708nm,19.1s,baz=329,slow=33						
DZM	**Mont Dzumac**	**20.25**	**247**	P	**P**	**02 46 40.8**	**-0.4**
	5.8nm,0.9s,baz=87,slow=13,SNR=4.5						
DZM				LR	LR	02 52 37.3	
	comp=Z,396nm,21.8s,MS3.7,baz=31,slow=31						
PPT	**Papeete**	**23.05**	**99**	*e*LQ		02 51 35.2	
PPT				*e*LR	LR	02 52 10.3	
	2μm,24.5s,baz=267						
PPT	**Papeete**	**23.05**	**99**	LR	LR	02 53 28.1	
	comp=Z,684nm,21.1s,MS4.1,baz=268,slow=30						
TBI	**Tubuai**	**24.07**	**114**	*e*LQ		02 52 02.1	
TBI				*e*LR	LR	02 52 45.3	
	2μm,26.5s,baz=286						
URZ	**Urewera**	**24.52**	**198**	P	**P**	**02 47 24.2**	**+0.6**
	4.3nm,0.4s,mb4.3,baz=19,slow=5.6,SNR=4.4						
URZ				LR	LR	02 55 52.8	
	comp=Z,1μm,19.0s,MS4.5,baz=34,slow=34						
PMOR	**Pomariorio Ree**	**24.68**	**93**	*eP*	**P**	**02 47 25.0**	**-0.4**
	188nm,1.2s,mb5.5						
RPZ	**Rata Peaks**	**31.42**	**202**	P	**P**	**02 48 27.3**	**+0.9**
	12nm,0.7s,mb4.8,baz=32,slow=4.2,SNR=3.2						
TAOE	**Nuku Hiva Isla**	**33.15**	**83**	*e*LR	LR	02 56 43.1	
RKT	**Rikitea**	**37.14**	**108**	*e*LR	LR	02 58 47.0	
	1μm,27.0s,baz=280						
CTA	**Charters Tower**	**38.65**	**257**	P	**P**	**02 49 29.6**	**+1.2**
	2.7nm,0.9s,mb4.0,baz=83,slow=8.8,SNR=3.9						
PMG	**Port Moresby**	**38.86**	**274**	P	**P**	**02 49 30.9**	**+0.7**
	2.2nm,0.4s,mb4.2,baz=53,slow=5.1,SNR=3.0						
STKA	**Stephens Creek**	**44.13**	**240**	P	**P**	**02 50 13.0**	**-0.4**
	3.8nm,0.7s,mb4.3,baz=96,slow=10,SNR=8.0						
WB2	**Warramunga Arr**	**49.84**	**257**	*eP*	**P**	**02 50 57.7**	**-0.7**
WRAB	**Tennant Creek**	**49.84**	**257**	*eP*	**P**	**02 50 56.0**	**-2.4**
	39nm,1.4s,mb5.2						
WRA	**Warramunga Arr**	**49.85**	**257**	P	**P**	**02 50 56.9**	**-1.6**
	2.1nm,0.5s,mb4.4,baz=91,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**50.14**	**252**	P	**P**	**02 50 59.2**	**-1.4**
	15nm,0.7s,mb5.1,baz=88,slow=8.3,SNR=84						
ASAR				LR	LR	03 10 28.5	
	comp=Z,757nm,20.8s,MS4.7,baz=138,slow=34						
ASPA	**Alice Springs**	**50.15**	**252**	*eP*	**P**	**02 50 59.2**	**-1.5**
KAKA	**Kakadu**	**52.46**	**265**	⇑*iP*	**P**	**02 51 17.0**	**-1.3**
	4.6nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**58.21**	**258**	P	**P**	**02 52 00.1**	**+0.2**
	3.5nm,0.9s,mb4.4,baz=72,slow=3.2,SNR=2.6						
MBWA	**Marble Bar**	**63.38**	**254**	P	**P**	**02 52 34.2**	**-0.8**
VNDA	**Vanda**	**63.65**	**186**	P	**P**	**02 52 36.5**	**+0.6**
	3.7nm,0.9s,mb4.4,baz=10,slow=6.8,SNR=10						
VNDA				LR	LR	03 16 21.0	
	comp=Z,112nm,18.8s,MS4.1,baz=26,slow=32						
SAO	**San Andreas Ge**	**71.16**	**42**	P	**P**	**02 53 22.5**	**-1.3**
CMB	**Columbia Colle**	**72.59**	**41**	*eP*	**P**	**02 53 31.7**	**-0.7**
	23nm,1.8s,mb4.8						
CMB				LR	LR		
	comp=Z,349nm,19.0s,MS4.7						
YBH	**Yreka Blue Hor**	**73.41**	**37**	*eP*	**P**	**02 53 37.0**	**-0.1**
	comp=Z,19nm,1.4s,mb4.8						
LBCM	**Butte Creek Ri**	**73.66**	**39**	P	**P**	**02 53 39.0**	**+0.4

NJ2 PP PP 02 57 20.0 +2.8
NJ2 S S 03 04 20.0 +3.7
NJ2 XS 03 04 28.0
NJ2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
NJ2 AMB AMB
comp=Z,1μm,5.2s
NJ2 LR LR
comp=N,350nm,25.2s,MS4.8
NJ2 LR LR
comp=E,380nm,21.2s,MS4.8
NJ2 LR LR
comp=Z,190nm,20.2s,MS4.4
TCUT Toone Canyon 80.08 43 *eP* **P 02 54 15.0 +0.6**
MNTX Cornudas Mount 80.10 53 *eP* **P 02 54 14.3 -0.4**
comp=Z,27nm,1.6s,mb4.9
HWUT Hardware Ranch 80.22 42 *eP* **P 02 54 14.7 -0.5**
comp=Z,7.5nm,1.1s,mb4.5
LPM Los Pinos Moun 80.26 51 *eP* **P 02 54 16.1 +0.5**
PV10 Paradox Valley 80.35 46 *eP* **P 02 54 15.8 -0.2**
TXAR Lajitas Array 80.50 56 P **P 02 54 18.0 +1.1**
comp=Z,6.4nm,1.1s,mb4.5,baz=225,slow=5.3,SNR=40
TXAR LR LR 03 24 01.2
comp=Z,245nm,18.1s,MS4.6,baz=140,slow=31
TXAR Lajitas Array 80.50 56 P **P 02 54 18.0 +1.1**
TXAR LR LR 03 24 01.2
NEW Newport 80.51 34 *eP* **P 02 54 16.0 -0.6**
TNA Tin City 80.54 2 *eP* **P 02 54 16.4 0.0**
comp=Z,28nm,1.4s,mb5.0
PV01 Paradox Valley 80.57 46 *eP* **P 02 54 16.8 -0.4**
ANMO Albuquerque 80.66 50 *eP* **P 02 54 18.1 +0.4**
comp=Z,15nm,1.4s,mb4.7
ANMO LR LR
comp=Z,322nm,20.0s,MS4.7
CN2 Changchun 80.83 320 *eP* **P 02 54 20.0 +1.6**
CN2 *eXP* sP 02 54 27.0 +4.4
CN2 *eS* S 03 04 27.8 +2.6
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,350nm,16.0s,MS4.9
CN2 LR LR
comp=E,240nm,16.0s,MS4.9
CN2 LR LR
comp=Z,380nm,17.0s,MS4.8
MCK McKinley 80.85 11 *eP* **P 02 54 17.1 -1.0**
comp=Z,20nm,1.0s,mb5.0
MCMT McKenzie Canyo 81.07 39 *eP* **P 02 54 19.6 0.0**
GDL2 Guadalupe Moun 81.10 53 *eP* **P 02 54 20.4 +0.3**
THY Trims Highway 81.18 12 *eP* **P 02 54 19.8 0.0**
MENT Mentasta 81.19 13 *eP* **P 02 54 19.8 -0.1**
RRI2 Red Ridge 81.25 41 *eP* **P 02 54 20.8 +0.2**
comp=Z,51nm,1.4s,mb5.3
MSO Missoula 81.49 37 *eP* **P 02 54 20.6 -1.2**
comp=Z,12nm,1.3s,mb4.7
CLNB Carlsbad 81.50 53 *eP* **P 02 54 21.9 -0.2**
REDW Red Top Meadow 81.56 41 *eP* **P 02 54 21.3 -0.9**
TPAW Teton Pass 81.56 41 *eP* **P 02 54 22.4 +0.2**
comp=Z,28nm,1.2s,mb5.1
BSMT Bassoo Peak 81.56 36 P **P 02 54 22.4 +0.3**
SNOW Snow King Moun 81.67 41 *eP* **P 02 54 23.1 +0.4**
comp=Z,36nm,1.4s,mb5.1
IMW Indian Meadow 81.77 40 *eP* **P 02 54 23.4 +0.2**
comp=Z,37nm,1.3s,mb5.2
CPRX Cap Rock 81.82 53 *eP* **P 02 54 22.9 -0.9**
MOOW Moose Ponds 81.82 41 *eP* **P 02 54 23.5 0.0**
comp=Z,55nm,2.0s,mb5.1
LOHW Long Hollow 81.84 41 *eP* **P 02 54 23.4 -0.3**
comp=Z,21nm,1.4s,mb4.9
CHMT Chamberlain Mo 81.93 37 *eP* **P 02 54 23.4 -0.7**
QLMT Earthquake Lak 81.94 39 *eP* **P 02 54 24.5 +0.4**
BW06 Boulder Array 82.09 42 *eP* **P 02 54 24.3 -0.7**
comp=Z,36nm,1.7s,mb5.0
BW06 LR LR
comp=Z,380nm,19.0s,MS4.8
PDAR Pinedale Array 82.09 42 P **P 02 54 25.4 +0.5**
comp=Z,8.1nm,1.2s,mb4.5,baz=207,slow=3.3,SNR=27
PDAR LR LR 03 26 26.5
comp=Z,297nm,18.0s,MS4.7,baz=246,slow=32
COLA College 82.09 11 *eP* **P 02 54 24.1 -0.4**
YFT Old Faithful 82.11 40 *eP* **P 02 54 26.1 +1.0**
YMR Madison River 82.14 40 *eP* **P 02 54 25.0 -0.2**
BOZ Bozeman (W) 82.23 39 *eP* **P 02 54 25.2 -0.4**
comp=Z,27nm,1.4s,mb5.0
IMA Indian Mountai 82.29 8 *eP* **P 02 54 26.1 +0.5**
comp=Z,69nm,1.5s,mb5.4
YNR Norris Junctio 82.34 40 *eP* **P 02 54 27.6 +1.4**
LKWY Lake 82.44 40 *eP* **P 02 54 27.6 +0.9**
comp=Z,31nm,1.3s,mb5.1
SDCO Great Sand Dun 82.57 48 *eP* **P 02 54 27.4 -0.2**
comp=Z,36nm,1.6s,mb5.2
SDCO LR LR
comp=Z,357nm,20.0s,MS4.7
HRY Holter Researc 82.66 38 *eP* **P 02 54 28.0 +0.2**
RWWY Rawlins 83.13 44 *eP* **P 02 54 30.4 0.0**
comp=Z,78nm,1.3s,mb5.6
DAWY Dawson 83.16 14 *eP* **P 02 54 29.7 -0.4**
GCMT Greycliff 83.49 39 P **P 02 54 32.9 +0.8**
JCT Junction City 84.04 56 *eP* **P 02 54 34.4 -0.9**
comp=Z,5.5nm,0.8s,mb4.7
PHWY Pilot Hill 84.13 45 *eP* **P 02 54 35.1 -0.5**
AMTX Amarillo 84.22 52 *eP* **P 02 54 35.9 -0.2**
comp=Z,134nm,1.8s,mb5.8
BILL Billbino 84.22 352 *eP* **P 02 54 35.1 -0.2**
comp=Z,12nm,1.1s,mb4.9
BJI Beijing 85.23 313 *eP* **P 02 54 44.5 +3.5**
BJI SKS SKS 03 05 06.8 -0.6
BJI AMB AMB
comp=Z,5.0nm,0.8s,mb4.7
BJI LR LR
comp=N,144nm,18.9s,MS4.5
BJI LR LR
comp=E,147nm,21.5s,MS4.5
BJI LR LR
comp=Z,220nm,27.5s
LAO LASA Array 86.03 40 *eP* **P 02 54 45.2 +0.4**
comp=Z,76nm,1.6s,mb5.7
WMOK Wichita Mounta 86.38 53 *eP* **P 02 54 45.5 -1.3**
comp=Z,8.7nm,1.4s,mb4.8
WMOK LR LR
comp=Z,258nm,20.0s,MS4.6
INK Inuvik 88.01 14 P **P 02 54 54.3 +0.4**
comp=Z,6.0nm,1.1s,mb4.8,baz=202,slow=5.9,SNR=4.9
INK Inuvik 88.01 14 *eP* **P 02 54 53.6 -0.3**
comp=Z,13nm,1.3s,mb5.0
MAW Mawson 88.04 199 LR LR 03 30 01.1
comp=Z,225nm,19.6s,MS4.6,baz=335,slow=33
NATX Nacogdoches 88.62 57 *eP* **P 02 54 58.0 +0.2**
comp=Z,123nm,1.9s,mb5.9
HHC Hu-ho-hao-te 88.79 313 *eP* **P 02 54 58.8 +0.5**
HHC PP PP 02 58 32.0 +2.2
HHC SKS SKS 03 05 26.8 -3.7
HHC S S 03 05 44.3 +0.8
HHC PS PS 03 06 55.0 +3.7
HHC SS SS 03 11 39.3 +0.6
HHC AMB AMB
comp=Z,15nm,0.5s,mb5.6
HHC AMB AMB
comp=Z,108nm,8.3s
HHC LR LR
comp=N,193nm,22.0s,MS4.6
HHC LR LR
comp=E,169nm,23.2s,MS4.6
HHC LR LR
comp=Z,241nm,22.6s,MS4.6
YKA Yellowknife Ar 89.86 23 P **P 02 55 02.9 0.0**
comp=Z,3.6nm,0.9s,mb4.7,baz=238,slow=4.5,SNR=53
YKA LR LR 03 30 00.3
comp=Z,145nm,18.0s,MS4.5,baz=270,slow=32
YKA Yellowknife Ar 89.86 23 P **P 02 55 02.9 0.0**
YKA LR LR 03 30 00.3
KMI Kunming 90.85 296 P **P 02 55 10.3 +2.0**
KMI AMB AMB
comp=Z,4.0nm,0.9s,mb4.8
FFC Flin Flon 91.90 33 *eP* **P 02 55 11.3 -1.1**
comp=Z,8.1nm,1.4s,mb4.9
SYO Syowa Base 92.87 191 ⇑pP pP 02 55 21.5 +1.7
LZH Lanzhou 93.01 306 *eP* **P 02 55 21.5 +3.5**
LZH AP pP 02 55 24.8 +3.6
LZH XP sP 02 55 26.5 +4.2
LZH PP PP 02 59 08.5 +4.8
LZH AMB AMB
comp=Z,28nm,1.8s,mb5.4
LZH AMB AMB
comp=Z,81nm,4.0s
LZH LR LR
comp=E,360nm,17.4s
LZH LR LR
comp=Z,415nm,18.5s,MS4.9
ULM Lac du Bonnet 93.75 39 P **P 02 55 20.2 -0.8**
comp=Z,2.6nm,0.8s,mb4.7,baz=243,slow=4.8,SNR=4.2
ULM LR LR 03 34 20.7
comp=Z,317nm,18.3s,MS4.8,baz=360,slow=34
SONM Songino Array 94.59 318 P **P 02 55 26.6 +1.6**
comp=Z,0.9nm,1.0s,mb4.2,baz=117,slow=3.2,SNR=3.5
FCC Fort Churchill 97.37 31 *eP* **P 02 55 36.9 -0.5**
WMQ Urumqi 106.64 312 PDIF Pdif 02 56 20.5 +1.4
WMQ *eP* PP 03 00 50.0 +2.5
WMQ PP PP
comp=Z,154nm,6.2s
WMQ LR LR
comp=N,362nm,22.8s,MS4.9
WMQ LR LR
comp=E,212nm,22.8s,MS4.9
WMQ LR LR
comp=Z,197nm,24.0s,MS4.6
MKAR Makanchi Array 110.59 315 PKiKP 03 00 37.4
comp=Z,0.3nm,0.7s,baz=72,slow=3.8,SNR=3.8
BVAR Borovoye Array 117.62 322 PKP PKPdf 03 00 50.7 -1.4
comp=Z,1.2nm,0.5s,baz=225,slow=6.3,SNR=7.5
ARCES ARCESS Array B 124.32 352 PKP PKPdf 03 01 02.4 -2.3
comp=Z,3.3nm,0.7s,slow=3.6,SNR=6.8
ARCES ARCESS Array B 124.32 352 PKP PKPdf 03 01 02.4 -2.3
KAF Kangasniemi 131.00 348 *ep* PKPdf 03 01 15.7 -2.0
comp=Z,1.6nm,0.7s
FINES FINESS Array B 131.65 348 PKP PKPdf 03 01 16.9 -2.0
comp=Z,1.5nm,0.7s,baz=63,slow=4.3,SNR=8.3
CLL Collm 143.53 353 *e*PKIKP PKPdf 03 01 40.0 -0.6
CLL *e* 03 01 54.0
MALT Malatya 143.62 316 *e*PKP PKPdf 03 01 37.5 -3.7
BRG Berggiesshubel 143.84 352 P PKPbc 03 01 46.8 +10
UPC Upice 143.88 350 *e*PKP PKPdf 03 01 38.5 -2.8
DPC Dobruska-Polom 143.97 349 *e*PKP PKPdf 03 01 38.9 -2.5
BURAR Bucovina Array 144.08 338 ⇑P PKPbc 03 01 39.8 +1.8
PVCC Panska Ves 144.09 351 *e*PKP PKPdf 03 01 39.2 -2.4
OKC Ostrava-Krasne 144.10 347 *e*PKP PKPdf 03 01 39.5 -2.2
OKC *ex* x 03 01 46.0
CRVS Cervenica-Dubn 144.15 343 *e*PKP PKPdf 03 01 39.2 -2.6
MORC Moravsky Berou 144.29 348 *e*PKP PKPdf 03 01 39.4 -2.6
MOX Moxa 144.32 354 *e*PKP PKPdf 03 01 39.6 -2.5
MOX Moxa 144.32 354 *i* P PKPbc 03 01 39.6 +1.0
comp=Z,logA/T=1.0
NKC Novy Kostel 144.65 353 *e*PKP PKPdf 03 01 40.6 -2.1
GZT Gaziantep 144.70 315 *i* P PKPbc 03 01 41.8 +1.7
KECS Kecovo 144.80 344 *i* PKP PKPdf 03 01 41.5 -1.5
BALT Daday 144.90 324 *i* P PKPbc 03 01 42.5 +2.0
CFR Carcaliu 144.92 333 ⇓P PKPbc 03 01 43.1 +2.7
VRI Vrincioaia 144.96 335 ⇓P PKPbc 03 01 42.3 +1.8
GIVF Givet 145.08 2 *e*PKP1 PKPbc 03 01 41.2 +0.5
BAIF Baives 145.10 3 *e*PKP1 PKPbc 03 01 41.6 +0.9
comp=Z,39nm,1.0s
VYHS Vyhne 145.21 346 *i* PKP PKPdf 03 01 42.8 -0.9
GRF Grafenberg Arr 145.31 355 *e*PKP PKPdf 03 01 42.6 -1.2
ABH Alteburg 145.32 359 PKP PKPdf 03 01 43.7 -0.1
HARR Harsova 145.39 333 ⇑P PKPbc 03 01 44.1 +2.5
PSZ Piszkesteto 145.47 344 *e*PKP PKPdf 03 01 43.6 -0.6
RUP Ruppelstein 145.50 359 PKP PKPdf 03 01 44.0 -0.2
SMOL Smolenice 145.51 347 *i* PKP PKPdf 03 01 44.4 +0.2
WLF Walferdange 145.54 0 *e*PKP PKPdf 03 01 43.4 -0.8
TOD Tromm 145.55 357 PKP PKPdf 03 01 43.4 -0.8
MLR Muntele Rosu 145.59 336 PKPbc PKPbc 03 01 44.1 +2.1
baz=62,slow=2.5
MLR Muntele Rosu 145.59 336 ⇓P PKPbc 03 01 44.7 +2.6
KHC Kasperske Hory 145.59 352 *e*PKP PKPdf 03 01 43.6 -0.7
KHC *ex* x 03 01 50.8
KMBO Kilima Mbogo 145.60 245 PKPbc PKPbc 03 01 46.5 +3.3
comp=Z,1.4nm,0.6s,baz=32,slow=9.4,SNR=4.5
ISR Istrita 145.65 335 ⇓P PKPbc 03 01 45.0 +2.7
AVNT Avonos 145.71 319 *i* P PKPbc 03 01 44.2 +1.6
GERES GERESS Array B 145.85 352 PKPbc PKPbc 03 01 44.3 +1.7
comp=Z,6.1nm,0.9s,baz=27,slow=3.0,SNR=47
KTD Kalmit 145.87 358 PKP PKPdf 03 01 44.1 -0.7
SNX Sinaia 145.87 336 ⇑P PKPbc 03 01 45.6 +2.8
ZST Bratislava 145.88 347 *i* P PKPbc 03 01 45.5 +2.8
ZST Bratislava 145.88 347 *i* PKPbc 03 01 45.5 +2.8
ROSF Rostrenen 145.90 12 *e*PKP1 PKPbc 03 01 45.0 +2.2
comp=Z,205nm,1.6s
BRTR Keskin Array B 145.90 321 PKPbc PKPbc 03 01 45.6 +2.5
comp=Z,11nm,0.8s,baz=109,slow=2.2,SNR=44
FLN La Foliniere 145.95 8 *e*PKP1 PKPbc 03 01 43.9 +1.0
comp=Z,30nm,1.1s
COBT Iskenderun 146.02 314 *i* P PKPbc 03 01 43.2 -0.3
SGMF Saint Gilles 146.11 11 *e*PKP1 PKPbc 03 01 45.8 +2.5
LDF La Druitiere 146.17 8 *e*PKP1 PKPbc 03 01 44.4 +1.0
comp=Z,122nm,1.7s
LANF Langenberg 146.21 359 PKP PKPdf 03 01 45.1 -0.3
GRR Gorron 146.26 9 *e*PKP1 PKPbc 03 01 44.8 +1.2
SGKT Sivrigoynuk 146.29 324 *i* P PKPbc 03 01 46.0 +2.1
MEZF Maizieres J'vi 146.69 2 *e*PKP1 PKPbc 03 01 46.5 +1.9
comp=Z,120nm,1.7s
HENT Hendek 146.77 325 *i* P PKPbc 03 01 43.0 -2.0
WLS Welschbruch 146.79 359 PKP PKPdf 03 01 46.5 +0.1
CDF Champ du Feu 146.79 359 *e*PKP1 PKPbc 03 01 46.9 +2.1
comp=Z,48nm,1.3s
THEF They Montfort 146.98 1 PKP PKPdf 03 01 47.5 +0.8
ECH Echery 146.99 359 PKP PKPdf 03 01 46.8 +0.1
BZS Buzias 147.05 340 ⇓P PKPdf 03 01 46.6 -0.3
ARSA Arzberg 147.10 349 ⇓*i*P PKPdf 03 01 48.2 +1.3
FELD Feldberg 147.31 358 PKP PKPdf 03 01 46.9 -0.4
MOF Molkenrain 147.35 359 PKP PKPdf 03 01 47.4 +0.1
PKSM Moragy 147.38 344 *e*P PKPdf 03 01 48.9 +1.5
HINF Hinteralfeld 147.39 360 *e*PKP1 PKPdf 03 01 48.3 +0.9
ASF Jabal al Asfar 147.58 307 PKPbc PKPdf 03 01 50.0 +1.8
comp=Z,2.1nm,0.9s,baz=56,slow=6.8,SNR=3.8
KBA Koelnbreinsper 147.63 351 ⇓*i*P PKPdf 03 01 47.9 +0.1
MOTA Moosalm 147.64 354 ⇑*i*P PKPdf 03 01 49.8 +2.0
WTTA Wattenberg 147.67 354 ⇑*i*P PKPdf 03 01 50.2 +2.3
ESKT Eskisehir 147.68 323 *i* P PKPdf 03 01 50.0 +1.8
KOGS Kog 147.72 347 *e*PKPdf PKPdf 03 01 49.3 +1.3
PERS Pernice 147.77 349 *e*PKPdf PKPdf 03 01 49.1 +1.1
HYF Humbligny 147.78 5 *e*PKP1 PKPdf 03 01 50.7 +2.7
DAVA Damuels 147.80 356 ⇑*i*P PKPdf 03 01 50.1 +2.0
LOMF Lomont 147.86 360 PKP PKPdf 03 01 48.1 -0.1
OBKA Obir 147.99 350 ⇑*i*P PKPdf 03 01 49.3 +0.9
SSF Saint Saulge 148.05 4 *e*PKP1 PKPdf 03 01 50.4 +1.9
comp=Z,56nm,1.3s
MFF Saint Martin d 148.11 9 *e*PKP1 PKPdf 03 01 49.8 +1.2
comp=Z,91nm,1.7s
ULDT Uludag 148.21 326 *i* P PKPdf 03 01 50.6 +1.7
AVF Avril sur Loir 148.31 4 *e*PKP1 PKPdf 03 01 50.7 +1.8
comp=Z,21nm,1.0s
LJU Ljubljana 148.44 349 *e*PKPdf PKPdf 03 01 51.4 +2.3
SMF Signal de Mont 148.48 4 *e*PKP1 PKPdf 03 01 51.2 +2.0
comp=Z,29nm,1.1s
BGF Bois d'Agland 148.50 5 *e*PKP1 PKPdf 03 01 51.5 +2.3
comp=Z,35nm,1.0s
BRMO Bormio 148.57 355 *e*PKP PKPdf 03 01 52.2 +2.9
CABF La Chapelle 148.60 1 *e*PKP1 PKPdf 03 01 52.5 +3.1
comp=Z,41nm,1.0s
TCF Toulx Ste Croi 148.71 6 *e*PKP1 PKPdf 03 01 51.7 +2.1
comp=Z,13nm,1.1s
BOJS Bojanci 148.83 348 *e*PKPdf PKPdf 03 01 52.7 +3.0
CTI Castel Tesino 148.87 353 *e*PKP PKPdf 03 01 52.2 +2.4
DIVS Divcibare 148.92 341 ⇑*i*PKP PKPdf 03 01 52.8 +2.9
BTOK Tokmak 149.07 327 *i* P PKPdf 03 01 53.4 +3.0
PLDF La Plantade 149.14 4 PKP PKPdf 03 01 52.8 +2.5
VAI Varese 149.29 357 *e*PKP PKPdf 03 01 53.6 +3.1
ORO Oropa 149.56 358 *e*PKP PKPdf 03 01 54.3 +3.3
RJF Les Rejaudoux 149.61 7 *e*PKP1 PKPdf 03 01 54.1 +3.1
comp=Z,36nm,1.4s
MANT Manisa 149.69 324 *i* P PKPdf 03 01 54.4 +3.0
LPL La Plagne 149.69 360 *e*PKP1 PKPdf 03 01 55.7 +4.5
comp=Z,30nm,1.1s
LPG La Plagne 149.71 360 *e*PKP1 PKPdf 03 01 55.8 +4.6
comp=Z,24nm,1.1s
LBL Lubilhac 149.85 5 PKP PKPdf 03 01 54.0 +2.6
LFF La Frestale 149.87 8 *e*PKP1 PKPdf 03 01 55.0 +3.5
comp=Z,86nm,1.5s
CAF Calviac 150.04 6 *e*PKP1 PKPdf 03 01 55.5 +3.8
BNI Bardonecchia 150.16 360 *e*PKPbc PKPdf 03 01 56.2 +4.3
ORIF Orsi-en-Rattie 150.29 1 *e*PKP1 PKPdf 03 01 56.7 +4.6
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 150.31 3 *e*PKP1 PKPdf 03 01 56.3 +4.2
comp=Z,74nm,1.6s
KDAG Bornova 150.46 326 *i* P PKPdf 03 01 54.7 +2.1
MBDF Montbardon 150.48 360 *e*PKP1 PKPdf 03 01 57.0 +4.6
comp=Z,27nm,1.1s
LASF Ste Croix 151.04 4 *e*PKP1 PKPdf 03 01 58.3 +5.0
comp=Z,33nm,1.3s
SJPF Ste Jean 151.31 12 *e*PKP1 PKPdf 03 01 58.7 +5.0
SBF Sospel 151.34 359 *e*PKP1 PKPdf 03 01 59.7 +6.0
comp=Z,36nm,1.1s
MTLF Montolieu 151.63 7 *e*PKP1 PKPdf 03 01 59.5 +5.3
FRF La Foret Royal 151.65 360 *e*PKP1 PKPdf 03 02 00.4 +6.2
LMR La Mourre 151.88 0 *e*PKP1 PKPdf 03 02 01.1 +6.6
AQU L'Aquila 152.22 349 *e*PKP PKPdf 03 01 54.1 -1.0
PGF Pioggiola 152.58 356 *e*PKP1 PKPdf 03 02 01.1 +5.5
comp=Z,22nm,1.1s
ESDC Sonseca Array 153.86 19 PKPbc PKPdf 03 02 04.9 +7.5
comp=Z,1.9nm,1.1s,baz=246,slow=29,SNR=3.4
ESDC PKPab PKPab 03 02 17.6 -0.3
comp=Z,2.0nm,0.9s,baz=340,slow=3.8,SNR=7.0

NEIC ***26*** *02:57:15.5, 37.68S×177.23E, h123km, MG3.9(WEL), After WEL.*
WEL 26 02:57:15.2±0.2, 37.65S×177.23E, h124km±2km, ML3.9/7, 3C-8D, Error ellipse: s-maj=1.4km s-min=1.3km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.13**	**347**	*e*PN		P		02 57 31.4	-0.8
MARZ	**Manawahe**	**0.55**	**232**	P		P		02 57 33.9	-0.1
MARZ	**Manawahe**	**0.55**	**232**	PN		P		02 57 33.9	-0.1
EDRZ	**Edgecumbe**	**0.60**	**220**	P		P		02 57 34.4	+0.2
EDRZ	**Edgecumbe**	**0.60**	**220**	PN		P		02 57 34.4	+0.1
URZ	**Urewera**	**0.61**	**188**	P		P		02 57 34.2	-0.2
URZ	**Urewera**	**0.61**	**188**	⇓PN		P		02 57 34.2	-0.2
URZ						SN	S	02 57 48.9	-0.2
MWZ	**Matawai**	**0.72**	**161**	P		P		02 57 35.2	0.0
MWZ	**Matawai**	**0.72**	**161**	⇓PN		P		02 57 35.2	+0.1
MWZ						SN	S	02 57 50.6	+0.1
LIRZ	**Lichensteins R**	**0.75**	**242**	P		P		02 57 35.5	+0.1
LIRZ	**Lichensteins R**	**0.75**	**242**	PN		P		02 57 35.3	-0.1
TGRZ	**Tauranga**	**0.77**	**264**	P		P		02 57 35.3	-0.2
TGRZ	**Tauranga**	**0.77**	**264**	⇓PN		P		02 57 35.3	-0.3
TGRZ						eSN	S	02 57 51.3	+0.3
TAZ	**Tarawera**	**0.81**	**224**	P		P		02 57 36.3	+0.4
TAZ	**Tarawera**	**0.81**	**224**	PN		P		02 57 36.3	+0.3
MXZ	**Matakaoa Point**	**0.86**	**84**	P		P		02 57 36.7	+0.3
MXZ	**Matakaoa Point**	**0.86**	**84**	⇑PN		P		02 57 36.7	+0.2
MXZ						SN	S	02 57 52.2	-0.3
MYRZ	**Mayor Island**	**0.87**	**295**	*e*PN		P		02 57 36.5	0.0
PUZ	**Puketiti**	**0.92**	**118**	P		P		02 57 37.0	0.0
PUZ						S	S	02 57 51.6	-1.8
PUZ	**Puketiti**	**0.92**	**118**	⇑PN		P		02 57 37.0	+0.1
PUZ						SN	S	02 57 51.7	-1.7
PATZ	**Paeroa**	**1.06**	**226**	P		P		02 57 38.6	+0.3
PATZ	**Paeroa**	**1.06**	**226**	PN		P		02 57 38.6	+0.2
KNZ	**Kokohu**	**1.41**	**166**	*e*P		P		02 57 41.8	-0.5
KNZ	**Kokohu**	**1.41**	**166**	PN		P		02 57 41.8	-0.5
KNZ						SN	S	02 58 01.6	-1.3
BKZ	**Black Stump Fm**	**1.62**	**201**	P		P		02 57 43.7	-0.9
BKZ	**Black Stump Fm**	**1.62**	**201**	⇓*i*PN		P		02 57 43.7	-0.9
BKZ						eSN	S	02 58 06.2	-0.8
KATZ	**Kakaramea**	**1.79**	**222**	PN		P		02 57 46.2	-0.4
MGZ	**Maungaku**	**1.89**	**224**	P		P		02 57 47.5	-0.4
MGZ	**Maungaku**	**1.89**	**224**	*e*PN		P		02 57 47.7	-0.1
KRVZ	**Karewarewa**	**1.91**	**220**	PN		P		02 57 47.6	-0.4
OTVZ	**Oturere**	**1.95**	**219**	⇓PN		P		02 57 48.2	-0.3
WTVZ	**West Tongariro**	**1.95**	**221**	P		P		02 57 48.1	-0.5
WTVZ	**West Tongariro**	**1.95**	**221**	⇓PN		P		02 57 48.1	-0.5
NGZ	**Ngauruhoe**	**1.99**	**219**	P		P		02 57 48.8	-0.2
NGZ	**Ngauruhoe**	**1.99**	**219**	⇑PN		P		02 57 48.7	-0.3
TWVZ	**Taurewa**	**2.00**	**224**	P		P		02 57 48.7	-0.5
TWVZ	**Taurewa**	**2.00**	**224**	PN		P		02 57 48.7	-0.4
CNZ	**Chateau**	**2.03**	**220**	P		P		02 57 49.3	-0.3
CNZ	**Chateau**	**2.03**	**220**	PN		P		02 57 49.3	-0.4
TUVZ	**Tukino**	**2.03**	**217**	P		P		02 57 49.3	-0.3
TUVZ	**Tukino**	**2.03**	**217**	PN		P		02 57 49.2	-0.5
WPVZ	**Whakapapa**	**2.04**	**220**	P		P		02 57 49.3	-0.4
WPVZ	**Whakapapa**	**2.04**	**220**	PN		P		02 57 49.5	-0.2
HIZ	**Hauiti**	**2.06**	**245**	⇓PN		P		02 57 50.1	+0.1
FWVZ	**Far West T-bar**	**2.07**	**219**	P		P		02 57 49.5	-0.6
FWVZ	**Far West T-bar**	**2.07**	**219**	PN		P		02 57 49.7	-0.4
MOVZ	**Moawhango**	**2.10**	**213**	P		P		02 57 49.1	-1.4
MOVZ	**Moawhango**	**2.10**	**213**	⇓PN		P		02 57 49.0	-1.5
MOVZ						SN	S	02 58 15.2	-2.1
WNVZ	**Wahianoa**	**2.11**	**217**	P		P		02 57 50.1	-0.5
WNVZ	**Wahianoa**	**2.11**	**217**	PN		P		02 57 50.0	-0.6
PWZ	**Pawanui**	**2.39**	**187**	P		P		02 57 52.5	-1.9
PWZ	**Pawanui**	**2.39**	**187**	PN		P		02 57 52.2	-2.1
PWZ						eSN	S	02 58 21.4	-2.6
TSZ	**Takapari Road**	**2.60**	**202**	P		P		02 57 52.0	-5.1
TSZ	**Takapari Road**	**2.60**	**202**	PN		P		02 57 54.5	-2.6
WAZ	**Wanganui**	**2.74**	**219**	*e*P		P		02 57 57.4	-1.5
WAZ	**Wanganui**	**2.74**	**219**	PN		P		02 57 57.4	-1.6
WAZ						eSN	S	02 58 30.6	-1.5
BFZ	**Birch Farm**	**3.12**	**194**	P		P		02 58 00.9	-3.1
BFZ	**Birch Farm**	**3.12**	**194**	*e*PN		P		02 58 01.0	-3.1
MRZ	**Mangatainoka R**	**3.27**	**203**	P		P		02 58 02.5	-3.5
MRZ	**Mangatainoka R**	**3.27**	**203**	PN		P		02 58 02.5	-3.5
MRZ						SN	S	02 58 40.0	-4.7
KIW	**Kapiti Island**	**3.68**	**209**	P		P		02 58 07.5	-4.0
KIW	**Kapiti Island**	**3.68**	**209**	PN		P		02 58 07.5	-4.0
KIW						SN	S	02 58 49.0	-5.4
MTW	**Mount Morrison**	**3.75**	**200**	P		P		02 58 08.0	-4.4
MTW	**Mount Morrison**	**3.75**	**200**	PN		P		02 58 08.0	-4.5
CAW	**Cannon Point**	**3.84**	**205**	P		P		02 58 09.3	-4.3
MSWZ	**Moikau Station**	**4.06**	**201**	P		P		02 58 11.7	-4.9
MRW	**Makara Radio**	**4.07**	**208**	P		P		02 58 12.1	-4.7
WEL	**Wellington**	**4.10**	**207**	P		P		02 58 12.2	-4.9
SNZO	**South Karori**	**4.14**	**207**	P		P		02 58 12.8	-4.9
BHW	**Baring Head**	**4.17**	**205**	P		P		02 58 13.1	-5.0
NNZ	**Nelson**	**4.64**	**219**	*e*P		P		02 58 19.6	-4.9
BSWZ	**Blackbirch Sta**	**4.81**	**211**	P		P		02 58 21.7	-5.0
QRZ	**Quartz Range**	**4.83**	**228**	*e*P		P		02 58 22.1	-4.9
THZ	**Tophouse**	**5.29**	**218**	*e*P		P		02 58 27.8	-5.3
KHZ	**Kahutara**	**5.54**	**210**	*e*P		P		02 58 30.8	-5.7
LTZ	**Lake Taylor**	**6.38**	**215**	*e*P		P		02 58 41.0	-6.9
MQZ	**McQueen's Vall**	**6.98**	**208**	*e*P		P		02 58 48.1	-8.0
ODZ	**Otahua Downs**	**8.89**	**212**	*e*P		P		02 59 13.9	-7.9

IDC 26 03:00:49.8±0.8, 23.41N×143.77E, mb3.6/7, mb1 3.8/7, mb1mx3.6/19, mbtmp3.6/7, Error ellipse: s-maj=39.9km s-min=22.1km az=94.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.06**	**193**	P		P		03 08 58.5	-2.8
	0.3nm,0.3s,baz=14,slow=9.3,SNR=3.4								
ASAR	**Alice Springs**	**47.76**	**192**	P		P		03 09 28.9	-1.9
	0.2nm,0.6s,baz=90,slow=5.8,SNR=2.8								
MKAR	**Makanchi Array**	**53.96**	**312**	P		P		03 10 17.1	-0.3
	0.4nm,0.6s,baz=90,slow=5.8,SNR=2.8								
INK	**Inuvik**	**65.79**	**24**	P		P		03 11 36.6	-1.9
	0.6nm,0.7s,baz=7.8,slow=7.7,SNR=4.0								
YKA	**Yellowknife Ar**	**74.70**	**28**	P		P		03 12 30.7	-2.0
	0.4nm,0.6s,baz=295,slow=5.6,SNR=6.2								
FINES	**FINESS Array B**	**81.88**	**335**	P		P		03 13 09.3	-2.7
	0.5nm,0.7s,baz=45,slow=8.1,SNR=3.9								
NOA	**NORSAR Array B**	**87.56**	**339**

DZM	**Mont Dzumac**	**14.12 273**	*e*P	**P**	**03 24 54.2 +3.7**			
DZM	**Mont Dzumac**	**14.12 273**	P	**P**	**03 24 54.7 +4.2**			
	1.6nm,0.3s,baz=71,slow=14,SNR=28							
DZM	**Mont Dzumac**	**14.12 273**	*e*P	**P**	**03 24 54.2 +3.7**			
PUZ	**Puketiti**	**14.84 191**	PN	**P**	**03 24 56.7 -1.5**			
PUZ	**Puketiti**	**14.84 191**	PN	**P**	**03 24 56.7 -1.5**			
URZ	**Urewera**	**15.25 194**	P	**P**	**03 25 01.4 -1.0**			
	3.5nm,0.3s,baz=40,slow=18,SNR=17							
URZ			S	**S**	**03 27 42.2 -0.4**			
	3.0nm,0.3s,baz=8.5,slow=23,SNR=19							
URZ	**Urewera**	**15.25 194**	*e*PN	**P**	**03 25 00.7 -1.8**			
URZ	**Urewera**	**15.25 194**	*e*PN	**P**	**03 25 00.7 -1.8**			
RAR	**Rarotonga**	**17.32 86**	P	**P**	**03 25 23.1 -1.0**			
	0.5nm,0.3s,baz=135,slow=16,SNR=3.5							
RPZ	**Rata Peaks**	**22.00 201**	P	**P**	**03 26 09.7 -0.2**			
	13nm,0.8s,mb4.2,baz=59,slow=5.9,SNR=3.1							
CTA	**Charters Tower**	**33.01 269**	⇓*i*P	**P**	**03 27 48.8 +1.0**			
	27nm,0.4s,mb4.8							
CTA	**Charters Tower**	**33.01 269**	P	**P**	**03 27 48.8 +0.9**			
	32nm,0.5s,mb4.9,baz=96,slow=10,SNR=144							
CTAO	**Charters Tower**	**33.01 269**	*e*P	**P**	**03 27 48.0 +0.2**			
	32nm,0.4s,mb4.9							
PMG	**Port Moresby**	**35.82 287**	P	**P**	**03 28 12.2 +0.6**			
	50nm,0.7s,mb4.8,baz=95,slow=5.2,SNR=39							
PMG	**Port Moresby**	**35.82 287**	*e*P	**P**	**03 28 11.6 0.0**			
	56nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**36.30 248**	*e*P	**P**	**03 28 16.6 +1.1**			
	1.8nm,0.6s,mb3.5							
STKA	**Stephens Creek**	**36.30 248**	P	**P**	**03 28 15.8 +0.4**			
	1.9nm,0.5s,mb3.6,baz=94,slow=11,SNR=14							
ASAR	**Alice Springs**	**43.62 260**	P	**P**	**03 29 15.3 +0.1**			
	1.8nm,0.3s,mb3.6,baz=95,slow=7.5,SNR=58							
ASAR			S	**S**	**03 35 17.4 -0.1**			
	0.2nm,0.7s,baz=95,slow=16,SNR=3.2							
ASPA	**Alice Springs**	**43.62 260**	⇓*i*P	**P**	**03 29 15.6 +0.4**			
WB2	**Warramunga Arr**	**43.95 265**	⇓*i*P	**P**	**03 29 17.7 -0.2**			
WRAB	**Tennant Creek**	**43.96 265**	P	**P**	**03 29 17.0 -1.0**			
	71nm,0.4s,mb5.2,SNR=20							
WRAB	**Tennant Creek**	**43.96 265**	*e*P	**P**	**03 29 17.1 -0.9**			
	14nm,0.8s,mb4.1							
WRA	**Warramunga Arr**	**43.97 265**	P	**P**	**03 29 17.8 -0.2**			
	3.0nm,0.3s,mb3.9,baz=91,slow=8.4,SNR=64							
WRA			S	**S**	**03 35 22.6 0.0**			
	0.2nm,0.4s,baz=97,slow=13,SNR=2.9							
KAKA	**Kakadu**	**47.80 274**	⇓*i*P	**P**	**03 29 47.3 -0.6**			
	8.0nm,0.3s,mb4.4							
FORT	**Forrest**	**47.89 249**	*e*P	**P**	**03 29 48.0 -0.5**			
	392nm,0.7s							
FITZ	**Fitzroy Crossi**	**52.39 265**	⇓*i*P	**P**	**03 30 22.8 +0.6**			
	9.4nm,0.9s,mb4.1							
VNDA	**Vanda**	**54.94 185**	P	**P**	**03 30 40.5 +0.8**			
	0.9nm,0.8s,baz=7.9,slow=8.1,SNR=5.5							
QSPA	**South Pole Qui**	**66.61 180**	*e*P	**P**	**03 31 59.7 +2.5**			
	6.2nm,0.8s,mb4.4							
UNV	**Unalaska Valle**	**77.67 7**	P	**P**	**03 33 01.4 -0.9**			
MAW	**Mawson**	**78.68 200**	P	**P**	**03 33 07.0 -0.4**			
	7.8nm,1.0s,mb4.4,baz=120,slow=8.1,SNR=2.8							
MNV	**Mina**	**83.48 43**	P	**P**	**03 33 35.9 +3.1**			
TXAR	**Lajitas Array**	**88.91 57**	P	**P**	**03 33 59.4 +0.2**			
	0.4nm,0.8s,mb3.3,baz=225,slow=8.8,SNR=4.5							
MCK	**McKinley**	**89.93 13**	P	**P**	**03 34 03.4 +0.3**			
COLA	**College**	**91.16 13**	*e*P	**P**	**03 34 09.1 +0.3**			
INK	**Inuvik**	**97.21 15**	P	**P**	**03 34 36.7 +0.3**			
BVAR	**Borovoye Array**	**121.13 319**	PKP	PKPdf	03 39 54.0 +0.3			
	0.7nm,0.4s,baz=131,slow=2.6,SNR=5.4							
ARCES	**ARCESS Array B**	**131.77 349**	PKP	PKPdf	03 40 14.7 +1.0			
	1.6nm,0.8s,baz=76,slow=0.8,SNR=9.2							
FINES	**FINESS Array B**	**138.51 343**	PKhKP		03 40 20.1			
	0.2nm,0.4s,baz=45,slow=2.7,SNR=3.3							
FINES			PKP	PKPdf	03 40 27.7 +1.4			
	0.5nm,0.5s,baz=63,slow=4.3,SNR=6.9							
NB2	**NORSAR Subarra**	**141.88 352**	PKPabc	PKPdf	03 40 29.7 -2.5			
	0.4nm,0.5s,baz=7.0,slow=2.9							
NOA	**NORSAR Array B**	**141.88 352**	PKhKP		03 40 28.1			
	0.3nm,0.6s,baz=60,slow=1.9,SNR=4.4							
BRTR	**Keskin Array B**	**148.53 309**	PKPbc	PKPdf	03 40 48.5 +4.5			
	0.7nm,0.7s,baz=135,slow=5.2,SNR=4.4							
CLL	**Collm**	**150.86 345**	*i* PKP1	PKPdf	03 40 55.5 +8.2			
CLL			*i* PKP2	PKPab	03 41 03.5 -0.9			
BRG	**Berggiesshubel**	**151.03 344**	*i* P	PKPdf	03 40 56.6 +9.0			
GERES	**GERESS Array B**	**152.95 342**	PKP	PKPdf	03 40 53.2 +2.7			
	0.1nm,0.3s,baz=342,slow=2.5,SNR=2.0							
GERES			PKPbc	PKPdf	03 41 00.3 +10			
	0.4nm,0.5s,baz=45,slow=1.9,SNR=6.4							
GERES			PKPab	PKPab	03 41 12.8 -0.4			
	0.3nm,0.6s,baz=63,slow=4.4,SNR=4.5							

IDC 26 03:39:16.4±6.5, 18.06N×46.76W, mb3.4/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.4/5, MS3.3/1, Ms1 3.3/1, ms1mx2.3/18, Error ellipse: s-maj=186.4km s-min=32.9km az=171.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**18.43 273**		LR	LR	03 49 23.8	
	comp=Z,90nm,18.6s,baz=91,slow=33						
TXAR	**Lajitas Array**	**52.86 293**		P	P	03 48 33.8	-2.5
	0.2nm,0.6s,baz=86,slow=14,SNR=3.0						
GERES	**GERESS Array B**	**57.23 43**		P	P	03 49 05.1	-2.7
	0.2nm,0.8s,baz=270,slow=8.0,SNR=3.7						
PDAR	**Pinedale Array**	**58.08 309**		P	P	03 49 13.2	-0.6
	0.3nm,0.6s,baz=84,slow=8.2,SNR=3.5						
YKA	**Yellowknife Ar**	**63.93 331**		P	P	03 49 50.1	-3.0
	0.2nm,0.4s,baz=102,slow=7.1,SNR=5.8						
FINES	**FINESS Array B**	**66.10 30**		P	P	03 50 05.7	-1.5
	0.6nm,0.6s,baz=214,slow=6.9,SNR=4.3						

IDC 26 03:58:29.2±0.9, 7.37N×91.46E, mb3.8/12, mb1 4.0/12, mb1mx3.9/18, mbtmp3.8/12, Error ellipse: s-maj=43.3km s-min=15.3km az=51.0
NEIC 26 03:58:33.7±0.6, 7.33N×91.43E, h30km, mb4.3/4, Error ellipse: s-maj=25.9km s-min=8.7km az=56.0
ISC 26 03:58:32.3±0.7, 7.3N±0.1×91.5E±0.2, h33km, n18, σ0s92/18, mb3.9/16, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**22.27 359**	*e*P		**P**	**04 03 30.2 +2.2**	
	10.0nm,0.7s,mb4.3						
AAK	**Ala-Archa**	**38.22 340**	*e*P		**P**	**04 05 51.4 +0.4**	
	1.5nm,0.7s,mb3.8						
MKAR	**Makanchi Array**	**40.11 350**	P		**P**	**04 06 06.8 +0.2**	
	1.9nm,0.6s,mb4.0,baz=170,slow=8.1,SNR=29						
FITZ	**Fitzroy Crossi**	**42.15 127**	P		**P**	**04 06 24.9 +1.2**	
	7.7nm,0.8s,mb4.4,baz=328,slow=5.4,SNR=12						
SONM	**Songino Array**	**42.33 15**	P		**P**	**04 06 24.6 -0.3**	
	1.0nm,0.7s,mb3.5,baz=197,slow=8.9,SNR=8.9						
KURK	**Kurchatov**	**44.56 348**	*e*P		**P**	**04 06 42.2 -0.6**	
	3.9nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**46.79 355**	P		**P**	**04 06 59.7 -0.8**	
	1.2nm,0.5s,mb4.0,baz=313,slow=7.0,SNR=7.7						
CHKZ	**Chkalovo**	**49.21 344**	*e*P		**P**	**04 07 18.2 -1.1**	
	2.4nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**50.14 123**	P		**P**	**04 07 27.8 +0.8**	
	0.3nm,0.4s,mb3.7,baz=306,slow=8.4,SNR=6.1						
WRAB	**Tennant Creek**	**50.15 123**	*e*P		**P**	**04 07 27.2 +0.2**	
ASAR	**Alice Springs**	**51.64 128**	P		**P**	**04 07 37.1 -1.1**	
	0.7nm,0.7s,mb3.7,baz=300,slow=7.5,SNR=0.2						
BRTR	**Keskin Array B**	**60.79 312**	P		**P**	**04 08 43.8 +0.2**	
	0.7nm,0.9s,mb3.8,baz=104,slow=5.9,SNR=3.1						
STKA	**Stephens Creek**	**61.68 132**	P		**P**	**04 08 48.7 -1.0**	
	0.9nm,0.7s,mb4.0,baz=297,slow=6.8,SNR=3.2						
STKA	**Stephens Creek**	**61.68 132**	P		**P**	**04 08 48.7 -1.0**	
FINES	**FINESS Array B**	**71.97 333**	P		**P**	**04 09 53.6 -0.6**	
	1.0nm,0.7s,mb3.9,baz=100,slow=8.5,SNR=6.2						
GERES	**GERESS Array B**	**76.47 318**	P		**P**	**04 10 21.3 +0.7**	
	0.5nm,0.7s,mb3.6,baz=101,slow=5.0,SNR=5.4						
NOA	**NORSAR Array B**	**78.91 331**	P		**P**	**04 10 32.8 -1.1**	
	0.6nm,0.8s,mb3.6,baz=91,slow=6.0,SNR=4.9						
ESDC	**Sonseca Array**	**89.53 310**	P		**P**	**04 11 29.1 +1.2**	
	0.4nm,0.7s,mb3.9,baz=257,slow=26,SNR=2.7						

IDC 26 04:14:14.3±14.0, 0.86N×126.10E, h313km±154km, mb3.3/5, mb1 3.4/6, mb1mx3.2/17, mbtmp4.0/6, Error ellipse: s-maj=80.3km s-min=22.8km az=48.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.84 181**		P	P	04 18 12.7	-0.8
	0.5nm,0.3s,baz=4.2,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**22.19 159**		P	P	04 18 43.5	-2.6
	3.0nm,0.5s,baz=341,slow=12,SNR=16						
ASAR	**Alice Springs**	**25.53 163**		P	P	04 19 15.5	-1.4
	0.3nm,0.3s,baz=348,slow=7.0,SNR=11						
CTA	**Charters Tower**	**28.69 138**		P	P	04 19 44.6	-0.7
	1.3nm,0.5s,baz=300,slow=9.6,SNR=3.9						
STKA	**Stephens Creek**	**35.71 157**		P	P	04 20 44.0	-1.3
	2.0nm,0.8s,slow=10,SNR=3.8						
MKAR	**Makanchi Array**	**59.57 327**		P	P	04 23 45.6	-1.9
	1.0nm,0.4s,baz=119,slow=7.8,SNR=32						

ROM 26 04:15:02.0±0.2, 42.41N×12.33E, h5km±1km, MD3.4/2, Error ellipse: s-maj=1.1km s-min=1.1km az=90.0
NEIC 26 04:15:02.0, 42.41N×12.33E, h5km, MD3.4(ROM), After ROM.
LDG 26 04:15:06.3±0.3, 42.34N×12.19E, h10km, Ml2.4/4, Error ellipse: s-maj=9.4km s-min=5.9km az=29.0
ISC 26 04:15:01.6±0.6, 42.44N±0.03×12.24E±0.04, h7km±6km, n39, σ1s05/59, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNS	**Montasola**	**0.33 99**		*e*Pg	**Pg**	**04 15 08.6 +0.3**	
MNS				SG	**Sg**	**04 15 12.0 -0.8**	
MNS	**Montasola**	**0.33 99**		*e*Pg	**Pg**	**04 15 08.6 +0.3**	
MNS				*e*Sg	**Sg**	**04 15 12.0 -0.8**	
TOLF	**Tolfa**	**0.41 206**		*e*PG	**Pg**	**04 15 11.3 +1.3**	
TOLF				SG	**Sg**	**04 15 18.1 +2.5**	
TOLF	**Tolfa**	**0.41 206**		*e*Pg	**Pg**	**04 15 11.3 +1.3**	
TOLF				*e*Sg	**Sg**	**04 15 18.1 +2.5**	
MTCE	**Montecelio**	**0.56 138**		*e*PG	**Pg**	**04 15 12.8 0.0**	
MTCE				SG	**Sg**	**04 15 20.6 +0.3**	
MTCE	**Montecelio**	**0.56 138**		*e*Pg	**Pg**	**04 15 12.8 0.0**	
MTCE				*e*Sg	**Sg**	**04 15 20.6 +0.4**	
FIAM	**Fiamignano**	**0.67 104**		*e*PG	**Pg**	**04 15 14.6 -0.4**	
FIAM				SG	**Sg**	**04 15 23.9 -0.1**	
FIAM	**Fiamignano**	**0.67 104**		*e*Pg	**Pg**	**04 15 14.6 -0.5**	
FIAM				*e*Sg	**Sg**	**04 15 23.9 -0.1**	
CERT	**Cerreto**	**0.73 131**		*e*PG	**Pg**	**04 15 16.3 0.0**	
CERT	**Cerreto**	**0.73 131**		*e*Pg	**Pg**	**04 15 16.3 -0.1**	
NRCA	**Norcia**	**0.76 58**		*e*PG	**Pg**	**04 15 16.5 -0.2**	
NRCA				SG	**Sg**	**04 15 27.5 +0.7**	
NRCA	**Norcia**	**0.76 58**		*e*Pg	**Pg**	**04 15 16.5 -0.2**	
NRCA				*e*Sg	**Sg**	**04 15 27.5 +0.7**	
CAMP	**Campotosto**	**0.87 83**		*e*PG	**Pg**	**04 15 18.4 -0.6**	
PTQR	**Pietraquaria**	**0.95 115**		*e*PG	**Pg**	**04 15 20.3 -0.4**	
PTQR	**Pietraquaria**	**0.95 115**		*e*Pg	**Pg**	**04 15 20.3 -0.4**	
GUAR	**Guarcino**	**1.02 129**		*e*PG	**Pg**	**04 15 20.6 -1.5**	
GUAR				SG	**Sg**	**04 15 35.2 -0.5**	
GUAR	**Guarcino**	**1.02 129**		*e*Pg	**Pg**	**04 15 20.6 -1.4**	
GUAR				*e*Sg	**Sg**	**04 15 35.2 -0.5**	
TERO	**Teramo**	**1.02 79**		*e*PG	**Pg**	**04 15 20.5 -1.6**	
TERO				SG	**Sg**	**04 15 34.8 -0.9**	
TERO	**Teramo**	**1.02 79**		*e*Pg	**Pg**	**04 15 20.5 -1.5**	
TERO				*e*Sg	**Sg**	**04 15 34.8 -1.0**	
CING	**Cingoli**	**1.17 36**		*e*PN	**Pn**	**04 15 25.3 +1.0**	
CING				SN	**Sn**	**04 15 41.3 +0.7**	
CING	**Cingoli**	**1.17 36**		*e*Pg	**Pg**	**04 15 25.3 +0.3**	
CING				*e*Sg	**Sg**	**04 15 41.3 +0.7**	
VCEL	**Villa Celiera**	**1.18 92**		*e*PN	**Pn**	**04 15 24.5 0.0**	
INTR	**Introdacqua**	**1.31 109**		*e*PN	**Pn**	**04 15 26.9 +0.7**	
INTR	**Introdacqua**	**1.31 109**		*e*Pg	**Pg**	**04 15 26.9 -0.8**	
CII	**Carovilli**	**1.69 114**		*e*P	**Pn**	**04 15 34.6 +2.8**	
PGF	**Pioggiola**	**2.40 274**		*e*Pn	**Pn**	**04 15 42.4 +0.5**	
PGF				*e*Sn	**Sn**	**04 16 12.3 +0.4**	
	6.1nm,0.5s						
BOJS	**Bojanci**	**3.76 34**		*e*Pn	**Pn**	**04 16 04.1 +2.9**	
SBF	**Sospel**	**3.79 294**		*e*Pn	**Pn**	**04 16 01.0 -0.8**	
SBF				*e*Sn	**Sn**	**04 16 46.0 -1.2**	
	3.1nm,0.3s						
FRF	**La Foret Royal**	**4.25 287**		*e*Pn	**Pn**	**04 16 07.3 -1.0**	
FRF				*e*Sn	**Sn**	**04 16 57.3 -1.5**	
	0.4nm,0.3s						
LMR	**La Mourre**	**4.31 284**		*e*Pn	**Pn**	**04 16 07.8 -1.2**	
LMR				*e*Sn	**Sn**	**04 16 58.2 -2.0**	
	1.7nm,0.4s						
MBDF	**Montbardon**	**4.59 302**		*e*Pn	**Pn**	**04 16 13.8 +0.8**	
LPG	**La Plagne**	**5.01 310**		*e*Pn	**Pn**	**04 16 22.0 +3.1**	
LPL	**La Plagne**	**5.03 310**		*e*Pn	**Pn**	**04 16 22.7 +3.5**	
ORIF	**Oris-en-Rattie**	**5.24 300**		*e*Pn	**Pn**	**04 16 23.6 +1.4**	
VIVF	**Saint-Julien-l**	**6.00 296**		*e*Pn	**Pn**	**04 16 32.8 -0.2**	
CDF	**Champ du Feu**	**6.92 331**		*e*Pn	**Pn**	**04 16 46.2 +0.3**	
AVF	**Avril sur Loir**	**7.69 307**		*e*Pn	**Pn**	**04 16 56.5 -0.2**	
SSF	**Saint Saulge**	**7.75 310**		*e*Pn	**Pn**	**04 16 57.4 -0.1**	
BGF	**Bois d'Agland**	**7.88 305**		*e*Pn	**Pn**	**04 16 59.0 -0.3**	

IDC 26 04:17:07.2±1.3, 6.44N×94.55E, mb3.7/9, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, Error ellipse: s-maj=53.6km s-min=27.9km az=52.0
NEIC 26 04:17:12.0±0.7, 6.56N×94.73E, h30km, mb3.9/2, Error ellipse: s-maj=24.9km s-min=9.4km az=222.0
ISC 26 04:17:10.0±0.9, 6.5N±0.2×94.7E±0.2, h30km, n14, σ0s60/14, mb3.6/11, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.01 101**		P	**Pn**	**04 18 39.1 -0.2**	
LSA	**Lhasa**	**23.32 352**		P	**P**	**04 22 16.3 -0.3**	
MKAR	**Makanchi Array**	**41.55 347**		P	**P**	**04 24 57.3 +0.8**	
	0.2nm,0.6s,mb2.9,baz=158,slow=7.8,SNR=2.3						
SONM	**Songino Array**	**42.37 12**		P	**P**	**04 25 03.7 +0.4**	
	0.7nm,0.8s,mb3.4,baz=197,slow=8.3,SNR=5.4						
WRAB	**Tennant Creek**	**47.01 125**		P	**P**	**04 25 40.3 -0.5**	
ASAR	**Alice Springs**	**48.60 129**		P	**P**	**04 25 53.8 +0.6**	
	0.4nm,0.6s,mb3.6,baz=290,slow=7.0,SNR=4.7						
BVAR	**Borovoye Array**	**50.47 341**		P	**P**	**04 26 06.6 -0.5**	
	0.3nm,0.5s,mb3.6,baz=127,slow=7.2,SNR=2.5						
CHKZ	**Chkalovo**	**50.95 342**		*e*P	**P**	**04 26 09.7 -1.0**	
	0.6nm,0.4s,mb3.9						
BRTR	**Keskin Array B**	**63.76 311**		P	**P**	**04 27 40.7 -0.9**	
	0.6nm,0.6s,mb3.8,baz=128,slow=8.1,SNR=4.0						
FINES	**FINESS Array B**	**74.19 332**		P	**P**	**04 28 45.5 0.0**	
	0.5nm,0.5s,mb3.9,baz=99,slow=6.6,SNR=18						
KAF	**Kangasniemi**	**74.27 333**		*e*p	**P**	**04 28 46.5 +0.6**	
	0.7nm,0.5s,mb3.9						
ARCES	**ARCESS Array B**	**76.74 340**		P	**P**	**04 29 00.5 +0.6**	
	1.1nm,0.6s,mb4.0,baz=90,slow=7.3,SNR=7.1						
GERES	**GERESS Array B**	**79.23 318**		P	**P**	**04 29 14.7 +0.8**	
	0.4nm,0.6s,mb3.5,baz=63,slow=6.0,SNR=6.7						
NOA	**NORSAR Array B**	**81.20 331**		P	**P**	**04 29 23.9 -0.3**	
	0.6nm,0.8s,mb3.5,baz=92,slow=5.5,SNR=2.9						

IDC 26 04:22:07.8±2.7, 23.87S×179.50W, h487km±32km, mb4.1/6, mb1 4.0/9, mb1mx3.7/16, mbtmp4.9/9, Error ellipse: s-maj=34.1km s-min=24.4km az=139.0
NEIC 26 04:22:08.2±1.1, 23.78S×179.51W, h494km±16km, mb4.2/6, Error ellipse: s-maj=16.4km s-min=14.0km az=146.0
ISC 26 04:22:07.9±1.5, 23.78S±0.08×179.3W±0.1, h535km±33km, n21, σ0s59/24, mb4.3/8, 1C-3D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**12.11 37**		P	**P**	**04 24 49.4 +1.3**	
	3.7nm,0.3s,baz=214,slow=15,SNR=5.5						
AFI				S	**S**	**04 26 56.1 -0.9**	
	2.0nm,0.3s,baz=20,slow=20,SNR=2.4						
AFI	**Afiamalu**	**12.11 37**		P	**P**	**04 24 49.4 +1.3**	
AFI				S	**S**	**04 26 56.1 -0.9**	
DZM	**Mont Dzumac**	**13.27 275**		P	**P**	**04 24 59.6 -0.3**	
	0.2nm,0.3s,baz=99,slow=19,SNR=3.7						
URZ	**Urewera**	**14.76 191**		P	**P**	**04 25 14.4 -0.5**	
	1.2nm,0.3s,slow=10,SNR=6.4						
URZ				S	**S**	**04 27 45.8 +0.1**	
	0.4nm,0.3s,baz=36,slow=22,SNR=2.1						
CTA	**Charters Tower**	**32.13 270**	⇓*i*P		**P**	**04 27 53.3 +0.5**	
	11nm,0.3s,mb4.9						
CTA	**Charters Tower**	**32.13 270**	P		**P**	**04 27 53.0 +0.2**	
	14nm,0.3s,mb4.9,baz=95,slow=11,SNR=75						
CTAO	**Charters Tower**	**32.13 270**	*e*P		**P**	**04 27 53.0 +0.3**	
	9.6nm,0.4s,mb4.7						
PMG	**Port Moresby**	**35.08 288**	P		**P**	**04 28 17.9 +0.4**	
	6.9nm,0.6s,mb4.4,baz=90,slow=4.5,SNR=5.6						
STKA	**Stephens Creek**	**35.38 248**	P		**P**	**04 28 20.0 +0.2**	
	0.9nm,0.4s,mb3.6,baz=137,slow=15,SNR=3.9						
STKA	**Stephens Creek**	**35.38 248**	P		**P**	**04 28 20.0 +0.2**	
ASAR	**Alice Springs**	**42.70 260**	P		**P**	**04 29 19.6 +0.4**	
	166nm,0.4s,baz=98,slow=7.2,SNR=1.2						
ASPA	**Alice Springs**	**42.71 260**	*e*P		**P**	**04 29 19.6 +0.4**	
WB2	**Warramunga Arr**	**43.06 266**	⇓*i*P		**P**	**04 29 21.8 -0.3**	
WRAB	**Tennant Creek**	**43.06 266**	P		**P**	**04 29 21.0 -1.1**	
	47nm,0.4s,mb5.4,SNR=18						
WRAB	**Tennant Creek**	**43.06 266**	*e*P		**P**	**04 29 21.2 -0.9**	
	5.3nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**43.07 266**	P		**P**	**04 29 21.9 -0.2**	
	3.7nm,0.3s,mb4.3,baz=95,slow=8.4,SNR=64						
KAKA	**Kakadu**	**46.96 275**	⇓*i*P		**P**	**04 29 51.6 -0.6**	
	2.7nm,0.3s,mb4.2						
FORT	**Forrest**	**46.97 249**	⇑*i*P		**P**	**04 29 52.1 0.0**	
	405nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.50 265**	*e*P		**P**	**04 30 26.9 +0.9**	
	4.9nm,0.8s,mb3.9						
FITZ	**Fitzroy Crossi**	**51.50 265**	P		**P**	**04 30 26.3 +0.3**	
	4.3nm,0.5s,mb4.1,baz=130,slow=4.0,SNR=20						
QSPA	**South Pole Qui**	**66.30 180**	P		**P**	**04 32 08.6 +4.5**	
	1.7nm,0.4s,mb3.9						

IDC 26 04:23:10.9±1.0, 23.78S×179.85E, h534km±10km, mb4.0/14, mb1 4.1/17, mb1mx4.1/19, mbtmp4.9/17, Error ellipse: s-maj=14.2km s-min=10.0km az=176.0
NEIC 26 04:23:11.4±0.6, 23.70S×179.82E, h545km±7km, mb4.4/18, Error ellipse: s-maj=8.1km s-min=5.5km az=150.0
BJI 26 04:23:10.4, 23.70S×179.80E, h544km, mB4.9, mb4.3
ISC 26 04:23:10.5±0.8, 23.82S±0.06×179.80E±0.06, h543km±10km, n135, σ0s73/68, mb4.4/30, 14C-5D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.78 160**		P	**P**	**04 24 47.8 +0.3**	
	110nm,0.3s,baz=262,slow=23,SNR=3.2						
RAO				S	**S**	**04 26 02.6 -1.8**	
	110nm,0.3s,baz=254,slow=23,SNR=4.1						
AFI	**Afiamalu**	**12.67 40**		P	**P**	**04 25 57.4 +1.2**	
	2.6nm,0.3s,baz=184,slow=15,SNR=3.0						
URZ	**Urewera**	**14.58 188**		P	**P**	**04 26 15.2 -0.3**	
	5.8nm,0.3s,baz=60,slow=0.7,SNR=17						
URZ				S	**S**	**04 28 45.0 +0.4**	
	1.5nm,0.3s,baz=162,slow=19,SNR=11						
SNZO	**South Karori**	**17.96 193**		P	**P**	**04 26 47.8 -0.6**	
RPZ	**Rata Peaks**	**21.11 198**		P	**P**	**04 27 18.5 +0.6**	
	7.1nm,0.6s,mb4.5,baz=1.7,slow=6.9,SNR=4.0						
CTA	**Charters Tower**	**31.29 270**	⇓*i*P		**P**	**04 28 49.0 +1.2**	
	24nm,0.4s,mb5.1						
CTA	**Charters Tower**	**31.29 270**	P		**P**	**04 28 48.6 +0.9**	
	38nm,0.5s,mb5.2,baz=96,slow=10,SNR=72						
CTAO	**Charters Tower**	**31.29 270**	*e*P		**P**	**04 28 48.2 +0.4**	
	34nm,0.5s,mb5.1						
PMG	**Port Moresby**	**34.30 289**	P		**P**	**04 29 13.7 +0.6**	
	36nm,0.8s,mb5.0,baz=115,slow=5.8,SNR=22						
STKA	**Stephens Creek**	**34.58 248**	P		**P**	**04 29 16.4 +1.1**	
	2.0nm,0.5s,mb3.9,baz=86,slow=12,SNR=7.1						
STKA				PcP	PcP	04 31 34.8	-0.2
	1.2nm,0.4s,baz=88,slow=5.8,SNR=2.8						
STKA	**Stephens Creek**	**34.58 248**	*e*P		**P**	**04 29 16.2 +0.9**	
ASAR	**Alice Springs**	**41.87 261**	P		**P**	**04 30 15.2 +0.5**	
	34nm,0.4s,mb5.2,baz=97,slow=7.5,SNR=0.7						
ASAR				S	**S**	**04 35 54.6 +0.3**	
	0.9nm,0.7s,baz=98,slow=14,SNR=0.2						
ASPA	**Alice Springs**	**41.87 261**	⇓*i*P		**P**	**04 30 15.1 +0.4**	
ASPA			*i* SCP			04 35 00.6	
ASPA			*e*S		**S**	**04 35 54.3 -0.1**	
WB2	**Warramunga Arr**	**42.22 266**	⇓*i*P		**P**	**04 30 17.4 -0.1**	
WB2			*i* SCP			04 35 02.3	
WB2			*e*S		**S**	**04 35 57.2 -2.2**	
WRAB	**Tennant Creek**	**42.22 266**	P		**P**	**04 30 17.0 -0.5**	
	116nm,0.4s,SNR=30						
WRAB	**Tennant Creek**	**42.22 266**	*e*P		**P**	**04 30 16.9 -0.6**	
	12nm,

KEV	Kevo	131.30	348	ep	PKPdf	04 41 14.2	-6.1
ARCES	ARCESS Array B	131.77	348	PKP	PKPdf	04 41 20.6	-0.6
	comp=Z,3.1nm,0.5s,baz=24,slow=1.6,SNR=19						
ARCES				SKPbc		04 43 58.4	
	comp=Z,5.0nm,1.1s,slow=1.2,SNR=3.7						
FINES	FINESS Array B	138.31	341	PKhKP		04 41 23.5	
	comp=Z,0.4nm,0.3s,baz=38,slow=3.9,SNR=7.0						
FINES				PKP	PKPdf	04 41 34.2	+0.8
	comp=Z,1.1nm,0.4s,baz=16,slow=3.0,SNR=11						
FINES				SKPbc		04 44 18.4	
	comp=Z,1.4nm,0.6s,baz=90,slow=3.8,SNR=8.0						
FINES	FINESS Array B	138.31	341	PKP	PKPdf	04 41 23.5	-10
FINES				PKP	PKPdf	04 41 34.2	+0.8
FINES				SKPbc		04 44 18.4	
NB2	NORSAR Subarra	141.97	351	PKPabc	PKPdf	04 41 36.1	-3.7
	comp=Z,0.5nm,0.4s,baz=10.0,slow=3.1						
NOA	NORSAR Array B	141.97	351	PKhKP		04 41 36.7	
	comp=Z,2.6nm,0.7s,baz=16,slow=4.7,SNR=15						
NOA				SKPbc		04 44 27.9	
	comp=Z,1.1nm,0.8s,baz=14,slow=4.2,SNR=4.0						
NOA	NORSAR Array B	141.97	351	PKP	PKPdf	04 41 36.7	-3.1
NOA				SKPbc		04 44 27.9	
KONO	Kongsberg	143.54	352	ePKP	PKPdf	04 41 41.5	-1.0
ELZG	Elazig	143.70	303	i P	PKPbc	04 41 44.8	+1.9
AKASG	Malin Array Be	144.80	327	PKP	PKPdf	04 41 45.8	+0.8
	comp=Z,4.4nm,0.4s,baz=45,slow=4.3,SNR=12						
AKASG				SKPbc		04 44 35.8	
	comp=Z,2.0nm,0.6s,baz=48,slow=3.0,SNR=7.4						
GZT	Gaziantep	145.04	302	i P	PKPbc	04 41 48.1	+1.5
SUW	Suwalki	145.12	336	ePKP	PKPdf	04 41 46.9	+1.5
SUW	Suwalki	145.12	336	ePKP	PKPdf	04 41 46.9	+1.5
KAHT	Ahir Dag	145.52	302	i P	PKPbc	04 41 47.4	-0.5
BOYT	Boyabat	145.91	310	i P	PKPdf	04 41 51.1	+3.9
COBT	Iskenderun	146.24	301	i P	PKPbc	04 41 50.7	+1.1
ASF	Jabal al Asfar	146.34	293	PKPbc	PKPbc	04 41 52.5	+2.5
	comp=Z,2.6nm,0.5s,baz=307,slow=3.5,SNR=5.3						
BSD	Bornholm Skovb	146.79	344	⇑i P	PKPdf	04 41 51.8	+3.6
	comp=Z,11nm,0.5s						
BALT	Daday	146.94	310	i P	PKPdf	04 41 53.8	+4.9
ELDT	Eldivan	147.28	309	i P	PKPdf	04 41 54.4	+4.9
BRTR	Keskin Array B	147.38	307	PKPbc	PKPdf	04 41 53.6	+4.0
	comp=Z,2.4nm,0.7s,baz=141,slow=4.6,SNR=12						
BRTR				pPKPbc		04 43 59.9	
	comp=Z,0.9nm,0.6s,baz=124,slow=4.5,SNR=3.2						
MEST	Erdemli	147.88	301	i P	PKPdf	04 41 55.6	+5.1
KWP	Kalwaria	148.61	331	ePKP	PKPdf	04 41 57.4	+6.2
KWP	Kalwaria	148.61	331	ePKP	PKPdf	04 41 57.4	+6.1
CFR	Carcaliu	148.65	320	⇑P	PKPdf	04 41 57.5	+6.0
BURAR	Bucovina Array	148.80	326	⇓P	PKPdf	04 41 58.5	+6.9
KOLS	Kolonicke sedl	149.31	330	ePKP	PKPdf	04 42 00.1	+7.7
ESKT	Eskisehir	149.48	308	i P	PKPdf	04 41 59.7	+6.7
CRVS	Cervenica-Dubn	149.70	331	ePKP	PKPdf	04 42 00.2	+7.2
MLR	Muntele Rosu	149.74	322	⇑P	PKPdf	04 41 59.9	+6.7
NIE	Niedzica	149.80	333	ePKP	PKPdf	04 41 59.0	+5.8
KSP	Ksiaz	150.15	339	⇑iPKP	PKPdf	04 42 01.3	+7.6
KSP	Ksiaz	150.15	339	⇑iPKP	PKPdf	04 42 01.3	+7.7
OKC	Ostrava-Krasne	150.33	336	⇑ePKPB	PKPdf	04 42 01.2	+7.2
ULDT	Uludag	150.45	310	i P	PKPdf	04 42 02.1	+7.7
UPC	Upice	150.53	339	⇑ePKPB	PKPdf	04 42 01.3	+7.1
DPC	Dobruska-Polom	150.56	338	⇑ePKPB	PKPdf	04 42 02.1	+7.8
DPC				ePKPAB	PKPab	04 42 11.7	-0.1
MORC	Moravsky Berou	150.60	336	ePKPbc	PKPdf	04 42 01.7	+7.3
CLL	Collm	150.72	343	⇑iPKP1	PKPdf	04 42 02.0	+7.5
CLL				i PKP2	PKPab	04 42 11.2	-1.3
CLL				i *PPKP		04 44 10.5	
BRG	Berggiesshubel	150.85	341	i P	PKPdf	04 42 02.6	+7.9
PVCC	Panska Ves	150.97	340	⇑ePKPB	PKPdf	04 42 03.0	+8.1
DNZL	Cakiroluk	151.45	306	i P	PKPdf	04 42 04.3	+8.3
NKC	Novy Kostel	151.85	343	⇑ePKPB	PKPdf	04 42 04.4	+8.3
NKC				ePKPAB	PKPab	04 42 15.5	-1.7
KHC	Kasperske Hory	152.50	340	ePKPDF	PKPdf	04 42 01.5	+4.4
KHC				⇑ePKPB		04 42 06.0	
KHC				ePKPAB	PKPab	04 42 19.6	-0.4
GERES	GERESS Array B	152.72	340	PKPbc	PKPdf	04 42 06.2	+8.8
	comp=Z,1.5nm,0.7s,baz=45,slow=1.9,SNR=12						
GERES				pPKPbc		04 44 11.2	
	comp=Z,0.8nm,0.8s,baz=90,slow=4.0,SNR=3.8						
GIVF	Givet	153.47	353	ePKP2	PKPab	04 42 22.0	-2.1
BAIF	Baives	153.58	354	ePKP2	PKPab	04 42 22.7	-1.8
CDF	Champ du Feu	154.75	348	ePKP2	PKPab	04 42 27.9	-1.6
	comp=Z,3.3nm,0.6s						
MEZF	Maizieres J'vi	155.02	352	ePKP2	PKPab	04 42 29.1	-1.5
FLN	La Foliniere	155.10	0	ePKP2	PKPab	04 42 28.6	-2.4
LDF	La Druitiere	155.28	360	ePKP2	PKPab	04 42 28.6	-3.1
HINF	Hinteralfeld	155.40	349	ePKP2	PKPab	04 42 30.3	-2.0
GRR	Gorron	155.47	1	ePKP2	PKPab	04 42 30.2	-2.4
SSF	Saint Saulge	156.62	354	ePKP2	PKPab	04 42 35.9	-1.6
	comp=Z,11nm,0.9s						
CABF	La Chapelle	156.70	349	ePKP2	PKPab	04 42 36.8	-1.1
AVF	Avril sur Loir	156.90	354	ePKP2	PKPab	04 42 36.8	-2.0
	comp=Z,3.8nm,0.8s						
SMF	Signal de Mont	156.99	353	ePKP2	PKPab	04 42 37.4	-1.8
	comp=Z,23nm,1.1s						
BGF	Bois d'Agland	157.18	355	ePKP2	PKPab	04 42 37.5	-2.5
	comp=Z,4.9nm,0.7s						
TCF	Toulx Ste Croi	157.50	356	ePKP2	PKPab	04 42 39.4	-1.9
LPL	La Plagne	157.63	347	ePKP2	PKPab	04 42 41.3	-0.7
	comp=Z,3.6nm,0.6s						
LPG	La Plagne	157.65	347	ePKP2	PKPab	04 42 41.5	-0.5
	comp=Z,3.1nm,0.6s						
ORIF	Oris-en-Rattie	158.38	348	ePKP2	PKPab	04 42 44.3	-0.9
	comp=Z,7.8nm,0.8s						
MBDF	Montbardon	158.38	346	ePKP2	PKPab	04 42 44.0	-1.2
	comp=Z,3.6nm,0.6s						
VIVF	Saint-Julien-l	158.64	350	ePKP2	PKPab	04 42 45.0	-1.3
	comp=Z,8.1nm,1.0s						
SBF	Sospel	159.04	344	ePKP2	PKPab	04 42 46.6	-1.5
	comp=Z,14nm,0.8s						
FRF	La Foret Royal	159.52	346	ePKP2	PKPab	04 42 48.7	-1.4
LASF	Ste Croix	159.52	352	ePKP2	PKPab	04 42 48.8	-1.3
	comp=Z,6.0nm,0.9s						
LMR	La Mourre	159.76	346	ePKP2	PKPab	04 42 49.8	-1.4
	comp=Z,19nm,1.2s						

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*NIED **26** 04:29:00, 43.30N×147.80E, h38km, Mw4.2 Best double couple: M₀2.29×10^15 NP1:φs72°, δ87°, λ159°. NP2:φs163°, δ69°, λ3°.*

*JMA **26** 04:29:40.9±0.3, 43.28N×147.82E, M4.2*

*SKHL **26** 04:29:40.5±1.1, 43.21N×148.32E, h43km±6km, mb4.9/4*

*MOS **26** 04:29:44.4±1.4, 43.11N×147.95E, h59km, mb4.5/6, Error ellipse: s-maj=16.2km s-min=10.1km az=111.6*

*NEIC **26** 04:29:47.3±1.6, 43.34N×147.78E, h56km±14km, mb4.4/6, Error ellipse: s-maj=14.9km s-min=11.2km az=116.0*

*IDC **26** 04:29:49.2±4.3, 43.42N×147.76E, h69km±37km, mb3.7/11, mb1 3.9/12, mb1mx3.7/22, mbtmp4.0/12, ML3.5/1, MS3.3/2, Ms1 3.3/2, ms1mx2.7/37, Error ellipse: s-maj=24.3km s-min=19.0km az=105.0*

ISC 26 04:29:44.0±1.1, **43.45N**±0.06×**147.88E**±0.09, **h41**km±8km, **n60**, σ**1s13**/67, **mb4.2**/18, **MS3.6**/1, **2C, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.56	268	P	P	04 30 09.2	-0.6
NEM2				eS	S	04 30 30.4	+1.4
YUK	Yuzh-Kuril'sk	1.58	292	⇑iPN	P	04 30 15.0	+5.0
YUK				i		04 30 31.0	
YUK				pmax	pmax		
	comp=Z,550nm,0.3s						
YUK				smax			
	comp=E,2μm,0.5s						
YUK				smax			
	comp=N,6μm,0.8s						
YUK				smax			
	comp=N,8μm,1.0s						
YUK				smax			
	comp=E,10μm,1.0s						
YUK	Yuzh-Kuril'sk	1.58	292	i P	P	04 30 11.0	+1.0
YUK				AMB	AMB	04 30 11.5	
	comp=E,550nm,0.2s						
YUK				i S	S	04 30 34.7	+5.3
YUK				A		04 30 38.3	
	comp=E,2μm,0.5s						
YUK				A		04 30 38.3	
	comp=E,6μm,0.8s						
YUK				A		04 30 45.4	
	comp=E,8μm,1.0s						
YUK				A		04 30 45.4	
	comp=E,10μm,1.0s						
KUR	Kuril'sk	1.78	360	⇑iPN	P	04 30 11.5	-1.4
KUR				pmax	pmax		
	comp=Z,160nm,0.5s						
KUR	Kuril'sk	1.78	360	i P	P	04 30 11.5	-1.4
KUR				AMB	AMB	04 30 13.0	
	comp=Z,160nm,0.5s						
KUR				eS	S	04 30 34.0	-0.5
JRA	Rausu	2.06	285	P	P	04 30 17.5	+0.6
JNK	Nakash	2.30	274	P	P	04 30 20.3	-0.1
JNK				eS	S	04 30 48.6	+0.9
JAK	Akkeshi	2.37	260	P	P	04 30 20.8	-0.6
JAK				eS	S	04 30 49.0	-0.4
JTKR	Abashiri--Toko	2.93	282	P	P	04 30 30.1	+0.8
JAR	Ashorobuto	3.00	268	P	P	04 30 30.2	-0.1
JOB	Onbets	3.01	261	P	P	04 30 30.0	-0.5
JMP	Maruseppu	3.32	281	P	P	04 30 36.1	+1.2
JCH	Churui	3.42	257	P	P	04 30 35.5	-0.7
JCH				eS	S	04 31 15.0	-1.0
JKK2	Kamakawa 2	3.75	278	P	P	04 30 42.2	+1.3
ERM	Erimo	3.77	249	Pn	P	04 30 42.9	+1.8
	comp=Z,1μm,0.5s,SNR=15						
JFR	Furan	3.87	268	P	P	04 30 43.1	+0.5
ASAJ	Asahikawa	3.88	282	PN	P	04 30 44.5	+1.7
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,299nm,19.9s						
ASAJ	Asahikawa	3.88	282	P	P	04 30 44.5	+1.7
	comp=Z,3.0nm,0.3s,baz=135,slow=3.8,SNR=6.5						
ASAJ				LR	LR	04 32 24.3	
	comp=Z,299nm,19.9s,baz=142,slow=41						
JNBK	Urakawa-nobuka	3.95	254	P	P	04 30 42.6	-1.1
YSS	Yuzh-Sakhalins	5.04	316	ePN	P	04 31 05.0	+5.9
YSS				S	S	04 32 08.7	+12
YSS	Yuzh-Sakhalins	5.04	316	P	P	04 31 02.2	+3.0
JKB	Kayabe	5.29	255	P	P	04 31 01.4	-1.2
JKB				eS	S	04 31 58.7	-4.4
MAJO	Matsushiro	10.13	230	PN	P	04 32 06.5	-3.4
EKMR	Ekimchan	13.81	319	eP	P	04 32 57.7	-1.4
EKMR				AMB	AMB	04 33 07.0	
	comp=Z,104nm,0.8s						
YASR	Yasnyy	16.43	314	eP	P	04 33 30.3	-2.6
YASR				AMB	AMB	04 33 41.8	
	comp=Z,6.0nm,0.8s						
BMKR	Bomnak	16.74	319	eP	P	04 33 35.0	-1.8
BILL	Bilibino	26.50	15	eP	P	04 35 20.2	+1.1
BILL				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.0						
BILL	Bilibino	26.50	15	eP	P	04 35 20.2	+1.2
	comp=Z,1.5nm,0.4s,mb3.9						
SONM	Songino Array	29.08	293	P	P	04 35 43.0	+0.5
	comp=Z,3.3nm,0.7s,mb4.2,baz=83,slow=8.0,SNR=32						
ZAK	Zakamensk	30.86	299	eP	P	04 35 57.2	-1.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.5						
IMA	Indian Mountai	38.63	34	P	P	04 37 04.9	+0.3
IMA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.7						
IMA	Indian Mountai	38.63	34	P	P	04 37 04.8	+0.2
	comp=Z,14nm,0.8s,mb4.8						
MKAR	Makanchi Array	45.19	298	P	P	04 37 59.0	+0.6
	comp=Z,1.2nm,0.5s,mb4.0,baz=77,slow=8.7,SNR=26						
KURK	Kurchatov	46.14	304	eP	P	04 38 05.6	-0.3
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KURK	Kurchatov	46.14	304	eP	P	04 38 05.6	-0.3
	comp=Z,4.0nm,0.6s,mb4.5						
INK	Inuvik	46.39	30	P	P	04 38 09.9	+2.3
	comp=Z,1.7nm,0.3s,mb4.5,baz=295,slow=7.2,SNR=45						
CHKZ	Chkalovo	49.73	310	eP	P	04 38 32.9	-1.0
CHKZ				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
CHKZ	Chkalovo	49.73	310	eP	P	04 38 32.9	-1.0
	comp=Z,2.6nm,0.8s,mb4.3						
BVAR	Borovoye Array	50.10	310	P	P	04 38 37.0	+0.3
	comp=Z,0.9nm,0.6s,mb4.0,baz=80,slow=9.0,SNR=6.6						
AAK	Ala-Archa	51.97	296	eP	P	04 38 50.5	-0.4
RES	Resolute Bay	55.10	17	eP	P	04 39 13.0	-0.7
RES				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
RES	Resolute Bay	55.10	17	eP	P	04 39 13.0	-0.7
	comp=Z,2.5nm,0.7s,mb4.3						
YKA	Yellowknife Ar	55.75	34	P	P	04 39 18.3	-0.2
	comp=Z,0.6nm,0.7s,mb3.8,baz=299,slow=6.7,SNR=11						
KEV	Kevo	59.18	340	ep	P	04 39 40.4	-2.2
ARCES	ARCESS Array B	59.71	340	P	P	04 39 45.1	-1.1
	comp=Z,4.8nm,1.0s,mb4.5,baz=50,slow=6.0,SNR=12						
NEW	Newport	62.13	49	LR	LR	05 06 05.3	
	comp=Z,42nm,21.2s,MS3.6,baz=232,slow=35						
WRA	Warramunga Arr	64.30	194	P	P	04 40 16.4	-1.1
	comp=Z,0.8nm,0.8s,mb3.8,baz=11,slow=6.8,SNR=6.3						
FINES	FINESS Array B	65.38	333	P	P	04 40 23.4	-0.5
	comp=Z,2.6nm,0.6s,mb4.4,baz=39,slow=8.1,SNR=18						
ASAR	Alice Springs	68.01	194	P	P	04 40 41.4	+0.2
	comp=Z,0.7nm,0.8s,mb3.7,baz=12,slow=5.6,SNR=4.1						
BGU	Big Grassy Mou	68.90	53	P	P	04 40 47.9	+1.6
NB2	NORSAR Subarra	70.07	339	P	P	04 40 53.4	+0.2
	comp=Z,1.8nm,0.5s,mb4.3,baz=31,slow=6.2						
NB2	NORSAR Subarra	70.07	339	P	P	04 40 53.4	+0.2
NB2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
NOA	NORSAR Array B	70.07	339	P	P	04 40 53.4	+0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	70.07	339	P	P	04 40 53.4	+0.3
	comp=Z,2.2nm,0.6s,mb4.2,baz=32,slow=6.3,SNR=21						
NAO01	NORSAR Array S	70.32	339	eP	P	04 40 54.8	+0.1
KIV	Kislovodsk	70.36	312	i P	P	04 40 57.8	+2.6
KIV				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CLL	Collm	77.82	333	eP	P	04 41 39.0	+0.7
CLL				i	pP	04 41 51.8	+1.2
CLL	Collm	77.82	333	P	P	04 41 39.0	+0.7
CLL				i *PP	pP	04 41 51.8	+1.2
KHC	Kasperske Hory	79.48	331	eP	P	04 41 48.8	+1.4
GERES	GERESS Array B	79.68	331	P	P	04 41 48.9	+0.4
	comp=Z,0.2nm,0.4s,mb3.4,baz=67,slow=7.5,SNR=4.5						

NEIC 26 04:36:48.8, 35.84N×120.39W, h7km, MW3.7(BRK)**, After NCEDC., Central California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LRV	Little Rabbit	0.78	319	eP	Pb	04 37 04.0	-0.3
SAO	San Andreas Ge	1.26	317	eP	Pb	04 37 10.9	-1.6
OMM	Old Mammoth Mi	2.10	32	eP	Pn	04 37 24.4	-0.5
MTUM	Tungsten Hills	2.11	44	ePn	Pn	04 37 25.0	0.0
CMB	Columbia Colle	2.19	0	ePn	Pn	04 37 24.6	-1.6
DAC	Darwin (Calif)	2.31	78	ePn	Pn	04 37 28.1	+0.3
SAC	San Andreas	2.39	317	ePn	Pn	04 37 26.6	-2.3
MWC	Mount Wilson	2.50	129	ePn	Pn	04 37 29.2	-1.4
MNV	Mina	3.15	34	ePn	Pn	04 37 38.1	-1.7
TPH	Tonopah	3.38	48	Pn	Pn	04 37 42.1	-1.0
WCN	Washoe City	3.49	8	ePn	Pn	04 37 42.1	-2.7
HOPS	Hopland	3.81	327	ePn	Pn	04 37 46.5	-2.7
PFO	Pinyon Flat Ob	3.93	123	Pn	Pn	04 37 49.0	-1.9
	122nm,0.5s,SNR=7.5						
PFO	Pinyon Flat Ob	3.93	123	ePn	Pn	04 37 48.2	-2.7
LDFC	Landfair	4.37	98	ePn	Pn	04 37 53.1	-4.2
BAR	Barrett	4.40	135	ePn	Pn	04 37 54.8	-2.9
ARUT	Antelope Range	5.90	69	Pn	Pn	04 38 14.8	-4.1
MSU	Marysvale	7.08	65	Pn	Pn	04 38 33.8	-1.6

MAN 26 04:43:20.4, 11.77N×124.23E, h23km, mb4.3, ML3.2, MS2.9, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	Masbate	0.84	315	eP	Pb	04 43 36.0	-0.1
CNP	Catarman	0.85	30	eP	Pb	04 43 36.6	+0.2
CNP				eS	Sb	04 43 50.1	+2.8
PLP	Palo	0.94	129	eP	Pb	04 43 37.5	-0.5
PLP				eS	Sb	04 43 51.7	+1.6
BESP	Borongan	1.19	98	eP	Pn	04 43 40.8	-1.0
LLP	Lapu-Lapu	1.47	190	⇓eP	Pn	04 43 45.4	-0.4
LLP				eS	Sn	04 44 04.9	+0.5
RCP	Roxas	1.47	262	⇑eP	Pn	04 43 45.1	-0.8
RCP				eS	Sn	04 44 04.8	+0.2
MSLP	Maasin	1.73	159	eP	Pn	04 43 51.8	+2.1
PVCP	Virac	1.82	358	eP	Pn	04 43 50.8	0.0
GUIM	Jordan	1.97	235	eP	Pn	04 43 54.8	+1.7
TBP	Tagbilaran	2.10	190	eP	Pn	04 43 53.2	-1.6
TBP				eS	Sn	04 44 21.1	+0.6

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*IDC **26** 04:43:39.9±3.3, 14.33N×91.93E, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=135.5km s-min=24.6km az=67.0*

*NEIC **26** 04:43:44.8±1.6, 14.34N×92.07E, h30km, mb4.2/3, Error ellipse: s-maj=72.8km s-min=14.2km az=62.0*

ISC 26 04:43:42.6±1.8, **14.3N**±0.3×**92.1E**±0.5, **h30**km, **n7**, σ**0s87**/7, **mb3.9**/7, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	33.40	348	P	P	04 50 19.5	-1.2
	0.8nm,0.8s,mb3.7,baz=162,slow=7.7,SNR=7.2						
SONM	Songino Array	35.48	17	P	P	04 50 38.8	+0.3
	0.3nm,0.6s,mb3.4,baz=196,slow=9.0,SNR=3.5						
KURK	Kurchatov	37.91	346	eP	P	04 50 59.8	+0.9
	4.0nm,1.1s,mb4.1						
CHKZ	Chkalovo	42.75	341	eP	P	04 51 39.0	0.0
	1.2nm,0.5s,mb3.9						
CHKZ				e	pP	04 51 46.9	-1.1
WRA	Warramunga Arr	53.74	128	P	P	04 53 03.6	-1.2
	1.6nm,0.8s,mb4.0,baz=313,slow=8.0,SNR=6.5						
WRAB	Tennant Creek	53.75	128	eP	P	04 53 04.5	-0.2
	3.9nm,0.8s,mb4.4						
ASAR	Alice Springs	55.66	132	P	P	04 53 20.1	+1.3
	0.9nm,0.5s,mb4.1,baz=309,slow=6.9,SNR=11						

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*ORF **26** 05:02:50.5, 14.43S×158.30E, h30km, mb5.6*

*BJI **26** 05:03:00.6, 6.54S×153.80E, h6km, mB5.6, mb5.4, Ms4.9, Msz4.5*

*NEIC **26** 05:03:01.2±1.7, 6.78S×153.62E, h4km±10km, mb5.5/47, MS4.9/8, MW5.4, Error ellipse: s-maj=3.8km s-min=3.7km az=214.0, Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr-1.22; Mθθ1.38; Mφφ-0.16; Mrθ-0.02; Mθφ0.32; Mφr0.54; Best double couple: M₀1.4×10^17 NP1: φs101°, δ48°, λ-57°. NP2:φs237°, δ51°, λ-121°. Principal axes: T 1.44, Plg2°, Azm348°; N .01, Plg23°, Azm257°; P -1.45, Plg66°, Azm83°;*

*HRVD **26** 05:03:01.2±0.1, 6.94S×153.68E, h12km, MW5.4/81, Centroid moment Tensor Solution. LP body waves: s69,c122;Mantle waves: s81,c160; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr-1.38±.02; Mθθ0.72±.02; Mφφ0.65±.02; Mrθ-0.16±.05; Mθφ-0.78±.02; Mφr-0.15±.05; Best double couple: M₀1.444×10^17 NP1: φs323°, δ45°, λ-77°. NP2:φs125°, δ46°, λ-103°. Principal axes: T 1.472, Plg0°, Azm224°; N -.056, Plg9°, Azm134°; P -1.416, Plg81°, Azm315°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **26** 05:03:05.4±1.2, 6.76S×153.62E, h33km, mb5.7/33, MS4.6/9 Error ellipse: s-maj=8.6km s-min=7.3km az=106.4*

*CSEM **26** 05:03:07.4, 6.23S×153.59E, h33km, mb5.6*

*IDC **26** 05:03:07.7±2.0, 6.86S×153.55E, h49km±18km, mb4.9/23, mb1 5.0/25, mb1mx5.0/26, mbtmp5.2/25, ML4.7/3, MS4.4/15, Ms1 4.5/15, ms1mx4.4/18, Error ellipse: s-maj=12.0km s-min=10.7km az=127.0*

ISC 26 05:02:59.4±1.2, **6.80S**±0.03×**153.62E**±0.03, **h2**km±7km, **h32**km±.8km**:pP-P, n398**, σ**0s95**/225, **mb5.4**/97, **MS4.5**/33, **24C-26D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.79	113	eP	Pn	05 04 43.8	+1.3
PMG	Port Moresby	6.90	248	P	Pn	05 04 44.4	+0.4
	33nm,0.3s,baz=54,slow=7.1,SNR=63						
PMG				S	Sn	05 06 04.0	0.0
	18nm,0.3s,baz=202,slow=8.5,SNR=9.3						
PMG				LR	LR	05 07 29.5	
	comp=Z,5μm,20.1s,baz=59,slow=38						
CTA	Charters Tower	15.02	208	eP	P	05 06 34.3	-0.3
	30nm,0.7s						
CTA	Charters Tower	15.02	208	eP	P	05 06 34.3	-0.3
CTA				pmax	pmax		
	comp=Z,30nm,0.7s						
CTA	Charters Tower	15.02	208	P	P	05 06 34.4	-0.2
	comp=Z,1.7nm,0.3s,baz=34,slow=14,SNR=27						
CTA				S	S	05 09 25.9	+3.4
	baz=101,slow=18,SNR=1.7						
CTA				LR	LR	05 11 34.8	
	comp=Z,3μm,20.4s,baz=29,slow=34						
CTAO	Charters Tower	15.02	208	eP	P	05 06 33.9	-0.7
CTAO				pmax	pmax		
	comp=Z,148nm,1.4s						
CTAO	Charters Tower	15.02	208	eP	P	05 06 33.9	-0.7
	comp=Z,148nm,1.4s						
NOUC	Port Laguerre	19.53	142	⇓eP	P	05 07 31.5	+0.5
NOUC	Port Laguerre	19.53	142	⇓eP	P	05 07 31.5	+0.5
DZM	Mont Dzumac	19.59	142	⇑iP	P	05 07 32.3	+0.5
DZM	Mont Dzumac	19.59	142	P	P	05 07 32.1	+0.3
	comp=Z,4.5nm,0.3s,baz=339,slow=9.7,SNR=54						
DZM				LR	LR	05 13 54.1	
	comp=Z,1μm,18.7s,baz=344,slow=33						
DZM	Mont Dzumac	19.59	142	⇑iP	P	05 07 32.2	+0.5
KAKA	Kakadu	21.67	253	⇓iP	P	05 07 53.2	-0.3
	comp=Z,163nm,0.6s,mb5.6						
WRAB	Tennant Creek	22.81	233	P	P	05 08 05.0	+0.1
	comp=Z,666nm,0.8s,mb6.1,SNR=51						
WRAB	Tennant Creek	22.81	233	eP	P	05 08 05.2	+0.3
WRAB				pmax	pmax		
	comp=Z,177nm,1.0s,mb5.5						
WRAB	Tennant Creek	22.81	233	eP	P	05 08 05.2	+0.3
	comp=Z,177nm,1.0s,mb5.5						
WB2	Warramunga Arr	22.81	233	⇑iP	P	05 08 05.3	+0.4
WB2				eS	S	05 12 13.1	+2.9
WRA	Warramunga Arr	22.82	233	P	P	05 08 05.3	+0.2
	comp=Z,59nm,0.8s,mb5.1,baz=56,slow=10.0,SNR=108						
WRA				PcP	PcP	05 11 56.5	-1.3
	comp=Z,18nm,0.9s,baz=48,slow=1.9,SNR=10.0						
WRA				S	S	05 12 09.7	-0.7
	comp=Z,14nm,0.7s,baz=14,slow=23,SNR=6.0						
ASAR	Alice Springs	25.30	226	P	P	05 08 29.2	+0.2
	comp=Z,26nm,0.7s,mb4.9,baz=58,slow=9.5,SNR=242						
ASPA	Alice Springs	25.30	226	⇓iP	P	05 08 29.2	+0.2
ASPA				eS	S	05 12 59.9	+6.8
STKA	Stephens Creek	27.36	203	eP	P	05 08 47.0	-1.0
	comp=Z,23nm,0.6s,mb4.9						
STKA				eS	S	05 13 24.7	-2.2
STKA	Stephens Creek	27.36	203	P	P	05 08 46.6	-1.4
	comp=Z,14nm,0.8s,mb4.5,baz=2.0,slow=9.4,SNR=13						
STKA				LR	LR	05 19 42.9	
	comp=Z,2μm,19.1s,MS4.6,baz=14,slow=36						
FITZ	Fitzroy Crossi	29.49	245	⇓iP	P	05 09 06.3	-1.0
	comp=Z,56nm,0.6s,mb5.5						
FITZ	Fitzroy Crossi	29.49	245	P	P	05 09 06.4	-1.0
	comp=Z,72nm,0.6s,mb5.6,baz=49,slow=5.7,SNR=103						
FITZ				LR	LR	05 20 49.8	
	comp=Z,2μm,19.3s,MS4.7,baz=84,slow=36						
FORT	Forrest	33.80	222	eP	P	05 09 44.9	-0.2
	comp=Z,2μm,0.7s						
AFI	Afiamalu	34.74	105	P	P	05 09 52.2	-1.1
	comp=Z,33nm,0.9s,mb5.3,baz=256,slow=21,SNR=3.9						
AFI				LR	LR	05 21 29.0	
	comp=Z,629nm,18.9s,MS4.4,baz=268,slow=32						
RAO	Raoul Island	34.91	133	LR	LR	05 22 53.7	
	comp=Z,603nm,18.1s,MS4.4,baz=176,slow=34						
CBIJ	Chichi jima	35.47	342	LR	LR	05 22 27.0	
	comp=Z,450nm,18.6s,MS4.3,baz=153,slow=33						
MBWA	Marble Bar	35.74	243	eP	P	05 10 00.3	-1.5
	comp=Z,41nm,1.4s,mb5.2						
TAU	Tasmania Unive	36.39	188	eP	P	05 10 07.1	0.0
TAU				pmax	pmax		
	comp=Z,70nm,1.4s,mb5.4						
TAU	Tasmania Unive	36.39	188	eP	P	05 10 07.1	0.0
	comp=Z,70nm,1.4s,mb5.4						
URZ	Urewera	37.86	149	P	P	05 10 19.5	0.0
	comp=Z,14nm,0.8s,mb4.7,baz=172,slow=2.2,SNR=4.3						
KKM	Kota Kinabalu	39.44	288	eP	P	05 10 32.9	-0.1
RPZ	Rata Peaks	39.83	160	P	P	05 10 35.6	-0.2
	comp=Z,19nm,0.8s,mb4.8,baz=315,slow=8.6,SNR=2.7						
JOW	Kunigami	41.48	325	P	P	05 10 50.5	+0.9
	comp=Z,47nm,0.6s,mb5.3,baz=166,slow=8.8,SNR=15						
JOW				LR	LR	05 25 26.3	
	comp=Z,384nm,20.3s,MS4.3,baz=107,slow=32						
KLBR	Kellerberrin	41.57	229	eP	P	05 10 49.4	-1.0
	comp=Z,368nm,0.7s,mb6.1						
NWAO	Narrogin (SRO)	42.61	227	eP	P	05 10 58.2	-0.6
NWAO				pmax	pmax		
	comp=Z,46nm,1.3s						
NWAO	Narrogin (SRO)	42.61	227	P	P	05 10 58.9	0.0
	comp=Z,14nm,0.7s,mb4.8,baz=68,slow=9.8,SNR=8.1						
NWAO	Narrogin (SRO)	42.61	227	eP	P	05 10 58.2	-0.7
	comp=Z,46nm,1.3s,mb5.0						
NACB	Ninganchiao	43.85	316	eP	P	05 11 09.7	+0.6

KSM **Kuching** 44.00 279 *e*P P 05 11 10.7 +0.3
YHNB **Yeheng** 44.33 316 *e*P P 05 11 13.3 +0.4
TATO **Taipei** 44.45 316 *e*P P 05 11 14.5 +0.6
comp=Z,117nm,1.1s,mb5.5
MAJO **Matsushiro** 45.47 343 *e*P P 05 11 20.5 -1.4
MAJO pmax pmax
comp=Z,40nm,1.0s,mb5.2
MAJO **Matsushiro** 45.47 343 *e*P P 05 11 20.5 -1.4
comp=Z,40nm,1.0s,mb5.2
MAT **Matsushiro** 45.47 343 *e*P P 05 11 20.0 -1.9
MAT *e*S S 05 17 55.0 -8.7
MAT pmax pmax
comp=Z,312nm,2.0s,mb5.8
MAT **Matsushiro** 45.47 343 *e*P P 05 11 20.0 -1.9
comp=Z,312nm,2.0s,mb5.8
MAT *e*S S 05 17 55.0 -8.7
MAT **Matsushiro** 45.47 343 P P 05 11 20.3 -1.6
MAT S S 05 17 55.0 -8.7
RAR **Rarotonga** 47.25 113 P P 05 11 35.9 -0.3
comp=Z,42nm,1.0s,mb5.3,baz=246,slow=8.8,SNR=6.4
RAR LR LR 05 28 08.1
comp=Z,251nm,18.3s,MS4.2,baz=297,slow=32
RAR **Rarotonga** 47.25 113 P P 05 11 35.9 -0.3
RAR LR LR 05 28 08.1
SSE **Sheshan** 48.81 322 P P 05 11 49.5 +1.3
SSE S S 05 18 48.0 -3.1
SSE AMB AMB
comp=Z,58nm,2.0s,mb5.3
SSE AMB AMB
comp=Z,356nm,6.3s
SSE LR LR
comp=N,108nm,19.4s,MS4.3
SSE LR LR
comp=E,256nm,19.4s,MS4.3
SSE LR LR
comp=Z,271nm,18.8s,MS4.3
KS15 **Wonju Array Si** 50.15 333 *e*P P 05 11 58.4 0.0
QIZ **Qiongzhong** 50.19 302 *e*P P 05 12 00.0 +1.0
QIZ S S 05 19 08.8 -1.7
QIZ AMB AMB
comp=Z,388nm,6.0s
INCN **Inchon** 50.75 332 *e*P P 05 12 03.0 0.0
comp=Z,226nm,1.1s,mb6.0
NJ2 **Nanjing** 50.90 321 *e*P P 05 12 06.0 +1.8
NJ2 PP PP 05 14 03.5 +2.0
NJ2 S S 05 19 20.0 -0.2
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,450nm,9.5s
NJ2 LR LR
comp=N,3μm,20.6s,MS5.3
NJ2 LR LR
comp=E,660nm,17.8s,MS5.3
NJ2 LR LR
comp=Z,330nm,16.3s,MS4.4
ASAJ **Asahikawa** 51.65 350 P P 05 12 09.1 -0.6
comp=Z,93nm,1.1s,mb5.6,baz=226,slow=13,SNR=10
WHN **Wuhan** 52.85 317 ⇓P P 05 12 19.8 +0.8
WHN AMB AMB
comp=Z,101nm,1.4s,mb5.6
DL2 **Dalian** 54.29 329 P P 05 12 30.0 +0.6
DL2 S S 05 20 08.3 +1.9
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.3
DL2 AMB AMB
comp=Z,220nm,7.2s
DL2 LR LR
comp=N,210nm,19.8s
DL2 LR LR
comp=Z,280nm,21.0s,MS4.3
YSS **Yuzh-Sakhalins** 54.38 351⇑*e*P P 05 12 26.0 -3.9
YSS *e* 05 12 32.0
YSS **Yuzh-Sakhalins** 54.38 351 *e*P P 05 12 29.4 -0.5
comp=Z,85nm,1.3s,mb5.5
TIA **Tai'an** 54.80 324 ⇑P P 05 12 31.8 -1.4
TIA AMB AMB
comp=Z,74nm,1.2s,mb5.6
KKTK **Khon Kaen** 55.26 295 P P 05 12 37.0 +0.2
comp=Z,741nm,0.9s
MDJ **Mudanjiang** 55.56 339 P P 05 12 38.5 -0.2
MDJ AP pP 05 12 48.5 +9.2
MDJ XP sP 05 12 51.8 +12
MDJ PP PP 05 14 44.0 -0.3
MDJ S S 05 20 24.5 +1.2
MDJ XS 05 20 34.3
MDJ AMB AMB
comp=Z,64nm,1.3s,mb5.5
MDJ AMB AMB
comp=Z,385nm,4.1s
MDJ LR LR
comp=N,232nm,26.1s,MS4.5
MDJ LR LR
comp=E,435nm,25.1s,MS4.5
MDJ LR LR
comp=Z,171nm,20.1s,MS4.1
MDJ **Mudanjiang** 55.56 339 *e*P P 05 12 38.1 -0.5
comp=Z,170nm,1.6s,mb5.8
SNY **Shenyang** 55.64 333 ⇓P P 05 12 38.8 -0.5
SNY LR LR
comp=N,280nm,16.6s
SNY LR LR
comp=Z,270nm,18.4s,MS4.4
ENH **Enshi** 56.10 313 *e*P P 05 12 42.4 -0.4
comp=Z,226nm,1.4s,mb6.0
GYA **Guiyang** 56.25 308⇓*i*P P 05 12 44.3 +0.5
GYA AP pP 05 12 54.3 +10
GYA S S 05 20 33.0 +0.3
GYA AMB AMB
comp=Z,50nm,1.3s,mb5.4
GYA AMB AMB
comp=Z,340nm,6.3s
GYA LR LR
comp=N,100nm,17.5s,MS4.3
GYA LR LR
comp=E,200nm,18.9s,MS4.3
GYA LR LR
comp=Z,160nm,19.1s,MS4.1
PPT **Papeete** 56.37 107 *e*P P 05 12 45.5 +0.7
comp=Z,53nm,1.5s,mb5.4
PPT **Papeete** 56.37 107 *e*LQ 05 27 02.5
PPT *e*LR LR 05 29 02.2
comp=Z,864nm,32.8s,baz=279
PPT **Papeete** 56.37 107 LR LR 05 31 35.6
comp=Z,213nm,19.5s,MS4.2,baz=276,slow=30
PAE **Paea** 56.37 107 *e*P P 05 12 45.2 +0.4
comp=Z,173nm,1.3s,mb5.9
CN2 **Changchun** 56.44 336 *e*P P 05 12 44.5 -0.5
CN2 *e*AP pP 05 12 54.3 +8.7
CN2 PCP PcP 05 13 40.5 -1.3
CN2 *e*S S 05 20 29.0 -6.0
CN2 *e*SS SS 05 24 19.5 -3.0
CN2 AMB AMB
comp=Z,50nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,500nm,5.0s
CN2 LR LR
comp=N,370nm,17.0s,MS4.6
CN2 LR LR
comp=E,270nm,17.0s,MS4.6
CN2 LR LR
comp=Z,490nm,16.0s,MS4.7
TIAR **Tiarei** 56.59 106 *e*P P 05 12 47.1 +0.8
comp=Z,170nm,1.0s,mb6.0
TBI **Tubuai** 57.01 113 *e*P P 05 12 49.8 +0.4
comp=Z,169nm,1.0s,mb6.0
TBI *e*LQ 05 27 06.1
TBI *e*LR LR 05 29 18.9
comp=Z,850nm,38.8s,baz=292
BJT **Baijiatuau** 57.98 327 *e*P P 05 12 55.5 -0.4
BJT pmax pmax
comp=Z,14nm,0.8s
BJT **Baijiatuau** 57.98 327 *e*P P 05 12 55.5 -0.5
comp=Z,14nm,0.8s,mb5.0
BJI **Beijing** 58.00 327 *e*P P 05 12 55.5 -0.5
BJI S S 05 20 55.0 -0.6
BJI AMB AMB
comp=Z,27nm,1.5s,mb5.1
BJI AMB AMB
comp=Z,620nm,4.2s
BJI LR LR
comp=N,370nm,18.9s,MS4.6
BJI LR LR
comp=E,322nm,19.4s,MS4.6
BJI LR LR
comp=Z,363nm,22.9s,MS4.4

NANT **Nan** 58.02 297 ⇓P P 05 12 55.0 -1.5
comp=Z,788nm,1.0s
XAN **Xi'an** 58.62 317 P P 05 13 00.0 -0.5
XAN AP pP 05 13 09.3 +8.2
XAN AMB AMB
comp=Z,57nm,1.3s,mb5.4
KMI **Kunming** 58.78 305 P P 05 13 03.0 +1.3
KMI PP PP 05 15 10.3 -3.2
KMI S S 05 21 09.5 +3.5
KMI AMB AMB
comp=Z,87nm,1.4s,mb5.6
KMI AMB AMB
comp=Z,434nm,5.3s
KMI LR LR
comp=N,320nm,18.7s,MS4.6
KMI LR LR
comp=E,256nm,20.6s,MS4.6
KMI LR LR
comp=Z,408nm,22.5s,MS4.5
KLR **Kul'dur** 58.98 343 *e*P P 05 13 00.0 -2.8
KLR *e*S S 05 21 00.0 -8.3
KLR *e* 05 22 49.0
KLR *e* 05 25 04.0
KLR pmax pmax
comp=N,74nm,1.8s
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,200nm,1.8s,mb5.8
BDT **Bhumibol Dam** 59.01 295 P P 05 13 04.0 +0.6
CHRT **Chiangrai** 59.21 298 ⇓P P 05 13 06.0 +1.2
comp=Z,487nm,0.7s
CM31 **Chiang Mai Arr** 59.47 296 *e*P P 05 13 07.1 +0.5
comp=Z,96nm,0.9s,mb5.8
CHG **Chiang Mai** 59.59 296 ⇓P P 05 13 08.0 +0.6
comp=Z,129nm,1.2s,mb5.8
PET **Petropavlovsk** 59.74 4 *e*P P 05 13 09.7 +1.7
PET *e*S S 05 21 19.0 +0.9
PET pmax pmax
comp=Z,34nm,0.6s,mb5.5
PET MLR MLR
comp=Z,300nm,21.0s,MS4.4
DRV **Dumont d'Urvil** 60.50 186 S S 05 21 38.0 +10
CD2 **Chengdu** 60.65 311⇓*i*P P 05 13 14.8 +0.3
CD2 PP PP 05 15 34.5 +4.3
CD2 PPP PPP 05 17 05.5 +8.0
CD2 S S 05 21 38.3 +8.2
CD2 AMB AMB
comp=Z,100nm,1.2s,mb5.8
CD2 AMB AMB
comp=Z,460nm,4.8s
CD2 LR LR
comp=N,270nm,15.0s
CD2 LR LR
comp=Z,410nm,20.4s
HHC **Hu-ho-hao-te** 61.13 325 *e*P P 05 13 18.3 +0.7
HHC AP pP 05 13 27.5 +9.2
HHC PCP PcP 05 13 59.0 -1.4
HHC PP PP 05 15 37.0 +2.5
HHC S S 05 21 40.0 +3.9
HHC PS PS 05 21 53.5 +2.3
HHC SCS ScS 05 23 04.3 -1.9
HHC SS SS 05 25 37.5 +0.3
HHC AMB AMB
comp=Z,41nm,1.5s,mb5.3
HHC AMB AMB
comp=Z,543nm,7.3s
HHC LR LR
comp=N,232nm,21.4s,MS4.6
HHC LR LR
comp=E,385nm,23.2s,MS4.6
HHC LR LR
comp=Z,303nm,18.4s,MS4.5
FX1 **Attu Island--F** 61.73 13 LR LR 05 34 43.0
comp=Z,41nm,21.4s,MS3.6,baz=201,slow=31
FX1 **Attu Island--F** 61.73 13 *e*P P 05 13 21.1 -0.4
BTO **Baotou** 61.88 323 *e*P P 05 13 23.0 +0.3
BTO AMB AMB
comp=Z,44nm,1.0s,mb5.5
HIA **Hailar** 63.18 336 *e*P P 05 13 31.2 0.0
HIA pmax pmax
comp=Z,104nm,1.0s
HIA **Hailar** 63.18 336 *e*P P 05 13 31.2 0.0
comp=Z,104nm,1.0s,mb5.9
LZH **Lanzhou** 63.22 316 *e*P P 05 13 32.5 +0.8
LZH AP pP 05 13 41.5 +9.2
LZH XP sP 05 13 45.5 +13
LZH PP PP 05 15 53.0 +0.7
LZH S S 05 22 02.0 -0.5
LZH SS SS 05 26 09.3 -1.2
LZH AMB AMB
comp=Z,161nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,452nm,4.9s
LZH LR LR
comp=E,945nm,14.7s
LZH LR LR
comp=Z,1μm,16.8s,MS5.2
IMP **Imphal** 66.01 301 *e*P P 05 13 50.0 0.0
MA2 **Magadan** 66.20 358*c*eP P 05 13 49.8 -0.8
MA2 *e*S S 05 22 32.8 -6.1
MA2 *e*SS SS 05 26 56.2 +0.2
MA2 pmax pmax
comp=N,20nm,1.2s
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.3
MA2 **Magadan** 66.20 358 *e*P P 05 13 49.0 -1.6
comp=Z,31nm,0.7s,mb5.4
CASY **Casey** 66.36 198 *e*P P 05 13 50.4 -1.1
comp=Z,32nm,1.1s,mb5.3
CLNS **Chul'man** 67.64 343 *e*P P 05 13 57.6 -2.2
CLNS *e* 05 14 11.0
CLNS pmax pmax
comp=Z,137nm,1.0s,mb5.9
CLNS pmax pmax
comp=N,48nm,0.9s
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
CLNS pmax pmax
comp=N,13nm,1.0s
CLNS pmax pmax
comp=E,8.0nm,1.0s
GTA **Gaotai** 67.67 317⇓*i*P P 05 14 01.3 +1.0
GTA AP pP 05 14 11.5 +11
GTA PCP PcP 05 14 28.5 +1.2
GTA PP PP 05 16 34.3 +3.0
GTA S S 05 23 00.3 +3.3
GTA AMB AMB
comp=Z,50nm,1.4s,mb5.3
GTA AMB AMB
comp=Z,491nm,5.7s
GTA LR LR
comp=N,139nm,16.4s,MS4.5
GTA LR LR
comp=E,160nm,16.7s,MS4.5
GTA LR LR
comp=Z,187nm,20.1s,MS4.3
ULN **Ulaanbaatar** 68.11 328 *e*P P 05 14 03.6 +0.7
ULN pmax pmax
comp=Z,34nm,1.3s,mb5.2
ULN **Ulaanbaatar** 68.11 328 *e*P P 05 14 03.6 +0.7
comp=Z,34nm,1.3s,mb5.2
SONM **Songino Array** 68.44 328 P P 05 14 05.4 +0.4
comp=Z,32nm,0.9s,mb5.3,baz=135,slow=5.2,SNR=93
SONM PKPPKP 05 42 19.7
comp=Z,1.9nm,1.0s,baz=308,slow=2.5,SNR=9.2
UNV **Unalaska Valle** 69.09 24 P P 05 14 07.9 -1.1
LSA **Lhasa** 70.03 305 *e*P P 05 14 16.0 +0.9
LSA pmax pmax
comp=Z,232nm,1.6s,mb5.9
LSA **Lhasa** 70.03 305 *e*P P 05 14 16.0 +0.9
comp=Z,232nm,1.6s,mb5.9
RKT **Rikitea** 70.28 112 *e*P P 05 14 16.9 +0.2
comp=Z,156nm,1.2s,mb5.8
RKT **Rikitea** 70.28 112 *e*SS SS 05 27 57.2 -2.7
RKT *e*LR LR 05 35 38.2
comp=Z,441nm,34.8s,baz=294
VNDA **Vanda** 70.82 178 P P 05 14 19.2 +0.1
comp=Z,16nm,0.8s,mb5.0,baz=334,slow=7.0,SNR=69
VNDA LR LR 05 42 40.6
comp=Z,243nm,18.9s,MS4.5,baz=355,slow=34
YAK **Yakutsk** 71.08 348*d*i*P P 05 14 21.3 +0.4
YAK *e**PP pP 05 14 31.4 +10
YAK *e* 05 17 08.1
YAK *e*S S 05 23 37.0 +0.1
YAK pmax pmax
comp=Z,126nm,1.0s,mb5.8
YAK pmax pmax
comp=N,41nm,1.2s
YAK pmax pmax
comp=E,19nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK smax
comp=N,84nm,5.9s
YAK smax
comp=Z,42nm,5.5s
YAK smax
comp=E,91nm,5.0s
YAK **Yakutsk** 71.08 348 *e*P P 05 14 20.9 0.0
comp=E,386nm,1.1s,mb6.2
SBA **Scott Base** 71.35 177 *e*P P 05 14 21.7 -0.6
ZAK **Zakamensk** 71.61 329⇑*i*P P 05 14 24.3 0.0
ZAK pmax pmax
comp=Z,43nm,1.5s,mb5.2
BOD **Bodaibo** 71.94 339 *e*P P 05 14 25.4 -0.7
BOD *e* 05 23 48.4
BOD pmax pmax
comp=Z,39nm,2.0s,mb5.0
TLY **Talaya** 72.20 330 *e*P P 05 14 28.3 +0.5
TLY *e* 05 14 46.4
TLY *e* 05 17 06.1
TLY *e*S S 05 23 50.4 +0.4
TLY *e*PS PS 05 24 17.8 -3.0
TLY *e* 05 24 30.7
TLY pmax pmax
comp=Z,51nm,1.5s,mb5.2
TLY **Talaya** 72.20 330 *e*P P 05 14 27.8 0.0
comp=Z,67nm,1.5s,mb5.3
IRK **Irkutsk** 72.24 331 *e*P P 05 14 27.8 -0.2
IRK pmax pmax
comp=Z,63nm,1.7s,mb5.3
MIR **Mirnyy** 72.37 201*d*i*P P 05 14 23.0 -5.5
MIR pmax pmax
comp=Z,110nm,1.2s,mb5.7
VIS **Vishakhapatnam** 73.52 291 *e*P P 05 14 35.7 -0.5
VIS *e* 05 14 39.1
comp=Z,115nm,1.7s
VIS *e* 05 21 07.6
MOY **Mondy** 73.53 329 *e*P P 05 14 36.2 +0.6
MOY pmax pmax
comp=Z,99nm,2.2s,mb5.3
PALK **Pallekele** 74.06 280 *e*P P 05 14 39.2 -0.2
comp=Z,73nm,1.1s,mb5.5
BILL **Bilibino** 75.20 5 *e*P P 05 14 44.6 -0.3
BILL pmax pmax
comp=Z,102nm,0.9s,mb5.8
BILL **Bilibino** 75.20 5 *e*P P 05 14 44.5 -0.3
comp=Z,102nm,0.9s,mb5.8
TNA **Tin City** 77.49 15 *e*P P 05 14 57.0 -0.8
comp=Z,18nm,1.0s,mb5.0
WMQ **Urumqi** 77.75 317⇓*i*P P 05 15 00.5 +0.8
WMQ AP pP 05 15 11.0 +11
WMQ PP PP 05 17 58.0 +0.9
WMQ PPP PPP 05 19 47.0 +1.2
WMQ S S 05 24 51.0 -0.6
WMQ XS 05 25 06.0
WMQ PS PS 05 25 35.0 +2.9
WMQ AMB AMB
comp=Z,48nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,366nm,5.2s
WMQ LR LR
comp=N,1μm,25.8s,MS5.2
WMQ LR LR
comp=E,935nm,26.2s,MS5.2
WMQ LR LR
comp=Z,869nm,30.0s,MS4.9
HYB **Hyderabad** 77.91 289⇓*e*P P 05 15 00.5 -0.6
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.5
HYB **Hyderabad** 77.91 289⇓*e*P P 05 15 00.5 -0.6
comp=Z,70nm,1.0s,mb5.5
HYB **Hyderabad** 77.91 289⇓*i*P P 05 15 00.5 -0.6
comp=Z,70nm,1.0s,mb5.5
HYB *e*sP sP 05 15 04.0 +2.0
TRD **Trivandrum** 77.91 280 *e*P P 05 14 58.5 -2.7
TRD *e* 05 15 04.5
comp=Z,97nm,1.5s
LGTI **Lohaghat** 79.03 302⇑*i*P P 05 15 08.5 +1.5
PTH **Pithoragarh** 79.08 302 *e*P P 05 15 08.2 +0.9
TIXI **Tiksi** 79.97 352 *e*P P 05 15 08.0 -3.3
TIXI *e*S S 05 25 07.3 -7.4
TIXI *e**SS 05 25 51.8
TIXI pmax pmax
comp=Z,89nm,1.5s,mb5.5
TIXI MLR MLR
comp=Z,92nm,16.0s,MS4.2
TIXI **Tiksi** 79.97 352⇓*i*P P 05 15 10.9 -0.4
BHPL **Bhopal** 80.10 295 *e*P P 05 15 11.6 -1.3
BHPL *e* pP 05 15 13.9 +0.4
comp=Z,85nm,0.5s
SLKM **Skilak Lake** 80.13 25 *e*P P 05 15 12.1 -0.2
DDI **Dehra Dun** 81.08 302 *e* P 05 15 18.8 +0.8
NDI **New Delhi** 81.43 300⇓*i*P P 05 15 18.0 -1.8
NDI *e*P pP 05 15 18.0 -2.5
SML **Sawmill** 81.60 24 *e*P P 05 15 19.3 -0.7
KAD **Karad** 82.00 289 *e*P P 05 15 22.6 -0.4
KAD *e* pP 05 15 24.4 +0.8
comp=Z,92nm,1.7s
KAD *e* 05 15 48.1
KAD *e* 05 15 48.1
KAD *e* 05 15 48.5
comp=N,7.3nm,0.2s
KAD *e* 05 15 48.5
comp=E,14nm,0.2s
IMA **Indian Mountai** 82.06 19 *e*P P 05 15 22.1 -0.2
IMA pmax pmax
comp=Z,446nm,1.5s,mb6.2
IMA **Indian Mountai** 82.06 19 *e*P P 05 15 22.1 -0.3
comp=Z,446nm,1.5s,mb6.2
DIV **Divide** 82.32 25 *e*P P 05 15 23.1 -0.6
comp=Z,274nm,1.7s,mb5.9
MKAR **Makanchi Array** 82.36 319 P P 05 15 24.8 +0.6
comp=Z,23nm,0.9s,mb5.1,baz=101,slow=6.2,SNR=130
MKAR PKKPbc 05 33 52.5
comp=Z,2.1nm,0.8s,baz=300,slow=2.1,SNR=17
MKAR PKPPKP 05 41 55.5
comp=Z,2.0nm,1.0s,baz=243,slow=2.7,SNR=8.9
MCK **McKinley** 82.39 22 *e*P P 05 15 22.6 -1.5
MCK pmax pmax
comp=Z,9μm,1.2s
MCK **McKinley** 82.39 22 *e*P P 05 15 22.6 -1.5
comp=Z,9μm,1.2s
POO **Poona** 82.52 290⇑*i*P P 05 15 24.5 -1.1
QSPA **South Pole Qui** 83.17 180 *e*P P 05 15 28.9 +1.0
comp=Z,73nm,0.9s,mb5.7
ZAL **Zalesovo** 83.26 326 P P 05 15 28.5 -0.3
comp=Z,8.8nm,0.6s,mb5.0,baz=2.7,slow=6.3,SNR=49
ZAL PKKPbc 05 33 49.8
comp=Z,0.6nm,0.9s,baz=3.4,slow=0.6,SNR=3.6
COLA **College** 83.40 22 *e*P P 05 15 27.5 -1.8
THY **Trims Highway** 83.45 23 *e*P P 05 15 29.7 +0.1
THN **Thein Dam** 83.50 304 *e*P P 05 15 28.1 -2.3
comp=Z,28nm,1.0s,mb5.2
MAW **Mawson** 84.05 203 P P 05 15 32.1 -0.3
comp=Z,20nm,1.0s,mb5.2,baz=82,slow=8.3,SNR=5.4
NVS **Novosibirsk** 84.44 327⇑*i*P P 05 15 33.7 -1.0
NVS *i**PP pP 05 15 50.5 +15
NVS *e*S S 05 25 59.3 -1.2
NVS pmax pmax
comp=Z,144nm,1.7s,mb5.8
NVS pmax pmax
comp=N,45nm,1.5s
NVS pmax pmax
comp=E,95nm,1.7s
NVS smax
comp=N,20nm,2.4s
NVS smax
comp=E,40nm,2.3s
KSH **Kashi** 84.84 311 *i* PR 05 15 39.8
KSH *e*AP pP 05 15 49.8 +12
KSH *e*PP PP 05 18 56.8 +1.6
KSH *e*PPP PPP 05 20 53.5 +2.5

KSH eSKS SKS 05 25 56.0 -6.1
KSH eS S 05 26 03.0 -1.9
KSH eXS 05 26 21.5
KSH ePS PS 05 27 04.0 +3.4
KSH eSS SS 05 31 40.5 +0.6
KSH LR LR
comp=N,310nm,4.9s
KSH LR LR
comp=E,260nm,4.4s
KURK Kurchatov 85.83 322 P **P 05 15 41.8 0.0**
KURK pmax pmax
comp=Z,77nm,1.4s,mb5.7
KURK Kurchatov 85.83 322 eP **P 05 15 41.1 -0.6**
comp=Z,121nm,1.4s,mb5.9
TKM2 Tokmak 2 85.89 314 P **P 05 15 43.6 +1.3**
SNR=12
KZA Kyzart 85.95 313 P **P 05 15 45.0 +2.4**
SNR=24
DAWY Dawson 86.27 24 eP **P 05 15 44.0 +0.4**
KBK Karagaybulak 86.30 314 P **P 05 15 46.1 +1.8**
SNR=9.2
CHMS Chumysh 86.52 314 P **P 05 15 46.4 +1.1**
SNR=23
UCH Uchtor 86.52 313 P **P 05 15 47.6 +2.2**
SNR=40
FRU Bishkek 86.58 314 *i* P **P 05 15 47.0 +1.4**
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.8
AAK Ala-Archa 86.62 313 P **P 05 15 46.7 +0.9**
SNR=17
AAK Ala-Archa 86.62 313 P **P 05 15 46.9 +1.0**
comp=Z,175nm,0.9s,mb6.3,SNR=10
AAK Ala-Archa 86.62 313 eP **P 05 15 45.4 -0.5**
AAK pmax pmax
comp=Z,42nm,1.2s,mb5.5
AAK Ala-Archa 86.62 313 eP **P 05 15 45.4 -0.5**
comp=Z,42nm,1.2s,mb5.5
USP Ospenovka 86.75 314 P **P 05 15 47.4 +0.9**
SNR=17
AML Almayashu 87.10 313 P **P 05 15 49.7 +1.5**
SNR=52
BHJ Bhuj 87.14 294 eP **P 05 15 47.6 -1.2**
EKS2 Erkin-Say 87.14 313 P **P 05 15 49.7 +1.3**
SNR=19
DLBC Dease Lake 88.67 31 P **P 05 15 55.8 +0.5**
comp=Z,15nm,1.2s,mb5.2,baz=258,slow=3.6,SNR=9.0
YBH Yreka Blue Hor 89.78 48 P **P 05 16 01.0 0.0**
comp=Z,3.3nm,0.9s,mb4.7,baz=141,slow=4.0,SNR=6.8
INK Inuvik 90.02 21 eP **P 05 16 00.4 -1.1**
INK pmax pmax
comp=Z,24nm,1.1s
INK Inuvik 90.02 21 P **P 05 16 00.6 -0.9**
comp=Z,14nm,1.1s,mb5.2,baz=241,slow=4.6,SNR=34
INK Inuvik 90.02 21 eP **P 05 16 00.4 -1.1**
comp=Z,24nm,1.1s,mb5.4
CMB Columbia Colle 91.00 52 eP **P 05 16 06.8 +0.1**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
CMB MLR MLR
comp=Z,497nm,22.0s,MS4.9
CMB Columbia Colle 91.00 52 eP **P 05 16 06.8 0.0**
comp=Z,7.3nm,1.1s,mb4.9
CMB LR LR
comp=Z,497nm,22.0s,MS4.9
CHKZ Chkalovo 91.29 324 *i* P **P 05 16 06.2 -1.5**
CHKZ pmax pmax
comp=Z,32nm,1.5s,mb5.4
CHKZ Chkalovo 91.29 324 eP **P 05 16 06.1 -1.6**
comp=Z,25nm,0.6s,mb5.7
BVA0 Borovoye Array 91.32 323 *i* P **P 05 16 07.3 -0.5**
BVA0 pmax pmax
comp=Z,7.0nm,1.2s,mb4.9
BVAR Borovoye Array 91.32 323 P **P 05 16 06.6 -1.2**
comp=Z,15nm,0.9s,mb5.3,baz=108,slow=4.7,SNR=59
WCN Washoe City 91.65 51 eP **P 05 16 10.1 +0.4**
WCN pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
WCN Washoe City 91.65 51 eP **P 05 16 10.1 +0.4**
comp=Z,10nm,1.0s,mb5.1
OMM Old Mammoth Mi 92.04 53 eP **P 05 16 12.3 +0.8**
SYO Syowa Base 92.06 199 ⇓P **P 05 16 10.7 -0.2**
MWC Mount Wilson 92.40 56 eP **P 05 16 14.4 +1.1**
MNV Mina 92.79 52 eP **P 05 16 15.2 +0.2**
MNV pmax pmax
comp=Z,16nm,1.1s,mb5.4
MNV Mina 92.79 52 eP **P 05 16 15.2 +0.2**
comp=Z,16nm,1.1s,mb5.4
TPH Tonopah 93.48 52 eP **P 05 16 18.8 +0.6**
PFO Pinyon Flat Ob 93.66 57 eP **P 05 16 20.4 +1.3**
PFO pmax pmax
comp=Z,13nm,1.1s,mb5.3
PFO Pinyon Flat Ob 93.66 57 eP **P 05 16 20.4 +1.3**
comp=Z,13nm,1.1s,mb5.3
BMO Blue Mountains 94.09 45 eP **P 05 16 20.1 -0.7**
BMO pmax pmax
comp=Z,12nm,1.4s,mb5.1
BMO Blue Mountains 94.09 45 eP **P 05 16 20.1 -0.7**
comp=Z,12nm,1.4s,mb5.2
NEW Newport 94.53 42 eP **P 05 16 22.1 -0.6**
NEW pmax pmax
comp=Z,7.0nm,1.2s
NEW Newport 94.53 42 P **P 05 16 22.1 -0.6**
comp=Z,3.6nm,0.8s,mb4.8,baz=242,slow=3.5,SNR=5.2
NEW Newport 94.53 42 eP **P 05 16 22.1 -0.6**
comp=Z,6.8nm,1.2s,mb5.0
LDFC Landfair 94.90 55 eP **P 05 16 26.0 +1.3**
HLID Hailey 96.06 47 eP **P 05 16 29.9 0.0**
comp=Z,2.4nm,1.0s,mb4.6
HLID LR LR
comp=Z,961nm,22.0s,MS5.2
YKA Yellowknife Ar 96.80 28 P **P 05 16 32.3 -0.4**
comp=Z,2.9nm,0.8s,mb4.7,baz=270,slow=4.6,SNR=44
YKA PP PP 05 20 22.9 -7.3
comp=Z,1.0nm,1.0s,baz=265,slow=7.6,SNR=5.5
YKA PKiKP 05 21 09.9
comp=Z,0.7nm,0.7s,baz=288,slow=1.6,SNR=18
YKA PKKPbc 05 33 15.0
comp=Z,0.1nm,0.3s,baz=79,slow=2.5,SNR=4.5
YKA LR LR 05 55 19.5
comp=Z,403nm,20.7s,MS4.9,baz=240,slow=32
YKA Yellowknife Ar 96.80 28 P **P 05 16 32.4 -0.4**
YKA PP PP 05 20 22.9 -7.3
DUG Dugway 97.06 50 eP **P 05 16 34.7 +0.2**
DUG pmax pmax
comp=Z,13nm,1.7s,mb5.1
DUG MLR MLR
comp=Z,271nm,21.0s,MS4.7
DUG Dugway 97.06 50 eP **P 05 16 34.7 +0.2**
comp=Z,13nm,1.7s,mb5.1
DUG LR LR
comp=Z,271nm,21.0s,MS4.7
SVE Sverdlovsk 97.27 326⇑ eP **P 05 16 34.9 -0.1**
SVE *e* 05 20 33.0
SVE *e* 05 27 58.0
SVE *e* 05 30 00.0
SVE pmax pmax
comp=Z,56nm,1.9s,mb5.7
SVE MLR MLR
comp=N,100nm,18.0s,MS4.5
SVE MLR MLR
comp=E,100nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,200nm,18.0s,MS4.7
ARU Arti 98.42 326⇓ *i*P **P 05 16 38.7 -1.4**
ARU *e* PP 05 20 40.4 -2.5
ARU eS SKS 05 27 11.3 -10
ARU eSP SP 05 29 32.0 -3.3
ARU eSS SS 05 34 53.6 0.0
ARU pmax pmax
comp=Z,12nm,0.9s,mb5.4
ARU Arti 98.42 326 eP **P 05 16 38.5 -1.6**
comp=Z,3.5nm,0.4s,mb5.2
BW06 Boulder Array 99.58 48 eP **P 05 16 45.4 -0.4**
BW06 LR LR
comp=Z,419nm,19.0s,MS5.0
PDAR Pinedale Array 99.58 48 P **P 05 16 45.2 -0.5**
comp=Z,0.9nm,0.7s,baz=243,slow=3.3,SNR=8.1
PDAR PKiKP 05 21 15.9
comp=Z,0.4nm,0.6s,baz=166,slow=3.7,SNR=2.4
PDAR LR LR 06 03 08.0
comp=Z,303nm,18.1s,baz=253,slow=36
ANMO Albuquerque 101.98 56 P P 05 16 56.8 0.0
ANMO MLR MLR
comp=Z,233nm,19.0s
RES Resolute Bay 102.12 15 eP Pdif 05 16 55.6 -1.0
RES pmax pmax
comp=Z,5.0nm,1.1s
RES Resolute Bay 102.12 15 *e*Pdif Pdif 05 16 55.6 -1.0
comp=Z,4.6nm,1.1s
SDCO Great Sand Dun 102.73 53 PFAKE 05 17 10.0 +10
SDCO LR LR
comp=Z,431nm,22.0s,MS4.9
MNTX Cornudas Mount 102.89 59 Pdif Pdif 05 17 01.7 +0.8
TXAR Lajitas Array 104.37 62 PKiKP 05 21 24.9
comp=Z,1.1nm,1.0s,baz=135,slow=1.8,SNR=6.6
TXAR PKKPbc 05 32 54.8
comp=Z,0.4nm,0.7s,baz=134,slow=3.2,SNR=5.3
FCC Fort Churchill 107.26 30 ePKP 05 21 28.3
ULM Lac du Bonnet 108.27 39 PKiKP 05 21 30.7
comp=Z,1.0nm,0.4s,baz=176,slow=2.0,SNR=4.2
WMOK Wichita Mounta 108.30 56 *e*PKP 05 21 31.5
ARCES ARCESS Array B 109.00 343 PKiKP 05 21 31.0
comp=Z,1.2nm,0.6s,baz=103,slow=1.8,SNR=8.3
ARCES ARCESS Array B 109.00 343 PKPdf 05 21 31.0
OBN Obninsk 110.84 327 *i* PKiKP PKPdf 05 21 35.2 -0.7
OBN *e* 05 22 14.2
OBN pmax pmax
comp=Z,18nm,1.9s
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.4
OBN Obninsk 110.84 327 *i* PKP PKPdf 05 21 35.3 -0.6
SOC Sochi 111.91 314 *i* PKiKP PKPdf 05 21 37.1 -1.0
SOC *e* 05 22 19.5
SOC *e*PPP PPP 05 24 38.8 -6.8
SOC *e* 05 28 09.5
SOC ePS PS 05 31 50.6 -0.9
SOC eSS SS 05 37 51.4 -6.6
SOC pmax pmax
comp=N,11nm,0.7s
SOC pmax pmax
comp=E,13nm,0.7s
SOC pmax pmax
comp=Z,15nm,0.7s
KAF Kangasniemi 112.76 336 *e*p PKPdf 05 21 37.0 -2.5
comp=Z,2.7nm,0.9s
FINES FINESS Array B 113.20 336 PKiKP 05 21 40.0
comp=Z,1.6nm,0.8s,baz=90,slow=3.8,SNR=8.2
KMBO Kilima Mbogo 116.02 265 PKP PKPdf 05 21 46.9 -0.2
comp=Z,2.5nm,0.9s,baz=15,slow=1.7,SNR=7.1
ASF Jabal al Asfar 116.17 302 PKP PKPdf 05 21 46.4 -0.5
comp=Z,2.2nm,0.4s,baz=328,slow=3.5,SNR=3.3
ASF PKKPbc 05 32 16.4
comp=Z,1.2nm,0.3s,baz=111,slow=5.3,SNR=4.3
AKASG Malin Array Be 116.58 324 PKP PKPdf 05 21 45.7 -1.5
comp=Z,6.1nm,0.6s,baz=63,slow=2.3,SNR=22
AKASG PKKPbc 05 32 13.7
comp=Z,2.1nm,0.7s,baz=262,slow=4.2,SNR=8.9
BRTR Keskin Array B 117.23 311 PKP PKPdf 05 21 47.3 -1.5
comp=Z,2.3nm,0.9s,baz=117,slow=2.8,SNR=12
BRTR PP PP 05 22 55.5 -6.6
comp=Z,2.3nm,1.0s,baz=117,slow=5.5,SNR=7.4
BRTR PKKPbc 05 32 12.5
comp=Z,1.1nm,0.7s,baz=225,slow=1.7,SNR=6.4
WCI Wyandotte Cave 117.68 50 *e*PKiKP PKPdf 05 21 48.1 -1.6
PLCA Paso Flores 117.70 143 PKP PKPdf 05 21 49.9 +0.2
comp=Z,0.9nm,0.6s,baz=207,slow=4.0,SNR=8.2
LRAL Lakeview Retre 118.24 56 PKP PKPdf 05 21 50.1 -0.8
SUW Suwalki 118.36 329 *e*PKP PKPdf 05 21 50.3 -0.3
HFS Hagfors 118.82 338 PKP PKPdf 05 21 50.1 -1.3
comp=Z,1.6nm,0.6s,baz=135,slow=4.2,SNR=16
HFS PP PP 05 23 05.5 -7.2
comp=Z,3.4nm,1.0s,baz=22,slow=7.8,SNR=3.8
NB2 NORSAR Subarra 119.06 340 PKPdf PKPdf 05 21 50.9 -0.9
comp=Z,1.0nm,0.8s,baz=45,slow=1.9
NOA NORSAR Array B 119.06 340 PKP PKPdf 05 21 50.3 -1.5
comp=Z,4.1nm,0.9s,baz=46,slow=1.9,SNR=15
NOA PP PP 05 23 08.4 -5.8
comp=Z,3.3nm,1.1s,baz=42,slow=6.8,SNR=4.3
BOSA Boshof 119.07 232 PKP PKPdf 05 21 52.1 -0.5
comp=Z,5.3nm,0.6s,baz=129,slow=2.3,SNR=21
CFR Carcaliu 119.39 319⇑P PKPdf 05 21 52.7 0.0
ACSO Alum Creek Sta 119.62 47 ePKP PKPdf 05 21 52.4 -0.9
TZTN Tazewell 120.22 52 ePKP PKPdf 05 21 53.8 -0.8
BURAR Bucovina Array 120.26 322⇑P PKPdf 05 21 55.4 +1.0
MLR Muntele Rosu 120.70 320 PKP PKPdf 05 21 54.3 -1.1
comp=Z,6.9nm,0.8s,baz=4.7,slow=3.1,SNR=10
MLR Muntele Rosu 120.70 320⇓P PKPdf 05 21 54.4 -1.0
SADO Sadowa 120.71 41 PKP PKPdf 05 21 54.6 -0.8
comp=Z,8.9nm,0.8s,baz=322,slow=2.4,SNR=12
KWP Kalwaria 120.81 325 ePKP PKPdf 05 21 55.4 -0.1
SNX Sinaia 121.03 320 PKiKP PKPdf 05 21 56.4 +0.4
SNX Sinaia 121.03 320⇓P PKPdf 05 21 56.5 +0.5
KOLS Kolonicke sedl 121.40 325 ePKP PKPdf 05 21 57.2 +0.5
CRVS Cervenica-Dubn 121.88 325 ePKP PKPdf 05 21 57.6 0.0
FWV Forest Hill 122.03 50 ePKP PKPdf 05 21 57.3 -0.8
OJC Ojcow 122.13 327 ePKP PKPdf 05 21 57.8 -0.2
SCHQ Schefferville 122.22 26 PKP PKPdf 05 21 57.3 -0.7
comp=Z,4.8nm,0.7s,baz=348,slow=2.7,SNR=14
NIE Niedzica 122.27 326 ePKP PKPdf 05 21 56.9 -1.3
BLA Blacksburg 122.44 50 ePKiKP PKPdf 05 21 57.7 -1.1
JSC Jenkinsville 122.62 54 ePKiKP PKPdf 05 21 59.1 -0.1
SSN Standing Stone 123.14 45 ePKP PKPdf 05 21 59.3 -0.8
OKC Ostrava-Krasne 123.23 327 ePKPDF PKPdf 05 22 00.1 +0.1
PSZ Piszkesteto 123.28 324 PKiKP PKPdf 05 22 00.3 +0.1
PSZ Piszkesteto 123.28 324⇑ *i*P PKPdf 05 22 00.2 0.0
PSZ Piszkesteto 123.28 324⇑ PKP/D 05 22 00.2
BZS Buzias 123.38 321 PKiKP PKPdf 05 22 00.4 -0.1
VYHS Vyhne 123.58 325 *i* PKP PKPdf 05 22 00.6 -0.2
MORC Moravsky Berou 123.59 327 ePKiKP PKPdf 05 22 00.0 -0.8
KSP Ksiaz 123.63 329 ePKiKP PKPdf 05 22 00.5 -0.4
KSP Ksiaz 123.63 329 ePKP PKPdf 05 22 00.9 0.0
VTS Vitosha 123.69 317 PKiKP PKPdf 05 22 00.4 -0.8
BINY Binghamton 123.84 43 ePKP PKPdf 05 22 01.0 -0.6
DPC Dobruska-Polom 123.90 328 ePKPDF PKPdf 05 22 01.2 -0.3
UPC Upice 123.97 329 ePKP PKPdf 05 22 01.4 -0.2
NCB Newcomb 124.24 40 ePKP PKPdf 05 22 01.0 -1.2
SRO Srobarova 124.24 325 *i* PKP PKPdf 05 22 02.5 +0.3
SRO1 Iza 124.31 325 ePKP PKPdf 05 22 02.6 +0.3
SDMD Soldier's Deli 124.34 46 ePKP PKPdf 05 22 01.4 -1.2
VRAC Vranov 124.36 327 PKP PKPdf 05 22 02.2 -0.2
comp=Z,11nm,1.1s,baz=75,slow=2.4,SNR=9.1
SANT Santorini 124.38 310 ePKP PKPdf 05 22 01.0 -1.7
BSEG Bad Segeberg 124.45 335 ePKiKP PKPdf 05 22 02.2 -0.2
MVL Millersville 124.47 46 ePKP PKPdf 05 22 02.0 -0.8
PVCC Panska Ves 124.70 329 ePKPDF PKPdf 05 22 03.0 0.0
ZST Bratislava 124.71 326 *i* PKP PKPdf 05 22 03.7 +0.6
CFAA Coronel Fontan 124.74 136 PKP PKPdf 05 22 02.6 -1.0
comp=Z,1.3nm,0.7s,baz=249,slow=3.3,SNR=32
GRUS Gruza 124.75 320⇑ *i*PKP PKPdf 05 22 02.5 -0.8
BRG Berggiesshubel 124.80 330 *i* PKiKP PKPdf 05 22 03.1 -0.1
BRG *e* 05 23 49.4
PKSM Moragy 124.89 323⇑ *i*PKiKP PKPdf 05 22 03.0 -0.5
CLL Collm 124.98 331⇓ *i*PKiKP PKPdf 05 22 02.8 -0.7
comp=Z,logA/T=1.3
CLL ePP PP 05 23 47.0 -7.0
CLL *e* 05 24 03.0
DIVS Divcibare 125.11 320 ePKP PKPdf 05 22 03.6 -0.4
SKO Skopje 125.14 317⇑ *i*PKP PKPdf 05 22 03.5 -0.6
PAL Palisades 125.76 43 ePKiKP PKPdf 05 22 04.5 -0.8
CLZ Clausthal 125.86 333 ePKPdf PKPdf 05 22 05.0 -0.2
NKC Novy Kostel 125.94 330 ePKPDF PKPdf 05 22 05.3 -0.1
KHC Kasperske Hory 126.06 329 ePKPDF PKPdf 05 22 05.5 -0.1
KHC *ex* x 05 22 16.0
KHC *ex* x 05 22 25.0
MOX Moxa 126.08 331 ePKiKP PKPdf 05 22 04.8 -0.8
MOX Moxa 126.08 331 *i* P PKPdf 05 22 04.8 -0.8
comp=Z,logA/T=1.1
ARSA Arzberg 126.13 326⇑ *i*P PKPdf 05 22 05.3 -0.5
KOGS Kog 126.17 325 ePKPdf PKPdf 05 22 05.3 -0.5
GEC2 GERESS Array S 126.17 328 ePKiKP PKPdf 05 22 05.6 -0.2
GERES GERESS Array B 126.17 328 PKP PKPdf 05 22 05.0 -0.8
comp=Z,8.8nm,0.8s,baz=75,slow=1.6,SNR=70
WET Wettzell 126.41 329 ePKiKP PKPdf 05 22 05.9 -0.3
MOA Molln 126.47 327⇑ *i*P PKPdf 05 22 06.0 -0.3
PERS Pernice 126.71 325 ePKPdf PKPdf 05 22 06.3 -0.5
GRA1 Grafenberg Arr 126.89 330 ePKPdf PKPdf 05 22 07.0 -0.1
GRF Grafenberg Arr 126.89 330 ePKiKP PKPdf 05 22 07.0 -0.1
BRYW Bryant College 126.94 41 PKP PKPdf 05 22 07.1 -0.3
LEGS Legarje 126.98 324 *i* PKPdf PKPdf 05 22 07.2 -0.2
OBKA Obir 127.10 325⇑ *i*P PKPdf 05 22 07.4 -0.2
BOJS Bojanci 127.27 324 ePKPdf PKPdf 05 22 07.5 -0.5
WTSB Winterswijk 127.34 335 ePKP PKPdf 05 22 07.6 -0.4
comp=Z,30nm,1.8s
WTSB ePP PP 05 24 06.1 -3.4
LJU Ljubljana 127.38 325 *i* PKPdf PKPdf 05 22 08.1 -0.1
OTAV Otavalo 127.66 95 ePKP PKPdf 05 22 09.6 -0.1
PTCC Patocco-Chiusa 127.83 326 ePKP PKPdf 05 22 08.2 -0.9
FUR Furstenfeldbru 127.86 329 ePKiKP PKPdf 05 22 08.8 -0.3
TNS Taunus Mts 127.86 332 ePKiKP PKPdf 05 22 08.8 -0.3
GMNA Gemona 127.97 326 *e*PKP PKPdf 05 22 08.6 -0.8
TOD Tromm 128.12 332 PKiKP PKPdf 05 22 09.5 -0.1
EKA Eskdalemuir Ar 128.17 343 PKP PKPdf 05 22 09.1 -0.4
comp=Z,4.8nm,1.0s,baz=333,slow=1.9,SNR=11
WATA Walderalm 128.22 328⇑ *i*P PKPdf 05 22 09.5 -0.4
WTTA Wattenberg 128.24 328⇑ *i*P PKPdf 05 22 09.8 -0.1
SQTA Sankt Quirin 128.49 328⇑ *i*P PKPdf 05 22 10.1 -0.3
STU Stuttgart 128.50 331 *e*PKiKP PKPdf 05 22 09.6 -0.8
ABH Alteburg 128.51 333 PKP PKPdf 05 22 10.7 +0.3
HGN Heimansgroeve 128.60 334 *e*PKP PKPdf 05 22 10.5 0.0
comp=Z,26nm,1.3s
HGN *ex* x 05 22 21.5
RUP Ruppelstein 128.86 333 PKiKP PKPdf 05 22 11.4 +0.4
CTI Castel Tesino 128.99 326 ePKiKP PKPdf 05 22 10.9 -0.5
LANF Langenberg 129.03 332 PKP PKPdf 05 22 11.6 +0.2
DAVA Damuels 129.14 329⇑ *i*P PKPdf 05 22 11.6 0.0
BFO Black Forest 129.22 331 *e*PKiKP PKPdf 05 22 11.1 -0.6
BRMO Bormio 129.41 328 ePKP PKPdf 05 22 12.0 -0.1
DAVOX Davos 129.47 328 PKP PKPdf 05 22 12.0 -0.2
comp=Z,10nm,0.6s,baz=242,slow=2.1,SNR=17
DAVOX Davos 129.47 328 PKP PKPdf 05 22 12.0 -0.2
GIVF Givet 129.56 334 *e*PKiKP PKPdf 05 22 11.7 -0.6
comp=Z,118nm,1.5s
TSUM Tsumeb 129.57 238 *e*PKP PKPdf 05 22 12.6 -0.6
WLS Welschbruch 129.64 331 PKP PKPdf 05 22 12.3 -0.2
MRLC Muro Lucano 129.66 319 ePKP PKPdf 05 22 12.1 -0.7
CDF Champ du Feu 129.67 331 *e*PKiKP PKPdf 05 22 11.6 -1.0
comp=Z,34nm,1.4s
FELD Feldberg 129.69 330 PKP PKPdf 05 22 12.3 -0.4
ARE Arequipa 129.75 118 *e*PKiKP PKPdf 05 22 15.0 +1.4
ARV Arcevia 129.77 323 ePKP PKPdf 05 22 12.6 -0.4
BAIF Baives 129.86 335 *e*PKiKP PKPdf 05 22 12.4 -0.5
ECH Echery 129.87 331 PKP PKPdf 05 22 12.5 -0.5
SNTG Esanatoglia 129.91 323 ePKP PKPdf 05 22 12.9 -0.3
CSSN Cassano Irpino 129.91 319 ePKP PKPdf 05 22 12.8 -0.5
CII Carovilli 129.92 320 ePKP PKPdf 05 22 11.8 -1.4
NRCA Norcia 130.04 322 ePKP PKPdf 05 22 12.8 -0.7
MOF Molkenrain 130.13 331 PKP PKPdf 05 22 13.0 -0.5
SFI Santa Sofia 130.18 324 ePKiKP PKPdf 05 22 14.0 +0.3
BBS Basel-Blauen 130.22 330 PKiKP PKPdf 05 22 13.2 -0.5
SDI San Donato 130.24 321 *e*PKiKP PKPdf 05 22 13.0 -0.9
HINF Hinteralfeld 130.29 331 *e*PKiKP PKPdf 05 22 12.8 -1.0
comp=Z,96nm,1.5s
PTQR Pietraquaria 130.32 321 ePKP PKPdf 05 22 13.4 -0.7
ZCCA Zocca 130.41 325 ePKP PKPdf 05 22 14.4 +0.3
THEF They Montfort 130.41 332 PKP PKPdf 05 22 13.7 -0.3
LOMF Lomont 130.63 331 PKP PKPdf 05 22 12.8 -1.7
MEZF Maizieres J'vi 130.64 333 *e*PKiKP PKPdf 05 22 14.1 -0.3
VAI Varese 130.65 328 ePKiKP PKPdf 05 22 13.4 -1.1
BDI Bagni Di Lucca 130.80 325 ePKiKP PKPdf 05 22 13.8 -1.1
MCGN Macugnaga 131.00 329 ePKP PKPdf 05 22 15.2 0.0
CABF La Chapelle 131.51 330 *e*PKiKP PKPdf 05 22 15.7 -0.4
comp=Z,51nm,1.1s
LPL La Plagne 131.95 329 *e*PKiKP PKPdf 05 22 16.8 -0.2
comp=Z,18nm,0.8s
LPG La Plagne 131.95 329 *e*PKiKP PKPdf 05 22 16.9 -0.1
comp=Z,22nm,0.8s
ROSC El Rosal 132.28 90 PKP PKPdf 05 22 18.4 -0.2
comp=Z,19nm,0.5s,baz=36,slow=0.9,SNR=40
BNI Bardonecchia 132.29 328 *e*PKiKP PKPdf 05 22 17.2 -0.5
SSF Saint Saulge 132.41 333 *e*PKiKP PKPdf 05 22 17.5 -0.4
comp=Z,29nm,1.1s
MBDF Montbardon 132.46 328 *e*PKiKP PKPdf 05 22 18.8 +0.8
comp=Z,48nm,1.6s
SMF Signal de Mont 132.56 332 *e*PKiKP PKPdf 05 22 17.7 -0.5
comp=Z,33nm,1.2s
PGF Pioggiola 132.65 324 *e*PKiKP PKPdf 05 22 17.7 -0.8
comp=Z,54nm,1.0s
AVF Avril sur Loir 132.68 332 *e*PKiKP PKPdf 05 22 17.6 -0.8
comp=Z,7.6nm,1.0s
SBF Sospel 132.69 327 *e*PKiKP PKPdf 05 22 17.6 -0.9
LPAZ La Paz 132.75 119 *e*PKiKP PKPdf 05 22 19.7 +0.4
LPAZ La Paz 132.75 119 PKP PKPdf 05 22 19.8 +0.5
comp=Z,28nm,1.2s,baz=1,slow=1.6,SNR=38
LDF La Druitiere 132.78 336 *e*PKiKP PKPdf 05 22 17.8 -0.7
comp=Z,79nm,1.5s
FLN La Foliniere 132.79 337 *e*PKiKP PKPdf 05 22 18.1 -0.4
FLN *e*R
comp=Z,200nm,20.0s
ORIF Oris-en-Rattie 132.79 329 *e*PKiKP PKPdf 05 22 18.0 -0.7
comp=Z,16nm,0.9s
ORIF *e*R
comp=Z,321nm,22.2s
BGF Bois d'Agland 133.09 333 *e*PKiKP PKPdf 05 22 18.7 -0.4
PLDF La Plantade 133.16 331 PKP PKPdf 05 22 20.5 +1.3
GRR Gorron 133.24 337 *e*PKiKP PKPdf 05 22 19.0 -0.3
FRF La Foret Royal 133.31 327 *e*PKiKP PKPdf 05 22 19.0 -0.6
comp=Z,20nm,0.8s
VIVF Saint-Julien-l 133.45 330 *e*PKiKP PKPdf 05 22 19.6 -0.1
LMR La Mourre 133.54 327 *e*PKiKP PKPdf 05 22 19.4 -0.5
comp=Z,24nm,0.9s
TCF Toulx Ste Croi 133.58 333 *e*PKiKP PKPdf 05 22 19.4 -0.5
comp=Z,41nm,1.2s
LBL Lubilhac 133.88 331 PKP PKPdf 05 22 21.7 +1.2
MFF Saint Martin d 134.37 335 *e*PKiKP PKPdf 05 22 20.0 -0.6
LASF Ste Croix 134.42 329 *e*PKiKP PKPdf 05 22 21.5 -0.1
comp=Z,32nm,1.2s
RJF Les Rejaudoux 134.64 332 *e*PKiKP PKPdf 05 22 21.3 -0.7
comp=Z,41nm,1.3s
RJF *e*R
comp=Z,365nm,22.0s
CAF Calviac 134.67 332 *e*PKiKP PKPdf 05 22 22.3 +0.2
comp=Z,30nm,1.4s
LFF La Frestale 135.28 333 *e*PKiKP PKPdf 05 22 22.6 -0.6
MTLF Montolieu 135.77 330 *e*PKiKP PKPdf 05 22 24.0 -0.2
comp=Z,18nm,1.1s
SDV Santo Domingo 136.13 84 *e*PKPdf PKPdf 05 22 24.9 -0.7
EPF Esparros 136.92 331 *e*PKiKP PKPdf 05 22 26.6 +0.5
ETSF Etsaut 137.44 332 *e*PKiKP PKPdf 05 22 28.5 +1.3
comp=Z,56nm,1.2s
SJG San Juan 139.67 70 PKP PKPdf 05 22 31.5 -0.4
comp=Z,51nm,1.0s,baz=10,slow=1.6,SNR=12
ESDC Sonseca Array 141.56 332 PKhKP 05 22 25.6
comp=Z,1.4nm,0.9s,baz=252,slow=33,SNR=3.3
ESDC PP PP 05 25 34.0 -5.9
comp=Z,1.8nm,0.9s,baz=20,slow=5.8,SNR=6.1
PVIS Viseu 142.40 337 *e*PKPdf PKPdf 05 22 34.0 -2.2
PCBR Castelo Branco 142.98 336 *e*PKPdf PKPdf 05 22 35.8 -1.4
EVO Evora 144.30 335 *e*PKiKP PKPdf 05 22 38.2 -1.3
comp=Z,103nm,1.3s
EVO *e*R
comp=Z,462nm,19.0s
PBEJ Beja 144.67 334 *e*PKPdf PKPdf 05 22 39.8 -0.4
PTEO Sao Teotonio 145.44 335 *e*PKPab PKPab 05 22 41.6 0.0
CAM4 Nova Friburgo 146.97 152 *e*P PKPbc 05 22 44.9 +0.8
CAM4 *i* 05 22 51.3
BDFB Brasilia 149.08 136 PKP PKPdf 05 22 48.4 +0.2
comp=Z,75nm,0.9s,baz=209,slow=4.5,SNR=18
BDFB PKPbc PKPdf 05 22 52.2 +4.1
comp=Z,75nm,0.9s,baz=236,slow=2.1,SNR=49
BAO Brasilia Array 149.10 136 P PKPdf 05 22 49.0 +0.9

*NEIC **26** 05:05:37.2±0.9, 4.24S×138.79E, h10km, mb4.6/3, Error ellipse: s-maj=27.5km s-min=13.5km az=78.0*
*IDC **26** 05:05:43.9±11.0, 4.46S×138.84E, h63km±104km, mb4.1/2, mb1 4.4/5, mb1mx4.1/11, mbtmp4.5/5, ML4.4/3, Error ellipse: s-maj=86.5km s-min=34.3km az=53.0*
ISC 26 05:05:39.3±1.1, 4.3S±0.1×138.8E±0.2, h33km, n10, σ0 6 5 /9, mb4.5/4, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**16.16**	**195**	*e*P	**P**			**05 09 26.2**	**+0.6**
WRA	**Warramunga Arr**	**16.17**	**195**	P	**P**			**05 09 26.2**	**+0.4**
	2.4nm,0.3s,baz=18,slow=13,SNR=12								
CTA	**Charters Tower**	**17.34**	**156**	P	**P**			**05 09 40.3**	**-0.2**
	0.4nm,0.3s,baz=331,slow=10,SNR=3.4								
CTAO	**Charters Tower**	**17.34**	**156**	*e*P	**P**			**05 09 40.1**	**-0.3**
	11nm,0.9s								
ASAR	**Alice Springs**	**19.85**	**193**	P	**P**			**05 10 06.5**	**-3.9**
	1.8nm,0.3s,baz=28,slow=11,SNR=4.7								
MBWA	**Marble Bar**		**24.98**	**226**	*e*P	**P**		**05 11 00.9**	**-0.8**
	19nm,0.8s,mb4.7								
MKAR	**Makanchi Array**	**71.05**	**323**	P	**P**			**05 16 56.8**	**+0.7**
	1.9nm,0.6s,mb4.2,baz=123,slow=7.5,SNR=3.5								
BVAR	**Borovoye Array**	**80.61**	**325**	P	**P**			**05 17 50.2**	**0.0**
	2.7nm,0.6s,mb4.4,baz=117,slow=6.4,SNR=4.7								
CHKZ	**Chkalovo**	**80.71**	**326**	*e*P	**P**			**05 17 50.3**	**-0.4**
	12nm,1.4s,mb4.6								
LPAZ	**La Paz**	**146.47**	**128**	PKPbc	PKPbc			05 25 19.1	+1.0
	2.2nm,0.6s,baz=239,slow=2.5,SNR=11								
LPAZ				pPKPbc				05 25 48.5	
	2.2nm,0.8s,baz=110,slow=16,SNR=4.0								

*PRU **26** 05:52:47.5, 46.58N×17.52E*
*NEIC **26** 05:52:48.1±0.4, 46.61N×17.43E, h10km, ML3.0(VIE), Error ellipse: s-maj=5.5km s-min=4.4km az=206.0*
*CSEM **26** 05:52:49.3±0.1, 46.44N×17.44E, h40km, ML2.7/3, Error ellipse: s-maj=2.5km s-min=1.7km az=31.0*
*IPEC **26** 05:52:49.3±0.2, 46.62N×17.46E, h19km±1km, ML1.8/3, Error ellipse: s-maj=1.2km s-min=0.8km az=9.0*

ISC 26 05:52:47.1±0.5, 46.65N±0.02×17.43E±0.03, h3km±3km, n40, σ0≈96/69, 5C-6D, Hungary

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PKS9	**Tamasi**	**0.59**	**96**	⇓*i*Pg		**Pg**	**05 53 00.0**	**+1.1**
PKS9				*e*Sg		**Sg**	**05 53 08.6**	**+1.8**
RHK1	**Bakonya**	**0.71**	**141**	*e*P		**Pg**	**05 53 01.3**	**-0.1**
RHK1				Pg		**Pg**	**05 53 02.2**	**+0.8**
RHK1				*e*S		**Sg**	**05 53 10.0**	**-0.9**
RHK1	**Bakonya**	**0.71**	**141**	*e*Pg		**Pg**	**05 53 01.3**	**-0.1**
RHK1				*e*Sg		**Sg**	**05 53 10.0**	**-0.9**
PKSM	**Moragy**	**0.95**	**117**	⇑*e*P		**Pb**	**05 53 05.9**	**+0.1**
PKSM				*e*S		**Sb**	**05 53 18.7**	**+0.2**
PKSM	**Moragy**	**0.95**	**117**	*e*Pg		**Pg**	**05 53 05.6**	**-0.5**
PKSM				*e*Sg		**Sg**	**05 53 18.3**	**-0.4**
PKSM				*e*S		**Sb**	**05 53 18.7**	**+0.2**
RHK3	**Tenkes**	**0.95**	**143**	⇑*i*P		**Pb**	**05 53 06.0**	**+0.1**
RHK3				*e*S		**Sb**	**05 53 17.7**	**-1.1**
PKSG		**0.99**	**41**	⇓*e*Pn		**Pn**	**05 53 07.4**	**-0.3**
PKSG				*e*Sn		**Sn**	**05 53 23.4**	**+1.1**
SOP	**Sopron**	**1.19**	**330**	Pn		**Pn**	**05 53 13.1**	**+2.5**
SOP				Sn		**Sn**	**05 53 29.3**	**+1.9**
SRO1	**Iza**	**1.24**	**26**	*i* PG		**Pg**	**05 53 12.3**	**+0.5**
SRO	**Srobarova**	**1.31**	**27**	*i* PG		**Pg**	**05 53 14.9**	**+1.7**
SRO	**Srobarova**	**1.31**	**27**	*e*Pg		**Pg**	**05 53 13.7**	**+0.5**
SRO	**Srobarova**	**1.31**	**27**	*i* Pn		**Pg**	**05 53 14.9**	**+1.7**
BUD	**Budapest**	**1.37**	**52**	*e*Pn		**Pn**	**05 53 13.2**	**+0.1**
BUD				*e*Sn		**Sn**	**05 53 30.8**	**-1.2**
ARSA	**Arzberg**	**1.44**	**295**	⇑*i*PN		**Pn**	**05 53 14.9**	**+0.8**
ARSA				*i*			05 53 34.6	
ARSA	**Arzberg**	**1.44**	**295**	*e*Pn		**Pn**	**05 53 15.5**	**+1.4**
ARSA				*e*Sg		**Sg**	**05 53 35.0**	**0.0**
PKS6	**Bocsa**	**1.47**	**91**	⇓*i*Pn		**Pn**	**05 53 13.5**	**-1.1**
ZST	**Bratislava**	**1.56**	**352**	*i* PG		**Pg**	**05 53 16.9**	**-1.4**
ZST				*i* SG		**Sg**	**05 53 40.0**	**+0.9**
CRES	**Cresnjev**	**1.60**	**240**	*i* Pn		**Pn**	**05 53 15.8**	**-0.7**
CRES				*i* Sn		**Sn**	**05 53 42.2**	**+4.4**
CRES	**Cresnjev**	**1.60**	**240**	*i* Pn		**Pn**	**05 53 15.7**	**-0.8**
SMOL	**Smolenice**	**1.86**	**360**	*i* PG		**Pg**	**05 53 21.1**	**-3.2**
SMOL				*i* SG		**Sg**	**05 53 47.1**	**-2.0**
OBKA	**Obir**	**1.99**	**267**	⇑*i*PN		**Pn**	**05 53 22.0**	**-0.1**
OBKA				*i* SN		**Sn**	**05 53 47.5**	**-0.3**
OBKA				*i* SG		**Sg**	**05 53 53.7**	**+0.2**
	11nm,0.3s							
KOLL	**Kolacno**	**2.04**	**18**	*i* PG		**Pg**	**05 53 23.4**	**-4.4**
VYHS	**Vyhne**	**2.07**	**27**	*i* PG		**Pg**	**05 53 23.9**	**-4.6**
VYHS	**Vyhne**	**2.07**	**27**	*e*Pn		**Pn**	**05 53 23.6**	**+0.4**
VYHS				*e*Sn		**Sn**	**05 53 49.3**	**-0.5**
PSZ	**Piszkesteto**	**2.10**	**52**	⇓*i*P		**Pn**	**05 53 23.2**	**-0.4**
PSZ				*e*S		**Sb**	**05 53 52.1**	**+0.1**
PSZ	**Piszkesteto**	**2.10**	**52**	*i* Pnd			05 53 23.2	
PSZ				*e*SB		**Sb**	**05 53 52.1**	**+0.1**
PSZ	**Piszkesteto**	**2.10**	**52**	⇓*i*Pn		**Pn**	**05 53 23.2**	**-0.4**
PSZ				*e*Sn		**Sn**	**05 53 50.3**	**-0.3**
PSZ				*e*S		**Sb**	**05 53 52.1**	**+0.1**
MOA	**Molln**	**2.46**	**300**	⇓*i*PN		**Pn**	**05 53 28.9**	**+0.1**
MOA				*i* SN		**Sn**	**05 54 00.5**	**+0.7**
KRUC	**Moravsky**	**2.51**	**344**	*e*Pn		**Pn**	**05 53 30.0**	**+0.5**
KRUC				*e*Sn		**Sn**	**05 54 00.2**	**-0.7**
	2.9nm,0.3s							
VOY	**Vojsko**	**2.53**	**257**	*e*Pn		**Pn**	**05 53 36.0**	**+6.3**
VOY				*e*Sn		**Sn**	**05 54 12.8**	**+11**
VRAC	**Vranov**	**2.71**	**348**	*e*Pn		**Pn**	**05 53 32.9**	**+0.5**
VRAC				*e*Sn		**Sn**	**05 54 06.0**	**-0.2**
	3.7nm,0.4s							
KECS	**Kecovo**	**2.76**	**47**	*e*PN		**Pn**	**05 53 33.3**	**+0.2**
KBA	**Koelnbreinsper**	**2.83**	**280**	⇑*i*PN		**Pn**	**05 53 33.6**	**-0.5**
KBA				*i* SN		**Sn**	**05 54 08.9**	**-0.3**
MORC	**Moravsky Berou**	**3.13**	**1**	*e*Pn		**Pn**	**05 53 38.7**	**+0.5**
MORC	**Moravsky Berou**	**3.13**	**1**	*e*Pn		**Pn**	**05 53 38.7**	**+0.4**
MORC				*e*Sn		**Sn**	**05 54 16.3**	**-0.3**
	4.6nm,0.4s							
KHC	**Kasperske Hory**	**3.59**	**315**	*e*Pn		**Pn**	**05 53 46.9**	**+2.1**
KHC				*ex*		x	05 53 50.6	
KHC				*e*SN		**Sn**	**05 54 27.3**	**-0.9**
KHC				*ex*		x	05 54 39.8	
KHC	**Kasperske Hory**	**3.59**	**315**	Pn		**Pn**	**05 53 46.9**	**+2.1**
KHC				Sn		**Sn**	**05 54 27.3**	**-0.9**
DPC	**Dobruska-Polom**	**3.77**	**349**	*e*PN		**Pn**	**05 53 48.3**	**+0.9**
UPC	**Upice**	**3.97**	**347**	*e*SN		**Sn**	**05 54 37.1**	**-0.8**
CLL	**Collm**	**5.49**	**330**	*e*SG		**Sg**	**05 55 48.0**	**-2.0**

IDC 26 06:03:39.8±4.3, 1.38N×94.24E, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=173.2km s-min=23.4km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.66**	**120**	P		P	06 11 53.8	-2.7
	0.4nm,0.5s,baz=298,slow=9.5,SNR=4.3							
ASAR	**Alice Springs**	**45.88**	**125**	P		P	06 12 05.0	-1.2
	0.3nm,0.9s,baz=295,slow=7.9,SNR=3.8							
MKAR	**Makanchi Array**	**46.42**	**349**	P		P	06 12 08.0	-2.1
	0.6nm,0.6s,baz=169,slow=8.2,SNR=10							
SONM	**Songino Array**	**47.46**	**11**	P		P	06 12 16.9	-1.4
	0.3nm,0.5s,baz=193,slow=10,SNR=3.7							
ZAL	**Zalesovo**	**52.96**	**353**	P		P	06 12 57.7	-2.5
	1.0nm,0.3s,baz=93,slow=20,SNR=3.3							

*TAP **26** 06:07:46.9, 24.43N×122.64E, h98km±1km, ML3.2*

JMA 26 06:07:47.8±0.1, 24.66N×122.72E, h84km±1km, M2.2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.33**	**127**	P		P	06 08 00.7	-0.1
YOJ				S		S	06 08 10.3	-0.3
IRIF	**Iriomote-Funau**	**0.97**	**109**	P		P	06 08 06.8	-0.2
IRIF				*e*S		S	06 08 21.0	-0.5
HATJ	**Hateruma jima**	**1.16**	**121**	P		P	06 08 09.1	-0.2
HATJ				*e*S		S	06 08 24.9	-0.5
JKRS	**Kuro-shima**	**1.25**	**109**	P		P	06 08 10.5	+0.1
JKRS				*e*S		S	06 08 27.4	0.0
JIJ	**Ishigaki jima**	**1.33**	**103**	P		P	06 08 11.3	-0.3
JIJ				*e*S		S	06 08 28.2	-1.0
JTJ	**Tarama**	**1.80**	**90**	*e*S		S	06 08 40.3	+0.5

*IGQ **26** 06:31:21.2, 2.37S×76.81W, h6km±4km, mb4.7, Error ellipse: s-maj=5.0km s-min=2.1km az=84.3*
*NEIC **26** 06:31:22.7±0.2, 2.35S×76.57W, mb4.4/31, Error ellipse: s-maj=7.3km s-min=4.6km az=60.0*
*IDC **26** 06:31:22.8±0.8, 2.31S×76.61W, h139km±7km, mb3.9/12, mb1 3.9/16, mb1mx3.8/24, mbtmp4.3/16, MS3.1/1, Ms1 3.1/1, ms1mx2.1/29, Error ellipse: s-maj=19.4km s-min=10.1km az=73.0*

ISC 26 06:31:21.0±0.3, 2.43S±0.05×76.65W±0.04, h139km, h139km±1.2km; pP-P, n91, σ1≈04/95, mb4.2/41, 1C-17D, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ULBA	**Ulba**	**2.01**	**299**	⇓P		**P**	**06 31 56.0**	**0.0**
ULBA				S		**S**	**06 32 20.4**	**-2.3**
ARRY	**Arrayan**	**2.03**	**297**	⇓P		**P**	**06 31 56.0**	**-0.2**
ARRY				S		**S**	**06 32 20.0**	**-3.1**
RETU	**Refugio**	**2.04**	**298**	⇓P		**P**	**06 31 56.4**	**0.0**
RETU				S		**S**	**06 32 21.5**	**-2.0**
JUIV	**Juive**	**2.07**	**299**	⇓P		**P**	**06 31 56.5**	**-0.3**
JUIV				S		**S**	**06 32 22.7**	**-1.4**
CUSU	**Cusua**	**2.08**	**298**	P		**P**	**06 31 56.7**	**-0.1**
CUSU				S		**S**	**06 32 22.9**	**-1.3**
IGUA	**Igualata**	**2.20**	**295**	⇓P		**P**	**06 31 59.1**	**+0.7**
PISA	**Pisayambo**	**2.21**	**308**	⇓P		**P**	**06 31 59.0**	**+0.5**
TAMB	**Tambo**	**2.44**	**315**	⇓P		**P**	**06 32 02.6**	**+1.2**
TAMB				S		**S**	**06 32 31.3**	**-0.9**
ANTI	**Antisana**	**2.48**	**322**	⇓P		**P**	**06 32 02.8**	**+0.8**
VC1	**Cotopaxi 1**	**2.50**	**315**	⇓P		**P**	**06 32 03.8**	**+1.6**
NAS1	**Nasa**	**2.56**	**314**	⇑P		**P**	**06 32 04.8**	**+1.8**
ELAGU	**Cayambe Volc**	**2.74**	**331**	⇓P		**P**	**06 32 06.7**	**+1.3**
ELAGU				S		**S**	**06 32 37.4**	**-1.8**
CAYR	**Refugio Cayamb**	**2.79**	**331**	⇓P		**P**	**06 32 07.6**	**+1.6**
CAYA	**Cayambe**	**2.83**	**332**	⇓P		**P**	**06 32 08.0**	**+1.5**
JUA2	**San Juan 2**	**2.95**	**318**	⇓P		**P**	**06 32 09.4**	**+1.4**
TERV	**Terraza Guagua**	**2.98**	**319**	⇓P		**P**	**06 32 10.0**	**+1.6**
TERV				S		**S**	**06 32 45.2**	**+0.6**
PINO	**Pino**	**2.99**	**319**	⇓P		**P**	**06 32 10.1**	**+1.5**
JOR1	**San Jorge 1**	**3.13**	**321**	⇓P		**P**	**06 32 09.5**	**-0.9**
OTAV	**Otavalo**	**3.21**	**326**	*e*P		**P**	**06 32 12.3**	**+0.8**
COTA	**Cotacachi**	**3.23**	**328**	P		**P**	**06 32 14.0**	**+2.3**
ECEN	**Cerro Negro**	**3.50**	**338**	⇓P		**P**	**06 32 17.8**	**+2.6**
ROSC	**El Rosal**	**7.60**	**18**	P		**P**	**06 33 11.3**	**+1.0**
	2.0nm,0.3s,baz=175,slow=3.5,SNR=37							
SDV	**Santo Domingo**	**12.74**	**28**	P		**P**	**06 34 18.9**	**+0.7**
	1.6nm,0.3s,baz=247,slow=11,SNR=31							
SDV				LR		LR	06 39 01.9	
	comp=Z,83nm,20.7s,baz=216,slow=36							
SDV	**Santo Domingo**	**12.74**	**28**	*e*P		**P**	**06 34 19.8**	**+1.6**
	33nm,0.9s							
ARE	**Arequipa**	**14.84**	**160**	*e*P		**P**	**06 34 51.0**	**+6.0**
JTS	**JuntasAbangare**	**15.10**	**327**	*e*P		**P**	**06 34 50.9**	**+2.5**
LPAZ	**La Paz**	**16.12**	**149**	P		**P**	**06 34 58.9**	**-2.2**
	0.5nm,0.3s,baz=337,slow=14,SNR=6.8							
LPAZ	**La Paz**	**16.12**	**149**	*e*P		**P**	**06 34 58.9**	**-2.2**
	0.5nm,0.9s							
PCRV	**Puerto La Cruz**	**17.32**	**43**	P		**P**	**06 35 15.6**	**-0.3**
	1.5nm,0.3s,baz=14,slow=17,SNR=9.1							
SIV	**San Ignacio**	**20.42**	**132**	P		**P**	**06 35 49.7**	**+0.6**
	7.9nm,0.3s,baz=315,slow=10,SNR=85							
LVC	**Limon Verde**	**21.42**	**160**	P		**P**	**06 36 01.6**	**+2.6**
	12nm,0.7s,mb4.3,baz=324,slow=6.1,SNR=16							
LVC	**Limon Verde**	**21.42**	**160**	*e*P		**P**	**06 36 01.6**	**+2.5**
	17nm,0.9s,mb4.4							
SJG	**San Juan**	**22.89**	**26**	P		**P**	**06 36 13.2**	**-0.2**
	17nm,0.4s,mb4.8,baz=204,slow=4.7,SNR=14							
TEIG	**Tepich**	**25.24**	**334**	*e*P		**P**	**06 36 35.9**	**-0.1**
CFAA	**Coronel Fontan**	**30.08**	**166**	P		**P**	**06 37 20.2**	**+0.6**
	0.4nm,0.5s,mb3.4,baz=337,slow=9.0,SNR=12							
CFAA	**Coronel Fontan**	**30.08**	**166**	P		**P**	**06 37 20.2**	**+0.6**
BDFB	**Brasilia**	**31.11**	**117**	P		**P**	**06 37 28.5**	**-0.4**
	2.7nm,0.7s,mb4.1,baz=297,slow=9.3,SNR=5.0							
TRQA	**Tornquist**	**37.92**	**161**	P		**P**	**06 38 27.0**	**+0.5**
PLCA	**Paso Flores**	**38.52**	**173**	P		**P**	**06 38 32.7**	**+1.2**
	7.8nm,0.8s,mb4.4,baz=346,slow=9.5,SNR=23							
PLCA	**Paso Flores**	**38.52**	**173**	*e*P		**P**	**06 38 32.6**	**+1.1**
	5.0nm,0.6s,mb4.3							
JCT	**Junction City**	**39.49**	**328**	*e*P		**P**	**06 38 39.4**	**-0.2**
	3.4nm,0.6s,mb4.2							
TXAR	**Lajitas Array**	**40.83**	**323**	P		**P**	**06 38 51.3**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=149,slow=8.6,SNR=13							
TXAR				pP		pP	06 39 22.0	+0.2
	0.6nm,0.7s,baz=129,slow=8.0,SNR=4.1							
TXAR				PcP		PcP	06 40 50.0	+0.6
	0.3nm,0.6s,baz=146,slow=3.3,SNR=3.9							
WMOK	**Wichita Mounta**	**42.41**	**333**	*e*P		**P**	**06 39 02.6**	**-1.0**
	3.9nm,0.6s,mb4.2							
CCM	**Cathedral Cave**	**42.49**	**343**	*e*P		**P**	**06 39 02.2**	**-2.0**
	5.4nm,0.6s,mb4.3							
MNTX	**Cornudas Mount**	**43.55**	**324**	*e*P		**P**	**06 39 13.7**	**+0.8**
	1.3nm,0.6s,mb3.7							
AMTX	**Amarillo**	**43.93**	**330**	*e*P		**P**	**06 39 15.6**	**-0.2**
	7.7nm,0.6s,mb4.5							
AMTX				*e*		pP	06 39 48.4	+1.2
ANMO	**Albuquerque**	**46.52**	**326**	*e*P		**P**	**06 39 37.2**	**+0.8**
	6.0nm,0.6s,mb4.4							
ANMO				*e*		pP	06 40 08.9	+0.9
SDCO	**Great Sand Dun**	**48.09**	**329**	*e*P		**P**	**06 39 48.9**	**+0.3**
	4.1nm,0.8s,mb4.1							
SDCO				*e*		pP	06 40 20.6	+0.2
PDAR	**Pinedale Array**	**53.90**	**330**	P		**P**	**06 40 31.9**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=123,slow=9.9,SNR=6.3							
PDAR				pP		pP	06 41 03.5	-1.3
	1.1nm,0.7s,baz=125,slow=8.8,SNR=6.5							
ULM	**Lac du Bonnet**	**55.02**	**345**	P		**P**	**06 40 37.8**	**-2.5**
	6.1nm,0.5s,mb4.6,baz=158,slow=7.6,SNR=20							
ULM				pP		pP	06 41 10.3	-2.6
	3.4nm,0.6s,baz=154,slow=6.9,SNR=4.1							
ULM	**Lac du Bonnet**	**55.02**	**345**	P		**P**	**06 40 37.8**	**-2.5**
ULM				pP		pP	06 41 10.3	-2.6
IMW	**Indian Meadow**	**55.42**	**330**	*e*P		**P**	**06 40 42.9**	**-0.4**
	2.1nm,0.6s,mb4.0							
IMW				*e*		pP	06 41 15.3	-0.6
HLID	**Hailey**	**56.96**	**328**	*e*P		**P**	**06 40 53.9**	**-0.4**
	1.4nm,0.7s,mb3.9							
HLID				*e*		pP	06 41 27.1	+0.1
SCHQ	**Schefferville**	**57.64**	**7**	P		**P**	**06 40 57.3**	**-1.6**
	1.8nm,0.5s,mb4.2,baz=230,slow=4.8,SNR=10							
YKA	**Yellowknife Ar**	**70.83**	**342**	P		**P**	**06 42 23.0**	**-1.2**
	1.4nm,0.6s,mb3.9,baz=139,slow=5.7,SNR=44							
EVO	**Evora**	**74.97**	**49**	*e*P		**P**	**06 42 47.1**	**-1.8**
	32nm,1.0s,mb4.6							
ESDC	**Sonseca Array**	**78.31**	**49**	P		**P**	**06 43 06.9**	**-0.5**
	1.9nm,0.7s,mb3.8,baz=264,slow=6.8,SNR=13							
QUIF	**Quistinic**	**80.80**	**41**	*e*P		**P**	**06 43 20.2**	**-0.5**
	48nm,1.3s,mb4.7							
ROSF	**Rostrenen**	**80.83**	**40**	*e*P		**P**	**06 43 20.6**	**-0.2**
	57nm,1.3s,mb4.7							
SJPF	**Ste Jean**	**81.06**	**46**	*e*P		**P**	**06 43 22.2**	**0.0**
	14nm,0.7s,mb4.4							
SGMF	**Saint Gilles**	**81.28**	**41**	*e*P		**P**	**06 43 22.9**	**-0.3**
ETSF	**Etsaut**	**81.50**	**46**	*e*P		**P**	**06 43 24.3**	**-0.1**
EPF	**Esparros**	**82.17**	**46**	*e*P		**P**	**06 43 27.5**	**-0.4**
	7.0nm,0.8s,mb4.1							
GRR	**Gorron**	**82.41**	**41**	*e*P		**P**	**06 43 28.5**	**-0.6**
	17nm,0.8s,mb4.4							
MFF	**Saint Martin d**	**82.52**	**43**	*e*P		**P**	**06 43 29.6**	**0.0**
	11nm,0.8s,mb4.4							
FLN	**La Foliniere**	**82.74**	**40**	*e*P		**P**	**06 43 30.2**	**-0.5**
	9.7nm,0.7s,mb4.3							
LFF	**La Frestale**	**82.81**	**44**	*e*P		**P**	**06 43 30.7**	**-0.4**
	26nm,1.0s,mb4.6							
LDF	**La Druitiere**	**82.93**	**41**	*e*P		**P**	**06 43 31.5**	**-0.2**
	5.1nm,0.7s,mb4.1							
RJF	**Les Rejaudoux**	**83.41**	**44**	*e*P		**P**	**06 43 33.7**	**-0.5**
	7.2nm,0.6s,mb4.3							
MTLF	**Montolieu**	**83.57**	**46**	*e*P		**P**	**06 43 34.6**	**-0.5**
	4.5nm,0.5s,mb4.2							
CAF	**Calviac**	**83.73**	**44**	*e*P		**P**	**06 43 35.5**	**-0.3**
	7.4nm,0.8s,mb4.2							
TCF	**Toulx Ste Croi**	**84.06**	**43**	*e*P		**P**	**06 43 37.0**	**-0.4**
	5.5nm,0.6s,mb4.2							
BGF	**Bois d'Agland**	**84.54**	**43**	*e*P		**P**	**06 43 40.6**	**+0.8**
	20nm,0.9s,mb4.5							
LASF	**Ste Croix**	**84.86**	**46**	*e*P		**P**	**06 43 41.1**	**-0.4**
	7.0nm,0.8s,mb4.2							
AVF	**Avril sur Loir**	**84.92**	**43**	*e*P		**P**	**06 43 41.1**	**-0.6**
	5.6nm,0.7s,mb4.1							
SSF	**Saint Saulge**	**85.06**	**43**	*e*P		**P**	**06 43 42.3**	**-0.1**
SMF	**Signal de Mont**	**85.23**	**43**	*e*P		**P**	**06 43 42.8**	**-0.4**
	12nm,1.0s,mb4.3							
BAIF	**Baives**	**85.98**	**40**	*e*P		**P**	**06 43 46.5**	**-0.3**
	6.1nm,0.8s,mb4.1							
GIVF	**Givet**	**86.38**	**40**	*e*P		**P**	**06 43 48.8**	**+0.1**
ORIF	**Oris-en-Rattie**	**86.41**	**45**	*e*P		**P**	**06 43 49.0**	**0.0**
	8.8nm,0.9s,mb4.2							
LMR	**La Mourre**	**86.67**	**47**	*e*P		**P**	**06 43 50.0**	**-0.3**
CABF	**La Chapelle**	**86.76**	**43**	*e*P		**P**	**06 43 50.1**	**-0.6**
FRF	**La Foret Royal**	**86.80**	**46**	*e*P		**P**	**06 43 50.5**	**-0.4**
MBDF	**Montbardon**	**87.02**	**45**	*e*P		**P**	**06 43 51.9**	**-0.1**
LPG	**La Plagne**	**87.09**	**44**	*e*P		**P**	**06 43 52.4**	**+0.1**
HINF	**Hinteralfeld**	**87.42**	**42**	*e*P		**P**	**06 43 53.4**	**-0.4**
QSPA	**South Pole Qui**	**87.64**	**180**	*e*P		**P**	**06 43 55.9**	**+1.7**
	17nm,0.9s,mb4.9							
ASAR	**Alice Springs**	**140.54**	**227**	PKhKP			06 50 27.7	
	0.5nm,0.4s,baz=132,slow=3.7,SNR=9.1							
WRA	**Warramunga Arr**	**142.32**	**232**	PKhKP			06 50 34.7	
	1.0nm,0.4s,baz=119,slow=2.4,SNR=18							
FITZ	**Fitzroy Crossi**	**150.03**	**226**	*e*P		PKPdf	06 50 57.6	+6.8
	12nm,1.0s							
FITZ	**Fitzroy Crossi**	**150.03**	**226**	PKPbc		PKPdf	06 50 57.3	+6.5
	6.0nm,0.4s,baz=319,slow=0.7,SNR=16							

IDC 26 06:46:05.2±1.1, 0.63S×128.55E, mb3.7/6, mb1 3.9/7, mb1mx3.8/16, mbtmp3.8/7, ML3.6/1, MS3.2/1, Ms1 3.1/1, ms1mx2.2/18, Error ellipse: s-maj=69.2km s-min=17.8km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.59**	**189**	P		P	06 50 12.2	-1.3
	0.2nm,0.3s,baz=2.0,slow=15,SNR=4.1							
WRA	**Warramunga Arr**	**20.01**	**164**	P		P	06 50 41.5	-1.0
	1.4nm,0.4s,baz=342,slow=12,SNR=15							
ASAR	**Alice Springs**	**23.48**	**168**	P		P	06 51 15.8	-1.8
	1.8nm,0.9s,baz=346,slow=11,SNR=13							
CTA	**Charters Tower**	**25.37**	**139**	P		P	06 51 38.1	-3.3
	5.0nm,1.3s,baz=75,slow=4.2,SNR=3.6							
STKA	**Stephens Creek**	**33.44**	**160**	P		P	06 52 46.7	-1.3
	1.5nm,0.9s,baz=324,slow=13,SNR=3.0							
STKA				LR		LR	07 06 25.6	
	comp=Z,40nm,19.7s,baz=25,slow=36							
SONM	**Songino Array**	**51.98**	**341**	P		P	06 55 17.3	-1.0
	0.4nm,0.7s,baz=146,slow=8.9,SNR=4.1							
MKAR	**Makanchi Array**	**62.15**	**326**	P		P	06 56 27.7	-2.9
	0.8nm,0.4s,baz=124,slow=8.4,SNR=14							

IDC 26 06:50:53.4±1.7, 1.39N×128.71E, mb3.4/4, mb1 3.6/4, mb1mx3.5/14, mbtmp3.4/4, Error ellipse: s-maj=226.4km s-min=25.8km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.91**	**166**	P		P	06 55 46.5	-3.8
	0.2nm,0.4s,baz=346,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**25.42**	**169**	P		P	06 56 23.2	-1.2
	1.0nm,0.7s,baz=350,slow=8.8,SNR=9.5							
STKA	**Stephens Creek**	**35.27**	**161**	P		P	06 57 51.0	-1.1
	1.0nm,0.6s,baz=339,slow=10.0,SNR=3.5							
SONM	**Songino Array**	**50.14**	**341**	P		P	06 59 50.4	-2.1
	0.2nm,0.3s,baz=135,slow=4.1,SNR=4.3							

IDC 26 07:06:38.5±2.7, 7.94S×118.17E, mb3.6/3, mb1 3.6/4, mb1mx3.5/15, mbtmp3.5/4, ML3.0/1, Error ellipse: s-maj=173.8km s-min=23.0km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.70**	**129**	P		P	07 11 07.7	-4.7
	0.0nm,0.3s,baz=300,slow=13,SNR=5.4							
ASAR	**Alice Springs**	**21.73**	**138**	P		P	07 11 33.0	-0.6
	0.6nm,0.5s,baz=312,slow=9.6,SNR=16							
SONM	**Songino Array**	**56.49**	**351**	P		P	07 16 23.0	-1.8
	1.4nm,0.9s,baz=165,slow=8.9,SNR=10							
MKAR	**Makanchi Array**	**63.14**	**333**	P		P	07 17 07.7	-2.7
	0.4nm,0.5s,baz=148,slow=7.5,SNR=7.1							

*NEIC **26** 07:22:22.9±2.3, 6.83S×127.01E, h432km±35km, mb4.1/4, Error ellipse: s-maj=25.4km s-min=20.7km az=175.0*
*IDC **26** 07:22:23.5±3.1, 6.88S×127.04E, h444km±36km, mb2.7/1, mb1 3.3/4, mb1mx3.0/12, mbtmp4.0/4, Error ellipse: s-maj=76.0km s-min=16.5km az=66.0*

ISC 26 07:22:21.6±1.6, 6.9S±0.1×127.0E±0.2, h433km±19km, n10, σ0≈85/14, mb3.2/1, 2C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.89**	**138**	⇑*i*P		**P**	**07 24 17.0**	**+0.3**
	9.3nm,0.6s							
KAKA				*e*S		**S**	**07 25 47.4**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.27**	**187**	⇓*i*P		**P**	**07 24 54.1**	**-0.7**
	4.5nm,0.3s							
FITZ	**Fitzroy Crossi**	**11.27**	**187**	P		**P**	**07 24 53.6**	**-1.2**
	2.7nm,0.3s,baz=13,slow=9.2,SNR=44							
WRAB

111nm,0.7s
MBWA Marble Bar 61.41 256 *e*P **P 07 47 43.6 -1.1**
8.9nm,0.7s,mb5.0
NWAO Narrogin (SRO) 61.65 243 P **P 07 47 44.6 -1.5**
ASAJ Asahikawa 75.42 329 LR LR 08 15 54.0
comp=Z,66nm,20.6s,MS3.9,baz=0,2,slow=31
LDFC Landfair 78.59 46 P **P 07 49 31.5 +2.3**
TUC Tucson 80.09 50 *e*P **P 07 49 38.3 +0.9**
2.2nm,0.9s,mb4.1
MDJ Mudanjiang 82.55 323 P **P 07 49 49.0 -1.1**
MAW Mawson 82.87 199 LR LR 08 26 24.8
comp=Z,351nm,18.4s,MS4.8,baz=247,slow=35
SRU San Rafael 83.87 45 *e*P **P 07 49 57.9 +1.0**
TXAR Lajitas Array 83.97 56 P **P 07 49 56.7 -0.9**
0.7nm,0.7s,mb3.9,baz=221,slow=8.7,SNR=9.6
TXAR LR LR 08 20 35.5
comp=Z,140nm,18.1s,MS4.4,baz=190,slow=31
TCUT Toone Canyon 84.38 42 *e*P **P 07 49 59.1 -0.3**
ANMO Albuquerque 84.54 50 *e*P **P 07 50 00.4 0.0**
8.9nm,1.4s,mb4.7
PV01 Paradox Valley 84.66 46 *e*P **P 07 50 00.9 0.0**
GDL2 Guadalupe Moun 84.76 53 *e*P **P 07 50 01.1 -0.4**
CPRX Cap Rock 85.52 52 *e*P **P 07 50 08.0 +2.7**
TNA Tin City 85.81 3 *e*P **P 07 50 06.5 +0.7**
4.0nm,0.8s,mb4.7
MCK McKinley 86.13 11 *e*P **P 07 50 07.0 -0.5**
9.5nm,1.2s,mb4.9
PDAR Pinedale Array 86.43 42 P **P 07 50 07.9 -1.6**
0.8nm,0.8s,mb4.0,baz=279,slow=0.6,SNR=7.0
PLCA Paso Flores 86.70 132 LR LR 08 22 50.9
comp=Z,196nm,20.2s,MS4.5,baz=203,slow=31
COLA College 87.36 11 *e*P **P 07 50 12.9 -0.6**
7.2nm,0.9s,mb4.9
IMA Indian Mountai 87.57 8 *e*P **P 07 50 14.8 +0.3**
BJT Baijiatuau 88.38 314 P **P 07 50 19.8 +0.8**
YKA Yellowknife Ar 94.92 24 P **P 07 50 48.3 -0.4**
0.1nm,0.7s,baz=238,slow=4.5,SNR=8.7
YKA Yellowknife Ar 94.92 24 P **P 07 50 48.3 -0.4**
LPAZ La Paz 98.74 111 LR LR 08 28 18.9
comp=Z,91nm,18.5s,MS4.3,baz=44,slow=31
BVAR Borovoye Array 121.31 320 PKP PKPdf 07 56 20.2 +1.4
0.6nm,0.5s,baz=130,slow=3.6,SNR=4.0
ARCES ARCESS Array B 129.41 351 PKP PKPdf 07 56 35.3 +1.3
3.0nm,0.9s,baz=90,slow=1.2,SNR=5.5
FINES FINESS Array B 136.61 346 PKP PKPdf 07 56 48.6 +1.0
0.4nm,0.6s,slow=3.8,SNR=3.9
KMBO Kilima Mbogo 142.55 239 PKP PKPdf 07 56 58.9 -0.7
1.8nm,1.1s,baz=96,slow=5.2,SNR=4.3
KMBO Kilima Mbogo 142.55 239 PKP PKPdf 07 56 58.9 -0.7
AKASG Malin Array Be 144.58 334 PKP PKPdf 07 57 01.4 -0.6
4.1nm,0.6s,baz=41,slow=4.3,SNR=33
KSP Ksiaz 148.51 347 *e*P PKPdf 07 57 17.7 +9.2
CLL Collm 148.64 351 *i* PKIKP PKPdf 07 57 10.6 +1.9
CLL *i* *PPKP 07 57 29.0
BRG Berggiesshubel 148.92 350 *e*P PKPdf 07 57 19.2 +10
BRTR Keskin Array B 149.38 315 PKPbc PKPdf 07 57 17.1 +6.8
1.1nm,0.6s,baz=135,slow=3.5,SNR=5.7
PRU Pruhonice 149.67 349 *e*PKPab PKPab 07 57 20.6 -1.9
KHC Kasperske Hory 150.66 350⇑ *e*PKPB 07 57 19.5
KHC *ep*PKP 07 57 33.0
KHC *ex* x 07 57 48.0
GERES GERESS Array B 150.92 349 PKPbc PKPdf 07 57 19.5 +7.2
1.0nm,0.8s,baz=45,slow=1.9,SNR=9.0

*IDC **26** 07:47:16.2±4.8,43.31N×147.56E,mb3.2/3,mb1 3.5/3, mb1mx3.3/19,mbtmp3.2/3,Error ellipse: s-maj=159.5km s-min=39.3km az=177.0*
*JMA **26** 07:47:22.4±0.2,43.24N×147.37E,h30km,M3.6*
ISC 26 07:47:22.5±1.4,43.2N±0.1×147.4E±0.1,h63km±14km,n14, σ0°46/23,mb3.2/3,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.23**	**278**	P	**P**	**07 47 43.6**	**-0.4**
NEM2				*e*S	**S**	**07 47 59.2**	**-0.7**
JRA	**Rausu**	**1.82**	**295**	P	**P**	**07 47 52.0**	**-0.1**
JRA				*e*S	**S**	**07 48 14.3**	**+0.3**
JAK	**Akkeshi**	**2.00**	**265**	P	**P**	**07 47 54.9**	**+0.3**
JAK				*e*S	**S**	**07 48 18.6**	**+0.3**
JNK	**Nakash**	**2.00**	**282**	P	**P**	**07 47 54.3**	**-0.3**
JNK				*e*S	**S**	**07 48 18.6**	**+0.2**
JOB	**Onbets**	**2.63**	**265**	P	**P**	**07 48 03.8**	**+0.1**
JOB				*e*S	**S**	**07 48 34.4**	**-0.1**
JTKR	**Abashiri--Toko**	**2.66**	**288**	P	**P**	**07 48 04.5**	**+0.5**
JTKR				*e*S	**S**	**07 48 34.9**	**-0.1**
JAR	**Ashorobuto**	**2.66**	**273**	P	**P**	**07 48 04.3**	**+0.3**
JAR				*e*S	**S**	**07 48 35.1**	**0.0**
JCH	**Churui**	**3.03**	**260**	P	**P**	**07 48 09.3**	**+0.1**
JCH				*e*S	**S**	**07 48 44.3**	**-0.2**
JMP	**Maruseppu**	**3.05**	**287**	P	**P**	**07 48 10.0**	**+0.5**
JNBK	**Urakawa-nobuka**	**3.55**	**257**	P	**P**	**07 48 16.8**	**+0.3**
JNBK				*e*S	**S**	**07 48 57.0**	**-0.5**
JSE	**Soyaes**	**3.89**	**298**	P	**P**	**07 48 21.4**	**+0.1**
MKAR	**Makanchi Array**	**4.05.01**	**298**	P	**P**	**07 55 33.5**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=82,slow=7.2,SNR=5.2						
YKA	**Yellowknife Ar**	**56.16**	**34**	P	**P**	**07 56 55.9**	**-1.5**
	0.1nm,0.6s,mb3.0,baz=299,slow=7.0,SNR=4.8						
TXAR	**Lajitas Array**	**82.80**	**56**	P	**P**	**07 59 41.8**	**+0.7**
	0.1nm,0.5s,mb3.1,baz=297,slow=2.0,SNR=3.7						

IDC 26 07:49:52.9±1.9,2.00N×126.05E,mb3.3/3,mb1 3.7/4, mb1mx3.5/15,mbtmp3.5/4,ML4.0/1,Error ellipse: s-maj=117.3km s-min=24.8km az=68.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**19.98**	**181**	P	P	07 54 27.1	-2.7
	0.3nm,0.3s,baz=170,slow=7.5,SNR=6.1						
WRA	**Warramunga Arr**	**23.27**	**160**	P	P	07 55 01.9	-1.4
	0.4nm,0.3s,baz=338,slow=10,SNR=12						
ASAR	**Alice Springs**	**26.63**	**164**	P	P	07 55 33.6	-1.6
	0.3nm,0.7s,baz=338,slow=7.0,SNR=5.6						
MKAR	**Makanchi Array**	**58.59**	**326**	P	P	07 59 51.8	-2.2
	0.1nm,0.3s,baz=119,slow=7.0,SNR=5.0						

*MEX **26** 08:46:18.8±0.9,17.55N×94.93W,h141km±7km,MD4.1*
*NEIC **26** 08:46:19.7,17.53N×94.95W,h135km,mb4.2/1, MD3.9(MEX),After MEX.*
ISC 26 08:46:16.2±0.7,17.56N±0.05×94.96W±0.04,h143km±6km, n20,σ1°06/37,mb4.1/1,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.47**	**171**	*i* P	**S**	**08 46 37.8**	**+0.7**
CMIG				*i* S	**S**	**08 46 51.7**	**-1.5**
CMIG	**Matias Romero**	**0.47**	**171**	*i* P	**S**	**08 46 37.8**	**+0.7**
CMIG				*i* S	**S**	**08 46 51.6**	**-1.5**
TUIG	**Tuzandepetl**	**0.70**	**47**	*e*P	**S**	**08 46 39.0**	**+0.5**
TUIG				*e*S	**S**	**08 46 55.0**	**-0.4**
EVV	**El Vigia**	**0.97**	**338**	*e*P	**S**	**08 46 45.5**	**+5.3**
EVV				*i* S	**S**	**08 46 59.0**	**+0.3**
OXX	**Oaxaca**	**1.75**	**255**	*e*P	**S**	**08 46 49.5**	**+1.2**
OXX				*e*S	**S**	**08 47 13.5**	**+0.5**
OXX	**Oaxaca**	**1.75**	**255**	*i* P	**S**	**08 46 49.5**	**+1.2**
OXX				*i* S	**S**	**08 47 13.5**	**+0.5**
VHO	**Vista Hermosa**	**1.76**	**254**	*e*P	**S**	**08 46 50.0**	**+1.5**
VHO				*e*S	**S**	**08 47 14.2**	**+1.0**
VHO	**Vista Hermosa**	**1.76**	**254**	*i* P	**S**	**08 46 50.0**	**+1.5**
VHO				*i* S	**S**	**08 47 14.4**	**+1.2**
HUIG	**Huatulco**	**2.09**	**212**	*e*P	**S**	**08 46 51.9**	**-0.5**
HUIG				*e*S	**S**	**08 47 19.6**	**-0.5**
HUIG	**Huatulco**	**2.09**	**212**	*i* P	**S**	**08 46 52.0**	**-0.3**
HUIG				*i* S	**S**	**08 47 19.9**	**-0.2**
LVIG	**Laguna Verde**	**2.56**	**328**	*e*P	**S**	**08 46 57.2**	**-1.1**
LVIG				*e*S	**S**	**08 47 25.7**	**-4.9**
LVIG	**Laguna Verde**	**2.56**	**328**	*i* P	**S**	**08 46 57.4**	**-0.9**
LVIG				*i* S	**S**	**08 47 29.5**	**-1.1**
IISM	**Ciudad Serdan**	**2.70**	**302**	*e*P	**S**	**08 47 00.0**	**-0.2**
CCIG	**Comitan**	**2.99**	**115**	*e*P	**S**	**08 47 04.8**	**+0.9**
CCIG				*i* P		08 47 06.1	
CCIG				*e*S	**S**	**08 47 39.5**	**-0.7**
CCIG	**Comitan**	**2.99**	**115**	*i* P	**S**	**08 47 04.8**	**+0.9**
CCIG				*i* S	**S**	**08 47 39.5**	**-0.7**
PPM	**Popocatepetl**	**3.79**	**294**	*e*P	**S**	**08 47 16.0**	**+1.6**
PPM				*e*S	**S**	**08 47 58.0**	**-1.1**
YAIG	**Yautepec**	**4.11**	**289**	*e*P	**S**	**08 47 20.3**	**+1.7**
YAIG	**Yautepec**	**4.11**	**289**	*i* P	**S**	**08 47 20.3**	**+1.7**
YAIG				*i* S	**S**	**08 48 06.6**	**0.0**
ACX	**Acapulco**	**4.78**	**263**	*e*P	**P**	**08 47 26.0**	**-1.6**
ACX				*e*S	**S**	**08 48 20.0**	**-2.6**
LPAZ	**La Paz**	**42.78**	**140**	*e*P	**P**	**08 54 01.1**	**-0.3**
	3.0nm,0.6s,mb4.1						

*NEIC **26** 08:56:20.7±0.4,6.73N×72.98W,mb3.9/5,Error ellipse: s-maj=9.2km s-min=8.8km az=92.0*
*IDC **26** 08:56:20.5±0.5,6.81N×73.03W,h153km±5km,mb3.6/9, mb1 3.8/12,mb1mx3.6/21,mbtmp4.1/12,Error ellipse: s-maj=14.1km s-min=7.1km az=128.0*
ISC 26 08:56:20.4±0.6,6.81N±0.07×73.04W±0.06,h166km±7km, n33,σ0°88/32,mb3.8/14,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.33**	**214**	P	**P**	**08 57 01.8**	**+1.1**
	76nm,0.3s,baz=285,slow=9.0,SNR=312						
ROSC				S	**S**	**08 57 31.1**	**-0.6**
	51nm,0.3s,baz=98,slow=14,SNR=9.9						
SDV	**Santo Domingo**	**3.15**	**49**	P	**P**	**08 57 11.6**	**+0.7**
	28nm,0.3s,baz=249,slow=3.0,SNR=517						
SDV				S	**S**	**08 57 48.4**	**-1.3**
	101nm,0.3s,baz=69,slow=19,SNR=54						
OTAV	**Otavalo**	**8.47**	**220**	*e*P	**P**	**08 58 20.1**	**-0.8**
PCRV	**Puerto La Cruz**	**8.96**	**68**	P	**P**	**08 58 27.7**	**+0.5**
	1.2nm,0.3s,baz=268,slow=5.6,SNR=9.0						
PCRV				S	**S**	**09 00 07.2**	**+0.8**
	1.0nm,0.3s,baz=204,slow=18,SNR=2.6						
JTS	**JuntasAbangare**	**12.28**	**287**	*e*P	**P**	**08 59 14.1**	**+3.4**
TEIG	**Tepich**	**19.91**	**314**	*e*P	**P**	**09 00 41.7**	**+0.6**
LPAZ	**La Paz**	**23.46**	**168**	P	**P**	**09 01 18.0**	**+1.9**
	0.3nm,0.4s,mb3.1,baz=309,slow=6.5,SNR=3.6						
LPAZ				pP		09 01 45.3	
	1.4nm,0.8s,baz=331,slow=10,SNR=2.6						
LPAZ	**La Paz**	**23.46**	**168**	P	**P**	**09 01 13.6**	**-2.5**
LPAZ				pP		09 01 45.3	
SIV	**San Ignacio**	**25.57**	**152**	pP	pP	09 02 06.3	-3.1
	0.7nm,0.5s,baz=329,slow=11,SNR=3.2						
BDFB	**Brasilia**	**33.35**	**132**	P	**P**	**09 02 44.6**	**-0.3**
	0.8nm,0.4s,mb3.8,baz=284,slow=4.2,SNR=4.3						
MIAR	**Mount Ida**	**33.48**	**328**	*e*P	**P**	**09 02 45.0**	**-0.9**
	1.7nm,0.7s,mb3.9						
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**09 03 11.9**	**+0.2**
	1.4nm,0.6s,mb3.8,baz=126,slow=9.1,SNR=20						
TXAR				PcP	PcP	09 05 33.0	+0.9
	0.5nm,0.7s,baz=146,slow=6.5,SNR=5.2						
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**09 03 11.9**	**+0.2**
TXAR				PcP	PcP	09 05 33.0	+0.9
WMOK	**Wichita Mounta**	**36.54**	**323**	*e*P	**P**	**09 03 10.9**	**-0.9**
	2.4nm,0.7s,mb3.9						
LENM	**Lemitar**	**41.50**	**316**	*e*P	**P**	**09 03 49.6**	**-3.2**
TUC	**Tucson**	**43.32**	**311**	*e*P	**P**	**09 04 08.0**	**+0.3**
	1.2nm,0.8s,mb3.6						
EYMN	**Ely**	**43.90**	**342**	*e*P	**P**	**09 04 11.4**	**-0.7**
	5.5nm,0.7s,mb4.3						
PV01	**Paradox Valley**	**44.79**	**319**	*e*P	**P**	**09 04 20.7**	**+1.3**
ULM	**Lac du Bonnet**	**47.32**	**340**	P	**P**	**09 04 38.3**	**-0.8**
	3.1nm,0.4s,mb4.3,baz=136,slow=6.8,SNR=8.2						
MSU	**Marysvale**	**47.37**	**318**	*e*P	**P**	**09 04 40.7**	**+1.1**
PDAR	**Pinedale Array**	**48.13**	**324**	P	**P**	**09 04 45.2**	**-0.2**
	1.0nm,0.5s,mb3.7,baz=126,slow=9.3,SNR=11						
SCHQ	**Schefferville**	**48.14**	**5**	P	**P**	**09 04 45.0**	**-0.3**
	1.5nm,0.6s,mb3.8,baz=206,slow=11,SNR=8.4						
TCUT	**Toone Canyon**	**48.29**	**321**	*e*P	**P**	**09 04 47.0**	**+0.3**
DUG	**Dugway**	**48.67**	**319**	*e*P	**P**	**09 04 50.1**	**+0.4**
	1.9nm,0.7s,mb3.8						
REDW	**Red Top Meadow**	**49.25**	**324**	*e*P	**P**	**09 04 54.3**	**+0.2**
RRI2	**Red Ridge**	**49.52**	**324**	*e*P	**P**	**09 04 56.4**	**+0.3**
IMW	**Indian Meadow**	**49.62**	**324**	*e*P	**P**	**09 04 56.7**	**-0.1**
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**09 06 32.6**	**-1.0**
	2.7nm,0.6s,mb4.3,baz=132,slow=6.7,SNR=104						
INK	**Inuvik**	**73.07**	**340**	P	**P**	**09 07 33.6**	**-0.1**
	0.7nm,0.4s,mb3.7,baz=91,slow=4.5,SNR=6.5						
INK				pP	pP	09 08 11.8	-2.2
	0.4nm,0.7s,baz=180,slow=5.1,SNR=1.2						
NOA	**NORSAR Array B**	**81.30**	**29**	P	**P**	**09 08 19.7**	**+0.3**
	0.5nm,0.8s,mb3.2,baz=269,slow=4.4,SNR=2.4						
ASAR	**Alice Springs**	**149.17**	**234**	PKP	PKPdf	09 15 46.8	+1.3
	1.9nm,0.7s,baz=87,slow=1.8,SNR=21						
ASAR				PKPbc	PKPdf	09 15 50.5	+5.0
	2.0nm,0.6s,baz=116,slow=3.5,SNR=8.3						
WB2	**Warramunga Arr**	**150.40**	**241**	⇓*i*P	PKPdf	09 15 53.6	+6.2
WRA	**Warramunga Arr**	**150.41**	**241**	PKPbc	PKPdf	09 15 53.5	+6.1
	1.9nm,0.4s,baz=108,slow=2.6,SNR=6.2						
WRA				pPKPbc		09 16 33.6	
	0.6nm,0.6s,baz=106,slow=2.3,SNR=1.7						

IDC 26 09:02:14.4±2.1,0.61N×127.05E,mb3.0/3,mb1 3.2/3, mb1mx3.1/13,mbtmp3.0/3,Error ellipse: s-maj=173.8km s-min=25.7km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.64**	**161**	P	P	09 07 05.2	-3.4
	0.2nm,0.4s,baz=340,slow=11,SNR=7.1						
ASAR	**Alice Springs**	**25.04**	**165**	P	P	09 07 41.6	-0.3
	0.1nm,0.3s,baz=344,slow=11,SNR=4.8						
MKAR	**Makanchi Array**	**60.29**	**326**	P	P	09 12 24.8	-2.4
	0.2nm,0.6s,baz=112,slow=7.8,SNR=2.6						

*IDC **26** 09:03:24.5±6.3,34.38N×70.56E,mb3.5/4,mb1 3.6/5, mb1mx3.3/18,mbtmp3.4/5,ML3.1/1,MS3.3/1,Ms1 3.3/1, ms1mx2.7/15,Error ellipse: s-maj=125.2km s-min=52.6km az=168.0*
ISC 26 09:03:59.9±1.5,36.48N±0.07×71.0E±0.2,h220km±19km, n19,σ0°74/20,mb3.0/4,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLH	**Dalhousie**	**5.71**	**132**	*e*	**S**	**09 06 35.0**	**+4.8**
AML	**Almayashu**	**6.03**	**20**	P	**P**	**09 05 28.5**	**-0.1**
	SNR=42						
UCH	**Uchtor**	**6.37**	**25**	P	**P**	**09 05 33.1**	**+0.2**
	SNR=21						
KZA	**Kyzart**	**6.51**	**30**	P	**P**	**09 05 34.6**	**-0.1**
	SNR=6.2						
EKS2	**Erkin-Say**	**6.55**	**19**	P	**P**	**09 05 35.3**	**+0.1**
	SNR=5.9						
ULHL	**Ulahol**	**7.07**	**34**	P	**P**	**09 05 42.1**	**+0.2**
	SNR=6.2						
USP	**Ospenovka**	**7.31**	**21**	P	**P**	**09 05 44.7**	**-0.2**
	SNR=8.2						
TKM2	**Tokmak 2**	**7.36**	**28**	P	**P**	**09 05 45.8**	**+0.1**
	SNR=5.4						
KLP	**Kalpa**	**7.81**	**127**	*e*	P	09 06 47.8	+56
KLP				*e*S	**S**	**09 07 17.9**	**-0.9**
KHET	**Khetri**	**9.33**	**153**	*e*P	**P**	**09 06 08.2**	**-2.9**
KHET				*e*S	**S**	**09 07 47.1**	**-6.7**
KHET				*e*		09 07 54.5	
	comp=N,5.9nm,0.3s						
KHET				*e*		09 07 54.9	
	comp=E,5.0nm,0.4s						
KHET	**Khetri**	**9.33**	**153**	*e*P	**P**	**09 06 11.9**	**+0.8**
AYAN	**Aya Nagar**	**9.53**	**145**	*e*P	**P**	**09 06 14.9**	**+1.3**
KUDL	**Kundal**	**9.54**	**149**	*e*P	**P**	**09 06 13.9**	**+0.2**
KUDL				*e*S	**S**	**09 07 52.9**	**-5.7**
KUDL				*e*		09 08 00.4	
	comp=Z,3.3nm,0.4s						
MKAR	**Makanchi Array**	**13.33**	**36**	Pn	**P**	**09 07 01.6**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=4.8						
FINES	**FINESS Array B**	**37.48**	**326**	P	**P**	**09 10 52.3**	**-1.3**
	comp=Z,0.3nm,0.5s,mb3.1,baz=120,slow=19,SNR=4.7						
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**09 11 24.4**	**+0.6**
	comp=Z,1.5nm,0.7s,mb3.5,baz=117,slow=8.1,SNR=6.7						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**09 11 49.0**	**-0.6**
	comp=Z,0.2nm,0.8s,mb2.5,baz=103,slow=7.5,SNR=2.7						
JOW	**Kunigami**	**49.12**	**84**	LR	LR	09 35 29.5	
	comp=Z,27nm,18.7s,baz=258,slow=39						
YKA	**Yellowknife Ar**	**81.27**	**3**	P	**P**	**09 15 53.1**	**+1.0**
	comp=Z,0.1nm,0.4s,mb2.8,baz=351,slow=5.2,SNR=4.8						

*NEIC **26** 09:33:30.5±0.8,3.51S×144.03E,h10km,mb4.2/3,Error ellipse: s-maj=17.9km s-min=11.0km az=90.0*
*IDC **26** 09:33:41.8±7.2,3.91S×144.44E,h133km±89km,mb3.3/4, mb1 3.4/6,mb1mx3.4/12,mbtmp3.7/6,MS3.2/2,Ms1 3.2/2, ms1mx2.8/8,Error ellipse: s-maj=71.2km s-min=26.1km az=117.0*
ISC 26 09:33:32.3±3.8,3.6S±0.1×144.2E±0.1,h42km±38km,n12, σ0°69/13,mb3.8/5,MS3.0/2,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.45**	**153**	P	**P**	**09 35 08.0**	**+0.8**
	1.2nm,0.3s,baz=14,slow=8.3,SNR=4.4						
PMG				S	**S**	**09 36 19.7**	**-0.7**
	0.6nm,0.3s,baz=162,slow=20,SNR=2.5						
KAKA	**Kakadu**	**14.69**	**231**	*e*P	**P**	**09 36 58.9**	**-0.3**
	4.8nm,0.4s						
WRAB	**Tennant Creek**	**18.81**	**210**	*e*P	**P**	**09 37 50.7**	**-0.4**
	3.4nm,0.6s						
WB2	**Warramunga Arr**	**18.82**	**210**	*e*P	**P**	**09 37 50.8**	**-0.4**
WRA	**Warramunga Arr**	**18.82**	**210**	P	**P**	**09 37 51.3**	**0.0**
	0.3nm,0.3s,baz=35,slow=11,SNR=18						
ASAR	**Alice Springs**	**22.24**	**206**	P	**P**	**09 38 27.6**	**+0.7**
	1.7nm,0.6s,mb3.6,baz=31,slow=11,SNR=18						
ASAR				LR	LR	09 48 33.8	
	comp=Z,50nm,19.3s,MS3.0,baz=342,slow=40						
ASPA	**Alice Springs**	**22.24**	**206**	*e*P	**P**	**09 38 30.2**	**+3.2**
FITZ	**Fitzroy Crossi**	**23.15**	**230**	*e*P	**P**	**09 38 36.2**	**+0.2**
	5.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.15**	**230**	P	**P**	**09 38 35.9**	**-0.2**
	2.2nm,0.3s,mb4.0,baz=47,slow=5.1,SNR=12						
FITZ				LR	LR	09 47 53.9	
	comp=Z,67nm,18.5s,MS3.1,baz=90,slow=37						
SONM	**Songino Array**	**61.00**	**332**	P	**P**	**09 43 43.6**	**-0.3**
	0.6nm,0.8s,mb3.8,baz=155,slow=8.2,SNR=4.8						
MKAR	**Makanchi Array**	**73.90**	**321**	P	**P**	**09 45 04.7**	**-0.2**
	0.4nm,0.7s,mb3.5,baz=101,slow=6.2,SNR=6.0						
CHKZ	**Chkalovo**	**83.26**	**325**	*e*P	**P**	**09 45 55.7**	**-0.1**
	1.4nm,0.7s,mb4.1						

IDC 26 09:44:06.1±1.6,47.73N×27.53W,mb3.5/3,mb1 4.1/4, mb1mx3.5/22,mbtmp3.7/4,ML5.8/1,MS3.4/1,Ms1 3.4/1, ms1mx2.3/31,Error ellipse: s-maj=73.6km s-min=28.4km az=8.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.79**	**107**	P	P	09 48 28.2	-0.8
	6.2nm,0.3s,baz=295,slow=13,SNR=39						
PDAR	**Pinedale Array**	**55.39**	**298**	P	P	09 53 42.1	-1.9
	0.4nm,0.7s,baz=59,slow=8.6,SNR=4.1						
PDAR				LR	LR	10 16 30.7	
	comp=Z,36nm,19.1s,baz=249,slow=35						
TXAR	**Lajitas Array**	**59.95**	**282**	P	P	09 54 14.9	-1.4
	0.2nm,0.6s,baz=90,slow=7.5,SNR=3.7						
SONM	**Songino Array**	**76.73**	**30**	P	P	09 55 59.9	-0.4
	0.8nm,0.8s,baz=312,slow=6.5,SNR=7.6						
WRA	**Warramunga Arr**	**148.62**	**34**	PKPbc	PKPdf	10 03 53.9	+0.8
	0.6nm,1.1s,baz=327,slow=2.8,SNR=6.4						
ASAR	**Alice Springs**	**151.79**	**38**	PKPbc	PKPdf	10 04 00.8	+2.8
	0.3nm,0.9s,baz=308,slow=1.3,SNR=5.0						

IDC 26 10:55:54.2±2.2,6.94S×128.86E,mb3.5/1,mb1 3.8/3, mb1mx3.5/12,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=142.7km s-min=31.8km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.98**	**158**	Pn	P	10 59 11.9	-4.2
	0.4nm,0.3s,baz=340,slow=13,SNR=23						
WRA				Sn	S	11 01 37.4	-16
	0.7nm,0.3s,baz=329,slow=23,SNR=7.7						
ASAR	**Alice Springs**	**17.32**	**164**	P	P	10 59 59.1	-0.1
	0.3nm,0.3s,baz=341,slow=9.0,SNR=27						
ASAR				S	S	11 03 02.8	-8.6
	0.2nm,0.3s,baz=320,slow=14,SNR=4.8						
MKAR	**Makanchi Array**	**67.56**	**327**	P	P	11 06 52.6	-2.1
	0.2nm,0.4s,baz=116,slow=7.7,SNR=5.2						

*NIED **26** 11:01:00,33.70N×130.30E,h20km,Mw3.5 Best double couple: M0 1.73×10^14 NP1:ϕs26°,δ90°,λ-156°. NP2: ϕs296°,δ66°,λ0°.*
JMA 26 11:01:04.3,33.70N×130.27E,h15km,M3.5,3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFI	**Itaya**	**0.29**	**160**	⇑P	Pb	11 01 10.4	-0.2
JFI				S	Sb	11 01 14.7	-0.2
JFA	**Akaike**	**0.44**	**88**	⇓P	Pb	11 01 12.8	-0.4
JFA				S	Sb	11 01 19.0	-0.2
JII	**Iki**	**0.46**	**282**	⇓P	Pb	11 01 13.5	0.0
JII				S	Sb	11 01 19.8	0.0
JUR	**Ureshino**	**0.66**	**204**	⇑P	Pb	11 01 16.8	-0.2
JUR				S	Sb	11 01 25.5	-0.2
JTA	**Tamana**	**0.77**	**163**	⇑P	Pb	11 01 18.6	-0.2
JTA				*e*S	Sb	11 01 29.1	+0.3

*NIED **26** 11:25:00,25.20N×129.10E,h11km,Mw3.6 Best double couple: M0 2.42×10^14 NP1:ϕs88°,δ63°,λ-34°. NP2:ϕs195°,δ60°,λ-148°.*
JMA 26 11:25:55.7±0.3,25.25N×129.13E,h49km,M3.5, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT2	**Tamagusuku 2**	**1.53**	**306**	P	P	11 26 21.6	+0.5
JJT2				S	S	11 26 39.5	-0.5
NAH1	**Naha**	**1.61**	**306**	P	P	11 26 22.3	+0.1
NAH1				S	S	11 26 40.7	-1.2
JOW	**Kun

EBAD				S		Sn	11 33 27.6	-6.1
	4.4nm,0.3s,SNR=13							
EBAD	**Badajoz**	**4.13**	**52**	Pn		Pn	11 32 41.0	-2.9
	0.5nm,0.1s,SNR=7.6							
EBAD				Sn		Sn	11 33 27.5	-6.1
	4.4nm,0.3s,SNR=13							
ESPR	**Espera**	**4.33**	**81**	P		Pn	11 32 43.5	-3.2
	6.8nm,0.2s,SNR=8.9							
ESPR				S		Sn	11 33 31.3	-7.5
	6.0nm,0.3s,SNR=5.0							
ESPR	**Espera**	**4.33**	**81**	Pn		Pn	11 32 43.5	-3.3
	8.8nm,0.2s,SNR=8.9							
ESPR				Sn		Sn	11 33 30.7	-8.1
	6.0nm,0.3s,SNR=5.0							
PCBR	**Castelo Branco**	**4.59**	**39**	*e*Sn		Sn	11 33 39.4	-6.0
EJIF	**Jimena Fronter**	**4.62**	**86**	P		Pn	11 32 47.7	-3.1
	0.7nm,0.1s,SNR=4.0							
EJIF				S		Sn	11 33 39.0	-7.1
	2.0nm,0.4s,SNR=4.0							
ECAB	**El Cabril**	**4.94**	**67**	S		Sn	11 33 46.3	-7.8
	2.6nm,0.4s,SNR=6.2							
ECAB	**El Cabril**	**4.94**	**67**	Sn		Sn	11 33 46.3	-7.8
	2.6nm,0.4s,SNR=6.2							
MTE	**Manteigas**	**5.00**	**34**	*e*Sn		Sn	11 33 49.9	-5.7
PVIS	**Viseu**	**5.12**	**29**	*e*Sn		Sn	11 33 52.0	-6.5
	3.9nm,0.1s							
PVIS	**Viseu**	**5.12**	**29**	S		Sn	11 33 52.0	-6.5
	1.9nm,0.1s							
EMIJ	**Mijas**	**5.19**	**85**	P		Pn	11 32 55.1	-3.7
	4.6nm,0.6s,SNR=7.9							
EMIJ				S		Sn	11 33 52.0	-8.3
	2.0nm,0.3s,SNR=7.9							
EADA	**Adamuz**	**5.60**	**69**	P		Pn	11 33 01.5	-3.1
	1.6nm,0.2s,SNR=14							
EADA				S		Sn	11 34 02.2	-8.5
	1.6nm,0.3s,SNR=4.6							
EADA	**Adamuz**	**5.60**	**69**	Pn		Pn	11 33 01.5	-3.2
	0.7nm,0.3s,SNR=14							
EADA				Sn		Sn	11 34 02.2	-8.5
	1.6nm,0.3s,SNR=4.6							
PVRL	**Vila Real**	**5.67**	**28**	*e*Sn		Sn	11 34 05.4	-6.9
ELUQ	**Luque**	**5.69**	**75**	P		Pn	11 33 01.7	-4.2
	1.0nm,0.2s,SNR=7.9							
ELUQ				S		Sn	11 34 04.8	-8.1
	1.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**6.07**	**23**	P		Pn	11 33 09.0	-2.3
	2.3nm,0.3s,SNR=7.9							
ELOB				S		Sn	11 34 14.6	-7.9
	1.5nm,0.0s,SNR=7.9							
ELOB	**Lobios**	**6.07**	**23**	Sn		Sn	11 34 14.6	-7.9
	1.5nm,0.0s,SNR=7.9							
EZAM	**Zamans**	**6.16**	**18**	S		Sn	11 34 15.2	-9.4
	0.7nm,0.2s,SNR=4.0							
PBRG	**Braganca**	**6.50**	**31**	*e*Sn		Sn	11 34 24.7	-8.5
ECAL	**Calabor**	**6.62**	**30**	S		Sn	11 34 28.6	-7.5
	4.3nm,0.3s,SNR=4.0							
ECAL	**Calabor**	**6.62**	**30**	Sn		Sn	11 34 28.6	-7.5
	4.3nm,0.3s,SNR=4.0							
ESDC	**Sonseca Array**	**6.63**	**57**	P		Pn	11 33 15.6	-3.6
	0.5nm,0.2s,baz=242,slow=13,SNR=10							
ESDC				S		Sn	11 34 27.4	-9.1
	0.9nm,0.3s,baz=242,slow=23,SNR=12							
ESDC	**Sonseca Array**	**6.63**	**57**	Pn		Pn	11 33 15.6	-3.6
	0.5nm,0.2s,SNR=10							
ESDC				Sn		Sn	11 34 27.4	-9.1
	0.9nm,0.3s,SNR=12							
EQES	**Quesada**	**6.67**	**75**	P		Pn	11 33 16.1	-3.6
	1.1nm,0.2s,SNR=7.9							
EQES				S		Sn	11 34 27.7	-10
	6.4nm,0.8s,SNR=7.9							
EQES	**Quesada**	**6.67**	**75**	Pn		Pn	11 33 16.1	-3.6
	0.2nm,0.2s,SNR=7.9							
EQES				Sn		Sn	11 34 27.7	-10
	6.4nm,0.8s,SNR=7.9							
EINC	**Incio**	**7.01**	**24**	P		Pn	11 33 20.0	-4.6
	0.7nm,0.2s,SNR=7.9							
EINC				S		Sn	11 34 35.6	-10
	12nm,0.9s,SNR=4.0							
EINC	**Incio**	**7.01**	**24**	Pn		Pn	11 33 20.0	-4.6
	0.9nm,0.2s,SNR=7.9							
EINC				Sn		Sn	11 34 35.6	-10
	12nm,0.9s,SNR=4.0							
EPON	**Pontenova**	**7.68**	**23**	P		Pn	11 33 29.4	-4.6
	1.6nm,0.3s,SNR=7.9							
EPON				S		Sn	11 34 51.4	-11
	40nm,1.3s,SNR=4.0							
EPON	**Pontenova**	**7.68**	**23**	Pn		Pn	11 33 29.4	-4.5
	1.1nm,0.3s,SNR=7.9							

*IDC **26** 11:33:07.0±1.7, 18.15N×95.34E, mb4.2/13, mb1 4.3/13, mb1mx4.1/21, mbtmp4.2/13, Error ellipse: s-maj=47.3km s-min=30.9km az=110.0*
*NEIC **26** 11:33:15.6±1.9, 18.36N×95.13E, h50km±15km, mb4.3/2, Error ellipse: s-maj=23.3km s-min=12.7km az=225.0*
ISC 26 11:33:18.1±1.4, 18.3N±0.1×95.47E±0.10, h99km±16km, n32, σ0°80/35, mb4.0/15, 2C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**3.30**	**87**	*e*P	**P**	**11 34 09.8**	**+0.9**
CHG	**Chiang Mai**	**3.33**	**81**	PG	**S**	**11 34 10.4**	**+1.0**
CHG				SG	**S**	**11 34 47.6**	**-0.6**
BDT	**Bhumibol Dam**	**3.52**	**107**	PG	**P**	**11 34 12.0**	**0.0**
BDT				SG	**S**	**11 34 53.0**	**+0.2**
NANT	**Nan**	**4.99**	**83**	⇑P	**P**	**11 34 50.0**	**+18**
	244nm,1.0s						
NST	**Nakhon Sawan**	**5.17**	**120**	⇑P	**P**	**11 34 34.5**	**+0.1**
	325nm,0.5s						
LSA	**Lhasa**	**12.02**	**342**	P	**P**	**11 36 01.2**	**-6.1**
JOSI	**Joshimath**	**18.92**	**313**	*i* P	**P**	**11 37 26.6**	**-7.0**
JOSI				AMb	AMB	11 37 28.2	
	comp=Z,54nm,0.5s						
JOSI				*e*S	**S**	**11 40 58.6**	**+1.0**
BISR	**Bishrakh**	**19.43**	**305**	*i* P	**P**	**11 37 38.2**	**-0.9**
BISR				*e*		11 37 46.1	
	comp=Z,40nm,0.5s						
BISR				*i* S	**S**	**11 41 10.5**	**+2.3**
AYAN	**Aya Nagar**	**19.63**	**304**	*e*P	**P**	**11 37 39.4**	**-1.8**
AYAN				AMb	AMB	11 37 42.7	
	comp=Z,2.7nm,0.7s						
AYAN				*e*		11 41 08.9	
KUDL	**Kundal**	**19.99**	**303**	AMb	AMB	11 37 23.2	
	comp=Z,2.1nm,1.0s						
KUDL				*e*		11 37 27.3	
KUDL				*e*P		11 37 44.2	
KUDL				AMb	AMB	11 37 51.0	
	comp=Z,2.8nm,0.7s						
KLP	**Kalpa**	**20.40**	**314**	*i*	**P**	**11 37 55.8**	**+6.5**
KLP				*i* S	**S**	**11 41 30.4**	**+3.3**
KHET	**Khetri**	**20.51**	**302**	*i* P	**P**	**11 37 49.9**	**-0.4**
KHET				AMb	AMB	11 37 58.7	
	comp=Z,7.9nm,0.5s						
KHET				*e*		11 41 25.3	
MKAR	**Makanchi Array**	**30.43**	**342**	P	**P**	**11 39 22.8**	**-0.5**
	comp=Z,1.2nm,0.4s,mb3.9,baz=157,slow=9.3,SNR=26						
SONM	**Songino Array**	**30.79**	**14**	P	**P**	**11 39 26.7**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=200,slow=9.7,SNR=16						
KURK	**Kurchatov**	**35.03**	**341**	*e*P	**P**	**11 40 02.5**	**-0.5**
	comp=Z,3.0nm,0.5s,mb4.4						
ZAL	**Zalesovo**	**36.52**	**349**	P	**P**	**11 40 15.1**	**-0.4**
	comp=Z,2.7nm,0.5s,mb4.5,baz=318,slow=7.4,SNR=10						
BVAR	**Borovoye Array**	**39.79**	**336**	P	**P**	**11 40 42.2**	**-0.6**
	comp=Z,0.4nm,0.3s,mb3.7,baz=106,slow=10,SNR=3.3						
CHKZ	**Chkalovo**	**40.21**	**337**	*e*P	**P**	**11 40 46.0**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.2						
FINES	**FINESS Array B**	**64.26**	**330**	P	**P**	**11 43 43.9**	**-0.8**
	comp=Z,0.9nm,0.4s,mb3.9,baz=90,slow=7.2,SNR=13						
FINES	**FINESS Array B**	**64.26**	**330**	P	**P**	**11 43 43.9**	**-0.8**
ARCES	**ARCESS Array B**	**66.01**	**339**	P	**P**	**11 43 55.6**	**-0.2**
	comp=Z,3.7nm,0.9s,mb4.2,baz=87,slow=7.2,SNR=15						
HFS	**Hagfors**	**70.24**	**328**	P	**P**	**11 44 21.8**	**-0.3**
	comp=Z,2.6nm,0.5s,mb4.3,baz=108,slow=4.7,SNR=23						
HFS	**Hagfors**	**70.24**	**328**	P	**P**	**11 44 21.8**	**-0.3**
GERES	**GERESS Array B**	**71.09**	**316**	P	**P**	**11 44 27.6**	**+0.2**
	comp=Z,1.7nm,0.7s,mb4.0,baz=76,slow=5.6,SNR=19						
NB2	**NORSAR Subarra**	**71.41**	**329**	P	**P**	**11 44 28.5**	**-0.6**
	comp=Z,1.2nm,0.5s,mb4.0,baz=86,slow=5.8						
NOA	**NORSAR Array B**	**71.41**	**329**	P	**P**	**11 44 28.4**	**-0.8**
	comp=Z,1.1nm,0.6s,mb3.9,baz=86,slow=5.9,SNR=10						
DAVOX	**Davos**	**73.93**	**315**	P	**P**	**11 44 44.3**	**+0.1**
	comp=Z,2.2nm,0.7s,mb4.0,baz=138,slow=16,SNR=3.0						
EKA	**Eskdalemuir Ar**	**79.95**	**325**	P	**P**	**11 45 18.6**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.8,baz=90,slow=5.8,SNR=7.5						
BOSA	**Boshof**	**82.29**	**237**	P	**P**	**11 45 31.0**	**+0.6**
	comp=Z,0.9nm,0.6s,mb3.8,baz=90,slow=2.0,SNR=3.7						

YKA	**Yellowknife Ar**	**96.05**	**14**	P		**P**	**11 46 35.7**	**+0.8**
	comp=Z,0.2nm,0.6s,mb3.8,baz=330,slow=4.3,SNR=7.3							
YKA	**Yellowknife Ar**	**96.05**	**14**	P		**P**	**11 46 35.7**	**+0.7**
TXAR	**Lajitas Array**	**129.18**	**22**	PKP		PKPdf	11 52 17.9	+2.5
	comp=Z,0.2nm,0.4s,baz=315,slow=0.1,SNR=7.4							

IDC 26 11:44:52.8±7.3, 10.38N×92.01E, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/10, Error ellipse: s-maj=374.3km s-min=27.1km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**37.22**	**349**	P	P	11 52 05.8	-1.8
	0.1nm,0.5s,baz=170,slow=8.8,SNR=2.2						
SONM	**Songino Array**	**39.25**	**15**	LR	LR	12 09 36.5	
	comp=Z,31nm,20.1s,baz=355,slow=38						
WRA	**Warramunga Arr**	**51.42**	**126**	P	P	11 53 59.8	-2.2
	0.3nm,0.4s,baz=307,slow=8.3,SNR=13						
ASAR	**Alice Springs**	**53.12**	**130**	P	P	11 54 12.7	-2.1
	0.3nm,0.5s,baz=299,slow=6.6,SNR=8.1						

*IDC **26** 11:52:10.8±2.6, 40.92S×86.40W, mb4.1/4, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML3.4/1, MS4.3/19, Ms1 4.2/19, ms1mx4.1/23, Error ellipse: s-maj=63.0km s-min=32.3km az=6.0*
*NEIC **26** 11:52:12.9±1.3, 40.85S×86.38W, h10km, mb4.2/3, Error ellipse: s-maj=31.8km s-min=13.9km az=196.0*
ISC 26 11:52:10.3±1.9, 41.1S±0.3×86.4W±0.2, h10km, n27, σ0°81/13, mb4.0/5, MS4.3/16, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paso Flores**	**12.00**	**94**	Pn	**P**	**11 55 04.9**	**+0.5**
	0.1nm,0.3s,baz=260,slow=11,SNR=2.2						
PLCA				LR	LR	11 58 44.9	
	comp=Z,1μm,20.4s,baz=261,slow=33						
CFAA	**Coronel Fontan**	**17.39**	**63**	P	**P**	**11 56 15.2**	**+0.6**
	0.1nm,0.3s,baz=234,slow=11,SNR=11						
CFAA				LR	LR	12 01 47.2	
	comp=Z,143nm,21.7s,baz=228,slow=33						
USHA	**Ushuaia**	**18.21**	**145**	LR	LR	12 02 03.0	
	comp=Z,2μm,19.3s,baz=358,slow=32						
TRQA	**Torquist**	**19.05**	**89**	*e*P	**P**	**11 56 34.7**	**-0.3**
	24nm,1.3s						
RPN	**Rapa Nui**	**23.45**	**299**	LR	LR	12 03 37.5	
	comp=Z,1μm,21.4s,MS4.4,baz=114,slow=29						
LVC	**Limon Verde**	**23.57**	**44**	P	**P**	**11 57 22.8**	**+1.0**
	12nm,0.9s,mb4.3,baz=217,slow=8.4,SNR=13						
LVC				LR	LR	12 04 31.0	
	comp=Z,859nm,19.2s,MS4.2,baz=237,slow=32						
LVC	**Limon Verde**	**23.57**	**44**	*e*P	**P**	**11 57 22.4**	**+0.5**
LVC				LR	LR	12 04 31.0	
LPAZ	**La Paz**	**29.31**	**38**	P	**P**	**11 58 14.5**	**-0.8**
	1.4nm,0.9s,mb3.7,baz=204,slow=7.9,SNR=6.6						
LPAZ				LR	LR	12 08 01.4	
	comp=Z,283nm,19.9s,MS3.9,baz=214,slow=33						
LPAZ	**La Paz**	**29.31**	**38**	*e*P	**P**	**11 58 14.3**	**-0.9**
	1.8nm,0.9s,mb3.8						
LPAZ				LR	LR	12 08 01.4	
BDFB	**Brasilia**	**41.72**	**64**	P	**P**	**11 59 59.7**	**-1.4**
	4.3nm,0.8s,mb4.2,baz=239,slow=6.2,SNR=4.4						
BDFB				LR	LR	12 16 47.8	
	comp=Z,672nm,20.0s,MS4.5,baz=231,slow=36						
ROSC	**El Rosal**	**47.02**	**17**	LR	LR	12 18 01.8	
	comp=Z,620nm,21.8s,MS4.5,baz=186,slow=33						
VNDA	**Vanda**	**54.70**	**194**	LR	LR	12 19 29.4	
	comp=Z,283nm,21.8s,MS4.3,baz=123,slow=30						
TBI	**Tubuai**	**55.06**	**268**	*e*S	**S**	**12 09 16.0**	**-9.2**
TBI				*e*LQ		12 14 47.4	
TBI				*e*LR	LR	12 16 50.4	
	347nm,27.2s						
PPT	**Papeete**	**58.55**	**274**	*e*S	**S**	**12 10 01.5**	**-10**
PPT				*e*LQ		12 16 07.4	
PPT				*e*LR	LR	12 18 24.4	
	476nm,27.2s,baz=141						
PPT	**Papeete**	**58.55**	**274**	LR	LR	12 20 18.3	
	comp=Z,154nm,21.7s,MS4.1,baz=299,slow=29						
MAW	**Mawson**	**69.18**	**168**	LR	LR	12 31 16.7	
	comp=Z,198nm,20.6s,MS4.3,baz=46,slow=34						
RPZ	**Rata Peaks**	**70.64**	**229**	LR	LR	12 25 44.7	
	comp=Z,662nm,20.2s,MS4.9,baz=62,slow=28						
TXAR	**Lajitas Array**	**71.85**	**344**	P	**P**	**12 03 34.9**	**-0.4**
	1.5nm,0.9s,mb3.9,baz=168,slow=9.4,SNR=16						
TXAR				LR	LR	12 29 11.6	
	comp=Z,123nm,18.9s,MS4.2,baz=185,slow=31						
ANMO	**Albuquerque**	**77.87**	**343**	*e*P	**P**	**12 04 09.4**	**-0.2**
	2.8nm,1.0s,mb4.2						
PV01	**Paradox Valley**	**81.39**	**342**	*e*P	**P**	**12 04 29.8**	**+1.3**
PDAR	**Pinedale Array**	**86.03**	**343**	LR	LR	12 40 33.9	
	comp=Z,51nm,18.3s,MS4.0,baz=349,slow=34						
BOSA	**Boshof**	**86.19**	**125**	LR	LR	12 37 05.7	
	comp=Z,230nm,20.2s,MS4.6,baz=211,slow=31						
DZM	**Mont Dzumac**	**87.85**	**242**	LR	LR	12 34 01.2	
	comp=Z,276nm,21.0s,MS4.6,baz=24,slow=29						
ULM	**Lac du Bonnet**	**91.32**	**354**	LR	LR	12 39 53.5	
	comp=Z,88nm,19.6s,MS4.2,baz=308,slow=31						
STKA	**Stephens Creek**	**94.97**	**219**	LR	LR	12 39 47.0	
	comp=Z,217nm,19.4s,MS4.6,baz=204,slow=30						
SCHQ	**Schefferville**	**96.98**	**11**	LR	LR	12 46 13.1	
	comp=Z,82nm,19.1s,MS4.2,baz=96,slow=34						
GERES	**GERESS Array B**	**125.37**	**53**	PKP	PKPdf	12 11 12.9	-1.2
	0.7nm,0.8s,baz=170,slow=6.0,SNR=3.7						

IDC 26 12:59:54.3±1.9, 6.53S×129.40E, mb4.0/1, mb1 4.5/4, mb1mx4.0/13, mbtmp4.3/4, ML4.3/3, Error ellipse: s-maj=79.0km s-min=26.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.08**	**197**	Pn	P	13 02 49.5	-1.3
	3.0nm,0.3s,baz=19,slow=8.7,SNR=44						
FITZ				Sn	S	13 04 53.9	-14
	1.6nm,0.3s,baz=352,slow=14,SNR=3.8						
WRA	**Warramunga Arr**	**14.17**	**161**	Pn	P	13 03 15.5	-3.2
	1.3nm,0.3s,baz=338,slow=13,SNR=102						
WRA				Sn	S	13 05 39.3	-19
	2.0nm,0.3s,baz=340,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.58**	**166**	P	P	13 04 00.2	-2.3
	0.8nm,0.3s,baz=346,slow=11,SNR=106						
ASAR				S	S	13 07 05.3	-12
	0.3nm,0.3s,baz=356,slow=28,SNR=5.5						
MKAR	**Makanchi Array**	**67.51**	**327**	P	P	13 10 52.4	-2.1
	0.5nm,0.3s,baz=117,slow=8.1,SNR=16						

IDC 26 13:11:35.0±4.0, 3.00N×93.91E, mb3.4/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=151.4km s-min=24.7km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**44.77**	**349**	P	P	13 19 50.0	-2.2
	0.4nm,0.5s,baz=164,slow=8.0,SNR=9.3						
WRA	**Warramunga Arr**	**45.77**	**122**	P	P	13 19 58.2	-2.2
	0.6nm,0.6s,baz=302,slow=9.0,SNR=6.0						
SONM	**Songino Array**	**45.94**	**12**	P	P	13 20 00.0	-1.4
	0.3nm,0.7s,baz=190,slow=8.8,SNR=3.0						
ASAR	**Alice Springs**	**47.10**	**126**	P	P	13 20 09.3	-1.6
	0.5nm,0.6s,baz=294,slow=7.6,SNR=5.7						

*NEIC **26** 13:50:19.5, 16.59N×100.05W, h5km, MD4.0(MEX), After MEX.*
MEX 26 13:50:19.5±0.7, 16.60N×100.04W, h5km, MD4.0, 1C-2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACX	**Acapulco**	**0.29**	**24**	⇓*i* P	Pg	13 50 24.7	-0.8
ACX				*i* S	Sg	13 50 29.1	-0.3
CAIG	**El Cayaco**	**0.50**	**334**	⇓*i* P	Pg	13 50 28.5	-1.0
CAIG				*i* S	Sg	13 50 36.2	0.0
ZIIG	**Zihuatanejo**	**1.69**	**307**	*e*P	Pn	13 50 46.3	-3.6
ZIIG				*i* S	Sn	13 51 08.1	-4.2
PNIG	**Pinotepa**	**1.85**	**96**	*e*P	Pn	13 50 48.3	-3.8
PNIG				*e*S	Sn	13 51 11.9	-4.3
PLIG	**Platanillo**	**1.86**	**16**	*e*P	Pn	13 50 49.6	-2.7
PLIG				*i* S	Sn	13 51 13.4	-3.1
YAIG	**Yautepec**	**2.44**	**22**	*e*P	Pn	13 50 56.4	-4.2
YAIG				*e*S	Sn	13 51 27.1	-4.0
PPM	**Popocatepetl**	**2.80**	**29**	*e*P	Pn	13 51 02.9	-3.0
PPM				*e*S	Sn	13 51 34.7	-5.7
PPM				*e*S	Sn	13 51 36.9	-3.5
PPM	**Popocatepetl**	**2.80**	**29**	*e*P	Pn	13 51 01.6	-4.2
PPM				*e*P		13 51 02.9	
PPM				*e*S	Sn	13 51 34.7	-5.7
PPM				*e*S	Sn	13 51 36.9	-3.5
UNM	**Universidad Na**	**2.84**	**17**	*e*P	Pn	13 51 02.0	-4.4
VHO	**Vista Hermosa**	**3.20**	**81**	⇑*i* P	Pn	13 51 06.2	-5.3
VHO				*e*S	Sn	13 51 42.9	-7.7
OXX	**Oaxaca**	**3.21**	**81**	*e*P	Pn	13 51 05.0	-6.7
OXX				*e*S	Sn	13 51 43.5	-7.3
IISM	**Ciudad Serdan**	**3.48**	**46**	*e*P	Pn	13 51 10.5	-4.9
CMIG	**Matias Romero**	**4.96**	**84**	*i* P	Pn	13 51 32.0	-4.5
CMIG				*i* S	Sn	13 52 28.0	-7.1

*NAO **26** 14:06:12.6±3.4, 60.82N×29.19E, ML2.5*
*HEL **26** 14:06:12.9±0.2, 60.98N×29.37E, ML1.5, ML2.5(NAO), Explosion*
*CSEM **26** 14:06:13.3±0.8, 60.82N×29.31E, h15km, ML1.5, Error ellipse: s-maj=16.7km s-min=10.2km az=120.0*
*BER **26** 14:06:15.4±3.3, 60.99N×29.17E, ML2.5(NAO), Suspected explosion*
ISC 26 14:06:10.8±1.6, 61.02N±0.06×29.4E±0.2, n15, σ1°§16/25, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**1.00**	**242**	*e*P	**Pb**	**14 06 30.8**	**+0.1**
VJF				*e*S	**Sg**	**14 06 43.6**	**-0.5**
VJF	**Virojoki**	**1.00**	**242**	P	**Pb**	**14 06 30.7**	**0.0**
VJF				S	**Sg**	**14 06 43.6**	**-0.6**
FIA0	**FINESS Array S**	**1.64**	**287**	*e*P	**Pn**	**14 06 42.3**	**+1.3**
FIA0				*e*SG	**Sg**	**14 07 04.0**	**-1.3**
FIA0	**FINESS Array S**	**1.64**	**287**	Pn	**Pn**	**14 06 42.4**	**+1.4**
	baz=111,slow=16						
FIA0				Lg		14 07 04.3	
	baz=109,slow=37						
FIA0				Rg		14 07 12.2	
	baz=116,slow=37						
FIA0	**FINESS Array S**	**1.64**	**287**	P	**Pn**	**14 06 42.3**	**+1.3**
FIA0				Sg	**Sg**	**14 07 03.9**	**-1.4**
PVF	**Pernaja**	**1.78**	**256**	*e*P	**Pn**	**14 06 43.9**	**+0.9**
PVF				*e*S	**Sn**	**14 07 06.9**	**+0.3**
PVF				MSG		14 07 10.2	
	comp=Z,4.5nm,0.1s						
PVF	**Pernaja**	**1.78**	**256**	P	**Pn**	**14 06 43.8**	**+0.9**
PVF				S	**Sn**	**14 07 06.9**	**+0.3**
	comp=Z,4.5nm,0.1s						
KAF	**Kangasniemi**	**1.82**	**308**	*e*PG	**Pg**	**14 06 46.5**	**-0.7**
KAF				*e*S	**Sn**	**14 07 09.3**	**+1.6**
KAF				MSG		14 07 14.5	
	comp=Z,2.3nm,0.1s						
KAF	**Kangasniemi**	**1.82**	**308**	Pg	**Pg**	**14 06 46.5**	**-0.7**
KAF				S	**Sn**	**14 07 09.3**	**+1.5**
	comp=Z,2.3nm,0.1s						
KEF	**Keuruu**	**2.43**	**300**	*e*PG	**Pg**	**14 06 56.9**	**-2.4**
KEF				*e*SB	**Sb**	**14 07 27.0**	**+1.2**
KEF				MSG		14 07 30.5	
	comp=Z,0.9nm,0.1s						
KEF	**Keuruu**	**2.43**	**300**	Pg	**Pg**	**14 06 56.8**	**-2.5**
HFS	**Hagfors**	**7.76**	**270**	*e*S	**Sn**	**14 09 32.5**	**-4.9**
HFS				*e*SG	**Sg**	**14 10 10.8**	**-18**
HFS	**Hagfors**	**7.76**	**270**	Sn	**Sn**	**14 09 32.5**	**-4.9**
HFS				Lg		14 10 10.8	
	baz=74,slow=28						
ARA0	**ARCESS Array S**	**8.70**	**351**	Pn	**P**	**14 08 19.9**	**-0.9**
	baz=168,slow=12						
ARA0	**ARCESS Array S**	**8.70**	**351**	*e*P	**P**	**14 08 19.9**	**-0.9**

CASC 26 14:12:43.1±2.2, 13.85N×91.32W, h17km±10km, MD3.8, 7C-4D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAT	**Jato**	**0.56**	**326**	⇓*e*P	Pb	14 12 53.7	-0.4
JAT				*e*S	Sb	14 13 04.0	+2.4
FUG	**Fuego 3**	**0.75**	**38**	*e*P	Pb	14 12 57.5	+0.1
PCG	**Pacaya**	**0.87**	**52**	⇓*e*P	Pb	14 13 00.3	+0.9
PCG				*e*S	Sb	14 13 13.4	+2.8
IXG	**Ixpaco**	**0.90**	**69**	⇑*e*P	Pb	14 12 59.6	-0.2
IXG				*e*S	Sb	14 13 13.5	+2.3
TP2	**Tecpan 2**	**0.97**	**17**	⇑*e*P	Pb	14 13 00.5	-0.6
TP2				*e*S	Sb	14 13 14.7	+1.2
RBDL	**Robledal**	**1.60**	**80**	⇓*e*P	Pn	14 13 10.8	-0.1
RBDL				*e*S	Sn	14 13 32.1	+0.7
RTR	**El Retiro**	**1.62**	**88**	⇑*e*P	Pn	14 13 11.3	0.0
RTR				*e*S	Sn	14 13 32.5	+0.6
SBLS	**San Blas**	**1.64**	**90**	*e*P	Pn	14 13 11.1	-0.4
SBLS				*e*S	Sn	14 13 33.6	+1.2
SNJE	**San Jose**	**1.66**	**89**

MOD	**Modoc**	**4.51**	**162**	*e*P	**Pn**	**14 16 29.7**	**-1.3**
WVOR	**Wild Horse Val**	**4.55**	**145**	Pn	**Pn**	**14 16 30.6**	**-1.0**
HLID	**Hailey**	**6.13**	**113**	Pn	**Pn**	**14 16 52.0**	**-2.0**
PDAR	**Pinedale Array**	**9.67**	**106**	Pn	**P**	**14 17 47.4**	**+4.1**
	0.0nm,0.3s,baz=301,slow=10,SNR=3.0						
YKA	**Yellowknife Ar**	**16.90**	**12**	Pn	**P**	**14 19 17.1**	**-1.9**
	0.0nm,0.3s,baz=198,slow=11,SNR=12						
YKA	**Yellowknife Ar**	**16.90**	**12**	Pn	**P**	**14 19 17.1**	**-1.9**
TXAR	**Lajitas Array**	**22.23**	**133**	P	**P**	**14 20 22.2**	**+2.7**
	0.1nm,0.4s,mb2.6,baz=321,slow=8.0,SNR=3.5						
INK	**Inuvik**	**22.92**	**349**	P	**P**	**14 20 29.0**	**+3.1**
	1.3nm,1.1s,mb3.3,baz=151,slow=4.8,SNR=4.4						
INK	**Inuvik**	**22.92**	**349**	P	**P**	**14 20 29.0**	**+3.1**

NEIC ***26*** *14:32:40.0, 17.82N×68.89W, h166km, MD3.6(RSPR), After RSPR.*
RSPR ***26*** *14:32:40.0, 17.82N×68.89W, h166km±4km, MD3.6/9, MD3.6/9*

ISC 26 14:32:39.8±1.7, 17.9N±0.4×68.8W±0.2, h175km±23km, n12, σ0°28/20, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**1.65**	**84**↑	*e*P	**P**	**14 33 13.3**	**+0.1**
CRPR				*e*S	**S**	**14 33 38.8**	**-0.2**
MGP	**Maguayo**	**1.67**	**84**↑	*e*P	**P**	**14 33 13.3**	**-0.1**
MGP				*e*S	**S**	**14 33 39.0**	**-0.3**
LSP	**Las Mesas**	**1.70**	**79**↓	*e*P	**P**	**14 33 13.7**	**0.0**
LSP				*e*S	**S**	**14 33 39.9**	**+0.1**
AGPR	**Aguadilla, PR**	**1.75**	**69**↑	*e*P	**P**	**14 33 14.2**	**-0.1**
AGPR				*e*S	**S**	**14 33 41.0**	**+0.2**
LRS	**Lares**	**1.94**	**76**↑	*e*P	**P**	**14 33 16.0**	**-0.2**
LRS				*e*S	**S**	**14 33 44.8**	**+0.4**
AOPR	**Arecibo Observ**	**2.04**	**76**↑	*e*P	**P**	**14 33 17.2**	**-0.2**
AOPR				*e*S	**S**	**14 33 45.9**	**-0.4**
PORP	**Portuguez**	**2.10**	**84**↑	*e*P	**P**	**14 33 18.4**	**+0.3**
PORP				*e*S	**S**	**14 33 47.3**	**-0.3**
CELP	**Cerrillos**	**2.16**	**84**↑	*e*P	**P**	**14 33 19.1**	**+0.4**
CELP				*e*S	**S**	**14 33 49.2**	**+0.5**
SJG	**San Juan**	**2.57**	**84**↑	*e*P	**P**	**14 33 23.9**	**+0.3**
CSB	**Colonia Sabana**	**2.59**	**80**↓	*e*P	**P**	**14 33 23.4**	**-0.3**
HUMP	**Col San Antoni**	**2.86**	**84**↑	*e*P	**P**	**14 33 27.1**	**+0.1**
MTP	**Monte Pirata**	**3.13**	**85**↑	*e*P	**P**	**14 33 30.1**	**-0.3**

IDC 26 14:41:46.6±5.6, 4.24S×107.11E, h125km×36km, mb3.7/5, mb1 3.9/5, mb1mx3.5/17, mbtmp4.1/5, Error ellipse: s-maj=181.0km s-min=21.4km az=53.0, Java Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**22.77**	**129**	P	P	14 46 36.7	-2.4
	5.4nm,0.9s,baz=315,slow=4.5,SNR=4.9						
WRA	**Warramunga Ar**	**30.78**	**123**	P	P	14 47 51.2	-1.6
	0.4nm,0.3s,baz=311,slow=8.9,SNR=21						
ASAR	**Alice Springs**	**32.27**	**129**	P	P	14 48 03.5	-2.2
	1.6nm,0.5s,baz=303,slow=8.5,SNR=40						
ASAR				ScP		14 54 20.8	
	0.4nm,0.8s,baz=312,slow=2.4,SNR=4.6						
STKA	**Stephens Creek**	**42.44**	**134**	P	P	14 49 29.7	-1.1
	7.9nm,0.4s,baz=305,slow=8.0,SNR=73						
MKAR	**Makanchi Array**	**55.35**	**339**	P	P	14 51 07.3	-2.5
	0.6nm,0.7s,baz=158,slow=9.4,SNR=5.4						

IDC ***26*** *14:42:13.5±0.9, 14.37N×123.06E, mb3.7/7, mb1 3.9/7, mb1mx3.7/17, mbtmp3.7/7, Error ellipse: s-maj=88.8km s-min=18.7km az=70.0*
MAN ***26*** *14:42:17.2, 14.63N×123.15E, h14km, mb4.5, ML3.3, MS3.2*

ISC 26 14:42:16.3±1.1, 14.62N±0.04×123.22E±0.04, h17km±9km, n29, σ0°99/33, mb3.7/7, 3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**1.04**	**227**↓	*e*P	**Pb**	**14 42 33.9**	**-1.4**
GQP				*e*S	**Sb**	**14 42 47.9**	**-0.6**
POLP	**Polilio Island**	**1.25**	**275**	*e*P	**Pb**	**14 42 38.2**	**-0.8**
POLP				*e*S	**Sb**	**14 42 55.0**	**+0.3**
PVCP	**Virac**	**1.36**	**138**	*e*P	**Pn**	**14 42 40.4**	**-0.3**
PVCP				*e*S	**Sb**	**14 42 58.7**	**+0.8**
AUQP	**San Andres**	**1.39**	**203**	*e*P	**Pn**	**14 42 41.9**	**+0.7**
BOAC	**Boac**	**1.77**	**229**	*e*P	**Pn**	**14 42 46.1**	**-0.4**
BALP	**Baler**	**1.94**	**305**	*e*P	**Pn**	**14 42 48.4**	**-0.6**
ARP	**Angono**	**2.01**	**268**	*e*P	**Pn**	**14 42 50.5**	**+0.6**
QVPH	**Quezon City--P**	**2.10**	**271**↓	*e*P	**Pn**	**14 42 52.1**	**+0.9**
QVPH				*i* S	**Sn**	**14 43 19.5**	**+2.4**
MMPH	**Masbate**	**2.28**	**170**	*e*P	**Pn**	**14 43 07.0**	**+13**
CNP	**Catarman**	**2.52**	**146**	*e*P	**Pn**	**14 42 59.2**	**+2.0**
OTRP	**Odiongan**	**2.53**	**208**	*e*P	**Pn**	**14 42 56.4**	**-1.0**
PALP	**Palanan**	**2.58**	**348**	*e*P	**Pn**	**14 42 58.7**	**+1.0**
CAUP	**Cauayan**	**2.68**	**330**	*e*P	**Pn**	**14 42 59.7**	**+0.2**
SJMP	**San Jose**	**2.96**	**224**	*e*P	**Pn**	**14 43 04.4**	**+0.8**
LUBP	**Lubang**	**3.02**	**253**	*e*P	**Pn**	**14 43 05.2**	**+0.9**
LUBP	**Lubang**	**3.02**	**253**	*e*P	**Pn**	**14 43 04.9**	**+0.5**
RCP	**Roxas**	**3.08**	**189**↓	*e*P	**Pn**	**14 43 04.4**	**-0.8**
CVP	**Callao Caves**	**3.35**	**336**	*e*P	**Pn**	**14 43 09.0**	**-0.1**
BESP	**Borongan**	**3.69**	**144**	*e*P	**Pn**	**14 43 17.5**	**+3.6**
APYP	**Conner**	**3.74**	**330**	*e*P	**Pn**	**14 43 14.5**	**-0.1**
BUSP	**Coron**	**3.93**	**229**	*e*P	**Pn**	**14 43 17.3**	**+0.1**
CGP	**Cagayan de Oro**	**6.29**	**167**	*e*P	**Pn**	**14 44 07.7**	**+17**
SONM	**Songino Array**	**35.94**	**341**	P	**P**	**14 49 17.9**	**0.0**
	2.2nm,1.0s,mb4.0,baz=153,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**36.04**	**162**	P	**P**	**14 49 14.9**	**-4.1**
	0.5nm,0.5s,mb3.7,baz=342,slow=9.3,SNR=7.3						
ASAR	**Alice Springs**	**39.46**	**164**	P	**P**	**14 49 44.5**	**-3.1**
	0.4nm,0.4s,mb3.5,baz=341,slow=7.0,SNR=13						
MKAR	**Makanchi Array**	**46.79**	**322**	P	**P**	**14 50 45.8**	**-0.9**
	0.6nm,0.8s,mb3.6,baz=114,slow=10,SNR=7.3						
ARCES	**ARCESS Array B**	**79.10**	**339**	P	**P**	**14 54 20.1**	**-0.9**
	1.3nm,0.8s,mb3.9,baz=63,slow=5.4,SNR=4.5						
FINES	**FINESS Array B**	**80.67**	**331**	P	**P**	**14 54 28.3**	**-1.3**
	0.2nm,0.5s,mb3.3,baz=27,slow=4.3,SNR=4.1						
YKA	**Yellowknife Ar**	**90.98**	**23**	P	**P**	**14 55 20.8**	**+0.4**
	0.1nm,0.4s,mb3.5,baz=303,slow=4.9,SNR=4.2						

IDC ***26*** *15:07:11.9±1.9, 19.35S×177.20W, mb4.0/4, mb1 4.3/4, mb1mx3.9/12, mbtmp4.0/4, Error ellipse: s-maj=143.7km s-min=30.7km az=157.0*
NEIC ***26*** *15:08:04.4±1.0, 19.46S×177.93W, h500km, mb4.0/4, Error ellipse: s-maj=47.6km s-min=20.2km az=167.0*

ISC 26 15:08:03.6±1.2, 19.4S±0.4×178.0W±0.2, h500km, n16, σ0°77/15, mb3.7/7, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.59**	**263**↓	*i*P	**P**	**15 14 04.5**	**+1.6**
	1.8nm,0.4s,mb3.9						
CTAO	**Charters Tower**	**33.59**	**263**	*e*P	**P**	**15 14 04.2**	**+1.3**
	2.3nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**38.27**	**243**	*e*P	**P**	**15 14 40.6**	**-0.9**
	0.7nm,0.5s,mb3.4						
STKA	**Stephens Creek**	**38.27**	**243**	P	**P**	**15 14 40.5**	**-1.0**
	1.1nm,0.5s,mb3.5,baz=92,slow=8.9,SNR=11						
STKA	**Stephens Creek**	**38.27**	**243**	*e*P	**P**	**15 14 40.4**	**-1.1**
WB2	**Warramunga Arr**	**44.73**	**261**	*e*P	**P**	**15 15 33.6**	**+0.3**
WRAB	**Tennant Creek**	**44.73**	**261**	*e*P	**P**	**15 15 31.9**	**-1.4**
WRA	**Warramunga Arr**	**44.74**	**261**	P	**P**	**15 15 33.5**	**+0.1**
	0.8nm,0.3s,mb3.6,baz=98,slow=7.7,SNR=46						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**15 15 33.5**	**0.0**
	5.2nm,0.8s,mb4.0,baz=100,slow=7.5,SNR=91						
ASPA	**Alice Springs**	**44.77**	**256**	*e*P	**P**	**15 15 33.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**53.16**	**262**	P	**P**	**15 16 37.0**	**+0.7**
	baz=108,slow=1.9						
MBWA	**Marble Bar**	**58.08**	**257**	*e*P	**P**	**15 17 09.6**	**-0.8**
	1.3nm,0.4s,mb3.6						
MAW	**Mawson**	**82.63**	**200**	*e*P	**P**	**15 19 34.9**	**+0.6**
	13nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**86.46**	**57**	P	**P**	**15 19 53.7**	**-0.2**
	0.5nm,0.9s,mb3.1,baz=214,slow=4.5,SNR=4.7						
TXAR	**Lajitas Array**	**86.46**	**57**	P	**P**	**15 19 53.7**	**-0.2**
CLL	**Collm**	**146.95**	**347**	*e*PKP1	PKPbc	15 26 52.0	+3.7

NIED ***26*** *15:36:00, 41.10N×143.10E, h29km, Mw4.0 Best double couple: Mo1.22×10^15 NP1:φs19°, δ78°, λ44°. NP2:φs278°, δ47°, λ164°.*
JMA ***26*** *15:36:07.1±0.1, 41.12N×143.07E, h21km, M3.9*
MOS ***26*** *15:36:10.1±0.8, 41.23N×142.80E, h57km, mb4.4/7, Error ellipse: s-maj=17.2km s-min=9.0km az=86.1*

NEIC ***26*** *15:36:12.3±0.7, 41.19N×142.87E, h64km±7km, mb4.3/10, Error ellipse: s-maj=9.5km s-min=6.3km az=137.0*
IDC ***26*** *15:36:12.0±8.6, 41.25N×142.85E, h57km×53km, mb3.5/12, mb1 3.7/13, mb1mx3.6/23, mbtmp3.8/13, ML3.4/1, Error ellipse: s-maj=89.6km s-min=19.8km az=173.0*

ISC 26 15:36:08.8±0.7, 41.19N±0.05×143.04E±0.07, h50km±5km, n57, σ0°96/69, mb4.0/20, 1C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERM	**Erimo**	**0.83**	**6**	Pn	**P**	**15 36 24.4**	**0.0**
	7μm,0.5s,SNR=35						
JEM	**Erimo**	**0.83**	**6**	P	**P**	**15 36 23.6**	**-0.8**
JEM				*e*S	**S**	**15 36 35.8**	**-0.2**
JNBK	**Urakawa-nobuka**	**1.11**	**349**	↓P	**P**	**15 36 28.4**	**+0.1**
JNBK				*e*S	**S**	**15 36 44.0**	**+1.2**
JANG	**Nango**	**1.42**	**236**	P	**P**	**15 36 31.7**	**-1.0**
JANG				*e*S	**S**	**15 36 49.7**	**-0.7**
JCH	**Churui**	**1.45**	**9**	P	**P**	**15 36 32.5**	**-0.6**
JCH				*e*S	**S**	**15 36 51.0**	**-0.1**
JOT	**Ohata**	**1.52**	**278**	↓P	**P**	**15 36 33.9**	**-0.2**
JTM	**Tenmabayashi**	**1.55**	**256**	P	**P**	**15 36 34.6**	**+0.1**
JTM				*e*S	**S**	**15 36 54.4**	**+0.8**
JBT2	**Biratori 2**	**1.67**	**343**	P	**P**	**15 36 36.7**	**+0.5**
JFR	**Furan**	**2.00**	**351**	P	**P**	**15 36 42.0**	**+1.1**
JEW	**Eniwo**	**2.04**	**325**	P	**P**	**15 36 42.7**	**+1.4**
JEW				*e*S	**S**	**15 37 09.5**	**+3.9**
JOM	**Ohasama**	**2.17**	**219**	P	**P**	**15 36 43.5**	**+0.2**
JAR	**Ashorobuto**	**2.18**	**14**	P	**P**	**15 36 42.4**	**-1.0**
JAR				*e*S	**S**	**15 37 07.6**	**-1.6**
JAK	**Akkeshi**	**2.19**	**34**	P	**P**	**15 36 42.1**	**-1.4**
JAK				*e*S	**S**	**15 37 06.5**	**-2.9**
ASAJ	**Asahikawa**	**2.95**	**354**	P	**P**	**15 36 55.0**	**+0.7**
ASAJ				S	**S**	**15 37 35.4**	**+6.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ	**Asahikawa**	**2.95**	**354**	P	**P**	**15 36 55.0**	**+0.6**
	comp=Z,3.9nm,0.3s,baz=268,slow=8.8,SNR=23						
ASAJ				S	**S**	**15 37 35.4**	**+6.7**
	comp=Z,3.1nm,0.3s,baz=326,slow=3.2,SNR=6.5						
YUK	**Yuzh-Kuril'sk**	**3.52**	**35**	*e*P	**P**	**15 37 05.0**	**+2.5**
YUK				*i* S	**S**	**15 37 43.8**	**+0.5**
YUK				pmax	pmax		
	comp=Z,280nm,0.3s						
YUK				smax			
	comp=E,1μm,0.8s						
YUK				smax			
	comp=N,550nm,0.5s						
YUK				smax			
	comp=E,2μm,0.5s						
KUR	**Kuril'sk**	**5.36**	**39**↑	*i*P	**P**	**15 37 24.5**	**-3.8**
KUR				*e*S	**S**	**15 38 23.0**	**-6.6**
KUR				pmax	pmax		
	comp=Z,170nm,0.7s						
KUR				smax			
	comp=N,90nm,0.7s						
KUR				smax			
	comp=E,100nm,0.7s						
YSS	**Yuzh-Sakhalins**	**5.77**	**358**	*e*P	**P**	**15 37 35.3**	**+1.4**
MAJO	**Matsushiro**	**5.98**	**221**	*e*P	**P**	**15 37 37.0**	**+0.2**
MAT	**Matsushiro**	**5.98**	**221**	P	**P**	**15 37 37.0**	**+0.2**
MAT				S	Px	15 38 02.0	
MAT	**Matsushiro**	**5.98**	**221**	P	**P**	**15 37 37.2**	**+0.4**
YAK	**Yakutsk**	**22.37**	**343**	*e*P	**P**	**15 40 59.5**	**-4.1**
YAK				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.4						
YAK	**Yakutsk**	**22.37**	**343**	*e*P	**P**	**15 40 59.5**	**-4.1**
	comp=Z,13nm,0.8s,mb4.4						
BOD	**Bodaibo**	**24.86**	**322**	*e*P	**P**	**15 41 26.9**	**-0.9**
ULN	**Ulaanbaatar**	**26.34**	**297**	*e*P	**P**	**15 41 41.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
ULN	**Ulaanbaatar**	**26.34**	**297**	*e*P	**P**	**15 41 41.4**	**-0.2**
	comp=Z,2.6nm,0.8s,mb3.8						
SONM	**Songino Array**	**26.78**	**297**	P	**P**	**15 41 45.1**	**-0.6**
	comp=Z,1.3nm,0.7s,mb3.6,baz=65,slow=9.6,SNR=13						
ZAL	**Zalesovo**	**40.19**	**309**	P	**P**	**15 43 41.9**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.0,baz=16,slow=10,SNR=8.2						
IMA	**Indian Mountai**	**42.49**	**33**	*e*P	**P**	**15 44 01.4**	**+1.2**
IMA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
IMA	**Indian Mountai**	**42.49**	**33**	*e*P	**P**	**15 44 01.4**	**+1.1**
	comp=Z,12nm,0.7s,mb4.7						
IMA				*e*		15 44 08.2	
MKAR	**Makanchi Array**	**43.11**	**299**	P	**P**	**15 44 04.9**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.7,baz=85,slow=12,SNR=14						
KURK	**Kurchatov**	**44.48**	**305**	*e*P	**P**	**15 44 15.6**	**-0.9**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**44.48**	**305**	*e*P	**P**	**15 44 15.6**	**-0.9**
	comp=Z,3.2nm,0.8s,mb4.1						
MCK	**McKinley**	**44.51**	**36**	P	**P**	**15 44 17.8**	**+1.2**
MCK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.6						
MCK	**McKinley**	**44.51**	**36**	P	**P**	**15 44 17.8**	**+1.2**
	comp=Z,1.5nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**48.48**	**311**	*e*P	**P**	**15 44 47.3**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
CHKZ	**Chkalovo**	**48.48**	**311**	*e*P	**P**	**15 44 47.3**	**-0.8**
	comp=Z,3.7nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**48.80**	**310**	P	**P**	**15 44 49.8**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.0,baz=76,slow=9.3,SNR=7.0						
INK	**Inuvik**	**50.13**	**29**	*e*P	**P**	**15 45 01.1**	**+0.6**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**50.13**	**29**	P	**P**	**15 45 01.5**	**+0.9**
	comp=Z,1.4nm,0.5s,mb4.3,baz=287,slow=9.7,SNR=15						
INK	**Inuvik**	**50.13**	**29**	*e*P	**P**	**15 45 01.1**	**+0.6**
	comp=Z,3.3nm,0.8s,mb4.4						
HNR	**Honiara**	**52.72**	**159**	P	**P**	**15 45 27.2**	**+6.4**
HNR				pmax	pmax		
	comp=Z,77nm,1.2s						
HNR	**Honiara**	**52.72**	**159**	P	**P**	**15 45 27.2**	**+6.5**
	comp=Z,77nm,1.2s						
RES	**Resolute Bay**	**58.27**	**15**	*e*P	**P**	**15 45 59.3**	**-0.7**
RES				*e*	pP	15 46 11.8	-2.1
RES				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
RES	**Resolute Bay**	**58.27**	**15**	*e*P	**P**	**15 45 59.2**	**-0.7**
	comp=Z,1.9nm,0.7s,mb4.2						
RES				*e*	pP	15 46 11.8	-2.2
YKA	**Yellowknife Ar**	**59.60**	**32**	P	**P**	**15 46 09.4**	**+0.1**
	comp=Z,0.1nm,0.5s,mb3.1,baz=303,slow=6.2,SNR=3.7						
FINES	**FINESS Array B**	**65.74**	**332**	P	**P**	**15 46 49.5**	**-0.5**
	comp=Z,1.0nm,0.5s,mb4.2,baz=43,slow=7.6,SNR=18						
KIV	**Kislovodsk**	**69.16**	**311**	*e*P	**P**	**15 47 12.0**	**+0.3**
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KIV	**Kislovodsk**	**69.16**	**311**	*e*P	**P**	**15 47 12.0**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8						
HFS	**Hagfors**	**70.83**	**336**	P	**P**	**15 47 21.1**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=27,slow=6.6,SNR=7.2						
NB2	**NORSAR Subarra**	**70.85**	**337**	P	**P**	**15 47 21.0**	**-0.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=35,slow=6.2						
NB2	**NORSAR Subarra**	**70.85**	**337**	P	**P**	**15 47 21.0**	**-0.7**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
NOA	**NORSAR Array B**	**70.85**	**337**	P	**P**	**15 47 21.3**	**-0.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=36,slow=6.3,SNR=4.5						
AKASG	**Malin Array Be**	**71.79**	**322**	P	**P**	**15 47 27.1**	**-0.4**
	comp=Z,1.3nm,0.6s,mb4.1,baz=43,slow=6.2,SNR=8.4						
PDAR	**Pinedale Array**	**73.88**	**47**	P	**P**	**15 47 41.1**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=359,slow=0.9,SNR=4.2						
TXAR	**Lajitas Array**	**86.61**	**53**	P	**P**	**15 48 50.0**	**+2.0**
	comp=Z,0.2nm,0.7s,mb3.5,baz=297,slow=5.6,SNR=3.5						
TXAR	**Lajitas Array**	**86.61**	**53**	P	**P**	**15 48 50.0**	**+2.0**

NEIC ***26*** *15:39:54.4, 45.01S×167.58E, h95km, ML4.2(WEL), After WEL.*

WEL 26 15:39:54.3±0.3, 45.00S×167.53E, h93km±2km, ML4.1/7, 3C-8D, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.43**	**41**	↑PN	P	15 40 08.9	-0.1
MSZ				SN	S	15 40 19.8	-0.3
DCZ	**Deep Cove**	**0.55**	**209**	PN	P	15 40 09.1	-0.8
DCZ				SN	S	15 40 20.6	-0.9
MLZ	**Mavora Lakes**	**0.57**	**127**	P	P	15 40 09.9	-0.2
MLZ				S	S	15 40 20.1	-1.8
MLZ	**Mavora Lakes**	**0.57**	**127**	↑PN	P	15 40 09.9	-0.3
MLZ				*e*SN	S	15 40 21.0	-1.0
WHZ	**Wether Hill Ro**	**0.94**	**162**	P	P	15 40 13.5	-0.3
WHZ				S	S	15 40 26.9	-1.5
WHZ	**Wether Hill Ro**	**0.94**	**162**	↓PN	S	15 40 13.5	-0.3
WHZ				SN	S	15 40 27.6	-0.8
WKZ	**Wanaka**	**1.07**	**81**	P	P	15 40 15.2	-0.1
WKZ	**Wanaka**	**1.07**	**81**	↓PN	P	15 40 15.2	-0.1
WKZ				SN	S	15 40 30.6	-0.5
JCZ	**Jackson Bay**	**1.28**	**44**	P	P	15 40 16.9	-1.0
JCZ	**Jackson Bay**	**1.28**	**44**	↑PN	P	15 40 16.9	-1.0
JCZ				SN	S	15 40 33.7	-1.8
EAZ	**Earnscleugh**	**1.28**	**101**	P	P	15 40 17.5	-0.5
EAZ	**Earnscleugh**	**1.28**	**101**	↓PN	P	15 40 17.5	-0.5
EAZ				SN	S	15 40 34.0	-1.7
TUZ	**Tuapeka**	**1.76**	**124**	P	P	15 40 23.3	-0.7
TUZ	**Tuapeka**	**1.76**	**124**	↓PN	P	15 40 23.4	-0.6
TUZ				SN	S	15 40 43.8	-2.1
LBZ	**Lake Benmore**	**1.99**	**73**	P	P	15 40 24.9	-2.1
LBZ	**Lake Benmore**	**1.99**	**73**	↓PN	P	15 40 24.9	-2.0
LBZ				SN	S	15 40 48.2	-2.9
FOZ	**Fox Glacier**	**2.12**	**48**	*e*P	P	15 40 27.5	-1.2
FOZ	**Fox Glacier**	**2.12**	**48**	↓PN	P	15 40 27.4	-1.2
FOZ				SN	S	15 40 52.4	-1.8
ODZ	**Otahua Downs**	**2.21**	**92**	P	P	15 40 28.2	-1.8
ODZ	**Otahua Downs**	**2.21**	**92**	↓PN	P	15 40 28.2	-1.8
ODZ				SN	S	15 40 51.6	-4.9
RPZ	**Rata Peaks**	**2.84**	**64**	*e*P	P	15 40 35.3	-3.4
RPZ	**Rata Peaks**	**2.84**	**64**	↓PN	P	15 40 35.3	-3.3
WVZ	**Waitaha Valley**	**3.01**	**51**	*e*P	P	15 40 37.6	-3.5
MQZ	**McQueen's Vall**	**3.90**	**72**	*e*P	P	15 40 49.4	-3.8
MQZ	**McQueen's Vall**	**3.90**	**72**	PN	P	15 40 49.2	-4.1
MQZ				SN	S	15 41 29.7	-8.4
CRLZ	**Canterbury Las**	**3.92**	**71**	*e*P	P	15 40 49.5	-4.1
CRLZ	**Canterbury Las**	**3.92**	**71**	PN	P	15 40 49.4	-4.2
LTZ	**Lake Taylor**	**4.08**	**59**	*e*P	P	15 40 51.2	-4.6
LTZ	**Lake Taylor**	**4.08**	**59**	PN	P	15 40 51.2	-4.6
DSZ	**Denniston Nort**	**4.50**	**45**	*e*P	P	15 40 57.9	-3.7
DSZ	**Denniston Nort**	**4.50**	**45**	PN	P	15 40 57.7	-3.9
KHZ	**Kahutara**	**5.07**	**61**	*e*PN	P	15 41 04.7	-4.6
THZ	**Tophouse**	**5.08**	**52**	*e*P	P	15 41 04.9	-4.6
THZ	**Tophouse**	**5.08**	**52**	PN	P	15 41 04.9	-4.5
QRZ	**Quartz Range**	**5.56**	**43**	*e*P	P	15 41 13.0	-2.9
QRZ	**Quartz Range**	**5.56**	**43**	PN	P	15 41 13.1	-2.8
NNZ	**Nelson**	**5.71**	**51**	*e*PN	P	15 41 15.7	-2.4
CAW	**Cannon Point**	**6.75**	**57**	P	P	15 41 26.9	-5.6
WCZ	**Waipu Caves**	**10.43**	**32**	*e*P	P	15 42 19.7	-2.6
WCZ	**Waipu Caves**	**10.43**	**32**	*e*PN	P	15 42 19.6	-2.7

BJI ***26*** *15:40:28.6, 5.37S×130.36E, h10km, mB6.0, mb5.4, Ms5.9, Msz5.6*
DJA ***26*** *15:40:32.4±0.3, 4.98S×129.89E, h2km, mb4.6/1, Error ellipse: s-maj=14.0km s-min=5.9km az=164.0*
IDC ***26*** *15:40:33.2±0.3, 4.96S×129.96E, mb5.4/25, mb1 5.5/28, mb1mx5.5/28, mbtmp5.5/28, ML5.6/4, MS5.6/14, Ms1 5.6/14, ms1mx5.5/17, Error ellipse: s-maj=16.6km s-min=9.0km az=56.0*
NEIC ***26*** *15:40:34.5±0.1, 4.89S×129.94E, h10km, mb5.8/54, MS5.8/133, MW6.1, Error ellipse: s-maj=5.3km s-min=3.5km az=65.0, Moment Tensor Solution. s19 Moment tensor: Scale 10^18 Nm; Mrr 0.21; Mθθ -1.82; Mφφ 1.61; Mrθ -0.19; Mrφ 0.84; Mθφ -0.10; Best double couple: Mo 1.9×10^18 NP1:φs 148°, δ 83°, λ 179°. NP2:φs 238°, δ 89°, λ 7°. Principal axes: T 1.81, Plg 5°, Azm 103°; N .21, Plg 83°, Azm 244°; P -2.03, Plg 4°, Azm 13°;*
HRVD ***26*** *15:40:34.5±0.1, 4.86S×129.89E, h19km, MW6.2/84, Centroid moment Tensor Solution. LP body waves: s82,c185; Mantle waves: s84,c308; Half duration: 2s 9 Moment tensor: Scale 10^18 Nm; Mrr 0.32±.01; Mθθ -2.00±.01; Mφφ 1.69±.02; Mrθ 0.18±.03; Mθφ 0.96±.01; Mrφ -0.04±.03; Best double couple: Mo 2.087×10^18 NP1: φs 329°, δ 87°, λ -177

ASAR S **S** **15 48 19.0 -6.1**
ASAR LR LR 15 52 43.0
ASPA Alice Springs 18.98 169 *e*P **P** **15 44 56.0 -1.7**
ASPA *e*S **S** **15 48 23.4 -1.6**
ENPP El Nido 19.16 327 *e*P **P** **15 45 00.3 +0.5**
PVCP Virac 19.31 343 *e*P **P** **15 45 02.1 +0.6**
SJMP San Jose 19.39 333 *e*P **P** **15 45 04.8 +2.2**
BUSP Coron 19.43 330 *e*P **P** **15 45 04.0 +1.1**
AUQP San Andres 19.54 339 *e*P **P** **15 45 07.9 +3.7**
BOAC Boac 19.98 336 *e*P **P** **15 45 09.6 +0.6**
GQP Guinayangan 20.16 339⇓ *e*P **P** **15 45 12.4 +1.6**
KSM Kuching 20.59 288 *e*P **P** **15 45 15.1 -0.3**
LUBP Lubang 20.91 333 *e*P **P** **15 45 19.5 +0.9**
LUBP Lubang 20.91 333 *e*P **P** **15 45 19.4 +0.8**
POLP Polillo Island 21.10 338 *e*P **P** **15 45 20.3 -0.3**
CTA Charters Tower 21.89 135⇑ *i*P **P** **15 45 29.7 +1.3**
comp=Z,320nm,0.7s,mb5.9
CTA *e*S **S** **15 49 29.7 +5.8**
CTA Charters Tower 21.89 135 P **P** **15 45 27.6 -0.8**
CTA S **S** **15 49 29.4 +5.5**
CTA pmax pmax
comp=Z,478nm,0.9s
CTA Charters Tower 21.89 135 P **P** **15 45 27.6 -0.8**
comp=Z,478nm,0.9s,mb5.9,baz=316,slow=12,SNR=242
CTA S **S** **15 49 29.4 +5.5**
comp=Z,46nm,1.1s,baz=50,slow=18,SNR=3.2
CTAO Charters Tower 21.89 135 *e*P **P** **15 45 29.2 +0.8**
CTAO pmax pmax
comp=Z,2μm,1.3s,mb6.3
CTAO Charters Tower 21.89 135⇑ *e*P **P** **15 45 29.3 +0.8**
comp=Z,1μm,1.4s,mb6.2
CTAO LR LR
comp=Z,33μm,21.0s,MS5.7
BALP Baler 22.17 338 *e*P **P** **15 45 32.4 +1.1**
SCZP Santa Cruz 22.86 335 *e*P **P** **15 45 38.5 +0.2**
PALP Palanan 23.11 342 *e*P **P** **15 45 42.5 +1.9**
BCPH Baguio City Da 23.13 337⇓ *i*P **P** **15 45 42.3 +1.4**
CAUP Cauayan 23.19 340 *e*P **P** **15 45 42.2 +0.8**
BOLP Bolinao 23.40 335 *e*P **P** **15 45 43.8 +0.3**
GUMO Guam 23.68 39 P **P** **15 45 45.6 -0.6**
GUMO pmax pmax
comp=Z,390nm,1.0s,mb5.8
GUMO Guam 23.68 39 *e*P **P** **15 45 45.3 -0.9**
comp=Z,385nm,1.0s,mb5.8
GUMO LR LR
comp=Z,11μm,19.0s,MS5.3
CVP Callao Caves 23.90 341 *e*P **P** **15 45 48.0 -0.3**
APYP Conner 24.24 340 *e*P **P** **15 45 51.0 -0.6**
FORT Forrest 25.73 184⇓ *i*P **P** **15 46 06.5 +0.8**
comp=Z,14μm,1.0s
FORT *e*S **S** **15 50 29.6 -1.0**
KGM Kluang 27.45 284 P **P** **15 46 23.7 +2.1**
KLBR Kellerberrin 28.83 202 *e*P **P** **15 46 34.2 +0.3**
comp=Z,1μm,0.7s,mb6.7
STKA Stephens Creek 28.92 159⇑ *i*P **P** **15 46 34.6 -0.2**
comp=Z,176nm,0.9s,mb5.8
STKA *e*S **S** **15 51 23.0 +0.5**
STKA Stephens Creek 28.92 159 P **P** **15 46 34.5 -0.3**
comp=Z,263nm,0.9s,mb6.0,baz=331,slow=8.8,SNR=225
STKA LR LR 15 58 59.4
comp=Z,34μm,18.3s,MS6.0,baz=329,slow=38
HNR Honiara 30.13 100⇑ *i*P **P** **15 46 43.9 -1.8**
HNR pmax pmax
comp=Z,702nm,1.0s,mb6.3
HNR MLR MLR
comp=Z,8μm,20.0s,MS5.4
HNR Honiara 30.13 100⇑ *i*P **P** **15 46 43.9 -1.8**
comp=Z,702nm,1.0s,mb6.3
HNR LR LR
comp=Z,8μm,20.0s,MS5.4
NWAO Narrogin (SRO) 30.22 201 P **P** **15 46 46.0 -0.4**
NWAO pmax pmax
comp=Z,50nm,0.8s
NWAO MLR MLR
comp=Z,82nm,19.0s
NWAO Narrogin (SRO) 30.22 201 P **P** **15 46 46.0 -0.4**
comp=Z,50nm,0.8s,baz=27,slow=9.4,SNR=24
NWAO LR LR 15 59 28.6
comp=Z,82nm,19.0s,baz=248,slow=38
NWAO Narrogin (SRO) 30.22 201 *e*P **P** **15 46 46.3 0.0**
comp=Z,153nm,0.8s,mb5.8
NWAO LR LR
comp=Z,13μm,20.0s,MS5.6
IPM Ipoh 30.36 288 P **P** **15 46 48.0 +0.2**
YHNB Yeheng 30.61 345 *e*P **P** **15 46 46.7 -3.1**
TATO Taipei 30.87 345 PFAKE 15 47 00.0 +7.8
TATO LR LR
comp=Z,8μm,20.0s,MS5.4
KULM Kulim 30.94 289 *e*P **P** **15 46 51.3 -1.5**
ADE Adelaide 30.94 166⇑ *i*P **P** **15 46 53.5 +0.8**
QIZ Qiongzhong 30.97 321 P **P** **15 46 53.3 +0.2**
QIZ XP sP 15 47 00.3 -3.1
QIZ AMB AMB
comp=Z,2μm,8.6s
QIZ LR LR
comp=N,11μm,18.8s,MS5.7
QIZ LR LR
comp=E,9μm,17.2s,MS5.7
QIZ LR LR
comp=Z,9μm,22.7s
QIZ Qiongzhong 30.97 321 *e*P **P** **15 46 51.3 -1.8**
comp=Z,466nm,2.1s,mb6.0
HKC Hong Kong 31.17 331⇑ *i*P **P** **15 47 00.0 +5.2**
HKC S **S** **15 52 00.0 +1.8**
JOW Kunigami 31.66 357 P **P** **15 46 58.5 -0.5**
comp=Z,57nm,0.8s,mb5.5,baz=193,slow=9.1,SNR=14
JOW LR LR 15 59 29.7
comp=Z,11μm,21.2s,MS5.5,baz=162,slow=36
QZH Quanzhou 31.70 340⇓ *i*P **P** **15 46 58.5 -1.0**
QZH S **S** **15 52 04.5 -1.9**
QZH AMB AMB
comp=Z,100nm,0.6s,mb5.8
QZH AMB AMB
comp=Z,4μm,8.6s
QZH LR LR
comp=N,4μm,14.7s,MS5.6
QZH LR LR
comp=E,7μm,13.2s,MS5.6
QZH LR LR
comp=Z,19μm,24.6s
UBT Ubonrachathani 31.80 310 P **P** **15 47 09.0 +8.6**
GZH Guangzhou 32.24 331 P **P** **15 47 07.0 +2.8**
GZH S **S** **15 52 16.5 +1.7**
GZH LR LR
comp=N,10μm,23.5s
GZH LR LR
comp=E,10μm,29.1s
GZH LR LR
comp=Z,13μm,23.5s,MS5.6
CBIJ Chichi jima 34.02 20 LR LR 15 58 20.3
comp=Z,11μm,20.5s,MS5.6,baz=188,slow=31
KKTK Khon Kaen 34.14 309 P **P** **15 47 21.5 +0.7**
RIV Riverview 34.85 148 *e*P **P** **15 47 28.7 +2.0**
CNB Canberra Magne 35.14 152⇑ *i*P **P** **15 47 30.3 +1.2**
comp=Z,1μm,0.8s
TOO Toolangi 35.44 158⇑ *i*P **P** **15 47 33.8 +2.2**
comp=Z,7.5nm,0.8s,mb4.7
TOO *e*S **S** **15 53 07.9 +3.6**
TOO Toolangi 35.44 158⇑ *i*P **P** **15 47 33.8 +2.2**
TOO *e*S **S** **15 53 07.9 +3.6**
TOO pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
NST Nakhon Sawan 35.91 305 P **P** **15 47 36.0 +0.2**
SSE Sheshan 36.82 347 P **P** **15 47 43.5 +0.1**
SSE XP sP 15 47 48.0 -5.7
SSE S **S** **15 53 24.3 -1.3**
SSE SS SS 15 56 00.3 +6.3
SSE AMB AMB
comp=Z,57nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,772nm,9.6s
SSE LR LR
comp=N,1μm,26.9s,MS5.4
SSE LR LR
comp=E,8μm,26.9s,MS5.4
SSE LR LR
comp=Z,7μm,20.1s
BDT Bhumibol Dam 37.66 307 P **P** **15 47 51.5 +0.9**
comp=Z,69nm,0.8s,mb5.4
NJ2 Nanjing 38.29 345 *e*P **P** **15 47 57.0 +1.3**
NJ2 AP pP 15 48 01.5 -1.6
NJ2 XP sP 15 48 04.0 -2.1
NJ2 PP PP 15 49 28.5 +1.6
NJ2 S **S** **15 53 48.0 0.0**
NJ2 AMB AMB
comp=Z,170nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,2μm,8.9s
NJ2 LR LR
comp=N,9μm,18.8s
NJ2 LR LR
comp=E,16μm,28.6s
NJ2 LR LR
comp=Z,3μm,20.6s,MS5.1
WHN Wuhan 38.32 338⇑ P **P** **15 47 56.5 +0.5**
WHN PP PP 15 49 29.0 +1.7
WHN S **S** **15 53 47.5 -1.0**
WHN AMB AMB
comp=Z,96nm,1.0s,mb5.5
WHN LR LR
comp=Z,14μm,16.6s,MS5.9
CM31 Chiang Mai Arr 38.38 308 *e*P **P** **15 47 57.0 +0.4**
comp=Z,46nm,0.6s,mb5.4
CM31 LR LR
comp=Z,9μm,20.0s,MS5.6
GYA Guiyang 38.51 325⇑ *i*P **P** **15 47 59.0 +1.4**
GYA AP pP 15 48 03.5 -1.4
GYA XP sP 15 48 06.8 -1.2
GYA PP PP 15 49 36.8 +7.4
GYA SS SS 15 56 38.8 +6.6
GYA AMB AMB
comp=Z,60nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,1μm,7.2s
GYA LR LR
comp=N,8μm,20.4s,MS5.6
GYA LR LR
comp=E,5μm,21.0s,MS5.6
GYA LR LR
comp=Z,5μm,19.5s,MS5.4
CHRT Chiangrai 38.55 311⇓ P **P** **15 47 58.5 +0.4**
comp=Z,810nm,1.2s,mb6.3
CHG Chiang Mai 38.58 309 PG **P** **15 47 58.5 +0.2**
comp=Z,150nm,0.9s,mb5.7
JHJ Hachijo jima 2 39.02 13 LR LR 16 01 11.2
comp=Z,15μm,20.9s,MS5.8,baz=343,slow=32
NOUC Port Laguerre 39.12 119⇑ *e*P **P** **15 48 02.8 0.0**
DZM Mont Dzumac 39.23 119⇑ *i*P **P** **15 48 03.7 0.0**
DZM Mont Dzumac 39.23 119 P **P** **15 48 03.7 0.0**
comp=Z,109nm,1.0s,mb5.5,baz=293,slow=7.0,SNR=45
DZM Mont Dzumac 39.23 119⇑ *i*P **P** **15 48 03.7 0.0**
KMI Kunming 39.90 320⇑ P **P** **15 48 11.3 +2.1**
KMI XP sP 15 48 19.3 -0.3
KMI PP PP 15 49 41.8 -2.9
KMI S **S** **15 54 11.8 -0.5**
KMI AMB AMB
comp=Z,23nm,1.6s,mb4.7
KMI AMB AMB
comp=Z,1μm,4.8s
KMI LR LR
comp=N,5μm,17.3s,MS5.7
KMI LR LR
comp=E,8μm,16.2s,MS5.7
KMI LR LR
comp=Z,7μm,19.3s,MS5.5
KWAJ Kwajalein Atol 40.01 70 PFAKE 15 48 20.0 +10
KWAJ LR LR
comp=Z,2μm,21.0s,MS4.9
ENH Enshi 40.13 332 *e*P **P** **15 48 10.5 -0.5**
comp=Z,105nm,0.9s,mb5.6
TAU Tasmania Unive 40.82 160 *e*P **P** **15 48 17.5 +1.0**
TAU pmax pmax
comp=Z,350nm,1.4s,mb5.8
TAU MLR MLR
comp=Z,5μm,20.0s,MS5.4
TAU Tasmania Unive 40.82 160 *e*P **P** **15 48 17.5 +1.0**
comp=Z,350nm,1.4s,mb5.8
TAU LR LR
comp=Z,5μm,20.0s,MS5.4
MAJO Matsushiro 42.02 10 *e*P **P** **15 48 24.6 -2.0**
MAJO pmax pmax
comp=Z,145nm,0.8s,mb5.7
MAJO MLR MLR
comp=Z,11μm,22.0s,MS5.7
MAJO Matsushiro 42.02 10 *e*P **P** **15 48 24.6 -1.9**
comp=Z,145nm,0.8s,mb5.7
MAJO LR LR
comp=Z,11μm,22.0s,MS5.7
MAT Matsushiro 42.02 10 *e*P **P** **15 48 25.0 -1.6**
MAT *e*S **S** **15 54 38.0 -5.8**
MAT pmax pmax
comp=Z,60nm,0.7s,mb5.3
MAT MLR MLR
comp=Z,11μm,21.0s,MS5.7
MAT Matsushiro 42.02 10 *e*P **P** **15 48 25.0 -1.6**
comp=Z,60nm,0.7s,mb5.3
MAT *e*S **S** **15 54 38.0 -5.8**
MAT LR LR
comp=Z,11μm,21.0s,MS5.7
MAT Matsushiro 42.02 10 P **P** **15 48 25.0 -1.6**
MAT S **S** **15 54 37.0 -6.8**
KS15 Wonju Array Si 42.24 358 *e*P **P** **15 48 28.1 -0.2**
INCN Inchon 42.34 356 *e*P **P** **15 48 28.9 -0.3**
comp=Z,217nm,1.1s,mb5.7
INCN LR LR
comp=Z,8μm,20.0s,MS5.6
TIA Tai'an 42.68 345⇑ P **P** **15 48 31.3 -0.7**
TIA AMB AMB
comp=Z,48nm,1.2s,mb5.1
TIA LR LR
comp=N,3μm,16.0s,MS5.6
TIA LR LR
comp=E,5μm,16.0s,MS5.6
CD2 Chengdu 43.56 327⇑ *i*P **P** **15 48 39.8 +0.7**
CD2 PP PP 15 50 21.5 -0.9
CD2 AMB AMB
comp=Z,140nm,1.3s,mb5.5
CD2 AMB AMB
comp=Z,2μm,8.3s
CD2 LR LR
comp=E,10μm,19.3s
CD2 LR LR
comp=Z,8μm,21.6s,MS5.6
XAN Xi'an 43.57 334 P **P** **15 48 38.3 -0.9**
XAN AP pP 15 48 47.8 +1.2
XAN AMB AMB
comp=Z,63nm,1.5s,mb5.1
XAN AMB AMB
comp=Z,2μm,8.2s
XAN LR LR
comp=N,7μm,19.6s,MS5.7
XAN LR LR
comp=E,8μm,22.5s,MS5.7
XAN LR LR
comp=Z,7μm,39.3s
DL2 Dalian 44.32 351 P **P** **15 48 46.3 +1.0**
DL2 S **S** **15 55 22.0 +4.6**
DL2 AMB AMB
comp=Z,60nm,1.2s,mb5.2
DL2 AMB AMB
comp=Z,840nm,7.4s
DL2 LR LR
comp=N,2μm,17.7s,MS5.4
DL2 LR LR
comp=E,4μm,20.3s,MS5.4
DL2 LR LR
comp=Z,3μm,30.0s
IMP Imphal 45.81 312 *i* **P** **15 49 03.0 +5.7**
BJT Baijiatuau 46.52 345 *e*P **P** **15 49 01.8 -0.9**
BJT *e* 15 49 13.0
BJT pmax pmax
comp=Z,346nm,1.1s
BJT Baijiatuau 46.52 345 *e*P **P** **15 49 01.8 -0.9**
comp=Z,346nm,1.1s,mb6.2
BJT *e* 15 49 13.0
BJI Beijing 46.54 345 P **P** **15 49 02.0 -0.8**
BJI S **S** **15 55 47.0 -2.1**
BJI SS SS 15 59 15.5 +7.8
BJI AMB AMB
comp=Z,313nm,1.5s,mb6.0
BJI LR LR
comp=N,4μm,18.4s,MS5.6
BJI LR LR
comp=E,5μm,19.4s,MS5.6
BJI LR LR
comp=Z,5μm,28.1s
SNY Shenyang 46.93 354⇓ P **P** **15 49 06.0 +0.1**
SNY S **S** **15 55 54.0 -0.7**
SNY AMB AMB
comp=Z,50nm,1.5s,mb5.2
SNY AMB AMB
comp=Z,2μm,8.2s
SNY LR LR
comp=N,3μm,20.2s,MS5.8
SNY LR LR
comp=E,10μm,20.4s,MS5.8
SNY LR LR
comp=Z,10μm,37.9s
LZH Lanzhou 47.59 331 *e*P **P** **15 49 12.3 +1.1**
LZH AP pP 15 49 16.0 -2.6
LZH XP sP 15 49 17.5 -4.1
LZH PP PP 15 51 03.3 +1.3
LZH S **S** **15 56 03.0 -1.0**
LZH *e*S **S** **15 56 09.0 +5.0**
LZH SS SS 15 59 28.0 +1.9
LZH AMB AMB
comp=Z,203nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,815nm,5.2s
LZH LR LR
comp=E,11μm,17.0s
LZH LR LR
comp=Z,15μm,18.3s,MS6.0
SHL Shillong 47.78 311 *e*P **P** **15 49 13.0 +0.1**
SHL *e* 15 56 31.0
VLA Vladivostok 47.90 2⇑ *i*P **P** **15 49 15.0 +1.4**
VLA *i* 15 51 05.0
VLA *i* 15 51 55.0
VLA *i* S **S** **15 56 07.0 -1.3**
VLA pmax pmax
comp=N,1μm,8.0s
VLA pmax pmax
comp=Z,2μm,8.0s
VLA pmax pmax
comp=E,550nm,4.0s
VLA pmax pmax
comp=N,2μm,10.0s
VLA pmax pmax
comp=Z,2μm,10.0s
VLA pmax pmax
comp=E,600nm,9.0s
VLA smax
comp=N,8μm,15.0s
VLA smax
comp=E,3μm,10.0s
VLA MLR MLR
comp=N,5μm,17.0s,MS5.6
VLA MLR MLR
comp=E,2μm,17.0s,MS5.6
VLA MLR MLR
comp=Z,6μm,17.0s,MS5.7
HHC Hu-ho-hao-te 48.60 341 *e*P **P** **15 49 20.0 +1.0**
HHC XP sP 15 49 25.5 -3.9
HHC PCP PcP 15 50 45.3 +0.6
HHC PP PP 15 51 12.8 +1.1
HHC S **S** **15 56 18.3 +0.1**
HHC XS 15 56 30.8
HHC SS SS 15 59 46.3 +2.6
CN2 Changchun 48.71 356 *e*P **P** **15 49 18.5 -1.3**
CN2 *e*AP pP 15 49 24.5 -2.8
CN2 *e*XP sP 15 49 25.5 -4.7
CN2 *e*S **S** **15 56 21.0 +1.2**
CN2 SS SS 15 59 45.0 -0.6
CN2 AMB AMB
comp=Z,80nm,1.2s,mb5.6
CN2 AMB AMB
comp=Z,2μm,8.0s
CN2 LR LR
comp=N,2μm,18.0s,MS5.7
CN2 LR LR
comp=E,6μm,18.0s,MS5.7
CN2 LR LR
comp=Z,5μm,24.0s
BTO Baotou 48.89 340 *e*P **P** **15 49 19.3 -1.9**
BTO S **S** **15 56 19.8 -2.5**
BTO AMB AMB
comp=Z,25nm,0.9s,mb5.2
CAL Calcutta 48.98 306 *e* **P** **15 49 27.1 +5.0**
CAL *e* 15 53 30.6
MDJ Mudanjiang 49.36 360 P **P** **15 49 25.0 +0.2**
MDJ AP pP 15 49 28.8 -3.5
MDJ XP sP 15 49 30.5 -4.7
MDJ PCP PcP 15 50 45.5 -1.9
MDJ PP PP 15 51 20.0 +0.7
MDJ S **S** **15 56 31.0 +2.2**
MDJ XS 15 56 38.0
MDJ SCS ScS 15 59 13.0 +0.9
MDJ AMB AMB
comp=Z,61nm,0.9s,mb5.6
MDJ AMB AMB
comp=Z,1μm,4.2s
MDJ LR LR
comp=N,7μm,22.0s,MS5.6
MDJ LR LR
comp=E,3μm,23.2s,MS5.6
MDJ LR LR
comp=Z,10μm,25.8s,MS5.7
MDJ Mudanjiang 49.36 360 *e*P **P** **15 49 24.4 -0.4**
comp=Z,225nm,1.4s,mb6.0
ASAJ Asahikawa 50.18 12 LR LR 16 11 56.8
comp=Z,3μm,18.5s,MS5.4,baz=125,slow=38
OUZ Omahuta 50.27 133 *e*P* **P** **15 49 33.3 +1.4**
PALK Pallekele 50.58 284 *e*P **P** **15 49 34.0 -0.5**
comp=Z,80nm,1.7s,mb5.4
PALK LR LR
comp=Z,2μm,19.0s,MS5.1
LSA Lhasa 50.68 315 P **P** **15 49 36.0 +0.9**
LSA Lhasa 50.68 315 *e*P **P** **15 49 35.7 +0.6**
LSA pmax pmax
comp=Z,182nm,1.0s,mb6.0
LSA Lhasa 50.68 315 *e*P **P** **15 49 35.7 +0.6**
comp=Z,182nm,1.0s,mb6.0
SHBG Sahibganj 50.82 308 *e* **P** **15 49 40.2 +4.0**
YUK Yuzh-Kuril'sk 50.86 15 *e*P **P** **15 49 49.0 +13**
YUK *e*SP tx 15 49 59.0
YUK *e* 15 51 39.0
YUK *e*S **S** **15 56 50.0 +0.5**
YUK pmax pmax
comp=Z,4μm,4.0s
YUK smax
comp=E,5μm,8.0s
YUK smax
comp=N,3μm,10.0s
VIS Vishakhapatnam 51.19 297 *e*P **P** **15 49 36.6 -2.4**
VIS *e* 15 56 51.9
VIS *i* 16 02 36.8
VIS *e* 16 10 28.0
comp=Z,5μm,22.7s
GTA Gaotai 52.16 331 *e*P **P** **15 49 47.0 +0.8**
GTA AP pP 15 49 50.8 -2.9
GTA XP sP 15 49 53.5 -3.1
GTA PP PP 15 51 45.5 +0.1
GTA PPP PPP 15 52 50.5 +1.1
GTA S **S** **15 57 06.5 -1.1**
GTA XS 15 57 23.5
GTA AMB AMB
comp=Z,49nm,0.9s,mb5.4
GTA AMB AMB
comp=Z,2μm,6.8s
GTA LR LR
comp=N,4μm,22.0s,MS5.6
GTA LR LR
comp=E,4μm,22.8s,MS5.6
GTA LR LR
comp=Z,8μm,23.2s,MS5.7
MDRS Chennai 52.47 291 *e*P **P** **15 49 50.0 +1.2**
MDRS *i* 15 53 05.0
LBZ Lake Benmore 52.78 144 *e*P* **P** **15 49 50.1 -0.6**
RPZ Rata Peaks 52.90 143 P **P** **15 49 50.5 -1.2**
comp=Z,89nm,1.2s,mb5.6,baz=328,slow=6.3,SNR=6.1
YSS Yuzh-Sakhalins 52.94 11⇑ *i*P **P** **15 49 50.0 -1.9**
YSS *e*SP sP 15 49 57.0 -5.3
YSS *e* 15 50 03.0
YSS *e* 15 51 04.0
YSS *e*S **S** **15 57 15.0 -3.0**
YSS *e*PS PS 15 57 26.0 -5.2
YSS pmax pmax
comp=Z,50nm,0.8s,mb5.5
YSS pmax pmax
comp=Z,60nm,0.9s,mb5.5
YSS smax
comp=N,3.0nm,9.0s
YSS MLR MLR
comp=Z,4μm,20.0s,MS5.5
YSS MLR MLR
comp=N,4μm,18.0s,MS5.7

YSS MLR MLR
comp=E,6μm,19.0s,MS5.7
YSS Yuzh-Sakhalins 52.94 11 *eP* **P 15 49 50.7 -1.2**
comp=E,46nm,0.6s,mb5.6
YSS LR LR
comp=Z,6μm,22.0s,MS5.6
SNZO South Karori 53.90 139 P **P 15 49 57.4 -1.6**
SNZO LR LR
comp=Z,20μm,19.0s,MS6.2
BLSP Bilaspur 53.94 302 *eP* **P 15 49 58.7 -0.8**
KLR Kul'dur 54.00 2⇓ *eP* **P 15 49 56.0 -3.6**
KLR *e* 15 52 06.0
KLR *eS* **S 15 57 29.5 -2.9**
KLR pmax pmax
comp=E,70nm,1.8s
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.6
KLR pmax pmax
comp=N,1μm,7.5s
KLR pmax pmax
comp=Z,2μm,7.5s
KLR smax
comp=N,200μm,2.8s
KLR smax
comp=E,180μm,2.8s
KLR MLR MLR
comp=E,3μm,15.0s
KLR MLR MLR
comp=Z,6μm,15.0s,MS5.8
BKZ Black Stump Fm 54.10 136 *eP** **P 15 50 00.1 -0.4**
URZ Urewera 54.13 135 P **P 15 49 60.0 -0.8**
comp=Z,59nm,1.2s,mb5.4,baz=310,slow=1.1,SNR=7.4
URZ Urewera 54.13 135 *eP** **P 15 50 00.0 -0.7**
TRD Trivandrum 54.46 284 *eP* **P 15 50 00.5 -3.0**
TRD *e* 15 57 38.4
MWZ Matawai 54.46 134 P* **P 15 50 03.2 0.0**
MCQ Macquarie Isla 54.69 160 *eP* **P 15 50 05.9 +1.2**
HIA Hailar 54.74 352 *eP* **P 15 50 04.6 -0.4**
HIA pmax pmax
comp=Z,25nm,0.9s
HIA Hailar 54.74 352 *eP* **P 15 50 04.6 -0.5**
comp=Z,25nm,0.9s,mb5.2
RAO Raoul Island 54.85 122 PFAKE 15 50 20.0 +14
RAO LR LR
comp=Z,6μm,21.0s,MS5.7
PUZ Puketiti 54.88 134 P* **P 15 50 06.1 -0.2**
HYB Hyderabad 55.35 295 *eP* **P 15 50 08.5 -1.5**
HYB *e* pP 15 50 16.0 -1.5
HYB *eS* **S 15 57 48.0 -2.9**
HYB pmax pmax
comp=Z,210nm,1.0s,mb6.1
HYB Hyderabad 55.35 295 *eP* **P 15 50 08.5 -1.5**
comp=Z,210nm,1.0s,mb6.1
HYB *e* pP 15 50 16.0 -1.5
HYB *e* 15 50 31.0
HYB *eS* **S 15 57 48.0 -2.9**
HYB Hyderabad 55.35 295 *i* P **P 15 50 08.5 -1.5**
comp=Z,210nm,1.0s,mb6.1
HYB *es*P sP 15 50 16.0 -4.4
HYB *e*PcP PcP 15 51 11.0 +0.8
HYB *eS* **S 15 57 48.0 -2.9**
HYB *e*PS PS 15 58 04.0 -1.4
HYB LR LR
comp=Z,8.7nm,28.0s
NGP Nagpur 56.20 299 *eP* **P 15 50 14.6 -1.4**
NGP *e* 15 50 27.1
ULN Ulaanbaatar 56.32 342 *eP* **P 15 50 16.2 -0.3**
ULN pmax pmax
comp=Z,184nm,1.0s,mb6.1
ULN MLR MLR
comp=Z,5μm,21.0s,MS5.6
ULN Ulaanbaatar 56.32 342 *eP* **P 15 50 16.2 -0.3**
comp=Z,184nm,1.0s,mb6.1
ULN LR LR
comp=Z,5μm,21.0s,MS5.6
SONM Songino Array 56.50 341 P **P 15 50 17.9 +0.1**
comp=Z,20nm,0.7s,mb5.2,baz=168,slow=4.2,SNR=143
SONM S **S 15 58 03.3 -2.5**
comp=Z,0.8nm,0.9s,baz=162,slow=4.6,SNR=2.5
SONM PKP2bc 16 20 22.9
comp=Z,4.8nm,1.2s,baz=270,slow=1.2,SNR=8.8
SONM Songino Array 56.50 341 P **P 15 50 17.9 +0.1**
SONM S **S 15 58 03.3 -2.5**
SONM ⇑*e* 16 20 22.9
DGAR Diego Garcia 57.13 264 PFAKE 15 50 30.0 +7.2
DGAR LR LR
comp=Z,2μm,19.0s,MS5.3
LATR Latur 57.47 295 *eP* **P 15 50 23.0 -2.1**
MNGI Mangalore 57.53 289 *i* P **P 15 50 27.0 +1.4**
MNGI *i* 15 58 15.7
AKL Akola 57.82 298 *eP* **P 15 50 26.0 -1.5**
AFI Afiamalu 58.09 103 *eP* **P 15 50 29.0 -0.4**
AFI pmax pmax
comp=Z,189nm,1.2s,mb6.0
AFI Afiamalu 58.09 103 P **P 15 50 29.4 -0.1**
comp=Z,131nm,1.1s,mb5.9,baz=64,slow=18,SNR=12
AFI Afiamalu 58.09 103 *eP* **P 15 50 29.0 -0.4**
comp=Z,189nm,1.2s,mb6.0
BHPL Bhopal 58.37 301 *eP* **P 15 50 28.4 -2.9**
BHPL *e* 15 50 41.8
comp=Z,230nm,1.6s
LGTI Lohaghat 58.64 309⇑ *iP* **P 15 50 35.0 +1.9**
PTH Pithoragarh 58.70 309 *e* **P 15 50 37.9 +4.3**
PTH *e* 15 52 46.8
GOA Goa 59.12 291⇓ *i* **P 15 50 32.4 -4.3**
GOA *i* 15 58 37.3
KAD Karad 59.29 293 *eP* **P 15 50 35.0 -2.8**
KAD *e* 15 50 47.0
comp=Z,131nm,1.2s
KAD *e* 15 50 49.7
comp=Z,150nm,1.4s
ZAK Zakamensk 59.73 341⇓ *iP* **P 15 50 40.6 +0.2**
ZAK *e* 15 58 43.7
ZAK pmax pmax
comp=Z,33nm,1.3s,mb5.2
SKR Severo-Kuril's 59.86 19 *eP* **P 15 50 56.0 +15**
SKR *eS* **S 15 58 44.0 -5.6**
SKR *e*PS PS 15 59 08.0 0.0
SKR pmax pmax
comp=Z,4μm,12.0s
SKR smax
comp=N,6μm,14.0s
SKR smax
comp=E,7μm,10.0s
SKR MLR MLR
comp=N,5μm,14.0s
SKR MLR MLR
comp=Z,4μm,14.0s,MS5.7
POO Poona 59.95 295⇓ *iP* **P 15 50 40.0 -2.3**
comp=Z,639nm,1.3s,mb6.5
POO *i* 15 58 40.0
MIDW Midway 60.53 54 PFAKE 15 51 00.0 +14
MIDW LR LR
comp=Z,5μm,21.0s,MS5.6
NDI New Delhi 60.69 307 *eP* **P 15 50 45.0 -2.2**
NDI *e* 15 58 52.0
DDI Dehra Dun 60.73 309 *eP* **P 15 50 46.3 -1.2**
DDI *eS* **S 15 59 02.2 +1.1**
TLY Talaya 60.73 342 *eP* **P 15 50 47.7 +0.5**
TLY *e* 15 51 25.5
TLY *eS* **S 15 58 57.8 -3.0**
TLY *e*PS PS 15 59 33.4 +14
TLY pmax pmax
comp=Z,134nm,2.8s,mb5.6
TLY Talaya 60.73 342 *eP* **P 15 50 47.3 +0.1**
comp=Z,55nm,1.2s,mb5.6
TLY LR LR
comp=Z,1μm,22.0s,MS4.9
BOM Bombay 61.00 295 *e* **P 15 50 51.7 +2.2**
BOM *e* 15 58 54.7
IRK Irkutsk 61.02 342 *eP* **P 15 50 49.6 +0.4**
IRK *e* 15 53 10.8
IRK *eS* **S 15 59 07.4 +2.8**
IRK pmax pmax
comp=Z,250nm,3.3s
MOY Mondy 61.59 340 *eP* **P 15 50 54.6 +1.6**
MOY pmax pmax
comp=Z,418nm,3.1s
WMQ Urumqi 61.65 326 P **P 15 50 54.0 +0.4**
WMQ AP pP 15 50 58.0 -3.2
WMQ XP sP 15 51 00.5 -3.5
WMQ PCP PcP 15 51 35.0 +0.3
WMQ PP PP 15 53 11.5 -0.1
WMQ PCS 15 55 37.0
WMQ S **S 15 59 15.0 +2.3**
WMQ SCS ScS 16 00 42.0 +2.2
WMQ SS SS 16 03 20.0 +4.1
WMQ AMB AMB
comp=Z,157nm,1.0s,mb6.1
WMQ AMB AMB
comp=Z,1μm,3.9s
WMQ LR LR
comp=N,18μm,17.9s,MS6.3
WMQ LR LR
comp=E,12μm,19.2s,MS6.3
WMQ LR LR
comp=Z,12μm,23.6s,MS6.0
CLNS Chul'man 61.73 357 *eP* **P 15 50 51.7 -2.2**
CLNS *e* 15 51 32.6
CLNS *eS* **S 15 59 07.1 -6.4**
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=Z,31nm,0.8s,mb5.5
CLNS pmax pmax
comp=Z,14nm,0.9s,mb5.1
CLNS pmax pmax
comp=N,26nm,0.8s
CLNS pmax pmax
comp=E,25nm,1.1s
CLNS smax
comp=N,835nm,11.8s
CLNS smax
comp=Z,1μm,12.5s
CLNS smax
comp=E,575nm,13.4s
SMLA Simla 61.77 309 *i* **P 15 50 44.7 -10**
SMLA *i* 15 59 02.4
AJM Ajmer 61.92 303 *eP* **P 15 50 53.3 -2.3**
AJM *e* 15 51 07.6
comp=Z,149nm,1.7s
AJM *e* 15 58 59.2
DRV Dumont d'Urvil 61.99 175 P **P 15 50 58.0 +2.5**
DRV S **S 15 59 20.0 +3.4**
DRV L 16 06 00.0
DRV R 16 11 00.0
SDNR Sundarnagar 62.08 310 *eP* **P 15 50 55.2 -1.4**
BHK Bhakra 62.47 309 *e* **P 15 51 12.0 +13**
PET Petropavlovsk 62.68 19 *eP* **P 15 51 00.9 +0.6**
PET *e* 15 53 23.1
PET *e*PPP PPP 15 54 44.8 -5.5
PET *i* S **S 15 59 27.3 +1.8**
PET *e* 16 00 46.2
PET *e*SS SS 16 03 36.9 +4.8
PET pmax pmax
comp=Z,29nm,0.8s,mb5.5
PET pmax pmax
comp=Z,900nm,14.6s
PET smax
comp=E,2μm,11.4s
PET smax
comp=N,2μm,16.0s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.4
PET Petropavlovsk 62.68 19 *eP* **P 15 51 00.5 +0.2**
PET LR LR
comp=Z,5μm,21.0s,MS5.7
CASY Casey 62.68 189 *eP* **P 15 51 00.5 +0.4**
PONG Pong 63.06 310 *e* **P 15 51 06.0 +2.9**
DLH Dalhousie 63.30 310 *eP* **P 15 51 06.0 +1.4**
DLH *e* 15 51 20.0
THN Thein Dam 63.44 310 *eP* **P 15 51 03.7 -1.9**
comp=Z,15nm,0.6s,mb5.3
BOD Bodaibo 63.89 351 *eP* **P 15 51 07.6 -0.6**
BOD pmax pmax
comp=Z,310nm,1.6s,mb6.1
MA2 Magadan 66.44 11 *eP* **P 15 51 24.4 -0.2**
MA2 pmax pmax
comp=Z,104nm,1.0s,mb5.8
MA2 MLR MLR
comp=Z,4μm,22.0s,MS5.6
MA2 Magadan 66.44 11 *eP* **P 15 51 24.4 -0.2**
comp=Z,104nm,1.0s,mb5.8
MA2 LR LR
comp=Z,4μm,22.0s,MS5.6
KSH Kashi 66.47 317 *eP* **P 15 51 24.0 -1.1**
KSH *e*AP pP 15 51 29.8 -3.0
KSH *e*XP sP 15 51 32.0 -3.5
KSH *e*PCP PcP 15 51 54.8 +0.3
KSH *e*PP PP 15 53 53.0 -0.5
KSH *e*PPP PPP 15 55 29.0 -0.5
KSH *e*SCP 15 55 57.0
KSH S S 16 00 10.5 -2.1
KSH *e*SCS ScS 16 01 17.3 +0.8
KSH AMB AMB
comp=Z,340nm,5.3s
KSH LR LR
comp=N,4μm,15.0s,MS5.9
KSH LR LR
comp=E,4μm,16.4s,MS5.9
MKAR Makanchi Array 66.49 326 P **P 15 51 24.9 -0.3**
comp=E,18nm,0.5s,mb5.3,baz=114,slow=8.9,SNR=152
MKAR S S 16 00 10.7 -1.9
comp=E,0.7nm,1.0s,baz=270,slow=2.9,SNR=2.1
MKAR PKPPKP 16 19 55.6
comp=E,1.5nm,1.0s,slow=1.2,SNR=4.4
MKAR LR LR 16 22 51.5
comp=E,3μm,21.5s,MS5.5,baz=119,slow=38
MIR Mirnyy 66.56 195 *eP* **P 15 51 25.0 -0.2**
MIR *e* 15 51 39.0
YAK Yakutsk 66.81 360*c iP* **P 15 51 26.5 -0.4**
YAK pmax pmax
comp=Z,5μm,21.0s
YAK Yakutsk 66.81 360 *eP* **P 15 51 26.1 -0.7**
comp=Z,348nm,0.8s,mb6.4
YAK LR LR
comp=Z,5μm,20.0s,MS5.7
KZA Kyzart 68.18 319 P **P 15 51 36.8 +0.9**
SNR=14
FX1 Attu Island--F 68.21 27 P **P 15 51 35.3 -0.5**
comp=Z,64nm,0.8s,baz=255,slow=13,SNR=7.3
FX1 LR LR 16 15 46.0
comp=Z,204nm,21.9s,baz=238,slow=31
FX1 Attu Island--F 68.21 27 *eP* **P 15 51 35.7 -0.2**
TKM2 Tokmak 2 68.37 320 P **P 15 51 37.1 +0.1**
SNR=16
SMY Shemya 68.53 27 PFAKE 15 51 50.0 +12
SMY LR LR
comp=Z,11μm,22.0s,MS6.0
KBK Karagaybulak 68.66 320 P **P 15 51 39.1 +0.3**
SNR=6.5
UCH Uchtor 68.73 319 P **P 15 51 40.1 +0.8**
SNR=23
AAK Ala-Archa 68.94 319 P **P 15 51 40.9 +0.3**
SNR=12
AAK Ala-Archa 68.94 319 P **P 15 51 39.7 -0.9**
comp=Z,218nm,1.1s,mb6.0,SNR=22
AAK Ala-Archa 68.94 319⇓ *iP* **P 15 51 39.8 -0.8**
AAK pmax pmax
comp=Z,42nm,1.2s,mb5.2
AAK MLR MLR
comp=Z,4μm,20.0s,MS5.7
AAK Ala-Archa 68.94 319 *eP* **P 15 51 39.3 -1.2**
comp=Z,73nm,1.1s,mb5.5
AAK LR LR
comp=Z,905nm,20.0s,MS5.0
FRU Bishkek 68.96 320 *eP* **P 15 51 44.5 +3.8**
FRU *e* 15 54 12.0
FRU *eS* S 16 00 44.5 +2.3
FRU pmax pmax
comp=Z,280nm,2.5s,mb5.8
FRU MLR MLR
comp=Z,3μm,2.0s
AML Almayashu 69.23 319 P **P 15 51 43.0 +0.6**
SNR=32
USP Ospenovka 69.24 320 P **P 15 51 42.3 -0.1**
SNR=19
EKS2 Erkin-Say 69.42 319 P **P 15 51 44.1 +0.6**
SNR=17
ZAL Zalesovo 69.73 333 P **P 15 51 44.6 -0.6**
comp=Z,20nm,0.9s,mb5.0,baz=351,slow=5.8,SNR=51
ZAL S S 16 00 48.0 -3.2
comp=Z,1.1nm,0.9s,baz=90,slow=20,SNR=5.1
ZAL PKPPKP 16 19 51.9
comp=Z,1.1nm,0.7s,baz=211,slow=2.6,SNR=6.4
ZAL LR LR 16 24 39.4
comp=Z,4μm,21.9s,MS5.6,baz=335,slow=38
RAR Rarotonga 69.89 111 *eP* **P 15 51 47.4 +0.7**
RAR pmax pmax
comp=Z,336nm,1.6s
RAR MLR MLR
comp=Z,4μm,20.0s
RAR Rarotonga 69.89 111 P **P 15 51 46.1 -0.6**
comp=Z,92nm,1.1s,mb5.6,baz=228,slow=9.6,SNR=7.0
RAR Rarotonga 69.89 111 *eP* **P 15 51 47.4 +0.7**
comp=Z,336nm,1.6s,mb6.0
RAR LR LR
comp=Z,4μm,20.0s,MS5.7
KURK Kurchatov 70.75 328*c iP* **P 15 51 51.1 -0.3**
KURK pmax pmax
comp=Z,160nm,1.2s,mb5.8
KURK Kurchatov 70.75 328 *eP* **P 15 51 50.8 -0.7**
comp=Z,268nm,1.0s,mb6.1
KURK LR LR
comp=Z,961nm,20.0s,MS5.0
KIWB Kanaga Island 72.25 31 *eP* **P 15 51 58.8 -1.7**
VNDA Vanda 74.46 173 P **P 15 52 13.2 +0.3**
comp=Z,18nm,0.8s,mb5.1,baz=323,slow=6.3,SNR=46
VNDA S S 16 01 46.4 +1.6
comp=Z,0.3nm,0.3s,baz=122,slow=19,SNR=2.8
VNDA LR LR 16 23 08.9
comp=Z,5μm,18.5s,MS5.9,baz=339,slow=34
VNDA Vanda 74.46 173 *eP* **P 15 52 12.6 -0.3**
comp=Z,66nm,1.0s,mb5.5
VNDA LR LR
comp=Z,5μm,19.0s,MS5.9
HON Honolulu 75.26 67 *eP* **P 15 52 19.3 +0.7**
SBA Scott Base 75.34 172 PFAKE 15 52 30.0 +12
SBA LR LR
comp=Z,6μm,19.0s,MS5.9
BVA0 Borovoye Array 76.31 328 P **P 15 52 23.3 -0.5**
BVA0 pmax pmax
comp=Z,42nm,1.4s,mb5.2
BVAR Borovoye Array 76.31 328 P **P 15 52 23.8 0.0**
comp=Z,33nm,0.8s,mb5.3,baz=143,slow=7.4,SNR=61
BVAR S S 16 02 03.5 -2.2
comp=Z,0.6nm,0.9s,baz=128,slow=24,SNR=4.3
TIXI Tiksi 76.47 360 *eP* **P 15 52 20.7 -3.7**
TIXI *eS* S 16 01 55.8 -11
TIXI pmax pmax
comp=Z,70nm,0.9s,mb5.6
TIXI MLR MLR
comp=N,5μm,17.0s,MS5.9
TIXI MLR MLR
comp=Z,7μm,17.0s,MS6.0
TIXI MLR MLR
comp=E,1μm,15.0s,MS5.9
TIXI Tiksi 76.47 360⇓ *iP* **P 15 52 23.9 -0.5**
TIXI LR LR
comp=Z,7μm,22.0s,MS5.9
CHKZ Chkalovo 76.49 328 *eP* **P 15 52 24.5 -0.4**
CHKZ pmax pmax
comp=Z,114nm,0.9s,mb5.8
CHKZ Chkalovo 76.49 328 *eP* **P 15 52 24.4 -0.4**
comp=Z,114nm,0.9s,mb5.8
MAW Mawson 76.79 201 *eP* **P 15 52 26.9 +0.6**
comp=Z,60nm,0.9s,mb5.5
MAW *eS* S 16 02 19.0 +8.4
MAW Mawson 76.79 201 P **P 15 52 26.5 +0.2**
MAW pmax pmax
comp=Z,57nm,1.2s
MAW pmax pmax
comp=Z,6.0nm,0.5s
MAW MLR MLR
comp=Z,5μm,19.8s
MAW Mawson 76.79 201 P **P 15 52 26.5 +0.2**
comp=Z,57nm,1.2s,mb5.4,baz=65,slow=7.4,SNR=8.7
MAW PKPPKP 16 19 39.1
comp=Z,5.8nm,0.5s,baz=342,slow=22,SNR=13
MAW LR LR 16 25 23.8
comp=Z,5μm,19.8s,MS5.8,baz=59,slow=35
BILL Bilibino 77.17 13*c iP* **P 15 52 27.7 -0.7**
BILL pmax pmax
comp=Z,15nm,0.9s,mb4.9
BILL Bilibino 77.17 13 *eP* **P 15 52 27.8 -0.6**
comp=Z,24nm,0.9s,mb5.1
BILL LR LR
comp=Z,3μm,20.0s,MS5.6
POHA Pohakuloa 77.25 69 *eP* **P 15 52 28.7 -1.0**
comp=Z,2μm,1.6s
POHA LR LR
comp=Z,36μm,19.0s
UNV Unalaska Valle 78.86 33 *eP* **P 15 52 37.5 -0.4**
comp=Z,240nm,1.0s,mb6.1
UNV LR LR
comp=Z,11μm,22.0s,MS6.1
AKUT Akutan 79.38 33 *eP* **P 15 52 40.5 -0.2**
TBI Tubuai 79.46 113 *eP* **P 15 52 44.8 +3.0**
comp=Z,309nm,1.2s,mb6.1
TBI *e*LR LR 16 17 59.7
comp=Z,10μm,28.2s
PAE Paea 79.49 107 *eP* **P 15 52 44.5 +2.4**
comp=Z,307nm,1.3s,mb6.1
PPT Papeete 79.50 107 *eP* **P 15 52 44.7 +2.6**
comp=Z,132nm,1.3s,mb5.7
PPT Papeete 79.50 107 *e*LR LR 16 17 48.7
comp=Z,7μm,26.5s
PPT Papeete 79.50 107 P **P 15 52 43.2 +1.1**
comp=Z,108nm,1.1s,mb5.7,baz=249,slow=2.4,SNR=11
PPT LR LR 16 23 33.6
comp=Z,1μm,21.3s,MS5.2,baz=275,slow=32
TIAR Tiarei 79.72 107 *eP* **P 15 52 46.0 +2.7**
comp=Z,432nm,1.4s,mb6.2
TVO Taravao 79.80 107 *eP* **P 15 52 46.6 +2.9**
comp=Z,386nm,1.4s,mb6.2
MEH Mehetia 80.92 107 *eP* **P 15 52 52.1 +2.4**
comp=Z,238nm,1.4s,mb5.9
PMOR Pomariorio Ree 81.22 104 *eP* **P 15 52 54.0 +2.7**
comp=Z,445nm,1.2s,mb6.2
VAH Vaihoa 81.46 105 *eP* **P 15 52 55.6 +3.1**
comp=Z,332nm,1.3s,mb6.1
SDPT Sand Point 82.68 33 *eP* **P 15 52 57.4 -0.7**
SVE Sverdlovsk 82.99 329⇑ *iP* **P 15 53 03.8 +4.1**
SVE *e* 15 56 18.6
SVE *eS* S 16 03 12.0 -3.9
SVE pmax pmax
comp=Z,325nm,2.6s,mb5.9
SVE pmax pmax
comp=Z,2μm,7.0s
TNA Tin City 83.39 22 *eP* **P 15 53 01.3 -0.2**
comp=Z,50nm,1.2s,mb5.4
TNA LR LR
comp=Z,1μm,22.0s,MS5.2
ARU Arti 83.94 328 *eP* **P 15 53 03.8 -0.7**
ARU pmax pmax
comp=Z,198nm,1.4s,mb6.0
ARU MLR MLR
comp=Z,875nm,22.0s,MS5.1
ARU Arti 83.94 328 *eP* **P 15 53 03.8 -0.7**
comp=Z,198nm,1.4s,mb6.0
ARU LR LR
comp=Z,875nm,22.0s,MS5.1
QSPA South Pole Qui 84.99 180⇑ *iP* **P 15 53 10.3 +1.0**
comp=Z,56nm,1.0s,mb5.7
SYO Syowa Base 85.50 201⇓ *iP* **P 15 53 12.2 +0.2**
SVW2 Sparrevohn 86.91 28 *eP* **P 15 53 20.3 +1.2**
MAK Makhachkala 87.80 313*c iP* **P 15 53 26.0 +2.1**
MAK *i* 15 56 58.0
MAK *i* 16 03 48.0
MAK *i* S S 16 04 08.0 +5.0
MAK pmax pmax
comp=Z,4μm,8.0s
MAK pmax pmax
comp=E,1μm,8.0s
MAK pmax pmax
comp=Z,2μm,8.0s
MAK pmax pmax
comp=E,2μm,8.0s
MAK smax
comp=E,7μm,8.0s
MAK smax
comp=N,4μm,7.0s
ATD Arta Tunnel 88.10 282 P **P 15 53 27.6 +1.6**
comp=N,4.2nm,0.4s,mb5.0,baz=83,slow=2.1,SNR=3.7
BHD Baghdad 88.96 303 *eP* **P 15 53 22.5 -7.2**
IMA Indian Mountai 89.04 23 P **P 15 53 29.7 +0.5**
IMA pmax pmax
comp=Z,170nm,1.3s,mb6.2
IMA Indian Mountai 89.04 23 *eP* **P 15 53 29.2 0.0**
TAOE Nuku Hiva Isla 89.20 99 *e*LR LR 16 21 54.9
SLKM Skilak Lake 89.32 29 *eP* **P 15 53 30.7 0.0**
GNI Garni 89.47 310⇓ *iP* **P 15 53 30.3 -1.6**
GNI pmax pmax
comp=Z,48nm,2.4s
GNI MLR MLR

comp=Z,1µm,19.0s
GNI Garni 89.47 310 P **P** **15 53 34.2 +2.2**
comp=Z,2.4nm,0.5s,mb4.8,baz=150,slow=20,SNR=3.4
GNI Garni 89.47 310⇓ *i*P **P** **15 53 30.4 -1.5**
GNI LR LR
comp=Z,2µm,22.0s,MS5.4
FIB Fire Island 89.47 29 PFAKE 15 53 40.0 +8.6
FIB LR LR
comp=Z,2µm,21.0s,MS5.5
TI2 Plekhanov 89.66 312 *e*P **P** **15 53 34.4 +1.6**
TI2 *i* pP 15 53 41.4 +0.8
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.9
PMR Palmer 90.05 28 *e*P **P** **15 53 33.6 -0.5**
MSL Mosul 90.34 306 *e*P **P** **15 53 37.5 +1.4**
MSL *ep*P pP 15 54 27.5 +44
MSL *e*S 16 03 08.0
MSL *e*SP 16 04 05.0
MSL *e*PS PS 16 04 32.0 -68
SML Sawmill 90.46 28 *e*P **P** **15 53 35.5 -0.5**
MCK McKinley 90.52 26 *e*P **P** **15 53 34.9 -1.3**
MCK pmax pmax
comp=Z,33nm,1.2s,mb5.5
MCK MLR MLR
comp=Z,1µm,21.0s,MS5.3
MCK McKinley 90.52 26 *e*P **P** **15 53 34.9 -1.3**
comp=Z,33nm,1.2s,mb5.5
MCK LR LR
comp=Z,1µm,21.0s,MS5.3
COLA College 91.17 25 P **P** **15 53 37.4 -1.8**
COLA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
COLA College 91.17 25 *e*P **P** **15 53 38.4 -0.8**
GOF Gofitskoye 91.27 315⇓ *i*P **P** **15 53 50.0 +10**
GOF *i* S S 16 04 38.5 +4.0
GOF pmax pmax
comp=Z,170nm,1.7s,mb6.1
GOF smax
comp=E,500nm,2.7s
KIV Kislovodsk 91.41 314⇓ *i*P **P** **15 53 43.0 +2.2**
KIV *i* 15 57 22.4
KIV *i* 16 04 10.4
KIV *i* S S 16 04 38.8 +3.0
KIV *i* PS PS 16 05 52.8 +0.4
KIV *i* SS SS 16 10 53.8 +8.5
KIV pmax pmax
comp=Z,23nm,1.2s,mb5.4
KIV MLR MLR
comp=Z,1µm,18.0s,MS5.5
KIV Kislovodsk 91.41 314 *e*P **P** **15 53 40.1 -0.6**
comp=Z,26nm,0.9s,mb5.6
KIV LR LR
comp=Z,537nm,22.0s,MS4.9
DIV Divide 91.58 29⇑ *i*P **P** **15 53 41.4 +0.2**
comp=Z,83nm,0.8s,mb6.1
DIV LR LR
comp=Z,7µm,21.0s,MS6.1
PECR Pechory 91.78 326 *e*P **P** **15 53 41.0 -1.1**
PECR *i* S SKS 16 04 10.0 -9.2
PECR *e*PS S 16 04 38.0 -0.8
PECR pmax pmax
comp=Z,230nm,2.4s,mb6.1
PECR pmax pmax
comp=Z,700nm,8.0s
PECR smax
comp=E,2µm,11.0s
PECR MLR MLR
comp=N,2µm,24.0s,MS5.8
PECR MLR MLR
comp=E,3µm,24.0s,MS5.8
PECR MLR MLR
comp=Z,4µm,24.0s,MS5.8
THY Trims Highway 91.88 27 *e*P **P** **15 53 41.8 -0.7**
BEST Besiri 91.94 308 *i*P **P** **15 53 42.4 -1.0**
KMBO Kilima Mbogo 92.54 269 *e*P **P** **15 53 48.7 +2.0**
KMBO pmax pmax
comp=Z,45nm,1.3s
KMBO MLR MLR
comp=Z,5µm,22.0s
KMBO Kilima Mbogo 92.54 269 P **P** **15 53 48.4 +1.7**
comp=Z,5.2nm,1.0s,mb4.9,baz=45,slow=6.0,SNR=8.4
KMBO LR LR 16 31 23.0
comp=Z,5µm,21.0s,MS5.9,baz=96,slow=33
KMBO Kilima Mbogo 92.54 269 *e*P **P** **15 53 48.7 +2.0**
comp=Z,45nm,1.3s,mb5.7
KMBO LR LR
comp=Z,5µm,22.0s,MS5.9
MENT Mentasta 92.74 27 *e*P **P** **15 53 46.2 -0.2**
RKT Rikitea 92.77 113 *e*LR LR 16 23 39.6
comp=Z,5µm,36.2s
SOC Sochi 93.52 313 *e*P **P** **15 53 49.7 -0.8**
SOC *e* 15 57 35.3
SOC *e*S 16 04 23.9
SOC *e* 16 04 59.5
SOC *e*PS PS 16 06 13.2 -3.1
SOC *e*SS SS 16 11 25.1 +9.2
SOC *e*SSS SSS 16 14 53.1 -2.8
SOC pmax pmax
comp=Z,15nm,0.5s,mb5.7
SOC pmax pmax
comp=N,18nm,0.8s
SOC pmax pmax
comp=E,3.0nm,0.5s
SOC MLR MLR
comp=N,2µm,22.0s,MS5.8
SOC MLR MLR
comp=E,3µm,22.0s,MS5.8
SOC MLR MLR
comp=Z,4µm,22.0s,MS5.8
SOC Sochi 93.52 313 *e*P **P** **15 53 52.6 +2.1**
ELZG Elazig 93.78 308 *i*P **P** **15 53 57.7 +5.9**
MALT Malatya 94.20 308 P **P** **15 53 53.5 -0.3**
MALT pmax pmax
comp=Z,23nm,1.2s,mb5.5
MALT Malatya 94.20 308 P **P** **15 53 53.5 -0.3**
comp=Z,23nm,1.2s,mb5.5
MAIT Maitri 94.27 197 *e*P **P** **15 53 53.1 -0.2**
DAWY Dawson 94.75 26 *e*P **P** **15 53 56.0 +0.4**
GZT Gaziantep 94.84 307 *i*P **P** **15 54 04.4 +7.7**
ASF Jabal al Asfar 95.16 302 P **P** **15 53 59.5 +1.2**
comp=Z,4.2nm,0.8s,mb4.9,baz=222,slow=1.5,SNR=5.5
ANN Anapa 95.22 314 *e*P **P** **15 54 02.5 +4.2**
ANN *e* 16 04 30.8
ANN pmax pmax
comp=Z,113nm,1.3s,mb6.1
ANN MLR MLR
comp=E,1µm,23.0s
ANN MLR MLR
comp=Z,2µm,23.0s,MS5.6
MOS Moscow 95.36 325 *e*P **P** **15 54 01.4 +2.8**
MOS *e* 16 04 31.1
MOS *e*S S 16 05 06.4 -3.3
MOS MLR MLR
comp=Z,4µm,23.4s,MS5.8
KAHT Ahir Dag 95.40 307 *i*P **P** **15 54 00.6 +1.3**
COBT Iskenderun 95.86 306 *i*P **P** **15 53 59.6 -1.8**
OBN Obninsk 95.95 325⇑ *i*P **P** **15 53 59.5 -1.9**
OBN *i* 15 57 58.7
OBN *i* 16 04 36.5
OBN *i* S S 16 05 16.0 +1.2
OBN *i* SS SS 16 11 57.5 +7.9
OBN pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
OBN Obninsk 95.95 325 *e*P **P** **15 53 60.0 -1.4**
comp=Z,30nm,0.8s,mb5.8
OBN LR LR
comp=Z,752nm,21.0s,MS5.1
EIL Elat 96.73 299 P **P** **15 54 06.8 +1.2**
comp=Z,13nm,1.0s,mb5.3
SIT Sitka 96.74 33 PFAKE 15 54 20.0 +15
SIT LR LR
comp=Z,4µm,20.0s,MS5.9
PTCN Pitcairn Islan 96.93 116 PFAKE 15 54 20.0 +13
PTCN LR LR
comp=Z,3µm,21.0s,MS5.8
BOYT Boyabat 97.01 311 *i*P **P** **15 54 10.2 +3.7**
INK Inuvik 97.03 22 *e*P **P** **15 54 05.0 -0.9**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 97.03 22 P **P** **15 54 05.2 -0.7**
comp=Z,8.4nm,0.8s,mb5.2,baz=281,slow=5.9,SNR=39
INK Inuvik 97.03 22 *e*P **P** **15 54 05.0 -0.9**
comp=Z,1.4nm,0.8s
APA Apatity 97.05 337⇑ *e*P **P** **15 54 07.9 +1.9**
APA *e* 15 58 11.0
APA *i* 16 04 36.0
APA *e*S S 16 05 23.0 -0.8
APA *e*PS PS 16 06 49.0 -5.2
APA *i* PPS PPS 16 07 38.0 +3.4
APA pmax pmax
comp=Z,34nm,1.3s,mb5.6
APA pmax pmax
comp=Z,700nm,9.0s
APA MLR MLR
comp=Z,4µm,19.0s,MS5.9
SIM Simferopol' 97.58 315 *e*P **P** **15 54 08.0 -1.0**
SIM *e* 16 04 43.0
SIM *e*S S 16 05 33.0 +4.2
SIM *e*PS PS 16 06 54.0 -5.9
SIM *e*SS SS 16 12 06.0 -6.6
SIM pmax pmax
comp=Z,17nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,2µm,21.5s,MS5.6
SIM Simferopol' 97.58 315 *e*P **P** **15 54 10.7 +1.7**
SNAA Sanae 97.60 194 P **P** **15 54 09.8 +1.3**
comp=Z,3.1nm,0.9s,mb4.8,baz=108,slow=6.4,SNR=4.6
BR131 Keskin Array S 97.97 309 PFAKE 15 54 20.0 +9.2
BR131 LR LR
comp=Z,1µm,20.0s,MS5.4
BRTR Keskin Array B 97.97 309 P **P** **15 54 10.0 -0.8**
comp=Z,2.2nm,0.8s,mb4.7,baz=113,slow=5.5,SNR=8.7
BALT Daday 98.15 311 *i*P **P** **15 54 18.0 +6.4**
CSS Prodhromos 98.20 304 P **P** **15 54 09.8 -2.2**
comp=Z,18nm,1.0s,mb5.6
MBAR Mbarara 99.07 269 *e*P **P** **15 54 14.3 -2.1**
MBAR pmax pmax
comp=Z,13nm,1.3s,mb5.3
MBAR MLR MLR
comp=Z,827nm,21.0s,MS5.2
MBAR Mbarara 99.07 269 *e*Pdif **P** **15 54 14.3 -2.2**
comp=Z,13nm,1.3s,mb5.3
MBAR LR LR
comp=Z,827nm,21.0s,MS5.2
KEV Kevo 99.10 340 *e*p **P** **15 54 23.4 +8.2**
comp=Z,11nm,0.8s,mb5.4
KEV Kevo 99.10 340 *e*P **P** **15 54 23.4 +8.2**
KEV pmax pmax
comp=Z,11nm,0.8s,mb5.4
ARCES ARCESS Array B 99.65 340 P **P** **15 54 16.9 -0.9**
comp=Z,3.7nm,0.7s,mb4.9,baz=78,slow=6.4,SNR=12
ARCES LR LR 16 43 25.4
comp=Z,4µm,21.2s,MS5.9,baz=84,slow=38
ARE0 ARCESS Array S 99.65 340 *e*P **P** **15 54 17.0 -0.8**
BOSA Boshof 100.39 240 P P 15 54 22.6 +0.5
BOSA pmax pmax
comp=Z,9.0nm,1.2s
BOSA MLR MLR
comp=Z,3µm,20.0s,MS5.9
BOSA Boshof 100.39 240 P P 15 54 22.3 +0.2
comp=Z,1.9nm,1.1s,baz=124,slow=3.6,SNR=2.4
BOSA Boshof 100.39 240 P P 15 54 22.6 +0.5
comp=Z,8.7nm,1.2s
BOSA LR LR
comp=Z,3µm,20.0s,MS5.9
AKASG Malin Array Be 100.59 321 P P 15 54 22.1 -0.4
comp=Z,0.3nm,0.4s,baz=70,slow=6.4,SNR=2.5
KAF Kangasniemi 100.72 332 *e*p P 15 54 20.8 -2.0
comp=Z,7.1nm,0.7s
KAF Kangasniemi 100.72 332 *e*P P 15 54 20.8 -2.0
KAF pmax pmax
comp=Z,7.0nm,0.7s
LBTB Lobatse 100.78 244 *e*P P 15 54 22.6 -1.4
LBTB MLR MLR
comp=Z,4µm,22.0s,MS5.9
FINES FINESS Array B 100.95 332 P P 15 54 22.2 -1.6
comp=Z,1.6nm,0.8s,baz=63,slow=4.3,SNR=8.7
VSU Vasula 101.10 329 *e*P P 15 54 25.0 +0.4
KIS Kishinev 101.18 317 *e*P P 15 54 30.0 +4.8
KIS *e* 16 05 00.0
KIS *e*PS PS 16 07 38.0 +0.5
KIS MLR MLR
comp=Z,3µm,22.0s,MS5.7
KIS MLR MLR
comp=E,1µm,21.0s
SUR Sutherland 103.28 235 PFAKE 15 54 50.0 +15
SUR LR LR
comp=Z,1µm,20.0s,MS5.4
MLR Muntele Rosu 103.31 315 PKiKP 15 58 52.3
comp=Z,2.8nm,0.7s,baz=118,slow=8.8,SNR=3.0
SUW Suwalki 103.81 324 *e*P Pdif 15 54 44.8 +8.2
SUW *e*S S 16 06 26.0 +5.3
SUW MLR MLR 16 45 28.3
comp=Z,4µm,23.1s,MS5.8
LVV L'vov 104.01 320 *e*P Pdif 15 54 40.6 +3.0
LVV *e* 15 59 00.4
KOLS Kolonicke sedl 105.29 319 *e*P Pdif 15 54 49.9 +6.6
KOLS Kolonicke sedl 105.29 319 *e* Pdif 15 54 49.9 +6.6
COR Corvallis 105.42 45 PFAKE 15 59 10.0
COR LR LR
comp=Z,1µm,20.0s,MS5.4
RES Resolute Bay 105.72 11 *e*P Pdif 15 54 44.5 -0.1
RES pmax pmax
comp=Z,12nm,0.8s
RES Resolute Bay 105.72 11 *e*Pdif Pdif 15 54 44.5 -0.1
comp=Z,12nm,0.8s
CRVS Cervenica-Dubn 105.82 319 *e*P Pdif 15 54 56.0 +10
CRVS *e* 15 59 14.1
CRVS Cervenica-Dubn 105.82 319 *e* Pdif 15 54 56.0 +10
CRVS *e*PP PP 15 59 14.1 +2.7
HUMO Hull Mountain 105.96 47 PFAKE 15 59 10.0
HUMO LR LR
comp=Z,3µm,21.0s,MS5.9
YKA Yellowknife Ar 105.98 26 Pdiff Pdif 15 54 45.9 -0.1
comp=Z,0.6nm,0.7s,baz=295,slow=4.6,SNR=8.8
YKA PKiKP 15 58 57.6
comp=Z,0.9nm,0.5s,baz=296,slow=1.9,SNR=16
YKA PKKPbc 16 10 20.9
comp=Z,0.8nm,0.7s,baz=109,slow=3.0,SNR=12
YKA Yellowknife Ar 105.98 26 Pdif Pdif 15 54 45.9 -0.1
YKA PKPdif 15 58 57.6
YKA PKKPbc 16 10 20.9
DAG Danmarks Havn 106.23 353 *e*P Pdif 15 54 50.0 +3.1
DAG Danmarks Havn 106.23 353 *i*P Pdif 15 54 50.0 +3.1
YBH Yreka Blue Hor 106.26 48 PFAKE 15 59 10.0
YBH LR LR
comp=Z,3µm,20.0s,MS5.9
HOPS Hopland 106.34 51 PFAKE 15 59 10.0
HOPS LR LR
comp=Z,5µm,20.0s,MS6.1
WDC Whiskeytown Da 106.54 49 PFAKE 15 59 10.0
WDC LR LR
comp=Z,3µm,22.0s,MS5.9
OJC Ojcow 106.61 321 *e*PKPdif PP 15 59 23.6 +6.1
OJC *e*SKSdf tx 16 07 05.1
OJC *e*SS tx 16 20 32.8
OJC MLR MLR 16 43 13.6
comp=Z,3µm,22.6s,MS5.7
HFS Hagfors 107.14 332 Pdiff Pdif 15 54 49.7 -1.4
comp=Z,0.9nm,0.5s,baz=124,slow=5.3,SNR=7.1
HFS PKKPbc 16 10 17.7
comp=Z,1.0nm,0.6s,baz=196,slow=11,SNR=4.1
VYHS Vyhne 107.61 319 *e*PP PP 15 59 18.6 -6.3
HAWA Hanford 107.72 43 PFAKE 15 59 10.0
HAWA LR LR
comp=Z,209nm,20.0s,MS4.7
OKC Ostrava-Krasne 107.74 321 *e*PKP PP 15 58 59.7 -26
OKC *e*PP PP 15 59 39.2 +13
OKC AMS AMS 16 47 50.0
comp=Z,2µm,22.8s
SAO San Andreas Ge 107.89 53 PFAKE 15 59 10.0
SAO LR LR
comp=Z,2µm,20.0s,MS5.7
NB2 NORSAR Subarra 107.94 333 P Pdif 15 54 51.6 -3.0
comp=Z,4.1nm,0.8s,baz=71,slow=4.5
NB2 NORSAR Subarra 107.94 333 P Pdif 15 54 51.6 -3.0
NB2 pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 107.94 333 P Pdif 15 54 51.6 -3.0
baz=71,slow=4.6
NOA NORSAR Array B 107.94 333 Pdiff Pdif 15 54 54.2 -0.4
comp=Z,0.2nm,0.6s,baz=262,slow=12,SNR=3.9
NOA PKKPbc 16 10 14.4
comp=Z,0.9nm,0.8s,baz=68,slow=3.2,SNR=4.3
NOA PKKPab 16 10 27.0
comp=Z,2.1nm,0.9s,baz=67,slow=3.2,SNR=6.9
NOA NORSAR Array B 107.94 333 Pdif Pdif 15 54 54.2 -0.4
NOA PKKPbc 16 10 14.4
NOA PKKPab 16 10 27.0
MOD Modoc 108.01 48 PFAKE 15 59 10.0
MOD LR LR
comp=Z,4µm,20.0s,MS5.9
NAO01 NORSAR Array S 108.16 333 PFAKE 15 59 10.0
NAO01 LR LR
comp=Z,3µm,20.0s,MS5.8
BSD Bornholm Skovb 108.19 327 *i*P 15 59 27.9
BSD *i*S SKS 16 05 41.0 +0.4
BSD *i* 16 08 37.6
BSD *i* 16 14 41.6
comp=Z,2µm,21.0s
CMB Columbia Colle 108.56 52 PFAKE 15 59 20.0
CMB LR LR
comp=Z,3µm,20.0s,MS5.8
KSP Ksiaz 108.63 322 *e*P Pdif 15 55 12.6 +15
KSP *e*PP PP 15 59 37.6 +4.9
KSP *e*S 16 07 11.0
KSP MLR MLR 16 46 58.0
comp=Z,4µm,24.4s,MS5.8
DPC Dobruska-Polom 108.75 322 *e*PKP 15 59 15.9
DPC *e*PP PP 15 59 49.2 +16
DPC AMS AMS 16 48 00.0
comp=Z,3µm,22.1s
ZST Bratislava 108.80 319 *e*PP PP 15 59 35.8 +1.7
NEW Newport 108.90 41 PFAKE 15 59 20.0
NEW LR LR
comp=Z,4µm,22.0s,MS5.9
WVOR Wild Horse Val 109.13 47 PFAKE 15 59 20.0
WVOR LR LR
comp=Z,4µm,22.0s,MS5.9
TSUM Tsumeb 109.23 248 PFAKE 15 59 20.0
TSUM LR LR
comp=Z,3µm,20.0s,MS5.9
KONO Kongsberg 109.23 332 PFAKE 15 59 20.0
KONO LR LR
comp=Z,3µm,22.0s,MS5.8
COP Copenhagen 109.34 328 *i*P PP 15 59 43.2 +5.3
COP *i* 16 05 41.0
COP *i*S SS 16 15 03.1 +9.1
comp=Z,1µm,21.0s
BMO Blue Mountains 109.58 44 PFAKE 15 59 20.0
BMO LR LR
comp=Z,3µm,22.0s,MS5.8
PMSA Palmer Station 109.67 174 PFAKE 15 59 20.0
PMSA LR LR
comp=Z,5µm,22.0s,MS6.0
PVCC Panska Ves 109.78 322 AMS AMS 16 48 20.0
comp=Z,2µm,20.1s
BRG Berggiesshubel 110.05 323 P Pdif 15 55 15.9 +12
MNV Mina 110.23 51 *e*P Pdif 15 55 05.6 +0.3
MNV MLR MLR
comp=Z,4µm,20.0s,MS5.9
CLL Collm 110.48 323 *e*PKIKP PKPdf 15 59 09.0 -1.0
CLL *e* 15 59 17.0
CLL MLR MLR
comp=Z,2µm,18.8s,MS5.8
CLL Collm 110.48 323 *e*PKP PKPdf 15 59 09.0 -1.0
CLL *e* 15 59 17.0
CLL *e*SKS SKS 16 06 00.0 +10
CLL *e*Sdif 16 07 24.0
CLL LR LR
comp=Z,2µm,18.8s,MS5.8
CLL Collm 110.48 323 *e*PKIKP PKPdf 15 59 09.0 -1.0
CLL *e* 15 59 17.0
CLL *e*PP PP 15 59 43.0 -3.0
CLL *e*PP PP 15 59 53.0 +7.0
CLL *e*PKS PKS 16 03 03.0 +22
CLL *e* 16 06 00.0
CLL *e* 16 07 24.0
CLL *e*PS PS 16 09 06.0 -4.4
CLL *e* 16 09 39.0
BMN Battle Mountai 110.57 49 PFAKE 15 59 20.0 +10
BMN LR LR
comp=Z,2µm,20.0s,MS5.7
KHC Kasperske Hory 110.80 321 *e*PKIKP PKPdf 15 59 07.3 -3.4
KHC *e* 15 59 16.0
KHC *e* 15 59 47.7
KHC MLR MLR
comp=Z,2µm,17.6s,MS5.8
KHC Kasperske Hory 110.80 321 *e*PKP PKPdf 15 59 07.3 -3.4
KHC *ex* x 15 59 16.0
KHC *ex* x 15 59 33.0
KHC *e*PP PP 15 59 47.7 -0.5
KHC AMS AMS 16 59 50.0
comp=Z,2µm,17.6s
GERES GERESS Array B 110.81 321 PKiKP 15 59 07.4
comp=Z,1.2nm,0.7s,baz=64,slow=1.3,SNR=8.7
GERES PKKPab 16 10 17.7
comp=Z,1.2nm,1.0s,baz=225,slow=1.9,SNR=4.3
TPH Tonopah 111.01 51 PFAKE 15 59 20.0 +8.6
TPH LR LR
comp=Z,3µm,22.0s,MS5.8
DAC Darwin (Calif) 111.03 53 PFAKE 15 59 20.0 +8.5
DAC LR LR
comp=Z,4µm,19.0s,MS6.0
NKC Novy Kostel 111.16 322 AMS AMS 16 48 10.0
comp=Z,2µm,20.7s
MSO Missoula 111.36 41 PFAKE 15 59 20.0 +8.2
MSO LR LR
comp=Z,2µm,22.0s,MS5.6
MOX Moxa 111.53 323 *e*P PKPdf 15 59 20.4 +8.4
MOX LR LR
comp=Z,2µm,21.0s,MS5.6
HLID Hailey 111.90 45 *e*PKPdf PKPdf 15 59 10.9 -2.0
HLID LR LR
comp=Z,2µm,22.0s,MS5.7
GRA1 Grafenberg Arr 112.08 322 *e*Pdif Pdif 15 55 40.0 +27
GRA1 *e*PP PP 15 59 59.6 +2.3
GRA1 LR LR
comp=Z,2µm,20.4s,MS5.7
GRF Grafenberg Arr 112.08 322 *e*Pdif Pdif 15 55 40.0 +27
GRF *e*PP PP 15 59 59.6 +2.3
GRF LR LR
comp=Z,2µm,20.4s,MS5.7
PFO Pinyon Flat Ob 112.39 56 PFAKE 15 59 20.0 +5.9
PFO LR LR
comp=Z,775nm,21.0s,MS5.3
BOZ Bozeman (W) 113.24 42 PFAKE 15 59 20.0 +4.4
BOZ LR LR
comp=Z,3µm,20.0s,MS5.9
DAVOX Davos 113.90 319 PKiKP 15 59 13.1
baz=286
DUG Dugway 113.91 48 PFAKE 15 59 30.0 +13
DUG LR LR
comp=Z,2µm,20.0s,MS5.8
IMW Indian Meadow 114.23 44 *e*PKPdf PKPdf 15 59 14.9 -2.6
TPAW Teton Pass 114.35 44 *e*PKPdf PKPdf 15 59 14.8 -2.9
LKWY Lake 114.40 43 PFAKE 15 59 30.0 +12
LKWY LR LR
comp=Z,3µm,20.0s,MS5.9
MOOW Moose Ponds 114.41 44 *e*PKPdf PKPdf 15 59 13.6 -4.3
HWUT Hardware Ranch 114.45 46 *e*PKPdf PKPdf 15 59 07.7 -10
HWUT LR LR
comp=Z,4µm,22.0s,MS5.9
REDW Red Top Meadow 114.45 44 *e*PKPdf PKPdf 15 59 16.2 -1.7
AHID Auburn Hatcher 114.45 45 PFAKE 15 59 30.0 +12
AHID LR LR
comp=Z,3µm,20.0s,MS5.9
SNOW Snow King Moun 114.49 44 *e*PKPdf PKPdf 15 59 16.5 -1.5
RPN Rapa Nui 114.53 123 PFAKE 15 59 30.0 +11
RPN LR LR
comp=Z,485nm,21.0s,MS5.1
LOHW Long Hollow 114.55 44 *e*PKPdf PKPdf 15 59 16.1 -2.1
MVU Marysvale 114.77 50 *e*PKPdf PKPdf 15 59 17.2 -1.5
MVU LR LR
comp=Z,3µm,20.0s,MS5.8
MSU Marysvale 114.80 50 *e*PKIKP PKPdf 15 59 17.5 -1.2
TMUT Trail Mountain 115.33 49 *e*PKPdf PKPdf 15 59 15.7 -4.1
HINF Hinteralfeld 115.45 321 *e*PKIKP PKPdf 15 59 17.1 -2.7
comp=Z,12nm,0.8s
BW06 Boulder Array 115.54 45 PFAKE 15 59 30.0 +10
BW06 LR LR
comp=Z,3µm,22.0s,MS5.9
PDAR Pinedale Array 115.54 45 PKP PKPdf 15 59 16.4 -3.7
comp=Z,2.2nm,1.0s,baz=349,slow=1.0,SNR=8.1
PDAR PKKPbc 16 09 50.8
comp=Z,0.8nm,0.6s,baz=115,slow=7.6,SNR=6.0
HAU Haudompre 115.69 322 *e*PKIKP PKPdf 15 59 17.7 -2.6
HAU *e*R
comp=Z,2µm,22.8s
GIVF Givet 115.76 324 *e*PKIKP PKPdf 15 59 17.8 -2.6
PGF Pioggiola 115.86 315 *e*PKIKP PKPdf 15 59 17.9 -2.9
SRU San Rafael 115.89 49 *e*PKIKP PKPdf 15 59 17.5 -3.4
WUAZ Wupatki 116.13 53 *e*PKPdf PKPdf 15 59 18.8 -2.7
BAIF Baives 116.13 324 *e*PKIKP PKPdf 15 59 18.3 -2.8

	comp=Z,5.1nm,0.7s								
LPG	**La Plagne**	**116.38**	**319**	*e*PKIKP	PKPdf	15 59 19.1	-2.6		
	comp=Z,16nm,0.9s								
LPL	**La Plagne**	**116.39**	**319**	*e*PKIKP	PKPdf	15 59 19.1	-2.6		
	comp=Z,14nm,0.7s								
CABF	**La Chapelle**	**116.39**	**320**	*e*PKIKP	PKPdf	15 59 19.0	-2.7		
	comp=Z,12nm,0.7s								
LAO	**LASA Array**	**116.41**	**40**	*e*PKPdf	PKPdf	15 59 18.9	-2.8		
LAO				LR	LR				
	comp=Z,3μm,22.0s,MS5.9								
SBF	**Sospel**	**116.50**	**317**	*e*PKIKP	PKPdf	15 59 19.1	-2.9		
	comp=Z,18nm,0.7s								
FCC	**Fort Churchill**	**116.56**	**24**	*e*PKIKP	PKPdf	15 59 17.7	-4.0		
BNI	**Bardonecchia**	**116.59**	**318**	*e*PKIKP	PKPdf	15 59 18.7	-3.4		
MBDF	**Montbardon**	**116.65**	**318**	*e*PKIKP	PKPdf	15 59 19.4	-2.8		
	comp=Z,12nm,0.7s								
BORG	**Borgarnes**	**116.90**	**347**	PFAKE		15 59 30.0	+7.8		
BORG				LR	LR				
	comp=Z,505nm,21.0s,MS5.1								
FRF	**La Foret Royal**	**117.15**	**317**	*e*PKIKP	PKPdf	15 59 20.0	-3.2		
	comp=Z,55nm,1.4s								
ORIF	**Oris-en-Rattie**	**117.17**	**319**	*e*PKIKP	PKPdf	15 59 19.5	-3.7		
	comp=Z,12nm,0.7s								
ORIF				*e*R					
	comp=Z,4μm,22.8s								
PV10	**Paradox Valley**	**117.21**	**49**	*e*PKPdf	PKPdf	15 59 20.3	-3.2		
PV10				*e*		15 59 29.6			
TUC	**Tucson**	**117.31**	**56**	*e*PKIKP	PKPdf	15 59 21.8	-2.0		
TUC				MLR	MLR				
	comp=Z,2μm,19.0s,MS5.8								
LMR	**La Mourre**	**117.32**	**317**	*e*PKIKP	PKPdf	15 59 20.6	-2.9		
EKA	**Eskdalemuir Ar**	**117.34**	**332**	PKP	PKPdf	15 59 19.4	-3.8		
	comp=Z,0.8nm,0.6s,baz=15,slow=2.4,SNR=4.7								
ESK	**Eskdalemuir**	**117.38**	**332**	PFAKE		15 59 30.0	+6.7		
ESK				LR	LR				
	comp=Z,860nm,21.0s,MS5.3								
RWWY	**Rawlins**	**117.53**	**45**	*e*PKPdf	PKPdf	15 59 21.5	-2.5		
PV01	**Paradox Valley**	**117.63**	**49**	*e*PKPdf	PKPdf	15 59 21.9	-2.4		
SMF	**Signal de Mont**	**117.80**	**321**	*e*PKIKP	PKPdf	15 59 21.8	-2.6		
SSF	**Saint Saulge**	**117.84**	**322**	*e*PKIKP	PKPdf	15 59 21.7	-2.7		
	comp=Z,14nm,0.8s								
VIVF	**Saint-Julien-l**	**117.99**	**319**	*e*PKIKP	PKPdf	15 59 21.9	-2.9		
	comp=Z,4.3nm,0.6s								
AVF	**Avril sur Loir**	**118.05**	**321**	*e*PKIKP	PKPdf	15 59 22.1	-2.7		
	comp=Z,14nm,0.9s								
SFJ	**Sondre**	**118.08**	**0**	PFAKE		15 59 30.0	+5.6		
SFJ				LR	LR				
	comp=Z,2μm,21.0s,MS5.7								
BGF	**Bois d'Agland**	**118.46**	**321**	*e*PKIKP	PKPdf	15 59 22.6	-3.1		
	comp=Z,31nm,0.9s								
LASF	**Ste Croix**	**118.83**	**318**	*e*PKIKP	PKPdf	15 59 23.5	-3.0		
	comp=Z,22nm,1.1s								
TCF	**Toulx Ste Croi**	**118.97**	**321**	*e*PKIKP	PKPdf	15 59 23.8	-2.9		
	comp=Z,9.5nm,0.7s								
CAF	**Calviac**	**119.65**	**320**	*e*PKIKP	PKPdf	15 59 25.2	-2.8		
FRB	**Frobisher Bay**	**119.83**	**9**	PKP	PKPdf	15 59 23.9	-4.0		
	comp=Z,6.4nm,0.7s,baz=345,slow=3.4								
LENM	**Lemitar**	**119.97**	**53**	*e*PKP	PKPdf	15 59 19.3	-10		
SDCO	**Great Sand Dun**	**120.06**	**49**	*e*PKPdf	PKPdf	15 59 26.9	-2.0		
SDCO				LR	LR				
	comp=Z,4μm,22.0s,MS6.0								
EJON	**La Jonquera**	**120.12**	**317**	PKP	PKPdf	15 59 30.5	+1.5		
ANMO	**Albuquerque**	**120.16**	**52**	PKIKP	PKPdf	15 59 26.7	-2.6		
ANMO				pmax	pmax				
	comp=Z,12nm,1.2s								
ANMO	**Albuquerque**	**120.16**	**52**	PKP	PKPdf	15 59 26.7	-2.6		
	comp=Z,12nm,1.1s,baz=180								
ANMO	**Albuquerque**	**120.16**	**52**	*e*PKPdf	PKPdf	15 59 27.2	-2.0		
ANMO				LR	LR				
	comp=Z,2μm,20.0s,MS5.8								
LPM	**Los Pinos Moun**	**120.21**	**53**	*e*PKPdf	PKPdf	15 59 26.8	-2.5		
MTLF	**Montolieu**	**120.21**	**318**	*e*PKIKP	PKPdf	15 59 26.4	-2.7		
	comp=Z,21nm,0.9s								
MFF	**Saint Martin d**	**120.29**	**322**	*e*PKIKP	PKPdf	15 59 26.0	-3.2		
	comp=Z,30nm,1.0s								
LFF	**La Frestale**	**120.49**	**320**	*e*PKIKP	PKPdf	15 59 26.4	-3.3		
ULM	**Lac du Bonnet**	**120.81**	**32**	PKP	PKPdf	15 59 26.4	-3.8		
	comp=Z,4.0nm,0.7s,baz=329,slow=1.6,SNR=10								
ULM	**Lac du Bonnet**	**120.81**	**32**	*e*PKPdf	PKPdf	15 59 26.0	-4.2		
ULM				LR	LR				
	comp=Z,3μm,21.0s,MS5.9								
ETOS	**Mallorca**	**121.19**	**314**	PKP	PKPdf	15 59 37.1	+6.0		
EMIR	**Miracle**	**121.26**	**317**	PKP	PKPdf	15 59 34.2	+2.9		
EPF	**Esparros**	**121.59**	**318**	*e*PKIKP	PKPdf	15 59 28.8	-3.1		
	comp=Z,3.1nm,0.5s								
EPOB	**Poblet**	**121.79**	**316**	PKP	PKPdf	15 59 34.8	+2.5		
EBIE	**Bielsa**	**121.87**	**318**	PKP	PKPdf	15 59 33.2	+0.8		
MNTX	**Cornudas Mount**	**121.92**	**56**	*e*PKPdf	PKPdf	15 59 30.1	-2.7		
MNTX				LR	LR				
	comp=Z,2μm,19.0s,MS5.9								
ETSF	**Etsaut**	**122.24**	**319**	*e*PKIKP	PKPdf	15 59 30.2	-2.9		
SJPF	**Ste Jean**	**122.58**	**319**	*e*PKIKP	PKPdf	15 59 30.5	-3.2		
GDL2	**Guadalupe Moun**	**122.61**	**55**	*e*PKPdf	PKPdf	15 59 31.1	-3.0		
CPRX	**Cap Rock**	**122.78**	**54**	*e*PKPdf	PKPdf	15 59 30.1	-4.2		
CLNB	**Carlsbad**	**122.99**	**55**	*e*PKPdf	PKPdf	15 59 32.4	-2.4		
EMOS	**Mosqueruela**	**123.27**	**316**	PKP	PKPdf	15 59 39.1	+3.9		
AMTX	**Amarillo**	**123.92**	**51**	*e*PKPdf	PKPdf	15 59 33.8	-2.8		
AMTX				LR	LR				
	comp=Z,4μm,19.0s,MS6.1								
TXAR	**Lajitas Array**	**123.96**	**58**	PKP	PKPdf	15 59 33.9	-2.9		
	comp=Z,2.3nm,0.8s,baz=221,slow=1.6,SNR=17								
EYMN	**Ely**	**124.49**	**33**	*e*PKPdf	PKPdf	15 59 33.3	-4.0		
EYMN				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
ETOB	**Tobarra**	**124.75**	**314**	PKP	PKPdf	15 59 42.4	+4.3		
EVIA	**Vianos**	**125.43**	**315**	PKIKP	PKPdf	15 59 42.9	+3.5		
ESDC	**Sonseca Array**	**125.98**	**317**	PKP	PKPdf	15 59 37.7	-2.7		
	comp=Z,0.4nm,0.5s,baz=8,slow=2.3,SNR=2.9								
ESDC	**Sonseca Array**	**125.98**	**317**	PKP	PKPdf	15 59 37.7	-2.7		
ESDC				PKP	PKPdf	15 59 40.7	+0.3		
ESLA	**Sonseca Array**	**125.98**	**317**	PFAKE		15 59 50.0	+10		
ESLA				LR	LR				
	comp=Z,15μm,21.0s,MS6.6								
KSU1	**Kansas State U**	**125.99**	**44**	*e*PKPdf	PKPdf	15 59 38.0	-2.5		
WMOK	**Wichita Mounta**	**126.20**	**50**	*e*PKIKP	PKPdf	15 59 37.2	-3.8		
WMOK				MLR	MLR				
	comp=Z,3μm,20.0s,MS5.9								
ERUA	**La Rua**	**126.72**	**321**	PKIKP	PKPdf	15 59 38.0	-3.7		
JCT	**Junction City**	**126.85**	**55**	*e*PKIKP	PKPdf	15 59 38.6	-3.7		
JCT				MLR	MLR				
	comp=Z,2μm,19.0s,MS5.9								
ERON	**Agron**	**127.06**	**314**	PKP	PKPdf	15 59 45.4	+2.8		
EADA	**Adamuz**	**127.10**	**315**	PKP	PKPdf	15 59 42.0	-0.7		
ELUQ	**Luque**	**127.15**	**314**	PKIKP	PKPdf	15 59 43.1	+0.4		
ELOJ	**Sierra Loja**	**127.25**	**314**	PKIKP	PKPdf	15 59 44.4	+1.5		
JFWS	**Jewell Farm**	**128.16**	**37**	*e*PKPdf	PKPdf	15 59 40.0	-4.6		
JFWS				LR	LR				
	comp=Z,3μm,22.0s,MS6.0								
SCHQ	**Schefferville**	**128.48**	**12**	PKP	PKPdf	15 59 42.0	-2.8		
	comp=Z,12nm,1.1s,baz=347,slow=2.9,SNR=16								
SCHQ	**Schefferville**	**128.48**	**12**	*e*PKPdf	PKPdf	15 59 42.2	-2.6		
SCHQ				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
CCM	**Cathedral Cave**	**130.18**	**43**	*e*PKIKP	PKPdf	15 59 45.5	-3.1		
CCM				MLR	MLR				
	comp=Z,708nm,20.0s,MS5.4								
MIAR	**Mount Ida**	**130.20**	**48**	*e*PKIKP	PKPdf	15 59 45.1	-3.6		
MIAR				MLR	MLR				
	comp=Z,3μm,21.0s,MS6.0								
MIAR	**Mount Ida**	**130.20**	**48**	*e*PKPdf	PKPdf	15 59 45.1	-3.6		
MIAR				*e*SKP		16 03 07.6			
MIAR				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
NATX	**Nacogdoches**	**130.53**	**52**	PFAKE		16 00 00.0	+11		
NATX				LR	LR				
	comp=Z,2μm,21.0s,MS5.8								
PLCA	**Paso Flores**	**130.80**	**159**	PKIKP	PKPdf	15 59 47.9	-1.8		
PLCA				MLR	MLR				
	comp=Z,2μm,20.0s								
PLCA	**Paso Flores**	**130.80**	**159**	PKP	PKPdf	15 59 47.9	-1.8		
	comp=Z,9.8nm,0.8s,baz=248,slow=2.3,SNR=18								
UALR	**University of**	**131.00**	**47**	*e*PKPdf	PKPdf	15 59 48.3	-2.0		
AAM	**Ann Arbor**	**132.35**	**34**	PFAKE		16 00 00.0	+7.4		
AAM				LR	LR				
	comp=Z,3μm,22.0s,MS6.0								
OXF	**Oxford**	**133.25**	**46**	PFAKE		16 00 00.0	+5.5		
OXF				LR	LR				
	comp=Z,2μm,19.0s,MS5.9								
WCI	**Wyandotte Cave**	**133.34**	**40**	*e*PKPpre		15 59 40.6			
WCI				*e*PKPdf	PKPdf	15 59 50.1	-4.4		
WCI				LR	LR				
	comp=Z,714nm,22.0s,MS5.3								
WVT	**Waverly**	**133.51**	**43**	*e*PKIKP	PKPdf	15 59 51.4	-3.5		
WVT				MLR	MLR				
	comp=Z,2μm,22.0s,MS5.8								
PLAL	**Pickwick Lake**	**133.95**	**45**	PFAKE		16 00 00.0	+4.3		
PLAL				LR	LR				
	comp=Z,2μm,20.0s,MS5.9								
ACSO	**Alum Creek Sta**	**134.10**	**35**	*e*PKPdf	PKPdf	15 59 52.9	-3.0		
ACSO				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
ERPA	**Erie**	**134.44**	**31**	PFAKE		16 00 00.0	+3.5		
ERPA				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
DBIC	**Dimbokro**	**134.97**	**274**	*e*PKHKP		15 59 47.3			
DBIC				*e*		15 59 55.2			
DBIC				MLR	MLR				
	comp=Z,1μm,20.0s								
DBIC	**Dimbokro**	**134.97**	**274**	PKP	PKPdf	15 59 55.5	-2.7		
	comp=Z,7.8nm,0.7s,baz=124,slow=2.4,SNR=11								
DBIC	**Dimbokro**	**134.97**	**274**	*e*PKPpre		15 59 47.3			
DBIC				*e*PKPdf	PKPdf	15 59 55.2	-3.0		
DBIC				PKP	PKPdf	15 59 55.5	-2.7		
DBIC				LR	LR				
	comp=Z,1μm,20.0s,MS5.7								
PQI	**Presque Isle**	**135.66**	**18**	PFAKE		16 00 10.0	+11		
PQI				LR	LR				
	comp=Z,7μm,22.0s,MS6.4								
LRAL	**Lakeview Retre**	**135.72**	**46**	*e*PKPdf	PKPdf	15 59 56.5	-2.6		
LRAL				LR	LR				
	comp=Z,4μm,21.0s,MS6.1								
NCB	**Newcomb**	**135.73**	**25**	*e*PKPdf	PKPdf	15 59 55.2	-3.6		
NCB				LR	LR				
	comp=Z,2μm,22.0s,MS5.8								
TRQA	**Tornquist**	**135.79**	**167**	*e*PKPpre		15 59 52.3			
TRQA				*e*PKPdf	PKPdf	15 59 57.2	-1.9		
TRQA				*e*SKP		16 03 26.3			
MCWV	**Mont Chateau**	**136.26**	**34**	PFAKE		16 00 10.0	+10		
MCWV				LR	LR				
	comp=Z,4μm,22.0s,MS6.1								
BINY	**Binghamton**	**136.36**	**28**	PKPdf	PKPdf	15 59 57.4	-2.5		
BINY				LR	LR				
	comp=Z,3μm,20.0s,MS5.9								
SSPA	**Standing Stone**	**136.60**	**31**	*e*PKPdf	PKPdf	15 59 55.2	-5.2		
SSPA				LR	LR				
	comp=Z,550nm,20.0s,MS5.3								
WVL	**Waterville**	**137.00**	**21**	PFAKE		16 00 10.0	+9.0		
WVL				LR	LR				
	comp=Z,9μm,20.0s,MS6.5								
EMMW	**East Machias**	**137.60**	**18**	PFAKE		16 00 10.0	+7.8		
EMMW				LR	LR				
	comp=Z,12μm,22.0s,MS6.6								
BLA	**Blacksburg**	**137.60**	**37**	PFAKE		16 00 10.0	+7.6		
BLA				LR	LR				
	comp=Z,2μm,20.0s,MS5.9								
MVL	**Millersville**	**137.86**	**30**	*e*PKPdf	PKPdf	16 00 00.0	-2.8		
GOGA	**Godfrey**	**138.00**	**43**	PFAKE		16 00 10.0	+6.7		
GOGA				LR	LR				
	comp=Z,3μm,21.0s,MS6.0								
HRV	**Harvard--Oak R**	**138.04**	**24**	PFAKE		16 00 10.0	+6.9		
HRV				LR	LR				
	comp=Z,3μm,22.0s,MS5.9								
SDMD	**Soldier's Deli**	**138.05**	**31**	PKPdf	PKPdf	15 59 59.0	-4.2		
WES	**Weston**	**138.24**	**24**	PFAKE		16 00 10.0	+6.6		
WES				LR	LR				
	comp=Z,3μm,22.0s,MS6.0								
CBN	**Corbin**	**138.65**	**33**	PFAKE		16 00 10.0	+5.7		
CBN				LR	LR				
	comp=Z,4μm,22.0s,MS6.1								
PAYG	**Puerto Ayora**	**139.47**	**97**	*e*PKPdf	PKPdf	16 00 02.0	-4.4		
PAYG				LR	LR				
	comp=Z,1μm,22.0s,MS5.6								
TEIG	**Tepich**	**139.91**	**64**	PFAKE		16 00 20.0	+13		
TEIG				LR	LR				
	comp=Z,868nm,21.0s,MS5.5								
NHSC	**New Hope**	**140.39**	**41**	PFAKE		16 00 20.0	+12		
NHSC				LR	LR				
	comp=Z,3μm,20.0s,MS6.1								
DWPF	**Disney**	**142.38**	**49**	PFAKE		16 00 20.0	+8.8		
DWPF				LR	LR				
	comp=Z,618nm,20.0s,MS5.4								
CRZC	**La Cruz**	**144.37**	**78**	*e*P	PKPbc	16 00 15.7	+5.7		
VCR	**Vista de Mar**	**144.43**	**80**	*e*P	PKPbc	16 00 15.2	+5.0		
JTS	**JuntasAbangare**	**145.07**	**79**	*e*PKIKP	PKPdf	16 00 13.6	-2.7		
JTS				MLR	MLR				
	comp=Z,477nm,22.0s								
FORC	**Fortuna**	**145.33**	**79**	*e*P	PKPbc	16 00 16.3	+3.7		
LAJ	**Bijagual**	**145.93**	**80**	*e*P	PKPbc	16 00 16.4	+2.2		
SJS	**Escuela Geolog**	**145.99**	**80**	*e*P	PKPbc	16 00 17.5	+3.2		
SJS				AMb	AMB	16 00 31.3			
	comp=Z,796nm,1.7s								
SJS				AMS	AMS	16 01 01.9			
	comp=Z,906nm,18.5s,MS5.6								
LCR2	**La Lucha 2**	**146.06**	**80**	*e*P	PKPbc	16 00 17.2	+2.8		
ICR	**Volcan Irazu**	**146.21**	**80**	*e*P	PKPbc	16 00 18.8	+4.0		
TRTC	**Tortuguero**	**146.25**	**78**	*e*P	PKPbc	16 00 16.0	+1.1		
BUS	**Buena Vista**	**146.32**	**80**	*e*P	PKPbc	16 00 18.4	+3.4		
ACR	**Cerro Adams**	**146.97**	**82**	*e*P	PKPbc	16 00 19.7	+3.1		
LVC	**Limon Verde**	**146.99**	**147**	PKPbc	PKPbc	16 00 20.2	+3.8		
	baz=252,slow=2.9								
LVC	**Limon Verde**	**146.99**	**147**	*e*PKPdf	PKPdf	16 00 18.0	-1.4		
LVC				*e*PKPbc	PKPbc	16 00 20.3	+3.9		
LVC				LR	LR				
	comp=Z,2μm,21.0s,MS6.0								
CPUP	**Villa Florida**	**148.10**	**168**	PKPdf	PKPdf	16 00 18.5	-2.5		
CPUP				PKPdf	PKPdf	16 00 21.8	+0.8		
BBSR	**BB Station**	**149.51**	**25**	*e*PKPbc	PKPdf	16 00 24.3	+1.2		
BBSR				LR	LR				
	comp=Z,2μm,19.0s,MS5.9								
ARE	**Arequipa**	**149.98**	**136**	*e*PKP2	PKPab	16 00 29.0	-3.5		
OTAV	**Otavalo**	**151.30**	**99**	*e*PKPdf	PKPdf	16 00 24.5	-1.9		
OTAV				LR	LR				
	comp=Z,1μm,20.0s,MS5.7								
CAM4	**Nova Friburgo**	**151.86**	**195**	*e*P	PKPdf	16 00 31.8	+4.9		
CAM4				*i*		16 00 35.0			
CAM4				*i*		16 00 43.3			
LPAZ	**La Paz**	**152.35**	**140**	*e*PKIKP	PKPdf	16 00 26.5	-1.3		
LPAZ				*e*		16 00 33.4			
LPAZ				*e*		16 00 42.0			
LPAZ				MLR	MLR				
	comp=Z,2μm,21.0s								
LPAZ	**La Paz**	**152.35**	**140**	PKP	PKPdf	16 00 26.9	-0.9		
	comp=Z,12nm,1.3s,baz=294,slow=0.4,SNR=19								
LPAZ				PKPbc	PKPdf	16 00 33.5	+5.7		
	comp=Z,11nm,0.4s,baz=23,slow=0.4,SNR=68								
ROSC	**El Rosal**	**155.86**	**89**	PKP	PKPdf	16 00 30.9	-1.7		
	comp=Z,4.5nm,0.3s,baz=79,slow=17,SNR=3.9								
SIV	**San Ignacio**	**156.51**	**153**	PKP	PKPdf	16 00 31.1	-2.3		
	comp=Z,49nm,1.6s,baz=257,slow=3.1								
SIV				PKPab	PKPab	16 01 00.5	+0.4		
	comp=Z,14nm,0.8s,baz=218,slow=4.9,SNR=12								
SDV	**Santo Domingo**	**159.25**	**78**	PKP	PKPdf	16 00 34.3	-2.6		
	comp=Z,18nm,1.1s,baz=322,slow=0.9								
SDV				PKPab	PKPab	16 01 12.4	+0.4		
	comp=Z,27nm,0.9s,baz=326,slow=4.2,SNR=4.0								
SDV	**Santo Domingo**	**159.25**	**78**	*e*PKPdf	PKPdf	16 00 33.7	-3.2		
SDV				LR	LR				
	comp=Z,2μm,20.0s,MS6.0								
BDFB	**Brasilia**	**159.42**	**186**	PKP	PKPdf	16 00 34.8	-2.2		
	comp=Z,2.1nm,0.5s,baz=154,slow=8.3,SNR=3.9								
BAO	**Brasilia Array**	**159.42**	**186**	P	PKPdf	16 00 31.0	-6.0		
SJG	**San Juan**	**159.59**	**49**	PKP	PKPdf	16 00 34.6	-2.6		
	comp=Z,2.9nm,0.3s,baz=287,slow=20,SNR=4.0								
SJG				PKPab	PKPab	16 01 12.3	-1.0		
	comp=Z,33nm,0.7s,baz=8.9,slow=3.3,SNR=8.6								
RCBR	**Riachuelo**	**162.22**	**233**	PFAKE		16 00 50.0	+10		
RCBR				LR	LR				
	comp=Z,2μm,20.0s								

*STR **26** 15:44:12.6±0.1,42.99N×0.03E,h5km±1km,Ml2.3,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **26** 15:44:12.8±0.0,42.99N×0.03E,h2km,Md2.3/2,Ml2.4/6, Error ellipse: s-maj=0.9km s-min=0.6km az=167.0*
*CSEM **26** 15:44:12.9±0.0,42.99N×0.03E,h5km,ML2.6/6,Error ellipse: s-maj=0.9km s-min=0.6km az=166.0*
*MDD **26** 15:44:13.2±0.2,43.00N×0.03E,h6km±3km,mbLg1.8/14, Error ellipse: s-maj=1.9km s-min=1.4km az=13.0,PRXIMO*
ISC 26 15:44:11.3±0.3,43.04N±0.02×0.06E±0.02,h14km±2km, n39,σ1§08/63,France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LABF	**Labassere**	**0.01**	**54**	Pg	**Pg**	**15 44 14.5**	**+0.7**
LABF				Sg	**Sg**	**15 44 15.8**	**+0.3**
LABF	**Labassere**	**0.01**	**54**	Pg	**Pg**	**15 44 14.7**	**+0.8**
LABF				Lg		15 44 15.9	
VIEF	**Viey**	**0.16**	**189**	Pg	**Pg**	**15 44 15.4**	**+0.1**
VIEF				Sg	**Sg**	**15 44 16.7**	**-1.3**
VIEF	**Viey**	**0.16**	**189**	Pg	**Pg**	**15 44 15.5**	**+0.1**
VIEF				Lg		15 44 17.2	
EPF	**Esparros**	**0.21**	**92**	*e*Pg	**Pg**	**15 44 17.4**	**+1.3**
EPF				*e*Sg	**Sg**	**15 44 20.8**	**+1.4**
	41nm,0.2s						
RESF	**Ens**	**0.31**	**138**	Pg	**Pg**	**15 44 18.8**	**+0.8**
RESF				Sg	**Sg**	**15 44 23.0**	**+0.6**
RESF	**Ens**	**0.31**	**138**	Pg	**Pg**	**15 44 18.7**	**+0.7**
RESF				Lg		15 44 23.1	
REYF	**Montagne du Re**	**0.33**	**275**	Pg	**Pg**	**15 44 18.6**	**+0.2**
REYF				Sg	**Sg**	**15 44 23.5**	**+0.4**
REYF	**Montagne du Re**	**0.33**	**275**	Pg	**Pg**	**15 44 18.8**	**+0.4**
REYF				Lg		15 44 23.6	
EBIE	**Bielsa**	**0.36**	**170**	Pg	**Pg**	**15 44 19.1**	**+0.2**
	5.0nm,0.1s,SNR=74						
EBIE				Lg		15 44 23.4	
	68nm,0.1s,SNR=6.0						
EBIE	**Bielsa**	**0.36**	**170**	Pg	**Pg**	**15 44 19.1**	**+0.2**
	39nm,0.3s,SNR=74						
EBIE				Lg		15 44 23.4	
	35nm,0.0s,SNR=6.0						
ETSF	**Etsaut**	**0.47**	**253**	*e*Pg	**Pg**	**15 44 21.1**	**0.0**
ETSF				*e*Sg	**Sg**	**15 44 26.9**	**-0.8**
	18nm,0.2s						
FDAF	**Les Forges d'A**	**0.51**	**245**	Pg	**Pg**	**15 44 21.9**	**+0.1**
FDAF				Sg	**Sg**	**15 44 28.2**	**-0.6**
FDAF	**Les Forges d'A**	**0.51**	**245**	Pg	**Pg**	**15 44 21.9**	**+0.1**
FDAF				Lg		15 44 28.3	
MELF	**Melles**	**0.54**	**108**	Pg	**Pg**	**15 44 23.3**	**+0.9**
MELF				Sg	**Sg**	**15 44 31.0**	**+1.2**
MELF	**Melles**	**0.54**	**108**	Pg	**Pg**	**15 44 23.3**	**+0.9**
MELF				Lg		15 44 30.7	
ATE	**Arette**	**0.56**	**275**	Pg	**Pg**	**15 44 23.3**	**+0.6**
ATE				Lg		15 44 30.9	
LARF	**Larrau**	**0.77**	**270**	Pg	**Pg**	**15 44 27.1**	**+0.3**
LARF				Sg	**Sg**	**15 44 37.2**	**0.0**
LARF	**Larrau**	**0.77**	**270**	Pg	**Pg**	**15 44 27.3**	**+0.4**
LARF				Lg		15 44 37.1	
SALF	**Salau**	**0.88**	**108**	Pn	**Pn**	**15 44 30.5**	**+1.4**
SALF	**Salau**	**0.88**	**108**	Pg	**Pg**	**15 44 29.5**	**+0.5**
SALF				Lg		15 44 41.0	
SJPF	**Ste Jean**	**0.94**	**275**	*e*Pg	**Pg**	**15 44 30.4**	**+0.1**
SJPF				*e*Pn	**Pn**	**15 44 31.3**	**+1.2**
SJPF				*e*Sg	**Sg**	**15 44 42.5**	**-0.5**
	5.2nm,0.2s						
EALK	**Alkurruntz**	**1.16**	**279**	Pg	**Pg**	**15 44 35.0**	**+0.4**
	0.9nm,0.2s,SNR=6.9						
EALK				Lg		15 44 50.6	
	2.9nm,0.2s,SNR=6.7						
EALK	**Alkurruntz**	**1.16**	**279**	Pg	**Pg**	**15 44 36.2**	**+1.6**
	6.1nm,0.9s,SNR=6.9						
ESAC	**San Caprasio**	**1.37**	**197**	Pg	**Pg**	**15 44 38.8**	**-0.1**
	29nm,0.3s,SNR=18						
ESAC				Lg		15 44 56.6	
	18nm,0.2s,SNR=7.6						
ESAC	**San Caprasio**	**1.37**	**197**	Pg	**Pg**	**15 44 38.8**	**-0.1**
	23nm,0.3s,SNR=18						
CARF	**Carcanieres**	**1.54**	**101**	Lg		15 45 02.8	
EMIR	**Miracle**	**1.56**	**135**	Pg	**Pg**	**15 44 41.5**	**-1.2**
	1.7nm,0.2s,SNR=7.9						
EMIR				Lg		15 45 03.8	
	5.9nm,0.1s,

BANOM	**Banah**	**1.90**	**196**	⇓P		**Pn**	**16 00 36.1 +0.1**
	SNR=5.8						
BANOM				⇑S		**Sn**	**16 01 02.2 +2.1**
ASHO	**Ashiyiah**	**3.15**	**193**	⇑P		**Pn**	**16 00 54.0 +0.1**
	SNR=9.8						
BIDO	**Bidbid**	**4.38**	**165**	⇓P		**Pn**	**16 01 08.1 -3.1**
	SNR=12						
WBK	**Wadi Bani Khal**	**5.47**	**159**	⇑P		**Pn**	**16 01 25.1 -1.6**
	SNR=7.8						
GNI	**Garni**	**15.91**	**324**	P		**P**	**16 03 48.8 +0.2**
GNI	**Garni**	**15.91**	**324**	P		**P**	**16 03 48.8 +0.2**
AAK	**Ala-Archa**	**20.61**	**39**	*eP*		**P**	**16 04 45.2 +0.2**
	5.4nm,1.3s						
AAK	**Ala-Archa**	**20.61**	**39**	*eP*		**P**	**16 04 45.2 +0.1**
	5.4nm,1.3s						
BRTR	**Keskin Array B**	**22.63**	**308**	P		**P**	**16 05 06.3 +1.0**
	0.9nm,0.5s,mb3.4,baz=120,slow=10.0,SNR=3.9						
BRTR	**Keskin Array B**	**22.63**	**308**	P		**P**	**16 05 06.3 +0.9**
BVAR	**Borovoye Array**	**27.16**	**18**	P		**P**	**16 05 49.1 +0.9**
	0.9nm,0.7s,mb3.4,baz=194,slow=6.1,SNR=5.5						
MKAR	**Makanchi Array**	**27.55**	**40**	P		**P**	**16 05 53.0 +1.1**
	0.2nm,0.4s,mb3.1,baz=227,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**27.55**	**40**	P		**P**	**16 05 53.0 +1.1**
FINES	**FINESS Array B**	**39.45**	**337**	P		**P**	**16 07 34.5 -0.4**
	0.8nm,0.6s,mb3.6,baz=143,slow=9.5,SNR=7.1						
FINES	**FINESS Array B**	**39.45**	**337**	P		**P**	**16 07 34.5 -0.4**
SONM	**Songino Array**	**43.12**	**49**	P		**P**	**16 08 06.7 +1.6**
	0.1nm,0.2s,mb3.2,baz=249,slow=11,SNR=3.7						
HFS	**Hagfors**	**43.56**	**330**	P		**P**	**16 08 07.9 -0.6**
	1.0nm,0.4s,mb3.9,baz=129,slow=9.5,SNR=13						
NB2	**NORSAR Subarra**	**45.07**	**331**	P		**P**	**16 08 19.4 -1.3**
	0.7nm,0.6s,mb3.7,baz=112,slow=7.9						
NOA	**NORSAR Array B**	**45.07**	**331**	P		**P**	**16 08 19.4 -1.3**
	0.9nm,0.7s,mb3.7,baz=116,slow=7.9,SNR=6.9						
EKA	**Eskdalemuir Ar**	**50.71**	**320**	P		**P**	**16 09 03.2 -1.5**
	0.3nm,0.5s,mb3.5,baz=97,slow=6.8,SNR=3.5						
WRA	**Warramunga Arr**	**88.64**	**113**	P		**P**	**16 12 58.3 +0.1**
	0.4nm,0.5s,mb4.0,baz=315,slow=4.0,SNR=6.5						
ASAR	**Alice Springs**	**90.16**	**117**	P		**P**	**16 13 05.0 -0.3**
	0.2nm,0.6s,mb3.6,baz=307,slow=5.4,SNR=5.7						

*FUNV **26** 16:00:38.6, 10.41N×62.39W, MW3.0*
*NEIC **26** 16:00:39.9, 10.56N×62.35W, h5km, mb4.4/4, MD3.8(TRN), After TRN.*
*TRN **26** 16:00:39.6, 10.54N×62.36W, h3km, MD3.8*
ISC 26 16:00:37.4±0.4, 10.38N±0.04×62.47W±0.02, h5km, n25, σ1§23/37, mb4.5/4, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUIV	**Guiria**	**0.36**	**42**	*i*P	**Pg**	**16 00 44.1**	**-0.5**
GUIV				*e*S	**Sg**	**16 00 48.6**	**-0.8**
GUNV	**Guanoco**	**0.52**	**245**	*e*S	**Sg**	**16 00 59.0**	**+4.3**
CRUV	**Carupano**	**0.81**	**291**	*e*P	**Pb**	**16 00 53.8**	**+0.2**
CRUV				*e*S	**Sg**	**16 01 05.8**	**+1.2**
TPP	**Pointe-a-Pierr**	**1.00**	**93**	*e*P	**Pb**	**16 00 57.7**	**+0.9**
TRN	**Trinidad (W)**	**1.08**	**75**	*e*P	**Pb**	**16 00 57.4**	**-0.8**
TRN				*e*S	**Sb**	**16 01 11.5**	**-0.9**
ITEV	**Isla Los Testi**	**1.17**	**326**	*e*P	**Pb**	**16 01 00.4**	**+0.7**
ITEV				*e*S	**Sb**	**16 01 17.2**	**+2.1**
TBH	**Brigand Hill**	**1.38**	**85**	*e*P	**Pb**	**16 01 04.8**	**+1.4**
TBH				*e*S	**Sb**	**16 01 23.1**	**+2.0**
ORIV	**Oritupano**	**1.60**	**216**	⇑*i*P	**Pn**	**16 01 08.2**	**+1.6**
ORIV				*e*S	**Sb**	**16 01 31.1**	**+3.6**
GRW	**Mount Saint Ca**	**1.94**	**24**	*e*P	**Pn**	**16 01 13.3**	**+1.9**
GRHS	**Sauteurs**	**2.00**	**24**	*e*P	**Pn**	**16 01 11.6**	**-0.7**
GRHS				*e*S	**Sn**	**16 01 36.2**	**-1.9**
GRNS	**Sisters**	**2.08**	**24**	*e*P	**Pn**	**16 01 13.6**	**+0.1**
PCRV	**Puerto La Cruz**	**2.15**	**265**	*e*P	**Pn**	**16 01 15.6**	**+1.3**
SVB	**Belmont**	**3.11**	**22**	*e*P	**Pn**	**16 01 27.6**	**-0.5**
SVV	**Soufriere Volc**	**3.17**	**23**	*e*P	**Pn**	**16 01 29.1**	**+0.2**
CUPV	**Cœpira**	**3.29**	**265**	*e*P	**Pn**	**16 01 31.8**	**+1.2**
CUPV				*e*S	**Sn**	**16 02 10.0**	**-0.6**
BIRV	**Birongo**	**3.74**	**272**	*e*P	**Pn**	**16 01 37.7**	**+0.6**
BIRV				*e*S	**Sn**	**16 02 21.2**	**-1.0**
MERV	**Las Mercedes**	**3.94**	**254**	*e*P	**Pn**	**16 01 40.3**	**+0.4**
MERV				*e*S	**Sn**	**16 02 25.4**	**-1.7**
CAOV	**Caicara del Or**	**4.87**	**232**	*e*P	**Pn**	**16 01 52.3**	**-0.9**
CAOV				*e*S	**Sn**	**16 02 47.6**	**-3.1**
BAUV	**El Baul**	**5.68**	**256**	*e*P	**Pn**	**16 02 03.7**	**-0.8**
BAUV				*e*S	**Sn**	**16 03 06.4**	**-4.6**
PAYV	**Puerto Ayacuch**	**7.12**	**227**	*e*P	**Pn**	**16 02 22.4**	**-2.4**
SDV	**Santo Domingo**	**8.19**	**260**	*e*Pn	**P**	**16 02 38.8**	**-1.0**
TEIG	**Tepich**	**26.71**	**295**	*e*P	**P**	**16 06 18.9**	**-0.9**
	13nm,1.1s,mb4.4						
LVC	**Limon Verde**	**33.39**	**191**	*e*P	**P**	**16 07 18.1**	**-1.0**
	4.2nm,1.0s,mb4.3						
OXF	**Oxford**	**34.39**	**319**	*e*P	**P**	**16 07 24.1**	**-3.7**
	13nm,0.8s,mb4.9						
WVT	**Waverly**	**34.44**	**322**	*e*P	**P**	**16 07 28.5**	**+0.4**
	2.7nm,0.9s,mb4.2						

*MAN **26** 16:18:27.3, 13.35N×125.32E, h28km, mb4.7, ML3.6, MS3.6*
*NEIC **26** 16:18:29.3±0.5, 13.47N×125.64E, h40km, mb4.4/10, Error ellipse: s-maj=28.4km s-min=9.6km az=66.0*
*BJI **26** 16:18:29.2, 13.50N×125.60E, h40km, mb4.4*
*IDC **26** 16:18:30.1±8.0, 13.39N×125.68E, h43km±75km, mb3.7/10, mb1 3.8/10, mb1mx3.6/18, mbtmp3.9/10, Error ellipse: s-maj=109.1km s-min=14.2km az=67.0*
ISC 26 16:18:26.1±2.2, 13.37N±0.04×125.44E±0.09, h29km±15km, n49, σ1§14/51, mb4.2/20, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**1.14**	**222**	*e*P	**Pn**	**16 18 45.5**	**-0.9**
PVCP	**Virac**	**1.27**	**280**	*e*P	**Pn**	**16 18 47.3**	**-0.9**
BESP	**Borongan**	**1.76**	**180**	*e*P	**Pn**	**16 18 55.3**	**+0.1**
MMPH	**Masbate**	**2.04**	**241**	*e*P	**Pn**	**16 19 01.0**	**+1.8**
PLP	**Palo**	**2.24**	**192**	*e*P	**Pn**	**16 19 02.6**	**+0.5**
PLP				*e*S	**Sn**	**16 19 28.3**	**-0.7**
AUQP	**San Andres**	**2.69**	**269**	*e*P	**Pn**	**16 19 09.4**	**+0.9**
GQP	**Guinayangan**	**2.96**	**281**	⇓*e*P	**Pn**	**16 19 11.8**	**-0.6**
RCP	**Roxas**	**3.19**	**236**	⇑*e*P	**Pn**	**16 19 15.4**	**-0.2**
MSLP	**Maasin**	**3.27**	**190**	*e*P	**Pn**	**16 19 18.7**	**+2.0**
LLP	**Lapu-Lapu**	**3.36**	**206**	*e*P	**Pn**	**16 19 26.0**	**+8.0**
BOAC	**Boac**	**3.50**	**272**	*e*P	**Pn**	**16 19 19.4**	**-0.6**
SCPH	**Surigao**	**3.56**	**179**	⇓*e*P	**Pn**	**16 19 19.9**	**-1.0**
POLP	**Polillo Island**	**3.66**	**232**	*e*P	**Pn**	**16 19 20.9**	**-1.3**
GUIM	**Jordan**	**3.90**	**220**	*e*P	**Pn**	**16 19 25.6**	**-0.1**
PALP	**Palanan**	**4.69**	**322**	*e*P	**Pn**	**16 19 37.6**	**+0.7**
CAUP	**Cauayan**	**4.98**	**316**	*e*P	**Pn**	**16 19 39.0**	**-2.0**
CVP	**Callao Caves**	**5.54**	**321**	*e*P	**Pn**	**16 19 50.0**	**+1.1**
PAGZ	**Pagadian**	**5.85**	**200**	*e*P	**Pn**	**16 19 53.7**	**+0.5**
APYP	**Conner**	**6.03**	**318**	*e*P	**Pn**	**16 19 54.8**	**-0.9**
ABRA	**Dolores**	**6.23**	**314**	*e*P	**Pn**	**16 19 58.7**	**0.0**
ENH	**Enshi**	**22.36**	**321**	P	**P**	**16 23 22.1**	**-1.4**
XAN	**Xi'an**	**25.47**	**327**	P	**P**	**16 23 54.0**	**+0.5**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.3						
KAKA	**Kakadu**	**26.82**	**165**	*e*P	**P**	**16 24 06.6**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.0						
FITZ	**Fitzroy Crossi**	**31.27**	**180**	*e*P	**P**	**16 24 43.1**	**-2.9**
	comp=Z,4.2nm,1.5s,mb4.0						
WRAB	**Tennant Creek**	**34.23**	**165**	*e*P	**P**	**16 25 10.3**	**-1.6**
	comp=Z,3.4nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**34.24**	**165**	P	**P**	**16 25 11.3**	**-0.6**
	comp=Z,0.5nm,0.7s,mb3.6,baz=342,slow=9.2,SNR=9.2						
WRA				PcP	PcP	16 27 48.3	+0.1
	comp=Z,0.4nm,0.7s,baz=337,slow=2.9,SNR=4.6						
WB2	**Warramunga Arr**	**34.24**	**165**	*e*P	**P**	**16 25 13.5**	**+1.6**
LSA	**Lhasa**	**35.62**	**303**	*e*P	**P**	**16 25 23.5**	**-0.1**
	comp=Z,5.6nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**37.73**	**167**	P	**P**	**16 25 41.6**	**+0.3**
	comp=Z,0.6nm,0.3s,mb3.7,baz=345,slow=7.2,SNR=21						
ASAR				PcP	PcP	16 27 59.0	+0.5
	comp=Z,0.3nm,0.7s,baz=341,slow=3.5,SNR=3.8						
ASPA	**Alice Springs**	**37.73**	**167**	*e*P	**P**	**16 25 43.1**	**+1.8**
ASPA				*e*S	**S**	**16 31 27.9**	**-1.5**
SONM	**Songino Array**	**37.85**	**339**	P	**P**	**16 25 43.7**	**+1.6**
	comp=Z,0.7nm,0.5s,mb3.7,baz=161,slow=10,SNR=10						
HYB	**Hyderabad**	**45.30**	**281**	*e*P	**P**	**16 26 44.0**	**+0.4**
HYB	**Hyderabad**	**45.30**	**281**	*i*P	**P**	**16 26 44.0**	**+0.4**
STKA	**Stephens Creek**	**47.58**	**161**	*e*P	**P**	**16 27 01.2**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**47.58**	**161**	P	**P**	**16 27 00.9**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=338,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**49.10**	**322**	P	**P**	**16 27 14.3**	**+1.3**
	comp=Z,2.9nm,0.8s,mb4.4,baz=112,slow=9.7,SNR=31						
MKAR	**Makanchi Array**	**49.10**	**322**	P	**P**	**16 27 14.3**	**+1.3**
ZAL	**Zalesovo**	**51.54**	**331**	P	**P**	**16 27 32.5**	**+1.0**
	comp=Z,0.8nm,0.3s,mb4.1,baz=151,slow=3.4,SNR=3.4						
KURK	**Kurchatov**	**53.08**	**325**	*e*P	**P**	**16 27 43.6**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8						
KURK				*e*	pP	16 27 53.2	+1.2
BVAR	**Borovoye Array**	**58.68**	**325**	P	**P**	**16 28 24.4**	**+1.1**
	comp=Z,0.5nm,0.4s,mb3.9,baz=127,slow=7.4,SNR=6.7						
CHKZ	**Chkalovo**	**58.79**	**325**	*e*P	**P**	**16 28 21.9**	**-2.2**
	comp=Z,7.0nm,1.3s,mb4.5						
ARU	**Arti**	**66.21**	**326**	*e*P	**P**	**16 29 14.9**	**+1.5**
	comp=Z,6.2nm,1.4s,mb4.5						
COLA	**College**	**76.61**	**26**	*e*P	**P**	**16 30 14.3**	**-1.2**
	comp=Z,11nm,1.4s,mb4.6						
ARCES	**ARCESS Array B**	**81.02**	**339**	P	**P**	**16 30 39.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=5.4,SNR=2.8						
FINES	**FINESS Array B**	**82.80**	**331**	P	**P**	**16 30 49.7**	**+0.9**
	comp=Z,0.9nm,1.0s,mb3.8,baz=56,slow=6.9,SNR=4.3						
FINES	**FINESS Array B**	**82.80**	**331**	P	**P**	**16 30 49.7**	**+0.9**
BRTR	**Keskin Array B**	**82.95**	**309**	P	**P**	**16 30 51.4**	**+1.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=108,slow=4.6,SNR=2.3						
DLBC	**Dease Lake**	**86.16**	**31**	*e*P	**P**	**16 31 03.3**	**-2.4**
RES	**Resolute Bay**	**88.61**	**10**	*e*P	**P**	**16 31 16.1**	**-1.1**
	comp=Z,3.1nm,1.2s,mb4.5						

IDC 26 16:35:34.8±3.6, 5.38N×94.88E, mb3.5/4, mb1 3.7/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=145.4km s-min=23.5km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.67**	**347**	P	P	16 43 32.8	-2.1
	1.2nm,0.7s,baz=167,slow=8.4,SNR=17						
SONM	**Songino Array**	**43.44**	**11**	P	P	16 43 39.9	-1.2
	0.4nm,0.7s,baz=188,slow=8.4,SNR=5.2						
WRA	**Warramunga Arr**	**46.24**	**124**	P	P	16 44 02.2	-1.8
	0.8nm,0.7s,baz=303,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**47.78**	**129**	P	P	16 44 13.9	-2.1
	0.2nm,0.6s,baz=308,slow=7.5,SNR=5.5						

*NEIC **26** 16:50:48.9±0.5, 78.73N×93.61W, h10km, mb4.0/6, Error ellipse: s-maj=15.2km s-min=8.1km az=133.0*
*IDC **26** 16:50:48.3±0.9, 78.86N×94.15W, mb3.6/8, mb1 3.9/11, mb1mx3.8/22, mbtmp3.7/11, ML4.1/3, Error ellipse: s-maj=30.0km s-min=16.5km az=125.0*
*OTT **26** 16:50:50.6±0.9, 78.71N×93.93W, h18km, MN4.0/3, 209km east from Isachsen, Nu Sverdrup Seismic Zone.*
ISC 26 16:50:46.6±0.5, 78.60N±0.05×93.4W±0.2, h10km, n44, σ1§55/57, mb3.7/11, Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**3.96**	**186**	*e*P	**Pn**	**16 51 51.5**	**+2.8**
RES	**Resolute Bay**	**3.96**	**186**	PN	**Pn**	**16 51 51.6**	**+2.9**
RES				SN	**Sn**	**16 52 36.0**	**+0.3**
RES				LG		16 53 06.2	
RES				Trac		16 53 16.6	
	comp=Z,539nm,0.9s						
TULEG	**Thule**	**5.67**	**99**	PN	**Pn**	**16 52 13.6**	**+0.6**
TULEG				SN	**Sn**	**16 53 18.5**	**-0.4**
PINU	**Pond Inlet**	**7.03**	**139**	PN	**Pn**	**16 52 31.5**	**-0.7**
PINU				SN	**Sn**	**16 53 49.8**	**-3.2**
PINU				Trac		16 54 46.9	
	comp=Z,276nm,1.0s						
QILN	**Qililugaq Expl**	**12.18**	**167**	PN	**P**	**16 53 42.3**	**-0.6**
QILN				SN	**S**	**16 55 53.2**	**-6.6**
QILN				LG		16 57 09.7	
QILN				Trac		16 57 27.6	
	comp=Z,71nm,1.1s						
LUPN	**Lupin Mine**	**13.91**	**212**	PN	**P**	**16 54 04.2**	**-1.3**
LUPN				SN	**S**	**16 56 30.4**	**-11**
LUPN				Trac		16 58 17.4	
	comp=Z,152nm,1.8s						
SUMG	**Summit**	**14.33**	**85**	*e*P	**P**	**16 54 07.4**	**-3.7**
	28nm,0.7s						
ACKN	**Achilles Lake**	**14.60**	**210**	PN	**P**	**16 54 12.8**	**-1.8**
ACKN				SN	**S**	**16 56 48.2**	**-9.1**
ACKN				LG		16 58 22.3	
ACKN				Trac		16 58 47.4	
	comp=Z,310nm,2.4s						
INK	**Inuvik**	**14.91**	**249**	Pn	**P**	**16 54 16.7**	**-1.9**
	0.9nm,0.3s,baz=22,slow=12,SNR=22						
INK				Sn	**S**	**16 56 56.1**	**-8.6**
	0.6nm,0.3s,baz=147,slow=13,SNR=4.1						
INK	**Inuvik**	**14.91**	**249**	*e*P	**P**	**16 54 17.0**	**-1.6**
	7.2nm,0.6s						
INK	**Inuvik**	**14.91**	**249**	PN	**P**	**16 54 17.2**	**-1.4**
INK				SN	**S**	**16 56 55.1**	**-10**
DAG	**Danmarks Havn**	**15.05**	**59**	*e*P	**P**	**16 54 19.0**	**-1.5**
DAG	**Danmarks Havn**	**15.05**	**59**	*i*P	**P**	**16 54 19.0**	**-1.5**
YRTN	**Rankin Inlet**	**15.88**	**178**	PN	**P**	**16 54 20.0**	**+1.7**
YRTN				SN	**S**	**16 57 20.8**	**-6.8**
YRTN				Trac		16 59 36.9	
	comp=Z,214nm,2.1s						
FRB	**Frobisher Bay**	**16.66**	**139**	Pn	**P**	**16 54 39.5**	**-1.8**
	0.4nm,0.3s,baz=349,slow=13,SNR=4.6						
FRB				Sn	**S**	**16 57 47.4**	**+1.7**
	0.5nm,0.3s,baz=338,slow=4.6,SNR=3.8						
FRB				Lg		16 59 33.0	
	0.3nm,0.3s,baz=52,slow=20,SNR=3.1						
FRB	**Frobisher Bay**	**16.66**	**139**	Pn	**P**	**16 54 39.5**	**-1.8**
FRB				Sn	**S**	**16 57 47.4**	**+1.7**
FRB				Lg		16 59 33.0	
FRB	**Frobisher Bay**	**16.66**	**139**	PN	**P**	**16 54 36.6**	**-4.7**
YKW3	**Yellowknife Ar**	**17.36**	**214**	*e*P	**P**	**16 54 48.9**	**-1.3**
YKW3	**Yellowknife Ar**	**17.36**	**214**	PN	**P**	**16 54 50.9**	**+0.7**
YKW3				SN	**S**	**16 57 49.8**	**-12**
YKW3				LG		16 59 39.6	
YKW3				Trac		17 00 13.5	
	comp=Z,39nm,1.0s						
YKA	**Yellowknife Ar**	**17.43**	**214**	Pn	**P**	**16 54 50.5**	**-0.4**
	0.3nm,0.3s,baz=8.0,slow=10,SNR=18						
YKA				Sn	**S**	**16 57 54.5**	**-8.7**
	0.2nm,0.3s,baz=2.9,slow=21,SNR=6.2						
YKA	**Yellowknife Ar**	**17.43**	**214**	Pn	**P**	**16 54 50.5**	**-0.4**
YKA				Sn	**S**	**16 57 54.5**	**-8.7**
SCO	**Scoresbysund**	**19.22**	**75**	*e*P	**P**	**16 55 10.4**	**-2.5**
	5.1nm,0.6s						
SCO	**Scoresbysund**	**19.22**	**75**	*i*P	**P**	**16 55 10.4**	**-2.5**
	5.1nm,0.6s						
FCC	**Fort Churchill**	**19.94**	**181**	*e*P	**P**	**16 55 21.7**	**+0.6**
	5.2nm,0.8s						
COLA	**College**	**20.67**	**260**	P	**P**	**16 55 27.5**	**-1.2**
MCK	**McKinley**	**21.91**	**259**	P	**P**	**16 55 43.0**	**+1.8**
TNA	**Tin City**	**24.03**	**280**	*e*P	**P**	**16 56 06.6**	**+4.7**
	3.6nm,0.4s,mb3.9						
SILO	**Sutton Inlier**	**24.41**	**168**	PN	**P**	**16 56 09.1**	**+3.5**
SCHQ	**Schefferville**	**25.55**	**143**	P	**P**	**16 56 19.4**	**+3.0**
ARCES	**ARCESS Array B**	**27.93**	**41**	P	**P**	**16 56 38.7**	**+0.6**
	1.3nm,0.7s,mb3.7,baz=355,slow=11,SNR=2.6						
ARCES	**ARCESS Array B**	**27.93**	**41**	P	**P**	**16 56 38.7**	**+0.6**
NB2	**NORSAR Subarra**	**33.73**	**58**	P	**P**	**16 57 29.9**	**+0.3**
	1.6nm,1.0s,mb3.9,baz=341,slow=8.6						
NOA	**NORSAR Array B**	**33.73**	**58**	P	**P**	**16 57 30.1**	**+0.6**
	1.1nm,0.9s,mb3.8,baz=342,slow=9.1,SNR=4.2						
MCMT	**McKenzie Canyo**	**34.71**	**205**	*e*P	**P**	**16 57 38.4**	**+0.2**
FINES	**FINESS Array B**	**35.67**	**46**	P	**P**	**16 57 46.4**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=349,slow=9.7,SNR=4.3						
HLID	**Hailey**	**36.10**	**206**	P	**P**	**16 57 53.9**	**+3.9**
	2.0nm,0.9s,mb4.0						
PDAR	**Pinedale Array**	**36.51**	**200**	P	**P**	**16 57 55.8**	**+2.3**
	0.4nm,0.8s,mb3.3,baz=27,slow=6.6,SNR=3.8						
WMOK	**Wichita Mounta**	**44.03**	**186**	*e*P	**P**	**16 58 58.4**	**+2.8**
	1.9nm,0.7s,mb3.9						
GERES	**GERESS Array B**	**45.81**	**62**	P	**P**	**16 59 12.3**	**+2.7**
	0.5nm,0.6s,mb3.6,baz=350,slow=8.1,SNR=6.5						
TXAR	**Lajitas Array**	**49.57**	**192**	P	**P**	**16 59 42.5**	**+3.2**
	0.3nm,0.5s,mb3.5,baz=18,slow=5.1,SNR=4.8						
ESDC	**Sonseca Array**	**51.35**	**81**	P	**P**	**16 59 54.7**	**+2.0**
	0.3nm,0.4s,mb3.5,baz=341,slow=9.8,SNR=3.9						
MKAR	**Makanchi Array**	**54.84**	**4**	P	**P**	**17 00 17.5**	**-1.0**
	0.9nm,0.7s,mb3.9,baz=14,slow=5.9,SNR=3.5						
MKAR	**Makanchi Array**	**54.84**	**4**	P	**P**	**17 00 17.5**	**-1.0**
ASAR	**Alice Springs**	**120.98**	**308**	PKP	PKPdf	17 09 40.6	-1.3
	0.2nm,0.8s,baz=18,slow=2.9,SNR=3.8						

*BJI **26** 16:50:58.6, 47.57N×89.54E, h25km, mb4.5, ML4.0, Ms4.0*
*IDC **26** 16:50:59.7±2.2, 47.66N×89.32E, mb3.4/1, mb1 3.6/5, mb1mx3.4/21, mbtmp3.5/5, ML3.4/4, Error ellipse: s-maj=27.3km s-min=17.6km az=135.0*
*MOS **26** 16:51:01.2±3.4, 47.74N×89.69E, h15km, mb4.2/1, Error ellipse: s-maj=24.9km s-min=11.9km az=117.8*
*NEIC **26** 16:51:02.1±1.2, 47.64N×89.30E, h20km, mb3.8/2, Error ellipse: s-maj=22.2km s-min=13.9km az=177.0*
*NNC **26** 16:51:03.6±1.8, 47.68N×88.95E, h14km±8km, mpv3.5, Error ellipse: s-maj=13.8km s-min=8.9km az=59.0*
ISC 26 16:51:00.3±1.3, 47.37N±0.04×88.6E±0.1, h8km±8km, n28, σ1§11/41, mb3.6/1, 7C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**3.03**	**348**	*e*PN	**Pn**	**16 51 50.2**	**+0.8**
AKAR				*e*S	**Sn**	**16 52 30.8**	**+4.5**
WMQ	**Urumqi**	**3.61**	**191**	*e*P	**Pn**	**16 51 57.0**	**-0.7**
WMQ				S	**Sn**	**16 52 41.3**	**+0.3**
WMQ				Smax			
	comp=N,330nm,1.0s						
WMQ				Smax			
	comp=E,243nm,0.8s						
WMQ				LR	LR		
	comp=N,693nm,3.8s						
WMQ				LR	LR		
	comp=E,812nm,4.2s						
MK31	**Makanchi Array**	**4.38**	**265**	Pn	**Pn**	**16 52 15.6**	**+7.0**
	comp=E,0.8nm,0.3s,baz=91,slow=14,SNR=79						
MK31				Pg	**Pg**	**16 52 27.6**	**0.0**
	comp=E,5.7nm,0.4s,baz=88,slow=17,SNR=22						
MK31				Lg		16 53 32.2	
	comp=E,57nm,0.6s,baz=81,slow=34,SNR=17						
MKAR	**Makanchi Array**	**4.38**	**265**	PN	**Pb**	**16 52 27.6**	**+10**
MKAR						16 53 32.2	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				pmax	pmax		
	comp=Z,61nm,0.7s						
MKAR	**Makanchi Array**	**4.38**	**265**	Pn	**Pn**	**16 52 15.4**	**+6.8**
	comp=Z,0.9nm,0.3s,baz=86,slow=18,SNR=26						
MKAR				Pg	**Pg**	**16 52 27.3**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=88,slow=18,SNR=28						
MKAR				Lg		16 53 33.2	
	comp=Z,8.1nm,0.3s,baz=85,slow=28,SNR=18						
MKAR	**Makanchi Array**	**4.38**	**265**	Pn	**Pn**	**16 52 15.4**	**+6.8**
MKAR				Pg	**Pg**	**16 52 27.3**	**-0.4**
MKAR				Lg		16 53 33.2	
UKR	**Ust'-Kan**	**4.38**	**326**	*e*PN	**Pn**	**16 52 12.2**	**+3.6**
UKR				*e*		16 52 23.4	
UKR				*e*S	Sn	16 53 22.8	+22
TASR	**Tashtagol**	**5.42**	**355**	*e*PN	**Pb**	**16 52 34.8**	**-0.2**
ELT	**Yel'tsovka**	**6.10**	**346**	*e*PN	**Pn**	**16 52 32.0**	**-0.9**
ELT				*e*		16 52 49.1	
ELT				*e*		16 53 37.1	
ZAL	**Zalesovo**	**7.01**	**341**	Pn	**Pn**	**16 52 43.6**	**-2.2**
	comp=Z,2.7nm,0.3s,baz=324,slow=9.6,SNR=24						
ZAL				Pg	**Pb**	**16 53 06.0**	**+3.7**
	comp=Z,2.0nm,0.3s,baz=314,slow=12,SNR=9.5						
ZAL				Lg		16 54 37.5	
	comp=Z,2.3nm,0.3s,baz=18,slow=9.7,SNR=5.6						
ZAL	**Zalesovo**	**7.01**	**341**	Pn	**Pn**	**16 52 43.6**	**-2.2**
ZAL				Pg	**Pb**	**16 53 06.0**	**+3.7**
ZAL				Lg		16 54 37.5	
KURK	**Kurchatov**	**7.39**	**301**	⇑Pn	**Pn**	**16 52 52.4**	**+1.4**
	comp=Z,1.9nm,0.3s						
KURK				⇑Sn	**Sn**	**16 54 16.3**	**+0.4**
	comp=Z,9.6nm,0.7s						
KURK				⇓Lg		16 54 59.3	
	comp=Z,74nm,1.1s						
KURK	**Kurchatov**	**7.39**	**301**	*e

JMDO				⇑S		**S**		**17 03 55.8**	**-1.8**
BSYO	**Bisya**	**4.99**	**244**	P		**P**		**17 03 13.9**	**+1.3**
BSY	**Bisya**	**5.01**	**244**	⇓P		**P**		**17 03 13.9**	**+0.9**
BANOM	**Banah**	**5.31**	**281**	P		**P**		**17 03 16.7**	**-0.5**
	SNR=22								
ARQ	**Araqi**	**5.35**	**253**	⇓P		**P**		**17 03 19.9**	**+2.2**
ARQ				⇑S		**S**		**17 04 19.5**	**+0.5**
ASHO	**Ashiyiah**	**5.49**	**268**	P		**P**		**17 03 19.9**	**+0.3**
	SNR=18								
GNI	**Garni**	**20.95**	**320**	P		**P**		**17 06 41.0**	**+0.5**
	1.6nm,0.3s,baz=208,slow=22,SNR=2.5								
MKAR	**Makanchi Array**	**27.06**	**31**	P		**P**		**17 07 38.3**	**-1.1**
	0.6nm,0.7s,mb3.2,baz=208,slow=9.0,SNR=6.5								
BVAR	**Borovoye Array**	**28.67**	**10**	P		**P**		**17 07 53.9**	**+0.1**
	0.3nm,0.5s,mb3.3,baz=192,slow=13,SNR=2.3								
ZAL	**Zalesovo**	**33.49**	**24**	P		**P**		**17 08 34.5**	**-1.7**
	1.3nm,0.5s,mb4.1,baz=213,slow=6.5,SNR=5.0								
AKASG	**Malin Array Be**	**35.99**	**324**	P		**P**		**17 08 56.9**	**-0.9**
	0.9nm,0.5s,mb4.0,baz=115,slow=7.5,SNR=4.7								
SONM	**Songino Array**	**41.57**	**45**	P		**P**		**17 09 44.9**	**+0.7**
	0.4nm,0.5s,mb3.3,baz=260,slow=7.5,SNR=5.0								

IDC 26 17:47:10.3±3.1, 2.37S×140.65E, mb3.5/3, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, ML3.6/1, MS3.5/1, Ms1 3.5/1, ms1mx3.1/15, Error ellipse: s-maj=95.1km s-min=27.0km az=92.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
CTA	**Charters Tower**	**18.44**	**163**	LR		LR	17	58	55.2	
	comp=Z,125nm,18.2s,baz=112,slow=38									
WRA	**Warramunga Arr**	**18.52**	**199**	P		P	17	51	28.3	-2.0
	0.2nm,0.3s,baz=20,slow=12,SNR=28									
FITZ	**Fitzroy Crossi**	**21.48**	**222**	P		P	17	52	00.6	-2.2
	3.7nm,0.7s,baz=46,slow=5.4,SNR=7.2									
ASAR	**Alice Springs**	**22.15**	**197**	P		P	17	52	07.6	-2.0
	1.5nm,0.8s,baz=28,slow=11,SNR=16									
MKAR	**Makanchi Array**	**70.72**	**322**	P		P	17	58	28.7	-1.6
	0.2nm,0.6s,baz=117,slow=9.7,SNR=2.9									

*IDC **26** 17:47:34.0±1.4, 16.95S×174.81W, h216km±15km, mb3.8/9, mb1 3.9/11, mb1mx3.7/18, mbtmp4.4/11, Error ellipse: s-maj=22.7km s-min=13.1km az=142.0*
*NEIC **26** 17:47:35.3±1.0, 16.92S×174.93W, h228km±10km, mb4.0/12, Error ellipse: s-maj=15.2km s-min=8.3km az=145.0*
ISC 26 17:47:33.7±1.2, 16.9S±0.1×174.9W±0.1, h228km±14km, n34, σ0s85/29, mb4.0/16, 2C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
AFI	**Afiamalu**	**4.25**	**46**	P		**P**	**17**	**48**	**40.9**	**+0.6**
	30nm,0.3s,baz=254,slow=3.2,SNR=33									
AFI				S		**S**	**17**	**49**	**29.8**	**-2.0**
	126nm,0.3s,baz=70,slow=21,SNR=15									
AFI	**Afiamalu**	**4.25**	**46**	*e*Pn		P	**17**	**48**	**41.4**	**+1.2**
AFI				*e*Sn		**S**	**17**	**49**	**27.1**	**-4.8**
DZM	**Mont Dzumac**	**18.30**	**251**	P		**P**	**17**	**51**	**33.2**	**+0.1**
	0.3nm,0.3s,baz=81,slow=16,SNR=6.4									
URZ	**Urewera**	**22.39**	**197**	P		**P**	**17**	**52**	**14.9**	**+1.2**
	4.7nm,0.3s,mb4.4,baz=111,slow=4.3,SNR=11									
CTA	**Charters Tower**	**36.90**	**259**	⇑*i*P		**P**	**17**	**54**	**22.8**	**+0.4**
	1.2nm,0.9s,mb3.4									
CTA	**Charters Tower**	**36.90**	**259**	P		**P**	**17**	**54**	**22.8**	**+0.4**
	2.6nm,0.7s,mb3.9,baz=91,slow=12,SNR=11									
CTAO	**Charters Tower**	**36.90**	**259**	*e*P		**P**	**17**	**54**	**21.9**	**-0.5**
	2.9nm,0.7s,mb3.9									
PMG	**Port Moresby**	**37.62**	**277**	P		**P**	**17**	**54**	**30.3**	**+1.9**
	3.6nm,0.6s,mb4.1,baz=65,slow=2.9,SNR=4.7									
PMG	**Port Moresby**	**37.62**	**277**	*e*P		**P**	**17**	**54**	**28.1**	**-0.4**
	8.1nm,0.9s,mb4.2									
STKA	**Stephens Creek**	**42.02**	**241**	*e*P		**P**	**17**	**55**	**05.0**	**+0.5**
	7.6nm,0.9s,mb4.1									
STKA	**Stephens Creek**	**42.02**	**241**	P		**P**	**17**	**55**	**05.1**	**+0.6**
	10nm,0.8s,mb4.3,baz=78,slow=9.2,SNR=24									
WB2	**Warramunga Arr**	**48.08**	**258**	*e*P		**P**	**17**	**55**	**52.0**	**-0.4**
WRAB	**Tennant Creek**	**48.08**	**258**	*e*P		**P**	**17**	**55**	**51.5**	**-1.0**
	4.9nm,0.7s,mb4.0									
WRA	**Warramunga Arr**	**48.09**	**258**	P		**P**	**17**	**55**	**52.2**	**-0.3**
	2.2nm,0.4s,mb3.8,baz=96,slow=7.1,SNR=75									
ASAR	**Alice Springs**	**48.27**	**253**	P		**P**	**17**	**55**	**53.8**	**0.0**
	46nm,0.5s,mb5.1,baz=88,slow=8.5,SNR=1587									
ASPA	**Alice Springs**	**48.27**	**253**	*i*P		**P**	**17**	**55**	**53.7**	**-0.1**
KAKA	**Kakadu**	**50.95**	**267**	⇑*i*P		**P**	**17**	**56**	**14.3**	**+0.2**
	2.1nm,0.4s,mb3.9									
FORT	**Forrest**	**53.44**	**244**	*e*P		**P**	**17**	**56**	**31.4**	**-1.0**
	189nm,0.5s									
FITZ	**Fitzroy Crossi**	**56.48**	**259**	P		**P**	**17**	**56**	**54.6**	**+0.3**
	1.5nm,0.3s,mb4.0,baz=176,slow=23,SNR=7.8									
MBWA	**Marble Bar**	**61.55**	**255**	*e*P		**P**	**17**	**57**	**28.2**	**-0.8**
	7.2nm,1.0s,mb4.3									
SBA	**Scott Base**	**61.64**	**184**	*e*P		**P**	**17**	**57**	**29.6**	**+0.7**
	2.4nm,0.8s,mb3.9									
VNDA	**Vanda**	**61.74**	**186**	P		**P**	**17**	**57**	**28.6**	**-1.0**
	0.8nm,0.8s,mb3.4,baz=3.7,slow=5.8,SNR=4.9									
VNDA	**Vanda**	**61.74**	**186**	*e*P		**P**	**17**	**57**	**24.4**	**-5.2**
	1.4nm,0.8s,mb3.6									
QSPA	**South Pole Qui**	**73.14**	**180**	P		**P**	**17**	**58**	**39.5**	**-1.0**
	4.9nm,1.0s,mb4.1									
MCK	**McKinley**	**82.88**	**11**	*e*P		**P**	**17**	**59**	**35.1**	**+1.5**
	2.8nm,0.8s,mb4.0									
COLA	**College**	**84.11**	**11**	*e*P		**P**	**17**	**59**	**40.6**	**+0.8**
	6.7nm,0.8s,mb4.4									
PDAR	**Pinedale Array**	**84.36**	**42**	P		**P**	**17**	**59**	**40.5**	**-1.0**
	0.3nm,0.4s,mb3.4,baz=207,slow=3.3,SNR=3.9									
MKAR	**Makanchi Array**	**110.83**	**314**	PKiKP			18	05	40.9	
	0.2nm,0.4s,baz=86,slow=2.1,SNR=4.6									
MKAR	**Makanchi Array**	**110.83**	**314**	PKPdf		PKPdf	18	05	40.9	+1.7
BVAR	**Borovoye Array**	**118.16**	**322**	PKP		PKPdf	18	05	55.2	+1.9
	0.6nm,0.4s,baz=80,slow=1.0,SNR=7.9									
ARCES	**ARCESS Array B**	**125.88**	**351**	PKP		PKPdf	18	06	09.8	+1.9
	1.6nm,0.8s,baz=90,slow=1.2,SNR=5.9									
ARCES	**ARCESS Array B**	**125.88**	**351**	PKP		PKPdf	18	06	09.8	+1.9
KMBO	**Kilima Mbogo**	**143.56**	**244**	PKP		PKPdf	18	06	43.3	+1.2
	0.8nm,0.5s,baz=78,slow=11,SNR=4.8									
BRTR	**Keskin Array B**	**146.35**	**318**	PKPbc		PKPbc	18	06	50.9	+3.3
	1.0nm,0.7s,baz=130,slow=4.1,SNR=6.9									

*PRU **26** 18:17:02.7, 49.69N×8.46E*
*STR **26** 18:17:03.8±0.3, 49.36N×8.81E, h10km±1km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*NEIC **26** 18:17:03.8, 49.36N×8.81E, h10km, ML2.6(LDG), ML2.5(LEDBW), ML2.4(STR), ML2.3(SZGRF), After STR.*
NEIC Felt [III] at Heidelberg.
*CSEM **26** 18:17:04.9±0.1, 49.37N×8.73E, h5km, ML2.5/9, Error ellipse: s-maj=1.1km s-min=0.8km az=157.0*
*LDG **26** 18:17:05.1±0.1, 49.38N×8.71E, h5km, Md3.2/1, Ml2.6/10, Error ellipse: s-maj=1.3km s-min=1.2km az=116.0*
*BGR **26** 18:17:05.1±0.3, 49.37N×8.75E, h10km, ML2.3/7, Error ellipse: s-maj=3.3km s-min=2.2km az=122.0*
LEDBW 26 18:17:05.0±0.4, 49.37N×8.73E, h1km±2km, ML2.5, 5C-10D, Error ellipse: s-maj=7.8km s-min=3.0km az=64.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
HEI	**Heidelberg**	**0.03**	**2**	⇓*i*P		Pg	18	17	05.7	+0.1
SWS	**Schriesheim**	**0.11**	**352**	⇓*i*Pg		Pg	18	17	07.2	-0.1
SWS				*i* Sg		Sg	18	17	09.2	+0.4
TOD	**Tromm**	**0.24**	**12**	⇓*i*Pg		Pg	18	17	09.7	-0.1
TOD				Sg		Sg	18	17	13.3	+0.3
SIND	**Sindeldorf**	**0.58**	**92**	⇑*i*Pg		Pg	18	17	15.9	-0.6
STU	**Stuttgart**	**0.68**	**153**	*e*Pg		Pg	18	17	18.0	-0.5
	SNR=3.5									
STU				*e*Sg		Sg	18	17	27.6	+0.1
	SNR=8.9									
STU	**Stuttgart**	**0.68**	**153**	*e*Pg		Pg	18	17	17.9	-0.6
STU				*e*Sg		Sg	18	17	27.4	-0.1
LBG	**Lerchenberg**	**0.71**	**176**	⇓*e*Pg		Pg	18	17	18.4	-0.8
LBG				Sg		Sg	18	17	27.9	-0.7
LANF	**Langenberg**	**0.72**	**237**	Pg		Pg	18	17	19.5	+0.1
LANF	**Langenberg**	**0.72**	**237**	Pg		Pg	18	17	19.8	+0.4
LANF				Sg		Sg	18	17	29.9	+0.9
LANF	**Langenberg**	**0.72**	**237**	Pg		Pg	18	17	19.5	+0.1
LANF				Sg		Sg	18	17	29.9	+0.9
TNS	**Taunus Mts**	**0.87**	**348**	*e*Pg		Pg	18	17	22.7	+0.4
	SNR=26									
TNS				*e*Sg		Sg	18	17	34.0	0.0
	SNR=133									
TNS	**Taunus Mts**	**0.87**	**348**	*e*Pg		Pg	18	17	22.6	+0.2
TNS				*e*Sg		Sg	18	17	34.9	+0.9
TNS	**Taunus Mts**	**0.87**	**348**	*e*Pg		Pg	18	17	22.6	+0.2
TNS				Sg		Sg	18	17	34.0	0.0
	SNR=133									
TUBL	**Tuebingen Lnz**	**0.88**	**164**	Pg		Pg	18	17	22.4	-0.3
TUBL				Sg		Sg	18	17	33.8	-0.6
ABH	**Alteburg**	**0.92**	**304**	Pg		Pg	18	17	22.6	-0.8
BUCH	**Bad Urach**	**1.01**	**156**	⇓*e*Pg		Pg	18	17	24.5	-0.7
BUCH				Sg		Sg	18	17	39.5	+0.8
BUCH	**Bad Urach**	**1.01**	**156**	⇓*e*P		Pb	18	17	24.5	-0.5
BUCH				S		Sb	18	17	38.3	-0.4
BFO	**Black Forest**	**1.08**	**194**	Pn		Pn	18	17	25.2	-1.9
	348nm,0.4s,SNR=16									
BFO	**Black Forest**	**1.08**	**194**	⇓*e*Pn		Pn	18	17	24.5	-2.6
BFO				*e*Pg		Pg	18	17	24.6	-1.9
	SNR=12									
BFO				Sg		Sg	18	17	39.7	-1.1
BFO	**Black Forest**	**1.08**	**194**	⇓*e*P		Pb	18	17	24.5	-1.6
BFO				S		Sb	18	17	39.7	-0.8
BFO	**Black Forest**	**1.08**	**194**	*e*Pg		Pg	18	17	24.6	-1.9
BFO				*e*Sg		Sg	18	17	39.3	-1.5
RUP	**Ruppelstein**	**1.13**	**288**	Pg		Pg	18	17	26.4	-1.2
RUP				Sg		Sg	18	17	42.6	-0.2
HDH	**Heidenheim**	**1.26**	**128**	Pn		Pn	18	17	28.9	-0.8
HDH				Sg		Sg	18	17	45.4	-1.4
HDH	**Heidenheim**	**1.26**	**128**	S		Sb	18	17	45.4	-0.3
SPAK	**Spaichingen**	**1.27**	**178**	Sg		Sg	18	17	46.1	-1.3
SPAK	**Spaichingen**	**1.27**	**178**	Pg		Pg	18	17	46.1	-2.4
SPAK				Sg		Sg	18	17	45.1	-2.3
WLS	**Welschbruch**	**1.32**	**224**	Pg		Pg	18	17	28.0	-3.4
WLS				Sg		Sg	18	17	47.6	-1.4
GUT	**Gutenstein**	**1.33**	**169**	⇓*e*Pn		Pn	18	17	28.5	-2.2
CDF	**Champ du Feu**	**1.36**	**225**	*e*Pn		Pn	18	17	28.2	-2.9
CDF				*e*Pg		Pg	18	17	30.2	-1.9
CDF				*e*Sn		Sn	18	17	45.0	-5.0
CDF				*e*Sg		Sg	18	17	47.9	-2.3
	15nm,0.3s									
KIZ	**Kirchzarten**	**1.52**	**201**	Pn		Pn	18	17	29.3	-4.0
KIZ				Sn		Sn	18	17	49.5	-4.5
KIZ				Sg		Sg	18	17	52.3	-3.2
KIZ	**Kirchzarten**	**1.52**	**201**	S		Sb	18	17	49.5	-3.8
KIZ				S		Sb	18	17	52.3	-1.0
ECH	**Echery**	**1.55**	**222**	Sg		Sg	18	17	54.6	-2.1
FELD	**Feldberg**	**1.57**	**198**	Pn		Pn	18	17	31.3	-2.9
FELD				Sg		Sg	18	17	54.8	-2.6
FELD	**Feldberg**	**1.57**	**198**	S		Sb	18	17	54.8	-0.1
GRA1	**Grafenberg Arr**	**1.66**	**78**	*e*Pn		Pn	18	17	36.2	+0.8
GRA1				*e*Sg		Sg	18	17	58.2	-2.0
GRF	**Grafenberg Arr**	**1.66**	**78**	*e*Pn		Pn	18	17	36.2	+0.8
GRF				*e*Sg		Sg	18	17	58.2	-2.0
UBBA	**Unterbreizbach**	**1.66**	**29**	*e*Pn		Pn	18	17	35.0	-0.5
	SNR=1.8									
UBBA				*e*Sg		Sg	18	17	56.6	-3.9
	SNR=17									
SISB	**Singen-Sch Ber**	**1.69**	**175**	Sg		Sg	18	17	59.3	-2.1
WLF	**Walferdange**	**1.70**	**281**	*e*Sg		Sg	18	17	58.3	-3.4
	SNR=5.3									
WLF	**Walferdange**	**1.70**	**281**	*e*Pn		Pn	18	17	35.1	-0.9
WLF				*e*Sn		Sn	18	17	55.3	-3.5
WLF	**Walferdange**	**1.70**	**281**	*e*Pn		Pn	18	17	35.1	-0.9
WLF				*e*Sn		Sn	18	17	55.3	-3.4
MOF	**Molkenrain**	**1.85**	**215**	Pg		Pg	18	17	38.4	-3.6
UBR	**Uberruh**	**1.93**	**151**	Pg		Pg	18	17	41.9	-1.6
UBR				Sg		Sg	18	18	07.4	-1.7
UBR	**Uberruh**	**1.93**	**151**	S		Sn	18	18	07.4	+3.0
HINF	**Hinteralfeld**	**1.99**	**219**	*e*Pn		Pn	18	17	36.5	-3.7
HINF				*e*Pg		Pg	18	17	42.0	-2.8
HINF				*e*Sn		Sn	18	18	01.6	-4.5
HINF				*e*Sg		Sg	18	18	07.7	-3.7
	8.4nm,0.2s									
FUR	**Furstenfeldbru**	**2.08**	**125**	*e*Sg		Sg	18	18	13.0	-1.1
THEF	**They Montfort**	**2.14**	**239**	Pg		Pg	18	17	45.2	-2.6
THEF				Sg		Sg	18	18	14.1	-2.3
DAVA	**Damuels**	**2.23**	**159**	⇑*i*PN		Pn	18	17	42.3	-1.2
DAVA				*i* SN		Sn	18	18	17.0	+4.9
MOX	**Moxa**	**2.26**	**55**	*e*Pg		Pg	18	17	46.4	-3.7
	SNR=2.7									
MOX				*e*Sn		Sn	18	18	09.6	-3.3
	SNR=4.9									
MOX				*e*Sg		Sg	18	18	16.3	-3.9
	SNR=17									
MOX	**Moxa**	**2.26**	**55**	*e*Pg		Pg	18	17	46.5	-3.6
MOX				*e*Sg		Sg	18	18	16.3	-3.9
RFYF	**Reffroy**	**2.27**	**252**	*e*Pg		Pg	18	17	46.8	-3.5
RFYF				*e*Sg		Sg	18	18	16.2	-4.3
	4.1nm,0.2s									
GUNZ	**Gunzen**	**2.54**	**66**	*e*Pn		Pn	18	17	45.5	-2.4
	SNR=1.6									
GUNZ				*e*Pg		Pg	18	17	51.7	-4.0
	SNR=3.0									
GUNZ				*e*Sg		Sg	18	18	24.0	-5.4
	SNR=16									
WERD	**Werda**	**2.55**	**64**	*e*Pg		Pg	18	17	53.0	-3.0
	SNR=2.2									
WERD				*e*Sn		Sn	18	18	16.1	-4.2
	SNR=2.2									
WERD				*e*Sg		Sg	18	18	24.5	-5.5
	SNR=24									
NKC	**Novy Kostel**	**2.56**	**69**	*e*PG		Pg	18	17	52.2	-3.9
NKC				*e*SG		Sg	18	18	24.0	-6.3
	20nm,0.3s									
MEZF	**Maizieres J'vi**	**2.57**	**252**	*e*Pn		Pn	18	17	45.8	-2.7
MEZF				*e*Sg		Sg	18	18	25.8	-4.9
	4.3nm,0.4s									
TANN	**Tannenbergstha**	**2.63**	**65**	*e*Pg		Pg	18	17	54.3	-3.2
	SNR=3.6									
TANN				*e*Sg		Sg	18	18	27.9	-4.8
	SNR=38									
GIVF	**Givet**	**2.63**	**288**	*e*Pn		Pn	18	17	46.2	-3.2
GIVF				*e*Sg		Sg	18	18	27.2	-5.5
	3.8nm,0.2s									
NEUB	**Neuenburg**	**2.68**	**46**	*e*Pg		Pg	18	17	56.1	-2.5
	SNR=1.9									
NEUB				*e*Sg		Sg	18	18	29.6	-4.8
	SNR=4.5									
CLZ	**Clausthal**	**2.69**	**22**	*e*Sg		Sg	18	18	31.7	-2.7
	SNR=11									
SFTF	**Sexfontaines**	**2.70**	**246**	*e*Pn		Pn	18	17	47.7	-2.7
SFTF				*e*Pg		Pg	18	17	55.2	-3.8
SFTF				*e*Sg		Sg	18	18	29.2	-5.8
	4.3nm,0.2s									
SQTA	**Sankt Quirin**	**2.72**	**141**	⇑*i*PN		Pn	18	17	50.2	-0.4
SQTA				*i*			18	19	6	
WET	**Wettzell**	**2.73**	**93**	*e*Pn		Pn	18	17	50.2	-0.5
	SNR=1.1									
WET				*e*Pg		Pg	18	17	57.2	-2.4
	SNR=2.6									
WATA	**Walderalm**	**2.79**	**136**	⇑*i*PN		Pn	18	17	51.4	-0.2
WATA				*i* SN		Sn	18	18	33.0	+6.7
WTTA	**Wattenberg**	**2.87**	**136**	⇑*i*PN		Pn	18	17	52.3	-0.4
WTTA				*i* SN		Sn	18	18	35.0	+6.6
BAIF	**Baives**	**3.01**	**285**	*e*Pn		Pn	18	17	51.1	-3.7
BAIF				*e*Sg		Sg	18	18	39.7	-5.6
	2.5nm,0.4s									
KHC	**Kasperske Hory**	**3.19**	**93**	*e*PN		Pn	18	17	55.5	-1.8
KHC				*e*PG		Pg	18	18	05.1	-3.7
KHC				*e*SN		Sn	18	18	36.0	-0.5
KHC				*e*SG		Sg	18	18	44.4	-6.8
CABF	**La Chapelle**	**3.28**	**214**	*e*Pn		Pn	18	17	54.9	-3.7
CABF				*e*Pg		Pg	18	18	05.7	-4.8
GEC2	**GERESS Array S**	**3.31**	**97**	*e*Sg		Sg	18	18	49.3	-6.0
	SNR=1.8									
CLL	**Collm**	**3.35**	**53**	*e*PG		Pg	18	18	09.0	-3.0
CLL				*e*SG		Sg	18	18	51.0	-5.7
BRG	**Berggiesshubel**	**3.68**	**64**	*e*Pg		Pg	18	18	14.4	-4.0
BRG				*e*Sg		Sg	18	19	01.6	-5.9
	SNR=2.3									
BRG	**Berggiesshubel**	**3.68**	**64**	*e*Pg		Pg	18	18	14.4	-4.0
BRG				*e*Sg		Sg	18	19	00.3	-7.2
KBA	**Koelnbreinsper**	**3.85**	**125**	⇓*i*PN		Pn	18	18	06.2	-0.4
KBA				*i*			18	19	00.8	
PVCC	**Panska Ves**	**3.95**	**71**	*e*SG		Sg	18	19	09.6	-6.8
SMF	**Signal de Mont**	**4.26**	**232**	*e*Sg		Sg	18	19	18.8	-8.2
	2.2nm,0.3s									
AVF	**Avril sur Loir**	**4.43**	**236**	*e*Pn		Pn	18	18	11.4	-3.5
AVF				*e*Pg		Pg	18	18	27.0	-6.5
AVF				*e*Sg		Sg	18	19	23.8	-8.8
	0.8nm,0.2s									
HYF	**Humbligny**	**4.57**	**245**	*e*Pg		Pg	18	18	29.6	-6.7
UPC	**Upice**	**4.84**	**74**	*e*SG		Sg	18	19	36.7	-9.5
NAO01	**NORSAR Array S**	**11.56**	**5**	*e*P		P	18	19	46.9	-7.3
	3.2nm,0.8s									

*IDC **26** 18:45:07.0±1.2, 5.38N×94.48E, mb4.0/10, mb1 4.1/10, mb1mx3.9/19, mbtmp4.0/10, Error ellipse: s-maj=59.4km s-min=15.8km az=54.0*
*NEIC **26** 18:45:11.1±0.8, 5.32N×94.42E, h30km, mb4.2/6, Error ellipse: s-maj=21.6km s-min=10.6km az=53.0*
ISC 26 18:45:14.4±4.3, 5.5N±0.1×94.7E±0.2, h68km±35km, n18, σ0s88/19, mb4.0/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
KULM	**Kulim**	**5.95**	**91**	*e*Pn		**P**	**18**	**46**	**40.7**	**-0.9**
KULM				*e*Sn		**S**	**18**	**47**	**49.5**	**+0.3**
CM31	**Chiang Mai Arr**	**13.57**	**17**	*e*P		**P**	**18**	**48**	**26.4**	**+1.1**
	1.9nm,0.3s									
LSA	**Lhasa**	**24.34**	**353**	*e*P		**P**	**18**	**50**	**28.8**	**+1.7**
	5.0nm,0.6s,mb4.0									
ENH	**Enshi**	**28.35**	**28**	*e*P		**P**	**18**	**51**	**02.9**	**-1.4**
	2.3nm,0.6s,mb3.9									
FITZ	**Fitzroy Crossi**	**38.48**	**128**	P		**P**	**18**	**52**	**31.7**	**0.0**
	1.2nm,0.5s,mb4.0,baz=322,slow=16,SNR=3.6									
AAK	**Ala-Archa**	**41.12**	**337**	P		**P**	**18**	**52**	**50.2**	**-3.1**
	2.7nm,1.0s,mb4.0									
MKAR	**Makanchi Array**	**42.55**	**347**	P		**P**	**18**	**53**	**04.6**	**-0.3**
	2.6nm,0.5s,mb4.2,baz=168,slow=8.3,SNR=46									
SONM	**Songino Array**	**43.40**	**11**	P		**P**	**18**	**53**	**12.2**	**+0.3**
	1.3nm,0.7s,mb3.8,baz=192,slow=7.9,SNR=15									
SONM				PcP		PcP	18	55	00.2	+0.3
	0.2nm,0.4s,baz=191,slow=4.1,SNR=6.0									
ULN	**Ulaanbaatar**	**43.56**	**12**	*e*P		**P**	**18**	**53**	**12.6**	**-0.6**
	1.2nm,0.6s,mb3.8									
WRA	**Warramunga Arr**	**46.45**	**124**	P		**P**	**18**	**53**	**37.0**	**+0.3**
	1.9nm,0.6s,mb4.0,baz=302,slow=9.5,SNR=35									
WRAB	**Tennant Creek**	**46.45**	**124**	*e*P		**P**	**18**	**53**	**36.9**	**+0.3**
	3.4nm,0.6s,mb4.2									
KURK	**Kurchatov**	**47.07**	**346**	*e*P		**P**	**18**	**53**	**41.4**	**+0.3**
	4.5nm,0.6s,mb4.4									
ASAR	**Alice Springs**	**47.98**	**129**	P		**P**	**18**	**53**	**48.9**	**+0.3**
	0.9nm,0.6s,mb3.8,baz=299,slow=7.9,SNR=14									
ZAL	**Zalesovo**	**49.00**	**352**	P		**P**	**18**	**53**	**56.2**	**+0.3**
	2.5nm,0.2s,mb4.7,baz=315,slow=6.1,SNR=10									
BVAR	**Borovoye Array**	**51.43**	**341**	P		**P**	**18**	**54**	**14.1**	**-0.5**
	0.7nm,0.3s,mb4.2,

NEIC ***26*** *20:20:58.8±4.5,37.64N×137.35E,h11km±29km,mb4.1/6, Error ellipse: s-maj=13.8km s-min=7.8km az=222.0*
NEIC Recorded [2 JMA] on Sado-shima and [1 JMA] on Hegura-jima and in Ishikawa Prefecture.
MOS ***26*** *20:20:59.8±1.0,37.62N×137.20E,h33km,mb4.1/5,Error ellipse: s-maj=24.3km s-min=12.6km az=106.6*
JMA ***26*** *20:20:59.5,37.69N×137.37E,h15km±1km,M4.1*
JMA Felt II J1.
NIED ***26*** *20:21:00,37.80N×137.30E,h8km,Mw3.7 Best double couple: M0 4.18×10^14 NP1:φs67°,δ59°,λ121°. NP2:φs197°,δ43°,λ49°.*
IDC ***26*** *20:21:04.2±2.7,37.66N×137.26E,h49km±29km,mb3.5/7, mb1 3.8/9,mb1mx3.5/22,mbtmp3.9/9,ML3.6/2,MS3.3/1, Ms1 3.3/1,ms1mx2.5/17,Error ellipse: s-maj=32.2km s-min=17.4km az=76.0*

ISC 26 20:20:58.6±0.4,37.74N±0.03×137.33E±0.04,h15km,n34, σ1§20/43,mb3.8/13,MS3.2/1,2C-4D,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JSZ	**Suzu**	**0.29**	**175**	⇓P		**Pb**		**20 21 04.6**	**-0.3**
JSZ				S		**Sb**		**20 21 08.2**	**-1.0**
JHG	**Hegura jima**	**0.34**	**289**	⇓P		**Pb**		**20 21 07.4**	**+1.5**
JHG				S		**Sb**		**20 21 13.2**	**+2.4**
JSD	**Sado**	**0.80**	**67**	⇑P		**Pb**		**20 21 13.8**	**+0.2**
JJN	**Nakama**	**0.92**	**133**	P		**Pb**		**20 21 16.1**	**+0.4**
JJN				S		**Sb**		**20 21 29.1**	**+1.7**
JJH	**Hakui**	**0.92**	**209**	⇑P		**Pb**		**20 21 16.3**	**+0.6**
JJH				S		**Sb**		**20 21 28.5**	**+1.0**
JIZZ	**Izumozaki**	**1.11**	**100**	⇓P		**Pb**		**20 21 19.2**	**+0.1**
JIZZ				S		**Sb**		**20 21 33.7**	**+0.6**
JTT	**Ttatey**	**1.13**	**180**	⇓P		**Pb**		**20 21 19.1**	**-0.2**
JTT				S		**Sb**		**20 21 34.3**	**+0.7**
MAJO	**Matsushiro**	**1.38**	**149**	*e*Pn		**Pn**		**20 21 22.4**	**-1.1**
MAJO				*e*Sn		**Sn**		**20 21 39.9**	**-1.6**
MAT	**Matsushiro**	**1.38**	**149**	*e*P		**Pn**		**20 21 23.0**	**-0.5**
MAT				*e*S		**Sb**		**20 21 43.0**	**+2.1**
MAT	**Matsushiro**	**1.38**	**149**	P		**Pn**		**20 21 22.7**	**-0.8**
MAT				S		**Sb**		**20 21 42.7**	**+1.8**
JHJ	**Hachijo jima 2**	**5.02**	**156**	P		**Pn**		**20 22 16.8**	**+1.4**
	13nm,0.3s,baz=72,slow=19,SNR=5.0								
KS15	**Wonju Array Si**	**7.51**	**271**	*e*Pn		**Pn**		**20 22 49.1**	**-1.2**
KS15				*e*Sn		rx		20 23 42.7	
ASAJ	**Asahikawa**	**7.52**	**30**	P		**Pn**		**20 22 52.1**	**+1.7**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**7.52**	**30**	P		**Pn**		**20 22 52.1**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=259,slow=10,SNR=4.1								
ULN	**Ulaanbaatar**	**24.27**	**304**	P		**P**		**20 26 16.3**	**+0.3**
ULN				pmax		pmax			
	comp=Z,4.0nm,0.9s,mb3.9								
ULN	**Ulaanbaatar**	**24.27**	**304**	P		**P**		**20 26 16.3**	**+0.3**
	comp=Z,3.9nm,0.9s,mb3.8								
SONM	**Songino Array**	**24.70**	**304**	P		**P**		**20 26 21.8**	**+1.7**
	comp=Z,1.1nm,0.8s,mb3.4,baz=98,slow=8.7,SNR=6.4								
MKAR	**Makanchi Array**	**40.98**	**301**	P		**P**		**20 28 41.1**	**-1.2**
	comp=Z,0.1nm,0.4s,mb2.8,baz=90,slow=7.2,SNR=2.9								
MKAR				LR		LR		20 46 19.1	
	comp=Z,36nm,19.2s,MS3.2,baz=359,slow=37								
KURK	**Kurchatov**	**42.93**	**307**	*e*P		**P**		**20 28 56.8**	**-1.4**
KURK				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb3.6								
KURK	**Kurchatov**	**42.93**	**307**	*e*P		**P**		**20 28 56.8**	**-1.4**
	comp=Z,1.3nm,0.8s,mb3.7								
INK	**Inuvik**	**55.24**	**27**	*e*P		**P**		**20 30 31.7**	**-1.2**
INK				pmax		pmax			
	comp=Z,3.0nm,1.1s								
INK	**Inuvik**	**55.24**	**27**	*e*P		**P**		**20 30 31.6**	**-1.3**
	comp=Z,2.5nm,1.1s,mb4.2								
WRAB	**Tennant Creek**	**57.43**	**183**	*e*P		**P**		**20 30 46.5**	**-2.7**
WRAB				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.6								
WRAB	**Tennant Creek**	**57.43**	**183**	*e*P		**P**		**20 30 46.5**	**-2.7**
	comp=Z,6.5nm,0.9s,mb4.7								
WRA	**Warramunga Arr**	**57.44**	**183**	P		**P**		**20 30 47.0**	**-2.3**
	comp=Z,1.5nm,0.4s,mb4.3,baz=360,slow=7.6,SNR=30								
ASAR	**Alice Springs**	**61.16**	**184**	P		**P**		**20 31 13.6**	**-1.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=13,slow=13,SNR=6.0								
RES	**Resolute Bay**	**62.71**	**14**	*e*P		**P**		**20 31 23.5**	**-1.2**
RES				pmax		pmax			
	comp=Z,1.0nm,0.8s,mb4.0								
RES	**Resolute Bay**	**62.71**	**14**	*e*P		**P**		**20 31 23.4**	**-1.2**
	comp=Z,1.0nm,0.8s,mb4.0								
FINES	**FINESS Array B**	**66.65**	**331**	P		**P**		**20 31 49.5**	**-0.7**
	comp=Z,0.6nm,0.7s,mb3.7,baz=53,slow=9.5,SNR=4.7								
SUMG	**Summit**	**69.95**	**359**	P		**P**		**20 32 11.2**	**+0.6**
NOA	**NORSAR Array B**	**72.25**	**336**	P		**P**		**20 32 23.9**	**-0.7**
	comp=Z,0.9nm,0.8s,mb3.7,baz=43,slow=6.1,SNR=4.0								
CMB	**Columbia Colle**	**76.07**	**53**	*e*P		**P**		**20 32 47.7**	**+0.5**
CMB				pmax		pmax			
	comp=Z,2.0nm,0.9s,mb4.0								
CMB	**Columbia Colle**	**76.07**	**53**	*e*P		**P**		**20 32 47.7**	**+0.6**
	comp=Z,1.6nm,0.9s,mb4.0								
PDAR	**Pinedale Array**	**79.45**	**44**	P		**P**		**20 33 06.4**	**+0.7**
	comp=Z,0.6nm,1.0s,mb3.5,baz=291,slow=4.1,SNR=4.6								

MOS ***26*** *20:32:07.0±0.9,28.20N×88.01E,h33km,mb5.2/22,Error ellipse: s-maj=15.0km s-min=6.0km az=119.9*
BJI ***26*** *20:32:10.6,28.32N×87.95E,h60km,mB4.8,mb4.7,ML4.0, Ms4.2,Ms3.7*
LDG ***26*** *20:32:12.7±0.5,28.96N×87.25E,h33km,Mb5.1/37, Ms3.0/1,Error ellipse: s-maj=22.2km s-min=4.3km az=140.0*
NEIC ***26*** *20:32:13.4±1.0,28.26N×87.93E,h71km±9km,mb4.9/90, Error ellipse: s-maj=7.3km s-min=3.9km az=217.0*
NEIC Felt at Gangtok, India.
NDI ***26*** *20:32:13.1±4.4,28.22N×87.90E,h33km,ML4.9, mb4.9(NEIC)*
HRVD ***26*** *20:32:13.4±0.7,28.08N×87.95E,h70km±5km,MW4.8/37, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s37,c55; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.01±.16; Mθθ-0.91±.12; Mφφ0.90±.11; Mrθ-0.22±.07; Mrφ-1.11±.09; Mθr-0.73±.06; Best double couple: Ms1.624×10^16 NP1:φs109°,δ62°,λ179°. NP2: φs200°,δ89°,λ28°. Principal axes: T 1.64, Plg20°, Azm68°; N -.031, Plg62°, Azm202°; P -1.608, Plg19°, Azm331°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***26*** *20:32:15.0±0.5,28.29N×87.82E,h81km±4km,mb4.2/21, mb1 4.4/22,mb1mx4.3/25,mbtmp4.6/22,MS3.4/3, Ms1 3.4/3,ms1mx3.2/16 Error ellipse: s-maj=13.2km s-min=8.5km az=65.0*

ISC 26 20:32:09.7±0.5,28.19N±0.03×87.86E±0.02,h54km±5km, h87km±2.4km:pP-P,n285,σ1§07/305,mb4.8/124,MS3.6/9, 14C-16D,Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.09**	**142**	*e*		rx		20 32 23.0	
SLGI	**Shiliguri**	**1.57**	**162**	⇓*i*P		**P**		**20 32 41.0**	**+5.3**
SLGI				*i*				20 32 46.1	
SHBG	**Sahibganj**	**2.97**	**183**	*e*		rx		20 33 03.0	
LSA	**Lhasa**	**3.25**	**62**	P		**P**		**20 33 03.5**	**+4.0**
LSA				S		**S**		**20 33 29.0**	**-8.2**
LSA				Smax					
	comp=N,180nm,1.0s								
LSA				Smax					
	comp=E,170nm,0.8s								
LSA	**Lhasa**	**3.25**	**62**	*e*P		**P**		**20 33 03.0**	**+3.5**
VLK	**Valmikinagar**	**3.65**	**257**	*i*		rx		20 33 05.0	
VLK				*i* S		**S**		**20 33 48.0**	**+0.8**
IMP	**Imphal**	**6.41**	**121**	*e*P		**P**		**20 33 46.0**	**+2.2**
LGTI	**Lohaghat**	**6.80**	**282**	*e*P		**P**		**20 33 52.5**	**+3.3**
LGTI				*e*S		**S**		**20 35 05.3**	**-0.7**
PTH	**Pithoragarh**	**6.84**	**283**	*e*P		**P**		**20 33 51.1**	**+1.3**
PTH				*e*S		**S**		**20 35 03.1**	**-3.9**
BLSP	**Bilaspur**	**7.96**	**222**	*e*P		**P**		**20 34 06.0**	**+0.7**
BLSP				*e*				20 35 24.4	
BLSP				*e*				20 35 35.4	
	comp=E,354nm,0.6s								
BLSP				*e*				20 35 35.5	
	comp=N,428nm,0.6s								
JHNI	**Jhansi**	**8.76**	**254**	⇓*i*P		**P**		**20 34 16.0**	**-0.3**
JHNI				*i* S		**S**		**20 35 47.0**	**-7.6**
DDI	**Dehra Dun**	**8.82**	**286**	*e*P		**P**		**20 34 18.6**	**+1.4**
DDI				*e*S		**S**		**20 35 51.1**	**-5.1**
KLP	**Kalpa**	**8.98**	**294**	*e*P		**P**		**20 34 19.5**	**+0.2**
KLP				*e*S		**S**		**20 35 55.5**	**-4.6**
KLP				*e*				20 36 10.7	
	comp=N,3μm,1.6s								
KLP				*e*				20 36 11.1	
	comp=E,4μm,1.1s								
NDI	**New Delhi**	**9.38**	**275**	*e*P		**P**		**20 34 22.5**	**-2.4**
NDI				*e*S		**S**		**20 35 59.0**	**-11**
AYAN	**Aya Nagar**	**9.46**	**274**	*e*P		**P**		**20 34 27.7**	**+1.7**
AYAN				*e*S		**S**		**20 36 04.4**	**-7.6**
AYAN				*e*				20 36 10.1	
	comp=Z,173nm,0.7s								
SONA	**Sohna**	**9.51**	**273**	*e*P		**P**		**20 34 25.5**	**-1.1**
SONA				*e*S		**S**		**20 36 04.4**	**-8.7**
SONA				*e*				20 36 10.5	
	comp=E,288nm,0.3s								
SONA				*e*				20 36 10.7	
	comp=N,350nm,0.5s								
SMLA	**Simla**	**9.75**	**290**	*i*		rx		20 34 20.3	
SMLA				*i*				20 36 02.3	
SDNR	**Sundarnagar**	**10.01**	**292**	*e*P		**P**		**20 34 34.0**	**+0.5**
SDNR				*e*S		**S**		**20 36 18.0**	**-7.4**
KUDL	**Kundal**	**10.04**	**272**	*e*P		**P**		**20 34 32.6**	**-1.2**
BHK	**Bhakra**	**10.45**	**291**	*e*P		**P**		**20 34 40.3**	**+0.9**
BHK				*e*				20 36 31.4	
BHPL	**Bhopal**	**10.62**	**245**	*e*		rx		20 34 39.1	
BHPL				*e*				20 36 26.9	
BHPL				*e*				20 36 35.0	
	comp=E,490nm,0.3s								
NGP	**Nagpur**	**10.64**	**231**	*e*P		**P**		**20 34 42.1**	**-0.1**
NGP				*e*S		**S**		**20 36 34.5**	**-6.3**
PONG	**Pong**	**10.98**	**293**	*e*P		**P**		**20 34 46.0**	**-0.6**
PONG				*e*				20 36 44.0	
VIS	**Vishakhapatnam**	**11.23**	**203**	*i* P		**P**		**20 34 50.1**	**+0.1**
VIS				*i* S		**S**		**20 36 46.8**	**-8.1**
THN	**Thein Dam**	**11.31**	**295**	*e*		rx		20 34 47.8	
THN				*e*S		**S**		**20 36 47.2**	**-10**
AJM	**Ajmer**	**11.88**	**265**	*e*P		**P**		**20 34 57.9**	**-0.9**
AJM				*e*S		**S**		**20 36 59.9**	**-11**
AJM				*e*				20 37 04.8	
	comp=N,370nm,0.2s								
AJM				*e*				20 37 04.9	
	comp=Z,166nm,0.2s								
AKL	**Akola**	**12.37**	**235**	*i*		rx		20 35 03.0	
KMI	**Kunming**	**13.65**	**100**	P		**P**		**20 35 22.3**	**0.0**
KMI				AP				20 35 32.5	
KMI				S		**S**		**20 37 54.3**	**+1.2**
KMI				XS				20 38 09.0	
KMI				AMB		AMB			
	comp=Z,20nm,0.8s								
KMI				AMB		AMB			
	comp=Z,64nm,3.1s								
KMI				LR		LR			
	comp=N,361nm,12.4s								
KMI				LR		LR			
	comp=E,208nm,11.8s								
KMI				LR		LR			
	comp=Z,216nm,16.6s								
CHCP	**Chirah Chowk**	**13.66**	**297**	⇑P		**P**		**20 35 19.8**	**-2.5**
SARP	**Sargodha**	**13.67**	**289**	P		**P**		**20 35 18.6**	**-3.9**
HYB	**Hyderabad**	**13.73**	**221**	*e*P		**P**		**20 35 21.0**	**-2.4**
	comp=Z,50nm,1.0s								
HYB				*e*				20 35 29.0	
HYB				*e*S		**S**		**20 37 55.0**	**0.0**
HYB	**Hyderabad**	**13.73**	**221**	*i* P		**P**		**20 35 21.0**	**-2.4**
	comp=Z,50nm,1.0s								
HYB				*e*S		**S**		**20 37 55.0**	**0.0**
CM31	**Chiang Mai Arr**	**14.04**	**131**	*e*P		**P**		**20 35 27.5**	**0.0**
LATR	**Latur**	**14.22**	**229**	*e*		rx		20 35 28.0	
LATR				*e*				20 37 52.5	
THW	**Thamme Wali**	**14.63**	**292**	⇑P		**P**		**20 35 31.4**	**-3.7**
CEP	**Cherat**	**14.78**	**296**	P		**P**		**20 35 34.1**	**-2.9**
GTA	**Gaotai**	**14.95**	**38**	*e*P		**P**		**20 35 36.8**	**-2.3**
GTA				AP				20 35 49.0	
GTA				XP				20 35 51.5	
GTA				S		**S**		**20 38 15.5**	**-8.2**
GTA				XS				20 38 32.3	
GTA				AMB		AMB			
	comp=Z,9.0nm,1.3s								
GTA				AMB		AMB			
	comp=Z,104nm,5.3s								
GTA				LR		LR			
	comp=N,239nm,14.1s								
GTA				LR		LR			
	comp=E,232nm,10.6s								
GTA				LR		LR			
	comp=Z,122nm,12.2s								
KSH	**Kashi**	**14.99**	**322**	P		**P**		**20 35 37.3**	**-2.3**
KSH				*e*AP				20 35 49.3	
KSH				LR		LR			
	comp=N,310nm,5.5s								
KSH				LR		LR			
	comp=E,390nm,6.3s								
JASL	**Jaisalmer**	**15.10**	**269**	*e*		rx		20 35 38.8	
SBDP	**Sheikh Budin**	**15.29**	**290**	⇑P		**P**		**20 35 40.5**	**-3.2**
WMQ	**Urumqi**	**15.60**	**360**	P		**P**		**20 35 47.5**	**+0.1**
WMQ				AP				20 35 59.0	
WMQ				PP		PP		20 36 03.0	+2.7
WMQ				S		**S**		**20 38 37.5**	**-1.2**
WMQ				AMB		AMB			
	comp=Z,56nm,0.9s								
WMQ				AMB		AMB			
	comp=Z,157nm,3.6s								
WMQ				LR		LR			
	comp=N,1μm,16.8s								
WMQ				LR		LR			
	comp=E,986nm,18.1s								
WMQ				LR		LR			
	comp=Z,893nm,20.4s								
LZH	**Lanzhou**	**15.65**	**56**	*e*P		**P**		**20 35 47.0**	**-1.1**
LZH				AP				20 36 00.3	
LZH				PP		PP		20 36 03.0	+1.9
LZH				*e*S		**S**		**20 38 37.0**	**-2.9**
LZH				XS				20 38 55.0	
LZH				AMB		AMB			
	comp=Z,89nm,1.7s								
LZH				AMB		AMB			
	comp=Z,450nm,5.9s								
LZH				LR		LR			
	comp=E,420nm,8.3s								
LZH				LR		LR			
	comp=Z,653nm,10.0s								
DRP	**Derazinda**	**15.71**	**287**	⇑P		**P**		**20 35 46.1**	**-2.8**
POO	**Poona**	**16.05**	**236**	*e*		rx		20 35 50.0	
POO				*i*				20 38 39.0	
BOM	**Bombay**	**16.60**	**239**	*e*		rx		20 35 57.8	
BOM				*e*				20 38 52.2	
KAD	**Karad**	**16.61**	**232**	*e*		rx		20 35 58.5	
GYA	**Guiyang**	**16.80**	**92**	⇓*i*P		**P**		**20 36 01.5**	**-1.2**
GYA				AP				20 36 12.5	
GYA				S		**S**		**20 38 57.5**	**-9.1**
GYA				XS				20 39 18.5	
GYA				AMB		AMB			
	comp=Z,10.0nm,1.0s								
GYA				AMB		AMB			
	comp=Z,150nm,4.2s								
GYA				LR		LR			
	comp=N,460nm,15.2s								
GYA				LR		LR			
	comp=E,371nm,14.2s								
GYA				LR		LR			
	comp=Z,510nm,12.4s								
ULHL	**Ulahol**	**16.91**	**329**	P		**P**		**20 36 06.6**	**+2.6**
	SNR=12								
KZA	**Kyzart**	**17.24**	**327**	P		**P**		**20 36 13.0**	**+4.8**
	SNR=44								
UCH	**Uchtor**	**17.72**	**326**	P		**P**		**20 36 16.4**	**+2.3**
	SNR=53								
TKM2	**Tokmak 2**	**17.73**	**329**	P		**P**		**20 36 15.6**	**+1.3**
	SNR=48								
KBK	**Karagaybulak**	**17.83**	**327**	P		**P**		**20 36 17.6**	**+2.1**
	SNR=61								
AAK	**Ala-Archa**	**18.03**	**327**	P		**P**		**20 36 21.4**	**+3.5**
	SNR=31								
AAK	**Ala-Archa**	**18.03**	**327**	Pn		**P**		**20 36 18.3**	**+0.4**
	comp=Z,297nm,0.7s,SNR=18								
AAK	**Ala-Archa**	**18.03**	**327**	P		**P**		**20 36 19.3**	**+1.4**
AAK				pmax		pmax			
	comp=Z,40nm,0.9s								
AAK	**Ala-Archa**	**18.03**	**327**	*e*P		**P**		**20 36 17.9**	**0.0**
	comp=Z,53nm,1.7s								
AML	**Almayashu**	**18.06**	**324**	P		**P**		**20 36 19.4**	**+1.0**
	SNR=13								
FRU	**Bishkek**	**18.12**	**327**	⇑*i*P		**P**		**20 36 21.5**	**+2.4**
FRU				pmax		pmax			
	comp=Z,100nm,2.0s								
GOA	**Goa**	**18.13**	**229**	*e*		**P**		**20 36 10.2**	**-9.2**
GOA				*e*				20 39 22.9	
CHMS	**Chumysh**	**18.18**	**328**	P		**P**		**20 36 21.3**	**+1.5**
	SNR=14								
EKS2	**Erkin-Say**	**18.40**	**325**	P		**P**		**20 36 24.4**	**+1.8**
	SNR=84								
USP	**Ospenovka**	**18.51**	**328**	P		**P**		**20 36 24.6**	**+0.8**
	SNR=36								
XAN	**Xi'an**	**18.94**	**67**	P		**P**		**20 36 26.0**	**-2.9**
XAN				AMB		AMB			
	comp=Z,31nm,1.2s								
ENH	**Enshi**	**18.99**	**79**	*e*P		**P**		**20 36 27.8**	**-1.7**
	comp=Z,73nm,0.8s								
MKAR	**Makanchi Array**	**19.08**	**348**	*i* P		**P**		**20 36 28.9**	**-1.5**
MKAR				pmax		pmax			
	comp=Z,54nm,0.9s								
MKAR	**Makanchi Array**	**19.08**	**348**	P		**P**		**20 36 29.7**	**-0.6**
	comp=Z,3.1nm,0.3s,baz=166,slow=10.0,SNR=130								
MKAR				S		**S**		**20 39 59.0**	**+1.4**
	baz=176,slow=22,SNR=2.2								
BTO	**Baotou**	**22.01**	**50**	*e*P		**P**		**20 37 01.0**	**+0.2**
BTO				AMB		AMB			
	comp=Z,19nm,0.5s,mb4.8								
QIZ	**Qiongzhong**	**22.08**	**110**	P		**P**		**20 37 03.3**	**+1.6**
QIZ				S		**S**		**20 40 55.0**	**-1.7**
QIZ				AMB		AMB			
	comp=Z,21nm,1.4s,mb4.4								
QIZ				AMB		AMB			
	comp=Z,150nm,4.7s								
QIZ	**Qiongzhong**	**22.08**	**110**	P		**P**		**20 37 01.2**	**-0.5**
	comp=Z,60nm,1.5s,mb4.8								
HHC	**Hu-ho-hao-te**	**23.17**	**51**	*e*P		**P**		**20 37 14.0**	**+1.8**
HHC				PP		PP		20 37 46.5	+2.4
HHC				S		**S**		**20 41 17.0**	**+1.0**
HHC				SS		SS		20 42 02.0	-2.6
WHN	**Wuhan**	**23.19**	**78**	*e*P		**P**		**20 37 13.5**	**+1.1**
KURK	**Kurchatov**	**23.56**	**345**	*c* /P		**P**		**20 37 16.0**	**+0.2**
KURK				pmax		pmax			
	comp=Z,55nm,0.9s,mb5.0								
KURK	**Kurchatov**	**23.56**	**345**	*e*P		**P**		**20 37 16.2**	**+0.4**
	comp=Z,117nm,0.9s,mb5.3								
SONM	**Songino Array**	**24.33**	**31**	P		**P**		**20 37 25.2**	**+1.8**
	comp=Z,6.3nm,0.7s,mb4.2,baz=215,slow=9.4,SNR=37								
SONM				PcP		PcP		20 41 03.8	+0.6
	comp=Z,1.1nm,0.6s,baz=208,slow=2.4,SNR=3.9								
SONM				S		**S**		**20 41 39.6**	**+3.6**
	comp=Z,0.6nm,0.9s,baz=209,slow=15,SNR=3.7								
SONM				ScP				20 44 32.8	
	comp=Z,1.3nm,0.9s,baz=180,slow=2.5,SNR=5.4								
ULN	**Ulaanbaatar**	**24.66**	**32**	*i* P		**P**		**20 37 27.6**	**+1.0**
ULN				*i* *PP				20 37 57.9	
ULN	**Ulaanbaatar**	**24.66**	**32**	*e*P		**P**		**20 37 27.6**	**+1.0**
	comp=Z,8.5nm,0.7s,mb4.4								
ZAK	**Zakamensk**	**25.07**	**24**	*e*P		**P**		**20 37 31.4**	**+0.9**
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb3.9								
MOY	**Mondy**	**25.44**	**19**	*e*P		**P**		**20 37 36.9**	**+3.0**
ZAL	**Zalesovo**	**25.82**	**356**	P		**P**		**20 37 38.1**	**+0.7**
	comp=Z,12nm,0.5s,mb4.6,baz=295,slow=7.2,SNR=42								
ZAL				S		**S**		**20 41 59.5**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=196,slow=20,SNR=3.7								
ZAL				LR		LR		20 50 25.9	
	comp=Z,50nm,21.3s,MS3.0,baz=292,slow=42								
BJT	**Baijiatuau**	**26.13**	**56**	*e*P		**P**		**20 37 37.6**	**-2.8**
	comp=Z,7.6nm,0.8s,mb4.3								
BJI	**Beijing**	**26.14**	**56**	*e*P		**P**		**20 37 43.5**	**+2.9**
BJI				AMB		AMB			
	comp=Z,13nm,0.9s,mb4.5								
BJI				LR		LR			
	comp=N,311nm,12.5s,MS4.1								
BJI				LR		LR			
	comp=E,164nm,10.3s,MS4.1								
BJI				LR		LR			
	comp=Z,101nm,38.4s								
NVS	**Novosibirsk**	**26.84**	**354**	*i* P		**P**		**20 37 45.7**	**-1.1**
NVS				pmax		pmax			
	comp=N,22nm,0.8s								
NVS				pmax		pmax			
	comp=E,10.0nm,0.8s								
NVS				pmax		pmax			
	comp=Z,41nm,0.8s,mb5.0								
NJ2	**Nanjing**	**27.03**	**74**	*e*P		**P**		**20 37 47.5**	**-1.4**
NJ2				PP		PP		20 38 33.5	-2.8
NJ2				S		**S**		**20 42 21.0**	**+0.1**
NJ2				AMB		AMB			
	comp=Z,20nm,0.7s,mb4.8								
NJ2				AMB		AMB			
	comp=Z,1μm,6.4s								
NJ2				LR		LR			
	comp=N,200nm,12.4s,MS4.0								
NJ2				LR		LR			
	comp=E,200nm,12.9s,MS4.0								
NJ2				LR		LR			
	comp=Z,170nm,14.6s,MS3.7								
BVA0	**Borovoye Array**	**27.98**	**337**	*i* P		**P**		**20 37 57.4**	**+0.1**
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**27.98**	**337**	P		**P**		**20 37 57.4**	**+0.2**
	comp=Z,3.9nm,0.4s,mb4.4,baz=149,slow=8.6,SNR=37								
BVAR				ScP				20 44 44.3	
	comp=Z,0.2nm,0.5s,baz=104,slow=6.1,SNR=3.6								
CHKZ	**Chkalovo**	**28.44**	**338**	*i* P		**P**		**20 38 02.0**	**+0.6**
CHKZ				pmax		pmax			
	comp=Z,40nm,1.0s,mb5.0								
HIA	**Hailar**	**32.21**	**40**	P		**P**		**20 38 33.5**	**-1.3**
	comp=Z,3.2nm,0.8s,mb4.2								
CN2	**Changchun**	**33.84**	**52**	*e*P		**P**		**20 38 49.3**	**+0.4**
CN2				PCP		PcP		20 41 28.0	+1.0
CN2				*e*S		**S**		**20 44 04.0**	**-4.1**
CN2				AMB		AMB			
	comp=Z,20nm,1.1s,mb5.0								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,180nm,11.0s,MS4.2								
CN2				LR		LR			
	comp=E,200nm,11.0s,MS4.2								
CN2				L

ERZM	Erzurum	39.85	299	*i* P		P	20 39 43.2	+3.7
SOC	Sochi	41.34	305	*e*P		P	20 39 50.8	-0.9
SOC				*e*			20 41 24.5	
SOC				*e*			20 41 46.9	
SOC				*e*PPP	PPP		20 42 02.9	+1.2
SOC				*e*S	S		20 45 55.7	-6.4
SOC				*e*SS	SS		20 49 04.7	+2.2
SOC				*e*			20 49 38.4	
SOC				pmax	pmax			
	comp=Z,10.0nm,0.7s,mb4.5							
SOC				pmax	pmax			
	comp=N,8.0nm,0.9s							
SOC				pmax	pmax			
	comp=E,8.0nm,0.7s							
KELT	Kelkit	41.48	300	*i* P		P	20 39 55.7	+2.8
MALT	Malatya	42.12	297	*e*P		P	20 40 00.0	+1.8
	comp=E,11nm,0.9s,mb4.5							
GZT	Gaziantep	42.84	296	*i* P		P	20 40 06.6	+2.4
VRSR	Storozhevoye	42.95	316	*e*P		P	20 40 04.8	0.0
VRSR				pmax	pmax			
	comp=Z,50nm,1.8s,mb4.9							
VRSR				pmax	pmax			
	comp=N,5.0nm,0.6s							
VRSR				pmax	pmax			
	comp=E,20nm,0.8s							
VOR	Voronezh	43.06	317	*e*P		P	20 40 06.0	+0.2
VOR				pmax	pmax			
	comp=Z,50nm,0.8s,mb5.3							
KAHT	Ahir Dag	43.37	296	*i* P		P	20 40 10.3	+1.7
YAK	Yakutsk	43.56	27⇓	*i*P		P	20 40 09.4	-0.3
YAK				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.3							
COBT	Iskenderun	43.94	295	*i* P		P	20 40 15.0	+1.9
OBN	Obninsk	45.43	321	*d* *i*P		P	20 40 24.8	+0.1
OBN				*e*S		S	20 46 54.8	-6.6
OBN				pmax	pmax			
	comp=Z,27nm,1.2s,mb5.0							
OBN				MLR	MLR			
	comp=Z,100nm,20.0s,MS3.8							
SIM	Simferopol'	45.45	307	*e*P		P	20 40 26.0	+1.0
SIM				pmax	pmax			
	comp=Z,11nm,0.9s,mb4.7							
BRTR	Keskin Array B	45.80	299	P		P	20 40 28.7	+0.8
	comp=Z,4.8nm,0.7s,mb4.5,baz=113,slow=7.6,SNR=21							
ELDT	Eldivan	45.93	300	*i* P		P	20 40 30.4	+1.5
BALT	Daday	45.93	302	*i* P		P	20 40 30.5	+1.6
SGKT	Sivrigoynuk	46.97	300	*i* P		P	20 40 36.2	-0.9
TIXI	Tiksi	48.95	16	*e*P		P	20 40 50.1	-2.0
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3							
AKASG	Malin Array Be	49.09	314	P		P	20 40 52.4	-1.1
	comp=Z,6.2nm,0.5s,mb4.9,baz=79,slow=7.6,SNR=37							
AKASG				PP	PP		20 42 48.8	+1.2
	comp=Z,0.6nm,0.4s,baz=101,slow=8.4,SNR=4.1							
VSU	Vasula	51.40	324	*d* *i*P		P	20 41 10.4	-0.6
FINES	FINESS Array B	52.22	328	P		P	20 41 16.8	-0.2
	comp=Z,20nm,0.6s,mb5.2,baz=102,slow=8.0,SNR=178							
KAF	Kangasniemi	52.23	328	*e*p		P	20 41 15.8	-1.3
	comp=Z,10nm,0.9s,mb4.8,baz=101,slow=7.4							
KAF	Kangasniemi	52.23	328	*e*P		P	20 41 15.8	-1.3
KAF				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
SUW	Suwalki	52.97	318	*e*P		P	20 41 22.3	-0.5
KWP	Kalwaria	53.26	313	*e*P		P	20 41 25.5	+0.5
KOLS	Kolonicke sedl	53.57	312	*i* P		P	20 41 27.2	-0.1
KEV	Kevo	53.83	338	*e*p		P	20 41 27.8	-1.1
	comp=Z,5.5nm,0.5s,mb4.7							
KEV	Kevo	53.83	338	*e*P		P	20 41 27.8	-1.1
KEV				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8							
CRVS	Cervenica-Dubn	54.10	312	*e*		P	20 41 35.0	+3.8
ARCES	ARCESS Array B	54.27	337	P		P	20 41 32.0	-0.1
	comp=Z,3.7nm,0.3s,mb4.8,baz=103,slow=7.6,SNR=105							
ARCES				LR	LR		21 05 52.6	
	comp=Z,44nm,21.6s,MS3.5,baz=3.5,slow=37							
ARE0	ARCESS Array S	54.27	337	*e*P		P	20 41 31.3	-0.9
NIE	Niedzica	54.83	312	*e*P		P	20 41 36.0	-0.5
OJC	Ojcow	55.11	313	*e*P		P	20 41 38.4	-0.1
VYHS	Vyhne	55.87	311	*e*P		P	20 41 44.7	+0.7
OKC	Ostrava-Krasne	56.20	313	*e*P		P	20 41 46.1	-0.3
OKC				*e*pP	pP		20 42 09.1	+8.1
GKP	Gorka Klasztor	56.52	317	*e*P		P	20 41 48.3	-0.3
GKP	Gorka Klasztor	56.52	317	*e*P		P	20 41 48.4	-0.3
KMBO	Kilima Mbogo	56.57	248	P		P	20 41 49.2	-0.4
	comp=Z,1.3nm,0.8s,mb4.0,baz=34,slow=17,SNR=4.2							
KMBO				pP	pP		20 42 10.6	+6.4
	comp=Z,3.1nm,0.7s,baz=47,slow=13,SNR=7.1							
KMBO	Kilima Mbogo	56.57	248	P		P	20 41 50.2	+0.6
	comp=Z,2.5nm,0.8s,mb4.3							
MORC	Moravsky Berou	56.59	313	*e*P		P	20 41 48.4	-0.8
	comp=Z,10nm,1.0s,mb4.5							
KSP	Ksiaz	57.29	314	*e*P		P	20 41 54.0	-0.1
KSP	Ksiaz	57.29	314	*e*P		P	20 41 54.2	+0.1
DPC	Dobruska-Polom	57.32	314	*e*P		P	20 41 54.1	-0.3
DPC				*e*pP	pP		20 42 19.8	+11
UPC	Upice	57.50	314	*e*P		P	20 41 55.9	+0.3
KOGS	Kog	57.85	309	*e*P		P	20 41 57.7	-0.5
ARSA	Arzberg	58.23	310⇓	*i*P		P	20 42 00.7	-0.1
	comp=Z,8.9nm,1.4s,mb4.6							
PVCC	Panska Ves	58.41	314	*e*P		P	20 42 02.0	0.0
PERS	Pernice	58.60	310	*i* P		P	20 42 03.5	+0.1
PERS				*i*			20 42 07.1	
FITZ	Fitzroy Crossi	58.77	137	*e*P		P	20 42 05.0	+0.1
	comp=Z,1.5nm,0.5s,mb4.3							
FITZ	Fitzroy Crossi	58.77	137	P		P	20 42 05.1	+0.2
	comp=Z,2.5nm,0.5s,mb4.5,baz=344,slow=5.9,SNR=11							
MOA	Molln	58.98	311⇑	*i*P		P	20 42 05.9	-0.1
	comp=Z,8.8nm,0.8s,mb4.8							
LJU	Ljubljana	59.10	309	*i* P		P	20 42 07.1	+0.3
GEC2	GERESS Array S	59.20	312	*e*P		P	20 42 07.4	-0.1
GEC2				pmax	pmax			
	comp=Z,15nm,1.1s,mb4.9							
GEC2	GERESS Array S	59.20	312	*e*P		P	20 42 07.4	-0.1
	comp=Z,15nm,1.1s,mb4.9							
GERES	GERESS Array B	59.20	312	P		P	20 42 07.5	0.0
	comp=Z,6.6nm,0.8s,mb4.7,baz=76,slow=5.5,SNR=73							
KHC	Kasperske Hory	59.24	313	*e*P		P	20 42 07.4	-0.3
KHC				*e*pP	pP		20 42 30.3	+7.8
CLL	Collm	59.30	315⇓	*i*P		P	20 42 07.3	-0.8
CLL				*i*			20 42 13.7	
CLL				pmax	pmax			
	comp=Z,7.0nm,1.0s,mb4.7							
CLL	Collm	59.30	315⇓	*i*P		P	20 42 07.3	-0.8
	comp=Z,7.0nm,1.0s,mb4.7							
CLL				*i*			20 42 13.7	
CLL	Collm	59.30	315⇓	P		P	20 42 07.3	-0.8
	comp=Z,logA/T=0.8,mb4.6							
CLL				*i*			20 42 13.7	
NB2	NORSAR Subarra	59.35	327	P		P	20 42 07.3	-1.0
	comp=Z,23nm,0.8s,mb5.3,baz=85,slow=7.0							
NB2	NORSAR Subarra	59.35	327	P		P	20 42 07.3	-1.0
	baz=85,slow=7.4							
NOA	NORSAR Array B	59.35	327	P		P	20 42 07.3	-1.0
	comp=Z,20nm,0.8s,mb5.2,baz=87,slow=6.9,SNR=121							
NOA				pP	pP		20 42 29.6	+6.5
	comp=Z,2.4nm,0.7s,baz=87,slow=6.9,SNR=2.0							
NOA				LR	LR		21 10 29.1	
	comp=Z,36nm,18.6s,MS3.5,baz=270,slow=39							
NAO01	NORSAR Array S	59.52	326	*e*P		P	20 42 08.2	-1.4
	comp=Z,26nm,0.8s,mb5.3							
VOJS	Vojsko	59.54	309⇑	*i*P		P	20 42 09.6	-0.3
WET	Wettzell	59.69	313	*e*P		P	20 42 10.7	-0.2
WET				pmax	pmax			
	comp=Z,36nm,2.0s,mb5.1							
WET	Wettzell	59.69	313	*e*P		P	20 42 10.7	-0.2
	comp=Z,36nm,2.0s,mb5.1							
KBA	Koelnbreinsper	59.73	310⇑	*i*P		P	20 42 10.8	-0.3
	comp=Z,4.9nm,0.9s,mb4.5							
ROBS	Robic	59.76	309	*i* P		P	20 42 10.6	-0.8
NKC	Novy Kostel	59.80	314	*e*P		P	20 42 11.5	-0.1
BILL	Bilibino	59.86	25	*e*P		P	20 42 10.6	-1.1
BILL				pmax	pmax			
	comp=Z,17nm,2.7s,mb4.6							
MOX	Moxa	60.26	315	*e*P		P	20 42 14.7	0.0
MOX				pmax	pmax			
	comp=Z,13nm,1.1s,mb4.9							
MOX	Moxa	60.26	315	*e*P		P	20 42 14.7	0.0
	comp=Z,13nm,1.1s,mb4.9							
MOX	Moxa	60.26	315	*i* P		P	20 42 14.7	0.0
	comp=Z,logA/T=1.1,mb4.9							
BSEG	Bad Segeberg	60.55	318	*e*P		P	20 42 16.3	-0.4
BSEG				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.5							
GRA1	Grafenberg Arr	60.67	314	*e*P		P	20 42 18.0	+0.5
	comp=Z,33nm,1.6s,mb5.2							
GRF	Grafenberg Arr	60.67	314	*e*P		P	20 42 18.0	+0.5
GRF				pmax	pmax			
	comp=Z,33nm,1.6s,mb5.2							
GRF	Grafenberg Arr	60.67	314	*e*P		P	20 42 18.0	+0.5
	comp=Z,33nm,1.6s,mb5.2							
PTQR	Pietraquaria	60.68	305	*e*P		P	20 42 17.6	-0.2
SNTG	Esanatoglia	60.75	306	*e*P		P	20 42 18.0	-0.2
WTTA	Wattenberg	60.84	311⇓	*i*P		P	20 42 17.9	-0.8
	comp=Z,9.9nm,0.7s,mb5.0							
CLZ	Clausthal	60.84	316	*e*P		P	20 42 18.5	-0.2
	comp=Z,32nm,0.8s,mb5.5							
FUR	Furstenfeldbru	60.91	312	*e*P		P	20 42 19.2	0.0
SQTA	Sankt Quirin	61.13	311⇑	*i*P		P	20 42 19.7	-1.0
	comp=Z,3.2nm,0.7s,mb4.6							
MOTA	Moosalm	61.18	311⇑	*i*P		P	20 42 20.2	-0.8
VMG	Vicchio	61.58	307	*e*P		P	20 42 24.9	+1.2
DAVA	Damuels	62.01	311⇓	*i*P		P	20 42 26.2	-0.3
	comp=Z,22nm,1.3s,mb5.1							
GSCL	Gusciola	62.17	308	*e*P		P	20 42 28.1	+0.5
TNS	Taunus Mts	62.33	315	*e*P		P	20 42 28.4	-0.3
TNS				pmax	pmax			
	comp=Z,17nm,0.9s,mb5.2							
TNS	Taunus Mts	62.33	315	*e*P		P	20 42 28.4	-0.3
	comp=Z,17nm,0.9s,mb5.2							
SARO	Sassorosso	62.33	308	P		P	20 42 28.8	0.0
VAI	Varese	63.07	310	*e*P		P	20 42 32.4	-1.3
CDF	Champ du Feu	63.47	313	*e*P		P	20 42 35.8	-0.5
	comp=Z,20nm,1.1s,mb4.9							
PGF	Pioggiola	63.73	306	*e*P		P	20 42 37.3	-0.7
	comp=Z,19nm,0.9s,mb4.8							
FIN	Finale Ligure	63.86	308	P		P	20 42 37.5	-1.3
HINF	Hinteralfeld	63.88	312	*e*P		P	20 42 38.3	-0.6
ROB	Roburent	64.07	308	P		P	20 42 39.5	-0.7
IMI	Imperia	64.16	308	P		P	20 42 40.4	-0.4
HAU	Haudompre	64.17	312	*e*P		P	20 42 40.2	-0.6
	comp=Z,21nm,0.8s,mb4.9							
MONE	Monesi	64.21	308	P		P	20 42 40.9	-0.2
LSD	Ceresole Reale	64.27	310	P		P	20 42 41.6	+0.1
NEGI	Negi	64.30	308	P		P	20 42 41.2	-0.5
BHB	Bricherasio	64.35	309	P		P	20 42 40.3	-1.7
ENR	Entracque	64.40	308	P		P	20 42 40.7	-1.6
FENE	Fenestrelle	64.44	309	P		P	20 42 42.0	-0.6
STV2	Anna di Valdie	64.46	308	P		P	20 42 40.9	-1.8
STV	Sta Anna Valdi	64.46	308	P		P	20 42 40.9	-1.8
SBF	Sospel	64.49	308	*e*P		P	20 42 42.6	-0.3
	comp=Z,30nm,0.8s,mb5.1							
LPG	La Plagne	64.53	310	*e*P		P	20 42 43.4	+0.2
	comp=Z,23nm,0.8s,mb5.0							
LPL	La Plagne	64.54	310	*e*P		P	20 42 43.4	+0.2
	comp=Z,41nm,0.9s,mb5.1							
PZZ	Prazzo	64.55	309	P		P	20 42 41.3	-2.0
GIVF	Givet	64.63	315	*e*P		P	20 42 43.6	-0.1
	comp=Z,19nm,0.9s,mb4.8							
CABF	La Chapelle	64.69	311	*e*P		P	20 42 43.9	-0.3
	comp=Z,11nm,0.7s,mb4.7							
BNI	Bardonecchia	64.70	309	*e*P		P	20 42 43.5	-0.8
	comp=Z,5.4nm,0.7s,mb4.7							
MBDF	Montbardon	64.72	309	*e*P		P	20 42 43.5	-0.9
	comp=Z,11nm,0.6s,mb4.8							
MEZF	Maizieres J'vi	64.88	313	*e*P		P	20 42 45.3	-0.1
	comp=Z,34nm,0.7s,mb5.2							
BAIF	Baives	65.03	315	*e*P		P	20 42 46.2	-0.1
	comp=Z,8.2nm,0.7s,mb4.6							
FRF	La Foret Royal	65.12	308	*e*P		P	20 42 46.6	-0.4
	comp=Z,18nm,0.8s,mb4.9							
LMR	La Maurre	65.28	307	*e*P		P	20 42 46.9	-1.2
	comp=Z,16nm,0.9s,mb4.8							
ORIF	Oris-en-Rattie	65.28	309	*e*P		P	20 42 47.1	-0.9
	comp=Z,12nm,0.8s,mb4.7							
WRA	Warramunga Arr	65.64	132	P		P	20 42 51.3	+0.5
	comp=Z,3.1nm,0.4s,mb4.7,baz=326,slow=6.6,SNR=162							
WRA				pP	pP		20 43 11.5	+5.8
	comp=Z,1.9nm,0.4s,baz=325,slow=6.5,SNR=9.0							
WRAB	Tennant Creek	65.64	131	*e*P		P	20 42 50.9	+0.1
WRAB	Tennant Creek	65.64	131	*e*P		P	20 42 50.5	-0.2
	comp=Z,8.5nm,0.7s,mb4.9							
WB2	Warramunga Arr	65.65	132⇑	*i*P		P	20 42 51.3	+0.5
SMF	Signal de Mont	66.17	311	*e*P		P	20 42 53.1	-0.6
	comp=Z,28nm,0.8s,mb5.1							
SSF	Saint Saulge	66.28	312	*e*P		P	20 42 53.8	-0.5
	comp=Z,42nm,0.9s,mb5.2							
AVF	Avril sur Loir	66.45	312	*e*P		P	20 42 54.9	-0.6
	comp=Z,23nm,0.7s,mb5.0							
HYF	Humbligny	66.78	312	*e*P		P	20 42 57.7	+0.2
BGF	Bois d'Agland	66.85	312	*e*P		P	20 42 57.5	-0.5
	comp=Z,11nm,0.6s,mb4.7							
LASF	Ste Croix	66.91	309	*e*P		P	20 42 58.5	+0.1
	comp=Z,54nm,1.1s,mb5.2							
TCF	Toulx Ste Croi	67.35	311	*e*P		P	20 43 01.2	+0.1
	comp=Z,50nm,1.0s,mb5.2							
CAF	Calviac	67.87	310	*e*P		P	20 43 04.5	+0.1
	comp=Z,23nm,0.8s,mb4.9							
ASPA	Alice Springs	68.03	135⇑	*i*P		P	20 43 06.5	+0.8
ASAR	Alice Springs	68.03	135	P		P	20 43 06.5	+0.8
	comp=Z,4.1nm,0.7s,mb4.6,baz=316,slow=6.0,SNR=126							
ASAR				pP	pP		20 43 27.3	+6.5
	comp=Z,4.2nm,0.6s,baz=319,slow=6.4,SNR=12							
ASAR				sP	sP		20 43 34.9	+8.3
	comp=Z,4.1nm,0.7s,baz=317,slow=6.2,SNR=8.1							
RJF	Les Rejaudoux	68.12	311	*e*P		P	20 43 06.2	+0.3
	comp=Z,29nm,0.8s,mb5.0							
LDF	La Druitiere	68.16	314	*e*P		P	20 43 05.7	-0.4
	comp=Z,54nm,0.8s,mb5.3							
MTLF	Montolieu	68.26	308	*e*P		P	20 43 06.9	0.0
	comp=Z,32nm,1.1s,mb5.0							
FLN	La Foliniere	68.33	315	*e*P		P	20 43 06.6	-0.6
	comp=Z,20nm,0.8s,mb4.9							
LFF	La Frestale	68.76	310	*e*P		P	20 43 10.2	+0.3
	comp=Z,18nm,0.6s,mb4.9							
MFF	Saint Martin d	68.80	312	*e*P		P	20 43 09.5	-0.7
	comp=Z,31nm,0.9s,mb4.9							
ETOS	Mallorca	69.01	305	P		P	20 43 12.1	+0.5
	comp=Z,27nm,0.7s,mb5.3							
EMIR	Miracle	69.21	307	P		P	20 43 13.6	+0.8
	comp=Z,17nm,0.7s,mb5.1							
EPF	Esparros	69.66	309	*e*P		P	20 43 15.1	-0.4
EPOB	Poblet	69.72	307	P		P	20 43 16.4	+0.5
	comp=Z,11nm,0.7s,mb4.9							
SGMF	Saint Gilles	69.80	315	*e*P		P	20 43 16.3	+0.1
	comp=Z,57nm,0.8s,mb5.2							
EBIE	Bielsa	69.92	308	P		P	20 43 17.4	+0.4
	comp=Z,5.8nm,0.6s,mb4.7							
ROSF	Rostrenen	70.22	315	*e*P		P	20 43 18.9	+0.1
	comp=Z,71nm,0.7s,mb5.4							
QUIF	Quistinic	70.30	314	*e*P		P	20 43 19.0	-0.3
	comp=Z,16nm,0.6s,mb4.8							
ETSF	Etsaut	70.33	309	*e*P		P	20 43 20.0	+0.5
	comp=Z,23nm,0.7s,mb4.9							
ESAC	San Caprasio	70.68	308	P		P	20 43 22.3	+0.6
	comp=Z,10nm,0.4s,mb5.1							
SJPF	Ste Jean	70.71	309	*e*P		P	20 43 22.3	+0.5
	comp=Z,8.3nm,0.6s,mb4.5							
EALK	Alkurruntz	70.86	309	P		P	20 43 23.4	+0.6
	comp=Z,13nm,0.6s,mb5.0							
EMOS	Mosqueruela	71.17	306	P		P	20 43 25.9	+1.3
	comp=Z,21nm,0.7s,mb5.2							
ELAN	Lanestosa	72.17	310	P		P	20 43 31.5	+0.9
	comp=Z,23nm,0.7s,mb5.2							
ETOB	Tobarra	72.58	305	P		P	20 43 34.3	+1.2
	comp=Z,11nm,0.5s,mb5.0							
EMUR	La Murta	72.66	304	P		P	20 43 34.1	+0.5
EVIA	Vianos	73.27	305	P		P	20 43 37.8	+0.7
	comp=Z,6.7nm,0.4s,mb4.9							
EARI	Arriondas	73.34	310	P		P	20 43 38.1	+0.6
	comp=Z,10nm,0.7s,mb4.9							
ENIJ	Nijar	73.70	303	P		P	20 43 40.3	+0.6
	comp=Z,9.4nm,0.7s,mb4.8							
ESDC	Sonseca Array	73.91	307	P		P	20 43 41.6	+0.8
	comp=Z,6.8nm,0.7s,mb4.7,baz=56,slow=6.0,SNR=38							
ESDC	Sonseca Array	73.91	307	P		P	20 43 41.3	+0.4
	comp=Z,7.5nm,0.8s,mb4.7							
EQES	Quesada	74.01	305	P		P	20 43 42.4	+1.0
	comp=Z,53nm,1.2s,mb5.3							
CTA	Charters Tower	74.08	124	P		P	20 43 43.1	+0.9
	comp=Z,1.2nm,0.4s,mb4.2,baz=303,slow=12,SNR=4.0							
EBER	Berja	74.24	304	P		P	20 43 44.2	+1.4
	comp=Z,23nm,0.7s,mb5.2							
EBAN	Banos Encina	74.38	305	P		P	20 43 44.5	+0.9
	comp=Z,9.6nm,0.7s,mb4.8							
EPON	Pontenova	74.63	311	P		P	20 43 46.0	+1.0
	comp=Z,40nm,0.7s,mb5.5							
ERON	Agron	74.86	304	P		P	20 43 46.2	-0.1
	comp=Z,7.8nm,0.6s,mb4.8							
EADA	Adamuz	74.95	305	P		P	20 43 47.2	+0.3
	comp=Z,7.5nm,0.7s,mb4.7							
ELUQ	Luque	74.97	305	P		P	20 43 47.2	+0.1
	comp=Z,12nm,0.7s,mb4.9							
ERUA	La Rua	75.01	310	P		P	20 43 47.9	+0.8
	comp=Z,1.6nm,0.4s,mb4.3							
EINC	Incio	75.04	311	P		P	20 43 48.0	+0.7
EBAD	Badajoz	76.45	307	P		P	20 43 55.4	0.0
	comp=Z,6.7nm,0.6s,mb4.8							
EMIN	Mina Concepcio	76.62	306	P		P	20 43 57.4	+1.0
	comp=Z,5.6nm,0.5s,mb4.8							
EVO	Evora	77.25	307	*e*P		P	20 43 59.5	-0.4
	comp=Z,12nm,0.7s,mb4.6							
EGRO	El Granado	77.31	306	P		P	20 44 00.9	+0.7
RES	Resolute Bay	77.36	1	*e*P		P	20 43 57.0	-2.9
	comp=Z,1.8nm,0.7s,mb4.1							
RES				*e*pP	pP		20 44 22.1	+7.0
COLA	College	77.72	21	*e*P		P	20 44 00.4	-1.5
STKA	Stephens Creek	78.62	136	P		P	20 44 07.9	+0.3
	comp=Z,1.1nm,0.5s,mb4.1,baz=318,slow=4.1,SNR=4.0							
STKA	Stephens Creek	78.62	136	*e*P		P	20 44 06.5	-1.1
INK	Inuvik	79.04	14	P		P	20 44 10.1	+0.9
	comp=Z,4.4nm,0.9s,mb4.4,baz=344,slow=6.7,SNR=12							
INK	Inuvik	79.04	14	*e*P		P	20 44 09.5	+0.4
	comp=Z,5.4nm,0.9s,mb4.5							
BOSA	Boshof	82.35	232	P		P	20 44 27.4	0.0
	comp=Z,2.1nm,0.7s,mb4.2,baz=71,slow=6.3,SNR=7.9							
BOSA				pP	pP		20 44 50.4	+7.5
	comp=Z,5.2nm,1.0s,baz=37,slow=5.7,SNR=6.4							
FRB	Frobisher Bay	86.49	350	P		P	20 44 48.0	+0.7
	comp=Z,0.6nm,0.3s,mb4.2,baz=26,slow=7.0,SNR=4.1							
YKW3	Yellowknife Ar	87.78	10	*e*P		P	20 44 54.0	+0.4
YKA	Yellowknife Ar	87.85	10	P		P	20 44 54.9	+1.0
	comp=Z,1.3nm,0.7s,mb4.3,baz=335,slow=4.9,SNR=33							
YKA				pP	pP		20 45 17.9	+8.4
	comp=Z,0.8nm,0.7s,baz=335,slow=4.9,SNR=4.5							
YKA	Yellowknife Ar	87.85	10	P		P	20 44 54.9	+1.0
YKA				pP	pP		20 45 17.9	+8.4
DLBC	Dease Lake	88.09	19	P		P	20 44 56.8	+1.6
	comp=Z,2.2nm,0.9s,mb4.4,baz=4.1,slow=26,SNR=4.2							
TXAR	Lajitas Array	121.74	12	PKP	PKPdf		20 51 00.5	+2.4
	comp=Z,0.3nm,0.4s,baz=117,slow=1.8,SNR=3.8							

IDC ***26*** *21:20:28.2±1.7, 49.41S×161.58E, mb4.3/4, mb1 4.5/6, mb1mx4.2/12, mbtmp4.3/6, ML4.2/2, MS3.7/8, Ms1 3.6/8, ms1mx3.3/20, Error ellipse: s-maj=47.6km s-min=25.9km az=176.0*

NEIC ***26*** *21:20:29.8±1.1, 49.34S×161.55E, h10km, mb4.5/2, Error ellipse: s-maj=27.1km s-min=10.2km az=173.0*

ISC 26 21:20:27.9±1.3, 49.4S±0.2×161.55E±0.10, h10km, n43, σ1§30/43, mb4.3/6, MS3.7/7, 1C, North of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WHZ	Wether Hill Ro	5.57	53	*e*PN		Pn	21 21 54.1	+1.2
WHZ				*e*SN		Sn	21 22 57.3	-0.4
WHZ	Wether Hill Ro	5.57	53	*e*PN		Pn	21 21 54.1	+1.2
WHZ				*e*SN		Sn	21 22 57.3	-0.4
MLZ	Mavora Lakes	6.06	50	PN		Pn	21 22 01.0	+1.2
MLZ	Mavora Lakes	6.06	50	PN		Pn	21 22 01.0	+1.2
MSZ	Milford Sound	6.43	45	PN		Pn	21 22 07.5	+2.4
MSZ				*e*SN		Sn	21 23 20.2	+0.9
MSZ	Milford Sound	6.43	45	PN		Pn	21 22 07.5	+2.4
MSZ				*e*SN		Sn	21 23 20.2	+0.9
TUZ	Tuapeka	6.46	61	PN		Pn	21 22 05.4	0.0
TUZ				*e*SN		Sn	21 23 17.6	-2.3
TUZ	Tuapeka	6.46	61	PN		Pn	21 22 05.4	0.0
TUZ				*e*SN		Sn	21 23 17.6	-2.3
EAZ	Earnscleugh	6.72	55	PN		Pn	21 22 10.0	+0

YOJ				S	Sn	21 25 19.1	-5.4	
HATJ	**Hateruma jima**	**2.96**	**50**	P	Pn	21 24 50.1	-3.1	
HATJ				S	Sn	21 25 21.7	-7.9	
IRIF	**Iriomote-Funau**	**3.09**	**45**	P	Pn	21 24 51.7	-3.4	
IRIF				S	Sn	21 25 26.3	-6.6	
JKRS	**Kuro-shima**	**3.22**	**50**	P	Pn	21 24 53.3	-3.6	
JKRS				S	Sn	21 25 28.1	-8.0	
JIJ	**Ishigaki jima**	**3.39**	**49**	P	Pn	21 24 56.1	-3.2	
JIJ				S	Sn	21 25 31.6	-8.9	
JTJ	**Tarama**	**3.96**	**51**	P	Pn	21 25 03.3	-4.1	
JTJ				S	Sn	21 25 47.0	-7.9	

*ATH **26** 22:03:28.8, 39.78N×20.80E, h16km±1km, MD3.0/5*
*NEIC **26** 22:03:28.8, 39.78N×20.80E, h16km, MD3.0(ATH), After ATH.*
*THE **26** 22:03:29.1, 39.84N×20.76E, h5km, ML2.9*
*CSEM **26** 22:03:29.1±0.1, 39.82N×20.79E, h2km, MD3.0, Error ellipse: s-maj=2.1km s-min=1.7km az=171.0*

ISC 26 22:03:28.6±0.6, 39.80N±0.03×20.80E±0.05, h13km±6km, n16, σ0≈91/23, 2C-2D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.15**	**164**	⇓*i*	*e*PB		**Pb**	**22 03 32.1**	**-0.6**
JAN					*e*SB		**Sb**	**22 03 35.2**	**-0.2**
MEV	**Metsovon**	**0.33**	**92**	*e*P	g		**Pg**	**22 03 35.4**	**-0.3**
LSK	**Leskovik**	**0.38**	**337**	*i* P	g		**Pg**	**22 03 36.2**	**-0.4**
LSK				*i* S	g		**Sg**	**22 03 42.5**	**+0.5**
IGT	**Igoumenitsa**	**0.45**	**234**	*e*P	g		**Pg**	**22 03 37.3**	**-0.5**
SRN	**Sarande**	**0.62**	**278**	*i* P	g		**Pg**	**22 03 41.1**	**-0.1**
SRN				*i* S	g		**Sg**	**22 03 51.7**	**+2.0**
KEK	**Kerkira**	**0.78**	**264**	⇑*i*	PN		**Pn**	**22 03 43.7**	**-1.4**
KZN	**Kozani**	**0.90**	**55**	⇑*i*	PN		**Pn**	**22 03 46.2**	**-0.7**
KZN				*e*	SN		**Sn**	**22 03 59.2**	**-0.5**
FNA	**Florina**	**1.08**	**24**	*e*P	g		**Pg**	**22 03 48.7**	**-1.6**
FNA				*e*	Sg		**Sg**	**22 04 04.8**	**0.0**
LKD	**Levkas**	**1.09**	**186**	*e*P	g		**Pg**	**22 03 50.7**	**+0.1**
EVR	**Evrytania**	**1.18**	**138**	⇓*i*	PN		**Pn**	**22 03 51.1**	**+0.3**
LIT	**Litokhoron**	**1.33**	**76**	*e*P	b		**Pb**	**22 03 54.3**	**+1.3**
LIT				*e*	Sb		**Sb**	**22 04 13.4**	**+3.5**
GRG	**Griva**	**1.69**	**46**	*e*P	b		**Pb**	**22 03 58.0**	**-1.0**
GRG				*e*	Sb		**Sb**	**22 04 20.4**	**+0.3**
NEO	**Neokhori**	**1.94**	**104**	*e*P	N		**Pn**	**22 04 03.1**	**+1.4**
KNT	**Kendrikon**	**2.10**	**49**	*e*P	n		**Pn**	**22 04 04.2**	**+0.2**
KNT	**Kendrikon**	**2.10**	**49**	*e*P	n		**Pn**	**22 04 04.2**	**+0.2**
OUR	**Ouranopolis**	**2.50**	**77**	*e*P	n		**Pn**	**22 04 10.5**	**+0.8**

GUC 26 22:04:03.5±0.9, 25.26S×70.71W, h37km±4km, ML4.0, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**0.69**	**24**	*i*	P		P	22 04 18.1	+1.3
CPN1				*i*	S		S	22 04 27.9	+1.5
CPN1					AMP			22 04 28.5	
	comp=E,10μm,0.4s								
ANCH	**Antofagasta**	**1.59**	**10**	⇑*i*	P		P	22 04 30.2	+0.5
ANCH				*i*	S		S	22 04 51.1	+1.8
CPCH	**Copiapo**	**2.12**	**171**	⇑*i*	P		P	22 04 37.4	+0.2
CPCH				*i*	S		S	22 05 04.0	+1.5
LVC	**Limon Verde**	**3.10**	**32**	*i*	S		S	22 05 28.6	+1.0
LVC					AMP			22 05 41.9	
	comp=N,435nm,0.6s								
VACH	**Vallenar**	**3.31**	**181**	*i*	S		S	22 05 32.5	-0.2

*MOS **26** 22:15:57.9±1.0, 51.24N×179.59W, h33km, mb4.7/16, Error ellipse: s-maj=10.5km s-min=8.3km az=73.8*
*BJI **26** 22:15:58.6, 51.20N×179.60W, h43km, mB5.0, mb4.7, Ms4.3, Msz4.0*
*NEIC **26** 22:16:00.6±0.5, 51.18N×179.62W, h44km±4km, mb4.6/36, ML4.7(PMR), ML4.1(AEIC), Error ellipse: s-maj=7.3km s-min=3.6km az=182.0*
*IDC **26** 22:16:01.3±3.1, 51.22N×179.64W, h48km±29km, mb4.1/22, mb1 4.2/23, mb1mx4.2/28, mbtmp4.3/23, ML4.1/1, MS3.7/7, Ms1 3.7/7, ms1mx3.3/28, Error ellipse: s-maj=18.1km s-min=11.2km az=171.0*

ISC 26 22:15:59.5±0.7, 51.22N±0.07×179.62W±0.04, h48km±5km, h36km±2.5km: pP-P, n159, σ0≈93/161, mb4.5/61, MS3.8/13, 2C-1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIMD	**Kanaga Island**	**1.59**	**69**	P		P	**P**	**22 16 25.1**	**-0.7**
KIKV	**Kanaga Island**	**1.67**	**66**	P		P	**P**	**22 16 26.6**	**-0.2**
KIWB	**Kanaga Island**	**1.67**	**67**	P		P	**P**	**22 16 26.9**	**+0.1**
KIRH	**Kanaga Island**	**1.72**	**66**	P		P	**P**	**22 16 27.6**	**0.0**
ADAG	**Mount Adagdak**	**2.03**	**67**	P		P	**P**	**22 16 31.7**	**-0.3**
GSTD	**Great Sitkin T**	**2.32**	**68**	P		P	**P**	**22 16 37.0**	**+0.8**
GSTD				S			**S**	**22 17 07.3**	**+3.7**
GSMY	**Great Sitkin M**	**2.37**	**68**	P		P	**P**	**22 16 36.5**	**-0.3**
GSTR	**Great Sitkin T**	**2.38**	**67**	P		P	**P**	**22 16 38.1**	**+1.0**
GSIG	**Igitkin Island**	**2.43**	**70**	P		P	**P**	**22 16 37.5**	**-0.2**
ATKA	**Atka Island**	**3.52**	**72**	P		P	**P**	**22 16 53.0**	**-0.1**
ATKA				S			**S**	**22 17 34.5**	**+0.7**
SMY	**Shemya**	**4.16**	**294**	P		P	**P**	**22 17 02.6**	**+0.3**
FX1	**Attu Island--F**	**4.75**	**293**	P		P	**P**	**22 17 10.6**	**+0.1**
FX1				S			**S**	**22 18 10.6**	**+5.6**
FX1				pmax		pmax			
	comp=Z,32nm,0.3s								
FX1	**Attu Island--F**	**4.75**	**293**	P		P	**P**	**22 17 10.6**	**+0.1**
	comp=Z,32nm,0.3s,baz=82,slow=4.3,SNR=40								
FX1				S			**S**	**22 18 10.6**	**+5.6**
	comp=Z,12nm,0.3s,baz=252,slow=20,SNR=3.6								
FX1	**Attu Island--F**	**4.75**	**293**	P		P	**P**	**22 17 10.8**	**+0.2**
NIKO	**Nikolski**	**6.86**	**71**	*e*P		P	**P**	**22 17 39.1**	**-1.0**
UNV	**Unalaska Valle**	**8.42**	**67**	*e*P		P	**P**	**22 18 00.7**	**-0.9**
TNA	**Tin City**	**15.59**	**18**	*e*P		P	**P**	**22 19 40.0**	**+2.8**
	comp=Z,12nm,1.3s								
BILL	**Bilibino**	**18.23**	**343**	*e*P		P	**P**	**22 20 12.0**	**+1.7**
BILL				pmax		pmax			
	comp=Z,9.0nm,0.9s								
BILL	**Bilibino**	**18.23**	**343**	*e*P		P	**P**	**22 20 11.9**	**+1.7**
	comp=Z,8.7nm,0.9s								
SLKM	**Skilak Lake**	**18.78**	**49**	*e*P		P	**P**	**22 20 16.6**	**-0.4**
IMA	**Indian Mountai**	**19.85**	**32**	*e*P		P	**P**	**22 20 28.5**	**-0.4**
IMA				pmax		pmax			
	comp=Z,122nm,1.0s								
IMA	**Indian Mountai**	**19.85**	**32**	*e*P		P	**P**	**22 20 28.5**	**-0.3**
	comp=Z,122nm,1.0s								
SML	**Sawmill**	**20.04**	**46**	*e*P		P	**P**	**22 20 28.4**	**-2.5**
MCK	**McKinley**	**20.46**	**41**	*e*P		P	**P**	**22 20 33.4**	**-1.8**
MCK				pmax		pmax			
	comp=Z,7.0nm,0.7s								
MCK	**McKinley**	**20.46**	**41**	*e*P		P	**P**	**22 20 33.4**	**-1.8**
	comp=Z,6.6nm,0.7s								
DIV	**Divide**	**21.05**	**49**	*e*P		P	**P**	**22 20 40.8**	**-0.5**
	comp=Z,60nm,0.6s,mb5.1								
COLA	**College**	**21.35**	**38**	⇑*e*P		P	**P**	**22 20 44.8**	**+0.5**
COLA	**College**	**21.35**	**38**	*e*P		P	**P**	**22 20 44.1**	**-0.2**
	comp=Z,14nm,0.9s,mb4.3								
YSS	**Yuzh-Sakhalins**	**24.82**	**275**	⇑*i*	P		**P**	**22 21 18.8**	**+0.5**
YSS				pmax		pmax			
	comp=Z,30nm,0.8s,mb4.9								
ASAJ	**Asahikawa**	**26.19**	**269**	P		P	**P**	**22 21 31.3**	**+0.1**
ASAJ				pmax		pmax			
	comp=Z,12nm,0.9s								
ASAJ	**Asahikawa**	**26.19**	**269**	P		P	**P**	**22 21 31.2**	**+0.1**
	comp=Z,12nm,0.9s,mb4.4,baz=131,slow=5.7,SNR=4.8								
INK	**Inuvik**	**27.88**	**35**	*e*P		P	**P**	**22 21 45.5**	**-0.9**
INK				pmax		pmax			
	comp=Z,4.0nm,0.9s								
INK	**Inuvik**	**27.88**	**35**	P		P	**P**	**22 21 46.0**	**-0.4**
	comp=Z,1.1nm,0.4s,mb3.9,baz=263,slow=8.7,SNR=10.0								
INK				LR		LR		22 35 32.3	
	comp=Z,182nm,18.2s,MS3.7,baz=83,slow=42								
INK	**Inuvik**	**27.88**	**35**	*e*P		P	**P**	**22 21 45.5**	**-1.0**
	comp=Z,4.0nm,0.9s,mb4.0								
DLBC	**Dease Lake**	**28.88**	**56**	P		P	**P**	**22 21 54.8**	**-0.6**
	comp=Z,0.8nm,0.5s,mb3.7,baz=287,slow=11,SNR=4.0								
DLBC				LR		LR		22 33 25.2	
	comp=Z,148nm,18.6s,MS3.6,baz=80,slow=36								
TIXI	**Tiksi**	**30.52**	**331**	*i* P		P	**P**	**22 22 10.4**	**+0.5**
KLR	**Kul'dur**	**30.73**	**286**	*e*P		P	**P**	**22 22 08.3**	**-3.6**
MDJ	**Mudanjiang**	**34.09**	**279**	P		P	**P**	**22 22 40.0**	**-1.2**
MDJ				S			**S**	**22 28 00.5**	**-2.2**
MDJ				AMB		AMB			
	comp=Z,5.0nm,0.5s,mb4.7								
MDJ				AMB		AMB			
	comp=Z,26nm,3.1s								
MDJ				LR		LR			
	comp=N,41nm,20.6s								
MDJ				LR		LR			
	comp=Z,41nm,26.5s								
YKW3	**Yellowknife Ar**	**35.69**	**46**	*e*P		**P**	**P**	**22 22 53.5**	**-1.3**
YKA	**Yellowknife Ar**	**35.71**	**46**	P		**P**	**P**	**22 22 54.0**	**-1.0**
	comp=Z,5.9nm,0.5s,mb4.8,baz=281,slow=8.1,SNR=74								
YKA						PcP	PcP	22 25 22.7	+0.1
	comp=Z,0.4nm,0.6s,baz=288,slow=3.3,SNR=4.5								
YKA						LR	LR	22 38 25.1	
	comp=Z,191nm,18.9s,MS3.9,baz=275,slow=38								
YKA	**Yellowknife Ar**	**35.71**	**46**	P		P	**P**	**22 22 54.0**	**-1.0**
YKA						PcP	PcP	22 25 22.7	+0.1
YKA						LR	LR	22 38 25.1	
VDB	**Vedder Mountai**	**36.14**	**70**	P		P	**P**	**22 22 59.3**	**+0.7**
CPW	**Capitol Peak**	**36.45**	**74**	P		P	**P**	**22 23 03.0**	**+1.7**
BOD	**Bodaibo**	**37.66**	**307**	*e*P		P	**P**	**22 23 10.4**	**-0.9**
BOD				pmax		pmax			
	comp=Z,6.0nm,1.1s,mb4.2								
ETW	**Entiat**	**37.84**	**72**	P		P	**P**	**22 23 14.0**	**+1.1**
EBG	**Ellensburg**	**38.03**	**73**	P		P	**P**	**22 23 15.9**	**+1.4**
GL2	**New Goldendale**	**38.34**	**74**	P		P	**P**	**22 23 18.6**	**+1.5**
MDW	**Midway**	**38.66**	**73**	P		P	**P**	**22 23 21.0**	**+1.3**
RSW	**Rattlesnake Hi**	**38.87**	**73**	P		P	**P**	**22 23 22.9**	**+1.4**
HAWA	**Hanford**	**38.90**	**73**	*e*P		P	**P**	**22 23 22.1**	**+0.3**
	comp=Z,1.3nm,0.9s,mb3.7								
EDM	**Edmonton**	**39.34**	**60**	*e*P		P	**P**	**22 23 24.4**	**-0.9**
YBH	**Yreka Blue Hor**	**39.41**	**81**	P		P	**P**	**22 23 27.6**	**+1.4**
	comp=Z,6.0nm,0.6s,mb4.5,baz=335,slow=7.2,SNR=15								
NEW	**Newport**	**39.42**	**69**	*e*P		P	**P**	**22 23 26.0**	**-0.1**
NEW				pmax		pmax			
	comp=Z,4.0nm,0.4s								
NEW	**Newport**	**39.42**	**69**	P		P	**P**	**22 23 26.3**	**+0.2**
	comp=Z,7.6nm,0.5s,mb4.7,baz=300,slow=7.6,SNR=17								
NEW	**Newport**	**39.42**	**69**	*e*P		P	**P**	**22 23 26.0**	**-0.1**
	comp=Z,4.0nm,0.4s,mb4.5								
LTIM	**Timbered Crate**	**40.49**	**81**	P		P	**P**	**22 23 37.2**	**+2.2**
BMO	**Blue Mountains**	**41.03**	**74**	*e*P		P	**P**	**22 23 39.6**	**+0.1**
	comp=Z,5.5nm,0.9s,mb4.2								
WVOR	**Wild Horse Val**	**41.54**	**77**	*e*P		P	**P**	**22 23 43.9**	**+0.3**
WVOR				pmax		pmax			
	comp=Z,8.0nm,0.7s,mb4.5								
WVOR	**Wild Horse Val**	**41.54**	**77**	*e*P		P	**P**	**22 23 43.9**	**+0.3**
	comp=Z,8.4nm,0.7s,mb4.5								
MSO	**Missoula**	**42.01**	**69**	*e*P		P	**P**	**22 23 46.9**	**-0.5**
	comp=Z,8.2nm,0.9s,mb4.4								
HRY	**Holter Researc**	**43.30**	**68**	*e*P		P	**P**	**22 23 58.0**	**0.0**
HLID	**Hailey**	**43.48**	**74**	*e*P		P	**P**	**22 23 59.7**	**+0.3**
	comp=Z,9.4nm,0.8s,mb4.6								
BOZ	**Bozeman (W)**	**43.99**	**69**	*e*P		P	**P**	**22 24 03.5**	**-0.1**
BOZ				pmax		pmax			
	comp=Z,23nm,0.7s,mb5.0								
BOZ	**Bozeman (W)**	**43.99**	**69**	*e*P		P	**P**	**22 24 03.5**	**0.0**
	comp=Z,23nm,0.7s,mb5.0								
MNV	**Mina**	**44.18**	**82**	*e*P		P	**P**	**22 24 05.8**	**+0.7**
MNV				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.3								
MNV	**Mina**	**44.18**	**82**	*e*P		P	**P**	**22 24 05.8**	**+0.6**
	comp=Z,7.5nm,1.0s,mb4.4								
QLMT	**Earthquake Lak**	**44.56**	**70**	*e*P		P	**P**	**22 24 08.4**	**+0.3**
MTUM	**Tungsten Hills**	**44.58**	**83**	*e*P		P	**P**	**22 24 08.4**	**0.0**
BJI	**Beijing**	**44.90**	**282**	*e*P		P	**P**	**22 24 11.8**	**+0.9**
BJI						AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.4								
BJI				LR		LR			
	comp=Z,41nm,25.4s,MS3.2								
YMR	**Madison River**	**44.92**	**70**	*e*P		P	**P**	**22 24 10.8**	**-0.3**
YNR	**Norris Junctio**	**45.07**	**70**	*e*P		P	**P**	**22 24 13.2**	**+1.0**
YFT	**Old Faithful**	**45.12**	**70**	*e*P		P	**P**	**22 24 14.2**	**+1.5**
IMW	**Indian Meadow**	**45.37**	**71**	*e*P		P	**P**	**22 24 15.3**	**+0.7**
HVU	**Hansel Valley**	**45.49**	**75**	*e*P		P	**P**	**22 24 16.0**	**+0.4**
MOOW	**Moose Ponds**	**45.57**	**71**	*e*P		P	**P**	**22 24 16.4**	**+0.2**
TRCR	**Troy Canyon**	**45.82**	**80**	*e*P		P	**P**	**22 24 17.8**	**-0.5**
BGU	**Big Grassy Mou**	**45.84**	**76**	*e*P		P	**P**	**22 24 18.5**	**+0.1**
ULN	**Ulaanbaatar**	**45.87**	**296**	⇓*i*	P	P	**P**	**22 24 18.9**	**+0.4**
SPUT	**South Promonto**	**45.97**	**75**	*e*P		P	**P**	**22 24 19.7**	**+0.4**
SONM	**Songino Array**	**46.25**	**296**	P		P	**P**	**22 24 22.3**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.3,baz=66,slow=8.4,SNR=21								
SONM						PcP	PcP	22 25 56.6	-0.3
	comp=Z,0.9nm,0.6s,baz=87,slow=2.2,SNR=3.9								
HWUT	**Hardware Ranch**	**46.33**	**74**	*e*P		P	**P**	**22 24 22.2**	**0.0**
	comp=Z,3.8nm,0.8s,mb4.4								
DUG	**Dugway**	**46.41**	**76**	*e*P		P	**P**	**22 24 23.1**	**+0.2**
DUG				pmax		pmax			
	comp=Z,29nm,1.1s,mb5.1								
DUG	**Dugway**	**46.41**	**76**	*e*P		P	**P**	**22 24 23.1**	**+0.2**
	comp=Z,29nm,1.1s,mb5.1								
ZAK	**Zakamensk**	**46.59**	**301**	*e*P		P	**P**	**22 24 24.1**	**0.0**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.2s,mb3.9								
BW06	**Boulder Array**	**46.85**	**72**	*e*P		P	**P**	**22 24 26.4**	**+0.2**
PDAR	**Pinedale Array**	**46.85**	**72**	P		P	**P**	**22 24 26.6**	**+0.4**
	comp=Z,12nm,0.5s,mb5.1,baz=317,slow=3.4,SNR=44								
JLU	**Jordanelle**	**46.99**	**75**	*e*P		P	**P**	**22 24 27.8**	**+0.3**
NLU	**North Lily Min**	**47.00**	**76**	*e*P		P	**P**	**22 24 27.7**	**+0.1**
DAU	**Daniels Canyon**	**47.23**	**75**	*e*P		P	**P**	**22 24 30.2**	**+0.9**
HHC	**Hu-ho-hao-te**	**47.23**	**286**	*e*P		P	**P**	**22 24 30.5**	**+1.2**
HHC						AP	pP	22 24 43.0	+0.7
HHC						XP	sP	22 24 47.8	-0.1
HHC						PP	PP	22 26 21.5	+1.4
HHC						S	S	**22 31 20.0**	**+2.0**
HHC						SS	SS	22 34 40.5	+1.5
HHC						AMB	AMB		
	comp=Z,15nm,0.5s,mb5.2								
HHC						AMB	AMB		
	comp=Z,69nm,5.0s								
HHC						LR	LR		
	comp=N,199nm,20.8s								
HHC						LR	LR		
	comp=E,129nm,13.7s								
HHC						LR	LR		
	comp=Z,125nm,17.2s,MS3.9								
SSE	**Sheshan**	**47.48**	**269**	*e*P		P	**P**	**22 24 29.8**	**-1.6**
SSE						AMB	AMB		
	comp=Z,26nm,2.3s,mb4.8								
MVU	**Marysvale**	**47.81**	**78**	*e*P		P	**P**	**22 24 34.2**	**+0.3**
	comp=Z,5.7nm,0.8s,mb4.7								
MSU	**Marysvale**	**47.83**	**78**	*e*P		P	**P**	**22 24 34.2**	**+0.2**
TMUT	**Trail Mountain**	**47.94**	**76**	*e*P		P	**P**	**22 24 34.8**	**0.0**
NJ2	**Nanjing**	**48.30**	**271**	*e*P		P	**P**	**22 24 38.0**	**+0.2**
NJ2						AP	pP	22 24 48.0	-2.8
NJ2						XP	sP	22 24 52.0	-4.4
NJ2						PP	PP	22 26 30.0	0.0
NJ2						S	S	**22 31 34.0**	**+0.9**
NJ2						AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1								
NJ2						AMB	AMB		
	comp=Z,1μm,5.4s								
NJ2						LR	LR		
	comp=N,2μm,24.7s,MS5.0								
NJ2						LR	LR		
	comp=E,750nm,24.8s,MS5.0								
NJ2						LR	LR		
	comp=Z,2μm,21.1s,MS5.0								
SRU	**San Rafael**	**48.47**	**76**	*e*P		P	**P**	**22 24 39.2**	**+0.2**
PV10	**Paradox Valley**	**49.83**	**76**	*e*P		P	**P**	**22 24 49.7**	**+0.1**
ULM	**Lac du Bonnet**	**50.20**	**56**	LR		LR	LR	22 46 17.5	
	comp=Z,52nm,18.2s,MS3.6,baz=324,slow=36								
WUAZ	**Wupatki**	**50.22**	**80**	*e*P		P	**P**	**22 24 51.8**	**-0.8**
	comp=Z,9.5nm,0.9s,mb4.8								
PV01	**Paradox Valley**	**50.27**	**76**	*e*P		P	**P**	**22 24 52.6**	**-0.3**
RW3	**Ridgway**	**50.74**	**75**	*e*P		P	**P**	**22 24 56.2**	**-0.2**
SDCO	**Great Sand Dun**	**52.38**	**74**	*e*P		P	**P**	**22 25 08.5**	**-0.3**
	comp=Z,6.2nm,1.1s,mb4.5								
TUC	**Tucson**	**52.71**	**83**	*e*P		P	**P**	**22 25 10.7**	**-0.6**
TUC				pmax		pmax			
	comp=Z,4.0nm,1.0s,mb4.3								
TUC	**Tucson**	**52.71**	**83**	*e*P		P	**P**	**22 25 10.7**	**-0.6**
	comp=Z,4.3nm,1.0s,mb4.3								
ANMO	**Albuquerque**	**53.63**	**78**	P		P	**P**	**22 25 17.7**	**-0.4**
ANMO				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ANMO	**Albuquerque**	**53.63**	**78**	P		P	**P**	**22 25 17.7**	**-0.4**
	comp=Z,0.7nm,0.3s,mb4.0,baz=299,slow=7.5,SNR=4.8								
ANMO	**Albuquerque**	**53.63**	**78**	*e*P		P	**P**	**22 25 17.6**	**-0.5**
	comp=Z,13nm,1.7s,mb4.6								
ZAL	**Zalesovo**	**53.78**	**313**	LR		LR	LR	22 50 35.0	
	comp=Z,46nm,18.3s,MS3.6,baz=250,slow=39								
LZH	**Lanzhou**	**54.93**	**286**	*e*P		P	**P**	**22 25 28.0**	**+0.4**
LZH						AP	pP	22 25 39.0	-1.9
LZH						XP	sP	22 25 43.0	-3.4
LZH						AMB	AMB		
	comp=Z,17nm,1.6s,mb4.8								
GTA	**Gaotai**	**55.14**	**291**	*e*P		P	**P**	**22 25 29.3**	**+0.2**
GTA						AP	pP	22 25 38.8	-3.6
GTA						XP	sP	22 25 44.0	-3.9
GTA						PP	PP	22 27 34.5	+0.3
GTA						S	**S**	**22 33 10.0**	**+3.2**
GTA						XS		22 33 26.5	
GTA						SS	SS	22 36 55.3	+4.3
GTA						AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.6								
GTA						AMB	AMB		
	comp=Z,70nm,4.2s								
GTA						LR	LR		
	comp=N,103nm,14.1s,MS4.1								
GTA						LR	LR		
	comp=E,85nm,17.5s,MS4.1								
GTA						LR	LR		
	comp=Z,77nm,16.3s,MS3.9								
MNTX	**Cornudas Mount**	**56.49**	**80**	*e*P		P	**P**	**22 25 38.0**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.5								
KSU1	**Kansas State U**	**56.78**	**67**	*e*P		P	**P**	**22 25 39.3**	**-1.5**
ARCES	**ARCESS Array B**	**58.16**	**350**	P		P	**P**	**22 25 48.6**	**-1.5**
	comp=Z,0.6nm,0.6s,mb3.8,baz=23,slow=7.2,SNR=6.4								
WMOK	**Wichita Mounta**	**58.44**	**73**	*e*P		P	**P**	**22 25 51.8**	**-0.7**
WMOK				*e**	PP	pP		22 26 01.9	-4.0
WMOK				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.6								
WMOK	**Wichita Mounta**	**58.44**	**73**	*e*P		P	**P**	**22 25 51.8**	**-0.8**
	comp=Z,7.0nm,1.1s,mb4.6								
WMOK				*e*	pP	pP		22 26 01.9	-4.0
KURK	**Kurchatov**	**58.75**	**313**	*e*P		P	**P**	**22 25 54.3**	**-0.2**
KURK	**Kurchatov**	**58.75**	**313**	*e*P		P	**P**	**22 25 53.2**	**-1.3**
	comp=Z,4.6nm,0.9s,mb4.5								
WMQ	**Urumqi**	**58.99**	**302**	*e*P		P	**P**	**22 25 58.3**	**+2.0**
WMQ				pmax		AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8								
WMQ				pmax		AMB	AMB		
	comp=Z,125nm,4.3s								
WMQ				LR		LR			
	comp=Z,138nm,24.2s,MS4.0								
TXAR	**Lajitas Array**	**59.19**	**81**	P		P	**P**	**22 25 57.1**	**-0.7**
	comp=Z,4.2nm,1.0s,mb4.4,baz=303,slow=4.9,SNR=8.0								
MKAR	**Makanchi Array**	**59.73**	**308**	P		P	**P**	**22 26 00.1**	**-1.2**
	comp=Z,3.4nm,0.7s,mb4.5,baz=57,slow=8.1,SNR=53								
MKAR				LR		LR		22 51 49.9	
	comp=Z,38nm,18.6s,MS3.6,baz=359,slow=36								
SCHQ	**Schefferville**	**60.45**	**38**	P		P	**P**	**22 26 04.8**	**-1.3**
	comp=Z,4.7nm,0.6s,mb4.7,baz=332,slow=6.3,SNR=17								
SCHQ	**Schefferville**	**60.45**	**38**	*e*P		P	**P**	**22 26 03.9**	**-2.2**
	comp=Z,14nm,1.1s,mb4.9								
BVAR	**Borovoye Array**	**60.67**	**319**	P		P	**P**	**22 26 07.2**	**-0.5**
	comp=Z,0.9nm,0.3s,mb4.3,baz=52,slow=7.0,SNR=12								
KMI	**Kunming**	**63.23**	**277**	P		P	**P**	**22 26 28.0**	**+2.7**
KMI						AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.6								
KMI				LR		LR			
	comp=Z,21nm,35.2s,MS3.1								
WVT	**Waverly**	**63.86**	**64**	*e*P		P	**P**	**22 26 27.8**	**-1.3**
WVT				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.6								
WVT	**Waverly**	**63.86**	**64**	*e*P		P	**P**	**22 26 27.8**	**-1.4**
	comp=Z,5.1nm,0.8s,mb4.6								
OXF	**Oxford**	**64.11**	**67**	*e*P		P	**P**	**22 26 29.0**	**-1.8**
OXF				pmax		pmax			
	comp=Z,31nm,0.5s,mb5.6								
OXF	**Oxford**	**64.11**	**67**	*e*P		P	**P**	**22 26 29.0**	**-1.8**
	comp=Z,31nm,0.5s,mb5.6								
PLAL	**P

BOXN	**Box Lake**	**0.69**	**159**	PG	Pg	22 26 43.0	-1.4
BOXN				SG	Sg	22 26 52.8	-0.7
BOXN				Trac		22 26 53.9	
	comp=Z,16nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.69**	**332**	PG	Pg	22 26 43.4	-1.0
YNEN				SG	Sg	22 26 52.5	-1.1
YNEN				Trac		22 26 53.3	
	comp=Z,26nm,0.1s						
CAMN	**Camsell Lake**	**0.81**	**200**	PG	Pg	22 26 45.6	-1.2
CAMN				SG	Sg	22 26 56.1	-1.4
CAMN				Trac		22 26 56.9	
	comp=Z,18nm,0.1s						
MGTN	**Margaret Lake**	**0.86**	**159**	PG	Pg	22 26 46.2	-1.7
MGTN				SG	Sg	22 26 57.9	-1.5
MGTN				Trac		22 26 59.0	
	comp=Z,46nm,0.1s						
COWN	**Contwyoto Lake**	**0.87**	**334**	PG	Pg	22 26 46.7	-1.5
COWN				SG	Sg	22 26 58.1	-1.7
COWN				Trac		22 26 59.2	
	comp=Z,19nm,0.1s						
SNPN	**Snap Lake**	**1.01**	**196**	PG	Pg	22 26 49.3	-1.6
SNPN				SG	Sg	22 27 02.7	-1.8
SNPN				Trac		22 27 09.7	
	comp=Z,103nm,0.1s						
KNDN	**Kennady Lake**	**1.17**	**156**	PG	Pg	22 26 51.9	-2.3
KNDN				SG	Sg	22 27 07.0	-2.8
KNDN				Trac		22 27 12.1	
	comp=Z,12nm,0.1s						
GBLN	**Grizzly Bear L**	**1.22**	**257**	PG	Pg	22 26 53.1	-1.9
GBLN				SG	Sg	22 27 08.9	-2.3
GBLN				Trac		22 27 12.9	
	comp=Z,164nm,0.1s						
IHLN	**Indian Hill La**	**1.22**	**193**	PG	Pg	22 26 52.9	-2.1
IHLN				SG	Sg	22 27 08.9	-2.4
IHLN				Trac		22 27 10.6	
	comp=Z,13nm,0.1s						
LUPN	**Lupin Mine**	**1.32**	**342**	PG	Pg	22 26 54.4	-2.7
LUPN				SG	Sg	22 27 11.5	-3.2
LUPN				Trac		22 27 12.6	
DSMN	**Discovery Mine**	**2.07**	**232**	PN	Pn	22 27 05.5	-1.5
DSMN				SG	Sg	22 27 34.2	-5.5
DSMN				Trac		22 27 35.1	
	comp=Z,11nm,0.1s						
ILKN	**Indian Lake**	**2.13**	**265**	PN	Pn	22 27 06.8	-1.0
ILKN				SN	Sn	22 27 33.5	-1.7
ILKN				Trac		22 27 36.8	
	comp=Z,12nm,0.1s						
CTLN	**Castor Lake**	**2.49**	**271**	PN	Pn	22 27 11.7	-1.3
CTLN				SG	Sg	22 27 46.0	-7.6
CTLN				Trac		22 27 48.6	
	comp=Z,6.0nm,0.1s						
YKW3	**Yellowknife Ar**	**2.74**	**227**	PN	Pn	22 27 13.9	-2.7
YKW3				SN	Sn	22 27 46.5	-4.3
YKW3				SG	Sg	22 27 55.9	-6.1
YKW3				Trac		22 28 01.8	
	comp=Z,9.3nm,0.3s						
GALN	**Gameti Lake**	**3.09**	**266**	PN	Pn	22 27 19.4	-2.2
GALN				SN	Sn	22 27 53.8	-5.9
GALN				Trac		22 28 04.5	
	comp=Z,4.7nm,0.1s						
INK	**Inuvik**	**10.04**	**303**	PN	P	22 28 53.2	-5.7
INK				SN	S	22 30 35.5	-18

IGQ 26 22:31:41.3, 1.59S ±81.13W, h12km ±35km, mb4.0, 1C-1D, Error ellipse: s-maj=35.6km s-min=11.5km az=159.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**2.49**	**88**	P	Pn	22 32 23.7	+1.3
IGUA				S	Sn	22 32 55.5	+2.5
ARRY	**Arrayan**	**2.68**	**88**	P	Pn	22 32 26.0	+1.0
ARRY				S	Sn	22 32 58.3	+0.6
ULBA	**Ulba**	**2.73**	**87**	P	Pn	22 32 26.7	+0.9
PISA	**Pisayambo**	**2.79**	**79**	P	Pn	22 32 29.5	+2.7
NAS1	**Nasa**	**2.82**	**70**	P	Pn	22 32 30.0	+2.9
JUA2	**San Juan 2**	**2.87**	**62**	P	Pn	22 32 28.7	+0.8
VC1	**Cotopaxi 1**	**2.89**	**71**	⇑P	Pn	22 32 31.4	+3.3
TERV	**Terraza Guagua**	**2.89**	**61**	P	Pn	22 32 29.5	+1.3
PINO	**Pino**	**2.90**	**61**	⇓P	Pn	22 32 28.4	+0.2
TAMB	**Tambo**	**2.90**	**72**	P	Pn	22 32 31.4	+3.1
JOR1	**San Jorge 1**	**2.95**	**58**	P	Pn	22 32 27.4	-1.5
ANTI	**Antisana**	**3.18**	**69**	P	Pn	22 32 35.0	+2.8
COTA	**Cotacachi**	**3.38**	**56**	P	Pn	22 32 36.7	+1.6
CAYR	**Refugio Cayamb**	**3.51**	**63**	P	Pn	22 32 39.8	+2.9
CAYA	**Cayambe**	**3.55**	**62**	P	Pn	22 32 40.4	+3.0
ECEN	**Cerro Negro**	**3.97**	**53**	P	Pn	22 32 44.9	+1.5

IDC 26 22:55:55.1±5.2, 5.52N×94.50E, mb3.4/4, mb1 3.5/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=283.2km s-min=22.7km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.45**	**348**	P	P	23 03 51.9	-1.4
	1.0nm,0.6s,baz=171,slow=8.1,SNR=16						
WRA	**Warramunga Arr**	**46.64**	**124**	P	P	23 04 26.0	-1.4
	0.4nm,0.5s,baz=304,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**48.16**	**129**	P	P	23 04 36.9	-2.5
	0.2nm,0.6s,baz=303,slow=7.9,SNR=5.6						
BVAR	**Borovoye Array**	**51.32**	**342**	P	P	23 05 00.5	-2.6
	0.2nm,0.4s,baz=158,slow=7.8,SNR=3.3						

JMA 26 22:57:27.8, 33.69N×130.27E, h7km, M0.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFA	**Akaike**	**0.44**	**87**	S	Sg	22 57 42.2	-0.3
JII	**Iki**	**0.46**	**283**	P	Pg	22 57 37.0	-0.1
JII				S	Sg	22 57 43.5	+0.2

*NIED **26** 22:58:00, 33.70N×130.30E, h5km, Mw3.4 Best double couple: M0 1.52×10^14 NP1: φs 127°, δ 78°, λ -23°. NP2: φs 222°, δ 67°, λ -167°.*

JMA 26 22:58:48.3, 33.71N×130.25E, h6km ±1km, M3.3, 3C-2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFI	**Itaya**	**0.30**	**158**	⇑P	Pg	22 58 54.4	-0.1
JFI				eS	Sg	22 58 59.2	+0.6
JII	**Iki**	**0.44**	**281**	⇓P	Pg	22 58 57.3	+0.2
JII				S	Sg	22 59 03.5	+0.4
JFA	**Akaike**	**0.45**	**90**	⇓P	Pg	22 58 57.0	-0.4
JTA	**Tamana**	**0.78**	**162**	⇑P	Pb	22 59 03.1	-0.8
JTA				S	Sg	22 59 13.5	-0.9
JTU	**Tsushima**	**1.08**	**319**	⇑P	Pb	22 59 08.6	-0.3
JTU				S	Sb	22 59 23.2	+0.1

*NEIC **26** 23:12:35.9, 31.86S×70.06W, h135km, MD3.5(GUC), After GUC.*

GUC 26 23:12:35.9±0.8, 31.86S×70.06W, h135km ±6km, MD2.7, ML3.5, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**0.94**	**209**	⇑P	P	23 12 58.9	-0.1
JACH				S	S	23 13 16.9	+0.2
ILCH	**Illapel**	**0.97**	**283**	P	P	23 12 59.4	+0.1
ILCH				S	S	23 13 16.9	-0.3
ILCH				AMP		23 13 17.8	
	comp=E,3μm,0.3s						
ZON	**Zonda**	**1.22**	**76**	⇑P	P	23 12 57.0	-4.7
ZON				eS	S	23 13 12.0	-9.5
CHNG	**Los Chungos**	**1.23**	**268**	⇑P	P	23 13 02.0	+0.2
CHNG				S	S	23 13 21.4	-0.2
CHNG				AMP		23 13 28.1	
	comp=N,724nm,0.7s						
PACH	**Papudo**	**1.35**	**240**	P	P	23 13 03.0	-0.1
PACH				S	S	23 13 23.8	-0.2
ROCH	**El Roble**	**1.37**	**216**	P	P	23 13 03.6	+0.2
ROCH				S	S	23 13 25.1	+0.7
MDZ	**Mendoza**	**1.45**	**135**	eP	P	23 13 01.3	-2.9
MDZ				S	S	23 13 21.7	-4.1
FCH	**Farellones**	**1.48**	**188**	⇑P	P	23 13 05.0	+0.5
FCH				S	S	23 13 27.0	+0.5
FCH				AMP		23 13 29.0	
	comp=E,341nm,0.3s						
CLCH	**Cerro Calan**	**1.59**	**195**	P	P	23 13 06.2	+0.4
CLCH				S	S	23 13 28.6	+0.1
CLCH				AMP		23 13 30.8	
	comp=E,477nm,0.4s						
CLCH				AMP		23 13 31.4	
	comp=E,591nm,0.5s						
ANTU	**Antumapu**	**1.77**	**196**	P	S	23 13 32.2	-0.1
ANTU				AMP		23 13 33.7	
	comp=E,546nm,0.4s						
PCH	**Pirque**	**1.80**	**192**	P	P	23 13 08.8	+0.6
PCH				S	S	23 13 32.9	0.0
TLL	**Tololo Astrono**	**1.80**	**339**	⇑P	P	23 13 08.3	+0.1
TLL				AMP		23 13 34.0	
	comp=N,1μm,0.4s						
SCR	**San Cristobal**	**1.82**	**206**	P	P	23 13 06.5	-1.9
SCR				S	S	23 13 29.5	-3.8
SCR				AMP		23 13 32.6	
	comp=E,149nm,0.4s						
TACH	**Talagante**	**1.94**	**202**	⇓P	P	23 13 09.9	+0.1
TACH				S	S	23 13 35.1	-0.6
LMEL	**Las Melosas**	**1.99**	**183**	⇓P	P	23 13 10.9	+0.5
LMEL				eP		23 13 11.0	
LMEL				S	S	23 13 37.7	+0.9
LMEL				AMP		23 13 41.5	
	comp=N,213nm,0.3s						
LMEL	**Las Melosas**	**1.99**	**183**	eP	P	23 13 11.0	+0.6
LMEL				S	S	23 13 37.7	+0.9
CHCH	**Chadas Angostu**	**2.13**	**193**	P	P	23 13 12.2	0.0
CHCH				S	S	23 13 39.9	0.0
CACH	**El Canelo**	**2.30**	**191**	⇑P	P	23 13 15.0	+0.7
CACH				S	S	23 13 44.7	+1.0
LNV	**Longovilo**	**2.38**	**208**	P	P	23 13 14.8	-0.6
LNV				S	S	23 13 45.2	-0.3
SFDO	**San Fernando**	**2.86**	**196**	⇓P	P	23 13 21.2	-0.5
SFDO				S	S	23 13 55.8	-0.8
TRQA	**Tornquist**	**9.06**	**135**	ePn	P	23 14 40.8	-3.9
	comp=N,4.8nm,0.6s						

*NEIC **26** 23:14:48.2, 32.16S×71.78W, h22km, ML3.6(GUC), After GUC.*

GUC 26 23:14:48.2±0.7, 32.16S×71.78W, h22km ±3km, MD3.5, ML3.6, 5C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHNG	**Los Chungos**	**0.37**	**41**	⇓P	Pb	23 14 55.8	-0.2
CHNG				S	Sb	23 15 01.7	+0.3
CHNG				AMP		23 15 02.4	
	comp=E,3μm,0.3s						
PACH	**Papudo**	**0.47**	**142**	⇑P	Pb	23 14 57.6	-0.2
ILCH	**Illapel**	**0.74**	**45**	⇑P	Pb	23 15 01.5	-0.8
ILCH				AMP		23 15 14.9	
	comp=E,2μm,0.2s						
IHA	**Instituto Hidr**	**0.87**	**172**	eP	Pb	23 15 03.8	-0.7
IHA				S	Sb	23 15 15.5	-0.2
ROCH	**El Roble**	**1.04**	**141**	P	Pb	23 15 06.7	-0.6
ROCH				S	Sb	23 15 21.2	+0.7
JACH	**Jahuel**	**1.13**	**118**	⇓P	Pn	23 15 08.2	-0.7
JACH				S	Sb	23 15 23.3	+0.1
LCCH	**Las Cruces**	**1.32**	**172**	⇑P	Pn	23 15 10.8	-0.9
LCCH				S	Sn	23 15 28.1	-0.6
SCR	**San Cristobal**	**1.49**	**154**	⇑P	Pn	23 15 15.3	+1.3
SCR				S	Sn	23 15 36.2	+3.3
SCR				AMP		23 15 39.0	
	comp=N,967nm,0.5s						
DSCH	**Colegio Aleman**	**1.60**	**141**	P	Pn	23 15 15.7	+0.1
DSCH				S	Sn	23 15 36.2	+0.5
DSCH				AMP		23 15 40.1	
	comp=E,2μm,0.8s						
CLCH	**Cerro Calan**	**1.62**	**140**	⇑P	Pn	23 15 16.0	+0.2
CLCH				S	Sn	23 15 37.2	+1.0
CLCH				AMP		23 15 41.0	
	comp=E,2μm,0.6s						
CLCH				AMP		23 15 42.2	
	comp=N,2μm,0.5s						
TACH	**Talagante**	**1.65**	**155**	eP	Pn	23 15 16.3	0.0
TACH				S	Sn	23 15 37.2	+0.3
ANTU	**Antumapu**	**1.70**	**146**	AMP		23 15 44.8	
	comp=N,1μm,0.3s						
FCH	**Farellones**	**1.71**	**133**	P	Pn	23 15 17.2	0.0
FCH				S	Sn	23 15 39.8	+1.2
FCH				AMP		23 15 44.8	
	comp=E,822nm,0.8s						
PCH	**Pirque**	**1.80**	**144**	eP	Pn	23 15 18.9	+0.4
PCH				S	Sn	23 15 42.0	+1.0
CHCH	**Chadas Angostu**	**2.00**	**152**	P	Pn	23 15 22.3	+0.9
CHCH				S	Sn	23 15 47.9	+1.8
LMEL	**Las Melosas**	**2.14**	**142**	⇓P	Pn	23 15 23.8	+0.4
LMEL				S	Sn	23 15 51.2	+1.7
LMEL				AMP		23 15 59.3	
	comp=N,770nm,0.2s						
TLL	**Tololo Astrono**	**2.16**	**23**	P	Pn	23 15 24.5	+0.9
TLL				S	Sn	23 15 52.5	+2.6
TLL				AMP		23 16 01.5	
	comp=N,998nm,0.5s						
LSCH	**La Serena**	**2.29**	**12**	AMP		23 15 05.0	
	comp=N,511nm,0.3s						
CICH	**Cipreses**	**2.43**	**152**	P	Pn	23 15 28.4	+0.8
ZON	**Zonda**	**2.71**	**78**	eP	Pn	23 15 33.0	+1.5
ZON				eS	Sn	23 16 10.0	+6.0

IGQ 26 23:19:11.8, 1.27S ±81.17W, h12km ±24km, mb4.1, 2C-3D, Error ellipse: s-maj=19.1km s-min=3.6km az=178.3, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**0.93**	**169**	P	Pb	23 19 29.8	+0.4
IGUA	**Igualata**	**2.54**	**95**	P	Pn	23 19 54.3	+0.6
JUIV	**Juive**	**2.71**	**93**	P	Pn	23 19 56.8	+0.7
ARRY	**Arrayan**	**2.73**	**95**	P	Pn	23 19 57.2	+0.9
RETU	**Refugio**	**2.73**	**94**	P	Pn	23 19 57.9	+1.5
NAS1	**Nasa**	**2.77**	**77**	P	Pn	23 19 59.2	+2.3
ULBA	**Ulba**	**2.77**	**94**	P	Pn	23 19 58.2	+1.3
ULBA				S	Sn	23 20 33.0	+2.4
JUA2	**San Juan 2**	**2.77**	**68**	⇑P	Pn	23 19 59.4	+2.4
TERV	**Terraza Guagua**	**2.79**	**67**	⇑P	Pn	23 19 59.5	+2.3
PINO	**Pino**	**2.79**	**67**	P	Pn	23 19 58.0	+0.7
PISA	**Pisayambo**	**2.80**	**86**	P	Pn	23 19 58.8	+1.5
JOR1	**San Jorge 1**	**2.83**	**64**	P	Pn	23 19 57.5	-0.3
VC1	**Cotopaxi 1**	**2.84**	**77**	P	Pn	23 20 00.0	+2.1
TAMB	**Tambo**	**2.86**	**78**	P	Pn	23 20 01.1	+2.9
ANTI	**Antisana**	**3.12**	**75**	P	Pn	23 20 04.6	+2.7
COTA	**Cotacachi**	**3.25**	**61**	⇓P	Pn	23 20 06.0	+2.2
CAYR	**Refugio Cayamb**	**3.42**	**68**	P	Pn	23 20 09.7	+3.6
CAYA	**Cayambe**	**3.45**	**67**	⇓P	Pn	23 20 10.2	+3.6
CAYA				S	Sn	23 20 54.9	+7.1
ECEN	**Cerro Negro**	**3.82**	**57**	⇓P	Pn	23 20 13.8	+2.0

*CSEM **27** 00:19:41.6±0.2, 36.04N×52.00E, h10km, ML3.1, Error ellipse: s-maj=4.6km s-min=2.7km az=18.0*
*TEH **27** 00:19:42.9, 36.07N×52.03E, h4km, Mn3.1*
*THR **27** 00:19:48.8±0.7, 32.86N×49.19E, h14km, ML2.6*

ISC 27 00:19:42.8±1.4, 36.02N±0.07×51.97E±0.07, h4km, n12, σ1↟22/18, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDMV	**Damavand**	**0.45**	**174**	Sg	**Sg**	**00 19 58.1**	**+0.4**
IDMV	**Damavand**	**0.45**	**174**	Pg	**Pg**	**00 19 51.6**	**-0.1**
IDMV	**Damavand**	**0.45**	**174**	Pg	**Pg**	**00 19 51.6**	**-0.1**
IDMV				Sg	**Sg**	**00 19 58.1**	**+0.4**
IFIR	**Firoozkooh**	**0.74**	**121**	Pg	**Pg**	**00 19 56.0**	**-1.6**
IVRN	**Varamin**	**1.04**	**191**	Pg	**Pg**	**00 20 04.9**	**+1.3**
IVRN				Sg	**Sg**	**00 20 17.1**	**-0.5**
IMHD	**Mahdasht**	**1.11**	**253**	Pg	**Pg**	**00 20 03.9**	**-1.1**
IQOM	**Qom**	**1.39**	**212**	Pg	**Pg**	**00 20 08.7**	**-1.9**
IRAZ	**Razeghan**	**1.77**	**250**	Pn	**Pn**	**00 20 14.9**	**+0.3**
IRAZ				Sn	**Sn**	**00 20 38.6**	**+0.7**
ASAO	**Ashtian**	**2.17**	**228**	ePG	**Pn**	**00 20 21.8**	**+1.6**
ASAO				eSG	**Sn**	**00 20 46.8**	**-1.1**
ASAO				AML	AML	00 20 54.4	
	comp=N,109nm,0.5s						
ASAO	**Ashtian**	**2.17**	**228**	ePg	**Pn**	**00 20 21.8**	**+1.6**
	SNR=90						
ASAO				eSg	**Sn**	**00 20 46.8**	**-1.1**
	comp=N,109nm,0.5s,SNR=90						
NASN	**Na'in**	**3.29**	**168**	ePN	**Pn**	**00 20 38.7**	**+2.5**
NASN				eSG	**Sn**	**00 21 24.4**	**+8.1**
NASN				AML	AML	00 21 37.7	
	comp=N,15nm,0.4s						
NASN	**Na'in**	**3.29**	**168**	eSg	**Sn**	**00 21 24.4**	**+8.1**
	comp=N,15nm,0.4s,SNR=90						

CASC 27 00:26:04.8±2.3, 14.29N×91.82W, h70km ±13km, MD3.9, 3C-1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.18**	**82**	⇑eP	P	00 26 14.8	-0.4
JAT				eS	S	00 26 23.8	+0.8
TP2	**Tecpan 2**	**0.92**	**58**	⇑eP	P	00 26 23.2	+0.7
TP2				eS	S	00 26 37.5	+1.9
IXG	**Ixpaco**	**1.33**	**95**	⇑eP	P	00 26 28.1	0.0
IXG				eS	S	00 26 45.9	+0.6
RBDL	**Robledal**	**2.08**	**95**	eP	P	00 26 38.3	+0.1
RTR	**El Retiro**	**2.15**	**100**	eP	P	00 26 38.3	-0.9
SNJE	**San Jose**	**2.19**	**101**	eP	P	00 26 39.9	+0.1
BOQS	**Boqueron**	**2.53**	**102**	eP	P	00 26 44.3	-0.3
LFRS	**El Faro**	**2.76**	**104**	⇓eP	P	00 26 47.8	0.0
LFRS				eS	S	00 27 21.2	+1.2
LCBS	**La Ceiba**	**2.83**	**103**	eP	P	00 26 47.5	-1.3
SNVI	**San Vicente**	**2.98**	**103**	eP	P	00 26 50.6	-0.2
SNVI				eS	S	00 27 27.8	+2.4

*IDC **27** 01:14:00.8±2.1, 34.00N×142.35E, mb3.4/3, mb1 3.6/4, mb1mx3.3/18, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=40.6km s-min=31.2km az=47.0*
*JMA **27** 01:14:02.9±0.3, 34.13N×142.41E, h68km, M2.9*

ISC 27 01:14:03.4±1.5, 34.10N±0.06×142.38E±0.09, h38km ±15km, n13, σ1↟93/22, mb3.5/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.29**	**296**	P	**P**	**01 14 25.3**	**+0.1**
BSO1				S	**S**	**01 14 42.2**	**+0.7**
BSO3	**Boso 3**	**1.70**	**295**	P	**P**	**01 14 31.5**	**+0.4**
BSO3				eS	**S**	**01 14 53.9**	**+2.1**
BSO4	**Boso 4**	**1.91**	**298**	eS	**S**	**01 15 00.5**	**+3.5**
JHJ2	**Mitsune**	**2.36**	**246**	P	**P**	**01 14 40.8**	**+0.3**
JHJ2				eS	**S**	**01 15 08.8**	**+0.4**
JHJ	**Hachijo jima 2**	**2.38**	**246**	Pn	**P**	**01 14 40.7**	**-0.1**
	49nm,0.3s,baz=73,slow=19,SNR=27						
JHJ				Sn	**S**	**01 15 08.2**	**-0.8**
	37nm,0.3s,baz=43,slow=23,SNR=14						
JIM2	**Oshima 3**	**2.52**	**285**	P	**P**	**01 14 42.2**	**-0.6**
JIM2				S	**S**	**01 15 11.4**	**-1.1**
JOD2	**Odawara 2**	**2.95**	**294**	P	**P**	**01 14 48.5**	**-0.5**
JOD2				eS	**S**	**01 15 22.9**	**-0.7**
JAG	**Ashikaga**	**3.34**	**315**	P	**P**	**01 14 53.7**	**-0.7**
JAG				eS	**S**	**01 15 31.0**	**-2.3**
JRY	**Ryogami san**	**3.44**	**305**	P	**P**	**01 14 55.8**	**-0.1**
JRY				eS	**S**	**01 15 35.6**	**-0.3**
JYN	**Shimob**	**3.45**	**295**	P	**P**	**01 14 57.2**	**+1.1**
JYN				eS	**S**	**01 15 36.5**	**+0.2**
MKAR	**Makanchi Array**	**46.39**	**305**	P	**P**	**01 22 29.0**	**+1.2**
	0.2nm,0.6s,mb3.3,baz=89,slow=9.5,SNR=3.1						
WRA	**Warramunga Arr**	**54.28**	**189**	P	**P**	**01 23 27.6**	**-0.7**
	0.5nm,0.3s,mb3.9,baz=6.6,slow=7.5,SNR=6.3						
ASAR	**Alice Springs**	**58.01**	**189**	P	**P**	**01 23 55.0**	**+0.1**
	0.2nm,0.5s,mb3.4,baz=3.2,slow=7.0,SNR=6.0						

IGQ 27 01:17:11.4, 3.20S ±81.03W, h12km ±22km, mb4.2, 1C, Error ellipse: s-maj=23.2km s-min=6.2km az=157.6, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALI	**Salinas**	**1.01**	**2**	⇑P	Pb	01 17 29.9	-0.4
IGUA	**Igualata**	**2.93**	**55**	P	Pn	01 18 00.1	+1.4
ARRY	**Arrayan**	**3.08**	**57**	P	Pn	01 18 01.7	+1.0
ARRY				S	Sn	01 18 37.5	-0.3
RETU	**Refugio**	**3.11**	**56**	P	Pn	01 18 03.4	+2.1
ULBA	**Ulba**	**3.15**	**57**	P	Pn	01 18 03.4	+1.6
PISA	**Pisayambo**	**3.39**	**51**	P	Pn	01 18 07.5	+2.1
PISA				S	Sn	01 18 45.8	-0.1
NAS1	**Nasa**	**3.61**	**45**	P	Pn	01 18 10.9	+2.5
NAS1				S	Sn	01 18 51.8	+0.5
TAMB	**Tambo**	**3.64**	**47**	P	Pn	01 18 11.1	+2.2
VC1	**Cotopaxi 1**	**3.65**	**46**	P	Pn	01 18 11.4	+2.4
JUA2	**San Juan 2**	**3.83**	**39**	P	Pn	01 18 12.9	+1.4
TERV	**Terraza Guagua**	**3.86**	**39**	P	Pn	01 18 13.3	+1.3
TERV				S	Sn	01 18 55.6	-2.1
PINO	**Pino**	**3.87**	**39**	P	Pn	01 18 12.2	+0.1
ANTI	**Antisana**	**3.96**	**46**	P	Pn	01 18 15.3	+2.0
ANTI				S	Sn	01 19 00.9	+0.6
JOR1	**San Jorge 1**	**3.98**	**37**	P	Pn	01 18 11.7	-1.9
JOR1				S	Sn	01 18 52.0	-8.6
CAYR	**Refugio Cayamb**	**4.40**	**44**	P	Pn	01 18 21.0	+1.5
COTA	**Cotacachi**	**4.42**	**38**	P	Pn	01 18 21.0	+1.0
ECEN	**Cerro Negro**	**5.03**	**37**	P	Pn	01 18 30.7	+2.2
ECEN				S	Sn	01 19 26.3	-1.1

*JMA **27** 01:42:44.9±0.5, 34.03N×142.43E, h33km, M3.2*
*IDC **27** 01:42:44.2±1.4, 34.03N×142.37E, mb3.9/6, mb1 4.0/7, mb1mx3.7/19, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=34.9km s-min=21.8km az=74.0*
*NEIC **27** 01:42:47.8±1.3, 34.08N×142.58E, h30km, mb4.1/2, Error ellipse: s-maj=46.3km s-min=11.1km az=66.0*

ISC 27 01:42:45.2±2.1, 34.04N±0.05×142.40E±0.06, h24km ±16km, n21, σ1↟01/28, mb3.9/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.33**	**298**	P	**Pn**	**01 43 08.4**	**-0.1**
BSO1				S	**Sn**	**01 43 26.0**	**+0.4**
BSO3	**Boso 3**	**1.74**	**296**	P	**Pn**	**01 43 14.5**	**+0.1**
BSO3				S	**Sn**	**01 43 38.8**	**+2.8**
BSO4	**Boso 4**	**1.95**	**300**	P	**Pn**	**01 43 16.9**	**-0.5**
BSO4				S	**Sn**	**01 43 42.4**	**+1.0**
CHOJ	**Chosi**	**2.09**	**323**	P	**Pn**	**01 43 20.2**	**+0.8**
JHJ2	**Mitsune**	**2.35**	**248**	P	**Pn**	**01 43 23.7**	**+0.6**
JHJ2				eS	**Sn**	**01 43 50.5**	**-1.0**
JHJ	**Hachijo jima 2**	**2.37**	**248**	Pn	**Pn**	**01 43 23.9**	**+0.4**
	84nm,0.3s,baz=50,slow=23,SNR=34						
JHJ				Sn	**Sn**	**01 43 51.8**	**-0.3**
	72nm,0.3s,baz=25,slow=20,SNR=9.0						
JOD2	**Odawara 2**	**2.99**	**295**	eS	**Sn**	**01 44 06.8**	**-1.0**
JAG	**Ashikaga**	**3.39**	**315**	P	**Pn**	**01 43 35.9**	**-2.0**
JRY	**Ryogami san**	**3.48**	**305**	P	**Pn**	**01 43 38.8**	**-0.5**
JRY				eS	**Sn**	**01 44 19.0**	**-1.2

RCP	**Roxas**	**2.87**	**239**⇑	*e*P		Pn	02 05 15.7	+0.3

IDC 27 02:07:29.4±2.0, 5.96N×93.99E, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=88.5km s-min=22.4km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.91**	**348**	P	P	02 15 22.7	-0.6
	0.6nm,0.5s,baz=166,slow=8.0,SNR=14						
SONM	**Songino Array**	**43.05**	**12**	P	P	02 15 30.6	-2.0
	0.3nm,0.6s,baz=196,slow=6.8,SNR=2.9						
WRA	**Warramunga Arr**	**47.30**	**124**	P	P	02 16 04.6	-2.3
	0.9nm,0.8s,baz=305,slow=8.7,SNR=5.6						
ASAR	**Alice Springs**	**48.83**	**129**	P	P	02 16 17.4	-1.4
	0.4nm,0.6s,baz=306,slow=7.6,SNR=8.6						
FINES	**FINESS Array B**	**74.32**	**332**	P	P	02 19 07.6	-2.8
	0.5nm,0.8s,baz=90,slow=1.4,SNR=4.5						

ISK 27 02:12:58.6, 36.70N×27.72E, h26km, MD3.2
ATH 27 02:13:00.0, 36.95N×27.83E, h42km±9km, MD2.9/4
CSEM 27 02:13:00.3±0.2, 36.97N×27.69E, h10km, MD3.2, Error ellipse: s-maj=5.8km s-min=3.5km az=48.0
ISC 27 02:12:60.0±0.7, 36.97N±0.03×27.85E±0.04, h7km±6km**, n17, σ1§04/23, 1C-1D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BODT	**Bodrum**	**0.44**	**282**	PG	**Pg**	**02 13 09.0**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.67**	**107**	PG	**Pg**	**02 13 18.0**	**-0.3**
DALT				SG	**Sg**	**02 13 24.5**	**+2.3**
NISR	**Nisiros**	**0.68**	**238**	*e*P	**Pg**	**02 13 12.9**	**-0.7**
NISR				*e*S	**Sg**	**02 13 24.0**	**+1.4**
NISR	**Nisiros**	**0.68**	**238**	*e*Pb	**Pb**	**02 13 13.9**	**+0.2**
AYDN	**Tasoluk**	**0.69**	**2**	*i* P	**Pg**	**02 13 13.0**	**-0.8**
AYDN				*i* S	**Sg**	**02 13 22.0**	**-1.0**
ARG	**Arkhangelos**	**0.79**	**163**⇓	*i*P	**Pb**	**02 13 14.6**	**-1.0**
ARG				*e*S	**Sb**	**02 13 27.5**	**+1.3**
FETY	**Fethiye**	**1.05**	**108**	PN	**Pn**	**02 13 19.4**	**-1.6**
SMG	**Samos**	**1.09**	**313**⇑	*i*P	**Pb**	**02 13 20.7**	**-0.1**
DNZL	**Cakiroluk**	**1.20**	**53**	*i* P	**Pb**	**02 13 22.7**	**+0.1**
DNZL				*i* S	**Sb**	**02 13 37.8**	**-0.3**
DENT	**Denizli**	**1.23**	**50**	*e*PN	**Pn**	**02 13 23.7**	**+0.1**
IZM	**Izmir**	**1.50**	**342**	*e*PN	**Pn**	**02 13 28.0**	**+0.5**
KARP	**Karpathos**	**1.52**	**202**	*e*P	**Pn**	**02 13 26.0**	**-1.8**
BLCB	**Balcova**	**1.55**	**336**	*e*PN	**Pn**	**02 13 28.5**	**+0.3**
MANT	**Manisa**	**1.62**	**20**	*i* P	**Pn**	**02 13 52.1**	**+1.7**
MANT				*i* S	**Sb**	**02 13 52.1**	**+1.7**
ELL	**Elmali**	**1.67**	**97**	*e*PN	**Pn**	**02 13 28.2**	**-1.7**
BALB	**Balikesir**	**2.67**	**1**	*e*PN	**Pn**	**02 13 45.4**	**+1.2**
ALT	**Altintas**	**2.74**	**40**	*e*PN	**Pn**	**02 13 46.0**	**+0.7**

IDC 27 02:17:37.5±37.0, 4.95N×121.89E, mb3.6/3, mb1 3.8/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=634.2km s-min=343.0km az=149.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**27.59**	**154**	P	P	02 23 27.0	-1.7
	0.6nm,0.6s,baz=333,slow=9.6,SNR=6.3						
ASAR	**Alice Springs**	**30.76**	**158**	P	P	02 23 54.5	-2.5
	0.2nm,0.4s,baz=341,slow=14,SNR=7.0						
STKA	**Stephens Creek**	**41.15**	**154**	P	P	02 25 23.6	-1.7
	0.9nm,0.5s,baz=346,slow=8.3,SNR=4.8						

BJI 27 02:21:29.7, 42.79N×85.74E, h12km, ML3.2
NNC 27 02:21:30.6±3.4, 42.92N×85.68E, mpv2.9, 2C-3D, Error ellipse: s-maj=43.7km s-min=23.8km az=59.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.72**	**58**	PG	Pg	02 22 02.0	-3.0
WMQ				SG	Sg	02 22 27.0	-1.0
WMQ				Smax			
	comp=N,110nm,0.3s						
WMQ				Smax			
	comp=E,206nm,0.3s						
MK31	**Makanchi Array**	**4.56**	**329**	⇓Pn	Pn	02 22 40.7	-1.8
	comp=E,0.6nm,0.3s,baz=149,slow=14						
MK31				⇓Pg	Pg	02 22 54.0	-7.6
	comp=E,0.8nm,0.3s,baz=142,slow=16,SNR=6.5						
MK31				⇑Sn	Sn	02 23 35.8	-1.1
	comp=E,1.8nm,0.3s,baz=144,slow=22,SNR=4.6						
MK31				⇑Lg		02 23 54.5	
	comp=E,3.2nm,0.3s,baz=139,slow=29,SNR=8.9						
KURK	**Kurchatov**	**9.17**	**331**	⇓Lg		02 26 21.3	
	comp=E,5.3nm,1.5s,baz=149,slow=14,SNR=4.1						

NEIC 27 02:44:21.0, 16.32N×97.40W, h64km, MD3.7(MEX), After MEX.
MEX 27 02:44:20.8±0.7, 16.31N×97.42W, h66km±12km**, MD3.7, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.68**	**277**	*e*P	P	02 44 34.2	-1.0
PNIG				*e*S	S	02 44 44.5	-1.6
PNIG	**Pinotepa**	**0.68**	**277**	*i* P	P	02 44 33.8	-1.5
PNIG				*i* S	S	02 44 44.1	-2.0
VHO	**Vista Hermosa**	**1.01**	**41**	*e*P	P	02 44 37.5	-1.9
VHO				*e*S	S	02 44 50.5	-2.8
OXX	**Oaxaca**	**1.02**	**41**	*e*P	P	02 44 38.5	-1.1
OXX				*e*S	S	02 44 51.5	-2.1
HUIG	**Huatulco**	**1.37**	**113**	*e*P	P	02 44 42.4	-2.1
HUIG				*e*S	S	02 44 59.6	-2.4
CMIG	**Matias Romero**	**2.56**	**72**	*e*P	P	02 44 59.9	-0.9
CMIG				*i* S	S	02 45 28.2	-2.6
PPM	**Popocatepetl**	**2.97**	**337**	*e*P	P	02 45 02.2	-4.6
PPM				*e*S	S	02 45 39.2	-2.1
PPM	**Popocatepetl**	**2.97**	**337**	*i* P	P	02 45 03.1	-3.7
PPM				*e*S	S	02 45 39.2	-2.1

IDC 27 02:46:02.8±1.0, 7.87N×93.91E, mb3.7/7, mb1 3.8/7, mb1mx3.6/17, mbtmp3.7/7, Error ellipse: s-maj=37.6km s-min=24.7km az=74.0
NEIC 27 02:46:06.9±0.8, 7.82N×94.18E, h30km, mb4.1/2, Error ellipse: s-maj=24.6km s-min=13.1km az=48.0
ISC 27 02:46:04.9±0.8, 7.8N±0.1×94.2E±0.2, h30km**, n11, σ0§99/11, mb3.8/9, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.85**	**111**	*e*P	**Pn**	**02 47 44.7**	**-1.4**
LSA	**Lhasa**	**21.99**	**353**	P	**P**	**02 50 59.1**	**+0.7**
	8.1nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**40.19**	**347**	P	**P**	**02 53 40.4**	**+0.1**
	1.1nm,0.8s,mb3.6,baz=158,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**40.19**	**347**	P	**P**	**02 53 40.4**	**+0.1**
SONM	**Songino Array**	**41.23**	**12**	P	**P**	**02 53 49.8**	**+1.0**
	0.5nm,0.5s,mb3.4,baz=201,slow=11,SNR=5.1						
CHKZ	**Chkalovo**	**49.58**	**342**	*e*P	**P**	**02 54 55.1**	**-0.2**
	1.3nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**49.80**	**130**	P	**P**	**02 54 59.6**	**+2.3**
	0.4nm,0.8s,mb3.5,baz=304,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**72.82**	**332**	P	**P**	**02 57 31.6**	**-1.0**
	0.6nm,0.7s,mb3.6,baz=90,slow=5.7,SNR=5.9						
ARCES	**ARCESS Array B**	**75.37**	**340**	P	**P**	**02 57 46.7**	**-0.4**
	1.6nm,0.9s,mb4.0,baz=117,slow=4.0,SNR=3.2						
BOSA	**Boshof**	**75.61**	**238**	P	**P**	**02 57 49.6**	**+0.3**
	2.5nm,1.2s,mb4.0,baz=68,slow=5.4,SNR=2.6						
GERES	**GERESS Array B**	**77.94**	**318**	P	**P**	**02 58 00.9**	**-1.0**
	0.2nm,0.5s,mb3.4,baz=90,slow=8.8,SNR=2.7						

NEIC 27 03:02:39.8, 38.66S×175.63E, h175km, MG4.0(WEL), After WEL.
WEL 27 03:02:40.5±0.3, 38.65S×175.68E, h168km±2km**, ML3.8/17, 3C, Error ellipse: s-maj=2.4km s-min=2.1km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KATZ	**Kakaramea**	**0.32**	**178**	P	P	03 03 03.4	-0.2
KATZ	**Kakaramea**	**0.32**	**178**	PN	P	03 03 03.4	-0.2
MGZ	**Maungaku**	**0.36**	**198**	P	P	03 03 03.5	-0.2
MGZ	**Maungaku**	**0.36**	**198**	PN	P	03 03 03.5	-0.2
MGZ				SN	P	03 03 21.6	+0.1
KRVZ	**Karewarewa**	**0.44**	**184**	PN	P	03 03 03.9	-0.2
KRVZ				*e*SN	S	03 03 22.1	0.0
TWVZ	**Taurewa**	**0.46**	**204**	P	P	03 03 03.7	-0.4
TWVZ	**Taurewa**	**0.46**	**204**	PN	P	03 03 03.7	-0.4
TWVZ				*e*SN	S	03 03 21.5	-0.7
WTVZ	**West Tongariro**	**0.47**	**189**	P	P	03 03 03.9	-0.2
WTVZ	**West Tongariro**	**0.47**	**189**	PN	P	03 03 03.9	-0.2
WTVZ				*e*SN	S	03 03 21.8	-0.4
OTVZ	**Oturere**	**0.51**	**181**	PN	P	03 03 04.1	-0.2
NGZ	**Ngauruhoe**	**0.53**	**187**	P	P	03 03 04.2	-0.2
NGZ	**Ngauruhoe**	**0.53**	**187**	PN	P	03 03 04.3	-0.1
CNZ	**Chateau**	**0.56**	**191**	P	P	03 03 04.3	-0.2
CNZ	**Chateau**	**0.56**	**191**	PN	P	03 03 04.3	-0.2
WPVZ	**Whakapapa**	**0.56**	**191**	P	P	03 03 04.4	-0.1
WPVZ	**Whakapapa**	**0.56**	**191**	PN	P	03 03 04.4	-0.2
FWVZ	**Far West T-bar**	**0.61**	**189**	P	P	03 03 04.7	-0.1
FWVZ	**Far West T-bar**	**0.61**	**189**	PN	P	03 03 04.7	-0.1
FWVZ				SN	S	03 03 22.5	-0.9
HIZ	**Hauiti**	**0.66**	**282**	*e*P	P	03 03 04.0	-1.0
HIZ	**Hauiti**	**0.66**	**282**	PN	P	03 03 04.0	-1.0
WNVZ	**Wahianoa**	**0.68**	**186**	P	P	03 03 05.1	0.0
WNVZ	**Wahianoa**	**0.68**	**186**	⇑PN	P	03 03 05.1	0.0
WNVZ				*e*SN	S	03 03 23.9	-0.1
MOVZ	**Moawhango**	**0.76**	**176**	P	P	03 03 05.1	-0.4
MOVZ				S	S	03 03 23.6	-1.2
MOVZ	**Moawhango**	**0.76**	**176**	⇑PN	P	03 03 05.1	-0.4
MOVZ				SN	S	03 03 23.3	-1.6
BKZ	**Black Stump Fm**	**0.81**	**129**	P	P	03 03 06.0	+0.1
BKZ	**Black Stump Fm**	**0.81**	**129**	PN	P	03 03 06.0	+0.1
BKZ				SN	S	03 03 25.3	-0.1
URZ	**Urewera**	**1.19**	**71**	P	P	03 03 08.3	-0.5
URZ	**Urewera**	**1.19**	**71**	PN	P	03 03 08.3	-0.5
URZ				SN	S	03 03 29.4	-1.2
WAZ	**Wanganui**	**1.23**	**206**	P	P	03 03 08.4	-0.8
WAZ	**Wanganui**	**1.23**	**206**	PN	P	03 03 08.3	-0.9
WAZ				SN	S	03 03 29.9	-1.4
TSZ	**Takapari Road**	**1.42**	**171**	P	P	03 03 10.4	-0.6
TSZ	**Takapari Road**	**1.42**	**171**	⇑PN	P	03 03 10.4	-0.6
TSZ				SN	S	03 03 32.3	-2.3
MWZ	**Matawai**	**1.48**	**78**	P	P	03 03 11.1	-0.5
MWZ	**Matawai**	**1.48**	**78**	PN	P	03 03 11.5	-0.1
MWZ				SN	S	03 03 34.5	-1.2
KNZ	**Kokohu**	**1.60**	**104**	*e*P	P	03 03 13.0	+0.2
KNZ	**Kokohu**	**1.60**	**104**	PN	P	03 03 13.0	+0.2
PWZ	**Pawanui**	**1.65**	**147**	*e*P	P	03 03 13.2	-0.1
PWZ	**Pawanui**	**1.65**	**147**	PN	P	03 03 13.2	-0.2
PWZ				SN	S	03 03 37.2	-1.5
MRZ	**Mangatainoka R**	**2.01**	**182**	*e*P	P	03 03 15.3	-1.8
MRZ	**Mangatainoka R**	**2.01**	**182**	PN	P	03 03 15.3	-1.8
BFZ	**Birch Farm**	**2.07**	**168**	*e*P	P	03 03 16.6	-1.3
KIW	**Kapiti Island**	**2.29**	**195**	P	P	03 03 17.8	-2.6
MXZ	**Matakaoa Point**	**2.34**	**63**	*e*P	P	03 03 20.5	-0.6
CAW	**Cannon Point**	**2.50**	**191**	P	P	03 03 20.3	-2.7
MTW	**Mount Morrison**	**2.51**	**183**	P	P	03 03 20.3	-2.8
MRW	**Makara Radio**	**2.68**	**196**	P	P	03 03 22.2	-3.1
WEL	**Wellington**	**2.72**	**195**	P	P	03 03 22.7	-3.1
SNZO	**South Karori**	**2.76**	**195**	P	P	03 03 22.8	-3.4
MSWZ	**Moikau Station**	**2.78**	**187**	P	P	03 03 23.4	-3.1
BHW	**Baring Head**	**2.82**	**192**	P	P	03 03 23.8	-3.2
NNZ	**Nelson**	**3.11**	**214**	*e*P	P	03 03 26.2	-4.5
QRZ	**Quartz Range**	**3.26**	**227**	*e*P	P	03 03 27.3	-5.2
BSWZ	**Blackbirch Sta**	**3.36**	**204**	P	P	03 03 29.9	-3.8
THZ	**Tophouse**	**3.77**	**214**	*e*P	P	03 03 34.1	-4.9
KHZ	**Kahutara**	**4.10**	**203**	P	P	03 03 39.0	-4.3
DSZ	**Denniston Nort**	**4.29**	**223**	*e*P	P	03 03 39.6	-6.1
LTZ	**Lake Taylor**	**4.87**	**211**	P	P	03 03 47.8	-5.5
MQZ	**McQueen's Vall**	**5.54**	**203**	*e*P	P	03 03 55.4	-6.7
WVZ	**Waitaha Valley**	**5.79**	**219**	*e*P	P	03 03 59.8	-5.6
LBZ	**Lake Benmore**	**7.06**	**214**	*e*P	P	03 04 15.6	-6.7
ODZ	**Otahua Downs**	**7.41**	**209**	*e*P	P	03 04 20.8	-6.1

IDC 27 03:20:31.1±1.2, 7.55N×94.08E, mb3.7/8, mb1 3.9/8, mb1mx3.7/17, mbtmp3.7/8, Error ellipse: s-maj=63.7km s-min=20.0km az=53.0
NEIC 27 03:20:36.6±3.5, 7.51N×94.12E, h38km±29km, mb4.2/2, Error ellipse: s-maj=45.6km s-min=10.9km az=58.0
ISC 27 03:20:35.1±4.8, 7.5N±0.2×94.2E±0.2, h40km±41km**, n13, σ0§70/14, mb3.8/10, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.77**	**109**	*e*P	**P**	**03 22 14.4**	**0.0**
KULM				*e*S	**S**	**03 23 30.6**	**-0.4**
LSA	**Lhasa**	**22.25**	**353**	*e*P	**P**	**03 25 31.7**	**+1.8**
	6.6nm,0.5s,mb4.3						
MKAR	**Makanchi Array**	**40.44**	**347**	P	**P**	**03 28 10.6**	**-0.7**
	1.0nm,0.8s,mb3.6,baz=166,slow=8.3,SNR=13						
SONM	**Songino Array**	**41.48**	**12**	P	**P**	**03 28 20.0**	**+0.1**
	0.6nm,0.7s,mb3.3,baz=188,slow=8.7,SNR=4.8						
WRA	**Warramunga Arr**	**48.00**	**125**	P	**P**	**03 29 13.4**	**+1.0**
	0.2nm,0.4s,mb3.5,baz=305,slow=8.6,SNR=9.3						
ASAR	**Alice Springs**	**49.63**	**130**	P	**P**	**03 29 25.2**	**+0.1**
	0.3nm,0.8s,mb3.4,baz=301,slow=8.2,SNR=2.6						
CHKZ	**Chkalovo**	**49.83**	**342**	*e*P	**P**	**03 29 25.4**	**-0.7**
	0.6nm,0.3s,mb4.1						
FINES	**FINESS Array B**	**73.05**	**332**	P	**P**	**03 32 02.2**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=87,slow=4.7,SNR=11						
KAF	**Kangasniemi**	**73.13**	**333**	*e*p	**P**	**03 32 02.2**	**-0.9**
	baz=103,slow=6.0						
ARCES	**ARCESS Array B**	**75.62**	**340**	P	**P**	**03 32 17.7**	**+0.4**
	1.9nm,0.8s,mb4.1,baz=104,slow=7.4,SNR=3.1						
GERES	**GERESS Array B**	**78.14**	**318**	P	**P**	**03 32 32.1**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=90,slow=5.3,SNR=5.9						
NB2	**NORSAR Subarra**	**80.07**	**331**	P	**P**	**03 32 41.4**	**-0.7**
	0.7nm,0.6s,mb3.8,baz=93,slow=5.0						
NOA	**NORSAR Array B**	**80.07**	**331**	P	**P**	**03 32 41.8**	**-0.3**
	0.7nm,0.7s,mb3.7,baz=94,slow=5.3,SNR=4.0						

IDC 27 03:22:31.5±3.4, 9.62N×91.64E, mb3.6/5, mb1 3.8/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=133.4km s-min=22.9km az=67.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**37.89**	**350**	P	P	03 29 50.6	-1.4
	0.4nm,0.7s,baz=156,slow=7.2,SNR=5.4						
SONM	**Songino Array**	**40.07**	**15**	P	P	03 30 08.3	-2.0
	0.6nm,0.5s,baz=201,slow=8.3,SNR=6.1						
WRA	**Warramunga Arr**	**51.28**	**125**	P	P	03 31 38.1	-1.6
	0.6nm,0.5s,baz=306,slow=8.3,SNR=9.3						
ASAR	**Alice Springs**	**52.92**	**129**	P	P	03 31 50.6	-1.4
	0.8nm,0.7s,baz=303,slow=6.9,SNR=9.2						
STKA	**Stephens Creek**	**63.09**	**133**	P	P	03 32 59.4	-3.9
	0.7nm,0.5s,baz=304,slow=11,SNR=3.3						

NAO 27 03:45:09.9±2.9, 67.69N×33.55E, ML2.7
CSEM 27 03:45:10.0±0.3, 67.73N×33.50E, h2km, ML2.7, Error ellipse: s-maj=7.0km s-min=2.9km az=89.0
IDC 27 03:45:14.4±1.9, 67.63N×32.67E, mb1 3.1/4, mb1mx2.9/18, mbtmp3.0/4, ML2.8/4, Error ellipse: s-maj=18.9km s-min=8.1km az=83.0
HEL 27 03:45:09.5±0.3, 67.72N×33.74E, ML2.5, ML2.2(BER)**, ML2.7**(NAO)**, Explosion, Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.31**	**249**	*i* P	Pg	03 45 14.6	-1.0
APA0				*i* S	Sg	03 45 18.9	-0.8
APA0				*e*RG		03 45 20.9	
APA0	**Apatity Array**	**0.31**	**249**	Pg	Pg	03 45 14.6	-1.0
	baz=78,slow=18						
APA0				Lg		03 45 18.9	
	baz=81,slow=37						
APA0				Rg		03 45 20.9	
	baz=81,slow=37						
KU4	**Liikasenvaara**	**2.12**	**232**	*e*P	Pn	03 45 46.4	-0.3
KU4				*e*S	Sn	03 46 14.3	+0.1
MSF	**Maaselka**	**2.60**	**228**	*e*P	Pn	03 45 53.0	-0.4
MSF				*e*S	Sn	03 46 24.9	-1.3
MSF				*e*SB	Sb	03 46 27.9	-1.4
MSF	**Maaselka**	**2.60**	**228**	P	Pn	03 45 53.0	-0.5
MSF				S	Sn	03 46 24.8	-1.4
SGF	**Sodankyl**	**2.78**	**268**	*e*P	Pn	03 45 54.8	-1.3
SGF				*e*S	Sn	03 46 29.7	-1.1
SGF				MSG		03 46 38.8	
	comp=Z,12nm,0.3s						
SGF	**Sodankyl**	**2.78**	**268**	P	Pn	03 45 54.7	-1.4
SGF				S	Sn	03 46 29.6	-1.2
	comp=Z,12nm,0.3s						
KEV	**Kevo**	**3.20**	**313**	*e*P	Pn	03 46 01.5	-0.5
KEV				*e*S	Sn	03 46 39.6	-1.7
KEV				*e*SG	Sg	03 46 47.5	-8.4
KEV				MSG		03 46 55.1	
	comp=Z,24nm,0.3s						
KEV	**Kevo**	**3.20**	**313**	P	Pn	03 46 01.4	-0.6
KEV				S	Sn	03 46 39.6	-1.7
KEV				Sg	Sg	03 46 47.4	-8.5
	comp=Z,24nm,0.3s						
ARA0	**ARCESS Array S**	**3.52**	**305**	*e*P	Pn	03 46 05.5	-1.1
ARA0				*e*PG	Pg	03 46 14.3	-5.6
ARA0				*e*S	Sn	03 46 46.3	-3.4
ARA0				*e*SG	Sg	03 46 56.9	-10
ARA0	**ARCESS Array S**	**3.52**	**305**	Pn	Pn	03 46 05.5	-1.1
	baz=122,slow=16						
ARA0				Pg	Pg	03 46 14.3	-5.6
	baz=120,slow=16						
ARA0				Sn	Sn	03 46 46.3	-3.4
	baz=120,slow=28						
ARA0				Lg		03 46 56.9	
	baz=122,slow=28						
ARA0	**ARCESS Array S**	**3.52**	**305**	P	Pn	03 46 05.5	-1.1
ARCES	**ARCESS Array B**	**3.52**	**305**	Pn	Pn	03 46 05.5	-1.2
	comp=Z,2.1nm,0.3s,baz=121,slow=14,SNR=400						
ARCES				Pg	Pg	03 46 13.4	-6.4
	comp=Z,2.6nm,0.3s,baz=120,slow=15,SNR=21						
ARCES				Sn	Sn	03 46 43.8	-5.8
	comp=Z,1.7nm,0.3s,baz=122,slow=27,SNR=8.6						
ARCES				Lg		03 46 54.6	
	comp=Z,2.9nm,0.3s,baz=122,slow=27,SNR=6.7						
KTK1	**Kautokeino**	**4.10**	**293**	*e*P	Pn	03 46 14.0	-0.9
KTK1				AML	AML	03 47 19.7	
	comp=Z,20nm,0.9s						
KTK1	**Kautokeino**	**4.10**	**293**	P	Pn	03 46 13.9	-0.9
	comp=Z,20nm,0.9s						
OUL	**Oulu**	**4.11**	**234**	*e*P	Pn	03 46 14.4	-0.6
OUL				*e*S	Sn	03 47 02.4	-2.2
OUL				*e*SG	Sg	03 47 15.8	-11
OUL	**Oulu**	**4.11**	**234**	P	Pn	03 46 14.4	-0.6
OUL				S	Sn	03 47 02.3	-2.3
OUL				Sg	Sg	03 47 15.8	-11
KJN	**Kajaani**	**4.40**	**217**	*e*P	Pn	03 46 17.3	-1.8
KJN				*e*S	Sn	03 47 07.0	-4.9
KJN				*e*SG	Sg	03 47 22.5	-14
KJN	**Kajaani**	**4.40**	**217**	P	Pn	03 46 17.3	-1.9
KJN				S	Sn	03 47 07.0	-5.0
KJN				Sg	Sg	03 47 22.5	-14
KIF	**Kilpisjarvi**	**4.96**	**291**	*e*P	Pn	03 46 24.6	-2.5
KIF				*e*S	Sn	03 47 20.4	-5.6
KIF				*e*SG	Sg	03 47 39.2	-15
KIF	**Kilpisjarvi**	**4.96**	**291**	P	Pn	03 46 24.5	-2.5
KIF				S	Sn	03 47 20.3	-5.7
KIF				Sg	Sg	03 47 39.1	-16
TRO	**Tromso**	**5.73**	**296**	*e*P	Pn	03 46 34.8	-3.1
TRO				AML	AML	03 47 42.7	
	comp=Z,3.9nm,0.6s						
TRO	**Tromso**	**5.73**	**296**	P	Pn	03 46 34.8	-3.1
	comp=Z,3.9nm,0.6s						
SUF	**Sumiainen**	**5.94**	**216**	*e*P	Pn	03 46 39.3	-1.6
SUF				*e*S	Sn	03 47 44.1	-6.5
SUF				*e*SG	Sg	03 48 12.6	-15
SUF	**Sumiainen**	**5.94**	**216**	P	Pn	03 46 39.2	-1.7
FIA0	**FINESS Array S**	**7.10**	**211**	Pn	Pn	03 46 52.5	-4.7
	baz=20,slow=14						
FIA0				Sn	Sn	03 48 11.6	-8.1
	baz=23,slow=28						
FIA0				Lg		03 48 45.7	
	baz=27,slow=28						
FIA0	**FINESS Array S**	**7.10**	**211**	Pn	Pn	03 46 52.5	-4.8
	SNR=8.7						
FINES	**FINESS Array B**	**7.10**	**211**	Pn	Pn	03 46 52.7	-4.5
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=8.5						
FINES				Sn	Sn	03 48 11.5	-8.2
	comp=Z,0.2nm,0.3s,baz=22,slow=22,SNR=5.7						
FINES				Lg		03 48 44.5	
	comp=Z,0.8nm,0.3s,baz=24,slow=25,SNR=6.0						
HFS	**Hagfors**	**11.59**	**239**	Pn	P	03 47 51.7	-7.3
	baz=17,slow=18						
HFS				Sn	S	03 49 57.4	-13
	baz=50,slow=22						
HFS				Lg		03 51 08.1	
	baz=47,slow=37						
HFS	**Hagfors**	**11.59**	**239**	Pn	P	03 47 51.6	-7.5
	comp=Z,0.0nm,0.3s,baz=15,slow=16,SNR=4.3						
HFS				Sn	S	03 49 51.7	-19
	comp=Z,0.0nm,0.3s,baz=30,slow=24,SNR=3.3						
HFS				Lg		03 51 06.7	
	comp=Z,0.1nm,0.3s,baz=45,slow=28,SNR=4.1						
NOA	**NORSAR Array B**	**11.76**	**246**	Pn	P	03 47 55.4	-6.0
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=2.8						
NOA				Sn	S	03 49 55.4	-19
	comp=Z,0.1nm,0.3s,baz=258,slow=21,SNR=2.6						
NOA				Lg		03 51 11.7	
	comp=Z,0.1nm,0.3s,baz=342,slow=18,SNR=4.3						

LJU 27 04:00:29.2, 45.60N×15.03E, h10km, ML2.3
CSEM 27 04:00:29.2±0.1, 45.60N×15.04E, h12km, ML3.3/3, Error ellipse: s-maj=1.8km s-min=1.0km az=7.0
*ROM

DOBS	**Dobrina**	**0.61**	**30**	*i* Pg	**Pg**	**04 00 41.5**	**0.0**
JAVS	**Javornik**	**0.73**	**292**	⇑*i* Pg	**Pg**	**04 00 43.6**	**-0.4**
TRI	**Trieste**	**0.90**	**276**	*e*Pg	**Pg**	**04 00 46.3**	**-0.9**
TRI				SG	**Sg**	**04 01 00.5**	**+1.3**
	comp=Z,66nm,0.4s						
TRI	**Trieste**	**0.90**	**276**	*e*Pg	**Pg**	**04 00 46.3**	**-0.9**
TRI				*e*Sg	**Sg**	**04 01 00.5**	**+1.3**
TRI	**Trieste**	**0.90**	**276**	*e*Pg	**Pg**	**04 00 46.3**	**-0.9**
	comp=Z,66nm,0.4s						
TRI				Sg	**Sg**	**04 01 00.5**	**+1.3**
VOY	**Vojsko**	**0.90**	**297**	*e*Sg	**Sg**	**04 00 59.3**	**+0.1**
GROS	**Grobnik**	**0.90**	**21**	*i* Pg	**Pg**	**04 00 47.1**	**-0.2**
	comp=Z,89nm,0.2s						
GROS	**Grobnik**	**0.90**	**21**	*i* Pg	**Pg**	**04 00 47.1**	**-0.2**
	comp=Z,89nm,0.2s						
VOJS	**Vojsko**	**0.90**	**297**	*i* Pg	**Pg**	**04 00 46.5**	**-0.9**
OBKA	**Obir**	**0.95**	**339**	⇓*i* PG	**Pg**	**04 00 48.3**	**0.0**
OBKA				*i* SG	**Sg**	**04 01 00.2**	**-0.7**
	comp=Z,36nm,0.1s						
SISC	**Sisak**	**0.95**	**99**	*i* Pg	**Pg**	**04 00 49.5**	**+1.1**
SISC				*i* Sg	**Sg**	**04 01 01.1**	**-0.1**
SISC	**Sisak**	**0.95**	**99**	*i* Pg	**Pg**	**04 00 49.5**	**+1.1**
SISC				*i* Sg	**Sg**	**04 01 01.0**	**-0.1**
GORS	**Gorjuse**	**1.00**	**314**	*i* Pg	**Pg**	**04 00 48.6**	**-0.8**
	comp=Z,56nm,0.2s						
PERS	**Pernice**	**1.01**	**3**	*i* Pg	**Pg**	**04 00 49.4**	**-0.2**
	comp=Z,98nm,0.3s						
PERS	**Pernice**	**1.01**	**3**	*i* Pg	**Pg**	**04 00 49.4**	**-0.2**
	comp=Z,98nm,0.3s						
BISS	**Bistriski jare**	**1.02**	**4**	*i* Pg	**Pg**	**04 00 49.6**	**-0.2**
CADS	**Cadrg**	**1.09**	**304**	*i* Pg	**Pg**	**04 00 49.9**	**-1.2**
CADS				*i*		04 00 50.9	
CADS				*i* Sg	**Sg**	**04 01 05.8**	**+0.1**
	comp=Z,46nm,0.1s						
CADS	**Cadrg**	**1.09**	**304**	*i* Pg	**Pg**	**04 00 49.9**	**-1.2**
CADS				*i* Sg	**Sg**	**04 01 05.8**	**+0.2**
	comp=Z,46nm,0.1s						
DRE	**Drenchia**	**1.11**	**300**	*e*Pg	**Pg**	**04 00 50.6**	**-1.0**
DRE				*e*Sg	**Sg**	**04 01 07.5**	**+1.0**
KOGS	**Kog**	**1.18**	**45**	⇓*i* PG	**Pg**	**04 00 52.3**	**-0.6**
KOGS				*e*Sg	**Sg**	**04 01 10.5**	**+1.8**
ROBS	**Robic**	**1.23**	**301**	*e*Pg	**Pg**	**04 00 52.8**	**-1.1**
ROBS				*e*Sg	**Sg**	**04 01 10.9**	**+0.5**
COLI	**Coloredo**	**1.26**	**294**	⇑*e*Pg	**Pg**	**04 00 53.7**	**-0.9**
COLI				*e*S	**Sb**	**04 01 13.0**	**+4.1**
LSR	**Lussari**	**1.35**	**310**	⇓*e*Pg	**Pg**	**04 00 55.2**	**-1.1**
LSR				*i* Sg	**Sg**	**04 01 14.4**	**0.0**
TLI	**Talmassons**	**1.39**	**283**	⇓*i* Pg	**Pg**	**04 00 56.8**	**-0.2**
TLI				*e*S	**Sb**	**04 01 17.7**	**+5.3**
BAD	**Bernadia**	**1.39**	**297**	⇓*e*Pg	**Pg**	**04 00 56.0**	**-1.2**
BAD				*i* Sg	**Sg**	**04 01 17.1**	**+1.4**
PTCC	**Patocco-Chiusa**	**1.41**	**304**	*e*PN	**Pn**	**04 00 55.8**	**+0.7**
PTCC				SN	**Sn**	**04 01 16.3**	**+2.5**
	comp=Z,41nm,0.5s						
PTCC	**Patocco-Chiusa**	**1.41**	**304**	*e*Pg	**Pg**	**04 00 55.8**	**-1.7**
PTCC				*e*Sg	**Sg**	**04 01 16.2**	**0.0**
PTCC	**Patocco-Chiusa**	**1.41**	**304**	*e*Pn	**Pn**	**04 00 55.8**	**+0.7**
	comp=Z,41nm,0.5s						
PTCC				Sn	**Sn**	**04 01 16.3**	**+2.5**
GMNA	**Gemona**	**1.41**	**298**	*e*PN	**Pn**	**04 00 57.2**	**+2.0**
	comp=Z,95nm,0.4s						
GMNA	**Gemona**	**1.41**	**298**	*e*Pn	**Pn**	**04 00 57.2**	**+2.0**
GMNA	**Gemona**	**1.41**	**298**	*e*Pn	**Pn**	**04 00 57.2**	**+2.0**
	comp=Z,95nm,0.4s						
BUA	**Buia**	**1.46**	**295**	*e*Pg	**Pg**	**04 00 57.6**	**-0.9**
BUA				*e*Sg	**Sg**	**04 01 19.3**	**+1.3**
MPRI	**Monte Prat**	**1.56**	**294**	*e*Pg	**Pg**	**04 00 59.2**	**-1.2**
MPRI				*e*Sg	**Sg**	**04 01 21.1**	**-0.1**
MPRI	**Monte Prat**	**1.56**	**294**	*e*Pg	**Pg**	**04 00 59.2**	**-1.2**
MPRI				*e*Sg	**Sg**	**04 01 21.8**	**+0.6**
PLRO	**Paularo**	**1.61**	**306**	⇑*e*Pg	**Pg**	**04 00 59.8**	**-1.6**
PLRO				*e*Sg	**Sg**	**04 01 21.8**	**-1.0**
ZOU	**Zoufplan**	**1.71**	**304**	*e*Pg	**Pg**	**04 01 01.4**	**-2.1**
ZOU				*e*Sg	**Sg**	**04 01 25.8**	**-0.5**
MLNI	**Malnisio**	**1.77**	**288**	*e*Pn	**Pn**	**04 01 02.0**	**+1.7**
MLNI				*e*Sn	**Sn**	**04 01 26.9**	**+3.8**
FVI	**Forni Avoltri**	**1.84**	**303**	*e*PN	**Pn**	**04 01 03.1**	**+1.7**
	comp=Z,34nm,0.4s						
FVI	**Forni Avoltri**	**1.84**	**303**	*e*Pn	**Pn**	**04 01 03.1**	**+1.8**
FVI	**Forni Avoltri**	**1.84**	**303**	*e*Pn	**Pn**	**04 01 03.1**	**+1.7**
	comp=Z,34nm,0.4s						
CAE	**Caneva**	**1.86**	**283**	⇑*e*Pn	**Pn**	**04 01 03.0**	**+1.5**
CAE				*e*Sn	**Sn**	**04 01 29.2**	**+3.9**
KBA	**Koelnbreinsper**	**1.87**	**322**	⇑*i* PG	**Pg**	**04 01 04.3**	**-2.3**
KBA				*i* SG	**Sg**	**04 01 30.0**	**-1.5**
	comp=Z,6.9nm,0.3s						
RHK1	**Bakonya**	**2.17**	**76**	*e*S	**Sn**	**04 01 30.8**	**-2.5**
MOA	**Molln**	**2.29**	**347**	⇓*i* PN	**Pn**	**04 01 07.7**	**0.0**
MOA				*i* SN	**Sn**	**04 01 36.4**	**+0.2**
APPI	**Appiano**	**2.79**	**289**	*e*PN	**Pn**	**04 01 16.2**	**+1.4**
APPI	**Appiano**	**2.79**	**289**	*e*Pn	**Pn**	**04 01 16.2**	**+1.4**
WTTA	**Wattenberg**	**2.87**	**306**	⇓*i* PN	**Pn**	**04 01 18.3**	**+2.3**
WTTA				*i* SN	**Sn**	**04 01 54.7**	**+3.8**
ZST	**Bratislava**	**2.94**	**28**	*e*PN	**Pn**	**04 01 16.9**	**-0.1**
ZST				*e*SG	**Sg**	**04 02 05.8**	**-1.3**
SMOL	**Smolenice**	**3.32**	**29**	*e*PN	**Pn**	**04 01 26.7**	**+4.3**
KHC	**Kasperske Hory**	**3.64**	**345**	*e*PN	**Pn**	**04 01 28.0**	**+1.0**
KHC				*ex*	x	04 01 40.8	
KHC				*e*SN	**Sn**	**04 02 08.2**	**-2.4**
KHC				*e*SG	**Sg**	**04 02 24.0**	**-6.7**
KHC	**Kasperske Hory**	**3.64**	**345**	*e*Pn	**Pn**	**04 01 28.0**	**+1.0**
KHC				*e*Sn	**Sn**	**04 02 08.2**	**-2.4**
KHC				*e*Sg	**Sg**	**04 02 24.0**	**-6.7**
NKC	**Novy Kostel**	**4.93**	**340**	*e*SG	**Sg**	**04 03 07.5**	**-5.9**
UPC	**Upice**	**4.93**	**7**	*e*SG	**Sg**	**04 03 07.9**	**-5.5**
CLL	**Collm**	**5.84**	**347**	*e*SG	**Sg**	**04 03 39.0**	**-4.9**

CSEM ***27*** *04:03:27.5±0.1,38.89N×39.29E,h2km,MD3.6,Error ellipse: s-maj=2.5km s-min=2.3km az=150.0*

ISK 27 04:03:27.1,38.88N×39.28E,h5km,MD3.6,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.09**	**85**	*i* PG	Pg	04 03 29.0	0.0
ELZG	**Elazig**	**0.45**	**211**	*i* P	Pg	04 03 37.5	+1.3
MYA	**Malataya**	**0.87**	**231**	*i* PG	Pg	04 03 44.3	-0.3
MALT	**Malatya**	**0.88**	**230**	*i* PG	Pg	04 03 44.7	0.0
MALT				*i* SG	Sg	04 03 58.8	+2.3
BINT	**Bingol**	**0.94**	**90**	*i* PG	Pg	04 03 45.4	-0.5
EZC	**Erzincan**	**0.96**	**25**	*i* PG	Pg	04 03 44.9	-1.3
DIY	**Diyarbakir**	**1.23**	**143**	PN	Pn	04 03 52.4	+1.4
KELT	**Kelkit**	**1.26**	**359**	*i* P	Pb	04 03 52.4	+1.4
KELT				*i* S	Sb	04 04 10.1	+2.6
URFA	**Urfa**	**1.49**	**194**	PN	Pn	04 03 56.4	+1.8
GUMT	**Gumushane**	**1.58**	**5**	PN	Pn	04 03 57.7	+1.8
VRT	**Varto**	**1.77**	**81**	PN	Pn	04 04 00.4	+1.8
BEST	**Besiri**	**1.85**	**122**	*i* P	Pn	04 04 01.0	+1.2
BTMT	**Batman**	**1.86**	**111**	PN	Pn	04 04 00.2	+0.2
EZM	**Erzurum**	**1.91**	**57**	*e*PN	Pn	04 04 02.7	+2.1
ERZM	**Erzurum**	**1.91**	**57**	*i* P	Pn	04 04 03.4	+2.8
ERZM				*i* S	Sn	04 04 29.1	+3.8
GAZ	**Gaziantep**	**2.37**	**224**	*e*PN	Pn	04 04 08.6	+1.4
BNN	**Bunyan**	**2.68**	**270**	*e*PN	Pn	04 04 13.8	+2.1
YOZ	**Yozgat**	**3.17**	**285**	*e*PN	Pn	04 04 20.3	+1.7
CORM	**Corum**	**3.82**	**291**	*e*PN	Pn	04 04 30.1	+2.2
KAMT	**Kaman**	**4.36**	**278**	*e*PN	Pn	04 04 36.8	+1.2

IDC ***27*** *04:20:19.1±1.9,2.98S×130.56E,mb4.0/4,mb1 4.3/6, mb1mx4.0/15,mbtmp4.1/6,ML4.2/2,Error ellipse: s-maj=119.7km s-min=21.8km az=77.0*

NEIC ***27*** *04:20:20.6±0.7,3.12S×130.18E,h10km,mb4.0/4,Error ellipse: s-maj=37.5km s-min=8.0km az=73.0*

ISC 27 04:20:18.6±2.9,3.19S±0.07×130.0E±0.2,h8km±19km,n14, σ0=90/20,mb4.0/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.76**	**166**	*e*P	**P**	**04 22 40.4**	**-2.1**
	4.0nm,0.6s						
KAKA				*e*S	**Sn**	**04 24 27.2**	**-6.2**
FITZ	**Fitzroy Crossi**	**15.42**	**196**	*e*P	**P**	**04 24 04.8**	**+6.5**
	5.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.42**	**196**	Pn	**P**	**04 24 02.3**	**+3.9**
	0.7nm,0.3s,baz=28,slow=8.3,SNR=9.7						
FITZ				Sn	**S**	**04 26 49.5**	**-0.5**
	0.2nm,0.3s,baz=202,slow=9.1,SNR=3.5						
WRAB	**Tennant Creek**	**17.17**	**166**	*e*P	**P**	**04 24 20.4**	**-0.2**
	3.9nm,0.3s						
WRA	**Warramunga Arr**	**17.18**	**166**	P	**P**	**04 24 22.1**	**+1.4**
	0.8nm,0.3s,baz=349,slow=12,SNR=18						
WRA				S	**S**	**04 27 21.0**	**-10**
	0.2nm,0.3s,baz=352,slow=20,SNR=5.2						
WB2	**Warramunga Arr**	**17.18**	**166**	*e*P	**P**	**04 24 20.7**	**-0.1**
WB2				*e*S	**S**	**04 27 21.4**	**-9.3**
MBWA	**Marble Bar**	**20.46**	**208**	*e*P	**P**	**04 25 00.0**	**+0.5**
ASAR	**Alice Springs**	**20.70**	**170**	P	**P**	**04 25 02.1**	**+0.2**
	9.4nm,0.5s,baz=350,slow=10,SNR=122						
ASAR				S	**S**	**04 28 49.1**	**+0.7**
	2.0nm,1.0s,baz=353,slow=24,SNR=4.9						
ASPA	**Alice Springs**	**20.70**	**170**	*e*P	**P**	**04 25 02.7**	**+0.7**
ASPA				*e*S	**S**	**04 28 47.9**	**-0.5**
SONM	**Songino Array**	**54.86**	**341**	P	**P**	**04 29 51.1**	**-0.7**
	1.1nm,1.0s,mb3.8,baz=162,slow=7.8,SNR=6.5						
MKAR	**Makanchi Array**	**65.07**	**326**	P	**P**	**04 31 02.5**	**+0.7**
	1.5nm,0.7s,mb4.2,baz=119,slow=8.0,SNR=13						
KURK	**Kurchatov**	**69.30**	**328**	*e*P	**P**	**04 31 26.9**	**-1.5**
	4.7nm,0.9s,mb4.4						
BVAR	**Borovoye Array**	**74.87**	**327**	P	**P**	**04 32 02.4**	**+0.9**
	0.6nm,0.5s,mb3.8,baz=162,slow=4.6,SNR=5.2						
CHKZ	**Chkalovo**	**75.04**	**328**	*e*P	**P**	**04 32 02.6**	**+0.1**
	1.3nm,0.8s,mb3.9						

PNSN ***27*** *04:31:14.4,46.19N×122.19W,h0km,MD3.0,Fault plane solution: NP1:ϕs40°,δ50°, NP2:ϕs262°,δ48°, Principal axes: T Plg67°, Azm243°; P Plg1°, Azm151°;*

NEIC ***27*** *04:31:14.4,46.19N×122.19W,h0km,MD3.0(SEA),After SEA.*

IDC ***27*** *04:31:15.6±1.8,46.09N×122.37W,mb2.9/1,mb1 3.3/5, mb1mx3.2/21,mbtmp2.9/5,ML2.9/4,Error ellipse: s-maj=28.8km s-min=11.3km az=124.0*

ISC 27 04:31:14.3±0.3,46.19N±0.02×122.22W±0.04,h0km,n54, σ0=68/55,mb3.0/1,8C-10D,Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHW	**Mount Saint He**	**0.01**	**264**	⇓P	**Pg**	**04 31 15.2**	**+0.7**
YEL	**Yellow Rock**	**0.03**	**53**	⇓P	**Pg**	**04 31 14.6**	**-0.2**
HSR	**South Ridge**	**0.03**	**130**	⇓P	**Pg**	**04 31 15.0**	**+0.1**
STD	**Studebaker Rid**	**0.04**	**356**	⇓P	**Pg**	**04 31 15.4**	**+0.3**
ESD	**East Dome**	**0.05**	**86**	P	**Pg**	**04 31 15.3**	**+0.1**
JLK	**June Lake**	**0.07**	**136**	⇓P	**Pg**	**04 31 15.6**	**0.0**
SOSW	**Source of Smit**	**0.08**	**49**	⇓P	**Pg**	**04 31 15.7**	**-0.1**
ERK	**Elk Rock**	**0.14**	**323**	⇓P	**Pg**	**04 31 17.5**	**+0.5**
CDFW	**Cedar Flats**	**0.14**	**123**	⇑P	**Pg**	**04 31 17.3**	**+0.2**
MTMW	**Mount Mitchell**	**0.17**	**178**	⇑P	**Pg**	**04 31 18.4**	**+0.8**
LVP	**Lakeview Peak**	**0.18**	**226**	P	**Pg**	**04 31 18.5**	**+0.6**
KOSW	**Kosmos**	**0.27**	**4**	P	**Pg**	**04 31 20.0**	**+0.4**
ASR	**Mount Adams--S**	**0.44**	**95**	P	**Pg**	**04 31 22.5**	**-0.5**
LMW	**Ladd Mountain**	**0.48**	**354**	P	**Pg**	**04 31 24.4**	**+0.6**
LCW	**Lucas Creek**	**0.58**	**325**	P	**Pg**	**04 31 26.0**	**+0.1**
LON	**Longmire**	**0.62**	**27**	⇓P	**Pg**	**04 31 26.1**	**-0.6**
REMR	**Mount Rainier-**	**0.68**	**23**	P	**Pg**	**04 31 27.4**	**-0.4**
WPW	**White Pass**	**0.69**	**42**	P	**Pg**	**04 31 27.3**	**-0.6**
RCM	**Mount Rainier-**	**0.72**	**27**	⇑P	**Pg**	**04 31 28.4**	**-0.4**
BMW	**Boistfort Moun**	**0.75**	**292**	⇑P	**Pg**	**04 31 29.1**	**-0.2**
RCS	**Mount Rainier-**	**0.76**	**26**	⇑P	**Pg**	**04 31 28.9**	**-0.5**
VLL	**Laurance Lake**	**0.82**	**152**	P	**Pg**	**04 31 30.5**	**-0.2**
FMW	**Mount Fremont**	**0.83**	**27**	⇑P	**Pg**	**04 31 30.2**	**-0.6**
NLO	**Nicolai Mounta**	**0.86**	**263**	P	**Pg**	**04 31 31.6**	**+0.1**
TDH	**Tom, Dick, Har**	**0.95**	**161**	P	**Pg**	**04 31 32.3**	**-1.0**
HOOD	**Mount Hood Mea**	**0.96**	**155**	P	**Pg**	**04 31 32.7**	**-0.7**
CPW	**Capitol Peak**	**1.00**	**321**	⇑P	**Pb**	**04 31 33.3**	**-1.0**
GSM	**Grass Mountain**	**1.05**	**16**	P	**Pb**	**04 31 33.9**	**-1.2**
NAC	**Naches**	**1.10**	**60**	P	**Pb**	**04 31 35.9**	**0.0**
EBG	**Ellensburg**	**1.35**	**57**	P	**Pb**	**04 31 40.3**	**+0.2**
MXC	**Moxie City**	**1.39**	**73**	P	**Pb**	**04 31 40.5**	**-0.3**
BRVW	**Black Rock Val**	**1.57**	**78**	P	**Pn**	**04 31 43.6**	**+0.1**
MDW	**Midway**	**1.75**	**75**	P	**Pn**	**04 31 46.0**	**-0.1**
PRW	**Prosser**	**1.76**	**88**	P	**Pn**	**04 31 46.6**	**+0.4**
BENWA	**Benson Ranch**	**1.76**	**78**	P	**Pn**	**04 31 46.3**	**0.0**
COR	**Corvallis**	**1.78**	**206**	*e*P	**Pn**	**04 31 45.5**	**-1.0**
SNIWA	**Snively Ranch**	**1.79**	**80**	⇓P	**Pn**	**04 31 46.9**	**+0.2**
RSW	**Rattlesnake Hi**	**1.83**	**83**	P	**Pn**	**04 31 47.3**	**+0.1**
HAWA	**Hanford**	**1.87**	**83**	*e*P	**Pn**	**04 31 47.2**	**-0.6**
WAH2	**Wahluke Slope**	**1.92**	**72**	P	**Pn**	**04 31 48.8**	**+0.3**
H2OWA	**Water**	**1.95**	**83**	P	**Pn**	**04 31 48.9**	**-0.1**
FRIS	**Frissel Point**	**1.98**	**178**	P	**Pn**	**04 31 50.1**	**+0.7**
LOCW	**Locke Island**	**2.00**	**74**	P	**Pn**	**04 31 50.7**	**+1.1**
JCW	**Jim Creek**	**2.01**	**6**	⇑P	**Pn**	**04 31 49.9**	**+0.1**
VIPM	**Ingram Point**	**2.03**	**146**	P	**Pn**	**04 31 50.6**	**+0.5**
WTV	**Waterville**	**2.16**	**45**	P	**Pn**	**04 31 53.6**	**+1.6**
NLW	**Nelson Butte**	**2.28**	**34**	⇓P	**Pn**	**04 31 55.6**	**+1.9**
NEW	**Newport**	**4.04**	**57**	Pn	**Pn**	**04 32 23.6**	**+4.8**
	0.1nm,0.3s,baz=252,slow=5.3,SNR=5.3						
NEW				Sn	**Sn**	**04 33 08.8**	**+1.3**
	0.1nm,0.3s,baz=220,slow=17,SNR=3.2						
NEW				Lg		04 33 26.1	
	0.3nm,0.3s,baz=331,slow=21,SNR=4.9						
YBH	**Yreka Blue Hor**	**4.47**	**185**	Pn	**Pn**	**04 32 25.2**	**+0.3**
	0.2nm,0.3s,baz=16,slow=5.5,SNR=5.8						
WVOR	**Wild Horse Val**	**4.55**	**144**	P	**Pn**	**04 32 25.1**	**-0.9**
PDAR	**Pinedale Array**	**9.68**	**106**	Pn	**P**	**04 33 42.5**	**+4.7**
	0.0nm,0.3s,baz=297,slow=16,SNR=2.9						
YKA	**Yellowknife Ar**	**16.90**	**12**	Pn	**P**	**04 35 10.4**	**-3.0**
	0.0nm,0.3s,baz=197,slow=11,SNR=5.6						
YKA	**Yellowknife Ar**	**16.90**	**12**	Pn	**P**	**04 35 10.4**	**-3.0**
TXAR	**Lajitas Array**	**22.23**	**133**	P	**P**	**04 36 13.8**	**-0.3**
	0.5nm,0.8s,mb3.0,baz=324,slow=7.8,SNR=5.5						

CSEM ***27*** *04:55:23.8±0.2,35.16N×3.58W,h10km,MD2.6,Error ellipse: s-maj=4.9km s-min=3.6km az=105.0*

NEIC ***27*** *04:55:24.7,35.14N×3.62W,MG2.7(MDD),After MDD.*

MDD ***27*** *04:55:25.6±0.3,35.16N×3.58W,mb2.9/4,Error ellipse: s-maj=3.9km s-min=2.7km az=153.0,PRXIMO*

CNRM ***27*** *04:55:26.0,35.15N×3.58W,h4km,MD2.6*

ISC 27 04:55:24.9±0.5,35.18N±0.03×3.59W±0.03,h10km±4km, n18,σ0=75/34,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	**Touzarine**	**0.26**	**212**	P	**Pg**	**04 55 29.5**	**-0.8**
TOU				S	**Sg**	**04 55 34.0**	**+0.1**
TOU	**Touzarine**	**0.26**	**212**	*i* P	**Pg**	**04 55 29.5**	**-0.8**
MPAL	**Palemas**	**0.29**	**279**	P	**Pg**	**04 55 31.5**	**+0.5**
MPAL				S	**Sg**	**04 55 36.0**	**+0.9**
MPAL	**Palemas**	**0.29**	**279**	*e*P	**Pg**	**04 55 31.5**	**+0.5**
EMEL	**Melilla**	**0.53**	**77**	P	**Pg**	**04 55 34.8**	**-0.8**
	91nm,0.2s,SNR=9.1						
EMEL				S	**Sg**	**04 55 43.1**	**+0.3**
	256nm,0.1s,SNR=18						
EMLI	**Melilla**	**0.54**	**77**	P	**Pg**	**04 55 34.8**	**-0.9**
	91nm,0.2s,SNR=9.1						
EMLI				S	**Sg**	**04 55 43.1**	**+0.1**
	256nm,0.1s,SNR=18						
ZAI	**Zaio**	**0.72**	**107**	*e*P	**Pb**	**04 55 39.0**	**0.0**
ZAI				*i* S	**Sb**	**04 55 49.0**	**+0.3**
EALB	**Alboran**	**0.88**	**31**	P	**Pb**	**04 55 42.2**	**+0.4**
	SNR=7.9						
EALB				S	**Sb**	**04 55 54.7**	**+1.3**
	60nm,0.2s,SNR=7.9						
TZK	**Tazeka**	**1.19**	**205**	*i* P	**Pb**	**04 55 47.0**	**-0.1**
TZK				*i* S	**Sb**	**04 56 03.0**	**+0.6**
EMIJ	**Mijas**	**1.69**	**326**	P	**Pn**	**04 55 54.4**	**-0.2**
	0.4nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**04 56 15.2**	**-1.2**
	5.4nm,0.5s,SNR=7.9						
EBER	**Berja**	**1.81**	**18**	P	**Pn**	**04 55 56.4**	**+0.1**
	0.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**04 56 18.5**	**-1.0**
	1.9nm,0.2s,SNR=7.9						
EBER	**Berja**	**1.81**	**18**	P	**Pn**	**04 55 56.4**	**0.0**
	0.9nm,0.3s,SNR=7.9						
EBER				S	**Sn**	**04 56 18.5**	**-1.0**
	1.9nm,0.2s,SNR=7.9						
ECOG	**Cogollos-Vega**	**2.10**	**0**	P	**Pn**	**04 55 59.5**	**-1.0**
	0.2nm,0.2s,SNR=7.9						
ECOG				S	**Sn**	**04 56 28.4**	**+1.6**
	0.6nm,0.3s,SNR=7.9						
EQES	**Quesada**	**2.65**	**9**	P	**Pn**	**04 56 09.5**	**+1.0**
EQES				S	**Sn**	**04 56 41.3**	**+0.4**
EQES	**Quesada**	**2.65**	**9**	P	**Pn**	**04 56 09.0**	**+0.6**
	0.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 56 41.3**	**+0.4**
	2.4nm,0.3s,SNR=5.4						
EQES	**Quesada**	**2.65**	**9**	P	**Pn**	**04 56 09.5**	**+1.1**
	0.6nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**04 56 41.3**	**+0.3**
	2.4nm,0.3s,SNR=5.4						
EADA	**Adamuz**	**3.09**	**345**	P	**Pn**	**04 56 14.2**	**-0.4**
	0.1nm,0.6s,SNR=7.9						
EADA				S	**Sn**	**04 56 51.0**	**-1.0**
	47nm,1.8s,SNR=7.9						
EADA	**Adamuz**	**3.09**	**345**	P	**Pn**	**04 56 14.2**	**-0.4**
	0.1nm,0.6s,SNR=7.9						
EADA				S	**Sn**	**04 56 51.0**	**-1.0**
	47nm,1.8s,SNR=7.9						

NIED ***27*** *04:56:00,42.30N×142.60E,h65km,Mw3.8 Best double couple: M0 5.89×10^14 NP1:ϕs323°,δ89°,λ-15°. NP2:ϕs54°, δ75°,λ-179°.*

MOS ***27*** *04:56:11.7±0.8,42.22N×142.47E,h94km,mb4.2/3,Error ellipse: s-maj=2.4km s-min=9.4km az=75.0*

JMA ***27*** *04:56:12.1±0.1,42.26N×142.55E,h78km±1km,M3.9 Broadband fault plane solution: P waves. NP1:ϕs50°,δ61°, λ162°. NP2:ϕs149°,δ75°,λ30°. Principal axes: T Plg32°, Azm13°; N Plg56°, Azm173°; P Plg9°, Azm277°;*

JMA Felt II J1.

NEIC ***27*** *04:56:13.3±0.9,42.26N×142.43E,h82km±9km,mb4.1/4 Error ellipse: s-maj=14.4km s-min=7.9km az=109.0*

NEIC Recorded [2 JMA] in south-central Hokkaido and [1 JMA] in the Chitose area.

IDC ***27*** *04:56:14.9±2.1,42.32N×142.45E,h94km±17km,mb3.2/8, mb1 3.4/8,mb1mx3.3/17,mbtmp3.5/8,Error ellipse: s-maj=23.8km s-min=19.7km az=106.0*

ISC 27 04:56:11.4±0.3,42.22N±0.04×142.52E±0.04,h82km±3km, n43,σ0=81/59,mb3.6/11,5C-11D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.18**	**69**	⇓P	**P**	**04 56 23.3**	**0.0**
JNBK				*e*S	**S**	**04 56 31.7**	**-0.5**
ERM	**Erimo**	**0.51**	**113**	Pn	**P**	**04 56 26.5**	**+1.0**
	14μm,0.4s						
JEM	**Erimo**	**0.51**	**113**	⇓P	**P**	**04 56 26.2**	**+0.7**
JEM				*e*S	**S**	**04 56 36.5**	**+0.4**
JBT2	**Biratori 2**	**0.57**	**348**	⇓P	**P**	**04 56 25.8**	**-0.3**
JBT2				*e*S	**S**	**04 56 36.2**	**-0.8**
JCH	**Churui**	**0.74**	**57**	⇓P	**P**	**04 56 27.8**	**-0.1**
JCH				*e*S	**S**	**04 56 39.5**	**-0.5**
JFR	**Furan**	**0.95**	**3**	⇑P	**P**	**04 56 30.0**	**-0.1**
JFR				*e*S	**S**	**04 56 44.2**	**-0.1**
JEW	**Eniwo**	**1.01**	**309**	⇓P	**P**	**04 56 31.4**	**+0.6**
JEW				*e*S	**S**	**04 56 45.9**	**+0.4**
JNB	**Noboribetsu**	**1.13**	**284**	⇓P	**P**	**04 56 31.7**	**-0.6**
JNB				*e*S	**S**	**04 56 47.1**	**-1.0**
JKB	**Kayabe**	**1.16**	**254**	⇓P	**P**	**04 56 32.9**	**+0.2**
JKB				*e*S	**S**	**04 56 48.4**	**-0.3**
JOB	**Onbets**	**1.19**	**54**	⇓P	**P**	**04 56 33.8**	**+0.7**
JAB	**Ashibetsu**	**1.31**	**350**	⇑P	**P**	**04 56 35.2**	**+0.4**
JOT	**Ohata**	**1.38**	**233**	⇑P	**P**	**04 56 36.0**	**+0.3**
JOT				*e*S	**S**	**04 56 53.2**	**-0.5**
JAR	**Ashorobuto**	**1.42**	**40**	⇓P	**P**	**04 56 36.1**	**-0.1**
JAR				*e*S	**S**	**04 56 53.8**	**-0.8**
JHR	**Hokuryu**	**1.64**	**339**	⇑P	**P**	**04 56 40.2**	**+1.2**
JKK2	**Kamakawa

CPCH *i* S **S** **04 59 30.9 -0.6**
VACH Vallenar 5.39 217 ⇓*i*P **P** **04 58 56.3 -0.2**
VACH *i* S **S** **04 59 56.8 -1.5**
CFAA Coronel Fontan 7.33 188 P **P** **04 59 22.6 +0.3**
comp=N,1.5nm,0.3s,baz=356,slow=12,SNR=151
CFAA S **S** **05 00 44.6 +0.2**
comp=N,0.8nm,0.3s,baz=289,slow=20,SNR=3.7
ZON Zonda 7.34 191 *e*P **P** **04 59 22.0 -0.4**
ZON *e*S **S** **05 00 44.0 -0.6**
LPAZ La Paz 8.05 353 P **P** **04 59 33.3 +1.5**
comp=N,53nm,0.3s,baz=156,slow=8.9,SNR=879
LPAZ S **S** **05 01 01.6 +0.2**
baz=234,slow=18,SNR=1.5
LPAZ La Paz 8.05 353 ⇑*e*P **P** **04 59 33.1 +1.4**
comp=N,126nm,0.4s
ARE Arequipa 8.86 331 *e*P **P** **04 59 41.0 -1.3**
ARE *e* 04 59 51.0
ARE *i* S **S** **05 01 16.5 -3.9**
SIV San Ignacio 10.00 35 P **P** **04 59 56.6 -0.8**
comp=N,20nm,0.3s,baz=222,slow=12,SNR=572
TRQA Tornquist 14.36 164 *e*P **P** **05 00 51.2 -2.2**
comp=N,37nm,0.6s
PLCA Paso Flores 16.63 189 P **P** **05 01 22.1 +0.7**
comp=N,0.4nm,0.3s,baz=8.6,slow=14,SNR=14
PLCA PcP PcP 05 06 02.1 +0.3
comp=N,0.2nm,0.3s,baz=330,slow=2.9,SNR=6.1
PLCA Paso Flores 16.63 189 *e*P **P** **05 01 21.0 -0.5**
comp=N,7.5nm,0.8s
BDFB Brasilia 19.84 68 P **P** **05 01 56.7 +0.2**
comp=N,4.1nm,0.3s,baz=243,slow=8.5,SNR=36
BAO Brasilia Array 19.87 68 P **P** **05 01 56.9 +0.2**
CAM4 Nova Friburgo 22.56 90 (P) **P** **05 02 25.0 +1.7**
ROSC El Rosal 29.85 345 P **P** **05 03 30.9 +0.3**
comp=N,2.1nm,0.5s,mb4.1,baz=104,slow=22,SNR=5.4
SDV Santo Domingo 33.19 354 P **P** **05 03 58.2 -1.4**
comp=N,1.4nm,0.4s,mb4.1,baz=112,slow=0.4,SNR=8.7
SDV Santo Domingo 33.19 354 *e*P **P** **05 03 56.8 -2.7**
comp=N,5.6nm,0.4s,mb4.7
RCBR Riachuelo 35.10 63 *e*P **P** **05 04 15.3 -0.6**
comp=N,2.9nm,0.5s,mb4.2
VNA3 Neumayer Olymp 56.87 161 ⇑*i*P **P** **05 07 05.5 -0.1**
VNA3 *e* pP 05 07 43.1 -1.8
VNA3 *e* 05 07 59.0
VNA3 *e* 05 08 03.7
VNA1 Neumayer--Stat 57.07 160 P **P** **05 07 05.3 -1.7**
VNA1 *e* pP 05 07 43.4 -2.9
VNA2 Neumayer--Watz 57.44 160 ⇑*i*P **P** **05 07 09.7 +0.1**
VNA2 *e* 05 07 43.9
VNA2 *e* 05 08 01.1
VNA2 *e* 05 08 05.2
NHSC New Hope 58.46 347 *e*P **P** **05 07 15.9 -1.3**
SNAA Sanae 59.07 161 P **P** **05 07 21.0 0.0**
comp=N,2.1nm,0.6s,mb4.2,baz=266,slow=8.3,SNR=17
GOGA Godfrey 59.50 344 *e*P **P** **05 07 22.5 -1.9**
TZTN Tazewell 62.50 345 *e*P **P** **05 07 42.6 -1.9**
JCT Junction City 62.89 328 *e*P **P** **05 07 46.4 -0.8**
comp=N,9.7nm,0.7s,mb4.7
WVT Waverly 63.25 341 *e*P **P** **05 07 46.6 -2.9**
comp=N,8.0nm,0.6s,mb4.7
MIAR Mount Ida 63.73 336 *e*P **P** **05 07 50.9 -1.7**
comp=N,3.7nm,0.6s,mb4.4
TXAR Lajitas Array 63.91 325 P **P** **05 07 53.5 -0.4**
comp=N,1.5nm,0.7s,mb3.9,baz=151,slow=8.4,SNR=22
TXAR PcP PcP 05 08 28.2 +0.4
comp=N,0.5nm,0.6s,baz=162,slow=7.1,SNR=4.3
TXAR Lajitas Array 63.91 325 P **P** **05 07 53.5 -0.4**
TXAR PcP PcP 05 08 28.2 +0.4
WCI Wyandotte Cave 64.78 343 *e*P **P** **05 07 56.8 -2.6**
comp=N,16nm,0.5s,mb5.1
BLO Bloomington 65.73 343 *e*P **P** **05 08 03.1 -2.4**
comp=N,9.8nm,0.6s,mb4.8
FVM French Village 65.75 340 *e*P **P** **05 08 03.2 -2.4**
comp=N,10nm,0.9s,mb4.7
QSPA South Pole Qui 65.89 180 ⇓*i*P **P** **05 08 06.7 +0.8**
comp=N,13nm,0.5s,mb5.0
ACSO Alum Creek Sta 65.91 347 *e*P **P** **05 08 04.7 -2.0**
comp=N,42nm,1.2s,mb5.2
CCM Cathedral Cave 66.07 339 *e*P **P** **05 08 05.7 -2.0**
comp=N,7.6nm,0.6s,mb4.7
CLNB Carlsbad 66.35 326 *e*P **P** **05 08 09.2 -0.4**
WES Weston 66.48 357 P **P** **05 08 06.6 -3.6**
GDL2 Guadalupe Moun 66.55 326 *e*P **P** **05 08 10.8 0.0**
MNTX Cornudas Mount 66.68 325 *e*P **P** **05 08 09.9 -1.8**
comp=N,10nm,1.2s,mb4.5
ALLY Alegheny Colle 66.74 349 *e*P **P** **05 08 10.3 -1.6**
CPRX Cap Rock 66.96 327 *e*P **P** **05 08 13.0 -0.3**
DBIC Dimbokro 67.94 71 P **P** **05 08 19.9 +0.1**
comp=N,1.4nm,0.3s,mb4.1,baz=229,slow=7.9,SNR=7.9
DBIC Dimbokro 67.94 71 *e*P **P** **05 08 18.2 -1.6**
LPM Los Pinos Moun 69.38 326 *e*P **P** **05 08 27.9 -0.3**
ANMO Albuquerque 69.79 326 *e*P **P** **05 08 30.9 +0.2**
comp=N,8.1nm,0.9s,mb4.5
CBKS Cedar Bluff 69.86 333 *e*P **P** **05 08 31.2 +0.1**
comp=N,13nm,0.7s,mb4.8
SDCO Great Sand Dun 71.53 329 *e*P **P** **05 08 41.3 +0.2**
comp=N,5.2nm,0.6s,mb4.4
SYO Syowa Base 73.27 159 ⇑P **P** **05 08 50.8 +0.1**
SYO Syowa Base 73.27 159 ⇓PcP PcP 05 09 04.4 -2.0
PV01 Paradox Valley 73.33 327 *e*P **P** **05 08 52.8 +1.1**
VNDA Vanda 74.38 190 P **P** **05 08 58.4 +1.4**
comp=N,1.9nm,0.9s,mb3.8,baz=132,slow=5.1,SNR=8.1
VNDA Vanda 74.38 190 P **P** **05 08 58.4 +1.4**
SRU San Rafael 75.06 326 *e*P **P** **05 09 02.5 +0.9**
MSU Marysvale 75.46 325 *e*P **P** **05 09 05.2 +1.4**
ARUT Antelope Range 75.60 324 *e*P **P** **05 09 05.5 +0.8**
DAU Daniels Canyon 76.41 327 *e*P **P** **05 09 09.9 +0.8**
DUG Dugway 77.04 326 *e*P **P** **05 09 12.9 +0.3**
comp=N,4.9nm,1.1s,mb4.0
BW06 Boulder Array 77.40 329 *e*P **P** **05 09 14.5 0.0**
comp=N,2.6nm,0.8s,mb3.9
PDAR Pinedale Array 77.40 329 P **P** **05 09 14.9 +0.4**
comp=N,1.7nm,0.5s,mb4.0,baz=133,slow=7.7,SNR=25
HWUT Hardware Ranch 77.47 327 *e*P **P** **05 09 15.6 +0.7**
comp=N,7.1nm,0.6s,mb4.5
TSUM Tsumeb 77.61 106 P **P** **05 09 15.6 -0.6**
baz=246,slow=5.9
TSUM Tsumeb 77.61 106 *e*P **P** **05 09 16.1 -0.1**
comp=N,1.6nm,0.5s,mb3.9
AHID Auburn Hatcher 78.12 328 *e*P **P** **05 09 19.4 +0.9**
comp=N,15nm,1.0s,mb4.6
REDW Red Top Meadow 78.46 329 *e*P **P** **05 09 21.0 +0.7**
SNOW Snow King Moun 78.49 329 *e*P **P** **05 09 21.4 +0.9**
comp=N,2.3nm,0.5s,mb4.1
ULM Lac du Bonnet 78.51 342 P **P** **05 09 19.9 -0.6**
comp=N,6.2nm,0.6s,mb4.5,baz=155,slow=6.1,SNR=22
ULM Lac du Bonnet 78.51 342 *e*P **P** **05 09 19.7 -0.8**
comp=N,4.3nm,0.4s,mb4.4
LOHW Long Hollow 78.53 329 *e*P **P** **05 09 21.4 +0.6**
comp=N,5.2nm,0.6s,mb4.3
OMM Old Mammoth Mi 78.60 320 *e*P **P** **05 09 22.2 +1.0**
TPAW Teton Pass 78.60 329 *e*P **P** **05 09 22.4 +1.3**
comp=N,5.0nm,0.9s,mb4.1
RRI2 Red Ridge 78.67 329 P **P** **05 09 22.9 +1.4**
MOOW Moose Ponds 78.70 329 *e*P **P** **05 09 22.3 +0.6**
SCHQ Schefferville 78.82 0 P **P** **05 09 21.7 -0.3**
comp=N,2.3nm,0.5s,mb4.0,baz=229,slow=5.7,SNR=13
LRV Little Rabbit 79.00 318 *e*P **P** **05 09 24.8 +1.3**
CMB Columbia Colle 79.69 320 *e*P **P** **05 09 27.6 +0.5**
comp=N,1.1nm,0.5s,mb3.7
HLID Hailey 80.33 327 *e*P **P** **05 09 31.4 +1.1**
comp=N,13nm,0.8s,mb4.6
MCMT McKenzie Canyo 80.51 329 *e*P **P** **05 09 32.9 +1.6**
BOSA Boshof 80.63 117 P **P** **05 09 32.8 +0.5**
comp=N,8.6nm,0.5s,mb4.6,baz=260,slow=3.7,SNR=57
BOSA Boshof 80.63 117 *e*P **P** **05 09 32.6 +0.3**
comp=N,5.9nm,0.4s,mb4.6
MAW Mawson 81.15 163 P **P** **05 09 34.6 +0.4**
comp=N,6.5nm,0.6s,mb4.5,baz=196,slow=6.9,SNR=14
HRY Holter Researc 81.46 331 *e*P **P** **05 09 37.3 +1.1**
LBTB Lobatse 82.30 114 P **P** **05 09 41.8 +0.8**
comp=N,9.8nm,0.5s,mb4.7,baz=262,slow=6.3,SNR=50
LBTB Lobatse 82.30 114 *e*P **P** **05 09 41.8 +0.8**
comp=N,9.7nm,0.5s,mb4.7
MSO Missoula 82.51 330 *e*P **P** **05 09 42.5 +0.9**
comp=N,1.5nm,0.6s,mb3.9
FCC Fort Churchill 85.76 346 *e*P **P** **05 09 57.5 0.0**
comp=N,19nm,0.6s,mb5.0
MATP Matopo 86.60 111 P **P** **05 10 03.8 +1.2**
comp=N,7.5nm,0.5s,mb4.8,baz=242,slow=5.1,SNR=32
ESDC Sonseca Array 86.66 44 P **P** **05 10 03.3 +0.9**
comp=N,0.7nm,0.5s,mb3.7,baz=258,slow=4.9,SNR=11
YKA Yellowknife Ar 94.41 340 P **P** **05 10 38.1 +0.2**
comp=N,3.0nm,0.5s,mb4.7,baz=129,slow=4.6,SNR=119
CTA Charters Tower 125.23 219 PKP PKPdf 05 16 18.9 +1.1
comp=N,3.2nm,1.0s,baz=72,slow=23,SNR=3.2
ASAR Alice Springs 128.15 205 PKP PKPdf 05 16 23.8 +0.3
comp=N,2.3nm,0.6s,baz=169,slow=0.9,SNR=3.8
ASPA Alice Springs 128.15 205 *e*P PKPdf 05 16 24.7 +1.2
WB2 Warramunga Arr 131.32 207 *e*P PKPdf 05 16 30.6 +1.0
WRA Warramunga Arr 131.32 207 PKP PKPdf 05 16 30.8 +1.2
comp=N,2.3nm,0.5s,baz=162,slow=1.7,SNR=42
FITZ Fitzroy Crossi 136.06 198 PKP PKPdf 05 16 40.0 +1.6
comp=N,2.9nm,0.5s,baz=179,slow=12,SNR=7.7
CHKZ Chkalovo 136.92 36 *e*PKPdf PKPdf 05 16 40.7 +1.7
KURK Kurchatov 142.66 36 PKPpre 05 16 47.3
AAK Ala-Archa 143.47 50 *e*PKPpre 05 16 50.3
MKAR Makanchi Array 146.80 40 PKPbc PKPbc 05 16 58.6 +0.4
comp=N,14nm,0.6s,baz=314,slow=1.1,SNR=149
WMQ Urumqi 151.62 41 *e*PKP PKPdf 05 17 05.3 +1.1
WMQ LR LR
comp=Z,86nm,32.0s
TLY Talaya 151.76 12 *e*PKPbc PKPdf 05 17 13.0 +8.9
SONM Songino Array 155.96 11 PKP PKPdf 05 17 11.5 +1.6
comp=Z,0.6nm,0.8s,baz=216,slow=0.9,SNR=5.7
SONM PKPab PKPab 05 17 40.5 0.0
comp=Z,1.5nm,0.6s,baz=317,slow=3.6,SNR=9.8
CN2 Changchun 158.03 335 *e*PKP PKPdf 05 17 14.3 +1.4
BJI Beijing 164.09 351 PKP PKPdf 05 17 20.8 +1.5
BJI LR LR
comp=N,106nm,16.9s
BJI LR LR
comp=E,182nm,15.6s
BJI LR LR
comp=Z,83nm,24.2s
LZH Lanzhou 165.88 32 *e*PKP PKPdf 05 17 25.5 +4.4
LZH APKP 05 18 09.0
LZH XPKP 05 18 25.5
SSE Sheshan 170.06 315 *e*PKP PKPdf 05 17 25.0 +1.1
NJ2 Nanjing 170.70 327 *e*PKP PKPdf 05 17 25.3 +1.0

IDC 27 05:01:47.9±2.5, 14.23S×76.36W, mb3.6/4, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, ML4.3/1, MS3.4/2, Ms1 3.5/2, ms1mx2.7/16, Error ellipse: s-maj=72.4km s-min=35.9km az=32.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**8.20**	**106**	Pn		P		05 03 48.8	-2.2
	1.9nm,0.3s,baz=279,slow=11,SNR=8.9								
LPAZ				LR		LR		05 07 09.0	
	comp=Z,149nm,18.2s,baz=72,slow=39								
SDV	**Santo Domingo**	**23.66**	**14**	P		P		05 07 02.3	+0.2
	3.7nm,0.6s,baz=212,slow=13,SNR=5.2								
BDFB	**Brasilia**	**27.41**	**97**	LR		LR		05 19 21.3	
	comp=Z,149nm,19.3s,baz=174,slow=38								
TXAR	**Lajitas Array**	**50.71**	**329**	P		P		05 10 50.8	-0.8
	0.1nm,0.4s,baz=153,slow=8.1,SNR=2.3								
ULM	**Lac du Bonnet**	**66.45**	**346**	P		P		05 12 37.1	-4.2
	0.9nm,0.4s,baz=154,slow=7.7,SNR=2.8								
YKA	**Yellowknife Ar**	**82.11**	**343**	P		P		05 14 10.2	-1.3
	0.1nm,0.4s,baz=142,slow=6.2,SNR=3.6								
SONM	**Songino Array**	**146.42**	**357**	PKPbc		PKPbc		05 21 31.0	+0.2
	0.4nm,0.7s,baz=313,slow=2.8,SNR=5.7								

*CSEM **27** 05:17:39.2±0.3, 37.79N×44.00E, h5km, MD3.6, Error ellipse: s-maj=6.4km s-min=3.2km az=107.0*
ISK 27 05:17:39.7, 37.75N×43.84E, h5km, MD3.6, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.19**	**204**	*i* Pg		Pg		05 17 43.4	-0.2
VANT	**Van**	**0.78**	**333**	PG		Pg		05 17 57.0	+1.7
VANB	**Van**	**0.92**	**337**	PG		Pg		05 17 57.3	-0.7
VANB				SG		Sg		05 18 11.5	+1.3
CLDR	**Caldiran**	**1.39**	**3**	PN		Pn		05 18 07.4	+1.6
MSL	**Mosul**	**1.57**	**203**	*e*Pn		Pn		05 18 08.0	-0.5
MSL				*i* Sb		Sb		05 18 28.0	-1.1
MSL				*i* Sg		Sg		05 18 29.0	-3.2
BTMT	**Batman**	**1.91**	**284**	PN		Pn		05 18 16.4	+3.2
VRT	**Varto**	**2.28**	**308**	*e*PN		Pn		05 18 20.3	+1.8
GNI	**Garni**	**2.50**	**16**	*e*PN		Pn		05 18 23.0	+1.3
BINT	**Bingol**	**2.86**	**294**	*e*PN		Pn		05 18 28.1	+1.2
EZM	**Erzurum**	**2.89**	**319**	*e*PN		Pn		05 18 28.6	+1.3
PTK	**Pertek**	**3.68**	**289**	*e*PN		Pn		05 18 40.1	+1.6
URFA	**Urfa**	**4.00**	**267**	*e*PN		Pn		05 18 44.8	+1.8
MALT	**Malatya**	**4.31**	**279**	*e*PN		Pn		05 18 49.4	+2.0
MYA	**Malataya**	**4.31**	**279**	*e*PN		Pn		05 18 49.5	+2.0

*MOS **27** 05:23:28.4±1.4, 51.79N×177.04W, h66km, mb4.4/5, Error ellipse: s-maj=15.3km s-min=10.3km az=62.5*
*NEIC **27** 05:23:29.5±0.3, 51.63N×176.93W, mb4.4/16, ML4.3(AEIC), Error ellipse: s-maj=8.9km s-min=4.8km az=169.0*
NEIC Felt [IV] on Adak.
*IDC **27** 05:23:29.6±0.5, 51.83N×176.99W, h59km±3km, mb3.9/17, mb1 4.0/18, mb1mx3.9/25, mbtmp4.2/18, MS3.6/13, Ms1 3.6/13, ms1mx3.5/29, Error ellipse: s-maj=17.4km s-min=10.0km az=175.0*
*BJI **27** 05:23:29.4, 51.64N×177.71W, h49km, mB4.9, mb4.7, Ms4.5, Ms4.1*
ISC 27 05:23:29.3±0.4, 51.76N±0.08×176.93W±0.05, h72km±2km, h61km±1.6km: pP-P, n102, σ0°91/96, mb4.3/38, 1D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KIWB	**Kanaga Island**	**0.16**	**305**	P		**P**		**05 23 40.6**	**+0.6**
KIMD	**Kanaga Island**	**0.19**	**270**	P		**P**		**05 23 40.2**	**+0.2**
KIKV	**Kanaga Island**	**0.19**	**309**	P		**P**		**05 23 40.8**	**+0.8**
ADK	**Adak**	**0.20**	**52**	P		**P**		**05 23 39.4**	**-0.7**
ADK				S		**S**		**05 23 47.7**	**-0.4**
KINC	**Kanaga Island**	**0.21**	**325**	P		**P**		**05 23 41.0**	**+0.9**
ADAG	**Mount Adagdak**	**0.30**	**43**	P		**P**		**05 23 41.2**	**+0.4**
ETKA	**Kagalaska Isla**	**0.34**	**73**	P		**P**		**05 23 40.2**	**-0.9**
ETKA				S		**S**		**05 23 48.2**	**-1.6**
GSTD	**Great Sitkin T**	**0.57**	**59**	P		**P**		**05 23 43.4**	**+0.2**
GSSP	**Great Sitkin S**	**0.57**	**54**	P		**P**		**05 23 43.7**	**+0.5**
GSMY	**Great Sitkin M**	**0.61**	**62**	P		**P**		**05 23 43.7**	**+0.1**
GSTR	**Great Sitkin T**	**0.64**	**58**	P		**P**		**05 23 44.4**	**+0.6**
GSIG	**Igitkin Island**	**0.67**	**70**	P		**P**		**05 23 43.8**	**-0.3**
ATKA	**Atka Island**	**1.75**	**74**	P		**P**		**05 23 58.0**	**-0.2**
ATKA				S		**S**		**05 24 19.5**	**0.0**
FX1	**Attu Island--F**	**6.17**	**284**	P		**P**		**05 24 57.4**	**-2.4**
FX1				S		**S**		**05 26 10.4**	**+0.6**
FX1				pmax		pmax			
	comp=Z,22nm,0.3s								
FX1				smax					
	comp=N,16nm,0.3s								
FX1	**Attu Island--F**	**6.17**	**284**	P		**P**		**05 24 57.4**	**-2.3**
	comp=N,22nm,0.3s,baz=321,slow=15,SNR=51								
FX1				S		**S**		**05 26 10.4**	**+0.7**
	comp=N,16nm,0.3s,baz=215,slow=24,SNR=6.0								
FX1	**Attu Island--F**	**6.17**	**284**	*e*P		**P**		**05 24 59.5**	**-0.3**
UNV	**Unalaska Valle**	**6.66**	**68**	*e*P		**P**		**05 25 07.2**	**+0.5**
SLKM	**Skilak Lake**	**17.16**	**49**	*e*P		**P**		**05 27 25.4**	**0.0**
BILL	**Bilibino**	**18.25**	**340**	⇓*i*P		**P**		**05 27 40.4**	**+1.6**
BILL				pmax		pmax			
	comp=Z,35nm,1.3s								
BILL	**Bilibino**	**18.25**	**340**	*e*P		**P**		**05 27 40.6**	**+1.8**
	comp=Z,25nm,1.0s								
IMA	**Indian Mountai**	**18.52**	**30**	*e*P		**P**		**05 27 43.5**	**+1.5**
IMA				pmax		pmax			
	comp=Z,48nm,1.0s								
IMA	**Indian Mountai**	**18.52**	**30**	*e*P		**P**		**05 27 43.5**	**+1.5**
	comp=Z,48nm,1.0s								
MCK	**McKinley**	**18.96**	**40**	*e*P		**P**		**05 27 45.4**	**-1.6**
MCK				pmax		pmax			
	comp=Z,8.0nm,0.8s								
MCK	**McKinley**	**18.96**	**40**	*e*P		**P**		**05 27 45.4**	**-1.6**
	comp=Z,8.2nm,0.8s								
COLA	**College**	**19.90**	**38**	*e*P		**P**		**05 27 56.4**	**-0.7**
COLA				pmax		pmax			
	comp=Z,13nm,0.9s								
COLA	**College**	**19.90**	**38**	*e*P		**P**		**05 27 56.4**	**-0.7**
	comp=Z,13nm,0.9s								
THY	**Trims Highway**	**20.14**	**43**	*e*P		**P**		**05 27 59.1**	**-0.5**
DAWY	**Dawson**	**23.03**	**43**	*e*P		**P**		**05 28 28.2**	**-0.1**
INK	**Inuvik**	**26.48**	**35**	P		**P**		**05 29 00.6**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.5,baz=264,slow=14,SNR=5.9								
INK				PcP	PcP			05 32 23.0	-1.9
	comp=Z,3.3nm,0.8s,baz=257,slow=4.3,SNR=9.2								
INK				ScP				05 35 57.0	
	comp=Z,4.7nm,1.1s,baz=250,slow=2.2,SNR=7.9								
INK				LR	LR			05 41 06.4	
	comp=Z,90nm,18.5s,baz=284,slow=40								
INK	**Inuvik**	**26.48**	**35**	P		**P**		**05 29 00.6**	**-0.5**
INK				PcP	PcP			05 32 23.0	-1.9
INK				ScP				05 35 57.0	
INK				LR	LR			05 41 06.4	
DLBC	**Dease Lake**	**27.18**	**57**	LR	LR			05 38 47.7	
	comp=Z,106nm,18.6s,baz=86,slow=34								
YKA	**Yellowknife Ar**	**34.12**	**47**	P		**P**		**05 30 07.9**	**-0.8**
YKA								05 32 44.1	
YKA				pmax	pmax				
	comp=Z,2.0nm,0.8s								
YKA				pmax	pmax				
	comp=Z,2.0nm,0.7s								
YKA				pmax	pmax				
	comp=N,2.0nm,0.9s								
YKA				MLR	MLR				
	comp=Z,52nm,18.2s								
YKA	**Yellowknife Ar**	**34.12**	**47**	P		**P**		**05 30 07.9**	**-0.8**
	comp=Z,1.5nm,0.8s,mb3.9,baz=282,slow=8.1,SNR=22								
YKA				PcP	PcP			05 32 44.1	-0.6
	comp=Z,2.1nm,0.7s,baz=289,slow=2.9,SNR=36								
YKA				ScP				05 36 22.1	
	comp=Z,2.0nm,0.9s,baz=290,slow=3.2,SNR=29								
YKA				LR	LR			05 44 00.9	
	comp=Z,52nm,18.2s,baz=270,slow=36								
NEW	**Newport**	**37.66**	**71**	*e*P		**P**		**05 30 38.3**	**-0.5**
NEW				pmax	pmax				
	comp=Z,10.0nm,0.8s								
NEW	**Newport**	**37.66**	**71**	P		**P**		**05 30 39.5**	**+0.8**
	comp=Z,8.8nm,0.8s,mb4.6,baz=298,slow=7.2,SNR=20								
NEW	**Newport**	**37.66**	**71**	*e*P		**P**		**05 30 38.3**	**-0.4**
	comp=Z,9.5nm,0.8s,mb4.7								
YBH	**Yreka Blue Hor**	**37.68**	**83**	P		**P**		**05 30 40.7**	**+1.7**
	comp=Z,4.6nm,1.0s,mb4.3,baz=13,slow=1.7,SNR=3.8								
CN2	**Changchun**	**38.62**	**282**	*e*P		**P**		**05 30 46.5**	**-0.3**
CN2				*e*S		**S**		**05 36 34.5**	**-3.0**
CN2				AMB	AMB				
	comp=Z,10.0nm,0.9s,mb4.7								
CN2				AMB	AMB				
	comp=Z,200nm,3.0s								
CN2				LR	LR				
	comp=N,400nm,16.0s								
CN2				LR	LR				
	comp=E,300nm,16.0s								
MSO	**Missoula**	**40.24**	**71**	*e*P		**P**		**05 31 00.1**	**-0.1**
	comp=E,2.6nm,0.8s,mb4.1								
CHMT	**Chamberlain Mo**	**40.60**	**71**	*e*P		**P**		**05 31 02.8**	**-0.4**
HRY	**Holter Researc**	**41.54**	**70**	*e*P		**P**		**05 31 11.1**	**+0.3**
HLID	**Hailey**	**41.72**	**76**	*e*P		**P**		**05 31 13.0**	**+0.7**
	comp=E,6.1nm,1.2s,mb4.2								
LKWY	**Lake**	**43.55**	**72**	P		**P**		**05 31 29.1**	**+1.8**
LKWY				pmax	pmax				
	comp=Z,15nm,0.5s,mb5.0								
LKWY	**Lake**	**43.55**	**72**	P		**P**		**05 31 29.1**	**+1.8**
	comp=Z,15nm,0.5s,mb5.0								
IMW	**Indian Meadow**	**43.61**	**73**	*e*P		**P**		**05 31 29.1**	**+1.3**
HVU	**Hansel Valley**	**43.73**	**77**	*e*P		**P**		**05 31 29.2**	**+0.4**
DUG	**Dugway**	**44.65**	**79**	*e*P		**P**		**05 31 36.1**	**-0.1**
DUG				pmax	pmax				
	comp=Z,5.0nm,1.0s,mb4.2								
DUG	**Dugway**	**44.65**	**79**	*e*P		**P**		**05 31 36.1**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.2								
FCC	**Fort Churchill**	**44.85**	**47**	*e*P		**P**		**05 31 35.9**	**-1.6**
FCC				pmax	pmax				
	comp=Z,2.0nm,0.6s,mb4.0								
FCC	**Fort Churchill**	**44.85**	**47**	*e*P		**P**		**05 31 35.9**	**-1.6**
	comp=Z,1.6nm,0.6s,mb3.9								
BW06	**Boulder Array**	**45.08**	**74**	*e*P		**P**		**05 31 39.8**	**+0.2**
	comp=Z,6.9nm,0.8s,mb4.4								
PDAR	**Pinedale Array**	**45.08**	**74**	P		**P**		**05 31 40.3**	**+0.7**
	comp=Z,7.0nm,0.8s,mb4.4,baz=310,slow=4.1,SNR=40								
PDAR				pP	pP			05 31 54.8	-2.7
	comp=Z,5.1nm,0.8s,baz=320,slow=3.5,SNR=8.6								
DAU	**Daniels Canyon**	**45.47**	**77**	*e*P		**P**		**05 31 44.1**	**+1.4**
BJI	**Beijing**	**46.43**	**283**	P		**P**		**05 31 50.0**	**-0.3**
BJI				AP	pP			05 32 07.0	-1.2
BJI				XS				05 38 47.8	
BJI				AMB	AMB				
	comp=Z,9.0nm,0.9s,mb4.5								
BJI				LR	LR				
	comp=N,106nm,16.9s								
BJI				LR	LR				
	comp=E,182nm,15.6s								
BJI				LR	LR				
	comp=Z,83nm,24.2s								
SRU	**San Rafael**	**46.71**	**78**	*e*P		**P**		**05 31 53.0**	**+0.5**
ULN	**Ulaanbaatar**	**47.13**	**297**	*e*P		**P**		**05 31 55.4**	**-0.3**
ULN				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.1								
ULN	**Ulaanbaatar**	**47.13**	**297**	*e*P		**P**		**05 31 55.4**	**-0.3**
	comp=Z,3.9nm,1.1s,mb4.0								
SONM	**Songino Array**	**47.51**	**297**	P		**P**		**05 31 58.6**	**-0.1**
	comp=Z,0.7nm,0.4s,mb3.8,baz=45,slow=8.5,SNR=9.7								
SONM				PcP	PcP			05 33 27.8	-0.4
	comp=Z,2.9nm,0.8s,baz=72,slow=2.1,SNR=17								
SONM				ScP				05 37 15.5	
	comp=Z,3.8nm,1.0s,baz=51,slow=3.6,SNR=22								
ZAK	**Zakamensk**	**47.75**	**302**	*e*P		**P**		**05 32 02.1**	**+1.6**
ZAK				pmax	pmax				
	comp=Z,1.0nm,1.0s,mb3.6								
PV10	**Paradox Valley**	**48.08**	**78**	*e*P		**P**		**05 32 03.8**	**+0.6**
WUAZ	**Wupatki**	**48.48**	**83**	*e*P		**P**		**05 32 05.5**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.2								
ULM	**Lac du Bonnet**	**48.50**	**58**	P		**P**		**05 32 06.4**	**+0.1**
	comp=Z,0.7nm,0.4s,mb3.9,baz=254,slow=1.4,SNR=2.9								
PV01	**Paradox Valley**	**48.51**	**78**	*e*P		**P**		**05 32 06.6**	**0.0**
HHC	**Hu-ho-hao-te**	**48.70**	**287**	*e*P		**P**		**05 32 08.5**	**+0.5**
HHC				AP	pP			05 32 23.5	-2.5
HHC				PP	PP			05 34 02.3	+0.8
HHC				PCS				05 37 29.3	
HHC				S	S			**05 38 56.3**	**-7.5**
HHC				SS	SS			05 42 27.8	-2.6
HHC				AMB	AMB				
	comp=Z,9.0nm,0.5s,mb5.0								
HHC				AMB	AMB				
	comp=Z,134nm,5.6s								
GUMO	**Guam**	**48.87**	**233**	LR	LR			05 51 42.5

comp=Z,1.5nm,0.6s,baz=49,slow=7.1,SNR=4.6
BVAR PcP PcP 05 34 20.0 -0.8
comp=Z,1.9nm,0.7s,baz=63,slow=3.3,SNR=5.8
KMI Kunming 64.82 279 P **P** **05 34 02.8 +0.1**
KMI AMB AMB
comp=Z,36nm,0.8s,mb5.2
KMI LR LR
comp=N,215nm,4.8s
KMI LR LR
comp=E,248nm,5.9s
KMI LR LR
comp=Z,33nm,32.5s
FINES FINESS Array B 65.66 348 LR LR 06 05 03.9
comp=Z,35nm,20.2s,baz=343,slow=38
NB2 NORSAR Subarra 67.36 356 P **P** **05 34 34.3 +16**
comp=Z,1.0nm,0.8s,mb3.7,baz=7.0,slow=6.2
NOA NORSAR Array B 67.36 356 LR LR 06 00 42.4
comp=Z,28nm,21.5s,baz=5.0,slow=33
PPT Papeete 73.05 153 LR LR 06 00 59.3
comp=Z,148nm,19.2s,baz=34,slow=31
RAO Raoul Island 80.67 181 LR LR 06 11 23.3
comp=Z,80nm,18.6s,baz=315,slow=36
WRAB Tennant Creek 83.09 225 P **P** **05 35 47.9 -0.5**
WRA Warramunga Arr 83.10 225 P **P** **05 35 47.6 -0.8**
comp=Z,0.9nm,0.9s,mb3.6,baz=36,slow=5.9,SNR=5.1
WRA pP pP 05 36 05.8 -2.3
comp=Z,0.8nm,0.8s,baz=37,slow=6.2,SNR=4.1
BRTR Keskin Array B 85.07 337 P **P** **05 35 58.0 +0.2**
comp=Z,2.1nm,0.7s,mb4.2,baz=59,slow=3.0,SNR=13
FITZ Fitzroy Crossi 85.62 234 P **P** **05 36 02.2 +1.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=332,slow=15,SNR=3.7
FITZ pP pP 05 36 18.3 -2.5
comp=Z,4.2nm,0.7s,baz=347,slow=3.5,SNR=3.9
ASAR Alice Springs 86.56 224 P **P** **05 36 05.8 +0.3**
comp=Z,0.8nm,0.8s,mb3.7,baz=32,slow=4.5,SNR=6.3
ASAR pP pP 05 36 22.6 -2.8
comp=Z,1.9nm,0.8s,baz=30,slow=4.9,SNR=11
VAE Valguarnera 90.58 351 LR LR 06 24 50.9
comp=Z,92nm,18.6s,baz=112,slow=41
STKA Stephens Creek 90.89 214 P **P** **05 36 26.8 +0.9**
comp=Z,1.8nm,0.7s,mb4.3,baz=35,slow=7.3,SNR=5.1
STKA pP pP 05 36 43.3 -2.6
comp=Z,1.6nm,0.7s,baz=322,slow=12,SNR=3.1
STKA Stephens Creek 90.89 214 *eP* **P** **05 36 26.2 +0.3**
IDI Anoyia 91.23 342 LR LR 06 20 57.9
comp=Z,27nm,19.3s,baz=48,slow=38
KMBO Kilima Mbogo 121.96 319 PKP PKPdf 05 42 17.4 +1.7
comp=Z,0.9nm,0.4s,baz=234,slow=23,SNR=4.9
TSUM Tsumeb 145.56 335 *e*PKP PKPdf 05 43 00.2 +1.1
LBTB Lobatse 148.24 319 PKPbc PKPdf 05 43 08.7 +5.3
comp=Z,9.7nm,0.7s,baz=44,slow=1.8,SNR=24
LBTB pPKPbc 05 43 25.1
comp=Z,2.6nm,0.7s,baz=14,slow=4.2,SNR=2.7
BOSA Boshof 151.55 316 *e*PKIKP PKPdf 05 43 16.0 +7.6
BOSA Boshof 151.55 316 PKPbc PKPdf 05 43 16.4 +8.0
comp=Z,14nm,0.7s,baz=45,slow=1.7,SNR=44
BOSA PKPab PKPab 05 43 25.2 -0.6
comp=Z,2.8nm,0.8s,baz=62,slow=6.1,SNR=3.7
BOSA pPKPbc 05 43 33.0
comp=Z,2.6nm,0.7s,baz=123,slow=7.3,SNR=2.4

IDC 27 05:24:45.9±1.7, 8.22S×125.01E, mb3.7/1, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, ML3.5/3, MS4.4/1, Ms1 4.4/1, ms1mx2.7/21, Error ellipse: s-maj=103.1km s-min=26.3km az=66.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.56**	**122**	*e*P		P 05 26 54.8	+0.8
	4.9nm,0.5s						
KAKA				*e*S		Sn 05 28 33.9	+1.4
FITZ	**Fitzroy Crossi**	**9.84**	**177**	*e*P		P 05 27 08.8	-3.1
	2.4nm,0.4s						
FITZ				*e*S		Sn 05 28 52.5	-12
FITZ	**Fitzroy Crossi**	**9.84**	**177**	Pn		P 05 27 09.1	-2.8
	0.7nm,0.3s,baz=1.0,slow=8.2,SNR=9.2						
FITZ				Sn		Sn 05 28 52.5	-12
	1.0nm,0.3s,baz=147,slow=5.3,SNR=12						
WRA	**Warramunga Arr**	**14.74**	**143**	Pn		P 05 28 14.0	-3.8
	0.2nm,0.3s,baz=316,slow=13,SNR=28						
WRA				Sn		S 05 30 51.0	-12
	0.1nm,0.3s,baz=319,slow=24,SNR=3.5						
WB2	**Warramunga Arr**	**14.75**	**143**	*e*P		P 05 28 15.0	-2.9
ASAR	**Alice Springs**	**17.57**	**152**	P		P 05 28 53.1	-0.8
	0.1nm,0.3s,baz=321,slow=11,SNR=13						
ASAR				S		S 05 32 01.6	-6.9
	0.1nm,0.3s,baz=334,slow=25,SNR=4.6						
MKAR	**Makanchi Array**	**66.64**	**329**	P		P 05 35 38.5	-2.1
	0.9nm,1.0s,baz=143,slow=7.2,SNR=3.4						

IDC 27 05:38:46.2±0.9, 35.84S×104.30W, mb4.2/8, mb1 4.3/8, mb1mx4.0/17, mbtmp4.1/8, MS3.4/4, Ms1 3.4/4, ms1mx3.2/21, Error ellipse: s-maj=31.2km s-min=22.4km az=178.0
NEIC 27 05:38:47.8±0.7, 35.78S×104.24W, h10km, mb4.1/4, Error ellipse: s-maj=22.0km s-min=15.2km az=187.0
ISC 27 05:38:46.0±0.9, 35.8S±0.2×104.3W±0.2, h10km, n18, σ0s89/13, mb4.1/9, MS3.3/4, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLCA	**Paca Flores**	**26.83**	**111**	P	**P**	**05 44 29.3**	**+1.0**
	1.1nm,0.6s,mb3.5,baz=270,slow=11,SNR=4.4						
PLCA				LR	LR	05 52 05.3	
	comp=Z,110nm,19.4s,MS3.4,baz=185,slow=30						
PLCA	**Paca Flores**	**26.83**	**111**	*e*P	**P**	**05 44 29.5**	**+1.2**
	2.9nm,0.8s,mb3.9						
PLCA				LR	LR	05 52 05.3	
CFAA	**Coronel Fontan**	**30.17**	**92**	LR	LR	05 53 59.3	
	comp=Z,19nm,21.5s,MS2.7,baz=221,slow=30						
LPAZ	**La Paz**	**37.57**	**68**	P	**P**	**05 46 03.8**	**+1.4**
	1.5nm,0.8s,mb3.8,baz=235,slow=6.7,SNR=7.1						
LPAZ				LR	LR	05 59 19.0	
	comp=Z,42nm,18.7s,MS3.3,baz=282,slow=33						
LPAZ	**La Paz**	**37.57**	**68**	*e*P	**P**	**05 46 03.1**	**+0.7**
	1.2nm,0.7s,mb3.7						
LPAZ				LR	LR	05 59 19.0	
SIV	**San Ignacio**	**43.18**	**74**	P	**P**	**05 46 47.8**	**-1.1**
	1.9nm,0.7s,mb3.9,baz=244,slow=9.6,SNR=13						
SAML	**Samuel**	**45.97**	**65**	*e*P	**P**	**05 47 09.5**	**-1.7**
	3.1nm,1.1s,mb4.2						
BDFB	**Brasilia**	**53.78**	**83**	LR	LR	06 07 55.2	
	comp=Z,92nm,20.5s,MS3.8,baz=44,slow=32						
URZ	**Urewera**	**60.94**	**242**	P	**P**	**05 49 01.0**	**-0.5**
	3.6nm,0.5s,mb4.8,baz=121,slow=12,SNR=2.4						
TXAR	**Lajitas Array**	**64.81**	**1**	P	**P**	**05 49 27.8**	**+0.5**
	1.4nm,0.8s,mb4.0,baz=180,slow=9.2,SNR=14						
BW06	**Boulder Array**	**78.36**	**356**	*e*P	**P**	**05 50 48.6**	**+0.6**
PDAR	**Pinedale Array**	**78.36**	**356**	P	**P**	**05 50 48.6**	**+0.7**
	2.5nm,0.7s,mb4.2,baz=150,slow=5.8,SNR=24						
ULM	**Lac du Bonnet**	**86.02**	**5**	P	**P**	**05 51 27.6**	**0.0**
	1.3nm,0.5s,mb4.4,baz=160,slow=4.5,SNR=4.2						
ULM	**Lac du Bonnet**	**86.02**	**5**	*e*P	**P**	**05 51 27.1**	**-0.5**
	2.5nm,0.8s,mb4.5						
YKA	**Yellowknife Ar**	**98.33**	**355**	P	**P**	**05 52 24.0**	**-0.4**
	0.2nm,0.8s,mb3.7,baz=164,slow=4.8,SNR=6.0						
BRTR	**Keskin Array B**	**146.74**	**70**	PKPbc	PKPbc	05 58 29.7	+2.0
	1.3nm,1.0s,baz=225,slow=3.5,SNR=6.0						
SONM	**Songino Array**	**154.36**	**307**	PKPbc	PKPdf	05 58 47.9	+7.4
	baz=135,slow=2.0						
SONM				PKPab	PKPab	05 59 01.6	-0.9
	0.6nm,0.8s,baz=138,slow=1.1,SNR=1.8						
BVAR	**Borovoye Array**	**162.40**	**11**	PKPab	PKPab	05 59 36.6	-0.3
	0.6nm,0.7s,slow=5.9,SNR=5.4						

BJI 27 06:09:23.0, 4.48N×94.85E, h40km, mB4.8, mb4.8, Ms4.4, Msz4.0
MOS 27 06:09:25.2±0.9, 5.06N×95.30E, h33km, mb5.0/16, Error ellipse: s-maj=21.7km s-min=8.2km az=116.9
NEIC 27 06:09:26.1±0.2, 4.80N×95.03E, h30km, mb4.8/48, Error ellipse: s-maj=7.4km s-min=4.1km az=34.0
IDC 27 06:09:28.8±0.5, 4.85N×95.09E, h52km, 3km, mb4.4/23, mb1 4.5/23, mb1mx4.4/27, mbtmp4.7/23, MS3.7/7, Ms1 3.7/7, ms1mx3.3/27, Error ellipse: s-maj=25.2km s-min=8.9km az=45.0
ISC 27 06:09:26.1±0.9, 4.69N±0.04×94.99E±0.04, h44km±8km, h45km±2.6km; pP-P, n197, σ1s03/201, mb4.8/91, MS3.8/18, 34C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.67**	**84**	*e*P	**P**	**06 10 49.9**	**0.0**
IPM	**Ipoh**	**6.02**	**91**	P	**P**	**06 10 55.4**	**+0.7**
KGM	**Kluang**	**8.73**	**107**	P	**P**	**06 11 33.7**	**+1.2**
NNT	**Nongplab**	**9.14**	**31**	P	**P**	**06 11 40.0**	**+1.7**
CM31	**Chiang Mai Arr**	**14.22**	**15**	P	**P**	**06 12 44.2**	**-2.5**
PALK	**Pallekele**	**14.44**	**281**	P	**P**	**06 12 44.2**	**-5.4**
CHG	**Chiang Mai**	**14.56**	**15**	⇑P	**P**	**06 12 56.0**	**+4.8**
NANT	**Nan**	**15.09**	**21**	⇑P	**P**	**06 13 01.0**	**+2.9**
	88nm,0.5s						
KSM	**Kuching**	**15.62**	**101**	*e*P	**P**	**06 13 06.5**	**+1.5**
VIS	**Vishakhapatnam**	**17.26**	**320**	*e*P	**P**	**06 13 27.1**	**+1.5**
VIS				*e*S	**S**	**06 16 22.7**	**-12**
QIZ	**Qiongzhong**	**20.33**	**44**	*e*P	**P**	**06 14 02.3**	**+1.0**
QIZ				*e*S	**S**	**06 17 44.3**	**+2.5**
QIZ				LR	LR		
	comp=Z,241nm,18.8s,MS3.6						
HYB	**Hyderabad**	**20.47**	**309**	*e*P	**P**	**06 14 05.0**	**+2.2**
HYB				*e*S	**S**	**06 17 55.0**	**+10**
HYB	**Hyderabad**	**20.47**	**309**	*i* P	**P**	**06 14 05.0**	**+2.2**
HYB				*e*S	**S**	**06 17 55.0**	**+10**
KMI	**Kunming**	**21.64**	**19**	P	**P**	**06 14 16.5**	**+1.9**
KMI				AP		06 14 28.0	
KMI				S	**S**	**06 18 02.0**	**-4.6**
KMI				XS		06 18 22.0	
KMI				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,70nm,4.4s						
KMI				LR	LR		
	comp=N,182nm,13.6s,MS3.7						
KMI				LR	LR		
	comp=E,165nm,15.8s,MS3.7						
KMI				LR	LR		
	comp=Z,200nm,23.7s						
GYA	**Guiyang**	**24.36**	**26**	⇑*i*P	**P**	**06 14 41.8**	**+0.5**
GYA				XP		06 14 55.0	
GYA				PP	PP	06 15 17.0	-0.5
GYA				S	**S**	**06 18 56.5**	**+1.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
GYA				LR	LR		
	comp=N,280nm,16.6s,MS4.0						
GYA				LR	LR		
	comp=E,340nm,15.8s,MS4.0						
GYA				LR	LR		
	comp=Z,240nm,16.0s,MS3.8						
LSA	**Lhasa**	**25.14**	**352**	*e*P	**P**	**06 14 48.9**	**+0.1**
	comp=Z,16nm,0.6s,mb4.7						
CD2	**Chengdu**	**27.36**	**17**	P	**P**	**06 15 07.0**	**-2.3**
CD2				S	**S**	**06 19 43.5**	**-0.9**
CD2				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.8						
CD2				LR	LR		
	comp=N,190nm,7.2s						
CD2				LR	LR		
	comp=Z,130nm,13.2s,MS3.7						
ENH	**Enshi**	**28.89**	**27**	*e*P	**P**	**06 15 20.0**	**-3.1**
	comp=Z,7.0nm,0.5s,mb4.7						
LZH	**Lanzhou**	**32.29**	**13**	*e*P	**P**	**06 15 51.5**	**-1.6**
LZH				AP	pP	06 16 01.5	-3.5
LZH				XP	sP	06 16 05.5	-5.1
LZH				PP	PP	06 17 00.0	-1.4
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
LZH				LR	LR		
	comp=E,213nm,14.6s						
LZH				LR	LR		
	comp=Z,265nm,16.0s,MS4.0						
GTA	**Gaotai**	**34.84**	**7**	*e*P	**P**	**06 16 13.5**	**-1.5**
GTA				AP	pP	06 16 23.0	-4.0
GTA				XP	sP	06 16 27.0	-5.6
GTA				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
NJ2	**Nanjing**	**35.23**	**37**	*e*P	**P**	**06 16 19.8**	**+1.4**
NJ2				AP	pP	06 16 29.5	-0.9
NJ2				XP	sP	06 16 33.5	-2.5
NJ2				PP	PP	06 17 40.0	+1.7
NJ2				S	**S**	**06 21 53.0**	**+5.0**
NJ2				XS		06 22 10.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,150nm,4.7s						
NJ2				LR	LR		
	comp=N,200nm,23.3s,MS4.1						
NJ2				LR	LR		
	comp=E,260nm,18.4s,MS4.1						
NJ2				LR	LR		
	comp=Z,160nm,20.1s,MS3.8						
SSE	**Sheshan**	**36.01**	**40**	*e*P	**P**	**06 16 24.5**	**-0.6**
SSE				AP	pP	06 16 33.8	-3.3
SSE				S	**S**	**06 22 02.5**	**+2.4**
SSE				XS		06 22 18.0	
SSE				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,34nm,5.6s						
FITZ	**Fitzroy Crossi**	**37.77**	**128**	⇓*i* P	**P**	**06 16 39.3**	**-0.6**
	comp=Z,12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**37.77**	**128**	P	**P**	**06 16 39.3**	**-0.6**
	comp=Z,11nm,0.7s,mb4.7,baz=345,slow=2.6,SNR=9.0						
FITZ				PcP	PcP	06 18 56.2	-0.4
	comp=Z,3.0nm,0.5s,baz=287,slow=3.0,SNR=4.2						
FITZ				LR	LR	06 31 29.0	
	comp=Z,97nm,19.6s,MS3.6,baz=275,slow=35						
HHC	**Hu-ho-hao-te**	**38.96**	**20**	*e*P	**P**	**06 16 51.5**	**+1.9**
HHC				XP	sP	06 17 05.8	-1.3
HHC				PP	PP	06 18 26.0	+2.7
HHC				S	**S**	**06 22 52.5**	**+7.6**
HHC				XS		06 23 06.0	
HHC				SS	SS	06 25 35.0	+5.0
HHC				SCS	ScS	06 26 55.8	+2.6
WMQ	**Urumqi**	**39.50**	**352**	P	**P**	**06 16 54.0**	**-0.1**
WMQ				AP	pP	06 17 04.0	-2.1
WMQ				XP	sP	06 17 08.0	-3.6
WMQ				PP	PP	06 18 29.0	0.0
WMQ				*e*S	**S**	**06 22 53.0**	**0.0**
WMQ				XS		06 23 10.0	
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,140nm,4.6s						
WMQ				LR	LR		
	comp=N,453nm,20.8s,MS4.4						
WMQ				LR	LR		
	comp=E,514nm,24.3s,MS4.4						
WMQ				LR	LR		
	comp=Z,386nm,22.0s,MS4.2						
BJT	**Baijiatuan**	**40.03**	**26**	*e*P	**P**	**06 16 58.4**	**-0.1**
	comp=Z,16nm,0.6s,mb4.9						
BJI	**Beijing**	**40.05**	**26**	P	**P**	**06 16 58.8**	**+0.1**
BJI				AP	pP	06 17 07.8	-3.0
BJI				XP	sP	06 17 11.5	-4.7
BJI				S	**S**	**06 23 04.5**	**+3.2**
BJI				AMB	AMB		
	comp=Z,38nm,0.8s,mb5.2						
BJI				LR	LR		
	comp=N,150nm,12.3s,MS4.2						
BJI				LR	LR		
	comp=E,153nm,10.2s,MS4.2						
BJI				LR	LR		
	comp=Z,96nm,23.8s						
KAKA	**Kakadu**	**41.03**	**115**	*e*P	**P**	**06 17 05.8**	**-1.2**
	comp=Z,12nm,0.6s,mb4.7						
KZA	**Kyzart**	**41.18**	**338**	P	**P**	**06 17 09.1**	**+1.1**
	SNR=8.8						
UCH	**Uchtor**	**41.59**	**337**	P	**P**	**06 17 12.5**	**+1.1**
	SNR=18						
TKM2	**Tokmak 2**	**41.78**	**339**	P	**P**	**06 17 13.7**	**+0.7**
	SNR=16						
KBK	**Karagaybulak**	**41.79**	**338**	P	**P**	**06 17 14.3**	**+1.3**
	SNR=33						
AML	**Almayashu**	**41.84**	**336**	P	**P**	**06 17 14.5**	**+1.1**
	SNR=9.6						
AAK	**Ala-Archa**	**41.95**	**337**	P	**P**	**06 17 14.7**	**+0.4**
	comp=Z,94nm,0.7s,mb5.5,SNR=18						
AAK	**Ala-Archa**	**41.95**	**337**	*i* P	**P**	**06 17 14.0**	**-0.3**
AAK				pmax	pmax		
	comp=Z,23nm,1.5s,mb4.6						
AAK	**Ala-Archa**	**41.95**	**337**	*e*P	**P**	**06 17 13.6**	**-0.8**
	comp=Z,9.4nm,0.6s,mb4.6						
CHMS	**Chumysh**	**42.16**	**338**	P	**P**	**06 17 16.3**	**+0.2**
	SNR=7.2						
EKS2	**Erkin-Say**	**42.25**	**337**	P	**P**	**06 17 17.8**	**+1.0**
	SNR=14						
USP	**Ospenovka**	**42.49**	**338**	P	**P**	**06 17 19.1**	**+0.4**
	SNR=33						
MKAR	**Makanchi Array**	**43.36**	**347**	P	**P**	**06 17 24.8**	**-1.1**
	comp=Z,9.3nm,0.4s,mb4.9,baz=162,slow=8.2,SNR=182						
MKAR				pP	pP	06 17 37.8	-0.2
	comp=Z,3.0nm,0.6s,baz=162,slow=8.0,SNR=4.7						
MKAR				PcP	PcP	06 19 14.0	-0.4
	comp=Z,1.6nm,0.7s,baz=171,slow=3.8,SNR=3.2						
MKAR				LR	LR	06 38 33.6	
	comp=Z,44nm,19.1s,MS3.4,baz=0.4,slow=40						
MKAR	**Makanchi Array**	**43.36**	**347**	P	**P**	**06 17 24.8**	**-1.1**
MKAR				pP	pP	06 17 37.8	-0.2
MKAR				PcP	PcP	06 19 14.1	-0.4
MKAR				LR	LR	06 38 33.6	
SONM	**Songino Array**	**44.09**	**11**	P	**P**	**06 17 30.2**	**-1.5**
	comp=Z,3.1nm,0.7s,mb4.1,baz=190,slow=8.3,SNR=32						
SONM				PcP	PcP	06 19 16.1	-0.8
	comp=Z,3.1nm,0.6s,baz=193,slow=3.6,SNR=15						
SONM				pPcP		06 19 29.6	
	comp=Z,1.4nm,0.5s,baz=192,slow=3.2,SNR=5.1						
SONM				LR	LR	06 37 38.1	
	comp=Z,87nm,18.4s,MS3.7,baz=219,slow=38						
ULN	**Ulaanbaatar**	**44.25**	**12**	*i* P	**P**	**06 17 31.2**	**-1.8**
ULN	**Ulaanbaatar**	**44.25**	**12**	*e*P	**P**	**06 17 30.2**	**-2.7**
	comp=Z,2.1nm,0.6s,mb4.0						
SNY	**Shenyang**	**44.92**	**30**	⇑P	**P**	**06 17 37.3**	**-1.2**
SNY				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**45.77**	**124**	P	**P**	**06 17 45.3**	**-0.2**
	comp=Z,30nm,0.7s,mb5.3,baz=302,slow=9.1,SNR=17						
WRA				pP	pP	06 17 58.9	+1.3
	comp=Z,11nm,0.6s,baz=300,slow=9.5,SNR=8.1						
WRAB	**Tennant Creek**	**45.77**	**124**	P	**P**	**06 17 45.0**	**-0.5**
	comp=Z,292nm,0.6s,SNR=38						
WRAB	**Tennant Creek**	**45.77**	**124**	*i* P	**P**	**06 17 45.5**	**0.0**
WRAB	**Tennant Creek**	**45.77**	**124**	*e*P	**P**	**06 17 45.2**	**-0.4**
	comp=Z,47nm,0.7s,mb5.5						
WB2	**Warramunga Arr**	**45.78**	**124**	⇑*i*P	**P**	**06 17 45.5**	**-0.1**
ZAK	**Zakamensk**	**46.07**	**7**	*e*P	**P**	**06 17 45.4**	**-2.1**
ZAK				*e*		06 19 22.8	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
ASPA	**Alice Springs**	**47.26**	**128**	⇑*i*P	**P**	**06 17 57.0**	**-0.2**
ASAR	**Alice Springs**	**47.26**	**128**	P	**P**	**06 17 57.1**	**-0.1**
	comp=Z,7.7nm,0.5s,mb4.8,baz=299,slow=7.9,SNR=175						
ASAR				pP	pP	06 18 10.8	+1.4
	comp=Z,11nm,0.6s,baz=300,slow=7.7,SNR=14						
ASAR				PcP	PcP	06 19 28.1	-0.2
	comp=Z,2.0nm,0.7s,baz=305,slow=3.9,SNR=5.2						
CN2	**Changchun**	**47.31**	**30**	*e*P	**P**	**06 17 57.8**	**+0.5**
CN2				*e*AP	pP	06 18 06.0	-3.5
CN2				*e*S	**S**	**06 24 47.5**	**+0.8**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.3						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.3						
TLY	**Talaya**	**47.39**	**7**	*e*P	**P**	**06 17 56.7**	**-1.1**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
TLY				MLR	MLR		
	comp=Z,78nm,20.0s,MS3.7						
TLY	**Talaya**	**47.39**	**7**	*e*P	**P**	**06 17 56.0**	**-1.8**
	comp=Z,3.5nm,0.7s,mb4.4						
KURK	**Kurchatov**	**47.88**	**346**	⇑*i*P	**P**	**06 18 01.0**	**-0.7**
KURK	**Kurchatov**	**47.88**	**346**	*e*P	**P**	**06 18 00.6**	**-1.2**
	comp=Z,11nm,0.6s,mb5.0						
HIA	**Hailar**	**49.14**	**21**	*e*P	**P**	**06 18 09.6**	**-1.8**
	comp=Z,5.7nm,0.6s,mb4.8						
MDJ	**Mudanjiang**	**50.00**	**32**	P	**P**	**06 18 17.3**	**-0.9**
MDJ				AP	pP	06 18 26.0	-4.4
MDJ				XP	sP	06 18 30.0	-5.6
MDJ				PCP	PcP	06 19 36.3	-1.6
MDJ				PP	PP	06 20 12.8	-1.4
MDJ				SCP		06 23 29.8	
MDJ				PCS		06 23 33.3	
MDJ				S	**S**	**06 25 27.3**	**+2.9**
MDJ				XS		06 25 42.5	
MDJ				SCS	ScS	06 28 06.3	+3.8
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,53nm,5.5s						
MDJ				LR	LR		
	comp=N,74nm,27.6s,MS3.6						
MDJ				LR	LR		
	comp=E,31nm,25.4s,MS3.6						
MDJ				LR	LR		
	comp=Z,55nm,28.1s,MS3.4						
MDJ	**Mudanjiang**	**50.00**	**32**	*e*P	**P**	**06 18 16.6**	**-1.5**
	comp=Z,9.7nm,0.8s,mb4.9						
NVS	**Novosibirsk**	**50.90**	**351**	*e*P	**P**	**06 18 21.7**	**-3.1**
NVS				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.9						
NVS				pmax	pmax		
	comp=N,4.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
PMG	**Port Moresby**	**53.84**	**105**	P	**P**	**06 18 46.2**	**-1.1**
	comp=E,6.9nm,0.7s,mb4.7,baz=54,slow=7.4,SNR=5.3						
KLR	**Kul'dur**	**54.21**	**29**	*e*P	**P**	**06 18 45.0**	**-4.6**
BOD	**Bodaibo**	**55.05**	**12**	*e*P	**P**	**06 18 53.2**	**-2.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
CTA	**Charters Tower**	**56.05**	**118**	P	**P**	**06 19 03.4**	**+0.1**
	comp=Z,3.2nm,0.8s,mb4.4,baz=226,slow=6.6,SNR=4.8						
CTA				LR	LR	06 44 59.4	
	comp=Z,75nm,18.3s,MS3.8,baz=227,slow=38						
GNI	**Garni**	**57.27**	**316**	P	**P**	**06 19 12.2**	**+0.4**
	comp=Z,4.5nm,0.6s,mb4.7,baz=26,slow=5.1,SNR=4.3						
ASAJ	**Asahikawa**	**57.30**	**39**	P	**P**	**06 19 10.8**	**-1.1**
	comp=Z,9.9nm,0.6s,mb5.0,baz=248,slow=19,SNR=8.9						
STKA	**Stephens Creek**	**57.32**	**133**	*e*P	**P**	**06 19 11.7**	**-0.6**
	comp=Z,4.5nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**57.32**	**133**	P	**P**	**06 19 11.9**	**-0.4**
	comp=Z,2.2nm,0.7s,mb4.3,baz=311,slow=9.2,SNR=8.3						
STKA				pP	pP	06 19 26.6	+1.7
	comp=Z,3.4nm,0.7s,baz=316,slow=7.4,SNR=6.0						
STKA				LR	LR	06 43 45.6	
	comp=Z,66nm,19.7s,MS3.7,baz=208,slow=36						
KMBO	**Kilima Mbogo**	**57.97**	**266**	LR	LR	06 38 19.7	
	comp=Z,113nm,20.9s,MS4.0,baz=89,slow=30						
SVE	**Sverdlovsk**	**58.66**	**339**	*e*P	**P**	**06 19 20.0**	**-1.2**
SVE				*e*	pP	06 19 33.7	-0.1
SVE				*e*		06 20 16.0	
ARU	**Arti**	**59.13**	**337**	⇓*i*P	**P**	**06 19 23.3**	**-1.2**
ARU				*e*	

comp=E,8.0nm,0.7s
BALT Daday 65.83 314 *i* P **P** 06 19 57.1 -12
SGKT Sivrigoynuk 66.54 312 *i* P **P** 06 20 12.9 -0.9
ESKT Eskisehir 67.19 311 *i* P **P** 06 20 17.4 -0.5
MOS Moscow 68.22 329 *eP* **P** 06 20 27.2 +3.1
MOS *e* pP 06 20 35.6 -1.4
MOS pmax pmax
comp=Z,37nm,0.8s,mb5.5
OBN Obninsk 68.51 328 *i* P **P** 06 20 24.5 -1.4
OBN pmax pmax
comp=Z,26nm,1.6s,mb4.9
TIXI Tiksi 70.18 11 *eP* **P** 06 20 31.9 -3.9
TIXI pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CFR Carcaliu 70.46 316 P **P** 06 20 37.6 -0.4
CFR Carcaliu 70.46 316 ⇑P **P** 06 20 37.3 -0.7
HARR Harsova 70.49 316 P **P** 06 20 38.1 -0.1
HARR Harsova 70.49 316 ⇑P **P** 06 20 37.8 -0.4
IDI Anoyia 71.08 306 P **P** 06 20 41.9 0.0
comp=Z,9.8nm,0.6s,mb5.0,baz=76,slow=7.7,SNR=16
AKASG Malin Array Be 71.17 322 P **P** 06 20 40.5 -1.6
comp=Z,6.4nm,0.6s,mb4.8,baz=88,slow=5.5,SNR=42
AKASG pP pP 06 20 56.4 +1.4
comp=Z,0.6nm,0.4s,baz=84,slow=6.1,SNR=3.7
AKASG Malin Array Be 71.17 322 P **P** 06 20 40.5 -1.6
AKASG pP pP 06 20 56.4 +1.4
VRI Vrincioaia 71.58 317 P **P** 06 20 45.1 +0.4
VRI Vrincioaia 71.58 317 ⇑P **P** 06 20 44.9 +0.2
MLR Muntele Rosu 72.03 316 P **P** 06 20 47.7 +0.3
MLR Muntele Rosu 72.03 316 P **P** 06 20 48.0 +0.7
comp=Z,12nm,0.7s,mb4.9,baz=159,slow=3.1,SNR=35
MLR Muntele Rosu 72.03 316 ⇑P **P** 06 20 47.6 +0.2
BURAR Bucovina Array 72.97 318 ⇑P **P** 06 20 53.4 +0.5
BOSA Boshof 74.64 239 LR LR 06 47 24.2
comp=Z,86nm,20.7s,MS4.0,baz=162,slow=30
VSU Vasula 74.74 330 *i* P **P** 06 21 02.2 -0.8
APA Apatity 75.11 340 ⇑*i* P **P** 06 21 04.4 -0.5
APA pmax pmax
comp=Z,18nm,0.6s,mb5.2
KOLS Kolonicke sedl 75.15 319 *i* P **P** 06 21 06.2 +0.7
KOLS *e* 06 21 11.2
SUW Suwalki 75.57 325 *eP* **P** 06 21 06.3 -1.5
comp=Z,24nm,0.7s,mb5.2
CRVS Cervenica-Dubn 75.67 319 *i* P **P** 06 21 09.3 +0.8
FINES FINESS Array B 75.91 332 P **P** 06 21 08.6 -1.0
comp=Z,6.0nm,0.5s,mb4.8,baz=96,slow=5.4,SNR=90
FINES pP pP 06 21 23.6 +1.1
comp=Z,4.7nm,0.5s,baz=101,slow=5.0,SNR=9.2
KAF Kangasniemi 75.99 333 *ep* **P** 06 21 08.2 -1.9
comp=Z,4.9nm,0.6s,mb4.6,baz=102,slow=5.3
KAF Kangasniemi 75.99 333 *eP* **P** 06 21 08.2 -1.9
KAF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KECS Kecovo 76.24 319 *i* P **P** 06 21 11.8 0.0
NIE Niedzica 76.50 320 *eP* **P** 06 21 11.8 -1.4
PSZ Piszkesteto 76.55 318 ⇑*i* P **P** 06 21 13.6 0.0
PSZ Piszkesteto 76.55 318 ⇑*i* **P** 06 21 13.6 0.0
OJC Ojcow 76.95 320 *eP* **P** 06 21 15.7 0.0
VYHS Vyhne 77.33 319 *i* P **P** 06 21 18.0 +0.1
VYHS *e* 06 21 24.8
OKC Ostrava-Krasne 77.95 320 *eP* **P** 06 21 21.7 +0.4
KEV Kevo 78.10 341 *ep* **P** 06 21 20.7 -1.0
MORC Moravsky Berou 78.33 320 *eP* **P** 06 21 23.1 -0.3
comp=Z,5.6nm,0.7s,mb4.6
ZST Bratislava 78.45 318 *i* P **P** 06 21 25.1 +1.1
ARCES ARCESS Array B 78.53 340 P **P** 06 21 23.9 -0.2
comp=Z,7.1nm,0.4s,mb4.9,baz=92,slow=5.6,SNR=132
BILL Bilibino 78.72 21 *eP* **P** 06 21 23.9 -1.3
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VRAC Vranov 78.89 319 P **P** 06 21 26.9 +0.4
comp=Z,3.2nm,0.6s,mb4.4,baz=76,slow=7.2,SNR=5.6
FX1 Attu Island--F 79.14 37 *eP* **P** 06 21 27.0 -0.8
DPC Dobruska-Polom 79.17 320 *eP* **P** 06 21 28.7 +0.7
DPC *ex* x 06 21 43.7
KSP Ksiaz 79.24 321 *eP* **P** 06 21 28.7 +0.3
UPC Upice 79.39 320 *eP* **P** 06 21 29.5 +0.4
UPC *ex* x 06 21 46.2
ARSA Arzberg 79.42 317 ⇑*iP* **P** 06 21 29.9 +0.5
comp=Z,8.5nm,1.1s,mb4.6
LEGS Legarje 79.47 316 *i* P **P** 06 21 30.1 +0.4
PVCC Panska Ves 80.31 320 *eP* **P** 06 21 34.7 +0.6
VOY Vojsko 80.46 316 *e*(P) **P** 06 21 34.8 -0.2
VOY *e* pP 06 21 50.6 +2.5
BRG Berggiesshubel 80.73 321 *i* P **P** 06 21 36.9 +0.6
BRG *e* pP 06 21 53.4 +4.0
BRG pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRG Berggiesshubel 80.73 321 *i* P **P** 06 21 36.9 +0.6
BRG *e* pP 06 21 53.4 +4.0
BRG *i* 06 22 02.8
GERES GERESS Array B 80.75 319 P **P** 06 21 36.9 +0.5
comp=Z,9.0nm,0.7s,mb4.8,baz=101,slow=5.3,SNR=115
GERES pP pP 06 21 52.0 +2.4
comp=Z,4.5nm,0.8s,baz=108,slow=4.2,SNR=9.5
KHC Kasperske Hory 80.85 319 *eP* **P** 06 21 37.1 +0.1
KHC *ex* x 06 21 51.7
PTCC Patocco-Chiusa 80.86 316 *eP* **P** 06 21 37.2 +0.2
KBA Koelnbreinsper 80.89 317 ⇑*iP* **P** 06 21 37.0 -0.3
comp=Z,4.9nm,0.5s,mb4.7
ARV Arcevia 81.02 313 *eP* **P** 06 21 38.5 +0.5
FVI Forni Avoltri 81.26 316 *eP* **P** 06 21 39.3 +0.1
CLL Collm 81.35 321 *eP* **P** 06 21 39.0 -0.6
CLL *e* pP 06 21 50.0 -2.6
CLL Collm 81.35 321 P **P** 06 21 39.0 -0.6
CLL *e**SP sP 06 21 50.0 -7.5
SFI Santa Sofia 81.83 314 *eP* **P** 06 21 43.6 +1.4
CTI Castel Tesino 82.02 316 *eP* **P** 06 21 43.9 +0.7
WTTA Wattenberg 82.07 317 ⇑*iP* **P** 06 21 43.2 -0.2
comp=Z,12nm,0.5s,mb5.1
WATA Walderalm 82.11 317 ⇑*iP* **P** 06 21 43.1 -0.5
comp=Z,2.0nm,0.6s,mb4.2
SQTA Sankt Quirin 82.36 317 ⇑*iP* **P** 06 21 44.8 0.0
comp=Z,3.3nm,0.6s,mb4.4
GRA1 Grafenberg Arr 82.41 319 *eP* **P** 06 21 45.7 +0.6
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 82.41 319 *eP* **P** 06 21 45.7 +0.6
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 82.41 319 *eP* **P** 06 21 45.7 +0.6
comp=Z,9.0nm,0.8s,mb4.8
NB2 NORSAR Subarra 82.90 331 P **P** 06 21 46.6 -0.7
comp=Z,2.9nm,0.8s,mb4.4,baz=98,slow=4.8
NOA NORSAR Array B 82.90 331 P **P** 06 21 46.6 -0.8
comp=Z,2.3nm,0.8s,mb4.3,baz=94,slow=5.5,SNR=13
NOA pP pP 06 22 01.5 +1.1
comp=Z,2.1nm,0.8s,baz=94,slow=5.4,SNR=7.4
DAVOX Davos 83.26 316 P **P** 06 21 50.3 +0.9
comp=Z,22nm,0.5s,mb5.5,baz=135,slow=4.0,SNR=108
DAVOX pP pP 06 22 05.8 +3.2
comp=Z,4.9nm,0.5s,baz=75,slow=6.4,SNR=3.7
DAVA Damuels 83.26 317 ⇑*iP* **P** 06 21 50.0 +0.6
comp=Z,10.0nm,1.1s,mb4.8
PGF Pioggiola 83.90 312 *eP* **P** 06 21 53.1 +0.2
CDF Champ du Feu 85.01 318 ⇑*iP* **P** 06 21 58.0 -0.2
comp=Z,3.1nm,0.5s,mb4.4
SBF Sospel 85.02 313 *eP* **P** 06 21 58.6 +0.2
comp=Z,30nm,0.8s,mb5.2
LPG La Plagne 85.45 315 ⇑*iP* **P** 06 22 01.1 +0.6
comp=Z,10nm,0.6s,mb4.8
LPL La Plagne 85.47 315 ⇑*iP* **P** 06 22 01.1 +0.5
comp=Z,16nm,0.6s,mb5.0
MBDF Montbardon 85.47 314 *eP* **P** 06 22 00.2 -0.4
comp=Z,5.7nm,0.6s,mb4.6
BNI Bardonecchia 85.52 315 *eP* **P** 06 22 00.5 -0.3
comp=Z,4.8nm,0.8s,mb4.8
FRF La Foret Royal 85.60 313 *eP* **P** 06 22 01.6 +0.3
comp=Z,15nm,0.7s,mb5.0
HAU Haudompre 85.64 318 ⇑*iP* **P** 06 22 01.1 -0.2
comp=Z,15nm,0.6s,mb5.1
CABF La Chapelle 85.87 316 ⇑*iP* **P** 06 22 03.0 +0.5
comp=Z,7.0nm,0.5s,mb4.8
ORIF Oris-en-Rattie 86.09 315 ⇑*iP* **P** 06 22 04.3 +0.7
comp=Z,7.1nm,0.7s,mb4.7
MEZF Maizieres J'vi 86.48 318 ⇑*iP* **P** 06 22 05.6 +0.1
comp=Z,8.1nm,0.7s,mb4.7
BAIF Baives 86.94 320 ⇑*iP* **P** 06 22 08.1 +0.4
comp=Z,8.1nm,0.6s,mb4.8
SMF Signal de Mont 87.42 316 ⇑*iP* **P** 06 22 10.0 -0.1
comp=Z,10nm,0.6s,mb4.9
LASF Ste Croix 87.59 314 *eP* **P** 06 22 12.2 +1.3
SSF Saint Saulge 87.61 317 *eP* **P** 06 22 11.0 0.0
comp=Z,5.1nm,0.7s,mb4.6
AVF Avril sur Loir 87.74 317 *eP* **P** 06 22 11.0 -0.6
comp=Z,4.4nm,0.8s,mb4.5
BGF Bois d'Agland 88.11 316 *eP* **P** 06 22 13.8 +0.4
TCF Toulx Ste Croi 88.57 316 ⇑*iP* **P** 06 22 16.0 +0.4
comp=Z,4.7nm,0.7s,mb4.7
CAF Calviac 88.80 315 *eP* **P** 06 22 17.4 +0.7
comp=Z,3.4nm,0.6s,mb4.5
MTLF Montolieu 88.83 313 ⇑*iP* **P** 06 22 17.5 +0.6
comp=Z,4.3nm,0.8s,mb4.5
RJF Les Rejaudoux 89.15 315 ⇑*iP* **P** 06 22 19.1 +0.8
comp=Z,5.5nm,0.5s,mb4.8
VNDA Vanda 89.66 168 P **P** 06 22 20.9 +0.9
comp=Z,0.5nm,0.9s,mb3.9,baz=268,slow=7.8,SNR=2.7
LFF La Frestale 89.73 315 *eP* **P** 06 22 21.3 +0.2
LDF La Druitiere 89.90 319 *eP* **P** 06 22 22.1 +0.3
comp=Z,8.4nm,0.7s,mb4.9
FLN La Foliniere 90.11 319 ⇑*iP* **P** 06 22 23.2 +0.4
comp=Z,9.3nm,0.5s,mb5.0
MFF Saint Martin d 90.16 317 *eP* **P** 06 22 23.4 +0.4
comp=Z,6.5nm,0.7s,mb4.8
EPF Esparros 90.23 313 *eP* **P** 06 22 25.4 +1.9
ETSF Etsaut 90.90 313 *eP* **P** 06 22 29.6 +2.9
SGMF Saint Gilles 91.55 318 *eP* **P** 06 22 29.9 +0.4
QUIF Quistinic 92.01 318 *eP* **P** 06 22 31.8 +0.2
ESDC Sonseca Array 93.90 310 P **P** 06 22 41.5 +1.0
comp=Z,0.6nm,0.5s,mb4.3,baz=67,slow=4.0,SNR=11
ESDC pP pP 06 22 55.8 +1.9
comp=Z,0.6nm,0.7s,baz=70,slow=4.3,SNR=2.8
IMA Indian Mountai 94.23 22 *eP* **P** 06 22 42.0 +0.7
comp=Z,17nm,0.6s,mb5.7
INK Inuvik 99.80 16 P **P** 06 23 07.2 +0.6
comp=Z,0.7nm,0.5s,mb4.3,baz=33,slow=7.8,SNR=3.6
YKA Yellowknife Ar 109.30 14 Pdiff Pdif 06 23 50.1 +1.4
comp=Z,0.1nm,0.5s,baz=328,slow=4.5,SNR=3.9
SCHQ Schefferville 118.80 348 PKP PKPdf 06 28 10.5 +0.9
comp=Z,0.7nm,0.6s,baz=207,slow=11,SNR=3.7
MSO Missoula 122.68 23 *e*PKP PKPdf 06 28 17.5 +0.1
ULM Lac du Bonnet 124.48 8 PKP PKPdf 06 28 21.4 +0.7
comp=Z,2.7nm,0.6s,baz=354,slow=2.5,SNR=8.1
LAO LASA Array 125.50 18 *e*PKP PKPdf 06 28 24.5 +1.6
PDAR Pinedale Array 127.79 23 PKP PKPdf 06 28 28.9 +1.5
comp=Z,1.4nm,0.6s,baz=95,slow=1.8,SNR=15
DUG Dugway 128.55 27 *e*PKP PKPdf 06 28 30.2 +1.3
TXAR Lajitas Array 141.72 27 PKhKP 06 28 49.4
comp=Z,0.6nm,0.6s,baz=355,slow=0.4,SNR=8.9
TXAR PKP PKPdf 06 28 56.0 +2.4
comp=Z,1.5nm,0.6s,baz=31,slow=0.5,SNR=18
PLCA Paso Flores 141.83 198 PKhKP 06 28 51.5
comp=Z,1.0nm,0.7s,baz=351,slow=4.5,SNR=5.8
PLCA PKP PKPdf 06 28 54.7 +1.3
comp=Z,1.2nm,1.0s,baz=38,slow=13,SNR=2.9
LPAZ La Paz 159.81 234 PKP PKPdf 06 29 24.1 +3.2
comp=Z,0.8nm,0.8s,baz=151,slow=5.8,SNR=4.0
LPAZ pPKP 06 29 40.5
comp=Z,0.9nm,0.8s,baz=40,slow=5.8,SNR=2.9

*IDC **27** 06:20:49.8±2.4, 7.58S×119.71E, h282km±27km, mb3.3/4, mb1 3.5/6, mb1mx3.3/15, mbtmp4.0/6, Error ellipse: s-maj=69.2km s-min=9.6km az=55.0*
ISC 27 06:20:46.6±1.7, 7.4S±0.1×119.7E±0.1, h260km±16km, n10, σ1§01/16, mb3.6/4, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
FITZ	**Fitzroy Crossi**	**12.13**	**152**	*eP*		**P**	**06 23 32.5**	**-0.1**
	2.9nm,0.5s							
FITZ				*eS*		**S**	**06 25 44.5**	**+0.9**
FITZ	**Fitzroy Crossi**	**12.13**	**152**	P		**P**	**06 23 30.5**	**-2.1**
	0.3nm,0.3s,baz=352,slow=10.0,SNR=4.9							
FITZ				S		**S**	**06 25 45.8**	**+2.2**
	0.9nm,0.3s,baz=180,slow=18,SNR=6.2							
KAKA	**Kakadu**	**13.61**	**114**	*eP*		**P**	**06 23 52.7**	**+1.7**
	2.4nm,0.2s							
KAKA				*eS*		**S**	**06 26 16.2**	**-0.6**
WRA	**Warramunga Arr**	**18.91**	**133**	P		**P**	**06 24 49.2**	**-0.8**
	0.9nm,0.3s,baz=303,slow=12,SNR=91							
WRA				S		**S**	**06 28 06.2**	**-0.1**
	0.1nm,0.3s,baz=299,slow=19,SNR=4.6							
WB2	**Warramunga Arr**	**18.92**	**133**	*eP*		**P**	**06 24 49.2**	**-0.9**
WB2				*eS*		**S**	**06 28 06.4**	**-0.1**
ASPA	**Alice Springs**	**21.17**	**141**	*eP*		**P**	**06 25 12.5**	**+0.1**
ASAR	**Alice Springs**	**21.17**	**141**	P		**P**	**06 25 12.5**	**+0.1**
	2.9nm,0.4s,mb4.0,baz=315,slow=8.7,SNR=94							
ASAR				S		**S**	**06 28 49.1**	**+2.0**
	0.9nm,1.0s,baz=329,slow=26,SNR=6.8							
STKA	**Stephens Creek**	**31.79**	**143**	P		**P**	**06 26 47.9**	**-1.2**
	1.7nm,0.3s,mb4.0,baz=318,slow=8.6,SNR=12							
SONM	**Songino Array**	**56.22**	**349**	P		**P**	**06 30 03.1**	**+1.3**
	0.2nm,0.4s,mb2.9,baz=173,slow=8.3,SNR=2.9							
MKAR	**Makanchi Array**	**63.35**	**332**	P		**P**	**06 30 49.8**	**-0.4**
	1.0nm,0.5s,mb3.7,baz=152,slow=5.8,SNR=15							

*IDC **27** 07:31:46.8±2.5, 6.97S×131.16E, mb3.5/1, mb1 4.2/4, mb1mx3.8/10, mbtmp4.0/4, ML4.1/3, Error ellipse: s-maj=101.9km s-min=28.7km az=80.0*
ISC 27 07:31:56.4±1.3, 7.33S±0.08×130.8E±0.1, h100km, n8, σ1§41/15, mb3.4/1, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KAKA	**Kakadu**	**5.59**	**163**	⇓*iP*		**P**	**07 33 18.9**	**+0.4**
	9.3nm,0.2s							
KAKA				*eS*		**S**	**07 34 23.9**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.82**	**205**	*eP*		**P**	**07 34 43.1**	**+0.2**
	11nm,0.4s							
FITZ				*eS*		**S**	**07 36 52.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**11.82**	**205**	Pn		**P**	**07 34 43.0**	**+0.1**
	5.0nm,0.3s,baz=17,slow=10,SNR=93							
FITZ				Sn		**S**	**07 36 52.6**	**-0.6**
	3.2nm,0.3s,baz=180,slow=16,SNR=5.2							
WRA	**Warramunga Arr**	**13.00**	**165**	Pn		**P**	**07 34 57.0**	**-1.5**
	0.7nm,0.3s,baz=351,slow=13,SNR=33							
WRA				Sn		**S**	**07 37 19.6**	**-1.5**
	1.8nm,0.3s,baz=332,slow=23,SNR=10							
WB2	**Warramunga Arr**	**13.01**	**165**	*eP*		**P**	**07 34 56.3**	**-2.2**
WB2				*eS*		**S**	**07 37 19.0**	**-2.2**
ASAR	**Alice Springs**	**16.52**	**170**	Pn		**P**	**07 35 44.0**	**+0.6**
	0.4nm,0.3s,baz=347,slow=10.0,SNR=34							
ASAR				Sn		**S**	**07 38 45.8**	**+3.1**
	0.4nm,0.3s,baz=356,slow=28,SNR=7.8							
ASPA	**Alice Springs**	**16.52**	**170**	*eP*		**P**	**07 35 44.0**	**+0.7**
ASPA				*eS*		**S**	**07 38 44.4**	**+1.7**
MKAR	**Makanchi Array**	**68.93**	**327**	P		**P**	**07 42 53.2**	**+0.5**
	0.2nm,0.3s,mb3.4,baz=118,slow=7.6,SNR=6.7							

ISC 27 07:46:28.4±2.2, 44.88N±0.10×15.0E±0.1, n5, σ0§80/8, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BOJS	**Bojanci**	**0.64**	**14**	*i* Pg		**Pg**	**07 46 42.5**	**+1.4**
BOJS				*e*Sg		**Sg**	**07 46 49.8**	**+0.1**
VISS	**Visnje**	**0.93**	**352**	*i* Pn		**Pn**	**07 46 47.7**	**-0.8**
CEY	**Cerknica**	**0.96**	**334**	*i* Pn		**Pn**	**07 46 48.0**	**-0.8**
VOY	**Vojsko**	**1.40**	**325**	*e*Pg		**Pg**	**07 46 57.2**	**+0.8**
VOY				*e*Sg		**Sg**	**07 47 15.7**	**+0.6**
OBKA	**Obir**	**1.66**	**348**	⇑*i*PG		**Pg**	**07 47 01.2**	**-0.4**
OBKA				*i* SG		**Sg**	**07 47 22.9**	**-0.8**
	5.4nm,0.4s							

MAN 27 07:52:52.8, 9.41N×125.51E, h6km, mb4.2, ML3.0, MS2.8, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SCPH	**Surigao**	**0.37**	**356**	*eP*		Pg	07 52 59.8	-0.4
SCPH				*eS*		Sg	07 53 06.0	+0.9
BUTP	**Butuan**	**0.46**	**166**	*eP*		Pg	07 53 01.8	-0.1
BUTP				*eS*		Sg	07 53 10.3	+2.3
MSLP	**Maasin**	**0.96**	**318**	*eP*		Pb	07 53 10.7	-0.8
MSLP				*eS*		Sb	07 53 28.3	+4.1
CGP	**Cagayan de Oro**	**1.25**	**220**	⇓*iP*		Pb	07 53 15.5	-0.8
CGP				*eS*		Sb	07 53 33.4	+0.9
BIPH	**Bislig**	**1.48**	**145**	⇑*eP*		Pn	07 53 17.7	-2.4
BIPH				*eS*		Sb	07 53 38.0	-1.3
BUKP	**Musuan**	**1.59**	**196**	*eP*		Pn	07 53 21.2	-0.4
TBP	**Tagbilaran**	**1.65**	**280**	*eP*		Pn	07 53 20.9	-1.5
TBP				*eS*		Sb	07 53 40.6	-3.6
PAGZ	**Pagadian**	**2.62**	**234**	*eP*		Pn	07 53 37.2	+0.8

*IDC **27** 08:03:33.5±0.5, 1.28S×80.96W, mb4.6/18, mb1 4.8/21, mb1mx4.7/25, mbtmp4.7/21, ML4.7/3, MS4.4/13, Ms1 4.4/13, ms1mx4.1/20, Error ellipse: s-maj=11.3km s-min=7.8km az=62.0*
*IGQ **27** 08:03:34.8, 1.20S×80.68W, h7km, mb4.9, Error ellipse: s-maj=31.0km s-min=5.8km az=164.6*
*NEIC **27** 08:03:36.1±0.1, 1.195×80.77W, mb5.0/75, MS4.4/2, MD4.9(IGQ), Error ellipse: s-maj=4.2km s-min=2.8km az=46.0*
NEIC Felt at Calceta, Jipijapa, Junin, Manta and Portoviejo.
*HRVD **27** 08:03:36.2±0.3, 1.27S×80.85W, h20km±1km, MW5.1/52, Centroid moment Tensor Solution. LP body waves: s33,c45; Mantle waves: s52,c79; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 3.97±.27; Mθθ 1.01±.16; Mϕϕ -4.98±.21; Mrθ -0.79±.38; Mθϕ 0.48±.14; Mϕr -4.02±.45; Best double couple: M0 6.106×10^16 NP1: ϕs 340°, δ 26°, λ 65°. NP2: ϕs 187°, δ 67°, λ 102°. Principal axes: T 5.688, Plg 66°, Azm 118°; N .837, Plg 11°, Azm 3°; P -6.524, Plg 21°, Azm 269°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **27** 08:03:36.1, 1.20S×80.80W, h18km, mB5.3, Ms5.1, Msz4.7*
ISC 27 08:03:32.8±0.2, 1.21S±0.04×80.93W±0.03, h7km, n239, σ0§94/204, mb5.0/86, MS4.6/17, 6C-14D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IGUA	**Igualata**	**2.30**	**97**	⇓P		**Pn**	**08 04 12.3**	**+0.5**
CUSU	**Cusua**	**2.46**	**95**	⇓P		**Pn**	**08 04 14.6**	**+0.7**
JUIV	**Juive**	**2.47**	**95**	⇓P		**Pn**	**08 04 14.5**	**+0.4**
ARRY	**Arrayan**	**2.49**	**97**	⇓P		**Pn**	**08 04 14.9**	**+0.6**
RETU	**Refugio**	**2.49**	**96**	P		**Pn**	**08 04 15.3**	**+0.8**
NAS1	**Nasa**	**2.51**	**77**	⇓P		**Pn**	**08 04 15.5**	**+0.7**
JUA2	**San Juan 2**	**2.52**	**67**	⇓P		**Pn**	**08 04 14.6**	**-0.2**
ULBA	**Ulba**	**2.53**	**95**	⇓P		**Pn**	**08 04 15.7**	**+0.7**
PINO	**Pino**	**2.54**	**66**	⇓P		**Pn**	**08 04 14.6**	**-0.6**
PISA	**Pisayambo**	**2.54**	**87**	P		**Pn**	**08 04 16.1**	**+0.9**
JOR1	**San Jorge 1**	**2.58**	**62**	⇓P		**Pn**	**08 04 13.2**	**-2.6**
VC1	**Cotopaxi 1**	**2.58**	**77**	⇓P		**Pn**	**08 04 16.6**	**+0.8**
YANA	**Yana**	**2.59**	**65**	P		**Pn**	**08 04 17.3**	**+1.4**
TAMB	**Tambo**	**2.61**	**79**	⇓P		**Pn**	**08 04 16.8**	**+0.7**
OTAV	**Otavalo**	**2.86**	**60**	⇓ePn		**Pn**	**08 04 19.1**	**-0.7**
ANTI	**Antisana**	**2.87**	**75**	⇓P		**Pn**	**08 04 20.9**	**+1.1**
COTA	**Cotacachi**	**3.01**	**59**	⇓P		**Pn**	**08 04 22.1**	**+0.3**
CAYR	**Refugio Cayamb**	**3.16**	**67**	⇑P		**Pn**	**08 04 26.2**	**+2.2**
ELAGU	**Cayambe Volc**	**3.16**	**68**	P		**Pn**	**08 04 26.9**	**+2.9**
CAYA	**Cayambe**	**3.20**	**67**	⇑P		**Pn**	**08 04 26.7**	**+2.1**
LORE	**San Lorenzo**	**3.24**	**40**	P		**Pn**	**08 04 25.8**	**+0.7**
CONE	**Cono NE Rev Vo**	**3.47**	**71**	P		**Pn**	**08 04 32.5**	**+4.1**
ECEN	**Cerro Negro**	**3.58**	**56**	⇑P		**Pn**	**08 04 31.4**	**+1.5**
ROSC	**El Rosal**	**8.93**	**48**	Pn		**P**	**08 05 42.4**	**-2.8**
	0.5nm,0.3s,baz=77,slow=17,SNR=5.5							
ROSC				Sn		**Sn**	**08 07 30.8**	**+3.6**
	baz=296,slow=18,SNR=1.4							
PAYG	**Puerto Ayora**	**9.38**	**273**	*eP*		**P**	**08 05 52.6**	**+1.2**
	117nm,0.8s							
SDV	**Santo Domingo**	**14.34**	**45**	Pn		**P**	**08 06 57.5**	**-1.1**
	0.8nm,0.3s,baz=237,slow=13,SNR=14							
SDV				Sn		**S**	**08 09 42.5**	**+3.5**
	0.2nm,0.3s,baz=233,slow=23,SNR=1.5							
SDV	**Santo Domingo**	**14.34**	**45**	*eP*		**P**	**08 06 56.8**	**-1.9**
	71nm,0.9s							
ARE	**Arequipa**	**17.78**	**149**	*eP*		**P**	**08 07 46.0**	**+3.4**
LPAZ	**La Paz**	**19.58**	**141**	P		**P**	**08 08 03.8**	**-0.6**
	1.9nm,0.3s,baz=322,slow=10,SNR=109							
LPAZ				S		**S**	**08 11 50.8**	**+11**
	baz=165,slow=19,SNR=1.7							
LPAZ	**La Paz**	**19.58**	**141**	*eP*		**P**	**08 08 03.3**	**-1.1**
	7.6nm,0.6s							
PCRV	**Puerto La Cruz**	**19.77**	**55**	P		**P**	**08 08 05.7**	**-0.8**
	3.6nm,0.3s,baz=278,slow=4.3,SNR=17							
PCRV				S		**S**	**08 11 52.6**	**+9.0**
	0.3nm,0.3s,baz=193,slow=23,SNR=2.2							
PCRV				LR		LR	08 16 40.4	
	comp=Z,2μm,19.6s,baz=15,slow=40							
TEIG	**Tepich**	**22.49**	**342**	*eP*		**P**	**08 08 35.6**	**+1.2**
	52nm,1.2s,mb4.8							
TPP	**Pointe-a-Pierr**	**22.51**	**59**	*eP*		**P**	**08 08 35.5**	**+0.7**
TRN	**Trinidad (W)**	**22.71**	**58**	*eP*		**P**	**08 08 36.1**	**-0.7**
SJG	**San Juan**	**24.09**	**36**	P		**P**	**08 08 50.9**	**+0.8**
	25nm,0.5s,mb4.9,baz=220,slow=6.4,SNR=16							
SJG				S		**S**	**08 13 15.6**	**+11**
	7.4nm,0.7s,baz=199,slow=6.0,SNR=2.0							
SJG	**San Juan**	**24.09**	**36**	*eP*		**P**	**08 08 50.3**	**+0.2**
	67nm,1.0s,mb5.0							
LVC	**Limon Verde**	**24.27**	**152**	*eP*		**P**	**08 08 52.6**	**+0.7**
	78nm,0.8s,mb5.2							
SIV	**San Ignacio**	**24.47**	**128**	P		**P**	**08 08 53.3**	**-0.6**
	22nm,0.7s,mb4.7,baz=302,slow=9.3,SNR=119							
SIV				S		**S**	**08 13 24.6**	**+13**
	17nm,1.3s,baz=100,slow=23,SNR=1.6							
CFAA	**Coronel Fontan**	**32.52**	**160**	P		**P**	**08 10 06.7**	**0.0**
	1.8nm,0.7s,baz=332,slow=8.2,SNR=54							
CFAA				PcP		PcP	08 12 52.5	-1.1
	0.8nm,0.8s,baz=296,slow=2.2,SNR=4.8							
CFAA				LR		LR	08 21 10.5	
	comp=Z,43nm,22.0s,baz=342,slow=33							
CFAA	**Coronel Fontan**	**32.52**	**160**	P		**P**	**08 10 06.7**	**0.0**
CFAA				PcP		PcP	08 12 52.5	-1.1
CFAA				LR		LR	08 21 10.6	
FCH	**Farellones**	**33.47**	**164**	*i* P		**P**	**08 10 15.6**	**+0.7**
LRAL	**Lakeview Retre**	**34.54**	**351**	*eP*		**P**	**08 10 23.2**	**-0.9**
	28nm,0.9s,mb5.2							
JSC	**Jenkinsville**	**35.30**	**360**	*eP*		**P**	**08 10 30.2**	**-0.5**
BDFB	**Brasilia**	**35.48**	**116**	P		**P**	**08 10 30.6**	**-1.8**
	20nm,0.8s,mb5.1,baz=289,slow=11,SNR=22							
BDFB				PcP		PcP	08 13 01.0	-1.1
	6.9nm,0.9s,baz=350,slow=14,SNR=3.2							
BDFB

ALLY	**Alegheny Colle**	**42.66**	**1**	*e*P		**P**	**08 11 31.4**	**-0.4**
LPM	**Los Pinos Moun**	**42.79**	**328**	*e*P		**P**	**08 11 34.0**	**+1.0**
ANMO	**Albuquerque**	**43.19**	**329**	P		**P**	**08 11 37.2**	**+1.0**
	8.2nm,0.8s,mb4.5,baz=150,slow=9.0,SNR=34							
ANMO				ScP			08 17 16.7	
	0.2nm,0.3s,baz=2.6,slow=2.1,SNR=3.3							
ANMO				S		**S**	**08 18 09.7**	**+6.8**
	0.2nm,0.4s,baz=314,slow=16,SNR=1.8							
ANMO	**Albuquerque**	**43.19**	**329**	*e*P		**P**	**08 11 37.6**	**+1.4**
	34nm,1.3s,mb4.9							
AAM	**Ann Arbor**	**43.38**	**357**	*e*P		**P**	**08 11 37.0**	**-0.7**
	10nm,0.9s,mb4.6							
CBKS	**Cedar Bluff**	**43.43**	**339**	P		**P**	**08 11 37.7**	**-0.4**
	46nm,1.2s,mb5.1							
BINY	**Binghamton**	**43.44**	**5**	*e*P		**P**	**08 11 37.3**	**-0.9**
	15nm,1.0s,mb4.7							
TUC	**Tucson**	**43.69**	**322**	*e*P		**P**	**08 11 41.4**	**+1.0**
	26nm,1.6s,mb4.7							
SDCO	**Great Sand Dun**	**44.93**	**332**	*e*P		**P**	**08 11 51.4**	**+1.1**
	21nm,1.0s,mb4.9							
RCBR	**Riachuelo**	**45.16**	**97**	*e*P		**P**	**08 11 50.6**	**-1.9**
	27nm,1.2s,mb5.0							
WUAZ	**Wupatki**	**46.29**	**325**	*e*P		**P**	**08 12 02.5**	**+1.4**
	30nm,1.1s,mb5.1							
MSNY	**Massena**	**46.32**	**6**	P		**P**	**08 11 58.8**	**-2.4**
PV01	**Paradox Valley**	**46.73**	**330**	*e*P		**P**	**08 12 05.7**	**+1.2**
PV10	**Paradox Valley**	**47.15**	**330**	*e*P		**P**	**08 12 08.2**	**+0.3**
PHWY	**Pilot Hill**	**47.82**	**335**	*e*P		**P**	**08 12 13.8**	**+0.7**
PFO	**Pinyon Flat Ob**	**48.13**	**319**	P		**P**	**08 12 15.9**	**+0.2**
	9.3nm,1.2s,mb4.7							
SRU	**San Rafael**	**48.46**	**329**	*e*P		**P**	**08 12 18.6**	**+0.5**
MSU	**Marysvale**	**48.89**	**327**	*e*P		**P**	**08 12 22.3**	**+0.9**
MVU	**Marysvale**	**48.90**	**327**	*e*P		**P**	**08 12 22.1**	**+0.6**
	16nm,1.4s,mb4.9							
ARUT	**Antelope Range**	**49.07**	**326**	*e*P		**P**	**08 12 23.9**	**+1.1**
MWC	**Mount Wilson**	**49.56**	**319**	*e*P		**P**	**08 12 28.3**	**+1.7**
RSSD	**Black Hills**	**49.63**	**338**	*e*P		**P**	**08 12 27.7**	**+0.7**
	11nm,0.8s,mb4.9							
DAU	**Daniels Canyon**	**49.81**	**330**	*e*P		**P**	**08 12 29.5**	**+1.1**
DUG	**Dugway**	**50.45**	**328**	*e*P		**P**	**08 12 33.6**	**+0.2**
	30nm,1.8s,mb5.0							
BW06	**Boulder Array**	**50.80**	**333**	*e*P		**P**	**08 12 36.0**	**0.0**
	10nm,1.4s,mb4.6							
PDAR	**Pinedale Array**	**50.80**	**333**	P		**P**	**08 12 35.9**	**-0.1**
	2.4nm,1.0s,mb4.1,baz=153,slow=6.6,SNR=11							
PDAR				LR	LR		08 34 29.0	
	comp=Z,398nm,19.3s,MS4.5,baz=148,slow=36							
PDAR	**Pinedale Array**	**50.80**	**333**	P		**P**	**08 12 35.9**	**-0.1**
PDAR				LR	LR		08 34 29.0	
HWUT	**Hardware Ranch**	**50.86**	**330**	*e*P		**P**	**08 12 36.6**	**+0.1**
	55nm,1.7s,mb5.2							
MTUM	**Tungsten Hills**	**51.81**	**322**	*e*P		**P**	**08 12 45.9**	**+2.1**
REDW	**Red Top Meadow**	**51.86**	**332**	*e*P		**P**	**08 12 44.3**	**+0.3**
SNOW	**Snow King Moun**	**51.89**	**333**	*e*P		**P**	**08 12 44.7**	**+0.4**
	32nm,1.6s,mb5.0							
LOHW	**Long Hollow**	**51.94**	**333**	*e*P		**P**	**08 12 44.8**	**+0.1**
	14nm,1.3s,mb4.7							
TPAW	**Teton Pass**	**52.00**	**332**	*e*P		**P**	**08 12 45.3**	**+0.2**
	18nm,1.2s,mb4.9							
RRI2	**Red Ridge**	**52.07**	**332**	*e*P		**P**	**08 12 45.7**	**+0.1**
MOOW	**Moose Ponds**	**52.11**	**333**	*e*P		**P**	**08 12 45.3**	**-0.6**
OMM	**Old Mammoth Mi**	**52.25**	**322**	*e*P		**P**	**08 12 47.8**	**+0.7**
IMW	**Indian Meadow**	**52.31**	**333**	*e*P		**P**	**08 12 47.0**	**-0.4**
LKWY	**Lake**	**52.59**	**334**	*e*P		**P**	**08 12 49.0**	**-0.5**
	31nm,1.6s,mb5.0							
YFT	**Old Faithful**	**52.70**	**333**	P		**P**	**08 12 50.9**	**+0.6**
ULM	**Lac du Bonnet**	**52.84**	**348**	P		**P**	**08 12 50.5**	**-0.8**
	12nm,0.5s,mb5.1,baz=158,slow=7.6,SNR=44							
ULM	**Lac du Bonnet**	**52.84**	**348**	*e*P		**P**	**08 12 50.3**	**-1.0**
	54nm,0.9s,mb5.5							
ULM				*e*pP		pP	08 12 54.1	+0.8
QLMT	**Earthquake Lak**	**53.26**	**333**	*e*P		**P**	**08 12 55.2**	**+0.8**
HLID	**Hailey**	**53.72**	**330**	*e*P		**P**	**08 12 58.1**	**+0.3**
	6.4nm,1.0s,mb4.5							
BOZ	**Bozeman (W)**	**53.98**	**334**	*e*P		**P**	**08 12 59.2**	**-0.5**
	16nm,1.0s,mb4.9							
USHA	**Ushuaia**	**54.42**	**171**	P		**P**	**08 13 02.0**	**-0.8**
	19nm,0.7s,mb5.1,baz=327,slow=3.8,SNR=8.5							
HRY	**Holter Researc**	**54.90**	**334**	P		**P**	**08 13 06.5**	**+0.1**
WVOR	**Wild Horse Val**	**55.15**	**327**	*e*P		**P**	**08 13 08.2**	**-0.1**
	22nm,1.2s,mb5.1							
MSO	**Missoula**	**55.92**	**333**	*e*P		**P**	**08 13 14.0**	**+0.2**
	13nm,1.4s,mb4.8							
RKT	**Rikitea**	**56.73**	**243**	*e*S		**S**	**08 21 11.1**	**-0.1**
RKT				*e*LR		LR	08 29 59.0	
	559nm,28.0s							
YBH	**Yreka Blue Hor**	**57.04**	**324**	P		**P**	**08 13 19.8**	**-2.2**
	4.5nm,0.9s,mb4.5,baz=124,slow=3.9,SNR=3.3							
SCHQ	**Schefferville**	**57.05**	**10**	P		**P**	**08 13 19.9**	**-2.0**
	2.6nm,0.7s,mb4.4,baz=196,slow=7.2,SNR=4.7							
FFC	**Flin Flon**	**58.39**	**346**	P		**P**	**08 13 31.8**	**+0.6**
	96nm,1.4s,mb5.6,SNR=15							
FFC	**Flin Flon**	**58.39**	**346**	*e*P		**P**	**08 13 30.8**	**-0.5**
	25nm,1.2s,mb5.1							
NEW	**Newport**	**58.43**	**332**	P		**P**	**08 13 31.7**	**+0.1**
	8.3nm,1.1s,mb4.7,baz=178,slow=5.9,SNR=7.6							
NEW	**Newport**	**58.43**	**332**	*e*P		**P**	**08 13 30.6**	**-1.0**
	17nm,1.3s,mb4.9							
EDM	**Edmonton**	**60.61**	**338**	*e*P		**P**	**08 13 45.8**	**-0.9**
FCC	**Fort Churchill**	**60.70**	**352**	*e*P		**P**	**08 13 44.6**	**-2.5**
	27nm,1.1s,mb5.3							
YKA	**Yellowknife Ar**	**68.43**	**344**	P		**P**	**08 14 36.5**	**-0.8**
	6.3nm,0.9s,mb4.6,baz=136,slow=6.0,SNR=99							
YKA				LR		LR	08 47 53.3	
	comp=Z,269nm,18.2s,MS4.5,baz=125,slow=39							
YKA	**Yellowknife Ar**	**68.43**	**344**	P		**P**	**08 14 36.5**	**-0.8**
YKA				LR		LR	08 47 53.4	
YKW3	**Yellowknife Ar**	**68.48**	**344**	*e*P		**P**	**08 14 36.7**	**-1.0**
PPT	**Papeete**	**69.30**	**252**	*e*S		S	08 23 46.9	-2.0
PPT				*e*LR		LR	08 35 42.8	
	455nm,25.2s,baz=82							
PPT	**Papeete**	**69.30**	**252**	LR		LR	08 37 02.7	
	comp=Z,361nm,18.4s,MS4.7,baz=100,slow=29							
TBI	**Tubuai**	**69.85**	**246**	*e*S		S	08 23 54.8	-0.5
TBI				*e*LR		LR	08 36 02.0	
	338nm,28.8s							
DLBC	**Dease Lake**	**70.95**	**335**	*e*P		**P**	**08 14 53.9**	**+1.1**
DLBC				*e*pP		pP	08 14 58.7	+3.8
RES	**Resolute Bay**	**76.25**	**356**	*e*P		**P**	**08 15 22.5**	**-0.9**
	6.3nm,0.9s,mb4.5							
DBIC	**Dimbokro**	**76.31**	**83**	P		**P**	**08 15 23.8**	**-1.2**
	32nm,1.1s,mb5.2,baz=262,slow=4.0,SNR=15							
DBIC				LR		LR	08 46 57.1	
	comp=Z,530nm,18.3s,MS4.9,baz=250,slow=34							
DBIC	**Dimbokro**	**76.31**	**83**	*e*P		**P**	**08 15 23.4**	**-1.5**
	87nm,1.3s,mb5.5							
EVO	**Evora**	**77.44**	**50**	*e*P		**P**	**08 15 29.0**	**-1.8**
	11nm,0.7s,mb4.6							
EVO				*e*R				
	328nm,22.2s							
DAWY	**Dawson**	**77.81**	**337**	*e*P		**P**	**08 15 32.5**	**+0.3**
INK	**Inuvik**	**78.09**	**342**	*e*P		**P**	**08 15 34.1**	**+0.4**
	38nm,1.3s,mb5.2							
SUMG	**Summit**	**78.34**	**12**	*e*P		**P**	**08 15 34.5**	**-0.5**
	9.9nm,0.7s,mb4.8							
RAR	**Rarotonga**	**79.17**	**249**	LR		LR	08 43 28.6	
	comp=Z,337nm,19.4s,MS4.7,baz=321,slow=30							
ESDC	**Sonseca Array**	**80.75**	**50**	P		**P**	**08 15 47.9**	**-0.8**
	3.1nm,1.0s,mb4.2,baz=261,slow=4.6,SNR=13							
SCO	**Scoresbysund**	**81.17**	**17**	*i* P		**P**	**08 15 50.5**	**+0.2**
	1.9nm,0.7s,mb4.1							
QUIF	**Quistinic**	**82.70**	**42**	*e*P		**P**	**08 15 58.4**	**-0.3**
VNA3	**Neumayer Olymp**	**82.89**	**162**	*e*		**P**	**08 16 06.0**	**+6.8**
VNA3	**Neumayer Olymp**	**82.89**	**162**	*e*		**P**	**08 16 09.6**	**+10**
VNA3	**Neumayer Olymp**	**82.89**	**162**	*e*		**P**	**08 16 11.6**	**+12**
VNA3	**Neumayer Olymp**	**82.89**	**162**	⇑*i*P		**P**	**08 15 59.0**	**-0.2**
VNA3				*e*			08 16 06.0	
VNA3				*e*			08 16 09.6	
VNA3				*e*			08 16 11.6	
SJPF	**Ste Jean**	**83.30**	**47**	*e*P		**P**	**08 16 02.1**	**+0.2**
	58nm,1.3s,mb5.2							
VNA2	**Neumayer--Watz**	**83.51**	**161**	*e*		**P**	**08 16 09.3**	**+6.9**
VNA2	**Neumayer--Watz**	**83.51**	**161**	*e*		**P**	**08 16 12.6**	**+10**
VNA2	**Neumayer--Watz**	**83.51**	**161**	*e*		**P**	**08 16 13.6**	**+11**
VNA2	**Neumayer--Watz**	**83.51**	**161**	⇑*i*P		**P**	**08 16 02.2**	**-0.2**
VNA2				*e*			08 16 09.3	
VNA2				*e*			08 16 12.6	
VNA2				*e*			08 16 13.6	
ETSF	**Etsaut**	**83.76**	**47**	*e*P		**P**	**08 16 04.3**	**+0.1**
	20nm,1.1s,mb4.9							
IMA	**Indian Mountai**	**84.16**	**337**	*e*P		**P**	**08 16 06.1**	**+0.4**
	217nm,1.9s,mb6.0							
EPF	**Esparros**	**84.43**	**47**	*e*P		**P**	**08 16 07.6**	**0.0**
	45nm,1.1s,mb5.2							
MFF	**Saint Martin d**	**84.53**	**43**	*e*P		**P**	**08 16 07.7**	**-0.4**
	43nm,1.2s,mb5.2							
FLN	**La Foliniere**	**84.60**	**41**	*e*P		**P**	**08 16 08.2**	**-0.1**
	51nm,1.2s,mb5.2							
LDF	**La Druitiere**	**84.81**	**41**	*e*P		**P**	**08 16 09.0**	**-0.4**
	62nm,1.4s,mb5.2							
LFF	**La Frestale**	**84.94**	**45**	*e*P		**P**	**08 16 09.7**	**-0.4**
	52nm,1.0s,mb5.3							
DAG	**Danmarks Havn**	**85.03**	**12**	⇑*i*P		**P**	**08 16 10.2**	**+0.3**
	4.8nm,0.7s,mb4.7							
RJF	**Les Rejaudoux**	**85.53**	**45**	*e*P		**P**	**08 16 12.5**	**-0.6**
	69nm,1.3s,mb5.4							
RJF				*e*R				
	216nm,20.5s							
MTLF	**Montolieu**	**85.83**	**47**	*e*P		**P**	**08 16 14.0**	**-0.6**
	42nm,1.2s,mb5.3							
CAF	**Calviac**	**85.88**	**45**	*e*P		**P**	**08 16 14.3**	**-0.5**
	26nm,1.1s,mb5.1							
TCF	**Toulx Ste Croi**	**86.11**	**44**	*e*P		**P**	**08 16 15.3**	**-0.7**
HYF	**Humbligny**	**86.50**	**43**	*e*P		**P**	**08 16 17.7**	**-0.1**
BGF	**Bois d'Agland**	**86.58**	**43**	*e*P		**P**	**08 16 17.8**	**-0.4**
	84nm,1.3s,mb5.5							
AVF	**Avril sur Loir**	**86.95**	**43**	*e*P		**P**	**08 16 19.2**	**-0.8**
	55nm,1.5s,mb5.3							
SSF	**Saint Saulge**	**87.08**	**43**	*e*P		**P**	**08 16 19.8**	**-0.8**
	28nm,1.3s,mb5.0							
SMF	**Signal de Mont**	**87.27**	**43**	*e*P		**P**	**08 16 20.9**	**-0.7**
	79nm,1.5s,mb5.4							
BAIF	**Baives**	**87.78**	**40**	*e*P		**P**	**08 16 23.6**	**-0.4**
GIVF	**Givet**	**88.18**	**40**	*e*P		**P**	**08 16 25.8**	**-0.1**
MEZF	**Maizieres J'vi**	**88.22**	**42**	*e*P		**P**	**08 16 25.8**	**-0.3**
ORIF	**Oris-en-Rattie**	**88.58**	**45**	*e*P		**P**	**08 16 28.0**	**+0.1**
	15nm,0.9s,mb5.0							
ORIF				*e*R				
	191nm,23.0s							
CABF	**La Chapelle**	**88.81**	**44**	*e*P		**P**	**08 16 28.7**	**-0.3**
	30nm,1.1s,mb5.2							
QSPA	**South Pole Qui**	**88.85**	**180**	*e*P		**P**	**08 16 29.3**	**+0.9**
	27nm,0.6s,mb5.8							
HGN	**Heimansgroeve**	**88.93**	**39**	*ex*		x	08 16 34.2	
	14nm,2.6s							
HAU	**Haudompre**	**89.06**	**42**	*e*P		**P**	**08 16 29.6**	**-0.5**
	15nm,0.9s,mb5.0							
HAU				*e*R				
	133nm,20.8s							
FRF	**La Foret Royal**	**89.06**	**47**	*e*P		**P**	**08 16 29.5**	**-0.7**
	32nm,1.1s,mb5.3							
LPG	**La Plagne**	**89.22**	**45**	*e*P		**P**	**08 16 31.6**	**+0.7**
HINF	**Hinteralfeld**	**89.39**	**42**	*e*P		**P**	**08 16 30.9**	**-0.8**
SBF	**Sospel**	**89.64**	**46**	*e*P		**P**	**08 16 32.0**	**-1.0**
	50nm,1.1s,mb5.4							
CDF	**Champ du Feu**	**89.70**	**42**	*e*P		**P**	**08 16 32.7**	**-0.4**
	53nm,1.7s,mb5.3							
NOA	**NORSAR Array B**	**92.09**	**29**	LR		LR	08 59 08.7	
	comp=Z,56nm,18.4s,MS4.0,baz=350,slow=36							
GRA1	**Grafenberg Arr**	**92.31**	**41**	*e*P		**P**	**08 16 45.4**	**+0.3**
	24nm,1.5s,mb5.3							
GRF	**Grafenberg Arr**	**92.31**	**41**	*e*P		**P**	**08 16 45.4**	**+0.3**
	24nm,1.5s,mb5.3							
NKC	**Novy Kostel**	**93.09**	**40**	*e*P		**P**	**08 16 49.4**	**+0.7**
CLL	**Collm**	**93.40**	**39**	*e*P		**P**	**08 16 50.0**	**-0.1**
CLL	**Collm**	**93.40**	**39**	P		**P**	**08 16 50.0**	**-0.1**
KHC	**Kasperske Hory**	**93.86**	**41**	*e*P		**P**	**08 16 51.5**	**-0.8**
GERES	**GERESS Array B**	**93.96**	**41**	P		**P**	**08 16 53.3**	**+0.6**
	1.0nm,0.9s,mb4.2,baz=270,slow=1.3,SNR=8.6							
GERES				LR		LR	08 56 22.8	
	comp=Z,88nm,19.2s,MS4.2,baz=99,slow=34							
BRG	**Berggiesshubel**	**94.01**	**39**	*e*P		**P**	**08 16 54.1**	**+1.2**
BRG				*e*			08 17 00.1	
PVCC	**Panska Ves**	**94.43**	**40**	*e*P		**P**	**08 16 55.6**	**+0.8**
VNDA	**Vanda**	**94.53**	**191**	P		**P**	**08 16 55.3**	**+0.5**
	1.5nm,0.8s,mb4.5,baz=157,slow=2.1,SNR=7.9							
VNDA				LR		LR	08 50 29.5	
	comp=Z,134nm,20.4s,MS4.4,baz=149,slow=30							
UPC	**Upice**	**95.35**	**40**	*e*P		**P**	**08 16 59.1**	**0.0**
DPC	**Dobruska-Polom**	**95.56**	**40**	*e*P		**P**	**08 16 59.6**	**-0.5**
ARCES	**ARCESS Array B**	**96.84**	**20**	LR		LR	09 00 50.6	
	comp=Z,71nm,19.8s,MS4.2,baz=30,slow=36							
VYHS	**Vyhne**	**97.38**	**41**	*e*P		**P**	**08 17 09.2**	**+0.9**
TSUM	**Tsumeb**	**97.64**	**109**	*e*P		**P**	**08 17 10.4**	**+0.3**
	14nm,1.3s,mb5.3							
FINES	**FINESS Array B**	**99.14**	**28**	P		**P**	**08 17 19.1**	**+3.1**
	1.4nm,0.9s,mb4.5,baz=307,slow=6.9,SNR=4.9							
FINES				PKKPbc			08 33 41.1	
	0.4nm,0.5s,baz=90,slow=4.2,SNR=6.4							
BRTR	**Keskin Array B**	**109.50**	**48**	PP		PP	08 22 36.2	-3.4
	0.2nm,0.3s,baz=270,slow=4.3,SNR=2.7							
KURK	**Kurchatov**	**127.71**	**16**	*e*P		PKPdf	08 22 40.0	-2.0
STKA	**Stephens Creek**	**128.02**	**227**	PKP		PKPdf	08 22 41.3	-1.8
	1.1nm,0.5s,baz=240,slow=1.1,SNR=9.2							
MDJ	**Mudanjiang**	**129.04**	**332**	PKP		PKPdf	08 22 42.0	-2.7
CN2	**Changchun**	**131.53**	**335**	*e*PKP		PKPdf	08 22 46.3	-3.2
MKAR	**Makanchi Array**	**132.29**	**16**	PKP		PKPdf	08 22 48.3	-2.5
	1.1nm,0.5s,baz=304,slow=2.5,SNR=22							
SONM	**Songino Array**	**133.13**	**353**	PKP		PKPdf	08 22 50.7	-1.7
	1.3nm,0.6s,baz=338,slow=1.7,SNR=12							
SONM				PP		PP	08 25 14.6	-5.3
	0.9nm,1.0s,SNR=3.7							
AAK	**Ala-Archa**	**133.24**	**25**	*e*PKPdf		PKPdf	08 22 51.2	-1.5
KS15	**Wonju Array Si**	**135.23**	**327**	*e*PKPdf		PKPdf	08 22 55.3	-1.3
WMQ	**Urumqi**	**136.38**	**12**	*e*PKP		PKPdf	08 22 55.5	-2.9
WMQ				XPKP			08 23 10.0	
WMQ				*e*PP		PP	08 25 40.0	-0.4
WMQ				PKS		PKS	08 26 30.0	-0.8
WMQ				PPP		PPP	08 28 39.0	-1.1
WMQ				SKS		SKS	08 30 01.0	-7.6
WMQ				PP		PP		
	comp=Z,167nm,4.3s							
WMQ				LR		LR		
	comp=N,218nm,20.0s,MS5.0							
WMQ				LR		LR		
	comp=E,273nm,24.0s,MS5.0							
WMQ				LR		LR		
	comp=Z,175nm,20.8s,MS4.8							
BJI	**Beijing**	**138.34**	**340**	PKP		PKPdf	08 22 55.5	-6.7
GTA	**Gaotai**	**141.97**	**359**	PKP		PKPdf	08 23 07.8	-0.9
GTA				PP		PP	08 26 19.8	+4.7
GTA				PKS		PKS	08 26 42.3	+1.8
GTA				SKS		SKS	08 30 12.5	-5.5
GTA				SKKS			08 33 06.3	
GTA				PP		PP		
	comp=Z,77nm,6.8s							
GTA				LR		LR		
	comp=N,109nm,17.9s,MS4.8							
GTA				LR		LR		
	comp=E,98nm,20.5s,MS4.8							
GTA				LR		LR		
	comp=Z,104nm,17.5s,MS4.7							
JASL	**Jaisalmer**	**142.78**	**44**	*e*P		PKPdf	08 23 08.9	-1.6
SSE	**Sheshan**	**143.65**	**327**	*e*PKP		PKPdf	08 23 08.3	-3.5
SSE				PP		PP	08 26 24.3	-1.1
SSE				SS		SS	08 45 01.8	-3.7
SSE				LR		LR		
	comp=N,27nm,22.7s,MS4.3							
SSE				LR		LR		
	comp=E,60nm,22.8s,MS4.3							
SSE				LR		LR		
	comp=Z,68nm,25.0s,MS4.3							
KLP	**Kalpa**	**143.98**	**31**	*e*P		PKPbc	08 23 08.6	-0.3
KLP				*e*			08 23 11.8	
	comp=Z,26nm,1.0s							
RTK	**Rohtak**	**144.89**	**36**	*e*P		PKPbc	08 23 11.1	-0.5
RTK				*e*			08 23 13.7	
	comp=Z,87nm,0.8s							
LZH	**Lanzhou**	**145.02**	**353**	*e*PKP		PKPdf	08 23 11.5	-2.6
LZH				APKP			08 23 19.0	
LZH				XPKP			08 23 22.0	
LZH				PP		PP	08 26 33.5	0.0
LZH				*e*SKS		SKS	08 30 16.0	-6.6
LZH				SKKS			08 33 16.5	
LZH				SS		SS	08 45 15.0	-5.8
LZH				PP		PP		
	comp=Z,120nm,5.7s							
LZH				LR		LR		
	comp=E,173nm,18.6s							
LZH				LR		LR		
	comp=Z,215nm,20.0s,MS4.9							
KHET	**Khetri**	**145.23**	**38**	*e*P		PKPbc	08 23 11.9	-0.5
KHET				*e*			08 23 14.5	
	comp=Z,37nm,0.9s							
JOSI	**Joshimath**	**145.44**	**31**	*e*		PKPbc	08 23 00.8	-12
JOSI				*e*			08 23 03.6	
	comp=Z,335nm,1.1s							
BHGR	**Bahadurgarh**	**145.46**	**36**	*e*P		PKPbc	08 23 13.4	+0.4
AYAN	**Aya Nagar**	**145.72**	**36**	*e*P		PKPbc	08 23 13.7	0.0
AYAN				*e*			08 23 16.7	
	comp=Z,15nm,1.5s							
BISR	**Bishrakh**	**145.83**	**35**	*e*P		PKPbc	08 23 13.4	-0.5
SONA	**Sohna**	**145.87**	**36**	*e*P		PKPbc	08 23 14.3	+0.3
SONA				*e*			08 23 17.2	
	comp=Z,38nm,1.0s							
XAN	**Xi'an**	**146.06**	**345**	PKP		PKPdf	08 23 14.8	-1.1
XAN				XPKP			08 23 27.5	
AGRA	**Agra**	**147.13**	**36**	*e*P		PKPdf	08 23 16.7	-1.2
WHN	**Wuhan**	**147.42**	**335**	*e*PKP		PKPdf	08 23 19.0	+0.7
FITZ	**Fitzroy Crossi**	**147.57**	**232**	PKPbc		PKPdf	08 23 20.1	+1.2
	comp=Z,14nm,0.3s,baz=351,slow=14,SNR=5.9							
ENH	**Enshi**	**149.45**	**342**	*e*PKPdf		PKPdf	08 23 20.0	-1.6
ENH				*e*PKPbc		PKPdf	08 23 24.1	+2.5
CD2	**Chengdu**	**150.13**	**352**	PKP		PKPdf	08 23 26.5	+3.9
LSA	**Lhasa**	**150.68**	**14**	*e*PKPbc		PKPdf	08 23 28.4	+4.9
GYA	**Guiyang**	**153.86**	**344**	PKP		PKPdf	08 23 30.0	+1.9
GYA				PP		PP	08 27 28.8	+4.0
GYA				PP		PP		
	comp=Z,120nm,6.7s							
GYA				LR		LR		
	comp=N,140nm,19.4s,MS4.9							
GYA				LR		LR		
	comp=E,120nm,20.5s,MS4.9							
GYA				LR		LR		
	comp=Z,110nm,21.0s,MS4.7							
HYB	**Hyderabad**	**154.18**	**50**	*e*P		PKPdf	08 23 27.5	-1.3
HYB	**Hyderabad**	**154.18**	**50**	*i* PKP		PKPdf	08 23 27.5	-1.3
KMI	**Kunming**	**155.97**	**352**	PKP		PKPdf	08 23 26.5	-4.4
KMI				PP		PP	08 27 32.5	-4.0
KMI				PP		PP		
	comp=Z,125nm,6.4s							
KMI				LR		LR		
	comp=N,139nm,19.0s							
KMI				LR		LR		
	comp=E,211nm,24.7s							
KMI				LR		LR		
	comp=Z,114nm,17.1s,MS4.8							
KSM	**Kuching**	**168.77**	**271**	PKP		PKPdf	08 23 42.7	-1.3

MAN 27 08:19:04.2,16.36N×120.97E,h18km,mb4.0,ML2.8, MS2.4,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.37**	**274**	⇑*i*P		Pb	08 19 11.7	-0.3
BCPH				*i* S		Sb	08 19 17.8	+0.5
PCPH	**Palayan**	**0.80**	**171**	⇑*e*P		Pb	08 19 19.9	+0.6
PCPH				*i* S		Sb	08 19 32.9	+3.2
BALP	**Baler**	**0.85**	**136**	*e*P		Pb	08 19 20.2	+0.1
BALP				*e*S		Sb	08 19 33.0	+2.1
CAUP	**Cauayan**	**1.00**	**54**	*e*P		Pb	08 19 22.1	-0.6
CAUP				*e*S		Sb	08 19 37.6	+2.0
BOLP	**Bolinao**	**1.01**	**271**	*e*P		Pb	08 19 23.4	+0.4
BOLP				*e*S		Sb	08 19 39.5	+3.7
ABRA	**Dolores**	**1.31**	**349**	*e*P		Pn	08 19 26.6	-1.2
ABRA				*e*S		Sb	08 19 45.5	+1.2
APYP	**Conner**	**1.52**	**10**	*e*P		Pn	08 19 30.1	-0.8
APYP				*e*S		Sn	08 19 51.0	+0.7

*IDC **27** 08:19:06.9±4.2,7.49S×128.78E,h105km±41km,mb3.7/5, mb1 4.2/9,mb1mx4.1/14,mbtmp4.4/9,Error ellipse: s-maj=34.7km s-min=19.1km az=66.0*
*NEIC **27** 08:19:08.0±1.9,7.42S×128.88E,h114km±21km,mb4.3/2, Error ellipse: s-maj=18.1km s-min=12.9km az=54.0*

ISC 27 08:19:13.0±1.5,7.81S±0.06×129.06E±0.10,h197km±17km, n19,σ1°92/25,mb3.8/6,1C-1D,Banda Sea

ESD	**East Dome**	**0.04**	**97**	⇓P		**Pg**	**08 52 19.0**	**-0.2**
SOSW	**Source of Smit**	**0.07**	**52**	⇓P		**Pg**	**08 52 19.6**	**+0.1**
JLK	**June Lake**	**0.07**	**144**	⇓P		**Pg**	**08 52 19.4**	**-0.1**
ERK	**Elk Rock**	**0.14**	**319**	⇓P		**Pg**	**08 52 21.4**	**+0.6**
CDFW	**Cedar Flats**	**0.14**	**127**	P		**Pg**	**08 52 21.2**	**+0.3**
MTMW	**Mount Mitchell**	**0.18**	**180**	P		**Pg**	**08 52 22.0**	**+0.4**
LVP	**Lakeview Peak**	**0.19**	**225**	P		**Pg**	**08 52 22.4**	**+0.6**
KOSW	**Kosmos**	**0.26**	**3**	P		**Pg**	**08 52 23.6**	**+0.4**
ASR	**Mount Adams--S**	**0.43**	**97**	P		**Pg**	**08 52 26.4**	**-0.3**
LMW	**Ladd Mountain**	**0.47**	**353**	P		**Pg**	**08 52 28.0**	**+0.6**
GULW	**Guler Mountain**	**0.51**	**123**	P		**Pg**	**08 52 28.0**	**-0.2**
LCW	**Lucas Creek**	**0.58**	**324**	P		**Pg**	**08 52 29.7**	**+0.2**
LON	**Longmire**	**0.61**	**27**	⇓P		**Pg**	**08 52 30.1**	**-0.2**
REMR	**Mount Rainier-**	**0.67**	**22**	P		**Pg**	**08 52 31.1**	**-0.2**
WPW	**White Pass**	**0.68**	**43**	P		**Pg**	**08 52 30.9**	**-0.5**
RCM	**Mount Rainier-**	**0.71**	**28**	P		**Pg**	**08 52 32.0**	**-0.2**
RCS	**Mount Rainier-**	**0.75**	**26**	P		**Pg**	**08 52 32.5**	**-0.4**
BMW	**Boistfort Moun**	**0.75**	**292**	P		**Pg**	**08 52 32.7**	**-0.3**
PGO	**Gresham**	**0.76**	**193**	P		**Pg**	**08 52 33.0**	**0.0**
FMW	**Mount Fremont**	**0.82**	**27**	⇓P		**Pg**	**08 52 33.8**	**-0.6**
VLL	**Laurance Lake**	**0.83**	**153**	P		**Pg**	**08 52 34.4**	**-0.2**
CPW	**Capitol Peak**	**1.00**	**321**	P		**Pb**	**08 52 37.0**	**-0.4**
GSM	**Grass Mountain**	**1.04**	**16**	P		**Pb**	**08 52 37.5**	**-0.7**
EBG	**Ellensburg**	**1.34**	**57**	P		**Pb**	**08 52 43.8**	**+0.6**
MXC	**Moxie City**	**1.38**	**74**	P		**Pb**	**08 52 44.3**	**+0.3**
TBM	**Table Mountain**	**1.47**	**48**	P		**Pn**	**08 52 46.5**	**+1.2**
CROR	**Criterion Ridg**	**1.49**	**144**	P		**Pn**	**08 52 46.2**	**+0.6**
BVW	**Beverly**	**1.72**	**68**	P		**Pn**	**08 52 49.9**	**+1.1**
MDW	**Midway**	**1.75**	**76**	P		**Pn**	**08 52 49.6**	**+0.4**
PRW	**Prosser**	**1.75**	**89**	P		**Pn**	**08 52 50.3**	**+1.0**
SNIWA	**Snively Ranch**	**1.79**	**81**	P		**Pn**	**08 52 50.6**	**+0.8**
COR	**Corvallis**	**1.79**	**206**	*e*P		**Pn**	**08 52 49.6**	**-0.3**
HAWA	**Hanford**	**1.87**	**83**	*e*P		**Pn**	**08 52 50.2**	**-0.8**
REDWA	**Red Mountain**	**1.93**	**86**	P		**Pn**	**08 52 52.0**	**+0.2**
GBL	**Gable Mountain**	**1.95**	**77**	P		**Pn**	**08 52 53.0**	**+0.9**
BMO	**Blue Mountains**	**3.70**	**110**	*e*P		**Pn**	**08 53 15.8**	**-1.4**
WVOR	**Wild Horse Val**	**4.56**	**144**	*e*P		**Pn**	**08 53 27.7**	**-1.6**
HLID	**Hailey**	**6.14**	**113**	P		**Pn**	**08 53 50.4**	**-1.2**
PDAR	**Pinedale Array**	**9.68**	**106**	Pn		**P**	**08 54 44.5**	**+3.6**
	0.1nm,0.3s,baz=302,slow=8.5,SNR=3.4							
YKA	**Yellowknife Ar**	**16.89**	**12**	Pn		**P**	**08 56 14.1**	**-2.3**
	0.0nm,0.3s,baz=197,slow=11,SNR=7.0							
TXAR	**Lajitas Array**	**22.24**	**133**	P		**P**	**08 57 20.6**	**+3.4**
	0.3nm,0.7s,mb2.9,baz=333,slow=8.4,SNR=4.2							

*NEIC **27** 08:54:39.4, 18.59N×65.05W, h66km, MD3.6(RSPR), After RSPR.*
RSPR 27 08:54:39.4, 18.59N×65.05W, h66km±3km, MD3.5/17, MD3.5/17, 17C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MTP	**Monte Pirata**	**0.69**	**224**	*e*P	P	08 54 53.5	-0.5
MTP				*e*S	S	08 55 04.7	-0.3
CBYP	**Canovanas**	**0.83**	**248**	*e*P	P	08 54 54.9	-0.8
CBYP				*e*S	S	08 55 07.3	-0.6
CDVI	**St. Croix**	**0.88**	**162**	*e*P	P	08 54 54.8	-1.5
CDVI	**St. Croix**	**0.88**	**162**	*e*S	S	08 55 07.5	-1.4
HUMP	**Col San Antoni**	**0.89**	**240**	*e*P	P	08 54 55.5	-0.8
HUMP				*e*S	S	08 55 08.2	-0.8
CPD	**Cerro la Pandu**	**0.99**	**236**	*e*P	P	08 54 57.2	-0.6
CPD				*e*S	S	08 55 10.1	-1.4
CSB	**Colonia Sabana**	**1.10**	**254**	*e*P	P	08 54 58.0	-1.2
CSB				*e*S	S	08 55 11.6	-2.2
SJG	**San Juan**	**1.15**	**246**	*e*S	S	08 55 13.9	-1.3
SJG	**San Juan**	**1.15**	**246**	*e*P	P	08 54 59.0	-0.9
SJG				*e*S	S	08 55 14.2	-1.0
SJG	**San Juan**	**1.15**	**246**	*e*P	P	08 54 58.7	-1.2
SJG				*e*S	S	08 55 13.9	-1.3
CELP	**Cerrillos**	**1.54**	**251**	*e*P	P	08 55 04.4	-1.0
CELP				*e*S	S	08 55 23.3	-1.2
ICM	**Isla Caja Muer**	**1.56**	**244**	*e*P	P	08 55 05.0	-0.7
ICM				*e*S	S	08 55 24.4	-0.6
PORP	**Portuguez**	**1.60**	**251**	*e*P	P	08 55 05.2	-0.9
PORP				*e*S	S	08 55 24.3	-1.6
AOPR	**Arecibo Observ**	**1.64**	**262**	*e*P	P	08 55 05.4	-1.2
AOPR				*e*S	S	08 55 25.2	-1.5
LRS	**Lares**	**1.73**	**260**	*e*P	P	08 55 06.5	-1.4
LRS				*e*S	S	08 55 26.8	-2.1
AGPR	**Aguadilla, PR**	**1.96**	**267**	*e*P	P	08 55 09.5	-1.6
AGPR				*e*S	S	08 55 32.9	-1.6
LSP	**Las Mesas**	**1.98**	**258**	*e*P	P	08 55 10.1	-1.2
LSP				*e*S	S	08 55 34.1	-0.8
MPR	**Mayaguez**	**2.02**	**260**	*e*P	P	08 55 10.7	-1.2
MPR				*e*S	S	08 55 34.7	-1.2
MGP	**Maguayo**	**2.03**	**254**	⇓*e*P	P	08 55 11.1	-0.9
MGP				*e*S	S	08 55 34.9	-1.1
CRPR	**Cabo Rojo, PR**	**2.05**	**254**	*e*P	P	08 55 11.0	-1.2
CRPR				*e*S	S	08 55 35.4	-1.1

*NEIC **27** 09:19:05.6±2.0, 18.78S×170.04E, h246km±19km, mb4.1/3, Error ellipse: s-maj=40.0km s-min=21.6km az=165.0*
*IDC **27** 09:19:05.8±3.3, 18.70S×170.02E, h246km±30km, mb3.8/6, mb1 3.9/7, mb1mx3.6/14, mbtmp4.3/7, Error ellipse: s-maj=47.9km s-min=28.0km az=160.0*
ISC 27 09:19:05.4±2.4, 18.7S±0.3×170.0E±0.2, h259km±23km, n17, σ1°s04/20, mb4.0/8, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.71**	**225**	*e*P	**P**	**09 20 17.7**	**-0.8**
DZM				*e*S	**S**	**09 21 17.7**	**+2.0**
DZM	**Mont Dzumac**	**4.71**	**225**	P	**P**	**09 20 17.7**	**-0.9**
	1.8nm,0.3s,baz=43,slow=19,SNR=27						
DZM				S	**S**	**09 21 17.0**	**+1.3**
	0.6nm,0.3s,baz=5.6,slow=14,SNR=2.2						
DZM	**Mont Dzumac**	**4.71**	**225**	*e*P	**P**	**09 20 17.7**	**-0.8**
DZM				*e*S	**S**	**09 21 17.7**	**+2.0**
NOUC	**Port Laguerre**	**4.83**	**225**	*e*P	**P**	**09 20 18.9**	**-1.1**
CTA	**Charters Tower**	**22.44**	**263**	P	**P**	**09 23 45.2**	**+1.6**
	2.4nm,0.6s,mb3.7,baz=77,slow=11,SNR=5.2						
CTAO	**Charters Tower**	**22.44**	**263**	*e*P	**P**	**09 23 45.5**	**+1.9**
PMG	**Port Moresby**	**24.00**	**290**	P	**P**	**09 23 59.2**	**+0.8**
	10nm,0.8s,mb4.2,baz=143,slow=5.1,SNR=4.0						
PMG	**Port Moresby**	**24.00**	**290**	P	**P**	**09 23 59.5**	**+1.1**
	10.0nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**28.73**	**237**	P	**P**	**09 24 41.9**	**+0.8**
	2.5nm,0.5s,mb3.9,baz=62,slow=9.4,SNR=8.1						
STKA	**Stephens Creek**	**28.73**	**237**	*e*P	**P**	**09 24 41.6**	**+0.4**
WB2	**Warramunga Arr**	**33.63**	**262**	*i*P	**P**	**09 25 22.8**	**-1.0**
WRAB	**Tennant Creek**	**33.63**	**262**	*e*P	**P**	**09 25 22.6**	**-1.2**
	1.7nm,0.3s,mb4.0						
WRA	**Warramunga Arr**	**33.64**	**262**	P	**P**	**09 25 22.6**	**-1.3**
	1.1nm,0.3s,mb3.9,baz=97,slow=8.4,SNR=99						
ASAR	**Alice Springs**	**33.96**	**255**	P	**P**	**09 25 26.3**	**-0.2**
	16nm,0.4s,mb4.9,baz=82,slow=8.8,SNR=354						
ASPA	**Alice Springs**	**33.96**	**255**	*i*P	**P**	**09 25 26.3**	**-0.2**
KAKA	**Kakadu**	**36.61**	**274**	⇑*i*P	**P**	**09 25 49.1**	**+0.2**
	1.1nm,0.4s,mb3.6						
PDAR	**Pinedale Array**	**95.74**	**47**	P	**P**	**09 32 04.0**	**+1.0**
	0.2nm,0.4s,mb3.6,baz=259,slow=9.2,SNR=2.4						

*ATH **27** 09:32:15.8, 40.94N×27.71E, h37km±31km, MD3.8/6*
*ISK **27** 09:32:17.4, 40.74N×27.41E, h12km, ML3.7*
*SOF **27** 09:32:17.1, 40.80N×27.24E, h5km, MD3.3*
*CSEM **27** 09:32:17.3±0.0, 40.76N×27.42E, h12km, MD3.8, Error ellipse: s-maj=1.3km s-min=0.9km az=12.0*
*NEIC **27** 09:32:18.2±0.6, 40.71N×27.44E, h10km, MD3.8(ATH), Error ellipse: s-maj=9.1km s-min=7.1km az=218.0*
*IDC **27** 09:32:18.4±2.6, 40.80N×27.30E, mb3.1/2, mb1 3.4/5, mb1mx3.3/19, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=40.9km s-min=15.0km az=34.0*
ISC 27 09:32:17.6±0.4, 40.77N±0.02×27.40E±0.02, h10km±3km, n83, σ0°s82/99, mb3.2/1, 7C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MFT	**Murefte**	**0.10**	**280**	*i*PG	**Pg**	**09 32 20.2**	**0.0**
SART	**Tekirdag**	**0.19**	**244**	*i*P	**Pg**	**09 32 22.1**	**+0.3**
SART				*i*S	**Sg**	**09 32 25.4**	**+0.8**
MRMT	**Marmara Adasi**	**0.22**	**139**	*i*PG	**Pg**	**09 32 21.5**	**-0.9**
TKR	**Tekirdag**	**0.24**	**24**	*i*PG	**Pg**	**09 32 23.8**	**+1.1**
TKR				*i*SG	**Sg**	**09 32 28.1**	**+2.0**
CRLT	**Corlu**	**0.44**	**35**	PG	**Pg**	**09 32 26.8**	**+0.3**
BNT	**Bandirma**	**0.57**	**136**	*i*PG	**Pg**	**09 32 28.4**	**-0.7**
LPK	**Lapseki**	**0.63**	**231**	*i*PG	**Pg**	**09 32 30.1**	**-0.2**
SLVT	**Silivri**	**0.76**	**53**	PG	**Pg**	**09 32 33.4**	**+0.5**
CTT	**Catalca**	**0.86**	**64**	PG	**Pg**	**09 32 34.3**	**-0.6**
KCT	**Karacabey**	**0.88**	**124**	PG	**Pg**	**09 32 33.9**	**-1.4**
ALN	**Alexandroupoli**	**1.04**	**277**	*e*P	**Pb**	**09 32 37.8**	**+0.6**
BGKT	**Bogazkoy**	**1.11**	**68**	PN	**Pn**	**09 32 38.8**	**-0.5**
BTOK	**Tokmak**	**1.12**	**154**	*i*P	**Pb**	**09 32 38.7**	**+0.1**
BTOK				*i*S	**Sb**	**09 32 53.7**	**+0.7**
EDRB	**Edirne**	**1.19**	**335**	PN	**Pn**	**09 32 40.3**	**0.0**
BALB	**Balikesir**	**1.19**	**162**	PN	**Pn**	**09 32 40.1**	**-0.2**
EZN	**Ezine**	**1.25**	**222**	PN	**Pn**	**09 32 40.8**	**-0.5**
ISK	**Istanbul-Kandi**	**1.29**	**76**	PN	**Pn**	**09 32 41.2**	**-0.6**
BADT	**Buyukada**	**1.30**	**86**	PN	**Pn**	**09 32 41.5**	**-0.5**
KLYT	**Kilyos**	**1.33**	**68**	*e*PN	**Pn**	**09 32 42.3**	**0.0**
ORLT	**Orhaneli**	**1.35**	**122**	PN	**Pn**	**09 32 42.5**	**-0.1**
RDO	**Rodhopi**	**1.46**	**285**	⇓*i*PB	**Pb**	**09 32 44.6**	**+0.1**
RDO				*e*SN	**Sn**	**09 33 04.3**	**+0.7**
ULDT	**Uludag**	**1.46**	**115**	*i*P	**Pn**	**09 32 45.6**	**+1.4**
ULDT				*i*S	**Sb**	**09 33 04.1**	**+1.0**
DST	**Dursunbey**	**1.49**	**141**	PN	**Pn**	**09 32 45.0**	**+0.3**
YLV	**Yalova**	**1.51**	**97**	PN	**Pn**	**09 32 45.0**	**+0.1**
AYVA	**Ayvalik**	**1.56**	**201**	*i*P	**Pn**	**09 32 45.5**	**-0.2**
AYVA				*i*S	**Sb**	**09 33 07.9**	**+2.0**
HRT	**Hereke**	**1.72**	**88**	*e*PN	**Pn**	**09 32 47.3**	**-0.6**
KDZ	**Kurdzhali**	**1.74**	**301**	*i*P	**Pn**	**09 32 48.0**	**-0.2**
SILT	**Sile**	**1.74**	**77**	PN	**Pn**	**09 32 48.6**	**+0.4**
PRK	**Paraskevi**	**1.75**	**210**	*e*PN	**Pn**	**09 32 49.6**	**+1.2**
PRK				*e*SN	**Sn**	**09 33 14.1**	**+3.1**
DIM	**Dimitrovgrad**	**1.90**	**313**	*i*P	**Pn**	**09 32 50.0**	**-0.5**
LIA	**Limnos Island**	**1.91**	**244**	⇑*i*PN	**Pn**	**09 32 52.0**	**+1.4**
LOS	**Limnos**	**1.96**	**246**	*e*P	**Pn**	**09 32 51.1**	**-0.3**
RZN	**Rozhen**	**2.23**	**295**	*i*P	**Pn**	**09 32 55.0**	**-0.2**
GPA	**Golpazari**	**2.27**	**101**	*e*PN	**Pn**	**09 32 56.1**	**+0.4**
KDAG	**Bornova**	**2.37**	**183**	*i*P	**Pn**	**09 32 56.3**	**+0.9**
KDAG				*i*S	**Sn**	**09 33 33.1**	**+6.6**
IZM	**Izmir**	**2.37**	**183**	*e*PN	**Pn**	**09 32 56.9**	**-0.4**
BLCB	**Balcova**	**2.40**	**187**	*e*PN	**Pn**	**09 32 57.8**	**+0.2**
PRD	**Provadia**	**2.43**	**360**	*i*P	**Pn**	**09 32 57.0**	**-1.1**
MANT	**Manisa**	**2.44**	**158**	*i*P	**Pn**	**09 32 58.0**	**-0.3**
OUR	**Ouranopolis**	**2.64**	**262**	*e*P	**Pn**	**09 33 00.2**	**-0.9**
HENT	**Hendek**	**2.65**	**88**	*i*P	**Pn**	**09 33 01.6**	**+0.3**
HENT				*i*S	**Sn**	**09 33 44.6**	**+11**
ALT	**Altintas**	**2.70**	**129**	*e*PN	**Pn**	**09 33 01.8**	**-0.1**
SZH	**Strazhica**	**2.72**	**337**	*i*P	**Pn**	**09 33 04.0**	**+1.7**
NVR	**Nevrokopi**	**2.74**	**283**	*e*PN	**Pn**	**09 33 02.7**	**+0.2**
MMB	**Musomiste**	**2.89**	**288**	*i*P	**Pn**	**09 33 04.0**	**-0.7**
MMB				*i*Pg	**Pg**	**09 33 11.0**	**-4.4**
SRS	**Serrai**	**2.91**	**278**	*e*P	**Pn**	**09 33 05.0**	**+0.1**
MDU	**Mudurnu**	**2.92**	**95**	*e*PN	**Pn**	**09 33 04.9**	**-0.1**
ESKT	**Eskisehir**	**2.92**	**114**	*e*PN	**Pn**	**09 33 04.9**	**-0.2**
ESKT	**Eskisehir**	**2.92**	**114**	*i*P	**Pn**	**09 33 05.6**	**+0.5**
ESKT				*i*S	**Sn**	**09 33 49.7**	**+9.0**
KHL	**Karahalli**	**2.94**	**145**	*e*PN	**Pn**	**09 33 05.1**	**-0.3**
PAIG	**Paliouri**	**2.97**	**255**	*e*P	**Pn**	**09 33 04.7**	**-1.1**
PGB	**Panagyurishte**	**3.01**	**307**	*i*P	**Pn**	**09 33 05.5**	**-0.8**
PLG	**Polygyros**	**3.04**	**264**	*e*PN	**Pn**	**09 33 06.4**	**-0.4**
SOH	**Sokhos**	**3.08**	**272**	*e*P	**Pn**	**09 33 07.3**	**0.0**
SMG	**Samos**	**3.09**	**188**	*e*PN	**Pn**	**09 33 05.7**	**-1.8**
AYDN	**Tasoluk**	**3.13**	**173**	*i*P	**Pn**	**09 33 07.6**	**-0.4**
AYDN				*i*S	**Sn**	**09 33 55.3**	**+9.5**
DNZL	**Cakiroluk**	**3.33**	**157**	*i*P	**Pn**	**09 33 09.8**	**-1.1**
DNZL				*i*S	**Sn**	**09 34 01.5**	**+11**
KKB	**Krupnik**	**3.43**	**290**	*i*P	**Pn**	**09 33 12.0**	**-0.4**
KKB				*i*Pg	**Pg**	**09 33 21.0**	**-5.2**
KNT	**Kendrikon**	**3.43**	**278**	*e*P	**Pn**	**09 33 12.5**	**+0.1**
SGKT	**Sivrigoynuk**	**3.54**	**92**	*i*P	**Pn**	**09 33 14.6**	**+0.7**
VTS	**Vitosha**	**3.63**	**301**	*i*P	**Pn**	**09 33 15.0**	**-0.2**
VTS				*i*Pg	**Pg**	**09 33 25.5**	**-4.6**
ISP	**Isparta**	**3.79**	**140**	*e*PN	**Pn**	**09 33 17.7**	**+0.3**
ISP	**Isparta**	**3.79**	**140**	*e*Pg	**Pg**	**09 33 28.7**	**-4.5**
GRG	**Griva**	**3.80**	**274**	*e*P	**Pn**	**09 33 17.5**	**-0.1**
LIT	**Litokhoron**	**3.81**	**261**	*e*P	**Pn**	**09 33 17.7**	**0.0**
KIZT	**Kizilcal**	**3.93**	**117**	*e*PN	**Pn**	**09 33 19.4**	**0.0**
APE	**Apeiranthos**	**3.98**	**202**	*e*PN	**Pn**	**09 33 20.1**	**0.0**
SAFT	**Safranbolu**	**4.03**	**82**	*e*PN	**Pn**	**09 33 20.4**	**-0.4**
ISR	**Istrita**	**4.39**	**352**	⇑P	**Pn**	**09 33 27.2**	**+1.2**
CFR	**Carcaliu**	**4.44**	**7**	⇑P	**Pn**	**09 33 25.9**	**-0.7**
BALT	**Daday**	**4.58**	**78**	*i*P	**Pn**	**09 33 28.1**	**-0.5**
ELDT	**Eldivan**	**4.59**	**92**	*i*P	**Pn**	**09 33 30.2**	**+1.4**
BARS	**Barje**	**4.65**	**298**	⇓*i*Pn	**Pn**	**09 33 29.4**	**-0.2**
SKO	**Skopje**	**4.65**	**287**	*i*Pn	**Pn**	**09 33 46.0**	**+16**
MLR	**Muntele Rosu**	**4.84**	**348**	Pn	**Pn**	**09 33 32.5**	**+0.2**
	2.6nm,0.3s,baz=206,slow=2.1,SNR=44						
MLR				Lg		09 34 51.1	
	1.4nm,0.3s,baz=123,slow=11,SNR=3.7						
MLR	**Muntele Rosu**	**4.84**	**348**	⇑P	**Pn**	**09 33 33.5**	**+1.2**
BRTR	**Keskin Array B**	**4.88**	**100**	Pn	**Pn**	**09 33 32.3**	**-0.7**
	0.2nm,0.3s,baz=288,slow=11,SNR=3.4						
BRTR				Sn	**Sn**	**09 34 35.1**	**+4.7**
	0.2nm,0.3s,baz=281,slow=21,SNR=2.2						
BRTR				Lg		09 34 56.6	
	baz=298,slow=21,SNR=2.9						
BOLS	**Boljevac**	**5.07**	**309**	⇑*i*	**Sg**	**09 35 01.5**	**-4.7**
VRI	**Vrincioaia**	**5.12**	**355**	⇑P	**Pn**	**09 33 36.5**	**+0.2**
BURAR	**Bucovina Array**	**7.02**	**348**	⇑P	**Pn**	**09 34 02.7**	**-0.4**
GERES	**GERESS Array B**	**12.63**	**314**	Pn	**P**	**09 35 19.2**	**-1.0**
	0.1nm,0.3s,baz=126,slow=13,SNR=4.5						
FINES	**FINESS Array B**	**20.72**	**358**	P	**P**	**09 36 58.1**	**-2.4**
	0.6nm,0.8s,baz=148,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**39.39**	**62**	P	**P**	**09 39 51.1**	**+2.1**
	0.4nm,0.8s,mb3.2,baz=285,slow=6.3,SNR=5.3						

IDC 27 09:40:35.6±4.0, 5.55N×95.57E, mb3.6/3, mb1 3.7/3, mb1mx3.4/17, mbtmp3.6/3, MS3.8/1, Ms1 3.7/1, ms1mx2.8/21, Error ellipse: s-maj=155.2km s-min=28.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.66**	**347**	P	P	09 48 34.0	-1.6
	1.2nm,0.7s,baz=167,slow=7.8,SNR=14						
SONM	**Songino Array**	**43.14**	**11**	P	P	09 48 37.6	-2.0
	0.4nm,0.8s,baz=180,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**45.77**	**125**	P	P	09 48 59.3	-1.8
	0.7nm,0.7s,baz=302,slow=9.1,SNR=8.7						
STKA	**Stephens Creek**	**57.49**	**133**	LR	LR	10 15 35.4	
	comp=Z,81nm,18.7s,baz=204,slow=36						

IGQ 27 09:41:05.5, 0.90S×81.46W, h12km±23km, mb4.1, 2C, Error ellipse: s-maj=22.2km s-min=6.1km az=1.5, Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SALI	**Salinas**	**1.36**	**160**	P	Pn	09 41 31.5	+1.1
IGUA	**Igualata**	**2.88**	**102**	P	Pn	09 41 51.5	-0.7
JUA2	**San Juan 2**	**2.93**	**77**	P	Pn	09 41 54.2	+1.3
JUA2				S	Sn	09 42 29.3	+1.0
PINO	**Pino**	**2.94**	**76**	P	Pn	09 41 55.0	+2.0
JOR1	**San Jorge 1**	**2.96**	**72**	P	Pn	09 41 54.5	+1.3
NAS1	**Nasa**	**2.99**	**85**	P	Pn	09 41 56.2	+2.4
NAS1				S	Sn	09 42 30.7	+0.9
ARRY	**Arrayan**	**3.06**	**101**	⇑P	Pn	09 41 54.1	-0.6
ARRY				S	Sn	09 42 26.9	-4.7
VC1	**Cotopaxi 1**	**3.06**	**85**	P	Pn	09 41 56.8	+2.0
PISA	**Pisayambo**	**3.08**	**93**	P	Pn	09 41 55.3	+0.4
TAMB	**Tambo**	**3.10**	**86**	P	Pn	09 41 57.6	+2.4
ULBA	**Ulba**	**3.10**	**100**	P	Pn	09 41 56.1	+0.9
ANTI	**Antisana**	**3.33**	**82**	P	Pn	09 42 01.3	+2.9
ANTI				S	Sn	09 42 40.2	+1.9
COTA	**Cotacachi**	**3.35**	**69**	P	Pn	09 42 03.0	+4.2
CAYR	**Refugio Cayamb**	**3.57**	**75**	⇑P	Pn	09 42 07.4	+5.5
CAYA	**Cayambe**	**3.60**	**74**	P	Pn	09 42 07.2	+4.9
ECEN	**Cerro Negro**	**3.88**	**64**	P	Pn	09 42 10.8	+4.4

IDC 27 09:52:03.3±12.0, 17.60S×172.72W, h465km±379km, mb3.2/3, mb1 3.3/4, mb1mx3.0/15, mbtmp4.0/4, Error ellipse: s-maj=748.3km s-min=130.0km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.78**	**14**	P	P	09 53 17.7	-0.4
	3.7nm,0.3s,baz=280,slow=6.1,SNR=8.1						
AFI				S	S	09 54 12.5	-4.8
	3.5nm,0.3s,baz=51,slow=22,SNR=6.2						
STKA	**Stephens Creek**	**43.55**	**242**	P	P	09 59 24.9	-1.4
	0.6nm,0.6s,baz=101,slow=10,SNR=3.2						
WRA	**Warramunga Arr**	**50.02**	**258**	P	P	10 00 13.8	-2.1
	0.7nm,0.4s,baz=98,slow=6.7,SNR=46						
ASAR	**Alice Springs**	**50.09**	**254**	P	P	10 00 14.9	-1.4

3.3nm,0.5s,baz=89,slow=7.9,SNR=97

*THR **27** 09:53:01.7±0.9, 31.31N×51.36E, h36km±9km, ML3.4*
*CSEM **27** 09:53:08.1±0.0, 31.61N×50.96E, h50km, ML3.4, Error ellipse: s-maj=0.9km s-min=0.6km az=48.0*
*TEH **27** 09:53:11.4, 31.94N×52.07E, h23km, Mn3.7*
ISC 27 09:53:09.0±0.7, 31.77N±0.06×51.39E±0.08, h23km, n13, σ0°s94/16, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NASN	**Na'in**	**1.58**	**49**	*e*PG	**Pn**	**09 53 36.2**	**+0.2**
NASN				*e*SG	**Sn**	**09 54 02.0**	**+6.1**
SHGO	**Shushtar**	**2.23**	**279**	*e*PN	**Pn**	**09 53 39.5**	**-5.8**
SHGO				AML	AML	09 54 31.3	
	comp=N,188nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.23**	**279**	*e*PN	**Pn**	**09 53 39.5**	**-5.8**
SHGR				*e*SG	**Sn**	**09 54 12.8**	**+0.5**
SHGR				AML	AML	09 54 22.8	
	comp=N,303nm,0.6s						
SHGR	**Shooshtar-Gavs** SNR=54	**2.23**	**279**	*e*Pn	**Pn**	**09 53 39.5**	**-5.8**
SHGR				*e*Sg	**Sn**	**09 54 12.9**	**+0.6**
	comp=N,188nm,0.6s,SNR=95						
SHI	**Shiraz**	**2.33**	**155**	Pn	**Pn**	**09 53 47.4**	**+0.6**
IPAR	**Pars**	**2.40**	**143**	Pn	**Pn**	**09 53 47.2**	**-0.5**
ICHK	**Chekchek**	**2.61**	**79**	Pn	**Pn**	**09 53 43.8**	**-6.9**
ISRV	**Sarvestan**	**2.81**	**148**	Pn	**Pn**	**09 53 53.2**	**-0.4**
ASAO	**Ashtian**	**3.00**	**338**	*e*PN	**Pn**	**09 53 54.9**	**-1.4**
ASAO				AML	AML	09 54 51.4	
	comp=N,60nm,0.6s						
IQOM	**Qom**	**3.07**	**355**	Pn	**Pn**	**09 53 57.4**	**+0.1**
IVRN	**Varamin**	**3.23**	**5**	Pn	**Pn**	**09 54 01.3**	**+1.8**
IRAZ	**Razeghan**	**3.82**	**342**	Sn	**Sn**	**09 54 52.3**	**-0.5**
SNGE	**Sanandaj**	**4.73**	**316**	*e*PN	**Pn**	**09 54 16.5**	**-4.4**
SNGE				AML	AML	09 55 18.7	
	comp=N,18nm,0.5s						

IDC 27 09:55:46.4±7.9, 8.24N×92.87E, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=398.2km s-min=29.2km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.47**	**349**	P	P	10 03 18.4	-1.7
	0.4nm,0.7s,baz=180,slow=9.7,SNR=5.7						
WRA	**Warramunga Arr**	**49.50**	**125**	P	P	10 04 39.5	-1.5
	0.1nm,0.4s,baz=306,slow=8.4,SNR=5.9						
**

JUA2				S	Sn	11 21 14.2	+3.4
PINO	**Pino**	**3.12**	**63**	P	Pn	11 20 34.2	+0.3
VC1	**Cotopaxi 1**	**3.12**	**72**	P	Pn	11 20 36.2	+2.3
TAMB	**Tambo**	**3.14**	**73**	P	Pn	11 20 35.6	+1.4
JOR1	**San Jorge 1**	**3.17**	**60**	P	Pn	11 20 33.3	-1.3
ANTI	**Antisana**	**3.41**	**70**	P	Pn	11 20 40.4	+2.3
ANTI				S	Sn	11 21 24.9	+6.0
COTA	**Cotacachi**	**3.59**	**58**	P	Pn	11 20 41.8	+1.1
CAYR	**Refugio Cayamb**	**3.73**	**64**	P	Pn	11 20 45.4	+2.8
CAYA	**Cayambe**	**3.77**	**64**	P	Pn	11 20 45.3	+2.1
ECEN	**Cerro Negro**	**4.17**	**55**	P	Pn	11 20 50.7	+1.8

NEIC ***27*** *11:46:03.4, 46.20N×122.19W, h1km, MD3.0(SEA), After SEA.*
IDC ***27*** *11:46:03.8±1.3, 46.16N×122.32W, mb3.3/2, mb1 3.4/6, mb1mx3.3/22, mbtmp3.1/6, ML3.0/4, Error ellipse: s-maj=20.1km s-min=11.8km az=118.0*
ISC 27 11:46:03.3±0.3, 46.21N±0.02×122.21W±0.04, h1km, n58, σ0s72/58, mb3.2/2, 6C-13D, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YEL	**Yellow Rock**	**0.01**	**72**	⇓P	**Pg**	**11 46 03.1**	**-0.5**
SHW	**Mount Saint He**	**0.02**	**237**	⇓P	**Pg**	**11 46 04.2**	**+0.4**
STD	**Studebaker Rid**	**0.03**	**343**	⇓P	**Pg**	**11 46 04.5**	**+0.5**
HSR	**South Ridge**	**0.04**	**151**	⇓P	**Pg**	**11 46 04.0**	**-0.1**
ESD	**East Dome**	**0.04**	**101**	⇓P	**Pg**	**11 46 04.2**	**0.0**
SOSW	**Source of Smit**	**0.06**	**52**	⇓P	**Pg**	**11 46 04.7**	**+0.1**
JLK	**June Lake**	**0.07**	**146**	⇓P	**Pg**	**11 46 04.7**	**-0.1**
ERK	**Elk Rock**	**0.14**	**318**	⇓P	**Pg**	**11 46 06.5**	**+0.5**
CDFW	**Cedar Flats**	**0.14**	**128**	⇑P	**Pg**	**11 46 06.4**	**+0.2**
MTMW	**Mount Mitchell**	**0.18**	**181**	⇓P	**Pg**	**11 46 07.2**	**+0.3**
LVP	**Lakeview Peak**	**0.20**	**225**	P	**Pg**	**11 46 07.6**	**+0.4**
KOSW	**Kosmos**	**0.26**	**3**	P	**Pg**	**11 46 08.8**	**+0.3**
ASR	**Mount Adams--S**	**0.43**	**97**	P	**Pg**	**11 46 11.6**	**-0.3**
GULW	**Guler Mountain**	**0.51**	**123**	P	**Pg**	**11 46 13.8**	**+0.2**
APM	**Augspurger Mou**	**0.60**	**142**	P	**Pg**	**11 46 15.5**	**+0.3**
LON	**Longmire**	**0.61**	**27**	⇓P	**Pg**	**11 46 15.3**	**-0.3**
REMR	**Mount Rainier-**	**0.67**	**22**	P	**Pg**	**11 46 16.3**	**-0.3**
WPW	**White Pass**	**0.67**	**43**	⇑P	**Pg**	**11 46 16.2**	**-0.6**
RCM	**Mount Rainier-**	**0.71**	**27**	P	**Pg**	**11 46 17.2**	**-0.3**
RCS	**Mount Rainier-**	**0.74**	**26**	⇓P	**Pg**	**11 46 17.6**	**-0.5**
BMW	**Boistfort Moun**	**0.76**	**291**	⇑P	**Pg**	**11 46 18.1**	**-0.3**
PGO	**Gresham**	**0.76**	**193**	P	**Pg**	**11 46 18.2**	**-0.2**
FMW	**Mount Fremont**	**0.82**	**27**	⇓P	**Pg**	**11 46 19.0**	**-0.6**
RRHS	**Rochester High**	**0.83**	**316**	P	**Pg**	**11 46 19.4**	**-0.4**
VLL	**Laurance Lake**	**0.83**	**153**	P	**Pg**	**11 46 19.6**	**-0.3**
TDH	**Tom, Dick, Har**	**0.96**	**162**	P	**Pb**	**11 46 21.5**	**-1.0**
CPW	**Capitol Peak**	**1.00**	**321**	⇓P	**Pb**	**11 46 22.1**	**-1.0**
GSM	**Grass Mountain**	**1.04**	**16**	P	**Pb**	**11 46 22.6**	**-1.2**
EBG	**Ellensburg**	**1.33**	**58**	P	**Pb**	**11 46 28.9**	**+0.1**
MXC	**Moxie City**	**1.38**	**74**	⇑P	**Pb**	**11 46 29.5**	**-0.1**
TBM	**Table Mountain**	**1.47**	**48**	⇑P	**Pn**	**11 46 30.6**	**-0.4**
BRVW	**Black Rock Val**	**1.56**	**79**	P	**Pn**	**11 46 32.5**	**+0.2**
BVW	**Beverly**	**1.72**	**68**	P	**Pn**	**11 46 35.0**	**+0.4**
PATW	**Paterson**	**1.74**	**100**	P	**Pn**	**11 46 35.6**	**+0.8**
MDW	**Midway**	**1.74**	**76**	P	**Pn**	**11 46 34.8**	**-0.2**
PRW	**Prosser**	**1.75**	**89**	P	**Pn**	**11 46 35.5**	**+0.4**
SNIWA	**Snively Ranch**	**1.79**	**81**	P	**Pn**	**11 46 35.7**	**+0.1**
COR	**Corvallis**	**1.79**	**206**	*eP*	**Pn**	**11 46 34.9**	**-0.8**
RSW	**Rattlesnake Hi**	**1.82**	**83**	P	**Pn**	**11 46 36.5**	**+0.4**
GBB	**Gable Butte**	**1.83**	**76**	P	**Pn**	**11 46 36.8**	**+0.6**
HAWA	**Hanford**	**1.86**	**83**	*eP*	**Pn**	**11 46 36.0**	**-0.7**
WRW	**Wenatchee Ridg**	**1.89**	**28**	P	**Pn**	**11 46 38.2**	**+1.2**
WAH2	**Wahluke Slope**	**1.91**	**72**	P	**Pn**	**11 46 37.7**	**+0.4**
GBL	**Gable Mountain**	**1.94**	**77**	P	**Pn**	**11 46 37.9**	**+0.1**
JCW	**Jim Creek**	**2.00**	**5**	⇑P	**Pn**	**11 46 38.9**	**+0.3**
CMW	**Cultus Mountai**	**2.22**	**2**	P	**Pn**	**11 46 42.5**	**+0.7**
PGC	**Sidney**	**2.59**	**341**	*eP*	**Pn**	**11 46 46.6**	**-0.5**
BMO	**Blue Mountains**	**3.70**	**110**	*eP*	**Pn**	**11 47 01.4**	**-1.5**
NEW	**Newport** 0.1nm,0.3s,baz=338,slow=18,SNR=2.6	**4.03**	**57**	Pn	**Pn**	**11 47 08.9**	**+1.3**
NEW	0.4nm,0.3s,baz=31,slow=23,SNR=4.1			Lg		11 48 13.8	
YBH	**Yreka Blue Hor** 0.1nm,0.3s,baz=12,slow=6.6,SNR=7.0	**4.49**	**185**	Pn	**Pn**	**11 47 14.9**	**+0.9**
WVOR	**Wild Horse Val**	**4.56**	**145**	P	**Pn**	**11 47 13.9**	**-1.1**
HLID	**Hailey**	**6.14**	**113**	P	**Pn**	**11 47 35.1**	**-2.2**
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=302,slow=14,SNR=3.0	**9.67**	**106**	Pn	**P**	**11 48 29.2**	**+2.5**
YKA	**Yellowknife Ar** 0.0nm,0.3s,baz=198,slow=11,SNR=12	**16.89**	**12**	Pn	**P**	**11 49 57.4**	**-4.9**
TXAR	**Lajitas Array** 0.5nm,0.8s,mb3.0,baz=324,slow=7.8,SNR=7.0	**22.24**	**133**	P	**P**	**11 51 04.1**	**+1.0**
TXAR	**Lajitas Array**	**22.24**	**133**	P	**P**	**11 51 04.1**	**+1.0**
INK	**Inuvik** 1.6nm,1.0s,mb3.5,baz=158,slow=6.5,SNR=3.9	**22.91**	**349**	P	**P**	**11 51 10.4**	**+1.2**
BOAC	**Boac**	**97.43**	**298**	*eP*	**P**	**11 59 44.6**	**+4.5**

JMA 27 12:05:38.2±0.2, 43.98N×148.10E, M3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.82**	**251**	P	Pn	12 06 11.1	+0.1
NEM2				eS	Sn	12 06 35.2	+0.1
JRA	**Rausu**	**2.15**	**270**	P	Pn	12 06 15.9	+0.1
JRA				eS	Sn	12 06 43.9	+0.4
JNK	**Nakash**	**2.48**	**262**	P	Pn	12 06 20.6	+0.1
JNK				eS	Sn	12 06 51.1	-0.8
JAK	**Akkeshi**	**2.67**	**250**	P	Pn	12 06 23.3	+0.2
JAK				eS	Sn	12 06 56.7	+0.1
JTKR	**Abashiri--Toko**	**3.03**	**271**	P	Pn	12 06 28.7	+0.4
JAR	**Ashorobuto**	**3.22**	**259**	P	Pn	12 06 31.8	+0.8
JCH	**Churui**	**3.72**	**250**	P	Pn	12 06 38.6	+0.5
JCH				eS	Sn	12 07 23.0	-0.3
JNBK	**Urakawa-nobuka**	**4.27**	**248**	P	Pn	12 06 46.5	+0.6
JKB	**Kayabe**	**5.59**	**250**	P	Pn	12 07 04.3	-0.4
JKB				eS	Sn	12 08 08.5	-2.1
JOT	**Ohata**	**5.81**	**246**	P	Pn	12 07 07.0	-0.7
JOT				eS	Sn	12 08 12.6	-3.4

NIED ***27*** *12:44:00, 35.70N×140.80E, h50km, Mw4.2 Best double couple: M0 2.37×10^15 NP1:φs3°, δ70°, λ88°. NP2:φs188°, δ20°, λ95°.*
MOS ***27*** *12:44:05.6±1.2, 35.70N×140.84E, h48km, mb4.6/4, Error ellipse: s-maj=21.6km s-min=11.3km az=118.5*
IDC ***27*** *12:44:05.7±7.4, 35.61N×140.58E, h27km±51km, mb3.7/11, mb1 3.9/14, mb1mx3.8/20, mbtmp3.9/14, ML4.0/3, MS3.4/2, Ms1 3.4/2, ms1mx3.0/31, Error ellipse: s-maj=25.6km s-min=14.3km az=85.0*
JMA ***27*** *12:44:07.1±0.1, 35.68N×140.74E, h49km±1km, M4.0*
JMA Felt II J1.
NEIC ***27*** *12:44:10.6±1.4, 35.66N×140.47E, h67km±12km, mb4.5/7, MW4.2(NIED), Error ellipse: s-maj=15.2km s-min=8.9km az=81.0*
NEIC Recorded [2 JMA] in Chiba Prefecture.
ISC 27 12:44:06.7±0.5, 35.63N±0.04×140.72E±0.07, h54km±3km, n46, σ1s06/52, mb4.0/18, MS3.3/2, 1C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.13**	**55**	⇑P	**P**	**12 44 14.7**	**-0.3**
CHOJ				S	**S**	**12 44 20.5**	**-0.6**
JCN	**Nagara**	**0.47**	**244**	⇓P	**P**	**12 44 19.1**	**+1.2**
BSO4	**Boso 4**	**0.71**	**207**	P	**P**	**12 44 22.0**	**+1.2**
JYT	**Yasato**	**0.74**	**325**	⇓P	**P**	**12 44 20.9**	**-0.2**
JYT				S	**S**	**12 44 31.0**	**-0.8**
BSO3	**Boso 3**	**0.84**	**192**	P	**P**	**12 44 23.6**	**+1.1**
JHO	**Hitachi**	**0.99**	**353**	⇓P	**P**	**12 44 24.6**	**0.0**
BSO1	**Boso 1**	**0.99**	**168**	P	**P**	**12 44 24.8**	**+0.2**
JAG	**Ashikaga**	**1.30**	**308**	⇓P	**P**	**12 44 28.6**	**-0.5**
JOD2	**Odawara 2**	**1.38**	**255**	⇓P	**P**	**12 44 30.6**	**+0.4**
JIM2	**Oshima 3**	**1.39**	**230**	P	**P**	**12 44 30.1**	**-0.2**
MAJO	**Matsushiro**	**2.23**	**295**	*eP*	**P**	**12 44 43.3**	**+1.2**
MAT	**Matsushiro**	**2.23**	**295**	*eP*	**P**	**12 44 42.0**	**-0.1**
MAT				eS	**S**	**12 45 11.0**	**+2.5**
MAT	**Matsushiro**	**2.23**	**295**	P	**P**	**12 44 42.4**	**+0.3**
MAT				S	**S**	**12 45 10.8**	**+2.3**
JHJ	**Hachijo jima 2** 38nm,0.3s,baz=83,slow=20,SNR=27	**2.62**	**198**	Pn	**P**	**12 44 47.0**	**-0.6**
JHJ	70nm,0.3s,baz=96,slow=20,SNR=5.7			Sn	**S**	**12 45 16.2**	**-2.1**
CBIJ	**Chichi jima** 12nm,0.3s,baz=283,slow=19,SNR=6.8	**8.60**	**171**	Pn	**P**	**12 46 07.2**	**-3.9**
CBIJ				Sn	**S**	**12 47 36.4**	**-11**
	2.1nm,0.3s,baz=285,slow=21,SNR=2.4						
ASAJ	**Asahikawa**	**8.60**	**9**	P	**P**	**12 46 07.4**	**-3.7**
ASAJ						12 47 39.1	
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ASAJ	comp=N,1.0nm,0.3s			smax			
ASAJ	**Asahikawa** comp=N,1.1nm,0.3s,baz=284,slow=24,SNR=6.6	**8.60**	**9**	Pn	**P**	**12 46 07.3**	**-3.8**
ASAJ	comp=N,0.7nm,0.3s,baz=143,slow=30,SNR=3.3			Sn	**S**	**12 47 39.0**	**-8.7**
ENH	**Enshi** comp=N,12nm,0.7s,mb4.5	**26.68**	**267**	*eP*	**P**	**12 49 41.1**	**-1.6**
SONM	**Songino Array** comp=N,1.4nm,0.7s,mb3.7,baz=105,slow=8.2,SNR=12	**28.14**	**306**	P	**P**	**12 49 54.6**	**-1.1**
SONM	comp=N,59nm,19.2s,MS3.2,baz=201,slow=35			LR	LR	13 00 37.9	
BOD	**Bodaibo**	**28.44**	**330**	*eP*	**P**	**12 49 56.5**	**-1.8**
ZAK	**Zakamensk**	**30.73**	**310**	*eP*	**P**	**12 50 12.9**	**-5.8**
ZAK	comp=Z,1.0nm,1.4s,mb3.5			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,2.0nm,0.6s,mb4.0,baz=84,slow=9.4,SNR=31	**44.41**	**303**	P	**P**	**12 52 13.8**	**+0.2**
MKAR	comp=Z,48nm,19.7s,MS3.4,baz=121,slow=35			LR	LR	13 10 06.5	
MKAR	**Makanchi Array**	**44.41**	**303**	P	**P**	**12 52 13.8**	**+0.2**
MKAR				LR	LR	13 10 06.5	
KURK	**Kurchatov**	**46.37**	**309**	*eP*	**P**	**12 52 28.2**	**-1.0**
KURK	comp=Z,10.0nm,0.9s,mb4.8			pmax	pmax		
KURK	**Kurchatov** comp=Z,10nm,0.9s,mb4.8	**46.37**	**309**	*eP*	**P**	**12 52 28.2**	**-1.0**
CHKZ	**Chkalovo**	**50.88**	**314**	*eP*	**P**	**12 53 02.6**	**-1.4**
CHKZ	comp=Z,5.0nm,1.0s,mb4.4			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,5.5nm,1.0s,mb4.4	**50.88**	**314**	*eP*	**P**	**12 53 02.6**	**-1.4**
FITZ	**Fitzroy Crossi** comp=Z,3.7nm,0.6s,mb4.6	**55.31**	**198**	*eP*	**P**	**12 53 37.4**	**+0.1**
WRAB	**Tennant Creek**	**55.58**	**187**	*eP*	**P**	**12 53 40.2**	**+0.9**
WRAB	comp=Z,5.0nm,0.9s,mb4.5			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,5.5nm,0.9s,mb4.6	**55.59**	**187**	*eP*	**P**	**12 53 40.2**	**+0.9**
WB2	**Warramunga Arr**	**55.59**	**187**	*eP*	**P**	**12 53 40.8**	**+1.5**
WRA	**Warramunga Arr** comp=Z,1.3nm,0.5s,mb4.2,baz=1.7,slow=7.6,SNR=29	**55.59**	**187**	P	**P**	**12 53 37.6**	**-1.8**
ARU	**Arti**	**57.05**	**319**	*eP*	**P**	**12 53 48.7**	**-0.6**
ASAR	**Alice Springs** comp=Z,2.0nm,0.6s,mb3.7,baz=18,slow=9.9,SNR=14	**59.32**	**187**	P	**P**	**12 54 05.2**	**-0.4**
ARCES	**ARCESS Array B** comp=Z,2.8nm,1.0s,mb4.2,baz=45,slow=8.9,SNR=3.2	**65.12**	**339**	P	**P**	**12 54 43.8**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.6s,mb3.0,baz=301,slow=6.4,SNR=3.7	**65.31**	**30**	P	**P**	**12 54 45.8**	**+1.0**
KAF	**Kangasniemi**	**69.30**	**333**	*ep*	**P**	**12 55 09.4**	**-0.4**
FINES	**FINESS Array B** comp=Z,0.5nm,0.3s,mb3.9,baz=45,slow=8.1,SNR=9.6	**69.80**	**332**	P	**P**	**12 55 12.5**	**-0.4**
NOA	**NORSAR Subarra** comp=Z,1.2nm,0.7s,mb3.9,baz=41,slow=5.6	**75.27**	**337**	P	**P**	**12 55 45.4**	**+0.3**
NB2	**NORSAR Subarra**	**75.27**	**337**	P	**P**	**12 55 45.4**	**+0.3**
NB2	comp=Z,1.0nm,0.7s,mb3.9			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,1.5nm,0.7s,mb4.0,baz=40,slow=5.7,SNR=10	**75.27**	**337**	P	**P**	**12 55 45.2**	**+0.2**
BW06	**Boulder Array** comp=Z,0.4nm,0.5s,mb3.6	**79.05**	**45**	P	**P**	**12 56 08.1**	**+1.5**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.6s,mb3.3,baz=243,slow=2.0,SNR=2.9	**79.05**	**45**	P	**P**	**12 56 08.4**	**+1.8**
BRTR	**Keskin Array B** comp=Z,1.1nm,0.8s,mb3.8,baz=121,slow=7.2,SNR=4.7	**79.36**	**311**	P	**P**	**12 56 09.7**	**+1.3**
GERES	**GERESS Array B** comp=Z,0.2nm,0.5s,mb3.5,baz=315,slow=3.8,SNR=4.1	**83.61**	**328**	P	**P**	**12 56 30.4**	**+0.2**
LPAZ	**La Paz** comp=Z,0.7nm,0.7s,baz=40,slow=14,SNR=5.1	**147.88**	**61**	PKPbc	PKPdf	13 03 50.0	+6.8

NEIC ***27*** *13:04:08.0±0.3, 10.62N×91.28E, mb4.5/6, Error ellipse: s-maj=8.4km s-min=5.5km az=58.0*
IDC ***27*** *13:04:08.6±0.9, 10.59N×91.27E, h29km±3km, mb3.8/11, mb1 3.9/11, mb1mx3.7/20, mbtmp3.9/11, Error ellipse: s-maj=38.4km s-min=11.7km az=60.0*
ISC 27 13:04:06.1±0.4, 10.62N±0.06×91.29E±0.05, h28km, h28km±1.0km: pP-P, n39, σ0s63/42, mb4.0/12, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.46**	**313**	*eP*	**P**	**13 06 36.9**	**-0.6**
VIS				*e*		13 06 37.6	
VIS	comp=Z,165nm,0.5s			*eS*	**S**	**13 08 21.7**	**-13**
CM31	**Chiang Mai Arr**	**10.75**	**43**	*eP*	**P**	**13 06 41.0**	**-0.6**
PALK	**Pallekele**	**10.97**	**253**	*eP*	**P**	**13 06 43.5**	**-1.1**
NANT	**Nan**	**12.20**	**47**	P	**P**	**13 07 01.0**	**-0.2**
HYB	**Hyderabad**	**14.08**	**300**	*eP*	**P**	**13 07 33.0**	**+6.8**
HYB				*e*		13 09 50.0	
HYB				*eS*	**S**	**13 10 02.0**	**-0.3**
HYB	**Hyderabad**	**14.08**	**300**	*iP*	**P**	**13 07 30.0**	**-1.2**
HYB				*e*		13 09 50.0	
HYB				*eS*	**S**	**13 10 02.0**	**-0.3**
TRD	**Trivandrum**	**14.29**	**263**	*eP*	**P**	**13 07 30.3**	**+1.4**
TRD				*e*		13 07 32.8	
TRD	comp=Z,27nm,0.3s						
BLSP	**Bilaspur**	**14.42**	**324**	*eP*	**P**	**13 07 29.9**	**-0.7**
BLSP				*e*		13 07 30.3	
BLSP	comp=Z,20nm,0.5s			*e*		13 09 57.6	
SHL	**Shillong**	**14.87**	**2**	*eP*	**P**	**13 07 37.0**	**+0.4**
SHL				*e*		13 10 10.0	
JIRN	**Jiri** comp=Z,41nm,0.5s	**17.61**	**345**	*eP*	**P**	**13 08 11.3**	**-0.1**
PKI	**Pulchoki** comp=Z,53nm,0.5s	**17.74**	**343**	*eP*	**P**	**13 08 12.9**	**-0.2**
DMN	**Daman** comp=Z,146nm,0.7s	**17.87**	**342**	*eP*	**P**	**13 08 14.8**	**+0.2**
GKN	**Gorkha** comp=Z,86nm,0.6s	**18.39**	**341**	*eP*	**P**	**13 08 21.5**	**+0.5**
KOLN	**Koldanda** comp=Z,70nm,0.6s	**18.53**	**338**	*eP*	**P**	**13 08 22.0**	**-0.8**
LSA	**Lhasa** comp=Z,12nm,0.4s	**18.98**	**360**	*eP*	**P**	**13 08 28.3**	**+0.1**
ENH	**Enshi** comp=Z,4.7nm,0.6s,mb4.2	**25.87**	**38**	*eP*	**P**	**13 09 36.9**	**-0.5**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.6s,mb4.1,baz=166,slow=8.1,SNR=13	**36.85**	**350**	P	**P**	**13 11 14.4**	**+0.4**
MKAR	comp=Z,1.1nm,0.7s,baz=168,slow=8.0,SNR=4.7			sP	sP	13 11 28.2	+2.5
SONM	**Songino Array** comp=Z,1.1nm,0.6s,mb3.8,baz=205,slow=8.2,SNR=13	**39.21**	**16**	P	**P**	**13 11 34.8**	**+1.0**
SONM	comp=Z,1.5nm,0.6s,baz=196,slow=9.0,SNR=9.9			pP	pP	13 11 42.7	+0.7
SONM	comp=Z,1.5nm,0.6s,baz=204,slow=9.0,SNR=9.8			sP	sP	13 11 46.7	+1.3
FITZ	**Fitzroy Crossi** comp=Z,4.9nm,1.0s,mb4.2	**44.32**	**130**	*eP*	**P**	**13 12 15.3**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,1.1nm,0.5s,mb3.9,baz=349,slow=6.7,SNR=4.8	**44.32**	**130**	P	**P**	**13 12 16.0**	**0.0**
FITZ	comp=Z,4.5nm,0.8s,baz=210,slow=1.5,SNR=4.4			pP	pP	13 12 25.0	+0.7
BVAR	**Borovoye Array** comp=Z,0.3nm,0.4s,mb3.5,baz=141,slow=9.5,SNR=3.7	**45.52**	**342**	P	**P**	**13 12 24.9**	**-0.1**
CHKZ	**Chkalovo**	**46.02**	**343**	*eP*	**P**	**13 12 29.4**	**+0.5**
WRA	**Warramunga Arr** comp=Z,1.9nm,0.6s,mb4.2,baz=307,slow=8.2,SNR=38	**52.14**	**126**	P	**P**	**13 13 17.0**	**+0.2**
WRA	comp=Z,1.7nm,0.8s,baz=305,slow=8.4,SNR=7.4			pP	pP	13 13 25.0	-0.1
WRA	comp=Z,1.7nm,0.8s,baz=304,slow=8.4,SNR=7.9			sP	sP	13 13 29.6	+1.2
WRAB	**Tennant Creek**	**52.14**	**126**	*eP*	**P**	**13 13 16.9**	**+0.2**
WB2	**Warramunga Arr**	**52.15**	**126**	*eP*	**P**	**13 13 16.8**	**0.0**
ASPA	**Alice Springs**	**53.82**	**130**	*eP*	**P**	**13 13 42.0**	**+13**
ASAR	**Alice Springs** comp=Z,0.6nm,0.5s,mb3.8,baz=306,slow=7.1,SNR=16	**53.83**	**130**	P	**P**	**13 13 29.4**	**+0.3**
ASAR	comp=Z,2.2nm,0.7s,baz=306,slow=6.8,SNR=15			sP	sP	13 13 41.4	+0.5
DBAS	**Duba**	**54.44**	**296**	P	**P**	**13 13 45.8**	**+12**
AYUS	**'Aynunah**	**55.17**	**297**	P	**P**	**13 13 39.6**	**+0.6**
BDAS	**Al Bad'**	**55.35**	**297**	P	**P**	**13 13 41.5**	**+1.2**
JMOS	**Jabal al Moall**	**55.43**	**298**	P	**P**	**13 13 51.6**	**+11**
TAYS	**Tayyib Ism**	**55.56**	**297**	P	**P**	**13 13 41.8**	**-0.1**
HAQS	**Haql**	**55.58**	**298**	P	**P**	**13 13 49.5**	**+7.6**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.6s,mb3.8,baz=96,slow=7.8,SNR=3.8	**58.51**	**310**	P	**P**	**13 14 02.0**	**-0.6**
STKA	**Stephens Creek** comp=Z,1.7nm,0.9s,mb4.1,baz=338,slow=11,SNR=2.4	**64.03**	**133**	P	**P**	**13 14 38.6**	**-1.4**
STKA				sP	sP	13 14 53.5	+1.8
	comp=Z,1.0nm,0.6s,baz=296,slow=8.0,SNR=2.2						
MLR	**Muntele Rosu** comp=Z,1.5nm,0.7s,mb4.2,baz=125,slow=12,SNR=4.0	**65.25**	**315**	P	**P**	**13 14 47.9**	**+0.3**
FINES	**FINESS Array B** comp=Z,0.8nm,0.8s,mb3.7,baz=63,slow=8.5,SNR=3.9	**68.98**	**332**	P	**P**	**13 15 11.1**	**+0.1**
ARCES	**ARCESS Array B** comp=Z,3.5nm,0.8s,mb4.3,baz=56,slow=3.3,SNR=3.9	**71.74**	**340**	P	**P**	**13 15 28.3**	**+0.7**
ARCES	**ARCESS Array B**	**71.74**	**340**	P	**P**	**13 15 28.3**	**+0.7**

NEIC ***27*** *13:07:25.8±2.0, 43.29N×127.56W, h10km, mb3.2/2, Error ellipse: s-maj=24.2km s-min=8.3km az=71.0*
IDC ***27*** *13:07:28.6±4.0, 43.47N×127.13W, mb3.0/3, mb1 3.5/6, mb1mx3.3/22, mbtmp3.2/6, ML3.6/3, MS3.3/2, Ms1 3.3/2, ms1mx2.7/11, Error ellipse: s-maj=53.3km s-min=21.2km az=65.0*
ISC 27 13:07:26.1±4.0, 43.46N±0.09×127.4W±0.2, h5km±24km, n35, σ0s93/35, mb3.0/2, MS3.3/1, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	**Edson Butte**	**2.30**	**104**	P	**Pn**	**13 08 02.9**	**-2.4**
BBOR	**Butler Butte**	**3.48**	**98**	P	**Pn**	**13 08 22.8**	**+0.7**
IRO	**Indian Ridge**	**3.75**	**80**	P	**Pn**	**13 08 25.8**	**-0.1**
NLO	**Nicolai Mounta**	**3.83**	**45**	P	**Pn**	**13 08 27.2**	**+0.1**
YBH	**Yreka Blue Hor** 1.1nm,0.3s,baz=299,slow=12,SNR=26	**3.85**	**115**	Pn	**Pn**	**13 08 27.6**	**+0.3**
YBH	0.4nm,0.3s,baz=225,slow=20,SNR=6.4			Sn	**Sn**	**13 09 13.0**	**-0.6**
YBH	**Yreka Blue Hor**	**3.85**	**115**	*eP*	**Pn**	**13 08 27.0**	**-0.4**
PGO	**Gresham**	**4.05**	**59**	P	**Pn**	**13 08 30.8**	**+0.6**
BKCOR	**Black Crater**	**4.19**	**77**	P	**Pn**	**13 08 33.0**	**+0.9**
BMW	**Boistfort Moun**	**4.21**	**43**	P	**Pn**	**13 08 31.5**	**-0.9**
BEND	**Bend**	**4.42**	**80**	P	**Pn**	**13 08 36.0**	**+0.5**
VFP	**Flag Point**	**4.62**	**64**	P	**Pn**	**13 08 39.0**	**+0.7**
KOSW	**Kosmos**	**4.75**	**49**	P	**Pn**	**13 08 40.4**	**+0.4**
ASR	**Mount Adams--S**	**4.91**	**55**	P	**Pn**	**13 08 42.8**	**+0.3**
VIPM	**Ingram Point**	**4.99**	**76**	P	**Pn**	**13 08 43.6**	**+0.2**
MEW	**McNeil Island**	**5.01**	**40**	P	**Pn**	**13 08 44.4**	**+0.7**
GHW	**Garrison Hill**	**5.08**	**43**	P	**Pn**	**13 08 44.5**	**-0.2**
LON	**Longmire**	**5.13**	**48**	P	**Pn**	**13 08 45.6**	**+0.2**
REMR	**Mount Rainier-**	**5.16**	**47**	P	**Pn**	**13 08 46.0**	**+0.2**
FMW	**Mount Fremont**	**5.32**	**47**	P	**Pn**	**13 08 48.1**	**0.0**
GSM	**Grass Mountain**	**5.43**	**44**	P	**Pn**	**13 08 49.7**	**+0.1**
HTW	**Haystack Looko**	**5.86**	**40**	P	**Pn**	**13 08 55.5**	**-0.2**
PGC	**Sidney**	**5.86**	**26**	P	**Pn**	**13 08 53.8**	**-2.0**
TBM	**Table Mountain**	**6.05**	**50**	P	**Pn**	**13 08 58.9**	**+0.5**
HAWA	**Hanford**	**6.29**	**60**	*eP*	**Pn**	**13 09 01.1**	**-0.7**
EPH	**Ephrata**	**6.71**	**52**	P	**Pn**	**13 09 08.3**	**+0.4**
BMO	**Blue Mountains**	**7.37**	**76**	*eP*	**Pn**	**13 09 14.8**	**-2.3**
NEW	**Newport** 0.5nm,0.3s,baz=253,slow=12,SNR=4.0	**8.61**	**53**	Pn	**P**	**13 09 33.8**	**-0.5**
NEW	comp=Z,149nm,18.4s,baz=120,slow=37			LR	LR	13 12 41.8	
PDAR	**Pinedale Array** 0.0nm,0.3s,baz=297,slow=13,SNR=4.2	**13.04**	**87**	Pn	**P**	**13 10 36.5**	**+1.9**
SDCO	**Great Sand Dun** 0.9nm,0.6s	**17.54**	**102**	P	**P**	**13 11 32.2**	**-0.7**
FFC	**Flin Flon** 1.4nm,0.7s	**19.97**	**47**	P	**P**	**13 12 00.8**	**-1.1**
YKA	**Yellowknife Ar** 0.2nm,0.7s,baz=208,slow=12,SNR=4.2	**20.48**	**17**	P	**P**	**13 12 07.2**	**0.0**
MNTX	**Cornudas Mount**	**20.95**	**117**	P	**P**	**13 12 08.1**	**-4.1**
ULM	**Lac du Bonnet** 0.6nm,0.4s,mb3.4,baz=252,slow=3.2,SNR=3.3	**22.47**	**61**	P	**P**	**13 12 29.4**	**+2.1**
TXAR	**Lajitas Array** 0.2nm,

MNAT	**Makushin Natee**	**2.05**	**292**	P		**P**	**13 26 29.0**	**-0.6**
DT1	**Dutton Round H**	**2.07**	**19**	P		**P**	**13 26 29.1**	**-0.8**
DT1				S		**S**	**13 26 54.6**	**0.0**
BALA	**Baldy Mountain**	**2.07**	**11**	P		**P**	**13 26 29.9**	**-0.1**
MTBL	**Makushin Table**	**2.08**	**294**	P		**P**	**13 26 29.7**	**-0.3**
DTNA	**Dutton South F**	**2.12**	**19**	P		**P**	**13 26 29.9**	**-0.7**
MSW	**Makushin Switc**	**2.12**	**292**	P		**P**	**13 26 30.1**	**-0.5**
MSW				S		**S**	**13 26 55.4**	**-0.4**
DOL	**Dolgoi Island**	**2.20**	**25**	P		**P**	**13 26 30.9**	**-1.0**
DOL				S		**S**	**13 26 57.7**	**-0.3**
HAG	**Hague Volcano**	**2.35**	**22**	P		**P**	**13 26 34.1**	**+0.2**
PVV	**Pavlof Volcano**	**2.42**	**23**	P		**P**	**13 26 34.1**	**-0.9**
PS1A	**Pavlof South-1**	**2.48**	**23**	P		**P**	**13 26 35.9**	**+0.1**
BLHA	**Black Hill**	**2.67**	**17**	P		**P**	**13 26 38.0**	**-0.6**
OKFG	**Magazine Ridge**	**2.68**	**277**	P		**P**	**13 26 37.2**	**-1.4**
SDPT	**Sand Point**	**2.81**	**38**	P		**P**	**13 26 39.8**	**-0.7**
NIKO	**Nikolski**	**3.25**	**269**	P		**P**	**13 26 45.0**	**-1.8**
KIWB	**Kanaga Island**	**8.45**	**267**	*eP*		**P**	**13 27 57.1**	**-2.5**
SVW2	**Sparrevohn**	**9.03**	**25**	*eP*		**P**	**13 28 06.2**	**-1.4**
PWA	**Palmer West**	**11.21**	**35**	*eP*		**P**	**13 28 33.6**	**-3.6**
DIV	**Divide**	**12.46**	**43**	*eP*		**P**	**13 28 50.3**	**-3.8**
	22nm,0.5s							
THY	**Trims Highway**	**13.81**	**35**	*eP*		**P**	**13 29 09.3**	**-2.5**
IMA	**Indian Mountai**	**13.83**	**17**	*eP*		**P**	**13 29 12.6**	**+0.6**
	43nm,0.8s							
FX1	**Attu Island--F**	**14.05**	**278**	P		**P**	**13 29 14.8**	**-0.2**
	1.4nm,0.3s,baz=252,slow=19,SNR=14							
COLA	**College**	**14.17**	**28**	*i P*		**P**	**13 29 14.6**	**-1.9**
MENT	**Mentasta**	**14.26**	**39**	*eP*		**P**	**13 29 14.0**	**-3.6**
DAWY	**Dawson**	**16.50**	**39**	*eP*		**P**	**13 29 44.0**	**-2.5**
DLBC	**Dease Lake**	**19.39**	**61**	P		**P**	**13 30 21.5**	**-0.1**
	0.1nm,0.3s,baz=298,slow=15,SNR=2.7							
DLBC	**Dease Lake**	**19.39**	**61**	P		**P**	**13 30 21.5**	**-0.1**
BILL	**Bilibino**	**20.71**	**328**	*c iP*		**P**	**13 30 35.0**	**-0.6**
BILL				*e*			13 30 49.8	
BILL				pmax	pmax			
	comp=Z,17nm,1.0s							
BILL				MLR	MLR			
	comp=Z,100nm,14.0s,MS3.3							
BILL	**Bilibino**	**20.71**	**328**	*eP*		**P**	**13 30 34.7**	**-0.9**
	comp=Z,9.7nm,0.7s							
INK	**Inuvik**	**20.75**	**32**	P		**P**	**13 30 33.8**	**-2.3**
	comp=Z,11nm,0.6s,baz=242,slow=15,SNR=44							
INK				LR	LR		13 40 36.8	
	comp=Z,61nm,18.5s,MS3.0,baz=208,slow=42							
YKW3	**Yellowknife Ar**	**26.99**	**50**	P		**P**	**13 31 36.4**	**+0.2**
YKA	**Yellowknife Ar**	**27.00**	**50**	P		**P**	**13 31 36.4**	**+0.1**
	comp=Z,1.6nm,0.9s,mb3.5,baz=269,slow=8.8,SNR=23							
YKA				PcP	PcP		13 34 56.4	-0.9
	comp=Z,0.5nm,0.7s,baz=278,slow=2.3,SNR=6.2							
YKA	**Yellowknife Ar**	**27.00**	**50**	P		**P**	**13 31 36.4**	**+0.1**
YKA				PcP	PcP		13 34 56.4	-0.9
NEW	**Newport**	**29.34**	**81**	P		**P**	**13 31 56.9**	**-0.6**
	comp=Z,2.5nm,0.8s,mb4.0,baz=358,slow=10.0,SNR=4.0							
YBH	**Yreka Blue Hor**	**29.45**	**96**	LR		LR	13 42 06.1	
	comp=Z,92nm,19.9s,MS3.4,baz=256,slow=33							
HLID	**Hailey**	**33.37**	**87**	*eP*		**P**	**13 32 32.5**	**-0.5**
	comp=Z,1.1nm,0.6s,mb4.0							
TIXI	**Tiksi**	**33.92**	**328**	*‖eP*		**P**	**13 32 37.5**	**+0.1**
TIXI				pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3							
TIXI				MLR	MLR			
	comp=Z,100nm,16.0s,MS3.6							
YAK	**Yakutsk**	**35.34**	**311**	*‖eP*		**P**	**13 32 48.7**	**-1.0**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8							
YAK				MLR	MLR			
	comp=Z,100nm,16.0s,MS3.7							
BW06	**Boulder Array**	**36.74**	**84**	*eP*		**P**	**13 33 01.6**	**-0.1**
	comp=Z,9.9nm,0.6s,mb3.8							
PDAR	**Pinedale Array**	**36.74**	**84**	P		**P**	**13 33 02.0**	**+0.3**
	comp=Z,1.7nm,0.9s,mb3.9,baz=320,slow=4.8,SNR=11							
PDAR				pP		pP	13 33 14.8	+1.3
	comp=Z,0.9nm,0.6s,baz=309,slow=3.9,SNR=4.5							
PV10	**Paradox Valley**	**39.74**	**89**	*eP*		**P**	**13 33 28.3**	**+1.5**
PV01	**Paradox Valley**	**40.18**	**89**	*eP*		**P**	**13 33 30.8**	**+0.4**
PV01				*e*		pP	13 33 43.3	+1.1
ULM	**Lac du Bonnet**	**40.58**	**66**	P		**P**	**13 33 34.1**	**+0.5**
	comp=Z,2.5nm,0.9s,mb3.8,baz=292,slow=9.1,SNR=5.2							
ULM				pP		pP	13 33 46.4	+0.9
	comp=Z,5.6nm,0.7s,baz=299,slow=7.1,SNR=9.1							
SDCO	**Great Sand Dun**	**42.28**	**87**	*eP*		**P**	**13 33 48.2**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.5							
ANMO	**Albuquerque**	**43.56**	**91**	*i P*		**P**	**13 33 59.0**	**+0.9**
ANMO	**Albuquerque**	**43.56**	**91**	P		**P**	**13 33 59.3**	**+1.2**
	comp=Z,1.6nm,1.0s,mb3.7,baz=322,slow=12,SNR=2.8							
ANMO				PcP		PcP	13 35 45.3	-0.5
	comp=Z,1.0nm,0.8s,baz=288,slow=3.9,SNR=4.5							
ANMO				pPcP			13 35 59.0	
	comp=Z,0.9nm,0.8s,baz=353,slow=3.6,SNR=3.8							
BOD	**Bodaibo**	**44.24**	**310**	*eP*		**P**	**13 34 01.6**	**-1.7**
EYMN	**Ely**	**44.25**	**66**	*eP*		**P**	**13 34 02.8**	**-0.7**
	comp=Z,1.9nm,0.7s,mb3.9							
EYMN				*ep*	P	pP	13 34 15.3	-0.2
MNTX	**Cornudas Mount**	**46.47**	**94**	*eP*		**P**	**13 34 21.9**	**+0.6**
	comp=Z,5.9nm,0.8s,mb4.6							
MNTX				*ep*	P	pP	13 34 33.5	+0.2
WMOK	**Wichita Mounta**	**48.33**	**85**	*eP*		**P**	**13 34 35.1**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0							
SUMG	**Summit**	**48.91**	**19**	*eP*		**P**	**13 34 41.2**	**+1.3**
	comp=Z,10nm,0.7s,mb5.0							
SUMG				*ep*	P	pP	13 34 52.5	+0.6
TXAR	**Lajitas Array**	**49.19**	**94**	P		**P**	**13 34 42.9**	**+0.3**
	comp=Z,8.5nm,0.8s,mb4.8,baz=299,slow=5.6,SNR=90							
TXAR				pP		pP	13 34 55.8	+1.2
	comp=Z,2.5nm,0.6s,baz=299,slow=5.0,SNR=8.7							
JCT	**Junction City**	**50.69**	**90**	*eP*		**P**	**13 34 53.0**	**-1.1**
	comp=Z,2.4nm,0.6s,mb4.3							
SCHQ	**Schefferville**	**52.34**	**47**	P		**P**	**13 35 05.2**	**-0.9**
	comp=Z,0.8nm,0.5s,mb3.9,baz=322,slow=6.6,SNR=4.1							
SCHQ				pP		pP	13 35 17.4	-0.8
	comp=Z,1.4nm,0.7s,baz=16,slow=12,SNR=2.5							
SCHQ	**Schefferville**	**52.34**	**47**	P		**P**	**13 35 05.2**	**-0.9**
SCHQ				pP		pP	13 35 17.4	-0.8
TLY	**Talaya**	**52.71**	**309**	*‖eP*		**P**	**13 35 09.5**	**+0.6**
TLY				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.2							
SADO	**Sadowa**	**52.93**	**63**	P		**P**	**13 35 09.2**	**-1.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=319,slow=3.8,SNR=5.3							
SADO				pP		pP	13 35 21.7	-1.1
	comp=Z,3.4nm,0.8s,baz=347,slow=2.4,SNR=4.1							
ULN	**Ulaanbaatar**	**53.56**	**303**	*‖eP*		**P**	**13 35 16.2**	**+0.9**
ULN	**Ulaanbaatar**	**53.56**	**303**	P		**P**	**13 35 15.1**	**-0.2**
	comp=Z,3.4nm,0.6s,mb4.5							
ZAK	**Zakamensk**	**53.74**	**308**	*eP*		**P**	**13 35 29.9**	**+13**
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.7s,mb3.5							
ZAK				pmax	pmax			
	comp=Z,1.0nm,1.2s,mb3.6							
SONM	**Songino Array**	**53.91**	**304**	P		**P**	**13 35 18.1**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.8,baz=40,slow=6.8,SNR=8.2							
SONM				pP		pP	13 35 30.8	+0.7
	comp=Z,1.0nm,0.7s,baz=39,slow=7.9,SNR=6.6							
SONM				PcP		PcP	13 36 23.4	+0.6
	comp=Z,0.9nm,0.7s,baz=16,slow=2.6,SNR=4.8							
SONM				pPcP			13 36 36.5	
	comp=Z,0.7nm,0.6s,baz=42,slow=2.9,SNR=2.9							
KEV	**Kevo**	**57.16**	**356**	*ep*		**P**	**13 35 40.9**	**-0.1**
ARCES	**ARCESS Array B**	**57.44**	**356**	P		**P**	**13 35 42.9**	**-0.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=215,slow=7.9,SNR=10							
KURK	**Kurchatov**	**64.08**	**321**	*‖eP*		**P**	**13 36 29.3**	**+1.1**
KURK	**Kurchatov**	**64.08**	**321**	*eP*		**P**	**13 36 28.4**	**+0.2**
	comp=Z,4.7nm,1.0s,mb4.5							
CHKZ	**Chkalovo**	**64.43**	**328**	*eP*		**P**	**13 36 30.4**	**0.0**
	comp=Z,2.6nm,1.0s,mb4.2							
KAF	**Kangasniemi**	**64.81**	**355**	*ep*		**P**	**13 36 32.4**	**-0.3**
	comp=Z,1.8nm,0.5s,mb4.4,baz=2.8,slow=6.2							
KAF	**Kangasniemi**	**64.81**	**355**	*eP*		**P**	**13 36 32.4**	**-0.3**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.4							
ARU	**Arti**	**65.45**	**336**	*‖iP*		**P**	**13 36 37.4**	**+0.4**
ARU				*e*			13 37 08.1	
ARU				*e*			13 38 58.8	
ARU				*eS*		S	13 45 20.4	+3.6
ARU				*eSS*		SS	13 49 29.4	-2.9
ARU				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.2							
FINES	**FINESS Array B**	**65.49**	**355**	P		**P**	**13 36 37.0**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.2,baz=25,slow=6.2,SNR=9.7							
FINES				pP		pP	13 36 50.0	+0.3
	comp=Z,1.6nm,0.6s,baz=22,slow=7.0,SNR=4.3							
FINES	**FINESS Array B**	**65.49**	**355**	P		**P**	**13 36 37.0**	**-0.1**
FINES				pP		pP	13 36 50.0	+0.3
MKAR	**Makanchi Array**	**65.78**	**317**	P		**P**	**13 36 39.0**	**-0.2**
	comp=Z,0.7nm,0.4s,mb4.0,baz=45,slow=6.7,SNR=11							
MKAR				pP		pP	13 36 51.2	-0.6
	comp=Z,2.0nm,0.7s,baz=34,slow=4.4,SNR=9.0							
MKAR	**Makanchi Array**	**65.78**	**317**	P		**P**	**13 36 39.0**	**-0.2**
MKAR				pP		pP	13 36 51.2	-0.6
NB2	**NORSAR Subarra**	**66.07**	**3**	P		**P**	**13 36 40.9**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.0,baz=360,slow=6.5							
NOA	**NORSAR Array B**	**66.07**	**3**	P		**P**	**13 36 41.9**	**+1.1**
	comp=Z,2.3nm,0.9s,mb4.2,baz=358,slow=6.6,SNR=8.0							
NOA				pP		pP	13 36 54.2	+0.9
	comp=Z,0.8nm,0.7s,baz=358,slow=6.5,SNR=3.0							
NOA	**NORSAR Array B**	**66.07**	**3**	P		**P**	**13 36 41.9**	**+1.1**
NOA				pP		pP	13 36 54.2	+0.9
OBN	**Obninsk**	**70.82**	**348**	*eP*		**P**	**13 37 13.1**	**+2.7**
OBN				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.7							
AAK	**Ala-Archa**	**72.36**	**319**	*‖eP*		**P**	**13 37 20.8**	**+1.1**
AAK				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.4							
AAK	**Ala-Archa**	**72.36**	**319**	*eP*		**P**	**13 37 20.1**	**+0.3**
	comp=Z,3.3nm,0.6s,mb4.4							
BAIF	**Baives**	**76.63**	**8**	*eP*		**P**	**13 37 46.2**	**+2.0**
GIVF	**Givet**	**76.64**	**8**	*eP*		**P**	**13 37 46.1**	**+1.9**
KHC	**Kasperske Hory**	**78.05**	**2**	*eP*		**P**	**13 37 54.5**	**+2.4**
KHC				*e*		pP	13 38 06.5	+1.7
KHC	**Kasperske Hory**	**78.05**	**2**	*eP*		**P**	**13 37 54.5**	**+2.4**
KHC				*ex*		x	13 37 57.5	
KHC				*epP*		pP	13 38 06.5	+1.7
GERES	**GERESS Array B**	**78.34**	**2**	P		**P**	**13 37 54.5**	**+0.8**
	comp=Z,0.5nm,0.6s,mb3.6,slow=4.0,SNR=7.3							
GERES				pP		pP	13 38 07.4	+1.0
	comp=Z,1.0nm,0.8s,baz=14,slow=5.5,SNR=6.1							
JIRN	**Jiri**	**79.45**	**302**	*eP*		**P**	**13 38 01.8**	**+1.6**
	comp=Z,8.1nm,0.4s,mb5.0							
SSF	**Saint Saulge**	**79.54**	**9**	*eP*		**P**	**13 38 01.8**	**+1.5**
	comp=Z,4.9nm,0.6s,mb4.3							
AVF	**Avril sur Loir**	**79.79**	**9**	*eP*		**P**	**13 38 01.8**	**+0.2**
	comp=Z,11nm,1.1s,mb4.4							
KKN	**Kakani**	**79.81**	**303**	*eP*		**P**	**13 38 03.0**	**+0.9**
	comp=Z,14nm,0.9s,mb4.9							
PKI	**Pulchoki**	**79.92**	**303**	*eP*		**P**	**13 38 03.8**	**+1.1**
GKN	**Gorkha**	**79.96**	**304**	*eP*		**P**	**13 38 03.6**	**+0.7**
	comp=Z,8.2nm,0.5s,mb4.9							
SMF	**Signal de Mont**	**79.98**	**9**	*eP*		**P**	**13 38 03.6**	**+1.0**
DMN	**Daman**	**80.05**	**303**	*eP*		**P**	**13 38 04.6**	**+1.2**
	comp=Z,10nm,0.8s,mb4.8							
KOLN	**Koldanda**	**80.67**	**304**	*eP*		**P**	**13 38 06.9**	**+0.2**
	comp=Z,10nm,0.9s,mb4.8							
KIV	**Kislovodsk**	**80.68**	**341**	*eP*		**P**	**13 38 06.6**	**+0.2**
KIV				*eS*		S	13 48 10.5	+1.3
KIV				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.1							
SOC	**Sochi**	**81.59**	**343**	*eP*		**P**	**13 38 10.7**	**-0.5**
SOC				*e*			13 41 17.6	
SOC				*ePPP*		PPP	13 43 06.5	-5.3
SOC				*eS*		S	13 48 22.3	+3.7
SOC				*eSS*		SS	13 53 39.5	+0.1
SOC				*eSSS*		SSS	13 57 06.4	+4.3
SOC				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6							
SOC				pmax	pmax			
	comp=N,3.0nm,0.5s							
SOC				pmax	pmax			
	comp=E,3.0nm,0.5s							
MBDF	**Montbardon**	**82.13**	**7**	*eP*		**P**	**13 38 14.8**	**+0.8**
	comp=E,16nm,0.9s,mb4.6							
GNI	**Garni**	**83.91**	**339**	LR		LR	14 19 52.8	
	comp=E,31nm,20.6s,MS3.7,baz=144,slow=38							
ESDC	**Sonseca Array**	**85.85**	**16**	P		**P**	**13 38 34.2**	**+1.5**
	comp=E,0.3nm,0.5s,mb3.8,baz=344,slow=6.2,SNR=3.5							
ESDC				pP		pP	13 38 46.3	+0.7
	comp=E,0.8nm,0.7s,baz=339,slow=5.6,SNR=4.0							
BRTR	**Keskin Array B**	**86.31**	**347**	P		**P**	**13 38 37.1**	**+2.2**
	comp=E,1.6nm,0.8s,mb4.3,baz=27,slow=2.8,SNR=4.5							
BRTR				pP		pP	13 38 49.5	+1.6
	comp=E,1.1nm,0.7s,baz=45,slow=3.5,SNR=4.1							
WRA	**Warramunga Arr**	**90.37**	**236**	P		**P**	**13 38 53.9**	**-0.8**
	comp=E,0.5nm,0.6s,mb4.0,baz=35,slow=5.9,SNR=8.8							
WRA				pP		pP	13 39 06.4	-1.4
	comp=E,0.5nm,0.7s,baz=36,slow=5.9,SNR=3.7							
ASAR	**Alice Springs**	**93.72**	**235**	P		**P**	**13 39 09.6**	**-0.5**
	comp=E,0.7nm,0.8s,mb4.1,baz=27,slow=3.9,SNR=7.1							
ASAR				pP		pP	13 39 22.3	-0.9
	comp=E,0.8nm,0.8s,baz=33,slow=4.4,SNR=6.0							
MATP	**Matopo**	**146.04**	**340**	PKPbc		PKPbc	13 45 34.2	+2.0
	comp=E,2.0nm,0.5s,baz=40,slow=2.8,SNR=8.1							
MATP	**Matopo**	**146.04**	**340**	PKPbc		PKPbc	13 45 34.2	+2.0

IDC 27 13:36:04.6±1.8, 2.83S×127.68E, mb3.1/2, mb1 3.5/3, mb1mx3.3/14, mbtmp3.2/3, ML3.5/1, Error ellipse: s-maj=139.7km s-min=27.1km az=72.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.21**	**160**	P		P	13 40 19.9	-0.8
	0.2nm,0.3s,baz=339,slow=11,SNR=18							
ASAR	**Alice Springs**	**21.57**	**164**	P		P	13 40 54.8	-3.3
	0.3nm,0.3s,baz=344,slow=12,SNR=17							
SONM	**Songino Array**	**53.79**	**342**	P		P	13 45 29.6	-1.6
	0.1nm,0.5s,baz=153,slow=5.5,SNR=3.5							

*BJI **27** 13:55:12.8, 1.39N×124.28E, h333km, mB4.3, mb4.2*
*NEIC **27** 13:55:16.1±1.5, 1.88N×124.07E, h318km±15km, mb4.3/13, Error ellipse: s-maj=17.4km s-min=6.1km az=65.0*
*IDC **27** 13:55:17.3±1.6, 1.84N×124.11E, h330km±14km, mb3.9/12, mb1 3.9/13, mb1mx3.8/20, mbtmp4.6/13, Error ellipse: s-maj=23.0km s-min=7.0km az=77.0*
ISC 27 13:55:15.4±0.6, 1.83N±0.04×124.09E±0.08, h326km±7km, n62, σ1§04/63, mb4.1/26, 2C-3D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MATI	**Mati**	**5.52**	**23**	*eP*		**P**	**13 56 37.9**	**-2.5**
PAGZ	**Pagadian**	**6.02**	**353**	*eP*		**P**	**13 56 45.9**	**-0.3**
BUKP	**Musuan**	**6.09**	**9**	*eP*		**P**	**13 56 47.3**	**+0.3**
MSLP	**Maasin**	**8.28**	**5**	*eP*		**P**	**13 57 14.1**	**+0.7**
GUIM	**Jordan**	**8.86**	**350**	*eP*		**P**	**13 57 21.2**	**+0.9**
KKM	**Kota Kinabalu**	**8.90**	**298**	*eP*		**P**	**13 57 20.0**	**-0.8**
BESP	**Borongan**	**9.80**	**8**	*eP*		**P**	**13 57 33.9**	**+2.0**
ENPP	**El Nido**	**10.40**	**334**	*eP*		**P**	**13 57 38.2**	**-0.9**
OTRP	**Odiongan**	**10.66**	**349**	*eP*		**P**	**13 57 40.3**	**-2.0**
BUSP	**Coron**	**10.82**	**339**	*eP*		**P**	**13 57 44.0**	**-0.3**
SJMP	**San Jose**	**10.96**	**345**	*eP*		**P**	**13 57 46.0**	**0.0**
BOAC	**Boac**	**11.77**	**349**	*eP*		**P**	**13 57 56.0**	**+0.2**
LUBP	**Lubang**	**12.42**	**342**	*eP*		**P**	**13 58 04.1**	**+0.3**
KSM	**Kuching**	**13.78**	**269**	*eP*		**P**	**13 58 21.0**	**+0.8**
KAKA	**Kakadu**	**16.66**	**150**	*‖iP*		**P**	**13 58 51.0**	**-0.5**
	48nm,0.6s							
KAKA				*eS*		**S**	**14 01 48.9**	**+3.9**
FITZ	**Fitzroy Crossi**	**19.87**	**176**	*‖iP*		**P**	**13 59 23.8**	**0.0**
	17nm,0.3s							
FITZ				*eS*		**S**	**14 02 48.6**	**+4.2**
FITZ	**Fitzroy Crossi**	**19.87**	**176**	P		**P**	**13 59 23.8**	**0.0**
	9.3nm,0.3s,baz=7.1,slow=9.1,SNR=99							
FITZ				S		**S**	**14 02 50.4**	**+5.9**
	0.1nm,0.3s,baz=185,slow=21,SNR=3.8							
MBWA	**Marble Bar**	**23.24**	**190**	*eP*		**P**	**13 59 56.4**	**+0.2**
	4.5nm,0.4s,mb4.0							
WRAB	**Tennant Creek**	**23.86**	**156**	P		**P**	**14 00 02.0**	**+0.1**
	74nm,0.5s,mb5.2,SNR=14							
WRAB	**Tennant Creek**	**23.86**	**156**	*eP*		**P**	**14 00 01.9**	**0.0**
	17nm,0.8s,mb4.3							
WRA	**Warramunga Arr**	**23.86**	**156**	P		**P**	**14 00 01.5**	**-0.5**
	6.3nm,0.5s,mb4.1,baz=338,slow=10,SNR=172							
WRA				PcP		PcP	14 03 35.6	-0.1
	1.3nm,0.4s,baz=325,slow=2.2,SNR=4.9							
WRA				S		**S**	**14 03 51.4**	**-0.9**
	4.1nm,0.7s,baz=337,slow=16,SNR=9.8							
WB2	**Warramunga Arr**	**23.87**	**156**	*‖iP*		**P**	**14 00 01.9**	**-0.1**
WB2				*eS*		**S**	**14 03 51.0**	**-1.4**
ASAR	**Alice Springs**	**27.08**	**160**	P		**P**	**14 00 31.2**	**+0.2**
	2.9nm,0.5s,mb3.8,baz=338,slow=7.9,SNR=89							
ASAR				PcP		PcP	14 03 43.1	+0.2
	2.0nm,0.5s,baz=352,slow=2.3,SNR=9.0							
ASAR				S		**S**	**14 04 44.3**	**+0.2**
	1.1nm,0.7s,baz=339,slow=13,SNR=5.2							
ASPA	**Alice Springs**	**27.08**	**160**	*‖iP*		**P**	**14 00 31.2**	**+0.1**
ASPA				*ePCP*		PcP	14 03 43.0	+0.1
ASPA				*eS*		**S**	**14 04 42.7**	**-1.4**
CBIJ	**Chichi jima**	**30.53**	**33**	P		**P**	**14 00 59.2**	**-2.1**
	32nm,0.4s,mb4.9,baz=82,slow=23,SNR=7.3							
ENH	**Enshi**	**31.50**	**335**	*eP*		**P**	**14 01 09.2**	**-0.5**
	8.6nm,0.8s,mb4.0							
FORT	**Forrest**	**32.65**	**174**	*eP*		**P**	**14 01 20.0**	**+0.5**
	815nm,0.6s							
KLBR	**Kellerberrin**	**33.78**	**190**	*eP*		**P**	**14 01 29.1**	**0.0**
	56nm,0.4s,mb5.2							
MUN	**Mundaring**	**34.45**	**192**	*eP*		**P**	**14 01 34.8**	**+0.1**
	4.2nm,0.5s,mb3.9							
NWAO	**Narrogin (SRO)**	**35.17**	**190**	P		**P**	**14 01 41.5**	**+0.7**
	5.1nm,0.4s,mb4.1,baz=0.2,slow=9.0,SNR=19							
NWAO	**Narrogin (SRO)**	**35.17**	**190**	*eP*		**P**	**14 01 40.8**	**0.0**
	4.3nm,0.5s,mb3.9							
STKA	**Stephens Creek**	**37.41**	**155**	*‖iP*		**P**	**14 02 00.9**	**+1.3**
	4.3nm,0.3s,mb4.2							
STKA				*e*	PCP	PcP	14 04 11.3	0.0
STKA				*eS*		**S**	**14 07 23.2**	**-0.4**
STKA	**Stephens Creek**	**37.41**	**155**	P		**P**	**14 02 01.1**	**+1.5**
	5.0nm,0.3s,mb4.2,baz=331,slow=8.7,SNR=50							
STKA				PcP		PcP	14 04 11.0	-0.3
	1.5nm,0.4s,baz=344,slow=4.8,SNR=4.8							
BJI	**Beijing**	**38.71**	**350**	P		**P**	**14 02 10.8**	**+0.7**
BJI				AMB	AMB			
	comp=Z,13nm,0.6s,mb4.3							
LSA	**Lhasa**	**41.80**	**315**	*eP*		**P**	**14 02 36.9**	**+1.3**
	comp=Z,8.5nm,0.6s,mb4.0							
CN2	**Changchun**	**41.81**	**1**	*eP*		**P**	**14 02 38.3**	**+2.9**
MDJ	**Mudanjiang**	**42.88**	**6**	P		**P**	**14 02 46.5**	**+2.5**
MDJ				PCP	PcP		14 04 30.3	+1.3
MDJ				PP	PP		14 04 32.8	+2.9
MDJ				PCS			14 08 23.0	
MDJ				S		**S**	**14 08 50.3**	**+6.5**
MDJ				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb3.6							
MDJ				AMB	AMB			
	comp=Z,63nm,5.4s							
MDJ				LR	LR			
	comp=N,98nm,56.0s							
MDJ				LR	LR			
	comp=E,50nm,30.9s							
MDJ				LR	LR			
	comp=Z,17nm,20.3s							
GTA	**Gaotai**	**43.45**	**332**	*eP*		**P**	**14 02 50.0**	**+1.3**
GTA				AMB	AMB			
	comp=Z,8.0nm,0.8s,mb3.9							
ASAJ	**Asahikawa**	**45.20**	**19**	P		**P**	**14 03 02.5**	**+0.1**
	comp=Z,4.2nm,0.4s,mb3.9,baz=233,slow=14,SNR=6.9							
HYB	**Hyderabad**	**47.32**	**292**	*eP*		**P**	**14 03 18.0**	**-1.2**
HYB	**Hyderabad**	**47.32**	**292**	*i P*		**P**	**14 03 18.0**	**-1.2**
ULN	**Ulaanbaatar**	**48.17**	**345**	*eP*		**P**	**14 03 25.8**	**+0.5**
	comp=Z,4.2nm,0.8s,mb3.7							
SONM	**Songino Array**	**48.32**	**344**	P		**P**	**14 03 27.1**	**+0.7**
	comp=Z,4.6nm,0.6s,mb3.9,baz=161,slow=7.8,SNR=61							
SONM				pP		PcP	14 04 46.9	-1.2
	comp=Z,1.

s-min=23.6km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.74**	**198**	Pn	P	14 59 59.9	-3.4
	0.2nm,0.3s,baz=15,slow=12,SNR=1.9						
FITZ				Sn	S	15 02 12.9	-3.4
	0.6nm,0.3s,baz=15,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**13.83**	**160**	Pn	P	15 00 26.7	-4.5
	0.2nm,0.3s,baz=340,slow=12,SNR=8.9						
WRA				Sn	S	15 03 03.9	-2.7
	0.1nm,0.3s,baz=360,slow=22,SNR=3.8						
ASAR	**Alice Springs**	**17.23**	**166**	P	P	15 01 15.1	-0.1
	0.3nm,0.3s,baz=342,slow=9.7,SNR=6.2						
CTA	**Charters Tower**	**20.94**	**130**	LR	LR	15 11 00.9	
	comp=Z,70nm,18.3s,baz=49,slow=40						
STKA	**Stephens Creek**	**27.34**	**157**	P	P	15 02 58.5	-1.5
	1.2nm,0.7s,baz=335,slow=12,SNR=3.0						
SONM	**Songino Array**	**58.16**	**342**	P	P	15 07 06.9	-2.4
	0.7nm,1.0s,baz=135,slow=4.1,SNR=4.0						

*IDC **27** 15:09:43.4±2.9, 10.94N×92.43E, mb3.9/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=119.8km s-min=20.9km az=66.0*

*NEIC **27** 15:09:47.3±1.2, 10.85N×92.14E, h30km, mb4.1/4, Error ellipse: s-maj=44.4km s-min=12.2km az=67.0*

*BJI **27** 15:09:47.3, 10.90N×92.10E, h30km, mb3.9*

ISC 27 15:09:45.4±0.9, 10.8N±0.1×92.0E±0.2, h33km, n13, σ0s89/14, mb4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VIS	**Vishakhapatnam**	**10.92**	**310**	*e*P	**P**	**15 12 22.9**	**+0.4**
VIS				*e*S	**S**	**15 14 09.2**	**-15**
LSA	**Lhasa**	**18.87**	**358**	P	**P**	**15 14 05.8**	**+0.2**
LSA	**Lhasa**	**18.87**	**358**	P	**P**	**15 14 05.0**	**-0.6**
	3.5nm,0.5s						
CD2	**Chengdu**	**22.82**	**27**	P	**P**	**15 14 48.3**	**+1.6**
ENH	**Enshi**	**25.32**	**37**	*e*P	**P**	**15 15 10.6**	**-0.3**
	6.0nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**36.86**	**349**	P	**P**	**15 16 52.6**	**+0.1**
	1.3nm,0.7s,mb3.9,baz=167,slow=8.1,SNR=18						
SONM	**Songino Array**	**38.89**	**15**	P	**P**	**15 17 08.2**	**-1.2**
	0.4nm,0.6s,mb3.3,baz=200,slow=5.8,SNR=6.3						
CHKZ	**Chkalovo**	**46.12**	**342**	*e*P	**P**	**15 18 07.9**	**-0.4**
	0.9nm,0.7s,mb3.8						
WRA	**Warramunga Arr**	**51.62**	**126**	P	**P**	**15 18 50.5**	**-0.7**
	1.7nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=27						
WRAB	**Tennant Creek**	**51.62**	**126**	*e*P	**P**	**15 18 53.0**	**+1.8**
	4.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**53.34**	**130**	P	**P**	**15 19 03.2**	**-0.8**
	1.8nm,0.7s,mb4.1,baz=308,slow=6.8,SNR=12						
STKA	**Stephens Creek**	**63.58**	**134**	P	**P**	**15 20 15.6**	**+0.1**
	1.7nm,0.7s,mb4.2,baz=276,slow=10,SNR=5.7						
STKA	**Stephens Creek**	**63.58**	**134**	P	**P**	**15 20 15.6**	**+0.1**

*ISK **27** 15:25:58.7, 40.42N×26.05E, h19km, MD3.6, ML3.8*

*SOF **27** 15:25:58.7, 40.45N×26.09E, h16km, MD3.4*

*CSEM **27** 15:25:58.9±0.0, 40.40N×26.12E, h15km, MD3.6, Error ellipse: s-maj=1.6km s-min=1.0km az=21.0*

*ATH **27** 15:25:59.8, 40.43N×26.05E, h29km±2km, MD3.6/5*

*NEIC **27** 15:25:59.8, 40.43N×26.05E, h29km, MD3.6(ATH), After ATH.*

ISC 27 15:25:59.2±0.5, 40.44N±0.02×26.11E±0.03, h13km±4km, n70, σ0s76/80, 7C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ALN	**Alexandroupoli**	**0.46**	**354**	*e*P	**Pg**	**15 26 09.6**	**+0.9**
LPK	**Lapseki**	**0.50**	**97**	*i* PG	**Pg**	**15 26 09.9**	**+0.5**
EZN	**Ezine**	**0.63**	**165**	*i* PG	**Pg**	**15 26 11.7**	**-0.2**
EZN				*i* SG	**Sg**	**15 26 20.5**	**0.0**
RDO	**Rodhopi**	**0.83**	**329** ⇓	*i* PN	**Pn**	**15 26 15.9**	**-0.5**
SART	**Tekirdag**	**0.85**	**72**	*i* P	**Pb**	**15 26 16.2**	**+0.8**
SART				*i* S	**Sb**	**15 26 27.4**	**+0.9**
LIA	**Limnos Island**	**0.89**	**233** ⇑	*i* PN	**Pn**	**15 26 16.5**	**-0.7**
LIA	**Limnos**	**0.93**	**238**	*e*P	**Pb**	**15 26 18.1**	**+1.4**
MFT	**Murefte**	**0.96**	**68**	*i* PG	**Pg**	**15 26 17.7**	**-0.7**
MRMT	**Marmara Adasi**	**1.15**	**81**	*i* PN	**Pn**	**15 26 20.3**	**-0.6**
PRK	**Paraskevi**	**1.19**	**174**	*e*PN	**Pn**	**15 26 21.9**	**+0.3**
PRK				*e*SN	**Sn**	**15 26 38.9**	**+1.2**
AYVA	**Ayvalik**	**1.21**	**158**	*i* P	**Pb**	**15 26 22.6**	**+1.1**
AYVA				*i* S	**Sb**	**15 26 38.1**	**+1.3**
KDZ	**Kurdzhali**	**1.32**	**337**	*i* P	**Pb**	**15 26 24.0**	**+0.6**
BNT	**Bandirma**	**1.39**	**93**	*i* PN	**Pn**	**15 26 24.4**	**+0.1**
EDRB	**Edirne**	**1.49**	**19**	PN	**Pn**	**15 26 25.6**	**-0.2**
BALB	**Balikesir**	**1.57**	**120**	PN	**Pn**	**15 26 26.8**	**-0.2**
BTOK	**Tokmak**	**1.62**	**114**	*i* P	**Pn**	**15 26 28.7**	**+1.0**
BTOK				*i* S	**Sn**	**15 26 48.2**	**-0.3**
OUR	**Ouranopolis**	**1.63**	**267**	*e*P	**Pn**	**15 26 27.4**	**-0.4**
RZN	**Rozhen**	**1.64**	**320**	*i* P	**Pn**	**15 26 28.0**	**+0.1**
RZN				*i* Pg	**Pg**	**15 26 31.0**	**-0.9**
KCT	**Karacabey**	**1.73**	**95**	PN	**Pn**	**15 26 29.2**	**0.0**
CTT	**Catalca**	**1.90**	**67**	PN	**Pn**	**15 26 31.8**	**+0.1**
PAIG	**Paliouri**	**1.93**	**256**		**Pn**	**15 26 32.7**	**+0.6**
NVR	**Nevrokopi**	**1.93**	**299** ⇓	*i* PN	**Pn**	**15 26 32.3**	**+0.1**
PLD	**Plovdiv**	**1.98**	**328**	*i* P	**Pn**	**15 26 34.0**	**+1.2**
PLD				*i* Pg	**Pg**	**15 26 38.0**	**-0.7**
SRS	**Serrai**	**2.03**	**290**	*e*P	**Pn**	**15 26 33.4**	**-0.2**
SRS	**Serrai**	**2.03**	**290**	*e*P	**Pn**	**15 26 33.3**	**-0.2**
PLG	**Polygyros**	**2.04**	**269**	*e*PN	**Pn**	**15 26 33.0**	**-0.6**
JMB	**Yambol**	**2.06**	**10**	*i* P	**Pn**	**15 26 34.0**	**0.0**
DST	**Dursunbey**	**2.10**	**112**	*e*PN	**Pn**	**15 26 34.4**	**-0.2**
AOS	**Alonnisos**	**2.13**	**234**	*e*P	**Pn**	**15 26 35.7**	**+0.7**
SOH	**Sokhos**	**2.13**	**281**	*e*P	**Pn**	**15 26 34.9**	**-0.1**
MMB	**Musomiste**	**2.14**	**303**	*i* P	**Pn**	**15 26 34.0**	**-1.1**
ORLT	**Orhaneli**	**2.17**	**99**	*e*PN	**Pn**	**15 26 35.7**	**+0.2**
BLCB	**Balcova**	**2.17**	**160**	*e*PN	**Pn**	**15 26 34.2**	**-1.4**
KDAG	**Bornova**	**2.22**	**156**	*i* P	**Pn**	**15 26 36.6**	**+0.4**
IZM	**Izmir**	**2.22**	**156**	*e*PN	**Pn**	**15 26 35.7**	**-0.6**
BADT	**Buyukada**	**2.33**	**79**	*e*PN	**Pn**	**15 26 37.8**	**0.0**
ISK	**Istanbul-Kandi**	**2.33**	**73**	*e*PN	**Pn**	**15 26 37.9**	**+0.1**
ULDT	**Uludag**	**2.33**	**96**	*i* P	**Pn**	**15 26 38.4**	**+0.5**
ULDT				*i* S	**Sn**	**15 27 06.1**	**-0.5**
THE	**Thessaloniki**	**2.40**	**276**	*e*P	**Pn**	**15 26 40.5**	**+1.5**
YLV	**Yalova**	**2.49**	**86**	*e*PN	**Pn**	**15 26 40.5**	**+0.3**
KKB	**Krupnik**	**2.70**	**303**	*i* P	**Pn**	**15 26 41.0**	**-2.1**
HRT	**Hereke**	**2.74**	**81**	*e*PN	**Pn**	**15 26 43.5**	**-0.1**
LIT	**Litokhoron**	**2.79**	**264**	*e*P	**Pn**	**15 26 43.9**	**-0.5**
SZH	**Strazhica**	**2.83**	**357**	*i* P	**Pn**	**15 26 48.0**	**+3.0**
GRG	**Griva**	**2.87**	**282**	*e*P	**Pn**	**15 26 45.7**	**+0.2**
PRD	**Provadia**	**2.93**	**19**	*i* P	**Pn**	**15 26 45.5**	**-0.9**
VTS	**Vitosha**	**3.06**	**316**	*i* P	**Pn**	**15 26 49.0**	**+0.7**
AYDN	**Tasoluk**	**3.09**	**153**	*i* P	**Pn**	**15 26 48.4**	**-0.3**
AYDN				*i* S	**Sn**	**15 27 37.1**	**+11**
ALT	**Altintas**	**3.38**	**113**	*e*PN	**Pn**	**15 26 52.6**	**-0.2**
KHL	**Karahalli**	**3.38**	**127**	*e*PN	**Pn**	**15 26 52.5**	**-0.3**
BODT	**Bodrum**	**3.50**	**164**	*e*PN	**Pn**	**15 26 53.7**	**-0.8**
DNZL	**Cakiroluk**	**3.57**	**139**	*i* P	**Pn**	**15 26 55.6**	**+0.1**
DNZL				*i* S	**Sn**	**15 27 35.5**	**-2.4**
HENT	**Hendek**	**3.67**	**82**	*i* P	**Pn**	**15 26 57.0**	**+0.1**
ESKT	**Eskisehir**	**3.75**	**103**	*e*PN	**Pn**	**15 26 58.0**	**-0.1**
ESKT	**Eskisehir**	**3.75**	**103**	*i* P	**Pn**	**15 26 58.7**	**+0.6**
MDU	**Mudurnu**	**3.90**	**88**	*e*PN	**Pn**	**15 27 00.4**	**+0.3**
BARS	**Barje**	**4.00**	**308** ⇑	*i* PN	**Pn**	**15 27 01.6**	**0.0**
ISP	**Isparta**	**4.29**	**126**	*e*PN	**Pn**	**15 27 05.7**	**0.0**
ISP	**Isparta**	**4.29**	**126**	*e*P	**Pn**	**15 27 04.4**	**-1.3**
FETY	**Fethiye**	**4.45**	**147**	*e*PN	**Pn**	**15 27 07.4**	**-0.6**
SGKT	**Sivrigoynuk**	**4.54**	**86**	*i* P	**Pn**	**15 27 09.4**	**+0.2**
KIZT	**Kizilcal**	**4.72**	**107**	*e*PN	**Pn**	**15 27 11.7**	**-0.1**
CFR	**Carcaliu**	**4.97**	**17**	⇑⇑P	**Pn**	**15 27 13.9**	**-1.5**
MLR	**Muntele Rosu**	**5.05**	**359**	⇑⇑P	**Pn**	**15 27 17.6**	**+1.0**
GRUS	**Gruza**	**5.29**	**312** ⇑	*i*	**Sg**	**15 28 49.6**	**-5.6**
VRI	**Vrincioaia**	**5.45**	**5**	⇑⇑P	**Pn**	**15 27 22.6**	**+0.5**
ELDT	**Eldivan**	**5.58**	**87**	*i* P	**Pn**	**15 27 23.8**	**-0.2**
BALT	**Daday**	**5.62**	**76**	*i* P	**Pn**	**15 27 24.3**	**-0.2**
BZS	**Buzias**	**6.14**	**329**	⇓P	**Pn**	**15 27 30.9**	**-0.9**
BURAR	**Bucovina Array**	**7.21**	**355**	⇑P	**Pn**	**15 27 47.7**	**+0.8**

*IDC **27** 15:29:42.1±1.0, 14.49N×44.50W, mb3.9/6, mb1 4.0/6, mb1mx3.6/20, mbtmp3.9/6, MS3.5/7, Ms1 3.5/7, ms1mx3.1/25, Error ellipse: s-maj=53.3km s-min=23.1km az=114.0*

*NEIC **27** 15:29:43.8±0.9, 14.49N×44.54W, h10km, mb3.7/1, Error ellipse: s-maj=49.1km s-min=20.1km az=112.0*

ISC 27 15:29:42.1±0.8, 14.5N±0.2×44.5W±0.3, h10km, n12, σ0s84/8, mb3.8/6, MS3.6/7, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**30.14**	**187**	P	**P**	**15 35 55.0**	**+0.4**
	2.9nm,0.7s,mb4.1,baz=3.1,slow=6.4,SNR=3.5						
ROSC	**El Rosal**	**30.86**	**255**	LR	LR	15 46 57.8	
	comp=Z,72nm,18.9s,MS3.4,baz=360,slow=34						
LPAZ	**La Paz**	**38.45**	**218**	P	**P**	**15 37 05.6**	**-0.5**
	0.8nm,0.8s,mb3.5,baz=20,slow=10,SNR=3.8						
LPAZ				LR	LR	15 54 42.4	
	comp=Z,62nm,18.4s,MS3.5,baz=80,slow=39						
LPAZ	**La Paz**	**38.45**	**218**	P	**P**	**15 37 05.5**	**-0.6**
	1.6nm,1.0s,mb3.7						
LPAZ				LR	LR	15 54 42.4	
TXAR	**Lajitas Array**	**56.28**	**296**	LR	LR	16 04 11.9	
	comp=Z,32nm,20.1s,MS3.4,baz=25,slow=37						
NB2	**NORSAR Subarra**	**61.15**	**27**	P	**P**	**15 39 57.7**	**-1.2**
	0.6nm,0.6s,mb3.9,baz=246,slow=6.5						
NOA	**NORSAR Array B**	**61.15**	**27**	P	**P**	**15 39 56.3**	**-2.6**
	0.9nm,0.7s,mb4.0,baz=246,slow=6.4,SNR=6.5						
PDAR	**Pinedale Array**	**62.01**	**311**	LR	LR	16 03 56.4	
	comp=Z,40nm,19.5s,MS3.6,baz=266,slow=33						
YKA	**Yellowknife Ar**	**68.07**	**332**	P	**P**	**15 40 44.3**	**+0.5**
	0.1nm,0.4s,mb3.2,baz=107,slow=7.4,SNR=3.6						
YKA				LR	LR	16 07 00.1	
	comp=Z,33nm,19.2s,MS3.6,baz=180,slow=33						
ARCES	**ARCESS Array B**	**69.57**	**21**	P	**P**	**15 40 53.6**	**+0.7**
	2.6nm,0.9s,mb4.2,baz=270,slow=7.2,SNR=4.5						
ARCES				LR	LR	16 04 05.4	
	comp=Z,34nm,20.6s,MS3.6,baz=14,slow=30						
BRTR	**Keskin Array B**	**71.86**	**53**	P	**P**	**15 41 07.8**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=259,slow=5.0,SNR=5.2						
INK	**Inuvik**	**76.28**	**338**	LR	LR	16 12 23.1	
	comp=Z,70nm,19.3s,MS4.0,baz=298,slow=34						

*NEIC **27** 15:52:41.0±0.6, 51.21N×179.25E, h44km±5km, mb4.2/5, ML3.6(AEIC), Error ellipse: s-maj=12.8km s-min=4.8km az=183.0*

*MOS **27** 15:52:42.7±1.8, 51.98N×179.15E, h33km, mb4.2/4, Error ellipse: s-maj=21.9km s-min=16.7km az=107.1*

*IDC **27** 15:52:42.6±4.1, 51.25N×179.33E, h56km±35km, mb3.6/12, mb1 3.8/13, mb1mx3.7/22, mbtmp3.9/13, ML3.8/1, Error ellipse: s-maj=28.2km s-min=15.7km az=163.0*

ISC 27 15:52:40.0±1.0, 51.2N±0.1×179.19E±0.07, h49km±8km, n37, σ0s96/40, mb4.0/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KIMD	**Kanaga Island**	**2.29**	**75**	P	**P**	**15 53 15.8**	**-0.4**
KIMD				S	**S**	**15 53 45.4**	**+2.1**
KIWB	**Kanaga Island**	**2.36**	**73**	*e*P	**P**	**15 53 16.4**	**-0.8**
KINC	**Kanaga Island**	**2.40**	**72**	P	**P**	**15 53 17.8**	**+0.1**
KINC				S	**S**	**15 53 48.2**	**+2.3**
KIRH	**Kanaga Island**	**2.41**	**73**	P	**P**	**15 53 18.1**	**+0.2**
GSTD	**Great Sitkin T**	**3.02**	**72**	P	**P**	**15 53 25.9**	**-0.6**
GSTD				S	**S**	**15 54 02.4**	**+0.7**
GSMY	**Great Sitkin M**	**3.07**	**73**	P	**P**	**15 53 26.5**	**-0.7**
GSTR	**Great Sitkin T**	**3.08**	**72**	P	**P**	**15 53 27.1**	**-0.2**
GSIG	**Igitkin Island**	**3.13**	**74**	P	**P**	**15 53 27.6**	**-0.5**
SMY	**Shemya**	**3.49**	**297**	*e*P	**P**	**15 53 32.3**	**-0.8**
FX1	**Attu Island--F**	**4.07**	**296**	P	**P**	**15 53 43.0**	**+1.7**
	22nm,0.3s,baz=212,slow=4.1,SNR=23						
FX1				S	**S**	**15 54 36.6**	**+8.4**
	8.5nm,0.3s,baz=243,slow=24,SNR=13						
FX1	**Attu Island--F**	**4.07**	**296**	*e*P	**P**	**15 53 41.7**	**+0.3**
ATKA	**Atka Island**	**4.22**	**74**	P	**P**	**15 53 42.5**	**-0.9**
IMA	**Indian Mountai**	**20.24**	**33**	*e*P	**P**	**15 57 13.1**	**-0.1**
IMA				pmax	pmax		
	comp=Z,13nm,0.6s						
IMA	**Indian Mountai**	**20.24**	**33**	*e*P	**P**	**15 57 13.1**	**-0.1**
	comp=Z,13nm,0.6s						
ASAJ	**Asahikawa**	**25.44**	**268**	P	**P**	**15 58 07.0**	**+2.5**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ASAJ	**Asahikawa**	**25.44**	**268**	P	**P**	**15 58 07.0**	**+2.4**
	comp=Z,5.5nm,0.7s,mb4.2,baz=310,slow=6.6,SNR=4.5						
INK	**Inuvik**	**28.30**	**35**	P	**P**	**15 58 29.9**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.8,baz=275,slow=10,SNR=8.2						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**15 59 38.8**	**-0.8**
YKA				*PP	pP	15 59 52.4	-0.3
YKA						16 02 04.8	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**15 59 38.8**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=280,slow=8.0,SNR=20						
YKA				pP	pP	15 59 52.4	-0.3
	comp=Z,0.3nm,0.5s,baz=281,slow=7.8,SNR=4.6						
YKA				PcP	PcP	16 02 04.8	+0.4
	comp=Z,0.1nm,0.3s,baz=286,slow=3.4,SNR=4.1						
YKA	**Yellowknife Ar**	**36.24**	**46**	P	**P**	**15 59 38.9**	**-0.8**
YKA				pP	pP	15 59 52.4	-0.3
YKA				PcP	PcP	16 02 04.8	+0.4
BOD	**Bodaibo**	**37.05**	**306**	*e*P	**P**	**15 59 46.1**	**-0.4**
BOD				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
HLID	**Hailey**	**44.19**	**73**	*e*P	**P**	**16 00 45.3**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.6						
SONM	**Songino Array**	**45.58**	**296**	P	**P**	**16 00 58.2**	**+1.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=60,slow=8.5,SNR=9.8						
BW06	**Boulder Array**	**47.55**	**71**	*e*P	**P**	**16 01 11.3**	**-0.7**
	comp=Z,2.1nm,0.6s,mb4.3						
PDAR	**Pinedale Array**	**47.55**	**71**	P	**P**	**16 01 11.9**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.5,baz=312,slow=4.6,SNR=6.8						
KURK	**Kurchatov**	**58.20**	**313**	*e*P	**P**	**16 02 30.9**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
KURK	**Kurchatov**	**58.20**	**313**	*e*P	**P**	**16 02 30.9**	**-0.1**
	comp=Z,2.3nm,0.3s,mb4.7						
MKAR	**Makanchi Array**	**59.13**	**307**	P	**P**	**16 02 37.1**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=51,slow=6.0,SNR=14						
TXAR	**Lajitas Array**	**59.92**	**80**	P	**P**	**16 02 42.7**	**-0.4**
	comp=Z,0.3nm,0.5s,mb3.6,baz=316,slow=6.0,SNR=4.0						
FINES	**FINESS Array B**	**65.63**	**346**	P	**P**	**16 03 18.9**	**-1.5**
	comp=Z,0.8nm,0.8s,mb3.8,slow=7.6,SNR=4.7						
NB2	**NORSAR Subarra**	**67.66**	**354**	P	**P**	**16 03 32.9**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=6.0,slow=5.8						
NB2	**NORSAR Subarra**	**67.66**	**354**	P	**P**	**16 03 32.9**	**-0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
NOA	**NORSAR Array B**	**67.66**	**354**	P	**P**	**16 03 33.0**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=7.4,slow=6.2,SNR=5.2						
WRA	**Warramunga Arr**	**81.05**	**222**	P	**P**	**16 04 50.2**	**-0.9**
	comp=Z,0.4nm,0.8s,mb3.4,baz=30,slow=5.9,SNR=6.1						
BRTR	**Keskin Array B**	**84.54**	**334**	P	**P**	**16 05 09.9**	**+1.5**
	comp=Z,0.6nm,0.7s,mb3.8,baz=63,slow=2.8,SNR=3.7						
ASAR	**Alice Springs**	**84.54**	**221**	P	**P**	**16 05 09.8**	**+1.0**
	comp=Z,0.3nm,0.8s,mb3.5,baz=30,slow=4.5,SNR=4.6						
BOSA	**Boshof**	**150.12**	**309**	PKPbc	PKPdf	16 12 27.6	+7.9
	comp=Z,0.6nm,0.3s,baz=280,slow=14,SNR=3.1						

*NEIC **27** 16:08:34.4, 39.66S×174.23E, h208km, MG3.9(WEL), After WEL.*

WEL 27 16:08:35.3±0.3, 39.69S×174.27E, h200km±2km, ML3.9/10, 2D, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAEZ	**Rainy Point**	**0.41**	**13**	PN	P	16 09 02.6	+0.2
NEZ	**North Egmont**	**0.43**	**341**	P	P	16 09 02.2	-0.3
NEZ	**North Egmont**	**0.43**	**341**	PN	P	16 09 02.2	-0.3
NRZ	**Ngariki Road**	**0.44**	**323**	P	P	16 09 02.0	-0.5
NRZ	**Ngariki Road**	**0.44**	**323**	PN	P	16 09 02.0	-0.5
NWEZ	**Newall Road**	**0.52**	**322**	PN	P	16 09 02.4	-0.4
PKE	**Pukeiti**	**0.54**	**335**	P	P	16 09 02.2	-0.7
PKE	**Pukeiti**	**0.54**	**335**	PN	P	16 09 02.2	-0.7
WAZ	**Wanganui**	**0.55**	**98**	P	P	16 09 03.5	+0.6
WAZ	**Wanganui**	**0.55**	**98**	PN	P	16 09 03.5	+0.6
WAZ				SN	S	16 09 25.1	+0.9
VRZ	**Vera Road**	**0.67**	**34**	*e*P	P	16 09 02.5	-0.9
VRZ				S	S	16 09 23.8	-1.4
VRZ	**Vera Road**	**0.67**	**34**	PN	P	16 09 02.5	-1.0
VRZ				SN	S	16 09 23.8	-1.4
FWVZ	**Far West T-bar**	**1.08**	**67**	P	P	16 09 05.7	-0.1
FWVZ				S	S	16 09 28.7	-0.7
FWVZ	**Far West T-bar**	**1.08**	**67**	PN	P	16 09 05.7	-0.1
FWVZ				SN	S	16 09 28.4	-1.1
DRZ	**Dome Shelter**	**1.08**	**68**	PN	P	16 09 06.1	+0.3
WNVZ	**Wahianoa**	**1.08**	**71**	P	P	16 09 05.9	+0.1
WNVZ	**Wahianoa**	**1.08**	**71**	PN	P	16 09 05.9	0.0
WNVZ				SN	S	16 09 28.8	-0.7
TWVZ	**Taurewa**	**1.09**	**56**	P	P	16 09 04.9	-1.0
TWVZ	**Taurewa**	**1.09**	**56**	PN	P	16 09 05.1	-0.8
WPVZ	**Whakapapa**	**1.09**	**64**	P	P	16 09 05.8	-0.1
WPVZ	**Whakapapa**	**1.09**	**64**	PN	P	16 09 05.8	-0.2
WPVZ				SN	S	16 09 28.3	-1.3
CNZ	**Chateau**	**1.10**	**64**	P	P	16 09 05.8	-0.2
CNZ	**Chateau**	**1.10**	**64**	PN	P	16 09 05.8	-0.2
NGZ	**Ngauruhoe**	**1.15**	**64**	P	P	16 09 06.1	-0.2
NGZ	**Ngauruhoe**	**1.15**	**64**	PN	P	16 09 06.1	-0.2
TUVZ	**Tukino**	**1.15**	**69**	P	P	16 09 06.4	+0.1
TUVZ	**Tukino**	**1.15**	**69**	PN	P	16 09 06.4	0.0
TUVZ				*e*SN	S	16 09 29.6	-0.7
DUWZ	**D'Urville Isla**	**1.15**	**193**	PN	P	16 09 06.1	-0.3
DUWZ				SN	S	16 09 29.2	-1.2
WTVZ	**West Tongariro**	**1.17**	**61**	P	P	16 09 06.1	-0.4
WTVZ	**West Tongariro**	**1.17**	**61**	PN	P	16 09 06.1	-0.4
WTVZ				SN	S	16 09 29.4	-1.3
MOVZ	**Moawhango**	**1.18**	**77**	P	P	16 09 06.0	-0.6
MOVZ				S	S	16 09 28.8	-2.0
MOVZ	**Moawhango**	**1.18**	**77**	PN	P	16 09 06.0	-0.6
MOVZ				SN	S	16 09 28.6	-2.2
MGZ	**Maungaku**	**1.20**	**56**	P	P	16 09 06.1	-0.6
MGZ	**Maungaku**	**1.20**	**56**	PN	P	16 09 06.1	-0.6
OTVZ	**Oturere**	**1.20**	**65**	PN	P	16 09 06.6	-0.1
OTVZ				SN	S	16 09 30.7	-0.4
KRVZ	**Karewarewa**	**1.21**	**61**	PN	P	16 09 06.5	-0.3
HIZ	**Hauiti**	**1.25**	**21**	P	P	16 09 05.7	-1.5
HIZ	**Hauiti**	**1.25**	**21**	⇓PN	P	16 09 05.7	-1.5
HIZ				SN	S	16 09 29.5	-2.4
KIW	**Kapiti Island**	**1.27**	**158**	P	P	16 09 07.1	-0.3
KIW	**Kapiti Island**	**1.27**	**158**	PN	P	16 09 07.1	-0.2
KIW				SN	S	16 09 30.9	-1.3
KATZ	**Kakaramea**	**1.31**	**58**	P	P	16 09 07.3	-0.4
KATZ	**Kakaramea**	**1.31**	**58**	PN	P	16 09 07.3	-0.4
KATZ				*e*SN	S	16 09 31.2	-1.5
TSZ	**Takapari Road**	**1.35**	**107**	P	P	16 09 08.0	-0.1
TSZ	**Takapari Road**	**1.35**	**107**	⇓PN	P	16 09 08.0	0.0
TSZ				SN	S	16 09 32.4	-1.0
MRZ	**Mangatainoka R**	**1.40**	**135**	PN	P	16 09 08.3	-0.2
MRZ				SN	S	16 09 32.9	-1.2
RITZ	**Rihia Road**	**1.42**	**61**	P	P	16 09 08.1	-0.5
RITZ	**Rihia Road**	**1.42**	**61**	PN	P	16 09 08.1	-0.5
RATZ	**Rangitukua**	**1.42**	**55**	P	P	16 09 08.0	-0.7
RATZ	**Rangitukua**	**1.42**	**55**	PN	P	16 09 08.0	-0.6
WATZ	**Wairara**	**1.50**	**50**	P	P	16 09 08.5	-0.8
WATZ	**Wairara**	**1.50**	**50**	PN	P	16 09 08.5	-0.9
CAW	**Cannon Point**	**1.55**	**157**	P	P	16 09 09.4	-0.4
CAW	**Cannon Point**	**1.55**	**157**	PN	P	16 09 09.4	-0.4
CAW				SN	S	16 09 35.8	-0.5
MRW	**Makara Radio**	**1.58**	**168**	P	P	16 09 09.7	-0.4
MRW	**Makara Radio**	**1.58**	**168**	PN	P	16 09 09

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JASL	**Jaisalmer**	**3.48**	**8**	*e*	P	16 21 46.1	+9.5
BHPL	**Bhopal**	**6.50**	**91**	*e*P	P	16 22 16.9	-2.0
BHPL				*e*S	S	16 23 23.9	-8.6
BHPL				*i*		16 23 42.0	
BHPL				*e*		16 23 43.7	
BHPL				AML	AML	16 23 46.5	
	comp=E,26nm,0.2s						
BHPL				AML	AML	16 23 47.3	
	comp=N,54nm,0.3s						
KHET	**Khetri**	**6.72**	**46**	*i* P	P	16 22 18.8	-3.2
KHET				*e*		16 23 04.4	
KHET				*e*S	S	16 23 27.2	-11
KHET				AML	AML	16 23 36.4	
	comp=N,21nm,0.3s						
KHET				AML	AML	16 23 37.4	
	comp=E,24nm,0.3s						
KUDL	**Kundal**	**7.23**	**49**	*e*P	P	16 22 26.6	-2.4
KUDL				*e*S	S	16 23 40.7	-10
SONA	**Sohna**	**7.71**	**50**	*e*	Px	16 23 05.9	
SONA				*i* S	S	16 23 49.8	-12
AGRA	**Agra**	**7.82**	**60**	*e*	Px	16 23 00.8	
AGRA				*e*S	S	16 23 56.2	-9.0
AGRA				AML	AML	16 23 56.7	
	comp=N,110nm,0.3s						
AGRA				AML	AML	16 23 59.3	
	comp=E,89nm,0.3s						
BHGR	**Bahadurgarh**	**7.88**	**47**	*e*S	S	16 23 57.9	-8.6
NDI	**New Delhi**	**8.06**	**48**	*e*	Px	16 23 36.0	
NDI				*e*		16 24 06.0	
DDI	**Dehra Dun**	**9.69**	**44**	*e*	Px	16 24 55.1	
SDNR	**Sundarnagar**	**9.92**	**35**	*e*P	P	16 23 01.5	-4.5
JOSI	**Joshimath**	**10.82**	**47**	*e*	Px	16 24 46.8	

KRSC ***27*** *17:19:53.8±0.7, 50.96N×157.81E, h40km±8km, ML4.2*
MOS ***27*** *17:19:54.1±2.1, 51.06N×157.86E, h43km, mb4.2/1, Error ellipse: s-maj=79.1km s-min=20.9km az=72.0*
ISC 27 17:19:53.2±0.9, 50.96N±0.06×157.78E±0.08, h40km, n22, σ0s84/38, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.80**	**310**	*i* P	P	**17 20 09.1**	**+1.1**
PAU				*e*S	S	**17 20 19.6**	**+0.7**
SKR	**Severo-Kuril's**	**1.09**	**256**	*e*PN	P	**17 20 10.6**	**-1.6**
SKR				*e*S	S	**17 20 24.7**	**-1.6**
SKR				pmax	pmax		
	comp=N,140nm,0.2s						
SKR				pmax	pmax		
	comp=E,140nm,0.2s						
SKR				pmax	pmax		
	comp=Z,250nm,0.2s						
SKR				smax			
	comp=N,6μm,0.3s						
SKR				smax			
	comp=E,5μm,0.3s						
SKR				smax			
	comp=N,10μm,0.4s						
SKR				smax			
	comp=E,4μm,0.4s						
ALID	**Alaid**	**1.42**	**267**	*e*P	P	**17 20 17.4**	**+0.5**
ALID				*e*S	S	**17 20 34.4**	**-0.2**
RUS	**Russkaya**	**1.55**	**17**	P	P	**17 20 18.3**	**-0.5**
RUS				S	S	**17 20 35.6**	**-2.3**
RUS	**Russkaya**	**1.55**	**17**	*i* P	P	**17 20 18.3**	**-0.5**
RUS				*e*S	S	**17 20 36.7**	**-1.2**
GRL	**Gorelyy**	**1.61**	**6**	*i* P	P	**17 20 20.2**	**+0.5**
GRL				*i* S	S	**17 20 39.2**	**-0.2**
KRMR	**Karymshinskiy**	**1.89**	**6**	*e*P	P	**17 20 24.3**	**+0.7**
KRMR				*e*S	S	**17 20 46.3**	**-0.1**
APC	**Apacha**	**2.01**	**349**	*e*P	P	**17 20 25.7**	**+0.4**
APC				*e*S	S	**17 20 50.0**	**+0.6**
APC				Smax			
	comp=E,100nm,0.9s						
PET	**Petropavlovsk**	**2.14**	**14**	⇓*i*PN	P	**17 20 27.2**	**0.0**
PET				*e*S	S	**17 20 52.5**	**-0.2**
PET				pmax	pmax		
	comp=Z,63nm,0.5s						
PET				smax			
	comp=N,404nm,0.5s						
PET	**Petropavlovsk**	**2.14**	**14**	*i* P	P	**17 20 27.1**	**-0.1**
PET				*e*S	S	**17 20 51.2**	**-1.5**
UGLR	**Uglovaya**	**2.35**	**15**	*e*P	P	**17 20 30.7**	**+0.5**
AVH	**Avacha**	**2.39**	**14**	*i* P	P	**17 20 31.3**	**+0.6**
AVH				*i* S	S	**17 20 58.6**	**-0.4**
SMAR	**Somma**	**2.40**	**15**	*e*P	P	**17 20 31.7**	**+0.8**
KOK	**Koryaka**	**2.40**	**12**	*i* P	P	**17 20 32.2**	**+1.3**
KOK				*e*S	S	**17 20 59.9**	**+0.6**
NLC	**Nalytchevo**	**2.42**	**23**	*e*P	P	**17 20 31.0**	**-0.2**
NLC				*e*S	S	**17 20 59.2**	**-0.6**
SPN	**Mys Shipunski**	**2.55**	**32**	P	P	**17 20 33.0**	**-0.1**
SPN				*S*	S	**17 21 01.2**	**-2.0**
SPN	**Mys Shipunski**	**2.55**	**32**	*e*P	P	**17 20 33.0**	**-0.1**
SPN				*e*S	S	**17 21 01.5**	**-1.7**
GNL	**Ganaly**	**2.75**	**2**	*e*P	P	**17 20 36.3**	**+0.4**
GNL				*e*S	S	**17 21 07.1**	**-1.0**
TUMR	**Tumrok**	**4.56**	**17**	*e*P	P	**17 21 01.9**	**+0.3**
KMNR	**Kamenistaya**	**5.03**	**16**	*e*P	P	**17 21 09.1**	**+0.9**
KBTR	**Krutoberegovo**	**6.06**	**28**	P	P	**17 21 23.1**	**+0.6**
KBTR	**Krutoberegovo**	**6.06**	**28**	*e*P	P	**17 21 23.2**	**+0.7**

NEIC ***27*** *18:03:30.9±0.5, 5.66S×146.77E, mb4.3/6, Error ellipse: s-maj=14.1km s-min=8.8km az=104.0*
IDC ***27*** *18:03:33.2±0.7, 5.90S×146.73E, h91km±5km, mb3.8/10, mb1 4.0/13, mb1mx4.0/15, mbtmp4.2/13, MS3.1/2, Ms1 3.1/2, ms1mx2.9/12, Error ellipse: s-maj=17.0km s-min=9.0km az=93.0*
ISC 27 18:03:28.9±1.6, 5.74S±0.06×146.88E±0.09, h70km±14km, n34, σ0s92/38, mb3.7/12, 2C-2D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**176**	P	P	**18 04 26.2**	**+1.8**
	72nm,0.3s,baz=38,slow=5.3,SNR=337						
PMG				S	S	**18 05 05.7**	**-0.7**
	158nm,0.3s,baz=191,slow=19,SNR=14						
PMG	**Port Moresby**	**3.65**	**176**	⇓*e*P	P	**18 04 26.1**	**+1.8**
PMG				S	S	**18 05 05.7**	**-0.7**
CTA	**Charters Tower**	**14.27**	**182**	⇓*i*P	P	**18 06 53.0**	**+4.1**
	7.1nm,0.4s						
CTA	**Charters Tower**	**14.27**	**182**	P	P	**18 06 50.8**	**+1.9**
	2.9nm,0.3s,baz=1.0,slow=14,SNR=36						
CTA				S	S	**18 09 22.9**	**-3.0**
	0.3nm,0.3s,baz=72,slow=17,SNR=5.4						
CTA				LR	LR	18 11 14.9	
	comp=Z,74nm,18.7s,baz=228,slow=33						
CTAO	**Charters Tower**	**14.27**	**182**	*e*P	P	**18 06 52.9**	**+4.0**
	8.5nm,0.6s						
KAKA	**Kakadu**	**15.84**	**243**	⇑*i*P	P	**18 07 09.4**	**+0.3**
	22nm,0.5s						
KAKA				*e*S	S	**18 09 57.6**	**-4.8**
WRAB	**Tennant Creek**	**18.64**	**220**	Pn	P	**18 07 44.0**	**+0.4**
	64nm,1.1s,SNR=9.3						
WRAB	**Tennant Creek**	**18.64**	**220**	*e*P	P	**18 07 40.9**	**-2.6**
	18nm,0.8s						
WB2	**Warramunga Arr**	**18.64**	**220**	*e*P	P	**18 07 43.0**	**-0.7**
WB2				*e*S	S	**18 11 05.1**	**-0.6**
WRA	**Warramunga Arr**	**18.65**	**220**	P	P	**18 07 42.8**	**-1.0**
	0.8nm,0.3s,baz=38,slow=11,SNR=82						
WRA				S	S	**18 11 07.2**	**+1.3**
	0.4nm,0.3s,baz=41,slow=24,SNR=5.7						
ASAR	**Alice Springs**	**21.76**	**214**	P	P	**18 08 16.5**	**+0.2**
	2.0nm,0.4s,mb3.8,baz=50,slow=8.6,SNR=68						
ASAR				pP		18 08 32.7	
	13nm,0.7s,baz=51,slow=10,SNR=23						
ASAR				S	S	**18 12 08.7**	**+1.1**
	1.7nm,0.8s,baz=42,slow=18,SNR=3.0						
ASAR				LR	LR	18 17 30.6	
	comp=Z,59nm,21.6s,baz=1.9,slow=39						
ASAR	**Alice Springs**	**21.76**	**214**	P	P	**18 08 16.5**	**+0.2**
ASAR				pP		18 08 32.6	
ASAR				S	S	**18 12 08.7**	**+1.1**
ASAR				LR	LR	18 17 30.6	
ASPA	**Alice Springs**	**21.77**	**214**	*e*P	P	**18 08 16.0**	**-0.3**
ASPA				*e*		18 08 32.9	
ASPA				*e*S	S	**18 12 09.6**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.10**	**238**	⇓*i*P	P	**18 08 39.3**	**+0.1**
	95nm,0.6s						
FITZ	**Fitzroy Crossi**	**24.10**	**238**	P	P	**18 08 39.7**	**+0.5**
	162nm,0.8s,baz=52,slow=4.7,SNR=245						
DZM	**Mont Dzumac**	**24.93**	**133**	P	P	**18 08 48.3**	**+1.1**
	2.6nm,0.7s,mb3.8,baz=287,slow=19,SNR=4.0						
STKA	**Stephens Creek**	**26.47**	**190**	*e*P	P	**18 09 00.6**	**-0.8**
	1.6nm,0.5s,mb3.7						
STKA	**Stephens Creek**	**26.47**	**190**	P	P	**18 09 00.8**	**-0.6**
	1.1nm,0.4s,mb3.6,baz=331,slow=12,SNR=5.2						
STKA				pP	pP	18 09 22.2	+4.4
	3.9nm,0.7s,baz=10,slow=10,SNR=5.0						
NWAO	**Narrogin (SRO)**	**38.64**	**222**	P	P	**18 10 47.2**	**0.0**
	5.9nm,0.8s,mb4.5,baz=70,slow=11,SNR=3.0						
NWAO	**Narrogin (SRO)**	**38.64**	**222**	P	P	**18 10 47.2**	**0.0**
ULN	**Ulaanbaatar**	**63.83**	**331**	*e*P	P	**18 13 56.5**	**+0.3**
	0.9nm,0.6s,mb3.8						
SONM	**Songino Array**	**64.12**	**331**	P	P	**18 13 58.2**	**+0.1**
	0.2nm,0.4s,mb3.3,baz=133,slow=5.0,SNR=7.2						
SONM				sP	sP	18 14 32.1	+7.7
	0.4nm,0.6s,baz=145,slow=3.7,SNR=2.7						
VNDA	**Vanda**	**72.17**	**177**	P	P	**18 14 47.6**	**0.0**
	0.5nm,0.8s,mb3.4,baz=288,slow=3.2,SNR=2.3						
MKAR	**Makanchi Array**	**77.22**	**320**	P	P	**18 15 16.5**	**-0.7**
	0.1nm,0.3s,mb3.0,baz=108,slow=4.6,SNR=2.9						
MKAR				sP	sP	18 15 50.8	+6.9
	0.3nm,0.6s,baz=99,slow=7.5,SNR=2.8						
MCK	**McKinley**	**84.04**	**24**	P	P	**18 15 53.1**	**+0.3**
	3.5nm,1.0s,mb4.1						
COLA	**College**	**84.96**	**23**	*e*P	P	**18 15 57.0**	**-0.3**
	3.0nm,0.7s,mb4.3						
BVAR	**Borovoye Array**	**86.49**	**324**	P	P	**18 16 05.0**	**-0.1**
	0.3nm,0.4s,mb3.5,baz=63,slow=6.4,SNR=2.9						
BVAR				sP	sP	18 16 40.3	+8.3
	0.6nm,0.7s,baz=146,slow=5.3,SNR=3.2						
YKA	**Yellowknife Ar**	**99.00**	**28**	P	P	**18 17 02.4**	**-0.4**
	0.2nm,0.6s,mb3.8,baz=274,slow=5.0,SNR=5.6						
YKA	**Yellowknife Ar**	**99.00**	**28**	P	P	**18 17 02.4**	**-0.4**
PLCA	**Paso Flores**	**122.40**	**147**	PKP	PKPdf	18 22 18.6	+2.0
	0.5nm,0.5s,baz=230,slow=3.9,SNR=6.6						
LPAZ	**La Paz**	**139.02**	**123**	PKP	PKPdf	18 22 48.5	0.0
	0.6nm,0.5s,baz=268,slow=8.0,SNR=3.9						
SAML	**Samuel**	**146.67**	**116**	*e*PKP	PKPdf	18 23 04.7	+2.6
DBIC	**Dimbokro**	**151.89**	**273**	PKPbc	PKPdf	18 23 17.5	+7.2
	1.9nm,0.9s,baz=301,slow=5.9,SNR=2.2						
DBIC				PKPab	PKPab	18 23 28.8	+0.3
	1.4nm,0.7s,baz=90,slow=6.1,SNR=3.2						
BDFB	**Brasilia**	**154.13**	**145**	PKPbc	PKPdf	18 23 23.5	+10
	2.7nm,0.5s,baz=224,slow=2.8,SNR=6.3						

BJI ***27*** *18:06:07.6, 73.90N×8.70E, h10km, mB5.0, mb4.9, Ms4.1, Msz3.8*
MOS ***27*** *18:06:08.2±1.8, 73.93N×8.77E, h10km, mb4.4/11, MS3.5/4, Error ellipse: s-maj=32.6km s-min=7.2km az=96.4*
IDC ***27*** *18:06:09.8±0.6, 73.91N×8.90E, mb3.8/12, mb1 3.9/18, mb1mx3.9/24, mbtmp3.8/18, ML3.3/6, MS3.5/14, Ms1 3.5/14, ms1mx3.4/30, Error ellipse: s-maj=17.0km s-min=10.7km az=51.0*
NEIC ***27*** *18:06:10.7±0.4, 73.92N×8.74E, h10km, mb4.4/7, Error ellipse: s-maj=9.1km s-min=6.4km az=222.0*
ZUR_RM ***27*** *18:06:10, 73.92N×8.74E, h9km, Mw4.5/11, Moment Tensor Solution. s11 Moment tensor: Scale 10^{15}Nm; M_{rr}=5.59; $M_{\theta\theta}$=0.94; $M_{\phi\phi}$=4.65; $M_{r\theta}$=2.23; $M_{\theta\phi}$=0.77; $M_{r\phi}$=0.73; Best double couple: M_0=5.62×10^{15} NP1:ϕ_s=208°, δ54°, λ-71°. NP2:ϕ_s=358°, δ40°, λ-114°. Principal axes: T 4.94, Plg7°, Azm285°; N 1.355, Plg15°, Azm17°; P -6.295, Plg73°, Azm171°;*
CSEM ***27*** *18:06:12.8, 74.26N×7.30E, h60km, mb4.5*
BER ***27*** *18:06:14.9±3.9, 74.05N×10.77E, h10km, ML2.4, ML2.5(NAO)*
NAO ***27*** *18:06:20.8±8.7, 74.45N×13.45E, h22km±115km, ML2.5*
HEL ***27*** *18:06:20.8±1.3, 73.55N×10.85E, h10km, ML4.1, mb4.4(NEIC), ML2.4(BER)*
ISC 27 18:06:12.2±0.6, 73.73N±0.05×10.5E±0.2, h10km, n108, σ1s64/120, mb4.1/29, MS3.5/14, 4C-1D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSP	**Hornsund**	**3.53**	**19**	*e*P	Pn	**18 07 02.0**	**-6.4**
HSP				*e*S	Sn	**18 07 36.2**	**-14**
SPA0	**Spitsbergen Ar**	**4.69**	**15**	Pn	Pn	**18 07 18.4**	**-6.4**
	baz=197,slow=16						
SPA0	**Spitsbergen Ar**	**4.69**	**15**	*e*	Pn	**18 07 18.4**	**-6.4**
TRO	**Tromso**	**4.90**	**143**	*e*P	Pn	**18 07 27.5**	**-0.3**
TRO				*e*S	Sn	**18 08 23.6**	**-1.8**
TRO				AML	AML	18 08 28.4	
	comp=Z,15nm,0.6s						
TRO	**Tromso**	**4.90**	**143**	*e*P	Pn	**18 07 27.5**	**-0.3**
TRO				*e*S	Sn	**18 08 22.5**	**-2.8**
TRO	**Tromso**	**4.90**	**143**	*e*P	Pn	**18 07 27.5**	**-0.3**
TRO				*e*S	Sn	**18 08 22.5**	**-2.8**
LOF	**Lofoten**	**5.72**	**168**	*e*P	Pn	**18 07 41.5**	**+2.2**
LOF				*e*S	Sn	**18 08 43.2**	**-2.6**
LOF				AML	AML	18 08 44.7	
	comp=Z,8.3nm,0.6s						
LOF	**Lofoten**	**5.72**	**168**	*e*P	Pn	**18 07 41.5**	**+2.2**
LOF				*e*S	Sn	**18 08 43.3**	**-2.5**
LOF	**Lofoten**	**5.72**	**168**	*e*P	Pn	**18 07 41.5**	**+2.2**
	SNR=49						
LOF				*e*S	Sn	**18 08 43.3**	**-2.5**
KTK1	**Kautokeino**	**6.25**	**133**	*e*P	Pn	**18 07 50.0**	**+3.2**
KTK1				*e*S	Sn	**18 08 53.5**	**-5.5**
KTK1				AML	AML	18 09 11.6	
	comp=Z,4.8nm,0.6s						
KTK1	**Kautokeino**	**6.25**	**133**	*e*P	Pn	**18 07 50.7**	**+4.0**
KTK1	**Kautokeino**	**6.25**	**133**	P	Pn	**18 07 49.9**	**+3.1**
ARA0	**ARCESS Array S**	**6.33**	**124**	Pn	Pn	**18 07 49.9**	**+1.9**
	baz=322,slow=11						
ARA0				Sn	Sn	**18 08 58.7**	**-2.5**
	baz=315,slow=22						
ARA0	**ARCESS Array S**	**6.33**	**124**	*e*P	Pn	**18 07 49.9**	**+1.9**
ARA0				*e*S	Sn	**18 08 58.7**	**-2.5**
ARCES	**ARCESS Array B**	**6.33**	**124**	Pn	Pn	**18 07 50.0**	**+2.1**
	comp=Z,0.8nm,0.3s,baz=319,slow=11,SNR=35						
ARCES				Sn	Sn	**18 08 59.9**	**-1.3**
	comp=Z,2.1nm,0.3s,baz=317,slow=23,SNR=10.0						
ARCES				LR	LR	18 10 55.3	
	comp=Z,398nm,19.3s,baz=24,slow=42						
ARE0	**ARCESS Array S**	**6.33**	**124**	*e*P	Pn	**18 07 50.9**	**+2.9**
ARE0				S	Sn	**18 08 53.5**	**-7.6**
ARE0	**ARCESS Array S**	**6.33**	**124**	*e*P	Pn	**18 07 50.9**	**+2.9**
ARE0				S	Sn	**18 08 53.5**	**-7.7**
JMIC	**Jan Mayen**	**6.38**	**254**	Pn	Pn	**18 07 37.8**	**-11**
	comp=Z,7.0nm,0.3s,baz=155,slow=14,SNR=6.2						
JMIC				LR	LR	18 09 16.3	
	comp=Z,302nm,20.6s,baz=81,slow=31						
JMIC	**Jan Mayen**	**6.38**	**254**	Pn	Pn	**18 07 37.8**	**-11**
JMIC				LR	LR	18 09 16.3	
KEV	**Kevo**	**6.53**	**119**	*e*P	Pn	**18 07 53.7**	**+3.0**
KEV				*e*S	Sn	**18 09 01.9**	**-4.2**
MOR8	**Moi Rana**	**7.72**	**168**	*e*P	Pn	**18 08 06.5**	**-1.0**
MOR8				*e*S	Sn	**18 09 29.4**	**-6.4**
MOR8	**Moi Rana**	**7.72**	**168**	*e*P	Pn	**18 08 06.5**	**-1.0**
MOR8				*e*S	Sn	**18 09 29.7**	**-6.1**
MOR8	**Moi Rana**	**7.72**	**168**	P	Pn	**18 08 06.4**	**-1.0**
MOR8				*e*S	Sn	**18 09 29.7**	**-6.1**
DAG	**Danmarks Havn**	**7.96**	**306**	*e*P	Pn	**18 07 58.0**	**-13**
DAG	**Danmarks Havn**	**7.96**	**306**	*i* P	Pn	**18 07 58.0**	**-13**
SGF	**Sodankyl**	**8.24**	**132**	*e*P	P	**18 08 15.2**	**+0.6**
SGF				*e*S	Sn	**18 09 46.7**	**-2.2**
SGF	**Sodankyl**	**8.24**	**132**	P	P	**18 08 15.2**	**+0.5**
APA0	**Apatity Array**	**9.60**	**118**	*e*S	Sn	**18 10 14.1**	**-8.2**
APA0	**Apatity Array**	**9.60**	**118**	Sn	Sn	**18 10 14.1**	**-8.2**
	baz=331,slow=28						
KU4	**Liikasenvaara**	**9.80**	**129**	*e*P	P	**18 08 36.9**	**+0.8**
KU4				*e*S	Sn	**18 10 22.0**	**-5.3**
MSF	**Maaselka**	**10.07**	**132**	*e*P	P	**18 08 41.0**	**+1.2**
MSF				*e*S	S	**18 10 28.4**	**-5.5**
OUL	**Oulu**	**10.19**	**140**	*e*P	P	**18 08 42.0**	**+0.5**
OUL				MPN		18 08 45.1	
	comp=Z,4.2nm,0.7s						
SCO	**Scoresbysund**	**10.39**	**268**	*i* P	P	**18 08 30.9**	**-13**
KJN	**Kajaani**	**11.44**	**139**	*e*P	P	**18 08 59.2**	**+0.8**
KJN				MPN		18 09 05.9	
	comp=Z,10nm,0.7s						
KJN				*e*S	S	**18 11 02.1**	**-5.1**
SUF	**Sumiainen**	**12.43**	**145**	*e*P	P	**18 09 15.2**	**+3.4**
KEF	**Keuruu**	**12.75**	**148**	*e*P	P	**18 09 18.6**	**+2.5**
KEF				MPN		18 09 22.2	
	comp=Z,6.6nm,0.9s						
NOA	**NORSAR Array B**	**12.76**	**178**	Pn	P	**18 09 14.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=354,slow=13,SNR=4.3						
NOA				LR	LR	18 14 01.0	
	comp=Z,90nm,18.3s,baz=350,slow=36						
KAF	**Kangasniemi**	**13.02**	**145**	*e*P	P	**18 09 20.4**	**+0.7**
KAF				MPN		18 09 26.3	
	comp=Z,9.2nm,1.2s						
FIA0	**FINESS Array S**	**13.62**	**147**	Pn	P	**18 09 28.7**	**+1.3**
	baz=352,slow=14						
FIA0	**FINESS Array S**	**13.62**	**147**	*e*P	P	**18 09 28.7**	**+1.3**
FINES	**FINESS Array B**	**13.62**	**147**	Pn	P	**18 09 27.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=6.3,slow=13,SNR=3.6						
FINES				LR	LR	18 14 45.8	
	comp=Z,100nm,21.3s,baz=345,slow=37						
FINES	**FINESS Array B**	**13.62**	**147**	Pn	P	**18 09 27.7**	**+0.2**
FINES				LR	LR	18 14 45.8	
HFS	**Hagfors**	**13.72**	**173**	Pn	P	**18 09 37.6**	**+8.9**
	baz=3.1,slow=11						
HFS	**Hagfors**	**13.72**	**173**	*e*	P	**18 09 37.6**	**+8.9**
HFS	**Hagfors**	**13.72**	**173**	Pn	P	**18 09 29.1**	**+0.3**
	comp=Z,0.0nm,0.3s,baz=346,slow=12,SNR=4.1						
KONO	**Kongsberg**	**14.15**	**182**	⇓*e*P	P	**18 09 42.2**	**+7.8**
BORG	**Borgarnes**	**14.20**	**247**	LR	LR	18 13 18.2	
	comp=Z,215nm,20.5s,baz=229,slow=31						
VSU	**Vasula**	**16.57**	**149**	⇑*e*P	P	**18 10 14.2**	**+8.4**
EKA	**Eskdalemuir Ar**	**19.28**	**204**	Pn	P	**18 10 37.8**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=13,slow=12,SNR=6.1						
SUW	**Suwalki**	**20.48**	**158**	*e*P	P	**18 10 51.6**	**-0.8**
SUW				pmax	pmax		
	comp=Z,43nm,1.1s						
SUW	**Suwalki**	**20.48**	**158**	*e*P	P	**18 10 51.5**	**-0.8**
	comp=Z,43nm,1.1s						
SUW	**Suwalki**	**20.48**	**158**	*e*P	P	**18 10 51.5**	**-0.9**
	comp=Z,43nm,1.1s						
MNK	**Minsk**	**20.57**	**150**	*e*P	P	**18 10 53.0**	**-0.3**
MOS	**Moscow**	**21.08**	**134**	*e*P	P	**18 11 05.1**	**+6.6**
MOS				*e*		18 11 12.3	
MOS				*e*		18 11 31.4	
MOS				pmax	pmax		
	comp=Z,57nm,1.2s,mb4.8						
OBN	**Obninsk**	**21.45**	**136**	*e*P	P	**18 11 04.8**	**+2.5**
OBN				pmax	pmax		
	comp=Z,28nm,1.7s,mb4.3						
OBN				MLR	MLR		
	comp=Z,100nm,19.0s,MS3.2						
CLL	**Collm**	**22.54**	**176**	*i* *PP		18 11 23.8	
CLL				*e*		18 11 42.0	
BRG	**Berggiesshubel**	**22.99**	**174**	P	P	**18 11 26.5**	**+9.0**
MOX	**Moxa**	**23.18**	**178**	*i* P	P	**18 11 20.2**	**+0.9**
OJC	**Ojcow**	**23.94**	**165**	*e*P	P	**18 11 27.6**	**+0.9**
AKASG	**Malin Array Be**	**24.47**	**150**	P	P	**18 11 32.5**	**+0.6**
	comp=Z,2.1nm,0.6s,mb3.8,baz=345,slow=9.4,SNR=7.5						
AKASG	**Malin Array Be**	**24.47**	**150**	P	P	**18 11 32.5**	**+0.6**
VRAC	**Vranov**	**24.66**	**170**	P	P	**18 11 33.7**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.1,baz=1.5,slow=19,SNR=4.4						
GERES	**GERESS Array B**	**25.02**	**175**	P	P	**18 11 37.4**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.4,slow=8.0,SNR=9.3						
GERES				LR	LR	18 21 39.7	
	comp=Z,73nm,18.8s,MS3.2,baz=331,slow=37						
VOR	**Voronezh**	**25.17**	**135**	P	P	**18 11 47.0**	**+8.4**
VOR				pmax	pmax		
	comp=Z,50nm,1.7s,mb4.8						
ARU	**Arti**	**25.53**	**106**	⇑*i*P	P	**18 11 44.2**	**+2.3**
ARU				*e*		18 12 22.2	
ARU				*e*S	S	**18 16 09.8**	**+3.1**
ARU				*e*SS	SS	18 17 18.7	+9.3
ARU				pmax	pmax		
	comp=Z,28nm,1.2s,mb4.7						
ARU	**Arti**	**25.53**	**106**	P	P	**18 11 43.1**	**+1.2**
	comp=Z,33nm,1.2s,mb4.7						
ARU	**Arti**	**25.53**	**106**	P	P	**18 11 43.1**	**+1.2**
	comp=Z,33nm,1.2s,mb4.7						
DAVOX	**Davos**	**27.04**	**181**	LR	LR	18 22 53.7	
	comp=Z,57nm,19.8s,MS3.1,baz=104,slow=37						
FRB	**Frobisher Bay**	**27.97**	**291**	LR	LR	18 21 48.2	
	comp=Z,94nm,20.8s,MS3.4,baz=127,slow=34						
TIXI	**Tiksi**	**29.82**	**34**	*e*P	P	**18 12 17.0**	**-3.8**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.1						
CHKZ	**Chkalovo**	**31.28**	**96**	*e*P	P	**18 12 34.4**	**+0.6**
CHKZ				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**31.28**	**96**	*e*P	P	**18 12 34.4**	**+0.6**
	comp=Z,5.9nm,1.1s,mb4.3						
CHKZ	**Chkalovo**	**31.28**	**96**	*e*P	P	**18 12 34.4**	**+0.6**
	comp=Z,5.9nm,1.1s,mb4.3						
BVAR	**Borovoye Array**	**31.79**	**97**	P	P	**18 12 39.9**	**+1.6**
	comp=Z,1.6nm,0.8s,mb3.9,baz=321,slow=9.5,SNR=14						
SOC	**Sochi**	**33.09**	**139**	*e*P	P	**18 12 51.5**	**+1.7**
SOC				*e*		18 14 06.5	
SOC				*e*		18 15 34.5	
SOC				*e*S	S	**18 18 11.3**	**+3.7**
SOC				*e*SS	SS	18 20 18.2	+10
SOC				*e*		18 23 16.1	
SOC				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
SOC				pmax	pmax		
	comp=N,3.0nm,0.6s						
SOC				pmax	pmax		
	comp=E,2.0nm,0.6s						
SOC				MLR	MLR		
	comp=N,95nm,18.0s,MS3.6						
SOC				MLR	MLR		
	comp=E,61nm,18.0s,MS3.6						
SOC				MLR	MLR		
	comp=Z,106nm,18.0s,MS3.6						
KIV	**Kislovodsk**	**33.30**	**135**	*e*P	P	**18 12 48.4**	**-3.2**

comp=Z,1.0nm,1.4s,mb3.4
ZAK pmax pmax
comp=Z,1.0nm,1.8s,mb3.2
SONM Songino Array 46.42 68 P **P** **18 14 40.1 +0.1**
comp=Z,1.1nm,0.8s,mb3.8,baz=326,slow=7.3,SNR=9.9
SONM LR LR 18 38 50.1
comp=Z,48nm,18.9s,MS3.5,baz=93,slow=42
ULN Ulaanbaatar 46.56 67 *e*P **P** **18 14 41.5 +0.3**
ULN pmax pmax
comp=Z,8.0nm,1.4s,mb4.5
ULN Ulaanbaatar 46.56 67 *e*P **P** **18 14 41.5 +0.3**
comp=Z,7.7nm,1.4s,mb4.4
ULM Lac du Bonnet 46.79 302 LR LR 18 33 56.0
comp=Z,109nm,18.8s,MS3.8,baz=23,slow=36
PDAR Pinedale Array 56.96 310 P **P** **18 15 54.3 -5.2**
comp=Z,0.4nm,0.9s,mb3.4,slow=5.4,SNR=3.5
ANMO Albuquerque 63.75 305 LR LR 18 44 16.6
comp=Z,108nm,20.1s,MS4.0,slow=36
NJ2 Nanjing 64.45 63 *e*P **P** **18 16 47.5 -3.0**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
SSE Sheshan 65.95 61 *e*P **P** **18 16 55.5 -4.6**
SSE AMB AMB
comp=Z,28nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,71nm,5.0s
SSE LR LR
comp=N,10.0nm,19.3s,MS3.6
SSE LR LR
comp=E,35nm,19.4s,MS3.6
SSE LR LR
comp=Z,28nm,17.1s,MS3.5
GYA Guiyang 66.55 76⇑*i*P **P** **18 17 02.8 -1.2**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
TXAR Lajitas Array 68.47 301 P **P** **18 17 10.3 -5.7**
comp=Z,0.3nm,0.7s,mb3.5,baz=90,slow=3.8,SNR=4.1
ASAR Alice Springs 121.69 64 PKP PKPdf 18 25 02.9 -6.1
comp=Z,0.3nm,0.7s,baz=360,slow=2.3,SNR=5.2
VNA2 Neumayer--Watz 144.88 190⇑*i* Pdif 18 23 29.4 +15

BJI ***27*** *18:11:11.5,83.30N×116.50E,h10km,mB4.9,mb4.4, Ms4.3,Msz4.1*
MOS ***27*** *18:11:13.3±1.2,83.22N×116.67E,h10km,mb4.4/8,Error ellipse: s-maj=97.9km s-min=10.6km az=87.9*
IDC ***27*** *18:11:14.2±0.7,83.26N×116.54E,mb3.8/18,mb1 4.0/18, mb1mx4.0/21,mbtmp3.8/18,MS3.1/3,Ms1 3.1/3, ms1mx2.8/20,Error ellipse: s-maj=21.5km s-min=12.6km az=146.0*
NEIC ***27*** *18:11:15.5±0.4,83.26N×116.48E,h10km,mb4.4/10,Error ellipse: s-maj=11.2km s-min=6.8km az=141.0*
ISC 27 18:11:13.3±2.5,83.24N±0.06×116.8E±0.5,h8km±15km, n48,σ1§07/50,mb4.0/32,MS3.2/4,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BILL	**Bilibino**	**18.38**	**115**	*e*P		**P**	**18 15 41.5**	**+12**
BILL				pmax		pmax		
	comp=Z,7.0nm,1.6s							
RES	**Resolute Bay**	**21.50**	**22**	P		**P**	**18 16 02.5**	**-1.5**
RES				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb3.6							
RES	**Resolute Bay**	**21.50**	**22**	P		**P**	**18 16 02.5**	**-1.6**
	comp=Z,2.0nm,0.7s,mb3.6							
YAK	**Yakutsk**	**21.54**	**163**	*e*P		**P**	**18 16 04.5**	**-0.1**
YAK				pmax		pmax		
	comp=Z,16nm,1.1s,mb4.4							
YAK	**Yakutsk**	**21.54**	**163**	*e*P		**P**	**18 16 04.5**	**-0.1**
	comp=Z,16nm,1.1s,mb4.4							
ARCES	**ARCESS Array B**	**21.79**	**289**	P		**P**	**18 16 05.1**	**-1.9**
	comp=Z,8.2nm,0.8s,mb4.2,baz=24,slow=12,SNR=11							
JMIC	**Jan Mayen**	**23.70**	**318**	LR		LR	18 22 59.3	
	comp=Z,32nm,19.3s,MS2.8,baz=345,slow=30							
INK	**Inuvik**	**24.92**	**56**	*e*P		**P**	**18 16 38.9**	**+1.6**
INK				pmax		pmax		
	comp=Z,4.0nm,0.5s							
INK	**Inuvik**	**24.92**	**56**	P		**P**	**18 16 39.1**	**+1.8**
	comp=Z,1.2nm,0.4s,mb3.8,baz=312,slow=5.1,SNR=20							
INK	**Inuvik**	**24.92**	**56**	*e*P		**P**	**18 16 38.9**	**+1.6**
	comp=Z,3.8nm,0.5s,mb4.2							
BOD	**Bodaibo**	**25.56**	**183**	*e*P		**P**	**18 16 44.0**	**+0.5**
BOD				pmax		pmax		
	comp=Z,5.0nm,1.2s,mb3.9							
FINES	**FINESS Array B**	**29.53**	**283**	P		**P**	**18 17 19.2**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.4,baz=31,slow=11,SNR=3.9							
FINES				PcP		PcP	18 20 23.6	-1.5
	comp=Z,0.3nm,0.5s,baz=90,slow=1.4,SNR=3.4							
FINES				LR		LR	18 31 42.9	
	comp=Z,29nm,19.3s,MS2.9,baz=145,slow=42							
FINES	**FINESS Array B**	**29.53**	**283**	P		**P**	**18 17 19.2**	**-0.5**
FINES				PcP		PcP	18 20 23.6	-1.5
FINES				LR		LR	18 31 42.9	
NOA	**NORSAR Array B**	**31.58**	**296**	P		**P**	**18 17 37.7**	**-0.1**
	comp=Z,0.4nm,0.8s,mb3.3,baz=9.3,slow=9.6,SNR=3.2							
YKA	**Yellowknife Ar**	**32.32**	**43**	P		**P**	**18 17 43.9**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.5,baz=350,slow=8.6,SNR=9.7							
YKA				PcP		PcP	18 20 31.5	-0.9
	comp=Z,0.3nm,0.6s,baz=338,slow=3.8,SNR=5.7							
BVAR	**Borovoye Array**	**32.79**	**234**	P		**P**	**18 17 48.2**	**-0.2**
	comp=Z,1.0nm,0.7s,mb3.8,baz=22,slow=8.0,SNR=4.9							
FRB	**Frobisher Bay**	**33.19**	**4**	P		**P**	**18 17 51.0**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.2,baz=14,slow=9.7,SNR=5.6							
FRB				LR		LR	18 31 39.2	
	comp=Z,41nm,20.9s,MS3.1,baz=146,slow=37							
KURK	**Kurchatov**	**34.34**	**224**	P		**P**	**18 18 00.4**	**-1.5**
KURK				pmax		pmax		
	comp=Z,5.0nm,2.8s,mb4.0							
KURK	**Kurchatov**	**34.34**	**224**	P		**P**	**18 18 00.4**	**-1.5**
	comp=Z,5.3nm,2.8s,mb4.0							
SONM	**Songino Array**	**35.68**	**192**	P		**P**	**18 18 14.6**	**+1.2**
	comp=Z,0.8nm,1.1s,mb3.6,slow=1.4,SNR=3.5							
FCC	**Fort Churchill**	**37.40**	**26**	*e*P		**P**	**18 18 26.9**	**-0.8**
MKAR	**Makanchi Array**	**37.95**	**219**	P		**P**	**18 18 31.4**	**-1.1**
	comp=Z,1.7nm,0.7s,mb3.9,baz=2.4,slow=6.3,SNR=15							
MDJ	**Mudanjiang**	**38.96**	**165**	P		**P**	**18 18 39.0**	**-2.0**
MDJ				PCP		PcP	18 20 50.0	-2.1
MDJ				S		**S**	**18 24 37.8**	**-1.6**
MDJ				PCS			18 24 39.5	
MDJ				AMB		AMB		
	comp=Z,3.0nm,1.5s,mb3.8							
MDJ				AMB		AMB		
	comp=Z,52nm,5.0s							
MDJ				LR		LR		
	comp=N,85nm,4.8s							
MDJ				LR		LR		
	comp=E,49nm,6.1s							
MDJ				LR		LR		
	comp=Z,147nm,5.9s							
CN2	**Changchun**	**39.67**	**170**	*e*P		**P**	**18 18 46.5**	**-0.4**
AKASG	**Malin Array Be**	**39.69**	**276**	P		**P**	**18 18 45.5**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.7,baz=12,slow=8.8,SNR=4.2							
WMQ	**Urumqi**	**40.53**	**213**	*e*P		**P**	**18 18 54.5**	**+0.5**
WMQ				XP		sP	18 19 01.0	+3.5
WMQ				PP		PP	18 20 31.0	+0.1
WMQ				*e*S		**S**	**18 25 03.0**	**0.0**
WMQ				XS			18 25 11.0	
WMQ				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,138nm,5.0s							
WMQ				LR		LR		
	comp=N,197nm,21.0s,MS4.1							
WMQ				LR		LR		
	comp=E,199nm,22.9s,MS4.1							
WMQ				LR		LR		
	comp=Z,222nm,22.9s,MS4.0							
SCHQ	**Schefferville**	**42.15**	**3**	P		**P**	**18 19 07.2**	**+0.3**
	comp=Z,1.0nm,0.5s,mb3.7,baz=359,slow=10.0,SNR=10							
HHC	**Hu-ho-hao-te**	**42.57**	**186**	*e*P		**P**	**18 19 11.5**	**+0.9**
HHC				PP		PP	18 20 53.5	+1.4
HHC				S		**S**	**18 25 33.8**	**+0.8**
HHC				XS			18 25 41.5	
HHC				SS		SS	18 28 38.0	+1.3
HHC				AMB		AMB		
	comp=Z,12nm,0.4s,mb5.0							
HHC				AMB		AMB		
	comp=Z,98nm,4.5s							
GERES	**GERESS Array B**	**43.31**	**290**	P		**P**	**18 19 18.4**	**+1.9**
	comp=Z,0.5nm,0.8s,mb3.3,slow=8.0,SNR=4.1							
KIV	**Kislovodsk**	**44.75**	**261**	*e*P		**P**	**18 19 30.4**	**+2.2**
KIV				pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.2							
MLR	**Muntele Rosu**	**45.21**	**278**	P		**P**	**18 19 33.3**	**+1.4**
	comp=Z,0.6nm,0.4s,mb3.7,baz=316,slow=12,SNR=2.6							
ZEI	**Tsey**	**45.77**	**259**	*e*P		**P**	**18 19 32.5**	**-3.9**
ZEI				*i*			18 21 26.8	
ULM	**Lac du Bonnet**	**45.79**	**29**	P		**P**	**18 19 35.5**	**-1.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=342,slow=7.7,SNR=3.0							
BRTR	**Keskin Array B**	**49.99**	**269**	P		**P**	**18 20 10.7**	**+1.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=326,slow=3.1,SNR=5.4							
RSSD	**Black Hills**	**51.37**	**37**	*e*P		**P**	**18 20 19.8**	**0.0**
RSSD				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
RSSD	**Black Hills**	**51.37**	**37**	*e*P		**P**	**18 20 19.8**	**0.0**
	comp=Z,5.9nm,0.9s,mb4.5							
RSSD				*e*			18 20 29.4	
PDAR	**Pinedale Array**	**52.30**	**42**	P		**P**	**18 20 28.1**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=18,slow=4.7,SNR=4.6							
HWUT	**Hardware Ranch**	**53.29**	**44**	*e*P		**P**	**18 20 34.7**	**+0.5**
	comp=Z,6.6nm,1.2s,mb4.4							
ESDC	**Sonseca Array**	**54.23**	**305**	P		**P**	**18 20 41.3**	**+0.3**
	comp=Z,0.7nm,0.9s,mb3.6,baz=18,slow=4.1,SNR=3.3							
PV01	**Paradox Valley**	**56.98**	**42**	*e*P		**P**	**18 21 02.2**	**+1.1**
PV01				*e*			18 21 10.2	
SDCO	**Great Sand Dun**	**57.60**	**39**	*e*P		**P**	**18 21 06.0**	**+0.6**
	comp=Z,4.6nm,1.1s,mb4.4							
SDCO				*e*			18 21 14.6	
ANMO	**Albuquerque**	**60.31**	**40**	*e*P		**P**	**18 21 24.6**	**+0.3**
ANMO				*e*			18 21 32.5	
ANMO				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ANMO	**Albuquerque**	**60.31**	**40**	*e*P		**P**	**18 21 24.6**	**+0.4**
	comp=Z,1.1nm,0.8s,mb3.9							
ANMO				*e*			18 21 32.5	
WMOK	**Wichita Mounta**	**61.06**	**33**	*e*P		**P**	**18 21 29.0**	**-0.4**
WMOK				*e*			18 21 37.0	
WMOK				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.7							
WMOK	**Wichita Mounta**	**61.06**	**33**	*e*P		**P**	**18 21 29.0**	**-0.4**
	comp=Z,5.6nm,1.0s,mb4.7							
WMOK				*e*			18 21 37.0	
JCT	**Junction City**	**65.23**	**35**	*e*P		**P**	**18 21 56.1**	**-0.8**
JCT				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
JCT	**Junction City**	**65.23**	**35**	*e*P		**P**	**18 21 56.1**	**-0.8**
	comp=Z,10nm,0.8s,mb4.9							
TXAR	**Lajitas Array**	**66.10**	**38**	P		**P**	**18 22 02.4**	**0.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=0.8,slow=4.6,SNR=24							

NEIC ***27*** *18:26:53.9±0.3,5.54N×82.44W,h10km,mb4.8/40, ML4.5(CASC),Error ellipse: s-maj=8.5km s-min=4.8km az=60.0*
IDC ***27*** *18:26:53.2±0.6,5.53N×82.45W,mb4.3/14,mb1 4.5/16, mb1mx4.3/24,mbtmp4.4/16,ML4.1/2,MS4.1/11,Ms1 4.2/11, ms1mx3.8/21,Error ellipse: s-maj=22.0km s-min=13.0km az=65.0*
BJI ***27*** *18:26:53.8,5.50N×82.40W,h10km,mB5.2,Ms5.0,Msz4.7*
CASC ***27*** *18:26:54.7±1.6,5.51N×82.43W,h35km±999km,MD4.6, MW5.3,mb4.8(NEIC)*
ISC 27 18:26:53.7±1.4,5.65N±0.04×82.42W±0.03,h14km±8km, n147,σ1§03/123,mb4.7/43,MS4.4/13,8C-2D,South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTP1	**Petroterminal**	**2.54**	**360**	*e*P		**Pn**	**18 27 34.6**	**-0.6**
AZU	**Azuero**	**3.01**	**45**	*e*P		**Pn**	**18 27 41.5**	**-0.4**
AZU				*e*S		**Sn**	**18 28 16.9**	**-1.2**
AZU2	**Pedas**	**3.02**	**52**	*e*S		**Sn**	**18 28 17.8**	**-0.7**
ACR	**Cerro Adams**	**3.07**	**346**	*e*P		**Pn**	**18 27 42.0**	**-0.8**
ACR				*e*S		**Sn**	**18 28 19.3**	**-0.3**
ACR	**Cerro Adams**	**3.07**	**346**	*e*P		**Pn**	**18 27 41.6**	**-1.2**
BRU2	**Volcan**	**3.13**	**355**⇑*i*P			**Pn**	**18 27 43.7**	**+0.1**
CNI	**Changuinola**	**3.74**	**359**	*e*P		**Pn**	**18 27 53.0**	**+0.7**
BUS	**Buena Vista**	**4.10**	**341**	*e*P		**Pn**	**18 27 57.6**	**+0.2**
BUS	**Buena Vista**	**4.10**	**341**⇑*e*P			**Pn**	**18 27 57.8**	**+0.4**
BUS				*e*S		**Sn**	**18 28 47.6**	**+2.0**
LCR2	**La Lucha 2**	**4.36**	**339**	*e*P		**Pn**	**18 28 00.8**	**-0.3**
LCR2	**La Lucha 2**	**4.36**	**339**⇑*e*P			**Pn**	**18 28 00.9**	**-0.1**
UPA	**Univ. de Panam**	**4.37**	**41**	*e*P		**Pn**	**18 28 02.9**	**+1.6**
UPA				*e*S		**Sn**	**18 28 53.1**	**+0.5**
LAJ	**Bijagual**	**4.51**	**338**	*e*P		**Pn**	**18 28 02.7**	**-0.5**
LAJ	**Bijagual**	**4.51**	**338**⇓*e*P			**Pn**	**18 28 02.8**	**-0.5**
ICR	**Volcan Irazu**	**4.52**	**342**	*e*P		**Pn**	**18 28 04.0**	**+0.6**
ICR	**Volcan Irazu**	**4.52**	**342**⇑*e*P			**Pn**	**18 28 03.8**	**+0.4**
SJS	**Escuela Geolog**	**4.56**	**339**	*e*P		**Pn**	**18 28 03.3**	**-0.6**
SJS				*e*S		**Sn**	**18 28 56.6**	**-0.6**
SJS	**Escuela Geolog**	**4.56**	**339**⇓*i*P			**Pn**	**18 28 03.3**	**-0.6**
SJS				*e*S		**Sn**	**18 28 56.6**	**-0.6**
PRS1	**Puriscal**	**4.69**	**337**	*e*P		**Pn**	**18 28 04.1**	**-1.7**
PRS1	**Puriscal**	**4.69**	**337**⇑*e*P			**Pn**	**18 28 04.2**	**-1.6**
CGA2	**Cerro Gallo 2**	**4.79**	**335**	*e*P		**Pn**	**18 28 06.5**	**-0.6**
CGA2	**Cerro Gallo 2**	**4.79**	**335**	*e*P		**Pn**	**18 28 06.6**	**-0.5**
VPS2	**Volcan Poas 2**	**4.85**	**338**	*e*P		**Pn**	**18 28 08.4**	**+0.3**
VPS2	**Volcan Poas 2**	**4.85**	**338**	*e*P		**Pn**	**18 28 08.5**	**+0.4**
TRTC	**Tortuguero**	**5.06**	**345**	*e*P		**Pn**	**18 28 11.5**	**+0.5**
TRTC	**Tortuguero**	**5.06**	**345**⇑*e*P			**Pn**	**18 28 11.6**	**+0.6**
TRTC				*e*S		**Sn**	**18 29 10.1**	**+0.3**
JTS	**JuntasAbangare**	**5.25**	**332**	Pn		**Pn**	**18 28 11.5**	**-2.1**
	1μm,0.3s,SNR=64							
FORC	**Fortuna**	**5.28**	**335**	*e*P		**Pn**	**18 28 14.9**	**+0.8**
FORC	**Fortuna**	**5.28**	**335**⇑*e*P			**Pn**	**18 28 15.0**	**+0.9**
VCR	**Vista de Mar**	**5.47**	**325**	*e*P		**Pn**	**18 28 15.3**	**-1.4**
VCR	**Vista de Mar**	**5.47**	**325**	*e*P		**Pn**	**18 28 15.2**	**-1.5**
VCR				*e*S		**Sn**	**18 29 18.5**	**-1.6**
OTAV	**Otavalo**	**6.68**	**143**	*e*P		**Pn**	**18 28 28.7**	**-5.1**
	13nm,0.5s							
ROSC	**El Rosal**	**8.10**	**95**	Pn		**P**	**18 28 56.5**	**+2.9**
	0.9nm,0.3s,baz=74,slow=22,SNR=7.8							
ROSC				LR		LR	18 31 03.6	
	comp=Z,290nm,21.3s,baz=22,slow=31							
PAYG	**Puerto Ayora**	**10.06**	**232**	*e*P		**P**	**18 29 17.4**	**-3.6**
	22nm,1.6s							
SDV	**Santo Domingo**	**12.12**	**74**	Pn		**P**	**18 29 49.9**	**+0.9**
	1.0nm,0.3s,baz=255,slow=9.6,SNR=36							
SDV				Sn		**S**	**18 32 04.8**	**-0.2**
	2.4nm,0.3s,baz=78,slow=19,SNR=5.8							
SDV				LR		LR	18 34 33.0	
	comp=Z,1μm,18.8s,baz=55,slow=38							
SDV	**Santo Domingo**	**12.12**	**74**	*e*P		**P**	**18 29 48.5**	**-0.6**
	232nm,1.5s							
PCRV	**Puerto La Cruz**	**18.18**	**75**	P		**P**	**18 31 09.3**	**+1.7**
	0.7nm,0.3s,baz=252,slow=5.8,SNR=10.0							
SJG	**San Juan**	**20.14**	**51**	P		**P**	**18 31 31.6**	**+1.1**
	82nm,0.9s,baz=249,slow=5.8,SNR=20							
SJG				LR		LR	18 39 53.9	
	comp=Z,592nm,19.0s,MS4.0,baz=260,slow=39							
SJG	**San Juan**	**20.14**	**51**	*e*P		**P**	**18 31 30.1**	**-0.3**
	354nm,1.5s							
LPAZ	**La Paz**	**25.98**	**147**	P		**P**	**18 32 27.8**	**-0.2**
	5.3nm,0.9s,mb4.0,baz=347,slow=8.4,SNR=16							
LPAZ				LR		LR	18 43 47.1	
	comp=Z,2μm,20.2s,MS4.5,baz=315,slow=39							
LPAZ	**La Paz**	**25.98**	**147**	*e*P		**P**	**18 32 26.5**	**-1.5**
	20nm,1.2s,mb4.5							
LRAL	**Lakeview Retre**	**27.57**	**352**	*e*P		**P**	**18 32 41.8**	**-0.6**
	15nm,0.9s,mb4.6							
SWET	**Sewanee**	**29.60**	**354**	*e*P		**P**	**18 33 00.9**	**+0.2**
PLAL	**Pickwick Lake**	**29.65**	**351**	*e*P		**P**	**18 33 00.6**	**-0.6**
	9.5nm,1.1s,mb4.4							
WVT	**Waverly**	**30.74**	**351**	*e*P		**P**	**18 33 09.7**	**-1.0**
	15nm,1.1s,mb4.8							
TZTN	**Tazewell**	**30.76**	**358**	*e*P		**P**	**18 33 11.2**	**+0.3**
TXAR	**Lajitas Array**	**30.95**	**322**	P		**P**	**18 33 13.2**	**+0.5**
	0.6nm,0.8s,baz=153,slow=8.4,SNR=5.8							
GNAR	**Gosnell**	**30.96**	**348**	P		**P**	**18 33 12.0**	**-0.8**
LVC	**Limon Verde**	**31.05**	**155**	P		**P**	**18 33 12.7**	**-0.9**
	9.3nm,1.2s,mb4.5,baz=313,slow=6.8,SNR=3.8							
LVC	**Limon Verde**	**31.05**	**155**	*e*P		**P**	**18 33 10.1**	**-3.5**
	19nm,1.4s,mb4.7							
BLA	**Blacksburg**	**31.46**	**3**	P		**P**	**18 33 18.6**	**+1.5**
WCI	**Wyandotte Cave**	**32.62**	**354**	*e*P		**P**	**18 33 27.0**	**-0.2**
	21nm,1.1s,mb5.0							
WMOK	**Wichita Mounta**	**32.66**	**335**	*e*P		**P**	**18 33 26.5**	**-1.1**
	9.7nm,1.5s,mb4.5							
FVM	**French Village**	**33.00**	**348**	*e*P		**P**	**18 33 30.0**	**-0.5**
	29nm,1.3s,mb5.0							
CCM	**Cathedral Cave**	**33.24**	**347**	*e*P		**P**	**18 33 30.5**	**-2.1**
	37nm,1.0s,mb5.3							
GDL2	**Guadalupe Moun**	**33.44**	**325**	*e*P		**P**	**18 33 34.8**	**+0.4**
BLO	**Bloomington**	**33.57**	**354**	*e*P		**P**	**18 33 35.0**	**-0.5**
	9.0nm,0.6s,mb4.9							
SLM	**Saint Louis**	**33.59**	**349**	*e*P		**P**	**18 33 34.5**	**-1.2**
	26nm,0.8s,mb5.2							
MNTX	**Cornudas Mount**	**33.67**	**323**	*e*P		**P**	**18 33 35.8**	**-0.7**
	8.4nm,1.0s,mb4.6							
ACSO	**Alum Creek Sta**	**34.43**	**359**	*e*P		**P**	**18 33 43.4**	**+0.5**
	30nm,1.2s,mb5.1							
KSU1	**Kansas State U**	**35.69**	**341**	*e*P		**P**	**18 33 51.2**	**-2.5**
LAZ	**Ladron**	**36.63**	**325**	*e*P		**P**	**18 34 02.7**	**+1.1**
ANMO	**Albuquerque**	**36.64**	**326**	P		**P**	**18 34 03.9**	**+2.2**
	3.5nm,1.0s,mb4.1,baz=144,slow=12,SNR=14							
ANMO	**Albuquerque**	**36.64**	**326**	*e*P		**P**	**18 34 02.3**	**+0.5**
	22nm,1.5s,mb4.8							
SDCO	**Great Sand Dun**	**38.24**	**330**	*e*P		**P**	**18 34 14.6**	**-0.5**
	59nm,1.8s,mb5.0							
CFAA	**Coronel Fontan**	**39.44**	**161**	P		**P**	**18 34 24.2**	**-1.0**
	0.7nm,0.8s,baz=334,slow=6.2,SNR=13							
RW3	**Ridgway**	**39.74**	**328**	*e*P		**P**	**18 34 29.1**	**+1.5**
WUAZ	**Wupatki**	**39.92**	**322**	*e*P		**P**	**18 34 30.7**	**+1.6**
	16nm,1.0s,mb4.7							
BDFB	**Brasilia**	**40.10**	**122**	LR		LR	18 52 52.4	
	comp=Z,378nm,18.5s,MS4.3,baz=300,slow=39							
PV01	**Paradox Valley**	**40.13**	**327**	*e*P		**P**	**18 34 32.2**	**+1.4**
PV10	**Paradox Valley**	**40.55**	**327**	*e*P		**P**	**18 34 34.6**	**+0.3**
SRU	**San Rafael**	**41.89**	**327**	*e*P		**P**	**18 34 45.8**	**+0.4**
MSU	**Marysvale**	**42.40**	**325**	*e*P		**P**	**18 34 49.4**	**-0.1**
MVU	**Marysvale**	**42.41**	**325**	*e*P		**P**	**18 34 50.9**	**+1.3**
	6.9nm,1.2s,mb4.2							
RSSD	**Black Hills**	**42.76**	**337**	*e*P		**P**	**18 34 53.2**	**+0.8**
	24nm,1.4s,mb4.7							
EYMN	**Ely**	**42.85**	**351**	*e*P		**P**	**18 34 52.0**	**-1.0**
	14nm,1.2s,mb4.5							
DAU	**Daniels Canyon**	**43.21**	**327**	*e*P		**P**	**18 34 56.3**	**+0.2**
TCUT	**Toone Canyon**	**43.80**	**328**	*e*P		**P**	**18 35 02.1**	**+1.3**
BW06	**Boulder Array**	**44.08**	**331**	*e*P		**P**	**18 35 03.7**	**+0.6**
	20nm,1.5s,mb4.6							
PDAR	**Pinedale Array**	**44.08**	**331**	P		**P**	**18 35 04.2**	**+1.0**
	2.0nm,1.0s,mb3.8,baz=135,slow=10,SNR=17							
PDAR				PcP		PcP	18 36 48.8	-0.2
	1.1nm,0.9s,baz=162,slow=2.9,SNR=3.5							
PDAR				LR		LR	18 54 53.9	
	comp=Z,330nm,19.6s,MS4.3,baz=304,slow=38							
HWUT	**Hardware Ranch**	**44.23**	**328**	*e*P		**P**	**18 35 04.8**	**+0.5**
	19nm,1.1s,mb4.7							
BGU	**Big Grassy Mou**	**44.53**	**327**	*e*P		**P**	**18 35 07.6**	**+0.8**
AHID	**Auburn Hatcher**	**44.83**	**330**	*e*P		**P**	**18 35 10.1**	**+0.9**
	16nm,1.4s,mb4.7							
REDW	**Red Top Meadow**	**45.15**	**331**	*e*P		**P**	**18 35 12.4**	**+0.7**
	42nm,1.4s,mb5.1							
LOHW	**Long Hollow**	**45.22**	**331**	*e*P		**P**	**18 35 12.6**	**+0.3**
	15nm,1.4s,mb4.6							
TPAW	**Teton Pass**	**45.30**	**331**	*e*P		**P**	**18 35 13.9**	**+1.0**
	15nm,1.0s,mb4.8							
MOOW	**Moose Ponds**	**45.39**	**331**	*e*P		**P**	**18 35 13.9**	**+0.3**
	7.3nm,1.1s,mb4.4							
IMW	**Indian Meadow**	**45.59**	**331**	*e*P		**P**	**18 35 16.0**	**+0.7**
	6.1nm,0.9s,mb4.5							
ULM	**Lac du Bonnet**	**45.86**	**348**	P		**P**	**18 35 16.5**	**-0.7**
	7.6nm,1.0s,mb4.6,baz=158,slow=7.8,SNR=11							
ULM				PcP		PcP	18 36 54.3	-0.7
	1.7nm,0.8s,baz=135,slow=1.4,SNR=2.5							
ULM	**Lac du Bonnet**	**45.86**	**348**	*e*P		**P**	**18 35 15.4**	**-1.9**
	9.7nm,0.9s,mb4.7							
YFT	**Old Faithful**	**45.96**	**332**	*e*P		**P**	**18 35 18.7**	**+0.6**
MNV	**Mina**	**45.97**	**320**	*e*P		**P**	**18 35 19.6**	**+1.3**
	12nm,1.1s,mb4.7							
YMR	**Madison River**	**46.18**	**332**	*e*P		**P**	**18 35 20.1**	**+0.2**
QLMT	**Earthquake Lak**	**46.52**	**332**	*e*P		**P**	**18 35 23.9**	**+1.4**
BOZ	**Bozeman (W)**	**47.23**	**332**	*e*P		**P**	**18 35 28.8**	**+0.6**
	9.9nm,0.7s,mb4.8							
PLCA	**Paso Flores**	**47.43**	**168**	P		**P**	**18 35 27.9**	**-1.9**
	11nm,1.1s,mb4.7,baz=342,slow=10,SNR=9.2							
PLCA	**Paso Flores**	**47.43**	**168**	*e*P		**P**	**18 35 27.3**	**-2.5**
	18nm,1.2s,mb4.9							
HRY	**Holter Researc**	**48.12**	**333**	*e*P		**P**	**18 35 35.1**	**0.0**
WVOR	**Wild Horse Val**	**48.69**	**324**	*e*P		**P**	**18 35 39.8**	**+0.2**
	63nm,1.5s,mb5.4							
SCHQ	**Schefferville**	**50.62**	**12**	P		**P**	**18

comp=Z,2.1nm,1.1s,baz=100,slow=1.9,SNR=7.6
ENH Enshi 142.50 343 *e*PKP PKPdf 18 46 24.8 -5.7
KOLN Koldanda 144.13 21 *e*P PKPbc 18 46 34.5 +5.3
comp=Z,29nm,1.4s
GKN Gorkha 144.28 20 *e*P PKPbc 18 46 30.6 +1.0
comp=Z,22nm,1.0s
KKN Kakani 144.69 19 *e*P PKPbc 18 46 30.8 +0.1
comp=Z,32nm,0.9s
DMN Daman 144.81 19 *e*P PKPbc 18 46 32.5 +1.5
comp=Z,56nm,1.0s
KAKA Kakadu 144.91 256 *e*PKP PKPdf 18 46 37.5 +2.5
comp=Z,17nm,1.0s
PKI Pulchoki 144.94 19 *e*P PKPbc 18 46 32.8 +1.4
comp=Z,28nm,0.9s
JIRN Jiri 145.10 18 *e*P PKPbc 18 46 31.0 -0.8
comp=Z,61nm,1.1s
GYA Guiyang 146.89 345⇑*i*PKP PKPdf 18 46 38.5 +0.4
GYA PP PP
comp=Z,120nm,8.0s
GYA LR LR
comp=N,130nm,20.2s,MS4.8
GYA LR LR
comp=E,110nm,21.0s,MS4.8
GYA LR LR
comp=Z,140nm,20.5s,MS4.7
KMI Kunming 149.00 351 PKP PKPdf 18 46 36.3 -5.2
KMI SS SS 19 09 30.0 +5.2
KMI LR LR
comp=N,77nm,23.6s,MS4.7
KMI LR LR
comp=E,96nm,19.8s,MS4.5
KMI LR LR
comp=Z,104nm,24.6s,MS4.5
FITZ Fitzroy Crossi 149.94 243 *e*PKP PKPdf 18 46 46.9 +3.7
comp=Z,4.8nm,0.8s
FITZ Fitzroy Crossi 149.94 243 PKPbc PKPdf 18 46 47.4 +4.3
comp=Z,6.8nm,0.9s,baz=205,slow=2.6,SNR=3.8

IDC 27 19:01:47.8±3.3, 9.20S×113.36E, mb3.2/4, mb1 3.3/4, mb1mx3.3/14, mbtmp3.2/4, MS3.9/1, Ms1 3.9/1, ms1mx2.6/6, Error ellipse: s-maj=161.4km s-min=22.8km az=51.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.91**	**120**	P	P	19 06 52.3	-2.5
	0.2nm,0.7s,baz=297,slow=7.6,SNR=2.4						
ASAR	**Alice Springs**	**24.35**	**129**	P	P	19 07 09.0	+0.3
	0.2nm,0.6s,baz=306,slow=9.3,SNR=3.4						
CBIJ	**Chichi jima**	**45.64**	**37**	LR	LR	19 29 41.9	
	comp=Z,116nm,18.7s,baz=106,slow=37						
SONM	**Songino Array**	**57.12**	**354**	P	P	19 11 37.0	-1.6
	0.5nm,0.9s,baz=166,slow=8.1,SNR=3.4						
MKAR	**Makanchi Array**	**62.25**	**336**	P	P	19 12 10.7	-3.2
	0.4nm,0.4s,baz=153,slow=7.2,SNR=7.1						

IDC 27 19:18:06.7±1.4, 29.89S×77.10E, mb3.9/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.9/3, MS3.9/2, Ms1 3.9/2, ms1mx3.3/17, Error ellipse: s-maj=104.0km s-min=29.1km az=179.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**44.94**	**258**	P	P	19 26 23.6	-1.7
	2.6nm,1.1s,baz=122,slow=8.2,SNR=3.6						
FITZ	**Fitzroy Crossi**	**45.57**	**86**	LR	LR	19 44 28.1	
	comp=Z,30nm,18.7s,baz=88,slow=35						
ASAR	**Alice Springs**	**50.66**	**97**	P	P	19 27 07.8	-2.2
	0.6nm,0.8s,baz=249,slow=5.8,SNR=9.1						
WRA	**Warramunga Arr**	**52.39**	**93**	P	P	19 27 21.2	-1.9
	0.5nm,0.7s,baz=247,slow=7.6,SNR=7.1						
USHA	**Ushuaia**	**90.56**	**199**	LR	LR	20 08 18.6	
	comp=Z,233nm,18.4s,baz=8.8,slow=33						
YKA	**Yellowknife Ar**	**146.51**	**10**	PKPbc	PKPbc	19 37 48.3	-0.6
	0.1nm,0.7s,baz=340,slow=3.9,SNR=3.8						

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*NEIC **27** 20:15:46.8±5.9, 1.48N×99.59E, h177km±57km, mb3.9/4, Error ellipse: s-maj=17.8km s-min=8.9km az=59.0*
*IDC **27** 20:15:47.5±2.3, 1.45N×99.63E, h184km±20km, mb3.7/14, mb1 3.8/14, mb1mx3.7/21, mbtmp4.2/14, Error ellipse: s-maj=21.9km s-min=10.2km az=44.0*
ISC 27 20:15:47.7±3.9, 1.5N±0.1×99.6E±0.1, h201km±35km, n22, σ0§68/24, mb3.7/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**29.18**	**345**	*e*P	**P**	**20 21 32.3**	**-0.3**
	2.0nm,0.5s,mb4.0						
FITZ	**Fitzroy Crossi**	**32.17**	**128**	P	**P**	**20 21 58.3**	**-0.6**
	2.5nm,0.8s,mb3.8,baz=346,slow=7.2,SNR=3.3						
WRA	**Warramunga Arr**	**40.15**	**124**	P	**P**	**20 23 05.9**	**0.0**
	4.9nm,0.4s,mb4.2,baz=302,slow=9.1,SNR=94						
WRA				PcP	PcP	20 25 06.4	-0.2
	0.1nm,0.4s,baz=314,slow=2.7,SNR=5.3						
WRA				ScP		20 28 39.9	
	0.2nm,0.7s,baz=310,slow=3.2,SNR=4.7						
WRA				S	**S**	**20 28 56.5**	**-0.5**
	0.7nm,1.1s,baz=294,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**40.15**	**124**	P	**P**	**20 23 05.9**	**0.0**
WRA				PcP	PcP	20 25 06.4	-0.2
WRA				ScP		20 28 39.9	
WRA				S	**S**	**20 28 56.5**	**-0.5**
WRAB	**Tennant Creek**	**40.16**	**124**	*e*P	**P**	**20 23 06.3**	**+0.4**
ASAR	**Alice Springs**	**41.66**	**129**	P	**P**	**20 23 17.8**	**-0.5**
	0.6nm,0.6s,mb3.2,baz=299,slow=7.2,SNR=14						
ASAR				ScP		20 28 45.4	
	0.4nm,0.7s,baz=315,slow=4.4,SNR=6.0						
GUMO	**Guam**	**46.32**	**73**	P	**P**	**20 23 56.3**	**+0.8**
	93nm,0.7s,baz=30,slow=20,SNR=2.9						
SONM	**Songino Array**	**46.52**	**6**	P	**P**	**20 23 57.3**	**+0.7**
	1.5nm,0.4s,mb3.7,baz=192,slow=9.4,SNR=40						
SONM				PcP	PcP	20 25 28.3	+0.3
	0.8nm,0.5s,baz=192,slow=4.0,SNR=10						
MKAR	**Makanchi Array**	**47.58**	**344**	P	**P**	**20 24 05.1**	**+0.2**
	3.0nm,0.4s,mb4.0,baz=156,slow=8.9,SNR=86						
MKAR				PcP	PcP	20 25 32.4	+0.6
	0.3nm,0.6s,baz=146,slow=4.0,SNR=2.7						
KURK	**Kurchatov**	**52.17**	**343**	*e*P	**P**	**20 24 39.0**	**-0.5**
	1.3nm,0.6s,mb3.5						
BVAR	**Borovoye Array**	**56.79**	**339**	P	**P**	**20 25 11.9**	**-1.1**
	1.1nm,0.5s,mb3.7,baz=138,slow=9.2,SNR=9.1						
CHKZ	**Chkalovo**	**57.25**	**340**	*e*P	**P**	**20 25 15.2**	**-1.0**
	1.9nm,0.6s,mb3.9						
KMBO	**Kilima Mbogo**	**62.43**	**268**	P	**P**	**20 25 51.1**	**-0.9**
	0.7nm,0.5s,mb3.6,baz=24,slow=10.0,SNR=3.3						
BRTR	**Keskin Array B**	**70.72**	**312**	P	**P**	**20 26 43.0**	**-0.8**
	1.1nm,0.8s,mb3.5,baz=120,slow=6.8,SNR=7.0						
MATP	**Matopo**	**72.90**	**248**	P	**P**	**20 26 58.4**	**+1.2**
	1.2nm,0.5s,mb3.8,baz=70,slow=6.9,SNR=4.6						
MLR	**Muntele Rosu**	**77.53**	**316**	P	**P**	**20 27 23.9**	**+1.1**
	0.8nm,0.7s,mb3.5,baz=146,slow=15						
MLR	**Muntele Rosu**	**77.53**	**316**	P	**P**	**20 27 23.9**	**+1.1**
FINES	**FINESS Array B**	**80.86**	**332**	P	**P**	**20 27 40.6**	**+0.2**
	1.0nm,0.4s,mb3.8,baz=107,slow=5.7,SNR=28						
KAF	**Kangasniemi**	**80.92**	**333**	*e*p	**P**	**20 27 40.9**	**+0.2**
	0.7nm,0.4s,mb3.6,baz=98,slow=4.9						
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**20 27 52.2**	**+0.5**
	3.4nm,0.9s,mb4.1,baz=100,slow=4.4,SNR=14						
ARCES	**ARCESS Array B**	**83.08**	**340**	P	**P**	**20 27 52.2**	**+0.5**
GERES	**GERESS Array B**	**86.19**	**319**	P	**P**	**20 28 08.1**	**+0.6**
	0.3nm,0.7s,mb3.2,baz=90,slow=5.3,SNR=4.5						

IDC 27 21:14:44.4±8.3, 7.54S×117.99E, h257km±86km, mb2.5/3, mb1 2.8/4, mb1mx2.7/15, mbtmp3.3/4, Error ellipse: s-maj=155.9km s-min=30.0km az=60.0, Bali Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.87**	**145**	P	P	21 17 39.1	-0.6
	0.3nm,0.3s,baz=348,slow=13,SNR=5.4						
FITZ				S	S	21 20 01.0	+2.8
	0.2nm,0.3s,baz=179,slow=17,SNR=4.4						
WRA	**Warramunga Arr**	**20.08**	**130**	P	P	21 18 58.8	-0.9
	0.1nm,0.3s,baz=302,slow=12,SNR=6.7						
ASAR	**Alice Springs**	**22.14**	**136**	P	P	21 19 19.4	-0.4
	0.3nm,0.3s,baz=312,slow=9.6,SNR=9.6						
SONM	**Songino Array**	**56.08**	**351**	P	P	21 23 57.0	-1.9
	0.3nm,0.5s,baz=175,slow=7.1,SNR=4.8						

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*IDC **27** 21:26:57.0±0.7, 12.90N×91.74E, mb4.1/14, mb1 4.3/14, mb1mx4.2/21, mbtmp4.1/14, MS3.4/2, Ms1 3.5/2,*

ms1mx2.6/29, Error ellipse: s-maj=30.8km s-min=14.5km az=51.0
*NEIC **27** 21:27:00.9±0.5, 13.03N×91.75E, mb4.3/14, Error ellipse: s-maj=15.7km s-min=9.2km az=55.0*
*BJI **27** 21:27:00.0, 12.54N×91.91E, h41km, mB4.8, mb4.2, Ms3.8, Ms3.7*
ISC 27 21:26:59.5±0.4, 12.92N±0.06×91.77E±0.06, h30km, h30km±1.5km: pP-P, n51, σ§14/53, mb4.2/25, MS3.4/4, 5C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**8.83**	**51**	P	**P**	**21 29 08.5**	**+0.3**
VIS	**Vishakhapatnam**	**9.44**	**301**	*e*P	**P**	**21 29 19.1**	**+2.4**
VIS				*e*S	**Sn**	**21 30 51.0**	**-12**
PKI	**Pulchoki**	**15.74**	**339**	*e*P	**P**	**21 30 38.4**	**-2.6**
	27nm,0.8s						
DMN	**Daman**	**15.89**	**338**	*e*P	**P**	**21 30 40.5**	**-2.3**
	31nm,0.8s						
KMI	**Kunming**	**15.95**	**39**	P	**P**	**21 30 49.0**	**+5.4**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.6s						
KMI				LR	LR		
	comp=N,68nm,17.3s						
KMI				LR	LR		
	comp=E,79nm,17.3s						
KMI				LR	LR		
	comp=Z,74nm,13.3s						
KKN	**Kakani**	**15.99**	**339**	*e*P	**P**	**21 30 41.1**	**-3.0**
	comp=Z,4.3nm,0.3s						
GKN	**Gorkha**	**16.42**	**337**	*e*P	**P**	**21 30 46.0**	**-3.5**
	comp=Z,14nm,0.3s						
KOLN	**Koldanda**	**16.63**	**334**	*e*P	**P**	**21 30 49.0**	**-3.2**
	comp=Z,28nm,0.7s						
LSA	**Lhasa**	**16.70**	**358**	P	**P**	**21 30 57.8**	**+4.6**
LSA	**Lhasa**	**16.70**	**358**	*e*P	**P**	**21 30 56.6**	**+3.4**
	comp=Z,16nm,1.1s						
GYA	**Guiyang**	**19.41**	**44**⇑	*i*P	**P**	**21 31 31.5**	**+5.2**
GYA				AP		21 31 39.5	
GYA				XP		21 31 43.8	
GYA				S	**S**	**21 34 59.0**	**+0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GYA				LR	LR		
	comp=N,210nm,15.4s						
GYA				LR	LR		
	comp=E,130nm,15.2s						
GYA				LR	LR		
	comp=Z,230nm,15.0s						
CD2	**Chengdu**	**21.04**	**30**	*e*P	**P**	**21 31 44.5**	**+1.1**
ENH	**Enshi**	**23.80**	**41**	*e*P	**P**	**21 32 10.7**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.2						
LZH	**Lanzhou**	**25.50**	**23**	*e*P	**P**	**21 32 29.0**	**+2.0**
LZH				AP	pP	21 32 38.5	+2.9
LZH				XP	sP	21 32 42.0	+2.5
LZH				PP	PP	21 33 09.3	+2.8
LZH				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.3						
LZH				AMB	AMB		
	comp=Z,613nm,4.3s						
XAN	**Xi'an**	**26.18**	**34**	P	**P**	**21 32 31.5**	**-1.8**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
GTA	**Gaotai**	**27.32**	**14**	*e*P	**P**	**21 32 45.0**	**+1.2**
GTA				AP	pP	21 32 55.5	+3.1
GTA				XP	sP	21 32 59.8	+3.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.0						
WMQ	**Urumqi**	**30.99**	**354**	*e*P	**P**	**21 33 21.5**	**+5.0**
WMQ				AP	pP	21 33 31.0	+5.8
WMQ				XP	sP	21 33 35.0	+5.9
WMQ				*e*S	**S**	**21 38 23.0**	**+4.8**
WMQ				XS		21 38 40.0	
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,136nm,3.9s						
WMQ				LR	LR		
	comp=N,136nm,18.8s,MS3.7						
WMQ				LR	LR		
	comp=E,68nm,16.5s,MS3.7						
WMQ				LR	LR		
	comp=Z,73nm,20.2s,MS3.3						
HHC	**Hu-ho-hao-te**	**32.78**	**28**	*e*P	**P**	**21 33 38.0**	**+5.7**
AAK	**Ala-Archa**	**33.17**	**336**	*e*P	**P**	**21 33 35.4**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**34.70**	**349**	P	**P**	**21 33 49.1**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.3,baz=173,slow=9.8,SNR=25						
JOW	**Kunigami**	**36.86**	**62**	LR	LR	21 50 18.5	
	comp=Z,31nm,18.4s,MS3.1,baz=278,slow=38						
SONM	**Songino Array**	**36.88**	**16**	P	**P**	**21 34 08.2**	**+1.0**
	comp=Z,3.0nm,0.9s,mb4.1,baz=200,slow=6.1,SNR=25						
SONM				PcP	PcP	21 36 29.5	+0.5
	comp=Z,0.7nm,1.0s,baz=198,slow=3.9,SNR=3.9						
KURK	**Kurchatov**	**39.19**	**347**	*e*P	**P**	**21 34 27.0**	**+0.5**
	comp=Z,9.6nm,1.4s,mb4.3						
KURK				*e*pP	pP	21 34 35.2	-0.2
CN2	**Changchun**	**42.20**	**37**	*e*P	**P**	**21 34 52.3**	**+0.8**
BVAR	**Borovoye Array**	**43.49**	**341**	P	**P**	**21 35 01.9**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.7,baz=153,slow=6.6,SNR=6.7						
BVAR				PcP	PcP	21 36 50.0	-0.1
	comp=Z,0.2nm,0.3s,baz=108,slow=4.6,SNR=3.2						
CHKZ	**Chkalovo**	**43.98**	**342**	*e*P	**P**	**21 35 05.9**	**+0.1**
	comp=Z,5.1nm,0.9s,mb4.2						
MDJ	**Mudanjiang**	**45.12**	**38**	P	**P**	**21 35 14.0**	**-1.1**
MDJ				AP	pP	21 35 22.8	-1.1
MDJ				PCP	PcP	21 36 54.3	-1.4
MDJ				PP	PP	21 36 59.8	-1.5
MDJ				SCP		21 40 44.5	
MDJ				PCS		21 40 47.8	
MDJ				S	**S**	**21 41 51.5**	**-0.3**
MDJ				SCS	ScS	21 45 08.0	+0.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,73nm,6.1s						
MDJ				LR	LR		
	comp=N,23nm,21.2s,MS3.1						
MDJ				LR	LR		
	comp=E,9.0nm,17.5s,MS3.1						
FITZ	**Fitzroy Crossi**	**45.46**	**132**⇓	*i*P	**P**	**21 35 17.4**	**-0.7**
	comp=E,5.7nm,0.9s,mb4.4						
FITZ				*e*	pP	21 35 24.9	-2.1
FITZ	**Fitzroy Crossi**	**45.46**	**132**	P	**P**	**21 35 17.7**	**-0.4**
	comp=E,12nm,0.7s,mb4.8,baz=322,slow=3.9,SNR=7.3						
KIV	**Kislovodsk**	**52.06**	**316**	*e*P	**P**	**21 36 08.7**	**-0.1**
	comp=E,6.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**53.11**	**127**	P	**P**	**21 36 16.5**	**-0.5**
	comp=E,0.9nm,0.6s,mb3.9,baz=300,slow=10,SNR=23						
WRAB	**Tennant Creek**	**53.12**	**127**	*e*P	**P**	**21 36 16.2**	**-0.9**
	comp=E,6.3nm,0.8s,mb4.6						
WB2	**Warramunga Ar**	**53.12**	**127**	*e*P	**P**	**21 36 16.1**	**-1.0**
WB2				*i*	pP	21 36 23.8	-2.3
ASAR	**Alice Springs**	**54.95**	**131**	P	**P**	**21 36 30.2**	**-0.2**
	comp=E,1.1nm,0.6s,mb4.1,baz=309,slow=6.7,SNR=24						
BRTR	**Keskin Array B**	**57.42**	**309**	P	**P**	**21 36 47.2**	**-0.8**
	comp=E,2.4nm,0.7s,mb4.3,baz=119,slow=7.5,SNR=18						
HARR	**Harsova**	**62.46**	**314**	⇑P	**P**	**21 37 21.5**	**-1.0**
AKASG	**Malin Array Be**	**62.79**	**321**	P	**P**	**21 37 23.4**	**-1.1**
	comp=E,1.2nm,0.7s,mb4.2,baz=88,slow=5.5,SNR=7.3						
VRI	**Vrincioaia**	**63.49**	**315**	⇑P	**P**	**21 37 30.2**	**+1.0**
MLR	**Muntele Rosu**	**63.98**	**314**	P	**P**	**21 37 33.5**	**+1.1**
	comp=E,7.1nm,0.8s,mb4.8,baz=89,slow=2.5						
MLR	**Muntele Rosu**	**63.98**	**314**	⇑P	**P**	**21 37 33.4**	**+1.0**
BURAR	**Bucovina Array**	**64.78**	**317**	⇑P	**P**	**21 37 38.1**	**+0.5**
FINES	**FINESS Array B**	**67.19**	**332**	P	**P**	**21 37 52.5**	**-0.3**
	comp=E,1.3nm,0.6s,mb4.1,baz=108,slow=6.0,SNR=10						
ARCES	**ARCESS Array B**	**69.76**	**340**	LR	LR	22 10 46.4	
	comp=E,49nm,18.5s,MS3.8,baz=17,slow=38						
GERES	**GERESS Array B**	**72.55**	**317**	P	**P**	**21 38 26.2**	**+0.5**
	comp=E,1.5nm,0.8s,mb4.0,baz=76,slow=5.5,SNR=15						
NB2	**NORSAR Subarra**	**74.22**	**330**	P	**P**	**21 38 34.7**	**-0.5**
	comp=E,1.9nm,0.9s,mb4.0,baz=91,slow=5.8						
NOA	**NORSAR Array B**	**74.22**	**330**	P	**P**	**21 38 34.9**	**-0.2**
	comp=E,1.1nm,0.8s,mb3.9,baz=91,slow=5.7,SNR=6.0						
NOA	**NORSAR Array B**	**74.22**	**330**	P	**P**	**21 38 34.9**	**-0.3**
LBTB	**Lobatse**	**74.70**	**239**	*e*P	**P**	**21 38 40.0**	**+1.3**
DAVOX	**Davos**	**75.17**	**315**	P	**P**	**21 38 41.2**	**+0.2**
	comp=E,0.8nm,0.6s,mb3.8,baz=160,slow=12,SNR=2.7						
BOSA	**Boshof**	**76.37**	**236**	P	**P**	**21 38 49.7**	**+1.5**
	comp=E,2.3nm,1.0s,mb4.1,baz=100,slow=6.1,SNR=3.8						
BOSA	**Boshof**	**76.37**	**236**	P	**P**	**21 38 49.7**	**+1.5**

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*ISK **27** 21:36:34.5, 37.74N×43.89E, h5km, MD3.8, ML3.8*

*CSEM **27** 21:36:36.5±0.3, 37.79N×43.85E, h8km, MD3.8, Error ellipse: s-maj=6.3km s-min=2.5km az=92.0*
ISC 27 21:36:35.6±1.4, 37.74N±0.05×44.0E±0.1, h5km, n23, σ0§82/23, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HKR	**Hakkari**	**0.23**	**226**	*i* PG	**Pg**	**21 36 38.8**	**-1.5**
VANT	**Van**	**0.83**	**328**	*i* PG	**Pg**	**21 36 52.5**	**+0.3**
TVAN	**Van**	**0.90**	**332**	*i* P	**Pb**	**21 36 52.9**	**-0.4**
TVAN				*i* S	**Sb**	**21 37 10.4**	**+5.1**
VANB	**Van**	**0.96**	**333**	*i* PG	**Pg**	**21 36 52.9**	**-1.9**
VANB				*i* SG	**Sg**	**21 37 07.5**	**-0.2**
CLDR	**Caldiran**	**1.40**	**359**	PN	**Pn**	**21 37 02.4**	**+0.5**
MSL	**Mosul**	**1.60**	**206**	*i* Pn	Px	21 37 03.5	
MSL				*i* Pg	Px	21 37 05.0	
MSL				*i* Sb	Sx	21 37 23.5	
MSL				*i* Sg	Sx	21 37 24.5	
BTMT	**Batman**	**2.00**	**284**	PN	**Pn**	**21 37 11.8**	**+1.4**
BEST	**Besiri**	**2.13**	**275**	*i* P	**Pn**	**21 37 13.0**	**+0.8**
BEST				*i* S	**Sn**	**21 37 43.8**	**+4.5**
VRT	**Varto**	**2.35**	**307**	PN	**Pn**	**21 37 15.6**	**+0.1**
GNI	**Garni**	**2.48**	**14**	PN	**Pn**	**21 37 17.8**	**+0.4**
BINT	**Bingol**	**2.95**	**294**	PN	**Pn**	**21 37 23.8**	**-0.2**
DIY	**Diyarbakir**	**2.95**	**274**	PN	**Pn**	**21 37 23.5**	**-0.6**
ERZM	**Erzurum**	**2.96**	**318**	*i* P	**Pn**	**21 37 31.0**	**+6.8**
EZM	**Erzurum**	**2.96**	**318**	PN	**Pn**	**21 37 24.1**	**-0.1**
PTK	**Pertek**	**3.76**	**289**	*e*PN	**Pn**	**21 37 35.8**	**+0.2**
ELZG	**Elazig**	**3.99**	**282**	*i* P	**Pn**	**21 37 38.3**	**-0.4**
ELZG				*i* S	Sx	21 38 47.0	
URFA	**Urfa**	**4.08**	**267**	*e*PN	**Pn**	**21 37 39.6**	**-0.5**
MALT	**Malatya**	**4.40**	**279**	*e*PN	**Pn**	**21 37 44.5**	**-0.1**
MYA	**Malatya**	**4.40**	**279**	*e*PN	**Pn**	**21 37 44.8**	**+0.2**
BHD	**Baghdad**	**4.47**	**175**	*e*Pn	Px	21 37 55.0	
BHD				*e*Sn	Sx	21 39 03.0	
BHD				*e*Sb	Sx	21 39 25.5	
BHD				*e*Sg	Sx	21 39 44.5	
GZT	**Gaziantep**	**5.09**	**268**	*i* P	Px	21 38 08.3	
GZT				*i* S	Sx	21 39 18.5	
GAZ	**Gaziantep**	**5.39**	**266**	*e*PN	**Pn**	**21 37 58.7**	**+0.1**
KAHT	**Ahir Dag**	**5.61**	**271**	*i* P	**Pn**	**21 38 03.9**	**+2.1**
KAHT				*i* S	Sx	21 38 40.2	

IDC 27 21:42:17.4±1.4, 3.63N×128.62E, mb3.8/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=92.7km s-min=17.7km az=70.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**21.80**	**188**	P	P	21 47 10.8	-2.3
	3.8nm,0.9s,baz=360,slow=9.1,SNR=5.7						
WRA	**Warramunga Arr**	**24.09**	**167**	P	P	21 47 34.9	-0.8
	0.4nm,0.3s,baz=347,slow=11,SNR=17						
ASAR	**Alice Springs**	**27.62**	**170**	P	P	21 48 07.2	-1.5
	0.2nm,0.4s,slow=8.1,SNR=5.6						
STKA	**Stephens Creek**	**37.41**	**162**	P	P	21 49 32.2	-1.9
	1.9nm,0.9s,baz=318,slow=11,SNR=8.2						
MKAR	**Makanchi Array**	**58.72**	**324**	P	P	21 52 17.1	-2.2
	0.6nm,0.4s,baz=111,slow=8.1,SNR=43						
BVAR	**Borovoye Array**	**68.44**	**326**	P	P	21 53 20.9	-2.3
	0.7nm,0.5s,baz=96,slow=5.5,SNR=6.9						

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*IDC **27** 21:56:26.8±6.3, 30.96N×141.36E, mb3.3/4, mb1 3.5/5, mb1mx3.3/18, mbtmp3.4/5, ML2.6/1, Error ellipse: s-maj=243.8km s-min=19.7km az=69.0*
*JMA **27** 21:56:30.1±0.5, 31.69N×142.73E, h78km, M3.4*
ISC 27 21:56:27.5±1.2, 31.2N±0.1×142.0E±0.3, h33km, n10, σ0§80/13, mb3.4/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.67**	**317**	Pn	**Pn**	**21 57 08.2**	**-1.1**
	2.8nm,0.3s,baz=51,slow=11,SNR=8.4						
JHJ				Sn	**Sn**	**21 57 41.3**	**+0.4**
	7.7nm,0.3s,baz=242,slow=20,SNR=4.0						
JOD2	**Odawara 2**	**4.73**	**330**	P	**P**	**21 57 40.6**	**+2.3**
JRY	**Ryogami san**	**5.46**	**333**	P	**P**	**21 57 48.8**	**+0.3**
JRY				*e*S	**S**	**21 58 51.0**	**0.0**
JHO	**Hitachi**	**5.54**	**348**	*e*S	**S**	**21 58 47.8**	**-5.3**
JAG	**Ashikaga**	**5.63**	**339**	P	**P**	**21 57 50.4**	**-0.6**
MAT	**Matsushiro**	**6.19**	**331**	P	**P**	**21 57 58.9**	**0.0**
MAT				*e*S	**S**	**21 59 08.4**	**-1.0**
SONM	**Songino Array**	**31.74**	**312**	P	**P**	**22 02 51.1**	**+0.6**
	0.6nm,0.8s,mb3.5,baz=119,slow=8.8,SNR=6.1						
MKAR	**Makanchi Array**	**47.80**	**307**	P	**P**	**22 05 03.9**	**+0.4**
	0.2nm,0.5s,mb3.4,baz=91,slow=8.7,SNR=3.1						
WRA	**Warramunga Arr**	**51.35**	**189**	P	**P**	**22 05 30.7**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=6.2,slow=7.6,SNR=7.4						
ASAR	**Alice Springs**	**55.08**	**189**	P	**P**	**22 05 58.4**	**-0.3**
	0.2nm,0.5s,mb3.4,baz=359,slow=5.4,SNR=6.2						

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*NEIC **27** 22:06:45.3, 36.19N×17.62W, h9km, MG4.3(MDD), After MDD.*
MDD 27 22:06:45.4±3.9, 36.22N×17.54W, mb4.4/7, Error ellipse: s-maj=35.0km s-min=33.8km az=47.0, PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOU	**Loures**	**7.17**	**66**	*e*Sn	Sn	22 09 48.5	-8.8
	6.4nm,0.3s						
PTEO	**Sao Teotonio**	**7.19**	**77**	*e*Sn	Sn	22 09 49.5	-8.1
	7.3nm,0.6s						
PBEJ	**Beja

TYV					A			22 09 25.3	
	416nm,0.5s								
TYV					A			22 09 25.3	
	784nm,0.5s								
OKH	**Okha**	**1.53**	**6**	*e*Pg		Pg		22 09 15.8	+1.2
OKH				AMB		AMB		22 09 18.4	
	300nm,0.3s								
OKH				sP				22 09 22.0	
OKH				*e*Sb		Sb		22 09 31.4	-0.1
OKH				*e*Sg		Sg		22 09 37.0	+2.0
OKH				A				22 09 41.0	
	200nm,0.5s								
OKH				A				22 09 41.0	
	400nm,0.5s								
NKL	**Nikolayevsk**	**1.65**	**314**⇑	*i*Pg		Pg		22 09 16.2	-0.8
NKL				AMB		AMB		22 09 18.0	
	80nm,0.5s								
NKL				pP				22 09 19.0	
NKL				sP				22 09 21.0	
NKL				*e*Sg		Sg		22 09 39.6	+0.5
NKL				A				22 09 42.0	
	500nm,2.0s								
NKL				A				22 09 42.0	
	300nm,2.0s								
NKL				A				22 09 42.0	
	270nm,0.5s								
UGL	**Uglegorsk**	**2.98**	**188**	*e*rx		rx		22 09 51.6	
UGL				*e*rx		rx		22 09 55.5	
UGL				*i* Sg		Sg		22 10 24.0	+0.7
UGL				A				22 10 26.0	
	260nm,0.3s								
UGL				A				22 10 26.0	
	150nm,0.3s								
GRNR	**Gornyy**	**4.11**	**255**	*e*Pb		Pb		22 09 54.2	-2.1
GRNR				*e*Pg		Pg		22 10 05.2	-0.9
GRNR				AMB		AMB		22 10 07.4	
	42nm,1.0s								
GRNR				*e*Sb		Sb		22 10 43.8	-2.6
GRNR				*e*Sg		Sg		22 11 01.2	+0.3
GRNR				A				22 11 04.0	
	57nm,0.4s								
GRNR				A				22 11 04.0	
	38nm,0.4s								
EKMR	**Ekimchan**	**6.02**	**284**	*e*Pn		Pn		22 10 17.5	+2.0
EKMR				*e*Pb		Pb		22 10 29.4	+0.4
EKMR				*e*Pg		Pg		22 10 43.0	-1.2
EKMR				AMB		AMB		22 10 45.5	
	4.0nm,0.5s								
EKMR				*e*Sn		Sn		22 11 23.0	-2.4
EKMR				*e*Sb		Sb		22 11 36.3	-5.6
EKMR				*e*Sg		Sg		22 12 06.2	+1.7
EKMR				A				22 12 11.0	
	43nm,0.7s								
EKMR				A				22 12 11.0	
	24nm,0.7s								
EKMR				A				22 12 11.0	
	19nm,0.7s								
KLR	**Kul'dur**	**7.49**	**252**	*e*rx		rx		22 11 50.5	
KLR				*e*rx		rx		22 12 46.8	
TEY	**Ternei**	**8.07**	**212**	*e*rx		rx		22 13 07.0	
BMKR	**Bomnak**	**8.69**	**293**	*e*P		P		22 10 55.0	+2.1
BMKR				*e*S		Sn		22 12 36.0	+3.9
YASR	**Yasnyy**	**9.02**	**284**	*e*P		P		22 10 59.4	+2.0
YASR				*e*rx		rx		22 11 36.8	
YASR				*e*S		Sn		22 12 41.0	+0.8
ZEA	**Zeya**	**9.48**	**286**	*e*rx		rx		22 13 05.4	
ZEA				*e*rx		rx		22 13 50.9	
KROS	**Kirovskiy**	**9.72**	**291**	*e*P		P		22 11 08.5	+1.6
KROS				*e*S		Sn		22 13 04.0	+6.7

NEIC 27 22:39:00.3±2.9, 40.47N×125.91W, h10km, mb3.3/2, Error ellipse: s-maj=36.0km s-min=10.9km az=69.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHMM	**Horse Mountain**	**1.70**	**76**	*e*P	Pn	22 39 27.4	-3.0
WDC	**Whiskeytown Da**	**2.57**	**86**	*e*P	Pn	22 39 40.7	-2.1
KEBM	**Edson Butte**	**2.67**	**26**	*e*P	Pn	22 39 41.6	-2.7
YBH	**Yreka Blue Hor**	**2.73**	**61**	*e*P	Pn	22 39 44.0	-1.0
HUMO	**Hull Mountain**	**3.08**	**45**	*e*P	Pn	22 39 48.0	-2.0
BUOR	**Burton Butte**	**3.29**	**56**	P	Pn	22 39 53.5	+0.4
BBOR	**Butler Butte**	**3.42**	**44**	P	Pn	22 39 54.1	-0.8
LBCM	**Butte Creek Ri**	**3.49**	**82**	P	Pn	22 39 55.5	-0.3
SAC	**San Andreas**	**3.96**	**136**	*e*P	Pn	22 39 58.3	-4.3
HBO	**Huckleberry Mo**	**4.30**	**37**	P	Pn	22 40 06.3	-1.0
IRO	**Indian Ridge**	**4.45**	**36**	P	Pn	22 40 08.2	-1.3
BROR	**Big Rock Looko**	**4.58**	**33**	P	Pn	22 40 09.8	-1.5
FRIS	**Frissel Point**	**4.68**	**36**	P	Pn	22 40 11.6	-1.3
CMB	**Columbia Colle**	**4.93**	**118**	*e*P	Pn	22 40 14.7	-1.5
VIPM	**Ingram Point**	**5.62**	**42**	P	Pn	22 40 24.9	-1.2
CROR	**Criterion Ridg**	**5.78**	**37**	P	Pn	22 40 26.4	-1.9
JBO	**Jordan Butte**	**6.69**	**40**	P	Pn	22 40 39.8	-1.3
BMO	**Blue Mountains**	**7.70**	**53**	*e*P	Pn	22 40 53.3	-2.0
SDCO	**Great Sand Dun**	**16.07**	**93**	P	P	22 42 47.9	0.0
	1.9nm,1.0s						
FFC	**Flin Flon**	**21.39**	**40**	*e*P	P	22 43 47.3	-2.7
	1.2nm,0.6s						
WMOK	**Wichita Mounta**	**22.19**	**96**	P	P	22 43 57.2	-1.1
FCC	**Fort Churchill**	**27.18**	**37**	P	P	22 44 43.5	-2.1

STR 27 22:57:25.9±0.2, 42.61N×0.83E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0
NEIC 27 22:57:25.8, 42.58N×0.82E, h7km, ML2.5(LDG), ML2.2(STR), MN2.0(MDD), After LDG.
LDG 27 22:57:25.8±0.1, 42.58N×0.82E, h7km, Md2.6/1, Ml2.5/8, Error ellipse: s-maj=2.3km s-min=0.9km az=176.0
MDD 27 22:57:26.2±0.2, 42.60N×0.82E, h9km±3km, mbLg1.9/17, Error ellipse: s-maj=1.9km s-min=1.2km az=19.0, PRXIMO
CSEM 27 22:57:26.3±0.1, 42.61N×0.83E, h10km, ML2.6/8, Error ellipse: s-maj=1.2km s-min=0.8km az=171.0
ISC 27 22:57:24.6±0.3, 42.63N±0.02×0.83E±0.02, h9km, n50, σ1§17/73, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.25**	**348**	Pg	**Pg**	**22 57 31.8**	**+1.9**
MELF				Sg	**Sg**	**22 57 35.6**	**+2.2**
MELF	**Melles**	**0.25**	**348**	Pg	**Pg**	**22 57 31.9**	**+2.0**
MELF				Lg		22 57 35.7	
SALF	**Salau**	**0.29**	**63**	Pg	**Pg**	**22 57 32.3**	**+1.6**
SALF				Sg	**Sg**	**22 57 36.2**	**+1.4**
SALF	**Salau**	**0.29**	**63**	Pg	**Pg**	**22 57 32.4**	**+1.7**
SALF				Lg		22 57 36.3	
CSOR	**Sort**	**0.34**	**139**	Pg	**Pg**	**22 57 32.4**	**+0.8**
CSOR				Lg		22 57 37.0	
	24nm,0.1s						
MLS	**Moulis**	**0.38**	**30**	Pg	**Pg**	**22 57 34.0**	**+1.6**
MLS				Sg	**Sg**	**22 57 39.2**	**+1.6**
MLS	**Moulis**	**0.38**	**30**	Pg	**Pg**	**22 57 34.1**	**+1.7**
MLS				Lg		22 57 38.8	
RESF	**Ens**	**0.41**	**296**	Pg	**Pg**	**22 57 34.2**	**+1.3**
RESF				Sg	**Sg**	**22 57 39.8**	**+1.4**
RESF	**Ens**	**0.41**	**296**	Pg	**Pg**	**22 57 34.2**	**+1.3**
RESF				Lg		22 57 39.7	
EBIE	**Bielsa** SNR=64	**0.51**	**277**	Pg	**Pg**	**22 57 35.8**	**+0.9**
EBIE				Lg		22 57 42.2	
	11nm,0.1s,SNR=43						
EBIE	**Bielsa** SNR=64	**0.51**	**277**	Pg	**Pg**	**22 57 35.8**	**+0.8**
CORG	**Organya**	**0.54**	**138**	Pg	**Pg**	**22 57 36.0**	**+0.5**
CORG				Lg		22 57 43.3	
	11nm,0.1s						
PAND	**Andorre**	**0.54**	**101**	Pg	**Pg**	**22 57 36.0**	**+0.6**
PAND				Lg		22 57 42.7	
EPF	**Esparros**	**0.54**	**318**	*e*Pg	**Pg**	**22 57 36.8**	**+1.3**
EPF				*e*Sg	**Sg**	**22 57 44.0**	**+1.2**
	20nm,0.2s						
GRBF	**Gourbit**	**0.56**	**68**	Pg	**Pg**	**22 57 37.1**	**+1.2**
GRBF				Lg		22 57 44.8	
VIEF	**Viey**	**0.65**	**293**	Pg	**Pg**	**22 57 38.3**	**+0.6**
VIEF				Sg	**Sg**	**22 57 46.9**	**+0.5**
VIEF	**Viey**	**0.65**	**293**	Pg	**Pg**	**22 57 38.3**	**+0.7**
VIEF				Lg		22 57 46.7	
LABF	**Labassere**	**0.70**	**307**	Pg	**Pg**	**22 57 39.5**	**+0.9**
LABF				Sg	**Sg**	**22 57 49.1**	**+1.1**
LABF	**Labassere**	**0.70**	**307**	Pg	**Pg**	**22 57 39.3**	**+0.7**
LABF				Lg		22 57 49.2	
CAVN	**Les Avellanes**	**0.75**	**185**	Pg	**Pg**	**22 57 39.9**	**+0.2**
EMIR	**Miracle** 3.8nm,0.1s,SNR=19	**0.88**	**144**	Pg	**Pg**	**22 57 42.4**	**+0.1**
EMIR				Lg		22 57 54.6	
	3.6nm,0.1s						
EMIR	**Miracle** 3.8nm,0.1s,SNR=19	**0.88**	**144**	Pg	**Pg**	**22 57 42.3**	**0.0**
VALF	**Valcebollere**	**0.91**	**104**	Lg		22 57 54.2	
CARF	**Carcanieres**	**0.94**	**84**	Pg	**Pg**	**22 57 44.0**	**+0.5**
CARF				Sg	**Sg**	**22 57 56.2**	**+0.1**
CARF	**Carcanieres**	**0.94**	**84**	Pg	**Pg**	**22 57 44.0**	**+0.5**
CARF				Sg	**Sg**	**22 57 56.3**	**+0.2**
CARF	**Carcanieres**	**0.94**	**84**	Pg	**Pg**	**22 57 44.1**	**+0.6**
CARF				Lg		22 57 56.3	
CBRU	**Bruguera**	**1.05**	**109**	Pg	**Pg**	**22 57 45.7**	**0.0**
CBRU				Lg		22 58 00.4	
	3.5nm,0.1s						
ETSF	**Etsaut**	**1.06**	**285**	*e*Pn	**Pn**	**22 57 45.5**	**0.0**
ETSF				*e*Pg	**Pg**	**22 57 46.1**	**+0.3**
ETSF				*e*Sn	**Sn**	**22 57 58.5**	**-2.0**
ETSF				*e*Sg	**Sg**	**22 58 00.0**	**0.0**
	18nm,0.2s						
ATE	**Arette**	**1.22**	**293**	Lg		22 58 04.6	
MTLF	**Montolieu**	**1.24**	**55**	*e*Pn	**Pn**	**22 57 48.3**	**+0.2**
MTLF				*e*Pg	**Pg**	**22 57 49.9**	**+0.5**
MTLF				*e*Sn	**Sn**	**22 58 04.0**	**-1.0**
MTLF				*e*Sg	**Sg**	**22 58 06.5**	**+0.5**
	15nm,0.3s						
EPOB	**Poblet** 0.4nm,0.1s,SNR=11	**1.29**	**172**	Pg	**Pg**	**22 57 49.5**	**-0.9**
EPOB				Lg		22 58 06.7	
	4.7nm,0.1s,SNR=11						
EPOB	**Poblet** 0.4nm,0.1s,SNR=11	**1.29**	**172**	Pg	**Pg**	**22 57 49.5**	**-0.9**
ESAC	**San Caprasio** 7.5nm,0.2s,SNR=5.7	**1.33**	**227**	Pg	**Pg**	**22 57 50.6**	**-0.5**
ESAC				Lg		22 58 09.0	
	110nm,0.3s,SNR=40						
ESAC	**San Caprasio** 7.5nm,0.2s,SNR=5.7	**1.33**	**227**	Pg	**Pg**	**22 57 50.6**	**-0.5**
CGAR	**Garraf** 3.3nm,0.2s	**1.35**	**170**	Lg		22 58 15.2	
LARF	**Larrau**	**1.40**	**288**	Lg		22 58 11.4	
CFON	**Fontmartina**	**1.47**	**125**	Pg	**Pg**	**22 57 53.3**	**-0.8**
CFON				Lg		22 58 12.9	
	38nm,0.2s						
EJON	**La Jonquera**	**1.53**	**96**	Pn	**Pn**	**22 57 54.7**	**+2.4**
EJON				Pg	**Pg**	**22 57 55.5**	**+0.2**
EJON				Lg		22 58 16.4	
EJON	**La Jonquera** 2.8nm,0.1s,SNR=7.9	**1.53**	**96**	Pg	**Pg**	**22 57 54.7**	**-0.5**
EJON				Lg		22 58 16.4	
	2.9nm,0.2s,SNR=10						
EJON	**La Jonquera** 2.8nm,0.1s,SNR=28	**1.53**	**96**	Pn	**Pn**	**22 57 54.7**	**+2.4**
EJON	**La Jonquera** 2.8nm,0.1s,SNR=7.9	**1.53**	**96**	Pg	**Pg**	**22 57 55.5**	**+0.3**
SJPF	**Ste Jean**	**1.59**	**288**	*e*Pg	**Pg**	**22 57 56.0**	**-0.4**
SJPF				*e*Sn	**Sn**	**22 58 12.4**	**-1.5**
SJPF				*e*Sg	**Sg**	**22 58 16.5**	**-1.1**
	15nm,0.3s						
EALK	**Alkurruntz** 1.7nm,0.2s,SNR=10	**1.82**	**290**	Pg	**Pg**	**22 57 59.5**	**-1.5**
EALK				Lg		22 58 25.4	
	13nm,0.7s,SNR=12						
LFF	**La Frestale**	**2.31**	**358**	*e*Pn	**Pn**	**22 58 03.0**	**-0.4**
LFF				*e*Pg	**Pg**	**22 58 09.6**	**-1.2**
LFF				*e*Sg	**Sg**	**22 58 40.3**	**-1.3**
	2.7nm,0.2s						
CAF	**Calviac**	**2.46**	**21**	*e*Pn	**Pn**	**22 58 05.1**	**-0.5**
CAF				*e*Sg	**Sg**	**22 58 45.3**	**-1.4**
	5.4nm,0.3s						
EMOS	**Mosqueruela** 0.5nm,0.2s,SNR=7.9	**2.47**	**204**	Pg	**Pg**	**22 58 10.9**	**-3.0**
EMOS				Lg		22 58 42.4	
	1.4nm,0.2s,SNR=7.9						
LASF	**Ste Croix**	**2.64**	**56**	*e*Pn	**Pn**	**22 58 07.7**	**-0.4**
LASF				*e*Pg	**Pg**	**22 58 15.5**	**-1.8**
LASF				*e*Sg	**Sg**	**22 58 49.2**	**-3.3**
	4.9nm,0.5s						
RJF	**Les Rejaudoux**	**2.72**	**10**	*e*Pg	**Pg**	**22 58 17.6**	**-1.3**
RJF				*e*Sn	**Sn**	**22 58 41.2**	**-1.4**
RJF				*e*Sg	**Sg**	**22 58 54.3**	**-0.9**
	2.6nm,0.2s						
VIVF	**Saint-Julien-l**	**3.56**	**50**	*e*Pn	**Pn**	**22 58 19.8**	**-1.5**
VIVF				*e*Pg	**Pg**	**22 58 32.7**	**-3.1**
VIVF				*e*Sg	**Sg**	**22 59 19.1**	**-4.2**
	1.7nm,0.3s						
MFF	**Saint Martin d**	**4.03**	**350**	*e*Pn	**Pn**	**22 58 26.9**	**-1.1**

IDC 27 23:00:54.9±2.2, 16.62N×59.77W, mb3.4/3, mb1 3.9/5, mb1mx3.5/22, mbtmp3.6/5, ML4.7/2, MS3.0/1, Ms1 3.0/1, ms1mx2.1/17, Error ellipse: s-maj=35.0km s-min=20.8km az=119.0
NEIC 27 23:00:57.4, 16.59N×59.66W, h34km, MD3.6(TRN), After TRN.
TRN 27 23:00:57.0, 16.59N×59.65W, h34km, MD3.6, M3.5(FDF), Md3.6(FDF)
ISC 27 23:00:58.6±1.5, 16.59N±0.05×59.71W±0.08, h49km±13km, n15, σ1§13/22, mb3.4/3, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBL	**Barber's Block**	**2.00**	**238**	*i*P	**P**	**23 01 31.3**	**+0.8**
BBL				*e*S	**S**	**23 01 55.5**	**+1.2**
BPA	**Boggy Peak**	**2.10**	**283**	*e*P	**P**	**23 01 32.5**	**+0.5**
BPA				*e*S	**S**	**23 01 57.4**	**+0.3**
CPB	**Codrington**	**2.27**	**298**	*e*P	**P**	**23 01 34.3**	**-0.2**
CPB				*e*S	**S**	**23 01 59.1**	**-2.8**
SKTB	**Turtle Beach**	**2.85**	**283**	*e*S	**S**	**23 02 16.8**	**+0.8**
SKI	**Saint Kitts**	**2.99**	**285**	*e*P	**P**	**23 01 45.4**	**+0.7**
SKI				*e*S	**S**	**23 02 20.0**	**+0.4**
SLB	**Belfond**	**3.03**	**205**	*e*P	**P**	**23 01 45.1**	**-0.2**
SLB				*e*S	**S**	**23 02 20.0**	**-0.6**
SKDB	**Saint Kitts 2**	**3.07**	**286**	*e*S	**S**	**23 02 22.4**	**+0.8**
BSK	**Brimstone Hill**	**3.09**	**285**	*e*S	**S**	**23 02 22.3**	**+0.3**
SJG	**San Juan** 5.8nm,0.3s,baz=102,slow=14,SNR=7.6	**6.33**	**285**	Pn	**P**	**23 02 30.3**	**-1.3**
SJG				Sn	**S**	**23 03 40.9**	**-2.6**
	5.4nm,0.3s,baz=302,slow=18,SNR=8.4						
PCRV	**Puerto La Cruz** comp=2.100nm,19.6s,baz=38,slow=40	**7.97**	**218**	LR	LR	23 06 14.7	
SDV	**Santo Domingo** 0.2nm,0.3s,baz=336,slow=11,SNR=2.0	**13.12**	**236**	Pn	**P**	**23 04 01.1**	**-3.3**
SDV				Sn	**S**	**23 06 29.1**	**-0.5**
	0.7nm,0.3s,baz=347,slow=2.9,SNR=3.7						
SDV	**Santo Domingo**	**13.12**	**236**	P	**P**	**23 04 01.7**	**-2.7**
SDV				Sn	**S**	**23 06 29.1**	**-0.5**
TXAR	**Lajitas Array** 0.1nm,0.4s,mb2.8,baz=114,slow=11,SNR=2.7	**42.18**	**295**	P	**P**	**23 08 49.9**	**+1.6**
PDAR	**Pinedale Array** 0.9nm,0.8s,mb3.8,baz=100,slow=9.0,SNR=8.2	**49.66**	**312**	P	**P**	**23 09 48.8**	**+1.3**
YKA	**Yellowknife Ar** 0.3nm,0.7s,mb3.5,baz=113,slow=7.7,SNR=5.4	**59.51**	**334**	P	**P**	**23 10 57.9**	**-1.1**

IDC 27 23:13:13.8±2.1, 9.42S×112.90E, mb3.8/5, mb1 3.9/6, mb1mx3.7/15, mbtmp3.8/6, ML3.8/1, Error ellipse: s-maj=102.8km s-min=18.8km az=52.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=195,slow=5.5,SNR=5.4	**15.08**	**126**	Pn	P	23 16 46.2	-3.9
FITZ				Sn	S	23 19 23.5	-15
	0.2nm,0.3s,baz=187,slow=22,SNR=5.8						
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=292,slow=11,SNR=3.1	**23.20**	**119**	P	P	23 18 22.1	-1.3
ASAR	**Alice Springs** 1.3nm,0.7s,baz=304,slow=9.0,SNR=18	**24.57**	**128**	P	P	23 18 35.2	-1.5
STKA	**Stephens Creek** 0.8nm,0.6s,baz=338,slow=15,SNR=3.5	**34.74**	**134**	P	P	23 20 07.2	-0.6
SONM	**Songino Array** 1.1nm,0.6s,baz=175,slow=8.1,SNR=14	**57.29**	**355**	P	P	23 23 03.6	-2.1
MKAR	**Makanchi Array** 1.7nm,0.4s,baz=152,slow=7.7,SNR=26	**62.27**	**337**	P	P	23 23 37.3	-2.6

IDC 27 23:39:44.3±3.1, 4.27N×125.40E, mb3.4/3, mb1 3.6/3, mb1mx3.4/15, mbtmp3.4/3, Error ellipse: s-maj=343.0km s-min=28.3km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.4s,baz=338,slow=10,SNR=4.6	**25.62**	**160**	P	P	23 45 15.0	-2.3
ASAR	**Alice Springs** 0.2nm,0.4s,baz=343,slow=7.5,SNR=4.1	**28.98**	**164**	P	P	23 45 46.6	-1.3
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=135,slow=8.6,SNR=4.2	**56.36**	**326**	P	P	23 49 27.2	-2.3

CASC 27 23:48:17.2±2.2, 10.54N×87.03W, h37km±999km, MD4.3, ML3.9, mb4.3(NEIC)
NEIC 27 23:48:20.2±0.8, 10.86N×86.78W, h50km, mb4.3/10, Error ellipse: s-maj=22.0km s-min=8.9km az=211.0
IDC 27 23:48:26.4±6.1, 11.15N×86.58W, h95km±51km, mb3.7/9, mb1 3.9/10, mb1mx3.6/19, mbtmp4.1/10, MS3.3/5, Ms1 3.3/5, ms1mx2.9/19, Error ellipse: s-maj=53.2km s-min=18.1km az=31.0
ISC 27 23:48:16.2±0.6, 10.50N±0.04×87.05W±0.04, h44km±5km, n67, σ0§90/81, mb4.1/19, MS3.3/5, 15C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**1.45**	**105**⇑	*e*P	**P**	**23 48 39.0**	**-1.5**
APON	**Apoyo**	**1.71**	**35**⇑	*e*P	**P**	**23 48 44.7**	**+0.6**
TICN	**Ticuantepe**	**1.72**	**28**⇓	*e*P	**P**	**23 48 45.1**	**+0.8**
CONN	**Concepcion**	**1.75**	**53**⇑	*e*P	**P**	**23 48 45.1**	**+0.4**
MGAN	**Managua**	**1.81**	**26**⇑	*e*P	**P**	**23 48 45.9**	**+0.3**
MGAN				*e*S	**S**	**23 49 07.7**	**+0.2**
	comp=E,2μm,0.5s						
MGAN				*i*		23 49 07.8	
	comp=E,2μm,0.4s						
MGAN				*e*		23 49 09.2	
	comp=E,2μm,0.4s						
MGAN				*e*		23 49 10.7	
	comp=N,916nm,0.2s						
WILN	**Americas 2**	**1.85**	**27**⇑	*e*P	**P**	**23 48 46.1**	**0.0**
WILN				*e*S	**S**	**23 49 09.3**	**+0.8**
LEON	**Leon**	**1.91**	**5**⇑	*e*P	**P**	**23 48 47.5**	**+0.6**
MIRN	**Miramar**	**1.95**	**10**⇓	*e*P	**P**	**23 48 48.5**	**+1.0**
MOMJ	**Momotombo**	**1.96**	**15**⇓	*e*P	**P**	**23 48 47.7**	**+0.1**
CNGN	**Cerro Negro**	**2.02**	**10**⇑	*e*P	**P**	**23 48 48.6**	**+0.2**
TEL3	**Telica 3**	**2.07**	**6**⇑	*e*P	**P**	**23 48 49.6**	**+0.4**
JTS	**JuntasAbangare** comp=N,348nm,0.4s,SNR=78	**2.08**	**96**	Pn	**P**	**23 48 48.4**	**-1.0**
TELN	**Telica**	**2.10**	**6**⇑	*e*P	**P**	**23 48 50.0**	**+0.3**
CRIN	**San Cristobal**	**2.18**	**0**⇓	*e*P	**P**	**23 48 51.7**	**+0.8**
PYTN	**Playitas**	**2.25**	**26**⇑	*e*P	**P**	**23 48 51.4**	**-0.3**
PYTN				*e*S	**S**	**23 49 18.6**	**+0.2**
FORC	**Fortuna**	**2.35**	**91**	*e*P	**P**	**23 48 52.7**	**-0.5**
CGA2	**Cerro Gallo 2**	**2.59**	**101**	*e*P	**P**	**23 48 56.3**	**-0.4**
CGA2				*e*S	**S**	**23 49 26.9**	**-0.3**
PRS1	**Puriscal**	**2.75**	**101**	*e*P	**P**	**23 48 59.0**	**+0.1**
VPS2	**Volcan Poas 2**	**2.79**	**96**⇓	*e*P	**P**	**23 48 59.9**	**+0.3**
CNCH	**Conchagua**	**2.86**	**345**	*e*P	**P**	**23 49 00.2**	**-0.3**
CNCH				*e*S	**S**	**23 49 33.2**	**-0.8**
LAJ	**Bijagual**	**2.96**	**102**⇓	*e*P	**P**	**23 48 56.7**	**-5.2**
SJS	**Escuela Geolog**	**3.01**	**100**⇑	*e*P	**P**	**23 49 03.7**	**+1.1**
SJS				*e*S	**S**	**23 49 40.8**	**+3.1**
LCR2	**La Lucha 2**	**3.10**	**104**⇓	*e*P	**P**	**23 49 04.1**	**+0.2**
LCR2				*e*S	**S**	**23 49 39.4**	**-0.6**
BLLM	**Bellamira**	**3.14**	**338**	*e*P	**P**	**23 49 04.0**	**-0.6**
BLLM				*e*S	**S**	**23 49 39.3**	**-1.8**
VSM	**San Miguel**	**3.14**	**338**	*e*P	**P**	**23 49 04.8**	**+0.2**
VSM				*e*S	**S**	**23 49 40.4**	**-0.8**
ICR	**Volcan Irazu**	**3.21**	**99**⇓	*e*P	**P**	**23 49 07.1**	**+1.6**
TRTC	**Tortuguero**	**3.29**	**88**	*e*P	**P**	**23 49 06.0**	**-0.6**
BUS	**Buena Vista**	**3.38**	**106**⇓	*e*P	**P**	**23 49 08.3**	**+0.4**
BUS				*e*S	**S**	**23 49 46.6**	**-0.5**
SNVI	**San Vicente**	**3.55**	**331**	*e*P	**P**	**23 49 10.3**	**0.0**
SNVI				*e*S	**S**	**23 49 51.5**	**+0.1**
LCBS	**La Ceiba**	**3.65**	**329**⇑	*e*P	**P**	**23 49 11.1**	**-0.6**
LCBS				*e*S	**S**	**23 49 52.3**	**-1.8**
LFRS	**El Faro**	**3.67**	**328**⇑	*e*P	**P**	**23 49 11.3**	**-0.7**
LFRS				*e*S	**S**	**23 49 54.3**	**-0.2**
SBLS	**San Blas**	**4.16**	**323**	*e*P	**P**	**23 49 18.6**	**-0.3**
SBLS				*e*S	**S**	**23 50 07.0**	**+0.2**
SNJE	**San Jose**	**4.17**	**324**	*e*P	**P**	**23 49 19.1**	**0.0**
SNJE				*e*S	**S**	**23 50 17.4**	**+0.2**
RTR	**El Retiro**	**4.22**	**323**	*e*P	**P**	**23 49 19.3**	**-0.4**
RTR				*e*S	**S**	**23 50 08.8**	**+0.4**
ACR	**Cerro Adams**	**4.25**	**115**	*e*P	**P**	**23 49 20.4**	**+0.2**
ACR				*e*S	**S**	**23 50 07.8**	**-1.4**
RBDL	**Robledal**	**4.41**	**325**⇑	*e*P	**P**	**23 49 23.0**	**+0.5**
RBDL				*e*S	**S**	**23 50 14.5**	**+1.1**
SDV	**Santo Domingo** comp=N,0.2nm,0.3s,baz=347,slow=12,SNR=2.9	**16.27**	**94**	P	**P**	**23 52 03.2**	**-0.1**
SJG	**San Juan** comp=N,48nm,19.8s,MS2.9,baz=268,slow=37	**21.61**	**67**	LR	LR	00 01 27.1	
PCRV	**Puerto La Cruz** comp=N.9.3nm,0.8s,mb4.3,baz=347,slow=14,SNR=3.7	**22.06**	**89**	P	**P**	**23 53 09.8**	**+0.8**
LRAL	**Lakeview Retre** comp=N,11nm,1.0s,mb4.2	**22.42**	**0**	P	**P**	**23 53 10.6**	**-1.9**
JCT	**Junction City** comp=N,11nm,1.1s,mb4.2	**23.15**	**331**	*e*P	**P**	**23 53 20.7**	**+1.0**
TXAR	**Lajitas Array** comp=N,3.9nm,0.9s,mb3.9,baz=136,slow=9.5,SNR=28	**24.33**	**323**	P	**P**	**23 53 34.1**	**+2.9**
TXAR				LR	LR	00 04 20.9	
	comp=N,38nm,21.9s,MS2.8,baz=80,slow=40						
MIAR	**Mount Ida** comp=N,5.5nm,0.9s,mb4.1	**24.66**	**347**	*e*P	**P**	**23 53 33.1**	**-1.3**
WMOK	**Wichita Mounta** comp=N,20nm,1.2s,mb4.5	**26.39**	**338**	*e*P	**P**	**23 53 50.0**	**-0.7**
MNTX	**Cornudas Mount** comp=N,5.0nm,1.3s,mb3.9	**27.07**	**324**	*e*P	**P**	**23 53 56.7**	**-0.2**
CPRX	**Cap Rock**	**27.24**	**328**	*e*P	**P**	**23 53 58.1**	**-0.3**
AMTX	**Amarillo** comp=N,9.0

Centroid moment Tensor Solution. LP body waves: s46,c76;Mantle waves: s68,c129; Half duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.07±.02; $M_{\theta\theta}$-0.74±.02; $M_{\phi\phi}$0.80±.02; $M_{r\theta}$-0.01±.05; $M_{\theta\phi}$-0.19±.02; $M_{\phi r}$-0.08±.04; Best double couple: M_o8.02×10^{17} NP1: ϕ_s128°,δ85°,λ178°. NP2:ϕ_s218°,δ88°,λ5°. Principal axes: T .837, Plg5°, Azm83°; N -.072, Plg85°, Azm242°; P -.766, Plg2°, Azm353°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

NEIC **28** *00:01:30.5±0.2,0.30S×20.78W,h10km,mb5.1/128, MS4.8/12 Error ellipse: s-maj=6.3km s-min=3.5km az=141.0*

ISC 28 00:01:28.8±0.2,0.29S±0.05×20.71W±0.03,h10km, (h23km±3.7km:pP-P),n410,c0§98/401,mb5.0/153, MS4.6/38,29C-19D,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
RCBR	**Riachuelo**	**16.13**	**250**	*e*P		**P**	**00 05 16.3**	**-1.2**
DBIC	**Dimbokro**	**17.26**	**66**	P		**P**	**00 05 30.4**	**-1.5**
	5.9nm,0.3s,baz=233,slow=14,SNR=52							
DBIC				S		**S**	**00 08 40.5**	**-1.9**
	0.7nm,0.3s,baz=155,slow=18,SNR=2.3							
DBIC				LR		LR	00 10 54.8	
	comp=Z,3µm,18.1s,baz=230,slow=33							
DBIC	**Dimbokro**	**17.26**	**66**	*e*P		**P**	**00 05 30.5**	**-1.3**
	118nm,1.0s							
CS6B	**Jaguaretama**	**18.66**	**254**	*e*P		**P**	**00 05 47.4**	**-1.8**
CS6B				*e*			00 05 51.2	
CS6B				*e*			00 05 55.3	
BAO	**Brasilia Array**	**30.95**	**239**	P		**P**	**00 07 48.9**	**+0.4**
BDFB	**Brasilia**	**30.97**	**239**	P		**P**	**00 07 48.9**	**+0.2**
	9.6nm,1.1s,mb4.5,baz=49,slow=11,SNR=7.1							
BDFB				LR		LR	00 18 41.8	
	comp=Z,2µm,18.3s,MS4.8,baz=73,slow=33							
PTEO	**Sao Teotonio**	**39.24**	**15**	*e*P		**P**	**00 08 59.8**	**+0.5**
	112nm,1.3s,mb5.4							
ESPR	**Espera**	**39.45**	**19**	P		**P**	**00 09 01.7**	**+0.6**
	120nm,2.0s,mb5.3							
PBEJ	**Beja**	**39.93**	**16**	*e*P		**P**	**00 09 05.3**	**+0.3**
	36nm,1.2s,mb5.0							
ELOJ	**Sierra Loja**	**40.28**	**21**	P		**P**	**00 09 08.8**	**+0.9**
	5.0nm,0.6s,mb4.4							
ERON	**Agron**	**40.29**	**21**	P		**P**	**00 09 09.3**	**+1.3**
	12nm,1.0s,mb4.6							
EVO	**Evora**	**40.36**	**15**	*e*P		**P**	**00 09 08.3**	**-0.2**
EVO				*e*R				
	969nm,22.5s							
ECOG	**Cogollos-Vega**	**40.61**	**21**	P		**P**	**00 09 11.2**	**+0.6**
	2.3nm,0.5s,mb4.1							
ENIJ	**Nijar**	**40.85**	**23**	P		**P**	**00 09 14.1**	**+1.6**
	25nm,0.8s,mb4.9							
ETRT	**Tiaret**	**41.01**	**28**	P		**P**	**00 09 12.5**	**-1.4**
EADA	**Adamuz**	**41.06**	**19**	P		**P**	**00 09 15.5**	**+1.2**
	56nm,1.5s,mb5.0							
EQES	**Quesada**	**41.25**	**21**	P		**P**	**00 09 16.4**	**+0.5**
	8.2nm,0.6s,mb4.5							
EANR	**'Ain N'Sour**	**41.38**	**27**	P		**P**	**00 09 17.0**	**+0.1**
ECHA	**Ech Chlef**	**41.66**	**27**	P		**P**	**00 09 16.5**	**-2.8**
PCBR	**Castelo Branco**	**41.73**	**15**	*e*P		**P**	**00 09 21.7**	**+1.9**
EBNR	**Beni Rached**	**41.85**	**27**	P		**P**	**00 09 16.0**	**-4.9**
EMUR	**La Murta**	**41.98**	**23**	P		**P**	**00 09 22.9**	**+1.0**
	26nm,1.0s,mb4.8							
EVIA	**Vianos**	**42.20**	**21**	P		**P**	**00 09 26.0**	**+2.3**
	19nm,0.9s,mb4.7							
MTE	**Manteigas**	**42.24**	**15**	*e*P		**P**	**00 09 24.8**	**+0.8**
	42nm,1.7s,mb4.8							
MTE				*e*SS		SS	00 18 56.5	+10
ETOB	**Tobarra**	**42.56**	**22**	P		**P**	**00 09 26.0**	**-0.6**
	53nm,1.6s,mb5.0							
ESDC	**Sonseca Array**	**42.62**	**19**	P		**P**	**00 09 27.7**	**+0.6**
	8.6nm,0.7s,mb4.6,baz=203,slow=8.9,SNR=51							
ESLA	**Sonseca Array**	**42.62**	**19**	*e*P		**P**	**00 09 27.5**	**+0.4**
	2.1nm,0.8s							
ESLA				LR		LR		
	comp=Z,4µm,21.0s							
CMER	**Merouana**	**43.49**	**32**	P		**P**	**00 09 39.0**	**+4.8**
CKHR	**Kef el Ahmar**	**43.59**	**31**	P		**P**	**00 09 37.0**	**+2.0**
SET	**Setif**	**43.67**	**31**	P		**P**	**00 09 37.0**	**+1.3**
CTEI	**Djebel Teioual**	**44.09**	**32**	P		**P**	**00 09 40.0**	**+0.9**
DFRA	**Djebel Bou Aff**	**44.18**	**31**	P		**P**	**00 09 42.0**	**+2.2**
CMAH	**Djebel Manchou**	**45.05**	**32**	P		**P**	**00 09 48.0**	**+1.1**
EBR	**Ebro Roquetas**	**45.23**	**23**	*e*P		**P**	**00 09 49.0**	**+0.8**
EARI	**Arriondas**	**45.57**	**16**	P		**P**	**00 09 53.4**	**+2.6**
	comp=Z,27nm,1.4s,mb5.0							
ESAC	**San Caprasio**	**45.65**	**21**	P		**P**	**00 09 53.7**	**+2.2**
	comp=Z,15nm,0.6s,mb5.1							
EPOB	**Poblet**	**45.91**	**23**	P		**P**	**00 09 54.2**	**+0.7**
	comp=Z,62nm,1.2s,mb5.4							
ELAN	**Lanestosa**	**46.02**	**18**	P		**P**	**00 09 55.2**	**+0.8**
	comp=Z,42nm,1.1s,mb5.3							
EMIR	**Miracle**	**46.57**	**23**	P		**P**	**00 09 58.1**	**-0.6**
	comp=Z,19nm,0.5s,mb5.3							
SJPF	**Ste Jean**	**46.61**	**20**	*e*P		**P**	**00 09 59.9**	**+0.8**
	comp=Z,26nm,0.7s,mb5.0							
ETSF	**Etsaut**	**46.65**	**20**	*e*P		**P**	**00 10 00.1**	**+0.7**
	comp=Z,60nm,1.0s,mb5.2							
EBIE	**Bielsa**	**46.71**	**21**	P		**P**	**00 10 01.2**	**+1.3**
	comp=Z,7.3nm,0.6s,mb4.8							
EPF	**Esparros**	**47.09**	**21**	*e*P		**P**	**00 10 03.5**	**+0.7**
	comp=Z,41nm,0.9s,mb5.1							
EJON	**La Jonquera**	**47.56**	**24**	P		**P**	**00 10 07.1**	**+0.5**
	comp=Z,19nm,0.9s,mb5.1							
MTLF	**Montolieu**	**48.05**	**22**	*e*P		**P**	**00 10 09.9**	**-0.5**
	comp=Z,22nm,0.8s,mb4.9							
LFF	**La Frestale**	**48.89**	**20**	*e*P		**P**	**00 10 17.2**	**+0.3**
	comp=Z,26nm,0.8s,mb5.0							
LASF	**Ste Croix**	**49.31**	**23**	*e*P		**P**	**00 10 20.1**	**0.0**
	comp=Z,82nm,1.5s,mb5.2							
CAF	**Calviac**	**49.35**	**21**	*e*P		**P**	**00 10 20.4**	**0.0**
	comp=Z,38nm,0.9s,mb5.1							
LPAZ	**La Paz**	**49.37**	**249**	P		**P**	**00 10 21.2**	**+0.3**
	comp=Z,9.5nm,0.8s,mb4.9,baz=73,slow=5.3,SNR=52							
LPAZ				LR		LR	00 31 35.0	
	comp=Z,539nm,18.4s,MS4.6,baz=189,slow=36							
LPAZ	**La Paz**	**49.37**	**249**	*e*P		**P**	**00 10 21.2**	**+0.3**
	comp=Z,16nm,0.8s,mb5.1							
LPAZ				LR		LR		
	comp=Z,655nm,19.0s,MS4.7							
RJF	**Les Rejaudoux**	**49.48**	**21**	*e*P		**P**	**00 10 21.3**	**-0.1**
	comp=Z,21nm,1.0s,mb4.8							
RJF				*e*R				
	comp=Z,2µm,21.8s							
LMR	**La Mourre**	**49.80**	**26**	*e*P		**P**	**00 10 23.9**	**0.0**
	comp=Z,48nm,0.9s,mb5.2							
FRF	**La Foret Royal**	**50.05**	**26**	*e*P		**P**	**00 10 24.7**	**-1.1**
	comp=Z,20nm,0.9s,mb4.9							
LBL	**Lubilhac**	**50.05**	**22**	*e*P		**P**	**00 10 28.0**	**+2.2**
MFF	**Saint Martin d**	**50.07**	**18**	*e*P		**P**	**00 10 25.0**	**-0.9**
	comp=Z,28nm,0.8s,mb5.0							
VIVF	**Saint-Julien-l**	**50.28**	**23**	*e*P		**P**	**00 10 27.6**	**+0.1**
	comp=Z,30nm,0.8s,mb5.1							
PGF	**Pioggiola**	**50.33**	**28**	*e*P		**P**	**00 10 27.7**	**-0.2**
	comp=Z,71nm,1.1s,mb5.3							
SUR	**Sutherland**	**50.49**	**133**	P		**P**	**00 10 30.9**	**+1.6**
	comp=Z,8.5nm,0.8s,mb4.8							
MVIF	**Mont Vial**	**50.53**	**26**	*e*P		**P**	**00 10 30.9**	**+1.4**
SDV	**Santo Domingo**	**50.55**	**282**	*e*P		**P**	**00 10 30.1**	**+0.1**
	comp=Z,24nm,1.4s,mb4.9							
SDV				LR		LR		
	comp=Z,328nm,19.0s,MS4.4							
TCF	**Toulx Ste Croi**	**50.58**	**20**	*e*P		**P**	**00 10 29.7**	**-0.1**
	comp=Z,43nm,1.4s,mb4.9							
SBF	**Sospel**	**50.63**	**26**	*e*P		**P**	**00 10 30.3**	**+0.1**
	comp=Z,41nm,0.8s,mb5.1							
AUTN	**L'Aution**	**50.73**	**26**	*e*P		**P**	**00 10 32.4**	**+1.4**
NEGI	**Negi**	**50.74**	**26**	P		**P**	**00 10 30.5**	**-0.5**
ROSF	**Rostrenen**	**50.74**	**15**	*e*P		**P**	**00 10 30.8**	**-0.2**
	comp=Z,70nm,1.3s,mb5.1							
SAOF	**Saorge**	**50.78**	**26**	*e*P		**P**	**00 10 32.5**	**+1.1**
PLDF	**La Plantade**	**50.81**	**22**	*e*P		**P**	**00 10 34.0**	**+2.4**
ORIF	**Oris-en-Rattie**	**50.82**	**24**	*e*P		**P**	**00 10 32.4**	**+0.8**
	comp=Z,37nm,1.0s,mb5.0							
ORIF				*e*R				
	comp=Z,1µm,21.0s							
SGMF	**Saint Gilles**	**50.85**	**16**	*e*P		**P**	**00 10 31.6**	**-0.3**
	comp=Z,36nm,1.0s,mb5.0							
IMI	**Imperia**	**50.87**	**26**	P		**P**	**00 10 32.6**	**+0.5**
STV	**Sta Anna Valdi**	**50.88**	**26**	P		**P**	**00 10 33.1**	**+0.9**
STV2	**Anna di Valdie**	**50.89**	**26**	P		**P**	**00 10 32.4**	**+0.2**
ENR	**Entracque**	**50.91**	**26**	P		**P**	**00 10 33.4**	**+1.0**
MONE	**Monesi**	**50.94**	**26**	P		**P**	**00 10 32.8**	**+0.2**
PZZ	**Prazzo**	**51.00**	**25**	P		**P**	**00 10 34.2**	**+1.2**
BGF	**Bois d'Agland**	**51.03**	**21**	*e*P		**P**	**00 10 33.4**	**+0.2**
	comp=Z,26nm,1.1s,mb4.8							
LBTB	**Lobatse**	**51.03**	**122**	*e*P		**P**	**00 10 33.1**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8							
MBDF	**Montbardon**	**51.03**	**25**	*e*P		**P**	**00 10 34.2**	**+0.9**
	comp=Z,34nm,0.8s,mb5.0							
ROB	**Roburent**	**51.16**	**26**	P		**P**	**00 10 35.1**	**+0.9**
OG22	**Abries**	**51.19**	**25**	*e*P		**P**	**00 10 35.1**	**+0.7**
RRL	**Cesana Torines**	**51.20**	**25**	P		**P**	**00 10 35.2**	**+0.7**
FIN	**Finale Ligure**	**51.25**	**26**	*e*P		**P**	**00 10 34.9**	**0.0**
BNI	**Bardonecchia**	**51.26**	**25**	*e*P		**P**	**00 10 35.2**	**+0.3**
	comp=Z,21nm,0.9s,mb5.1							
BHB	**Bricherasio**	**51.34**	**25**	P		**P**	**00 10 34.8**	**-0.8**
FENE	**Fenestrelle**	**51.40**	**25**	P		**P**	**00 10 36.2**	**+0.2**
AVF	**Avril sur Loir**	**51.41**	**21**	*e*P		**P**	**00 10 36.2**	**+0.1**
	comp=Z,20nm,1.1s,mb4.7							
MBAR	**Mbarara**	**51.45**	**91**	P		**P**	**00 10 36.3**	**-0.5**
	comp=Z,266nm,1.2s,mb6.0,SNR=33							
MBAR	**Mbarara**	**51.45**	**91**	*c iP*		**P**	**00 10 36.8**	**0.0**
MBAR	**Mbarara**	**51.45**	**91**	*e*P		**P**	**00 10 36.1**	**-0.7**
	comp=Z,63nm,1.1s,mb5.5							
GRR	**Gorron**	**51.45**	**17**	*e*P		**P**	**00 10 36.1**	**-0.3**
	comp=Z,39nm,0.9s,mb5.0							
SMF	**Signal de Mont**	**51.46**	**21**	*e*P		**P**	**00 10 36.9**	**+0.4**
	comp=Z,20nm,1.0s,mb4.7							
HYF	**Humbligny**	**51.57**	**20**	*e*P		**P**	**00 10 37.3**	**0.0**
OG05	**Jujurieux**	**51.57**	**23**	*e*P		**P**	**00 10 38.4**	**+1.1**
RSP	**Reno Superiore**	**51.58**	**25**	P		**P**	**00 10 38.4**	**+0.9**
LPG	**La Plagne**	**51.65**	**24**	*e*P		**P**	**00 10 38.9**	**+1.0**
	comp=Z,41nm,0.8s,mb5.1							
LPL	**La Plagne**	**51.66**	**24**	*e*P		**P**	**00 10 38.8**	**+0.8**
	comp=Z,42nm,0.8s,mb5.1							
PCP	**Pian Castagno**	**51.66**	**26**	P		**P**	**00 10 38.2**	**+0.2**
SSF	**Saint Saulge**	**51.70**	**21**	*e*P		**P**	**00 10 38.4**	**+0.1**
	comp=Z,52nm,1.1s,mb5.1							
LSD	**Ceresole Reale**	**51.78**	**25**	P		**P**	**00 10 39.9**	**+0.9**
LVC	**Limon Verde**	**51.84**	**241**	*e*P		**P**	**00 10 38.9**	**-0.8**
	comp=Z,19nm,0.9s,mb5.0							
LDF	**La Druitiere**	**51.85**	**17**	*e*P		**P**	**00 10 38.9**	**-0.5**
	comp=Z,9.6nm,0.9s,mb4.4							
FLN	**La Foliniere**	**51.90**	**17**	*e*P		**P**	**00 10 39.2**	**-0.6**
	comp=Z,38nm,1.1s,mb4.9							
FLN				*e*R				
	comp=Z,333nm,19.0s							
MNS	**Montasola**	**52.03**	**31**	*e*P		**P**	**00 10 40.7**	**-0.2**
TRAV		**52.08**	**25**	P		**P**	**00 10 40.9**	**-0.3**
VINC	**Vinca**	**52.08**	**28**	P		**P**	**00 10 40.4**	**-0.8**
CODM		**52.13**	**27**	P		**P**	**00 10 40.4**	**-1.2**
BACM		**52.15**	**28**	P		**P**	**00 10 40.9**	**-0.8**
PTQR	**Pietraquaria**	**52.15**	**32**	*e*P		**P**	**00 10 41.3**	**-0.5**
BOSA	**Boshof**	**52.15**	**127**	P		**P**	**00 10 41.8**	**-0.2**
	comp=Z,12nm,0.9s,mb4.8,baz=309,slow=7.7,SNR=14							
BOSA				LR		LR	00 29 06.1	
	comp=Z,278nm,18.9s,MS4.3,baz=290,slow=32							
BOSA	**Boshof**	**52.15**	**127**	*e*P		**P**	**00 10 41.6**	**-0.4**
	comp=Z,21nm,1.1s,mb5.0							
VLC	**Villacollemand**	**52.21**	**28**	P		**P**	**00 10 40.7**	**-1.5**
	comp=Z,32nm,0.9s,mb5.2							
BDI	**Bagni Di Lucca**	**52.23**	**28**	*e*P		**P**	**00 10 42.2**	**-0.2**
BOB	**Bobbio (Coli)**	**52.24**	**27**	*e*P		**P**	**00 10 43.9**	**+1.5**
ORO	**Oropa**	**52.27**	**25**	*e*P		**P**	**00 10 42.7**	**0.0**
ORX	**Oropa**	**52.27**	**25**	P		**P**	**00 10 42.0**	**-0.6**
VALM		**52.28**	**28**	P		**P**	**00 10 42.3**	**-0.5**
CABF	**La Chapelle**	**52.29**	**23**	*e*P		**P**	**00 10 42.5**	**-0.3**
	comp=Z,28nm,0.8s,mb4.9							
GRAM		**52.31**	**28**	P		**P**	**00 10 42.9**	**-0.1**
AQU	**L'Aquila**	**52.39**	**32**	*e*P		**P**	**00 10 44.3**	**+0.7**
	comp=Z,31nm,0.9s,mb5.2							
ERBM	**Eremo**	**52.42**	**28**	*e*P		**P**	**00 10 45.6**	**+1.9**
CII	**Carovilli**	**52.43**	**33**	*e*P		**P**	**00 10 43.9**	**0.0**
	comp=Z,108nm,1.5s,mb5.6							
GSCL	**Gusciola**	**52.45**	**28**	*e*P		**P**	**00 10 45.5**	**+1.5**
MCGN	**Macugnaga**	**52.53**	**25**	*e*P		**P**	**00 10 44.7**	**+0.1**
SEI	**Scarperia**	**52.59**	**29**	*e*P		**P**	**00 10 45.0**	**0.0**
VMG	**Vicchio**	**52.61**	**29**	*e*P		**P**	**00 10 44.9**	**-0.3**
ZCCA	**Zocca**	**52.63**	**28**	*e*P		**P**	**00 10 46.6**	**+1.2**
PGD	**Poggio Sodo**	**52.63**	**29**	*e*P		**P**	**00 10 45.2**	**-0.2**
SFI	**Santa Sofia**	**52.72**	**29**	*e*P		**P**	**00 10 45.6**	**-0.4**
SNTG	**Esanatoglia**	**52.79**	**31**	*e*P		**P**	**00 10 46.6**	**0.0**
VAI	**Varese**	**52.80**	**26**	*e*P		**P**	**00 10 45.0**	**-1.5**
LOMF	**Lomont**	**53.19**	**23**	*e*P		**P**	**00 10 49.9**	**+0.5**
TRQA	**Tornquist**	**53.39**	**220**	P		**P**	**00 10 48.0**	**-3.0**
	comp=Z,11nm,1.0s,mb4.7							
MEZF	**Maizieres J'vi**	**53.47**	**21**	*e*P		**P**	**00 10 51.4**	**-0.1**
	comp=Z,59nm,0.8s,mb5.3							
HAU	**Haudompre**	**53.54**	**22**	*e*P		**P**	**00 10 51.7**	**-0.3**
	comp=Z,56nm,0.8s,mb5.3							
HAU				*e*R				
	comp=Z,916nm,23.0s							
BBS	**Basel-Blauen**	**53.55**	**24**	*e*P		**P**	**00 10 52.4**	**+0.3**
HINF	**Hinteralfeld**	**53.58**	**23**	*e*P		**P**	**00 10 51.5**	**-0.8**
	comp=Z,32nm,1.2s,mb4.8							
THEF	**They Montfort**	**53.58**	**22**	*e*P		**P**	**00 10 53.0**	**+0.7**
MOF	**Molkenrain**	**53.71**	**23**	*e*P		**P**	**00 10 53.4**	**+0.1**
ROSC	**El Rosal**	**53.80**	**276**	P		**P**	**00 10 54.2**	**-0.2**
	comp=Z,5.4nm,0.7s,mb4.6,baz=87,slow=9.8,SNR=7.8							
ROSC				LR		LR	00 31 05.8	
	comp=Z,862nm,21.9s,MS4.8,baz=183,slow=33							
BRMO	**Bormio**	**53.97**	**26**	*e*P		**P**	**00 10 54.6**	**-0.6**
ECH	**Echery**	**54.02**	**23**	*e*P		**P**	**00 10 55.8**	**+0.3**
FELD	**Feldberg**	**54.08**	**24**	*e*P		**P**	**00 10 56.4**	**+0.5**
CTI	**Castel Tesino**	**54.22**	**27**	*e*P		**P**	**00 10 57.0**	**0.0**
CDF	**Champ du Feu**	**54.23**	**23**	*e*P		**P**	**00 10 56.5**	**-0.5**
	comp=Z,24nm,0.8s,mb4.9							
WLS	**Welschbruch**	**54.26**	**23**	*e*P		**P**	**00 10 56.6**	**-0.6**
DAVA	**Damuels**	**54.38**	**25**	⇑*iP*		**P**	**00 10 56.4**	**-1.8**
	comp=Z,57nm,0.7s,mb5.6							
BAIF	**Baives**	**54.50**	**19**	*e*P		**P**	**00 10 58.3**	**-0.7**
	comp=Z,46nm,1.0s,mb5.2							
BFO	**Black Forest**	**54.57**	**23**	P		**P**	**00 10 59.5**	**-0.1**
	comp=Z,115nm,1.0s,mb5.9,SNR=12							
BFO	**Black Forest**	**54.57**	**23**	*e*P		**P**	**00 10 58.5**	**-1.1**
BFO				pmax		pmax		
	comp=Z,26nm,1.1s,mb5.2							
BFO	**Black Forest**	**54.57**	**23**	*e*P		**P**	**00 10 58.5**	**-1.1**
	comp=Z,26nm,1.1s,mb5.2							
DCN	**Croghan**	**54.61**	**10**	*e*P		**P**	**00 10 59.0**	**-0.8**
GIVF	**Givet**	**54.75**	**20**	*e*P		**P**	**00 11 00.0**	**-0.8**
	comp=Z,33nm,1.1s,mb5.0							
LANF	**Langenberg**	**54.89**	**23**	*e*P		**P**	**00 11 02.4**	**+0.5**
SQTA	**Sankt Quirin**	**54.91**	**26**	⇓*iP*		**P**	**00 10 59.8**	**-2.3**
	comp=Z,28nm,0.9s,mb5.3							
MOTA	**Moosalm**	**54.96**	**26**	⇑*iP*		**P**	**00 11 00.3**	**-2.2**
TRI	**Trieste**	**54.97**	**29**	*e*P		**P**	**00 11 02.8**	**+0.2**
WTTA	**Wwenberg**	**55.13**	**26**	⇓*iP*		**P**	**00 11 02.3**	**-1.4**
	comp=Z,34nm,1.0s,mb5.3							
FVI	**Forni Avoltri**	**55.15**	**28**	*e*P		**P**	**00 11 04.2**	**+0.3**
WATA	**Walderalm**	**55.16**	**26**	⇓*iP*		**P**	**00 11 01.6**	**-2.3**
	comp=Z,15nm,1.1s,mb4.9							
RUP	**Ruppelstein**	**55.20**	**22**	*e*P		**P**	**00 11 04.4**	**+0.2**
VOY	**Vojsko**	**55.26**	**29**	*e*P		**P**	**00 11 04.9**	**+0.2**
STU	**Stuttgart**	**55.27**	**24**	*e*P		**P**	**00 11 04.2**	**-0.5**
	comp=Z,22nm,1.0s,mb5.1							
PTCC	**Patocco-Chiusa**	**55.28**	**28**	*e*P		**P**	**00 11 05.0**	**+0.3**
LJU	**Ljubljana**	**55.58**	**29**	*e*P		**P**	**00 11 07.9**	**+0.9**
FUR	**Furstenfeldbru**	**55.66**	**25**	*e*P		**P**	**00 11 06.4**	**-1.1**
HGN	**Hoimansgroeve**	**55.69**	**20**	*e*P		**P**	**00 11 07.1**	**-0.5**
	comp=Z,29nm,1.0s,mb5.3							
HGN				*e*PP		Px	00 14 04.2	
HGN				*e*S		**S**	**00 18 55.7**	**+3.6**
KBA	**Koelnbreinsper**	**55.77**	**28**	⇑*iP*		**P**	**00 11 08.2**	**-0.1**
	comp=Z,18nm,1.2s,mb5.0							
TOD	**Tromm**	**55.78**	**23**	*e*P		**P**	**00 11 08.5**	**+0.1**
OBKA	**Obir**	**55.92**	**29**	⇑*iP*		**P**	**00 11 09.4**	**0.0**
	comp=Z,16nm,1.0s,mb5.0							
TNS	**Taunus Mts**	**56.15**	**22**	*e*P		**P**	**00 11 10.1**	**-0.9**
TNS				pmax		pmax		
	comp=Z,26nm,0.9s,mb5.3							
TNS	**Taunus Mts**	**56.15**	**22**	*e*P		**P**	**00 11 10.1**	**-0.9**
	comp=Z,26nm,0.9s,mb5.3							
SKO	**Skopje**	**56.67**	**37**	⇑*iP*		**P**	**00 11 15.2**	**+0.4**
MOA	**Molln**	**56.76**	**27**	⇑*iP*		**P**	**00 11 12.8**	**-2.6**
	comp=Z,26nm,1.4s,mb5.1							
GRA1	**Grafenberg Arr**	**56.82**	**24**	*e*P		**P**	**00 11 14.5**	**-1.3**
	comp=Z,30nm,1.0s,mb5.3							
GRF	**Grafenberg Arr**	**56.82**	**24**	*e*P		**P**	**00 11 14.5**	**-1.3**
GRF				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
GRF	**Grafenberg Arr**	**56.82**	**24**	*e*P		**P**	**00 11 14.5**	**-1.3**
	comp=Z,30nm,1.0s,mb5.3							
ARSA	**Arzberg**	**56.92**	**29**	⇓*iP*		**P**	**00 11 15.1**	**-1.5**
	comp=Z,14nm,0.9s,mb5.0							
WTSB	**Winterswijk**	**56.99**	**20**	*e*P		**P**	**00 11 17.7**	**+0.6**
	comp=Z,34nm,1.1s,mb5.3							
WET	**Wettzell**	**57.10**	**26**	*e*P		**P**	**00 11 16.5**	**-1.3**
WET				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.3							
WET	**Wettzell**	**57.10**	**26**	*e*P		**P**	**00 11 16.5**	**-1.3**
	comp=Z,30nm,1.0s,mb5.3							
DIVS	**Divcibare**	**57.13**	**34**	⇓*iP*		**P**	**00 11 18.5**	**+0.4**
GEC2	**GERESS Array S**	**57.23**	**26**	*e*P		**P**	**00 11 17.5**	**-1.3**
GEC2				pmax		pmax		
	comp=Z,20nm,1.0s,mb5.1							
GEC2	**GERESS Array S**	**57.23**	**26**	*e*P		**P**	**00 11 17.5**	**-1.3**
	comp=Z,20nm,1.0s,mb5.1							
GERES	**GERESS Array B**	**57.23**	**26**	P		**P**	**00 11 17.5**	**-1.2**
	comp=Z,10nm,0.8s,mb4.9,baz=218,slow=4.8,SNR=89							
GERES				PP		PP	00 13 23.5	-4.0
	comp=Z,2.9nm,0.8s,baz=207,slow=9.0,SNR=5.5							
GERES				LR		LR	00 34 09.8	
	comp=Z,496nm,21.7s,MS4.6,baz=232,slow=34							
KHC	**Kasperske Hory**	**57.39**	**26**	*e*P		**P**	**00 11 18.4**	**-1.5**
KHC				*e*			00 13 22.5	
KHC				*e*S		**S**	**00 19 17.8**	**+3.1**
KHC				MLR		MLR		
	comp=Z,700nm,18.1s,MS4.8							
KHC	**Kasperske Hory**	**57.39**	**26**	*e*P		**P**	**00 11 18.4**	**-1.5**
KHC				*e*pP		pP	00 11 28.4	+5.4
KHC				*ex*		x	00 11 39.0	
KHC				*e*PP		PP	00 13 22.5	-6.4
KHC				*e*S		**S**	**00 19 17.8**	**+3.1**
KHC				AMS		AMS	00 34 10.0	
	comp=Z,700nm,18.1s							
KKB	**Krupnik**	**57.60**	**38**	*e*P		**P**	**00 11 21.0**	**-0.5**
MOX	**Moxa**	**57.72**	**24**	*e*P		**P**	**00 11 21.3**	**-0.8**
MOX				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.9							
MOX	**Moxa**	**57.72**	**24**	*e*P		**P**	**00 11 21.3**	**-0.8**
	comp=Z,14nm,1.1s,mb4.9							
MOX	**Moxa**	**57.72**	**24**	*i* P		**P**	**00 11 21.3**	**-0.8**
	comp=Z,logA/T=1.1,mb4.9							
SOP	**Sopron**	**57.72**	**29**	⇓*eP*		**P**	**00 11 22.3**	**+0.1**
NKC	**Novy Kostel**	**57.74**	**25**	*e*P		**P**	**00 11 22.0**	**-0.3**
NKC				AMS		AMS	00 36 10.0	
	comp=Z,500nm,16.0s							
OTAV	**Otavalo**	**57.74**	**270**	*e*P		**P**	**00 11 23.3**	**+0.4**
	comp=Z,4.6nm,0.8s,mb4.6							
MMB	**Musomiste**	**57.84**	**38**	*e*P		**P**	**00 11 22.0**	**-1.1**
KMBO	**Kilima Mbogo**	**57.96**	**91**	P		**P**	**00 11 25.4**

ISR	**Istrita**	**61.51**	**36**	P		**P**	**00 11 48.4**	**+0.1**		
ISR	**Istrita**	**61.51**	**36**	⇑P		**P**	**00 11 48.2**	**-0.2**		
ISR	**Istrita**	**61.51**	**36**	⇑P		**P**	**00 11 48.2**	**-0.1**		
GKP	**Gorka Klasztor**	**61.99**	**25**	*e*P		**P**	**00 11 50.5**	**-1.0**		
GKP				LR		LR				
	comp=Z,300nm,27.7s,MS4.3									
GKP	**Gorka Klasztor**	**61.99**	**25**	*e*P		**P**	**00 11 50.5**	**-1.0**		
GKP				MLR		MLR	00 34 35.4			
	comp=Z,300nm,27.7s,MS4.3									
VRI	**Vrincioaia**	**62.03**	**36**	⇓P		**P**	**00 11 51.0**	**-0.9**		
KWP	**Kalwaria**	**62.06**	**30**	*e*P		**P**	**00 11 52.1**	**+0.1**		
KWP				MLR		MLR	00 38 25.7			
	comp=Z,600nm,20.4s,MS4.7									
HENT	**Hendek**	**62.09**	**42**	*i* P		**P**	**00 11 50.9**	**-1.5**		
HARR	**Harsova**	**62.11**	**37**	P		**P**	**00 11 51.3**	**-1.1**		
HARR	**Harsova**	**62.11**	**37**	⇑P		**P**	**00 11 51.0**	**-1.4**		
HARR	**Harsova**	**62.11**	**37**	⇑P		**P**	**00 11 51.0**	**-1.4**		
BURAR	**Bucovina Array**	**62.17**	**33**	⇑P		**P**	**00 11 53.1**	**+0.4**		
CFR	**Carcaliu**	**62.49**	**37**	P		**P**	**00 11 54.4**	**-0.5**		
CFR	**Carcaliu**	**62.49**	**37**	⇓P		**P**	**00 11 53.5**	**-1.4**		
CFR	**Carcaliu**	**62.49**	**37**	⇓P		**P**	**00 11 53.5**	**-1.4**		
MEST	**Erdemli**	**62.59**	**48**	*i* P		**P**	**00 11 56.0**	**+0.3**		
SGKT	**Sivrigoynuk**	**62.77**	**43**	*i* P		**P**	**00 11 56.5**	**-0.3**		
BRTR	**Keskin Array B**	**63.49**	**44**	P		**P**	**00 12 00.5**	**-1.1**		
	comp=Z,4.1nm,0.7s,mb4.7,baz=231,slow=5.6,SNR=36									
ELDT	**Eldivan**	**63.67**	**44**	*i* P		**P**	**00 12 03.1**	**+0.3**		
BALT	**Daday**	**64.09**	**43**	*i* P		**P**	**00 12 05.2**	**-0.4**		
COBT	**Iskenderun**	**64.14**	**49**	*i* P		**P**	**00 12 06.1**	**+0.1**		
KAHT	**Ahir Dag**	**65.00**	**48**	*i* P		**P**	**00 12 12.5**	**+0.9**		
BOYT	**Boyabat**	**65.08**	**43**	*i* P		**P**	**00 12 10.7**	**-1.3**		
SUW	**Suwalki**	**65.09**	**27**	*e*P		**P**	**00 12 10.5**	**-1.3**		
SUW				MLR		MLR	00 40 03.8			
	comp=Z,600nm,18.4s,MS4.8									
GZT	**Gaziantep**	**65.42**	**48**	*i* P		**P**	**00 12 15.1**	**+0.9**		
NB2	**NORSAR Subarra**	**65.88**	**16**	P		**P**	**00 12 15.6**	**-1.1**		
	comp=Z,1.0nm,0.8s,baz=205,slow=7.0									
NOA	**NORSAR Array B**	**65.88**	**16**	P		**P**	**00 12 15.6**	**-1.1**		
	comp=Z,7.8nm,0.8s,mb4.8,baz=213,slow=6.6,SNR=39									
NOA				LR		LR	00 42 05.4			
	comp=Z,422nm,19.8s,MS4.7,baz=205,slow=37									
MALT	**Malatya**	**66.39**	**47**	*e*P		**P**	**00 12 19.6**	**-0.8**		
	comp=Z,21nm,1.1s,mb5.1									
SCHQ	**Schefferville**	**66.62**	**333**	P		**P**	**00 12 20.6**	**-0.9**		
	comp=Z,5.8nm,0.9s,mb4.6,baz=121,slow=5.2,SNR=10.0									
SCHQ				LR		LR	00 36 21.2			
	comp=Z,414nm,21.6s,MS4.6,baz=144,slow=31									
SCHQ	**Schefferville**	**66.62**	**333**	*e*P		**P**	**00 12 20.3**	**-1.3**		
	comp=Z,9.2nm,0.9s,mb4.8									
ELZG	**Elazig**	**66.87**	**47**	*i* P		**P**	**00 12 24.5**	**+1.0**		
MNK	**Minsk**	**67.54**	**28**	*e*P		**P**	**00 12 24.0**	**-3.4**		
ALLY	**Alegheny Colle**	**67.81**	**316**	*e*P		**P**	**00 12 28.9**	**-0.4**		
ANN	**Anapa**	**68.15**	**41**	*e*P		**P**	**00 12 36.7**	**+5.3**		
ANN				*e*			00 13 01.4			
ANN				pmax		pmax				
	comp=Z,45nm,1.2s,mb5.4									
SOC	**Sochi**	**69.19**	**43**	*e*P		**P**	**00 12 35.6**	**-2.3**		
SOC				*e*PPP		PPP	00 16 46.2	-5.3		
SOC				*e*S		S	00 21 40.1	-2.2		
SOC				*e*SS		SS	00 26 03.3	-7.2		
SOC				pmax		pmax				
	comp=Z,17nm,1.1s,mb4.9									
SOC				pmax		pmax				
	comp=N,16nm,1.2s									
SOC				pmax		pmax				
	comp=E,8.0nm,0.9s									
SOC				MLR		MLR				
	comp=Z,137nm,17.0s,MS4.3									
SOC				MLR		MLR				
	comp=N,95nm,16.0s,MS4.2									
SOC				MLR		MLR				
	comp=E,83nm,17.0s,MS4.2									
MSL	**Mosul**	**69.28**	**51**	*e*P		**P**	**00 12 41.0**	**+2.4**		
ACSO	**Alum Creek Sta**	**69.33**	**314**	*e*P		**P**	**00 12 38.8**	**0.0**		
	comp=E,32nm,1.0s,mb5.2									
VSU	**Vasula**	**69.44**	**24**	*d* iP		**P**	**00 12 38.8**	**-0.3**		
SWET	**Sewanee**	**70.11**	**308**	*e*P		**P**	**00 12 43.5**	**-0.1**		
TVAN	**Van**	**70.17**	**49**	*i* P		**P**	**00 12 45.8**	**+1.8**		
SFJD	**Kangerlussuaq**	**70.37**	**348**	*i* P		**P**	**00 12 44.4**	**-0.2**		
SFJD				pmax		pmax				
	comp=Z,11nm,0.9s,mb4.8									
SFJD	**Kangerlussuaq**	**70.37**	**348**	*i* P		**P**	**00 12 44.4**	**-0.2**		
	comp=Z,11nm,0.9s,mb4.8									
AAM	**Ann Arbor**	**70.49**	**315**	*e*P		**P**	**00 12 45.8**	**-0.1**		
	comp=Z,53nm,1.2s,mb5.3									
SCO	**Scoresbysund**	**70.66**	**360**	*i* P		**P**	**00 12 48.3**	**+1.9**		
	comp=Z,2.1nm,0.8s,mb4.1									
VNA1	**Neumayer--Stat**	**70.72**	**176**	*e*		**P**	**00 12 52.1**	**+5.4**		
VNA1	**Neumayer--Stat**	**70.72**	**176**	⇑*i*P		**P**	**00 12 48.7**	**+2.0**		
VNA1				*e*		pP	00 12 52.1	+2.2		
VNA2	**Neumayer--Watz**	**71.05**	**175**	*e*		**P**	**00 12 53.3**	**+4.5**		
VNA2	**Neumayer--Watz**	**71.05**	**175**	*e*		**P**	**00 12 54.2**	**+5.4**		
VNA2	**Neumayer--Watz**	**71.05**	**175**	⇑*i*P		**P**	**00 12 49.9**	**+1.1**		
VNA2				*e*		pP	00 12 53.3	+1.4		
VNA2				*e*		pP	00 12 54.2	+2.3		
FINES	**FINESS Array B**	**71.06**	**22**	P		**P**	**00 12 48.1**	**-0.9**		
	comp=Z,11nm,0.8s,mb4.9,baz=225,slow=2.7,SNR=46									
FINES				LR		LR	00 42 58.2			
	comp=Z,340nm,19.5s,MS4.6,baz=234,slow=35									
FINES	**FINESS Array B**	**71.06**	**22**	P		**P**	**00 12 48.1**	**-0.9**		
FINES				LR		LR	00 42 58.2			
WCI	**Wyandotte Cave**	**71.19**	**311**	P		**P**	**00 12 49.0**	**-1.2**		
	comp=Z,17nm,1.0s,mb4.9									
VNA3	**Neumayer Olymp**	**71.20**	**176**	*e*		**P**	**00 12 54.4**	**+4.7**		
VNA3	**Neumayer Olymp**	**71.20**	**176**	*e*		**P**	**00 12 55.9**	**+6.2**		
VNA3	**Neumayer Olymp**	**71.20**	**176**	⇑*i*P		**P**	**00 12 51.4**	**+1.7**		
VNA3				*e*		pP	00 12 54.4	+1.6		
VNA3				*e*		pP	00 12 55.9	+3.1		
KIV	**Kislovodsk**	**71.34**	**43**	*c i*P		**P**	**00 12 50.4**	**-0.6**		
KIV				pmax		pmax				
	comp=Z,12nm,1.3s,mb4.7									
KIV				MLR		MLR				
	comp=Z,100nm,21.0s,MS4.0									
KIV	**Kislovodsk**	**71.34**	**43**	*e*P		**P**	**00 12 48.7**	**-2.3**		
	comp=Z,20nm,1.5s,mb4.8									
KIV				LR		LR				
	comp=Z,30nm,18.1s,MS3.6									
KAF	**Kangasniemi**	**71.57**	**21**	*e*p		**P**	**00 12 50.1**	**-1.9**		
	comp=Z,21nm,1.0s,mb5.0,baz=233,slow=5.9									
KAF	**Kangasniemi**	**71.57**	**21**	*e*P		**P**	**00 12 50.1**	**-1.9**		
KAF				pmax		pmax				
	comp=Z,21nm,1.0s,mb5.0									
GNI	**Garni**	**71.63**	**47**	⇑*e*P		**P**	**00 12 53.0**	**+0.2**		
GNI				pmax		pmax				
	comp=Z,26nm,1.6s									
GNI				MLR		MLR				
	comp=Z,200nm,15.0s									
GNI	**Garni**	**71.63**	**47**	*e*P		**P**	**00 12 53.5**	**+0.8**		
	comp=Z,23nm,1.4s,mb4.9									
PLAL	**Pickwick Lake**	**71.75**	**307**	*e*P		**P**	**00 12 52.4**	**-1.2**		
	comp=Z,54nm,1.6s,mb5.2									
ZEI	**Tsey**	**71.80**	**44**	*e*P		**P**	**00 12 53.4**	**-0.3**		
ZEI				pmax		pmax				
	comp=Z,3.0nm,0.7s,mb4.3									
WVT	**Waverly**	**71.83**	**308**	*e*P		**P**	**00 12 53.0**	**-1.1**		
	comp=Z,20nm,1.1s,mb5.0									
VRSR	**Storozhevoye**	**71.85**	**35**	*c i*P		**P**	**00 12 53.2**	**-0.7**		
VRSR				pmax		pmax				
	comp=N,10.0nm,0.7s									
VRSR				pmax		pmax				
	comp=Z,20nm,0.7s,mb5.2									
VRSR				pmax		pmax				
	comp=E,20nm,0.8s									
VRSR				MLR		MLR				
	comp=Z,200nm,19.0s,MS4.4									
VRSR				MLR		MLR				
	comp=N,560nm,23.0s									
VRSR				MLR		MLR				
	comp=E,100nm,12.0s									
GOF	**Gofitskoye**	**71.94**	**42**	⇑*i*P		**P**	**00 12 54.5**	**0.0**		
GOF				pmax		pmax				
	comp=Z,20nm,1.0s,mb5.0									
TI2	**Plekhanov**	**72.09**	**46**	*e*P		**P**	**00 12 55.2**	**-0.3**		
OBN	**Obninsk**	**72.16**	**31**	⇓*e*P		**P**	**00 12 54.8**	**-0.8**		
OBN				*e*S		S	00 22 15.3	-1.3		
OBN				*e*SS		SS	00 26 55.0	-0.9		
OBN				pmax		pmax				
	comp=Z,16nm,1.0s,mb4.9									
OBN				MLR		MLR				
	comp=Z,100nm,14.0s,MS4.2									
MOS	**Moscow**	**72.98**	**30**	*e*P		**P**	**00 13 00.8**	**+0.3**		
MOS				*e*			00 13 15.2			
MOS				pmax		pmax				
	comp=Z,73nm,1.1s,mb5.5									
SUMG	**Summit**	**73.61**	**355**	*e*P		**P**	**00 13 04.7**	**+0.9**		
	comp=Z,33nm,1.1s,mb5.2									
ABTO	**Aybut**	**74.83**	**72**	P		**P**	**00 13 13.1**	**+1.1**		
	SNR=11									
CCM	**Cathedral Cave**	**74.93**	**310**	*e*P		**P**	**00 13 10.6**	**-1.6**		
	comp=Z,43nm,1.4s,mb5.2									
CCM				LR		LR				
	comp=Z,211nm,19.0s,MS4.5									
UALR	**University of**	**75.14**	**306**	*e*P		**P**	**00 13 12.7**	**-0.7**		
	comp=Z,9.3nm,0.6s,mb4.9									
UALR				*e*			00 13 22.5			
WHFO	**Wadi Hawf**	**75.33**	**71**	P		**P**	**00 13 14.1**	**-0.8**		
	SNR=21									
RBK	**Rabkut**	**75.71**	**72**	P		**P**	**00 13 16.5**	**-0.5**		
	SNR=19									
ARCES	**ARCESS Array B**	**76.19**	**15**	P		**P**	**00 13 18.9**	**+0.2**		
	comp=Z,7.2nm,0.9s,mb4.6,baz=202,slow=6.5,SNR=8.0									
ARCES	**ARCESS Array B**	**76.19**	**15**	P		**P**	**00 13 18.9**	**+0.2**		
NATX	**Nacogdoches**	**76.54**	**303**	*e*P		**P**	**00 13 20.4**	**-1.1**		
	comp=Z,34nm,1.1s,mb5.2									
NATX				*e*			00 13 30.9			
DAG	**Danmarks Havn**	**76.98**	**0**	⇑*i*P		**P**	**00 13 23.5**	**+0.5**		
DAG				pmax		pmax				
	comp=Z,7.0nm,0.9s,mb4.6									
DAG	**Danmarks Havn**	**76.98**	**0**	⇑*i*P		**P**	**00 13 23.5**	**+0.5**		
	comp=Z,6.7nm,0.9s,mb4.6									
SHAO	**Shalim**	**77.10**	**72**	P		**P**	**00 13 26.0**	**+1.2**		
	SNR=5.8									
APA	**Apatity**	**77.27**	**19**	*i* P		**P**	**00 13 25.5**	**+0.7**		
LVZ	**Lovozero**	**77.85**	**19**	*e*P		**P**	**00 13 21.8**	**-6.1**		
LVZ				*e*S		S	00 23 14.3	-5.2		
ARQ	**Araqi**	**78.39**	**66**	P		**P**	**00 13 31.6**	**-0.2**		
	SNR=19									
BANOM	**Banah**	**78.45**	**64**	⇑P		**P**	**00 13 31.3**	**-0.8**		
BSY	**Bisya**	**78.96**	**67**	P		**P**	**00 13 34.2**	**-0.7**		
	SNR=11									
KSU1	**Kansas State U**	**79.26**	**310**	*e*P		**P**	**00 13 34.9**	**-1.4**		
SMDO	**Samad**	**79.77**	**67**	P		**P**	**00 13 40.2**	**+0.9**		
	SNR=8.8									
WMOK	**Wichita Mounta**	**80.37**	**305**	*e*P		**P**	**00 13 41.4**	**-0.8**		
	comp=Z,12nm,0.9s,mb4.8									
WMOK				*e*			00 13 51.4			
WBK	**Wadi Bani Khal**	**80.58**	**67**	⇑P		**P**	**00 13 44.7**	**+1.1**		
JCT	**Junction City**	**80.75**	**301**	*e*P		**P**	**00 13 44.0**	**-0.3**		
	comp=Z,26nm,0.8s,mb5.2									
ULM	**Lac du Bonnet**	**80.77**	**321**	P		**P**	**00 13 43.4**	**-0.7**		
	comp=Z,4.9nm,0.9s,mb4.4,baz=98,slow=3.9,SNR=8.5									
ULM				LR		LR	00 43 25.8			
	comp=Z,415nm,20.8s,MS4.8,baz=211,slow=31									
ULM	**Lac du Bonnet**	**80.77**	**321**	*e*P		**P**	**00 13 43.1**	**-0.9**		
	comp=Z,30nm,1.4s,mb5.0									
ULM				*e*			00 13 52.1			
ULM				LR		LR				
	comp=Z,585nm,20.0s,MS4.9									
CBKS	**Cedar Bluff**	**81.63**	**309**	*e*P		**P**	**00 13 49.4**	**+0.6**		
	comp=Z,68nm,1.4s,mb5.4									
CBKS				*e*			00 13 58.9			
FCC	**Fort Churchill**	**81.68**	**330**	*e*P		**P**	**00 13 47.1**	**-1.6**		
	comp=Z,53nm,1.4s,mb5.3									
TXAR	**Lajitas Array**	**84.00**	**299**	P		**P**	**00 14 01.9**	**+0.6**		
	comp=Z,10nm,0.9s,mb4.9,baz=118,slow=5.7,SNR=45									
TXAR				LR		LR	00 52 44.4			
	comp=Z,78nm,18.4s,MS4.1,baz=40,slow=37									
TXAR	**Lajitas Array**	**84.00**	**299**	P		**P**	**00 14 01.9**	**+0.6**		
TXAR				LR		LR	00 52 44.4			
ARU	**Arti**	**84.31**	**33**	⇓*i*P		**P**	**00 14 02.2**	**0.0**		
ARU				*e*			00 17 16.8			
ARU				*e*S		S	00 24 22.2	-4.2		
ARU				*e*SS		SS	00 29 57.4	-1.6		
ARU				pmax		pmax				
	comp=Z,19nm,0.9s,mb5.2									
ARU				MLR		MLR				
	comp=Z,200nm,18.0s,MS4.5									
ARU	**Arti**	**84.31**	**33**	*d i*P		**P**	**00 14 02.3**	**+0.1**		
ARU				pmax		pmax				
	comp=Z,13nm,0.6s,mb5.2									
ARU	**Arti**	**84.31**	**33**	P		**P**	**00 14 00.8**	**-1.4**		
	comp=Z,18nm,0.8s,mb5.3									
CLNB	**Carlsbad**	**84.37**	**302**	P		**P**	**00 14 02.9**	**-0.2**		
CPRX	**Cap Rock**	**84.42**	**303**	*e*P		**P**	**00 14 03.6**	**+0.3**		
GDL2	**Guadalupe Moun**	**84.78**	**302**	*e*P		**P**	**00 14 05.5**	**+0.3**		
RSSD	**Black Hills**	**85.40**	**314**	*e*P		**P**	**00 14 06.9**	**-1.0**		
	comp=Z,41nm,1.8s,mb5.3									
SVE	**Sverdlovsk**	**85.50**	**33**	*e*P		**P**	**00 14 10.0**	**+1.9**		
SVE				pmax		pmax				
	comp=Z,20nm,1.0s,mb5.2									
SVE				MLR		MLR				
	comp=N,100nm,17.0s,MS4.6									
SVE				MLR		MLR				
	comp=E,200nm,17.0s,MS4.6									
SVE				MLR		MLR				
	comp=Z,400nm,17.0s,MS4.9									
MNTX	**Cornudas Mount**	**85.61**	**302**	*e*P		**P**	**00 14 08.1**	**-1.2**		
	comp=Z,6.0nm,1.0s,mb4.8									
SDCO	**Great Sand Dun**	**86.05**	**308**	*e*P		**P**	**00 14 11.8**	**+0.4**		
	comp=Z,26nm,1.2s,mb5.3									
RES	**Resolute Bay**	**86.13**	**345**	*e*P		**P**	**00 14 11.9**	**+1.0**		
	comp=Z,12nm,1.0s,mb5.1									
ANMO	**Albuquerque**	**86.68**	**305**	⇓*e*P		**P**	**00 14 15.8**	**+1.3**		
ANMO	**Albuquerque**	**86.68**	**305**	P		**P**	**00 14 15.7**	**+1.2**		
	comp=Z,6.7nm,0.9s,mb4.9,baz=134,slow=6.9,SNR=23									
ANMO	**Albuquerque**	**86.68**	**305**	*e*P		**P**	**00 14 15.2**	**+0.7**		
	comp=Z,11nm,1.0s,mb5.0									
LPM	**Los Pinos Moun**	**86.79**	**304**	*e*P		**P**	**00 14 15.9**	**+0.8**		
LENM	**Lemitar**	**87.07**	**304**	*e*P		**P**	**00 14 16.8**	**+0.4**		
LAO	**LASA Array**	**87.12**	**317**	*e*P		**P**	**00 14 17.0**	**+0.6**		
	comp=Z,57nm,1.2s,mb5.7									
LAZ	**Ladron**	**87.21**	**304**	*e*P		P	**00 14 17.9**	**+0.8**		
MAW	**Mawson**	**87.28**	**158**	LR		LR	00 44 54.9			
	comp=Z,523nm,20.4s,MS4.9,baz=285,slow=30									
RW3	**Ridgway**	**87.80**	**308**	*e*P		**P**	**00 14 20.4**	**+0.6**		
PV01	**Paradox Valley**	**88.49**	**308**	*e*P		**P**	**00 14 24.4**	**+1.2**		
PV10	**Paradox Valley**	**88.87**	**308**	*e*P		**P**	**00 14 25.8**	**+0.9**		
PDAR	**Pinedale Array**	**89.35**	**313**	P		**P**	**00 14 27.2**	**+0.1**		
	comp=Z,2.2nm,0.9s,mb4.5,baz=103,slow=5.9,SNR=17									
PDAR				LR		LR	00 52 21.6			
	comp=Z,221nm,19.6s,MS4.6,baz=100,slow=34									
QSPA	**South Pole Qui**	**89.78**	**180**	*e*P		**P**	**00 14 30.8**	**+2.5**		
	comp=Z,15nm,0.8s,mb5.4									
SRU	**San Rafael**	**90.04**	**309**	*e*P		**P**	**00 14 31.1**	**+0.6**		
LOHW	**Long Hollow**	**90.12**	**313**	*e*P		**P**	**00 14 30.9**	**+0.1**		
	comp=Z,19nm,1.2s,mb5.3									
TUC	**Tucson**	**90.22**	**302**	*e*P		**P**	**00 14 30.6**	**-0.9**		
	comp=Z,4.3nm,1.0s,mb4.7									
SNOW	**Snow King Moun**	**90.23**	**313**	*e*P		**P**	**00 14 31.5**	**+0.3**		
	comp=Z,31nm,1.2s,mb5.5									
REDW	**Red Top Meadow**	**90.30**	**313**	*e*P		**P**	**00 14 30.1**	**-1.5**		
	comp=Z,27nm,1.1s,mb5.5									
TPAW	**Teton Pass**	**90.38**	**313**	*e*P		**P**	**00 14 32.3**	**+0.4**		
	comp=Z,22nm,1.3s,mb5.3									
AHID	**Auburn Hatcher**	**90.48**	**313**	*e*P		**P**	**00 14 32.3**	**-0.1**		
	comp=Z,26nm,1.4s,mb5.4									
DAU	**Daniels Canyon**	**90.61**	**310**	*e*P		**P**	**00 14 34.3**	**+1.3**		
RRI2	**Red Ridge**	**90.64**	**313**	*e*P		**P**	**00 14 33.6**	**+0.5**		
	comp=Z,44nm,1.6s,mb5.5									
WUAZ	**Wupatki**	**90.71**	**305**	P		**P**	**00 14 34.5**	**+0.9**		
	comp=Z,15nm,1.3s,mb5.2									
WUAZ				*e*			00 14 45.2			
TCUT	**Toone Canyon**	**90.72**	**311**	P		**P**	**00 14 33.7**	**+0.2**		
HWUT	**Hardware Ranch**	**90.83**	**311**	*e*P		**P**	**00 14 34.3**	**+0.2**		
	comp=Z,11nm,1.2s,mb5.0									
NLU	**North Lily Min**	**91.24**	**310**	*e*P		**P**	**00 14 38.1**	**+2.2**		
MSU	**Marysvale**	**91.33**	**308**	*e*P		**P**	**00 14 38.8**	**+2.4**		
MSU				*e*			00 14 47.0			
DUG	**Dugway**	**91.80**	**310**	*e*P		**P**	**00 14 39.1**	**+0.5**		
	comp=Z,6.8nm,1.1s,mb4.9									
DUG				*e*			00 14 48.8			
EDM	**Edmonton**	**91.82**	**323**	*e*P		**P**	**00 14 37.6**	**-0.7**		
EDM				*e*			00 14 48.3			
YKA	**Yellowknife Ar**	**92.06**	**332**	P		**P**	**00 14 38.7**	**-0.4**		
	comp=Z,4.4nm,1.0s,mb4.7,baz=88,slow=5.0,SNR=23									
YKA				LR		LR	00 53 12.1			
	comp=Z,412nm,18.7s,MS4.9,baz=65,slow=34									
YKA	**Yellowknife Ar**	**92.06**	**332**	P		**P**	**00 14 38.7**	**-0.5**		
YKA				LR		LR	00 53 12.1			
YKW3	**Yellowknife Ar**	**92.07**	**332**	*e*P		**P**	**00 14 38.6**	**-0.6**		
HLID	**Hailey**	**92.89**	**313**	*e*P		**P**	**00 14 44.0**	**+0.6**		
	comp=Z,6.9nm,1.2s,mb5.0									
AAK	**Ala-Archa**	**94.03**	**47**	*c i*P		**P**	**00 14 49.7**	**+1.0**		
AAK				pmax		pmax				
	comp=Z,2.0nm,0.5s,mb4.8									
AAK	**Ala-Archa**	**94.03**	**47**	P		**P**	**00 14 50.1**	**+1.3**		
	comp=Z,4.5nm,0.8s,mb5.0									
KURK	**Kurchatov**	**96.14**	**39**	*i* P		**P**	**00 14 57.6**	**-0.6**		
MKAR	**Makanchi Array**	**99.10**	**43**	P		**P**	**00 15 12.4**	**+0.7**		
	comp=Z,0.7nm,1.0s,mb4.1,baz=270,slow=4.3,SNR=6.6									
MKAR				PP		PP	00 19 10.9	-5.5		
	comp=Z,0.8nm,0.8s,baz=286,slow=8.8,SNR=3.7									
MKAR				LR		LR	01 03 05.4			
	comp=Z,110nm,19.4s,MS4.4,baz=161,slow=37									
RKT	**Rikitea**	**112.11**	**245**	*e*SS		SS	00 36 36.7	+8.0		
RKT				*e*LR		LR	00 53 37.0			
	comp=Z,280nm,40.0s									
BILL	**Bilibino**	**112.21**	**357**	*e*P		Pdif	00 16 11.5	+2.2		
BILL				*i*			00 20 50.4			
BILL				pmax		pmax				
	comp=Z,2.0nm,1.5s									
SONM	**Songino Array**	**114.22**	**36**	PKP		PKPdf	00 20 08.8	-3.0		
	comp=Z,0.7nm,0.9s,baz=315,slow=1.7,SNR=4.6									
LZH	**Lanzhou**	**117.54**	**49**	*e*PKP		PKPdf	00 20 12.5	-6.0		
LZH				XPKP			00 20 17.5			
LZH				PP		PP	00 21 29.5	-3.1		
LZH				PP		PP				
	comp=Z,68nm,5.3s									
LZH				LR		LR				
	comp=E,413nm,18.3s									
LZH				LR		LR				
	comp=Z,565nm,20.3s,MS5.2									
KMI	**Kunming**	**120.12**	**61**	PKP		PKPdf	00 20 22.3	-1.4		
KMI				LR		LR				
	comp=Z,74nm,34.0s,MS4.1									
HHC	**Hu-ho-hao-te**	**120.90**	**41**	*e*PKP		PKPdf	00 20 25.3	+0.3		
HHC				PP		PP	00 21 59.8	+4.8		
HHC				SKKS			00 28 48.5			
HHC				SS		SS	00 38 28.5	+5.0		
BJI	**Beijing**	**124.31**	**39**	PKP		PKPdf	00 20 31.0	-0.6		
BJI				LR		LR				
	comp=N,272nm,20.3s,MS4.9									
BJI				LR		LR				
	comp=E,123nm,20.3s,MS4.9									
BJI				LR		LR				
	comp=Z,206nm,28.7s									
TBI	**Tubuai**	**124.98**	**241**	*e*SS		SS	00 39 36.0	+20		
TBI				*e*LR		LR	00 58 53.4			
	comp=Z,190nm,28.0s									
PPT	**Papeete**	**126.66**	**248**	*e*SS		SS	00 39 44.9	+7.9		
PPT				*e*LR		LR	01 00 01.0			
	comp=Z,312nm,24.8s									
CN2	**Changchun**	**127.22**	**30**	*e*PKP		PKPdf	00 20 36.5	-0.6		
CN2				PP		PP	00 22 38.8	+1.6		
CN2				LR		LR				
	comp=N,270nm,20.0s,MS5.0									
CN2				LR		LR				
	comp=E,190nm,20.0s,MS5.0									
CN2				LR		LR				
	comp=Z,230nm,22.0s,MS4.8									
MDJ	**Mudanjiang**	**128.60**	**27**	PKP		PKPdf	00 20 33.8	-6.0		
MDJ				LR		LR				
	comp=N,133nm,44.4s,MS4.4									
MDJ		

SDV					Lg			00 45 37.1		
	2µm,0.3s,baz=23,slow=21,SNR=48									
SDV	**Santo Domingo**	**1.11**	**219**	*eP*		**Pb**		**00 45 23.7**	**-1.8**
SDV				*eS*		**Sb**		**00 45 37.2**	**-2.4**
EAV	**Pico El Aguila**	**1.26**	**225**	P		**Pn**		**00 45 27.0**	**-0.9**
EAV				P				00 45 27.0		
EAV	**Pico El Aguila**	**1.26**	**225**	P		**Pn**		**00 45 27.0**	**-0.9**
EAV				P				00 45 27.0		
CUV	**La Culata**	**1.50**	**229**	P		**Pn**		**00 45 31.7**	**+0.3**
UAV	**Universidad de**	**1.66**	**227**	P		**Pn**		**00 45 34.2**	**+0.6**
UAV				S		**Sn**		**00 45 54.5**	**0.0**
VIGV	**El Vigia**	**1.69**	**238**	*eP*		**Pn**		**00 45 35.3**	**+1.2**
VIGV				*eS*		**Sn**		**00 45 55.9**	**+0.6**
SOCV	**Socops**	**1.73**	**212**	*eP*		**Pn**		**00 45 34.9**	**+0.4**
SOCV				*eS*		**Sn**		**00 45 55.6**	**-0.6**
OSV	**Paramo de la O**	**1.90**	**235**	P		**Pn**		**00 45 38.4**	**+1.4**
BAUV	**El Baul**	**2.02**	**113**	*eP*		**Pn**		**00 45 38.9**	**+0.1**
BAUV				*eS*		**Sn**		**00 46 03.5**	**-0.2**
TURV	**Turiamo**	**2.16**	**71**	*eP*		**Pn**		**00 45 40.9**	**+0.1**
TURV				*eS*		**Sn**		**00 46 07.0**	**-0.3**
MONV	**Montecano**	**2.19**	**359**	*eP*		**Pn**		**00 45 42.1**	**+0.9**
MONV				*eS*		**Sn**		**00 46 08.4**	**+0.4**
PDMV	**Paramo Marino**	**2.36**	**233**	P		**Pn**		**00 45 45.0**	**+1.3**
PDMV				S		**Sn**		**00 46 17.9**	**+5.6**
VIRV	**Villa del Rosa**	**2.56**	**287**	*eP*		**Pn**		**00 45 46.4**	**-0.1**
VIRV				*eS*		**Sn**		**00 46 17.3**	**-0.1**
ELOV	**Elorza**	**2.77**	**171**	*eP*		**Pn**		**00 45 49.1**	**-0.4**
ELOV				*eS*		**Sn**		**00 46 20.0**	**-2.7**
PCRV	**Puerto La Cruz**	**5.22**	**85**	Pn		**Pn**		**00 46 25.8**	**+1.5**
	29nm,0.3s,baz=314,slow=4.8,SNR=127									
PCRV					Sn	**Sn**		**00 47 25.0**	**+0.3**
	11nm,0.3s,baz=66,slow=22,SNR=5.6									
PCRV					Lg			00 47 58.2		
	14nm,0.3s,baz=207,slow=21,SNR=3.6									
PCRV					LR	LR		00 48 12.2		
	comp=Z,217nm,20.1s,baz=78,slow=35									
ROSC	**El Rosal**	**6.54**	**222**	Pn		**Pn**		**00 46 43.3**	**+0.4**
	17nm,0.3s,baz=67,slow=5.0,SNR=89									
ROSC					Sn	**Sn**		**00 47 59.9**	**+2.2**
	11nm,0.3s,baz=240,slow=23,SNR=2.6									
SJG	**San Juan**	**9.08**	**23**	Pn		**P**		**00 47 15.3**	**-3.0**
	19nm,0.3s,baz=225,slow=11,SNR=34									
SJG					Sn	**Sn**		**00 48 47.7**	**-13**
	5.5nm,0.3s,baz=343,slow=19,SNR=2.8									
SJG					LR	LR		00 50 46.6		
	comp=Z,194nm,20.5s,baz=257,slow=38									
SJG	**San Juan**	**9.08**	**23**	*eP*		**P**		**00 47 14.3**	**-3.9**
	46nm,0.4s									
SJG				*eS*		**Sn**		**00 48 49.3**	**-12**
OTAV	**Otavalo**	**12.70**	**222**	*eP*		**P**		**00 48 03.1**	**-4.7**
	20nm,1.3s									
LPAZ	**La Paz**	**25.93**	**176**	P		**P**		**00 50 40.9**	**+2.7**
	3.8nm,0.8s,mb4.0,baz=343,slow=15,SNR=23									
LPAZ	**La Paz**	**25.93**	**176**	*eP*		**P**		**00 50 38.7**	**+0.5**
	5.2nm,0.7s,mb4.2									
LVC	**Limon Verde**	**32.18**	**178**	P		**P**		**00 51 33.5**	**-0.7**
BDFB	**Brasilia**	**33.27**	**139**	P		**P**		**00 51 43.5**	**-0.3**
	4.5nm,0.9s,mb4.4,baz=271,slow=8.1,SNR=5.7									
FVM	**French Village**	**33.62**	**330**	*eP*		**P**		**00 51 46.3**	**-0.4**
	9.5nm,0.8s,mb4.8									
CCM	**Cathedral Cave**	**34.09**	**329**	*eP*		**P**		**00 51 50.0**	**-0.7**
	6.7nm,0.8s,mb4.6									
SADO	**Sadowa**	**35.79**	**349**	LR		LR		01 05 54.8		
	comp=Z,96nm,20.3s,MS3.5,baz=72,slow=35									
WMOK	**Wichita Mounta**	**36.25**	**318**	*eP*		**P**		**00 52 07.8**	**-1.3**
	2.0nm,0.5s,mb4.3									
TXAR	**Lajitas Array**	**37.09**	**306**	P		**P**		**00 52 16.0**	**-0.2**
	1.0nm,0.9s,mb3.6,baz=117,slow=8.1,SNR=6.6									
AMTX	**Amarillo**	**38.29**	**316**	P		**P**		**00 52 28.0**	**+1.7**
	19nm,1.2s,mb4.7									
GDL2	**Guadalupe Moun**	**38.88**	**310**	*eP*		**P**		**00 52 32.8**	**+1.6**
CPRX	**Cap Rock**	**38.90**	**312**	*eP*		**P**		**00 52 31.8**	**+0.3**
MNTX	**Cornudas Mount**	**39.43**	**309**	*eP*		**P**		**00 52 35.8**	**0.0**
	8.4nm,1.3s,mb4.3									
CFAA	**Coronel Fontan**	**41.15**	**178**	P		**P**		**00 52 51.5**	**+1.5**
	0.3nm,0.7s,baz=331,slow=6.5,SNR=6.3									
ANMO	**Albuquerque**	**41.71**	**313**	P		**P**		**00 52 55.8**	**+1.2**
	1.7nm,0.8s,mb3.7,baz=137,slow=5.6,SNR=3.9									
ANMO	**Albuquerque**	**41.71**	**313**	P		**P**		**00 52 55.9**	**+1.3**
	4.0nm,1.2s,mb3.9									
EYMN	**Ely**	**42.20**	**338**	*eP*		**P**		**00 52 56.2**	**-2.2**
	6.0nm,0.9s,mb4.2									
SDCO	**Great Sand Dun**	**42.43**	**317**	*eP*		**P**		**00 53 00.6**	**+0.1**
	5.7nm,1.0s,mb4.2									
RW3	**Ridgway**	**44.17**	**316**	P		**P**		**00 53 14.3**	**-0.3**
PV01	**Paradox Valley**	**44.72**	**316**	*eP*		**P**		**00 53 20.4**	**+1.4**
SCHQ	**Schefferville**	**45.03**	**3**	P		**P**		**00 53 21.4**	**0.0**
	0.9nm,0.3s,mb4.0,baz=175,slow=12,SNR=10									
SCHQ					LR	LR		01 10 14.3		
	comp=Z,48nm,21.5s,MS3.4,baz=162,slow=34									
PV10	**Paradox Valley**	**45.16**	**316**	*eP*		**P**		**00 53 20.5**	**-2.0**
WUAZ	**Wupatki**	**45.57**	**311**	*eP*		**P**		**00 53 26.6**	**+0.8**
	3.4nm,0.8s,mb4.3									
ULM	**Lac du Bonnet**	**45.73**	**337**	P		**P**		**00 53 26.4**	**-0.5**
	1.7nm,0.4s,mb4.3,baz=126,slow=6.8,SNR=6.5									
ULM	**Lac du Bonnet**	**45.73**	**337**	*eP*		**P**		**00 53 26.1**	**-0.8**
	5.4nm,0.8s,mb4.5									
TMUT	**Trail Mountain**	**47.09**	**316**	*eP*		**P**		**00 53 39.6**	**+1.8**
DAU	**Daniels Canyon**	**47.64**	**317**	P		**P**		**00 53 41.9**	**-0.2**
BW06	**Boulder Array**	**47.71**	**321**	*eP*		**P**		**00 53 42.4**	**-0.3**
	4.4nm,1.0s,mb4.4									
PDAR	**Pinedale Array**	**47.71**	**321**	P		**P**		**00 53 43.0**	**+0.3**
	1.4nm,0.5s,mb4.3,baz=122,slow=11,SNR=12									
LAO	**LASA Array**	**48.02**	**327**	*eP*		**P**		**00 53 44.6**	**-0.4**
	5.0nm,0.8s,mb4.6									
HWUT	**Hardware Ranch**	**48.41**	**318**	*eP*		**P**		**00 53 48.1**	**0.0**
	9.2nm,1.3s,mb4.7									
AHID	**Auburn Hatcher**	**48.69**	**320**	P		**P**		**00 53 50.1**	**-0.1**
LOHW	**Long Hollow**	**48.81**	**321**	*eP*		**P**		**00 53 51.5**	**+0.4**
	5.3nm,0.8s,mb4.6									
SNOW	**Snow King Moun**	**48.82**	**321**	P		**P**		**00 53 50.8**	**-0.5**
	9.3nm,0.9s,mb4.8									
REDW	**Red Top Meadow**	**48.83**	**321**	*eP*		**P**		**00 53 51.5**	**+0.1**
TPAW	**Teton Pass**	**48.96**	**321**	*eP*		**P**		**00 53 52.1**	**-0.2**
	8.0nm,0.9s,mb4.8									
QLMT	**Earthquake Lak**	**49.95**	**322**	P		**P**		**00 53 58.8**	**-1.1**
PLCA	**Paso Flores**	**50.23**	**181**	P		**P**		**00 54 03.1**	**+1.0**
	2.4nm,0.8s,mb4.3,baz=337,slow=5.6,SNR=7.4									
CHMT	**Chamberlain Mo**	**52.12**	**323**	*eP*		**P**		**00 54 14.5**	**-1.8**
FCC	**Fort Churchill**	**52.24**	**344**	*eP*		**P**		**00 54 14.6**	**-2.5**
	3.4nm,0.8s,mb4.3									
NEW	**Newport**	**55.06**	**323**	*eP*		**P**		**00 54 37.0**	**-1.1**
	3.4nm,0.9s,mb4.4									
EDM	**Edmonton**	**55.60**	**330**	*eP*		**P**		**00 54 39.0**	**-2.9**
YKA	**Yellowknife Ar**	**61.68**	**338**	P		**P**		**00 55 22.4**	**-1.6**
	5.4nm,0.8s,mb4.7,baz=123,slow=6.9,SNR=29									
YKA	**Yellowknife Ar**	**61.68**	**338**	P		**P**		**00 55 22.4**	**-1.6**
YKW3	**Yellowknife Ar**	**61.72**	**338**	*eP*		**P**		**00 55 22.8**	**-1.6**
ESDC	**Sonseca Array**	**65.36**	**51**	P		**P**		**00 55 48.3**	**-0.3**
	0.3nm,0.5s,mb3.5,baz=267,slow=5.7,SNR=4.5									
SUMG	**Summit**	**65.56**	**10**	P		**P**		**00 55 48.9**	**-0.4**
	4.3nm,0.6s,mb4.7									
NB2	**NORSAR Subarra**	**77.24**	**30**	P		**P**		**00 57 01.6**	**+2.1**
	0.5nm,0.7s,mb3.5,baz=269,slow=5.6									
NOA	**NORSAR Array B**	**77.24**	**30**	LR		LR		01 28 22.2		
	comp=Z,27nm,18.0s,MS3.6,baz=110,slow=34									
KHC	**Kasperske Hory**	**78.45**	**42**	*eP*		**P**		**00 57 07.0**	**+0.6**
KHC				*e*		pP		00 57 13.5	**+0.9**
GERES	**GERESS Array B**	**78.54**	**42**	P		**P**		**00 57 07.1**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=275,slow=5.1,SNR=13									
IMA	**Indian Mountai**	**78.62**	**336**	P		**P**		**00 57 07.3**	**+0.3**
ARCES	**ARCESS Array B**	**82.83**	**21**	P		**P**		**00 57 29.8**	**+0.5**
	3.0nm,0.9s,mb4.3,baz=290,slow=4.1,SNR=9.2									
FINES	**FINESS Array B**	**84.37**	**29**	P		**P**		**00 57 37.5**	**+0.4**
	0.7nm,0.8s,mb3.9,baz=288,slow=6.0,SNR=3.9									
TSUM	**Tsumeb**	**90.83**	**109**	LR		LR		01 34 02.5		
	comp=Z,71nm,20.1s,MS4.1,baz=328,slow=32									
SUR	**Sutherland**	**95.76**	**122**	LR		LR		01 41 48.9		
	comp=Z,135nm,19.4s,MS4.4,baz=336,slow=36									
WMQ	**Urumqi**	**122.93**	**19**	*ePKP*		PKPdf		01 04 02.8	**-1.7**
CN2	**Changchun**	**124.90**	**346**	*ePKP*		PKPdf		01 04 06.8	**-1.7**
LZH	**Lanzhou**	**134.03**	**7**	*ePKP*		PKPdf		01 04 19.0	**-7.0**
NJ2	**Nanjing**	**137.60**	**349**	*ePKP*		PKPdf		01 04 25.8	**-6.9**
NJ2				PKS		PKS		01 08 01.0	**-2.7**
NJ2				PP		PP				
	comp=Z,150nm,4.2s									
NJ2				LR		LR				
	comp=N,210nm,24.6s,MS5.1									
NJ2				LR		LR				
	comp=E,400nm,22.1s,MS5.1									
NJ2				LR		LR				
	comp=Z,170nm,27.1s,MS4.7									
ASAR	**Alice Springs**	**153.38**	**236**	PKPbc		PKPdf		01 05 06.1	**+6.9**
	comp=Z,1.0nm,0.7s,baz=113,slow=2.2,SNR=10									
WB2	**Warramunga Arr**	**154.48**	**244**	*eP*		PKPdf		01 05 04.7	**+3.9**
WRA	**Warramunga Arr**	**154.49**	**244**	PKPbc		PKPdf		01 05 05.8	**+5.0**
	comp=Z,1.0nm,0.4s,baz=105,slow=2.8,SNR=8.2									

*IDC **28** 00:51:15.6±0.7,9.67N×69.97W,mb3.8/9,mb1 4.1/12, mb1mx3.9/22,mbtmp3.9/12,ML4.2/3,MS3.2/1,Ms1 3.2/1, ms1mx2.2/32,Error ellipse: s-maj=22.6km s-min=9.3km az=129.0*
*NEIC **28** 00:51:17.6,9.72N×69.91W,h0km,MD4.1(CAR),After CAR.*
*FUNV **28** 00:51:17.6,9.72N×69.91W,h0km,MW3.4*
*UAV **28** 00:51:20.9,9.55N×70.12W,h4km*

ISC 28 00:51:17.3±0.6,9.73N±0.02×69.92W±0.03,h11km±4km, n31,σ1s14/45,mb3.8/9,Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.28**	**352**	*eP*		**Pg**	**00 51 23.1**	**-0.2**
CURV				*eS*		**Sg**	**00 51 27.4**	**+0.1**
TORV	**Torococo**	**0.35**	**241**	P		**Pg**	**00 51 25.8**	**+1.3**
SANV	**Sanarito**	**0.44**	**121**	*eP*		**Pg**	**00 51 25.9**	**-0.4**
SANV				*eS*		**Sg**	**00 51 32.5**	**+0.1**
TEPV	**Terepaima**	**0.76**	**72**	*eP*		**Pb**	**00 51 32.3**	**+0.3**
TEPV				*eS*		**Sb**	**00 51 42.8**	**+0.7**
SIQV	**Siquisique**	**0.92**	**7**	*eP*		**Pb**	**00 51 35.3**	**+0.5**
SIQV				*eS*		**Sb**	**00 51 47.7**	**+0.9**
SDV	**Santo Domingo**	**1.09**	**220**	Pg		**Pg**	**00 51 36.2**	**-3.0**
	215nm,0.3s,baz=73,slow=12,SNR=120							
SDV				Lg			00 51 49.5	
	517nm,0.3s,baz=320,slow=19,SNR=19							
SDV	**Santo Domingo**	**1.09**	**220**	*eP*		**Pb**	**00 51 36.2**	**-1.6**
SDV				*eS*		**Sb**	**00 51 49.5**	**-2.4**
EAV	**Pico El Aguila**	**1.24**	**226**	P		**Pb**	**00 51 39.3**	**-1.0**
EAV				S		**Sb**	**00 52 00.6**	**+4.4**
DABV	**Dabajuro**	**1.38**	**329**	*eP*		**Pn**	**00 51 43.9**	**+1.3**
DABV				*eS*		**Sb**	**00 52 03.1**	**+3.0**
CUV	**La Culata**	**1.49**	**229**	P		**Pn**	**00 51 44.0**	**-0.1**
UAV	**Universidad de**	**1.64**	**227**	P		**Pn**	**00 51 46.5**	**+0.2**
UAV				S		**Sn**	**00 52 07.7**	**+0.1**
SOCV	**Socops**	**1.71**	**213**	*eP*		**Pn**	**00 51 47.6**	**+0.3**
SOCV				*eS*		**Sn**	**00 52 10.0**	**+0.7**
OSV	**Paramo de la O**	**1.89**	**235**	P		**Pn**	**00 51 50.8**	**+0.9**
BAUV	**El Baul**	**2.01**	**113**	*eP*		**Pn**	**00 51 52.5**	**+0.8**
BAUV				*eS*		**Sn**	**00 52 17.9**	**+0.9**
MONV	**Montecano**	**2.21**	**359**	*eP*		**Pn**	**00 51 54.4**	**-0.1**
MONV				*eS*		**Sn**	**00 52 22.7**	**+0.6**
PDMV	**Paramo Marino**	**2.35**	**233**	P		**Pn**	**00 51 58.2**	**+1.7**
PDMV				S		**Sn**	**00 52 28.5**	**+2.9**
CAPV	**Capacho**	**3.00**	**232**	*eP*		**Pn**	**00 52 06.0**	**+0.2**
CAPV				*eS*		**Sn**	**00 52 41.9**	**-0.4**
PCRV	**Puerto La Cruz**	**5.23**	**85**	Pn		**Pn**	**00 52 38.5**	**+1.1**
	4.5nm,0.3s,baz=224,slow=11,SNR=11							
PCRV					Sn	**Sn**	**00 53 38.2**	**-0.2**
	11nm,0.3s,baz=248,slow=21,SNR=9.5							
ROSC	**El Rosal**	**6.52**	**222**	Pn		**Pn**	**00 52 57.1**	**+1.5**
	7.6nm,0.3s,baz=89,slow=16,SNR=20							
ROSC					Sn	**Sn**	**00 54 12.0**	**+1.1**
	0.8nm,0.3s,baz=241,slow=23,SNR=2.9							
ROSC					LR	LR	00 55 48.4	
	comp=Z,169nm,18.1s,baz=191,slow=42							
SJG	**San Juan**	**9.10**	**23**	Pn		**P**	**00 53 29.4**	**-2.2**
	4.4nm,0.3s,baz=195,slow=18,SNR=5.3							
SJG					Sn	**Sn**	**00 55 01.1**	**-14**
	3.0nm,0.3s,baz=352,slow=14,SNR=5.6							
TXAR	**Lajitas Array**	**37.10**	**306**	P		**P**	**00 58 29.0**	**-0.7**
	0.3nm,0.8s,mb3.2,baz=111,slow=7.7,SNR=2.8							
SCHQ	**Schefferville**	**45.05**	**3**	P		**P**	**00 59 33.9**	**-1.1**
	1.9nm,0.6s,mb4.1,baz=240,slow=7.9,SNR=6.0							
ULM	**Lac du Bonnet**	**45.75**	**337**	P		**P**	**00 59 38.2**	**-2.3**
	1.4nm,0.7s,mb4.0,baz=159,slow=4.3,SNR=3.9							
PDAR	**Pinedale Array**	**47.73**	**321**	P		**P**	**00 59 55.2**	**-1.0**
	0.9nm,0.6s,mb4.0,baz=121,slow=10,SNR=9.5							
YKA	**Yellowknife Ar**	**61.70**	**338**	P		**P**	**01 01 34.8**	**-2.8**
	1.4nm,0.6s,mb4.2,baz=122,slow=7.0,SNR=22							
ESDC	**Sonseca Array**	**65.37**	**51**	P		**P**	**01 02 01.1**	**-1.2**
	0.2nm,0.4s,mb3.5,baz=270,slow=5.2,SNR=3.4							
NOA	**NORSAR Array B**	**77.25**	**30**	P		**P**	**01 03 13.0**	**-0.1**
	0.6nm,0.9s,mb3.5,baz=306,slow=10,SNR=2.9							
GERES	**GERESS Array B**	**78.56**	**42**	P		**P**	**01 03 19.6**	**-0.9**
	1.0nm,0.7s,mb3.8,baz=270,slow=4.0,SNR=12							
FINES	**FINESS Array B**	**84.39**	**29**	P		**P**	**01 03 50.2**	**-0.6**
	0.5nm,0.7s,mb3.8,baz=22,slow=10,SNR=3.0							
ASAR	**Alice Springs**	**153.36**	**236**	PKPbc		PKPdf	01 11 14.7	**+2.9**
	0.3nm,0.5s,baz=125,slow=2.6,SNR=5.8							
WRA	**Warramunga Arr**	**154.48**	**244**	PKPbc		PKPdf	01 11 17.6	**+4.2**
	0.8nm,0.7s,baz=108,slow=1.9,SNR=4.6							

*TAP **28** 01:09:07.8,21.54N×121.66E,h20km,ML4.0*
*IDC **28** 01:09:08.1±1.0,21.47N×121.94E,mb3.8/7,mb1 3.9/7, mb1mx3.8/15,mbtmp3.8/7,MS3.8/3,Ms1 3.8/3, ms1mx3.1/27,Error ellipse: s-maj=62.8km s-min=19.5km az=66.0*
*NEIC **28** 01:09:09.2±0.7,21.56N×122.07E,h10km,mb4.1/3,Error ellipse: s-maj=44.5km s-min=12.0km az=73.0*

ISC 28 01:09:08.9±0.8,21.6N±0.1×122.3E±0.4,h20km,n14, σ0s84/12,mb3.8/10,MS3.8/3,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.64**	**345**	*eP*		**Pn**	**01 09 50.1**	**-1.2**
YHNB	**Yeheng**	**3.17**	**344**	*eP*		**Pn**	**01 09 59.6**	**+0.8**
ULN	**Ulaanbaatar**	**28.93**	**338**	*eP*		**P**	**01 15 08.7**	**-0.1**
	1.7nm,0.9s,mb3.8							
SONM	**Songino Array**	**29.13**	**338**	P		**P**	**01 15 10.6**	**-0.1**
	0.7nm,0.8s,mb3.4,baz=164,slow=10,SNR=7.2							
SONM					LR	LR	01 27 27.1	
	comp=Z,73nm,18.4s,MS3.3,baz=167,slow=38							
MKAR	**Makanchi Array**	**40.92**	**318**	*eP*		**P**	**01 16 52.4**	**+0.9**
	1.7nm,0.6s,mb3.8,baz=111,slow=9.3,SNR=19							
WRAB	**Tennant Creek**	**42.93**	**163**	*eP*		**P**	**01 17 08.0**	**-0.4**
	4.3nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**42.94**	**163**	P		**P**	**01 17 08.7**	**+0.3**
	0.8nm,0.5s,mb3.7,baz=344,slow=8.9,SNR=6.1							
KURK	**Kurchatov**	**44.74**	**321**	*eP*		**P**	**01 17 23.0**	**+0.4**
	3.9nm,1.2s,mb4.1							
ASAR	**Alice Springs**	**46.40**	**165**	P		**P**	**01 17 36.0**	**-0.1**
	0.6nm,0.5s,mb3.8,baz=335,slow=6.9,SNR=8.7							
DZM	**Mont Dzumac**	**61.13**	**132**	LR		LR	01 40 34.1	
	comp=Z,197nm,19.6s,MS4.3,baz=24,slow=31							
FINES	**FINESS Array B**	**74.19**	**330**	P		**P**	**01 20 44.3**	**-1.4**
	0.4nm,0.5s,mb3.6,baz=63,slow=4.3,SNR=5.0							
BRTR	**Keskin Array B**	**75.55**	**307**	P		**P**	**01 20 53.9**	**-0.1**
	0.4nm,0.7s,mb3.5,baz=135,slow=5.2,SNR=3.7							
NOA	**NORSAR Array B**	**80.98**	**333**	LR		LR	02 00 34.6	
	comp=Z,40nm,18.7s,MS3.8,baz=145,slow=38							
YKA	**Yellowknife Ar**	**84.92**	**23**	P		**P**	**01 21 46.9**	**+3.6**
	0.3nm,0.7s,mb3.5,baz=308,slow=4.5,SNR=6.4							

*NEIC **28** 01:47:57.8±0.4,48.87N×5.57W,h10km,ML3.0(LDG), Error ellipse: s-maj=5.0km s-min=3.9km az=119.0*
*CSEM **28** 01:47:57.2±0.1,48.85N×5.79W,h20km,ML3.0/16,Error ellipse: s-maj=1.7km s-min=1.6km az=85.0*
*BGS **28** 01:47:58.3,48.82N×5.75W,h15km,ML2.7*
*LDG **28** 01:48:02.1±0.2,48.83N×5.40W,h16km,Md3.2/1,Ml3.0/20, Error ellipse: s-maj=2.9km s-min=2.6km az=149.0*

ISC 28 01:47:56.7±0.4,48.81N±0.02×5.43W±0.04,h10km,n59, σ1s24/114,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CGH1	**Goonhilly**	**1.26**	**8**	*eP*		**Pb**	**01 48 20.7**	**+0.6**
CGH1	**Goonhilly**	**1.26**	**8**	*eP*		**Pb**	**01 48 20.8**	**+0.7**
CMA1	**Manaccan**	**1.29**	**9**	*eP*		**Pb**	**01 48 20.4**	**-0.2**
CGW	**Gweek**	**1.30**	**6**	*eP*		**Pb**	**01 48 20.8**	**-0.1**
CPZ	**Penzance**	**1.35**	**356**	*eP*		**Pn**	**01 48 21.1**	**-0.6**
CPZ	**Penzance**	**1.35**	**356**	*eP*		**Pn**	**01 48 21.1**	**-0.7**
CRQ2	**Rosemanowes 2**	**1.37**	**7**	*eP*		**Pn**	**01 48 21.2**	**-0.8**
CRQ2				*eS*		**Sb**	**01 48 39.9**	**+0.4**
CRQ2					AML	AML	01 48 40.9	
	comp=E,127nm,0.3s							
CRQ2					AML	AML	01 48 41.1	
	comp=N,93nm,0.1s							
CRQ2	**Rosemanowes 2**	**1.37**	**7**	*eP*		**Pn**	**01 48 21.2**	**-0.8**
CRQ2				*eS*		**Sb**	**01 48 39.9**	**+0.4**
CRQ2					AML	AML	01 48 40.9	
	comp=E,127nm,0.3s							
CRQ2					AML	AML	01 48 41.1	
	comp=N,93nm,0.1s							
CCA1	**Carnmenellis**	**1.39**	**5**	*eP*		**Pn**	**01 48 21.8**	**-0.4**
ROSF	**Rostrenen**	**1.51**	**107**	*ePn*		**Pn**	**01 48 26.1**	**+2.1**
ROSF				*ePg*		**Pg**	**01 48 29.8**	**+2.9**
ROSF				*eSn*		**Sn**	**01 48 45.0**	**+1.2**
ROSF				*eSg*		**Sg**	**01 48 49.8**	**+2.8**
	comp=N,15nm,0.2s							
CSA1	**St Austell**	**1.59**	**13**	*eP*		**Pn**	**01 48 25.1**	**0.0**
QUIF	**Quistinic**	**1.75**	**120**	*ePn*		**Pn**	**01 48 30.1**	**+2.6**
QUIF				*ePg*		**Pg**	**01 48 34.5**	**+2.7**
QUIF				*eSn*		**Sn**	**01 48 50.9**	**+0.9**
QUIF				*eSg*		**Sg**	**01 48 57.8**	**+2.6**
	comp=N,36nm,0.4s							
SGMF	**Saint Gilles**	**1.99**	**105**	*ePn*		**Pn**	**01 48 33.6**	**+2.8**
SGMF				*ePg*		**Pg**	**01 48 39.0**	**+2.6**
SGMF				*eSn*		**Sn**	**01 48 56.6**	**+0.6**
SGMF				*eSg*		**Sg**	**01 49 04.2**	**+1.2**
	comp=N,11nm,0.2s							
JVM	**Valle D.L. Mar**	**2.16**	**78**	*eP*		**Pn**	**01 48 35.6**	**+2.3**
JLP	**Les Platons**	**2.23**	**77**	*eP*		**Pn**	**01 48 36.6**	**+2.3**
JLP	**Les Platons**	**2.23**	**77**	*eP*		**Pn**	**01 48 36.1**	**+1.7**
JRS	**Jersey**	**2.23**	**79**	*eP*		**Pn**	**01 48 35.8**	**+1.5**
JQE	**Queens East**	**2.27**	**79**	*eP*		**Pn**	**01 48 35.7**	**+0.8**
GRR	**Gorron**	**3.06**	**96**	*ePn*		**Pn**	**01 48 47.9**	**+1.7**
GRR				*ePg*		**Pg**	**01 48 58.6**	**+0.7**
GRR				*eSn*		**Sn**	**01 49 21.8**	**-1.5**
GRR				*eSg*		**Sg**	**01 49 37.5**	**-1.2**
	comp=N,19nm,0.2s							
FLN	**La Foliniere**	**3.27**	**89**	*ePn*		**Pn**	**01 48 50.2**	**+1.0**
FLN				*ePg*		**Pg**	**01 49 02.3**	**+0.2**
FLN				*eSn*		**Sn**	**01 49 27.4**	**-1.2**
FLN				*eSg*		**Sg**	**01 49 44.2**	**-1.5**
	comp=N,12nm,0.3s,baz=276							
FLN	**La Foliniere**	**3.27**	**89**	*ePg*		**Pg**	**01 49 02.3**	**+0.2**
FLN				*eSn*		**Sn**	**01 49 27.4**	**-1.2**
FLN				*eSg*		**Sg**	**01 49 44.2**	**-1.5**
	comp=N,5.8nm,0.3s							
LDF	**La Druitiere**	**3.52**	**91**	*ePn*		**Pn**	**01 48 54.5**	**+1.8**
LDF				*ePg*		**Pg**	**01 49 06.9**	**-0.2**
LDF				*eSn*		**Sn**	**01 49 32.9**	**-2.0**
LDF				*eSg*		**Sg**	**01 49 52.1**	**-1.9**
	comp=N,7.5nm,0.2s							
MFF	**Saint Martin d**	**4.19**	**120**	*ePn*		**Pn**	**01 49 03.2**	**+0

	0.7nm,0.4s,mb3.4,baz=176,slow=9.2,SNR=9.9									
SONM					PcP		PcP		02 23 44.4	+0.8
	0.4nm,0.3s,baz=192,slow=4.5,SNR=5.9									
MKAR	**Makanchi Array**	**54.89**	**341**		P		**P**		**02 22 54.4**	**-0.5**
	0.2nm,0.3s,mb3.1,baz=151,slow=8.4,SNR=8.8									
CHKZ	**Chkalovo**	**64.72**	**338**	*eP*			**P**		**02 24 00.3**	**-1.2**
	0.5nm,0.5s,mb3.4									
VNDA	**Vanda**	**78.73**	**169**	*eP*			**P**		**02 25 24.2**	**+0.3**
BDFB	**Brasilia**	**146.37**	**233**	PKPbc		PKPbc			02 33 04.0	+3.8
	0.9nm,0.3s,baz=170,slow=5.8,SNR=3.0									

IGQ 28 02:36:48.2, 2.04S×78.81W, h12km±2km, mb4.1, 5C-2D, Error ellipse: s-maj=6.3km s-min=1.9km az=31.8, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**0.57**	**17**	⇑P	Pb	02 36 59.8	+0.2
ARRY	**Arrayan**	**0.63**	**34**	⇑P	Pb	02 37 01.0	+0.2
ARRY				S	Sb	02 37 09.7	+0.4
CUSU	**Cusua**	**0.67**	**29**	P	Pb	02 37 01.6	+0.1
RETU	**Refugio**	**0.68**	**32**	⇓P	Pb	02 37 02.5	+0.9
RETU				S	Sb	02 37 12.2	+1.4
JUIV	**Juive**	**0.70**	**29**	P	Pb	02 37 02.4	+0.5
ULBA	**Ulba**	**0.71**	**34**	⇑P	Pb	02 37 02.8	+0.8
ULBA				S	Sb	02 37 11.9	+0.6
PISA	**Pisayambo**	**1.06**	**24**	P	Pb	02 37 09.0	+1.0
PISA				S	Sb	02 37 24.1	+2.5
TAMB	**Tambo**	**1.40**	**18**	P	Pn	02 37 15.0	+1.2
NAS1	**Nasa**	**1.43**	**13**	P	Pn	02 37 15.9	+1.8
NAS1				S	Sb	02 37 34.7	+2.3
VC1	**Cotopaxi 1**	**1.44**	**16**	⇓P	Pn	02 37 16.1	+1.8
ANTI	**Antisana**	**1.70**	**22**	⇑P	Pn	02 37 30.8	+2.7
ANTI				S	Sn	02 37 43.1	+3.2
JUA2	**San Juan 2**	**1.82**	**6**	P	Pn	02 37 22.1	+2.4
TERV	**Terraza Guagua**	**1.86**	**6**	P	Pn	02 37 23.0	+2.7
PINO	**Pino**	**1.88**	**6**	P	Pn	02 37 22.6	+2.1
JOR1	**San Jorge 1**	**2.03**	**5**	P	Pn	02 37 21.8	-0.9
JOR1				S	Sn	02 37 47.3	-0.8
CAYR	**Refugio Cayamb**	**2.19**	**21**	P	Pn	02 37 30.1	+5.1
CAYA	**Cayambe**	**2.25**	**21**	⇑P	Pn	02 37 33.1	+7.2
CAYA				S	Sn	02 38 09.1	+15
CONE	**Cono NE Rev Vo**	**2.27**	**31**	P	Pn	02 37 29.3	+3.1
CONE				S	Sn	02 38 01.5	+7.1
COTA	**Cotacachi**	**2.40**	**11**	P	Pn	02 37 34.1	+6.1
ECEN	**Cerro Negro**	**2.96**	**16**	P	Pn	02 37 42.5	+6.5

IDC ***28*** *02:39:53.8±0.7, 8.86S×123.96E, mb4.4/10, mb1 4.5/13, mb1mx4.4/19, mbtmp4.4/13, ML4.5/3, MS3.1/4, Ms1 3.0/4, ms1mx2.6/17, Error ellipse: s-maj=34.4km s-min=14.8km az=64.0*

BJI ***28*** *02:39:58.1, 8.90S×124.00E, h42km, mB4.6, mb4.9, Ms4.2, Msz4.1*

NEIC ***28*** *02:40:00.1±1.0, 8.94S×123.97E, h42km±10km, mb4.7/13, Error ellipse: s-maj=11.0km s-min=5.2km az=64.0*

ISC 28 02:39:57.0±0.3, 8.88S±0.06×124.18E±0.09, h33km, (h21km±2.8km: pP-P), n50, σ1s09/59, mb4.8/25, MS3.3/3, 1D, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**8.97**	**116**	*eP*	**P**	**02 42 09.7**	**+2.5**
	32nm,0.4s						
KAKA				*eS*	**S**	**02 43 43.9**	**-4.3**
FITZ	**Fitzroy Crossi**	**9.28**	**171**	*eP*	**P**	**02 42 11.5**	**0.0**
	18nm,0.3s						
FITZ				*eS*	**S**	**02 43 46.8**	**-9.1**
FITZ	**Fitzroy Crossi**	**9.28**	**171**	Pn	**P**	**02 42 11.8**	**+0.2**
	5.6nm,0.3s,baz=354,slow=7.8,SNR=71						
FITZ				Sn	**Sn**	**02 43 46.9**	**-9.1**
	68nm,0.3s,baz=159,slow=2.8,SNR=21						
FITZ				LR	LR	02 45 25.6	
	comp=Z,40nm,20.9s,baz=178,slow=36						
WRA	**Warramunga Arr**	**14.75**	**139**	Pn	**P**	**02 43 24.4**	**-0.8**
	2.7nm,0.3s,baz=314,slow=14,SNR=51						
WRA				Sn	**S**	**02 45 56.9**	**-11**
	8.2nm,0.3s,baz=312,slow=24,SNR=33						
WRAB	**Tennant Creek**	**14.75**	**139**	Pn	**P**	**02 43 24.0**	**-1.3**
	337nm,0.5s,SNR=28						
WRAB	**Tennant Creek**	**14.75**	**139**	*e*Pn	**P**	**02 43 25.0**	**-0.2**
	44nm,0.6s						
WRAB				*e*S	**S**	**02 45 54.6**	**-14**
WB2	**Warramunga Arr**	**14.76**	**139**	*e*P	**P**	**02 43 24.2**	**-1.2**
WB2				*e*S	**S**	**02 45 55.1**	**-13**
KKM	**Kota Kinabalu**	**16.81**	**332**	P	**P**	**02 43 51.8**	**+0.1**
KSM	**Kuching**	**17.22**	**306**	*e*P	**P**	**02 44 01.8**	**+5.0**
ASPA	**Alice Springs**	**17.41**	**149**	*e*P	**P**	**02 43 59.5**	**+0.5**
ASPA				*e*S	**S**	**02 46 57.0**	**-13**
ASAR	**Alice Springs**	**17.41**	**149**	P	**P**	**02 43 59.5**	**+0.5**
	1.9nm,0.3s,baz=323,slow=11,SNR=69						
ASAR				S	**S**	**02 46 59.1**	**-11**
	1.4nm,0.3s,baz=318,slow=22,SNR=13						
ASAR				LR	LR	02 51 21.9	
	comp=Z,66nm,19.9s,baz=20,slow=39						
FORT	**Forrest**	**22.09**	**171**	*e*P	**P**	**02 44 51.2**	**+0.2**
	735nm,0.6s						
KLBR	**Kellerberrin**	**23.38**	**194**	*e*P	**P**	**02 45 03.8**	**0.0**
	56nm,0.6s,mb5.2						
CTA	**Charters Tower**	**24.07**	**120**	*e*P	**P**	**02 45 13.3**	**+2.7**
	6.0nm,0.7s,mb4.1						
CTA	**Charters Tower**	**24.07**	**120**	P	**P**	**02 45 13.4**	**+2.8**
	9.2nm,0.9s,mb4.2,baz=280,slow=13,SNR=8.6						
CTA				LR	LR	02 54 20.4	
	comp=Z,44nm,20.9s,MS2.9,baz=226,slow=36						
CTAO	**Charters Tower**	**24.07**	**120**	*e*P	**P**	**02 45 13.2**	**+2.6**
	8.0nm,0.8s,mb4.2						
NWAO	**Narrogin (SRO)**	**24.78**	**194**	P	**P**	**02 45 16.6**	**-0.8**
	5.2nm,0.6s,mb4.2,baz=12,slow=9.5,SNR=7.7						
NWAO				S	**S**	**02 49 52.5**	**+18**
	7.9nm,1.0s,baz=296,slow=16,SNR=2.6						
NWAO	**Narrogin (SRO)**	**24.78**	**194**	*e*P	**P**	**02 45 16.8**	**-0.6**
STKA	**Stephens Creek**	**28.03**	**147**	⇓*i*P	**P**	**02 45 47.9**	**+0.5**
	2.8nm,0.4s,mb4.2						
STKA				*e*S	S	02 51 09.9	+42
STKA	**Stephens Creek**	**28.03**	**147**	P	**P**	**02 45 48.0**	**+0.5**
	3.7nm,0.4s,mb4.3,baz=332,slow=8.0,SNR=17						
STKA				LR	LR	02 57 56.1	
	comp=Z,73nm,19.8s,MS3.3,baz=203,slow=38						
CNB	**Canberra Magne**	**34.96**	**143**	*e*P	**P**	**02 46 49.8**	**+1.6**
	120nm,0.7s						
NJ2	**Nanjing**	**41.01**	**353**	*e*P	**P**	**02 47 42.5**	**+3.6**
NJ2				AP	pP	02 47 50.0	+1.3
NJ2				XP	sP	02 47 53.0	+0.1
NJ2				PP	PP	02 49 20.8	+4.4
NJ2				S	**S**	**02 53 54.0**	**+5.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,60nm,6.0s						
NJ2				LR	LR		
	comp=N,200nm,23.8s,MS4.0						
NJ2				LR	LR		
	comp=E,120nm,22.2s,MS4.0						
NJ2				LR	LR		
	comp=Z,70nm,19.9s,MS3.5						
LZH	**Lanzhou**	**48.65**	**338**	*e*P	**P**	**02 48 44.0**	**+4.0**
LZH				AP	pP	02 48 51.0	+1.1
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
LSA	**Lhasa**	**49.81**	**322**	*e*P	**P**	**02 48 50.7**	**+1.7**
HHC	**Hu-ho-hao-te**	**50.83**	**348**	*e*P	**P**	**02 48 59.5**	**+2.9**
HHC				AP	pP	02 49 07.3	+0.8
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.1						
JIRN	**Jiri**	**51.68**	**316**	*e*P	**P**	**02 49 02.9**	**-0.3**
	comp=Z,18nm,0.3s,mb5.4						
GUN	**Gumba**	**52.05**	**316**	*e*P	**P**	**02 49 06.0**	**0.0**
	comp=Z,38nm,0.5s,mb5.5						
PKI	**Pulchoki**	**52.16**	**315**	*e*P	**P**	**02 49 06.6**	**-0.2**
	comp=Z,43nm,0.5s,mb5.6						
KKN	**Kakani**	**52.39**	**315**	*e*P	**P**	**02 49 08.4**	**-0.1**
DMN	**Daman**	**52.40**	**315**	*e*P	**P**	**02 49 08.5**	**-0.1**
	comp=Z,10.0nm,0.3s,mb5.2						
CN2	**Changchun**	**52.44**	**1**	*e*P	**P**	**02 49 12.5**	**+3.8**
GKN	**Gorkha**	**52.97**	**315**	*e*P	**P**	**02 49 12.4**	**-0.5**
	comp=Z,37nm,0.5s,mb5.6						
RPZ	**Rata Peaks**	**53.46**	**139**	P	**P**	**02 49 16.9**	**+0.6**
	comp=Z,18nm,0.9s,mb5.0,baz=29,slow=20,SNR=7.1						
MDJ	**Mudanjiang**	**53.47**	**5**	P	**P**	**02 49 16.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,51nm,5.6s						
MDJ	**Mudanjiang**	**53.47**	**5**	*e*P	**P**	**02 49 16.4**	**0.0**
	comp=Z,20nm,1.1s,mb5.0						
KOLN	**Koldanda**	**53.55**	**314**	*e*P	**P**	**02 49 16.7**	**-0.5**
	comp=Z,46nm,0.7s,mb5.5						
ULN	**Ulaanbaatar**	**58.49**	**347**	*e*P	**P**	**02 49 52.3**	**0.0**
	comp=Z,2.1nm,0.9s,mb4.2						
SONM	**Songino Array**	**58.62**	**346**	P	**P**	**02 49 52.2**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.2,baz=165,slow=8.6,SNR=15						
WMQ	**Urumqi**	**62.01**	**331**	*e*P	**P**	**02 50 17.5**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**66.79**	**330**	P	**P**	**02 50 46.4**	**-1.0**
	comp=Z,5.9nm,1.0s,mb4.6,baz=136,slow=7.8,SNR=34						
MKAR	**Makanchi Array**	**66.79**	**330**	P	**P**	**02 50 46.4**	**-1.0**
MAW	**Mawson**	**71.13**	**201**	P	**P**	**02 51 12.6**	**-1.3**
KURK	**Kurchatov**	**71.24**	**331**	P	**P**	**02 51 13.3**	**-1.6**
	comp=Z,5.0nm,0.9s,mb4.4						
VNDA	**Vanda**	**71.35**	**172**	P	**P**	**02 51 14.6**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.2,baz=320,slow=8.3,SNR=22						
SBA	**Scott Base**	**72.31**	**171**	P	**P**	**02 51 21.4**	**+0.6**
	comp=Z,7.6nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**76.67**	**330**	P	**P**	**02 51 45.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=135,slow=6.3,SNR=4.7						
CHKZ	**Chkalovo**	**76.94**	**331**	*e*P	**P**	**02 51 46.5**	**-1.4**
	comp=Z,1.8nm,0.9s,mb4.0						
MATP	**Matopo**	**92.21**	**249**	P	**P**	**02 53 06.4**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.2,baz=98,slow=15,SNR=5.2						
SNAA	**Sanae**	**92.45**	**195**	P	**P**	**02 53 06.5**	**+1.0**
	comp=Z,1.0nm,0.6s,mb4.3,baz=162,slow=6.0,SNR=13						
TXAR	**Lajitas Array**	**130.83**	**59**	PKP	PKPdf	02 59 08.2	+2.3
	comp=Z,0.1nm,0.4s,baz=205,slow=4.3,SNR=3.8						

CASC 28 02:40:42.6±1.8, 13.62N×91.31W, h0km±9km, MD3.9, 3C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.77**	**336**	*e*P	Pg	02 40 59.0	+1.0
IXG	**Ixpaco**	**1.00**	**56**	⇓*e*P	Pb	02 41 02.5	+0.1
TP2	**Tecpan 2**	**1.19**	**13**	*e*P	Pb	02 41 06.3	+0.6
TP2				*e*S	Sb	02 41 22.7	+1.1
RTR	**El Retiro**	**1.64**	**80**	⇑*e*P	Pn	02 41 12.5	-0.4
RTR				*e*S	Sb	02 41 36.9	+2.4
RBDL	**Robledal**	**1.65**	**72**	⇑*e*P	Pn	02 41 12.9	-0.1
RBDL				*e*S	Sb	02 41 37.6	+2.7
SBLS	**San Blas**	**1.65**	**82**	*e*P	Pn	02 41 12.4	-0.6
SBLS				*e*S	Sb	02 41 36.6	+1.6
SNJE	**San Jose**	**1.67**	**81**	*e*P	Pn	02 41 13.1	-0.2
SNJE				*e*S	Sb	02 41 38.3	+2.7
MTO2	**Montecristo 2**	**2.04**	**67**	*e*P	Pn	02 41 18.7	+0.1
LFRS	**El Faro**	**2.19**	**90**	⇑*e*P	Pn	02 41 20.1	-0.5
LFRS				*e*S	Sn	02 41 48.2	-0.5
LCBS	**La Ceiba**	**2.27**	**89**	*e*P	Pn	02 41 21.2	-0.6

MAN 28 03:15:41.7, 9.40N×126.90E, h14km, mb4.2, ML3.1, MS2.8, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.32**	**204**	⇑*e*P	Pb	03 16 04.7	-1.1
BIPH				*e*S	Sb	03 16 18.9	-3.4
BUTP	**Butuan**	**1.33**	**251**	*e*P	Pb	03 16 04.8	-1.1
SCPH	**Surigao**	**1.44**	**285**	*e*P	Pn	03 16 06.8	-0.7
SCPH				*e*S	Sb	03 16 21.3	-4.5
MSLP	**Maasin**	**2.13**	**290**	*e*P	Pn	03 16 19.4	+1.9
BUKP	**Musuan**	**2.36**	**230**	*e*P	Pn	03 16 21.2	+0.5
BUKP				*e*S	Sn	03 16 48.9	-0.8
CGP	**Cagayan de Oro**	**2.37**	**247**	⇑*e*P	Pn	03 16 19.7	-1.1
CGP				*e*S	Sn	03 16 56.3	+6.4
BESP	**Borongan**	**2.62**	**327**	*e*P	Pn	03 16 24.1	-0.2
PAGZ	**Pagadian**	**3.80**	**246**	*e*P	Pn	03 16 41.3	+0.1

MEX 28 03:17:00.4±0.6, 17.18N×94.82W, h49km±6km, MD3.7, 1C, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.10**	**216**	⇑*i*P	P	03 17 06.5	-1.5
CMIG				*i* S	S	03 17 12.0	-1.5
OXX	**Oaxaca**	**1.82**	**267**	*e*P	P	03 17 28.0	-1.9
OXX				*i* S	S	03 17 50.0	-1.8
VHO	**Vista Hermosa**	**1.83**	**267**	*i* P	P	03 17 28.3	-1.8
VHO				*i* S	S	03 17 49.6	-2.5
CCIG	**Comitan**	**2.72**	**109**	*i* P	P	03 17 39.9	-2.8
CCIG				*i* S	S	03 18 12.5	-2.1
PPM	**Popocatepetl**	**4.08**	**298**	*e*P	P	03 18 02.0	+0.1

ISC 28 03:27:30.2±0.8, 46.31N±0.05×13.20E±0.04, h10km, n12, σ0s43/22, 2C-3D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.07**	**278**	⇓*i*Pg	**Pg**	**03 27 32.9**	**+0.4**
BOO				*i* Sg	**Sg**	**03 27 34.7**	**+0.7**
BAD	**Bernadia**	**0.08**	**159**	*e*Pg	**Pg**	**03 27 32.4**	**-0.2**
BAD				*i* Sg	**Sg**	**03 27 33.7**	**-0.5**
BUA	**Buia**	**0.11**	**211**	⇓*i*Pg	**Pg**	**03 27 33.2**	**+0.2**
BUA				*i* Sg	**Sg**	**03 27 34.8**	**0.0**
COLI	**Coloredo**	**0.21**	**145**	⇓*i*Pg	**Pg**	**03 27 34.7**	**-0.1**
COLI				*i* Sg	**Sg**	**03 27 38.1**	**+0.2**
ROBS	**Robic**	**0.22**	**107**	*i* Pg	**Pg**	**03 27 34.6**	**-0.4**
ROBS				*i* Sg	**Sg**	**03 27 38.5**	**+0.3**
	comp=Z,8.0nm,0.1s						
DRE	**Drenchia**	**0.34**	**114**	⇑*i*Pg	**Pg**	**03 27 36.7**	**-0.4**
DRE				*i* Sg	**Sg**	**03 27 41.7**	**-0.1**
CADS	**Cadrg**	**0.38**	**102**	⇑*i*Pg	**Pg**	**03 27 37.7**	**-0.3**
CADS				*i* Sg	**Sg**	**03 27 43.6**	**+0.4**
	comp=Z,3.0nm,0.1s						
GORS	**Gorjuse**	**0.55**	**89**	*i* Pg	**Pg**	**03 27 40.9**	**-0.4**
GORS				*e*Sg	**Sg**	**03 27 48.8**	**+0.1**
	comp=Z,2.0nm,0.0s						
VOJS	**Vojsko**	**0.55**	**120**	*i* Pg	**Pg**	**03 27 40.5**	**-0.8**
VOJS				*i* Sg	**Sg**	**03 27 49.2**	**+0.5**
JAVS	**Javornik**	**0.73**	**125**	*e*Pg	**Pg**	**03 27 44.0**	**-0.9**
JAVS				*i* Sg	**Sg**	**03 27 55.0**	**+0.3**
	comp=Z,2.0nm,0.2s						
CEY	**Cerknica**	**1.03**	**123**	*e*Sg	**Sg**	**03 28 05.0**	**+0.5**
VISS	**Visnje**	**1.25**	**113**	*i* Sg	**Sg**	**03 28 12.4**	**+0.5**

NEIC ***28*** *04:04:07.8, 66.24N×149.95W, h20km, ML3.6(PMR), ML3.4(AEIC), After AEIC.*

ISC 28 04:04:07.6±0.5, 66.21N±0.04×149.9W±0.1, h20km, n27, σ0s79/29, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COLD	**Coldfoot**	**1.03**	**354**	P	**Pb**	**04 04 27.1**	**+0.5**
COLD				S	**Sb**	**04 04 40.4**	**+0.7**
MLY	**Manley**	**1.23**	**197**	P	**Pn**	**04 04 30.4**	**+0.5**
MDM	**Murphy Dome**	**1.44**	**150**	P	**Pn**	**04 04 33.2**	**+0.4**
IMA	**Indian Mountai**	**1.54**	**267**	P	**Pn**	**04 04 34.5**	**+0.2**
COLA	**College**	**1.59**	**147**	P	**Pn**	**04 04 35.4**	**+0.3**
COLA				S	**Sn**	**04 04 57.2**	**+2.1**
GLM	**Gilmore Dome**	**1.61**	**138**	P	**Pn**	**04 04 35.9**	**+0.6**
NEA	**Nenana**	**1.67**	**168**	P	**Pn**	**04 04 36.4**	**+0.1**
CCB	**Clear Creek Bu**	**1.80**	**150**	P	**Pn**	**04 04 38.2**	**+0.2**
IL1	**Eielson Array**	**1.92**	**138**	P	**Pn**	**04 04 39.9**	**+0.2**
HDA	**Harding Lake**	**2.19**	**144**	P	**Pn**	**04 04 43.7**	**0.0**
BM3	**Burnt Mountain**	**2.42**	**57**	P	**Pn**	**04 04 46.6**	**-0.4**
MCK	**McKinley**	**2.52**	**170**	P	**Pn**	**04 04 48.6**	**+0.2**
KTH	**Kantishna Hill**	**2.70**	**190**	P	**Pn**	**04 04 50.8**	**-0.2**
TRF	**Thorofare Moun**	**2.77**	**184**	P	**Pn**	**04 04 52.1**	**+0.1**
RND	**Reindeer**	**2.85**	**170**	P	**Pn**	**04 04 53.5**	**+0.4**
GCSA	**Galena City Sc**	**3.26**	**246**	P	**Pn**	**04 04 58.8**	**0.0**
THY	**Trims Highway**	**3.32**	**146**	P	**Pn**	**04 05 00.8**	**+1.1**
DOT	**Dot Lake**	**3.58**	**133**	P	**Pn**	**04 05 02.8**	**-0.5**
PAX	**Paxson**	**3.77**	**147**	P	**Pn**	**04 05 06.6**	**+0.5**
CUT	**Chulitna**	**3.82**	**183**	P	**Pn**	**04 05 07.2**	**+0.3**
MENT	**Mentasta**	**4.23**	**138**	P	**Pn**	**04 05 11.1**	**-1.6**
TT01	**Tatalina**	**4.24**	**221**	P	**Pn**	**04 05 10.9**	**-1.8**
SML	**Sawmill**	**4.47**	**170**	P	**Pn**	**04 05 15.9**	**-0.2**
GHO	**Glory Hole Cre**	**4.47**	**174**	P	**Pn**	**04 05 15.4**	**-0.8**
BCA3	**Beaver Creek A**	**4.71**	**128**	P	**Pn**	**04 05 18.1**	**-1.3**
STLK	**Strandline Lak**	**4.80**	**191**	P	**Pn**	**04 05 20.8**	**0.0**
DAWY	**Dawson**	**4.93**	**111**	P	**Pn**	**04 05 20.8**	**-1.8**

NEIC ***28*** *05:06:32.7±0.9, 16.08S×176.16W, h332km±11km, mb4.2/8, Error ellipse: s-maj=12.9km s-min=11.2km az=132.0*

IDC ***28*** *05:06:32.1±1.2, 16.10S×176.19W, h322km±16km, mb3.9/8, mb1 4.0/11, mb1mx3.7/19, mbtmp4.7/11, Error ellipse: s-maj=19.4km s-min=14.6km az=133.0*

ISC 28 05:06:32.0±1.0, 15.99S±0.08×176.2W±0.2, h344km±19km, n32, σ0s89/31, mb4.2/12, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.73**	**65**	P	**P**	**05 07 49.5**	**+0.7**
	28nm,0.3s,baz=276,slow=10,SNR=29						
AFI				S	**S**	**05 08 49.2**	**0.0**
	1.0nm,0.3s,baz=253,slow=19,SNR=1.6						
AFI	**Afiamalu**	**4.73**	**65**	*e*P	**P**	**05 07 48.9**	**+0.1**
AFI				S	**S**	**05 08 49.2**	**0.0**
RAO	**Raoul Island**	**13.30**	**187**	P	**P**	**05 09 28.7**	**-1.8**
	58nm,0.3s,baz=31,slow=19,SNR=2.3						
RAO				S	**S**	**05 11 54.3**	**+1.9**
	89nm,0.3s,baz=51,slow=20,SNR=2.8						
DZM	**Mont Dzumac**	**17.50**	**247**	P	**P**	**05 10 14.8**	**-1.0**
	0.8nm,0.3s,baz=71,slow=19,SNR=12						
URZ	**Urewera**	**22.96**	**194**	P	**P**	**05 11 06.0**	**-2.8**
	5.5nm,0.5s,mb4.1,baz=319,slow=14,SNR=5.5						
RPZ	**Rata Peaks**	**29.70**	**199**	P	**P**	**05 12 09.8**	**+0.6**
	5.8nm,0.7s,mb3.9,baz=76,slow=9.3,SNR=3.7						
CTA	**Charters Tower**	**35.91**	**258**	*e*P	**P**	**05 13 04.1**	**+1.8**
	5.1nm,1.3s,mb3.6						
CTAO	**Charters Tower**	**35.91**	**258**	*e*P	**P**	**05 13 03.0**	**+0.7**
	1.9nm,0.4s,mb3.7						
CNB	**Canberra Magne**	**36.29**	**231**	*e*P	**P**	**05 13 05.5**	**+0.2**
	203nm,0.6s						
PMG	**Port Moresby**	**36.32**	**276**	P	**P**	**05 13 06.0**	**+0.3**
	6.5nm,0.8s,mb3.9,baz=86,slow=14,SNR=2.4						
PMG	**Port Moresby**	**36.32**	**276**	P	**P**	**05 13 07.0**	**+1.2**
	17nm,0.9s,mb4.3						
TOO	**Toolangi**	**40.03**	**230**	*e*P	**P**	**05 13 36.4**	**+0.2**
	0.8nm,0.7s						
STKA	**Stephens Creek**	**41.43**	**240**	*e*P	**P**	**05 13 47.6**	**0.0**
	3.1nm,0.5s,mb3.8						
STKA	**Stephens Creek**	**41.43**	**240**	P	**P**	**05 13 47.9**	**+0.3**
	2.9nm,0.3s,mb3.9,baz=85,slow=8.1,SNR=15						
WB2	**Warramunga Arr**	**47.10**	**257**	*e*P	**P**	**05 14 32.3**	**-0.2**
WRAB	**Tennant Creek**	**47.10**	**257**	P	**P**	**05 14 32.0**	**-0.5**
	67nm,0.7s,mb5.0,SNR=12						
WRAB	**Tennant Creek**	**47.10**	**257**	*e*P	**P**	**05 14 32.2**	**-0.3**
	18nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**47.11**	**257**	P	**P**	**05 14 32.4**	**-0.3**
	8.0nm,0.7s,mb4.0,baz=92,slow=7.1,SNR=150						
WRA				PcP	PcP	05 15 58.7	0.0
	0.8nm,0.5s,baz=91,slow=3.4,SNR=4.9						
ASAR	**Alice Springs**	**47.39**	**252**	⇓*i*P	**P**	**05 14 34.9**	**+0.2**
	24nm,0.4s,mb4.8,baz=90,slow=7.8,SNR=513						
ASAR				PcP	PcP	05 15 59.4	-0.3
	1.0nm,0.7s,baz=96,slow=3.3,SNR=4.2						
ASPA	**Alice Springs**	**47.39**	**252**	⇓*i*P	**P**	**05 14 34.8**	**0.0**
KAKA	**Kakadu**	**49.79**	**267**	⇑*i*P	**P**	**05 14 54.0**	**+0.9**
	15nm,0.6s,mb4.4						
FORT	**Forrest**	**52.77**	**243**	*e*P	**P**	**05 15 13.7**	**-1.2**
	318nm,0.5s						
FITZ	**Fitzroy Crossi**	**55.47**	**259**	*e*P	**P**	**05 15 35.3**	**+0.9**
	6.0nm,0.6s,mb4.1						
KLBR	**Kellerberrin**	**61.60**	**242**	*e*P	**P**	**05 16 15.3**	**-0.7**
	97nm,0.6s						
NWAO	**Narrogin (SRO)**	**62.00**	**241**	P	**P**	**05 16 18.1**	**-0.5**
	7.7nm,0.8s,mb4.3,baz=176,slow=2.0,SNR=4.2						
SBA	**Scott Base**	**62.47**	**184**	*e*P	**P**	**05 16 21.6**	**+0.5**
VNDA	**Vanda**	**62.54**	**185**	P	**P**	**05 16 21.4**	**-0.1**
	0.3nm,0.5s,baz=34,slow=5.8,SNR=3.0						
MUN	**Mundaring**	**62.90**	**242**	*e*P	**P**	**05 16 24.5**	**0.0**
	12nm,0.9s,mb4.4						
BRTR	**Keskin Array B**	**144.87**	**318**	PKP	PKPdf	05 25 30.9	+2.3
	1.4nm,0.6s,baz=135,slow=1.7,SNR=12						
MLR	**Muntele Rosu**	**145.22**	**332**	PKPbc	PKPbc	05 25 32.5	+2.8
	1.2nm,0.6s,baz=63,slow=0.8,SNR=4.8						
MLR	**Muntele Rosu**	**145.22**	**332**	PKPbc	PKPbc	05 25 32.5	+2.8
GERES	**GERESS Array B**	**146.25**	**

comp=Z,47nm,19.8s,MS3.9,baz=331,slow=31

*IDC **28** 06:02:03.8±2.2, 15.26N×45.10W, mb3.8/8, mb1 4.0/8, mb1mx3.7/21, mbtmp3.8/8, MS3.4/5, Ms1 3.4/5, ms1mx2.9/26, Error ellipse: s-maj=65.1km s-min=24.2km az=166.0*

*NEIC **28** 06:02:04.7±0.7, 15.08N×45.07W, h10km, mb4.3/4, Error ellipse: s-maj=18.5km s-min=12.1km az=153.0*

ISC 28 06:02:02.8±1.0, 15.1N±0.2×45.1W±0.1, h10km, n18, σ0s62/14, mb3.9/10, MS3.4/5, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SJG	**San Juan**	**20.41**	**281**	P		**P**	**06 06 42.5**	**-0.4**
	7.3nm,0.6s,baz=98,slow=15,SNR=2.5							
SDV	**Santo Domingo**	**25.73**	**259**	P		**P**	**06 07 37.0**	**+1.7**
	6.9nm,1.0s,mb4.2,baz=67,slow=6.8,SNR=6.3							
SDV	**Santo Domingo**	**25.73**	**259**	*e*P		**P**	**06 07 36.3**	**+1.0**
	9.2nm,1.1s,mb4.2							
SAML	**Samuel**	**29.88**	**218**	*e*P		**P**	**06 08 12.5**	**-0.6**
	2.9nm,0.9s,mb4.0							
BDFB	**Brasilia**	**30.68**	**186**	LR	LR		06 19 60.0	
	comp=Z,102nm,20.6s,MS3.5,baz=112,slow=35							
DBIC	**Dimbokro**	**40.32**	**98**	LR	LR		06 22 52.4	
	comp=Z,78nm,18.4s,MS3.6,baz=1,9,slow=31							
SADO	**Sadowa**	**41.27**	**323**	LR	LR		06 22 54.0	
	comp=Z,45nm,18.8s,MS3.4,baz=196,slow=30							
ULM	**Lac du Bonnet**	**53.81**	**322**	P		**P**	**06 11 27.9**	**0.0**
	0.7nm,0.5s,mb3.9,baz=108,slow=9.6,SNR=3.1							
DAVOX	**Davos**	**55.31**	**43**	LR	LR		06 32 53.9	
	comp=Z,21nm,18.5s,MS3.2,baz=26,slow=34							
TXAR	**Lajitas Array**	**55.55**	**295**	P		**P**	**06 11 39.6**	**-1.3**
	0.4nm,0.6s,mb3.6,baz=112,slow=6.7,SNR=5.9							
TXAR				LR		LR	06 35 58.9	
	comp=Z,30nm,20.0s,MS3.4,baz=35,slow=37							
GDL2	**Guadalupe Moun**	**56.25**	**299**	*e*P		**P**	**06 11 46.2**	**+0.3**
GERES	**GERESS Array B**	**58.33**	**42**	P		**P**	**06 12 00.3**	**0.0**
	0.3nm,0.7s,mb3.4,baz=225,slow=5.6,SNR=3.5							
BW06	**Boulder Array**	**61.21**	**311**	*e*P		**P**	**06 12 20.6**	**+0.4**
	2.6nm,1.3s,mb4.2							
PDAR	**Pinedale Array**	**61.21**	**311**	P		**P**	**06 12 20.3**	**+0.1**
	1.2nm,1.1s,mb3.9,baz=101,slow=4.6,SNR=6.3							
HWUT	**Hardware Ranch**	**62.60**	**309**	*e*P		**P**	**06 12 30.1**	**+0.5**
	4.3nm,1.0s,mb4.5							
YKA	**Yellowknife Ar**	**67.29**	**332**	P		**P**	**06 12 59.0**	**-0.6**
	0.6nm,0.9s,mb3.6,baz=104,slow=7.2,SNR=8.0							
YKA	**Yellowknife Ar**	**67.29**	**332**	P		**P**	**06 12 59.0**	**-0.6**
BRTR	**Keskin Array B**	**71.91**	**53**	P		**P**	**06 13 28.6**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=270,slow=2.9,SNR=3.8							

*IDC **28** 06:04:54.5±1.0, 5.22N×95.54E, mb3.7/9, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, Error ellipse: s-maj=54.9km s-min=16.1km az=52.0*

*NEIC **28** 06:04:59.0±0.7, 5.22N×95.58E, h30km, mb4.2/1, Error ellipse: s-maj=38.5km s-min=9.9km az=51.0*

ISC 28 06:04:57.7±0.7, 5.3N±0.1×95.6E±0.1, h33km, n14, σ0s56/14, mb3.8/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**4.99**	**89**	*e*P		**P**	**06 06 12.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**37.61**	**129**	P		**P**	**06 12 11.1**	**-0.3**
	4.7nm,1.0s,mb4.2,baz=346,slow=9.7,SNR=2.8							
MKAR	**Makanchi Array**	**42.96**	**347**	P		**P**	**06 12 55.2**	**-0.2**
	0.2nm,0.6s,mb3.0,baz=170,slow=8.8,SNR=2.6							
MKAR	**Makanchi Array**	**42.96**	**347**	P		**P**	**06 12 55.2**	**-0.2**
SONM	**Songino Array**	**43.42**	**11**	P		**P**	**06 12 59.7**	**+0.6**
	0.2nm,0.3s,mb3.3,baz=172,slow=6.9,SNR=3.9							
WRA	**Warramunga Arr**	**45.55**	**125**	P		**P**	**06 13 16.2**	**-0.3**
	1.2nm,0.7s,mb4.0,baz=304,slow=9.8,SNR=4.8							
WRA				PcP		PcP	06 14 55.8	+0.5
	0.2nm,0.4s,baz=309,slow=2.6,SNR=5.0							
WRAB	**Tennant Creek**	**45.55**	**124**	*e*P		**P**	**06 13 16.5**	**0.0**
	1.8nm,0.5s,mb4.3							
WB2	**Warramunga Arr**	**45.56**	**124**	*e*P		**P**	**06 13 16.7**	**+0.1**
ASPA	**Alice Springs**	**47.10**	**129**	*e*P		**P**	**06 13 28.9**	**+0.1**
ASAR	**Alice Springs**	**47.11**	**129**	P		**P**	**06 13 29.4**	**+0.7**
	0.5nm,0.4s,mb3.8,baz=302,slow=7.1,SNR=13							
STKA	**Stephens Creek**	**57.23**	**133**	P		**P**	**06 14 44.5**	**0.0**
	0.4nm,0.5s,mb3.7,baz=309,slow=13,SNR=2.3							
BRTR	**Keskin Array B**	**65.26**	**311**	P		**P**	**06 15 39.4**	**+0.8**
	1.1nm,0.6s,mb4.1,baz=136,slow=8.2,SNR=6.0							
FINES	**FINESS Array B**	**75.71**	**332**	P		**P**	**06 16 41.6**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=27,slow=4.3,SNR=4.2							
GERES	**GERESS Array B**	**80.76**	**318**	P		**P**	**06 17 07.9**	**-1.5**
	0.3nm,0.5s,mb3.5,baz=124,slow=4.8,SNR=5.4							

*IDC **28** 06:19:46.9±0.8, 15.96N×92.82E, mb3.8/10, mb1 3.9/10, mb1mx3.8/18, mbtmp3.8/10, Error ellipse: s-maj=36.1km s-min=18.7km az=56.0*

*NEIC **28** 06:19:51.5±0.5, 16.01N×92.96E, h30km, mb4.2/2, Error ellipse: s-maj=15.0km s-min=10.6km az=221.0*

ISC 28 06:19:49.9±0.7, 16.0N±0.1×93.0E±0.1, h33km, n13, σ0s75/13, mb3.8/12, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
CM31	**Chiang Mai Arr**	**6.18**	**66**	*e*P		**P**	**06 21 20.5**	**-0.7**
MKAR	**Makanchi Array**	**31.95**	**346**	P		**P**	**06 26 14.3**	**-0.6**
	0.4nm,0.8s,mb3.3,baz=160,slow=9.0,SNR=3.7							
SONM	**Songino Array**	**33.60**	**16**	P		**P**	**06 26 31.0**	**+1.8**
	0.2nm,0.6s,mb3.2,baz=191,slow=7.3,SNR=2.7							
CHKZ	**Chkalovo**	**41.45**	**340**	*e*P		**P**	**06 27 36.1**	**+0.9**
	1.0nm,0.5s,mb3.7							
WRA	**Warramunga Arr**	**54.11**	**130**	P		**P**	**06 29 13.9**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=310,slow=7.8,SNR=6.7							
WRAB	**Tennant Creek**	**54.11**	**130**	*e*P		**P**	**06 29 14.4**	**+0.1**
	8.2nm,1.3s,mb4.5							
ASAR	**Alice Springs**	**56.16**	**134**	P		**P**	**06 29 29.6**	**+0.6**
	0.5nm,0.5s,mb3.8,baz=313,slow=6.7,SNR=14							
BRTR	**Keskin Array B**	**56.46**	**307**	P		**P**	**06 29 30.6**	**-0.4**
	0.7nm,0.7s,mb3.8,baz=130,slow=9.6,SNR=4.5							
FINES	**FINESS Array B**	**65.06**	**331**	P		**P**	**06 30 28.9**	**-0.1**
	0.6nm,0.5s,mb3.9,baz=72,slow=6.0,SNR=5.7							
ARCES	**ARCESS Array B**	**67.28**	**339**	P		**P**	**06 30 42.1**	**-0.9**
	2.9nm,0.8s,mb4.3,baz=63,slow=8.1,SNR=3.9							
HFS	**Hagfors**	**70.93**	**329**	P		**P**	**06 31 04.8**	**-0.9**
	0.8nm,0.5s,mb3.9,baz=90,slow=10,SNR=6.0							
GERES	**GERESS Array B**	**71.10**	**317**	P		**P**	**06 31 07.6**	**+0.7**
	0.6nm,0.5s,mb3.8,baz=90,slow=5.3,SNR=6.9							
BOSA	**Boshof**	**79.07**	**236**	P		**P**	**06 31 53.1**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=147,slow=11,SNR=3.6							

IDC 28 06:28:14.0±4.2, 4.00S×153.87E, h392km±35km, mb3.0/5, mb1 3.2/5, mb1mx3.1/10, mbtmp3.6/5, Error ellipse: s-maj=63.3km s-min=21.6km az=109.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WB2	**Warramunga Arr**	**24.76**	**229**	*e*P		P	06 33 02.2	-1.5
WRA	**Warramunga Arr**	**24.77**	**229**	P		P	06 33 02.4	-1.4
	0.8nm,0.4s,baz=52,slow=9.4,SNR=18							
ASAR	**Alice Springs**	**27.45**	**223**	P		P	06 33 25.9	-2.0
	0.6nm,0.3s,baz=54,slow=8.9,SNR=26							
ASAR				ScP			06 39 35.4	
	0.4nm,0.8s,baz=90,slow=1.4,SNR=4.5							
ASPA	**Alice Springs**	**27.45**	**223**	*e*P		P	06 33 25.3	-2.6
FITZ	**Fitzroy Crossi**	**30.98**	**241**	*e*P		P	06 33 56.3	-2.2
	2.4nm,1.1s							
SONM	**Songino Array**	**66.23**	**327**	P		P	06 38 21.6	-1.4
	0.2nm,0.4s,baz=143,slow=5.9,SNR=5.7							
MKAR	**Makanchi Array**	**80.43**	**319**	P		P	06 39 43.5	-0.9
	0.3nm,0.5s,baz=93,slow=5.7,SNR=4.7							
YKA	**Yellowknife Ar**	**94.23**	**28**	P		P	06 40 48.7	-1.5
	0.2nm,0.7s,baz=266,slow=4.4,SNR=5.5							

IDC 28 06:49:32.9±1.3, 0.22N×127.36E, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=58.9km s-min=22.6km az=58.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
WRA	**Warramunga Arr**	**21.17**	**162**	P		P	06 54 19.7	-2.6
	0.9nm,0.3s,baz=340,slow=11,SNR=37							
PMG	**Port Moresby**	**21.91**	**116**	P		P	06 54 27.8	-1.9
	7.1nm,0.7s,baz=238,slow=13,SNR=3.0							
ASAR	**Alice Springs**	**24.58**	**165**	P		P	06 54 55.1	-0.8
	0.8nm,0.7s,baz=339,slow=9.9,SNR=9.7							
MKAR	**Makanchi Array**	**60.79**	**326**	P		P	06 59 46.7	-2.3
	0.5nm,0.3s,baz=115,slow=8.1,SNR=14							

*IDC **28** 07:43:57.5±1.9, 10.62S×166.03E, h126km±16km, mb4.5/22, mb1 4.6/24, mb1mx4.6/25, mbtmp4.9/24, MS3.5/7, Ms1 3.5/7, ms1mx3.2/22, Error ellipse: s-maj=15.0km s-min=10.9km az=140.0*

*NEIC **28** 07:44:02.1±0.8, 10.63S×165.90E, h168km±7km, mb4.8/34, Error ellipse: s-maj=5.1km s-min=4.4km az=158.0*

*BJI **28** 07:44:02.0, 10.05S×165.93E, h161km, mB4.8, mb4.7*

ISC 28 07:44:01.5±1.3, 10.70S±0.05×165.86E±0.05, h173km±12km, h152km±3.7km: pP-P, n108, σ0s77/103, mb4.7/57, 4C-9D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HNR	**Honiara**	**5.96**	**282**	*e*P		**P**	**07 45 28.1**	**-0.5**
	454nm,0.8s							
DZM	**Mont Dzumac**	**11.32**	**177**	*e*P		**P**	**07 46 39.7**	**+0.5**
DZM				*e*S		**S**	**07 48 38.5**	**-4.5**
DZM	**Mont Dzumac**	**11.32**	**177**	P		**P**	**07 46 39.9**	**+0.7**
	8.2nm,0.3s,baz=35,slow=20,SNR=50							
DZM				S		**S**	**07 48 38.4**	**-4.6**
	3.7nm,0.3s,slow=22,SNR=3.4							
DZM	**Mont Dzumac**	**11.32**	**177**	*e*P		**P**	**07 46 39.7**	**+0.5**
DZM				*e*S		**S**	**07 48 38.5**	**-4.5**
NOUC	**Port Laguerre**	**11.35**	**178**	*e*P		**P**	**07 46 41.5**	**+2.0**
NOUC	**Port Laguerre**	**11.35**	**178**	*e*S		**S**	**07 48 42.7**	**-0.8**
NOUC	**Port Laguerre**	**11.35**	**178**	*e*P		**P**	**07 46 41.5**	**+2.0**
NOUC				*e*S		**S**	**07 48 42.7**	**-0.8**
PMG	**Port Moresby**	**18.46**	**272**	P		**P**	**07 48 06.8**	**+0.2**
	1.5nm,0.3s,baz=74,slow=6.6,SNR=14							
PMG				LR		LR	07 54 25.3	
	comp=Z,209nm,20.1s,baz=76,slow=34							
PMG	**Port Moresby**	**18.46**	**272**	*e*P		**P**	**07 48 06.7**	**0.0**
	123nm,1.0s							
CTA	**Charters Tower**	**21.06**	**241**	⇓*i*P		**P**	**07 48 34.5**	**+1.4**
	98nm,0.8s,mb5.2							
CTA				*e*pP			07 48 58.0	
CTA	**Charters Tower**	**21.06**	**241**	P		**P**	**07 48 34.6**	**+1.5**
	116nm,0.8s,mb5.3,baz=70,slow=11,SNR=100							
CTA				LR		LR	07 55 11.3	
	comp=Z,89nm,18.4s,baz=49,slow=32							
CTAO	**Charters Tower**	**21.06**	**241**	*e*P		**P**	**07 48 34.1**	**+1.0**
	120nm,0.8s,mb5.3							
CTAO				*e*pP			07 48 55.6	
AFI	**Afiamalu**	**22.08**	**101**	P		**P**	**07 48 40.4**	**-2.7**
	40nm,1.0s,mb4.8,baz=268,slow=21,SNR=5.4							
AFI				LR		LR	07 55 14.0	
	comp=Z,162nm,19.1s,baz=97,slow=31							
AFI	**Afiamalu**	**22.08**	**101**	*e*P		**P**	**07 48 42.5**	**-0.5**
	63nm,1.3s,mb4.9							
CNB	**Canberra Magne**	**28.74**	**209**	*e*P		**P**	**07 49 45.0**	**+0.1**
	168nm,0.9s,mb5.8							
URZ	**Urewera**	**29.24**	**162**	P		**P**	**07 49 48.0**	**-1.4**
	21nm,0.4s,mb5.2,baz=287,slow=2.5,SNR=58							
URZ	**Urewera**	**29.24**	**162**	PN		**P**	**07 49 47.9**	**-1.4**
PUZ	**Puketiti**	**29.44**	**160**	PN		**P**	**07 49 48.4**	**-2.7**
MGZ	**Maungaku**	**29.48**	**165**	PN		**P**	**07 49 52.4**	**+0.9**
NGZ	**Ngauruhoe**	**29.66**	**165**	*e*PN		**P**	**07 49 52.9**	**-0.2**
CNZ	**Chateau**	**29.67**	**165**	PN		**P**	**07 49 54.9**	**+1.7**
TUVZ	**Tukino**	**29.76**	**165**	*e*PN		**P**	**07 49 54.6**	**+0.6**
BKZ	**Black Stump Fm**	**29.90**	**163**	PN		**P**	**07 49 54.1**	**-1.0**
STKA	**Stephens Creek**	**30.77**	**223**	⇓*i*P		**P**	**07 50 03.1**	**+0.2**
	27nm,0.8s,mb5.0							
STKA				*e*SCP			07 56 27.9	
STKA	**Stephens Creek**	**30.77**	**223**	P		**P**	**07 50 03.3**	**+0.4**
	31nm,0.8s,mb5.1,baz=34,slow=9.6,SNR=59							
STKA				ScP			07 56 27.8	
	4.9nm,0.8s,baz=12,slow=4.0,SNR=8.5							
STKA				LR		LR	08 01 08.2	
	comp=Z,194nm,19.7s,baz=26,slow=33							
WRAB	**Tennant Creek**	**31.70**	**249**	P		**P**	**07 50 10.0**	**-1.1**
	222nm,0.8s,SNR=25							
WRAB	**Tennant Creek**	**31.70**	**249**	⇓*e*P		**P**	**07 50 10.1**	**-1.0**
	43nm,0.8s,mb5.2							
WB2	**Warramunga Arr**	**31.70**	**249**	⇓*i*P		**P**	**07 50 10.3**	**-0.8**
WB2				*e*SCP			07 56 31.2	
WB2				*e*PCS			07 56 42.2	
WRA	**Warramunga Arr**	**31.71**	**249**	P		**P**	**07 50 10.6**	**-0.6**
	25nm,0.7s,mb5.1,baz=80,slow=9.0,SNR=208							
WRA				ScP			07 56 31.4	
	3.8nm,1.1s,baz=77,slow=3.8,SNR=11							
TOO	**Toolangi**	**32.42**	**211**	*e*P		**P**	**07 50 17.7**	**+0.5**
	0.5nm,0.7s							
KAKA	**Kakadu**	**32.77**	**263**	⇓*i*P		**P**	**07 50 19.5**	**-0.9**
	90nm,0.6s,mb5.7							
ASAR	**Alice Springs**	**33.05**	**243**	P		**P**	**07 50 21.7**	**-1.0**
	30nm,0.8s,mb5.0,baz=74,slow=9.4,SNR=233							
ASAR				PcP		PcP	07 53 02.4	+0.1
	1.8nm,0.7s,baz=67,slow=3.3,SNR=5.2							
ASAR				ScP			07 56 35.1	
	5.6nm,1.0s,baz=77,slow=3.2,SNR=23							
ASPA	**Alice Springs**	**33.05**	**243**	⇓*i*P		**P**	**07 50 21.7**	**-1.0**
ASPA				*e*SCP			07 56 36.2	
RPZ	**Rata Peaks**	**33.20**	**173**	P		**P**	**07 50 23.1**	**-0.7**
	19nm,0.8s,mb4.9,baz=102,slow=4.1,SNR=8.7							
FITZ	**Fitzroy Crossi**	**39.58**	**255**	⇓*i*P		**P**	**07 51 17.7**	**+0.1**
	122nm,0.6s,mb5.7							
FITZ	**Fitzroy Crossi**	**39.58**	**255**	P		**P**	**07 51 17.8**	**+0.2**
	157nm,0.7s,mb5.8,baz=81,slow=4.0,SNR=221							
FORT	**Forrest**	**40.33**	**235**	⇓*i*P		**P**	**07 51 24.4**	**+0.7**
	2µm,0.8s							
PPT	**Papeete**	**43.67**	**104**	LR		LR	08 04 32.2	
	comp=Z,8.6nm,20.3s,baz=94,slow=28							
MBWA	**Marble Bar**	**45.41**	**251**	*e*P		**P**	**07 52 05.4**	**+0.5**
	60nm,1.1s,mb5.1							
KLBR	**Kellerberrin**	**48.99**	**237**	⇓*i*P		**P**	**07 52 32.2**	**-0.3**
	533nm,1.3s							
NWAO	**Narrogin (SRO)**	**49.75**	**236**	P		**P**	**07 52 38.6**	**+0.4**
	33nm,0.7s,mb5.0,baz=87,slow=6.7,SNR=21							
NWAO	**Narrogin (SRO)**	**49.75**	**236**	*e*P		**P**	**07 52 38.1**	**-0.2**
	60nm,1.2s,mb5.1							
MUN	**Mundaring**	**50.36**	**237**	*e*P		**P**	**07 52 43.4**	**+0.5**
	15nm,0.9s,mb4.6							
KSM	**Kuching**	**56.56**	**279**	*e*P		**P**	**07 53 28.0**	**-0.6**
NJ2	**Nanjing**	**61.85**	**315**	*e*P		**P**	**07 54 04.5**	**-0.2**
NJ2				AMB		AMB		
	comp=Z,20nm,0.7s,mb5.1							
FX1	**Attu Island--F**	**63.63**	**5**	P		**P**	**07 54 15.0**	**-1.1**
	comp=Z,16nm,0.6s,mb5.0,baz=30,slow=9.7,SNR=3.3							
MDJ	**Mudanjiang**	**64.10**	**332**	P		**P**	**07 54 19.3**	**0.0**
MDJ				AMB		AMB		
	comp=Z,12nm,2.3s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,79nm,5.2s							
CN2	**Changchun**	**65.50**	**329**	*e*P		**P**	**07 54 27.5**	**-0.9**
CN2				PCP		PcP	07 54 57.3	-1.2
CN2				*e*XP		sP	07 55 25.5	-2.6
CN2				*e*S		S	08 02 59.0	+1.4
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
CASY	**Casey**	**66.74**	**201**	P		**P**	**07 54 35.3**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.3							
VNDA	**Vanda**	**66.84**	**181**	P		**P**	**07 54 35.6**	**-0.7**
	comp=Z,1.3nm,0.8s,mb3.8,baz=340,slow=6.7,SNR=4.4							
VNDA	**Vanda**	**66.84**	**181**	*e*P		**P**	**07 54 35.7**	**-0.7**
SBA	**Scott Base**	**67.14**	**180**	*e*P		**P**	**07 54 38.4**	**+0.1**
	comp=Z,9.8nm,1.3s,mb4.5							
ENH	**Enshi**	**67.77**	**309**	*e*P		**P**	**07 54 41.8**	**-1.0**
	comp=Z,8.2nm,1.0s,mb4.4							
GYA	**Guiyang**	**68.32**	**304**	⇑*i*P		**P**	**07 54 45.8**	**-0.5**
GYA				AP		pP	07 55 24.3	-3.3
GYA				XP		sP	07 55 41.8	-4.5
GYA				PP		PP	07 57 22.0	+1.3
GYA				S		S	08 03 32.5	+0.9
GYA				AMB		AMB		
	comp=Z,20nm,1.1s,mb4.8							
GYA				AMB		AMB		
	comp=Z,80nm,3.6s							
KMI	**Kunming**	**71.04**	**301**	P		**P**	**07 55 03.5**	**+0.7**
KMI				AMB		AMB		
	comp=Z,19nm,1.2s,mb4.7							
HHC	**Hu-ho-hao-te**	**71.64**	**320**	*e*P		**P**	**07 55 06.5**	**+0.4**
HHC				AP		pP	07 55 43.3	-4.5
HHC				XP		sP	07 56 03.0	-3.4
HHC				PP		PP	07 57 51.0	+2.4
HHC				S		S	08 04 11.8	+1.9
HHC				XS			08 05 20.0	
HHC				AMB		AMB		
	comp=Z,11nm,0.6s,mb4.8							
HHC				AMB		AMB		
	comp=Z,82nm,4.4s							
CD2	**Chengdu**	**72.48**	**307**	*e*P		**P**	**07 55 11.8**	**+0.5**
CD2				AMB		AMB		
	comp=Z,17nm,1.0s,mb4.7							
LZH	**Lanzhou**	**74.61**	**312**	*e*P		**P**	**07 55 25.0**	**+1.4**
LZH				PCP		PcP	07 55 38.5	+1.3
LZH				AP		pP	07 56 01.0	-4.6
LZH				SCS		ScS	08 05 17.5	+2.5
ULN	**Ulaanbaatar**	**78.09**	**324**	*e*P		**P**	**07 55 43.0**	**+0.3**
	comp=Z,10nm,1.1s,mb4.4							
SONM	**Songino Array**	**78.45**	**324**	P		**P**	**07 55 45.0**	**+0.3**
	comp=Z,17nm,0.6s,mb3.9,baz=144,slow=5.6,SNR=20							
BILL	**Bilibino**	**78.53**	**0**	*e*P		**P**	**07 55 44.5**	**-0.2**
	comp=Z,7.6nm,0.9s,mb4.3							
GTA	**Gaotai**	**78.90**	**314**	*e*P		**P**	**07 55 48.5**	**+1.2**
GTA				PP		PP	07 58 51.5	+1.8
GTA				S		S	08 05 33.8	+4.3
GTA				SKS		SKS	08 05 42.0	+0.7
GTA				XS			08 06 41.0	
GTA				SS		SS	08 10 42.5	+1.2
GTA				AMB		AMB		
	comp=Z,11nm,1.2s,mb4.4							
GTA				AMB		AMB		
	comp=Z,61nm,5.3s							
GTA				LR		LR		
	comp=N,78nm,24.7s							
GTA				LR		LR		
	comp=E,104nm,24.7s							
GTA				LR		LR		
	comp=Z,90nm,14.1s							
QSPA	**South Pole Qui**	**79.31**	**180**	⇑*i*P		**P**	**07 55 49.3**	**+0.6**
	comp=Z,4.7nm,0.6s,mb4.3							
MCK	**McKinley**	**81.78**	**19**	*e*P		**P**	**07 56 00.7**	**-1.3**
	comp=Z,5.5nm,1.1s,mb4.1							
COLA	**College**	**82.92**	**18**	*e*P		**P**	**07 56 07.0**	**-0.9**
	comp=Z,14nm,0.8s,mb4.8							
YBH	**Yreka Blue Hor**	**83.57**	**46**	P		**P**	**07 56 12.2**	**+0.5**
	comp=Z,11nm,0.9s,mb4.6,baz=298,slow=3.8,SNR=15							
HUMO	**Hull Mountain**	**83.70**	**45**	*e*P		**P**	**07 56 12.9**	**+0.7**
	comp=Z,12nm,0.9s,mb4.6							
CMB	**Columbia Colle**	**84.03**	**50**	*e*P		**P**	**07 56 13.6**	**-0.4**
	comp=Z,8.1nm,0.9s,mb4.5							
MAW	**Mawson**	**85.08**	**202**	P		**P**	**07 56 19.8**	**+1.3**
	comp=Z,3.0nm,0.7s,mb4.2,baz=68,slow=5.4,SNR=3.1							
JIRN	**Jiri**	**85.92**	**299**	*e*P		**P**	**07 56 24.3**	**+0.7**
	comp=Z,19nm,0.9s,mb4.8							
DLBC	**Dease Lake**	**86.05**	**28**	P		**P**	**07 56 23.4**	**-0.1**
	comp=Z,3.3nm,1.0s,mb4.0,baz=307,slow=11,SNR=4.0							
GUN	**Gumba**	**86.25**	**299**	*e*P		**P**	**07 56 25.6**	**+0.4**
	comp=Z,58nm,1.4s,mb5.1							
PKI	**Pulchoki**	**86.57**	**299**	*e*P		**P**	**07 56 27.0**	**+0.2**
	comp=Z,34nm,1.2s,mb5.1							
WVOR	**Wild Horse Val**	**86.67**	**46**	*e*P		**P**	**07 56 27.0**	**+0.1**
	comp=Z,12nm,1.1s,mb4.6							
KKN	**Kakani**	**86.73**	**299**	*e*P		**P**	**07 56 27.9**	**+0.4**
	comp=Z,34nm,1.1s,mb5.1							
DMN	**Daman**	**86.84**	**299**	*e*P		**P**	**07 56 28.6**	**+0.6**
	comp=Z,53nm,1.2s,mb5.3							
LDFC	**Landfair**	**87.26**	**54**	*e*P		**P**	**07 56 30.2**	**+0.3**
GKN	**Gorkha**	**87.33**	**299**	*e*P		**P**	**07 56 30.3**	**-0.1**
	comp=Z,47nm,1.2s,mb5.2							
KOLN	**Koldanda**	**88.18**	**299**	*e*P		**P**	**07 56 34.3**	**-0.1**
WMQ	**Urumqi**	**88.93**	**315**	*e*P		**P**	**07 56 37.5**	**-0.1**
WMQ				AMB		AMB		
	comp=Z,9.0nm,0.8s,mb4.8							
WMQ				AMB		AMB		
	comp=Z,124nm,4.3s							
ARUT	**Antelope Range**	**89.24**	**51**	*e*P		**P**	**07 56 39.7**	**+0.5**
NEW	**Newport**	**89.41**	**41**	P		**P**	**07 56 39.5**	**-0.2**
	comp=Z,2.4nm,0.8s,mb4.2,baz=252,slow=5.0,SNR=5.4							
INK	**Inuvik**	**89.54**	**19**	P		**P**	**07 56 39.4**	**-0.4**
	comp=Z,2.0nm,1.1s,mb4.0,baz=143,slow=3.8,SNR=4.2							
HLID	**Hailey**	**89.96**	**46**	*e*P		**P**	**07 56 42.7**	**+0.4**
	comp=Z,5.6nm,1.2s,mb4.4							
**DUG

PPM				*i* S		**S**	08 02 07.0	+0.7
ACX	**Acapulco**	**4.52**	**268**	*e*P		**P**	08 01 29.0	-2.8
TEIG	**Tepich**	**7.26**	**64**	*e*P		**P**	08 02 07.5	-1.6
	20nm,0.5s							
TEIG				*e*S		**S**	08 03 28.3	-2.2
JCT	**Junction City**	**13.96**	**343**	*e*P		**P**	08 03 38.2	+0.3
	4.0nm,0.6s							
TXAR	**Lajitas Array**	**14.44**	**329**	Pn		**P**	08 03 46.0	+2.0
	0.1nm,0.3s,baz=147,slow=13,SNR=10							
MIAR	**Mount Ida**	**17.43**	**4**	*e*P		**P**	08 04 20.9	-0.5
ANMO	**Albuquerque**	**20.42**	**333**	P		**P**	08 04 54.4	+0.5
	0.6nm,0.3s,baz=147,slow=14,SNR=6.0							
ANMO	**Albuquerque**	**20.42**	**333**	P		**P**	08 04 54.4	+0.5
TUC	**Tucson**	**20.69**	**320**	*e*P		**P**	08 04 57.8	+1.2
	4.9nm,0.9s							
CCM	**Cathedral Cave**	**21.16**	**9**	P		**P**	08 04 59.3	-2.1
	2.0nm,0.5s,mb3.7							
SDCO	**Great Sand Dun**	**22.47**	**338**	*e*P		**P**	08 05 16.0	+1.8
	7.7nm,1.4s,mb3.8							
PV10	**Paradox Valley**	**24.42**	**333**	*e*P		**P**	08 05 32.7	-0.2
SDV	**Santo Domingo**	**25.27**	**106**	*e*P		**P**	08 05 42.6	+1.4
YKA	**Yellowknife Ar**	**47.34**	**348**	P		**P**	08 08 46.7	-0.9
	0.9nm,0.6s,mb3.7,baz=153,slow=7.3,SNR=41							
YKA				PcP		PcP	08 10 15.0	-2.0
	0.1nm,0.6s,baz=134,slow=2.9,SNR=5.2							
YKA	**Yellowknife Ar**	**47.34**	**348**	P		**P**	08 08 46.7	-0.9
YKA				PcP		PcP	08 10 15.0	-2.0
DLBC	**Dease Lake**	**48.59**	**336**	P		**P**	08 08 58.9	+1.5
	1.1nm,0.7s,mb3.9,baz=157,slow=7.7,SNR=4.3							
RKT	**Rikitea**	**55.76**	**225**	*e*LR		LR	08 10 54.4	
	137nm,34.8s							
ARCES	**ARCESS Array B**	**84.16**	**18**	P		**P**	08 12 42.6	-0.2
	2.9nm,0.8s,mb4.2,baz=323,slow=6.1,SNR=5.5							
WRA	**Warramunga Arr**	**133.07**	**258**	PKP	PKPdf		08 19 27.5	+0.8
	0.2nm,0.6s,baz=91,slow=2.4,SNR=5.8							

IDC 28 08:21:25.2±1.6, 22.92S×178.94W, mb3.9/3, mb1 4.4/5, mb1mx4.1/13, mbtmp4.4/5, ML4.2/2, MS3.7/3, Ms1 3.7/3, ms1mx3.2/15, Error ellipse: s-maj=43.7km s-min=26.2km az=136.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.37**	**172**	Pn	Pn	08 23 00.3	-2.2
	106nm,0.3s,baz=98,slow=23,SNR=4.2						
AFI	**Afiamalu**	**11.25**	**38**	Pn	P	08 24 06.0	-4.4
	5.2nm,0.3s,baz=59,slow=9.0,SNR=9.6						
AFI				Sn	S	08 26 13.1	-5.0
	1.0nm,0.3s,baz=54,slow=19,SNR=2.4						
RPZ	**Rata Peaks**	**22.32**	**199**	LR	LR	08 34 40.9	
	comp=Z,177nm,19.6s,baz=24,slow=36						
STKA	**Stephens Creek**	**35.99**	**247**	P	P	08 28 27.2	-2.7
	1.0nm,0.6s,baz=100,slow=12,SNR=3.9						
ASAR	**Alice Springs**	**43.16**	**259**	P	P	08 29 26.7	-2.8
	1.2nm,0.6s,baz=90,slow=7.1,SNR=20						
ASAR				LR	LR	08 46 23.7	
	comp=Z,60nm,18.6s,baz=48,slow=35						
WRA	**Warramunga Arr**	**43.46**	**265**	P	P	08 29 30.8	-1.2
	0.6nm,0.4s,baz=103,slow=7.5,SNR=18						
MAW	**Mawson**	**79.00**	**200**	LR	LR	09 07 20.9	
	comp=Z,63nm,19.0s,baz=64,slow=35						
NB2	**NORSAR Subarra**	**141.26**	**352**	PKPabc		08 40 45.3	
	0.6nm,0.6s,baz=6.0,slow=3.4						
NOA	**NORSAR Array B**	**141.26**	**352**	PKhKP		08 40 45.6	
	1.9nm,0.9s,baz=9.5,slow=2.3,SNR=6.0						
BRTR	**Keskin Array B**	**147.75**	**309**	PKPbc	PKPdf	08 41 13.4	+2.4
	1.2nm,0.7s,baz=95,slow=3.5,SNR=7.4						

*CASC **28** 08:41:15.4±1.7, 14.33N×92.21W, h85km±13km, MD4.2, mb4.1(NEIC)*
*NEIC **28** 08:41:18.6±1.1, 14.10N×92.20W, h49km±10km, mb4.1/5, Error ellipse: s-maj=18.8km s-min=7.9km az=213.0*
*MEX **28** 08:41:18.1±0.6, 14.02N×92.52W, h85km, MD4.5*
*IDC **28** 08:41:23.7±7.9, 14.58N×91.80W, h83km±69km, mb3.7/3, mb1 3.8/5, mb1mx3.4/20, mbtmp4.0/5, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.4/22, Error ellipse: s-maj=133.0km s-min=21.7km az=40.0*

ISC 28 08:41:14.3±0.6, 13.91N±0.06×92.36W±0.03, h33km, n34, σ1§00/44, mb4.0/8, MS3.6/1, 3C-5D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**0.81**	**60**⇓	*e*P	**P**	08 41 29.8	+0.5
JAT				*e*S	**S**	08 41 41.9	+1.6
FUG	**Fuego 3**	**1.57**	**70**⇓	*i*P	**P**	08 41 39.3	-0.9
IXG	**Ixpaco**	**1.87**	**82**	*e*P	**P**	08 41 43.5	-1.0
IXG				*e*S	**S**	08 42 06.1	-1.0
CCIG	**Comitan**	**2.37**	**5**	*i* P	**P**	08 41 53.1	+1.5
CCIG				*i* S	**S**	08 42 20.0	+0.2
RBDL	**Robledal**	**2.61**	**85**⇑	*e*P	**P**	08 41 55.0	+0.1
RTR	**El Retiro**	**2.64**	**90**⇓	*e*P	**P**	08 41 55.1	-0.3
RTR				*e*S	**S**	08 42 27.5	+0.8
SBLS	**San Blas**	**2.66**	**91**⇓	*e*P	**P**	08 41 56.1	+0.3
SBLS				*e*S	**S**	08 42 27.9	+0.7
SNJE	**San Jose**	**2.68**	**91**⇑	*e*P	**P**	08 41 55.9	-0.1
SNJE				*e*S	**S**	08 42 27.1	-0.5
BOQS	**Boqueron**	**3.00**	**93**	*e*P	**P**	08 41 60.0	-0.6
BOQS				*e*S	**S**	08 42 35.7	-0.1
LFRS	**El Faro**	**3.22**	**95**⇓	*e*P	**P**	08 42 03.3	-0.4
LCBS	**La Ceiba**	**3.30**	**94**⇑	*e*P	**P**	08 42 04.3	-0.5
CMIG	**Matias Romero**	**3.99**	**323**	*e*P	**P**	08 42 13.1	-1.5
CMIG				*i* S	**S**	08 42 57.0	-4.0
OXX	**Oaxaca**	**5.26**	**307**	*e*P	**P**	08 42 35.0	+2.4
OXX				*i* S	**S**	08 43 32.0	-0.9
OXX	**Oaxaca**	**5.26**	**307**	*e*P	**P**	08 42 32.5	-0.1
OXX				*e*S	**S**	08 43 29.5	-3.4
VHO	**Vista Hermosa**	**5.26**	**307**	*i* P	**P**	08 42 32.6	0.0
VHO				*i* S	**S**	08 43 29.6	-3.3
TEIG	**Tepich**	**7.40**	**31**	*e*P	**P**	08 43 01.1	-1.5
	56nm,0.8s						
PPM	**Popocatepetl**	**7.90**	**311**	*e*P	**P**	08 43 13.0	+3.4
JTS	**JuntasAbangare**	**8.09**	**116**	*e*P	**P**	08 43 12.3	+0.1
	61nm,0.9s						
TXAR	**Lajitas Array**	**18.58**	**328**	P	**P**	08 45 31.6	+0.6
	0.1nm,0.3s,baz=152,slow=14,SNR=20						
ROSC	**El Rosal**	**19.92**	**115**	P	**P**	08 45 47.5	+1.3
	0.2nm,0.3s,baz=107,slow=22,SNR=4.6						
CLNB	**Carlsbad**	**21.09**	**332**	*e*P	**P**	08 45 58.0	-0.2
GDL2	**Guadalupe Moun**	**21.26**	**331**	*e*P	**P**	08 46 00.2	+0.2
MNTX	**Cornudas Mount**	**21.36**	**328**	*e*P	**P**	08 46 01.0	+0.1
	3.0nm,0.7s,mb3.8						
CPRX	**Cap Rock**	**21.73**	**333**	*e*P	**P**	08 46 05.0	+0.3
SDV	**Santo Domingo**	**21.87**	**101**	P	**P**	08 46 05.9	-0.3
	2.8nm,0.6s,mb3.9,baz=355,slow=11,SNR=3.0						
AMTX	**Amarillo**	**22.52**	**340**	*e*P	**P**	08 46 12.3	-0.2
	9.6nm,0.6s,mb4.4						
ANMO	**Albuquerque**	**24.51**	**331**	P	**P**	08 46 32.8	+0.8
	2.2nm,0.7s,mb3.8,baz=151,slow=11,SNR=19						
WCI	**Wyandotte Cave**	**24.82**	**11**	*e*P	**P**	08 46 32.0	-2.9
	11nm,0.8s,mb4.4						
SDCO	**Great Sand Dun**	**26.46**	**336**	*e*P	**P**	08 46 50.7	+0.4
	1.4nm,1.0s,mb3.5						
PV10	**Paradox Valley**	**28.50**	**332**	*e*P	**P**	08 47 09.4	+0.6
HLID	**Hailey**	**35.09**	**332**	*e*P	**P**	08 48 07.3	+0.9
	2.7nm,1.1s,mb4.1						
MCMT	**McKenzie Canyo**	**35.40**	**335**	*e*P	**P**	08 48 10.7	+1.5
SCHQ	**Schefferville**	**45.43**	**20**	LR	LR	09 10 22.3	
	comp=Z,73nm,18.8s,MS3.6,baz=351,slow=39						
YKA	**Yellowknife Ar**	**51.03**	**347**	P	**P**	08 50 12.9	-2.2
	2.2nm,0.7s,mb4.2,baz=150,slow=7.4,SNR=66						
YKA				PcP	PcP	08 51 29.8	-1.2
	0.4nm,0.8s,baz=150,slow=3.6,SNR=9.2						

*NNC **28** 08:43:15.3±20.0, 32.69N×71.71E, h24km±250km, Error ellipse: s-maj=225.0km s-min=93.5km az=147.0*
*IDC **28** 08:44:33.2±1.0, 39.16N×72.61E, mb3.7/8, mb1 3.9/10, mb1mx3.8/20, mbtmp3.7/10, ML3.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/20, Error ellipse: s-maj=21.1km s-min=18.4km az=30.0*
*MOS **28** 08:44:36.4±1.1, 39.17N×72.55E, h33km, mb3.9/3, Error ellipse: s-maj=27.1km s-min=15.2km az=82.0*
*BJI **28** 08:44:38.1, 38.92N×72.79E, h34km, mb4.1, ML3.9*
*NEIC **28** 08:44:39.4±3.1, 39.24N×72.65E, h42km±24km, mb4.1/1, Error ellipse: s-maj=29.6km s-min=12.7km az=211.0*

ISC 28 08:44:39.4±0.7, 39.29N±0.04×72.7E±0.1, h56km±8km, n39, σ0§99/42, mb3.6/11, MS3.1/1, 8C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.54**	**84**	*e*P	**P**	08 45 20.0	+0.8
KSH				Smax			
	comp=N,640nm,0.7s						
KSH				Smax			
	comp=E,560nm,0.8s						
KZA	**Kyzart**	**3.39**	**34**	P	**P**	08 45 31.5	+0.3
	SNR=17						
EKS2	**Erkin-Say**	**3.47**	**13**	P	**P**	08 45 32.0	-0.3
	SNR=19						
AAK	**Ala-Archa**	**3.61**	**22**	Pn	**P**	08 45 33.2	-1.0
	comp=E,1μm,0.4s						
AAK	**Ala-Archa**	**3.61**	**22**⇓	*e*P	**P**	08 45 32.8	-1.4
AAK				*e*S	**S**	08 46 16.6	+0.8
KBK	**Karagaybulak**	**3.77**	**26**	P	**P**	08 45 37.7	+1.3
	SNR=6.5						
ULHL	**Ulahol**	**3.99**	**41**	P	**P**	08 45 40.0	+0.4
	SNR=18						
CHMS	**Chumysh**	**4.02**	**22**	P	**P**	08 45 39.5	-0.4
	SNR=41						
USP	**Ospennovka**	**4.20**	**18**	P	**P**	08 45 42.1	-0.4
	SNR=38						
TKM2	**Tokmak 2**	**4.24**	**30**	P	**P**	08 45 43.4	+0.3
	SNR=8.3						
CEP	**Cherat**	**5.49**	**187**	⇑P	**P**	08 46 03.9	+3.3
CEP				S	**S**	08 47 14.0	+11
CHCP	**Chirah Chowk**	**5.64**	**175**	⇑P	**P**	08 46 05.1	+2.5
SBDP	**Sheikh Budin**	**7.14**	**193**	⇑P	**P**	08 46 23.8	+0.2
THN	**Thein Dam**	**7.26**	**159**	*e*P	**P**	08 46 24.1	-1.2
THN				*e*		08 47 48.2	
	comp=E,20nm,0.4s						
DRP	**Denzinda**	**7.80**	**196**	P	**P**	08 46 32.2	-0.5
SDNR	**Sundarnagar**	**8.52**	**155**	*e*P	**P**	08 46 40.4	-2.2
SDNR				*e*		08 48 18.0	
MK31	**Makanchi Array**	**10.27**	**40**	⇑P	**P**	08 47 04.3	-2.2
	comp=E,1.8nm,0.7s,baz=217,slow=15,SNR=19						
MK31				⇑S		08 50 01.1	
	comp=E,9.3nm,1.2s,baz=234,slow=27,SNR=4.5						
MKAR	**Makanchi Array**	**10.27**	**40**	Pn	**P**	08 47 05.8	-0.7
	comp=E,0.1nm,0.3s,baz=226,slow=15,SNR=7.0						
MKAR				Sn	**S**	08 49 05.2	+4.2
	baz=242,slow=21,SNR=1.9						
MKAR				Lg		08 50 01.1	
	comp=E,0.2nm,0.3s,baz=238,slow=27,SNR=5.6						
BVA0	**Borovoye Array**	**13.83**	**354**	⇑P	**P**	08 47 47.9	-6.1
	comp=E,0.5nm,0.7s,baz=165,slow=13,SNR=8.3						
BVA0				⇑S		08 51 40.0	
	comp=E,1.8nm,1.1s						
BVAR	**Borovoye Array**	**13.83**	**354**	Pn	**P**	08 47 48.7	-5.3
	comp=E,0.6nm,0.3s,baz=148,slow=10,SNR=8.6						
BVAR				Lg		08 51 46.5	
	comp=E,0.2nm,0.3s,baz=173,slow=27,SNR=2.6						
CHKZ	**Chkalovo**	**14.46**	**355**	⇑P	**P**	08 47 56.8	-5.4
	comp=E,0.6nm,0.5s						
CHKZ	**Chkalovo**	**14.46**	**355**	*e*P	**P**	08 47 56.7	-5.5
CHKZ				pmax	pmax		
	comp=Z,31nm,0.6s						
CHKZ	**Chkalovo**	**14.46**	**355**	*e*P	**P**	08 47 56.7	-5.5
	comp=Z,31nm,0.6s						
GTA	**Gaotai**	**20.94**	**81**	*e*P	**P**	08 49 19.5	-0.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s						
ZEI	**Tsey**	**21.96**	**288**	*e*P	**P**	08 49 36.7	+7.0
ZEI				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.6						
ZAK	**Zakamensk**	**24.18**	**53**	*e*P	**P**	08 49 52.0	+0.7
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.2						
SONM	**Songino Array**	**25.70**	**60**	P	**P**	08 50 06.4	+0.6
	comp=Z,1.3nm,0.8s,mb3.5,baz=265,slow=8.9,SNR=12						
SONM				LR	LR	09 01 03.1	
	comp=Z,59nm,18.9s,MS3.1,baz=174,slow=38						
FINES	**FINESS Array B**	**35.98**	**324**	P	**P**	08 51 36.4	0.0
	comp=Z,1.3nm,0.6s,mb4.0,baz=107,slow=8.9,SNR=10						
ARCES	**ARCESS Array B**	**39.12**	**336**	P	**P**	08 52 02.7	+0.2
	comp=Z,1.5nm,0.6s,mb3.9,baz=106,slow=8.8,SNR=9.5						
GERES	**GERESS Array B**	**42.48**	**303**	P	**P**	08 52 31.3	+0.9
	comp=Z,0.4nm,0.5s,mb3.3,baz=68,slow=7.2,SNR=6.2						
NB2	**NORSAR Subarra**	**43.01**	**321**	P	**P**	08 52 32.2	-2.3
	comp=Z,0.4nm,0.4s,mb3.5,baz=93,slow=7.4						
NOA	**NORSAR Array B**	**43.01**	**321**	P	**P**	08 52 33.4	-1.1
	comp=Z,0.4nm,0.8s,mb3.2,baz=86,slow=7.2,SNR=3.9						
INK	**Inuvik**	**70.94**	**10**	*e*P	**P**	08 55 52.2	+0.1
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**70.94**	**10**	*e*P	**P**	08 55 52.2	+0.1
	comp=Z,0.8nm,0.4s,mb4.0						
YKA	**Yellowknife Ar**	**78.39**	**3**	P	**P**	08 56 35.2	+0.3
YKA	**Yellowknife Ar**	**78.39**	**3**	P	**P**	08 56 35.1	+0.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=351,slow=5.6,SNR=32						
WRA	**Warramunga Arr**	**82.36**	**123**	P	**P**	08 56 56.6	-0.2
	comp=Z,0.5nm,0.5s,mb3.7,baz=325,slow=5.0,SNR=8.0						
WRAB	**Tennant Creek**	**82.36**	**123**	*e*P	**P**	08 56 56.7	-0.1
ASAR	**Alice Springs**	**84.78**	**126**	P	**P**	08 57 09.4	+0.4
	comp=Z,0.3nm,0.8s,mb3.5,baz=315,slow=6.4,SNR=3.8						

*NEIC **28** 08:55:03.3, 42.12S×178.53E, h33km, ML4.0(WEL), After WEL.*

WEL 28 08:55:03.8±0.4, 42.07S×178.50E, h33km, ML4.0/8, Error ellipse: s-maj=3.2km s-min=2.2km az=90.0, Off east coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	**Birch Farm**	**2.20**	**309**	*e*P	P	08 55 37.5	-1.1
BFZ	**Birch Farm**	**2.20**	**309**	PN	Pn	08 55 37.5	-1.3
BFZ				SN	Sn	08 56 03.2	-1.9
PWZ	**Pawanui**	**2.39**	**328**	P	P	08 55 39.5	-1.8
PWZ				S	S	08 56 06.2	-3.6
PWZ	**Pawanui**	**2.39**	**328**	PN	Pn	08 55 39.7	-1.8
PWZ				SN	Sn	08 56 07.0	-3.0
PAWZ	**Paruwai Farm**	**2.41**	**286**	PN	Pn	08 55 39.6	-2.1
PAWZ				SN	Sn	08 56 07.0	-3.4
MTW	**Mount Morrison**	**2.43**	**291**	P	P	08 55 39.9	-2.0
MTW	**Mount Morrison**	**2.43**	**291**	PN	Pn	08 55 40.0	-2.1
MTW				SN	Sn	08 56 07.3	-3.6
MSWZ	**Moikau Station**	**2.52**	**284**	P	P	08 55 40.9	-2.3
MSWZ	**Moikau Station**	**2.52**	**284**	PN	Pn	08 55 41.1	-2.3
MSWZ				SN	Sn	08 56 09.4	-3.9
MRZ	**Mangatainoka R**	**2.61**	**302**	P	P	08 55 43.1	-1.4
MRZ	**Mangatainoka R**	**2.61**	**302**	PN	Pn	08 55 43.1	-1.6
MRZ				SN	Sn	08 56 12.3	-3.3
CAW	**Cannon Point**	**2.75**	**289**	P	P	08 55 44.5	-2.0
CAW				S	S	08 56 16.9	-2.0
CAW	**Cannon Point**	**2.75**	**289**	PN	Pn	08 55 44.5	-2.2
CAW				SN	Sn	08 56 15.2	-4.0
TSZ	**Takapari Road**	**2.78**	**315**	P	P	08 55 45.8	-1.1
TSZ				S	S	08 56 16.5	-3.2
TSZ	**Takapari Road**	**2.78**	**315**	PN	Pn	08 55 45.8	-1.3
TSZ				SN	Sn	08 56 16.5	-3.4
TSZ				SN	Sn	08 56 16.9	-3.1
BHW	**Baring Head**	**2.80**	**283**	PN	Pn	08 55 45.1	-2.2
BHW				SN	Sn	08 56 16.3	-4.0
SNZO	**South Karori**	**2.94**	**284**	*e*P	P	08 55 47.1	-2.2
SNZO	**South Karori**	**2.94**	**284**	PN	Pn	08 55 47.1	-2.3
SNZO				SN	Sn	08 56 19.8	-4.3
KIW	**Kapiti Island**	**2.96**	**293**	P	P	08 55 48.1	-1.4
KIW	**Kapiti Island**	**2.96**	**293**	PN	Pn	08 55 48.1	-1.5
KIW				SN	Sn	08 56 20.5	-3.9
MRW	**Makara Radio**	**2.97**	**285**	P	P	08 55 47.7	-2.0
MRW	**Makara Radio**	**2.97**	**285**	PN	Pn	08 55 47.7	-2.1
MRW				SN	Sn	08 56 20.2	-4.5
KNZ	**Kokohu**	**3.11**	**348**	*e*P	P	08 55 48.6	-3.1
KNZ	**Kokohu**	**3.11**	**348**	PN	Pn	08 55 48.6	-3.3
KNZ				SN	Sn	08 56 22.4	-5.9
BKZ	**Black Stump Fm**	**3.28**	**332**	P	P	08 55 52.3	-1.8
BKZ				S	S	08 56 26.6	-5.8
BKZ	**Black Stump Fm**	**3.28**	**332**	PN	Pn	08 55 52.3	-1.9
BKZ				SN	Sn	08 56 26.6	-5.9
MOVZ	**Moawhango**	**3.38**	**321**	P	P	08 55 54.7	-0.8
MOVZ	**Moawhango**	**3.38**	**321**	PN	Pn	08 55 54.7	-0.9
MOVZ				SN	Sn	08 56 31.2	-4.0
TUWZ	**Tuamarina**	**3.47**	**279**	PN	Pn	08 55 54.4	-2.5
TUWZ				SN	Sn	08 56 34.9	-2.4
BSWZ	**Blackbirch Sta**	**3.47**	**274**	P	P	08 55 54.2	-2.6
BSWZ	**Blackbirch Sta**	**3.47**	**274**	PN	Pn	08 55 54.2	-2.7
BSWZ				SN	Sn	08 56 34.2	-3.2
WNVZ	**Wahianoa**	**3.52**	**320**	P	P	08 55 57.2	-0.2
WNVZ	**Wahianoa**	**3.52**	**320**	PN	Pn	08 55 57.2	-0.4
WNVZ				SN	Sn	08 56 36.2	-2.3
WAZ	**Wanganui**	**3.53**	**310**	P	P	08 55 57.7	+0.1
WAZ	**Wanganui**	**3.53**	**310**	PN	Pn	08 55 57.8	+0.1
WAZ				SN	Sn	08 56 37.6	-1.2
TUVZ	**Tukino**	**3.54**	**321**	P	P	08 55 57.3	-0.4
TUVZ	**Tukino**	**3.54**	**321**	PN	Pn	08 55 57.3	-0.5
TUVZ				SN	Sn	08 56 36.0	-3.1
DRZ	**Dome Shelter**	**3.58**	**320**	P	P	08 55 58.1	-0.2
DRZ	**Dome Shelter**	**3.58**	**320**	PN	Pn	08 55 58.1	-0.3
FWVZ	**Far West T-bar**	**3.60**	**320**	P	P	08 55 58.0	-0.6
FWVZ	**Far West T-bar**	**3.60**	**320**	PN	Pn	08 55 58.0	-0.7
OTVZ	**Oturere**	**3.62**	**322**	PN	Pn	08 55 58.4	-0.6
OTVZ				SN	Sn	08 56 37.1	-4.0
NGZ	**Ngauruhoe**	**3.64**	**322**	P	P	08 55 58.3	-0.8
NGZ	**Ngauruhoe**	**3.64**	**322**	PN	Pn	08 55 58.3	-0.9
NGZ				SN	Sn	08 56 37.8	-3.8
WPVZ	**Whakapapa**	**3.64**	**321**	P	P	08 55 58.5	-0.7
WPVZ	**Whakapapa**	**3.64**	**321**	PN	Pn	08 55 58.5	-0.9
WPVZ				SN	Sn	08 56 40.5	-1.1
CNZ	**Chateau**	**3.65**	**321**	P	P	08 55 58.6	-0.6
CNZ	**Chateau**	**3.65**	**321**	PN	Pn	08 55 58.5	-0.9
DUWZ	**D'Urville Isla**	**3.67**	**289**	PN	Pn	08 55 58.5	-1.2
DUWZ				SN	Sn	08 56 38.4	-4.0
WTVZ	**West Tongariro**	**3.69**	**322**	P	P	08 55 59.0	-0.9
WTVZ	**West Tongariro**	**3.69**	**322**	PN	Pn	08 55 59.0	-1.0
WTVZ				SN	Sn	08 56 38.4	-4.5
KHZ	**Kahutara**	**3.70**	**263**	P	P	08 55 56.3	-3.7
KHZ	**Kahutara**	**3.70**	**263**	PN	Pn	08 55 56.3	-3.9
KHZ				SN	Sn	08 56 38.3	-4.8
TWVZ	**Taurewa**	**3.80**	**321**	P	P	08 56 00.2	-1.2
TWVZ	**Taurewa**	**3.80**	**321**	PN	Pn	08 56 00.3	-1.2
MWZ	**Matawai**	**3.81**	**348**	P	P	08 55 57.9	-3.6
MWZ	**Matawai**	**3.81**	**348**	PN	Pn	08 55 57.9	-3.7
MWZ				SN	Sn	08 56 38.1	-7.7
MGZ	**Maungaku**	**3.81**	**323**	P	P	08 56 00.4	-1.2
MGZ	**Maungaku**	**3.81**	**323**	PN	Pn	08 56 00.3	-1.4
RATZ	**Rangitukua**	**3.82**	**326**	P	P	08 56 00.4	-1.3
RATZ	**Rangitukua**	**3.82**	**326**	PN	Pn	08 56 00.6	-1.3
NNZ	**Nelson**	**3.93**	**281**	*e*P	P	08 56 01.3	-2.0
NNZ	**Nelson**	**3.93**	**281**	PN	Pn	08 56 01.3	-2.1
URZ	**Urewera**	**3.96**	**344**	P	P	08 56 00.4	-3.2
URZ	**Urewera**	**3.96**	**344**	PN	Pn	08 56 00.4	-3.4
URZ				SN	Sn	08 56 42.9	-6.7
WATZ	**Wairara**	**3.97**	**327**	P	P	08 56 01.9	-1.9
WATZ	**Wairara**	**3.97**	**327**	PN	Pn	08 56 01.9	-2.0
PUZ	**Puketiti**	**4.00**	**357**	PN	Pn	08 56 00.0	-4.4
PUZ				SN	Sn	08 56 41.3	-9.5
VRZ	**Vera Road**	**4.10**	**315**	*e*P	P	08 56 04.8	-0.9
VRZ	**Vera Road**	**4.10**	**315**	PN	Pn	08 56 04.8	-1.0
VRZ				SN	Sn	08 56 50.4	-2.9
RAEZ	**Rainy Point**	**4.18**	**310**	P	P	08 56 07.1	+0.2
RAEZ	**Rainy Point**	**4.18**	**310**	PN	Pn	08 56 06.6	-0.4
RAEZ				SN	Sn	08 56 53.0	-2.4
THZ	**Tophouse**	**4.19**	**272**	*e*P	P	08 56 04.0	-3.0
THZ	**Tophouse**	**4.19**	**272**	PN	Pn	08 56 04.0	-3.1
THZ				SN	Sn	08 56 50.0	-5.6
NEZ	**North Egmont**	**4.37**	**308**	P	P	08 56 10.0	+0.5
NEZ	**North Egmont**	**4.37**	**308**	PN	Pn	08 56 09.3	-0.3
NEZ				SN	Sn	08 56 59.3	-0.7
NRZ	**Ngariki Road**	**4.42**	**307**	PN	Pn	08 56 10.7	+0.3
NWEZ	**Newall Road**	**4.50**	**307**	PN	Pn	08 56 12.0	+0.5
MXZ	**Matakaoa Point**	**4.51**	**358**	P	P	08 56 07.0	-4.5
MXZ	**Matakaoa Point**	**4.51**	**358**	PN	Pn	08 56 07.6	-4.0
HIZ	**Hauiti**	**4.52**	**321**	*e*P	P	08 56 09.8	-1.8
HIZ	**Hauiti**	**4.52**	**321**	PN	Pn	08 56 09.8	-2.0
HIZ				SN	Sn	08 57 01.0	-2.9
CRLZ	**Canterbury Las**	**4.58**	**249**	*e*P	P	08 56 09.4	-3.1
CRLZ	**Canterbury Las**	**4.58**	**249**	PN	Pn	08 56 09.4	-3.3
CRLZ				SN	Sn	08 56 58.6	-6.8
MQZ	**McQueen's Vall**	**4.

comp=Z,82nm,20.8s,MS3.2,baz=24,slow=30
STKA Stephens Creek 24.14 350 *e*P **P 09 43 23.3 +0.9**
STKA LR LR 09 50 17.3
URZ Urewera 27.06 63 LR LR 09 53 16.3
comp=Z,164nm,18.8s,MS3.6,baz=200,slow=35
ASAR Alice Springs 33.36 339 P **P 09 44 45.5 -0.5**
1.1nm,0.7s,mb3.9,baz=165,slow=9.5,SNR=9.8
ASAR PcP PcP 09 47 25.5 -2.3
0.3nm,0.6s,baz=179,slow=3.5,SNR=4.2
ASAR ScP 09 51 12.9
0.1nm,0.7s,baz=94,slow=7.8,SNR=4.5
CTA Charters Tower 35.65 360 LR LR 09 58 12.8
comp=Z,174nm,18.0s,MS3.9,baz=211,slow=34
WRA Warramunga Arr 36.91 341 P **P 09 45 15.5 -0.7**
3.7nm,0.6s,mb4.4,baz=165,slow=7.5,SNR=32
WRAB Tennant Creek 36.91 341 *e*P **P 09 45 15.5 -0.7**
6.8nm,0.5s,mb4.7
MAW Mawson 38.07 218 LR LR 10 00 47.8
comp=Z,105nm,19.3s,MS3.7,baz=235,slow=35
MBWA Marble Bar 39.85 319 *e*P **P 09 45 41.5 +0.7**
FINES FINESS Array B 149.34 305 PKPbc PKPdf 09 57 54.4 +2.7
0.5nm,0.5s,baz=135,slow=2.7,SNR=4.7
GERES GERESS Array B 150.68 276 PKPbc PKPdf 09 58 00.3 +6.1
0.3nm,0.6s,baz=135,slow=3.8,SNR=4.8
CLL Collm 152.29 280 *e*PKP2 PKPab 09 58 14.0 +1.4

CASC 28 09:47:25.3±1.5, 13.35N×89.73W, h50km±20km, MD3.8, ML3.6, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.50**	**12**	⇓*e*P			P	09 47 37.1	+0.5
SBLS				*e*S			S	09 47 46.2	+1.5
SNJE	**San Jose**	**0.53**	**13**	*e*P			P	09 47 37.5	+0.5
SNJE				*e*S			S	09 47 46.5	+1.0
RTR	**El Retiro**	**0.55**	**9**	⇓*e*P			P	09 47 37.6	+0.4
BOQS	**Boqueron**	**0.59**	**49**	*e*P			P	09 47 38.0	+0.4
BOQS				*e*S			S	09 47 47.7	+1.1
SNET	**Serv Nac Est T**	**0.59**	**55**	*e*P			P	09 47 37.6	-0.1
SNET				*e*S			S	09 47 48.0	+1.2
SNET				*i*				09 47 49.8	
	comp=Z,2μm,0.3s								
LFRS	**El Faro**	**0.71**	**67**	⇓*e*P			P	09 47 39.3	+0.1
LFRS				*e*S			S	09 47 49.8	+0.4
LFU	**La Fuente**	**0.72**	**56**	⇓*e*P			P	09 47 39.9	+0.5
RBDL	**Robledal**	**0.76**	**3**	⇓*e*P			P	09 47 40.6	+0.7
RBDL				*e*S			S	09 47 52.4	+1.7
LBRS	**Las Brisas**	**0.78**	**60**	*e*P			P	09 47 40.5	+0.4
LBRS				*e*S			S	09 47 51.5	+0.5
LCBS	**La Ceiba**	**0.80**	**67**	⇓*e*P			P	09 47 40.5	+0.1
LCBS				*e*S			S	09 47 52.2	+0.7
SNVI	**San Vicente**	**0.91**	**73**	*e*P			P	09 47 42.2	+0.3
SNVI				*e*S			S	09 47 55.4	+1.1
IXG	**Ixpaco**	**1.08**	**320**	*e*P			P	09 47 43.6	-0.8
IXG				*e*S			S	09 47 57.8	-0.7
MTO2	**Montecristo 2**	**1.11**	**19**	*e*P			P	09 47 45.1	+0.3
VSM	**San Miguel**	**1.42**	**87**	*e*P			P	09 47 49.4	+0.1
VSM				*e*S			S	09 48 07.8	+0.8
CAHU	**Cacacuatique**	**1.54**	**74**	*e*P			P	09 47 50.8	-0.1
CNCH	**Conchagua**	**1.85**	**92**	*e*P			P	09 47 54.6	-0.6
CNCH				*e*S			S	09 48 17.9	+0.4
JAT	**Jato**	**2.09**	**298**	*e*P			P	09 47 57.4	-1.2
JAT				*e*S			S	09 48 25.5	+2.1

MEX 28 10:05:54.4±0.8, 17.01N×100.05W, h15km±23km, MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.19**	**138**	*i*	P		Pb	10 05 58.0	-1.1
ACX				*i*	S		Sb	10 06 02.0	-0.2
CAIG	**El Cayaco**	**0.21**	**280**	*i*	P		Pb	10 05 59.0	-0.4
CAIG				*i*	S		Sb	10 06 01.7	-0.9
PLIG	**Platanillo**	**1.47**	**21**	*i*	P		Pn	10 06 17.9	-2.7
PLIG				*i*	S		Sb	10 06 34.1	-5.2

*FUNV **28** 10:06:14.6, 9.71N×69.95W, MW2.7*
*UAV **28** 10:06:16.9, 9.59N×70.02W, h0km*
ISC 28 10:06:15.1±0.6, 9.71N±0.02×69.93W±0.02, h10km±4km, n19, σ0°81/37, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.31**	**354**	*e*P			**Pg**	**10 06 20.9**	**-0.6**
CURV				*e*S			**Sg**	**10 06 24.6**	**-1.2**
TORV	**Torococo**	**0.33**	**244**	P			**Pg**	**10 06 23.4**	**+1.3**
TORV				S			**Sg**	**10 06 28.9**	**+2.3**
SANV	**Sanarito**	**0.44**	**118**	*e*P			**Pg**	**10 06 23.2**	**-0.8**
SANV				*e*S			**Sg**	**10 06 29.6**	**-0.4**
TEPV	**Terepaima**	**0.77**	**71**	*e*P			**Pb**	**10 06 30.2**	**0.0**
TEPV				*e*S			**Sb**	**10 06 41.1**	**+0.7**
SIQV	**Siquisique**	**0.94**	**7**	*e*P			**Pb**	**10 06 32.5**	**-0.7**
SIQV				*e*S			**Sb**	**10 06 46.1**	**+0.7**
EAV	**Pico El Aguila**	**1.22**	**226**	P			**Pb**	**10 06 37.1**	**-0.8**
EAV				S			**Sb**	**10 06 52.2**	**-1.3**
DABV	**Dabajuro**	**1.40**	**330**	*e*P			**Pn**	**10 06 40.3**	**-0.4**
DABV				*e*S			**Sb**	**10 06 59.4**	**+0.9**
CUV	**La Culata**	**1.47**	**230**	P			**Pn**	**10 06 41.9**	**+0.1**
CUV				S			**Sb**	**10 07 00.2**	**-0.4**
AGV	**La Aguada**	**1.61**	**225**	P			**Pn**	**10 06 44.2**	**+0.3**
AGV				S			**Sn**	**10 07 04.2**	**-0.7**
UAV	**Universidad de**	**1.62**	**228**	P			**Pn**	**10 06 44.8**	**+0.8**
UAV				S			**Sn**	**10 07 04.7**	**-0.4**
VIGV	**El Vigia**	**1.66**	**239**	*e*P			**Pn**	**10 06 44.1**	**-0.4**
VIGV				*e*S			**Sn**	**10 07 06.3**	**+0.3**
SOCV	**Socops**	**1.69**	**213**	*e*P			**Pn**	**10 06 45.0**	**+0.2**
SOCV				*e*S			**Sn**	**10 07 07.0**	**+0.4**
JACV	**Jacura**	**1.75**	**38**	*e*P			**Pn**	**10 06 46.0**	**+0.3**
JACV				*e*S			**Sn**	**10 07 08.5**	**+0.3**
OSV	**Paramo de la O**	**1.87**	**236**	P			**Pn**	**10 06 48.8**	**+1.3**
OSV				S			**Sn**	**10 07 11.8**	**+0.5**
BAUV	**El Baul**	**2.01**	**112**	*e*P			**Pn**	**10 06 50.0**	**+0.4**
BAUV				*e*S			**Sn**	**10 07 15.5**	**+0.6**
TURV	**Turiamo**	**2.18**	**70**	*e*P			**Pn**	**10 06 51.7**	**-0.4**
MONV	**Montecano**	**2.23**	**359**	*e*P			**Pn**	**10 06 52.6**	**-0.1**
MONV				*e*S			**Sn**	**10 07 20.3**	**-0.4**
PDMV	**Paramo Marino**	**2.33**	**234**	P			**Pn**	**10 06 57.8**	**+3.7**
PDMV				S			**Sn**	**10 07 23.4**	**+0.3**
CAPV	**Capacho**	**2.98**	**232**	*e*P			**Pn**	**10 07 02.6**	**-0.9**
CAPV				*e*S			**Sn**	**10 07 37.7**	**-2.0**

*NIED **28** 11:01:00, 43.40N×146.90E, h35km, Mw4.8 Best double couple: M0 2.08×10^16 NP1:φ=23°, δ70°, λ76°. NP2:φ=239°, δ24°, λ124°.*
*JMA **28** 11:01:29.6±0.2, 43.35N×146.91E, h43km±3km, M4.7*
JMA Felt I J1.
*BJI **28** 11:01:29.0, 43.54N×147.01E, h47km, mB4.9, mb4.8, Ms4.4, Msz4.3*
*MOS **28** 11:01:30.9±0.9, 43.69N×146.85E, h43km, mb5.2/52, MS4.2/19, Error ellipse: s-maj=9.6km s-min=4.3km az=110.0*
*SKHL **28** 11:01:30.1±0.3, 43.62N×147.02E, h56km±24km, mb5.4/1, Ms4.4/6, msh4.8/2*
*HRVD **28** 11:01:30.8±0.6, 43.46N×147.10E, h40km±1km, MW4.9/46, Centroid moment Tensor Solution. LP body waves: s16,c20;Mantle waves: s46,c75; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.06±.22; Mθθ-0.49±.15; Mφφ-1.56±.14; Mrθ0.56±.13; Mrφ-1.49±.08; Mθφ1.49±.10; Best double couple: M0 2.835×10^16 NP1:φ=228°, δ29°, λ110°. NP2:φ=25°, δ63°, λ79°. Principal axes: T 2.595, Plg70°, Azm272°; N .488, Plg10°, Azm30°; P -3.075, Plg17°, Azm123°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 11:01:30.8±0.7, 43.43N×146.90E, h40km±5km, mb5.0/81 Error ellipse: s-maj=4.9km s-min=3.7km az=136.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
*IDC **28** 11:01:32.8±3.1, 43.46N×146.88E, h58km±28km, mb4.3/23, mb1 4.4/25, mb1mx4.4/26, mbtmp4.6/25, ML4.2/2, MS4.0/19, Ms1 4.0/19, ms1mx3.8/24, Error ellipse: s-maj=15.1km s-min=11.6km az=116.0*
ISC 28 11:01:27.7±0.8, 43.45N±0.03×146.99E±0.04, h28km±4km, h35km±1.1km: pP-P, n346, σ0°98/363, mb4.8/122, MS4.2/38, 40C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.91**	**265**	P			**Pn**	**11 01 45.3**	**+0.6**
NEM2				*e*S			**Sb**	**11 01 57.0**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**1.01**	**306**	⇓*i*PN			**Pn**	**11 01 47.3**	**+1.2**
YUK				*i*				11 01 57.4	
YUK					pmax	pmax			
	comp=Z,32μm,0.4s								
YUK					pmax	pmax			
	comp=N,18μm,2.2s								
YUK					pmax	pmax			
	comp=E,20μm,1.2s								
YUK					pmax	pmax			
	comp=Z,10μm,0.3s								
YUK					pmax	pmax			
	comp=N,4μm,0.4s								
YUK					pmax	pmax			
	comp=E,5μm,0.4s								
YUK					smax				
	comp=N,36μm,0.6s								
YUK					smax				
	comp=N,76μm,1.4s								
YUK					smax				
	comp=E,146μm,1.0s								
YUK	**Yuzh-Kuril'sk**	**1.01**	**306**	⇓*i*P			**Pn**	**11 01 47.3**	**+1.2**
YUK					AMB	AMB		11 01 48.2	
	comp=E,32μm,0.4s								
YUK					AMB	AMB		11 01 48.2	
	comp=E,20μm,1.2s								
YUK					AMB	AMB		11 01 48.2	
	comp=E,18μm,2.2s								
YUK					AMB	AMB		11 01 48.5	
	comp=E,5μm,0.3s								
YUK					AMB	AMB		11 01 48.5	
	comp=E,4μm,0.4s								
YUK					AMB	AMB		11 01 48.5	
	comp=E,10μm,0.3s								
YUK				*i*	S		**Sb**	**11 01 57.4**	**-1.9**
YUK					A			11 02 06.7	
	comp=E,36μm,0.6s								
YUK					A			11 02 07.0	
	comp=E,76μm,1.4s								
YUK					A			11 02 07.0	
	comp=E,146μm,1.0s								
JRA	**Rausu**	**1.44**	**291**	P			**Pn**	**11 01 53.6**	**+1.3**
JNK	**Nakash**	**1.66**	**276**	P			**Pn**	**11 01 56.0**	**+0.6**
JAK	**Akkeshi**	**1.74**	**256**	P			**Pn**	**11 01 56.8**	**+0.3**
JAK				*e*S			**Sn**	**11 02 17.5**	**-0.4**
KUR	**Kuril'sk**	**1.90**	**19**	⇓*i*PN			**Pn**	**11 01 57.3**	**-1.5**
KUR				*i*	S		**Sn**	**11 02 21.0**	**-0.9**
KUR					pmax	pmax			
	comp=N,680nm,0.5s								
KUR					pmax	pmax			
	comp=E,550nm,0.5s								
KUR					pmax	pmax			
	comp=Z,2μm,0.5s								
KUR					pmax	pmax			
	comp=Z,5μm,1.5s								
KUR					smax				
	comp=N,12μm,4.0s								
KUR					smax				
	comp=E,14μm,4.0s								
KUR					smax				
	comp=N,6μm,0.5s								
KUR					smax				
	comp=E,3μm,0.5s								
KUR	**Kuril'sk**	**1.90**	**19**	*i*P			**Pn**	**11 01 57.3**	**-1.5**
KUR					AMB	AMB		11 02 14.0	
	comp=E,5μm,1.5s								
KUR				*e*S			**Sn**	**11 02 21.0**	**-0.9**
KUR					A			11 02 23.0	
	comp=E,12μm,4.0s								
KUR					A			11 02 23.0	
	comp=E,14μm,4.0s								
KUR					A			11 02 24.5	
	comp=E,6μm,0.5s								
KUR					A			11 02 24.5	
	comp=E,3μm,0.5s								
JTKR	**Abashiri--Toko**	**2.30**	**284**	P			**Pn**	**11 02 06.3**	**+1.8**
JAR	**Ashorobuto**	**2.35**	**267**	P			**Pn**	**11 02 06.1**	**+0.8**
JOB	**Onbets**	**2.37**	**258**	P			**Pn**	**11 02 06.1**	**+0.5**
JOB				*e*S			**Sn**	**11 02 33.3**	**-0.7**
JMP	**Maruseppu**	**2.69**	**283**	P			**Pn**	**11 02 11.9**	**+1.7**
JCH	**Churui**	**2.79**	**254**	P			**Pn**	**11 02 12.0**	**+0.5**
JKK2	**Kamakawa 2**	**3.11**	**279**	P			**Pn**	**11 02 17.8**	**+1.7**
ERM	**Erimo**	**3.17**	**244**	Pn			**Pn**	**11 02 20.9**	**+4.0**
	comp=E,7μm,0.5s								
JEM	**Erimo**	**3.17**	**244**	P			**Pn**	**11 02 19.2**	**+2.3**
JFR	**Furan**	**3.22**	**266**	P			**Pn**	**11 02 18.8**	**+1.1**
ASAJ	**Asahikawa**	**3.25**	**283**	PN			**Pn**	**11 02 20.4**	**+2.3**
ASAJ				S			**Sn**	**11 03 03.1**	**+6.8**
ASAJ					pmax	pmax			
	comp=Z,23nm,0.3s								
ASAJ					smax				
	comp=N,19nm,0.3s								
ASAJ					MLR	MLR			
	comp=Z,6μm,18.6s								
ASAJ	**Asahikawa**	**3.25**	**283**	P			**Pn**	**11 02 20.4**	**+2.3**
	comp=Z,23nm,0.3s,baz=109,slow=11,SNR=102								
ASAJ				S			**Sn**	**11 03 03.0**	**+6.7**
	comp=Z,19nm,0.3s,baz=31,slow=19,SNR=4.3								
ASAJ					LR	LR		11 03 47.4	
	comp=Z,6μm,18.6s,baz=124,slow=42								
YSS	**Yuzh-Sakhalins**	**4.61**	**321**	⇓*i*PN			**Pn**	**11 02 38.0**	**+0.6**
YSS				*e*S			**Sn**	**11 03 25.0**	**-5.7**
YSS					pmax	pmax			
	comp=E,30nm,0.8s								
YSS					pmax	pmax			
	comp=Z,50nm,0.8s								
YSS					smax				
	comp=N,100nm,1.0s								
YSS					smax				
	comp=E,190nm,1.0s								
YSS					MLR	MLR			
	comp=N,2μm,15.0s								
YSS					MLR	MLR			
	comp=Z,2μm,15.0s								
YSS					MLR	MLR			
	comp=E,2μm,16.0s								
YSS	**Yuzh-Sakhalins**	**4.61**	**321**	*e*Pn			**Pn**	**11 02 38.5**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.61**	**321**	⇓*i*P			**Pn**	**11 02 38.0**	**+0.6**
YSS					AMB	AMB		11 02 38.9	
	comp=E,30nm,0.8s								
YSS					AMB	AMB		11 02 38.9	
	comp=E,50nm,0.8s								
YSS				*e*S			**Sn**	**11 03 25.0**	**-5.7**
YSS					A			11 03 28.5	
	comp=E,100nm,1.0s								
YSS					A			11 03 28.5	
	comp=E,190nm,1.0s								
YSS				*e*LQ				11 03 52.0	
YSS				*e*LR		LR		11 04 08.0	
YSS					AMS	AMS		11 04 36.0	
	comp=E,2μm,15.0s								
YSS					AMS	AMS		11 04 36.0	
	comp=E,2μm,16.0s								
YSS					AMS	AMS		11 04 36.0	
	comp=E,2μm,15.0s								
UGL	**Uglegorsk**	**6.59**	**331**	*e*PN			**Pn**	**11 03 05.0**	**-0.3**
UGL				*e*				11 04 22.5	
UGL					pmax	pmax			
	comp=Z,28nm,0.7s								
UGL					MLR	MLR			
	comp=N,1μm,14.0s								
UGL					MLR	MLR			
	comp=E,650nm,14.0s								
UGL					MLR	MLR			
	comp=Z,1μm,14.0s								
UGL	**Uglegorsk**	**6.59**	**331**	*e*P			**Pn**	**11 03 05.0**	**-0.3**
UGL					AMB	AMB		11 03 09.0	
	comp=Z,28nm,0.7s								
UGL					AMS	AMS		11 05 58.0	
	comp=Z,1μm,14.0s								
UGL					AMS	AMS		11 05 58.0	
	comp=Z,1μm,14.0s								
UGL					AMS	AMS		11 05 58.0	
	comp=Z,650nm,14.0s								
TEY	**Ternei**	**7.63**	**286**	*e*P			**Pn**	**11 03 16.0**	**-3.9**
TEY					AMS	AMS		11 06 21.0	
	comp=Z,2μm,16.0s								
TEY					AMS	AMS		11 06 21.0	
	comp=Z,3μm,16.0s								
TYV	**Tymovskoe**	**7.99**	**340**	*e*P			**Pn**	**11 03 25.0**	**+0.1**
TYV					AMB	AMB		11 03 48.0	
	comp=Z,23nm,1.0s								
TYV				*e*S			**Sn**	**11 04 51.0**	**-4.2**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TYV					A			11 05 11.5	
	comp=Z,26nm,1.0s								
TYV					A			11 05 11.5	
	comp=Z,46nm,1.0s								
TYV					A			11 05 15.0	
	comp=Z,500nm,5.0s								
TYV					AMS	AMS		11 06 36.0	
	comp=Z,2μm,16.0s								
TYV					AMS	AMS		11 06 36.0	
	comp=Z,2μm,16.0s								
SKR	**Severo-Kuril's**	**9.54**	**37**	*e*P			**P**	**11 03 41.1**	**-5.2**
SKR					AMB	AMB		11 03 55.6	
	comp=Z,60nm,0.5s								
SKR					AMB	AMB		11 03 55.6	
	comp=Z,80nm,0.5s								
SKR				*e*S			**Sn**	**11 05 24.4**	**-9.3**
SKR					A			11 05 35.0	
	comp=Z,80nm,0.5s								
MAJO	**Matsushiro**	**9.64**	**227**	*e*PN			**P**	**11 03 45.6**	**-2.1**
MAJO					pmax	pmax			
	comp=Z,19nm,0.5s								
MAJO	**Matsushiro**	**9.64**	**227**	*e*Pn			**P**	**11 03 45.6**	**-2.1**
	comp=Z,19nm,0.5s								
MAT	**Matsushiro**	**9.64**	**227**	*e*PN			**P**	**11 03 45.0**	**-2.7**
MAT					pmax	pmax			
	comp=Z,14nm,0.5s								
MAT	**Matsushiro**	**9.64**	**227**	*e*P			**P**	**11 03 45.0**	**-2.7**
	comp=Z,14nm,0.5s								
MAT				S			**Sn**	**11 05 35.0**	**-1.0**
MAT	**Matsushiro**	**9.64**	**227**	P			**P**	**11 03 45.4**	**-2.3**
MAT				*e*S			**Sn**	**11 05 35.3**	**-0.7**
OKH	**Okha**	**10.46**	**347**	*e*PN			**P**	**11 03 57.9**	**-1.0**
OKH				*e*S			**S**	**11 06 06.0**	**+10**
OKH					MLR	MLR			
	comp=Z,2μm,15.0s								
OKH	**Okha**	**10.46**	**347**	*e*P			**P**	**11 03 57.9**	**-1.0**
OKH				*e*LQ				11 07 20.4	
OKH					AMS	AMS		11 08 42.0	
	comp=Z,2μm,16.0s								
OKH					AMS	AMS		11 08 42.0	
	comp=Z,2μm,16.0s								
OKH					AMS	AMS		11 08 42.0	
	comp=Z,2μm,15.0s								
NKL	**Nikolayevsk**	**10.58**	**339**	*e*P			**P**	**11 03 58.0**	**-2.5**
NKL					AMB	AMB		11 03 59.3	
	comp=Z,35nm,1.2s								
NKL					AMB	AMB		11 03 59.3	
	comp=Z,55nm,1.2s								
NKL				*e*L				11 07 00.5	
NKL					AMS	AMS		11 08 24.0	
	comp=Z,900nm,16.0s								
NKL					AMS	AMS		11 08 24.0	
	comp=Z,1μm,16.0s								
NKL					AMS	AMS		11 08 24.0	
	comp=Z,2μm,16.0s								
KLR	**Kul'dur**	**12.01**	**304**	*e*PN			**P**	**11 04 20.2**	**+0.2**
KLR					MLR	MLR			
	comp=E,2μm,14.0s								
KLR					MLR	MLR			
	comp=Z,2μm,14.0s								
PET	**Petropavlovsk**	**12.32**	**35**	*e*PN			**P**	**11 04 19.3**	**-4.9**
PET					pmax	pmax			
	comp=Z,9.0nm,0.5s								
PET					MLR	MLR			
	comp=Z,600nm,17.0s								
PET					MLR	MLR			
	comp=E,1μm,19.0s								
PET					MLR	MLR			
	comp=N,600nm,17.0s								
PET	**Petropavlovsk**	**12.32**	**35**	*e*P			**P**	**11 04 19.3**	**-4.9**
PET					AMB	AMB		11 04 32.7	
	comp=N,9.0nm,0.5s								
PET				*e*S			**S**	**11 06 35.5**	**-6.1**
PET				A				11 06 41.9	
	comp=N,18nm,0.5s								
PET					AMS	AMS		11 09 38.7	
	comp=N,570nm,17.0s								
PET					AMS	AMS		11 09 42.8	
	comp=N,1μm,19.0s								
PET					AMS	AMS		11 09 43.6	
	comp=N,581nm,17.0s								
MDJ	**Mudanjiang**	**12.58**	**281**	P			**P**	**11 04 30.3**	**+2.7**
MDJ				AP				11 04 37.5	
MDJ				S			**S**	**11 06 49.5**	**+1.7**
MDJ				SS			SS	11 07 04.3	+1.7
MDJ					AMB	AMB			
	comp=Z,39nm,1.2s								
MDJ					AMB	AMB			
	comp=Z,146nm,7.1s								
MDJ					LR	LR			
	comp=N,260nm,15.0s								
MDJ					LR	LR			
	comp=E,817nm,17.2s								
MDJ					LR	LR			
	comp=Z,1μm,17.9s								
MDJ	**Mudanjiang**	**12.58**	**281**	*e*Pn			**P**	**11 04 28.3**	**+0.7**
	comp=Z,62nm,1.3s								
CN2	**Changchun**	**15.61**	**279**	*e*P			**P**	**11 05 05.3**	**-1.9**
CN2				*e*XP				11 05 22.0	
CN2				*e*S			**S**	**11 07 54.5**	**-5.0**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.8s								
CN2					LR	LR			
	comp=N,370nm,14.0s								
CN2					LR	LR			
	comp=E,780nm,14.0s								
CN2					LR	LR			
	comp=Z,1μm,15.0s								
MA2	**Magadan**	**16.32**	**7**	*e*P			**P**	**11 05 14.9**	**-1.3**
MA2				*e*S			**S**	**11 08 14.6**	**-1.3**
MA2					pmax	pmax			
	comp=Z,9.0nm,1.2s								
MA2					MLR	MLR			
	comp=Z,800nm,20.9s								
MA2	**Magadan**	**16.32**	**7**	*e*P			**P**	**11 05 17.0**	**+0.8**
	comp=Z,6.5nm,0.6s								
ZEA	**Zeya**	**16.57**	**315**	*e*P			**P**	**11 05 17.9**	**-1.6**
ZEA					AMB	AMB		11 05 26.0	
	comp=Z,300nm,4.0s								
ZEA					AMB	AMB		11 05 26.0	
	comp=Z,300nm,6.0s								
ZEA					AMB	AMB		11 05 26.0	
	comp=Z,43nm,1.2s								
ZEA					AMB	AMB		11 05 26.0	
	comp=Z,64nm,1.4s								
ZEA					A			11 08 56.0	
	comp=Z,300nm,11.0s								
CBIJ	**Chichi jima**	**16.77**	**195**	P			**P**	**11 05 20.4**	**-1.9**
	comp=Z,2.6nm,0.3s,baz=278,slow=19,SNR=3.5								
CBIJ				S			**S**	**11 08 12.9**	**-14**
	comp=Z,4.1nm,0.3s,baz=270,slow=20,SNR=4.6								
CBIJ					LR	LR		11 11 24.1	
	comp=Z,185nm,20.7s,baz=70,slow=35								
SNY	**Shenyang**	**17.30**	**273**	⇓P			**P**	**11 05 29.8**	**+1.1**
SNY					AMB	AMB			
	comp=Z,20nm,0.9s								
CLNS	**Chul'man**	**19.38**	**321**	*e*P			**P**	**11 05 49.3**	**-4.6**
CLNS				*e*S			**S**	**11 09 25.8**	**+0.3**
CLNS					pmax	pmax			
	comp=N,10.0nm,0.8s								
CLNS					pmax	pmax			
	comp=Z,8.0nm,0.8s								
CLNS					pmax	pmax			
	comp=E,11nm,0.9s								
CLNS					smax				
	comp=E,8.0nm,1.0s								
CLNS					smax				
	comp=Z,3.0nm,0.9s								
CLNS					smax				
	comp=N,13nm,1.4s								
CLNS					MLR	MLR			
	comp=N,600nm,17.0s								
CLNS					MLR	MLR			
	comp=Z,800nm,17.0s								
CLNS					MLR	MLR			
	comp=E,100nm,13.0s								
HIA	**Hailar**	**19.63**	**297**	*e*P			**P**	**11 05 52.6**	**-4.2**
HIA					pmax	pmax			
	comp=Z,15nm,0.8s								
HIA	**Hailar**	**19.63**	**297**	*e*P			**P**	**11 05 52.6**	**-4.2**
	comp=Z,15nm,0.8s								
FX1	**Attu Island--F**	**19.75**

FX1 LR LR 11 12 21.7
comp=Z,2.5nm,0.3s,baz=256,slow=4.2,SNR=4.0
comp=Z,22nm,20.6s,baz=267,slow=33
SEY Seymchan 19.77 7 *e*P **P** **11 05 57.7 -0.6**
SEY *e*S **S** **11 09 34.9 +0.9**
SEY pmax pmax
comp=N,40nm,1.1s
SEY pmax pmax
comp=Z,40nm,1.1s
SEY MLR MLR
comp=N,1μm,19.0s
SEY MLR MLR
comp=Z,2μm,19.0s
SEY MLR MLR
comp=E,540nm,17.0s
YAK Yakutsk 21.23 337 *e*P **P** **11 06 10.1 -3.3**
YAK *e* 11 06 28.3
YAK *e*S **S** **11 10 01.7 -1.2**
YAK *e*SS 11 10 20.8
YAK *e*SSS SSS 11 10 39.5 -12
YAK *e* 11 17 29.8
YAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.1
YAK smax
comp=N,6.0nm,1.0s
YAK smax
comp=E,10.0nm,1.2s
YAK MLR MLR
comp=N,101nm,15.0s,MS3.6
YAK MLR MLR
comp=E,195nm,16.0s,MS3.6
YAK MLR MLR
comp=Z,243nm,16.0s,MS3.7
JOW Kunigami 22.48 229 P **P** **11 06 26.4 +0.4**
comp=Z,50nm,0.9s,mb4.9,baz=87,slow=15
JOW LR LR 11 15 41.5
comp=Z,587nm,21.9s,MS4.0,baz=20,slow=38
BJI Beijing 23.18 272 P **P** **11 06 31.8 -1.0**
BJI S **S** **11 10 44.0 +5.5**
BJI XS 11 10 56.5
BJI AMB AMB
comp=Z,10.0nm,0.9s,mb4.2
BJI AMB AMB
comp=Z,142nm,5.6s
BJI LR LR
comp=N,257nm,18.3s,MS4.0
BJI LR LR
comp=E,429nm,18.3s,MS4.0
BJI LR LR
comp=Z,383nm,20.4s,MS3.8
BJT Baijiatuau 23.19 272 *e*P **P** **11 06 31.6 -1.3**
BJT pmax pmax
comp=Z,20nm,0.8s
BJT Baijiatuau 23.19 272 *e*P **P** **11 06 31.6 -1.3**
comp=Z,20nm,0.8s,mb4.6
SSE Sheshan 23.84 247 P **P** **11 06 40.8 +1.5**
SSE AP 11 06 49.3
SSE S **S** **11 10 54.8 +4.6**
SSE XS 11 11 08.3
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.0
SSE AMB AMB
comp=Z,134nm,7.1s
SSE LR LR
comp=N,185nm,20.4s,MS3.6
SSE LR LR
comp=E,138nm,20.4s,MS3.6
SSE LR LR
comp=Z,268nm,22.9s,MS3.6
TIA Tai'an 23.96 263 ⇑P **P** **11 06 39.8 -0.6**
TIA AMB AMB
comp=Z,56nm,1.0s,mb5.0
NJ2 Nanjing 24.87 252 *e*P **P** **11 06 50.3 +1.0**
NJ2 AP 11 07 01.0
NJ2 XP 11 07 07.5
NJ2 PP PP 11 07 23.5 -3.0
NJ2 PPP PPP 11 07 38.5 +1.1
NJ2 S **S** **11 11 10.0 +2.4**
NJ2 XS 11 11 29.0
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb4.7
NJ2 AMB AMB
comp=Z,200nm,10.2s
NJ2 LR LR
comp=N,870nm,14.7s,MS4.5
NJ2 LR LR
comp=E,1μm,17.6s,MS4.5
NJ2 LR LR
comp=Z,710nm,17.4s,MS4.2
BOD Bodaibo 25.07 317 *e*P **P** **11 06 46.8 -4.1**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.1
HHC Hu-ho-hao-te 26.27 277 *e*P **P** **11 07 02.5 +0.2**
HHC AP pP 11 07 12.5 +2.0
HHC XP sP 11 07 19.5 +5.3
HHC PP PP 11 07 45.5 +0.5
HHC S **S** **11 11 28.8 -2.2**
HHC SS SS 11 12 39.0 -1.0
HHC AMB AMB
comp=Z,211nm,4.8s
HHC LR LR
comp=N,220nm,17.0s,MS4.0
HHC LR LR
comp=E,352nm,19.9s,MS4.0
HHC LR LR
comp=Z,469nm,20.8s,MS4.0
BILL Bilibino 26.68 16 *e*P **P** **11 07 04.9 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.4s,mb4.0
BILL Bilibino 26.68 16 *e*P **P** **11 07 04.9 -0.9**
comp=Z,1.8nm,0.4s,mb4.0
BTO Baotou 27.47 277 *e*P **P** **11 07 12.3 -0.9**
BTO AMB AMB
comp=Z,21nm,0.9s,mb4.7
ULN Ulaanbaatar 28.04 293 *e*P **P** **11 07 17.1 -1.2**
ULN pmax pmax
comp=Z,53nm,1.2s,mb5.0
ULN Ulaanbaatar 28.04 293 *e*P **P** **11 07 17.1 -1.2**
comp=Z,53nm,1.2s,mb5.0
SONM Songino Array 28.48 293 P **P** **11 07 21.8 -0.5**
comp=Z,13nm,0.6s,mb4.8,baz=89,slow=8.3,SNR=86
SONM LR LR 11 19 49.3
comp=Z,1μm,18.9s,MS4.5,baz=88,slow=39
WHN Wuhan 28.88 254 ⇓P **P** **11 07 26.0 -0.1**
WHN AP pP 11 07 36.0 +1.7
WHN S **S** **11 12 13.5 +0.3**
WHN AMB AMB
comp=Z,50nm,1.1s,mb5.2
WHN LR LR
comp=Z,940nm,18.1s,MS4.4
TIXI Tiksi 29.64 349 *e*P **P** **11 07 25.6 -6.9**
TIXI *e* 11 08 23.3
TIXI *e*S **S** **11 12 22.4 -2.4**
TIXI *e*SS SS 11 13 57.8 -1.6
TIXI pmax pmax
comp=Z,2.0nm,1.1s,mb3.8
TIXI MLR MLR
comp=Z,240nm,16.0s,MS3.9
GUMO Guam 29.81 184 LR LR 11 17 06.5
comp=Z,156nm,21.5s,MS3.6,baz=270,slow=31
TLY Talaya 30.01 301 *e*P **P** **11 07 43.2 +7.3**
TLY *e* 11 08 36.8
TLY *e*SS SS 11 14 28.6 +20
TLY pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
TLY MLR MLR
comp=Z,655nm,15.0s,MS4.4
ZAK Zakamensk 30.30 299 *e*P **P** **11 07 38.9 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.5s,mb3.8
XAN Xi'an 30.91 265 P **P** **11 07 43.3 -0.8**
XAN AMB AMB
comp=Z,9.0nm,1.1s,mb4.5
ENH Enshi 32.48 259 *e*P **P** **11 07 56.1 -1.8**
comp=Z,29nm,1.1s,mb5.0
LZH Lanzhou 33.67 272 ⇑P **P** **11 08 08.0 -0.2**
LZH AP pP 11 08 21.0 +4.5
LZH XP sP 11 08 25.5 +5.4
LZH PP PP 11 09 21.0 -0.2
LZH *e*S **S** **11 13 25.5 -2.7**
LZH XS 11 13 46.0
LZH SS SS 11 15 31.3 -2.5
LZH AMB AMB
comp=Z,49nm,1.2s,mb5.3
LZH AMB AMB
comp=Z,142nm,5.1s
LZH LR LR
comp=E,625nm,13.7s
LZH LR LR
comp=Z,936nm,15.0s,MS4.6
GTA Gaotai 35.23 280 *e*P **P** **11 08 22.0 +0.4**
GTA AP pP 11 08 34.5 +4.6
GTA XP sP 11 08 39.8 +6.3
GTA PP PP 11 09 43.8 +2.9
GTA S **S** **11 13 53.0 +0.5**
GTA AMB AMB
comp=Z,7.0nm,1.1s,mb4.5
GTA AMB AMB
comp=Z,47nm,4.9s
GTA LR LR
comp=N,210nm,16.0s,MS4.3
GTA LR LR
comp=E,346nm,16.0s,MS4.3
GTA LR LR
comp=Z,414nm,16.3s,MS4.3
CD2 Chengdu 36.26 264 P **P** **11 08 29.8 -0.5**
CD2 AMB AMB
comp=Z,32nm,1.0s,mb5.2
GYA Guiyang 36.73 256 ⇑*i*P **P** **11 08 33.8 -0.6**
GYA AP pP 11 08 44.0 +1.3
GYA XP sP 11 08 51.5 +5.2
GYA PP PP 11 10 01.5 +1.7
GYA S **S** **11 14 17.3 +1.6**
GYA AMB AMB
comp=Z,20nm,0.6s,mb5.1
GYA AMB AMB
comp=Z,90nm,4.2s
GYA LR LR
comp=N,1μm,15.2s,MS4.9
GYA LR LR
comp=E,1μm,15.4s,MS4.9
GYA LR LR
comp=Z,380nm,16.4s,MS4.3
IMA Indian Mountai 39.00 34 *e*P **P** **11 08 53.9 +0.9**
comp=Z,149nm,1.0s,mb5.7
QIZ Qiongzhong 39.53 244 P **P** **11 08 59.3 +1.4**
QIZ S **S** **11 14 58.0 -0.2**
QIZ LR LR
comp=E,204nm,21.8s
QIZ LR LR
comp=Z,234nm,24.5s,MS3.9
KMI Kunming 40.34 258 P **P** **11 09 04.8 +0.3**
KMI AP pP 11 09 15.0 +2.1
KMI XP sP 11 09 22.0 +5.6
KMI PP PP 11 10 43.5 +2.7
KMI S **S** **11 15 06.3 -4.0**
KMI XS 11 15 29.3
KMI SS SS 11 17 59.3 -4.6
KMI AMB AMB
comp=Z,17nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,76nm,3.1s
KMI LR LR
comp=N,169nm,17.8s,MS4.2
KMI LR LR
comp=E,250nm,16.9s,MS4.2
KMI LR LR
comp=Z,240nm,16.7s,MS4.1
MCK McKinley 40.95 38 *e*P **P** **11 09 09.9 +0.9**
MCK pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
MCK McKinley 40.95 38 *e*P **P** **11 09 09.9 +0.9**
comp=Z,7.7nm,1.0s,mb4.3
SML Sawmill 41.33 41 *e*P **P** **11 09 13.3 +1.1**
COLA College 41.39 36 *e*P **P** **11 09 13.3 +0.7**
WMQ Urumqi 42.10 292 P **P** **11 09 19.3 +0.6**
WMQ AP pP 11 09 31.5 +4.4
WMQ XP sP 11 09 37.0 +6.4
WMQ PP PP 11 11 00.0 +0.8
WMQ SCP 11 15 00.0
WMQ S **S** **11 15 35.0 -1.1**
WMQ XS 11 15 55.0
WMQ SCS ScS 11 19 15.5 -1.3
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.8
WMQ AMB AMB
comp=Z,126nm,4.6s
WMQ LR LR
comp=N,974nm,16.3s,MS5.2
WMQ LR LR
comp=E,2μm,14.3s,MS5.2
WMQ LR LR
comp=Z,1μm,17.5s,MS4.9
MKAR Makanchi Array 44.62 298 P **P** **11 09 38.4 -0.7**
comp=Z,8.3nm,0.6s,mb4.8,baz=82,slow=9.1,SNR=103
MKAR LR LR 11 29 56.8
comp=Z,188nm,20.3s,MS4.0,baz=68,slow=38
MKAR Makanchi Array 44.62 298 P **P** **11 09 38.4 -0.7**
MKAR LR LR 11 29 56.8
DAWY Dawson 45.11 37 *e*P **P** **11 09 44.3 +1.5**
KURK Kurchatov 45.60 304*c* *i*P **P** **11 09 45.5 -1.4**
KURK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KURK Kurchatov 45.60 304 *e*P **P** **11 09 45.7 -1.2**
comp=Z,4.0nm,0.4s,mb4.7
NANT Nan 45.87 253 P **P** **11 09 49.0 -0.4**
comp=Z,138nm,0.6s
LSA Lhasa 46.09 272 *e*P **P** **11 09 51.7 +0.7**
LSA pmax pmax
comp=Z,21nm,1.0s,mb5.0
LSA Lhasa 46.09 272 *e*P **P** **11 09 51.7 +0.7**
comp=Z,21nm,1.0s,mb5.0
INK Inuvik 46.73 30 *e*P **P** **11 09 55.4 -0.1**
INK pmax pmax
comp=Z,8.0nm,0.4s
INK Inuvik 46.73 30 P **P** **11 09 55.9 +0.4**
comp=Z,6.2nm,0.3s,mb5.0,baz=302,slow=7.8,SNR=234
INK LR LR 11 29 26.9
comp=Z,174nm,21.6s,MS4.0,baz=107,slow=36
INK Inuvik 46.73 30 *e*P **P** **11 09 55.4 -0.1**
comp=Z,7.8nm,0.4s,mb5.0
CHG Chiang Mai 47.09 254 P **P** **11 09 59.2 +0.2**
CHKZ Chkalovo 49.24 310 *i*P **P** **11 10 13.6 -1.7**
CHKZ pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CHKZ Chkalovo 49.24 310 *e*P **P** **11 10 13.0 -2.3**
comp=Z,7.3nm,0.9s,mb4.7
BVA0 Borovoye Array 49.61 310 P **P** **11 10 20.3 +2.2**
BVAR Borovoye Array 49.61 310 P **P** **11 10 18.1 0.0**
comp=Z,1.7nm,0.4s,mb4.4,baz=78,slow=8.8,SNR=10
ULHL Ulahol 50.41 295 P **P** **11 10 24.3 -0.1**
SNR=11
TKM2 Tokmak 2 50.53 296 P **P** **11 10 25.5 +0.2**
SNR=28
JIRN Jiri 50.83 273 *e*P **P** **11 10 27.9 +0.1**
comp=Z,135nm,1.2s,mb5.7
GUN Gumba 50.92 273 *e*P **P** **11 10 28.4 0.0**
comp=Z,113nm,0.6s
DLBC Dease Lake 50.98 42 P **P** **11 10 29.4 +0.9**
comp=Z,1.4nm,0.8s,mb3.9,baz=172,slow=15,SNR=3.6
DLBC LR LR 11 32 45.6
comp=Z,85nm,19.7s,MS3.8,baz=292,slow=37
KBK Karagaybulak 51.08 296 P **P** **11 10 29.0 -0.4**
SNR=7.2
USP Ospenovka 51.09 296 P **P** **11 10 29.0 -0.6**
SNR=13
KZA Kyzart 51.14 295 P **P** **11 10 31.0 +1.0**
SNR=26
AAK Ala-Archa 51.39 296 P **P** **11 10 30.5 -1.3**
comp=Z,63nm,0.5s,mb5.8,SNR=15
AAK Ala-Archa 51.39 296 *e*P **P** **11 10 30.1 -1.7**
AAK pmax pmax
comp=Z,26nm,1.4s,mb5.0
AAK Ala-Archa 51.39 296 *e*P **P** **11 10 30.1 -1.8**
comp=Z,26nm,1.4s,mb5.0
KKN Kakani 51.42 274 *e*P **P** **11 10 31.9 -0.4**
comp=Z,125nm,1.2s,mb5.7
KKN Kakani 51.42 274 *e*P **P** **11 10 31.9 -0.4**
KKN pmax pmax
comp=Z,62nm,1.2s,mb5.4
PKI Pulchoki 51.45 273 *e*P **P** **11 10 32.2 -0.3**
DMN Daman 51.65 274 *e*P **P** **11 10 33.8 -0.2**
comp=Z,144nm,0.9s,mb5.9
GKN Gorkha 51.77 274 *e*P **P** **11 10 34.5 -0.4**
comp=Z,187nm,1.4s,mb5.8
EKS2 Erkin-Say 51.84 296 P **P** **11 10 34.9 -0.4**
SNR=20
KSH Kashi 51.87 292 *e*P **P** **11 10 35.8 +0.3**
KSH *e*AP pP 11 10 47.3 +3.2
KSH *e*XP sP 11 10 53.0 +5.6
KSH *e*PCP PcP 11 11 49.0 +0.8
KSH *e*PP PP 11 12 33.3 -0.7
KSH *e*PPP PPP 11 13 35.5 -1.8
KSH *e*SCP 11 15 39.3
KSH *e*PCS 11 15 45.5
KSH *e*S **S** **11 17 51.5 -3.2**
KSH *e*XS 11 18 12.5
KSH *e*SCS ScS 11 20 18.8 -1.5
KSH *e*SS SS 11 21 26.0 -3.5
KSH AMB AMB
comp=Z,130nm,2.7s,mb5.4
KSH LR LR
comp=N,370nm,6.0s
KSH LR LR
comp=E,340nm,5.3s
KOLN Koldanda 52.65 275 *e*P **P** **11 10 41.2 -0.4**
comp=E,112nm,1.1s,mb5.7
KSM Kuching 53.03 228 *e*P **P** **11 10 43.3 -1.3**
KSM *e*pP pP 11 10 55.5 +2.3
SVE Sverdlovsk 53.28 317⇓*e*P **P** **11 10 45.0 -0.8**
SVE *e* 11 11 06.0
SVE *e*S 11 18 28.5
SVE *e*SS SS 11 21 46.0 -7.0
SVE *e* 11 23 42.0
SVE MLR MLR
comp=N,100nm,19.0s,MS4.4
SVE MLR MLR
comp=E,300nm,19.0s,MS4.4
SVE MLR MLR
comp=Z,500nm,19.0s,MS4.6
ARU Arti 54.49 317 *e*P **P** **11 10 52.5 -2.2**
ARU *e* 11 12 53.5
ARU *e*S **S** **11 18 31.4 +1.3**
ARU *e*SS SS 11 22 15.2 +2.9
ARU MLR MLR
comp=Z,400nm,18.0s,MS4.5
ARU Arti 54.49 317 *e*P **P** **11 10 49.4 -5.3**
comp=Z,7.2nm,0.4s,mb5.0
BBB Bella Bella 54.56 49 LR LR 11 31 38.4
comp=Z,203nm,18.8s,MS4.2,baz=69,slow=33
DDI Dehra Dun 55.21 281 *e* P **P** **11 10 59.5 -0.8**
RES Resolute Bay 55.29 17 *e*P **P** **11 10 58.5 -1.9**
RES pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
RES Resolute Bay 55.29 17 *e*P **P** **11 10 58.5 -1.9**
comp=Z,6.1nm,0.6s,mb4.8
SMLA Simla 55.40 282 *i*P **P** **11 10 51.2 -10**
KULM Kulim 55.70 241 *e*P **P** **11 11 04.4 +0.3**
KULM *e* pP 11 11 14.7 +2.0
YKW3 Yellowknife Ar 56.08 34 *e*P **P** **11 11 05.2 -0.9**
YKA Yellowknife Ar 56.12 34 P **P** **11 11 05.7 -0.7**
comp=Z,1.6nm,0.5s,mb4.3,baz=302,slow=6.9,SNR=36
NDI New Delhi 56.74 280 *e*P **P** **11 11 09.0 -2.4**
KEV Kevo 58.96 339 *e*p **P** **11 11 24.7 -1.7**
comp=Z,0.7nm,0.3s,mb4.2
KEV Kevo 58.96 339 *e*P **P** **11 11 24.7 -1.7**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 59.49 340 P **P** **11 11 28.1 -2.0**
comp=Z,2.2nm,0.4s,mb4.5,baz=48,slow=6.8,SNR=26
ARCES LR LR 11 42 46.7
comp=Z,134nm,19.1s,MS4.1,baz=20,slow=42
HYB Hyderabad 62.65 268 *e*P **P** **11 11 51.0 -1.1**
HYB Hyderabad 62.65 268 *i*P **P** **11 11 51.0 -1.1**
HYB *e*pP pP 11 12 01.5 +0.6
WRAB Tennant Creek 64.12 193 *e*P **P** **11 11 59.3 -2.5**
WRAB pmax pmax
comp=Z,11nm,0.9s,mb4.9
WRAB Tennant Creek 64.12 193 *e*P **P** **11 11 59.3 -2.5**
comp=Z,11nm,0.9s,mb4.9
WB2 Warramunga Arr 64.13 193 *e*P **P** **11 12 00.6 -1.2**
WRA Warramunga Ar 64.14 193 P **P** **11 12 00.1 -1.8**
comp=Z,1.7nm,0.5s,mb4.4,baz=8.4,slow=6.7,SNR=49
SUMG Summit 64.22 2 *e*P **P** **11 12 00.9 -0.7**
comp=Z,31nm,1.1s,mb5.3
FITZ Fitzroy Crossi 64.31 203 *e*P **P** **11 12 02.6 -0.4**
comp=Z,8.1nm,0.9s,mb4.8
FITZ Fitzroy Crossi 64.31 203 P **P** **11 12 02.4 -0.6**
comp=Z,9.0nm,0.9s,mb4.8,baz=21,slow=7.3,SNR=6.6
KAF Kangasniemi 64.53 333 *e*p **P** **11 12 01.9 -1.8**
comp=Z,11nm,0.7s,mb5.0,baz=43,slow=6.2
KAF Kangasniemi 64.53 333 *e*P **P** **11 12 01.9 -1.8**
KAF pmax pmax
comp=Z,11nm,0.7s,mb5.0
FINES FINESS Array B 65.09 333 P **P** **11 12 06.2 -1.2**
comp=Z,18nm,0.6s,mb5.3,baz=40,slow=8.1,SNR=152
FINES LR LR 11 44 18.4
comp=Z,108nm,18.3s,MS4.1,baz=339,slow=39
OBN Obninsk 65.49 324 *i*P **P** **11 12 08.9 -1.1**
OBN *e*S S 11 20 51.3 -0.1
OBN pmax pmax
comp=Z,41nm,1.5s,mb5.2
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
FFC Flin Flon 66.01 36 *e*P **P** **11 12 13.0 -0.4**
FFC *e**PP pP 11 12 24.0 +1.9
FFC pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
FFC Flin Flon 66.01 36 *e*P **P** **11 12 13.0 -0.4**
comp=Z,5.9nm,0.8s,mb4.7
FFC *e*pP pP 11 12 24.0 +1.9
FCC Fort Churchill 66.34 30 *e*P **P** **11 12 14.3 -1.1**
FCC pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
FCC Fort Churchill 66.34 30 *e*P **P** **11 12 14.3 -1.1**
comp=Z,4.8nm,0.6s,mb4.7
VRSR Storozhevoye 66.88 319 *e*P **P** **11 12 18.1 -0.9**
VRSR pmax pmax
comp=Z,30nm,0.5s,mb5.6
VRSR pmax pmax
comp=N,40nm,0.9s
VRSR pmax pmax
comp=E,30nm,1.1s
VSU Vasula 67.04 330*d* *i*P **P** **11 12 19.1 -0.8**
ASAR Alice Springs 67.85 193 P **P** **11 12 25.3 -0.3**
comp=E,2.9nm,0.9s,mb4.3,baz=10,slow=7.1,SNR=23
ASAR LR LR 11 45 01.9
comp=E,57nm,18.4s,MS3.8,baz=358,slow=38
MOOW Moose Ponds 68.90 49 *e*P **P** **11 12 32.3 +0.6**
comp=E,1.1nm,0.8s,mb3.8
MOOW *e* pP 11 12 43.0 +2.5
GOF Gofitskoye 68.97 313⇑*i*P **P** **11 12 30.9 -1.2**
GOF pmax pmax
comp=Z,70nm,1.3s,mb5.4
LOHW Long Hollow 69.06 49 *e*P **P** **11 12 33.2 +0.4**
comp=Z,1.1nm,0.6s,mb4.0
NB2 NORSAR Subarra 69.85 339 P **P** **11 12 36.2 -1.0**
comp=Z,20nm,0.6s,mb5.2,baz=32,slow=6.2
NB2 NORSAR Subarra 69.85 339 P **P** **11 12 36.2 -1.0**
NB2 pmax pmax
comp=Z,20nm,0.6s,mb5.2
NB2 NORSAR Subarra 69.85 339 P **P** **11 12 36.2 -1.0**
baz=32,slow=6.5
NOA NORSAR Array B 69.85 339 P **P** **11 12 36.1 -1.0**
comp=Z,28nm,0.8s,mb5.2,baz=34,slow=6.0,SNR=116
NOA LR LR 11 47 16.1
comp=Z,74nm,21.0s,MS3.9,baz=10.0,slow=39
KIV Kislovodsk 69.88 312 *e*P **P** **11 12 38.7 +1.0**
KIV pmax pmax
comp=Z,72nm,1.0s,mb5.6
KIV Kislovodsk 69.88 312 *e*P **P** **11 12 38.7 +1.0**
comp=Z,72nm,1.0s,mb5.6
DUG Dugway 70.02 53 *e*P **P** **11 12 39.3 +0.7**
DUG pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
DUG Dugway 70.02 53 *e*P **P** **11 12 39.2 +0.6**
comp=Z,2.1nm,0.7s,mb4.2
NAO01 NORSAR Array S 70.10 339 *e*P **P** **11 12 37.5 -1.3**
comp=Z,20nm,0.9s,mb5.0
TI2 Plekhanov 70.19 309⇑*i*P **P** **11 12 40.0 +0.3**
TI2 pmax pmax
comp=Z,50nm,0.8s,mb5.5
BW06 Boulder Array 70.19 50 *e*P **P** **11 12 39.5 -0.2**
comp=Z,1.1nm,0.5s,mb4.0
PDAR Pinedale Array 70.20 50 P **P** **11 12 39.9 +0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=280,slow=2.7,SNR=8.9
PDAR LR LR 11 43 24.7
comp=Z,58nm,20.4s,MS3.8,baz=118,slow=36
GNI Garni 71.24 308 P **P** **11 12 46.8 +0.8**
comp=Z,2.2nm,0.3s,mb4.6,baz=72,slow=18,SNR=4.6
SUW Suwalki 71.70 329 *e*P **P** **11 12 47.5 -1.0**
AKASG Malin Array Be 71.76 324 P **P** **11 12 47.4 -1.6**
comp=Z,14nm,0.3s,mb5.3,baz=41,slow=6.4,SNR=80
ULM Lac du Bonnet 71.81 37 P **P** **11 12 48.5 -0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=278,slow=7.1,SNR=2.7
LDFC Landfair 71.95 59 *e*P **P** **11 12 52.0 +1.7**
ANN Anapa 72.08 315 *e*P **P** **11 12 49.2 -1.8**

ANN *i* *PP pP 11 12 59.2 -0.6
ANN *i* 11 13 10.6
ANN *e*S S 11 22 11.1 +1.4
ANN pmax pmax
comp=Z,74nm,1.3s,mb5.5
ANN MLR MLR
comp=N,639nm,22.0s,MS4.9
ANN MLR MLR
comp=E,324nm,22.0s,MS4.9
ANN MLR MLR
comp=Z,401nm,22.0s,MS4.6
RSSD Black Hills 72.25 46 *e*P **P 11 12 51.9 -0.1**
RSSD *e* 11 13 03.4
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
RSSD Black Hills 72.25 46 *e*P **P 11 12 51.9 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
RSSD *e* 11 13 03.4
PV01 Paradox Valley 73.85 53 P **P 11 13 03.4 +1.9**
GKP Gorka Klasztor 74.45 331 *e*P **P 11 13 04.4 -0.2**
KIS Kishinev 74.68 321 *e*P **P 11 13 04.0 -2.0**
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.7
STKA Stephens Creek 75.12 185 P **P 11 13 07.7 -1.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=5.6,slow=7.1,SNR=4.7
KWP Kalwaria 75.30 326 *e*P **P 11 13 10.2 +0.7**
OJC Ojcow 75.98 328 *e*P **P 11 13 12.9 -0.5**
KOLS Kolonicke sedl 76.02 326 *i*P **P 11 13 14.0 +0.4**
MALT Malatya 76.08 310 *e*P **P 11 13 15.1 +0.9**
MALT pmax pmax
comp=Z,19nm,1.3s,mb4.9
MALT Malatya 76.08 310 *e*P **P 11 13 15.1 +0.9**
comp=Z,19nm,1.3s,mb4.9
BSEG Bad Segeberg 76.15 335 *e*P **P 11 13 14.3 0.0**
CFR Carcaliu 76.36 320 ⇓*i*P **P 11 13 15.9 +0.3**
CRVS Cervenica-Dubn 76.38 326 *i*P **P 11 13 16.2 +0.6**
NIE Niedzica 76.42 327 *e*P **P 11 13 15.1 -0.8**
VRI Vrincioaia 76.48 322 ⇑*i*P **P 11 13 17.8 +1.5**
KSP Ksiaz 76.77 330 *e*P **P 11 13 17.2 -0.6**
KSP Ksiaz 76.77 330 *e*P **P 11 13 18.1 +0.3**
TIRR Tirgusor 76.78 320 P **P 11 13 18.4 +0.4**
HARR Harsova 76.83 320 ⇑*i*P **P 11 13 18.5 +0.2**
OKC Ostrava-Krasne 76.92 329 *e*P **P 11 13 18.7 +0.1**
OKC *e*pP pP 11 13 28.0 +0.5
OKC AMS AMS 11 47 30.0
comp=Z,400nm,30.3s
KECS Kecovo 77.10 327 *i*P **P 11 13 20.4 +0.7**
MLR Muntele Rosu 77.13 322 ⇓*i*P **P 11 13 20.5 +0.6**
UPC Upice 77.15 330 *e*P **P 11 13 20.0 +0.1**
DPC Dobruska-Polom 77.17 330 *e*P **P 11 13 20.3 +0.3**
DPC *e*pP pP 11 13 29.5 +0.6
DPC AMS AMS 11 50 00.0
comp=Z,100nm,18.1s
MORC Moravsky Berou 77.19 329 *e*P **P 11 13 20.2 0.0**
MORC pmax pmax
comp=Z,18nm,1.0s,mb5.0
MORC Moravsky Berou 77.19 329 *e*P **P 11 13 20.2 +0.1**
comp=Z,18nm,1.0s,mb5.0
ANMO Albuquerque 77.27 54 *e*P **P 11 13 21.7 +0.8**
ANMO pmax pmax
comp=Z,1.0nm,0.7s
ANMO Albuquerque 77.27 54 *e*P **P 11 13 21.7 +0.8**
comp=Z,1.0nm,0.7s,mb3.9
SNX Sinaia 77.42 322 P **P 11 13 22.8 +1.3**
CLL Collm 77.53 332 ⇑*i*P **P 11 13 21.7 -0.3**
CLL *e* 11 13 37.0
CLL pmax pmax
comp=Z,34nm,1.0s,mb5.2
CLL Collm 77.53 332 ⇑*i*P **P 11 13 21.7 -0.3**
comp=Z,34nm,1.0s,mb5.2
CLL *e* 11 13 37.0
CLL Collm 77.53 332 ⇑P **P 11 13 21.7 -0.3**
comp=Z,logA/T=1.5,mb5.2
CLL *e**SP sP 11 13 37.0 +3.1
BRG Berggiesshubel 77.58 332 *e*P **P 11 13 21.9 -0.4**
BRG pmax pmax
comp=Z,13nm,1.2s,mb4.7
BRG MLR MLR
comp=Z,220nm,20.9s,MS4.5
BRG Berggiesshubel 77.58 332 *e*P **P 11 13 21.9 -0.4**
comp=Z,13nm,1.2s,mb4.8
BRG LR LR
comp=Z,220nm,20.9s,MS4.5
PVCC Panska Ves 77.65 331 *e*P **P 11 13 22.7 0.0**
BRTR Keskin Array B 77.67 314 P **P 11 13 23.2 +0.2**
comp=Z,4.1nm,0.8s,mb4.4,baz=65,slow=3.5,SNR=20
VYHS Vyhne 77.74 328 *i*P **P 11 13 23.6 +0.4**
PSZ Piszkesteto 77.79 327 ⇑*e*P **P 11 13 24.0 +0.5**
VRAC Vranov 77.93 329 P **P 11 13 25.0 +0.8**
CLZ Clausthal 77.94 334 *e*P **P 11 13 24.7 +0.5**
comp=Z,37nm,1.2s,mb5.2
SCHQ Schefferville 77.95 19 P **P 11 13 24.4 +0.3**
comp=Z,1.2nm,0.3s,mb4.3,baz=4.0,slow=7.8,SNR=12
SCHQ LR LR 11 49 45.2
comp=Z,126nm,18.7s,MS4.3,baz=351,slow=37
PRU Pruhonice 78.11 331 *e*P **P 11 13 25.2 0.0**
PRU AMS AMS 11 49 00.0
comp=Z,100nm,21.9s
SMOL Smolenice 78.27 328 *i*P **P 11 13 27.5 +1.4**
SRO Srobarova 78.50 328 *i*P **P 11 13 28.4 +1.0**
MOX Moxa 78.56 333 *e*P **P 11 13 27.5 -0.2**
MOX pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 78.56 333 *e*P **P 11 13 27.5 -0.2**
comp=Z,8.0nm,1.3s,mb4.5
MOX Moxa 78.56 333 *i*P **P 11 13 27.5 -0.2**
comp=Z,logA/T=0.8,mb4.5
NKC Novy Kostel 78.63 332 *e*P **P 11 13 27.5 -0.6**
ZST Bratislava 78.65 328 *i*P **P 11 13 29.3 +1.1**
BZS Buzias 78.92 324 ⇑P **P 11 13 29.9 +0.1**
KHC Kasperske Hory 79.17 331 *e*P **P 11 13 31.2 +0.2**
KHC *e*pP pP 11 13 41.3 +1.3
KHC AMS AMS 11 49 40.0
comp=Z,200nm,21.6s
GEC2 GERESS Array S 79.37 331 *e*P **P 11 13 32.0 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GEC2 GERESS Array S 79.37 331 *e*P **P 11 13 32.0 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 79.37 331 P **P 11 13 32.3 +0.2**
comp=Z,2.2nm,0.6s,mb4.2,baz=36,slow=5.5,SNR=31
GERES LR LR 11 52 04.5
comp=Z,140nm,18.4s,MS4.3,baz=177,slow=38
WET Wettzell 79.41 331 *e*P **P 11 13 32.9 +0.6**
WET pmax pmax
comp=Z,16nm,1.0s,mb4.9
WET Wettzell 79.41 331 *e*P **P 11 13 32.9 +0.6**
comp=Z,16nm,1.0s,mb4.9
GRA1 Grafenberg Arr 79.51 333 *e*P **P 11 13 33.4 +0.6**
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.51 333 *e*P **P 11 13 33.4 +0.6**
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.51 333 *e*P **P 11 13 33.4 +0.6**
GRF pmax pmax
comp=Z,36nm,1.1s,mb5.2
GRF Grafenberg Arr 79.51 333 *e*P **P 11 13 33.4 +0.6**
comp=Z,36nm,1.1s,mb5.2
TNS Taunus Mts 79.95 334 *e*P **P 11 13 35.3 +0.1**
TNS pmax pmax
comp=Z,13nm,1.3s,mb4.7
TNS Taunus Mts 79.95 334 *e*P **P 11 13 35.3 +0.1**
comp=Z,13nm,1.3s,mb4.7
MOA Molln 80.00 330 ⇑*i*P **P 11 13 35.8 +0.3**
comp=Z,4.7nm,0.8s,mb4.5
ARSA Arzberg 80.04 329 ⇑*i*P **P 11 13 36.1 +0.4**
comp=Z,2.0nm,0.8s,mb4.1
MNTX Cornudas Mount 80.20 56 *e*P **P 11 13 37.6 +0.7**
comp=Z,1.9nm,0.8s,mb4.1
VTS Vitosha 80.62 322 *e*P **P 11 13 39.0 +0.1**
RZN Rozhen 80.64 320 P **P 11 13 40.0 +1.0**
FUR Furstenfeldbru 80.80 332 *e*P **P 11 13 40.3 +0.6**
FUR pmax pmax
comp=Z,21nm,0.7s,mb5.2
FUR Furstenfeldbru 80.80 332 *e*P **P 11 13 40.3 +0.6**
comp=Z,21nm,0.7s,mb5.2
STU Stuttgart 80.97 333 *e*P **P 11 13 40.5 -0.2**
STU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
STU Stuttgart 80.97 333 *e*P **P 11 13 40.5 -0.1**
comp=Z,8.4nm,0.7s,mb4.8
KBA Koelnbreinsper 80.99 330 ⇓*i*P **P 11 13 41.8 +1.0**
comp=Z,15nm,0.9s,mb4.9
KBA Koelnbreinsper 80.99 330 ⇓*i*P **P 11 13 41.8 +1.0**
KBA pmax pmax
comp=Z,15nm,0.9s,mb4.9
GIVF Givet 81.15 336 *e*P **P 11 13 41.2 -0.4**
MMB Musomiste 81.17 321 P **P 11 13 42.5 +0.6**
KKB Krupnik 81.25 321 *e*P **P 11 13 41.0 -1.3**
BAIF Baives 81.37 337 *e*P **P 11 13 41.7 -1.0**
WATA Walderalm 81.40 331 ⇑*i*P **P 11 13 43.2 +0.3**
comp=Z,7.8nm,1.0s,mb4.6
WATA Walderalm 81.40 331 ⇑*i*P **P 11 13 43.2 +0.3**
WATA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
WTTA Wattenberg 81.44 331 ⇑*i*P **P 11 13 43.6 +0.5**
comp=Z,7.4nm,0.6s,mb4.8
WTTA Wattenberg 81.44 331 ⇑*i*P **P 11 13 43.6 +0.5**
WTTA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
PTCC Patocco-Chiusa 81.56 330 *e*P **P 11 13 42.9 -0.9**
SQTA Sankt Quirin 81.63 331 ⇑*i*P **P 11 13 44.7 +0.6**
comp=Z,13nm,1.2s,mb4.7
SQTA Sankt Quirin 81.63 331 ⇑*i*P **P 11 13 44.7 +0.6**
SQTA pmax pmax
comp=Z,13nm,1.2s,mb4.7
SPAK Spaichingen 81.69 333 *e*P **P 11 13 45.0 +0.6**
WLS Welschbruch 81.88 334 *e*P **P 11 13 46.0 +0.6**
CDF Champ du Feu 81.91 334 ⇑*i*P **P 11 13 45.5 0.0**
comp=Z,30nm,1.1s,mb4.8
CDF Champ du Feu 81.91 334 ⇑*i*P **P 11 13 45.5 0.0**
CDF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SKO Skopje 81.91 322 ⇓⇑*i*P **P 11 13 46.8 +1.1**
DAVA Damuels 82.03 332 ⇑*i*P **P 11 13 46.6 +0.4**
comp=Z,14nm,1.2s,mb4.8
ECH Echery 82.12 334 *e*P **P 11 13 47.0 +0.4**
FELD Feldberg 82.14 334 *e*P **P 11 13 47.0 +0.2**
THEF They Montfort 82.47 335 *e*P **P 11 13 48.7 +0.2**
MEZF Maizieres J'vi 82.51 336 *e*P **P 11 13 48.7 0.0**
comp=Z,20nm,1.0s,mb4.8
HAU Haudompre 82.56 335 *e*P **P 11 13 48.6 -0.3**
comp=Z,8.0nm,0.9s,mb4.4
HAU *e*R
comp=Z,206nm,23.0s
HAU Haudompre 82.56 335 *e*P **P 11 13 48.6 -0.3**
HAU pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
HAU MLR MLR
comp=Z,210nm,23.0s,MS4.4
BRMO Bormio 82.56 331 *e*P **P 11 13 49.9 +0.9**
HINF Hinteralfeld 82.56 334 ⇑*i*P **P 11 13 48.5 -0.5**
comp=Z,4.4nm,0.8s,mb4.2
HINF Hinteralfeld 82.56 334 ⇑*i*P **P 11 13 48.5 -0.5**
HINF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
TXAR Lajitas Array 82.92 56 P **P 11 13 52.1 +0.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=298,slow=3.7,SNR=31
TXAR LR LR 11 53 22.7
comp=Z,45nm,18.2s,MS3.9,baz=320,slow=38
VAI Varese 83.65 332 *e*P **P 11 13 54.1 -0.4**
FLN La Foliniere 83.83 339 *e*P **P 11 13 55.4 0.0**
FLN *e*R
comp=Z,61nm,22.0s
CABF La Chapelle 83.88 334 *e*P **P 11 13 55.9 +0.3**
comp=Z,3.3nm,0.7s,mb4.2
CABF La Chapelle 83.88 334 *e*P **P 11 13 55.9 +0.3**
CABF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
LDF La Druitiere 83.89 339 *e*P **P 11 13 55.7 0.0**
PPT Papeete 83.96 121 LR LR 11 45 40.5
comp=Z,286nm,19.7s,MS4.7,baz=319,slow=32
SSF Saint Saulge 84.27 336 ⇑*i*P **P 11 13 57.6 0.0**
SSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
SSF Saint Saulge 84.27 336 ⇑*i*P **P 11 13 57.6 0.0**
comp=Z,8.6nm,0.9s,mb4.9
GRR Gorron 84.28 339 *e*P **P 11 13 58.0 +0.4**
comp=Z,7.7nm,0.4s,mb4.9
GRR Gorron 84.28 339 *e*P **P 11 13 58.0 +0.4**
GRR pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
EIL Elat 84.28 306 *e*P **P 11 13 58.3 +0.2**
comp=Z,44nm,1.3s,mb5.4
PGD Poggio Sodo 84.31 329 *e*P **P 11 13 59.6 +1.7**
SMF Signal de Mont 84.54 335 ⇑*i*P **P 11 13 59.1 +0.1**
comp=Z,28nm,0.8s,mb5.1
SMF Signal de Mont 84.54 335 ⇑*i*P **P 11 13 59.1 +0.1**
SMF pmax pmax
comp=Z,14nm,0.8s,mb5.1
AVF Avril sur Loir 84.56 336 ⇑*i*P **P 11 13 59.3 +0.2**
comp=Z,21nm,0.9s,mb4.9
AVF Avril sur Loir 84.56 336 ⇑*i*P **P 11 13 59.3 +0.2**
AVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
LPL La Plagne 84.64 333 *e*P **P 11 14 00.2 +0.7**
LPG La Plagne 84.65 333 *e*P **P 11 14 00.4 +0.9**
comp=Z,14nm,0.9s,mb4.8
LPG La Plagne 84.65 333 *e*P **P 11 14 00.4 +0.9**
LPG pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SGMF Saint Gilles 84.83 340 *e*P **P 11 14 01.0 +0.6**
comp=Z,43nm,1.0s,mb5.2
SGMF Saint Gilles 84.83 340 *e*P **P 11 14 01.0 +0.6**
SGMF pmax pmax
comp=Z,22nm,1.0s,mb5.2
BGF Bois d'Agland 84.92 336 *e*P **P 11 14 01.3 +0.4**
ROSF Rostrenen 84.93 341 ⇑*i*P **P 11 14 01.6 +0.7**
comp=Z,38nm,1.0s,mb5.2
ROSF Rostrenen 84.93 341 ⇑*i*P **P 11 14 01.6 +0.7**
ROSF pmax pmax
comp=Z,19nm,1.0s,mb5.2
MBDF Montbardon 85.32 333 *e*P **P 11 14 03.6 +0.7**
TCF Toulx Ste Croi 85.35 336 ⇑*i*P **P 11 14 03.6 +0.6**
comp=Z,15nm,1.0s,mb4.8
TCF Toulx Ste Croi 85.35 336 ⇑*i*P **P 11 14 03.6 +0.6**
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 85.45 333 *e*P **P 11 14 04.1 +0.6**
comp=Z,30nm,1.2s,mb5.0
ORIF *e*R
comp=Z,177nm,22.0s
MFF Saint Martin d 85.73 338 *e*P **P 11 14 05.5 +0.6**
comp=Z,41nm,1.1s,mb5.3
MFF Saint Martin d 85.73 338 *e*P **P 11 14 05.5 +0.6**
MFF pmax pmax
comp=Z,20nm,1.1s,mb5.3
VIVF Saint-Julien-l 85.89 334 *e*P **P 11 14 06.4 +0.6**
comp=Z,22nm,1.1s,mb5.0
VIVF Saint-Julien-l 85.89 334 *e*P **P 11 14 06.4 +0.6**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb5.0
RJF Les Rejaudoux 86.45 336 *e*P **P 11 14 09.1 +0.6**
comp=Z,53nm,1.3s,mb5.3
RJF *e*R
comp=Z,170nm,23.0s
RJF Les Rejaudoux 86.45 336 *e*P **P 11 14 09.1 +0.6**
RJF pmax pmax
comp=Z,27nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,170nm,23.0s,MS4.4
PGF Pioggiola 86.46 330 *e*P **P 11 14 08.4 -0.2**
comp=Z,83nm,1.4s,mb5.5
PGF Pioggiola 86.46 330 *e*P **P 11 14 08.4 -0.2**
PGF pmax pmax
comp=Z,42nm,1.4s,mb5.5
CAF Calviac 86.63 336 ⇑*i*P **P 11 14 10.6 +1.2**
comp=Z,29nm,1.0s,mb5.2
CAF Calviac 86.63 336 ⇑*i*P **P 11 14 10.6 +1.2**
CAF pmax pmax
comp=Z,14nm,1.0s,mb5.2
LMR La Mourre 86.64 332 ⇑*i*P **P 11 14 09.5 0.0**
comp=Z,30nm,1.0s,mb5.2
LMR La Mourre 86.64 332 ⇑*i*P **P 11 14 09.5 0.0**
LMR pmax pmax
comp=Z,15nm,1.0s,mb5.2
LASF Ste Croix 86.85 334 *e*P **P 11 14 11.4 +0.9**
comp=Z,38nm,1.3s,mb5.2
LFF La Frestale 87.00 337 *e*P **P 11 14 12.1 +0.9**
comp=Z,38nm,1.2s,mb5.2
LFF La Frestale 87.00 337 *e*P **P 11 14 12.1 +0.9**
LFF pmax pmax
comp=Z,19nm,1.2s,mb5.2
MTLF Montolieu 88.02 335 *e*P **P 11 14 17.1 +1.0**
comp=Z,18nm,1.2s,mb4.9
MTLF Montolieu 88.02 335 *e*P **P 11 14 17.1 +1.0**
MTLF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
SJPF Ste Jean 89.24 337 *e*P **P 11 14 21.6 -0.4**
comp=Z,24nm,1.2s,mb5.1
SJPF Ste Jean 89.24 337 *e*P **P 11 14 21.6 -0.4**
SJPF pmax pmax
comp=Z,12nm,1.2s,mb5.1
ETSF Etsaut 89.25 337 *e*P **P 11 14 23.5 +1.5**
ESDC Sonseca Array 93.19 338 P **P 11 14 39.5 -0.8**
comp=Z,0.2nm,0.3s,mb4.0,slow=4.4,SNR=4.1
SNAA Sanae 148.13 198 PKPbc PKPdf 11 21 11.0 0.0
comp=Z,3.0nm,1.1s,baz=95,slow=1.7,SNR=6.6
BDFB Brasilia 149.47 29 PKPbc PKPdf 11 21 16.5 +1.7
comp=Z,2.3nm,0.6s,baz=261,slow=0.8,SNR=3.9
VNA2 Neumayer--Watz 149.66 196 *e* PKPdf 11 21 15.4 +1.9
VNA2 Neumayer--Watz 149.66 196 *e* PKPdf 11 21 18.3 +4.8
VNA2 Neumayer--Watz 149.66 196 *e* PKPdf 11 21 26.8 +13
VNA2 Neumayer--Watz 149.66 196 *e* PKPdf 11 21 37.2 +24
VNA2 Neumayer--Watz 149.66 196 *e*PKPdf PKPdf 11 21 09.2 -4.3
VNA2 *e* 11 21 15.4
VNA2 *e* 11 21 18.3
VNA2 *e* 11 21 26.8
VNA2 *e* 11 21 37.2
VNA2 *e* 11 24 40.4
VNA2 *e* 11 24 44.9
VNA3 Neumayer Olymp 149.85 195 *e* PKPdf 11 21 15.5 +1.7
VNA3 Neumayer Olymp 149.85 195 *e* PKPdf 11 21 18.1 +4.3
VNA3 Neumayer Olymp 149.85 195 *e* PKPdf 11 21 27.0 +13
VNA3 Neumayer Olymp 149.85 195 *e* PKPdf 11 21 37.5 +24
VNA3 Neumayer Olymp 149.85 195 *e*PKPdf PKPdf 11 21 10.0 -3.8
VNA3 *e* 11 21 15.5
VNA3 *e* 11 21 18.1
VNA3 *e* 11 21 27.0
VNA3 *e* 11 21 37.5
VNA3 *e* 11 24 41.1
VNA3 *e* 11 24 45.9
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 11 21 15.9 +1.8
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 11 21 18.5 +4.4
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 11 21 27.8 +14
VNA1 Neumayer--Stat 150.06 196 *e* PKPdf 11 21 38.6 +24
VNA1 Neumayer--Stat 150.06 196 *e*PKPdf PKPdf 11 21 10.8 -3.3
VNA1 *e* 11 21 15.9
VNA1 *e* 11 21 18.5
VNA1 *e* 11 21 27.8
VNA1 *e* 11 21 38.6
VNA1 *e* 11 24 41.5
VNA1 *e* 11 24 46.9

GUC ***28*** *11:08:30.8±0.8,32.67S×71.68W,h28km±4km, MD4.1, ML3.3*
NEIC ***28*** *11:08:30.8,32.67S×71.68W,h28km, ML3.3(GUC), After GUC.*

ISC 28 11:08:30.6±0.7,**32.67S**±0.03×**71.72W**±0.05,**h23**km±4km, **n26,**σ0**971**/48,**5C-13D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	**Papudo**	**0.28**	**61**	⇓*i*P	**Pb**	**11 08 37.7**	**+0.6**
PACH				*e*S	**Sb**	**11 08 42.7**	**+1.2**
IHA	**Instituto Hidr**	**0.36**	**169**	⇓*i*P	**Pb**	**11 08 38.6**	**+0.3**
IHA				*i*S	**Sb**	**11 08 44.2**	**+0.5**
ROCH	**El Roble**	**0.67**	**117**	⇑*i*P	**Pb**	**11 08 53.5**	**-0.2**
ROCH				*i*S	**Sb**	**11 08 52.4**	**+0.1**
CHNG	**Los Chungos**	**0.81**	**14**	⇓*i*P	**Pb**	**11 08 45.4**	**-0.5**
CHNG				*i*S	**Sb**	**11 08 56.3**	**-0.1**
CHNG				AMP		11 08 58.0	
	comp=E,547nm,0.3s						
LCCH	**Las Cruces**	**0.81**	**171**	*e*P	**Pb**	**11 08 45.4**	**-0.5**
JACH	**Jahuel**	**0.95**	**91**	⇑*i*P	**Pb**	**11 08 47.4**	**-1.0**
JACH				*e*S	**Sb**	**11 08 59.8**	**-0.7**
PEL	**Peldehue**	**0.99**	**119**	*i*P	**Pb**	**11 08 48.5**	**-0.4**
PEL				*i*S	**Sb**	**11 09 01.8**	**+0.2**
SCR	**San Cristobal**	**1.02**	**144**	⇓*i*P	**Pb**	**11 08 51.3**	**+1.7**
SCR				*i*S	**Sb**	**11 09 06.6**	**+4.1**
SCR				AMP		11 09 08.7	
	comp=N,893nm,0.5s						
PUEX	**Pudahuel**	**1.12**	**134**	⇓*i*P	**Pn**	**11 08 50.5**	**-0.6**
PUEX				*i*S	**Sb**	**11 09 05.1**	**-0.1**
PUEX				AMP		11 09 10.3	
	comp=N,2μm,0.4s						
ILCH	**Illapel**	**1.14**	**25**	*i*S	**Sb**	**11 09 05.7**	**0.0**
ILCH				AMP		11 09 11.6	
	comp=N,1μm,0.2s						
TACH	**Talagante**	**1.18**	**146**	⇓*i*P	**Pn**	**11 08 51.4**	**-0.6**
TACH				*e*S	**Sb**	**11 09 06.4**	**-0.6**
STL	**Santa Lucia**	**1.19**	**130**	*e*P	**Pn**	**11 08 51.4**	**-0.6**
STL				*i*S	**Sb**	**11 09 06.5**	**-0.7**
STL				AMP		11 09 10.8	
	comp=E,593nm,0.3s						
DSCH	**Colegio Aleman**	**1.21**	**127**	⇑*i*P	**Pn**	**11 08 51.8**	**-0.6**
DSCH				*i*S	**Sb**	**11 09 07.6**	**-0.4**
DSCH				AMP		11 09 08.8	
	comp=N,2μm,0.4s						
CLCH	**Cerro Calan**	**1.23**	**126**	⇓*i*P	**Pn**	**11 08 52.0**	**-0.6**
CLCH				*i*S	**Sb**	**11 09 08.4**	**0.0**
CLCH				AMP		11 09 09.4	
	comp=N,2μm,0.3s						
CLCH				AMP		11 09 10.0	
	comp=N,2μm,0.4s						
ANTU	**Antumapu**	**1.28**	**135**	⇓*i*P	**Pn**	**11 08 53.0**	**-0.4**
ANTU				*i*S	**Sn**	**11 09 09.2**	**-0.6**
ANTU				AMP		11 09 12.6	
	comp=N,1μm,0.4s						
FSR	**Penalolen**	**1.29**	**129**	*e*P	**Pn**	**11 08 53.3**	**-0.1**
FSR				*e*S	**Sn**	**11 09 10.1**	**0.0**
FSR				AMP		11 09 16.4	
	comp=N,1μm,0.4s						
LNV	**Longovilo**	**1.31**	**169**	*e*P	**Pn**	**11 08 52.5**	**-1.2**
FCH	**Farellones**	**1.37**	**119**	⇓*i*P	**Pn**	**11 08 54.2**	**-0.4**
FCH				*i*S	**Sn**	**11 09 12.1**	**-0.1**
FCH				AMP		11 09 13.0	
	comp=E,1μm,0.2s						
PCH	**Pirque**	**1.39**	**133**	⇓*i*P	**Pn**	**11 08 54.7**	**-0.2**
PCH				*e*S	**Sn**	**11 09 12.6**	**-0.1**
SJCH	**San Jose de Ma**	**1.50**	**130**	*e*P	**Pn**	**11 08 55.9**	**-0.6**
SJCH				*i*S	**Sn**	**11 09 15.8**	**+0.3**
SJCH				AMP		11 09 18.3	
	comp=E,548nm,0.4s						
CHCH	**Chadas Angostu**	**1.54**	**145**	⇓*i*P	**Pn**	**11 08 57.2**	**+0.1**
CHCH				*e*S	**Sn**	**11 09 16.3**	**-0.3**
CACH	**El Canelo**	**1.72**	**147**	⇓*i*P	**Pn**	**11 09 00.6**	**+0.9**
CACH				*e*S	**Sn**	**11 09 23.3**	**+2.2**
LMEL	**Las Melosas**	**1.73**	**133**	⇑*i*P	**Pn**	**11 09 00.1**	**+0.3**
LMEL				*i*S	**Sn**	**11 09 22.3**	**+1.0**
LMEL				AMP		11 09 25.7	
	comp=N,1μm,0.1s						
CICH	**Cipreses**	**1.97**	**147**	⇓*i*P	**Pn**	**11 09 03.5**	**+0.3**
CICH				*e*S	**Sn**	**11 09 28.8**	**+1.3**
TLL	**Tololo Astrono**	**2.62**	**18**	⇑*i*P	**Pn**	**11 09 12.7**	**+0.2**
TLL				AMP		11 09 55.2	
	comp=N,436nm,0.4s						
ZON	**Zonda**	**2.82**	**67**	*e*P	**Pn**	**11 09 17.0**	**+1.7**
ZON				*e*S	**Sn**	**11 09 57.0**	**+8.0**

IDC ***28*** *11:21:19.2±1.7,52.64N×168.36W,mb3.7/10,mb1 4.0/10, mb1mx3.9/20,mbtmp3.8/10,Error ellipse: s-maj=47.0km s-min=20.8km az=10.0*
NEIC ***28*** *11:21:24.4±1.1,52.49N×168.39W,h40km±7km,mb4.0/2, ML3.2(AEIC),Error ellipse: s-maj=16.7km s-min=7.2km az=167.0*

ISC 28 11:21:22.0±1.5,**52.3N**±0.1×**168.3W**±0.1,**h42**km±11km,**n23,** σ0**994**/25,**mb3.7**/10,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIKO	**Nikolski**	**0.76**	**335**	P	**P**	**11 21 35.4**	**-0.8**
NIKO				S	**S**	**11 21 47.0**	**+0.3**
OKFG	**Magazine Ridge**	**1.15**	**13**	P	**P**	**11 21 41.7**	**-0.2**
OKFG				S	**S**	**11 21 58.0**	**+1.3**
MSW	**Makushin Switc**	**1.88**	**29**	P	**P**	**11 21 52.2**	**0.0**
UNV	**Unalaska Valle**	**1.91**	**35**	P	**P**	**11 21 52.1**	**-0.6**
MTBL	**Makushin Table**	**1.95**	**30**	P	**P**	**11 21 53.3**	**0.0**
AKUT	**Akutan**	**2.40**	**39**	P	**P**	**11 21 59.5**	**-0.3**
ATKA	**Atka Island**	**3.61**	**271**	P	**P**	**11 22 17.5**	**+0.6**
INK	**Inuvik**	**23.07**	**33**	P	**P**	**11 26 21.8**	**-2.2**
	2.4nm,0.5s,mb3.9,baz=235,slow=12,SNR=27						
INK	**Inuvik**	**23.07**	**33**	*e*P	**P**	**11 26 21.5**	**-2.6**
	6.0nm,1.0s,mb4.0						
YKA	**Yellowknife Ar**	**29.81**	**49**	P	**P**	**11 27 26.9**	**+0.2**
	0.1nm,0.4s,mb2.9,baz=272,slow=9.6,SNR=7.1						
YKA				ScP		11 34 14.4	
	0.1nm,0.4s,baz=268,slow=2.5,SNR=3.5						
YKA	**Yellowknife Ar**	**29.81**	**49**	P	**P**	**11 27 26.9**	**+0.2**
YKA				ScP		11 34 14.4	
PDAR	**Pinedale Array**	**39.79**	**80**	P	**P**	**11 28 52.8**	**+0.5**

0.5nm,0.6s,mb3.4,baz=288,slow=7.5,SNR=3.2
SONM Songino Array 51.89 301 P **P** **11 30 27.8 -0.2**
1.0nm,0.8s,mb3.8,baz=53,slow=6.2,SNR=7.3
TXAR Lajitas Array 52.11 90 P **P** **11 30 30.7 +0.8**
0.6nm,0.7s,mb3.6,baz=296,slow=5.3,SNR=8.0
MKAR Makanchi Array 64.32 314 P **P** **11 31 53.9 -1.1**
0.8nm,0.8s,mb3.8,baz=47,slow=6.5,SNR=10
FINES FINESS Array B 66.03 352 P **P** **11 32 04.3 -1.4**
1.9nm,0.8s,mb4.2,baz=22,slow=10,SNR=8.1
FINES FINESS Array B 66.03 352 P **P** **11 32 04.3 -1.4**
NB2 NORSAR Subarra 67.02 0 P **P** **11 32 11.0 -1.0**
1.3nm,0.8s,mb4.0,baz=1.0,slow=6.5
NOA NORSAR Array B 67.02 0 P **P** **11 32 11.0 -0.9**
1.1nm,0.8s,mb3.9,baz=1.6,slow=6.4,SNR=6.3
NOA NORSAR Array B 67.02 0 P **P** **11 32 11.0 -1.0**
KHC Kasperske Hory 78.94 359 *eP* **P** **11 33 23.0 +0.8**
GERES GERESS Array B 79.23 359 P **P** **11 33 24.7 +1.0**
0.5nm,0.8s,mb3.5,baz=14,slow=5.5,SNR=5.6
BRTR Keskin Array B 86.39 343 P **P** **11 34 02.4 +1.9**
1.0nm,0.8s,mb4.1,baz=90,slow=1.2,SNR=5.2

TAP ***28*** *11:24:14.4, 23.88N× 121.89E, h29km, ML2.7*
JMA 28 11:24:14.7±0.4, 23.93N×121.93E, h66km, M2.4, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**1.12**	**62**	P	P	11 24 34.8	0.0
YOJ				*e*S	S	11 24 49.5	-0.3
IRIF	**Iriomote-Funau**	**1.69**	**76**	P	P	11 24 42.6	-0.1
IRIF				*e*S	S	11 25 03.7	+0.3
HATJ	**Hateruma jima**	**1.72**	**85**	P	P	11 24 42.8	-0.3
JKRS	**Kuro-shima**	**1.93**	**80**	P	P	11 24 46.2	+0.3
JKRS				*e*S	S	11 25 10.0	+1.1
JIJ	**Ishigaki jima**	**2.07**	**78**	P	P	11 24 47.4	-0.4
JIJ				*e*S	S	11 25 11.4	-1.0

CSEM ***28*** *11:50:22.6±0.3, 60.69N× 29.00E, h2km, ML3.0/1, Error ellipse: s-maj=6.2km s-min=3.4km az=122.0, Mining explosion.*
HEL ***28*** *11:50:25.7±0.3, 60.90N× 29.07E, ML2.0, ML1.7(UPP), ML2.8(NAO), Explosion*
BER ***28*** *11:50:26.6±3.2, 61.00N× 28.97E, ML2.8(NAO), Suspected explosion*
UPP ***28*** *11:50:26.5, 61.12N× 28.98E, ML1.7, Mining explosion.*
NAO ***28*** *11:50:26.2±2.9, 61.05N× 28.92E, ML2.8*
ISC 28 11:50:23.9±1.2, 60.92N±0.04× 29.0E±0.1, n25, σ1$45/49, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VJF	**Virojoki**	**0.82**	**243**	*e*P	**Pg**	**11 50 41.0**	**+0.7**
VJF				*e*S	**Sg**	**11 50 50.7**	**-0.6**
VJF	**Virojoki**	**0.82**	**243**	P	**Pg**	**11 50 40.9**	**+0.6**
VJF				S	**Sg**	**11 50 50.7**	**-0.6**
FIA0	**FINESS Array S**	**1.53**	**291**	*e*P	**Pn**	**11 50 52.6**	**+0.1**
FIA0				*e*S	**Sb**	**11 51 13.3**	**+0.6**
FIA0	**FINESS Array S**	**1.53**	**291**	Pn	**Pn**	**11 50 52.5**	**0.0**
	baz=110,slow=16						
FIA0				Lg		11 51 13.2	
	baz=103,slow=28						
FIA0				Rg		11 51 20.6	
	baz=118,slow=37						
FIA0	**FINESS Array S**	**1.53**	**291**	P	**Pn**	**11 50 52.5**	**0.0**
FIA0				S	**Sb**	**11 51 13.2**	**+0.6**
PVF	**Pernaja**	**1.61**	**258**	*e*P	**Pn**	**11 50 53.9**	**+0.2**
PVF				*e*S	**Sb**	**11 51 16.5**	**+1.6**
PVF	**Pernaja**	**1.61**	**258**	P	**Pn**	**11 50 53.8**	**+0.2**
KAF	**Kangasniemi**	**1.77**	**314**	*e*P	**Pn**	**11 50 57.5**	**+1.4**
KAF				*e*S	**Sn**	**11 51 19.8**	**+0.1**
KAF	**Kangasniemi**	**1.77**	**314**	P	**Pn**	**11 50 57.5**	**+1.4**
KAF				S	**Sn**	**11 51 19.7**	**0.0**
SUF	**Sumiainen**	**2.27**	**324**	*e*P	**Pn**	**11 51 05.5**	**+2.4**
SUF				*e*S	**Sn**	**11 51 33.3**	**+1.1**
SUF				*e*SG	**Sg**	**11 51 35.9**	**-3.5**
SUF				MSG		11 51 36.6	
	comp=Z,6.5nm,0.3s						
SUF	**Sumiainen**	**2.27**	**324**	P	**Pn**	**11 51 05.5**	**+2.4**
SUF				S	**Sn**	**11 51 33.3**	**+1.1**
SUF				Sg	**Sg**	**11 51 35.9**	**-3.5**
	comp=Z,6.5nm,0.3s						
KEF	**Keuruu**	**2.36**	**304**	*e*P	**Pn**	**11 51 06.2**	**+1.8**
KEF				*e*S	**Sn**	**11 51 36.3**	**+1.8**
KEF	**Keuruu**	**2.36**	**304**	P	**Pn**	**11 51 06.1**	**+1.7**
KEF				S	**Sn**	**11 51 36.2**	**+1.8**
KJN	**Kajaani**	**3.24**	**350**	*e*P	**Pn**	**11 51 17.5**	**+0.5**
KJN				*e*S	**Sn**	**11 51 56.9**	**+0.1**
KJN				*e*SG	**Sg**	**11 52 06.1**	**-5.6**
KJN	**Kajaani**	**3.24**	**350**	P	**Pn**	**11 51 17.4**	**+0.5**
KJN				Sg	**Sg**	**11 52 06.0**	**-5.7**
AAL	**Aland**	**4.53**	**265**	*e*P	**Pn**	**11 51 35.7**	**+0.5**
AAL				*e*S	**Sn**	**11 52 28.0**	**-1.4**
GRAU	**Graesoe**	**5.20**	**268**	*e*P	**Pn**	**11 51 42.9**	**-2.0**
FLYU	**Flymyra**	**5.57**	**267**	*e*P	**Pn**	**11 51 49.9**	**0.0**
IGGU	**Iggoen**	**5.72**	**275**	*e*P	**Pn**	**11 51 51.2**	**-1.0**
HFS	**Hagfors**	**7.61**	**271**	Pn	**Pn**	**11 52 17.1**	**-1.7**
	baz=82,slow=12						
HFS				Sn	**Sn**	**11 53 38.5**	**-8.3**
	baz=82,slow=28						
HFS				Lg		11 54 18.9	
	baz=69,slow=37						
HFS	**Hagfors**	**7.61**	**271**	*e*P	**Pn**	**11 52 17.1**	**-1.7**
HFS				*e*S	**Sn**	**11 53 38.5**	**-8.3**
HFS				*e*SG	**Sg**	**11 54 18.9**	**-18**
HFS	**Hagfors**	**7.61**	**271**	P	**Pn**	**11 52 17.0**	**-1.7**
HFS				Sg	**Sg**	**11 54 18.9**	**-18**
ARA0	**ARCESS Array S**	**8.78**	**352**	Pn	**P**	**11 52 31.6**	**-3.3**
	baz=164,slow=14						
ARA0				Sn	**Sn**	**11 54 06.2**	**-10**
	baz=166,slow=28						
ARA0				Lg		11 54 52.9	
	baz=152,slow=37						
ARA0	**ARCESS Array S**	**8.78**	**352**	*e*P	**P**	**11 52 31.6**	**-3.3**
ARA0				*e*S	**Sn**	**11 54 06.2**	**-10**
ARA0				*e*SG	Sg	11 54 52.9	-23
ARA0	**ARCESS Array S**	**8.78**	**352**	Pn	**P**	**11 52 31.6**	**-3.4**
SNR=5.4							
ARA0				Sn	**Sn**	**11 54 06.2**	**-10**
	SNR=5.1						

IDC 28 11:50:39.1±0.9, 5.48N×73.82W, h129km±8km, mb2.8/1, mb1 3.1/2, mb1mx2.8/19, mbtmp3.3/2, Error ellipse: s-maj=64.0km s-min=12.2km az=132.0, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**0.80**	**219**	P	P	11 51 02.0	+1.8
	34nm,0.3s,baz=21,slow=1.3,SNR=77						
ROSC				S	S	11 51 17.4	+1.0
	49nm,0.3s,baz=108,slow=20,SNR=29						
SDV	**Santo Domingo**	**4.64**	**43**	P	P	11 51 48.9	+0.6
	2.5nm,0.3s,baz=243,slow=6.8,SNR=20						
SDV				S	S	11 52 40.1	-1.5
	3.3nm,0.3s,baz=72,slow=21,SNR=9.5						
YKA	**Yellowknife Ar**	**64.28**	**340**	P	P	12 01 00.5	-2.1
	0.1nm,0.4s,baz=141,slow=6.1,SNR=5.3						
YKA				pP	pP	12 01 29.0	-5.0
	0.1nm,0.4s,baz=135,slow=6.5,SNR=2.3						
ASAR	**Alice Springs**	**147.75**	**233**	PKPbc	PKPdf	12 10 06.7	+0.4
	0.1nm,0.3s,baz=104,slow=4.4,SNR=4.5						
WRA	**Warramunga Arr**	**149.07**	**240**	PKPbc	PKPdf	12 10 13.4	+4.8
	0.2nm,0.3s,baz=106,slow=3.2,SNR=13						

BJI ***28*** *11:50:37.0, 44.91N× 93.16E, h15km, ML4.2, Ms3.9, Msz3.7*
MOS ***28*** *11:50:39.1±1.2, 44.76N× 92.73E, h15km, mb4.0/1, Error ellipse: s-maj=19.9km s-min=14.9km az=118.4*
IDC ***28*** *11:50:39.1±0.9, 44.78N× 92.89E, mb3.6/5, mb1 3.8/8, mb1mx3.6/20, mbtmp3.6/8, ML3.5/3, MS2.5/1, Ms1 2.5/1, ms1mx2.1/21, Error ellipse: s-maj=27.6km s-min=13.8km az=24.0*
NEIC ***28*** *11:50:40.9±0.6, 44.83N× 92.80E, h10km, mb3.6/2, Error ellipse: s-maj=16.0km s-min=8.1km az=194.0*
NNC ***28*** *11:50:41.8±2.5, 44.65N× 92.67E, h32km±18km, mpv3.8, Error ellipse: s-maj=54.6km s-min=19.7km az=17.0*
ISC 28 11:50:39.3±0.6, 44.86N±0.07× 92.84E±0.05, h15km, n26, σ1$08/35, mb3.6/5, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**3.83**	**256**	P	**Pn**	**11 51 42.5**	**+3.4**
WMQ				S	**Sn**	**11 52 28.8**	**+4.5**
WMQ				Smax			
	comp=N,385nm,1.0s						
WMQ				Smax			
	comp=E,487nm,1.0s						
GTA	**Gaotai**	**7.51**	**134**	P	**Pn**	**11 52 28.8**	**-2.3**
GTA				S	**Sn**	**11 53 47.5**	**-9.3**
GTA				SG	**Sg**	**11 54 27.5**	**-22**
GTA				Smax			
	comp=N,77nm,0.8s						
GTA				Smax			
	comp=E,83nm,0.9s						
GTA				LR	LR		
	comp=N,446nm,6.8s						
GTA				LR	LR		
	comp=E,445nm,7.2s						
GTA				LR	LR		
	comp=Z,552nm,9.9s						
MK31	**Makanchi Array**	**7.62**	**288**	Pn	**Pn**	**11 52 32.4**	**-0.2**
	comp=Z,4.2nm,0.5s,baz=98,slow=14,SNR=81						
MK31				⇓Pg	**Pg**	**11 52 59.3**	**-12**
	comp=Z,2.5nm,0.6s,baz=108,slow=16,SNR=3.6						
MK31				⇑Sn	**Sn**	**11 54 00.4**	**+1.0**
	comp=Z,21nm,0.8s,baz=93,slow=26,SNR=5.6						
MK31				Lg		11 54 46.1	
	comp=Z,31nm,0.7s,baz=88,slow=34,SNR=4.2						
MKAR	**Makanchi Array**	**7.62**	**288**	P	**Pn**	**11 52 32.3**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,17nm,0.6s						
MKAR	**Makanchi Array**	**7.62**	**288**	Pn	**Pn**	**11 52 32.0**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=100,slow=14,SNR=90						
MKAR				Sn	**Sn**	**11 53 58.7**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=93,slow=26,SNR=8.4						
MKAR				Lg		11 54 42.8	
	comp=Z,2.1nm,0.3s,baz=102,slow=30,SNR=3.9						
MOY	**Mondy**	**8.72**	**36**	*e*P	**P**	**11 52 47.9**	**+0.1**
MOY				*e*S	**Sn**	**11 54 25.6**	**-1.2**
MOY				pmax	pmax		
	comp=Z,21nm,1.3s						
MOY				pmax	pmax		
	comp=E,273nm,1.2s						
SONM	**Songino Array**	**9.84**	**68**	Pn	**P**	**11 53 03.5**	**+0.3**
	comp=E,0.2nm,0.3s,baz=239,slow=12,SNR=7.4						
SONM				Sn	**Sn**	**11 54 55.1**	**+0.7**
	comp=E,0.5nm,0.3s,baz=260,slow=22,SNR=3.8						
SONM				Lg		11 55 48.5	
	comp=E,1.5nm,0.3s,baz=256,slow=31,SNR=16						
SONM				LR	LR	11 56 14.5	
	comp=E,24nm,18.1s,baz=260,slow=34						
KURK	**Kurchatov**	**11.21**	**307**	⇑Pn	**P**	**11 53 19.9**	**-2.1**
	comp=E,3.9nm,1.4s,baz=93,slow=17,SNR=6.2						
KURK				⇑Lg		11 56 37.8	
	comp=E,51nm,1.1s,baz=10,slow=16,SNR=5.9						
KURK	**Kurchatov**	**11.21**	**307**	P	**P**	**11 53 22.4**	**+0.4**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.4s						
KURK				pmax	pmax		
	comp=Z,56nm,1.1s						
KURK	**Kurchatov**	**11.21**	**307**	*e*Pn	**P**	**11 53 19.8**	**-2.2**
	comp=Z,4.5nm,0.9s						
NVS	**Novosibirsk**	**11.75**	**332**	*i* P	**P**	**11 53 16.9**	**-12**
AAK	**Ala-Archa**	**13.45**	**267**	*e*P	**P**	**11 53 52.2**	**+0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
AAK	**Ala-Archa**	**13.45**	**267**	*e*Pn	**P**	**11 53 52.2**	**+0.2**
	comp=Z,3.3nm,0.8s						
BVA0	**Borovoye Array**	**16.81**	**307**	⇑Pn	**P**	**11 54 36.0**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=245,slow=36,SNR=19						
BVA0				⇑Lg		11 59 33.3	
	comp=Z,1.8nm,1.2s,baz=101,slow=23,SNR=4.2						
BVAR	**Borovoye Array**	**16.81**	**307**	Pn	**P**	**11 54 35.3**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=106,slow=11,SNR=16						
BVAR				Sn	**S**	**11 57 38.8**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=98,slow=29,SNR=2.0						
BVAR				Lg		11 59 32.6	
	baz=118,slow=31,SNR=3.2						
CHKZ	**Chkalovo**	**16.92**	**309**	⇓Pn	**P**	**11 54 37.5**	**+0.6**
	comp=Z,2.2nm,1.1s						
CHKZ				⇓Lg		11 59 41.4	
	comp=Z,10nm,1.4s						
CHKZ	**Chkalovo**	**16.92**	**309**	P	**P**	**11 54 37.4**	**+0.5**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.3s						
CHKZ				pmax	pmax		
	comp=Z,15nm,1.4s						
CHKZ	**Chkalovo**	**16.92**	**309**	*e*P	**P**	**11 54 37.8**	**+0.9**
	comp=Z,2.2nm,0.8s						
BOD	**Bodaibo**	**18.42**	**38**	*e*P	**P**	**11 54 58.8**	**+3.2**
BOD				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**41.30**	**318**	P	**P**	**11 58 26.2**	**+0.9**
	comp=Z,0.8nm,0.6s,mb3.5,baz=69,slow=12,SNR=4.0						
NB2	**NORSAR Subarra**	**48.36**	**320**	P	**P**	**11 59 22.7**	**+0.9**
	comp=Z,0.6nm,0.5s,mb3.9,baz=68,slow=7.4						
NB2	**NORSAR Subarra**	**48.36**	**320**	P	**P**	**11 59 22.7**	**+0.9**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
NOA	**NORSAR Array B**	**48.36**	**320**	P	**P**	**11 59 22.9**	**+1.0**
	comp=Z,1.1nm,0.8s,mb4.0,baz=66,slow=7.4,SNR=5.7						
YKA	**Yellowknife Ar**	**70.76**	**13**	P	**P**	**12 01 56.6**	**+0.3**
	comp=Z,0.1nm,0.3s,mb3.2,baz=336,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**74.76**	**140**	P	**P**	**12 02 20.0**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=341,slow=6.1,SNR=13						
ASAR	**Alice Springs**	**77.81**	**142**	P	**P**	**12 02 38.5**	**+0.8**
	comp=Z,0.4nm,0.8s,mb3.4,baz=330,slow=5.1,SNR=5.7						

ROM ***28*** *12:06:17.7±0.2, 42.97N× 10.91E, h10km±1km, MD2.5/4, ML1.8/3, Error ellipse: s-maj=1.9km s-min=1.4km az=90.0*
NEIC ***28*** *12:06:17.8, 42.97N× 10.91E, h10km, MD2.5(ROM), ML2.7(LDG), After ROM.*
CSEM ***28*** *12:06:17.9±0.1, 42.87N× 10.90E, h40km, ML2.6/4, Error ellipse: s-maj=3.8km s-min=2.2km az=1.0*
LDG ***28*** *12:06:20.1±0.4, 42.93N× 10.72E, h10km, Ml2.7/4, Error ellipse: s-maj=8.3km s-min=3.5km az=129.0*
ISC 28 12:06:17.5±0.7, 42.98N±0.05× 10.76E±0.06, h18km±10km, n59, σ0$87/67, 3C-2D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRFL	**Gerfalco**	**0.23**	**44**	⇓*i*Pg	**Pb**	**12 06 22.4**	**-0.5**
GRFL				SG	**Sb**	**12 06 24.9**	**-1.6**
	432nm,0.2s						
GRFL	**Gerfalco**	**0.23**	**44**	⇓*i*Pn	**Pb**	**12 06 22.4**	**-0.5**
GRFL				*e*Sg	**Sb**	**12 06 24.9**	**-1.6**
MAON	**Monte Argentar**	**0.62**	**154**	*e*PG	**Pb**	**12 06 29.1**	**-0.4**
MAON	**Monte Argentar**	**0.62**	**154**	*e*Pg	**Pb**	**12 06 29.1**	**-0.4**
CSNT	**Castellina Chi**	**0.62**	**38**	*e*PG	**Pb**	**12 06 29.8**	**+0.3**
CSNT				SG	**Sb**	**12 06 37.6**	**-0.2**
CSNT	**Castellina Chi**	**0.62**	**38**	*e*Pg	**Pb**	**12 06 29.8**	**+0.3**
CSNT				*e*Sg	**Sb**	**12 06 37.6**	**-0.1**
PII	**Pisa**	**0.76**	**347**	*e*PG	**Pb**	**12 06 33.8**	**+2.0**
	38nm,0.2s						
PII	**Pisa**	**0.76**	**347**	*e*Pg	**Pb**	**12 06 33.8**	**+1.9**
PII	**Pisa**	**0.76**	**347**	*e*Pg	**Pb**	**12 06 33.8**	**+2.0**
	38nm,0.2s						
SACS	**San Casciano d**	**0.85**	**99**	*e*Pg	**Pb**	**12 06 32.8**	**-0.7**
VMG	**Vicchio**	**1.13**	**30**	*e*PN	**Pn**	**12 06 38.9**	**+0.3**
	13nm,0.2s						
VMG	**Vicchio**	**1.13**	**30**	*e*Pg	**Pb**	**12 06 38.9**	**+0.7**
VMG	**Vicchio**	**1.13**	**30**	*e*Pn	**Pn**	**12 06 38.9**	**+0.3**
	13nm,0.2s						
PGD	**Poggio Sodo**	**1.13**	**38**	⇑*i*PN	**Pn**	**12 06 38.7**	**+0.1**
	8.0nm,0.2s						
PGD	**Poggio Sodo**	**1.13**	**38**	⇑*i*Pg	**Pb**	**12 06 38.7**	**+0.5**
PGD	**Poggio Sodo**	**1.13**	**38**	⇑*i*Pn	**Pn**	**12 06 38.7**	**+0.1**
	8.0nm,0.2s						
SFI	**Santa Sofia**	**1.21**	**40**	*e*PN	**Pn**	**12 06 39.7**	**0.0**
	13nm,0.2s						
SFI	**Santa Sofia**	**1.21**	**40**	*e*Pg	**Pb**	**12 06 39.7**	**+0.1**
PGF	**Pioggiola**	**1.37**	**252**	*e*Pn	**Pn**	**12 06 43.5**	**+1.5**
PGF				*e*Sn	**Sn**	**12 06 59.7**	**0.0**
	16nm,0.2s						
FIN	**Finale Ligure**	**2.22**	**304**	P	**Pn**	**12 06 55.0**	**+0.8**
PCP	**Pian Castagno**	**2.24**	**315**	P	**Pn**	**12 06 54.7**	**+0.3**
PCP	**Pian Castagno**	**2.24**	**315**	P	**Pn**	**12 06 54.7**	**+0.3**
IMI	**Imperia**	**2.29**	**295**	P	**Pn**	**12 06 55.5**	**+0.3**
IMI	**Imperia**	**2.29**	**295**	P	**Pn**	**12 06 55.5**	**+0.4**
NEGI	**Negi**	**2.39**	**292**	P	**Pn**	**12 06 56.9**	**+0.3**
MONE	**Monesi**	**2.45**	**298**	P	**Pn**	**12 06 57.9**	**+0.5**
MONE	**Monesi**	**2.45**	**298**	P	**Pn**	**12 06 57.8**	**+0.4**
ROB	**Roburent**	**2.48**	**303**	P	**Pn**	**12 06 58.4**	**+0.6**
ROB	**Roburent**	**2.48**	**303**	P	**Pn**	**12 06 58.4**	**+0.6**
SBF	**Sospel**	**2.58**	**291**	*e*Pn	**Pn**	**12 06 59.7**	**+0.4**
SBF				*e*Sn	**Sn**	**12 07 29.5**	**-1.0**
	3.1nm,0.2s						
ENR	**Entracque**	**2.73**	**298**	P	**Pn**	**12 07 02.4**	**+1.0**
ENR	**Entracque**	**2.73**	**298**	P	**Pn**	**12 07 02.4**	**+1.0**
STV	**Sta Anna Valdi**	**2.80**	**298**	P	**Pn**	**12 07 03.2**	**+0.9**
STV	**Sta Anna Valdi**	**2.80**	**298**	P	**Pn**	**12 07 03.2**	**+0.8**
STV2	**Anna di Valdie**	**2.80**	**298**	P	**Pn**	**12 07 03.1**	**+0.8**
STV2	**Anna di Valdie**	**2.80**	**298**	P	**Pn**	**12 07 03.1**	**+0.7**
PZZ	**Prazzo**	**3.06**	**301**	P	**Pn**	**12 07 06.1**	**0.0**
FRF	**La Foret Royal**	**3.06**	**282**	*e*Pn	**Pn**	**12 07 06.3**	**+0.2**
FRF				*e*Sn	**Sn**	**12 07 41.3**	**-1.4**
	4.3nm,0.3s						
LMR	**La Mourre**	**3.13**	**278**	*e*Pn	**Pn**	**12 07 07.1**	**0.0**
LMR				*e*Sn	**Sn**	**12 07 42.2**	**-2.3**
	3.4nm,0.2s						
BHB	**Bricherasio**	**3.14**	**308**	P	**Pn**	**12 07 07.5**	**+0.3**
BHB	**Bricherasio**	**3.14**	**308**	P	**Pn**	**12 07 07.5**	**+0.3**
TRAV		**3.33**	**320**	P	**Pn**	**12 07 07.7**	**-2.2**
TRAV		**3.33**	**320**	P	**Pn**	**12 07 07.7**	**-2.2**
MBDF	**Montbardon**	**3.37**	**302**	*e*Pn	**Pn**	**12 07 11.4**	**+0.9**
RRL	**Cesana Torines**	**3.46**	**305**	P	**Pn**	**12 07 12.4**	**+0.6**
RRL	**Cesana Torines**	**3.46**	**305**	P	**Pn**	**12 07 12.4**	**+0.6**
LPG	**La Plagne**	**3.82**	**312**	*e*Pn	**Pn**	**12 07 17.6**	**+0.6**
LPL	**La Plagne**	**3.85**	**313**	*e*Pn	**Pn**	**12 07 18.0**	**+0.7**
ORIF	**Oris-en-Rattie**	**4.02**	**300**	*e*Pn	**Pn**	**12 07 21.1**	**+1.3**
VIVF	**Saint-Julien-l**	**4.78**	**295**	*e*Pn	**Pn**	**12 07 30.7**	**+0.2**
CABF	**La Chapelle**	**4.92**	**319**	*e*Pn	**Pn**	**12 07 31.7**	**-0.8**
LASF	**Ste Croix**	**5.14**	**285**	*e*Pn	**Pn**	**12 07 34.9**	**-0.7**
HINF	**Hinteralfeld**	**5.56**	**332**	*e*Pn	**Pn**	**12 07 40.9**	**-0.7**
HAU	**Haudompre**	**5.90**	**330**	*e*Pn	**Pn**	**12 07 46.3**	**-0.1**
CDF	**Champ du Feu**	**5.95**	**337**	*e*Pn	**Pn**	**12 07 46.6**	**-0.5**
SMF	**Signal de Mont**	**6.13**	**309**	*e*Pn	**Pn**	**12 07 49.7**	**+0.1**
AVF	**Avril sur Loir**	**6.50**	**308**	*e*Pn	**Pn**	**12 07 53.5**	**-1.2**
CAF	**Calviac**	**6.57**	**290**	*e*Pn	**Pn**	**12 07 54.3**	**-1.5**
BGF	**Bois d'Agland**	**6.67**	**305**	*e*Pn	**Pn**	**12 07 55.8**	**-1.4**

IDC ***28*** *12:33:34.1±7.2, 27.29N× 55.74E, mb3.8/7, mb1 3.9/9, mb1mx3.8/21, mbtmp3.9/9, ML1.6/1, Error ellipse: s-maj=141.3km s-min=30.1km az=177.0*
THR ***28*** *12:33:42.9±0.3, 28.39N× 55.73E, h14km, ML3.7*
TEH ***28*** *12:33:45.3, 28.22N× 55.89E, h10km, Mn3.9*
CSEM ***28*** *12:33:45.3±0.1, 28.09N× 55.54E, h60km, mb3.6/1, Error ellipse: s-maj=3.2km s-min=2.0km az=73.0*
NEIC ***28*** *12:33:47.0±0.7, 28.19N× 55.76E, h51km±7km, mb3.5/2, Error ellipse: s-maj=9.3km s-min=8.2km az=192.0*
OMAN ***28*** *12:33:50.1±4.7, 27.96N× 54.87E, h57km, Error ellipse: s-maj=224.9km s-min=57.9km az=358.0*
ISC 28 12:33:42.3±0.4, 28.40N±0.03× 55.70E±0.05, h10km, n43, σ1$32/50, mb3.6/7, 3C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BNDS	**Bandar-Abbas**	**1.08**	**157**	*e*Pg	**Pg**	**12 34 03.0**	**-1.0**
BNDS				*e*Sg	**Sg**	**12 34 18.0**	**-0.5**
BNDS	**Bandar-Abbas**	**1.08**	**157**	*e*PG	**Pg**	**12 34 03.5**	**-0.5**
BNDS				*e*SG	**Sg**	**12 34 18.5**	**0.0**
BNDS				AML	AML	12 34 25.5	
	comp=N,2μm,0.6s						
BNDS	**Bandar-Abbas**	**1.08**	**157**	*e*Pg	**Pg**	**12 34 03.5**	**-0.5**
	SNR=92						
BNDS				*e*Sg	**Sg**	**12 34 18.0**	**-0.5**
KRBR	**Kerman**	**1.83**	**30**	*e*Pg	**Pg**	**12 34 18.0**	**-0.8**
KRBR				*e*Sg	**Sg**	**12 34 43.0**	**-0.2**
KRBR	**Kerman**	**1.83**	**30**	*e*PG	**Pg**	**12 34 18.0**	**-0.8**
KRBR				*e*SG	**Sg**	**12 34 43.6**	**+0.5**
KRBR				AML	AML	12 35 03.6	
	comp=N,492nm,0.6s						
GHIR	**Ghir-Karzin**	**2.39**	**268**	*e*PN	**Pn**	**12 34 24.5**	**+2.3**
GHIR				AML	AML	12 35 19.3	
	comp=N,502nm,0.5s						
GHIR	**Ghir-Karzin**	**2.39**	**268**	*e*Pn	**Pn**	**12 34 24.0**	**+1.8**
ISRV	**Sarvestan**	**2.47**	**294**	Pn	**Pn**	**12 34 28.2**	**+4.9**
BANOM	**Banah**	**2.53**	**168**	⇑P	**Pn**	**12 34 25.9**	**+1.8**
	SNR=12						
IPAR	**Pars**	**2.73**	**302**	Pn	**Pn**	**12 34 32.2**	**+5.3**
IMEH	**Mehriz**	**3.12**	**343**	Pn	**Pn**	**12 34 37.3**	**+4.7**
IBAF	**Bafgh**	**3.18**	**358**	Pn	**Pn**	**12 34 37.2**	**+3.8**
ASHO	**Ashiyiah**	**3.72**	**175**	⇓P	**Pn**	**12 34 41.4**	**+0.4**
	SNR=15						
ISAD	**Sadrabad**	**3.91**	**334**	Pn	**Pn**	**12 34 48.0**	**+4.2**
ICHK	**Chekchek**	**3.99**	**344**	Pn	**Pn**	**12 34 49.2**	**+4.3**
NASN	**Na'in**	**5.04**	**331**	*e*Pn	**Pn**	**12 35 01.0**	**+1.2**
NASN	**Na'in**	**5.04**	**331**	*e*PN	**Pn**	**12 35 01.6**	**+1.8**
ARQ	**Araqi**	**5.10**	**171**	⇑P	**Pn**	**12 35 00.6

JKRS	**Kuro-shima**	**1.30**	**85**	P		**P**	**12 34 24.4**	**0.0**
JKRS				S		**S**	**12 34 41.3**	**+0.3**
TATO	**Taipei**	**1.31**	**310**	*e*Pn		**P**	**12 34 27.5**	**+2.9**
JIJ	**Ishigaki jima**	**1.44**	**80**	P		**P**	**12 34 25.8**	**-0.5**
JIJ				S		**S**	**12 34 44.0**	**-0.3**
JTJ	**Tarama**	**2.00**	**75**	P		**P**	**12 34 34.2**	**+0.1**
JTJ				S		**S**	**12 34 58.9**	**+1.0**
JMJ	**Miyako jima 2**	**2.56**	**74**	*e*S		**S**	**12 35 12.7**	**+0.5**
JOGS	**Gusukube**	**2.65**	**76**	P		**P**	**12 34 43.8**	**+0.4**
JOGS				*e*S		**S**	**12 35 14.7**	**+0.3**
QZH	**Quanzhou**	**3.73**	**283**	*e*P		**P**	**12 34 57.3**	**-1.4**
QZH				S		**S**	**12 35 38.5**	**-3.3**
QZH				Smax				
	comp=N,170nm,1.0s							
QZH				Smax				
	comp=E,190nm,1.2s							
JKE	**Kume jima 2**	**4.39**	**59**	P		**P**	**12 35 07.7**	**-0.3**
JOW	**Kunigami**	**5.80**	**61**	Pn		**P**	**12 35 24.8**	**-3.0**
	comp=E,2.6nm,0.3s,baz=179,slow=16,SNR=8.8							
JOW				Sn		**S**	**12 36 33.0**	**-0.9**
	comp=E,0.5nm,0.3s,baz=91,slow=28,SNR=1.8							
SONM	**Songino Array**	**26.94**	**335**	P		**P**	**12 39 40.7**	**-0.1**
	comp=E,1.1nm,0.8s,mb3.4,baz=150,slow=8.9,SNR=8.5							
SONM				LR	LR		12 51 35.6	
	comp=E,85nm,20.1s,MS3.3,baz=176,slow=39							
MKAR	**Makanchi Array**	**39.28**	**315**	P		**P**	**12 41 28.7**	**+1.0**
	comp=E,0.5nm,0.4s,mb3.6,baz=102,slow=10,SNR=6.8							
WRA	**Warramunga Arr**	**45.27**	**164**	P		**P**	**12 42 16.4**	**-0.6**
	comp=E,1.1nm,0.8s,mb3.8,baz=346,slow=8.8,SNR=12							
ASAR	**Alice Springs**	**48.76**	**166**	P		**P**	**12 42 44.6**	**+0.3**
	comp=E,0.4nm,0.6s,mb3.6,baz=355,slow=16,SNR=10							
FINES	**FINESS Array B**	**72.14**	**330**	P		**P**	**12 45 22.6**	**-0.6**
	comp=E,2.2nm,1.1s,mb4.0,baz=76,slow=7.9,SNR=4.7							
FINES				LR	LR		13 20 25.8	
	comp=E,46nm,19.2s,MS3.8,baz=350,slow=39							
AFI	**Afiamalu**	**74.40**	**113**	LR	LR		13 12 18.3	
	comp=E,64nm,20.9s,MS3.9,baz=139,slow=31							
YKA	**Yellowknife Ar**	**82.52**	**23**	P		**P**	**12 46 21.0**	**+0.3**
	comp=E,0.5nm,0.7s,mb3.6,baz=313,slow=5.0,SNR=17							

*IDC **28** 12:36:18.2±5.6, 17.03S×179.02E, h98km±72km, mb4.0/4, mb1 4.2/5, mb1mx3.7/14, mbtmp4.4/5, Error ellipse: s-maj=121.4km s-min=27.6km az=150.0*

NEIC 28 12:36:17.1±3.6, 16.53S×178.81E, h82km±51km, mb4.3/3, Error ellipse: s-maj=130.5km s-min=20.2km az=149.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**9.46**	**75**	P	P	12 38 30.6	-1.8
	2.3nm,0.3s,baz=202,slow=19,SNR=5.9						
AFI				S	S	12 40 15.6	-2.3
	1.0nm,0.3s,baz=59,slow=23,SNR=7.1						
STKA	**Stephens Creek**	**37.01**	**239**	*e*P	P	12 43 19.1	-1.6
	3.3nm,1.1s						
STKA	**Stephens Creek**	**37.01**	**239**	P	P	12 43 18.3	-2.4
	2.3nm,0.6s,baz=81,slow=9.6,SNR=8.4						
WB2	**Warramunga Arr**	**42.27**	**258**	*e*P	P	12 44 03.2	-1.2
WRAB	**Tennant Creek**	**42.27**	**258**	*e*P	P	12 44 03.3	-1.1
	3.4nm,0.8s						
WRA	**Warramunga Arr**	**42.28**	**258**	P	P	12 44 03.5	-1.0
	0.7nm,0.3s,baz=94,slow=8.2,SNR=28						
ASAR	**Alice Springs**	**42.62**	**253**	P	P	12 44 05.9	-1.4
	7.6nm,0.4s,baz=90,slow=7.8,SNR=259						
ASPA	**Alice Springs**	**42.63**	**253**	*e*P	P	12 44 05.8	-1.5
FITZ	**Fitzroy Crossi**	**50.64**	**260**	*e*P	P	12 45 06.9	-3.5
	1.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**50.64**	**260**	P	P	12 45 07.0	-3.4
	1.6nm,0.4s,baz=32,slow=4.7,SNR=9.8						
GERES	**GERESS Array B**	**145.56**	**343**	PKPbc	PKPbc	12 55 46.5	0.0
	0.1nm,0.3s,baz=333,slow=2.2,SNR=3.5						

*CSEM **28** 12:44:31.6±0.1, 39.27N×41.78E, h20km, MD3.5, Error ellipse: s-maj=2.1km s-min=1.5km az=54.0*

ISK 28 12:44:32.1, 39.24N×41.80E, h22km, MD3.5, ML3.5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VRT	**Varto**	**0.24**	**242**	*i* PG	Pb	12 44 38.0	+0.1
ERZM	**Erzurum**	**0.74**	**333**	*i* P	Pb	12 44 47.4	+1.2
ERZM				*i* S	Sb	12 45 05.1	+9.1
EZM	**Erzurum**	**0.74**	**333**	*i* PG	Pb	12 44 47.5	+1.2
BTMT	**Batman**	**1.07**	**193**	PN	Pn	12 44 53.4	+1.4
BTMT				SN	Sn	12 45 10.5	+4.2
BINT	**Bingol**	**1.08**	**251**	*i* PN	Pn	12 44 52.3	+0.2
VANB	**Van**	**1.40**	**117**	*e*PN	Pn	12 44 57.3	+0.7
BEST	**Besiri**	**1.41**	**197**	*i* P	Pn	12 45 04.7	+7.9
BEST				*i* S	Sn	12 45 19.4	+4.6
TVAN	**Van**	**1.44**	**119**	*i* P	Pn	12 45 00.1	+2.8
TVAN				*i* S	Sn	12 45 18.1	+2.5
VANT	**Van**	**1.47**	**122**	*e*PN	Pn	12 44 56.5	-1.2
DIY	**Diyarbakir**	**1.82**	**223**	*e*PN	Pn	12 45 04.0	+1.3
GUMT	**Gumushane**	**2.16**	**305**	*e*PN	Pn	12 45 07.7	+0.2
KELT	**Kelkit**	**2.16**	**296**	*i* P	Pn	12 45 13.9	+6.4
KELT				*i* S	Sn	12 45 48.0	+14
BCA	**Borcka**	**2.21**	**357**	*e*PN	Pn	12 45 07.7	-0.5
HKR	**Hakkari**	**2.25**	**137**	*e*PN	Pn	12 45 09.6	+0.7
ELZG	**Elazig**	**2.32**	**252**	*i* P	Pn	12 45 10.5	+0.7
ELZG				*i* S	Sn	12 45 43.2	+5.3
URFA	**Urfa**	**2.95**	**233**	*e*PN	Pn	12 45 20.0	+1.2
GZT	**Gaziantep**	**3.83**	**242**	*i* P	Pn	12 45 41.1	+10
GZT				*i* S	Sn	12 46 37.1	+21
KAHT	**Ahir Dag**	**4.19**	**249**	*i* P	Pn	12 45 47.9	+11

IDC 28 12:49:13.5±2.2, 15.50S×178.15W, mb3.6/3, mb1 4.0/3, mb1mx3.6/12, mbtmp3.6/3, Error ellipse: s-maj=159.6km s-min=30.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.36**	**257**	P	P	12 57 34.8	-0.9
	0.2nm,0.5s,baz=96,slow=7.2,SNR=14						
ASAR	**Alice Springs**	**45.73**	**252**	P	P	12 57 36.4	-2.2
	1.0nm,0.5s,baz=86,slow=8.5,SNR=30						
TXAR	**Lajitas Array**	**84.50**	**58**	P	P	13 01 50.0	0.0
	0.4nm,0.7s,baz=202,slow=4.9,SNR=5.0						
GERES	**GERESS Array B**	**145.36**	**346**	PKPbc	PKPbc	13 08 50.5	-3.2
	0.5nm,0.6s,baz=18,slow=4.2,SNR=6.5						

IDC 28 12:57:04.9±7.7, 8.37N×91.88E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=379.3km s-min=29.6km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.16**	**350**	P	P	13 04 34.2	-1.9
	0.3nm,0.5s,baz=180,slow=9.7,SNR=4.3						
WRA	**Warramunga Arr**	**50.38**	**124**	P	P	13 06 04.0	-2.3
	0.3nm,0.6s,baz=301,slow=9.5,SNR=9.5						
ASAR	**Alice Springs**	**51.96**	**129**	P	P	13 06 16.4	-1.9
	0.5nm,0.7s,baz=312,slow=6.5,SNR=10.0						

*NEIC **28** 13:09:27.1±1.7, 17.51S×174.69W, h145km±16km, mb4.3/2, Error ellipse: s-maj=22.3km s-min=13.3km az=151.0*

*IDC **28** 13:09:27.7±2.7, 17.26S×174.89W, h140km±25km, mb3.9/6, mb1 4.1/7, mb1mx3.9/14, mbtmp4.3/7, Error ellipse: s-maj=30.9km s-min=16.6km az=145.0*

ISC 28 13:09:25.3±2.6, 17.3S±0.2×174.8W±0.1, h139km±29km, n27, σ1§06/22, mb4.3/6, 4C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**4.46**	**41**	P	**S**	**13 10 34.3**	**+1.9**
	28nm,0.3s,baz=216,slow=3.8,SNR=146						
AFI				S	**S**	**13 11 22.1**	**-1.9**
	46nm,0.3s,baz=73,slow=22,SNR=19						
AFI	**Afiamalu**	**4.46**	**41**	P	**P**	**13 10 34.3**	**+1.9**
AFI				S	**S**	**13 11 22.1**	**-1.9**
STKA	**Stephens Creek**	**41.93**	**241**	*e*P	**P**	**13 17 04.6**	**+0.6**
	7.2nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**41.93**	**241**	P	**P**	**13 17 04.7**	**+0.7**
	10nm,0.9s,mb4.5,baz=94,slow=12,SNR=15						
WB2	**Warramunga Arr**	**48.11**	**259**	*e*P	**P**	**13 17 52.7**	**-0.5**
WRAB	**Tennant Creek**	**48.11**	**259**	*e*P	**P**	**13 17 53.0**	**-0.2**
	4.1nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**48.12**	**259**	P	**P**	**13 17 52.8**	**-0.5**
	3.0nm,0.8s,mb4.0,baz=97,slow=6.8,SNR=95						
ASAR	**Alice Springs**	**48.26**	**254**	P	**P**	**13 17 54.1**	**-0.2**
	16nm,0.8s,mb4.7,baz=88,slow=8.4,SNR=191						
ASAR				PcP	PcP	13 19 19.1	-0.5
	1.0nm,0.5s,baz=102,slow=3.7,SNR=6.8						
ASPA	**Alice Springs**	**48.26**	**254**	*e*P	**P**	**13 17 54.1**	**-0.3**
FITZ	**Fitzroy Crossi**	**56.52**	**259**	P	**P**	**13 18 55.5**	**-0.2**
	1.9nm,0.6s,mb4.1,baz=39,slow=6.1,SNR=6.5						
VNDA	**Vanda**	**61.36**	**186**	P	**P**	**13 19 28.5**	**+0.1**
	2.5nm,0.8s,mb4.1,baz=9.2,slow=5.3,SNR=14						
VNDA	**Vanda**	**61.36**	**186**	P	**P**	**13 19 28.5**	**+0.1**
KSM	**Kuching**	**76.03**	**276**	*e*P	**P**	**13 21 00.7**	**+1.1**
TXAR	**Lajitas Array**	**82.79**	**56**	P	**P**	**13 21 36.8**	**+1.1**
	0.1nm,0.3s,baz=236,slow=3.3,SNR=4.5						
VNA3	**Neumayer Olymp**	**91.09**	**175**	*e*	**P**	**13 22 16.6**	**+1.8**
VNA3	**Neumayer Olymp**	**91.09**	**175**	*i*P	**P**	**13 22 13.9**	**-0.9**
VNA3				*e*		13 22 16.6	
VNA2	**Neumayer--Watz**	**91.57**	**176**	*e*	**P**	**13 22 17.1**	**+0.1**
VNA2	**Neumayer--Watz**	**91.57**	**176**	*i*P	**P**	**13 22 14.6**	**-2.4**
VNA2				*e*		13 22 17.1	
VNA1	**Neumayer--Stat**	**91.77**	**176**	*e*	**P**	**13 22 18.1**	**+0.1**
VNA1	**Neumayer--Stat**	**91.77**	**176**	*i*P	**P**	**13 22 15.3**	**-2.7**
VNA1				*e*		13 22 18.1	
FINES	**FINESS Array B**	**133.48**	**346**	PKP	PKPdf	13 28 26.7	+1.7
	1.1nm,0.8s,baz=338,slow=10,SNR=4.5						
KMBO	**Kilima Mbogo**	**143.48**	**243**	*e*PKPdf	PKPdf	13 28 44.2	-0.2
MALT	**Malatya**	**144.20**	**313**	*e*PKPdf	PKPdf	13 28 45.9	+1.0
CLL	**Collm**	**145.51**	**351**	*i*PKP1	PKPbc	13 28 48.8	+1.3
BRTR	**Keskin Array B**	**146.72**	**318**	PKPbc	PKPbc	13 28 53.2	+2.5
	1.1nm,0.7s,baz=117,slow=2.8,SNR=5.9						
GERES	**GERESS Array B**	**147.79**	**349**	PKPbc	PKPdf	13 28 55.5	+4.9
	0.6nm,0.6s,baz=27,slow=3.0,SNR=6.9						
DAVOX	**Davos**	**150.35**	**353**	PKPbc	PKPdf	13 29 02.4	+7.7
	3.6nm,0.7s,baz=13,slow=19,SNR=6.3						

*ATH **28** 13:24:28.5, 35.27N×23.32E, h6km, MD3.5/7*
*NEIC **28** 13:24:29.2, 35.38N×23.41E, h5km, MD3.5(ATH), After ATH.*
*CSEM **28** 13:24:29.2±0.1, 35.38N×23.41E, h5km, MD3.5/6, Error ellipse: s-maj=2.3km s-min=0.7km az=44.0, After ATH*
*IDC **28** 13:24:30.3±3.6, 35.51N×23.38E, h67km±26km, mb3.4/5, mb1 3.5/7, mb1mx3.3/20, mbtmp3.6/7, Error ellipse: s-maj=64.1km s-min=26.0km az=28.0*

ISC 28 13:24:27.3±1.2, 35.2N±0.1×23.3E±0.1, h76km±7km, n20, σ1§14/23, mb3.3/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.71**	**119**	*e*PB	**P**	**13 24 43.5**	**+0.5**
GVD				*e*SB	**S**	**13 24 53.5**	**-1.1**
VAM	**Vamos**	**0.74**	**72**	*e*PB	**P**	**13 24 42.5**	**-0.9**
KYTH	**Kithira**	**1.12**	**347**	*e*PG	**P**	**13 24 47.5**	**-0.4**
KYTH				*e*SB	**S**	**13 25 03.0**	**-0.3**
IDI	**Anoyia**	**1.27**	**85**	P	**P**	**13 24 50.5**	**+0.5**
	10nm,0.3s,baz=270,slow=15,SNR=46						
IDI				S	**S**	**13 25 08.5**	**+1.6**
	32nm,0.3s,baz=294,slow=20,SNR=13						
VLI	**Veliai**	**1.56**	**348**	*e*PG	**P**	**13 24 56.0**	**+2.1**
VLI	**Veliai**	**1.56**	**348**	*e*Pn	**P**	**13 24 54.5**	**+0.6**
NPS	**Neapolis**	**1.86**	**87**	*e*PN	**P**	**13 25 02.5**	**+4.6**
XRY	**Khrisi**	**1.96**	**98**	*e*PN	**P**	**13 25 05.0**	**+5.8**
XRY	**Khrisi**	**1.96**	**98**	*e*Pn	**P**	**13 25 06.0**	**+6.8**
ITM	**Ithomi**	**2.29**	**331**	*e*PN	**P**	**13 25 08.0**	**+4.1**
ITM	**Ithomi**	**2.29**	**331**	*e*Pg	**P**	**13 25 10.5**	**+6.6**
BRTR	**Keskin Array B**	**9.36**	**58**	P	**P**	**13 26 40.4**	**-1.1**
	0.2nm,0.3s,baz=236,slow=13,SNR=8.6						
GERES	**GERESS Array B**	**15.39**	**335**	P	**P**	**13 28 01.1**	**0.0**
	0.1nm,0.3s,baz=150,slow=11,SNR=5.8						
KHC	**Kasperske Hory**	**15.68**	**336**	*e*P	**P**	**13 28 08.0**	**+3.2**
HFS	**Hagfors**	**25.74**	**349**	P	**P**	**13 29 51.6**	**-0.4**
	1.0nm,0.4s,mb3.6,baz=146,slow=11,SNR=11						
FINES	**FINESS Array B**	**26.33**	**3**	P	**P**	**13 29 55.9**	**-1.6**
	0.7nm,0.7s,mb3.2,baz=169,slow=7.1,SNR=5.0						
NOA	**NORSAR Array B**	**27.01**	**347**	P	**P**	**13 30 02.7**	**-1.1**
	0.4nm,0.5s,mb3.2,baz=146,slow=10,SNR=3.3						
NOA	**NORSAR Array B**	**27.01**	**347**	P	**P**	**13 30 02.7**	**-1.1**
MKAR	**Makanchi Array**	**45.00**	**56**	P	**P**	**13 32 36.8**	**+0.2**
	0.4nm,0.3s,mb3.6,baz=268,slow=7.9,SNR=18						
YKA	**Yellowknife Ar**	**76.96**	**341**	P	**P**	**13 36 14.5**	**+1.9**
	0.1nm,0.5s,mb2.8,baz=33,slow=5.6,SNR=5.4						

*IDC **28** 13:25:22.8±3.9, 12.62N×123.59E, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=358.5km s-min=27.2km az=63.0*

*MAN **28** 13:25:23.2, 12.93N×123.54E, h13km, mb4.3, ML3.2, MS3.0*

ISC 28 13:25:23.1±0.8, 12.89N±0.04×123.54E±0.05, h15km±11km, n15, σ1§06/17, mb3.3/3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMPH	**Masbate**	**0.53**	**171**	*e*P	**Pb**	**13 25 34.8**	**+1.2**
MMPH				*i* S	**Sb**	**13 25 40.0**	**-0.8**
PVCP	**Virac**	**0.93**	**40**	*e*P	**Pb**	**13 25 39.8**	**-0.6**
PVCP				*e*S	**Sb**	**13 25 52.4**	**+0.2**
AUQP	**San Andres**	**0.95**	**297**	*e*P	**Pb**	**13 25 40.5**	**-0.2**
CNP	**Catarman**	**1.16**	**109**	*e*P	**Pb**	**13 25 44.4**	**0.0**
GQP	**Guinayangan**	**1.47**	**314**	*e*P	**Pn**	**13 25 47.9**	**-1.3**
RCP	**Roxas**	**1.53**	**211**	*i*eP	**Pn**	**13 25 49.5**	**-0.5**
OTRP	**Odiongan**	**1.57**	**251**	*e*P	**Pn**	**13 25 49.7**	**-0.9**
BOAC	**Boac**	**1.75**	**289**	*e*P	**Pn**	**13 25 53.8**	**+0.6**
BESP	**Borongan**	**2.25**	**124**	*e*P	**Pn**	**13 26 00.9**	**+0.4**
SJMP	**San Jose**	**2.40**	**260**	*e*P	**Pn**	**13 26 03.3**	**+0.8**
GUIM	**Jordan**	**2.43**	**203**	*e*P	**Pn**	**13 26 05.2**	**+2.3**
BUSP	**Coron**	**3.38**	**255**	*e*P	**Pn**	**13 26 15.9**	**-0.5**
WRA	**Warramunga Arr**	**34.31**	**162**	P	**P**	**13 32 07.9**	**-3.4**
	0.2nm,0.6s,mb3.2,baz=342,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**37.72**	**164**	P	**P**	**13 32 39.0**	**-1.0**
	0.3nm,0.8s,mb3.0,baz=342,slow=7.4,SNR=5.9						
MKAR	**Makanchi Array**	**48.34**	**323**	P	**P**	**13 34 08.0**	**+2.0**
	0.4nm,0.6s,mb3.6,baz=119,slow=8.5,SNR=5.5						

*IDC **28** 13:37:16.5±1.1, 8.12N×91.35E, mb3.9/9, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, MS3.4/1, Ms1 3.4/1, ms1mx2.5/26, Error ellipse: s-maj=57.6km s-min=16.2km az=55.0*

*NEIC **28** 13:37:21.0±0.7, 8.12N×91.40E, h30km, mb4.1/4, Error ellipse: s-maj=34.6km s-min=8.3km az=55.0*

ISC 28 13:37:19.0±0.9, 8.1N±0.2×91.4E±0.3, h30km, n15, σ0§40/14, mb3.8/12, MS3.5/1, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.34**	**350**	P	**P**	**13 44 47.8**	**+0.5**
	0.6nm,0.4s,mb3.7,baz=170,slow=8.7,SNR=17						
MKAR				PcP	PcP	13 46 56.4	+0.4
	0.2nm,0.5s,baz=191,slow=3.1,SNR=3.3						
SONM	**Songino Array**	**41.60**	**15**	P	**P**	**13 45 05.8**	**-0.2**
	1.1nm,0.8s,mb3.5,baz=197,slow=8.7,SNR=7.0						
FITZ	**Fitzroy Crossi**	**42.67**	**128**	P	**P**	**13 45 15.4**	**+0.3**
	1.9nm,0.7s,mb3.9,baz=247,slow=8.0,SNR=3.4						
KURK	**Kurchatov**	**43.79**	**348**	*e*P	**P**	**13 45 24.2**	**+0.5**
	1.4nm,0.9s,mb3.7						
CHKZ	**Chkalovo**	**48.45**	**344**	*e*P	**P**	**13 46 00.1**	**-0.6**
	1.2nm,0.7s,mb4.0						
WRA	**Warramunga Arr**	**50.62**	**124**	P	**P**	**13 46 17.2**	**-0.5**
	0.6nm,0.4s,mb3.8,baz=300,slow=9.5,SNR=30						
WRAB	**Tennant Creek**	**50.63**	**124**	P	**P**	**13 46 17.4**	**-0.4**
	1.1nm,0.4s,mb4.1						
WB2	**Warramunga Arr**	**50.63**	**124**	*e*P	**P**	**13 46 17.6**	**-0.2**
ASAR	**Alice Springs**	**52.17**	**128**	P	**P**	**13 46 29.6**	**+0.3**
	1.2nm,0.7s,mb3.9,baz=300,slow=7.1,SNR=20						
ASAR				PcP	PcP	13 47 41.9	+1.0
	0.4nm,0.6s,baz=309,slow=4.0,SNR=5.1						
KMBO	**Kilima Mbogo**	**54.74**	**263**	LR	LR	14 06 42.5	
	comp=Z,33nm,18.2s,MS3.5,baz=92,slow=32						
STKA	**Stephens Creek**	**62.25**	**132**	*e*P	**P**	**13 47 41.4**	**+0.7**
	1.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**62.25**	**132**	P	**P**	**13 47 41.4**	**+0.7**
	2.0nm,0.7s,mb4.3,baz=345,slow=7.6,SNR=4.3						
FINES	**FINESS Array B**	**71.25**	**333**	P	**P**	**13 48 37.3**	**+0.1**
	0.9nm,0.8s,mb3.7,baz=90,slow=5.7,SNR=6.3						
GERES	**GERESS Array B**	**75.85**	**318**	P	**P**	**13 49 03.9**	**-0.4**
	0.4nm,0.7s,mb3.5,baz=56,slow=4.8,SNR=4.3						
HFS	**Hagfors**	**76.90**	**330**	P	**P**	**13 49 09.9**	**0.0**
	0.5nm,0.4s,mb3.8,baz=76,slow=6.1,SNR=5.4						

*BJI **28** 13:46:50.5, 12.60N×86.80W, h169km, mB5.3*

*CASC **28** 13:46:52.8±1.7, 12.29N×87.10W, h149km±8km, MD4.6, ML4.5, mb4.9(NEIC)*

*NEIC **28** 13:46:52.6±0.2, 12.59N×86.82W, mb4.9/85, Error ellipse: s-maj=6.1km s-min=3.2km az=49.0*

NEIC Felt at Managua.

*HRVD **28** 13:46:52.6±0.3, 12.55N×86.99W, h169km±2km, MW5.1/69, Centroid moment Tensor Solution. LP body waves: s31,c45;Mantle waves: s69,c113; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.50±.17; Mθθ -1.41±.17; Mθφ -1.09±.21; Mrθ 2.41±.12; Mφφ 0.46±.21; Mθr -4.31±.15; Best double couple: Mo 5.354×10^16 NP1: φs 309°, δ 12°, λ 70°. NP2: φs 149°, δ 79°, λ 94°. Principal axes: T 5.816, Plg 56°, Azm 64°; N -.924, Plg 4°, Azm 328°; P -4.892, Plg 34°, Azm 235°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **28** 13:46:53.2±0.7, 12.69N×86.71W, h174km±5km, mb4.4/16, mb1 4.5/18, mb1mx4.3/21, mbtmp4.9/18, MS3.7/5, Ms1 3.7/5, ms1mx3.1/21 Error ellipse: s-maj=14.0km s-min=8.8km az=56.0*

ISC 28 13:46:51.7±0.2, 12.55N±0.04×86.91W±0.03, h178km±2km, h172km±1.3km: pP-P, n264, σ1§15/242, mb4.8/90, 20C-3D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**1.15**	**309**	*i*P	**P**	**13 47 19.6**	**-1.1**
CNCH				*e*S	**S**	**13 47 42.2**	**-0.8**
BLLM	**Bellamira**	**1.57**	**305**	*i*P	**P**	**13 47 23.8**	**-0.8**
VSM	**San Miguel**	**1.59**	**303**	*i*P	**P**	**13 47 24.2**	**-0.5**
VSM				*e*S	**S**	**13 47 49.5**	**-0.7**
SNVI	**San Vicente**	**2.15**	**299**	*e*P	**P**	**13 47 30.5**	**-0.3**
SNVI				*e*S	**S**	**13 47 59.5**	**-1.3**
LCBS	**La Ceiba**	**2.29**	**299**	*i*P	**P**	**13 47 31.6**	**-0.8**
LFRS	**El Faro**	**2.35**	**297**	*i*P	**P**	**13 47 32.2**	**-0.8**
LBRS	**Las Brisas**	**2.39**	**300**	*i*P	**P**	**13 47 33.0**	**-0.5**
LBRS				*e*S	**S**	**13 48 04.2**	**-1.5**
LFU	**La Fuente**	**2.45**	**299**	*e*P	**P**	**13 47 33.8**	**-0.5**
SNET	**Serv Nac Est T**	**2.53**	**297**	*e*P	**P**	**13 47 33.8**	**-1.3**
SNET				*e*S	**S**	**13 48 07.2**	**-1.4**
SNET				*i*		13 48 09.9	
	comp=Z,6μm,0.3s						
BOQS	**Boqueron**	**2.59**	**297**	*i*P	**P**	**13 47 35.4**	**-0.5**
BOQS				*e*S	**S**	**13 48 08.8**	**-1.1**
VCR	**Vista de Mar**	**2.72**	**152**	*i*P	**P**	**13 47 37.1**	**-0.4**
VCR	**Vista de Mar**	**2.72**	**152**	*i*P	**P**	**13 47 37.1**	**-0.3**
VCR				*e*S	**S**	**13 48 08.2**	**-4.5**
SNJE	**San Jose**	**2.93**	**297**	*e*P	**P**	**13 47 39.5**	**-0.5**
SNJE				*e*S	**S**	**13 48 16.6**	**-0.6**
SBLS	**San Blas**	**2.93**	**296**	*i*P	**P**	**13 47 39.9**	**-0.2**
SBLS				*e*S	**S**	**13 48 16.7**	**-0.6**
JTS	**JuntasAbangare**	**2.96**	**139**	Pn	**P**	**13 47 39.7**	**-0.6**
	comp=Z,3μm,0.4s,SNR=11						
RTR	**El Retiro**	**2.98**	**297**	*i*eP	**P**	**13 47 40.5**	**-0.2**
RTR				*e*S	**S**	**13 48 17.7**	**-0.5**
FORC	**Fortuna**	**3.02**	**133**	*e*P	**P**	**13 47 42.5**	**+1.4**
RBDL	**Robledal**	**3.12**	**300**	*i*eP	**P**	**13 47 42.1**	**-0.2**
RBDL				*e*S	**S**	**13 48 20.7**	**-0.5**
CGA2	**Cerro Gallo 2**	**3.48**	**136**	*e*P	**P**	**13 47 46.8**	**-0.1**
CGA2	**Cerro Gallo 2**	**3.48**	**136**	*e*P	**P**	**13 47 46.8**	**-0.1**
CGA2				*e*S	**S**	**13 48 28.2**	**-1.1**
VPS2	**Volcan Poas 2**	**3.52**	**132**	*e*P	**P**	**13 47 49.5**	**+2.1**
VPS2	**Volcan Poas 2**	**3.52**	**132**	*e*P	**P**	**13 47 50.3**	**+2.9**
PRS1	**Puriscal**	**3.61**	**135**	*e*P	**P**	**13 47 49.9**	**+1.4**
PRS1	**Puriscal**	**3.61**	**135**	*e*P	**P**	**13 47 50.0**	**+1.5**
TRTC	**Tortuguero**	**3.70**	**122**	*i*P	**P**	**13 47 49.4**	**-0.2**
IXG	**Ixpaco**	**3.81**	**295**	*i*eP	**P**	**13 47 50.3**	**-0.8**
IXG				*e*S	**S**	**13 48 33.5**	**-3.2**
SJS	**Escuela Geolog**	**3.82**	**133**	*e*P	**P**	**13 47 52.1**	**+0.8**
SJS	**Escuela Geolog**	**3.82**	**133**	*e*S	**S**	**13 48 38.4**	**+1.3**
LAJ	**Bijagual**	**3.83**	**134**	*e*P	**P**	**13 47

comp=Z,75nm,1.0s,mb5.2
GDL2 Guadalupe Moun 25.28 323 *e*P P **13 52 04.0 +0.6**
FWV Forest Hill 25.51 11 *e*P P **13 52 06.1 +0.6**
FVM French Village 25.52 354 *e*P P **13 52 03.9 -1.7**
comp=Z,8.3nm,0.8s,mb4.4
MNTX Cornudas Mount 25.53 321 *e*P P **13 52 05.9 +0.1**
comp=Z,15nm,0.9s,mb4.6
MNTX *e* pP 13 52 40.6 -0.8
WCI Wyandotte Cave 25.58 1 *e*P P **13 52 05.7 -0.3**
comp=Z,31nm,0.8s,mb5.0
WCI *e*pP pP 13 52 41.2 -0.5
CPRX Cap Rock 25.61 325 *e*P P **13 52 06.3 -0.2**
CPRX *e*pP pP 13 52 45.5 +3.3
CCM Cathedral Cave 25.69 352 *e*P P **13 52 06.3 -0.8**
comp=Z,107nm,1.3s,mb5.3
CCM *e*pP pP 13 52 41.8 -1.1
AMTX Amarillo 25.95 331 *e*P P **13 52 09.8 +0.2**
comp=Z,122nm,1.1s,mb5.4
MCWV Mont Chateau 27.71 12 *e*P P **13 52 25.9 +0.4**
comp=Z,30nm,0.6s,mb5.2
ACSO Alum Creek Sta 27.79 6 *e*P P **13 52 25.9 -0.3**
comp=Z,42nm,0.8s,mb5.2
ACSO *e*pP pP 13 53 01.3 -1.2
KSU1 Kansas State U 27.80 344 *e*P P **13 52 25.9 -0.5**
LPM Los Pinos Moun 28.12 324 *e*P P **13 52 29.8 +0.6**
SDMD Soldier's Deli 28.20 17 *e*P P **13 52 30.6 +0.7**
LENM Lemitar 28.21 323 *e*P P **13 52 31.3 +1.2**
LENM *e*pP pP 13 53 06.8 +0.3
BBSR BB Station 28.36 42 *e*P P **13 52 30.8 -0.6**
comp=Z,127nm,1.0s,mb5.6
LAZ Ladron 28.48 323 *e*P P **13 52 32.7 +0.3**
ANMO Albuquerque 28.48 325 P P **13 52 32.6 +0.2**
comp=Z,12nm,0.8s,mb4.7,baz=142,slow=6.5,SNR=34
ANMO pP pP 13 53 08.6 -0.3
comp=Z,1.6nm,0.6s,baz=171,slow=11,SNR=1.5
ANMO LR LR 14 07 30.7
comp=Z,44nm,19.0s,baz=3.5,slow=44
ANMO Albuquerque 28.48 325 *e*P P **13 52 33.0 +0.6**
comp=Z,14nm,0.9s,mb4.7
CBKS Cedar Bluff 28.53 339 *e*P P **13 52 32.3 -0.6**
comp=Z,52nm,1.2s,mb5.1
SSPA Standing Stone 29.08 14 *e*P P **13 52 38.2 +0.5**
comp=Z,46nm,0.8s,mb5.2
TUC Tucson 29.43 316 *e*P P **13 52 41.2 +0.2**
comp=Z,7.8nm,1.0s,mb4.4
ERPA Erie 30.07 10 *e*P P **13 52 45.9 -0.5**
comp=Z,50nm,0.6s,mb5.4
SDCO Great Sand Dun 30.09 330 *e*P P **13 52 47.5 +0.8**
comp=Z,19nm,0.7s,mb4.9
JFWS Jewell Farm 30.39 355 *e*P P **13 52 47.8 -1.4**
comp=Z,50nm,1.1s,mb5.2
GENY Geneseo 31.12 13 *e*P P **13 52 55.4 -0.2**
WUAZ Wupatki 31.80 320 *e*P P **13 53 03.0 +1.4**
comp=Z,38nm,1.0s,mb5.1
WUAZ *e*pP pP 13 53 37.6 -1.3
PV01 Paradox Valley 31.96 327 *e*P P **13 53 03.7 +0.6**
QUA2 Belchertown 32.21 20 *e*P P **13 53 05.4 +0.2**
comp=Z,47nm,0.3s,mb5.7
PV10 Paradox Valley 32.39 326 *e*P P **13 53 06.9 +0.2**
PV10 *e*PcP PcP 13 55 49.9 -0.1
WES Weston 32.66 22 *e*P P **13 53 09.7 +0.6**
comp=Z,98nm,1.2s,mb5.4
SADO Sadowa 32.79 10 P P **13 53 09.8 -0.3**
comp=Z,21nm,0.7s,mb5.0,baz=212,slow=8.8,SNR=18
SADO pP pP 13 53 46.1 -1.5
comp=Z,4.7nm,0.6s,baz=232,slow=8.4,SNR=2.8
SADO ScP 13 59 16.3
comp=Z,1.3nm,0.4s,baz=304,slow=8.5,SNR=3.2
PHWY Pilot Hill 32.92 334 *e*P P **13 53 11.3 0.0**
NCB Newcomb 33.16 17 *e*P P **13 53 13.4 +0.2**
comp=Z,67nm,1.3s,mb5.2
HNH Hanover 33.50 19 *e*P P **13 53 16.6 +0.5**
comp=Z,2.3nm,0.8s,mb4.0
SRU San Rafael 33.72 326 *e*P P **13 53 18.9 +0.7**
MSNY Massena 33.93 15 *e*P P **13 53 19.7 -0.1**
LDFC Landfair 33.97 316 *e*P P **13 53 22.2 +1.9**
LPAZ La Paz 34.15 147 P P **13 53 22.6 +0.7**
comp=Z,4.3nm,0.7s,mb4.3,baz=335,slow=8.9,SNR=18
LPAZ PcP PcP 13 55 54.9 -0.2
comp=Z,1.2nm,0.7s,baz=326,slow=5.3,SNR=3.5
LPAZ LR LR 14 08 00.2
comp=Z,99nm,19.3s,baz=81,slow=37
LPAZ La Paz 34.15 147 *e*P P **13 53 22.3 +0.4**
comp=Z,18nm,1.3s,mb4.6
TMUT Trail Mountain 34.23 325 *e*P P **13 53 23.5 +1.0**
TMUT *e*PcP PcP 13 55 55.5 +0.3
MSU Marysvale 34.24 323 *e*P P **13 53 23.9 +1.3**
RSSD Black Hills 34.73 338 *e*P P **13 53 27.3 +0.7**
comp=Z,28nm,1.1s,mb4.8
DAU Daniels Canyon 35.05 327 *e*P P **13 53 30.1 +0.8**
DAU *e*pP pP 13 54 06.3 -0.9
WVL Waterville 35.16 22 *e*P P **13 53 31.7 +1.5**
comp=Z,589nm,1.5s
NLU North Lily Min 35.17 325 *e*P P **13 53 31.1 +0.7**
EYMN Ely 35.49 355 *e*P P **13 53 31.5 -1.5**
EYMN *e*PP PP 13 54 57.3 -1.3
DUG Dugway 35.75 325 *e*P P **13 53 36.3 +1.1**
comp=Z,14nm,1.0s,mb4.6
DUG *e*pP pP 13 54 12.3 -1.0
BW06 Boulder Array 35.94 331 *e*P P **13 53 36.8 0.0**
comp=Z,5.7nm,0.6s,mb4.4
PDAR Pinedale Array 35.94 331 P P **13 53 37.1 +0.4**
comp=Z,8.2nm,0.7s,mb4.5,baz=125,slow=9.7,SNR=101
PDAR PcP PcP 13 55 59.3 -0.7
comp=Z,1.6nm,0.9s,baz=127,slow=4.5,SNR=3.3
PDAR ScP 13 59 28.9
comp=Z,0.6nm,0.4s,baz=129,slow=6.9,SNR=9.1
HWUT Hardware Ranch 36.06 328 *e*P P **13 53 38.4 +0.5**
comp=Z,32nm,0.8s,mb5.0
HWUT *e*pP pP 13 54 14.8 -1.1
HWUT *e*PcP PcP 13 56 00.2 -0.3
HWUT *e*ScP 13 59 30.3
EMMW East Machias 36.11 24 *e*P P **13 53 39.1 +0.9**
comp=Z,113nm,1.1s,mb5.4
BGU Big Grassy Mou 36.37 326 *e*P P **13 53 41.0 +0.5**
BGU *e*pP pP 13 54 17.2 -1.3
AHID Auburn Hatcher 36.68 330 *e*P P **13 53 43.3 +0.2**
comp=Z,18nm,0.8s,mb4.7
HVU Hansel Valley 36.82 327 *e*P P **13 53 44.7 +0.4**
HVU *e*pP pP 13 54 21.4 -1.0
REDW Red Top Meadow 37.00 331 *e*P P **13 53 46.7 +0.9**
comp=Z,46nm,0.8s,mb5.2
REDW *e*pP pP 13 54 23.3 -0.7
SNOW Snow King Moun 37.03 331 *e*P P **13 53 46.6 +0.6**
comp=Z,36nm,0.7s,mb5.1
SNOW *e*pP pP 13 54 23.3 -0.9
LOHW Long Hollow 37.07 331 *e*P P **13 53 47.1 +0.7**
comp=Z,11nm,0.7s,mb4.6
LOHW *e*pP pP 13 54 23.7 -0.9
TPAW Teton Pass 37.15 331 *e*P P **13 53 47.7 +0.8**
comp=Z,25nm,0.8s,mb4.9
RRI2 Red Ridge 37.22 330 *e*P P **13 53 48.4 +0.8**
comp=Z,18nm,0.8s,mb4.8
RRI2 *e*pP pP 13 54 25.2 -0.6
MOOW Moose Ponds 37.24 331 *e*P P **13 53 48.2 +0.4**
comp=Z,10.0nm,0.8s,mb4.5
MOOW *e*pP pP 13 54 25.3 -0.7
IMW Indian Meadow 37.45 331 *e*P P **13 53 50.1 +0.6**
comp=Z,9.3nm,0.6s,mb4.6
LKWY Lake 37.71 332 *e*P P **13 53 52.9 +1.3**
comp=Z,8.8nm,1.0s,mb4.3
LAO LASA Array 37.72 338 *e*P P **13 53 51.5 -0.3**
comp=Z,28nm,1.0s,mb4.8
YFT Old Faithful 37.82 332 *e*P P **13 53 54.7 +2.1**
MNV Mina 37.88 318 *e*P P **13 53 54.4 +1.3**
comp=Z,20nm,1.3s,mb4.6
MNV *e*PcP PcP 13 56 06.4 +0.4
YMR Madison River 38.05 332 *e*P P **13 53 55.5 +1.0**
YMR *e*pP pP 13 54 33.2 +0.4
ULM Lac du Bonnet 38.30 351 P P **13 53 55.3 -1.2**
comp=Z,36nm,0.6s,mb5.2,baz=166,slow=8.7,SNR=104
ULM ScP 13 59 35.0
comp=Z,2.4nm,0.7s,baz=141,slow=6.5,SNR=6.1
ULM Lac du Bonnet 38.30 351 *e*P P **13 53 55.0 -1.5**
comp=Z,57nm,0.8s,mb5.3
BMN Battle Mountai 38.47 322 *e*P P **13 53 59.2 +1.1**
comp=Z,32nm,1.3s,mb4.8
HLID Hailey 38.93 328 *e*P P **13 54 02.6 +0.8**
comp=Z,7.1nm,0.8s,mb4.3
LVC Limon Verde 39.15 153 *e*P P **13 54 05.9 +2.1**
comp=Z,57nm,1.2s,mb5.1
HRY Holter Researc 40.00 333 *e*P P **13 54 10.9 +0.3**
WVOR Wild Horse Val 40.53 323 *e*P P **13 54 15.4 +0.4**
comp=Z,18nm,0.8s,mb4.8
MSO Missoula 41.05 332 *e*P P **13 54 19.1 0.0**
comp=Z,19nm,1.5s,mb4.5
MSO *e*pP pP 13 54 59.2 +1.4
BMO Blue Mountains 41.34 327 *e*P P **13 54 21.0 -0.5**
comp=Z,12nm,0.9s,mb4.5
BMO *e*pP pP 13 55 00.4 +0.2
BMO *e*sP sP 13 55 20.3 -0.8
HAWA Hanford 43.52 327 *e*P P **13 54 38.8 -0.5**
comp=Z,1.1nm,0.8s
NEW Newport 43.58 331 *e*P P **13 54 38.5 -1.1**
comp=Z,2.4nm,0.5s,mb4.1
GBL Gable Mountain 43.62 327 P P **13 54 40.4 +0.4**
FFC Flin Flon 43.71 347 P P **13 54 40.0 -0.6**
comp=Z,396nm,0.7s,SNR=50
OD2 Odessa Site #2 43.76 329 P P **13 54 42.2 +1.1**
MXC Moxie City 44.05 327 P P **13 54 44.6 +1.2**
WTV Waterville 44.59 328 P P **13 54 48.4 +0.7**
WPW White Pass 44.80 326 P P **13 54 50.4 +1.0**
SCHQ Schefferville 45.03 16 P P **13 54 50.7 -0.5**
comp=Z,34nm,0.9s,mb5.0,baz=214,slow=6.6,SNR=54
SCHQ Schefferville 45.03 16 *e*P P **13 54 50.5 -0.7**
comp=Z,68nm,1.0s,mb5.2
EDM Edmonton 45.71 338 *e*P P **13 54 55.7 -0.9**
FCC Fort Churchill 46.44 355 *e*P P **13 55 01.3 -0.8**
comp=Z,42nm,0.8s,mb5.1
BDFB Brasilia 47.60 125 P P **13 55 09.5 -2.3**
comp=Z,2.1nm,0.5s,mb4.0,baz=333,slow=6.8,SNR=3.6
BDFB PcP PcP 13 56 37.9 -1.1
comp=Z,4.4nm,0.9s,baz=281,slow=5.2,SNR=4.2
BDFB LR LR 14 14 06.4
comp=Z,123nm,21.6s,baz=298,slow=34
YKA Yellowknife Ar 53.65 344 P P **13 55 55.5 -1.3**
comp=Z,13nm,0.8s,mb4.7,baz=140,slow=7.4,SNR=313
YKA pP pP 13 56 34.2 -3.0
comp=Z,3.4nm,0.7s,baz=143,slow=7.2,SNR=3.5
YKA PcP PcP 13 56 59.9 -0.8
comp=Z,2.4nm,0.7s,baz=145,slow=5.6,SNR=6.7
YKA ScP 14 00 41.2
comp=Z,0.9nm,0.6s,baz=142,slow=4.4,SNR=9.7
YKA Yellowknife Ar 53.65 344 P P **13 55 55.5 -1.3**
YKA pP pP 13 56 34.2 -3.0
YKA PcP PcP 13 56 59.9 -0.8
YKA ScP 14 00 41.2
YKW3 Yellowknife Ar 53.71 345 *e*P P **13 55 55.6 -1.5**
YKW3 *e*pP pP 13 56 33.6 -4.1
PLCA Paso Flores 55.14 165 P P **13 56 08.3 +0.5**
comp=Z,21nm,0.8s,mb4.9,baz=332,slow=8.5,SNR=37
PLCA PcP PcP 13 57 07.0 +0.2
comp=Z,12nm,0.9s,baz=334,slow=3.5,SNR=8.5
PLCA Paso Flores 55.14 165 *e*P P **13 56 07.6 -0.2**
comp=Z,32nm,1.0s,mb5.0
PLCA *e* 13 57 06.1
TRQA Tornquist 55.50 156 *e*P P **13 56 09.0 -1.5**
comp=Z,100nm,1.5s,mb5.4
DLBC Dease Lake 56.04 334 *e*P P **13 56 14.0 -0.1**
RKT Rikitea 58.91 233 *e*S S **14 04 21.7 -2.9**
RKT *e*LR LR 14 14 03.5
comp=Z,157nm,40.5s
RES Resolute Bay 62.28 358 *e*P P **13 56 54.9 -1.9**
comp=Z,4.8nm,0.7s,mb4.4
DAWY Dawson 62.91 337 *e*P P **13 56 59.0 -1.9**
INK Inuvik 63.27 342 *e*P P **13 57 01.8 -1.5**
comp=Z,21nm,1.1s,mb4.9
SML Sawmill 65.68 333 *e*P P **13 57 17.5 -1.4**
SUMG Summit 66.36 14 *e*P P **13 57 21.5 -1.6**
comp=Z,12nm,1.0s,mb4.7
SUMG *e*pP pP 13 58 02.0 -3.3
COLA College 66.56 336 *e*P P **13 57 22.8 -1.7**
MCK McKinley 66.60 335 *e*P P **13 57 23.1 -1.6**
comp=Z,8.3nm,1.1s,mb4.5
PPT Papeete 68.72 245 *e*S S 14 06 25.0 -0.8
PPT *e*LR LR 14 18 16.0
comp=Z,100nm,26.0s
PPT Papeete 68.72 245 LR LR 14 22 34.9
comp=Z,87nm,19.2s,baz=85,slow=31
TBI Tubuai 70.82 240 *e*S S 14 06 48.7 -1.4
TBI *e*LR LR 14 19 25.8
comp=Z,59nm,26.8s
EVO Evora 73.66 53 *e*P P **13 58 06.6 -1.2**
comp=Z,20nm,1.0s,mb4.5
EVO *e*R
comp=Z,81nm,23.0s
ESDC Sonseca Array 76.71 52 P P **13 58 23.7 -1.3**
comp=Z,2.3nm,0.6s,mb4.0,baz=287,slow=5.6,SNR=12
ESDC pP pP 13 59 06.3 -2.0
comp=Z,0.4nm,0.3s,baz=283,slow=5.3,SNR=2.0
GRR Gorron 78.12 43 *e*P P **13 58 30.6 -2.0**
comp=Z,52nm,1.3s,mb4.7
FLN La Foliniere 78.34 42 *e*P P **13 58 31.9 -1.8**
comp=Z,25nm,1.2s,mb4.4
FLN *e*R
comp=Z,78nm,18.2s
SJPF Ste Jean 78.41 48 *e*P P **13 58 33.1 -1.2**
comp=Z,26nm,1.1s,mb4.5
LDF La Druitiere 78.59 43 *e*P P **13 58 33.3 -1.8**
comp=Z,22nm,1.0s,mb4.5
MFF Saint Martin d 78.79 45 *e*P P **13 58 34.5 -1.7**
comp=Z,17nm,0.9s,mb4.3
ETSF Etsaut 78.92 48 *e*P P **13 58 36.0 -1.0**
EPF Esparros 79.56 48 *e*P P **13 58 39.2 -1.3**
comp=Z,47nm,1.6s,mb4.6
LFF La Frestale 79.61 46 *e*P P **13 58 39.0 -1.6**
TCF Toulx Ste Croi 80.45 45 *e*P P **13 58 43.4 -1.7**
comp=Z,27nm,1.3s,mb4.4
CAF Calviac 80.54 46 *e*P P **13 58 43.9 -1.7**
BGF Bois d'Agland 80.84 44 *e*P P **13 58 45.2 -2.0**
comp=Z,15nm,0.8s,mb4.4
DBIC Dimbokro 80.85 85 P P **13 58 45.6 -2.3**
comp=Z,3.1nm,0.8s,mb4.0,baz=271,slow=6.3,SNR=5.2
MTLF Montolieu 80.88 48 *e*P P **13 58 45.5 -2.0**
comp=Z,39nm,1.4s,mb4.5
BAIF Baives 81.21 41 *e*P P **13 58 47.1 -1.9**
SSF Saint Saulge 81.22 44 *e*P P **13 58 46.9 -2.2**
comp=Z,9.1nm,1.1s,mb4.0
SMF Signal de Mont 81.51 44 *e*P P **13 58 48.7 -2.0**
comp=Z,6.1nm,0.9s,mb3.9
MEZF Maizieres J'vi 82.01 42 *e*P P **13 58 50.9 -2.3**
HAU Haudompre 82.95 42 *e*P P **13 58 55.6 -2.4**
HAU *e*R
comp=Z,67nm,22.8s
NB2 NORSAR Subarra 83.02 29 P P **13 58 56.6 -1.5**
comp=Z,0.7nm,0.8s,baz=283,slow=5.0
NOA NORSAR Array B 83.02 29 P P **13 58 57.2 -0.9**
comp=Z,2.1nm,1.0s,mb3.8,baz=285,slow=5.0,SNR=6.7
NOA pP pP 13 59 39.8 -2.3
comp=Z,1.2nm,0.8s,baz=285,slow=5.0,SNR=2.5
NOA PKKPbc 14 17 18.8
comp=Z,1.4nm,0.8s,baz=91,slow=3.8,SNR=4.5
HINF Hinteralfeld 83.32 43 *e*P P **13 58 58.1 -1.8**
CDF Champ du Feu 83.48 42 *e*P P **13 58 58.8 -1.9**
comp=Z,8.6nm,1.1s,mb4.1
FRF La Foret Royal 84.02 47 *e*P P **13 59 02.4 -1.1**
comp=Z,48nm,1.2s,mb4.8
BILL Bilbino 84.62 339 *e*P P **13 59 05.7 -0.3**
comp=Z,28nm,1.4s,mb4.8
BILL *e*pP pP 13 59 49.4 -0.6
MOX Moxa 85.74 39 *e*P P **13 59 10.0 -1.9**
MOX pP tx 13 59 28.0
CLL Collm 86.41 38⇓ *i*P P **13 59 14.1 -1.0**
comp=Z,7.0nm,1.0s,mb4.3
CLL *i* 13 59 30.7
CLL Collm 86.41 38 ⇓P P **13 59 14.1 -1.0**
comp=Z,logA/T=0.8,mb4.3
CLL *i* 13 59 30.7
CLL *e**PP pP 13 59 57.0 -2.4
BRG Berggiesshubel 87.10 39 P P **13 59 18.4 0.0**
comp=Z,5.5nm,1.2s,mb4.3
BRG *e* 13 59 34.3
KHC Kasperske Hory 87.36 40 *e*P P **13 59 19.0 -0.7**
KHC *e* 13 59 35.5
KHC *e* pP 14 00 00.0 -4.1
KHC Kasperske Hory 87.36 40 *e*P P **13 59 19.0 -0.7**
KHC x x 13 59 35.5
KHC pP pP 14 00 00.0 -4.1
GERES GERESS Array B 87.52 41 P P **13 59 19.8 -0.6**
comp=Z,1.0nm,0.7s,mb3.8,baz=270,slow=2.7,SNR=9.8
GERES pP pP 14 00 01.1 -3.8
comp=Z,0.9nm,0.8s,baz=270,slow=4.0,SNR=3.3
GERES PP PP 14 02 51.9 +1.8
comp=Z,0.1nm,0.3s,baz=297,slow=3.0,SNR=3.8
GERES PKKPbc 14 17 08.4
comp=Z,0.5nm,0.7s,baz=270,slow=1.3,SNR=6.1
GERES LR LR 14 34 14.5
comp=Z,50nm,19.1s,baz=258,slow=33
FINES FINESS Array B 89.65 26 PKKPbc 14 17 02.9
comp=Z,1.3nm,0.8s,baz=90,slow=5.7,SNR=5.6
AKASG Malin Array Be 96.13 35 PKKPbc 14 16 47.2
comp=Z,0.2nm,0.2s,baz=117,slow=1.8,SNR=4.1
VNA3 Neumayer Olymp 97.73 161⇑ *i*P P **14 00 07.6 +0.5**
VNA3 *e* pP 14 00 57.1 +5.3
VNA3 *e* 14 01 19.1
VNA1 Neumayer--Stat 98.02 161⇑ *i*P P **14 00 07.8 -0.6**
VNA2 Neumayer--Watz 98.37 161⇑ *i*P P **14 00 10.2 +0.3**
VNA2 *e* pP 14 00 58.0 +3.3
VNA2 *e* 14 01 19.3
SNAA Sanae 99.96 161 P P **14 00 18.3 +1.1**
comp=Z,1.3nm,0.9s,mb4.3,baz=232,slow=4.4,SNR=4.2
BRTR Keskin Array B 104.20 43 PKKPbc 14 16 25.8
comp=Z,0.5nm,0.5s,baz=135,slow=7.0,SNR=4.4
BOSA Boshof 115.26 116 PKP PKPdf 14 05 13.3 +0.8
comp=Z,3.9nm,0.8s,baz=223,slow=2.5,SNR=5.7
BOSA PKKPbc 14 15 51.2
comp=Z,2.8nm,0.8s,baz=207,slow=2.3,SNR=4.3
BOSA Boshof 115.26 116 PKP PKPdf 14 05 13.3 +0.8
BOSA PKKPbc 14 15 51.2
CN2 Changchun 116.63 334 *e*PKP PKPdf 14 05 12.0 -2.8
SONM Songino Array 118.73 350 PKP PKPdf 14 05 19.3 +0.6
comp=Z,0.2nm,0.4s,baz=2.5,slow=2.1,SNR=4.1
SONM PKKPbc 14 15 34.3
comp=Z,2.3nm,0.8s,baz=182,slow=3.8,SNR=19
MKAR Makanchi Array 120.14 9 SKP 14 08 41.8
comp=Z,0.3nm,0.5s,baz=312,slow=2.7,SNR=6.7
MKAR PKKPbc 14 15 29.8
comp=Z,0.5nm,0.9s,baz=108,slow=7.7,SNR=4.3
CNB Canberra Magne 124.58 236 *e*PKP PKPdf 14 05 33.6 +3.1
comp=Z,231nm,0.9s
TOO Toolangi 127.19 232 *e*PKP PKPdf 14 05 38.4 +3.0
comp=Z,1.0nm,0.7s
CTA Charters Tower 128.60 254 *e*PKP PKPdf 14 05 41.3 +2.7
comp=Z,13nm,0.9s
CTA *e*SKP 14 08 47.2
CTA Charters Tower 128.60 254 PKP PKPdf 14 05 41.7 +3.1
comp=Z,17nm,0.8s,baz=96,slow=1.7,SNR=12
CTA SKPbc 14 08 47.0
comp=Z,10nm,1.0s,baz=118,slow=0.3,SNR=4.6
CTAO Charters Tower 128.60 254 *e*PKPdf PKPdf 14 05 41.1 +2.6
NJ2 Nanjing 129.25 332 *e*PKP PKPdf 14 05 36.3 -3.2
NJ2 PKS PKS 14 09 13.0 -1.7
NJ2 PP PP
comp=Z,140nm,4.2s
NJ2 LR LR
comp=N,1μm,21.8s
NJ2 LR LR
comp=E,380nm,17.7s
NJ2 LR LR
comp=Z,160nm,18.9s
LZH Lanzhou 130.57 349 *e*PKP PKPdf 14 05 40.5 -1.4
STKA Stephens Creek 131.59 238 *e*PKP PKPdf 14 05 46.4 +2.4
comp=Z,9.3nm,0.6s
STKA *e*SKP 14 08 56.5
STKA Stephens Creek 131.59 238 PKP PKPdf 14 05 46.1 +2.2
comp=Z,12nm,0.6s,baz=87,slow=3.5,SNR=31
STKA SKPbc 14 08 57.0
comp=Z,3.7nm,0.9s,baz=63,slow=3.8,SNR=4.2
ENH Enshi 134.59 340 *e*PKPdf PKPdf 14 05 50.4 +0.8
GYA Guiyang 139.04 341 PKP PKPdf 14 06 01.3 +3.4
GYA XPKP 14 07 01.8
GYA PP PP 14 08 57.5 +1.7
GYA PP PP
comp=Z,840nm,7.2s
WB2 Warramunga Arr 139.79 254 *i* PKP PKPdf 14 06 02.2 +2.8
WB2 *e*SKP 14 09 21.9
WRAB Tennant Creek 139.79 254 *e*PKPdf PKPdf 14 06 02.1 +2.7
WRAB *e*SKPdf 14 09 20.4
ASAR Alice Springs 139.79 248 PKhKP 14 05 51.4
comp=Z,3.4nm,0.7s,baz=108,slow=3.1,SNR=18
ASAR PKP PKPdf 14 06 02.0 +2.8
comp=Z,27nm,0.7s,baz=98,slow=1.8,SNR=109
ASAR SKPbc 14 09 21.9
comp=Z,4.4nm,0.8s,baz=98,slow=3.1,SNR=13
ASPA Alice Springs 139.80 248 *e*PKP PKPdf 14 06 01.8 +2.5
ASPA *e*SKP 14 09 21.9
ASPA Alice Springs 139.80 248 *e*PKP PKPdf 14 05 56.1 -3.2
ASPA *e*PKP PKPdf 14 06 01.8 +2.5
ASPA *e*SKP 14 09 21.9
WRA Warramunga Arr 139.80 254 PKhKP 14 05 54.0
comp=Z,3.3nm,0.8s,baz=93,slow=3.0,SNR=30
WRA PKP PKPdf 14 06 02.0 +2.7
comp=Z,39nm,0.7s,baz=91,slow=2.2,SNR=178
WRA SKPbc 14 09 21.2
comp=Z,3.3nm,0.7s,baz=89,slow=3.2,SNR=21
KMI Kunming 141.39 346 PKP PKPdf 14 06 02.5 +0.4
KAKA Kakadu 141.63 265 *e*PKP PKPdf 14 06 01.0 -1.8
comp=Z,30nm,1.3s
KAKA *i* SKP 14 09 27.6
FORT Forrest 143.00 235 *e*PKP PKPdf 14 06 04.2 -0.5
comp=Z,1μm,0.7s
NANT Nan 147.96 346 ⇑P PKPdf 14 06 19.0 +5.6
comp=Z,125nm,0.9s
FITZ Fitzroy Crossi 148.16 256 *i* PKP PKPdf 14 06 16.3 +2.5
comp=Z,89nm,0.9s
FITZ Fitzroy Crossi 148.16 256 PKP PKPdf 14 06 16.4 +2.7
comp=Z,114nm,0.8s,baz=166,slow=1.8,SNR=26
FITZ PKPbc PKPdf 14 06 20.3 +6.5
comp=Z,114nm,0.8s,baz=134,slow=1.1,SNR=64
CHG Chiang Mai 148.30 349 P PKPdf 14 06 18.2 +4.2
NWAO Narrogin (SRO) 150.02 224 PKP PKPdf 14 06 18.7 +2.4
comp=Z,22nm,0.9s,baz=142,slow=2.7,SNR=12
NWAO PKPbc PKPdf 14 06 24.1 +7.8
comp=Z,124nm,0.9s,baz=133,slow=3.1,SNR=48
NWAO Narrogin (SRO) 150.02 224 *e*PKPdf PKPdf 14 06 18.4 +2.1
NWAO *e*PKPbc PKPdf 14 06 23.8 +7.5
KLBR Kellerberrin 150.43 226 *e*PKP PKPdf 14 06 19.2 +2.2
comp=Z,128nm,0.8s
KLBR Kellerberrin 150.43 226 *e*PKP PKPdf 14 06 25.1 +8.1
KLBR Kellerberrin 150.43 226 *e*PKP PKPdf 14 06 19.2 +2.2
KLBR *e*PKP PKPdf 14 06 25.1 +8.1
MUN Mundaring 151.28 224 *i* PKP PKPdf 14 06 20.8 +2.6
comp=Z,19nm,0.7s
MUN Mundaring 151.28 224 *i* PKP PKPdf 14 06 27.1 +8.9
MUN Mundaring 151.28 224 *i* PKP PKPdf 14 06 20.8 +2.6
MUN *i* PKP PKPdf 14 06 27.1 +8.9
MBWA Marble Bar 153.14 248 *e*PKPdf PKPdf 14 06 23.2 +2.0
MBWA *e*PKPbc PKPdf 14 06 30.8 +10

*IDC **28** 14:35:44.5±4.4,3.29S×149.93E,mb4.0/4,mb1 4.2/4, mb1mx3.9/1,mbtmp4.0/4,MS3.5/6,Ms1 3.5/6, ms1mx3.3/16,Error ellipse: s-maj=121.7km s-min=34.8km az=102.0*
*NEIC **28** 14:35:52.9±2.2,3.20S×148.93E,h25km,mb4.5/3,Error ellipse: s-maj=58.7km s-min=19.3km az=103.0*
ISC 28 14:35:52.8±2.6,3.2S±0.2×148.8E±0.4,h33km,n13, σ0s67/10,mb4.0/5,MS3.4/4,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.41**	**195**	LR	LR	14 40 05.4	
	comp=Z,370nm,18.9s,baz=4.5,slow=39						
GUMO	**Guam**	**17.11**	**347**	LR	LR	14 45 12.1	
	comp=Z,76nm,19.0s,baz=76,slow=32						
KAKA	**Kakadu**	**18.78**	**239**	*e*P	P	**14 40 11.6**	**-0.5**
	8.3nm,0.7s						
WRAB	**Tennant Creek**	**21.85**	**219**	*e*P	P	**14 40 44.3**	**-0.2**
	24nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**21.85**	**219**	*e*P	P	**14 40 44.5**	**0.0**
WRA	**Warramunga Arr**	**21.86**	**219**	P	P	**14 40 44.7**	**+0.1**
	4.3nm,0.9s,mb3.9,baz=45,slow=10,SNR=26						
ASAR	**Alice Springs**	**24.97**	**214**	P	P	**14 41 14.5**	**-0.6**
	2.6nm,1.0s,mb3.7,baz=47,slow=7.6,SNR=17						
ASAR				LR	LR	14 50 11.8	
	comp=Z,57nm,19.6s,MS3.1,baz=47,slow=34						
ASAR	**Alice Springs**	**24.97**	**214**	P	P	**14 41 14.5**	**-0.6**
ASAR				LR	LR	14 50 11.8	
ASPA	**Alice Springs**	**24.97**	**214**	*e*P	P	**14 41 15.4**	**+0.3**
DZM	**Mont Dzumac**	**25.40**	**139**	LR	LR	14 49 35.3	
	comp=Z,196nm,18.0s,MS3.7,baz=331,slow=34						
FITZ	**Fitzroy Crossi**	**27.14**	**235**	*e*P	P	**14 41 39.2**	**+3.9**
	10nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**27.14**	**235**	P	P	**14 41 37.9**	**+2.6**
	14nm,0.8s,mb4.5,baz=70,slow=4.5,SNR=11						
FITZ				LR	LR	14 53 06.0	
	comp=Z,85nm,20.7s,MS3.3,baz=277,slow=37						
MKAR	**Makanchi Array**	**76.52**	**320**	P	P	**14 47 41.3**	**-0.1**
	0.2nm,0.8s,mb3.1,baz=108,slow=3.8,SNR=3.7						
MKAR				LR	LR	15 22 01.8	
	comp=Z,28nm,18.0s,MS3.6,baz=243,slow=36						

*KRSC **28** 14:44:58.8±1.0,55.10N×162.34E,h19km±2km,ML4.1*
*MOS **28** 14:44:59.1±1.0,55.03N×162.53E,h37km,mb4.0/1,Error*

ellipse: s-maj=20.1km s-min=11.3km az=76.6
*IDC **28** 14:45:05.5±5.2,54.83N×163.04E,h77km±53km,mb3.2/4, mb1 3.4/5,mb1mx3.2/19,mbtmp3.6/5,ML3.5/1,Error ellipse: s-maj=33.5km s-min=31.4km az=171.0*
ISC 28 14:44:59.6±0.5,55.07N±0.02×162.44E±0.05,h36km±9km, n41,σ0§94/72,mb3.4/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.16**	**11**	P		**P**	**14 45 19.3**	**-0.2**
KBTR				S		**S**	**14 45 34.9**	**+0.5**
KBTR	**Krutoberegovo**	**1.16**	**11**	*i* P		**P**	**14 45 19.4**	**-0.1**
KBTR				*e*S		**S**	**14 45 34.9**	**+0.5**
KBG	**Krutoberegovo**	**1.19**	**7**	*e*P		**P**	**14 45 20.8**	**+0.8**
KBG				*e*S		**S**	**14 45 36.8**	**+1.5**
KBG				Smax				
	1µm,0.7s							
ZLN	**Zelenaya**	**1.32**	**316**	*e*P		**P**	**14 45 22.5**	**+0.5**
ZLN				*e*S		**S**	**14 45 39.7**	**+1.0**
TUMR	**Tumrok**	**1.33**	**280**	*e*P		**P**	**14 45 22.0**	**-0.1**
TUMR				*e*S		**S**	**14 45 39.3**	**+0.5**
KMNR	**Kamenistaya**	**1.43**	**299**	*e*P		**P**	**14 45 23.3**	**-0.2**
KMNR				*e*S		**S**	**14 45 41.6**	**+0.3**
KPT	**Kopyto**	**1.55**	**306**	*e*P		**P**	**14 45 25.3**	**+0.2**
KPT				*e*S		**S**	**14 45 44.8**	**+0.6**
KRSR	**Krestovskiy**	**1.56**	**318**	*e*P		**P**	**14 45 25.2**	**-0.2**
KLY	**Klyuchi**	**1.60**	**322**	*e*P		**P**	**14 45 24.6**	**-1.3**
KLY				*e*S		**S**	**14 45 43.7**	**-1.9**
KOZR	**Kozyr**	**1.75**	**306**	PN		**S**	**14 45 27.6**	**-0.5**
KOZR				S		**S**	**14 45 48.1**	**-1.3**
KOZ	**Kozyrevsk**	**1.76**	**305**	P		**S**	**14 45 27.6**	**-0.6**
KOZ				S		**S**	**14 45 48.1**	**-1.5**
KOZ	**Kozyrevsk**	**1.76**	**305**	*e*P		**S**	**14 45 27.8**	**-0.4**
KOZ				*e*S		**S**	**14 45 49.5**	**-0.1**
SRDR	**Sredinnyy**	**1.98**	**310**	*e*P		**S**	**14 45 31.3**	**-0.1**
SRDR				*e*S		**S**	**14 45 55.5**	**+0.3**
KII	**Karymskiy**	**2.03**	**240**	P		**S**	**14 45 32.3**	**+0.3**
KII				S		**S**	**14 45 56.9**	**+0.5**
KII	**Karymskiy**	**2.03**	**240**	*e*P		**S**	**14 45 32.2**	**+0.2**
KII				*e*S		**S**	**14 45 56.9**	**+0.5**
BKI	**Bering**	**2.03**	**85**	*i* P		**P**	**14 45 33.0**	**+0.9**
BKI				*i* S		**S**	**14 45 55.7**	**-0.8**
ESO	**Esso**	**2.29**	**293**	*i* P		**P**	**14 45 34.9**	**-0.9**
ESO				*i* S		**S**	**14 46 01.3**	**-1.8**
ESO				Smax				
	120nm,1.2s							
SPN	**Mys Shipunski**	**2.44**	**217**	P		**P**	**14 45 36.3**	**-1.6**
SPN				S		**S**	**14 46 03.6**	**-3.2**
SPN	**Mys Shipunski**	**2.44**	**217**	*e*P		**P**	**14 45 37.7**	**-0.2**
SPN				*e*S		**S**	**14 46 06.2**	**-0.6**
NLC	**Nalytchevo**	**2.64**	**225**	P		**P**	**14 45 39.9**	**-0.8**
NLC				S		**S**	**14 46 10.0**	**-1.8**
NLC	**Nalytchevo**	**2.64**	**225**	*e*P		**P**	**14 45 40.3**	**-0.4**
NLC				*e*S		**S**	**14 46 11.1**	**-0.7**
UGLR	**Uglovaya**	**2.83**	**230**	*e*P		**P**	**14 45 43.8**	**+0.3**
AVH	**Avacha**	**2.83**	**232**	*e*P		**P**	**14 45 44.0**	**+0.5**
AVH				*e*S		**S**	**14 46 17.3**	**+0.5**
KOK	**Koryaka**	**2.86**	**233**	*e*P		**P**	**14 45 44.6**	**+0.7**
GNL	**Ganaly**	**2.97**	**244**	*e*P		**P**	**14 45 45.8**	**+0.3**
GNL				*e*S		**S**	**14 46 20.6**	**+0.3**
PET	**Petropavlovsk**	**3.03**	**229**	P		**P**	**14 45 46.6**	**+0.2**
PET				S		**S**	**14 46 20.8**	**-1.1**
PET	**Petropavlovsk**	**3.03**	**229**	*e*PN		**P**	**14 45 46.7**	**+0.3**
PET				*i* S		**S**	**14 46 22.2**	**+0.3**
PET				pmax	pmax			
	comp=Z,38nm,0.6s							
PET				smax				
	comp=N,129nm,0.6s							
PET				smax				
	comp=E,189nm,0.5s							
PET				MLR	MLR			
	comp=Z,100nm,17.0s							
PET	**Petropavlovsk**	**3.03**	**229**	*e*P		**P**	**14 45 46.4**	**0.0**
PET				*e*S		**S**	**14 46 21.6**	**-0.3**
KRMR	**Karymshinskiy**	**3.40**	**230**	*e*P		**P**	**14 45 52.5**	**+1.0**
KRMR				*e*S		**S**	**14 46 32.2**	**+1.0**
RUS	**Russkaya**	**3.53**	**223**	P		**P**	**14 45 52.6**	**-0.8**
RUS				S		**S**	**14 46 31.7**	**-2.7**
RUS	**Russkaya**	**3.53**	**223**	*e*P		**P**	**14 45 52.8**	**-0.6**
RUS				*e*S		**S**	**14 46 32.8**	**-1.6**
GRL	**Gorelyy**	**3.62**	**227**	*e*P		**P**	**14 45 55.6**	**+0.9**
GRL				*e*S		**S**	**14 46 37.5**	**+0.8**
APC	**Apacha**	**3.79**	**238**	*e*P		**P**	**14 45 58.4**	**+1.3**
APC				*e*S		**S**	**14 46 42.3**	**+1.2**
APC				Smax				
	comp=Z,30nm,1.2s							
OSSR	**Ossora**	**4.20**	**4**	S		**S**	**14 46 47.5**	**-4.0**
FX1	**Attu Island--F**	**6.70**	**105**	P		**P**	**14 46 36.1**	**-2.0**
	comp=Z,3.4nm,0.3s,baz=252,slow=23,SNR=6.3							
FX1				S		**S**	**14 47 46.2**	**-7.9**
	comp=Z,8.4nm,0.3s,baz=92,slow=19,SNR=10.0							
KAMR	**Kamenskoye**	**7.66**	**13**	*e*P		**P**	**14 46 52.4**	**+0.9**
YKA	**Yellowknife Ar**	**40.77**	**45**	P		**P**	**14 52 38.3**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.2,baz=300,slow=8.0,SNR=7.3							
MKAR	**Makanchi Array**	**48.55**	**295**	P		**P**	**14 53 43.9**	**+3.1**
	comp=Z,0.1nm,0.4s,mb3.2,baz=63,slow=3.2,SNR=2.6							
FINES	**FINESS Array B**	**58.84**	**337**	P		**P**	**14 54 57.0**	**+0.7**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.9s							
FINES	**FINESS Array B**	**58.84**	**337**	P		**P**	**14 54 57.0**	**+0.7**
	comp=Z,0.9nm,0.9s,mb3.8,baz=39,slow=8.9,SNR=3.7							
ASAR	**Alice Springs**	**82.14**	**206**	P		**P**	**14 57 17.1**	**-0.8**
	comp=Z,0.2nm,0.7s,mb3.2,baz=17,slow=4.7,SNR=4.5							

*IDC **28** 15:20:51.3±3.9,2.00N×97.11E,mb3.5/4,mb1 3.6/4, mb1mx3.5/16,mbtmp3.5/4,Error ellipse: s-maj=154.2km s-min=23.8km az=60.0*
*NEIC **28** 15:20:56.0±1.1,2.03N×97.20E,h30km,mb3.9/1,Error ellipse: s-maj=26.2km s-min=14.0km az=72.0*
ISC 28 15:20:54.1±1.5,2.0N±0.1×97.2E±0.2,h30km,n6,σ0§34/6, mb3.4/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.73**	**47**	*e*Pn		**Pn**	**15 22 05.3**	**0.0**
WRA	**Warramunga Arr**	**42.49**	**123**	P		**P**	**15 28 48.7**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=301,slow=9.0,SNR=19							
WRAB	**Tennant Creek**	**42.50**	**123**	*e*P		**P**	**15 28 48.5**	**-0.3**
	1.1nm,0.4s,mb3.8							
ASAR	**Alice Springs**	**43.91**	**128**	P		**P**	**15 29 00.6**	**+0.3**
	0.3nm,0.6s,mb3.2,baz=294,slow=7.7,SNR=6.8							
SONM	**Songino Array**	**46.30**	**9**	P		**P**	**15 29 19.3**	**+0.3**
	0.2nm,0.6s,mb3.2,baz=180,slow=5.8,SNR=3.2							
MKAR	**Makanchi Array**	**46.43**	**346**	P		**P**	**15 29 19.8**	**-0.2**
	0.2nm,0.5s,mb3.3,baz=149,slow=7.1,SNR=5.3							

*THR **28** 15:33:20.3±0.3,29.06N×52.88E,h18km±19km,ML3.6*
*CSEM **28** 15:33:20.1±0.1,33.45N×57.11E,h10km,ML3.5,Error ellipse: s-maj=2.8km s-min=1.6km az=134.0*
*TEH **28** 15:33:22.2,33.42N×57.16E,h10km,Mn3.5*
ISC 28 15:33:21.1±0.6,33.51N±0.05×57.04E±0.06,h10km,n22, σ0§57/26,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**2.28**	**213**	Pn		**Pn**	**15 33 59.4**	**0.0**
ICHK	**Chekchek**	**2.55**	**241**	Pn		**Pn**	**15 34 03.7**	**+0.5**
IMEH	**Mehriz**	**2.94**	**225**	Pn		**Pn**	**15 34 09.0**	**+0.1**
ISAD	**Sadrabad**	**3.24**	**242**	Pn		**Pn**	**15 34 13.5**	**+0.4**
IPAY	**Payeh**	**3.35**	**28**	Pn		**Pn**	**15 34 14.3**	**-0.3**
MHI	**Mashhad**	**3.44**	**35**	Pn		**Pn**	**15 34 16.3**	**+0.4**
KRBR	**Kerman**	**3.52**	**184**	*e*PN		**Pn**	**15 34 16.3**	**-0.8**
KRBR				*e*SG		**Sg**	**15 35 09.6**	**-8.8**
KRBR				AML	AML		15 35 14.7	
	comp=N,177nm,0.4s							
KRBR	**Kerman**	**3.52**	**184**	*e*Pn		**Pn**	**15 34 16.3**	**-0.8**
	SNR=52							
KRBR				*e*Sg		**Sg**	**15 35 09.6**	**-8.8**
	comp=N,177nm,0.4s,SNR=91							
ISFR	**Esferayen**	**3.62**	**12**	Pn		**Pn**	**15 34 19.0**	**+0.6**
NASN	**Na'in**	**3.62**	**260**	*e*PN		**Pn**	**15 34 19.3**	**+0.8**
NASN				*e*SG		**Sg**	**15 35 16.3**	**-5.4**
NASN				AML	AML		15 35 22.2	
	comp=N,60nm,0.3s							
NASN	**Na'in**	**3.62**	**260**	*e*Pn		**Pn**	**15 34 19.3**	**+0.8**
	SNR=52							
NASN				*e*Sg		**Sg**	**15 35 16.3**	**-5.3**
	comp=N,60nm,0.3s,SNR=91							
IMYA	**Miamay**	**3.79**	**41**	Pn		**Pn**	**15 34 20.3**	**-0.5**
ISHV	**Shirvan**	**4.05**	**7**	Pn		**Pn**	**15 34 24.6**	**0.0**
IFIR	**Firoozkooh**	**4.13**	**302**	Pn		**Pn**	**15 34 26.3**	**+0.6**
IFIR				Sn		**Sn**	**15 35 14.4**	**-0.2**
IDMV	**Damavand**	**4.62**	**298**	Pn		**Pn**	**15 34 33.3**	**+0.6**
IVRN	**Varamin**	**4.64**	**290**	Pn		**Pn**	**15 34 32.5**	**-0.5**
IQOM	**Qom**	**5.12**	**287**	Pn		**Pn**	**15 34 39.8**	**0.0**
IQOM	**Qom**	**5.12**	**287**	Lg			15 36 05.9	
IMHD	**Mahdasht**	**5.69**	**294**	Pn		**Pn**	**15 34 47.7**	**0.0**
IMHD	**Mahdasht**	**5.69**	**294**	Lg			15 36 23.5	
ASAO	**Ashtian**	**5.92**	**282**	*e*PN		**Pn**	**15 34 50.5**	**-0.5**
IRAZ	**Razeghan**	**6.17**	**290**	Pn		**Pn**	**15 34 54.2**	**-0.4**
IRAZ				Sn		**Sn**	**15 36 02.5**	**-3.5**

IDC 28 15:36:39.3±7.5,1.15N×123.94E,h239km±78km,mb3.0/5, mb1 3.2/6,mb1mx3.1/16,mbtmp3.6/6,1C,Error ellipse: s-maj=89.9km s-min=16.8km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.16**	**149**	*e*P		P	15 39 50.9	-24
	8.0nm,1.5s							
KAKA				*e*S			15 41 00.0	
FITZ	**Fitzroy Crossi**	**19.21**	**175**	P		P	15 40 45.6	-1.7
	0.2nm,0.3s,baz=358,slow=12,SNR=4.4							
WRA	**Warramunga Arr**	**23.32**	**155**	P		P	15 41 26.1	-1.4
	1.2nm,0.3s,baz=336,slow=9.9,SNR=37							
WB2	**Warramunga Arr**	**23.32**	**155**	⇑*i*P		P	15 41 26.1	-1.5
ASAR	**Alice Springs**	**26.51**	**159**	P		P	15 41 55.2	-1.8
	0.3nm,0.6s,baz=339,slow=9.8,SNR=5.7							
ASAR				PcP		PcP	15 45 12.9	-2.5
	0.2nm,0.8s,baz=353,slow=2.3,SNR=4.0							
STKA	**Stephens Creek**	**36.87**	**155**	P		P	15 43 25.4	-1.4
	0.3nm,0.7s,baz=319,slow=11,SNR=4.0							
SONM	**Songino Array**	**48.92**	**344**	P		P	15 45 01.6	-1.5
	0.3nm,0.4s,baz=158,slow=7.7,SNR=4.4							
MKAR	**Makanchi Array**	**58.14**	**327**	P		P	15 46 08.0	-2.1
	0.2nm,0.4s,baz=122,slow=8.2,SNR=11							

*JMA **28** 15:37:49.8±0.3,23.93N×121.95E,h81km,M2.6*
TAP 28 15:37:49.4,23.84N×121.87E,h32km,ML3.2,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.21**	**59**	P		Pn	15 38 10.5	+0.2
YOJ				S		Sn	15 38 25.6	-0.2
IRIF	**Iriomote-Funau**	**1.77**	**73**	P		Pn	15 38 17.9	-0.4
IRIF				S		Sn	15 38 39.4	-0.5
HATJ	**Hateruma jima**	**1.78**	**83**	P		Pn	15 38 18.0	-0.5
HATJ				*e*S		Sn	15 38 39.6	-0.7
JKRS	**Kuro-shima**	**2.00**	**78**	P		Pn	15 38 21.5	0.0
JKRS				*e*S		Sn	15 38 45.9	+0.3
JIJ	**Ishigaki jima**	**2.14**	**75**	P		Pn	15 38 22.7	-0.9
JIJ				S		Sn	15 38 47.3	-2.1
JTJ	**Tarama**	**2.71**	**72**	P		Pn	15 38 30.6	-1.1
JTJ				*e*S		Sn	15 39 01.9	-1.8

IDC 28 15:45:54.8±31.0,16.58S×177.29W,mb4.2/4,mb1 4.4/4, mb1mx3.9/13,mbtmp4.2/4,MS3.2/1,Ms1 3.2/1, ms1mx2.6/24,1D,Error ellipse: s-maj=594.9km s-min=138.1km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.74**	**259**	LR		LR	16 04 27.9	
	comp=Z,40nm,21.6s,baz=240,slow=32							
STKA	**Stephens Creek**	**40.21**	**240**	*e*P		P	15 53 34.2	-0.6
	3.2nm,0.9s							
STKA	**Stephens Creek**	**40.21**	**240**	P		P	15 53 33.7	-1.2
	3.2nm,0.7s,baz=89,slow=10.0,SNR=8.5							
WRA	**Warramunga Arr**	**45.94**	**258**	P		P	15 54 19.5	-2.0
	0.7nm,0.6s,baz=95,slow=7.6,SNR=29							
ASAR	**Alice Springs**	**46.19**	**253**	P		P	15 54 21.6	-1.8
	8.9nm,0.6s,baz=89,slow=7.9,SNR=380							
ASPA	**Alice Springs**	**46.19**	**253**	⇓*i*P		P	15 54 21.5	-2.0
FITZ	**Fitzroy Crossi**	**54.31**	**259**	P		P	15 55 23.2	-2.3
	0.7nm,0.3s,baz=120,slow=4.1,SNR=5.7							

*IDC **28** 16:04:28.3±5.2,6.41S×130.00E,h80km±52km,mb3.7/6, mb1 3.9/10,mb1mx3.8/16,mbtmp4.2/10,ML4.0/4,Error ellipse: s-maj=28.8km s-min=23.1km az=70.0*
*NEIC **28** 16:04:32.4±1.8,6.43S×130.16E,h117km±19km,mb4.2/6, Error ellipse: s-maj=14.4km s-min=11.2km az=49.0*
ISC 28 16:04:31.3±1.6,6.47S±0.06×130.27E±0.07,h130km±17km, n22,σ1§17/30,mb3.7/5,1C,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.56**	**161**	⇑*i*P		**P**	**16 06 08.0**	**+1.5**
	12nm,0.2s							
KAKA				*e*S		**S**	**16 07 18.4**	**-2.0**
FITZ	**Fitzroy Crossi**	**12.41**	**201**	*e*P		**P**	**16 07 23.1**	**-1.4**
	7.2nm,0.3s							
FITZ				*e*S		**S**	**16 09 32.6**	**-7.7**
FITZ	**Fitzroy Crossi**	**12.41**	**201**	P		**P**	**16 07 22.7**	**-1.8**
	1.9nm,0.3s,baz=22,slow=9.8,SNR=49							
FITZ				S		**S**	**16 09 32.3**	**-8.0**
	6.4nm,0.3s,baz=71,slow=5.9,SNR=9.3							
WRAB	**Tennant Creek**	**13.96**	**164**	*e*Pn		**P**	**16 07 44.6**	**+0.2**
	7.0nm,0.3s							
WRA	**Warramunga Arr**	**13.96**	**164**	P		**P**	**16 07 43.0**	**-1.6**
	0.7nm,0.3s,baz=346,slow=13,SNR=41							
WRA				S		**S**	**16 10 10.1**	**-6.5**
	2.9nm,0.3s,baz=343,slow=23,SNR=11							
WB2	**Warramunga Arr**	**13.96**	**164**	*e*P		**P**	**16 07 43.8**	**-0.8**
WB2				*e*S		**S**	**16 10 10.4**	**-6.2**
PMG	**Port Moresby**	**16.98**	**101**	P		**P**	**16 08 24.5**	**+2.1**
	1.4nm,0.3s,baz=300,slow=16,SNR=7.8							
PMG				S		**S**	**16 11 23.6**	**-1.6**
	0.5nm,0.3s,baz=190,slow=19,SNR=5.3							
PMG	**Port Moresby**	**16.98**	**101**	*e*P		**P**	**16 08 24.8**	**+2.4**
PMG				S		**S**	**16 11 23.6**	**-1.6**
ASAR	**Alice Springs**	**17.45**	**169**	P		**P**	**16 08 29.6**	**+1.5**
	0.4nm,0.3s,baz=352,slow=10,SNR=48							
ASAR				S		**S**	**16 11 35.5**	**-0.4**
	0.9nm,0.3s,baz=357,slow=27,SNR=5.2							
ASPA	**Alice Springs**	**17.45**	**169**	*e*P		**P**	**16 08 29.8**	**+1.7**
ASPA				*e*S		**S**	**16 11 35.8**	**-0.1**
MBWA	**Marble Bar**	**17.82**	**214**	*e*P		**P**	**16 08 33.2**	**+0.8**
	5.9nm,0.6s							
KKM	**Kota Kinabalu**	**18.75**	**311**	*e*P		**P**	**16 08 42.2**	**-0.5**
CTA	**Charters Tower**	**20.59**	**133**	P		**P**	**16 09 03.5**	**+1.7**
	4.5nm,0.6s,baz=310,slow=12,SNR=6.6							
CTAO	**Charters Tower**	**20.59**	**133**	*e*P		**P**	**16 09 03.3**	**+1.5**
	4.3nm,0.6s							
STKA	**Stephens Creek**	**27.40**	**159**	*e*P		**P**	**16 10 07.3**	**+0.6**
	1.3nm,0.8s,mb3.6							
STKA	**Stephens Creek**	**27.40**	**159**	P		**P**	**16 10 07.3**	**+0.6**
	0.6nm,0.3s,mb3.7,baz=335,slow=14,SNR=9.2							
KLBR	**Kellerberrin**	**27.60**	**204**	*e*P		**P**	**16 10 09.0**	**+0.5**
	156nm,1.5s							
NWAO	**Narrogin (SRO)**	**28.98**	**203**	P		**P**	**16 10 21.1**	**+0.2**
	3.1nm,0.8s,mb4.1,baz=40,slow=13,SNR=6.4							
SONM	**Songino Array**	**58.03**	**341**	P		**P**	**16 14 12.1**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=160,slow=6.3,SNR=7.7							
MKAR	**Makanchi Array**	**67.93**	**327**	P		**P**	**16 15 17.7**	**-0.4**
	1.9nm,0.4s,mb4.2,baz=114,slow=8.0,SNR=50							
BVAR	**Borovoye Array**	**77.76**	**328**	P		**P**	**16 16 14.8**	**-0.7**
	0.2nm,0.4s,mb3.1,baz=122,slow=6.6,SNR=3.3							
USTO	**Oran**	**126.41**	**310**	P		PKPdf	16 23 21.0	+1.7

*DJA **28** 16:09:29.4±0.4,1.78N×96.75E,h2km,Error ellipse: s-maj=17.8km s-min=6.8km az=60.0*
*IDC **28** 16:09:31.9±0.3,2.03N×97.04E,mb5.6/28,mb1 5.6/28, mb1mx5.6/28,mbtmp5.6/28,MS8.2/23,Ms1 8.2/23, ms1mx7.9/33,Error ellipse: s-maj=15.1km s-min=7.7km az=44.0*
*BJI **28** 16:09:34.7,2.03N×97.05E,h34km,mB7.5,mb6.2,Ms8.6, Ms2.8.4*
*MOS **28** 16:09:35.4±0.8,2.13N×97.13E,h33km,mb7.3/64, MS8.2/50,Error ellipse: s-maj=8.1km s-min=3.7km az=126.4 Broadband fault plane solution: P waves. $M_0$9.1×10^{20} NP1:φ§325°,δ7°,λ100°. NP2:φ§135°,δ84°, λ89°. Principal axes: T Plg51°, Azm44°; N Plg1°, Azm135°; P Plg39°, Azm226°;*
*NEIC **28** 16:09:36.5±0.1,2.09N×97.11E,h30km,mb7.2/161,ME8.3, MS8.4/140,MW8.1,MW7.9(MOS) Error ellipse: s-maj=4.3km s-min=2.6km az=37.0,Moment Tension Solution. s17 Moment tensor: Scale 10^{21}Nm; M_{rr}0.26; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$-0.07; $M_{r\theta}$1.12; $M_{r\phi}$-0.20; $M_{\theta\phi}$-1.04; Best double couple: $M_0$1.5×10^{21} NP1:φ§251°,δ4°,λ29°. NP2: φ§132°,δ88°,λ93°. Principal axes: T 1.7, Plg47°, Azm45°; N -.33, Plg3°, Azm312°; P -1.37, Plg43°, Azm219°; Energy computed from BB mechanism.*
NEIC At least 1,000 people killed, 300 injured and 300 buildings destroyed on Nias; 100 people killed, many injured and several buildings damaged on Simeulue; 200 people killed in Kepulauan Banyak; 3 people killed, 40 injured and some damage in the Meulaboh area, Sumatra. A 3 meter tsunami damaged the port and airport on Simeulue. Tsunami runup heights as high as 2 meters were observed on the west coast of Nias and 1 meter at Singkil and Meulaboh, Sumatra. Felt [VIII] at Gunungsitoli and [VII] at Telukdalem, Nias. Felt [VI] at Banda Aceh and [V] at Medan, Padang and Palembang; [IV] at Jambi; [III] at Bengkulu. At least 10 people were killed during evacuation of the coast of Sri Lanka. Felt [IV] along the west coast of Malaysia; [IV] at Bangkok and [III] at Phuket, Thailand; [III] in Singapore; [III] at Male, Maldives. The quake was also felt in the Andaman and Nicobar Islands, India and in Sri Lanka. Tsunami wave heights [peak-to-trough] recorded from selected tide stations: about 40 cm on Panjang, Indonesia; about 25 cm at Colombo, Sri Lanka; 40 cm on Hanimadu, 18 cm at Male and 10 cm at Gan, Maldives. Initial observations indicate about 1 meter of subsidence on the coast of Kepulauan Banyak as well as 1 meter of uplift on the coast of Simeulue. Seiches were observed on ponds in West Bengal, India.
*HRVD **28** 16:09:36.5±0.1,1.67N×97.07E,h26km,MW8.6/87, Centroid moment Tensor Solution.Mantle waves: s87,c239; Half duration: 49±4 Moment tensor: Scale 10^{22} Nm; M_{rr}0.27±.00; $M_{\theta\theta}$-0.11±.00; $M_{\phi\phi}$-0.15±.00; $M_{r\theta}$0.84±.02; $M_{r\phi}$0.15±.00; $M_{\theta r}$-0.57±.02; Best double couple: $M_0$1.05×10^{22} NP1:φ§333°,δ8°,λ118°. NP2:φ§125°, δ83°,λ86°. Principal axes: T 1.05, Plg52°, Azm30°; N -.002, Plg4°, Azm125°; P -1.049, Plg38°, Azm218°; nsta1 refers to body waves. nsta2 refers to mantle waves, cutoff=200s.*
*BGS **28** 16:09:42.4,2.09N×97.11E,h33km,MS7.9*
*ORF **28** 16:10:08.6,6.82N×93.00E,h30km,mb7.0*
ISC 28 16:09:35.3±0.1,2.10N±0.02×97.11E±0.02,h30km, h30km±1.1km:pP-P,n1477,σ1§16/1166,mb7.0/200, MS8.4/190,125C-47D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.01**	**46**	*e*P		**Pn**	**16 10 12.0**	**+4.1**
BSI	**Banda Aceh**	**3.83**	**332**	*e*P		**Pn**	**16 10 33.0**	**-0.8**
PPI	**Padang Panjang**	**4.15**	**128**	*e*P		**Pn**	**16 10 42.0**	**+3.7**
IPM	**Ipoh**	**4.62**	**58**	P		**Pn**	**16 10 48.4**	**+3.4**
KULM	**Kulim**	**4.75**	**48**	*e*P		**Pn**	**16 10 48.9**	**+2.1**
SNG	**Songkhla**	**6.14**	**35**	P		**Pn**	**16 11 07.0**	**+0.6**
	2µm,1.0s							
KGM	**Kluang**	**6.20**	**91**	P		**Pn**	**16 11 09.5**	**+2.2**
PBA	**Port Blair**	**10.44**	**336**	*e*		**P**	**16 12 02.8**	**-3.5**
PBA				⇑*i*			16 12 04.8	
PBA				*e*			16 14 10.2	
NNT	**Nongplab**	**10.74**	**14**	P		**P**	**16 12 11.0**	**+0.6**
PENI	**Pendagan**	**11.08**	**133**	*e*P		**P**	**16 12 12.3**	**-2.7**
PASI	**Pasiripis**	**12.15**	**136**	*e*P		**P**	**16 12 22.9**	**-6.7**
PULI	**Pulasari**	**12.19**	**134**	*e*P		**P**	**16 12 29.3**	**-0.8**
KSM	**Kuching**	**13.20**	**92**	*e*P		**P**	**16 12 45.4**	**+1.8**
NST	**Nakhon Sawan**	**13.81**	**12**	PG		**P**	**16 12 54.5**	**+2.8**
NST				SG		**S**	**16 15 09.5**	**-15**
UBT	**Ubonrachathani**	**15.21**	**30**	P		**P**	**16 13 15.5**	**+5.5**
	993nm,0.3s							
CM31	**Chiang Mai Arr**	**16.36**	**6**	*e*P		**P**	**16 13 24.3**	**-0.3**
	7µm,0.9s							
CHG	**Chiang Mai**	**16.71**	**6**	⇑P		**P**	**16 13 28.7**	**-0.4**
	150nm,1.0s							
CHG				S		Sx	16 17 50.2	
PALK	**Pallekele**	**17.14**	**288**	*e*P		**P**	**16 13 32.8**	**-1.7**
	6µm,1.1s							
CHRT	**Chiangrai**	**17.86**	**8**	⇑P		**P**	**16 13 43.0**	**-0.4**
	3µm,0.6s							
KKM	**Kota Kinabalu**	**19.45**	**78**	*e*P		**P**	**16 14 03.0**	**+0.3**
KKM	**Kota Kinabalu**	**19.45**	**78**	P		**P**	**16 14 05.2**	**+2.5**
MDRS	**Chennai**	**19.94**	**304**	*e*P		**P**	**16 14 09.4**	**+1.4**
MDRS				*e*			16 14 15.4	
MDRS				*e*S		**S**	**16 17 50.0**	**+4.9**
MDRS				*e*			16 22 01.1	
	comp=Z,13300µm,19.0s							
VIS	**Vishakhapatnam**	**20.60**	**320**	⇑*i*P		**P**	**16 14 14.9**	**+0.2**
VIS				*i*			16 14 26.6	
VIS				*e*			16 14 51.9	
	comp=Z,18µm,1.2s							
VIS				*e*S		**S**	**16 18 00.8**	**+2.3**
VIS				AMS	AMS		16 22 57.7	
	comp=Z,7990µm,21.2s,MS8.1							
TSM	**Tawau**	**20.84**	**83**	P		**P**	**16 14 17.8**	**+0.5**
QIZ	**Qiongzhong**	**20.94**	**36**	P		**P**	**16 14 18.0**	**-0.3**
QIZ				AP			16 14 25.8	
QIZ				PP	PP		16 14 42.8	+1.7
QIZ				S

MNGI eS **S** **16 19 16.4 +6.4**
BLSP Bilaspur 24.67 325⇑ *i*P **P** **16 14 55.2 0.0**
BLSP *e* 16 15 36.5
comp=Z,11µm,1.5s
BLSP eS **S** **16 19 13.5 +1.6**
BLSP *i* 16 25 27.9
comp=Z,8515µm,21.8s
SHBG Sahibganj 24.73 339 *e* **P** **16 15 00.0 +4.4**
BUSP Coron 24.91 66 *e*P **P** **16 14 58.1 +0.7**
CUYO Cuyo Island 25.27 69 *e*P **P** **16 15 01.6 +0.7**
LUBP Lubang 25.63 62 *e*P **P** **16 15 04.3 +0.1**
SLGI Shiliguri 25.85 342 *e* **P** **16 15 07.8 +1.6**
NGP Nagpur 25.86 318 *e* **P** **16 15 20.8 +14**
NGP *e* 16 20 12.8
LATR Latur 25.87 310 *e*P **P** **16 15 08.0 +1.6**
LATR *e* 16 20 46.5
GYA Guiyang 25.90 20⇑ *i*P **P** **16 15 06.0 -0.7**
GYA AP pP 16 15 15.8 +0.4
GYA PP PP 16 15 49.5 +1.8
GYA S **S** **16 19 36.0 +3.6**
GYA XS 16 19 51.5
GYA AMB AMB
comp=Z,911µm,8.2s
GYA LR LR
comp=N,7566µm,20.3s,MS8.3
GYA LR LR
comp=E,4174µm,19.1s,MS8.3
GYA LR LR
comp=Z,9832µm,18.6s,MS8.4
SJMP San Jose 25.91 65 *e*P **P** **16 15 07.3 +0.5**
IPIL Ipil 25.98 77 *e*P **P** **16 15 08.5 +1.0**
HKC Hong Kong 26.04 38⇑ *i*P **P** **16 15 07.5 -0.5**
SCZP Santa Cruz 26.26 57 *e*P **P** **16 15 10.1 +0.1**
DGAR Diego Garcia 26.36 249 *e*P **P** **16 15 07.7 -3.3**
comp=Z,17µm,1.5s,mb7.3
DGAR LR LR
comp=Z,865µm,22.0s
GTK Gangtok 26.38 343 *e* **P** **16 15 14.0 +2.9**
GOA Goa 26.54 301 *e*P **P** **16 15 14.5 +1.9**
GOA *e* 16 20 00.4
BOLP Bolinao 26.55 56 *e*P **P** **16 15 13.0 +0.2**
GUIM Jordan 26.68 70 *e*P **P** **16 15 14.5 +0.6**
OTRP Odiongan 26.70 66 *e*P **P** **16 15 14.5 +0.4**
PAGZ Pagadian 26.77 77 *e*P **P** **16 15 15.8 +0.9**
DCPH Dipolog City 26.89 75⇑ *e*P **P** **16 15 16.9 +0.9**
BOAC Boac 26.94 64 *e*P **P** **16 15 15.7 -0.6**
SNPH Sibulan 26.95 73 *e*P **P** **16 15 17.5 +1.0**
RCP Roxas 27.10 69⇑ *e*P **P** **16 15 18.8 +1.0**
BCPH Baguio City Da 27.11 57⇓ *i*P **P** **16 15 17.7 -0.2**
KAD Karad 27.13 305 *e*P **P** **16 15 19.4 +1.4**
KAD AMb AMB 16 16 05.3
comp=Z,6µm,1.9s,mb6.8
KAD *e* 16 20 17.1
KAD *e* 16 26 16.4
comp=Z,11000µm,19.4s
PCPH Palayan 27.16 59⇓ *e*P **P** **16 15 17.2 -1.1**
JIRN Jiri 27.48 339 *e*P **P** **16 15 19.9 -1.3**
comp=Z,23µm,1.0s,mb7.6
POLP Polillo Island 27.53 62 *e*P **P** **16 15 21.4 -0.3**
TBP Tagbilaran 27.64 73 *i* P **P** **16 15 22.9 +0.2**
AUQP San Andres 27.64 65 *e*P **P** **16 15 23.6 +0.9**
GQP Guinayangan 27.65 64⇓ *e*P **P** **16 15 22.1 -0.6**
BALP Baler 27.66 59 *e*P **P** **16 15 22.6 -0.2**
PKI Pulchoki 27.70 337 *e*P **P** **16 15 22.1 -1.0**
comp=Z,63µm,1.9s,mb7.9
DMN Daman 27.85 337 *e*P **P** **16 15 23.6 -0.9**
comp=Z,15µm,1.0s,mb7.6
ABRA Dolores 27.85 55 *e*P **P** **16 15 24.3 -0.3**
LLP Lapu-Lapu 27.89 72⇑ *e*P **P** **16 15 25.4 +0.4**
KKN Kakani 27.94 337 *e*P **P** **16 15 24.3 -1.0**
comp=Z,14µm,0.9s,mb7.6
KKN Kakani 27.94 337 *e*P **P** **16 15 24.3 -1.0**
KKN pmax pmax
comp=Z,7µm,0.9s,mb7.3
LSA Lhasa 28.03 349 P **P** **16 15 26.0 -0.1**
LSA AP pP 16 15 37.3 +2.4
LSA XP sP 16 15 42.5 +3.7
LSA LR LR
comp=N,15000µm,24.5s,MS8.5
LSA LR LR
comp=E,6000µm,26.1s,MS8.5
LSA LR LR
comp=Z,8000µm,26.1s,MS8.2
LSA Lhasa 28.03 349 *e*P **P** **16 15 25.9 -0.2**
LSA pmax pmax
comp=Z,8µm,1.1s,mb7.2
LSA Lhasa 28.03 349 *e*P **P** **16 15 25.9 -0.2**
comp=Z,8µm,1.1s,mb7.2
POO Poona 28.05 307 *e*P **P** **16 15 28.9 +2.5**
POO *e* 16 20 27.9
POO *e* 16 27 05.2
comp=Z,12600µm,18.8s
VLK Valmikinagar 28.11 334 *i* P **P** **16 15 28.0 +1.2**
VLK *i* 16 16 09.0
CGP Cagayan de Oro 28.17 76⇓ *e*P **P** **16 15 28.0 +0.5**
MMPH Masbate 28.17 67 *e*P pP 16 15 39.0 +2.7
KCP Kidapawan 28.30 79⇓ *e*P **P** **16 15 32.1 +3.4**
GKN Gorkha 28.39 336 *e*P **P** **16 15 28.8 -0.5**
comp=Z,38µm,1.2s,mb7.9
BHPL Bhopal 28.39 319⇑ *i*P **P** **16 15 29.4 0.0**
BHPL *i* pP 16 15 37.7 -0.5
comp=Z,5124µm,16.9s
BHPL *e* 16 16 16.6
comp=Z,8µm,1.7s
BHPL eS **S** **16 20 12.4 -0.6**
BHPL AMS AMS 16 30 43.7
comp=Z,5267µm,21.6s,MS8.1
APYP Conner 28.40 55 *e*P **P** **16 15 29.4 -0.1**
BUKP Musuan 28.42 77 *e*P **P** **16 15 30.5 +0.8**
CAUP Cauayan 28.42 57 *e*P **P** **16 15 29.1 -0.7**
KOLN Koldanda 28.61 334 *e*P **P** **16 15 31.3 -0.1**
comp=Z,23µm,1.1s,mb7.8
MSLP Maasin 28.70 73 *e*P **P** **16 15 32.0 -0.2**
CVP Callao Caves 28.79 56⇓ *e*P **P** **16 15 31.5 -1.5**
DAV Davao City (W) 28.79 79⇓ *e*P **P** **16 15 35.2 +2.1**
PALP Palanan 28.99 58 *e*P **P** **16 15 35.9 +1.1**
BOM Bombay 29.07 307 *e*P **P** **16 15 38.6 +3.0**
BOM *e* 16 15 40.4
PVCP Virac 29.08 65 *e*P **P** **16 15 34.6 -1.0**
PLP Palo 29.08 71 *e*P **P** **16 15 38.2 +2.5**
BUTP Butuan 29.17 75 *e*P **P** **16 15 36.4 -0.1**
CNP Catarman 29.18 68 *e*P **P** **16 15 36.8 +0.2**
SCPH Surigao 29.22 74 *e*P **P** **16 15 36.0 -0.9**
SCPH eS Sx 16 15 58.3
SCPH Surigao 29.22 74⇑ *e*P **P** **16 15 38.2 +1.2**
SGCP Mt. Cagua 29.25 55 *e*P pP 16 15 49.9 +4.0
CD2 Chengdu 29.34 12⇑ *i*P **P** **16 15 36.3 -1.6**
CD2 S **S** **16 20 18.0 -10**
CD2 AMB AMB
comp=Z,950nm,0.9s,mb6.5
CD2 LR LR
comp=N,13136µm,16.8s
CD2 LR LR
comp=Z,8751µm,21.6s,MS8.3
MATI Mati 29.44 80 *e*P **P** **16 15 37.6 -1.4**
BESP Borongan 29.63 70 *e*P **P** **16 15 40.1 -0.6**
BIPH Bislig 29.74 77⇑ *e*P **P** **16 15 47.8 +6.1**
BBP Basco 30.34 51 *e*P **P** **16 15 46.1 -0.8**
ENH Enshi 30.38 22 *e*P **P** **16 15 45.1 -2.0**
comp=Z,1.1nm,1.9s
ENH LR LR
comp=Z,3721µm,21.0s
QZH Quanzhou 30.75 41⇑ *i*P **P** **16 15 50.5 +0.1**
QZH XP sP 16 16 03.8 +0.7
QZH LR LR
comp=N,7987µm,14.7s
QZH LR LR
comp=Z,10000µm,20.9s
AGRA Agra 31.02 325 *e*P **P** **16 15 52.9 +0.2**
LGTI Lohaghat 31.58 331 *e*P **P** **16 15 58.0 +0.3**
LGTI *e* 16 18 17.5
PTH Pithoragarh 31.68 331 *e*P **P** **16 15 58.5 -0.1**
PTH *e* 16 21 40.2
MBWA Marble Bar 32.01 137 *e*P **P** **16 16 01.1 -0.4**
comp=Z,3µm,1.3s,mb7.0
MBWA LR LR
comp=Z,3287µm,20.0s,MS8.0
NACB Ninganchiao 32.28 45 *e*P **P** **16 16 03.6 -0.2**
SONA Sohna 32.28 326 *e*P **P** **16 16 03.2 -0.7**
SONA *e* 16 16 42.8
comp=Z,5µm,1.0s
AYAN Aya Nagar 32.44 326 *e*P **P** **16 16 03.8 -1.3**
YHNB Yeheng 32.44 44 *e*P **P** **16 16 05.2 0.0**

AJM Ajmer 32.45 320 *e*P **P** **16 16 05.7 +0.4**
AJM *e* 16 16 52.6
comp=Z,12µm,1.5s
AJM eS **S** **16 21 15.9 -1.1**
AJM *e* 16 33 20.9
comp=Z,4713µm,17.6s
NDI New Delhi 32.54 326 *e*P **P** **16 16 05.1 -1.0**
NDI eS **S** **16 21 18.4 0.0**
WHN Wuhan 32.67 28 ⇓P **P** **16 16 08.0 +0.8**
WHN LR LR
comp=Z,10000µm,15.3s
TATO Taipei 32.71 44 P **P** **16 16 08.1 +0.5**
TATO Taipei 32.71 44 *e*P **P** **16 16 08.0 +0.4**
comp=Z,3µm,1.2s,mb7.1
TATO LR LR
comp=Z,2934µm,19.0s,MS8.0
DDI Dehra Dun 33.38 329 *e*P **P** **16 16 12.4 -1.0**
DDI *e* 16 21 54.0
XAN Xi'an 33.64 18 P **P** **16 16 13.8 -1.8**
XAN AMB AMB
comp=Z,380nm,0.8s,mb6.4
XAN LR LR
comp=N,2180µm,20.0s,MS8.0
XAN LR LR
comp=E,1620µm,18.8s,MS8.0
XAN LR LR
comp=Z,3260µm,16.3s,MS8.1
KKR Kurukshetra 33.75 327 *e* **P** **16 16 16.9 +0.3**
BHJ Bhuj 33.92 311 *e*P **P** **16 16 19.6 +1.4**
BHJ *i* 16 16 26.1
BHJ AMb AMB 16 17 05.2
comp=Z,4µm,1.6s,mb7.1
BHJ *e* 16 21 51.8
BHJ *e* 16 21 54.9
BHJ AMS AMS 16 30 13.8
comp=Z,7012µm,19.4s,MS8.4
KLP Kalpa 34.27 331 *e*P **P** **16 16 21.6 +0.6**
LZH Lanzhou 34.39 10⇑⇑P **P** **16 16 21.5 -0.6**
LZH AP pP 16 16 30.3 -0.7
LZH XP sP 16 16 33.5 -1.3
LZH PP PP 16 17 38.5 +0.6
LZH S **S** **16 21 48.0 +1.1**
LZH XS 16 22 02.0
LZH SCP 16 22 37.5
LZH PCS 16 22 41.0
LZH SS SS 16 24 00.3 +2.3
LZH SCS ScS 16 26 38.3 -2.1
LZH AMB AMB
comp=Z,4µm,1.5s,mb7.2
LZH AMB AMB
comp=Z,20µm,6.5s
LZH LR LR
comp=E,8314µm,17.7s
LZH LR LR
comp=Z,9999µm,20.8s,MS8.5
SMLA Simla 34.49 329 *i* **P** **16 16 12.8 -10**
SMLA *i* S **S** **16 21 46.6 -1.9**
FITZ Fitzroy Crossi 34.52 127⇑ *i*P **P** **16 16 21.0 -2.4**
comp=Z,405nm,0.9s,mb6.3
FITZ *e*S tx 16 22 14.1
FITZ Fitzroy Crossi 34.52 127 P **P** **16 16 21.3 -2.1**
comp=Z,70nm,0.7s,baz=315,slow=3.7,SNR=39
FITZ LR LR 16 32 53.3
comp=Z,2970µm,19.5s,baz=287,slow=41
SDNR Sundarnagar 34.88 329 *e*P **P** **16 16 26.0 -0.3**
SDNR *e* 16 22 23.0
BHK Bhakra 35.10 328 *e* **P** **16 16 31.8 +3.6**
BHK *e* 16 22 06.4
JASL Jaisalmer 35.23 317 *e*P **P** **16 16 31.1 +1.7**
JASL *e* 16 17 00.2
PONG Pong 35.77 328 *e*P **P** **16 16 34.0 +0.1**
PONG *e* 16 22 32.0
NJ2 Nanjing 36.15 32 *e*P **P** **16 16 37.0 -0.1**
NJ2 AP pP 16 16 46.5 +0.5
NJ2 XP sP 16 16 50.3 +0.5
NJ2 PP PP 16 18 01.5 +1.6
NJ2 S **S** **16 22 16.0 +1.8**
NJ2 XS 16 22 32.0
NJ2 PCS 16 22 48.0
NJ2 AMB AMB
comp=Z,220nm,1.0s,mb6.0
NJ2 AMB AMB
comp=Z,14µm,5.8s
NJ2 LR LR
comp=N,3456µm,20.4s,MS8.8
NJ2 LR LR
comp=E,17689µm,19.4s,MS8.8
NJ2 LR LR
comp=Z,6747µm,21.6s,MS8.4
DLH Dalhousie 36.23 329 *e*P **P** **16 16 39.0 +1.3**
DLH *e* 16 22 32.0
THN Thein Dam 36.27 329 *e* **P** **16 16 36.1 -2.0**
SSE Sheshan 36.74 36 P **P** **16 16 42.5 +0.5**
SSE AP pP 16 16 50.0 -1.0
SSE XP sP 16 16 55.3 +0.5
SSE S **S** **16 22 25.5 +2.3**
SSE XS 16 22 40.8
SSE AMB AMB
comp=Z,159nm,1.1s
SSE AMB AMB
comp=Z,130µm,12.0s
SSE LR LR
comp=N,5477µm,21.2s
SSE LR LR
comp=E,5504µm,21.3s
SSE LR LR
comp=Z,7497µm,22.3s
JMU Jammu 36.92 328 *e* **P** **16 17 00.0 +16**
JMU *e* 16 17 30.5
GTA Gaotai 37.22 3⇑ *i*P **P** **16 16 45.8 -0.2**
GTA AP pP 16 16 55.0 +0.1
GTA XP sP 16 16 59.8 +1.1
GTA AMB AMB
comp=Z,280nm,0.9s,mb6.1
GTA AMB AMB
comp=Z,46µm,7.6s
GTA LR LR
comp=N,2815µm,18.6s
GTA LR LR
comp=E,2243µm,25.1s
GTA LR LR
comp=Z,3507µm,28.1s
KAKA Kakadu 38.03 114⇑ *i*P **P** **16 16 50.9 -2.1**
comp=Z,688nm,0.6s,mb6.6
KAKA *e*S tx 16 23 04.3
TIA Tai'an 38.67 26⇑⇑P **P** **16 16 57.5 -0.7**
TIA AP pP 16 17 02.5 -4.7
TIA AMB AMB
comp=Z,170nm,1.0s
TIA LR LR
comp=N,922µm,16.2s
TIA LR LR
comp=E,1900µm,15.6s
JOW Kunigami 38.70 48 P **P** **16 16 58.8 +0.2**
comp=E,184nm,0.6s,mb6.0,baz=241,slow=8.0,SNR=67
JOW LR LR 16 33 51.1
comp=E,1887µm,21.4s,MS7.9,baz=245,slow=38
KLBR Kellerberrin 38.82 151 *e*P **P** **16 17 00.8 +1.3**
comp=E,4µm,1.1s,mb7.1
NWAO Narrogin (SRO) 39.69 153 P **P** **16 17 06.6 -0.1**
NWAO pmax pmax
comp=Z,38nm,0.8s
NWAO MLR MLR
comp=Z,24µm,22.0s
NWAO Narrogin (SRO) 39.69 153 P **P** **16 17 06.6 -0.1**
comp=Z,38nm,0.8s,baz=326,slow=11,SNR=14
NWAO LR LR 16 32 13.9
comp=Z,24µm,22.0s,baz=333,slow=34
NWAO Narrogin (SRO) 39.69 153 *e*P **P** **16 17 07.7 +1.0**
comp=Z,4µm,1.1s,mb7.0
NWAO LR LR
comp=Z,8354µm,22.0s,MS8.5
BTO Baotou 40.08 15 *e*P **P** **16 17 10.0 +0.2**
BTO AMB AMB
comp=Z,4µm,3.4s
HHC Hu-ho-hao-te 40.73 17 *e*P **P** **16 17 16.5 +1.3**
HHC AP pP 16 17 24.5 +0.3
HHC XP sP 16 17 28.3 +0.4
HHC PP PP 16 18 53.8 +1.6
HHC PCP PcP 16 19 16.5 -0.4
HHC PCS 16 23 04.8
HHC S **S** **16 23 28.0 +4.6**
HHC XS 16 23 44.5
HHC SS SS 16 26 26.0 +6.2

HHC SCS ScS 16 27 16.3 +0.2
HHC AMB AMB
comp=Z,721nm,1.9s,mb6.0
HHC AMB AMB
comp=Z,239µm,8.9s
HHC LR LR
comp=N,7906µm,17.8s,MS8.7
HHC LR LR
comp=E,4045µm,16.0s,MS8.7
HHC LR LR
comp=Z,6270µm,17.2s,MS8.5
BJT Baijiatuau 41.52 22 *e*P **P** **16 17 22.6 +0.8**
comp=Z,12µm,1.0s,mb7.5
BJI Beijing 41.55 22 P **P** **16 17 22.8 +0.9**
BJI AP pP 16 17 31.5 +0.6
BJI XP sP 16 17 35.5 +0.8
BJI AMB AMB
comp=Z,401nm,1.0s,mb6.0
BJI LR LR
comp=N,4582µm,18.8s,MS8.5
BJI LR LR
comp=E,4582µm,18.8s,MS8.5
BJI LR LR
comp=Z,1993µm,19.8s,MS8.0
KSH Kashi 41.92 335⇑ *i*P **P** **16 17 25.5 +0.5**
KSH AP pP 16 17 34.0 0.0
KSH *e*XP sP 16 17 38.3 +0.5
KSH PP PP 16 19 05.8 +0.7
KSH PCP PcP 16 19 23.3 +2.5
KSH PPP PPP 16 19 36.3 -0.6
KSH SCP 16 23 09.0
KSH PCS 16 23 12.5
KSH S **S** **16 23 40.3 -0.9**
KSH XS 16 23 56.5
KSH SS SS 16 26 40.3 -2.6
KSH SCS ScS 16 27 23.0 -0.3
KSH LR LR
comp=N,6057µm,17.2s,MS8.7
KSH LR LR
comp=E,6334µm,17.3s,MS8.7
MSEY Mahe Island 42.14 261 P **P** **16 17 27.4 +0.3**
comp=E,6µm,1.4s,mb7.0,SNR=19
WBK Wadi Bani Khal 42.26 302 P **P** **16 17 28.9 +0.9**
SNR=12
WMQ Urumqi 42.38 350⇑ *i*P **P** **16 17 29.0 +0.3**
WMQ AP pP 16 17 39.0 +1.3
WMQ XP sP 16 17 43.0 +1.5
WMQ PP PP 16 19 11.0 +1.3
WMQ PPP PPP 16 19 44.0 +1.2
WMQ PCS 16 23 14.0
WMQ S **S** **16 23 48.0 +0.2**
WMQ XS 16 24 04.5
WMQ SS SS 16 26 52.0 +0.6
WMQ SCS ScS 16 27 26.0 0.0
WMQ AMB AMB
comp=Z,202µm,8.7s
WMQ LR LR
comp=N,5117µm,21.0s,MS8.7
WMQ LR LR
comp=E,8754µm,22.4s,MS8.7
WMQ LR LR
comp=Z,7428µm,21.0s,MS8.6
WRA Warramunga Arr 42.59 123 P **P** **16 17 29.4 -1.3**
comp=Z,66nm,0.6s,baz=301,slow=9.2,SNR=153
WRA S **S** **16 23 51.5 +0.4**
comp=Z,55nm,1.0s,baz=288,slow=18,SNR=3.2
WRAB Tennant Creek 42.59 123 P **P** **16 17 30.4 -0.3**
comp=Z,5µm,1.3s,mb7.0,SNR=57
WRAB Tennant Creek 42.59 123 *e*P **P** **16 17 29.5 -1.2**
comp=Z,15µm,2.9s,mb7.2
WRAB LR LR
comp=Z,1287µm,21.0s,MS7.8
WB2 Warramunga Arr 42.59 123⇑ *i*P **P** **16 17 29.3 -1.5**
WB2 *e*S tx 16 24 13.8
JMDO Jabal Madar 42.90 301 ⇓P **P** **16 17 34.2 +0.9**
DL2 Dalian 42.93 28⇑ *i*P **P** **16 17 34.0 +0.7**
DL2 AP pP 16 17 45.3 +3.0
DL2 S **S** **16 24 01.8 +5.8**
DL2 AMB AMB
comp=Z,1µm,0.7s,mb6.7
DL2 AMB AMB
comp=Z,108µm,7.9s
DL2 LR LR
comp=E,1777µm,19.0s
DL2 LR LR
comp=Z,2270µm,21.8s,MS8.0
BIDO Bidbid 43.33 303 P **P** **16 17 37.8 +1.1**
SNR=17
MENI Mendum Tagoi 43.53 96 *e*P **P** **16 17 37.4 -1.1**
SHAO Shalim 43.66 294 P **P** **16 17 40.5 +1.1**
SNR=65
YOMI Yo Moklole 43.69 96 *e*P **P** **16 17 38.4 -1.4**
BSY Bisya 43.81 301 P **P** **16 17 41.7 +1.0**
SNR=14
ASPA Alice Springs 44.00 128⇑ *i*P **P** **16 17 40.9 -1.3**
ASPA *e*S 16 24 31.8
ASAR Alice Springs 44.01 128 P **P** **16 17 41.1 -1.1**
comp=Z,31nm,0.8s,baz=301,slow=7.8,SNR=118
ASAR S tx 16 24 32.6
comp=Z,64nm,0.7s,baz=302,slow=14,SNR=3.3
ASAR PKPPKP 16 49 38.4
comp=Z,30nm,1.1s,baz=136,slow=1.9,SNR=5.6
FORT Forrest 44.02 140 *e*P **P** **16 17 42.8 +0.6**
comp=Z,30µm,0.8s
FORT *e*S 16 24 32.5
ULHL Ulahol 44.14 338 P **P** **16 17 43.9 +0.9**
SNR=36
KZA Kyzart 44.38 337 P **P** **16 17 45.6 +0.6**
SNR=98
INCN Inchon 44.45 34 *e*P **P** **16 17 44.5 -1.2**
comp=Z,1µm,0.8s,mb6.6
INCN LR LR
comp=Z,9831µm,22.0s,MS8.7
ARQ Araqi 44.62 302 P **P** **16 17 48.2 +1.0**
SNR=16
AAA Alma-Ata 44.77 339 *i* P **P** **16 17 46.0 -2.1**
RBK Rabkut 44.82 293 P **P** **16 17 49.2 +0.4**
SNR=24
TKM2 Tokmak 2 44.96 338 P **P** **16 17 49.7 +0.1**
SNR=328
KBK Karagaybulak 44.99 337 P **P** **16 17 50.6 +0.8**
SNR=457
KS15 Wonju Array Si 45.14 35 *e*P **P** **16 17 50.8 -0.3**
AAK Ala-Archa 45.15 336 P **P** **16 17 51.1 0.0**
comp=Z,6µm,1.1s,mb7.4
AAK Ala-Archa 45.15 336 *c i*P **P** **16 17 50.7 -0.4**
AAK pmax pmax
comp=Z,2µm,1.2s,mb6.9
AAK MLR MLR
comp=Z,4257µm,17.0s,MS8.4
AAK Ala-Archa 45.15 336 *e*P **P** **16 17 50.5 -0.6**
comp=Z,1µm,1.0s,mb6.6
AAK LR LR
comp=Z,1350µm,22.0s,MS7.8
FRU Bishkek 45.27 337⇑ *i*P **P** **16 17 52.0 -0.1**
FRU *i* 16 19 40.0
FRU *i* S **S** **16 24 34.0 +4.3**
WHFO Wadi Hawf 45.33 293 P **P** **16 17 53.6 +0.8**
SNR=13
CHMS Chumysh 45.35 337 P **P** **16 17 52.8 +0.1**
SNR=90
EKS2 Erkin-Say 45.46 336 P **P** **16 17 54.1 +0.5**
SNR=190
ASHO Ashiyiah 45.52 303 P **P** **16 17 57.5 +3.2**
SNR=33
ABTO Aybut 45.62 292 P **P** **16 17 55.6 +0.5**
SNR=44
USP Osepenovka 45.68 337 P **P** **16 17 54.9 -0.4**
SNR=381
BANOM Banah 45.82 305 P **P** **16 18 05.3 +8.6**
SNR=11
SNY Shenyang 46.15 28⇑ *i*P **P** **16 17 58.5 -0.6**
SNY AP pP 16 18 06.5 -1.6
SNY XP sP 16 18 10.5 -1.3
SNY AMB AMB
comp=Z,240nm,0.9s,mb6.1
SNY LR LR
comp=N,1685µm,14.2s,MS8.5
SNY LR LR
comp=E,3826µm,15.3s,MS8.5
SNY LR LR
comp=Z,3941µm,16.3s,MS8.4
SONM Songino Array 46.26 9 P **P** **16 18 00.0 +0.1**
comp=Z,192nm,1.0s,mb6.0,baz=192,slow=6.9,SNR=727
MKAR Makanchi Array 46.36 346 P **P** **16 18 00.0 -0.6**
comp=Z,96nm,0.6s,baz=162,slow=7.7,SNR=423

MKAR LR LR 16 41 53.0
comp=Z,2321µm,20.3s,MS8.1,baz=161,slow=42
ULN Ulaanbaatar 46.40 9 *e*P **P 16 18 00.7 -0.2**
comp=Z,58µm,2.6s
ULN LR LR
comp=Z,6841µm,21.0s,MS8.6
TAS Tashkent 46.40 331 *i* P **P 16 17 58.0 -3.1**
ZAK Zakamensk 48.39 5⇑ *i*P **P 16 18 16.7 +0.1**
ZAK pmax pmax
comp=Z,2µm,1.8s,mb6.8
CN2 Changchun 48.55 27⇑P **P 16 18 17.0 -0.9**
CN2 *e*XP sP 16 18 30.5 -0.1
CN2 PP PP 16 20 06.5 -3.9
CN2 PPP PPP 16 21 00.5 -2.5
CN2 *e*S **S 16 25 21.5 +5.2**
CN2 SS SS 16 28 42.5 +1.0
CN2 AMB AMB
comp=Z,280nm,0.9s,mb6.3
GUMO Guam 48.56 74 P **P 16 18 17.5 -0.8**
comp=Z,57nm,0.4s,baz=183,slow=18,SNR=4.5
GUMO LR LR 16 38 47.6
comp=Z,2723µm,21.2s,MS8.2,baz=245,slow=36
GUMO Guam 48.56 74 *e*P **P 16 18 16.3 -2.0**
comp=Z,10µm,1.6s,mb7.6
GUMO LR LR
comp=Z,2492µm,21.0s,MS8.2
MOY Mondy 49.50 3 *e*P **P 16 18 25.9 +0.8**
MOY *e* 16 25 28.5
MOY pmax pmax
comp=Z,12µm,2.7s,mb7.5
TLY Talaya 49.71 5 *e*P **P 16 18 26.9 +0.2**
TLY pmax pmax
comp=Z,2µm,0.9s,mb7.1
TLY MLR MLR
comp=Z,1342µm,22.0s,MS7.9
TLY Talaya 49.71 5 *e*P **P 16 18 26.9 +0.2**
comp=Z,2µm,0.9s,mb7.1
TLY LR LR
comp=Z,1342µm,22.0s,MS7.9
CBIJ Chichi jima 49.79 56 LR LR 16 39 41.1
comp=Z,1268µm,19.5s,MS7.9,baz=198,slow=36
SARN Sarigan 49.98 70 *e*P **P 16 18 29.8 +0.6**
IRK Irkutsk 50.33 6 *e*P **P 16 18 32.1 +0.7**
IRK *e*S **S 16 25 45.6 +4.7**
IRK pmax pmax
comp=Z,12µm,2.4s,mb7.5
ASH Ashkhabad 50.34 320⇑ *i*P **P 16 18 30.5 -1.2**
ASH *e*S tx 16 25 54.0
VAN Vannovskaya 50.49 320 P **P 16 18 32.3 -0.5**
HIA Hailar 50.83 19 *e*P **P 16 18 34.5 -0.7**
HIA pmax pmax
comp=Z,5µm,1.2s
HIA Hailar 50.83 19 *e*P **P 16 18 34.5 -0.7**
comp=Z,5µm,1.2s,mb7.4
KURK Kurchatov 50.91 345 *i* P **P 16 18 34.6 -1.2**
KURK pmax pmax
comp=Z,6µm,1.7s,mb7.3
KURK Kurchatov 50.91 345 *e*P **P 16 18 35.0 -0.9**
comp=Z,5µm,0.9s,mb7.4
MAJO Matsushiro 51.09 43 P **P 16 18 36.6 -0.8**
MAJO S tx 16 26 17.8
MAJO Matsushiro 51.09 43 *e*P **P 16 18 36.2 -1.2**
comp=Z,1µm,1.0s,mb6.9
MAJO LR LR
comp=Z,2916µm,22.0s,MS8.3
MAT Matsushiro 51.09 43 *e*P **P 16 18 36.0 -1.4**
MAT *e*S **S 16 26 11.0 +19**
MAT pmax tx
comp=Z,340nm,1.3s
MAT Matsushiro 51.09 43 *e*P **P 16 18 36.0 -1.4**
comp=Z,340nm,1.3s,mb6.1
MAT *e*S tx 16 26 11.0
MAT Matsushiro 51.09 43 P **P 16 18 36.0 -1.4**
MAT S tx 16 26 11.0
MDJ Mudanjiang 51.13 30 P **P 16 18 37.8 +0.2**
MDJ AP pP 16 18 46.0 -0.8
MDJ XP sP 16 18 50.3 -0.1
MDJ PCP PcP 16 19 50.3 -2.8
MDJ PCS 16 23 50.5
MDJ AMB AMB
comp=Z,265nm,1.0s,mb6.1
MDJ AMB AMB
comp=Z,166µm,8.4s
MDJ LR LR
comp=N,2825µm,21.2s,MS8.4
MDJ LR LR
comp=E,2899µm,19.8s,MS8.4
MDJ LR LR
comp=Z,3668µm,22.2s,MS8.3
MDJ Mudanjiang 51.13 30 *e*P **P 16 18 37.6 0.0**
comp=Z,2µm,0.9s,mb7.0
PMG Port Moresby 51.15 104 P **P 16 18 37.4 -0.7**
comp=Z,310nm,0.8s,mb6.3,baz=318,slow=3.5,SNR=109
PMG S **S 16 26 05.8 +13**
comp=Z,53nm,1.0s,baz=279,slow=17,SNR=1.8
PMG Port Moresby 51.15 104 *e*P **P 16 18 37.4 -0.7**
comp=Z,4µm,2.3s,mb6.9
PMG LR LR
comp=Z,5821µm,22.0s,MS8.6
CTA Charters Tower 52.98 117⇑ *i*P **P 16 18 51.1 -0.8**
comp=Z,535nm,0.9s,mb6.5
CTA *e*S tx 16 26 38.7
CTA Charters Tower 52.98 117 P **P 16 18 51.2 -0.7**
CTA S **S 16 26 22.4 +4.7**
CTA pmax pmax
comp=Z,92nm,0.9s
CTA smax
comp=N,71nm,0.9s
CTA MLR MLR
comp=Z,858µm,21.9s
CTA Charters Tower 52.98 117 P **P 16 18 51.2 -0.7**
comp=Z,92nm,0.9s,baz=296,slow=8.8,SNR=86
CTA S **S 16 26 22.4 +4.7**
comp=Z,71nm,0.9s,baz=300,slow=20,SNR=2.1
CTA LR LR 16 44 48.5
comp=Z,3858µm,21.9s,baz=288,slow=40
CTAO Charters Tower 52.98 117 P **P 16 18 51.2 -0.6**
CTAO S tx 16 26 36.4
CTAO Charters Tower 52.98 117 *e*P **P 16 18 51.2 -0.7**
comp=Z,532nm,0.8s,mb6.5
CTAO LR LR
comp=Z,6258µm,22.0s,MS8.6
ADE Adelaide 53.62 137 *e*P **P 16 18 56.3 -0.1**
STKA Stephens Creek 54.02 133⇑ *i*P **P 16 18 58.7 -0.6**
comp=Z,681nm,1.0s,mb6.5
STKA Stephens Creek 54.02 133 P **P 16 18 58.7 -0.6**
comp=Z,74nm,1.1s,baz=302,slow=7.0,SNR=38
STKA S **S 16 26 40.7 +9.0**
comp=Z,150nm,1.2s,baz=7.5,slow=19,SNR=2.1
ATD Arta Tunnel 54.60 283 LR LR 16 38 54.8
comp=Z,2481µm,22.0s,MS8.2,baz=269,slow=32
BVA0 Borovoye Array 55.38 341 *i* P **P 16 19 07.3 -1.7**
BVA0 pmax pmax
comp=Z,740nm,1.0s,mb6.7
BVAR Borovoye Array 55.38 341 P **P 16 19 07.2 -1.8**
comp=Z,66nm,0.6s,baz=145,slow=8.3,SNR=277
BVAR S **S 16 26 60.0 +10**
comp=Z,36nm,0.8s,baz=112,slow=16,SNR=2.4
KLR Kul'dur 55.50 27⇓ *i*P **P 16 19 07.0 -2.9**
KLR *e*S tx 16 27 15.0
CHKZ Chkalovo 55.85 341 *e*P **P 16 19 10.0 -2.4**
BOD Bodaibo 57.15 11 *e*P **P 16 19 21.4 -0.2**
BOD pmax pmax
comp=Z,5µm,1.8s,mb7.2
ASAJ Asahikawa 58.00 37 P **P 16 19 27.8 0.0**
ASAJ pmax pmax
comp=Z,113nm,0.6s
ASAJ MLR MLR
comp=Z,350µm,21.9s
ASAJ Asahikawa 58.00 37 P **P 16 19 27.8 0.0**
comp=Z,113nm,0.6s,mb6.0,baz=255,slow=11,SNR=26
ASAJ LR LR 16 44 28.0
comp=Z,3350µm,21.9s,MS8.4,baz=230,slow=36
BHD Baghdad 58.21 308 *i* P **P 16 19 19.0 -10**
BHD *i* S S 16 26 34.0 -53
CLNS Chul'man 58.92 17 *e*P **P 16 19 34.0 0.0**
CLNS *e* 16 20 22.9
CLNS *e* 16 21 41.4
CLNS *e*S **S 16 27 35.8 -0.4**
CLNS pmax pmax
comp=Z,1µm,0.9s,mb6.9
CLNS pmax pmax
comp=N,570nm,0.7s
CLNS pmax pmax
comp=E,743nm,1.2s
CLNS pmax pmax
comp=N,1µm,0.9s
CLNS pmax pmax
comp=E,1µm,0.9s
CLNS pmax pmax
comp=Z,1µm,0.9s,mb6.9
CLNS MLR MLR
comp=Z,1210µm,22.0s,MS8.0
CLNS MLR MLR
comp=N,1034µm,20.0s,MS8.1
CLNS MLR MLR
comp=E,712µm,17.0s,MS8.1
TOO Toolangi 59.65 137 *e*P **P 16 19 41.1 +1.8**
comp=E,6.3nm,0.9s
TOO *e*S tx 16 28 06.1
YSS Yuzh-Sakhalins 59.66 35α *i*P **P 16 19 38.8 -0.5**
YSS *i* *SP sP 16 19 55.2 +3.2
YSS *i* PPP PPP 16 23 11.0 -7.3
YSS *e*S **S 16 27 46.0 0.0**
YSS *i* *SS 16 28 02.6
YSS pmax pmax
comp=Z,1µm,0.9s,mb6.9
YSS pmax pmax
comp=N,330nm,1.1s
YSS pmax pmax
comp=E,540nm,0.8s
YSS pmax pmax
comp=Z,31µm,7.0s
YSS pmax pmax
comp=N,10µm,5.0s
YSS pmax pmax
comp=E,11µm,5.0s
YSS pmax pmax
comp=N,370nm,1.0s
YSS pmax pmax
comp=Z,2µm,1.0s,mb7.1
YSS pmax pmax
comp=E,350nm,0.8s
YSS MLR MLR
comp=E,3105µm,21.0s,MS8.5
YSS MLR MLR
comp=Z,3226µm,21.0s,MS8.4
YSS MLR MLR
comp=N,1264µm,19.0s,MS8.5
YSS MLR MLR
comp=Z,2035µm,17.0s
YSS MLR MLR
comp=N,1972µm,16.0s
YSS Yuzh-Sakhalins 59.66 35 *e*P **P 16 19 38.3 -0.9**
comp=N,10µm,1.2s,mb7.7
YSS LR LR
comp=Z,4014µm,22.0s,MS8.5
KMBO Kilima Mbogo 59.94 267 P **P 16 19 40.9 -0.7**
KMBO S **S 16 27 58.8 +8.9**
KMBO pmax pmax
comp=Z,24nm,0.9s
KMBO MLR MLR
comp=Z,320µm,21.4s
KMBO Kilima Mbogo 59.94 267 P **P 16 19 40.9 -0.7**
comp=Z,24nm,0.9s,baz=59,slow=8.9,SNR=19
KMBO S **S 16 27 58.8 +8.9**
comp=Z,14nm,1.1s,baz=150,slow=9.8,SNR=1.5
KMBO LR LR 16 41 53.2
comp=Z,5320µm,21.4s,baz=86,slow=32
KMBO Kilima Mbogo 59.94 267 *e*P **P 16 19 40.6 -1.0**
comp=Z,1µm,1.2s,mb6.8
KMBO LR LR
comp=Z,5124µm,21.0s,MS8.6
YUK Yuzh-Kuril'sk 59.97 39⇑ *i*P **P 16 19 41.8 +0.4**
YUK *e*S 16 28 16.0
YUK pmax pmax
comp=E,380nm,0.6s
YUK pmax pmax
comp=Z,510nm,0.6s,mb6.7
YUK pmax pmax
comp=N,290nm,0.5s
YUK pmax pmax
comp=N,107µm,7.5s
YUK pmax pmax
comp=Z,189µm,7.5s
YUK pmax pmax
comp=E,110µm,8.0s
MAK Makhachkala 59.99 320*d* *i*P **P 16 19 40.0 -1.6**
MAK *i* 16 20 28.0
MAK *i* PPP PPP 16 23 25.0 +3.1
MAK *i* S **S 16 27 58.0 +7.7**
MAK *i* PS PS 16 28 07.0 -2.7
MAK *i* 16 29 23.0
MAK pmax pmax
comp=N,2µm,6.0s
MAK pmax pmax
comp=E,4µm,6.0s
MAK pmax pmax
comp=Z,12µm,6.0s
MAK pmax pmax
comp=Z,4µm,1.5s,mb7.2
MAK pmax pmax
comp=N,1µm,1.0s
MAK pmax pmax
comp=E,3µm,1.0s
HKR Hakkari 60.28 313 *e*P **P 16 19 44.6 +1.0**
MSL Mosul 60.28 311 *e*P **P 16 19 41.5 -2.2**
MSL *i* pP pP 16 19 49.5 -3.5
MSL *i* sP sP 16 20 03.0 +6.6
MSL *i* PP PP 16 21 36.0 -23
MSL *e*S S 16 27 22.5 -32
GNI Garni 60.59 316 *e*P **P 16 19 44.6 -1.1**
GNI pmax pmax
comp=Z,4µm,1.1s
GNI MLR MLR
comp=Z,1583µm,22.0s
GNI Garni 60.59 316 *e*P **P 16 19 44.6 -1.1**
comp=Z,4µm,1.1s,mb7.4
GNI LR LR
comp=Z,1583µm,22.0s,MS8.1
DGRG David-gareji 60.72 317 P **P 16 19 45.9 -0.6**
DGRG S tx 16 20 09.8
TVAN Van 60.89 314 *i* P **P 16 19 52.4 +4.7**
VANB Van 60.93 314 P **P 16 19 51.8 +3.8**
TI2 Plekhanov 61.26 317α *i*P **P 16 19 49.0 -1.2**
TI2 pmax pmax
comp=Z,220nm,1.0s,mb6.2
TBLG Delisi 61.27 317 P **P 16 19 49.2 -1.0**
CNB Canberra Magne 61.35 133 *e*P **P 16 19 50.3 -0.6**
comp=Z,6µm,1.6s,mb7.5
CNB *e*S tx 16 28 38.6
DUS Dusheti 61.45 318 P **P 16 19 53.8 +2.4**
DUS S tx 16 20 10.6
SVE Sverdlovsk 61.83 338⇓ *i*P **P 16 19 52.9 -1.0**
SVE pmax pmax
comp=N,12µm,11.0s
SVE pmax pmax
comp=E,6µm,11.0s
SVE pmax pmax
comp=Z,16µm,11.0s
RIV Riverview 62.08 130 *e*P **P 16 19 56.6 +0.7**
RIV *e*S tx 16 28 49.9
BTMT Batman 62.16 313 *e*P **P 16 19 55.3 -1.1**
BEST Besiri 62.22 312 *i* P **P 16 19 56.0 -0.7**
ZEI Tsey 62.27 318 *e*P **P 16 19 55.6 -1.4**
ZEI *i* *PP pP 16 20 08.4 +2.0
ZEI *i* 16 22 15.1
ZEI *e*S **S 16 28 40.2 +21**
ARU Arti 62.33 337⇑ *i*P **P 16 19 55.4 -1.8**
ARU *e* 16 20 33.9
ARU *i* S **S 16 28 22.0 +2.2**
ARU *e* 16 29 47.1
ARU *e*SS SS 16 32 25.4 +0.1
ARU pmax pmax
comp=Z,549nm,0.9s,mb6.7
ARU MLR MLR
comp=N,1836µm,22.0s,MS8.5
ARU MLR MLR
comp=E,3321µm,20.0s,MS8.5
ARU MLR MLR
comp=Z,3320µm,20.0s,MS8.5
ARU Arti 62.33 337 *e*P **P 16 19 55.0 -2.2**
comp=Z,2µm,1.0s,mb7.3
ARU LR LR
comp=Z,897µm,21.0s,MS7.9
VRT Varto 62.47 314 *e*P **P 16 19 58.1 -0.3**
ERZM Erzurum 62.88 314 *i* P **P 16 20 00.9 -0.1**
EZM Erzurum 62.88 314 *e*P **P 16 20 03.8 +2.7**
DIY Diyarbakir 62.99 312 *e*P **P 16 20 08.5 +6.7**
BINT Bingol 63.14 313 *e*P **P 16 20 09.4 +6.6**
BCA Borcka 63.28 316 *e*P **P 16 20 08.7 +5.0**
TAU Tasmania Unive 63.56 141 *e*P **P 16 20 05.6 +0.1**
TAU pmax pmax
comp=Z,4µm,1.4s,mb7.2
TAU MLR MLR
comp=Z,953µm,21.0s,MS8.0
TAU Tasmania Unive 63.56 141 *e*P **P 16 20 05.6 0.0**
comp=Z,4µm,1.4s,mb7.2
TAU LR LR
comp=Z,953µm,21.0s,MS8.0
KIV Kislovodsk 63.58 319*c* *i*P **P 16 20 03.8 -1.8**
KIV pmax pmax
comp=Z,1µm,1.0s,mb6.8
KIV Kislovodsk 63.58 319 *e*P **P 16 20 03.9 -1.7**
comp=Z,4µm,1.0s,mb7.4
KIV LR LR
comp=Z,512µm,20.0s,MS7.7
HNR Honiara 63.62 102 *e*P **P 16 20 04.5 -1.9**
HNR pmax pmax
comp=Z,7µm,1.0s,mb7.7
HNR MLR MLR
comp=Z,1094µm,22.0s,MS8.0
HNR Honiara 63.62 102 *e*P **P 16 20 04.5 -1.9**
comp=Z,7µm,1.0s,mb7.7
HNR LR LR
comp=Z,1094µm,22.0s,MS8.0
GOF Gofitskoye 63.82 320⇓ *i*P **P 16 20 05.8 -1.4**
GOF *i* 16 20 17.6
GOF *i* 16 20 23.1
GOF *i* 16 22 33.7
GOF *i* S **S 16 28 46.9 +8.2**
GOF pmax pmax
comp=Z,130nm,1.3s
GOF pmax pmax
comp=Z,380nm,1.3s,mb6.3
GOF pmax pmax
comp=Z,2µm,1.2s,mb7.0
GOF smax
comp=N,121µm,7.3s
GOF smax
comp=E,19µm,3.3s
ASF Jabal al Asfar 63.88 305 P **P 16 20 07.1 -0.8**
baz=350,slow=2.4
ASF S **S 16 28 54.6 +15**
comp=E,28nm,1.1s,baz=90,slow=20,SNR=2.0
ASF LR LR 16 49 39.6
comp=E,3577µm,20.2s,MS8.6,baz=106,slow=38
URFA Urfa 63.89 311 *i* P **P 16 20 05.9 -1.9**
EZC Erzincan 63.93 314 *e*P **P 16 20 14.1 +6.0**
ELZG Elazig 64.11 312 *i* P **P 16 20 09.1 -0.2**
ELZG Elazig 64.11 312 *i* P pP 16 20 20.1 +1.4
GUMT Gumushane 64.42 314 *e*P **P 16 20 12.7 +1.4**
MALT Malatya 64.47 312 P **P 16 20 12.6 +1.0**
MALT Malatya 64.47 312 *e*P **P 16 20 10.5 -1.1**
MALT pmax pmax
comp=Z,2µm,1.1s,mb7.1
MALT Malatya 64.47 312 *e*P **P 16 20 10.4 -1.1**
comp=Z,2µm,1.1s,mb7.1
MYA Malatya 64.47 312 *e*P **P 16 20 18.1 +6.5**
KELT Kelkit 64.48 314 *i* P **P 16 20 18.1 +6.5**
YAK Yakutsk 64.59 16*c* *i*P **P 16 20 10.6 -1.3**
YAK *e**PP pP 16 20 19.9 -1.4
YAK *e* 16 22 36.1
YAK *e*PPP PPP 16 24 14.6 +5.5
YAK *i* S **S 16 29 04.9 +17**
YAK *e* 16 30 01.0
YAK pmax pmax
comp=Z,326nm,0.9s,mb6.4
YAK pmax pmax
comp=N,93nm,1.0s
YAK pmax pmax
comp=E,61nm,1.0s
YAK MLR MLR
comp=Z,642µm,23.0s,MS7.8
YAK MLR MLR
comp=N,404µm,20.0s,MS7.8
YAK MLR MLR
comp=E,576µm,22.0s,MS7.8
YAK Yakutsk 64.59 16 *e*P **P 16 20 10.5 -1.5**
comp=E,11µm,1.0s,mb7.8
YAK LR LR
comp=Z,1944µm,21.0s,MS8.3
GZT Gaziantep 64.82 311 *i* P **P 16 20 13.0 -0.9**
SLAT Slait 64.85 286 *e*P **P 16 20 21.8 +7.4**
SLAT *i* S tx 16 29 19.6
SLAT Slait 64.85 286 *e*P **P 16 20 22.0 +7.6**
baz=92,slow=7.4
SLAT *e*P 16 20 24.1
SLAT AMb AMB 16 21 18.4
comp=Z,2µm,1.6s,mb6.8
EIL Elat 64.91 302 P **P 16 20 13.7 -0.9**
ZFRI Zfri 64.92 303 P **P 16 20 13.8 -0.8**
MZDA Masada 64.94 304 P **P 16 20 14.1 -0.6**
MBH Mount Berech 64.97 302 P **P 16 20 14.3 -0.7**
KSHT Keshet 64.97 306 P **P 16 20 14.7 -0.2**
DRGI Dragot 64.98 304 P **P 16 20 14.3 -0.7**
JAWL J.Aulia 64.99 286 *e*P **P 16 20 24.4 +9.1**
JAWL AMb tx 16 21 00.1
comp=E,316µm,4.8s
JAWL *i* S S 16 29 20.4 +27
JAWL J.Aulia 64.99 286 *e*P **P 16 20 24.4 +9.1**
JAWL *e*P 16 20 24.9
JAWL AMb AMB 16 20 57.2
comp=Z,3µm,1.5s,mb7.1
PRNI Paran 65.02 303 P **P 16 20 14.6 -0.7**
HMDT Nahal Hemdat 65.03 305 P **P 16 20 14.6 -0.7**
GAZ Gaziantep 65.03 310 *e*P **P 16 20 14.6 -0.6**
MRKH Merkhyat 65.14 286 *e*P **P 16 20 25.6 +9.3**
MRKH *i* S S 16 29 15.5 +20
MRKH Merkhyat 65.14 286 *e*P **P 16 20 25.6 +9.3**
MRKH AMb AMB 16 20 58.2
comp=Z,2µm,1.5s,mb7.0
MMLI Mount Malkishu 65.16 305 P **P 16 20 15.7 -0.4**
KMTI Karmit 65.20 302 P **P 16 20 15.5 -0.9**
BHL Bhannes 65.34 306 *e*P **P 16 20 16.7 -0.6**
MASH Mash'abbe Sade 65.34 303 P **P 16 20 19.1 +1.7**
SOC Sochi 65.40 318 *i* P **P 16 20 14.0 -3.5**
SOC *i* 16 22 45.9
SOC *i* S S 16 28 59.1 +0.9
SOC *e*SS SS 16 33 09.3 -3.9
SOC pmax pmax
comp=N,262nm,1.0s
SOC pmax pmax
comp=Z,2µm,1.0s,mb7.0
SOC pmax pmax
comp=E,360nm,1.1s
SOC pmax pmax
comp=Z,51µm,7.1s
KAHT Ahir Dag 65.42 311 *i* P **P 16 20 17.5 -0.2**
RTMM Retamin 65.44 303 P **P 16 20 19.6 +1.6**
HNTI Hanita 65.52 306 P **P 16 20 18.6 +0.2**
HTY Hatay 65.55 309 *e*P **P 16 20 23.6 +5.0**
OFRI 'Ofer 65.56 305 P **P 16 20 18.1 -0.6**
HAF Haifa 65.56 305 P **P 16 20 18.1 -0.6**
COBT Iskenderun 65.57 309 *i* P **P 16 20 18.3 -0.5**
KZIT Kziot 65.65 303 P **P 16 20 18.6 -0.7**
SVST Sivas 66.02 313 *i* P **P 16 20 28.4 +6.9**
CEYT Ceyhan 66.10 310 *e*P **P 16 20 28.7 +6.6**
MBAR Mbarara 66.42 268 P **P 16 20 23.8 -0.7**
comp=Z,439nm,1.3s,mb6.3,SNR=88
MBAR Mbarara 66.42 268 *e*P **P 16 20 22.8 -1.7**
MBAR pmax pmax
comp=Z,2µm,1.3s,mb7.0
MBAR MLR MLR
comp=Z,748µm,21.0s,MS7.9
MBAR Mbarara 66.42 268 *e*P **P 16 20 22.8 -1.7**
comp=Z,2µm,1.3s,mb7.0
MBAR LR LR
comp=Z,748µm,21.0s,MS7.9
TOKT Tokat 66.49 313 *e*P **P 16 20 24.3 -0.2**
BNN Bunyan 66.56 312 *e*P **P 16 20 23.9 -1.1**
PHNC Paralimni 66.91 307 P **P 16 20 26.4 -0.9**
comp=Z,24nm,0.9s
KVT Kavak 67.09 314 *i* P **P 16 20 35.6 +7.3**
MEST Erdemli 67.22 309 *i* P **P 16 20 34.2 +4.9**
AVNT Avonos 67.28 311 *i* P **P 16 20 34.3 +4.7**
ANN Anapa 67.38 318*c* *i*P **P 16 20 31.8 +1.7**
ANN *i* *PP pP 16 20 41.6 +2.2
ANN *i* 16 20 57.3
ANN *i* 16 23 00.0
ANN *i* S S 16 29 30.7 +8.6
ANN *i* SP SP 16 29 50.2 +4.7
ANN pmax pmax
comp=Z,130µm,15.9s
CSS Prodhromos 67.46 307⇑P **P 16 20 29.5 -1.3**

comp=Z,71nm,1.5s
CSS Prodhromos 67.46 307⇑ *e*P **P** **16 20 29.5 -1.3**
SZAC Souni-Zanaja 67.77 307 P **P** **16 20 31.3 -1.4**
CORM Corum 67.85 313 *i* P **P** **16 20 33.1 0.0**
LEF Lefka 67.85 307 *e*P **P** **16 20 35.2 +2.0**
CTKT Corum 67.86 313 *i* P **P** **16 20 39.3 +6.1**
BOYT Boyabat 68.02 314 *i* P **P** **16 20 32.7 -1.4**
ALFC Alevga 68.09 307⇑ P **P** **16 20 32.7 -2.0**
comp=Z,38nm,0.8s
ALFC Alevga 68.09 307⇑ *e*P **P** **16 20 32.7 -2.0**
BYBT Boyabat 68.13 314 *e*P **P** **16 20 42.6 +7.8**
PPCY Paphos 68.23 307 P **P** **16 20 34.3 -1.3**
AKMC Akamas 68.27 307 P **P** **16 20 41.6 +5.7**
KAMT Kaman 68.30 312 *e*P **P** **16 20 34.2 -1.7**
BRTR Keskin Array B 68.45 312 S S 16 29 46.8 +12
comp=Z,8.6nm,0.9s,baz=90,slow=8.6,SNR=2.3
BRTR PKP2bc 16 49 13.2
comp=Z,12nm,1.0s,baz=243,slow=2.8,SNR=4.6
TOS Tosya 68.54 314 *e*P **P** **16 20 39.7 +2.3**
MIR Mirnyy 68.56 182 *e*P **P** **16 20 42.0 +4.9**
MIR *i* S S 16 29 56.0 +20
PECR Pechory 68.59 331 *ce*P **P** **16 20 35.4 -2.0**
PECR pmax pmax
comp=Z,26μm,9.0s
PECR pmax pmax
comp=N,25μm,10.0s
PECR pmax pmax
comp=E,26μm,10.0s
HDMB Hadim 68.61 309 *e*P **P** **16 20 43.2 +5.3**
CANT Cankiri 68.71 313 *e*P **P** **16 20 43.6 +5.2**
ELDT Eldivan 68.82 313 *i* P **P** **16 20 44.8 +5.7**
BZK Bozkurt 68.82 314 *e*P **P** **16 20 38.1 -1.0**
CASY Casey 68.90 174 *e*P **P** **16 20 38.4 -0.8**
CASY *e*S tx 16 30 14.2
KONT Konya--Tatoy 68.95 310 *e*P **P** **16 20 45.6 +5.6**
VOR Voronezh 68.98 326⇑ *i*P **P** **16 20 38.3 -1.7**
VOR *e**SP sP 16 20 50.0 -2.7
VOR *e* 16 30 16.0
VOR pmax pmax
comp=Z,330nm,1.2s,mb6.1
VOR pmax pmax
comp=N,240nm,1.3s
VOR pmax pmax
comp=E,210nm,1.3s
ANTO Ankara 69.11 312 P **P** **16 20 38.9 -2.1**
ANTO S S 16 29 48.0 +5.1
BALT Daday 69.14 314 *i* P **P** **16 20 42.2 +1.1**
LOD Lodumlu 69.14 312 *e*P **P** **16 20 39.0 -2.1**
SKR Severo-Kuril's 69.18 36 *e*P **P** **16 20 38.1 -3.1**
SKR *e* 16 20 58.0
SKR *i* S S 16 30 04.0 +21
SKR *i* 16 30 27.0
SKR *i* PS 16 30 34.0
SKR *i* SS SS 16 34 11.0 -0.8
SKR pmax pmax
comp=N,310nm,1.0s
SKR pmax pmax
comp=E,270nm,1.0s
SKR pmax pmax
comp=E,23μm,6.0s
SKR pmax pmax
comp=Z,43μm,6.0s
SKR MLR MLR
comp=N,741μm,16.0s
SKR MLR MLR
comp=Z,896μm,16.0s,MS8.1
SKR MLR MLR
comp=E,566μm,22.0s
KIZT Kizilcal 69.54 311 *e*P **P** **16 20 42.3 -1.3**
SAFT Safranbolu 69.56 313 *e*P **P** **16 20 41.6 -2.1**
SIM Simferopol' 69.65 318 *de*P **P** **16 20 50.2 +6.1**
SIM *i* S S 16 29 55.6 +6.5
SIM *e*PS PS 16 30 41.0 +22
SIM pmax pmax
comp=Z,3μm,1.2s,mb7.1
SIM MLR MLR
comp=Z,1592μm,26.1s,MS8.1
SGKT Sivrigoynuk 69.84 313 *i* P **P** **16 20 46.0 +0.6**
ANTB Antalya 70.02 309 *e*P **P** **16 20 52.6 +6.1**
BCK Bucak 70.20 309 *e*P **P** **16 20 57.2 +10**
ISP Isparta 70.34 310 *e*P **P** **16 20 44.6 -3.9**
ISP Isparta 70.34 310 *e*P **P** **16 20 47.9 -0.6**
comp=Z,12μm,1.9s,mb7.5
KWAJ Kwajalein Atol 70.41 81 P **P** **16 20 47.2 -2.1**
comp=Z,9μm,2.1s,mb7.3
KWAJ LR LR
comp=Z,276μm,22.0s,MS7.5
MDU Mudurnu 70.44 312 *e*P **P** **16 20 52.6 +3.6**
ESKT Eskisehir 70.48 311 *e*P **P** **16 20 55.2 +5.9**
MA2 Magadan 70.57 26 *c*P **P** **16 20 49.2 -0.3**
MA2 *e*PPP PPP 16 25 02.0 -6.3
MA2 *e*S S 16 30 00.8 +1.2
MA2 *e*PS PS 16 30 31.8 +0.9
MA2 pmax pmax
comp=Z,4μm,1.7s,mb7.0
MA2 pmax pmax
comp=E,1μm,1.9s
MA2 pmax pmax
comp=N,1μm,2.1s
MA2 MLR MLR
comp=Z,7218μm,20.0s,MS8.9
MA2 Magadan 70.57 26 *e*P **P** **16 20 49.1 -0.3**
comp=Z,2μm,0.8s,mb7.1
MA2 LR LR
comp=Z,1642μm,21.0s,MS8.3
ELL Elmali 70.57 308 *e*P **P** **16 20 49.1 -0.8**
AKAS Kas 70.70 308 *i* P **P** **16 20 58.0 +7.3**
HENT Hendek 70.76 313 *i* P **P** **16 20 55.5 +4.5**
ALT Altintas 70.93 311 *e*P **P** **16 20 56.2 +4.2**
FETY Fethiye 71.20 308 *e*P **P** **16 20 59.7 +6.0**
KHL Karahalli 71.21 310 *e*P **P** **16 21 01.7 +8.0**
DENT Denizli 71.47 309 *e*P **P** **16 21 01.7 +6.4**
MOS Moscow 71.52 329α *i*P **P** **16 20 53.8 -1.5**
MOS *i* 16 21 12.3
MOS *e* 16 23 31.3
MOS *e*PPP PPP 16 25 17.6 +0.2
MOS *i* S S 16 30 12.5 +1.7
MOS *e* 16 30 49.9
MOS *i* PS PS 16 31 01.9 +18
MOS *e*SSS SSS 16 38 01.6 +6.2
MOS pmax pmax
comp=Z,461nm,1.1s,mb6.3
MOS pmax pmax
comp=Z,9μm,3.7s
MOS MLR MLR
comp=Z,4056μm,21.3s,MS8.7
MOS MLR MLR
comp=E,2610μm,24.8s
PET Petropavlovsk 71.54 34 *c i*P **P** **16 20 55.5 0.0**
PET *e* 16 21 14.8
PET *e* 16 23 42.2
PET *e*PPP PPP 16 25 16.2 -1.4
PET *e*S S 16 30 14.2 +3.2
PET pmax pmax
comp=Z,21μm,5.1s
PET pmax pmax
comp=E,6μm,5.6s
PET pmax pmax
comp=N,5μm,4.4s
PET pmax pmax
comp=Z,1μm,0.7s,mb7.0
PET pmax pmax
comp=N,757nm,0.8s
PET pmax pmax
comp=E,514nm,0.9s
PET pmax pmax
comp=Z,76μm,18.3s
PET pmax pmax
comp=Z,102μm,18.2s
PET MLR MLR
comp=E,615μm,17.0s,MS8.3
PET MLR MLR
comp=Z,1571μm,19.0s,MS8.3
PET MLR MLR
comp=N,1612μm,21.0s,MS8.3
PET MLR MLR
comp=Z,2039μm,20.0s
PET MLR MLR
comp=N,2082μm,20.0s
PET Petropavlovsk 71.54 34 *e*P **P** **16 20 54.8 -0.6**
comp=N,5μm,1.0s,mb7.4
PET LR LR
comp=Z,2082μm,19.0s,MS8.4
DALT Dalyan (Mudla) 71.58 308 *e*P **P** **16 21 04.7 +8.7**

NOUC Port Laguerre 71.60 114 *e*P **P** **16 20 56.4 0.0**
NOUC *e*S S 16 30 34.3 +22
HRT Hereke 71.67 312 *e*P **P** **16 21 02.2 +5.8**
DZM Mont Dzumac 71.72 114 *e*P **P** **16 20 57.4 +0.3**
DZM Mont Dzumac 71.72 114 P **P** **16 20 57.6 +0.5**
comp=Z,60nm,0.9s,baz=303,slow=8.6,SNR=18
DZM LR LR 16 56 33.7
comp=Z,2844μm,19.4s,baz=277,slow=39
DZM Mont Dzumac 71.72 114 *e*P **P** **16 20 57.4 +0.3**
OBN Obninsk 71.81 328 P **P** **16 20 55.6 -1.5**
comp=Z,4μm,0.9s,mb7.4,SNR=23
OBN Obninsk 71.81 328α *i*P **P** **16 20 55.2 -1.9**
OBN *e* 16 21 14.4
OBN *e* 16 23 34.8
OBN *e*PPP PPP 16 25 18.1 -2.0
OBN *e*S S 16 30 11.0 -3.1
OBN *e*SS SS 16 34 47.4 -4.8
OBN pmax pmax
comp=Z,192nm,0.8s,mb6.1
OBN Obninsk 71.81 328 *e*P **P** **16 20 55.5 -1.5**
comp=Z,8μm,1.3s,mb7.5
OBN LR LR
comp=Z,381μm,19.0s,MS7.7
YLV Yalova 71.83 312 *e*P **P** **16 21 03.1 +5.7**
ARG Arkhangelos 71.87 307 *e*P **P** **16 21 03.8 +6.1**
MANT Manisa 71.99 310 *i* P **P** **16 21 03.8 +5.4**
ORLT Orhaneli 72.06 311 *e*P **P** **16 21 04.7 +5.9**
BADT Buyukada 72.08 312 P **P** **16 21 03.2 +4.3**
DST Dursunbey 72.17 311 P **P** **16 21 02.2 +2.8**
ISK Istanbul-Kandi 72.17 313 *e*P **P** **16 20 59.2 -0.2**
TIXI Tiksi 72.32 10 *e*P **P** **16 20 53.8 -6.0**
TIXI *e* 16 23 41.8
TIXI *e*S S 16 30 15.3 -4.4
TIXI pmax pmax
comp=E,256nm,1.7s
TIXI pmax pmax
comp=Z,1μm,1.7s,mb6.6
TIXI pmax pmax
comp=N,240nm,1.4s
TIXI pmax pmax
comp=Z,157μm,8.8s
TIXI smax
comp=N,903μm,28.0s
TIXI smax
comp=E,595μm,25.0s
TIXI MLR MLR
comp=Z,3540μm,16.0s,MS8.7
TIXI MLR MLR
comp=N,1243μm,17.0s,MS8.8
TIXI MLR MLR
comp=E,3701μm,17.0s,MS8.8
TIXI Tiksi 72.32 10⇑ *i*P **P** **16 20 58.6 -1.2**
TIXI LR LR
comp=Z,3912μm,19.0s,MS8.7
AYDN Tasoluk 72.34 309 *i* P **P** **16 21 08.3 +7.8**
KAP Karpathos 72.51 307 *e*P **P** **16 21 06.5 +4.9**
BDRM Kayabasi 72.57 308 *i* P **P** **16 21 05.3 +3.4**
CTT Catalca 72.65 313 *e*P **P** **16 20 59.2 -3.1**
BODT Bodrum 72.67 308 *e*P **P** **16 21 09.2 +6.7**
BALB Balikesir 72.74 311 *e*P **P** **16 21 09.2 +6.3**
BNT Bandirma 72.86 312 *e*P **P** **16 21 09.2 +5.6**
IZM Izmir 72.97 310 *e*P **P** **16 21 11.7 +7.5**
SEY Seymchan 72.98 23 *i* P **P** **16 21 06.4 +2.6**
SEY 16 21 21.6
SEY *e* 16 23 45.6
SEY *e*PPP PPP 16 25 38.1 +6.8
SEY *e*S S 16 30 33.8 +6.6
SEY 16 31 10.6
SEY pmax pmax
comp=Z,2μm,1.1s,mb7.0
SEY pmax pmax
comp=N,640nm,0.8s
SEY pmax pmax
comp=E,850nm,0.9s
SEY smax
comp=N,615μm,18.6s
SEY smax
comp=E,302μm,13.3s
BLCB Balcova 73.13 309 *e*P **P** **16 21 05.2 0.0**
MRMT Marmara Adasi 73.15 312 *e*P **P** **16 21 07.8 +2.5**
SMG Samos 73.17 309 *e*P **P** **16 21 11.2 +5.8**
TLCR 73.32 317 ⇓P **P** **16 21 08.1 +2.0**
PSN Preselentsi 73.40 315 P **P** **16 21 05.2 -1.4**
TIRR Tirgusor 73.42 316 P **P** **16 21 05.4 -1.3**
TIRR Tirgusor 73.42 316⇑P **P** **16 21 09.7 +3.0**
TIRR Tirgusor 73.42 316⇑P **P** **16 21 09.7 +3.0**
MFT Murefte 73.42 312 *e*P **P** **16 21 11.7 +4.9**
MAW Mawson 73.56 193⇑ *i*P **P** **16 21 06.7 -0.4**
comp=E,180nm,0.9s,mb6.0
MAW *e*S tx 16 31 03.7
MAW Mawson 73.56 193⇑ *i*P **P** **16 21 06.7 -0.4**
MAW *e*S tx 16 31 03.7
MAW pmax pmax
comp=Z,180nm,0.9s
MAW Mawson 73.56 193 P **P** **16 21 06.7 -0.3**
comp=Z,100nm,0.9s,baz=2.1,slow=3.5,SNR=25
MAW S tx 16 30 54.3
comp=Z,7.8nm,0.8s,baz=170,slow=16,SNR=2.4
MAW LR LR 16 47 37.0
comp=Z,3532μm,21.4s,baz=34,slow=31
MAW PKPPKP 16 48 53.3
comp=Z,12nm,0.9s,baz=46,slow=1.8,SNR=4.3
NPS Neapolis 73.72 306 *e*P **P** **16 21 15.3 +6.6**
LPK Lapseki 73.73 311 *e*P **P** **16 21 12.2 +3.6**
KIS Kishinev 73.77 319 *oe*P **P** **16 21 06.0 -2.7**
KIS *i* S S 16 30 36.0 -0.4
KIS *i* PS PS 16 31 30.0 +16
KIS pmax pmax
comp=Z,257μm,17.0s
KIS pmax pmax
comp=N,20μm,4.4s
KIS pmax pmax
comp=E,112μm,19.0s
KIS smax
comp=N,472μm,18.0s
KIS smax
comp=E,89μm,18.0s
KIS MLR MLR
comp=N,396μm,17.0s,MS7.8
KIS MLR MLR
comp=Z,774μm,17.0s,MS8.1
KIS MLR MLR
comp=E,178μm,15.0s,MS7.8
CFR Carcaliu 73.78 317 P **P** **16 21 08.0 -0.8**
CFR Carcaliu 73.78 317 ⇓*i*P **P** **16 21 10.2 +1.4**
CFR Carcaliu 73.78 316 ⇓*i*P **P** **16 21 10.2 +1.4**
HARR Harsova 73.81 316 ⇓*i*P **P** **16 21 08.1 -0.9**
PRD Provadia 73.85 314 P **P** **16 21 08.0 -1.2**
PRK Paraskevi 73.89 310 *e*P **P** **16 21 15.7 +6.2**
EZN Ezine 73.95 311 *e*P **P** **16 21 13.7 +3.8**
THR1 Thera Island 74.02 307 *e*P **P** **16 21 17.5 +7.1**
SANT Santorini 74.02 307 P **P** **16 21 08.7 -1.7**
comp=E,5μm,1.3s,mb7.3
EDRB Edirne 74.04 313 *e*P **P** **16 21 14.2 +3.8**
THR6 Thira Island, 74.06 307 *e*P PcP 16 21 25.9 0.0
THR3 Thira Island, 74.07 307 *e*P **P** **16 21 13.0 +2.3**
APE Apeiranthos 74.08 308 *e*P **P** **16 21 17.7 +7.0**
APE Apeiranthos 74.08 308 *i* P **P** **16 21 09.7 -1.0**
APE Apeiranthos 74.08 308 *e*P PcP 16 21 25.8 -0.2
THR5 Thira Island, 74.11 307 *e*P pP 16 21 22.8 +2.4
LBTB Lobatse 74.21 243 *e*P **P** **16 21 10.1 -1.6**
LBTB pmax pmax
comp=Z,5μm,1.6s,mb7.2
LBTB MLR MLR
comp=Z,2366μm,20.0s,MS8.5
LBTB Lobatse 74.21 243 LR LR 16 50 56.5
comp=Z,2757μm,19.3s,MS8.6,baz=87,slow=34
LBTB Lobatse 74.21 243 *e*P **P** **16 21 10.1 -1.5**
comp=Z,5μm,1.6s,mb7.2
LBTB LR LR
comp=Z,2366μm,20.0s,MS8.5
JMB Yambol 74.28 314 P **P** **16 21 10.0 -1.8**
ALN Alexandroupoli 74.37 312 *e*P **P** **16 21 15.2 +2.9**
AKASG Malin Array Be 74.50 322 P **P** **16 21 10.7 -2.2**
comp=Z,14nm,0.7s,baz=88,slow=5.3
AKASG S S 16 30 51.0 +6.6
comp=Z,7.4nm,0.8s,baz=98,slow=6.6,SNR=2.0
BRD Bordesti 74.63 317⇑ *i*P **P** **16 21 21.3 +7.6**
BRD Bordesti 74.63 317⇑ *i*P **P** **16 21 21.3 +7.6**
RDO Rodhopi 74.79 312 *e*P **P** **16 21 20.5 +5.8**
LIA Limnos Island 74.83 311 *e*P **P** **16 21 20.8 +5.8**
VAM Vamos 74.88 306 *e*P **P** **16 21 22.1 +6.7**
GVD Gavdhos 74.89 305 *e*P **P** **16 21 18.4 +2.9**
comp=Z,3μm,1.2s,mb7.1

VRI Vrincioaia 74.91 317⇑ *i*P **P** **16 21 15.0 -0.3**
LOS Limnos 74.91 311 *e*P **P** **16 21 15.0 -0.4**
DIM Dimitrovgrad 74.96 313 P **P** **16 21 24.5 +8.8**
KDZ Kurdzhali 74.97 313 *e*P **P** **16 21 13.5 -2.3**
BUC Bucharest 75.03 315⇑ *i*P **P** **16 21 15.1 -0.9**
BUC1 Bucharest 75.06 315 P **P** **16 21 19.0 +2.8**
BUC1 Bucharest 75.06 315⇑ *i*P **P** **16 21 15.1 -1.1**
BOSA Boshof 75.15 240 P **P** **16 21 15.4 -1.6**
comp=Z,13nm,0.8s,baz=90,slow=5.6,SNR=6.4
BOSA LR LR 16 51 44.8
comp=Z,2291μm,18.2s,baz=74,slow=34
BOSA Boshof 75.15 240 *e*P **P** **16 21 15.7 -1.4**
comp=Z,5μm,1.7s,mb7.2
BOSA LR LR
comp=Z,554μm,22.0s,MS7.8
PVL Pavlikeni 75.33 314 P **P** **16 21 24.5 +6.7**
MLR Muntele Rosu 75.36 317 P **P** **16 21 16.2 -1.7**
MLR pmax pmax
comp=Z,101nm,1.2s
MLR Muntele Rosu 75.36 317 P **P** **16 21 16.2 -1.7**
comp=Z,101nm,1.2s,baz=57,slow=0.9,SNR=28
MLR Muntele Rosu 75.36 317⇑ *i*P **P** **16 21 17.1 -0.8**
MLR Muntele Rosu 75.36 317⇑ *i*P **P** **16 21 17.1 -0.8**
ZIMR 75.39 315⇑ P **P** **16 21 23.6 +5.5**
ZIMR 75.39 315⇑ P **P** **16 21 23.6 +5.4**
RZN Rozhen 75.50 312 *e*P **P** **16 21 17.0 -1.8**
RZN Rozhen 75.50 312 P **P** **16 21 27.5 +8.7**
PLD Plovdiv 75.58 313 P **P** **16 21 18.0 -1.2**
SNX Sinaia 75.63 316 ⇓P **P** **16 21 26.8 +7.3**
SNX Sinaia 75.63 316 ⇓P **P** **16 21 26.8 +7.4**
ATH Athens Observa 75.64 309 *e*P **P** **16 21 27.6 +7.9**
MCQ Macquarie Isla 75.78 148 *e*P PcP 16 21 33.0 +0.1
MCQ *e*S SKS 16 31 32.3 +0.8
OUR Ouranopolis 75.81 311 *e*P **P** **16 21 26.4 +5.8**
MTUR Matau 75.92 316 P **P** **16 21 23.3 +2.2**
MTUR Matau 75.92 316⇑ *i*P **P** **16 21 26.5 +5.5**
MTUR Matau 75.92 316⇑ *i*P **P** **16 21 26.5 +5.4**
PGB Panagyurishte 76.05 313 *e*P **P** **16 21 20.0 -1.9**
PGB Panagyurishte 76.05 313 P **P** **16 21 20.0 -1.9**
NVR Nevrokopi 76.07 312 *e*P **P** **16 21 27.9 +5.9**
VLI Veliai 76.08 307 *e*P **P** **16 21 24.9 +2.7**
MMB Musomiste 76.21 312 *e*P **P** **16 21 20.0 -2.8**
MMB Musomiste 76.21 312 P **P** **16 21 20.0 -2.8**
PLG Polygyros 76.22 311 *e*P **P** **16 21 25.3 +2.4**
NEO Neokhori 76.23 310 *e*P **P** **16 21 25.0 +2.0**
SRS Serrai 76.23 312 *e*P **P** **16 21 22.5 -0.5**
BURAR Bucovina Array 76.30 319 ⇓P **P** **16 21 26.3 +3.1**
LKR Lokris 76.30 309 *e*P **P** **16 21 27.8 +4.4**
SOH Sokhos 76.36 311 *e*P **P** **16 21 25.0 +1.3**
MNK Minsk 76.36 326 ⇓*i*P **P** **16 21 20.0 -3.4**
MNK *e*S S 16 30 58.0 -7.0
THE Thessaloniki 76.62 311 *e*P **P** **16 21 29.5 +4.3**
PUL Pulkovo 76.67 331 *e*P **P** **16 21 23.8 -1.2**
PUL *e* 16 24 22.6
PUL *e*S S 16 31 12.9 +4.7
PUL pmax pmax
comp=Z,265nm,0.9s,mb6.2
PUL pmax pmax
comp=N,116nm,0.6s
PUL pmax pmax
comp=E,489nm,1.3s
PUL pmax pmax
comp=Z,230nm,0.9s,mb6.1
PUL pmax pmax
comp=N,176nm,0.8s
PUL pmax pmax
comp=E,270nm,0.8s
PUL MLR MLR
comp=N,1851μm,22.0s,MS8.6
PUL MLR MLR
comp=E,2777μm,23.0s,MS8.6
PUL MLR MLR
comp=Z,3306μm,23.0s,MS8.6
PUL Pulkovo 76.67 331 *i* P **P** **16 21 24.3 -0.7**
KKB Krupnik 76.73 312 *e*P **P** **16 21 24.0 -1.7**
KKB Krupnik 76.73 312 P **P** **16 21 24.0 -1.7**
VTS Vitosha 76.76 313 *e*P **P** **16 21 24.0 -1.8**
VTS Vitosha 76.76 313 P **P** **16 21 24.5 -1.3**
KNT Kendrikon 76.76 312 *e*P PcP 16 21 39.3 +1.9
AGG Agios Georgios 76.87 309 *e*P **P** **16 21 28.6 +2.0**
LIT Litokhoron 76.91 311 *e*P **P** **16 21 26.4 -0.3**
ITM Ithomi 76.94 308 *e*P **P** **16 21 32.6 +5.6**
VAY Valandovo 77.03 312 *i* P **P** **16 21 28.3 +0.9**
VAY *i* 16 21 33.5
VAY *i* S S 16 31 19.6 +7.2
GRG Griva 77.10 311 *e*P **P** **16 21 24.6 -3.2**
IDID Didziasalis 77.19 326 *e*P **P** **16 21 27.3 -0.6**
IDID AMPb AMB 16 22 15.7
comp=Z,2μm,1.3s,mb6.8
IDID *e*PP PP 16 24 21.2 -2.2
EVR Evrytania 77.26 309 *e*P **P** **16 21 34.2 +5.5**
RLS Riolos of Patr 77.42 308 *e*P **P** **16 21 35.7 +6.1**
KZN Kozani 77.48 311 *e*P **P** **16 21 35.8 +5.9**
IIGN Ignalina 77.49 326 *e*P **P** **16 21 29.0 -0.6**
IIGN AMPb AMB 16 22 17.4
comp=Z,2μm,1.6s,mb6.8
IIGN *e*PP PP 16 24 22.6 -3.5
LVV L'vov 77.52 321 *e*P **P** **16 21 32.6 +2.7**
LVV MLR MLR
comp=Z,850μm,22.3s,MS8.0
IZAR Zarasai 77.58 327 *e*P **P** **16 21 29.2 -0.9**
IZAR AMPb AMB 16 22 17.8
comp=Z,2μm,1.7s,mb6.7
ISAL Salakas 77.59 327 *e*P **P** **16 21 29.3 -0.9**
ISAL AMPb AMB 16 22 17.1
comp=Z,2μm,1.5s,mb6.8
BARS Barje 77.80 313⇑ *i*P **P** **16 21 38.3 +6.7**
MEV Metsovon 77.82 310 *e*P PcP 16 21 43.8 +1.7
FNA Florina 77.84 311 *e*P **P** **16 21 32.6 +0.7**
BOLS Boljevac 77.86 314 ⇓*i*P **P** **16 21 30.0 -1.9**
SKO Skopje 77.96 312 *e*P **P** **16 21 31.5 -1.0**
SKO *i* 16 21 37.6
SKO *i* S S 16 31 33.7 +11
SKO pmax pmax
comp=Z,470nm,0.9s,mb6.4
SKO Skopje 77.96 312 *e*P **P** **16 21 31.5 -1.0**
comp=Z,470nm,0.9s,mb6.4
SKO *i* 16 21 37.6
SKO *i* 16 21 53.7
SKO *i* 16 22 06.2
SKO *i* 16 22 16.0
SKO *i* 16 23 22.9
SKO *i* PP PP 16 24 57.1 +26
SKO *i* S S 16 31 33.7 +11
SKO *i* 16 33 38.2
SKO *i* SS 16 35 50.2
SKO Skopje 77.96 312 *e*P **P** **16 21 31.5 -1.0**
SKO *i* 16 21 37.6
SKO *i* 16 21 53.7
SKO *i* 16 22 06.2
comp=Z,0.5nm,0.9s
SKO *i* 16 22 16.0
comp=Z,0.9nm,1.1s
SKO *i* 16 23 22.9
SKO *i* PP PP 16 24 57.1 +26
SKO *i* S S 16 31 33.7 +11
SKO *i* 16 33 38.2
SKO *i* SS 16 35 50.2
SKO Lm 16 59 30.0
comp=E,827nm,17.0s
SKO Lm 16 59 30.0
comp=N,636nm,17.5s
LVZ Lovozero 77.97 340 *e*P **P** **16 21 31.1 -0.9**
LVZ *e* 16 24 33.4
LVZ *e*S S 16 31 32.8 +11
LVZ pmax pmax
comp=Z,78nm,0.6s
LVZ pmax pmax
comp=N,16nm,1.2s
LVZ pmax pmax
comp=E,13nm,0.5s
LVZ MLR MLR
comp=Z,3843μm,24.0s
LVZ MLR MLR
comp=N,974μm,22.0s
LVZ MLR MLR
comp=E,2941μm,25.0s
LVZ Lovozero 77.97 340 *i* P **P** **16 21 30.6 -1.4**
VSU Vasula 78.04 330 *c i*P **P** **16 21 31.6 -0.9**
VSU Vasula 78.04 330⇑ *i*P **P** **16 21 31.7 -0.8**
JAN Janina 78.09 310 *e*P **P** **16 21 39.3 +6.0**
VLS Valsamata 78.12 308 *e*P **P** **16 21 35.4 +2.0**
APA Apatity 78.26 339⇑ *i*P **P** **16 21 33.4 -0.2**

APA *i* 16 21 40.0
APA *i* 16 24 31.0
APA *eS* S 16 31 23.0 -2.2
APA pmax pmax
comp=Z,170nm,1.2s
OHR Ohrid 78.32 311 *eP* **P 16 21 29.5 -5.0**
OHR *i* 16 21 36.5
OHR *i* pP 16 21 39.8 -4.2
OHR *i* S S 16 31 27.8 +1.4
OHR Ohrid 78.32 311 *eP* **P 16 21 29.5 -5.0**
OHR *i* 16 21 36.5
OHR *i* pP 16 21 39.8 -4.2
OHR *i* PcP PcP 16 21 49.6 +5.5
OHR *i* 16 21 56.0
OHR *i* S S 16 31 27.8 +1.4
OHR *i* SS tx 16 35 35.5
OHR Ohrid 78.32 311 *eP* **P 16 21 29.5 -5.0**
OHR *i* 16 21 36.5
OHR *i* pP 16 21 39.8 -4.2
OHR *i* PcP PcP 16 21 49.6 +5.5
OHR *i* 16 21 56.0
OHR *i* PsP 16 27 11.9
OHR *i* S S 16 31 27.8 +1.4
OHR *i* SS tx 16 35 35.5
KWP Kalwaria 78.33 320 *eP* **P 16 21 33.9 -0.5**
comp=Z,2µm,5.1s
KWP *e*PcP PcP 16 21 41.5 -2.5
KWP *e*pP pP 16 21 44.0 +0.1
KWP *e*S S 16 31 33.6 +7.3
KWP *e*SKS SKS 16 31 45.4 -4.6
KWP MLR MLR 17 01 25.1
comp=Z,1389µm,20.7s,MS8.3
JCZ Jackson Bay 78.37 136 *eP* **P 16 21 35.3 +0.6**
JCZ Jackson Bay 78.37 136 PN **P 16 21 35.3 +0.6**
BZS Buzias 78.37 316 ⇓*iP* **P 16 21 33.6 -1.1**
UZH Uzhgorod 78.42 319 *eP* **P 16 21 34.0 -0.9**
UZH *e*S S 16 31 20.0 -7.3
SVIS Svilajnac 78.45 315⇑*iP* **P 16 21 34.5 -0.6**
IGT Igoumenitsa 78.48 310 *eP* **P 16 21 36.6 +1.3**
KOLS Kolonicke sedl 78.48 319 *iP* **P 16 21 35.4 +0.2**
KOLS *i*S tx 16 31 49.3
KOLS Kolonicke sedl 78.48 319⇑*i*SKSp 16 31 49.3
GRUS Gruza 78.75 314 ⇓*iP* **P 16 21 35.6 -1.2**
SUW Suwalki 78.90 325 *eP* **P 16 21 36.2 -1.2**
comp=Z,600nm,1.9s,mb6.2
SUW *e*PcP PcP 16 21 43.8 -2.6
SUW *e*pP pP 16 21 46.1 -0.8
SUW *e*S S 16 31 35.8 +3.5
SUW *e*SKS SKS 16 31 55.8 +1.9
SUW MLR MLR 17 03 58.0
comp=Z,1516µm,20.8s,MS8.3
KEK Kerkira 78.91 310 *eP* **P 16 21 40.1 +2.4**
CRVS Cervenica-Dubn 79.00 319 *iP* **P 16 21 38.2 +0.1**
CRVS *i*S 16 31 43.5
CRVS Cervenica-Dubn 79.00 319 *i* 16 31 43.5
BEO Belgrade 79.07 315⇑*iP* **P 16 21 37.5 -1.1**
PVY Plav 79.12 313 ⇓*iP* **P 16 21 39.5 +0.7**
FINES FINESS Array B 79.17 332 P **P 16 21 37.7 -1.0**
comp=Z,68nm,0.8s,baz=90,slow=5.7,SNR=88
FINES S S 16 31 42.4 +7.4
comp=Z,23nm,1.1s,baz=9.5,slow=8.5,SNR=1.8
FINES LR LR 17 00 37.3
comp=Z,1927µm,21.9s,baz=292,slow=39
FINES FINESS Array B 79.17 332 P **P 16 21 37.7 -1.0**
FINES S S 16 31 42.4 +7.4
FINES LR LR 17 00 37.3
IVA Berane 79.21 313 ⇓*iP* **P 16 21 40.8 +1.5**
KAF Kangasniemi 79.25 333 *ep* **P 16 21 38.7 -0.4**
comp=Z,1µm,0.8s,mb6.9,baz=103,slow=5.1
KAF Kangasniemi 79.25 333 *eP* **P 16 21 38.7 -0.4**
KAF pmax pmax
comp=Z,1µm,0.8s,mb6.9
DIVS Divcibare 79.30 314 ⇓*iP* **P 16 21 38.8 -1.0**
NVSS Nova Varos 2 79.43 314 ⇓*iP* **P 16 21 42.1 +1.6**
TUZ Tuapeka 79.43 137 P **P 16 21 40.0 -0.5**
TUZ Tuapeka 79.43 137 PN **P 16 21 40.3 -0.1**
LBZ Lake Benmore 79.44 136 PN **P 16 21 42.7 +2.2**
KECS Kecovo 79.58 319 *iP* **P 16 21 40.7 -0.5**
KECS *i*S tx 16 32 00.6
KECS Kecovo 79.58 319 *i*SCS ScS 16 32 00.6 +1.3
ULC Ulcinj 79.58 312 ⇓*iP* **P 16 21 41.0 -0.3**
SUR Sutherland 79.58 237 P **P 16 21 42.8 +1.3**
comp=Z,2µm,1.9s,mb6.6,SNR=44
SUR Sutherland 79.58 237 LR LR 16 52 28.3
comp=Z,420µm,20.1s,MS7.8,baz=88,slow=32
SUR Sutherland 79.58 237 *eP* **P 16 21 41.6 0.0**
comp=Z,4µm,1.5s,mb7.1
SUR LR LR
comp=Z,518µm,19.0s,MS7.9
TTG Podgorica 79.62 313 ⇓*iP* **P 16 21 41.2 -0.3**
PLE Pljevlja 79.63 314 ⇓*iP* **P 16 21 41.6 +0.1**
PKSN Nyarlorinc 79.76 317 *eP* **P 16 21 42.4 +0.2**
NIE Niedzica 79.83 320 *eP* **P 16 21 40.4 -2.1**
NIE *e*PcP PcP 16 21 48.2 -2.3
WAR Warsaw 79.84 323 *eP* **P 16 21 42.7 +0.2**
WAR *e* 16 21 49.6
WAR *e* 16 31 53.7
WAR MLR MLR
comp=Z,1509µm,21.9s,MS8.3
WAR Warsaw 79.84 323 *eP* **P 16 21 42.7 +0.2**
WAR *e*PcP PcP 16 21 49.6 -0.8
WAR *e*SKS SKS 16 31 53.8 -7.1
WAR MLR MLR 17 01 53.0
comp=Z,1509µm,21.9s,MS8.3
NKY Niksic 79.86 313 ⇓*iP* **P 16 21 42.0 -0.8**
BUM Brajici-Budva 79.88 312 ⇓*iP* **P 16 21 42.8 -0.1**
PSZ Piszkesteto 79.89 318 *eP* **P 16 21 41.9 -1.0**
PSZ pmax pmax
comp=Z,350nm,1.7s,mb6.0
PSZ Piszkesteto 79.89 318⇑*eP* **P 16 21 42.5 -0.4**
RPZ Rata Peaks 79.90 135 S S 16 31 57.6 +15
comp=Z,9.9nm,0.7s,baz=24,slow=19,SNR=1.7
RPZ LR LR 17 01 39.3
comp=Z,1351µm,18.9s,MS8.3,baz=292,slow=39
RPZ Rata Peaks 79.90 135 *eP* **P 16 21 42.7 -0.3**
RPZ Rata Peaks 79.90 135 PN **P 16 21 43.0 0.0**
FX1 Attu Island--F 79.93 37 *eP* **P 16 21 43.4 +0.5**
PKS6 Bocsa 79.93 317 *eP* **P 16 21 42.8 -0.3**
UPM Unac-Piva 79.97 313 ⇓*iP* **P 16 21 42.5 -0.9**
HCY Herceg Novi 80.19 313 ⇓*iP* **P 16 21 45.4 +0.8**
BRY Bratogost 80.20 313 ⇓*iP* **P 16 21 44.9 +0.2**
LCI Lecce 80.26 310 *eP* **P 16 21 51.4 +6.4**
PKS7 Kunszentmiklos 80.26 317 *eP* **P 16 21 44.8 -0.1**
OJC Ojcow 80.28 321 *eP* **P 16 21 44.3 -0.6**
OJC *e*PcP PcP 16 21 51.9 -0.5
OJC *e*PP PP 16 24 47.2 -2.2
OJC *e*S S 16 31 49.1 +2.2
OJC MLR MLR 17 05 31.8
comp=Z,1192µm,20.3s,MS8.2
BILL Bilibino 80.36 21 *eP* **P 16 21 43.8 -1.2**
BILL pmax pmax
comp=Z,2µm,1.5s,mb6.9
BILL Bilibino 80.36 21 *eP* **P 16 21 43.8 -1.2**
comp=Z,2µm,1.5s,mb6.9
BILL LR LR
comp=Z,5123µm,19.0s,MS8.9
QRZ Quartz Range 80.37 132 P **P 16 21 45.9 +0.3**
QRZ Quartz Range 80.37 132 PN **P 16 21 45.9 +0.3**
BUD Budapest 80.41 318 *eP* **P 16 21 52.5 +6.8**
BUD Budapest 80.41 318 *e*PcP PcP 16 21 52.5 -0.5
SMY Shemya 80.46 37 *eP* **P 16 21 45.6 -0.2**
comp=Z,10µm,1.1s,mb7.7
SMY LR LR
comp=Z,1525µm,21.0s,MS8.3
PKSM Moragy 80.51 316⇑*eP* **P 16 21 45.5 -0.7**
LTZ Lake Taylor 80.57 134 P **P 16 21 46.6 0.0**
LTZ Lake Taylor 80.57 134 PN **P 16 21 46.6 0.0**
VYHS Vyhne 80.67 319 *iP* **P 16 21 46.7 -0.3**
VYHS *i*S S 16 31 59.3 +8.4
PKS9 Tamasi 80.81 317 *eP* **P 16 21 47.0 -0.8**
TSUM Tsumeb 80.81 250 LR LR 16 56 46.2
comp=Z,1542µm,18.7s,MS8.4,baz=65,slow=35
TSUM Tsumeb 80.81 250 *eP* **P 16 21 47.9 -0.5**
comp=Z,982nm,1.1s,mb6.7
TSUM LR LR
comp=Z,1462µm,20.0s,MS8.3
STON Ston 80.82 313 *eP* **P 16 21 49.4 +1.5**
SYO Syowa Base 80.82 198 ⇓*iP* **P 16 21 51.6 +4.2**
PKSG 80.83 318 *eP* **P 16 21 47.3 -0.6**
THZ Tophouse 80.83 133 *eP* **P 16 21 47.4 -0.6**
SRO2 Moca 80.87 318 *iP* **P 16 21 48.2 +0.1**
RHK1 Bakonya 80.89 316 *eP* **P 16 21 47.9 -0.3**

WCZ Waipu Caves 80.91 127 *eP* **P 16 21 49.7 +1.2**
WCZ Waipu Caves 80.91 127 PN **P 16 21 49.7 +1.2**
SRO Srobarova 80.93 318 *iP* **P 16 21 49.0 +0.6**
SRO *i*S tx 16 32 19.6
KOLL Kolacno 80.96 319 *iP* **P 16 21 48.5 0.0**
KOLL *i*S ScS 16 32 11.4 +0.8
KOLL Kolacno 80.96 319 *i*SCS ScS 16 32 11.4 +0.8
CRLZ Canterbury Las 80.98 135 P **P 16 21 49.0 +0.3**
CRLZ Canterbury Las 80.98 135 PN **P 16 21 49.0 +0.3**
MQZ McQueen's Vall 81.03 135 PN **P 16 21 51.3 +2.3**
TIP Timpagrande 81.20 309 *eP* **P 16 21 49.4 -0.6**
KEV Kevo 81.23 341 *ep* **P 16 21 48.9 -0.6**
comp=Z,341nm,0.9s,mb6.3
KEV Kevo 81.23 341 *eP* **P 16 21 48.9 -0.6**
KEV pmax pmax
comp=Z,341nm,0.9s,mb6.3
LTRZ Laterza 81.27 311 *eP* **P 16 21 52.6 +2.3**
OKC Ostrava-Krasne 81.28 320 *eP* **P 16 21 49.8 -0.4**
OKC *ex* x 16 22 07.1
OKC *e*SKS SKS 16 32 07.5 -3.6
RAC Raciborz 81.28 320 *eP* **P 16 21 50.2 0.0**
RAC *e*S S 16 32 04.6 +7.3
RAC MLR MLR
comp=Z,920µm,23.8s,MS8.1
RAC Raciborz 81.28 320 *eP* **P 16 21 50.2 0.0**
RAC *e*S S 16 32 04.6 +7.3
RAC *e*SKSac 16 32 11.5
RAC LR LR
comp=Z,920µm,23.8s,MS8.1
RAC Raciborz 81.28 320 *eP* **P 16 21 50.2 0.0**
RAC *e*S S 16 32 04.6 +7.3
RAC ⇑*e*SKSa 16 32 11.5
RAC LMN 17 00 04.4
RAC MLR MLR 17 01 14.0
RAC LME 17 01 20.1
comp=Z,1900µm,24.8s
DUWZ D'Urville Isla 81.40 132 PN **P 16 21 50.1 -1.0**
KHZ Kahutara 81.42 133 *eP* **P 16 21 50.8 -0.3**
KHZ Kahutara 81.42 133 PN **P 16 21 50.8 -0.3**
GRI Girifalco 81.44 309 *eP* **P 16 21 54.4 +3.2**
ORI Oriolo Calabro 81.50 310 *eP* **P 16 21 54.9 +3.3**
MORC Moravsky Berou 81.67 320 *eP* **P 16 21 51.7 -0.5**
MORC pmax pmax
comp=Z,2µm,1.2s,mb6.9
MORC Moravsky Berou 81.67 320 *eP* **P 16 21 51.7 -0.4**
comp=Z,2µm,1.2s,mb6.9
ARCES ARCESS Array B 81.67 340 P **P 16 21 52.0 +0.1**
comp=Z,27nm,0.5s,baz=98,slow=4.8,SNR=85
ARCES S S 16 32 13.1 +12
comp=Z,14nm,0.9s,baz=121,slow=5.3,SNR=1.8
ARCES PKKP PKKP 16 40 16.5 +10
comp=Z,10nm,0.9s,baz=63,slow=2.7,SNR=4.2
ARCES PKKPbc 16 40 25.5
comp=Z,3.9nm,0.7s,baz=117,slow=5.4,SNR=4.1
ARCES LR LR 17 01 03.9
comp=Z,1123µm,20.5s,MS8.2,baz=121,slow=38
ARE0 ARCESS Array S 81.67 340 *eP* **P 16 21 52.0 +0.2**
SOI Samo 81.67 308 *eP* **P 16 21 52.8 +0.3**
HIZ Hauiti 81.73 129 *eP* **P 16 21 52.7 0.0**
HIZ Hauiti 81.73 129 PN **P 16 21 52.7 0.0**
HIZ SKS SKS 16 32 25.8 +11
ZST Bratislava 81.78 318 *iP* **P 16 21 52.8 0.0**
ZST *i*S tx 16 32 20.6
SCLL Scilla 81.95 308 *eP* **P 16 21 59.1 +5.2**
FGMS Monte Sant'Ang 82.00 312 *eP* **P 16 21 56.1 +2.0**
SISC Sisak 82.01 315 *iP* **P 16 21 53.4 -0.7**
WAZ Wanganui 82.03 130 *eP* **P 16 21 55.2 +0.9**
WAZ Wanganui 82.03 130 PN **P 16 21 55.2 +0.9**
MSI Messina ING 82.07 308 *eP* **P 16 21 57.2 +2.7**
SNZO South Karori 82.08 132 *eP* **P 16 21 52.9 -1.6**
comp=Z,2µm,1.2s,mb6.9
SNZO LR LR
comp=Z,7019µm,22.0s,MS9.0
SOP Sopron 82.09 318⇑*eP* **P 16 21 56.1 +1.7**
KUZ Kuaotunu 82.13 127 *eP* **P 16 21 55.6 +0.7**
KUZ Kuaotunu 82.13 127 PN **P 16 21 55.6 +0.7**
KIW Kapiti Island 82.15 132 *eP* **P 16 21 54.9 0.0**
KIW Kapiti Island 82.15 132 PN **P 16 21 54.8 -0.1**
SLCN Sala Consilina 82.15 310 *eP* **P 16 21 57.2 +2.3**
KOGS Kog 82.19 316 *eP* **P 16 21 54.7 -0.3**
MGR Morigerati 82.20 310 *eP* **P 16 21 56.9 +1.8**
VRAC Vranov 82.23 319 P **P 16 21 55.1 0.0**
GKP Gorka Klasztor 82.27 323 *eP* **P 16 21 55.1 -0.1**
GKP *e*PP pP 16 22 05.6 +0.8
GKP MLR MLR
comp=Z,1114µm,26.4s,MS8.1
GKP Gorka Klasztor 82.27 323 *eP* **P 16 21 55.1 -0.1**
GKP *e*PcP PcP 16 22 01.8 +0.9
GKP *e*pP pP 16 22 05.6 +0.8
GKP *e*S S 16 32 18.2 +11
GKP LR LR
comp=Z,1114µm,26.4s,MS8.1
GKP Gorka Klasztor 82.27 323 *eP* **P 16 21 55.1 -0.1**
GKP *e*PcP PcP 16 22 01.8 +0.8
GKP *e*pP pP 16 22 05.6 +0.8
GKP *e*S S 16 32 18.2 +11
GKP MLR MLR 16 59 54.1
comp=Z,1114µm,26.4s,MS8.1
AGST Augusta-Monte 82.27 307 *eP* **P 16 21 58.7 +3.1**
RGNG Rignano Grg 82.28 312 *eP* **P 16 21 57.7 +2.1**
MRLC Muro Lucano 82.29 311 *eP* **P 16 21 57.9 +2.3**
FG4 Candela 82.29 311 *eP* **P 16 21 58.2 +2.6**
KTK1 Kautokeino 82.31 340 *eP* **P 16 21 56.6 +1.4**
comp=Z,5µm,2.0s,mb7.1
KTK1 Kautokeino 82.31 340 *eP* **P 16 21 56.6 +1.4**
KTK1 AMb AMB 16 22 43.0
comp=Z,5µm,2.0s,mb7.1
VKA Vienna 82.31 318⇑*iP* **P 16 21 56.0 +0.5**
comp=Z,21µm,3.5s
MGZ Maungaku 82.33 130 P **P 16 21 56.8 +0.9**
MGZ Maungaku 82.33 130 PN **P 16 21 56.8 +0.9**
CNZ Chateau 82.37 130 P **P 16 21 56.6 +0.5**
CNZ Chateau 82.37 130 PN **P 16 21 56.6 +0.5**
DRZ Dome Shelter 82.39 130 PN **P 16 21 57.3 +1.1**
NGZ Ngauruhoe 82.41 130 *eP* **P 16 21 56.8 +0.5**
NGZ Ngauruhoe 82.41 130 PN **P 16 21 56.8 +0.5**
NGZ SKS tx 16 32 53.0
SGO Sicignano 82.41 310 *eP* **P 16 21 56.2 -0.1**
WNVZ Wahianoa 82.43 130 PN **P 16 21 59.0 +2.7**
TUVZ Tukino 82.46 130 *eP* **P 16 21 56.6 +0.1**
TUVZ Tukino 82.46 130 PN **P 16 21 56.8 +0.2**
FG5 Orsara di Pugl 82.49 311 *eP* **P 16 21 56.9 +0.3**
RATZ Rangitukua 82.49 129 *eP* **P 16 21 57.5 +0.8**
RATZ Rangitukua 82.49 129 PN **P 16 21 57.5 +0.8**
DPC Dobruska-Polom 82.51 320 *eP* **P 16 21 56.8 +0.3**
DPC MLR MLR
comp=Z,1258µm,18.3s,MS8.3
DPC Dobruska-Polom 82.51 320 *eP* **P 16 21 56.8 +0.3**
DPC *ex* x 16 22 20.3
DPC *ex* x 16 32 22.4
DPC AMS AMS 17 05 30.0
comp=Z,1258µm,18.3s
MOVZ Moawhango 82.56 130 *eP* **P 16 21 56.6 -0.4**
MOVZ Moawhango 82.56 130 PN **P 16 21 56.6 -0.4**
KSP Ksiaz 82.58 321⇑*eP* **P 16 21 56.8 -0.1**
KSP *e*PP pP 16 22 04.1 -2.4
KSP *e* 16 22 13.4
KSP *e* 16 32 17.0
KSP MLR MLR
comp=Z,2519µm,19.8s,MS8.6
KSP Ksiaz 82.58 321 *eP* **P 16 21 57.0 +0.1**
KSP *e*PcP PcP 16 22 00.1 -2.2
KSP *e*pP pP 16 22 04.2 -2.3
KSP *e*S S 16 32 18.7 +8.2
KSP MLR MLR 17 07 48.1
comp=Z,2184µm,19.8s,MS8.5
MRZ Mangatainoka R 82.62 131 P **P 16 21 56.8 -0.5**
MRZ Mangatainoka R 82.62 131 PN **P 16 21 56.8 -0.6**
MRZ SN S 16 32 40.4 +29
MTW Mount Morrison 82.64 132 *eP* **P 16 21 57.5 +0.1**
MTW Mount Morrison 82.64 132 PN **P 16 21 57.5 0.0**
CSSN Cassano Irpino 82.65 311 *eP* **P 16 21 57.0 -0.5**
SLNA Salina 82.66 308 *eP* **P 16 22 05.2 +7.6**
UPC Upice 82.72 321 *eP* **P 16 21 57.7 0.0**
UPC *ex* x 16 22 14.9
ARSA Arzberg 82.75 317⇑*iP* **P 16 21 57.8 -0.1**
comp=Z,42µm,4.3s
BOJS Bojanci 82.80 315 *eP* **P 16 21 57.8 -0.3**
BOJS *e* 16 22 14.9
TSZ Takapari Road 82.82 131 *eP* **P 16 21 57.8 -0.6**
TSZ Takapari Road 82.82 131 PN **P 16 21 57.8 -0.6**
TSZ SN tx 16 32 42.3

BKZ Black Stump Fm 83.09 130 *eP* **P 16 21 59.7 -0.1**
BKZ Black Stump Fm 83.09 130 PN **P 16 21 59.7 -0.1**
BKZ SN tx 16 32 47.5
CII Carovilli 83.24 312 *eP* **P 16 22 01.7 +1.2**
GIB Gibilmanna 83.26 308 *eP* **P 16 22 07.5 +6.8**
LJU Ljubljana 83.34 316 *eP* **P 16 22 00.9 -0.1**
LJU *e*PcP PcP 16 22 08.0 +2.2
LJU *e*PKiKP 16 22 18.2
LJU *e* 16 22 24.6
LJU *e*PP PP 16 25 41.4 +27
LJU *e*SKSac 16 32 29.5
LJU *e* 16 32 58.2
LJU *e* 16 38 26.1
OBKA Obir 83.36 316⇑*iP* **P 16 22 00.9 -0.1**
comp=Z,85µm,7.4s
URZ Urewera 83.44 129 S S 16 32 30.4 +11
comp=Z,3.5nm,0.6s,baz=328,slow=18,SNR=2.0
URZ LR LR 17 00 07.5
comp=Z,4515µm,21.8s,MS8.8,baz=275,slow=36
URZ Urewera 83.44 129 *eP* **P 16 22 01.4 -0.2**
URZ Urewera 83.44 129 PN **P 16 22 01.3 -0.3**
SDI San Donato 83.61 312 *eP* **P 16 22 01.8 -0.6**
PRU Pruhonice 83.62 320 *eP* **P 16 22 02.0 -0.3**
PRU *e* 16 22 18.1
PRU MLR MLR
comp=Z,1201µm,19.9s,MS8.3
PRU Pruhonice 83.62 320 *eP* **P 16 22 02.0 -0.3**
PRU *ex* x 16 22 18.1
PRU *ex* x 16 32 34.3
PRU AMS AMS 17 05 10.0
comp=Z,1201µm,19.9s
PVCC Panska Ves 83.64 320 *eP* **P 16 22 02.4 0.0**
PVCC *e*S S 16 32 28.3 +7.1
PVCC MLR MLR
comp=Z,1226µm,18.3s,MS8.3
PVCC Panska Ves 83.64 320 *eP* **P 16 22 02.4 0.0**
PVCC *ex* x 16 22 25.3
PVCC *e*S S 16 32 28.3 +7.1
PVCC AMS AMS 17 08 10.0
comp=Z,1226µm,18.3s
MOA Molln 83.65 318⇑*iP* **P 16 22 01.9 -0.6**
comp=Z,59µm,6.0s
PRA Prague 83.69 320 P **P 16 22 07.0 +4.3**
PRA *ex* x 16 22 30.0
PRA *ex* x 16 26 12.0
PRA *ex* x 16 33 00.0
PRA AMS AMS 17 05 30.0
MWZ Matawai 83.78 129 *eP* **P 16 22 02.6 -0.8**
MWZ Matawai 83.78 129 PN **P 16 22 02.6 -0.8**
MWZ SN tx 16 32 51.6
VOY Vojsko 83.78 316 *eP* **P 16 22 02.5 -0.7**
BSD Bornholm Skovb 83.82 325 *iS* S 16 32 32.6 +10
comp=Z,875µm,19.0s
TRI Trieste 83.86 316 *eP* **P 16 22 02.8 -0.8**
CLTB Caltabellotta 83.89 307 *eP* **P 16 22 09.8 +5.8**
PTQR Pietraquaria 83.93 312 *eP* **P 16 22 03.6 -0.4**
TRO Tromso 83.93 340 *eP* **P 16 22 02.5 -1.0**
TRO AMS AMS 17 03 26.9
comp=Z,1461µm,21.4s,MS8.3
AQU L'Aquila 83.94 312 *eP* **P 16 22 04.3 +0.2**
USI Ustica 83.96 309 *eP* **P 16 22 03.3 -1.0**
ROBS Robic 84.06 316 *eP* **P 16 22 03.9 -0.7**
ROBS *e* pP 16 22 12.7 -1.6
BRG Berggiesshubel 84.06 321 *iP* **P 16 22 04.7 +0.2**
BRG pmax pmax
comp=Z,2µm,1.3s,mb7.0
BRG MLR MLR
comp=Z,1400µm,22.5s,MS8.3
BRG Berggiesshubel 84.06 321 *iP* **P 16 22 04.7 +0.2**
comp=Z,2µm,1.3s,mb7.0
BRG *i* PP tx 16 25 33.0
BRG *i* S tx 16 32 41.0
BRG *i* SS tx 16 38 33.0
BRG *i* 16 47 15.0
BRG *i* P'P' 16 48 59.8
BRG LR LR
comp=Z,1400µm,22.5s,MS8.3
GERES GERESS Array B 84.09 319 P **P 16 22 04.1 -0.6**
comp=Z,25nm,0.9s,baz=104,slow=5.5,SNR=122
GERES S S 16 32 35.7 +10
comp=Z,4.9nm,0.9s,baz=57,slow=32,SNR=3.2
NRCA Norcia 84.18 313 *eP* **P 16 22 03.3 -2.0**
PTCC Patocco-Chiusa 84.18 316 *eP* **P 16 22 04.5 -0.7**
KHC Kasperske Hory 84.19 319 *eP* **P 16 22 04.5 -0.7**
KHC *e*S S 16 32 32.1 +5.4
KHC MLR MLR
comp=Z,1036µm,20.2s,MS8.2
KHC Kasperske Hory 84.19 319 *eP* **P 16 22 04.5 -0.7**
KHC *ex* x 16 22 27.8
KHC *e*S S 16 32 32.1 +5.4
KHC AMS AMS 17 06 50.0
comp=Z,1036µm,20.2s
KBA Koelnbreinsper 84.22 317⇑*iP* **P 16 22 04.6 -0.8**
comp=Z,42µm,5.5s
GMNA Gemona 84.25 316 *eP* **P 16 22 05.2 -0.4**
RUE Ruedersdorf 84.28 322 *eP* **P 16 22 05.3 -0.3**
comp=Z,3µm,0.9s,mb7.4
PUZ Puketiti 84.31 128 *eP* **P 16 22 04.3 -1.8**
PUZ Puketiti 84.31 128 SN S 16 32 46.1 +18
SNTG Esanatoglia 84.32 313 *eP* **P 16 22 05.6 -0.4**
ARV Arcevia 84.33 313 *eP* **P 16 22 06.1 0.0**
ERC Erice 84.40 308 *eP* **P 16 22 02.1 -4.4**
MNS Montasola 84.48 312 *eP* **P 16 22 05.3 -1.5**
FVI Forni Avoltri 84.58 316 *eP* **P 16 22 06.7 -0.5**
WET Wettzell 84.64 319 *eP* **P 16 22 07.3 -0.2**
WET pmax pmax
comp=Z,2µm,1.3s,mb7.0
WET Wettzell 84.64 319 *eP* **P 16 22 07.3 -0.2**
comp=Z,2µm,1.3s,mb7.0
CLL Collm 84.68 321 *eP* **P 16 22 07.0 -0.6**
CLL MLR MLR
comp=Z,1147µm,20.8s,MS8.2
CLL Collm 84.68 321 *eP* **P 16 22 07.0 -0.6**
CLL *eP* 16 22 29.0
CLL *eS* S 16 32 44.0 +12
CLL *eS* S 16 33 09.0 +37
CLL LR LR
comp=Z,1147µm,20.8s,MS8.2
CLL Collm 84.68 321 P **P 16 22 07.0 -0.6**
CLL *i* 16 22 14.5
CLL *i* 16 22 23.9
CLL *e* 16 22 29.0
CLL *i* 16 22 45.5
CLL *i* 16 22 56.2
CLL *i* 16 23 16.8
CLL *e* 16 24 25.0
CLL *e*PP tx 16 26 09.0
CLL *e* 16 26 17.0
CLL *e* 16 27 20.0
CLL *e*PPP PPP 16 27 55.0 +34
CLL *eS* S 16 32 44.0 +12
CLL *eS* S 16 32 52.0 +20
CLL *eS* S 16 33 09.0 +37
CLL *e* 16 33 30.0
CLL *e* 16 35 02.0
CLL *e*SS SS 16 38 42.0 +36
CLL *e*SSS SSS 16 42 12.0 +38
RGN Rugen 84.69 324 P **P 16 22 09.5 +2.0**
comp=Z,4µm,1.3s,mb7.4
RSM Repubblica di 84.70 314 *eP* **P 16 22 08.5 +0.6**
NKC Novy Kostel 84.98 320 *eP* **P 16 22 08.9 -0.2**
NKC *eS* S 16 32 39.3 +4.8
NKC Novy Kostel 84.98 320 *eP* **P 16 22 08.9 -0.2**
NKC *ex* x 16 22 32.3
NKC *eS* S 16 32 39.3 +4.8
NKC AMS AMS 17 07 00.0
comp=Z,1383µm,19.0s
MIDW Midway 85.06 62 PFAKE 16 22 20.0 +10
MIDW LR LR
comp=Z,773µm,21.0s,MS8.1
MOR8 Moi Rana 85.12 336 *eP* **P 16 22 09.2 -0.3**
comp=Z,3µm,1.0s,mb7.3
MOR8 Moi Rana 85.12 336 *eP* **P 16 22 09.2 -0.3**
MOR8 AMb AMB 16 23 06.7
comp=Z,3µm,1.0s,mb7.3
SFI Santa Sofia 85.14 314 *eP* **P 16 22 10.7 +0.6**
PGD Poggio Sodo 85.23 314 *eP* **P 16 22 11.4 +0.9**
COP Copenhagen 85.27 326 *eP* **P 16 22 15.4 +5.0**
COP *i*S S 16 32 45.6 +8.4
COP pmax pmax
comp=Z,794nm,0.9s,mb6.8
COP MLR MLR
comp=Z,771µm,20.0s,MS8.1

COP Copenhagen 85.27 326 *e*P **P 16 22 15.4 +5.0**
comp=Z,794nm,0.9s,mb6.8
COP *i* S S 16 32 45.6 +8.4
COP LR LR
comp=Z,771µm,20.0s,MS8.1
COP Copenhagen 85.27 326 *i* P **P 16 22 15.4 +5.0**
comp=Z,794nm,0.9s,mb6.8
COP Copenhagen 85.27 326 *i* S S 16 32 45.6 +8.4
comp=Z,771µm,20.0s
CTI Castel Tesino 85.35 316 *e*P **P 16 22 10.9 -0.1**
VMG Vicchio 85.36 314 *e*P **P 16 22 11.7 +0.5**
WTTA Wattenberg 85.39 317⇑ *i*P **P 16 22 10.4 -0.9**
comp=Z,19µm,3.2s
WATA Walderalm 85.44 317⇑ *i*P **P 16 22 10.4 -1.1**
comp=Z,2µm,1.3s,mb7.0
WATA Walderalm 85.44 317⇑ *i*P **P 16 22 10.4 -1.1**
WATA pmax pmax
comp=Z,2µm,1.3s,mb7.0
SEI Scarperia 85.50 314 *e*P **P 16 22 11.8 0.0**
MOX Moxa 85.53 320 *e*P **P 16 22 11.7 -0.1**
MOX *e*PS tx 16 33 06.0
MOX Moxa 85.53 320 *i* P **P 16 22 11.7 -0.1**
MOX PS tx 16 33 06.0
MOX L 17 09 36.0
LOF Lofoten 85.66 338 *e*P **P 16 22 14.8 +2.7**
LOF Lofoten 85.66 338 *e*P **P 16 22 14.1 +2.0**
SQTA Sankt Quirin 85.69 317⇑ *i*P **P 16 22 12.0 -0.7**
comp=Z,2µm,1.5s,mb7.2
SQTA Sankt Quirin 85.69 317⇑ *i*P **P 16 22 12.0 -0.7**
SQTA pmax pmax
comp=Z,2µm,1.5s,mb7.2
STOK Stokkvaagen 85.71 336 *e*P **P 16 22 14.8 +2.4**
KIWB Kanaga Island 85.72 38 *e*P **P 16 22 12.8 +0.1**
GRA1 Grafenberg Arr 85.75 319 *e*P **P 16 22 13.2 +0.2**
comp=Z,2µm,1.1s,mb7.3
GRA1 LR LR
comp=Z,1510µm,20.6s,MS8.4
GRF Grafenberg Arr 85.75 319 *e*P **P 16 22 13.2 +0.2**
GRF pmax pmax
comp=Z,2µm,1.1s,mb7.3
GRF MLR MLR
comp=Z,1510µm,20.6s,MS8.4
GRF Grafenberg Arr 85.75 319 *e*P **P 16 22 13.2 +0.2**
GRF pmax pmax
comp=Z,2µm,1.1s,mb7.3
GRF MLR MLR
comp=Z,1510µm,20.6s,MS8.4
GRF Grafenberg Arr 85.75 319 *e*P **P 16 22 13.2 +0.2**
comp=Z,2µm,1.1s,mb7.3
GRF LR LR
comp=Z,1510µm,20.6s,MS8.4
GRFL Gerfalco 85.75 313 *e*P **P 16 22 12.0 -1.1**
MOTA Moosalm 85.76 317⇑ *i*P **P 16 22 12.2 -0.9**
ZCCA Zocca 85.78 314 *e*P **P 16 22 14.3 +1.0**
NSS Namsos 86.03 334 *e*P **P 16 22 16.7 +2.7**
NSS AMS AMS 17 05 13.1
comp=Z,1794µm,18.6s,MS8.5
GSCL Gusciola 86.06 314 *e*P **P 16 22 15.3 +0.7**
HSP Hornsund 86.07 347 *e*P **P 16 22 13.3 -0.7**
PII Pisa 86.09 313 *e*P **P 16 22 15.7 +0.9**
SAL Salo 86.12 315 *e*P **P 16 22 15.7 +0.8**
ERBM Eremo 86.18 314 *e*P **P 16 22 16.3 +1.0**
NB2 NORSAR Subarra 86.19 331 P **P 16 22 14.6 -0.2**
comp=Z,3µm,1.4s,mb7.4,baz=94,slow=5.0
NB2 NORSAR Subarra 86.19 331 P **P 16 22 14.6 -0.2**
NB2 pmax pmax
comp=Z,3µm,1.4s,mb7.4
NB2 NORSAR Subarra 86.19 331 P **P 16 22 14.6 -0.2**
baz=94,slow=5.1
NOA NORSAR Array B 86.19 331 P **P 16 22 14.1 -0.7**
comp=Z,9.8nm,0.8s,baz=214,slow=22,SNR=34
NOA S S 16 32 57.9 +12
comp=Z,6.1nm,0.8s,baz=78,slow=5.1,SNR=2.1
NOA LR LR 17 05 44.8
comp=Z,1291µm,21.5s,baz=95,slow=39
NOA NORSAR Array B 86.19 331 P **P 16 22 14.1 -0.7**
NOA S S 16 32 57.9 +12
NOA LR LR 17 05 44.8
SARO Sassorosso 86.19 314 P **P 16 22 21.9 +6.6**
BRMO Bormio 86.24 316 *e*P **P 16 22 15.7 +0.2**
VALM 86.30 314 P **P 16 22 22.3 +6.5**
FUORN Ofenpass 86.32 316⇑ *i*P **P 16 22 15.8 -0.1**
NAO01 NORSAR Array S 86.34 331 *e*P **P 16 22 15.1 -0.5**
comp=Z,1µm,1.1s,mb7.1
NAO01 LR LR
comp=Z,1563µm,21.0s,MS8.4
CLZ Clausthal 86.34 322 *e*P **P 16 22 15.7 -0.2**
comp=Z,2µm,1.4s,mb7.2
RORSS Ber_school_1 86.36 335 *e*P **P 16 22 18.6 +3.0**
VINC Vinca 86.37 314 P **P 16 22 23.0 +6.9**
OSL Oslo 86.38 330 *e*P **P 16 22 18.4 +2.6**
comp=Z,6µm,1.7s,mb7.6
OSL Oslo 86.38 330 *e*P **P 16 22 18.4 +2.6**
OSL AMb AMB 16 23 06.0
comp=Z,6µm,1.7s,mb7.6
HDH Heidenheim 86.39 318⇑ *e*P **P 16 22 15.3 -0.9**
GSTR Great Sitkin T 86.40 38 *e*P **P 16 22 15.8 -0.3**
BACM 86.43 314 P **P 16 22 23.2 +6.8**
BSEG Bad Segeberg 86.43 324 *e*P **P 16 22 16.2 0.0**
GRAM 86.43 314 P **P 16 22 24.2 +7.7**
UBR Uberruh 86.44 317⇑ *e*P **P 16 22 15.8 -0.6**
BERNI Berninapass 86.48 316 *i*P **P 16 22 16.8 +0.1**
CODM 86.59 314 P **P 16 22 24.5 +7.2**
DAVOX Davos 86.59 317⇑ *i*P **P 16 22 17.2 0.0**
DAVA Damuels 86.59 317⇑ *i*P **P 16 22 16.9 -0.3**
comp=Z,48µm,4.8s
RAO Raoul Island 86.62 119 P **P 16 22 17.6 -0.2**
RAO pmax pmax
comp=Z,3µm,1.3s,mb7.4
RAO MLR MLR
comp=Z,2395µm,22.0s,MS8.6
RAO Raoul Island 86.62 119 P **P 16 22 17.6 -0.2**
comp=Z,3µm,1.3s,mb7.4
RAO LR LR
comp=Z,2395µm,22.0s,MS8.6
VNDA Vanda 86.72 169 P **P 16 22 17.1 -0.1**
comp=Z,2.7nm,0.6s,baz=290,slow=5.1,SNR=20
VNDA S S 16 32 49.1 -1.6
comp=Z,12nm,1.2s,baz=115,slow=17,SNR=1.4
VNDA Vanda 86.72 169 *e*P **P 16 22 16.9 -0.2**
comp=Z,2µm,1.5s,mb7.0
VNDA LR LR
comp=Z,1644µm,19.0s,MS8.4
SIND Sindeldorf 86.80 319⇑ *e*P **P 16 22 17.9 -0.2**
LIENZ Alp Oberkamor 86.85 317⇑ *e*P **P 16 22 17.8 -0.7**
BOB Bobbio (Coli) 86.88 315 *e*P **P 16 22 21.0 +2.4**
VSL Villasalto 86.93 309 *e*P **P 16 22 17.8 -1.2**
comp=Z,976nm,1.0s,mb7.0
PLONS Plons 86.93 317⇑ *i*P **P 16 22 18.3 -0.5**
KONO Kongsberg 86.94 329 *e*P **P 16 22 17.6 -1.0**
KONO pmax pmax
comp=Z,960nm,1.6s,mb6.8
KONO MLR MLR
comp=Z,1400µm,20.0s,MS8.4
KONO Kongsberg 86.94 329 *e*P **P 16 22 18.8 +0.2**
BUCH Bad Urach 86.95 318⇑ *e*P **P 16 22 18.7 -0.2**
STU Stuttgart 87.06 319 *e*P **P 16 22 19.0 -0.4**
STU pmax pmax
comp=Z,1µm,1.1s,mb7.1
STU Stuttgart 87.06 319 *e*P **P 16 22 19.0 -0.4**
comp=Z,1µm,1.1s,mb7.1
GUT Gutenstein 87.11 318⇑ *e*P **P 16 22 18.9 -0.8**
MUGIO Muggio 87.16 316⇑ *e*P **P 16 22 18.1 -1.9**
PGF Pioggiola 87.20 312 *e*P **P 16 22 19.9 -0.4**
comp=Z,4µm,1.6s,mb7.1
PGF Pioggiola 87.20 312 *e*P **P 16 22 19.9 -0.4**
PGF pmax pmax
comp=Z,2µm,1.6s,mb7.1
GENL Genova Univers 87.22 314 P **P 16 22 28.0 +7.7**
DOMB Dombas 87.24 332 *e*P **P 16 22 23.6 +3.6**
TOD Tromm 87.32 319 *e*P **P 16 22 27.7 +7.1**
TOD Tromm 87.32 319⇑ *e*P **P 16 22 20.4 -0.2**
LBG Lerchenberg 87.33 318⇑ *e*P **P 16 22 20.1 -0.6**
SPAK Spaichingen 87.33 318 *e*P **P 16 22 28.0 +7.2**
SPAK Spaichingen 87.33 318 *e*P **P 16 22 20.5 -0.3**
VAI Varese 87.35 316 *e*P **P 16 22 19.0 -1.9**
SWS Schriesheim 87.39 319 *e*P **P 16 22 20.5 -0.5**
MUO Muotathal 87.44 317⇑ *i*P **P 16 22 21.2 -0.1**
PCP Pian Castagno 87.52 314 P **P 16 22 29.7 +8.0**
TNS Taunus Mts 87.55 320 *e*P **P 16 22 21.6 -0.1**
TNS pmax pmax
comp=Z,1µm,1.3s,mb7.1
TNS MLR MLR
comp=Z,1138µm,22.0s,MS8.2
TNS Taunus Mts 87.55 320 *e*P **P 16 22 21.6 -0.1**
comp=Z,1µm,1.3s,mb7.1
TNS LR LR
comp=Z,1138µm,22.0s,MS8.2
BFO Black Forest 87.64 318 P **P 16 22 21.5 -0.7**
comp=Z,920nm,0.9s,mb7.0,SNR=37
BFO Black Forest 87.64 318 *e*P **P 16 22 21.3 -0.9**
BFO pmax pmax
comp=Z,749nm,0.9s,mb6.9
BFO Black Forest 87.64 318 *e*P **P 16 22 21.3 -0.9**
comp=Z,749nm,0.9s,mb6.9
FIN Finale Ligure 87.77 314 *e*P **P 16 22 22.4 -0.5**
SULZ Sulz-Cheisache 87.79 317⇑ *i*P **P 16 22 22.3 -0.7**
KTD Kalmit 87.79 319 *e*P **P 16 22 30.1 +7.2**
KTD Kalmit 87.79 319 *e*P **P 16 22 22.5 -0.4**
SBA Scott Base 87.81 169 *e*P **P 16 22 23.3 +0.8**
SBA pmax pmax
comp=Z,959nm,1.6s,mb6.8
SBA MLR MLR
comp=Z,1165µm,20.0s,MS8.3
SBA Scott Base 87.81 169 *e*P **P 16 22 23.3 +0.8**
comp=Z,959nm,1.6s,mb6.8
SBA LR LR
comp=Z,1165µm,20.0s,MS8.3
FELD Feldberg 87.86 318 *e*P **P 16 22 22.6 -0.7**
MCGN Macugnaga 87.90 316 *e*P **P 16 22 23.8 +0.3**
ORX Oropa 87.91 315 P **P 16 22 31.8 +8.2**
LANF Langenberg 87.98 319 *e*P **P 16 22 30.2 +6.4**
IMI Imperia 88.00 314 *e*P **P 16 22 24.0 0.0**
ROB Roburent 88.01 314 P **P 16 22 31.1 +7.1**
STR Strasbourg 88.01 318 *e*P **P 16 22 31.5 +7.5**
TRAV 88.07 315 P **P 16 22 32.1 +7.8**
MONE Monesi 88.09 314 P **P 16 22 31.8 +7.3**
LIBD Limburg 88.13 318 *e*P **P 16 22 30.9 +6.4**
LIBD Limburg 88.13 318 *e*P **P 16 22 24.2 -0.3**
ABH Alteburg 88.13 320⇑ *e*P **P 16 22 24.2 -0.3**
NEGI Negi 88.14 314 P **P 16 22 31.7 +7.0**
WIMIS Wimmis 88.14 316⇑ *i*P **P 16 22 24.3 -0.3**
LKBD Leukerbad 88.14 316⇑ *e*P **P 16 22 24.0 -0.7**
SNART Snartemo 88.18 328 *e*P **P 16 22 32.9 +8.4**
BBS Basel-Blauen 88.20 317 *e*P **P 16 22 32.2 +7.3**
BBS Basel-Blauen 88.20 317 *e*P **P 16 22 24.2 -0.7**
SAOF Saorge 88.24 314 *e*P **P 16 22 32.6 +7.4**
WLS Welschbruch 88.29 318 *e*P **P 16 22 32.1 +6.8**
DIX Grande Dixence 88.30 316⇑ *i*P **P 16 22 25.9 +0.5**
SBF Sospel 88.33 314 *e*P **P 16 22 25.1 -0.5**
comp=Z,3µm,1.1s,mb7.2
SBF Sospel 88.33 314 *e*P **P 16 22 25.1 -0.5**
SBF pmax pmax
comp=Z,2µm,1.1s,mb7.2
AUTN L'Aution 88.33 314 *e*P **P 16 22 34.2 +8.6**
ENR Entracque 88.33 314 P **P 16 22 32.9 +7.3**
CDF Champ du Feu 88.34 318 *e*P **P 16 22 24.9 -0.7**
comp=Z,2µm,1.4s,mb6.9
CDF Champ du Feu 88.34 318 *e*P **P 16 22 24.9 -0.7**
CDF pmax pmax
comp=Z,1µm,1.4s,mb6.9
REVF Revere 88.38 314 *e*P **P 16 22 33.0 +7.1**
STV2 Anna di Valdie 88.40 314 P **P 16 22 33.8 +7.8**
STV Sta Anna Valdi 88.40 314 P **P 16 22 33.9 +7.9**
ECH Echery 88.42 318 *e*P **P 16 22 32.9 +6.9**
RSP Reno Superiore 88.43 315 P **P 16 22 34.5 +8.4**
BHB Bricherasio 88.43 315 P **P 16 22 34.9 +8.8**
ODD1 Odda 88.45 330 *e*P **P 16 22 32.4 +6.6**
MOF Molkenrain 88.45 318 *e*P **P 16 22 33.1 +7.0**
DOI San Damiano 88.45 314 *e*P **P 16 22 26.7 +0.5**
RUP Ruppelstein 88.45 319 *e*P **P 16 22 33.8 +7.7**
RUP Ruppelstein 88.45 319⇑ *e*P **P 16 22 25.8 -0.3**
TOUF Mont Tournerai 88.46 314 *e*P **P 16 22 33.8 +7.5**
ABSA Djebel Ababsia 88.48 306 P **P 16 22 32.0 +5.5**
LSD Ceresole Reale 88.49 315 P **P 16 22 34.8 +8.4**
CMAH Djebel Manchou 88.52 306 P **P 16 22 30.0 +3.3**
CGMA Guelma 88.53 306 P **P 16 22 35.0 +8.2**
MVIF Mont Vial 88.53 314 *e*P **P 16 22 34.0 +7.4**
BLS5 Blasjo 88.55 329 *e*P **P 16 22 31.4 +5.1**
comp=Z,2µm,2.1s,mb7.1
BLS5 Blasjo 88.55 329 *e*P **P 16 22 31.4 +5.1**
BLS5 AMb AMB 16 23 17.5
comp=Z,2µm,2.1s,mb7.1
PZZ Prazzo 88.55 314 P **P 16 22 34.8 +8.1**
WTSB Winterswijk 88.56 322 *e*P **P 16 22 26.7 +0.2**
comp=Z,849nm,1.9s,mb6.8
FENE Fenestrelle 88.57 315 P **P 16 22 34.7 +7.9**
SALAN Lac Salanfe 88.60 316⇑ *i*P **P 16 22 26.8 -0.1**
WIT Witteveen 88.61 323 *e*P **P 16 22 37.5 +11**
HYA Hoyanger 88.63 331 *e*P **P 16 22 30.0 +3.4**
HINF Hinteralfeld 88.64 318 *e*P **P 16 22 26.3 -0.7**
comp=Z,2µm,1.4s,mb6.9
HINF Hinteralfeld 88.64 318 *e*P **P 16 22 26.3 -0.7**
HINF pmax pmax
comp=Z,797nm,1.4s,mb6.9
EMV Vieux Emosson 88.66 316⇑ *i*P **P 16 22 27.1 0.0**
LOMF Lomont 88.67 317 *e*P **P 16 22 34.2 +7.0**
CALN Calern 88.73 314 *e*P **P 16 22 35.0 +7.5**
RRL Cesana Torines 88.77 315 P **P 16 22 36.1 +8.4**
LPG La Plagne 88.77 315 *e*P **P 16 22 27.7 0.0**
comp=Z,2µm,0.8s,mb7.2
LPG La Plagne 88.77 315 *e*P **P 16 22 27.7 0.0**
LPG pmax pmax
comp=Z,935nm,0.8s,mb7.2
MBDF Montbardon 88.78 315 *e*P **P 16 22 26.9 -0.9**
comp=Z,4µm,1.6s,mb7.2
MBDF Montbardon 88.78 315 *e*P **P 16 22 26.9 -0.9**
MBDF pmax pmax
comp=Z,2µm,1.6s,mb7.2
LPL La Plagne 88.79 315 *e*P **P 16 22 27.8 0.0**
comp=Z,3µm,1.0s,mb7.3
LPL La Plagne 88.79 315 *e*P **P 16 22 27.8 0.0**
LPL pmax pmax
comp=Z,2µm,1.0s,mb7.3
BNI Bardonecchia 88.84 315 *e*P **P 16 22 27.8 -0.2**
BNI pmax pmax
comp=Z,3µm,0.9s,mb7.6
BNI Bardonecchia 88.84 315 *e*P **P 16 22 27.8 -0.2**
comp=Z,3µm,0.9s,mb7.6
FRF La Foret Royal 88.91 313 *e*P **P 16 22 28.1 -0.3**
comp=Z,12µm,1.9s,mb7.6
FRF La Foret Royal 88.91 313 *e*P **P 16 22 28.1 -0.3**
FRF pmax pmax
comp=Z,6µm,1.9s,mb7.6
STAV Stavanger 88.95 329 *e*P **P 16 22 34.5 +6.3**
CAEH 'Ain El Ouahch 88.97 307 P **P 16 22 34.0 +5.1**
HAU Haudompre 88.97 318 *e*P **P 16 22 28.0 -0.6**
comp=Z,4µm,1.4s,mb7.3
HAU *e*R
comp=Z,1684µm,22.2s
HAU Haudompre 88.97 318 *e*P **P 16 22 28.0 -0.6**
HAU pmax pmax
comp=Z,2µm,1.4s,mb7.2
HAU MLR MLR
comp=Z,1684µm,22.3s,MS8.4
LMR La Mourre 89.02 313 *e*P **P 16 22 28.5 -0.4**
comp=Z,4µm,1.5s,mb7.2
LMR La Mourre 89.02 313 *e*P **P 16 22 28.5 -0.4**
LMR pmax pmax
comp=Z,2µm,1.5s,mb7.2
WLF Walferdange 89.04 319 *e*P **P 16 22 29.1 +0.2**
WLF pmax pmax
comp=Z,2µm,1.2s,mb7.2
WLF Walferdange 89.04 319 *e*P **P 16 22 29.1 +0.2**
comp=Z,2µm,1.2s,mb7.2
RUND Rundenannen 89.06 330 *e*P **P 16 22 35.5 +6.8**
BER Bergen 89.08 330 *e*P **P 16 22 33.8 +5.0**
BER AMS AMS 17 08 59.1
comp=Z,1835µm,16.5s,MS8.6
CKFL Kef-Lekhel 89.09 306 P **P 16 22 30.0 +0.5**
EGD Espegrend 89.14 330 *e*P **P 16 22 35.1 +6.0**
ASK Askoy 89.14 330 *e*P **P 16 22 33.4 +4.3**
HGN Heimansgroeve 89.14 321 *e*P **P 16 22 32.5 +3.2**
comp=Z,1µm,2.6s,mb6.7
HGN Heimansgroeve 89.14 321 *eS* tx 16 33 39.1
FOO Floro 89.16 331 *e*P **P 16 22 32.5 +3.3**
CABF La Chapelle 89.20 316 *e*P **P 16 22 29.5 -0.2**
comp=Z,2µm,1.0s,mb7.0
CABF La Chapelle 89.20 316 *e*P **P 16 22 29.5 -0.2**
CABF pmax pmax
comp=Z,868nm,1.0s,mb7.0
THEF They Montfort 89.20 318 *e*P **P 16 22 36.3 +6.6**
CASM Ain Smara 89.28 306 P **P 16 22 37.0 +6.6**
SUE Sulen 89.32 331 *e*P **P 16 22 36.8 +6.9**
CTEI Djebel Teioual 89.35 306 P **P 16 22 39.0 +8.3**
ORIF Oris-en-Rattie 89.41 315 *e*P **P 16 22 30.6 -0.2**
comp=Z,7µm,1.6s,mb7.5
ORIF *e*R
comp=Z,1278µm,22.5s
RFYF Reffroy 89.53 318 *e*P **P 16 22 31.1 -0.1**
comp=Z,7µm,1.9s,mb7.4,baz=58
DFRA Djebel Bou Aff 89.76 306 P **P 16 22 38.0 +5.4**
CMER Merouana 89.78 305 P **P 16 22 41.0 +8.3**
MEZF Maizieres J'vi 89.81 318 *e*P **P 16 22 32.4 -0.2**
comp=Z,10µm,1.8s,mb7.5,baz=107
SFTF Sexfontaines 89.84 318 *e*P **P 16 22 32.3 -0.4**
comp=Z,5µm,1.1s,mb7.4,baz=78
GIVF Givet 89.88 320 *e*P **P 16 22 32.6 -0.2**
comp=Z,2µm,1.0s,mb7.0
GIVF Givet 89.88 320 *e*P **P 16 22 32.6 -0.2**
GIVF pmax pmax
comp=Z,770nm,1.0s,mb7.0
CKHR Kef el Ahmar 90.08 306 P **P 16 22 44.0 +10**
SET Setif 90.16 306 P **P 16 22 36.0 +1.5**
TNA Tin City 90.17 24 *e*P **P 16 22 33.2 -0.6**
comp=Z,1µm,0.9s,mb7.3
TNA LR LR
comp=Z,1341µm,20.0s,MS8.4
VIVF Saint-Julien-l 90.27 315 *e*P **P 16 22 34.7 -0.1**
comp=Z,10µm,1.9s,mb7.5
VIVF Saint-Julien-l 90.27 315 *e*P **P 16 22 34.7 -0.1**
VIVF pmax pmax
comp=Z,5µm,1.9s,mb7.5
BAIF Baives 90.28 320 *e*P **P 16 22 34.7 0.0**
comp=Z,3µm,0.9s,mb7.4
BAIF Baives 90.28 320 *e*P **P 16 22 34.7 0.0**
BAIF pmax pmax
comp=Z,2µm,0.9s,mb7.4
NVL N'lazarevskaya 90.40 199⇓ *i*P **P 16 22 39.6 +4.8**
NVL *e*S S 16 33 07.1 -18
NVL *e*PS PS 16 35 01.4 +22
NVL MLR MLR
comp=Z,239µm,16.7s,MS7.7
MAIT Maitri 90.44 199 *e*P **P 16 22 42.9 +8.0**
MAIT *e*S S 16 33 37.3 +12
SMF Signal de Mont 90.74 317 *e*P **P 16 22 36.5 -0.4**
comp=Z,10µm,1.8s,mb7.6
SMF Signal de Mont 90.74 317 *e*P **P 16 22 36.5 -0.4**
SMF pmax pmax
comp=Z,5µm,1.8s,mb7.5
NIKO Nikolski 90.78 37 *e*P **P 16 22 36.0 -0.8**
LASF Ste Croix 90.90 314 *e*P **P 16 22 37.7 0.0**
comp=Z,8µm,1.8s,mb7.5
SSF Saint Saulge 90.94 317 *e*P **P 16 22 37.7 -0.1**
SSF pmax pmax
comp=Z,5µm,1.8s,mb7.6
SSF Saint Saulge 90.94 317 *e*P **P 16 22 37.7 -0.1**
comp=Z,5µm,1.8s,mb7.6
AVF Avril sur Loir 91.07 317 *e*P **P 16 22 38.1 -0.3**
comp=Z,10µm,1.8s,mb7.5
AVF Avril sur Loir 91.07 317 *e*P **P 16 22 38.1 -0.3**
AVF pmax pmax
comp=Z,5µm,1.8s,mb7.5
BGF Bois d'Agland 91.43 316 *e*P **P 16 22 40.2 +0.1**
comp=Z,6µm,1.3s,mb7.4
BGF Bois d'Agland 91.43 316 *e*P **P 16 22 40.2 +0.1**
BGF pmax pmax
comp=Z,3µm,1.3s,mb7.4
HYF Humbligny 91.52 317 *e*P **P 16 22 40.8 +0.4**
MENF Mencas 91.55 321 *e*P **P 16 22 41.0 +0.5**
AFI Afiamalu 91.58 104 P **P 16 22 41.0 -0.4**
AFI pmax pmax
comp=Z,2µm,1.3s,mb7.3
AFI MLR MLR
comp=Z,665µm,20.0s,MS8.1
AFI Afiamalu 91.58 104 P **P 16 22 43.1 +1.7**
comp=Z,48nm,1.0s,baz=231,slow=9.9,SNR=5.3
AFI Afiamalu 91.58 104 P **P 16 22 41.0 -0.4**
comp=Z,2µm,1.3s,mb7.3
AFI LR LR
comp=Z,665µm,20.0s,MS8.1
ABMS Boumerdes 91.67 307 P **P 16 22 57.8 +16**
EJON La Jonquera 91.72 312 P **P 16 22 43.8 +2.3**
comp=Z,1µm,2.6s,mb6.8
SJAF Saint Jean de 91.72 312 *e*P **P 16 22 47.7 +6.2**
APAE Packway 91.81 322 *e*P **P 16 22 50.8 +9.1**
TCF Toulx Ste Croi 91.89 316 *e*P **P 16 22 42.4 +0.2**
comp=Z,7µm,1.8s,mb7.4
TCF Toulx Ste Croi 91.89 316 *e*P **P 16 22 42.4 +0.2**
TCF pmax pmax
comp=Z,4µm,1.8s,mb7.4
AEU East Anglia Un 91.92 323 *e*P **P 16 22 51.4 +9.2**
LRDF Laroque-de-Fa 91.94 313 *e*P **P 16 22 45.9 +3.4**
FILF Fillols 91.95 313 *e*P **P 16 22 46.1 +3.5**
ETOS Mallorca 91.98 310 P **P 16 22 43.4 +0.6**
comp=Z,4µm,2.7s,mb7.3
ABA Alger-Bouzarea 92.03 307 P **P 16 22 55.0 +12**
QSPA South Pole Qui 92.03 180 *e*P **P 16 22 43.0 +0.9**
comp=Z,127nm,1.5s,mb6.0
AWH Whinburgh 92.10 323 *e*P **P 16 22 49.9 +7.0**
UNV Unalaska Valle 92.10 36 *e*P **P 16 22 42.3 -0.6**
comp=Z,1µm,0.8s,mb7.3
UNV LR LR
comp=Z,1862µm,22.0s,MS8.5
CAF Calviac 92.11 315 *e*P **P 16 22 43.7 +0.5**
comp=Z,5µm,1.6s,mb7.3
CAF Calviac 92.11 315 *e*P **P 16 22 43.7 +0.5**
CAF pmax pmax
comp=Z,3µm,1.6s,mb7.3
EMHD Djebel Mahouad 92.14 306 P **P 16 22 54.5 +11**
MTLF Montolieu 92.14 313 *e*P **P 16 22 43.6 +0.2**
comp=Z,3µm,1.3s,mb7.2
MTLF Montolieu 92.14 313 *e*P **P 16 22 43.6 +0.2**
MTLF pmax pmax
comp=Z,2µm,1.3s,mb7.2
CARF Carcanieres 92.28 313 *e*P **P 16 22 51.6 +7.6**
CARF Carcanieres 92.28 313 *e*P **P 16 22 56.6 +13**
LRW Lerwick 92.33 330 *e*P **P 16 22 51.3 +7.4**
LRW AMS AMS 17 10 55.3
comp=N,662µm,21.5s,MS8.2
LRW AMS AMS 17 10 57.5
comp=E,701µm,19.8s,MS8.2
VALF Valcebollere 92.37 312 *e*P **P 16 22 49.2 +4.7**
LPEF Le Peyrat 92.40 313 *e*P **P 16 22 50.0 +5.4**
RJF Les Rejaudoux 92.47 315 *e*P **P 16 22 45.4 +0.6**
comp=E,11µm,1.8s,mb7.6
RJF *e*R
comp=E,535µm,22.0s
RJF Les Rejaudoux 92.47 315 *e*P **P 16 22 45.4 +0.6**
RJF pmax pmax
comp=Z,5µm,1.8s,mb7.6
RJF MLR MLR
comp=Z,535µm,22.0s,MS8.0
WAL1 Walls 92.53 330 *e*P **P 16 22 45.1 +0.3**
EMIR Miracle 92.78 312 P **P 16 22 47.0 +0.6**
comp=Z,7µm,2.5s,mb7.6
SALF Salau 92.94 313 *e*P **P 16 23 01.1 +14**
MLS Moulis 93.00 313 *e*P **P 16 22 53.9 +6.6**
LFF La Frestale 93.05 315 *e*P **P 16 22 48.0 +0.5**
comp=Z,10µm,1.8s,mb7.6
LFF La Frestale 93.05 315 *e*P **P 16 22 48.0 +0.5**
LFF pmax pmax
comp=Z,5µm,1.8s,mb7.6
JNW Jan Mayen West 93.05 342 *e* **P 16 22 56.0 +9.1**
JMIC Jan Mayen 93.09 342 P **P 16 22 48.8 +1.6**
comp=Z,55nm,0.7s,mb6.1,baz=153,slow=17
JMIC Jan Mayen 93.09 342 *e*P **P 16 22 53.0 +5.9**
JMIC AMS AMS 17 10 48.8
comp=Z,796µm,18.7s,MS8.2
EPOB Poblet 93.16 311 P **P 16 22 48.3 +0.1**
comp=Z,4µm,2.4s,mb7.4
EIBI Ibiza 93.18 309 P **P 16 22 53.6 +5.3**
comp=Z,4µm,2.2s,mb7.4
LDF La Druitiere 93.23 319 *e*P **P 16 22 48.2 -0.1**
comp=Z,2µm,1.2s,mb7.2
LDF La Druitiere 93.23 319 *e*P **P 16 22 48.2 -0.1**
LDF pmax pmax
comp=Z,1µm,1.2s,mb7.2
MELF Melles 93.25 313 *e*P **P 16 22 56.2 +7.7**
EBNR Beni Rached 93.28 306 P **P 16 23 05.5 +17**
ECHA Ech Chlef 93.42 306 P **P 16 23 06.0 +17**
CWF Charnwood Fore 93.45 323 AMS AMS 17 10 27.0
CWF AMS AMS 17 12 38.1
CWF Charnwood Fore 93.45 323 AMS AMS 17 10 27.0
comp=N,377µm,23.4s,MS8.0
CWF AMS AMS 17 12 38.1
comp=E,522µm,21.0s,MS8.0
FLN La Foliniere 93.45 319 *e*P **P 16 22 49.0 -0.3**
comp=E,3µm,1.3s,mb7.2,baz=93
FLN *e*R
comp=E,924µm,22.5s
FLN La Foliniere 93.45 319 *e*P **P 16 22 49.0 -0.3**
FLN pmax pmax
comp=Z,1µm,1.3s,mb7.2

FLN MLR MLR
comp=Z,924µm,22.5s,MS8.2
HPK Haverah Park 93.46 324 *e*P **P 16 22 48.6 -0.6**
MFF Saint Martin d 93.48 317 *e*P **P 16 22 49.4 -0.1**
comp=Z,8µm,1.7s,mb7.6
MFF Saint Martin d 93.48 317 *e*P **P 16 22 49.4 -0.1**
MFF pmax pmax
comp=Z,4µm,1.7s,mb7.6
KBI1 Birley Grange 93.51 323 *e*P **P 16 22 49.0 -0.4**
EPF Esparros 93.54 313 *e*P **P 16 22 49.8 0.0**
comp=Z,2µm,1.7s,mb7.1
ETRT Tiaret 93.54 305 P **P 16 23 07.5 +17**
RESF Ens 93.56 313 *e*P **P 16 22 57.0 +7.0**
EANR 'Ain N'Sour 93.65 306 P **P 16 23 06.5 +16**
EBR Ebro Roquetas 93.66 311 *e*P **P 16 22 49.0 -1.4**
LHO Holmfirth 93.66 324 *e*P **P 16 22 50.1 0.0**
MME1 Meikle Cairn 93.69 328 *e*P **P 16 23 04.7 +15**
DAG Danmarks Havn 93.71 348 ⇓ *i*P **P 16 22 49.5 -0.4**
DAG pmax pmax
comp=Z,26nm,0.8s
DAG Danmarks Havn 93.71 348 ⇓ *i*P **P 16 22 49.5 -0.4**
comp=Z,26nm,0.8s
EBIE Bielsa 93.72 313 P **P 16 22 51.2 +0.6**
comp=Z,6µm,3.8s
KWE Weaver Farm 93.73 323 *e*P **P 16 22 50.5 +0.1**
MLA1 Latheron 93.73 329 *e*P **P 16 23 00.4 +10**
GRR Gorron 93.74 319 *e*P **P 16 22 50.6 0.0**
comp=Z,2µm,1.2s,mb7.2
SIW Isle of Wight 93.77 321 *e*P **P 16 22 59.9 +9.2**
VIEF Viey 93.78 313 *e*P **P 16 22 57.8 +6.8**
MCD Coleburn Disti 93.80 328 *e*P **P 16 23 03.6 +13**
SWN1 Swindon 93.92 322 *e*P **P 16 22 58.5 +7.1**
BTA Talkin 93.93 325 *e*P **P 16 22 58.5 +7.2**
OJGS Djebel Guires 93.98 306 P **P 16 23 06.0 +14**
BBH Bruntsheil 94.03 325 *e*P **P 16 22 59.0 +7.2**
REYF Montagne du Re 94.07 313 *e*P **P 16 23 01.3 +9.0**
BDL Dobcross Hall 94.09 325 *e*P **P 16 22 56.7 +4.6**
ESK Eskdalemuir 94.16 326 *e*P **P 16 22 52.1 -0.3**
ESK pmax pmax
comp=Z,348nm,0.8s,mb6.8
ESK MLR MLR
comp=Z,197µm,20.0s,MS7.6
ESK Eskdalemuir 94.16 326 *e*P **P 16 22 52.1 -0.2**
comp=Z,348nm,0.8s,mb6.8
ESK LR LR
comp=Z,197µm,20.0s,MS7.6
ESK Eskdalemuir 94.16 326 P **P 16 22 58.3 +6.0**
ESK Eskdalemuir 94.16 326 *e*P **P 16 22 52.3 -0.1**
ESK *e*P 16 22 58.3
BHH Howats Hill 94.20 325 *e*P **P 16 22 59.8 +7.2**
ETSF Etsaut 94.21 313 *e*P **P 16 22 53.2 +0.3**
comp=Z,1µm,1.1s,mb7.0
MVH1 Achvaich 94.23 328 *e*P **P 16 22 59.4 +6.8**
SWK Warminster 94.25 321 *e*P **P 16 23 00.3 +7.3**
BBO1 Bothel 94.28 325 *e*P **P 16 22 60.0 +7.0**
ESAC San Caprasio 94.28 312 P **P 16 22 59.7 +6.4**
comp=Z,4µm,2.2s,mb7.5
OJBR Djebel Berber 94.30 306 P **P 16 23 07.0 +13**
HAE Alders End 94.30 322 *e*P **P 16 22 55.3 +2.2**
MDO Dochfour 94.41 328 *e*P **P 16 23 02.5 +9.0**
HLM1 Long Mynd 94.43 323 *e*P **P 16 22 56.0 +2.3**
EBEN Beniarda 94.43 309 P **P 16 22 59.9 +5.8**
comp=Z,3µm,2.6s,mb7.3
BWH Wardlaw 94.44 326 *e*P **P 16 22 53.8 +0.2**
EMOS Mosqueruela 94.44 311 P **P 16 22 57.8 +3.7**
comp=Z,5µm,2.4s,mb7.5
ORDF Ordiarp 94.44 313 *e*P **P 16 23 00.7 +6.7**
SMD Mendips 94.52 322 *e*P **P 16 22 58.3 +4.1**
HGH Gray Hill 94.52 322 *e*P **P 16 22 53.9 -0.2**
PCOU Corrie 94.54 326 *e*P **P 16 23 03.3 +9.2**
MCH1 Michaelchurch 94.58 322 *e*P **P 16 22 53.1 -1.3**
MCH1 AMS AMS 17 12 39.9
comp=N,471µm,20.5s,MS8.1
MCH1 AMS AMS 17 13 24.3
comp=E,467µm,21.3s,MS8.1
SSP1 Stoney Pound 94.58 323 *e*P **P 16 22 55.1 +0.7**
SBD1 Bryn Du 94.59 323 *e*P **P 16 22 55.1 +0.6**
SJPF Ste Jean 94.67 313 *e*P **P 16 22 55.6 +0.6**
comp=E,2µm,1.2s,mb7.0
OSSF Osses 94.68 314 *e*P **P 16 23 01.9 +6.8**
PCA1 Carrot 94.68 326 *e*P **P 16 23 04.3 +10**
ODJA Bouhanifia 94.73 306 P **P 16 23 12.0 +17**
HTR Trewern Hill 94.74 322 *e*P **P 16 22 57.2 +2.1**
EALK Alkurruntz 94.86 313 P **P 16 22 58.5 +2.6**
comp=E,3µm,2.6s,mb7.3
SGMF Saint Gilles 94.89 319 *e*P **P 16 22 55.7 -0.2**
comp=E,2µm,1.6s,mb7.0
WPM1 Penmaenmawr 94.92 324 *e*P **P 16 23 03.3 +7.4**
PMSU Muirshiel 94.92 326 *e*P **P 16 23 02.9 +7.0**
GAL1 Galloway 95.09 325 *e*P **P 16 23 05.6 +8.9**
SNAA Sanae 95.11 198 S Sx 16 33 31.7
comp=E,111nm,1.1s,baz=246,slow=12,SNR=2.3
SNAA LR LR 17 04 09.4
comp=E,851µm,18.3s,MS8.2,baz=97,slow=34
WME Mynydd Eilian 95.13 324 *e*P **P 16 23 06.7 +10**
CART Cartagena 95.16 308 P **P 16 22 56.2 -1.2**
comp=E,2µm,1.6s,mb7.2
WIM Isle of Man 95.20 325 *e*P **P 16 23 04.7 +7.5**
HEX Exmoor 95.23 322 *e*P **P 16 23 03.1 +5.7**
OTSS Djebel Tessala 95.25 306 P **P 16 23 18.0 +20**
WCB1 Church Bay 95.27 324 *e*P **P 16 23 02.5 +4.9**
YRE Yr Eifl 95.28 323 *e*P **P 16 23 04.7 +7.1**
YRC Rhoscolyn 95.31 324 *e*P **P 16 23 05.2 +7.5**
EMUR La Murta 95.32 308 P **P 16 23 01.9 +3.8**
comp=E,4µm,3.4s
SDPT Sand Point 95.33 34 *e*P **P 16 22 57.9 +0.2**
HSA Swansea 95.33 322 *e*P **P 16 23 00.2 +2.3**
QUIF Quistinic 95.34 318 *e*P **P 16 22 57.5 -0.5**
comp=E,2µm,1.5s,mb6.9
ROSF Rostrenen 95.34 319 *e*P **P 16 22 57.8 -0.2**
comp=E,2µm,1.6s,mb7.0
ETOB Tobarra 95.47 309 P **P 16 23 04.6 +5.8**
comp=E,4µm,2.9s,mb7.4
ODZI Dziouia 95.61 306 P **P 16 23 15.0 +15**
HTL Hartland 95.67 322 *e*P **P 16 23 06.1 +6.7**
HTL AMS AMS 17 10 00.7
comp=N,588µm,21.6s,MS8.1
HTL AMS AMS 17 14 00.9
comp=E,317µm,21.7s,MS8.1
OLHC Oulhaca 95.77 306 P **P 16 23 19.0 +19**
IMA Indian Mountai 95.79 23 *e*P **P 16 23 00.3 +0.6**
GCL Cushendall 95.85 326 *e*P **P 16 23 07.1 +7.0**
GMM Mts of Mourne 95.92 325 *e*P **P 16 23 07.5 +7.0**
ENIJ Nijar 96.19 307 P **P 16 23 13.3 +11**
EVIA Vianos 96.21 309 P **P 16 23 05.0 +2.8**
comp=E,216nm,1.2s,mb6.5
ELAN Lanestosa 96.25 314 P **P 16 23 06.3 +4.0**
comp=E,1µm,2.7s,mb6.9
DSB Dublin 96.38 324 *e*P **P 16 23 02.8 +0.2**
comp=E,166nm,0.9s,mb6.5
EHUE Huescar 96.39 308 P **P 16 23 10.4 +7.4**
comp=E,385nm,1.2s,mb6.7
DLF Lyons Farm 96.46 324 *e*P **P 16 23 19.0 +16**
SVW2 Sparrevohn 96.47 28 *e*P **P 16 22 57.4 -5.4**
DMUB Kingscourt 96.55 325 *e*P **P 16 23 19.7 +16**
VNA2 Neumayer--Watz 96.70 199 ⇑ *i*P **P 16 23 12.5 +8.8**
VNA2 Neumayer--Watz 96.70 199 ⇑ *i* **P 16 23 16.6 +13**
EBER Berja 96.74 307 P **P 16 23 07.7 +3.0**
comp=E,2µm,2.4s,mb7.2
EQES Quesada 96.76 308 P **P 16 23 08.1 +3.4**
comp=E,3µm,3.3s
DCN Croghan 96.88 324 *e*P **P 16 23 21.2 +16**
EALB Alboran 96.99 306 P **P 16 23 10.8 +5.0**
comp=E,2µm,2.0s,mb7.1
VNA1 Neumayer--Stat 97.04 199 ⇑ *i*P **P 16 23 17.7 +13**
VNA1 Neumayer--Stat 97.04 199 ⇑ *i* **P 16 23 20.7 +16**
VNA1 Neumayer--Stat 97.04 199 ⇑ *i* **P 16 23 26.3 +21**
VNA1 Neumayer--Stat 97.04 199 S S 16 34 23.4 +1.0
ESDC Sonseca Array 97.19 310 P **P 16 23 06.7 +0.1**
comp=E,2.5nm,0.5s,baz=53,slow=3.8,SNR=7.8
ESDC Sonseca Array 97.19 310 P **P 16 23 09.0 +2.5**
comp=E,64nm,1.4s
ESLA Sonseca Array 97.19 310 *e*P **P 16 23 05.6 -0.9**
comp=E,97nm,1.3s,mb6.1
ESLA LR LR
comp=Z,5811µm,20.0s,MS9.1
ECOG Cogollos-Vega 97.23 308 P **P 16 23 17.6 +11**
VNA3 Neumayer Olymp 97.34 198 ⇑ *i*P **P 16 23 05.8 -0.7**
VNA3 Neumayer Olymp 97.34 198 ⇑ *i* **P 16 23 16.0 +9.5**
VNA3 Neumayer Olymp 97.34 198 ⇑ *i* **P 16 23 18.2 +12**
SCO Scoresbysund 97.41 343 *i* P **P 16 23 11.4 +4.5**
comp=Z,72nm,0.8s,mb6.2
SCO *i* 16 27 11.5
SCO *i* S S 16 34 29.1 +3.6

ERON Agron 97.45 308 P **P 16 23 15.9 +8.1**
comp=Z,33nm,0.8s
EARI Arriondas 97.52 314 P **P 16 23 11.1 +3.1**
comp=Z,4µm,4.0s
ELOJ Sierra Loja 97.71 308 P **P 16 23 25.1 +16**
ELUQ Luque 97.74 308 P **P 16 23 19.3 +10**
EADA Adamuz 97.89 309 P **P 16 23 06.1 -3.6**
comp=Z,1µm,2.7s,mb6.9
SPU Mount Spurr 98.07 27 *e*P **P 16 23 08.8 -1.3**
EMIJ Mijas 98.29 307 P **P 16 23 10.9 -0.7**
comp=Z,616nm,2.4s,mb6.7
COLA College 98.49 23 *e*P **P 16 23 11.5 -0.3**
COLA pmax pmax
comp=Z,731nm,1.7s,mb6.9
COLA MLR MLR
comp=Z,870µm,20.0s,MS8.2
COLA College 98.49 23 *e*P **P 16 23 11.5 -0.4**
comp=Z,731nm,1.7s,mb6.9
COLA LR LR
comp=Z,870µm,20.0s,MS8.2
MCK McKinley 98.51 24 *e*P **P 16 23 11.8 -0.1**
comp=Z,271nm,1.2s,mb6.7
MCK LR LR
comp=Z,884µm,21.0s,MS8.2
ECAB El Cabril 98.56 309 P **P 16 23 15.1 +2.3**
comp=Z,1µm,2.8s,mb6.9
EJIF Jimena Fronter 98.86 307 P **P 16 23 18.8 +4.6**
comp=Z,271nm,1.2s,mb6.7
ECAL Calabor 98.88 313 P **P 16 23 18.2 +4.1**
comp=Z,4µm,4.3s
PBRG Braganca 98.90 313 *e*P **P 16 23 18.0 +3.7**
EPON Pontenova 98.91 314 P **P 16 23 18.6 +4.4**
comp=Z,4µm,4.4s
FIB Fire Island 98.93 27 PFAKE 16 23 30.0 +16
FIB LR LR
comp=Z,563µm,22.0s,MS8.0
ERUA La Rua 99.08 313 P **P 16 23 21.9 +6.9**
comp=Z,97nm,1.2s,mb6.2
ESPR Esperit 99.10 308 P **P 16 23 19.9 +4.7**
comp=Z,2µm,2.7s,mb7.1
SLKM Skilak Lake 99.15 28 *e*P **P 16 23 13.8 -1.1**
EINC Incio 99.18 314 P **P 16 23 27.1 +12**
PMR Palmer 99.24 26 *e*P **P 16 23 15.2 -0.1**
SML Sawmill 99.51 26 *e*P **P 16 23 16.5 -0.1**
EMIN Mina Concepcio 99.59 309 P **P 16 23 21.1 +3.7**
comp=Z,2µm,3.9s
EBAD Badajoz 99.67 310 P **P 16 23 21.2 +3.4**
comp=Z,2µm,3.6s
PVRL Vila Real 99.72 312 *e*P **P 16 23 28.3 +10**
MTE Manteigas 99.77 311 *e*P **P 16 23 21.3 +3.0**
MTE *e*SKSac 16 34 30.1
MTE *e*SS tx 16 42 22.4
MTE *e*LQ 16 49 38.2
MTE *e*LR LR 16 55 18.4
comp=Z,759µm,24.3s
MTE Manteigas 99.77 311 Pdif **P 16 23 17.9 -0.4**
comp=Z,545nm,1.6s,mb6.7
PCBR Castelo Branco 99.83 311 *e*P **P 16 23 24.5 +6.0**
ELOB Lobios 99.86 313 P **P 16 23 24.6 +5.9**
comp=Z,5µm,5.7s
BORG Borgarnes 99.86 337 P **P 16 23 19.3 +1.2**
comp=Z,14nm,0.9s,baz=155,slow=7.6,SNR=1.8
BORG Borgarnes 99.86 337 P **P 16 23 19.3 +1.2**
BORG LR LR
comp=Z,365µm,20.0s,MS7.9
THY Trims Highway 99.94 24 *e*Pdif **P 16 23 17.7 -0.8**
PVIS Viseu 99.97 312 *e*P **P 16 23 18.8 -0.4**
STS Santiago 100.00 314 P P 16 23 29.5 +10
EGRO El Granado 100.26 309 P P 16 23 27.5 +6.9
comp=Z,2µm,3.2s
EMAZ Mazaricos 100.29 314 P P 16 23 23.4 +2.8
comp=Z,2µm,2.6s
SUMG Summit 100.39 348 *e*Pdif **P 16 23 19.9 -0.5**
comp=Z,649nm,1.1s
PBEJ Beja 100.47 309 *e*P P 16 23 24.4 +2.9
EVO Evora 100.48 310 *e*P P 16 23 21.7 +0.1
comp=Z,285nm,1.4s
EVO *e*R
comp=Z,1444µm,22.0s
PTOM Tomar 100.58 311 *e*P P 16 23 22.5 +0.6
DIV Divide 100.91 26 Pdif P 16 23 23.6 +0.7
comp=Z,57nm,0.6s
DIV LR LR
comp=Z,5247µm,21.0s,MS9.0
MENT Mentasta 100.98 24 *e*P P 16 23 23.7 +0.5
EYAK Cordova Ski Ar 101.17 27 *e*Pdif P 16 23 24.2 +0.1
PTEO Sao Teotonio 101.23 309 *e*P P 16 23 28.7 +3.8
PLOU Loures 101.29 310 *e*P P 16 23 24.2 -1.0
LIS Lisbon 101.32 310 *e*P P 16 23 27.6 +2.3
LIS *e*SS SS 16 42 08.6 +4.7
LIS *e*SS SS 16 42 09.8 +5.8
LIS AMS AMS 17 14 06.9
comp=E,172µm,14.4s
DBIC Dimbokro 101.64 277 P P 16 23 36.9 +10
DBIC pmax pmax
comp=Z,130nm,1.0s
DBIC Dimbokro 101.64 277 P P 16 23 27.2 -0.1
comp=Z,1.4nm,0.8s,baz=267,slow=19,SNR=1.9
DBIC S tx 16 34 20.9
comp=Z,17nm,0.8s,baz=354,slow=10,SNR=2.1
DBIC Dimbokro 101.64 277 Pdif P 16 23 26.7 -0.6
comp=Z,244nm,1.4s
DBIC LR LR
comp=Z,1474µm,20.0s,MS8.5
INK Inuvik 101.65 17 P P 16 23 25.9 -0.2
comp=Z,17nm,1.1s,baz=333,slow=5.0,SNR=22
INK Inuvik 101.65 17 *e*Pdif P 16 23 25.5 -0.5
comp=Z,264nm,1.0s
DAWY Dawson 102.12 22 *e*Pdif Pdif 16 23 28.1 -0.1
RAR Rarotonga 102.98 111 PFAKE 16 23 40.0 +7.0
RAR LR LR
comp=Z,773µm,22.0s,MS8.2
RES Resolute Bay 102.99 3 *e*Pdif Pdif 16 23 31.6 -0.2
comp=Z,264nm,1.0s
KIP Kipapa 103.05 68 PFAKE 16 23 40.0 +6.7
KIP LR LR
comp=Z,828µm,20.0s,MS8.3
POHA Pohakuloa 105.58 69 PFAKE 16 28 10.0
POHA LR LR
comp=Z,5847µm,22.0s,MS9.1
SFJ Sondre 107.38 347 PFAKE 16 28 10.0
SFJ LR LR
comp=Z,1300µm,21.0s,MS8.5
SFJD Kangerlussuaq 107.38 347 *i* P Pdif 16 24 05.9 +15
comp=Z,132nm,1.1s
SFJD *i* 16 28 26.9
SFJD *i* 16 38 17.8
SFJD *i* 16 44 08.0
comp=Z,1186µm,22.0s
SIT Sitka 107.60 27 PFAKE 16 28 10.0
SIT LR LR
comp=Z,907µm,20.0s,MS8.3
DLBC Dease Lake 109.07 24 Pdiff Pdif 16 23 59.5 +0.7
comp=Z,1.0nm,0.6s,baz=330,slow=16,SNR=2.6
DLBC Dease Lake 109.07 24 *e*Pdif Pdif 16 23 58.4 -0.4
YKW3 Yellowknife Ar 111.20 15 *e*Pdif Pdif 16 24 08.9 +0.8
YKW3 *e*PP PP 16 28 45.1 -4.9
YKA Yellowknife Ar 111.25 15 Pdiff Pdif 16 24 09.0 +0.6
comp=Z,0.7nm,0.8s,baz=326,slow=4.0,SNR=8.8
YKA PP PP 16 28 47.4 -3.0
comp=Z,30nm,0.9s,baz=327,slow=7.2,SNR=6.3
YKA PKKPab 16 39 13.6
comp=Z,5.8nm,0.9s,baz=139,slow=2.9,SNR=3.5
TBI Tubuai 112.30 114 *e*PKiKP 16 28 22.7
TBI *e*PP PP 16 29 18.9 +20
TBI *e*SP SP 16 38 49.1 +25
TBI *e*SS SS 16 44 56.7 +24
TBI *e*LQ 16 57 07.3
TBI *e*LR LR 17 02 04.6
comp=Z,3852µm,32.8s
PAE Paea 112.83 108 *e*PKiKP 16 28 23.7
PPT Papeete 112.84 108 *e*PKiKP 16 28 23.7
PPT Papeete 112.84 108 *e*PP PP 16 29 22.7 +19
PPT *e*SP SP 16 38 54.2 +25
PPT *e*SS SS 16 45 01.5 +21
PPT *e*LQ 16 57 23.8
PPT *e*LR LR 17 01 48.1
comp=Z,2777µm,23.5s
TIAR Tiarei 113.06 108 *e*PKiKP 16 28 24.2
TVO Taravao 113.13 108 *e*PKiKP 16 28 24.3
FRB Frobisher Bay 113.46 353 Pdiff Pdif 16 24 18.3 +0.2
comp=Z,0.5nm,0.3s,baz=188,slow=15,SNR=1.7
FRA1 Furnas 113.78 313 *e*PP PP 16 29 01.3 -8.3
PCNG Congro 113.80 313 *e*PP PP 16 29 02.8 -7.0
VIF Vila Franca 113.84 313 *e*PP PP 16 29 10.9 +0.9

LFA Lagoa do Fogo 113.86 313 *e*PP PP 16 29 02.4 -7.8
PVER Pico Vermelho 113.87 313 *e*PP PP 16 28 58.0 -12
PRCH Ribeira Ch 113.87 313 *e*PP PP 16 29 11.3 +1.0
CML Cha da Macela 113.90 313 *e*PP PP 16 28 58.5 -12
PDA Ponta Delgada 114.00 313 *i* PP PP 16 29 12.0 +0.8
PSET Sete Cidades 114.01 313 *e*PP PP 16 28 59.3 -12
MEH Mehetia 114.24 109 *e*PKiKP 16 28 26.4
PFAV Pico das Favas 114.63 315 *e*PP PP 16 29 10.9 -4.7
PVNV Vila Nova 114.66 315 *e*PP PP 16 29 06.0 -10
PMOR Pomariorio Ree 114.67 105 *e*PKiKP 16 28 27.2
RIB2 Ribeirinha 114.71 315 *e*PP PP 16 29 05.2 -11
PBIS Biscoitos 114.73 315 *e*PP PP 16 29 04.6 -12
ADH Angra Heroismo 114.76 315 *e*PP PP 16 29 11.5 -5.0
PSBA Serra de Santa 114.78 315 *e* 16 24 17.3
PPAD Pico dos Padre 114.78 315 *e*PP PP 16 29 03.1 -14
ASBA Santa Barbara 114.80 315 *e*PP PP 16 29 11.5 -5.3
VAH Vaihoa 114.91 106 *e*PKiKP 16 28 27.7
STGR Santa Cruz 115.13 315 *e*PP PP 16 29 10.7 -8.3
PGRA Graciosa 115.13 315 *e* 16 24 21.0
PMAN Manadas 115.38 315 *e* 16 24 18.5
PCED Cedros 115.81 315 *e* 16 24 17.0
PMSA Palmer Station 115.99 189 PFAKE 16 28 30.0 +10
PMSA LR LR
comp=Z,3405µm,21.0s,MS8.9
FCC Fort Churchill 118.68 7 *e*PKPdf PKPdf 16 28 20.1 -5.5
COR Corvallis 121.22 33 *e*PKPdf PKPdf 16 28 25.4 -5.5
COR LR LR
comp=Z,141µm,20.0s,MS7.6
NEW Newport 121.67 26 PKP PKPdf 16 28 29.8 -1.8
comp=Z,10nm,0.6s,baz=9.8,slow=0.3,SNR=3.0
NEW Newport 121.67 26 *e*PKPdf PKPdf 16 28 27.6 -4.0
NEW LR LR
comp=Z,1176µm,20.0s,MS8.5
SCHQ Schefferville 121.74 349 PKP PKPdf 16 28 27.4 -4.2
comp=Z,6.9nm,0.8s,baz=43,slow=7.4,SNR=4.0
SCHQ Schefferville 121.74 349 *e*PKPdf PKPdf 16 28 27.2 -4.4
SCHQ LR LR
comp=Z,1387µm,20.0s,MS8.6
KEBM Edson Butte 121.74 35 *e*PKPdf PKPdf 16 28 27.4 -4.5
HAWA Hanford 121.92 29 *e*PKPdf PKPdf 16 28 28.6 -3.5
HAWA LR LR
comp=Z,82µm,22.0s,MS7.3
KBO Bosley Butte 122.22 35 PKPdf PKPdf 16 28 29.1 -3.7
WALA Waterton Lakes 122.41 24 PKPdf PKPdf 16 28 28.7 -4.3
TAOE Nuku Hiva Isla 122.66 99 *e*PP PP 16 30 25.8 +14
TAOE *e*SP SP 16 40 26.8 +28
TAOE *e*SS SS 16 47 05.9 +17
TAOE *e*LR LR 17 05 50.0
HUMO Hull Mountain 122.69 34 *e*PKPdf PKPdf 16 28 29.9 -3.8
HUMO LR LR
comp=Z,614µm,22.0s,MS8.2
KRMB Red Mountain 122.83 36 PKPdf PKPdf 16 28 29.6 -4.3
KHMM Horse Mountain 123.34 36 *e*PKPdf PKPdf 16 28 29.8 -5.3
YBH Yreka Blue Hor 123.39 35 PKP PKPdf 16 28 33.5 -1.6
comp=Z,3.6nm,0.7s,baz=324,slow=19,SNR=2.4
YBH Yreka Blue Hor 123.39 35 PKPdf PKPdf 16 28 30.5 -4.6
YBH LR LR
comp=Z,679µm,22.0s,MS8.3
BMO Blue Mountains 124.11 29 PFAKE 16 28 40.0 +3.5
BMO LR LR
comp=Z,726µm,21.0s,MS8.3
MSO Missoula 124.15 25 PFAKE 16 28 40.0 +3.5
MSO LR LR
comp=Z,1260µm,19.0s,MS8.6
WDC Whiskeytown Da 124.23 36 *e*PKPdf PKPdf 16 28 32.7 -4.1
WDC LR LR
comp=Z,910µm,22.0s,MS8.4
CHMT Chamberlain Mo 124.38 25 *e*PKPdf PKPdf 16 28 33.1 -3.8
MOD Modoc 124.64 33 *e*PKPdf PKPdf 16 28 34.8 -2.8
MOD LR LR
comp=Z,823µm,22.0s,MS8.3
HOPS Hopland 124.90 38 *e*PKPdf PKPdf 16 28 33.6 -4.5
HOPS LR LR
comp=Z,753µm,20.0s,MS8.4
WVOR Wild Horse Val 125.17 32 *e*PKPdf PKPdf 16 28 34.1 -4.4
WVOR LR LR
comp=Z,1254µm,21.0s,MS8.6
RKT Rikitea 125.42 117 *e*PKiKP 16 28 48.3
RKT Rikitea 125.42 117 *e*PP PP 16 30 49.8 +20
RKT *e*SP SP 16 40 46.4 +24
RKT *e*SS SS 16 47 48.0 +25
RKT *e*LQ 17 02 29.9
RKT *e*LR LR 17 07 51.9
comp=Z,2788µm,27.0s
BOZ Bozeman (W) 126.07 25 PKPdf PKPdf 16 28 35.6 -4.6
BOZ LR LR
comp=Z,1309µm,20.0s,MS8.6
SAC San Andreas 126.18 39 PKPdf PKPdf 16 28 37.1 -3.5
HLID Hailey 126.46 28 PFAKE 16 28 50.0 +9.0
HLID LR LR
comp=Z,734µm,20.0s,MS8.3
PAHR Pah Rah Range 126.63 35 *e*PKPdf PKPdf 16 28 36.5 -4.9
ULM Lac du Bonnet 126.68 10 PKP PKPdf 16 28 36.2 -5.0
comp=Z,25nm,0.7s,baz=351,slow=4.4,SNR=6.2
ULM Lac du Bonnet 126.68 10 *e*PKPdf PKPdf 16 28 36.6 -4.6
ULM LR LR
comp=Z,3249µm,21.0s,MS9.0
WCN Washoe City 126.68 35 *e*PKPdf PKPdf 16 28 38.8 -2.7
GCMT Greycliff 126.75 23 *e*PKPdf PKPdf 16 28 38.0 -3.5
GLMT Earthquake Lak 126.81 25 *e*PKPdf PKPdf 16 28 38.3 -3.3
YMR Madison River 127.14 25 PKPdf PKPdf 16 28 40.3 -1.9
CMB Columbia Colle 127.14 37 Pdiff Pdif 16 25 34.9 +16
CMB Columbia Colle 127.14 37 *e*PKPdf PKPdf 16 28 37.5 -5.0
CMB LR LR
comp=Z,626µm,20.0s,MS8.3
YNR Norris Junctio 127.22 25 *e*PKPdf PKPdf 16 28 38.4 -4.1
LAO LASA Array 127.25 20 PKPdf PKPdf 16 28 39.0 -3.4
LAO LR LR
comp=Z,1212µm,22.0s,MS8.5
SAO San Andreas Ge 127.29 39 *e*PKPdf PKPdf 16 28 37.8 -5.0
SAO LR LR
comp=Z,566µm,21.0s,MS8.2
BMN Battle Mountai 127.33 33 *e*PKPdf PKPdf 16 28 38.8 -4.0
YFT Old Faithful 127.36 25 *e*PKPdf PKPdf 16 28 38.5 -4.3
LKWY Lake 127.45 25 *e*PKPdf PKPdf 16 28 39.4 -3.5
LKWY LR LR
comp=Z,2197µm,20.0s,MS8.8
IMW Indian Meadow 127.77 25 *e*PKPdf PKPdf 16 28 39.4 -4.1
LRV Little Rabbit 127.77 39 *e*PKPdf PKPdf 16 28 39.2 -4.6
MOOW Moose Ponds 127.97 25 *e*PKPdf PKPdf 16 28 39.9 -4.1
RRI2 Red Ridge 128.04 26 *e*PKPdf PKPdf 16 28 39.2 -4.9
TPAW Teton Pass 128.09 26 *e*PKPdf PKPdf 16 28 39.3 -4.9
LOHW Long Hollow 128.14 25 *e*PKPdf PKPdf 16 28 41.3 -3.0
MNV Mina 128.19 35 *e*PKPdf PKPdf 16 28 42.1 -2.5
MNV LR LR
comp=Z,619µm,20.0s,MS8.3
SNOW Snow King Moun 128.20 26 *e*PKPdf PKPdf 16 28 40.8 -3.6
REDW Red Top Meadow 128.24 26 *e*PKPdf PKPdf 16 28 41.1 -3.3
OMM Old Mammoth Mi 128.25 37 *e*PKPdf PKPdf 16 28 40.7 -4.0
AHID Auburn Hatcher 128.60 26 PKPdf PKPdf 16 28 39.9 -5.3
AHID LR LR
comp=Z,1126µm,20.0s,MS8.6
HVU Hansel Valley 128.60 28 *e*PKPdf PKPdf 16 28 42.3 -2.9
MTUM Tungsten Hills 128.68 37 PKPdf PKPdf 16 28 41.9 -3.6
TPH Tonopah 128.97 35 PKPdf PKPdf 16 28 42.0 -4.1
TPH LR LR
comp=Z,684µm,22.0s,MS8.3
PTCN Pitcairn Islan 129.12 121 PFAKE 16 28 50.0 +3.4
PTCN LR LR
comp=Z,1790µm,22.0s,MS8.7
SPUT South Promonto 129.12 29 PKPdf PKPdf 16 28 42.0 -4.2
BGU Big Grassy Mou 129.13 29 *e*PKPdf PKPdf 16 28 43.3 -3.0
BW06 Boulder Array 129.27 25 PFAKE 16 28 50.0 +3.5
BW06 LR LR
comp=Z,1000µm,20.0s,MS8.5
PDAR Pinedale Array 129.27 25 PKP PKPdf 16 28 42.6 -3.8
comp=Z,13nm,1.0s,baz=92,slow=4.0,SNR=7.0
PDAR SKKPbc 16 41 57.2
comp=Z,29nm,1.2s,baz=135,slow=4.2,SNR=3.8
HWUT Hardware Ranch 129.31 28 *e*PKPdf PKPdf 16 28 42.3 -4.2
HWUT LR LR
comp=Z,1187µm,20.0s,MS8.6
EYMN Ely 129.60 8 *e*PKPdf PKPdf 16 28 42.2 -4.7
EYMN LR LR
comp=Z,1605µm,22.0s,MS8.7
PQI Presque Isle 129.70 347 *e*PKPdf PKPdf 16 28 42.7 -4.5
PQI LR LR
comp=Z,471µm,20.0s,MS8.2
TRCR Troy Canyon 129.70 34 *e*PKPdf PKPdf 16 28 43.6 -3.8
TCUT Toone Canyon 129.76 28 *e*PKPdf PKPdf 16 28 43.6 -3.8
NOQ North Oquirrh 129.79 29 *e*PKPdf PKPdf 16 28 43.0 -4.4
DUG Dugway 129.80 30 *e*PKPdf PKPdf 16 28 43.8 -3.8
CTU Camp Tracy 129.93 29 PKPdf PKPdf 16 28 43.8 -4.0

DAC	**Darwin (Calif)**	**129.97**	**37**	PKPdf	PKPdf	16 28 45.3	-2.7
DAC				LR	LR			
	comp=Z,595µm,20.0s,MS8.3							
RSSD	**Black Hills**	**130.25**	**20**	*e*PKPdf	PKPdf	16 28 43.9	-4.4
RSSD				LR	LR			
	comp=Z,310µm,22.0s,MS8.0							
NLU	**North Lily Min**	**130.34**	**29**	*e*PKPdf	PKPdf	16 28 46.1	-2.5
DAU	**Daniels Canyon**	**130.39**	**28**	PKPdf	PKPdf	16 28 45.0	-3.6
PAS	**Pasadena**	**131.01**	**39**	Pdiff	Pdif	16 25 53.8	+18
PAS				PKPdf	PKPdf	16 28 53.4	+3.4
PAS				SS	tx	16 49 17.5		
MWC	**Mount Wilson**	**131.04**	**39**	*e*PKPdf	PKPdf	16 28 48.2	-1.9
ARUT	**Antelope Range**	**131.27**	**32**	PKPdf	PKPdf	16 28 46.6	-3.8
TMUT	**Trail Mountain**	**131.28**	**29**	*e*PKPdf	PKPdf	16 28 47.5	-2.9
MVU	**Marysvale**	**131.38**	**31**	*e*PKPdf	PKPdf	16 28 48.0	-2.5
MVU				LR	LR			
	comp=Z,715µm,20.0s,MS8.4							
MSU	**Marysvale**	**131.39**	**31**	*e*PKPdf	PKPdf	16 28 47.1	-3.5
EMMW	**East Machias**	**131.41**	**345**	*e*PKPdf	PKPdf	16 28 45.2	-5.2
EMMW				LR	LR			
	comp=Z,5125µm,19.0s,MS9.2							
SRU	**San Rafael**	**131.76**	**29**	*e*PKPdf	PKPdf	16 28 47.7	-3.6
WVL	**Waterville**	**132.07**	**347**	PKPdf	PKPdf	16 28 48.6	-3.1
WVL				LR	LR			
	comp=Z,4889µm,22.0s,MS9.2							
PHWY	**Pilot Hill**	**132.17**	**23**	*e*PKPdf	PKPdf	16 28 48.2	-3.8
LDFC	**Landfair**	**132.27**	**36**	*e*PKPdf	PKPdf	16 28 48.3	-4.1
PFO	**Pinyon Flat Ob**	**132.45**	**39**	*e*PKPdf	PKPdf	16 28 48.3	-4.4
PFO				LR	LR			
	comp=Z,132µm,20.0s,MS7.6							
BAR	**Barrett**	**132.92**	**40**	*e*PKPdf	PKPdf	16 28 49.6	-4.1
RCBR	**Riachuelo**	**132.99**	**264**	*e*PKPdf	PKPdf	16 28 49.8	-4.5
RCBR				LR	LR			
	comp=Z,897µm,20.0s,MS8.5							
PV10	**Paradox Valley**	**133.05**	**28**	*e*PKPdf	PKPdf	16 28 50.3	-3.5
HNH	**Hanover**	**133.42**	**349**	PKPdf	PKPdf	16 28 50.2	-4.1
PV01	**Paradox Valley**	**133.46**	**28**	*e*PKPdf	PKPdf	16 28 50.6	-3.9
NCB	**Newcomb**	**133.49**	**351**	*e*PKPdf	PKPdf	16 28 49.9	-4.5
NCB				LR	LR			
	comp=Z,1231µm,21.0s,MS8.6							
FFD	**Franklin Falls**	**133.53**	**349**	PKPdf	PKPdf	16 28 49.2	-5.3
RW3	**Ridgway**	**133.78**	**27**	*e*PKPdf	PKPdf	16 28 51.4	-3.6
WUAZ	**Wupatki**	**134.07**	**33**	*e*PKPdf	PKPdf	16 28 51.6	-4.0
WUAZ				LR	LR			
	comp=Z,760µm,21.0s,MS8.4							
HRV	**Harvard--Oak R**	**134.44**	**348**	*e*PKPdf	PKPdf	16 28 52.0	-4.2
HRV				LR	LR			
	comp=Z,1126µm,22.0s,MS8.5							
WES	**Weston**	**134.50**	**348**	PKPdf	PKPdf	16 28 51.8	-4.5
WES				LR	LR			
	comp=Z,1154µm,21.0s,MS8.6							
JFWS	**Jewell Farm**	**134.71**	**8**	*e*PKPdf	PKPdf	16 28 52.0	-4.6
JFWS				LR	LR			
	comp=Z,1755µm,22.0s,MS8.7							
QUA2	**Belchertown**	**134.81**	**349**	*e*PKPdf	PKPdf	16 28 53.5	-3.5
BRYW	**Bryant College**	**135.00**	**348**	*e*PKPdf	PKPdf	16 28 51.6	-5.7
BUF	**Buffalo**	**135.04**	**356**	P	PKPdf	16 29 00.7	+3.4
GENY	**Geneseo**	**135.11**	**355**	*e*PKPdf	PKPdf	16 28 53.4	-4.1
SDCO	**Great Sand Dun**	**135.17**	**26**	*e*PKPdf	PKPdf	16 28 54.5	-3.2
SDCO				LR	LR			
	comp=Z,1470µm,21.0s,MS8.7							
COYC	**Coyhaique**	**135.67**	**191**	*e*P	PKPdf	16 29 14.4	+16
CS6B	**Jaguaretama**	**135.76**	**264**	*e*P	PKPdf	16 29 05.6	+6.2
CS6B				*e*		16 29 13.3		
CS6B				*e*		16 29 21.0		
CS6B				*e*		16 29 30.0		
CS6B				*e*		16 29 45.5		
CS6B				*e*		16 30 11.3		
AAM	**Ann Arbor**	**135.80**	**1**	*e*PKPdf	PKPdf	16 28 54.9	-3.8
AAM				LR	LR			
	comp=Z,1755µm,20.0s,MS8.8							
ERPA	**Erie**	**135.91**	**357**	*e*PKPdf	PKPdf	16 28 54.4	-4.5
ERPA				LR	LR			
	comp=Z,1656µm,20.0s,MS8.8							
CAM4	**Nova Friburgo**	**135.98**	**240**	*e*P	PKPdf	16 28 58.0	-1.6
CAM4				*i*		16 29 13.0		
CAM4				*i*		16 29 35.3		
CAM4				*i*		16 29 39.2		
CAM4				*i*		16 29 56.0		
CAM4				*i*		16 30 14.1		
PAL	**Palisades**	**136.33**	**350**	*e*PKPdf	PKPdf	16 28 56.0	-3.7
ALLY	**Alegheny Colle**	**136.39**	**357**	*e*PKPdf	PKPdf	16 28 55.5	-4.2
CBKS	**Cedar Bluff**	**136.43**	**19**	*e*PKPdf	PKPdf	16 28 54.4	-5.5
CBKS				LR	LR			
	comp=Z,1150µm,20.0s,MS8.6							
CPNY	**Central Park**	**136.55**	**350**	PKPdf	PKPdf	16 28 54.6	-5.5
TUC	**Tucson**	**136.77**	**35**	*e*PKPdf	PKPdf	16 28 57.1	-3.6
TUC				LR	LR			
	comp=Z,645µm,21.0s,MS8.3							
ANMO	**Albuquerque**	**137.03**	**29**	Pdiff	Pdif	16 26 14.1	+11
ANMO				PKPdf	PKPdf	16 28 59.8	-1.3
ANMO				SS	tx	16 50 40.9		
ANMO				SS		16 51 33.5		
ANMO	**Albuquerque**	**137.03**	**29**	*e*PKPdf	PKPdf	16 28 56.0	-5.2
ANMO				LR	LR			
	comp=Z,1399µm,22.0s,MS8.7							
KSU1	**Kansas State U**	**137.10**	**16**	*e*PKPdf	PKPdf	16 28 53.8	-7.4
LAZ	**Ladron**	**137.13**	**30**	*e*PKPdf	PKPdf	16 28 59.0	-2.4
SSPA	**Standing Stone**	**137.23**	**354**	*e*PKPdf	PKPdf	16 28 58.1	-3.2
SSPA				LR	LR			
	comp=Z,339µm,22.0s,MS8.0							
LENM	**Lemitar**	**137.41**	**30**	*e*PKPdf	PKPdf	16 28 58.2	-3.7
LPM	**Los Pinos Moun**	**137.46**	**30**	*e*PKPdf	PKPdf	16 28 58.9	-3.0
MVL	**Millersville**	**137.68**	**353**	*e*PKPdf	PKPdf	16 28 58.7	-3.5
ACSO	**Alum Creek Sta**	**137.88**	**0**	*e*PKPdf	PKPdf	16 28 59.2	-3.4
ACSO				LR	LR			
	comp=Z,2065µm,22.0s,MS8.8							
SDMD	**Soldier's Deli**	**138.32**	**353**	*e*PKPdf	PKPdf	16 28 58.7	-4.7
MCWV	**Mont Chateau**	**138.36**	**356**	*e*PKPdf	PKPdf	16 28 58.6	-4.9
MCWV				LR	LR			
	comp=Z,1866µm,22.0s,MS8.8							
BLO	**Bloomington**	**138.80**	**4**	*e*PKPdf	PKPdf	16 29 00.8	-3.5
SLM	**Saint Louis**	**138.91**	**9**	PKPdf	PKPdf	16 29 00.5	-4.0
AMTX	**Amarillo**	**139.21**	**24**	PKPdf	PKPdf	16 28 60.0	-5.2
AMTX				LR	LR			
	comp=Z,1779µm,22.0s,MS8.8							
CCM	**Cathedral Cave**	**139.31**	**10**	*e*PKPdf	PKPdf	16 29 00.4	-4.9
CCM				LR	LR			
	comp=Z,285µm,21.0s,MS8.0							
TRQA	**Tornquist**	**139.40**	**206**	*e*PKPpre		16 28 54.8		
TRQA				*e*PKPdf	PKPdf	16 29 00.4	-5.0
TRQA				LR	LR			
	comp=Z,1682µm,20.0s,MS8.8							
FVM	**French Village**	**139.51**	**9**	PKPdf	PKPdf	16 29 00.4	-5.2
WCI	**Wyandotte Cave**	**139.75**	**4**	*e*PKPdf	PKPdf	16 28 58.6	-7.4
WCI				LR	LR			
	comp=Z,444µm,21.0s,MS8.2							
CPRX	**Cap Rock**	**139.83**	**28**	*e*PKPdf	PKPdf	16 29 02.1	-4.2
PLCA	**Paso Flores**	**139.95**	**195**	PKHKP		16 28 52.8		
PLCA				*e*		16 29 00.6		
PLCA				MLR	MLR			
	comp=Z,2123µm,20.0s							
PLCA	**Paso Flores**	**139.95**	**195**	PKhKP		16 28 52.8		
	comp=Z,1.4nm,0.8s,baz=299,slow=8.6,SNR=2.5							
PLCA				SKKPbc		16 41 09.8		
	comp=Z,72nm,1.0s,baz=1.0,slow=4.9,SNR=4.9							
PLCA	**Paso Flores**	**139.95**	**195**	PKP		16 28 52.8		
PLCA				*e*PKPdf	PKPdf	16 29 00.6	-5.7
PLCA				SKKPbc		16 41 09.8		
PLCA				LR	LR			
	comp=Z,2123µm,20.0s,MS8.9							
MNTX	**Cornudas Mount**	**140.18**	**31**	*e*PKPdf	PKPdf	16 29 02.4	-4.6
MNTX				LR	LR			
	comp=Z,866µm,21.0s,MS8.5							
GDL2	**Guadalupe Moun**	**140.28**	**29**	*e*PKPpre		16 28 54.6		
WMOK	**Wichita Mounta**	**140.44**	**21**	*e*PKPpre		16 28 57.8		
CLNB	**Carlsbad**	**140.46**	**28**	*e*PKPdf	PKPdf	16 29 01.9	-5.6
FWV	**Forest Hill**	**140.48**	**357**	*e*PKPdf	PKPdf	16 29 02.4	-4.9
BLA	**Blacksburg**	**140.82**	**357**	*e*PKPdf	PKPdf	16 29 04.0	-4.1
BLA				LR	LR			
	comp=Z,2266µm,22.0s,MS8.9							
ELN	**Prospectdale**	**140.82**	**357**	*e*PKPpre		16 28 60.0		
ELN				*e*PKPdf	PKPdf	16 29 04.1	-4.0
UTMT	**University of**	**141.35**	**8**	PKPdf	PKPdf	16 29 04.3	-4.7
GLAT	**Glass**	**141.37**	**8**	*e*PKPdf	PKPdf	16 29 03.5	-5.5
GNAR	**Gosnell**	**141.55**	**9**	*e*PKPdf	PKPdf	16 29 04.7	-4.6
TZTN	**Tazewell**	**141.55**	**1**	*e*PKPdf	PKPdf	16 29 03.7	-5.6
BBSR	**BB Station**	**141.63**	**335**	PKPdf	PKPdf	16 29 06.1	-3.5
BBSR				LR	LR			
	comp=Z,859µm,22.0s,MS8.5							
WVT	**Waverly**	**141.69**	**6**	*e*PKPpre		16 29 00.4		
WVT				*e*PKPdf	PKPdf	16 29 05.5	-4.1
WVT				LR	LR			
	comp=Z,1264µm,20.0s,MS8.7							
HALT	**Halls**	**141.71**	**8**	*e*PKPdf	PKPdf	16 29 05.8	-3.8
HBAR	**Harrisburg**	**141.85**	**10**	*e*PKPdf	PKPdf	16 29 05.6	-4.3
MIAR	**Mount Ida**	**142.19**	**14**	*e*PKPpre		16 29 01.5		
MIAR				LR	LR			
	comp=Z,1411µm,21.0s,MS8.7							
UALR	**University of**	**142.26**	**13**	*e*PKPpre		16 29 01.3		
CPCT	**Cooper Cave**	**142.62**	**2**	*e*PKPdf	PKPdf	16 29 05.9	-5.3
SWET	**Sewanee**	**142.77**	**4**	*e*PKPdf	PKPdf	16 29 06.3	-5.1
PLAL	**Pickwick Lake**	**142.80**	**7**	*e*PKPpre		16 29 03.4		
PLAL				*e*PKPdf	PKPdf	16 29 07.0	-4.5
PLAL				LR	LR			
	comp=Z,1296µm,20.0s,MS8.7							
TXAR	**Lajitas Array**	**142.95**	**31**	PKhKP		16 29 04.7		
	comp=Z,27nm,0.8s,baz=209,slow=1.1,SNR=19							
OXF	**Oxford**	**143.07**	**9**	PFAKE		16 29 20.0	+15
OXF				LR	LR			
	comp=Z,1549µm,21.0s,MS8.8							
BDFB	**Brasilia**	**143.10**	**247**	PKP	PKPdf	16 29 09.1	-3.4
	comp=Z,12nm,0.7s,baz=127,slow=4.0,SNR=9.2							
JSC	**Jenkinsville**	**143.78**	**358**	*e*PKPdf	PKPdf	16 29 08.7	-4.5
JCT	**Junction City**	**143.81**	**25**	*e*PKPpre		16 29 06.7		
JCT				*e*PKPdf	PKPdf	16 29 19.2	+5.8
JCT				LR	LR			
	comp=Z,1413µm,22.0s,MS8.7							
CCHI	**Chillan**	**144.24**	**195**	*e*P	PKPbc	16 29 14.3	+6.1
RPN	**Rapa Nui**	**144.48**	**137**	*e*PKPdf	PKPdf	16 29 10.8	-3.9
RPN				LR	LR			
	comp=Z,173µm,21.0s,MS7.8							
NATX	**Nacogdoches**	**144.52**	**17**	*e*PKPdf	PKPdf	16 29 10.0	-4.6
NATX				LR	LR			
	comp=Z,1542µm,20.0s,MS8.8							
COW	**Cow Castle Cre**	**144.65**	**357**	*e*PKPdf	PKPdf	16 29 09.8	-5.0
GOGA	**Godfrey**	**144.68**	**1**	*e*P	PKPbc	16 29 09.3	-0.3
GOGA				LR	LR			
	comp=Z,1582µm,21.0s,MS8.8							
LRAL	**Lakeview Retre**	**144.84**	**6**	*e*PKPdf	PKPdf	16 29 10.2	-5.0
LRAL				LR	LR			
	comp=Z,1926µm,22.0s,MS8.8							
TWB	**Tillmans-White**	**144.88**	**356**	*e*PKPdf	PKPdf	16 29 10.7	-4.5
NHSC	**New Hope**	**144.89**	**356**	*e*PKPdf	PKPdf	16 29 10.9	-4.3
NHSC				LR	LR			
	comp=Z,1685µm,19.0s,MS8.8							
CSU	**Charleston Sou**	**145.01**	**356**	*e*PKPdf	PKPdf	16 29 11.1	-4.3
HBF	**Harts Bluff**	**145.08**	**356**	*e*PKPdf	PKPdf	16 29 10.8	-4.8
RGRS	**Roger Stewart**	**145.09**	**356**	*e*PKPdf	PKPdf	16 29 11.3	-4.3
CPUP	**Villa Florida**	**145.60**	**223**	PKPbc	PKPbc	16 29 12.6	+0.4
CPUP				SKKPdf		16 47 11.8		
CPUP				SKKPdf		16 58 18.1		
CPUP				SKKPdf		17 04 04.8		
LMEL	**Las Melosas**	**146.26**	**199**	*e*P	PKPbc	16 29 15.1	+1.5
MDZ	**Mendoza**	**146.66**	**202**	*e*P	PKPbc	16 29 18.3	+3.8
MDZ				PKP	PKPdf	16 29 23.0	+4.8
MDZ				*i*		16 29 35.3		
MDZ				S	tx	16 30 23.2		
MDZ				SKP		16 32 41.0		
MDZ				PP	tx	16 35 25.0		
MDZ				SKKKS		16 42 21.0		
FCH	**Farellones**	**146.76**	**199**	*e*P	PKPbc	16 29 17.9	+3.1
CFAA	**Coronel Fontan**	**147.56**	**204**	PKPbc	PKPdf	16 29 18.8	-1.0
	baz=186,slow=2.1							
ZON	**Zonda**	**147.78**	**203**	*e*P	PKPdf	16 29 16.0	-4.1
CJM	**Chamela**	**149.44**	**44**	*e*P	PKPdf	16 29 19.1	-4.0
TLL	**Tololo Astrono**	**149.82**	**201**	*e*P	PKPdf	16 29 25.4	+2.0
DWPF	**Disney**	**149.94**	**357**	*e*PKPdf	PKPdf	16 29 19.6	-4.0
DWPF				LR	LR			
	comp=Z,525µm,22.0s,MS8.3							
SFJM	**Santa Fe**	**150.10**	**40**	*i* P	PKPdf	16 29 18.7	-5.4
CPB	**Codrington**	**151.44**	**314**	*e*P	PKPdf	16 29 33.9	+7.8
BPA	**Boggy Peak**	**151.85**	**313**	*e*P	PKPdf	16 29 33.6	+6.8
MOIG	**Morelia**	**151.87**	**39**	*e*P	PKPdf	16 29 29.2	+2.4
STMA	**St. Maarten, A**	**152.07**	**317**	*e*P	PKPdf	16 29 32.9	+5.8
SKTB	**Turtle Beach**	**152.29**	**315**	*e*P	PKPdf	16 29 38.0	+11
SKI	**Saint Kitts**	**152.29**	**315**	*e*P	PKPdf	16 29 33.0	+5.6
NVRH	**Round Hill, Ne**	**152.30**	**315**	*e*P	PKPdf	16 29 44.1	+17
SKDB	**Saint Kitts 2**	**152.30**	**315**	*e*P	PKPdf	16 29 47.6	+20
NVBH	**Bath Hotel, Ne**	**152.35**	**314**	*e*P	PKPdf	16 29 40.2	+13
BSK	**Brimstone Hill**	**152.36**	**315**	*e*P	PKPdf	16 29 38.3	+11
DWS	**Wesley**	**152.37**	**310**	*e*P	PKPdf	16 29 31.9	+4.4
SABS	**Saba**	**152.45**	**316**	*e*P	PKPdf	16 30 01.2	+34
SABT	**Saba**	**152.45**	**316**	*e*P	PKPdf	16 30 01.2	+34
BBL	**Barber's Block**	**152.52**	**310**	*e*P	PKPdf	16 29 33.7	+6.0
MDN	**Morne-Daniel**	**152.58**	**310**	*e*P	PKPdf	16 29 30.9	+3.1
SLB	**Belfond**	**153.18**	**307**	*e*P	PKPdf	16 29 35.7	+7.0
ZIIG	**Zihuatanejo**	**153.19**	**42**	*e*P	PKPdf	16 29 29.3	+0.6
SVB	**Belmont**	**153.66**	**306**	*e*P	PKPdf	16 29 35.2	+5.8
SVT	**Saint Vincent**	**153.71**	**306**	*e*P	PKPdf	16 29 54.8	+25
YAIG	**Yautepec**	**153.79**	**37**	*e*P	PKPdf	16 29 22.1	-7.3
PLIG	**Platanillo**	**153.88**	**38**	*e*P	PKPdf	16 29 35.1	+5.5
PPM	**Popocatepetl**	**153.89**	**36**	*i* P	PKPdf	16 29 32.2	+2.6
SJG	**San Juan**	**154.02**	**321**	PKPdf	PKPdf	16 29 25.9	-3.9
SJG				*e*PKPbc	PKPdf	16 29 33.6	+3.8
SJG				LR	LR			
	comp=Z,1539µm,22.0s,MS8.8							
IIB	**San Bernardino**	**154.13**	**35**	*e*P	PKPdf	16 29 36.0	+6.1
BOT	**Bacolet**	**154.31**	**301**	*e*P	PKPdf	16 29 47.3	+17
CAIG	**El Cayaco**	**154.39**	**41**	*e*P	PKPdf	16 29 32.2	+1.9
LVIG	**Laguna Verde**	**154.57**	**31**	*e*P	PKPdf	16 29 27.6	-2.9
GRW	**Mount Saint Ca**	**154.60**	**304**	*e*P	PKPdf	16 29 51.1	+20
IISM	**Ciudad Serdan**	**154.66**	**34**	*i* P	PKPdf	16 29 50.7	+20
ACX	**Acapulco**	**154.75**	**41**	*e*P	PKPdf	16 29 31.1	+0.3
TRN	**Trinidad (W)**	**155.15**	**301**	*e*P	PKPdf	16 29 42.3	+11
TPP	**Pointe-a-Pierr**	**155.35**	**300**	*e*P	PKPdf	16 29 42.8	+11
LVC	**Limon Verde**	**155.50**	**213**	*e*PKPdf	PKPdf	16 29 28.4	-3.3
LVC				LR	LR			
	comp=Z,1035µm,19.0s,MS8.7							
EVV	**El Vigia**	**156.18**	**30**	*e*P	PKPdf	16 29 39.5	+6.9
PNIG	**Pinotepa**	**156.25**	**39**	*e*P	PKPdf	16 29 36.3	+3.6
OXX	**Oaxaca**	**156.56**	**35**	*e*P	PKPdf	16 29 42.3	+9.2
VHO	**Vista Hermosa**	**156.56**	**35**	*e*P	PKPdf	16 29 35.9	+2.7
TUIG	**Tuzandepetl**	**157.00**	**29**	*e*P	PKPdf	16 29 35.0	+1.2
TEIG	**Tepich**	**157.19**	**13**	PKPdf	PKPdf	16 29 35.4	+1.4
TEIG				SKPdf		16 33 57.5		
TEIG	**Tepich**	**157.19**	**13**	PKPdf	PKPdf	16 29 30.2	-3.8
TEIG				LR	LR			
	comp=Z,425µm,19.0s,MS8.3							
HUIG	**Huatulco**	**157.96**	**36**	*e*P	PKPdf	16 29 36.7	+1.6
BBJ	**Bamboo Saint A**	**158.91**	**345**	*e*P	PKPdf	16 29 43.7	+7.5
STH	**Stony Hill**	**159.08**	**344**	*e*P	PKPdf	16 29 47.5	+11
MCJ	**Malvern**	**159.46**	**346**	*e*P	PKPdf	16 29 44.3	+7.5
CCIG	**Comitan**	**159.58**	**26**	*e*P	PKPdf	16 29 39.8	+2.8
LPAZ	**La Paz**	**159.75**	**225**	PKPdf	PKPdf	16 29 33.9	-3.2
LPAZ	**La Paz**	**159.75**	**225**	PKP	PKPdf	16 29 34.0	-3.2
	comp=Z,4.8nm,0.8s,baz=61,slow=3.3,SNR=21							
LPAZ				PKPab	PKPab	16 30 10.8	-2.5
	comp=Z,108nm,1.0s,baz=326,slow=1.8,SNR=9.7							
LPAZ	**La Paz**	**159.75**	**225**	*e*PKPdf	PKPdf	16 29 34.1	-3.0
LPAZ				LR	LR			
	comp=Z,1267µm,21.0s,MS8.7							
ARE	**Arequipa**	**161.85**	**217**	*e*P	PKPdf	16 29 50.0	+11
SDV	**Santo Domingo**	**163.62**	**312**	*e*PKPdf	PKPdf	16 29 37.0	-4.1
SDV				LR	LR			
	comp=Z,1303µm,20.0s							
CRIN	**San Cristobal**	**164.73**	**16**	*e*P	PKPdf	16 29 46.2	+4.0
TELN	**Telica**	**164.88**	**15**	*e*P	PKPdf	16 29 46.9	+4.5
TEL3	**Telica 3**	**164.91**	**15**	*e*P	PKPdf	16 29 49.6	+7.2
CNGN	**Cerro Negro**	**165.01**	**15**	*e*P	PKPdf	16 29 48.0	+5.5
LEON	**Leon**	**165.04**	**15**	*e*P	PKPdf	16 29 47.5	+5.0
PYTN	**Playitas**	**165.12**	**12**	*e*P	PKPdf	16 29 47.6	+5.0
MOMJ	**Momotombo**	**165.14**	**14**	*e*P	PKPdf	16 29 45.9	+3.3
COPN	**Copaltepe**	**165.35**	**14**	*e*P	PKPdf	16 29 48.8	+6.0
MGAN	**Managua**	**165.46**	**13**	*e*P	PKPdf	16 29 48.8	+5.9
WILN	**Americas 2**	**165.46**	**13**	*e*P	PKPdf	16 29 51.2	+8.3
TICN	**Ticuantepe**	**165.57**	**13**	*e*P	PKPdf	16 29 50.0	+7.0
APON	**Apoyo**	**165.72**	**13**	*e*P	PKPdf	16 29 48.7	+5.5
CONN	**Concepcion**	**166.16**	**11**	*e*P	PKPdf	16 29 49.1	+5.6
TRTC	**Tortuguero**	**167.38**	**4**	*e*P	PKPdf	16 29 50.5	+6.2
VCR	**Vista de Mar**	**167.55**	**13**	*e*P	PKPdf	16 29 51.1	+6.6
PRS1	**Puriscal**	**167.92**	**7**	*e*P	PKPdf	16 29 49.8	+5.1
ICR	**Volcan Irazu**	**167.97**	**4**	*e*P	PKPdf	16 29 52.5	+7.9
LIO	**Limon**	**167.98**	**1**	*e*P	PKPdf	16 29 52.7	+8.0
SJS	**Escuela Geolog**	**167.99**	**6**	*e*P	PKPdf	16 29 50.1	+5.4
LAJ	**Bijagual**	**168.06**	**6**	*e*P	PKPdf	16 29 50.9	+6.1
URSC	**Urasca**	**168.11**	**4**	*e*P	PKPdf	16 29 50.6	+5.8
LCR2	**La Lucha 2**	**168.19**	**5**	*e*P	PKPdf	16 29 48.6	+3.8
BUS	**Buena Vista**	**168.39**	**4**	*e*P	PKPdf	16 29 49.8	+4.8
ROSC	**El Rosal**	**169.01**	**309**	PKP	PKPdf	16 29 42.8	-2.5
	comp=Z,16nm,0.7s,baz=95,slow=19,SNR=8.3							
ACR	**Cerro Adams**	**169.32**	**2**	*e*P	PKPdf	16 29 50.6	+5.1
PAYG	**Puerto Ayora**	**172.47**	**79**	*e*PKPdf	PKPdf	16 29 43.7	-3.7
PAYG				LR	LR			
	comp=Z,1228µm,22.0s							
OTAV	**Otavalo**	**175.00**	**298**	PKPdf	PKPdf	16 29 44.4	-3.8
OTAV				PP	PP	16 35 33.5	+20
OTAV	**Otavalo**	**175.00**	**298**	*e*PKPdf	PKPdf	16 29 44.5	-3.8
OTAV				LR	LR			
	comp=Z,1690µm,22.0s							

*MOS **28** 16:21:11.5±1.7,0.65N×96.31E,h33km,mb6.0/10,Error ellipse: s-maj=36.0km s-min=19.4km az=94.2*
*IDC **28** 16:21:12.6±3.0,1.21N×97.03E,mb5.4/4,mb1 5.4/4, mb1mx4.9/17,mbtmp5.4/4,Error ellipse: s-maj=76.7km s-min=31.7km az=58.0*
*NEIC **28** 16:21:16.3±0.6,1.11N×97.01E,h30km,mb5.8/11,Error ellipse: s-maj=12.2km s-min=11.4km az=59.0*

ISC 28 16:21:14.5±0.9,1.2N±0.1×97.0E±0.1,h30km,n29, σ0§47/29,mb5.7/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.47**	**41**	*e*Pn	**Pn**	**16 22 35.4**	**-0.9**
KKM	**Kota Kinabalu**	**19.75**	**75**	*e*P	**P**	**16 25 45.2**	**-0.1**
TATO	**Taipei**	**33.45**	**43**	*e*P	**P**	**16 27 52.7**	**-0.6**
	268nm,1.2s,mb6.0						
JOW	**Kunigami**	**39.40**	**47**	P	**P**	**16 28 44.3**	**+0.7**
	141nm,0.7s,mb5.8,baz=245,slow=9.0,SNR=16						
WRA	**Warramunga Arr**	**42.16**	**122**	P	**P**	**16 29 07.1**	**+0.7**
	22nm,0.7s,mb4.9,baz=300,slow=8.9,SNR=5.2						
BJT	**Baijiatuao**	**42.42**	**22**	*e*P	**P**	**16 29 09.1**	**+0.7**
BJT				pmax	pmax		
	comp=Z,101nm,0.7s						
BJT	**Baijiatuao**	**42.42**	**22**	*e*P	**P**	**16 29 09.1**	**+0.7**
	comp=Z,101nm,0.7s,mb5.6						
KS15	**Wonju Array Si**	**45.95**	**35**	*e*P	**P**	**16 29 36.9**	**+0.1**
SONM	**Songino Array**	**47.20**	**9**	P	**P**	**16 29 46.6**	**0.0**
	comp=Z,56nm,0.8s,mb5.5,baz=188,slow=8.7,SNR=7.1						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**16 29 47.0**	**+0.1**
	comp=Z,27nm,0.7s,mb5.3,baz=149,slow=7.1,SNR=3.5						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**16 29 48.2**	**+0.6**
ULN				pmax	pmax		
	comp=Z,80nm,0.9s,mb5.7						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**16 29 48.1**	**+0.6**
	comp=Z,80nm,0.9s,mb5.7						
HIA	**Hailar**	**51.74**	**19**	*e*P	**P**	**16 30 21.4**	**0.0**
HIA				pmax	pmax		
	comp=Z,79nm,0.9s						
HIA	**Hailar**	**51.74**	**19**	*e*

16nm,0.6s,mb5.1
PET Petropavlovsk 71.80 34 *e*P **P 16 37 16.6 -0.4**
23nm,0.6s,mb5.3
AKASG Malin Array Be 74.84 322 P **P 16 37 33.5 -1.5**
3.8nm,0.6s,mb4.5,baz=87,slow=5.5,SNR=5.0
AKASG Malin Array Be 74.84 322 P **P 16 37 33.5 -1.5**
MLR Muntele Rosu 75.68 317 P **P 16 37 39.9 0.0**
7.0nm,0.8s,mb4.7,baz=147,slow=7.9,SNR=3.7
FINES FINESS Array B 79.53 332 P **P 16 38 01.1 +0.1**
5.7nm,0.6s,mb4.7,baz=93,slow=5.3,SNR=2.7
ARCES ARCESS Array B 82.04 340 P **P 16 38 14.1 0.0**
3.4nm,0.5s,mb4.6,baz=97,slow=5.0,SNR=1.9
ARCES ARCESS Array B 82.04 340 P **P 16 38 14.1 0.0**
GERES GERESS Array B 84.41 319 P **P 16 38 27.1 +0.6**
3.6nm,0.8s,mb4.5,baz=114,slow=4.4,SNR=2.7
NB2 NORSAR Subarra 86.54 331 P **P 16 38 38.4 +1.7**
2.5nm,0.7s,mb4.5,baz=92,slow=4.6
NOA NORSAR Array B 86.54 331 P **P 16 38 38.0 +1.3**
4.6nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=3.7
TXAR Lajitas Array 143.22 31 PKP PKPdf 16 45 27.9 +0.4
1.4nm,0.5s,baz=58,slow=0.7,SNR=2.4
CFAA Coronel Fontan 147.25 203 PKPbc PKPdf 16 45 37.3 +2.9
1.7nm,0.5s,baz=158,slow=2.9,SNR=4.9

*IDC **28** 16:27:33.4±0.5, 0.50N×97.68E, mb4.9/22, mb1 5.0/22, mb1mx5.0/27, mbtmp4.9/22, Error ellipse: s-maj=20.3km s-min=13.5km az=47.0*
*NEIC **28** 16:27:38.1±0.3, 0.43N×97.67E, h30km, mb5.2/10, Error ellipse: s-maj=8.3km s-min=7.2km az=219.0*
ISC 28 16:27:36.8±0.4, 0.46N±0.08×97.70E±0.07, h33km, n38, σ0$70/36, mb5.0/32, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**19.29**	**73**	*e*P		**P**	**16 32 02.1**	**+0.3**
LSA	**Lhasa**	**29.74**	**348**	*e*P		**P**	**16 33 44.2**	**+1.8**
	28nm,0.9s,mb5.0							
NWAO	**Narrogin (SRO)**	**37.98**	**153**	P		**P**	**16 34 53.6**	**+0.2**
	27nm,0.9s,mb5.0,baz=51,slow=4.0,SNR=3.0							
ASAR	**Alice Springs**	**42.56**	**127**	P		**P**	**16 35 31.2**	**-0.2**
	24nm,1.0s,mb4.9,baz=296,slow=8.0,SNR=8.4							
BJT	**Baijiatuan**	**42.82**	**21**	P		**P**	**16 35 35.4**	**+1.9**
	33nm,0.5s,mb5.3							
SONM	**Songino Array**	**47.78**	**8**	P		**P**	**16 36 14.1**	**+1.2**
	4.7nm,0.5s,mb4.7,baz=192,slow=9.6,SNR=4.3							
MKAR	**Makanchi Array**	**48.07**	**346**	P		**P**	**16 36 14.9**	**-0.2**
	5.0nm,0.5s,mb4.8,baz=156,slow=8.2,SNR=4.9							
PMG	**Port Moresby**	**50.21**	**103**	P		**P**	**16 36 31.3**	**-0.7**
	36nm,0.9s,mb5.4,baz=305,slow=5.3,SNR=5.0							
CTA	**Charters Tower**	**51.73**	**116**	P		**P**	**16 36 43.0**	**-0.4**
	12nm,0.8s,mb4.9,baz=270,slow=7.3							
ATD	**Arta Tunnel**	**55.54**	**284**	P		**P**	**16 37 12.1**	**+0.5**
	9.8nm,0.8s,mb4.9,baz=93,slow=14,SNR=4.2							
BVAR	**Borovoye Array**	**57.10**	**341**	P		**P**	**16 37 21.4**	**-1.0**
	13nm,0.7s,mb5.1,baz=138,slow=8.7,SNR=6.8							
KMBO	**Kilima Mbogo**	**60.46**	**268**	P		**P**	**16 37 46.0**	**-0.2**
	2.3nm,0.6s,mb4.4,baz=68,slow=16,SNR=3.5							
YSS	**Yuzh-Sakhalins**	**60.68**	**34**	P		**P**	**16 37 46.5**	**-0.7**
	6.9nm,0.5s,mb5.0							
KIV	**Kislovodsk**	**65.19**	**319**	*e*P		**P**	**16 38 16.2**	**-0.9**
	66nm,1.1s,mb5.6							
ASF	**Jabal al Asfar**	**65.30**	**305**	P		**P**	**16 38 17.9**	**-0.1**
	18nm,0.8s,mb5.1,baz=350,slow=4.0,SNR=9.0							
YAK	**Yakutsk**	**65.99**	**16**	*e*P		**P**	**16 38 21.1**	**-0.8**
	27nm,0.9s,mb5.3							
MALT	**Malatya**	**65.99**	**312**	*e*P		**P**	**16 38 22.3**	**-0.1**
	24nm,0.9s,mb5.2							
EIL	**Elat**	**66.27**	**302**	*e*P		**P**	**16 38 24.2**	**-0.1**
	36nm,0.9s,mb5.4							
BRTR	**Keskin Array B**	**69.97**	**312**	P		**P**	**16 38 46.4**	**-0.8**
	13nm,0.8s,mb4.9,baz=130,slow=7.1,SNR=12							
MA2	**Magadan**	**71.78**	**25**	*e*P		**P**	**16 38 57.6**	**0.0**
	7.7nm,0.6s,mb4.8							
MAW	**Mawson**	**72.11**	**193**	P		**P**	**16 38 59.5**	**0.0**
	9.5nm,0.9s,mb4.7,baz=31,slow=5.5,SNR=4.8							
PET	**Petropavlovsk**	**72.56**	**34**	P		**P**	**16 39 01.8**	**-0.6**
	19nm,1.0s,mb5.0							
LBTB	**Lobatse**	**74.01**	**244**	P		**P**	**16 39 11.2**	**-0.2**
	15nm,0.9s,mb4.9,baz=105,slow=8.7,SNR=4.6							
BOSA	**Boshof**	**74.85**	**240**	P		**P**	**16 39 16.2**	**0.0**
	12nm,0.8s,mb4.9,baz=78,slow=6.4,SNR=6.3							
AKASG	**Malin Array Be**	**76.14**	**322**	P		**P**	**16 39 22.2**	**-1.0**
	9.9nm,0.6s,mb4.9,baz=87,slow=5.4,SNR=16							
MLR	**Muntele Rosu**	**76.94**	**317**	P		**P**	**16 39 27.7**	**-0.2**
	30nm,1.0s,mb5.2,baz=121,slow=11,SNR=6.5							
MLR	**Muntele Rosu**	**76.94**	**317**	P		**P**	**16 39 27.7**	**-0.2**
RPZ	**Rata Peaks**	**78.34**	**135**	P		**P**	**16 39 36.3**	**+0.8**
	26nm,0.8s,mb5.2,baz=305,slow=4.1,SNR=11							
SUR	**Sutherland**	**79.18**	**237**	P		**P**	**16 39 41.5**	**+1.0**
	26nm,0.9s,mb5.2,baz=101,slow=3.8,SNR=9.4							
SUR	**Sutherland**	**79.18**	**237**	*e*P		**P**	**16 39 41.7**	**+1.3**
TSUM	**Tsumeb**	**80.82**	**251**	P		**P**	**16 39 50.1**	**+0.7**
	19nm,1.0s,mb5.0,baz=68,slow=4.3,SNR=6.9							
TSUM	**Tsumeb**	**80.82**	**251**	P		**P**	**16 39 50.1**	**+0.7**
FINES	**FINESS Array B**	**80.88**	**332**	P		**P**	**16 39 48.4**	**-0.5**
	9.2nm,0.8s,mb4.8,baz=95,slow=4.9,SNR=5.7							
PSZ	**Piszkesteto**	**81.49**	**318**	*e*P		**P**	**16 39 52.5**	**+0.1**
	12nm,0.8s,mb4.9							
GERES	**GERESS Array B**	**85.69**	**319**	P		**P**	**16 40 14.0**	**+0.3**
	4.2nm,0.9s,mb4.7,baz=108,slow=4.2,SNR=4.7							
NOA	**NORSAR Array B**	**87.89**	**331**	P		**P**	**16 40 24.2**	**+0.2**
	6.6nm,1.0s,mb4.8,baz=96,slow=4.7,SNR=3.6							
TXAR	**Lajitas Array**	**144.02**	**33**	PKP		PKPdf	16 47 10.2	+0.5
	4.5nm,1.0s,baz=90,slow=1.3,SNR=3.4							
CFAA	**Coronel Fontan**	**146.29**	**202**	PKPbc		PKPbc	16 47 16.5	+1.8
	1.9nm,0.9s,baz=202,slow=1.9,SNR=3.6							

*IDC **28** 16:31:27.0±1.6, 0.76N×97.63E, mb4.6/6, mb1 4.7/6, mb1mx4.5/17, mbtmp4.6/6, Error ellipse: s-maj=79.4km s-min=25.3km az=53.0*
ISC 28 16:31:30.8±1.5, 0.9N±0.3×97.8E±0.4, h33km, n7, σ1$00/6, mb4.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ASAR	**Alice Springs**	**42.74**	**127**	P		**P**	**16 39 27.0**	**-0.1**
	8.2nm,0.6s,mb4.6,baz=298,slow=7.8,SNR=11							
SONM	**Songino Array**	**47.34**	**8**	P		**P**	**16 40 03.3**	**-0.2**
	5.9nm,0.9s,mb4.5,baz=178,slow=6.7,SNR=4.6							
MKAR	**Makanchi Array**	**47.67**	**346**	P		**P**	**16 40 06.7**	**+0.6**
	15nm,0.7s,mb5.1,baz=159,slow=8.8,SNR=9.2							
BVAR	**Borovoye Array**	**56.72**	**341**	P		**P**	**16 41 12.9**	**-0.8**
	4.5nm,0.6s,mb4.7,baz=148,slow=9.1,SNR=4.9							
AKASG	**Malin Array Be**	**75.85**	**322**	P		**P**	**16 43 14.8**	**-0.8**
	4.5nm,0.7s,mb4.5,baz=90,slow=5.4,SNR=6.7							
NOA	**NORSAR Array B**	**87.55**	**331**	P		**P**	**16 44 17.6**	**+1.2**
	3.2nm,0.9s,mb4.6,baz=56,slow=4.9,SNR=3.8							
TXAR	**Lajitas Array**	**143.60**	**33**	PKP		PKPdf	16 51 02.1	-0.9
	0.4nm,0.4s,baz=270,slow=1.8,SNR=3.8							

*ISK **28** 16:33:01.3, 40.46N×27.49E, h16km, MD2.8*
*CSEM **28** 16:33:01.2±0.1, 40.43N×27.51E, h10km, MD2.8, Error ellipse: s-maj=2.2km s-min=2.0km az=167.0*
ISC 28 16:33:02.0±0.5, 40.46N±0.05×27.49E±0.04, h12km±6km, n14, σ0$93/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRMT	**Marmara Adasi**	**0.16**	**28**	PG		**Pg**	**16 33 05.7**	**-0.2**
MRMT				SG		**Sg**	**16 33 09.2**	**+0.7**
SART	**Tekirdag**	**0.33**	**314**	*i* P		**Pg**	**16 33 09.6**	**+0.7**
SART				*i* S		**Sg**	**16 33 15.0**	**+1.4**
BNT	**Bandirma**	**0.34**	**107**	*i* PG		**Pg**	**16 33 08.6**	**-0.5**
BNT				*i* SG		**Sg**	**16 33 13.9**	**0.0**
LPK	**Lapseki**	**0.57**	**262**	*i* PG		**Pg**	**16 33 12.9**	**-0.6**
KCT	**Karacabey**	**0.69**	**106**	*e*PG		**Pg**	**16 33 14.5**	**-1.4**
BTOK	**Tokmak**	**0.81**	**149**	*i* P		**Pb**	**16 33 18.7**	**+1.2**
BTOK				*i* S		**Sb**	**16 33 31.2**	**+3.1**
CTT	**Catalca**	**0.99**	**46**	PG		**Pg**	**16 33 21.0**	**-0.8**
EZN	**Ezine**	**1.10**	**235**	*e*PN		**Pn**	**16 33 21.5**	**-1.6**
ORLT	**Orhaneli**	**1.15**	**111**	*e*PN		**Pn**	**16 33 23.6**	**-0.3**
DST	**Dursunbey**	**1.22**	**134**	*e*PN		**Pn**	**16 33 24.8**	**0.0**
ULDT	**Uludag**	**1.29**	**104**	*i* P		**Pb**	**16 33 26.4**	**+0.5**
ULDT				*i* S		**Sb**	**16 33 43.6**	**+1.4**
BADT	**Buyukada**	**1.30**	**72**	*e*PN		**Pn**	**16 33 25.0**	**-1.0**
AYVA	**Ayvalik**	**1.30**	**209**	*i* P		**Pb**	**16 33 25.9**	**-0.1**
AYVA				*i* S		**Sb**	**16 33 42.7**	**+0.2**
HRT	**Hereke**	**1.69**	**77**	*e*PN		**Pn**	**16 33 31.0**	**-0.7**

*IDC **28** 16:32:58.6±1.8, 0.96N×97.84E, mb4.5/6, mb1 4.5/6, mb1mx4.4/16, mbtmp4.5/6, Error ellipse: s-maj=91.3km s-min=26.4km az=54.0*
*NEIC **28** 16:33:02.8±1.0, 0.84N×97.78E, h30km, mb4.7/2, Error ellipse: s-maj=38.0km s-min=18.4km az=55.0*
ISC 28 16:33:02.1±1.4, 0.9N±0.2×97.8E±0.3, h33km, n11, σ0$78/10, mb4.5/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSA	**Lhasa**	**29.30**	**348**	*e*P		**P**	**16 39 04.9**	**+1.1**
	14nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**42.73**	**127**	P		**P**	**16 40 58.1**	**-0.1**
	2.9nm,0.7s,mb4.2,baz=296,slow=7.6,SNR=7.7							
KS15	**Wonju Array Si**	**45.68**	**34**	*e*P		**P**	**16 41 22.3**	**+0.5**
SONM	**Songino Array**	**47.30**	**8**	P		**P**	**16 41 33.6**	**-0.8**
	7.0nm,0.9s,mb4.6,baz=200,slow=6.9,SNR=4.3							
MKAR	**Makanchi Array**	**47.65**	**346**	P		**P**	**16 41 37.0**	**-0.1**
	11nm,0.7s,mb5.0,baz=153,slow=8.1,SNR=6.7							
BVAR	**Borovoye Array**	**56.70**	**341**	P		**P**	**16 42 43.4**	**-1.4**
	3.7nm,0.7s,mb4.5,baz=143,slow=9.0,SNR=3.0							
FINES	**FINESS Array B**	**80.52**	**332**	P		**P**	**16 45 12.3**	**-0.1**
	1.4nm,0.5s,mb4.1,baz=108,slow=4.4,SNR=4.1							
NB2	**NORSAR Subarra**	**87.54**	**331**	P		**P**	**16 45 48.4**	**+0.8**
	3.7nm,0.9s,mb4.6,baz=95,slow=4.8							
NOA	**NORSAR Array B**	**87.54**	**331**	P		**P**	**16 45 48.7**	**+1.0**
	2.1nm,0.8s,mb4.4,baz=93,slow=5.0,SNR=4.5							
NOA	**NORSAR Array B**	**87.54**	**331**	P		**P**	**16 45 48.7**	**+1.0**
TXAR	**Lajitas Array**	**143.55**	**33**	PKP		PKPdf	16 52 34.0	-0.2
	0.4nm,0.4s,baz=315,slow=3.8,SNR=2.9							

*IDC **28** 16:33:51.6±0.9, 0.93N×97.79E, mb4.8/12, mb1 4.9/12, mb1mx4.8/18, mbtmp4.8/12, Error ellipse: s-maj=31.7km s-min=23.3km az=79.0*
*NEIC **28** 16:33:56.5±0.5, 0.93N×97.91E, h30km, mb5.0/18, Error ellipse: s-maj=13.3km s-min=11.1km az=110.0*
ISC 28 16:33:55.6±0.7, 1.0N±0.1×97.9E±0.1, h33km, n40, σ0$91/37, mb4.9/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**17.40**	**3**	*e*P		**P**	**16 37 57.0**	**-0.6**
	9.9nm,0.7s							
LSA	**Lhasa**	**29.28**	**348**	*e*P		**P**	**16 39 59.0**	**+1.8**
	17nm,0.4s,mb5.1							
BJT	**Baijiatuan**	**42.27**	**21**	*e*P		**P**	**16 41 49.0**	**+1.3**
	11nm,0.6s,mb4.7							
ASAR	**Alice Springs**	**42.70**	**127**	P		**P**	**16 41 51.2**	**-0.2**
	1.8nm,0.4s,mb4.1,baz=294,slow=7.3,SNR=5.3							
KS15	**Wonju Array Si**	**45.61**	**34**	*e*P		**P**	**16 42 14.4**	**-0.3**
SONM	**Songino Array**	**47.25**	**8**	P		**P**	**16 42 28.0**	**+0.5**
	12nm,0.8s,mb4.9,baz=191,slow=7.0,SNR=8.4							
MKAR	**Makanchi Array**	**47.63**	**346**	P		**P**	**16 42 30.4**	**-0.1**
	24nm,0.7s,mb5.4,baz=157,slow=7.5,SNR=14							
KURK	**Kurchatov**	**52.19**	**345**	*e*P		**P**	**16 43 04.8**	**-0.5**
	28nm,1.0s,mb5.2							
BVAR	**Borovoye Array**	**56.69**	**340**	P		**P**	**16 43 36.5**	**-1.8**
	14nm,0.7s,mb5.1,baz=135,slow=8.4,SNR=9.2							
KIV	**Kislovodsk**	**64.94**	**319**	*e*P		**P**	**16 44 33.5**	**-0.8**
	38nm,1.0s,mb5.4							
YAK	**Yakutsk**	**65.44**	**16**	*e*P		**P**	**16 44 34.6**	**-2.6**
	31nm,0.9s,mb5.3							
EIL	**Elat**	**66.17**	**302**	*e*P		**P**	**16 44 41.8**	**-0.6**
	10nm,0.8s,mb4.9							
BRTR	**Keskin Array B**	**69.78**	**312**	P		**P**	**16 45 03.5**	**-1.2**
	7.7nm,0.8s,mb4.7,baz=131,slow=7.6,SNR=6.7							
MA2	**Magadan**	**71.23**	**25**	*e*P		**P**	**16 45 13.3**	**+0.1**
	10nm,0.7s,mb4.9							
LBTB	**Lobatse**	**74.42**	**244**	P		**P**	**16 45 32.7**	**+0.1**
	11nm,0.9s,mb4.8,baz=83,slow=6.0,SNR=4.3							
LBTB	**Lobatse**	**74.42**	**244**	P		**P**	**16 45 32.7**	**+0.1**
BOSA	**Boshof**	**75.28**	**240**	P		**P**	**16 45 36.4**	**-1.1**
	4.0nm,0.5s,mb4.6,baz=96,slow=6.9,SNR=6.5							
BOSA	**Boshof**	**75.28**	**240**	*e*P		**P**	**16 45 37.8**	**+0.2**
MLR	**Muntele Rosu**	**76.71**	**317**	P		**P**	**16 45 44.9**	**-0.4**
	6.4nm,0.8s,mb4.6,baz=154,slow=4.0,SNR=5.1							
MLR	**Muntele Rosu**	**76.71**	**317**	P		**P**	**16 45 44.9**	**-0.5**
FINES	**FINESS Array B**	**80.52**	**332**	P		**P**	**16 46 05.6**	**-0.2**
	4.5nm,0.7s,mb4.5,baz=88,slow=6.5,SNR=5.3							
PSZ	**Piszkesteto**	**81.25**	**318**	P		**P**	**16 46 10.0**	**0.0**
	9.4nm,1.0s,mb4.7							
ARCES	**ARCESS Array B**	**82.98**	**340**	P		**P**	**16 46 17.6**	**-0.8**
	14nm,1.0s,mb4.9,baz=63,slow=2.7,SNR=5.0							
MORC	**Moravsky Berou**	**83.03**	**320**	*e*P		**P**	**16 46 18.5**	**-0.5**
	8.1nm,0.9s,mb4.8							
GEC2	**GERESS Array S**	**85.45**	**319**	*e*P		**P**	**16 46 32.2**	**+1.0**
	10.0nm,1.0s,mb4.9							
GERES	**GERESS Array B**	**85.45**	**319**	P		**P**	**16 46 31.3**	**+0.1**
	10nm,1.1s,mb4.9,baz=104,slow=5.5,SNR=8.8							
WET	**Wettzell**	**86.01**	**319**	*e*P		**P**	**16 46 34.7**	**+0.7**
	7.0nm,0.9s,mb4.9							
GRA1	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**16 46 40.3**	**+0.9**
	8.0nm,1.0s,mb4.9							
GRF	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**16 46 40.3**	**+0.9**
	8.0nm,1.0s,mb4.9							
NB2	**NORSAR Subarra**	**87.54**	**331**	P		**P**	**16 46 41.0**	**-0.2**
	18nm,1.1s,mb5.2,baz=95,slow=4.8							
NB2	**NORSAR Subarra**	**87.54**	**331**	P		**P**	**16 46 41.0**	**-0.2**
	baz=95,slow=4.8							
NOA	**NORSAR Array B**	**87.54**	**331**	P		**P**	**16 46 41.1**	**-0.1**
	7.1nm,0.9s,mb4.9,baz=95,slow=4.9,SNR=9.9							
CLZ	**Clausthal**	**87.71**	**322**	*e*P		**P**	**16 46 43.3**	**+1.1**
	58nm,1.6s,mb5.6							
BSEG	**Bad Segeberg**	**87.79**	**324**	*e*P		**P**	**16 46 43.8**	**+1.3**
TNS	**Taunus Mts**	**88.91**	**320**	*e*P		**P**	**16 46 49.6**	**+1.6**
BFO	**Black Forest**	**89.00**	**318**	*e*P		**P**	**16 46 48.7**	**+0.3**
	4.0nm,1.0s,mb4.7							
LPG	**La Plagne**	**90.12**	**315**	*e*P		**P**	**16 46 54.1**	**+0.3**
	34nm,1.1s,mb5.3							
SCHQ	**Schefferville**	**122.98**	**350**	PKP		PKPdf	16 52 49.5	+0.8
	1.4nm,0.7s,baz=211,slow=5.9,SNR=3.3							
ULM	**Lac du Bonnet**	**127.62**	**11**	PKP		PKPdf	16 52 58.4	+0.6
	1.3nm,0.5s,baz=243,slow=12,SNR=3.1							
TXAR	**Lajitas Array**	**143.48**	**33**	PKP		PKPdf	16 53 27.7	+0.2
	1.1nm,0.8s,baz=32,slow=1.5,SNR=3.4							

*BJI **28** 16:34:39.5, 2.30N×96.60E, h28km, mb5.5*
*NEIC **28** 16:34:40.6±0.3, 2.34N×96.60E, mb5.4/45, Error ellipse: s-maj=7.9km s-min=6.4km az=56.0*
*IDC **28** 16:34:40.4±0.5, 2.42N×96.60E, h26km±3km, mb4.8/17, mb1 4.8/17, mb1mx4.7/23, mbtmp5.0/17, Error ellipse: s-maj=19.2km s-min=12.3km az=62.0*
ISC 28 16:34:38.7±0.4, 2.37N±0.07×96.64E±0.07, h27km, h27km±1.0km: pP-P, n114, σ0$87/44, mb5.1/30, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**4.94**	**54**	*e*Pn		**Pn**	**16 35 54.7**	**+1.5**
CM31	**Chiang Mai Arr**	**16.15**	**8**	*e*P		**P**	**16 38 28.0**	**+2.4**
	28nm,0.8s							
KKM	**Kota Kinabalu**	**19.86**	**79**	*e*P		**P**	**16 39 10.2**	**-0.6**
HYB	**Hyderabad**	**23.22**	**311**	*e*P		**P**	**16 40 03.0**	**+18**
GYA	**Guiyang**	**25.81**	**21**	P		**P**	**16 40 09.3**	**-0.3**
GYA				AMB		AMB		
	comp=Z,70nm,0.6s,mb5.4							
LSA	**Lhasa**	**27.68**	**350**	P		**P**	**16 40 26.8**	**+0.1**
	comp=Z,23nm,0.6s,mb5.0							
FITZ	**Fitzroy Crossi**	**35.06**	**127**	P		**P**	**16 41 30.6**	**-1.2**
	comp=Z,166nm,0.7s,mb6.1,baz=315,slow=3.7,SNR=4.5							
KAKA	**Kakadu**	**38.57**	**114**	*i* P		**P**	**16 42 00.1**	**-1.2**
	comp=Z,185nm,0.6s,mb6.0							
JOW	**Kunigami**	**38.87**	**48**	P		**P**	**16 42 03.9**	**+0.1**
	comp=Z,30nm,0.6s,mb5.2,baz=270,slow=13,SNR=8.6							
KLBR	**Kellerberrin**	**39.28**	**151**	*i* P		**P**	**16 42 08.5**	**+1.4**
	comp=Z,5μm,0.8s							
NWAO	**Narrogin (SRO)**	**40.14**	**153**	P		**P**	**16 42 15.8**	**+1.6**
	comp=Z,72nm,0.8s,mb5.4,baz=325,slow=10,SNR=22							
NWAO	**Narrogin (SRO)**	**40.14**	**153**	P		**P**	**16 42 15.8**	**+1.6**
BJT	**Baijiatuan**	**41.45**	**23**	*e*P		**P**	**16 42 25.7**	**+0.8**
	comp=Z,63nm,0.6s,mb5.4							
ASAR	**Alice Springs**	**44.54**	**128**	P		**P**	**16 42 50.1**	**-0.2**
	comp=Z,20nm,0.6s,mb5.1,baz=299,slow=8.0,SNR=27							
ASAR				PcP		PcP	16 44 33.3	-0.4
	comp=Z,9.5nm,0.6s,baz=301,slow=3.6,SNR=7.0							
KS15	**Wonju Array Si**	**45.19**	**36**	*e*P		**P**	**16 42 54.5**	**-0.9**
MKAR	**Makanchi Array**	**45.98**	**346**	P		**P**	**16 43 01.7**	**+0.2**
	comp=Z,28nm,0.7s,mb5.3,baz=162,slow=8.9,SNR=10							
MKAR	**Makanchi Array**	**45.98**	**346**	P		**P**	**16 43 01.7**	**+0.2**
SONM	**Songino Array**	**46.07**	**9**	P		**P**	**16 43 02.0**	**-0.1**
	comp=Z,30nm,0.7s,mb5.3,baz=191,slow=9.6,SNR=23							
SONM				PcP		PcP	16 44 38.3	-0.4
	comp=Z,11nm,0.7s,baz=192,slow=5.0,SNR=5.7							
KURK	**Kurchatov**	**50.53**	**345**	*e*P		**P**	**16 43 37.1**	**+0.4**
	comp=Z,20nm,0.7s,mb5.2							
MAT	**Matsushiro**	**51.22**	**43**	*e*P		**P**	**16 43 42.0**	**-0.1**
MAT	**Matsushiro**	**51.22**	**43**	P		**P**	**16 43 41.8**	**-0.3**
BVAR	**Borovoye Array**	**54.97**	**341**	P		**P**	**16 44 08.4**	**-1.5**
	comp=Z,7.6nm,0.7s,mb4.8,baz=139,slow=8.4,SNR=4.5							
ASAJ	**Asahikawa**	**58.08**	**38**	P		**P**	**16 44 31.6**	**-0.4**
	comp=Z,16nm,0.8s,mb5.1,baz=150,slow=20,SNR=5.4							
KMBO	**Kilima Mbogo**	**59.48**	**267**	pP		pP	16 44 50.9	+0.2
	comp=Z,12nm,0.9s,baz=61,slow=9.2,SNR=7.4							
YSS	**Yuzh-Sakhalins**	**59.71**	**35**	*e*P		**P**	**16 44 43.0**	**-0.3**
	comp=Z,19nm,0.4s,mb5.5							
KIV	**Kislovodsk**	**63.06**	**319**	*e*P		**P**	**16 45 06.0**	**0.0**
	comp=Z,32nm,0.9s,mb5.5							
ASF	**Jabal al Asfar**	**63.34**	**305**	pP		pP	16 45 16.1	-0.3
	comp=Z,14nm,0.8s,baz=108,slow=21,SNR=6.1							
EIL	**Elat**	**64.37**	**302**	*e*P		**P**	**16 45 13.8**	**-1.0**
EIL				*e*pP		pP	16 45 23.5	+0.2
YAK	**Yakutsk**	**64.46**	**17**	*e*P		**P**	**16 45 13.3**	**-1.6**
	comp=Z,38nm,0.7s,mb5.5							
BRTR	**Keskin Array B**	**67.92**	**312**	P		**P**	**16 45 36.1**	**-1.3**
	comp=Z,2.1nm,0.6s,mb4.3,baz=132,slow=5.3,SNR=4.1							
BRTR				pP		pP	16 45 45.0	-0.8
	comp=Z,16nm,0.8s,baz=131,slow=6.8,SNR=9.1							
MA2	**Magadan**	**70.53**	**26**	*e*P		**P**	**16 45 52.7**	**-0.3**
	comp=Z,21nm,0.6s,mb5.2							
PET	**Petropavlovsk**	**71.58**	**34**	*e*P		**P**	**16 45 58.8**	**-0.7**
	comp=Z,44nm,0.5s,mb5.7							
DZM	**Mont Dzumac**	**72.26**	**114**	P		**P**	**16 46 04.4**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.5,baz=360,slow=24,SNR=4.6							
LBTB	**Lobatse**	**73.91**	**243**	P		**P**	**16 46 14.1**	**+0.3**
	comp=Z,7.3nm,0.8s,mb4.7,baz=111,slow=4.2,SNR=5.1							
LBTB				pP		pP	16 46 23.3	+1.1
	comp=Z,15nm,0.8s,baz=108,slow=6.4,SNR=5.9							
MLR	**Muntele Rosu**	**74.84**	**317**	pP		pP	16 46 27.2	-0.1
	comp=Z,37nm,1.0s,baz=128,slow=1.7,SNR=8.8							
BOSA	**Boshof**	**74.88**	**240**	pP		pP	16 46 27.6	-0.2
	comp=Z,10nm,0.8s,baz=100,slow=7.4,SNR=5.1							
KOLS	**Kolonicke sedl**	**77.97**	**320**	*i* P		pP	16 46 45.8	+1.0
KOLS	**Kolonicke sedl**	**77.97**	**320**	*i* pP		pP	16 46 45.8	+1.0
SUW	**Suwalki**	**78.41**	**325**	*e*P		**P**	**16 46 39.0**	**+0.5**
	comp=Z,187nm,1.0s,mb6.0							
SUW				*e*pP		pP	16 46 47.2	+0.2
FINES	**FINESS Array B**	**78.71**	**332**	P		**P**	**16 46 39.2**	**-0.8**
	comp=Z,3.3nm,0.6s,mb4.5,baz=99,slow=6.3,SNR=6.5							
FINES				pP		pP	16 46 48.7	+0.1
	comp=Z,16nm,0.9s,baz=90,slow=7.6,

comp=Z,3.0nm,1.0s,baz=278,slow=2.9,SNR=3.0
TXAR Lajitas Array 142.96 30 PKP PKPdf 16 54 09.5 -6.0
comp=Z,1.7nm,0.6s,baz=281,slow=1.7,SNR=5.7
JSC Jenkinsville 143.49 357 *e*PKPdf PKPdf 16 54 25.6 +9.3
RPN Rapa Nui 145.00 137 PKPbc PKPbc 16 54 15.2 +0.7
comp=Z,23nm,0.3s,baz=329,slow=1.0,SNR=4.1
CFAA Coronel Fontan 147.61 205 PKPbc PKPdf 16 54 23.1 -0.2
comp=Z,3.4nm,0.7s,baz=168,slow=2.9,SNR=20
CFAA pPKPbc 16 54 31.7
comp=Z,4.9nm,0.7s,baz=171,slow=2.4,SNR=16
CFAA Coronel Fontan 147.61 205 PKPbc PKPdf 16 54 23.1 -0.2
CFAA pPKPbc 16 54 31.7
LPAZ La Paz 159.60 226 PKP PKPdf 16 54 37.5 -3.0
comp=Z,1.7nm,0.8s,baz=287,slow=20,SNR=3.1

*IDC **28** 16:35:18.2±1.2, 0.35S×97.69E, mb4.9/6, mb1 5.0/6, mb1mx4.6/17, mbtmp4.9/6, Error ellipse: s-maj=44.8km s-min=28.4km az=71.0*
ISC 28 16:35:21.0±1.0, 0.3S±0.2×97.7E±0.2, h33km, n8, σ0s92/8, mb4.9/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**26.28**	**57**	*e*P	**P**	**16 40 55.4**	**-0.2**
ASAR	**Alice Springs**	**42.09**	**126**	P	**P**	**16 43 11.8**	**-0.1**
	5.1nm,0.6s,mb4.3,baz=296,slow=7.9,SNR=3.8						
SONM	**Songino Array**	**48.50**	**8**	P	**P**	**16 44 03.7**	**+1.0**
	20nm,0.8s,mb5.2,baz=190,slow=9.0,SNR=4.0						
MKAR	**Makanchi Array**	**48.79**	**346**	P	**P**	**16 44 03.6**	**-1.3**
	51nm,0.9s,mb5.5,baz=161,slow=8.5,SNR=5.4						
BVAR	**Borovoye Array**	**57.80**	**341**	P	**P**	**16 45 11.4**	**-0.1**
	6.0nm,0.5s,mb4.9,baz=125,slow=8.9,SNR=5.3						
BOSA	**Boshof**	**74.52**	**240**	P	**P**	**16 46 58.6**	**0.0**
	10.0nm,1.0s,mb4.7,baz=104,slow=2.9,SNR=3.1						
ARCES	**ARCESS Array B**	**84.09**	**340**	P	**P**	**16 47 52.9**	**+3.4**
	6.4nm,1.0s,mb4.7,baz=112,slow=4.9,SNR=2.5						
NB2	**NORSAR Subarra**	**88.54**	**331**	P	**P**	**16 48 07.1**	**-4.3**
	2.6nm,0.8s,mb4.6,baz=96,slow=4.8						

*IDC **28** 16:38:38.4±0.3, 1.21N×97.46E, mb5.6/28, mb1 5.6/28, mb1mx5.6/31, mbtmp5.6/28, Error ellipse: s-maj=14.9km s-min=10.9km az=47.0*
*BJI **28** 16:38:41.4, 1.13N×97.50E, h34km, mB6.2, mb6.1, Ms7.0, Msz6.7*
*MOS **28** 16:38:42.6±0.8, 1.32N×97.48E, h33km, mb6.1/69, Error ellipse: s-maj=10.3km s-min=4.5km az=124.5*
*BGS **28** 16:38:43.0, 1.23N×97.49E, h33km, mb6.0*
*NEIC **28** 16:38:43.1±0.1, 1.23N×97.49E, h30km, mb5.9/91, Error ellipse: s-maj=4.9km s-min=3.5km az=210.0*
NEIC Felt at Medan. Also felt at Kuala Lumpur, Malaysia.
ISC 28 16:38:41.9±0.2, 1.23N±0.04×97.48E±0.02, h31km, h31km±1.5km: pP-P, n513, σ0s86/433, mb5.8/146, MS6.8/6, 25C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.85**	**47**	P	**Pn**	**16 39 57.0**	**+2.2**
KULM	**Kulim**	**5.12**	**38**	*e*P	**Pn**	**16 39 59.3**	**+0.7**
KGM	**Kluang**	**5.88**	**82**	P	**Pn**	**16 40 11.7**	**+2.4**
KSM	**Kuching**	**12.82**	**89**	*e*P	**P**	**16 41 47.0**	**+2.0**
CM31	**Chiang Mai Arr**	**17.18**	**5**	P	**P**	**16 42 38.0**	**-3.4**
	398nm,0.9s						
PALK	**Pallekele**	**17.77**	**290**	P	**P**	**16 42 47.1**	**-1.8**
	2μm,1.8s						
KKM	**Kota Kinabalu**	**19.29**	**75**	*e*P	**P**	**16 43 06.8**	**-0.5**
KKM	**Kota Kinabalu**	**19.29**	**75**	P	**P**	**16 43 07.9**	**+0.6**
TSM	**Tawau**	**20.59**	**81**	P	**P**	**16 43 21.1**	**-0.2**
MDRS	**Chennai**	**20.73**	**305**	*e*P	**P**	**16 43 23.2**	**+0.5**
MDRS				*e*		16 43 24.9	
	comp=Z,808nm,1.0s						
QIZ	**Qiongzhong**	**21.44**	**34**	⇑*i*P	**P**	**16 43 30.3**	**+0.5**
QIZ	**Qiongzhong**	**21.44**	**34**	*e*P	**P**	**16 43 27.7**	**-2.1**
	comp=Z,468nm,1.4s,mb5.6						
VIS	**Vishakhapatnam**	**21.49**	**320**	*e*P	**P**	**16 43 32.3**	**+1.9**
VIS				*e*		16 47 11.7	
VIS				*e*S	**S**	**16 47 23.3**	**+1.2**
BATP	**Bataraza**	**21.58**	**69**	*e*P	**P**	**16 43 32.0**	**+0.8**
TRD	**Trivandrum**	**21.68**	**290**	*e*P	**P**	**16 43 33.2**	**+1.0**
TRD				*e*		16 43 38.1	
	comp=Z,1μm,1.3s						
ENPP	**El Nido**	**23.93**	**65**	*e*P	**P**	**16 43 55.4**	**+0.9**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 43 59.8**	**+1.9**
KMI				S	**S**	**16 48 16.8**	**+5.0**
KMI				AMB	AMB		
	comp=Z,1μm,1.3s,mb6.1						
KMI				LR	LR		
	comp=N,167μm,9.9s						
KMI				LR	LR		
	comp=E,112μm,10.8s						
KMI				LR	LR		
	comp=Z,162μm,12.5s,MS6.7						
HYB	**Hyderabad**	**24.60**	**312**	*i* P	**P**	**16 44 04.0**	**+3.0**
BUSP	**Coron**	**24.94**	**64**	*e*P	**P**	**16 44 04.6**	**+0.3**
CUYO	**Cuyo Island**	**25.25**	**67**	*e*P	**P**	**16 44 07.8**	**+0.6**
BLSP	**Bilaspur**	**25.59**	**325**	*e*P	**P**	**16 44 08.8**	**-1.5**
BLSP				*e*		16 44 15.0	
	comp=Z,478nm,1.5s						
SHBG	**Sahibganj**	**25.66**	**339**	*e*	**P**	**16 44 16.0**	**+5.1**
LUBP	**Lubang**	**25.72**	**60**	*e*P	**P**	**16 44 11.9**	**+0.3**
SJMP	**San Jose**	**25.95**	**64**	*e*P	**P**	**16 44 14.1**	**+0.4**
SCZP	**Santa Cruz**	**26.42**	**56**	*e*P	**P**	**16 44 18.6**	**+0.5**
GYA	**Guiyang**	**26.59**	**19**	⇑*i*P	**P**	**16 44 19.8**	**+0.3**
GYA				AP	pP	16 44 29.3	+0.9
GYA				XP	sP	16 44 33.3	+0.8
GYA				PP	PP	16 45 00.8	-2.9
GYA				S	**S**	**16 48 46.0**	**-4.3**
GYA				AMB	AMB		
	comp=Z,420nm,1.3s,mb5.8						
GYA				AMB	AMB		
	comp=Z,4μm,12.4s						
GYA				LR	LR		
	comp=N,50μm,15.9s,MS6.2						
GYA				LR	LR		
	comp=E,33μm,16.8s,MS6.2						
GYA				LR	LR		
	comp=Z,49μm,19.4s,MS6.1						
PAGZ	**Pagadian**	**26.63**	**75**	*e*P	**P**	**16 44 20.9**	**+0.9**
GUIM	**Jordan**	**26.63**	**69**	*e*P	**P**	**16 44 21.2**	**+1.2**
OTRP	**Odiongan**	**26.72**	**64**	*e*P	**P**	**16 44 20.7**	**-0.1**
BOLP	**Bolinao**	**26.74**	**54**	*e*P	**P**	**16 44 21.7**	**+0.8**
SLGI	**Shiliguri**	**26.78**	**342**	*e*	**P**	**16 44 22.6**	**+1.4**
BOAC	**Boac**	**27.00**	**62**	*e*P	**P**	**16 44 23.3**	**-0.1**
PCPH	**Palayan**	**27.30**	**57**	⇓*e*P	**P**	**16 44 25.0**	**-1.1**
GTK	**Gangtok**	**27.31**	**343**	*e*	**P**	**16 44 15.0**	**-11**
POLP	**Polillo Island**	**27.63**	**60**	*e*P	**P**	**16 44 29.1**	**0.0**
AUQP	**San Andres**	**27.68**	**63**	*e*P	**P**	**16 44 30.9**	**+1.3**
BALP	**Baler**	**27.79**	**57**	*e*P	**P**	**16 44 25.2**	**-5.3**
ABRA	**Dolores**	**28.06**	**53**	*e*P	**P**	**16 44 33.1**	**+0.2**
BUKP	**Musuan**	**28.26**	**76**	*e*P	**P**	**16 44 35.6**	**+0.9**
JIRN	**Jiri**	**28.42**	**339**	*e*P	**P**	**16 44 36.9**	**+0.8**
	comp=Z,705nm,1.0s,mb6.2						
CAUP	**Cauayan**	**28.59**	**56**	*e*P	**P**	**16 44 37.3**	**-0.5**
APYP	**Conner**	**28.60**	**53**	*e*P	**P**	**16 44 37.4**	**-0.4**
MSLP	**Maasin**	**28.61**	**71**	*e*P	**P**	**16 44 37.7**	**-0.3**
PKI	**Pulchoki**	**28.63**	**337**	*e*P	**P**	**16 44 37.9**	**-0.1**
	comp=Z,1μm,1.4s,mb6.4						
PKI	**Pulchoki**	**28.63**	**337**	*e*P	**P**	**16 44 37.9**	**-0.1**
PKI				pmax	pmax		
	comp=Z,604nm,1.4s,mb6.1						
DMN	**Daman**	**28.79**	**337**	*e*P	**P**	**16 44 39.6**	**+0.2**
	comp=Z,941nm,1.3s,mb6.4						
KKN	**Kakani**	**28.88**	**337**	*e*P	**P**	**16 44 40.5**	**+0.3**
	comp=Z,1μm,1.2s,mb6.5						
KKN	**Kakani**	**28.88**	**337**	*e*P	**P**	**16 44 40.5**	**+0.3**
KKN				pmax	pmax		
	comp=Z,551nm,1.2s,mb6.2						
CVP	**Callao Caves**	**28.98**	**54**	⇓*e*P	**P**	**16 44 40.2**	**-1.0**
PVCP	**Virac**	**29.11**	**64**	*e*P	**P**	**16 44 42.8**	**+0.3**
MATI	**Mati**	**29.24**	**78**	*e*P	**P**	**16 44 42.8**	**-0.9**
BHPL	**Bhopal**	**29.28**	**320**	*e*P	**P**	**16 44 40.7**	**-3.2**
GKN	**Gorkha**	**29.32**	**336**	*e*P	**P**	**16 44 44.5**	**+0.2**
	comp=Z,2μm,1.4s,mb6.5						
KOLN	**Koldanda**	**29.55**	**334**	*e*P	**P**	**16 44 46.5**	**+0.2**
	comp=Z,2μm,1.7s,mb6.6						
CD2	**Chengdu**	**30.11**	**11**	P	**P**	**16 44 49.5**	**-1.7**
CD2				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.5						
BBP	**Basco**	**30.60**	**50**	*e*P	**P**	**16 44 55.3**	**-0.4**
ENH	**Enshi**	**31.05**	**20**	*e*P	**P**	**16 44 57.6**	**-1.9**
	comp=Z,616nm,1.1s,mb6.3						
LGTI	**Lohaghat**	**32.51**	**331**	*e*P	**P**	**16 45 12.5**	**+0.2**
PTH	**Pithoragarh**	**32.61**	**331**	*e*P	**P**	**16 45 13.5**	**+0.3**
PTH				*e*S	**S**	**16 50 24.2**	**-1.6**
TATO	**Taipei**	**33.09**	**43**	*e*P	**P**	**16 45 15.6**	**-1.8**
	comp=Z,58nm,0.9s,mb5.5						
WHN	**Wuhan**	**33.26**	**27**	⇓P	**P**	**16 45 18.5**	**-0.3**
WHN				AMB	AMB		
	comp=Z,380nm,1.2s,mb6.2						
NDI	**New Delhi**	**33.46**	**326**	*e*P	**P**	**16 45 19.0**	**-1.6**
NDI				*e*		16 50 44.0	
XAN	**Xi'an**	**34.35**	**17**	P	**P**	**16 45 27.3**	**-0.9**
XAN				AP	pP	16 45 36.5	-0.8
XAN				AMB	AMB		
	comp=Z,633nm,1.2s,mb6.4						
LZH	**Lanzhou**	**35.18**	**9**	⇑P	**P**	**16 45 35.0**	**-0.3**
LZH				AP	pP	16 45 43.0	-1.4
LZH				XP	sP	16 45 46.5	-1.8
LZH				PP	PP	16 46 54.3	-0.2
LZH				AMB	AMB		
	comp=Z,812nm,1.5s,mb6.4						
NJ2	**Nanjing**	**36.69**	**31**	*e*P	**P**	**16 45 48.5**	**+0.4**
NJ2				AP	pP	16 45 58.3	+1.1
NJ2				XP	sP	16 46 03.0	+1.9
NJ2				PP	PP	16 47 13.8	+0.4
NJ2				AMB	AMB		
	comp=Z,210nm,1.2s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,4μm,4.0s						
NJ2				LR	LR		
	comp=N,559μm,15.7s,MS7.6						
NJ2				LR	LR		
	comp=E,605μm,16.4s,MS7.6						
NJ2				LR	LR		
	comp=Z,341μm,16.0s,MS7.2						
PONG	**Pong**	**36.70**	**329**	*e*P	**P**	**16 45 46.0**	**-2.1**
PONG				*e*S	**S**	**16 51 25.0**	**-4.0**
SSE	**Sheshan**	**37.22**	**35**	*e*P	**P**	**16 45 51.5**	**-1.1**
SSE				AMB	AMB		
	comp=Z,184nm,1.4s,mb5.7						
KAKA	**Kakadu**	**37.35**	**113**	⇓*i*P	**P**	**16 45 51.4**	**-2.4**
	comp=Z,282nm,1.2s,mb6.0						
KLBR	**Kellerberrin**	**37.89**	**151**	⇑*i*P	**P**	**16 45 58.9**	**+0.7**
	comp=Z,4μm,0.9s						
GTA	**Gaotai**	**38.06**	**3**	*e*P	**P**	**16 45 59.8**	**+0.3**
GTA				AP	pP	16 46 08.8	+0.2
GTA				XP	sP	16 46 13.3	+0.8
GTA				AMB	AMB		
	comp=Z,474nm,0.9s,mb6.2						
NWAO	**Narrogin (SRO)**	**38.76**	**153**	P	**P**	**16 46 05.6**	**+0.2**
	comp=Z,97nm,0.8s,mb5.6,baz=324,slow=12,SNR=34						
JOW	**Kunigami**	**39.01**	**47**	P	**P**	**16 46 08.4**	**+0.8**
	comp=Z,199nm,0.6s,mb6.0,baz=239,slow=7.2,SNR=46						
HHC	**Hu-ho-hao-te**	**41.45**	**16**	*e*P	**P**	**16 46 29.5**	**+2.0**
HHC				AP	pP	16 46 39.5	+2.8
HHC				XP	sP	16 46 42.5	+2.0
HHC				PP	PP	16 48 08.8	+2.5
HHC				PCP	PcP	16 48 26.0	+0.3
HHC				AMB	AMB		
	comp=Z,584nm,1.4s,mb6.0						
WRAB	**Tennant Creek**	**41.82**	**122**	*e*P	**P**	**16 46 29.5**	**-1.4**
BJT	**Baijiatuao**	**42.18**	**21**	*e*P	**P**	**16 46 34.2**	**+0.6**
BJT				pmax	pmax		
	comp=Z,1μm,1.7s						
BJT	**Baijiatuao**	**42.18**	**21**	*e*P	**P**	**16 46 34.2**	**+0.6**
	comp=Z,1μm,1.7s,mb6.2						
BJI	**Beijing**	**42.20**	**21**	P	**P**	**16 46 35.0**	**+1.2**
BJI				AMB	AMB		
	comp=Z,375nm,1.0s,mb6.0						
BJI				LR	LR		
	comp=Z,382μm,18.9s,MS7.3						
KSH	**Kashi**	**42.86**	**335**	*e*P	**P**	**16 46 38.0**	**-1.2**
KSH				*e*AP	pP	16 46 48.0	-0.4
KSH				*e*XP	sP	16 46 52.0	-0.2
KSH				*e*PP	PP	16 48 21.3	+0.3
KSH				*e*PCP	PcP	16 48 30.0	-0.4
KSH				*e*PPP	PPP	16 48 55.0	-0.5
KSH				*e*SCP		16 52 17.0	
KSH				*e*PCS		16 52 21.0	
KSH				*e*S	**S**	**16 52 59.5**	**-1.8**
KSH				*e*XS		16 53 17.0	
KSH				*e*SS	SS	16 56 04.5	-2.3
KSH				*e*SCS	ScS	16 56 35.0	-0.4
KSH				AMB	AMB		
	comp=Z,545μm,12.6s						
ASAR	**Alice Springs**	**43.19**	**127**	P	**P**	**16 46 41.5**	**-0.6**
	comp=Z,45nm,1.0s,mb5.2,baz=299,slow=7.2,SNR=36						
ASAR				PcP	PcP	16 48 31.7	0.0
	comp=Z,4.5nm,0.8s,baz=308,slow=4.7,SNR=4.5						
WMQ	**Urumqi**	**43.29**	**350**	⇓*i*P	**P**	**16 46 43.3**	**+0.7**
WMQ				AP	pP	16 46 53.0	+1.2
WMQ				XP	sP	16 46 57.0	+1.4
WMQ				PP	PP	16 48 26.0	+0.7
WMQ				PPP	PPP	16 49 01.5	+0.4
WMQ				AMB	AMB		
	comp=Z,259nm,1.0s,mb5.9						
WMQ				AMB	AMB		
	comp=Z,3μm,6.4s						
WMQ				LR	LR		
	comp=N,21μm,20.4s,MS6.2						
WMQ				LR	LR		
	comp=E,22μm,19.0s,MS6.2						
WMQ				LR	LR		
	comp=Z,16μm,23.0s,MS5.9						
DL2	**Dalian**	**43.52**	**28**	P	**P**	**16 46 45.5**	**+1.0**
DL2				AMB	AMB		
	comp=Z,400nm,1.1s,mb6.1						
BIDO	**Bidbid**	**44.11**	**303**	P	**P**	**16 46 51.0**	**+1.5**
	SNR=30						
BSY	**Bisya**	**44.58**	**302**	P	**P**	**16 46 54.6**	**+1.3**
	SNR=26						
ULHL	**Ulahol**	**45.07**	**338**	P	**P**	**16 46 58.1**	**+1.1**
	SNR=10						
KZA	**Kyzart**	**45.31**	**337**	P	**P**	**16 47 00.1**	**+1.2**
	SNR=11						
ARQ	**Araqi**	**45.38**	**302**	P	**P**	**16 47 00.5**	**+0.7**
	SNR=19						
RBK	**Rabkut**	**45.50**	**293**	P	**P**	**16 47 01.1**	**+0.4**
	SNR=31						
KS15	**Wonju Array Si**	**45.63**	**34**	*e*P	**P**	**16 47 00.1**	**-1.4**
TKM2	**Tokmak 2**	**45.90**	**338**	P	**P**	**16 47 04.2**	**+0.6**
	SNR=33						
KBK	**Karagaybulak**	**45.92**	**337**	P	**P**	**16 47 05.0**	**+1.2**
	SNR=37						
WHFO	**Wadi Hawf**	**46.01**	**294**	P	**P**	**16 47 05.0**	**+0.3**
	SNR=31						
AAK	**Ala-Archa**	**46.08**	**336**	P	**P**	**16 47 05.6**	**+0.6**
	comp=Z,483nm,1.2s,mb6.3,SNR=16						
AAK	**Ala-Archa**	**46.08**	**336**	*i* P	**P**	**16 47 04.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1μm,6.0s						
AAK	**Ala-Archa**	**46.08**	**336**	*e*P	**P**	**16 47 03.6**	**-1.4**
CHMS	**Chumysh**	**46.29**	**337**	P	**P**	**16 47 07.1**	**+0.4**
	SNR=20						
ABTO	**Aybut**	**46.29**	**293**	P	**P**	**16 47 07.5**	**+0.5**
	SNR=53						
ASHO	**Ashiyiah**	**46.30**	**304**	P	**P**	**16 47 07.6**	**+0.6**
	SNR=14						
EKS2	**Erkin-Say**	**46.40**	**336**	P	**P**	**16 47 08.6**	**+1.1**
	SNR=17						
USP	**Ospenovka**	**46.61**	**337**	P	**P**	**16 47 09.7**	**+0.5**
	SNR=48						
SNY	**Shenyang**	**46.74**	**27**	⇓P	**P**	**16 47 09.0**	**-1.3**
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**16 47 13.1**	**+0.5**
	comp=Z,148nm,0.8s,mb6.0,baz=190,slow=7.5,SNR=49						
SONM				PcP	PcP	16 48 44.3	-0.5
	comp=Z,66nm,1.1s,baz=188,slow=3.6,SNR=6.6						
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**16 47 13.8**	**+0.1**
ULN				pmax	pmax		
	comp=Z,48nm,0.4s,mb5.8						
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**16 47 13.8**	**+0.2**
	comp=Z,48nm,0.4s,mb5.8						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**16 47 14.4**	**0.0**
MKAR				pmax	pmax		
	comp=Z,443nm,1.3s						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**16 47 14.5**	**+0.1**
	comp=Z,87nm,0.7s,mb5.8,baz=158,slow=7.7,SNR=45						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**16 47 14.5**	**+0.1**
ZAK	**Zakamensk**	**49.22**	**5**	*e*P	**P**	**16 47 29.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,61nm,1.3s,mb5.5						
CBIJ	**Chichi jima**	**49.97**	**55**	P	**P**	**16 47 34.8**	**-0.7**
	comp=Z,92nm,0.5s,mb6.0,baz=292,slow=18,SNR=5.0						
TLY	**Talaya**	**50.54**	**5**	*i* P	**P**	**16 47 39.2**	**-0.3**
TLY				pmax	pmax		
	comp=Z,238nm,1.7s,mb5.8						
TLY	**Talaya**	**50.54**	**5**	*i* P	**P**	**16 47 39.3**	**-0.2**
PMG	**Port Moresby**	**50.59**	**103**	P	**P**	**16 47 39.7**	**-0.6**
	comp=Z,73nm,1.0s,mb5.6,baz=254,slow=5.5,SNR=9.4						
IRK	**Irkutsk**	**51.15**	**5**	*e*P	**P**	**16 47 44.3**	**+0.2**
IRK				*e*		16 49 43.9	
IRK				pmax	pmax		
	comp=Z,341nm,1.2s,mb6.2						
MAT	**Matsushiro**	**51.48**	**42**	*e*P	**P**	**16 47 46.0**	**-0.8**
MAT	**Matsushiro**	**51.48**	**42**	P	**P**	**16 47 46.3**	**-0.5**
HIA	**Hailar**	**51.52**	**18**	*e*P	**P**	**16 47 46.6**	**-0.4**
HIA				pmax	pmax		
	comp=Z,102nm,0.9s						
HIA	**Hailar**	**51.52**	**18**	*e*P	**P**	**16 47 46.6**	**-0.4**
	comp=Z,102nm,0.9s,mb5.8						
MDJ	**Mudanjiang**	**51.70**	**29**	P	**P**	**16 47 48.5**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,169nm,1.5s,mb5.8						
KURK	**Kurchatov**	**51.83**	**345**	P	**P**	**16 47 49.0**	**-0.3**
KURK				pmax	pmax		
	comp=Z,1μm,3.0s						
KURK	**Kurchatov**	**51.83**	**345**	*e*P	**P**	**16 47 48.8**	**-0.6**
CTAO	**Charters Tower**	**52.26**	**117**	*e*P	**P**	**16 47 52.6**	**-0.4**
NVS	**Novosibirsk**	**54.69**	**350**	*i* P	**P**	**16 48 09.7**	**-0.7**
ATD	**Arta Tunnel**	**55.16**	**283**	P	**P**	**16 48 14.0**	**-0.4**
	comp=Z,101nm,1.1s,mb5.8,baz=70,slow=2.6,SNR=20						
BVAR	**Borovoye Array**	**56.31**	**341**	P	**P**	**16 48 20.7**	**-1.4**
	comp=Z,106nm,0.9s,mb5.9,baz=143,slow=7.4,SNR=51						
BOD	**Bodaibo**	**57.93**	**10**	*e*P	**P**	**16 48 32.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,253nm,1.3s,mb6.1						
ASAJ	**Asahikawa**	**58.47**	**37**	P	**P**	**16 48 36.5**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.6s						
ASAJ	**Asahikawa**	**58.47**	**37**	P	**P**	**16 48 36.5**	**-1.0**
	comp=Z,22nm,0.6s,mb5.4,baz=242,slow=12,SNR=12						
BHD	**Baghdad**	**59.03**	**309**	*i* P	**P**	**16 48 38.0**	**-3.6**
BHD				*i* S	S	16 56 11.0	-33
YSS	**Yuzh-Sakhalins**	**60.16**	**34**	⇓*i*P	**P**	**16 48 47.6**	**-1.6**
YSS				*e*		16 49 02.2	
YSS				pmax	pmax		
	comp=Z,410nm,1.2s,mb6.3						
YSS	**Yuzh-Sakhalins**	**60.16**	**34**	*e*P	**P**	**16 48 48.7**	**-0.5**
	comp=Z,373nm,1.1s,mb6.3						
KMBO	**Kilima Mbogo**	**60.27**	**268**	*e*P	**P**	**16 48 50.1**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,141nm,1.1s						
KMBO	**Kilima Mbogo**	**60.27**	**268**	P	**P**	**16 48 50.2**	**-0.1**
	comp=Z,70nm,1.0s,mb5.6,baz=59,slow=8.8,SNR=26						
KMBO	**Kilima Mbogo**	**60.27**	**268**	*e*P	**P**	**16 48 50.1**	**-0.3**
	comp=Z,141nm,1.1s,mb5.9						
GNI	**Garni**	**61.47**	**316**	*i* P	**P**	**16 48 57.7**	**-0.4**
GNI				pmax	pmax		
	comp=Z,129nm,1.1s						
GNI	**Garni**	**61.47**	**316**	P	**P**	**16 48 57.9**	**-0.3**
	comp=Z,54nm,1.0s,mb5.6,baz=292,slow=5.7,SNR=10						
GNI	**Garni**	**61.47**	**316**	*e*P	**P**	**16 48 56.6**	**-1.6**
	comp=Z,225nm,1.5s,mb6.1						
DGRG	**David-gareji**	**61.60**	**318**	P	**P**	**16 48 58.9**	**-0.1**
MTA	**Mtatsminda**	**62.10**	**318**	P	**P**	**16 49 00.9**	**-1.5**
TBLG	**Delisi**	**62.15**	**318**	P	**P**	**16 49 02.1**	**-0.6**
DUS	**Dusheti**	**62.33**	**318**	P	**P**	**16 48 54.7**	**-9.2**
ZEI	**Tsey**	**63.16**	**318**	*e*P	**P**	**16 49 08.2**	**-1.2**
ZEI				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.6						
ARU	**Arti**	**63.26**	**337**	*d i*P	**P**	**16 49 08.1**	**-1.7**
ARU				*e*		16 49 44.5	
ARU				*e*		16 51 26.7	
ARU				*e*S	**S**	**16 57 39.5**	**+1.5**
ARU				*e*SS	SS	17 01 52.6	+6.2
ARU				pmax	pmax		
	comp=Z,125nm,1.2s,mb5.9						
ARU	**Arti**	**63.26**	**337**	*i* P	**P**	**16 49 08.0**	**-1.8**
KIV	**Kislovodsk**	**64.47**	**319**	*i* P	**P**	**16 49 16.5**	**-1.5**
KIV				pmax	pmax		
	comp=Z,331nm,2.0s,mb6.0						
KIV	**Kislovodsk**	**64.47**	**319**	*e*P	**P**	**16 49 16.1**	**-1.9**
	comp=Z,154nm,1.1s,mb6.0						
ASF	**Jabal al Asfar**	**64.68**	**305**	P	**P**	**16 49 19.3**	**-0.2**
	comp=Z,75nm,1.0s,mb5.7,baz=352,slow=2.3,SNR=20						
GOF	**Gofitskoye**	**64.72**	**320**	⇑*i*P	**P**	**16 49 18.0**	**-1.6**
GOF				pmax	pmax		
	comp=Z,130nm,1.3s,mb5.8						
GOF				pmax	pmax		
	comp=Z,160nm,1.7s,mb5.8						
YAK	**Yakutsk**	**65.31**	**16**	*i* P	**P**	**16 49 21.4**	**-1.7**
YAK				pmax	pmax		
	comp=Z,661nm,1.6s,mb6.4						
YAK	**Yakutsk**	**65.31**	**16**	*e*P	**P**	**16 49 21.3**	**-1.8**
MALT	**Malatya**	**65.32**	**312**	*e*P	**P**	**16 49 22.6**	**-0.9**
EIL	**Elat**	**65.68**	**302**	*e*P	**P**	**16 49 25.6**	**-0.4**
SOC	**Sochi**	**66.28**	**318**	*e*P	**P**	**16 49 26.1**	**-3.5**
MBAR	**Mbarara**	**66.77**	**269**	P	**P**	**16 49 32.6**	**-0.6**
	comp=Z,909nm,1.3s,mb6.6,SNR=11						
MBAR	**Mbarara**	**66.77**	**269**	*e*P	**P**	**16 49 31.9**	**-1.3**
MBAR				pmax	pmax		
	comp=Z,201nm,1.1s,mb6.1						
MBAR	**Mbarara**	**66.77**	**269**	*e*P	**P**	**16 49 31.9**	**-1.3**
	comp=Z,202nm,1.1s,

SUW **Suwalki** **79.81 325** *eP* **P** **16 50 48.1 -0.7**
SUW **Suwalki** **79.81 325** *eP* **P** **16 50 48.1 -0.7**
FINES **FINESS Array B** **80.10 332** P **P** **16 50 49.6 -0.6**
comp=Z,25nm,0.7s,mb5.2,baz=90,slow=5.7,SNR=17
KAF **Kangasniemi** **80.18 333** *ep* **P** **16 50 49.4 -1.2**
comp=Z,45nm,0.8s,mb5.5
KAF **Kangasniemi** **80.18 333** *eP* **P** **16 50 49.4 -1.2**
KAF pmax pmax
comp=Z,45nm,0.8s,mb5.5
FX1 **Attu Island--F** **80.39 37** P **P** **16 50 50.6 -1.4**
KECS **Kecovo** **80.47 319** *i* P **P** **16 50 52.2 -0.2**
PKSN **Nyarlorinc** **80.64 317**⇑ *eP* **P** **16 50 53.9 +0.5**
NIE **Niedzica** **80.73 320** *eP* **P** **16 50 53.5 -0.3**
PSZ **Piszkesteto** **80.77 318** *eP* **P** **16 50 52.7 -1.3**
PSZ pmax pmax
comp=Z,134nm,1.5s,mb5.7
PSZ **Piszkesteto** **80.77 318** *eP* **P** **16 50 52.7 -1.3**
comp=Z,134nm,1.5s,mb5.7
PKS6 **Bocsa** **80.81 317** ⇑P **P** **16 50 54.5 +0.2**
TSUM **Tsumeb** **80.87 250** P **P** **16 50 55.1 0.0**
comp=Z,76nm,1.0s,mb5.6,baz=84,slow=4.9,SNR=20
SMY **Shemya** **80.93 37** P **P** **16 50 54.3 -0.4**
SMY pmax pmax
comp=Z,407nm,1.3s,mb6.2
SMY **Shemya** **80.93 37** P **P** **16 50 54.3 -0.4**
comp=Z,407nm,1.3s,mb6.2
BILL **Bilibino** **81.03 21** *i* P **P** **16 50 55.1 +0.1**
BILL pmax pmax
comp=Z,82nm,1.6s,mb5.4
BILL **Bilibino** **81.03 21** *eP* **P** **16 50 54.8 -0.2**
PKS7 **Kunszentmiklos** **81.14 317**⇑ *eP* **P** **16 50 56.2 +0.2**
OJC **Ojcow** **81.18 321** *eP* **P** **16 50 56.2 +0.1**
VYHS **Vyhne** **81.56 319** *i* P **P** **16 50 58.3 +0.2**
PKSG **81.71 318**⇑ *eP* **P** **16 50 59.1 +0.2**
SRO2 **Moca** **81.75 318** *i* P **P** **16 51 00.0 +0.8**
KOLL **Kolacno** **81.85 319** *i* P **P** **16 50 59.6 -0.1**
SRO1 **Iza** **81.86 318** *i* P **P** **16 51 00.6 +0.9**
TIP **Timpagrande** **82.03 309** *eP* **P** **16 51 00.8 +0.1**
OKC **Ostrava-Krasne** **82.18 320** *eP* **P** **16 51 00.9 -0.4**
GRI **Girifalco** **82.26 309** *eP* **P** **16 51 02.4 +0.4**
SMOL **Smolenice** **82.49 319** *eP* **P** **16 51 02.6 -0.3**
MORC **Moravsky Berou** **82.56 320** *eP* **P** **16 51 02.7 -0.6**
MORC pmax pmax
comp=Z,6.0nm,0.7s
MORC **Moravsky Berou** **82.56 320** *eP* **P** **16 51 02.7 -0.6**
comp=Z,5.6nm,0.7s
ARCES **ARCESS Array B** **82.60 340** P **P** **16 51 02.6 -0.5**
comp=Z,58nm,1.0s,mb5.6,baz=104,slow=5.0,SNR=18
URZ **Urewera** **82.61 129** P **P** **16 51 03.2 -0.6**
comp=Z,30nm,1.1s,mb5.3,baz=210,slow=1.4,SNR=4.1
ZST **Bratislava** **82.67 318** *i* P **P** **16 51 04.4 +0.5**
KOGS **Kog** **83.06 316** *eP* **P** **16 51 06.1 +0.1**
DPC **Dobruska-Polom** **83.41 320** *eP* **P** **16 51 08.2 +0.5**
KSP **Ksiaz** **83.48 321** *eP* **P** **16 51 08.5 +0.5**
CSSN **Cassano Irpino** **83.49 311** *eP* **P** **16 51 08.2 0.0**
UPC **Upice** **83.62 321** *eP* **P** **16 51 09.1 +0.3**
ARSA **Arzberg** **83.63 317**⇑ *iP* **P** **16 51 09.2 +0.3**
comp=Z,94nm,1.4s,mb5.7
VISS **Visnje** **83.98 316** *eP* **P** **16 51 10.7 0.0**
LJU **Ljubljana** **84.22 316** *eP* **P** **16 51 12.4 +0.5**
OBKA **Obir** **84.24 316**⇑ *iP* **P** **16 51 12.4 +0.4**
comp=Z,61nm,1.2s,mb5.6
SDI **San Donato** **84.45 312** *eP* **P** **16 51 12.6 -0.6**
PRU **Pruhonice** **84.51 320** *eP* **P** **16 51 13.6 +0.3**
PVCC **Panska Ves** **84.54 320** *eP* **P** **16 51 13.4 0.0**
AQU **L'Aquila** **84.79 312** *eP* **P** **16 51 14.7 -0.2**
AQU pmax pmax
comp=Z,320nm,1.2s,mb6.3
AQU **L'Aquila** **84.79 312** *eP* **P** **16 51 15.4 +0.5**
BRG **Berggiesshubel** **84.96 321** *i* P **P** **16 51 16.0 +0.5**
BRG *i* 16 51 21.5
BRG pmax pmax
comp=Z,71nm,1.1s,mb5.7
BRG **Berggiesshubel** **84.96 321** *i* P **P** **16 51 16.0 +0.5**
comp=Z,71nm,1.1s,mb5.7
BRG *i* 16 51 21.5
GEC2 **GERESS Array S** **84.98 319** *eP* **P** **16 51 15.9 +0.3**
GEC2 pmax pmax
comp=Z,177nm,1.3s,mb6.0
GEC2 **GERESS Array S** **84.98 319** *eP* **P** **16 51 15.9 +0.3**
comp=Z,177nm,1.3s,mb6.0
GERES **GERESS Array B** **84.98 319** P **P** **16 51 15.6 0.0**
comp=Z,48nm,0.9s,mb5.6,baz=104,slow=5.5,SNR=42
PTCC **Patocco-Chiusa** **85.06 316** *eP* **P** **16 51 16.1 +0.1**
KHC **Kasperske Hory** **85.08 319** *eP* **P** **16 51 16.2 +0.1**
KBA **Koelnbreinsper** **85.10 317**⇑ *iP* **P** **16 51 16.0 -0.3**
comp=Z,41nm,1.1s,mb5.5
KBA **Koelnbreinsper** **85.10 317**⇑ *iP* **P** **16 51 16.0 -0.3**
KBA pmax pmax
comp=Z,41nm,1.1s,mb5.5
RUE **Ruedersdorf** **85.18 322** *eP* **P** **16 51 16.1 -0.5**
comp=Z,160nm,1.3s,mb6.0
ARV **Arcevia** **85.19 313** *eP* **P** **16 51 17.2 +0.4**
WET **Wettzell** **85.54 319** *eP* **P** **16 51 19.0 +0.6**
CLL **Collm** **85.58 321** *i* P **P** **16 51 18.7 +0.1**
CLL *e* 16 51 24.0
CLL pmax pmax
comp=Z,99nm,1.3s,mb5.9
CLL **Collm** **85.58 321** *i* P **P** **16 51 18.7 +0.1**
comp=Z,99nm,1.3s,mb5.9
CLL *e* 16 51 24.0
CLL **Collm** **85.58 321** P **P** **16 51 18.7 +0.1**
comp=Z,logA/T=1.9,mb5.9
CLL *e**PP pP 16 51 24.0 -4.4
CLL *e* 16 51 35.0
VNDA **Vanda** **85.80 169** P **P** **16 51 18.8 -0.3**
VNDA pmax pmax
comp=Z,19nm,1.1s
VNDA **Vanda** **85.80 169** P **P** **16 51 18.8 -0.3**
comp=Z,19nm,1.1s,mb5.2,baz=299,slow=4.7,SNR=4.0
VNDA **Vanda** **85.80 169** *eP* **P** **16 51 19.8 +0.6**
NKC **Novy Kostel** **85.88 320** *eP* **P** **16 51 20.3 +0.2**
SFI **Santa Sofia** **86.00 314** *eP* **P** **16 51 21.9 +1.1**
PGD **Poggio Sodo** **86.09 314** *eP* **P** **16 51 22.9 +1.6**
VMG **Vicchio** **86.22 314** *eP* **P** **16 51 22.6 +0.7**
WTTA **Wattenberg** **86.28 317**⇑ *iP* **P** **16 51 21.9 -0.2**
comp=Z,61nm,0.9s,mb5.8
WTTA **Wattenberg** **86.28 317**⇑ *iP* **P** **16 51 21.9 -0.2**
WTTA pmax pmax
comp=Z,61nm,0.9s,mb5.8
WATA **Walderalm** **86.32 317**⇓ *iP* **P** **16 51 21.8 -0.5**
comp=Z,23nm,1.0s,mb5.3
WATA **Walderalm** **86.32 317**⇓ *iP* **P** **16 51 21.8 -0.5**
WATA pmax pmax
comp=Z,23nm,1.0s,mb5.4
SEI **Scarperia** **86.36 314** *eP* **P** **16 51 23.0 +0.4**
MOX **Moxa** **86.43 320** *eP* **P** **16 51 23.1 +0.3**
MOX **Moxa** **86.43 320** *i* P **P** **16 51 23.1 +0.3**
FUR **Furstenfeldbru** **86.55 318** *eP* **P** **16 51 23.3 -0.1**
SQTA **Sankt Quirin** **86.56 317**⇓ *iP* **P** **16 51 23.0 -0.5**
comp=Z,147nm,1.7s,mb5.9
SQTA **Sankt Quirin** **86.56 317**⇓ *iP* **P** **16 51 23.0 -0.5**
SQTA pmax pmax
comp=Z,147nm,1.7s,mb5.9
MOTA **Moosalm** **86.64 317**⇑ *iP* **P** **16 51 23.7 -0.2**
GRA1 **Grafenberg Arr** **86.64 320** *eP* **P** **16 51 24.7 +0.9**
comp=Z,169nm,1.2s,mb6.2
GRF **Grafenberg Arr** **86.64 320** *eP* **P** **16 51 24.7 +0.9**
GRF pmax pmax
comp=Z,169nm,1.2s,mb6.2
GRF **Grafenberg Arr** **86.64 320** *eP* **P** **16 51 24.7 +0.9**
GRF pmax pmax
comp=Z,169nm,1.2s,mb6.2
GRF **Grafenberg Arr** **86.64 320** *eP* **P** **16 51 24.7 +0.9**
comp=Z,169nm,1.2s,mb6.2
SBA **Scott Base** **86.90 169** *eP* **P** **16 51 25.9 +1.4**
SAL **Salo** **86.99 315** *eP* **P** **16 51 26.6 +0.9**
SARO **Sassorosso** **87.05 314** P **P** **16 51 24.6 -1.3**
NB2 **NORSAR Subarra** **87.11 331** P **P** **16 51 25.6 -0.3**
comp=Z,55nm,0.9s,mb5.8,baz=97,slow=4.6
NB2 **NORSAR Subarra** **87.11 331** P **P** **16 51 25.6 -0.3**
NB2 pmax pmax
comp=Z,55nm,0.9s,mb5.8
NB2 **NORSAR Subarra** **87.11 331** P **P** **16 51 25.6 -0.3**
baz=97,slow=4.6
NOA **NORSAR Array B** **87.11 331** P **P** **16 51 25.6 -0.3**
comp=Z,39nm,0.9s,mb5.7,baz=94,slow=4.9,SNR=60
NOA PP PP 16 54 45.1 -6.8
comp=Z,4.3nm,0.9s,baz=93,slow=8.4,SNR=3.6
BRMO **Bormio** **87.12 316** *eP* **P** **16 51 26.8 +0.6**
VALM **87.17 314** P **P** **16 51 26.2 -0.3**
VINC **Vinca** **87.23 314** P **P** **16 51 25.9 -0.9**
CLZ **Clausthal** **87.25 322** *eP* **P** **16 51 27.4 +0.7**
comp=Z,173nm,1.6s,mb6.0
NAO01 **NORSAR Array S** **87.27 331** *eP* **P** **16 51 25.9 -0.7**
comp=Z,34nm,0.8s,mb5.6
BACM **87.29 314** P **P** **16 51 26.6 -0.5**
GRAM **87.30 314** P **P** **16 51 26.7 -0.4**
BSEG **Bad Segeberg** **87.34 324** *eP* **P** **16 51 27.9 +0.8**
CODM **87.45 314** P **P** **16 51 27.3 -0.6**
DAVA **Damuels** **87.47 317**⇑ *iP* **P** **16 51 28.3 +0.4**
comp=Z,83nm,1.1s,mb5.9
KONO **Kongsberg** **87.87 329** *eP* **P** **16 51 28.6 -0.9**
KONO pmax pmax
comp=Z,59nm,1.1s,mb5.7
KONO **Kongsberg** **87.87 329** *eP* **P** **16 51 28.6 -0.9**
comp=Z,60nm,1.1s,mb5.7
STU **Stuttgart** **87.95 319** *eP* **P** **16 51 29.5 -0.7**
STU pmax pmax
comp=Z,77nm,1.5s,mb5.7
STU **Stuttgart** **87.95 319** *eP* **P** **16 51 29.5 -0.7**
comp=Z,77nm,1.5s,mb5.7
PGF **Pioggiola** **88.06 312** *eP* **P** **16 51 30.9 +0.1**
comp=Z,142nm,1.3s,mb5.7
PGF **Pioggiola** **88.06 312** *eP* **P** **16 51 30.9 +0.1**
PGF pmax pmax
comp=Z,71nm,1.3s,mb5.7
SPAK **Spaichingen** **88.22 318** *eP* **P** **16 51 31.7 +0.2**
PCP **Pian Castagno** **88.39 314** P **P** **16 51 31.1 -1.3**
TNS **Taunus Mts** **88.44 320** *eP* **P** **16 51 33.5 +1.0**
BFO **Black Forest** **88.52 318** *eP* **P** **16 51 32.9 0.0**
FIN **Finale Ligure** **88.63 314** *eP* **P** **16 51 33.5 0.0**
KTD **Kalmit** **88.68 319** *eP* **P** **16 51 34.6 +0.9**
FELD **Feldberg** **88.74 318** *eP* **P** **16 51 35.3 +1.3**
ORX **Oropa** **88.78 315** P **P** **16 51 32.5 -1.7**
IMI **Imperia** **88.86 314** *eP* **P** **16 51 34.7 0.0**
LANF **Langenberg** **88.87 319** *eP* **P** **16 51 35.1 +0.5**
ROB **Roburent** **88.87 314** P **P** **16 51 33.9 -0.8**
TRAV **88.94 315** P **P** **16 51 33.5 -1.5**
MONE **Monesi** **88.96 314** P **P** **16 51 35.0 -0.1**
NEGI **Negi** **89.00 314** P **P** **16 51 34.9 -0.4**
ABH **Alteburg** **89.03 320** *eP* **P** **16 51 36.1 +0.8**
SAOF **Saorge** **89.10 314** *eP* **P** **16 51 36.0 +0.2**
SBF **Sospel** **89.19 314** *eP* **P** **16 51 36.2 0.0**
comp=Z,126nm,0.8s,mb6.0
SBF **Sospel** **89.19 314** *eP* **P** **16 51 36.2 0.0**
SBF pmax pmax
comp=Z,63nm,0.8s,mb6.0
AUTN **L'Aution** **89.19 314** *eP* **P** **16 51 36.8 +0.6**
ENR **Entracque** **89.19 314** P **P** **16 51 35.1 -1.1**
CDF **Champ du Feu** **89.22 318** *eP* **P** **16 51 36.1 -0.2**
comp=Z,55nm,1.2s,mb5.5
CDF **Champ du Feu** **89.22 318** *eP* **P** **16 51 36.1 -0.2**
CDF pmax pmax
comp=Z,28nm,1.2s,mb5.5
REVF **Revere** **89.24 314** *eP* **P** **16 51 36.7 +0.2**
STV2 **Anna di Valdie** **89.26 314** P **P** **16 51 35.6 -0.9**
STV **Sta Anna Valdi** **89.26 314** P **P** **16 51 36.3 -0.3**
RSP **Reno Superiore** **89.30 315** P **P** **16 51 35.6 -1.1**
BHB **Bricherasio** **89.30 315** P **P** **16 51 35.2 -1.5**
ECH **Echery** **89.31 318** *eP* **P** **16 51 36.8 +0.1**
TOUF **Mont Tournerai** **89.32 314** *eP* **P** **16 51 37.5 +0.7**
RUP **Ruppelstein** **89.34 320** *eP* **P** **16 51 37.5 +0.7**
LSD **Ceresole Reale** **89.36 315** P **P** **16 51 36.7 -0.3**
MVIF **Mont Vial** **89.39 314** *eP* **P** **16 51 37.8 +0.6**
PZZ **Prazzo** **89.42 314** P **P** **16 51 37.5 +0.2**
FENE **Fenestrelle** **89.44 315** P **P** **16 51 36.6 -0.7**
WTSB **Winterswijk** **89.46 322**⇑ *iP* **P** **16 51 37.8 +0.5**
HINF **Hinteralfeld** **89.52 318** *eP* **P** **16 51 37.3 -0.4**
comp=Z,62nm,1.4s,mb5.4
HINF **Hinteralfeld** **89.52 318** *eP* **P** **16 51 37.3 -0.4**
HINF pmax pmax
comp=Z,31nm,1.4s,mb5.5
WIT **Witteveen** **89.52 323** *eP* **P** **16 51 38.8 +1.2**
LOMF **Lomont** **89.55 317** *eP* **P** **16 51 37.8 0.0**
CALN **Calern** **89.59 314** *eP* **P** **16 51 38.8 +0.7**
RRL **Cesana Torines** **89.64 315** P **P** **16 51 37.7 -0.6**
LPG **La Plagne** **89.64 315** *eP* **P** **16 51 38.7 +0.4**
comp=Z,111nm,1.0s,mb5.9
LPG **La Plagne** **89.64 315** *eP* **P** **16 51 38.7 +0.4**
LPG pmax pmax
comp=Z,55nm,1.0s,mb5.8
MBDF **Montbardon** **89.65 315** *eP* **P** **16 51 37.8 -0.6**
comp=Z,79nm,1.3s,mb5.6
MBDF **Montbardon** **89.65 315** *eP* **P** **16 51 37.8 -0.6**
MBDF pmax pmax
comp=Z,40nm,1.3s,mb5.6
LPL **La Plagne** **89.66 315** *eP* **P** **16 51 38.7 +0.3**
comp=Z,188nm,1.1s,mb6.0
LPL **La Plagne** **89.66 315** *eP* **P** **16 51 38.7 +0.3**
LPL pmax pmax
comp=Z,94nm,1.1s,mb6.0
BNI **Bardonecchia** **89.71 315** *eP* **P** **16 51 38.0 -0.6**
BNI pmax pmax
comp=Z,26nm,1.0s,mb5.5
BNI **Bardonecchia** **89.71 315** *eP* **P** **16 51 38.0 -0.6**
comp=Z,26nm,1.0s,mb5.5
MAIT **Maitri** **89.75 199** *eP* **P** **16 51 35.5 -2.7**
FRF **La Foret Royal** **89.77 313** *eP* **P** **16 51 39.1 +0.2**
comp=Z,138nm,0.9s,mb6.0
FRF **La Foret Royal** **89.77 313** *eP* **P** **16 51 39.1 +0.2**
FRF pmax pmax
comp=Z,69nm,0.9s,mb6.0
HAU **Haudompre** **89.86 318** *eP* **P** **16 51 39.1 -0.1**
comp=Z,117nm,1.0s,mb5.9
LMR **La Mourre** **89.87 313** *eP* **P** **16 51 39.5 +0.1**
comp=Z,106nm,1.2s,mb5.8
WLF **Walferdange** **89.93 319** *eP* **P** **16 51 38.8 -0.8**
WLF pmax pmax
comp=Z,110nm,1.2s,mb6.1
WLF **Walferdange** **89.93 319** *eP* **P** **16 51 38.8 -0.7**
comp=Z,110nm,1.2s,mb6.1
HGN **Heimansgroeve** **90.04 321** *eP* **P** **16 51 40.2 +0.1**
CABF **La Chapelle** **90.08 316** *eP* **P** **16 51 40.7 +0.4**
comp=Z,241nm,1.3s,mb6.1
CABF **La Chapelle** **90.08 316** *eP* **P** **16 51 40.7 +0.4**
CABF pmax pmax
comp=Z,120nm,1.3s,mb6.1
THEF **They Montfort** **90.09 318** *eP* **P** **16 51 40.4 +0.1**
ORIF **Oris-en-Rattie** **90.28 315** *eP* **P** **16 51 41.7 +0.4**
comp=Z,99nm,1.1s,mb5.8
ORIF **Oris-en-Rattie** **90.28 315** *eP* **P** **16 51 41.7 +0.4**
ORIF pmax pmax
comp=Z,50nm,1.1s,mb5.8
MEZF **Maizieres J'vi** **90.70 318** *eP* **P** **16 51 43.4 +0.3**
comp=Z,272nm,1.4s,mb6.1
GIVF **Givet** **90.78 320** *eP* **P** **16 51 43.8 +0.4**
comp=Z,172nm,1.2s,mb6.0
GIVF **Givet** **90.78 320** *eP* **P** **16 51 43.8 +0.4**
GIVF pmax pmax
comp=Z,86nm,1.2s,mb6.0
AFI **Afiamalu** **91.01 104** P **P** **16 51 46.9 +1.6**
comp=Z,93nm,1.1s,mb6.0,baz=276,slow=7.1,SNR=9.1
VIVF **Saint-Julien-l** **91.14 315** *eP* **P** **16 51 45.5 +0.3**
comp=Z,156nm,1.3s,mb5.9
VIVF **Saint-Julien-l** **91.14 315** *eP* **P** **16 51 45.5 +0.3**
VIVF pmax pmax
comp=Z,78nm,1.3s,mb5.9
BAIF **Baives** **91.17 320** *eP* **P** **16 51 46.0 +0.7**
comp=Z,263nm,1.0s,mb6.2
BAIF **Baives** **91.17 320** *eP* **P** **16 51 46.0 +0.7**
BAIF pmax pmax
comp=Z,132nm,1.0s,mb6.2
SMF **Signal de Mont** **91.62 317** *eP* **P** **16 51 47.5 +0.1**
comp=Z,243nm,1.1s,mb6.1
SMF **Signal de Mont** **91.62 317** *eP* **P** **16 51 47.5 +0.1**
SMF pmax pmax
comp=Z,122nm,1.1s,mb6.1
LASF **Ste Croix** **91.76 314** *eP* **P** **16 51 48.7 +0.6**
comp=Z,80nm,1.1s,mb5.7
PLDF **La Plantade** **91.81 316** *eP* **P** **16 51 50.2 +1.9**
SSF **Saint Saulge** **91.82 317** *eP* **P** **16 51 48.6 +0.3**
SSF pmax pmax
comp=Z,94nm,1.3s,mb6.0
SSF **Saint Saulge** **91.82 317** *eP* **P** **16 51 48.6 +0.3**
comp=Z,94nm,1.3s,mb6.0
AVF **Avril sur Loir** **91.95 317** *eP* **P** **16 51 49.1 +0.2**
comp=Z,177nm,1.1s,mb6.0
AVF **Avril sur Loir** **91.95 317** *eP* **P** **16 51 49.1 +0.2**
AVF pmax pmax
comp=Z,88nm,1.1s,mb6.0
LBL **Lubilhac** **92.12 315** *eP* **P** **16 51 51.9 +2.1**
BGF **Bois d'Agland** **92.31 316** *eP* **P** **16 51 51.2 +0.6**
comp=Z,298nm,1.2s,mb6.2
BGF **Bois d'Agland** **92.31 316** *eP* **P** **16 51 51.2 +0.6**
BGF pmax pmax
comp=Z,149nm,1.2s,mb6.2
HYF **Humbligny** **92.40 317** *eP* **P** **16 51 51.8 +0.8**
MENF **Mencas** **92.45 321** *eP* **P** **16 51 52.0 +0.9**
EJON **La Jonquera** **92.57 312** P **P** **16 51 52.3 +0.4**
comp=Z,19nm,0.8s,mb5.6
TCF **Toulx Ste Croi** **92.77 316** *eP* **P** **16 51 53.2 +0.5**
comp=Z,93nm,1.2s,mb5.8
TCF **Toulx Ste Croi** **92.77 316** *eP* **P** **16 51 53.2 +0.5**
TCF pmax pmax
comp=Z,47nm,1.2s,mb5.8
ETOS **Mallorca** **92.81 310** P **P** **16 51 54.4 +1.4**
comp=Z,22nm,0.8s,mb5.6
CAF **Calviac** **92.98 315** *eP* **P** **16 51 54.4 +0.7**
comp=Z,93nm,1.2s,mb5.8
CAF **Calviac** **92.98 315** *eP* **P** **16 51 54.4 +0.7**
CAF pmax pmax
comp=Z,47nm,1.2s,mb5.8
MTLF **Montolieu** **93.00 313** *eP* **P** **16 51 54.3 +0.5**
comp=Z,165nm,1.3s,mb6.0
MTLF **Montolieu** **93.00 313** *eP* **P** **16 51 54.3 +0.5**
MTLF pmax pmax
comp=Z,82nm,1.3s,mb6.0
RJF **Les Rejaudoux** **93.34 315** *eP* **P** **16 51 56.1 +0.8**
comp=Z,114nm,1.2s,mb5.9
RJF **Les Rejaudoux** **93.34 315** *eP* **P** **16 51 56.1 +0.8**
RJF pmax pmax
comp=Z,57nm,1.2s,mb5.9
WAL1 **Walls** **93.46 330** *eP* **P** **16 51 55.3 -0.2**
EMIR **Miracle** **93.62 312** P **P** **16 51 56.9 +0.2**
comp=Z,30nm,0.7s,mb5.8
LFF **La Frestale** **93.92 315** *eP* **P** **16 51 58.8 +0.8**
comp=Z,131nm,1.3s,mb5.9
LFF **La Frestale** **93.92 315** *eP* **P** **16 51 58.8 +0.8**
LFF pmax pmax
comp=Z,65nm,1.3s,mb5.9
EIBI **Ibiza** **94.01 309** P **P** **16 51 59.0 +0.5**
comp=Z,21nm,0.8s,mb5.6
EPOB **Poblet** **94.01 311** P **P** **16 51 58.0 -0.5**
comp=Z,22nm,0.9s,mb5.6
LDF **La Druitiere** **94.12 319** *eP* **P** **16 51 59.0 +0.1**
comp=Z,75nm,1.3s,mb5.7
LDF **La Druitiere** **94.12 319** *eP* **P** **16 51 59.0 +0.1**
LDF pmax pmax
comp=Z,37nm,1.3s,mb5.7
LCP **Cassop** **94.18 325** *eP* **P** **16 51 59.0 +0.1**
LCP AMb AMB 16 52 07.6
comp=Z,133nm,1.4s,mb6.2
FLN **La Foliniere** **94.34 319** *eP* **P** **16 51 59.9 +0.1**
MFF **Saint Martin d** **94.36 317** *eP* **P** **16 52 00.2 +0.2**
comp=Z,124nm,1.3s,mb5.9
MFF **Saint Martin d** **94.36 317** *eP* **P** **16 52 00.2 +0.2**
MFF pmax pmax
comp=Z,62nm,1.3s,mb5.9
HPK **Haverah Park** **94.38 324** *eP* **P** **16 51 58.8 -1.0**
HPK AMb AMB 16 52 07.4
comp=Z,184nm,1.2s,mb6.4
EPF **Esparros** **94.39 313** *eP* **P** **16 52 01.8 +1.5**
SNAA **Sanae** **94.41 198** P **P** **16 52 00.5 +0.8**
comp=Z,3.7nm,0.9s,mb4.8,baz=61,slow=3.1,SNR=4.0
EBR **Ebro Roquetas** **94.50 311** *eP* **P** **16 51 54.5 -6.3**
LHO **Holmfirth** **94.57 324** *eP* **P** **16 52 00.8 0.0**
LHO AMb AMB 16 52 07.6
comp=Z,45nm,1.4s,mb5.7
EBIE **Bielsa** **94.58 313** P **P** **16 52 02.1 +1.0**
comp=Z,13nm,0.8s,mb5.4
DAG **Danmarks Havn** **94.63 348**⇑ *iP* **P** **16 52 00.0 -0.6**
DAG pmax pmax
comp=Z,21nm,0.8s,mb5.6
DAG **Danmarks Havn** **94.63 348**⇑ *iP* **P** **16 52 00.0 -0.6**
comp=Z,21nm,0.8s,mb5.6
GRR **Gorron** **94.63 319** *eP* **P** **16 52 01.4 +0.2**
comp=Z,69nm,1.2s,mb5.7
GRR **Gorron** **94.63 319** *eP* **P** **16 52 01.4 +0.2**
GRR pmax pmax
comp=Z,35nm,1.2s,mb5.7
ETSF **Etsaut** **95.07 313** *eP* **P** **16 52 04.1 +0.8**
comp=Z,26nm,0.8s,mb5.4
ETSF **Etsaut** **95.07 313** *eP* **P** **16 52 04.1 +0.8**
ETSF pmax pmax
comp=Z,13nm,0.8s,mb5.4
ESAC **San Caprasio** **95.13 312** P **P** **16 52 04.6 +0.9**
comp=Z,31nm,0.8s,mb5.8
EMOS **Mosqueruela** **95.28 311** P **P** **16 52 06.0 +1.6**
comp=Z,26nm,0.8s,mb5.7
SJPF **Ste Jean** **95.53 313** *eP* **P** **16 52 06.1 +0.6**
comp=Z,45nm,1.1s,mb5.5
SJPF **Ste Jean** **95.53 313** *eP* **P** **16 52 06.1 +0.6**
SJPF pmax pmax
comp=Z,22nm,1.1s,mb5.5
EALK **Alkurruntz** **95.72 313** P **P** **16 52 05.7 -0.7**
comp=Z,62nm,1.9s,mb5.7
SGMF **Saint Gilles** **95.77 319** *eP* **P** **16 52 06.5 0.0**
QUIF **Quistinic** **96.23 318** *eP* **P** **16 52 08.1 -0.4**
ROSF **Rostrenen** **96.23 319** *eP* **P** **16 52 08.4 -0.2**
ETOB **Tobarra** **96.29 309** P **P** **16 52 10.2 +1.1**
comp=Z,10nm,0.8s,mb5.3
EVIA **Vianos** **97.04 309** P **P** **16 52 11.6 -0.8**
EVIA pmax pmax
comp=Z,15nm,0.9s,mb5.4
EVIA **Vianos** **97.04 309** P **P** **16 52 11.6 -0.8**
comp=Z,15nm,0.9s,mb5.4
EHUE **Huescar** **97.21 308** P **P** **16 52 13.2 0.0**
EHUE pmax pmax
comp=Z,9.0nm,0.5s,mb5.5
EHUE **Huescar** **97.21 308** P **P** **16 52 13.2 0.0**
comp=Z,8.8nm,0.5s,mb5.5
ESDC **Sonseca Array** **98.02 310** P **P** **16 52 16.6 -0.2**
comp=Z,4.3nm,0.8s,mb5.0,baz=76,slow=4.0,SNR=5.9
ESDC PP PP 16 56 14.8 -4.0
comp=Z,0.8nm,0.5s,baz=84,slow=8.0,SNR=4.4
ESDC **Sonseca Array** **98.02 310** P **P** **16 52 17.4 +0.5**
comp=Z,4.0nm,0.8s,mb5.0
ECAL **Calabor** **99.73 313** P **P** **16 52 25.1 +0.6**
comp=Z,12nm,0.3s,mb5.8
YKA **Yellowknife Ar** **111.98 15** PKiKP 16 57 15.4
comp=Z,0.8nm,0.9s,baz=312,slow=2.0,SNR=5.5
YKA PP PP 16 57 53.2 -8.7
comp=Z,5.5nm,0.9s,baz=331,slow=7.7,SNR=7.7
YKA PKKPbc 17 08 05.3
comp=Z,0.6nm,0.8s,baz=331,slow=4.8,SNR=7.2
YKA **Yellowknife Ar** **111.98 15** PKPdf PKPdf 16 57 15.4 -3.5
YKA PP PP 16 57 53.2 -8.7
YKA PKKPbc 17 08 05.3
FCC **Fort Churchill** **119.49 7** *e*PKiKP PKPdf 16 57 27.7 -5.9
EDM **Edmonton** **119.94 21** *e*PKiKP PKPdf 16 57 30.2 -4.4
EDM **Edmonton** **119.94 21** *e*PKPdf PKPdf 16 57 30.1 -4.6
FFC **Flin Flon** **121.97 13** *e*PKiKP PKPdf 16 57 33.9 -4.6
NEW **Newport** **122.27 27** PKiKP PKPdf 16 57 35.7 -3.6
NEW pmax pmax
comp=Z,12nm,1.0s
NEW **Newport** **122.27 27** PKP PKPdf 16 57 35.7 -3.6
comp=Z,12nm,1.0s,baz=74,slow=2.3,SNR=6.8
NEW **Newport** **122.27 27** *e*PKPdf PKPdf 16 57 35.4 -3.9
HAWA **Hanford** **122.49 30** *e*PKPdf PKPdf 16 57 36.0 -3.8
SCHQ **Schefferville** **122.65 349** PKP PKPdf 16 57 35.9 -4.0
comp=Z,8.5nm,0.8s,baz=20,slow=2.8,SNR=11
SCHQ PP PP 16 59 13.8 -3.0
comp=Z,33nm,1.2s,baz=11,slow=8.9,SNR=5.5
SCHQ **Schefferville** **122.65 349** *e*PKPdf PKPdf 16 57 35.4 -4.5
WALA **Waterton Lakes** **123.04 24** *e*PKPdf PKPdf 16 57 36.0 -4.7
HUMO **Hull Mountain** **123.19 35** *e*PKPdf PKPdf 16 57 37.0 -4.2
WDC **Whiskeytown Da** **124.70 37** *e*PKiKP PKPdf 16 57 40.0 -4.3
MSO **Missoula** **124.77 26** *e*PKPdf PKPdf 16 57 39.3 -4.9
CHMT **Chamberlain Mo** **125.00 25** *e*PKPdf PKPdf 16 57 40.3 -4.3
WVOR **Wild Horse Val** **125.70 33** *e*PKiKP PKPdf 16 57 42.4 -3.7
BOZ **Bozeman (W)** **126.69 25** *e*PKiKP PKPdf 16 57 43.9 -4.0
MCMT **McKenzie Canyo** **126.80 27** *e*PKPdf PKPdf 16 57 42.4 -5.8
HLID **Hailey** **127.04 29** *e*PKPdf PKPdf 16 57 45.3 -3.3
QLMT **Earthquake Lak** **127.42 26** *e*PKPdf PKPdf 16 57 46.6 -2.7
ULM **Lac du Bonnet** **127.45 11** PKP PKPdf 16 57 44.8 -4.5
comp=Z,14nm,0.8s,baz=349,slow=3.4,SNR=18
ULM **Lac du Bonnet** **127.45 11** *e*PKPdf PKPdf 16 57 44.1 -5.2
CMB **Columbia Colle** **127.60 38** *e*PKiKP PKPdf 16 57 45.7 -4.2
YMR **Madison River** **127.75 25** *e*PKPdf PKPdf 16 57 47.0 -3.0
LKWY **Lake** **128.08 25** *e*PKiKP PKPdf 16 57 48.3 -2.4
LRV **Little Rabbit** **128.20 40** *e*PKPdf PKPdf 16 57 48.4 -2.8
MOOW **Moose Ponds** **128.58 26** *e*PKPdf PKPdf 16 57 47.9 -3.7
MNV **Mina** **128.68 36** *e*PKiKP PKPdf 16 57 48.5 -3.5
MNV **Mina** **128.68 36** *e*PKPdf PKPdf 16 57 48.5 -3.4
TPAW **Teton Pass** **128.70 26** *e*PKPdf PKPdf 16 57 47.7 -4.2
REDW **Red Top Meadow** **128.84 26** *e*PKPdf PKPdf 16 57 48.9 -3.2
HVU **Hansel Valley** **129.18 29** *e*PKiKP PKPdf 16 57 49.0 -3.8
TPH **Tonopah** **129.46 36** *e*PKiKP PKPdf 16 57 49.2 -4.3
BGU **Big Grassy Mou** **129.70 30** *e*PKPdf PKPdf 16 57 50.4 -3.5
PDAR **Pinedale Array** **129.89 26** PKP PKPdf 16 57 48.0 -6.2
comp=Z,8.8nm,1.1s,baz=112,slow=0.3,SNR=13
PDAR PP PP 17 00 01.5 -3.4
comp=Z,7.9nm,1.1s,SNR=6.6

HWUT	**Hardware Ranch**	**129.89**	**28**	*e*PKPdf	PKPdf	16 57 50.6	-3.5
TRCR	**Troy Canyon**	**130.21**	**34**	*e*PKPdf	PKPdf	16 57 51.3	-3.6
DUG	**Dugway**	**130.35**	**30**	*e*PKIKP	PKPdf	16 57 52.2	-2.9
NLU	**North Lily Min**	**130.91**	**30**	*e*PKPdf	PKPdf	16 57 53.7	-2.5
MVU	**Marysvale**	**131.93**	**31**	*e*PKPdf	PKPdf	16 57 55.5	-2.6
MSU	**Marysvale**	**131.94**	**31**	*e*PKIKP	PKPdf	16 57 54.7	-3.5
SRU	**San Rafael**	**132.32**	**30**	*e*PKIKP	PKPdf	16 57 54.9	-4.0
PV10	**Paradox Valley**	**133.62**	**29**	*e*PKPdf	PKPdf	16 57 58.4	-2.9
PV01	**Paradox Valley**	**134.04**	**29**	PKPdf	PKPdf	16 57 58.9	-3.1
SDCO	**Great Sand Dun**	**135.78**	**26**	PKPdf	PKPdf	16 58 02.1	-3.2
GENY	**Geneseo**	**136.00**	**355**	PKPdf	PKPdf	16 58 01.9	-3.7
ANMO	**Albuquerque**	**137.60**	**30**	PKIKP	PKPdf	16 58 05.8	-2.9
ANMO				pmax	pmax		
	comp=Z,11nm,1.0s						
ANMO				pmax	pmax		
	comp=N,11nm,1.1s						
ANMO	**Albuquerque**	**137.60**	**30**	PKP	PKPdf	16 58 05.8	-3.0
	comp=N,11nm,1.0s,baz=353,slow=5.3,SNR=4.9						
ANMO				SKPbc		17 01 39.5	
	comp=N,11nm,1.1s,baz=280,slow=2.5,SNR=4.6						
ANMO	**Albuquerque**	**137.60**	**30**	PKPdf	PKPdf	16 58 06.2	-2.5
LAZ	**Ladron**	**137.69**	**31**	PKPdf	PKPdf	16 58 04.4	-4.5
LENM	**Lemitar**	**137.96**	**31**	PKPdf	PKPdf	16 58 06.8	-2.6
LPM	**Los Pinos Moun**	**138.02**	**30**	*e*PKPdf	PKPdf	16 58 05.7	-3.9
MVL	**Millersville**	**138.58**	**353**	PKPdf	PKPdf	16 58 06.2	-4.2
ACSO	**Alum Creek Sta**	**138.73**	**1**	*e*PKPdf	PKPdf	16 58 06.4	-4.3
PLCA	**Paso Flores**	**139.21**	**194**	PKhKP		16 58 02.6	
	comp=N,8.1nm,1.1s,baz=140,slow=2.1,SNR=5.9						
PLCA				PP	PP	17 01 05.9	+2.0
	comp=N,5.5nm,1.0s,baz=166,slow=8.7,SNR=4.6						
PLCA				SKPbc		17 01 41.8	
	comp=N,7.9nm,1.1s,baz=141,slow=4.1,SNR=4.1						
MNTX	**Cornudas Mount**	**140.72**	**32**	*e*PKPpre		16 58 04.0	
MNTX				*e*PKPdf	PKPdf	16 58 10.2	-4.3
WVT	**Waverly**	**142.50**	**7**	*e*PKIKP	PKPdf	16 58 09.2	-8.3
MIAR	**Mount Ida**	**142.93**	**15**	*e*PKIKP	PKPdf	16 58 10.3	-8.0
UALR	**University of**	**143.01**	**10**	*e*PKPpre		16 58 18.5	
BAO	**Brasilia Array**	**143.06**	**245**	PKPbc	PKPbc	16 58 12.0	+0.2
BDFB	**Brasilia**	**143.08**	**245**	PKhKP		16 58 12.2	
	comp=N,22nm,0.8s,baz=146,slow=2.6,SNR=21						
TXAR	**Lajitas Array**	**143.49**	**32**	PKP	PKPdf	16 58 13.6	-5.7
	comp=N,18nm,1.0s,baz=270,slow=2.5,SNR=28						
TXAR				SKPbc		17 01 54.2	
	comp=N,9.8nm,1.1s,baz=315,slow=1.8,SNR=6.1						
PLAL	**Pickwick Lake**	**143.60**	**8**	*e*PKPpre		16 58 11.9	
SWET	**Sewanee**	**143.60**	**5**	*e*PKPpre		16 58 12.1	
JCT	**Junction City**	**144.42**	**26**	*e*PKIKP	PKPdf	16 58 15.5	-5.5
JSC	**Jenkinsville**	**144.65**	**358**	*e*PKIKP	PKPdf	16 58 15.4	-5.9
LMEL	**Las Melosas**	**145.56**	**198**	*e*P	PKPbc	16 58 19.7	+1.3
LRAL	**Lakeview Retre**	**145.66**	**7**	*e*PKPbc	PKPbc	16 58 18.7	+0.1
CSU	**Charleston Sou**	**145.89**	**356**	*e*PKPbc	PKPbc	16 58 19.8	+0.7
RGRS	**Roger Stewart**	**145.97**	**357**	*e*PKPbc	PKPbc	16 58 20.6	+1.2
CFAA	**Coronel Fontan**	**146.91**	**203**	PKPbc	PKPbc	16 58 21.9	+0.2
	comp=N,6.1nm,0.8s,baz=169,slow=2.7,SNR=36						
TLL	**Tololo Astrono**	**149.15**	**200**	*e*P	PKPdf	16 58 27.3	-1.6
CJM	**Chamela**	**149.78**	**46**	*e*P	PKPdf	16 58 29.5	-0.6
SFJM	**Santa Fe**	**150.50**	**42**	*e*P	PKPdf	16 58 29.0	-2.2
COLM	**Colima**	**150.95**	**45**	*e*P	PKPdf	16 58 33.3	+1.4
MOIG	**Morelia**	**152.30**	**40**	*e*P	PKPdf	16 58 35.9	+2.0
PPM	**Popocatepetl**	**154.36**	**37**	*e*PKIKP	PKPdf	16 58 33.0	-3.8
ACX	**Acapulco**	**155.14**	**43**	*e*P	PKPdf	16 58 43.0	+5.2
OXX	**Oaxaca**	**157.03**	**37**	*e*P	PKPab	16 59 05.0	-3.0
LPAZ	**La Paz**	**159.39**	**223**	PKIKP	PKPdf	16 58 40.2	-3.1
LPAZ						16 59 18.0	
LPAZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LPAZ	**La Paz**	**159.39**	**223**	PKP	PKPdf	16 58 40.1	-3.1
	comp=Z,9.4nm,0.9s,baz=87,slow=2.6,SNR=16						
LPAZ				PKPab	PKPab	16 59 18.0	-0.1
	comp=Z,5.8nm,0.8s,baz=103,slow=7.8,SNR=4.9						
LPAZ	**La Paz**	**159.39**	**223**	*e*PKPdf	PKPdf	16 58 40.6	-2.7
LPAZ				*e*PKPab	PKPab	16 59 18.1	0.0
SDV	**Santo Domingo**	**164.47**	**311**	PKPab	PKPab	16 59 39.4	-0.8
	comp=Z,18nm,0.9s,baz=46,slow=3.5,SNR=9.2						
ROSC	**El Rosal**	**169.83**	**307**	PKP	PKPdf	16 58 49.1	-3.2
	comp=Z,36nm,1.2s,baz=285,slow=18,SNR=4.1						
OTAV	**Otavalo**	**175.68**	**290**	*e*PKPdf	PKPdf	16 58 51.8	-3.2
OTAV				*e*PKPab	PKPab	17 00 29.3	-0.4

*MOS **28** 16:44:28.8±0.7,2.18N×96.54E,h33km,mb5.7/62,Error ellipse: s-maj=13.2km s-min=5.3km az=128.1*
*BJI **28** 16:44:28.3,1.91N×96.61E,h39km,mB5.9,mb5.5,Ms5.6,Msz5.2*
*NEIC **28** 16:44:29.8±0.2,2.09N×96.50E,mb5.5/72,Error ellipse: s-maj=5.3km s-min=4.3km az=201.0*
*IDC **28** 16:44:29.8±0.4,2.13N×96.48E,h29km±2km,mb5.0/26, mb1 5.0/26,mb1mx5.0/29,mbtmp5.1/26,Error ellipse: s-maj=13.9km s-min=10.7km az=37.0*

ISC 28 16:44:28.3±0.2,2.08N±0.05×96.52E±0.04,h30km, h30km±.4km:pP-P,n264,σ0°80/257,mb5.4/107,MS5.5/1, 11C-5D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**61**	P		**Pn**	**16 45 46.5**	**+1.3**
KULM	**Kulim**	**5.21**	**52**	*e*Pn		Pn	**16 45 46.5**	**+0.2**
KGM	**Kluang**	**6.80**	**90**	P		Pn	**16 46 10.4**	**+1.8**
CM31	**Chiang Mai Arr**	**16.45**	**8**	*e*P		**P**	**16 48 20.0**	**+1.3**
	65nm,0.8s							
PALK	**Pallekele**	**16.58**	**289**	*e*P		**P**	**16 48 24.1**	**+3.7**
	164nm,1.1s							
KKM	**Kota Kinabalu**	**20.03**	**78**	*e*P		**P**	**16 49 00.7**	**-1.2**
KKM	**Kota Kinabalu**	**20.03**	**78**	P		**P**	**16 49 03.1**	**+1.1**
QIZ	**Qiongzhong**	**21.30**	**37**	P		**P**	**16 49 13.3**	**-1.6**
TSM	**Tawau**	**21.43**	**84**	P		**P**	**16 49 16.0**	**-0.2**
KMI	**Kunming**	**23.68**	**14**	P		**P**	**16 49 40.3**	**+1.9**
KMI					AMB	AMB		
	comp=Z,146nm,1.2s,mb5.3							
LSA	**Lhasa**	**27.93**	**350**	*e*P		**P**	**16 50 18.0**	**-0.2**
	comp=Z,248nm,1.0s,mb5.8							
CD2	**Chengdu**	**29.48**	**13**	P		**P**	**16 50 30.5**	**-1.6**
CD2					AMB	AMB		
	comp=Z,69nm,1.0s,mb5.3							
WHN	**Wuhan**	**32.96**	**29**	⇓P		**P**	**16 51 02.3**	**-0.4**
LZH	**Lanzhou**	**34.51**	**11**	*e*P		**P**	**16 51 15.0**	**-1.0**
LZH				AP		pP	16 51 23.5	-1.5
LZH				XP		sP	16 51 28.0	-0.8
LZH				AMB		AMB		
	comp=Z,301nm,1.5s,mb6.0							
FITZ	**Fitzroy Crossi**	**34.99**	**126**	P		**P**	**16 51 19.1**	**-1.3**
	comp=Z,93nm,0.8s,mb5.7,baz=306,slow=4.0,SNR=8.3							
NJ2	**Nanjing**	**36.48**	**33**	*e*P		**P**	**16 51 32.3**	**-0.5**
NJ2				AP		pP	16 51 41.8	0.0
NJ2				XP		sP	16 51 47.3	+1.7
NJ2				AMB		AMB		
	comp=Z,90nm,1.3s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,2μm,3.2s							
GTA	**Gaotai**	**37.27**	**4**	*e*P		**P**	**16 51 39.8**	**+0.4**
GTA				AP		pP	16 51 48.0	-0.4
GTA				XP		sP	16 51 53.5	+1.3
GTA				AMB		AMB		
	comp=Z,160nm,0.9s,mb5.8							
JOW	**Kunigami**	**39.15**	**48**	P		**P**	**16 51 55.0**	**-0.2**
	comp=Z,28nm,0.5s,mb5.3,baz=217,slow=6.5,SNR=18							
HHC	**Hu-ho-hao-te**	**40.92**	**17**	*e*P		**P**	**16 52 11.0**	**+1.3**
HHC				AP		pP	16 52 20.3	+1.6
HHC				XP		sP	16 52 24.0	+1.6
HHC				PP		PP	16 53 48.8	+1.8
HHC				PCP		PcP	16 54 10.0	-0.4
HHC				S		**S**	**16 58 20.8**	**+1.7**
HHC				SCS		ScS	17 02 11.3	+1.2
HHC				AMB		AMB		
	comp=Z,238nm,1.3s,mb5.7							
WBK	**Wadi Bani Khal**	**41.76**	**302**	P		**P**	**16 52 18.4**	**+1.5**
	SNR=7.6							
BJT	**Baijiatuau**	**41.76**	**23**	*e*P		**P**	**16 52 16.0**	**-0.7**
BJT				pmax		pmax		
	comp=Z,125nm,0.8s							
BJT	**Baijiatuau**	**41.76**	**23**	*e*P		**P**	**16 52 16.0**	**-0.7**
	comp=Z,125nm,0.8s,mb5.6							
BJI	**Beijing**	**41.78**	**23**	P		**P**	**16 52 17.5**	**+0.7**
WMQ	**Urumqi**	**42.29**	**351**	P		**P**	**16 52 22.5**	**+1.5**
WMQ				AP		pP	16 52 32.0	+2.0
WMQ				XP		sP	16 52 36.0	+2.3
WMQ				PP		PP	16 54 04.0	+2.2
WMQ				PPP		PPP	16 54 36.0	+1.4
WMQ				*e*S		**S**	**16 58 41.0**	**+1.5**
WMQ				AMB		AMB		
	comp=Z,108nm,1.5s,mb5.3							
WMQ				LR		LR		
	comp=N,4μm,15.8s,MS5.5							
WMQ				LR		LR		
	comp=E,3μm,17.2s,MS5.5							
WMQ				LR		LR		
	comp=Z,4μm,22.4s							
BIDO	**Bidbid**	**42.84**	**303**	P		**P**	**16 52 27.1**	**+1.4**
	SNR=15							
WRA	**Warramunga Arr**	**43.08**	**122**	P		**P**	**16 52 27.4**	**-0.2**
	comp=Z,34nm,0.9s,mb5.1,baz=303,slow=8.9,SNR=2.5							
SHAO	**Shalim**	**43.12**	**294**	P		**P**	**16 52 29.4**	**+1.3**
	SNR=8.5							
DL2	**Dalian**	**43.23**	**29**	P		**P**	**16 52 29.3**	**+0.6**
DL2					AMB	AMB		
	comp=Z,140nm,1.2s,mb5.6							
BSY	**Bisya**	**43.31**	**301**	P		**P**	**16 52 31.1**	**+1.5**
	SNR=8.3							
ASAR	**Alice Springs**	**44.47**	**127**	P		**P**	**16 52 39.5**	**+0.6**
	comp=Z,14nm,0.8s,mb4.8,baz=306,slow=7.4,SNR=10.0							
WHFO	**Wadi Hawf**	**44.78**	**293**	P		**P**	**16 52 42.1**	**+0.6**
	SNR=10							
AAK	**Ala-Archa**	**44.92**	**337**	*i* P		**P**	**16 52 42.2**	**-0.1**
AAK				pmax		pmax		
	comp=Z,2μm,8.0s							
AAK	**Ala-Archa**	**44.92**	**337**	*e*P		**P**	**16 52 42.7**	**+0.4**
	comp=Z,317nm,1.6s,mb5.9							
ABTO	**Aybut**	**45.07**	**293**	P		**P**	**16 52 44.7**	**+0.9**
	SNR=8.0							
KS15	**Wonju Array Si**	**45.49**	**36**	*e*P		**P**	**16 52 45.7**	**-1.2**
MKAR	**Makanchi Array**	**46.23**	**346**	P		**P**	**16 52 52.1**	**-0.5**
	comp=Z,21nm,0.4s,mb5.5,baz=160,slow=8.6,SNR=37							
MKAR				pP		pP	16 53 01.4	-0.2
	comp=Z,140nm,0.8s,baz=168,slow=8.8,SNR=19							
SONM	**Songino Array**	**46.37**	**9**	P		**P**	**16 52 53.8**	**+0.1**
	comp=Z,10.0nm,0.4s,mb5.1,baz=189,slow=9.7,SNR=46							
SONM				pP		pP	16 53 03.2	+0.4
	comp=Z,42nm,0.9s,baz=191,slow=9.3,SNR=14							
ULN	**Ulaanbaatar**	**46.51**	**10**	*i* P		**P**	**16 53 00.1**	**+5.4**
ZAK	**Zakamensk**	**48.46**	**6**	*e*P		**P**	**16 53 17.6**	**+7.5**
ZAK				pmax		pmax		
	comp=Z,49nm,1.7s,mb5.3							
CN2	**Changchun**	**48.84**	**28**	*e*P		**P**	**16 53 14.5**	**+1.5**
TLY	**Talaya**	**49.78**	**6**	*i* P		**P**	**16 53 23.5**	**+3.3**
KURK	**Kurchatov**	**50.77**	**345**	*i* P		**P**	**16 53 27.6**	**-0.1**
KURK				pmax		pmax		
	comp=Z,203nm,1.5s,mb5.8							
KURK	**Kurchatov**	**50.77**	**345**	*e*P		**P**	**16 53 27.3**	**-0.4**
	comp=Z,300nm,1.2s,mb6.1							
KURK				*e*pP		pP	16 53 36.3	-0.6
PMG	**Port Moresby**	**51.72**	**104**	P		**P**	**16 53 35.7**	**+0.2**
	comp=Z,12nm,0.7s,mb4.9,baz=200,slow=13,SNR=4.8							
CTA	**Charters Tower**	**53.51**	**117**	P		**P**	**16 53 48.9**	**+0.2**
	comp=Z,14nm,0.9s,mb4.9,baz=256,slow=10.0,SNR=4.6							
ATD	**Arta Tunnel**	**54.03**	**283**	P		**P**	**16 53 52.5**	**0.0**
	comp=Z,50nm,1.1s,mb5.4,baz=97,slow=3.1,SNR=9.6							
BVA0	**Borovoye Array**	**55.20**	**341**	P		**P**	**16 53 59.5**	**-1.1**
BVA0				pmax		pmax		
	comp=Z,1μm,6.0s							
BVAR	**Borovoye Array**	**55.20**	**341**	P		**P**	**16 53 59.4**	**-1.2**
	comp=Z,21nm,0.7s,mb5.3,baz=144,slow=10,SNR=24							
BVAR				pP		pP	16 54 08.0	-1.8
	comp=Z,79nm,0.8s,baz=141,slow=11,SNR=25							
CHKZ	**Chkalovo**	**55.68**	**342**	*i* P		**P**	**16 54 03.4**	**-0.7**
CHKZ				pmax		pmax		
	comp=Z,158nm,0.9s,mb6.0							
BOD	**Bodaibo**	**57.27**	**11**	*e*P		**P**	**16 54 15.3**	**-0.1**
BOD				pmax		pmax		
	comp=Z,83nm,1.3s,mb5.6							
ASAJ	**Asahikawa**	**58.38**	**38**	P		**P**	**16 54 22.6**	**-0.7**
	comp=Z,24nm,1.1s,mb5.2,baz=276,slow=10,SNR=5.3							
ASAJ				pP		pP	16 54 31.6	-1.1
	comp=Z,31nm,0.9s,baz=285,slow=11,SNR=4.9							
KMBO	**Kilima Mbogo**	**59.34**	**267**	*e*P		**P**	**16 54 30.7**	**+0.2**
KMBO				pmax		pmax		
	comp=Z,32nm,1.0s							
KMBO	**Kilima Mbogo**	**59.34**	**267**	P		**P**	**16 54 30.6**	**+0.1**
	comp=Z,23nm,1.0s,mb5.2,baz=53,slow=8.6,SNR=12							
KMBO	**Kilima Mbogo**	**59.34**	**267**	*e*P		**P**	**16 54 30.6**	**+0.2**
	comp=Z,32nm,1.0s,mb5.3							
YSS	**Yuzh-Sakhalins**	**60.01**	**35**	⇓*i*P		**P**	**16 54 32.8**	**-1.8**
YSS	**Yuzh-Sakhalins**	**60.01**	**35**	*e*P		**P**	**16 54 34.1**	**-0.5**
	comp=Z,95nm,1.0s,mb5.8							
GNI	**Garni**	**60.19**	**316**	*e*P		**P**	**16 54 35.3**	**-0.6**
GNI				pmax		pmax		
	comp=Z,106nm,1.2s							
GNI	**Garni**	**60.19**	**316**	P		**P**	**16 54 35.4**	**-0.5**
	comp=Z,73nm,1.2s,mb5.6,baz=199,slow=8.4,SNR=3.7							
GNI				pP		pP	16 54 44.4	-0.9
	comp=Z,46nm,0.9s,baz=23,slow=4.3,SNR=6.9							
GNI	**Garni**	**60.19**	**316**	*e*P		**P**	**16 54 35.3**	**-0.6**
	comp=Z,106nm,1.2s,mb5.8							
ZEI	**Tsey**	**61.89**	**318**	*e*P		**P**	**16 54 45.4**	**-2.0**
ZEI				*i* *PP		pP	16 54 55.3	-1.5
ZEI				*i*			16 57 08.9	
ZEI				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb5.0							
ARU	**Arti**	**62.11**	**337**	*d* *i*P		**P**	**16 54 43.9**	**-4.8**
ARU				*e*			16 57 04.9	
ARU				*e*S		**S**	**17 03 23.9**	**+14**
ARU				pmax		pmax		
	comp=Z,119nm,1.0s,mb6.0							
ARU	**Arti**	**62.11**	**337**	P		**P**	**16 54 48.1**	**-0.6**
	comp=Z,16μm,3.8s							
KIV	**Kislovodsk**	**63.20**	**319**	*e*P		**P**	**16 54 54.9**	**-1.2**
KIV				*e*		pP	16 55 04.5	-1.0
KIV				pmax		pmax		
	comp=Z,72nm,1.1s,mb5.7							
KIV	**Kislovodsk**	**63.20**	**319**	*e*P		**P**	**16 54 54.9**	**-1.1**
	comp=Z,72nm,1.1s,mb5.7							
KIV				*e*		pP	16 55 04.5	-0.9
ASF	**Jabal al Asfar**	**63.40**	**305**	P		**P**	**16 54 57.7**	**+0.1**
	comp=Z,28nm,1.1s,mb5.3,baz=354,slow=9.7,SNR=3.1							
ASF				pP		pP	16 55 06.6	-0.3
	comp=Z,18nm,0.9s,baz=349,slow=7.1,SNR=5.4							
GOF	**Gofitskoye**	**63.45**	**320**	⇑*i*P		**P**	**16 55 05.7**	**+8.0**
GOF				pmax		pmax		
	comp=Z,160nm,1.7s,mb5.9							
MALT	**Malatya**	**64.03**	**312**	P		**P**	**16 55 00.8**	**-0.9**
MALT				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.1							
MALT	**Malatya**	**64.03**	**312**	P		**P**	**16 55 00.8**	**-0.9**
	comp=Z,17nm,0.9s,mb5.1							
EIL	**Elat**	**64.41**	**302**	*e*P		**P**	**16 55 04.0**	**-0.3**
	comp=Z,67nm,1.0s,mb5.6							
YAK	**Yakutsk**	**64.77**	**17**	*e*P		**P**	**16 55 05.7**	**-0.4**
YAK				pmax		pmax		
	comp=Z,242nm,1.1s,mb6.1							
YAK	**Yakutsk**	**64.77**	**17**	*e*P		**P**	**16 55 05.7**	**-0.3**
	comp=Z,242nm,1.1s,mb6.1							
SOC	**Sochi**	**65.01**	**318**	*e*P		**P**	**16 55 13.3**	**+5.3**
MBAR	**Mbarara**	**65.82**	**268**	*e*P		**P**	**16 55 12.8**	**-0.8**
MBAR				pmax		pmax		
	comp=Z,83nm,1.2s,mb5.6							
MBAR	**Mbarara**	**65.82**	**268**	*e*P		**P**	**16 55 12.8**	**-0.9**
	comp=Z,83nm,1.2s,mb5.6							
BRTR	**Keskin Array B**	**68.02**	**312**	P		**P**	**16 55 25.3**	**-1.8**
	comp=Z,11nm,0.9s,mb4.9,baz=131,slow=6.8,SNR=12							
BRTR				pP		pP	16 55 35.1	-1.4
	comp=Z,20nm,0.8s,baz=131,slow=7.3,SNR=18							
CASY	**Casey**	**68.95**	**174**	P		**P**	**16 55 25.2**	**-7.2**
	comp=Z,7.4nm,0.3s,mb5.1							
SIM	**Simferopol'**	**69.26**	**318**	*e*P		**P**	**16 55 34.1**	**-0.6**
MA2	**Magadan**	**70.84**	**26**	*e*P		**P**	**16 55 43.5**	**-0.6**
OBN	**Obninsk**	**71.51**	**328**	*i* P		**P**	**16 55 39.4**	**-8.8**
OBN				*i*		pP	16 55 47.2	-10
OBN				*i*			16 55 56.3	
OBN				*e*			16 58 23.8	
OBN				*e*S		S	17 05 11.0	+7.4
OBN				pmax		pmax		
	comp=Z,95nm,1.0s,mb5.7							
OBN	**Obninsk**	**71.51**	**328**	*e*P		**P**	**16 55 46.9**	**-1.3**
	comp=Z,88nm,1.1s,mb5.6							
PET	**Petropavlovsk**	**71.89**	**34**	*e*P		**P**	**16 55 50.6**	**+0.1**
PET				pmax		pmax		
	comp=Z,67nm,0.8s,mb5.6							
PET	**Petropavlovsk**	**71.89**	**34**	*e*P		**P**	**16 55 49.9**	**-0.6**
	comp=Z,22nm,0.5s,mb5.3							
TIXI	**Tiksi**	**72.44**	**10**	*i* P		**P**	**16 55 51.2**	**-2.3**
TIRR	**Tirgusor**	**73.02**	**316**	P		**P**	**16 55 56.6**	**-0.7**
MAW	**Mawson**	**73.41**	**193**	P		**P**	**16 55 59.6**	**+0.4**
	comp=Z,7.7nm,0.7s,mb4.8,baz=41,slow=6.2,SNR=4.1							
LBTB	**Lobatse**	**73.67**	**243**	P		**P**	**16 56 01.2**	**-0.3**
	comp=Z,31nm,0.9s,mb5.2,baz=106,slow=7.3,SNR=15							
AKASG	**Malin Array Be**	**74.15**	**322**	P		**P**	**16 56 02.0**	**-1.8**
	comp=Z,17nm,0.9s,mb5.0,baz=91,slow=4.8,SNR=15							
AKASG				pP		pP	16 56 10.9	-2.3
	comp=Z,20nm,0.6s,baz=84,slow=5.8,SNR=20							
BOSA	**Boshof**	**74.63**	**240**	*e*P		**P**	**16 56 06.8**	**-0.3**
	comp=Z,44nm,1.1s,mb5.3							
MLR	**Muntele Rosu**	**74.96**	**317**	P		**P**	**16 56 08.7**	**+0.1**
MLR	**Muntele Rosu**	**74.96**	**317**	P		**P**	**16 56 07.9**	**-0.7**
	comp=Z,42nm,1.1s,mb5.3,baz=121,slow=2.3,SNR=11							
MLR				pP		pP	16 56 17.1	-1.0
	comp=Z,56nm,1.1s,baz=53,slow=2.7,SNR=12							
MNK	**Minsk**	**76.04**	**326**	*e*P		**P**	**16 56 22.0**	**+7.5**
VTS	**Vitosha**	**76.33**	**313**	P		**P**	**16 56 15.5**	**-0.9**
KWP	**Kalwaria**	**77.96**	**320**	*e*P		**P**	**16 56 25.5**	**+0.2**
KWP	**Kalwaria**	**77.96**	**320**	*e*P		**P**	**16 56 25.6**	**+0.3**
APA	**Apatity**	**78.07**	**340**	⇑*i*P		**P**	**16 56 24.0**	**-1.5**
APA				pmax		pmax		
	comp=Z,100nm,1.4s,mb5.5							
KOLS	**Kolonicke sedl**	**78.11**	**320**	*i* P		**P**	**16 56 26.7**	**+0.6**
KOLS				*i* pP		pP	16 56 36.6	+0.9
SUW	**Suwalki**	**78.56**	**325**	*e*P		**P**	**16 56 27.8**	**-0.7**
SUW				*e*		pP	16 56 36.6	-1.5
FINES	**FINESS Array B**	**78.91**	**333**	P		**P**	**16 56 29.8**	**-0.4**
	comp=Z,17nm,0.9s,mb5.0,baz=104,slow=7.9,SNR=15							
FINES				pP		pP	16 56 39.3	-0.5
	comp=Z,47nm,0.9s,baz=90,slow=5.7,SNR=23							
KAF	**Kangasniemi**	**78.99**	**333**	*ep*		**P**	**16 56 30.2**	**-0.5**
	comp=Z,39nm,1.1s,mb5.2							
KAF	**Kangasniemi**	**78.99**	**333**	*e*P		**P**	**16 56 30.2**	**-0.5**
KAF				pmax		pmax		
	comp=Z,39nm,1.1s,mb5.2							
SUR	**Sutherland**	**79.08**	**237**	P		**P**	**16 56 31.7**	**-0.1**
KECS	**Kecovo**	**79.20**	**319**	*i* P		**P**	**16 56 32.2**	**+0.1**
PSZ	**Piszkesteto**	**79.50**	**318**	P		**P**	**16 56 33.5**	**-0.2**
PSZ	**Piszkesteto**	**79.50**	**318**	*e*P		**P**	**16 56 33.1**	**-0.7**
	comp=Z,33nm,1.0s,mb5.2							
PSZ				*e*pP		pP	16 56 42.9	-0.4
TSUM	**Tsumeb**	**80.24**	**250**	P		**P**	**16 56 38.9**	**+0.6**
	comp=Z,27nm,1.0s,mb5.1,baz=88,slow=4.6,SNR=8.6							
TSUM				pP		pP	16 56 48.1	+0.2
	comp=Z,21nm,1.1s,baz=43,slow=1.8,SNR=7.3							
TSUM	**Tsumeb**	**80.24**	**250**	P		**P**	**16 56 38.9**	**+0.6**
TSUM				pP		pP	16 56 48.1	+0.2
RHK1	**Bakonya**	**80.49**	**316**	*e*P		**P**	**16 56 38.8**	**-0.3**
SRO	**Srobarova**	**80.54**	**318**	*i* P		**P**	**16 56 40.0**	**+0.7**
SRO				*e*pP		pP	16 56 49.1	+0.2
BILL	**Bilibino**	**80.59**	**21**	*i* P		**P**	**16 56 35.3**	**-3.8**
OKC	**Ostrava-Krasne**	**80.91**	**320**	*e*P		**P**	**16 56 41.4**	**+0.2**
OKC				*e*pP		pP	16 56 51.0	+0.2
MORC	**Moravsky Berou**	**81.29**	**320**	*e*P		**P**	**16 56 43.3**	**+0.1**
MORC				pmax		pmax		
	comp=Z,27nm,1.0s,mb5.1							
MORC	**Moravsky Berou**	**81.29**	**320**	*e*P		**P**	**16 56 43.3**	**+0.1**
	comp=Z,27nm,1.0s,mb5.1							
ZST	**Bratislava**	**81.39**	**318**	*i* P		**P**	**16 56 44.0**	**+0.2**
ZST				*e*pP		pP	16 56 54.3	+0.9
ARCES	**ARCESS Array B**	**81.48**	**340**	P		**P**	**16 56 44.9**	**+1.1**
	comp=Z,8.0nm,0.5s,mb4.9,baz=97

CLZ	**Clausthal**	**85.99**	**322**	*e*P	**P**	**16 57 07.7**	**+0.7**
	comp=Z,24nm,1.0s,mb5.4						
NAO01	**NORSAR Array S**	**86.06**	**331**	*e*P	**P**	**16 57 07.2**	**0.0**
	comp=Z,20nm,0.9s,mb5.3						
NAO01				*e*pP	pP	16 57 17.2	+0.3
BSEG	**Bad Segeberg**	**86.09**	**324**	*e*P	**P**	**16 57 08.3**	**+0.8**
DAVA	**Damuels**	**86.20**	**317** ⇑	*i*P	**P**	**16 57 08.6**	**+0.4**
	comp=Z,53nm,1.0s,mb5.7						
KONO	**Kongsberg**	**86.65**	**329**	*e*P	**P**	**16 57 10.0**	**-0.1**
KONO				*e**PP	pP	16 57 20.5	+0.7
KONO				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.5						
KONO	**Kongsberg**	**86.65**	**329**	*e*P	**P**	**16 57 10.0**	**-0.1**
	comp=Z,34nm,1.0s,mb5.5						
KONO				*e*pP	pP	16 57 20.5	+0.7
PGF	**Pioggiola**	**86.77**	**312**	*e*P	**P**	**16 57 10.9**	**-0.2**
	comp=Z,109nm,1.4s,mb5.6						
PGF	**Pioggiola**	**86.77**	**312**	*e*P	**P**	**16 57 10.9**	**-0.2**
PGF				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.6						
VNDA	**Vanda**	**86.82**	**169**	P	**P**	**16 57 11.3**	**+0.7**
	comp=Z,5.0nm,0.8s,mb4.8,baz=295,slow=5.1,SNR=3.9						
SPAK	**Spaichingen**	**86.94**	**318**	*e*P	**P**	**16 57 12.2**	**+0.4**
TNS	**Taunus Mts**	**87.17**	**320**	*e*P	**P**	**16 57 13.5**	**+0.6**
TNS				*e**PP	pP	16 57 23.9	+1.3
TNS				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.4						
TNS	**Taunus Mts**	**87.17**	**320**	*e*P	**P**	**16 57 13.5**	**+0.6**
	comp=Z,22nm,0.9s,mb5.4						
TNS				*e*pP	pP	16 57 23.9	+1.3
BFO	**Black Forest**	**87.25**	**318**	P	**P**	**16 57 13.5**	**+0.2**
	comp=Z,107nm,0.9s,mb6.1,SNR=7.9						
BFO	**Black Forest**	**87.25**	**318**	*e*P	**P**	**16 57 13.2**	**-0.1**
BFO				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.2						
BFO	**Black Forest**	**87.25**	**318**	*e*P	**P**	**16 57 13.2**	**-0.1**
	comp=Z,14nm,0.9s,mb5.2						
FIN	**Finale Ligure**	**87.35**	**314**	*e*P	**P**	**16 57 13.9**	**0.0**
LANF	**Langenberg**	**87.60**	**319**	*e*P	**P**	**16 57 15.4**	**+0.5**
SBF	**Sospel**	**87.91**	**314**	*e*P	**P**	**16 57 16.2**	**-0.4**
	comp=Z,75nm,1.0s,mb5.6						
SBF	**Sospel**	**87.91**	**314**	*e*P	**P**	**16 57 16.2**	**-0.4**
SBF				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.6						
CDF	**Champ du Feu**	**87.95**	**318**	*e*P	**P**	**16 57 16.0**	**-0.7**
	comp=Z,29nm,1.1s,mb5.1						
CDF	**Champ du Feu**	**87.95**	**318**	*e*P	**P**	**16 57 16.0**	**-0.7**
CDF				pmax	pmax		
	comp=Z,15nm,1.1s,mb5.1						
ECH	**Echery**	**88.03**	**318**	*e*P	**P**	**16 57 17.1**	**0.0**
RUP	**Ruppelstein**	**88.08**	**319**	*e*P	**P**	**16 57 17.8**	**+0.6**
HINF	**Hinteralfeld**	**88.25**	**318**	*e*P	**P**	**16 57 17.1**	**-1.0**
	comp=Z,10nm,1.0s,mb4.7						
HINF	**Hinteralfeld**	**88.25**	**318**	*e*P	**P**	**16 57 17.1**	**-1.0**
HINF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
LPG	**La Plagne**	**88.37**	**315**	*e*P	**P**	**16 57 18.6**	**-0.1**
	comp=Z,50nm,1.0s,mb5.4						
LPG	**La Plagne**	**88.37**	**315**	*e*P	**P**	**16 57 18.6**	**-0.1**
LPG				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.4						
MBDF	**Montbardon**	**88.37**	**315**	*e*P	**P**	**16 57 17.9**	**-0.9**
	comp=Z,27nm,1.2s,mb5.1						
MBDF	**Montbardon**	**88.37**	**315**	*e*P	**P**	**16 57 17.9**	**-0.9**
MBDF				pmax	pmax		
	comp=Z,13nm,1.2s,mb5.0						
LPL	**La Plagne**	**88.38**	**315**	*e*P	**P**	**16 57 18.7**	**-0.1**
	comp=Z,52nm,1.0s,mb5.4						
LPL	**La Plagne**	**88.38**	**315**	*e*P	**P**	**16 57 18.7**	**-0.1**
LPL				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.4						
FRF	**La Foret Royal**	**88.49**	**313**	*e*P	**P**	**16 57 19.1**	**-0.2**
	comp=Z,44nm,1.0s,mb5.3						
FRF	**La Foret Royal**	**88.49**	**313**	*e*P	**P**	**16 57 19.1**	**-0.2**
FRF				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.3						
HAU	**Haudompre**	**88.58**	**318**	*e*P	**P**	**16 57 19.1**	**-0.6**
	comp=Z,52nm,1.0s,mb5.5						
HAU	**Haudompre**	**88.58**	**318**	*e*P	**P**	**16 57 19.1**	**-0.6**
HAU				pmax	pmax		
	comp=Z,26nm,1.0s,mb5.5						
LMR	**La Mourre**	**88.59**	**313**	*e*P	**P**	**16 57 19.7**	**-0.2**
	comp=Z,78nm,1.3s,mb5.6						
LMR	**La Mourre**	**88.59**	**313**	*e*P	**P**	**16 57 19.7**	**-0.2**
LMR				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.6						
CABF	**La Chapelle**	**88.80**	**316**	*e*P	**P**	**16 57 20.8**	**0.0**
	comp=Z,62nm,1.1s,mb5.5						
CABF	**La Chapelle**	**88.80**	**316**	*e*P	**P**	**16 57 20.8**	**0.0**
CABF				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.5						
ORIF	**Oris-en-Rattie**	**89.00**	**315**	*e*P	**P**	**16 57 21.8**	**0.0**
	comp=Z,34nm,1.1s,mb5.3						
ORIF	**Oris-en-Rattie**	**89.00**	**315**	*e*P	**P**	**16 57 21.8**	**0.0**
ORIF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.3						
MEZF	**Maizieres J'vi**	**89.43**	**318**	*e*P	**P**	**16 57 23.5**	**-0.2**
	comp=Z,42nm,1.2s,mb5.3						
GIVF	**Givet**	**89.51**	**320**	*e*P	**P**	**16 57 24.0**	**0.0**
	comp=Z,43nm,1.0s,mb5.4						
GIVF	**Givet**	**89.51**	**320**	*e*P	**P**	**16 57 24.0**	**0.0**
GIVF				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.4						
VIVF	**Saint-Julien-l**	**89.86**	**315**	*e*P	**P**	**16 57 25.7**	**-0.1**
	comp=Z,37nm,1.1s,mb5.3						
VIVF	**Saint-Julien-l**	**89.86**	**315**	*e*P	**P**	**16 57 25.7**	**-0.1**
VIVF				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.3						
BAIF	**Baives**	**89.91**	**320**	*e*P	**P**	**16 57 26.1**	**+0.2**
	comp=Z,100nm,1.0s,mb5.8						
BAIF	**Baives**	**89.91**	**320**	*e*P	**P**	**16 57 26.1**	**+0.2**
BAIF				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.8						
SMF	**Signal de Mont**	**90.34**	**317**	*e*P	**P**	**16 57 27.7**	**-0.3**
	comp=Z,65nm,1.1s,mb5.6						
SMF	**Signal de Mont**	**90.34**	**317**	*e*P	**P**	**16 57 27.7**	**-0.3**
SMF				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.6						
LASF	**Ste Croix**	**90.48**	**314**	*e*P	**P**	**16 57 28.9**	**+0.2**
	comp=Z,73nm,1.4s,mb5.5						
PLDF	**La Plantade**	**90.54**	**316**	*e*P	**P**	**16 57 30.7**	**+1.8**
SSF	**Saint Saulge**	**90.55**	**317**	*e*P	**P**	**16 57 29.0**	**+0.1**
SSF				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.5						
SSF	**Saint Saulge**	**90.55**	**317**	*e*P	**P**	**16 57 29.0**	**+0.1**
	comp=Z,36nm,1.3s,mb5.5						
AVF	**Avril sur Loir**	**90.67**	**317**	*e*P	**P**	**16 57 29.3**	**-0.2**
	comp=Z,81nm,1.3s,mb5.6						
AVF	**Avril sur Loir**	**90.67**	**317**	*e*P	**P**	**16 57 29.3**	**-0.2**
AVF				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.6						
LBL	**Lubilhac**	**90.84**	**315**	*e*P	**P**	**16 57 32.6**	**+2.3**
BGF	**Bois d'Agland**	**91.03**	**316**	*e*P	**P**	**16 57 31.5**	**+0.3**
	comp=Z,135nm,1.2s,mb5.8						
BGF	**Bois d'Agland**	**91.03**	**316**	*e*P	**P**	**16 57 31.5**	**+0.3**
BGF				pmax	pmax		
	comp=Z,68nm,1.2s,mb5.8						
HYF	**Humbligny**	**91.12**	**317**	*e*P	**P**	**16 57 32.1**	**+0.5**
MENF	**Mencas**	**91.19**	**320**	*e*P	**P**	**16 57 32.8**	**+1.0**
TCF	**Toulx Ste Croi**	**91.49**	**316**	*e*P	**P**	**16 57 33.6**	**+0.3**
	comp=Z,36nm,1.2s,mb5.3						
TCF	**Toulx Ste Croi**	**91.49**	**316**	*e*P	**P**	**16 57 33.6**	**+0.3**
TCF				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.3						
CAF	**Calviac**	**91.70**	**315**	*e*P	**P**	**16 57 34.7**	**+0.4**
	comp=Z,62nm,1.3s,mb5.5						
CAF	**Calviac**	**91.70**	**315**	*e*P	**P**	**16 57 34.7**	**+0.4**
CAF				pmax	pmax		
	comp=Z,31nm,1.3s,mb5.5						
MTLF	**Montolieu**	**91.72**	**313**	*e*P	**P**	**16 57 34.6**	**+0.2**
	comp=Z,64nm,1.1s,mb5.6						
MTLF	**Montolieu**	**91.72**	**313**	*e*P	**P**	**16 57 34.6**	**+0.2**
MTLF				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.6						
RJF	**Les Rejaudoux**	**92.06**	**315**	*e*P	**P**	**16 57 36.5**	**+0.6**
	comp=Z,65nm,1.3s,mb5.6						
RJF	**Les Rejaudoux**	**92.06**	**315**	*e*P	**P**	**16 57 36.5**	**+0.6**
RJF				pmax	pmax		
	comp=Z,43nm,1.3s,mb5.6						
LFF	**La Frestale**	**92.64**	**315**	*e*P	**P**	**16 57 39.3**	**+0.7**
	comp=Z,79nm,1.2s,mb5.7						
LFF	**La Frestale**	**92.64**	**315**	*e*P	**P**	**16 57 39.3**	**+0.7**
LFF				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.7						
LDF	**La Druitiere**	**92.85**	**319**	*e*P	**P**	**16 57 39.5**	**0.0**
	comp=Z,85nm,1.1s,mb5.8						
LDF	**La Druitiere**	**92.85**	**319**	*e*P	**P**	**16 57 39.5**	**0.0**
LDF				pmax	pmax		
	comp=Z,43nm,1.1s,mb5.8						
FLN	**La Foliniere**	**93.07**	**319**	*e*P	**P**	**16 57 40.5**	**0.0**
	comp=Z,66nm,1.0s,mb5.7						
FLN	**La Foliniere**	**93.07**	**319**	*e*P	**P**	**16 57 40.5**	**0.0**
FLN				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.7						
MFF	**Saint Martin d**	**93.08**	**317**	*e*P	**P**	**16 57 40.7**	**+0.1**
	comp=Z,51nm,1.0s,mb5.6						
MFF	**Saint Martin d**	**93.08**	**317**	*e*P	**P**	**16 57 40.7**	**+0.1**
MFF				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.6						
EPF	**Esparros**	**93.11**	**313**	*e*P	**P**	**16 57 40.5**	**-0.3**
	comp=Z,17nm,1.2s,mb5.0						
EPF	**Esparros**	**93.11**	**313**	*e*P	**P**	**16 57 40.5**	**-0.3**
EPF				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb5.1						
EBR	**Ebro Roquetas**	**93.22**	**311**	*e*P	**P**	**16 57 39.5**	**-1.9**
GRR	**Gorron**	**93.36**	**319**	*e*P	**P**	**16 57 41.9**	**+0.1**
	comp=Z,93nm,1.2s,mb5.8						
GRR	**Gorron**	**93.36**	**319**	*e*P	**P**	**16 57 41.9**	**+0.1**
GRR				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.8						
ETSF	**Etsaut**	**93.78**	**313**	*e*P	**P**	**16 57 44.4**	**+0.5**
	comp=Z,31nm,1.0s,mb5.4						
ETSF	**Etsaut**	**93.78**	**313**	*e*P	**P**	**16 57 44.4**	**+0.5**
ETSF				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.4						
SJPF	**Ste Jean**	**94.25**	**313**	*e*P	**P**	**16 57 46.7**	**+0.7**
	comp=Z,35nm,1.1s,mb5.4						
SJPF	**Ste Jean**	**94.25**	**313**	*e*P	**P**	**16 57 46.7**	**+0.7**
SJPF				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.4						
SGMF	**Saint Gilles**	**94.50**	**319**	*e*P	**P**	**16 57 46.9**	**-0.2**
	comp=Z,86nm,1.6s,mb5.6						
SGMF	**Saint Gilles**	**94.50**	**319**	*e*P	**P**	**16 57 46.9**	**-0.2**
SGMF				pmax	pmax		
	comp=Z,43nm,1.6s,mb5.6						
QUIF	**Quistinic**	**94.95**	**318**	*e*P	**P**	**16 57 48.6**	**-0.6**
	comp=Z,120nm,1.6s,mb5.8						
QUIF	**Quistinic**	**94.95**	**318**	*e*P	**P**	**16 57 48.6**	**-0.6**
QUIF				pmax	pmax		
	comp=Z,60nm,1.6s,mb5.8						
ROSF	**Rostrenen**	**94.96**	**319**	*e*P	**P**	**16 57 49.3**	**+0.1**
YKA	**Yellowknife Ar**	**111.42**	**15**	PP	PP	17 03 38.1	-6.3
	comp=Z,1.3nm,1.0s,baz=330,slow=5.1,SNR=3.7						
YKA				PKKPbc		17 13 55.4	
	comp=Z,1.2nm,0.9s,baz=145,slow=3.2,SNR=9.3						
BOZ	**Bozeman (W)**	**126.33**	**24**	*e*PKIKP	PKPdf	17 03 30.3	-3.3
MCMT	**McKenzie Canyo**	**126.47**	**26**	PKPdf	PKPdf	17 03 27.8	-6.1
ULM	**Lac du Bonnet**	**126.79**	**10**	PKP	PKPdf	17 03 29.9	-4.5
	comp=Z,5.9nm,0.9s,baz=18,slow=3.5,SNR=6.4						
ULM	**Lac du Bonnet**	**126.79**	**10**	*e*PKPdf	PKPdf	17 03 29.5	-4.9
REDW	**Red Top Meadow**	**128.50**	**25**	PKPdf	PKPdf	17 03 33.9	-4.0
PDAR	**Pinedale Array**	**129.54**	**25**	PKP	PKPdf	17 03 36.1	-3.8
	comp=Z,2.2nm,0.9s,baz=45,slow=2.1,SNR=4.7						
PLCA	**Paso Flores**	**139.79**	**195**	PKP	PKPdf	17 03 55.3	-3.7
	comp=Z,2.7nm,0.9s,baz=176,slow=3.3,SNR=3.5						
TXAR	**Lajitas Array**	**143.27**	**30**	PKP	PKPdf	17 04 00.4	-5.0
	comp=Z,0.5nm,0.7s,baz=71,slow=0.5,SNR=3.1						
CFAA	**Coronel Fontan**	**147.30**	**205**	PKPbc	PKPdf	17 04 11.2	-1.0
	comp=Z,6.9nm,0.9s,baz=160,slow=2.3,SNR=31						

IDC 28 16:49:43.5±2.5, 2.43N×100.47E, mb4.3/5, mb1 4.5/5, mb1mx4.1/16, mbtmp4.3/5, Error ellipse: s-maj=116.7km s-min=24.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.99**	**125**	P	P	16 57 21.3	-0.6
	4.3nm,0.7s,baz=301,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**41.61**	**130**	P	P	16 57 32.7	-2.6
	1.9nm,0.7s,baz=295,slow=6.8,SNR=3.4						
SONM	**Songino Array**	**45.52**	**6**	P	P	16 58 03.6	-3.0
	4.6nm,0.9s,baz=190,slow=9.6,SNR=6.2						
MKAR	**Makanchi Array**	**46.94**	**343**	P	P	16 58 17.2	-0.7
	3.1nm,0.6s,baz=156,slow=9.6,SNR=4.8						
ARCES	**ARCESS Array B**	**82.50**	**340**	P	P	17 02 07.8	-1.3
	11nm,1.2s,baz=90,slow=3.6,SNR=4.5						

IDC 28 16:49:59.2±5.3, 4.27N×93.41E, mb4.4/5, mb1 4.6/5, mb1mx4.1/19, mbtmp4.4/5, Error ellipse: s-maj=277.1km s-min=22.1km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**38.78**	**126**	P	P	16 57 25.7	-1.8
	13nm,0.7s,baz=275,slow=1.6,SNR=4.0						
MKAR	**Makanchi Array**	**43.44**	**349**	P	P	16 58 04.5	-1.0
	6.0nm,0.9s,baz=161,slow=9.4,SNR=3.6						
WRA	**Warramunga Arr**	**46.86**	**122**	P	P	16 58 31.1	-2.1
	5.6nm,0.7s,baz=302,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**48.25**	**127**	P	P	16 58 42.5	-1.7
	2.9nm,0.9s,baz=294,slow=6.8,SNR=2.7						
BVAR	**Borovoye Array**	**52.17**	**343**	P	P	16 59 10.7	-3.0
	3.2nm,0.8s,baz=149,slow=10,SNR=3.7						

IDC 28 16:50:37.4±3.1, 2.72N×96.53E, mb4.5/4, mb1 4.6/4, mb1mx4.1/17, mbtmp4.5/4, Error ellipse: s-maj=119.4km s-min=28.8km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.41**	**123**	P	P	16 58 42.0	-1.9
	3.0nm,0.6s,baz=306,slow=9.0,SNR=5.2						
MKAR	**Makanchi Array**	**45.61**	**346**	P	P	16 59 00.1	-1.2
	6.8nm,0.8s,baz=160,slow=8.6,SNR=5.0						
SONM	**Songino Array**	**45.74**	**9**	P	P	16 59 01.0	-1.2
	2.4nm,0.4s,baz=190,slow=9.2,SNR=9.9						
BVAR	**Borovoye Array**	**54.60**	**341**	P	P	17 00 06.5	-3.3
	2.4nm,0.7s,baz=148,slow=12,SNR=2.5						

IDC 28 16:52:40.5±1.3, 2.51N×96.04E, mb4.2/8, mb1 4.3/8, mb1mx4.1/16, mbtmp4.2/8, Error ellipse: s-maj=58.6km s-min=22.9km az=49.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.71**	**122**	P	P	17 00 47.9	-1.6
	2.0nm,0.5s,baz=301,slow=9.1,SNR=1.4						
ASAR	**Alice Springs**	**45.11**	**127**	P	P	17 00 58.9	-1.8
	1.1nm,0.5s,baz=298,slow=7.8,SNR=3.5						
MKAR	**Makanchi Array**	**45.70**	**347**	P	P	17 01 03.8	-1.3
	6.3nm,0.4s,baz=166,slow=8.4,SNR=15						
SONM	**Songino Array**	**46.02**	**10**	P	P	17 01 05.3	-2.3
	3.9nm,0.5s,baz=192,slow=9.1,SNR=6.8						
BRTR	**Keskin Array B**	**67.37**	**312**	P	P	17 03 38.5	-1.4
	1.4nm,0.8s,baz=121,slow=8.2,SNR=3.6						
FINES	**FINESS Array B**	**78.30**	**333**	P	P	17 04 41.0	-2.9
	1.3nm,0.8s,baz=101,slow=7.1,SNR=3.2						
ARCES	**ARCESS Array B**	**80.92**	**340**	P	P	17 04 57.6	-0.2
	4.8nm,0.9s,baz=90,slow=4.9,SNR=4.6						
GERES	**GERESS Array B**	**83.07**	**319**	P	P	17 05 07.1	-2.3
	0.4nm,0.7s,baz=90,slow=5.9,SNR=2.5						

IDC 28 16:54:11.9±1.6, 0.81N×97.16E, mb4.2/7, mb1 4.4/7, mb1mx4.1/17, mbtmp4.2/7, Error ellipse: s-maj=81.1km s-min=23.8km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.87**	**122**	P	P	17 02 04.3	-1.5
	2.3nm,0.5s,baz=300,slow=9.1,SNR=2.8						
ASAR	**Alice Springs**	**43.20**	**127**	P	P	17 02 14.9	-1.7
	1.2nm,0.4s,baz=303,slow=7.3,SNR=3.3						
SONM	**Songino Array**	**47.52**	**8**	P	P	17 02 48.8	-2.1
	3.1nm,0.6s,baz=190,slow=7.3,SNR=4.1						
MKAR	**Makanchi Array**	**47.61**	**346**	P	P	17 02 50.4	-1.1
	5.6nm,0.5s,baz=158,slow=8.1,SNR=4.8						
BVAR	**Borovoye Array**	**56.60**	**341**	P	P	17 03 56.0	-2.8
	4.0nm,0.8s,baz=140,slow=11,SNR=4.1						
GERES	**GERESS Array B**	**85.08**	**319**	P	P	17 06 50.5	-0.4
	1.1nm,0.8s,baz=108,slow=4.2,SNR=3.7						
NOA	**NORSAR Array B**	**87.33**	**331**	P	P	17 06 59.8	-2.0
	1.0nm,0.8s,baz=94,slow=4.9,SNR=3.5						
TXAR	**Lajitas Array**	**144.02**	**32**	PKP	PKPdf	17 13 49.2	-2.8
	1.3nm,0.7s,baz=143,slow=6.3,SNR=5.2						

*IDC **28** 16:56:50.9±1.2, 1.39N×96.95E, mb4.4/10, mb1 4.4/10, mb1mx4.3/18, mbtmp4.4/10, Error ellipse: s-maj=43.5km s-min=20.2km az=46.0*
*NEIC **28** 16:56:55.5±0.6, 1.40N×97.00E, h30km, Error ellipse: s-maj=23.2km s-min=10.7km az=46.0*

ISC 28 16:56:54.3±1.0, 1.4N±0.2×97.0E±0.2, h33km, n16, σ0≥52/16, mb4.3/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOW	**Kunigami**	**39.24**	**47**	P	**P**	**17 04 21.4**	**0.0**
	12nm,0.7s,mb4.8,baz=225,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**42.32**	**122**	P	**P**	**17 04 47.2**	**+0.1**
	3.4nm,0.7s,mb4.1,baz=300,slow=9.2,SNR=2.9						
ASAR	**Alice Springs**	**43.69**	**127**	P	**P**	**17 04 58.0**	**-0.2**
	1.4nm,0.9s,mb3.7,baz=299,slow=7.5,SNR=4.4						
SONM	**Songino Array**	**46.95**	**9**	P	**P**	**17 05 23.8**	**+0.1**
	11nm,0.9s,mb4.8,baz=193,slow=8.4,SNR=8.1						
MKAR	**Makanchi Array**	**46.98**	**346**	P	**P**	**17 05 24.0**	**0.0**
	8.7nm,0.8s,mb4.7,baz=162,slow=7.7,SNR=5.9						
MKAR	**Makanchi Array**	**46.98**	**346**	P	**P**	**17 05 24.0**	**0.0**
BVAR	**Borovoye Array**	**55.98**	**341**	P	**P**	**17 06 31.2**	**-0.5**
	2.9nm,0.7s,mb4.4,baz=147,slow=8.7,SNR=3.5						
BRTR	**Keskin Array B**	**68.82**	**312**	P	**P**	**17 07 57.3**	**-0.2**
	1.0nm,0.7s,mb3.8,baz=137,slow=6.4,SNR=3.7						
FINES	**FINESS Array B**	**79.71**	**333**	P	**P**	**17 09 00.2**	**0.0**
	3.0nm,1.1s,mb4.1,baz=112,slow=10,SNR=3.8						
FINES	**FINESS Array B**	**79.71**	**333**	P	**P**	**17 09 00.2**	**0.0**
KAF	**Kangasniemi**	**79.80**	**333**	*e*p	**P**	**17 08 57.0**	**-3.6**
ARCES	**ARCESS Array B**	**82.26**	**340**	P	**P**	**17 09 14.0**	**+0.6**
	5.6nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=5.2						
ARCES	**ARCESS Array B**	**82.26**	**340**	P	**P**	**17 09 14.0**	**+0.6**
NB2	**NORSAR Subarra**	**86.72**	**331**	P	**P**	**17 09 36.4**	**+0.6**
	1um,3.3s,baz=95,slow=4.8						
NB2	**NORSAR Subarra**	**86.72**	**331**	P	**P**	**17 09 36.4**	**+0.6**
	baz=95,slow=5.1						
NOA	**NORSAR Array B**	**86.72**	**331**	P	**P**	**17 09 36.3**	**+0.5**
	1.7nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=5.5						

*IDC **28** 16:57:43.7±1.2, 0.51N×97.76E, mb4.3/10, mb1 4.4/10, mb1mx4.3/17, mbtmp4.3/10, Error ellipse: s-maj=61.4km s-min=20.0km az=48.0*
*NEIC **28** 16:57:48.3±0.8, 0.53N×97.82E, h30km, Error ellipse: s-maj=39.9km s-min=13.1km az=48.0*

ISC 28 16:57:47.3±1.0, 0.6N±0.3×97.9E±0.3, h33km, n10, σ0≥86/10, mb4.2/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.15**	**122**	P	**P**	**17 05 29.7**	**-0.7**
	1.4nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=3.6						
ASAR	**Alice Springs**	**42.50**	**127**	P	**P**	**17 05 41.9**	**+0.3**
	1.2nm,0.5s,mb3.8,baz=299,slow=7.9,SNR=6.0						
ASAR				pP	pP	17 05 49.0	-2.4
	3.0nm,0.6s,baz=298,slow=8.1,SNR=7.4						
SONM	**Songino Array**	**47.61**	**8**	P	**P**	**17 06 23.1**	**+1.1**
	1.6nm,0.4s,mb4.4,baz=189,slow=9.6,SNR=6.2						
MKAR	**Makanchi Array**	**47.98**	**346**	P	**P**	**17 06 24.0**	**-0.9**
	5.6nm,0.7s,mb4.7,baz=160,slow=7.4,SNR=3.8						
BVAR	**Borovoye Array**	**57.03**	**341**	P	**P**	**17 07 30.9**	**-1.5**
	2.0nm,0.6s,mb4.3,baz=141,slow=9.9,SNR=4.8						
BRTR	**Keskin Array B**	**70.01**	**312**	P	**P**	**17 08 57.9**	**0.0**
	1.5nm,0.8s,mb4.0,baz=129,slow=6.6,SNR=3.7						
AKASG	**Malin Array Be**	**76.14**	**322**	P	**P**	**17 09 33.3**	**-0.4**
	0.5nm,0.3s,mb4.0,baz=90,slow=4.3,SNR=4.9						
FINES	**FINESS Array B**	**80.83**	**332**	P	**P**	**17 09 59.0**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=99,slow=4.3,SNR=4.7						
ARCES	**ARCESS Array B**	**83.32**	**340**	P	**P**	**17 10 13.1**	**+1.2**
	8.7nm,1.1s,mb4.7,baz=98,slow=4.7,SNR=8.3						
GERES	**GERESS Array B**	**85.70**	**319**	P	**P**	**17 10 25.3**	**+1.1**
	1.0nm,0.7s,mb4.2,baz=108,slow=4.2,SNR=6.1						

*IDC **28** 16:58:31.0±0.6, 2.37N×96.20E, mb4.6/17, mb1 4.7/17, mb1mx4.6/21, mbtmp4.6/17, Error ellipse: s-maj=25.8km s-min=12.9km az=46.0*
*BJI **28** 16:58:32.3, 1.93N×96.31E, h37km, mb

ISC 28 17:02:05.3±0.8, 1.8N±0.1×97.1E±0.1, h33km, n24, σ0°94/24, mb4.4/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.99**	**46**	*e*Pn		**Pn**		**17 03 20.5**	**+0.5**
CM31	**Chiang Mai Arr**	**16.66**	**6**	*e*P		**P**		**17 06 00.2**	**+2.1**
QIZ	**Qiongzhong**	**21.22**	**35**	*e*P		**P**		**17 06 49.3**	**-1.4**
	7.4nm,0.7s,mb4.1								
ENH	**Enshi**	**30.68**	**21**	*e*P		**P**		**17 08 17.7**	**-1.7**
	35nm,1.3s,mb5.0								
BJT	**Baijiatuan**	**41.82**	**22**	*e*P		**P**		**17 09 54.5**	**+0.7**
	40nm,0.9s,mb5.0								
WRA	**Warramunga Arr**	**42.47**	**122**	P		**P**		**17 09 59.9**	**+0.6**
	3.5nm,1.0s,mb4.0,baz=299,slow=9.2,SNR=3.5								
WRA				PcP		PcP		17 11 53.4	+0.9
	7.2nm,0.6s,baz=303,slow=9.0,SNR=5.8								
ASAR	**Alice Springs**	**43.86**	**127**	P		**P**		**17 10 10.7**	**0.0**
	1.7nm,0.9s,mb3.8,baz=322,slow=7.6,SNR=3.9								
SONM	**Songino Array**	**46.57**	**9**	P		**P**		**17 10 32.3**	**+0.5**
	4.7nm,0.8s,mb4.4,baz=189,slow=6.8,SNR=8.4								
MKAR	**Makanchi Array**	**46.64**	**346**	P		**P**		**17 10 33.1**	**+0.7**
	7.2nm,0.8s,mb4.6,baz=153,slow=8.1,SNR=9.3								
KURK	**Kurchatov**	**51.19**	**345**	*e*P		**P**		**17 11 07.9**	**+0.4**
	3.7nm,0.7s,mb4.4								
BVAR	**Borovoye Array**	**55.65**	**341**	P		**P**		**17 11 39.4**	**-1.0**
	3.2nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=7.5								
CHKZ	**Chkalovo**	**56.12**	**341**	*e*P		**P**		**17 11 43.3**	**-0.5**
	7.2nm,0.9s,mb4.7								
YSS	**Yuzh-Sakhalins**	**59.94**	**35**	*e*P		**P**		**17 12 11.2**	**+0.5**
	973nm,2.8s								
ARU	**Arti**	**62.59**	**337**	*e*P		**P**		**17 12 24.9**	**-3.6**
	14nm,0.4s,mb5.4								
YAK	**Yakutsk**	**64.89**	**16**	*e*P		**P**		**17 12 42.0**	**-1.4**
	14nm,0.8s,mb5.1								
BRTR	**Keskin Array B**	**68.61**	**312**	P		**P**		**17 13 07.0**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=142,slow=5.8,SNR=3.9								
MA2	**Magadan**	**70.86**	**26**	P		**P**		**17 13 20.5**	**-0.2**
	3.1nm,0.8s,mb4.3								
MLR	**Muntele Rosu**	**75.54**	**317**	P		**P**		**17 13 49.1**	**+0.6**
	3.3nm,1.0s,mb4.2,baz=101,slow=10,SNR=3.1								
FINES	**FINESS Array B**	**79.41**	**332**	P		**P**		**17 14 08.7**	**-0.9**
	0.5nm,0.5s,mb3.7,baz=45,slow=8.1,SNR=3.8								
ARCES	**ARCESS Array B**	**81.93**	**340**	P		**P**		**17 14 22.6**	**-0.2**
	4.0nm,0.9s,mb4.4,baz=45,slow=5.1,SNR=4.4								
GERES	**GERESS Array B**	**84.28**	**319**	P		**P**		**17 14 36.3**	**+1.2**
	1.9nm,0.9s,mb4.2,baz=108,slow=4.2,SNR=9.1								
NB2	**NORSAR Subarra**	**86.42**	**331**	P		**P**		**17 14 45.7**	**+0.3**
	1.6nm,0.9s,mb4.2,baz=95,slow=4.8								
NOA	**NORSAR Array B**	**86.42**	**331**	P		**P**		**17 14 45.9**	**+0.5**
	1.3nm,0.8s,mb4.2,baz=95,slow=4.8,SNR=4.5								
NOA	**NORSAR Array B**	**86.42**	**331**	P		**P**		**17 14 45.9**	**+0.5**

IDC 28 17:03:33.8±4.3, 3.94N×96.89E, mb4.4/3, mb1 4.6/3, mb1mx4.2/16, mbtmp4.4/3, Error ellipse: s-maj=159.5km s-min=29.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.78**	**124**	P		P		17 11 41.7	-1.7
	11nm,0.8s,baz=300,slow=9.2,SNR=8.6								
SONM	**Songino Array**	**44.48**	**9**	P		P		17 11 46.5	-2.2
	3.3nm,0.7s,baz=192,slow=9.2,SNR=4.6								
MKAR	**Makanchi Array**	**44.52**	**346**	P		P		17 11 47.5	-1.4
	4.2nm,0.8s,baz=161,slow=7.5,SNR=3.9								

*IDC **28** 17:03:29.8±0.5, 2.06N×96.42E, mb4.7/24, mb1 4.7/24, mb1mx4.7/28, mbtmp4.7/24, Error ellipse: s-maj=20.8km s-min=11.5km az=42.0*
*BJI **28** 17:03:31.4, 2.00N×96.50E, h30km, mB5.8, mb5.3, Ms5.1, Msz4.8*
*MOS **28** 17:03:33.6±1.0, 2.23N×96.49E, h33km, mb5.0/14, Error ellipse: s-maj=18.5km s-min=8.3km az=113.0*
*NEIC **28** 17:03:34.4±0.2, 2.04N×96.46E, h30km, mb5.0/35, Error ellipse: s-maj=7.1km s-min=4.7km az=206.0*

ISC 28 17:03:33.6±1.3, 2.07N±0.06×96.51E±0.05, h37km±11km, h28km±1.6km: pP-P, n142, σ0°95/139, mb4.9/69, MS4.8/1, 7C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**52**	*e*Pn		**P**		**17 04 51.4**	**0.0**
KSM	**Kuching**	**13.81**	**92**	*e*Pn		**P**		**17 06 50.0**	**+0.7**
CM31	**Chiang Mai Arr**	**16.46**	**8**	*e*P		**P**		**17 07 24.5**	**+0.9**
	22nm,0.8s								
PALK	**Pallekele**	**16.58**	**289**	*e*P		**P**		**17 07 25.8**	**+0.7**
KKM	**Kota Kinabalu**	**20.05**	**78**	*e*P		**P**		**17 08 06.4**	**-0.2**
TRD	**Trivandrum**	**20.48**	**289**	*i* P		**P**		**17 08 10.4**	**-0.7**
TRD				*e*				17 09 22.1	
TRD				*e*				17 10 28.7	
HYB	**Hyderabad**	**23.32**	**312**	*e*P		**P**		**17 08 44.0**	**+4.4**
HYB	**Hyderabad**	**23.32**	**312**	*i* P		**P**		**17 08 44.0**	**+4.4**
BLSP	**Bilaspur**	**24.35**	**326**	*e*P		**P**		**17 08 48.6**	**-0.9**
BLSP					AMb	AMB		17 08 55.0	
	comp=Z,51nm,0.8s,mb5.0								
GYA	**Guiyang**	**26.14**	**21⇑**	*i*P		**P**		**17 09 08.0**	**+1.5**
GYA					AMB	AMB			
	comp=Z,20nm,0.7s,mb4.8								
KAD	**Karad**	**26.66**	**306**	*e*P		**P**		**17 09 12.2**	**+0.9**
JIRN	**Jiri**	**27.30**	**340**	*e*P		**P**		**17 09 17.4**	**+0.3**
	comp=Z,113nm,0.8s,mb5.4								
PKI	**Pulchoki**	**27.50**	**338**	*e*P		**P**		**17 09 19.8**	**+0.9**
	comp=Z,90nm,1.2s,mb5.2								
DMN	**Daman**	**27.64**	**338**	*e*P		**P**		**17 09 22.6**	**+2.4**
	comp=Z,48nm,0.8s,mb5.2								
KKN	**Kakani**	**27.74**	**338**	*e*P		**P**		**17 09 20.6**	**-0.5**
	comp=Z,71nm,0.9s,mb5.3								
LSA	**Lhasa**	**27.95**	**350**	P		**P**		**17 09 23.0**	**0.0**
LSA	**Lhasa**	**27.95**	**350**	*e*P		**P**		**17 09 23.4**	**+0.4**
	comp=Z,70nm,1.4s,mb5.1								
BHPL	**Bhopal**	**28.02**	**320**	*e*P		**P**		**17 09 23.9**	**+0.2**
GKN	**Gorkha**	**28.18**	**337**	*e*P		**P**		**17 09 24.7**	**-0.3**
	comp=Z,135nm,1.1s,mb5.5								
KOLN	**Koldanda**	**28.39**	**335**	*e*P		**P**		**17 09 26.9**	**0.0**
	comp=Z,59nm,0.8s,mb5.2								
CD2	**Chengdu**	**29.50**	**13**	P		**P**		**17 09 35.5**	**-1.3**
CD2					AMB	AMB			
	comp=Z,25nm,1.0s,mb4.9								
ENH	**Enshi**	**30.64**	**22**	*e*P		**P**		**17 09 44.9**	**-2.0**
	comp=Z,19nm,0.9s,mb4.9								
WHN	**Wuhan**	**32.98**	**29**	⇓P		**P**		**17 10 07.0**	**-0.5**
XAN	**Xi'an**	**33.86**	**19**	P		**P**		**17 10 13.8**	**-1.2**
XAN					AP	pP		17 10 21.8	-3.6
XAN					AMB	AMB			
	comp=Z,67nm,0.9s,mb5.6								
LZH	**Lanzhou**	**34.53**	**11**	*e*P		**P**		**17 10 19.8**	**-0.9**
LZH					AP	pP		17 10 28.5	-2.7
LZH					XP	sP		17 10 32.0	-4.0
LZH					AMB	AMB			
	comp=Z,152nm,1.5s,mb5.7								
FITZ	**Fitzroy Crossi**	**34.99**	**126**	P		**P**		**17 10 24.7**	**-0.1**
	comp=Z,41nm,0.8s,mb5.4,baz=320,slow=2.9,SNR=19								
SSE	**Sheshan**	**37.12**	**36**	*e*P		**P**		**17 10 45.0**	**+2.3**
SSE					AMB	AMB			
	comp=Z,39nm,0.7s,mb5.3								
GTA	**Gaotai**	**37.29**	**4**	*e*P		**P**		**17 10 43.8**	**-0.3**
GTA					AP	pP		17 10 52.3	-2.3
GTA					XP	sP		17 10 55.8	-3.5
GTA					AMB	AMB			
	comp=Z,51nm,0.9s,mb5.3								
JOW	**Kunigami**	**39.17**	**48**	P		**P**		**17 11 00.8**	**+1.0**
	comp=Z,20nm,0.6s,mb5.0,baz=147,slow=12								
HHC	**Hu-ho-hao-te**	**40.94**	**18**	*e*P		**P**		**17 11 13.8**	**-0.6**
HHC					AP	pP		17 11 23.0	-2.0
HHC					XP	sP		17 11 26.5	-3.1
HHC					PP	PP		17 12 51.5	-0.4
HHC					S	**S**		**17 17 23.0**	**-0.4**
HHC					XS			17 17 42.5	
HHC					SCS	ScS		17 21 15.0	+1.0
BJT	**Baijiatuan**	**41.78**	**23**	*e*P		**P**		**17 11 22.3**	**+0.9**
BJT				*e*PP		pP		17 11 30.4	-1.6
BJT					pmax	pmax			
	comp=Z,8.0nm,0.6s								
BJT	**Baijiatuan**	**41.78**	**23**	*e*P		**P**		**17 11 22.3**	**+0.9**
	comp=Z,8.4nm,0.6s,mb4.5								
BJT				*e*pP		pP		17 11 30.4	-1.6
BJI	**Beijing**	**41.81**	**23**	P		**P**		**17 11 22.5**	**+1.0**
BJI					AMB	AMB			
	comp=Z,48nm,0.7s,mb5.2								
WMQ	**Urumqi**	**42.31**	**351**	P		**P**		**17 11 27.0**	**+1.4**
WMQ					AP	pP		17 11 37.0	+0.7
WMQ					XP	sP		17 11 41.0	+0.1
WMQ					PP	PP		17 13 08.5	+1.9
WMQ					PPP	PPP		17 13 40.5	+0.9
WMQ				*e*S		**S**		**17 17 45.5**	**+1.8**
WMQ					XS			17 18 01.5	
WMQ					AMB	AMB			
	comp=Z,72nm,1.2s,mb5.2								
WMQ					LR	LR			
	comp=N,1μm,22.0s,MS5.0								
WMQ					LR	LR			
	comp=E,2μm,23.8s,MS5.0								
WMQ					LR	LR			
	comp=Z,1μm,25.2s,MS4.6								
WRA	**Warramunga Arr**	**43.08**	**122**	P		**P**		**17 11 33.0**	**+0.8**
	comp=Z,15nm,1.1s,mb4.7,baz=301,slow=9.1,SNR=7.2								
WRA					PcP	PcP		17 13 22.4	+0.1
	comp=Z,3.3nm,0.7s,baz=318,slow=2.7,SNR=5.5								
ASAR	**Alice Springs**	**44.47**	**127**	P		**P**		**17 11 44.1**	**+0.8**
	comp=Z,5.8nm,0.6s,mb4.5,baz=304,slow=7.8,SNR=19								
ASAR					PcP	PcP		17 13 27.4	+0.4
	comp=Z,3.9nm,0.7s,baz=307,slow=3.2,SNR=9.6								
TKM2	**Tokmak 2**	**44.76**	**338**	P		**P**		**17 11 45.9**	**+0.4**
	SNR=9.8								
KBK	**Karagaybulak**	**44.78**	**337**	P		**P**		**17 11 47.0**	**+1.3**
	SNR=8.5								
AAK	**Ala-Archa**	**44.94**	**337**	*i* P		**P**		**17 11 46.4**	**-0.5**
AAK					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.5								
AAK	**Ala-Archa**	**44.94**	**337**	*e*P		**P**		**17 11 46.3**	**-0.6**
	comp=Z,7.4nm,0.7s,mb4.6								
CHMS	**Chumysh**	**45.15**	**337**	P		**P**		**17 11 49.2**	**+0.7**
	SNR=6.2								
EKS2	**Erkin-Say**	**45.24**	**336**	P		**P**		**17 11 50.5**	**+1.1**
	SNR=9.1								
USP	**Ospenovka**	**45.47**	**337**	P		**P**		**17 11 51.6**	**+0.4**
	SNR=21								
MKAR	**Makanchi Array**	**46.24**	**346**	*i* P		**P**		**17 11 56.4**	**-0.8**
MKAR					pmax	pmax			
	comp=Z,69nm,1.1s								
MKAR	**Makanchi Array**	**46.24**	**346**	P		**P**		**17 11 56.9**	**-0.3**
	comp=Z,25nm,0.6s,mb5.3,baz=159,slow=8.7,SNR=37								
MKAR	**Makanchi Array**	**46.24**	**346**	P		**P**		**17 11 56.9**	**-0.3**
SONM	**Songino Array**	**46.39**	**9**	P		**P**		**17 11 58.6**	**+0.2**
	comp=Z,5.5nm,0.5s,mb4.7,baz=190,slow=8.5,SNR=9.6								
SONM					PcP	PcP		17 13 33.3	0.0
	comp=Z,5.7nm,0.8s,baz=199,slow=3.2,SNR=5.8								
ULN	**Ulaanbaatar**	**46.53**	**10**	*i* P		**P**		**17 11 59.1**	**-0.3**
ZAK	**Zakamensk**	**48.48**	**6**	*e*P		**P**		**17 12 13.1**	**-1.6**
ZAK					pmax	pmax			
	comp=Z,6.0nm,1.8s,mb4.3								
CN2	**Changchun**	**48.86**	**28**	*e*P		**P**		**17 12 19.5**	**+1.8**
TLY	**Talaya**	**49.80**	**6**	*i* P		**P**		**17 12 24.7**	**-0.2**
TLY					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.7								
KURK	**Kurchatov**	**50.78**	**345**	*i* P		**P**		**17 12 31.8**	**-0.6**
KURK					pmax	pmax			
	comp=Z,100nm,4.0s								
KURK	**Kurchatov**	**50.78**	**345**	*e*P		**P**		**17 12 31.6**	**-0.7**
	comp=Z,22nm,0.8s,mb5.2								
HIA	**Hailar**	**51.05**	**19**	*i* P		**P**		**17 12 34.4**	**0.0**
MAT	**Matsushiro**	**51.53**	**43**	*e*P		**P**		**17 12 38.0**	**-0.2**
MAT	**Matsushiro**	**51.53**	**43**	P		**P**		**17 12 38.4**	**+0.2**
PMG	**Port Moresby**	**51.73**	**104**	P		**P**		**17 12 38.6**	**-1.3**
	comp=Z,13nm,0.8s,mb4.9,baz=308,slow=12,SNR=3.8								
CTA	**Charters Tower**	**53.51**	**117**	P		**P**		**17 12 52.7**	**-0.4**
	comp=Z,7.8nm,0.8s,mb4.7,baz=303,slow=9.7,SNR=4.2								
CTA	**Charters Tower**	**53.51**	**117**	P		**P**		**17 12 52.7**	**-0.4**
CTAO	**Charters Tower**	**53.51**	**117**	*e*P		**P**		**17 12 52.4**	**-0.8**
STKA	**Stephens Creek**	**54.45**	**132**	P		**P**		**17 12 59.2**	**-0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=325,slow=8.4,SNR=8.5								
STKA	**Stephens Creek**	**54.45**	**132**	*e*P		**P**		**17 13 00.1**	**+0.2**
BVA0	**Borovoye Array**	**55.21**	**341**	*i* P		**P**		**17 13 03.9**	**-1.3**
BVA0					pmax	pmax			
	comp=Z,3.0nm,0.9s,mb4.3								
BVAR	**Borovoye Array**	**55.21**	**341**	P		**P**		**17 13 03.9**	**-1.3**
	comp=Z,20nm,0.7s,mb5.2,baz=135,slow=8.4,SNR=34								
CHKZ	**Chkalovo**	**55.69**	**342**	*i* P		**P**		**17 13 07.8**	**-0.8**
CHKZ					pmax	pmax			
	comp=Z,37nm,0.8s,mb5.5								
CHKZ	**Chkalovo**	**55.69**	**342**	*e*P		**P**		**17 13 07.4**	**-1.2**
	comp=Z,41nm,0.7s,mb5.6								
ASAJ	**Asahikawa**	**58.40**	**38**	P		**P**		**17 13 28.3**	**+0.4**
	comp=Z,14nm,0.8s,mb5.0,baz=198,slow=6.9,SNR=7.1								
YSS	**Yuzh-Sakhalins**	**60.03**	**35⇑**	*e*P		**P**		**17 13 46.2**	**+7.0**
YSS	**Yuzh-Sakhalins**	**60.03**	**35**	P		**P**		**17 13 38.9**	**-0.3**
	comp=Z,26nm,0.8s,mb5.3								
GNI	**Garni**	**60.19**	**316**	P		**P**		**17 13 40.9**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.6,baz=199,slow=22,SNR=3.0								
ARU	**Arti**	**62.12**	**337**	*e*P		**P**		**17 13 51.3**	**-1.9**
ARU				*e*				17 16 09.4	
ARU				*e*S		**S**		**17 22 17.5**	**+3.4**
ARU				*e*SS		SS		17 26 16.5	-2.4
KIV	**Kislovodsk**	**63.20**	**319**	*i* P		**P**		**17 13 58.7**	**-1.9**
KIV					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
KIV	**Kislovodsk**	**63.20**	**319**	*e*P		**P**		**17 13 59.7**	**-0.9**
	comp=Z,8.0nm,0.6s,mb5.0								
GOF	**Gofitskoye**	**63.46**	**320**	*e*P		**P**		**17 13 59.5**	**-2.8**
EIL	**Elat**	**64.41**	**302**	P		**P**		**17 14 08.9**	**+0.2**
	comp=Z,6.1nm,0.7s,mb4.7,baz=125,slow=9.9,SNR=4.2								
YAK	**Yakutsk**	**64.79**	**17**	*i* P		**P**		**17 14 09.4**	**-1.2**
YAK					pmax	pmax			
	comp=Z,34nm,1.2s,mb5.2								
YAK	**Yakutsk**	**64.79**	**17**	*e*P		**P**		**17 14 09.6**	**-1.1**
	comp=Z,30nm,0.7s,mb5.4								
BRTR	**Keskin Array B**	**68.02**	**312**	P		**P**		**17 14 29.8**	**-1.8**
	comp=Z,2.0nm,0.8s,mb4.2,baz=135,slow=7.0,SNR=6.7								
MA2	**Magadan**	**70.86**	**26**	*e*P		**P**		**17 14 48.6**	**+0.1**
MA2					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.8								
MA2	**Magadan**	**70.86**	**26**	*e*P		**P**		**17 14 48.4**	**-0.1**
	comp=Z,12nm,0.6s,mb5.0								
OBN	**Obninsk**	**71.52**	**328**	*i* P		**P**		**17 14 51.5**	**-1.1**
OBN				*i*				17 14 58.8	
OBN				*e*				17 17 30.8	
OBN					pmax	pmax			
	comp=Z,14nm,0.7s,mb5.0								
OBN	**Obninsk**	**71.52**	**328**	*e*P		**P**		**17 14 51.9**	**-0.7**
PET	**Petropavlovsk**	**71.91**	**34**	*e*P		**P**		**17 14 55.4**	**+0.5**
PET				*e*				17 15 03.6	
PET					pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1								
PET	**Petropavlovsk**	**71.91**	**34**	*e*P		**P**		**17 14 54.7**	**-0.2**
	comp=Z,15nm,0.6s,mb5.1								
TIXI	**Tiksi**	**72.46**	**10**	*i* P		**P**		**17 14 57.2**	**-0.7**
TIXI					pmax	pmax			
	comp=Z,9.0nm,1.5s,mb4.5								
LBTB	**Lobatse**	**73.65**	**243**	P		**P**		**17 15 06.7**	**+0.8**
	comp=Z,2.4nm,0.8s,mb4.2,baz=63,slow=14,SNR=3.4								
AKASG	**Malin Array Be**	**74.16**	**322**	P		**P**		**17 15 06.7**	**-1.5**
	comp=Z,0.7nm,0.3s,mb4.0,baz=90,slow=5.1,SNR=12								
BOSA	**Boshof**	**74.61**	**240**	P		**P**		**17 15 10.3**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.1,baz=52,slow=8.9,SNR=3.5								
BOSA	**Boshof**	**74.61**	**240**	*e*P		**P**		**17 15 10.2**	**-1.1**
	comp=Z,5.2nm,0.8s,mb4.5								
MLR	**Muntele Rosu**	**74.97**	**317**	P		**P**		**17 15 12.8**	**-0.2**
	comp=Z,6.2nm,0.9s,mb4.6,baz=141,slow=6.0,SNR=6.1								
MLR	**Muntele Rosu**	**74.97**	**317**	P		**P**		**17 15 12.8**	**-0.2**
VSU	**Vasula**	**77.76**	**330**	*i* P		**P**		**17 15 26.8**	**-1.7**
LVZ	**Lovozero**	**77.79**	**340**	*i* P		**P**		**17 15 27.7**	**-0.8**
KOLS	**Kolonicke sedl**	**78.11**	**320**	*i* P		**P**		**17 15 31.6**	**+1.0**
KOLS				*e*				17 15 37.9	
FINES	**FINESS Array B**	**78.92**	**333**	P		**P**		**17 15 34.4**	**-0.4**
	comp=Z,5.9nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=18								
FINES	**FINESS Array B**	**78.92**	**333**	P		**P**		**17 15 34.4**	**-0.4**
KAF	**Kangasniemi**	**79.00**	**333**	*e*p		**P**		**17 15 34.4**	**-0.9**
	comp=Z,7.5nm,0.6s,mb4.8								
KAF	**Kangasniemi**	**79.00**	**333**	*e*P		**P**		**17 15 34.4**	**-0.9**
KAF					pmax	pmax			
	comp=Z,8.0nm,0.6s,mb4.8								
KECS	**Kecovo**	**79.20**	**319**	*e*P		**P**		**17 15 35.6**	**-1.0**
PSZ	**Piszkesteto**	**79.51**	**318**	*e*P		**P**		**17 15 38.0**	**-0.3**
	comp=Z,9.3nm,0.8s,mb4.8								
BILL	**Bilibino**	**80.61**	**21**	*i* P		**P**		**17 15 42.5**	**-1.3**
BILL					pmax	pmax			
	comp=Z,4.0nm,1.4s,mb4.2								
OKC	**Ostrava-Krasne**	**80.92**	**320**	*e*P		**P**		**17 15 54.2**	**+8.4**
MORC	**Moravsky Berou**	**81.30**	**320**	*e*P		**P**		**17 15 47.3**	**-0.5**
	comp=Z,3.5nm,0.8s,mb4.3								
ZST	**Bratislava**	**81.40**	**318**	*i* P		**P**		**17 15 49.2**	**+0.9**
ARCES	**ARCESS Array B**	**81.49**	**340**	P		**P**		**17 15 48.8**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=94,slow=4.1,SNR=8.4								
DPC	**Dobruska-Polom**	**82.15**	**320**	*e*P		**P**		**17 15 52.9**	**+0.8**
UPC	**Upice**	**82.36**	**321**	*e*P		**P**		**17 15 51.8**	**-1.4**
ARSA	**Arzberg**	**82.36**	**317⇑**	*i*P		**P**		**17 15 54.1**	**+0.8**
	comp=Z,6.5nm,0.9s,mb4.6								
PRU	**Pruhonice**	**83.25**	**320**	*e*P		**P**		**17 15 57.9**	**+0.1**
GEC2	**GERESS Array S**	**83.71**	**319**	*e*P		**P**		**17 16 00.9**	**+0.7**
GEC2					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.8								
GEC2	**GERESS Array S**	**83.71**	**319**	*e*P		**P**		**17 16 00.9**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.8								
GERES	**GERESS Array B**	**83.71**	**319**	P		**P**		**17 16 00.8**	**+0.6**
	comp=Z,5.8nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=23								
KHC	**Kasperske Hory**	**83.81**	**319**	*e*P		**P**		**17 16 00.4**	**-0.3**
WET	**Wettzell**	**84.27**	**319**	*e*P		**P**		**17 16 03.9**	**+0.9**
CLL	**Collm**	**84.33**	**321**	P		**P**		**17 16 04.0**	**+0.8**
NKC	**Novy Kostel**	**84.61**	**320**	*e*P		**P**		**17 16 05.8**	**+1.1**
HFS	**Hagfors**	**84.63**	**330**	P		**P**		**17 16 04.3**	**-0.2**
	comp=Z,5.4nm,1.0s,mb4.6,baz=127,slow=7.2,SNR=3.4								
HFS	**Hagfors**	**84.63**	**330**	P		**P**		**17 16 04.3**	**-0.2**
WTTA	**Wattenberg**	**85.01**	**317⇑**	*i*P		**P**		**17 16 06.6**	**-0.1**
	comp=Z,7.4nm,0.7s,mb4.9								
WATA	**Walderalm**	**85.05**	**317⇑**	*i*P		**P**		**17 16 06.6**	**-0.3**
	comp=Z,3.0nm,0.9s,mb4.4								
SQTA	**Sankt Quirin**	**85.30**	**317⇓**	*i*P		**P**		**17 16 08.2**	**+0.1**
	comp=Z,2.3nm,0.7s,mb4.4								
MOTA	**Moosalm**	**85.37**	**317⇑**	*i*P		**P**		**17 16 08.5**	**0.0**
GRA1	**Grafenberg Arr**	**85.38**	**320**	*e*P		**P**		**17 16 09.8**	**+1.3**
	comp=Z,11nm,0.8s,mb5.0								
GRF	**Grafenberg Arr**	**85.38**	**320**	*e*P		**P**		**17 16 09.8**	**+1.3**
GRF					pmax	pmax			
	comp=Z,11nm,0.8s,mb5.0								
GRF	**Grafenberg Arr**	**85.38**	**320**	*e*P		**P**		**17 16 09.8**	**+1.3**
	comp=Z,11nm,0.8s,mb5.0								
NB2	**NORSAR Subarra**	**85.92**	**331**	P		**P**		**17 16 10.2**	**-0.6**
	comp=Z,6.9nm,1.0s,mb4.8,baz=95,slow=5.0								
NOA	**NORSAR Array B**	**85.92**	**331**	P		**P**		**17 16 10.7**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.5,baz=94,slow=5.1,SNR=5.4								
CLZ	**Clausthal**	**85.99**	**322**	*e*P		**P**		**17 16 12.4**	**+1.0**
	comp=Z,4.0nm,0.8s,mb4.7								
BSEG	**Bad Segeberg**	**86.09**	**324**	*e*P		**P**		**17 16 13.2**	**+1.3**
DAVOX	**Davos**	**86.19**	**317**	P		**P**		**17 16 13.5**	**+1.0**
	comp=Z,10.0nm,0.7s,mb5.2,baz=121,slow=6.1,SNR=15								
DAVA	**Damuels**	**86.20**	**317⇑**	*i*P		**P**		**17 16 13.3**	**+0.7**
	comp=Z,11nm,1.0s,mb5.0								
TNS	**Taunus Mts**	**87.18**	**320**	*e*P		**P**		**17 16 18.4**	**+1.1**
TNS					pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.9								
TNS	**Taunus Mts**	**87.18**	**320**	*e*P		**P**		**17 16 18.4**	**+1.1**
	comp=Z,6.0nm,0.8s,mb4.9								
BFO	**Black Forest**	**87.26**	**318**	*e*P		**P**		**17 16

NJ2 AMB AMB
comp=Z,3µm,9.2s
NWAO Narrogin (SRO) 38.44 153 P **P** 17 19 05.5 +0.5
comp=Z,2.9nm,0.5s,mb4.3,baz=27,slow=4.5,SNR=2.2
JOW Kunigami 39.14 46 P **P** 17 19 12.3 +1.5
comp=Z,17nm,0.5s,mb5.0,baz=231,slow=6.5
WRA Warramunga Arr 41.55 122 P **P** 17 19 31.1 +0.1
comp=Z,2.6nm,0.5s,mb4.1,baz=304,slow=8.8,SNR=8.5
BJT Baijiatuau 42.42 21 *eP* **P** 17 19 38.6 +0.7
comp=Z,11nm,0.8s,mb4.5
ASAR Alice Springs 42.92 127 P **P** 17 19 41.7 -0.5
comp=Z,3.6nm,0.6s,mb4.2,baz=298,slow=8.0,SNR=19
WMQ Urumqi 43.61 350 P **P** 17 19 48.5 +1.0
WMQ AP pP 17 19 58.0 0.0
WMQ PP PP 17 21 32.0 +1.1
WMQ PPP PPP 17 22 09.0 +1.3
WMQ AMB AMB
comp=Z,48nm,1.0s,mb5.2
WMQ LR LR
comp=N,1µm,22.5s,MS4.9
WMQ LR LR
comp=E,1µm,23.0s,MS4.9
WMQ LR LR
comp=Z,821nm,24.7s,MS4.5
DL2 Dalian 43.73 27 P **P** 17 19 50.0 +1.4
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
AAK Ala-Archa 46.40 336 *i* P **P** 17 20 07.1 -2.8
AAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SONM Songino Array 47.34 8 P **P** 17 20 17.4 +0.2
comp=Z,4.7nm,0.5s,mb4.7,baz=189,slow=9.5,SNR=24
ULN Ulaanbaatar 47.46 9 *i* P **P** 17 20 18.2 +0.1
MKAR Makanchi Array 47.60 346 *eP* **P** 17 20 19.1 -0.1
MKAR pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 47.60 346 P **P** 17 20 19.2 0.0
comp=Z,29nm,0.7s,mb5.5,baz=160,slow=8.8,SNR=69
CN2 Changchun 49.36 26 *eP* **P** 17 20 32.5 -0.4
CN2 AMB AMB
comp=Z,20nm,0.9s,mb5.2
ZAK Zakamensk 49.51 5 *eP* **P** 17 20 33.5 -0.4
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
TLY Talaya 50.83 5 *i* P **P** 17 20 43.1 -0.9
TLY pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KURK Kurchatov 52.15 345 *i* P **P** 17 20 53.5 -0.5
KURK pmax pmax
comp=Z,17nm,1.1s,mb4.9
KURK Kurchatov 52.15 345 *eP* **P** 17 20 53.5 -0.4
comp=Z,19nm,0.8s,mb5.1
STKA Stephens Creek 52.88 132 P **P** 17 20 59.9 +0.2
comp=Z,4.6nm,0.6s,mb4.6,baz=232,slow=4.9,SNR=11
STKA Stephens Creek 52.88 132 *eP* **P** 17 20 59.9 +0.2
STKA *epP* pP 17 21 07.6 -2.7
ATD Arta Tunnel 55.34 283 P **P** 17 21 16.3 -1.6
comp=Z,5.3nm,0.8s,mb4.6,baz=207,slow=9.0,SNR=3.2
BVA0 Borovoye Array 56.63 341 *i* P **P** 17 21 25.3 -1.4
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
BVAR Borovoye Array 56.63 341 P **P** 17 21 24.8 -1.9
comp=Z,6.6nm,0.7s,mb4.8,baz=149,slow=8.6,SNR=24
BOD Bodaibo 58.20 10 *eP* **P** 17 21 35.5 -2.2
BOD pmax pmax
comp=Z,14nm,0.8s,mb5.0
ASAJ Asahikawa 58.64 37 P **P** 17 21 39.4 -1.6
comp=Z,8.7nm,0.8s,mb4.8,baz=178,slow=7.1,SNR=4.9
YSS Yuzh-Sakhalins 60.35 34 *i* P **P** 17 21 52.1 -0.6
YSS pmax pmax
comp=Z,15nm,0.7s,mb5.1
KMBO Kilima Mbogo 60.38 268 P **P** 17 21 53.0 -0.4
comp=Z,1.3nm,0.4s,mb4.3,baz=69,slow=14,SNR=4.6
GNI Garni 61.76 316 P **P** 17 22 01.7 -0.7
comp=Z,1.9nm,0.4s,mb4.6,baz=355,slow=19,SNR=2.5
KIV Kislovodsk 64.77 319 *i* P **P** 17 22 18.3 -3.8
KIV pmax pmax
comp=Z,21nm,1.0s,mb5.1
KIV Kislovodsk 64.77 319 *eP* **P** 17 22 20.9 -1.3
comp=Z,1.4nm,0.5s,mb4.2
ASF Jabal al Asfar 64.94 305 P **P** 17 22 23.2 -0.3
comp=Z,9.5nm,0.7s,mb4.9,baz=338,slow=2.6,SNR=11
GOF Gofitskoye 65.02 320 *eP* **P** 17 22 22.1 -1.7
YAK Yakutsk 65.57 16 *i* P **P** 17 22 25.4 -1.6
YAK pmax pmax
comp=Z,30nm,1.0s,mb5.3
YAK Yakutsk 65.57 16 *eP* **P** 17 22 25.9 -1.1
comp=Z,29nm,0.9s,mb5.3
EIL Elat 65.94 302 P **P** 17 22 29.4 -0.5
comp=Z,18nm,0.8s,mb5.2,baz=112,slow=5.8,SNR=18
ANN Anapa 68.56 318 *eP* **P** 17 22 41.9 -4.2
BRTR Keskin Array B 69.59 312 P **P** 17 22 51.1 -1.4
comp=Z,8.2nm,0.8s,mb4.7,baz=130,slow=7.2,SNR=17
SIM Simferopol' 70.83 318 *eP* **P** 17 22 59.2 -0.8
MA2 Magadan 71.40 25 *eP* **P** 17 23 02.7 -0.4
MA2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
PET Petropavlovsk 72.23 34 *eP* **P** 17 23 08.7 +0.6
PET pmax pmax
comp=Z,18nm,0.6s,mb5.2
MAW Mawson 72.54 193 P **P** 17 23 09.5 -0.2
comp=Z,4.4nm,0.9s,mb4.4,baz=30,slow=8.1,SNR=2.9
OBN Obninsk 73.06 328 *i* P **P** 17 23 09.3 -3.7
OBN *i* pP 17 23 21.7 -2.3
OBN *e* 17 25 51.7
OBN *eS* S 17 32 36.5 0.0
OBN pmax pmax
comp=Z,14nm,0.8s,mb4.9
TIXI Tiksi 73.38 10 *eP* **P** 17 23 11.9 -2.7
TIXI pmax pmax
comp=Z,11nm,0.9s,mb4.8
TIRR Tirgusor 74.59 316 ⇓*P* **P** 17 23 21.3 -0.9
TIRR Tirgusor 74.59 316 ⇓*P* **P** 17 23 21.3 -0.9
BOSA Boshof 74.99 240 P **P** 17 23 24.4 -0.4
comp=Z,3.5nm,0.7s,mb4.4,baz=88,slow=21,SNR=7.6
IDI Anoyia 75.38 306 P **P** 17 23 26.4 -0.5
comp=Z,14nm,0.7s,mb5.0,baz=95,slow=8.5,SNR=10.0
AKASG Malin Array Be 75.71 322 P **P** 17 23 26.9 -1.6
comp=Z,7.0nm,0.5s,mb4.9,baz=89,slow=5.2,SNR=43
MLR Muntele Rosu 76.53 317 P **P** 17 23 33.1 -0.1
comp=Z,17nm,0.8s,mb5.0,baz=114,slow=2.7,SNR=16
MLR Muntele Rosu 76.53 317 ⇓*P* **P** 17 23 33.3 0.0
MLR Muntele Rosu 76.53 317 ⇓*P* **P** 17 23 33.3 0.0
BURAR Bucovina Array 77.49 319 ⇓*P* **P** 17 23 39.2 +0.6
BZS Buzias 79.54 316 ⇓*P* **P** 17 23 49.5 -0.4
BZS Buzias 79.54 316 ⇓*P* **P** 17 23 49.5 -0.4
KOLS Kolonicke sedl 79.68 320 *i* P **P** 17 23 51.2 +0.7
SUW Suwalki 80.12 325 *eP* **P** 17 23 51.5 -1.3
comp=Z,27nm,0.4s,mb5.5
FINES FINESS Array B 80.42 332 P **P** 17 23 53.8 -0.4
comp=Z,6.7nm,0.7s,mb4.7,baz=97,slow=5.9,SNR=37
KAF Kangasniemi 80.50 333 *ep* **P** 17 23 54.2 -0.4
comp=Z,6.4nm,0.5s,mb4.8
KAF Kangasniemi 80.50 333 *eP* **P** 17 23 54.2 -0.4
KAF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
KECS Kecovo 80.77 319 *i* P **P** 17 23 56.6 +0.3
BILL Bilibino 81.27 21 *eP* **P** 17 23 58.9 +0.3
BILL *eS* S 17 34 09.2 +4.2
BILL pmax pmax
comp=Z,1.0nm,0.9s
KOLL Kolacno 82.15 319 *i* P **P** 17 24 03.8 +0.3
OKC Ostrava-Krasne 82.48 320 *eP* **P** 17 24 05.7 +0.5
ARCES ARCESS Array B 82.92 340 P **P** 17 24 07.1 0.0
comp=Z,4.2nm,0.5s,mb4.7,baz=94,slow=5.0,SNR=22
ARCES ARCESS Array B 82.92 340 P **P** 17 24 07.1 0.0
ZST Bratislava 82.97 318 *i* P **P** 17 24 08.3 +0.6
KOGS Kog 83.36 317 *eP* **P** 17 24 10.2 +0.5
DPC Dobruska-Polom 83.71 320 *eP* **P** 17 24 12.2 +0.7
KSP Ksiaz 83.78 321 *eP* **P** 17 24 12.4 +0.6
UPC Upice 83.92 321 *eP* **P** 17 24 13.0 +0.5
ARSA Arzberg 83.93 317⇑ *iP* **P** 17 24 13.3 +0.6
comp=Z,11nm,0.9s,mb5.0
VISS Visnje 84.28 316 *eP* **P** 17 24 14.7 +0.2
LJU Ljubljana 84.52 316 *eP* **P** 17 24 16.3 +0.6
PRU Pruhonice 84.82 320 *eP* **P** 17 24 16.8 -0.2
MOA Molln 84.83 318⇑ *iP* **P** 17 24 17.3 +0.2
comp=Z,5.3nm,0.8s,mb4.7
PVCC Panska Ves 84.84 320 *eP* **P** 17 24 17.4 +0.3
BRG Berggiesshubel 85.27 321 *i* P **P** 17 24 19.8 +0.6
BRG *i* 17 24 27.5
BRG pmax pmax
comp=Z,12nm,1.0s,mb5.0
BRG Berggiesshubel 85.27 321 *i* P **P** 17 24 19.8 +0.6
comp=Z,12nm,1.0s,mb5.0
BRG *i* 17 24 27.5
GEC2 GERESS Array S 85.28 319 *eP* **P** 17 24 20.0 +0.7
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GEC2 GERESS Array S 85.28 319 *eP* **P** 17 24 20.0 +0.7
comp=Z,10.0nm,0.9s,mb5.0
GERES GERESS Array B 85.28 319 P **P** 17 24 19.2 -0.1
comp=Z,7.3nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=52
KHC Kasperske Hory 85.38 319 *eP* **P** 17 24 19.7 -0.1
KBA Koelnbreinsper 85.40 317⇓ *iP* **P** 17 24 19.6 -0.4
comp=Z,5.4nm,1.0s,mb4.6
WET Wettzell 85.84 319 *eP* **P** 17 24 22.8 +0.7
CLL Collm 85.89 321 *i* P **P** 17 24 22.1 -0.2
CLL Collm 85.89 321 P **P** 17 24 22.1 -0.2
HFS Hagfors 86.15 330 P **P** 17 24 23.3 0.0
comp=Z,4.7nm,0.6s,mb4.9,baz=117,slow=3.3,SNR=25
WTTA Wattenberg 86.57 317⇓ *iP* **P** 17 24 25.3 -0.4
comp=Z,9.8nm,0.8s,mb5.1
WATA Walderalm 86.62 317⇑ *iP* **P** 17 24 25.5 -0.4
comp=Z,3.6nm,0.9s,mb4.6
MOX Moxa 86.73 320 *eP* **P** 17 24 26.9 +0.5
MOX Moxa 86.73 320 *i* P **P** 17 24 26.9 +0.5
SQTA Sankt Quirin 86.86 317⇓ *iP* **P** 17 24 26.9 -0.2
comp=Z,2.2nm,0.7s,mb4.5
MOTA Moosalm 86.94 317⇑ *iP* **P** 17 24 27.4 -0.1
GRA1 Grafenberg Arr 86.94 320 *eP* **P** 17 24 28.7 +1.2
comp=Z,11nm,0.9s,mb5.1
GRF Grafenberg Arr 86.94 320 *eP* **P** 17 24 28.7 +1.2
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.1
GRF Grafenberg Arr 86.94 320 *eP* **P** 17 24 28.7 +1.2
comp=Z,11nm,0.9s,mb5.1
NB2 NORSAR Subarra 87.43 331 P **P** 17 24 29.2 -0.4
comp=Z,6.2nm,0.8s,mb4.9,baz=95,slow=4.6
NOA NORSAR Array B 87.43 331 P **P** 17 24 29.5 -0.1
comp=Z,4.9nm,0.7s,mb4.8,baz=95,slow=4.9,SNR=24
CLZ Clausthal 87.55 322 *eP* **P** 17 24 31.3 +0.9
comp=Z,4.0nm,0.8s,mb4.7
BSEG Bad Segeberg 87.65 324 *eP* **P** 17 24 32.0 +1.2
DAVOX Davos 87.76 317 P **P** 17 24 31.8 +0.3
comp=Z,7.6nm,0.5s,mb5.2,baz=126,slow=6.4,SNR=20
DAVA Damuels 87.77 317⇑ *iP* **P** 17 24 32.3 +0.8
comp=Z,9.0nm,0.9s,mb5.0
PGF Pioggiola 88.34 312 *eP* **P** 17 24 34.3 -0.1
comp=Z,79nm,1.3s,mb5.5
TNS Taunus Mts 88.75 320 *eP* **P** 17 24 37.1 +1.0
TNS pmax pmax
comp=Z,11nm,1.1s,mb5.1
TNS Taunus Mts 88.75 320 *eP* **P** 17 24 37.1 +1.0
comp=Z,11nm,1.1s,mb5.1
BFO Black Forest 88.82 318 *eP* **P** 17 24 36.8 +0.3
BFO pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BFO Black Forest 88.82 318 *eP* **P** 17 24 36.8 +0.3
comp=Z,3.0nm,0.8s,mb4.7
SBF Sospel 89.48 314 *eP* **P** 17 24 39.8 0.0
comp=Z,24nm,0.7s,mb5.3
CDF Champ du Feu 89.53 318 *eP* **P** 17 24 39.5 -0.4
LPG La Plagne 89.94 315 *eP* **P** 17 24 42.3 +0.4
comp=Z,18nm,0.8s,mb5.2
MBDF Mbardon 89.94 315 *eP* **P** 17 24 41.4 -0.5
comp=Z,15nm,1.1s,mb4.9
LPL La Plagne 89.95 315 *eP* **P** 17 24 42.2 +0.3
comp=Z,19nm,0.8s,mb5.2
FRF La Foret Royal 90.06 313 *eP* **P** 17 24 42.6 +0.1
comp=Z,18nm,0.7s,mb5.2
HAU Haudompre 90.16 318 *eP* **P** 17 24 42.6 -0.2
comp=Z,26nm,0.9s,mb5.3
LMR La Mourre 90.16 313 *eP* **P** 17 24 42.9 -0.1
comp=Z,18nm,1.0s,mb5.1
CABF La Chapelle 90.37 316 *eP* **P** 17 24 44.2 +0.3
comp=Z,55nm,1.3s,mb5.4
ORIF Oris-en-Rattie 90.57 315 *eP* **P** 17 24 45.3 +0.5
comp=Z,18nm,1.0s,mb5.1
MEZF Maizieres J'vi 91.00 318 *eP* **P** 17 24 46.9 +0.1
GIVF Givet 91.08 320 *eP* **P** 17 24 47.3 +0.2
VIVF Saint-Julien-l 91.43 315 *eP* **P** 17 24 49.0 +0.1
BAIF Baives 91.48 320 *eP* **P** 17 24 49.5 +0.6
comp=Z,39nm,1.0s,mb5.4
SMF Signal de Mont 91.92 317 *eP* **P** 17 24 51.1 +0.1
comp=Z,24nm,0.8s,mb5.2
LASF Ste Croix 92.05 314 *eP* **P** 17 24 52.2 +0.5
comp=Z,22nm,1.2s,mb5.1
SSF Saint Saulge 92.12 317 *eP* **P** 17 24 52.1 +0.1
comp=Z,8.8nm,0.9s,mb4.8
AVF Avril sur Loir 92.24 317 *eP* **P** 17 24 52.6 +0.1
comp=Z,19nm,1.0s,mb5.1
BGF Bois d'Agland 92.61 316 *eP* **P** 17 24 54.7 +0.5
comp=Z,27nm,1.0s,mb5.3
TCF Toux Ste Croi 93.07 316 *eP* **P** 17 24 56.7 +0.4
comp=Z,53nm,1.7s,mb5.4
CAF Calviac 93.28 315 *eP* **P** 17 24 58.0 +0.7
comp=Z,12nm,1.0s,mb5.0
MTLF Montolieu 93.29 313 *eP* **P** 17 24 57.8 +0.4
comp=Z,30nm,1.4s,mb5.2
RJF Les Rejaudoux 93.63 315 *eP* **P** 17 24 59.6 +0.7
LFF La Frestale 94.21 315 *eP* **P** 17 25 02.3 +0.8
ETSF Etsaut 95.35 313 *eP* **P** 17 25 08.2 +1.4
comp=Z,9.0nm,0.9s,mb4.9
EKA Eskdalemuir Ar 95.36 326 P **P** 17 25 06.9 +0.4
comp=Z,1.7nm,0.6s,mb4.6,baz=95,slow=5.8,SNR=7.4
SJPF Ste Jean 95.82 313 *eP* **P** 17 25 09.6 +0.7
comp=Z,15nm,1.1s,mb5.0
PDAR Pinedale Array 130.11 26 PKP PKPdf 17 30 53.7 +2.0
comp=Z,0.7nm,0.6s,baz=180,slow=1.5,SNR=4.2
BDFB Brasilia 143.06 245 PKP PKPdf 17 31 15.3 -0.8
comp=Z,1.4nm,0.4s,baz=158,slow=5.1,SNR=3.4
TXAR Lajitas Array 143.68 32 PKP PKPdf 17 31 16.1 -0.7
comp=Z,1.2nm,0.7s,baz=270,slow=1.3,SNR=7.4
LPAZ La Paz 159.25 222 PKP PKPdf 17 31 42.9 +2.7
comp=Z,2.0nm,0.3s,baz=250,slow=2.6,SNR=7.8

*IDC **28** 17:12:53.5±0.8, 0.76N×97.25E, mb4.6/16, mb1 4.7/16, mb1mx4.5/22, mbtmp4.6/16, Error ellipse: s-maj=51.0km s-min=14.7km az=48.0*
*BJI **28** 17:12:54.8, 0.48N×97.48E, h38km, mb5.3*
*NEIC **28** 17:12:58.3±0.4, 0.84N×97.38E, h30km, mb5.0/10, Error ellipse: s-maj=11.0km s-min=7.4km az=223.0*
ISC 28 17:12:55.8±7.4, 0.9N±0.1×97.4E±0.1, h24km±50km, n41, σ0°86/41, mb4.8/32, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
KULM	**Kulim**	**5.46**	**36**	Pn		**17 14 17.7**	**-0.1**
KKM	**Kota Kinabalu**	**19.45**	**74**	*eP*		**17 17 24.0**	**+0.2**
QIZ	**Qiongzhong**	**21.79**	**33**	⇑P		**17 17 48.0**	**0.0**
KMI	**Kunming**	**24.67**	**12**	P		**17 18 19.5**	**+3.2**
KMI				AMB	AMB		
comp=Z,28nm,1.1s,mb4.7							
LSA	**Lhasa**		**29.30**	**349**	*eP*	**P**	**17 18 59.8**	**+1.0**
comp=Z,21nm,0.7s,mb5.0							
ENH	**Enshi**		**31.42**	**20**	*eP*	**P**	**17 19 16.1**	**-1.5**
comp=Z,12nm,0.6s,mb4.9							
FITZ	**Fitzroy Crossi**		**33.55**	**126**	P	**P**	**17 19 35.0**	**-1.3**
comp=Z,7.1nm,0.6s,mb4.8,baz=317,slow=4.4,SNR=6.6							
XAN	**Xi'an**		**34.73**	**17**	P	**P**	**17 19 45.0**	**-1.2**
XAN					AMB	AMB		
comp=Z,34nm,0.6s,mb5.5							
LZH	**Lanzhou**		**35.56**	**9**	*eP*	**P**	**17 19 53.3**	**0.0**
LZH					AP	pP	17 20 00.8	+0.3
LZH					AMB	AMB		
comp=Z,31nm,1.4s,mb5.0								
GTA	**Gaotai**		**38.44**	**3**	*eP*	**P**	**17 20 17.8**	**+0.3**
GTA					AP	pP	17 20 26.3	+1.6
GTA					XP	sP	17 20 30.3	+2.6
GTA					AMB	AMB		
comp=Z,62nm,0.9s,mb5.3								
WRA	**Warramunga Arr**		**41.67**	**122**	P	**P**	**17 20 43.7**	**-0.8**
comp=Z,6.3nm,0.7s,mb4.4,baz=304,slow=9.2,SNR=9.6								
BJT	**Baijiatuau**		**42.55**	**21**	*eP*	**P**	**17 20 52.3**	**+0.8**
comp=Z,15nm,0.6s,mb4.9								
BJI	**Beijing**		**42.58**	**21**	P	**P**	**17 20 52.8**	**+1.1**
BJI					AMB	AMB		
comp=Z,48nm,0.7s,mb5.3								
ASAR	**Alice Springs**		**43.01**	**127**	P	**P**	**17 20 56.1**	**+0.7**
comp=Z,4.4nm,0.6s,mb4.4,baz=299,slow=7.8,SNR=11								
DL2	**Dalian**		**43.88**	**27**	P	**P**	**17 21 03.3**	**+1.1**
DL2					AMB	AMB		
comp=Z,40nm,0.7s,mb5.3								
KS15	**Wonju Array Si**		**45.98**	**34**	*eP*	**P**	**17 21 19.2**	**+0.1**
AAK	**Ala-Archa**		**46.40**	**337**	*eP*	**P**	**17 21 23.2**	**+0.8**
SONM	**Songino Array**		**47.44**	**8**	P	**P**	**17 21 30.9**	**+0.4**
SONM					PcP	PcP	17 23 01.5	+0.4
comp=Z,2.6nm,0.7s,baz=196,slow=4.5,SNR=3.8								
MKAR Makanchi Array 47.63 346 P **P** 17 21 32.2 +0.2
comp=Z,21nm,0.5s,mb5.4,baz=160,slow=8.6,SNR=23
MKAR Makanchi Array 47.63 346 P **P** 17 21 32.2 +0.2
CN2 Changchun 49.51 27 *eP* **P** 17 21 45.8 -0.8
CN2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
KURK Kurchatov 52.18 345 *eP* **P** 17 22 05.6 -1.2
comp=Z,26nm,1.0s,mb5.1
STKA Stephens Creek 52.96 132 P **P** 17 22 13.9 +1.1
comp=Z,5.8nm,0.8s,mb4.5,baz=314,slow=9.1,SNR=3.8
BVAR Borovoye Array 56.65 341 P **P** 17 22 38.4 -1.0
comp=Z,6.9nm,0.7s,mb4.8,baz=143,slow=7.4,SNR=8.2
CHKZ Chkalovo 57.12 341 *eP* **P** 17 22 41.6 -1.1
comp=Z,8.1nm,0.8s,mb4.8
YSS Yuzh-Sakhalins 60.51 34 *eP* **P** 17 23 06.5 +0.2
comp=Z,26nm,1.0s,mb5.3
ARU Arti 63.59 337 *eP* **P** 17 23 26.0 -0.8
comp=Z,15nm,0.7s,mb5.1
YAK Yakutsk 65.69 16 *eP* **P** 17 23 39.3 -1.0
comp=Z,23nm,0.8s,mb5.2
MA2 Magadan 71.55 25 *eP* **P** 17 24 16.5 -0.2
comp=Z,9.3nm,0.6s,mb4.9
AKASG Malin Array Be 75.66 322 P **P** 17 24 39.4 -1.5
comp=Z,2.4nm,0.5s,mb4.4,baz=89,slow=5.0,SNR=6.8
MLR Muntele Rosu 76.47 317 P **P** 17 24 44.9 -0.7
comp=Z,5.2nm,1.0s,mb4.4,baz=127,slow=5.1,SNR=2.3
FINES FINESS Array B 80.40 333 P **P** 17 25 06.1 -0.6
comp=Z,2.5nm,0.5s,mb4.4,baz=94,slow=5.4,SNR=8.5
FINES FINESS Array B 80.40 333 P **P** 17 25 06.1 -0.6
ARCES ARCESS Array B 82.93 340 P **P** 17 25 20.0 +0.3
comp=Z,1.8nm,0.5s,mb4.3,baz=94,slow=5.3,SNR=6.4
GERES GERESS Array B 85.22 319 P **P** 17 25 32.4 +0.8
comp=Z,3.2nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=8.4
CLL Collm 85.84 321 P **P** 17 25 35.0 +0.3
HFS Hagfors 86.13 330 P **P** 17 25 36.7 +0.7
comp=Z,2.8nm,0.6s,mb4.7,baz=135,slow=4.2,SNR=7.1
NB2 NORSAR Subarra 87.41 331 P **P** 17 25 42.6 +0.4
comp=Z,2.0nm,0.7s,mb4.5,baz=95,slow=4.8
NOA NORSAR Array B 87.41 331 P **P** 17 25 42.5 +0.4
comp=Z,2.6nm,0.7s,mb4.5,baz=94,slow=4.9,SNR=7.4
DAVOX Davos 87.69 317 P **P** 17 25 45.0 +1.2
comp=Z,1.4nm,0.4s,mb4.5,baz=328,slow=9.5,SNR=2.1
EKA Eskdalemuir Ar 95.32 326 P **P** 17 26 19.8 +0.7
comp=Z,1.3nm,0.8s,mb4.4,baz=90,slow=5.0,SNR=3.5

*IDC **28** 17:15:12.7±0.9, 0.92N×97.20E, mb4.5/15, mb1 4.5/15, mb1mx4.4/21, mbtmp4.5/15, Error ellipse: s-maj=39.4km s-min=15.6km az=48.0*
*BJI **28** 17:15:14.6, 0.53N×97.55E, h43km, mb5.0*
*NEIC **28** 17:15:17.8±0.4, 0.97N×97.34E, h30km, mb4.8/16, Error ellipse: s-maj=11.3km s-min=6.5km az=49.0*
ISC 28 17:15:18.4±4.1, 1.01N±0.10×97.4E±0.1, h48km±35km, n43, σ0°89/43, mb4.7/35, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	ISC
CM31	**Chiang Mai Arr**	**17.40**	**5**	*eP*	**P**	**17 19 18.9**	**-0.6**
27nm,0.7s							
KKM	**Kota Kinabalu**	**19.39**	**75**	*eP*	**P**	**17 19 43.1**	**-0.3**
QIZ	**Qiongzhong**	**21.65**	**33**	*eP*	**P**	**17 20 06.4**	**-0.3**
4.3nm,0.6s,mb4.1							
KMI	**Kunming**	**24.51**	**12**	P	**P**	**17 20 36.5**	**+1.7**
KMI				AMB	AMB		
comp=Z,32nm,1.2s,mb4.7							
JIRN	**Jiri**		**28.61**	**339**	*eP*	**P**	**17 21 13.3**	**+0.8**
comp=Z,36nm,0.9s,mb5.1							
PKI	**Pulchoki**		**28.82**	**337**	*eP*	**P**	**17 21 17.4**	**+3.0**
KKN	**Kakani**		**29.06**	**337**	*eP*	**P**	**17 21 17.1**	**+0.5**
LSA	**Lhasa**		**29.15**	**349**	*eP*	**P**	**17 21 18.1**	**+0.7**
comp=Z,6.4nm,0.5s,mb4.6								
GKN	**Gorkha**		**29.50**	**337**	*eP*	**P**	**17 21 19.1**	**-1.4**
KOLN	**Koldanda**		**29.73**	**335**	*eP*	**P**	**17 21 23.0**	**+0.5**
comp=Z,22nm,0.8s,mb5.0								
ENH	**Enshi**		**31.27**	**20**	*eP*	**P**	**17 21 34.4**	**-1.8**
comp=Z,22nm,0.8s,mb5.0								
FITZ	**Fitzroy Crossi**		**33.63**	**126**	P	**P**	**17 21 55.8**	**-0.9**
comp=Z,4.0nm,0.6s,mb4.5,baz=300,slow=3.2,SNR=5.6								
XAN	**Xi'an**		**34.57**	**17**	P	**P**	**17 22 03.5**	**-1.2**
XAN					AMB	AMB		
comp=Z,18nm,0.6s,mb5.2								
GTA	**Gaotai**		**38.28**	**3**	*eP*	**P**	**17 22 36.3**	**+0.4**
GTA					AP	pP	17 22 44.8	-3.9
GTA					XP	sP	17 22 48.8	-5.8
GTA					AMB	AMB		
comp=Z,22nm,0.9s,mb4.9								
JOW	**Kunigami**		**39.20**	**46**	P	**P**	**17 22 44.3**	**+0.6**
comp=Z,15nm,0.6s,mb4.9,baz=233,slow=16,SNR=6.3								
WRA	**Warramunga Arr**		**41.74**	**122**	P	**P**	**17 23 04.6**	**-0.3**
comp=Z,3.3nm,0.5s,mb4.2,baz=301,slow=9.0,SNR=7.7								
WRA	**Warramunga Arr**		**41.74**	**122**	P	**P**	**17 23 04.6**	**-0.3**
WRAB	**Tennant Creek**		**41.74**	**122**	*eP*	**P**	**17 23 05.6**	**+0.7**
comp=Z,4.8nm,0.5s,mb4.4								
BJT	**Baijiatuau**		**42.40**	**21**	*eP*	**P**	**17 23 11.0**	**+0.9**
comp=Z,31nm,0.7s,mb5.0								
BJI	**Beijing**		**42.42**	**21**	P	**P**	**17 23 11.3**	**+1.0**
BJI					AMB	AMB		
comp=Z,45nm,0.7s,mb5.2								
ASAR	**Alice Springs**		**43.09**	**127**	P	**P**	**17 23 16.4**	**+0.5**
comp=Z,1.4nm,0.6s,mb3.9,baz=299,slow=8.1,SNR=4.6								
WMQ	**Urumqi**		**43.50**	**350**	*eP*	**P**	**17 23 20.0**	**+1.0**
WMQ					AMB	AMB		
comp=Z,20nm,0.8s,mb4.9								
KS15	**Wonju Array Si**		**45.84**	**34**	*eP*	**P**	**17 23 38.1**	**+0.3**
SONM	**Songino Array**		**47.28**	**8**	P	**P**	**17 23 49.0**	**0.0**
comp=Z,5.0nm,0.4s,mb4.8,baz=189,slow=9.8,SNR=18								
SONM					PcP	PcP	17 25 20.0	+0.1
comp=Z,2.5nm,0.5s,baz=188,slow=4.0,SNR=7.0								
ULN	**Ulaanbaatar**		**47.41**	**9**	*eP*	**P**	**17 23 50.4**	**+0.4**
comp=Z,3.5nm,0.4s,mb4.6								
MKAR	**Makanchi Array**		**47.48**	**346**	P	**P**	**17 23 50.8**	**+0.2**
comp=Z,14nm,0.7s,mb5.0,baz=158,slow=7.8,SNR=13								
CN2	**Changchun**		**49.36**	**27**	*eP*	**P**	**17 24 04.5**	**-0.7**
CN2					AMB	AMB		
comp=Z,30nm,0.9s,mb5.3								
HIA	**Hailar**		**51.74**	**18**	*eP*	**P**	**17 24 23.3**	**+0.1**
comp=Z,10nm,0.7s,mb4.9								
KURK	**Kurchatov**		**52.03**	**345**	*eP*	**P**	**17 24 25.1**	**-0.3**
comp=Z,11nm,0.8s,mb4.8								
STKA	**Stephens Creek**		**53.06**	**132**	P	**P**	**17 24 33.8**	**+0.5**
comp=Z,2.8nm,0.6s,mb4.4,baz=350,slow=10,SNR=3.3								
BVAR	**Borovoye Array**		**56.50**	**341**	P	**P**	**17 24 56.7**	**-1.3**
comp=Z,6.1nm,0.5s,mb4.9,baz=141,slow=8.8,SNR=13								
CHKZ	**Chkalovo**		**56.98**	**341**	*eP*	**P**	**17 25 00.4**	**-1.0**
comp=Z,11nm,0.7s,mb5.1								
YAK	**Yakutsk**		**65.53**	**16**	*eP*	**P**	**17 25 57.8**	**-1.1**
comp=Z,15nm,0.3s,mb5.5								
MA2	**Magadan**		**71.40**	**26**	*eP*	**P**	**17 26 35.4**	**+0.1**
comp=Z,7.7nm,0.6s,mb4.8								
AKASG	**Malin Array Be**		**75.55**	**322**	P	**P**	**17 26 58.0**	**-1.7**
comp=Z,1.7nm,0.5s,mb4.2,baz=86,slow=5.5,SNR=5.0								
FINES	**FINESS Array B**		**80.27**	**332**	P	**P**	**17 27 25.1**	**-0.5**
comp=Z,1.9nm,0.7s,mb4.1,baz=90,slow=5.7,SNR=5.8								
ARCES	**ARCESS Array B**		**82.79**	**340**	P	**P**	**17 27 37.9**	**-0.7**
comp=Z,4.8nm,0.9s,mb4.5,baz=68,slow=6.5,SNR=5.1								
GERES	**GERESS Array B**		**85.11**	**319**	P	**P**	**17 27 49.8**	**-0.8**
comp

s-min=16.8km az=49.0
*NEIC **28** 17:19:41.7±0.4,0.85N×97.87E,h30km,mb4.3/5,Error ellipse: s-maj=16.4km s-min=7.4km az=224.0*

ISC 28 17:19:40.7±0.7,**0.9N**±0.1×**97.9E**±0.1,**h33**km**,n20,** σ0§**71**/20,**mb4.1**/18,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**18.93**	**74**	*e*P	**P**	**17 24 01.5**	**-0.1**
WRA	**Warramunga Arr**	**41.26**	**122**	P	**P**	**17 27 25.9**	**+1.2**
	1.7nm,0.7s,mb3.8,baz=302,slow=9.1,SNR=3.9						
WRAB	**Tennant Creek**	**41.26**	**122**	*e*P	**P**	**17 27 24.4**	**-0.3**
	2.3nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**42.63**	**127**	P	**P**	**17 27 35.4**	**-0.7**
	1.3nm,0.7s,mb3.8,baz=295,slow=7.5,SNR=5.6						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**17 28 13.0**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=191,slow=9.3,SNR=4.6						
MKAR	**Makanchi Array**	**47.69**	**345**	P	**P**	**17 28 16.4**	**+0.4**
	2.0nm,0.5s,mb4.5,baz=160,slow=8.9,SNR=8.0						
HIA	**Hailar**	**51.67**	**18**	*e*P	**P**	**17 28 46.9**	**+0.4**
	5.0nm,0.6s,mb4.6						
KURK	**Kurchatov**	**52.26**	**345**	*e*P	**P**	**17 28 50.5**	**-0.3**
	2.0nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**52.62**	**132**	P	**P**	**17 28 53.3**	**-0.6**
	2.4nm,0.9s,mb4.2,baz=349,slow=16,SNR=2.7						
BVAR	**Borovoye Array**	**56.76**	**340**	P	**P**	**17 29 22.6**	**-1.1**
	1.3nm,0.6s,mb4.2,baz=124,slow=5.3,SNR=5.0						
CHKZ	**Chkalovo**	**57.23**	**341**	*e*P	**P**	**17 29 26.4**	**-0.7**
	3.8nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**69.85**	**312**	P	**P**	**17 30 49.0**	**-1.3**
	1.1nm,0.7s,mb3.9,baz=121,slow=7.2,SNR=5.4						
MA2	**Magadan**	**71.26**	**25**	*e*P	**P**	**17 30 58.4**	**-0.1**
	0.8nm,0.4s,mb4.0						
MLR	**Muntele Rosu**	**76.78**	**317**	P	**P**	**17 31 31.1**	**+0.3**
	1.1nm,0.4s,mb4.1,baz=84,slow=5.4,SNR=3.7						
FINES	**FINESS Array B**	**80.59**	**332**	P	**P**	**17 31 51.0**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=98,slow=5.5,SNR=5.6						
ARCES	**ARCESS Array B**	**83.05**	**340**	P	**P**	**17 32 03.6**	**-0.2**
	4.6nm,0.9s,mb4.5,baz=68,slow=6.5,SNR=5.7						
GERES	**GERESS Array B**	**85.51**	**319**	P	**P**	**17 32 17.5**	**+0.9**
	1.1nm,0.9s,mb4.1,baz=90,slow=5.3,SNR=7.6						
HFS	**Hagfors**	**86.33**	**330**	P	**P**	**17 32 21.7**	**+1.4**
	2.9nm,0.8s,mb4.5,baz=166,slow=6.1,SNR=5.8						
NB2	**NORSAR Subarra**	**87.61**	**331**	P	**P**	**17 32 27.5**	**+0.9**
	0.1nm,0.8s,mb3.1,baz=54,slow=5.6						
NOA	**NORSAR Array B**	**87.61**	**331**	P	**P**	**17 32 27.4**	**+0.9**
	1.3nm,0.9s,mb4.2,baz=94,slow=5.1,SNR=4.8						

*IDC **28** 17:20:44.4±7.3,1.04N×96.98E,mb4.2/7,mb1 4.2/7, mb1mx4.0/17,mbtmp4.2/7,Error ellipse: s-maj=178.3km s-min=57.6km az=139.0*
*NEIC **28** 17:20:49.3±2.9,1.12N×97.08E,h30km,mb4.5/4,Error ellipse: s-maj=69.1km s-min=24.8km az=155.0*

ISC 28 17:20:48.4±3.2,**1.3N**±0.5×**97.0E**±0.3,**h30**km**,n12,** σ0§**90**/12,**mb4.2**/11,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**17 27 05.1**	**-2.0**
	7.9nm,0.9s,mb4.5						
BJT	**Baijiatuau**	**42.31**	**22**	P	**P**	**17 28 42.5**	**+1.2**
	13nm,0.6s,mb4.7						
SONM	**Songino Array**	**47.08**	**9**	P	**P**	**17 29 19.4**	**0.0**
	3.1nm,0.6s,mb4.4,baz=191,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**17 29 20.4**	**+0.5**
	9.2nm,0.7s,mb4.8,baz=153,slow=8.1,SNR=12						
ULN	**Ulaanbaatar**	**47.21**	**9**	*e*P	**P**	**17 29 20.9**	**+0.4**
	3.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**51.67**	**345**	*e*P	**P**	**17 29 54.9**	**+0.2**
	4.3nm,0.7s,mb4.5						
BVAR	**Borovoye Array**	**56.12**	**341**	P	**P**	**17 30 26.9**	**-0.5**
	2.0nm,0.7s,mb4.3,baz=141,slow=9.2,SNR=5.1						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**17 31 51.5**	**-1.6**
	0.9nm,0.6s,mb3.9,baz=122,slow=6.4,SNR=4.2						
MA2	**Magadan**	**71.33**	**26**	P	**P**	**17 32 07.0**	**-0.2**
AKASG	**Malin Array Be**	**75.09**	**322**	P	**P**	**17 32 29.8**	**+0.4**
	0.2nm,0.4s,mb3.4,baz=89,slow=5.0,SNR=5.0						
FINES	**FINESS Array B**	**79.85**	**333**	P	**P**	**17 32 56.6**	**+1.1**
	1.0nm,0.6s,mb3.9,baz=104,slow=5.7,SNR=3.8						
GERES	**GERESS Array B**	**84.65**	**319**	P	**P**	**17 33 20.8**	**+0.2**
	0.5nm,0.8s,mb3.7,baz=76,slow=5.5,SNR=4.1						

*IDC **28** 17:22:32.6±1.6,0.16N×97.68E,mb4.5/11,mb1 4.5/11, mb1mx4.2/20,mbtmp4.5/11,Error ellipse: s-maj=76.2km s-min=15.7km az=53.0*
*NEIC **28** 17:22:37.2±0.7,0.18N×97.70E,h30km,mb4.6/5,Error ellipse: s-maj=22.7km s-min=8.5km az=55.0*

ISC 28 17:22:35.5±0.9,**0.2N**±0.1×**97.8E**±0.2,**h30**km**,n20,** σ0§**76**/19,**mb4.5**/16,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**19.30**	**72**	*e*P	**P**	**17 27 01.7**	**+0.5**
ENH	**Enshi**	**31.89**	**19**	P	**P**	**17 28 59.4**	**-1.2**
	3.8nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**32.92**	**125**	P	**P**	**17 29 07.9**	**-1.7**
	8.1nm,0.8s,mb4.7,baz=155,slow=4.5,SNR=6.5						
WRA	**Warramunga Arr**	**41.05**	**121**	P	**P**	**17 30 17.4**	**-0.9**
	6.2nm,0.5s,mb4.5,baz=302,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**41.06**	**121**	*e*P	**P**	**17 30 18.7**	**+0.4**
	11nm,0.5s,mb4.7						
ASAR	**Alice Springs**	**42.37**	**127**	P	**P**	**17 30 29.6**	**+0.5**
	5.2nm,0.6s,mb4.3,baz=303,slow=7.8,SNR=20						
SONM	**Songino Array**	**48.00**	**8**	P	**P**	**17 31 14.2**	**+0.4**
	5.6nm,0.8s,mb4.7,baz=190,slow=8.9,SNR=10.0						
ULN	**Ulaanbaatar**	**48.12**	**8**	*e*P	**P**	**17 31 15.5**	**+0.8**
	2.7nm,0.7s,mb4.4						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**17 31 16.9**	**+0.8**
	6.1nm,0.7s,mb4.8,baz=160,slow=8.9,SNR=9.9						
PMG	**Port Moresby**	**50.10**	**102**	P	**P**	**17 31 30.3**	**0.0**
	15nm,0.7s,mb5.1,baz=88,slow=22,SNR=6.7						
STKA	**Stephens Creek**	**52.30**	**132**	P	**P**	**17 31 47.4**	**+0.6**
	1.5nm,0.6s,mb4.1,baz=313,slow=9.5,SNR=3.1						
STKA	**Stephens Creek**	**52.30**	**132**	P	**P**	**17 31 47.4**	**+0.6**
KURK	**Kurchatov**	**52.86**	**345**	*e*P	**P**	**17 31 50.5**	**-0.2**
	1.9nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**57.34**	**341**	P	**P**	**17 32 22.1**	**-1.1**
	2.2nm,0.8s,mb4.2,baz=141,slow=9.5,SNR=4.3						
YAK	**Yakutsk**	**66.19**	**16**	*e*P	**P**	**17 33 21.7**	**-0.7**
	13nm,0.9s,mb5.0						
DZM	**Mont Dzumac**	**70.39**	**113**	P	**P**	**17 33 50.0**	**+0.8**
	1.4nm,0.6s,mb4.0,baz=74,slow=21,SNR=3.1						
MA2	**Magadan**	**71.96**	**25**	*e*P	**P**	**17 33 58.0**	**0.0**
FINES	**FINESS Array B**	**81.11**	**333**	P	**P**	**17 34 49.3**	**0.0**
	0.7nm,0.6s,mb3.8,baz=117,slow=4.3,SNR=3.8						
KECS	**Kecovo**	**81.40**	**319**	*es*P	sP	17 35 06.2	+2.5
ARCES	**ARCESS Array B**	**83.63**	**340**	P	**P**	**17 35 02.8**	**+0.7**
	3.6nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=4.3						

*IDC **28** 17:23:27.8±0.4,2.85N×98.76E,mb4.9/27,mb1 5.0/27, mb1mx5.0/28,mbtmp4.9/27,Error ellipse: s-maj=20.7km s-min=10.2km az=45.0*
*MOS **28** 17:23:31.9±1.1,2.92N×98.76E,h33km,mb5.4/18,Error ellipse: s-maj=16.1km s-min=7.5km az=128.1*
*NEIC **28** 17:23:32.8±0.2,2.84N×98.76E,h30km,mb5.2/33,Error ellipse: s-maj=6.9km s-min=4.4km az=215.0*
*BJI **28** 17:23:32.8,2.80N×98.80E,h30km,mb5.0*

ISC 28 17:23:29.7±3.2,**2.80N**±0.05×**98.77E**±0.05,**h20**km±22km**,** **h18**km±1.6km**:pP-P,n135,**σ1§**05**/131,**mb5.0**/58,**5C-5D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.10**	**37**	*e*Pn	**Pn**	**17 24 20.1**	**+1.3**
KSM	**Kuching**	**11.61**	**96**	Pn	**P**	**17 26 16.4**	**-1.2**
KKM	**Kota Kinabalu**	**17.69**	**79**	P	**P**	**17 27 38.6**	**+1.7**
PALK	**Pallekele**	**18.53**	**285**	*e*P	**P**	**17 27 47.0**	**-0.3**
	84nm,1.0s						
QIZ	**Qiongzhong**	**19.43**	**33**	P	**P**	**17 27 57.0**	**-0.9**
	158nm,1.5s						
QIZ				*e*pPn		17 28 03.6	
HYB	**Hyderabad**	**24.59**	**308**	*e*P	**P**	**17 28 58.0**	**+7.9**
HYB	**Hyderabad**	**24.59**	**308**	*i* P	**P**	**17 28 58.0**	**+7.9**
GYA	**Guiyang**	**24.71**	**17**	⇑*i*P	**P**	**17 28 54.0**	**+2.8**
GYA				AMB	AMB		
	comp=Z,50nm,1.2s,mb4.9						
ENH	**Enshi**	**29.15**	**19**	*e*P	**P**	**17 29 31.9**	**-0.1**
	comp=Z,49nm,1.0s,mb5.2						
XAN	**Xi'an**	**32.49**	**16**	P	**P**	**17 30 03.8**	**+2.4**
XAN				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.65**	**129**	*e*P	**P**	**17 30 10.1**	**-1.5**
	comp=Z,27nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.65**	**129**	P	**P**	**17 30 08.9**	**-2.7**
	comp=Z,55nm,1.1s,mb5.4,baz=332,slow=4.2,SNR=12						
SMLA	**Simla**	**34.78**	**326**	*i*	**P**	**17 30 12.6**	**-8.7**
SMLA				*i*		17 30 56.2	
KAKA	**Kakadu**	**36.82**	**115**	⇑*i*P	**P**	**17 30 38.2**	**-0.4**
	comp=Z,75nm,0.9s,mb5.5						
NWAO	**Narrogin (SRO)**	**39.60**	**155**	P	**P**	**17 31 01.8**	**0.0**
	comp=Z,31nm,1.1s,mb4.9,baz=331,slow=13,SNR=7.8						
BJT	**Baijiatuau**	**40.27**	**21**	*e*P	**P**	**17 31 05.7**	**-1.5**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BJT	**Baijiatuau**	**40.27**	**21**	*e*P	**P**	**17 31 05.7**	**-1.4**
	comp=Z,9.3nm,0.7s,mb4.6						
BJT				*e*pP	pP	17 31 10.6	-2.7
WRA	**Warramunga Arr**	**41.59**	**124**	P	**P**	**17 31 17.8**	**-0.5**
	comp=Z,19nm,0.7s,mb4.9,baz=300,slow=9.2,SNR=20						
WRAB	**Tennant Creek**	**41.60**	**124**	*e*P	**P**	**17 31 18.4**	**-0.1**
	comp=Z,30nm,0.6s,mb5.1						
WB2	**Warramunga Arr**	**41.60**	**124**	*e*P	**P**	**17 31 18.6**	**+0.2**
WMQ	**Urumqi**	**42.01**	**348**	*e*P	**P**	**17 31 22.5**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,23nm,1.3s,mb4.7						
ASPA	**Alice Springs**	**43.15**	**130**	*e*P	**P**	**17 31 30.8**	**-0.2**
ASAR	**Alice Springs**	**43.15**	**130**	P	**P**	**17 31 30.0**	**-1.1**
	comp=Z,26nm,1.0s,mb4.9,baz=299,slow=6.8,SNR=32						
WBK	**Wadi Bani Khal** SNR=8.4	**43.31**	**300**	P	**P**	**17 31 34.1**	**+1.7**
SHAO	**Shalim** SNR=12	**44.90**	**293**	P	**P**	**17 31 46.0**	**+0.8**
SONM	**Songino Array**	**45.34**	**7**	P	**P**	**17 31 49.3**	**+0.9**
	comp=Z,6.2nm,1.1s,mb4.4,baz=200,slow=7.2,SNR=7.4						
ARQ	**Araqi** SNR=9.0	**45.68**	**300**	P	**P**	**17 31 52.4**	**+1.0**
RBK	**Rabkut** SNR=10.0	**46.09**	**292**	P	**P**	**17 31 55.3**	**+0.6**
MKAR	**Makanchi Array**	**46.11**	**344**	P	**P**	**17 31 53.8**	**-0.7**
	comp=Z,10nm,0.9s,mb4.8,baz=162,slow=7.7,SNR=9.7						
ASHO	**Ashiah** SNR=7.4	**46.54**	**302**	P	**P**	**17 31 58.8**	**+0.6**
WHFO	**Wadi Hawf** SNR=17	**46.58**	**292**	P	**P**	**17 31 58.8**	**+0.2**
ABTO	**Aybut** SNR=14	**46.90**	**291**	P	**P**	**17 32 01.4**	**+0.4**
CN2	**Changchun**	**47.18**	**26**	*e*P	**P**	**17 32 03.0**	**0.0**
CN2				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.1						
ZAK	**Zakamensk**	**47.57**	**4**	⇓*i*P	**P**	**17 32 05.6**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
PMG	**Port Moresby**	**49.72**	**105**	P	**P**	**17 32 23.5**	**+0.4**
	comp=Z,39nm,1.0s,mb5.4,baz=276,slow=5.9,SNR=4.5						
KURK	**Kurchatov**	**50.69**	**344**	*e*P	**P**	**17 32 28.5**	**-1.5**
KURK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
KURK	**Kurchatov**	**50.69**	**344**	*e*P	**P**	**17 32 28.5**	**-1.5**
	comp=Z,17nm,1.1s,mb4.9						
CTA	**Charters Tower**	**51.84**	**118**	*e*P	**P**	**17 32 39.4**	**+0.3**
	comp=Z,12nm,1.2s,mb4.7						
CTA	**Charters Tower**	**51.84**	**118**	*e*P	**P**	**17 32 39.4**	**+0.3**
CTA				pmax	pmax		
	comp=Z,12nm,1.2s						
CTA	**Charters Tower**	**51.84**	**118**	P	**P**	**17 32 39.0**	**-0.1**
	comp=Z,9.8nm,1.0s,mb4.7,baz=300,slow=6.6,SNR=4.8						
CTAO	**Charters Tower**	**51.84**	**118**	*e*P	**P**	**17 32 38.8**	**-0.3**
CTAO				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**51.84**	**118**	*e*P	**P**	**17 32 38.8**	**-0.3**
	comp=Z,36nm,1.2s,mb5.2						
STKA	**Stephens Creek**	**53.29**	**134**	*e*P	**P**	**17 32 49.1**	**-0.7**
	comp=Z,10nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**53.29**	**134**	P	**P**	**17 32 48.3**	**-1.5**
	comp=Z,8.5nm,0.9s,mb4.7,baz=302,slow=8.5,SNR=6.2						
BVAR	**Borovoye Array**	**55.28**	**340**	P	**P**	**17 33 01.0**	**-3.1**
	comp=Z,4.9nm,0.8s,mb4.6,baz=141,slow=9.5,SNR=10						
ATD	**Arta Tunnel**	**56.07**	**282**	P	**P**	**17 33 09.3**	**-0.9**
	comp=Z,11nm,0.9s,mb4.9,baz=216,slow=22,SNR=6.8						
DGRG	**David-gareji**	**61.33**	**317**	P	**P**	**17 33 46.4**	**-0.2**
DGRG				S	PcP	17 34 28.5	-0.1
KMBO	**Kilima Mbogo**	**61.62**	**267**	P	**P**	**17 33 48.1**	**-0.8**
	comp=Z,9.1nm,0.9s,mb4.9,baz=60,slow=9.5,SNR=18						
HNR	**Honiara**	**62.15**	**102**	*e*P	**P**	**17 33 52.5**	**+0.1**
HNR				pmax	pmax		
	comp=Z,770nm,1.9s						
HNR	**Honiara**	**62.15**	**102**	*e*P	**P**	**17 33 52.5**	**0.0**
	comp=Z,770nm,1.9s						
KIV	**Kislovodsk**	**64.15**	**318**	*e*P	**P**	**17 34 03.7**	**-1.5**
KIV				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.5						
KIV	**Kislovodsk**	**64.15**	**318**	*e*P	**P**	**17 34 03.6**	**-1.6**
	comp=Z,56nm,1.2s,mb5.5						
GOF	**Gofitskoye**	**64.35**	**319**	⇑*i*P	**P**	**17 34 04.8**	**-1.8**
GOF				pmax	pmax		
	comp=Z,40nm,1.3s,mb5.3						
ASF	**Jabal al Asfar**	**64.85**	**304**	P	**P**	**17 34 09.9**	**-0.1**
	comp=Z,17nm,1.1s,mb5.0,baz=342,slow=2.5,SNR=8.7						
MALT	**Malatya**	**65.24**	**311**	*e*P	**P**	**17 34 11.8**	**-0.7**
MALT				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
MALT	**Malatya**	**65.24**	**311**	*e*P	**P**	**17 34 11.8**	**-0.6**
	comp=Z,19nm,1.1s,mb5.0						
EIL	**Elat**	**65.95**	**301**	P	**P**	**17 34 16.4**	**-0.8**
	comp=Z,26nm,1.1s,mb5.2,baz=47,slow=3.1,SNR=8.7						
SOC	**Sochi**	**66.01**	**317**	*e*P	**P**	**17 34 14.6**	**-2.6**
MBAR	**Mbarara**	**68.09**	**268**	*e*P	**P**	**17 34 29.9**	**-1.0**
MBAR				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.2						
MBAR	**Mbarara**	**68.09**	**268**	*e*P	**P**	**17 34 29.9**	**-1.1**
	comp=Z,36nm,1.4s,mb5.2						
CSS	**Prodhromos**	**68.37**	**307**	P	**P**	**17 34 32.1**	**-0.2**
	comp=Z,49nm,1.4s,mb5.3						
BRTR	**Keskin Array B**	**69.22**	**312**	P	**P**	**17 34 36.0**	**-1.5**
	comp=Z,11nm,0.8s,mb4.8,baz=125,slow=6.1,SNR=32						
MA2	**Magadan**	**69.22**	**25**	*e*P	**P**	**17 34 37.6**	**+0.4**
MA2				pmax	pmax		
	comp=Z,28nm,1.5s,mb5.0						
MA2	**Magadan**	**69.22**	**25**	*e*P	**P**	**17 34 37.5**	**+0.4**
	comp=Z,28nm,1.5s,mb5.0						
CASY	**Casey**	**69.44**	**175**	P	**P**	**17 34 39.4**	**+1.0**
	comp=Z,24nm,0.3s,mb5.6						
SIM	**Simferopol'**	**70.26**	**317**	*e*P	**P**	**17 34 42.8**	**-0.9**
DZM	**Mont Dzumac**	**70.50**	**114**	P	**P**	**17 34 45.5**	**-0.1**
	comp=Z,5.0nm,1.0s,mb4.4,baz=66,slow=18,SNR=3.4						
MOS	**Moscow**	**71.78**	**329**	*e*P	**P**	**17 34 50.4**	**-2.3**
MOS				*e*	pP	17 34 55.8	-3.3
MOS				*e*		17 44 49.4	
MOS				pmax	pmax		
	comp=Z,112nm,1.3s,mb5.6						
OBN	**Obninsk**	**72.10**	**328**	*e*P	**P**	**17 34 52.7**	**-1.9**
OBN				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
OBN	**Obninsk**	**72.10**	**328**	*e*P	**P**	**17 34 52.8**	**-1.9**
	comp=Z,109nm,1.3s,mb5.6						
CFR	**Carcaliu**	**74.42**	**316**	⇓P	**P**	**17 35 06.8**	**-1.6**
MAW	**Mawson**	**74.62**	**193**	P	**P**	**17 35 10.3**	**+1.2**
	comp=Z,8.9nm,0.9s,mb4.7,baz=29,slow=2.4,SNR=6.1						
AKASG	**Malin Array Be**	**74.97**	**322**	P	**P**	**17 35 09.8**	**-1.6**
	comp=Z,8.0nm,0.9s,mb4.7,baz=88,slow=4.9,SNR=27						
IDI	**Anoyia**	**75.24**	**306**	P	**P**	**17 35 12.5**	**-0.9**
	comp=Z,7.1nm,0.8s,mb4.7,baz=126,slow=8.7,SNR=2.1						
VRI	**Vrricioaia**	**75.53**	**317**	⇓*i*P	**P**	**17 35 14.9**	**+0.1**
MLR	**Muntele Rosu**	**76.00**	**316**	P	**P**	**17 35 16.9**	**-0.6**
	comp=Z,25nm,1.1s,mb5.1,baz=88,slow=1.3,SNR=14						
MLR	**Muntele Rosu**	**76.00**	**316**	⇓*i*P	**P**	**17 35 17.3**	**-0.2**
MLR	**Muntele Rosu**	**76.00**	**316**	⇓*i*P	**P**	**17 35 17.3**	**-0.1**
LBTB	**Lobatse**	**76.00**	**244**	*e*P	**P**	**17 35 18.0**	**+0.1**
LBTB				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.3						
LBTB	**Lobatse**	**76.00**	**244**	*e*P	**P**	**17 35 18.0**	**+0.1**
	comp=Z,48nm,1.2s,mb5.3						
BURAR	**Bucovina Array**	**76.88**	**318**	⇑P	**P**	**17 35 23.2**	**+0.9**
BOSA	**Boshof**	**76.93**	**240**	P	**P**	**17 35 22.9**	**-0.1**
	comp=Z,21nm,1.1s,mb5.0,baz=85,slow=4.3,SNR=16						
BZS	**Buzias**	**79.02**	**316**	⇑P	**P**	**17 35 34.2**	**+0.1**
KOLS	**Kolonicke sedl**	**79.03**	**319**	*i* P	**P**	**17 35 35.2**	**+1.1**
SUW	**Suwalki**	**79.29**	**324**	*e*P	**P**	**17 35 34.5**	**-0.9**
SUW				pmax	pmax		
	comp=Z,104nm,1.3s,mb5.6						
SUW	**Suwalki**	**79.29**	**324**	*e*P	**P**	**17 35 34.5**	**-0.9**
	comp=Z,104nm,1.3s,mb5.6						
FINES	**FINESS Array B**	**79.32**	**332**	P	**P**	**17 35 34.8**	**-0.6**
	comp=Z,9.9nm,0.5s,mb4.4,baz=72,slow=6.0,SNR=13						
KAF	**Kangasniemi**	**79.38**	**333**	*ep*	**P**	**17 35 33.9**	**-1.8**
	comp=Z,13nm,0.8s,mb4.9						
KAF	**Kangasniemi**	**79.38**	**333**	*e*P	**P**	**17 35 33.9**	**-1.8**
KAF				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
PSZ	**Piszkesteto**	**80.47**	**318**	*e*P	**P**	**17 35 41.5**	**-0.4**
PSZ				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
PSZ	**Piszkesteto**	**80.47**	**318**	*e*P	**P**	**17 35 41.5**	**-0.4**
	comp=Z,13nm,1.2s,mb4.7						
SUR	**Sutherland**	**81.34**	**237**	*e*P	**P**	**17 35 48.9**	**+2.1**
	comp=Z,30nm,1.1s,mb5.1						
ARCES	**ARCESS Array B**	**81.57**	**340**	P	**P**	**17 35 48.2**	**+0.9**
	comp=Z,8.3nm,0.9s,mb4.7,baz=92,slow=4.0,SNR=7.9						
OKC	**Ostrava-Krasne**	**81.82**	**320**	*e*P	**P**	**17 35 50.1**	**+1.2**
DPC	**Dobruska-Polom**	**83.03**	**320**	*e*P	**P**	**17 35 55.5**	**+0.3**
KSP	**Ksiaz**	**83.08**	**321**	*e*P	**P**	**17 35 55.8**	**+0.4**
UPC	**Upice**	**83.24**	**320**	*e*P	**P**	**17 35 56.4**	**+0.2**
PRU	**Pruhonice**	**84.15**	**320**	*e*P	**P**	**17 36 02.6**	**+1.7**
PVCC	**Panska Ves**	**84.16**	**320**	*e*P	**P**	**17 36 01.8**	**+0.9**
BRG	**Berggiesshubel**	**84.57**	**321**	*i* P	**P**	**17 36 04.1**	**+1.1**
BRG				*i*	pP	17 36 10.9	+1.5
BRG				pmax	pmax		
	comp=Z,47nm,1.9s,mb5.3						
BRG				MLR	MLR		
	comp=Z,185μm,23.9s						
BRG	**Berggiesshubel**	**84.57**	**321**	*i* P	**P**	**17 36 04.1**	**+1.1**
	comp=Z,47nm,1.9s,mb5.3						
BRG				*i*	pP	17 36 10.9	+1.5
BRG				*i*		17 36 46.6	
BRG				*i*		17 36 55.2	
BRG				LR	LR		
	comp=Z,185μm,23.9s						
GEC2	**GERESS Array S**	**84.66**	**319**	*e*P	**P**	**17 36 04.0**	**+0.6**
GEC2				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0						
GEC2	**GERESS Array S**	**84.66**	**319**	*e*P	**P**	**17 36 04.0**	**+0.6**
	comp=Z,20nm,1.5s,mb5.0						
GERES	**GERESS Array B**	**84.66**	**319**	P	**P**	**17 36 02.7**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.2,baz=90,slow=2.7,SNR=14						
KHC	**Kasperske Hory**	**84.75**	**319**	*e*P	**P**	**17 36 05.5**	**+1.6**
HFS	**Hagfors**	**85.13**	**330**	P	**P**	**17 36 04.5**	**-1.0**
	comp=Z,14nm,1.1s,mb5.0,baz=90,slow=7.4,SNR=14						
CLL	**Collm**	**85.18**	**321**	*e*P	**P**	**17 36 08.0**	**+2.0**
CLL				*e*	pP	17 36 13.0	+0.5
CLL	**Collm**	**85.18**	**321**	P	**P**	**17 36 08.0**	**+2.0**
CLL				*e*PP	pP	17 36 13.0	+0.5
WET	**Wettzell**	**85.20**	**319**	*e*P	**P**	**17 36 06.5**	**+0.3**
NKC	**Novy Kostel**	**85.51**	**320**	*e*P	**P**	**17 36 08.1**	**+0.5**
MOX	**Moxa**	**86.04**	**320**	*e*P	**P**	**17 36 11.3**	**+1.0**
MOX	**Moxa**	**86.04**	**320**	*i* P	**P**	**17 36 11.3**	**+1.0**
GRA1	**Grafenberg Arr**	**86.29**	**319**	*e*P	**P**	**17 36 12.3**	**+0.7**
	comp=Z,4.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**86.29**	**319**	*e*P	**P**	**17 36 12.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**86.29**	**319**	*e*P	**P**	**17 36 12.3**	**+0.7**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.6						
GRF	**Grafenberg Arr**	**86.29**	**319**	*e*P	**P**	**17 36 12.3**	**+0.7**
	comp=Z,4.0nm,1.0s,mb4.6						
NB2	**NORSAR Subarra**	**86.38**	**331**	P	**P**	**17 36 11.1**	**-0.6**

comp=Z,46nm,1.1s,mb5.2
LGTI Lohaghat 31.87 331 *e*P **P** **17 30 41.0 +0.4**
PTH Pithoragarh 31.97 331 *e*P **P** **17 30 42.2 +0.8**
PTH *e* 17 35 34.2
NACB Ninganchiao 32.47 45 *e*P **P** **17 30 45.9 +0.1**
NDI New Delhi 32.82 326 *e*P **P** **17 30 47.0 -1.8**
WHN Wuhan 32.92 28 ⇑P **P** **17 30 49.5 -0.2**
XAN Xi'an 33.92 18 P **P** **17 30 57.0 -1.4**
XAN AMB AMB
comp=Z,163nm,1.0s,mb5.9
FITZ Fitzroy Crossi 34.31 126 *e*P **P** **17 31 01.2 -0.6**
comp=Z,24nm,0.8s,mb5.2
FITZ Fitzroy Crossi 34.31 126 P **P** **17 31 01.0 -0.8**
comp=Z,28nm,0.8s,mb5.3,baz=311,slow=2.4,SNR=9.5
LZH Lanzhou 34.69 10 ⇑P **P** **17 31 04.5 -0.4**
LZH AP pP 17 31 13.0 -0.9
LZH XP sP 17 31 17.3 -0.5
LZH AMB AMB
comp=Z,220nm,1.4s,mb5.9
PONG Pong 36.06 329 *e*P **P** **17 31 17.0 +0.4**
PONG *e* 17 36 10.0
NJ2 Nanjing 36.39 32 *e*P **P** **17 31 19.5 +0.1**
NJ2 AP pP 17 31 29.3 +0.9
NJ2 XP sP 17 31 34.3 +2.1
NJ2 PP PP 17 32 44.8 +1.5
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,2µm,8.0s
THN Thein Dam 36.56 329 *e*P **P** **17 31 19.7 -1.1**
comp=Z,38nm,0.9s,mb5.2
GTA Gaotai 37.53 3 *e*P **P** **17 31 27.8 -1.1**
GTA AP pP 17 31 37.3 -0.6
GTA AMB AMB
comp=Z,130nm,1.1s,mb5.6
KAKA Kakadu 37.87 113 *e*P **P** **17 31 30.9 -1.1**
comp=Z,24nm,0.4s,mb5.3
JOW Kunigami 38.88 47 P **P** **17 31 39.5 -0.8**
comp=Z,39nm,0.9s,mb5.1,baz=213,slow=8.4,SNR=7.0
TIA Tai'an 38.93 26 *e*P **P** **17 31 39.8 -0.9**
TIA AMB AMB
comp=Z,71nm,1.1s,mb5.3
HHC Hu-ho-hao-te 41.01 17 *e*P **P** **17 31 59.5 +1.7**
HHC AP pP 17 32 09.0 +2.1
HHC PP PP 17 33 39.0 +3.7
HHC PCP PcP 17 33 59.8 +1.7
HHC AMB AMB
comp=Z,73nm,1.7s,mb5.0
BJT Baijiatuau 41.80 22 *e*P **P** **17 32 05.4 +1.1**
BJT pmax pmax
comp=Z,310nm,1.0s
BJT Baijiatuau 41.80 22 *e*P **P** **17 32 05.4 +1.1**
comp=Z,310nm,1.0s,mb5.9
BJI Beijing 41.82 22 P **P** **17 32 05.5 +1.1**
BJI AMB AMB
comp=Z,253nm,0.9s,mb5.8
KSH Kashi 42.22 335 *e*P **P** **17 32 07.5 -0.3**
WRA Warramunga Arr 42.38 122 P **P** **17 32 09.4 0.0**
comp=Z,18nm,0.6s,mb4.9,baz=304,slow=9.0,SNR=16
WRAB Tennant Creek 42.39 122 *e*P **P** **17 32 09.2 -0.2**
WRAB pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
WRAB Tennant Creek 42.39 122 *e*P **P** **17 32 09.2 -0.2**
comp=Z,7.7nm,0.4s,mb4.7
WB2 Warramunga Arr 42.39 122 *e*P **P** **17 32 09.7 +0.3**
WMQ Urumqi 42.69 350 P **P** **17 32 11.5 -0.1**
WMQ AP pP 17 32 21.0 +0.3
WMQ PP PP 17 33 54.0 +0.9
WMQ PPP PPP 17 34 27.0 -0.1
WMQ AMB AMB
comp=Z,45nm,1.0s,mb5.2
WMQ LR LR
comp=N,2µm,25.2s,MS5.1
WMQ LR LR
comp=E,2µm,23.0s,MS5.1
DL2 Dalian 43.19 28 P **P** **17 32 16.3 +0.7**
DL2 AMB AMB
comp=Z,90nm,1.0s,mb5.5
FORT Forrest 43.75 140 *e*P **P** **17 32 22.1 +1.8**
comp=Z,1µm,0.6s
ASPA Alice Springs 43.78 128 *e*P **P** **17 32 20.8 +0.1**
ASAR Alice Springs 43.78 128 P **P** **17 32 20.8 +0.1**
comp=Z,7.8nm,0.5s,mb4.7,baz=297,slow=7.0,SNR=15
ULHL Ulahol 44.44 338 P **P** **17 32 27.1 +1.3**
SNR=5.8
KZA Kyzart 44.68 337 P **P** **17 32 29.1 +1.3**
SNR=7.0
TKM2 Tokmak 2 45.26 338 P **P** **17 32 33.4 +1.0**
SNR=12
KBK Karagaybulak 45.29 337 P **P** **17 32 34.1 +1.5**
SNR=11
KS15 Wonju Array Si 45.37 35 *e*P **P** **17 32 33.1 -0.1**
AAK Ala-Archa 45.45 336 *i* P **P** **17 32 34.3 +0.5**
AAK pmax pmax
comp=Z,28nm,1.0s,mb5.0
AAK Ala-Archa 45.45 336 *e*P **P** **17 32 33.9 +0.1**
comp=Z,85nm,1.4s,mb5.4
CHMS Chumysh 45.66 337 P **P** **17 32 36.0 +0.6**
SNR=8.5
EKS2 Erkin-Say 45.76 336 P **P** **17 32 37.4 +1.1**
SNR=19
USP Ospenovka 45.98 337 P **P** **17 32 38.8 +0.8**
SNR=20
SNY Shenyang 46.41 27 ⇑P **P** **17 32 42.3 +0.9**
SNY AMB AMB
comp=Z,280nm,1.2s,mb6.1
SONM Songino Array 46.56 9 P **P** **17 32 43.2 +0.6**
comp=Z,32nm,0.7s,mb5.4,baz=191,slow=9.7,SNR=62
SONM PcP PcP 17 34 16.1 -0.8
comp=Z,8.3nm,0.7s,baz=199,slow=3.7,SNR=7.2
MKAR Makanchi Array 46.67 346 P **P** **17 32 43.5 +0.2**
comp=Z,147nm,0.8s,mb6.0,baz=159,slow=7.6,SNR=73
MKAR PcP PcP 17 34 17.1 -0.1
comp=Z,8.7nm,0.8s,baz=135,slow=4.1,SNR=2.1
ULN Ulaanbaatar 46.70 9 *i* P **P** **17 32 44.4 +0.8**
CN2 Changchun 48.81 27 *e*P **P** **17 32 59.3 -0.8**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
MOY Mondy 49.81 3 *e*P **P** **17 33 08.6 +0.8**
TLY Talaya 50.02 5 *e*P **P** **17 33 09.7 +0.4**
TLY pmax pmax
comp=Z,34nm,0.8s,mb5.4
TLY Talaya 50.02 5 *i* P **P** **17 33 09.4 +0.1**
IRK Irkutsk 50.63 6 *e*P **P** **17 33 13.8 -0.2**
PMG Port Moresby 51.03 104 P **P** **17 33 16.4 -1.1**
PMG Port Moresby 51.03 104 P **P** **17 33 16.3 -1.2**
comp=Z,13nm,0.5s,mb5.1,baz=310,slow=9.6,SNR=10
HIA Hailar 51.10 19 *e*P **P** **17 33 17.4 -0.2**
HIA pmax pmax
comp=Z,11nm,0.8s
HIA Hailar 51.10 19 *e*P **P** **17 33 17.4 -0.2**
comp=Z,11nm,0.8s,mb4.8
KURK Kurchatov 51.22 345 *e*P **P** **17 33 18.2 -0.3**
KURK pmax pmax
comp=Z,113nm,1.0s,mb5.8
KURK Kurchatov 51.22 345 *e*P **P** **17 33 18.2 -0.3**
comp=Z,113nm,1.0s,mb5.8
MAJO Matsushiro 51.29 43 *e*P **P** **17 33 19.4 +0.2**
MAJO pmax pmax
comp=Z,107nm,1.4s,mb5.6
MAJO Matsushiro 51.29 43 *e*P **P** **17 33 19.4 +0.1**
comp=Z,107nm,1.4s,mb5.6
MAT Matsushiro 51.29 43 *e*P **P** **17 33 18.0 -1.2**
MAT Matsushiro 51.29 43 P **P** **17 33 17.6 -1.6**
MDJ Mudanjiang 51.38 29 P **P** **17 33 19.3 -0.5**
MDJ AMB AMB
comp=Z,23nm,1.1s,mb5.0
CTA Charters Tower 52.80 117 *e*P **P** **17 33 31.0 +0.2**
comp=Z,15nm,0.8s,mb5.0
CTA Charters Tower 52.80 117 *e*P **P** **17 33 31.0 +0.2**
CTA pmax pmax
comp=Z,15nm,0.8s
CTA Charters Tower 52.80 117 P **P** **17 33 30.1 -0.7**
comp=Z,19nm,0.8s,mb5.1,baz=299,slow=8.4,SNR=15
CTAO Charters Tower 52.80 117 *e*P **P** **17 33 30.4 -0.4**
CTAO pmax pmax
comp=Z,12nm,0.8s,mb4.9
CTAO Charters Tower 52.80 117 *e*P **P** **17 33 30.4 -0.4**
comp=Z,12nm,0.8s,mb4.9
STKA Stephens Creek 53.78 132 *e*P **P** **17 33 38.0 +0.2**
comp=Z,16nm,1.0s,mb4.9
STKA Stephens Creek 53.78 132 P **P** **17 33 37.9 0.0**
comp=Z,6.6nm,0.3s,mb5.0,baz=312,slow=7.1,SNR=24
NVS Novosibirsk 54.10 350 *i* P **P** **17 33 38.4 -1.4**
NVS *i* S **S** **17 41 13.5 +0.8**
NVS pmax pmax
comp=N,85nm,1.0s
NVS pmax pmax
comp=E,45nm,1.0s
NVS pmax pmax
comp=Z,133nm,1.0s,mb5.8
NVS smax
comp=N,20nm,1.7s
NVS smax
comp=E,59nm,1.7s
ATD Arta Tunnel 54.71 283 P **P** **17 33 44.9 0.0**
comp=E,33nm,1.1s,mb5.3,baz=321,slow=1.0,SNR=9.2
BVA0 Borovoye Array 55.69 341 *i* P **P** **17 33 50.2 -1.3**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BVAR Borovoye Array 55.69 341 P **P** **17 33 50.3 -1.2**
comp=Z,41nm,0.8s,mb5.5,baz=135,slow=8.4,SNR=20
CHKZ Chkalovo 56.16 341 *e*P **P** **17 33 53.9 -1.0**
CHKZ pmax pmax
comp=Z,94nm,0.9s,mb5.8
CHKZ Chkalovo 56.16 341 *e*P **P** **17 33 53.9 -1.0**
comp=Z,94nm,0.9s,mb5.8
CLNS Chul'man 59.20 17 *e*P **P** **17 34 15.7 -0.5**
CLNS pmax pmax
comp=Z,79nm,1.1s,mb5.7
CLNS pmax pmax
comp=N,28nm,0.8s
CLNS pmax pmax
comp=E,56nm,1.1s
YSS Yuzh-Sakhalins 59.89 34 ⇑*i*P **P** **17 34 20.0 -1.1**
YSS pmax pmax
comp=Z,180nm,1.1s,mb6.0
YSS Yuzh-Sakhalins 59.89 34 *e*P **P** **17 34 20.8 -0.3**
comp=Z,214nm,1.1s,mb6.1
KMBO Kilima Mbogo 59.97 268 *e*P **P** **17 34 21.9 -0.2**
KMBO pmax pmax
comp=Z,13nm,0.8s
KMBO Kilima Mbogo 59.97 268 P **P** **17 34 21.7 -0.4**
comp=Z,12nm,0.8s,mb5.0,baz=53,slow=10,SNR=12
KMBO Kilima Mbogo 59.97 268 *e*P **P** **17 34 21.9 -0.2**
comp=Z,13nm,0.8s,mb5.0
GNI Garni 60.84 316 P **P** **17 34 27.2 -0.5**
GNI pmax pmax
comp=Z,24nm,0.8s
GNI Garni 60.84 316 P **P** **17 34 27.4 -0.3**
comp=Z,18nm,0.8s,mb5.3,baz=137,slow=9.5,SNR=3.5
GNI Garni 60.84 316 P **P** **17 34 27.1 -0.6**
comp=Z,24nm,0.8s,mb5.4
ZEI Tsey 62.53 318 *i* P **P** **17 34 35.2 -3.9**
ZEI *i* *PP pP 17 34 45.4 -3.1
ZEI pmax pmax
comp=Z,17nm,0.8s,mb5.2
ARU Arti 62.63 337 *e*P **P** **17 34 37.9 -1.6**
ARU *e* 17 36 57.5
ARU *e*S **S** **17 43 08.3 +4.4**
ARU Arti 62.63 337 *i* P **P** **17 34 38.2 -1.3**
KIV Kislovodsk 63.84 319 *e*P **P** **17 34 46.1 -1.6**
KIV pmax pmax
comp=Z,90nm,1.1s,mb5.7
KIV Kislovodsk 63.84 319 *e*P **P** **17 34 46.1 -1.5**
comp=Z,90nm,1.1s,mb5.7
ASF Jabal al Asfar 64.09 305 P **P** **17 34 49.3 -0.3**
comp=Z,12nm,0.8s,mb5.0,baz=346,slow=5.2,SNR=8.9
MALT Malatya 64.71 312 *e*P **P** **17 34 53.1 -0.3**
MALT pmax pmax
comp=Z,27nm,1.0s,mb5.2
MALT Malatya 64.71 312 *e*P **P** **17 34 53.1 -0.3**
comp=Z,27nm,1.0s,mb5.2
YAK Yakutsk 64.88 16 *e*P **P** **17 34 52.3 -1.8**
YAK pmax pmax
comp=Z,141nm,0.9s,mb6.0
YAK pmax pmax
comp=N,50nm,1.0s
YAK pmax pmax
comp=E,42nm,1.2s
YAK pmax pmax
comp=Z,50nm,1.0s,mb5.5
YAK pmax pmax
comp=N,24nm,1.3s
YAK pmax pmax
comp=E,16nm,1.1s
YAK Yakutsk 64.88 16 *e*P **P** **17 34 53.1 -0.9**
comp=E,350nm,1.1s,mb6.3
EIL Elat 65.11 302 P **P** **17 34 55.5 -0.7**
comp=E,33nm,0.9s,mb5.4,baz=26,slow=5.8,SNR=14
EIL Elat 65.11 302 *e*P **P** **17 34 55.8 -0.4**
comp=E,41nm,1.1s,mb5.4
SOC Sochi 65.66 318 *e*P **P** **17 34 57.4 -2.0**
MBAR Mbarara 66.45 269 *e*P **P** **17 35 03.4 -1.6**
MBAR pmax pmax
comp=Z,31nm,1.1s,mb5.2
MBAR Mbarara 66.45 269 *e*P **P** **17 35 03.4 -1.6**
comp=Z,31nm,1.1s,mb5.2
CASY Casey 68.59 174 *e*T 17 35 26.3
BRTR Keskin Array B 68.69 312 P **P** **17 35 16.9 -1.7**
comp=Z,18nm,0.8s,mb5.1,baz=132,slow=7.0,SNR=18
SIM Simferopol' 69.91 318 *e*P **P** **17 35 25.3 -0.7**
MA2 Magadan 70.83 26 *e*P **P** **17 35 31.2 -0.1**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 Magadan 70.83 26 *e*P **P** **17 35 30.7 -0.7**
comp=Z,55nm,1.1s,mb5.4
DZM Mont Dzumac 71.56 114 P **P** **17 35 36.4 0.0**
comp=Z,13nm,1.1s,mb4.8,baz=9.8,slow=6.7,SNR=2.9
PET Petropavlovsk 71.77 34 *i* P **P** **17 35 36.5 -0.7**
PET pmax pmax
comp=Z,42nm,1.1s,mb5.3
PET Petropavlovsk 71.77 34 *e*P **P** **17 35 36.9 -0.3**
PET pmax pmax
comp=Z,42nm,0.6s,mb5.5
PET Petropavlovsk 71.77 34 *e*P **P** **17 35 36.7 -0.4**
comp=Z,38nm,0.6s,mb5.5
OBN Obninsk 72.10 328 *i* P **P** **17 35 38.0 -1.1**
OBN *e* 17 35 56.1
OBN *e* 17 38 19.1
OBN pmax pmax
comp=Z,51nm,0.8s,mb5.5
OBN Obninsk 72.10 328 *e*P **P** **17 35 37.7 -1.4**
comp=Z,55nm,0.9s,mb5.5
TIXI Tiksi 72.62 10 *i* P **P** **17 35 41.1 -0.7**
MAW Mawson 73.27 193 P **P** **17 35 46.4 +0.7**
comp=Z,6.1nm,0.6s,mb4.7,baz=63,slow=3.5,SNR=6.5
TIRR Tirgusor 73.67 316 P **P** **17 35 47.9 -0.6**
KIS Kishinev 74.03 319 *e*P **P** **17 35 46.0 -4.5**
KIS *e* 17 36 05.0
CFR Carcaliu 74.04 317 P **P** **17 35 50.1 -0.5**
HARR Harsova 74.06 316 ⇓*i*P **P** **17 35 50.4 -0.3**
LBTB Lobatse 74.11 243 *e*P **P** **17 35 50.3 -1.1**
LBTB pmax pmax
comp=Z,21nm,1.1s,mb5.0
LBTB Lobatse 74.11 243 *e*P **P** **17 35 50.2 -1.1**
comp=Z,21nm,1.1s,mb5.0
IDI Anoyia 74.52 306 P **P** **17 35 52.3 -1.3**
comp=Z,25nm,0.7s,mb5.2,baz=76,slow=5.8,SNR=7.7
AKASG Malin Array Be 74.77 322 P **P** **17 35 53.3 -1.4**
BOSA Boshof 75.03 240 *e*P **P** **17 35 56.7 0.0**
BOSA pmax pmax
comp=Z,29nm,1.2s,mb5.1
BOSA Boshof 75.03 240 P **P** **17 35 56.5 -0.2**
comp=Z,24nm,1.2s,mb5.0,baz=77,slow=8.2,SNR=5.9
BOSA Boshof 75.03 240 *e*P **P** **17 35 56.7 0.0**
comp=Z,29nm,1.2s,mb5.1
MLR Muntele Rosu 75.61 317 P **P** **17 35 59.5 -0.2**
comp=Z,32nm,0.9s,mb5.3,baz=36,slow=0.7,SNR=13
KOLS Kolonicke sedl 78.75 320 *i* P **P** **17 36 17.6 +0.6**
SUW Suwalki 79.17 325 *e*P **P** **17 36 18.5 -0.7**
SUW pmax pmax
comp=Z,137nm,1.0s,mb5.8
SUW Suwalki 79.17 325 *e*P **P** **17 36 18.5 -0.7**
comp=Z,137nm,1.0s,mb5.8
SUR Sutherland 79.44 237 *e*P **P** **17 36 18.0 -3.1**
comp=Z,30nm,1.3s,mb5.1
FINES FINESS Array B 79.46 332 P **P** **17 36 19.9 -0.7**
comp=Z,15nm,0.7s,mb5.0,baz=90,slow=7.6,SNR=23
KAF Kangasniemi 79.55 333 *ep* **P** **17 36 20.8 -0.2**
comp=Z,22nm,0.8s,mb5.1
KAF Kangasniemi 79.55 333 *e*P **P** **17 36 20.8 -0.2**
KAF pmax pmax
comp=Z,22nm,0.8s,mb5.1
KECS Kecovo 79.84 319 *i* P **P** **17 36 23.0 +0.1**
NIE Niedzica 80.10 320 *e*P **P** **17 36 23.5 -0.7**
PSZ Piszkesteto 80.15 318 *e*P **P** **17 36 24.1 -0.4**
PSZ pmax pmax
comp=Z,30nm,0.9s,mb5.2
PSZ Piszkesteto 80.15 318 *e*P **P** **17 36 24.1 -0.4**
comp=Z,30nm,0.9s,mb5.2
FX1 Attu Island--F 80.15 37 P **P** **17 36 25.2 +0.8**
comp=Z,15nm,0.4s,mb5.2,baz=286,slow=8.4,SNR=6.6
OJC Ojcow 80.55 321 *e*P **P** **17 36 27.1 +0.5**
BILL Bilibino 80.64 21 *i* P **P** **17 36 26.4 -0.3**
BILL pmax pmax
comp=Z,7.0nm,1.3s,mb4.4
BILL Bilibino 80.64 21 *e*P **P** **17 36 26.7 0.0**
comp=Z,6.1nm,0.7s,mb4.6
SRO2 Moca 81.13 318 *i* P **P** **17 36 30.3 +0.6**
RHK1 Bakonya 81.14 316 *e*P **P** **17 36 30.0 +0.1**
SRO Srobarova 81.19 318 *i* P **P** **17 36 30.6 +0.6**
TIP Timpagrande 81.43 309 *e*P **P** **17 36 31.4 -0.1**
OKC Ostrava-Krasne 81.55 320 *e*P **P** **17 36 32.4 +0.5**
OKC *ep*P pP 17 36 40.7 -0.8
MORC Moravsky Berou 81.93 320 *e*P **P** **17 36 33.7 -0.1**
MORC pmax pmax
comp=Z,25nm,1.0s,mb5.1
MORC Moravsky Berou 81.93 320 *e*P **P** **17 36 33.7 -0.1**
comp=Z,25nm,1.0s,mb5.1
ARCES ARCESS Array B 81.97 340 P **P** **17 36 33.3 -0.4**
comp=Z,7.6nm,0.4s,mb5.0,baz=101,slow=5.2,SNR=48
ZST Bratislava 82.04 318 *i* P **P** **17 36 34.9 +0.5**
KOGS Kog 82.44 316 *e*P **P** **17 36 37.0 +0.4**
KOGS *e* pP 17 36 45.1 -1.1
DPC Dobruska-Polom 82.78 320 *e*P **P** **17 36 38.9 +0.7**
KSP Ksiaz 82.84 321 *e*P **P** **17 36 38.2 -0.4**
KSP *e**PP pP 17 36 45.9 -2.3
UPC Upice 82.99 321 *e*P **P** **17 36 40.0 +0.7**
UPC *ep*P pP 17 36 49.2 +0.2
VISS Visnje 83.36 316 *e*P **P** **17 36 41.6 +0.2**
LJU Ljubljana 83.60 316 *e*P **P** **17 36 43.5 +0.9**
SDI San Donato 83.84 312 *e*P **P** **17 36 43.5 -0.4**
PRU Pruhonice 83.88 320 *e*P **P** **17 36 44.1 +0.2**
PRU *ep*P pP 17 36 52.7 -0.9
MOA Molln 83.90 318 ⇑*i*P **P** **17 36 43.3 -0.8**
comp=Z,10nm,0.9s,mb5.0
PVCC Panska Ves 83.91 320 *e*P **P** **17 36 44.5 +0.5**
PVCC *ep*P pP 17 36 51.8 -1.9
AQU L'Aquila 84.18 312 *e*P **P** **17 36 46.3 +0.7**
GEC2 GERESS Array S 84.35 319 *e*P **P** **17 36 46.8 +0.5**
GEC2 pmax pmax
comp=Z,18nm,0.9s,mb5.2
GEC2 GERESS Array S 84.35 319 *e*P **P** **17 36 46.8 +0.5**
comp=Z,18nm,0.9s,mb5.2
GERES GERESS Array B 84.35 319 P **P** **17 36 45.2 -1.1**
comp=Z,34nm,1.1s,mb5.4,baz=115,slow=4.0,SNR=31
KHC Kasperske Hory 84.45 319 *e*P **P** **17 36 46.8 0.0**
KHC *ep*P pP 17 36 57.2 +0.7
KBA Koelnbreinsper 84.48 317 ⇑*i*P **P** **17 36 46.5 -0.5**
comp=Z,21nm,1.1s,mb5.2
KBA Koelnbreinsper 84.48 317 ⇑*i*P **P** **17 36 46.5 -0.5**
KBA pmax pmax
comp=Z,21nm,1.1s,mb5.2
WET Wettzell 84.91 319 *e*P **P** **17 36 49.5 +0.4**
CLL Collm 84.95 321 P **P** **17 36 49.5 +0.3**
CLL *e* pP 17 36 58.0 -0.9
CLL *e* 17 48 43.0
CLL pmax pmax
comp=Z,22nm,1.1s,mb5.2
CLL Collm 84.95 321 P **P** **17 36 49.5 +0.3**
comp=Z,22nm,1.1s,mb5.2
CLL *e* pP 17 36 58.0 -0.9
CLL Collm 84.95 321 P **P** **17 36 49.5 +0.3**
comp=Z,logA/T=1.3,mb5.2
CLL *e*PP pP 17 36 58.0 -0.9
HFS Hagfors 85.20 330 P **P** **17 36 50.2 0.0**
comp=Z,12nm,1.0s,mb5.0,baz=108,slow=4.7,SNR=6.6
NKC Novy Kostel 85.24 320 *e*P **P** **17 36 51.2 +0.5**
NKC *ep*P pP 17 36 59.7 -0.7
SFI Santa Sofia 85.39 314 *e*P **P** **17 36 52.3 +0.7**
PGD Poggio Sodo 85.47 314 *e*P **P** **17 36 53.4 +1.4**
VMG Vicchio 85.61 314 *e*P **P** **17 36 53.6 +0.9**
WTTA Wattenberg 85.65 317 ⇑*i*P **P** **17 36 52.6 -0.2**
comp=Z,21nm,1.0s,mb5.3
WTTA Wattenberg 85.65 317 ⇑*i*P **P** **17 36 52.6 -0.2**
WTTA pmax pmax
comp=Z,21nm,1.0s,mb5.3
WATA Walderalm 85.69 317 ⇑*i*P **P** **17 36 52.5 -0.5**
comp=Z,6.9nm,0.6s,mb5.1
WATA Walderalm 85.69 317 ⇑*i*P **P** **17 36 52.5 -0.5**
WATA pmax pmax
comp=Z,7.0nm,0.6s,mb5.1
SEI Scarperia 85.74 314 *e*P **P** **17 36 55.3 +1.9**
MOX Moxa 85.79 320 *e*P **P** **17 36 53.6 +0.1**
MOX Moxa 85.79 320 *i* P **P** **17 36 53.6 +0.1**
FUR Furstenfeldbru 85.92 318 *e*P **P** **17 36 54.8 +0.6**
SQTA Sankt Quirin 85.94 317 ⇑*i*P **P** **17 36 53.9 -0.4**
comp=Z,10nm,0.6s,mb5.2
SQTA Sankt Quirin 85.94 317 ⇑*i*P **P** **17 36 53.9 -0.4**
SQTA pmax pmax
comp=Z,10.0nm,0.6s,mb5.2
GRA1 Grafenberg Arr 86.01 320 *e*P **P** **17 36 55.2 +0.6**
comp=Z,25nm,1.0s,mb5.4
GRA1 *ep*P pP 17 37 04.0 -0.3
GRF Grafenberg Arr 86.01 320 *e*P **P** **17 36 55.2 +0.6**
GRF *e**PP pP 17 37 04.0 -0.3
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.4
GRF Grafenberg Arr 86.01 320 *e*P **P** **17 36 55.2 +0.6**
GRF *e**PP pP 17 37 04.0 -0.3
GRF pmax pmax
comp=Z,25nm,1.0s,mb5.4
GRF Grafenberg Arr 86.01 320 *e*P **P** **17 36 55.2 +0.6**
comp=Z,25nm,1.0s,mb5.4
GRF *ep*P pP 17 37 04.0 -0.3
VNDA Vanda 86.40 169 P **P** **17 36 56.8 +0.9**
comp=Z,3.5nm,0.8s,mb4.7,baz=346,slow=1.1,SNR=3.7
NB2 NORSAR Subarra 86.48 331 P **P** **17 36 55.4 -1.2**
comp=Z,13nm,0.8s,mb5.2,baz=94,slow=4.8
NB2 NORSAR Subarra 86.48 331 P **P** **17 36 55.4 -1.2**
NB2 pmax pmax
comp=Z,13nm,0.8s,mb5.2
NB2 NORSAR Subarra 86.48 331 P **P** **17 36 55.4 -1.2**
baz=94,slow=4.8
NOA NORSAR Array B 86.48 331 P **P** **17 36 56.4 -0.2**
comp=Z,12nm,0.8s,mb5.2,baz=94,slow=4.9,SNR=17
CLZ Clausthal 86.61 322 *e*P **P** **17 36 57.8 +0.3**
comp=Z,11nm,0.9s,mb5.1
NAO01 NORSAR Array S 86.63 331 *e*P **P** **17 36 57.3 0.0**
comp=Z,10nm,0.8s,mb5.1
BSEG Bad Segeberg 86.70 324 *e*P **P** **17 36 58.4 +0.6**
DAVA Damuels 86.85 317 ⇑*i*P **P** **17 36 58.8 +0.1**
comp=Z,26nm,1.0s,mb5.4
PGF Pioggiola 87.44 312 *e*P **P** **17 37 02.1 +0.4**
comp=Z,120nm,1.4s,mb5.6
PGF Pioggiola 87.44 312 *e*P **P** **17 37 02.1 +0.4**
PGF pmax pmax
comp=Z,60nm,1.4s,mb5.6
TNS Taunus Mts 87.81 320 *e*P **P** **17 37 03.9 +0.6**
BFO Black Forest 87.90 318 *e*P **P** **17 37 03.8 +0.1**
BFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.7
BFO Black Forest 87.90 318 *e*P **P** **17 37 03.8 +0.1**
comp=Z,4.0nm,0.8s,mb4.7
FIN Finale Ligure 88.01 314 *e*P **P** **17 37 04.5 +0.1**
SBF Sospel 88.57 314 *e*P **P** **17 37 07.0 -0.1**
comp=Z,60nm,1.1s,mb5.5
SBF Sospel 88.57 314 *e*P **P** **17 37 07.0 -0.1**
SBF pmax pmax
comp=Z,30nm,1.1s,mb5.5
CDF Champ du Feu 88.60 318 *e*P **P** **17 37 06.8 -0.3**
comp=Z,15nm,1.2s,mb4.9
CDF Champ du Feu 88.60 318 *e*P **P** **17 37 06.8 -0.3**
CDF pmax pmax
comp=Z,8.0nm,1.2s,mb4.9
HINF Hinteralfeld 88.89 318 *e*P **P** **17 37 08.7 +0.2**
LPG La Plagne 89.02 315 *e*P **P** **17 37 09.5 +0.3**
comp=Z,23nm,0.8s,mb5.2
LPG La Plagne 89.02 315 *e*P **P** **17 37 09.5 +0.3**
LPG pmax pmax
comp=Z,12nm,0.8s,mb5.3
MBDF Montbardon 89.03 315 *e*P **P** **17 37 09.3 0.0**
comp=Z,34nm,1.3s,mb5.2
MBDF Montbardon 89.03 315 *e*P **P** **17 37 09.3 0.0**
MBDF pmax pmax
comp=Z,17nm,1.3s,mb5.2
LPL La Plagne 89.04 315 *e*P **P** **17 37 09.4 +0.1**
comp=Z,58nm,1.1s,mb5.5
LPL La Plagne 89.04 315 *e*P **P** **17 37 09.4 +0.1**
LPL pmax pmax
comp=Z,29nm,1.1s,mb5.5
FRF La Foret Royal 89.15 313 *e*P **P** **17 37 10.0 +0.1**
HAU Haudompre 89.23 318 *e*P **P** **17 37 09.8 -0.3**
comp=Z,20nm,0.9s,mb5.1
HAU Haudompre 89.23 318 *e*P **P** **17 37 09.8 -0.3**

HAU						pmax		pmax		
	comp=Z,10.0nm,0.9s,mb5.2									
LMR	**La Mourre**	**89.26**	**313**	*eP*		**P**		**17 37 10.4**	**0.0**
	comp=Z,72nm,1.6s,mb5.5									
CABF	**La Chapelle**	**89.45**	**316**	*eP*		**P**		**17 37 11.4**	**+0.2**
	comp=Z,36nm,1.1s,mb5.3									
ORIF	**Oris-en-Rattie**	**89.66**	**315**	*eP*		**P**		**17 37 12.5**	**+0.3**
	comp=Z,15nm,0.9s,mb5.0									
MEZF	**Maizieres J'vi**	**90.08**	**318**	*eP*		**P**		**17 37 14.3**	**+0.2**
GIVF	**Givet**	**90.14**	**320**	*eP*		**P**		**17 37 14.5**	**+0.2**
	comp=Z,23nm,0.9s,mb5.2									
VIVF	**Saint-Julien-l**	**90.52**	**315**	*eP*		**P**		**17 37 16.4**	**+0.2**
	comp=Z,27nm,1.1s,mb5.2									
BAIF	**Baives**	**90.54**	**320**	*eP*		**P**		**17 37 16.7**	**+0.5**
	comp=Z,44nm,0.8s,mb5.5									
SMF	**Signal de Mont**	**91.00**	**317**	*eP*		**P**		**17 37 18.4**	**+0.1**
	comp=Z,52nm,1.1s,mb5.5									
LASF	**Ste Croix**	**91.15**	**314**	*eP*		**P**		**17 37 19.5**	**+0.4**
	comp=Z,39nm,1.3s,mb5.3									
SSF	**Saint Saulge**	**91.20**	**317**	*eP*		**P**		**17 37 19.7**	**+0.4**
	comp=Z,41nm,1.3s,mb5.3									
AVF	**Avril sur Loir**	**91.32**	**317**	*eP*		**P**		**17 37 19.9**	**+0.1**
	comp=Z,42nm,1.1s,mb5.4									
BGF	**Bois d'Agland**	**91.69**	**316**	*eP*		**P**		**17 37 22.1**	**+0.6**
	comp=Z,61nm,1.1s,mb5.5									
HYF	**Humbligny**	**91.77**	**317**	*eP*		**P**		**17 37 22.7**	**+0.8**
TCF	**Toulx Ste Croi**	**92.15**	**316**	*eP*		**P**		**17 37 24.1**	**+0.5**
	comp=Z,66nm,1.6s,mb5.4									
CAF	**Calviac**	**92.36**	**315**	*eP*		**P**		**17 37 25.3**	**+0.6**
	comp=Z,26nm,1.1s,mb5.2									
MTLF	**Montolieu**	**92.39**	**313**	*eP*		**P**		**17 37 25.3**	**+0.5**
	comp=Z,25nm,1.1s,mb5.2									
RJF	**Les Rejaudoux**	**92.72**	**315**	*eP*		**P**		**17 37 27.0**	**+0.7**
LFF	**La Frestale**	**93.30**	**315**	*eP*		**P**		**17 37 28.7**	**-0.3**
LDF	**La Druitiere**	**93.49**	**319**	*eP*		**P**		**17 37 30.0**	**+0.2**
	comp=Z,41nm,1.3s,mb5.4									
FLN	**La Foliniere**	**93.71**	**319**	*eP*		**P**		**17 37 30.9**	**+0.1**
	comp=Z,56nm,1.4s,mb5.5									
MFF	**Saint Martin d**	**93.74**	**317**	*eP*		**P**		**17 37 31.1**	**+0.1**
	comp=Z,32nm,1.1s,mb5.3									
ETSF	**Etsaut**	**94.45**	**313**	*eP*		**P**		**17 37 34.2**	**-0.1**
SJPF	**Ste Jean**	**94.91**	**313**	*eP*		**P**		**17 37 36.1**	**-0.3**
	comp=Z,30nm,1.3s,mb5.3									
INK	**Inuvik**	**101.93**	**17**	P		P		17 38 07.7	0.0
	comp=Z,1.3nm,1.0s,baz=290,slow=7.5,SNR=3.6									
YKA	**Yellowknife Ar**	**111.54**	**15**	PKKPbc				17 53 41.6		
	comp=Z,0.2nm,0.5s,baz=140,slow=3.0,SNR=4.5									
FCC	**Fort Churchill**	**118.98**	**7**	*e*PKPdf		PKPdf		17 43 01.8	-4.7	
EDM	**Edmonton**	**119.55**	**21**	*e*PKPdf		PKPdf		17 43 03.7	-4.0	
SCHQ	**Schefferville**	**122.05**	**349**	PKP		PKPdf		17 43 07.0	-5.5	
	comp=Z,3.3nm,0.9s,baz=106,slow=6.3,SNR=4.8									
MSO	**Missoula**	**124.42**	**25**	*e*PKPdf		PKPdf		17 43 13.0	-4.3	
ULM	**Lac du Bonnet**	**126.97**	**10**	PKP		PKPdf		17 43 18.1	-4.0	
	comp=Z,5.1nm,0.8s,baz=356,slow=3.2,SNR=7.5									
ULM	**Lac du Bonnet**	**126.97**	**10**	*e*PKPdf		PKPdf		17 43 17.3	-4.8	
PDAR	**Pinedale Array**	**129.54**	**25**	PKP		PKPdf		17 43 21.8	-5.5	
	comp=Z,1.5nm,0.8s,baz=167,slow=0.7,SNR=5.6									
PLCA	**Paso Flores**	**139.66**	**194**	PKP		PKPdf		17 43 43.5	-2.6	
	comp=Z,1.2nm,0.7s,baz=4.2,slow=4.4,SNR=4.0									
TXAR	**Lajitas Array**	**143.20**	**31**	PKhKP				17 43 45.1		
	comp=Z,1.8nm,0.7s,baz=297,slow=2.8,SNR=7.5									
JCT	**Junction City**	**144.07**	**25**	*e*PKPdf		PKPdf		17 43 49.1	-5.0	

*IDC **28** 17:29:04.5±0.6, 1.61N×97.00E, mb4.7/20, mb1 4.7/20, mb1mx4.6/25, mbtmp4.7/20, Error ellipse: s-maj=26.5km s-min=12.2km az=39.0*
*CSEM **28** 17:29:07.0, 1.43N×97.61E, h33km, mb5.6*
*BJI **28** 17:29:07.0, 1.49N×97.24E, h35km, mB6.2, mb5.3, Ms5.2, Msz4.7*
*MOS **28** 17:29:08.8±1.0, 1.81N×97.28E, h33km, mb5.0/12, Error ellipse: s-maj=24.0km s-min=10.6km az=98.2*
*NEIC **28** 17:29:09.3±0.3, 1.63N×97.08E, h30km, mb5.0/24, Error ellipse: s-maj=8.3km s-min=5.5km az=212.0*

ISC 28 17:29:05.2±2.2, 1.61N±0.06×97.10E±0.06, h15km±13km, h30km±1.1km:pP-P, n96, σ0s95/99, mb4.9/57, MS4.9/1, 3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.09**	**44**	*e*Pn	**Pn**	**17 30 23.6**	**+0.7**
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*P	**P**	**17 33 36.1**	**+0.4**
QIZ	**Qiongzhong**	**21.34**	**35**	P	**P**	**17 33 53.5**	**-0.7**
QIZ	**Qiongzhong**	**21.34**	**35**	*e*P	**P**	**17 33 53.3**	**-0.9**
	14nm,0.9s,mb4.3						
KMI	**Kunming**	**24.00**	**13**	P	**P**	**17 34 21.8**	**+1.3**
KMI				AP		17 34 30.5	
JIRN	**Jiri**	**27.93**	**339**	*e*P	**P**	**17 34 58.0**	**+0.9**
	74nm,1.0s,mb5.2						
PKI	**Pulchoki**	**28.14**	**338**	*e*P	**P**	**17 34 59.6**	**+0.6**
	50nm,1.1s,mb5.1						
DMN	**Daman**	**28.29**	**337**	*e*P	**P**	**17 35 00.8**	**+0.4**
	39nm,0.9s,mb5.0						
KKN	**Kakani**	**28.38**	**338**	*e*P	**P**	**17 35 01.0**	**-0.2**
	145nm,1.4s,mb5.4						
LSA	**Lhasa**	**28.50**	**349**	*e*P	**P**	**17 35 03.3**	**+1.1**
	16nm,0.7s,mb4.8						
GKN	**Gorkha**	**28.82**	**337**	*e*P	**P**	**17 35 05.8**	**+0.6**
	113nm,1.2s,mb5.5						
KOLN	**Koldanda**	**29.04**	**335**	*e*P	**P**	**17 35 07.2**	**0.0**
	55nm,1.0s,mb5.3						
ENH	**Enshi**	**30.83**	**21**	*e*P	**P**	**17 35 21.5**	**-1.6**
	62nm,1.0s,mb5.4						
WHN	**Wuhan**	**33.10**	**28**	⇓P	**P**	**17 35 42.5**	**-0.4**
XAN	**Xi'an**	**34.10**	**18**	P	**P**	**17 35 50.3**	**-1.3**
XAN				AP	pP	17 35 58.5	+2.5
XAN				AMB	AMB		
	comp=Z,61nm,1.0s,mb5.5						
FITZ	**Fitzroy Crossi**	**34.25**	**126**	P	**P**	**17 35 52.2**	**-0.8**
	comp=Z,12nm,0.8s,mb4.9,baz=195,slow=3.4,SNR=5.7						
LZH	**Lanzhou**	**34.87**	**10**	*e*P	**P**	**17 35 57.8**	**-0.3**
LZH				AP	pP	17 36 06.8	+4.2
LZH				XP	sP	17 36 09.8	+5.3
LZH				AMB	AMB		
	comp=Z,80nm,1.4s,mb5.5						
NJ2	**Nanjing**	**36.57**	**32**	*e*P	**P**	**17 36 12.3**	**-0.3**
NJ2				AP	pP	17 36 22.3	+5.3
NJ2				XP	sP	17 36 28.0	+9.1
NJ2				PP	PP	17 37 37.5	+0.4
NJ2				S	**S**	**17 42 01.0**	**+7.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,4μm,10.0s						
GTA	**Gaotai**	**37.70**	**3**	*e*P	**P**	**17 36 22.0**	**0.0**
GTA				AP	pP	17 36 31.0	+4.5
GTA				XP	sP	17 36 35.0	+6.6
GTA				AMB	AMB		
	comp=Z,56nm,1.0s,mb5.2						
JOW	**Kunigami**	**39.04**	**47**	P	**P**	**17 36 33.5**	**+0.2**
	comp=Z,22nm,0.8s,mb5.0,baz=226,slow=11,SNR=5.6						
HHC	**Hu-ho-hao-te**	**41.19**	**17**	*e*P	**P**	**17 36 52.5**	**+1.5**
HHC				XP	sP	17 37 06.3	+9.0
HHC				PP	PP	17 38 32.5	+3.2
HHC				PCS		17 42 40.8	
HHC				S	**S**	**17 43 06.0**	**+2.3**
HHC				SCS	ScS	17 46 52.5	-0.4
HHC				AMB	AMB		
	comp=Z,114nm,0.8s,mb5.5						
BJT	**Baijiatuau**	**41.98**	**22**	*e*P	**P**	**17 36 58.4**	**+1.0**
	comp=Z,121nm,1.0s,mb5.5						
BJI	**Beijing**	**42.00**	**22**	P	**P**	**17 36 58.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,89nm,1.0s,mb5.3						
WRA	**Warramunga Arr**	**42.34**	**122**	P	**P**	**17 37 01.0**	**+0.3**
	comp=Z,7.3nm,0.9s,mb4.3,baz=301,slow=9.3,SNR=7.6						
WMQ	**Urumqi**	**42.85**	**350**	P	**P**	**17 37 05.3**	**+0.7**
WMQ				AP	pP	17 37 15.0	+5.9
WMQ				PP	PP	17 38 48.0	+1.3
WMQ				PPP	PPP	17 39 21.0	+0.3
WMQ				*e*S	**S**	**17 43 26.0**	**-2.1**
WMQ				AMB	AMB		
	comp=Z,45nm,1.0s,mb5.2						
WMQ				LR	LR		
	comp=N,2μm,20.4s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,21.8s,MS5.1						
WMQ				LR	LR		
	comp=Z,998nm,21.2s,MS4.7						
ASAR	**Alice Springs**	**43.72**	**127**	P	**P**	**17 37 11.7**	**-0.2**
	comp=Z,6.9nm,1.0s,mb4.3,baz=303,slow=7.2,SNR=9.7						
AAK	**Ala-Archa**	**45.58**	**337**	*i* P	**P**	**17 37 25.5**	**-1.1**
AAK				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
AAK	**Ala-Archa**	**45.58**	**337**	*eP*	**P**	**17 37 27.0**	**+0.4**
SONM	**Songino Array**	**46.74**	**9**	P	**P**	**17 37 36.0**	**+0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=190,slow=8.7,SNR=20						
SONM				PcP	PcP	17 39 09.1	-0.4
	comp=Z,3.7nm,0.9s,baz=181,slow=4.2,SNR=3.5						
MKAR	**Makanchi Array**	**46.82**	**346**	*i* P	**P**	**17 37 36.7**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,38nm,0.9s						
MKAR	**Makanchi Array**	**46.82**	**346**	P	**P**	**17 37 36.5**	**+0.2**
	comp=Z,47nm,0.9s,mb5.4,baz=162,slow=7.7,SNR=35						
ULN	**Ulaanbaatar**	**46.87**	**9**	*i* P	**P**	**17 37 36.7**	**0.0**
ULN	**Ulaanbaatar**	**46.87**	**9**	*eP*	**P**	**17 37 36.6**	**-0.1**
	comp=Z,9.7nm,0.7s,mb4.8						
ZAK	**Zakamensk**	**48.87**	**5**	*eP*	**P**	**17 37 53.4**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
CN2	**Changchun**	**48.98**	**27**	*eP*	**P**	**17 37 52.8**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
MOY	**Mondy**	**49.98**	**3**	*eP*	**P**	**17 38 01.8**	**+1.0**
TLY	**Talaya**	**50.19**	**5**	*i* P	**P**	**17 38 03.4**	**+1.0**
TLY				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.1						
PMG	**Port Moresby**	**51.05**	**103**	P	**P**	**17 38 09.9**	**+0.5**
	comp=Z,11nm,0.8s,mb4.9,baz=135,slow=15,SNR=3.7						
HIA	**Hailar**	**51.28**	**19**	*i* P	**P**	**17 38 10.2**	**-0.5**
HIA	**Hailar**	**51.28**	**19**	*eP*	**P**	**17 38 10.1**	**-0.7**
	comp=Z,15nm,0.8s,mb5.0						
KURK	**Kurchatov**	**51.37**	**345**	*i* P	**P**	**17 38 11.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0						
KURK	**Kurchatov**	**51.37**	**345**	*eP*	**P**	**17 38 11.1**	**-0.2**
	comp=Z,41nm,1.1s,mb5.3						
MAT	**Matsushiro**	**51.46**	**43**	*eP*	**P**	**17 38 11.0**	**-1.2**
MAT	**Matsushiro**	**51.46**	**43**	P	**P**	**17 38 10.6**	**-1.6**
CTA	**Charters Tower**	**52.78**	**117**	P	**P**	**17 38 23.1**	**+0.7**
	comp=Z,11nm,1.0s,mb4.8,baz=305,slow=11,SNR=5.0						
CTAO	**Charters Tower**	**52.78**	**117**	*eP*	**P**	**17 38 23.2**	**+0.8**
	comp=Z,15nm,1.0s,mb4.9						
STKA	**Stephens Creek**	**53.71**	**132**	P	**P**	**17 38 30.2**	**+1.1**
	comp=Z,6.8nm,1.0s,mb4.5,baz=310,slow=7.2,SNR=6.3						
STKA	**Stephens Creek**	**53.71**	**132**	*eP*	**P**	**17 38 30.0**	**+0.9**
NVS	**Novosibirsk**	**54.26**	**350**	*i* P	**P**	**17 38 31.8**	**-1.0**
BVA0	**Borovoye Array**	**55.83**	**341**	*i* P	**P**	**17 38 43.0**	**-1.3**
BVA0				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**55.83**	**341**	P	**P**	**17 38 43.1**	**-1.2**
	comp=Z,12nm,0.8s,mb5.0,baz=141,slow=9.5,SNR=20						
BOD	**Bodaibo**	**57.62**	**11**	*eP*	**P**	**17 38 54.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.0						
KMBO	**Kilima Mbogo**	**59.90**	**268**	P	**P**	**17 39 12.6**	**-0.9**
	comp=Z,0.4nm,0.2s,mb4.0,baz=42,slow=24,SNR=2.4						
KMBO	**Kilima Mbogo**	**59.90**	**268**	P	**P**	**17 39 12.6**	**-0.9**
YSS	**Yuzh-Sakhalins**	**60.07**	**34**	⇓*i* P	**P**	**17 39 14.0**	**-0.1**
YSS				*e*		17 39 28.8	
YSS				pmax	pmax		
	comp=Z,100nm,1.2s,mb5.7						
YSS	**Yuzh-Sakhalins**	**60.07**	**34**	*eP*	**P**	**17 39 13.9**	**-0.2**
	comp=Z,72nm,1.0s,mb5.7						
GNI	**Garni**	**60.93**	**316**	P	**P**	**17 39 18.1**	**-1.9**
	comp=Z,1.5nm,0.4s,mb4.5,baz=17,slow=17,SNR=2.0						
GNI	**Garni**	**60.93**	**316**	*eP*	**P**	**17 39 18.2**	**-1.9**
	comp=Z,72nm,1.7s,mb5.5						
ARU	**Arti**	**62.77**	**337**	*d* iP	**P**	**17 39 28.2**	**-4.0**
ARU				*e*		17 41 49.5	
ARU				*e*S	**S**	**17 47 59.3**	**+0.5**
ARU				*e*SS	SS	17 52 03.7	-2.1
ARU				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
KIV	**Kislovodsk**	**63.93**	**319**	*i* P	**P**	**17 39 35.5**	**-4.6**
KIV				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
KIV	**Kislovodsk**	**63.93**	**319**	*eP*	**P**	**17 39 39.4**	**-0.7**
	comp=Z,21nm,1.1s,mb5.1						
ASF	**Jabal al Asfar**	**64.14**	**305**	P	**P**	**17 39 41.4**	**-0.3**
	comp=Z,4.7nm,0.9s,mb4.5,baz=203,slow=6.2,SNR=4.1						
GOF	**Gofitskoye**	**64.18**	**320**	*eP*	**P**	**17 39 49.9**	**+8.2**
YAK	**Yakutsk**	**65.06**	**16**	*eP*	**P**	**17 39 45.2**	**-1.9**
YAK				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,13nm,1.0s						
YAK				pmax	pmax		
	comp=E,8.0nm,0.8s						
YAK	**Yakutsk**	**65.06**	**16**	*eP*	**P**	**17 39 45.8**	**-1.3**
	comp=E,105nm,1.0s,mb5.8						
EIL	**Elat**	**65.15**	**302**	P	**P**	**17 39 47.5**	**-0.7**
	comp=E,6.2nm,0.8s,mb4.7,baz=82,slow=11,SNR=4.4						
EIL	**Elat**	**65.15**	**302**	P	**P**	**17 39 48.1**	**-0.2**
	comp=E,5.9nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**68.76**	**312**	P	**P**	**17 40 09.8**	**-1.1**
	comp=E,3.9nm,0.8s,mb4.4,baz=132,slow=7.6,SNR=8.9						
SIM	**Simferopol'**	**69.99**	**318**	*eP*	**P**	**17 40 17.9**	**-0.5**
MA2	**Magadan**	**71.01**	**26**	*i* P	**P**	**17 40 22.9**	**-1.4**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
MA2	**Magadan**	**71.01**	**26**	*eP*	**P**	**17 40 23.8**	**-0.4**
	comp=Z,7.0nm,0.9s,mb4.6						
PET	**Petropavlovsk**	**71.95**	**34**	*i* P	**P**	**17 40 28.0**	**-2.0**
PET				pmax	pmax		
	comp=Z,44nm,1.7s,mb5.1						
PET	**Petropavlovsk**	**71.95**	**34**	*eP*	**P**	**17 40 29.7**	**-0.3**
	comp=Z,36nm,1.0s,mb5.2						
OBN	**Obninsk**	**72.22**	**328**	*i* P	**P**	**17 40 27.2**	**-4.4**
OBN				*e*		17 43 09.0	
OBN				*e*S	S	17 49 51.7	-0.6
OBN				pmax	pmax		
	comp=Z,18nm,1.2s,mb4.9						
TIXI	**Tiksi**	**72.80**	**10**	*eP*	**P**	**17 40 30.8**	**-3.9**
TIXI				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MAW	**Mawson**	**73.09**	**193**	*eT*		17 40 52.3	
MLR	**Muntele Rosu**	**75.70**	**317**	P	**P**	**17 40 52.3**	**+0.3**
	comp=Z,7.5nm,0.8s,mb4.7,baz=196,slow=4.9,SNR=6.5						
KOLS	**Kolonicke sedl**	**78.84**	**320**	*i* P	**P**	**17 41 10.8**	**+1.5**
KOLS				*ep*P	pP	17 41 19.1	+5.0
FINES	**FINESS Array B**	**79.59**	**332**	P	**P**	**17 41 12.3**	**-0.8**
	comp=Z,5.7nm,0.9s,mb4.5,baz=108,slow=6.0,SNR=7.7						
KAF	**Kangasniemi**	**79.67**	**333**	*ep*	**P**	**17 41 13.7**	**+0.1**
	comp=Z,6.3nm,0.8s,mb4.6						
KAF	**Kangasniemi**	**79.67**	**333**	*eP*	**P**	**17 41 13.7**	**+0.1**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**80.82**	**21**	*i* P	**P**	**17 41 18.9**	**-0.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
OKC	**Ostrava-Krasne**	**81.64**	**320**	*eP*	**P**	**17 41 25.0**	**+0.8**
ARCES	**ARCESS Array B**	**82.11**	**340**	P	**P**	**17 41 26.9**	**+0.6**
	comp=Z,5.9nm,0.8s,mb4.6,baz=101,slow=4.7,SNR=7.0						
ZST	**Bratislava**	**82.13**	**318**	*i* P	**P**	**17 41 27.9**	**+1.1**
DPC	**Dobruska-Polom**	**82.87**	**320**	*eP*	**P**	**17 41 31.4**	**+0.8**
UPC	**Upice**	**83.08**	**321**	*eP*	**P**	**17 41 32.9**	**+1.2**
PVCC	**Panska Ves**	**84.00**	**320**	*eP*	**P**	**17 41 37.2**	**+0.8**
BRG	**Berggiesshubel**	**84.43**	**321**	*i* P	**P**	**17 41 40.1**	**+1.6**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
BRG	**Berggiesshubel**	**84.43**	**321**	*i* P	**P**	**17 41 40.1**	**+1.6**
	comp=Z,2.5nm,0.8s,mb4.4						
GERES	**GERESS Array B**	**84.44**	**319**	P	**P**	**17 41 39.5**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=12						
KHC	**Kasperske Hory**	**84.54**	**319**	*eP*	**P**	**17 41 39.5**	**+0.4**
CLL	**Collm**	**85.05**	**321**	P	**P**	**17 41 42.0**	**+0.4**
NKC	**Novy Kostel**	**85.34**	**320**	*eP*	**P**	**17 41 40.7**	**-2.4**
NB2	**NORSAR Subarra**	**86.60**	**331**	P	**P**	**17 41 49.1**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**86.60**	**331**	P	**P**	**17 41 48.9**	**-0.2**
	comp=Z,3.5nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=8.6						

IDC 28 17:31:26.1±2.8, 3.52N×96.37E, mb4.2/5, mb1 4.3/5, mb1mx3.9/17, mbtmp4.2/5, Error ellipse: s-maj=120.4km s-min=22.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.98**	**124**	P	P	17 39 35.7	-1.5
	1.9nm,0.6s,baz=301,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**44.80**	**346**	P	P	17 39 43.1	-0.4
	2.1nm,0.6s,baz=161,slow=8.7,SNR=5.9						
SONM	**Songino Array**	**44.98**	**10**	P	P	17 39 42.7	-2.3
	3.5nm,0.7s,baz=190,slow=9.0,SNR=5.4						
ASAR	**Alice Springs**	**45.46**	**128**	P	P	17 39 47.1	-2.0
	1.5nm,0.5s,baz=301,slow=7.9,SNR=5.1						
BVAR	**Borovoye Array**	**53.80**	**341**	P	P	17 40 49.3	-3.3
	3.2nm,0.7s,baz=141,slow=9.2,SNR=6.6						

*IDC **28** 17:31:44.3±0.9, 2.07N×96.79E, mb4.5/15, mb1 4.6/15, mb1mx4.5/19, mbtmp4.5/15, Error ellipse: s-maj=54.2km s-min=14.0km az=47.0*
*NEIC **28** 17:31:48.8±0.5, 2.06N×96.84E, h30km, mb4.7/6, Error ellipse: s-maj=23.3km s-min=7.8km az=50.0*

ISC 28 17:31:47.5±0.7, 2.1N±0.1×96.9E±0.2, h33km, n30, σ0s76/24, mb4.5/20, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**19.66**	**78**	*eP*	**P**	**17 36 10.0**	**-6.6**
ENH	**Enshi**	**30.45**	**22**	*eP*	**P**	**17 37 59.3**	**-0.3**
	9.1nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.70**	**127**	P	**P**	**17 38 36.6**	**0.0**
	12nm,1.0s,mb4.8,baz=190,slow=1.1,SNR=4.0						
WRA	**Warramunga Arr**	**42.77**	**123**	P	**P**	**17 39 43.1**	**-0.9**
	2.1nm,0.4s,mb4.2,baz=321,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**42.77**	**123**	P	**P**	**17 39 43.1**	**-0.9**
WRAB	**Tennant Creek**	**42.77**	**123**	*eP*	**P**	**17 39 43.2**	**-0.9**
	8.9nm,0.7s,mb4.6						
ASAR	**Alice Springs**	**44.18**	**128**	P	**P**	**17 39 56.3**	**+0.9**
	1.6nm,0.5s,mb4.0,baz=298,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**44.18**	**128**	P	**P**	**17 39 56.3**	**+0.9**
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**17 40 12.2**	**+0.3**
	2.5nm,0.5s,mb4.4,baz=191,slow=9.3,SNR=4.1						
SONM				PcP	PcP	17 41 47.7	+0.4
	2.7nm,0.7s,baz=185,slow=3.7,SNR=4.5						
MKAR	**Makanchi Array**	**46.30**	**346**	P	**P**	**17 40 11.8**	**-0.2**
	7.1nm,0.7s,mb4.7,baz=163,slow=7.6,SNR=5.5						
KURK	**Kurchatov**	**50.85**	**345**	*eP*	**P**	**17 40 46.5**	**-0.7**
	9.7nm,0.8s,mb4.8						
PMG	**Port Moresby**	**51.35**	**104**	P	**P**	**17 40 51.3**	**-0.2**
	20nm,0.8s,mb5.1,baz=317,slow=8.4,SNR=3.2						
CTA	**Charters Tower**	**53.17**	**117**	P	**P**	**17 41 04.3**	**-0.7**
	8.6nm,0.9s,mb4.7,baz=292,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**54.18**	**132**	P	**P**	**17 41 13.4**	**+1.2**
	3.6nm,0.7s,mb4.4,baz=305,slow=8.6,SNR=6.6						
BVAR	**Borovoye Array**	**55.30**	**341**	P	**P**	**17 41 19.5**	**-0.6**
	6.6nm,0.8s,mb4.7,baz=127,slow=7.4,SNR=7.7						
CHKZ	**Chkalovo**	**55.78**	**341**	*eP*	**P**	**17 41 23.8**	**+0.2**
	20nm,0.9s,mb5.1						
BRTR	**Keskin Array B**	**68.29**	**312**	P	**P**	**17 42 46.3**	**-1.2**
	1.7nm,0.8s,mb4.1,baz=130,slow=6.4,SNR=4.4						
MA2	**Magadan**	**70.66**	**26**	*eP*	**P**	**17 43 02.6**	**+0.9**
	4.1nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**74.36**	**322**	P	**P**	**17 43 22.7**	**-1.0**
	1.0nm,0.4s,mb4.1,baz=88,slow=5.2,SNR=5.8						
FINES	**FINESS Array B**	**79.06**	**332**	P	**P**	**17 43 50.0**	**0.0**
	3.8nm,0.7s,mb4.5,baz=104,slow=7.9,SNR=8.2						
ARCES	**ARCESS Array B**	**81.59**	**340**	P	**P**	**17 44 04.3**	**+1.1**
	6.3nm,0.8s,mb4.6,baz=90,slow=6.1,SNR=5.8						
GERES	**GERESS Array B**	**83.94**	**319**	P	**P**	**17 44 16.8**	**+1.1**
	2.8nm,0.8s,mb4.5,baz=90,slow=4.0,SNR=10						
NB2	**NORSAR Subarra**	**86.08**	**331**	P	**P**	**17 44 26.7**	**+0.7**
	3.6nm,0.9s,mb4.6,baz=90,slow=5.0						
NOA	**NORSAR Array B**	**86.08**	**331**	P	**P**	**17 44 26.9**	**+1.0**
	2.3nm,0.9s,mb4.4,baz=94,

*BJI **28** 17:38:53.5, 0.78N×97.40E, h45km, mb4.9*
*NEIC **28** 17:38:55.3±0.6, 1.11N×97.08E, h30km, mb4.8/10, Error ellipse: s-maj=13.7km s-min=8.3km az=59.0*
ISC 28 17:38:53.7±0.8,**1.15N**±0.09×**97.2E**±0.1,**h30**km,**n27,**
σ0s50/27,mb4.6/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.39	40			Pn	Pn	17 40 14.1	-0.2
KKM	Kota Kinabalu	19.63	75	eP		P	P	17 43 22.8	-0.3
QIZ	Qiongzhong 10nm,0.8s,mb4.3	21.69	34	eP		P	P	17 43 43.7	-0.6
ENH	Enshi 18nm,0.8s,mb4.9	31.24	21	eP		P	P	17 45 12.5	-0.6
FITZ	Fitzroy Crossi 7.4nm,0.7s,mb4.7,baz=16,slow=8.0,SNR=6.7	33.94	126	P		P	P	17 45 36.5	-0.2
GTA	Gaotai	38.16	3	eP		P	P	17 46 12.8	+0.5
GTA					AP	pP		17 46 22.5	+1.3
GTA					XP	sP		17 46 25.5	+0.5
GTA					AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8								
WRA	Warramunga Arr comp=Z,2.9nm,0.6s,mb4.1,baz=300,slow=9.1,SNR=5.9	42.05	122	P		P	P	17 46 44.5	-0.2
WRAB	Tennant Creek comp=Z,8.6nm,0.5s,mb4.6	42.05	122	eP		P	P	17 46 44.9	+0.2
BJT	Baijiatuau comp=Z,11nm,0.6s,mb4.7	42.38	22	eP		P	P	17 46 48.3	+1.1
ASAR	Alice Springs comp=Z,1.4nm,0.4s,mb4.1,baz=298,slow=7.0,SNR=8.9	43.40	127	P		P	P	17 46 56.0	+0.3
KS15	Wonju Array Si	45.89	35	eP		P	P	17 47 15.9	+0.4
SONM	Songino Array comp=Z,2.8nm,0.5s,mb4.5,baz=190,slow=9.8,SNR=11	47.19	8	P		P	P	17 47 26.0	+0.4
SONM	Songino Array	47.19	8	P		P	P	17 47 26.0	+0.4
MKAR	Makanchi Array comp=Z,5.0nm,0.5s,mb4.7,baz=161,slow=9.0,SNR=16	47.28	346	P		P	P	17 47 26.9	+0.5
MKAR	Makanchi Array	47.28	346	P		P	P	17 47 26.9	+0.5
CN2	Changchun	49.37	27	eP		P	P	17 47 42.5	-0.1
HIA	Hailar comp=Z,6.4nm,0.6s,mb4.7	51.70	19	eP		P	P	17 48 01.0	+0.7
KURK	Kurchatov comp=Z,10nm,1.0s,mb4.7	51.83	345	eP		P	P	17 48 00.9	-0.3
STKA	Stephens Creek comp=Z,3.1nm,0.8s,mb4.3,baz=128,slow=23,SNR=4.9	53.36	132	P		P	P	17 48 12.8	-0.1
BVAR	Borovoye Array comp=Z,3.3nm,0.6s,mb4.6,baz=138,slow=9.6,SNR=7.9	56.28	341	P		P	P	17 48 33.0	-0.8
BVAR	Borovoye Array	56.28	341	P		P	P	17 48 33.0	-0.8
CHKZ	Chkalovo comp=Z,10nm,0.8s,mb4.9	56.76	341	eP		P	P	17 48 36.4	-0.8
YAK	Yakutsk comp=Z,20nm,0.8s,mb5.2	65.48	16	eP		P	P	17 49 35.4	-0.7
MA2	Magadan comp=Z,8.2nm,0.8s,mb4.7	71.40	26	eP		P	P	17 50 13.2	+0.3
PET	Petropavlovsk comp=Z,7.6nm,0.5s,mb4.9	72.30	34	eP		P	P	17 50 18.7	+0.3
FINES	FINESS Array B comp=Z,0.8nm,0.5s,mb3.9,baz=99,slow=5.8,SNR=5.8	80.02	333	P		P	P	17 51 01.9	+0.2
FINES	FINESS Array B	80.02	333	P		P	P	17 51 01.9	+0.2

*IDC **28** 17:38:51.9±1.5, 2.36N×96.89E, mb4.1/7, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, Error ellipse: s-maj=73.6km s-min=21.1km az=52.0*
*NEIC **28** 17:38:55.5±0.9, 2.23N×96.69E, h30km, mb4.6/5, Error ellipse: s-maj=40.6km s-min=9.7km az=53.0*
ISC 28 17:38:54.2±1.2,**2.3N**±0.2×**96.8E**±0.3,**h30**km,**n20,**
σ0s69/20,mb4.3/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIRN	Jiri 28nm,0.8s,mb4.9	27.16	339	eP		P	P	17 44 36.1	-1.0
PKI	Pulchoki	27.37	338	eP		P	P	17 44 38.8	-0.2
DMN	Daman	27.52	337	eP		P	P	17 44 40.1	-0.3
KKN	Kakani 26nm,0.8s,mb4.9	27.62	338	eP		P	P	17 44 41.1	-0.2
GKN	Gorkha 33nm,0.9s,mb5.0	28.06	337	eP		P	P	17 44 45.2	0.0
KOLN	Koldanda 19nm,0.7s,mb4.8	28.28	335	eP		P	P	17 44 47.8	+0.6
WRA	Warramunga Arr 2.6nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=5.0	42.97	123	P		P	P	17 46 52.9	+0.2
WRA	Warramunga Arr	42.97	123	P		P	P	17 46 52.9	+0.2
ASAR	Alice Springs 0.9nm,0.9s,mb3.5,baz=297,slow=8.0,SNR=4.3	44.39	128	P		P	P	17 47 03.6	-0.6
ASAR	Alice Springs	44.39	128	P		P	P	17 47 03.6	-0.6
MKAR	Makanchi Array 2.0nm,0.5s,mb4.3,baz=163,slow=9.1,SNR=5.5	46.06	346	P		P	P	17 47 17.4	+0.2
MKAR	Makanchi Array	46.06	346	P		P	P	17 47 17.4	+0.2
SONM	Songino Array 2.0nm,0.4s,mb4.4,baz=190,slow=9.5,SNR=6.8	46.09	9	P		P	P	17 47 17.8	+0.4
SONM	Songino Array	46.09	9	P		P	P	17 47 17.8	+0.4
ULN	Ulaanbaatar 1.4nm,0.5s,mb4.2	46.23	10	eP		P	P	17 47 18.9	+0.5
BVAR	Borovoye Array 1.5nm,0.7s,mb4.1,baz=147,slow=11,SNR=2.9	55.07	341	P		P	P	17 48 25.0	-0.6
BVAR	Borovoye Array	55.07	341	P		P	P	17 48 25.0	-0.6
FINES	FINESS Array B 0.3nm,0.4s,mb3.6,baz=90,slow=8.3,SNR=2.3	78.83	332	P		P	P	17 50 55.5	-0.2
FINES	FINESS Array B	78.83	332	P		P	P	17 50 55.5	-0.2
GERES	GERESS Array B 1.0nm,0.8s,mb4.0,baz=76,slow=5.5,SNR=4.9	83.71	319	P		P	P	17 51 24.6	+3.0

*IDC **28** 17:39:54.1±0.6, 1.74N×97.07E, mb4.4/17, mb1 4.5/17, mb1mx4.4/21, mbtmp4.4/17, Error ellipse: s-maj=27.5km s-min=14.1km az=47.0*
*MOS **28** 17:39:57.5±0.9, 1.81N×97.16E, h33km, mb4.8/11, Error ellipse: s-maj=16.6km s-min=10.5km az=107.4*
*NEIC **28** 17:39:58.8±0.3, 1.75N×97.13E, h30km, mb4.7/13, Error ellipse: s-maj=8.4km s-min=6.1km az=220.0*
*BJI **28** 17:39:58.0, 1.79N×97.21E, h30km, mb5.1*
ISC 28 17:39:56.5±7.1,**1.77N**±0.07×**97.2E**±0.1,**h27**km±49km,**n57,**
σ0s81/57,mb4.5/39,2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	Kuching	13.15	91			Pn	P	17 43 04.4	0.0
KKM	Kota Kinabalu	19.48	77	P		P	P	17 44 23.4	-1.2
QIZ	Qiongzhong 11nm,0.8s,mb4.2	21.19	35	eP		P	P	17 44 42.4	0.0
ENH	Enshi 8.2nm,0.4s,mb4.9	30.67	21	eP		P	P	17 46 10.4	-0.8
WHN	Wuhan	32.94	28	⇓P		P	P	17 46 31.5	+0.4
XAN	Xi'an	33.94	18	P		P	P	17 46 39.5	-0.3
XAN					AMB	AMB			
	comp=Z,25nm,0.9s,mb5.1								
FITZ	Fitzroy Crossi comp=Z,5.4nm,0.6s,mb4.6,baz=247,slow=3.6,SNR=4.0	34.30	126	P		P	P	17 46 42.6	-0.4
NJ2	Nanjing	36.41	32	eP		P	P	17 47 05.3	+4.5
NJ2					AP	pP		17 47 13.8	+4.9
NJ2					XP	sP		17 47 18.3	+6.0
NJ2					AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.7								
GTA	Gaotai	37.55	3	eP		P	P	17 47 11.0	+0.7
GTA					AP	pP		17 47 21.0	+2.6
GTA					XP	sP		17 47 25.0	+3.2
GTA					AMB	AMB			
	comp=Z,15nm,0.8s,mb4.8								
BJT	Baijiatuau	41.81	22	eP		P	P	17 47 46.6	+0.9
BJT					pmax	pmax			
	comp=Z,44nm,0.9s								
BJT	Baijiatuau comp=Z,44nm,0.9s,mb5.1	41.81	22	eP		P	P	17 47 46.5	+0.8
BJI	Beijing	41.83	22	P		P	P	17 47 47.5	+1.6
BJI					AMB	AMB			
	comp=Z,43nm,0.8s,mb5.1								
WRA	Warramunga Arr	42.38	122	P		P	P	17 47 51.1	+0.5
	comp=Z,3.8nm,0.7s,mb4.2,baz=302,slow=9.1,SNR=5.0								
WRAB	Tennant Creek	42.38	122	eP		P	P	17 47 50.9	+0.3
WRAB					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.3								
WRAB	Tennant Creek comp=Z,4.6nm,0.6s,mb4.3	42.38	122	eP		P	P	17 47 50.9	+0.3
ASAR	Alice Springs comp=Z,2.2nm,0.7s,mb4.0,baz=306,slow=8.0,SNR=6.5	43.77	128	P		P	P	17 48 01.9	0.0
KS15	Wonju Array Si	45.38	35	eP		P	P	17 48 14.9	+0.3
AAK	Ala-Archa	45.46	336	*d*	*iP*	P	P	17 48 14.6	-0.6
AAK					pmax	pmax			
	comp=Z,4.0nm,2.0s,mb3.9								
SONM	Songino Array	46.58	9	P		P	P	17 48 25.0	+1.0
	comp=Z,5.4nm,0.7s,mb4.6,baz=190,slow=9.6,SNR=10								
MKAR	Makanchi Array	46.68	346	*i*	P	P	P	17 48 25.5	+0.7
MKAR					pmax	pmax			
	comp=Z,32nm,1.3s								
MKAR	Makanchi Array	46.68	346	P		P	P	17 48 25.7	+0.9
	comp=Z,15nm,0.9s,mb4.9,baz=162,slow=7.7,SNR=8.5								
ULN	Ulaanbaatar	46.71	9	eP		P	P	17 48 25.9	+0.9
ULN					pmax	pmax			
	comp=Z,3.0nm,0.5s,mb4.5								
ULN	Ulaanbaatar comp=Z,3.4nm,0.5s,mb4.5	46.71	9	eP		P	P	17 48 25.9	+0.9
ZAK	Zakamensk	48.72	5	eP		P	P	17 48 40.2	-0.4
ZAK					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4								
TLY	Talaya	50.04	5	*i*	P	P	P	17 48 51.9	+1.1
TLY					pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
HIA	Hailar	51.12	19	eP		P	P	17 48 58.8	-0.3
HIA					pmax	pmax			
	comp=Z,7.0nm,0.7s								
HIA	Hailar comp=Z,7.0nm,0.7s,mb4.7	51.12	19	eP		P	P	17 48 58.8	-0.3
KURK	Kurchatov	51.24	345	*i*	P	P	P	17 49 00.3	+0.4
KURK					pmax	pmax			
	comp=Z,200nm,4.0s								
KURK	Kurchatov comp=Z,3.9nm,0.8s,mb4.4	51.24	345	eP		P	P	17 48 59.6	-0.3
CTA	Charters Tower comp=Z,10.0nm,1.1s,mb4.7,baz=287,slow=5.8,SNR=3.8	52.80	117	P		P	P	17 49 12.9	+0.8
STKA	Stephens Creek comp=Z,3.7nm,0.8s,mb4.4,baz=123,slow=3.2,SNR=3.7	53.77	132	P		P	P	17 49 18.9	-0.2
BVAR	Borovoye Array comp=Z,1.5nm,0.4s,mb4.4,baz=146,slow=9.9,SNR=5.0	55.70	341	P		P	P	17 49 32.1	-0.8
CHKZ	Chkalovo	56.18	341	eP		P	P	17 49 35.7	-0.6
CHKZ					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6								
CHKZ	Chkalovo comp=Z,3.9nm,0.6s,mb4.6	56.18	341	eP		P	P	17 49 35.7	-0.6
YSS	Yuzh-Sakhalins	59.91	34	eP		P	P	17 50 02.1	-0.5
YSS					pmax	pmax			
	comp=Z,26nm,1.0s,mb5.2								
YSS	Yuzh-Sakhalins comp=Z,26nm,1.0s,mb5.2	59.91	34	eP		P	P	17 50 02.0	-0.5
KMBO	Kilima Mbogo	59.96	268	eP		P	P	17 50 03.6	+0.2
KMBO					pmax	pmax			
	comp=Z,7.0nm,0.9s								
KMBO	Kilima Mbogo comp=Z,4.1nm,0.9s,mb4.5,baz=53,slow=12,SNR=8.2	59.96	268	P		P	P	17 50 03.9	+0.5
KMBO	Kilima Mbogo comp=Z,7.4nm,0.9s,mb4.7	59.96	268	eP		P	P	17 50 03.5	+0.2
KIV	Kislovodsk	63.85	319	*i*	P	P	P	17 50 24.5	-4.6
YAK	Yakutsk	64.89	16	eP		P	P	17 50 34.3	-1.2
YAK					pmax	pmax			
	comp=N,3.0nm,0.9s								
YAK					pmax	pmax			
	comp=E,2.0nm,0.9s								
YAK					pmax	pmax			
	comp=Z,13nm,0.9s,mb5.0								
YAK	Yakutsk comp=Z,22nm,0.8s,mb5.2	64.89	16	eP		P	P	17 50 34.7	-0.9
EIL	Elat comp=Z,6.2nm,0.9s,mb4.6	65.12	302	eP		P	P	17 50 36.8	-0.7
BRTR	Keskin Array B comp=Z,2.2nm,0.8s,mb4.2,baz=130,slow=6.1,SNR=7.2	66.70	312	P		P	P	17 50 58.4	-1.7
MA2	Magadan	70.84	26	eP		P	P	17 51 12.3	-0.5
MA2					pmax	pmax			
	comp=Z,1.0nm,0.3s,mb4.2								
MA2	Magadan comp=Z,1.4nm,0.3s,mb4.4	70.84	26	eP		P	P	17 51 12.2	-0.5
OBN	Obninsk	72.11	328	*i*	P	P	P	17 51 16.2	-4.3
OBN				*e*	S	S		18 00 41.1	+1.6
OBN					pmax	pmax			
	comp=Z,9.0nm,1.5s,mb4.5								
TIXI	Tiksi	72.64	10	eP		P	P	17 51 21.6	-1.7
TIXI					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
LBTB	Lobatse comp=Z,4.1nm,0.8s,mb4.4,baz=107,slow=9.2,SNR=4.6	74.09	244	P		P	P	17 51 32.6	0.0
MLR	Muntele Rosu comp=Z,7.6nm,1.0s,mb4.6,baz=93,slow=5.2,SNR=5.2	75.62	317	P		P	P	17 51 41.5	+0.5
KOLS	Kolonicke sedl	78.76	320	*i*	P	P	P	17 52 00.5	+2.1
FINES	FINESS Array B comp=Z,1.0nm,0.7s,mb3.9,baz=107,slow=6.3,SNR=3.3	79.48	332	P		P	P	17 52 01.8	-0.3
BILL	Bilibino	80.66	21	eP		P	P	17 52 07.7	-0.5
BILL					pmax	pmax			
	comp=Z,1.0nm,0.8s,mb3.8								
ARCES	ARCESS Array B comp=Z,5.6nm,1.1s,mb4.4,baz=87,slow=5.9,SNR=5.7	81.99	340	P		P	P	17 52 15.4	+0.3
GERES	GERESS Array B comp=Z,4.1nm,1.1s,mb4.5,baz=90,slow=5.3,SNR=9.2	84.36	319	P		P	P	17 52 28.8	+1.1
VNDA	Vanda comp=Z,0.8nm,0.7s,mb4.1,baz=286,slow=8.9,SNR=3.6	86.39	169	P		P	P	17 52 37.3	+0.1
NOA	NORSAR Array B comp=Z,0.9nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=3.4	86.49	331	P		P	P	17 52 37.0	-1.0

*IDC **28** 17:40:48.3±1.8, 2.92N×95.53E, mb4.3/6, mb1 4.5/6, mb1mx4.1/18, mbtmp4.3/6, Error ellipse: s-maj=78.0km s-min=22.2km az=55.0*
*BJI **28** 17:40:56.1, 3.60N×96.70E, h30km, mb5.2*
*NEIC **28** 17:40:57.1±1.1, 3.64N×96.67E, h30km, mb4.9/8, Error ellipse: s-maj=30.5km s-min=12.0km az=67.0*
ISC 28 17:40:56.3±1.2,**3.6N**±0.1×**96.8E**±0.2,**h33**km,**n18,**
σ1s12/18,mb4.7/15,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
QIZ	Qiongzhong 21nm,1.0s	19.93	39	eP		P	P	17 45 28.0	-0.3
GYA	Guiyang	24.59	22	⇑	*i*P	P	P	17 46 16.5	+1.6
GYA					AMB	AMB			
	comp=Z,30nm,0.8s,mb4.9								
LSA	Lhasa comp=Z,186nm,2.3s,mb5.2	26.46	349	P		P	P	17 46 34.2	+1.7
ENH	Enshi comp=Z,39nm,1.0s,mb5.1	29.10	23	eP		P	P	17 46 55.1	-1.2
GTA	Gaotai	35.72	4	eP		P	P	17 47 56.0	+2.1
GTA					AP	pP		17 48 05.8	+2.2
GTA					XP	sP		17 48 09.0	+1.1
GTA					AMB	AMB			
	comp=Z,48nm,1.0s,mb5.4								
BJT	Baijiatuau comp=Z,18nm,0.8s,mb4.9	40.25	23	eP		P	P	17 48 31.5	-0.3
WRA	Warramunga Arr comp=Z,5.1nm,0.4s,mb4.6,baz=301,slow=9.1,SNR=9.2	43.71	124	P		P	P	17 49 00.8	+0.4
WRAB	Tennant Creek comp=Z,9.4nm,0.4s,mb4.9	43.72	124	eP		P	P	17 49 01.1	+0.5
KS15	Wonju Array Si	44.09	36	eP		P	P	17 48 58.8	-4.6
MKAR	Makanchi Array comp=Z,5.6nm,0.8s,mb4.8,baz=162,slow=6.9,SNR=5.7	44.79	346	P		P	P	17 49 08.7	-0.1
SONM	Songino Array comp=Z,3.8nm,0.6s,mb4.4,baz=191,slow=9.6,SNR=6.1	44.81	9	P		P	P	17 49 09.5	+0.6
ULN	Ulaanbaatar comp=Z,8.4nm,1.0s,mb4.5	44.95	10	eP		P	P	17 49 09.7	-0.3
ASAR	Alice Springs comp=Z,1.1nm,0.5s,mb4.0,baz=301,slow=8.0,SNR=4.0	45.22	129	P		P	P	17 49 12.2	-0.3
CN2	Changchun	47.36	28	eP		P	P	17 49 29.0	-0.1
HIA	Hailar comp=Z,10nm,0.8s,mb4.9	49.50	20	eP		P	P	17 49 43.6	-2.0
BVAR	Borovoye Array comp=Z,4.7nm,0.8s,mb4.5,baz=141,slow=9.5,SNR=3.9	53.83	341	P		P	P	17 50 16.3	-1.9
MA2	Magadan comp=Z,7.6nm,0.8s,mb4.7	69.34	26	eP		P	P	17 51 56.1	-6.3
GERES	GERESS Array B comp=Z,0.6nm,0.7s,mb3.7,baz=112,slow=7.2,SNR=3.8	82.71	319	P		P	P	17 53 10.8	-7.4

*IDC **28** 17:43:46.0±0.7, 1.01N×97.21E, mb4.3/16, mb1 4.3/16, mb1mx4.3/21, mbtmp4.3/16, Error ellipse: s-maj=27.9km s-min=14.7km az=47.0*
*BJI **28** 17:43:46.1, 0.49N×97.36E, h39km, mb5.0, Ms4.7, Msz4.3*
*NEIC **28** 17:43:50.5±0.3, 1.03N×97.24E, h30km, mb4.6/9, Error ellipse: s-maj=9.3km s-min=7.0km az=54.0*
ISC 28 17:43:46.6±6.1,**0.99N**±0.09×**97.2E**±0.1,**h15**km±42km,
h31km±.4km:**pP-P,n39,σ0s91/39,mb4.5/31,MS4.4/1,**
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.46	39	*e*	P	n	Pn	17 45 10.1	+0.6
CM31	Chiang Mai Arr	17.44	5	*e*	P	n	P	17 47 50.5	-0.6
KKM	Kota Kinabalu	19.59	75	eP		P	P	17 48 17.0	-0.2
KMI	Kunming	24.57	12	P		P	P	17 49 10.0	+2.6
KMI					AMB	AMB			
	comp=Z,38nm,1.2s,mb4.8								
LSA	Lhasa comp=Z,7.6nm,0.9s,mb4.4	29.13	349	eP		P	P	17 49 47.6	-1.7
ENH	Enshi comp=Z,16nm,0.9s,mb4.9	31.36	21	eP		P	P	17 50 07.0	-2.0
FITZ	Fitzroy Crossi comp=Z,5.0nm,0.8s,mb4.5,baz=342,slow=9.6,SNR=4.9	33.78	126	P		P	P	17 50 29.6	-0.6
GTA	Gaotai	38.31	3	eP		P	P	17 51 08.8	+0.4
GTA					AP	pP		17 51 17.8	+4.9
GTA					XP	sP		17 51 21.5	+6.7
GTA					AMB	AMB			
	comp=Z,23nm,0.9s,mb4.9								
JOW	Kunigami comp=Z,18nm,0.6s,mb5.0,baz=308,slow=24,SNR=4.0	39.35	47	P		P	P	17 51 17.8	+0.4
HHC	Hu-ho-hao-te	41.74	16	eP		P	P	17 51 38.3	+1.4
HHC					AP	pP		17 51 47.8	+6.4
HHC					PP	PP		17 53 18.0	+1.3
HHC					AMB	AMB			
	comp=Z,39nm,0.4s,mb5.4								
WRA	Warramunga Arr comp=Z,2.0nm,0.7s,mb3.9,baz=303,slow=9.6,SNR=6.9	41.90	122	P		P	P	17 51 38.3	-0.1
WRAB	Tennant Creek comp=Z,2.0nm,0.6s,mb3.9	41.90	122	eP		P	P	17 51 38.0	-0.4
BJT	Baijiatuau comp=Z,10nm,0.8s,mb4.5	42.49	22	eP		P	P	17 51 44.1	+1.0
BJI	Beijing	42.52	22	P		P	P	17 51 44.3	+1.1
BJI					AMB	AMB			
	comp=Z,22nm,0.8s,mb4.9								
ASAR	Alice Springs comp=Z,3.0nm,0.8s,mb4.0,baz=298,slow=7.5,SNR=7.0	43.24	127	P		P	P	17 51 49.6	+0.3
WMQ	Urumqi	43.48	350	P		P	P	17 51 51.8	+0.8
WMQ					AP	pP		17 52 01.0	+5.5
WMQ					PP	PP		17 53 35.0	+0.7
WMQ					AMB	AMB			
	comp=Z,12nm,0.8s,mb4.7								
WMQ					LR	LR			
	comp=N,534nm,20.2s,MS4.5								
WMQ					LR	LR			
	comp=E,398nm,19.9s,MS4.5								
WMQ					LR	LR			
	comp=Z,372nm,21.3s,MS4.3								
KS15	Wonju Array Si	45.97	34	eP		P	P	17 52 10.3	-0.8
SONM	Songino Array comp=Z,7.7nm,0.9s,mb4.6,baz=192,slow=9.3,SNR=9.9	47.33	8	P		P	P	17 52 22.2	+0.5
MKAR	Makanchi Array comp=Z,8.8nm,0.9s,mb4.7,baz=162,slow=7.7,SNR=8.2	47.45	346	P		P	P	17 52 23.3	+0.7
ULN	Ulaanbaatar comp=Z,5.7nm,0.8s,mb4.5	47.46	9	eP		P	P	17 52 22.6	0.0
CN2	Changchun	49.47	27	eP		P	P	17 52 38.3	0.0
CN2					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.8								
HIA	Hailar comp=Z,4.2nm,0.8s,mb4.4	51.82	19	eP		P	P	17 52 55.8	-0.4
KURK	Kurchatov comp=Z,5.7nm,0.9s,mb4.5	52.00	345	P		P	P	17 52 55.9	-1.6
STKA	Stephens Creek comp=Z,4.9nm,0.8s,mb4.5,baz=282,slow=4.2,SNR=5.2	53.19	132	P		P	P	17 53 06.7	0.0
BVAR	Borovoye Array comp=Z,3.1nm,0.8s,mb4.4,baz=135,slow=6.3,SNR=6.4	56.46	341	P		P	P	17 53 28.7	-1.4
YAK	Yakutsk comp=Z,6.9nm,0.6s,mb4.9	65.61	16	eP		P	P	17 54 30.9	-1.0
BRTR	Keskin Array B comp=Z,0.8nm,0.8s,mb3.7,baz=121,slow=8.4,SNR=3.5	69.28	312	P		P	P	17 54 54.6	-0.8
MA2	Magadan comp=Z,5.2nm,0.7s,mb4.6	71.50	26	eP		P	P	17 55 08.2	-0.4
LBTB	Lobatse comp=Z,1.9nm,0.8s,mb4.1,baz=187,slow=8.1,SNR=2.8	73.83	244	P		P	P	17 55 24.0	+1.1
LBTB	Lobatse	73.83	244	P		P	P	17 55 24.0	+1.0
AKASG	Malin Array Be comp=Z,0.3nm,0.2s,mb3.8,baz=91,slow=6.3,SNR=3.4	75.44	322	P		P	P	17 55 30.6	-1.2
FINES	FINESS Array B comp=Z,0.9nm,0.7s,mb3.8,baz=84,slow=13,SNR=4.2	80.20	333	P		P	P	17 55 57.9	+0.2
ARCES	ARCESS Array B comp=Z,3.4nm,0.9s,mb4.4,baz=63,slow=2.7,SNR=4.5	82.74	340	P		P	P	17 56 11.0	+0.1
ARCES	ARCESS Array B	82.74	340	P		P	P	17 56 11.0	+0.1
GERES	GERESS Array B comp=Z,1.1nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=6.2	84.99	319	P		P	P	17 56 23.2	+0.5
HFS	Hagfors comp=Z,1.0nm,0.5s,mb4.3,baz=162,slow=4.7,SNR=5.5	85.92	330	P		P	P	17 56 27.1	+0.1
NB2	NORSAR Subarra comp=Z,0.1nm,0.7s,baz=97,slow=5.3	87.20	331	P		P	P	17 56 34.0	+0.7
NOA	NORSAR Array B comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.8,SNR=4.0	87.20	331	P		P	P	17 56 33.9	+0.6
DAVOX	Davos	87.47	317	P		P	P	17 56 36.4	+1.4

IDC 28 17:47:09.6±9.8,**1.05N×97.06E,mb4.1/4,mb1 4.0/4,**
mb1mx3.7/17,mbtmp4.1/4,Error ellipse:
s-maj=216.3km s-min=99.0km az=148.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	Songino Array 4.1nm,0.9s,baz=190,slow=8.8,SNR=10	47.30	9	P		P	P	17 55 44.9	-1.9
MKAR	Makanchi Array 4.0nm,0.8s,baz=157,slow=7.8,SNR=7.8	47.35	346	P		P	P	17 55 45.4	-1.8
BVAR	Borovoye Array 0.9nm,0.6s,baz=135,slow=8.4,SNR=3.8	56.34	341	P		P	P	17 56 52.0	-2.7
FINES	FINESS Array B 0.6nm,0.7s,baz=90,slow=1.4,SNR=3.4	80.06	333	P		P	P	17 59 21.1	-1.4

*IDC **28** 17:47:38.7±0.7, 2.16N×96.25E, mb4.6/18, mb1 4.7/18, mb1mx4.5/23, mbtmp4.6/18, Error ellipse: s-maj=39.1km s-min=12.5km az=47.0*
*BJI **28** 17:47:41.4, 2.10N×96.35E, h35km, mb5.0, Ms4.6, Msz4.2*
*MOS **28** 17:47:42.0±0.8, 2.18N×96.30E, h33km, mb5.0/15, Error ellipse: s-maj=18.4km s-min=8.3km az=116.5*
*NEIC **28** 17:47:43.5±0.2, 2.18N×96.29E, h30km, mb4.8/22, Error ellipse: s-maj=8.1km s-min=4.0km az=223.0*
ISC 28 17:47:41.4±3.0,**2.18N**±0.06×**96.31E**±0.

GTA					XP	sP		17 55 05.3	+1.3
GTA					AMB	AMB			
	comp=Z,18nm,1.1s,mb4.8								
KAKA	**Kakadu**	**38.80**	**113**	⇑*i*P		**P**		**17 55 04.8**	**-1.0**
	comp=Z,9.0nm,0.5s,mb4.8								
HHC	**Hu-ho-hao-te**	**40.89**	**18**	*e*P		**P**		**17 55 24.5**	**+1.7**
HHC					AP	pP		17 55 33.8	+2.5
HHC					XP	sP		17 55 37.5	+2.7
HHC					PP	PP		17 57 03.8	+3.6
HHC					SCP			18 01 09.5	
HHC					S	**S**		**18 01 33.5**	**+1.1**
HHC					XS			18 01 52.8	
BJT	**Baijiatuau**	**41.76**	**23**	*e*P		**P**		**17 55 30.7**	**+0.7**
BJT					pmax	pmax			
	comp=Z,34nm,1.1s								
BJT	**Baijiatuau**	**41.76**	**23**	*e*P		**P**		**17 55 30.7**	**+0.7**
	comp=Z,34nm,1.1s,mb4.9								
BJI	**Beijing**	**41.78**	**23**	P		**P**		**17 55 31.0**	**+0.8**
BJI					AMB	AMB			
	comp=Z,31nm,0.7s,mb5.0								
WMQ	**Urumqi**	**42.17**	**351**	P		**P**		**17 55 34.0**	**+0.7**
WMQ					AP	pP		17 55 43.0	+1.3
WMQ					PP	PP		17 57 17.0	+3.1
WMQ					AMB	AMB			
	comp=Z,17nm,1.0s,mb4.6								
WMQ					LR	LR			
	comp=N,460nm,24.0s,MS4.5								
WMQ					LR	LR			
	comp=E,528nm,21.8s,MS4.5								
WMQ					LR	LR			
	comp=Z,403nm,22.5s,MS4.2								
WRA	**Warramunga Arr**	**43.30**	**122**	P		**P**		**17 55 43.0**	**+0.1**
	comp=Z,3.9nm,0.6s,mb4.3,baz=300,slow=9.5,SNR=14								
WRAB	**Tennant Creek**	**43.31**	**122**	*e*P		**P**		**17 55 43.2**	**+0.3**
WRAB					pmax	pmax			
	comp=Z,35nm,1.2s,mb5.0								
WRAB	**Tennant Creek**	**43.31**	**122**	*e*P		**P**		**17 55 43.2**	**+0.3**
	comp=Z,35nm,1.2s,mb5.0								
WB2	**Warramunga Arr**	**43.31**	**122**	⇓*i*P		**P**		**17 55 43.2**	**+0.2**
FORT	**Forrest**	**44.59**	**140**	*e*P		**P**		**17 55 55.0**	**+1.8**
	comp=Z,471nm,0.5s								
ASPA	**Alice Springs**	**44.69**	**127**	*e*P		**P**		**17 55 54.5**	**+0.4**
ASAR	**Alice Springs**	**44.69**	**127**	P		**P**		**17 55 53.7**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.4,baz=300,slow=7.9,SNR=28								
AAK	**Ala-Archa**	**44.76**	**337**	*e*P		**P**		**17 55 54.9**	**+0.5**
AAK					pmax	pmax			
	comp=Z,3.0nm,0.6s,mb4.3								
AAK	**Ala-Archa**	**44.76**	**337**	*e*P		**P**		**17 55 54.9**	**+0.5**
	comp=Z,3.5nm,0.6s,mb4.4								
MKAR	**Makanchi Array**	**46.09**	**347**	*e*P		**P**		**17 56 04.7**	**-0.1**
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.5s								
MKAR	**Makanchi Array**	**46.09**	**347**	P		**P**		**17 56 05.0**	**+0.2**
	comp=Z,13nm,0.4s,mb5.2,baz=159,slow=9.1,SNR=58								
SONM	**Songino Array**	**46.31**	**9**	P		**P**		**17 56 06.3**	**-0.2**
	comp=Z,5.0nm,0.4s,mb4.8,baz=189,slow=9.6,SNR=26								
SONM					PcP	PcP		17 57 42.1	+0.1
	comp=Z,1.5nm,0.5s,baz=191,slow=4.0,SNR=4.9								
ZAK	**Zakamensk**	**48.40**	**6**	*e*P		**P**		**17 56 22.6**	**-0.3**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.8s,mb4.2								
MOY	**Mondy**	**49.48**	**4**	*e*P		**P**		**17 56 33.0**	**+1.8**
KURK	**Kurchatov**	**50.63**	**346**	*i* P		**P**		**17 56 39.8**	**-0.2**
KURK					pmax	pmax			
	comp=Z,23nm,1.6s,mb4.9								
KURK	**Kurchatov**	**50.63**	**346**	*e*P		**P**		**17 56 39.7**	**-0.3**
	comp=Z,26nm,1.3s,mb5.0								
PMG	**Port Moresby**	**51.95**	**104**	P		**P**		**17 56 50.3**	**-0.3**
	comp=Z,17nm,0.7s,mb5.1,baz=292,slow=20,SNR=7.2								
NVS	**Novosibirsk**	**53.57**	**351**	*e*P		**P**		**17 56 58.0**	**-4.0**
NVS					pmax	pmax			
	comp=Z,10.0nm,0.5s,mb5.0								
NVS					pmax	pmax			
	comp=N,6.0nm,0.5s								
NVS					pmax	pmax			
	comp=E,5.0nm,0.5s								
CTAO	**Charters Tower**	**53.73**	**117**	*e*P		**P**		**17 57 03.7**	**0.0**
CTAO					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
CTAO	**Charters Tower**	**53.73**	**117**	*e*P		**P**		**17 57 03.7**	**+0.1**
	comp=Z,2.6nm,0.7s,mb4.3								
STKA	**Stephens Creek**	**54.67**	**132**	P		**P**		**17 57 10.3**	**-0.1**
	comp=Z,4.1nm,0.6s,mb4.6,baz=320,slow=7.0,SNR=14								
STKA	**Stephens Creek**	**54.67**	**132**	P		**P**		**17 57 10.3**	**-0.1**
BVA0	**Borovoye Array**	**55.04**	**341**	*i* P		**P**		**17 57 12.0**	**-0.9**
BVA0					pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2								
BVAR	**Borovoye Array**	**55.04**	**341**	P		**P**		**17 57 12.0**	**-0.9**
	comp=Z,14nm,0.6s,mb5.2,baz=140,slow=10,SNR=44								
CHKZ	**Chkalovo**	**55.52**	**342**	P		**P**		**17 57 15.8**	**-0.6**
CHKZ					pmax	pmax			
	comp=Z,7.0nm,0.5s,mb5.0								
BOD	**Bodaibo**	**57.23**	**11**	*e*P		**P**		**17 57 26.8**	**-1.7**
BOD					pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8								
KIV	**Kislovodsk**	**62.99**	**319**	*e*P		**P**		**17 58 07.1**	**-1.0**
KIV					pmax	pmax			
	comp=Z,4.0nm,0.5s,mb4.8								
KIV	**Kislovodsk**	**62.99**	**319**	*e*P		**P**		**17 58 07.1**	**-1.0**
	comp=Z,4.0nm,0.5s,mb4.8								
MALT	**Malatya**	**63.82**	**312**	*e*P		**P**		**17 58 13.4**	**-0.3**
EIL	**Elat**	**64.19**	**302**	P		**P**		**17 58 15.4**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.6								
YAK	**Yakutsk**	**64.74**	**17**	*e*P		**P**		**17 58 18.2**	**-1.1**
YAK					pmax	pmax			
	comp=Z,8.0nm,0.4s,mb5.1								
YAK	**Yakutsk**	**64.74**	**17**	*e*P		**P**		**17 58 18.2**	**-1.0**
	comp=Z,8.4nm,0.4s,mb5.1								
BRTR	**Keskin Array B**	**67.80**	**312**	P		**P**		**17 58 37.8**	**-1.4**
	comp=Z,1.5nm,0.7s,mb4.1,baz=141,slow=7.9,SNR=6.4								
MA2	**Magadan**	**70.85**	**26**	*e*P		**P**		**17 58 56.7**	**-0.8**
MA2					pmax	pmax			
	comp=Z,2.0nm,0.3s,mb4.5								
MA2	**Magadan**	**70.85**	**26**	*e*P		**P**		**17 58 56.7**	**-0.8**
	comp=Z,1.5nm,0.3s,mb4.4								
OBN	**Obninsk**	**71.33**	**328**	*e*P		**P**		**17 59 00.2**	**-0.3**
OBN					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.6								
AKASG	**Malin Array Be**	**73.95**	**322**	P		**P**		**17 59 15.2**	**-0.8**
	comp=Z,2.9nm,0.5s,mb4.5,baz=89,slow=5.3,SNR=15								
MLR	**Muntele Rosu**	**74.75**	**317**	P		**P**		**17 59 21.1**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.1,baz=85,slow=5.9,SNR=4.8								
FINES	**FINESS Array B**	**78.73**	**333**	P		**P**		**17 59 42.8**	**+0.2**
	comp=Z,6.9nm,0.5s,mb4.8,baz=97,slow=5.8,SNR=56								
KAF	**Kangasniemi**	**78.82**	**333**	*e*p		**P**		**17 59 43.0**	**-0.1**
	comp=Z,8.9nm,0.6s,mb4.9								
KAF	**Kangasniemi**	**78.82**	**333**	*e*P		**P**		**17 59 43.0**	**-0.1**
KAF					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
ARCES	**ARCESS Array B**	**81.32**	**340**	P		**P**		**17 59 56.6**	**+0.3**
	comp=Z,4.3nm,0.4s,mb4.7,baz=96,slow=5.3,SNR=46								
GERES	**GERESS Array B**	**83.50**	**319**	P		**P**		**18 00 08.7**	**+0.7**
	comp=Z,2.0nm,0.8s,mb4.2,baz=102,slow=4.6,SNR=15								
HFS	**Hagfors**	**84.47**	**330**	P		**P**		**18 00 13.2**	**+0.7**
	comp=Z,1.0nm,0.4s,mb4.3,baz=124,slow=5.3,SNR=8.6								
NB2	**NORSAR Subarra**	**85.72**	**331**	P		**P**		**18 00 18.9**	**0.0**
	comp=Z,5.6nm,1.2s,mb4.7,baz=95,slow=5.6								
NB2	**NORSAR Subarra**	**85.72**	**331**	P		**P**		**18 00 18.9**	**0.0**
NB2					pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.7								
NOA	**NORSAR Array B**	**85.72**	**331**	P		**P**		**18 00 18.8**	**-0.1**
	comp=Z,0.9nm,0.7s,mb4.1,baz=95,slow=5.2,SNR=4.1								
DAVOX	**Davos**	**85.98**	**317**	P		**P**		**18 00 21.4**	**+0.9**
	comp=Z,4.1nm,0.5s,mb4.9,baz=155,slow=4.2,SNR=14								
EKA	**Eskdalemuir Ar**	**93.61**	**326**	P		**P**		**18 00 57.5**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.5,baz=100,slow=5.1,SNR=4.6								
CFAA	**Coronel Fontan**	**147.30**	**205**	PKPbc		PKPdf		18 07 24.9	-0.6
	comp=Z,0.3nm,0.4s,baz=149,slow=3.3,SNR=4.1								

*IDC **28** 17:49:08.4±0.6, 17.80S×65.79E, mb4.5/11, mb1 4.5/11, mb1mx4.3/20, mbtmp4.5/11, Error ellipse: s-maj=24.2km s-min=16.9km az=22.0*
*NEIC **28** 17:49:09.9±0.6, 17.80S×65.77E, h10km, mb4.8/1, Error ellipse: s-maj=22.4km s-min=16.4km az=201.0*
ISC 28 17:49:08.1±0.6, 17.8S±0.1×65.8E±0.1, h10km, n19, σ1§18/13, mb4.5/11, Mauritius - Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMBO	**Kilima Mbogo**	**32.56**	**297**	P		**P**	**17 55 43.5**	**+1.5**
	6.4nm,0.9s,mb4.6,baz=84,slow=8.0,SNR=14							
LBTB	**Lobatse**	**38.00**	**252**	P		**P**	**17 56 27.5**	**-0.7**
	5.2nm,0.8s,mb4.3,baz=94,slow=8.5,SNR=6.1							
BOSA	**Boshof**	**38.61**	**246**	P		**P**	**17 56 32.9**	**-0.4**
	2.2nm,0.7s,mb4.0,baz=30,slow=12,SNR=3.1							
MAW	**Mawson**	**49.82**	**181**	P		**P**	**17 58 01.9**	**-1.0**
	3.8nm,0.7s,mb4.5,baz=345,slow=15,SNR=2.1							
FITZ	**Fitzroy Crossi**	**56.70**	**100**	P		**P**	**17 58 56.0**	**+1.4**
	17nm,1.0s,mb5.0,baz=213,slow=6.9,SNR=4.3							
GNI	**Garni**	**60.89**	**342**	P		**P**	**17 59 23.0**	**-0.4**
	5.0nm,0.6s,mb4.8,baz=160,slow=12,SNR=3.1							
GNI	**Garni**	**60.89**	**342**	*e*P		**P**	**17 59 23.0**	**-0.4**
	6.5nm,0.8s,mb4.8							
ASAR	**Alice Springs**	**63.46**	**108**	P		**P**	**17 59 41.1**	**+0.4**
	2.8nm,0.7s,mb4.5,baz=279,slow=6.1,SNR=5.7							
WRA	**Warramunga Arr**	**64.48**	**104**	P		**P**	**17 59 45.7**	**-2.0**
	4.4nm,0.9s,mb4.5,baz=265,slow=7.3,SNR=4.5							
DBIC	**Dimbokro**	**73.82**	**283**	P		**P**	**18 00 46.4**	**+1.0**
	7.5nm,0.9s,mb4.6,baz=92,slow=6.2,SNR=9.6							
VNDA	**Vanda**	**74.06**	**167**	P		**P**	**18 00 47.1**	**+1.5**
	1.7nm,0.8s,mb4.0,baz=277,slow=7.3,SNR=4.5							
AKASG	**Malin Array Be**	**75.39**	**337**	P		**P**	**18 00 52.2**	**-1.5**
	3.1nm,0.8s,mb4.3,baz=129,slow=5.6,SNR=2.9							
AKASG	**Malin Array Be**	**75.39**	**337**	P		**P**	**18 00 52.2**	**-1.5**
INK	**Inuvik**	**128.04**	**9**	PKP		PKPdf	18 08 14.8	-2.4
	1.7nm,1.0s,baz=336,slow=2.7,SNR=4.3							
YKA	**Yellowknife Ar**	**135.35**	**0**	PKP		PKPdf	18 08 30.0	-1.1
	0.7nm,0.8s,baz=354,slow=2.2,SNR=9.6							
ULM	**Lac du Bonnet**	**144.44**	**340**	PKP		PKPdf	18 08 44.2	-3.3
	1.0nm,0.5s,baz=45,slow=5.8,SNR=4.6							
ULM	**Lac du Bonnet**	**144.44**	**340**	PKP		PKPdf	18 08 44.2	-3.4
PDAR	**Pinedale Array**	**154.79**	**352**	PKP		PKPdf	18 09 04.3	+0.5
	0.8nm,0.9s,baz=315,slow=2.1,SNR=4.7							
TXAR	**Lajitas Array**	**165.00**	**322**	PKPab		PKPab	18 10 11.8	+0.3
	3.1nm,1.2s,baz=135,slow=1.8,SNR=3.5							

*IDC **28** 17:50:10.1±0.6, 1.62N×96.74E, mb4.3/18, mb1 4.4/18, mb1mx4.3/22, mbtmp4.3/18, Error ellipse: s-maj=26.4km s-min=13.2km az=44.0*
*BJI **28** 17:50:11.5, 1.26N×97.11E, h42km, mb4.9*
*NEIC **28** 17:50:14.6±0.3, 1.70N×96.83E, h30km, mb4.8/14, Error ellipse: s-maj=8.8km s-min=6.4km az=211.0*
ISC 28 17:50:11.4±3.6, 1.68N±0.07×96.87E±0.07, h20km±25km, h34km±2.6km:pP-P, n48, σ0§92/47, mb4.6/37, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.20**	**46**	Pn		**Pn**	**17 51 30.3**	**0.0**
KSM	**Kuching**	**13.44**	**91**	Pn		**P**	**17 53 24.7**	**+1.0**
KSM				*e*			17 53 34.2	
CM31	**Chiang Mai Arr**	**16.79**	**7**	*e*P		**P**	**17 54 07.3**	**0.0**
	4.0nm,0.4s							
PALK	**Pallekele**	**17.04**	**290**	P		**P**	**17 54 09.9**	**-0.6**
	2.1nm,0.3s							
KKM	**Kota Kinabalu**	**19.78**	**77**	*e*P		**P**	**17 54 42.7**	**-0.9**
QIZ	**Qiongzhong**	**21.42**	**36**	*e*P		**P**	**17 54 58.8**	**-1.8**
	52nm,1.3s,mb4.7							
KMI	**Kunming**	**23.98**	**13**	P		**P**	**17 55 27.8**	**+1.9**
KMI					AMB	AMB		
	comp=Z,26nm,1.1s,mb4.6							
LSA	**Lhasa**	**28.39**	**349**	P		**P**	**17 56 08.0**	**+1.2**
ENH	**Enshi**	**30.85**	**22**	*e*P		**P**	**17 56 26.8**	**-2.0**
	comp=Z,31nm,1.0s,mb5.1							
WHN	**Wuhan**	**33.15**	**28**	⇓P		**P**	**17 56 48.3**	**-0.6**
XAN	**Xi'an**	**34.11**	**18**	P		**P**	**17 56 56.0**	**-1.2**
XAN					AP	pP	17 57 08.5	+5.5
XAN					AMB	AMB		
	comp=Z,34nm,1.0s,mb5.2							
FITZ	**Fitzroy Crossi**	**34.48**	**126**	P		**P**	**17 57 01.5**	**+1.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=348,slow=14,SNR=3.2							
LZH	**Lanzhou**	**34.84**	**10**	*e*P		**P**	**17 57 03.0**	**-0.4**
LZH					AP	pP	17 57 11.8	+2.6
LZH					XP	sP	17 57 15.3	+3.6
LZH					PP	PP	17 58 22.8	+1.7
LZH					AMB	AMB		
	comp=Z,60nm,1.4s,mb5.3							
GTA	**Gaotai**	**37.64**	**4**	*e*P		**P**	**17 57 27.3**	**+0.2**
GTA					AP	pP	17 57 36.5	+3.6
GTA					XP	sP	17 57 39.8	+4.4
GTA					AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9							
JOW	**Kunigami**	**39.16**	**48**	P		**P**	**17 57 41.1**	**+1.2**
	comp=Z,6.0nm,0.5s,mb4.6,baz=280,slow=12,SNR=3.3							
BJT	**Baijiatuau**	**42.00**	**22**	*e*P		**P**	**17 58 03.8**	**+0.6**
	comp=Z,82nm,1.1s,mb5.3							
BJI	**Beijing**	**42.02**	**22**	P		**P**	**17 58 04.0**	**+0.7**
BJI					AMB	AMB		
	comp=Z,67nm,1.0s,mb5.2							
KSH	**Kashi**	**42.19**	**336**	*e*P		**P**	**17 58 05.8**	**+1.0**
KSH				*e*AP		pP	17 58 16.3	+5.6
KSH				*e*XP		sP	17 58 21.5	+8.4
WRA	**Warramunga Arr**	**42.57**	**122**	P		**P**	**17 58 07.6**	**-0.6**
	comp=Z,2.9nm,0.6s,mb4.2,baz=299,slow=9.3,SNR=5.8							
WRAB	**Tennant Creek**	**42.58**	**122**	*e*P		**P**	**17 58 07.8**	**-0.4**
	comp=Z,5.2nm,0.6s,mb4.4							
WMQ	**Urumqi**	**42.74**	**350**	*e*P		**P**	**17 58 11.3**	**+2.1**
WMQ					AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7							
ASAR	**Alice Springs**	**43.95**	**127**	P		**P**	**17 58 18.8**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.7,baz=299,slow=7.2,SNR=3.8							
AAK	**Ala-Archa**	**45.42**	**337**	*e*P		**P**	**17 58 30.1**	**-0.8**
	comp=Z,19nm,1.3s,mb4.8							
MKAR	**Makanchi Array**	**46.69**	**346**	P		**P**	**17 58 41.8**	**+0.9**
	comp=Z,8.6nm,0.6s,mb4.9,baz=162,slow=7.7,SNR=16							
SONM	**Songino Array**	**46.70**	**9**	P		**P**	**17 58 41.2**	**+0.3**
	comp=Z,5.8nm,0.5s,mb4.8,baz=190,slow=9.5,SNR=21							
ULN	**Ulaanbaatar**	**46.84**	**9**	*e*P		**P**	**17 58 42.4**	**+0.4**
	comp=Z,3.5nm,0.5s,mb4.5							
CN2	**Changchun**	**49.03**	**27**	*e*P		**P**	**17 58 59.0**	**-0.1**
CN2					AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1							
KURK	**Kurchatov**	**51.24**	**345**	*e*P		**P**	**17 59 15.7**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8							
HIA	**Hailar**	**51.29**	**19**	*e*P		**P**	**17 59 15.4**	**-0.9**
	comp=Z,5.7nm,0.8s,mb4.5							
CTA	**Charters Tower**	**53.02**	**117**	P		**P**	**17 59 29.6**	**-0.1**
	comp=Z,2.2nm,0.7s,mb4.2,baz=274,slow=15,SNR=2.8							
STKA	**Stephens Creek**	**53.93**	**132**	P		**P**	**17 59 37.4**	**+1.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=304,slow=15,SNR=3.5							
BVAR	**Borovoye Array**	**55.69**	**341**	P		**P**	**17 59 48.2**	**-0.5**
	comp=Z,6.1nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=10							
CHKZ	**Chkalovo**	**56.16**	**342**	*e*P		**P**	**17 59 51.9**	**-0.3**
	comp=Z,13nm,0.8s,mb5.0							
KMBO	**Kilima Mbogo**	**59.67**	**268**	P		**P**	**18 00 16.2**	**-1.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=54,slow=18,SNR=2.4							
YSS	**Yuzh-Sakhalins**	**60.14**	**35**	*e*P		**P**	**18 00 20.0**	**-0.1**
	comp=Z,31nm,1.1s,mb5.2							
YAK	**Yakutsk**	**65.05**	**16**	*e*P		**P**	**18 00 51.5**	**-1.0**
	comp=Z,46nm,1.0s,mb5.5							
BRTR	**Keskin Array B**	**68.54**	**312**	P		**P**	**18 01 15.5**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=113,slow=9.4,SNR=3.5							
MA2	**Magadan**	**71.04**	**26**	*e*P		**P**	**18 01 29.7**	**-0.3**
	comp=Z,10nm,1.1s,mb4.7							
AKASG	**Malin Array Be**	**74.67**	**322**	P		**P**	**18 01 49.9**	**-1.6**
	comp=Z,1.7nm,0.5s,mb4.2,baz=86,slow=5.3,SNR=5.9							
MLR	**Muntele Rosu**	**75.49**	**317**	P		**P**	**18 01 57.7**	**+1.4**
	comp=Z,5.1nm,1.1s,mb4.3,baz=135,slow=7.1,SNR=2.6							
MLR	**Muntele Rosu**	**75.49**	**317**	P		**P**	**18 01 57.7**	**+1.4**
FINES	**FINESS Array B**	**79.42**	**333**	P		**P**	**18 02 16.9**	**-0.8**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=5.6,SNR=3.8							
ARCES	**ARCESS Array B**	**81.97**	**340**	P		**P**	**18 02 31.8**	**+0.8**
	comp=Z,1.2nm,0.4s,mb4.2,baz=98,slow=4.6,SNR=10.0							
GERES	**GERESS Array B**	**84.23**	**319**	P		**P**	**18 02 43.3**	**+0.2**
	comp=Z,3.1nm,1.1s,mb4.4,baz=104,slow=5.5,SNR=8.0							
NB2	**NORSAR Subarra**	**86.42**	**331**	P		**P**	**18 02 53.3**	**-0.4**
	comp=Z,4.9nm,1.2s,mb4.6,baz=95,slow=5.0							
NOA	**NORSAR Array B**	**86.42**	**331**	P		**P**	**18 02 54.0**	**+0.3**
	comp=Z,2.2nm,1.1s,mb4.3,baz=94,slow=5.0,SNR=3.5							
DAVOX	**Davos**	**86.71**	**317**	P		**P**	**18 02 56.4**	**+0.9**
	comp=Z,1.6nm,0.5s,mb4.5,baz=151,slow=10,SNR=5.4							
CFAA	**Coronel Fontan**	**147.08**	**204**	PKPbc		PKPdf	18 09 54.5	-1.2
	comp=Z,0.3nm,0.5s,baz=171,slow=8.1,SNR=3.7							

IDC 28 17:54:25.8±2.4, 1.11N×97.27E, mb3.9/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, Error ellipse: s-maj=109.5km s-min=19.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**41.93**	**122**	P		P	18 02 18.7	-1.5
	1.2nm,0.6s,baz=302,slow=9.0,SNR=5.1							
ASAR	**Alice Springs**	**43.29**	**127**	P		P	18 02 29.8	-1.5
	0.4nm,0.4s,baz=299,slow=7.2,SNR=6.6							
SONM	**Songino Array**	**47.21**	**8**	P		P	18 03 00.5	-1.7
	1.3nm,0.5s,baz=191,slow=9.4,SNR=10							
MKAR	**Makanchi Array**	**47.34**	**346**	P		P	18 03 01.6	-1.7
	0.8nm,0.6s,baz=165,slow=7.2,SNR=3.7							
STKA	**Stephens Creek**	**53.25**	**132**	P		P	18 03 45.8	-2.8
	2.6nm,0.6s,baz=292,slow=5.6,SNR=5.3							
BVAR	**Borovoye Array**	**56.35**	**341**	P		P	18 04 08.2	-2.8
	0.5nm,0.5s,baz=117,slow=6.4,SNR=3.0							

*IDC **28** 17:56:30.3±0.5, 1.92N×96.08E, mb4.3/23, mb1 4.4/23, mb1mx4.3/26, mbtmp4.3/23, Error ellipse: s-maj=21.3km s-min=12.4km az=44.0*
*BJI **28** 17:56:30.9, 1.63N×96.11E, h29km, mb5.0, Ms4.7, Msz4.3*
*NEIC **28** 17:56:35.1±0.3, 1.89N×96.08E, h30km, mb4.8/21, Error ellipse: s-maj=8.6km s-min=6.2km az=216.0*
ISC 28 17:56:34.1±2.4, 1.90N±0.07×96.12E±0.08, h35km±21km, h27km±1.7km:pP-P, n69, σ0§87/64, mb4.6/49, MS4.4/1, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.64**	**53**	*e*Pn		**P**	**17 57 57.2**	**-0.5**
KSM	**Kuching**	**14.19**	**91**	*e*Pn		**P**	**17 59 56.6**	**+1.7**
CM31	**Chiang Mai Arr**	**16.69**	**9**	*e*Pn		**P**	**18 00 25.8**	**-1.1**
	11nm,0.8s							
KKM	**Kota Kinabalu**	**20.46**	**78**	*e*P		**P**	**18 01 11.5**	**0.0**
KMI	**Kunming**	**23.96**	**15**	⇑P		**P**	**18 01 48.5**	**+2.2**
KMI					AP		18 01 56.3	
KMI					AMB	AMB		
	comp=Z,45nm,1.3s,mb4.7							
JIRN	**Jiri**	**27.32**	**341**	*e*P		**P**	**18 02 18.6**	**+0.7**
	comp=Z,47nm,0.7s,mb5.1							
PKI	**Pulchoki**	**27.51**	**339**	*e*P		**P**	**18 02 19.6**	**0.0**
	comp=Z,56nm,1.2s,mb5.1							
DMN	**Daman**	**27.65**	**339**	*e*P		**P**	**18 02 21.1**	**+0.2**
	comp=Z,40nm,0.8s,mb5.1							
KKN	**Kakani**	**27.75**	**339**	*e*P		**P**	**18 02 22.1**	**+0.3**
	comp=Z,45nm,0.9s,mb5.1							
LSA	**Lhasa**	**28.05**	**351**	P		**P**	**18 02 22.8**	**-1.7**
LSA	**Lhasa**	**28.05**	**351**	*e*P		**P**	**18 02 24.9**	**+0.4**
	comp=Z,29nm,0.9s,mb4.9							
GKN	**Gorkha**	**28.18**	**338**	*e*P		**P**	**18 02 25.9**	**+0.2**
	comp=Z,42nm,0.8s,mb5.1							
KOLN	**Koldanda**	**28.38**	**336**	*e*P		**P**	**18 02 27.8**	**+0.4**
	comp=Z,58nm,0.8s,mb5.2							
ENH	**Enshi**	**30.94**	**23**	*e*P		**P**	**18 02 48.2**	**-1.9**
	comp=Z,14nm,0.9s,mb4.8							
XAN	**Xi'an**	**34.14**	**19**	P		**P**	**18 03 17.0**	**-1.0**
XAN					AP	pP	18 03 24.5	-3.6
XAN					AMB	AMB		
	comp=Z,16nm,0.8s,mb5.0							
SMLA	**Simla**	**34.15**	**330**	*i*		**P**	**18 03 07.7**	**-10**
SMLA				*i*			18 06 34.7	
LZH	**Lanzhou**	**34.76**	**11**	*e*P		**P**	**18 03 23.3**	**0.0**
LZH					AP	pP	18 03 31.8	-1.6

ULM	**Lac du Bonnet**	**127.04**	**10**	PKP	PKPdf	18 15 36.2	+1.3	
	comp=Z,0.8nm,0.3s,baz=64,slow=3.5,SNR=4.1							
ULM	**Lac du Bonnet**	**127.04**	**10**	PKP	PKPdf	18 15 36.2	+1.3	
TXAR	**Lajitas Array**	**143.63**	**30**	PKP	PKPdf	18 16 08.8	+2.8	
	comp=Z,0.4nm,0.4s,baz=194,slow=3.7,SNR=3.7							
TXAR	**Lajitas Array**	**143.63**	**30**	PKP	PKPdf	18 16 08.8	+2.8	

IDC 28 17:57:45.5±3.1, 0.15N×97.48E, mb4.3/5, mb1 4.4/5, mb1mx4.0/17, mbtmp4.3/5, Error ellipse: s-maj=132.6km s-min=23.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.25**	**121**	P	P	18 05 32.3	-1.9
	2.0nm,0.5s,baz=301,slow=9.0,SNR=5.6						
ASAR	**Alice Springs**	**42.54**	**126**	P	P	18 05 43.4	-1.4
	1.5nm,0.6s,baz=292,slow=7.6,SNR=5.8						
SONM	**Songino Array**	**48.13**	**8**	P	P	18 06 27.3	-1.9
	2.9nm,0.6s,baz=192,slow=9.5,SNR=4.1						
MKAR	**Makanchi Array**	**48.33**	**346**	P	P	18 06 29.0	-1.7
	5.7nm,0.6s,baz=163,slow=8.3,SNR=6.2						
BVAR	**Borovoye Array**	**57.33**	**341**	P	P	18 07 34.7	-2.9
	1.9nm,0.6s,baz=142,slow=8.9,SNR=3.7						

IDC 28 17:59:25.4±1.9, 0.78N×97.63E, mb4.1/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.1/6, Error ellipse: s-maj=83.2km s-min=28.4km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.45**	**122**	P	P	18 07 13.9	-1.8
	0.8nm,0.7s,baz=307,slow=8.5,SNR=5.5						
SONM	**Songino Array**	**47.48**	**8**	P	P	18 08 03.4	-0.7
	2.0nm,0.6s,baz=191,slow=9.0,SNR=4.9						
MKAR	**Makanchi Array**	**47.75**	**346**	P	P	18 08 04.4	-1.7
	1.0nm,0.5s,baz=160,slow=8.9,SNR=4.8						
BVAR	**Borovoye Array**	**56.78**	**341**	P	P	18 09 10.3	-3.4
	1.0nm,0.5s,baz=135,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**83.07**	**340**	P	P	18 11 52.5	-1.4
	4.8nm,1.1s,baz=108,slow=3.8,SNR=4.0						
GERES	**GERESS Array B**	**85.41**	**319**	P	P	18 12 05.1	-1.0
	0.2nm,0.8s,baz=90,slow=5.9,SNR=3.7						

*IDC **28** 17:59:42.5±0.3, 0.99N×97.87E, mb5.2/38, mb1 5.2/38, mb1mx5.2/39, mbtmp5.2/38, Error ellipse: s-maj=13.3km s-min=8.6km az=47.0*
*BJI **28** 17:59:45.8, 0.76N×97.60E, h45km, mB5.7, mb5.4, Ms6.6, Msz6.4*
*MOS **28** 17:59:46.1±0.8, 1.05N×97.98E, h33km, mb5.6/66, Error ellipse: s-maj=11.2km s-min=4.4km az=127.3*
*NEIC **28** 17:59:47.3±0.1, 1.00N×97.87E, h30km, mb5.4/93, Error ellipse: s-maj=5.6km s-min=3.5km az=221.0*
*CSEM **28** 17:59:51.9, 2.13N×97.65E, h33km, mb5.9*
ISC 28 17:59:46.2±0.2, 0.95N±0.03×97.89E±0.03, h33km, (h34km±2.2km: pP-P), n404, σ0=96/377, mb5.3/144, MS6.6/8, 26C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.77**	**41**	P	P	**18 00 60.0**	**+2.2**
KULM	**Kulim**	**5.12**	**33**	*e*P	P	**18 01 04.0**	**+1.5**
KGM	**Kluang**	**5.53**	**79**	P	P	**18 01 11.0**	**+2.6**
CM31	**Chiang Mai Arr**	**17.43**	**3**	*e*P	P	**18 03 46.5**	**-2.1**
	21nm,0.7s						
CHG	**Chiang Mai**	**17.78**	**3**	⇑P	P	**18 03 54.1**	**+1.2**
	28nm,0.8s						
PALK	**Pallekele**	**18.25**	**291**	*e*P	P	**18 03 59.5**	**+0.7**
	25nm,0.8s						
KKM	**Kota Kinabalu**	**18.97**	**74**	*e*P	P	**18 04 07.4**	**-0.3**
KKM	**Kota Kinabalu**	**18.97**	**74**	P	P	**18 04 10.0**	**+2.3**
TSM	**Tawau**	**20.24**	**80**	P	P	**18 04 21.4**	**-0.1**
MDRS	**Chennai**	**21.22**	**305**	*e*P	P	**18 04 32.0**	**+0.4**
MDRS				*e*		18 04 36.4	
	comp=Z,115nm,1.1s						
QIZ	**Qiongzhong**	**21.45**	**32**	P	P	**18 04 37.8**	**+3.9**
QIZ	**Qiongzhong**	**21.45**	**32**	*e*P	P	**18 04 36.5**	**+2.6**
	comp=Z,40nm,1.0s,mb4.7						
VIS	**Vishakhapatnam**	**21.96**	**320**	*e*P	P	**18 04 37.3**	**-1.7**
VIS				*e*		18 04 47.6	
	comp=Z,284nm,1.5s						
TRD	**Trivandrum**	**22.15**	**290**	*e*P	P	**18 04 42.1**	**+1.2**
KMI	**Kunming**	**24.48**	**11**	⇑P	P	**18 05 05.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.4						
HYB	**Hyderabad**	**25.09**	**312**	*e*P	P	**18 05 11.0**	**+1.4**
HYB	**Hyderabad**	**25.09**	**312**	*i* P	P	**18 05 11.0**	**+1.4**
BLSP	**Bilaspur**	**26.05**	**325**	*e*P	P	**18 05 16.0**	**-2.6**
BLSP				*e*		18 05 20.2	
	comp=Z,67nm,1.0s						
GYA	**Guiyang**	**26.73**	**18**	⇑*i*P	P	**18 05 24.0**	**-0.8**
GYA				AP	pP	18 05 33.5	-0.8
GYA				XP	sP	18 05 37.5	-0.8
GYA				PP	PP	18 06 09.3	-0.4
GYA				S	S	**18 09 56.0**	**-0.3**
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				LR	LR		
	comp=N,7μm,15.4s,MS5.5						
GYA				LR	LR		
	comp=E,7μm,16.0s,MS5.5						
PCPH	**Palayan**	**27.11**	**56**	⇓*e*P	P	**18 05 26.5**	**-2.0**
JIRN	**Jiri**	**28.82**	**338**	*e*P	P	**18 05 40.7**	**-3.1**
	comp=E,162nm,0.8s,mb5.8						
PKI	**Pulchoki**	**29.05**	**337**	*e*P	P	**18 05 42.4**	**-3.3**
	comp=E,228nm,1.1s,mb5.8						
PKI	**Pulchoki**	**29.05**	**337**	*e*P	P	**18 05 42.4**	**-3.3**
PKI				pmax	pmax		
	comp=Z,114nm,1.1s,mb5.5						
DMN	**Daman**	**29.20**	**336**	*e*P	P	**18 05 43.4**	**-3.7**
	comp=Z,116nm,0.9s,mb5.6						
KKN	**Kakani**	**29.29**	**337**	*e*P	P	**18 05 44.6**	**-3.3**
	comp=Z,263nm,1.0s,mb5.9						
KKN	**Kakani**	**29.29**	**337**	*e*P	P	**18 05 44.6**	**-3.3**
KKN				pmax	pmax		
	comp=Z,132nm,1.0s,mb5.6						
LSA	**Lhasa**	**29.30**	**348**	P	P	**18 05 46.0**	**-1.9**
LSA	**Lhasa**	**29.30**	**348**	*e*P	P	**18 05 46.2**	**-1.7**
GKN	**Gorkha**	**29.74**	**336**	*e*P	P	**18 05 48.1**	**-3.8**
	comp=Z,376nm,1.2s,mb6.0						
KOLN	**Koldanda**	**29.97**	**334**	*e*P	P	**18 05 50.3**	**-3.7**
	comp=Z,121nm,0.8s,mb5.7						
MBWA	**Marble Bar**	**30.65**	**137**	*e*P	P	**18 05 59.3**	**-0.8**
	comp=Z,48nm,1.1s,mb5.2						
ENH	**Enshi**	**31.17**	**20**	*e*P	P	**18 06 02.7**	**-1.9**
	comp=Z,32nm,0.6s,mb5.3						
LGTI	**Lohaghat**	**32.95**	**331**	*i* P	P	**18 06 20.5**	**+0.3**
PTH	**Pithoragarh**	**33.05**	**331**	*e*P	P	**18 06 20.9**	**-0.1**
PTH				*e*		18 10 13.2	
FITZ	**Fitzroy Crossi**	**33.23**	**126**	⇓*i*P	P	**18 06 20.6**	**-2.1**
	comp=Z,52nm,0.7s,mb5.6						
FITZ	**Fitzroy Crossi**	**33.23**	**126**	P	P	**18 06 20.4**	**-2.3**
	comp=Z,77nm,0.8s,mb5.7,baz=323,slow=4.0,SNR=49						
WHN	**Wuhan**	**33.32**	**26**	P	P	**18 06 22.8**	**-0.5**
XAN	**Xi'an**	**34.50**	**16**	P	P	**18 06 32.0**	**-1.4**
XAN				AMB	AMB		
	comp=Z,112nm,1.1s,mb5.7						
LZH	**Lanzhou**	**35.39**	**8**	*e*P	P	**18 06 42.0**	**+0.9**
LZH				AP	pP	18 06 51.0	+0.2
LZH				XP	sP	18 06 54.8	-0.3
LZH				PP	PP	18 08 03.3	+2.2
LZH				AMB	AMB		
	comp=Z,71nm,1.4s,mb5.4						
NJ2	**Nanjing**	**36.72**	**31**	*e*P	P	**18 06 55.8**	**+3.5**
NJ2				AP	pP	18 07 05.5	+3.4
NJ2				XP	sP	18 07 10.3	+4.0
NJ2				PP	PP	18 08 19.5	+1.7
NJ2				S	S	**18 12 35.0**	**+1.8**
NJ2				XS		18 12 51.0	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,2μm,8.2s						
NJ2				LR	LR		
	comp=N,36μm,18.0s						
NJ2				LR	LR		
	comp=E,49μm,12.3s						
NJ2				LR	LR		
	comp=Z,41μm,14.2s,MS6.4						
KAKA	**Kakadu**	**36.87**	**113**	*e*P	P	**18 06 51.1**	**-2.7**
	comp=Z,25nm,0.6s,mb5.2						
PONG	**Pong**	**37.14**	**328**	*e*P	P	**18 06 56.0**	**+0.1**
THN	**Thein Dam**	**37.64**	**328**	*e*	P	**18 06 55.5**	**-4.6**
	comp=Z,39nm,0.8s,mb5.2						
GTA	**Gaotai**	**38.31**	**2**	*e*P	P	**18 07 05.8**	**+0.2**
GTA				AP	pP	18 07 15.5	+0.1
GTA				XP	sP	18 07 18.8	-0.8
GTA				PP	PP	18 08 39.5	+2.5
GTA				PCP	PcP	18 09 19.8	+0.1
GTA				AMB	AMB		
	comp=Z,34nm,0.9s,mb5.1						
GTA				LR	LR		
	comp=N,49μm,19.0s,MS6.4						
GTA				LR	LR		
	comp=E,46μm,22.1s,MS6.4						
GTA				LR	LR		
	comp=Z,77μm,19.4s,MS6.5						
NWAO	**Narrogin (SRO)**	**38.33**	**153**	*e*P	P	**18 07 06.2**	**+0.4**
NWAO				pmax	pmax		
	comp=Z,4μm,4.0s						
NWAO	**Narrogin (SRO)**	**38.33**	**153**	P	P	**18 07 06.0**	**+0.2**
	comp=Z,18nm,0.8s,mb4.8,baz=326,slow=11,SNR=10						
NWAO	**Narrogin (SRO)**	**38.33**	**153**	*e*P	P	**18 07 06.2**	**+0.4**
	comp=Z,4μm,4.0s						
JOW	**Kunigami**	**38.91**	**46**	P	P	**18 07 11.1**	**+0.4**
	comp=Z,52nm,0.9s,mb5.3,baz=243,slow=6.3,SNR=6.2						
WRA	**Warramunga Arr**	**41.32**	**122**	P	P	**18 07 29.3**	**-1.5**
	comp=Z,57nm,0.8s,mb5.3,baz=300,slow=9.1,SNR=71						
WRA				PcP	PcP	18 09 29.5	0.0
	comp=Z,5.5nm,0.6s,baz=312,slow=2.7,SNR=5.8						
WRA				S	S	**18 13 39.4**	**-3.3**
	comp=Z,1.2nm,0.9s,baz=298,slow=10,SNR=3.8						
WRAB	**Tennant Creek**	**41.33**	**122**	P	P	**18 07 29.0**	**-1.8**
	comp=Z,533nm,0.7s,mb6.3,SNR=40						
WRAB	**Tennant Creek**	**41.33**	**122**	*e*P	P	**18 07 29.5**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,96nm,0.8s,mb5.5						
WRAB	**Tennant Creek**	**41.33**	**122**	*e*P	P	**18 07 29.5**	**-1.3**
	comp=Z,96nm,0.8s,mb5.5						
WB2	**Warramunga Arr**	**41.33**	**122**	⇓*i*P	P	**18 07 29.5**	**-1.3**
HHC	**Hu-ho-hao-te**	**41.60**	**16**	*e*P	P	**18 07 35.3**	**+2.4**
HHC				XP	sP	18 07 49.0	+2.1
HHC				PP	PP	18 09 15.3	+3.2
HHC				S	S	**18 13 50.8**	**+4.1**
HHC				AMB	AMB		
	comp=Z,63nm,0.9s,mb5.2						
HHC				LR	LR		
	comp=N,51μm,24.4s,MS6.4						
HHC				LR	LR		
	comp=E,35μm,22.0s,MS6.4						
HHC				LR	LR		
	comp=Z,61μm,26.8s,MS6.3						
BJT	**Baijiatuau**	**42.30**	**21**	*e*P	P	**18 07 40.0**	**+1.4**
BJT				pmax	pmax		
	comp=Z,24nm,0.7s						
BJT	**Baijiatuau**	**42.30**	**21**	*e*P	P	**18 07 40.0**	**+1.4**
	comp=Z,24nm,0.7s,mb4.9						
BJI	**Beijing**	**42.32**	**21**	P	P	**18 07 40.3**	**+1.6**
BJI				AMB	AMB		
	comp=Z,43nm,0.8s,mb5.1						
FORT	**Forrest**	**42.65**	**140**	*e*P	P	**18 07 43.0**	**+1.4**
	comp=Z,3μm,0.6s						
ASPA	**Alice Springs**	**42.70**	**127**	⇑*i*P	P	**18 07 41.0**	**-1.1**
ASAR	**Alice Springs**	**42.70**	**127**	P	P	**18 07 41.2**	**-0.9**
ASAR						18 09 33.6	
ASAR				S	S	**18 13 59.6**	**-3.4**
ASAR	**Alice Springs**	**42.70**	**127**	P	P	**18 07 41.2**	**-0.9**
	comp=Z,42nm,0.7s,mb5.3,baz=302,slow=7.8,SNR=102						
ASAR				PcP	PcP	18 09 33.5	-0.5
	comp=Z,6.5nm,0.7s,baz=299,slow=2.6,SNR=6.8						
ASAR				ScP		18 13 24.4	
	comp=Z,1.1nm,0.8s,baz=300,slow=3.7,SNR=4.7						
ASAR				S	S	**18 13 59.6**	**-3.4**
	comp=Z,1.3nm,1.1s,baz=308,slow=10,SNR=4.2						
KSH	**Kashi**	**43.28**	**335**	*e*P	P	**18 07 45.5**	**-1.1**
KSH				*e*AP	pP	18 07 55.3	-1.2
KSH				*e*XP	sP	18 07 58.0	-2.6
KSH				*e*PP	PP	18 09 27.0	-2.2
KSH				*e*PCP	PcP	18 09 36.0	+0.2
KSH				*e*PPP	PPP	18 10 02.5	-2.6
KSH				*e*SCP		18 13 21.5	
KSH				*e*PCS		18 13 26.0	
KSH				*e*S	S	**18 14 06.3**	**-4.9**
KSH				*e*SS	SS	18 17 14.0	-4.2
KSH				*e*SCS	ScS	18 17 40.0	-1.7
KSH				AMB	AMB		
	comp=Z,13μm,10.8s						
KSH				LR	LR		
	comp=N,57μm,12.7s,MS6.9						
KSH				LR	LR		
	comp=E,97μm,15.0s,MS6.9						
WBK	**Wadi Bani Khal**	**43.52**	**303**	P	P	**18 07 49.9**	**+1.1**
	SNR=5.8						
DL2	**Dalian**	**43.58**	**27**	P	P	**18 07 50.0**	**+1.0**
DL2				AMB	AMB		
	comp=Z,110nm,0.9s,mb5.6						
WMQ	**Urumqi**	**43.64**	**349**	⇑*i*P	P	**18 07 49.8**	**+0.3**
WMQ				AP	pP	18 07 59.5	+0.2
WMQ				XP	sP	18 08 03.5	0.0
WMQ				PP	PP	18 09 33.0	+0.2
WMQ				PPP	PPP	18 10 10.0	+0.3
WMQ				*e*S	S	**18 14 16.5**	**+0.1**
WMQ				XS		18 14 33.0	
WMQ				AMB	AMB		
	comp=Z,89nm,1.2s,mb5.4						
WMQ				AMB	AMB		
	comp=Z,486nm,5.7s						
BIDO	**Bidbid**	**44.60**	**303**	P	P	**18 07 58.3**	**+0.9**
	SNR=11						
SHAO	**Shalim**	**44.83**	**295**	P	P	**18 08 00.2**	**+0.9**
	SNR=6.8						
BSY	**Bisya**	**45.07**	**302**	P	P	**18 08 02.3**	**+1.1**
	SNR=10						
KS15	**Wonju Array Si**	**45.63**	**34**	*e*P	P	**18 08 05.8**	**+0.3**
ARQ	**Araqi**	**45.87**	**302**	P	P	**18 08 08.9**	**+1.2**
	SNR=9.0						
RBK	**Rabkut**	**45.98**	**294**	P	P	**18 08 09.0**	**+0.4**
	SNR=18						
WHFO	**Wadi Hawf**	**46.49**	**294**	P	P	**18 08 12.8**	**+0.3**
	SNR=7.7						
AAK	**Ala-Archa**	**46.50**	**336**	*e*P	P	**18 08 11.4**	**-0.9**
AAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**46.50**	**336**	*e*P	P	**18 08 11.4**	**-0.9**
	comp=Z,14nm,0.8s,mb5.0						
ABTO	**Aybut**	**46.77**	**293**	P	P	**18 08 15.0**	**+0.3**
	SNR=26						
SNY	**Shenyang**	**46.81**	**26**	⇓P	P	**18 08 15.0**	**+0.3**
SNY				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
SONM	**Songino Array**	**47.28**	**8**	P	P	**18 08 18.5**	**+0.2**
	comp=Z,17nm,0.7s,mb5.1,baz=193,slow=9.5,SNR=20						
SONM				PcP	PcP	18 09 49.0	-0.5
	comp=Z,5.0nm,0.7s,baz=188,slow=3.9,SNR=4.8						
SONM				ScP		18 13 43.1	
	comp=Z,0.9nm,0.4s,baz=190,slow=3.9,SNR=7.4						
ULN	**Ulaanbaatar**	**47.40**	**8**	*e*P	P	**18 08 19.8**	**+0.5**
ULN				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**47.40**	**8**	*e*P	P	**18 08 19.8**	**+0.5**
	comp=Z,23nm,1.0s,mb5.1						
MKAR	**Makanchi Array**	**47.65**	**346**	P	P	**18 08 20.1**	**-1.2**
	comp=Z,41nm,0.6s,mb5.6,baz=159,slow=6.9,SNR=51						
MKAR				S	S	**18 15 16.9**	**+3.2**
	comp=Z,0.8nm,0.9s,baz=162,slow=9.1,SNR=1.9						
CN2	**Changchun**	**49.22**	**26**	⇑P	P	**18 08 33.3**	**-0.2**
CN2				AMB	AMB		
	comp=Z,70nm,0.8s,mb5.7						
ZAK	**Zakamensk**	**49.46**	**5**	*e*P	P	**18 08 28.0**	**-7.2**
ZAK				*e*		18 08 35.5	
ZAK				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
PMG	**Port Moresby**	**50.13**	**103**	P	P	**18 08 39.2**	**-1.7**
PMG	**Port Moresby**	**50.13**	**103**	P	P	**18 08 39.1**	**-1.7**
	comp=Z,23nm,0.8s,mb5.3,baz=56,slow=1.0,SNR=6.7						
TLY	**Talaya**	**50.78**	**5**	*i* P	P	**18 08 43.8**	**-1.5**
TLY				pmax	pmax		
	comp=Z,19nm,1.4s,mb4.8						
TLY	**Talaya**	**50.78**	**5**	*e*P	P	**18 08 45.7**	**+0.4**
	comp=Z,11nm,0.9s,mb4.8						
IRK	**Irkutsk**	**51.39**	**5**	*e*P	P	**18 08 48.9**	**-1.0**
MAT	**Matsushiro**	**51.41**	**42**	*e*P	P	**18 08 50.0**	**-0.3**
MAT				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
MAT	**Matsushiro**	**51.41**	**42**	*e*P	P	**18 08 50.0**	**-0.3**
	comp=Z,15nm,1.0s,mb4.9						
MAT	**Matsushiro**	**51.41**	**42**	P	P	**18 08 49.8**	**-0.5**
HIA	**Hailar**	**51.66**	**18**	*e*P	P	**18 08 51.8**	**-0.1**
HIA				pmax	pmax		
	comp=Z,86nm,1.0s						
HIA	**Hailar**	**51.66**	**18**	*e*P	P	**18 08 51.8**	**-0.1**
	comp=Z,86nm,1.0s,mb5.6						
MDJ	**Mudanjiang**	**51.75**	**29**	P	P	**18 08 53.8**	**+1.1**
MDJ				AMB	AMB		
	comp=Z,53nm,1.1s,mb5.4						
CTA	**Charters Tower**	**51.78**	**117**	⇓*i*P	P	**18 08 52.8**	**-0.4**
	comp=Z,36nm,0.8s,mb5.4						
CTA	**Charters Tower**	**51.78**	**117**	⇓*i*P	P	**18 08 52.8**	**-0.4**
CTA				pmax	pmax		
	comp=Z,37nm,0.8s						
CTA	**Charters Tower**	**51.78**	**117**	P	P	**18 08 52.5**	**-0.7**
	comp=Z,44nm,0.8s,mb5.4,baz=289,slow=8.7,SNR=36						
CTAO	**Charters Tower**	**51.78**	**117**	*e*P	P	**18 08 52.3**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.5						
CTAO	**Charters Tower**	**51.78**	**117**	*e*P	P	**18 08 52.3**	**-1.0**
	comp=Z,48nm,0.8s,mb5.5						
KURK	**Kurchatov**	**52.21**	**345**	*e*P	P	**18 08 55.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,2μm,3.0s						
KURK	**Kurchatov**	**52.21**	**345**	*e*P	P	**18 08 55.0**	**-1.0**
	comp=Z,2μm,3.0s						
STKA	**Stephens Creek**	**52.68**	**132**	*e*P	P	**18 08 59.7**	**-0.2**
	comp=Z,17nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**52.68**	**132**	P	P	**18 08 59.8**	**-0.1**
	comp=Z,25nm,0.6s,mb5.3,baz=309,slow=7.8,SNR=38						
NVS	**Novosibirsk**	**55.04**	**350**	*i* P	P	**18 09 14.3**	**-2.6**
NVS				*i* S	S	**18 16 56.6**	**+1.4**
NVS				pmax	pmax		
	comp=Z,39nm,1.6s,mb5.2						
NVS				pmax	pmax		
	comp=N,16nm,0.8s						
NVS				pmax	pmax		
	comp=E,11nm,0.8s						
NVS				smax			
	comp=N,16nm,1.6s						
NVS				smax			
	comp=E,30nm,1.6s						
ATD	**Arta Tunnel**	**55.61**	**283**	P	P	**18 09 20.2**	**-1.4**
	comp=E,6.9nm,0.9s,mb4.7,baz=129,slow=22,SNR=4.9						
ATD	**Arta Tunnel**	**55.61**	**283**	P	P	**18 09 20.2**	**-1.4**
BVA0	**Borovoye Array**	**56.71**	**341**	*i* P	P	**18 09 27.1**	**-1.8**
BVA0				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**56.71**	**341**	P	P	**18 09 27.4**	**-1.6**
	comp=Z,27nm,0.8s,mb5.4,baz=135,slow=8.4,SNR=52						
CHKZ	**Chkalovo**	**57.18**	**341**	*e*P	P	**18 09 31.1**	**-1.2**
BOD	**Bodaibo**	**58.13**	**10**	*e*P	P	**18 09 38.3**	**-0.6**
BOD				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.3						
TOO	**Toolangi**	**58.29**	**136**	*e*P	P	**18 09 41.6**	**+1.3**
	comp=Z,0.5nm,0.8s						
TOO	**Toolangi**	**58.29**	**136**	*e*P	P	**18 09 41.6**	**+1.3**
TOO				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAJ	**Asahikawa**	**58.45**	**36**	P	P	**18 09 42.0**	**+0.7**
	comp=Z,20nm,0.7s,mb5.2,baz=101,slow=19,SNR=6.4						
CLNS	**Chul'man**	**59.77**	**17**	*e*P	P	**18 09 50.1**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,37nm,0.8s,mb5.5						
CLNS				pmax	pmax		
	comp=N,16nm,0.7s						
CLNS				pmax	pmax		
	comp=E,12nm,0.9s						
YSS	**Yuzh-Sakhalins**	**60.17**	**34**	⇓*i*P	P	**18 09 54.0**	**+0.8**
YSS				*e*		18 10 01.7	
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.8						
YSS	**Yuzh-Sakhalins**	**60.17**	**34**	*e*P	P	**18 09 53.6**	**+0.4**
	comp=Z,97nm,1.0s,mb5.8						
KMBO	**Kilima Mbogo**	**60.67**	**268**	*e*P	P	**18 09 56.9**	**-0.1**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**60.67**	**268**	P	P	**18 09 57.0**	**0.0**
	comp=Z,9.6nm,0.9s,mb4.9,baz=54,slow=8.9,SNR=20						
KMBO	**Kilima Mbogo**	**60.67**	**268**	*e*P	P	**18 09 56.9**	**-0.1**
	comp=Z,2.2nm,0.8s,mb4.3						
MSL	**Mosul**	**61.61**	**311**	*e*P	P	**18 10 02.0**	**-1.1**
GNI	**Garni**	**61.95**	**316**	*e*P	P	**18 10 04.4**	**-0.9**
GNI				pmax	pmax		
	comp=Z,41nm,1.0s						
GNI	**Garni**	**61.95**	**316**	P	P	**18 10 04.7**	**-0.5**
	comp=Z,15nm,0.8s,mb5.2,baz=2.3,slow=8.2,SNR=7.0						
GNI	**Garni**	**61.95**	**316**	*e*P	P	**18 10 04.4**	**-0.9**
	comp=Z,41nm,1.0s,mb5.5						
DGRG	**David-gareji**	**62.08**	**318**	P	P	**18 10 05.8**	**-0.3**
TBLG	**Delisi**	**62.62**	**318**	P	P	**18 10 08.8**	**-1.0**
ZEI	**Tsey**	**63.64**	**318**	*e*P	P	**18 10 15.8**	**-0.7**
ZEI				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
ARU	**Arti**	**63.68**	**337**	*e*P	P	**18 10 14.7**	**-1.8**
ARU				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.2						
ARU	**Arti**	**63.68**	**337**	*e*P	P	**18 10 14.7**	**-1.9**
	comp=Z,31nm,1.2s,mb5.2						
KIV	**Kislovodsk**	**64.94**	**319**	*i* P	P	**18 10 23.5**	**-1.4**
KIV				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.5						
KIV	**Kislovodsk**	**64.94**	**319**	*e*P	P	**18 10 23.1**	**-1.8**
	comp=Z,40nm,1.0s,mb5.4						
ASF	**Jabal al Asfar**	**65.17**	**305**	P	P	**18 10 26.6**	**0.0**
	comp=Z,13nm,0.9s,mb5.0,baz=341,slow=3.2,SNR=13						
GOF	**Gofitskoye**	**65.19**	**320**	⇑*i*P	P	**18 10 24.5**	**-2.0**
GOF				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
YAK	**Yakutsk**	**65.47**	**16**	*e*P	P	**18 10 26.6**	**-1.4**
YAK				pmax	pmax		
	comp=Z,64nm,0.7s,mb5.8						
YAK	**Yakutsk**	**65.47**	**16**	*e*P	P	**18 10 26.6**	**-1.4**
	comp=Z,64nm,0.7s,mb5

ISP	**Isparta**	**71.66**	**310**	*e*P		**P**	**18 11 05.9**	**-0.9**	
ISP					pmax	pmax			
	comp=Z,9.0nm,0.6s,mb4.9								
ISP	**Isparta**	**71.66**	**310**	*e*P		**P**	**18 11 05.9**	**-0.9**	
	comp=Z,9.1nm,0.6s,mb4.9								
PET	**Petropavlovsk**	**72.05**	**34**	*e*P		**P**	**18 11 11.1**	**+2.3**	
PET				*e*			18 13 54.5		
PET				*e*PPP		PPP	18 15 27.7	-5.1	
PET				*e*S		S	18 20 29.2	+2.1	
PET					pmax	pmax			
	comp=Z,31nm,0.5s,mb5.5								
PET					MLR	MLR			
	comp=Z,137μm,21.0s,MS7.2								
PET	**Petropavlovsk**	**72.05**	**34**	*e*P		**P**	**18 11 08.8**	**+0.1**	
	comp=Z,28nm,0.8s,mb5.2								
MAW	**Mawson**	**72.63**	**193**	P		**P**	**18 11 12.1**	**+0.2**	
	comp=Z,10nm,1.1s,mb4.7,baz=51,slow=20,SNR=3.7								
MOS	**Moscow**	**72.89**	**329**	*e*P		**P**	**18 11 12.1**	**-1.7**	
MOS				*e*		pP	18 11 23.0	-1.1	
MOS					pmax	pmax			
	comp=Z,58nm,1.0s,mb5.5								
OBN	**Obninsk**	**73.19**	**328**	*i* P		**P**	**18 11 14.2**	**-1.3**	
OBN				*e*			18 11 30.9		
OBN				*e*			18 13 55.8		
OBN				*e*S		S	18 20 38.7	-1.2	
OBN					pmax	pmax			
	comp=Z,40nm,1.5s,mb5.1								
OBN					MLR	MLR			
	comp=Z,98μm,23.0s,MS7.0								
OBN	**Obninsk**	**73.19**	**328**	*e*P		**P**	**18 11 14.3**	**-1.2**	
	comp=Z,17nm,0.8s,mb5.0								
TIXI	**Tiksi**	**73.31**	**10**	*i* P		**P**	**18 11 14.0**	**-1.9**	
LBTB	**Lobatse**	**74.39**	**244**	*e*P		**P**	**18 11 23.1**	**0.0**	
LBTB					pmax	pmax			
	comp=Z,61nm,0.8s,mb5.6								
LBTB	**Lobatse**	**74.39**	**244**	P		**P**	**18 11 23.3**	**+0.2**	
	comp=Z,58nm,0.8s,mb5.6,baz=113,slow=5.5,SNR=70								
LBTB	**Lobatse**	**74.39**	**244**	*e*P		**P**	**18 11 23.1**	**0.0**	
	comp=Z,61nm,0.8s,mb5.6								
TIRR	**Tirgusor**	**74.78**	**316**	⇑P		**P**	**18 11 23.4**	**-1.6**	
KIS	**Kishinev**	**75.14**	**319**	*e*P		**P**	**18 11 25.0**	**-2.0**	
KIS				*e*			18 11 45.0		
CFR	**Carcaliu**	**75.14**	**317**	⇓*i*P		**P**	**18 11 26.1**	**-0.9**	
HARR	**Harsova**	**75.17**	**316**	⇑*i*P		**P**	**18 11 26.8**	**-0.4**	
BOSA	**Boshof**	**75.25**	**240**	*e*P		**P**	**18 11 27.9**	**-0.1**	
BOSA					pmax	pmax			
	comp=Z,35nm,0.8s,mb5.3								
BOSA	**Boshof**	**75.25**	**240**	P		**P**	**18 11 27.9**	**-0.1**	
	comp=Z,41nm,0.7s,mb5.5,baz=88,slow=5.6,SNR=76								
BOSA	**Boshof**	**75.25**	**240**	*e*P		**P**	**18 11 27.9**	**-0.2**	
	comp=Z,35nm,0.8s,mb5.3								
IDI	**Anoyia**	**75.60**	**306**	P		**P**	**18 11 28.8**	**-1.1**	
	comp=Z,18nm,0.7s,mb5.1,baz=82,slow=10.0,SNR=5.5								
AKASG	**Malin Array Be**	**75.87**	**322**	P		**P**	**18 11 29.6**	**-1.5**	
	comp=Z,13nm,0.6s,mb5.0,baz=88,slow=5.3,SNR=12								
VRI	**Vrincioaia**	**76.26**	**317**	⇓*i*P		**P**	**18 11 33.6**	**+0.2**	
MLR	**Muntele Rosu**	**76.72**	**317**	P		**P**	**18 11 35.5**	**-0.5**	
	comp=Z,33nm,0.9s,mb5.2,baz=166,slow=1.2,SNR=31								
MLR	**Muntele Rosu**	**76.72**	**317**	⇓*i*P		**P**	**18 11 35.9**	**-0.1**	
BURAR	**Bucovina Array**	**77.66**	**319**	⇑P		**P**	**18 11 42.1**	**+0.9**	
MNK	**Minsk**	**77.74**	**326**	*e*P		**P**	**18 11 38.0**	**-3.5**	
VTS	**Vitosha**	**78.10**	**313**	P		**P**	**18 11 43.0**	**-0.7**	
RPZ	**Rata Peaks**	**78.55**	**135**	P		**P**	**18 11 46.8**	**+0.6**	
	comp=Z,20nm,0.8s,mb5.1,baz=169,slow=6.3,SNR=9.5								
SKO	**Skopje**	**79.30**	**312**	*i* P		**P**	**18 11 49.0**	**-1.3**	
APA	**Apatity**	**79.60**	**339**	⇑*i*P		**P**	**18 11 50.4**	**-1.0**	
APA					pmax	pmax			
	comp=Z,26nm,1.0s,mb5.1								
SUR	**Sutherland**	**79.61**	**237**	P		**P**	**18 11 52.9**	**+0.7**	
	comp=Z,28nm,0.8s,mb5.2,baz=90,slow=7.6,SNR=15								
SUR	**Sutherland**	**79.61**	**237**	*e*P		**P**	**18 11 52.8**	**+0.6**	
	comp=Z,83nm,1.4s,mb5.5								
KWP	**Kalwaria**	**79.70**	**320**	*e*P		**P**	**18 11 52.3**	**0.0**	
BZS	**Buzias**	**79.73**	**316**	P		**P**	**18 11 52.5**	**-0.1**	
BZS	**Buzias**	**79.73**	**316**	⇑P		**P**	**18 11 52.1**	**-0.5**	
BZS	**Buzias**	**79.73**	**316**	⇑P		**P**	**18 11 52.1**	**-0.5**	
KOLS	**Kolonicke sedl**	**79.85**	**320**	*i* P		**P**	**18 11 53.8**	**+0.7**	
GRUS	**Gruza**	**80.10**	**314**	⇓*i*P		**P**	**18 11 53.6**	**-1.0**	
SUW	**Suwalki**	**80.27**	**325**	*e*P		**P**	**18 11 54.5**	**-0.8**	
CRVS	**Cervenica-Dubn**	**80.37**	**319**	*i* P		**P**	**18 11 56.5**	**+0.6**	
FX1	**Attu Island--F**	**80.38**	**36**	P		**P**	**18 11 55.5**	**-0.4**	
	comp=Z,12nm,0.6s,mb5.0,baz=204,slow=20								
FINES	**FINESS Array B**	**80.53**	**332**	P		**P**	**18 11 56.0**	**-0.5**	
	comp=Z,6.2nm,0.4s,mb4.8,baz=100,slow=5.6,SNR=41								
KAF	**Kangasniemi**	**80.61**	**333**	*e*p		**P**	**18 11 56.5**	**-0.4**	
	comp=Z,11nm,0.5s,mb5.0								
KAF	**Kangasniemi**	**80.61**	**333**	*e*P		**P**	**18 11 56.5**	**-0.4**	
KAF					pmax	pmax			
	comp=Z,11nm,0.5s,mb5.0								
KECS	**Kecovo**	**80.94**	**319**	*i* P		**P**	**18 11 58.5**	**-0.5**	
BILL	**Bilibino**	**81.15**	**21**	*e*P		**P**	**18 12 01.0**	**+1.3**	
BILL				*e*			18 15 05.5		
BILL				*e*S		S	18 22 06.2	+0.5	
BILL					pmax	pmax			
	comp=Z,4.0nm,1.4s,mb4.2								
BILL					MLR	MLR			
	comp=Z,98μm,16.0s,MS7.3								
BILL	**Bilibino**	**81.15**	**21**	*e*P		**P**	**18 12 01.7**	**+2.0**	
	comp=Z,9.3nm,1.4s,mb4.5								
TSUM	**Tsumeb**	**81.16**	**251**	P		**P**	**18 12 00.7**	**+0.1**	
	comp=Z,17nm,1.0s,mb4.9,baz=82,slow=4.3,SNR=14								
NIE	**Niedzica**	**81.20**	**320**	*e*P		**P**	**18 12 00.0**	**-0.3**	
PSZ	**Piszkesteto**	**81.25**	**318**	*e*P		**P**	**18 12 00.5**	**-0.1**	
PSZ					pmax	pmax			
	comp=Z,22nm,0.8s,mb5.1								
PSZ	**Piszkesteto**	**81.25**	**318**	*e*P		**P**	**18 12 00.5**	**0.0**	
	comp=Z,22nm,0.8s,mb5.1								
OJC	**Ojcow**	**81.65**	**321**	*e*P		**P**	**18 12 02.5**	**-0.1**	
VYHS	**Vyhne**	**82.03**	**319**	*i* P		**P**	**18 12 04.5**	**-0.1**	
URZ	**Urewera**	**82.13**	**129**	P		**P**	**18 12 05.7**	**+0.3**	
	comp=Z,6.5nm,0.7s,mb4.7,baz=314,slow=4.6,SNR=6.2								
SRO2	**Moca**	**82.23**	**318**	*i* P		**P**	**18 12 06.2**	**+0.5**	
RHK1	**Bakonya**	**82.25**	**316**	*e*P		**P**	**18 12 05.9**	**+0.1**	
SRO	**Srobarova**	**82.29**	**318**	*i* P		**P**	**18 12 07.1**	**+1.1**	
TIP	**Timpagrande**	**82.52**	**309**	*e*P		**P**	**18 12 07.5**	**+0.1**	
OKC	**Ostrava-Krasne**	**82.65**	**320**	*e*P		**P**	**18 12 08.0**	**+0.2**	
ARCES	**ARCESS Array B**	**83.00**	**340**	P		**P**	**18 12 09.2**	**0.0**	
	comp=Z,26nm,0.9s,mb5.3,baz=104,slow=5.0,SNR=21								
MORC	**Moravsky Berou**	**83.03**	**320**	*e*P		**P**	**18 12 09.7**	**0.0**	
MORC					pmax	pmax			
	comp=Z,22nm,0.9s,mb5.2								
MORC	**Moravsky Berou**	**83.03**	**320**	*e*P		**P**	**18 12 09.7**	**0.0**	
	comp=Z,22nm,0.9s,mb5.2								
ZST	**Bratislava**	**83.14**	**318**	*i* P		**P**	**18 12 10.7**	**+0.4**	
VRAC	**Vranov**	**83.59**	**319**	P		**P**	**18 12 11.4**	**-1.2**	
	comp=Z,4.7nm,0.8s,mb4.7,baz=109,slow=3.6,SNR=5.9								
GKP	**Gorka Klasztor**	**83.64**	**323**	*e*P		**P**	**18 12 11.8**	**-1.0**	
DPC	**Dobruska-Polom**	**83.88**	**320**	*e*P		**P**	**18 12 14.8**	**+0.8**	
KSP	**Ksiaz**	**83.95**	**321**	⇓*e*P		**P**	**18 12 14.8**	**+0.4**	
KSP				*e**PP		pP	18 12 30.4	+5.6	
KSP	**Ksiaz**	**83.95**	**321**	*e*P		**P**	**18 12 15.3**	**+0.9**	
CSSN	**Cassano Irpino**	**83.97**	**311**	*e*P		**P**	**18 12 14.9**	**+0.2**	
UPC	**Upice**	**84.09**	**321**	*e*P		**P**	**18 12 15.8**	**+0.7**	
ARSA	**Arzberg**	**84.11**	**317**	⇑*i*P		**P**	**18 12 15.7**	**+0.4**	
	comp=Z,25nm,0.9s,mb5.3								
CII	**Carovilli**	**84.57**	**312**	*e*P		**P**	**18 12 16.9**	**-0.8**	
	comp=Z,107nm,1.8s,mb5.7								
OBKA	**Obir**	**84.72**	**316**	⇑*i*P		**P**	**18 12 18.6**	**+0.3**	
	comp=Z,23nm,1.3s,mb5.2								
SDI	**San Donato**	**84.94**	**312**	*e*P		**P**	**18 12 19.1**	**-0.5**	
PRU	**Pruhonice**	**84.98**	**320**	*e*P		**P**	**18 12 20.3**	**+0.7**	
MOA	**Molln**	**85.01**	**318**	⇑*i*P		**P**	**18 12 19.9**	**+0.2**	
	comp=Z,14nm,1.1s,mb5.0								
PVCC	**Panska Ves**	**85.01**	**320**	*e*P		**P**	**18 12 20.6**	**+0.9**	
AQU	**L'Aquila**	**85.28**	**312**	*e*P		**P**	**18 12 21.4**	**+0.2**	
BRG	**Berggiesshubel**	**85.43**	**321**	*i* P		**P**	**18 12 22.2**	**+0.4**	
BRG					pmax	pmax			
	comp=Z,19nm,1.0s,mb5.2								
BRG	**Berggiesshubel**	**85.43**	**321**	*i* P		**P**	**18 12 22.2**	**+0.4**	
	comp=Z,19nm,1.0s,mb5.2								
BRG				*e*			18 12 46.1		
GEC2	**GERESS Array S**	**85.45**	**319**	*e*P		**P**	**18 12 22.3**	**+0.4**	
GEC2					pmax	pmax			
	comp=Z,36nm,1.1s,mb5.4								
GEC2	**GERESS Array S**	**85.45**	**319**	*e*P		**P**	**18 12 22.3**	**+0.4**	
	comp=Z,36nm,1.1s,mb5.4								
GERES	**GERESS Array B**	**85.45**	**319**	P		**P**	**18 12 22.3**	**+0.4**	
	comp=Z,16nm,0.9s,mb5.2,baz=90,slow=5.3,SNR=62								
VNDA	**Vanda**	**85.45**	**169**	P		**P**	**18 12 22.3**	**+1.0**	
	comp=Z,6.7nm,0.7s,mb4.9,baz=294,slow=5.5,SNR=32								
NRCA	**Norcia**	**85.52**	**313**	*e*P		**P**	**18 12 22.3**	**-0.1**	
PTCC	**Patocco-Chiusa**	**85.53**	**316**	*e*P		**P**	**18 12 22.4**	**0.0**	
KHC	**Kasperske Hory**	**85.55**	**319**	*e*P		**P**	**18 12 22.6**	**+0.2**	
KBA	**Koelnbreinsper**	**85.58**	**317**	⇑*i*P		**P**	**18 12 22.3**	**-0.3**	
	comp=Z,12nm,0.8s,mb5.2								
KBA	**Koelnbreinsper**	**85.58**	**317**	⇑*i*P		**P**	**18 12 22.3**	**-0.3**	
KBA					pmax	pmax			
	comp=Z,12nm,0.8s,mb5.2								
SNTG	**Esanatoglia**	**85.66**	**313**	*e*P		**P**	**18 12 23.5**	**+0.4**	
ARV	**Arcevia**	**85.67**	**313**	*e*P		**P**	**18 12 23.8**	**+0.7**	
FVI	**Forni Avoltri**	**85.94**	**316**	*e*P		**P**	**18 12 24.4**	**+0.1**	
WET	**Wettzell**	**86.01**	**319**	*e*P		**P**	**18 12 25.2**	**+0.6**	
RSM	**Repubblica di**	**86.05**	**314**	*e*P		**P**	**18 12 26.3**	**+1.4**	
CLL	**Collm**	**86.05**	**321**	*i* P		**P**	**18 12 25.3**	**+0.5**	
CLL					pmax	pmax			
	comp=Z,11nm,0.9s,mb5.1								
CLL	**Collm**	**86.05**	**321**	*i* P		**P**	**18 12 25.3**	**+0.5**	
	comp=Z,11nm,0.9s,mb5.1								
CLL				*e*			18 12 29.0		
CLL				*e*			18 12 53.0		
CLL	**Collm**	**86.05**	**321**	P		**P**	**18 12 25.3**	**+0.5**	
	comp=Z,logA/T=1.1,mb5.1								
CLL				*e*			18 12 29.0		
CLL				*e*			18 13 11.0		
NKC	**Novy Kostel**	**86.35**	**320**	*e*P		**P**	**18 12 26.8**	**+0.6**	
SFI	**Santa Sofia**	**86.48**	**314**	*e*P		**P**	**18 12 28.3**	**+1.2**	
SBA	**Scott Base**	**86.55**	**169**	*e*P		**P**	**18 12 28.2**	**+1.5**	
SBA					pmax	pmax			
	comp=Z,22nm,0.9s,mb5.4								
SBA	**Scott Base**	**86.55**	**169**	*e*P		**P**	**18 12 28.2**	**+1.6**	
	comp=Z,22nm,0.9s,mb5.4								
PGD	**Poggio Sodo**	**86.57**	**314**	*e*P		**P**	**18 12 28.9**	**+1.4**	
VMG	**Vicchio**	**86.70**	**314**	*e*P		**P**	**18 12 29.1**	**+1.0**	
WTTA	**Wattenberg**	**86.75**	**317**	⇑*i*P		**P**	**18 12 27.9**	**-0.4**	
	comp=Z,20nm,0.8s,mb5.4								
WTTA	**Wattenberg**	**86.75**	**317**	⇑*i*P		**P**	**18 12 27.9**	**-0.4**	
WTTA					pmax	pmax			
	comp=Z,20nm,0.8s,mb5.4								
WATA	**Walderalm**	**86.80**	**317**	⇑*i*P		**P**	**18 12 28.2**	**-0.3**	
	comp=Z,8.7nm,1.0s,mb4.9								
WATA	**Walderalm**	**86.80**	**317**	⇑*i*P		**P**	**18 12 28.2**	**-0.3**	
WATA					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb5.0								
SEI	**Scarperia**	**86.84**	**314**	*e*P		**P**	**18 12 29.5**	**+0.7**	
MOX	**Moxa**	**86.90**	**320**	*e*P		**P**	**18 12 29.6**	**+0.7**	
MOX					pmax	pmax			
	comp=Z,20nm,1.5s,mb5.1								
MOX	**Moxa**	**86.90**	**320**	*e*P		**P**	**18 12 29.6**	**+0.7**	
	comp=Z,20nm,1.5s,mb5.1								
MOX	**Moxa**	**86.90**	**320**	*i* P		**P**	**18 12 29.6**	**+0.7**	
	comp=Z,logA/T=1.1,mb5.1								
FUR	**Furstenfeldbru**	**87.03**	**318**	*e*P		**P**	**18 12 30.3**	**+0.7**	
SQTA	**Sankt Quirin**	**87.04**	**317**	⇓*i*P		**P**	**18 12 29.6**	**-0.1**	
	comp=Z,7.2nm,0.9s,mb4.9								
SQTA	**Sankt Quirin**	**87.04**	**317**	⇓*i*P		**P**	**18 12 29.6**	**-0.1**	
SQTA					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.9								
GRA1	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**18 12 31.1**	**+1.1**	
	comp=Z,33nm,0.9s,mb5.6								
GRF	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**18 12 31.1**	**+1.1**	
GRF					pmax	pmax			
	comp=Z,33nm,0.9s,mb5.6								
GRF	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**18 12 31.1**	**+1.1**	
GRF					pmax	pmax			
	comp=Z,33nm,0.9s,mb5.6								
GRF	**Grafenberg Arr**	**87.11**	**320**	*e*P		**P**	**18 12 31.1**	**+1.1**	
	comp=Z,33nm,0.9s,mb5.6								
MOTA	**Moosalm**	**87.12**	**317**	⇑*i*P		**P**	**18 12 29.5**	**-0.6**	
ERBM	**Eremo**	**87.53**	**314**	*e*P		**P**	**18 12 33.6**	**+1.4**	
NB2	**NORSAR Subarra**	**87.55**	**331**	P		**P**	**18 12 31.7**	**-0.1**	
	comp=Z,24nm,0.8s,mb5.5,baz=95,slow=4.8								
NB2	**NORSAR Subarra**	**87.55**	**331**	P		**P**	**18 12 31.7**	**-0.1**	
NB2					pmax	pmax			
	comp=Z,24nm,0.8s,mb5.5								
NB2	**NORSAR Subarra** baz=95,slow=4.8	**87.55**	**331**	P		**P**	**18 12 31.7**	**-0.1**	
NOA	**NORSAR Array B**	**87.55**	**331**	P		**P**	**18 12 31.9**	**+0.1**	
	comp=Z,18nm,0.8s,mb5.3,baz=95,slow=4.9,SNR=64								
NOA					PP	PP	18 15 48.4	-11	
	comp=Z,0.9nm,0.9s,baz=105,slow=4.8,SNR=2.9								
BRMO	**Bormio**	**87.60**	**316**	*e*P		**P**	**18 12 33.0**	**+0.6**	
NAO01	**NORSAR Array S**	**87.71**	**331**	*e*P		**P**	**18 12 32.4**	**-0.2**	
	comp=Z,10nm,0.8s,mb5.1								
CLZ	**Clausthal**	**87.72**	**322**	*e*P		**P**	**18 12 33.7**	**+0.9**	
	comp=Z,42nm,1.2s,mb5.5								
BSEG	**Bad Segeberg**	**87.80**	**324**	*e*P		**P**	**18 12 34.1**	**+0.9**	
DAVOX	**Davos**	**87.94**	**317**	P		**P**	**18 12 34.4**	**+0.4**	
	comp=Z,20nm,0.8s,mb5.4,baz=121,slow=5.2,SNR=30								
DAVOX	**Davos**	**87.94**	**317**	P		**P**	**18 12 34.4**	**+0.4**	
DAVA	**Damuels**	**87.95**	**317**	⇓*i*P		**P**	**18 12 34.5**	**+0.4**	
	comp=Z,27nm,1.0s,mb5.4								
KONO	**Kongsberg**	**88.31**	**329**	*e*P		**P**	**18 12 35.6**	**+0.1**	
KONO					pmax	pmax			
	comp=Z,89nm,1.7s,mb5.7								
KONO	**Kongsberg**	**88.31**	**329**	*e*P		**P**	**18 12 35.6**	**+0.1**	
	comp=Z,89nm,1.7s,mb5.7								
PGF	**Pioggiola**	**88.54**	**312**	*e*P		**P**	**18 12 36.9**	**-0.1**	
	comp=Z,38nm,1.0s,mb5.4								
PGF	**Pioggiola**	**88.54**	**312**	*e*P		**P**	**18 12 36.9**	**-0.1**	
PGF					pmax	pmax			
	comp=Z,19nm,1.0s,mb5.4								
SPAK	**Spaichingen**	**88.69**	**318**	*e*P		**P**	**18 12 38.2**	**+0.6**	
TNS	**Taunus Mts**	**88.91**	**320**	*e*P		**P**	**18 12 39.6**	**+1.0**	
TNS					pmax	pmax			
	comp=Z,37nm,1.1s,mb5.6								
TNS	**Taunus Mts**	**88.91**	**320**	*e*P		**P**	**18 12 39.6**	**+1.0**	
	comp=Z,37nm,1.1s,mb5.6								
BFO	**Black Forest**	**89.00**	**318**	*e*P		**P**	**18 12 39.3**	**+0.2**	
FIN	**Finale Ligure**	**89.11**	**314**	*e*P		**P**	**18 12 40.0**	**+0.3**	
FELD	**Feldberg**	**89.22**	**318**	*e*P		**P**	**18 12 40.7**	**+0.6**	
LANF	**Langenberg**	**89.34**	**319**	*e*P		**P**	**18 12 41.4**	**+0.7**	
ABH	**Alteburg**	**89.50**	**320**	*e*P		**P**	**18 12 42.6**	**+1.2**	
SAOF	**Saorge**	**89.58**	**314**	*e*P		**P**	**18 12 42.6**	**+0.6**	
SBF	**Sospel**	**89.67**	**314**	*e*P		**P**	**18 12 42.3**	**-0.1**	
	comp=Z,77nm,0.9s,mb5.7								
SBF	**Sospel**	**89.67**	**314**	*e*P		**P**	**18 12 42.3**	**-0.1**	
SBF					pmax	pmax			
	comp=Z,39nm,0.9s,mb5.7								
CDF	**Champ du Feu**	**89.70**	**318**	*e*P		**P**	**18 12 42.1**	**-0.3**	
	comp=Z,14nm,0.9s,mb5.0								
CDF	**Champ du Feu**	**89.70**	**318**	*e*P		**P**	**18 12 42.1**	**-0.3**	
CDF					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb5.0								
ECH	**Echery**	**89.78**	**318**	*e*P		**P**	**18 12 43.6**	**+0.8**	
TOUF	**Mont Tournerai**	**89.81**	**314**	*e*P		**P**	**18 12 43.8**	**+0.8**	
RUP	**Ruppelstein**	**89.82**	**320**	*e*P		**P**	**18 12 43.8**	**+0.9**	
MVIF	**Mont Vial**	**89.88**	**314**	*e*P		**P**	**18 12 44.3**	**+1.0**	
WTSB	**Winterswijk**	**89.93**	**322**	*e*P		**P**	**18 12 43.7**	**+0.3**	
HINF	**Hinteralfeld**	**90.00**	**318**	*e*P		**P**	**18 12 43.1**	**-0.7**	
	comp=Z,27nm,1.4s,mb5.1								
HINF	**Hinteralfeld**	**90.00**	**318**	*e*P		**P**	**18 12 43.1**	**-0.7**	
HINF					pmax	pmax			
	comp=Z,14nm,1.4s,mb5.1								
LOMF	**Lomont**	**90.03**	**317**	*e*P		**P**	**18 12 44.3**	**+0.4**	
CALN	**Calern**	**90.07**	**314**	*e*P		**P**	**18 12 45.3**	**+1.1**	
LPG	**La Plagne**	**90.12**	**315**	*e*P		**P**	**18 12 44.8**	**+0.3**	
	comp=Z,60nm,0.9s,mb5.6								
LPG	**La Plagne**	**90.12**	**315**	*e*P		**P**	**18 12 44.8**	**+0.3**	
LPG					pmax	pmax			
	comp=Z,30nm,0.9s,mb5.6								
MBDF	**Montbardon**	**90.13**	**315**	*e*P		**P**	**18 12 43.9**	**-0.6**	
	comp=Z,32nm,1.2s,mb5.2								
MBDF	**Montbardon**	**90.13**	**315**	*e*P		**P**	**18 12 43.9**	**-0.6**	
MBDF					pmax	pmax			
	comp=Z,16nm,1.2s,mb5.2								
LPL	**La Plagne**	**90.14**	**315**	*e*P		**P**	**18 12 44.8**	**+0.3**	
	comp=Z,56nm,0.9s,mb5.6								
LPL	**La Plagne**	**90.14**	**315**	*e*P		**P**	**18 12 44.8**	**+0.3**	
LPL					pmax	pmax			
	comp=Z,28nm,0.9s,mb5.6								
BNI	**Bardonecchia**	**90.19**	**315**	*e*P		**P**	**18 12 44.6**	**-0.2**	
BNI					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.8								
BNI	**Bardonecchia**	**90.19**	**315**	*e*P		**P**	**18 12 44.6**	**-0.2**	
	comp=Z,3.8nm,0.8s,mb4.8								
FRF	**La Foret Royal**	**90.25**	**313**	*e*P		**P**	**18 12 45.1**	**0.0**	
	comp=Z,60nm,1.0s,mb5.6								
FRF	**La Foret Royal**	**90.25**	**313**	*e*P		**P**	**18 12 45.1**	**0.0**	
FRF					pmax	pmax			
	comp=Z,30nm,1.0s,mb5.6								
HAU	**Haudompre**	**90.33**	**318**	*e*P		**P**	**18 12 45.2**	**-0.2**	
	comp=Z,64nm,0.9s,mb5.6								
HAU	**Haudompre**	**90.33**	**318**	*e*P		**P**	**18 12 45.2**	**-0.2**	
HAU					pmax	pmax			
	comp=Z,32nm,0.9s,mb5.7								
LMR	**La Mourre**	**90.36**	**313**	*e*P		**P**	**18 12 45.6**	**0.0**	
WLF	**Walferdange**	**90.41**	**319**	*e*P		**P**	**18 12 45.6**	**-0.1**	
WLF					pmax	pmax			
	comp=Z,34nm,1.1s,mb5.6								
WLF	**Walferdange**	**90.41**	**319**	*e*P		**P**	**18 12 45.6**	**0.0**	
	comp=Z,34nm,1.1s,mb5.6								
HGN	**Heimansgroeve**	**90.51**	**321**	*e*P		**P**	**18 12 46.6**	**+0.5**	
CABF	**La Chapelle**	**90.55**	**316**	*e*P		**P**	**18 12 46.8**	**+0.4**	
	comp=Z,71nm,1.0s,mb5.6								
CABF	**La Chapelle**	**90.55**	**316**	*e*P		**P**	**18 12 46.8**	**+0.4**	
CABF					pmax	pmax			
	comp=Z,36nm,1.0s,mb5.7								
THEF	**They Montfort**	**90.57**	**318**	*e*P		**P**	**18 12 47.0**	**+0.5**	
ORIF	**Oris-en-Rattie**	**90.76**	**315**	*e*P		**P**	**18 12 47.8**	**+0.4**	
	comp=Z,41nm,1.0s,mb5.4								
ORIF	**Oris-en-Rattie**	**90.76**	**315**	*e*P		**P**	**18 12 47.8**	**+0.4**	
ORIF					pmax	pmax			
	comp=Z,20nm,1.0s,mb5.4								
MEZF	**Maizieres J'vi**	**91.18**	**318**	*e*P		**P**	**18 12 49.4**	**+0.1**	
	comp=Z,90nm,1.2s,mb5.7								
GIVF	**Givet**	**91.25**	**320**	*e*P		**P**	**18 12 49.8**	**+0.2**	
	comp=Z,43nm,1.0s,mb5.5								
GIVF	**Givet**	**91.25**	**320**	*e*P		**P**	**18 12 49.8**	**+0.2**	
GIVF					pmax	pmax			
	comp=Z,22nm,1.0s,mb5.4								
VIVF	**Saint-Julien-l**	**91.62**	**315**	*e*P		**P**	**18 12 51.6**	**+0.2**	
	comp=Z,77nm,1.4s,mb5.5								
VIVF	**Saint-Julien-l**	**91.62**	**315**	*e*P		**P**	**18 12 51.6**	**+0.2**	
VIVF					pmax	pmax			
	comp=Z,38nm,1.4s,mb5.5								
BAIF	**Baives**	**91.65**	**320**	*e*P		**P**	**18 12 51.9**	**+0.5**	
	comp=Z,86nm,1.0s,mb5.8								
BAIF	**Baives**	**91.65**	**320**	*e*P		**P**	**18 12 51.9**	**+0.5**	
BAIF					pmax	pmax			
	comp=Z,43nm,1.0s,mb5.7								
SMF	**Signal de Mont**	**92.10**	**317**	*e*P		**P**	**18 12 53.6**	**0.0**	
	comp=Z,74nm,0.9s,mb5.7								
SMF	**Signal de Mont**	**92.10**	**317**	*e*P		**P**	**18 12 53.6**

comp=Z,12nm,0.5s,mb5.0
FITZ Fitzroy Crossi 33.98 126 P **P 18 10 22.6 -0.6**
comp=Z,3.9nm,0.5s,mb4.6,baz=236,slow=1.7,SNR=3.3
XAN Xi'an 34.42 17 P **P 18 10 26.0 -0.9**
XAN AP pP 18 10 33.5 -3.1
XAN AMB AMB
comp=Z,21nm,1.1s,mb5.0
LZH Lanzhou 35.20 9 *e*P **P 18 10 33.8 +0.2**
LZH AP pP 18 10 41.5 -1.8
LZH XP sP 18 10 46.0 -1.6
LZH AMB AMB
comp=Z,50nm,1.5s,mb5.2
GTA Gaotai 38.05 3 *e*P **P 18 10 58.0 +0.4**
GTA AP pP 18 11 07.0 -0.3
GTA XP sP 18 11 10.3 -1.3
GTA AMB AMB
comp=Z,13nm,0.9s,mb4.7
JOW Kunigami 39.22 47 P **P 18 11 08.4 +1.0**
comp=Z,21nm,0.6s,mb5.1,baz=268,slow=7.0,SNR=8.0
WRA Warramunga Arr 42.08 122 P **P 18 11 31.0 -0.2**
comp=Z,2.9nm,0.5s,mb4.2,baz=302,slow=9.0,SNR=7.7
WRAB Tennant Creek 42.09 122 *e*P **P 18 11 31.2 0.0**
comp=Z,6.4nm,0.6s,mb4.4
BJT Baijiatuan 42.27 22 *e*P **P 18 11 33.0 +0.5**
comp=Z,8.5nm,0.4s,mb4.7
BJI Beijing 42.30 22 P **P 18 11 33.5 +0.8**
BJI AMB AMB
comp=Z,14nm,0.8s,mb4.6
ASAR Alice Springs 43.45 127 P **P 18 11 43.0 +0.6**
comp=Z,0.9nm,0.5s,mb3.8,baz=301,slow=7.6,SNR=6.0
AAK Ala-Archa 45.94 337 *e*P **P 18 12 02.9 +0.8**
comp=Z,6.5nm,1.0s,mb4.5
SONM Songino Array 47.08 8 P **P 18 12 11.5 +0.6**
comp=Z,2.0nm,0.4s,mb4.4,baz=193,slow=9.3,SNR=12
MKAR Makanchi Array 47.18 346 P **P 18 12 12.2 +0.4**
comp=Z,2.9nm,0.4s,mb4.5,baz=160,slow=9.1,SNR=20
ULN Ulaanbaatar 47.21 9 *e*P **P 18 12 12.1 +0.2**
comp=Z,2.3nm,0.5s,mb4.4
HIA Hailar 51.59 19 *e*P **P 18 12 44.9 -0.7**
comp=Z,7.0nm,0.9s,mb4.6
KURK Kurchatov 51.73 345 *e*P **P 18 12 45.7 -0.9**
comp=Z,2.9nm,0.5s,mb4.5
STKA Stephens Creek 53.41 132 P **P 18 12 60.0 +0.5**
comp=Z,2.0nm,0.6s,mb4.2,baz=309,slow=13,SNR=3.4
STKA Stephens Creek 53.41 132 P **P 18 12 60.0 +0.5**
BVAR Borovoye Array 56.19 341 P **P 18 13 18.6 -0.8**
comp=Z,2.1nm,0.5s,mb4.4,baz=144,slow=10,SNR=8.0
YAK Yakutsk 65.37 16 *e*P **P 18 14 20.1 -1.4**
comp=Z,2µm,3.3s
BRTR Keskin Array B 69.06 312 P **P 18 14 50.8 +5.7**
comp=Z,1.0nm,0.9s,mb3.7,baz=116,slow=6.5,SNR=3.5
MA2 Magadan 71.29 26 *e*P **P 18 14 58.1 -0.2**
comp=Z,3.4nm,0.6s,mb4.5
FINES FINESS Array B 79.94 333 P **P 18 15 47.0 -0.5**
comp=Z,1.1nm,0.8s,mb3.9,baz=186,slow=34,SNR=4.1
ARCES ARCESS Array B 82.48 340 P **P 18 16 01.2 +0.6**
comp=Z,0.8nm,0.4s,mb4.0,baz=90,slow=4.9,SNR=6.9

*BJI **28** 18:07:04.8, 1.73N×95.83E, h30km, mb5.1*
*IDC **28** 18:07:08.2± 1.3, 2.48N×95.98E, mb4.0/8, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, Error ellipse: s-maj=63.1km s-min=20.7km az=51.0*
*NEIC **28** 18:07:12.5± 0.6, 2.41N×95.94E, h30km, mb4.6/11, Error ellipse: s-maj=13.6km s-min=7.9km az=216.0*
ISC 28 18:07:12.6±3.9, 2.5N±0.2×96.0E±0.2, h45km±31km, n26, σ0§77/26, mb4.5/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.42**	**59**	*e*Pn	**P**	**18 08 32.6**	**-0.2**
CM31	**Chiang Mai Arr**	**16.15**	**10**	*e*Pn	**P**	**18 10 58.7**	**+0.5**
KKM	**Kota Kinabalu**	**20.46**	**79**	*e*P	**P**	**18 11 49.0**	**-0.1**
JIRN	**Jiri**	**26.76**	**340**	*e*P	**P**	**18 12 51.0**	**+0.7**
	47nm,0.8s,mb5.1						
PKI	**Pulchoki**	**26.95**	**339**	*e*P	**P**	**18 12 52.2**	**+0.2**
	30nm,1.1s,mb4.8						
DMN	**Daman**	**27.09**	**338**	*e*P	**P**	**18 12 53.6**	**+0.3**
	26nm,0.8s,mb4.8						
KKN	**Kakani**	**27.19**	**339**	*e*P	**P**	**18 12 54.0**	**-0.3**
	38nm,0.9s,mb4.9						
LSA	**Lhasa**	**27.48**	**351**	*e*P	**P**	**18 12 56.7**	**-0.1**
	7.7nm,0.8s,mb4.3						
GKN	**Gorkha**	**27.62**	**338**	*e*P	**P**	**18 12 58.2**	**0.0**
	56nm,0.9s,mb5.2						
KOLN	**Koldanda**	**27.82**	**336**	*e*P	**P**	**18 13 00.3**	**+0.3**
	15nm,0.7s,mb4.7						
LZH	**Lanzhou**	**34.23**	**11**	*e*P	**P**	**18 13 56.0**	**-0.3**
LZH				AP	pP	18 14 04.5	-3.9
LZH				XP	sP	18 14 08.5	-5.6
LZH				AMB	AMB		
	comp=Z,33nm,1.4s,mb5.1						
GTA	**Gaotai**	**36.94**	**5**	*e*P	**P**	**18 14 18.8**	**-0.4**
GTA				AP	pP	18 14 28.0	-3.4
GTA				XP	sP	18 14 31.8	-5.2
GTA				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.8						
BJT	**Baijiatuan**	**41.62**	**23**	*e*P	**P**	**18 14 59.4**	**+1.3**
	comp=Z,10nm,0.6s,mb4.6						
BJI	**Beijing**	**41.64**	**23**	P	**P**	**18 14 59.3**	**+1.0**
BJI				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
WRA	**Warramunga Arr**	**43.71**	**122**	P	**P**	**18 15 16.5**	**+1.0**
	comp=Z,1.7nm,1.0s,mb3.7,baz=294,slow=8.4,SNR=6.1						
ASAR	**Alice Springs**	**45.10**	**127**	P	**P**	**18 15 25.8**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.6,baz=299,slow=7.5,SNR=5.8						
MKAR	**Makanchi Array**	**45.74**	**347**	P	**P**	**18 15 31.3**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.4,baz=160,slow=8.4,SNR=16						
MKAR	**Makanchi Array**	**45.74**	**347**	P	**P**	**18 15 31.3**	**-0.1**
SONM	**Songino Array**	**46.08**	**10**	P	**P**	**18 15 33.7**	**-0.3**
	comp=Z,2.7nm,0.6s,mb4.4,baz=189,slow=8.9,SNR=11						
KURK	**Kurchatov**	**50.28**	**346**	*e*P	**P**	**18 16 05.9**	**-0.7**
	comp=Z,3.0nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**54.68**	**341**	P	**P**	**18 16 38.2**	**-1.1**
	comp=Z,2.1nm,0.8s,mb4.2,baz=135,slow=6.3,SNR=5.5						
CHKZ	**Chkalovo**	**55.16**	**342**	*e*P	**P**	**18 16 42.0**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.5						
YAK	**Yakutsk**	**64.56**	**17**	*e*P	**P**	**18 17 45.6**	**-1.5**
	comp=Z,11nm,0.8s,mb5.0						
AKASG	**Malin Array Be**	**73.54**	**322**	P	**P**	**18 18 41.9**	**-0.8**
	comp=Z,0.2nm,0.2s,mb3.7,baz=97,slow=4.7,SNR=4.2						
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**18 19 10.2**	**+0.6**
	comp=Z,1.4nm,0.9s,mb3.9,baz=135,slow=8.1,SNR=4.7						
GERES	**GERESS Array B**	**83.08**	**319**	P	**P**	**18 19 36.8**	**+1.9**
	comp=Z,0.7nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=5.6						

*IDC **28** 18:08:32.4± 1.4, 0.88N×97.09E, mb4.0/8, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, Error ellipse: s-maj=59.1km s-min=26.2km az=46.0*
*BJI **28** 18:08:34.4, 0.57N×97.60E, h37km, mb4.8*
*NEIC **28** 18:08:37.2± 0.7, 1.01N×97.27E, h30km, mb4.5/8, Error ellipse: s-maj=20.5km s-min=14.5km az=224.0*
ISC 28 18:08:35.9±1.1, 1.0N±0.2×97.3E±0.2, h33km, n22, σ0§92/21, mb4.3/19, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**24.55**	**12**	P	**P**	**18 13 56.8**	**+2.7**
KMI				AMB	AMB		
	comp=Z,28nm,1.4s,mb4.6						
LSA	**Lhasa**	**29.12**	**349**	P	**P**	**18 14 36.0**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.2						
ENH	**Enshi**	**31.34**	**21**	*e*P	**P**	**18 14 54.1**	**-1.6**
	comp=Z,12nm,0.9s,mb4.7						
GTA	**Gaotai**	**38.29**	**3**	*e*P	**P**	**18 15 55.5**	**+0.4**
GTA				AP	pP	18 16 02.3	-2.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**41.88**	**122**	P	**P**	**18 16 25.3**	**+0.2**
	comp=Z,1.3nm,0.7s,mb3.7,baz=304,slow=9.0,SNR=2.4						
BJT	**Baijiatuan**	**42.47**	**22**	*e*P	**P**	**18 16 29.9**	**+0.2**
	comp=Z,7.0nm,0.6s,mb4.5						
BJI	**Beijing**	**42.49**	**22**	P	**P**	**18 16 31.0**	**+1.1**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
SONM	**Songino Array**	**47.31**	**8**	P	**P**	**18 17 08.9**	**+0.6**
	comp=Z,4.2nm,0.8s,mb4.4,baz=191,slow=9.2,SNR=7.6						
SONM				PcP	PcP	18 18 39.5	+0.2
	comp=Z,1.4nm,0.8s,baz=190,slow=4.4,SNR=4.6						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**18 17 10.1**	**+0.7**
	comp=Z,4.7nm,0.8s,mb4.5,baz=162,slow=7.6,SNR=5.1						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**18 17 10.1**	**+0.7**
CN2	**Changchun**	**49.45**	**27**	*e*P	**P**	**18 17 24.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
KURK	**Kurchatov**	**51.99**	**345**	*e*P	**P**	**18 17 43.7**	**-0.4**
	comp=Z,3.9nm,0.9s,mb4.3						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**18 18 15.8**	**-1.0**
	comp=Z,1.7nm,0.8s,mb4.2,baz=149,slow=8.6,SNR=3.9						
CHKZ	**Chkalovo**	**56.93**	**341**	*e*P	**P**	**18 18 19.4**	**-0.8**
	comp=Z,3.5nm,0.7s,mb4.5						
YAK	**Yakutsk**	**65.59**	**16**	*e*P	**P**	**18 19 17.4**	**-1.1**
	comp=Z,11nm,0.8s,mb5.0						
BRTR	**Keskin Array B**	**69.28**	**312**	P	**P**	**18 19 41.6**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.7,baz=104,slow=5.9,SNR=2.4						
MA2	**Magadan**	**71.48**	**26**	*e*P	**P**	**18 19 54.8**	**-0.2**
	comp=Z,2.7nm,0.6s,mb4.3						
FINES	**FINESS Array B**	**80.20**	**333**	P	**P**	**18 20 44.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=2.8,SNR=3.0						
GERES	**GERESS Array B**	**85.00**	**319**	P	**P**	**18 21 10.9**	**+1.6**
	comp=Z,0.7nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=4.1						
NB2	**NORSAR Subarra**	**87.20**	**331**	P	**P**	**18 21 20.0**	**+0.2**
	comp=Z,1.3nm,0.9s,mb4.2,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**87.20**	**331**	P	**P**	**18 21 20.3**	**+0.5**
	comp=Z,0.7nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=4.4						
ITR	**Itaparica**	**135.22**	**259**	*e*P	PKPdf	18 27 52.3	-1.1

IDC 28 18:09:50.5±4.3, 0.91N×97.60E, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=168.8km s-min=24.5km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.54**	**122**	P	P	18 17 39.8	-1.9
	0.9nm,0.8s,baz=298,slow=9.4,SNR=2.9						
ASAR	**Alice Springs**	**42.90**	**127**	P	P	18 17 51.2	-1.5
	0.6nm,0.7s,baz=293,slow=6.9,SNR=3.6						
SONM	**Songino Array**	**47.36**	**8**	P	P	18 18 26.3	-1.8
	0.4nm,0.5s,baz=198,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**47.62**	**346**	P	P	18 18 28.1	-2.1
	0.8nm,0.5s,baz=162,slow=8.9,SNR=4.1						

IDC 28 18:11:58.1±3.0, 1.27N×97.12E, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=133.5km s-min=22.2km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.14**	**122**	P	P	18 19 51.9	-2.3
	0.4nm,0.5s,baz=300,slow=9.2,SNR=5.5						
ASAR	**Alice Springs**	**43.50**	**127**	P	P	18 20 04.2	-1.2
	0.5nm,1.0s,baz=302,slow=7.6,SNR=3.9						
SONM	**Songino Array**	**47.07**	**9**	P	P	18 20 31.9	-1.6
	0.5nm,0.5s,baz=190,slow=8.8,SNR=3.6						
MKAR	**Makanchi Array**	**47.15**	**346**	P	P	18 20 32.6	-1.5
	0.7nm,0.5s,baz=156,slow=9.5,SNR=5.4						
BVAR	**Borovoye Array**	**56.15**	**341**	P	P	18 21 39.0	-2.9
	0.6nm,0.5s,baz=135,slow=8.2,SNR=3.9						

*IDC **28** 18:13:18.7± 0.5, 1.34N×97.13E, mb4.6/23, mb1 4.7/23, mb1mx4.6/26, mbtmp4.6/23, Error ellipse: s-maj=20.7km s-min=11.4km az=42.0*
*BJI **28** 18:13:21.2, 1.15N×97.32E, h37km, mb5.1, Ms5.2, Msz4.7*
*MOS **28** 18:13:23.5± 0.9, 1.68N×97.21E, h33km, mb5.2/9, Error ellipse: s-maj=22.9km s-min=10.7km az=98.4*
*NEIC **28** 18:13:23.3± 0.2, 1.31N×97.15E, h30km, mb5.0/32, Error ellipse: s-maj=6.0km s-min=4.0km az=218.0*
ISC 28 18:13:20.5±2.0, 1.32N±0.05×97.18E±0.05, h23km±14km, h25km±1.2km; pP-P, n117, σ0§87/118, mb4.9/71, MS4.9/2, 7C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.25**	**41**	*e*Pn	**Pn**	**18 14 40.4**	**+0.8**
KSM	**Kuching**	**13.12**	**89**	*e*Pn	**P**	**18 16 30.3**	**+1.9**
CM31	**Chiang Mai Arr**	**17.11**	**6**	*e*Pn	**P**	**18 17 19.1**	**-1.1**
KKM	**Kota Kinabalu**	**19.56**	**76**	*e*P	**P**	**18 17 49.5**	**-0.4**
QIZ	**Qiongzhong**	**21.53**	**34**	*e*P	**P**	**18 18 10.0**	**-0.4**
QIZ	**Qiongzhong**	**21.53**	**34**	*e*P	**P**	**18 18 10.3**	**-0.1**
KMI	**Kunming**	**24.26**	**12**	⇑P	**P**	**18 18 39.5**	**+2.2**
KMI				AP		18 18 46.3	
KMI				AMB	AMB		
	comp=Z,94nm,1.5s,mb5.0						
GYA	**Guiyang**	**26.60**	**19**	⇑*i*P	**P**	**18 18 58.8**	**-0.5**
GYA				AP	pP	18 19 08.3	+2.3
GYA				XP	sP	18 19 12.5	+3.5
GYA				PP	PP	18 19 43.0	-0.5
GYA				S	**S**	**18 23 29.3**	**-1.5**
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,150nm,3.0s						
GYA				LR	LR		
	comp=N,5µm,16.0s,MS5.3						
GYA				LR	LR		
	comp=E,4µm,15.8s,MS5.3						
GYA				LR	LR		
	comp=Z,3µm,16.0s,MS5.0						
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**18 19 14.8**	**+0.8**
	comp=Z,184nm,1.0s,mb5.7						
PKI	**Pulchoki**	**28.43**	**338**	*e*P	**P**	**18 19 16.3**	**+0.4**
	comp=Z,75nm,1.0s,mb5.3						
DMN	**Daman**	**28.58**	**337**	*e*P	**P**	**18 19 17.5**	**+0.2**
	comp=Z,70nm,0.9s,mb5.4						
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**18 19 18.4**	**+0.3**
	comp=Z,110nm,1.1s,mb5.5						
LSA	**Lhasa**	**28.80**	**349**	P	**P**	**18 19 20.8**	**+1.6**
LSA	**Lhasa**	**28.80**	**349**	*e*P	**P**	**18 19 19.9**	**+0.7**
	comp=Z,24nm,0.8s,mb5.0						
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**18 19 22.7**	**+0.6**
	comp=Z,120nm,0.9s,mb5.6						
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**18 19 24.8**	**+0.7**
	comp=Z,74nm,0.8s,mb5.5						
ENH	**Enshi**	**31.07**	**21**	*e*P	**P**	**18 19 38.0**	**-1.4**
	comp=Z,71nm,0.7s,mb5.6						
ENH				*e*	pP	18 19 44.7	-1.4
FITZ	**Fitzroy Crossi**	**34.02**	**126**	⇑*i*P	**P**	**18 20 03.9**	**-1.3**
	comp=Z,10nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**34.02**	**126**	P	**P**	**18 20 04.2**	**-1.0**
	comp=Z,15nm,0.7s,mb5.0,baz=325,slow=3.6,SNR=21						
XAN	**Xi'an**	**34.35**	**17**	P	**P**	**18 20 06.8**	**-1.1**
XAN				AP	pP	18 20 13.3	-1.4
XAN				AMB	AMB		
	comp=Z,48nm,0.9s,mb5.4						
LZH	**Lanzhou**	**35.14**	**9**	⇓P	**P**	**18 20 15.0**	**+0.4**
LZH				AP	pP	18 20 21.5	+0.1
LZH				XP	sP	18 20 24.8	+0.4
LZH				AMB	AMB		
	comp=Z,60nm,1.4s,mb5.3						
KAKA	**Kakadu**	**37.67**	**113**	⇓*i*P	**P**	**18 20 35.0**	**-1.1**
	comp=Z,17nm,0.8s,mb4.8						
GTA	**Gaotai**	**37.98**	**3**	*e*P	**P**	**18 20 38.0**	**-0.6**
GTA				AP	pP	18 20 47.0	+1.6
GTA				XP	sP	18 20 51.3	+3.0
GTA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
NWAO	**Narrogin (SRO)**	**38.97**	**153**	P	**P**	**18 20 54.9**	**+7.9**
	comp=Z,12nm,0.8s,mb4.7,baz=322,slow=9.9,SNR=7.1						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**18 20 49.4**	**+0.7**
	comp=Z,56nm,0.6s,mb5.5,baz=262,slow=7.6,SNR=15						
HHC	**Hu-ho-hao-te**	**41.45**	**17**	*e*P	**P**	**18 21 08.5**	**+1.3**
HHC				XP	sP	18 21 21.5	+4.6
HHC				PP	PP	18 22 50.3	+4.2
HHC				S	**S**	**18 27 23.5**	**+2.6**
HHC				XS		18 27 39.8	
HHC				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.9						
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**	**18 21 12.8**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.5,baz=301,slow=9.5,SNR=2793						
WRAB	**Tennant Creek**	**42.12**	**122**	*e*P	**P**	**18 21 13.0**	**-0.1**
	comp=Z,19nm,0.6s,mb4.9						
WRAB				*e*	pP	18 21 20.6	+0.6
WB2	**Warramunga Arr**	**42.13**	**122**	⇓*i*P	**P**	**18 21 13.2**	**+0.1**
BJT	**Baijiatuan**	**42.21**	**22**	*e*P	**P**	**18 21 14.4**	**+0.8**
	comp=Z,37nm,0.6s,mb5.2						
BJI	**Beijing**	**42.23**	**22**	P	**P**	**18 21 14.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,53nm,0.7s,mb5.3						
WMQ	**Urumqi**	**43.15**	**350**	P	**P**	**18 21 22.0**	**+0.8**
WMQ				AP	pP	18 21 29.5	+1.4
WMQ				PP	PP	18 23 04.5	+0.8
WMQ				*e*S	**S**	**18 27 45.8**	**-0.1**
WMQ				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=N,810nm,19.8s,MS4.8						
WMQ				LR	LR		
	comp=E,838nm,18.4s,MS4.8						
WMQ				LR	LR		
	comp=Z,685nm,22.2s,MS4.5						
ASPA	**Alice Springs**	**43.48**	**127**	⇑*i*P	**P**	**18 21 24.4**	**+0.3**
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**18 21 24.4**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.4,baz=299,slow=7.4,SNR=42						
ASAR				PcP	PcP	18 23 12.8	+0.2
	comp=Z,2.1nm,0.8s,baz=300,slow=3.4,SNR=6.0						
DL2	**Dalian**	**43.58**	**28**	*e*P	**P**	**18 21 25.5**	**+0.8**
DL2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
KS15	**Wonju Array Si**	**45.73**	**35**	*e*P	**P**	**18 21 42.3**	**+0.3**
KS15				*e*	pP	18 21 49.3	+0.4
AAK	**Ala-Archa**	**45.88**	**337**	*e*P	**P**	**18 21 43.7**	**+0.6**
	comp=Z,8.0nm,0.9s,mb4.7						
SNY	**Shenyang**	**46.80**	**27**	⇓P	**P**	**18 21 50.5**	**+0.1**
SNY				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
SONM	**Songino Array**	**47.01**	**8**	P	**P**	**18 21 52.5**	**+0.5**
	comp=Z,2.0nm,0.8s,mb5.1,baz=188,slow=8.7,SNR=112						
SONM				PcP	PcP	18 23 24.2	-0.3
	comp=Z,2.9nm,0.7s,baz=209,slow=3.5,SNR=4.7						
MKAR	**Makanchi Array**	**47.12**	**346**	*i* P	**P**	**18 21 53.0**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,11nm,0.7s						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**18 21 53.0**	**+0.2**
	comp=Z,17nm,0.8s,mb5.0,baz=153,slow=8.1,SNR=58						
ULN	**Ulaanbaatar**	**47.14**	**9**	*e*P	**P**	**18 21 53.0**	**0.0**
	comp=Z,14nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**49.15**	**5**	⇑*i*P	**P**	**18 22 08.7**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**49.20**	**27**	⇑P	**P**	**18 22 09.0**	**-0.1**
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
MOY	**Mondy**	**50.27**	**3**	*e*P	**P**	**18 22 17.4**	**+0.2**
TLY	**Talaya**	**50.47**	**5**	*e*P	**P**	**18 22 19.0**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0						
HIA	**Hailar**	**51.53**	**19**	*e*P	**P**	**18 22 26.4**	**-0.4**
	comp=Z,24nm,0.9s,mb5.1						
KURK	**Kurchatov**	**51.67**	**345**	*i* P	**P**	**18 22 27.6**	**-0.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**51.67**	**345**	*e*P	**P**	**18 22 27.5**	**-0.3**
	comp=Z,1.1nm,0.9s,mb4.8						
CTA	**Charters Tower**	**52.57**	**117**	P	**P**	**18 22 35.8**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.5,baz=249,slow=10,SNR=4.6						
CTAO	**Charters Tower**	**52.57**	**117**	P	**P**	**18 22 34.8**	**-0.3**
	comp=Z,6.3nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**53.45**	**132**	*e*P	**P**	**18 22 41.9**	**+0.5**
	comp=Z,10nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**53.45**	**132**	P	**P**	**18 22 41.9**	**+0.5**
	comp=Z,11nm,0.9s,mb4.8,baz=300,slow=7.5,SNR=15						
NVS	**Novosibirsk**	**54.55**	**350**	*i* P	**P**	**18 22 47.5**	**-1.6**
BVA0	**Borovoye Array**	**56.13**	**341**	*i* P	**P**	**18 22 59.4**	**-1.2**
BVA0				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
BVAR	**Borovoye Array**	**56.13**	**341**	P	**P**	**18 22 59.4**	**-1.2**
	comp=Z,15nm,0.7s,mb5.1,baz=135,slow=8.4,SNR=78						
KLR	**Kul'dur**	**56.15**	**27**	*e*P	**P**	**18 22 58.2**	**-2.6**
KLR				pmax	pmax		
	comp=E,28nm,1.0s						
KLR				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.4						
BOD	**Bodaibo**	**57.89**	**11**	*e*P	**P**	**18 23 12.1**	**-0.9**
BOD				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
CLNS	**Chul'man**	**59.63**	**17**	*e*P	**P**	**18 23 24.6**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.5						
CLNS				pmax	pmax		
	comp=N,12nm,0.6s						
CLNS				pmax	pmax		
	comp=E,12nm,0.8s						
KMBO	**Kilima Mbogo**	**59.97**	**268**	P	**P**	**18 23 28.3**	**+0.2**
	comp=E,0.6nm,0.2s,mb4.2,baz=26,slow=23,SNR=1.9						
KMBO	**Kilima Mbogo**	**59.97**	**268**	*e*P	**P**	**18 23 27.7**	**-0.4**
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	⇓*i*P	**P**	**18 23 29.0**	**-0.6**
YSS				*e*		18 23 42.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	*e*P	**P**	**18 23 28.9**	**-0.7**
	comp=Z,35nm,1.0s,mb5.3						
GNI	**Garni**	**61.19**	**316**	P	**P**	**18 23 36.1**	**+0.1**
	comp=Z,3.4nm,0.5s,mb4.7,baz=50,slow=16,SNR=2.6						
GNI	**Garni**	**61.19**	**316**	*e*P	**P**	**18 23 36.0**	**0.0**
	comp=Z,27nm,1.2s,mb5.2						
ARU	**Arti**	**63.06**	**337**	*c i*P	**P**	**18 23 45.7**	**-2.6**
ARU				*e*		18 26 06.2	
ARU				*e*S	**S**	**18 32 18.5**	**+2.6**
ARU				*e*SS	SS	18 36 21.5	-2.4
ARU				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**64.20**	**319**	*e*P	**P**	**18 23 54.7**	**-1.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**64.20**	**319**	*e*P	**P**	**

ZST	Bratislava	82.40	318	*e*P	P	18 25 42.9	+0.6
ARCES	ARCESS Array B	82.41	340	P	P	18 25 42.2	+0.3
	comp=Z,5.0nm,0.7s,mb4.5,baz=101,slow=3.8,SNR=12						
ARCES	ARCESS Array B	82.41	340	P	P	18 25 42.2	+0.3
DPC	Dobruska-Polom	83.14	320	*e*P	P	18 25 46.9	+0.8
PRU	Pruhonice	84.25	320	*e*P	P	18 25 52.2	+0.4
PVCC	Panska Ves	84.28	320	*e*P	P	18 25 52.3	+0.4
BRG	Berggiesshubel	84.70	321	*e*P	P	18 25 54.9	+0.9
BRG				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.4						
BRG	Berggiesshubel	84.70	321	*e*P	P	18 25 54.9	+0.9
	comp=Z,1.7nm,0.7s,mb4.3						
GERES	GERESS Array B	84.71	319	P	P	18 25 54.4	+0.3
	comp=Z,2.4nm,0.8s,mb4.4,baz=90,slow=5.3,SNR=26						
KHC	Kasperske Hory	84.81	319	*e*P	P	18 25 54.9	+0.3
CLL	Collm	85.33	321	P	P	18 25 57.0	-0.1
CLL				*e**SP	sP	18 26 07.0	+0.2
NKC	Novy Kostel	85.61	320	*e*P	P	18 25 48.9	-10
VNDA	Vanda	85.95	169	P	P	18 26 07.1	+7.4
	comp=Z,5.7nm,1.1s,mb4.7,baz=311,slow=4.9,SNR=12						
VNDA	Vanda	85.95	169	P	P	18 26 07.1	+7.4
NB2	NORSAR Subarra	86.89	331	P	P	18 26 04.2	-0.4
	comp=Z,3.8nm,0.8s,mb4.7,baz=95,slow=4.8						
NOA	NORSAR Array B	86.89	331	P	P	18 26 04.5	-0.1
	comp=Z,2.9nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=16						
NOA	NORSAR Array B	86.89	331	P	P	18 26 04.5	-0.1
DAVOX	Davos	87.19	317	P	P	18 26 06.9	+0.5
	comp=Z,2.1nm,0.6s,mb4.5,baz=108,slow=14,SNR=5.9						
SCHQ	Schefferville	122.50	349	PKP	PKPdf	18 32 15.1	-3.6
	comp=Z,0.6nm,0.6s,baz=221,slow=18,SNR=3.5						
PDAR	Pinedale Array	129.94	26	PKP	PKPdf	18 32 30.6	-2.7
	comp=Z,0.5nm,0.7s,baz=153,slow=3.3,SNR=3.7						
TXAR	Lajitas Array	143.57	32	PKP	PKPdf	18 32 53.6	-5.0
	comp=Z,1.5nm,0.8s,baz=350,slow=2.8,SNR=8.4						

IDC ***28*** *18:15:47.5±2.1,0.13N×97.85E,mb4.2/5,mb1 4.3/5, mb1mx3.9/16,mbtmp4.2/5,Error ellipse: s-maj=92.8km s-min=22.6km az=55.0*
NEIC ***28*** *18:15:51.7±0.9,0.07N×97.81E,h30km,mb4.5/4, Error ellipse: s-maj=24.5km s-min=11.6km az=50.0*
ISC 28 18:15:50.1±1.2,0.1N±0.2×97.9E±0.2,h30km,n10, σ0§60/10,mb4.2/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	Kota Kinabalu	19.23	72	*e*P	P	18 20 14.6	-0.4
LSA	Lhasa	30.08	348	*e*P	P	18 21 59.7	+0.3
	1.5nm,0.5s,mb4.0						
ENH	Enshi	31.94	19	P	P	18 22 15.0	-0.7
	4.0nm,0.5s,mb4.5						
WRA	Warramunga Arr	40.92	121	P	P	18 23 31.6	-0.2
	2.4nm,0.5s,mb4.1,baz=303,slow=9.0,SNR=6.2						
ASAR	Alice Springs	42.23	127	P	P	18 23 43.0	+0.4
	1.0nm,0.4s,mb3.8,baz=299,slow=7.3,SNR=5.3						
BJT	Baijiatuan	43.06	21	P	P	18 23 50.2	+1.1
	8.7nm,0.7s,mb4.6						
SONM	Songino Array	48.08	8	P	P	18 24 29.4	+0.4
	1.6nm,0.4s,mb4.4,baz=193,slow=9.3,SNR=9.0						
MKAR	Makanchi Array	48.42	346	P	P	18 24 32.0	+0.4
	4.8nm,0.5s,mb4.8,baz=161,slow=8.8,SNR=10						
CHKZ	Chkalovo	57.94	341	*e*P	P	18 25 40.9	-1.1
	2.5nm,0.8s,mb4.3						
FINES	FINESS Array B	81.24	332	P	P	18 28 04.4	-0.2
	0.6nm,0.6s,mb3.7,baz=117,slow=6.2,SNR=3.5						

IDC ***28*** *18:17:13.1±1.7,1.06N×97.01E,mb4.2/7,mb1 4.3/7, mb1mx4.0/18,mbtmp4.2/7,Error ellipse: s-maj=87.5km s-min=18.6km az=54.0*
NEIC ***28*** *18:17:18.0±0.9,1.16N×97.09E,h30km,mb4.3/2,Error ellipse: s-maj=24.8km s-min=11.9km az=63.0*
ISC 28 18:17:15.8±1.0,1.2N±0.1×97.0E±0.2,h30km,n11, σ1§04/11,mb4.2/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.45	41	Pn	Pn	18 18 37.7	+0.4
CM31	Chiang Mai Arr	17.28	6	*e*Pn	P	18 21 15.6	-1.1
FITZ	Fitzroy Crossi	34.04	126	P	P	18 23 58.5	-1.2
	5.7nm,0.9s,mb4.5,baz=311,slow=5.4,SNR=6.8						
WRA	Warramunga Arr	42.15	122	P	P	18 25 07.5	-0.1
	3.5nm,0.8s,mb4.0,baz=300,slow=9.2,SNR=4.9						
WRAB	Tennant Creek	42.16	122	*e*P	P	18 25 07.7	0.0
	3.5nm,0.5s,mb4.2						
ASAR	Alice Springs	43.50	127	P	P	18 25 19.4	+0.7
	1.8nm,0.6s,mb4.0,baz=300,slow=7.9,SNR=7.0						
ASAR				PcP	PcP	18 27 03.9	-2.9
	0.8nm,0.9s,baz=299,slow=4.9,SNR=4.2						
SONM	Songino Array	47.19	9	P	P	18 25 49.3	+1.6
	1.8nm,0.6s,mb4.2,baz=191,slow=9.4,SNR=5.0						
MKAR	Makanchi Array	47.23	346	P	P	18 25 47.8	-0.3
	4.0nm,0.9s,mb4.4,baz=159,slow=8.6,SNR=4.4						
BVAR	Borovoye Array	56.23	341	P	P	18 26 54.4	-1.2
	1.0nm,0.6s,mb4.0,baz=135,slow=6.1,SNR=3.1						
CHKZ	Chkalovo	56.71	342	*e*P	P	18 26 58.6	-0.4
	1.8nm,0.6s,mb4.3						
FINES	FINESS Array B	79.95	333	P	P	18 29 26.0	+2.5
	0.9nm,0.7s,mb3.8,baz=90,slow=6.9,SNR=2.9						

IDC ***28*** *18:19:50.5±1.6,1.09N×97.28E,mb3.9/7,mb1 4.1/7, mb1mx3.9/17,mbtmp3.9/7,Error ellipse: s-maj=75.8km s-min=21.6km az=52.0*
BJI ***28*** *18:19:54.2,1.10N×97.40E,h30km,mb4.8*
NEIC ***28*** *18:19:55.2±1.1,1.13N×97.36E,h30km,mb4.4/1,Error ellipse: s-maj=56.4km s-min=15.3km az=52.0*
ISC 28 18:19:53.6±1.2,1.1N±0.2×97.3E±0.3,h30km,n11, σ0§95/11,mb4.1/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LZH	Lanzhou	35.32	9	*e*P	P	18 26 49.3	+1.0
LZH				AP	pP	18 26 56.5	-0.7
LZH				XP	sP	18 26 59.5	-1.5
LZH				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.7						
GTA	Gaotai	38.18	3	*e*P	P	18 27 12.3	-0.1
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WRA	Warramunga Arr	41.87	122	P	P	18 27 42.6	-0.5
	comp=Z,1.3nm,0.7s,mb3.7,baz=300,slow=9.1,SNR=5.0						
WRA	Warramunga Arr	41.87	122	P	P	18 27 42.6	-0.5
ASAR	Alice Springs	43.23	127	P	P	18 27 54.4	+0.2
	comp=Z,1.3nm,0.8s,mb3.7,baz=296,slow=7.5,SNR=4.2						
SONM	Songino Array	47.20	8	P	P	18 28 25.7	+0.2
	comp=Z,3.1nm,0.9s,mb4.2,baz=189,slow=9.0,SNR=8.0						
MKAR	Makanchi Array	47.36	346	P	P	18 28 26.9	+0.1
	comp=Z,1.9nm,0.7s,mb4.1,baz=162,slow=7.7,SNR=4.6						
BVAR	Borovoye Array	56.38	341	P	P	18 29 31.7	-2.7
	comp=Z,0.8nm,0.6s,mb3.9,baz=135,slow=8.2,SNR=3.8						
CHKZ	Chkalovo	56.85	341	P	P	18 29 36.6	-1.2
	comp=Z,3.8nm,0.9s,mb4.4						
GERES	GERESS Array B	84.97	319	P	P	18 32 28.5	+1.1
	comp=Z,0.6nm,0.8s,mb3.8,baz=79,slow=5.0,SNR=4.2						
NOA	NORSAR Array B	87.15	331	P	P	18 32 38.6	+0.8
	comp=Z,0.4nm,0.7s,mb3.7,baz=299,slow=11,SNR=3.4						

IDC ***28*** *18:20:10.1±0.9,1.25N×96.96E,mb4.3/14,mb1 4.4/14, mb1mx4.3/19,mbtmp4.3/14,Error ellipse: s-maj=38.0km s-min=14.9km az=48.0*
BJI ***28*** *18:20:12.7,1.10N×97.23E,h39km,mb5.0,Ms4.7,Msz4.4*
NEIC ***28*** *18:20:14.7±0.3,1.31N×97.00E,h30km,mb4.8/17, Error ellipse: s-maj=8.6km s-min=6.3km az=220.0*
ISC 28 18:20:11.3±5.1,1.30N±0.08×97.0E±0.1,h20km±35km, h29km±1.5km:pP-P,n48,σ0§88/46,mb4.6/38,MS4.5/1,1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.38	42	*e*Pn	Pn	18 21 32.2	-0.5
KSM	Kuching	13.30	89	Pn	P	18 23 22.8	+1.0
CM31	Chiang Mai Arr	17.16	6	*e*Pn	P	18 24 11.3	-0.5
	12nm,0.8s						
KKM	Kota Kinabalu	19.74	76	*e*P	P	18 24 42.5	-0.5
KMI	Kunming	24.33	13	P	P	18 25 31.0	+1.8
KMI				AMB	AMB		
	comp=Z,42nm,1.4s,mb4.7						
GYA	Guiyang	26.69	20	⇓*i*P	P	18 25 51.0	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
LSA	Lhasa	28.79	349	*e*P	P	18 26 11.5	+1.2
	comp=Z,5.8nm,0.6s,mb4.5						
ENH	Enshi	31.16	21	*e*P	P	18 26 29.2	-2.3
	comp=Z,37nm,0.8s,mb5.3						
FITZ	Fitzroy Crossi	34.14	126	P	P	18 26 56.0	-1.6
	comp=Z,3.7nm,0.6s,mb4.5,baz=279,slow=3.4,SNR=6.0						
XAN	Xi'an	34.43	18	P	P	18 26 58.5	-1.4
XAN				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
LZH	Lanzhou	35.19	10	*e*P	P	18 27 06.5	+0.1
LZH				AP	pP	18 27 13.5	+1.3
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb5.1						
GTA	Gaotai	38.02	4	*e*P	P	18 27 30.3	+0.1
GTA				AP	pP	18 27 39.5	+3.5
GTA				XP	sP	18 27 43.0	+4.5
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
JOW	Kunigami	39.32	47	P	P	18 27 41.5	+0.4
	comp=Z,27nm,0.7s,mb5.1,baz=232,slow=9.3,SNR=7.8						
HHC	Hu-ho-hao-te	41.52	17	*e*P	P	18 28 01.5	+2.3
HHC				AP	pP	18 28 10.5	+5.4
HHC				PP	PP	18 29 41.0	+2.7
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.9						
WRA	Warramunga Arr	42.25	122	P	P	18 28 05.8	+0.3
	comp=Z,2.9nm,0.6s,mb4.1,baz=301,slow=9.2,SNR=8.0						
WRAB	Tennant Creek	42.26	122	*e*P	P	18 28 05.5	0.0
	comp=Z,4.0nm,0.5s,mb4.3						
BJT	Baijiatuan	42.30	22	*e*P	P	18 28 06.2	+0.6
	comp=Z,19nm,0.6s,mb4.9						
BJI	Beijing	42.32	22	P	P	18 28 06.5	+0.7
BJI				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.0						
WMQ	Urumqi	43.15	350	P	P	18 28 13.0	+0.6
WMQ				AP	pP	18 28 22.0	+3.7
WMQ				PP	PP	18 29 55.0	0.0
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WMQ				LR	LR		
	comp=N,487nm,19.4s,MS4.6						
WMQ				LR	LR		
	comp=E,563nm,20.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,452nm,20.5s,MS4.4						
ASAR	Alice Springs	43.61	127	P	P	18 28 17.2	+0.8
	comp=Z,3.2nm,0.9s,mb4.0,baz=299,slow=7.1,SNR=7.4						
SONM	Songino Array	47.06	9	P	P	18 28 44.0	+0.3
	comp=Z,10nm,0.8s,mb4.8,baz=191,slow=8.9,SNR=21						
MKAR	Makanchi Array	47.10	346	P	P	18 28 45.0	+1.1
	comp=Z,5.3nm,0.5s,mb4.7,baz=156,slow=9.1,SNR=16						
ULN	Ulaanbaatar	47.20	9	*e*P	P	18 28 44.5	-0.3
	comp=Z,4.5nm,0.8s,mb4.5						
CN2	Changchun	49.31	27	*e*P	P	18 29 00.5	-0.7
CN2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3						
KURK	Kurchatov	51.65	345	*e*P	P	18 29 18.6	-0.3
	comp=Z,7.0nm,0.8s,mb4.6						
CTAO	Charters Tower	52.72	117	*e*P	P	18 29 28.3	+0.9
	comp=Z,13nm,1.1s,mb4.8						
STKA	Stephens Creek	53.56	132	P	P	18 29 33.4	-0.1
	comp=Z,2.5nm,0.7s,mb4.2,baz=246,slow=6.0,SNR=5.2						
BVAR	Borovoye Array	56.09	341	P	P	18 29 50.8	-0.8
	comp=Z,4.2nm,0.7s,mb4.6,baz=143,slow=8.4,SNR=13						
CHKZ	Chkalovo	56.57	342	*e*P	P	18 29 54.3	-0.8
	comp=Z,8.1nm,0.7s,mb4.9						
YSS	Yuzh-Sakhalins	60.38	34	*e*P	P	18 30 21.4	-0.3
	comp=Z,32nm,1.1s,mb5.3						
GNI	Garni	61.09	316	*e*P	P	18 30 25.9	-0.7
	comp=Z,13nm,1.1s,mb5.0						
YAK	Yakutsk	65.38	16	*e*P	P	18 30 53.3	-1.3
	comp=Z,18nm,0.7s,mb5.2						
MBAR	Mbarara	66.29	269	*e*P	P	18 31 00.3	-1.0
	comp=Z,1.3nm,0.8s,mb4.0						
BRTR	Keskin Array B	68.90	312	P	P	18 31 17.5	+0.3
	comp=Z,0.5nm,0.5s,mb3.7,baz=135,slow=5.2,SNR=4.2						
BRTR	Keskin Array B	68.90	312	P	P	18 31 17.5	+0.3
MA2	Magadan	71.33	26	*e*P	P	18 31 31.0	-0.7
	comp=Z,29nm,1.4s,mb5.0						
PET	Petropavlovsk	72.26	34	*e*P	P	18 31 36.6	-0.7
	comp=Z,15nm,0.7s,mb5.0						
BOSA	Bosof	74.66	240	P	P	18 31 51.7	-0.1
	comp=Z,11nm,1.3s,mb4.6						
AKASG	Malin Array Be	75.06	322	P	P	18 31 52.7	-0.9
	comp=Z,0.5nm,0.2s,mb4.1,baz=93,slow=5.0,SNR=5.1						
AKASG	Malin Array Be	75.06	322	P	P	18 31 52.7	-0.9
FINES	FINESS Array B	79.82	333	P	P	18 32 20.2	+0.4
	comp=Z,2.0nm,0.7s,mb4.1,baz=108,slow=6.0,SNR=8.2						
KAF	Kangasniemi	79.91	333	*e*P	P	18 32 20.3	0.0
ARCES	ARCESS Array B	82.38	340	P	P	18 32 33.7	+0.7
	comp=Z,5.7nm,1.0s,mb4.5,baz=76,slow=5.0,SNR=9.9						
GERES	GERESS Array B	84.61	319	P	P	18 32 46.4	+1.5
	comp=Z,1.1nm,0.9s,mb4.0,baz=90,slow=5.3,SNR=6.5						
NB2	NORSAR Subarra	86.83	331	P	P	18 32 56.3	+0.7
	comp=Z,0.8nm,0.7s,mb4.1,baz=95,slow=5.0						
NOA	NORSAR Array B	86.83	331	P	P	18 32 56.5	+0.9
	comp=Z,1.6nm,0.8s,mb4.3,baz=94,slow=5.0,SNR=6.4						
TXAR	Lajitas Array	143.69	31	PKP	PKPdf	18 39 46.2	-3.7
	comp=Z,0.5nm,0.4s,baz=315,slow=1.8,SNR=3.6						
TXAR	Lajitas Array	143.69	31	PKP	PKPdf	18 39 46.2	-3.7

STR ***28*** *18:20:12.5±0.1,42.83N×1.54E,h2km±1km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
LDG ***28*** *18:20:12.6±0.2,42.67N×0.85E,h7km,Md2.1/1,Ml2.0/4, Error ellipse: s-maj=3.8km s-min=1.3km az=174.0*
MDD 28 18:20:12.2±0.2,42.62N×0.84E,mbLg1.3/10,Error ellipse: s-maj=2.0km s-min=1.6km az=48.0,PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MELF	Melles	0.26	347	Pg	Pg	18 20 17.2	-0.2
MELF				Lg		18 20 21.0	
SALF	Salau	0.29	61	Pg	Pg	18 20 17.7	-0.4
SALF				Sg	Sg	18 20 21.6	-0.4
SALF	Salau	0.29	61	Pg	Pg	18 20 17.7	-0.4
SALF				Lg		18 20 21.6	
CSOR	Sort	0.33	138	Pg	Pg	18 20 17.8	-0.9
CSOR				Lg		18 20 22.4	
MLS	Moulis	0.39	29	Pg	Pg	18 20 19.3	-0.6
MLS				Sg	Sg	18 20 24.2	-0.9
MLS	Moulis	0.39	29	Pg	Pg	18 20 19.3	-0.6
MLS				Lg		18 20 24.3	
EBIE	Bielsa	0.52	278	Pg	Pg	18 20 21.2	-1.3
	SNR=7.9						
EBIE				Lg		18 20 27.9	
	3.2nm,0.2s,SNR=7.9						
CORG	Organya	0.53	137	Pg	Pg	18 20 21.6	-1.0
CORG				Lg		18 20 28.6	
EPF	Esparros	0.55	319	*e*Pg	Pg	18 20 22.5	-0.7
EPF				*e*Sg	Sg	18 20 29.4	-1.2
	6.1nm,0.2s						
GRBF	Gourbit	0.56	66	Pg	Pg	18 20 22.5	-0.9
GRBF				Lg		18 20 29.9	
CAVN	Les Avellanes	0.74	185	Pg	Pg	18 20 26.4	-0.5
CAVN				Lg		18 20 36.7	
CLLI	Llivia	0.85	99	Pg	Pg	18 20 27.9	-1.2
CLLI				Lg		18 20 38.6	
EMIR	Miracle	0.87	144	Pg	Pg	18 20 29.0	-0.5
	0.5nm,0.1s,SNR=7.9						
EMIR				Lg		18 20 40.3	
	1.3nm,0.1s,SNR=7.9						
ETSF	Etsaut	1.07	286	*e*Pg	Pg	18 20 33.0	-0.5
ETSF				*e*Sg	Sg	18 20 45.9	-1.8
	4.6nm,0.2s						
MTLF	Montolieu	1.24	54	*e*Pg	Pg	18 20 35.0	-2.0
MTLF				*e*Sg	Sg	18 20 50.6	-3.0
	2.0nm,0.2s						
EPOB	Poblet	1.28	172	Pg	Pg	18 20 35.6	-2.1
	0.3nm,0.1s,SNR=7.9						
EPOB				Lg		18 20 52.5	
	1.5nm,0.2s,SNR=7.9						
ESAC	San Caprasio	1.32	228	Pg	Pg	18 20 36.9	-1.7
	2.7nm,0.2s,SNR=7.9						
ESAC				Lg		18 20 54.9	
	14nm,0.2s,SNR=12						
CFON	Fontmartina	1.46	125	Pg	Pg	18 20 38.8	-2.6
CFON				Lg		18 20 58.3	
EJON	La Jonquera	1.52	96	Pg	Pg	18 20 40.5	-2.1
	0.6nm,0.2s,SNR=7.9						
EJON				Lg		18 21 01.1	
	1.4nm,0.2s,SNR=7.9						
SJPF	Ste Jean	1.60	289	*e*Sg	Sg	18 21 02.4	-2.9
	3.4nm,0.3s						
EALK	Alkurruntz	1.82	290	Lg		18 21 10.7	
	1.2nm,0.2s,SNR=4.0						
CAF	Calviac	2.47	21	*e*Sg	Sg	18 21 28.5	-6.0
	0.7nm,0.2s						

IDC ***28*** *18:22:08.0±0.8,1.18N×96.95E,mb4.3/14,mb1 4.4/14, mb1mx4.3/19,mbtmp4.3/14,Error ellipse: s-maj=37.9km s-min=15.0km az=48.0*
BJI ***28*** *18:22:11.4,1.05N×97.24E,h42km,mb4.9,Ms4.7,Msz4.3*
NEIC ***28*** *18:22:13.1±0.4,1.26N×97.08E,h30km,mb4.8/14,Error ellipse: s-maj=11.6km s-min=6.3km az=224.0*
ISC 28 18:22:13.0±1.8,1.29N±0.07×97.14E±0.09,h43km±14km, h30km±1.6km:pP-P,n47,σ0§93/48,mb4.6/37,MS4.5/1, 1C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.29	41	Pn	P	18 23 30.9	-0.7
KSM	Kuching	13.17	89	*e*Pn	P	18 25 21.2	+1.4
CM31	Chiang Mai Arr	17.15	6	*e*Pn	P	18 26 08.5	-2.6
KKM	Kota Kinabalu	19.61	76	*e*P	P	18 26 40.0	-0.6
KMI	Kunming	24.30	12	⇑P	P	18 27 29.5	+1.8
KMI				AMB	AMB		
	comp=Z,32nm,1.4s,mb4.6						
GYA	Guiyang	26.64	19	⇓*i*P	P	18 27 49.5	-0.3
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JIRN	Jiri	28.24	339	*e*P	P	18 28 05.2	+0.9
	comp=Z,74nm,1.0s,mb5.2						
PKI	Pulchoki	28.45	338	*e*P	P	18 28 06.8	+0.7
DMN	Daman	28.59	337	*e*P	P	18 28 07.9	+0.4
	comp=Z,23nm,0.8s,mb5.0						
KKN	Kakani	28.69	338	*e*P	P	18 28 08.7	+0.4
	comp=Z,50nm,1.1s,mb5.2						
LSA	Lhasa	28.82	349	P	P	18 28 11.0	+1.6
LSA	Lhasa	28.82	349	*e*P	P	18 28 10.2	+0.7
	comp=Z,9.2nm,0.7s,mb4.6						
GKN	Gorkha	29.13	337	*e*P	P	18 28 12.6	+0.4
	comp=Z,45nm,0.9s,mb5.2						
KOLN	Koldanda	29.35	335	*e*P	P	18 28 14.8	+0.6
	comp=Z,31nm,0.7s,mb5.1						
ENH	Enshi	31.11	21	*e*P	P	18 28 28.1	-1.7
	comp=Z,8.6nm,0.4s,mb4.9						
ENH				*e*		18 28 35.1	
FITZ	Fitzroy Crossi	34.03	126	P	P	18 28 54.5	-0.8
	comp=Z,5.1nm,0.7s,mb4.5,baz=319,slow=4.5,SNR=6.3						
XAN	Xi'an	34.39	17	P	P	18 28 56.8	-1.5
XAN				AMB	AMB		
	comp=Z,19nm,1.0s,mb5.0						
GTA	Gaotai	38.02	3	*e*P	P	18 29 28.3	-0.5
GTA				AP	pP	18 29 36.8	-3.8
GTA				XP	sP	18 29 40.5	-5.5
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
JOW	Kunigami	39.22	47	P	P	18 29 39.5	+0.5
	comp=Z,16nm,0.5s,mb5.0,baz=243,slow=13,SNR=7.4						
HHC	Hu-ho-hao-te	41.49	17	*e*P	P	18 29 59.5	+2.0
HHC				AP	pP	18 30 09.0	-0.4
HHC				PP	PP	18 31 37.8	+1.1
HHC				PCS		18 35 45.8	
HHC				S	S	18 36 10.5	+0.7
HHC				XS		18 36 28.0	
HHC				AMB	AMB		
	comp=Z,25nm,0.6s,mb5.0						
WRA	Warramunga Arr	42.13	122	P	P	18 30 03.4	+0.2
	comp=Z,4.1nm,0.8s,mb4.1,baz=303,slow=9.2,SNR=8.6						
WRAB	Tennant Creek	42.14	122	*e*P	P	18 30 03.4	+0.2
	comp=Z,7.6nm,0.6s,mb4.5						
WB2	Warramunga Arr	42.15	122	⇓*i*P	P	18 30 03.6	+0.3
BJT	Baijiatuan	42.25	22	*e*P	P	18 30 04.5	+0.6
	comp=Z,19nm,0.6s,mb4.9						
BJI	Beijing	42.27	22	P	P	18 30 05.0	+0.9
BJI				AMB	AMB		
	comp=Z,25nm,0.7s,mb5.0						
WMQ	Urumqi	43.17	350	P	P	18 30 12.3	+0.9
WMQ				AP	pP	18 30 22.0	-1.3
WMQ				PP	PP	18 31 55.0	+0.9
WMQ				PPP	PPP	18 32 28.0	-1.7
WMQ				*e*S	S	18 36 33.0	-1.5
WMQ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
WMQ				LR	LR		
	comp=N,548nm,21.2s,MS4.6						
WMQ				LR	LR		
	comp=E,632nm,23.6s,MS4.6						
WMQ				LR	LR		
	comp=Z,470nm,22.5s,MS4.3						
ASAR	Alice Springs	43.50	127	P	P	18 30 14.9	+0.7
	comp=Z,1.0nm,0.6s,mb3.7,baz=300,slow=7.5,SNR=6.5						
SONM	Songino Array	47.05	9	P	P	18 30 42.6	+0.4
	comp=Z,7.2nm,0.8s,mb4.7,baz=190,slow=9.3,SNR=11						
SONM				PcP	PcP	18 32 14.4	+0.1
	comp=Z,1.4nm,0.7s,baz=203,slow=4.0,SNR=4.0						
MKAR	Makanchi Array	47.14	346	P	P	18 30 43.0	+0.1
	comp=Z,4.0nm,0.6s,mb4.5,baz=158,slow=9.1,SNR=12						
CN2	Changchun	49.25	27	*e*P	P	18 30 59.0	-0.4
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
KURK	Kurchatov	51.69	345	*e*P	P	18 31 17.8	0.0
	comp=Z,5.4nm,0.7s,mb4.6						
CTAO	Charters Tower	52.60	117	*e*P	P	18 31 29.1	+4.0
	comp=Z,5.2nm,0.8s,mb4.5						
STKA

PKI	**Pulchoki**	**27.59**	**338**	*eP*		**P**	**18 31 47.4**	**-1.4**
	4.5nm,0.4s,mb4.5							
DMN	**Daman**	**27.73**	**338**	*eP*		**P**	**18 31 47.7**	**-2.5**
KKN	**Kakani**	**27.83**	**338**	*eP*		**P**	**18 31 50.5**	**-0.6**
	10nm,0.6s,mb4.6							
LSA	**Lhasa**	**28.02**	**350**	*eP*		**P**	**18 31 53.6**	**+0.9**
	469nm,3.1s							
GKN	**Gorkha**	**28.27**	**337**	*eP*		**P**	**18 31 54.7**	**-0.3**
	15nm,0.7s,mb4.7							
KOLN	**Koldanda**	**28.48**	**335**	*eP*		**P**	**18 31 55.3**	**-1.6**
	14nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**34.86**	**126**	P		**P**	**18 32 52.4**	**-0.6**
	4.0nm,0.7s,mb4.4,baz=345,slow=1.3,SNR=5.5							
GTA	**Gaotai**	**37.33**	**4**	*eP*		**P**	**18 33 14.0**	**+0.4**
GTA				AP	pP		18 33 22.3	+1.6
GTA				XP	sP		18 33 26.0	+2.3
GTA				AMB	AMB			
	comp=Z,11nm,0.7s,mb4.8							
JOW	**Kunigami**	**39.10**	**48**	P		**P**	**18 33 28.8**	**+0.1**
	comp=Z,22nm,0.9s,mb4.9,baz=246,slow=12,SNR=3.3							
WRA	**Warramunga Arr**	**42.94**	**122**	P		**P**	**18 34 00.1**	**-0.3**
	comp=Z,3.7nm,0.6s,mb4.3,baz=300,slow=9.2,SNR=18							
WRAB	**Tennant Creek**	**42.95**	**122**	P		**P**	**18 34 00.6**	**+0.1**
	comp=Z,5.8nm,0.5s,mb4.6							
WB2	**Warramunga Arr**	**42.95**	**122**	ǁ *iP*		**P**	**18 34 00.9**	**+0.4**
ASAR	**Alice Springs**	**44.34**	**127**	P		**P**	**18 34 12.1**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.9,baz=301,slow=7.8,SNR=8.2							
MKAR	**Makanchi Array**	**46.31**	**346**	P		**P**	**18 34 27.6**	**+0.5**
	comp=Z,6.4nm,0.5s,mb4.8,baz=158,slow=9.3,SNR=27							
SONM	**Songino Array**	**46.41**	**9**	P		**P**	**18 34 28.3**	**+0.5**
	comp=Z,3.3nm,0.6s,mb4.5,baz=188,slow=9.3,SNR=18							
SONM				PcP	PcP		18 36 03.3	+0.4
	comp=Z,0.3nm,0.4s,baz=191,slow=3.7,SNR=4.3							
KURK	**Kurchatov**	**50.86**	**345**	*eP*		**P**	**18 35 02.4**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.4							
PMG	**Port Moresby**	**51.59**	**104**	P		**P**	**18 35 07.9**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=101,slow=2.4,SNR=4.0							
CTA	**Charters Tower**	**53.37**	**117**	P		**P**	**18 35 21.9**	**+0.4**
	comp=Z,4.7nm,0.8s,mb4.5,baz=294,slow=23,SNR=3.6							
BVAR	**Borovoye Array**	**55.30**	**341**	P		**P**	**18 35 34.7**	**-0.4**
	comp=Z,1.9nm,0.7s,mb4.3,baz=142,slow=9.3,SNR=12							
CHKZ	**Chkalovo**	**55.77**	**342**	*eP*		**P**	**18 35 38.2**	**-0.4**
	comp=Z,3.7nm,0.7s,mb4.5							
YAK	**Yakutsk**	**64.80**	**17**	*eP*		**P**	**18 36 38.8**	**-1.3**
	comp=Z,9.9nm,0.5s,mb5.1							
MA2	**Magadan**	**70.84**	**26**	*eP*		**P**	**18 37 17.3**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.3							
FINES	**FINESS Array B**	**79.02**	**333**	P		**P**	**18 38 05.4**	**+0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=101,slow=7.0,SNR=7.5							
KAF	**Kangasniemi**	**79.10**	**333**	*ep*		**P**	**18 38 05.3**	**+0.1**
	comp=Z,1.0nm,0.6s,mb3.9							
ARCES	**ARCESS Array B**	**81.58**	**340**	P		**P**	**18 38 19.0**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.1,baz=90,slow=6.1,SNR=8.4							
GERES	**GERESS Array B**	**83.83**	**319**	P		**P**	**18 38 32.3**	**+2.1**
	comp=Z,0.5nm,0.7s,mb3.8,baz=90,slow=5.3,SNR=6.4							

IDC ***28*** *18:27:59.0±3.2,2.02N×96.52E,mb3.9/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.9/4,Error ellipse: s-maj=128.4km s-min=27.3km az=55.0*

NEIC ***28*** *18:28:03.4±1.1,1.93N×96.41E,h30km,mb4.3/6,Error ellipse: s-maj=22.1km s-min=13.9km az=214.0*

ISC 28 18:28:01.2±1.3,1.9N±0.2×96.4E±0.1,h30km,n13, σ0s77/13,mb4.2/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.39**	**52**	*e*Pn	**Pn**	**18 29 21.0**	**-0.8**
CM31	**Chiang Mai Arr**	**16.62**	**8**	*e*Pn	**P**	**18 31 54.0**	**+0.2**
	3.4nm,0.7s						
KKM	**Kota Kinabalu**	**20.17**	**78**	*eP*	**P**	**18 32 36.2**	**-0.1**
LSA	**Lhasa**	**28.07**	**350**	*eP*	**P**	**18 33 52.3**	**-0.1**
	4.1nm,0.7s,mb4.2						
ENH	**Enshi**	**30.80**	**22**	P	**P**	**18 34 17.5**	**+0.7**
	3.5nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**43.08**	**122**	P	**P**	**18 36 00.7**	**0.0**
	0.5nm,0.6s,mb3.4,baz=303,slow=9.2,SNR=2.9						
MKAR	**Makanchi Array**	**46.35**	**347**	P	**P**	**18 36 26.2**	**-0.4**
	4.0nm,0.8s,mb4.4,baz=167,slow=7.8,SNR=9.4						
MKAR	**Makanchi Array**	**46.35**	**347**	P	**P**	**18 36 26.2**	**-0.4**
SONM	**Songino Array**	**46.54**	**9**	P	**P**	**18 36 28.1**	**+0.1**
	1.1nm,0.6s,mb4.0,baz=190,slow=8.8,SNR=5.3						
KURK	**Kurchatov**	**50.90**	**346**	*eP*	**P**	**18 37 02.6**	**+1.0**
	1.8nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**55.31**	**341**	P	**P**	**18 37 33.7**	**-0.8**
	1.2nm,0.8s,mb4.0,baz=153,slow=6.4,SNR=3.9						
CHKZ	**Chkalovo**	**55.79**	**342**	*eP*	**P**	**18 37 36.4**	**-1.5**
	4.5nm,0.7s,mb4.6						
YAK	**Yakutsk**	**64.95**	**17**	P	**P**	**18 38 41.7**	**+1.5**
	4.2nm,0.6s,mb4.7						

IDC ***28*** *18:28:34.0±1.3,1.37N×96.79E,mb4.1/8,mb1 4.2/8, mb1mx4.0/16,mbtmp4.1/8,Error ellipse: s-maj=61.2km s-min=20.7km az=50.0*

NEIC ***28*** *18:28:38.8±0.7,1.48N×96.93E,h30km,mb4.5/4,Error ellipse: s-maj=15.3km s-min=10.9km az=217.0*

ISC 28 18:28:39.5±4.8,1.6N±0.2×97.0E±0.2,h49km±37km,n16, σ0s76/16,mb4.2/12,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.18**	**44**	*e*Pn	**P**	**18 29 56.7**	**+0.2**
KKM	**Kota Kinabalu**	**19.66**	**76**	*eP*	**P**	**18 33 06.8**	**-0.4**
ENH	**Enshi**	**30.91**	**21**	*eP*	**P**	**18 34 52.3**	**-1.7**
	6.0nm,0.8s,mb4.5						
BJT	**Baijiatuao**	**42.06**	**22**	*eP*	**P**	**18 36 29.1**	**+1.0**
	5.4nm,0.6s,mb4.3						
WRA	**Warramunga Arr**	**42.37**	**122**	P	**P**	**18 36 31.0**	**0.0**
	1.2nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=5.2						
ASAR	**Alice Springs**	**43.75**	**127**	P	**P**	**18 36 42.4**	**+0.2**
	0.7nm,0.6s,mb3.5,baz=301,slow=8.1,SNR=4.4						
ASAR	**Alice Springs**	**43.75**	**127**	P	**P**	**18 36 42.4**	**+0.2**
SONM	**Songino Array**	**46.81**	**9**	P	**P**	**18 37 06.9**	**+0.8**
	6.0nm,0.9s,mb4.5,baz=190,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**46.86**	**346**	P	**P**	**18 37 07.4**	**+0.8**
	4.5nm,0.7s,mb4.5,baz=163,slow=8.9,SNR=6.3						
ULN	**Ulaanbaatar**	**46.94**	**9**	*eP*	**P**	**18 37 07.9**	**+0.7**
BVAR	**Borovoye Array**	**55.86**	**341**	P	**P**	**18 38 13.7**	**-0.6**
	1.2nm,0.6s,mb4.1,baz=143,slow=7.4,SNR=3.9						
CHKZ	**Chkalovo**	**56.34**	**341**	*eP*	**P**	**18 38 17.1**	**-0.6**
	3.0nm,0.8s,mb4.4						
YAK	**Yakutsk**	**65.13**	**16**	P	**P**	**18 39 16.3**	**-1.0**
	6.6nm,0.6s,mb4.8						
BRTR	**Keskin Array B**	**68.74**	**312**	P	**P**	**18 39 39.8**	**-0.7**
	0.8nm,0.8s,mb3.7,baz=135,slow=4.1,SNR=3.2						
FINES	**FINESS Array B**	**79.60**	**332**	P	**P**	**18 40 43.1**	**+0.2**
	0.7nm,0.5s,mb3.8,baz=101,slow=9.7,SNR=4.9						
ARCES	**ARCESS Array B**	**82.14**	**340**	P	**P**	**18 40 57.0**	**+0.9**
	5.0nm,0.9s,mb4.4,baz=45,slow=6.9,SNR=3.6						

IDC 28 18:30:21.8±2.5,1.93N×98.39E,mb3.9/5,mb1 4.0/5, mb1mx3.7/17,mbtmp3.9/5,Error ellipse: s-maj=120.5km s-min=23.2km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.42**	**123**	P	P	18 38 10.9	-1.0
	1.3nm,0.6s,baz=301,slow=9.1,SNR=4.7						
SONM	**Songino Array**	**46.25**	**7**	P	P	18 38 48.2	-2.5
	0.5nm,0.6s,baz=187,slow=4.5,SNR=4.1						
MKAR	**Makanchi Array**	**46.84**	**345**	P	P	18 38 54.8	-0.5
	1.4nm,0.8s,baz=169,slow=7.3,SNR=3.9						
STKA	**Stephens Creek**	**52.97**	**133**	P	P	18 39 39.8	-2.8
	3.0nm,0.9s,baz=310,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**55.97**	**340**	P	P	18 40 00.9	-3.2
	1.1nm,0.7s,baz=135,slow=8.2,SNR=4.0						
KEV	**Kevo**	**81.82**	**341**	*ep*	P	18 42 41.9	-1.8
	517nm,1.1s						

DJA ***28*** *18:30:37.4±1.0,0.23N×97.13E,h33km±11km,Error ellipse: s-maj=89.2km s-min=8.6km az=55.0*

MOS ***28*** *18:30:42.8±1.1,0.97N×97.89E,h33km,mb6.4/95,Error ellipse: s-maj=8.1km s-min=3.5km az=127.3*

IDC ***28*** *18:30:42.5±1.2,0.87N×97.92E,h22km±6km,mb5.6/36, mb1 5.6/36,mb1mx5.6/36,mbtmp5.7/36,Error ellipse: s-maj=10.9km s-min=5.7km az=46.0*

BJI ***28*** *18:30:42.4,0.91N×97.78E,h36km,mB6.5,mb5.8,Ms6.6, Msz6.4*

BGS ***28*** *18:30:43.9,0.92N×97.87E,h33km,mb6.2*

NEIC ***28*** *18:30:44.6±0.9,0.92N×97.87E,h36km±7km,mb6.1/142,*

Error ellipse: s-maj=5.2km s-min=3.2km az=217.0

NEIC Felt [IV] at Banda Aceh, Sumatra.

ISC 28 18:30:42.7±0.1,0.93N±0.02×97.87E±0.02,h33km, (h31km±1.8km:pP-P),n906,σ1s04/822,mb6.0/212, MS6.5/13,63C-18D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.80**	**41**	P	**P**	**18 31 57.7**	**+3.1**
KULM	**Kulim**	**5.15**	**33**	*eP*	**P**	**18 32 00.9**	**+1.4**
BSI	**Banda Aceh**	**5.22**	**331**	*eP*	**P**	**18 31 59.8**	**-0.6**
BSI				*eS*	**S**	**18 32 58.2**	**-2.1**
KGM	**Kluang**	**5.55**	**79**	P	**P**	**18 32 07.8**	**+2.6**
PENI	**Pendagan**	**9.73**	**132**	*eP*	**P**	**18 32 59.7**	**-3.9**
PULI	**Pulasari**	**10.85**	**132**	*eP*	**P**	**18 33 14.0**	**-4.9**
KSM	**Kuching**	**12.45**	**87**	*eP*	**P**	**18 33 40.3**	**-0.2**
UBT	**Ubonrachathani**	**15.88**	**26**	P	**P**	**18 34 29.0**	**+3.4**
	486nm,1.0s						
BDT	**Bhumibol Dam**	**16.25**	**4**	P	**P**	**18 34 30.0**	**-0.3**
	93nm,0.8s						
CM31	**Chiang Mai Arr**	**17.45**	**3**	*eP*	**P**	**18 34 43.9**	**-1.4**
	586nm,1.0s						
CHG	**Chiang Mai**	**17.81**	**3**	ǁP	**P**	**18 34 48.0**	**-1.8**
	78nm,0.9s						
PALK	**Pallekele**	**18.24**	**291**	P	**P**	**18 34 53.2**	**-2.0**
	24nm,0.6s						
SRDI	**Scrawed**	**18.72**	**120**	*eP*	**P**	**18 34 58.7**	**-2.5**
CHRT	**Chiangrai**	**18.92**	**6**	ǁP	**P**	**18 35 02.0**	**-1.5**
	1µm,0.8s						
KKM	**Kota Kinabalu**	**19.00**	**74**	*eP*	**P**	**18 35 04.8**	**+0.3**
KKM	**Kota Kinabalu**	**19.00**	**74**	P	**P**	**18 35 05.6**	**+1.2**
RATI	**Rata**	**20.04**	**119**	*eP*	**P**	**18 35 15.3**	**-0.6**
TSM	**Tawau**	**20.26**	**80**	P	**P**	**18 35 18.0**	**-0.2**
KEDI	**Kedomdong**	**20.45**	**118**	*eP*	**P**	**18 35 17.2**	**-3.0**
MDRS	**Chennai**	**21.22**	**305**	*eP*	**P**	**18 35 29.0**	**+0.9**
MDRS				*e*		18 35 34.1	
	comp=Z,1µm,1.3s						
BATP	**Bataraza**	**21.33**	**68**	*eP*	**P**	**18 35 29.3**	**+0.1**
QIZ	**Qiongzhong**	**21.48**	**32**	P	**P**	**18 35 31.5**	**+0.8**
QIZ				*eS*	**S**	**18 39 23.0**	**+1.0**
QIZ	**Qiongzhong**	**21.48**	**32**	*eP*	**P**	**18 35 30.9**	**+0.2**
	comp=Z,135nm,1.0s,mb5.2						
TANI	**Tanete Lipujan**	**21.93**	**101**	*eP*	**P**	**18 35 34.5**	**-0.8**
VIS	**Vishakhapatnam**	**21.98**	**320**	*eP*	**P**	**18 35 36.6**	**+1.0**
VIS				*e*		18 35 42.1	
	comp=Z,2µm,1.5s						
VIS				*e*		18 40 56.9	
TRD	**Trivandrum**	**22.15**	**291**	*eP*	**P**	**18 35 36.9**	**-0.5**
TRD				*i* S	**S**	**18 39 44.4**	**+10**
NINI	**Niniconang**	**22.50**	**104**	*eP*	**P**	**18 35 41.3**	**+0.2**
BUNI	**Buntu Taipa**	**22.90**	**102**	*eP*	**P**	**18 35 46.9**	**+2.0**
ENPP	**El Nido**	**23.72**	**64**	*eP*	**P**	**18 35 51.6**	**-1.3**
KMI	**Kunming**	**24.51**	**11**	P	**P**	**18 36 02.5**	**+2.0**
KMI				AP		18 36 11.0	
KMI				XP		18 36 15.8	
KMI				PP	PP	18 36 39.5	+2.8
KMI				S	**S**	**18 40 20.5**	**+4.4**
KMI				XS		18 40 33.8	
KMI				SS	SS	18 41 15.5	+3.7
KMI				AMB	AMB		
	comp=Z,278nm,1.2s,mb5.7						
KMI				AMB	AMB		
	comp=Z,10µm,4.8s						
KMI				LR	LR		
	comp=N,38µm,21.5s,MS6.1						
KMI				LR	LR		
	comp=E,51µm,18.9s,MS6.1						
KMI				LR	LR		
	comp=Z,59µm,51.2s						
BUSP	**Coron**	**24.73**	**63**	*eP*	**P**	**18 36 03.2**	**+0.4**
CUYO	**Cuyo Island**	**25.02**	**66**	*eP*	**P**	**18 36 06.7**	**+1.2**
HYB	**Hyderabad**	**25.09**	**312**	*eP*	**P**	**18 36 07.0**	**+0.8**
HYB	**Hyderabad**	**25.09**	**312**	*i* P	**P**	**18 36 07.0**	**+0.8**
IPIL	**Ipil**	**25.54**	**74**	*eP*	**P**	**18 36 11.5**	**+1.1**
LUBP	**Lubang**	**25.54**	**59**	*eP*	**P**	**18 36 12.1**	**+1.6**
SJMP	**San Jose**	**25.74**	**63**	*eP*	**P**	**18 36 12.9**	**+0.6**
MNGI	**Mangalore**	**25.77**	**299**	*i* P	**P**	**18 36 14.3**	**+1.8**
BLSP	**Bilaspur**	**26.06**	**325**	*eP*	**P**	**18 36 15.3**	**+0.1**
BLSP				*e*		18 36 18.0	
	comp=Z,490nm,1.1s						
SHBG	**Sahibganj**	**26.08**	**339**	*e*	**P**	**18 36 19.8**	**+4.4**
SCZP	**Santa Cruz**	**26.28**	**55**	*eP*	**P**	**18 36 17.3**	**0.0**
PAGZ	**Pagadian**	**26.33**	**74**	*eP*	**P**	**18 36 18.5**	**+0.7**
GUIM	**Jordan**	**26.39**	**68**	*eP*	**P**	**18 36 19.2**	**+1.0**
OTRP	**Odiongan**	**26.50**	**64**	*eP*	**P**	**18 36 20.1**	**+0.8**
SNPH	**Sibulan**	**26.59**	**71**	*eP*	**P**	**18 36 20.5**	**+0.3**
DGAR	**Diego Garcia**	**26.67**	**251**	P	**P**	**18 36 19.8**	**-1.2**
DGAR				pmax	pmax		
	comp=Z,454nm,0.5s,mb6.3						
DGAR	**Diego Garcia**	**26.67**	**251**	P	**P**	**18 36 19.8**	**-1.1**
	comp=Z,454nm,0.5s,mb6.3						
GYA	**Guiyang**	**26.76**	**18**	⇑ *iP*	**P**	**18 36 21.0**	**-0.6**
GYA				AP	pP	18 36 30.5	-0.5
GYA				XP	sP	18 36 34.8	-0.3
GYA				PP	PP	18 37 08.0	+1.4
GYA				S	**S**	**18 40 56.0**	**+2.7**
GYA				XS		18 41 11.5	
GYA				AMB	AMB		
	comp=Z,920nm,1.0s,mb6.3						
GYA				LR	LR		
	comp=N,46µm,19.2s,MS6.3						
GYA				LR	LR		
	comp=E,53µm,15.0s,MS6.3						
GYA				LR	LR		
	comp=Z,50µm,17.4s,MS6.1						
BOAC	**Boac**	**26.80**	**61**	*eP*	**P**	**18 36 21.4**	**-0.7**
LATR	**Latur**	**27.20**	**311**	*eP*	**P**	**18 36 26.0**	**+0.3**
NGP	**Nagpur**	**27.23**	**319**	*eP*	**P**	**18 36 27.4**	**+1.4**
NGP				*e*		18 41 08.8	
POLP	**Polilio Island**	**27.45**	**59**	*eP*	**P**	**18 36 28.0**	**-0.1**
AUQP	**San Andres**	**27.48**	**62**	*eP*	**P**	**18 36 29.2**	**+0.9**
LLP	**Lapu-Lapu**	**27.57**	**69**	*eP*	**P**	**18 36 28.5**	**-0.6**
BALP	**Baler**	**27.63**	**57**	*eP*	**P**	**18 36 29.5**	**-0.2**
GTK	**Gangtok**	**27.72**	**342**	*e*	**P**	**18 36 20.0**	**-10**
ABRA	**Dolores**	**27.93**	**52**	*eP*	**P**	**18 36 32.8**	**+0.3**
BUKP	**Musuan**	**27.96**	**75**	*eP*	**P**	**18 36 34.0**	**+1.3**
MSLP	**Maasin**	**28.35**	**70**	*eP*	**P**	**18 36 36.2**	**+0.1**
KAD	**Karad**	**28.42**	**306**	*eP*	**P**	**18 36 36.9**	**+0.1**
KAD				*e*		18 36 42.4	
	comp=Z,318nm,2.1s						
CAUP	**Cauayan**	**28.45**	**55**	*eP*	**P**	**18 36 36.2**	**-0.8**
APYP	**Conner**	**28.47**	**52**	*eP*	**P**	**18 36 37.0**	**-0.2**
BUTP	**Butuan**	**28.75**	**73**	*eP*	**P**	**18 36 40.2**	**+0.4**
JIRN	**Jiri**	**28.84**	**338**	*eP*	**P**	**18 36 40.4**	**0.0**
	comp=Z,1µm,1.0s,mb6.6						
CVP	**Callao Caves**	**28.85**	**53**	ǁ *eP*	**P**	**18 36 41.0**	**+0.5**
PVCP	**Virac**	**28.90**	**63**	*eP*	**P**	**18 36 40.7**	**-0.3**
MATI	**Mati**	**28.93**	**77**	*eP*	**P**	**18 36 41.2**	**-0.1**
CNP	**Catarman**	**28.95**	**65**	*eP*	**P**	**18 36 41.6**	**+0.2**
PKI	**Pulchoki**	**29.06**	**337**	*eP*	**P**	**18 36 41.9**	**-0.5**
	comp=Z,2µm,1.3s,mb6.6						
PKI	**Pulchoki**	**29.06**	**337**	*eP*	**P**	**18 36 41.9**	**-0.5**
PKI				pmax	pmax		
	comp=Z,793nm,1.3s,mb6.3						
DMN	**Daman**	**29.22**	**336**	*eP*	**P**	**18 36 44.1**	**+0.3**
	comp=Z,938nm,1.0s,mb6.5						
KKN	**Kakani**	**29.31**	**337**	*eP*	**P**	**18 36 44.2**	**-0.4**
	comp=Z,1µm,1.0s,mb6.5						
KKN	**Kakani**	**29.31**	**337**	*eP*	**P**	**18 36 44.2**	**-0.4**
KKN				pmax	pmax		
	comp=Z,552nm,1.0s,mb6.2						
LSA	**Lhasa**	**29.32**	**348**	P	**P**	**18 36 44.0**	**-0.7**
LSA	**Lhasa**	**29.32**	**348**	*eP*	**P**	**18 36 44.5**	**-0.2**
LSA				pmax	pmax		
	comp=Z,569nm,1.0s,mb6.3						
LSA	**Lhasa**	**29.32**	**348**	*eP*	**P**	**18 36 44.5**	**-0.2**
	comp=Z,569nm,1.0s,mb6.2						
POO	**Poona**	**29.36**	**308**	*eP*	**P**	**18 36 45.2**	**+0.2**
POO				*e*		18 36 48.5	
	comp=Z,213nm,1.6s						
VLK	**Valmikinagar**	**29.48**	**334**	*i* P	**P**	**18 36 47.0**	**+0.9**
VLK				*i*		18 36 53.0	
GKN	**Gorkha**	**29.76**	**336**	*eP*	**P**	**18 36 48.1**	**-0.4**
	comp=Z,2µm,1.3s,mb6.6						
KOLN	**Koldanda**	**29.99**	**334**	*eP*	**P**	**18 36 50.2**	**-0.4**
	comp=Z,1µm,1.1s,mb6.5						
CD2	**Chengdu**	**30.34**	**10**	P	**P**	**18 36 51.8**	**-1.9**
CD2				AMB	AMB		
	comp=Z,108nm,1.2s,mb5.5						
BBP	**Basco**	**30.51**	**49**	*eP*	**P**	**18 36 54.8**	**-0.5**
MBWA	**Marble Bar**	**30.64**	**137**	*eP*	**P**	**18 36 54.9**	**-1.6**
	comp=Z,3.6nm,1.5s						
ENH	**Enshi**	**31.20**	**20**	*eP*	**P**	**18 36 59.4**	**-2.0**
	comp=Z,0.3nm,1.4s						

NACB	**Ninganchiao**	**32.59**	**43**	P		**P**	**18 37 13.5**	**-0.1**
YHNB	**Yeheng**	**32.77**	**42**	*eP*		**P**	**18 37 15.5**	**+0.3**
LGTI	**Lohaghat**	**32.96**	**331**	⇑ *iP*		**P**	**18 37 16.5**	**-0.3**
TATO	**Taipei**	**33.05**	**42**	*eP*		**P**	**18 37 17.4**	**-0.1**
	comp=Z,147nm,1.1s,mb5.8							
PTH	**Pithoragarh**	**33.06**	**331**	*eP*		**P**	**18 37 16.9**	**-0.7**
PTH				*eS*		**S**	**18 42 36.2**	**+3.1**
FITZ	**Fitzroy Crossi**	**33.23**	**126**	ǁ *iP*		**P**	**18 37 16.0**	**-3.1**
	comp=Z,182nm,0.8s,mb6.1							
FITZ				*i* PCP	PcP		18 40 01.8	+0.5
FITZ				*eS*	**S**		**18 42 31.7**	**-4.1**
FITZ	**Fitzroy Crossi**	**33.23**	**126**	P	**P**		**18 37 16.4**	**-2.7**
	comp=Z,224nm,0.7s,mb6.2,baz=324,slow=4.1,SNR=143							
FITZ				PcP	PcP		18 40 01.5	+0.2
	comp=Z,42nm,0.7s,baz=184,slow=3.9,SNR=4.1							
FITZ				S	**S**		**18 42 32.1**	**-3.7**
	comp=Z,45nm,1.0s,baz=129,slow=1.9,SNR=3.5							
WHN	**Wuhan**	**33.35**	**26**	⇑ P		**P**	**18 37 20.5**	**+0.4**
AJM	**Ajmer**	**33.83**	**321**	ǁ *i*		**P**	**18 37 34.0**	**+10**
NDI	**New Delhi**	**33.93**	**326**	*eP*		**P**	**18 37 22.5**	**-2.6**
NDI				*e*			18 42 54.0	
XAN	**Xi'an**	**34.53**	**16**	P		**P**	**18 37 28.3**	**-1.9**
XAN				AP	pP		18 37 38.3	-1.6
XAN				AMB	AMB			
	comp=Z,418nm,1.1s,mb6.3							
DDI	**Dehra Dun**	**34.77**	**329**	*eP*		**P**	**18 37 30.0**	**-2.3**
DDI				*e*			18 43 10.0	
LZH	**Lanzhou**	**35.42**	**8**	*eP*		**P**	**18 37 37.5**	**-0.3**
LZH				AP	pP		18 37 45.5	-2.0
LZH				XP	sP		18 37 49.5	-2.3
LZH				PP	PP		18 38 58.0	0.0
LZH				SCP			18 43 50.0	
LZH				SCS	ScS		18 47 54.0	+1.5
LZH				AMB	AMB			
	comp=Z,642nm,1.3s,mb6.4							
LZH				AMB	AMB			
	comp=Z,5µm,5.8s							
LZH				LR	LR			
	comp=E,80µm,16.0s							
LZH				LR	LR			
	comp=Z,175µm,20.0s,MS6.8							
SMLA	**Simla**	**35.87**	**329**	*i*		**P**	**18 37 31.1**	**-11**
SMLA				*i* S		**S**	**18 43 17.3**	**+0.7**
BHK	**Bhakra**	**36.49**	**328**	*eP*		**P**	**18 37 49.3**	**+2.4**
BHK				*e*			18 43 39.1	
NJ2	**Nanjing**	**36.75**	**31**	*eP*		**P**	**18 37 50.8**	**+1.7**
NJ2				AP	pP		18 38 00.0	+1.2
NJ2				XP	sP		18 38 05.3	+2.2
NJ2				PP	PP		18 39 15.5	+0.8
NJ2				S	**S**		**18 43 33.0**	**+2.8**
NJ2				XS			18 43 51.0	
NJ2				AMB	AMB			
	comp=Z,80nm,1.0s,mb5.5							
NJ2				AMB	AMB			
	comp=Z,1µm,10.0s							
NJ2				LR	LR			
	comp=N,71µm,18.6s,MS6.6							
NJ2				LR	LR			
	comp=E,54µm,15.4s,MS6.6							
NJ2				LR	LR			
	comp=Z,39µm,17.0s,MS6.3							
KAKA	**Kakadu**	**36.88**	**113**	*eP*		**P**	**18 37 47.4**	**-2.9**
	comp=Z,104nm,1.0s,mb5.6							
KAKA				*i* PCP	PcP		18 40 13.0	+1.0
MUN	**Mundaring**	**37.05**	**154**	⇑ *iP*		**P**	**18 37 53.0**	**+1.4**
	comp=Z,54nm,1.0s,mb5.3							
MUN	**Mundaring**	**37.05**	**154**	⇑ *iP*		**P**	**18 37 53.0**	**+1.4**
MUN				pmax	pmax			
	comp=Z,55nm,1.0s,mb5.3							
PONG	**Pong**	**37.16**	**328**	*eP*		**P**	**18 37 52.0**	**-0.5**
PONG				*e*			18 43 48.0	
SSE	**Sheshan**	**37.26**	**34**	P		**P**	**18 37 55.3**	**+2.0**
SSE				XP	sP		18 38 07.8	+0.5
SSE				S	**S**		**18 43 43.0**	**+5.1**
SSE				XS			18 43 57.3	
SSE				AMB	AMB			
	comp=Z,109nm,1.0s,mb5.6							
SSE				AMB	AMB			
	comp=Z,21µm,12.0s							
SSE				LR	LR			
	comp=N,40µm,26.0s,MS6.3							
SSE				LR	LR			
	comp=E,52µm,26.2s,MS6.3							
SSE				LR	LR			
	comp=Z,60µm,28.1s,MS6.2							
KLBR	**Kellerberrin**	**37.44**	**151**	*eP*		**P**	**18 37 55.2**	**+0.3**
	comp=Z,882nm,1

HHC SS SS 18 47 48.5 +4.2
HHC AMB AMB
comp=Z,163nm,1.5s,mb5.4
HHC LR LR
comp=N,49µm,20.8s,MS6.6
HHC LR LR
comp=E,64µm,19.6s,MS6.6
HHC LR LR
comp=Z,105µm,26.2s
BJT Baijiatuau 42.33 21 *e*P **P 18 38 35.5 +0.2**
BJT pmax pmax
comp=Z,788nm,1.1s
BJT Baijiatuau 42.33 21 *e*P **P 18 38 35.5 +0.2**
comp=Z,788nm,1.1s,mb6.3
BJI Beijing 42.35 21 P **P 18 38 35.5 0.0**
BJI S **S 18 44 47.3 -6.8**
BJI AMB AMB
comp=Z,665nm,1.1s,mb6.2
BJI LR LR
comp=N,44µm,18.7s,MS6.7
BJI LR LR
comp=E,76µm,19.3s,MS6.7
BJI LR LR
comp=Z,88µm,26.2s
FORT Forrest 42.64 140 *e*P **P 18 38 38.8 +0.8**
comp=Z,8µm,0.8s
MENI Mendum Tagoi 42.67 95 *e*P **P 18 38 36.9 -1.6**
ASPA Alice Springs 42.69 127 *e*P **P 18 38 37.2 -1.4**
ASPA *i* PCP PcP 18 40 31.2 +0.6
ASPA *e*S **S 18 44 56.1 -3.3**
ASPA *e*SCS ScS 18 48 38.6 +3.8
ASAR Alice Springs 42.70 127 P **P 18 38 36.9 -1.7**
comp=Z,87nm,0.7s,mb5.6,baz=301,slow=7.4,SNR=238
ASAR PcP PcP 18 40 30.6 +0.1
comp=Z,46nm,0.9s,baz=302,slow=3.2,SNR=13
ASAR ScP 18 44 20.9
comp=Z,11nm,1.2s,baz=306,slow=4.0,SNR=5.5
ASAR S **S 18 44 56.2 -3.2**
comp=Z,14nm,0.8s,baz=297,slow=13,SNR=9.6
MSEY Mahe Island 42.72 262 P **P 18 38 40.3 +1.4**
comp=Z,715nm,1.5s,mb6.2,SNR=18
YOMI Yo Moklole 42.83 95 *e*P **P 18 38 36.9 -2.9**
KSH Kashi 43.30 335 *e*P **P 18 38 42.8 -0.5**
KSH *e*AP pP 18 38 52.0 -1.1
KSH *e*XP sP 18 38 56.0 -1.3
KSH PP PP 18 40 25.5 -0.4
KSH *e*PCP PcP 18 40 32.0 -0.4
KSH *e*PPP PPP 18 41 00.5 -1.3
KSH *e*SCP 18 44 19.0
KSH *e*PCS 18 44 23.0
KSH S **S 18 45 06.5 -1.5**
KSH *e*XS 18 45 22.5
KSH *e*SS SS 18 48 13.0 -2.0
KSH *e*SCS ScS 18 48 37.5 -0.8
KSH LR LR
comp=N,73µm,17.2s,MS6.8
KSH LR LR
comp=E,88µm,16.5s,MS6.8
WBK Wadi Bani Khal 43.52 303 P **P 18 38 47.1 +1.8**
SNR=24
DL2 Dalian 43.61 27 P **P 18 38 46.3 +0.5**
DL2 S **S 18 45 18.8 +6.2**
DL2 AMB AMB
comp=Z,500nm,0.9s,mb6.2
DL2 LR LR
comp=N,25µm,15.5s
DL2 LR LR
comp=E,36µm,21.6s
DL2 LR LR
comp=Z,45µm,19.2s,MS6.4
WMQ Urumqi 43.66 349 P **P 18 38 46.8 +0.7**
WMQ AP pP 18 38 56.5 +0.5
WMQ XP sP 18 39 00.5 +0.3
WMQ PP PP 18 40 30.0 +0.5
WMQ PPP PPP 18 41 07.0 +0.5
WMQ *e*S **S 18 45 14.0 +0.7**
WMQ XS 18 45 30.0
WMQ SCS ScS 18 48 41.0 +0.5
WMQ AMB AMB
comp=Z,392nm,1.4s,mb6.0
WMQ AMB AMB
comp=Z,6µm,9.4s
WMQ LR LR
comp=N,53µm,21.0s,MS6.6
WMQ LR LR
comp=E,42µm,18.3s,MS6.6
WMQ LR LR
comp=Z,50µm,22.3s,MS6.4
JMDO Jabal Madar 44.15 302 P **P 18 38 52.0 +1.6**
SNR=24
BIDO Bidbid 44.60 303 P **P 18 38 54.6 +0.7**
SNR=27
SHAO Shalim 44.83 295 P **P 18 38 56.3 +0.4**
SNR=40
BSY Bisya 45.07 302 P **P 18 38 59.9 +2.1**
SNR=39
ULHL Ulaho\l 45.50 337 P **P 18 39 01.9 +1.0**
SNR=24
KS15 Wonju Array Si 45.66 34 *e*P **P 18 39 01.9 -0.5**
KZA Kyzart 45.75 336 P **P 18 39 03.3 +0.4**
SNR=35
ARQ Araqi 45.87 302 P **P 18 39 05.2 +1.1**
SNR=33
RBK Rabkut 45.97 294 P **P 18 39 05.2 +0.2**
SNR=50
TKM2 Tokmak 2 46.32 337 P **P 18 39 08.6 +1.2**
SNR=107
KBK Karagaybulak 46.35 337 P **P 18 39 08.7 +1.1**
SNR=70
WHFO Wadi Hawf 46.48 294 P **P 18 39 09.7 +0.8**
SNR=8.3
AAK Ala-Archa 46.52 336 P **P 18 39 09.4 +0.5**
comp=Z,821nm,1.0s,mb6.6,SNR=74
AAK Ala-Archa 46.52 336 *e*P **P 18 39 08.6 -0.3**
AAK pmax pmax
comp=Z,163nm,1.1s,mb5.9
AAK Ala-Archa 46.52 336 *e*P **P 18 39 08.6 -0.4**
comp=Z,163nm,1.1s,mb5.9
CHMS Chumysh 46.72 337 P **P 18 39 10.4 -0.1**
SNR=58
ABTO Aybut 46.76 293 P **P 18 39 11.1 0.0**
SNR=86
ASHO Ashiyiah 46.80 304 P **P 18 39 12.7 +1.3**
SNR=18
EKS2 Erkin-Say 46.83 336 P **P 18 39 11.6 +0.2**
SNR=63
SNY Shenyang 46.84 26 ⇓P **P 18 39 11.3 -0.2**
SNY AMB AMB
comp=Z,350nm,1.1s,mb6.2
SNY LR LR
comp=N,44µm,23.7s,MS6.5
SNY LR LR
comp=E,42µm,21.8s,MS6.5
SNY LR LR
comp=Z,68µm,21.1s,MS6.6
USP Ospenovka 47.05 337 P **P 18 39 12.9 -0.1**
SNR=102
SONM Songino Array 47.30 8 P **P 18 39 14.6 -0.5**
comp=Z,108nm,1.0s,mb5.7,baz=191,slow=7.5,SNR=152
SONM PcP PcP 18 40 46.5 +0.4
comp=Z,31nm,0.8s,baz=201,slow=3.8,SNR=5.8
SONM ScP 18 44 39.9
comp=Z,3.1nm,0.9s,baz=207,slow=3.2,SNR=4.4
SONM S **S 18 46 10.1 +4.7**
comp=Z,1.2nm,0.9s,baz=166,slow=5.1,SNR=2.5
ULN Ulaanbaatar 47.43 8 *e*P **P 18 39 15.5 -0.5**
ULN pmax pmax
comp=Z,137nm,1.1s,mb5.8
ULN Ulaanbaatar 47.43 8 *e*P **P 18 39 15.5 -0.5**
comp=Z,137nm,1.1s,mb5.8
MKAR Makanchi Array 47.67 346 P **P 18 39 17.2 -0.7**
comp=Z,319nm,0.9s,mb6.4,baz=158,slow=6.5,SNR=182
MKAR S **S 18 46 13.8 +3.3**
comp=Z,2.7nm,1.0s,baz=306,slow=29,SNR=4.2
GUMO Guam 48.18 73 P **P 18 39 20.3 -2.0**
GUMO Guam 48.18 73 P **P 18 39 20.2 -2.1**
comp=Z,50nm,0.7s,mb5.7,baz=209,slow=15,SNR=3.8
CN2 Changchun 49.25 26 ⇑P **P 18 39 29.5 -0.7**
CN2 AMB AMB
comp=Z,260nm,0.7s,mb6.4
ZAK Zakamensk 49.49 5 *e*P **P 18 39 32.0 +0.1**
ZAK pmax pmax
comp=Z,49nm,2.0s,mb5.2
PMG Port Moresby 50.14 103 P **P 18 39 36.4 -1.1**
PMG S **S 18 46 52.4 +6.9**
PMG pmax pmax
comp=Z,88nm,0.6s
PMG smax
comp=N,12nm,0.9s
PMG Port Moresby 50.14 103 P **P 18 39 36.4 -1.1**
comp=N,88nm,0.6s,mb5.9,baz=320,slow=1.8,SNR=37
PMG S **S 18 46 52.4 +6.9**
comp=N,12nm,0.9s,baz=200,slow=3.5,SNR=2.2
PMG Port Moresby 50.14 103 *e*P **P 18 39 35.5 -2.0**
comp=N,74nm,0.6s,mb5.9
MOY Mondy 50.63 3 *e*P **P 18 39 41.0 +0.4**
MOY pmax pmax
comp=Z,254nm,1.9s,mb5.8
TLY Talaya 50.81 5 *e*P **P 18 39 42.4 +0.4**
TLY pmax pmax
comp=Z,81nm,1.1s,mb5.6
TLY Talaya 50.81 5 *e*P **P 18 39 41.9 -0.1**
comp=Z,81nm,1.0s,mb5.6
IRK Irkutsk 51.42 5 *e*P **P 18 39 47.8 +1.2**
IRK *e* 18 41 00.5
IRK *e*S **S 18 47 05.9 +3.3**
IRK pmax pmax
comp=Z,349nm,1.9s,mb6.0
MAT Matsushiro 51.44 42 *e*P **P 18 39 47.0 0.0**
MAT pmax pmax
comp=Z,400nm,2.0s,mb6.0
MAT Matsushiro 51.44 42 *e*P **P 18 39 47.0 0.0**
comp=Z,400nm,2.0s,mb6.0
MAT Matsushiro 51.44 42 P **P 18 39 46.5 -0.5**
HIA Hailar 51.69 18 *e*P **P 18 39 47.7 -1.0**
HIA pmax pmax
comp=Z,526nm,1.2s
HIA Hailar 51.69 18 *e*P **P 18 39 47.7 -0.9**
comp=Z,526nm,1.2s,mb6.3
CTA Charters Tower 51.78 117 ⇑*i*P **P 18 39 48.8 -1.0**
comp=Z,98nm,0.9s,mb5.7
CTA *i* PCP PcP 18 41 03.7 +0.9
CTA Charters Tower 51.78 117 P **P 18 39 49.0 -0.8**
CTA 18 41 03.2
CTA S **S 18 47 09.6 +1.5**
CTA pmax pmax
comp=Z,120nm,0.8s
CTA pmax pmax
comp=Z,30nm,0.6s
CTA smax
comp=N,11nm,1.2s
CTA Charters Tower 51.78 117 P **P 18 39 49.0 -0.8**
comp=N,120nm,0.8s,mb5.9,baz=292,slow=9.2,SNR=77
CTA PcP PcP 18 41 03.2 +0.4
comp=N,30nm,0.6s,baz=304,slow=5.4,SNR=5.9
CTA S **S 18 47 09.6 +1.5**
comp=N,11nm,1.2s,baz=75,slow=20,SNR=7.9
CTAO Charters Tower 51.78 117 *e*P **P 18 39 48.5 -1.3**
CTAO pmax pmax
comp=Z,126nm,0.9s,mb5.8
CTAO Charters Tower 51.78 117 *e*P **P 18 39 48.5 -1.2**
comp=Z,126nm,0.9s,mb5.8
MDJ Mudanjiang 51.78 29 P **P 18 39 50.5 +1.1**
MDJ AMB AMB
comp=Z,106nm,1.2s,mb5.7
MDJ Mudanjiang 51.78 29 *e*P **P 18 39 49.3 -0.2**
comp=Z,168nm,1.1s,mb5.9
KURK Kurchatov 52.23 345 *i* P **P 18 39 51.9 -0.8**
KURK pmax pmax
comp=Z,250nm,1.2s,mb6.0
KURK Kurchatov 52.23 345 *e*P **P 18 39 51.5 -1.2**
comp=Z,282nm,1.0s,mb6.2
ADE Adelaide 52.26 137 P **P 18 39 53.3 +0.1**
STKA Stephens Creek 52.68 132 *e*S **S 18 47 21.6 +1.4**
STKA Stephens Creek 52.68 132 *e*P **P 18 39 55.4 -0.9**
comp=Z,54nm,0.6s,mb5.7
STKA Stephens Creek 52.68 132 P **P 18 39 55.3 -1.1**
comp=Z,62nm,0.5s,mb5.8,baz=302,slow=6.7,SNR=150
STKA S **S 18 47 21.0 +0.8**
comp=Z,3.0nm,1.0s,baz=238,slow=23,SNR=3.9
NVS Novosibirsk 55.06 350 *e*P **P 18 40 11.5 -2.1**
NVS *i* S **S 18 47 53.9 +1.9**
NVS pmax pmax
comp=N,171nm,1.0s
NVS pmax pmax
comp=E,79nm,1.0s
NVS pmax pmax
comp=Z,177nm,1.0s,mb6.0
NVS smax
comp=N,61nm,1.8s
NVS smax
comp=E,121nm,1.8s
ATD Arta Tunnel 55.60 283 P **P 18 40 18.7 +0.7**
comp=E,37nm,1.1s,mb5.3,baz=88,slow=5.8,SNR=40
ATD PcP PcP 18 41 17.6 +0.3
comp=E,16nm,0.8s,baz=265,slow=24,SNR=2.4
ATD Arta Tunnel 55.60 283 P **P 18 40 18.7 +0.7**
ATD PcP PcP 18 41 17.6 +0.3
KLR Kul'dur 56.20 26 *e*P **P 18 40 18.2 -3.6**
BVA0 Borovoye Array 56.73 341 *i* P **P 18 40 23.7 -1.9**
BVA0 pmax pmax
comp=Z,33nm,1.0s,mb5.3
BVAR Borovoye Array 56.73 341 P **P 18 40 23.8 -1.8**
comp=Z,154nm,0.9s,mb6.0,baz=143,slow=7.4,SNR=154
BVAR PcP PcP 18 41 21.3 +0.1
comp=Z,39nm,0.9s,baz=153,slow=3.3,SNR=3.8
BVAR S **S 18 48 15.4 +1.1**
comp=Z,3.2nm,0.9s,baz=141,slow=19,SNR=3.6
CHKZ Chkalovo 57.20 341 *e*P **P 18 40 27.0 -1.9**
CHKZ pmax pmax
comp=Z,431nm,1.0s,mb6.4
CHKZ Chkalovo 57.20 341 *e*P **P 18 40 27.0 -1.9**
comp=Z,431nm,1.0s,mb6.4
BOD Bodaibo 58.16 10 *e*P **P 18 40 34.9 -0.7**
BOD pmax pmax
comp=Z,278nm,1.8s,mb6.0
TOO Toolangi 58.28 136 *e*P **P 18 40 37.8 +1.0**
comp=Z,2.5nm,0.7s
TOO Toolangi 58.28 136 *e*P **P 18 40 37.8 +1.0**
TOO pmax pmax
comp=Z,3.0nm,0.7s
ASAJ Asahikawa 58.48 36 P **P 18 40 38.1 +0.1**
ASAJ pmax pmax
comp=Z,37nm,0.9s
ASAJ Asahikawa 58.48 36 P **P 18 40 38.1 +0.1**
comp=Z,37nm,0.9s,mb5.4,baz=254,slow=16,SNR=9.1
BHD Baghdad 59.53 309 *i* P **P 18 40 36.0 -9.5**
CLNS Chul'man 59.80 17 *e*P **P 18 40 44.9 -2.1**
CLNS pmax pmax
comp=N,75nm,0.8s
CLNS pmax pmax
comp=Z,145nm,0.8s,mb6.1
CLNS pmax pmax
comp=E,65nm,0.9s
CNB Canberra Magne 60.01 132 ⇑*i*P **P 18 40 49.4 +0.6**
comp=E,692nm,1.0s,mb6.6
YSS Yuzh-Sakhalins 60.20 34 ⇑*i*P **P 18 40 50.0 +0.1**
YSS *e* pP 18 40 59.3 -0.7
YSS *e* 18 41 05.5
YSS *e* 18 41 29.3
YSS pmax pmax
comp=E,110nm,1.0s
YSS pmax pmax
comp=Z,220nm,1.0s,mb6.1
YSS Yuzh-Sakhalins 60.20 34 *e*P **P 18 40 49.8 -0.1**
comp=Z,277nm,1.1s,mb6.2
KMBO Kilima Mbogo 60.65 268 *e*P **P 18 40 52.8 -0.6**
KMBO pmax pmax
comp=Z,233nm,1.6s
KMBO Kilima Mbogo 60.65 268 P **P 18 40 53.2 -0.2**
comp=Z,34nm,1.0s,mb5.5,baz=59,slow=8.2,SNR=68
KMBO Kilima Mbogo 60.65 268 *e*P **P 18 40 52.8 -0.6**
comp=Z,234nm,1.6s,mb6.1
MAK Makhachkala 61.37 320 *e*P **P 18 40 57.0 -0.9**
MSL Mosul 61.62 311 *e*P **P 18 40 58.0 -1.7**
HKR Hakkari 61.62 313 P **P 18 40 58.6 -1.0**
GNI Garni 61.95 316 *i* P **P 18 41 00.9 -0.9**
GNI pmax pmax
comp=Z,231nm,1.6s
GNI Garni 61.95 316 P **P 18 41 01.2 -0.6**
comp=Z,87nm,1.0s,mb5.9,baz=330,slow=6.6,SNR=31
GNI Garni 61.95 316 *e*P **P 18 41 01.1 -0.7**
comp=Z,220nm,1.1s,mb6.2
DGRG David-gareji 62.08 318 P **P 18 41 01.9 -0.8**
TAU Tasmania Unive 62.18 141 P **P 18 41 02.2 -1.1**
comp=Z,531nm,1.1s,mb6.6,SNR=7.2
TVAN Van 62.24 314 *i* P **P 18 41 04.3 +0.5**
TI2 Plekhanov 62.63 318k *i* P **P 18 41 04.8 -1.5**
TI2 *e*S **S 18 49 33.0 +2.5**
TBLG Delisi 62.63 318 P **P 18 41 05.1 -1.3**
HNR Honiara 62.65 101 *e*P **P 18 41 05.9 -1.0**
HNR pmax pmax
comp=Z,360nm,0.9s,mb6.5
HNR Honiara 62.65 101 *e*P **P 18 41 05.9 -0.9**
comp=Z,360nm,0.9s,mb6.5
DUS Dusheti 62.81 318 P **P 18 41 07.3 -0.2**
BTMT Batman 63.51 313 P **P 18 41 11.6 -0.6**
ZEI Tsey 63.65 318 *e*P **P 18 41 11.4 -1.7**
ZEI *i* *PP pP 18 41 16.9 -6.4
ZEI *i* 18 43 32.3
ZEI pmax pmax
comp=Z,61nm,0.9s,mb5.6
ARU Arti 63.69 337 *i* P **P 18 41 11.5 -1.6**
VRT Varto 63.82 314 P **P 18 41 15.2 +0.9**
EZM Erzurum 64.23 315 P **P 18 41 16.8 -0.1**
BINT Bingol 64.48 313 P **P 18 41 18.9 +0.3**
BCA Borcka 64.64 316 P **P 18 41 20.1 +0.5**
KIV Kislovodsk 64.95 319 *i* P **P 18 41 20.5 -1.0**
KIV pmax pmax
comp=Z,277nm,1.2s,mb6.2
KIV Kislovodsk 64.95 319 *e*P **P 18 41 19.8 -1.7**
comp=Z,306nm,1.1s,mb6.2
ASF Jabal al Asfar 65.17 305 P **P 18 41 22.9 -0.2**
comp=Z,90nm,1.0s,mb5.8,baz=344,slow=3.2,SNR=116
GOF Gofitskoye 65.20 320 ⇑*i*P **P 18 41 21.9 -1.2**
GOF *i* 18 43 46.9
GOF *e* 18 45 18.7
GOF *i* S S 18 50 04.2 +1.9
GOF pmax pmax
comp=Z,760nm,2.1s,mb6.4
GOF pmax pmax
comp=Z,130nm,1.7s,mb5.7
GOF smax
comp=N,500nm,3.2s
GOF smax
comp=E,350nm,3.2s
EZC Erzincan 65.28 314 P **P 18 41 25.7 +1.9**
ELZG Elazig 65.46 312 *i* P **P 18 41 23.3 -1.5**
YAK Yakutsk 65.50 16 *e*P **P 18 41 23.5 -1.2**
YAK *e**PP pP 18 41 34.8 -0.2
YAK *e* 18 41 52.8
YAK *e* 18 43 48.1
YAK *e*S S 18 50 06.0 +0.3
YAK *e* 18 51 16.3
YAK pmax pmax
comp=Z,386nm,1.0s
YAK pmax pmax
comp=N,118nm,1.1s
YAK pmax pmax
comp=E,89nm,1.2s
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,4.0nm,0.7s
YAK smax
comp=N,28nm,1.2s
YAK smax
comp=Z,5.0nm,1.0s
YAK smax
comp=E,13nm,1.2s
YAK Yakutsk 65.50 16 *e*P **P 18 41 22.6 -2.1**
comp=E,834nm,1.0s,mb6.7
GUMT Gumushane 65.78 315 P **P 18 41 27.9 +1.1**
MALT Malatya 65.81 312 *e*P **P 18 41 26.7 -0.4**
MALT pmax pmax
comp=Z,131nm,1.0s,mb5.9
MALT Malatya 65.81 312 *e*P **P 18 41 26.7 -0.4**
comp=Z,132nm,1.0s,mb5.9
MYA Malataya 65.81 312 P **P 18 41 27.1 -0.1**
KELT Kelkit 65.83 314 *i* P **P 18 41 27.5 +0.3**
GZT Gaziantep 66.15 311 *i* P **P 18 41 28.7 -0.6**
EIL Elat 66.17 302 *e*P **P 18 41 28.5 -1.1**
comp=Z,462nm,1.3s,mb6.3
GAZ Gaziantep 66.36 311 P **P 18 41 30.3 -0.3**
KAHT Ahir Dag 66.75 311 *i* P **P 18 41 32.4 -0.7**
SOC Sochi 66.77 318 *e*P **P 18 41 31.2 -1.9**
SOC *e* 18 42 04.3
SOC *e*S S 18 50 20.1 -1.4
SOC *e* 18 51 24.6
SOC *e*SS SS 18 54 40.1 -1.2
SOC pmax pmax
comp=N,55nm,1.1s
SOC pmax pmax
comp=Z,292nm,1.1s,mb6.2
SOC pmax pmax
comp=E,32nm,0.9s
HTY Hatay 66.87 309 P **P 18 41 33.8 0.0**
COBT Iskenderun 66.89 310 *i* P **P 18 41 33.3 -0.7**
MBAR Mbarara 67.15 269 P **P 18 41 35.5 -0.5**
comp=E,712nm,1.0s,mb6.7,SNR=69
MBAR Mbarara 67.15 269 *e*P **P 18 41 34.9 -1.1**
MBAR pmax pmax
comp=Z,584nm,1.8s,mb6.3
MBAR Mbarara 67.15 269 *e*P **P 18 41 34.9 -1.1**
comp=Z,584nm,1.8s,mb6.3
MIR Mirnyy 67.42 182*c* *i*P **P 18 41 36.0 -0.8**
MIR pmax pmax
comp=Z,230nm,1.8s,mb5.9
CASY Casey 67.67 174 ⇑*i*P **P 18 41 39.3 +0.9**
TOKT Tokat 67.84 314 P **P 18 41 39.9 0.0**
BNN Bunyan 67.90 312 P **P 18 41 40.5 +0.2**
PHNC Paralimni 68.22 307 P **P 18 41 41.2 -1.2**
MEST Erdemli 68.54 309 *i* P **P 18 41 42.7 -1.6**
AVNT Avonos 68.61 312 *i* P **P 18 41 42.3 -2.4**
ANN Anapa 68.75 318 *e*P **P 18 41 42.8 -2.7**
ANN *i* 18 42 10.3
ANN *e*S S 18 50 48.2 +3.1
ANN pmax pmax
comp=Z,80nm,1.1s,mb5.6
CSS Prodhromos 68.77 307 ⇑P **P 18 41 44.6 -1.1**
comp=Z,2.6nm,1.1s
CSS Prodhromos 68.77 307 ⇑*e*P **P 18 41 44.6 -1.1**
MAMC Mammari 68.91 307 ⇑P **P 18 41 46.1 -0.5**
MAMC Mammari 68.91 307 ⇑*e*P **P 18 41 46.1 -0.5**
SZAC Souni-Zanaja 69.07 307 P **P 18 41 46.7 -0.9**
CTKT Corum 69.21 313 *i* P **P 18 41 48.2 -0.1**
BOYT Boyabat 69.37 314 *i* P **P 18 41 47.6 -1.8**
ALFC Alevga 69.39 307 ⇑P **P 18 41 48.2 -1.4**
comp=Z,2.4nm,0.8s
ALFC Alevga 69.39 307 ⇑*e*P **P 18 41 48.2 -1.4**
BYBT Boyabat 69.48 314 P **P 18 41 50.2 +0.2**
PPCY Paphos 69.53 307 P **P 18 41 49.0 -1.4**
KAMT Kaman 69.64 312 P **P 18 41 50.8 -0.2**
SKR Severo-Kuril's 69.69 35 *e*P **P 18 41 49.5 -1.6**
SKR *e* 18 41 56.0
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,310nm,1.0s,mb6.2
BRTR Keskin Array B 69.79 312 P **P 18 41 50.2 -1.7**
comp=Z,74nm,0.9s,mb5.6,baz=130,slow=5.7,SNR=158
TOS Tosya 69.89 314 P **P 18 41 52.5 0.0**
PECR Pechory 69.97 331 *i* P **P 18 41 50.5 -2.2**
CANT Cankiri 70.05 313 P **P 18 41 53.0 -0.5**
ELDT Eldivan 70.16 313 *i* P **P 18 41 54.0 -0.2**
BZK Bozkurt 70.17 315 P **P 18 41 53.4 -0.8**
KONT Konya--Tatoy 70.27 310 P **P 18 41 55.1 +0.2**
VOR Voronezh 70.37 326 *e*P **P 18 41 55.0 -0.3**
VOR pmax pmax
comp=N,230nm,1.5s
NOUC Port Laguerre 70.44 114 *e*P **P 18 41 55.7 -0.4**
NOUC Port Laguerre 70.44 114 *e*P **P 18 41 55.7 -0.4**
LOD Lodumlu 70.48 312 P **P 18 41 54.7 -1.4**
BALT Daday 70.49 314 *i* P **P 18 41 55.6 -0.6**
DZM Mont Dzumac 70.56 114 *e*P **P 18 41 57.5 +0.5**
DZM Mont Dzumac 70.56 114 P **P 18 41 56.9 0.0**
comp=N,46nm,0.8s,mb5.4,baz=273,slow=6.7,SNR=40
KIZT Kizilcal 70.88 311 P **P 18 41 57.2 -1.4**
SAFT Safranbolu 70.91 314 P **P 18 41 57.4 -1.4**
SIM Simferopol' 71.02 318*de*P **P 18 41 58.3 -1.0**
SGKT Sivrigoynuk 71.19 313 *i* P **P 18 41 53.0 -7.4**
MA2 Magadan 71.29 25 *e*P **P 18 42 00.5 -0.2**
MA2 pmax pmax
comp=N,10.0nm,0.7s
MA2 pmax pmax
comp=Z,60nm,0.7s,mb5.6
MA2 pmax pmax
comp=E,20nm,0.6s
MA2 Magadan 71.29 25 *e*P **P 18 41 59.9 -0.7**
comp=E,86nm,0.7s,mb5.8
BCK Bucak 71.52 309 P **P 18 42 01.9 -0.5**
ISP Isparta 71.67 310 *e*P **P 18 42 02.5 -0.8**
ISP pmax pmax
comp=Z,149nm,1.2s,mb5.8

ISP	Isparta	71.67 310	eP	P	18 42 02.5	-0.8		
	comp=Z,149nm,1.2s,mb5.8							
MDU	Mudurnu	71.78 312	P	P	18 42 03.2	-0.7		
ESKT	Eskisehir	71.81 311	P	P	18 42 04.1	-0.1		
ESKT	Eskisehir	71.81 311	iP	P	18 42 03.5	-0.6		
ELL	Elmali	71.89 308	P	P	18 42 04.4	-0.2		
PET	Petropavlovsk	72.08 34	eP	P	18 42 05.3	-0.2		
PET			eS	S	18 51 26.0	+2.1		
PET			pmax	pmax				
	comp=Z,118nm,0.6s,mb6.0							
PET			MLR	MLR				
	comp=Z,27µm,18.0s,MS6.6							
PET	Petropavlovsk	72.08 34	eP	P	18 42 04.5	-1.0		
	comp=Z,273nm,1.1s,mb6.1							
HENT	Hendek	72.10 313	iP	P	18 42 04.6	-1.2		
MAW	Mawson	72.60 193⇑	iP	P	18 42 09.6	+1.3		
	comp=Z,23nm,1.2s,mb5.0							
MAW	Mawson	72.60 193⇑	iP	P	18 42 09.6	+1.3		
MAW			pmax	pmax				
	comp=Z,23nm,1.2s							
MAW	Mawson	72.60 193	P	P	18 42 07.6	-0.7		
	comp=Z,21nm,0.9s,mb5.1,baz=34,slow=8.0,SNR=14							
DENT	Denizli	72.79 309	P	P	18 42 09.4	-0.7		
MOS	Moscow	72.91 329	eP	P	18 42 10.8	+0.4		
MOS			e		18 42 23.3			
MOS			e		18 42 26.7			
MOS			e		18 44 51.5			
MOS			ePPP	PPP	18 46 37.1	-0.7		
MOS			iS	S	18 51 33.2	-0.1		
MOS			e		18 52 00.4			
MOS			pmax	pmax				
	comp=Z,767nm,1.6s,mb6.4							
MOS			pmax	pmax				
	comp=Z,1µm,2.0s,mb6.5							
HRT	Hereke	73.01 313	P	P	18 42 10.2	-1.0		
OBN	Obninsk	73.20 328	P	P	18 42 12.2	+0.1		
	comp=Z,1µm,1.1s,mb6.8,SNR=36							
OBN	Obninsk	73.20 328	iP	P	18 42 11.3	-0.8		
OBN			e		18 44 54.5			
OBN			eS	S	18 51 39.1	+2.5		
OBN			pmax	pmax				
	comp=Z,217nm,1.1s,mb6.0							
OBN	Obninsk	73.20 328	eP	P	18 42 10.2	-2.0		
	comp=Z,755nm,1.6s,mb6.4							
ULDT	Uludag	73.24 312	iP	P	18 42 08.5	-4.2		
TIXI	Tiksi	73.34 10	eP	P	18 42 08.3	-4.3		
TIXI			pmax	pmax				
	comp=Z,316nm,1.0s,mb6.2							
TIXI			pmax	pmax				
	comp=N,51nm,1.2s							
TIXI			pmax	pmax				
	comp=E,31nm,1.3s							
TIXI			pmax	pmax				
	comp=Z,1µm,1.5s,mb6.6							
TIXI	Tiksi	73.34 10	iP	P	18 42 11.6	-1.0		
KARP	Karpathos	73.82 307	eP	P	18 42 16.0	-0.1		
BNT	Bandirma	74.20 312	P	P	18 42 19.1	+1.0		
KDAG	Bornova	74.29 310	iP	P	18 42 17.3	-1.5		
IZM	Izmir	74.29 310	P	P	18 42 18.6	-0.2		
LBTB	Lobatse	74.37 244	eP	P	18 42 19.1	-0.4		
LBTB			pmax	pmax				
	comp=Z,197nm,0.9s,mb6.0							
LBTB	Lobatse	74.37 244	eP	P	18 42 19.1	-0.4		
	comp=Z,197nm,0.9s,mb6.0							
PSN	Preselentsi	74.76 315	P	P	18 42 20.0	-1.4		
TIRR	Tirgusor	74.78 316	⇓P	P	18 42 19.8	-1.7		
XRY	Khrisi	74.88 306	eP	P	18 42 21.0	-1.3		
NPS	Neapolis	75.01 306	⇓P	P	18 42 23.5	+0.5		
KIS	Kishinev	75.14 319	eP	P	18 42 21.0	-2.5		
KIS			e		18 42 35.0			
KIS			pmax	pmax				
	comp=Z,500nm,1.0s,mb6.4							
CFR	Carcaliu	75.15 317	⇓iP	P	18 42 23.5	-0.1		
HARR	Harsova	75.17 316	⇑iP	P	18 42 23.0	-0.7		
PRD	Provadia	75.20 315	P	P	18 42 23.0	-1.0		
PRK	Paraskevi	75.21 310	eP	P	18 42 23.5	-0.6		
BOSA	Boshof	75.22 240	eP	P	18 42 23.5	-0.9		
BOSA			pmax	pmax				
	comp=Z,788nm,1.7s,mb6.4							
BOSA	Boshof	75.22 240	P	P	18 42 23.6	-0.8		
	comp=Z,97nm,0.8s,mb5.8,baz=83,slow=5.5,SNR=84							
BOSA	Boshof	75.22 240	eP	P	18 42 23.4	-0.9		
	comp=Z,788nm,1.7s,mb6.4							
IDI	Anoyia	75.60 306	P	P	18 42 26.7	+0.3		
	comp=Z,142nm,0.9s,mb5.9,baz=111,slow=5.9,SNR=34							
IDI			S	S	18 52 06.1	+2.3		
	comp=Z,7.1nm,0.9s,baz=5.9,slow=11,SNR=2.3							
JMB	Yambol	75.63 314	P	P	18 42 26.5	+0.1		
AKASG	Malin Array Be	75.88 322	P	P	18 42 26.0	-1.6		
	comp=Z,74nm,0.9s,mb5.6,baz=88,slow=4.9,SNR=184							
IAS	Iasi	76.02 319	P	P	18 42 28.1	-0.4		
VAM	Vamos	76.18 306	eP	P	18 42 29.5	-0.2		
GVD	Gavdhos	76.18 306	eP	P	18 42 28.7	-1.0		
	comp=Z,392nm,1.3s,mb6.2							
GVD	Gavdhos	76.18 306	eP	P	18 42 29.0	-0.7		
SZH	Strazhica	76.27 314	P	P	18 42 30.0	0.0		
VRI	Vrincioaia	76.27 317⇓	eP	P	18 42 29.5	-0.5		
DIM	Dimitrovgrad	76.31 313	P	P	18 42 28.0	-2.3		
BUC1	Bucharest	76.42 315	P	P	18 42 32.4	+1.5		
PVL	Pavlikeni	76.68 314	P	P	18 42 33.0	+0.6		
MLR	Muntele Rosu	76.72 317	P	P	18 42 32.7	+0.1		
MLR			S	S	18 52 18.7	+2.9		
MLR			pmax	pmax				
	comp=Z,248nm,1.0s							
MLR			smax					
	comp=N,1.0nm,0.7s							
MLR	Muntele Rosu	76.72 317	P	P	18 42 32.7	+0.1		
	comp=N,248nm,1.0s,mb6.1,baz=127,slow=2.3,SNR=169							
MLR			S	S	18 52 18.7	+2.9		
	comp=N,0.7nm,0.7s,baz=220,slow=23,SNR=2.6							
MLR	Muntele Rosu	76.72 317⇓	eP	P	18 42 32.0	-0.6		
RZN	Rozhen	76.84 313	P	P	18 42 32.0	-1.3		
PLD	Plovdiv	76.93 313	P	P	18 42 33.5	-0.3		
AOS	Alonnisos	77.03 310	eP	P	18 42 32.4	-2.0		
OUR	Ouranopolis	77.15 311	eP	P	18 42 30.3	-4.8		
KYTH	Kithira	77.24 307	eP	P	18 42 35.5	-0.2		
MTUR	Matau	77.28 316	⇓iP	P	18 42 35.7	0.0		
PGB	Panagyurishte	77.40 313	P	P	18 42 35.0	-1.4		
MMB	Musomiste	77.55 312	P	P	18 42 36.0	-1.3		
SRS	Serrai	77.57 312	eP	P	18 42 35.5	-1.9		
BURAR	Bucovina Array	77.67 319	⇑P	P	18 42 38.1	+0.3		
MNK	Minsk	77.75 326	eP	P	18 42 35.0	-3.1		
PUL	Pulkovo	78.05 331	iP	P	18 42 40.3	+0.7		
TUZ	Tuapeka	78.06 137	PN	P	18 42 40.3	+0.3		
KKB	Krupnik	78.07 313	P	P	18 42 38.0	-2.1		
LBZ	Lake Benmore	78.08 136	PN	P	18 42 40.2	+0.1		
VTS	Vitosha	78.10 313	P	P	18 42 39.0	-1.3		
LIT	Litokhoron	78.24 311	eP	P	18 42 37.3	-3.7		
ITM	Ithomi	78.25 308	eP	P	18 42 40.5	-0.7		
GRG	Griva	78.43 312	eP	P	18 42 39.7	-2.5		
RPZ	Rata Peaks	78.54 135	P	P	18 42 42.6	0.0		
IDID	Didziasalis	78.58 327	eP	P	18 42 42.7	+0.1		
IDID			AMb	AMB	18 42 45.1			
	comp=Z,91nm,1.1s,mb5.6							
EVR	Evrytania	78.58 309	eP	P	18 42 41.5	-1.5		
KZN	Kozani	78.81 311	eP	P	18 42 42.5	-1.7		
IIGN	Ignalina	78.87 326	eP	P	18 42 44.4	+0.2		
IIGN			AMb	AMB	18 42 46.8			
	comp=Z,110nm,1.1s,mb5.7							
IZAR	Zarasai	78.96 327	eP	P	18 42 44.8	+0.1		
IZAR			AMb	AMB	18 42 47.1			
	comp=Z,68nm,1.2s,mb5.5							
ISAL	Salakas	78.98 327	eP	P	18 42 44.9	0.0		
ISAL			AMb	AMB	18 42 47.3			
	comp=Z,75nm,1.2s,mb5.5							
QRZ	Quartz Range	79.03 132	PN	P	18 42 46.2	+0.8		
BARS	Barje	79.15 313	⇑iP	P	18 42 47.1	+1.1		
FNA	Florina	79.18 311	eP	P	18 42 44.8	-1.5		
SKO	Skopje	79.30 312	iP	P	18 42 46.0	-0.9		
SKO			pmax	pmax				
	comp=Z,100nm,1.0s,mb5.7							
SKO	Skopje	79.30 312	iP	P	18 42 46.0	-0.9		
	comp=Z,0.1nm,1.0s							
LVZ	Lovozero	79.32 340	iP	P	18 42 45.7	-0.7		
JAN	Janina	79.42 310	eP	P	18 42 46.5	-1.0		
VSU	Vasula	79.42 330	iP	P	18 42 46.6	-0.5		
VLS	Valsamata	79.43 309	eP	P	18 42 46.5	-1.1		
SUR	Sutherland	79.58 237	P	P	18 42 51.4	+2.8		
	comp=Z,816nm,0.9s,mb6.7,SNR=16							
SUR	Sutherland	79.58 237	P	P	18 42 49.2	+0.6		
	comp=Z,82nm,0.9s,mb5.7,baz=90,slow=4.6,SNR=29							
SUR	Sutherland	79.58 237	eP	P	18 42 49.3	+0.8		
	comp=Z,440nm,1.5s,mb6.2							
APA	Apatity	79.62 339⇓	iP	P	18 42 48.7	+0.7		
APA			i		18 42 54.8			
APA			pmax	pmax				
	comp=Z,260nm,1.0s,mb6.1							
KWP	Kalwaria	79.71 320	eP	P	18 42 49.3	+0.4		
BZS	Buzias	79.73 316	⇑P	P	18 42 48.1	-1.0		
IGT	Igoumenitsa	79.80 310	eP	P	18 42 48.3	-1.3		
SVIS	Svilajnac	79.81 315	⇑iP	P	18 42 48.9	-0.7		
KOLS	Kolonicke sedl	79.86 320	iP	P	18 42 50.8	+1.1		
DUWZ	D'Urville Isla	80.07 132	PN	P	18 42 51.0	0.0		
GRUS	Gruza	80.11 314	⇑iP	P	18 42 50.6	-0.5		
KEK	Kerkira	80.23 310	eP	P	18 42 51.5	-0.4		
SUW	Suwalki	80.28 325	eP	P	18 42 50.6	-1.3		
SUW			pmax	pmax				
	comp=Z,700nm,1.0s,mb6.5							
SUW	Suwalki	80.28 325	eP	P	18 42 50.9	-1.0		
SUW	Suwalki	80.28 325	eP	P	18 42 50.9	-0.9		
QSH	Qafa e Shtames	80.38 312	ep	P	18 42 54.0	+1.4		
CRVS	Cervenica-Dubn	80.38 319	iP	P	18 42 53.8	+1.3		
FX1	Attu Island--F	80.41 36	P	P	18 42 53.2	+0.7		
FX1			pmax	pmax				
	comp=Z,82nm,0.6s							
FX1	Attu Island--F	80.41 36	P	P	18 42 53.2	+0.7		
	comp=Z,82nm,0.6s,mb5.8,baz=13,slow=2.7,SNR=18							
FX1	Attu Island--F	80.41 36	eP	P	18 42 52.8	+0.2		
BEO	Belgrade	80.42 315	⇑iP	P	18 42 52.2	-0.6		
PVY	Plav	80.47 313	⇑iP	P	18 42 52.7	-0.4		
FINES	FINESS Array B	80.55 332	P	P	18 42 52.4	-0.7		
	comp=Z,102nm,0.9s,mb5.8,baz=108,slow=6.0,SNR=132							
IVA	Berane	80.56 313	⇑iP	P	18 42 53.1	-0.4		
KAF	Kangasniemi	80.63 333	ep	P	18 42 53.2	-0.3		
	comp=Z,188nm,0.8s,mb6.1,baz=103,slow=5.0							
KAF	Kangasniemi	80.63 333	eP	P	18 42 53.2	-0.3		
KAF			pmax	pmax				
	comp=Z,188nm,0.8s,mb6.1							
DIVS	Divcibare	80.65 314	⇑iP	P	18 42 52.9	-1.2		
NVSS	Nova Varos 2	80.78 314	⇑iP	P	18 42 54.0	-0.7		
ULC	Ulcinj	80.92 312	⇑iP	P	18 42 54.9	+0.6		
KECS	Kecovo	80.95 319	iP	P	18 42 55.5	0.0		
TTG	Podgorica	80.97 313	⇑iP	P	18 42 54.5	-1.3		
PLE	Pljevlja	80.98 314	⇑iP	P	18 42 56.5	+0.7		
MGZ	Maungaku	81.01 130	PN	P	18 42 57.0	+1.0		
CNZ	Chateau	81.04 130	PN	P	18 42 57.1	+0.9		
DRZ	Dome Shelter	81.07 130	PN	P	18 42 57.5	+1.2		
NGZ	Ngauruhoe	81.08 130	PN	P	18 42 56.5	+0.1		
WNVZ	Wahianoa	81.10 130	PN	P	18 42 57.2	+0.7		
PKSN	Nyarlorinc	81.13 317	⇑iP	P	18 42 58.2	+1.7		
TSUM	Tsumeb	81.13 251	P	P	18 42 56.8	-0.2		
	comp=Z,62nm,0.9s,mb5.5,baz=81,slow=4.5,SNR=58							
TSUM	Tsumeb	81.13 251	eP	P	18 42 57.0	0.0		
TUVZ	Tukino	81.13 130	PN	P	18 42 58.3	+1.6		
BILL	Bilibino	81.18 21	iP	P	18 42 56.4	+0.1		
BILL			pmax	pmax				
	comp=Z,47nm,2.6s,mb5.0							
BILL	Bilibino	81.18 21	eP	P	18 42 56.2	-0.1		
	comp=Z,42nm,1.4s,mb5.2							
NKY	Niksic	81.21 313	⇑iP	P	18 42 56.0	-1.0		
NIE	Niedzica	81.21 320	eP	P	18 42 55.9	-0.9		
BUM	Brajici-Budva	81.22 313	⇑iP	P	18 42 57.0	-0.1		
PSZ	Piszkesteto	81.26 318	‖eP	P	18 42 57.0	-0.1		
PKS6	Bocsa	81.29 317	⇑iP	P	18 42 58.7	+1.4		
UPM	Unac-Piva	81.32 313	⇑iP	P	18 42 57.0	-0.6		
HCY	Herceg Novi	81.53 313	⇑iP	P	18 42 57.8	-0.8		
BRY	Bratogost	81.55 313	⇑iP	P	18 42 57.9	-0.8		
LCI	Lecce	81.59 310	eP	P	18 42 59.0	0.0		
PKS7	Kunszentmiklos	81.63 317	⇑iP	P	18 43 00.4	+1.3		
OJC	Ojcow	81.66 321	eP	P	18 42 59.8	+0.6		
BKZ	Black Stump Fm	81.77 130	PN	P	18 42 59.4	-0.6		
BUD	Budapest	81.78 318	⇑iP	P	18 43 00.8	+1.0		
PKSM	Moragy	81.88 316	eP	P	18 42 59.7	-0.7		
VYHS	Vyhne	82.04 319	eP	P	18 43 01.3	+0.1		
URZ	Urewera	82.12 129	P	P	18 43 00.8	-1.0		
	comp=Z,24nm,0.5s,mb5.3,baz=262,slow=1.8,SNR=30							
URZ	Urewera	82.12 129	PN	P	18 43 00.8	-1.1		
PKS9	Tamasi	82.17 317	⇑iP	P	18 43 02.9	+1.0		
PKSG		82.19 318	⇑iP	P	18 43 03.3	+1.3		
SRO2	Moca	82.24 318	iP	P	18 43 03.0	+0.8		
RHK1	Bakonya	82.25 316	eP	P	18 43 02.3	0.0		
SRO	Srobarova	82.30 318	iP	P	18 43 03.8	+1.3		
KOLL	Kolacno	82.33 319	iP	P	18 43 03.5	+0.8		
SRO1	Iza	82.34 318	iP	P	18 43 04.5	+1.7		
TIP	Timpagrande	82.52 309	eP	P	18 43 03.6	-0.2		
OKC	Ostrava-Krasne	82.66 320	eP	P	18 43 03.6	-0.7		
GRI	Girifalco	82.75 309	eP	P	18 43 06.0	+1.0		
ORI	Oriolo Calabro	82.83 310	eP	P	18 43 07.4	+2.0		
SMOL	Smolenice	82.97 319	iP	P	18 43 07.2	+1.3		
SOI	Samo	82.98 308	eP	P	18 43 06.9	+0.7		
ARCES	ARCESS Array B	83.02 340	P	P	18 43 06.0	+0.2		
	comp=Z,179nm,0.9s,mb6.1,baz=101,slow=6.2,SNR=107							
MORC	Moravsky Berou	83.04 320	eP	P	18 43 06.2	-0.1		
MORC			pmax	pmax				
	comp=Z,165nm,1.0s,mb6.0							
MORC	Moravsky Berou	83.04 320	eP	P	18 43 06.2	0.0		
	comp=Z,165nm,1.0s,mb6.0							
ZST	Bratislava	83.15 318	iP	P	18 43 07.2	+0.4		
MTTG	Motta San Giov	83.26 308	eP	P	18 43 08.4	+0.7		
SCLL	Scilla	83.26 308	eP	P	18 43 08.0	+0.4		
FGMS	Monte Sant'Ang	83.34 312	eP	P	18 43 07.0	-0.9		
MSI	Messina ING	83.38 308	eP	P	18 43 09.9	+1.6		
SOP	Sopron	83.46 318	‖eP	P	18 43 09.7	+1.3		
SLCN	Sala Consilina	83.48 310	eP	P	18 43 09.4	+0.7		
MGR	Morigerati	83.52 310	eP	P	18 43 04.5	-4.4		
KOGS	Kog	83.55 316	eP	P	18 43 09.1	+0.1		
AGST	Augusta-Monte	83.58 307	eP	P	18 43 09.7	+0.3		
VRAC	Vranov	83.60 319	P	P	18 43 10.7	+1.6		
RGNG	Rignano Grg	83.61 312	eP	P	18 43 09.8	+0.4		
MRLC	Muro Lucano	83.62 311	eP	P	18 43 10.1	+0.6		
FG4	Candela	83.62 311	eP	P	18 43 10.7	+1.2		
GKP	Gorka Klasztor	83.65 323	eP	P	18 43 09.0	-0.3		
GKP	Gorka Klasztor	83.65 323	eP	P	18 43 09.0	-0.3		
KTK1	Kautokeino	83.66 340	eP	P	18 43 09.9	+1.0		
	comp=Z,423nm,1.9s,mb6.2							
KTK1	Kautokeino	83.66 340	eP	P	18 43 09.9	+1.0		
KTK1			AMb	AMB	18 43 14.0			
	comp=Z,423nm,1.9s,mb6.2							
VKA	Vienna	83.68 318	⇑iP	P	18 43 09.7	+0.1		
SGO	Sicignano	83.74 311	eP	P	18 43 09.4	-0.7		
FG5	Orsara di Pugl	83.82 311	eP	P	18 43 11.3	+0.8		
DPC	Dobruska-Polom	83.89 320	eP	P	18 43 10.8	+0.2		
KSP	Ksiaz	83.96 321	eP	P	18 43 10.9	0.0		
KSP	Ksiaz	83.96 321	eP	P	18 43 11.4	+0.5		
CSSN	Cassano Irpino	83.98 311	eP	P	18 43 11.4	+0.1		
MNO	Monte Soro	84.04 308	eP	P	18 43 12.8	+1.1		
UPC	Upice	84.10 321	eP	P	18 43 12.1	+0.5		
ARSA	Arzberg	84.12 317	⇑iP	P	18 43 12.1	+0.3		
	comp=Z,206nm,1.2s,mb6.1							
VISS	Visnje	84.47 316	eP	P	18 43 13.4	-0.2		
CII	Carovilli	84.58 312	eP	P	18 43 15.4	+1.2		
LJU	Ljubljana	84.71 316	eP	P	18 43 15.6	+0.8		
OBKA	Obir	84.72 316	⇓iP	P	18 43 14.7	-0.2		
	comp=Z,179nm,1.4s,mb6.0							
SDI	San Donato	84.94 312	eP	P	18 43 15.7	-0.4		
PRU	Pruhonice	85.00 320	eP	P	18 43 16.2	+0.1		
MOA	Molln	85.02 318	⇑iP	P	18 43 15.9	-0.4		
	comp=Z,144nm,1.9s,mb5.8							
PVCC	Panska Ves	85.02 320	eP	P	18 43 16.3	+0.1		
BSD	Bornholm Skovb	85.20 325	iP	P	18 43 17.5	+0.5		
BSD			pmax	pmax				
	comp=Z,98nm,0.9s,mb5.9							
BSD	Bornholm Skovb	85.20 325	iP	P	18 43 17.5	+0.5		
	comp=Z,98nm,0.9s,mb5.9							
TRI	Trieste	85.22 316	eP	P	18 43 16.8	-0.5		
PTQR	Pietraquaria	85.27 312	eP	P	18 43 17.6	-0.1		
USI	Ustica	85.27 309	eP	P	18 43 18.4	+0.6		
AQU	L'Aquila	85.28 312	P	P	18 43 18.0	+0.2		
AQU			pmax	pmax				
	comp=Z,570nm,1.2s,mb6.6							
AQU	L'Aquila	85.28 312	eP	P	18 43 18.2	+0.5		
TRO	Tromso	85.28 340	eP	P	18 43 15.9	-1.2		
VNDA	Vanda	85.43 169	P	P	18 43 18.4	+0.6		
	comp=Z,32nm,1.1s,mb5.4,baz=300,slow=5.6,SNR=49							
VNDA			PKKPbc		19 01 23.3			
	comp=Z,2.3nm,0.9s,baz=155,slow=1.5,SNR=7.8							
VNDA	Vanda	85.43 169	P	P	18 43 18.4	+0.6		
VNDA			PKKPbc		19 01 23.3			
BRG	Berggiesshubel	85.44 321	iP	P	18 43 18.5	+0.2		
BRG			pmax	pmax				
	comp=Z,394nm,1.7s,mb6.3							
BRG	Berggiesshubel	85.44 321	iP	P	18 43 18.5	+0.2		
	comp=Z,394nm,1.7s,mb6.3							
BRG			e		18 45 48.8			
BRG			e		18 45 56.2			
GEC2	GERESS Array S	85.46 319	eP	P	18 43 19.5	+1.1		
GEC2			pmax	pmax				
	comp=Z,419nm,1.3s,mb6.4							
GEC2	GERESS Array S	85.46 319	eP	P	18 43 19.5	+1.1		
	comp=Z,419nm,1.3s,mb6.4							
GERES	GERESS Array B	85.46 319	P	P	18 43 18.2	-0.2		
	comp=Z,85nm,0.9s,mb5.8,baz=90,slow=4.0,SNR=280							
GERES			S	S	18 53 45.9	0.0		
	comp=Z,0.2nm,0.8s,baz=318,slow=22,SNR=2.3							
NRCA	Norcia	85.52 313	eP	P	18 43 19.0	+0.1		
PTCC	Patocco-Chiusa	85.54 316	eP	P	18 43 18.7	-0.2		
KHC	Kasperske Hory	85.56 319	eP	P	18 43 18.8	-0.1		
KHC			e	pP	18 43 30.5	+1.1		
KBA	Koelnbreinsper	85.59 317	⇑iP	P	18 43 18.7	-0.4		
	comp=Z,98nm,1.4s,mb5.8							
KBA	Koelnbreinsper	85.59 317	⇑iP	P	18 43 18.7	-0.4		
KBA			pmax	pmax				
	comp=Z,98nm,1.4s,mb5.8							
GMNA	Gemona	85.62 316	eP	P	18 43 19.6	+0.3		
RUE	Ruedersdorf	85.66 322	eP	P	18 43 20.1	+0.8		
	comp=Z,508nm,1.3s,mb6.6							
SNTG	Esanatoglia	85.67 313	eP	P	18 43 20.1	+0.5		
ARV	Arcevia	85.68 313	eP	P	18 43 19.8	+0.1		
ERC	Erice	85.71 308	eP	P	18 43 20.9	+1.0		
MNS	Montasola	85.82 312	eP	P	18 43 19.3	-1.1		
FVI	Forni Avoltri	85.95 316	eP	P	18 43 21.9	+1.0		
WET	Wettzell	86.02 319	eP	P	18 43 22.1	+0.9		
RSM	Repubblica di	86.06 314	eP	P	18 43 22.6	+1.1		
CLL	Collm	86.06 321	iP	P	18 43 22.5	+1.2		
CLL			e		18 43 41.0			
CLL			pmax	pmax				
	comp=Z,154nm,1.2s,mb6.1							
CLL	Collm	86.06 321	iP	P	18 43 22.5	+1.2		
	comp=Z,154nm,1.2s,mb6.1							
CLL			e		18 43 41.0			
CLL	Collm	86.06 321	P	P	18 43 22.5	+1.2		
	comp=Z,logA/T=2.1,mb6.1							
CLL			e		18 43 41.0			
CLL			ePP	PP	18 46 25.0	-18		
CLL			e		18 46 54.0			
KIWB	Kanaga Island	86.17 38	eP	P	18 43 22.1	+0.3		
BRSN	Barisano	86.34 314	eP	P	18 43 25.6	+2.7		
NKC	Novy Kostel	86.36 320	eP	P	18 43 22.9	+0.1		
SFI	Santa Sofia	86.49 314	eP	P	18 43 24.4	+0.8		
MOR8	Moi Rana	86.49 336	eP	P	18 43 22.6	-0.5		
	comp=Z,290nm,1.5s,mb6.3							
MOR8	Moi Rana	86.49 336	eP	P	18 43 22.6	-0.5		
MOR8			AMb	AMB	18 43 28.4			
	comp=Z,290nm,1.5s,mb6.3							
PGD	Poggio Sodo	86.58 314	eP	P	18 43 25.4	+1.3		
COP	Copenhagen	86.66 326	iP	P	18 43 24.7	+0.6		
COP			pmax	pmax				
	comp=Z,118nm,0.9s,mb6.1							
COP	Copenhagen	86.66 326	iP	P	18 43 24.7	+0.6		
	comp=Z,118nm,0.9s,mb6.1							
CTI	Castel Tesino	86.71 316	eP	P	18 43 24.8	+0.2		
VMG	Vicchio	86.71 314	eP	P	18 43 25.5	+0.8		
WTTA	Wattenberg	86.76 317	⇑iP	P	18 43 24.3	-0.6		
	comp=Z,138nm,1.1s,mb6.1							
WTTA	Wattenberg	86.76 317	⇑iP	P	18 43 24.3	-0.6		
WTTA			pmax	pmax				
	comp=Z,138nm,1.1s,mb6.1							
WATA	Walderalm	86.81 317	⇑iP	P	18 43 23.8	-1.3		
	comp=Z,200nm,1.5s,mb6.1							
WATA	Walderalm	86.81 317	⇑iP	P	18 43 23.8	-1.3		
WATA			pmax	pmax				
	comp=Z,200nm,1.5s,mb6.1							
SEI	Scarperia	86.85 314	eP	P	18 43 25.4	+0.1		
MOX	Moxa	86.91 320	eP	P	18 43 25.4	-0.1		
MOX			pmax	pmax				
	comp=Z,274nm,2.0s,mb6.1							
MOX	Moxa	86.91 320	eP	P	18 43 25.4	-0.1		
	comp=Z,274nm,2.0s,mb6.1							
MOX	Moxa	86.91 320	iP	P	18 43 25.4	-0.1		
	comp=Z,logA/T=2.1,mb6.1							
FUR	Furstenfeldbru	87.04 318	eP	P	18 43 26.8	+0.6		
SQTA	Sankt Quirin	87.05 317	⇑iP	P	18 43 25.8	-0.5		
	comp=Z,110nm,1.2s,mb6.0							
SQTA	Sankt Quirin	87.05 317	⇑iP	P	18 43 25.8	-0.5		
SQTA			pmax	pmax				
	comp=Z,110nm,1.2s,mb6.0					

ORX Oropa 89.27 315 P **P** **18 43 36.2 -0.7**
KIZ Kirchzarten 89.29 318 *e*P **P** **18 43 36.9 -0.1**
IMI Imperia 89.35 314 *e*P **P** **18 43 37.6 +0.3**
LANF Langenberg 89.35 319 *e*P **P** **18 43 39.0 +1.8**
ROB Roburent 89.36 314 P **P** **18 43 37.6 +0.2**
STR Strasbourg 89.38 318 *e*P **P** **18 43 39.2 +1.8**
TRAV 89.43 315 P **P** **18 43 36.9 -0.8**
MONE Monesi 89.44 314 P **P** **18 43 37.7 -0.1**
NEGI Negi 89.48 314 P **P** **18 43 36.8 -1.2**
LIBD Limburg 89.50 318 *e*P **P** **18 43 39.7 +1.8**
LIBD Limburg 89.50 318 *e*P **P** **18 43 38.5 +0.6**
ABH Alteburg 89.51 320 *e*P **P** **18 43 40.0 +2.1**
ABH Alteburg 89.51 320 *e*P **P** **18 43 38.9 +1.0**
NVL N'lazarevskaya 89.56 199⇑*i*P **P** **18 43 38.7 +1.0**
NVL *i* 18 43 51.7
BBS Basel-Blauen 89.57 317 *e*P **P** **18 43 39.5 +1.2**
BBS Basel-Blauen 89.57 317 *e*P **P** **18 43 38.7 +0.4**
MAIT Maitri 89.59 199 *e*P **P** **18 43 40.8 +2.9**
SAOF Saorge 89.59 314 *e*P **P** **18 43 40.0 +1.5**
WLS Welschbruch 89.66 318 *e*P **P** **18 43 40.0 +1.3**
SBF Sospel 89.68 314 *e*P **P** **18 43 38.6 -0.3**
comp=Z,501nm,1.1s,mb6.5
SBF Sospel 89.68 314 *e*P **P** **18 43 38.6 -0.3**
SBF pmax pmax
comp=Z,250nm,1.1s,mb6.5
AUTN L'Aution 89.68 314 *e*P **P** **18 43 40.9 +2.0**
ENR Entracque 89.68 314 P **P** **18 43 38.5 -0.4**
CDF Champ du Feu 89.71 318 *e*P **P** **18 43 38.4 -0.5**
comp=Z,187nm,1.3s,mb6.0
REVF Revere 89.73 314 *e*P **P** **18 43 40.7 +1.5**
STV2 Anna di Valdie 89.75 314 P **P** **18 43 39.0 -0.3**
STV Sta Anna Valdi 89.75 314 P **P** **18 43 37.9 -1.3**
ABSA Djebel Ababsia 89.78 306 P **P** **18 43 41.5 +1.9**
RSP Reno Superiore 89.78 315 P **P** **18 43 38.0 -1.4**
BHB Bricherasio 89.78 315 P **P** **18 43 38.1 -1.2**
ECH Echery 89.79 318 *e*P **P** **18 43 40.4 +1.1**
TOUF Mont Tournerai 89.81 314 *e*P **P** **18 43 41.3 +1.8**
CMAH Djebel Manchou 89.82 306 P **P** **18 43 42.0 +2.3**
MOF Molkenrain 89.82 318 *e*P **P** **18 43 40.7 +1.2**
RUP Ruppelstein 89.83 320 *e*P **P** **18 43 41.4 +2.0**
RUP Ruppelstein 89.83 320 *e*P **P** **18 43 40.2 +0.8**
LSD Ceresole Reale 89.85 315 P **P** **18 43 39.5 -0.2**
MVIF Mont Vial 89.88 314 *e*P **P** **18 43 41.8 +1.9**
PZZ Prazzo 89.91 314 P **P** **18 43 38.6 -1.4**
FENE Fenestrelle 89.92 315 P **P** **18 43 39.6 -0.4**
WTSB Winterswijk 89.94 322 *e*P **P** **18 43 41.1 +1.2**
comp=Z,274nm,2.6s,mb6.1
HINF Hinteralfeld 90.01 318 *e*P **P** **18 43 39.4 -0.9**
LOMF Lomont 90.03 317 *e*P **P** **18 43 41.7 +1.2**
CALN Calern 90.08 314 *e*P **P** **18 43 42.8 +2.0**
RRL Cesana Torines 90.12 315 P **P** **18 43 40.9 -0.1**
LPG La Plagne 90.13 315 *e*P **P** **18 43 41.1 +0.1**
comp=Z,336nm,1.0s,mb6.3
LPG La Plagne 90.13 315 *e*P **P** **18 43 41.1 +0.1**
LPG pmax pmax
comp=Z,168nm,1.0s,mb6.3
MBDF Montbardon 90.14 315 *e*P **P** **18 43 40.3 -0.7**
comp=Z,348nm,1.5s,mb6.2
MBDF Montbardon 90.14 315 *e*P **P** **18 43 40.3 -0.7**
MBDF pmax pmax
comp=Z,174nm,1.5s,mb6.2
LPL La Plagne 90.14 315 *e*P **P** **18 43 41.1 0.0**
comp=Z,411nm,1.1s,mb6.4
LPL La Plagne 90.14 315 *e*P **P** **18 43 41.1 0.0**
LPL pmax pmax
comp=Z,205nm,1.1s,mb6.4
OG01 Vacheresse 90.16 316 *e*P **P** **18 43 43.0 +1.9**
BNI Bardonecchia 90.19 315 *e*P **P** **18 43 41.4 +0.1**
BNI pmax pmax
comp=Z,77nm,1.1s,mb6.0
BNI Bardonecchia 90.19 315 *e*P **P** **18 43 41.4 +0.1**
comp=Z,77nm,1.1s,mb6.0
RSL Roselend 90.22 316 *e*P **P** **18 43 43.0 +1.6**
FRF La Foret Royal 90.26 313 *e*P **P** **18 43 41.4 -0.2**
comp=Z,915nm,1.5s,mb6.6
FRF La Foret Royal 90.26 313 *e*P **P** **18 43 41.4 -0.2**
FRF pmax pmax
comp=Z,458nm,1.5s,mb6.6
CAEH 'Ain El Ouahch 90.27 307 P **P** **18 43 43.0 +1.1**
STAV Stavanger 90.34 329 *e*P **P** **18 43 42.7 +1.0**
HAU Haudompre 90.34 318 *e*P **P** **18 43 41.4 -0.5**
comp=Z,954nm,1.5s,mb6.6
HAU Haudompre 90.34 318 *e*P **P** **18 43 41.4 -0.5**
HAU pmax pmax
comp=Z,477nm,1.5s,mb6.6
LMR La Mourre 90.36 313 *e*P **P** **18 43 41.8 -0.3**
comp=Z,523nm,1.5s,mb6.3
LMR La Mourre 90.36 313 *e*P **P** **18 43 41.8 -0.3**
LMR pmax pmax
comp=Z,262nm,1.5s,mb6.3
CKFL Kef-Lekhel 90.38 306 P **P** **18 43 44.0 +1.6**
WLF Walferdange 90.42 319 *e*P **P** **18 43 43.3 +1.1**
WLF pmax pmax
comp=Z,545nm,1.6s,mb6.6
WLF Walferdange 90.42 319 *e*P **P** **18 43 43.3 +1.1**
comp=Z,545nm,1.6s,mb6.6
HGN Heimansgroeve 90.52 321 *e*P **P** **18 43 44.2 +1.5**
comp=Z,160nm,2.2s,mb6.0
CABF La Chapelle 90.56 316 *e*P **P** **18 43 43.0 0.0**
comp=Z,678nm,1.5s,mb6.3
CABF La Chapelle 90.56 316 *e*P **P** **18 43 43.0 0.0**
CABF pmax pmax
comp=Z,439nm,1.5s,mb6.6
CASM Ain Smara 90.57 306 P **P** **18 43 45.0 +1.7**
THEF They Montfort 90.58 318 *e*P **P** **18 43 44.3 +1.3**
CTEI Djebel Teioual 90.65 306 P **P** **18 43 45.0 +1.3**
ORIF Oris-en-Rattie 90.77 315 *e*P **P** **18 43 43.9 -0.1**
comp=Z,420nm,1.4s,mb6.3
ORIF Oris-en-Rattie 90.77 315 *e*P **P** **18 43 43.9 -0.1**
ORIF pmax pmax
comp=Z,210nm,1.4s,mb6.3
QSPA South Pole Qui 90.87 180 *e*P **P** **18 43 45.2 +1.5**
comp=Z,205nm,1.5s,mb6.2
TNA Tin City 90.91 25 *e*P **P** **18 43 43.8 -0.4**
comp=Z,27nm,1.5s,mb5.3
DFRA Djebel Bou Aff 91.06 306 P **P** **18 43 45.0 -0.6**
CMER Merouana 91.07 305 P **P** **18 43 49.0 +3.3**
MEZF Maizieres J'vi 91.19 318 *e*P **P** **18 43 45.7 -0.2**
comp=Z,920nm,1.6s,mb6.6
GIVF Givet 91.26 320 *e*P **P** **18 43 46.0 -0.1**
comp=Z,240nm,1.1s,mb6.2
GIVF Givet 91.26 320 *e*P **P** **18 43 46.0 -0.1**
GIVF pmax pmax
comp=Z,120nm,1.1s,mb6.1
CKHR Kef el Ahmar 91.37 306 P **P** **18 43 49.0 +2.0**
SET Setif 91.46 306 P **P** **18 43 49.0 +1.6**
VIVF Saint-Julien-l 91.63 315 *e*P **P** **18 43 47.8 -0.2**
comp=Z,603nm,1.6s,mb6.4
VIVF Saint-Julien-l 91.63 315 *e*P **P** **18 43 47.8 -0.2**
VIVF pmax pmax
comp=Z,301nm,1.6s,mb6.4
BAIF Baives 91.66 320 *e*P **P** **18 43 48.1 +0.1**
comp=Z,530nm,1.1s,mb6.5
BAIF Baives 91.66 320 *e*P **P** **18 43 48.1 +0.1**
BAIF pmax pmax
comp=Z,265nm,1.1s,mb6.5
SMF Signal de Mont 92.11 317 *e*P **P** **18 43 49.8 -0.3**
comp=Z,528nm,1.1s,mb6.5
SMF Signal de Mont 92.11 317 *e*P **P** **18 43 49.8 -0.3**
SMF pmax pmax
comp=Z,264nm,1.1s,mb6.5
LASF Ste Croix 92.25 314 *e*P **P** **18 43 50.9 0.0**
comp=Z,560nm,1.7s,mb6.3
COLF Collangettes 92.28 315 *e*P **P** **18 43 52.7 +1.7**
PLDF La Plantade 92.30 316 *e*P **P** **18 43 54.0 +3.0**
SSF Saint Saulge 92.31 317 *e*P **P** **18 43 50.9 -0.1**
SSF pmax pmax
comp=Z,262nm,1.5s,mb6.3
SSF Saint Saulge 92.31 317 *e*P **P** **18 43 50.9 -0.1**
comp=Z,262nm,1.5s,mb6.3
AVF Avril sur Loir 92.43 317 *e*P **P** **18 43 51.3 -0.3**
comp=Z,429nm,1.2s,mb6.3
AVF Avril sur Loir 92.43 317 *e*P **P** **18 43 51.3 -0.3**
AVF pmax pmax
comp=Z,215nm,1.2s,mb6.3
LBL Lubilhac 92.61 315 *e*P **P** **18 43 55.8 +3.3**
BGF Bois d'Agland 92.80 317 *e*P **P** **18 43 53.4 +0.1**
comp=Z,741nm,1.4s,mb6.6
BGF Bois d'Agland 92.80 317 *e*P **P** **18 43 53.4 +0.1**
BGF pmax pmax
comp=Z,370nm,1.4s,mb6.6
HYF Humbligny 92.88 317 *e*P **P** **18 43 54.0 +0.3**
comp=Z,853nm,1.2s,mb6.8
MENF Mencas 92.93 321 *e*P **P** **18 43 55.8 +2.0**

EJON La Jonquera 93.06 312 P **P** **18 43 53.8 -0.9**
comp=Z,90nm,1.2s,mb6.1
TCF Toulx Ste Croi 93.26 316 *e*P **P** **18 43 55.4 0.0**
comp=Z,384nm,1.6s,mb6.3
TCF Toulx Ste Croi 93.26 316 *e*P **P** **18 43 55.4 0.0**
TCF pmax pmax
comp=Z,192nm,1.6s,mb6.3
FILF Fillols 93.30 313 *e*P **P** **18 43 58.0 +2.3**
ETOS Mallorca 93.31 310 P **P** **18 43 56.0 +0.2**
comp=Z,173nm,1.4s,mb6.3
EMHD Djebel Mahouad 93.43 306 P **P** **18 43 59.0 +2.5**
CAF Calviac 93.47 315 *e*P **P** **18 43 56.7 +0.3**
comp=Z,303nm,1.4s,mb6.2
CAF Calviac 93.47 315 *e*P **P** **18 43 56.7 +0.3**
CAF pmax pmax
comp=Z,152nm,1.4s,mb6.2
MTLF Montolieu 93.49 313 *e*P **P** **18 43 56.5 0.0**
comp=Z,528nm,1.7s,mb6.4
MTLF Montolieu 93.49 313 *e*P **P** **18 43 56.5 0.0**
MTLF pmax pmax
comp=Z,264nm,1.7s,mb6.4
VALF Valcebollere 93.71 312 *e*P **P** **18 44 00.1 +2.5**
LRW Lerwick 93.72 330 *e*P **P** **18 43 57.8 +0.7**
LRW AMb AMB 18 44 02.4
comp=Z,145nm,2.1s,mb6.0
RJF Les Rejaudoux 93.83 315 *e*P **P** **18 43 58.2 +0.2**
comp=Z,598nm,1.7s,mb6.4
RJF Les Rejaudoux 93.83 315 *e*P **P** **18 43 58.2 +0.2**
RJF pmax pmax
comp=Z,299nm,1.7s,mb6.5
WAL1 Walls 93.91 330 *e*P **P** **18 43 59.1 +1.1**
WAL1 AMb AMB 18 44 01.7
comp=Z,227nm,1.5s,mb6.4
EMIR Miracle 94.12 312 P **P** **18 43 59.5 +0.1**
comp=Z,292nm,2.1s,mb6.3
SNAA Sanae 94.25 198 P **P** **18 44 00.9 +1.6**
comp=Z,3.5nm,1.0s,baz=22,slow=4.0,SNR=6.9
KTG1 Tilbrook Grang 94.34 322 *e*P **P** **18 43 59.7 -0.4**
KTG1 AMb AMB 18 44 04.3
comp=Z,120nm,1.6s,mb6.1
LFF La Frestale 94.41 315 *e*P **P** **18 44 01.0 +0.4**
comp=Z,393nm,1.6s,mb6.3
LFF La Frestale 94.41 315 *e*P **P** **18 44 01.0 +0.4**
LFF pmax pmax
comp=Z,196nm,1.6s,mb6.3
EPOB Poblet 94.50 311 P **P** **18 44 00.6 -0.6**
comp=Z,212nm,2.1s,mb6.2
EIBI Ibiza 94.50 309 P **P** **18 44 01.1 -0.2**
comp=Z,224nm,2.2s,mb6.2
EBNR Beni Rached 94.57 306 P **P** **18 44 02.0 +0.4**
LDF La Druitiere 94.61 319 *e*P **P** **18 44 01.2 -0.3**
comp=Z,172nm,1.4s,mb6.0
LDF La Druitiere 94.61 319 *e*P **P** **18 44 01.2 -0.3**
LDF pmax pmax
comp=Z,86nm,1.4s,mb6.0
LCP Cassop 94.65 325 *e*P **P** **18 44 01.6 +0.1**
LCP AMb AMB 18 44 04.3
comp=Z,172nm,1.0s,mb6.5
ECHA Ech Chlef 94.72 306 P **P** **18 44 03.2 +0.9**
FLN La Foliniere 94.82 319 *e*P **P** **18 44 02.0 -0.5**
comp=Z,108nm,1.2s,mb5.9
FLN La Foliniere 94.82 319 *e*P **P** **18 44 02.0 -0.5**
FLN pmax pmax
comp=Z,54nm,1.2s,mb5.8
ETRT Tiaret 94.83 305 P **P** **18 44 06.0 +3.2**
HPK Haverah Park 94.85 324 *e*P **P** **18 44 02.7 +0.2**
HPK AMb AMB 18 44 05.1
comp=Z,325nm,1.2s,mb6.6
MFF Saint Martin d 94.85 317 *e*P **P** **18 44 02.4 -0.2**
KBI1 Birley Grange 94.89 323 *e*P **P** **18 44 02.9 +0.2**
KBI1 AMb AMB 18 44 05.0
comp=Z,175nm,1.3s,mb6.3
EANR 'Ain N'Sour 94.95 306 P **P** **18 44 03.5 +0.1**
EBR Ebro Roquetas 94.99 311 *e*PCP PcP 18 44 05.0 +1.0
EBR *e*Ts 19 02 03.2
EBR *e*Ts 19 15 40.5
DAG Danmarks Havn 95.00 348⇑*e*P **P** **18 44 01.2 -1.5**
DAG pmax pmax
comp=Z,100nm,1.0s,mb6.2
DAG Danmarks Havn 95.00 348⇑*e*P **P** **18 44 01.2 -1.5**
comp=Z,100nm,1.0s,mb6.2
DAG Danmarks Havn 95.00 348⇑*i*P **P** **18 44 01.2 -1.5**
comp=Z,100nm,1.0s,mb6.2
LHO Holmfirth 95.04 324 *e*P **P** **18 44 03.2 -0.1**
LHO AMb AMB 18 44 05.9
comp=Z,95nm,1.4s,mb6.0
EBIE Bielsa 95.06 313 P **P** **18 44 03.7 -0.1**
comp=Z,112nm,2.3s,mb5.9
KWE Weaver Farm 95.11 323 *e*P **P** **18 44 03.5 -0.2**
KWE AMb AMB 18 44 08.9
comp=Z,116nm,1.6s,mb6.1
GRR Gorron 95.12 319 *e*P **P** **18 44 03.5 -0.3**
comp=Z,66nm,1.1s,mb5.7
GRR Gorron 95.12 319 *e*P **P** **18 44 03.5 -0.3**
GRR pmax pmax
comp=Z,33nm,1.1s,mb5.7
EKA Eskdalemuir Ar 95.52 326 P **P** **18 44 05.5 +0.1**
comp=Z,25nm,0.8s,mb5.7,baz=99,slow=5.2,SNR=33
EKA PP PP 18 47 55.0 -3.9
comp=Z,7.2nm,0.9s,baz=84,slow=7.1,SNR=3.8
EKA PKiKP 18 48 45.1
comp=Z,1.5nm,0.7s,baz=80,slow=10,SNR=2.5
ETSF Etsaut 95.56 313 *e*P **P** **18 44 06.1 +0.2**
comp=Z,55nm,1.1s,mb5.6
ETSF Etsaut 95.56 313 *e*P **P** **18 44 06.1 +0.2**
ETSF pmax pmax
comp=Z,28nm,1.1s,mb5.6
ESAC San Caprasio 95.62 312 P **P** **18 44 06.1 -0.1**
comp=Z,121nm,1.8s,mb6.0
EBEN Beniarda 95.75 309 P **P** **18 44 00.4 -6.6**
comp=Z,104nm,1.8s,mb6.0
EMOS Mosqueruela 95.77 311 P **P** **18 44 06.9 -0.1**
comp=Z,172nm,1.6s,mb6.2
SJPF Ste Jean 96.02 313 *e*P **P** **18 44 08.3 +0.3**
comp=Z,68nm,1.2s,mb5.7
SJPF Ste Jean 96.02 313 *e*P **P** **18 44 08.3 +0.3**
SJPF pmax pmax
comp=Z,34nm,1.2s,mb5.7
EALK Alkurruntz 96.21 313 P **P** **18 44 07.8 -1.1**
comp=Z,91nm,2.0s,mb5.9
SGMF Saint Gilles 96.26 319 *e*P **P** **18 44 08.4 -0.6**
comp=Z,84nm,1.3s,mb5.7
SGMF Saint Gilles 96.26 319 *e*P **P** **18 44 08.4 -0.6**
SGMF pmax pmax
comp=Z,42nm,1.3s,mb5.7
IMA Indian Mountai 96.57 23 P **P** **18 44 10.2 +0.2**
IMA pmax pmax
comp=Z,260nm,1.1s,mb6.6
IMA Indian Mountai 96.57 23 *e*P **P** **18 44 11.6 +1.6**
EMUR La Murta 96.63 308 P **P** **18 44 10.3 -0.7**
comp=Z,68nm,1.8s,mb5.8
ROSF Rostrenen 96.72 319 *e*P **P** **18 44 10.5 -0.6**
comp=Z,55nm,1.1s,mb5.6
ROSF Rostrenen 96.72 319 *e*P **P** **18 44 10.5 -0.6**
ROSF pmax pmax
comp=Z,28nm,1.1s,mb5.6
ETOB Tobarra 96.78 309 P **P** **18 44 11.7 0.0**
comp=Z,117nm,2.2s,mb5.9
SVW2 Sparrevohn 97.14 28 *e*P **P** **18 44 14.1 +1.4**
ENIJ Nijar 97.50 307 P **P** **18 44 15.4 +0.5**
ENIJ pmax pmax
comp=Z,122nm,1.9s,mb6.0
ENIJ Nijar 97.50 307 P **P** **18 44 15.4 +0.4**
comp=Z,122nm,1.9s,mb6.0
EVIA Vianos 97.53 309 P **P** **18 44 15.6 +0.6**
EVIA pmax pmax
comp=Z,49nm,1.3s,mb5.9
EVIA Vianos 97.53 309 P **P** **18 44 15.6 +0.5**
comp=Z,49nm,1.3s,mb5.9
ELAN Lanestosa 97.60 314 P **P** **18 44 14.5 -0.8**
comp=Z,55nm,1.9s,mb5.8
DLF Lyons Farm 97.84 324 *e*P **P** **18 44 17.1 +1.0**
EBER Berja 98.05 307 P **P** **18 44 17.1 -0.3**
comp=Z,139nm,1.9s,mb6.2
EQES Quesada 98.08 308 P **P** **18 44 17.1 -0.5**
comp=Z,72nm,2.6s,mb5.7
ESDC Sonseca Array 98.51 310 P **P** **18 44 20.5 +1.1**
comp=Z,3.3nm,0.8s,baz=60,slow=4.5,SNR=14
ESDC PP PP 18 48 18.4 -4.3
comp=Z,1.6nm,0.7s,baz=71,slow=8.6,SNR=4.1
ESDC PKKPbc 19 00 49.8
comp=Z,1.9nm,0.7s,baz=270,slow=3.0,SNR=7.3
ESDC Sonseca Array 98.51 310 P **P** **18 44 19.1 -0.3**
comp=Z,18nm,1.6s,mb5.4
ESLA Sonseca Array 98.51 310 *e*P **P** **18 44 20.2 +0.7**
comp=Z,7.8nm,1.4s,mb5.0

EBAN Banos Encina 98.59 309 P **P** **18 44 20.7 +0.9**
EBAN pmax pmax
comp=Z,23nm,1.2s,mb5.6
EBAN Banos Encina 98.59 309 P **P** **18 44 20.7 +0.8**
comp=Z,23nm,1.2s,mb5.6
ERON Agron 98.76 308 P **P** **18 44 21.8 +1.1**
comp=Z,21nm,1.6s,mb5.4
EADA Adamuz 99.21 309 P **P** **18 44 22.0 -0.6**
comp=Z,65nm,1.9s,mb5.8
MCK McKinley 99.26 24 *e*P **P** **18 44 16.6 -5.6**
MCK pmax pmax
comp=Z,26nm,1.3s,mb5.6
MCK McKinley 99.26 24 *e*P **P** **18 44 22.9 +0.7**
comp=Z,26nm,1.3s,mb5.6
PWA Palmer West 99.59 27 *e*P **P** **18 44 24.5 +0.7**
ECAB El Cabril 99.88 309 P **P** **18 44 26.4 +0.7**
comp=Z,53nm,1.9s,mb5.7
EJIF Jimena Fronter 100.17 307 P **P** **18 44 27.1 0.0**
EJIF pmax pmax
comp=Z,29nm,1.1s
EJIF Jimena Fronter 100.17 307 P **P** **18 44 27.1 0.0**
comp=Z,28nm,1.1s
EPON Pontenova 100.26 314 P **P** **18 44 27.1 -0.2**
comp=Z,57nm,1.9s
EMIN Mina Concepcio 100.91 309 P **P** **18 44 29.1 -1.3**
comp=Z,48nm,2.5s
MENT Mentasta 101.73 24 *e*P **P** **18 44 33.8 +0.4**
EVO Evora 101.81 310 *e*P **P** **18 44 40.0 +5.6**
comp=Z,49nm,1.4s
DBIC Dimbokro 102.53 277 P Pdif **18 44 38.5 +0.4**
comp=Z,7.8nm,1.1s,baz=108,slow=5.1,SNR=5.4
DBIC PP PP **18 48 50.0 -4.0**
comp=Z,5.1nm,1.1s,baz=142,slow=8.6,SNR=2.7
INK Inuvik 102.54 17 P Pdif **18 44 37.5 +0.6**
INK **18 48 48.9**
INK pmax pmax
comp=Z,5.0nm,0.9s
INK pmax pmax
comp=Z,6.0nm,1.0s
INK pmax pmax
comp=Z,22nm,1.2s
INK Inuvik 102.54 17 P Pdif **18 44 37.5 +0.6**
comp=Z,4.9nm,0.9s,baz=298,slow=5.0,SNR=14
INK PP PP **18 48 48.9 -3.8**
comp=Z,5.8nm,1.0s,baz=321,slow=5.0,SNR=4.1
INK PKiKP **18 48 57.6**
comp=Z,22nm,1.1s,baz=288,slow=11,SNR=7.5
INK Inuvik 102.54 17 *e*Pdif Pdif **18 44 36.8 -0.1**
comp=Z,39nm,1.7s
DAWY Dawson 102.91 22 *e*Pdif Pdif **18 44 38.8 +0.1**
RES Resolute Bay 104.10 3 *e*P Pdif **18 44 44.4 +0.7**
RES pmax pmax
comp=Z,8.0nm,0.9s
RES Resolute Bay 104.10 3 *e*Pdif Pdif **18 44 44.4 +0.7**
comp=Z,7.8nm,0.9s
DLBC Dease Lake 109.81 25 PKiKP **18 49 12.2**
comp=Z,5.9nm,1.0s,baz=100,slow=14,SNR=6.8
DLBC PP PP **18 49 40.2 -7.1**
comp=Z,7.0nm,0.9s,baz=305,slow=8.3,SNR=5.9
DLBC PKKPbc **19 00 16.3**
comp=Z,2.0nm,0.7s,baz=189,slow=1.5,SNR=3.4
DLBC PKKPab **19 00 27.6**
comp=Z,5.2nm,1.0s,baz=101,slow=5.6,SNR=6.2
DLBC Dease Lake 109.81 25 PKPdf **18 49 12.2**
DLBC PP PP **18 49 40.2 -7.1**
DLBC PKKPbc **19 00 16.3**
DLBC PKKPab **19 00 27.6**
YKW3 Yellowknife Ar 112.11 16 *e*PKP PKPdf **18 49 15.8 +1.2**
YKA Yellowknife Ar 112.17 16 Pdif Pdif **18 45 20.9 +1.5**
comp=Z,0.4nm,0.7s,baz=323,slow=3.6,SNR=6.8
YKA PKiKP **18 49 15.6**
comp=Z,5.9nm,1.0s,baz=315,slow=2.0,SNR=26
YKA PP PP **18 49 55.4 -8.5**
comp=Z,6.3nm,0.9s,baz=329,slow=7.0,SNR=14
YKA PKKPbc **19 00 07.3**
comp=Z,2.2nm,1.0s,baz=142,slow=3.4,SNR=16
YKA PKKPab **19 00 16.1**
comp=Z,2.0nm,1.0s,baz=142,slow=3.9,SNR=6.4
YKA PKKP PKKP **19 00 28.3 +9.1**
comp=Z,0.8nm,0.8s,baz=136,slow=3.2,SNR=4.0
YKA Yellowknife Ar 112.17 16 Pdif Pdif **18 45 20.9 +1.5**
YKA PKPdf PKPdf **18 49 15.7 +1.0**
YKA PP PP **18 49 55.4 -8.5**
YKA PKKPbc **19 00 07.3**
YKA PKKPab **19 00 16.1**
YKA PKKP PKKP **19 00 28.3 +9.1**
BBB Bella Bella 114.53 29 PP PP **18 50 15.9 -5.6**
comp=Z,20nm,1.1s,baz=247,slow=14,SNR=1.8
FRB Frobisher Bay 114.70 353 PKP PKPdf **18 49 19.7 +0.1**
comp=Z,9.5nm,0.9s,baz=43,slow=4.6,SNR=11
PGC Sidney 119.08 30 *e*PKPdf PKPdf **18 49 30.1 +1.7**
FCC Fort Churchill 119.74 7 *e*PKIKP PKPdf **18 49 30.2 +0.7**
FCC *e* **18 50 52.6**
EDM Edmonton 120.09 21 *e*PKIKP PKPdf **18 49 31.0 +0.7**
JCW Jim Creek 120.14 30 P PKPdf **18 49 32.5 +2.0**
WRW Wenatchee Ridg 120.88 29 P PKPdf **18 49 34.4 +2.4**
ETW Entiat 121.33 29 P PKPdf **18 49 34.4 +1.6**
TBM Table Mountain 121.49 30 P PKPdf **18 49 35.0 +1.8**
EBG Ellensburg 121.69 30 P PKPdf **18 49 36.5 +3.0**
NEW Newport 122.37 27 PKIKP PKPdf **18 49 36.4 +1.6**
NEW pmax pmax
comp=Z,36nm,1.0s
NEW Newport 122.37 27 PKP PKPdf **18 49 36.4 +1.6**
comp=Z,36nm,1.0s,baz=1.5,slow=0.6,SNR=18
NEW Newport 122.37 27 *e*PKPdf PKPdf **18 49 36.3 +1.5**
VTHM Trough 122.86 32 P PKPdf **18 49 39.0 +3.1**
SCHQ Schefferville 123.02 350 PKP PKPdf **18 49 37.1 +1.2**
comp=Z,18nm,0.9s,baz=44,slow=2.1,SNR=23
SCHQ PP PP **18 51 14.3 -5.6**
comp=Z,14nm,1.1s,baz=3.9,slow=5.4,SNR=6.6
SCHQ PKKPab **18 59 25.6**
comp=Z,2.4nm,0.9s,baz=167,slow=3.6,SNR=3.0
SCHQ Schefferville 123.02 350 *e*PKPdf PKPdf **18 49 36.9 +0.9**
SCHQ *e*PP PP **18 51 14.9 -5.0**
WALA Waterton Lakes 123.16 24 *e*PKPdf PKPdf **18 49 37.2 +0.8**
YBH Yreka Blue Hor 123.90 36 PKP PKPdf **18 49 40.1 +2.1**
comp=Z,7.8nm,1.0s,baz=62,slow=2.5,SNR=7.8
WDC Whiskeytown Da 124.71 37 *e*PKIKP PKPdf **18 49 41.3 +1.7**
BMO Blue Mountains 124.75 30 *e*PKPdf PKPdf **18 49 41.3 +1.8**
BMO *e*PP PP **18 51 29.4 -2.2**
MSO Missoula 124.87 26 *e*PKPdf PKPdf **18 49 40.7 +1.0**
WVOR Wild Horse Val 125.74 33 *e*PKIKP PKPdf **18 49 43.7 +2.2**
BOZ Bozeman (W) 126.80 26 *e*P Pdif **18 46 22.8 -1.4**
BOZ **18 49 45.8**
BOZ Bozeman (W) 126.80 26 *e*PKPdf PKPdf **18 49 45.1 +1.6**
MCMT McKenzie Canyo 126.90 27 *e*PKPdf PKPdf **18 49 45.3 +1.6**
HLID Hailey 127.12 29 *e*PKPdf PKPdf **18 49 46.4 +2.2**
CMB Columbia Colle 127.60 38 PKIKP PKPdf **18 49 47.7 +2.4**
CMB Columbia Colle 127.60 38 *e*PKPdf PKPdf **18 49 46.5 +1.3**
ULM Lac du Bonnet 127.68 11 PKP PKPdf **18 49 46.4 +1.3**
comp=Z,48nm,0.9s,baz=345,slow=2.7,SNR=53
ULM PP PP **18 51 42.7 -7.9**
comp=Z,5.5nm,0.9s,baz=351,slow=5.0,SNR=3.8
ULM Lac du Bonnet 127.68 11 *e*PKPdf PKPdf **18 49 45.5 +0.5**
IMW Indian Meadow 128.48 26 *e*PKPdf PKPdf **18 49 48.9 +2.1**
MNV Mina 128.69 36 *e*PKIKP PKPdf **18 49 50.2 +2.9**
LOHW Long Hollow 128.85 26 *e*PKPdf PKPdf **18 49 49.4 +1.9**
SNOW Snow King Moun 128.91 27 *e*PKPdf PKPdf **18 49 49.7 +2.1**
MTUM Tungsten Hills 129.15 38 *e*PKPdf PKPdf **18 49 50.4 +2.1**
AHID Auburn Hatcher 129.29 27 *e*PKPdf PKPdf **18 49 50.4 +2.0**
TPH Tonopah 129.48 36 *e*PKIKP PKPdf **18 49 51.0 +2.2**
HWUT Hardware Ranch 129.97 29 *e*PKPdf PKPdf **18 49 50.7 +1.0**
PDAR Pinedale Array 129.99 26 PKhKP **18 49 47.0**
comp=Z,4.8nm,0.7s,baz=125,slow=2.7,SNR=11
PDAR PKP PKPdf **18 49 52.9 +3.2**
comp=Z,12nm,0.9s,baz=270,slow=1.5,SNR=39
PDAR PP PP **18 52 01.0 -5.1**
comp=Z,2.3nm,0.9s,baz=270,slow=3.0,SNR=2.6
TRCR Troy Canyon 130.24 35 *e*PKPdf PKPdf **18 49 52.5 +2.2**
DAC Darwin (Calif) 130.44 38 *e*PKIKP PKPdf **18 49 51.6 +0.9**
DAU Daniels Canyon 131.04 30 *e*PKIKP PKPdf **18 49 54.3 +2.6**
RSSD Black Hills 131.07 21 *e*PKIKP PKPdf **18 49 49.6 -2.1**
RSSD Black Hills 131.07 21 *e*PKPdf PKPdf **18 49 50.2 -1.5**
ARUT Antelope Range 131.84 34 PKIKP PKPdf **18 49 55.0 +1.7**
RWWY Rawlins 131.88 25 *e*PKPdf PKPdf **18 49 54.0 +0.7**
TMUT Trail Mountain 131.91 30 *e*PKPdf PKPdf **18 49 55.1 +1.7**
MSU Marysvale 131.99 32 *e*PKIKP PKPdf **18 49 56.8 +3.2**
BAR Barrett 133.31 41 *e*PKPdf PKPdf **18 49 57.9 +1.6**
RCBR Riachuelo 133.61 263 *e*PKPdf PKPdf **18 49 59.3 +2.0**
PV10 Paradox Valley 133.70 29 *e*PKPdf PKPdf **18 49 59.9 +3.1**
PV01 Paradox Valley 134.12 29 *e*PKPdf PKPdf **18 49 57.6 0.0**
RW3 Ridgway 134.45 28 PKIKP PKPdf **18 50 01.9 +3.7**
RW3 Ridgway 134.45 28 *e*PKPdf PKPdf **18 49 60.0 +1.7**
SDCO Great Sand Dun 135.87 27 *e*PKPpre **18 49 58.8**

CAM4	Nova Friburgo	136.03	238	(P)	PKPdf	18 49 59.6	-1.9
ANMO	Albuquerque	137.67	30	PKhKP		18 49 56.0	
	comp=Z,5.3nm,0.8s,baz=322,slow=2.7,SNR=6.9						
ANMO				PKP	PKPdf	18 50 07.8	+3.6
	comp=Z,16nm,1.0s,baz=252,slow=2.1,SNR=17						
ANMO				PP	PP	18 52 52.1	-2.9
	comp=Z,1.9nm,0.5s,baz=147,slow=13,SNR=3.7						
ANMO	Albuquerque	137.67	30	PKP	PKPdf	18 49 56.0	-8.3
ANMO				ePKPdf	PKPdf	18 50 07.6	+3.4
LAZ	Ladron	137.75	31	ePKPdf	PKPdf	18 50 06.7	+2.3
LENM	Lemitar	138.02	31	ePKPdf	PKPdf	18 50 05.2	+0.3
LPM	Los Pinos Moun	138.08	31	ePKPdf	PKPdf	18 50 06.9	+1.9
PLCA	Paso Flores	139.01	193	PKhKP		18 50 00.6	
	comp=Z,3.4nm,0.9s,baz=179,slow=8.5,SNR=3.3						
PLCA				PP	PP	18 52 59.5	-3.7
	comp=Z,0.7nm,0.5s,baz=152,slow=11,SNR=2.8						
SDMD	Soldier's Deli	139.57	354	ePKPdf	PKPdf	18 50 08.4	+0.9
CCM	Cathedral Cave	140.31	11	ePKHKP		18 50 02.7	
CPRX	Cap Rock	140.49	29	ePKPpre		18 50 05.8	
CPRX				ePKPdf	PKPdf	18 50 11.2	+1.8
GDL2	Guadalupe Moun	140.91	31	ePKPpre		18 50 05.6	
CLNB	Carlsbad	141.10	30	ePKPpre		18 50 06.5	
CLNB				ePKPdf	PKPdf	18 50 12.6	+2.0
FWV	Forest Hill	141.66	358	ePKPdf	PKPdf	18 50 12.2	+0.9
ELN	Prospectdale	142.01	358	ePKPdf	PKPdf	18 50 12.9	+1.0
BLA	Blacksburg	142.02	358	ePKIKP	PKPdf	18 50 13.7	+1.8
MIAR	Mount Ida	143.12	16	ePKIKP	PKPdf	18 50 12.0	-1.9
BAO	Brasilia Array	143.29	245	P	PKPbc	18 50 07.0	-5.9
BDFB	Brasilia	143.31	245	PKhKP		18 50 12.7	
	comp=Z,35nm,0.9s,baz=94,slow=2.8,SNR=39						
BDFB				PP	PP	18 53 27.7	-2.1
	comp=Z,28nm,1.1s,baz=83,slow=6.5,SNR=5.2						
TXAR	Lajitas Array	143.54	33	PKP	PKPdf	18 50 14.5	-0.3
	comp=Z,18nm,0.7s,baz=274,slow=2.2,SNR=100						
TXAR				PP	PP	18 53 28.4	-2.4
	comp=Z,1.8nm,0.8s,baz=235,slow=26,SNR=3.0						
CPCT	Cooper Cave	143.74	3	ePKPdf	PKPdf	18 50 14.1	-0.8
PLAL	Pickwick Lake	143.85	8	ePKPdf	PKPdf	18 50 14.2	-1.0
SWET	Sewanee	143.87	5	ePKPpre		18 50 13.3	
JCT	Junction City	144.52	27	PKIKP	PKPdf	18 50 16.6	+0.1
JCT	Junction City	144.52	27	ePKPdf	PKPdf	18 50 17.5	+1.0
JSC	Jenkinsville	144.97	359	ePKIKP	PKPdf	18 50 18.3	+1.1
NATX	Nacogdoches	145.39	19	ePKPbc	PKPbc	18 50 19.8	+1.4
GOGA	Godfrey	145.82	2	ePKP2	PKPab	18 50 20.3	-1.4
COW	Cow Castle Cre	145.85	358	ePKPbc	PKPbc	18 50 21.1	+1.5
CSU	Charleston Sou	146.21	357	ePKPbc	PKPbc	18 50 22.1	+1.7
RGRS	Roger Stewart	146.30	357	ePKPbc	PKPbc	18 50 22.4	+1.8
CFAA	Coronel Fontan	146.78	202	PKPbc	PKPbc	18 50 23.1	+1.3
	comp=Z,7.2nm,0.6s,baz=191,slow=2.4,SNR=46						
CJM	Chamela	149.71	47	eP	PKPdf	18 50 26.9	+1.6
SFJM	Santa Fe	150.47	43	eP	PKPdf	18 50 30.0	+3.5
COLM	Colima	150.89	46	eP	PKPdf	18 50 29.3	+2.1
MOIG	Morelia	152.27	41	eP	PKPdf	18 50 26.0	-3.2
PPM	Popocatepetl	154.36	38	ePKIKP	PKPdf	18 50 32.0	-0.1
CAIG	El Cayaco	154.73	44	eP	PKPdf	18 50 47.6	+15
LPAZ	La Paz	159.42	221	PKIKP	PKPdf	18 50 41.7	+3.1
LPAZ						18 54 58.8	
LPAZ				pmax	pmax		
	comp=Z,17nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,18nm,0.9s						
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
LPAZ	La Paz	159.42	221	PKP	PKPdf	18 50 41.6	+3.0
	comp=Z,17nm,0.9s,baz=59,slow=3.4,SNR=56						
LPAZ				PKPab	PKPab	18 51 19.9	+1.1
	comp=Z,18nm,0.9s,baz=67,slow=7.7,SNR=6.0						
LPAZ				PP	PP	18 54 58.8	-2.2
	comp=Z,0.5nm,0.3s,baz=119,slow=7.8,SNR=3.9						
LPAZ	La Paz	159.42	221	ePKPdf	PKPdf	18 50 40.9	+2.3
LPAZ				ePKPab	PKPab	18 51 18.2	-0.6
ARE	Arequipa	161.34	214	ePKIKP	PKPdf	18 50 45.0	+4.4
SDV	Santo Domingo	164.96	311	PKP	PKPdf	18 50 46.0	+1.7
	comp=Z,14nm,0.9s,baz=1.2,slow=0.9,SNR=15						
SDV	Santo Domingo	164.96	311	ePKPdf	PKPdf	18 50 45.4	+1.1
SDV				ePKPab	PKPab	18 51 41.9	-1.0
ROSC	El Rosal	170.32	306	PKP	PKPdf	18 50 50.3	+2.3
	comp=Z,30nm,0.9s,baz=86,slow=3.5,SNR=27						
ROSC				PKPab	PKPab	18 52 07.2	+0.7
	comp=Z,16nm,0.9s,baz=112,slow=24,SNR=2.6						
ROSC				PP	PP	18 55 57.1	-0.5
	comp=Z,4.4nm,0.4s,baz=81,slow=17,SNR=4.1						
OTAV	Otavalo	176.14	287	ePKPdf	PKPdf	18 50 52.3	+1.8
OTAV				ePKPab	PKPab	18 52 32.6	+0.4

*IDC **28** 18:36:51.6±1.0, 13.45N×92.77E, mb4.3/10, mb1 4.4/10, mb1mx4.2/19, mbtmp4.3/10, Error ellipse: s-maj=34.9km s-min=22.7km az=69.0*
*NEIC **28** 18:36:56.0±0.5, 13.44N×92.84E, h30km, mb4.4/1, Error ellipse: s-maj=22.6km s-min=11.7km az=61.0*
ISC 28 18:36:54.3±0.9, 13.5N±0.1×92.8E±0.2, h30km, n12, σ0§68/12, mb4.2/11, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	34.37	347	P	P	18 43 41.0	+0.2
	2.0nm,0.6s,mb4.2,baz=168,slow=8.9,SNR=3.9						
SONM	Songino Array	36.08	16	P	P	18 43 56.2	+0.9
	4.0nm,1.2s,mb4.2,baz=210,slow=7.8,SNR=2.8						
BVAR	Borovoye Array	43.31	340	P	P	18 44 55.2	+0.1
	1.6nm,0.7s,mb3.9,baz=152,slow=11,SNR=3.3						
CHKZ	Chkalovo	43.78	341	eP	P	18 44 58.9	0.0
	3.7nm,0.5s,mb4.4						
FITZ	Fitzroy Crossi	45.08	133	P	P	18 45 09.3	-0.6
	12nm,0.9s,mb4.7,baz=145,slow=6.3,SNR=4.2						
BRTR	Keskin Array B	57.87	309	P	P	18 46 44.8	-1.1
	1.3nm,0.9s,mb4.0,baz=90,slow=8.6,SNR=2.9						
BRTR	Keskin Array B	57.87	309	P	P	18 46 44.8	-1.1
FINES	FINESS Array B	67.19	331	P	P	18 47 46.8	-0.8
	2.5nm,0.9s,mb4.2,baz=108,slow=6.0,SNR=3.7						
ARCES	ARCESS Array B	69.59	340	P	P	18 48 02.5	+0.1
	1.7nm,0.8s,mb4.1,baz=99,slow=7.3,SNR=6.6						
GERES	GERESS Array B	72.83	317	P	P	18 48 22.2	+0.1
	1.2nm,0.7s,mb4.0,baz=91,slow=6.1,SNR=7.2						
NOA	NORSAR Array B	74.25	330	P	P	18 48 29.8	-0.3
	0.7nm,0.5s,mb3.8,baz=96,slow=5.6,SNR=3.1						
BOSA	Boshof	77.52	236	P	P	18 48 50.7	+1.4
	3.7nm,0.9s,mb4.3,baz=68,slow=4.9,SNR=5.7						

*IDC **28** 18:38:17.0±3.0, 1.36N×97.56E, mb4.0/5, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, Error ellipse: s-maj=133.4km s-min=21.5km az=57.0*
ISC 28 18:38:19.2±2.0, 1.2N±0.4×97.3E±0.5, h33km, n6, σ1§28/6, mb4.0/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.94	122	P	P	18 46 07.6	-1.2
	2.3nm,0.5s,mb4.0,baz=314,slow=8.2,SNR=10						
ASAR	Alice Springs	43.30	127	P	P	18 46 21.1	+1.1
	1.1nm,0.5s,mb3.9,baz=310,slow=7.5,SNR=8.7						
SONM	Songino Array	47.12	8	P	P	18 46 50.5	+0.5
	1.8nm,0.8s,mb4.1,baz=186,slow=9.3,SNR=5.1						
MKAR	Makanchi Array	47.27	346	P	P	18 46 51.5	+0.2
	1.2nm,0.5s,mb4.1,baz=159,slow=9.2,SNR=9.0						
BVAR	Borovoye Array	56.29	341	P	P	18 47 57.6	-1.3
	1.2nm,0.6s,mb4.1,baz=141,slow=8.2,SNR=4.2						
KAF	Kangasniemi	80.14	333	ep	P	18 50 28.1	+0.7

*IDC **28** 18:39:18.2±2.7, 0.31N×97.69E, mb4.2/5, mb1 4.3/5, mb1mx4.0/17, mbtmp4.2/5, Error ellipse: s-maj=116.0km s-min=22.1km az=56.0*
*NEIC **28** 18:39:22.1±0.9, 0.23N×97.59E, h30km, mb4.4/5, Error ellipse: s-maj=27.5km s-min=9.8km az=51.0*
ISC 28 18:39:20.4±1.2, 0.3N±0.2×97.6E±0.2, h30km, n12, σ0§53/12, mb4.3/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	Kota Kinabalu	19.40	73	eP	P	18 43 46.8	-0.4
LSA	Lhasa	29.87	349	eP	P	18 45 27.7	-0.1
	3.2nm,0.7s,mb4.2						
WRA	Warramunga Arr	41.20	121	P	P	18 47 04.2	-0.1
	1.7nm,0.6s,mb3.9,baz=303,slow=9.0,SNR=4.7						
WRAB	Tennant Creek	41.21	121	P	P	18 47 04.6	+0.2
	3.9nm,0.4s,mb4.4						
ASAR	Alice Springs	42.52	127	P	P	18 47 15.6	+0.3
	2.2nm,0.6s,mb4.1,baz=296,slow=8.0,SNR=6.5						
SONM	Songino Array	47.94	8	P	P	18 47 59.1	+0.8
	2.0nm,0.5s,mb4.4,baz=194,slow=8.4,SNR=12						
MKAR	Makanchi Array	48.20	346	P	P	18 48 01.0	+0.8
	2.5nm,0.6s,mb4.5,baz=159,slow=9.2,SNR=6.1						
MKAR	Makanchi Array	48.20	346	P	P	18 48 01.0	+0.8
TLY	Talaya	51.43	5	eP	P	18 48 25.4	+0.5
	2.8nm,0.7s,mb4.3						
BVAR	Borovoye Array	57.23	341	P	P	18 49 06.5	-0.9
	2.7nm,0.7s,mb4.4,baz=149,slow=8.4,SNR=8.4						
CHKZ	Chkalovo	57.70	341	eP	P	18 49 10.1	-0.6
	5.9nm,0.6s,mb4.8						
MA2	Magadan	71.94	25	eP	P	18 50 42.4	-0.5
	1.9nm,0.5s,mb4.3						

*IDC **28** 18:41:36.0±0.7, 1.38N×97.02E, mb4.5/19, mb1 4.6/19, mb1mx4.5/23, mbtmp4.5/19, Error ellipse: s-maj=31.3km s-min=12.3km az=47.0*
*BJI **28** 18:41:38.9, 1.22N×97.12E, h40km, mb5.0, Ms4.7, Msz4.3*
*NEIC **28** 18:41:40.5±0.3, 1.38N×97.07E, h30km, mb4.8/25, Error ellipse: s-maj=8.3km s-min=4.8km az=223.0*
ISC 28 18:41:37.8±2.5, 1.35N±0.06×97.08E±0.07, h24km±17km, h29km±.8km: pP-P, n62, σ0§92/64, mb4.7/51, MS4.4/1, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.29	42	ePn	Pn	18 42 57.3	-0.2
KSM	Kuching	13.23	89	ePn	P	18 44 48.6	+1.7
CM31	Chiang Mai Arr	17.09	6	ePn	P	18 45 36.0	-1.0
	25nm,0.9s						
KKM	Kota Kinabalu	19.65	76	eP	P	18 46 06.6	-1.5
QIZ	Qiongzhong	21.57	35	P	P	18 46 29.3	+1.5
KMI	Kunming	24.25	13	P	P	18 46 56.0	+1.7
KMI				AMB	AMB		
	comp=Z,51nm,1.4s,mb4.8						
GYA	Guiyang	26.61	19	iP	P	18 47 16.0	-0.4
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
JIRN	Jiri	28.16	339	eP	P	18 47 31.4	+0.9
	comp=Z,82nm,1.0s,mb5.3						
PKI	Pulchoki	28.36	338	eP	P	18 47 33.4	+1.0
	comp=Z,44nm,1.1s,mb5.0						
DMN	Daman	28.51	337	eP	P	18 47 34.5	+0.8
	comp=Z,51nm,1.0s,mb5.2						
KKN	Kakani	28.61	338	eP	P	18 47 34.8	+0.2
	comp=Z,73nm,1.3s,mb5.2						
LSA	Lhasa	28.75	349	eP	P	18 47 36.7	+0.9
	comp=Z,6.2nm,0.8s,mb4.4						
GKN	Gorkha	29.05	337	eP	P	18 47 38.8	+0.2
	comp=Z,64nm,1.0s,mb5.3						
KOLN	Koldanda	29.27	335	eP	P	18 47 41.3	+0.8
	comp=Z,46nm,0.9s,mb5.2						
ENH	Enshi	31.08	21	eP	P	18 47 54.6	-1.9
	comp=Z,30nm,0.8s,mb5.2						
FITZ	Fitzroy Crossi	34.12	126	P	P	18 48 22.1	-1.0
	comp=Z,8.0nm,0.7s,mb4.8,baz=214,slow=3.5,SNR=7.0						
XAN	Xi'an	34.35	18	P	P	18 48 23.8	-1.2
XAN				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.3						
LZH	Lanzhou	35.12	10	eP	P	18 48 31.3	-0.3
LZH				AP	pP	18 48 39.5	+0.6
LZH				AMB	AMB		
	comp=Z,73nm,1.3s,mb5.5						
KAKA	Kakadu	37.78	113	iP	P	18 48 53.0	-1.2
	comp=Z,14nm,0.7s,mb4.8						
GTA	Gaotai	37.96	3	eP	P	18 48 55.8	+0.3
GTA				AP	pP	18 49 04.8	+2.0
GTA				XP	sP	18 49 08.0	+2.2
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
JOW	Kunigami	39.23	47	P	P	18 49 06.5	+0.2
	comp=Z,32nm,0.7s,mb5.2,baz=237,slow=8.8,SNR=7.1						
HHC	Hu-ho-hao-te	41.45	17	eP	P	18 49 27.3	+3.0
HHC				XP	sP	18 49 40.5	+5.8
HHC				PP	PP	18 51 06.8	+3.6
HHC				S	S	18 55 39.8	+2.0
HHC				AMB	AMB		
	comp=Z,66nm,0.9s,mb5.3						
BJT	Baijiatuan	42.22	22	eP	P	18 49 31.3	+0.5
	comp=Z,29nm,0.7s,mb5.0						
WRA	Warramunga Arr	42.22	122	P	P	18 49 31.2	+0.1
	comp=N,425nm,20.0s,MS4.5						
WRAB	Tennant Creek	42.23	122	eP	P	18 49 30.9	-0.1
	comp=Z,11nm,0.6s,mb4.7						
WB2	Warramunga Arr	42.23	122	eP	P	18 49 31.1	0.0
BJI	Beijing	42.24	22	P	P	18 49 31.8	+0.9
BJI				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.1						
WMQ	Urumqi	43.10	350	P	P	18 49 38.8	+0.9
WMQ				AP	pP	18 49 48.0	+2.8
WMQ				XP	sP	18 49 52.0	+3.8
WMQ				PP	PP	18 51 21.0	+0.7
WMQ				eS	S	18 56 01.5	-0.6
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=N,425nm,20.0s,MS4.5						
WMQ				LR	LR		
	comp=E,504nm,21.4s,MS4.5						
WMQ				LR	LR		
	comp=Z,419nm,22.0s,MS4.3						
ASAR	Alice Springs	43.59	127	P	P	18 49 42.7	+0.6
	comp=Z,13nm,0.9s,mb4.3,baz=304,slow=7.5,SNR=11						
AAK	Ala-Archa	45.81	337	eP	P	18 49 58.5	-1.1
	comp=Z,0.5nm,0.3s,mb3.9						
SONM	Songino Array	47.00	9	P	P	18 50 09.3	+0.3
	comp=Z,17nm,0.9s,mb5.0,baz=190,slow=6.9,SNR=32						
MKAR	Makanchi Array	47.06	346	P	P	18 50 10.1	+0.6
	comp=Z,15nm,0.9s,mb4.9,baz=162,slow=7.7,SNR=20						
MKAR	Makanchi Array	47.06	346	P	P	18 50 10.1	+0.6
CN2	Changchun	49.22	27	eP	P	18 50 26.0	-0.4
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
TLY	Talaya	50.45	5	eP	P	18 50 35.9	+0.3
	comp=Z,6.8nm,0.9s,mb4.7						
PMG	Port Moresby	51.01	103	P	P	18 50 40.2	-0.2
	comp=Z,10nm,0.7s,mb4.8,baz=112,slow=21,SNR=3.2						
HIA	Hailar	51.53	19	eP	P	18 50 43.1	-0.8
KURK	Kurchatov	51.61	345	eP	P	18 50 44.3	-0.2
	comp=Z,10nm,0.9s,mb4.8						
CTA	Charters Tower	52.68	117	P	P	18 50 53.1	+0.2
	comp=Z,5.8nm,0.8s,mb4.5,baz=0.2,slow=0.5,SNR=2.8						
CTAO	Charters Tower	52.68	117	eP	P	18 50 53.2	+0.3
	comp=Z,8.6nm,1.0s,mb4.6						
STKA	Stephens Creek	53.55	132	iP	P	18 51 00.0	+0.8
	comp=Z,5.4nm,0.7s,mb4.6						
STKA	Stephens Creek	53.55	132	P	P	18 51 00.1	+0.8
	comp=Z,5.3nm,0.7s,mb4.6,baz=330,slow=6.6,SNR=9.2						
BVAR	Borovoye Array	56.06	341	P	P	18 51 16.1	-1.1
	comp=Z,5.7nm,0.8s,mb4.6,baz=135,slow=8.4,SNR=14						
CHKZ	Chkalovo	56.54	341	eP	P	18 51 19.6	-1.0
	comp=Z,13nm,0.9s,mb5.0						
YSS	Yuzh-Sakhalins	60.29	34	eP	P	18 51 46.5	-0.4
	comp=Z,14nm,0.9s,mb5.0						
GNI	Garni	61.10	316	P	P	18 51 51.6	-0.9
	comp=Z,4.7nm,0.9s,mb4.6						
KIV	Kislovodsk	64.11	319	eP	P	18 52 11.4	-1.0
	comp=Z,12nm,1.1s,mb4.8						
EIL	Elat	65.27	302	eP	P	18 52 20.4	+0.2
	comp=Z,4.9nm,0.9s,mb4.5						
YAK	Yakutsk	65.31	16	eP	P	18 52 18.3	-1.6
	comp=Z,58nm,0.9s,mb5.6						
MBAR	Mbarara	66.36	269	eP	P	18 52 26.9	-0.6
	comp=Z,1.6nm,0.8s,mb4.1						
BRTR	Keskin Array B	68.92	312	P	P	18 52 42.6	-0.5
	comp=Z,0.7nm,0.6s,mb3.7,baz=127,slow=7.2,SNR=3.5						
MA2	Magadan	71.25	26	eP	P	18 52 56.0	-0.9
	comp=Z,9.4nm,0.8s,mb4.8						
PET	Petropavlovsk	72.17	34	eP	P	18 53 01.7	-0.8
	comp=Z,7.1nm,0.6s,mb4.8						
AKASG	Malin Array A	75.06	322	P	P	18 53 18.2	-1.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=99,slow=4.6,SNR=6.3						
MLR	Muntele Rosu	75.87	317	P	P	18 53 24.5	+0.3
	comp=Z,4.2nm,1.0s,mb4.3,baz=122,slow=4.7,SNR=3.9						
FINES	FINESS Array B	79.81	333	P	P	18 53 45.5	0.0
	comp=Z,2.9nm,0.9s,mb4.2,baz=135,slow=8.1,SNR=7.9						
ARCES	ARCESS Array B	82.35	340	P	P	18 53 58.9	+0.2
	comp=Z,9.6nm,1.0s,mb4.7,baz=90,slow=2.4,SNR=6.9						
GERES	GERESS Array B	84.62	319	P	P	18 54 12.0	+1.4
	comp=Z,1.8nm,0.9s,mb4.2,baz=108,slow=4.2,SNR=8.1						
VNDA	Vanda	86.00	169	P	P	18 54 18.8	+1.8
	comp=Z,1.6nm,1.2s,mb4.1,baz=89,slow=8.6,SNR=3.2						
NB2	NORSAR Subarra	86.81	331	P	P	18 54 20.8	-0.5
	comp=Z,0.3nm,0.8s,mb3.6,baz=92,slow=5.8						
NOA	NORSAR Array B	86.81	331	P	P	18 54 21.4	+0.1
	comp=Z,2.2nm,0.8s,mb4.4,baz=94,slow=5.0,SNR=8.4						
EKA	Eskdalemuir Ar	94.72	326	P	P	18 54 58.9	+0.6
	comp=Z,2.7nm,0.9s,mb4.7,baz=90,slow=3.3,SNR=4.0						

IDC 28 18:46:14.7±3.1, 1.15N×97.21E, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=136.9km s-min=22.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.00	122	P	P	18 54 07.5	-2.1
	0.5nm,0.6s,baz=300,slow=9.1,SNR=4.4						
ASAR	Alice Springs	43.36	127	P	P	18 54 19.4	-1.3
	0.2nm,0.4s,baz=297,slow=7.5,SNR=3.7						
SONM	Songino Array	47.18	8	P	P	18 54 49.2	-1.7
	0.7nm,0.8s,baz=186,slow=9.2,SNR=3.6						
MKAR	Makanchi Array	47.29	346	P	P	18 54 50.1	-1.6
	0.7nm,0.6s,baz=160,slow=9.0,SNR=4.5						
BVAR	Borovoye Array	56.30	341	P	P	18 55 56.5	-2.9
	0.4nm,0.6s,baz=129,slow=9.2,SNR=3.6						

IDC 28 18:47:51.1±3.7, 0.60N×98.91E, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=151.2km s-min=23.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	40.27	122	P	P	18 55 29.6	-2.2
	0.2nm,0.3s,baz=300,slow=8.8,SNR=15						
ASAR	Alice Springs	41.67	128	P	P	18 55 42.0	-1.3
	0.3nm,0.5s,baz=315,slow=6.4,SNR=5.6						
SONM	Songino Array	47.49	7	P	P	18 56 29.7	-0.1
	0.4nm,0.4s,baz=190,slow=8.8,SNR=7.5						
MKAR	Makanchi Array	48.25	345	P	P	18 56 32.4	-3.3
	1.4nm,0.6s,baz=159,slow=9.1,SNR=12						

*IDC **28** 18:48:34.7±2.6, 2.87N×96.74E, mb3.9/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.9/5, Error ellipse: s-maj=121.2km s-min=22.7km az=61.0*
*NEIC **28** 18:48:39.5±1.0, 3.05N×96.92E, h30km, mb4.5/4, Error ellipse: s-maj=21.2km s-min=11.9km az=48.0*
ISC 28 18:48:37.7±1.0, 3.0N±0.1×97.0E±0.1, h30km, n13, σ1§17/13, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	4.31	59	ePn	Pn	18 49 43.9	+0.9
KSM	Kuching	13.43	96	ePn	P	18 51 49.2	+0.3
CM31	Chiang Mai Arr	15.45	7	ePn	P	18 52 14.1	-1.3
	120nm,0.8s						
LSA	Lhasa	27.08	349	eP	P	18 54 21.0	+1.1
	2.5nm,0.6s,mb3.9						
ENH	Enshi	29.57	22	eP	P	18 54 41.1	-1.3
	4.0nm,0.5s,mb4.4						
SMLA	Simla	33.61	328	i	P	18 55 19.8	+2.1
SMLA				i		19 00 58.4	
ASAR	Alice Springs	44.70	128	P	P	18 56 49.6	-0.7
	0.7nm,0.7s,mb3.6,baz=300,slow=8.6,SNR=4.4						
SONM	Songino Array	45.36	9	P	P	18 56 56.2	+1.0
	1.5nm,0.7s,mb3.9,baz=192,slow=9.4,SNR=8.7						
MKAR	Makanchi Array	45.41	346	P	P	18 56 57.0	+1.5
	1.0nm,0.6s,mb3.6,baz=161,slow=9.1,SNR=7.8						
TLY	Talaya	48.80	6	eP	P	18 57 21.8	-0.3
	2.6nm,0.4s,mb4.6						
BVAR	Borovoye Array	54.45	341	P	P	18 58 03.1	-1.4
	0.9nm,0.7s,mb3.8,baz=153,slow=9.7,SNR=4.2						
STKA	Stephens Creek	54.77	133	P	P	18 58 07.3	+0.1
	1.2nm,0.5s,mb4.2,baz=324,slow=8.7,SNR=5.4						
CHKZ	Chkalovo	54.92	341	eP	P	18 58 06.3	-1.8
	161nm,0.9s						

*BJI **28** 18:48:51.5, 2.57N×95.95E, h42km, mB6.7, mb5.6, Ms6.3, Msz6.2*
*MOS **28** 18:48:52.6±1.2, 2.89N×96.17E, h33km, mb5.7/36, Error ellipse: s-maj=12.6km s-min=5.8km az=114.3*
*NEIC **28** 18:48:53.5±0.2, 2.75N×96.05E, h30km, mb5.4/103, Error ellipse: s-maj=6.1km s-min=4.2km az=214.0*
NEIC Felt along the west coast of Malaysia.
*IDC **28** 18:48:54.5±1.6, 2.71N×95.98E, h39km±12km, mb4.9/29, mb1 4.9/29, mb1mx4.9/29, mbtmp5.1/29, Error ellipse: s-maj=13.6km s-min=7.0km az=50.0*
*DJA **28** 18:48:54.8±3.0, 2.58N×96.63E, h2km, Error ellipse: s-maj=114.7km s-min=19.7km az=78.0*
ISC 28 18:48:51.5±1.0, 2.79N±0.03×96.07E±0.03, h25km±7km, h29km±1.0km: pP-P, n436, σ1§15/403, mb5.4/150, MS6.2/9, 13C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.20	61	eP

comp=Z,59µm,18.7s,MS6.1
JIRN Jiri 26.47 340 *e*P **P** **18 54 28.0 -0.8**
comp=Z,1µm,0.9s,mb6.5
PKI Pulchoki 26.67 339 *e*P **P** **18 54 30.3 -0.3**
comp=Z,576nm,1.1s,mb6.0
POO Poona 26.80 307 *i* **P** **18 54 35.0 +3.1**
POO *i* 19 00 15.0
DMN Daman 26.81 338 *e*P **P** **18 54 31.6 -0.3**
comp=Z,563nm,1.0s,mb6.1
KKN Kakani 26.91 339 *e*P **P** **18 54 32.4 -0.4**
comp=Z,1µm,0.9s,mb6.4
LSA Lhasa 27.17 351 P **P** **18 54 35.0 -0.1**
LSA Lhasa 27.17 351 *e*P **P** **18 54 35.1 0.0**
LSA pmax pmax
comp=Z,220nm,0.9s,mb5.7
LSA Lhasa 27.17 351 *e*P **P** **18 54 35.0 -0.1**
comp=Z,224nm,0.9s,mb5.7
GKN Gorkha 27.34 338 *e*P **P** **18 54 36.4 -0.4**
comp=Z,1µm,1.0s,mb6.4
KOLN Koldanda 27.55 336 *e*P **P** **18 54 38.4 -0.2**
comp=Z,529nm,0.8s,mb6.2
CD2 Chengdu 28.90 14 P **P** **18 54 49.0 -1.8**
CD2 AMB AMB
comp=Z,68nm,0.9s,mb5.4
ENH Enshi 30.14 24 *e*P **P** **18 54 59.9 -2.1**
PTH Pithoragarh 30.58 332 *e*P **P** **18 55 05.2 -0.5**
PTH *e* 19 00 00.9
NDI New Delhi 31.39 327 *e*P **P** **18 55 10.5 -2.4**
DDI Dehra Dun 32.26 330 *e*P **P** **18 55 19.2 -1.3**
DDI *e* 19 00 41.0
NACB Ninganchiao 32.55 47 *e*P **P** **18 55 23.5 +0.4**
WHN Wuhan 32.58 30 P **P** **18 55 23.0 -0.2**
YHNB Yeheng 32.69 46 *e*P **P** **18 55 25.0 +0.7**
MBWA Marble Bar 33.22 137 *e*P **P** **18 55 28.4 -0.6**
comp=Z,30nm,1.0s,mb5.2
XAN Xi'an 33.32 20 P **P** **18 55 28.5 -1.2**
XAN AP pP 18 55 39.0 +1.9
XAN AMB AMB
comp=Z,155nm,1.1s,mb5.8
SDNR Sundarnagar 33.76 330 *e*P **P** **18 55 33.0 -0.5**
LZH Lanzhou 33.90 11 ⇑P **P** **18 55 34.0 -0.7**
LZH AP pP 18 55 42.3 +0.1
LZH XP sP 18 55 45.8 +0.4
LZH PP PP 18 56 48.5 0.0
LZH SCP 19 01 52.5
LZH PCS 19 01 56.3
LZH AMB AMB
comp=Z,134nm,1.4s,mb5.7
PONG Pong 34.64 329 *e*P **P** **18 55 42.0 +0.9**
PONG *e* 19 01 38.0
DLH Dalhousie 35.10 330 *e* **P** **18 55 40.0 -5.1**
DLH *e* 18 55 51.0
FITZ Fitzroy Crossi 35.77 127 *e*P **P** **18 55 49.2 -1.7**
comp=Z,40nm,0.8s,mb5.4
FITZ Fitzroy Crossi 35.77 127 P **P** **18 55 49.3 -1.6**
comp=Z,52nm,0.8s,mb5.5,baz=290,slow=2.1,SNR=34
FITZ S **19 01 36.0 +10**
comp=Z,2.4nm,0.6s,baz=190,slow=9.0,SNR=2.8
NJ2 Nanjing 36.15 34 *e*P **P** **18 55 53.5 -0.4**
NJ2 AP pP 18 56 03.5 +2.1
NJ2 XP sP 18 56 08.3 +3.8
NJ2 PP PP 18 57 17.5 +0.9
NJ2 S **S** **19 01 32.0 +0.6**
NJ2 XS 19 01 50.0
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,3µm,9.6s
GTA Gaotai 36.61 5 *e*P **P** **18 55 56.3 -1.4**
GTA AP pP 18 56 05.5 +0.3
GTA XP sP 18 56 09.0 +0.7
GTA PP PP 18 57 20.8 -1.8
GTA S **S** **19 01 37.0 -1.5**
GTA AMB AMB
comp=Z,59nm,1.3s,mb5.3
GTA AMB AMB
comp=Z,16µm,11.4s
GTA LR LR
comp=N,108µm,21.3s,MS6.7
GTA LR LR
comp=E,34µm,18.3s,MS6.7
GTA LR LR
comp=Z,161µm,21.7s,MS6.8
SSE Sheshan 36.81 37 *e*P **P** **18 55 59.8 +0.3**
SSE AMB AMB
comp=Z,33nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,30µm,12.0s
JOW Kunigami 39.02 49 P **P** **18 56 18.9 +0.7**
comp=Z,28nm,0.7s,mb5.1,baz=227,slow=5.8,SNR=6.9
KAKA Kakadu 39.27 114 *e*P **P** **18 56 18.7 -1.5**
comp=Z,45nm,0.6s,mb5.4
MUN Mundaring 39.51 153 *e*P **P** **18 56 23.2 +1.1**
comp=Z,33nm,1.6s,mb4.8
BTO Baotou 39.70 17 *e*P **P** **18 56 24.0 +0.4**
KLBR Kellerberrin 39.93 151 *e*P **P** **18 56 26.8 +1.2**
comp=Z,985nm,1.7s,mb6.3
HHC Hu-ho-hao-te 40.39 18 *e*P **P** **18 56 31.0 +1.8**
HHC AP pP 18 56 39.3 +2.5
HHC XP sP 18 56 44.5 +4.6
HHC PP PP 18 58 10.3 +4.6
HHC S **S** **19 02 43.3 +7.6**
HHC SCS ScS 19 06 32.0 +0.4
HHC AMB AMB
comp=Z,152nm,1.1s,mb5.6
HHC LR LR
comp=N,64µm,19.6s,MS6.6
HHC LR LR
comp=E,60µm,19.6s,MS6.6
NWAO Narrogin (SRO) 40.78 152 P **P** **18 56 33.0 +0.5**
comp=E,8.3nm,0.5s,mb4.6,baz=336,slow=11,SNR=13
NWAO S **S** **19 02 39.9 -1.6**
comp=E,3.5nm,0.8s,baz=78,slow=16,SNR=1.9
NWAO Narrogin (SRO) 40.78 152 P **P** **18 56 33.0 +0.5**
NWAO S **S** **19 02 39.9 -1.6**
KSH Kashi 40.87 336 *e*P **P** **18 56 32.0 -1.2**
KSH *e*AP pP 18 56 41.0 +0.3
KSH *e*XP sP 18 56 45.3 +1.5
KSH *e*PP PP 18 58 10.0 -0.5
KSH *e*PCP PcP 18 58 32.0 -2.3
KSH *e*PPP PPP 18 58 39.0 -0.8
KSH *e*SCP 19 02 18.0
KSH *e*PCS 19 02 22.0
KSH *e*S **S** **19 02 41.0 -1.8**
KSH *e*XS 19 02 58.3
KSH *e*SS SS 19 05 40.0 +0.1
KSH *e*SCS ScS 19 06 31.0 -3.5
KSH LR LR
comp=N,16µm,17.2s,MS6.2
KSH LR LR
comp=E,27µm,18.5s,MS6.2
BJT Baijiatuau 41.30 24 *e*P **P** **18 56 37.6 +0.9**
BJT pmax pmax
comp=Z,390nm,0.8s
BJT Baijiatuau 41.30 24 *e*P **P** **18 56 37.6 +0.9**
comp=Z,393nm,0.8s,mb6.1
BJI Beijing 41.32 24 P **P** **18 56 37.5 +0.6**
BJI AMB AMB
comp=Z,561nm,0.8s,mb6.2
BJI LR LR
comp=Z,86µm,22.2s,MS6.6
WMQ Urumqi 41.53 351 ⇓*i*P **P** **18 56 38.3 -0.3**
WMQ AP pP 18 56 48.0 +1.9
WMQ XP sP 18 56 52.0 +2.8
WMQ PP PP 18 58 18.0 +0.3
WMQ PPP PPP 18 58 48.5 0.0
WMQ S **S** **19 02 52.0 -0.6**
WMQ XS 19 03 08.0
WMQ SCS ScS 19 06 37.0 -1.4
WMQ AMB AMB
comp=Z,157nm,1.0s,mb5.6
WMQ AMB AMB
comp=Z,4µm,10.0s
WMQ LR LR
comp=N,9µm,20.0s,MS5.8
WMQ LR LR
comp=E,7µm,19.0s,MS5.8
WMQ LR LR
comp=Z,7µm,20.0s,MS5.5
SMDO Samad 41.96 302 ⇑P **P** **18 56 43.3 +0.9**
BIDO Bidbid 42.08 303 P **P** **18 56 45.9 +2.5**
SNR=6.5
SHAO Shalim 42.42 294 P **P** **18 56 48.0 +1.7**
SNR=8.5
BSY Bisya 42.57 301 P **P** **18 56 50.3 +2.9**
SNR=9.0
DL2 Dalian 42.84 30 P **P** **18 56 50.5 +1.1**
DL2 AMB AMB
comp=Z,150nm,0.9s,mb5.7
ULHL Ulahol 43.11 338 P **P** **18 56 52.8 +1.2**
SNR=9.8
KZA Kyzart 43.34 337 P **P** **18 56 54.6 +1.2**
SNR=37
WRA Warramunga Arr 43.84 123 P **P** **18 56 56.0 -1.8**
comp=Z,14nm,0.5s,mb4.9,baz=302,slow=9.1,SNR=40
WRA S **S** **19 03 23.1 -3.6**
comp=Z,1.8nm,1.0s,baz=293,slow=17,SNR=4.0
WRA Warramunga Arr 43.84 123 P **P** **18 56 56.0 -1.8**
WRA S **S** **19 03 23.1 -3.6**
WRAB Tennant Creek 43.84 123 P **P** **18 56 57.2 -0.6**
comp=Z,349nm,0.6s,mb6.3,SNR=15
WRAB Tennant Creek 43.84 123 *e*P **P** **18 56 56.6 -1.2**
WRAB pmax pmax
comp=Z,71nm,0.8s,mb5.5
WRAB Tennant Creek 43.84 123 *e*P **P** **18 56 56.5 -1.2**
comp=Z,71nm,0.8s,mb5.5
WB2 Warramunga Arr 43.84 123 *e*P **P** **18 56 57.6 -0.2**
TKM2 Tokmak 2 43.93 338 P **P** **18 56 58.4 +0.2**
SNR=64
KBK Karagaybulak 43.95 337 P **P** **18 56 59.1 +0.8**
SNR=85
WHFO Wadi Hawf 44.09 293 P **P** **18 57 00.7 +0.8**
SNR=22
AAK Ala-Archa 44.10 337 P **P** **18 56 59.8 +0.2**
comp=Z,338nm,1.0s,mb6.0,SNR=65
AAK Ala-Archa 44.10 337 *i* P **P** **18 56 59.2 -0.4**
AAK pmax pmax
comp=Z,75nm,1.2s,mb5.3
AAK Ala-Archa 44.10 337 *e*P **P** **18 56 59.5 -0.2**
comp=Z,68nm,1.0s,mb5.3
CHMS Chumysh 44.31 338 P **P** **18 57 00.8 -0.6**
SNR=27
ABTO Aybut 44.39 292 P **P** **18 57 03.1 +0.9**
SNR=11
EKS2 Erkin-Say 44.41 336 P **P** **18 57 02.6 +0.4**
SNR=40
USP Ospenovka 44.64 338 P **P** **18 57 03.9 -0.1**
SNR=98
MENI Mendum Tagoi 44.64 96 *e*P **P** **18 57 04.6 +0.2**
YOMI Yo Moklole 44.80 97 *e*P **P** **18 57 06.7 +1.0**
KS15 Wonju Array Si 45.19 36 *e*P **P** **18 57 07.4 -1.0**
FORT Forrest 45.21 140 *e*P **P** **18 57 09.3 +0.6**
comp=Z,1µm,0.6s
ASPA Alice Springs 45.25 128 *e*P **P** **18 57 08.2 -0.9**
ASAR Alice Springs 45.25 128 P **P** **18 57 06.8 -2.3**
comp=Z,6.4nm,0.6s,mb4.7,baz=300,slow=7.9,SNR=44
ASAR S **S** **19 03 47.1 0.0**
comp=Z,0.7nm,0.8s,baz=344,slow=36,SNR=2.0
MKAR Makanchi Array 45.44 347 *i* P **P** **18 57 09.6 -0.7**
MKAR pmax pmax
comp=Z,47nm,0.7s
MKAR Makanchi Array 45.44 347 P **P** **18 57 09.6 -0.7**
comp=Z,49nm,0.6s,mb5.5,baz=161,slow=7.4,SNR=91
MKAR S **S** **19 03 49.8 +0.3**
comp=Z,0.8nm,0.7s,baz=333,slow=24,SNR=2.0
SONM Songino Array 45.75 10 P **P** **18 57 12.8 +0.1**
comp=Z,79nm,0.9s,mb5.6,baz=190,slow=8.5,SNR=89
SONM S **S** **19 03 57.6 +3.8**
comp=Z,0.8nm,0.8s,baz=189,slow=7.9,SNR=2.7
ULN Ulaanbaatar 45.89 10 *e*P **P** **18 57 12.9 -0.9**
ULN pmax pmax
comp=Z,61nm,1.0s,mb5.5
ULN Ulaanbaatar 45.89 10 *e*P **P** **18 57 12.9 -1.0**
comp=Z,61nm,1.0s,mb5.5
SNY Shenyang 46.03 29 ⇓P **P** **18 57 14.3 -0.7**
ZAK Zakamensk 47.81 6 ⇓*i*P **P** **18 57 28.1 -0.9**
ZAK pmax pmax
comp=Z,22nm,1.1s,mb5.1
CN2 Changchun 48.43 28 *e*P **P** **18 57 33.5 -0.3**
CN2 AMB AMB
comp=Z,70nm,0.9s,mb5.7
MOY Mondy 48.88 4 *e*P **P** **18 57 37.2 0.0**
MOY pmax pmax
comp=Z,82nm,2.9s,mb5.2
TLY Talaya 49.13 6 *e*P **P** **18 57 39.5 +0.4**
TLY *e* 18 57 54.7
TLY pmax pmax
comp=Z,31nm,0.9s,mb5.3
TLY Talaya 49.13 6 *e*P **P** **18 57 39.4 +0.2**
comp=Z,33nm,0.9s,mb5.4
GUMO Guam 49.38 75 P **P** **18 57 41.2 -0.3**
comp=Z,34nm,0.4s,mb5.7,baz=265,slow=4.4,SNR=4.7
IRK Irkutsk 49.76 7 *e*P **P** **18 57 43.8 -0.1**
IRK *e* 18 59 05.6
IRK *e*S **S** **19 04 56.0 +5.6**
IRK pmax pmax
comp=Z,96nm,2.7s,mb5.3
KURK Kurchatov 49.98 346 *i* P **P** **18 57 44.8 -0.8**
KURK Kurchatov 49.98 346 *e*P **P** **18 57 44.1 -1.5**
comp=Z,73nm,0.8s,mb5.8
CBIJ Chichi jima 50.27 57 P **P** **18 57 48.5 +0.3**
comp=Z,81nm,0.7s,mb5.9,baz=240,slow=16,SNR=2.6
HIA Hailar 50.52 20 *e*P **P** **18 57 49.5 -0.3**
HIA pmax pmax
comp=Z,110nm,1.2s
HIA Hailar 50.52 20 *e*P **P** **18 57 49.5 -0.4**
comp=Z,108nm,1.2s,mb5.7
MDJ Mudanjiang 51.06 30 P **P** **18 57 54.5 +0.6**
MDJ AMB AMB
comp=Z,56nm,1.2s,mb5.4
MAT Matsushiro 51.31 44 *e*P **P** **18 57 57.0 +1.0**
comp=Z,47nm,1.5s,mb5.2
MAT Matsushiro 51.31 44 P **P** **18 57 57.1 +1.1**
PMG Port Moresby 52.33 104 *e*P **P** **18 58 03.3 -0.6**
PMG pmax pmax
comp=Z,42nm,0.8s
PMG Port Moresby 52.33 104 P **P** **18 58 03.3 -0.7**
comp=Z,38nm,0.9s,mb5.3,baz=276,slow=7.7,SNR=6.3
PMG Port Moresby 52.33 104 *e*P **P** **18 58 03.3 -0.6**
comp=Z,42nm,0.8s,mb5.4
NVS Novosibirsk 52.93 351 *e*P **P** **18 58 05.8 -2.1**
NVS *i* S **S** **19 05 30.2 -3.7**
NVS pmax pmax
comp=Z,61nm,1.0s,mb5.5
NVS pmax pmax
comp=N,35nm,0.6s
NVS pmax pmax
comp=E,33nm,0.9s
NVS smax
comp=N,85nm,1.9s
NVS smax
comp=E,44nm,1.9s
ATD Arta Tunnel 53.44 282 P **P** **18 58 11.2 -0.9**
comp=E,7.5nm,1.0s,mb4.6,baz=280,slow=23,SNR=5.1
CTA Charters Tower 54.22 117 *e*P **P** **18 58 17.6 -0.2**
comp=E,23nm,0.8s,mb5.2
CTA Charters Tower 54.22 117 P **P** **18 58 17.3 -0.5**
comp=E,34nm,0.8s,mb5.3,baz=287,slow=8.8,SNR=25
CTAO Charters Tower 54.22 117 *e*P **P** **18 58 16.8 -1.0**
CTAO pmax pmax
comp=Z,37nm,0.9s,mb5.3
CTAO Charters Tower 54.22 117 *e*P **P** **18 58 16.8 -1.1**
comp=Z,37nm,0.9s,mb5.3
BVA0 Borovoye Array 54.39 341 *i* P **P** **18 58 16.7 -1.9**
BVA0 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BVAR Borovoye Array 54.39 341 P **P** **18 58 16.4 -2.2**
comp=Z,55nm,0.8s,mb5.5,baz=140,slow=7.5,SNR=82
BVAR S **S** **19 05 55.1 +1.4**
comp=Z,0.6nm,0.7s,baz=96,slow=13,SNR=2.1
CHKZ Chkalovo 54.87 342 P **P** **18 58 20.6 -1.6**
CHKZ pmax pmax
comp=Z,114nm,0.9s,mb5.9
CHKZ Chkalovo 54.87 342 *e*P **P** **18 58 20.7 -1.5**
comp=Z,193nm,1.0s,mb6.1
STKA Stephens Creek 55.26 132 *e*P **P** **18 58 24.2 -1.1**
comp=Z,25nm,0.8s,mb5.3
STKA Stephens Creek 55.26 132 P **P** **18 58 24.1 -1.2**
comp=Z,19nm,0.8s,mb5.2,baz=305,slow=7.3,SNR=27
STKA S **S** **19 06 06.3 +0.8**
comp=Z,2.2nm,1.0s,baz=25,slow=24,SNR=2.1
KLR Kul'dur 55.36 28 *e*P **P** **18 58 22.5 -3.3**
BOD Bodaibo 56.67 11 *e*P **P** **18 58 33.7 -1.4**
BOD pmax pmax
comp=Z,57nm,1.0s,mb5.6
ASAJ Asahikawa 58.10 38 P **P** **18 58 46.5 +1.2**
comp=Z,16nm,0.9s,mb5.0,baz=94,slow=32,SNR=4.7
CLNS Chul'man 58.58 18 *e*P **P** **18 58 47.4 -1.1**
CLNS pmax pmax
comp=N,42nm,0.9s
CLNS pmax pmax
comp=E,27nm,0.9s
CLNS pmax pmax
comp=Z,70nm,0.9s,mb5.7
KMBO Kilima Mbogo 58.93 267 *e*P **P** **18 58 49.1 -2.4**
KMBO pmax pmax
comp=Z,32nm,1.0s
KMBO Kilima Mbogo 58.93 267 P **P** **18 58 50.5 -1.0**
comp=Z,8.9nm,0.9s,mb4.8,baz=62,slow=10.0,SNR=19
KMBO Kilima Mbogo 58.93 267 *e*P **P** **18 58 49.0 -2.5**
comp=Z,32nm,1.0s,mb5.3
GNI Garni 59.37 316 P **P** **18 58 54.6 +0.3**
comp=Z,15nm,0.9s,mb5.0,baz=358,slow=16,SNR=7.9
GNI Garni 59.37 316 *e*P **P** **18 58 54.5 +0.2**
comp=Z,50nm,1.0s,mb5.5
DGRG David-gareji 59.50 318 P **P** **18 58 53.7 -1.4**
YSS Yuzh-Sakhalins 59.70 35 ⇑*e*P **P** **18 58 55.0 -1.4**
YSS *e* 18 59 05.0
YSS pmax pmax
comp=Z,70nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 59.70 35 *e*P **P** **18 58 56.6 +0.2**
comp=Z,65nm,0.9s,mb5.7
TBLG Delisi 60.05 318 P **P** **18 58 59.1 +0.2**
TBLG Delisi 60.05 318 P **P** **18 58 59.3 +0.4**
ARU Arti 61.29 337 ⇓*i*P **P** **18 59 04.6 -2.5**
ARU *e* 19 01 20.4
ARU *e*S **S** **19 07 26.8 +2.8**
ARU pmax pmax
comp=Z,98nm,1.0s,mb5.9
ARU Arti 61.29 337 *i* P **P** **18 59 04.7 -2.4**
KIV Kislovodsk 62.37 319 *e*P **P** **18 59 12.7 -1.9**
KIV pmax pmax
comp=Z,44nm,1.0s,mb5.5
KIV Kislovodsk 62.37 319 *e*P **P** **18 59 12.7 -1.9**
comp=Z,44nm,0.9s,mb5.6
GOF Gofitskoye 62.62 320 ⇑*i*P **P** **18 59 16.2 0.0**
GOF pmax pmax
comp=Z,40nm,1.3s,mb5.4
ASF Jabal al Asfar 62.63 305 P **P** **18 59 15.4 -1.1**
comp=Z,5.1nm,0.6s,mb4.8,baz=12,slow=3.4,SNR=9.5
MALT Malatya 63.23 312 *e*P **P** **18 59 18.8 -1.5**
comp=Z,19nm,0.9s,mb5.2
EIL Elat 63.66 302 *e*P **P** **18 59 21.9 -1.5**
comp=Z,37nm,1.1s,mb5.3
SOC Sochi 64.19 318 *e*P **P** **18 59 25.8 -0.8**
SOC pmax pmax
comp=Z,53nm,0.9s,mb5.6
SOC pmax pmax
comp=N,29nm,0.7s
SOC pmax pmax
comp=E,12nm,0.6s
YAK Yakutsk 64.23 17 *e*P **P** **18 59 24.7 -1.8**
YAK *e**PP pP 18 59 32.1 -2.2
YAK *e* 18 59 57.6
YAK *e* 19 01 46.7
YAK *e*S **S** **19 07 59.8 -1.0**
YAK *e* 19 09 13.3
YAK pmax pmax
comp=Z,185nm,1.0s,mb6.1
YAK pmax pmax
comp=N,43nm,0.9s
YAK pmax pmax
comp=E,43nm,1.1s
YAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax
comp=N,14nm,1.3s
YAK MLR MLR
comp=Z,18µm,18.0s,MS6.3
YAK MLR MLR
comp=N,5µm,15.0s
YAK MLR MLR
comp=E,6µm,24.0s
YAK Yakutsk 64.23 17 *e*P **P** **18 59 24.4 -2.1**
comp=E,332nm,0.9s,mb6.4
MBAR Mbarara 65.39 268 *e*P **P** **18 59 31.3 -3.6**
MBAR pmax pmax
comp=Z,31nm,1.1s,mb5.2
MBAR Mbarara 65.39 268 *e*P **P** **18 59 31.3 -3.6**
comp=Z,31nm,1.1s,mb5.2
ANN Anapa 66.17 318 *e*P **P** **18 59 41.6 +2.3**
ANN pmax pmax
comp=Z,51nm,1.4s,mb5.4
CSS Prodhromos 66.21 307 *e*P **P** **18 59 38.1 -1.6**
comp=Z,1µm,1.1s
BRTR Keskin Array B 67.21 312 P **P** **18 59 43.4 -2.7**
comp=Z,8.6nm,0.8s,mb4.8,baz=134,slow=8.3,SNR=33
BRTR S S 19 08 36.2 -1.4
comp=Z,0.3nm,0.5s,baz=39,slow=7.9,SNR=2.5
PECR Pechory 67.49 332 *i* P **P** **18 59 45.6 -1.9**
VRSR Storozhevoye 67.61 325 *e*P **P** **18 59 46.6 -1.8**
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,70nm,0.9s
VRSR pmax pmax
comp=Z,50nm,0.9s,mb5.5
VOR Voronezh 67.83 326 P **P** **18 59 49.0 -0.7**
VOR pmax pmax
comp=N,70nm,1.3s
SIM Simferopol' 68.44 318 *e*P **P** **18 59 52.9 -0.7**
ISP Isparta 69.10 310 P **P** **18 59 56.5 -1.3**
comp=N,31nm,1.2s,mb5.1
CASY Casey 69.69 174 *e*P **P** **18 59 59.0 -2.0**
comp=N,19nm,1.0s,mb5.0
MOS Moscow 70.40 329 *e*P **P** **19 00 04.0 -1.4**
MOS *e* pP 19 00 12.8 -0.4
MA2 Magadan 70.41 26 *e*P **P** **19 00 04.7 -0.7**
MA2 pmax pmax
comp=Z,40nm,0.8s,mb5.4
MA2 pmax pmax
comp=N,9.0nm,0.9s
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 Magadan 70.41 26 *e*P **P** **19 00 04.2 -1.2**
comp=E,64nm,0.8s,mb5.6
OBN Obninsk 70.68 328 P **P** **19 00 06.5 -0.7**
comp=E,382nm,0.9s,mb6.3,SNR=8.9
OBN Obninsk 70.68 328 *i* P **P** **19 00 04.2 -3.0**
OBN *e* 19 00 25.3
OBN *e* 19 02 43.7
OBN *i* S S 19 09 19.4 +1.0
OBN pmax pmax
comp=Z,65nm,1.0s,mb5.5
OBN Obninsk 70.68 328 *e*P **P** **19 00 04.7 -2.5**
comp=Z,61nm,0.9s,mb5.5
PET Petropavlovsk 71.56 34 *e*P **P** **19 00 12.2 -0.3**
PET pmax pmax
comp=Z,40nm,0.7s,mb5.5
PET MLR MLR
comp=Z,10µm,18.0s,MS6.1
PET Petropavlovsk 71.56 34 *e*P **P** **19 00 10.8 -1.7**
comp=Z,60nm,1.0s,mb5.5
TIXI Tiksi 71.83 10 *e*P **P** **19 00 09.5 -4.3**
TIXI pmax pmax
comp=Z,82nm,0.9s,mb5.7
TIXI Tiksi 71.83 10 *i* P **P** **19 00 11.7 -2.1**
TIRR Tirgusor 72.20 316 ⇓P **P** **19 00 15.4 -1.1**
KIS Kishinev 72.56 319 *e*P **P** **19 00 20.0 +1.4**
KIS *e* 19 00 39.0
CFR Carcaliu 72.57 317 P **P** **19 00 18.9 +0.2**
CFR Carcaliu 72.57 317 ⇓P **P** **19 00 18.2 -0.5**
AKASG Malin Array Be 73.32 322 PP PP 19 03 06.7 -1.6
comp=Z,4.0nm,0.9s,baz=91,slow=6.6,SNR=3.3
LBTB Lobatse 73.58 243 *e*P **P** **19 00 23.1 -1.9**
comp=Z,52nm,1.0s,mb5.4
MAW Mawson 74.00 193 P **P** **19 00 24.7 -1.8**
comp=Z,2.7nm,0.9s,baz=241,slow=19,SNR=1.3
MLR Muntele Rosu 74.14 317 P **P** **19 00 27.7 -0.1**
MLR Muntele Rosu 74.14 317 P **P** **19 00 27.2 -0.6**
comp=Z,24nm,0.9s,mb5.1,baz=139,slow=2.9,SNR=27
MLR S S 19 09 54.5 -3.5
comp=Z,1.3nm,0.5s,baz=128,slow=23,SNR=1.8
MLR Muntele Rosu 74.14 317 ⇓*i*P **P** **19 00 28.0 +0.1**
BOSA Boshof 74.60 239 P **P** **19 00 29.9 -1.0**
comp=Z,7.2nm,0.9s,mb4.6,baz=102,slow=9.7,SNR=6.1
BOSA Boshof 74.60 239 *e*P **P** **19 00 30.0 -0.8**
comp=Z,46nm,1.3s,mb5.2
MNK Minsk 75.21 326 *e*P **P** **19 00 30.0 -3.8**
VTS Vitosha 75.52 313 P **P** **19 00 36.1 +0.3**
PUL Pulkovo 75.56 332 *i* P **P** **19 00 34.6 -1.1**
KWP Kalwaria 77.13 320 *e*P **P** **19 00 44.1 -0.6**

KWP e 19 00 46.0
KWP Kalwaria 77.13 320 *e*P **P 19 00 44.1 -0.6**
KWP e 19 00 46.0
BZS Buzias 77.15 316 ⇑P **P 19 00 44.4 -0.6**
APA Apatity 77.25 340 ⇓*i*P **P 19 00 46.0 +1.0**
APA *i* pP 19 00 55.0 +2.1
APA pmax pmax
comp=Z,52nm,1.0s,mb5.4
KOLS Kolonicke sedl 77.28 320 *i* P **P 19 00 46.3 +0.8**
SUW Suwalki 77.73 325 *e*P **P 19 00 46.7 -1.2**
SUW e 19 00 48.0
SUW Suwalki 77.73 325 *e*P **P 19 00 46.6 -1.3**
SUW e 19 00 48.0
CRVS Cervenica-Dubn 77.80 319 *i* P **P 19 00 49.4 +1.0**
FINES FINESS Array B 78.08 333 P **P 19 00 49.0 -0.7**
comp=Z,29nm,0.7s,mb5.3,baz=108,slow=6.0,SNR=77
FINES PP PP 19 03 48.5 +0.4
comp=Z,3.8nm,0.8s,baz=139,slow=13,SNR=3.0
KAF Kangasniemi 78.16 333 *e*p **P 19 00 48.2 -1.9**
comp=Z,50nm,0.9s,mb5.5,baz=104,slow=5.1
KAF Kangasniemi 78.16 333 *e*P **P 19 00 48.2 -1.9**
KAF pmax pmax
comp=Z,50nm,0.9s,mb5.4
KECS Kecovo 78.37 319 *i* P **P 19 00 52.2 +0.7**
NIE Niedzica 78.63 320 *e*P **P 19 00 52.5 -0.5**
PSZ Piszkesteto 78.68 318 P **P 19 00 53.1 -0.1**
PSZ Piszkesteto 78.68 318⇑*e*P **P 19 00 54.3 +1.1**
OJC Ojcow 79.09 321 *e*P **P 19 00 56.7 +1.3**
SUR Sutherland 79.09 236 P **P 19 00 54.5 -1.3**
comp=Z,70nm,1.3s,mb5.4
PKSM Moragy 79.29 316⇑*e*P **P 19 00 55.7 -0.9**
VYHS Vyhne 79.46 319 *e*P **P 19 00 56.5 -1.0**
SRO2 Moca 79.66 318 *i* P **P 19 01 00.4 +1.8**
RHK1 Bakonya 79.67 316 *e*P **P 19 00 59.2 +0.5**
SRO Srobarova 79.72 318 *i* P **P 19 01 00.9 +2.0**
SRO1 Iza 79.77 318 *i* P **P 19 01 01.3 +2.2**
TIP Timpagrande 79.95 309 P **P 19 00 58.9 -1.4**
FX1 Attu Island--F 80.00 37 P **P 19 01 01.3 +1.1**
comp=Z,26nm,0.6s,mb5.3,baz=266,slow=4.5,SNR=7.0
FX1 Attu Island--F 80.00 37 *e*P **P 19 00 59.2 -1.1**
TSUM Tsumeb 80.06 250 *e*P **P 19 01 01.6 +0.3**
comp=Z,28nm,1.1s,mb5.1
TSUM *e* pP 19 01 08.6 -0.6
OKC Ostrava-Krasne 80.09 320 *e*P **P 19 01 00.6 -0.2**
BILL Bilibino 80.09 21 *e*P **P 19 00 58.6 -1.9**
BILL pmax pmax
comp=Z,28nm,1.2s,mb5.1
BILL Bilibino 80.09 21 *e*P **P 19 00 58.6 -1.9**
comp=Z,28nm,1.2s,mb5.1
GRI Giriflalco 80.19 309 *e*P **P 19 01 02.6 +1.0**
KEV Kevo 80.24 341 *e*p **P 19 01 01.1 -0.1**
MORC Moravsky Berou 80.47 320 P **P 19 01 02.4 -0.4**
MORC Moravsky Berou 80.47 320 *e*P **P 19 01 02.2 -0.7**
comp=Z,31nm,1.3s,mb5.1
ZST Bratislava 80.57 318 *i* P **P 19 01 05.1 +1.7**
ARCES ARCESS Array B 80.67 340 P **P 19 01 02.0 -1.5**
comp=Z,30nm,0.8s,mb5.3,baz=63,slow=2.7,SNR=30
KOGS Kog 80.97 316 *e*P **P 19 01 05.8 +0.2**
GKP Gorka Klasztor 81.09 323 *e*P **P 19 01 07.1 +1.1**
KTK1 Kautokeino 81.30 340 *e*P **P 19 01 08.0 +1.2**
comp=Z,110nm,1.2s,mb5.7
KTK1 Kautokeino 81.30 340 *e*P **P 19 01 08.0 +1.2**
KTK1 AMb AMB 19 01 10.2
comp=Z,110nm,1.2s,mb5.7
DPC Dobruska-Polom 81.31 320 *e*P **P 19 01 06.8 -0.5**
KSP Ksiaz 81.39 321⇑*e*P **P 19 01 07.5 -0.1**
KSP Ksiaz 81.39 321 *e*P **P 19 01 07.6 -0.1**
KSP *e* 19 01 09.5
CSSN Cassano Irpino 81.41 311 *e*P **P 19 01 09.0 +1.0**
UPC Upice 81.53 321 *e*P **P 19 01 06.7 -1.7**
ARSA Arzberg 81.54 317⇑*i*P **P 19 01 08.4 -0.1**
comp=Z,36nm,1.1s,mb5.2
VISS Visnje 81.89 316 *e*P **P 19 01 10.2 -0.1**
CII Carovilli 82.00 312 P **P 19 01 11.1 +0.1**
comp=Z,69nm,1.5s,mb5.4
LJU Ljubljana 82.12 316 *e*P **P 19 01 13.1 +1.5**
SDI San Donato 82.37 312 *e*P **P 19 01 12.2 -0.7**
PRU Pruhonice 82.42 320 *e*P **P 19 01 13.3 +0.3**
MOA Molln 82.43 318⇑*i*P **P 19 01 12.7 -0.5**
comp=Z,14nm,1.2s,mb4.8
PVCC Panska Ves 82.45 320 *e*P **P 19 01 13.8 +0.6**
BSD Bornholm Skovb 82.66 325 *i* P **P 19 01 15.0 +0.9**
PTQR Pietraquaria 82.69 312 *e*P **P 19 01 14.5 -0.1**
AQU L'Aquila 82.71 312 *e*P **P 19 01 13.8 -0.9**
AQU pmax pmax
comp=Z,110nm,1.3s,mb5.7
AQU L'Aquila 82.71 312 *e*P **P 19 01 14.9 +0.2**
BRG Berggiesshubel 82.87 321 *e*P **P 19 01 15.5 +0.1**
BRG pmax pmax
comp=Z,15nm,1.0s,mb5.0
BRG Berggiesshubel 82.87 321 *e*P **P 19 01 15.5 +0.1**
comp=Z,15nm,0.9s,mb5.0
BRG *e* 19 11 43.7
GEC2 GERESS Array S 82.88 319 *e*P **P 19 01 14.9 -0.5**
GEC2 pmax pmax
comp=Z,38nm,1.0s,mb5.4
GEC2 GERESS Array S 82.88 319 *e*P **P 19 01 14.9 -0.5**
comp=Z,38nm,1.0s,mb5.4
GERES GERESS Array B 82.88 319 P **P 19 01 14.7 -0.8**
comp=Z,20nm,0.8s,mb5.2,baz=108,slow=4.2,SNR=76
TRO Tromso 82.93 340 *e*P **P 19 01 14.1 -1.2**
NRCA Norcia 82.94 313 *e*P **P 19 01 14.7 -1.3**
PTCC Patocco-Chiusa 82.96 316 *e*P **P 19 01 10.9 -5.0**
KHC Kasperske Hory 82.98 319 *e*P **P 19 01 16.4 +0.4**
KHC *ex* x 19 02 07.0
KHC *ex* x 19 02 41.5
KBA Koelnbreinsper 83.01 317⇓*i*P **P 19 01 15.6 -0.5**
comp=Z,12nm,1.0s,mb4.9
GMNA Gemona 83.03 316 *e*P **P 19 01 13.6 -2.7**
SNTG Esanatoglia 83.09 313 *e*P **P 19 01 16.6 0.0**
RUE Ruedersdorf 83.09 322 P **P 19 01 15.0 -1.5**
ARV Arcevia 83.10 313 *e*P **P 19 01 16.1 -0.6**
FVI Forni Avoltri 83.37 316 *e*P **P 19 01 17.8 -0.2**
WET Wettzell 83.44 319 *e*P **P 19 01 17.6 -0.7**
RSM Repubblica di 83.47 314 *e*P **P 19 01 18.2 -0.4**
CLL Collm 83.49 321 *i* P **P 19 01 18.0 -0.5**
CLL *i* 19 01 28.1
CLL pmax pmax
comp=Z,14nm,1.0s,mb5.0
CLL Collm 83.49 321 *i* P **P 19 01 18.0 -0.5**
comp=Z,14nm,1.0s,mb5.0
CLL *i* 19 01 28.1
CLL Collm 83.49 321 P **P 19 01 18.0 -0.5**
comp=Z,logA/T=1.1,mb4.9
CLL *i* *PP pP 19 01 28.1 +1.5
CLL *e* 19 02 14.0
NKC Novy Kostel 83.78 320 *e*P **P 19 01 19.4 -0.6**
SFI Santa Sofia 83.91 314 *e*P **P 19 01 20.6 -0.2**
PGD Poggio Sodo 84.00 314 *e*P **P 19 01 22.3 +1.0**
MOR8 Moi Rana 84.07 336 *e*P **P 19 01 20.5 -0.7**
comp=Z,58nm,0.9s,mb5.7
MOR8 Moi Rana 84.07 336 *e*P **P 19 01 20.5 -0.7**
MOR8 AMb AMB 19 01 23.0
comp=Z,58nm,0.9s,mb5.7
CTI Castel Tesino 84.12 316 *e*P **P 19 01 21.7 -0.2**
VMG Vicchio 84.13 314 *e*P **P 19 01 22.9 +1.0**
WTTA Wattenberg 84.18 317⇑*i*P **P 19 01 21.4 -0.7**
comp=Z,32nm,1.3s,mb5.3
WATA Walderalm 84.22 317⇓*i*P **P 19 01 20.9 -1.4**
comp=Z,39nm,1.7s,mb5.3
SEI Scarperia 84.27 314 *e*P **P 19 01 24.4 +1.8**
MOX Moxa 84.33 320 *e*P **P 19 01 24.1 +1.3**
MOX pmax pmax
comp=Z,11nm,1.1s,mb4.9
MOX Moxa 84.33 320 *e*P **P 19 01 24.1 +1.3**
comp=Z,11nm,1.1s,mb4.9
MOX Moxa 84.33 320 *i* P **P 19 01 24.1 +1.3**
comp=Z,logA/T=1.0,mb4.9
SQTA Sankt Quirin 84.47 317⇓*i*P **P 19 01 21.7 -1.9**
comp=Z,27nm,1.3s,mb5.2
GRFL Gerfalco 84.52 313 *e*P **P 19 01 22.4 -1.5**
MOTA Moosalm 84.55 317⇑*i*P **P 19 01 20.9 -3.1**
GRA1 Grafenberg Arr 84.55 319 *e*P **P 19 01 23.6 -0.3**
comp=Z,44nm,1.0s,mb5.5
GRF Grafenberg Arr 84.55 319 *e*P **P 19 01 23.6 -0.3**
GRF pmax pmax
comp=Z,44nm,1.0s,mb5.5
GRF Grafenberg Arr 84.55 319 *e*P **P 19 01 23.6 -0.3**
comp=Z,44nm,1.0s,mb5.5
ZCCA Zocca 84.55 314 *e*P **P 19 01 24.9 +0.9**
SAL Salo 84.90 315 *e*P **P 19 01 26.1 +0.4**
NSS Namsos 84.95 334 *e*P **P 19 01 24.2 -1.4**
ERBM Eremo 84.95 314 *e*P **P 19 01 28.7 +2.6**

BRMO Bormio 85.02 316 *e*P **P 19 01 26.7 +0.3**
NB2 NORSAR Subarra 85.08 331 P **P 19 01 25.9 -0.4**
comp=Z,31nm,1.0s,mb5.4,baz=95,slow=5.3
NB2 NORSAR Subarra 85.08 331 P **P 19 01 25.9 -0.4**
baz=95,slow=5.6
NOA NORSAR Array B 85.08 331 P **P 19 01 24.8 -1.4**
comp=Z,18nm,0.9s,mb5.2,baz=94,slow=5.5,SNR=46
CLZ Clausthal 85.16 322 *e*P **P 19 01 26.3 -0.6**
comp=Z,23nm,0.9s,mb5.3
NAO01 NORSAR Array S 85.23 331 *e*P **P 19 01 26.4 -0.6**
comp=Z,25nm,1.0s,mb5.3
BSEG Bad Segeberg 85.25 324 *e*P **P 19 01 26.9 -0.4**
DAVA Damuels 85.38 317⇓*i*P **P 19 01 27.0 -1.1**
comp=Z,47nm,1.2s,mb5.5
KONO Kongsberg 85.82 329 P **P 19 01 29.4 -0.6**
KONO pmax pmax
comp=Z,53nm,1.0s,mb5.7
KONO Kongsberg 85.82 329 *e*P **P 19 01 29.9 -0.1**
KONO epP pP 19 01 38.9 +0.8
KIWB Kanaga Island 85.83 38 *e*P **P 19 01 30.5 +0.3**
PGF Pioggiola 85.97 312 *e*P **P 19 01 31.7 +0.5**
comp=Z,51nm,1.1s,mb5.4
SPAK Spaichingen 86.12 318 *e*P **P 19 01 33.0 +1.2**
TNS Taunus Mts 86.35 320 *e*P **P 19 01 32.2 -0.7**
BFO Black Forest 86.43 318 P **P 19 01 34.5 +1.2**
comp=Z,104nm,0.8s,mb6.1,SNR=9.0
BFO Black Forest 86.43 318 *e*P **P 19 01 31.9 -1.4**
BFO pmax pmax
comp=Z,15nm,0.9s,mb5.2
BFO Black Forest 86.43 318 *e*P **P 19 01 31.9 -1.4**
comp=Z,15nm,0.9s,mb5.2
FIN Finale Ligure 86.54 314 *e*P **P 19 01 33.5 -0.4**
LANF Langenberg 86.77 319 *e*P **P 19 01 36.4 +1.4**
MOL Molde 86.86 332 *e*P **P 19 01 36.9 +1.8**
comp=Z,90nm,1.5s,mb5.8
MOL Molde 86.86 332 *e*P **P 19 01 36.9 +1.8**
MOL AMb AMB 19 01 52.4
comp=Z,90nm,1.5s,mb5.8
BBS Basel-Blauen 86.99 317 *e*P **P 19 01 36.7 +0.7**
WLS Welschbruch 87.08 318 *e*P **P 19 01 37.2 +0.7**
SBF Sospel 87.10 314 *e*P **P 19 01 37.1 +0.4**
comp=Z,68nm,0.9s,mb5.6
CDF Champ du Feu 87.13 318 *e*P **P 19 01 37.0 +0.3**
comp=Z,18nm,0.9s,mb5.0
ECH Echery 87.21 318 *e*P **P 19 01 38.9 +1.8**
TOUF Mont Tournerai 87.23 314 *e*P **P 19 01 38.7 +1.4**
RUP Ruppelstein 87.25 319 *e*P **P 19 01 38.6 +1.4**
HINF Hinteralfeld 87.42 318 *e*P **P 19 01 38.1 0.0**
comp=Z,21nm,1.1s,mb5.0
CALN Calern 87.50 314 *e*P **P 19 01 40.1 +1.5**
LPG La Plagne 87.55 315 *e*P **P 19 01 39.8 +1.0**
comp=Z,48nm,0.9s,mb5.4
MBDF Montbardon 87.56 314 *e*P **P 19 01 38.9 0.0**
comp=Z,24nm,1.0s,mb5.1
LPL La Plagne 87.56 315 *e*P **P 19 01 39.7 +0.8**
comp=Z,54nm,1.0s,mb5.5
VNDA Vanda 87.60 169 P **P 19 01 38.7 +0.4**
comp=Z,0.5nm,0.5s,baz=272,slow=5.9,SNR=4.4
VNDA Vanda 87.60 169 P **P 19 01 38.7 +0.4**
BNI Bardonecchia 87.61 315 *e*P **P 19 01 39.1 0.0**
BNI pmax pmax
comp=Z,24nm,1.2s,mb5.3
BNI Bardonecchia 87.61 315 *e*P **P 19 01 39.1 0.0**
comp=Z,24nm,1.2s,mb5.3
FRF La Foret Royal 87.68 313 *e*P **P 19 01 40.2 +0.7**
comp=Z,33nm,0.9s,mb5.3
HAU Haudompre 87.76 318 *e*P **P 19 01 40.1 +0.4**
comp=Z,48nm,0.9s,mb5.4
LMR La Mourre 87.78 313 *e*P **P 19 01 40.7 +0.7**
comp=Z,51nm,1.2s,mb5.3
WLF Walferdange 87.84 319 *e*P **P 19 01 39.5 -0.6**
comp=Z,2um,3.8s
CABF La Chapelle 87.98 316 *e*P **P 19 01 41.8 +1.0**
comp=Z,63nm,1.3s,mb5.4
THEF They Montfort 88.00 318 *e*P **P 19 01 41.8 +0.9**
ORIF Oris-en-Rattie 88.18 315 *e*P **P 19 01 42.8 +0.9**
comp=Z,16nm,0.8s,mb5.0
MEZF Maizieres J'vi 88.61 318 *e*P **P 19 01 44.5 +0.7**
comp=Z,24nm,0.9s,mb5.2
GIVF Givet 88.68 320 *e*P **P 19 01 45.0 +0.9**
comp=Z,33nm,1.0s,mb5.3
VIVF Saint-Julien-l 89.04 315 *e*P **P 19 01 46.7 +0.7**
comp=Z,21nm,1.1s,mb5.1
BAIF Baives 89.08 320 *e*P **P 19 01 47.2 +1.2**
comp=Z,61nm,0.9s,mb5.6
SMF Signal de Mont 89.53 316 *e*P **P 19 01 48.8 +0.6**
comp=Z,32nm,1.0s,mb5.3
LASF Ste Croix 89.67 314 *e*P **P 19 01 50.0 +1.0**
comp=Z,28nm,1.1s,mb5.2
PLDF La Plantade 89.72 316 *e*P **P 19 01 51.7 +2.6**
SSF Saint Saulge 89.73 317 *e*P **P 19 01 50.0 +0.9**
comp=Z,59nm,1.4s,mb5.4
AVF Avril sur Loir 89.85 317 *e*P **P 19 01 50.4 +0.7**
comp=Z,32nm,1.1s,mb5.3
TNA Tin City 89.97 24 *e*P **P 19 01 48.1 -1.7**
comp=Z,14µm,1.2s
LBL Lubilhac 90.03 315 *e*P **P 19 01 53.4 +2.8**
BGF Bois d'Agland 90.22 316 *e*P **P 19 01 52.6 +1.2**
comp=Z,83nm,1.3s,mb5.6
HYF Humbligny 90.30 317 *e*P **P 19 01 53.3 +1.5**
MENF Mencas 90.36 320 *e*P **P 19 01 53.8 +1.8**
ABMS Boumerdes 90.43 307 P **P 19 01 43.6 -9.0**
TCF Toulx Ste Croi 90.67 316 *e*P **P 19 01 54.7 +1.2**
comp=Z,56nm,1.5s,mb5.4
CAF Calviac 90.89 315 *e*P **P 19 01 55.9 +1.4**
comp=Z,50nm,1.5s,mb5.3
MTLF Montolieu 90.91 313 *e*P **P 19 01 55.8 +1.1**
comp=Z,35nm,1.1s,mb5.3
RJF Les Rejaudoux 91.24 315 *e*P **P 19 01 57.5 +1.3**
comp=Z,21nm,1.0s,mb5.1
LFF La Frestale 91.83 315 *e*P **P 19 01 59.4 +0.6**
LDF La Druitiere 92.03 319 *e*P **P 19 02 00.8 +1.1**
comp=Z,65nm,0.9s,mb5.3
FLN La Foliniere 92.24 319 *e*P **P 19 02 01.7 +1.0**
comp=Z,61nm,1.0s,mb5.6
MFF Saint Martin d 92.27 317 *e*P **P 19 02 02.0 +1.2**
comp=Z,68nm,1.2s,mb5.5
EPF Esparros 92.31 313 *e*P **P 19 02 01.6 +0.5**
GRR Gorron 92.54 319 *e*P **P 19 02 03.2 +1.2**
comp=Z,39nm,1.0s,mb5.5
DAG Danmarks Havn 92.82 348 *e*P **P 19 02 02.0 -0.7**
DAG pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
DAG Danmarks Havn 92.82 348 *e*P **P 19 02 02.0 -0.7**
comp=Z,5.2nm,0.8s,mb5.0
DAG Danmarks Havn 92.82 348 *i* P **P 19 02 02.0 -0.7**
comp=Z,5.2nm,0.8s,mb5.0
ETSF Etsaut 92.98 313 *e*P **P 19 02 05.7 +1.5**
comp=Z,28nm,0.9s,mb5.4
SJPF Ste Jean 93.44 313 *e*P **P 19 02 07.9 +1.6**
comp=Z,26nm,0.9s,mb5.3
SGMF Saint Gilles 93.68 319 *e*P **P 19 02 08.3 +1.0**
comp=Z,29nm,1.0s,mb5.3
QUIF Quistinic 94.13 318 *e*P **P 19 02 10.0 +0.6**
comp=Z,97nm,1.3s,mb5.8
ROSF Rostrenen 94.14 319 *e*P **P 19 02 10.5 +1.1**
comp=Z,105nm,1.5s,mb5.7
IMA Indian Mountai 95.56 23 P **P 19 02 16.3 +0.8**
IMA pmax pmax
comp=Z,68nm,1.0s,mb6.0
IMA Indian Mountai 95.56 23 *e*P **P 19 02 16.6 +1.1**
ESDC Sonseca Array 95.94 310 P **P 19 02 19.0 +1.1**
comp=Z,2.1nm,0.8s,mb4.6,baz=34,slow=5.3,SNR=4.6
SVW2 Sparrevohn 96.35 28 *e*P **P 19 02 21.7 +2.5**
COLA College 98.27 23 *i* P **P 19 02 24.8 -3.0**
PWA Palmer West 98.73 26 *e*P **P 19 02 31.5 +1.6**
INK Inuvik 101.30 17 P **P 19 02 41.9 +0.5**
comp=Z,4.0nm,0.9s,baz=294,slow=7.9,SNR=8.7
INK PP PP 19 06 47.4 -6.0
comp=Z,7.1nm,1.2s,baz=322,slow=4.9,SNR=3.4
INK Inuvik 101.30 17 P **P 19 02 41.9 +0.5**
INK PP PP 19 06 47.4 -6.0
RES Resolute Bay 102.36 3 P Pdif 19 02 48.5 +2.5
RES pmax pmax
comp=Z,7.0nm,1.3s
RES Resolute Bay 102.36 3 *e*Pdif Pdif 19 02 46.6 +0.6
comp=Z,7.4nm,1.3s
YKA Yellowknife Ar 110.86 15 PKiKP 19 07 23.2
comp=Z,0.2nm,0.4s,baz=330,slow=1.8,SNR=5.3
YKA PP PP 19 07 54.6 -10
comp=Z,2.7nm,0.9s,baz=328,slow=6.4,SNR=9.6
YKA Yellowknife Ar 110.86 15 PKPdf PKPdf 19 07 23.2 -3.5
YKA PP PP 19 07 54.6 -10
FRB Frobisher Bay 112.64 353 PP PP 19 08 15.3 -2.3
comp=Z,1.4nm,0.3s,baz=16,slow=4.2,SNR=3.8
FCC Fort Churchill 118.11 6 *e*PKPdf PKPdf 19 07 37.8 -3.2

EDM Edmonton 118.98 20 *e*PKPdf PKPdf 19 07 38.0 -4.7
SCHQ Schefferville 120.86 349 PKP PKPdf 19 07 43.8 -2.6
comp=Z,2.4nm,0.8s,baz=54,slow=6.0,SNR=4.7
SCHQ PP PP 19 09 09.9 -4.8
comp=Z,2.1nm,0.9s,baz=25,slow=10,SNR=3.5
NEW Newport 121.50 25 PKP PKPdf 19 07 45.0 -2.8
comp=Z,5.2nm,0.8s,baz=90,slow=3.6,SNR=3.8
YBH Yreka Blue Hor 123.42 34 P Pdif 19 04 17.9 -1.6
YBH Yreka Blue Hor 123.42 34 PKP PKPdf 19 07 48.6 -3.1
comp=Z,1.8nm,0.8s,baz=79,slow=5.1,SNR=2.6
WDC Whiskeytown Da 124.28 35 PKPdf PKPdf 19 07 49.4 -4.0
MOD Modoc 124.63 33 *e*PKPdf PKPdf 19 07 50.9 -3.2
WVOR Wild Horse Val 125.13 31 *e*PKPdf PKPdf 19 07 52.5 -2.5
BOZ Bozeman (W) 125.87 24 *e*PKIKP PKPdf 19 07 55.1 -1.2
BOZ Bozeman (W) 125.87 24 *e*PKPdf PKPdf 19 07 52.7 -3.6
ULM Lac du Bonnet 126.18 9 PKP PKPdf 19 07 54.0 -2.7
comp=Z,12nm,0.8s,baz=50,slow=2.1,SNR=6.9
HLID Hailey 126.34 27 *e*PKPdf PKPdf 19 07 53.6 -3.6
QLMT Earthquake Lak 126.62 24 PKPdf PKPdf 19 07 53.6 -4.1
LOHW Long Hollow 127.96 24 *e*PKPdf PKPdf 19 07 57.8 -2.6
MNV Mina 128.22 34 PKIKP PKPdf 19 08 00.6 -0.5
MNV Mina 128.22 34 *e*PKPdf PKPdf 19 07 58.0 -3.1
TPH Tonopah 129.00 34 P Pdif 19 04 44.1 0.0
PDAR Pinedale Array 129.09 24 PKP PKPdf 19 07 58.6 -4.0
comp=Z,2.1nm,0.6s,baz=270,slow=1.5,SNR=6.7
HWUT Hardware Ranch 129.17 27 *e*PKPdf PKPdf 19 07 59.2 -3.6
DAU Daniels Canyon 130.27 27 *e*PKIKP PKPdf 19 07 53.3 -12
MVU Marysvale 131.31 30 *e*PKPdf PKPdf 19 08 03.7 -3.3
SADO Sadowa 132.46 355 PKP PKPdf 19 08 04.5 -4.5
comp=Z,6.4nm,0.8s,baz=340,slow=5.7,SNR=6.2
PV10 Paradox Valley 132.92 27 *e*PKPdf PKPdf 19 08 06.3 -3.7
PV01 Paradox Valley 133.33 27 PKPdf PKPdf 19 08 07.2 -3.5
ANMO Albuquerque 136.91 27 PKIKP PKPdf 19 08 15.3 -2.1
ANMO Albuquerque 136.91 27 PKP PKPdf 19 08 13.0 -4.4
comp=Z,4.1nm,0.8s,baz=96,slow=5.4,SNR=3.4
ANMO Albuquerque 136.91 27 *e*PKPdf PKPdf 19 08 13.0 -4.4
LPM Los Pinos Moun 137.36 28 *e*PKPdf PKPdf 19 08 14.6 -3.6
FWV Forest Hill 139.73 356 *e*PKPdf PKPdf 19 08 18.4 -4.1
GDL2 Guadalupe Moun 140.17 28 *e*PKPdf PKPdf 19 08 18.4 -5.0
PLCA Paso Flores 140.34 196 PKP PKPdf 19 08 18.2 -5.4
comp=Z,1.2nm,0.6s,baz=293,slow=4.0,SNR=3.2
PLCA Paso Flores 140.34 196 PKP PKPdf 19 08 18.2 -5.4
MIAR Mount Ida 141.77 13 *e*PKPpre 19 08 18.7
BDFB Brasilia 142.40 248 PKP PKPdf 19 08 23.7 -4.1
comp=Z,1.5nm,0.4s,baz=253,slow=6.0,SNR=3.8
TXAR Lajitas Array 142.88 29 PKP PKPdf 19 08 22.5 -5.8
comp=Z,5.2nm,0.9s,baz=265,slow=1.6,SNR=18
TXAR PP PP 19 11 33.6 -3.2
comp=Z,2.0nm,1.0s,baz=304,slow=6.5,SNR=3.8
JCT Junction City 143.61 23 *e*PKPdf PKPdf 19 08 23.9 -5.6
GOGA Godfrey 143.99 359 *e*PKHKP 19 08 15.8
LRAL Lakeview Retre 144.25 4 *e*PKPdf PKPdf 19 08 26.1 -4.5
SFJM Santa Fe 150.23 38 *e*P PKPdf 19 08 40.0 -0.8
COLM Colima 150.77 41 *i* P PKPdf 19 08 46.1 +4.5
MOIG Morelia 151.97 36 *e*P PKPdf 19 08 38.5 -4.9
SJG San Juan 152.83 321 PKPab PKPab 19 09 00.8 +0.2
comp=Z,8.2nm,0.2s,baz=300,slow=18,SNR=3.5
PPM Popocatepetl 153.91 33 *e*P PKPdf 19 08 50.9 +4.7
PLIG Platanillo 153.96 35 *e*P PKPab 19 09 07.2 +1.9
LPAZ La Paz 159.47 228 PKP PKPdf 19 08 52.4 -1.0
comp=Z,2.3nm,0.8s,baz=281,slow=2.2,SNR=9.1
LPAZ La Paz 159.47 228 *e*PKPdf PKPdf 19 08 51.9 -1.5
OTAV Otavalo 173.75 299 *e*PKPdf PKPdf 19 09 01.2 -3.2

*IDC **28** 18:50:09.5±0.8,2.39N×97.07E,mb4.9/13,mb1 4.9/13, mb1mx4.8/19,mbtmp4.9/13,Error ellipse: s-maj=24.8km s-min=20.1km az=84.0*
*NEIC **28** 18:50:14.1±0.4,2.39N×97.16E,h30km,mb5.2/5,Error ellipse: s-maj=11.2km s-min=9.1km az=70.0*
ISC 28 18:50:12.4±0.6,2.4N±0.1×97.2E±0.1,h30km,n21,
σ0s62/21,mb5.0/17,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**38.46**	**48**	P		P		**18 57 34.0**	**+0.4**
	26nm,0.6s,mb5.2,baz=184,slow=18,SNR=6.3								
BJT	**Baijiatuao**	**41.23**	**22**	*e*P		P		**18 57 57.3**	**+0.9**
	45nm,0.6s,mb5.3								
WRA	**Warramunga Arr**	**42.71**	**123**	P		P		**18 58 08.6**	**-0.2**
	13nm,0.6s,mb4.8,baz=302,slow=9.2,SNR=2.0								
WRAB	**Tennant Creek**	**42.71**	**123**	P		P		**18 58 08.5**	**-0.3**
	22nm,0.6s,mb5.1								
KS15	**Wonju Array Si**	**44.86**	**35**	*e*P		P		**18 58 25.5**	**-0.6**
SONM	**Songino Array**	**45.96**	**9**	P		P		**18 58 34.7**	**+0.1**
	6.6nm,0.5s,mb4.9,baz=189,slow=9.8,SNR=8.3								
SONM						PcP	PcP	19 00 10.3	-1.2
	3.1nm,0.6s,baz=188,slow=4.4,SNR=3.6								
MKAR	**Makanchi Array**	**46.08**	**346**	P		P		**18 58 35.2**	**-0.3**
	29nm,0.9s,mb5.2,baz=161,slow=9.0,SNR=3.3								
BVAR	**Borovoye Array**	**55.11**	**341**	P		P		**18 59 43.0**	**-1.2**
	19nm,0.7s,mb5.2,baz=141,slow=11,SNR=4.4								
ASAJ	**Asahikawa**	**57.73**	**37**	P		P		**19 00 03.5**	**+0.5**
	7.8nm,0.5s,mb5.0,baz=207,slow=7.7,SNR=7.0								
YAK	**Yakutsk**	**64.29**	**16**	*e*P		P		**19 00 46.1**	**-0.9**
	48nm,0.6s,mb5.7								
MA2	**Magadan**	**70.28**	**26**	*e*P		P		**19 01 24.4**	**-0.4**
	17nm,0.9s,mb5.0								
MAW	**Mawson**	**73.86**	**193**	P		P		**19 01 46.2**	**+0.3**
	7.3nm,0.8s,mb4.7,baz=4.9,slow=9.1,SNR=3.9								
AKASG	**Malin Array Be**	**74.29**	**322**	P		P		**19 01 47.9**	**-0.8**
	9.5nm,0.8s,mb4.8,baz=86,slow=5.7,SNR=3.0								
BOSA	**Boshof**	**75.34**	**240**	P		P		**19 01 55.1**	**-0.1**
	22nm,1.3s,mb4.9,baz=90,slow=8.7,SNR=5.0								
FINES	**FINESS Array B**	**78.92**	**332**	P		P		**19 02 14.3**	**-0.1**
	7.1nm,0.7s,mb4.7,baz=90,slow=5.6,SNR=3.2								
ARCES	**ARCESS Array B**	**81.40**	**340**	P		P		**19 02 28.3**	**+0.8**
	3.7nm,0.4s,mb4.6,baz=94,slow=4.9,SNR=4.2								
ARCES	**ARCESS Array B**	**81.40**	**340**	P		P		**19 02 28.3**	**+0.8**
GERES	**GERESS Array B**	**83.89**	**319**	P		P		**19 02 41.5**	**+0.7**
	4.9nm,0.9s,mb4.6,baz=117,slow=4.4,SNR=2.3								
NB2	**NORSAR Subarra**	**85.95**	**331**	P		P		**19 02 51.6**	**+0.9**
	7.1nm,0.8s,mb5.0,baz=90,slow=5.0								
NOA	**NORSAR Array B**	**85.95**	**331**	P		P		**19 02 51.7**	**+1.0**
	6.1nm,0.8s,mb4.9,baz=93,slow=5.0,SNR=5.9								
NOA	**NORSAR Array B**	**85.95**	**331**	P		P		**19 02 51.7**	**+1.0**

*IDC **28** 18:53:24.8±0.6,0.85N×97.38E,mb4.5/17,mb1 4.6/17, mb1mx4.5/21,mbtmp4.5/17,Error ellipse: s-maj=25.9km s-min=13.3km az=46.0*
*NEIC **28** 18:53:29.4±0.3,0.82N×97.39E,h30km,mb4.6/10,Error ellipse: s-maj=10.4km s-min=6.9km az=49.0*
ISC 28 18:53:28.2±3.2,0.84N±0.09×97.4E±0.1,h35km±27km,n38,
σ0s80/38,mb4.5/26,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**36**	*e*Pn		P		**18 54 49.6**	**+0.2**
KKM	**Kota Kinabalu**	**19.45**	**74**	*e*P		P		**18 57 55.2**	**+0.3**
LSA	**Lhasa**	**29.31**	**349**	*e*P		P		**18 59 30.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.54**	**126**	P		P		**19 00 06.0**	**-1.1**
	10nm,0.8s,mb4.8,baz=178,slow=5.6,SNR=3.3								
NWAO	**Narrogin (SRO)**	**38.44**	**153**	P		P		**19 00 50.2**	**+1.7**
	6.3nm,0.8s,mb4.4,baz=323,slow=13,SNR=3.9								
NWAO	**Narrogin (SRO)**	**38.44**	**153**	P		P		**19 00 50.2**	**+1.7**
WRA	**Warramunga Arr**	**41.66**	**122**	P		P		**19 01 14.5**	**-0.9**
	5.8nm,0.8s,mb4.2,baz=301,slow=9.0,SNR=5.7								
WRA	**Warramunga Arr**	**41.66**	**122**	P		P		**19 01 14.5**	**-0.9**
WRAB	**Tennant Creek**	**41.66**	**122**	P		P		**19 01 15.4**	**0.0**
	4.6nm,0.5s,mb4.4								
BJT	**Baijiatuao

KMBO	**Kilima Mbogo**	**60.20**	**268**	P		**P**		**19 03 35.6**	**0.0**
	1.6nm,0.8s,mb4.1,baz=58,slow=14,SNR=3.5								
YAK	**Yakutsk**	**65.70**	**16**	*eP*		**P**		**19 04 10.2**	**-1.1**
	6.1nm,0.5s,mb4.9								
EIL	**Elat**	**65.83**	**302**	*eP*		**P**		**19 04 12.2**	**-0.5**
	5.1nm,0.8s,mb4.6								
BRTR	**Keskin Array B**	**69.52**	**312**	P		**P**		**19 04 34.8**	**-0.8**
	1.9nm,0.8s,mb4.1,baz=135,slow=7.0,SNR=4.6								
MA2	**Magadan**	**71.56**	**25**	*eP*		**P**		**19 04 47.7**	**+0.2**
	3.0nm,0.6s,mb4.4								
LBTB	**Lobatse**	**73.93**	**244**	P		**P**		**19 05 02.2**	**0.0**
	4.4nm,0.9s,mb4.4,baz=83,slow=7.8,SNR=3.4								
LBTB	**Lobatse**	**73.93**	**244**	P		**P**		**19 05 02.2**	**0.0**
AKASG	**Malin Array Be**	**75.68**	**322**	P		**P**		**19 05 10.9**	**-0.9**
	3.8nm,0.7s,mb4.4,baz=90,slow=5.1,SNR=5.2								
FINES	**FINESS Array B**	**80.42**	**333**	P		**P**		**19 05 37.9**	**+0.2**
	2.6nm,0.6s,mb4.3,baz=88,slow=6.0,SNR=4.3								
ARCES	**ARCESS Array B**	**82.94**	**340**	P		**P**		**19 05 51.4**	**+0.7**
	3.2nm,0.8s,mb4.4,baz=104,slow=5.0,SNR=3.7								
TRO	**Tromso**	**85.21**	**340**	*eP*		**P**		**19 06 05.4**	**+3.4**
GERES	**GERESS Array B**	**85.23**	**319**	P		**P**		**19 06 03.4**	**+0.8**
	2.5nm,0.9s,mb4.4,baz=90,slow=5.3,SNR=4.7								
LOF	**Lofoten**	**86.94**	**338**	*eP*		**P**		**19 06 11.6**	**+1.1**
LOF	**Lofoten**	**86.94**	**338**	*e*		**P**		**19 06 11.6**	**+1.1**
NB2	**NORSAR Subarra**	**87.42**	**331**	P		**P**		**19 06 13.3**	**+0.3**
	2.7nm,0.8s,mb4.5,baz=96,slow=4.6								
NOA	**NORSAR Array B**	**87.42**	**331**	P		**P**		**19 06 13.5**	**+0.5**
	2.2nm,0.8s,mb4.5,baz=95,slow=4.8,SNR=4.2								
NOA	**NORSAR Array B**	**87.42**	**331**	P		**P**		**19 06 13.5**	**+0.5**

*JMA **28** 18:55:17.9±0.4,23.98N×122.43E,h17km,M2.1*
*TAP **28** 18:55:18.2,23.98N×122.30E,h13km,ML2.8*
ISC 28 18:55:16.7±2.6,24.0N±0.2×122.3E±0.1,h19km±12km,n6,
σ0s44/11,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.77**	**53**	P		**Pb**	**18 55 31.6**	**+0.3**
YOJ				*eS*		**Sb**	**18 55 40.8**	**-0.4**
IRIF	**Iriomote-Funau**	**1.31**	**75**	P		**Pn**	**18 55 40.3**	**0.0**
IRIF				*eS*		**Sb**	**18 55 57.5**	**+0.5**
HATJ	**Hateruma jima**	**1.34**	**87**	P		**Pn**	**18 55 40.3**	**-0.4**
HATJ				*eS*		**Sb**	**18 55 57.6**	**-0.2**
JKRS	**Kuro-shima**	**1.54**	**81**	P		**Pn**	**18 55 43.9**	**+0.3**
JKRS				*eS*		**Sn**	**18 56 03.6**	**+0.4**
JIJ	**Ishigaki jima**	**1.69**	**77**	P		**Pn**	**18 55 45.3**	**-0.3**
JIJ				*eS*		**Sn**	**18 56 06.0**	**-0.8**
JTJ	**Tarama**	**2.25**	**73**	*eS*		**Sn**	**18 56 21.7**	**+0.6**

*IDC **28** 18:57:39.4±0.9,0.59N×97.23E,mb4.0/13,mb1 4.2/13,*
mb1mx4.1/19,mbtmp4.0/13,Error ellipse: s-maj=56.7km
s-min=15.4km az=47.0
*NEIC **28** 18:57:44.2±0.5,0.71N×97.37E,h30km,mb4.4/3,Error*
ellipse: s-maj=14.8km s-min=8.8km az=223.0
ISC 28 18:57:42.4±0.6,0.8N±0.1×97.4E±0.1,h30km,n20,
σ0s70/18,mb4.1/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.54**	**35**	*e*Pn		**Pn**	**18 59 04.8**	**-0.4**
KKM	**Kota Kinabalu**	**19.47**	**74**	*e*P		**P**	**19 02 10.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.48**	**125**	P		**P**	**19 04 21.0**	**-0.5**
	2.9nm,0.7s,mb4.3,baz=182,slow=21,SNR=2.4							
WRA	**Warramunga Arr**	**41.60**	**122**	P		**P**	**19 05 29.3**	**-0.5**
	1.1nm,0.7s,mb3.6,baz=305,slow=8.5,SNR=4.7							
WB2	**Warramunga Arr**	**41.62**	**122**	*e*P		pP	19 05 36.5	-2.4
ASAR	**Alice Springs**	**42.94**	**127**	P		**P**	**19 05 41.1**	**+0.4**
	0.5nm,0.3s,mb3.7,baz=300,slow=7.9,SNR=4.0							
SONM	**Songino Array**	**47.54**	**8**	P		**P**	**19 06 18.4**	**+1.3**
	1.4nm,0.7s,mb4.1,baz=189,slow=8.6,SNR=4.3							
MKAR	**Makanchi Array**	**47.73**	**346**	P		**P**	**19 06 19.1**	**+0.5**
	1.8nm,0.6s,mb4.3,baz=158,slow=8.3,SNR=7.7							
KURK	**Kurchatov**	**52.28**	**345**	*e*P		**P**	**19 06 53.1**	**-0.3**
	4.5nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**52.89**	**132**	*e*P		pP	19 07 06.2	-1.1
	3.3nm,0.6s							
STKA	**Stephens Creek**	**52.89**	**132**	P		**P**	**19 06 58.5**	**+0.4**
	4.1nm,0.6s,mb4.6,baz=24,slow=23,SNR=4.7							
BVAR	**Borovoye Array**	**56.75**	**341**	P		**P**	**19 07 25.1**	**-0.9**
	0.9nm,0.6s,mb4.0,baz=228,slow=42,SNR=3.3							
CHKZ	**Chkalovo**	**57.22**	**341**	P		**P**	**19 07 28.7**	**-0.6**
	3.7nm,0.9s,mb4.4							
BRTR	**Keskin Array B**	**69.58**	**312**	P		**P**	**19 08 50.3**	**-0.7**
	1.5nm,0.7s,mb4.0,baz=123,slow=5.8,SNR=6.8							
AKASG	**Malin Array Be**	**75.75**	**322**	P		**P**	**19 09 26.4**	**-0.7**
	1.0nm,0.4s,mb4.1,baz=86,slow=5.5,SNR=7.3							
MLR	**Muntele Rosu**	**76.55**	**317**	P		**P**	**19 09 32.1**	**+0.4**
	2.8nm,0.8s,mb4.3,baz=265,slow=14,SNR=3.2							
FINES	**FINESS Array B**	**80.50**	**333**	P		**P**	**19 09 53.4**	**+0.4**
	0.9nm,0.7s,mb3.8,baz=108,slow=6.0,SNR=3.6							
GERES	**GERESS Array B**	**85.30**	**319**	P		**P**	**19 10 19.3**	**+1.4**
	1.2nm,0.9s,mb4.0,baz=90,slow=4.0,SNR=5.9							
NB2	**NORSAR Subarra**	**87.51**	**331**	P		**P**	**19 10 27.1**	**-1.3**
	0.9nm,0.7s,mb4.1,baz=96,slow=4.8							
NOA	**NORSAR Array B**	**87.51**	**331**	P		**P**	**19 10 29.1**	**+0.7**
	0.5nm,0.8s,mb3.8,baz=158,slow=18,SNR=3.1							

*BJI **28** 18:58:57.2,0.22S×97.02E,h30km,mb4.7*
*IDC **28** 18:59:01.6±0.6,0.70N×97.23E,mb4.4/17,mb1 4.5/17,*
mb1mx4.4/21,mbtmp4.4/17,Error ellipse: s-maj=28.7km
s-min=14.2km az=44.0
*NEIC **28** 18:59:06.0±0.3,0.67N×97.31E,h30km,mb4.5/12,Error*
ellipse: s-maj=10.1km s-min=6.6km az=56.0
ISC 28 18:59:03.3±6.2,0.68N±0.09×97.3E±0.1,h24km±43km,n37,
σ0s80/37,mb4.4/29,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.68**	**36**	*e*Pn		**Pn**	**19 00 28.7**	**+0.1**
CM31	**Chiang Mai Arr**	**17.75**	**5**	*e*P		**P**	**19 03 10.8**	**+0.1**
	8.9nm,0.7s							
LSA	**Lhasa**	**29.45**	**349**	*e*P		**P**	**19 05 08.5**	**+0.8**
	12nm,0.9s,mb4.6							
ENH	**Enshi**	**31.64**	**20**	*e*P		**P**	**19 05 25.0**	**-2.1**
	8.2nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.56**	**125**	P		**P**	**19 05 43.1**	**-0.8**
	6.4nm,0.7s,mb4.7,baz=334,slow=2.6,SNR=6.5							
GTA	**Gaotai**	**38.62**	**3**	*e*P		**P**	**19 06 27.5**	**+0.9**
GTA				AP		pP	19 06 36.5	+2.8
GTA				XP		sP	19 06 40.3	+3.7
GTA				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.6							
WRA	**Warramunga Arr**	**41.69**	**122**	P		**P**	**19 06 52.5**	**+0.2**
	comp=Z,4.6nm,0.8s,mb4.2,baz=302,slow=8.9,SNR=7.0							
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P		**P**	**19 06 52.1**	**-0.2**
	comp=Z,7.5nm,0.8s,mb4.4							
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P		**P**	**19 06 49.4**	**-2.9**
BJT	**Baijiatuau**	**42.77**	**21**	*e*P		**P**	**19 07 01.2**	**+0.4**
	comp=Z,9.4nm,0.6s,mb4.7							
BJI	**Beijing**	**42.79**	**21**	P		**P**	**19 07 04.5**	**+3.5**
BJI				AMB		AMB		
	comp=Z,16nm,0.6s,mb4.9							
ASPA	**Alice Springs**	**43.01**	**127**	*e*P		**P**	**19 07 03.5**	**+0.5**
ASAR	**Alice Springs**	**43.02**	**127**	P		**P**	**19 07 03.6**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.2,baz=297,slow=8.1,SNR=14							
AAK	**Ala-Archa**	**46.51**	**337**	*e*P		**P**	**19 07 30.9**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1							
SONM	**Songino Array**	**47.63**	**8**	P		**P**	**19 07 40.0**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=192,slow=9.3,SNR=7.9							
MKAR	**Makanchi Array**	**47.77**	**346**	P		**P**	**19 07 40.9**	**+0.2**
	comp=Z,7.6nm,0.5s,mb5.0,baz=161,slow=8.9,SNR=26							
TLY	**Talaya**	**51.10**	**5**	*e*P		**P**	**19 08 06.8**	**+0.6**
	comp=Z,3.5nm,0.8s,mb4.3							
KURK	**Kurchatov**	**52.32**	**345**	*e*P		**P**	**19 08 15.1**	**-0.3**
	comp=Z,6.1nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**52.95**	**132**	*e*P		**P**	**19 08 21.3**	**+0.9**
	comp=Z,2.6nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**52.95**	**132**	P		**P**	**19 08 21.4**	**+1.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=303,slow=5.9,SNR=6.0							
STKA	**Stephens Creek**	**52.95**	**132**	*e*P		**P**	**19 08 21.1**	**+0.7**
BVAR	**Borovoye Array**	**56.77**	**341**	P		**P**	**19 08 46.9**	**-1.0**
	comp=Z,1.5nm,0.5s,mb4.3,baz=144,slow=8.5,SNR=5.2							
CHKZ	**Chkalovo**	**57.25**	**341**	*e*P		**P**	**19 08 50.0**	**-1.3**
	comp=Z,3.8nm,0.7s,mb4.5							
KMBO	**Kilima Mbogo**	**60.06**	**268**	P		**P**	**19 09 11.0**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=44,slow=21,SNR=2.5							
ASF	**Jabal al Asfar**	**64.83**	**305**	P		**P**	**19 09 42.8**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.5,baz=126,slow=0.8,SNR=2.3							
YAK	**Yakutsk**	**65.90**	**16**	*e*P		**P**	**19 09 49.2**	**-0.1**
	comp=Z,17nm,0.7s,mb5.2							
BRTR	**Keskin Array B**	**69.53**	**312**	P		**P**	**19 10 11.9**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.1,baz=148,slow=6.3,SNR=5.7							

MA2	**Magadan**	**71.77**	**26**	*e*P		**P**		**19 10 25.3**	**-0.4**
	comp=Z,4.1nm,0.7s,mb4.5								
LBTB	**Lobatse**	**73.73**	**244**	P		**P**		**19 10 38.6**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=90,slow=9.1,SNR=3.6								
AKASG	**Malin Array Be**	**75.72**	**323**	P		**P**		**19 10 48.1**	**-0.7**
	comp=Z,3.1nm,0.7s,mb4.3,baz=88,slow=5.4								
MLR	**Muntele Rosu**	**76.50**	**317**	P		**P**		**19 10 53.1**	**-0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=123,slow=7.3,SNR=2.3								
FINES	**FINESS Array B**	**80.50**	**333**	P		**P**		**19 11 14.5**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.2,baz=100,slow=6.1,SNR=10								
ARCES	**ARCESS Array B**	**83.05**	**340**	P		**P**		**19 11 28.7**	**+0.7**
	comp=Z,3.9nm,0.8s,mb4.5,baz=102,slow=3.9,SNR=9.9								
ARCES	**ARCESS Array B**	**83.05**	**340**	P		**P**		**19 11 28.7**	**+0.7**
GERES	**GERESS Array B**	**85.26**	**319**	P		**P**		**19 11 40.4**	**+0.9**
	comp=Z,2.9nm,1.0s,mb4.4,baz=108,slow=4.2,SNR=8.6								
NB2	**NORSAR Subarra**	**87.50**	**331**	P		**P**		**19 11 50.8**	**+0.6**
	comp=Z,1.1nm,0.8s,mb4.1,baz=97,slow=4.8								
NOA	**NORSAR Array B**	**87.50**	**331**	P		**P**		**19 11 51.0**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.3,baz=95,slow=4.8,SNR=5.8								

*IDC **28** 19:01:34.2±3.6,2.86N×96.36E,mb3.9/5,mb1 4.1/5,*
mb1mx3.7/17,mbtmp3.9/5,Error ellipse: s-maj=145.0km
s-min=21.2km az=61.0
*NEIC **28** 19:01:39.4±2.6,2.99N×96.56E,h30km,mb4.2/3,Error*
ellipse: s-maj=113.0km s-min=13.0km az=58.0
ISC 28 19:01:37.1±2.9,2.9N±0.5×96.4E±0.7,h30km,n9,σ0s77/9,
mb4.0/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**27.10**	**350**	*e*P		**P**	**19 07 19.0**	**-0.4**
	1.0nm,0.5s,mb3.6							
FITZ	**Fitzroy Crossi**	**35.56**	**127**	P		**P**	**19 08 35.1**	**+1.2**
	6.2nm,1.0s,mb4.5,baz=301,slow=5.9,SNR=4.1							
WRA	**Warramunga Arr**	**43.60**	**123**	P		**P**	**19 09 38.9**	**-1.8**
	1.3nm,0.6s,mb3.9,baz=300,slow=9.3,SNR=4.7							
WRAB	**Tennant Creek**	**43.60**	**123**	*e*P		**P**	**19 09 41.2**	**+0.4**
	3.1nm,0.5s,mb4.3							
ASAR	**Alice Springs**	**45.04**	**128**	P		**P**	**19 09 52.3**	**0.0**
	0.4nm,0.7s,mb3.3,baz=295,slow=6.9,SNR=3.3							
MKAR	**Makanchi Array**	**45.40**	**346**	P		**P**	**19 09 55.0**	**+0.2**
	1.3nm,0.4s,mb4.1,baz=158,slow=8.6,SNR=12							
MKAR	**Makanchi Array**	**45.40**	**346**	P		**P**	**19 09 55.0**	**+0.2**
SONM	**Songino Array**	**45.56**	**9**	P		**P**	**19 09 56.4**	**+0.3**
	0.7nm,0.4s,mb4.0,baz=191,slow=9.2,SNR=9.5							
KURK	**Kurchatov**	**49.94**	**345**	*e*P		**P**	**19 10 30.2**	**0.0**
	2.5nm,0.8s,mb4.3							

*DJA **28** 19:01:50.7±2.9,0.04N×95.10E,h2km,Error ellipse:*
s-maj=131.0km s-min=18.3km az=59.0
*IDC **28** 19:02:15.5±0.3,1.02N×97.82E,mb5.5/31,mb1 5.6/31,*
mb1mx5.6/31,mbtmp5.5/31,Error ellipse: s-maj=14.4km
s-min=9.3km az=43.0
*BJI **28** 19:02:17.9,1.01N×97.92E,h28km,mB6.2,mb5.8,Ms6.3,*
Msz6.3
*MOS **28** 19:02:19.2±0.8,1.11N×97.81E,h33km,mb6.1/92,Error*
ellipse: s-maj=9.3km s-min=3.8km az=126.2
*NEIC **28** 19:02:19.9±1.6,1.01N×97.82E,h31km±10km,mb5.8/108,*
Error ellipse: s-maj=5.1km s-min=3.0km az=219.0
*BGS **28** 19:02:20.0,1.01N×97.82E,h33km,mb6.1*
ISC 28 19:02:16.9±1.1,1.03N±0.03×97.87E±0.03,h20km±7km,
h30km±1.7km:pP-P,n693,σ0s93/635,mb5.8/177,MS6.3/12,
31C-79D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.73**	**42**	P		**Pn**	**19 03 32.1**	**+3.1**
KULM	**Kulim**	**5.07**	**33**	*e*P		**Pn**	**19 03 36.5**	**+2.8**
KGM	**Kluang**	**5.54**	**80**	P		**Pn**	**19 03 43.9**	**+3.6**
PENI	**Pendagan**	**9.80**	**132**	*e*Pn		**P**	**19 04 37.5**	**-2.5**
PASI	**Pasiripis**	**10.87**	**135**	*e*Pn		**P**	**19 04 49.7**	**-4.9**
PULI	**Pulasari**	**10.91**	**132**	*e*Pn		**P**	**19 04 55.1**	**-0.1**
KSM	**Kuching**	**12.44**	**88**	*e*P		**P**	**19 05 17.6**	**+1.7**
UBT	**Ubonrachathani**	**15.79**	**26**	⇓P		**P**	**19 06 04.5**	**+4.5**
	486nm,1.0s							
BDT	**Bhumibol Dam**	**16.16**	**4**	P		**P**	**19 06 04.0**	**-0.6**
	111nm,0.8s							
CM31	**Chiang Mai Arr**	**17.36**	**3**	*e*P		**P**	**19 06 19.3**	**-0.5**
	386nm,0.9s							
CHG	**Chiang Mai**	**17.71**	**3**	⇓P		**P**	**19 06 23.9**	**-0.3**
	126nm,0.8s							
PALK	**Pallekele**	**18.20**	**290**	*e*P		**P**	**19 06 28.4**	**-2.0**
SRDI	**Scrawed**	**18.77**	**121**	*e*Pn		**P**	**19 06 34.7**	**-2.6**
KKM	**Kota Kinabalu**	**18.97**	**74**	*e*P		**P**	**19 06 38.9**	**-0.8**
KKM	**Kota Kinabalu**	**18.97**	**74**	P		**P**	**19 06 41.0**	**+1.3**
RATI	**Rata**	**20.09**	**119**	*e*Pn		**P**	**19 06 59.2**	**+6.9**
TSM	**Tawau**	**20.24**	**80**	P		**P**	**19 06 53.8**	**0.0**
KEDI	**Kedomdong**	**20.49**	**118**	*e*Pn		**P**	**19 06 58.9**	**+2.4**
QIZ	**Qiongzhong**	**21.40**	**33**	⇑P		**P**	**19 07 06.0**	**+0.3**
QIZ				XP			19 07 15.0	
QIZ				PP		PP	19 07 29.8	0.0
QIZ				*e*S		**S**	**19 10 57.3**	**0.0**
QIZ				AMB		AMB		
	comp=Z,96nm,1.6s,mb4.9							
QIZ	**Qiongzhong**	**21.40**	**33**	*e*P		**P**	**19 07 05.2**	**-0.6**
	comp=Z,314nm,1.7s,mb5.4							
VIS	**Vishakhapatnam**	**21.90**	**320**	*e*P		**P**	**19 07 11.9**	**+1.2**
VIS				AMb		AMB	19 07 16.1	
	comp=Z,2μm,1.0s,mb6.4							
VIS				*e*S		**S**	**19 11 04.3**	**-2.3**
TANI	**Tanete Lipujan**	**21.95**	**102**	*e*Pn		**P**	**19 07 11.2**	**-0.1**
TRD	**Trivandrum**	**22.11**	**290**	*e*P		**P**	**19 07 14.2**	**+1.3**
NINI	**Niniconang**	**22.53**	**104**	*e*Pn		**P**	**19 07 17.7**	**+0.5**
BUNI	**Buntu Taipa**	**22.92**	**102**	*e*Pn		**P**	**19 07 23.1**	**+2.1**
AGT	**Agartala**	**23.61**	**345**	*e*		**P**	**19 07 26.0**	**-1.6**
KMI	**Kunming**	**24.41**	**11**	⇓P		**P**	**19 07 37.3**	**+1.9**
KMI				AP			19 07 46.3	
KMI				XP			19 07 50.8	
KMI				S		**S**	**19 11 53.5**	**+2.4**
KMI				AMB		AMB		
	comp=Z,364nm,1.6s,mb5.6							
KMI				AMB		AMB		
	comp=Z,32μm,13.3s							
KMI				LR		LR		
	comp=N,38μm,25.1s,MS6.0							
KMI				LR		LR		
	comp=E,50μm,24.0s,MS6.0							
KMI				LR		LR		
	comp=Z,82μm,26.3s,MS6.1							
HYB	**Hyderabad**	**25.03**	**312**	*e*P		**P**	**19 07 42.0**	**+0.7**
HYB	**Hyderabad**	**25.03**	**312**	*i* P		**P**	**19 07 42.0**	**+0.7**
BLSP	**Bilaspur**	**25.98**	**325**	*i* P		**P**	**19 07 50.7**	**+0.5**
GYA	**Guiyang**	**26.66**	**18**	⇓*i*P		**P**	**19 07 56.3**	**-0.2**
GYA				AP		pP	19 08 05.5	+3.0
GYA				XP		sP	19 08 09.5	+4.3
GYA				PP		PP	19 08 43.3	+2.3
GYA				S		**S**	**19 12 32.5**	**+3.8**
GYA				AMB		AMB		
	comp=Z,130nm,1.2s,mb5.3							
GYA				AMB		AMB		
	comp=Z,13μm,14.2s							
GYA				LR		LR		
	comp=N,40μm,16.4s,MS6.2							
GYA				LR		LR		
	comp=E,35μm,17.8s,MS6.2							
GYA				LR		LR		
	comp=Z,48μm,16.8s,MS6.1							
PCPH	**Palayan**	**27.09**	**57**	⇓*e*P		**P**	**19 07 58.5**	**-2.0**
LATR	**Latur**	**27.13**	**311**	*e*P		**P**	**19 08 00.0**	**-0.9**
NGP	**Nagpur**	**27.15**	**319**	*e*P		**P**	**19 08 01.9**	**+0.8**
NGP				*e*			19 12 30.7	
GTK	**Gangtok**	**27.62**	**342**	*e*		**P**	**19 07 55.0**	**-10**
KAD	**Karad**	**28.37**	**306**	⇓*i*P		**P**	**19 08 12.0**	**-0.1**
JIRN	**Jiri**	**28.75**	**338**	*e*P		**P**	**19 08 16.3**	**+0.8**
	comp=Z,979nm,1.0s,mb6.5							
PKI	**Pulchoki**	**28.97**	**337**	*e*P		**P**	**19 08 17.7**	**+0.3**
	comp=Z,722nm,1.0s,mb6.3							
PKI	**Pulchoki**	**28.97**	**337**	*e*P		**P**	**19 08 17.7**	**+0.3**
PKI				pmax		pmax		
	comp=Z,361nm,1.0s,mb6.1							
DMN	**Daman**	**29.13**	**336**	*e*P		**P**	**19 08 19.1**	**+0.3**
	comp=Z,577nm,1.0s,mb6.3							
KKN	**Kakani**	**29.22**	**337**	*e*P		**P**	**19 08 19.8**	**+0.1**
	comp=Z,1μm,1.0s,mb6.5							
KKN	**Kakani**	**29.22**	**337**	*e*P		**P**	**19 08 19.8**	**+0.1**
KKN				pmax		pmax		
	comp=Z,508nm,1.0s,mb6.2							
LSA	**Lhasa**	**29.23**	**348**	P		**P**	**19 08 21.0**	**+1.3**
LSA	**Lhasa**	**29.23**	**348**	*e*P		**P**	**19 08 20.4**	**+0.7**
LSA				pmax		pmax		
	comp=Z,224nm,1.0s,mb5.8							

LSA	**Lhasa**	**29.23**	**348**	*e*P		**P**		**19 08 20.4**	**+0.7**
	comp=Z,224nm,1.0s,mb5.8								
POO	**Poona**	**29.30**	**308**	⇑*i*P		**P**		**19 08 18.0**	**-2.4**
VLK	**Valmikinagar**	**29.39**	**334**	*i* P		**P**		**19 08 22.0**	**+0.8**
VLK				*i*		pP		19 08 28.0	+0.7
GKN	**Gorkha**	**29.67**	**336**	*e*P		**P**		**19 08 23.9**	**+0.2**
	comp=Z,1μm,1.2s,mb6.6								
BHPL	**Bhopal**	**29.69**	**320**	*e*P		**P**		**19 08 24.2**	**+0.3**
BHPL				AMb		AMB		19 08 27.7	
	comp=Z,176nm,1.1s,mb5.7								
KOLN	**Koldanda**	**29.90**	**334**	*e*P		**P**		**19 08 26.1**	**+0.3**
	comp=Z,681nm,1.0s,mb6.3								
CD2	**Chengdu**	**30.24**	**10**	P		**P**		**19 08 27.3**	**-1.4**
MBWA	**Marble Bar**	**30.71**	**137**	*e*P		**P**		**19 08 31.2**	**-1.8**
	comp=Z,309nm,1.5s,mb5.9								
ENH	**Enshi**	**31.11**	**20**	*e*P		**P**		**19 08 34.3**	**-2.1**
	comp=Z,369nm,1.3s,mb6.0								
NACB	**Ninganchiao**	**32.52**	**43**	*e*P		**P**		**19 08 48.9**	**+0.2**
YHNB	**Yeheng**	**32.70**	**42**	*e*P		**P**		**19 08 48.9**	**-1.5**
LGTI	**Lohaghat**	**32.88**	**331**	⇓*i*P		**P**		**19 08 52.0**	**+0.1**
PTH	**Pithoragarh**	**32.98**	**331**	*e*P		**P**		**19 08 53.3**	**+0.6**
PTH				*e*				19 14 13.2	
WHN	**Wuhan**	**33.27**	**26**	⇓P		**P**		**19 08 54.8**	**-0.4**
WHN				S		**S**		**19 14 16.0**	**+2.8**
WHN				LR		LR			
	comp=Z,190μm,19.1s,MS6.8								
FITZ	**Fitzroy Crossi**	**33.28**	**126**	*e*P		**P**		**19 08 52.9**	**-2.6**
	comp=Z,111nm,0.7s,mb5.9								
FITZ				*e*PCP		PcP		19 11 37.6	0.0
FITZ	**Fitzroy Crossi**	**33.28**	**126**	P		**P**		**19 08 54.5**	**-1.0**
	comp=Z,140nm,0.7s,mb6.0,baz=327,slow=5.3,SNR=98								
FITZ				PcP		PcP		19 11 37.7	+0.1
	comp=Z,33nm,1.0s,baz=268,slow=1.5,SNR=4.6								
AJM	**Ajmer**	**33.76**	**320**	⇓*i*P		**P**		**19 09 00.0**	**+0.4**
NDI	**New Delhi**	**33.85**	**326**	*i* P		**P**		**19 09 00.0**	**-0.3**
NDI				*e*				19 14 30.0	
XAN	**Xi'an**	**34.44**	**16**	P		**P**		**19 09 04.0**	**-1.3**
XAN				AP		pP		19 09 10.0	-1.4
XAN				AMB		AMB			
	comp=Z,480nm,1.0s,mb6.4								
DDI	**Dehra Dun**	**34.69**	**329**	*e*P		**P**		**19 09 07.6**	**+0.1**
DDI				*e*				19 14 26.0	
LZH	**Lanzhou**	**35.32**	**8**	*e*P		**P**		**19 09 13.0**	**+0.1**
LZH				AP		pP		19 09 20.8	+1.8
LZH				XP		sP		19 09 25.0	+3.4
LZH				SCP				19 15 25.5	
LZH				PCS				19 15 30.0	
LZH				AMB		AMB			
	comp=Z,620nm,1.5s,mb6.3								
BHK	**Bhakra**	**36.41**	**328**	*e*P		**P**		**19 09 23.1**	**+1.0**
NJ2	**Nanjing**	**36.67**	**31**	*e*P		**P**		**19 09 24.8**	**+0.5**
NJ2				AP		pP		19 09 34.5	+4.1
NJ2				XP		sP		19 09 39.3	+6.3
NJ2				PP		PP		19 10 49.3	0.0
NJ2				S		**S**		**19 15 06.0**	**+0.2**
NJ2				XS				19 15 23.0	
NJ2				AMB		AMB			
	comp=Z,60nm,1.0s,mb5.4								
NJ2				AMB		AMB			
	comp=Z,2μm,8.0s								
NJ2				LR		LR			
	comp=N,66μm,22.4s								
NJ2				LR		LR			

ASPA *i* PCS 19 15 56.9
ASPA *e*S **S** **19 16 34.2 -3.1**
ASPA *e*SCS ScS 19 20 21.0 +8.3
ASPA Alice Springs 42.75 127 *e*P **P** **19 10 13.0 -1.9**
ASPA *i* 19 12 06.8
ASPA *e*S **S** **19 16 34.2 -3.1**
ASAR Alice Springs 42.76 127 P **P** **19 10 13.8 -1.1**
comp=Z,54nm,0.9s,mb5.3,baz=301,slow=7.5,SNR=125
ASAR PcP PcP 19 12 06.9 0.0
comp=Z,24nm,1.0s,baz=302,slow=2.6,SNR=13
ASAR S **S** **19 16 35.2 -2.1**
comp=Z,5.1nm,1.1s,baz=308,slow=14,SNR=4.8
YOMI Yo Moklole 42.83 95 *e*Pn **P** **19 10 13.2 -2.5**
KSH Kashi 43.21 335 *e*P **P** **19 10 18.5 +0.1**
KSH *e*AP pP 19 10 27.8 +3.2
KSH *e*XP sP 19 10 31.5 +4.4
KSH *e*PP PP 19 12 00.3 -0.8
KSH *e*PCP PcP 19 12 07.0 -1.2
KSH *e*PPP PPP 19 12 36.5 +0.2
KSH *e*SCP 19 15 55.0
KSH *e*PCS 19 15 58.0
KSH *e*S **S** **19 16 42.0 -1.7**
KSH *e*XS 19 16 57.8
KSH *e*SS SS 19 19 48.0 -2.3
KSH *e*SCS ScS 19 20 13.3 -2.0
KSH AMB AMB
comp=Z,31μm,12.8s
KSH LR LR
comp=N,83μm,17.7s,MS6.8
KSH LR LR
comp=E,36μm,15.6s,MS6.8
DL2 Dalian 43.52 27 P **P** **19 10 22.0 +1.0**
DL2 S **S** **19 16 55.0 +6.7**
DL2 AMB AMB
comp=Z,320nm,1.1s,mb6.0
DL2 LR LR
comp=N,15μm,17.3s,MS6.0
DL2 LR LR
comp=E,9μm,17.3s,MS6.0
DL2 LR LR
comp=Z,24μm,22.9s
WMQ Urumqi 43.56 349⇓ *i*P **P** **19 10 22.3 +1.1**
WMQ AP pP 19 10 32.0 +4.6
WMQ XP sP 19 10 36.0 +6.1
WMQ PP PP 19 12 06.0 +1.4
WMQ PPP PPP 19 12 42.0 +1.1
WMQ PCS 19 16 01.0
WMQ S **S** **19 16 49.0 +0.2**
WMQ XS 19 17 05.0
WMQ SCS ScS 19 20 17.0 -0.5
WMQ AMB AMB
comp=Z,442nm,1.1s,mb6.1
WMQ AMB AMB
comp=Z,4μm,9.6s
WMQ LR LR
comp=N,10μm,19.6s,MS5.9
WMQ LR LR
comp=E,8μm,18.4s,MS5.9
WMQ LR LR
comp=Z,8μm,20.7s,MS5.6
BIDO Bidbid 44.54 303 P **P** **19 10 30.8 +1.3**
SNR=13
SHAO Shalim 44.78 295 P **P** **19 10 32.6 +1.1**
SNR=19
BSY Bisya 45.02 302 P **P** **19 10 34.5 +1.3**
SNR=19
ULHL Ulahol 45.41 337 P **P** **19 10 36.9 +0.8**
SNR=19
KS15 Wonju Array Si 45.59 34 *e*P **P** **19 10 37.1 -0.4**
KZA Kyzart 45.66 336 P **P** **19 10 38.9 +0.8**
SNR=28
ARQ Araqi 45.82 302 P **P** **19 10 40.8 +1.2**
SNR=15
RBK Rabkut 45.93 294 P **P** **19 10 41.3 +0.7**
SNR=25
TKM2 Tokmak 2 46.23 337 P **P** **19 10 43.2 +0.6**
SNR=85
KBK Karagaybulak 46.26 337 P **P** **19 10 43.9 +1.0**
SNR=128
AML Almayashu 46.34 335 P **P** **19 10 44.8 +1.4**
SNR=8.2
AAK Ala-Archa 46.43 336 P **P** **19 10 44.2 +0.1**
comp=Z,470nm,1.0s,mb6.4,SNR=23
AAK Ala-Archa 46.43 336 *i*P **P** **19 10 44.2 +0.1**
AAK pmax pmax
comp=Z,68nm,1.7s,mb5.3
AAK Ala-Archa 46.43 336 *e*P **P** **19 10 43.5 -0.6**
comp=Z,26nm,1.0s,mb5.1
WHFO Wadi Hawf 46.44 294 P **P** **19 10 44.7 +0.2**
SNR=30
CHMS Chumysh 46.63 337 P **P** **19 10 46.2 +0.4**
SNR=39
ABTO Aybut 46.73 293 P **P** **19 10 47.5 +0.6**
SNR=26
ASHO Ashiyiah 46.74 304 P **P** **19 10 47.9 +1.1**
SNR=12
EKS2 Erkin-Say 46.74 336 P **P** **19 10 47.9 +1.3**
SNR=6.5
SNY Shenyang 46.76 26⇓ P **P** **19 10 46.8 +0.1**
SNY AMB AMB
comp=Z,390nm,1.1s,mb6.2
USP Ospenovka 46.95 337 P **P** **19 10 49.2 +0.9**
SNR=6.9
SONM Songino Array 47.21 8 P **P** **19 10 51.0 +0.7**
comp=Z,86nm,0.9s,mb5.7,baz=188,slow=8.7,SNR=180
SONM PcP PcP 19 12 22.1 +0.2
comp=Z,17nm,0.9s,baz=225,slow=3.5,SNR=5.1
ULN Ulaanbaatar 47.33 8 *e*P **P** **19 10 51.2 0.0**
ULN pmax pmax
comp=Z,81nm,1.0s,mb5.6
ULN Ulaanbaatar 47.33 8 *e*P **P** **19 10 51.2 0.0**
comp=Z,81nm,1.0s,mb5.6
MKAR Makanchi Array 47.57 346 *i*P **P** **19 10 53.0 -0.2**
MKAR pmax pmax
comp=Z,176nm,0.8s
MKAR Makanchi Array 47.57 346 P **P** **19 10 53.8 +0.7**
comp=Z,137nm,0.7s,mb6.1,baz=162,slow=7.7,SNR=187
CN2 Changchun 49.16 26⇑ P **P** **19 11 05.3 -0.2**
CN2 AMB AMB
comp=Z,410nm,1.1s,mb6.4
ZAK Zakamensk 49.39 5⇑ *i*P **P** **19 11 06.3 -0.8**
ZAK pmax pmax
comp=Z,33nm,1.6s,mb5.1
PMG Port Moresby 50.16 103 P **P** **19 11 13.1 -0.4**
PMG 19 12 34.4
PMG pmax pmax
comp=Z,32nm,0.8s
PMG pmax pmax
comp=Z,35nm,1.0s
PMG Port Moresby 50.16 103 P **P** **19 11 13.1 -0.4**
comp=Z,32nm,0.8s,mb5.4,baz=275,slow=4.7,SNR=8.3
PMG PcP PcP 19 12 34.4 +1.3
comp=Z,35nm,1.0s,baz=209,slow=4.6,SNR=4.1
MOY Mondy 50.53 3 *e*P **P** **19 11 16.2 +0.4**
MOY pmax pmax
comp=Z,129nm,3.4s
TLY Talaya 50.71 5 *e*P **P** **19 11 17.8 +0.6**
TLY *e* 19 11 36.0
TLY pmax pmax
comp=Z,58nm,1.0s,mb5.5
TLY Talaya 50.71 5 *e*P **P** **19 11 17.5 +0.3**
comp=Z,26nm,1.0s,mb5.1
IRK Irkutsk 51.32 5 *e*P **P** **19 11 22.0 +0.2**
IRK *e* 19 12 37.4
IRK *e* 19 18 43.2
IRK pmax pmax
comp=Z,223nm,1.6s,mb5.8
MAT Matsushiro 51.37 42 *e*P **P** **19 11 21.0 -1.4**
MAT pmax pmax
comp=Z,142nm,1.4s,mb5.7
MAT Matsushiro 51.37 42 *e*P **P** **19 11 21.0 -1.4**
comp=Z,142nm,1.4s,mb5.7
MAT Matsushiro 51.37 42 P **P** **19 11 21.3 -1.1**
HIA Hailar 51.59 18 *e*P **P** **19 11 23.3 -0.6**
HIA pmax pmax
comp=Z,305nm,1.0s
HIA Hailar 51.59 18 *e*P **P** **19 11 23.3 -0.7**
comp=Z,306nm,1.0s,mb6.2
MDJ Mudanjiang 51.70 29 P **P** **19 11 25.3 +0.5**
MDJ AMB AMB
comp=Z,121nm,1.5s,mb5.6
MDJ AMB AMB
comp=Z,9μm,13.5s
CTA Charters Tower 51.83 117⇑ *i*P **P** **19 11 25.8 -0.3**
comp=Z,46nm,0.9s,mb5.4
CTA *i* PCP PcP 19 12 39.7 +0.6
CTA *e*S **S** **19 18 47.0 +1.2**
CTA Charters Tower 51.83 117⇑ *i*P **P** **19 11 25.8 -0.3**
CTA *i* 19 12 39.7
CTA *e*S **S** **19 18 47.0 +1.2**
CTA pmax pmax
comp=Z,46nm,0.9s
CTA Charters Tower 51.83 117 P **P** **19 11 25.9 -0.1**
comp=Z,65nm,1.0s,mb5.5,baz=291,slow=9.5,SNR=28
CTA PcP PcP 19 12 39.1 +0.1
baz=249,slow=3.6
CTAO Charters Tower 51.83 117 *e*P **P** **19 11 24.8 -1.3**
KURK Kurchatov 52.13 345 *e*P **P** **19 11 27.1 -0.9**
KURK pmax pmax
comp=Z,293nm,1.1s,mb6.1
KURK Kurchatov 52.13 345 *e*P **P** **19 11 27.1 -1.0**
comp=Z,293nm,1.1s,mb6.1
ADE Adelaide 52.33 137 *e*P **P** **19 11 30.0 +0.3**
STKA Stephens Creek 52.74 132⇓ *i*P **P** **19 11 32.4 -0.5**
comp=Z,36nm,0.7s,mb5.4
STKA Stephens Creek 52.74 132 P **P** **19 11 32.5 -0.4**
comp=Z,38nm,0.7s,mb5.4,baz=297,slow=7.0,SNR=63
STKA PcP PcP 19 12 42.1 -0.3
comp=Z,23nm,1.1s,baz=338,slow=5.6,SNR=3.7
NVS Novosibirsk 54.97 350 *e*P **P** **19 11 47.3 -1.6**
NVS *i* S **S** **19 19 26.1 -1.7**
NVS pmax pmax
comp=N,137nm,1.4s
NVS pmax pmax
comp=E,87nm,1.4s
NVS pmax pmax
comp=Z,170nm,1.4s,mb5.9
NVS smax
comp=N,25nm,1.4s
NVS smax
comp=E,29nm,1.4s
ATD Arta Tunnel 55.58 283 P **P** **19 11 53.0 -0.9**
comp=E,14nm,1.0s,mb5.0,baz=102,slow=9.9,SNR=12
ATD Arta Tunnel 55.58 283 P **P** **19 11 53.0 -0.9**
KLR Kul'dur 56.11 26⇑ *i*P **P** **19 11 54.2 -3.0**
KLR pmax pmax
comp=N,120nm,1.2s
KLR pmax pmax
comp=E,150nm,1.2s
KLR pmax pmax
comp=Z,230nm,1.2s,mb6.1
BVA0 Borovoye Array 56.63 341 *i*P **P** **19 11 59.6 -1.3**
BVA0 pmax pmax
comp=Z,23nm,1.0s,mb5.2
BVAR Borovoye Array 56.63 341 P **P** **19 11 59.3 -1.6**
comp=Z,86nm,0.9s,mb5.8,baz=143,slow=7.4,SNR=147
BVAR PKP2bc 19 42 07.8
comp=Z,0.9nm,0.9s,baz=288,slow=4.7,SNR=4.3
BVAR Borovoye Array 56.63 341 P **P** **19 11 59.3 -1.6**
BVAR ⇑ *e* 19 42 07.8
CHKZ Chkalovo 57.11 341 P **P** **19 12 03.4 -0.9**
CHKZ pmax pmax
comp=Z,264nm,1.1s,mb6.2
BOD Bodaibo 58.06 10 *e*P **P** **19 12 10.6 -0.3**
BOD pmax pmax
comp=Z,192nm,1.1s,mb6.0
TOO Toolangi 58.35 136 *e*P **P** **19 12 14.2 +1.0**
comp=Z,2.4nm,1.0s
TOO Toolangi 58.35 136 *e*P **P** **19 12 14.2 +1.0**
TOO pmax pmax
comp=Z,2.0nm,1.0s
ASAJ Asahikawa 58.40 37 P **P** **19 12 14.1 +0.6**
ASAJ pmax pmax
comp=Z,115nm,1.2s
ASAJ Asahikawa 58.40 37 P **P** **19 12 14.1 +0.6**
comp=Z,115nm,1.1s,mb5.8,baz=263,slow=9.7,SNR=13
BHD Baghdad 59.47 309 *e*P **P** **19 12 13.0 -8.0**
CLNS Chul'man 59.71 17 *e*P **P** **19 12 21.6 -0.8**
CLNS pmax pmax
comp=Z,112nm,1.1s,mb5.8
CLNS pmax pmax
comp=N,53nm,1.0s
CLNS pmax pmax
comp=E,42nm,0.9s
CNB Canberra Magne 60.07 132⇑ *i*P **P** **19 12 25.4 +0.2**
comp=E,852nm,1.3s,mb6.6
YSS Yuzh-Sakhalins 60.12 34⇓ *i*P **P** **19 12 24.5 -0.8**
YSS pmax pmax
comp=N,110nm,1.1s
YSS pmax pmax
comp=Z,270nm,1.1s,mb6.2
YSS Yuzh-Sakhalins 60.12 34 *e*P **P** **19 12 25.2 -0.1**
comp=Z,322nm,1.1s,mb6.3
KMBO Kilima Mbogo 60.65 268 P **P** **19 12 30.2 +0.8**
KMBO pmax pmax
comp=Z,14nm,1.0s
KMBO Kilima Mbogo 60.65 268 P **P** **19 12 30.2 +0.8**
comp=Z,14nm,1.0s,mb5.0,baz=46,slow=8.7,SNR=20
KMBO Kilima Mbogo 60.65 268 *e*P **P** **19 12 29.5 +0.1**
MAK Makhachkala 61.30 320 *e*P **P** **19 12 33.0 -0.4**
MSL Mosul 61.55 311 *e*P **P** **19 12 33.0 -2.2**
GNI Garni 61.88 316 *e*P **P** **19 12 36.4 -1.0**
GNI pmax pmax
comp=Z,85nm,1.0s
GNI Garni 61.88 316 P **P** **19 12 37.1 -0.3**
comp=Z,38nm,1.0s,mb5.5,baz=212,slow=1.2,SNR=12
GNI Garni 61.88 316 *e*P **P** **19 12 36.4 -1.0**
comp=Z,85nm,1.0s,mb5.8
DGRG David-gareji 62.01 318 P **P** **19 12 38.2 -0.1**
TAU Tasmania Unive 62.26 141 P **P** **19 12 41.3 +1.4**
comp=Z,424nm,1.3s,mb6.4,SNR=8.6
TBLG Delisi 62.56 318 P **P** **19 12 41.2 -0.7**
DUS Dusheti 62.74 318 P **P** **19 12 42.1 -0.9**
ZEI Tsey 63.57 318 *e*P **P** **19 12 46.8 -1.8**
ZEI *i* *PP pP 19 13 01.1 +6.1
ZEI *i* 19 15 09.0
ZEI pmax pmax
comp=Z,44nm,1.0s,mb5.4
ARU Arti 63.60 337 *d* *i*P **P** **19 12 47.0 -1.5**
ARU *e* 19 13 18.7
ARU *e*S **S** **19 21 20.0 +0.4**
ARU *e*SS SS 19 25 33.3 +4.4
ARU pmax pmax
comp=Z,167nm,1.2s,mb5.9
ARU Arti 63.60 337 *i* Pr 19 12 46.0
ERZM Erzurum 64.16 315 *i*P **P** **19 12 51.9 -0.7**
KIV Kislovodsk 64.88 319 *e*P **P** **19 12 55.8 -1.3**
KIV pmax pmax
comp=Z,151nm,1.1s,mb5.9
KIV Kislovodsk 64.88 319 *e*P **P** **19 12 55.8 -1.3**
comp=Z,151nm,1.1s,mb5.9
ASF Jabal al Asfar 65.11 305 P **P** **19 12 59.0 +0.2**
comp=Z,39nm,1.1s,mb5.4,baz=348,slow=3.4,SNR=32
GOF Gofitskoye 65.12 320⇑ *i*P **P** **19 12 57.4 -1.2**
GOF pmax pmax
comp=Z,200nm,1.7s,mb5.9
ELZG Elazig 65.39 312 *i*P **P** **19 13 00.2 -0.3**
YAK Yakutsk 65.40 16 *e*P **P** **19 12 56.7 -3.4**
YAK *e* *PP pP 19 13 06.8 +0.3
YAK *e* 19 15 21.8
YAK *e*S S 19 21 44.0 +2.3
YAK pmax pmax
comp=Z,227nm,1.0s
YAK pmax pmax
comp=N,90nm,1.1s
YAK pmax pmax
comp=E,64nm,1.1s
YAK pmax pmax
comp=Z,5.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,6.0nm,1.0s
YAK smax
comp=N,8.0nm,1.2s
YAK smax
comp=E,3.0nm,1.0s
YAK MLR MLR
comp=Z,12μm,18.0s
YAK MLR MLR
comp=N,4μm,15.0s
YAK MLR MLR
comp=E,3μm,17.0s
YAK Yakutsk 65.40 16 *e*P **P** **19 12 58.9 -1.2**
MALT Malatya 65.74 312 *e*P **P** **19 13 02.0 -0.7**
MALT pmax pmax
comp=Z,66nm,1.1s,mb5.6
MALT Malatya 65.74 312 *e*P **P** **19 13 02.0 -0.7**
comp=Z,66nm,1.1s,mb5.6
GZT Gaziantep 66.08 311 *i*P **P** **19 13 04.3 -0.6**
EIL Elat 66.11 302 *e*P **P** **19 13 04.7 -0.5**
comp=Z,204nm,1.4s,mb6.0
KAHT Ahir Dag 66.69 311 *i*P **P** **19 13 08.0 -0.8**
SOC Sochi 66.70 318 *e*P **P** **19 13 05.2 -3.5**
SOC *e*S S 19 21 55.0 -2.8
SOC pmax pmax
comp=Z,188nm,1.3s,mb6.0
SOC pmax pmax
comp=N,22nm,1.0s
COBT Iskenderun 66.83 310 *i*P **P** **19 13 09.0 -0.7**
MBAR Mbarara 67.15 269 P **P** **19 13 11.4 -0.7**
comp=N,200nm,1.2s,mb6.0,SNR=22
MBAR Mbarara 67.15 269 *e*P **P** **19 13 11.2 -0.9**
MBAR pmax pmax
comp=Z,79nm,1.4s,mb5.5
MBAR Mbarara 67.15 269 *e*P **P** **19 13 11.4 -0.7**
comp=Z,79nm,1.4s,mb5.5
CASY Casey 67.77 175 *e*P **P** **19 13 14.9 -0.2**
MEST Erdemli 68.48 309 *i*P **P** **19 13 18.8 -1.3**
ANN Anapa 68.67 318 *e*P **P** **19 13 21.0 -0.1**
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.2
CTKT Corum 69.14 313 *i*P **P** **19 13 23.4 -0.6**
BOYT Boyabat 69.30 314 *i*P **P** **19 13 23.6 -1.4**
SKR Severo-Kuril's 69.61 35 *e*P **P** **19 13 24.0 -2.7**
SKR pmax pmax
comp=E,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.0
BRTR Keskin Array B 69.72 312 P **P** **19 13 26.1 -1.5**
comp=Z,32nm,0.9s,mb5.2,baz=135,slow=7.0,SNR=111
BRTR PcP PcP 19 13 50.6 +0.2
comp=Z,13nm,1.0s,baz=135,slow=5.2,SNR=5.8
BRTR PKPPKP 19 41 32.6
comp=Z,0.8nm,0.7s,baz=180,slow=1.2,SNR=4.8
PECR Pechory 69.89 331 *i*P **P** **19 13 26.4 -1.9**
VOR Voronezh 70.29 326 *e*P **P** **19 13 30.0 -0.9**
VOR pmax pmax
comp=N,80nm,1.1s
BALT Daday 70.42 314 *i*P **P** **19 13 30.9 -0.9**
NOUC Port Laguerre 70.48 114 *e*P **P** **19 13 32.6 +0.1**
NOUC Port Laguerre 70.48 114 *e*P **P** **19 13 32.6 +0.1**
DZM Mont Dzumac 70.60 114 P **P** **19 13 33.7 +0.5**
comp=N,21nm,0.9s,mb5.1,baz=285,slow=5.9,SNR=5.1
SIM Simferopol' 70.94 318 *d* *i*P **P** **19 13 34.1 -0.9**
SGKT Sivrigoynuk 71.12 313 *i*P **P** **19 13 34.6 -1.6**
MA2 Magadan 71.20 25 *e*P **P** **19 13 36.2 -0.1**
MA2 pmax pmax
comp=N,20nm,1.0s
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.5
MA2 pmax pmax
comp=E,40nm,1.5s
MA2 Magadan 71.20 25 *e*P **P** **19 13 36.3 0.0**
comp=E,129nm,1.0s,mb5.8
ISP Isparta 71.61 310 *e*P **P** **19 13 37.5 -1.6**
ISP pmax pmax
comp=Z,147nm,1.5s,mb5.7
ISP Isparta 71.61 310 *e*P **P** **19 13 37.5 -1.6**
comp=Z,147nm,1.5s,mb5.7
ESKT Eskisehir 71.75 311 *i*P **P** **19 13 38.8 -1.2**
PET Petropavlovsk 72.00 34 *e*P **P** **19 13 40.8 -0.4**
PET *e* 19 22 57.0
PET pmax pmax
comp=Z,90nm,0.7s,mb5.8
PET MLR MLR
comp=Z,10μm,18.0s,MS6.1
PET Petropavlovsk 72.00 34 *e*P **P** **19 13 41.0 -0.2**
comp=Z,261nm,1.3s,mb6.0
MAW Mawson 72.69 193 P **P** **19 13 46.2 +1.2**
comp=Z,38nm,1.3s,mb5.2,baz=20,slow=7.2,SNR=8.3
MOS Moscow 72.83 329 *e*P **P** **19 13 45.5 -0.5**
MOS *e* pP 19 13 53.4 +1.0
MOS *e* 19 14 02.6
MOS *e* 19 16 26.3
MOS *e*S S 19 23 09.5 0.0
MOS pmax pmax
comp=Z,329nm,1.6s,mb6.0
OBN Obninsk 73.12 328 P **P** **19 13 46.6 -1.1**
comp=Z,538nm,1.0s,mb6.4,SNR=13
OBN Obninsk 73.12 328 *i*P **P** **19 13 46.7 -1.0**
OBN *i* 19 13 57.5
OBN *i*S S 19 23 11.7 -1.1
OBN pmax pmax
comp=Z,105nm,1.3s,mb5.6
OBN Obninsk 73.12 328 *e*P **P** **19 13 46.0 -1.7**
comp=Z,237nm,1.4s,mb5.9
TIXI Tiksi 73.24 10 *e*P **P** **19 13 44.5 -3.6**
TIXI pmax pmax
comp=N,26nm,1.1s
TIXI pmax pmax
comp=Z,169nm,1.1s,mb5.9
TIXI pmax pmax
comp=E,33nm,2.0s
TIXI pmax pmax
comp=Z,507nm,1.5s,mb6.2
TIXI Tiksi 73.24 10 *i*P **P** **19 13 47.3 -0.8**
BTOK Tokmak 73.92 311 *i*P **P** **19 13 51.3 -1.4**
KDAG Bornova 74.22 310 *i*P **P** **19 13 53.9 -0.6**
LBTB Lobatse 74.41 244 *e*P **P** **19 13 55.6 -0.2**
LBTB pmax pmax
comp=Z,168nm,1.4s,mb5.8
LBTB Lobatse 74.41 244 P **P** **19 13 55.8 -0.1**
comp=Z,66nm,1.1s,mb5.5,baz=105,slow=5.8,SNR=44
LBTB Lobatse 74.41 244 *e*P **P** **19 13 55.6 -0.2**
comp=Z,168nm,1.4s,mb5.8
PSN Preselentsi 74.69 315 P **P** **19 13 56.5 -0.6**
TIRR Tirgusor 74.71 316⇓ P **P** **19 13 56.4 -0.8**
KIS Kishinev 75.07 319 *e*P **P** **19 13 51.0 -8.2**
KIS *e* 19 14 15.0
KIS *e* 19 16 45.0
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
CFR Carcaliu 75.08 317⇓ P **P** **19 13 58.3 -1.0**
HARR Harsova 75.10 316⇑ P **P** **19 13 58.6 -0.8**
PRD Provadia 75.14 315 P **P** **19 13 59.0 -0.7**
BOSA Boshof 75.27 240 *e*P **P** **19 14 00.3 -0.4**
BOSA pmax pmax
comp=Z,105nm,1.3s,mb5.6
BOSA Boshof 75.27 240 P **P** **19 14 00.8 +0.1**
comp=Z,26nm,0.8s,mb5.2,baz=83,slow=6.4,SNR=44
BOSA Boshof 75.27 240 *e*P **P** **19 14 00.3 -0.5**
comp=Z,105nm,1.3s,mb5.6
JMB Yambol 75.56 314 P **P** **19 14 01.5 -0.6**
AKASG Malin Array Be 75.80 322 P **P** **19 14 01.9 -1.3**
comp=Z,24nm,0.8s,mb5.2,baz=87,slow=5.1,SNR=111
AKASG PcP PcP 19 14 15.4 -0.8
comp=Z,14nm,0.8s,baz=87,slow=5.1,SNR=8.0
IAS Iasi 75.95 319⇓ P **P** **19 14 03.2 -1.0**
GVD Gavdhos 76.13 306 *e*P **P** **19 14 04.3 -1.2**
comp=Z,208nm,1.5s,mb5.8
SZH Strazhica 76.20 314 P **P** **19 14 05.0 -0.7**
VRI Vrincioaia 76.20 317⇓ *i*P **P** **19 14 05.7 +0.1**
DIM Dimitrovgrad 76.24 313 P **P** **19 14 05.0 -1.0**
KDZ Kurdzhali 76.25 313 *e*P **P** **19 14 05.0 -1.0**
BUC1 Bucharest 76.35 315⇓ P **P** **19 14 07.1 +0.6**
PVL Pavlikeni 76.62 314 P **P** **19 14 08.0 0.0**
MLR Muntele Rosu 76.65 317 P **P** **19 14 08.2 0.0**
comp=Z,93nm,1.0s,mb5.7,baz=89,slow=2.3,SNR=64
MLR Muntele Rosu 76.65 317⇓ *i*P **P** **19 14 08.2 0.0**
RZN Rozhen 76.77 313 P **P** **19 14 08.0 -0.9**
PLD Plovdiv 76.86 313 P **P** **19 14 09.0 -0.4**
SNX Sinaia 76.92 316⇓ P **P** **19 14 05.9 -3.8**
OUR Ouranopolis 77.08 311 *e*P **P** **19 14 09.5 -1.2**
MTUR Matau 77.21 316 P **P** **19 14 11.4 +0.1**
PGB Panagyurishte 77.33 313 P **P** **19 14 11.0 -1.0**
MMB Musomiste 77.48 312 P **P** **19 14 11.8 -1.1**
SRS Serrai 77.51 312 *e*P **P** **19 14 10.9 -2.1**
BURAR Bucovina Array 77.60 319⇓ P **P** **19 14 14.1 +0.7**
PUL Pulkovo 77.97 331 *i*P **P** **19 14 14.9 -0.2**
KKB Krupnik 78.01 313 P **P** **19 14 14.0 -1.7**
VTS Vitosha 78.04 313 P **P** **19 14 15.0 -0.9**
LIT Litokhoron 78.17 311 *e*P **P** **19 14 14.4 -2.3**
GRG Griva 78.37 312 *e*P **P** **19 14 16.2 -1.6**
BARS Barje 79.08 313⇑ *i*P **P** **19 14 21.3 -0.3**
FNA Florina 79.11 311 *e*P **P** **19 14 19.6 -2.3**
SKO Skopje 79.24 312⇑ *i*P **P** **19 14 21.2 -1.3**
APA Apatity 79.53 339⇓ *i*P **P** **19 14 23.8 +0.3**
APA pmax pmax
comp=Z,160nm,1.4s,mb5.8
APA MLR MLR
comp=Z,22μm,17.0s,MS6.6
SUR Sutherland 79.63 237 P **P** **19 14 26.9 +2.1**
comp=Z,352nm,1.3s,mb6.1,SNR=8.6
SUR Sutherland 79.63 237 *e*P **P** **19 14 25.9 +1.1**
comp=Z,330nm,1.8s,mb6.0

KWP **Kalwaria** 79.63 320 P P 19 14 24.1 -0.3
KWP pmax pmax
comp=Z,200nm,1.4s,mb5.8
KWP **Kalwaria** 79.63 320 *e*P P 19 14 24.7 +0.3
KWP **Kalwaria** 79.63 320 *e*P P 19 14 24.7 +0.3
BZS **Buzias** 79.67 316 ⇓P P 19 14 24.6 -0.1
SVIS **Svilajnac** 79.74 315 ⇑*i*P P 19 14 24.4 -0.7
KOLS **Kolonicke sedl** 79.78 320 *i* P P 19 14 25.9 +0.6
GRUS **Gruza** 80.04 314 ⇑*i*P P 19 14 26.3 -0.5
SUW **Suwalki** 80.20 325 P P 19 14 26.1 -1.3
SUW pmax pmax
comp=Z,290nm,1.1s,mb6.1
SUW **Suwalki** 80.20 325 *e*P P 19 14 26.9 -0.5
SUW **Suwalki** 80.20 325 *e*P P 19 14 26.9 -0.5
CRVS **Cervenica-Dubn** 80.31 319 *i* P P 19 14 28.3 +0.2
FX1 **Attu Island--F** 80.33 36 P P 19 14 30.0 +1.9
FX1 pmax pmax
comp=Z,37nm,0.6s
FX1 **Attu Island--F** 80.33 36 P P 19 14 30.0 +1.9
comp=Z,37nm,0.6s,mb5.5,baz=346,slow=7.1,SNR=8.6
FX1 **Attu Island--F** 80.33 36 *e*P P 19 14 28.1 0.0
BEO **Belgrade** 80.36 315 ⇑*i*P P 19 14 27.9 -0.5
PVY **Plav** 80.40 313 ⇓*i*P P 19 14 27.2 -1.4
FINES **FINESS Array B** 80.46 332 P P 19 14 28.4 -0.2
comp=Z,21nm,0.8s,mb5.1,baz=101,slow=5.0,SNR=64
IVA **Berane** 80.49 313 ⇓*i*P P 19 14 27.6 -1.5
KAF **Kangasniemi** 80.54 333 *ep* P 19 14 28.7 -0.3
comp=Z,73nm,1.2s,mb5.5,baz=101,slow=5.0
KAF **Kangasniemi** 80.54 333 *e*P P 19 14 28.7 -0.3
KAF pmax pmax
comp=Z,73nm,1.2s,mb5.5
DIVS **Divcibare** 80.58 314 ⇑*i*P P 19 14 29.2 -0.4
ULC **Ulcinj** 80.85 312 ⇓*i*P P 19 14 29.2 -1.9
KECS **Kecovo** 80.88 319 *i* P P 19 14 31.3 +0.2
TTG **Podgorica** 80.90 313 ⇓*i*P P 19 14 29.2 -2.1
PLE **Pljevlja** 80.92 314 ⇓*i*P P 19 14 30.6 -0.8
PKSN **Nyarlorinc** 81.06 317 ⇓*e*P P 19 14 32.5 +0.4
BILL **Bilibino** 81.09 21 *e*P P 19 14 31.3 -0.5
BILL pmax pmax
comp=Z,48nm,1.3s,mb5.3
BILL **Bilibino** 81.09 21 *e*P P 19 14 31.3 -0.5
comp=Z,48nm,1.3s,mb5.3
NIE **Niedzica** 81.13 320 *e*P P 19 14 31.3 -1.1
NKY **Niksic** 81.14 313 ⇓*i*P P 19 14 30.4 -2.2
BUM **Brajici-Budva** 81.15 313 ⇓*i*P P 19 14 31.3 -1.4
TSUM **Tsumeb** 81.16 251 *e*P P 19 14 34.1 +0.9
comp=Z,29nm,1.1s,mb5.1
PSZ **Piszkesteto** 81.18 318 *e*P P 19 14 32.6 -0.1
PSZ pmax pmax
comp=Z,102nm,1.2s,mb5.6
PSZ **Piszkesteto** 81.18 318 *e*P P 19 14 32.6 -0.1
comp=Z,102nm,1.2s,mb5.6
UPM **Unac-Piva** 81.25 313 ⇓*i*P P 19 14 31.5 -1.6
HCY **Herceg Novi** 81.46 313 ⇓*i*P P 19 14 32.6 -1.6
BRY **Bratogost** 81.48 313 ⇓*i*P P 19 14 32.8 -1.6
PKS7 **Kunszentmiklos** 81.56 317 ⇓*e*P P 19 14 34.8 +0.1
OJC **Ojcow** 81.58 321 *e*P P 19 14 34.8 +0.1
PKSM **Moragy** 81.81 316 ⇓*i*P P 19 14 35.8 -0.2
VYHS **Vyhne** 81.97 319 *i* P P 19 14 36.9 +0.2
SRO2 **Moca** 82.17 318 *i* P P 19 14 38.4 +0.6
RHK1 **Bakonya** 82.18 316 *e*P P 19 14 37.9 0.0
SRO **Srobarova** 82.22 318 *i* P P 19 14 38.6 +0.5
KOLL **Kolacno** 82.22 319 *i* P P 19 14 38.2 -0.1
SRO1 **Iza** 82.27 318 *i* P P 19 14 39.2 +0.8
TIP **Timpagrande** 82.46 309 *e*P P 19 14 39.1 -0.4
KEV **Kevo** 82.49 341 *ep* P 19 14 39.6 +0.6
comp=Z,78nm,1.2s,mb5.5
KEV **Kevo** 82.49 341 *e*P P 19 14 39.6 +0.6
KEV pmax pmax
comp=Z,78nm,1.2s,mb5.5
LTRZ **Laterza** 82.53 311 *e*P P 19 14 39.9 0.0
OKC **Ostrava-Krasne** 82.59 320 *e*P P 19 14 40.4 +0.5
GRI **Girifalco** 82.69 309 *e*P P 19 14 41.8 +1.1
SMOL **Smolenice** 82.90 319 *e*P P 19 14 42.2 +0.6
SOI **Samo** 82.92 308 *e*P P 19 14 42.3 +0.4
ARCES **ARCESS Array B** 82.92 340 P P 19 14 41.8 +0.5
comp=Z,68nm,1.0s,mb5.7,baz=108,slow=3.8,SNR=44
MORC **Moravsky Berou** 82.97 320 *e*P P 19 14 41.8 -0.1
MORC pmax pmax
comp=Z,113nm,1.6s,mb5.7
MORC **Moravsky Berou** 82.97 320 *e*P P 19 14 41.8 -0.1
comp=Z,113nm,1.6s,mb5.7
ZST **Bratislava** 83.08 318 *i* P P 19 14 43.1 +0.6
MTTG **Motta San Giov** 83.20 308 *e*P P 19 14 44.2 +0.9
SCLL **Scilla** 83.20 308 *e*P P 19 14 43.8 +0.4
FGMS **Monte Sant'Ang** 83.28 312 *e*P P 19 14 43.5 -0.2
SLCN **Sala Consilina** 83.42 310 *e*P P 19 14 45.3 +0.8
MGR **Morigerati** 83.46 310 *e*P P 19 14 44.2 -0.4
KOGS **Kog** 83.48 319 *e*P P 19 14 44.9 +0.3
VRAC **Vranov** 83.53 319 P P 19 14 45.2 +0.4
MRLC **Muro Lucano** 83.56 311 *e*P P 19 14 45.4 +0.2
GKP **Gorka Klasztor** 83.57 323 *e*P P 19 14 45.2 +0.3
VKA **Vienna** 83.61 318 ⇓*i*P P 19 14 45.2 0.0
SGO **Sicignano** 83.68 311 *e*P P 19 14 45.9 +0.1
DPC **Dobruska-Polom** 83.81 320 *e*P P 19 14 47.2 +1.0
KSP **Ksiaz** 83.88 321 ⇓*e*P P 19 14 46.8 +0.2
KSP *e**PP pP 19 14 58.4 +5.3
KSP **Ksiaz** 83.88 321 *e*P P 19 14 47.5 +0.9
CSSN **Cassano Irpino** 83.91 311 *e*P P 19 14 47.1 +0.1
UPC **Upice** 84.03 321 *e*P P 19 14 48.0 +0.7
ARSA **Arzberg** 84.05 317 ⇑*i*P P 19 14 47.9 +0.4
comp=Z,103nm,1.3s,mb5.8
VISS **Visnje** 84.40 316 *i* P P 19 14 49.5 +0.2
CII **Carovilli** 84.51 312 *e*P P 19 14 50.5 +0.5
LJU **Ljubljana** 84.64 316 *e*P P 19 14 51.0 +0.5
OBKA **Obir** 84.65 316 ⇑*i*P P 19 14 51.0 +0.4
comp=Z,89nm,1.4s,mb5.7
SDI **San Donato** 84.88 312 *e*P P 19 14 51.4 -0.4
PRU **Pruhonice** 84.92 320 *e*P P 19 14 52.2 +0.4
MOA **Molln** 84.94 318 ⇑*i*P P 19 14 51.9 -0.1
comp=Z,57nm,1.3s,mb5.5
PVCC **Panska Ves** 84.94 320 *e*P P 19 14 52.6 +0.7
BSD **Bornholm Skovb** 85.12 325 ⇓*i*P P 19 14 52.5 -0.2
BSD pmax pmax
comp=Z,48nm,1.0s,mb5.6
BSD **Bornholm Skovb** 85.12 325 ⇓*i*P P 19 14 52.5 -0.2
comp=Z,48nm,1.0s,mb5.6
TRI **Trieste** 85.15 316 *e*P P 19 14 52.6 -0.4
PTQR **Pietraquaria** 85.20 312 *e*P P 19 14 53.6 +0.2
AQU **L'Aquila** 85.22 312 *e*P P 19 14 53.9 +0.4
BRG **Berggiesshubel** 85.37 321 *i* P P 19 14 54.5 +0.5
BRG *i* 19 15 06.7
BRG *i* 19 18 10.2
BRG pmax pmax
comp=Z,104nm,1.4s,mb5.8
BRG **Berggiesshubel** 85.37 321 *i* P P 19 14 54.5 +0.5
comp=Z,104nm,1.4s,mb5.8
BRG *i* 19 15 06.7
BRG *i* 19 18 10.2
BRG *e* 19 31 15.8
BRG *e* 19 39 18.6
GEC2 **GERESS Array S** 85.39 319 *e*P P 19 14 54.5 +0.3
GEC2 pmax pmax
comp=Z,185nm,1.3s,mb6.0
GEC2 **GERESS Array S** 85.39 319 *e*P P 19 14 54.5 +0.3
comp=Z,185nm,1.3s,mb6.0
GERES **GERESS Array B** 85.39 319 P P 19 14 54.7 +0.5
comp=Z,41nm,1.0s,mb5.5,baz=108,slow=4.2,SNR=199
NRCA **Norcia** 85.45 313 *e*P P 19 14 54.8 +0.1
PTCC **Patocco-Chiusa** 85.47 316 *e*P P 19 14 54.7 +0.1
KHC **Kasperske Hory** 85.48 319 *e*P P 19 14 54.8 +0.2
KBA **Koelnbreinsper** 85.52 317 ⇑*i*P P 19 14 54.5 -0.4
comp=Z,50nm,1.4s,mb5.5
KBA **Koelnbreinsper** 85.52 317 ⇑*i*P P 19 14 54.5 -0.4
KBA pmax pmax
comp=Z,50nm,1.4s,mb5.5
VNDA **Vanda** 85.52 169 P P 19 14 55.0 +0.7
comp=Z,61nm,1.4s,mb5.7,baz=305,slow=5.1,SNR=36
RUE **Ruedersdorf** 85.58 322 *e*P P 19 14 55.3 +0.2
comp=Z,247nm,1.3s,mb6.3
SNTG **Esanatoglia** 85.60 313 *e*P P 19 14 55.5 +0.1
ARV **Arcevia** 85.61 313 *e*P P 19 14 56.1 +0.7
MNS **Montasola** 85.75 312 *e*P P 19 14 55.5 -0.7
FVI **Forni Avoltri** 85.88 316 *e*P P 19 14 56.6 -0.1
WET **Wettzell** 85.94 319 *e*P P 19 14 57.3 +0.4
CLL **Collm** 85.99 321 ⇓*i*P P 19 14 57.0 -0.1
CLL pmax pmax
comp=Z,63nm,1.2s,mb5.7
CLL **Collm** 85.99 321 ⇓*i*P P 19 14 57.0 -0.1
comp=Z,63nm,1.2s,mb5.7
CLL *e* 19 15 50.0
CLL **Collm** 85.99 321 ⇓P P 19 14 57.0 -0.1
comp=Z,logA/T=1.7,mb5.7
CLL *e*PP PP 19 18 06.0 -13
RSM **Repubblica di** 85.99 314 *e*P P 19 14 58.4 +1.1
KIWB **Kanaga Island** 86.09 38 *e*P P 19 14 58.0 +0.4
NKC **Novy Kostel** 86.28 320 *e*P P 19 14 59.1 +0.5
SFI **Santa Sofia** 86.42 314 *e*P P 19 15 00.6 +1.2
PGD **Poggio Sodo** 86.51 314 *e*P P 19 15 00.8 +0.9
COP **Copenhagen** 86.58 326 *e*P P 19 15 00.3 +0.4
COP pmax pmax
comp=Z,43nm,1.0s,mb5.6
COP **Copenhagen** 86.58 326 *e*P P 19 15 00.3 +0.4
comp=Z,43nm,1.0s,mb5.6
COP **Copenhagen** 86.58 326 *i* P P 19 15 00.3 +0.4
comp=Z,43nm,1.0s,mb5.6
CTI **Castel Tesino** 86.64 316 *e*P P 19 15 01.0 +0.6
VMG **Vicchio** 86.64 314 *e*P P 19 15 01.2 +0.7
WTTA **Wattenberg** 86.69 317 ⇓*i*P P 19 15 00.1 -0.6
comp=Z,73nm,1.2s,mb5.8
WTTA **Wattenberg** 86.69 317 ⇓*i*P P 19 15 00.1 -0.6
WTTA pmax pmax
comp=Z,73nm,1.2s,mb5.8
WATA **Walderalm** 86.73 317 ⇑*i*P P 19 15 00.0 -0.9
comp=Z,66nm,1.4s,mb5.7
WATA **Walderalm** 86.73 317 ⇑*i*P P 19 15 00.0 -0.9
WATA pmax pmax
comp=Z,66nm,1.4s,mb5.7
SEI **Scarperia** 86.78 314 *e*P P 19 15 01.9 +0.7
MOX **Moxa** 86.83 320 *e*P P 19 15 01.5 +0.2
MOX pmax pmax
comp=Z,68nm,1.6s,mb5.6
MOX **Moxa** 86.83 320 *e*P P 19 15 01.5 +0.2
comp=Z,68nm,1.6s,mb5.6
MOX **Moxa** 86.83 320 *i* P P 19 15 01.5 +0.2
comp=Z,logA/T=1.6,mb5.6
FUR **Furstenfeldbru** 86.96 318 *e*P P 19 15 02.0 0.0
SQTA **Sankt Quirin** 86.98 317 ⇑*i*P P 19 15 01.8 -0.3
comp=Z,54nm,1.3s,mb5.6
SQTA **Sankt Quirin** 86.98 317 ⇑*i*P P 19 15 01.8 -0.3
SQTA pmax pmax
comp=Z,54nm,1.3s,mb5.6
GRFL **Gerfalco** 87.03 313 *e*P P 19 15 01.8 -0.7
GRA1 **Grafenberg Arr** 87.05 320 *e*P P 19 15 03.4 +1.1
comp=Z,109nm,1.2s,mb6.0
GRF **Grafenberg Arr** 87.05 320 *e*P P 19 15 03.4 +1.1
GRF pmax pmax
comp=Z,109nm,1.2s,mb6.0
GRF **Grafenberg Arr** 87.05 320 *e*P P 19 15 03.4 +1.1
GRF pmax pmax
comp=Z,109nm,1.2s,mb6.0
GRF **Grafenberg Arr** 87.05 320 *e*P P 19 15 03.4 +1.1
comp=Z,109nm,1.2s,mb6.0
ZCCA **Zocca** 87.06 314 *e*P P 19 15 04.3 +1.7
GSCL **Gusciola** 87.34 314 *e*P P 19 15 05.1 +1.2
SAL **Salo** 87.41 315 *e*P P 19 15 05.2 +1.0
ERBM **Eremo** 87.47 314 *e*P P 19 15 05.6 +1.1
SARO **Sassorosso** 87.47 314 P P 19 15 04.2 -0.4
NB2 **NORSAR Subarra** 87.48 331 P P 19 15 03.9 -0.3
comp=Z,104nm,1.1s,mb6.0,baz=93,slow=5.0
NB2 **NORSAR Subarra** 87.48 331 P P 19 15 03.9 -0.3
NB2 pmax pmax
comp=Z,104nm,1.1s,mb6.0
NB2 **NORSAR Subarra** 87.48 331 P P 19 15 03.9 -0.3
baz=93,slow=5.3
NOA **NORSAR Array B** 87.48 331 P P 19 15 04.2 0.0
comp=Z,49nm,1.0s,mb5.7,baz=94,slow=4.9,SNR=92
BRMO **Bormio** 87.53 316 *e*P P 19 15 05.4 +0.6
VALM 87.59 314 P P 19 15 05.1 +0.1
FUORN **Ofenpass** 87.61 316 ⇓*i*P P 19 15 05.7 +0.6
NAO01 **NORSAR Array S** 87.64 331 *e*P P 19 15 05.0 +0.1
comp=Z,74nm,1.1s,mb5.8
CLZ **Clausthal** 87.65 322 *e*P P 19 15 05.9 +0.7
comp=Z,181nm,1.5s,mb6.1
VINC **Vinca** 87.65 314 P P 19 15 04.3 -1.1
HDH **Heidenheim** 87.69 318 ⇓*e*P P 19 15 05.3 -0.1
BACM 87.71 314 P P 19 15 04.8 -0.8
GRAM 87.72 314 P P 19 15 05.8 +0.1
BSEG **Bad Segeberg** 87.73 324 *e*P P 19 15 06.4 +0.9
UBR **Uberruh** 87.74 317 ⇓*e*P P 19 15 05.6 -0.1
BERNI **Berninapass** 87.78 316 ⇓*i*P P 19 15 06.7 +0.8
CODM 87.87 314 P P 19 15 06.7 +0.3
DAVOX **Davos** 87.88 317 ⇓*i*P P 19 15 07.1 +0.7
DAVA **Damuels** 87.89 317 ⇑*i*P P 19 15 07.0 +0.6
comp=Z,91nm,1.2s,mb5.9
SIND **Sindeldorf** 88.09 319 ⇓*e*P P 19 15 07.8 +0.4
LIENZ **Alp Oberkamor** 88.15 317 ⇓*i*P P 19 15 08.2 +0.5
BOB **Bobbio (Coli)** 88.16 315 *e*P P 19 15 08.4 +0.6
PLONS **Plons** 88.22 317 ⇓*i*P P 19 15 08.4 +0.4
BUCH **Bad Urach** 88.25 318 ⇓*e*P P 19 15 08.4 +0.3
GUT **Gutenstein** 88.41 318 ⇓*e*P P 19 15 09.1 +0.2
PGF **Pioggiola** 88.48 312 *e*P P 19 15 09.2 -0.2
comp=Z,198nm,1.4s,mb5.9
PGF **Pioggiola** 88.48 312 *e*P P 19 15 09.2 -0.2
PGF pmax pmax
comp=Z,99nm,1.4s,mb5.8
STEIN **Stein am Rhein** 88.58 317 ⇓*i*P P 19 15 09.9 +0.2
TOD **Tromm** 88.62 319 *e*P P 19 15 09.8 -0.1
TOD **Tromm** 88.62 319 *e*P P 19 15 10.0 +0.1
LBG **Lerchenberg** 88.62 318 ⇓*e*P P 19 15 10.0 +0.1
SPAK **Spaichingen** 88.63 318 *e*P P 19 15 09.8 -0.2
SPAK **Spaichingen** 88.63 318 ⇓*e*P P 19 15 10.3 +0.3
SWS **Schriesheim** 88.69 319 ⇓*e*P P 19 15 10.4 +0.2
MUO **Muotathal** 88.73 317 ⇓*i*P P 19 15 11.1 +0.6
PCP **Pian Castagno** 88.81 314 P P 19 15 11.2 +0.3
TNS **Taunus Mts** 88.85 320 *e*P P 19 15 11.8 +0.8
BNALP **Bannalp** 88.88 317 ⇓*e*P P 19 15 11.5 +0.3
BFO **Black Forest** 88.94 318 P P 19 15 11.5 +0.1
comp=Z,146nm,1.2s,mb6.2,SNR=16
BFO **Black Forest** 88.94 318 *e*P P 19 15 11.5 +0.1
BFO pmax pmax
comp=Z,48nm,1.3s,mb5.7
BFO **Black Forest** 88.94 318 *e*P P 19 15 11.5 +0.1
comp=Z,48nm,1.3s,mb5.7
FIN **Finale Ligure** 89.05 314 *e*P P 19 15 12.1 0.0
HASLI **Hasliberg** 89.07 317 ⇓*e*P P 19 15 11.6 -0.5
KTD **Kalmit** 89.09 319 *e*P P 19 15 12.4 +0.3
FELD **Feldberg** 89.16 318 ⇓*e*P P 19 15 12.6 +0.1
MCGN **Macugnaga** 89.19 316 *e*P P 19 15 13.5 +0.9
ORX **Oropa** 89.20 315 P P 19 15 11.2 -1.5
ORO **Oropa** 89.20 315 *e*P P 19 15 11.6 -1.1
MMK **Mattmark** 89.20 316 ⇓*i*P P 19 15 11.4 -1.4
KIZ **Kirchzarten** 89.27 318 ⇓*e*P P 19 15 12.7 -0.1
LANF **Langenberg** 89.28 319 *e*P P 19 15 13.6 +0.6
IMI **Imperia** 89.28 314 P P 19 15 12.9 -0.3
ROB **Roburent** 89.29 314 P P 19 15 13.0 -0.2
TRAV 89.36 315 P P 19 15 12.2 -1.3
MONE **Monesi** 89.38 314 P P 19 15 13.3 -0.3
NEGI **Negi** 89.42 314 P P 19 15 13.1 -0.7
LIBD **Limburg** 89.42 318 *e*P P 19 15 14.1 +0.4
LIBD **Limburg** 89.42 318 *e*P P 19 15 14.4 +0.7
ABH **Alteburg** 89.43 320 ⇓*e*P P 19 15 14.6 +0.9
LKBD **Leukerbad** 89.43 316 ⇓*i*P P 19 15 14.3 +0.5
BBS **Basel-Blauen** 89.50 317 *e*P P 19 15 14.2 +0.1
SAOF **Saorge** 89.52 314 *e*P P 19 15 14.7 +0.4
WLS **Welschbruch** 89.58 318 *e*P P 19 15 14.6 +0.1
DIX **Grande Dixence** 89.59 316 ⇓*i*P P 19 15 15.7 +1.1
SBF **Sospel** 89.61 314 *e*P P 19 15 14.6 -0.1
comp=Z,236nm,1.2s,mb6.1
SBF **Sospel** 89.61 314 *e*P P 19 15 14.6 -0.1
SBF pmax pmax
comp=Z,118nm,1.2s,mb6.1
AUTN **L'Aution** 89.61 314 *e*P P 19 15 15.3 +0.6
ENR **Entracque** 89.62 314 P P 19 15 14.2 -0.5
CDF **Champ du Feu** 89.64 318 *e*P P 19 15 14.4 -0.3
comp=Z,144nm,1.5s,mb5.8
CDF **Champ du Feu** 89.64 318 *e*P P 19 15 14.4 -0.3
CDF pmax pmax
comp=Z,72nm,1.5s,mb5.8
NVL **N'lazarevskaya** 89.65 199 ⇑*i*P P 19 15 16.0 +1.7
NVL pmax pmax
comp=Z,102nm,1.9s,mb5.8
REVF **Revere** 89.66 314 *e*P P 19 15 15.4 +0.4
MAIT **Maitri** 89.68 199 *e*P P 19 15 16.7 +2.3
STV2 **Anna di Valdie** 89.68 314 P P 19 15 14.1 -1.0
STV **Sta Anna Valdi** 89.68 314 P P 19 15 14.0 -1.1
RSP **Reno Superiore** 89.71 315 P P 19 15 13.6 -1.6
BHB **Bricherasio** 89.72 315 P P 19 15 13.6 -1.6
ABSA **Djebel Ababsia** 89.72 306 P P 19 15 16.0 +0.6
ECH **Echery** 89.72 318 *e*P P 19 15 15.1 0.0
MOF **Molkenrain** 89.74 318 *e*P P 19 15 15.1 -0.1
TOUF **Mont Tournerai** 89.74 314 *e*P P 19 15 16.1 +0.8
RUP **Ruppelstein** 89.75 320 *e*P P 19 15 15.6 +0.4
RUP **Ruppelstein** 89.75 320 ⇓*e*P P 19 15 16.0 +0.8
CMAH **Djebel Manchou** 89.76 306 P P 19 15 17.0 +1.4
LSD **Ceresole Reale** 89.78 315 P P 19 15 15.1 -0.4
GRYON **Gryon** 89.79 316 ⇓*i*P P 19 15 16.0 +0.5
MVIF **Mont Vial** 89.81 314 *e*P P 19 15 16.2 +0.5
PZZ **Prazzo** 89.84 314 P P 19 15 14.8 -1.0
FENE **Fenestrelle** 89.86 315 P P 19 15 15.8 0.0
WTSB **Winterswijk** 89.86 322 *e*P P 19 15 16.3 +0.6
comp=Z,123nm,1.3s,mb6.1
TORNY **Torny** 89.89 317 ⇓*i*P P 19 15 16.5 +0.6
SALAN **Lac Salanfe** 89.89 316 ⇓*i*P P 19 15 16.6 +0.6
AIGLE **Aigle** 89.90 316 ⇓*e*P P 19 15 16.3 +0.3
HINF **Hinteralfeld** 89.93 318 *e*P P 19 15 15.4 -0.7
comp=Z,139nm,1.8s,mb5.7
EMV **Vieux Emosson** 89.95 316 ⇓*i*P P 19 15 16.8 +0.6
LOMF **Lomont** 89.96 317 *e*P P 19 15 16.3 0.0
CALN **Calern** 90.01 314 *e*P P 19 15 17.2 +0.6
RRL **Cesana Torines** 90.06 315 P P 19 15 16.2 -0.6
LPG **La Plagne** 90.06 315 *e*P P 19 15 17.1 +0.3
comp=Z,153nm,1.2s,mb5.9
MBDF **Montbardon** 90.07 315 *e*P P 19 15 16.2 -0.6
comp=Z,77nm,1.3s,mb5.6
MBDF **Montbardon** 90.07 315 *e*P P 19 15 16.2 -0.6
MBDF pmax pmax
comp=Z,39nm,1.3s,mb5.6
LPL **La Plagne** 90.08 315 *e*P P 19 15 17.1 +0.2
comp=Z,195nm,1.1s,mb6.0
LPL **La Plagne** 90.08 315 *e*P P 19 15 17.1 +0.2
LPL pmax pmax
comp=Z,97nm,1.1s,mb6.0
OG01 **Vacheresse** 90.09 316 *e*P P 19 15 17.6 +0.7
BNI **Bardonecchia** 90.13 315 *e*P P 19 15 16.8 -0.3
BNI pmax pmax
comp=Z,22nm,0.9s,mb5.5
BNI **Bardonecchia** 90.13 315 *e*P P 19 15 16.8 -0.3
comp=Z,22nm,0.9s,mb5.5
RSL **Roselend** 90.15 316 *e*P P 19 15 17.5 +0.3
FRF **La Foret Royal** 90.19 313 *e*P P 19 15 17.4 0.0
comp=Z,240nm,1.3s,mb6.1
FRF **La Foret Royal** 90.19 313 *e*P P 19 15 17.4 0.0
FRF pmax pmax
comp=Z,120nm,1.3s,mb6.1
CAEH **'Ain El Ouahch** 90.21 307 P P 19 15 19.0 +1.3
BRANT **Les Verrieres** 90.22 317 ⇓*i*P P 19 15 18.0 +0.5
HAU **Haudompre** 90.27 318 *e*P P 19 15 17.4 -0.3
comp=Z,305nm,1.4s,mb6.1
HAU **Haudompre** 90.27 318 *e*P P 19 15 17.4 -0.3
HAU pmax pmax
comp=Z,152nm,1.4s,mb6.1
LMR **La Mourre** 90.30 313 *e*P P 19 15 17.9 0.0
comp=Z,195nm,1.4s,mb5.9
LMR **La Mourre** 90.30 313 *e*P P 19 15 17.9 0.0
LMR pmax pmax
comp=Z,98nm,1.4s,mb6.0
CKFL **Kef-Lekhel** 90.33 306 P P 19 15 19.0 +0.8
WLF **Walferdange** 90.34 319 *e*P P 19 15 18.6 +0.6
comp=Z,172nm,1.4s,mb6.2
HGN **Heimansgrove** 90.44 321 *e*P P 19 15 18.9 +0.5
comp=Z,15nm,1.3s,mb5.2
CABF **La Chapelle** 90.49 316 *e*P P 19 15 19.0 +0.3
comp=Z,263nm,1.3s,mb6.1
CABF **La Chapelle** 90.49 316 *e*P P 19 15 19.0 +0.3
CABF pmax pmax
comp=Z,132nm,1.3s,mb6.1
THEF **They Montfort** 90.50 318 *e*P P 19 15 18.7 0.0
CASM **Ain Smara** 90.52 306 P P 19 15 20.0 +0.9
AFI **Afiamalu** 90.59 104 P P 19 15 21.8 +1.9
comp=Z,94nm,1.1s,mb6.0,baz=120,slow=1.3,SNR=9.8
CTEI **Djebel Teioual** 90.59 306 P P 19 15 21.0 +1.5
ORIF **Oris-en-Rattie** 90.70 315 *e*P P 19 15 19.9 +0.2
comp=Z,219nm,1.4s,mb6.0
ORIF **Oris-en-Rattie** 90.70 315 *e*P P 19 15 19.9 +0.2
ORIF pmax pmax
comp=Z,110nm,1.4s,mb6.0
TNA **Tin City** 90.82 25 *e*P P 19 15 19.9 +0.1
comp=Z,21nm,1.3s,mb5.3
DFRA **Djebel Bou Aff** 91.00 306 P P 19 15 23.0 +1.7
CMER **Merouana** 91.01 305 P P 19 15 23.0 +1.6
MEZF **Maizieres l'vi** 91.11 318 *e*P P 19 15 21.7 +0.2
comp=Z,301nm,1.4s,mb6.1
OCF **Saint Nazaire** 91.12 314 *e*P P 19 15 22.8 +1.1
OG26 **St.-Nazaire-De** 91.12 314 *e*P P 19 15 22.8 +1.1
GIVF **Givet** 91.18 320 *e*P P 19 15 22.0 +0.2
comp=Z,193nm,1.4s,mb6.0
GIVF **Givet** 91.18 320 *e*P P 19 15 22.0 +0.2
GIVF pmax pmax
comp=Z,97nm,1.4s,mb5.9
CKHR **Kef el Ahmar** 91.31 306 P P 19 15 24.0 +1.2
VIVF **Saint-Julien-l** 91.56 315 *e*P P 19 15 23.8 +0.1
comp=Z,163nm,1.3s,mb5.9
VIVF **Saint-Julien-l** 91.56 315 *e*P P 19 15 23.8 +0.1
VIVF pmax pmax
comp=Z,82nm,1.3s,mb5.9
BAIF **Baives** 91.58 320 *e*P P 19 15 24.1 +0.5
comp=Z,261nm,1.1s,mb6.2
BAIF **Baives** 91.58 320 *e*P P 19 15 24.1 +0.5
BAIF pmax pmax
comp=Z,131nm,1.1s,mb6.2
SMF **Signal de Mont** 92.04 317 *e*P P 19 15 25.7 -0.1
comp=Z,262nm,1.2s,mb6.2
SMF **Signal de Mont** 92.04 317 *e*P P 19 15 25.7 -0.1
SMF pmax pmax
comp=Z,131nm,1.2s,mb6.1
LASF **Ste Croix** 92.19 314 *e*P P 19 15 27.0 +0.4
comp=Z,182nm,1.5s,mb5.9
COLF **Collangettes** 92.21 315 *e*P P 19 15 27.5 +0.8
SSF **Saint Saulge** 92.24 317 *e*P P 19 15 26.9 +0.2
SSF pmax pmax
comp=Z,112nm,1.4s,mb6.0
SSF **Saint Saulge** 92.24 317 *e*P P 19 15 26.9 +0.2
comp=Z,112nm,1.4s,mb6.0
AVF **Avril sur Loir** 92.36 317 *e*P P 19 15 27.3 0.0
comp=Z,206nm,1.2s,mb6.0
AVF **Avril sur Loir** 92.36 317 *e*P P 19 15 27.3 0.0
AVF pmax pmax
comp=Z,103nm,1.2s,mb6.0
BGF **Bois d'Agland** 92.73 317 *e*P P 19 15 29.4 +0.4
comp=Z,324nm,1.3s,mb6.3
BGF **Bois d'Agland** 92.73 317 *e*P P 19 15 29.4 +0.4
BGF pmax pmax
comp=Z,162nm,1.3s,mb6.3
HYF **Humbligny** 92.81 317 *e*P P 19 15 29.9 +0.5
MENF **Mencas** 92.86 321 *e*P P 19 15 30.2 +0.7
TCF **Toulx Ste Croi** 93.19 316 *e*P P 19 15 31.5 +0.4
comp=Z,127nm,1.4s,mb5.9
TCF **Toulx Ste Croi** 93.19 316 *e*P P 19 15 31.5 +0.4
TCF pmax pmax
comp=Z,64nm,1.4s,mb5.9
LRDF **Laroque-de-Fa** 93.22 313 *e*P P 19 15 32.1 +0.7
FILF **Fillols** 93.23 313 *e*P P 19 15 32.7 +1.3
EMHD **Djebel Mahouad** 93.38 306 P P 19 15 34.0 +1.7
CAF **Calviac** 93.40 315 *e*P P 19 15 32.7 +0.5
comp=Z,144nm,1.4s,mb5.9
CAF **Calviac** 93.40 315 *e*P P 19 15 32.7 +0.5
CAF pmax pmax
comp=Z,72nm,1.4s,mb5.9
MTLF **Montolieu** 93.42 313 *e*P P 19 15 32.6 +0.3
comp=Z,171nm,1.4s,mb6.0
MTLF **Montolieu** 93.42 313 *e*P P 19 15 32.6 +0.3
MTLF pmax pmax
comp=Z,86nm,1.4s,mb6.0
RJF **Les Rejaudoux** 93.76 315 *e*P P 19 15 34.3 +0.5
comp=Z,200nm,1.5s,mb6.0
RJF **Les Rejaudoux** 93.76 315 *e*P P 19 15 34.3 +0.5
RJF pmax pmax
comp=Z,100nm,1.5s,mb6.0
WAL1 **Walls** 93.83 330 *e*P P 19 15 34.1 +0.3
LFF **La Frestale** 94.34 315 *e*P P 19 15 37.0 +0.5
comp=Z,161nm,1.4s,mb6.0
LFF **La Frestale** 94.34 315 *e*P P 19 15 37.0 +0.5
LFF pmax pmax
comp=Z,80nm,1.4s,mb6.0
EBNR **Beni Rached** 94.52 306 P P 19 15 39.5 +2.0
LDF **La Druitiere** 94.53 319 *e*P P 19 15 37.1 -0.2
comp=Z,128nm,1.6s,mb5.8
LDF **La Druitiere** 94.53 319 *e*P P 19 15 37.1 -0.2
LDF pmax pmax
comp=Z,64nm,1.6s,mb5.8
LCP **Cassop** 94.57 325 *e*P P 19 15 37.8 +0.6
LCP AMb AMB 19 15 41.3
comp=Z,181nm,1.2s,mb6.4
ECHA **Ech Chlef** 94.66 306 P P 19 15 40.5 +2.3
FLN **La Foliniere** 94.75 319 *e*P P 19 15 38.1 -0.2
comp=Z,63nm,1.3s,mb5.6
FLN **La Foliniere** 94.75 319 *e*P P 19 15 38.1 -0.2
FLN pmax pmax
comp=Z,31nm,1.3s,mb5.6

HPK Haverah Park 94.77 324 *eP* **P** 19 15 38.5 +0.3
HPK AMb AMB 19 15 47.6
comp=Z,240nm,1.6s,mb6.4
ETRT Tiaret 94.77 305 P **P** **19 15 43.0 +4.3**
MFF Saint Martin d 94.78 317 *eP* **P** **19 15 38.4 0.0**
comp=Z,119nm,1.4s,mb5.8
MFF Saint Martin d 94.78 317 *eP* **P** **19 15 38.4 0.0**
MFF pmax pmax
comp=Z,59nm,1.4s,mb5.8
KBI1 Birley Grange 94.81 323 *eP* **P** **19 15 38.1 -0.4**
EPF Esparros 94.82 313 *eP* **P** **19 15 40.0 +1.3**
comp=Z,35nm,1.4s,mb5.3
EPF Esparros 94.82 313 *eP* **P** **19 15 40.0 +1.3**
EPF pmax pmax
comp=Z,17nm,1.4s,mb5.3
EANR 'Ain N'Sour 94.89 306 P **P** **19 15 41.0 +1.8**
DAG Danmarks Havn 94.91 348⇑ *iP* **P** **19 15 38.2 -0.2**
DAG pmax pmax
comp=Z,36nm,0.9s,mb5.8
DAG Danmarks Havn 94.91 348⇑ *iP* **P** **19 15 38.2 -0.2**
comp=Z,36nm,0.9s,mb5.8
LHO Holmfirth 94.96 324 *eP* **P** **19 15 39.2 +0.1**
LHO AMb AMB 19 15 42.4
comp=Z,69nm,1.3s,mb5.9
KWE Weaver Farm 95.03 323 *eP* **P** **19 15 39.5 +0.1**
GRR Gorron 95.04 319 *eP* **P** **19 15 39.6 0.0**
comp=Z,89nm,1.5s,mb5.7
GRR Gorron 95.04 319 *eP* **P** **19 15 39.6 0.0**
GRR pmax pmax
comp=Z,44nm,1.5s,mb5.7
ESK Eskdalemuir 95.46 326 *eP* **P** **19 15 40.9 -0.5**
ESK AMb AMB 19 15 50.6
comp=Z,52nm,1.6s,mb5.7
ETSF Etsaut 95.49 313 *eP* **P** **19 15 42.3 +0.5**
comp=Z,20nm,1.0s,mb5.2
ETSF Etsaut 95.49 313 *eP* **P** **19 15 42.3 +0.5**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
SJPF Ste Jean 95.95 313 *eP* **P** **19 15 44.3 +0.4**
comp=Z,39nm,1.2s,mb5.4
SJPF Ste Jean 95.95 313 *eP* **P** **19 15 44.3 +0.4**
SJPF pmax pmax
comp=Z,20nm,1.2s,mb5.4
SGMF Saint Gilles 96.18 319 *eP* **P** **19 15 44.5 -0.4**
comp=Z,63nm,1.3s,mb5.6
SGMF Saint Gilles 96.18 319 *eP* **P** **19 15 44.5 -0.4**
SGMF pmax pmax
comp=Z,31nm,1.3s,mb5.6
IMA Indian Mountai 96.48 23 *eP* **P** **19 15 46.3 +0.5**
IMA pmax pmax
comp=Z,69nm,1.1s,mb6.0
IMA Indian Mountai 96.48 23 *eP* **P** **19 15 47.1 +1.3**
QUIF Quistinic 96.64 318 *eP* **P** **19 15 46.2 -0.7**
comp=Z,37nm,1.1s,mb5.4
QUIF Quistinic 96.64 318 *eP* **P** **19 15 46.2 -0.7**
QUIF pmax pmax
comp=Z,19nm,1.1s,mb5.4
ROSF Rostrenen 96.64 319 *eP* **P** **19 15 47.5 +0.6**
comp=Z,58nm,1.4s,mb5.5
ROSF Rostrenen 96.64 319 *eP* **P** **19 15 47.5 +0.6**
ROSF pmax pmax
comp=Z,29nm,1.4s,mb5.5
SVW2 Sparrevohn 97.06 28 *eP* **P** **19 15 50.1 +1.6**
ESDC Sonseca Array 98.45 310 P **P** **19 15 55.8 +0.5**
comp=Z,4.2nm,1.1s,mb4.9,baz=62,slow=4.1,SNR=11
ESDC PKKPbc 19 32 29.5
comp=Z,0.1nm,0.3s,baz=180,slow=1.5,SNR=4.1
MCK McKinley 99.17 24 *eP* **P** **19 15 58.3 +0.4**
MCK pmax pmax
comp=Z,22nm,1.4s,mb5.5
MCK McKinley 99.17 24 *e*Pdif **P** **19 15 58.3 +0.3**
comp=Z,22nm,1.4s,mb5.5
INK Inuvik 102.44 17 P Pdif 19 16 11.6 -1.1
comp=Z,4.3nm,1.0s,baz=322,slow=4.9,SNR=11
INK PP PP 19 20 26.2 -1.8
comp=Z,9.5nm,1.1s,baz=311,slow=4.9,SNR=7.2
RES Resolute Bay 104.01 3 *eP* Pdif 19 16 20.1 +0.7
RES pmax pmax
comp=Z,8.0nm,1.1s
RES Resolute Bay 104.01 3 *e*Pdif Pdif 19 16 20.1 +0.7
comp=Z,8.1nm,1.1s
DLBC Dease Lake 109.72 24 PKiKP 19 20 49.1
comp=Z,2.5nm,0.9s,baz=339,slow=25,SNR=3.7
DLBC PP PP 19 21 18.1 -4.6
comp=Z,4.0nm,0.9s,baz=348,slow=4.7,SNR=5.7
YKW3 Yellowknife Ar 112.02 16 *e*PKP PKPdf 19 20 52.3 -2.3
YKA Yellowknife Ar 112.08 16 Pdiff Pdif 19 16 56.4 +1.2
comp=Z,0.1nm,0.4s,baz=292,slow=7.4,SNR=3.5
YKA PKiKP 19 20 52.0
comp=Z,2.3nm,1.0s,baz=323,slow=2.1,SNR=15
YKA PP PP 19 21 36.7 -2.5
comp=Z,5.6nm,1.1s,baz=332,slow=7.4,SNR=8.8
YKA PKKPbc 19 31 43.1
comp=Z,0.1nm,0.4s,baz=133,slow=3.1,SNR=8.5
YKA PKKPab 19 31 52.0
comp=Z,0.5nm,0.9s,baz=145,slow=4.7,SNR=5.3
YKA PKKP PKKP 19 32 04.8 +7.9
comp=Z,0.4nm,0.8s,baz=141,slow=4.4,SNR=3.7
YKA Yellowknife Ar 112.08 16 Pdif Pdif 19 16 56.4 +1.2
YKA PKPdf PKPdf 19 20 52.0 -2.6
YKA PP PP 19 21 36.7 -2.5
YKA PKiKPbc 19 31 43.1
YKA PKiKPab 19 31 52.0
YKA PKKP PKKP 19 32 04.8 +7.9
EDM Edmonton 120.00 21 *e*PKiKP PKPdf 19 21 07.4 -2.9
JCW Jim Creek 120.05 30 P PKPdf 19 21 08.6 -2.0
FFC Flin Flon 122.08 13 *e*PKiKP PKPdf 19 21 11.0 -3.4
OD2 Odessa Site #2 122.17 29 P PKPdf 19 21 12.3 -2.4
NEW Newport 122.28 27 *e*PKiKP PKPdf 19 21 12.1 -2.8
SCHQ Schefferville 122.92 350 PKP PKPdf 19 21 13.2 -2.7
comp=Z,4.8nm,0.9s,baz=341,slow=1.6,SNR=5.9
SCHQ PP PP 19 22 47.8 -7.4
comp=Z,5.9nm,1.2s,baz=313,slow=8.7,SNR=3.9
WALA Waterton Lakes 123.07 24 *e*PKPdf PKPdf 19 21 13.5 -2.9
LNOR Lincton Mounta 123.46 30 PKiKP PKPdf 19 21 14.9 -2.4
LHEM Herd Peak 124.17 36 P PKPdf 19 21 17.1 -1.7
LASM Arnica Sink 124.56 35 P PKPdf 19 21 18.1 -1.5
WDC Whiskeytown Da 124.64 37 *e*PKiKP PKPdf 19 21 18.9 -2.9
BMO Blue Mountains 124.67 30 *e*PKiKP PKPdf 19 21 16.0 -3.7
MSO Missoula 124.78 26 *e*PKPdf PKPdf 19 21 16.7 -3.1
LTIM Timbered Crate 124.89 36 P PKPdf 19 21 18.6 -1.6
CHMT Chamberlain Mo 125.02 26 *e*PKPdf PKPdf 19 21 17.3 -3.0
MOD Modoc 125.10 34 *e*PKPdf PKPdf 19 21 18.6 -2.0
LBCM Butte Creek Ri 125.18 36 P PKPdf 19 21 19.0 -1.8
WVOR Wild Horse Val 125.66 33 *e*PKiKP PKPdf 19 21 19.8 -1.9
HRY Holter Researc 125.78 25 *e*PKPdf PKPdf 19 21 18.9 -2.9
LCCM Lewis and Clar 126.45 26 P PKPdf 19 21 20.8 -2.2
BOZ Bozeman (W) 126.71 26 *e*PKiKP PKPdf 19 21 21.1 -2.4
MCMT McKenzie Canyo 126.81 27 *e*PKPdf PKPdf 19 21 21.9 -1.8
HLID Hailey 127.03 29 *e*PKPdf PKPdf 19 21 22.6 -1.6
QLMT Earthquake Lak 127.44 26 *e*PKPdf PKPdf 19 21 23.3 -1.7
ULM Lac du Bonnet 127.58 11 PKP PKPdf 19 21 22.1 -3.0
comp=Z,16nm,1.0s,baz=337,slow=2.9,SNR=20
ULM PP PP 19 23 19.1 -6.9
comp=Z,9.4nm,1.2s,baz=315,slow=4.1,SNR=6.2
MNV Mina 128.62 36 *e*PKiKP PKPdf 19 21 25.6 -1.9
LOHW Long Hollow 128.77 26 *e*PKPdf PKPdf 19 21 25.4 -2.2
AHID Auburn Hatcher 129.21 27 *e*PKPdf PKPdf 19 21 25.0 -3.4
PDAR Pinedale Array 129.90 26 PKhKP 19 21 24.2
comp=Z,11nm,1.1s,baz=135,slow=2.1,SNR=25
PDAR PKP PKPdf 19 21 28.1 -1.7
comp=Z,11nm,1.1s,baz=315,slow=1.3,SNR=35
PDAR PP PP 19 23 39.7 -1.8
comp=Z,4.6nm,1.1s,baz=315,slow=2.1,SNR=3.9
EYMN Ely 130.55 8 *e*PKPdf PKPdf 19 21 27.9 -3.0
NLU North Lily Min 130.89 31 *e*PKPdf PKPdf 19 21 30.1 -1.7
RSSD Black Hills 130.98 21 *e*PKiKP PKPdf 19 21 28.8 -3.0
RSSD Black Hills 130.98 21 *e*PKPdf PKPdf 19 21 28.9 -2.9
ARUT Antelope Range 131.76 33 *eP* Pdif 19 18 16.9 -5.5
MVU Marysvale 131.90 32 *e*PKPdf PKPdf 19 21 31.5 -2.2
MSU Marysvale 131.91 32 PKHKP 19 21 15.9
MSU Marysvale 131.91 32 *e*PKPdf PKPdf 19 21 32.0 -1.8
PV10 Paradox Valley 133.61 29 *e*PKPdf PKPdf 19 21 35.1 -1.8
PV01 Paradox Valley 134.03 29 *e*PKPdf PKPdf 19 21 33.5 -4.1
SADO Sadowa 134.33 357 PKP PKPdf 19 21 35.5 -2.5
comp=Z,5.8nm,0.8s,baz=328,slow=4.0,SNR=5.7
RW3 Ridgway 134.37 28 *e*PKiKP PKPdf 19 21 36.0 -2.3
CBKS Cedar Bluff 137.18 20 *e*PKiKP PKPdf 19 21 37.3 -6.1
ANMO Albuquerque 137.58 30 *e*PKiKP PKPdf 19 21 42.6 -1.7
LAZ Ladron 137.67 31 *e*PKPdf PKPdf 19 21 42.4 -2.1
LENM Lemitar 137.94 31 *e*PKPdf PKPdf 19 21 42.6 -2.4
LPM Los Pinos Moun 138.00 31 *e*PKPdf PKPdf 19 21 43.4 -1.7
PLCA Paso Flores 139.10 193 PKP PKPdf 19 21 46.0 -1.0
comp=Z,21nm,1.3s,baz=170,slow=3.2,SNR=6.3

CCM Cathedral Cave 140.21 11 *e*PKiKP PKPdf 19 21 45.7 -3.3
GDL2 Guadalupe Moun 140.82 31 *e*PKPpre 19 21 41.8
CLNB Carlsbad 141.02 30 *e*PKPdf PKPdf 19 21 48.1 -2.6
MIAR Mount Ida 143.03 16 *e*PKiKP PKPdf 19 21 48.2 -5.8
BDFB Brasilia 143.35 245 PKP PKPdf 19 21 49.7 -5.4
comp=Z,10nm,0.8s,baz=111,slow=4.4,SNR=8.6
BDFB PP PP 19 25 03.9 -2.1
comp=Z,33nm,1.4s,baz=82,slow=5.1,SNR=4.7
TXAR Lajitas Array 143.46 33 PKP PKPdf 19 21 50.5 -4.4
comp=Z,12nm,0.8s,baz=270,slow=2.5,SNR=64
TXAR Lajitas Array 143.46 33 PKP PKPdf 19 21 50.5 -4.5
JCT Junction City 144.44 27 *e*PKiKP PKPdf 19 21 52.7 -3.9
JSC Jenkinsville 144.87 359 *e*PKiKP PKPdf 19 21 53.4 -3.9
NATX Nacogdoches 145.30 19 *e*PKPdf PKPdf 19 21 55.3 -2.8
GOGA Godfrey 145.72 2 *e*PKP2 PKPab 19 21 56.3 -1.1
LRAL Lakeview Retre 145.81 7 *e*PKPbc PKPbc 19 21 56.2 +0.6
CSU Charleston Sou 146.12 357 *e*PKPbc PKPbc 19 21 58.1 +1.8
RGRS Roger Stewart 146.20 357 *e*PKPbc PKPbc 19 21 58.1 +1.5
CJM Chamela 149.64 47 *eP* PKPdf 19 22 06.8 +1.2
SFJM Santa Fe 150.40 43 *eP* PKPdf 19 22 06.0 -0.7
MOIG Morelia 152.20 41 *eP* PKPdf 19 22 14.7 +5.3
PPM Popocatepetl 154.29 38 *eP* PKPdf 19 22 10.0 -2.3
LPAZ La Paz 159.50 222 PKiKP PKPdf 19 22 18.2 -0.8
LPAZ 19 22 55.2
LPAZ 19 26 35.1
LPAZ pmax pmax
comp=Z,7.0nm,0.9s
LPAZ pmax pmax
comp=Z,6.0nm,1.0s
LPAZ La Paz 159.50 222 PKP PKPdf 19 22 18.2 -0.8
comp=Z,7.3nm,0.9s,baz=46,slow=3.5,SNR=23
LPAZ PKPab PKPab 19 22 55.2 -0.1
comp=Z,5.8nm,0.9s,baz=199,slow=4.2,SNR=5.6
LPAZ PP PP 19 26 35.0 -2.3
comp=Z,0.3nm,0.3s,baz=186,slow=5.3,SNR=4.6
LPAZ La Paz 159.50 222 *e*PKPbc PKPdf 19 22 17.3 -1.7
ROSC El Rosal 170.26 307 PKP PKPdf 19 22 27.0 -1.2
comp=Z,5.9nm,0.5s,baz=99,slow=19,SNR=14
OTAV Otavalo 176.11 289 *e*PKPdf PKPdf 19 22 28.7 -2.0

*IDC **28** 19:06:32.6±1.0, 0.85N×97.28E, mb4.4/12, mb1 4.5/12, mb1mx4.4/17, mbtmp4.4/12, Error ellipse: s-maj=53.4km s-min=17.0km az=50.0*
*BJI **28** 19:06:33.6, 0.50N×97.42E, h37km, mb5.2*
*NEIC **28** 19:06:37.2±0.4, 0.92N×97.37E, h30km, mb4.7/13, Error ellipse: s-maj=10.4km s-min=7.0km az=49.0*
ISC 28 19:06:36.9±3.6, 1.0N±0.1×97.4E±0.1, h40km±28km, n32, σ0°76/32, mb4.6/26, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.36**	**37**	*e*Pn			**P**	**19 07 56.8**	**+0.2**
CM31	**Chiang Mai Arr**	**17.45**	**5**	*e*P			**P**	**19 10 39.3**	**+0.2**
	14nm,0.7s								
KKM	**Kota Kinabalu**	**19.40**	**74**	*e*P			**P**	**19 11 02.0**	**-0.6**
LSA	**Lhasa**	**29.20**	**349**	*e*P			**P**	**19 12 37.9**	**+0.8**
	12nm,0.6s,mb4.8								
ENH	**Enshi**	**31.32**	**20**	*e*P			**P**	**19 12 54.7**	**-1.2**
	16nm,0.8s,mb4.9								
GTA	**Gaotai**	**38.33**	**3**	*e*P			**P**	**19 13 56.5**	**+0.9**
GTA						AP	pP	19 14 05.8	-1.1
GTA						XP	sP	19 14 08.8	-3.2
GTA						AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7								
WRA	**Warramunga Arr**	**41.70**	**122**	P		P	**P**	**19 14 23.3**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.1,baz=303,slow=9.4,SNR=5.9								
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P			**P**	**19 14 23.9**	**0.0**
	comp=Z,6.8nm,0.7s,mb4.4								
BJT	**Baijiatuao**	**42.45**	**21**	*e*P			**P**	**19 14 30.8**	**+1.1**
	comp=Z,28nm,0.7s,mb5.0								
BJI	**Beijing**	**42.47**	**21**	P		P	**P**	**19 14 31.0**	**+1.1**
BJI						AMB	AMB		
	comp=Z,38nm,0.6s,mb5.2								
ASAR	**Alice Springs**	**43.06**	**127**	P		P	**P**	**19 14 35.5**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.1,baz=297,slow=8.0,SNR=4.0								
AAK	**Ala-Archa**	**46.31**	**337**	*e*P			**P**	**19 14 58.9**	**-1.9**
	comp=Z,8.8nm,1.1s,mb4.6								
SONM	**Songino Array**	**47.33**	**8**	P		P	**P**	**19 15 09.4**	**+0.7**
	comp=Z,3.5nm,0.4s,mb4.7,baz=191,slow=9.2,SNR=16								
SONM						PcP	PcP	19 16 39.2	-0.3
	comp=Z,1.6nm,0.5s,baz=190,slow=9.7,SNR=5.6								
MKAR	**Makanchi Array**	**47.53**	**346**	P		P	**P**	**19 15 10.7**	**+0.4**
	comp=Z,13nm,0.5s,mb5.2,baz=162,slow=8.6,SNR=25								
CN2	**Changchun**	**49.41**	**27**	*e*P			**P**	**19 15 25.0**	**+0.1**
CN2						AMB	AMB		
	comp=Z,30nm,0.9s,mb5.3								
TLY	**Talaya**	**50.81**	**5**	*e*P			**P**	**19 15 35.0**	**-0.4**
	comp=Z,5.1nm,0.8s,mb4.5								
KURK	**Kurchatov**	**52.09**	**345**	*e*P			**P**	**19 15 44.4**	**-0.7**
	comp=Z,13nm,0.9s,mb4.9								
STKA	**Stephens Creek**	**53.02**	**132**	P		P	**P**	**19 15 52.4**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=309,slow=6.5,SNR=3.2								
BVAR	**Borovoye Array**	**56.55**	**341**	P		P	**P**	**19 16 16.7**	**-1.0**
	comp=Z,7.2nm,0.7s,mb4.8,baz=144,slow=10,SNR=7.3								
CHKZ	**Chkalovo**	**57.03**	**341**	*e*P			**P**	**19 16 20.0**	**-1.1**
	comp=Z,14nm,0.8s,mb5.0								
YAK	**Yakutsk**	**65.58**	**16**	*e*P			**P**	**19 17 17.5**	**-1.1**
BRTR	**Keskin Array B**	**69.45**	**312**	P		P	**P**	**19 17 43.1**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.9,baz=127,slow=7.2,SNR=3.8								
MA2	**Magadan**	**71.44**	**26**	*e*P			**P**	**19 17 54.5**	**-0.4**
	comp=Z,6.3nm,0.6s,mb4.7								
AKASG	**Malin Array Be**	**75.59**	**322**	P		P	**P**	**19 18 18.7**	**-0.7**
	comp=Z,0.9nm,0.4s,mb4.0,baz=91,slow=5.0,SNR=4.5								
AKASG	**Malin Array Be**	**75.59**	**322**	P		P	**P**	**19 18 18.7**	**-0.7**
FINES	**FINESS Array B**	**80.32**	**332**	P		P	**P**	**19 18 45.4**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=3.7								
PSZ	**Piszkesteto**	**80.95**	**318**	*e*P			**P**	**19 18 49.5**	**+0.6**
	comp=Z,2.9nm,0.8s,mb4.3								
MORC	**Moravsky Berou**	**82.74**	**320**	*e*P			**P**	**19 18 58.2**	**+0.2**
	comp=Z,3.8nm,1.0s,mb4.4								
ARCES	**ARCESS Array B**	**82.84**	**340**	P		P	**P**	**19 18 59.0**	**+0.8**
	comp=Z,10nm,0.9s,mb4.9,baz=68,slow=6.5,SNR=5.5								
GERES	**GERESS Array B**	**85.15**	**319**	P		P	**P**	**19 19 11.3**	**+1.1**
	comp=Z,1.6nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=4.2								
NB2	**NORSAR Subarra**	**87.33**	**331**	P		P	**P**	**19 19 21.0**	**+0.4**
	comp=Z,2.4nm,0.8s,mb4.5,baz=95,slow=4.8								
NOA	**NORSAR Array B**	**87.33**	**331**	P		P	**P**	**19 19 21.3**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.5,baz=95,slow=4.8,SNR=4.0								

*NEIC **28** 19:10:37.7, 37.96N×8.92W, h4km, MN2.5(MDD), After MDD.*
*IGIL **28** 19:10:37.1, 37.90N×8.90W, h0km, ML2.8*
*MDD **28** 19:10:37.6±0.6, 37.93N×8.96W, h11km±4km, mbLg2.4/12, Error ellipse: s-maj=6.7km s-min=2.7km az=72.0, PRXIMO*
INMG 28 19:10:37.8±1.2, 37.91N×8.97W, h11km±4km, ML2.1, 1D, Error ellipse: s-maj=5.1km s-min=1.8km az=77.0, Portugal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTEO	**Sao Teotonio**	**0.41**	**152**	*i* Pg			Pg	19 10 45.6	-0.7
PTEO				*e*Sg			Sg	19 10 51.3	-0.7
	33nm,0.2s								
PTEO	**Sao Teotonio**	**0.41**	**152**	⇓ Pg			Pg	19 10 45.6	-0.7
PTEO				Lg				19 10 51.3	
	16nm,0.2s								
MOE	**Montemor**	**0.78**	**38**	*e*Pg			Pg	19 10 52.0	-1.5
MOE				*e*Sg			Sg	19 11 03.0	-1.0
LIS	**Lisbon**	**0.82**	**350**	*e*P			Pb	19 10 52.3	-1.2
LIS				*e*S			Sb	19 11 02.9	-1.3
LIS				*e*S			Sb	19 11 02.9	-1.3
PBEJ	**Beja**	**0.88**	**82**	*e*P			Pb	19 10 53.6	-0.9
PBEJ				*e*S			Sb	19 11 05.3	-0.7
	39nm,0.1s								
PBEJ	**Beja**	**0.88**	**82**	Pg			Pg	19 10 53.6	-1.8
PBEJ				Lg				19 11 05.3	
	20nm,0.1s								
PLOU	**Loures**	**0.98**	**352**	*e*P			Pb	19 10 55.8	-0.5
PLOU				*e*S			Sb	19 11 08.5	-0.6
	72nm,0.1s								
PLOU	**Loures**	**0.98**	**352**	Pg			Pg	19 10 55.8	-1.7
PLOU				Lg				19 11 08.5	
	36nm,0.1s								
EGRO	**El Granado**	**1.23**	**107**	Pn			Pn	19 10 59.0	-2.0
	2.2nm,0.1s,SNR=7.9								
EGRO				Pg			Pg	19 10 59.6	-2.9
	10.0nm,0.1s,SNR=7.9								
EGRO				Lg				19 11 15.7	
	43nm,0.2s,SNR=7.9								
ALMR	**Almeirim**	**1.28**	**14**	*e*P			Pb	19 10 59.9	-1.6
ALMR				*e*S			Sb	19 11 16.9	-0.8
ALMR				*e*S			Sb	19 11 16.9	-0.7
ALMR						AML	AML	19 11 18.6	
	comp=E,125nm,0.3s								
EBAD	**Badajoz**	**1.75**	**61**	Pn			Pn	19 11 08.5	+0.1
EBAD				Lg				19 11 31.4	
EBAD	**Badajoz**	**1.75**	**61**	Pg			Pg	19 11 08.5	-4.3
	comp=E,11nm,0.2s,SNR=30								
EBAD				Lg				19 11 31.4	
	comp=E,39nm,0.2s,SNR=6.5								
PTOM	**Tomar**	**1.76**	**14**	*e*Pn			Pn	19 11 06.9	-1.6
PTOM				*e*Sn			Sn	19 11 28.1	-2.9
	comp=E,28nm,0.2s								
PTOM	**Tomar**	**1.76**	**14**	Pn			Pn	19 11 06.9	-1.6
PTOM				Sn			Sn	19 11 28.1	-2.9
	comp=E,14nm,0.2s								
EMIN	**Mina Concepcio**	**1.82**	**94**	Pn			Pn	19 11 07.5	-1.9
	comp=E,0.2nm,0.1s,SNR=7.9								
EMIN				Pg			Pg	19 11 10.4	-3.8
	comp=E,0.6nm,0.1s,SNR=19								
EMIN				Lg				19 11 34.2	
	comp=E,20nm,0.2s,SNR=7.6								
PCBR	**Castelo Branco**	**2.25**	**31**	*e*Pg			Pg	19 11 18.4	-4.3
PCBR				*e*Sn			Sn	19 11 40.0	-3.5
	comp=E,4.4nm,0.1s								
PCBR	**Castelo Branco**	**2.25**	**31**	Pg			Pg	19 11 18.4	-4.3
PCBR				Sn			Sn	19 11 40.0	-3.5
	comp=E,2.2nm,0.1s								
ESPR	**Espera**	**2.69**	**112**	Pg			Pg	19 11 27.4	-4.1
ESPR				Lg				19 12 03.1	
ESPR	**Espera**	**2.69**	**112**	Pg			Pg	19 11 26.8	-4.7
	comp=E,2.4nm,0.2s,SNR=9.3								
ESPR				Lg				19 12 03.2	
	comp=E,7.4nm,0.3s								
MTE	**Manteigas**	**2.72**	**24**	*e*Sg			Sg	19 12 01.6	-6.8
	comp=E,10.0nm,0.8s								
MTE	**Manteigas**	**2.72**	**24**	Lg				19 12 01.6	
	comp=E,5.0nm,0.8s								
PVIS	**Viseu**	**2.92**	**16**	*e*Pn			Pn	19 11 22.7	-2.4
PVIS				*e*Sn			Sn	19 11 55.4	-5.1
PVIS				*e*Sg			Sg	19 12 07.1	-8.0
	comp=E,5.9nm,0.1s								
PVIS	**Viseu**	**2.92**	**16**	Pn			Pn	19 11 22.7	-2.4
PVIS				Sn			Sn	19 11 55.4	-5.1
PVIS				Lg				19 12 07.1	
	comp=E,3.0nm,0.1s								
EADA	**Adamuz**	**3.47**	**84**	Pn			Pn	19 11 30.3	-2.7
	comp=E,0.2nm,0.1s,SNR=4.6								
EADA				Sn			Sn	19 12 10.1	-4.4
	comp=E,0.9nm,0.1s,SNR=7.5								
EADA				Lg				19 12 25.9	
	comp=E,1.4nm,0.1s,SNR=7.9								
PVRL	**Vila Real**	**3.50**	**16**	*e*Pn			Pn	19 11 30.1	-3.2
PVRL				*e*Sn			Sn	19 12 09.5	-5.5
ELOB	**Lobios**	**4.01**	**10**	Pn			Pn	19 11 36.7	-3.9
	comp=E,0.3nm,0.1s,SNR=7.9								
ELOB				Sn			Sn	19 12 20.9	-7.2
	comp=E,1.3nm,0.1s,SNR=7.9								
ELOB				Lg				19 12 42.3	
	comp=E,0.6nm,0.1s,SNR=7.9								
ECAL	**Calabor**	**4.37**	**22**	Sn			Sn	19 12 27.6	-10
	comp=E,2.0nm,0.3s,SNR=7.9								
ECAL				Lg				19 12 54.7	
	comp=E,5.6nm,0.4s,SNR=7.9								
EQES	**Quesada**	**4.67**	**90**	Sn			Sn	19 12 37.5	-7.2
	comp=E,1.5nm,0.4s,SNR=7.9								
EQES				Lg				19 13 02.2	
	comp=E,2.0nm,0.4s,SNR=7.9								

*IDC **28** 19:11:59.1±2.3, 1.24N×98.53E, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=110.0km s-min=17.3km az=57.0*
*NEIC **28** 19:12:01.0±0.9, 0.86N×97.87E, h30km, mb4.2/6, Error ellipse: s-maj=24.1km s-min=11.4km az=60.0*
ISC 28 19:11:58.7±0.9, 0.9N±0.1×97.8E±0.1, h30km, n15, σ0°92/15, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**33**	*e*Pn			**Pn**	**19 13 17.5**	**+0.7**
KKM	**Kota Kinabalu**	**19.05**	**74**	*e*P			**P**	**19 16 21.7**	**+0.2**
LSA	**Lhasa**	**29.36**	**348**	P			**P**	**19 18 02.8**	**+1.2**
	3.0nm,0.7s,mb4.1								
ENH	**Enshi**	**31.27**	**20**	*e*P			**P**	**19 18 16.2**	**-2.1**
	3.0nm,0.6s,mb4.3								
FITZ	**Fitzroy Crossi**	**33.23**	**126**	P			**P**	**19 18 35.8**	**+0.2**
	3.3nm,0.9s,mb4.3,baz=331,slow=4.7,SNR=7.2								
WRA	**Warramunga Arr**	**41.33**	**122**	P			**P**	**19 19 43.2**	**-0.5**
	2.1nm,0.8s,mb3.8,baz=301,slow=9.0,SNR=8.5								
WRAB	**Tennant Creek**	**41.33**	**122**	*e*P			**P**	**19 19 43.5**	**-0.2**
	2.5nm,0.6s,mb4.0								
ASAR	**Alice Springs**	**42.70**	**127**	P			**P**	**19 19 55.0**	**-0.1**
	1.4nm,0.7s,mb3.8,baz=300,slow=7.9,SNR=12								
SONM	**Songino Array**	**47.36**	**8**	P			**P**	**19 20 32.2**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=190,slow=9.7,SNR=8.0								
MKAR	**Makanchi Array**	**47.71**	**346**	P			**P**	**19 20 34.5**	**-0.2**
	2.7nm,0.6s,mb4.5,baz=159,slow=8.7,SNR=16								
KURK	**Kurchatov**	**52.27**	**345**	*e*P			**P**	**19 21 08.9**	**-0.7**
	0.5nm,0.3s,mb3.9								
STKA	**Stephens Creek**	**52.67**	**132**	P			**P**	**19 21 13.7**	**+0.8**
	1.5nm,0.6s,mb4.1,baz=315,slow=11,SNR=4.3								
BVAR	**Borovoye Array**	**56.77**	**341**	P			**P**	**19 21 45.1**	**+2.8**
	1.0nm,0.5s,mb4.1,baz=140,slow=11,SNR=9.7								
CHKZ	**Chkalovo**	**57.24**	**341**	*e*P			**P**	**19 21 44.9**	**-0.8**
	1.6nm,0.5s,mb4.3								
MA2	**Magadan**	**71.35**	**25**	*e*P			**P**	**19 23 17.2**	**-0.5**
	2.2nm,0.7s,mb4.2								

*IDC **28** 19:13:59.6±2.4, 2.75N×

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**38.19**	**130**	P	P	19 23 34.0	-2.2
	4.3nm,1.0s,baz=45,slow=1.4,SNR=2.5						
MKAR	**Makanchi Array**	**41.80**	**346**	P	P	19 24 05.5	-0.3
	2.5nm,0.5s,baz=162,slow=8.9,SNR=14						
SONM	**Songino Array**	**42.12**	**11**	P	P	19 24 06.1	-2.3
	1.2nm,0.6s,baz=191,slow=9.4,SNR=8.9						
WRA	**Warramunga Arr**	**46.04**	**126**	P	P	19 24 39.1	-1.3
	0.6nm,0.5s,baz=303,slow=9.1,SNR=7.2						
BVAR	**Borovoye Array**	**50.84**	**340**	P	P	19 25 13.8	-3.4
	0.8nm,0.5s,baz=140,slow=9.4,SNR=5.3						

IDC 28 19:18:13.8±2.3,3.04N×96.70E,mb4.0/6,mb1 4.1/6, mb1mx3.9/17,mbtmp4.0/6,Error ellipse: s-maj=106.0km s-min=21.2km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.44**	**123**	P	P	19 26 17.6	-2.9
	1.9nm,0.6s,baz=301,slow=9.2,SNR=9.7						
ASAR	**Alice Springs**	**44.91**	**128**	P	P	19 26 31.7	-0.7
	0.5nm,0.6s,baz=298,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**45.35**	**346**	P	P	19 26 33.4	-2.2
	3.7nm,0.8s,baz=162,slow=7.7,SNR=9.5						
SONM	**Songino Array**	**45.40**	**9**	P	P	19 26 34.7	-1.2
	1.1nm,0.7s,baz=188,slow=9.2,SNR=5.3						
BVAR	**Borovoye Array**	**54.36**	**341**	P	P	19 27 40.6	-3.8
	0.9nm,0.6s,baz=153,slow=6.6,SNR=5.1						
ARCES	**ARCESS Array B**	**80.65**	**340**	P	P	19 30 29.8	+0.2
	11nm,1.1s,baz=90,slow=5.4,SNR=3.6						

*IDC **28** 19:18:17.8±1.0,5.36N×96.72E,mb4.2/7,mb1 4.4/7, mb1mx4.1/16,mbtmp4.2/7,Error ellipse: s-maj=54.8km s-min=17.5km az=51.0*
*NEIC **28** 19:18:19.8±0.9,5.03N×96.02E,h30km,mb4.7/5,Error ellipse: s-maj=26.4km s-min=11.4km az=55.0*
ISC 28 19:18:17.7±1.0,5.0N±0.1×96.0E±0.2,h30km,n16, σ0s76/16,mb4.3/11,2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.63**	**86**	*e*Pn	**Pn**	**19 19 27.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**37.17**	**129**	*e*P	**P**	**19 25 24.6**	**-3.6**
	6.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**37.17**	**129**	P	**P**	**19 25 24.6**	**-3.6**
	9.2nm,0.8s,mb4.7,baz=330,slow=5.8,SNR=10						
KAKA	**Kakadu**	**40.25**	**116**	⇓*i*P	**P**	**19 25 55.6**	**+1.6**
	21nm,1.3s,mb4.7						
MKAR	**Makanchi Array**	**43.28**	**346**	P	**P**	**19 26 18.6**	**+0.1**
	1.2nm,0.7s,mb3.8,baz=156,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**43.59**	**10**	P	**P**	**19 26 20.6**	**-0.4**
	0.8nm,0.5s,mb3.7,baz=189,slow=9.4,SNR=7.8						
WRA	**Warramunga Arr**	**45.10**	**125**	P	**P**	**19 26 33.4**	**-0.1**
	6.4nm,0.6s,mb4.7,baz=303,slow=9.0,SNR=22						
WRAB	**Tennant Creek**	**45.11**	**125**	*e*P	**P**	**19 26 33.5**	**-0.1**
	9.5nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**45.12**	**125**	⇓*i*P	**P**	**19 26 33.9**	**+0.3**
ASPA	**Alice Springs**	**46.67**	**129**	*e*P	**P**	**19 26 45.1**	**-0.7**
ASAR	**Alice Springs**	**46.67**	**129**	P	**P**	**19 26 45.1**	**-0.8**
	4.8nm,0.8s,mb4.5,baz=301,slow=7.5,SNR=20						
KURK	**Kurchatov**	**47.83**	**345**	*e*P	**P**	**19 26 54.7**	**0.0**
	0.7nm,0.4s,mb4.0						
STKA	**Stephens Creek**	**56.80**	**133**	*e*P	**P**	**19 28 02.5**	**+0.6**
	4.3nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**56.80**	**133**	P	**P**	**19 28 02.4**	**+0.5**
	5.8nm,0.7s,mb4.7,baz=298,slow=6.5,SNR=11						
BRTR	**Keskin Array B**	**65.70**	**311**	P	**P**	**19 29 06.4**	**+4.4**
	0.7nm,0.7s,mb3.8,baz=127,slow=7.2,SNR=3.3						
GERES	**GERESS Array B**	**81.19**	**319**	P	**P**	**19 30 37.5**	**+5.3**
	1.3nm,0.8s,mb3.9,baz=104,slow=5.5,SNR=12						

*BJI **28** 19:18:27.4,0.70S×97.30E,h30km,mb5.2,Ms5.4,Msz4.9*
*IDC **28** 19:18:28.6±0.9,0.18S×98.17E,mb4.4/13,mb1 4.5/13, mb1mx4.4/18,mbtmp4.4/13,Error ellipse: s-maj=54.1km s-min=15.1km az=49.0*
*NEIC **28** 19:18:29.5±0.7,0.70S×97.28E,h30km,mb4.9/23,Error ellipse: s-maj=17.3km s-min=9.1km az=52.0*
ISC 28 19:18:27.9±0.6,0.65S±0.08×97.34E±0.08,h30km, h30km±1.3km:pP-P,n66,σ1s21/65,mb4.9/42,MS5.1/1, 4C-1D,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.76**	**29**	Pn	**Pn**	**19 20 08.1**	**+0.3**
CM31	**Chiang Mai Arr**	**19.05**	**5**	Pn	**P**	**19 22 51.1**	**+0.5**
	24nm,0.8s						
KKM	**Kota Kinabalu**	**19.98**	**70**	P	**P**	**19 23 00.2**	**-0.9**
QIZ	**Qiongzhong**	**23.09**	**31**	P	**P**	**19 23 31.5**	**-0.9**
QIZ	**Qiongzhong**	**23.09**	**31**	*e*P	**P**	**19 23 32.3**	**-0.2**
	30nm,1.0s,mb4.7						
KMI	**Kunming**	**26.15**	**11**	⇑P	**P**	**19 24 00.8**	**-0.8**
KMI				AMB	AMB		
	comp=Z,88nm,1.4s,mb5.1						
GYA	**Guiyang**	**28.41**	**18**	⇑*i*P	**P**	**19 24 20.5**	**-1.7**
GYA				AP	pP	19 24 30.0	-0.8
GYA				XP	sP	19 24 33.5	-1.2
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
JIRN	**Jiri**	**30.12**	**340**	*e*P	**P**	**19 24 35.9**	**-1.6**
	comp=Z,131nm,0.9s,mb5.6						
PKI	**Pulchoki**	**30.31**	**339**	*e*P	**P**	**19 24 37.5**	**-1.7**
	comp=Z,59nm,1.0s,mb5.3						
DMN	**Daman**	**30.46**	**338**	*e*P	**P**	**19 24 39.0**	**-1.5**
	comp=Z,61nm,0.9s,mb5.3						
KKN	**Kakani**	**30.56**	**339**	*e*P	**P**	**19 24 39.8**	**-1.6**
	comp=Z,80nm,0.9s,mb5.5						
LSA	**Lhasa**	**30.75**	**349**	*e*P	**P**	**19 24 42.1**	**-1.0**
	comp=Z,1.9nm,0.4s,mb4.3						
GKN	**Gorkha**	**30.99**	**338**	*e*P	**P**	**19 24 43.0**	**-2.2**
	comp=Z,107nm,1.0s,mb5.6						
KOLN	**Koldanda**	**31.19**	**336**	*e*P	**P**	**19 24 46.1**	**-0.8**
	comp=Z,54nm,0.8s,mb5.4						
CD2	**Chengdu**	**31.97**	**10**	P	**P**	**19 24 50.5**	**-3.3**
FITZ	**Fitzroy Crossi**	**32.77**	**124**	P	**P**	**19 25 01.2**	**+0.4**
	comp=Z,5.5nm,0.9s,mb4.5,baz=329,slow=3.6,SNR=6.2						
ENH	**Enshi**	**32.85**	**20**	*e*P	**P**	**19 24 59.3**	**-2.2**
	comp=Z,10nm,0.4s,mb5.1						
LGTI	**Lohaghat**	**34.10**	**333**	*e*P	**P**	**19 25 12.0**	**-0.2**
PTH	**Pithoragarh**	**34.19**	**333**	*e*P	**P**	**19 25 12.9**	**-0.2**
WHN	**Wuhan**	**34.99**	**26**	⇓P	**P**	**19 25 20.8**	**+0.9**
XAN	**Xi'an**	**36.18**	**16**	P	**P**	**19 25 28.0**	**-1.9**
XAN				AP	pP	19 25 35.3	-3.4
XAN				AMB	AMB		
	comp=Z,41nm,0.9s,mb5.4						
LZH	**Lanzhou**	**37.05**	**9**	*e*P	**P**	**19 25 36.0**	**-1.2**
LZH				AP	pP	19 25 43.8	-2.2
LZH				XP	sP	19 25 47.8	-1.9
LZH				AMB	AMB		
	comp=Z,61nm,1.4s,mb5.2						
GTA	**Gaotai**	**39.93**	**3**	*e*P	**P**	**19 26 00.3**	**-1.0**
GTA				AP	pP	19 26 09.5	-0.6
GTA				XP	sP	19 26 12.8	-1.0
GTA				PP	PP	19 27 34.3	-2.5
GTA				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**40.96**	**120**	P	**P**	**19 26 08.9**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.7,baz=301,slow=9.2,SNR=5.3						
WRA	**Warramunga Arr**	**40.96**	**120**	P	**P**	**19 26 08.9**	**-1.0**
WRAB	**Tennant Creek**	**40.97**	**120**	*e*P	**P**	**19 26 09.2**	**-0.7**
	comp=Z,9.1nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**42.19**	**126**	P	**P**	**19 26 20.1**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=301,slow=7.9,SNR=11						
BJT	**Baijiatuan**	**43.97**	**21**	*e*P	**P**	**19 26 35.9**	**+1.5**
	comp=Z,28nm,0.8s,mb5.0						
BJI	**Beijing**	**44.00**	**21**	P	**P**	**19 26 36.3**	**+1.7**
BJI				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.2						
KSH	**Kashi**	**44.51**	**336**	*e*P	**P**	**19 26 35.8**	**-2.9**
KSH				*e*AP	pP	19 26 45.3	-2.3
KSH				*e*XP	sP	19 26 50.0	-1.2
WMQ	**Urumqi**	**45.11**	**350**	⇑*i*P	**P**	**19 26 43.5**	**+0.1**
WMQ				AP	pP	19 26 53.0	+0.7
WMQ				XP	sP	19 26 57.0	+1.0
WMQ				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.0						
WMQ				LR	LR		
	comp=N,3μm,22.5s,MS5.3						
WMQ				LR	LR		
	comp=E,3μm,22.0s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,23.2s,MS4.9						
KS15	**Wonju Array Si**	**47.26**	**33**	*e*P	**P**	**19 27 01.7**	**+1.1**
TKM2	**Tokmak 2**	**47.58**	**338**	P	**P**	**19 27 03.8**	**+0.9**
	SNR=9.1						
KBK	**Karagaybulak**	**47.59**	**338**	P	**P**	**19 27 05.2**	**+2.1**
	SNR=9.8						
AML	**Almayashu**	**47.64**	**336**	P	**P**	**19 27 05.0**	**+1.6**
	SNR=6.8						
AAK	**Ala-Archa**	**47.74**	**337**	*e*P	**P**	**19 27 05.1**	**+0.7**
	comp=Z,14nm,1.1s,mb4.9						
CHMS	**Chumysh**	**47.96**	**338**	P	**P**	**19 27 06.7**	**+0.7**
	SNR=5.8						
EKS2	**Erkin-Say**	**48.05**	**337**	P	**P**	**19 27 08.0**	**+1.3**
	SNR=11						
USP	**Ospenovka**	**48.28**	**338**	P	**P**	**19 27 09.2**	**+0.7**
	SNR=16						
SONM	**Songino Array**	**48.93**	**8**	P	**P**	**19 27 12.7**	**-0.7**
	comp=Z,16nm,0.8s,mb5.1,baz=189,slow=8.7,SNR=44						
SONM	**Songino Array**	**48.93**	**8**	P	**P**	**19 27 12.7**	**-0.7**
ULN	**Ulaanbaatar**	**49.05**	**9**	*e*P	**P**	**19 27 14.4**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**49.06**	**346**	P	**P**	**19 27 14.4**	**0.0**
	comp=Z,12nm,0.7s,mb5.0,baz=159,slow=7.8,SNR=16						
CN2	**Changchun**	**50.88**	**26**	⇑P	**P**	**19 27 30.0**	**+1.6**
CN2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.4						
STKA	**Stephens Creek**	**52.03**	**131**	P	**P**	**19 27 36.5**	**-0.7**
	comp=Z,1.7nm,0.7s,mb4.1,baz=221,slow=18,SNR=3.8						
STKA	**Stephens Creek**	**52.03**	**131**	P	**P**	**19 27 36.1**	**-1.1**
TLY	**Talaya**	**52.41**	**5**	*e*P	**P**	**19 27 40.3**	**+0.5**
	comp=Z,7.7nm,0.8s,mb4.7						
HIA	**Hailar**	**53.34**	**18**	*e*P	**P**	**19 27 47.7**	**+1.0**
	comp=Z,16nm,0.8s,mb5.0						
MDJ	**Mudanjiang**	**53.41**	**28**	P	**P**	**19 27 49.3**	**+2.0**
MDJ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8						
KURK	**Kurchatov**	**53.60**	**345**	*e*P	**P**	**19 27 48.7**	**0.0**
	comp=Z,25nm,1.2s,mb5.0						
BVAR	**Borovoye Array**	**58.03**	**341**	P	**P**	**19 28 20.7**	**+0.2**
	comp=Z,13nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=34						
CHKZ	**Chkalovo**	**58.51**	**342**	*e*P	**P**	**19 28 24.4**	**+0.6**
	comp=Z,25nm,0.7s,mb5.3						
YSS	**Yuzh-Sakhalins**	**61.79**	**34**	*e*P	**P**	**19 28 47.0**	**+0.6**
	comp=Z,3.3nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**65.80**	**320**	*e*P	**P**	**19 29 13.9**	**+1.2**
	comp=Z,8.7nm,0.9s,mb4.8						
YAK	**Yakutsk**	**67.14**	**16**	*e*P	**P**	**19 29 22.2**	**+1.2**
	comp=Z,2.3nm,0.4s,mb4.6						
BRTR	**Keskin Array B**	**70.46**	**313**	P	**P**	**19 29 46.5**	**+4.7**
	comp=Z,1.4nm,0.8s,mb4.0,baz=123,slow=6.1,SNR=6.1						
MA2	**Magadan**	**72.93**	**25**	*e*P	**P**	**19 29 58.6**	**+2.5**
	comp=Z,7.7nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**76.80**	**323**	P	**P**	**19 30 22.9**	**+4.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=88,slow=4.7,SNR=8.1						
KOLS	**Kolonicke sedl**	**80.71**	**320**	*i*	**P**	**19 30 47.2**	**+7.3**
FINES	**FINESS Array B**	**81.69**	**333**	P	**P**	**19 30 49.5**	**+4.8**
	comp=Z,2.2nm,0.7s,mb4.2,baz=108,slow=6.0,SNR=7.7						
ARCES	**ARCESS Array B**	**84.31**	**340**	P	**P**	**19 31 02.8**	**+4.8**
	comp=Z,8.8nm,1.0s,mb4.8,baz=82,slow=4.6,SNR=5.7						
GERES	**GERESS Array B**	**86.29**	**319**	P	**P**	**19 31 14.0**	**+5.7**
	comp=Z,2.3nm,0.9s,mb4.4,baz=104,slow=5.5,SNR=11						
CLL	**Collm**	**86.95**	**321**	*e*	**P**	**19 31 18.0**	**+6.5**
NB2	**NORSAR Subarra**	**88.68**	**331**	P	**P**	**19 31 25.5**	**+6.0**
	comp=Z,1.6nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**88.68**	**331**	P	**P**	**19 31 24.4**	**+4.8**
	comp=Z,2.3nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=11						
NOA				PP	PP	19 34 54.6	+4.0
	comp=Z,1.7nm,1.0s,baz=88,slow=7.7,SNR=3.6						
TXAR	**Lajitas Array**	**145.14**	**33**	PKP	PKPdf	19 38 14.2	+5.8
	comp=Z,1.3nm,0.8s,baz=225,slow=1.8,SNR=7.3						

IDC 28 19:24:02.9±3.4,2.06N×96.78E,mb3.7/6,mb1 3.8/6, mb1mx3.6/17,mbtmp3.7/6,Error ellipse: s-maj=143.6km s-min=21.5km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**34.77**	**126**	P	P	19 30 55.0	-2.3
	1.7nm,0.9s,baz=157,slow=4.4,SNR=3.8						
WRA	**Warramunga Arr**	**42.84**	**123**	P	P	19 32 03.0	-1.8
	0.9nm,0.8s,baz=301,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**44.24**	**128**	P	P	19 32 13.3	-2.8
	0.3nm,0.5s,baz=298,slow=8.1,SNR=5.0						
MKAR	**Makanchi Array**	**46.32**	**346**	P	P	19 32 30.1	-2.3
	0.6nm,0.7s,baz=155,slow=9.0,SNR=3.8						
SONM	**Songino Array**	**46.35**	**9**	P	P	19 32 31.2	-1.4
	0.4nm,0.5s,baz=190,slow=9.6,SNR=5.0						
STKA	**Stephens Creek**	**54.24**	**132**	P	P	19 33 32.0	-1.0
	0.7nm,0.5s,baz=280,slow=9.5,SNR=4.9						

*IDC **28** 19:26:35.5±0.4,2.01N×99.41E,mb4.5/21,mb1 4.6/21, mb1mx4.6/22,mbtmp4.5/21,Error ellipse: s-maj=20.5km s-min=11.2km az=52.0*
*MOS **28** 19:26:39.0±1.5,1.93N×99.32E,h33km,mb4.9/22,Error ellipse: s-maj=13.6km s-min=6.6km az=121.0*
*NEIC **28** 19:26:40.2±0.3,1.85N×99.23E,h30km,mb4.8/30,Error ellipse: s-maj=9.8km s-min=6.0km az=50.0*
*BJI **28** 19:26:41.1,1.89N×98.54E,h33km,mb4.7,Ms5.3,Msz4.8*
ISC 28 19:26:36.7±1.8,1.81N±0.04×99.18E±0.05,h19km±12km, h30km±1.0km:pP-P,n139,σ1s34/139,mb4.7/61,MS5.0/1,3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.31**	**34**	P	**Pn**	**19 27 29.5**	**+0.7**
KULM	**Kulim**	**3.76**	**23**	*e*Pn	**Pn**	**19 27 35.9**	**+0.7**
KGM	**Kluang**	**4.14**	**87**	P	**Pn**	**19 27 41.2**	**+0.5**
KSM	**Kuching**	**11.13**	**92**	*e*Pn	**P**	**19 29 17.7**	**-0.5**
CM31	**Chiang Mai Arr**	**16.55**	**359**	*e*Pn	**P**	**19 30 31.8**	**+2.1**
	43nm,1.0s						
KKM	**Kota Kinabalu**	**17.51**	**76**	*e*P	**P**	**19 30 42.1**	**+0.4**
KKM	**Kota Kinabalu**	**17.51**	**76**	P	**P**	**19 30 47.8**	**+6.1**
TSM	**Tawau**	**18.83**	**82**	P	**P**	**19 31 02.7**	**+4.6**
PALK	**Pallekele**	**19.19**	**287**	*e*P	**P**	**19 31 02.7**	**+0.3**
	76nm,1.3s						
QIZ	**Qiongzhong**	**20.05**	**31**	P	**P**	**19 31 13.8**	**+1.9**
QIZ	**Qiongzhong**	**20.05**	**31**	*e*P	**P**	**19 31 12.4**	**+0.5**
	57nm,1.4s						
KMI	**Kunming**	**23.43**	**8**	P	**P**	**19 31 48.0**	**+2.1**
KMI				AMB	AMB		
	comp=Z,9.0nm,1.9s,mb3.9						
GYA	**Guiyang**	**25.54**	**16**	⇓*i*P	**P**	**19 32 12.0**	**+5.8**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
JIRN	**Jiri**	**28.56**	**335**	*e*P	**P**	**19 32 33.2**	**-0.5**
LSA	**Lhasa**	**28.77**	**345**	P	**P**	**19 32 37.0**	**+1.3**
LSA	**Lhasa**	**28.77**	**345**	*e*P	**P**	**19 32 36.7**	**+1.0**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.1						
LSA	**Lhasa**	**28.77**	**345**	*e*P	**P**	**19 32 36.7**	**+1.0**
	comp=Z,2.5nm,0.5s,mb4.2						
DMN	**Daman**	**28.98**	**334**	*e*P	**P**	**19 32 37.4**	**-0.2**
	comp=Z,32nm,1.1s,mb5.0						
KKN	**Kakani**	**29.06**	**334**	*e*P	**P**	**19 32 37.5**	**-0.8**
	comp=Z,39nm,1.2s,mb5.0						
KKN	**Kakani**	**29.06**	**334**	*e*P	**P**	**19 32 37.5**	**-0.8**
KKN				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.7						
GKN	**Gorkha**	**29.53**	**333**	*e*P	**P**	**19 32 40.4**	**-2.1**
KOLN	**Koldanda**	**29.81**	**331**	*e*P	**P**	**19 32 42.5**	**-2.6**
	comp=Z,20nm,0.7s,mb4.9						
ENH	**Enshi**	**29.95**	**18**	*e*P	**P**	**19 32 44.9**	**-1.4**
	comp=Z,14nm,1.1s,mb4.6						
FITZ	**Fitzroy Crossi**	**32.71**	**128**	*e*P	**P**	**19 33 10.2**	**-0.4**
	comp=Z,4.2nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**32.71**	**128**	P	**P**	**19 33 09.7**	**-0.9**
	comp=Z,10nm,1.1s,mb4.7,baz=253,slow=0.2,SNR=6.4						
NDI	**New Delhi**	**33.96**	**324**	*e*P	**P**	**19 33 19.0**	**-2.3**
NDI				*e*S	**S**	**19 38 48.0**	**+3.8**
LZH	**Lanzhou**	**34.38**	**7**	*e*P	**P**	**19 33 30.5**	**+5.6**
LZH				AP	pP	19 33 38.5	+8.0
LZH				XP	sP	19 33 42.5	+10
LZH				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.9						
NJ2	**Nanjing**	**35.34**	**30**	*e*P	**P**	**19 33 36.5**	**+3.3**
NJ2				AP	pP	19 33 45.5	+6.7
NJ2				XP	sP	19 33 51.3	+10
NJ2				PP	PP	19 34 56.0	+3.2
NJ2				PPP	PPP	19 35 15.0	+3.6
NJ2				S	**S**	**19 39 08.0**	**+2.4**
NJ2				XS		19 39 23.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
KAKA	**Kakadu**	**36.03**	**115**	*e*P	**P**	**19 33 39.4**	**+0.2**
	comp=Z,13nm,0.8s,mb4.9						
MUN	**Mundaring**	**37.28**	**156**	*e*P	**P**	**19 33 50.8**	**+1.3**
	comp=Z,16nm,0.9s,mb4.8						
MUN	**Mundaring**	**37.28**	**156**	*e*P	**P**	**19 33 50.8**	**+1.3**
MUN				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.8						
GTA	**Gaotai**	**37.43**	**1**	*e*P	**P**	**19 33 50.0**	**-0.7**
GTA				AP	pP	19 33 59.0	+2.7
GTA				XP	sP	19 34 02.5	+3.8
GTA				PP	PP	19 35 23.5	+4.7
GTA				S	**S**	**19 39 43.5**	**+5.9**
GTA				XS		19 39 55.5	
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
KLBR	**Kellerberrin**	**37.61**	**154**	*e*P	**P**	**19 33 53.4**	**+1.1**
	comp=Z,118nm,1.0s,mb5.6						
THN	**Thein Dam**	**37.62**	**327**	*e*P	**P**	**19 33 50.1**	**-2.2**
	comp=Z,17nm,0.7s,mb4.9						
NWAO	**Narrogin (SRO)**	**38.53**	**155**	P	**P**	**19 34 00.9**	**+0.9**
	comp=Z,11nm,0.8s,mb4.6,baz=328,slow=10.0,SNR=9.5						
HHC	**Hu-ho-hao-te**	**40.45**	**15**	*e*P	**P**	**19 34 19.3**	**+3.5**
HHC				AP	pP	19 34 29.0	+7.5
HHC				XP	sP	19 34 33.0	+9.2
HHC				PP	PP	19 35 55.5	+3.0
HHC				PCS		19 40 06.0	
HHC				SCP		19 40 08.5	
HHC				SCS	ScS	19 44 17.0	-1.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.1						
WRA	**Warramunga Arr**	**40.70**	**124**	P	**P**	**19 34 16.9**	**-1.2**
	comp=Z,16nm,0.7s,mb4.8,baz=301,slow=9.1,SNR=37						
WRA				PcP	PcP	19 36 19.5	-0.7
	comp=Z,5.7nm,0.9s,baz=311,slow=2.4,SNR=8.2						
WRAB	**Tennant Creek**	**40.71**	**124**	P	**P**	**19 34 17.2**	**-0.9**
	comp=Z,168nm,0.9s,mb5.7,SNR=18						
WRAB	**Tennant Creek**	**40.71**	**124**	*e*P	**P**	**19 34 16.9**	**-1.2**
WB2	**Warramunga Arr**	**40.71**	**124**	*e*P	**P**	**19 34 17.2**	**-1.0**
ASPA	**Alice Springs**	**42.21**	**129**	*e*P	**P**	**19 34 31.6**	**+1.1**
ASAR	**Alice Springs**	**42.21**	**129**	P	**P**	**19 34 28.9**	**-1.6**
	comp=Z,6.5nm,0.9s,mb4.3,baz=301,slow=7.4,SNR=22						
ASAR				PcP	PcP	19 36 24.6	-0.7
	comp=Z,5.3nm,0.9s,baz=307,slow=3.3,SNR=10						
FORT	**Forrest**	**42.50**	**142**	*e*P	**P**	**19 34 32.2**	**-0.6**
	comp=Z,651nm,0.6s						
WMQ	**Urumqi**	**43.06**	**348**	⇓*i*P	**P**	**19 34 38.5**	**+1.3**
WMQ				XP	sP	19 34 52.0	+6.7
WMQ				PCP	PcP	19 36 28.0	+0.2
WMQ				*e*S	**S**	**19 41 02.0**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.6						
WMQ				LR	LR		
	comp=N,2μm,20.7s,MS5.1						
WMQ				LR	LR		
	comp=E,2μm,22.3s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,21.0s,MS4.8						
UCH	**Uchtor**	**45.92**	**334**	P	**P**	**19 34 59.9**	**-0.4**
	SNR=12						
TKM2	**Tokmak 2**	**46.04**	**336**	P	**P**	**19 34 59.7**	**-1.4**
	SNR=10						
KBK	**Karagaybulak**	**46.09**	**335**	P	**P**	**19 35 01.4**	**-0.1**
	SNR=18						
AML	**Almayashu**	**46.20**	**334**	P	**P**	**19 35 02.5**	**0.0**
	SNR=21						
AAK	**Ala-Archa**	**46.26**	**335**	P	**P**	**19 35 02.5**	**-0.4**
	comp=Z,95nm,1.1s,mb5.6,SNR=9.1						
AAK	**Ala-Archa**	**46.26**	**335**	*e*P	**P**	**19 35 04.0**	**+1.1**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
AAK	**Ala-Archa**	**46.26**	**335**	*e*P	**P**	**19 35 04.0**	**+1.1**
	comp=Z,2.5nm,0.6s,mb4.3						
SONM	**Songino Array**	**46.27**	**7**	P	**P**	**19 35 02.5**	**-0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=190,slow=8.0,SNR=14						
SONM				PcP	PcP	19 36 38.7	-0.1
	comp=Z,2.2nm,0.7s,baz=172,slow=3.5,SNR=3.3						
SONM				ScP		19 40 35.5	
	comp=Z,0.9nm,0.4s,baz=193,slow=9.1,SNR=5.9						
ULN	**Ulaanbaatar**	**46.38**	**7**	*i* P	**P**	**19 35 04.5**	**+0.7**
EKS2	**Erkin-Say**	**46.59**	**334**	P	**P**	**19 35 05.5**	**-0.1**
	SNR=18						
USP	**Ospenovka**	**46.78**

comp=Z,5.6nm,0.7s,mb4.7
MBAR Mbarara 68.47 269 *e*P **P 19 37 39.4 -1.1**
MBAR pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
MBAR Mbarara 68.47 269 *e*P **P 19 37 39.4 -1.1**
comp=Z,9.9nm,1.2s,mb4.7
MA2 Magadan 69.94 25 *e*P **P 19 37 50.1 +1.4**
MA2 pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
MA2 pmax pmax
comp=E,5.0nm,1.5s
MA2 Magadan 69.94 25 *e*P **P 19 37 49.4 +0.7**
comp=E,3.3nm,0.6s,mb4.4
BRTR Keskin Array B 70.17 312 P **P 19 37 49.1 -1.3**
comp=E,4.0nm,0.9s,mb4.3,baz=135,slow=7.0,SNR=7.2
VRSR Storozhevoye 70.20 325 *e*P **P 19 37 48.2 -2.2**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,6.0nm,0.9s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' 71.26 317 *e*P **P 19 37 56.4 -0.6**
TIXI Tiksi 72.26 9 *e*P **P 19 37 59.5 -3.0**
TIXI pmax pmax
comp=Z,36nm,1.3s,mb5.1
OBN Obninsk 73.15 328 *i*P **P 19 38 06.4 -1.6**
OBN *i* 19 38 20.6
OBN *e* 19 40 48.7
OBN *i*SS SS 19 52 09.5 -7.9
OBN pmax pmax
comp=Z,26nm,1.4s,mb5.0
OBN Obninsk 73.15 328 *e*P **P 19 38 08.2 +0.2**
comp=Z,22nm,1.0s,mb5.0
MAW Mawson 73.76 194 P **P 19 38 12.9 +1.6**
comp=Z,8.2nm,0.8s,mb4.7,baz=313,slow=18,SNR=7.3
KIS Kishinev 75.36 318 *e*P **P 19 38 23.0 +2.1**
KIS *e* 19 38 32.0
LBTB Lobatse 75.93 244 P **P 19 38 26.1 +1.4**
comp=Z,6.0nm,0.9s,mb4.5,baz=137,slow=7.3,SNR=6.3
AKASG Malin Array Be 75.99 322 P **P 19 38 23.9 -0.6**
comp=Z,3.6nm,0.7s,mb4.4,baz=88,slow=5.0,SNR=10
BOSA Boshof 76.79 240 P **P 19 38 32.8 +3.4**
comp=Z,1.4nm,0.6s,mb4.1,baz=110,slow=7.9,SNR=4.8
BILL Bilibino 79.90 21 *i*P **P 19 38 46.2 +0.6**
BILL pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
KOLS Kolonicke sedl 80.04 319 *i*P **P 19 38 48.6 +1.8**
FINES FINESS Array B 80.38 332 P **P 19 38 47.6 -0.6**
comp=Z,2.7nm,0.9s,mb4.2,baz=103,slow=6.1,SNR=9.9
KAF Kangasniemi 80.44 333 ep **P 19 38 47.3 -1.3**
CRVS Cervenica-Dubn 80.57 319 *e*P **P 19 38 52.4 +2.9**
KECS Kecovo 81.15 319 *e*P **P 19 38 54.2 +1.6**
PSZ Piszkesteto 81.48 318 *e*P **P 19 38 55.2 +0.9**
PSZ pmax pmax
comp=Z,12nm,1.4s,mb4.6
PSZ Piszkesteto 81.48 318 *e*P **P 19 38 55.2 +0.9**
comp=Z,12nm,1.4s,mb4.6
ARCES ARCESS Array B 82.64 340 P **P 19 38 59.7 -0.2**
comp=Z,8.1nm,1.0s,mb4.7,baz=90,slow=3.6,SNR=9.1
OKC Ostrava-Krasne 82.83 320 *e*P **P 19 39 03.7 +2.4**
MORC Moravsky Berou 83.22 320 *e*P **P 19 39 04.1 +0.8**
MORC pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MORC Moravsky Berou 83.22 320 *e*P **P 19 39 04.1 +0.8**
comp=Z,4.7nm,1.0s,mb4.5
ZST Bratislava 83.37 318 *e*P **P 19 39 06.2 +2.1**
DPC Dobruska-Polom 84.05 320 *e*P **P 19 39 08.2 +0.7**
UPC Upice 84.26 320 *e*P **P 19 39 10.8 +2.2**
PRU Pruhonice 85.17 320 *e*P **P 19 39 14.9 +1.8**
PVCC Panska Ves 85.18 320 *e*P **P 19 39 13.3 +0.1**
AQU L'Aquila 85.66 312 *e*P **P 19 39 17.2 +1.4**
AQU pmax pmax
comp=Z,2.0nm,0.4s,mb4.7
AQU L'Aquila 85.66 312 *e*P **P 19 39 17.2 +1.4**
comp=Z,2.3nm,0.4s,mb4.8
GERES GERESS Array B 85.66 319 P **P 19 39 16.3 +0.7**
comp=Z,6.1nm,1.1s,mb4.7,baz=104,slow=5.5,SNR=18
KHC Kasperske Hory 85.76 319 *i*P **P 19 39 14.9 -1.2**
KHC Kasperske Hory 85.76 319 *e*P **P 19 39 14.1 -2.0**
KHC *ex* x 19 39 20.5
VNDA Vanda 86.03 169 P **P 19 39 17.2 +0.3**
comp=Z,5.3nm,1.1s,mb4.7,baz=292,slow=4.7,SNR=8.8
VNDA PP PP 19 42 37.3 -1.4
comp=Z,0.7nm,0.3s,baz=279,slow=6.4,SNR=18
CLL Collm 86.20 321 P **P 19 39 18.0 -0.3**
NKC Novy Kostel 86.52 320 *e*P **P 19 39 19.3 -0.6**
NB2 NORSAR Subarra 87.44 331 P **P 19 39 22.8 -1.2**
comp=Z,12nm,1.4s,mb4.9,baz=95,slow=4.8
NB2 NORSAR Subarra 87.44 331 P **P 19 39 22.8 -1.2**
NB2 pmax pmax
comp=Z,12nm,1.4s,mb4.9
NOA NORSAR Array B 87.44 331 P **P 19 39 23.6 -0.4**
comp=Z,4.2nm,1.1s,mb4.6,baz=96,slow=5.2,SNR=4.2
LPG La Plagne 90.43 315 *e*P **P 19 39 38.4 -0.2**
comp=Z,28nm,1.3s,mb5.1
LPG La Plagne 90.43 315 *e*P **P 19 39 38.4 -0.2**
LPG pmax pmax
comp=Z,14nm,1.3s,mb5.1
ULM Lac du Bonnet 126.56 12 PKP PKPdf 19 45 41.4 -1.6
comp=Z,1.4nm,0.5s,baz=358,slow=0.4,SNR=3.8
PDAR Pinedale Array 128.62 27 PKP PKPdf 19 45 46.0 -1.3
comp=Z,1.8nm,1.0s,baz=270,slow=1.5,SNR=10.0
TXAR Lajitas Array 142.09 33 PKP PKPdf 19 46 11.2 -1.4
comp=Z,1.0nm,0.5s,baz=297,slow=2.8,SNR=9.7
BDFB Brasilia 144.86 245 PKPbc PKPbc 19 46 14.9 +1.1
comp=Z,14nm,0.8s,baz=108,slow=1.8,SNR=14
LPAZ La Paz 160.94 220 PKP PKPdf 19 46 40.4 -0.1
comp=Z,0.6nm,0.2s,baz=23,slow=5.6,SNR=5.8
LPAZ PKPab PKPab 19 47 24.3 +2.7
comp=Z,1.3nm,0.7s,baz=109,slow=4.8,SNR=4.2

*IDC **28** 19:34:24.5±1.2,2.00N×97.05E,mb4.2/9,mb1 4.3/9, mb1mx4.0/17,mbtmp4.2/9, Error ellipse: s-maj=66.0km s-min=17.2km az=54.0*
*BJI **28** 19:34:25.2,1.56N×97.20E,h41km,mb4.8*
*NEIC **28** 19:34:28.9±0.4,1.96N×97.06E,h30km,mb4.6/15, Error ellipse: s-maj=11.7km s-min=5.9km az=47.0*
ISC 28 19:34:30.2±3.1,2.1N±0.1×97.2E±0.1,h53km±25km,n41, σ0°80/40,mb4.5/28,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**4.71**	**47**	*e*Pn		**P**	**19 35 40.9**	**+0.3**
KKM	**Kota Kinabalu**	**19.37**	**78**	*e*P		**P**	**19 38 54.6**	**+0.1**
KMI	**Kunming**	**23.55**	**13**	P		**P**	**19 39 38.5**	**+1.8**
KMI				AMB		AMB		
comp=Z,18nm,1.0s,mb4.5								
JIRN	**Jiri**	**27.56**	**339**	*e*P		**P**	**19 40 14.4**	**-0.1**
comp=Z,30nm,1.0s,mb4.9								
PKI	**Pulchoki**	**27.77**	**337**	*e*P		**P**	**19 40 16.4**	**0.0**
DMN	**Daman**	**27.93**	**337**	*e*P		**P**	**19 40 17.3**	**-0.5**
KKN	**Kakani**	**28.02**	**337**	*e*P		**P**	**19 40 17.7**	**-0.9**
comp=Z,22nm,1.0s,mb4.7								
LSA	**Lhasa**	**28.09**	**349**	*e*P		**P**	**19 40 19.1**	**-0.2**
comp=Z,2.0nm,0.6s,mb3.9								
GKN	**Gorkha**	**28.46**	**336**	*e*P		**P**	**19 40 21.9**	**-0.7**
KOLN	**Koldanda**	**28.70**	**334**	*e*P		**P**	**19 40 24.2**	**-0.4**
comp=Z,13nm,0.6s,mb4.9								
ENH	**Enshi**	**30.39**	**21**	*e*P		**P**	**19 40 37.7**	**-2.0**
comp=Z,7.8nm,0.6s,mb4.6								
XAN	**Xi'an**	**33.66**	**18**	P		**P**	**19 41 07.0**	**-1.2**
XAN				AMB		AMB		
comp=Z,16nm,0.8s,mb5.0								
GTA	**Gaotai**	**37.26**	**3**	*e*P		**P**	**19 41 38.5**	**-0.2**
GTA				AP		pP	19 41 47.0	-5.5
GTA				XP		sP	19 41 50.0	-8.9
GTA				AMB		AMB		
comp=Z,6.0nm,0.8s,mb4.5								
BJT	**Baijiatuao**	**41.53**	**22**	*e*P		**P**	**19 42 15.7**	**+1.6**
comp=Z,8.2nm,0.5s,mb4.6								
WRA	**Warramunga Arr**	**42.48**	**123**	P		**P**	**19 42 22.1**	**-0.1**
comp=Z,1.6nm,0.6s,mb3.8,baz=301,slow=9.2,SNR=20								
WRAB	**Tennant Creek**	**42.49**	**123**	*e*P		**P**	**19 42 22.0**	**-0.3**
comp=Z,4.9nm,0.5s,mb4.4								
WB2	**Warramunga Arr**	**42.49**	**123**	*e*P		**P**	**19 42 22.1**	**-0.2**
ASAR	**Alice Springs**	**43.91**	**128**	P		**P**	**19 42 33.5**	**-0.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=299,slow=7.6,SNR=5.2								
UCH	**Uchtor**	**44.88**	**336**	P		**P**	**19 42 42.2**	**+0.9**
SNR=8.2								
TKM2	**Tokmak 2**	**45.04**	**338**	P		**P**	**19 42 43.0**	**+0.4**
SNR=6.6								
KBK	**Karagaybulak**	**45.06**	**337**	P		**P**	**19 42 44.0**	**+1.2**
SNR=11								
AML	**Almayashu**	**45.13**	**335**	P		**P**	**19 42 45.2**	**+1.8**
SNR=5.5								
AAK	**Ala-Archa**	**45.23**	**336**	*e*P		**P**	**19 42 44.8**	**+0.7**
comp=Z,5.3nm,1.5s,mb4.2								
USP	**Ospenovka**	**45.76**	**337**	P		**P**	**19 42 48.5**	**+0.2**
SNR=7.0								
SONM	**Songino Array**	**46.30**	**9**	P		**P**	**19 42 52.9**	**+0.4**
comp=Z,5.0nm,0.7s,mb4.5,baz=190,slow=8.6,SNR=29								
SONM				PcP		PcP	19 44 27.9	+0.3
comp=Z,1.5nm,0.5s,baz=187,slow=4.3,SNR=7.2								
MKAR	**Makanchi Array**	**46.42**	**346**	P		**P**	**19 42 53.1**	**-0.4**
comp=Z,2.4nm,0.5s,mb4.4,baz=159,slow=9.1,SNR=26								
CN2	**Changchun**	**48.55**	**27**	*e*P		**P**	**19 43 10.0**	**-0.2**
CN2				AMB		AMB		
comp=Z,10.0nm,0.6s,mb5.0								
TLY	**Talaya**	**49.75**	**5**	*e*P		**P**	**19 43 19.8**	**+0.5**
comp=Z,3.3nm,0.7s,mb4.5								
KURK	**Kurchatov**	**50.98**	**345**	*e*P		**P**	**19 43 27.9**	**-0.8**
comp=Z,7.0nm,1.0s,mb4.5								
STKA	**Stephens Creek**	**53.92**	**133**	P		**P**	**19 43 51.7**	**+0.7**
comp=Z,1.6nm,0.6s,mb4.1,baz=309,slow=13,SNR=5.0								
STKA	**Stephens Creek**	**53.92**	**133**	P		**P**	**19 43 51.7**	**+0.7**
BVAR	**Borovoye Array**	**55.45**	**341**	P		**P**	**19 44 00.7**	**-1.1**
comp=Z,3.0nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=18								
CHKZ	**Chkalovo**	**55.93**	**341**	*e*P		**P**	**19 44 04.0**	**-1.2**
comp=Z,15nm,1.2s,mb4.9								
YSS	**Yuzh-Sakhalins**	**59.65**	**35**	*e*P		**P**	**19 44 31.9**	**+0.5**
comp=Z,26nm,1.0s,mb5.2								
YAK	**Yakutsk**	**64.61**	**16**	*e*P		**P**	**19 45 03.3**	**-1.0**
comp=Z,15nm,0.7s,mb5.1								
MA2	**Magadan**	**70.57**	**26**	*e*P		**P**	**19 45 41.6**	**+0.1**
comp=Z,4.1nm,0.8s,mb4.4								
FINES	**FINESS Array B**	**79.25**	**332**	P		**P**	**19 46 31.1**	**-0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=78,slow=5.3,SNR=6.9								
ARCES	**ARCESS Array B**	**81.74**	**340**	P		**P**	**19 46 44.4**	**0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=59,slow=7.1,SNR=8.9								
GERES	**GERESS Array B**	**84.18**	**319**	P		**P**	**19 46 58.1**	**+0.9**
comp=Z,0.5nm,0.5s,mb3.9,baz=104,slow=5.5,SNR=8.3								
CLL	**Collm**	**84.78**	**321**	*e**SP		pP	19 47 13.0	-2.3
NB2	**NORSAR Subarra**	**86.27**	**331**	P		**P**	**19 47 07.3**	**+0.1**
comp=Z,3.2nm,1.2s,mb4.4,baz=91,slow=5.0								

*IDC **28** 19:39:59.4±0.9, 1.78N×98.18E,h27km±4km,mb3.9/10, mb1 4.0/10,mb1mx3.8/16,mbtmp4.0/10,Error ellipse: s-maj=45.5km s-min=12.5km az=52.0*
*NEIC **28** 19:40:06.4±1.0,2.96N×97.89E,mb4.5/17,Error ellipse: s-maj=20.4km s-min=10.2km az=192.0*
*BJI **28** 19:40:07.3,3.00N×97.90E,h27km,mb4.4,Ms4.9,Msz4.5*
ISC 28 19:40:04.2±1.0,2.9N±0.1×97.89E±0.07,h29km, h29km±1.3km:pP-P,n41,σ1s19/41,mb4.3/33,MS4.6/1,2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**3.66**	**49**	*e*Pn		**Pn**	**19 41 00.2**	**-0.1**
KSM	**Kuching**	**12.48**	**96**	*e*Pn		**P**	**19 43 03.5**	**+0.5**
CM31	**Chiang Mai Arr**	**15.53**	**4**	*e*Pn		**P**	**19 43 42.1**	**-1.0**
13nm,0.9s								
KKM	**Kota Kinabalu**	**18.54**	**80**	*e*P		**P**	**19 44 20.6**	**-0.3**
KMI	**Kunming**	**22.62**	**11**	⇓P		**P**	**19 45 11.5**	**+7.3**
KMI				AMB		AMB		
comp=Z,15nm,1.5s,mb4.2								
GYA	**Guiyang**	**24.92**	**19**	⇓*i*P		**P**	**19 45 32.0**	**+5.4**
GYA				AMB		AMB		
comp=Z,10.0nm,0.8s,mb4.4								
JIRN	**Jiri**	**27.08**	**337**	*e*P		**P**	**19 45 46.8**	**+0.3**
comp=Z,32nm,0.9s,mb4.8								
PKI	**Pulchoki**	**27.32**	**335**	*e*P		**P**	**19 45 48.1**	**-0.6**
LSA	**Lhasa**	**27.45**	**347**	*e*P		**P**	**19 45 49.9**	**0.0**
comp=Z,5.1nm,0.7s,mb4.2								
DMN	**Daman**	**27.48**	**335**	*e*P		**P**	**19 45 50.2**	**0.0**
comp=Z,13nm,0.8s,mb4.5								
KKN	**Kakani**	**27.56**	**335**	*e*P		**P**	**19 45 50.3**	**-0.6**
comp=Z,13nm,0.9s,mb4.6								
GKN	**Gorkha**	**28.02**	**334**	*e*P		**P**	**19 45 54.5**	**-0.6**
comp=Z,19nm,0.8s,mb4.8								
KOLN	**Koldanda**	**28.28**	**332**	*e*P		**P**	**19 45 56.6**	**-0.8**
comp=Z,22nm,0.8s,mb4.8								
ENH	**Enshi**	**29.39**	**21**	*e*P		**P**	**19 46 08.2**	**+0.8**
comp=Z,12nm,0.6s,mb4.8								
ENH				*e*		pP	19 46 16.7	+0.9
FITZ	**Fitzroy Crossi**	**34.37**	**128**	P		**P**	**19 46 36.7**	**-14**
comp=Z,2.1nm,0.6s,mb4.2,baz=245,slow=0.9,SNR=4.9								
FITZ				pP		pP	19 46 44.6	-15
comp=Z,1.8nm,0.6s,baz=211,slow=5.1,SNR=2.0								
GTA	**Gaotai**	**36.42**	**3**	*e*P		**P**	**19 47 10.8**	**+2.5**
GTA				AP		pP	19 47 20.0	+3.2
GTA				XP		sP	19 47 23.3	+2.9
GTA				AMB		AMB		
comp=Z,5.0nm,1.0s,mb4.4								
HHC	**Hu-ho-hao-te**	**39.78**	**16**	*e*P		**P**	**19 47 37.8**	**+1.4**
HHC				AP		pP	19 47 47.5	+2.5
HHC				XP		sP	19 47 51.0	+2.5
HHC				PP		PP	19 49 16.5	+4.9
BJT	**Baijiatuao**	**40.52**	**22**	*e*P		**P**	**19 47 40.8**	**-1.8**
comp=Z,9.6nm,0.6s,mb4.6								
BJI	**Beijing**	**40.55**	**22**	P		**P**	**19 47 46.8**	**+4.1**
BJI				AMB		AMB		
comp=Z,14nm,0.7s,mb4.7								
WMQ	**Urumqi**	**41.78**	**349**	P		**P**	**19 47 54.3**	**+1.5**
WMQ				AP		pP	19 48 04.0	+2.6
WMQ				XP		sP	19 48 07.5	+2.6
WMQ				AMB		AMB		
comp=Z,8.0nm,1.2s,mb4.2								
WMQ				LR		LR		
comp=N,828nm,20.8s,MS4.8								
WMQ				LR		LR		
comp=E,935nm,21.2s,MS4.8								
WMQ				LR		LR		
comp=Z,682nm,22.5s,MS4.5								
WRA	**Warramunga Arr**	**42.35**	**124**	P		**P**	**19 47 45.4**	**-13**
comp=Z,1.5nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=10								
WRA				pP		pP	19 47 52.6	-14
comp=Z,0.8nm,0.3s,baz=309,slow=8.9,SNR=5.6								
ASAR	**Alice Springs**	**43.87**	**129**	P		**P**	**19 47 57.0**	**-13**
comp=Z,0.9nm,0.7s,mb3.6,baz=298,slow=7.7,SNR=6.1								
ASAR				pP		pP	19 48 04.0	-15
comp=Z,1.2nm,0.8s,baz=298,slow=7.5,SNR=8.7								
AAK	**Ala-Archa**	**44.77**	**335**	*e*P		**P**	**19 48 18.9**	**+1.7**
comp=Z,7.4nm,1.6s,mb4.3								
SONM	**Songino Array**	**45.40**	**8**	P		**P**	**19 48 24.3**	**+2.3**
comp=Z,3.6nm,0.7s,mb4.3,baz=190,slow=9.2,SNR=20								
SONM				pP		pP	19 48 31.6	+0.9
comp=Z,2.1nm,0.7s,baz=190,slow=9.7,SNR=8.0								
ULN	**Ulaanbaatar**	**45.52**	**9**	*e*P		**P**	**19 48 24.5**	**+1.4**
comp=Z,20nm,1.7s,mb4.8								
MKAR	**Makanchi Array**	**45.81**	**345**	P		**P**	**19 48 25.9**	**+0.5**
comp=Z,2.1nm,0.5s,mb4.3,baz=159,slow=8.8,SNR=16								
MKAR				pP		pP	19 48 35.9	+1.9
comp=Z,2.6nm,0.5s,baz=162,slow=9.0,SNR=8.4								
MKAR	**Makanchi Array**	**45.81**	**345**	P		**P**	**19 48 25.9**	**+0.5**
MKAR				pP		pP	19 48 35.9	+1.9
KURK	**Kurchatov**	**50.38**	**344**	*e*P		**P**	**19 48 59.2**	**-1.6**
comp=Z,4.5nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**53.97**	**133**	P		**P**	**19 49 12.6**	**-15**
comp=Z,1.9nm,0.8s,mb4.0,baz=319,slow=15,SNR=3.3								
BVAR	**Borovoye Array**	**54.92**	**340**	P		**P**	**19 49 31.4**	**-3.3**
comp=Z,3.1nm,0.8s,mb4.4,baz=129,slow=9.5,SNR=13								
YSS	**Yuzh-Sakhalins**	**58.59**	**34**	*e*P		**P**	**19 49 59.4**	**-1.5**
comp=Z,4.0nm,0.4s,mb4.8								
YAK	**Yakutsk**	**63.64**	**16**	*e*P		**P**	**19 50 33.6**	**-1.2**
comp=Z,14nm,0.8s,mb5.0								
MALT	**Malatya**	**64.55**	**311**	*e*P		**P**	**19 50 41.9**	**+0.7**
comp=Z,0.6nm,0.4s,mb4.0								
EIL	**Elat**	**65.17**	**301**	P		**P**	**19 50 46.7**	**+1.3**
comp=Z,1.3nm,0.4s,mb4.3								
BRTR	**Keskin Array B**	**68.52**	**312**	P		**P**	**19 51 04.8**	**-1.5**
comp=Z,0.9nm,0.7s,mb3.8,baz=121,slow=7.2,SNR=4.4								
MA2	**Magadan**	**69.54**	**26**	*e*P		**P**	**19 51 11.2**	**-1.1**
comp=Z,3.0nm,0.7s,mb4.3								
AKASG	**Malin Array Be**	**74.38**	**322**	P		**P**	**19 51 40.5**	**-0.7**
comp=Z,0.3nm,0.2s,mb3.8,baz=88,slow=5.3,SNR=4.2								
AKASG	**Malin Array Be**	**74.38**	**322**	P		**P**	**19 51 40.5**	**-0.7**
FINES	**FINESS Array B**	**78.86**	**332**	P		**P**	**19 52 07.0**	**+1.0**
comp=Z,0.7nm,0.5s,mb3.9,baz=108,slow=6.0,SNR=6.3								
ARCES	**ARCESS Array B**	**81.21**	**340**	P		**P**	**19 52 14.6**	**-3.9**
comp=Z,3.5nm,0.9s,mb4.3,baz=90,slow=1.2,SNR=5.2								
GERES	**GERESS Array B**	**84.03**	**319**	P		**P**	**19 52 33.2**	**-0.3**
comp=Z,0.5nm,0.8s,mb3.7,baz=72,slow=4.2,SNR=5.0								
GERES				pP		pP	19 52 42.6	0.0
comp=Z,0.3nm,0.6s,baz=124,slow=4.8,SNR=2.9								

IDC 28 19:41:33.8±3.8,2.71N×96.97E,mb3.8/5,mb1 4.0/5,
mb1mx3.7/17,mbtmp3.8/5,1D,Error ellipse: s-maj=150.8km s-min=21.7km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**35.01**	**127**	⇓*i*P		P	19 48 34.7	+4.4
16nm,0.6s								
FITZ	**Fitzroy Crossi**	**35.01**	**127**	P		P	19 48 27.7	-2.6
3.0nm,1.0s,baz=267,slow=2.0,SNR=2.3								
WRA	**Warramunga Arr**	**43.04**	**123**	P		P	19 49 36.0	-1.3
1.7nm,0.7s,baz=301,slow=9.1,SNR=5.9								
ASAR	**Alice Springs**	**44.49**	**128**	P		P	19 49 47.4	-1.7
0.7nm,0.6s,baz=312,slow=8.1,SNR=4.6								
SONM	**Songino Array**	**45.68**	**9**	P		P	19 49 56.5	-1.7
0.5nm,0.4s,baz=189,slow=6.8,SNR=3.3								
MKAR	**Makanchi Array**	**45.73**	**346**	P		P	19 49 56.6	-2.0
0.5nm,0.7s,baz=158,slow=7.8,SNR=2.1								

*BJI **28** 19:41:43.7,2.08N×96.81E,h26km,mB6.3,mb5.1,Ms5.9, Msz5.6*
*MOS **28** 19:41:45.2±0.8,2.19N×96.75E,h33km,mb5.0/27,Error ellipse: s-maj=13.1km s-min=7.6km az=109.8*
*IDC **28** 19:41:45.8±0.4,2.09N×96.63E,h26km±2km,mb4.5/20, mb1 4.5/20,mb1mx4.4/24,mbtmp4.7/20,MS5.7/1, Ms1 5.7/1,ms1mx4.6/32,Error ellipse: s-maj=18.8km s-min=9.0km az=48.0*
*NEIC **28** 19:41:46.0±0.2,2.12N×96.70E,mb4.9/31,Error ellipse: s-maj=6.3km s-min=3.8km az=218.0*
ISC 28 19:41:44.2±0.3,2.10N±0.04×96.75E±0.04,h27km, h27km±.6km:pP-P,n134,σ0°93/130,mb4.8/64,MS5.5/4, 3C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**4.92**	**60**	P		**Pn**	**19 43 00.3**	**+1.8**
KULM	**Kulim**	**5.02**	**51**	*e*Pn		**Pn**	**19 43 01.4**	**+1.6**
KGM	**Kluang**	**6.56**	**91**	P		**Pn**	**19 43 19.1**	**-2.5**
KSM	**Kuching**	**13.56**	**92**	*e*Pn		**P**	**19 44 58.1**	**+0.4**
CM31	**Chiang Mai Arr**	**16.39**	**7**	*e*Pn		**P**	**19 45 33.8**	**-0.6**
44nm,0.7s								
CHG	**Chiang Mai**	**16.75**	**7**	⇓P		**P**	**19 45 38.5**	**-0.3**
16nm,0.8s								
PALK	**Pallekele**	**16.79**	**288**	*e*P		**P**	**19 45 40.8**	**+1.4**
26nm,1.3s								
CHRT	**Chiangrai**	**17.91**	**9**	⇑P		**P**	**19 45 52.0**	**-1.2**
260nm,1.0s								
KKM	**Kota Kinabalu**	**19.80**	**78**	*e*P		**P**	**19 46 15.2**	**-0.6**
KKM	**Kota Kinabalu**	**19.80**	**78**	P		**P**	**19 46 16.8**	**+1.0**
QIZ	**Qiongzhong**	**21.15**	**36**	P		**P**	**19 46 29.3**	**-0.4**
TSM	**Tawau**	**21.20**	**84**	P		**P**	**19 46 30.6**	**+0.4**
KMI	**Kunming**	**23.60**	**14**	⇓P		**P**	**19 46 56.0**	**+2.0**
KMI				AP			19 47 05.5	
KMI				AMB		AMB		
comp=Z,33nm,1.3s,mb4.6								
GYA	**Guiyang**	**26.02**	**21**	⇓*i*P		**P**	**19 47 16.0**	**-1.1**
GYA				AP		pP	19 47 25.5	+0.6
GYA				XP		sP	19 47 29.3	+0.8
GYA				PP		PP	19 48 01.8	+3.3
GYA				S		**S**	**19 51 46.5**	**+2.5**
GYA				AMB		AMB		
comp=Z,30nm,0.8s,mb4.9								
GYA				AMB		AMB		
comp=Z,10μm,11.4s								
GYA				LR		LR		
comp=N,15μm,16.4s,MS5.8								
GYA				LR		LR		
comp=E,20μm,17.0s,MS5.8								
GYA				LR		LR		
comp=Z,24μm,20.0s,MS5.7								
JIRN	**Jiri**	**27.35**	**339**	*e*P		**P**	**19 47 29.7**	**+0.4**
comp=Z,116nm,0.8s,mb5.5								
PKI	**Pulchoki**	**27.55**	**338**	*e*P		**P**	**19 47 31.3**	**+0.2**
comp=Z,27nm,0.6s,mb5.0								
PKI	**Pulchoki**	**27.55**	**338**	*e*P		**P**	**19 47 31.3**	**+0.2**
PKI				pmax		pmax		
comp=Z,13nm,0.6s,mb4.7								
DMN	**Daman**	**27.70**	**337**	*e*P		**P**	**19 47 33.3**	**+0.8**
comp=Z,35nm,0.8s,mb5.0								
KKN	**Kakani**	**27.80**	**338**	*e*P		**P**	**19 47 33.2**	**-0.1**
comp=Z,75nm,0.8s,mb5.4								
KKN	**Kakani**	**27.80**	**338**	*e*P		**P**	**19 47 33.2**	**-0.1**
KKN				pmax		pmax		
comp=Z,37nm,0.8s,mb5.1								
LSA	**Lhasa**	**27.96**	**350**	P		**P**	**19 47 35.3**	**+0.5**
LSA	**Lhasa**	**27.96**	**350**	*e*P		**P**	**19 47 34.9**	**+0.1**
LSA				pmax		pmax		
comp=Z,18nm,0.8s,mb4.8								
LSA	**Lhasa**	**27.96**	**350**	*e*P		**P**	**19 47 34.9**	**+0.2**
comp=Z,18nm,0.8s,mb4.8								
GKN	**Gorkha**	**28.24**	**337**	*e*P		**P**	**19 47 37.2**	**-0.1**
comp=Z,22nm,0.8s,mb5.3								
KOLN	**Koldanda**	**28.45**	**335**	*e*P		**P**	**19 47 39.0**	**-0.2**
comp=Z,86nm,0.7s,mb5.5								
CD2	**Chengdu**	**29.41**	**12**	P		**P**	**19 47 46.0**	**-1.8**
DDI	**Dehra Dun**	**33.19**	**330**	*e*		**P**	**19 48 23.0**	**+1.9**
XAN	**Xi'an**	**33.75**	**18**	P		**P**	**19 48 24.5**	**-1.4**
XAN	

WMQ LR LR
comp=N,1μm,24.3s,MS4.9
WMQ LR LR
comp=E,2μm,23.5s,MS4.9
WMQ LR LR
comp=Z,1μm,20.6s,MS4.7
WRA Warramunga Arr 42.89 123 P **P** **19 49 43.4 +0.9**
comp=Z,17nm,0.6s,mb5.0,baz=300,slow=9.3,SNR=17
WRA pP pP 19 49 50.8 +0.2
comp=Z,10nm,0.6s,baz=302,slow=9.1,SNR=10
WRA Warramunga Arr 42.89 123 P **P** **19 49 43.4 +0.9**
WRA pP pP 19 49 50.8 +0.2
WRAB Tennant Creek 42.90 123 P **P** **19 49 42.0 -0.6**
comp=Z,177nm,0.6s,SNR=10
WB2 Warramunga Arr 42.90 123 *e*P **P** **19 49 42.6 0.0**
DL2 Dalian 43.10 29 P **P** **19 49 44.8 +0.8**
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
KZA Kyzart 44.23 337 P **P** **19 49 54.2 +1.1**
SNR=7.7
FORT Forrest 44.25 140 *e*P **P** **19 49 54.8 +1.3**
comp=Z,981nm,1.2s
ASPA Alice Springs 44.29 128 *e*P **P** **19 49 54.5 +0.6**
ASAR Alice Springs 44.30 128 P **P** **19 49 54.1 +0.3**
comp=Z,7.3nm,1.0s,mb4.4,baz=307,slow=7.8,SNR=24
ASAR pP pP 19 50 02.7 +0.8
comp=Z,3.0nm,0.5s,baz=303,slow=8.0,SNR=9.8
ASAR PcP PcP 19 51 38.0 -0.4
comp=Z,1.4nm,0.8s,baz=312,slow=3.5,SNR=5.2
ASAR Alice Springs 44.30 128 P **P** **19 49 54.1 +0.3**
ASAR pP pP 19 50 02.7 +0.8
ASAR PcP PcP 19 51 38.0 -0.4
UCH Uchtor 44.65 336 P **P** **19 49 57.0 +0.5**
SNR=22
TKM2 Tokmak 2 44.82 338 P **P** **19 49 58.5 +0.7**
SNR=19
KBK Karagaybulak 44.84 337 P **P** **19 49 59.4 +1.3**
SNR=25
AML Almayashu 44.90 336 P **P** **19 49 59.6 +1.1**
SNR=19
AAK Ala-Archa 45.00 337 P **P** **19 49 58.2 -1.1**
comp=Z,41nm,0.6s,mb5.4,SNR=7.4
AAK Ala-Archa 45.00 337 *e*P **P** **19 49 58.8 -0.5**
AAK pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
AAK Ala-Archa 45.00 337 *e*P **P** **19 49 58.8 -0.5**
comp=Z,8.5nm,0.9s,mb4.6
CHMS Chumysh 45.21 337 P **P** **19 50 01.3 +0.4**
SNR=6.2
EKS2 Erkin-Say 45.31 336 P **P** **19 50 02.9 +1.1**
SNR=21
KS15 Wonju Array Si 45.34 35 *e*P **P** **19 50 02.5 +0.5**
USP Ospenovka 45.53 337 P **P** **19 50 04.0 +0.5**
SNR=45
MKAR Makanchi Array 46.26 346 P **P** **19 50 09.1 -0.1**
comp=Z,34nm,0.7s,mb5.4,baz=161,slow=8.0,SNR=77
MKAR pP pP 19 50 16.9 -0.5
comp=Z,15nm,0.7s,baz=160,slow=6.7,SNR=11
SONM Songino Array 46.31 9 P **P** **19 50 09.8 +0.2**
comp=Z,13nm,0.5s,mb5.1,baz=190,slow=9.1,SNR=49
SONM pP pP 19 50 17.9 +0.2
comp=Z,8.0nm,0.8s,baz=191,slow=9.0,SNR=7.9
SONM PcP PcP 19 51 44.8 -0.2
comp=Z,1.1nm,0.6s,baz=187,slow=3.4,SNR=4.2
SNY Shenyang 46.31 28 ⇓P **P** **19 50 09.8 +0.1**
SNY AMB AMB
comp=Z,30nm,0.8s,mb5.3
ZAK Zakamensk 48.42 6 *e*P **P** **19 50 26.1 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
CN2 Changchun 48.71 28 ⇑P **P** **19 50 28.0 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
TLY Talaya 49.74 6 *e*P **P** **19 50 37.0 +0.7**
TLY *e* 19 50 51.9
TLY pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
IRK Irkutsk 50.36 6 *e*P **P** **19 50 40.5 -0.5**
IRK pmax pmax
comp=Z,23nm,2.2s,mb4.8
JHJ Hachijo jima 2 50.74 48 LR LR 20 10 47.3
comp=Z,9μm,21.1s,MS5.8,baz=233,slow=34
KURK Kurchatov 50.81 345 *e*P **P** **19 50 43.8 -0.6**
KURK pmax pmax
comp=Z,13nm,0.9s,mb4.9
KURK Kurchatov 50.81 345 *e*P **P** **19 50 43.8 -0.6**
comp=Z,13nm,0.9s,mb4.9
HIA Hailar 50.94 19 *e*P **P** **19 50 45.1 -0.3**
HIA pmax pmax
comp=Z,23nm,0.9s
HIA Hailar 50.94 19 *e*P **P** **19 50 45.1 -0.3**
comp=Z,23nm,0.9s,mb5.1
MDJ Mudanjiang 51.31 30 P **P** **19 50 48.5 +0.2**
MDJ AMB AMB
comp=Z,18nm,1.2s,mb4.9
PMG Port Moresby 51.50 104 P **P** **19 50 50.5 +0.4**
PMG *PP pP 19 50 58.2 -0.1
PMG Port Moresby 51.50 104 P **P** **19 50 50.5 +0.4**
comp=Z,28nm,0.7s,mb5.3,baz=303,slow=4.7,SNR=12
PMG pP pP 19 50 58.1 -0.2
comp=Z,19nm,0.8s,baz=271,slow=16,SNR=3.5
CTA Charters Tower 53.31 117 P **P** **19 51 04.1 +0.5**
comp=Z,7.8nm,1.0s,mb4.6,baz=311,slow=12,SNR=4.1
CTA pP pP 19 51 12.3 +0.5
comp=Z,9.3nm,0.8s,baz=294,slow=10,SNR=9.0
CTAO Charters Tower 53.31 117 *e*P **P** **19 51 04.1 +0.5**
CTAO *e**PP pP 19 51 12.2 +0.4
CTAO pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
CTAO Charters Tower 53.31 117 *e*P **P** **19 51 04.1 +0.5**
comp=Z,7.7nm,0.6s,mb4.8
CTAO *e*pP pP 19 51 12.2 +0.3
NVS Novosibirsk 53.72 350 *i* P **P** **19 51 04.6 -1.5**
NVS pmax pmax
comp=Z,26nm,1.0s,mb5.1
NVS pmax pmax
comp=N,14nm,0.9s
NVS pmax pmax
comp=E,9.0nm,0.9s
STKA Stephens Creek 54.29 132 *e*P **P** **19 51 11.0 +0.4**
comp=E,8.8nm,0.7s,mb4.8
STKA Stephens Creek 54.29 132 P **P** **19 51 11.1 +0.5**
comp=E,4.1nm,0.7s,mb4.5,baz=323,slow=6.4,SNR=7.0
STKA pP pP 19 51 19.4 +0.6
comp=E,14nm,0.8s,baz=315,slow=6.5,SNR=12
BVAR Borovoye Array 55.26 341 P **P** **19 51 16.1 -1.3**
comp=E,11nm,0.7s,mb5.0,baz=140,slow=8.6,SNR=34
KLR Kul'dur 55.66 27 *e*P **P** **19 51 17.7 -2.7**
BOD Bodaibo 57.21 11 *e*P **P** **19 51 30.2 -1.2**
BOD pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
ASAJ Asahikawa 58.22 37 P **P** **19 51 38.8 +0.2**
comp=Z,11nm,0.7s,mb5.0,baz=256,slow=11,SNR=5.1
KMBO Kilima Mbogo 59.58 267 *e*P **P** **19 51 48.4 -0.1**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
KMBO Kilima Mbogo 59.58 267 *e*P **P** **19 51 48.4 -0.1**
comp=Z,3.4nm,0.9s,mb4.4
YSS Yuzh-Sakhalins 59.86 35 *e*P **P** **19 51 48.5 -1.5**
YSS pmax pmax
comp=Z,14nm,0.6s,mb5.2
YSS Yuzh-Sakhalins 59.86 35 *e*P **P** **19 51 48.5 -1.5**
comp=Z,14nm,0.6s,mb5.2
ARU Arti 62.18 337 ⇓*i*P **P** **19 52 04.2 -1.4**
ARU *e* 19 54 22.3
ARU *e*S **S** **20 00 36.7 +9.1**
ARU pmax pmax
comp=Z,11nm,0.8s,mb5.0
KIV Kislovodsk 63.34 319 *e*P **P** **19 52 11.8 -1.6**
KIV *e**PP pP 19 52 19.6 -2.1
KIV pmax pmax
comp=Z,15nm,0.9s,mb5.1
KIV Kislovodsk 63.34 319 *e*P **P** **19 52 11.8 -1.6**
comp=Z,15nm,0.9s,mb5.1
KIV *e*pP pP 19 52 19.6 -2.2
GOF Gofitskoye 63.59 320 *e*P **P** **19 52 20.7 +5.7**
YAK Yakutsk 64.69 16 *e*P **P** **19 52 20.2 -1.7**
YAK pmax pmax
comp=Z,37nm,0.9s,mb5.4
YAK pmax pmax
comp=N,9.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK Yakutsk 64.69 16 *e*P **P** **19 52 20.6 -1.3**
comp=E,71nm,0.8s,mb5.8
BRTR Keskin Array B 68.18 312 P **P** **19 52 43.3 -1.2**
comp=E,2.0nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=7.3
BRTR pP pP 19 52 51.9 -1.0
comp=E,2.8nm,0.8s,baz=143,slow=6.2,SNR=7.8
MA2 Magadan 70.72 26 *e*P **P** **19 52 59.5 -0.2**
MA2 pmax pmax
comp=Z,11nm,0.8s,mb4.8
MA2 Magadan 70.72 26 *e*P **P** **19 52 59.7 0.0**
MA2 pmax pmax
comp=N,3.0nm,0.9s
MA2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
MA2 Magadan 70.72 26 *e*P **P** **19 52 59.5 -0.3**
comp=Z,11nm,0.8s,mb4.8
OBN Obninsk 71.62 328 *i* P **P** **19 53 04.3 -0.9**
OBN *i* pP 19 53 11.9 -1.7
OBN pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
OBN Obninsk 71.62 328 *e*P **P** **19 53 04.0 -1.2**
comp=Z,8.4nm,0.7s,mb4.8
PET Petropavlovsk 71.74 34 *e*P **P** **19 53 05.3 -0.7**
PET pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
PET Petropavlovsk 71.74 34 *e*P **P** **19 53 05.3 -0.7**
comp=Z,9.4nm,0.5s,mb5.0
TIXI Tiksi 72.38 10 *e*P **P** **19 53 05.8 -3.7**
TIXI pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LBTB Lobatse 73.89 243 P **P** **19 53 19.0 -0.2**
comp=Z,2.1nm,0.9s,mb4.0,baz=246,slow=15,SNR=4.5
AKASG Malin Array Be 74.27 322 P **P** **19 53 19.4 -1.4**
comp=Z,0.6nm,0.3s,mb4.0,baz=89,slow=5.2,SNR=9.4
AKASG pP pP 19 53 27.6 -1.7
comp=Z,2.0nm,0.4s,baz=89,slow=5.0,SNR=5.1
BOSA Boshof 74.84 240 P **P** **19 53 24.3 -0.3**
comp=Z,2.0nm,0.7s,mb4.1,baz=104,slow=4.1,SNR=5.1
SUW Suwalki 78.68 325 *e*P **P** **19 53 44.6 -1.0**
SUW *e* pP 19 53 52.7 -1.4
SUW pmax pmax
comp=Z,13nm,0.8s,mb4.9
SUW Suwalki 78.68 325 *e*P **P** **19 53 44.6 -1.0**
comp=Z,13nm,0.8s,mb4.9
SUW *e* pP 19 53 52.7 -1.4
FINES FINESS Array B 79.00 332 P **P** **19 53 47.0 -0.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=104,slow=7.9,SNR=17
FINES pP pP 19 53 55.0 -0.7
comp=Z,4.6nm,0.8s,baz=104,slow=7.9,SNR=7.6
PSZ Piszkesteto 79.64 318 *e*P **P** **19 53 50.5 -0.4**
PSZ *e**PP pP 19 53 58.1 -1.3
PSZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
PSZ Piszkesteto 79.64 318 *e*P **P** **19 53 50.5 -0.4**
comp=Z,2.9nm,0.9s,mb4.2
PSZ *e*pP pP 19 53 58.1 -1.4
BILL Bilibino 80.49 21 *e*P **P** **19 53 55.4 +0.4**
BILL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BILL Bilibino 80.49 21 *e*P **P** **19 53 55.4 +0.4**
comp=Z,2.7nm,0.6s,mb4.3
MORC Moravsky Berou 81.43 320 *e*P **P** **19 54 00.6 +0.3**
MORC pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
MORC Moravsky Berou 81.43 320 *e*P **P** **19 54 00.6 +0.2**
comp=Z,4.7nm,1.1s,mb4.3
ARCES ARCESS Array B 81.54 340 P **P** **19 54 00.9 +0.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=94,slow=5.2,SNR=23
DPC Dobruska-Polom 82.27 320 *e*P **P** **19 54 05.5 +0.8**
PRU Pruhonice 83.38 320 *e*P **P** **19 54 11.5 +1.1**
BRG Berggiesshubel 83.83 321 *e*P pP 19 54 21.1 -0.2
BRG pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
BRG Berggiesshubel 83.83 321 *e*P pP 19 54 21.1 -0.2
comp=Z,3.7nm,1.0s
GERES GERESS Array B 83.84 319 P **P** **19 54 13.5 +0.6**
comp=Z,2.1nm,0.8s,mb4.3,baz=90,slow=4.0,SNR=20
GERES pP pP 19 54 21.6 +0.2
comp=Z,1.7nm,0.7s,baz=108,slow=4.2,SNR=10
KHC Kasperske Hory 83.94 319 *e*P **P** **19 54 13.3 0.0**
KHC *e*pP pP 19 54 21.2 -0.7
CLL Collm 84.45 321 *e**PP pP 19 54 22.0 -2.4
NKC Novy Kostel 84.74 320 *e*P pP 19 54 25.1 -0.8
NB2 NORSAR Subarra 86.00 331 P **P** **19 54 22.6 -0.7**
comp=Z,3.9nm,0.9s,mb4.6,baz=96,slow=5.0
NB2 NORSAR Subarra 86.00 331 P **P** **19 54 22.6 -0.7**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
NOA NORSAR Array B 86.00 331 P **P** **19 54 23.5 +0.2**
comp=Z,2.6nm,0.9s,mb4.5,baz=94,slow=5.0,SNR=7.7
NOA pP pP 19 54 33.2 +1.2
comp=Z,3.0nm,1.0s,baz=94,slow=5.1,SNR=4.3
LPG La Plagne 88.52 315 *e*P **P** **19 54 36.3 +0.5**
comp=Z,6.7nm,0.9s,mb4.7
LPG La Plagne 88.52 315 *e*P **P** **19 54 36.3 +0.5**
LPG pmax pmax
comp=Z,3.0nm,0.9s,mb4.6
YKA Yellowknife Ar 111.34 15 PP PP 20 00 49.4 -11
comp=Z,0.4nm,0.9s,baz=322,slow=8.1,SNR=5.1
ULM Lac du Bonnet 126.73 10 PKP PKPdf 20 00 47.4 -3.0
comp=Z,1.1nm,0.5s,baz=352,slow=6.7,SNR=3.2
ULM pPKP 20 00 56.1
comp=Z,1.0nm,0.4s,baz=70,slow=6.1,SNR=2.3
PDAR Pinedale Array 129.42 25 PKP PKPdf 20 00 52.5 -3.3
comp=Z,0.4nm,0.4s,baz=297,slow=2.0,SNR=5.3
TXAR Lajitas Array 143.13 31 PKP PKPdf 20 01 18.7 -2.6
comp=Z,0.7nm,0.6s,baz=225,slow=1.3,SNR=4.4
TXAR pPKP 20 01 26.5
comp=Z,0.6nm,0.5s,baz=243,slow=2.8,SNR=2.3

*IDC **28** 19:48:30.7±0.5,2.53N×96.21E,mb4.4/20,mb1 4.4/20, mb1mx4.4/23,mbtmp4.4/20,Error ellipse: s-maj=25.1km s-min=11.8km az=48.0*
*MOS **28** 19:48:33.9±1.1,2.60N×96.34E,h33km,mb4.9/19,Error ellipse: s-maj=14.0km s-min=7.9km az=117.3*
*BJI **28** 19:48:33.0,2.29N×96.37E,h40km,mb4.9,Ms4.9,Msz4.5*
*NEIC **28** 19:48:35.3±0.2,2.47N×96.24E,h30km,mb4.7/26,Error ellipse: s-maj=7.7km s-min=4.6km az=221.0*
ISC 28 19:48:33.5±0.3,2.49N±0.05×96.28E±0.05,h30km, h30km±1.9km:pP-P,n101,σ1s00/100,mb4.6/53,MS4.7/1,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**57**	*e*Pn		**Pn**	**19 49 52.4**	**+1.4**
KSM	**Kuching**	**14.06**	**94**	Pn		**P**	**19 51 52.8**	**-0.3**
CM31	**Chiang Mai Arr** 7.9nm,0.8s	**16.08**	**9**	*e*Pn		**P**	**19 52 21.2**	**+1.9**
PALK	**Pallekele** 35nm,1.1s	**16.22**	**288**	*e*Pn		**P**	**19 52 22.5**	**+1.3**
KKM	**Kota Kinabalu**	**20.19**	**79**	*e*P		**P**	**19 53 09.0**	**+0.2**
HYB	**Hyderabad**	**22.87**	**312**	*e*P		**P**	**19 53 37.0**	**+1.1**
HYB	**Hyderabad**	**22.87**	**312**	*i* P		**P**	**19 53 37.0**	**+1.1**
KMI	**Kunming**	**23.35**	**15**	P		**P**	**19 53 41.3**	**+0.9**
KMI					AMB	AMB		
comp=Z,13nm,1.6s,mb4.1								
GYA	**Guiyang**	**25.83**	**22**	⇑*i*P		**P**	**19 54 03.5**	**-0.7**
GYA					AP	pP	19 54 12.8	-0.1
GYA					PP	PP	19 54 47.8	+2.8
GYA					S	**S**	**19 58 34.0**	**+4.5**
GYA					AMB	AMB		
comp=Z,30nm,0.7s,mb4.9								
JIRN	**Jiri**	**26.82**	**340**	*e*P		**P**	**19 54 14.4**	**+1.1**
comp=Z,60nm,0.7s,mb5.3								
PKI	**Pulchoki**	**27.02**	**338**	*e*P		**P**	**19 54 15.3**	**+0.2**
comp=Z,23nm,0.7s,mb4.8								
PKI	**Pulchoki**	**27.02**	**338**	*e*P		**P**	**19 54 15.3**	**+0.2**
PKI					pmax	pmax		
comp=Z,11nm,0.7s,mb4.5								
DMN	**Daman**	**27.16**	**338**	*e*P		**P**	**19 54 16.4**	**-0.1**
comp=Z,26nm,0.7s,mb4.8								
KKN	**Kakani**	**27.26**	**338**	*e*P		**P**	**19 54 17.2**	**-0.2**
comp=Z,62nm,1.1s,mb5.0								
KKN	**Kakani**	**27.26**	**338**	*e*P		**P**	**19 54 17.2**	**-0.2**
KKN					pmax	pmax		
comp=Z,31nm,1.1s,mb4.8								
LSA	**Lhasa**	**27.49**	**350**	P		**P**	**19 54 20.0**	**+0.6**
LSA	**Lhasa**	**27.49**	**350**	*e*P		**P**	**19 54 20.0**	**+0.6**
LSA					pmax	pmax		
comp=Z,16nm,0.9s,mb4.5								
LSA	**Lhasa**	**27.49**	**350**	*e*P		**P**	**19 54 19.9**	**+0.5**
comp=Z,16nm,0.9s,mb4.5								
GKN	**Gorkha**	**27.70**	**337**	*e*P		**P**	**19 54 21.4**	**+0.1**
comp=Z,90nm,1.1s,mb5.3								
KOLN	**Koldanda**	**27.90**	**335**	*e*P		**P**	**19 54 23.3**	**+0.1**
comp=Z,45nm,0.8s,mb5.2								
LZH	**Lanzhou**	**34.15**	**11**	*e*P		**P**	**19 55 17.5**	**-0.7**
LZH					AP	pP	19 55 26.5	-0.6
LZH					XP	sP	19 55 30.5	-0.4
LZH					AMB	AMB		
comp=Z,28nm,1.5s,mb5.0								
FITZ	**Fitzroy Crossi**	**35.43**	**126**	*e*P		**P**	**19 55 28.6**	**-0.7**
comp=Z,18nm,0.9s,mb5.0								
FITZ	**Fitzroy Crossi**	**35.43**	**126**	P		**P**	**19 55 28.8**	**-0.5**
comp=Z,9.5nm,0.9s,mb4.7,baz=284,slow=4.1,SNR=9.2								
GTA	**Gaotai**	**36.89**	**5**	*e*P		**P**	**19 55 40.8**	**-0.6**
GTA					AP	pP	19 55 50.0	-0.3
GTA					XP	sP	19 55 53.8	-0.2
GTA					AMB	AMB		
comp=Z,20nm,1.0s,mb4.9								
KAKA	**Kakadu**	**38.96**	**114**	*e*P		**P**	**19 55 58.3**	**-0.7**
comp=Z,17nm,0.7s,mb4.9								
NWAO	**Narrogin (SRO)**	**40.42**	**152**	P		**P**	**19 56 12.3**	**+1.4**
comp=Z,6.6nm,0.8s,mb4.4,baz=316,slow=8.0,SNR=4.8								
HHC	**Hu-ho-hao-te**	**40.60**	**18**	*e*P		**P**	**19 56 14.0**	**+1.7**
HHC					AP	pP	19 56 24.0	+2.7
HHC					XP	sP	19 56 28.0	+3.0
HHC					PP	PP	19 57 52.0	+2.9
HHC					PCP	PcP	19 58 14.8	+0.1
HHC					SCP		20 01 58.8	
HHC					PCS		20 02 03.5	
HHC					S	**S**	**20 02 23.5**	**+3.7**
HHC					XS		20 02 41.3	
HHC					AMB	AMB		
comp=Z,35nm,0.6s,mb5.2								
BJT	**Baijiatuau**	**41.48**	**23**	*e*P		**P**	**19 56 20.1**	**+0.5**
BJT					pmax	pmax		
comp=Z,46nm,1.3s								
BJT	**Baijiatuau**	**41.48**	**23**	*e*P		**P**	**19 56 20.1**	**+0.6**
comp=Z,46nm,1.3s,mb5.0								
BJI	**Beijing**	**41.51**	**23**	P		**P**	**19 56 20.5**	**+0.7**
BJI					AMB	AMB		
comp=Z,33nm,1.2s,mb4.8								
WMQ	**Urumqi**	**41.85**	**351**	P		**P**	**19 56 23.5**	**+0.9**
WMQ					AP	pP	19 56 32.3	+0.8
WMQ					XP	sP	19 56 35.0	-0.2
WMQ					AMB	AMB		
comp=Z,10.0nm,1.5s,mb4.2								
WMQ					LR	LR		
comp=N,970nm,23.5s,MS4.8								
WMQ					LR	LR		
comp=E,1μm,22.8s,MS4.8								
WMQ					LR	LR		
comp=Z,834nm,24.1s,MS4.5								
WRA	**Warramunga Arr**	**43.50**	**123**	P		**P**	**19 56 36.2**	**-0.2**
comp=Z,2.8nm,0.6s,mb4.1,baz=302,slow=8.9,SNR=18								
WRAB	**Tennant Creek**	**43.51**	**123**	*e*P		**P**	**19 56 36.8**	**+0.4**
WRAB					*e**PP	pP	19 56 43.6	-1.7
WRAB					pmax	pmax		
comp=Z,29nm,1.0s,mb5.0								
WRAB	**Tennant Creek**	**43.51**	**123**	*e*P		**P**	**19 56 36.8**	**+0.4**
comp=Z,29nm,1.0s,mb5.0								
WRAB					*e*pP	pP	19 56 43.6	-1.7
WB2	**Warramunga Arr**	**43.51**	**123**	*e*P		**P**	**19 56 37.2**	**+0.8**
AAK	**Ala-Archa**	**44.45**	**337**	*e*P		**P**	**19 56 46.1**	**+2.3**
AAK					pmax	pmax		
comp=Z,13nm,1.3s,mb4.5								
AAK	**Ala-Archa**	**44.45**	**337**	*e*P		**P**	**19 56 46.1**	**+2.3**
comp=Z,13nm,1.3s,mb4.5								
ASPA	**Alice Springs**	**44.91**	**128**	*e*P		**P**	**19 56 47.9**	**+0.2**
ASAR	**Alice Springs**	**44.91**	**128**	P		**P**	**19 56 47.6**	**-0.1**
comp=Z,1.3nm,0.5s,mb4.0,baz=300,slow=7.8,SNR=18								
ASAR					PcP	PcP	19 58 30.2	+0.9
comp=Z,1.0nm,0.6s,baz=12,slow=11,SNR=6.7								
MKAR	**Makanchi Array**	**45.77**	**347**	P		**P**	**19 56 54.2**	**0.0**
comp=Z,11nm,0.7s,mb4.9,baz=164,slow=7.6,SNR=49								
SONM	**Songino Array**	**46.01**	**9**	P		**P**	**19 56 56.7**	**+0.7**
comp=Z,8.0nm,0.7s,mb4.8,baz=188,slow=9.0,SNR=55								
ULN	**Ulaanbaatar**	**46.15**	**10**	*e*P		**P**	**19 56 57.4**	**+0.2**
ULN					pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.5								
ULN	**Ulaanbaatar**	**46.15**	**10**	*e*P		**P**	**19 56 57.4**	**+0.2**
comp=Z,4.5nm,0.7s,mb4.5								
ZAK	**Zakamensk**	**48.08**	**6**	*e*P		**P**	**19 57 12.1**	**-0.3**
ZAK					pmax	pmax		
comp=Z,3.0nm,1.5s,mb4.1								
CN2	**Changchun**	**48.59**	**28**	*e*P		**P**	**19 57 15.5**	**-0.9**
CN2					AMB	AMB		
comp=Z,10.0nm,0.9s,mb4.8								
TLY	**Talaya**	**49.41**	**6**	*e*P		**P**	**19 57 23.3**	**+0.7**
TLY					*e*		19 57 38.0	
TLY					pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6								
TLY	**Talaya**	**49.41**	**6**	*e*P		**P**	**19 57 22.8**	**+0.3**
comp=Z,4.1nm,0.8s,mb4.5								
KURK	**Kurchatov**	**50.31**	**345**	*e*P		**P**	**19 57 29.0**	**-0.5**
KURK					pmax	pmax		
comp=Z,6.0nm,1.1s,mb4.5								
KURK	**Kurchatov**	**50.31**	**345**	*e*P		**P**	**19 57 29.0**	**-0.5**
comp=Z,6.1nm,1.1s,mb4.5								
HIA	**Hailar**	**50.73**	**20**	*e*P		**P**	**19 57 32.4**	**-0.3**
HIA					pmax	pmax		
comp=Z,15nm,1.2s								
HIA	**Hailar**	**50.73**	**20**	*e*P		**P**	**19 57 32.4**	**-0.3**
comp=Z,15nm,1.2s,mb4.8								
KAMS	**Al Khamasin**	**53.41**	**293**	P		**P**	**19 57 48.1**	**-5.1**
MZLS	**Mizel**	**53.73**	**298**	P		**P**	**19 57 57.3**	**+1.7**
DJNS	**Zahran al Janu**	**53.86**	**290**	P		**P**	**19 57 57.6**	**+1.1**
CTA	**Charters Tower**	**53.91**	**117**	P		**P**	**19 57 56.9**	**+0.1**
comp=Z,8.0nm,0.9s,mb4.6,baz=46,slow=1.2,SNR=3.6								
CTAO	**Charters Tower**	**53.91**	**117**	P		**P**	**19 57 56.9**	**+0.1**
CTAO					pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4								
CTAO	**Charters Tower**	**53.91**	**117**	P		**P**	**19 57 56.9**	**+0.1**
comp=Z,4.9nm,1.0s,mb4.4								
BVAR	**Borovoye Array**	**54.73**	**341**	P		**P**	**19 58 01.5**	**-1.0**
comp=Z,2.0nm,0.6s,mb4.3,baz=142,slow=8.5,SNR=11								
STKA	**Stephens Creek**	**54.90**	**132**	P		**P**	**19 58 04.2**	**+0.1**
comp=Z,5.4nm,0.8s,mb4.6,baz=307,slow=11,SNR=9.3								
CHKZ	**Chkalovo**	**55.22**	**342**	*e*P		**P**	**19 58 20.7**	**+15**
CHKZ					pmax	pmax		
comp=Z,193nm,1.0s								
KLR	**Kul'dur**	**55.53**	**27**	*e*P		**P**	**19 58 05.0**	**-3.3**
BOD	**Bodaibo**	**56.92**	**11**	*e*P		**P**	**19 58 16.4**	**-1.8**
BOD					pmax	pmax		
comp=Z,6.0nm,1.2s,mb4.5								
HILS	**Ha'il**	**57.60**	**301**	P		**P**	**19 58 23.2**	**-0.2**
KMBO	**Kilima Mbogo**	**59.12**	**267**	*e*P		**P**	**19 58 34.5**	**+0.3**
KMBO					pmax	pmax		
comp=Z,10.0nm,1.1s								
KMBO	**Kilima Mbogo**	**59.12**	**267**	P		**P**	**19 58 33.8**	**-0.4**
comp=Z,6.2nm,0.9s,mb4.7,baz=62,slow=7.8,SNR=14								
KMBO	**Kilima Mbogo**	**59.12**	**267**	*e*P		**P**	**19 58 34.5**	**+0.3**
comp=Z,10nm,1.1s,mb4.8								
GNI	**Garni**	**59.73**	**316**	P		**P**	**19 58 37.9**	**-0.1**
comp=Z,2.1nm,0.5s,mb4.4,baz=322,slow=15,SNR=2.6								
ARU	**Arti**	**61.64**	**337**	*e*P		**P**	**19 58 56.2**	**+5.4**
KIV	**Kislovodsk**	**62.73**	**319**	*e*P		**P**	**19 58 56.2**	**-2.0**
KIV					pmax	pmax		
comp=Z,10.0nm,0.9s,mb5.0								
KIV	**Kislovodsk**	**62.73**	**319**	*e*P		**P**	**19 58 56.8**	**-1.4**
comp=Z,5.6nm,1.0s,mb4.7								
ASF	**Jabal al Asfar**	**62.97**	**305**	P		**P**	**19 58 58.8**	**-1.2**
comp=Z,1.3nm,0.5s,mb4.3,baz=334,slow=8.6,SNR=3.5								
GOF	**Gofitskoye**	**62.98**	**320**	*e*P		**P**	**19 58 53.0**	**-6.9**
MALT	**Malatya**	**63.58**	**312**	*e*P		**P**	**19 59 03.9**	**-0.1**
MALT					pmax	pmax		
comp=Z,113nm,2.8s,mb5.4								
MALT	**Malatya**	**63.58**	**312**	*e*P		**P**	**19 59 03.9**	**-0.1**
comp=Z,113nm,2.8s,mb5.4								
BDAS	**Al Bad'**	**63.60**	**301**	P		**P**	**19 59 03.8**	**-0.5**
TAYS	**Tayyib Ism**	**63.82**	**301**	P		**P**	**19 59 05.5**	**-0.3**
YAK	**Yakutsk**	**64.45**	**17**	*e*P		**P**	**19 59 07.6**	**-1.6**
YAK					pmax	pmax		
comp=Z,24nm,1.1s,mb5.1								
YAK	**Yakutsk**	**64.45**	**17**	*e*P		**P**	**19 59 07.6**	**-1.7**
comp=Z,24nm,1.1s,mb5.1								
MBAR	**Mbarara**	**65.59**	**268**	*e*P		**P**	**19 59 16.9**	**-0.5**
MBAR					pmax	pmax		
comp=Z,8.0nm,1.2s,mb4.6								
MBAR	**Mbarara**	**65.59**	**268**	*e*P		**P**	**19 59 16.9**	**-0.6**
comp=Z,8.3nm,1.2s,mb4.6								
BRTR

comp=Z,5.7nm,1.0s,mb4.5,baz=59,slow=18,SNR=5.2
AKASG **Malin Array Be 73.68 322** P **P 20 00 04.1 -2.2**
comp=Z,1.3nm,0.6s,mb4.0,baz=94,slow=4.8,SNR=6.6
AKASG **Malin Array Be 73.68 322** P **P 20 00 04.1 -2.2**
FINES **FINESS Array B 78.43 333** P **P 20 00 32.8 -0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=90,slow=7.6,SNR=6.3
BILL **Bilibino 80.29 21** *e*P **P 20 00 40.1 -2.7**
BILL pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
ARCES **ARCESS Array B 81.02 340** P **P 20 00 47.9 +1.2**
comp=Z,4.1nm,0.8s,mb4.4,baz=108,slow=3.8,SNR=3.6
BRG **Berggiesshubel 83.23 321** *e*P **P 20 00 58.8 +0.3**
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
BRG **Berggiesshubel 83.23 321** *e*P **P 20 00 58.8 +0.3**
comp=Z,5.1nm,1.4s,mb4.4
GERES **GERESS Array B 83.24 319** P **P 20 00 59.0 +0.4**
comp=Z,2.9nm,1.0s,mb4.2,baz=104,slow=5.5,SNR=16
CLL **Collm 83.85 321** P **P 20 01 00.0 -1.6**
CLL *e**SP sP 20 01 15.0 +0.7
NB2 **NORSAR Subarra 85.44 331** P **P 20 01 09.2 -0.1**
comp=Z,5.3nm,1.2s,mb4.5,baz=91,slow=5.6
NB2 **NORSAR Subarra 85.44 331** P **P 20 01 09.2 -0.1**
NB2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.5
NOA **NORSAR Array B 85.44 331** P **P 20 01 07.9 -1.4**
comp=Z,1.9nm,1.1s,mb4.1,baz=94,slow=5.4,SNR=2.9
VNDA **Vanda 87.27 169** P **P 20 01 18.9 +0.8**
comp=Z,0.8nm,0.7s,mb4.1,baz=264,slow=3.0,SNR=4.2
YKA **Yellowknife Ar 111.09 15** PP PP 20 07 44.7 -2.7
comp=Z,0.1nm,0.3s,baz=333,slow=7.9,SNR=5.1
PDAR **Pinedale Array 129.27 24** PKP PKPdf 20 07 41.5 -3.1
comp=Z,0.2nm,0.4s,slow=2.7,SNR=3.0
TXAR **Lajitas Array 143.03 30** PKP PKPdf 20 08 05.7 -4.6
comp=Z,0.2nm,0.3s,baz=72,slow=2.9,SNR=2.0

IDC 28 19:53:27.8±1.9, 3.16N×98.43E, mb4.0/5, mb1 4.2/5, mb1mx3.8/15, mbtmp4.0/5, Error ellipse: s-maj=89.1km s-min=22.7km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.07**	**125**	P	P	20 01 22.2	-1.1
	1.8nm,0.6s,baz=301,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**43.63**	**130**	P	P	20 01 33.7	-2.3
	2.5nm,0.7s,baz=296,slow=7.8,SNR=13						
SONM	**Songino Array**	**45.03**	**8**	P	P	20 01 44.3	-2.7
	0.2nm,0.4s,baz=208,slow=9.4,SNR=3.2						
MKAR	**Makanchi Array**	**45.67**	**345**	P	P	20 01 45.6	-6.5
	0.6nm,0.6s,baz=164,slow=8.9,SNR=3.6						
FINES	**FINESS Array B**	**78.85**	**332**	P	P	20 05 32.0	-2.1
	1.2nm,1.0s,baz=100,slow=8.5,SNR=4.2						
ARCES	**ARCESS Array B**	**81.12**	**340**	P	P	20 05 46.4	+0.3
	6.0nm,1.0s,baz=101,slow=4.6,SNR=4.1						

*IDC **28** 19:53:56.9±0.4, 2.47N×96.75E, mb4.8/23, mb1 4.8/23, mb1mx4.8/25, mbtmp4.8/23, Error ellipse: s-maj=19.4km s-min=10.5km az=46.0*
*BJI **28** 19:53:58.8, 2.29N×96.93E, h36km, mB5.7, mb5.0, Ms5.8, Ms2.5*
*MOS **28** 19:54:00.2±0.9, 2.57N×96.86E, h33km, mb5.1/25, Error ellipse: s-maj=12.8km s-min=6.9km az=113.8*
*NEIC **28** 19:54:01.1±0.2, 2.47N×96.76E, mb5.1/35, Error ellipse: s-maj=6.6km s-min=4.0km az=45.0*

ISC 28 19:53:59.5±0.2, 2.52N±0.04×96.84E±0.04, h27km, h27km±1.2km: pP-P, n159, σ1§10/144, mb5.0/70, MS5.6/1, 15C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.65**	**64**	P	**Pn**	**19 55 12.7**	**+2.8**
KULM	**Kulim**	**4.70**	**54**	*e*Pn	**Pn**	**19 55 13.4**	**+2.9**
KGM	**Kluang**	**6.49**	**94**	P	**Pn**	**19 55 38.6**	**+2.7**
KSM	**Kuching**	**13.50**	**94**	*e*Pn	**P**	**19 57 14.2**	**+2.3**
KSM				*ep*P		19 57 23.5	
CM31	**Chiang Mai Arr**	**15.98**	**7**	*e*Pn	**P**	**19 57 45.5**	**+1.2**
	45nm,0.9s						
NANT	**Nan**	**16.62**	**13**	P	**P**	**19 57 54.0**	**+1.5**
PALK	**Pallekele**	**16.75**	**287**	*e*P	**P**	**19 57 53.9**	**-0.4**
	41nm,0.9s						
PALK				*ep*P		19 58 04.7	
CHRT	**Chiangrai**	**17.49**	**9**	⇑P	**P**	**19 58 04.0**	**+0.6**
	171nm,0.8s						
KKM	**Kota Kinabalu**	**19.63**	**79**	*e*P	**P**	**19 58 29.4**	**+0.1**
KKM	**Kota Kinabalu**	**19.63**	**79**	P	**P**	**19 58 29.9**	**+0.7**
QIZ	**Qiongzhong**	**20.77**	**37**	P	**P**	**19 58 40.8**	**-0.3**
TSM	**Tawau**	**21.07**	**85**	P	**P**	**19 58 44.3**	**+0.1**
KMI	**Kunming**	**23.18**	**14**	⇓P	**P**	**19 59 07.8**	**+2.5**
KMI				AP		19 59 18.5	
KMI				AMB	AMB		
	comp=Z,45nm,1.3s,mb4.7						
HYB	**Hyderabad**	**23.28**	**311**	*e*P	**P**	**19 59 09.0**	**+2.8**
HYB	**Hyderabad**	**23.28**	**311**	*i* P	**P**	**19 59 09.0**	**+2.8**
JIRN	**Jiri**	**27.00**	**339**	*e*P	**P**	**19 59 41.6**	**+0.2**
	comp=Z,136nm,0.9s,mb5.5						
PKI	**Pulchoki**	**27.21**	**337**	*e*P	**P**	**19 59 43.5**	**+0.2**
	comp=Z,39nm,0.7s,mb5.1						
PKI	**Pulchoki**	**27.21**	**337**	*e*P	**P**	**19 59 43.5**	**+0.2**
PKI				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.7						
DMN	**Daman**	**27.36**	**337**	*e*P	**P**	**19 59 44.5**	**-0.2**
	comp=Z,68nm,0.7s,mb5.3						
KKN	**Kakani**	**27.45**	**337**	*e*P	**P**	**19 59 45.3**	**-0.2**
	comp=Z,88nm,0.9s,mb5.3						
KKN	**Kakani**	**27.45**	**337**	*e*P	**P**	**19 59 45.3**	**-0.2**
KKN				pmax	pmax		
	comp=Z,44nm,0.9s,mb5.0						
LSA	**Lhasa**	**27.57**	**349**	P	**P**	**19 59 47.5**	**+1.0**
LSA	**Lhasa**	**27.57**	**349**	*e*P	**P**	**19 59 46.6**	**+0.1**
LSA				*e**PP	pP	19 59 55.6	+1.1
LSA				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.8						
LSA	**Lhasa**	**27.57**	**349**	*e*P	**P**	**19 59 46.6**	**0.0**
	comp=Z,19nm,0.8s,mb4.8						
LSA				*ep*P	pP	19 59 55.5	+1.0
GKN	**Gorkha**	**27.90**	**336**	*e*P	**P**	**19 59 49.4**	**-0.1**
	comp=Z,83nm,0.8s,mb5.4						
KOLN	**Koldanda**	**28.12**	**334**	*e*P	**P**	**19 59 51.8**	**+0.2**
	comp=Z,65nm,0.7s,mb5.4						
CD2	**Chengdu**	**28.99**	**12**	P	**P**	**19 59 57.5**	**-1.8**
ENH	**Enshi**	**30.10**	**22**	*e*P	**P**	**20 00 07.3**	**-1.9**
	comp=Z,20nm,0.8s,mb4.9						
PTH	**Pithoragarh**	**31.18**	**331**	*e*	**P**	**20 00 18.8**	**0.0**
MBWA	**Marble Bar**	**32.50**	**137**	*e*P	**P**	**20 00 30.1**	**-0.3**
	comp=Z,26nm,0.9s,mb5.1						
XAN	**Xi'an**	**33.33**	**18**	P	**P**	**20 00 36.0**	**-1.5**
XAN				AP	pP	20 00 45.5	-0.1
XAN				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.5						
LZH	**Lanzhou**	**34.03**	**10**	*e*P	**P**	**20 00 42.0**	**-1.6**
LZH				AP	pP	20 00 50.5	-1.2
LZH				XP	sP	20 00 53.5	-1.7
LZH				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,139nm,4.5s						
FITZ	**Fitzroy Crossi**	**34.99**	**127**	⇑*i*P	**P**	**20 00 50.4**	**-1.6**
	comp=Z,75nm,0.8s,mb5.7						
FITZ	**Fitzroy Crossi**	**34.99**	**127**	P	**P**	**20 00 50.6**	**-1.4**
	comp=Z,96nm,0.8s,mb5.8,baz=324,slow=4.3,SNR=89						
GTA	**Gaotai**	**36.82**	**4**	*e*P	**P**	**20 01 07.0**	**-0.3**
GTA				AP	pP	20 01 16.0	+0.6
GTA				XP	sP	20 01 19.0	+0.1
GTA				PCP	PcP	20 03 28.3	-1.0
GTA				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
GTA				LR	LR		
	comp=N,9μm,20.1s,MS5.7						
GTA				LR	LR		
	comp=E,6μm,16.8s,MS5.7						
GTA				LR	LR		
	comp=Z,7μm,17.4s,MS5.5						
KAKA	**Kakadu**	**38.45**	**114**	⇑*i*P	**P**	**20 01 19.9**	**-1.3**
	comp=Z,158nm,0.7s,mb5.8						
JOW	**Kunigami**	**38.62**	**48**	P	**P**	**20 01 23.2**	**+0.7**
	comp=Z,24nm,0.6s,mb5.1,baz=29,slow=25,SNR=9.7						
MUN	**Mundaring**	**38.92**	**153**	*e*P	**P**	**20 01 26.1**	**+1.1**
	comp=Z,8.6nm,0.7s,mb4.6						
MUN	**Mundaring**	**38.92**	**153**	*e*P	**P**	**20 01 26.1**	**+1.1**
MUN				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
KLBR	**Kellerberrin**	**39.32**	**151**	*e*P	**P**	**20 01 28.8**	**+0.6**
	comp=Z,224nm,0.8s,mb6.0						
NWAO	**Narrogin (SRO)**	**40.18**	**153**	P	**P**	**20 01 36.4**	**+1.0**
	comp=Z,30nm,0.8s,mb5.1,baz=325,slow=9.5,SNR=22						
BJT	**Baijiatuau**	**41.24**	**23**	*e*P	**P**	**20 01 44.9**	**+0.9**
BJT				pmax	pmax		
	comp=Z,44nm,0.6s						
BJT	**Baijiatuau**	**41.24**	**23**	*e*P	**P**	**20 01 44.9**	**+0.9**
	comp=Z,44nm,0.6s,mb5.3						
BJI	**Beijing**	**41.27**	**23**	P	**P**	**20 01 45.3**	**+1.1**
BJI				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.3						
WBK	**Wadi Bani Khal**	**41.80**	**302**	⇓P	**P**	**20 01 50.5**	**+1.6**
WMQ	**Urumqi**	**41.92**	**350**	*e*P	**P**	**20 01 50.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
JMDO	**Jabal Madar**	**42.45**	**301**	⇑P	**P**	**20 01 55.0**	**+0.8**
SMDO	**Samad**	**42.76**	**302**	⇑P	**P**	**20 01 58.0**	**+1.2**
BIDO	**Bidbid**	**42.88**	**302**	P	**P**	**20 01 59.2**	**+1.5**
	SNR=11						
WRA	**Warramunga Arr**	**43.04**	**123**	P	**P**	**20 01 58.6**	**-0.4**
	comp=Z,74nm,0.9s,mb5.4,baz=301,slow=9.2,SNR=153						
WRA				PcP	PcP	20 03 48.5	-0.9
	comp=Z,5.7nm,0.8s,baz=311,slow=2.7,SNR=5.0						
WRAB	**Tennant Creek**	**43.05**	**123**	P	**P**	**20 01 58.0**	**-1.1**
	comp=Z,472nm,0.7s,SNR=44						
WRAB	**Tennant Creek**	**43.05**	**123**	*e*P	**P**	**20 01 58.5**	**-0.6**
WRAB				*e**PP	pP	20 02 06.0	-1.3
WRAB				pmax	pmax		
	comp=Z,107nm,0.9s,mb5.6						
WRAB	**Tennant Creek**	**43.05**	**123**	*e*P	**P**	**20 01 58.5**	**-0.5**
	comp=Z,107nm,0.9s,mb5.6						
WRAB				*ep*P	pP	20 02 06.0	-1.3
WB2	**Warramunga Arr**	**43.05**	**123**	⇑*i*P	**P**	**20 01 58.6**	**-0.5**
WB2				*i* PCP	PcP	20 03 48.9	-0.6
SHAO	**Shalim**	**43.24**	**294**	P	**P**	**20 02 01.6**	**+0.9**
	SNR=11						
BSY	**Bisya**	**43.37**	**301**	P	**P**	**20 02 03.2**	**+1.5**
	SNR=8.3						
RBK	**Rabkut**	**44.41**	**293**	P	**P**	**20 02 10.9**	**+0.8**
	SNR=11						
ASPA	**Alice Springs**	**44.47**	**128**	⇑*i*P	**P**	**20 02 10.2**	**-0.4**
ASPA				*i* PCP	PcP	20 03 54.0	-0.3
ASAR	**Alice Springs**	**44.48**	**128**	P	**P**	**20 02 10.2**	**-0.5**
	comp=Z,17nm,0.8s,mb4.8,baz=303,slow=7.8,SNR=64						
ASAR				PcP	PcP	20 03 53.6	-0.7
	comp=Z,7.2nm,0.8s,baz=312,slow=4.3,SNR=12						
FORT	**Forrest**	**44.51**	**140**	⇑*i*P	**P**	**20 02 11.6**	**+0.8**
	comp=Z,2μm,0.6s						
AAK	**Ala-Archa**	**44.66**	**336**	*e*P	**P**		
AAK				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.9						
AAK	**Ala-Archa**	**44.66**	**336**	*e*P	**P**	**20 02 12.3**	**+0.4**
	comp=Z,16nm,0.8s,mb4.9						
WHFO	**Wadi Hawf**	**44.91**	**293**	P	**P**	**20 02 14.6**	**+0.3**
	SNR=58						
ABTO	**Aybut**	**45.21**	**292**	P	**P**	**20 02 17.4**	**+0.8**
	SNR=14						
MKAR	**Makanchi Array**	**45.89**	**346**	P	**P**	**20 02 21.8**	**+0.2**
	comp=Z,10nm,0.4s,mb5.1,baz=157,slow=9.0,SNR=68						
SONM	**Songino Array**	**45.89**	**9**	P	**P**	**20 02 21.9**	**+0.3**
	comp=Z,25nm,0.8s,mb5.2,baz=189,slow=8.8,SNR=103						
SONM				PcP	PcP	20 03 58.8	-0.1
	comp=Z,5.5nm,0.7s,baz=193,slow=3.7,SNR=5.9						
ULN	**Ulaanbaatar**	**46.03**	**10**	*e*P	**P**	**20 02 22.6**	**0.0**
ULN				pmax	pmax		
	comp=Z,745nm,1.1s						
ULN	**Ulaanbaatar**	**46.03**	**10**	*e*P	**P**	**20 02 22.6**	**0.0**
	comp=Z,746nm,1.1s						
ZAK	**Zakamensk**	**48.01**	**6**	*e*P	**P**	**20 02 38.4**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
CN2	**Changchun**	**48.31**	**28**	*e*P	**P**	**20 02 40.0**	**-0.6**
CN2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.4						
MOY	**Mondy**	**49.10**	**3**	*e*P	**P**	**20 02 46.5**	**-0.1**
TLY	**Talaya**	**49.33**	**6**	*e*P	**P**	**20 02 48.2**	**-0.2**
TLY				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
TLY	**Talaya**	**49.33**	**6**	*e*P	**P**	**20 02 48.7**	**+0.3**
	comp=Z,15nm,0.7s,mb5.1						
IRK	**Irkutsk**	**49.95**	**6**	*e*P	**P**	**20 02 49.5**	**-3.6**
IRK				*e*		20 04 40.8	
IRK				pmax	pmax		
	comp=Z,25nm,1.7s,mb5.0						
KURK	**Kurchatov**	**50.44**	**345**	*e*P	**P**	**20 02 56.6**	**-0.3**
MDJ	**Mudanjiang**	**50.91**	**30**	P	**P**	**20 03 00.3**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
MAT	**Matsushiro**	**50.98**	**43**	*e*P	**P**	**20 03 01.0**	**-0.2**
MAT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MAT	**Matsushiro**	**50.98**	**43**	*e*P	**P**	**20 03 01.0**	**-0.2**
	comp=Z,9.6nm,0.7s,mb4.8						
MAT	**Matsushiro**	**50.98**	**43**	P	**P**	**20 03 00.6**	**-0.6**
PMG	**Port Moresby**	**51.51**	**104**	P	**P**	**20 03 05.2**	**-0.3**
	comp=Z,57nm,0.7s,mb5.6,baz=316,slow=3.3,SNR=22						
CTA	**Charters Tower**	**53.41**	**117**	⇓*i*P	**P**	**20 03 19.7**	**0.0**
	comp=Z,20nm,0.8s,mb5.1						
CTA	**Charters Tower**	**53.41**	**117**	⇓*i*P	**P**	**20 03 19.7**	**0.0**
CTA				pmax	pmax		
	comp=Z,20nm,0.8s						
CTA	**Charters Tower**	**53.41**	**117**	P	**P**	**20 03 19.6**	**-0.1**
	comp=Z,24nm,0.8s,mb5.2,baz=288,slow=8.9,SNR=20						
RAYN	**Ar Rayn**	**53.83**	**297**	P	**P**	**20 03 22.6**	**0.0**
	comp=Z,185nm,0.6s,SNR=18						
STKA	**Stephens Creek**	**54.50**	**133**	⇑*i*P	**P**	**20 03 26.9**	**-0.6**
	comp=Z,11nm,0.7s,mb5.0						
STKA	**Stephens Creek**	**54.50**	**133**	P	**P**	**20 03 26.9**	**-0.5**
	comp=Z,16nm,0.9s,mb5.0,baz=309,slow=7.1,SNR=23						
BVAR	**Borovoye Array**	**54.90**	**341**	P	**P**	**20 03 28.9**	**-1.3**
	comp=Z,7.5nm,0.8s,mb4.8,baz=135,slow=8.4,SNR=20						
KLR	**Kul'dur**	**55.25**	**27**	*e*P	**P**	**20 03 29.7**	**-3.0**
CHKZ	**Chkalovo**	**55.37**	**341**	*e*P	**P**	**20 03 32.4**	**-1.2**
CHKZ				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.2						
CHKZ	**Chkalovo**	**55.37**	**341**	*e*P	**P**	**20 03 32.4**	**-1.1**
	comp=Z,16nm,0.6s,mb5.2						
BOD	**Bodaibo**	**56.79**	**11**	*e*P	**P**	**20 03 42.5**	**-1.2**
BOD				*e*	pP	20 03 49.4	-2.7
BOD				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.0						
ASAJ	**Asahikawa**	**57.84**	**38**	P	**P**	**20 03 52.0**	**+0.8**
	comp=Z,13nm,0.8s,mb5.0,baz=132,slow=32,SNR=3.7						
YSS	**Yuzh-Sakhalins**	**59.48**	**35**	*e*P	**P**	**20 04 01.8**	**-0.8**
YSS				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.3						
YSS	**Yuzh-Sakhalins**	**59.48**	**35**	*e*P	**P**	**20 04 01.8**	**-0.8**
	comp=Z,34nm,1.0s,mb5.3						
KMBO	**Kilima Mbogo**	**59.68**	**267**	*e*P	**P**	**20 04 04.2**	**-0.3**
KMBO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KMBO	**Kilima Mbogo**	**59.68**	**267**	P	**P**	**20 04 04.9**	**+0.4**
	comp=Z,3.4nm,0.8s,mb4.4,baz=66,slow=11,SNR=9.0						
KMBO	**Kilima Mbogo**	**59.68**	**267**	*e*P	**P**	**20 04 04.2**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.7						
GNI	**Garni**	**60.10**	**316**	P	**P**	**20 04 07.5**	**+0.5**
	comp=Z,8.8nm,0.9s,mb4.8,baz=187,slow=16,SNR=2.5						
TI2	**Plekhanov**	**60.77**	**317**	*e*P	**P**	**20 04 10.6**	**-0.9**
ARU	**Arti**	**61.84**	**337**	⇑*i*P	**P**	**20 04 23.8**	**+5.2**
ARU				*e*		20 04 53.4	
ARU				*e*		20 06 42.6	
ARU				*e*S	**S**	**20 12 55.6**	**+17**
ARU				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.1						
KIV	**Kislovodsk**	**63.08**	**319**	*e*P	**P**	**20 04 24.4**	**-2.6**
KIV				*e*		20 04 41.1	
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.9						
GOF	**Gofitskoye**	**63.33**	**320**	⇓*i*P	**P**	**20 04 31.3**	**+2.7**
GOF				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
ASF	**Jabal al Asfar**	**63.42**	**305**	P	**P**	**20 04 28.0**	**-1.3**
	comp=Z,2.4nm,0.6s,mb4.5,baz=343,slow=15,SNR=4.7						
YAK	**Yakutsk**	**64.27**	**16**	*e*P	**P**	**20 04 32.1**	**-2.4**
YAK				*e*S	**S**	**20 13 06.8**	**-2.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				smax			
	comp=N,3.0nm,1.0s						
YAK				smax			
	comp=E,3.0nm,1.1s						
YAK	**Yakutsk**	**64.27**	**16**	*e*P	**P**	**20 04 33.1**	**-1.4**
	comp=E,59nm,1.0s,mb5.6						
YAK				*ep*P	pP	20 04 40.6	-2.4
EIL	**Elat**	**64.46**	**302**	*e*P	**P**	**20 04 35.3**	**-1.0**
	comp=E,7.0nm,0.6s,mb4.9						
BRTR	**Keskin Array B**	**67.97**	**312**	P	**P**	**20 04 56.9**	**-1.7**
	comp=E,4.3nm,0.6s,mb4.6,baz=132,slow=7.1,SNR=19						
VRSR	**Storozhevoye**	**68.28**	**325**	*e*P	**P**	**20 04 58.5**	**-1.7**
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
VRSR				pmax	pmax		
	comp=N,7.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,4.0nm,0.7s						
MA2	**Magadan**	**70.31**	**26**	*e*P	**P**	**20 05 12.4**	**-0.1**
MA2				pmax	pmax		
	comp=N,2.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.8						
MA2	**Magadan**	**70.31**	**26**	*e*P	**P**	**20 05 11.8**	**-0.8**
	comp=Z,14nm,0.6s,mb5.1						
MOS	**Moscow**	**71.03**	**329**	*i* P	pP	20 05 25.2	-0.3
MOS				pmax	pmax		
	comp=Z,69nm,1.1s,mb5.5						
OBN	**Obninsk**	**71.32**	**328**	*e*P	**P**	**20 05 17.7**	**-1.0**
OBN				*e*	pP	20 05 26.8	-0.5
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
TIXI	**Tiksi**	**71.96**	**10**	⇑*i*P	**P**	**20 05 19.7**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
TIRR	**Tirgusor**	**72.93**	**316**	⇑P	**P**	**20 05 27.8**	**-0.7**
AKASG	**Malin Array Be**	**74.00**	**322**	P	**P**	**20 05 33.2**	**-1.4**
	comp=Z,6.7nm,0.5s,mb4.8,baz=88,slow=5.5,SNR=27						
AKASG				PcP	PcP	20 05 48.9	-1.2
	comp=Z,6.8nm,0.7s,baz=90,slow=5.1,SNR=7.7						
MLR	**Muntele Rosu**	**74.87**	**316**	⇑P	**P**	**20 05 39.9**	**+0.1**
BOSA	**Boshof**	**75.12**	**240**	P	**P**	**20 05 40.3**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.3,baz=68,slow=12,SNR=7.2						
BURAR	**Bucovina Array**	**75.81**	**319**	⇑P	**P**	**20 05 45.5**	**+0.4**
KWP	**Kalwaria**	**77.83**	**320**	*e*P	**P**	**20 05 56.3**	**0.0**
KWP				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
KWP	**Kalwaria**	**77.83**	**320**	*e*P	**P**	**20 05 56.3**	**0.0**
	comp=Z,17nm,0.9s,mb5.0						
KOLS	**Kolonicke sedl**	**77.99**	**319**	*i* P	**P**	**20 05 58.6**	**+1.5**
SUW	**Suwalki**	**78.40**	**325**	*e*P	**P**	**20 05 58.0**	**-1.3**
SUW				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
SUW	**Suwalki**	**78.40**	**325**	*e*P	**P**	**20 05 58.0**	**-1.3**
	comp=Z,10nm,0.8s,mb4.8						
CRVS	**Cervenica-Dubn**	**78.51**	**319**	*ep*P	pP	20 06 11.1	+2.4
FINES	**FINESS Array B**	**78.67**	**332**	P	**P**	**20 06 00.3**	**-0.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=104,slow=7.9,SNR=7.3						
KAF	**Kangasniemi**	**78.75**	**333**	*ep*	**P**	**20 06 00.4**	**-0.7**
PSZ	**Piszkesteto**	**79.39**	**318**	⇑*e*P	**P**	**20 06 05.1**	**+0.2**
BILL	**Bilibino**	**80.07**	**21**	*e*P	**P**	**20 06 06.1**	**-2.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
OKC	**Ostrava-Krasne**	**80.79**	**320**	*e*P	pP	20 06 20.4	-0.6
OKC	**Ostrava-Krasne**	**80.79**	**320**	*ep*P	pP	20 06 20.4	-0.6
MORC	**Moravsky Berou**	**81.17**	**320**	*e*P	**P**	**20 06 14.6**	**+0.3**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MORC	**Moravsky Berou**	**81.17**	**320**	*e*P	**P**	**20 06 14.6**	**+0.3**
	comp=Z,4.4nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**81.18**	**340**	P	**P**	**20 06 14.6**	**+0.7**
	comp=Z,3.4nm,0.8s,mb4.3,baz=90,slow=8.5,SNR=6.5						
DPC	**Dobruska-Polom**	**82.02**	**320**	*e*P	**P**	**20 06 19.7**	**+1.1**
UPC	**Upice**	**82.23**	**320**	*e*P	pP	20 06 30.3	+1.8
UPC	**Upice**	**82.23**	**320**	*ep*P	pP	20 06 30.3	+1.8
PRU	**Pruhonice**	**83.12**	**320**	*e*P	pP	20 06 35.6	+2.5
PRU	**Pruhonice**	**83.12**	**320**	*ep*P	pP	20 06 35.6	+2.5
PVCC	**Panska Ves**	**83.15**	**320**	*e*P	pP	20 06 31.5	-1.8
PVCC	**Panska Ves**	**83.15**	**320**	*ep*P	pP	20 06 31.5	-1.8
BRG	**Berggiesshubel**	**83.57**	**321**	*e*P	pP	20 06 32.6	-2.8
BRG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.7						
BRG	**Berggiesshubel**	**83.57**	**321**	*e*P	pP	20 06 32.6	-2.8
	comp=Z,8.0nm,1.3s						
GERES	**GERESS Array B**	**83.59**	**319**	P	**P**	**20 06 27.5**	**+0.6**
	comp=Z,1.5nm,0.7s,mb4.2,baz=103,slow=5.8,SNR=13						
KHC	**Kasperske Hory**	**83.69**	**319**	*e*P	**P**	**20 06 30.0**	**+2.7**
CLL	**Collm**	**84.19**	**321**	P	**P**	**20 06 30.0**	**+0.2**
CLL				*e**PP	pP	20 06 38.0	-0.5
NB2	**NORSAR Subarra**	**85.69**	**331**	P	**P**	**20 06 37.1**	**+0.

CN2	**Changchun**	**48.95**	**27**	*e*P		**P**	**20 06 03.5**	**-0.6**
CN2				AMB		AMB		
comp=Z,20nm,1.0s,mb5.1								
TLY	**Talaya**	**50.15**	**5**	*e*P		**P**	**20 06 13.4**	**+0.2**
comp=Z,2.5nm,0.8s,mb4.3								
KURK	**Kurchatov**	**51.32**	**345**	*e*P		**P**	**20 06 21.5**	**-0.6**
comp=Z,6.2nm,1.0s,mb4.5								
STKA	**Stephens Creek**	**53.75**	**132**	P		**P**	**20 06 40.7**	**+0.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=302,slow=9.4,SNR=4.5								
STKA	**Stephens Creek**	**53.75**	**132**	P		**P**	**20 06 40.7**	**+0.1**
CHKZ	**Chkalovo**	**56.25**	**341**	*e*P		**P**	**20 06 57.5**	**-0.9**
comp=Z,6.4nm,0.8s,mb4.7								
YAK	**Yakutsk**	**65.01**	**16**	*e*P		**P**	**20 07 55.6**	**-2.2**
comp=Z,13nm,0.8s,mb5.0								
MA2	**Magadan**	**70.97**	**26**	*e*P		**P**	**20 08 33.5**	**-1.4**
comp=Z,4.9nm,0.7s,mb4.5								

NDI 28 19:59:16.9±0.8, 33.44N×75.08E, h20km±17km, mb4.9, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**1.14**	**152**	*e*P	Pb	19 59 37.5	-0.2
25nm,0.3s							
PONG	**Pong**	**1.65**	**153**	*e*PG	Pn	19 59 49.0	+3.8
SDNR	**Sundarnagar**	**2.51**	**140**	*e*PG	Pn	20 00 05.6	+8.1
NDI	**New Delhi**	**5.08**	**158**	*e*P	Pn	20 00 32.0	-2.0

OTT 28 20:01:03.7±0.2, 64.66N×110.70W, h1km, MN3.0/16, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKTN	**Ekati Mine**	**0.06**	**45**	PG	Pg	20 01 04.4	-0.4
LDGN	**Lac de Gras No**	**0.08**	**76**	PG	Pg	20 01 05.3	0.0
DVKN	**Diavik Mine**	**0.23**	**132**	PG	Pg	20 01 07.6	-0.6
DVKN				SG	Sg	20 01 11.9	+0.7
DVKN				Trac		20 01 12.2	
comp=Z,105nm,0.1s							
ACKN	**Achilles Lake**	**0.34**	**348**	PG	Pg	20 01 10.0	-0.6
ACKN				SG	Sg	20 01 15.5	+0.4
ACKN				Trac		20 01 16.3	
comp=Z,129nm,0.1s							
LGSN	**Lac de Gras So**	**0.41**	**143**	PG	Pg	20 01 11.2	-0.7
LGSN				SG	Sg	20 01 17.6	+0.3
LGSN				Trac		20 01 19.1	
comp=Z,66nm,0.1s							
YMBN	**Yamba Lake**	**0.42**	**301**	PG	Pg	20 01 11.6	-0.5
YMBN				SG	Sg	20 01 17.0	-0.6
YMBN				Trac		20 01 18.6	
comp=Z,56nm,0.1s							
YNEN	**Yamba Lake Nor**	**0.46**	**341**	PG	Pg	20 01 12.1	-0.7
YNEN				SG	Sg	20 01 19.4	+0.5
YNEN				Trac		20 01 20.2	
comp=Z,126nm,0.1s							
GLWN	**Glow Worm Lake**	**0.59**	**83**	PG	Pg	20 01 14.4	-1.2
GLWN				SG	Sg	20 01 23.2	-0.2
GLWN				Trac		20 01 23.7	
comp=Z,91nm,0.1s							
COWN	**Contwyoto Lake**	**0.65**	**342**	PG	Pg	20 01 15.6	-1.0
COWN				SG	Sg	20 01 23.6	-1.6
COWN				Trac		20 01 26.8	
comp=Z,127nm,0.2s							
NODN	**Nodinka Narrow**	**0.71**	**189**	PG	Pg	20 01 16.7	-1.2
NODN				SG	Sg	20 01 26.1	-1.3
NODN				Trac		20 01 27.7	
comp=Z,63nm,0.1s							
MLON	**Marlo Lake**	**0.78**	**153**	PG	Pg	20 01 17.9	-1.3
MLON				Trac		20 01 29.9	
comp=Z,28nm,0.1s							
MLON				SG	Sg	20 01 29.9	+0.4
BOXN	**Box Lake**	**0.92**	**152**	PG	Pg	20 01 20.6	-1.5
BOXN				SG	Sg	20 01 33.5	-0.8
BOXN				Trac		20 01 35.2	
comp=Z,44nm,0.1s							
CAMN	**Camsell Lake**	**0.94**	**185**	PG	Pg	20 01 20.7	-1.7
CAMN				SG	Sg	20 01 33.3	-1.6
CAMN				Trac		20 01 36.4	
comp=Z,28nm,0.1s							
MGTN	**Margaret Lake**	**1.09**	**153**	PG	Pg	20 01 23.7	-1.9
MGTN				SG	Sg	20 01 38.9	-1.2
MGTN				Trac		20 01 39.8	
comp=Z,208nm,0.1s							
GBLN	**Grizzly Bear L**	**1.10**	**246**	PG	Pg	20 01 23.7	-2.0
GBLN				SG	Sg	20 01 39.0	-1.2
GBLN				Trac		20 01 43.9	
comp=Z,152nm,0.1s							
LUPN	**Lupin Mine**	**1.11**	**348**	PG	Pg	20 01 23.9	-1.9
LUPN				SG	Sg	20 01 39.0	-1.6
LUPN				Trac		20 01 44.0	
comp=Z,113nm,0.1s							
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	20 01 24.7	-2.0
SNPN				SG	Sg	20 01 40.1	-1.9
SNPN				Trac		20 01 44.4	
comp=Z,141nm,0.1s							
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	20 01 28.2	-2.8
IHLN				SG	Sg	20 01 45.0	-4.1
IHLN				Trac		20 01 47.0	
comp=Z,33nm,0.1s							
KNDN	**Kennady Lake**	**1.41**	**151**	PG	Pg	20 01 29.0	-2.9
KNDN				SG	Sg	20 01 47.7	-3.0
KNDN				Trac		20 01 49.5	
comp=Z,58nm,0.1s							
ILKN	**Indian Lake**	**1.97**	**259**	PN	Pn	20 01 37.9	-0.7
ILKN				SN	Sn	20 02 04.0	-0.3
ILKN				Trac		20 02 06.7	
comp=Z,17nm,0.1s							
DSMN	**Discovery Mine**	**2.05**	**225**	PN	Pn	20 01 33.9	-5.9
DSMN				SN	Sn	20 02 03.6	-2.7
DSMN				Trac		20 02 09.1	
comp=Z,15nm,0.1s							
CTLN	**Castor Lake**	**2.31**	**267**	PN	Pn	20 01 42.7	-0.7
CTLN				SN	Sn	20 02 15.3	+2.4
YKW3	**Yellowknife Ar**	**2.74**	**221**	PN	Pn	20 01 46.9	-2.7
YKW3				SN	Sn	20 02 20.8	-3.0
YKW3				Trac		20 02 36.2	
comp=Z,18nm,0.2s							
GALN	**Gameti Lake**	**2.92**	**262**	PN	Pn	20 01 50.5	-1.7
GALN				PG	Pg	20 01 57.2	-4.9
GALN				SN	Sn	20 02 25.5	-3.0
GALN				SG	Sg	20 02 33.8	-7.3
INK	**Inuvik**	**9.79**	**302**	PN	P	20 03 23.3	-5.2
INK				SN	Sn	20 05 08.8	-12
FCC	**Fort Churchill**	**9.83**	**119**	PN	P	20 03 23.8	-5.3
FCC				SN	Sn	20 05 06.1	-15
RES	**Resolute Bay**	**11.41**	**21**	PN	P	20 03 38.1	-13
RES				SN	S	20 05 45.5	-14

IDC 28 20:02:00.6±1.5, 0.30S×97.61E, mb3.8/7, mb1 4.0/7, mb1mx3.8/16, mbtmp3.8/7, Error ellipse: s-maj=73.9km s-min=22.6km az=50.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.91**	**121**	P	P	20 09 44.6	-1.9
0.4nm,0.5s,baz=303,slow=9.1,SNR=4.9							
ASAR	**Alice Springs**	**42.18**	**126**	P	P	20 09 55.5	-1.4
0.7nm,0.7s,baz=300,slow=7.9,SNR=4.8							
SONM	**Songino Array**	**48.55**	**8**	P	P	20 10 46.3	-1.2
0.4nm,0.8s,baz=194,slow=5.9,SNR=3.1							
MKAR	**Makanchi Array**	**48.79**	**346**	P	P	20 10 46.7	-2.6
0.5nm,0.5s,baz=149,slow=7.8,SNR=4.1							
FINES	**FINESS Array B**	**81.51**	**333**	P	P	20 14 19.4	-1.7
0.4nm,0.4s,baz=90,slow=5.7,SNR=6.1							
ARCES	**ARCESS Array B**	**84.08**	**340**	P	P	20 14 31.9	-2.3
5.0nm,0.9s,baz=101,slow=4.6,SNR=4.4							
GERES	**GERESS Array B**	**86.20**	**319**	P	P	20 14 45.2	0.0
0.3nm,0.6s,baz=120,slow=7.9,SNR=3.2							

*BJI **28** 20:06:23.3, 0.91N×97.54E, h28km, mB5.5, mb5.2, Ms5.6, Msz5.5*
*MOS **28** 20:06:25.2±0.9, 1.13N×97.59E, h33km, mb5.3/31, Error ellipse: s-maj=11.9km s-min=5.9km az=121.3*
*NEIC **28** 20:06:25.6±0.1, 1.04N×97.46E, mb5.1/36, Error ellipse: s-maj=5.3km s-min=3.7km az=219.0*
*IDC **28** 20:06:25.7±0.4, 1.08N×97.48E, h24km±2km, mb4.5/29, mb1 4.6/29, mb1mx4.5/30, mbtmp4.7/29, Error ellipse: s-maj=14.6km s-min=8.2km az=45.0*

ISC 28 20:06:24.1±0.2, 1.03N±0.03×97.51E±0.03, h25km, h25km±.7km: pP-P, n229, σ0.994/230, mb5.0/91, MS5.5/8, 17C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.97**	**45**	P	**Pn**	**20 07 41.0**	**+1.7**
KULM	**Kulim**	**5.26**	**36**	*e*P	**Pn**	**20 07 44.3**	**+1.0**
KGM	**Kluang**	**5.88**	**80**	P	**Pn**	**20 07 54.5**	**+2.4**
NST	**Nakhon Sawan**	**14.78**	**10**	P	**P**	**20 09 59.0**	**+5.4**
BDT	**Bhumibol Dam**	**16.18**	**5**	P	**P**	**20 10 13.0**	**+1.3**
38nm,0.7s							
CM31	**Chiang Mai Arr**	**17.38**	**5**	*e*P	**P**	**20 10 25.8**	**-1.0**
48nm,0.8s							
CHG	**Chiang Mai**	**17.73**	**4**	⇑P	**P**	**20 10 30.0**	**-1.2**
43nm,1.0s							
NANT	**Nan**	**17.93**	**10**	⇓P	**P**	**20 10 25.0**	**-8.7**
562nm,0.5s							
CHRT	**Chiangrai**	**18.86**	**7**	⇑P	**P**	**20 10 44.0**	**-1.0**
468nm,0.9s							
KKM	**Kota Kinabalu**	**19.31**	**75**	*e*P	**P**	**20 10 50.1**	**-0.4**
KKM	**Kota Kinabalu**	**19.31**	**75**	P	**P**	**20 10 51.4**	**+0.9**
TSM	**Tawau**	**20.59**	**81**	P	**P**	**20 11 04.6**	**+0.5**
QIZ	**Qiongzhong**	**21.59**	**33**	P	**P**	**20 11 14.0**	**-0.3**
QIZ				S	**S**	**20 14 57.0**	**-10**
QIZ				AMB	AMB		
comp=Z,44nm,1.5s,mb4.7							
VIS	**Vishakhapatnam**	**21.67**	**321**	*e*P	**P**	**20 11 16.5**	**+1.4**
VIS				*e*		20 11 18.5	
comp=Z,93nm,1.0s							
VIS				*e*S	**S**	**20 15 08.3**	**-0.3**
KMI	**Kunming**	**24.48**	**11**	⇑P	**P**	**20 11 44.5**	**+1.8**
KMI				AP		20 11 52.5	
KMI				XP		20 11 57.0	
KMI				AMB	AMB		
comp=Z,73nm,1.3s,mb5.0							
KMI				LR	LR		
comp=N,4μm,17.2s,MS5.1							
KMI				LR	LR		
comp=E,4μm,18.5s,MS5.1							
KMI				LR	LR		
comp=Z,11μm,53.4s							
HYB	**Hyderabad**	**24.76**	**312**	*e*P	**P**	**20 11 47.0**	**+1.5**
HYB	**Hyderabad**	**24.76**	**312**	*i* P	**P**	**20 11 47.0**	**+1.5**
BLSP	**Bilaspur**	**25.77**	**326**	*e*P	**P**	**20 11 55.4**	**+0.4**
DGAR	**Diego Garcia**	**26.37**	**251**	*e*P	**P**	**20 11 57.7**	**-2.8**
comp=Z,125nm,0.4s,mb5.8							
GYA	**Guiyang**	**26.77**	**18**	⇑*i*P	**P**	**20 12 03.3**	**-0.9**
GYA				AP	pP	20 12 12.5	+1.0
GYA				XP	sP	20 12 16.8	+2.0
GYA				PP	PP	20 12 47.5	-1.7
GYA				S	**S**	**20 16 33.8**	**-2.9**
GYA				AMB	AMB		
comp=Z,30nm,1.2s,mb4.7							
GYA				AMB	AMB		
comp=Z,12μm,12.2s							
GYA				LR	LR		
comp=N,30μm,16.2s,MS6.1							
GYA				LR	LR		
comp=E,28μm,16.8s,MS6.1							
GYA				LR	LR		
comp=Z,24μm,17.0s,MS5.8							
KAD	**Karad**	**28.08**	**307**	*e*P	**P**	**20 12 17.5**	**+1.4**
JIRN	**Jiri**	**28.62**	**339**	*e*P	**P**	**20 12 21.3**	**+0.4**
comp=Z,164nm,0.9s,mb5.8							
PKI	**Pulchoki**	**28.83**	**337**	*e*P	**P**	**20 12 23.2**	**+0.4**
comp=Z,94nm,1.0s,mb5.5							
DMN	**Daman**	**28.98**	**337**	*e*P	**P**	**20 12 24.3**	**+0.1**
comp=Z,80nm,1.0s,mb5.4							
KKN	**Kakani**	**29.07**	**337**	*e*P	**P**	**20 12 24.9**	**-0.1**
comp=Z,91nm,0.9s,mb5.5							
LSA	**Lhasa**	**29.15**	**349**	P	**P**	**20 12 26.5**	**+0.9**
BHPL	**Bhopal**	**29.46**	**320**	*e*P	**P**	**20 12 26.0**	**-2.5**
BHPL				*e*	pP	20 12 33.1	-2.8
comp=Z,116nm,1.5s							
GKN	**Gorkha**	**29.52**	**336**	*e*P	**P**	**20 12 28.9**	**-0.1**
comp=Z,102nm,0.8s,mb5.6							
KOLN	**Koldanda**	**29.74**	**335**	*e*P	**P**	**20 12 31.1**	**+0.1**
comp=Z,72nm,0.8s,mb5.5							
CD2	**Chengdu**	**30.30**	**11**	P	**P**	**20 12 34.3**	**-1.6**
ENH	**Enshi**	**31.23**	**20**	*e*P	**P**	**20 12 42.0**	**-2.0**
comp=Z,72nm,0.9s,mb5.5							
LGTI	**Lohaghat**	**32.70**	**331**	⇓*i*P	**P**	**20 12 59.0**	**+2.0**
PTH	**Pithoragarh**	**32.80**	**331**	*e*P	**P**	**20 12 58.9**	**+1.1**
PTH				*e*		20 18 25.2	
WHN	**Wuhan**	**33.42**	**27**	⇓P	**P**	**20 13 03.0**	**-0.2**
WHN				AP	pP	20 13 09.8	-0.8
FITZ	**Fitzroy Crossi**	**33.58**	**126**	*e*P	**P**	**20 13 04.0**	**-0.7**
comp=Z,12nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.58**	**126**	P	**P**	**20 13 03.9**	**-0.8**
comp=Z,3.9nm,0.5s,mb4.6,baz=335,slow=6.1,SNR=19							
FITZ				pP	pP	20 13 11.3	-0.8
comp=Z,15nm,0.7s,baz=200,slow=1.5,SNR=11							
DDI	**Dehra Dun**	**34.50**	**329**	*e*P	**P**	**20 13 12.1**	**-0.5**
XAN	**Xi'an**	**34.53**	**17**	P	**P**	**20 13 11.5**	**-1.3**
XAN				AP	pP	20 13 17.8	-2.4
XAN				AMB	AMB		
comp=Z,74nm,1.0s,mb5.6							
LZH	**Lanzhou**	**35.37**	**9**	⇑P	**P**	**20 13 19.5**	**-0.4**
LZH				AP	pP	20 13 27.5	+0.1
LZH				XP	sP	20 13 31.5	+0.9
LZH				PP	PP	20 14 40.5	+0.8
LZH				SCP		20 19 28.0	
LZH				PCS		20 19 32.0	
LZH				AMB	AMB		
comp=Z,56nm,1.5s,mb5.3							
LZH				AMB	AMB		
comp=Z,220nm,5.0s							
LZH				LR	LR		
comp=N,6μm,14.1s							
LZH				LR	LR		
comp=Z,6μm,15.5s,MS5.5							
SMLA	**Simla**	**35.60**	**329**	*i*	**P**	**20 13 12.2**	**-10**
SMLA				*i*		20 13 36.2	
PONG	**Pong**	**36.88**	**329**	*e*P	**P**	**20 13 33.0**	**+0.3**
KAKA	**Kakadu**	**37.25**	**113**	*e*P	**P**	**20 13 34.4**	**-1.5**
comp=Z,9.3nm,0.9s,mb4.6							
THN	**Thein Dam**	**37.38**	**329**	*e*P	**P**	**20 13 35.3**	**-1.6**
comp=Z,18nm,0.9s,mb4.9							
GTA	**Gaotai**	**38.26**	**3**	⇑P	**P**	**20 13 44.3**	**+0.1**
GTA				AP	pP	20 13 54.3	+2.6
GTA				XP	sP	20 13 57.5	+2.7
GTA				PCP	PcP	20 15 55.3	-3.4
GTA				S	**S**	**20 19 38.0**	**+1.8**
GTA				PCS		20 19 44.5	
GTA				SS	SS	20 22 19.8	+4.5
GTA				SCS	ScS	20 23 49.0	-2.9
GTA				AMB	AMB		
comp=Z,42nm,0.9s,mb5.2							
GTA				AMB	AMB		
comp=Z,1μm,8.4s							
GTA				LR	LR		
comp=N,5μm,18.0s,MS5.4							
GTA				LR	LR		
comp=E,3μm,20.7s,MS5.4							
GTA				LR	LR		
comp=Z,7μm,18.9s,MS5.5							
NWAO	**Narrogin (SRO)**	**38.56**	**153**	P	**P**	**20 13 47.5**	**+0.7**
comp=Z,14nm,0.8s,mb4.7,baz=327,slow=8.6,SNR=12							
NWAO				pP	pP	20 13 54.9	+0.5
comp=Z,7.3nm,0.7s,baz=328,slow=12,SNR=4.8							
JOW	**Kunigami**	**39.13**	**46**	P	**P**	**20 13 52.3**	**+0.7**
comp=Z,82nm,0.9s,mb5.5,baz=271,slow=7.2,SNR=10							
JOW				pP	pP	20 13 59.1	0.0
comp=Z,33nm,0.6s,baz=226,slow=8.1,SNR=4.0							
BTO	**Baotou**	**40.99**	**15**	*e*P	**P**	**20 14 09.5**	**+2.7**
HHC	**Hu-ho-hao-te**	**41.63**	**16**	*e*P	**P**	**20 14 13.5**	**+1.4**
HHC				AP	pP	20 14 22.5	+2.9
HHC				XP	sP	20 14 27.0	+4.2
HHC				PP	PP	20 15 53.3	+1.8
HHC				S	**S**	**20 20 28.5**	**+1.7**
HHC				XS		20 20 44.5	
HHC				SS	SS	20 23 28.5	+1.2
HHC				SCS	ScS	20 24 10.8	-0.9
HHC				AMB	AMB		
comp=Z,25nm,0.9s,mb4.8							
HHC				LR	LR		
comp=N,6μm,19.0s,MS5.5							
HHC				LR	LR		
comp=E,3μm,23.8s,MS5.5							
HHC				LR	LR		
comp=Z,8μm,22.6s,MS5.6							
WRA	**Warramunga Arr**	**41.68**	**122**	P	**P**	**20 14 12.5**	**-0.3**
comp=Z,3.7nm,0.4s,mb4.3,baz=302,slow=9.1,SNR=44							
WRA				pP	pP	20 14 21.2	+0.9
comp=Z,5.0nm,0.7s,baz=302,slow=9.1,SNR=11							
WRA				S	**S**	**20 20 24.9**	**-2.9**
comp=Z,1.6nm,1.0s,baz=294,slow=15,SNR=4.2							
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P	**P**	**20 14 12.7**	**-0.1**
WRAB				pmax	pmax		
comp=Z,21nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P	**P**	**20 14 12.7**	**-0.2**
comp=Z,21nm,0.8s,mb4.8							
WB2	**Warramunga Arr**	**41.69**	**122**	*e*P	**P**	**20 14 12.6**	**-0.3**
BJI	**Beijing**	**42.38**	**21**	P	**P**	**20 14 19.3**	**+1.0**
BJI				XP	sP	20 14 26.0	-2.9
BJI				AMB	AMB		
comp=Z,90nm,0.8s,mb5.5							
FORT	**Forrest**	**42.95**	**140**	*e*P	**P**	**20 14 25.0**	**+2.0**
comp=Z,569nm,0.7s							
ASPA	**Alice Springs**	**43.04**	**127**	*e*P	**P**	**20 14 24.1**	**+0.2**
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**20 14 23.4**	**-0.5**
ASAR				*PP	pP	20 14 31.0	-0.4
ASAR				S	**S**	**20 20 45.9**	**-1.8**
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**	**20 14 23.4**	**-0.6**
comp=Z,1.6nm,0.5s,mb4.0,baz=298,slow=7.9,SNR=32							
ASAR				pP	pP	20 14 30.9	-0.5
comp=Z,2.6nm,0.5s,baz=298,slow=7.2,SNR=17							
ASAR				ScP		20 20 03.0	
comp=Z,1.1nm,0.9s,baz=270,slow=2.7,SNR=3.9							
ASAR				S	**S**	**20 20 45.9**	**-1.8**
comp=Z,1.3nm,0.9s,baz=288,slow=14,SNR=3.8							
KSH	**Kashi**	**43.05**	**335**	*e*P	**P**	**20 14 23.3**	**-0.5**
KSH				*e*AP	pP	20 14 32.0	+0.7
KSH				*e*XP	sP	20 14 36.8	+2.4
KSH				*e*PP	PP	20 16 06.5	+0.4
KSH				*e*PCP	PcP	20 16 10.8	-3.4
KSH				*e*PPP	PPP	20 16 44.0	+3.0
KSH				*e*SCP		20 19 57.5	
KSH				*e*PCS		20 20 01.3	
KSH				*e*S	**S**	**20 20 51.5**	**+3.8**
KSH				*e*SS	SS	20 23 59.3	+5.5
KSH				*e*SCS	ScS	20 24 17.0	-3.4
KSH				LR	LR		
comp=N,4μm,13.9s,MS5.7							
KSH				LR	LR		
comp=E,6μm,14.6s,MS5.7							
WMQ	**Urumqi**	**43.49**	**350**	⇑*i*P	**P**	**20 14 27.5**	**+0.2**
WMQ				AP	pP	20 14 37.0	+2.2
WMQ				XP	sP	20 14 41.0	+3.1
WMQ				PP	PP	20 16 11.0	+0.6
WMQ				PPP	PPP	20 16 47.0	+0.3
WMQ				PCS		20 20 06.0	
WMQ				S	**S**	**20 20 54.0**	**0.0**
WMQ				XS		20 21 10.0	
WMQ				SCS	ScS	20 24 22.0	-1.0
WMQ				AMB	AMB		
comp=Z,44nm,1.0s,mb5.1							
WMQ				AMB	AMB		
comp=Z,327nm,5.7s							
WMQ				LR	LR		
comp=N,5μm,17.6s,MS5.5							
WMQ				LR	LR		
comp=E,4μm,17.6s,MS5.5							
WMQ				LR	LR		
comp=Z,4μm,19.4s,MS5.3							
DL2	**Dalian**	**43.68**	**27**	P	**P**	**20 14 29.8**	**+0.9**
DL2				AMB	AMB		
comp=Z,70nm,0.9s,mb5.4							
SMDO	**Samad**	**44.12**	**303**	⇑P	**P**	**20 14 33.6**	**+0.9**
BIDO	**Bidbid**	**44.24**	**303**	P	**P**	**20 14 34.9**	**+1.3**
SNR=6.8							
ULHL	**Ulahol**	**45.27**	**338**	P	**P**	**20 14 42.0**	**+0.4**
SNR=7.1							
KZA	**Kyzart**	**45.51**	**337**	P	**P**	**20 14 44.5**	**+1.0**
SNR=9.8							
RBK	**Rabkut**	**45.60**	**294**	⇑P	**P**	**20 14 45.1**	**+0.5**
KS15	**Wonju Array Si**	**45.78**	**34**	*e*P	**P**	**20 14 45.8**	**+0.1**
UCH	**Uchtor**	**45.93**	**336**	P	**P**	**20 14 47.7**	**+0.9**
SNR=37							
TKM2	**Tokmak 2**	**46.09**	**338**	P	**P**	**20 14 48.5**	**+0.4**
SNR=32							
WHFO	**Wadi Hawf**	**46.12**	**294**	P	**P**	**20 14 48.8**	**+0.2**
SNR=19							
KBK	**Karagaybulak**	**46.12**	**337**	P	**P**	**20 14 49.0**	**+0.7**
SNR=38							
AML	**Almayashu**	**46.19**	**335**	P	**P**	**20 14 49.8**	**+1.0**
SNR=5.7							
AAK	**Ala-Archa**	**46.28**	**336**	P	**P**	**20 14 50.3**	**+0.7**
SNR=10							
AAK	**Ala-Archa**	**46.28**	**336**	P	**P**	**20 14 49.5**	**-0.1**
comp=Z,77nm,0.9s,mb5.6,SNR=21							
AAK	**Ala-Archa**	**46.28**	**336**	*i* P	**P**	**20 14 48.5**	**-1.1**
AAK	**Ala-Archa**	**46.28**	**336**	*e*P	**P**	**20 14 48.8**	**-0.8**
comp=Z,43nm,1.0s,mb5.3							
ABTO	**Aybut**	**46.40**	**293**	P	**P**	**20 14 51.2**	**+0.4**
SNR=6.4							
FRU	**Bishkek**	**46.40**	**337**	*e*P	**P**	**20 14 51.0**	**+0.5**
CHMS	**Chumysh**	**46.48**	**337**	P	**P**	**20 14 51.4**	**+0.2**
SNR=8.5							
EKS2	**Erkin-Say**	**46.59**	**336**	P	**P**	**20 14 52.7**	**+0.6**
SNR=39							
USP	**Ospenovka**	**46.81**	**337**	P	**P**	**20 14 53.9**	**+0.1**
SNR=51							
SNY	**Shenyang**	**46.91**	**27**	⇓P	**P**	**20 14 54.8**	**+0.2**
SNY				AMB	AMB		
comp=Z,50nm,1.0s,mb5.4							
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**20 14 57.4**	**+0.2**
comp=Z,9.2nm,0.4s,mb5.1,baz=190,slow=9.8,SNR=141							
SONM				pP	pP	20 15 04.6	-0.2
comp=Z,13nm,0.7s,baz=190,slow=8.8,SNR=13							
SONM				PcP	PcP	20 16 28.5	-0.1
comp=Z,6.5nm,0.8s,baz=193,slow=3.7,SNR=4.5							
SONM				ScP		20 20 16.8	
comp=Z,1.0nm,0.7s,baz=201,slow=3.4,SNR=3.3							
ULN	**Ulaanbaatar**	**47.38**	**9**	*i* P	**P**	**20 14 58.5**	**+0.3**
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**20 14 58.8**	**-0.2**
comp=Z,31nm,0.5s,mb5.5,baz=160,slow=8.1,SNR=187							
CN2	**Changchun**	**49.31**	**27**	*e*P	**P**	**20 15 12.8**	**-0.5**
CN2				AMB	AMB		
comp=Z,50nm,1.0s,mb5.5							
ZAK	**Zakamensk**	**49.41**	**5**	⇑*i*P	**P**	**20 15 13.8**	**-0.1**
ZAK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6							
ZAK				pmax	pmax		
comp=Z,16nm,1.2s,mb4.9							
MOY	**Mondy**	**50.54**	**3**	*e*P	**P**	**20 15 22.8**	**+0.3**
MOY				pmax	pmax		
comp=Z,49nm,2.5s,mb5.0							
TLY	**Talaya**	**50.73**	**5**	*e*P	**P**	**20 15 23.7**	**-0.3**
TLY				pmax	pmax		
comp=Z,14nm,0.9s,mb4.9				

comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 60.30 268 P **P** **20 16 33.9 +0.3**
comp=Z,6.6nm,0.8s,mb4.7,baz=59,slow=9.7,SNR=17
KMBO pP pP 20 16 41.5 +0.1
comp=Z,5.3nm,0.9s,baz=52,slow=11,SNR=6.8
KMBO Kilima Mbogo 60.30 268 *e*P **P** **20 16 32.9 -0.7**
comp=Z,7.4nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 60.31 34⇑ *e*P **P** **20 16 30.0 -3.2**
GNI Garni 61.63 316 P **P** **20 16 42.5 +0.2**
comp=Z,1.6nm,0.4s,mb4.5,baz=180,slow=19,SNR=3.2
GNI pP pP 20 16 50.5 +0.4
comp=Z,2.7nm,0.5s,baz=6.5,slow=13,SNR=2.9
DGRG David-gareji 61.77 318 P **P** **20 16 42.9 -0.3**
TI2 Plekhanov 62.31 318⇓ *i*P **P** **20 16 46.0 -0.8**
SVE Sverdlovsk 62.96 338 *e*P **P** **20 16 49.9 -1.0**
SVE pmax pmax
comp=Z,40nm,1.0s,mb5.5
SVE MLR MLR
comp=N,1μm,18.0s,MS5.3
SVE MLR MLR
comp=E,1μm,18.0s,MS5.3
SVE MLR MLR
comp=Z,4μm,18.0s,MS5.6
ARU Arti 63.46 337⇑ *i*P **P** **20 16 52.6 -1.6**
ARU *e*S **S** **20 25 25.2 +1.2**
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.4
KIV Kislovodsk 64.64 319*c i*P **P** **20 17 00.9 -1.2**
KIV *e* 20 17 29.7
KIV pmax pmax
comp=Z,15nm,0.9s,mb5.0
ASF Jabal al Asfar 64.82 305 P **P** **20 17 03.7 +0.2**
comp=Z,2.3nm,0.6s,mb4.4,baz=111,slow=3.3,SNR=6.0
YAK Yakutsk 65.50 16 *e*P **P** **20 17 04.6 -2.7**
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.2
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK Yakutsk 65.50 16 *e*P **P** **20 17 05.8 -1.6**
comp=E,47nm,0.9s,mb5.5
MBAR Mbarara 66.79 269 P **P** **20 17 16.0 -0.4**
comp=E,73nm,1.0s,mb5.7,SNR=8.6
MBAR Mbarara 66.79 269 *e*P **P** **20 17 14.9 -1.5**
MBAR pmax pmax
comp=Z,44nm,1.6s,mb5.2
MBAR Mbarara 66.79 269 *e*P **P** **20 17 14.9 -1.5**
comp=Z,44nm,1.6s,mb5.2
ANN Anapa 68.43 318 *e*P **P** **20 17 25.0 -1.2**
ANN *e*S S 20 26 27.1 +2.4
ANN pmax pmax
comp=Z,62nm,1.6s,mb5.4
BRTR Keskin Array B 69.46 312 P **P** **20 17 31.1 -1.6**
comp=Z,1.5nm,0.5s,mb4.2,baz=127,slow=7.3,SNR=12
BRTR pP pP 20 17 38.6 -1.8
comp=Z,2.4nm,0.8s,baz=117,slow=5.5,SNR=7.4
SKR Severo-Kuril's 69.81 35 *e*P **P** **20 17 41.5 +7.0**
VRSR Storozhevoye 69.87 325 *e*P **P** **20 17 33.1 -1.8**
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=E,10.0nm,0.8s
DZM Mont Dzumac 70.93 114 P **P** **20 17 43.2 +1.3**
comp=E,3.0nm,0.8s,mb4.3,baz=274,slow=19,SNR=3.2
DZM pP pP 20 17 49.6 -0.1
comp=E,3.3nm,0.6s,baz=257,slow=21,SNR=5.4
MA2 Magadan 71.35 25 *e*P **P** **20 17 43.4 -0.3**
MA2 *e* 20 18 10.2
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 pmax pmax
comp=N,3.0nm,0.7s
MA2 pmax pmax
comp=E,2.0nm,0.5s
MA2 Magadan 71.35 25 *e*P **P** **20 17 42.9 -0.8**
comp=E,32nm,0.8s,mb5.3
PET Petropavlovsk 72.20 34 *e*P **P** **20 17 48.9 0.0**
PET pmax pmax
comp=Z,103nm,1.3s,mb5.6
PET Petropavlovsk 72.20 34 *e*P **P** **20 17 48.9 0.0**
comp=Z,103nm,1.3s,mb5.6
MAW Mawson 72.62 193 P **P** **20 17 51.8 +0.7**
comp=Z,8.4nm,0.9s,mb4.7,baz=31,slow=8.0,SNR=4.7
OBN Obninsk 72.93 328*c i*P **P** **20 17 51.7 -1.5**
OBN *e* 20 20 30.3
OBN pmax pmax
comp=Z,21nm,1.2s,mb4.9
OBN Obninsk 72.93 328 *e*P **P** **20 17 51.6 -1.6**
comp=Z,35nm,0.9s,mb5.3
TIXI Tiksi 73.30 10 *e*P **P** **20 17 51.9 -3.1**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
LBTB Lobatse 74.09 244 *e*P **P** **20 17 59.3 -1.3**
BOSA Boshof 74.97 240 P **P** **20 18 05.2 -0.4**
comp=Z,8.5nm,0.9s,mb4.7,baz=64,slow=6.2,SNR=10
IDI Anoyia 75.25 306 P **P**
comp=Z,9.6nm,1.0s,mb4.7,baz=54,slow=17,SNR=2.4
AKASG Malin Array Be 75.58 322 P **P** **20 18 07.0 -1.7**
comp=Z,4.2nm,0.5s,mb4.6,baz=89,slow=5.0,SNR=20
MLR Muntele Rosu 76.41 317 P **P** **20 18 13.0 -0.3**
comp=Z,5.9nm,0.7s,mb4.6,baz=222,slow=2.5,SNR=11
RPZ Rata Peaks 78.86 135 P **P** **20 18 27.8 +0.8**
comp=Z,4.0nm,0.6s,mb4.6,baz=270,slow=6.1,SNR=3.3
KWP Kalwaria 79.40 320 *e*P **P** **20 18 29.4 -0.3**
KOLS Kolonicke sedl 79.55 320 *i*P **P** **20 18 31.0 +0.4**
SUW Suwalki 79.99 325 *e*P **P** **20 18 31.6 -1.2**
CRVS Cervenica-Dubn 80.07 319 *i*P **P** **20 18 34.2 +0.8**
FINES FINESS Array B 80.29 332 P **P** **20 18 33.9 -0.4**
comp=Z,3.3nm,0.5s,mb4.5,baz=96,slow=5.8,SNR=28
KAF Kangasniemi 80.37 333 *e*p **P** **20 18 34.0 -0.7**
comp=Z,5.7nm,0.6s,mb4.7
KAF Kangasniemi 80.37 333 *e*P **P** **20 18 34.0 -0.7**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
PSZ Piszkesteto 80.94 318⇓ *e*P **P** **20 18 38.1 +0.1**
BILL Bilibino 81.21 21 *e*P **P** **20 18 38.8 -0.2**
BILL *e* 20 21 42.7
BILL pmax pmax
comp=Z,1.0nm,0.7s
OJC Ojcow 81.35 321 *e*P **P** **20 18 40.0 -0.1**
PKSM Moragy 81.56 316⇑ *i*P **P** **20 18 40.7 -0.6**
VYHS Vyhne 81.72 319 *e*P **P** **20 18 42.2 +0.1**
OKC Ostrava-Krasne 82.35 320 *e*P **P** **20 18 45.6 +0.3**
OKC *ep*P pP 20 18 53.1 -0.2
OKC *ex* x 20 19 10.2
ARCES ARCESS Array B 82.80 340 P **P** **20 18 47.6 +0.4**
comp=Z,3.5nm,0.6s,mb4.6,baz=92,slow=4.7,SNR=20
ZST Bratislava 82.84 318 *i*P **P** **20 18 48.4 +0.5**
DPC Dobruska-Polom 83.58 320 *e*P **P** **20 18 51.9 +0.3**
DPC *ep*P pP 20 18 59.0 -0.7
DPC *ex* x 20 19 17.3
KSP Ksiaz 83.65 321 *e*P **P** **20 18 52.0 0.0**
KSP Ksiaz 83.65 321 *e*P **P** **20 18 51.7 -0.3**
UPC Upice 83.79 321 *e*P **P** **20 18 53.2 +0.5**
PRU Pruhonice 84.69 320 *e*P **P** **20 18 57.1 -0.1**
PRU *ep*P pP 20 19 03.5 -1.8
PRU *ex* x 20 19 22.1
PVCC Panska Ves 84.71 320 *e*P **P** **20 18 57.8 +0.5**
BRG Berggiesshubel 85.14 321 *e*P **P** **20 18 59.9 +0.5**
BRG pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
BRG Berggiesshubel 85.14 321 *e*P **P** **20 18 59.9 +0.5**
comp=Z,8.7nm,1.1s,mb4.8
BRG *e* 20 19 24.3
BRG *e* 20 19 45.9
GEC2 GERESS Array S 85.15 319 *e*P **P** **20 19 00.1 +0.6**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GEC2 GERESS Array S 85.15 319 *e*P **P** **20 19 00.1 +0.6**
comp=Z,7.0nm,1.0s,mb4.8
GERES GERESS Array B 85.15 319 P **P** **20 18 59.9 +0.4**
comp=Z,5.8nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=42
KHC Kasperske Hory 85.25 319 *e*P **P** **20 19 00.1 +0.1**
KHC *ep*P pP 20 19 07.2 -0.9
KHC *ex* x 20 19 24.7
VNDA Vanda 85.60 169 P **P** **20 19 01.9 +0.7**
comp=Z,0.8nm,0.7s,mb4.1,baz=315,slow=4.3,SNR=3.9
WET Wettzell 85.71 319 *e*P **P** **20 19 02.6 +0.3**
CLL Collm 85.76 321 *i*P **P** **20 19 02.5 0.0**
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
CLL Collm 85.76 321 *i*P **P** **20 19 02.5 0.0**
comp=Z,7.0nm,0.9s,mb4.9
CLL Collm 85.76 321 P **P** **20 19 02.5 0.0**
comp=Z,logA/T=0.9,mb4.9
HFS Hagfors 86.02 330 P **P** **20 19 03.5 -0.1**
comp=Z,4.5nm,0.5s,mb5.0,baz=135,slow=4.2,SNR=39
HFS pP pP 20 19 11.6 -0.1
comp=Z,2.3nm,0.6s,baz=124,slow=5.3,SNR=4.8
NKC Novy Kostel 86.05 320 *e*P **P** **20 19 04.0 0.0**
GRA1 Grafenberg Arr 86.81 320 *e*P **P** **20 19 08.8 +1.0**
comp=Z,8.0nm,0.9s,mb5.0
GRF Grafenberg Arr 86.81 320 *e*P **P** **20 19 08.8 +1.0**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRF Grafenberg Arr 86.81 320 *e*P **P** **20 19 08.8 +1.0**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRF Grafenberg Arr 86.81 320 *e*P **P** **20 19 08.8 +1.0**
comp=Z,8.0nm,0.9s,mb5.0
NB2 NORSAR Subarra 87.31 331 P **P** **20 19 09.5 -0.4**
comp=Z,8.7nm,1.0s,mb4.9,baz=97,slow=5.3
NB2 NORSAR Subarra 87.31 331 P **P** **20 19 09.5 -0.4**
NB2 pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
NOA NORSAR Array B 87.31 331 P **P** **20 19 09.8 0.0**
comp=Z,4.9nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=21
NOA pP pP 20 19 16.9 -1.1
comp=Z,2.4nm,0.7s,baz=95,slow=4.9,SNR=8.3
CLZ Clausthal 87.42 322 *e*P **P** **20 19 10.9 +0.2**
comp=Z,4.0nm,0.8s,mb4.7
BSEG Bad Segeberg 87.52 324 *e*P **P** **20 19 11.9 +0.8**
PGF Pioggiola 88.21 312 *e*P **P** **20 19 14.7 0.0**
comp=Z,17nm,0.8s,mb5.0
PGF Pioggiola 88.21 312 *e*P **P** **20 19 14.7 0.0**
PGF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
TNS Taunus Mts 88.62 320 *e*P **P** **20 19 17.2 +0.8**
CDF Champ du Feu 89.39 318 *e*P **P** **20 19 19.8 -0.4**
MAIT Maitri 89.57 199 *e*P **P** **20 19 22.9 +2.4**
LPG La Plagne 89.81 315 *e*P **P** **20 19 22.6 +0.4**
comp=Z,18nm,1.1s,mb5.0
LPG La Plagne 89.81 315 *e*P **P** **20 19 22.6 +0.4**
LPG pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
LPL La Plagne 89.82 315 *e*P **P** **20 19 22.6 +0.4**
comp=Z,17nm,1.0s,mb5.0
LPL La Plagne 89.82 315 *e*P **P** **20 19 22.6 +0.4**
LPL pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
FRF La Foret Royal 89.93 313 *e*P **P** **20 19 23.0 +0.2**
comp=Z,29nm,1.1s,mb5.2
FRF La Foret Royal 89.93 313 *e*P **P** **20 19 23.0 +0.2**
FRF pmax pmax
comp=Z,15nm,1.1s,mb5.2
HAU Haudompre 90.02 318 *e*P **P** **20 19 23.0 -0.1**
comp=Z,14nm,1.0s,mb4.9
HAU Haudompre 90.02 318 *e*P **P** **20 19 23.0 -0.1**
HAU pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LMR La Mourre 90.03 313 *e*P **P** **20 19 23.4 +0.1**
CABF La Chapelle 90.24 316 *e*P **P** **20 19 24.5 +0.3**
ORIF Oris-en-Rattie 90.44 315 *e*P **P** **20 19 25.5 +0.4**
MEZF Maizieres J'vi 90.87 318 *e*P **P** **20 19 27.2 +0.2**
comp=Z,17nm,1.1s,mb5.0
GIVF Givet 90.95 320 *e*P **P** **20 19 27.6 +0.3**
BAIF Baives 91.35 320 *e*P **P** **20 19 29.8 +0.7**
comp=Z,25nm,1.0s,mb5.2
BAIF Baives 91.35 320 *e*P **P** **20 19 29.8 +0.7**
BAIF pmax pmax
comp=Z,12nm,1.0s,mb5.2
SMF Signal de Mont 91.79 317 *e*P **P** **20 19 31.4 +0.1**
comp=Z,20nm,1.0s,mb5.1
SMF Signal de Mont 91.79 317 *e*P **P** **20 19 31.4 +0.1**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
LASF Ste Croix 91.92 314 *e*P **P** **20 19 32.5 +0.5**
comp=Z,11nm,1.0s,mb4.8
AVF Avril sur Loir 92.11 317 *e*P **P** **20 19 33.0 +0.3**
comp=Z,17nm,1.1s,mb5.0
AVF Avril sur Loir 92.11 317 *e*P **P** **20 19 33.0 +0.3**
AVF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
BGF Bois d'Agland 92.48 316 *e*P **P** **20 19 35.0 +0.6**
comp=Z,32nm,1.2s,mb5.2
BGF Bois d'Agland 92.48 316 *e*P **P** **20 19 35.0 +0.6**
BGF pmax pmax
comp=Z,16nm,1.2s,mb5.2
HYF Humbligny 92.57 317 *e*P **P** **20 19 35.6 +0.8**
TCF Toulx Ste Croi 92.94 316 *e*P **P** **20 19 37.1 +0.6**
comp=Z,9.1nm,1.1s,mb4.8
TCF Toulx Ste Croi 92.94 316 *e*P **P** **20 19 37.1 +0.6**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.9
FLN La Foliniere 94.51 319 *e*P **P** **20 19 43.7 0.0**
GRR Gorron 94.80 319 *e*P **P** **20 19 45.6 +0.5**
DAG Danmarks Havn 94.83 348⇑ *i*P **P** **20 19 44.2 -0.4**
DAG pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
DAG Danmarks Havn 94.83 348⇑ *i*P **P** **20 19 44.2 -0.4**
comp=Z,1.5nm,0.8s,mb4.5
IMA Indian Mountai 96.61 23 *e*P **P** **20 19 53.5 +0.6**
IMA pmax pmax
comp=Z,74nm,1.0s,mb6.1
IMA Indian Mountai 96.61 23 *e*P **P** **20 19 53.5 +0.5**
comp=Z,74nm,1.0s,mb6.1
INK Inuvik 102.54 17 P Pdif 20 20 20.0 +0.4
comp=Z,1.4nm,1.0s,baz=292,slow=3.6,SNR=3.1
INK PP PP 20 24 36.2 +0.8
comp=Z,0.9nm,1.0s,baz=332,slow=3.4,SNR=3.3
INK Inuvik 102.54 17 P Pdif 20 20 20.0 +0.4
INK PP PP 20 24 36.2 +0.8
YKA Yellowknife Ar 112.17 15 PKKPab 20 35 56.7
comp=Z,0.4nm,0.8s,baz=146,slow=3.9,SNR=8.0
SCHQ Schefferville 122.85 349 PKP PKPdf 20 25 19.2 -3.6
comp=Z,0.8nm,0.7s,baz=350,slow=6.1,SNR=2.4
PDAR Pinedale Array 130.06 26 PKP PKPdf 20 25 33.6 -3.5
comp=Z,0.2nm,0.5s,SNR=2.1
BDFB Brasilia 143.03 245 PKhKP 20 25 55.0
comp=Z,2.1nm,0.7s,baz=254,slow=3.1,SNR=3.2
TXAR Lajitas Array 143.65 32 PKP PKPdf 20 25 57.7 -4.5
comp=Z,0.4nm,0.3s,baz=252,slow=4.0,SNR=4.9
JCT Junction City 144.59 26 *e*PKP PKPdf 20 25 59.0 -4.8
NATX Nacogdoches 145.41 18 *e*PKP PKPdf 20 26 01.4 -3.9
GOGA Godfrey 145.73 1 *e*PKP PKPdf 20 26 02.4 -3.3
LPAZ La Paz 159.26 222 PKP PKPdf 20 26 26.9 +1.1
comp=Z,0.4nm,0.2s,baz=74,slow=6.0,SNR=2.6

BJI ***28*** *20:06:54.1, 1.61N×96.90E, h44km, mB5.6, mb5.4, Ms5.8, Msz5.3*
MOS ***28*** *20:06:55.5±0.9, 2.00N×96.98E, h33km, mb5.6/15, Error ellipse: s-maj=19.3km s-min=8.8km az=123.5*
NEIC ***28*** *20:06:56.1±0.2, 1.97N×96.94E, mb5.3/13, Error ellipse: s-maj=9.4km s-min=5.6km az=46.0*
IDC ***28*** *20:06:56.2±0.3, 1.95N×96.88E, h25km±2km, mb4.7/25, mb1 4.7/25, mb1mx4.7/27, mbtmp4.8/25, Error ellipse: s-maj=16.4km s-min=8.3km az=48.0*
ISC 28 20:06:54.4±0.3, 1.95N±0.06×96.95E±0.07, h26km, h26km±.5km: pP-P, n86, n0 83/74, mb5.1/47, MS5.3/1, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
KULM	**Kulim**	**4.96**	**48**	P	**Pn**	**20 08 10.0**	**+0.7**
KMI	**Kunming**	**23.71**	**13**	P	**P**	**20 12 07.0**	**+1.7**
KMI				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.0						
WHN	**Wuhan**	**32.88**	**28**	⇓P	**P**	**20 13 28.3**	**-0.3**
WHN				AP	pP	20 13 36.3	-0.1
FITZ	**Fitzroy Crossi**	**34.57**	**126**	P	**P**	**20 13 43.0**	**-0.4**
	comp=Z,19nm,0.8s,mb5.0,baz=249,slow=2.4,SNR=6.0						
FITZ				pP	pP	20 13 50.7	-0.5
	comp=Z,22nm,0.8s,baz=299,slow=1.7,SNR=5.3						
NJ2	**Nanjing**	**36.37**	**32**	*e*P	**P**	**20 13 58.5**	**0.0**
NJ2				AP	pP	20 14 08.8	+2.5
NJ2				XP	sP	20 14 14.3	+4.6
NJ2				PP	PP	20 15 23.0	+0.8
NJ2				S	**S**	**20 19 46.0**	**+8.6**
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,10.0s						
NJ2				LR	LR		
	comp=N,6μm,25.5s						
NJ2				LR	LR		
	comp=E,12μm,17.7s						
	comp=Z,6μm,23.4s,MS5.3						
KAKA Kakadu 38.12 113⇑ *i*P **P** **20 14 12.2 -1.2**
comp=Z,22nm,0.6s,mb5.1
JOW Kunigami 38.92 48 P **P** **20 14 20.6 +0.5**
comp=Z,38nm,0.6s,mb5.3,baz=263,slow=13,SNR=11
NWAO Narrogin (SRO) 39.63 153 P **P** **20 14 24.8 -1.1**
comp=Z,6.4nm,0.8s,mb4.4,baz=333,slow=2.3,SNR=1.9
NWAO pP pP 20 14 33.1 -0.6
comp=Z,16nm,0.9s,baz=316,slow=10,SNR=3.9
BJI Beijing 41.74 22 P **P** **20 14 43.5 +0.3**
BJI AMB AMB
comp=Z,114nm,0.9s,mb5.5
WRA Warramunga Arr 42.64 123 P **P** **20 14 51.0 +0.2**
comp=Z,10nm,0.8s,mb4.7,baz=300,slow=9.4,SNR=8.1
WRAB Tennant Creek 42.65 122 *e*P **P** **20 14 50.1 -0.8**
WRAB pmax pmax
comp=Z,22nm,0.9s,mb4.9
WRAB Tennant Creek 42.65 122 *e*P **P** **20 14 50.1 -0.7**
comp=Z,22nm,0.9s,mb4.9
ASAR Alice Springs 44.05 128 P **P** **20 15 02.9 +0.7**
comp=Z,12nm,0.9s,mb4.6,baz=306,slow=7.8,SNR=12
ASAR pP pP 20 15 10.5 +0.4
comp=Z,9.7nm,1.0s,baz=305,slow=8.6,SNR=4.2
ASAR PcP PcP 20 16 47.9 0.0
comp=Z,3.6nm,0.9s,baz=311,slow=4.2,SNR=4.6
AAK Ala-Archa 45.22 337 *e*P **P** **20 15 10.9 -0.4**
AAK pmax pmax
comp=Z,35nm,1.0s,mb5.1
AAK Ala-Archa 45.22 337 *e*P **P** **20 15 10.8 -0.5**
comp=Z,35nm,1.0s,mb5.2
FRU Bishkek 45.34 337 *e*P **P** **20 15 13.0 +0.7**
SONM Songino Array 46.43 9 P **P** **20 15 21.5 +0.7**
comp=Z,28nm,1.0s,mb5.2,baz=190,slow=7.5,SNR=15
SONM pP pP 20 15 29.0 +0.3
comp=Z,18nm,0.7s,baz=194,slow=10,SNR=4.8
SONM PcP PcP 20 16 55.6 -0.2
comp=Z,14nm,0.8s,baz=188,slow=3.8,SNR=7.6
SONM pPcP 20 17 03.9
comp=Z,14nm,0.8s,baz=183,slow=3.9,SNR=5.8
SONM ScP 20 20 45.7
comp=Z,2.1nm,1.0s,baz=180,slow=4.9,SNR=4.1
MKAR Makanchi Array 46.46 346 P **P** **20 15 21.3 +0.3**
comp=Z,56nm,0.8s,mb5.5,baz=162,slow=7.7,SNR=14
MKAR pP pP 20 15 28.6 -0.4
comp=Z,38nm,0.8s,baz=153,slow=8.1,SNR=4.7
ULN Ulaanbaatar 46.57 9 *e*P **P** **20 15 21.3 -0.6**
ULN pmax pmax
comp=Z,23nm,0.9s,mb5.1
ULN Ulaanbaatar 46.57 9 *e*P **P** **20 15 21.3 -0.6**
comp=Z,23nm,0.9s,mb5.1
KURK Kurchatov 51.01 345 *e*P **P** **20 15 55.5 -0.7**
KURK pmax pmax
comp=Z,29nm,0.7s,mb5.3
KURK Kurchatov 51.01 345 *e*P **P** **20 15 55.5 -0.7**
comp=Z,29nm,0.7s,mb5.3
PMG Port Moresby 51.27 104 P **P** **20 15 58.8 +0.1**
PMG *PP pP 20 16 07.2 +0.5
PMG Port Moresby 51.27 104 P **P** **20 15 58.7 +0.1**
comp=Z,36nm,0.8s,mb5.3,baz=237,slow=3.7,SNR=6.6
PMG pP pP 20 16 07.2 +0.5
comp=Z,34nm,0.7s,baz=286,slow=7.3,SNR=5.4
CTA Charters Tower 53.06 117 P **P** **20 16 12.5 +0.4**
comp=Z,21nm,1.0s,mb5.0,baz=286,slow=9.3,SNR=9.4
CTA pP pP 20 16 20.7 +0.6
comp=Z,22nm,0.8s,baz=282,slow=8.4,SNR=8.7
STKA Stephens Creek 54.04 132 P **P** **20 16 19.1 0.0**
comp=Z,10nm,1.0s,mb4.7,baz=300,slow=11,SNR=3.0
STKA pP pP 20 16 27.9 +0.8
comp=Z,22nm,1.0s,baz=295,slow=5.8,SNR=5.5
STKA Stephens Creek 54.04 132 P **P** **20 16 19.1 0.0**
STKA pP pP 20 16 27.9 +0.8
BVAR Borovoye Array 55.47 341 P **P** **20 16 28.1 -1.1**
comp=Z,29nm,0.7s,mb5.4,baz=139,slow=8.5,SNR=13
BVAR pP pP 20 16 36.0 -1.3
comp=Z,33nm,0.8s,baz=143,slow=7.4,SNR=8.6
KLR Kul'dur 55.70 27 *e*P **P** **20 16 35.0 +4.0**
CHKZ Chkalovo 55.94 341 *e*P **P** **20 16 31.4 -1.2**
CHKZ pmax pmax
comp=Z,81nm,0.9s,mb5.8
CHKZ Chkalovo 55.94 341 *e*P **P** **20 16 31.4 -1.2**
comp=Z,81nm,0.9s,mb5.8
ASAJ Asahikawa 58.22 37 P **P** **20 16 49.1 +0.2**
comp=Z,16nm,0.8s,mb5.1,baz=284,slow=12,SNR=5.2
ASAJ pP pP 20 16 56.8 -0.3
comp=Z,54nm,1.1s,baz=236,slow=15,SNR=6.0
CLNS Chul'man 59.10 17 *e*P **P** **20 16 49.9 -5.0**
CLNS pmax pmax
comp=Z,57nm,0.9s,mb5.6
CLNS pmax pmax
comp=N,19nm,0.6s
CLNS pmax pmax
comp=E,15nm,0.8s
KMBO Kilima Mbogo 59.77 268 P **P** **20 17 01.1 +1.0**
comp=E,2.8nm,0.7s,mb4.4,baz=24,slow=14,SNR=4.6
YSS Yuzh-Sakhalins 59.88 35⇓ *e*P **P** **20 17 07.0 +6.6**
YSS *e* 20 17 20.0
YSS pmax pmax
comp=Z,130nm,1.1s,mb5.9
GNI Garni 60.58 316 P **P** **20 17 05.5 +0.2**
comp=Z,11nm,0.9s,mb5.0,baz=325,slow=17,SNR=4.2
SVE Sverdlovsk 61.90 338 *e*P **P** **20 17 13.7 -0.3**
ARU Arti 62.40 337 *e*P **P** **20 17 22.9 +5.6**
ARU *e* 20 29 40.7
GOF Gofitskoye 63.83 320⇑ *i*P **P** **20 17 31.0 +4.1**
GOF pmax pmax
comp=Z,20nm,1.2s,mb5.0
MALT Malatya 64.44 312 *e*P **P** **20 17 38.0 +6.9**
MALT pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MALT Malatya 64.44 312 *e*P **P** **20 17 38.0 +6.9**
comp=Z,9.1nm,0.8s,mb4.9
YAK Yakutsk 64.78 16 *e*P **P** **20 17 31.3 -1.5**
YAK *e* pP 20 17 39.0 -2.0
YAK pmax pmax
comp=Z,74nm,1.0s,mb5.7
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=N,11nm,0.8s
YAK pmax pmax
comp=Z,44nm,0.8s,mb5.5
YAK pmax pmax
comp=E,14nm,1.2s
YAK Yakutsk 64.78 16 *e*P **P** **20 17 31.2 -1.6**
comp=E,138nm,0.9s,mb6.0
BRTR Keskin Array B 68.42 312 P **P** **20 17 55.4 -1.0**
comp=E,5.1nm,0.8s,mb4.6,baz=126,slow=7.2,SNR=9.8
BRTR pP pP 20 18 03.2 -1.3
comp=E,5.5nm,0.8s,baz=121,slow=6.6,SNR=5.6
MA2 Magadan 70.77 26 *e*P **P** **20 18 17.6 +7.2**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MOS Moscow 71.56 329 *e*P **P** **20 18 13.6 -1.6**
MOS *e* pP 20 18 22.1 -1.4
MOS pmax pmax
comp=Z,56nm,0.8s,mb5.5
PET Petropavlovsk 71.75 34 *e*P **P** **20 18 16.1 -0.3**
PET pmax pmax
comp=Z,47nm,0.5s,mb5.7
DZM Mont Dzumac 71.81 114 P **P** **20 18 17.5 +0.2**
comp=Z,10nm,1.0s,mb4.7,baz=284,slow=12,SNR=4.5
OBN Obninsk 71.85 328 *e*P **P** **20 18 08.6 -8.3**
OBN Obninsk 71.85 328 *e*P **P** **20 18 15.2 -1.8**
comp=Z,57nm,1.0s,mb5.5
IDI Anoyia 74.26 306 pP pP 20 18 38.5 -1.2
comp=Z,10nm,0.6s,baz=106,slow=10,SNR=3.3
AKASG Malin Array Be 74.52 322 P **P** **20 18 30.8 -1.8**
comp=Z,13nm,0.8s,mb4.9,baz=90,slow=4.8,SNR=14
AKASG pP pP 20 18 38.9 -2.0
comp=Z,6.8nm,0.6s,baz=91,slow=4.9,SNR=6.7
AKASG PP PP 20 21 17.6 -3.5
comp=Z,2.1nm,0.8s,baz=106,slow=6.9,SNR=3.9
AKASG Malin Array Be 74.52 322 P **P** **20 18 30.8 -1.8**
AKASG pP pP 20 18 38.9 -2.0
AKASG PP PP 20 21 17.6 -3.5
BOSA Boshof 74.93 240 P **P** **20 18 35.9 +0.4**
comp=Z,8.9nm,1.1s,mb4.6,baz=126,slow=7.1,SNR=3.7
BOSA sP sP 20 18 46.5 -0.1
comp=Z,4.7nm,0.7s,baz=86,slow=7.4,SNR=2.7
MLR Muntele Rosu 75.35 317 P **P** **20 18 38.1 +0.6**
comp=Z,6.7nm,0.8s,mb4.6,baz=129,slow=4.8,SNR=4.7
MLR pP pP 20 18 46.0 +0.1
comp=Z,8.5nm,0.8s,baz=180,slow=6.1,SNR=3.8
KWP Kalwaria 78.34 320 P **P** **20 18 54.8 +0.7**

KWP pmax pmax
comp=Z,28nm,1.0s,mb5.2
KWP Kalwaria 78.34 320 P **P** **20 18 54.8 +0.7**
comp=Z,28nm,1.0s,mb5.1
APA Apatity 78.34 339 ⇑*i*P **P** **20 18 53.7 0.0**
APA *e* pP 20 19 02.0 -0.1
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
SUW Suwalki 78.92 325 *e*P **P** **20 18 56.5 -0.7**
SUW pmax pmax
comp=Z,42nm,1.1s,mb5.3
SUW Suwalki 78.92 325 *e*P **P** **20 18 56.5 -0.7**
comp=Z,42nm,1.1s,mb5.3
FINES FINESS Array B 79.22 332 P **P** **20 18 58.9 +0.2**
comp=Z,7.9nm,0.7s,mb4.8,baz=108,slow=6.0,SNR=14
FINES pP pP 20 19 07.0 0.0
comp=Z,15nm,0.7s,baz=108,slow=6.0,SNR=13
KAF Kangasniemi 79.31 333 *e*p **P** **20 18 59.0 -0.1**
RPZ Rata Peaks 79.91 135 pP pP 20 19 11.8 +0.7
comp=Z,18nm,0.8s,baz=262,slow=6.2,SNR=3.7
MORC Moravsky Berou 81.67 320 *e*P **P** **20 19 12.1 +0.2**
ARCES ARCESS Array B 81.75 340 P **P** **20 19 12.9 +1.0**
comp=Z,18nm,0.9s,mb5.0,baz=100,slow=6.6,SNR=14
ARCES pP pP 20 19 20.9 +0.6
comp=Z,33nm,0.9s,baz=104,slow=5.0,SNR=9.3
AQU L'Aquila 83.92 312 P **P** **20 19 24.5 +0.8**
AQU pmax pmax
comp=Z,33nm,1.1s,mb5.4
AQU L'Aquila 83.92 312 P **P** **20 19 24.5 +0.8**
comp=Z,33nm,1.1s,mb5.4
GERES GERESS Array B 84.09 319 P **P** **20 19 25.4 +1.1**
comp=Z,5.2nm,0.9s,mb4.6,baz=112,slow=4.7,SNR=7.8
GERES pP pP 20 19 33.7 +0.9
comp=Z,7.2nm,0.8s,baz=90,slow=5.3,SNR=7.4
CLL Collm 84.69 321 P **P** **20 19 28.0 +0.7**
HFS Hagfors 84.95 330 P **P** **20 19 29.3 +0.9**
comp=Z,2.9nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=4.2
NB2 NORSAR Subarra 86.23 331 P **P** **20 19 34.1 -0.7**
comp=Z,16nm,0.9s,mb5.2,baz=93,slow=5.0
NB2 NORSAR Subarra 86.23 331 P **P** **20 19 34.1 -0.7**
NB2 pmax pmax
comp=Z,16nm,0.9s,mb5.2
NB2 NORSAR Subarra 86.23 331 P **P** **20 19 34.1 -0.7**
baz=93,slow=5.1
NOA NORSAR Array B 86.23 331 P **P** **20 19 35.0 +0.2**
comp=Z,4.5nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=3.9
NOA pP pP 20 19 43.8 +0.6
comp=Z,13nm,0.9s,baz=93,slow=4.9,SNR=9.7
NOA PP PP 20 22 53.2 -4.2
comp=Z,2.7nm,1.0s,baz=95,slow=8.8,SNR=3.7
VNDA Vanda 86.60 169 P **P** **20 19 37.6 +1.3**
comp=Z,1.2nm,0.9s,mb4.1,baz=311,slow=7.5,SNR=3.5
VNDA pP pP 20 19 45.7 +1.0
comp=Z,1.9nm,1.0s,baz=313,slow=6.7,SNR=2.6
INK Inuvik 101.84 17 P P 20 20 45.3 -1.3
comp=Z,2.6nm,1.0s,baz=293,slow=4.7,SNR=6.8
INK PP PP 20 24 53.6 -6.4
comp=Z,2.2nm,1.1s,baz=335,slow=7.0,SNR=2.6
YKA Yellowknife Ar 111.44 15 PKiKP 20 25 25.7
comp=Z,0.1nm,0.4s,baz=344,slow=3.1,SNR=3.4
YKA pPKiKP 20 25 36.1
comp=Z,0.5nm,0.9s,baz=332,slow=3.3,SNR=3.7
YKA PP PP 20 26 01.0 -10
comp=Z,1.3nm,0.9s,baz=329,slow=8.0,SNR=6.7
YKA PKKPab 20 36 28.8
comp=Z,0.5nm,0.9s,baz=142,slow=3.5,SNR=4.4
YKA Yellowknife Ar 111.44 15 PKPdf PKPdf 20 25 25.7 -5.0
YKA PP PP 20 26 01.0 -10
YKA PKKPab 20 36 28.8
SCHQ Schefferville 121.85 349 PKP PKPdf 20 25 48.0 -3.2
comp=Z,1.0nm,0.7s,baz=270,slow=8.1,SNR=2.7
SCHQ pPKP 20 25 56.2
comp=Z,2.8nm,0.8s,baz=73,slow=6.7,SNR=3.6
SCHQ Schefferville 121.85 349 PKP PKPdf 20 25 48.0 -3.2
SCHQ pPKP 20 25 56.2
ULM Lac du Bonnet 126.85 10 PKP PKPdf 20 25 57.4 -3.5
comp=Z,4.2nm,0.8s,baz=328,slow=2.6,SNR=10
ULM pPKP 20 26 05.9
comp=Z,4.6nm,0.8s,baz=27,slow=2.9,SNR=5.1
PDAR Pinedale Array 129.48 25 PKP PKPdf 20 26 03.4 -2.8
comp=Z,1.1nm,0.9s,baz=270,slow=1.5,SNR=6.6
PDAR pPKP 20 26 12.2
comp=Z,1.4nm,0.7s,SNR=5.6
ANMO Albuquerque 137.24 29 PKP PKPdf 20 26 18.2 -2.6
comp=Z,1.4nm,0.7s,baz=270,slow=1.0,SNR=2.9
BDFB Brasilia 142.89 246 PKP PKPdf 20 26 29.8 -1.7
comp=Z,1.9nm,0.7s,baz=141,slow=6.5,SNR=1.6
TXAR Lajitas Array 143.16 31 PKP PKPdf 20 26 27.9 -3.7
comp=Z,2.2nm,0.8s,baz=256,slow=3.7,SNR=6.0
LPAZ La Paz 159.53 225 PKP PKPdf 20 26 54.5 -1.8
comp=Z,0.8nm,0.3s,baz=163,slow=3.3,SNR=4.7
LPAZ pPKP 20 27 06.1
comp=Z,0.8nm,0.4s,baz=314,slow=16,SNR=1.9

IDC ***28*** *20:10:10.3±1.4,* **55.73S×27.07W, mb3.7**/1**, mb1 4.0**/1**, mb1mx3.4**/14**, mbtmp3.7**/1**, 1C, Error ellipse: s-maj=103.5km s-min=42.7km az=88.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA3	**Neumayer Olymp**	**17.27**	**161**	⇑*i*P	P	20 14 16.2	+2.2
VNA2	**Neumayer--Watz**	**17.46**	**158**	P	P	20 14 19.5	+3.0
VNDA	**Vanda**	**46.90**	**183**	P	P	20 18 41.5	-1.8
	0.6nm,0.6s,baz=190,slow=8.9,SNR=9.1						
YKA	**Yellowknife Ar**	**135.98**	**318**	PKP	PKPdf	20 29 30.5	-3.3
	0.2nm,0.6s,baz=122,slow=2.2,SNR=4.1						
INK	**Inuvik**	**145.60**	**321**	PKPbc	PKPbc	20 29 48.4	-1.1
	0.6nm,0.4s,baz=113,slow=3.4,SNR=9.3						
SONM	**Songino Array**	**150.64**	**86**	PKPbc	PKPdf	20 30 03.1	+3.7
	0.9nm,0.4s,baz=232,slow=3.2,SNR=6.3						

NEIC ***28*** *20:13:22.7±0.4, 1.16N×97.06E, mb4.1/4, Error ellipse: s-maj=12.1km s-min=8.1km az=51.0*
IDC ***28*** *20:13:23.1±1.3, 1.14N×97.09E, h23km±5km, mb3.7/7, mb1 3.9/7, mb1mx3.7/16, mbtmp3.9/7, Error ellipse: s-maj=55.6km s-min=18.7km az=55.0*
BJI ***28*** *20:13:23.2, 1.20N×97.10E, h24km, mB4.6, mb4.4*
ISC 28 20:13:20.8±0.6, 1.15N±0.09×97.1E±0.1, h24km, **h24**km±.5km**:pP-P, n19,** σ0**75**/18**, mb4.0**/13**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulm**	**5.46**	**41**	*e*P	**Pn**	**20 14 41.8**	**-1.1**
KMI	**Kunming**	**24.46**	**13**	P	**P**	**20 18 41.0**	**+1.7**
KMI				AP		20 18 48.5	
KMI				AMB	AMB		
	comp=Z,21nm,1.6s,mb4.3						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**20 21 12.6**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.4,baz=302,slow=9.0,SNR=4.9						
WRAB	**Tennant Creek**	**42.13**	**122**	*e*P	**P**	**20 21 13.0**	**-0.3**
BJI	**Beijing**	**42.44**	**22**	P	**P**	**20 21 16.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.48**	**127**	P	**P**	**20 21 24.9**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.5,baz=304,slow=6.5,SNR=3.7						
AAK	**Ala-Archa**	**45.99**	**337**	*e*P	**P**	**20 21 43.9**	**-0.3**
	comp=Z,1.5nm,0.8s,mb4.0						
SONM	**Songino Array**	**47.20**	**9**	P	**P**	**20 21 53.9**	**+0.2**
	comp=Z,1.2nm,0.8s,mb3.9,baz=193,slow=11,SNR=6.1						
SONM				pP	pP	20 22 01.2	+0.3
	comp=Z,2.4nm,0.8s,baz=195,slow=9.3,SNR=6.5						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**20 21 54.9**	**+0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=167,slow=9.0,SNR=6.3						
MKAR				pP	pP	20 22 02.5	+1.2
	comp=Z,2.6nm,0.7s,baz=162,slow=8.4,SNR=12						
ULN	**Ulaanbaatar**	**47.33**	**9**	*e*P	**P**	**20 21 54.5**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0						
KURK	**Kurchatov**	**51.80**	**345**	P	**P**	**20 22 28.7**	**-0.3**
	comp=Z,1.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**20 22 41.9**	**+0.5**
	comp=Z,1.8nm,0.9s,mb4.0,baz=36,slow=4.2,SNR=2.9						
BVAR	**Borovoye Array**	**56.25**	**341**	P	**P**	**20 23 01.3**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.0,baz=130,slow=11,SNR=3.4						
BVAR				pP	pP	20 23 08.5	-0.5
	comp=Z,1.8nm,0.6s,baz=142,slow=7.2,SNR=5.4						
CHKZ	**Chkalovo**	**56.73**	**342**	*e*P	**P**	**20 23 04.1**	**-1.0**
	comp=Z,3.4nm,0.6s,mb4.5						
MALT	**Malatya**	**65.06**	**312**	P	**P**	**20 24 01.2**	**-0.6**
MBAR	**Mbarara**	**66.34**	**269**	P	**P**	**20 24 09.4**	**-1.0**
BRTR	**Keskin Array B**	**69.04**	**312**	pP	pP	20 24 34.1	-0.2
	comp=Z,0.3nm,0.4s,baz=122,slow=6.7,SNR=2.4						
TSUM	**Tsumeb**	**80.44**	**250**	P	**P**	**20 25 33.2**	**+0.4**
GERES	**GERESS Array B**	**84.76**	**319**	P	**P**	**20 25 55.8**	**+1.3**
	comp=Z,0.3nm,0.7s,mb3.6,baz=45,slow=1.4,SNR=3.1						
GERES				pP	pP	20 26 03.0	+0.9
	comp=Z,0.3nm,0.7s,baz=90,slow=5.3,SNR=4.3						

IDC ***28*** *20:16:41.3±0.7, 1.98N×99.16E, mb4.1/13, mb1 4.2/13, mb1mx4.1/19, mbtmp4.1/13, Error ellipse: s-maj=37.3km s-min=17.2km az=62.0*
NEIC ***28*** *20:16:45.9±0.4, 1.95N×99.17E, h30km, mb4.5/4, Error ellipse: s-maj=14.1km s-min=8.7km az=67.0*
ISC 28 20:16:46.3±3.0, 2.0N±0.1×99.3E±0.2, h47km±26km**, n23,** σ0**73**/21**, mb4.2**/17**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**3.10**	**34**	P	**P**	**20 17 34.7**	**+0.7**
KULM	**Kulim**	**3.54**	**23**	*e*P	**P**	**20 17 40.8**	**+0.5**
KGM	**Kluang**	**4.05**	**90**	P	**P**	**20 17 46.2**	**-1.2**
LSA	**Lhasa**	**28.60**	**345**	P	**P**	**20 22 40.3**	**-0.2**
	6.0nm,0.7s,mb4.4						
NWAO	**Narrogin (SRO)**	**38.67**	**155**	P	**P**	**20 24 08.2**	**+0.9**
	5.0nm,0.8s,mb4.3,baz=334,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**40.74**	**124**	P	**P**	**20 24 25.0**	**+0.5**
	5.7nm,1.0s,mb4.2,baz=304,slow=9.5,SNR=7.4						
WRAB	**Tennant Creek**	**40.74**	**124**	P	**P**	**20 24 24.4**	**-0.2**
	7.3nm,0.6s,mb4.5						
SONM	**Songino Array**	**46.06**	**7**	P	**P**	**20 25 08.0**	**+0.6**
	1.4nm,0.7s,mb4.0,baz=189,slow=9.8,SNR=5.1						
MKAR	**Makanchi Array**	**47.00**	**344**	P	**P**	**20 25 15.1**	**+0.3**
	1.5nm,0.6s,mb4.1,baz=151,slow=6.6,SNR=5.7						
BVAR	**Borovoye Array**	**56.20**	**339**	P	**P**	**20 26 22.8**	**-1.1**
	3.2nm,0.7s,mb4.5,baz=148,slow=9.3,SNR=9.9						
CHKZ	**Chkalovo**	**56.65**	**340**	*e*P	**P**	**20 26 25.4**	**-1.7**
	4.6nm,0.7s,mb4.6						
KMBO	**Kilima Mbogo**	**62.08**	**268**	P	**P**	**20 27 05.0**	**0.0**
	1.2nm,0.8s,mb4.1,baz=53,slow=19,SNR=4.1						
MALT	**Malatya**	**66.14**	**311**	*e*P	**P**	**20 27 31.0**	**-0.2**
	2.0nm,0.9s,mb4.2						
BRTR	**Keskin Array B**	**70.11**	**312**	P	**P**	**20 27 55.9**	**0.0**
	1.1nm,0.6s,mb4.0,baz=113,slow=6.2,SNR=6.3						
FINES	**FINESS Array B**	**80.25**	**332**	P	**P**	**20 28 52.7**	**-0.8**
	0.7nm,0.5s,mb3.9,baz=93,slow=6.4,SNR=9.4						
FINES	**FINESS Array B**	**80.25**	**332**	P	**P**	**20 28 52.7**	**-0.8**
ARCES	**ARCESS Array B**	**82.48**	**340**	P	**P**	**20 29 04.8**	**-0.2**
	7.0nm,1.2s,mb4.5,baz=76,slow=5.0,SNR=7.1						
GERES	**GERESS Array B**	**85.57**	**319**	P	**P**	**20 29 22.0**	**+1.1**
	0.2nm,0.4s,mb3.7,baz=90,slow=4.0,SNR=4.5						
HFS	**Hagfors**	**86.06**	**330**	P	**P**	**20 29 23.5**	**+0.6**
	1.6nm,0.4s,mb4.6,baz=135,slow=4.2,SNR=24						
VNDA	**Vanda**	**86.21**	**169**	P	**P**	**20 29 22.9**	**-0.5**
	1.0nm,1.0s,mb4.0,baz=262,slow=4.6,SNR=2.7						
NOA	**NORSAR Array B**	**87.31**	**331**	P	**P**	**20 29 29.8**	**+0.7**
	1.3nm,1.1s,mb4.1,baz=94,slow=5.2,SNR=3.2						
TXAR	**Lajitas Array**	**141.88**	**33**	PKP	PKPdf	20 36 20.1	+6.3
	0.5nm,0.7s,baz=270,slow=1.8,SNR=3.2						
BDFB	**Brasilia**	**145.02**	**245**	PKP	PKPdf	20 36 20.1	+0.6
	2.6nm,0.6s,baz=85,slow=5.8,SNR=5.3						

IDC ***28*** *20:17:49.4±1.5, 0.95N×97.05E, mb4.1/7, mb1 4.3/7, mb1mx4.0/17, mbtmp4.1/7, Error ellipse: s-maj=74.7km s-min=21.3km az=54.0*
BJI ***28*** *20:17:52.9, 1.00N×97.20E, h30km, mB4.9, mb4.8*
NEIC ***28*** *20:17:54.0±0.6, 1.03N×97.16E, h30km, mb4.4/5, Error ellipse: s-maj=18.3km s-min=11.0km az=52.0*
ISC 28 20:17:51.8±0.7, 1.0N±0.1×97.1E±0.1, h30km**, n18,** σ1**06**/18**, mb4.3**/15**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.55**	**39**	P	**Pn**	**20 19 13.2**	**-1.4**
KMI	**Kunming**	**24.63**	**12**	P	**P**	**20 23 13.3**	**+2.1**
KMI				AMB	AMB		
	comp=Z,25nm,1.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.83**	**125**	*e*P	**P**	**20 24 31.3**	**-2.6**
	comp=Z,23nm,0.9s,mb5.1						
GTA	**Gaotai**	**38.36**	**3**	*e*P	**P**	**20 25 12.5**	**+0.5**
GTA				AP	pP	20 25 19.5	-1.5
GTA				XP	sP	20 25 23.0	-1.7
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**20 25 41.9**	**0.0**
	comp=Z,2.1nm,0.8s,mb3.8,baz=300,slow=9.2,SNR=2.9						
WRAB	**Tennant Creek**	**41.96**	**122**	*e*P	**P**	**20 25 42.4**	**+0.4**
	comp=Z,3.3nm,0.4s,mb4.3						
BJI	**Beijing**	**42.59**	**22**	P	**P**	**20 25 48.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,9.0nm,0.6s,mb4.7						
AAK	**Ala-Archa**	**46.20**	**337**	*e*P	**P**	**20 26 15.9**	**0.0**
SONM	**Songino Array**	**47.38**	**8**	P	**P**	**20 26 25.6**	**+0.4**
	comp=Z,3.6nm,0.9s,mb4.3,baz=185,slow=9.1,SNR=6.4						
MKAR	**Makanchi Array**	**47.47**	**346**	P	**P**	**20 26 26.4**	**+0.5**
	comp=Z,3.3nm,0.8s,mb4.3,baz=155,slow=7.7,SNR=4.7						
ULN	**Ulaanbaatar**	**47.52**	**9**	*e*P	**P**	**20 26 26.1**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.2						
KURK	**Kurchatov**	**52.02**	**345**	*e*P	**P**	**20 27 00.0**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**20 27 11.5**	**+1.5**
	comp=Z,2.1nm,0.6s,mb4.2,baz=299,slow=9.1,SNR=2.7						
BVAR	**Borovoye Array**	**56.47**	**341**	P	**P**	**20 27 32.7**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=3.6						
CHKZ	**Chkalovo**	**56.94**	**342**	*e*P	**P**	**20 27 35.5**	**-1.2**
	comp=Z,3.0nm,0.5s,mb4.6						
MALT	**Malatya**	**65.25**	**312**	P	**P**	**20 28 32.1**	**-1.0**
GERES	**GERESS Array B**	**84.96**	**319**	P	**P**	**20 30 27.0**	**+1.5**
	comp=Z,1.0nm,0.9s,mb3.9,baz=90,slow=5.3,SNR=5.0						
NOA	**NORSAR Array B**	**87.19**	**331**	P	**P**	**20 30 35.5**	**-0.7**
	comp=Z,0.6nm,0.7s,mb4.0,baz=94,slow=4.9,SNR=3.3						

IDC ***28*** *20:19:05.2±0.7, 4.90N×92.43E, mb4.5/17, mb1 4.6/17, mb1mx4.5/22, mbtmp4.5/17, Error ellipse: s-maj=37.3km s-min=15.5km az=44.0*
MOS ***28*** *20:19:08.7±1.1, 4.89N×92.38E, h33km, mb5.0/26, Error ellipse: s-maj=15.9km s-min=6.2km az=120.6*
BJI ***28*** *20:19:09.7, 4.88N×92.30E, h42km, mB5.3, mb4.7, Ms5.4, Msz5.2*
NEIC ***28*** *20:19:10.1±0.3, 4.92N×92.40E, h30km, mb4.7/22, Error ellipse: s-maj=10.4km s-min=6.0km az=202.0*
ISC 28 20:19:08.7±0.4, 4.88N±0.06×92.38E±0.04, h32km**, h32**km±.4km**:pP-P, n149,** σ1**07**/155**, mb4.7**/56**, MS5.2**/8**, 12C-6D, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**8.25**	**87**	P	**P**	**20 21 07.3**	**-1.9**
PALK	**Pallekele**	**11.85**	**282**	*e*P	**P**	**20 21 55.1**	**-3.5**
	52nm,0.6s						
MDRS	**Chennai**	**14.47**	**305**	*e*P	**P**	**20 22 30.0**	**-3.5**
CM31	**Chiang Mai Arr**	**14.94**	**25**	*e*P	**P**	**20 22 37.7**	**-1.8**
	26nm,0.9s						
VIS	**Vishakhapatnam**	**15.53**	**326**	*e*P	**P**	**20 22 44.1**	**-3.2**
KSM	**Kuching**	**18.22**	**100**	*e*P	**P**	**20 23 21.1**	**-0.1**
HYB	**Hyderabad**	**18.40**	**314**	*e*P	**P**	**20 23 22.0**	**-1.3**
BLSP	**Bilaspur**	**19.81**	**331**	*e*	**P**	**20 23 43.3**	**+3.6**
BLSP				*e*S	**S**	**20 27 11.0**	**-4.5**
LATR	**Latur**	**20.49**	**312**	*e*P	**P**	**20 23 46.0**	**-0.8**
NGP	**Nagpur**	**20.71**	**323**	*e*	**P**	**20 23 57.1**	**+8.1**
NGP				*e*S	**S**	**20 27 30.3**	**-3.4**
KAD	**Karad**	**21.68**	**306**	⇑*i*P	**P**	**20 23 58.0**	**-0.8**
KAD				*i* S	**S**	**20 27 50.0**	**-1.9**
QIZ	**Qiongzhong**	**22.09**	**49**	P	**P**	**20 24 03.3**	**+0.3**
QIZ				*e*S	**S**	**20 28 00.3**	**+0.7**
QIZ				AMB	AMB		
	comp=Z,16nm,0.8s,mb4.5						
KMI	**Kunming**	**22.45**	**25**	P	**P**	**20 24 08.0**	**+1.5**
KMI				AP		20 24 16.5	
KMI				XP		20 24 21.8	
KMI				PP	PP	20 24 35.0	+0.7
KMI				AMB	AMB		
	comp=Z,15nm,1.5s,mb4.2						
KMI				LR	LR		
	comp=N,2μm,19.1s,MS4.7						
KMI				LR	LR		
	comp=E,2μm,24.0s,MS4.7						
POO	**Poona**	**22.61**	**308**	*e*P	**P**	**20 24 07.7**	**-0.6**
POO				*e*		20 24 09.5	
	comp=Z,16nm,0.5s						
BHPL	**Bhopal**	**23.27**	**323**	*e*P	**P**	**20 24 16.5**	**+1.9**
BHPL				*e*		20 24 17.5	
	comp=Z,40nm,1.1s						
JIRN	**Jiri**	**23.41**	**346**	*e*P	**P**	**20 24 34.5**	**+19**
	comp=Z,225nm,0.7s						
PKI	**Pulchoki**	**23.52**	**344**	*e*P	**P**	**20 24 34.0**	**+17**
	comp=Z,211nm,0.5s						
DMN	**Daman**	**23.64**	**344**	*e*P	**P**	**20 24 35.8**	**+18**
	comp=Z,288nm,0.7s						
KKM	**Kota Kinabalu**	**23.76**	**86**	*e*P	**P**	**20 24 21.0**	**+1.5**
KKN	**Kakani**	**23.76**	**344**	*e*P	**P**	**20 24 37.7**	**+18**
	comp=Z,157nm,0.6s						
GKN	**Gorkha**	**24.14**	**343**	*e*P	**P**	**20 24 42.6**	**+20**
	comp=Z,514nm,0.6s						
KOLN	**Koldanda**	**24.25**	**341**	*e*P	**P**	**20 24 43.4**	**+19**
	comp=Z,259nm,0.7s						
LSA	**Lhasa**	**24.71**	**357**	P	**P**	**20 24 29.5**	**+0.9**
LSA	**Lhasa**	**24.71**	**357**	*e*P	**P**	**20 24 29.5**	**+0.9**
LSA				pmax	pmax		
	comp=Z,55nm,0.6s,mb5.3						
LSA	**Lhasa**	**24.71**	**357**	*e*P	**P**	**20 24 29.5**	**+1.0**
	comp=Z,55nm,0.6s,mb5.3						
GYA	**Guiyang**	**25.44**	**31**	⇑*i*P	**P**	**20 24 35.5**	**+0.1**
GYA				AP	pP	20 24 44.8	-0.1
GYA				XP	sP	20 24 49.0	-0.2
GYA				PP	PP	20 25 14.8	+0.1
GYA				S	**S**	**20 28 57.5**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				LR	LR		
	comp=N,10μm,16.4s,MS5.6						
GYA				LR	LR		
	comp=E,10μm,16.8s,MS5.6						
GYA				LR	LR		
	comp=Z,8μm,17.0s,MS5.3						
NDI	**New Delhi**	**27.70**	**330**	*e*P	**P**	**20 24 55.0**	**-1.2**
CD2	**Chengdu**	**28.02**	**21**	P	**P**	**20 24 58.3**	**-0.8**
DDI	**Dehra Dun**	**28.69**	**334**	*e*P	**P**	**20 25 05.0**	**-0.1**
DDI				*e*		20 25 45.0	
SMLA	**Simla**	**29.77**	**333**	*i*	**P**	**20 25 05.5**	**-9.4**
LZH	**Lanzhou**	**32.80**	**17**	*e*P	**P**	**20 25 40.8**	**-0.6**
LZH				AP	pP	20 25 50.0	-0.9
LZH				XP	sP	20 25 53.0	-2.1
LZH				PP	PP	20 26 52.0	+0.6
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,169nm,5.0s						
LZH				LR	LR		
	comp=E,5μm,17.0s						
LZH				LR	LR		
	comp=Z,6μm,18.5s,MS5.3						
GTA	**Gaotai**	**35.03**	**10**	*e*P	**P**	**20 26 01.0**	**+0.4**
GTA				AP	pP	20 26 11.0	+0.8
GTA				XP	sP	20 26 14.5	+0.2
GTA				PP	PP	20 27 21.8	+2.5
GTA				PPP	PPP	20 27 42.5	+5.2
GTA				PCP	PcP	20 28 31.3	-1.0
GTA				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
GTA				AMB	AMB		
	comp=Z,2μm,4.2s						
GTA				LR	LR		
	comp=N,3μm,20.1s,MS5.2						
GTA				LR	LR		
	comp=E,2μm,20.4s,MS5.2						
GTA				LR	LR		
	comp=Z,7μm,18.9s,MS5.4						
NJ2	**Nanjing**	**36.68**	**39**	*e*P	**P**	**20 26 15.0**	**+0.4**
NJ2				AP	pP	20 26 25.0	+0.8
NJ2				XP	sP	20 26 30.3	+2.0
NJ2				PP	PP	20 27 40.3	+0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,3μm,8.0s						
NJ2				LR	LR		
	comp=N,6μm,22.3s,MS5.4						
NJ2				LR	LR		
	comp=E,4μm,19.4s,MS5.4						
NJ2				LR	LR		
	comp=Z,2μm,18.2s,MS5.0						
KSH	**Kashi**	**37.54**	**339**	*e*P	**P**	**20 26 22.8**	**+1.1**
KSH				*e*AP	pP	20 26 32.0	+0.6
KSH				*e*XP	sP	20 26 34.0	-1.5
KSH				*e*PP	PP	20 27 47.0	-3.4
KSH				*e*PPP	PPP	20 28 10.5	-0.9
KSH				*e*PCP	PcP	20 28 39.8	0.0
KSH				*e*S	**S**	**20 32 06.3**	**-1.9**
KSH				*e*SCP		20 32 23.0	
KSH				*e*PCS		20 32 26.0	
KSH				*e*SS	SS	20 34 39.0	-3.3
KSH				*e*SCS	ScS	20 36 28.0	-2.3
KSH				LR	LR		
	comp=N,3μm,17.2s,MS5.2						
KSH				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
WMQ	**Urumqi**	**39.00**	**355**	⇓*i*P	**P**	**20 26 34.3**	**+0.4**
WMQ				AP	pP	20 26 44.0	+0.3
WMQ				XP	sP	20 26 48.0	+0.3
WMQ				PP	PP	20 28 08.0	+0.6
WMQ				PCP	PcP	20 28 45.0	+0.7
WMQ				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,243nm,6.4s						
WMQ				LR	LR		
	comp=N,4μm,14.4s,MS5.4						
WMQ				LR	LR		
	comp=E,2μm,15.8s,MS5.4						
WMQ				LR	LR		
	comp=Z,3μm,18.7s,MS5.2						
HHC	**Hu-ho-hao-te**	**39.74**	**23**	*e*P	**P**	**20 26 41.5**	**+1.4**
HHC				AP	pP	20 26 51.5	+1.7
HHC				XP	sP	20 26 55.5	+1.6
HHC				PP	PP	20 28 17.0	+1.8
HHC				PCP	PcP	20 28 50.0	+3.3
HHC				AMB	AMB		
	comp=Z,19nm,0.4s,mb5.2						
HHC				AMB	AMB		
	comp=Z,458nm,6.3s						
HHC				LR	LR		
	comp=N,3μm,19.1s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,16.7s,MS5.2						
HHC				LR	L

KURK	**Kurchatov**	**47.12**	**348**	*eP*		**P**		**20 27 38.4**	**-1.3**
TLY	**Talaya**	**47.58**	**9**	*eP*		**P**		**20 27 43.7**	**+0.4**
TLY				pmax		pmax			
	comp=Z,7.0nm,1.1s,mb4.6								
TLY	**Talaya**	**47.58**	**9**	*eP*		**P**		**20 27 41.4**	**-2.0**
	comp=Z,18nm,1.6s,mb4.8								
WRA	**Warramunga Arr**	**48.06**	**122**	P		**P**		**20 27 47.7**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.4,baz=300,slow=9.0,SNR=5.3								
WRAB	**Tennant Creek**	**48.06**	**122**	P		**P**		**20 27 47.7**	**+0.2**
WRAB				pmax		pmax			
	comp=Z,30nm,1.1s,mb5.2								
WRAB	**Tennant Creek**	**48.06**	**122**	P		**P**		**20 27 47.7**	**+0.2**
	comp=Z,30nm,1.1s,mb5.2								
IRK	**Irkutsk**	**48.23**	**10**	*eP*		**P**		**20 27 49.0**	**+0.7**
IRK				pmax		pmax			
	comp=Z,23nm,1.8s,mb4.9								
CN2	**Changchun**	**48.48**	**32**	*eP*		**P**		**20 27 51.3**	**+0.9**
ASAR	**Alice Springs**	**49.44**	**127**	P		**P**		**20 27 56.9**	**-1.1**
	comp=Z,1.2nm,0.7s,mb4.0,baz=300,slow=7.7,SNR=5.7								
NVS	**Novosibirsk**	**50.36**	**353**	*iP*		**P**		**20 28 03.4**	**-1.2**
NVS				pmax		pmax			
	comp=N,17nm,1.0s								
NVS				pmax		pmax			
	comp=E,9.0nm,1.0s								
MDJ	**Mudanjiang**	**51.25**	**34**	P		**P**		**20 28 10.5**	**-1.1**
MDJ				AMB		AMB			
	comp=Z,12nm,2.4s,mb4.4								
BVAR	**Borovoye Array**	**51.28**	**343**	P		**P**		**20 28 10.7**	**-1.0**
	comp=Z,8.7nm,0.7s,mb4.8,baz=149,slow=8.6,SNR=16								
CHKZ	**Chkalovo**	**51.79**	**344**	*eP*		**P**		**20 28 14.3**	**-1.3**
CHKZ				pmax		pmax			
	comp=Z,47nm,1.3s,mb5.3								
CHKZ	**Chkalovo**	**51.79**	**344**	*eP*		**P**		**20 28 14.3**	**-1.3**
	comp=Z,47nm,1.3s,mb5.3								
GNI	**Garni**	**55.32**	**316**	P		**P**		**20 28 42.1**	**+0.3**
	comp=Z,9.6nm,0.9s,mb4.8,baz=59,slow=12,SNR=3.1								
KMBO	**Kilima Mbogo**	**55.39**	**265**	*eP*		**P**		**20 28 36.7**	**-6.0**
KMBO				pmax		pmax			
	comp=Z,4.0nm,1.0s								
KMBO	**Kilima Mbogo**	**55.39**	**265**	*eP*		**P**		**20 28 36.7**	**-5.9**
	comp=Z,4.4nm,1.0s,mb4.4								
BOD	**Bodaibo**	**55.45**	**14**	*eP*		**P**		**20 28 41.4**	**-1.1**
BOD				pmax		pmax			
	comp=Z,18nm,0.8s,mb5.2								
SVE	**Sverdlovsk**	**57.56**	**340**	*eP*		**P**		**20 28 56.5**	**-1.0**
SVE				pmax		pmax			
	comp=Z,40nm,1.4s,mb5.3								
KIV	**Kislovodsk**	**58.40**	**320**	*eP*		**P**		**20 29 00.8**	**-2.8**
KIV				pmax		pmax			
	comp=Z,20nm,1.5s,mb4.9								
ASF	**Jabal al Asfar**	**58.42**	**305**	P		**P**		**20 29 05.1**	**+1.2**
	comp=Z,5.8nm,0.8s,mb4.7,baz=52,slow=2.8,SNR=8.5								
MALT	**Malatya**	**59.10**	**312**	*eP*		**P**		**20 29 07.0**	**-1.6**
MALT				pmax		pmax			
	comp=Z,6.0nm,1.3s,mb4.5								
MALT	**Malatya**	**59.10**	**312**	*eP*		**P**		**20 29 07.0**	**-1.6**
	comp=Z,6.5nm,1.3s,mb4.5								
STKA	**Stephens Creek**	**59.38**	**132**	P		**P**		**20 29 08.8**	**-1.8**
	comp=Z,1.3nm,0.6s,mb4.2,baz=310,slow=16,SNR=2.9								
STKA	**Stephens Creek**	**59.38**	**132**	P		**P**		**20 29 08.8**	**-1.9**
BRTR	**Keskin Array B**	**63.09**	**312**	P		**P**		**20 29 34.8**	**-0.7**
	comp=Z,6.5nm,0.7s,mb4.9,baz=127,slow=7.3,SNR=22								
YAK	**Yakutsk**	**63.37**	**19**	*eP*		**P**		**20 29 34.8**	**-2.2**
YAK				pmax		pmax			
	comp=N,3.0nm,0.8s								
YAK				pmax		pmax			
	comp=Z,12nm,0.8s,mb5.1								
YAK	**Yakutsk**	**63.37**	**19**	*eP*		**P**		**20 29 34.1**	**-3.0**
	comp=Z,57nm,1.2s,mb5.6								
OBN	**Obninsk**	**66.99**	**329**	*eP*		**P**		**20 29 56.4**	**-4.1**
OBN				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
TIRR	**Tirgusor**	**68.15**	**316**	⇑P		**P**		**20 30 05.8**	**-2.2**
CFR	**Carcaliu**	**68.53**	**317**	⇓P		**P**		**20 30 09.5**	**-0.8**
KIS	**Kishinev**	**68.57**	**319**	*eP*		**P**		**20 30 09.0**	**-1.5**
IDI	**Anoyia**	**68.85**	**306**	P		**P**		**20 30 12.8**	**+0.3**
	comp=Z,14nm,0.6s,mb5.0,baz=104,slow=12,SNR=11								
AKASG	**Malin Array Be**	**69.43**	**323**	P		**P**		**20 30 13.4**	**-2.3**
	comp=Z,0.7nm,0.4s,mb3.9,baz=86,slow=5.5								
VRI	**Vrincioaia**	**69.66**	**317**	⇓*iP*		**P**		**20 30 18.0**	**+0.8**
MLR	**Muntele Rosu**	**70.10**	**317**	P		**P**		**20 30 19.9**	**-0.1**
	comp=Z,21nm,0.8s,mb5.1,baz=173,slow=2.1,SNR=23								
MLR	**Muntele Rosu**	**70.10**	**317**	⇑*iP*		**P**		**20 30 20.7**	**+0.8**
MLR	**Muntele Rosu**	**70.10**	**317**	⇑*iP*		**P**		**20 30 20.7**	**+0.8**
TIXI	**Tiksi**	**70.50**	**12**	*eP*		**P**		**20 30 19.5**	**-2.4**
TIXI				pmax		pmax			
	comp=Z,25nm,0.8s,mb5.2								
BURAR	**Bucovina Array**	**71.10**	**319**	⇓P		**P**		**20 30 26.5**	**+0.5**
LBTB	**Lobatse**	**71.28**	**242**	*eP*		**P**		**20 30 25.0**	**-2.4**
BOSA	**Boshof**	**72.52**	**238**	P		**P**		**20 30 30.4**	**-4.5**
	comp=Z,2.4nm,0.5s,mb4.3,baz=158,slow=5.5,SNR=6.5								
KWP	**Kalwaria**	**73.18**	**320**	*eP*		**P**		**20 30 38.1**	**-0.1**
KOLS	**Kolonicke sedl**	**73.31**	**320**	*iP*		**P**		**20 30 40.0**	**+1.0**
CRVS	**Cervenica-Dubn**	**73.83**	**320**	*iP*		**P**		**20 30 42.3**	**+0.3**
SUW	**Suwalki**	**73.91**	**325**	*eP*		**P**		**20 30 41.1**	**-1.3**
APA	**Apatity**	**74.03**	**340**	⇑*iP*		**P**		**20 30 54.0**	**+11**
APA				pmax		pmax			
	comp=Z,70nm,1.5s,mb5.4								
KECS	**Kecovo**	**74.39**	**319**	*iP*		**P**		**20 30 45.6**	**+0.3**
FINES	**FINESS Array B**	**74.54**	**333**	P		**P**		**20 30 45.1**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.3,baz=124,slow=6.9,SNR=10								
OJC	**Ojcow**	**75.14**	**321**	*eP*		**P**		**20 30 49.7**	**+0.1**
VYHS	**Vyhne**	**75.47**	**319**	*iP*		**P**		**20 30 51.6**	**+0.1**
OKC	**Ostrava-Krasne**	**76.13**	**320**	*eP*		**P**		**20 30 55.7**	**+0.5**
MORC	**Moravsky Berou**	**76.51**	**320**	*eP*		**P**		**20 30 57.2**	**-0.1**
MORC				pmax		pmax			
	comp=Z,11nm,1.4s,mb4.6								
MORC	**Moravsky Berou**	**76.51**	**320**	*eP*		**P**		**20 30 57.2**	**-0.2**
	comp=Z,11nm,1.4s,mb4.6								
ZST	**Bratislava**	**76.57**	**318**	*iP*		**P**		**20 30 58.4**	**+0.7**
DPC	**Dobruska-Polom**	**77.36**	**320**	*eP*		**P**		**20 31 03.1**	**+1.0**
KSP	**Ksiaz**	**77.45**	**321**	*eP*		**P**		**20 31 03.3**	**+0.8**
KSP	**Ksiaz**	**77.45**	**321**	*eP*		**P**		**20 31 03.6**	**+1.1**
KSP				*eP*				20 35 37.6	
ARSA	**Arzberg**	**77.51**	**317**	⇑*iP*		**P**		**20 31 03.5**	**+0.5**
	comp=Z,12nm,1.4s,mb4.7								
UPC	**Upice**	**77.58**	**321**	*eP*		**P**		**20 31 04.2**	**+0.9**
PRU	**Pruhonice**	**78.46**	**320**	*eP*		**P**		**20 31 09.0**	**+0.9**
PVCC	**Panska Ves**	**78.50**	**320**	*eP*		**P**		**20 31 09.5**	**+1.2**
GEC2	**GERESS Array S**	**78.89**	**319**	*eP*		**P**		**20 31 11.5**	**+1.0**
GEC2				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.8								
GEC2	**GERESS Array S**	**78.89**	**319**	*eP*		**P**		**20 31 11.5**	**+1.0**
	comp=Z,10.0nm,0.8s,mb4.8								
GERES	**GERESS Array B**	**78.89**	**319**	P		**P**		**20 31 11.1**	**+0.6**
	comp=Z,8.2nm,0.8s,mb4.7,baz=90,slow=5.3,SNR=51								
BRG	**Berggiesshubel**	**78.93**	**321**	*iP*		**P**		**20 31 11.4**	**+0.7**
BRG				pmax		pmax			
	comp=Z,11nm,1.0s,mb4.7								
BRG	**Berggiesshubel**	**78.93**	**321**	*iP*		**P**		**20 31 11.4**	**+0.7**
	comp=Z,11nm,1.0s,mb4.7								
KHC	**Kasperske Hory**	**79.00**	**319**	*eP*		**P**		**20 31 11.7**	**+0.6**
WET	**Wettzell**	**79.45**	**319**	*eP*		**P**		**20 31 14.6**	**+1.0**
CLL	**Collm**	**79.56**	**321**	*iP*		**P**		**20 31 14.0**	**-0.1**
CLL				pmax		pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
CLL	**Collm**	**79.56**	**321**	*iP*		**P**		**20 31 14.0**	**-0.1**
	comp=Z,6.0nm,0.9s,mb4.5								
CLL	**Collm**	**79.56**	**321**	P		**P**		**20 31 14.0**	**-0.1**
	comp=Z,logA/T=0.8,mb4.5								
NKC	**Novy Kostel**	**79.82**	**320**	*eP*		**P**		**20 31 16.4**	**+0.9**
WTTA	**Wattenberg**	**80.15**	**317**	⇑*iP*		**P**		**20 31 17.1**	**-0.2**
	comp=Z,17nm,1.2s,mb4.8								
WTTA	**Wattenberg**	**80.15**	**317**	⇑*iP*		**P**		**20 31 17.1**	**-0.2**
WTTA				pmax		pmax			
	comp=Z,17nm,1.2s,mb4.8								
HFS	**Hagfors**	**80.15**	**330**	P		**P**		**20 31 16.7**	**-0.4**
	comp=Z,0.8nm,0.6s,mb3.8,baz=141,slow=9.5,SNR=3.7								
MOX	**Moxa**	**80.39**	**320**	*eP*		**P**		**20 31 18.8**	**+0.3**
MOX	**Moxa**	**80.39**	**320**	*iP*		**P**		**20 31 18.8**	**+0.3**
SQTA	**Sankt Quirin**	**80.44**	**317**	⇓*iP*		**P**		**20 31 18.9**	**+0.1**
	comp=Z,4.8nm,0.9s,mb4.4								
SQTA	**Sankt Quirin**	**80.44**	**317**	⇓*iP*		**P**		**20 31 18.9**	**+0.1**
SQTA				pmax		pmax			
	comp=Z,5.0nm,0.9s,mb4.4								
MOTA	**Moosalm**	**80.52**	**317**	⇑*iP*		**P**		**20 31 19.5**	**+0.2**
GRA1	**Grafenberg Arr**	**80.57**	**319**	*eP*		**P**		**20 31 20.8**	**+1.3**
	comp=Z,7.0nm,1.0s,mb4.5								
GRF	**Grafenberg Arr**	**80.57**	**319**	*eP*		**P**		**20 31 20.8**	**+1.3**
GRF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
GRF	**Grafenberg Arr**	**80.57**	**319**	*eP*		**P**		**20 31 20.8**	**+1.3**
GRF				pmax		pmax			
	comp=Z,7.0nm,1.0s,mb4.5								
GRF	**Grafenberg Arr**	**80.57**	**319**	*eP*		**P**		**20 31 20.8**	**+1.3**
	comp=Z,7.0nm,1.0s,mb4.5								
CLZ	**Clausthal**	**81.24**	**322**	*eP*		**P**		**20 31 23.9**	**+0.9**
	comp=Z,5.0nm,0.8s,mb4.5								
DAVA	**Damuels**	**81.34**	**317**	⇑*iP*		**P**		**20 31 24.6**	**+1.0**
	comp=Z,19nm,1.0s,mb5.0								
BSEG	**Bad Segeberg**	**81.40**	**324**	*eP*		**P**		**20 31 24.9**	**+1.2**
NOA	**NORSAR Array B**	**81.47**	**331**	P		**P**		**20 31 23.2**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.0,baz=94,slow=5.7,SNR=3.6								
TNS	**Taunus Mts**	**82.39**	**320**	*eP*		**P**		**20 31 30.0**	**+1.0**
BFO	**Black Forest**	**82.42**	**318**	*eP*		**P**		**20 31 29.8**	**+0.6**
BFO				pmax		pmax			
	comp=Z,3.0nm,0.8s,mb4.3								
BFO	**Black Forest**	**82.42**	**318**	*eP*		**P**		**20 31 29.8**	**+0.6**
	comp=Z,3.0nm,0.8s,mb4.3								
LPG	**La Plagne**	**83.48**	**315**	*eP*		**P**		**20 31 35.3**	**+0.6**
	comp=Z,9.4nm,0.9s,mb4.5								
ESDC	**Sonseca Array**	**91.79**	**310**	P		**P**		**20 32 16.2**	**+1.3**
	comp=Z,1.6nm,0.8s,mb4.4,baz=45,slow=7.3,SNR=5.7								

*NEIC **28** 20:19:24.2± 1.2, 6.42S× 147.10E, h82km± 11km, mb4.3/4, Error ellipse: s-maj=9.8km s-min=8.1km az=80.0*
*IDC **28** 20:19:26.0± 2.3, 6.49S× 147.07E, h92km± 20km, mb4.3/9, mb1 4.3/12, mb1mx4.2/17, mbtmp4.6/12, MS4.2/1, Ms1 4.2/1, ms1mx3.2/20, Error ellipse: s-maj=21.5km s-min=16.3km az=85.0*

ISC 28 20:19:23.8± 1.8, 6.42S± 0.08× 147.06E± 0.10, h91km± 17km, n25, σ0 79/25, mb4.5/10, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.96**	**178**	P	**P**	**20 20 09.4**	**-0.5**
	91nm,0.3s,baz=342,slow=6.5,SNR=190						
PMG				S	**S**	**20 20 45.3**	**+0.7**
	93nm,0.3s,baz=29,slow=22,SNR=12						
PMG				LR	LR	20 21 28.3	
	comp=Z,4μm,20.3s,baz=193,slow=42						
CTA	**Charters Tower**	**13.61**	**183**	P	**P**	**20 22 35.6**	**+1.4**
	0.7nm,0.3s,baz=353,slow=12,SNR=5.3						
CTAO	**Charters Tower**	**13.61**	**183**	*eP*	**P**	**20 22 33.6**	**-0.5**
KAKA	**Kakadu**	**15.70**	**245**	*eP*	**P**	**20 23 02.3**	**+1.2**
	14nm,0.7s						
WRAB	**Tennant Creek**	**18.24**	**221**	*eP*	**P**	**20 23 31.3**	**-1.1**
	12nm,0.6s						
WB2	**Warramunga Arr**	**18.24**	**221**	*eP*	**P**	**20 23 31.4**	**-1.0**
WRA	**Warramunga Arr**	**18.25**	**221**	P	**P**	**20 23 31.5**	**-1.0**
	0.9nm,0.3s,baz=44,slow=12,SNR=33						
ASAR	**Alice Springs**	**21.30**	**215**	P	**P**	**20 24 04.9**	**+0.1**
	8.9nm,0.5s,mb4.4,baz=53,slow=8.4,SNR=86						
ASPA	**Alice Springs**	**21.30**	**215**	*eP*	**P**	**20 24 04.9**	**+0.1**
ASPA				*eS*	**S**	**20 28 00.0**	**+9.1**
FITZ	**Fitzroy Crossi**	**23.90**	**239**	P	**P**	**20 24 31.7**	**+1.6**
	32nm,0.8s,mb4.7,baz=89,slow=4.7,SNR=23						
DZM	**Mont Dzumac**	**24.34**	**132**	P	**P**	**20 24 33.9**	**-0.5**
	5.5nm,0.8s,mb4.0,baz=294,slow=20,SNR=5.6						
STKA	**Stephens Creek**	**25.83**	**191**	*eP*	**P**	**20 24 47.8**	**-0.7**
	4.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**25.83**	**191**	P	**P**	**20 24 47.9**	**-0.5**
	4.5nm,0.6s,mb4.0,baz=11,slow=10.0,SNR=14						
MBWA	**Marble Bar**	**30.23**	**238**	*eP*	**P**	**20 25 27.6**	**-0.7**
	5.3nm,0.8s,mb4.2						
JOW	**Kunigami**	**37.74**	**332**	P	**P**	**20 26 33.3**	**+0.8**
	17nm,0.4s,mb5.2,baz=148,slow=13,SNR=12						
NWAO	**Narrogin (SRO)**	**38.26**	**222**	P	**P**	**20 26 36.9**	**+0.1**
	5.0nm,0.8s,mb4.4,baz=82,slow=7.1,SNR=4.7						
RPZ	**Rata Peaks**	**42.70**	**154**	P	**P**	**20 27 13.9**	**+0.5**
	6.0nm,0.5s,mb4.6,baz=17,slow=11,SNR=3.6						
MAT	**Matsushiro**	**43.54**	**350**	*eP*	**P**	**20 27 19.0**	**-1.3**
MAT	**Matsushiro**	**43.54**	**350**	P	**P**	**20 27 19.3**	**-1.0**
KS15	**Wonju Array Si**	**47.17**	**339**	*eP*	**P**	**20 27 48.6**	**-0.5**
FX1	**Attu Island--F**	**63.10**	**17**	P	**P**	**20 29 44.6**	**+0.7**
	19nm,0.7s,mb5.1,baz=243,slow=4.5,SNR=3.4						
VNDA	**Vanda**	**71.49**	**177**	P	**P**	**20 30 36.5**	**+0.4**
	1.5nm,0.6s,mb4.0,baz=338,slow=7.6,SNR=9.6						
KURK	**Kurchatov**	**81.58**	**323**	P	**P**	**20 31 33.4**	**+0.4**
GERES	**GERESS Array B**	**122.29**	**325**	PKP	PKPdf	20 38 10.2	+1.9
	0.1nm,0.3s,baz=90,slow=2.0,SNR=4.9						
DBIC	**Dimbokro**	**152.10**	**272**	PKPbc	PKPdf	20 39 11.0	+8.1
	1.0nm,0.4s,baz=81,slow=2.2,SNR=3.6						
DBIC				PKPab	PKPab	20 39 22.2	+0.5
	1.2nm,0.5s,baz=90,slow=5.1,SNR=5.2						

*BJI **28** 20:22:02.0, 0.79N× 97.96E, h58km, mB5.5, mb4.9, Ms5.2, Msz5.0*
*NEIC **28** 20:22:03.3± 2.0, 1.06N× 97.98E, h41km± 18km, mb4.8/10, Error ellipse: s-maj=14.4km s-min=6.1km az=54.0*
*IDC **28** 20:22:05.3± 3.4, 1.03N× 97.95E, h58km± 30km, mb4.3/20, mb1 4.4/20, mb1mx4.3/22, mbtmp4.6/20, Error ellipse: s-maj=22.7km s-min=9.8km az=47.0*

ISC 28 20:22:01.2± 2.2, 1.05N± 0.07× 97.96E± 0.08, h36km± 19km, h33km± 4.9km:pP-P, n50, σ1 00/50, mb4.6/31, MS5.2/2, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.00**	**32**	P	**P**	**20 23 15.5**	**-0.3**
KKM	**Kota Kinabalu**	**18.88**	**74**	*eP*	**P**	**20 26 21.6**	**+0.2**
VIS	**Vishakhapatnam**	**21.94**	**320**	*eP*	**P**	**20 26 53.1**	**-0.5**
VIS				*e*		20 26 60.0	
	comp=Z,72nm,1.4s						
VIS				*e*		20 28 12.4	
VIS				*e*		20 28 28.4	
	comp=Z,126nm,1.1s						
KMI	**Kunming**	**24.38**	**11**	P	**P**	**20 27 19.5**	**+2.0**
KMI				AMB	AMB		
	comp=Z,11nm,2.0s,mb3.9						
LSA	**Lhasa**	**29.23**	**348**	P	**P**	**20 28 04.0**	**+2.0**
POO	**Poona**	**29.36**	**308**	*eP*	**P**	**20 28 03.7**	**+0.4**
POO				*e*	pP	20 28 16.8	+3.4
	comp=Z,36nm,0.9s						
BHPL	**Bhopal**	**29.74**	**319**	*eP*	**P**	**20 28 03.0**	**-3.6**
BHPL				*e*	pP	20 28 11.1	-5.7
	comp=Z,22nm,1.1s						
ENH	**Enshi**	**31.06**	**20**	P	**P**	**20 28 17.3**	**-1.0**
	comp=Z,9.3nm,0.8s,mb4.7						
LGTI	**Lohaghat**	**32.91**	**331**	*eP*	**P**	**20 28 34.5**	**0.0**
LGTI				*e*		20 29 55.5	
FITZ	**Fitzroy Crossi**	**33.22**	**126**	⇓*iP*	**P**	**20 28 35.8**	**-1.5**
	comp=Z,18nm,0.6s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.22**	**126**	P	**P**	**20 28 35.5**	**-1.8**
	comp=Z,22nm,0.6s,mb5.3,baz=324,slow=3.4,SNR=13						
MUN	**Mundaring**	**37.11**	**154**	*eP*	**P**	**20 29 12.5**	**+2.1**
	comp=Z,5.3nm,0.7s,mb4.5						
NWAO	**Narrogin (SRO)**	**38.38**	**153**	P	**P**	**20 29 21.4**	**+0.6**
	comp=Z,10.0nm,0.8s,mb4.6,baz=318,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**41.31**	**122**	P	**P**	**20 29 44.8**	**-0.5**
	comp=Z,17nm,0.8s,mb4.7,baz=305,slow=8.7,SNR=10						
WRAB	**Tennant Creek**	**41.31**	**122**	*eP*	**P**	**20 29 43.5**	**-1.9**
	comp=Z,18nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**41.32**	**122**	⇓*iP*	**P**	**20 29 44.9**	**-0.5**
HHC	**Hu-ho-hao-te**	**41.49**	**16**	*eP*	**P**	**20 29 48.0**	**+1.3**
HHC				AP	pP	20 29 57.0	0.0
HHC				AMB	AMB		
	comp=Z,17nm,0.5s,mb4.9						
HHC				LR	LR		
	comp=N,3μm,22.0s,MS5.2						
HHC				LR	LR		
	comp=E,2μm,23.2s,MS5.2						
HHC				LR	LR		
	comp=Z,9μm,24.4s,MS5.6						
FORT	**Forrest**	**42.67**	**140**	*eP*	**P**	**20 29 58.1**	**+1.6**
	comp=Z,493nm,0.6s						
ASPA	**Alice Springs**	**42.69**	**127**	*eP*	**P**	**20 29 56.3**	**-0.5**
ASAR	**Alice Springs**	**42.70**	**127**	P	**P**	**20 29 56.3**	**-0.5**
	comp=Z,8.1nm,0.6s,mb4.6,baz=298,slow=8.1,SNR=13						
ASAR				S	**S**	**20 36 16.7**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=297,slow=14,SNR=2.5						
WMQ	**Urumqi**	**43.56**	**349**	P	**P**	**20 30 04.5**	**+0.9**
WMQ				AP	pP	20 30 14.0	0.0
WMQ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,421nm,8.2s						
WMQ				LR	LR		
	comp=N,2μm,16.6s,MS5.3						
WMQ				LR	LR		
	comp=E,2μm,17.1s,MS5.3						
WMQ				LR	LR		
	comp=Z,2μm,21.2s,MS5.0						
SONM	**Songino Array**	**47.18**	**8**	P	**P**	**20 30 33.3**	**+1.0**
	comp=Z,2.2nm,0.5s,mb4.3,baz=192,slow=8.4,SNR=11						
ULN	**Ulaanbaatar**	**47.30**	**8**	*eP*	**P**	**20 30 31.2**	**-2.0**
	comp=Z,9.0nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**47.58**	**345**	P	**P**	**20 30 35.6**	**+0.2**
	comp=Z,8.7nm,0.6s,mb5.0,baz=162,slow=8.4,SNR=23						
CN2	**Changchun**	**49.10**	**26**	*eP*	**P**	**20 30 48.5**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
MDJ	**Mudanjiang**	**51.63**	**29**	P	**P**	**20 31 06.0**	**-0.6**
CTA	**Charters Tower**	**51.75**	**117**	P	**P**	**20 31 08.1**	**+0.3**
	comp=Z,2.7nm,0.4s,mb4.5,baz=290,slow=8.5,SNR=5.2						
KURK	**Kurchatov**	**52.14**	**345**	*eP*	**P**	**20 31 09.6**	**-0.6**
	comp=Z,10nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**52.69**	**132**	*eP*	**P**	**20 31 14.8**	**+0.2**
	comp=Z,4.0nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**	**20 31 14.8**	**+0.1**
	comp=Z,4.2nm,0.6s,mb4.6,baz=315,slow=6.8,SNR=7.4						
RAYN	**Ar Rayn**	**55.50**	**298**	P	**P**	**20 31 34.6**	**-0.8**
	comp=Z,74nm,0.8s,SNR=11						
BVAR	**Borovoye Array**	**56.65**	**340**	P	**P**	**20 31 42.2**	**-1.0**
	comp=Z,6.7nm,0.5s,mb4.9,baz=146,slow=10,SNR=19						
CHKZ	**Chkalovo**	**57.12**	**341**	*eP*	**P**	**20 31 45.2**	**-1.3**
	comp=Z,9.7nm,0.5s,mb5.1						
KMBO	**Kilima Mbogo**	**60.74**	**268**	P	**P**	**20 32 12.5**	**+0.2**
	comp=Z,3.5nm,0.8s,mb4.5,baz=46,slow=9.7,SNR=6.5						
ASF	**Jabal al Asfar**	**65.17**	**305**	P	**P**	**20 32 40.9**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.3,baz=333,slow=4.5,SNR=4.2						
BRTR	**Keskin Array B**	**69.78**	**312**	P	**P**	**20 33 08.8**	**-1.2**
	comp=Z,3.3nm,0.7s,mb4.3,baz=131,slow=7.4,SNR=9.5						
BOSA	**Boshof**	**75.36**	**240**	P	**P**	**20 33 43.2**	**-0.2**
	comp=Z,9.7nm,0.8s,mb4.8,baz=90,slow=6.5,SNR=14						
BOSA	**Boshof**	**75.36**	**240**	P	**P**	**20 33 43.2**	**-0.2**
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**20 33 44.3**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.2,baz=88,slow=5.4,SNR=8.8						
MLR	**Muntele Rosu**	**76.70**	**317**	P	**P**	**20 33 50.6**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.5,baz=180,slow=4.7,SNR=5.2						
FINES	**FINESS Array B**	**80.49**	**332**	P	**P**	**20 34 10.9**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=97,slow=7.2,SNR=10						
ARCES	**ARCESS Array B**	**82.94**	**340**	P	**P**	**20 34 24.2**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.5,baz=72,slow=5.7,SNR=3.7						
GERES	**GERESS Array B**	**85.43**	**319**	P	**P**	**20 34 37.2**	**+0.7**
	comp=Z,2.7nm,0.9s,mb4.4,baz=90,slow=4.0,SNR=8.2						
VNDA	**Vanda**	**85.52**	**169**	P	**P**	**20 34 37.9**	**+1.5**
	comp=Z,1.4nm,0.9s,mb4.2,baz=320,slow=5.8,SNR=3.4						
KHC	**Kasperske Hory**	**85.53**	**319**	*eP*	**P**	**20 34 37.0**	**0.0**
HFS	**Hagfors**	**86.23**	**330**	P	**P**	**20 34 40.7**	**+0.5**
	baz=124,slow=5.2						
NB2

GTA PP PP 20 32 15.3 +3.5
GTA PPP PPP 20 32 39.0 +4.8
GTA PCP PcP 20 32 55.0 +0.1
GTA S **S** **20 36 37.5 +5.8**
GTA AMB AMB
comp=Z,21nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,3µm,5.4s
GTA LR LR
comp=N,3µm,21.0s,MS5.2
GTA LR LR
comp=E,2µm,20.7s,MS5.2
GTA LR LR
comp=Z,7µm,20.4s,MS5.5
NWAO Narrogin (SRO) 38.36 153 P **P** **20 30 42.8 +1.3**
comp=Z,29nm,0.8s,mb5.0,baz=331,slow=8.9,SNR=15
JOW Kunigami 38.83 46 P **P** **20 30 46.0 +0.6**
comp=Z,42nm,0.8s,mb5.2,baz=329,slow=5.0,SNR=5.6
WRA Warramunga Arr 41.31 122 P **P** **20 31 04.9 -1.2**
comp=Z,54nm,0.8s,mb5.2,baz=300,slow=9.2,SNR=36
WRA PcP PcP 20 33 04.5 -0.3
comp=Z,8.7nm,0.8s,baz=311,slow=2.6,SNR=11
WRAB Tennant Creek 41.31 122 P **P** **20 31 05.0 -1.1**
comp=Z,448nm,1.0s,mb6.0,SNR=29
WRAB Tennant Creek 41.31 122 *eP* **P** **20 31 04.6 -1.5**
comp=Z,99nm,0.9s,mb5.4
WB2 Warramunga Arr 41.32 122 *eP* **P** **20 31 04.9 -1.3**
WB2 *i* PCP PcP 20 33 04.5 -0.3
WB2 *i* PCS 20 36 53.2
HHC Hu-ho-hao-te 41.53 16 *eP* **P** **20 31 09.5 +1.8**
HHC AP pP 20 31 19.5 +1.4
HHC XP sP 20 31 23.5 +1.0
HHC PP PP 20 32 50.3 +3.5
HHC PCP PcP 20 33 06.0 +0.6
HHC SCP 20 36 53.0
HHC PCS 20 36 54.5
HHC S **S** **20 37 25.5 +4.6**
HHC XS 20 37 41.0
HHC SS SS 20 40 26.3 +5.0
HHC SCS ScS 20 41 06.8 +0.6
HHC AMB AMB
comp=Z,21nm,0.4s,mb5.1
HHC AMB AMB
comp=Z,2µm,5.4s
HHC LR LR
comp=N,2µm,17.6s,MS5.2
HHC LR LR
comp=E,2µm,18.1s,MS5.2
HHC LR LR
comp=Z,9µm,18.6s,MS5.7
BJT Baijiatuau 42.22 21 *eP* **P** **20 31 14.5 +1.1**
comp=Z,141nm,1.1s,mb5.5
BJI Beijing 42.24 21 P **P** **20 31 14.5 +0.9**
BJI AMB AMB
comp=Z,94nm,0.9s,mb5.4
FORT Forrest 42.66 140 *eP* **P** **20 31 18.5 +1.4**
comp=Z,2µm,0.7s
ASPA Alice Springs 42.69 127 *eP* **P** **20 31 16.6 -0.9**
ASPA *i* PCP PcP 20 33 09.2 -0.2
ASPA *i* PCS 20 36 59.4
ASAR Alice Springs 42.69 127 P **P** **20 31 16.7 -0.8**
comp=Z,25nm,0.9s,mb4.9,baz=303,slow=7.5,SNR=23
ASAR PcP PcP 20 33 09.2 -0.2
comp=Z,8.6nm,0.8s,baz=302,slow=3.2,SNR=12
DL2 Dalian 43.50 27 P **P** **20 31 25.0 +1.1**
DL2 AMB AMB
comp=Z,90nm,0.9s,mb5.5
WMQ Urumqi 43.59 349⇑ *iP* **P** **20 31 25.5 +1.0**
WMQ AP pP 20 31 35.0 +0.1
WMQ XP sP 20 31 39.0 -0.3
WMQ PP PP 20 33 09.0 +1.2
WMQ PCS 20 37 04.0
WMQ S **S** **20 37 52.0 +1.1**
WMQ XS 20 38 08.0
WMQ SCS ScS 20 41 20.0 +1.3
WMQ AMB AMB
comp=Z,35nm,0.9s,mb5.1
WMQ AMB AMB
comp=Z,309nm,6.1s
WMQ LR LR
comp=N,3µm,18.8s,MS5.4
WMQ LR LR
comp=E,3µm,16.4s,MS5.4
WMQ LR LR
comp=Z,3µm,23.0s
ULHL Ulahol 45.45 337 P **P** **20 31 39.9 +0.4**
SNR=6.2
KS15 Wonju Array Si 45.55 34 *eP* **P** **20 31 40.8 +0.4**
UCH Uchtor 46.12 336 P **P** **20 31 45.9 +1.1**
SNR=7.2
TKM2 Tokmak 2 46.27 337 P **P** **20 31 46.7 +0.8**
SNR=12
KBK Karagaybulak 46.30 337 P **P** **20 31 47.5 +1.3**
SNR=10
AML Almayashu 46.38 335 P **P** **20 31 48.0 +1.1**
SNR=7.1
AAK Ala-Archa 46.47 336 *eP* **P** **20 31 45.8 -1.7**
comp=Z,8.5nm,0.9s,mb4.7
CHMS Chumysh 46.67 337 P **P** **20 31 49.3 +0.3**
SNR=5.6
SNY Shenyang 46.73 26⇓ P **P** **20 31 49.5 -0.1**
SNY AMB AMB
comp=Z,50nm,0.9s,mb5.4
EKS2 Erkin-Say 46.78 336 P **P** **20 31 50.7 +0.7**
SNR=8.0
USP Ospenovka 46.99 337 P **P** **20 31 52.1 +0.5**
SNR=14
SONM Songino Array 47.21 8 P **P** **20 31 53.8 +0.6**
comp=Z,9.4nm,0.8s,mb4.8,baz=187,slow=9.8,SNR=14
SONM sP sP 20 32 06.0 -2.0
comp=Z,13nm,0.8s,baz=187,slow=8.9,SNR=9.3
SONM PcP PcP 20 33 24.4 -0.2
comp=Z,3.8nm,0.6s,baz=203,slow=4.3,SNR=6.7
MKAR Makanchi Array 47.60 345 P **P** **20 31 55.5 -0.9**
comp=Z,17nm,0.6s,mb5.3,baz=160,slow=8.5,SNR=20
MKAR pP pP 20 32 06.5 -0.2
comp=Z,22nm,0.8s,baz=160,slow=8.4,SNR=5.6
MKAR Makanchi Array 47.60 345 P **P** **20 31 55.5 -0.9**
MKAR pP pP 20 32 06.5 -0.2
CN2 Changchun 49.14 26 *eP* **P** **20 32 08.0 -0.3**
CN2 AMB AMB
comp=Z,70nm,0.9s,mb5.7
ZAK Zakamensk 49.40 5 *eP* **P** **20 32 10.2 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
PMG Port Moresby 50.09 103 P **P** **20 32 15.1 -0.9**
comp=Z,11nm,0.9s,mb4.9,baz=294,slow=8.1,SNR=5.7
TLY Talaya 50.71 5 *eP* **P** **20 32 20.7 +0.4**
TLY pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
IRK Irkutsk 51.32 5 *eP* **P** **20 32 20.5 -4.4**
IRK pmax pmax
comp=Z,28nm,1.8s,mb4.9
MAT Matsushiro 51.33 42 P **P** **20 32 24.0 -1.1**
MAT Matsushiro 51.33 42 P **P** **20 32 24.2 -0.9**
HIA Hailar 51.58 18 *eP* **P** **20 32 26.5 -0.3**
comp=Z,52nm,0.9s,mb5.5
MDJ Mudanjiang 51.67 29 P **P** **20 32 28.0 +0.4**
MDJ AMB AMB
comp=Z,21nm,0.8s,mb5.1
MDJ Mudanjiang 51.67 29 *eP* **P** **20 32 27.2 -0.4**
comp=Z,14nm,0.8s,mb4.9
MDJ *e* pP 20 32 39.8 +1.8
CTA Charters Tower 51.76 117 *eP* **P** **20 32 28.3 -0.2**
comp=Z,15nm,0.7s,mb5.0
CTA Charters Tower 51.76 117 P **P** **20 32 28.2 -0.4**
comp=Z,18nm,0.9s,mb5.0,baz=286,slow=8.4,SNR=8.4
CTA PcP PcP 20 33 41.6 0.0
comp=Z,6.2nm,0.6s,baz=310,slow=5.3,SNR=2.9
KURK Kurchatov 52.16 345 *eP* **P** **20 32 30.3 -0.8**
comp=Z,21nm,0.9s,mb5.1
STKA Stephens Creek 52.68 132⇓ *iP* **P** **20 32 34.9 -0.4**
comp=Z,16nm,0.6s,mb5.1
STKA Stephens Creek 52.68 132 P **P** **20 32 35.0 -0.4**
comp=Z,20nm,0.6s,mb5.2,baz=310,slow=7.8,SNR=21
STKA pP pP 20 32 46.1 +0.3
comp=Z,9.6nm,0.6s,baz=322,slow=7.1,SNR=5.1
KLR Kul'dur 56.09 26 *eP* **P** **20 32 56.5 -3.5**
KLR pmax pmax
comp=E,36nm,1.0s
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.4
BVAR Borovoye Array 56.67 340 P **P** **20 33 02.7 -1.4**
comp=Z,12nm,0.7s,mb5.0,baz=135,slow=8.4,SNR=16
CHKZ Chkalovo 57.14 341 *eP* **P** **20 33 05.9 -1.6**
comp=Z,27nm,0.9s,mb5.3

BOD Bodaibo 58.06 10 *eP* **P** **20 33 13.4 -0.4**
BOD pmax pmax
comp=Z,30nm,1.1s,mb5.2
ASAJ Asahikawa 58.37 36 P **P** **20 33 14.4 -1.8**
comp=Z,24nm,1.1s,mb5.2,baz=256,slow=17,SNR=2.9
YSS Yuzh-Sakhalins 60.09 34⇑ *eP* **P** **20 33 36.3 +8.2**
YSS *e* 20 33 41.8
YSS Yuzh-Sakhalins 60.09 34 *eP* **P** **20 33 28.0 -0.1**
comp=Z,83nm,1.0s,mb5.7
KMBO Kilima Mbogo 60.72 268 P **P** **20 33 32.3 -0.5**
comp=Z,1.4nm,0.7s,mb4.2,baz=44,slow=12,SNR=3.7
GNI Garni 61.94 316 P **P** **20 33 40.7 0.0**
comp=Z,3.9nm,0.6s,mb4.7,baz=17,slow=19,SNR=2.7
SVE Sverdlovsk 63.13 338 *eP* **P** **20 33 47.0 -1.4**
SVE *e* 20 34 21.0
SVE pmax pmax
comp=Z,44nm,1.5s,mb5.4
SVE MLR MLR
comp=N,600nm,20.0s,MS4.8
SVE MLR MLR
comp=E,200nm,20.0s,MS4.8
SVE MLR MLR
comp=Z,4µm,20.0s,MS5.5
ZEI Tsey 63.63 318 *eP* **P** **20 33 51.5 -0.4**
ZEI *i* *PP pP 20 34 06.8 +4.1
ZEI pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
ARU Arti 63.64 337⇑ *iP* **P** **20 33 48.8 -2.9**
ARU *e* 20 36 06.6
ARU *eS* **S** **20 42 22.2 +0.5**
ARU *eSS* SS 20 46 25.7 -5.4
ARU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KIV Kislovodsk 64.93 319 *iP* **P** **20 33 58.3 -2.0**
KIV *e* pP 20 34 09.4 -1.8
KIV *e* 20 34 32.0
KIV pmax pmax
comp=Z,14nm,1.0s,mb5.0
ASF Jabal al Asfar 65.17 305 P **P** **20 34 01.6 -0.5**
comp=Z,1.2nm,0.4s,mb4.3,baz=323,slow=1.9,SNR=4.7
GOF Gofitskoye 65.18 320 *eP* **P** **20 34 11.5 +10**
YAK Yakutsk 65.39 16 *eP* **P** **20 34 00.6 -2.4**
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,13nm,1.2s
YAK Yakutsk 65.39 16 *eP* **P** **20 34 01.5 -1.5**
comp=E,103nm,1.0s,mb5.8
ANN Anapa 68.73 318 *eP* **P** **20 34 13.1 -11**
ANN *i* *PP pP 20 34 23.3 -12
ANN pmax pmax
comp=Z,41nm,1.1s,mb5.3
BRTR Keskin Array B 69.78 312 P **P** **20 34 29.2 -1.6**
comp=Z,3.7nm,0.7s,mb4.4,baz=126,slow=7.0,SNR=8.8
BRTR pP pP 20 34 40.5 -1.1
comp=Z,3.8nm,0.7s,baz=135,slow=6.2,SNR=7.8
DZM Mont Dzumac 70.53 114 P **P** **20 34 36.3 +0.6**
comp=Z,9.3nm,0.8s,mb4.8,baz=302,slow=22,SNR=5.8
MA2 Magadan 71.18 25 *eP* **P** **20 34 38.2 -0.8**
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MA2 Magadan 71.18 25 *eP* **P** **20 34 38.0 -0.9**
comp=Z,12nm,0.7s,mb4.9
PET Petropavlovsk 71.97 34 *eP* **P** **20 34 44.1 +0.4**
PET pmax pmax
comp=Z,22nm,0.6s,mb5.3
OBN Obninsk 73.16 328 *iP* **P** **20 34 48.3 -2.5**
OBN *i* 20 35 04.3
OBN pmax pmax
comp=Z,20nm,1.7s,mb4.8
TIXI Tiksi 73.24 10⇓ *iP* **P** **20 34 48.7 -2.3**
TIXI pmax pmax
comp=Z,39nm,1.0s,mb5.3
BOSA Boshof 75.33 240 P **P** **20 35 03.5 -0.4**
comp=Z,3.8nm,0.5s,mb4.6,baz=92,slow=7.8,SNR=14
BOSA pP pP 20 35 14.6 -0.2
comp=Z,7.5nm,0.9s,baz=113,slow=11,SNR=5.0
AKASG Malin Array Be 75.86 322 P **P** **20 35 04.8 -1.6**
comp=Z,3.2nm,0.6s,mb4.5,baz=85,slow=5.0,SNR=12
AKASG pP pP 20 35 15.6 -1.7
comp=Z,3.4nm,0.6s,baz=88,slow=5.2,SNR=6.7
MLR Muntele Rosu 76.71 317 P **P** **20 35 11.7 +0.3**
comp=Z,14nm,0.9s,mb4.9,baz=83,slow=1.8,SNR=11
MLR pP pP 20 35 21.9 -0.4
comp=Z,7.0nm,0.8s,baz=168,slow=6.0,SNR=4.5
MLR Muntele Rosu 76.71 317⇑ **P** **20 35 11.6 +0.2**
MLR Muntele Rosu 76.71 317⇑ **P** **20 35 11.6 +0.2**
BURAR Bucovina Array 77.65 319⇑ **P** **20 35 17.1 +0.5**
RPZ Rata Peaks 78.55 135 P **P** **20 35 22.3 +0.7**
comp=Z,12nm,0.5s,mb5.1,baz=246,slow=3.9,SNR=3.9
APA Apatity 79.56 339⇓ *eP* **P** **20 35 25.0 -1.6**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
KWP Kalwaria 79.68 320 *eP* **P** **20 35 27.9 +0.2**
BZS Buzias 79.72 316⇑ **P** **20 35 27.7 -0.3**
BZS Buzias 79.72 316⇑ **P** **20 35 27.7 -0.3**
KOLS Kolonicke sedl 79.84 320 *iP* **P** **20 35 28.6 +0.1**
SUW Suwalki 80.25 325 *eP* **P** **20 35 29.9 -0.7**
CRVS Cervenica-Dubn 80.36 319 *iP* **P** **20 35 31.4 +0.1**
FINES FINESS Array B 80.50 332 P **P** **20 35 31.4 -0.4**
FINES pP pP 20 35 42.7 -0.1
comp=Z,2.6nm,0.6s,baz=90,slow=7.6,SNR=5.1
FINES FINESS Array B 80.50 332 P **P** **20 35 31.4 -0.4**
FINES pP pP 20 35 42.7 -0.1
KAF Kangasniemi 80.58 333 *ep* **P** **20 35 31.9 -0.3**
BILL Bilibino 81.07 21 *iP* **P** **20 35 34.3 -0.4**
BILL pmax pmax
comp=Z,5.0nm,1.7s,mb4.2
NIE Niedzica 81.19 320 *eP* **P** **20 35 35.0 -0.6**
OJC Ojcow 81.64 321 *eP* **P** **20 35 37.6 -0.4**
VYHS Vyhne 82.02 319 *iP* **P** **20 35 39.8 -0.2**
OKC Ostrava-Krasne 82.64 320 *eP* **P** **20 35 43.6 +0.5**
ARCES ARCESS Array B 82.96 340 P **P** **20 35 44.8 +0.4**
comp=Z,8.0nm,0.5s,mb5.0,baz=96,slow=4.9,SNR=31
ZST Bratislava 83.13 318 *iP* **P** **20 35 46.0 +0.3**
KOGS Kog 83.53 316 *eP* **P** **20 35 47.8 0.0**
DPC Dobruska-Polom 83.86 320 *eP* **P** **20 35 50.0 +0.6**
DPC epP pP 20 36 00.2 -0.2
KSP Ksiaz 83.93 321 *eP* **P** **20 35 50.0 +0.3**
KSP Ksiaz 83.93 321 *eP* **P** **20 35 50.5 +0.8**
UPC Upice 84.08 321 *eP* **P** **20 35 50.9 +0.5**
ARSA Arzberg 84.10 317⇓ *iP* **P** **20 35 51.0 +0.3**
comp=Z,14nm,1.2s,mb5.0
VISS Visnje 84.46 316 *eP* **P** **20 35 52.4 0.0**
LJU Ljubljana 84.69 316 *eP* **P** **20 35 54.0 +0.3**
PRU Pruhonice 84.97 320 *eP* **P** **20 35 55.5 +0.6**
PVCC Panska Ves 85.00 320 *eP* **P** **20 35 55.8 +0.8**
AQU L'Aquila 85.28 312 *eP* **P** **20 35 56.4 -0.2**
comp=Z,36nm,1.2s,mb5.4
BRG Berggiesshubel 85.42 321 *iP* **P** **20 35 57.8 +0.7**
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 85.42 321 *iP* **P** **20 35 57.8 +0.7**
comp=Z,8.9nm,1.0s,mb4.8
GEC2 GERESS Array S 85.44 319 *eP* **P** **20 35 57.6 +0.3**
GEC2 pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
GEC2 GERESS Array S 85.44 319 *eP* **P** **20 35 57.6 +0.3**
comp=Z,9.0nm,1.0s,mb4.8
GERES GERESS Array B 85.44 319 P **P** **20 35 57.6 +0.3**
comp=Z,6.0nm,0.9s,mb4.7,baz=90,slow=4.0,SNR=18
GERES pP pP 20 36 07.9 -0.5
comp=Z,3.7nm,0.9s,baz=90,slow=5.3,SNR=7.1
VNDA Vanda 85.50 169 P **P** **20 35 57.8 +0.8**
comp=Z,4.9nm,1.0s,mb4.6,baz=298,slow=5.5,SNR=9.0
VNDA pP pP 20 36 08.8 +0.7
comp=Z,4.0nm,1.1s,baz=21,slow=4.0,SNR=4.9
VNDA Vanda 85.50 169 P **P** **20 35 57.8 +0.8**
VNDA pP pP 20 36 08.8 +0.7
KHC Kasperske Hory 85.54 319 *eP* **P** **20 35 58.0 +0.3**
KHC epP pP 20 36 08.2 -0.6
KBA Koelnbreinsper 85.57 317⇑ *iP* **P** **20 35 57.8 -0.2**
comp=Z,10nm,1.8s,mb4.8
WET Wettzell 86.00 319 *eP* **P** **20 36 00.6 +0.6**
CLL Collm 86.04 321 *eP* **P** **20 36 00.0 -0.1**
CLL Collm 86.04 321 P **P** **20 36 00.0 -0.1**
NKC Novy Kostel 86.33 320 *eP* **P** **20 36 02.2 +0.6**
WTTA Wattenberg 86.75 317⇑ *iP* **P** **20 36 03.8 +0.1**
comp=Z,9.0nm,0.8s,mb5.0
MOX Moxa 86.88 320 *eP* **P** **20 36 04.8 +0.5**
MOX pmax pmax
comp=Z,17nm,1.8s,mb5.0
MOX Moxa 86.88 320 *iP* **P** **20 36 04.8 +0.5**
comp=Z,logA/T=1.0,mb5.0
SQTA Sankt Quirin 87.03 317⇑ *iP* **P** **20 36 04.8 -0.3**
comp=Z,3.3nm,0.8s,mb4.6
GRA1 Grafenberg Arr 87.10 320 *eP* **P** **20 36 06.3 +0.9**
comp=Z,7.0nm,0.8s,mb4.9
GRF Grafenberg Arr 87.10 320 *eP* **P** **20 36 06.3 +0.9**
GRF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
GRF Grafenberg Arr 87.10 320 *eP* **P** **20 36 06.3 +0.9**
comp=Z,7.0nm,0.8s,mb4.9
MOTA Moosalm 87.11 317⇑ *iP* **P** **20 36 05.2 -0.3**
NB2 NORSAR Subarra 87.53 331 P **P** **20 36 06.9 -0.2**
comp=Z,12nm,0.9s,mb5.1,baz=96,slow=4.6
NB2 NORSAR Subarra 87.53 331 P **P** **20 36 06.9 -0.2**
baz=96,slow=4.8
NOA NORSAR Array B 87.53 331 P **P** **20 36 07.2 +0.1**
comp=Z,7.7nm,0.8s,mb5.0,baz=95,slow=4.9,SNR=22
NOA pP pP 20 36 18.3 0.0
comp=Z,3.4nm,0.9s,baz=94,slow=4.8,SNR=4.6
NOA sP sP 20 36 22.8 +0.8
comp=Z,3.0nm,0.8s,baz=94,slow=4.9,SNR=4.2
NOA NORSAR Array B 87.53 331 P **P** **20 36 07.2 +0.1**
NOA pP pP 20 36 18.3 0.0
NOA sP sP 20 36 22.8 +0.8
CLZ Clausthal 87.70 322 *eP* **P** **20 36 08.9 +0.7**
comp=Z,7.0nm,0.9s,mb4.9
BSEG Bad Segeberg 87.78 324 *eP* **P** **20 36 09.4 +0.9**
DAVA Damuels 87.94 317⇑ *iP* **P** **20 36 10.1 +0.6**
comp=Z,11nm,1.0s,mb5.0
PGF Pioggiola 88.54 312 *eP* **P** **20 36 12.4 0.0**
TNS Taunus Mts 88.90 320 *eP* **P** **20 36 14.9 +0.9**
BFO Black Forest 88.99 318 *eP* **P** **20 36 14.7 +0.2**
BFO pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
BFO Black Forest 88.99 318 *eP* **P** **20 36 14.7 +0.2**
comp=Z,3.0nm,0.7s,mb4.7
SBF Sospel 89.67 314 *eP* **P** **20 36 17.6 -0.2**
comp=Z,46nm,1.0s,mb5.5
CDF Champ du Feu 89.69 318 *eP* **P** **20 36 17.4 -0.4**
comp=Z,11nm,1.0s,mb4.8
MAIT Maitri 89.69 199 *eP* **P** **20 36 19.2 +1.9**
HINF Hinteralfeld 89.99 318 *eP* **P** **20 36 18.3 -0.9**
LPG La Plagne 90.12 315 *eP* **P** **20 36 20.2 +0.4**
comp=Z,31nm,1.1s,mb5.3
MBDF Montbardon 90.13 315 *eP* **P** **20 36 19.4 -0.5**
comp=Z,7.9nm,0.9s,mb4.8
LPL La Plagne 90.13 315 *eP* **P** **20 36 20.3 +0.4**
comp=Z,27nm,1.0s,mb5.2
FRF La Foret Royal 90.25 313 *eP* **P** **20 36 20.7 +0.2**
comp=Z,6.0nm,0.6s,mb4.8
HAU Haudompre 90.32 318 *eP* **P** **20 36 20.5 -0.2**
comp=Z,23nm,0.9s,mb5.2
LMR La Mourre 90.36 313 *eP* **P** **20 36 21.0 0.0**
CABF La Chapelle 90.55 316 *eP* **P** **20 36 22.1 +0.3**
comp=Z,23nm,0.8s,mb5.2
ORIF Oris-en-Rattie 90.75 315 *eP* **P** **20 36 23.2 +0.4**
MEZF Maizieres J'vi 91.17 318 *eP* **P** **20 36 24.8 +0.1**
comp=Z,19nm,0.9s,mb5.1
GIVF Givet 91.23 320 *eP* **P** **20 36 25.2 +0.2**
VIVF Saint-Julien-l 91.61 315 *eP* **P** **20 36 26.9 +0.1**
comp=Z,7.1nm,0.9s,mb4.7
BAIF Baives 91.63 320 *eP* **P** **20 36 27.3 +0.5**
comp=Z,28nm,0.9s,mb5.3
SMF Signal de Mont 92.09 317 *eP* **P** **20 36 28.9 -0.1**
comp=Z,28nm,1.0s,mb5.3
LASF Ste Croix 92.24 314 *eP* **P** **20 36 30.0 +0.3**
comp=Z,24nm,1.2s,mb5.1
SSF Saint Saulge 92.29 317 *eP* **P** **20 36 29.9 0.0**
AVF Avril sur Loir 92.42 317 *eP* **P** **20 36 30.3 -0.2**
comp=Z,28nm,1.2s,mb5.2
BGF Bois d'Agland 92.78 317 *eP* **P** **20 36 32.6 +0.5**
comp=Z,28nm,1.0s,mb5.3
HYF Humbligny 92.87 317 *eP* **P** **20 36 33.3 +0.8**
TCF Toulx Ste Croi 93.24 316 *eP* **P** **20 36 34.5 +0.2**
RJF Les Rejaudoux 93.81 315 *eP* **P** **20 36 37.5 +0.7**
LDF La Druitiere 94.59 319 *eP* **P** **20 36 40.2 -0.1**
FLN La Foliniere 94.80 319 *eP* **P** **20 36 41.1 -0.2**
comp=Z,12nm,0.8s,mb5.1
MFF Saint Martin d 94.83 317 *eP* **P** **20 36 41.3 -0.2**
EPF Esparros 94.88 313 *eP* **P** **20 36 42.3 +0.5**
GRR Gorron 95.10 319 *eP* **P** **20 36 42.8 +0.2**
SJPF Ste Jean 96.01 313 *eP* **P** **20 36 48.1 +1.2**
SGMF Saint Gilles 96.24 319 *eP* **P** **20 36 47.7 -0.1**
INK Inuvik 102.43 17 P Pdif 20 37 15.4 +0.1
comp=Z,1.7nm,1.0s,baz=260,slow=5.3,SNR=3.2
INK PP PP 20 41 27.6 -3.3
comp=Z,3.0nm,1.0s,baz=299,slow=5.6,SNR=6.2
YKA Yellowknife Ar 112.07 16 Pdiff Pdif 20 38 04.3 +6.5
comp=Z,0.8nm,1.1s,baz=339,slow=7.7,SNR=3.8
YKA PKiKP 20 41 53.0
comp=Z,0.2nm,0.5s,baz=328,slow=2.6,SNR=5.3
YKA PP PP 20 42 33.1 -8.9
comp=Z,0.4nm,0.8s,baz=330,slow=7.1,SNR=5.6
YKA Yellowknife Ar 112.07 16 PKPdf PKPdf 20 41 53.0 -0.4
YKA PP PP 20 42 33.1 -8.9
NEW Newport 122.26 27 PKP PKPdf 20 42 16.1 +2.5
comp=Z,4.4nm,0.9s,baz=350,slow=3.5,SNR=5.6
SCHQ Schefferville 122.94 350 PKP PKPdf 20 42 15.3 +0.6
comp=Z,1.5nm,0.6s,baz=42,slow=11,SNR=4.7
SCHQ Schefferville 122.94 350 PKP PKPdf 20 42 15.3 +0.6
CHMT Chamberlain Mo 125.00 26 PKP PKPdf 20 42 19.3 +0.5
HLID Hailey 127.01 29 PKP PKPdf 20 42 23.9 +1.1
ULM Lac du Bonnet 127.58 11 PKP PKPdf 20 42 24.9 +1.1
comp=Z,4.2nm,0.6s,baz=339,slow=2.6,SNR=10
PDAR Pinedale Array 129.88 26 PKP PKPdf 20 42 29.8 +1.4
comp=Z,2.5nm,0.8s,baz=169,slow=1.1,SNR=11
TMUT Trail Mountain 131.80 30 *e*PKP PKPdf 20 42 33.7 +1.6
BDFB Brasilia 143.41 245 PKP PKPdf 20 42 52.5 -1.3
comp=Z,3.0nm,0.5s,baz=163,slow=8.2,SNR=4.6
TXAR Lajitas Array 143.43 33 PKP PKPdf 20 42 52.9 -0.5
comp=Z,1.9nm,0.5s,baz=271,slow=1.3,SNR=11
TXAR Lajitas Array 143.43 33 PKP PKPdf 20 42 52.9 -0.6
JCT Junction City 144.41 27 *e*PKP PKPdf 20 42 55.1 0.0
LPAZ La Paz 159.53 221 PKP PKPdf 20 43 20.5 +2.8
comp=Z,1.8nm,0.8s,baz=33,slow=5.8,SNR=5.1

NEIC ***28*** *20:29:25.9±0.9,2.22N×97.21E,mb4.0/3,Error ellipse: s-maj=24.9km s-min=14.3km az=54.0*
IDC ***28*** *20:29:27.5±1.1,2.62N×97.53E,h28km±5km,mb3.4/5, mb1 3.5/5,mb1mx3.4/15,mbtmp3.5/5,Error ellipse: s-maj=46.1km s-min=15.2km az=52.0*

ISC 28 20:29:24.0±0.8,2.2N±0.1×97.2E±0.1,h27km, h27km±1.7km:pP-P,n12,σ1°21/11,mb3.7/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.59**	**48**	*eP*		**Pn**	**20 30 34.4**	**+0.7**
MBWA	**Marble Bar**	**32.04**	**138**	P		**P**	**20 35 49.1**	**-1.8**
WRA	**Warramunga Arr**	**42.58**	**123**	P		**P**	**20 37 20.4**	**+0.6**
	0.8nm,0.7s,mb3.6,baz=303,slow=9.1,SNR=4.8							
WRA				pP	pP		20 37 29.6	+1.8
	1.9nm,0.5s,baz=302,slow=9.2,SNR=8.6							
ASAR	**Alice Springs**	**44.01**	**128**	P		**P**	**20 37 32.2**	**+0.7**
	0.6nm,0.9s,mb3.3,baz=315,slow=7.7,SNR=3.5							
ASAR				pP	pP		20 37 42.0	+2.5
	0.8nm,0.7s,baz=301,slow=9.6,SNR=3.6							
AAK	**Ala-Archa**	**45.06**	**336**	P		**P**	**20 37 38.8**	**-0.9**
	1.1nm,0.6s,mb3.9							
SONM	**Songino Array**	**46.12**	**9**	P		**P**	**20 37 46.3**	**-1.6**
	0.5nm,0.9s,mb3.5,baz=186,slow=8.5,SNR=2.9							
SONM				pP	pP		20 37 54.3	-1.7
	0.6nm,0.4s,baz=191,slow=9.4,SNR=5.6							
MKAR	**Makanchi Array**	**46.25**	**346**	P		**P**	**20 37 47.9**	**-1.1**
	0.8nm,0.7s,mb3.8,baz=174,slow=8.2,SNR=4.9							
MKAR				pP	pP		20 37 56.1	-0.9
	3.6nm,0.5s,baz=162,slow=8.8,SNR=22							
KURK	**Kurchatov**	**50.81**	**345**	*eP*		**P**	**20 38 24.0**	**-0.2**
	1.3nm,0.7s,mb4.0							
KURK				*e*		pP	20 38 30.3	-2.1
BVAR	**Borovoye Array**	**55.29**	**341**	pP		pP	20 39 01.7	-4.0
	1.4nm,0.7s,baz=146,slow=11,SNR=6.3							
CHKZ	**Chkalovo**	**55.76**	**341**	P		**P**	**20 39 01.9**	**+1.0**
	1.9nm,0.7s,mb4.2							
BRTR	**Keskin Array B**	**68.43**	**312**	P		**P**	**20 40 27.1**	**+1.2**
	0.4nm,0.7s,mb3.6,baz=126,slow=9.5,SNR=2.2							
BRTR				pP	pP		20 40 36.0	+1.7
	0.8nm,0.8s,baz=141,slow=7.9,SNR=3.6							
FINES	**FINESS Array B**	**79.09**	**332**	P		**P**	**20 41 30.6**	**+3.1**
	0.7nm,0.8s,mb3.6,baz=63,slow=9.3,SNR=3.7							
FINES				pP	pP		20 41 37.4	+1.4
	0.4nm,0.5s,baz=90,slow=5.7,SNR=1.1							

*NEIC **28** 20:31:45.9±0.5, 1.52N×97.02E, mb4.6/3, Error ellipse: s-maj=14.6km s-min=8.8km az=53.0*
*IDC **28** 20:31:45.7±0.8, 1.43N×96.91E, h26km±3km, mb3.9/11, mb1 4.0/11, mb1mx3.9/16, mbtmp4.0/11, Error ellipse: s-maj=45.8km s-min=14.8km az=48.0*
*BJI **28** 20:31:45.8, 1.50N×97.00E, h25km, mb4.6*
ISC 28 20:31:44.0±0.7, 1.50N±0.09×97.0E±0.1, h26km, h26km±.6km:pP-P, n20, σ0:86/19, mb4.1/17, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**44**	*e*P		**Pn**	**20 33 02.5**	**-0.2**
KMI	**Kunming**	**24.13**	**13**	P		**P**	**20 37 01.0**	**+1.9**
KMI	comp=Z,8.0nm,0.9s,mb4.2			AMB		AMB		
GYA	**Guiyang**	**26.50**	**20**	⇑*i*P		**P**	**20 37 21.3**	**-0.1**
GYA	comp=Z,10.0nm,0.8s,mb4.4			AMB		AMB		
ENH	**Enshi**	**30.98**	**21**	*e*P		**P**	**20 37 59.8**	**-1.8**
	comp=Z,14nm,1.0s,mb4.7							
BJI	**Beijing**	**42.14**	**22**	P		**P**	**20 39 37.0**	**+0.9**
BJI				XP		sP	20 39 45.3	-1.7
BJI	comp=Z,7.0nm,0.6s,mb4.5			AMB		AMB		
WRA	**Warramunga Arr**	**42.36**	**122**	P		**P**	**20 39 38.0**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.4,baz=301,slow=9.3,SNR=3.8							
WRA				pP		pP	20 39 45.7	-0.1
	comp=Z,1.0nm,0.5s,baz=304,slow=8.9,SNR=4.3							
WRAB	**Tennant Creek**	**42.37**	**122**	*e*P		**P**	**20 39 37.7**	**-0.5**
ASAR	**Alice Springs**	**43.73**	**127**	P		**P**	**20 39 49.4**	**+0.1**
	comp=Z,0.9nm,0.8s,mb3.5,baz=308,slow=7.8,SNR=4.2							
SONM	**Songino Array**	**46.87**	**9**	P		**P**	**20 40 14.2**	**+0.3**
	comp=Z,6.8nm,0.8s,mb4.6,baz=189,slow=8.6,SNR=33							
MKAR	**Makanchi Array**	**46.91**	**346**	P		**P**	**20 40 14.6**	**+0.3**
	comp=Z,6.5nm,0.8s,mb4.6,baz=162,slow=7.7,SNR=20							
ULN	**Ulaanbaatar**	**47.00**	**9**	*e*P		**P**	**20 40 14.8**	**-0.1**
	comp=Z,4.9nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**53.70**	**132**	P		**P**	**20 41 06.8**	**+0.5**
	comp=Z,2.4nm,0.9s,mb4.1,baz=343,slow=11,SNR=3.2							
BVAR	**Borovoye Array**	**55.91**	**341**	P		**P**	**20 41 21.0**	**-1.0**
	comp=Z,1.4nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=7.2							
BVAR				sP		sP	20 41 33.5	+0.6
	comp=Z,2.0nm,0.6s,baz=145,slow=9.1,SNR=7.6							
CHKZ	**Chkalovo**	**56.38**	**341**	*e*P		**P**	**20 41 24.4**	**-1.0**
	comp=Z,2.6nm,0.6s,mb4.4							
BRTR	**Keskin Array B**	**68.77**	**312**	P		**P**	**20 42 48.0**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.6,baz=108,slow=4.6,SNR=3.4							
BRTR				pP		pP	20 42 55.5	-0.7
	comp=Z,1.0nm,0.7s,baz=118,slow=6.2,SNR=5.3							
AKASG	**Malin Array Be**	**74.90**	**322**	P		**P**	**20 43 23.4**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=87,slow=5.4,SNR=3.3							
AKASG				pP		pP	20 43 31.4	-1.2
	comp=Z,0.3nm,0.3s,baz=88,slow=5.4,SNR=3.2							
FINES	**FINESS Array B**	**79.64**	**333**	P		**P**	**20 43 50.5**	**0.0**
	comp=Z,0.8nm,0.8s,mb3.7,baz=79,slow=7.1,SNR=5.4							
FINES				pP		pP	20 43 59.4	+0.6
	comp=Z,1.1nm,0.6s,baz=92,slow=6.3,SNR=3.5							
ARCES	**ARCESS Array B**	**82.19**	**340**	P		**P**	**20 44 04.8**	**+0.9**
	comp=Z,2.2nm,0.8s,mb4.1,baz=72,slow=3.8,SNR=5.0							
ARCES				pP		pP	20 44 12.7	+0.6
	comp=Z,2.6nm,0.9s,baz=68,slow=6.5,SNR=1.0							
GERES	**GERESS Array B**	**84.46**	**319**	P		**P**	**20 44 17.2**	**+1.3**
	comp=Z,0.6nm,0.9s,mb3.7,baz=108,slow=4.2,SNR=4.6							
GERES				pP		pP	20 44 25.7	+1.6
	comp=Z,0.6nm,0.7s,baz=90,slow=4.0,SNR=4.9							
NOA	**NORSAR Array B**	**86.65**	**331**	pP		pP	20 44 35.6	+0.9
	comp=Z,0.7nm,0.9s,baz=96,slow=5.1,SNR=1.9							

*BJI **28** 20:32:33.4, 1.28N×97.24E, h38km, mb4.8*
*NEIC **28** 20:32:36.5±0.3, 1.69N×97.08E, mb4.5/5, Error ellipse: s-maj=11.4km s-min=6.1km az=221.0*
*IDC **28** 20:32:36.5±0.8, 1.67N×97.00E, h26km±4km, mb4.2/16, mb1 4.3/16, mb1mx4.2/21, mbtmp4.4/16, Error ellipse: s-maj=38.4km s-min=11.8km az=47.0*
ISC 28 20:32:34.4±7.8, 1.7N±0.1×97.1E±0.2, h24km±54km, h27km±1.2km:pP-P, n40, σ0:86/39, mb4.4/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.05**	**44**	*e*P		**Pn**	**20 33 51.2**	**+0.5**
KSM	**Kuching**	**13.20**	**91**	P		**P**	**20 35 41.9**	**-1.3**
KMI	**Kunming**	**23.95**	**13**	P		**P**	**20 37 49.5**	**+1.5**
KMI	comp=Z,7.0nm,1.0s,mb4.0			AMB		AMB		
ENH	**Enshi**	**30.79**	**21**	*e*P		**P**	**20 38 48.6**	**-2.1**
	comp=Z,8.8nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**34.27**	**126**	P		**P**	**20 39 20.3**	**-0.8**
	comp=Z,6.9nm,0.8s,mb4.7,baz=261,slow=1.8,SNR=6.1							
GTA	**Gaotai**	**37.66**	**3**	*e*P		**P**	**20 39 49.5**	**-0.1**
GTA				AP		pP	20 39 59.0	+2.2
GTA				XP		sP	20 40 02.8	+3.0
GTA	comp=Z,10.0nm,0.8s,mb4.6			AMB		AMB		
BJI	**Beijing**	**41.95**	**22**	P		**P**	**20 40 26.0**	**+0.8**
BJI	comp=Z,33nm,0.7s,mb5.1			AMB		AMB		
WRA	**Warramunga Arr**	**42.35**	**122**	P		**P**	**20 40 29.1**	**+0.3**
	comp=Z,2.8nm,0.7s,mb4.0,baz=301,slow=9.3,SNR=7.7							
WRA				pP		pP	20 40 36.7	+0.7
	comp=Z,3.2nm,0.6s,baz=302,slow=9.1,SNR=14							
WRAB	**Tennant Creek**	**42.36**	**122**	*e*P		**P**	**20 40 28.6**	**-0.2**
ASAR	**Alice Springs**	**43.74**	**127**	P		**P**	**20 40 40.6**	**+0.7**
	comp=Z,2.2nm,0.9s,mb3.9,baz=306,slow=7.3,SNR=8.0							
UCH	**Uchtor**	**45.20**	**336**	P		**P**	**20 40 52.5**	**+1.0**
	SNR=7.6							
TKM2	**Tokmak 2**	**45.36**	**338**	P		**P**	**20 40 53.6**	**+0.9**
	SNR=7.3							
KBK	**Karagaybulak**	**45.39**	**337**	P		**P**	**20 40 54.1**	**+1.2**
	SNR=7.0							
AAK	**Ala-Archa**	**45.55**	**337**	*e*P		**P**	**20 40 54.1**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.2							
EKS2	**Erkin-Say**	**45.86**	**336**	P		**P**	**20 40 57.5**	**+0.9**
	SNR=9.4							
USP	**Ospenovka**	**46.08**	**337**	P		**P**	**20 40 59.0**	**+0.5**
	SNR=15							
SONM	**Songino Array**	**46.70**	**9**	P		**P**	**20 41 03.5**	**+0.3**
	comp=Z,7.0nm,0.6s,mb4.8,baz=191,slow=9.7,SNR=35							
MKAR	**Makanchi Array**	**46.78**	**346**	P		**P**	**20 41 03.7**	**-0.2**
	comp=Z,1.4nm,0.6s,mb5.0,baz=160,slow=7.6,SNR=26							
MKAR	**Makanchi Array**	**46.78**	**346**	P		**P**	**20 41 03.7**	**-0.2**
ULN	**Ulaanbaatar**	**46.83**	**9**	*e*P		**P**	**20 41 04.1**	**-0.2**
	comp=Z,4.3nm,0.6s,mb4.6							
KURK	**Kurchatov**	**51.33**	**345**	*e*P		**P**	**20 41 38.5**	**-0.5**
	comp=Z,9.5nm,1.0s,mb4.7							
CTA	**Charters Tower**	**52.79**	**117**	P		**P**	**20 41 51.2**	**+0.8**
	comp=Z,4.4nm,0.8s,mb4.5,baz=348,slow=6.1,SNR=4.7							
CTA	**Charters Tower**	**52.79**	**117**	P		**P**	**20 41 51.2**	**+0.8**
STKA	**Stephens Creek**	**53.73**	**132**	P		**P**	**20 41 58.2**	**+1.1**
	comp=Z,5.1nm,1.1s,mb4.4,baz=319,slow=13,SNR=4.0							
STKA				pP		pP	20 42 06.6	+2.0
	comp=Z,3.0nm,0.6s,baz=297,slow=6.9,SNR=8.3							
STKA	**Stephens Creek**	**53.73**	**132**	P		**P**	**20 41 58.2**	**+1.0**
STKA				pP		pP	20 42 06.6	+2.0
BVAR	**Borovoye Array**	**55.79**	**341**	P		**P**	**20 42 10.6**	**-1.2**
	comp=Z,2.7nm,0.5s,mb4.5,baz=142,slow=10,SNR=11							
CHKZ	**Chkalovo**	**56.27**	**341**	*e*P		**P**	**20 42 14.0**	**-1.3**
ASAJ	**Asahikawa**	**58.36**	**37**	P		**P**	**20 42 29.4**	**-0.8**
	comp=Z,4.8nm,0.6s,mb4.7,baz=187,slow=8.1,SNR=4.1							
MALT	**Malatya**	**64.75**	**312**	P		**P**	**20 43 12.6**	**-0.8**
BRTR	**Keskin Array B**	**68.74**	**312**	P		**P**	**20 43 37.1**	**-1.5**
	comp=Z,1.5nm,0.6s,mb4.1,baz=132,slow=7.4,SNR=7.5							
AKASG	**Malin Array Be**	**74.84**	**322**	P		**P**	**20 44 13.6**	**-1.2**
	comp=Z,2.0nm,0.5s,mb4.3,baz=89,slow=5.1,SNR=9.3							
MLR	**Muntele Rosu**	**75.67**	**317**	P		**P**	**20 44 20.1**	**+0.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=144,slow=22,SNR=3.2							
FINES	**FINESS Array B**	**79.55**	**332**	P		**P**	**20 44 40.6**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=94,slow=5.6,SNR=9.3							
FINES				pP		pP	20 44 48.4	-0.1
	comp=Z,1.9nm,0.6s,baz=87,slow=6.6,SNR=7.6							
MORC	**Moravsky Berou**	**82.00**	**320**	*e*P		**P**	**20 44 53.8**	**-0.1**
ARCES	**ARCESS Array B**	**82.08**	**340**	P		**P**	**20 44 54.5**	**+0.6**
	comp=Z,4.9nm,0.7s,mb4.6,baz=93,slow=4.4,SNR=14							
ARCES	**ARCESS Array B**	**82.08**	**340**	P		**P**	**20 44 54.5**	**+0.6**
GERES	**GERESS Array B**	**84.41**	**319**	P		**P**	**20 45 06.8**	**+0.5**
	comp=Z,0.9nm,0.5s,mb4.2,baz=104,slow=5.5,SNR=9.8							
GERES				pP		pP	20 45 15.8	+1.7
	comp=Z,1.4nm,0.9s,baz=135,slow=3.8,SNR=5.3							
NB2	**NORSAR Subarra**	**86.56**	**331**	P		**P**	**20 45 16.6**	**-0.1**
	comp=Z,0.6nm,0.7s,mb3.9,baz=96,slow=4.8							
NOA	**NORSAR Array B**	**86.56**	**331**	P		**P**	**20 45 16.7**	**0.0**
	comp=Z,1.0nm,0.8s,mb4.1,baz=93,slow=4.9,SNR=4.4							
YKA	**Yellowknife Ar**	**111.68**	**15**	PP		PP	20 51 48.9	-4.4
	comp=Z,0.1nm,0.6s,baz=324,slow=7.1,SNR=5.0							

*BJI **28** 20:35:15.8, 1.63N×97.16E, h36km, mB5.8, mb5.2, Ms5.4, Msz5.3*
*MOS **28** 20:35:16.8±0.8, 1.86N×97.24E, h33km, mb5.3/57, Error ellipse: s-maj=10.3km s-min=4.7km az=123.6*
*NEIC **28** 20:35:17.4±0.1, 1.75N×97.13E, mb5.1/60, Error ellipse: s-maj=4.7km s-min=3.2km az=204.0*
*IDC **28** 20:35:17.6±0.5, 1.74N×97.14E, h28km±2km, mb4.8/24, mb1 4.8/24, mb1mx4.7/27, mbtmp4.9/24, Error ellipse: s-maj=17.4km s-min=7.9km az=45.0*
ISC 28 20:35:16.0±0.2, 1.75N±0.04×97.17E±0.03, h29km, h29km±.7km:pP-P, n297, σ0:86/301, mb5.1/117, MS5.3/11, 27C-18D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.77**	**54**	P		**Pn**	**20 36 30.2**	**+2.3**
KULM	**Kulim**	**4.95**	**45**	*e*P		**Pn**	**20 36 31.6**	**+1.2**
KGM	**Kluang**	**6.16**	**87**	P		**Pn**	**20 36 50.5**	**+3.0**
NST	**Nakhon Sawan**	**14.14**	**12**	P		**P**	**20 38 36.5**	**-0.3**
CM31	**Chiang Mai Arr**	**16.70**	**6**	*e*P		**P**	**20 39 08.7**	**-1.0**
	39nm,0.9s							
CHG	**Chiang Mai**	**17.05**	**6**	⇑P		**P**	**20 39 13.0**	**-1.2**
	20nm,0.8s							
PALK	**Pallekele**	**17.30**	**289**	*e*P		**P**	**20 39 17.4**	**0.0**
	38nm,1.1s							
KKM	**Kota Kinabalu**	**19.47**	**77**	*e*P		**P**	**20 39 43.9**	**+0.1**
KKM	**Kota Kinabalu**	**19.47**	**77**	P		**P**	**20 39 44.4**	**+0.6**
TSM	**Tawau**	**20.83**	**83**	P		**P**	**20 39 58.3**	**+0.2**
VIS	**Vishakhapatnam**	**20.90**	**320**	*e*P		**P**	**20 39 58.2**	**-0.6**
VIS				*e*			20 40 02.9	
	comp=Z,106nm,0.9s							
VIS				*i*			20 43 37.7	
QIZ	**Qiongzhong**	**21.19**	**35**	P		**P**	**20 40 01.8**	**+0.1**
QIZ				*e*S		**S**	**20 43 51.3**	**+0.4**
QIZ					AMB	AMB		
	comp=Z,58nm,1.0s,mb4.9							
QIZ	**Qiongzhong**	**21.19**	**35**	*e*P		**P**	**20 40 00.8**	**-1.0**
	comp=Z,49nm,0.8s,mb4.9							
BWNR	**Bhubaneshwar**	**21.52**	**330**	*e*P		**P**	**20 40 05.3**	**+0.4**
BWNR				*e*			20 40 07.3	
	comp=Z,87nm,1.1s							
KMI	**Kunming**	**23.85**	**13**	⇓P		**P**	**20 40 30.3**	**+2.3**
KMI				AP			20 40 37.5	
KMI				XP			20 40 42.5	
KMI				PP		PP	20 41 06.0	+4.2
KMI				S		**S**	**20 44 44.8**	**+5.9**
KMI				AMB		AMB		
	comp=Z,34nm,1.0s,mb4.7							
KMI				AMB		AMB		
	comp=Z,1μm,6.0s							
KMI				LR		LR		
	comp=N,2μm,49.4s							
KMI				LR		LR		
	comp=E,2μm,18.1s							
KMI				LR		LR		
	comp=Z,7μm,48.4s,MS4.7							
HYB	**Hyderabad**	**24.02**	**312**	*e*P		**P**	**20 40 30.5**	**+0.7**
HYB	**Hyderabad**	**24.02**	**312**	*i* P		**P**	**20 40 30.5**	**+0.7**
GYA	**Guiyang**	**26.21**	**20**	⇑*i*P		**P**	**20 40 49.8**	**-0.6**
GYA				AP		pP	20 40 59.3	+0.6
GYA				XP		sP	20 41 03.0	+0.5
GYA				PP		PP	20 41 32.3	-0.4
GYA				S		**S**	**20 45 17.5**	**-1.0**
GYA				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.0							
GYA				AMB		AMB		
	comp=Z,8μm,4.6s							
GYA				LR		LR		
	comp=N,9μm,16.4s,MS5.6							
GYA				LR		LR		
	comp=E,10μm,16.0s,MS5.6							
GYA				LR		LR		
	comp=Z,8μm,17.0s,MS5.3							
JIRN	**Jiri**	**27.83**	**339**	*e*P		**P**	**20 41 05.9**	**+0.7**
	comp=Z,96nm,0.8s,mb5.5							
PKI	**Pulchoki**	**28.04**	**337**	*e*P		**P**	**20 41 07.3**	**+0.2**
	comp=Z,121nm,1.1s,mb5.4							
DMN	**Daman**	**28.19**	**337**	*e*P		**P**	**20 41 08.4**	**0.0**
	comp=Z,66nm,0.8s,mb5.3							
KKN	**Kakani**	**28.28**	**337**	*e*P		**P**	**20 41 09.1**	**-0.2**
	comp=Z,96nm,1.0s,mb5.4							
POO	**Poona**	**28.30**	**308**	*e*		**P**	**20 41 18.0**	**+8.5**
POO				*e*			20 41 21.9	
	comp=Z,19nm,0.8s							
LSA	**Lhasa**	**28.38**	**349**	P		**P**	**20 41 11.0**	**+0.9**
BHPL	**Bhopal**	**28.69**	**320**	*e*P		**P**	**20 41 12.3**	**-0.6**
BHPL				*e*			20 41 29.4	
	comp=Z,30nm,1.3s							
GKN	**Gorkha**	**28.73**	**336**	*e*P		**P**	**20 41 13.2**	**0.0**
	comp=Z,200nm,1.1s,mb5.7							
KOLN	**Koldanda**	**28.95**	**335**	*e*P		**P**	**20 41 15.3**	**0.0**
	comp=Z,112nm,0.9s,mb5.6							
CD2	**Chengdu**	**29.67**	**11**	*e*P		**P**	**20 41 20.0**	**-1.7**
LGTI	**Lohaghat**	**31.91**	**331**	⇓*i*P		**P**	**20 41 41.5**	**0.0**
PTH	**Pithoragarh**	**32.01**	**331**	*e*P		**P**	**20 41 43.1**	**+0.8**
AJM	**Ajmer**	**32.76**	**321**	⇑*i*P		**P**	**20 41 49.0**	**+0.1**
NDI	**New Delhi**	**32.86**	**326**	*e*P		**P**	**20 41 47.0**	**-2.7**
WHN	**Wuhan**	**32.95**	**28**	⇑P		**P**	**20 41 50.3**	**-0.2**
DDI	**Dehra Dun**	**33.71**	**329**	*e*P		**P**	**20 41 56.8**	**-0.3**
XAN	**Xi'an**	**33.95**	**18**	P		**P**	**20 41 57.8**	**-1.4**
XAN				AMB		AMB		
	comp=Z,134nm,1.0s,mb5.8							
FITZ	**Fitzroy Crossi**	**34.28**	**126**	⇓*i*P		**P**	**20 42 01.0**	**-1.1**
	comp=Z,9.5nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	**34.28**	**126**	P		**P**	**20 42 01.1**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9,baz=274,slow=2.4,SNR=13							
FITZ				pP		pP	20 42 09.7	-0.9
	comp=Z,9.4nm,0.7s,baz=313,slow=2.4,SNR=5.9							
LZH	**Lanzhou**	**34.72**	**10**	⇑P		**P**	**20 42 05.5**	**-0.3**
LZH				AP		pP	20 42 14.5	+0.2
LZH				XP		sP	20 42 18.5	+0.6
LZH				PP		PP	20 43 24.0	+0.9
LZH				SCP			20 48 19.0	
LZH				PCS			20 48 23.0	
LZH				AMB		AMB		
	comp=Z,133nm,1.4s,mb5.7							
LZH				AMB		AMB		
	comp=Z,449nm,4.9s							
LZH				LR		LR		
	comp=E,3μm,14.0s							
LZH				LR		LR		
	comp=Z,4μm,15.5s,MS5.3							
PONG	**Pong**	**36.09**	**329**	*e*P		**P**	**20 42 18.0**	**+0.5**
NJ2	**Nanjing**	**36.42**	**32**	*e*P		**P**	**20 42 20.5**	**+0.3**
NJ2				AP		pP	20 42 30.0	+1.3
NJ2				XP		sP	20 42 34.5	+2.2
NJ2				PP		PP	20 43 44.0	-0.2
NJ2				S		**S**	**20 48 03.0**	**+3.7**
NJ2				XS			20 48 19.0	
NJ2				AMB		AMB		
	comp=Z,80nm,1.4s,mb5.5							
NJ2				AMB		AMB		
	comp=Z,2μm,11.0s							
NJ2				LR		LR		
	comp=N,3μm,18.6s,MS5.3							
NJ2				LR		LR		
	comp=E,4μm,20.9s,MS5.3							
NJ2				LR		LR		
	comp=Z,4μm,22.4s,MS5.1							
GTA	**Gaotai**	**37.56**	**3**	⇑*i*P		**P**	**20 42 29.8**	**+0.1**
GTA				AP		pP	20 42 38.0	-0.3
GTA				XP		sP	20 42 42.0	+0.1
GTA				PP		PP	20 43 57.0	-1.4
GTA				PPP		PPP	20 44 18.0	-1.6
GTA				PCP		PcP	20 44 47.8	0.0
GTA				S		**S**	**20 48 18.0**	**+1.3**
GTA				SCP			20 48 30.8	
GTA				XS			20 48 38.5	
GTA				SS		SS	20 50 54.5	+3.6
GTA				SCS		ScS	20 52 38.5	-0.3
GTA				AMB		AMB		
	comp=Z,70nm,0.9s,mb5.4							
GTA				AMB		AMB		
	comp=Z,2μm,5.4s							
GTA				LR		LR		
	comp=N,2μm,21.6s,MS5.0							
GTA				LR		LR		
	comp=E,2μm,16.8s,MS5.0							
GTA				LR		LR		
	comp=Z,7μm,24.0s							
KAKA	**Kakadu**	**37.85**	**113**	⇓*i*P		**P**	**20 42 31.4**	**-0.9**
	comp=Z,27nm,1.2s,mb4.8							
JOW	**Kunigami**	**38.89**	**47**	P		**P**	**20 42 41.5**	**+0.5**
	comp=Z,14nm,0.6s,mb4.8,baz=227,slow=7.1,SNR=5.2							
TIA	**Tai'an**	**38.95**	**26**	P		**P**	**20 42 40.8**	**-0.7**
TIA				AMB		AMB		
	comp=Z,67nm,1.2s,mb5.2							
NWAO	**Narrogin (SRO)**	**39.36**	**153**	P		**P**	**20 42 45.5**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=358,slow=18,SNR=2.7							
NWAO				pP		pP	20 42 53.7	+0.3
	comp=Z,11nm,0.9s,baz=320,slow=12,SNR=5.2							
BTO	**Baotou**	**40.40**	**15**	*e*P		**P**	**20 42 53.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**41.05**	**17**	*e*P		**P**	**20 43 00.8**	**+2.2**
HHC				AP		pP	20 43 10.8	+3.6
HHC				XP		sP	20 43 14.8	+4.0
HHC				PP		PP	20 44 39.5	+3.2
HHC				PCP		PcP	20 45 02.0	+3.2
HHC				SCP			20 48 46.8	
HHC				PCS			20 48 50.5	
HHC				S		**S**	**20 49 11.8**	**+2.7**
HHC				XS			20 49 28.5	
HHC				SCS		ScS	20 53 01.3	+2.3
HHC				AMB		AMB		
	comp=Z,62nm,0.8s,mb5.3							
HHC				AMB		AMB		
	comp=Z,2μm,4.3s							
HHC				LR		LR		
	comp=N,2μm,17.2s,MS5.3							
HHC				LR		LR		
	comp=E,2μm,17.1s,MS5.3							
HHC				LR		LR		
	comp=Z,5μm,22.5s							
BJT	**Baijiatuao**	**41.82**	**22**	*e*P		**P**	**20 43 06.0**	**+0.9**
BJT				pmax		pmax		
	comp=Z,324nm,1.1s							
BJT	**Baijiatuao**	**41.82**	**22**	*e*P		**P**	**20 43 06.0**	**+0.9**
	comp=Z,324nm,1.1s,mb5.9							
BJI	**Beijing**	**41.84**	**22**	P		**P**	**20 43 06.3**	**+1.0**
BJI				AMB		AMB		
	comp=Z,205nm,1.1s,mb5.7							
KSH	**Kashi**	**42.26**	**335**	*e*P		**P**	**20 43 05.0**	**-3.7**
KSH				*e*AP		pP	20 43 16.3	-1.0
KSH				*e*XP		sP	20 43 23.5	+2.7
KSH				*e*PP		PP	20 44 47.0	-2.5
KSH				PCP		PcP	20 45 03.0	+0.1
KSH				*e*PPP		PPP	20 45 20.0	-2.1
KSH				*e*SCP			20 48 49.0	
KSH				*e*PCS			20 48 53.0	
KSH				*e*S		**S**	**20 49 17.8**	**-9.3**
KSH				*e*XS			20 49 40.3	
KSH				*e*SS		SS	20 52 26.0	-4.2
KSH				*e*SCS		ScS	20 53 05.0	-1.4
KSH				AMB		AMB		
	comp=Z,930nm,4.9s							
KSH				LR		LR		
	comp=N,3μm,16.8s,MS5.4							
KSH				LR		LR		
	comp=E,2μm,15.0s,MS5.4							
WRA	**Warramunga Arr**	**42.35**	**122**	P		**P**	**20 43 09.8**	**+0.1**
	comp=E,13nm,0.9s,mb4.5,baz=301,slow=9.2,SNR=18							
WRA				pP		pP	20 43 18.3	0.0
	comp=E,12nm,0.7s,baz=301,slow=9.1,SNR=13							
WRA				S		**S**	**20 49 27.3**	**-1.4**
	comp=E,2.9nm,1.2s,baz=296,slow=16,SNR=4.9							
WRAB	**Tennant Creek**	**42.36**	**122**	*e*P		**P**	**20 43 09.1**	**-0.6**
WRAB				pmax		pmax		
	comp=Z,32nm,0.9s,mb5.0							
WRAB	**Tennant Creek**	**42.36**	**122**	*e*P		**P**	**20 43 09.1**	**-0.7**
	comp=Z,32nm,0.9s,mb5.0							
WB2	**Warramunga Arr**	**42.36**	**122**	⇓*i*P		**P**	**20 43 09.7**	**-0.1**
WMQ	**Urumqi**	**42.73**	**350**	⇑*i*P		**P**	**20 43 13.0**	**+0.5**
WMQ				AP		pP	20 43 23.0	+2.0
WMQ				XP		sP	20 43 27.0	+2.4
WMQ				PP		PP	20 44 55.0	+0.9
WMQ				PCS			20 48 52.0	
WMQ				S		**S**	**20 49 34.0**	**0.0**
WMQ				XS			20 49 50.0	
WMQ				SCS		ScS	20 53 09.0	-0.2
WMQ				AMB		AMB		
	comp=Z,46nm,1.4s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,855nm,5.9s							
WMQ				LR		LR		
	comp=N,5μm,18.8s,MS5.5							
WMQ				LR		LR		
	comp=E,3μm,16.0s,MS5.5							
WMQ				LR		LR		
	comp=Z,4μm,24.7s							
DL2	**Dalian**	**43.21**	**28**	P		**P**	**20 43 17.3**	**+0.9**
DL2				AMB		AMB		
	comp=Z,50nm,1.0s,mb5.2							
ASPA	**Alice Springs**	**43.75**	**128**	⇓*i*P		**P**	**20 43 21.3**	**+0.3**
ASAR	**Alice Springs**	**43.75**	**128**	P		**P**	**20 43 21.1**	**+0.1**
ASAR				*PP		pP	20 43 30.4	+0.8
ASAR							20 45 08.4	
ASAR				S		**S**	**20 49 48.4**	**-0.7**
ASAR	**Alice Springs**	**43.75**	**128**	P		**P**	**20 43 21.1**	**0

MOY Mondy 49.85 3 *e*P P **20 44 09.1 +0.5**
MOY pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
TLY Talaya 50.05 5 *e*P P **20 44 10.6 +0.4**
TLY pmax pmax
comp=Z,28nm,0.8s,mb5.3
TLY Talaya 50.05 5 *e*P P **20 44 10.4 +0.2**
comp=Z,12nm,0.6s,mb5.1
IRK Irkutsk 50.67 6 *e*P P **20 44 11.8 -3.1**
IRK pmax pmax
comp=Z,506nm,2.9s,mb5.9
PMG Port Moresby 51.01 104 P P **20 44 17.7 -0.3**
comp=Z,25nm,0.9s,mb5.1,baz=224,slow=11,SNR=4.6
KURK Kurchatov 51.26 345 *i* P P **20 44 19.2 -0.1**
KURK pmax pmax
comp=Z,61nm,1.2s,mb5.4
KURK Kurchatov 51.26 345 *e*P P **20 44 18.8 -0.6**
comp=Z,71nm,1.0s,mb5.5
MAJO Matsushiro 51.31 43 *e*P P **20 44 18.9 -1.1**
MAJO pmax pmax
comp=Z,26nm,0.8s,mb5.2
MAJO Matsushiro 51.31 43 *e*P P **20 44 18.9 -1.1**
comp=Z,26nm,0.8s,mb5.2
MAT Matsushiro 51.31 43 *e*P P **20 44 19.0 -1.0**
MAT pmax pmax
comp=Z,22nm,0.8s,mb5.1
MAT Matsushiro 51.31 43 *e*P P **20 44 19.0 -1.0**
comp=Z,22nm,0.8s,mb5.2
MAT Matsushiro 51.31 43 P P **20 44 19.1 -0.9**
MDJ Mudanjiang 51.41 29 P P **20 44 20.3 -0.3**
MDJ AP pP 20 44 29.0 -0.3
MDJ AMB AMB
comp=Z,17nm,1.2s,mb4.8
CTA Charters Tower 52.78 117⇓ *i*P P **20 44 31.8 +0.6**
comp=Z,16nm,0.9s,mb5.0
CTA Charters Tower 52.78 117⇓ *i*P P **20 44 31.8 +0.6**
CTA pmax pmax
comp=Z,16nm,0.9s
CTA Charters Tower 52.78 117 P P **20 44 31.4 +0.2**
comp=Z,20nm,0.9s,mb5.0,baz=298,slow=8.6,SNR=11
STKA Stephens Creek 53.75 132⇓ *i*P P **20 44 38.7 +0.5**
comp=Z,8.0nm,0.8s,mb4.7
STKA Stephens Creek 53.75 132 P P **20 44 38.9 +0.7**
comp=Z,13nm,1.0s,mb4.8,baz=317,slow=7.9,SNR=11
STKA pP pP 20 44 47.4 +0.5
comp=Z,16nm,0.9s,baz=301,slow=7.2,SNR=11
NVS Novosibirsk 54.13 350 *i* P P **20 44 39.3 -1.4**
NVS *i* 20 45 49.9
NVS *i* S S **20 52 07.7 -6.2**
NVS pmax pmax
comp=Z,93nm,1.1s,mb5.6
NVS pmax pmax
comp=N,72nm,1.2s
NVS pmax pmax
comp=E,43nm,1.2s
NVS smax
comp=N,21nm,1.9s
NVS smax
comp=E,48nm,1.8s
RAYN Ar Rayn 54.47 298 P P **20 44 43.6 0.0**
comp=E,90nm,0.8s,SNR=19
BVA0 Borovoye Array 55.72 341 *i* P P **20 44 51.0 -1.3**
BVA0 pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
BVAR Borovoye Array 55.72 341 P P **20 44 51.1 -1.2**
comp=Z,27nm,0.8s,mb5.3,baz=143,slow=7.4,SNR=58
KLR Kul'dur 55.78 27 *e*P P **20 44 49.7 -3.1**
KLR pmax pmax
comp=N,24nm,0.9s
KLR pmax pmax
comp=E,36nm,0.9s
KLR pmax pmax
comp=Z,44nm,0.9s,mb5.5
CHKZ Chkalovo 56.20 341 P P **20 44 54.9 -0.8**
CHKZ pmax pmax
comp=Z,66nm,1.1s,mb5.6
BOD Bodaibo 57.48 11 *e*P P **20 45 03.4 -1.4**
BOD pmax pmax
comp=Z,39nm,1.0s,mb5.4
ASAJ Asahikawa 58.25 37 P P **20 45 10.7 +0.3**
comp=Z,28nm,1.0s,mb5.3,baz=251,slow=10.0,SNR=9.0
ASAJ pP pP 20 45 18.2 -1.0
comp=Z,34nm,0.9s,baz=78,slow=13,SNR=5.0
CLNS Chul'man 59.23 17 *e*P P **20 45 14.7 -2.3**
CLNS pmax pmax
comp=Z,50nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,30nm,1.0s
CLNS pmax pmax
comp=E,24nm,1.0s
YSS Yuzh-Sakhalins 59.92 34⇑ *e*P P **20 45 20.6 -1.3**
YSS *e* pP 20 45 29.3 -1.5
YSS pmax pmax
comp=Z,130nm,1.1s,mb5.9
YSS Yuzh-Sakhalins 59.92 34 *e*P P **20 45 21.9 -0.1**
comp=Z,135nm,1.0s,mb5.9
KMBO Kilima Mbogo 59.98 268 P P **20 45 23.2 +0.4**
comp=Z,3.9nm,1.0s,mb4.4,baz=54,slow=14,SNR=8.1
MSL Mosul 60.55 311 *e*P P **20 45 25.0 -1.4**
GNI Garni 60.88 316 P P **20 45 27.2 -1.3**
comp=Z,4.3nm,0.6s,mb4.7,baz=146,slow=15,SNR=2.8
TI2 Plekhanov 61.55 318⇑ *i*P P **20 45 32.0 -1.1**
ZEI Tsey 62.57 318 *e*P P **20 45 39.2 -0.7**
ZEI *i* *PP pP 20 45 49.3 +0.5
ZEI pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 62.67 337⇓ *i*P P **20 45 38.8 -1.5**
ARU *e* 20 47 52.2
ARU *e*S S **20 54 06.4 +1.3**
ARU *e*SS SS 20 58 12.7 +1.0
ARU pmax pmax
comp=Z,35nm,1.2s,mb5.4
ARU Arti 62.67 337 *e*P P **20 45 38.9 -1.4**
comp=Z,25nm,0.9s,mb5.3
KIV Kislovodsk 63.87 319 *e*P P **20 45 46.9 -1.6**
KIV pmax pmax
comp=Z,36nm,1.0s,mb5.4
KIV Kislovodsk 63.87 319 *e*P P **20 45 46.9 -1.6**
comp=Z,36nm,1.0s,mb5.4
GOF Gofitskoye 64.12 320⇓ *i*P P **20 45 48.4 -1.7**
GOF *e*S S **20 54 42.9 +19**
GOF pmax pmax
comp=Z,40nm,1.0s,mb5.4
ASF Jabal al Asfar 64.12 305 P P **20 45 50.8 +0.5**
comp=Z,8.6nm,1.0s,mb4.8,baz=354,slow=3.6,SNR=9.4
MALT Malatya 64.74 312 *e*P P **20 45 53.3 -0.9**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 64.74 312 *e*P P **20 45 53.3 -1.0**
comp=Z,11nm,1.0s,mb4.8
YAK Yakutsk 64.91 16 *e*P P **20 45 53.9 -1.0**
YAK pmax pmax
comp=Z,81nm,0.8s,mb5.8
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,25nm,1.1s
YAK Yakutsk 64.91 16 *e*P P **20 45 53.4 -1.5**
comp=E,209nm,1.0s,mb6.1
EIL Elat 65.14 302 *e*P P **20 45 55.9 -1.0**
comp=E,23nm,1.0s,mb5.2
SOC Sochi 65.69 318 *e*P P **20 45 55.2 -5.1**
SOC *e* 20 46 24.3
SOC *e*S S 20 54 35.7 -7.1
SOC *e* 20 55 46.5
SOC *e*SS SS 20 58 55.0 -3.7
SOC pmax pmax
comp=Z,42nm,0.9s,mb5.5
SOC pmax pmax
comp=N,44nm,1.3s
SOC pmax pmax
comp=E,17nm,0.9s
MBAR Mbarara 66.46 269 *e*P P **20 46 04.2 -1.5**
MBAR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MBAR Mbarara 66.46 269 *e*P P **20 46 04.2 -1.4**
comp=Z,9.7nm,1.0s,mb4.8
ANN Anapa 67.67 318 *e*P P **20 46 09.8 -3.0**
ANN *i* *PP pP 20 46 21.0 -0.7
ANN *i* 20 46 40.1
ANN *e*S S 20 55 04.4 -2.3
ANN pmax pmax
comp=Z,52nm,1.3s,mb5.4
CSS Prodhromos 67.71 307 *e*P P **20 46 12.3 -0.9**
comp=Z,12nm,0.9s,mb4.9
BRTR Keskin Array B 68.72 312 P P **20 46 17.9 -1.6**
comp=Z,8.8nm,0.8s,mb4.7,baz=128,slow=6.7,SNR=34
VRSR Storozhevoye 69.09 325 *e*P P **20 46 19.4 -2.1**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,1.2s
VRSR pmax pmax
comp=E,30nm,1.0s
MA2 Magadan 70.86 26 *e*P P **20 46 32.0 -0.1**
MA2 pmax pmax
comp=N,6.0nm,1.2s
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.9
MA2 Magadan 70.86 26 *e*P P **20 46 31.5 -0.6**
comp=Z,42nm,1.3s,mb5.2
PET Petropavlovsk 71.80 34 *e*P P **20 46 37.2 -0.7**
PET pmax pmax
comp=Z,27nm,0.6s,mb5.3
MOS Moscow 71.85 329 *e*P P **20 46 37.4 -0.7**
MOS pmax pmax
comp=Z,72nm,0.9s,mb5.6
OBN Obninsk 72.14 328 *c* *i*P P **20 46 38.7 -1.2**
OBN *e* 20 46 54.9
OBN *e*SS SS 21 00 35.5 -2.7
OBN pmax pmax
comp=Z,48nm,1.0s,mb5.4
OBN MLR MLR
comp=Z,1μm,19.0s,MS5.2
OBN Obninsk 72.14 328 *e*P P **20 46 38.3 -1.6**
comp=Z,39nm,0.9s,mb5.3
TIXI Tiksi 72.66 10⇓ *i*P P **20 46 39.2 -3.4**
TIXI pmax pmax
comp=Z,37nm,0.8s,mb5.4
TIXI Tiksi 72.66 10⇑ *i*P P **20 46 41.6 -1.0**
TIRR Tirgusor 73.71 316⇑ P P **20 46 48.4 -0.9**
KIS Kishinev 74.07 319 *e*P P **20 46 49.0 -2.3**
KIS *e* 20 47 06.0
BOSA Boshof 75.02 240 P P **20 46 56.3 -0.9**
comp=Z,3.1nm,0.8s,mb4.3,baz=40,slow=5.2,SNR=4.6
VRI Vrincioaia 75.19 317⇓ *i*P P **20 46 58.1 +0.2**
MLR Muntele Rosu 75.65 317 P P **20 47 00.2 -0.3**
comp=Z,29nm,1.1s,mb5.1,baz=144,slow=1.4,SNR=21
MLR Muntele Rosu 75.65 317⇓ *i*P P **20 47 00.5 0.0**
BURAR Bucovina Array 76.59 319 P P **20 47 06.3 +0.5**
BURAR Bucovina Array 76.59 319⇑ P P **20 47 06.2 +0.5**
VTS Vitosha 77.03 313 P P **20 47 07.5 -0.8**
APA Apatity 78.61 339⇓ *i*P P **20 47 16.2 -0.2**
APA *i* pP 20 47 25.3 -0.2
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
APA MLR MLR
comp=Z,2μm,19.0s,MS5.5
KWP Kalwaria 78.63 320 *e*P P **20 47 16.9 0.0**
BZS Buzias 78.66 316 P P **20 47 16.8 -0.4**
KOLS Kolonicke sedl 78.78 320 *i*P P **20 47 18.4 +0.7**
SUW Suwalki 79.21 325 *e*P P **20 47 19.7 -0.3**
CRVS Cervenica-Dubn 79.30 319 *i*P P **20 47 21.0 +0.4**
FINES FINESS Array B 79.50 332 P P **20 47 21.2 -0.2**
comp=Z,11nm,0.8s,mb4.8,baz=104,slow=7.9,SNR=27
FINES pP pP 20 47 28.8 -1.7
comp=Z,7.7nm,0.7s,baz=104,slow=7.9,SNR=12
NIE Niedzica 80.13 320 *e*P P **20 47 24.5 -0.5**
FX1 Attu Island--F 80.17 37 P P **20 47 25.7 +0.5**
comp=Z,9.8nm,0.3s,mb5.2,baz=207,slow=2.3,SNR=20
FX1 Attu Island--F 80.17 37 *e*P P **20 47 25.1 -0.1**
PSZ Piszkesteto 80.18 318 *e*P P **20 47 25.1 -0.2**
PSZ pmax pmax
comp=Z,19nm,1.0s,mb5.0
PSZ Piszkesteto 80.18 318 *e*P P **20 47 25.1 -0.3**
comp=Z,19nm,1.0s,mb5.0
OJC Ojcow 80.58 321 *e*P P **20 47 27.2 -0.2**
BILL Bilibino 80.67 21 *e*P P **20 47 26.2 -1.3**
BILL *e* 20 50 28.1
BILL *e*S S 20 57 31.9 +0.3
BILL *e*SS SS 21 02 45.1 -2.7
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,2μm,16.0s,MS5.5
PKSM Moragy 80.80 316⇑ *e*P P **20 47 28.4 -0.2**
VYHS Vyhne 80.96 319 *i*P P **20 47 29.8 +0.4**
VYHS *i* pP pP 20 47 39.5 +1.0
RHK1 Bakonya 81.18 316 *e*P P **20 47 30.4 -0.2**
SRO Srobarova 81.22 318 *i*P P **20 47 31.9 +1.1**
OKC Ostrava-Krasne 81.58 320 *e*P P **20 47 33.2 +0.5**
OKC *e*pP pP 20 47 41.6 -0.2
MORC Moravsky Berou 81.97 320 *e*P P **20 47 34.3 -0.3**
MORC pmax pmax
comp=Z,16nm,1.1s,mb4.9
MORC Moravsky Berou 81.97 320 *e*P P **20 47 34.3 -0.3**
comp=Z,16nm,1.1s,mb4.9
ARCES ARCESS Array B 82.01 340 P P **20 47 35.0 +0.6**
comp=Z,8.5nm,0.6s,mb4.9,baz=97,slow=4.8,SNR=40
ZST Bratislava 82.07 318 *i*P P **20 47 35.8 +0.6**
ZST *i* pP pP 20 47 44.2 -0.2
KOGS Kog 82.47 316 *e*P P **20 47 37.3 0.0**
DPC Dobruska-Polom 82.81 320 *e*P P **20 47 39.7 +0.7**
DPC *e*pP pP 20 47 47.4 -0.8
KSP Ksiaz 82.88 321 *e*P P **20 47 39.6 +0.2**
KSP *e**PP pP 20 47 47.5 -1.0
KSP Ksiaz 82.88 321 *e*P P **20 47 40.2 +0.8**
UPC Upice 83.02 321 *e*P P **20 47 41.0 +0.9**
UPC *e*pP pP 20 47 48.4 -0.9
VISS Visnje 83.40 316 *e*P P **20 47 42.3 +0.2**
LJU Ljubljana 83.63 316 *e*P P **20 47 43.7 +0.3**
SDI San Donato 83.88 312 *e*P P **20 47 43.7 -1.0**
PRU Pruhonice 83.92 320 *e*P P **20 47 44.8 +0.1**
PRU *e*pP pP 20 47 53.5 -0.4
MOA Molln 83.94 318⇑ *i*P P **20 47 44.6 -0.3**
comp=Z,8.0nm,1.1s,mb4.8
PVCC Panska Ves 83.94 320 *e*P P **20 47 45.5 +0.7**
PVCC *e*pP pP 20 47 53.5 -0.5
VOY Vojsko 84.07 316 *e*P P **20 47 45.5 -0.1**
PTQR Pietraquaria 84.20 312 *e*P P **20 47 46.6 +0.3**
AQU L'Aquila 84.21 312 *e*P P **20 47 47.1 +0.7**
BRG Berggiesshubel 84.37 321 *i*P P **20 47 47.6 +0.7**
BRG *i* pP 20 47 58.2 +2.1
BRG pmax pmax
comp=Z,13nm,1.2s,mb4.9
BRG Berggiesshubel 84.37 321 *i*P P **20 47 47.6 +0.7**
comp=Z,13nm,1.2s,mb4.9
BRG *i* pP 20 47 58.2 +2.1
GEC2 GERESS Array S 84.38 319 *e*P P **20 47 47.5 +0.4**
GEC2 pmax pmax
comp=Z,22nm,1.1s,mb5.2
GEC2 GERESS Array S 84.38 319 *e*P P **20 47 47.5 +0.4**
comp=Z,22nm,1.1s,mb5.2
GERES GERESS Array B 84.38 319 P P **20 47 47.7 +0.6**
comp=Z,12nm,1.0s,mb5.0,baz=104,slow=5.5,SNR=52
NRCA Norcia 84.45 313 *e*P P **20 47 47.4 -0.1**
PTCC Patocco-Chiusa 84.47 316 *e*P P **20 47 47.5 0.0**
KHC Kasperske Hory 84.48 319 *e*P P **20 47 47.6 0.0**
KHC *e*pP pP 20 47 56.3 -0.4
KBA Koelnbreinsper 84.51 317⇑ *i*P P **20 47 47.4 -0.4**
comp=Z,11nm,1.2s,mb4.9
KBA Koelnbreinsper 84.51 317⇑ *i*P P **20 47 47.4 -0.4**
KBA pmax pmax
comp=Z,11nm,1.2s,mb4.9
GMNA Gemona 84.54 316 *e*P P **20 47 48.2 +0.3**
ARV Arcevia 84.61 313 *e*P P **20 47 48.0 -0.3**
FVI Forni Avoltri 84.87 316 *e*P P **20 47 49.6 0.0**
WET Wettzell 84.94 319 *e*P P **20 47 50.3 +0.5**
CLL Collm 84.99 321⇑ *i*P P **20 47 49.8 -0.2**
CLL *i* pP 20 47 58.6 -0.6
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
CLL Collm 84.99 321⇑ *i*P P **20 47 49.8 -0.2**
comp=Z,10.0nm,1.0s,mb4.9
CLL *i* pP 20 47 58.6 -0.6
CLL *e* 20 48 09.0
CLL Collm 84.99 321⇑ P P **20 47 49.8 -0.2**
comp=Z,logA/T=1.0,mb4.9
CLL *i* *PP pP 20 47 58.6 -0.6
CLL *e* 20 48 09.0
HFS Hagfors 85.23 330 P P **20 47 51.3 +0.2**
comp=Z,5.5nm,0.9s,mb4.7,baz=117,slow=3.2,SNR=2.6
HFS pP pP 20 48 00.3 +0.1
comp=Z,3.8nm,0.7s,baz=135,slow=2.1,SNR=2.4
NKC Novy Kostel 85.28 320 *e*P P **20 47 52.2 +0.7**
SFI Santa Sofia 85.42 314 *e*P P **20 47 53.6 +1.2**
PGD Poggio Sodo 85.51 314 *e*P P **20 47 53.7 +0.9**
CTI Castel Tesino 85.63 316 *e*P P **20 47 53.9 +0.5**
VMG Vicchio 85.64 314 *e*P P **20 47 54.7 +1.2**
WTTA Wattenberg 85.69 317⇑ *i*P P **20 47 53.3 -0.3**
comp=Z,21nm,1.3s,mb5.2
WTTA Wattenberg 85.69 317⇑ *i*P P **20 47 53.3 -0.3**
WTTA pmax pmax
comp=Z,21nm,1.3s,mb5.2
WATA Walderalm 85.73 317⇓ *i*P P **20 47 53.5 -0.3**
comp=Z,9.3nm,1.2s,mb4.9
WATA Walderalm 85.73 317⇓ *i*P P **20 47 53.5 -0.3**
WATA pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
MOX Moxa 85.83 320 *e*P P **20 47 54.7 +0.5**
MOX pmax pmax
comp=Z,11nm,1.4s,mb4.9
MOX Moxa 85.83 320 *e*P P **20 47 54.7 +0.5**
comp=Z,11nm,1.4s,mb4.9
MOX Moxa 85.83 320 *i* P P **20 47 54.7 +0.5**
comp=Z,logA/T=0.9,mb4.9
SQTA Sankt Quirin 85.97 317⇑ *i*P P **20 47 54.7 -0.4**
comp=Z,8.3nm,1.1s,mb4.9
SQTA Sankt Quirin 85.97 317⇑ *i*P P **20 47 54.7 -0.4**
SQTA pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
GRA1 Grafenberg Arr 86.05 320 *e*P P **20 47 56.0 +0.7**
comp=Z,21nm,1.1s,mb5.3
GRF Grafenberg Arr 86.05 320 *e*P P **20 47 56.0 +0.7**
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.3
GRF Grafenberg Arr 86.05 320 *e*P P **20 47 56.0 +0.7**
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.3
GRF Grafenberg Arr 86.05 320 *e*P P **20 47 56.0 +0.7**
comp=Z,21nm,1.1s,mb5.3
MOTA Moosalm 86.05 317⇑ *i*P P **20 47 54.6 -0.8**
NB2 NORSAR Subarra 86.51 331 P P **20 47 56.9 -0.5**
comp=Z,13nm,1.0s,mb5.1,baz=95,slow=4.8
NB2 NORSAR Subarra 86.51 331 P P **20 47 56.9 -0.5**
NB2 pmax pmax
comp=Z,13nm,1.0s,mb5.1
NB2 NORSAR Subarra 86.51 331 P P **20 47 56.9 -0.5**
baz=95,slow=5.1
NOA NORSAR Array B 86.51 331 P P **20 47 57.2 -0.1**
comp=Z,7.8nm,0.9s,mb4.9,baz=94,slow=4.9,SNR=21
NOA pP pP 20 48 05.8 -0.8
comp=Z,6.2nm,0.8s,baz=94,slow=4.9,SNR=11
BRMO Bormio 86.53 316 *e*P P **20 47 58.2 +0.4**
CLZ Clausthal 86.65 322 *e*P P **20 47 58.8 +0.6**
comp=Z,14nm,1.1s,mb5.1
BSEG Bad Segeberg 86.74 324 *e*P P **20 47 59.3 +0.7**
DAVA Damuels 86.88 317⇑ *i*P P **20 48 00.0 +0.5**
comp=Z,16nm,1.0s,mb5.2
TNS Taunus Mts 87.85 320 *e*P P **20 48 04.7 +0.6**
BFO Black Forest 87.93 318 *e*P P **20 48 04.8 +0.3**
BFO pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
BFO Black Forest 87.93 318 *e*P P **20 48 04.8 +0.3**
comp=Z,6.0nm,0.9s,mb4.8
SBF Sospel 88.61 314 *e*P P **20 48 07.9 0.0**
comp=Z,21nm,0.8s,mb5.2
SBF Sospel 88.61 314 *e*P P **20 48 07.9 0.0**
SBF pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
CDF Champ du Feu 88.63 318 *e*P P **20 48 07.7 -0.2**
LPG La Plagne 89.06 315 *e*P P **20 48 10.4 +0.4**
comp=Z,16nm,1.1s,mb5.0
LPG La Plagne 89.06 315 *e*P P **20 48 10.4 +0.4**
LPG pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
LPL La Plagne 89.07 315 *e*P P **20 48 10.4 +0.4**
comp=Z,30nm,1.1s,mb5.2
LPL La Plagne 89.07 315 *e*P P **20 48 10.4 +0.4**
LPL pmax pmax
comp=Z,15nm,1.1s,mb5.2
FRF La Foret Royal 89.19 313 *e*P P **20 48 10.7 +0.1**
comp=Z,89nm,1.5s,mb5.6
FRF La Foret Royal 89.19 313 *e*P P **20 48 10.7 +0.1**
FRF pmax pmax
comp=Z,44nm,1.5s,mb5.6
HAU Haudompre 89.26 318 *e*P P **20 48 10.8 -0.1**
CABF La Chapelle 89.49 316 *e*P P **20 48 12.5 +0.5**
ORIF Oris-en-Rattie 89.69 315 *e*P P **20 48 13.3 +0.3**
comp=Z,15nm,1.1s,mb4.9
ORIF Oris-en-Rattie 89.69 315 *e*P P **20 48 13.3 +0.3**
ORIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
MEZF Maizieres J'vi 90.11 318 *e*P P **20 48 15.1 +0.3**
comp=Z,45nm,1.4s,mb5.3
MAIT Maitri 90.13 199 *e*P P **20 48 16.9 +2.5**
GIVF Givet 90.18 320 *e*P P **20 48 15.5 +0.4**
comp=Z,20nm,0.9s,mb5.2
GIVF Givet 90.18 320 *e*P P **20 48 15.5 +0.4**
GIVF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
VIVF Saint-Julien-l 90.55 315 *e*P P **20 48 17.3 +0.3**
comp=Z,16nm,1.1s,mb4.9
VIVF Saint-Julien-l 90.55 315 *e*P P **20 48 17.3 +0.3**
VIVF pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
BAIF Baives 90.58 320 *e*P P **20 48 17.7 +0.8**
comp=Z,33nm,1.0s,mb5.3
BAIF Baives 90.58 320 *e*P P **20 48 17.7 +0.8**
BAIF pmax pmax
comp=Z,17nm,1.0s,mb5.3
SMF Signal de Mont 91.03 317 *e*P P **20 48 19.2 +0.1**
comp=Z,27nm,1.1s,mb5.2
SMF Signal de Mont 91.03 317 *e*P P **20 48 19.2 +0.1**
SMF pmax pmax
comp=Z,14nm,1.1s,mb5.2
LASF Ste Croix 91.18 314 *e*P P **20 48 20.4 +0.5**
comp=Z,34nm,1.4s,mb5.2
SSF Saint Saulge 91.23 317 *e*P P **20 48 20.5 +0.5**
SSF pmax pmax
comp=Z,13nm,1.4s,mb5.1
SSF Saint Saulge 91.23 317 *e*P P **20 48 20.5 +0.5**
comp=Z,13nm,1.4s,mb5.1
AVF Avril sur Loir 91.36 317 *e*P P **20 48 20.7 +0.1**
comp=Z,26nm,1.1s,mb5.2
AVF Avril sur Loir 91.36 317 *e*P P **20 48 20.7 +0.1**
AVF pmax pmax
comp=Z,13nm,1.1s,mb5.2
BGF Bois d'Agland 91.72 316 *e*P P **20 48 23.0 +0.7**
comp=Z,29nm,1.0s,mb5.2
BGF Bois d'Agland 91.72 316 *e*P P **20 48 23.0 +0.7**
BGF pmax pmax
comp=Z,15nm,1.0s,mb5.3
HYF Humbligny 91.81 317 *e*P P **20 48 23.6 +0.9**
TCF Toulx Ste Croi 92.18 316 *e*P P **20 48 24.9 +0.5**
comp=Z,35nm,1.5s,mb5.2
TCF Toulx Ste Croi 92.18 316 *e*P P **20 48 24.9 +0.5**
TCF pmax pmax
comp=Z,18nm,1.5s,mb5.2
CAF Calviac 92.40 315 *e*P P **20 48 26.3 +0.9**
MTLF Montolieu 92.42 313 *e*P P **20 48 26.2 +0.6**
RJF Les Rejaudoux 92.75 315 *e*P P **20 48 28.0 +0.9**
LDF La Druitiere 93.53 319 *e*P P **20 48 31.0 +0.5**
FLN La Foliniere 93.74 319 *e*P P **20 48 31.8 +0.3**
MFF Saint Martin d 93.77 317 *e*P P **20 48 32.0 +0.3**
comp=Z,36nm,1.3s,mb5.4
MFF Saint Martin d 93.77 317 *e*P P **20 48 32.0 +0.3**
MFF pmax pmax
comp=Z,18nm,1.3s,mb5.3
EPF Esparros 93.81 313 *e*P P **20 48 32.2 +0.2**
comp=Z,14nm,1.2s,mb5.0
EPF Esparros 93.81 313 *e*P P **20 48 32.2 +0.2**
EPF pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
DAG Danmarks Havn 94.06 348 *e*P P **20 48 31.0 -1.4**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
DAG Danmarks Havn 94.06 348 *e*P P **20 48 31.0 -1.4**
comp=Z,3.4nm,0.9s,mb4.8
DAG Danmarks Havn 94.06 348 *i* P P **20 48 31.0 -1.4**
comp=Z,3.4nm,0.9s,mb4.8
SJPF Ste Jean 94.94 313 *e*P P **20 48 37.8 +0.6**
comp=Z,12nm,1.1s,mb4.9
SJPF Ste Jean 94.94 313 *e*P P **20 48 37.8 +0.6**
SJPF pmax pmax
comp=Z,6.0nm,1.1s,mb4.9
IMA Indian Mountai 96.09 23 *e*P P **20 48 42.4 +0.5**
IMA pmax pmax
comp=Z,17nm,0.7s,mb5.6
IMA Indian Mountai 96.09 23 *e*P P **20 48 42.4 +0.5**
comp=Z,17nm,0.7s,mb5.6
MCK McKinley 98.80 24 *e*P P **20 48 54.1 -0.1**
INK Inuvik 101.97 17 P P 20 49 08.3 -0.1
comp=Z,1.0nm,0.9s,baz=326,slow=7.3,SNR=3.3
YKA Yellowknife Ar 111.57 15 PP PP 20 54 30.8 -2.6
comp=Z,5.0nm,1.0s,baz=329,slow=7.2,SNR=17

SCHQ Schefferville 122.09 349 PKP PKPdf 20 54 07.9 -5.1
comp=Z,2.1nm,0.9s,baz=328,slow=6.2,SNR=3.7
ULM Lac du Bonnet 127.01 10 PKP PKPdf 20 54 18.8 -3.8
comp=Z,4.5nm,0.8s,baz=353,slow=2.3,SNR=8.9
MTUM Tungsten Hills 128.92 37 PKP PKPdf 20 54 24.6 -2.1
PDAR Pinedale Array 129.56 25 PKP PKPdf 20 54 24.2 -3.5
comp=Z,0.9nm,0.9s,SNR=5.0
RSSD Black Hills 130.55 20 *e*PKP PKPdf 20 54 25.6 -4.1
BDFB Brasilia 143.01 246 PKP PKPdf 20 54 50.8 -2.4
comp=Z,0.9nm,0.4s,baz=59,slow=5.9,SNR=3.6
TXAR Lajitas Array 143.22 31 PKP PKPdf 20 54 47.5 -5.7
comp=Z,1.6nm,0.9s,baz=297,slow=2.8,SNR=9.5
TXAR SKPbc 20 58 16.2
comp=Z,0.6nm,0.7s,baz=326,slow=3.3,SNR=3.6
LPAZ La Paz 159.54 224 PKP PKPdf 20 55 15.9 -1.8
comp=Z,1.2nm,0.7s,baz=52,slow=5.4,SNR=5.3
LPAZ pPKP 20 55 24.2
comp=Z,0.6nm,0.3s,baz=344,slow=8.2,SNR=3.0

*BJI **28** 20:47:42.8, 1.65N×96.77E, h42km, mB5.6, mb4.7, Ms5.2, Msz4.9*
*NEIC **28** 20:47:44.3±0.3, 1.96N×96.77E, mb4.4/9, Error ellipse: s-maj=8.8km s-min=5.2km az=50.0*
*IDC **28** 20:47:44.3±0.6, 1.96N×96.75E, h24km±2km, mb4.0/17, mb1 4.1/17, mb1mx4.0/22, mbtmp4.1/17, Error ellipse: s-maj=31.0km s-min=11.0km az=48.0*
ISC 28 20:47:42.7±0.5, 1.97N±0.07×96.80E±0.08, h26km, h26km±.7km:pP-P, n45, σ0§64/42, mb4.4/31, MS5.1/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.06**	**49**	*e*P		**Pn**	**20 48 59.4**	**+0.4**
CM31	**Chiang Mai Arr**	**16.52**	**7**	*e*P		**P**	**20 51 34.1**	**-0.4**
	7.9nm,0.8s							
KKM	**Kota Kinabalu**	**19.78**	**78**	*e*P		**P**	**20 52 13.1**	**-1.1**
HYB	**Hyderabad**	**23.60**	**312**	*e*P		**P**	**20 53 02.5**	**+10**
HYB	**Hyderabad**	**23.60**	**312**	*i* P		**P**	**20 53 02.5**	**+10**
JIRN	**Jiri**	**27.49**	**339**	*e*P		**P**	**20 53 28.4**	**-0.8**
	39nm,0.8s,mb5.0							
DMN	**Daman**	**27.85**	**337**	*e*P		**P**	**20 53 32.4**	**0.0**
	16nm,0.8s,mb4.7							
KKN	**Kakani**	**27.94**	**338**	*e*P		**P**	**20 53 33.2**	**-0.1**
	25nm,0.9s,mb4.9							
LSA	**Lhasa**	**28.10**	**350**	*e*P		**P**	**20 53 34.8**	**+0.1**
	6.3nm,0.8s,mb4.3							
GKN	**Gorkha**	**28.38**	**337**	*e*P		**P**	**20 53 37.4**	**+0.2**
	40nm,1.0s,mb5.0							
KOLN	**Koldanda**	**28.60**	**335**	*e*P		**P**	**20 53 39.6**	**+0.5**
	22nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**34.70**	**126**	*e*P		**P**	**20 54 32.6**	**-0.2**
	3.7nm,0.7s,mb4.4							
FITZ	**Fitzroy Crossi**	**34.70**	**126**	P		**P**	**20 54 32.5**	**-0.3**
	2.2nm,0.7s,mb4.2,baz=291,slow=2.9,SNR=3.7							
FITZ				pP		pP	20 54 40.6	0.0
	4.8nm,0.7s,baz=313,slow=2.7,SNR=5.1							
GTA	**Gaotai**	**37.37**	**4**	*e*P		**P**	**20 54 55.3**	**+0.1**
GTA				AP		pP	20 55 03.0	+0.1
GTA				PP		PP	20 56 21.8	-1.3
GTA				PPP		PPP	20 56 41.5	-2.4
GTA				PCP		PcP	20 57 14.0	-0.3
GTA				AMB		AMB		
	comp=Z,8.0nm,0.7s,mb4.7							
GTA				AMB		AMB		
	comp=Z,905nm,6.0s							
GTA				LR		LR		
	comp=N,2μm,20.7s,MS5.1							
GTA				LR		LR		
	comp=E,2μm,18.3s,MS5.1							
GTA				LR		LR		
	comp=Z,3μm,26.1s							
JOW	**Kunigami**	**39.02**	**48**	pP		pP	20 55 16.6	-0.3
	comp=Z,10nm,0.5s,baz=221,slow=9.3,SNR=2.1							
HHC	**Hu-ho-hao-te**	**40.94**	**17**	*e*P		**P**	**20 55 26.5**	**+1.6**
HHC				AP		pP	20 55 35.8	+3.1
HHC				XP		sP	20 55 39.0	+3.1
HHC				PP		PP	20 57 05.0	+2.7
HHC				PCP		PcP	20 57 27.5	+1.9
HHC				AMB		AMB		
	comp=Z,11nm,0.4s,mb4.8							
HHC				AMB		AMB		
	comp=Z,2μm,14.3s							
HHC				LR		LR		
	comp=N,2μm,14.7s,MS5.1							
HHC				LR		LR		
	comp=E,1μm,18.6s,MS5.1							
HHC				LR		LR		
	comp=Z,6μm,39.2s							
WMQ	**Urumqi**	**42.45**	**350**	*e*P		**P**	**20 55 37.5**	**+0.2**
WMQ				AMB		AMB		
	comp=Z,7.0nm,1.0s,mb4.2							
WRA	**Warramunga Arr**	**42.78**	**122**	P		**P**	**20 55 39.9**	**-0.4**
	comp=Z,1.3nm,0.4s,mb4.0,baz=303,slow=8.8,SNR=22							
WRA				pP		pP	20 55 47.7	-0.4
	comp=Z,2.1nm,0.4s,baz=303,slow=9.0,SNR=11							
WRAB	**Tennant Creek**	**42.78**	**122**	*e*P		**P**	**20 55 40.1**	**-0.2**
	comp=Z,11nm,1.0s,mb4.5							
WB2	**Warramunga Arr**	**42.79**	**122**	*e*P		**P**	**20 55 40.9**	**+0.6**
ASPA	**Alice Springs**	**44.17**	**127**	*e*P		**P**	**20 55 51.7**	**+0.2**
ASAR	**Alice Springs**	**44.17**	**127**	P		**P**	**20 55 51.8**	**+0.3**
	comp=Z,2.0nm,0.6s,mb4.0,baz=300,slow=7.8,SNR=21							
AAK	**Ala-Archa**	**45.14**	**337**	*e*P		**P**	**20 55 59.8**	**+0.7**
	comp=Z,6.6nm,1.1s,mb4.4							
MKAR	**Makanchi Array**	**46.40**	**346**	P		**P**	**20 56 09.0**	**0.0**
	comp=Z,4.6nm,0.8s,mb4.5,baz=159,slow=7.9,SNR=24							
MKAR				pP		pP	20 56 15.7	-1.1
	comp=Z,7.5nm,0.7s,baz=165,slow=8.2,SNR=18							
SONM	**Songino Array**	**46.44**	**9**	P		**P**	**20 56 09.5**	**+0.3**
	comp=Z,2.5nm,0.8s,mb4.2,baz=189,slow=9.4,SNR=16							
SONM				PcP		PcP	20 57 44.2	+0.1
	comp=Z,1.1nm,0.5s,baz=190,slow=3.7,SNR=8.4							
SONM				pPcP			20 57 52.6	
	comp=Z,1.3nm,0.5s,baz=194,slow=3.7,SNR=8.1							
ULN	**Ulaanbaatar**	**46.57**	**9**	*e*P		**P**	**20 56 10.1**	**-0.2**
	comp=Z,3.9nm,1.1s,mb4.2							
KURK	**Kurchatov**	**50.95**	**345**	*e*P		**P**	**20 56 43.3**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.5							
STKA	**Stephens Creek**	**54.16**	**132**	*e*P		**P**	**20 57 08.4**	**+0.1**
	comp=Z,2.3nm,0.8s,mb4.2							
STKA	**Stephens Creek**	**54.16**	**132**	P		**P**	**20 57 08.5**	**+0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=242,slow=9.0,SNR=3.8							
STKA				sP		sP	20 57 18.9	-0.5
	comp=Z,3.8nm,0.9s,baz=299,slow=7.7,SNR=4.2							
BVAR	**Borovoye Array**	**55.40**	**341**	P		**P**	**20 57 16.3**	**-0.8**
	comp=Z,2.0nm,0.6s,mb4.3,baz=153,slow=9.9,SNR=11							
CHKZ	**Chkalovo**	**55.88**	**342**	*e*P		**P**	**20 57 19.2**	**-1.3**
	comp=Z,1.1nm,0.9s,mb4.9							
BRTR	**Keskin Array B**	**68.30**	**312**	P		**P**	**20 58 42.9**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=135,slow=7.0,SNR=4.6							
LBTB	**Lobatse**	**73.87**	**243**	P		**P**	**20 59 17.6**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=84,slow=8.7,SNR=4.6							
AKASG	**Malin Array Be**	**74.41**	**322**	P		**P**	**20 59 19.4**	**-0.9**
	comp=Z,1.1nm,0.5s,mb4.0,baz=91,slow=5.3,SNR=6.1							
AKASG				pP		pP	20 59 26.6	-1.9
	comp=Z,1.5nm,0.6s,baz=89,slow=5.2,SNR=4.2							
FINES	**FINESS Array B**	**79.14**	**332**	P		**P**	**20 59 46.4**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=101,slow=6.9,SNR=13							
FINES				pP		pP	20 59 54.4	-0.4
	comp=Z,1.8nm,0.6s,baz=101,slow=6.6,SNR=5.5							
ARCES	**ARCESS Array B**	**81.68**	**340**	P		**P**	**21 00 00.6**	**+0.7**
	comp=Z,5.5nm,1.0s,mb4.4,baz=72,slow=3.8,SNR=11							
ARCES				pP		pP	21 00 08.6	+0.4
	comp=Z,5.9nm,0.8s,baz=93,slow=5.0,SNR=2.9							
ARCES	**ARCESS Array B**	**81.68**	**340**	P		**P**	**21 00 00.6**	**+0.7**
ARCES				pP		pP	21 00 08.6	+0.4
GERES	**GERESS Array B**	**83.98**	**319**	P		**P**	**21 00 13.4**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.8,baz=104,slow=5.5,SNR=8.6							
GERES				pP		pP	21 00 21.5	+1.1
	comp=Z,0.5nm,0.5s,baz=104,slow=5.5,SNR=6.8							
HFS	**Hagfors**	**84.86**	**330**	P		**P**	**21 00 16.9**	**+0.6**
	comp=Z,1.0nm,0.9s,mb4.0,baz=76,slow=6.1,SNR=5.0							
HFS				pP		pP	21 00 25.7	+1.0
	comp=Z,0.5nm,0.5s,baz=104,slow=6.1,SNR=1.5							
NB2	**NORSAR Subarra**	**86.14**	**331**	P		**P**	**21 00 21.6**	**-1.1**
	comp=Z,3.9nm,1.2s,mb4.5,baz=91,slow=5.0							
NOA	**NORSAR Array B**	**86.14**	**331**	P		**P**	**21 00 22.5**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.7,baz=40,slow=9.5,SNR=2.9							
DAVOX	**Davos**	**86.46**	**317**	P		**P**	**21 00 25.0**	**+0.4**
	comp=Z,1.1nm,0.5s,mb4.3,baz=155,slow=17,SNR=4.9							
DAVOX				pP		pP	21 00 34.2	+1.2
	comp=Z,1.6nm,0.5s,baz=240,slow=16,SNR=3.8							
EKA	**Eskdalemuir Ar**	**94.06**	**326**	P		**P**	**21 01 00.8**	**+0.9**
	comp=Z,0.5nm,0.5s,mb4.2,baz=74,slow=6.1,SNR=3.5							
TXAR	**Lajitas Array**	**143.22**	**31**	PKP		PKPdf	21 07 15.6	-4.5
	comp=Z,0.1nm,0.3s,baz=225,slow=7.1,SNR=3.6							
TXAR				pPKP			21 07 23.7	
	comp=Z,0.4nm,0.5s,baz=270,slow=2.5,SNR=4.2							
TXAR	**Lajitas Array**	**143.22**	**31**	PKP		PKPdf	21 07 15.6	-4.5
TXAR				pPKP			21 07 23.7	

*IDC **28** 20:50:44.8±0.8, 1.79N×99.10E, mb4.3/14, mb1 4.5/14, mb1mx4.3/19, mbtmp4.3/14, Error ellipse: s-maj=50.4km s-min=18.2km az=50.0*
*NEIC **28** 20:50:48.8±0.4, 1.70N×99.22E, h30km, mb4.6/8, Error ellipse: s-maj=13.8km s-min=9.3km az=51.0*
*BJI **28** 20:50:48.8, 1.70N×99.20E, h30km, mB5.5, mb4.7, Ms5.0, Msz5.0*
ISC 28 20:50:47.8±0.6, 1.72N±0.09×99.23E±0.09, h33km, n42, σ0§98/37, mb4.4/23, MS5.1/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.82**	**22**	*e*P		**P**	**20 51 46.6**	**+0.8**
CM31	**Chiang Mai Arr**	**16.64**	**359**	*e*P		**P**	**20 54 41.8**	**+1.5**
	25nm,1.4s							
KKM	**Kota Kinabalu**	**17.48**	**75**	P		**P**	**20 54 49.2**	**-1.6**
LSA	**Lhasa**	**28.87**	**345**	P		**P**	**20 56 46.4**	**+0.6**
GTA	**Gaotai**	**37.52**	**1**	*e*P		**P**	**20 58 00.5**	**-0.1**
GTA				AP		pP	20 58 10.5	+0.2
GTA				XP		sP	20 58 14.5	-0.1
GTA				PP		PP	20 59 27.5	-1.8
GTA				PPP		PPP	20 59 47.5	-2.8
GTA				AMB		AMB		
	comp=Z,9.0nm,1.1s,mb4.4							
GTA				AMB		AMB		
	comp=Z,2μm,5.7s							
GTA				LR		LR		
	comp=N,1μm,20.1s,MS4.9							
GTA				LR		LR		
	comp=E,1μm,18.6s,MS4.9							
GTA				LR		LR		
	comp=Z,3μm,14.4s,MS5.2							
HHC	**Hu-ho-hao-te**	**40.52**	**14**	*e*P		**P**	**20 58 31.0**	**+5.5**
HHC				AP		pP	20 58 40.5	+5.1
HHC				XP		sP	20 58 45.0	+5.5
HHC				PCP		PcP	21 00 31.8	+3.5
HHC				SCP			21 04 16.5	
HHC				PCS			21 04 20.0	
HHC				S		**S**	**21 04 40.5**	**+8.3**
HHC				SCS		ScS	21 08 31.0	+4.4
HHC				AMB		AMB		
	comp=Z,11nm,0.2s,mb5.1							
HHC				AMB		AMB		
	comp=Z,343nm,3.9s							
HHC				LR		LR		
	comp=N,2μm,20.6s,MS5.0							
HHC				LR		LR		
	comp=E,2μm,18.6s,MS5.0							
HHC				LR		LR		
	comp=Z,5μm,21.6s,MS5.3							
WRA	**Warramunga Arr**	**40.61**	**124**	P		**P**	**20 58 27.2**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.1,baz=301,slow=9.1,SNR=7.2							
WRAB	**Tennant Creek**	**40.61**	**124**	*e*P		**P**	**20 58 26.7**	**+0.2**
	comp=Z,12nm,1.3s,mb4.4							
ASAR	**Alice Springs**	**42.11**	**129**	PcP		PcP	21 00 34.4	+0.6
	comp=Z,1.7nm,0.8s,baz=315,slow=2.8,SNR=9.7							
UCH	**Uchtor**	**46.03**	**334**	P		**P**	**20 59 10.8**	**+0.6**
	SNR=11							
TKM2	**Tokmak 2**	**46.14**	**336**	P		**P**	**20 59 10.9**	**-0.2**
	SNR=7.7							
KBK	**Karagaybulak**	**46.19**	**335**	P		**P**	**20 59 12.2**	**+0.7**
	SNR=12							
AML	**Almayashu**	**46.31**	**334**	P		**P**	**20 59 12.9**	**+0.5**
	SNR=6.2							
SONM	**Songino Array**	**46.36**	**7**	P		**P**	**20 59 13.0**	**+0.3**
	comp=Z,2.2nm,0.7s,mb4.2,baz=191,slow=8.4,SNR=5.1							
SONM				PcP		PcP	21 00 48.7	+0.8
	comp=Z,2.2nm,0.8s,baz=188,slow=3.9,SNR=7.5							
AAK	**Ala-Archa**	**46.37**	**335**	*e*P		**P**	**20 59 11.4**	**-1.5**
	comp=Z,8.2nm,1.0s,mb4.6							
ULN	**Ulaanbaatar**	**46.47**	**7**	*e*P		**P**	**20 59 13.4**	**-0.2**
	comp=Z,1.3nm,0.5s,mb4.1							
EKS2	**Erkin-Say**	**46.70**	**334**	P		**P**	**20 59 15.5**	**0.0**
	SNR=12							
USP	**Ospenovka**	**46.88**	**335**	P		**P**	**20 59 17.1**	**+0.2**
	SNR=9.0							
MKAR	**Makanchi Array**	**47.27**	**344**	P		**P**	**20 59 17.2**	**-2.7**
	comp=Z,4.2nm,0.8s,mb4.4,baz=153,slow=8.1,SNR=7.6							
KURK	**Kurchatov**	**51.85**	**343**	*e*P		**P**	**20 59 53.4**	**-1.6**
	comp=Z,7.0nm,1.1s,mb4.5							
STKA	**Stephens Creek**	**52.21**	**133**	P		**P**	**20 59 58.5**	**+0.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=301,slow=8.1,SNR=3.6							
STKA	**Stephens Creek**	**52.21**	**133**	*e*P		**P**	**20 59 56.7**	**-1.3**
BVAR	**Borovoye Array**	**56.45**	**340**	P		**P**	**21 00 27.3**	**-1.4**
	comp=Z,1.7nm,0.4s,mb4.4,baz=142,slow=10,SNR=16							
BVAR				PcP		PcP	21 01 25.6	+0.3
	comp=Z,1.6nm,0.8s,baz=180,slow=4.4,SNR=4.6							
CHKZ	**Chkalovo**	**56.91**	**340**	*e*P		**P**	**21 00 29.6**	**-2.4**
	comp=Z,9.2nm,1.2s,mb4.7							
BRTR	**Keskin Array B**	**70.28**	**312**	P		**P**	**21 01 59.3**	**-0.7**
	comp=Z,1.6nm,0.8s,mb4.0,baz=121,slow=7.2,SNR=6.5							
AKASG	**Malin Array Be**	**76.10**	**322**	P		**P**	**21 02 33.0**	**-0.9**
	comp=Z,2.8nm,1.0s,mb4.1,baz=87,slow=5.1,SNR=8.1							
MLR	**Muntele Rosu**	**77.09**	**316**	P		**P**	**21 02 40.2**	**+0.5**
	comp=Z,5.2nm,1.0s,mb4.4,baz=141,slow=0.7,SNR=4.2							
MLR	**Muntele Rosu**	**77.09**	**316**	P		**P**	**21 02 40.2**	**+0.5**
FINES	**FINESS Array B**	**80.49**	**332**	P		**P**	**21 02 57.8**	**-0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=104,slow=6.2,SNR=12							
ARCES	**ARCESS Array B**	**82.74**	**340**	P		**P**	**21 03 10.3**	**+0.8**
	comp=Z,6.7nm,1.0s,mb4.6,baz=90,slow=4.9,SNR=6.5							
GERES	**GERESS Array B**	**85.77**	**319**	P		**P**	**21 03 24.9**	**-0.2**
	comp=Z,1.5nm,1.0s,mb4.2,baz=101,slow=6.8,SNR=8.6							
HFS	**Hagfors**	**86.29**	**330**	P		**P**	**21 03 28.2**	**+0.8**
	comp=Z,5.5nm,0.8s,mb4.8,baz=117,slow=3.3,SNR=14							
NB2	**NORSAR Subarra**	**87.55**	**331**	P		**P**	**21 03 33.6**	**+0.2**
	comp=Z,3.5nm,0.9s,mb4.6,baz=94,slow=4.6							
NOA	**NORSAR Array B**	**87.55**	**331**	P		**P**	**21 03 34.1**	**+0.7**
	comp=Z,2.4nm,0.9s,mb4.5,baz=93,slow=4.8,SNR=8.4							
DAVOX	**Davos**	**88.32**	**317**	P		**P**	**21 03 38.7**	**+1.2**
	comp=Z,1.3nm,0.7s,mb4.2,baz=145,slow=12,SNR=4.8							
LPG	**La Plagne**	**90.53**	**315**	*e*P		**P**	**21 03 48.6**	**+0.6**
	comp=Z,10nm,0.9s,mb4.9							
IMA	**Indian Mountai**	**95.32**	**23**	*e*P		**P**	**21 04 10.7**	**+1.3**
	comp=Z,5.9nm,0.8s,mb5.1							
ULM	**Lac du Bonnet**	**126.64**	**12**	PKP		PKPdf	21 09 49.9	+1.7
	comp=Z,0.7nm,0.4s,baz=290,slow=0.6,SNR=4.3							
PDAR	**Pinedale Array**	**128.68**	**27**	PKP		PKPdf	21 09 55.1	+2.9
	comp=Z,0.7nm,0.7s,baz=270,slow=1.5,SNR=4.0							
TXAR	**Lajitas Array**	**142.14**	**34**	PKP		PKPdf	21 10 17.7	+0.2
	comp=Z,0.9nm,0.7s,baz=270,slow=1.3,SNR=4.0							
TXAR	**Lajitas Array**	**142.14**	**34**	PKP		PKPdf	21 10 17.7	+0.2
BDFB	**Brasilia**	**144.87**	**245**	PKP		PKPdf	21 10 25.0	+2.5
	comp=Z,5.5nm,0.8s,baz=189,slow=1.8,SNR=6.6							

*BJI **28** 20:52:30.6, 0.22N×97.53E, h30km, mB4.9, mb4.5*
*IDC **28** 20:52:32.9±2.0, 0.78N×96.62E, mb4.0/7, mb1 4.1/7, mb1mx3.8/17, mbtmp4.0/7, Error ellipse: s-maj=95.2km s-min=19.5km az=56.0*
*NEIC **28** 20:52:38.6±1.0, 1.05N×97.02E, h30km, mb4.2/4, Error ellipse: s-maj=40.7km s-min=11.2km az=58.0*
ISC 28 20:52:36.8±1.1, 1.1N±0.2×97.0E±0.3, h30km, n16, σ0§96/16, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**31.37**	**21**	*e*P		**P**	**20 58 55.7**	**-1.7**
	8.9nm,0.9s,mb4.6							
GTA	**Gaotai**	**38.26**	**3**	*e*P		**P**	**20 59 57.0**	**+0.8**
GTA				AP		pP	21 00 05.0	-0.2
GTA				AMB		AMB		
	comp=Z,7.0nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**42.09**	**122**	P		**P**	**21 00 28.4**	**+0.2**
	comp=Z,1.6nm,0.8s,mb3.7,baz=295,slow=9.5,SNR=9.7							
WRAB	**Tennant Creek**	**42.10**	**122**	*e*P		**P**	**21 00 28.2**	**0.0**
	comp=Z,2.0nm,0.6s,mb3.9							
ASAR	**Alice Springs**	**43.43**	**127**	P		**P**	**21 00 39.4**	**+0.3**
	comp=Z,1.1nm,0.9s,mb3.6,baz=298,slow=9.1,SNR=4.6							
ASAR	**Alice Springs**	**43.43**	**127**	P		**P**	**21 00 39.4**	**+0.3**
AAK	**Ala-Archa**	**46.07**	**337**	P		**P**	**21 01 02.4**	**+2.4**
SONM	**Songino Array**	**47.30**	**9**	P		**P**	**21 01 10.3**	**+0.7**
	comp=Z,1.8nm,0.9s,mb4.0,baz=198,slow=7.6,SNR=8.2							
MKAR	**Makanchi Array**	**47.34**	**346**	P		**P**	**21 01 10.8**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=162,slow=8.8,SNR=7.1							
MKAR	**Makanchi Array**	**47.34**	**346**	P		**P**	**21 01 10.8**	**+0.8**
ULN	**Ulaanbaatar**	**47.43**	**9**	*e*P		**P**	**21 01 10.8**	**+0.2**
KURK	**Kurchatov**	**51.89**	**345**	*e*P		**P**	**21 01 44.5**	**-0.3**
	comp=Z,2.1nm,0.7s,mb4.2							
STKA	**Stephens Creek**	**53.38**	**132**	P		**P**	**21 01 56.0**	**-0.1**
	comp=Z,2.8nm,1.0s,mb4.2,baz=280,slow=9.5,SNR=3.1							
BVAR	**Borovoye Array**	**56.34**	**341**	P		**P**	**21 02 17.1**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=5.6							
CHKZ	**Chkalovo**	**56.81**	**342**	*e*P		**P**	**21 02 19.9**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.3							
FINES	**FINESS Array B**	**80.05**	**333**	P		**P**	**21 04 43.1**	**-1.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=141,slow=18,SNR=3.8							

*IDC **28** 20:56:54.3±3.9, 3.50N×97.37E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=147.3km s-min=28.2km az=59.0*
*NEIC **28** 20:56:58.8±1.1, 3.60N×97.52E, h30km, mb4.0/3, Error ellipse: s-maj=25.4km s-min=14.7km az=46.0*
ISC 28 20:56:56.7±1.3, 3.6N±0.2×97.5E±0.2, h30km, n7, σ0§76/7, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.60**	**62**	*e*P		**Pn**	**20 57 51.6**	**-0.4**
WRA	**Warramunga Arr**	**43.12**	**124**	P		**P**	**21 04 56.8**	**+0.3**
	0.7nm,0.4s,mb3.8,baz=303,slow=9.1,SNR=8.7							
WRAB	**Tennant Creek**	**43.12**	**124**	*e*P		**P**	**21 04 56.4**	**-0.2**
	4.5nm,0.9s,mb4.2							
SONM	**Songino Array**	**44.74**	**9**	P		**P**	**21 05 10.4**	**+1.1**
	0.5nm,0.4s,mb3.7,baz=192,slow=9.4,SNR=11							
MKAR	**Makanchi Array**	**45.00**	**345**	P		**P**	**21 05 11.8**	**+0.4**
	0.6nm,0.4s,mb3.8,baz=152,slow=9.2,SNR=11							
KURK	**Kurchatov**	**49.56**	**344**	P		**P**	**21 05 47.2**	**+0.1**
	0.8nm,0.8s,mb3.8							
CHKZ	**Chkalovo**	**54.56**	**341**	*e*P		**P**	**21 06 22.8**	**-1.6**
	0.7nm,0.4s,mb4.0							

IDC 28 20:58:21.0±4.3, 1.27N×99.69E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=167.7km s-min=30.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.98**	**124**	P		P	21 05 57.7	-1.7
	0.4nm,0.6s,baz=301,slow=9.0,SNR=6.0							
SONM	**Songino Array**	**46.74**	**6**	P		P	21 06 51.7	-2.0
	0.3nm,0.4s,baz=180,slow=4.3,SNR=5.0							
MKAR	**Makanchi Array**	**47.82**	**344**	P		P	21 07 00.5	-1.8
	0.5nm,0.5s,baz=171,slow=8.6,SNR=6.0							

IDC 28 20:59:04.2±4.5, 1.90N×97.44E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=170.2km s-min=29.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.20**	**123**	P		P	21 06 59.1	-1.8
	0.3nm,0.7s,baz=303,slow=9.0,SNR=3.2							
WRA				pP		pP	21 07 05.6	+4.7
	0.3nm,0.4s,baz=306,slow=9.0,SNR=6.9							
SONM	**Songino Array**	**46.41**	**8**	P		P	21 07 33.0	-1.4
	0.3nm,0.4s,baz=191,slow=9.6,SNR=6.6							
SONM				pP		pP	21 07 40.9	+6.6
	0.5nm,0.7s,baz=189,slow=10,SNR=4.0							
MKAR	**Makanchi Array**	**46.62**	**346**	P		P	21 07 33.9	-2.2
	0.9nm,0.7s,baz=157,slow=9.2,SNR=5.6							

*IDC **28** 20:59:40.7±2.8, 1.31N×97.13E, mb3.7/6, mb1 3.9/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=121.8km s-min=19.2km az=57.0*
*NEIC **28** 20:59:45.1±0.8, 1.33N×97.17E, h30km, mb4.1/3, Error ellipse: s-maj=21.1km s-min=10.0km az=61.0*
*BJI **28** 20:59:48.3, 0.53N×97.25E, h29km, mb4.5*
ISC 28 20:59:44.3±8.0, 1.4N±0.3×97.2E±0.4, h39km±62km, n11, σ0§73/11, mb3.8/9, Northern Sumatera

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

s-min=16.7km az=52.0

*BJI **28** 21:01:04.1,0.34N×97.56E,h39km,mB4.6,mb4.4*
*NEIC **28** 21:01:08.4±0.5,0.92N×97.34E,h30km,mb4.4/5,Error ellipse: s-maj=15.6km s-min=7.9km az=56.0*

ISC 28 21:01:07.1±0.7,0.90N±0.09×97.3E±0.1,h33km,n23,σ0s98/23,mb4.2/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.48**	**37**	*eP*	**P**	**21 02 28.2**	**-0.2**
KMI	**Kunming**	**24.64**	**12**	P	**P**	**21 06 28.5**	**+2.4**
KMI				AP		21 06 38.5	
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.3						
ENH	**Enshi**	**31.41**	**20**	*eP*	**P**	**21 07 25.9**	**-1.6**
	comp=Z,8.0nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.65**	**126**	P	**P**	**21 07 45.3**	**-1.9**
	comp=Z,1.4nm,0.5s,mb4.2,baz=342,slow=8.5,SNR=4.1						
GTA	**Gaotai**	**38.40**	**3**	*eP*	**P**	**21 08 28.0**	**+0.9**
GTA				AP	pP	21 08 35.8	-1.1
GTA				XP	sP	21 08 39.5	-1.6
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WRA	**Warramunga Arr**	**41.77**	**122**	P	**P**	**21 08 56.0**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.8,baz=301,slow=9.1,SNR=7.3						
WRAB	**Tennant Creek**	**41.78**	**122**	*eP*	**P**	**21 08 55.3**	**-0.1**
	comp=Z,1.9nm,0.6s,mb3.9						
BJI	**Beijing**	**42.57**	**22**	P	**P**	**21 09 02.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,17nm,0.7s,mb4.9						
ASAR	**Alice Springs**	**43.12**	**127**	P	**P**	**21 09 07.1**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.6,baz=307,slow=6.9,SNR=4.8						
AAK	**Ala-Archa**	**46.32**	**337**	P	**P**	**21 09 31.6**	**-0.1**
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**21 09 40.7**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=191,slow=9.7,SNR=6.4						
SONM				PcP	PcP	21 11 10.9	+0.1
	comp=Z,0.8nm,0.8s,baz=194,slow=3.6,SNR=5.8						
ULN	**Ulaanbaatar**	**47.54**	**9**	*eP*	**P**	**21 09 41.0**	**-0.2**
MKAR	**Makanchi Array**	**47.56**	**346**	P	**P**	**21 09 42.0**	**+0.5**
	comp=Z,4.7nm,0.8s,mb4.6,baz=153,slow=8.1,SNR=9.7						
TLY	**Talaya**	**50.88**	**5**	*eP*	**P**	**21 10 05.7**	**-1.2**
	comp=Z,80nm,2.8s,mb5.2						
KURK	**Kurchatov**	**52.11**	**345**	*eP*	**P**	**21 10 15.6**	**-0.6**
	comp=Z,1.8nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**21 10 23.8**	**+0.2**
	comp=Z,1.4nm,0.6s,mb4.0,baz=294,slow=10.0,SNR=3.1						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**21 10 23.8**	**+0.2**
BVAR	**Borovoye Array**	**56.57**	**341**	P	**P**	**21 10 48.2**	**-0.6**
	comp=Z,1.7nm,0.5s,mb4.3,baz=135,slow=8.4,SNR=7.1						
CHKZ	**Chkalovo**	**57.05**	**341**	*eP*	**P**	**21 10 51.0**	**-1.2**
	comp=Z,2.9nm,0.6s,mb4.5						
KIV	**Kislovodsk**	**64.61**	**319**	P	**P**	**21 11 42.8**	**-0.8**
FINES	**FINESS Array B**	**80.32**	**333**	P	**P**	**21 13 15.7**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.7,baz=112,slow=10,SNR=3.7						
GERES	**GERESS Array B**	**85.12**	**319**	P	**P**	**21 13 42.6**	**+1.5**
	comp=Z,0.2nm,0.6s,mb3.5,baz=143,slow=6.7,SNR=4.5						
NOA	**NORSAR Array B**	**87.33**	**331**	P	**P**	**21 13 52.7**	**+1.1**
	comp=Z,0.7nm,0.8s,mb3.9,baz=95,slow=4.6,SNR=3.4						

*IDC **28** 21:03:09.3±2.8,1.20N×97.15E,mb4.0/6,mb1 4.1/6,mb1mx3.8/18,mbtmp4.0/6,Error ellipse: s-maj=119.4km s-min=19.6km az=56.0*

*BJI **28** 21:03:10.9,1.20N×97.20E,h10km,mb4.6*
*NEIC **28** 21:03:13.9±0.9,1.22N×97.22E,h30km,mb4.5/2,Error ellipse: s-maj=23.2km s-min=11.6km az=59.0*

ISC 28 21:03:12.4±1.0,1.2N±0.1×97.2E±0.2,h33km,n16,σ0s99/16,mb4.2/11,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**40**	P	**P**	**21 04 31.5**	**-0.2**
KMI	**Kunming**	**24.38**	**12**	P	**P**	**21 08 31.0**	**+2.0**
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.2						
GYA	**Guiyang**	**26.72**	**19**	⇑*iP*	**P**	**21 08 50.8**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
LSA	**Lhasa**	**28.92**	**349**	*eP*	**P**	**21 09 13.0**	**+2.2**
	comp=Z,4.5nm,0.7s,mb4.3						
ENH	**Enshi**	**31.18**	**21**	*eP*	**P**	**21 09 29.0**	**-1.9**
	comp=Z,10nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.93**	**126**	P	**P**	**21 09 54.0**	**-0.9**
	comp=Z,2.8nm,1.0s,mb4.2,baz=277,slow=3.4,SNR=3.7						
GTA	**Gaotai**	**38.11**	**3**	*eP*	**P**	**21 10 30.5**	**+0.4**
GTA				AP	pP	21 10 38.5	-1.3
GTA				XP	sP	21 10 41.8	-2.3
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**21 11 03.5**	**+0.6**
	comp=Z,1.4nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=7.6						
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**21 11 14.7**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.5,baz=299,slow=7.5,SNR=4.5						
AAK	**Ala-Archa**	**46.00**	**337**	P	**P**	**21 11 34.2**	**-0.3**
SONM	**Songino Array**	**47.13**	**8**	P	**P**	**21 11 43.7**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.1,baz=187,slow=8.9,SNR=9.0						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**21 11 44.2**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=156,slow=9.5,SNR=12						
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**	**21 11 44.2**	**-0.1**
ULN	**Ulaanbaatar**	**47.27**	**9**	*eP*	**P**	**21 11 43.9**	**-0.6**
KURK	**Kurchatov**	**51.79**	**345**	*eP*	**P**	**21 12 18.5**	**-0.7**
BVAR	**Borovoye Array**	**56.25**	**341**	P	**P**	**21 12 50.8**	**-1.0**
	comp=Z,1.2nm,0.5s,mb4.2,baz=158,slow=8.0,SNR=7.3						

IGQ 28 21:03:36.5,0.09S×80.18W,h12km±5km,mb4.0,3C-2D,Error ellipse: s-maj=4.7km s-min=4.6km az=174.2,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOR1	**San Jorge 1**	**1.54**	**87**	P	Pn	21 04 04.7	+0.8
PINO	**Pino**	**1.57**	**92**	⇑P	Pn	21 04 05.8	+1.5
TERV	**Terraza Guagua**	**1.57**	**93**	P	Pn	21 04 05.9	+1.5
JUA2	**San Juan 2**	**1.58**	**94**	P	Pn	21 04 05.4	+1.0
YANA	**Yana**	**1.60**	**91**	⇓P	Pn	21 04 06.0	+1.2
YANA				S	Sn	21 04 29.3	+3.7
NAS1	**Nasa**	**1.78**	**108**	P	Pn	21 04 10.5	+3.1
VC1	**Cotopaxi 1**	**1.86**	**107**	P	Pn	21 04 11.7	+3.2
COTA	**Cotacachi**	**1.89**	**77**	⇑P	Pn	21 04 10.2	+1.3
TAMB	**Tambo**	**1.91**	**108**	P	Pn	21 04 12.4	+3.3
LORE	**San Lorenzo**	**1.92**	**44**	⇓P	Pn	21 04 11.4	+2.1
LORE				S	Sn	21 04 35.7	+2.2
ANTI	**Antisana**	**2.05**	**100**	P	Pn	21 04 14.1	+3.0
ANTI				S	Sn	21 04 40.0	+3.1
CAYR	**Refugio Cayamb**	**2.17**	**87**	⇑P	Pn	21 04 16.0	+3.0
ELAGU	**Cayambe Volc**	**2.19**	**88**	P	Pn	21 04 16.5	+3.3
CAYA	**Cayambe**	**2.19**	**86**	P	Pn	21 04 16.0	+2.7
ECEN	**Cerro Negro**	**2.38**	**68**	P	Pn	21 04 17.1	+1.1
ECEN				S	Sn	21 04 48.4	+3.0

IDC 28 21:04:42.5±4.3,2.13N×96.85E,mb3.6/3,mb1 3.7/3,mb1mx3.5/15,mbtmp3.6/3,Error ellipse: s-maj=160.8km s-min=29.2km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.82**	**123**	P	P	21 12 42.5	-1.8
	0.7nm,0.6s,baz=302,slow=9.0,SNR=4.3						
MKAR	**Makanchi Array**	**46.26**	**346**	P	P	21 13 09.4	-2.2
	0.6nm,0.5s,baz=163,slow=8.7,SNR=2.9						
SONM	**Songino Array**	**46.27**	**9**	P	P	21 13 10.2	-1.4
	0.3nm,0.5s,baz=191,slow=9.1,SNR=3.2						

*IDC **28** 21:05:51.0±0.9,0.97N×97.08E,mb4.2/13,mb1 4.2/13,mb1mx4.1/19,mbtmp4.2/13,Error ellipse: s-maj=42.7km s-min=15.1km az=50.0*

*BJI **28** 21:05:52.7,0.58N×97.50E,h42km,mB4.6,mb4.5*
*NEIC **28** 21:05:55.6±0.4,1.01N×97.20E,h30km,mb4.4/8,Error ellipse: s-maj=15.1km s-min=6.5km az=51.0*

ISC 28 21:05:54.4±0.6,1.01N±0.09×97.2E±0.1,h33km,n34,σ0s84/33,mb4.4/25,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.47**	**39**	*eP*	**P**	**21 07 14.7**	**-0.9**
KMI	**Kunming**	**24.56**	**12**	P	**P**	**21 11 15.0**	**+2.3**
KMI				XP		21 11 32.8	
KMI				AMB	AMB		
	comp=Z,26nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,953nm,13.2s						
GYA	**Guiyang**	**26.89**	**19**	⇑*iP*	**P**	**21 11 33.5**	**-1.0**
GYA				AP	pP	21 11 42.8	-1.1
GYA				PP	PP	21 12 19.3	-0.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.2s						
JIRN	**Jiri**	**28.52**	**339**	*eP*	**P**	**21 11 48.0**	**-1.2**
PKI	**Pulchoki**	**28.73**	**338**	*eP*	**P**	**21 11 50.7**	**-0.4**
DMN	**Daman**	**28.88**	**337**	*eP*	**P**	**21 11 52.2**	**-0.2**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**28.98**	**338**	*eP*	**P**	**21 11 53.2**	**0.0**
LSA	**Lhasa**	**29.11**	**349**	*eP*	**P**	**21 11 55.2**	**+0.8**
	comp=Z,2.2nm,0.4s,mb4.2						
GKN	**Gorkha**	**29.41**	**337**	*eP*	**P**	**21 11 57.3**	**+0.2**
	comp=Z,28nm,1.0s,mb5.0						
KOLN	**Koldanda**	**29.63**	**335**	*eP*	**P**	**21 12 00.0**	**+0.9**
	comp=Z,19nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**21 12 35.1**	**-0.7**
	comp=Z,2.2nm,0.6s,mb4.3,slow=12,SNR=4.5						
JOW	**Kunigami**	**39.37**	**47**	P	**P**	**21 13 22.1**	**-0.6**
	comp=Z,12nm,0.8s,mb4.7,baz=291,slow=17,SNR=2.6						
WRA	**Warramunga Arr**	**41.93**	**122**	P	**P**	**21 13 44.1**	**+0.1**
	comp=Z,1.8nm,0.8s,mb3.8,baz=301,slow=9.1,SNR=9.2						
WRAB	**Tennant Creek**	**41.94**	**122**	*eP*	**P**	**21 13 43.4**	**-0.7**
	comp=Z,6.3nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**41.94**	**122**	*eP*	**P**	**21 13 44.3**	**+0.2**
BJI	**Beijing**	**42.51**	**22**	P	**P**	**21 13 49.5**	**+1.0**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**21 13 55.4**	**+0.4**
	comp=Z,1.9nm,0.8s,mb3.9,baz=304,slow=8.0,SNR=12						
WMQ	**Urumqi**	**43.46**	**350**	P	**P**	**21 13 57.5**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.3						
AAK	**Ala-Archa**	**46.17**	**337**	P	**P**	**21 14 17.8**	**-0.1**
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**21 14 27.3**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.6,baz=188,slow=9.0,SNR=24						
SONM				PcP	PcP		
	comp=Z,1.5nm,0.7s,baz=181,slow=3.3,SNR=4.6					21 15 58.3	+0.5
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**21 14 28.3**	**+0.7**
	comp=Z,4.5nm,0.8s,mb4.5,baz=162,slow=7.7,SNR=16						
CN2	**Changchun**	**49.47**	**27**	*eP*	**P**	**21 14 43.3**	**-0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
KURK	**Kurchatov**	**51.97**	**345**	*eP*	**P**	**21 15 01.4**	**-1.0**
	comp=Z,3.5nm,0.8s,mb4.3						
STKA	**Stephens Creek**	**53.23**	**132**	*eP*	**P**	**21 15 12.9**	**+0.8**
	comp=Z,2.3nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**21 15 13.1**	**+1.0**
	comp=Z,2.3nm,0.6s,mb4.3,baz=318,slow=6.8,SNR=7.8						
BVAR	**Borovoye Array**	**56.43**	**341**	P	**P**	**21 15 34.2**	**-0.9**
	comp=Z,2.1nm,0.8s,mb4.2,baz=141,slow=9.5,SNR=9.9						
CHKZ	**Chkalovo**	**56.91**	**341**	*eP*	**P**	**21 15 37.2**	**-1.3**
	comp=Z,2.6nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**69.24**	**312**	P	**P**	**21 16 58.5**	**-1.7**
	comp=Z,0.4nm,0.7s,mb3.5,baz=135,slow=6.1,SNR=2.8						
FINES	**FINESS Array B**	**80.17**	**333**	P	**P**	**21 18 03.1**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=56,slow=5.0,SNR=3.4						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**21 18 16.4**	**+0.6**
	comp=Z,3.3nm,0.9s,mb4.4,baz=97,slow=7.3,SNR=5.2						
GERES	**GERESS Array B**	**84.96**	**319**	P	**P**	**21 18 27.8**	**+0.2**
	comp=Z,1.0nm,0.9s,mb3.9,baz=101,slow=5.0,SNR=7.8						
NB2	**NORSAR Subarra**	**87.17**	**331**	P	**P**	**21 18 38.9**	**+0.7**
	comp=Z,0.1nm,0.7s,baz=93,slow=5.8						
NOA	**NORSAR Array B**	**87.17**	**331**	P	**P**	**21 18 38.9**	**+0.7**
	comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf	21 25 27.3	+0.4
	comp=Z,0.2nm,0.5s,baz=225,slow=2.6,SNR=2.3						

*IDC **28** 21:07:45.1±0.7,1.20N×97.00E,mb4.4/16,mb1 4.6/16,mb1mx4.4/21,mbtmp4.4/16,Error ellipse: s-maj=34.2km s-min=13.5km az=46.0*

*BJI **28** 21:07:46.7,0.85N×97.34E,h45km,mB5.6,mb4.9,Ms5.3,Msz5.2*
*MOS **28** 21:07:48.6±1.1,1.39N×97.30E,h33km,mb4.9/14,Error ellipse: s-maj=18.6km s-min=8.0km az=113.1*
*NEIC **28** 21:07:49.8±0.4,1.29N×97.21E,h30km,mb4.8/14,Error ellipse: s-maj=11.0km s-min=6.2km az=219.0*

ISC 28 21:07:49.9±1.4,1.29N±0.06×97.22E±0.06,h46km±12km,h32km±.8km:pP-P,n86,σ1s01/87,mb4.8/54,MS5.2/7,5C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.01**	**49**	P	**P**	**21 09 05.1**	**+0.5**
KULM	**Kulim**	**5.25**	**41**	*eP*	**P**	**21 09 06.8**	**-1.0**
KGM	**Kluang**	**6.14**	**83**	P	**P**	**21 09 21.8**	**+1.4**
KSM	**Kuching**	**13.09**	**89**	P	**P**	**21 10 53.5**	**-2.1**
KKM	**Kota Kinabalu**	**19.53**	**76**	*eP*	**P**	**21 12 15.5**	**-1.0**
KKM	**Kota Kinabalu**	**19.53**	**76**	P	**P**	**21 12 17.5**	**+1.0**
TSM	**Tawau**	**20.84**	**81**	P	**P**	**21 12 30.7**	**+0.4**
QIZ	**Qiongzhong**	**21.54**	**34**	P	**P**	**21 12 37.3**	**0.0**
QIZ	**Qiongzhong**	**21.54**	**34**	*eP*	**P**	**21 12 36.4**	**-0.9**
	43nm,1.4s,mb4.7						
KMI	**Kunming**	**24.29**	**12**	⇑P	**P**	**21 13 06.0**	**+1.7**
KMI				AP		21 13 13.0	
KMI				XP		21 13 18.8	
KMI				S	**S**	**21 17 18.3**	**+1.2**
KMI				SS	SS	21 18 16.0	+3.4
KMI				AMB	AMB		
	comp=Z,80nm,1.7s,mb4.9						
KMI				AMB	AMB		
	comp=Z,1μm,12.8s						
KMI				LR	LR		
	comp=N,5μm,15.1s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,14.5s,MS5.2						
KMI				LR	LR		
	comp=Z,6μm,19.6s						
HYB	**Hyderabad**	**24.36**	**312**	*eP*	**P**	**21 13 07.5**	**+2.4**
HYB	**Hyderabad**	**24.36**	**312**	*i P*	**P**	**21 13 07.5**	**+2.4**
GYA	**Guiyang**	**26.62**	**19**	⇑*iP*	**P**	**21 13 25.5**	**-0.8**
GYA				AP	pP	21 13 35.0	-3.2
GYA				XP	sP	21 13 38.5	-5.4
GYA				PP	PP	21 14 09.5	-1.8
GYA				S	**S**	**21 17 56.0**	**+0.1**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,80nm,5.0s						
GYA				LR	LR		
	comp=N,7μm,17.0s,MS5.4						
GYA				LR	LR		
	comp=E,5μm,16.0s,MS5.4						
GYA				LR	LR		
	comp=Z,6μm,15.4s,MS5.3						
JIRN	**Jiri**	**28.27**	**339**	*eP*	**P**	**21 13 41.7**	**+0.5**
	comp=Z,56nm,0.8s,mb5.3						
PKI	**Pulchoki**	**28.48**	**338**	*eP*	**P**	**21 13 43.0**	**-0.1**
	comp=Z,35nm,0.8s,mb5.0						
DMN	**Daman**	**28.63**	**337**	*eP*	**P**	**21 13 44.8**	**+0.4**
	comp=Z,35nm,0.9s,mb5.1						
KKN	**Kakani**	**28.72**	**338**	*eP*	**P**	**21 13 45.6**	**+0.3**
	comp=Z,109nm,1.3s,mb5.4						
LSA	**Lhasa**	**28.84**	**349**	P	**P**	**21 13 47.5**	**+1.3**
LSA	**Lhasa**	**28.84**	**349**	*eP*	**P**	**21 13 47.5**	**+1.3**
LSA				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
LSA	**Lhasa**	**28.84**	**349**	*eP*	**P**	**21 13 47.5**	**+1.2**
	comp=Z,11nm,0.7s,mb4.7						
GKN	**Gorkha**	**29.16**	**337**	*eP*	**P**	**21 13 49.4**	**+0.2**
	comp=Z,53nm,0.9s,mb5.2						
KOLN	**Koldanda**	**29.38**	**335**	*eP*	**P**	**21 13 51.6**	**+0.5**
	comp=Z,30nm,0.6s,mb5.2						
ENH	**Enshi**	**31.09**	**21**	*eP*	**P**	**21 14 04.4**	**-1.8**
	comp=Z,44nm,0.6s,mb5.5						
PTH	**Pithoragarh**	**32.43**	**332**	*eP*	**P**	**21 14 18.1**	**+0.1**
WHN	**Wuhan**	**33.33**	**28**	P	**P**	**21 14 26.3**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.97**	**126**	*eP*	**P**	**21 14 30.5**	**-0.9**
	comp=Z,12nm,0.8s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.97**	**126**	P	**P**	**21 14 31.3**	**-0.1**
	comp=Z,7.9nm,0.7s,mb4.7,baz=348,slow=4.0,SNR=13						
XAN	**Xi'an**	**34.37**	**17**	P	**P**	**21 14 33.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,44nm,1.2s,mb5.3						
LZH	**Lanzhou**	**35.16**	**9**	⇑P	**P**	**21 14 41.5**	**0.0**
LZH				AMB	AMB		
	comp=Z,77nm,1.8s,mb5.3						
LZH				AMB	AMB		
	comp=Z,520nm,6.7s						
LZH				LR	LR		
	comp=N,3μm,15.4s						
LZH				LR	LR		
	comp=Z,4μm,16.0s,MS5.2						
KAKA	**Kakadu**	**37.62**	**113**	*eP*	**P**	**21 15 01.3**	**-1.1**
	comp=Z,26nm,1.2s,mb4.8						
GTA	**Gaotai**	**38.02**	**3**	P	**P**	**21 15 05.5**	**+0.1**
GTA				AP	pP	21 15 14.5	-3.4
GTA				XP	sP	21 15 17.8	-5.8
GTA				PP	PP	21 16 37.3	+1.3
GTA				PPP	PPP	21 16 56.8	-1.7
GTA				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.6						
GTA				AMB	AMB		
	comp=Z,993nm,7.2s						
GTA				LR	LR		
	comp=N,2μm,14.4s,MS5.0						
GTA				LR	LR		
	comp=E,956nm,12.9s,MS5.0						
GTA				LR	LR		
	comp=Z,5μm,18.3s						
JOW	**Kunigami**	**39.17**	**47**	P	**P**	**21 15 16.6**	**+1.4**
	comp=Z,33nm,0.5s,mb5.3,baz=231,slow=6.0,SNR=12						
HHC	**Hu-ho-hao-te**	**41.47**	**16**	*eP*	**P**	**21 15 36.3**	**+2.3**
HHC				AP	pP	21 15 46.0	-0.6
HHC				XP	sP	21 15 50.0	-2.2
HHC				PP	PP	21 17 14.3	+1.1
HHC				AMB	AMB		
	comp=Z,19nm,0.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,527nm,4.4s						
HHC				LR	LR		
	comp=N,3μm,18.1s,MS5.2						
HHC				LR	LR		
	comp=E,1μm,16.7s,MS5.2						
HHC				LR	LR		
	comp=Z,5μm,19.6s,MS5.4						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**21 15 39.7**	**+0.5**
	comp=Z,4.3nm,0.5s,mb4.3,baz=302,slow=9.1,SNR=26						
WRAB	**Tennant Creek**	**42.07**	**122**	*eP*	**P**	**21 15 38.9**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.7						
WRAB	**Tennant Creek**	**42.07**	**122**	*eP*	**P**	**21 15 38.9**	**-0.3**
	comp=Z,8.4nm,0.4s,mb4.7						
WB2	**Warramunga Arr**	**42.08**	**122**	*eP*	**P**	**21 15 39.7**	**+0.4**
BJI	**Beijing**	**42.25**	**22**	P	**P**	**21 15 41.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
WMQ	**Urumqi**	**43.19**	**350**	⇑*iP*	**P**	**21 15 49.3**	**+1.2**
WMQ				AP	pP	21 15 59.0	-1.7
WMQ				XP	sP	21 16 03.0	-3.3
WMQ				PP	PP	21 17 32.0	+1.1
WMQ				PPP	PPP	21 18 07.5	+0.8
WMQ				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,195nm,4.3s						
WMQ				LR	LR		
	comp=N,2μm,22.2s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,19.5s,MS5.1						
WMQ				LR	LR		
	comp=Z,3μm,20.2s,MS5.2						
ASPA	**Alice Springs**	**43.43**	**127**	*eP*	**P**	**21 15 50.9**	**+0.5**
ASAR	**Alice Springs**	**43.44**	**127**	P	**P**	**21 15 51.0**	**+0.7**
	comp=Z,3.7nm,0.6s,mb4.3,baz=298,slow=7.3,SNR=17						
AAK	**Ala-Archa**	**45.92**	**337**	*eP*	**P**	**21 16 10.2**	**+0.1**
AAK				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
AAK	**Ala-Archa**	**45.92**	**337**	*eP*	**P**	**21 16 10.2**	**+0.1**
	comp=Z,20nm,1.4s,mb4.8						
SNY	**Shenyang**	**46.82**	**27**	⇑P	**P**	**21 16 16.8**	**-0.3**
SNY				AMB	AMB		
	comp=Z,20nm,1.8s,mb4.8						
SONM	**Songino Array**	**47.04**	**8**	P	**P**	**21 16 19.4**	**+0.6**
	comp=Z,7.8nm,0.7s,mb4.8,baz=193,slow=8.6,SNR=18						
SONM				PcP	PcP	21 17 51.0	+0.3
	comp=Z,2.0nm,0.6s,baz=184,slow=3.7,SNR=6.6						
MKAR	**Makanchi Array**	**47.16**	**346**	P	**P**	**21 16 20.4**	**+0.7**
	comp=Z,7.6nm,0.5s,mb4.9,baz=163,slow=8.5,SNR=19						
ZAK	**Zakamensk**	**49.18**	**5**	*eP*	**P**	**21 16 35.8**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.7s,mb4.2						
CN2	**Changchun**	**49.22**	**27**	*eP*	**P**	**21 16 35.8**	**+0.1**
CN2				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2						
CN2				AMB	AMB		
	comp=Z,940nm,10.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS5.3						
CN2				LR	LR		
	comp=E,1μm,17.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,18.0s,MS5.1						
TLY	**Talaya**	**50.50**	**5**	*eP*	**P**	**21 16 45.5**	**0.0**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
IRK	**Irkutsk**	**51.12**	**6**	*eP*	**P**	**21 16 49.7**	**-0.4**
IRK				pmax	pmax		
	comp=Z,30nm,2.2s,mb4.8						
KURK	**Kurchatov**	**51.71**	**345**	*eP*	**P**	**21 16 54.2**	**-0.4**
KURK				pmax	pmax		
	comp=Z,27nm,1.2s,mb5.0					

comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=6.1,SNR=15
BRG Berggiesshubel 84.75 321 *e*P **P 21 20 22.3 +1.8**
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
BRG Berggiesshubel 84.75 321 *e*P **P 21 20 22.3 +1.8**
comp=Z,4.5nm,1.3s,mb4.4
GERES GERESS Array B 84.76 319 P **P 21 20 21.7 +1.1**
comp=Z,0.8nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=7.6
NB2 NORSAR Subarra 86.94 331 P **P 21 20 30.3 -0.7**
comp=Z,14nm,1.7s,mb4.9,baz=95,slow=4.8
NB2 NORSAR Subarra 86.94 331 P **P 21 20 30.3 -0.7**
NB2 pmax pmax
comp=Z,14nm,1.7s,mb4.9
NOA NORSAR Array B 86.94 331 P **P 21 20 31.5 +0.5**
comp=Z,0.6nm,0.8s,mb3.9,baz=96,slow=5.1,SNR=4.4
DAVOX Davos 87.24 317 P **P 21 20 33.8 +1.0**
comp=Z,2.2nm,0.6s,mb4.5,baz=297,slow=16,SNR=5.0
TXAR Lajitas Array 143.58 32 PKP PKPdf 21 27 20.9 +0.6
comp=Z,0.6nm,0.6s,baz=270,slow=2.5,SNR=6.0

*IDC **28** 21:09:45.9±1.0,2.35N×97.12E,mb4.3/14,mb1 4.3/14, mb1mx4.2/21,mbtmp4.3/14,Error ellipse: s-maj=40.0km s-min=16.0km az=50.0*
*NEIC **28** 21:09:50.3±0.6,2.44N×97.19E,h30km,mb4.6/4,Error ellipse: s-maj=23.4km s-min=8.6km az=52.0*
ISC 28 21:09:48.3±0.7,2.4N±0.1×97.2E±0.1,h30km,n23, σ0s92/23,mb4.3/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LSA	**Lhasa**	**27.71**	**349**	P		**P**	**21 15 35.3**	**-1.0**
ENH	**Enshi**	**30.04**	**22**	*e*P		**P**	**21 15 55.6**	**-1.5**
	4.9nm,0.4s,mb4.6							
FITZ	**Fitzroy Crossi**	**34.67**	**127**	P		**P**	**21 16 36.9**	**-0.8**
	3.1nm,0.7s,mb4.4,baz=346,slow=12,SNR=2.6							
JOW	**Kunigami**	**38.42**	**48**	P		**P**	**21 17 10.2**	**+1.0**
	19nm,0.7s,mb4.9,baz=203,slow=7.7,SNR=4.3							
WRA	**Warramunga Arr**	**42.71**	**123**	P		**P**	**21 17 45.0**	**+0.2**
	1.7nm,0.4s,mb4.2,baz=318,slow=10,SNR=5.9							
WRAB	**Tennant Creek**	**42.71**	**123**	*e*P		**P**	**21 17 44.2**	**-0.6**
	4.7nm,0.5s,mb4.5							
ASAR	**Alice Springs**	**44.16**	**128**	P		**P**	**21 17 55.7**	**-0.8**
	1.8nm,1.0s,mb3.8,baz=304,slow=9.8,SNR=3.3							
AAK	**Ala-Archa**	**44.86**	**336**	P		**P**	**21 18 00.7**	**-1.3**
SONM	**Songino Array**	**45.91**	**9**	P		**P**	**21 18 11.2**	**+1.1**
	1.7nm,0.5s,mb4.3,baz=192,slow=7.4,SNR=6.0							
SONM				PcP		PcP	21 19 48.1	+0.8
	0.6nm,0.3s,baz=201,slow=3.6,SNR=10							
MKAR	**Makanchi Array**	**46.04**	**346**	P		**P**	**21 18 11.9**	**+0.7**
	4.7nm,0.8s,mb4.5,baz=168,slow=7.9,SNR=4.0							
KURK	**Kurchatov**	**50.60**	**345**	*e*P		**P**	**21 18 46.4**	**-0.1**
	2.5nm,0.5s,mb4.4							
CTA	**Charters Tower**	**53.07**	**117**	P		**P**	**21 19 05.5**	**0.0**
	2.8nm,0.7s,mb4.3,baz=11,slow=10,SNR=2.7							
STKA	**Stephens Creek**	**54.20**	**133**	P		**P**	**21 19 15.0**	**+1.3**
	1.8nm,0.6s,mb4.2,baz=289,slow=9.0,SNR=2.4							
BVAR	**Borovoye Array**	**55.08**	**341**	P		**P**	**21 19 19.8**	**-0.1**
	4.3nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=5.4							
CHKZ	**Chkalovo**	**55.55**	**341**	*e*P		**P**	**21 19 22.6**	**-0.7**
	8.3nm,0.7s,mb4.9							
ASAJ	**Asahikawa**	**57.69**	**37**	P		**P**	**21 19 39.0**	**+0.4**
	6.6nm,0.9s,mb4.7,baz=150,slow=18,SNR=2.7							
MALT	**Malatya**	**64.30**	**312**	P		**P**	**21 20 22.4**	**-1.1**
AKASG	**Malin Array Be**	**74.27**	**322**	P		**P**	**21 21 24.4**	**-0.2**
	1.2nm,0.5s,mb4.1,baz=78,slow=6.9,SNR=5.4							
FINES	**FINESS Array B**	**78.90**	**332**	P		**P**	**21 21 51.4**	**+1.1**
	1.4nm,0.7s,mb4.0,baz=104,slow=7.9,SNR=4.2							
FINES	**FINESS Array B**	**78.90**	**332**	P		**P**	**21 21 51.4**	**+1.1**
ARCES	**ARCESS Array B**	**81.37**	**340**	P		**P**	**21 22 04.8**	**+1.5**
	3.0nm,0.8s,mb4.3,baz=99,slow=4.7,SNR=8.6							
ARCES	**ARCESS Array B**	**81.37**	**340**	P		**P**	**21 22 04.8**	**+1.5**
GERES	**GERESS Array B**	**83.88**	**319**	P		**P**	**21 22 18.0**	**+1.3**
	0.3nm,0.4s,mb3.8,baz=108,slow=4.2,SNR=4.6							

*IDC **28** 21:13:08.7±0.5,1.95N×99.36E,mb4.4/19,mb1 4.5/19, mb1mx4.5/23,mbtmp4.4/19,Error ellipse: s-maj=28.0km s-min=11.6km az=52.0*
*BJI **28** 21:13:10.9,1.32N×99.03E,h47km,mB5.3,mb4.6,Ms5.1, Msz5.0*
*NEIC **28** 21:13:12.9±0.3,1.79N×99.19E,h30km,mb4.6/13,Error ellipse: s-maj=12.8km s-min=6.3km az=53.0*
ISC 28 21:13:11.1±0.3,1.76N±0.05×99.14E±0.05,h27km, h27km±3.0km:pP-P,n78,σ1s26/78,mb4.5/32,MS5.1/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**3.37**	**34**	P		**Pn**	**21 14 04.1**	**+0.7**
KULM	**Kulim**	**3.81**	**23**	*e*P		**Pn**	**21 14 09.4**	**-0.2**
KGM	**Kluang**	**4.18**	**86**	P		**Pn**	**21 14 14.7**	**-0.2**
SNG	**Songkhla**	**5.58**	**15**	P		**Pn**	**21 14 34.0**	**-0.6**
	530nm,1.0s							
CM31	**Chiang Mai Arr**	**16.59**	**359**	*e*P		**P**	**21 17 04.6**	**+0.8**
	23nm,0.9s							
PALK	**Pallekele**	**19.17**	**287**	*e*P		**P**	**21 17 34.6**	**-1.0**
	62nm,1.3s							
QIZ	**Qiongzhong**	**20.11**	**31**	P		**P**	**21 17 46.8**	**+0.9**
QIZ				S		**S**	**21 21 27.0**	**+1.9**
QIZ				AMB	AMB			
	comp=Z,24nm,1.4s							
KMI	**Kunming**	**23.48**	**8**	P		**P**	**21 18 22.3**	**+2.5**
KMI				AMB	AMB			
	comp=Z,5.0nm,1.1s,mb3.9							
HYB	**Hyderabad**	**25.52**	**309**	*e*P		**P**	**21 18 43.5**	**+4.1**
HYB	**Hyderabad**	**25.52**	**309**	*i* P		**P**	**21 18 43.5**	**+4.1**
LSA	**Lhasa**	**28.80**	**345**	P		**P**	**21 19 13.5**	**+4.2**
LSA	**Lhasa**	**28.80**	**345**	*e*P		**P**	**21 19 06.5**	**-2.8**
ENH	**Enshi**	**30.00**	**18**	*e*P		**P**	**21 19 17.6**	**-2.5**
	comp=Z,9.0nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**32.72**	**128**	P		**P**	**21 19 41.0**	**-3.0**
	comp=Z,3.9nm,0.7s,mb4.5,baz=333,slow=2.3,SNR=2.6							
NDI	**New Delhi**	**33.97**	**324**	*e*		**P**	**21 19 53.0**	**-1.8**
KAKA	**Kakadu**	**36.05**	**114**	*e*P		**P**	**21 20 13.1**	**+0.5**
	comp=Z,7.1nm,0.6s,mb4.8							
MUN	**Mundaring**	**37.26**	**156**	*e*P		**P**	**21 20 26.5**	**+3.9**
	comp=Z,12nm,0.8s,mb4.8							
JOW	**Kunigami**	**37.45**	**46**	P		**P**	**21 20 19.7**	**-4.6**
	comp=Z,4.4nm,0.4s,mb4.6,baz=112,slow=19,SNR=3.4							
GTA	**Gaotai**	**37.48**	**1**	*e*P		**P**	**21 20 23.3**	**-1.1**
GTA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.7							
KLBR	**Kellerberrin**	**37.59**	**153**	*e*P		**P**	**21 20 27.6**	**+2.2**
	comp=Z,418nm,1.7s							
NWAO	**Narrogin (SRO)**	**38.51**	**155**	P		**P**	**21 20 34.2**	**+1.1**
	comp=Z,11nm,1.0s,mb4.5,baz=322,slow=14,SNR=4.9							
NWAO	**Narrogin (SRO)**	**38.51**	**155**	P		**P**	**21 20 34.2**	**+1.1**
HHC	**Hu-ho-hao-te**	**40.50**	**15**	*e*P		**P**	**21 20 52.5**	**+3.0**
HHC				AP		pP	21 21 02.3	+4.7
HHC				XP		sP	21 21 06.3	+5.3
HHC				PP		PP	21 22 31.0	+4.8
HHC				PCP		PcP	21 22 52.8	+0.4
HHC				SCP			21 26 34.5	
HHC				S		**S**	**21 27 03.8**	**+7.3**
HHC				XS			21 27 18.0	
HHC				SCS		ScS	21 30 52.0	+0.6
HHC				AMB	AMB			
	comp=Z,17nm,0.3s,mb5.2							
HHC				AMB	AMB			
	comp=Z,349nm,4.9s							
HHC				LR	LR			
	comp=N,875nm,15.7s,MS4.9							
HHC				LR	LR			
	comp=E,1μm,20.1s,MS4.9							
HHC				LR	LR			
	comp=Z,2μm,15.5s,MS5.2							
WRA	**Warramunga Arr**	**40.71**	**124**	P		**P**	**21 20 51.2**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.4,baz=301,slow=9.1,SNR=27							
WRA				PcP		PcP	21 22 52.6	-0.7
	comp=Z,1.6nm,0.9s,baz=312,slow=2.5,SNR=4.4							
WRAB	**Tennant Creek**	**40.71**	**124**	*e*P		**P**	**21 20 50.2**	**-1.3**
	comp=Z,8.0nm,0.7s,mb4.5							
WB2	**Warramunga Arr**	**40.72**	**124**	*e*P		**P**	**21 20 51.1**	**-0.4**
BJI	**Beijing**	**41.12**	**20**	P		**P**	**21 20 54.8**	**+0.1**
ASPA	**Alice Springs**	**42.21**	**129**	*e*P		**P**	**21 21 04.0**	**+0.2**
ASAR	**Alice Springs**	**42.21**	**129**	P		**P**	**21 21 03.1**	**-0.8**
	comp=Z,2.8nm,0.7s,mb4.0,baz=302,slow=7.6,SNR=16							
ASAR				PcP		PcP	21 22 58.3	0.0
	comp=Z,2.4nm,0.8s,baz=298,slow=2.9,SNR=7.8							
FORT	**Forrest**	**42.49**	**142**	*e*P		**P**	**21 21 05.4**	**-0.6**
	comp=Z,722nm,0.7s							
KSH	**Kashi**	**43.10**	**334**	*e*P		**P**	**21 21 09.5**	**-1.4**
KSH				*e*AP		pP	21 21 19.0	0.0
KSH				*e*PP		PP	21 22 52.3	-0.9
KSH				*e*PCP		PcP	21 23 00.8	-0.2
KSH				*e*PPP		PPP	21 23 26.3	-2.0
KSH				*e*SCP			21 26 46.8	
KSH				*e*PCS			21 26 51.3	
KSH				*e*S		**S**	**21 27 31.8**	**-3.1**
KSH				*e*SCS		ScS	21 31 05.0	-2.1
KSH				AMB	AMB			
	comp=Z,750nm,11.8s							
KSH				LR	LR			
	comp=N,1μm,17.1s,MS5.3							
KSH				LR	LR			
	comp=E,3μm,18.2s,MS5.3							
WMQ	**Urumqi**	**43.10**	**348**	P		**P**	**21 21 11.5**	**+0.7**
WMQ				AP		pP	21 21 21.0	+2.1
WMQ				XP		sP	21 21 25.0	+2.8
WMQ				PP		PP	21 22 54.0	+0.8
WMQ				PPP		PPP	21 23 30.0	+1.7
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.8s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,131nm,4.2s							
WMQ				LR	LR			
	comp=N,2μm,22.4s,MS5.0							
WMQ				LR	LR			
	comp=E,1μm,19.2s,MS5.0							
WMQ				LR	LR			
	comp=Z,2μm,21.0s,MS4.9							
UCH	**Uchtor**	**45.95**	**334**	P		**P**	**21 21 34.3**	**+0.6**
	SNR=9.2							
TKM2	**Tokmak 2**	**46.06**	**336**	P		**P**	**21 21 34.7**	**+0.1**
	SNR=7.8							
KBK	**Karagaybulak**	**46.11**	**335**	P		**P**	**21 21 35.7**	**+0.7**
	SNR=12							
AML	**Almayashu**	**46.23**	**334**	P		**P**	**21 21 36.4**	**+0.5**
	SNR=8.0							
AAK	**Ala-Archa**	**46.29**	**335**	*e*P		**P**	**21 21 35.4**	**-1.0**
SONM	**Songino Array**	**46.32**	**7**	P		**P**	**21 21 36.4**	**-0.2**
	comp=Z,2.8nm,0.7s,mb4.3,baz=187,slow=9.2,SNR=14							
SONM				PcP		PcP	21 23 12.3	+0.2
	comp=Z,2.5nm,0.8s,baz=170,slow=2.4,SNR=2.5							
ULN	**Ulaanbaatar**	**46.43**	**7**	*e*P		**P**	**21 21 36.8**	**-0.7**
	comp=Z,4.5nm,1.0s,mb4.3							
EKS2	**Erkin-Say**	**46.62**	**334**	P		**P**	**21 21 39.2**	**+0.2**
	SNR=6.7							
USP	**Ospenovka**	**46.80**	**335**	P		**P**	**21 21 40.3**	**-0.2**
	SNR=13							
MKAR	**Makanchi Array**	**47.20**	**344**	P		**P**	**21 21 42.6**	**-0.9**
	comp=Z,5.3nm,0.7s,mb4.6,baz=153,slow=8.1,SNR=15							
CN2	**Changchun**	**47.95**	**26**	*e*P		**P**	**21 21 50.5**	**+1.0**
MDJ	**Mudanjiang**	**50.45**	**28**	P		**P**	**21 22 07.8**	**-0.9**
MDJ				AMB	AMB			
	comp=Z,20nm,3.1s							
CTA	**Charters Tower**	**51.03**	**118**	P		**P**	**21 22 12.8**	**-0.6**
	comp=Z,2.7nm,0.7s,mb4.3,baz=324,slow=19,SNR=2.0							
CTA	**Charters Tower**	**51.03**	**118**	P		**P**	**21 22 12.8**	**-0.6**
KURK	**Kurchatov**	**51.78**	**344**	*e*P		**P**	**21 22 17.1**	**-1.6**
STKA	**Stephens Creek**	**52.31**	**133**	*e*P		**P**	**21 22 21.5**	**-1.5**
	comp=Z,6.7nm,0.8s,mb4.6							
STKA	**Stephens Creek**	**52.31**	**133**	P		**P**	**21 22 22.1**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.7,baz=316,slow=8.1,SNR=13							
BVAR	**Borovoye Array**	**56.38**	**340**	P		**P**	**21 22 50.5**	**-1.9**
	comp=Z,3.3nm,0.8s,mb4.4,baz=142,slow=11,SNR=20							
CHKZ	**Chkalovo**	**56.84**	**340**	*e*P		**P**	**21 22 53.4**	**-2.3**
	comp=Z,9.3nm,0.8s,mb4.9							
MALT	**Malatya**	**66.20**	**311**	P		**P**	**21 23 57.6**	**-1.4**
	comp=Z,8.6nm,1.0s,mb4.7							
BRTR	**Keskin Array B**	**70.18**	**312**	P		**P**	**21 24 22.8**	**-1.0**
	comp=Z,1.9nm,0.7s,mb4.1,baz=130,slow=7.5,SNR=9.2							
AKASG	**Malin Array Be**	**76.00**	**322**	P		**P**	**21 24 56.7**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=89,slow=4.9,SNR=7.6							
AKASG	**Malin Array Be**	**76.00**	**322**	P		**P**	**21 24 56.7**	**-1.1**
MLR	**Muntele Rosu**	**77.00**	**316**	P		**P**	**21 25 04.0**	**+0.6**
	comp=Z,6.8nm,1.1s,mb4.5,baz=334,slow=2.3,SNR=3.2							
KOLS	**Kolonicke sedl**	**80.05**	**319**	*e*P		**P**	**21 25 21.1**	**+1.1**
FINES	**FINESS Array B**	**80.40**	**332**	P		**P**	**21 25 21.4**	**-0.2**
	comp=Z,2.2nm,0.9s,mb4.1,baz=100,slow=5.1,SNR=6.3							
ARCES	**ARCESS Array B**	**82.67**	**340**	P		**P**	**21 25 33.2**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2,baz=90,slow=3.6,SNR=6.6							
ARCES	**ARCESS Array B**	**82.67**	**340**	P		**P**	**21 25 33.2**	**-0.1**
OKC	**Ostrava-Krasne**	**82.84**	**320**	*e*P		**P**	**21 25 38.4**	**+3.8**
DPC	**Dobruska-Polom**	**84.06**	**320**	*e*P		**P**	**21 25 43.4**	**+2.6**
UPC	**Upice**	**84.27**	**320**	*e*P		**P**	**21 25 44.4**	**+2.6**
PVCC	**Paska Ves**	**85.19**	**320**	*e*P		**P**	**21 25 47.8**	**+1.4**
BRG	**Berggiesshubel**	**85.60**	**321**	*e*P		**P**	**21 25 51.4**	**+2.9**
	comp=Z,2.8nm,0.9s,mb4.5							
GERES	**GERESS Array B**	**85.67**	**319**	P		**P**	**21 25 49.6**	**+0.8**
	comp=Z,2.1nm,1.0s,mb4.3,baz=90,slow=4.0,SNR=8.9							
KHC	**Kasperske Hory**	**85.77**	**319**	*e*P		**P**	**21 25 51.5**	**+2.2**
KHC				*e*			21 25 57.0	
KHC	**Kasperske Hory**	**85.77**	**319**	*e*P		**P**	**21 25 51.5**	**+2.2**
KHC				pP		pP	21 25 57.0	-1.0
VNDA	**Vanda**	**85.99**	**169**	P		**P**	**21 25 50.7**	**+0.8**
	comp=Z,1.7nm,0.9s,mb4.2,baz=267,slow=5.0,SNR=5.6							
VNDA	**Vanda**	**85.99**	**169**	P		**P**	**21 25 50.7**	**+0.8**
CLL	**Colln**	**86.21**	**321**	P		**P**	**21 25 52.0**	**+0.5**
CLL				*e*'PP		pP	21 25 59.0	-1.2
CLL				*e*			21 26 18.0	
NB2	**NORSAR Subarra**	**87.46**	**331**	P		**P**	**21 25 57.0**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.4,baz=94,slow=4.6							
NOA	**NORSAR Array B**	**87.46**	**331**	P		**P**	**21 25 57.6**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=7.1							
DAVOX	**Davos**	**88.22**	**317**	P		**P**	**21 26 04.0**	**+2.7**
	comp=Z,3.3nm,0.6s,mb4.7,baz=35,slow=9.4,SNR=10							
LPG	**La Plagne**	**90.43**	**315**	*e*P		**P**	**21 26 11.5**	**-0.3**
	comp=Z,12nm,1.0s,mb4.9							
PDAR	**Pinedale Array**	**128.68**	**27**	PKP		PKPdf	21 32 18.2	-3.1
	comp=Z,0.5nm,0.8s,baz=180,slow=1.5,SNR=4.5							
TXAR	**Lajitas Array**	**142.15**	**33**	PKP		PKPdf	21 32 43.7	-2.9
	comp=Z,0.8nm,0.7s,baz=270,slow=1.3,SNR=5.0							
BDFB	**Brasilia**	**144.81**	**245**	PKPbc		PKPbc	21 32 47.8	+1.0
	comp=Z,7.8nm,0.7s,baz=143,slow=2.6,SNR=10							

*IDC **28** 21:17:26.9±0.8,2.54N×95.92E,mb4.2/15,mb1 4.3/15, mb1mx4.1/21,mbtmp4.2/15,Error ellipse: s-maj=35.2km s-min=13.9km az=54.0*
*BJI **28** 21:17:29.6,2.36N×96.17E,h42km,mb4.9*
*NEIC **28** 21:17:31.5±0.3,2.56N×95.98E,h30km,mb4.5/12,Error ellipse: s-maj=9.2km s-min=4.8km az=53.0*
ISC 28 21:17:30.4±3.2,2.56N±0.09×96.0E±0.1,h34km±27km,n41, σ0s74/41,mb4.4/30,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.38**	**60**	*e*P		**P**	**21 18 50.5**	**+0.2**
CM31	**Chiang Mai Arr**	**16.06**	**10**	P		**P**	**21 21 15.6**	**+0.2**
KMI	**Kunming**	**23.36**	**16**	P		**P**	**21 22 38.5**	**+1.7**
KMI				AMB	AMB			
	comp=Z,8.0nm,1.2s,mb4.0							
JIRN	**Jiri**	**26.66**	**340**	*e*P		**P**	**21 23 07.6**	**-0.7**
	comp=Z,48nm,0.7s,mb5.1							
PKI	**Pulchoki**	**26.85**	**339**	*e*P		**P**	**21 23 10.1**	**+0.1**
	comp=Z,9.9nm,0.6s,mb4.5							
DMN	**Daman**	**27.00**	**338**	*e*P		**P**	**21 23 11.3**	**0.0**
	comp=Z,20nm,0.9s,mb4.6							
KKN	**Kakani**	**27.10**	**339**	*e*P		**P**	**21 23 12.6**	**+0.3**
	comp=Z,28nm,0.9s,mb4.8							
LSA	**Lhasa**	**27.38**	**351**	P		**P**	**21 23 15.3**	**+0.5**
LSA	**Lhasa**	**27.38**	**351**	*e*P		**P**	**21 23 15.1**	**+0.2**
	comp=Z,10nm,0.8s,mb4.4							
GKN	**Gorkha**	**27.53**	**338**	*e*P		**P**	**21 23 16.5**	**+0.3**
	comp=Z,38nm,0.9s,mb5.0							
KOLN	**Koldanda**	**27.73**	**336**	*e*P		**P**	**21 23 18.6**	**+0.6**
	comp=Z,13nm,0.6s,mb4.7							
CD2	**Chengdu**	**29.14**	**14**	P		**P**	**21 23 29.0**	**-1.5**
ENH	**Enshi**	**30.38**	**24**	*e*P		**P**	**21 23 39.6**	**-2.0**
	comp=Z,4.9nm,0.6s,mb4.4							
FITZ	**Fitzroy Crossi**	**35.69**	**126**	*e*P		**P**	**21 24 26.9**	**-0.9**
	comp=Z,4.2nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**35.69**	**126**	P		**P**	**21 24 27.6**	**-0.2**
	comp=Z,5.7nm,0.7s,mb4.6,baz=162,slow=3.2,SNR=6.1							
GTA	**Gaotai**	**36.84**	**5**	*e*P		**P**	**21 24 37.3**	**0.0**
GTA				AP		pP	21 24 47.0	-0.3
GTA				XP		sP	21 24 51.3	-0.5
GTA				AMB	AMB			
	comp=Z,14nm,0.9s,mb4.8							
JOW	**Kunigami**	**39.23**	**49**	P		**P**	**21 24 57.6**	**+0.3**
	comp=Z,17nm,0.9s,mb4.8,baz=279,slow=19,SNR=2.2							
NWAO	**Narrogin (SRO)**	**40.61**	**152**	P		**P**	**21 25 08.8**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.0,baz=225,slow=13,SNR=3.3							
BJT	**Baijiatuao**	**41.53**	**24**	*e*P		**P**	**21 25 17.0**	**+0.6**
	comp=Z,4.1nm,1.0s,mb5.0							
BJI	**Beijing**	**41.55**	**24**	P		**P**	**21 25 17.0**	**+0.5**
BJI				AMB	AMB			
	comp=Z,36nm,0.9s,mb5.0							
WMQ	**Urumqi**	**41.74**	**351**	*e*P		**P**	**21 25 19.3**	**+1.3**
WMQ				AMB	AMB			
	comp=Z,7.0nm,1.1s,mb4.2							
WRA	**Warramunga Arr**	**43.77**	**122**	P		**P**	**21 25 35.2**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.8,baz=300,slow=9.1,SNR=5.5							
WRAB	**Tennant Creek**	**43.78**	**122**	*e*P		**P**	**21 25 35.0**	**0.0**
WB2	**Warramunga Arr**	**43.78**	**122**	*e*P		**P**	**21 25 35.2**	**+0.2**
AAK	**Ala-Archa**	**44.28**	**337**	*e*P		**P**	**21 25 38.1**	**-0.6**
ASAR	**Alice Springs**	**45.17**	**127**	P		**P**	**21 25 46.5**	**+0.5**
	comp=Z,0.7nm,0.5s,mb3.7,baz=296,slow=7.9,SNR=5.9							
MKAR	**Makanchi Array**	**45.65**	**347**	P		**P**	**21 25 49.6**	**+0.1**
	comp=Z,3.8nm,0.5s,mb4.6,baz=152,slow=9.0,SNR=14							
SONM	**Songino Array**	**45.99**	**10**	P		**P**	**21 25 52.2**	**0.0**
	comp=Z,4.0nm,0.5s,mb4.6,baz=191,slow=9.2,SNR=35							
SONM				PcP		PcP	21 27 29.2	+0.3
	comp=Z,1.3nm,0.8s,baz=195,slow=3.7,SNR=4.6							
ULN	**Ulaanbaatar**	**46.13**	**10**	*e*P		**P**	**21 25 52.6**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.4							
KURK	**Kurchatov**	**50.18**	**346**	*e*P		**P**	**21 26 23.7**	**-1.1**
BVAR	**Borovoye Array**	**54.58**	**341**	P		**P**	**21 26 56.9**	**-0.8**
	comp=Z,1.5nm,0.7s,mb4.2,baz=140,slow=8.8,SNR=6.9							
CHKZ	**Chkalovo**	**55.06**	**342**	*e*P		**P**	**21 27 00.1**	**-1.0**
	comp=Z,5.5nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**55.15**	**132**	P		**P**	**21 27 01.2**	**-0.9**
	comp=Z,1.6nm,0.9s,mb4.0,baz=297,slow=4.5,SNR=2.9							
MALT	**Malatya**	**63.33**	**312**	P		**P**	**21 27 58.2**	**-0.4**
AKASG	**Malin Array Be**	**73.45**	**322**	P		**P**	**21 29 00.6**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=92,slow=5.1,SNR=5.3							
FINES	**FINESS Array B**	**78.25**	**333**	P		**P**	**21 29 28.2**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=113,slow=14,SNR=5.8							
ARCES	**ARCESS Array B**	**80.86**	**340**	P		**P**	**21 29 42.6**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3,baz=97,slow=7.3,SNR=2.6							
GERES	**GERESS Array B**	**83.00**	**319**	P		**P**	**21 29 55.0**	**+1.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=6.4							
NOA	**NORSAR Array B**	**85.24**	**331**	P		**P**	**21 30 04.5**	**0.0**
	comp=Z,1.0nm,0.9s,mb3.9,baz=95,slow=5.8,SNR=3.3							
DAVOX	**Davos**	**85.49**	**317**	P		**P**	**21 30 07.0**	**+0.9**
	comp=Z,2.5nm,0.9s,mb4.3,baz=211,slow=5.9,SNR=3.8							
DAVOX	**Davos**	**85.49**	**317**	P		**P**	**21 30 07.0**	**+0.9**

*IDC **28** 21:20:58.6±1.1,1.28N×96.85E,mb4.1/12,mb1 4.2/12, mb1mx4.1/18,mbtmp4.1/12,Error ellipse: s-maj=60.9km s-min=15.3km az=51.0*
*BJI **28** 21:21:01.4,1.24N×97.23E,h36km,mb4.6*
*NEIC **28** 21:21:03.5±0.5,1.44N×97.08E,h30km,mb4.6/4,Error ellipse: s-maj=13.8km s-min=7.1km az=58.0*
ISC 28 21:21:02.2±0.6,1.43N±0.08×97.1E±0.1,h33km,n25, σ0s80/25,mb4.2/19,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.24**	**43**	*e*P		**P**	**21 22 20.0**	**-0.2**
CM31	**Chiang Mai Arr**	**17.02**	**6**	P		**P**	**21 24 58.4**	**-1.0**
KMI	**Kunming**	**24.18**	**13**	P		**P**	**21 26 19.0**	**+2.2**
KMI				AMB	AMB			
	comp=Z,12nm,1.5s,mb4.1							
GYA	**Guiyang**	**26.54**	**20**	*i*P		**P**	**21 26 39.0**	**-0.1**
GYA				AMB	AMB			

KMI AMB AMB
comp=Z,65nm,1.3s,mb5.0
HYB Hyderabad 24.54 313 *eP* **P 21 31 58.0 +4.1**
HYB Hyderabad 24.54 313 *i* P **P 21 31 58.0 +4.1**
GYA Guiyang 26.84 19⇑*iP* **P 21 32 14.0 -1.3**
GYA AP pP 21 32 23.5 +2.0
GYA XP sP 21 32 27.8 +3.5
GYA PP PP 21 32 58.5 -2.1
GYA S **S** **21 36 44.3 -4.4**
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,80nm,3.8s
GYA LR LR
comp=N,5μm,16.2s,MS5.4
GYA LR LR
comp=E,6μm,16.8s,MS5.4
GYA LR LR
comp=Z,5μm,17.0s,MS5.1
JIRN Jiri 28.50 339 *eP* **P 21 32 31.0 +0.6**
PKI Pulchoki 28.71 338 *eP* **P 21 32 33.7 +1.5**
comp=Z,20nm,0.8s,mb4.9
DMN Daman 28.86 337 *eP* **P 21 32 34.5 +0.9**
comp=Z,28nm,0.8s,mb5.0
KKN Kakani 28.95 338 *eP* **P 21 32 34.7 +0.3**
comp=Z,47nm,1.1s,mb5.1
LSA Lhasa 29.08 349 P **P 21 32 37.0 +1.5**
LSA Lhasa 29.08 349 *eP* **P 21 32 36.3 +0.7**
comp=Z,12nm,0.9s,mb4.6
GKN Gorkha 29.39 337 *eP* **P 21 32 38.8 +0.4**
comp=Z,81nm,1.2s,mb5.3
KOLN Koldanda 29.61 335 *eP* **P 21 32 40.9 +0.5**
comp=Z,29nm,0.7s,mb5.1
CD2 Chengdu 30.33 11 P **P 21 32 45.3 -1.4**
ENH Enshi 31.30 21 *eP* **P 21 32 52.8 -2.5**
comp=Z,30nm,0.8s,mb5.2
FITZ Fitzroy Crossi 33.81 126 *eP* **P 21 33 15.4 -1.8**
comp=Z,3.3nm,0.6s,mb4.4
FITZ Fitzroy Crossi 33.81 126 P **P 21 33 15.4 -1.8**
comp=Z,4.3nm,0.7s,mb4.5,baz=350,slow=6.6,SNR=6.0
FITZ Fitzroy Crossi 33.81 126 P pP 21 33 27.1 +3.6
comp=Z,4.2nm,0.7s,baz=339,slow=4.2,SNR=4.5
XAN Xi'an 34.59 17 P **P 21 33 22.0 -1.9**
XAN AP pP 21 33 28.8 -1.4
XAN AMB AMB
comp=Z,19nm,0.9s,mb5.0
LZH Lanzhou 35.40 9 *eP* **P 21 33 30.0 -0.7**
LZH AP pP 21 33 38.0 +1.0
LZH XP sP 21 33 42.5 +2.8
LZH AMB AMB
comp=Z,20nm,1.1s,mb5.0
LZH AMB AMB
comp=Z,99nm,4.5s
LZH LR LR
comp=N,1μm,15.5s
LZH LR LR
comp=Z,2μm,16.8s,MS5.0
GTA Gaotai 38.25 3 *eP* **P 21 33 55.0 +0.3**
GTA AP pP 21 34 02.0 +0.9
GTA XP sP 21 34 05.3 +1.6
GTA PP PP 21 35 25.3 -0.4
GTA PPP PPP 21 35 49.3 +1.3
GTA PCP PcP 21 36 10.0 +0.7
GTA S **S** **21 39 47.3 +0.3**
GTA AMB AMB
comp=Z,21nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,850nm,6.0s
GTA LR LR
comp=N,838nm,18.0s,MS4.8
GTA LR LR
comp=E,958nm,19.2s,MS4.8
GTA LR LR
comp=Z,6μm,22.2s,MS5.3
NWAO Narrogin (SRO) 38.70 153 P pP 21 34 07.1 +2.2
comp=Z,9.0nm,1.1s,baz=312,slow=16,SNR=3.2
WRA Warramunga Arr 41.92 122 P **P 21 34 25.5 +0.2**
comp=Z,3.4nm,0.8s,mb4.0,baz=300,slow=9.1,SNR=18
WRAB Tennant Creek 41.92 122 *eP* **P 21 34 24.8 -0.5**
comp=Z,3.9nm,0.6s,mb4.2
WB2 Warramunga Arr 41.93 122 *eP* **P 21 34 25.0 -0.4**
BJT Baijiatuau 42.44 22 *eP* **P 21 34 29.2 -0.1**
comp=Z,14nm,0.6s,mb4.8
BJI Beijing 42.46 22 P **P 21 34 30.5 +1.0**
BJI AMB AMB
comp=Z,22nm,0.8s,mb4.8
ASAR Alice Springs 43.27 127 P **P 21 34 36.6 +0.3**
comp=Z,4.1nm,0.9s,mb4.2,baz=305,slow=7.8,SNR=22
ASAR PcP PcP 21 36 25.8 0.0
comp=Z,0.9nm,0.9s,baz=293,slow=4.4,SNR=4.4
WMQ Urumqi 43.43 350⇑*iP* **P 21 34 38.3 +1.0**
WMQ AMB AMB
comp=Z,25nm,1.1s,mb4.9
ULHL Ulahol 45.15 338 P **P 21 34 52.3 +1.1**
SNR=5.7
UCH Uchtor 45.80 336 P **P 21 34 57.8 +1.4**
SNR=13
TKM2 Tokmak 2 45.97 338 P **P 21 34 58.6 +0.9**
SNR=9.7
KBK Karagaybulak 45.99 337 P **P 21 34 59.7 +1.8**
SNR=9.8
AML Almayashu 46.06 336 P **P 21 34 59.7 +1.4**
SNR=8.8
AAK Ala-Archa 46.15 337 *eP* **P 21 34 58.3 -0.8**
EKS2 Erkin-Say 46.46 336 P **P 21 35 02.9 +1.3**
SNR=14
USP Ospenovka 46.69 337 P **P 21 35 04.0 +0.7**
SNR=13
SNY Shenyang 47.02 27⇑P **P 21 35 05.5 -0.5**
SNY AMB AMB
comp=Z,20nm,0.7s,mb5.2
SONM Songino Array 47.27 8 P **P 21 35 08.3 +0.3**
comp=Z,7.0nm,0.6s,mb4.8,baz=189,slow=9.0,SNR=33
SONM PcP PcP 21 36 39.1 -0.2
comp=Z,3.3nm,0.8s,baz=194,slow=3.7,SNR=7.3
SONM Songino Array 47.27 8 P pP 21 35 16.5 +2.1
comp=Z,8.1nm,0.7s,baz=193,slow=8.8,SNR=13
MKAR Makanchi Array 47.40 346 P **P 21 35 09.2 +0.3**
comp=Z,9.0nm,0.7s,mb4.8,baz=153,slow=8.1,SNR=37
ULN Ulaanbaatar 47.40 9 *eP* **P 21 35 08.3 -0.7**
comp=Z,4.6nm,0.6s,mb4.6
CN2 Changchun 49.42 27 *eP* **P 21 35 23.8 -0.8**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
KURK Kurchatov 51.95 345 *eP* **P 21 35 42.8 -1.0**
comp=Z,7.3nm,0.9s,mb4.6
MDJ Mudanjiang 51.98 29 P **P 21 35 42.8 -1.3**
MDJ AMB AMB
comp=Z,15nm,1.6s,mb4.7
MDJ Mudanjiang 51.98 29 P **P 21 35 44.3 +0.2**
STKA Stephens Creek 53.22 132 P **P 21 35 54.5 +0.9**
comp=Z,5.9nm,0.8s,mb4.6,baz=303,slow=7.6,SNR=9.6
STKA Stephens Creek 53.22 132 P pP 21 36 01.8 +1.7
comp=Z,4.7nm,0.6s,baz=324,slow=8.4,SNR=10
STKA Stephens Creek 53.22 132 *eP* **P 21 35 53.9 +0.3**
BVAR Borovoye Array 56.41 341 P **P 21 36 15.3 -1.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=141,slow=9.5,SNR=20
BVAR Borovoye Array 56.41 341 P pP 21 36 21.7 -1.3
comp=Z,6.0nm,0.8s,baz=139,slow=9.6,SNR=15
CHKZ Chkalovo 56.88 341 *eP* **P 21 36 18.4 -1.4**
comp=Z,13nm,0.9s,mb5.0
CHKZ *e*pP pP 21 36 24.4 -2.0
ARU Arti 63.34 337 *eP* **P 21 37 02.2 -1.7**
comp=Z,6.9nm,1.0s,mb4.7
ARU *e* pP 21 37 09.4 -1.1
ASF Jabal al Asfar 64.58 305 P **P 21 37 10.6 -2.0**
comp=Z,0.8nm,0.4s,mb4.1,baz=90,slow=7.1,SNR=3.1
YAK Yakutsk 65.55 16 P **P 21 37 17.0 -1.3**
BRTR Keskin Array B 69.24 312 P **P 21 37 40.8 -1.1**
comp=Z,1.4nm,0.7s,mb4.0,baz=134,slow=7.2,SNR=8.1
BRTR Keskin Array B 69.24 312 P pP 21 37 47.4 -1.2
comp=Z,1.5nm,0.7s,baz=130,slow=6.4,SNR=7.5
AKASG Malin Array Be 75.40 322 P **P 21 38 16.9 -1.3**
comp=Z,1.4nm,0.6s,mb4.1,baz=85,slow=5.1,SNR=7.3
AKASG Malin Array Be 75.40 322 P pP 21 38 23.7 -1.2
comp=Z,0.4nm,0.4s,baz=86,slow=5.6,SNR=4.3
MLR Muntele Rosu 76.20 317 P **P 21 38 21.6 -1.3**
comp=Z,2.8nm,0.8s,mb4.2,baz=180,slow=6.1,SNR=5.6
MLR Muntele Rosu 76.20 317 P pP 21 38 30.1 +0.5
comp=Z,2.7nm,0.7s,baz=150,slow=5.4,SNR=4.7
FINES FINESS Array B 80.15 333 P **P 21 38 43.9 -0.2**
comp=Z,1.8nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=6.4
FINES FINESS Array B 80.15 333 P pP 21 38 50.9 0.0
comp=Z,0.8nm,0.7s,baz=108,slow=6.0,SNR=5.1
ARCES ARCESS Array B 82.69 340 P **P 21 38 57.4 +0.2**
comp=Z,4.7nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=8.9
ARCES ARCESS Array B 82.69 340 P pP 21 39 05.3 +1.2
comp=Z,2.7nm,0.8s,baz=90,slow=4.9,SNR=5.4
ARCES ARCESS Array B 82.69 340 P **P 21 38 57.4 +0.2**
GERES GERESS Array B 84.95 319 P **P 21 39 10.0 +0.9**
comp=Z,1.7nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=18
VNDA Vanda 85.67 169 P pP 21 39 20.8 +1.8
comp=Z,0.9nm,0.9s,baz=321,slow=5.4,SNR=3.2
NB2 NORSAR Subarra 87.16 331 P **P 21 39 19.6 -0.1**
comp=Z,1.1nm,0.7s,mb4.2,baz=93,slow=5.0
NOA NORSAR Array B 87.16 331 P **P 21 39 19.9 +0.2**
comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=9.5
NOA NORSAR Array B 87.16 331 P **P 21 39 19.9 +0.2**
LPG La Plagne 89.60 315 *eP* **P 21 39 32.4 +0.6**
comp=Z,9.0nm,0.9s,mb4.8
VNA2 Neumayer--Watz 95.75 199⇑*i* **P 21 39 59.8 +0.3**
VNA1 Neumayer--Stat 96.10 199 P **P 21 40 04.6 +3.5**
VNA3 Neumayer Olymp 96.39 198⇑*i* **P 21 40 02.7 +0.3**
TXAR Lajitas Array 143.77 32 PKP PKPdf 21 46 08.4 -4.3
comp=Z,0.6nm,0.6s,baz=333,slow=2.8,SNR=3.8
CFAA Coronel Fontan 146.65 203 PKPbc PKPbc 21 46 24.0 +9.2
comp=Z,0.3nm,0.5s,baz=186,slow=5.0,SNR=5.0
SAML Samuel 158.99 247 PKPab PKPab 21 47 10.3 0.0
LPAZ La Paz 159.09 223 PKP PKPdf 21 46 43.4 +7.6
comp=Z,0.7nm,0.7s,baz=180,slow=5.1,SNR=3.5

*IDC **28** 21:33:54.6±0.9, 1.16N×96.92E, mb4.3/12, mb1 4.4/12, mb1mx4.1/20, mbtmp4.3/12, Error ellipse: s-maj=40.9km s-min=14.0km az=56.0*
*NEIC **28** 21:33:59.6±0.5, 1.28N×97.08E, h30km, mb4.5/5, Error ellipse: s-maj=16.2km s-min=7.9km az=63.0*
ISC 28 21:33:58.2±0.6,**1.31N**±0.08×**97.1E**±0.1,**h33**km,**n28,**
σ0s96/28,mb4.3/19,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.31**	**42**	*eP*		**P**		**21 35 16.9**	**-0.4**
LSA	**Lhasa**	**28.79**	**349**	*eP*		**P**		**21 39 56.4**	**+0.9**
	2.9nm,0.5s,mb4.3								
ENH	**Enshi**	**31.12**	**21**	*eP*		**P**		**21 40 14.3**	**-1.8**
	9.0nm,0.5s,mb4.9								
FITZ	**Fitzroy Crossi**	**34.08**	**126**	*eP*		**P**		**21 40 41.6**	**-0.3**
	8.7nm,0.7s,mb4.8								
FITZ	**Fitzroy Crossi**	**34.08**	**126**	P		**P**		**21 40 41.6**	**-0.3**
	7.9nm,0.8s,mb4.7,baz=352,slow=7.1,SNR=3.9								
NWAO	**Narrogin (SRO)**	**39.00**	**153**	P		**P**		**21 41 22.3**	**-1.1**
	7.3nm,1.1s,mb4.3,baz=39,slow=13,SNR=2.3								
NWAO	**Narrogin (SRO)**	**39.00**	**153**	P		**P**		**21 41 22.3**	**-1.1**
JOW	**Kunigami**	**39.24**	**47**	P		**P**		**21 41 26.2**	**+0.8**
	12nm,0.8s,mb4.7,baz=121,slow=10.0,SNR=4.8								
WRA	**Warramunga Arr**	**42.18**	**122**	P		**P**		**21 41 50.6**	**+0.7**
	5.5nm,0.6s,mb4.4,baz=301,slow=9.1,SNR=17								
WRAB	**Tennant Creek**	**42.19**	**122**	*eP*		**P**		**21 41 50.7**	**+0.8**
	1.8nm,0.5s,mb4.0								
WB2	**Warramunga Arr**	**42.19**	**122**	*eP*		**P**		**21 41 50.7**	**+0.7**
BJT	**Baijiatuau**	**42.26**	**22**	P		**P**		**21 41 51.1**	**+0.9**
ASAR	**Alice Springs**	**43.55**	**127**	P		**P**		**21 42 02.1**	**+1.2**
	2.6nm,0.7s,mb4.1,baz=303,slow=8.2,SNR=7.2								
SONM	**Songino Array**	**47.04**	**9**	P		**P**		**21 42 29.2**	**+0.8**
	3.4nm,0.8s,mb4.3,baz=192,slow=9.1,SNR=28								
MKAR	**Makanchi Array**	**47.11**	**346**	P		**P**		**21 42 29.8**	**+0.8**
	1.6nm,0.5s,mb4.2,baz=153,slow=8.1,SNR=18								
MKAR	**Makanchi Array**	**47.11**	**346**	P		**P**		**21 42 29.8**	**+0.8**
ULN	**Ulaanbaatar**	**47.17**	**9**	*eP*		**P**		**21 42 29.5**	**+0.1**
ZAK	**Zakamensk**	**49.17**	**5**	*eP*		**P**		**21 42 45.1**	**+0.1**
ZAK				*e*				21 45 39.8	
ZAK				pmax	pmax				
	comp=Z,3.0nm,1.0s,mb4.3								
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.2s,mb4.0								
STKA	**Stephens Creek**	**53.51**	**132**	P		**P**		**21 43 15.8**	**-2.2**
	comp=Z,1.8nm,0.9s,mb4.0,baz=315,slow=8.6,SNR=2.3								
STKA	**Stephens Creek**	**53.51**	**132**	P		**P**		**21 43 15.8**	**-2.2**
BVA0	**Borovoye Array**	**56.11**	**341**	*i* P		**P**		**21 43 36.3**	**-0.3**
BVA0				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
BVAR	**Borovoye Array**	**56.11**	**341**	P		**P**		**21 43 36.2**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.3,baz=138,slow=8.9,SNR=14								
KLR	**Kul'dur**	**56.20**	**27**	*eP*		**P**		**21 43 35.0**	**-2.3**
CHKZ	**Chkalovo**	**56.59**	**341**	*eP*		**P**		**21 43 39.4**	**-0.7**
	comp=Z,3.1nm,0.6s,mb4.5								
BOD	**Bodaibo**	**57.92**	**11**	*eP*		**P**		**21 43 49.2**	**-0.2**
BOD				*e*				21 44 06.8	
BOD				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.9								
BOD				pmax	pmax				
	comp=Z,14nm,0.9s,mb5.0								
AKASG	**Malin Array Be**	**75.11**	**322**	P		**P**		**21 45 38.2**	**-0.5**
	comp=Z,0.4nm,0.3s,mb3.8,baz=87,slow=5.8,SNR=3.7								
FINES	**FINESS Array B**	**79.85**	**333**	P		**P**		**21 46 05.0**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=98,slow=5.0,SNR=9.6								
ARCES	**ARCESS Array B**	**82.40**	**340**	P		**P**		**21 46 19.4**	**+1.3**
	comp=Z,6.1nm,0.9s,mb4.5,baz=63,slow=5.4,SNR=11								

IDC 28 21:33:59.7±1.9,**2.90N**×**127.10E, mb3.8/5, mb1 3.9/5,**
mb1mx3.8/15, mbtmp3.8/5, Error ellipse: s-maj=96.5km
s-min=31.1km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.91**	**184**	P		P		21 38 44.3	-2.2
	1.2nm,0.5s,baz=357,slow=6.2,SNR=3.1								
WRA	**Warramunga Arr**	**23.78**	**163**	P		P		21 39 13.5	-1.5
	0.5nm,0.3s,baz=342,slow=10,SNR=16								
ASAR	**Alice Springs**	**27.22**	**166**	P		P		21 39 45.7	-1.7
	0.2nm,0.3s,baz=338,slow=7.6,SNR=3.4								
STKA	**Stephens Creek**	**37.22**	**159**	P		P		21 41 12.8	-2.0
	1.1nm,0.6s,baz=315,slow=8.6,SNR=2.9								
FINES	**FINESS Array B**	**92.74**	**332**	P		P		21 47 14.1	-0.8
	1.0nm,0.5s,baz=99,slow=6.5,SNR=3.7								

*IDC **28** 21:34:04.9±0.4, 1.07N×97.53E, mb4.7/24, mb1 4.7/24, mb1mx4.7/25, mbtmp4.7/24, Error ellipse: s-maj=18.5km s-min=11.3km az=50.0*
*BJI **28** 21:34:06.6, 0.60N×97.63E, h46km, mB5.1, mb4.9, Ms5.0, Msz4.8*
*MOS **28** 21:34:08.3±0.9, 1.12N×97.63E, h33km, mb5.0/19, Error ellipse: s-maj=15.9km s-min=6.3km az=123.1*
*NEIC **28** 21:34:09.3±0.2, 1.08N×97.58E, h30km, mb5.0/34, Error ellipse: s-maj=6.4km s-min=4.7km az=51.0*
ISC 28 21:34:08.0±2.3,**1.05N**±0.05×**97.61E**±0.05,**h32**km±15km,
h26km±.8km:**pP-P, n171,σ0s86**/170,**mb4.9**/76,**MS4.8**/7,
3C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**36**	P		P	**Pn**	**21 35 24.3**	**-1.3**
CM31	**Chiang Mai Arr**	**17.35**	**4**	*eP*		**P**		**21 38 09.0**	**-0.6**
	30nm,0.8s								
MDRS	**Chennai**	**20.94**	**306**	*e*		**P**		**21 38 57.0**	**+6.2**
QIZ	**Qiongzhong**	**21.52**	**33**	P		P		**21 38 56.3**	**-0.3**
VIS	**Vishakhapatnam**	**21.71**	**321**	*eP*		**P**		**21 39 00.2**	**+1.6**
VIS				*e*				21 39 02.5	
	comp=Z,111nm,0.8s								
BWNR	**Bhubaneshwar**	**22.34**	**330**	*eP*		**P**		**21 39 05.7**	**+0.9**
BWNR				*e*				21 39 08.0	
	comp=Z,48nm,1.3s								
KMI	**Kunming**	**24.44**	**11**	⇑P		**P**		**21 39 27.0**	**+1.6**
KMI				AP				21 39 35.0	
KMI				LR	LR				
	comp=N,942nm,22.7s,MS4.3								
KMI				LR	LR				
	comp=E,670nm,26.1s,MS4.3								
KMI				LR	LR				
	comp=Z,2μm,26.7s,MS4.5								
HYB	**Hyderabad**	**24.81**	**312**	*eP*		**P**		**21 39 30.0**	**+1.0**
HYB	**Hyderabad**	**24.81**	**312**	*i* P		**P**		**21 39 30.0**	**+1.0**
BLSP	**Bilaspur**	**25.81**	**325**	*eP*		**P**		**21 39 38.1**	**-0.2**
BLSP				*e*				21 39 39.9	
	comp=Z,31nm,0.8s								
JIRN	**Jiri**	**28.63**	**339**	*eP*		**P**		**21 40 02.9**	**-1.1**
	comp=Z,112nm,0.8s,mb5.7								
PKI	**Pulchoki**	**28.85**	**337**	*eP*		**P**		**21 40 05.5**	**-0.4**
	comp=Z,19nm,0.6s,mb5.0								
DMN	**Daman**	**29.00**	**337**	*eP*		**P**		**21 40 07.3**	**0.0**
	comp=Z,31nm,0.7s,mb5.1								
KKN	**Kakani**	**29.09**	**337**	*eP*		**P**		**21 40 07.3**	**-0.9**
	comp=Z,58nm,0.9s,mb5.3								
LSA	**Lhasa**	**29.15**	**348**	P		**P**		**21 40 10.0**	**+1.4**
LSA	**Lhasa**	**29.15**	**348**	*eP*		**P**		**21 40 09.8**	**+1.2**
LSA				pmax	pmax				
	comp=Z,9.0nm,0.5s,mb4.8								
LSA	**Lhasa**	**29.15**	**348**	*eP*		**P**		**21 40 09.8**	**+1.1**
	comp=Z,9.2nm,0.5s,mb4.8								
GKN	**Gorkha**	**29.54**	**336**	*eP*		**P**		**21 40 12.1**	**-0.1**
	comp=Z,94nm,1.1s,mb5.4								
KOLN	**Koldanda**	**29.77**	**334**	*eP*		**P**		**21 40 14.8**	**+0.6**
	comp=Z,34nm,0.6s,mb5.2								
CD2	**Chengdu**	**30.26**	**11**	P		**P**		**21 40 17.0**	**-1.6**
ENH	**Enshi**	**31.18**	**20**	*eP*		**P**		**21 40 25.3**	**-1.3**
	comp=Z,16nm,0.6s,mb5.0								
LGTI	**Lohaghat**	**32.73**	**331**	⇓*iP*		**P**		**21 40 40.7**	**+0.5**
PTH	**Pithoragarh**	**32.83**	**331**	*eP*		**P**		**21 40 42.1**	**+1.1**
PTH				*e*				21 43 22.3	
FITZ	**Fitzroy Crossi**	**33.51**	**126**	P		**P**		**21 40 45.7**	**-1.4**
	comp=Z,7.9nm,0.8s,mb4.7,baz=305,slow=4.4,SNR=9.8								
FITZ	**Fitzroy Crossi**	**33.51**	**126**	P		**P**		**21 40 45.7**	**-1.4**
	comp=Z,8.7nm,0.7s,mb4.8								
XAN	**Xi'an**	**34.48**	**17**	P		**P**		**21 41 01.0**	**+5.6**
XAN				AP	pP			21 41 07.5	+2.7
XAN				AMB	AMB				
	comp=Z,45nm,0.9s,mb5.4								
LZH	**Lanzhou**	**35.34**	**9**	*eP*		**P**		**21 41 02.5**	**-0.1**
LZH				AP	pP			21 41 10.5	-1.6
LZH				AMB	AMB				
	comp=Z,25nm,1.0s,mb5.1								
LZH				AMB	AMB				
	comp=Z,132nm,4.0s								
LZH				LR	LR				
	comp=N,1μm,16.4s								
LZH				LR	LR				
	comp=Z,2μm,18.0s,MS5.0								
NJ2	**Nanjing**	**36.78**	**31**	*eP*		**P**		**21 41 15.3**	**+0.5**
NJ2				AP	pP			21 41 24.5	+0.2
NJ2				XP	sP			21 41 29.0	+0.6
NJ2				PP	PP			21 42 40.8	+0.3
NJ2				S	**S**			**21 46 58.0**	**+1.9**
NJ2				AMB	AMB				
	comp=Z,10.0nm,0.7s,mb4.8								
NJ2				AMB	AMB				
	comp=Z,220nm,11.2s								
NJ2				LR	LR				
	comp=N,3μm,21.2s								
NJ2				LR	LR				
	comp=E,1μm,15.9s								
NJ2				LR	LR				
	comp=Z,2μm,20.0s,MS4.8								
GTA	**Gaotai**	**38.23**	**3**	*eP*		**P**		**21 41 27.5**	**+0.6**
GTA				AMB	AMB				
	comp=Z,16nm,0.8s,mb4.8								
GTA				AMB	AMB				
	comp=Z,1μm,6.6s								
GTA				LR	LR				
	comp=N,998nm,21.3s,MS4.7								
GTA				LR	LR				
	comp=E,530nm,20.4s,MS4.7								
GTA				LR	LR				
	comp=Z,5μm,19.5s,MS5.3								
NWAO	**Narrogin (SRO)**	**38.54**	**153**	P		**P**		**21 41 30.8**	**+1.2**
	comp=Z,15nm,1.0s,mb4.7,baz=323,slow=10,SNR=7.9								
NWAO	**Narrogin (SRO)**	**38.54**	**153**	P		**P**		**21 41 30.8**	**+1.2**
JOW	**Kunigami**	**39.05**	**46**	P		**P**		**21 41 35.1**	**+1.3**
	comp=Z,22nm,0.6s,mb5.0,baz=218,slow=4.6,SNR=6.5								
JOW	**Kunigami**	**39.05**	**46**	P		**P**		**21 41 35.1**	**+1.3**
HHC	**Hu-ho-hao-te**	**41.59**	**16**	*eP*		**P**		**21 41 55.5**	**+0.8**
HHC				AP	pP			21 42 04.3	0.0
HHC				XP	sP			21 42 09.0	+0.7
HHC				PP	PP			21 43 36.5	+2.7
HHC				PCP	PcP			21 43 50.5	-1.6
HHC				AMB	AMB				
	comp=Z,8.0nm,0.4s,mb4.7								
HHC				LR	LR				
	comp=N,839nm,16.2s,MS4.8								
HHC				LR	LR				
	comp=E,463nm,11.3s,MS4.8								
HHC				LR	LR				
	comp=Z,7μm,19.0s								
WRA	**Warramunga Arr**	**41.61**	**122**	P		**P**		**21 41 55.3**	**+0.1**
	comp=Z,5.5nm,0.6s,mb4.4,baz=302,slow=9.1,SNR=41								
WRA	**Warramunga Arr**	**41.61**	**122**	P		**P**		**21 41 55.3**	**+0.1**
WRAB	**Tennant Creek**	**41.62**	**122**	*eP*		**P**		**21 41 54.8**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,14nm,0.8s,mb4.6								
WRAB	**Tennant Creek**	**41.62**	**122**	*eP*		**P**		**21 41 54.8**	**-0.4**
	comp=Z,14nm,0.8s,mb4.7								
BJT	**Baijiatuau**	**42.30**	**21**	*eP*		**P**		**21 42 01.7**	**+1.1**
BJT				pmax	pmax				
	comp=Z,20nm,0.7s								
BJT	**Baijiatuau**	**42.30**	**21**	*eP*		**P**		**21 42 01.7**	**+1.1**
	comp=Z,20nm,0.7s,mb4.9								
BJI	**Beijing**	**42.33**	**21**	P		**P**		**21 42 01.8**	**+1.0**
BJI				AMB	AMB				
	comp=Z,30nm,0.6s,mb5.1								
ASPA	**Alice Springs**	**42.98**	**127**	*eP*		**P**		**21 42 06.5**	**+0.2**
ASAR	**Alice Springs**	**42.98**	**127**	P		**P**		**21 42 06.6**	**+0.2**
ASAR								21 43 57.3	
ASAR	**Alice Springs**	**42.98**	**127**	P		**P**		**21 42 06.6**	**+0.2**
	comp=Z,2.6nm,0.7s,mb4.1,baz=298,slow=7.8,SNR=22								
ASAR				PcP	PcP			21 43 57.3	+0.4
	comp=Z,2.6nm,0.9s,baz=297,slow=2.5,SNR=6.2								
ASAR	**Alice Springs**	**42.98**	**127**	P		**P**		**21 42 06.6**	**+0.2**
ASAR				PcP	PcP			21 43 57.3	+0.4
WMQ	**Urumqi**	**43.49**	**350**	⇓*iP*		**P**		**21 42 11.5**	**+1.3**
WMQ				AP	pP			21 42 20.0	+0.2
WMQ				XP	sP			21 42 25.0	+1.2
WMQ				PP	PP			21 43 55.0	+1.8
WMQ				PPP	PPP			21 44 32.0	+2.3
WMQ				AMB	AMB				
	comp=Z,21nm,1.2s,mb4.7								
WMQ				AMB	AMB				
	comp=Z,475nm,9.7s								
WMQ				LR	LR				
	comp=N,909nm,18.9s,MS4.8								
WMQ				LR	LR				
	comp=E,734nm,16.4s,MS4.8								
WMQ				LR	LR				
	comp=Z,856nm,19.7s,MS4.7								
DL2	**Dalian**	**43.62**	**27**	P		**P**		**21 42 12.5**	**+1.2**
DL2				AMB	AMB				
	comp=Z,30nm,0.7s,mb5.1								
KZA	**Kyzart**	**45.53**	**337**	P		**P**		**21 42 27.8**	**+1.2**
	SNR=6.3								
KS15	**Wonju Array Si**	**45.71**	**34**	P		**P**		**21 42 27.4**	**-0.7**
UCH	**Uchtor**	**45.95**	**336**	P		**P**		**21 42 30.9**	**+1.0**
	SNR=11								
TKM2	**Tokmak 2**	**46.11**	**338**	P		**P**		**21 42 32.0**	**+0.8**
	SNR=11								
KBK	**Karagaybulak**	**46.14**	**337**	P		**P**		**21 42 33.1**	**+1.7**
	SNR=9.8								
AML	**Almayashu**	**46.21**	**335**	P		**P**		**21 42 33.2**	**+1.2**
	SNR=14								
AAK	**Ala-Archa**	**46.30**	**336**	P		**P**		**21 42 31.5**	**-1.2**
CHMS	**Chumysh**	**46.50**	**337**	P		**P**		**21 42 34.8**	**+0.5**
	SNR=5.5								
EKS2	**Erkin-Say**	**46.61**	**336**	P		**P**		**21 42 36.0**	**+0.9**
	SNR=11								
USP	**Ospenovka**	**46.83**	**337**	P		**P**		**21

comp=Z,23nm,1.7s,mb4.8
MDJ Mudanjiang 51.80 29 P **P** **21 43 13.8 -1.3**
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,503nm,10.4s
KURK Kurchatov 52.04 345 *e*P **P** **21 43 16.2 -0.7**
KURK pmax pmax
comp=Z,21nm,0.9s,mb5.1
KURK Kurchatov 52.04 345 *e*P **P** **21 43 16.2 -0.7**
comp=Z,21nm,0.9s,mb5.1
CTA Charters Tower 52.07 117 P **P** **21 43 16.6 -0.9**
comp=Z,8.4nm,1.0s,mb4.6,baz=276,slow=8.2,SNR=5.3
STKA Stephens Creek 52.95 132 P **P** **21 43 24.7 +0.8**
comp=Z,8.3nm,0.7s,mb4.8,baz=314,slow=9.5,SNR=20
STKA Stephens Creek 52.95 132 P **P** **21 43 24.7 +0.8**
comp=Z,25nm,0.8s,mb5.2
NVS Novosibirsk 54.89 350 *e*P **P** **21 43 36.2 -1.7**
NVS pmax pmax
comp=N,9.0nm,0.9s
NVS pmax pmax
comp=E,8.0nm,0.9s
BVAR Borovoye Array 56.52 341 P **P** **21 43 48.5 -1.1**
comp=E,9.3nm,0.6s,mb5.0,baz=140,slow=8.2,SNR=36
CHKZ Chkalovo 57.00 341 *e*P **P** **21 43 51.9 -1.1**
CHKZ pmax pmax
comp=Z,18nm,0.7s,mb5.2
CHKZ Chkalovo 57.00 341 *e*P **P** **21 43 51.9 -1.2**
comp=Z,18nm,0.7s,mb5.2
KMBO Kilima Mbogo 60.39 268 P **P** **21 44 16.7 -0.4**
comp=Z,3.1nm,0.9s,mb4.3,baz=56,slow=9.5,SNR=7.6
GNI Garni 61.68 316 P **P** **21 44 24.8 -0.8**
comp=Z,34nm,1.3s,mb5.3,baz=131,slow=10,SNR=3.4
TI2 Plekhanov 62.36 318 ⇓ *i*P **P** **21 44 30.0 -0.1**
SVE Sverdlovsk 62.98 338 *e*P **P** **21 44 33.0 -0.9**
ARU Arti 63.48 337 ⇑ *i*P **P** **21 44 35.0 -2.2**
ARU *e* 21 45 14.2
ARU *e* 21 46 52.5
ARU *e*S **S** **21 53 05.3 -1.2**
ARU *e*SS SS 21 57 13.4 -2.0
ARU pmax pmax
comp=Z,13nm,1.5s,mb4.8
KIV Kislovodsk 64.69 319 *e*P **P** **21 44 43.4 -1.9**
KIV pmax pmax
comp=Z,20nm,1.1s,mb5.1
KIV Kislovodsk 64.69 319 *e*P **P** **21 44 43.4 -1.9**
comp=Z,20nm,1.1s,mb5.1
ASF Jabal al Asfar 64.88 305 P **P** **21 44 46.7 -0.1**
comp=Z,6.1nm,0.8s,mb4.7,baz=343,slow=7.9,SNR=10
GOF Gofitskoye 64.94 320 *e*P **P** **21 44 45.6 -1.3**
EIL Elat 65.88 302 *e*P **P** **21 44 52.5 -0.8**
comp=Z,20nm,0.9s,mb5.1
BRTR Keskin Array B 69.51 312 P **P** **21 45 14.3 -1.5**
comp=Z,5.8nm,0.8s,mb4.6,baz=132,slow=7.0,SNR=30
VRSR Storozhevoye 69.91 325 *e*P **P** **21 45 16.4 -1.6**
VRSR pmax pmax
comp=N,5.0nm,0.9s
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
VRSR pmax pmax
comp=E,6.0nm,1.3s
MA2 Magadan 71.29 25 *e*P **P** **21 45 26.2 -0.1**
MA2 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MA2 pmax pmax
comp=N,3.0nm,0.8s
MA2 pmax pmax
comp=E,2.0nm,0.8s
MA2 Magadan 71.29 25 *e*P **P** **21 45 25.3 -0.9**
comp=E,9.0nm,0.6s,mb4.9
MAW Mawson 72.66 193 P **P** **21 45 34.9 +0.6**
comp=E,4.7nm,0.7s,mb4.5,baz=85,slow=23,SNR=3.7
OBN Obninsk 72.96 328 *e*P **P** **21 45 35.2 -1.1**
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI Tiksi 73.26 10 *e*P **P** **21 45 35.4 -2.3**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LBTB Lobatse 74.19 244 P **P** **21 45 44.0 0.0**
comp=Z,6.2nm,0.8s,mb4.6,baz=101,slow=5.6,SNR=9.1
TIRR Tirgusor 74.51 316 ⇓ P **P** **21 45 44.8 -0.7**
BOSA Boshof 75.06 240 P **P** **21 45 48.6 -0.3**
comp=Z,3.7nm,0.6s,mb4.5,baz=59,slow=6.6,SNR=11
AKASG Malin Array Be 75.62 322 P **P** **21 45 50.4 -1.3**
comp=Z,5.0nm,0.6s,mb4.7,baz=89,slow=5.3,SNR=18
AKASG Malin Array Be 75.62 322 P **P** **21 45 50.4 -1.3**
MLR Muntele Rosu 76.45 317 P **P** **21 45 56.9 +0.4**
comp=Z,8.5nm,0.6s,mb4.8,baz=140,slow=3.2,SNR=16
MLR Muntele Rosu 76.45 317 ⇓ P **P** **21 45 55.8 -0.7**
BURAR Bucovina Array 77.41 319 ⇑ P **P** **21 46 02.3 +0.5**
KWP Kalwaria 79.44 320 *e*P **P** **21 46 10.0 -2.9**
KWP Kalwaria 79.44 320 *e*P **P** **21 46 10.0 -2.9**
KOLS Kolonicke sedl 79.59 320 *i*P **P** **21 46 14.2 +0.5**
KOLS *i* pP 21 46 23.0 -0.9
SUW Suwalki 80.03 325 *e*P **P** **21 46 15.5 -0.4**
CRVS Cervenica-Dubn 80.12 319 *e*P **P** **21 46 17.0 +0.5**
FINES FINESS Array B 80.32 332 P **P** **21 46 16.9 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=90,slow=5.6,SNR=8.6
KAF Kangasniemi 80.40 333 *e*p **P** **21 46 17.5 -0.2**
comp=Z,2.3nm,0.4s,mb4.5
KAF Kangasniemi 80.40 333 *e*P **P** **21 46 17.5 -0.2**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
PSZ Piszkesteto 80.99 318 *e*P **P** **21 46 20.6 -0.5**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 80.99 318 *e*P **P** **21 46 20.6 -0.5**
comp=Z,4.9nm,0.8s,mb4.5
VYHS Vyhne 81.77 319 *i*P **P** **21 46 24.7 -0.5**
OKC Ostrava-Krasne 82.40 320 *e*P **P** **21 46 29.0 +0.6**
OKC *e*pP pP 21 46 36.1 -2.5
ARCES ARCESS Array B 82.81 340 P **P** **21 46 30.4 +0.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=90,slow=4.9,SNR=5.3
ZST Bratislava 82.88 318 *i*P **P** **21 46 31.5 +0.5**
ZST *i* 21 46 39.7
DPC Dobruska-Polom 83.62 320 *e*P **P** **21 46 35.4 +0.7**
DPC *e*pP pP 21 46 43.5 -1.5
KSP Ksiaz 83.70 321 *e*P **P** **21 46 36.0 +0.9**
UPC Upice 83.84 321 *e*P **P** **21 46 36.7 +0.9**
PRU Pruhonice 84.73 320 *e*P **P** **21 46 40.8 +0.5**
PRU *e*pP pP 21 46 48.9 -1.7
PVCC Panska Ves 84.76 320 *e*P **P** **21 46 40.7 +0.3**
PVCC *e*pP pP 21 46 49.2 -1.5
BRG Berggiesshubel 85.18 321 *i*P **P** **21 46 43.3 +0.8**
BRG *i* 21 46 51.2
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BRG Berggiesshubel 85.18 321 *i*P **P** **21 46 43.3 +0.8**
comp=Z,5.5nm,0.9s,mb4.7
BRG *i* 21 46 51.2
GEC2 GERESS Array S 85.19 319 *e*P **P** **21 46 43.3 +0.7**
GEC2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
GEC2 GERESS Array S 85.19 319 *e*P **P** **21 46 43.3 +0.7**
comp=Z,6.0nm,0.9s,mb4.7
GERES GERESS Array B 85.19 319 P **P** **21 46 43.1 +0.5**
comp=Z,4.9nm,0.8s,mb4.7,baz=104,slow=5.5,SNR=35
PTCC Patocco-Chiusa 85.27 316 *e*P **P** **21 46 43.1 0.0**
KHC Kasperske Hory 85.29 319 *e*P **P** **21 46 43.6 +0.5**
KHC *e*pP pP 21 46 51.4 -2.0
VNDA Vanda 85.60 169 P **P** **21 46 45.1 +1.0**
comp=Z,1.1nm,0.8s,mb4.2,baz=293,slow=6.1,SNR=6.4
WET Wettzell 85.75 319 *e*P **P** **21 46 45.8 +0.4**
CLL Collm 85.80 321 *e*P **P** **21 46 46.0 +0.4**
CLL *e* 21 46 54.0
CLL Collm 85.80 321 P **P** **21 46 46.0 +0.4**
CLL *e**PP pP 21 46 54.0 -1.9
SFI Santa Sofia 86.22 314 *e*P **P** **21 46 49.1 +1.2**
CTI Castel Tesino 86.44 316 *e*P **P** **21 46 49.5 +0.6**
MOX Moxa 86.64 320 *e*P **P** **21 46 50.4 +0.6**
MOX Moxa 86.64 320 *i*P **P** **21 46 50.4 +0.6**
GRA1 Grafenberg Arr 86.86 320 *e*P **P** **21 46 51.8 +0.9**
comp=Z,5.0nm,0.7s,mb4.8
GRF Grafenberg Arr 86.86 320 *e*P **P** **21 46 51.8 +0.9**
GRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
GRF Grafenberg Arr 86.86 320 *e*P **P** **21 46 51.8 +0.9**
GRF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
GRF Grafenberg Arr 86.86 320 *e*P **P** **21 46 51.8 +0.9**
comp=Z,5.0nm,0.7s,mb4.8
NB2 NORSAR Subarra 87.33 331 P **P** **21 46 52.8 -0.1**
comp=Z,5.0nm,0.8s,mb4.8,baz=94,slow=4.8
NB2 NORSAR Subarra 87.33 331 P **P** **21 46 52.8 -0.1**
NB2 pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
NOA NORSAR Array B 87.33 331 P **P** **21 46 52.8 -0.1**
comp=Z,4.1nm,0.8s,mb4.7,baz=95,slow=4.9,SNR=18
CLZ Clausthal 87.47 322 *e*P **P** **21 46 54.9 +1.2**
comp=Z,4.0nm,0.7s,mb4.8
SBF Sospel 89.41 314 *e*P **P** **21 47 02.7 -0.5**
comp=Z,22nm,0.7s,mb5.3
CDF Champ du Feu 89.44 318 *e*P **P** **21 47 02.4 -0.9**
comp=Z,3.7nm,0.8s,mb4.5
HINF Hinteralfeld 89.74 318 *e*P **P** **21 47 04.3 -0.4**
LPG La Plagne 89.86 315 *e*P **P** **21 47 05.2 -0.1**
comp=Z,8.4nm,0.7s,mb4.9
MBDF Montbardon 89.86 315 *e*P **P** **21 47 04.3 -1.0**
LPL La Plagne 89.87 315 *e*P **P** **21 47 05.2 -0.1**
comp=Z,13nm,0.8s,mb5.0
FRF La Foret Royal 89.98 313 *e*P **P** **21 47 05.5 -0.4**
comp=Z,15nm,0.8s,mb5.1
HAU Hamburg 90.07 318 *e*P **P** **21 47 05.5 -0.7**
comp=Z,12nm,0.8s,mb5.0
CABF La Chapelle 90.29 316 *e*P **P** **21 47 07.1 -0.2**
comp=Z,18nm,0.9s,mb5.1
ORIF Oris-en-Rattie 90.49 315 *e*P **P** **21 47 08.1 -0.1**
comp=Z,6.9nm,0.6s,mb4.8
MEZF Maizieres J'vi 90.92 318 *e*P **P** **21 47 09.7 -0.4**
GIVF Givet 90.99 320 *e*P **P** **21 47 10.1 -0.3**
VIVF Saint-Julien-l 91.35 315 *e*P **P** **21 47 11.9 -0.3**
BAIF Baives 91.39 320 *e*P **P** **21 47 12.3 +0.1**
comp=Z,20nm,0.8s,mb5.2
SMF Signal de Mont 91.84 317 *e*P **P** **21 47 13.9 -0.5**
comp=Z,14nm,0.7s,mb5.1
LASF Ste Croix 91.98 314 *e*P **P** **21 47 15.1 0.0**
comp=Z,11nm,1.0s,mb4.9
SSF Saint Saulge 92.04 317 *e*P **P** **21 47 14.9 -0.4**
comp=Z,32nm,1.4s,mb5.2
AVF Avril sur Loir 92.16 317 *e*P **P** **21 47 15.4 -0.4**
comp=Z,30nm,1.2s,mb5.2
BGF Bois d'Agland 92.53 316 *e*P **P** **21 47 17.5 0.0**
TCF Toulx Ste Croi 92.99 316 *e*P **P** **21 47 19.6 0.0**
comp=Z,59nm,1.8s,mb5.4
CAF Calviac 93.20 315 *e*P **P** **21 47 21.3 +0.6**
MTLF Montolieu 93.22 313 *e*P **P** **21 47 21.4 +0.6**
comp=Z,20nm,1.3s,mb5.1
RJF Les Rejaudoux 93.55 315 *e*P **P** **21 47 23.2 +0.9**
LDF La Druitiere 94.34 319 *e*P **P** **21 47 25.9 +0.1**
GRR Gorron 94.85 319 *e*P **P** **21 47 28.8 +0.6**
SJPF Ste Jean 95.74 313 *e*P **P** **21 47 32.4 0.0**
TXAR Lajitas Array 143.58 32 PKP PKPdf 21 53 40.1 -5.5
comp=Z,0.5nm,0.5s,baz=65,slow=7.7,SNR=4.0
CFAA Coronel Fontan 146.79 202 PKPbc PKPbc 21 53 49.4 +2.1
comp=Z,1.7nm,0.7s,baz=146,slow=2.6,SNR=19
LPAZ La Paz 159.34 222 PKP PKPdf 21 54 06.8 -2.5
comp=Z,0.7nm,0.6s,baz=348,slow=1.0,SNR=4.4

*IDC **28** 21:34:56.7±1.5, 1.12N×97.21E, mb4.5/8, mb1 4.6/8, mb1mx4.2/18, mbtmp4.5/8, Error ellipse: s-maj=75.2km s-min=18.1km az=54.0*
*NEIC **28** 21:35:01.2±0.6, 1.15N×97.27E, h30km, mb4.7/7, Error ellipse: s-maj=15.5km s-min=7.9km az=63.0*
*BJI **28** 21:35:01.1, 1.10N×97.30E, h30km, mB6.0, mb5.0, Ms5.2, Msz5.1*
ISC 28 21:34:58.7±7.8, 1.1N±0.1×97.2E±0.2, h27km±52km, h25km±2.5km:pP-P, n26, σ0§99/26, mb4.7/22, MS5.2/2, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.39**	**39**	*e*P		**Pn**	**21 36 19.5**	**-0.1**
CM31	**Chiang Mai Arr**	**17.33**	**6**	*e*P		**P**	**21 39 01.1**	**+0.4**
QIZ	**Qiongzhong**	**21.70**	**34**	*e*P		**P**	**21 39 47.7**	**-2.1**
KMI	**Kunming**	**24.47**	**12**	⇓ P		**P**	**21 40 19.3**	**+2.3**
KMI					AMB	AMB		
comp=Z,58nm,1.2s,mb4.9								
GYA	**Guiyang**	**26.80**	**19**	⇑ *i*P		**P**	**21 40 40.8**	**+2.0**
GYA					AP	pP	21 40 49.8	+3.1
GYA					XP	sP	21 40 53.5	+3.3
GYA					PP	PP	21 41 24.8	+0.8
GYA					AMB	AMB		
comp=Z,30nm,0.9s,mb4.8								
GYA					AMB	AMB		
comp=Z,4μm,6.2s								
GYA					LR	LR		
comp=N,4μm,16.0s,MS5.4								
GYA					LR	LR		
comp=E,8μm,16.2s,MS5.4								
GYA					LR	LR		
comp=Z,6μm,15.0s,MS5.3								
LSA	**Lhasa**	**29.02**	**349**	*e*P		**P**	**21 40 58.5**	**-0.3**
comp=Z,8.4nm,0.7s,mb4.6								
ENH	**Enshi**	**31.27**	**21**	*e*P		**P**	**21 41 16.7**	**-2.1**
comp=Z,33nm,0.9s,mb4.9								
FITZ	**Fitzroy Crossi**	**33.86**	**126**	P		**P**	**21 41 40.7**	**-0.8**
comp=Z,7.3nm,0.7s,mb4.8,baz=258,slow=1.9,SNR=4.4								
LZH	**Lanzhou**	**35.35**	**9**	*e*P		**P**	**21 41 53.8**	**-0.3**
LZH					AP	pP	21 42 01.0	-1.1
LZH					XP	sP	21 42 04.0	-1.6
LZH					AMB	AMB		
comp=Z,29nm,1.2s,mb5.1								
LZH					AMB	AMB		
comp=Z,149nm,4.0s								
LZH					LR	LR		
comp=N,1μm,16.4s								
LZH					LR	LR		
comp=Z,2μm,18.0s,MS5.0								
GTA	**Gaotai**	**38.20**	**3**	*e*P		**P**	**21 42 18.5**	**+0.4**
GTA					AP	pP	21 42 24.8	-1.4
GTA					XP	sP	21 42 28.0	-1.5
GTA					AMB	AMB		
comp=Z,25nm,0.8s,mb5.0								
WRA	**Warramunga Arr**	**41.97**	**122**	P		**P**	**21 42 49.6**	**+0.1**
comp=Z,5.4nm,0.7s,mb4.3,baz=301,slow=9.1,SNR=5.5								
WRAB	**Tennant Creek**	**41.98**	**122**	*e*P		**P**	**21 42 49.5**	**0.0**
comp=Z,6.6nm,0.6s,mb4.4								
BJT	**Baijiatuan**	**42.40**	**22**	*e*P		**P**	**21 42 53.6**	**+0.7**
comp=Z,11nm,0.6s,mb4.7								
BJI	**Beijing**	**42.42**	**22**	P		**P**	**21 42 53.8**	**+0.8**
BJI					AMB	AMB		
comp=Z,26nm,0.8s,mb4.9								
ASAR	**Alice Springs**	**43.32**	**127**	P		**P**	**21 43 00.8**	**+0.3**
comp=Z,3.6nm,0.8s,mb4.1,baz=303,slow=8.1,SNR=6.1								
AAK	**Ala-Archa**	**46.10**	**337**	*e*P		**P**	**21 43 23.1**	**+0.6**
SNY	**Shenyang**	**46.98**	**27**	⇓ P		**P**	**21 43 29.5**	**0.0**
SNY					AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.8								
SONM	**Songino Array**	**47.23**	**8**	P		**P**	**21 43 31.7**	**+0.3**
comp=Z,7.4nm,0.9s,mb4.6,baz=192,slow=8.9,SNR=8.7								
SONM					PcP	PcP	21 45 02.7	-0.2
comp=Z,2.5nm,0.8s,baz=197,slow=4.3,SNR=3.2								
MKAR	**Makanchi Array**	**47.34**	**346**	P		**P**	**21 43 32.3**	**0.0**
comp=Z,7.2nm,0.7s,mb4.7,baz=158,slow=7.2,SNR=4.0								
ULN	**Ulaanbaatar**	**47.36**	**9**	*e*P		**P**	**21 43 32.5**	**+0.1**
comp=Z,5.4nm,0.8s,mb4.5								
CN2	**Changchun**	**49.39**	**27**	*e*P		**P**	**21 43 48.0**	**-0.2**
CN2					AMB	AMB		
comp=Z,30nm,0.8s,mb5.4								
KURK	**Kurchatov**	**51.89**	**345**	*e*P		**P**	**21 44 06.4**	**-0.8**
comp=Z,7.7nm,0.8s,mb4.7								
STKA	**Stephens Creek**	**53.28**	**132**	P		**P**	**21 44 18.4**	**+0.6**
comp=Z,4.5nm,0.7s,mb4.5,baz=321,slow=9.0,SNR=3.2								
BVAR	**Borovoye Array**	**56.35**	**341**	P		**P**	**21 44 38.1**	**-1.7**
comp=Z,2.9nm,0.6s,mb4.5,baz=135,slow=8.4,SNR=4.2								
CHKZ	**Chkalovo**	**56.83**	**341**	*e*P		**P**	**21 44 41.8**	**-1.5**
comp=Z,8.3nm,0.7s,mb4.9								
GERES	**GERESS Array B**	**84.90**	**319**	P		**P**	**21 47 34.0**	**+1.3**
comp=Z,1.0nm,0.9s,mb4.0,baz=90,slow=3.9,SNR=2.3								

*IDC **28** 21:36:50.3±0.9, 1.24N×97.00E, mb4.2/11, mb1 4.3/11, mb1mx4.1/18, mbtmp4.2/11, Error ellipse: s-maj=50.6km s-min=16.8km az=53.0*
*BJI **28** 21:36:50.2, 0.74N×97.25E, h40km, mB5.8, mb4.8, Ms4.9, Msz5.1*
*NEIC **28** 21:36:54.9±0.5, 1.30N×97.15E, h30km, mb4.5/7, Error ellipse: s-maj=19.3km s-min=8.4km az=60.0*
ISC 28 21:36:54.6±2.9, 1.33N±0.09×97.2E±0.1, h41km±25km, n31, σ0§95/32, mb4.4/26, MS5.3/1, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**17.11**	**6**	P		**P**	**21 40 52.6**	**+0.2**
GYA	**Guiyang**	**26.59**	**19**	⇑ *i*P		**P**	**21 42 31.5**	**+0.3**
GYA					AMB	AMB		
comp=Z,10.0nm,1.1s,mb4.3								
LSA	**Lhasa**	**28.80**	**349**	P		**P**	**21 42 52.8**	**+1.7**
LSA	**Lhasa**	**28.80**	**349**	*e*P		**P**	**21 42 51.2**	**+0.1**
comp=Z,3.8nm,0.6s,mb4.3								
ENH	**Enshi**	**31.06**	**21**	*e*P		**P**	**21 43 09.3**	**-1.8**
comp=Z,13nm,0.7s,mb4.9								
FITZ	**Fitzroy Crossi**	**34.00**	**126**	P		**P**	**21 43 35.8**	**-1.1**
comp=Z,4.6nm,0.6s,mb4.6,baz=346,slow=7.2,SNR=5.0								
XAN	**Xi'an**	**34.34**	**17**	P		**P**	**21 43 39.0**	**-0.7**
XAN					AMB	AMB		
comp=Z,15nm,1.1s,mb4.8								
GTA	**Gaotai**	**37.98**	**3**	*e*P		**P**	**21 44 11.0**	**+0.7**
GTA					AP	pP	21 44 18.5	-3.2
GTA					XP	sP	21 44 22.5	-4.3
GTA					PP	PP	21 45 39.5	-1.3
GTA					PPP	PPP	21 46 01.5	-1.5
GTA					S	**S**	**21 49 59.5**	**+0.3**
GTA					AMB	AMB		
comp=Z,8.0nm,0.8s,mb4.5								
GTA					AMB	AMB		
comp=Z,1μm,6.6s								
GTA					LR	LR		
comp=N,596nm,18.9s								
GTA					LR	LR		
comp=E,545nm,13.8s								
GTA					LR	LR		
comp=Z,5μm,18.6s,MS5.3								
HHC	**Hu-ho-hao-te**	**41.44**	**17**	*e*P		**P**	**21 44 36.5**	**-2.5**
HHC					AP	pP	21 44 46.5	-3.9
HHC					XP	sP	21 44 50.3	-5.1
HHC					PP	PP	21 46 15.0	-2.9
HHC					PCP	PcP	21 46 36.0	-1.0
HHC					SCP		21 50 22.3	
HHC					PCS		21 50 26.0	
HHC					S	**S**	**21 50 47.0**	**-4.0**
HHC					AMB	AMB		
comp=Z,12nm,0.4s,mb4.9								
HHC					AMB	AMB		
comp=Z,1μm,4.4s								
HHC					LR	LR		
comp=N,663nm,12.2s								
HHC					LR	LR		
comp=E,731nm,17.8s								
HHC					LR	LR		
comp=Z,9μm,34.5s								
WRA	**Warramunga Arr**	**42.10**	**122**	P		**P**	**21 44 45.7**	**+0.9**
comp=Z,2.7nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=5.3								
WRAB	**Tennant Creek**	**42.10**	**122**	*e*P		**P**	**21 44 44.3**	**-0.4**
comp=Z,3.6nm,0.5s,mb4.3								
BJT	**Baijiatuan**	**42.20**	**22**	*e*P		**P**	**21 44 46.5**	**+1.2**
comp=Z,9.5nm,0.6s,mb4.6								
BJI	**Beijing**	**42.22**	**22**	P		**P**	**21 44 46.5**	**+1.0**
BJI					AMB	AMB		
comp=Z,16nm,0.6s,mb4.8								
WMQ	**Urumqi**	**43.15**	**350**	*e*P		**P**	**21 44 53.0**	**0.0**
WMQ					AMB	AMB		
comp=Z,12nm,1.1s,mb4.5								
ASAR	**Alice Springs**	**43.47**	**127**	P		**P**	**21 44 56.3**	**+0.4**
comp=Z,1.9nm,0.8s,mb3.9,baz=297,slow=8.2,SNR=4.8								
SONM	**Songino Array**	**47.01**	**8**	P		**P**	**21 45 24.3**	**+0.6**
comp=Z,4.7nm,0.8s,mb4.5,baz=188,slow=9.0,SNR=5.7								
MKAR	**Makanchi Array**	**47.12**	**346**	P		**P**	**21 45 25.8**	**+1.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=161,slow=8.6,SNR=4.9								
ULN	**Ulaanbaatar**	**47.13**	**9**	*e*P		**P**	**21 45 24.6**	**-0.1**
comp=Z,2.2nm,0.6s,mb4.3								
CN2	**Changchun**	**49.19**	**27**	*e*P		**P**	**21 45 41.0**	**+0.2**
CN2					AMB	AMB		
comp=Z,10.0nm,0.7s,mb5.0								
KURK	**Kurchatov**	**51.67**	**345**	*e*P		**P**	**21 45 59.2**	**-0.4**
MDJ	**Mudanjiang**	**51.76**	**29**	P		**P**	**21 46 00.3**	**0.0**
MDJ					AMB	AMB		
comp=Z,11nm,1.8s,mb4.5								
STKA	**Stephens Creek**	**53.44**	**132**	P		**P**	**21 46 13.5**	**+0.4**
comp=Z,2.1nm,0.6s,mb4.3,baz=286,slow=7.4,SNR=3.5								
STKA	**Stephens Creek**	**53.44**	**132**	*e*P		**P**	**21 46 13.1**	**+0.1**
BVAR	**Borovoye Array**	**56.13**	**341**	P		**P**	**21 46 31.4**	**-0.9**
comp=Z,3.2nm,0.7s,mb4.4,baz=143,slow=7.4,SNR=4.6								
CHKZ	**Chkalovo**	**56.61**	**341**	*e*P		**P**	**21 46 34.3**	**-1.4**
comp=Z,9.4nm,0.9s,mb4.8								
KIV	**Kislovodsk**	**64.21**	**319**	P		**P**	**21 47 28.4**	**+0.7**
comp=Z,3.2nm,0.6s,mb4.5								
AKASG	**Malin Array Be**	**75.16**	**322**	P		**P**	**21 48 32.4**	**-2.1**
comp=Z,0.2nm,0.3s,mb3.5,baz=112,slow=3.9,SNR=3.8								
ARCES	**ARCESS Array B**	**82.42**	**340**	P		**P**	**21 49 14.3**	**+0.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=3.6,SNR=4.3								
GERES	**GERESS Array B**	**84.72**	**319**	P		**P**	**21 49 26.5**	**+0.7**
comp=Z,0.3nm,0.5s,mb3.7,baz=90,slow=5.9,SNR=3.7								
NOA	**NORSAR Array B**	**86.90**	**331**	P		**P**	**21 49 36.3**	**+0.2**
comp=Z,0.6nm,0.8s,mb3.9,baz=112,slow=19,SNR=3.1								
CFAA	**Coronel Fontan**	**146.89**	**203**	PKPbc	PKPbc		21 56 35.1	+2.2
comp=Z,0.4nm,0.3s,baz=115,slow=7.2,SNR=19								

*IDC **28** 21:41:12.2±1.4, 0.99N×97.22E, mb3.5/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.5/5, Error ellipse: s-maj=62.4km s-min=23.5km az=60.0*
*NEIC **28** 21:41:16.2±0.7, 0.88N×97.11E, h30km, mb4.0/1, Error ellipse: s-maj=21.1km s-min=12.4km az=66.0*
ISC 28 21:41:14.0±1.2, 0.9N±0.1×97.1E±0.2, h30km, n10, σ0§72/9, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.66**	**39**	P		**Pn**	**21 42 38.1**	**-0.2**
WRA	**Warramunga Arr**	**41.99**	**122**	P		**P**	**21 49 04.0**	**-0.5**
0.4nm,0.4s,mb3.4,baz=303,slow=9.0,SNR=5.0								
WRAB	**Tennant Creek**	**42.00**	**122**	*e*P		**P**	**21 49 04.1**	**-0.4**
2.3nm,0.8s,mb3.9								
ASAR	**Alice Springs**	**43.32**	**127**	P		**P**	**21 49 16.3**	**+1.0**
0.4nm,0.6s,mb3.3,baz=302,slow=8.2,SNR=3.9								
SONM	**Songino Array**	**47.46**	**9**	P		**P**	**21 49 48.6**	**+0.6**
0.3nm,0.5s,mb3.5,baz=191,slow=7.4,SNR=3.4								
SONM	**Songino Array**	**47.46**	**9**	P		**P**	**21 49 48.6**	**+0.6**
MKAR	**Makanchi Array**	**47.51**	**346**	P		**P**	**21 49 49.2**	**+0.8**
0.8nm,0.5s,mb4.0,baz=168,slow=9.5,SNR=5.1								
KURK	**Kurchatov**	**52.05**	**345**	P		**P**	**21 50 23.2**	**0.0**
BVAR	**Borovoye Array**	**56.49**	**341**	P		**P**	**21 50 54.4**	**-1.3**
0.2nm,0.4s,mb3.5,baz=141,slow=7.3,SNR=3.5								
CFAA	**Coronel Fontan**	**146.43**	**203**	PKPbc	PKPbc		22 00 55.6	+2.9
0.2nm,0.4s,baz=210,slow=8.1,SNR=2.8								

*IDC **28** 21:44:04.2±1.9, 1.82N×97.04E, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, MS4.6/1, Ms1 4.6/1, ms1mx3.2/27, Error ellipse: s-maj=77.3km s-min=28.6km az=52.0*
*NEIC **28** 21:44:08.8±0.9, 1.97N×97.30E, h30km, mb4.1/3, Error ellipse: s-maj=23.8km s-min=14.7km az=49.0*
ISC 28 21:44:07.0±1.0, 2.0N±0.1×97.3E±0.2, h30km, n11, σ1§02/10, mb3.8/8, MS4.6/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.68**	**46**	*e*P		**Pn**	**21 45 17.3**	**-0.3**
LSA	**Lhasa**	**28.16**	**349**	P		**P**	**21 49 59.0**	**+0.1**
WRA	**Warramunga Arr**	**42.38**	**123**	P		**P**	**21 52 01.5**	**+0.8**
0.3nm,0.4s,mb3.2,baz=302,slow=9.2,SNR=5.2								
WRAB	**Tennant Creek**	**42.

KULM	**Kulim**	**5.20**	**32**	P		**Pn**	**21 46 22.2**	**+0.2**
CM31	**Chiang Mai Arr**	**17.51**	**3**	*e*P		**P**	**21 49 06.7**	**-1.1**
	15nm,0.9s							
KMI	**Kunming**	**24.57**	**11**	P		**P**	**21 50 24.5**	**+1.6**
KMI				AMB	AMB			
	comp=Z,9.0nm,1.4s,mb4.1							
LSA	**Lhasa**	**29.37**	**348**	P		**P**	**21 51 08.0**	**+1.1**
LSA	**Lhasa**	**29.37**	**348**	*e*P		**P**	**21 51 07.0**	**+0.1**
	comp=Z,15nm,0.9s,mb4.7							
ENH	**Enshi**	**31.26**	**20**	*e*P		**P**	**21 51 22.0**	**-1.6**
	comp=Z,17nm,1.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.22**	**126**	P		**P**	**21 51 40.4**	**-0.4**
	comp=Z,8.2nm,0.9s,mb4.7,baz=345,slow=4.3,SNR=7.6							
NDI	**New Delhi**	**33.96**	**326**	*e*		**P**	**21 52 00.0**	**+13**
XAN	**Xi'an**	**34.59**	**16**	P		**P**	**21 51 51.3**	**-1.2**
XAN				AMB	AMB			
	comp=Z,14nm,0.9s,mb4.9							
WRA	**Warramunga Arr**	**41.31**	**122**	P		**P**	**21 52 48.1**	**-0.8**
	comp=Z,4.3nm,1.0s,mb4.0,baz=301,slow=9.2,SNR=8.7							
WRAB	**Tennant Creek**	**41.32**	**122**	*e*P		**P**	**21 52 48.2**	**-0.8**
	comp=Z,5.7nm,0.9s,mb4.2							
BJI	**Beijing**	**42.41**	**21**	P		**P**	**21 52 59.3**	**+1.6**
BJI				AMB	AMB			
	comp=Z,12nm,1.2s,mb4.4							
ASAR	**Alice Springs**	**42.68**	**127**	P		**P**	**21 53 00.6**	**+0.4**
	comp=Z,2.1nm,0.8s,mb3.9,baz=297,slow=6.9,SNR=10							
WMQ	**Urumqi**	**43.71**	**349**	P		**P**	**21 53 09.3**	**+1.0**
WMQ				AMB	AMB			
	comp=Z,12nm,1.0s,mb4.6							
AAK	**Ala-Archa**	**46.55**	**336**	*e*P		**P**	**21 53 31.2**	**+0.2**
SNY	**Shenyang**	**46.90**	**26**	⇑P		**P**	**21 53 34.3**	**+0.6**
SONM	**Songino Array**	**47.36**	**8**	P		**P**	**21 53 38.2**	**+0.9**
	comp=Z,1.6nm,0.6s,mb4.1,baz=196,slow=9.0,SNR=12							
ULN	**Ulaanbaatar**	**47.48**	**8**	P		**P**	**21 53 38.2**	**-0.1**
MKAR	**Makanchi Array**	**47.71**	**346**	P		**P**	**21 53 40.1**	**0.0**
	comp=Z,5.0nm,0.5s,mb4.8,baz=160,slow=8.2,SNR=17							
HIA	**Hailar**	**51.74**	**18**	*e*P		**P**	**21 54 10.6**	**-0.3**
	comp=Z,6.7nm,0.7s,mb4.7							
KURK	**Kurchatov**	**52.27**	**345**	*e*P		**P**	**21 54 14.4**	**-0.5**
	comp=Z,7.6nm,0.9s,mb4.6							
STKA	**Stephens Creek**	**52.66**	**132**	P		**P**	**21 54 19.1**	**+1.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=297,slow=11,SNR=4.4							
BVAR	**Borovoye Array**	**56.77**	**341**	P		**P**	**21 54 46.8**	**-0.9**
	comp=Z,4.1nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=10							
CHKZ	**Chkalovo**	**57.24**	**341**	*e*P		**P**	**21 54 49.5**	**-1.5**
	comp=Z,7.2nm,0.9s,mb4.7							
ARU	**Arti**	**63.73**	**337**	*e*P		**P**	**21 55 34.0**	**-1.2**
	comp=Z,27nm,2.0s,mb4.9							
MALT	**Malatya**	**65.83**	**312**	P		**P**	**21 55 48.5**	**-0.5**
BRTR	**Keskin Array B**	**69.81**	**312**	P		**P**	**21 56 12.8**	**-1.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=119,slow=7.5,SNR=6.1							
FINES	**FINESS Array B**	**80.58**	**332**	P		**P**	**21 57 15.3**	**+0.3**
	comp=Z,0.4nm,0.5s,mb3.6,baz=108,slow=6.0,SNR=5.7							
ARCES	**ARCESS Array B**	**83.06**	**340**	P		**P**	**21 57 28.6**	**+0.9**
	comp=Z,2.9nm,0.8s,mb4.4,baz=117,slow=2.7,SNR=5.0							
MORC	**Moravsky Berou**	**83.07**	**320**	*e*P		**P**	**21 57 28.7**	**+0.5**
GERES	**GERESS Array B**	**85.48**	**319**	P		**P**	**21 57 41.6**	**+1.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=101,slow=6.8,SNR=10							
CLL	**Collm**	**86.09**	**321**	P		**P**	**21 57 44.0**	**+0.6**
NB2	**NORSAR Subarra**	**87.60**	**331**	P		**P**	**21 57 50.6**	**+0.1**
	comp=Z,3.9nm,1.0s,mb4.6,baz=94,slow=4.8							
NOA	**NORSAR Array B**	**87.60**	**331**	P		**P**	**21 57 51.4**	**+0.9**
	comp=Z,1.7nm,0.9s,mb4.3,baz=93,slow=4.7,SNR=4.5							

*IDC **28** 21:45:51.8±0.8, 1.31N×97.12E, mb4.1/11, mb1 4.2/11, mb1mx4.0/19, mbtmp4.1/11, Error ellipse: s-maj=48.6km s-min=16.1km az=53.0*
*NEIC **28** 21:45:56.5±0.4, 1.35N×97.22E, h30km, mb4.4/3, Error ellipse: s-maj=13.4km s-min=6.8km az=68.0*
ISC 28 21:45:54.8±0.6, 1.37N±0.08×97.3E±0.1, h30km, n19, σ0§74/19, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KULM	**Kulim**	**5.17**	**41**	P	**Pn**	**21**	**47 12.1**	**-0.2**
CM31	**Chiang Mai Arr**	**17.06**	**5**	P	**P**	**21**	**49 52.9**	**-0.2**
ENH	**Enshi**	**31.00**	**21**	P	**P**	**21**	**52 11.6**	**-0.6**
	3.0nm,0.4s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.99**	**126**	*e*P	**P**	**21**	**52 37.7**	**-0.6**
	3.5nm,0.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P	**P**	**21**	**52 37.7**	**-0.6**
	4.7nm,0.7s,mb4.6,baz=341,slow=9.7,SNR=6.9							
NWAO	**Narrogin (SRO)**	**38.98**	**153**	P	**P**	**21**	**53 19.3**	**-1.1**
	5.8nm,0.8s,mb4.4,baz=282,slow=6.1,SNR=4.1							
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**21**	**53 46.6**	**+0.4**
	2.7nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=9.8							
WRAB	**Tennant Creek**	**42.09**	**122**	*e*P	**P**	**21**	**53 46.0**	**-0.2**
	3.8nm,0.6s,mb4.2							
WB2	**Warramunga Arr**	**42.09**	**122**	*e*P	**P**	**21**	**53 46.5**	**+0.3**
ASPA	**Alice Springs**	**43.46**	**127**	*e*P	**P**	**21**	**53 57.8**	**+0.5**
ASAR	**Alice Springs**	**43.46**	**127**	P	**P**	**21**	**53 58.0**	**+0.6**
	1.8nm,0.8s,mb3.9,baz=297,slow=8.0,SNR=6.2							
SONM	**Songino Array**	**46.96**	**8**	P	**P**	**21**	**54 24.8**	**-0.1**
	1.7nm,0.8s,mb4.1,baz=190,slow=7.5,SNR=4.8							
ULN	**Ulaanbaatar**	**47.09**	**7**	P	**P**	**21**	**54 27.4**	**+1.4**
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**21**	**55 13.9**	**-0.7**
	4.7nm,0.9s,mb4.4,baz=304,slow=7.9,SNR=6.0							
BVAR	**Borovoye Array**	**56.11**	**341**	P	**P**	**21**	**55 33.1**	**-0.7**
	2.1nm,0.7s,mb4.3,baz=136,slow=7.9,SNR=5.1							
BRTR	**Keskin Array B**	**69.03**	**312**	P	**P**	**21**	**56 58.8**	**-1.3**
	0.9nm,0.9s,mb3.7,baz=135,slow=7.0,SNR=3.8							
GERES	**GERESS Array B**	**84.72**	**319**	P	**P**	**21**	**58 28.8**	**+1.5**
	0.5nm,0.7s,mb3.8,baz=112,slow=7.2,SNR=4.2							
VNDA	**Vanda**	**85.98**	**169**	P	**P**	**21**	**59 33.8**	**+0.7**
	0.4nm,0.6s,mb3.8,baz=287,slow=14,SNR=2.9							
NOA	**NORSAR Array B**	**86.88**	**331**	P	**P**	**21**	**58 38.0**	**+0.2**
	0.3nm,0.8s,mb3.6,baz=134,slow=6.3,SNR=2.4							

*IDC **28** 21:46:14.8±0.5, 1.20N×97.04E, mb4.5/19, mb1 4.6/19, mb1mx4.6/21, mbtmp4.5/19, Error ellipse: s-maj=22.2km s-min=12.6km az=46.0*
*BJI **28** 21:46:15.1, 0.89N×97.36E, h31km, mB5.6, mb5.1, Ms5.2, Msz5.2*
*MOS **28** 21:46:17.9±1.0, 1.27N×97.18E, h33km, mb5.1/19, Error ellipse: s-maj=15.6km s-min=7.7km az=115.5*
*NEIC **28** 21:46:17.8±3.4, 1.22N×97.15E, h19km±20km, mb4.9/29, Error ellipse: s-maj=8.5km s-min=4.9km az=224.0*
ISC 28 21:46:17.3±2.6, 1.23N±0.05×97.20E±0.05, h28km±18km, h26km±1.6km:pP-P, n109, σ1§03/111, mb4.8/56, MS5.1/6, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KULM	**Kulim**	**5.30**	**40**	*e*P	**Pn**	**21**	**47 36.3**	**-0.6**
KSM	**Kuching**	**13.11**	**89**	P	**P**	**21**	**49 24.5**	**-0.1**
CM31	**Chiang Mai Arr**	**17.20**	**6**	*e*P	**P**	**21**	**50 16.1**	**-1.4**
	18nm,0.7s							
PALK	**Pallekele**	**17.50**	**291**	P	**P**	**21**	**50 20.4**	**-0.9**
QIZ	**Qiongzhong**	**21.60**	**34**	P	**P**	**21**	**51 07.0**	**-0.3**
QIZ				S	**S**	**21**	**55 07.3**	**+7.2**
QIZ				AMB	AMB			
	comp=Z,24nm,0.7s,mb4.7							
QIZ				LR	LR			
	comp=E,1μm,14.1s							
QIZ	**Qiongzhong**	**21.60**	**34**	*e*P	**P**	**21**	**51 06.5**	**-0.8**
	comp=E,15nm,0.6s,mb4.6							
KMI	**Kunming**	**24.35**	**12**	⇑P	**P**	**21**	**51 36.3**	**+2.0**
KMI				AP		21	51 42.0	
KMI				AMB	AMB			
	comp=Z,48nm,1.1s,mb4.8							
KMI				AMB	AMB			
	comp=Z,397nm,4.6s							
KMI				LR	LR			
	comp=N,4μm,16.6s,MS5.1							
KMI				LR	LR			
	comp=E,2μm,14.8s,MS5.1							
KMI				LR	LR			
	comp=Z,5μm,14.2s,MS5.1							
HYB	**Hyderabad**	**24.39**	**312**	*e*P	**P**	**21**	**51 36.0**	**+1.2**
HYB				*e*S	**S**	**21**	**55 54.0**	**+4.3**
HYB	**Hyderabad**	**24.39**	**312**	*i* P	**P**	**21**	**51 36.0**	**+1.2**
HYB				*e*S	**S**	**21**	**55 54.0**	**+4.3**
GYA	**Guiyang**	**26.68**	**19**	⇑*i*P	**P**	**21**	**51 56.3**	**+0.1**
GYA				AP	pP	21	52 05.5	+1.2
GYA				XP	sP	21	52 09.8	+1.9
GYA				PP	PP	21	52 40.3	-0.6
GYA				S	**S**	**21**	**56 27.0**	**-0.9**
GYA				AMB	AMB			
	comp=Z,40nm,0.8s,mb5.0							
GYA				AMB	AMB			
	comp=Z,6μm,8.4s							
GYA				LR	LR			
	comp=N,10μm,16.8s,MS5.6							
GYA				LR	LR			
	comp=E,11μm,17.2s,MS5.6							
GYA				LR	LR			
	comp=Z,8μm,16.5s,MS5.3							
JIRN	**Jiri**	**28.32**	**339**	*e*P	**P**	**21**	**52 09.7**	**-1.3**
	comp=Z,124nm,0.9s,mb5.5							
PKI	**Pulchoki**	**28.52**	**338**	*e*P	**P**	**21**	**52 12.0**	**-0.9**
	comp=Z,32nm,0.8s,mb5.1							
PKI	**Pulchoki**	**28.52**	**338**	*e*P	**P**	**21**	**52 12.0**	**-0.9**
PKI				pmax	pmax			
	comp=Z,16nm,0.8s,mb4.8							
DMN	**Daman**	**28.67**	**337**	*e*P	**P**	**21**	**52 13.4**	**-0.8**
	comp=Z,45nm,0.8s,mb5.2							
KKN	**Kakani**	**28.77**	**338**	*e*P	**P**			
	comp=Z,56nm,0.8s,mb5.4							
KKN	**Kakani**	**28.77**	**338**	*e*P	**P**	**21**	**52 15.1**	**0.0**
KKN				pmax	pmax			
	comp=Z,28nm,0.8s,mb5.0							
LSA	**Lhasa**	**28.89**	**349**	P	**P**	**21**	**52 19.8**	**+3.6**
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**21**	**52 17.6**	**+1.4**
LSA				pmax	pmax			
	comp=Z,22nm,0.8s,mb4.9							
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**21**	**52 17.6**	**+1.4**
	comp=Z,22nm,0.8s,mb4.9							
GKN	**Gorkha**	**29.21**	**337**	*e*P	**P**	**21**	**52 19.5**	**+0.4**
	comp=Z,67nm,0.9s,mb5.4							
KOLN	**Koldanda**	**29.43**	**335**	*e*P	**P**	**21**	**52 21.6**	**+0.5**
	comp=Z,57nm,0.7s,mb5.4							
CD2	**Chengdu**	**30.17**	**11**	*e*P	**P**	**21**	**52 29.0**	**+1.4**
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**21**	**52 34.7**	**-1.5**
	comp=Z,68nm,0.9s,mb5.5							
LGTI	**Lohaghat**	**32.38**	**332**	*e*P	**P**	**21**	**52 49.0**	**+2.0**
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*e*P	**P**	**21**	**53 00.0**	**-0.8**
	comp=Z,8.8nm,0.6s,mb4.9							
FITZ				*e*S	**S**	**21**	**58 13.2**	**-10**
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**21**	**52 60.0**	**-0.8**
	comp=Z,11nm,0.6s,mb5.0,baz=302,slow=3.8,SNR=16							
DDI	**Dehra Dun**	**34.17**	**330**	*e*	**P**	**21**	**53 05.0**	**+2.5**
DDI				*e*		21	59 30.0	
XAN	**Xi'an**	**34.44**	**17**	P	**P**	**21**	**53 03.8**	**-1.0**
XAN				AP	pP	21	53 10.5	-2.5
XAN				AMB	AMB			
	comp=Z,36nm,0.8s,mb5.3							
LZH	**Lanzhou**	**35.23**	**9**	*e*P	**P**	**21**	**53 11.3**	**-0.3**
LZH				AP	pP	21	53 18.0	-1.8
LZH				XP	sP	21	53 23.0	-0.3
LZH				AMB	AMB			
	comp=Z,45nm,1.7s,mb5.1							
LZH				AMB	AMB			
	comp=Z,220nm,4.3s							
LZH				LR	LR			
	comp=N,3μm,16.6s							
LZH				LR	LR			
	comp=Z,3μm,18.0s,MS5.2							
THN	**Thein Dam**	**37.05**	**329**	*e*P	**P**	**21**	**53 26.1**	**-0.9**
	comp=Z,18nm,0.8s,mb5.0							
THN				*e*		22	00 00.0	
	comp=Z,20nm,0.8s							
KAKA	**Kakadu**	**37.62**	**113**	*e*P	**P**	**21**	**53 30.9**	**-1.0**
	comp=Z,9.2nm,0.5s,mb4.8							
GTA	**Gaotai**	**38.07**	**3**	*e*P	**P**	**21**	**53 35.8**	**+0.3**
GTA				AP	pP	21	53 44.3	+0.5
GTA				XP	sP	21	53 48.0	+0.8
GTA				PP	PP	21	55 06.3	+0.3
GTA				PPP	PPP	21	55 29.3	+1.2
GTA				PCP	PcP	21	55 51.0	+0.1
GTA				AMB	AMB			
	comp=Z,38nm,0.8s,mb5.2							
GTA				AMB	AMB			
	comp=Z,373nm,5.7s							
GTA				LR	LR			
	comp=N,893nm,15.6s,MS4.9							
GTA				LR	LR			
	comp=E,1μm,15.3s,MS4.9							
GTA				LR	LR			
	comp=Z,4μm,14.7s,MS5.3							
JOW	**Kunigami**	**39.22**	**47**	P	**P**	**21**	**53 46.2**	**+1.0**
	comp=Z,55nm,0.7s,mb5.4,baz=219,slow=8.1,SNR=17							
HHC	**Hu-ho-hao-te**	**41.53**	**16**	*e*P	**P**	**21**	**54 06.0**	**+1.9**
HHC				AP	pP	21	54 12.5	+0.1
HHC				XP	sP	21	54 16.5	+0.7
HHC				PP	PP	21	55 40.5	-2.7
HHC				PCP	PcP	21	56 03.5	+1.6
HHC				AMB	AMB			
	comp=Z,16nm,0.4s,mb5.0							
HHC				AMB	AMB			
	comp=Z,1μm,4.4s							
HHC				LR	LR			
	comp=N,1μm,20.1s,MS5.0							
HHC				LR	LR			
	comp=E,2μm,17.2s,MS5.0							
HHC				LR	LR			
	comp=Z,3μm,38.1s							
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**21**	**54 09.2**	**+0.5**
	comp=Z,8.2nm,0.5s,mb4.6,baz=301,slow=9.1,SNR=29							
WRAB	**Tennant Creek**	**42.06**	**122**	P	**P**	**21**	**54 09.0**	**+0.2**
	comp=Z,91nm,0.5s,mb5.7,SNR=9.6							
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**21**	**54 07.5**	**-1.3**
WRAB				pmax	pmax			
	comp=Z,11nm,0.5s,mb4.7							
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**21**	**54 07.5**	**-1.2**
	comp=Z,11nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P	**P**	**21**	**54 09.3**	**+0.5**
BJT	**Baijiatuau**	**42.29**	**22**	*e*P	**P**	**21**	**54 11.2**	**+0.8**
BJT				pmax	pmax			
	comp=Z,28nm,0.8s							
BJT	**Baijiatuau**	**42.29**	**22**	*e*P	**P**	**21**	**54 11.2**	**+0.8**
	comp=Z,28nm,0.8s,mb4.9							
BJI	**Beijing**	**42.31**	**22**	P	**P**	**21**	**54 11.5**	**+0.9**
BJI				AMB	AMB			
	comp=Z,36nm,0.7s,mb5.1							
WMQ	**Urumqi**	**43.24**	**350**	⇓*i*P	**P**	**21**	**54 19.5**	**+1.4**
WMQ				AP	pP	21	54 29.0	+2.6
WMQ				XP	sP	21	54 33.0	+3.2
WMQ				AMB	AMB			
	comp=Z,20nm,0.9s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,283nm,6.2s							
WMQ				LR	LR			
	comp=N,2μm,28.8s,MS5.0							
WMQ				LR	LR			
	comp=E,2μm,29.8s,MS5.0							
WMQ				LR	LR			
	comp=Z,2μm,29.8s,MS4.8							
ASPA	**Alice Springs**	**43.41**	**127**	*e*P	**P**	**21**	**54 20.4**	**+0.6**
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**21**	**54 20.4**	**+0.7**
	comp=Z,5.6nm,0.7s,mb4.4,baz=297,slow=8.0,SNR=18							
ASAR				PcP	PcP	21	56 08.8	+0.3
	comp=Z,1.2nm,0.7s,baz=309,slow=3.0,SNR=4.6							
ULHL	**Ulahol**	**44.96**	**338**	P	**P**	**21**	**54 33.1**	**+1.1**
	SNR=8.5							
TKM2	**Tokmak 2**	**45.79**	**338**	P	**P**	**21**	**54 39.4**	**+0.8**
	SNR=7.9							
KBK	**Karagaybulak**	**45.81**	**337**	P	**P**	**21**	**54 40.6**	**+1.9**
	SNR=7.5							
AAK	**Ala-Archa**	**45.97**	**337**	*e*P	**P**	**21**	**54 40.1**	**+0.1**
AAK				pmax	pmax			
	comp=Z,19nm,1.4s,mb4.8							
AAK	**Ala-Archa**	**45.97**	**337**	*e*P	**P**	**21**	**54 40.0**	**+0.1**
	comp=Z,19nm,1.4s,mb4.8							
CHMS	**Chumysh**	**46.18**	**337**	P	**P**	**21**	**54 42.2**	**+0.5**
	SNR=5.4							
EKS2	**Erkin-Say**	**46.28**	**336**	P	**P**	**21**	**54 44.0**	**+1.5**
	SNR=15							
USP	**Ospenovka**	**46.50**	**337**	P	**P**	**21**	**54 44.7**	**+0.6**
	SNR=13							
SONM	**Songino Array**	**47.10**	**8**	P	**P**	**21**	**54 49.4**	**+0.5**
	comp=Z,15nm,0.8s,mb5.0,baz=189,slow=8.6,SNR=36							
SONM				PcP	PcP	21	56 20.6	-0.2
	comp=Z,3.5nm,0.7s,baz=195,slow=4.0,SNR=4.1							
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**21**	**54 49.9**	**+0.1**
	comp=Z,13nm,0.7s,mb5.0,baz=158,slow=7.8,SNR=20							
ULN	**Ulaanbaatar**	**47.23**	**9**	*e*P	**P**	**21**	**54 50.1**	**+0.2**
ULN				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
ULN	**Ulaanbaatar**	**47.23**	**9**	*e*P	**P**	**21**	**54 50.1**	**+0.2**
	comp=Z,7.6nm,0.8s,mb4.7							
CN2	**Changchun**	**49.28**	**27**	*e*P	**P**	**21**	**55 05.3**	**-0.5**
CN2				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.4							
TLY	**Talaya**	**50.56**	**5**	*e*P	**P**	**21**	**55 15.7**	**+0.2**
TLY				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
TLY	**Talaya**	**50.56**	**5**	*e*P	**P**	**21**	**55 16.2**	**+0.7**
	comp=Z,8.3nm,0.7s,mb4.8							
HIA	**Hailar**	**51.61**	**19**	*e*P	**P**	**21**	**55 23.2**	**-0.3**
HIA				pmax	pmax			
	comp=Z,18nm,0.8s							
HIA	**Hailar**	**51.61**	**19**	*e*P	**P**	**21**	**55 23.2**	**-0.3**
	comp=Z,18nm,0.8s,mb5.1							
KURK	**Kurchatov**	**51.76**	**345**	*e*P	**P**	**21**	**55 24.1**	**-0.6**
KURK				pmax	pmax			
	comp=Z,9.0nm,0.8s,mb4.8							
KURK	**Kurchatov**	**51.76**	**345**	*e*P	**P**	**21**	**55 24.1**	**-0.5**
	comp=Z,9.0nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**53.38**	**132**	*e*P	**P**	**21**	**55 37.1**	**+0.1**
	comp=Z,4.8nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**53.38**	**132**	P	**P**	**21**	**55 37.9**	**+0.8**
	comp=Z,5.4nm,0.6s,mb4.7,baz=309,slow=6.7,SNR=13							
NVS	**Novosibirsk**	**54.65**	**350**	⇑*i*P	**P**	**21**	**55 44.1**	**-1.8**
NVS				pmax	pmax			
	comp=N,4.0nm,0.7s							
NVS				pmax	pmax			
	comp=E,4.0nm,0.7s							
BVAR	**Borovoye Array**	**56.22**	**341**	P	**P**	**21**	**55 56.1**	**-1.3**
	comp=E,13nm,0.7s,mb5.1,baz=141,slow=8.4,SNR=30							
KLR	**Kul'dur**	**56.23**	**27**	*e*P	**P**	**21**	**55 54.5**	**-3.0**
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P	**P**	**21**	**55 59.4**	**-1.4**
CHKZ				pmax	pmax			
	comp=Z,14nm,0.6s,mb5.2							
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P	**P**	**21**	**55 59.4**	**-1.4**
	comp=Z,14nm,0.6s,mb5.2							
KMBO	**Kilima Mbogo**	**59.98**	**268**	P	**P**	**21**	**56 22.2**	**-2.1**
	comp=Z,0.9nm,0.8s,mb3.9,baz=49,slow=19,SNR=2.9							
SVE	**Sverdlovsk**	**62.66**	**338**	*e*P	**P**	**21**	**56 41.0**	**-0.7**
ARU	**Arti**	**63.15**	**337**	*e*P	**P**	**21**	**56 43.2**	**-1.8**
ARU				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
ARU	**Arti**	**63.15**	**337**	*e*P	**P**	**21**	**56 43.1**	**-1.8**
	comp=Z,7.6nm,0.8s,mb4.9							
KIV	**Kislovodsk**	**64.28**	**319**	*e*P	**P**	**21**	**56 51.5**	**-1.1**
KIV				*e*	pP	21	56 58.9	-2.3
KIV				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.6							
KIV	**Kislovodsk**	**64.28**	**319**	*e*P	**P**	**21**	**56 51.8**	**-0.8**
	comp=Z,6.5nm,0.7s,mb4.8							
ASF	**Jabal al Asfar**	**64.44**	**305**	P	**P**	**21**	**56 54.2**	**+0.3**
	comp=Z,1.4nm,0.5s,mb4.3,baz=102,slow=0.6,SNR=4.7							
MALT	**Malatya**	**65.11**	**312**	*e*P	**P**	**21**	**56 58.4**	**+0.3**
MALT				pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.5							
MALT	**Malatya**	**65.11**	**312**	*e*P	**P**	**21**	**56 58.4**	**+0.4**
	comp=Z,3.8nm,0.9s,mb4.4							
YAK	**Yakutsk**	**65.39**	**16**	*e*P	**P**	**21**	**56 57.9**	**-1.6**
YAK				pmax	pmax			
	comp=Z,19nm,0.9s,mb5.1							
YAK				pmax	pmax			
	comp=N,4.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.1s							
YAK	**Yakutsk**	**65.39**	**16**	*e*P	**P**	**21**	**56 58.0**	**-1.5**
	comp=E,20nm,0.6s,mb5.3							
BRTR	**Keskin Array B**	**69.09**	**312**	P	**P**	**21**	**57 22.4**	**-0.8**
	comp=E,2.1nm,0.7s,mb4.2,baz=123,slow=6.8,SNR=9.7							
MA2	**Magadan**	**71.31**	**26**	*e*P	**P**	**21**	**57 36.4**	**+0.1**
MA2				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
MA2				pmax	pmax			
	comp=N,2.0nm,0.5s							
MA2				pmax	pmax			
	comp=E,2.0nm,0.6s							
MA2	**Magadan**	**71.31**	**26**	*e*P	**P**	**21**	**57 36.1**	**-0.2**
	comp=E,11nm,0.7s,mb4.9							
PET	**Petropavlovsk**	**72.21**	**34**	*e*P	**P**	**21**	**57 41.6**	**-0.2**
PET				*e*		21	58 04.4	
PET				pmax	pmax			
	comp=Z,25nm,0.7s,mb5.2							
OBN	**Obninsk**	**72.59**	**328**	*e*P	**P**	**21**	**57 43.1**	**-0.9**
OBN				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
CFR	**Carcaliu**	**74.47**	**317**	⇓P	**P**	**21**	**58 09.5**	**+14**
BOSA	**Boshof**	**74.79**	**240**	P	**P**	**21**	**57 57.0**	**-0.4**
	comp=Z,2.4nm,0.8s,mb4.2,baz=47,slow=2.9,SNR=4.0							
AKASG	**Malin Array Be**	**75.23**	**322**	P	**P**	**21**	**57 58.1**	**-1.3**
	comp=Z,2.1nm,0.5s,mb4.3,baz=86,slow=5.3,SNR=8.1							
MLR	**Muntele Rosu**	**76.04**	**317**	P	**P**	**21**	**58 04.2**	**0.0**
	comp=Z,2.3nm,0.6s,mb4.3,baz=123,slow=5.8,SNR=5.3							
MLR	**Muntele Rosu**	**76.04**	**317**	⇑P	**P**	**21**	**58 04.7**	**+0.5**
BURAR	**Bucovina Array**	**77.00**	**319**	⇑P	**P**	**21**	**58 10.9**	**+1.4**
SUW	**Suwalki**	**79.65**	**325**	*e*P	**

CM31	**Chiang Mai Arr**	**17.38**	**6**	*eP*		**P**	**21 54 18.7**	**-2.0**
	12nm,0.9s							
QIZ	**Qiongzhong**	**21.76**	**34**	*eP*		**P**	**21 55 10.5**	**+0.7**
KMI	**Kunming**	**24.52**	**12**	P		**P**	**21 55 39.3**	**+2.4**
KMI				AMB	AMB			
	comp=Z,36nm,1.3s,mb4.7							
LSA	**Lhasa**	**29.05**	**349**	*eP*		**P**	**21 56 17.4**	**-1.1**
	comp=Z,4.7nm,0.7s,mb4.3							
ENH	**Enshi**	**31.32**	**21**	*eP*		**P**	**21 56 36.6**	**-2.1**
	comp=Z,32nm,1.0s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.88**	**126**	P		**P**	**21 56 58.6**	**-2.5**
	comp=Z,3.2nm,0.7s,mb4.3,baz=277,slow=3.5,SNR=2.9							
GTA	**Gaotai**	**38.24**	**3**	*eP*		**P**	**21 57 38.5**	**+0.6**
GTA				AP	pP		21 57 45.3	-1.5
GTA				XP	sP		21 57 48.5	-2.1
GTA				PP	PP		21 59 11.0	+2.1
GTA				PPP	PPP		21 59 33.8	+2.5
GTA				AMB	AMB			
	comp=Z,14nm,0.8s,mb4.7							
GTA				AMB	AMB			
	comp=Z,618nm,6.3s							
GTA				LR	LR			
	comp=N,893nm,16.2s,MS4.9							
GTA				LR	LR			
	comp=E,1μm,15.6s,MS4.9							
GTA				LR	LR			
	comp=Z,4μm,14.1s,MS5.3							
HHC	**Hu-ho-hao-te**	**41.70**	**16**	*eP*		**P**	**21 58 08.3**	**+1.9**
HHC				AP	pP		21 58 17.3	+1.9
HHC				XP	sP		21 58 21.0	+1.8
HHC				PP	PP		21 59 48.5	+2.6
HHC				AMB	AMB			
	comp=Z,18nm,0.4s,mb5.0							
HHC				LR	LR			
	comp=N,1μm,22.0s,MS5.0							
HHC				LR	LR			
	comp=E,2μm,18.4s,MS5.0							
HHC				LR	LR			
	comp=Z,3μm,22.0s,MS5.2							
WRA	**Warramunga Arr**	**41.99**	**122**	P		**P**	**21 58 09.4**	**+0.3**
	comp=Z,3.8nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=7.2							
BJT	**Baijiatuan**	**42.46**	**22**	*eP*		**P**	**21 58 13.1**	**+0.4**
	comp=Z,10nm,0.6s,mb4.6							
BJI	**Beijing**	**42.48**	**22**	P		**P**	**21 58 14.0**	**+1.1**
BJI				AMB	AMB			
	comp=Z,16nm,0.7s,mb4.8							
ASAR	**Alice Springs**	**43.34**	**127**	P		**P**	**21 58 20.8**	**+0.7**
	comp=Z,2.4nm,0.9s,mb3.9,baz=301,slow=7.8,SNR=6.6							
WMQ	**Urumqi**	**43.40**	**350**	*eP*		**P**	**21 58 21.3**	**+1.0**
WMQ				XP	sP		21 58 35.0	+2.0
WMQ				AMB	AMB			
	comp=Z,11nm,1.0s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,149nm,7.2s							
WMQ				LR	LR			
	comp=N,435nm,22.0s,MS4.5							
WMQ				LR	LR			
	comp=E,584nm,23.2s,MS4.5							
WMQ				LR	LR			
	comp=Z,321nm,21.8s,MS4.2							
AAK	**Ala-Archa**	**46.11**	**337**	P		**P**	**21 58 40.8**	**-1.2**
SONM	**Songino Array**	**47.27**	**8**	P		**P**	**21 58 51.4**	**+0.3**
	comp=Z,5.2nm,0.8s,mb4.5,baz=192,slow=9.3,SNR=8.9							
MKAR	**Makanchi Array**	**47.37**	**346**	P		**P**	**21 58 52.4**	**+0.5**
	comp=Z,4.6nm,0.7s,mb4.5,baz=159,slow=7.8,SNR=7.4							
ULN	**Ulaanbaatar**	**47.40**	**9**	*eP*		**P**	**21 58 52.1**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.4							
CN2	**Changchun**	**49.44**	**27**	*eP*		**P**	**21 59 08.0**	**0.0**
CN2				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.2							
KURK	**Kurchatov**	**51.91**	**345**	*eP*		**P**	**21 59 24.9**	**-1.8**
	comp=Z,5.9nm,1.0s,mb4.5							
STKA	**Stephens Creek**	**53.29**	**132**	P		**P**	**21 59 37.5**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.4,baz=293,slow=7.7,SNR=4.4							
STKA	**Stephens Creek**	**53.29**	**132**	*eP*		**P**	**21 59 35.7**	**-1.6**
BVAR	**Borovoye Array**	**56.37**	**341**	P		**P**	**21 59 58.8**	**-0.5**
	comp=Z,2.2nm,0.6s,mb4.3,baz=149,slow=8.6,SNR=8.7							
CHKZ	**Chkalovo**	**56.84**	**341**	*eP*		**P**	**22 00 01.4**	**-1.4**
	comp=Z,6.3nm,0.9s,mb4.7							
BRTR	**Keskin Array B**	**59.18**	**312**	P		**P**	**22 01 24.0**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.8,baz=130,slow=8.6,SNR=6.6							
FINES	**FINESS Array B**	**80.10**	**333**	P		**P**	**22 02 27.3**	**+0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=100,slow=12,SNR=3.3							
FINES	**FINESS Array B**	**80.10**	**333**	P		**P**	**22 02 27.3**	**+0.3**
ARCES	**ARCESS Array B**	**82.65**	**340**	P		**P**	**22 02 41.0**	**+0.8**
	comp=Z,9.0nm,1.1s,mb4.7,baz=76,slow=5.0,SNR=5.9							
GERES	**GERESS Array B**	**84.89**	**319**	P		**P**	**22 02 53.7**	**+1.8**
	comp=Z,1.2nm,0.9s,mb4.0,baz=108,slow=4.2,SNR=6.8							
NOA	**NORSAR Array B**	**87.11**	**331**	P		**P**	**22 03 03.6**	**+1.0**
	comp=Z,1.2nm,0.8s,mb4.2,baz=93,slow=5.0,SNR=3.7							

*IDC **28** 21:52:36.0±0.8, 0.81N×97.72E, mb4.2/13, mb1 4.4/13, mb1mx4.2/19, mbtmp4.2/13, Error ellipse: s-maj=49.1km s-min=14.2km az=52.0*
*NEIC **28** 21:52:40.2±0.4, 0.82N×97.75E, h30km, mb4.4/8, Error ellipse: s-maj=17.6km s-min=6.0km az=58.0*
ISC 28 21:52:39.6±5.2, 0.9N±0.1×97.8E±0.2, h38km±45km, n30, σ0s73/27, mb4.3/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**17.50**	**3**	*eP*		**P**	**21 56 43.2**	**+0.7**
	26nm,0.9s							
LSA	**Lhasa**	**29.36**	**348**	*eP*		**P**	**21 58 41.8**	**+0.4**
	6.0nm,0.8s,mb4.4							
FITZ	**Fitzroy Crossi**	**33.22**	**126**	P		**P**	**21 59 14.8**	**-0.7**
	3.2nm,0.6s,mb4.4,baz=305,slow=3.4,SNR=5.9							
NWAO	**Narrogin (SRO)**	**38.28**	**153**	P		**P**	**21 59 57.5**	**-0.7**
	3.7nm,0.7s,mb4.2,baz=328,slow=12,SNR=2.1							
WRA	**Warramunga Arr**	**41.32**	**122**	P		**P**	**22 00 23.7**	**+0.1**
	5.0nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=8.1							
WRAB	**Tennant Creek**	**41.33**	**122**	*eP*		**P**	**22 00 23.1**	**-0.5**
	5.8nm,0.9s,mb4.2							
ASAR	**Alice Springs**	**42.69**	**127**	P		**P**	**22 00 35.3**	**+0.4**
	3.1nm,0.6s,mb4.2,baz=295,slow=7.7,SNR=10							
AAK	**Ala-Archa**	**46.55**	**336**	P		**P**	**22 01 05.0**	**-0.5**
	6.4nm,0.9s,mb4.5							
SONM	**Songino Array**	**47.35**	**8**	P		**P**	**22 01 11.9**	**+0.1**
	1.7nm,0.8s,mb4.0,baz=197,slow=9.1,SNR=3.7							
ULN	**Ulaanbaatar**	**47.48**	**8**	P		**P**	**22 01 13.0**	**+0.2**
	2.6nm,1.2s,mb4.0							
MKAR	**Makanchi Array**	**47.71**	**346**	P		**P**	**22 01 14.8**	**+0.3**
	3.2nm,0.6s,mb4.6,baz=154,slow=7.2,SNR=5.2							
KURK	**Kurchatov**	**52.27**	**345**	*eP*		**P**	**22 01 48.7**	**-0.7**
	8.2nm,0.7s,mb4.8							
STKA	**Stephens Creek**	**52.67**	**132**	P		**P**	**22 01 53.9**	**+1.3**
	2.7nm,0.7s,mb4.3,baz=308,slow=8.7,SNR=3.4							
BVAR	**Borovoye Array**	**56.76**	**341**	P		**P**	**22 02 21.4**	**-0.8**
	2.2nm,0.6s,mb4.3,baz=129,slow=9.2,SNR=4.9							
CHKZ	**Chkalovo**	**57.23**	**341**	*eP*		**P**	**22 02 24.3**	**-1.2**
	4.3nm,0.8s,mb4.5							
BOD	**Bodaibo**	**58.21**	**10**	*eP*		**P**	**22 02 31.7**	**-0.6**
BOD				pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0							
YSS	**Yuzh-Sakhalins**	**60.25**	**34**	P		**P**	**22 02 46.5**	**-0.1**
ARU	**Arti**	**63.73**	**337**	*eP*		**P**	**22 03 09.0**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.3							
KIV	**Kislovodsk**	**64.97**	**319**	*eP*		**P**	**22 03 17.5**	**-0.4**
KIV				pmax	pmax			
	comp=Z,8.0nm,1.2s,mb4.6							
BRTR	**Keskin Array B**	**69.80**	**312**	P		**P**	**22 03 48.0**	**-0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=132,slow=8.0,SNR=7.4							
AKASG	**Malin Array Be**	**75.90**	**322**	P		**P**	**22 04 23.6**	**-0.4**
	comp=Z,0.3nm,0.2s,mb3.8,baz=93,slow=4.9,SNR=4.1							
FINES	**FINESS Array B**	**80.58**	**332**	P		**P**	**22 04 49.9**	**+0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=5.5							
GERES	**GERESS Array B**	**85.47**	**319**	P		**P**	**22 05 16.6**	**+1.8**
	comp=Z,1.5nm,0.9s,mb4.1,baz=104,slow=5.5,SNR=8.2							
KHC	**Kasperske Hory**	**85.58**	**319**	*eP*		**P**	**22 05 16.5**	**+1.2**
KHC				*e*pP	pP		22 05 27.0	+0.1
NB2	**NORSAR Subarra**	**87.59**	**331**	P		**P**	**22 05 25.7**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.9,baz=95,slow=4.8							
NOA	**NORSAR Array B**	**87.59**	**331**	P		**P**	**22 05 26.0**	**+1.2**
	comp=Z,1.1nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.4							
NOA	**NORSAR Array B**	**87.59**	**331**	P		**P**	**22 05 26.0**	**+1.2**
ULM	**Lac du Bonnet**	**127.73**	**11**	PKP		PKPdf	22 11 45.6	+4.2
	comp=Z,1.1nm,0.6s,baz=296,slow=2.3,SNR=3.7							
PDAR	**Pinedale Array**	**130.04**	**26**	PKP		PKPdf	22 11 49.4	+3.4
	comp=Z,0.5nm,0.6s,baz=297,slow=3.3,SNR=4.2							
TXAR	**Lajitas Array**	**143.59**	**33**	PKP		PKPdf	22 12 14.2	+3.1
	comp=Z,0.5nm,0.5s,baz=270,slow=1.3,SNR=3.8							

*IDC **28** 21:52:50.3±0.8, 1.17N×96.95E, mb4.6/14, mb1 4.6/14, mb1mx4.5/19, mbtmp4.6/14, Error ellipse: s-maj=37.3km s-min=14.7km az=48.0*
*BJI **28** 21:52:52.1, 0.88N×97.26E, h41km, mB5.3, mb5.1, Ms5.0, Msz5.0*
*MOS **28** 21:52:53.3±0.9, 1.27N×97.02E, h33km, mb5.1/13, Error ellipse: s-maj=18.6km s-min=8.9km az=108.1*
*NEIC **28** 21:52:55.2±0.4, 1.32N×97.10E, h30km, mb5.0/11, Error ellipse: s-maj=10.5km s-min=7.0km az=50.0*
ISC 28 21:52:55.1±1.4, 1.32N±0.07×97.18E±0.07, h43km±12km, h29km±2.7km:pP-P, n67, σ0s89/72, mb4.9/45, MS5.0/6, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.25**	**41**	*eP*		**P**	**21 54 13.2**	**+0.1**
KSM	**Kuching**	**13.13**	**89**	P		**P**	**21 56 01.3**	**-0.2**
CM31	**Chiang Mai Arr**	**17.12**	**6**	*eP*		**P**	**21 56 51.5**	**-1.5**
	26nm,0.9s							
QIZ	**Qiongzhong**	**21.54**	**34**	P		**P**	**21 57 42.8**	**+0.1**
QIZ	**Qiongzhong**	**21.54**	**34**	*eP*		**P**	**21 57 42.0**	**-0.8**
	20nm,0.8s,mb4.6							
KMI	**Kunming**	**24.27**	**12**	P		**P**	**21 58 11.8**	**+2.2**
KMI				AP			21 58 21.3	
KMI				S		**S**	**22 02 20.5**	**-2.0**
KMI				AMB	AMB			
	comp=Z,71nm,1.4s,mb4.9							
KMI				LR	LR			
	comp=N,2μm,15.2s,MS4.7							
KMI				LR	LR			
	comp=E,1μm,15.6s,MS4.7							
KMI				LR	LR			
	comp=Z,5μm,18.6s,MS5.0							
HYB	**Hyderabad**	**24.32**	**312**	*eP*		**P**	**21 58 06.0**	**-4.1**
HYB	**Hyderabad**	**24.32**	**312**	*i* P		**P**	**21 58 06.0**	**-4.1**
GYA	**Guiyang**	**26.61**	**19**	∥ *i*P		**P**	**21 58 31.5**	**-0.1**
GYA				AP	pP		21 58 40.8	-2.2
GYA				XP	sP		21 58 44.8	-3.5
GYA				PP	PP		21 59 15.5	-1.0
GYA				S		**S**	**22 03 01.5**	**+0.1**
GYA				AMB	AMB			
	comp=Z,30nm,0.9s,mb4.8							
GYA				AMB	AMB			
	comp=Z,130nm,3.8s							
GYA				LR	LR			
	comp=N,6μm,16.2s,MS5.4							
GYA				LR	LR			
	comp=E,7μm,16.8s,MS5.4							
GYA				LR	LR			
	comp=Z,8μm,17.0s,MS5.3							
JIRN	**Jiri**	**28.23**	**339**	*eP*		**P**	**21 58 46.8**	**+0.5**
	comp=Z,132nm,0.9s,mb5.6							
PKI	**Pulchoki**	**28.44**	**338**	*eP*		**P**	**21 58 48.8**	**+0.6**
	comp=Z,50nm,0.9s,mb5.1							
DMN	**Daman**	**28.59**	**337**	*eP*		**P**	**21 58 50.3**	**+0.8**
KKN	**Kakani**	**28.68**	**338**	*eP*		**P**	**21 58 50.9**	**+0.5**
LSA	**Lhasa**	**28.80**	**349**	P		**P**	**21 58 50.0**	**-1.4**
LSA				pmax	pmax			
	comp=Z,19nm,0.7s,mb4.9							
LSA	**Lhasa**	**28.80**	**349**	P		**P**	**21 58 50.0**	**-1.4**
	comp=Z,18nm,0.7s,mb4.9							
GKN	**Gorkha**	**29.12**	**337**	*eP*		**P**	**21 58 55.0**	**+0.7**
	comp=Z,86nm,0.9s,mb5.5							
KOLN	**Koldanda**	**29.34**	**335**	*eP*		**P**	**21 58 57.3**	**+1.0**
	comp=Z,53nm,0.8s,mb5.3							
ENH	**Enshi**	**31.08**	**21**	*eP*		**P**	**21 59 10.4**	**-1.2**
	comp=Z,59nm,0.7s,mb5.5							
FITZ	**Fitzroy Crossi**	**34.02**	**126**	P		**P**	**21 59 36.4**	**-0.9**
	comp=Z,11nm,0.7s,mb4.9,baz=302,slow=1.8,SNR=6.5							
XAN	**Xi'an**	**34.36**	**17**	P		**P**	**21 59 39.3**	**-0.8**
XAN				AMB	AMB			
	comp=Z,41nm,0.9s,mb5.4							
LZH	**Lanzhou**	**35.14**	**9**	*eP*		**P**	**21 59 47.3**	**+0.5**
LZH				AP	pP		21 59 54.5	-4.1
LZH				AMB	AMB			
	comp=Z,39nm,1.5s,mb5.1							
LZH				AMB	AMB			
	comp=Z,169nm,4.8s							
LZH				LR	LR			
	comp=N,1μm,15.8s							
LZH				LR	LR			
	comp=Z,2μm,17.1s,MS5.0							
GTA	**Gaotai**	**37.99**	**3**	*eP*		**P**	**22 00 11.8**	**+1.1**
GTA				AP	pP		22 00 20.8	-1.8
GTA				XP	sP		22 00 23.8	-4.2
GTA				PP	PP		22 01 42.0	+0.8
GTA				PPP	PPP		22 02 06.0	+2.5
GTA				PCP	PcP		22 02 27.0	+0.7
GTA				S		**S**	**22 06 03.3**	**+3.9**
GTA				SS	SS		22 08 42.3	+4.4
GTA				AMB	AMB			
	comp=Z,25nm,0.9s,mb4.9							
GTA				AMB	AMB			
	comp=Z,3μm,7.5s							
GTA				LR	LR			
	comp=N,722nm,18.9s,MS4.6							
GTA				LR	LR			
	comp=E,514nm,16.2s,MS4.6							
GTA				LR	LR			
	comp=Z,2μm,17.4s,MS5.0							
JOW	**Kunigami**	**39.18**	**47**	P		**P**	**22 00 22.1**	**+1.4**
	comp=Z,53nm,0.8s,mb5.3,baz=246,slow=8.9,SNR=9.5							
HHC	**Hu-ho-hao-te**	**41.45**	**17**	*eP*		**P**	**22 00 41.0**	**+1.6**
HHC				AP	pP		22 00 48.5	-2.9
HHC				XP	sP		22 00 54.3	-2.4
HHC				PP	PP		22 02 20.5	+2.1
HHC				PCS			22 06 28.0	
HHC				S		**S**	**22 06 57.0**	**+5.6**
HHC				XS			22 07 12.0	
HHC				SS	SS		22 09 56.0	+4.2
HHC				AMB	AMB			
	comp=Z,18nm,0.6s,mb4.9							
HHC				LR	LR			
	comp=N,2μm,17.2s,MS5.0							
HHC				LR	LR			
	comp=E,1μm,15.5s,MS5.0							
HHC				LR	LR			
	comp=Z,5μm,24.4s							
WRA	**Warramunga Arr**	**42.12**	**122**	P		**P**	**22 00 45.4**	**+0.3**
	comp=Z,6.1nm,0.7s,mb4.3,baz=301,slow=9.0,SNR=8.3							
WRAB	**Tennant Creek**	**42.12**	**122**	*eP*		**P**	**22 00 44.9**	**-0.3**
BJT	**Baijiatuan**	**42.22**	**22**	*eP*		**P**	**22 00 46.0**	**+0.3**
BJT				pmax	pmax			
	comp=Z,33nm,0.6s							
BJT	**Baijiatuan**	**42.22**	**22**	*eP*		**P**	**22 00 46.0**	**+0.2**
	comp=Z,32nm,0.6s,mb5.1							
BJI	**Beijing**	**42.24**	**22**	P		**P**	**22 00 47.3**	**+1.4**
BJI				AMB	AMB			
	comp=Z,44nm,0.7s,mb5.2							
WMQ	**Urumqi**	**43.15**	**350**	P		**P**	**22 00 53.8**	**+0.5**
WMQ				AP	pP		22 01 03.0	-2.4
WMQ				XP	sP		22 01 07.0	-3.6
WMQ				PP	PP		22 02 36.0	0.0
WMQ				*e*S		**S**	**22 07 17.0**	**+0.7**
WMQ				AMB	AMB			
	comp=Z,18nm,1.2s,mb4.7							
WMQ				AMB	AMB			
	comp=Z,268nm,6.9s							
WMQ				LR	LR			
	comp=N,2μm,26.5s,MS5.0							
WMQ				LR	LR			
	comp=E,2μm,27.3s,MS5.0							
WMQ				LR	LR			
	comp=Z,1μm,26.8s,MS4.7							
ASAR	**Alice Springs**	**43.48**	**127**	P		**P**	**22 00 56.6**	**+0.3**
	comp=Z,4.3nm,0.8s,mb4.2,baz=300,slow=7.5,SNR=8.8							
ASAR				ScP			22 06 35.5	
	comp=Z,0.9nm,0.8s,baz=294,slow=5.7,SNR=4.3							
KS15	**Wonju Array Si**	**45.73**	**35**	*eP*		**P**	**22 01 13.3**	**-0.9**
KS15				*e*			22 01 20.9	
SNY	**Shenyang**	**46.81**	**27**	∥P		**P**	**22 01 23.0**	**+0.5**
SNY				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SONM	**Songino Array**	**47.02**	**8**	P		**P**	**22 01 24.9**	**+0.8**
	comp=Z,18nm,0.8s,mb5.0,baz=188,slow=8.6,SNR=30							
MKAR	**Makanchi Array**	**47.12**	**346**	P		**P**	**22 01 25.8**	**+0.9**
	comp=Z,5.2nm,0.5s,mb4.7,baz=160,slow=8.9,SNR=7.8							
ULN	**Ulaanbaatar**	**47.15**	**9**	*eP*		**P**	**22 01 25.5**	**+0.4**
ULN				pmax	pmax			
	comp=Z,13nm,0.8s,mb4.9							
ULN	**Ulaanbaatar**	**47.15**	**9**	*eP*		**P**	**22 01 25.5**	**+0.4**
	comp=Z,13nm,0.8s,mb4.9							
ZAK	**Zakamensk**	**49.16**	**5**	*eP*		**P**	**22 01 40.3**	**-0.4**
ZAK				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
CN2	**Changchun**	**49.21**	**27**	*eP*		**P**	**22 01 41.0**	**-0.2**
CN2				AMB	AMB			
	comp=Z,30nm,0.8s,mb5.4							
TLY	**Talaya**	**50.48**	**5**	*eP*		**P**	**22 01 51.4**	**+0.6**
TLY				*e*	pP		22 02 02.6	-0.4
TLY				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
HIA	**Hailar**	**51.54**	**19**	*eP*		**P**	**22 01 57.7**	**-1.1**
HIA				pmax	pmax			
	comp=Z,20nm,1.0s							
HIA	**Hailar**	**51.54**	**19**	*eP*		**P**	**22 01 57.7**	**-1.1**
	comp=Z,20nm,1.0s,mb5.0							
MDJ	**Mudanjiang**	**51.78**	**29**	*eP*		**P**	**22 01 59.8**	**-0.9**
	comp=Z,9.0nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**53.45**	**132**	P		**P**	**22 02 14.1**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.5,baz=312,slow=9.7,SNR=5.0							
STKA	**Stephens Creek**	**53.45**	**132**	*eP*		**P**	**22 02 14.0**	**+0.6**
NVS	**Novosibirsk**	**54.56**	**350**	*i* P		**P**	**22 02 19.5**	**-1.7**
NVS				*e*S		**S**	**22 09 55.3**	**-0.4**
NVS				pmax	pmax			
	comp=N,8.0nm,1.0s							
NVS				pmax	pmax			
	comp=E,7.0nm,1.0s							
NVS				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.9							
NVS				smax				
	comp=N,8.0nm,1.5s							
NVS				smax				
	comp=E,5.0nm,1.6s							
BVAR	**Borovoye Array**	**56.13**	**341**	P		**P**	**22 02 32.0**	**-0.6**
	comp=E,10.0nm,0.7s,mb4.9,baz=143,slow=7.4,SNR=17							
CHKZ	**Chkalovo**	**56.61**	**341**	*eP*		**P**	**22 02 35.3**	**-0.7**
CHKZ				pmax	pmax			
	comp=Z,14nm,0.6s,mb5.2							
CHKZ	**Chkalovo**	**56.61**	**341**	*eP*		**P**	**22 02 35.3**	**-0.7**
	comp=Z,14nm,0.6s,mb5.2							
CLNS	**Chul'man**	**59.63**	**17**	*eP*		**P**	**22 02 57.2**	**+0.1**
CLNS				pmax	pmax			
	comp=N,12nm,0.8s							
CLNS				pmax	pmax			
	comp=E,13nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,27nm,0.8s,mb5.3							
YSS	**Yuzh-Sakhalins**	**60.26**	**34**	P		**P**	**22 03 01.4**	**-0.2**
SVE	**Sverdlovsk**	**62.57**	**338**	*eP*		**P**	**22 03 15.5**	**-1.5**
ARU	**Arti**	**63.07**	**337**	*eP*		**P**	**22 03 18.9**	**-1.4**
ARU				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.8							
ARU	**Arti**	**63.07**	**337**	*eP*		**P**	**22 03 18.9**	**-1.4**
	comp=Z,6.4nm,0.7s,mb4.9							
YAK	**Yakutsk**	**65.31**	**16**	*eP*		**P**	**22 03 34.3**	**-0.5**
YAK				pmax	pmax			
	comp=Z,32nm,0.9s,mb5.3							
YAK				pmax	pmax			
	comp=N,10.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,8.0nm,1.1s							
BRTR	**Keskin Array B**	**69.02**	**312**	P		**P**	**22 03 58.0**	**-0.5**
	comp=E,1.1nm,0.7s,mb3.9,baz=119,slow=7.5,SNR=4.7							
VRSR	**Storozhevoye**	**69.45**	**325**	*eP*		**P**	**22 04 00.2**	**-0.7**
VRSR				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
VRSR				pmax	pmax			
	comp=N,6.0nm,1.3s							
VRSR				pmax	pmax			
	comp=E,20nm,2.9s							
MA2	**Magadan**	**71.24**	**26**	*eP*		**P**	**22 04 11.9**	**+0.3**
MA2				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.7							
MA2				pmax	pmax			
	comp=N,2.0nm,0.6s							
MA2				pmax	pmax			
	comp=E,2.0nm,0.6s							
MA2	**Magadan**	**71.24**	**26**	*eP*		**P**	**22 04 11.7**	**+0.1**
	comp=E,12nm,0.8s,mb4.9							
OBN	**Obninsk**	**72.51**	**328**	*i* P		**P**	**22 04 19.2**	**0.0**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.7s,mb4.7							
AKASG	**Malin Array Be**	**75.15**	**322**	P		**P**	**22 04 33.0**	**-1.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=89,slow=5.1,SNR=5.9							
FINES	**FINESS Array B**	**79.88**	**332**	P		**P**	**22 05 00.9**	**+0.2**
	comp=Z,3.1nm,0.9s,mb4.2,baz=108,slow=6.0,SNR=6.2							
BILL	**Bilibino**	**81.06**	**21**	*eP*		**P**	**22 05 06.9**	**0.0**
ARCES	**ARCESS Array B**	**82.42**	**340**	P		**P**	**22 05 14.5**	**+0.6**
	comp=Z,9.8nm,1.0s,mb4.7,baz=90,slow=6.3,SNR=5.0							
GERES	**GERESS Array B**	**84.71**	**319**	P		**P**	**22 05 27.1**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=8.2							
NOA	**NORSAR Array B**	**86.89**	**331**	P		**P**	**22 05 36.9**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=6.4							
TXAR	**Lajitas Array**	**143.58**	**32**	PKP		PKPdf	22 12 26.2	+0.3
	comp=Z,0.5nm,0.5s,baz=135,slow=1.8,SNR=4.3							

*IDC **28** 22:02:29.7±3.7, 0.52N×98.15E, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.8/4, Error ellipse: s-maj=148.1km s-min=22.8km az=59.0*
*NEIC **28** 22:02:33.5±0.9, 0.52N×98.11E, h

ISC 28 22:09:25.7±0.6, 40.85N±0.03×143.23E±0.06, h42km±4km, n68, σ⊕95/80, mb4.3/24, 5C-7D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JEM	**Erimo**	**1.17**	**357**	⇑P	**P**	**22 09 46.1**	**+0.3**
JEM				*e*S	**S**	**22 10 00.6**	**-0.2**
JTH	**Tanohata**	**1.39**	**230**	P	**P**	**22 09 48.5**	**-0.5**
JTH				*e*S	**S**	**22 10 06.5**	**+0.2**
JANG	**Nango**	**1.39**	**251**	⇓P	**P**	**22 09 48.3**	**-0.8**
JNBK	**Urakawa-nobuka**	**1.48**	**346**	P	**P**	**22 09 50.6**	**+0.4**
JOT	**Ohata**	**1.74**	**289**	⇓P	**P**	**22 09 53.4**	**-0.5**
JOT				*e*S	**S**	**22 10 15.0**	**0.0**
JCH	**Churui**	**1.77**	**3**	P	**P**	**22 09 54.7**	**+0.3**
JCH				*e*S	**S**	**22 10 16.2**	**+0.4**
JKB	**Kayabe**	**1.96**	**303**	⇑P	**P**	**22 09 56.8**	**-0.2**
JKB				*e*S	**S**	**22 10 20.4**	**-0.1**
JOM	**Ohasama**	**2.02**	**228**	⇑P	**P**	**22 09 58.6**	**+0.6**
JOM				*e*S	**S**	**22 10 23.5**	**+1.3**
JFR	**Furan**	**2.36**	**349**	P	**P**	**22 10 03.5**	**+0.7**
JEW	**Eniwo**	**2.40**	**327**	P	**P**	**22 10 04.1**	**+0.8**
JEW				*e*S	**S**	**22 10 32.7**	**+1.0**
JAK	**Akkeshi**	**2.41**	**26**	P	**P**	**22 10 03.5**	**0.0**
JAK				*e*S	**S**	**22 10 30.4**	**-1.6**
JMK	**Ichinoseki**	**2.45**	**220**	⇑P	**P**	**22 10 04.6**	**+0.6**
JAR	**Ashorobuto**	**2.48**	**9**	P	**P**	**22 10 04.1**	**-0.4**
JAR				*e*S	**S**	**22 10 32.5**	**-1.3**
ASAJ	**Asahikawa**	**3.30**	**352**	P	**P**	**22 10 16.6**	**+0.4**
ASAJ				S	**S**	**22 10 55.3**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,8.0nm,0.3s						
ASAJ	**Asahikawa**	**3.30**	**352**	P	**P**	**22 10 16.6**	**+0.4**
	comp=N,3.6nm,0.3s,baz=209,slow=12,SNR=18						
ASAJ				S	**S**	**22 10 55.3**	**+0.7**
	comp=N,8.3nm,0.3s,baz=93,slow=32,SNR=5.8						
YUK	**Yuzh-Kuril'sk**	**3.73**	**31**	*e*P	**P**	**22 10 22.5**	**+0.2**
YUK				pmax	pmax		
	comp=Z,210nm,0.4s						
KUR	**Kuril'sk**	**5.54**	**36**	*e*P	**P**	**22 10 44.0**	**-3.8**
KUR				*e*S	**S**	**22 11 44.0**	**-7.1**
KUR				pmax	pmax		
	comp=Z,260nm,0.9s						
KUR				smax			
	comp=N,170nm,0.6s						
KUR				smax			
	comp=E,110nm,0.6s						
MAJO	**Matsushiro**	**5.83**	**224**	*e*P	**P**	**22 10 51.0**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,22nm,0.6s						
MAJO	**Matsushiro**	**5.83**	**224**	*e*P	**P**	**22 10 51.0**	**-0.7**
	comp=Z,22nm,0.6s						
MAT	**Matsushiro**	**5.83**	**224**	*e*P	**P**	**22 10 52.0**	**+0.3**
MAT				*e*S	**S**	**22 12 05.0**	**+6.8**
MAT				pmax	pmax		
	comp=Z,13nm,0.5s						
MAT	**Matsushiro**	**5.83**	**224**	*e*P	**P**	**22 10 52.0**	**+0.3**
	comp=Z,13nm,0.5s						
MAT				*e*S	**S**	**22 12 05.0**	**+6.8**
MAT	**Matsushiro**	**5.83**	**224**	P	**P**	**22 10 51.9**	**+0.2**
MAT				S	**S**	**22 12 04.8**	**+6.6**
BJI	**Beijing**	**20.59**	**277**	P	**P**	**22 14 00.0**	**-3.4**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
BOD	**Bodaibo**	**25.22**	**322**	*e*P	**P**	**22 14 47.0**	**-1.8**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**26.62**	**297**	*e*P	**P**	**22 15 01.4**	**-0.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
ULN	**Ulaanbaatar**	**26.62**	**297**	*e*P	**P**	**22 15 01.4**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.8						
SONM	**Songino Array**	**27.06**	**297**	P	**P**	**22 15 05.7**	**-0.3**
	comp=Z,2.7nm,1.0s,mb3.7,baz=90,slow=9.9,SNR=14						
ZAK	**Zakamensk**	**29.21**	**303**	*e*P	**P**	**22 15 23.9**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
GYA	**Guiyang**	**33.39**	**256**	⇓*i*P	**P**	**22 16 01.0**	**-1.3**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
NVS	**Novosibirsk**	**41.33**	**311**	*e*P	**P**	**22 17 08.0**	**-0.7**
MKAR	**Makanchi Array**	**43.40**	**299**	P	**P**	**22 17 25.2**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.1,baz=82,slow=10.0,SNR=19						
KURK	**Kurchatov**	**44.79**	**305**	*e*P	**P**	**22 17 35.8**	**-0.9**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**44.79**	**305**	*e*P	**P**	**22 17 35.8**	**-0.9**
	comp=Z,8.0nm,0.8s,mb4.6						
CHKZ	**Chkalovo**	**48.81**	**311**	*e*P	**P**	**22 18 07.3**	**-1.0**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**48.81**	**311**	*e*P	**P**	**22 18 07.3**	**-1.0**
	comp=Z,5.4nm,0.7s,mb4.7						
BVAR	**Borovoye Array**	**49.13**	**310**	P	**P**	**22 18 10.5**	**-0.2**
	comp=Z,2.9nm,0.5s,mb4.6,baz=81,slow=8.2,SNR=17						
ARU	**Arti**	**54.49**	**317**	*e*P	**P**	**22 18 50.0**	**-1.0**
YKA	**Yellowknife Ar**	**59.81**	**32**	P	**P**	**22 19 29.0**	**+0.4**
	comp=Z,0.4nm,0.7s,mb3.5,baz=300,slow=5.7,SNR=8.2						
WRAB	**Tennant Creek**	**61.03**	**190**	P	**P**	**22 19 35.9**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**61.03**	**190**	P	**P**	**22 19 35.9**	**-1.6**
	comp=Z,2.7nm,0.7s,mb4.5						
WRA	**Warramunga Arr**	**61.04**	**190**	P	**P**	**22 19 36.8**	**-0.7**
	comp=Z,0.8nm,0.5s,mb4.1,baz=6.0,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**64.77**	**189**	P	**P**	**22 20 02.0**	**-0.1**
	comp=Z,0.7nm,0.7s,mb3.8,baz=1.5,slow=5.3,SNR=8.7						
KAF	**Kangasniemi**	**65.58**	**333**	*ep*	**P**	**22 20 06.0**	**-0.7**
OBN	**Obninsk**	**65.91**	**323**	*e*P	**P**	**22 20 06.1**	**-2.8**
OBN				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
FINES	**FINESS Array B**	**66.11**	**332**	P	**P**	**22 20 09.7**	**-0.4**
	comp=Z,2.2nm,0.5s,mb4.4,baz=42,slow=8.4,SNR=34						
VRSR	**Storozhevoye**	**67.00**	**318**	*e*P	**P**	**22 20 16.1**	**+0.2**
VRSR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
VRSR				pmax	pmax		
	comp=N,10.0nm,1.7s						
VRSR				pmax	pmax		
	comp=E,10.0nm,0.9s						
GOF	**Gofitskoye**	**68.63**	**311**	⇓*i*P	**P**	**22 20 26.1**	**-0.1**
GOF				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
KIV	**Kislovodsk**	**69.49**	**311**	*e*P	**P**	**22 20 31.6**	**+0.1**
KIV				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
NB2	**NORSAR Subarra**	**71.22**	**338**	P	**P**	**22 20 41.4**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.9,baz=37,slow=6.2						
NB2	**NORSAR Subarra**	**71.22**	**338**	P	**P**	**22 20 41.4**	**-0.2**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
NOA	**NORSAR Array B**	**71.22**	**338**	P	**P**	**22 20 41.5**	**-0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=38,slow=6.1,SNR=11						
PDAR	**Pinedale Array**	**74.01**	**47**	P	**P**	**22 21 00.2**	**+1.8**
	comp=Z,0.4nm,0.7s,mb3.5,baz=270,slow=1.5,SNR=4.5						
MALT	**Malatya**	**75.54**	**308**	*e*P	**P**	**22 21 08.6**	**+1.3**
MORC	**Moravsky Berou**	**77.93**	**327**	*e*P	**P**	**22 21 21.0**	**+0.5**
KHC	**Kasperske Hory**	**80.02**	**329**	*e*P	**P**	**22 21 33.0**	**+1.1**
GERES	**GERESS Array B**	**80.20**	**329**	P	**P**	**22 21 33.8**	**+0.9**
	comp=Z,0.3nm,0.6s,mb3.4,baz=34,slow=4.8,SNR=4.3						
BAIF	**Baives**	**82.59**	**335**	*e*P	**P**	**22 21 48.8**	**+3.5**
SSF	**Saint Saulge**	**85.43**	**334**	*e*P	**P**	**22 22 02.7**	**+3.2**
LPL	**La Plagne**	**85.62**	**331**	*e*P	**P**	**22 22 02.1**	**+1.6**
	comp=Z,6.2nm,0.8s,mb4.6						
LPL	**La Plagne**	**85.62**	**331**	*e*P	**P**	**22 22 02.1**	**+1.6**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.6						
LPG	**La Plagne**	**85.63**	**331**	*e*P	**P**	**22 22 02.3**	**+1.7**
	comp=Z,5.4nm,0.7s,mb4.6						
LPG	**La Plagne**	**85.63**	**331**	*e*P	**P**	**22 22 02.3**	**+1.7**
LPG				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.6						
SMF	**Signal de Mont**	**85.67**	**333**	*e*P	**P**	**22 22 01.8**	**+1.0**
AVF	**Avril sur Loir**	**85.71**	**334**	*e*P	**P**	**22 22 02.2**	**+1.3**
	comp=Z,8.7nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**85.71**	**334**	*e*P	**P**	**22 22 02.2**	**+1.3**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.7						
VNA2	**Neumayer--Wakz**	**146.37**	**197**	⇓*i*P	PKPdf	22 29 03.4	+4.0
VNA2				⇑*i*P		22 29 15.7	
VNA3	**Neumayer Olymp**	**146.61**	**196**	⇓*i*	PKPdf	22 29 02.9	+3.1
VNA1	**Neumayer--Stat**	**146.77**	**197**	⇓*i*	PKPdf	22 29 04.3	+4.2

*IDC **28** 22:10:03.4±0.7, 2.27N×96.84E, mb4.1/12, mb1 4.3/12, mb1mx4.2/17, mbtmp4.1/12, Error ellipse: s-maj=36.9km s-min=15.6km az=47.0*
*BJI **28** 22:10:05.5, 2.12N×96.68E, h34km, mB5.4, mb4.4, Ms4.7, Msz4.9*
*NEIC **28** 22:10:07.6±0.4, 2.21N×96.73E, h30km, mb4.2/5, Error ellipse: s-maj=12.3km s-min=7.5km az=219.0*
ISC 28 22:10:03.0±3.3, 2.18N±0.08×96.67E±0.08, h13km±20km, n33, σ⊕11/33, mb4.3/20, MS4.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.03**	**52**	P	**Pn**	**22 11 20.4**	**+0.3**
KSM	**Kuching**	**13.65**	**93**	P	**P**	**22 13 20.0**	**+1.0**
CM31	**Chiang Mai Arr**	**16.33**	**8**	*e*P	**P**	**22 13 54.6**	**+0.7**
	4.6nm,0.6s						
KKM	**Kota Kinabalu**	**19.86**	**78**	P	**P**	**22 14 35.8**	**-1.2**
HYB	**Hyderabad**	**23.37**	**312**	*e*P	**P**	**22 15 11.0**	**-1.5**
HYB	**Hyderabad**	**23.37**	**312**	*i* P	**P**	**22 15 11.0**	**-1.5**
LSA	**Lhasa**	**27.87**	**350**	P	**P**	**22 15 54.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**34.93**	**126**	P	**P**	**22 16 55.5**	**-1.4**
	3.5nm,0.8s,mb4.3,baz=340,slow=7.2,SNR=3.3						
GTA	**Gaotai**	**37.17**	**4**	P	**P**	**22 17 15.8**	**+0.2**
GTA				AP	pP	22 17 24.8	+5.4
GTA				XP	sP	22 17 28.3	+7.3
GTA				PP	PP	22 18 42.5	-0.1
GTA				PPP	PPP	22 19 03.0	0.0
GTA				S	**S**	**22 23 01.3**	**-0.1**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.5						
GTA				AMB	AMB		
	comp=Z,582nm,6.6s						
GTA				LR	LR		
	comp=N,468nm,23.1s,MS4.4						
GTA				LR	LR		
	comp=E,506nm,18.6s,MS4.4						
GTA				LR	LR		
	comp=Z,2μm,21.6s,MS4.9						
HHC	**Hu-ho-hao-te**	**40.78**	**17**	*e*P	**P**	**22 17 47.0**	**+1.3**
HHC				AP	pP	22 17 56.8	+7.3
HHC				XP	sP	22 18 00.8	+10
HHC				PP	PP	22 19 24.5	+1.5
HHC				PCP	PcP	22 19 47.0	-0.5
HHC				SCP		22 23 32.8	
HHC				PCS		22 23 35.8	
HHC				AMB	AMB		
	comp=Z,11nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,206nm,3.5s						
HHC				LR	LR		
	comp=N,458nm,14.7s,MS4.7						
HHC				LR	LR		
	comp=E,505nm,14.2s,MS4.7						
HHC				LR	LR		
	comp=Z,3μm,40.1s						
BJI	**Beijing**	**41.64**	**23**	P	**P**	**22 17 50.0**	**-2.8**
WMQ	**Urumqi**	**42.23**	**350**	*e*P	**P**	**22 17 56.8**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**43.00**	**123**	P	**P**	**22 18 04.1**	**-0.1**
	comp=Z,3.0nm,0.8s,mb4.1,baz=301,slow=9.2,SNR=11						
WRAB	**Tennant Creek**	**43.01**	**123**	*e*P	**P**	**22 18 04.0**	**-0.3**
	comp=Z,1.9nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**44.40**	**128**	P	**P**	**22 18 15.7**	**+0.1**
	comp=Z,1.8nm,0.7s,mb3.9,baz=299,slow=8.0,SNR=12						
AAK	**Ala-Archa**	**44.90**	**337**	P	**P**	**22 18 17.9**	**-1.4**
MKAR	**Makanchi Array**	**46.17**	**346**	P	**P**	**22 18 29.7**	**+0.4**
	comp=Z,1.8nm,0.5s,mb4.3,baz=154,slow=8.9,SNR=10.0						
SONM	**Songino Array**	**46.25**	**9**	P	**P**	**22 18 30.2**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.0,baz=193,slow=9.0,SNR=8.0						
SONM				PcP	PcP	22 20 05.3	-0.6
	comp=Z,0.7nm,0.6s,baz=190,slow=3.7,SNR=3.2						
CN2	**Changchun**	**48.68**	**28**	*e*P	**P**	**22 18 51.5**	**+2.5**
KURK	**Kurchatov**	**50.72**	**345**	*e*P	**P**	**22 19 03.7**	**-0.8**
	comp=Z,1.9nm,0.6s,mb4.2						
MDJ	**Mudanjiang**	**51.28**	**30**	P	**P**	**22 19 08.3**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,10.0nm,2.2s,mb4.4						
STKA	**Stephens Creek**	**54.40**	**132**	P	**P**	**22 19 32.6**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.1,baz=299,slow=6.7,SNR=3.8						
STKA	**Stephens Creek**	**54.40**	**132**	P	**P**	**22 19 32.0**	**-0.2**
BVAR	**Borovoye Array**	**55.16**	**341**	P	**P**	**22 19 36.9**	**-0.6**
	comp=Z,1.4nm,0.7s,mb4.1,baz=169,slow=7.6,SNR=4.0						
CHKZ	**Chkalovo**	**55.64**	**342**	*e*P	**P**	**22 19 40.2**	**-0.8**
	comp=Z,2.4nm,0.9s,mb4.2						
KMBO	**Kilima Mbogo**	**59.50**	**267**	P	**P**	**22 20 11.1**	**+2.3**
	comp=Z,0.7nm,0.2s,mb4.3,baz=67,slow=21,SNR=4.5						
KMBO	**Kilima Mbogo**	**59.50**	**267**	P	**P**	**22 20 11.1**	**+2.3**
KIV	**Kislovodsk**	**63.23**	**319**	*e*P	**P**	**22 20 31.9**	**-1.6**
	comp=Z,20nm,1.1s,mb5.2						
BRTR	**Keskin Array B**	**68.07**	**312**	P	**P**	**22 21 04.9**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.0,baz=121,slow=7.2,SNR=6.7						
ARCES	**ARCESS Array B**	**81.44**	**340**	P	**P**	**22 22 22.1**	**+1.1**
	comp=Z,6.8nm,1.1s,mb4.5,baz=101,slow=6.2,SNR=3.7						
GERES	**GERESS Array B**	**83.73**	**319**	P	**P**	**22 22 35.4**	**+2.2**
	comp=Z,1.5nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=10						
NOA	**NORSAR Array B**	**85.90**	**331**	P	**P**	**22 22 44.8**	**+1.1**
	comp=Z,1.2nm,0.8s,mb4.2,baz=94,slow=4.9,SNR=4.3						
PDAR	**Pinedale Array**	**129.39**	**25**	PKP	PKPdf	22 29 14.1	-1.3
	comp=Z,0.2nm,0.4s,slow=1.5,SNR=3.8						

*IDC **28** 22:12:10.6±3.4, 1.71N×97.07E, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=130.1km s-min=29.5km az=56.0*
*NEIC **28** 22:12:13.8±2.0, 1.53N×96.88E, h30km, mb4.0/2, Error ellipse: s-maj=88.0km s-min=14.9km az=54.0*
ISC 28 22:12:11.8±2.6, 1.5N±0.5×96.7E±0.6, h33km, n6, σ⊕71/6, mb3.8/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.58**	**122**	P	**P**	**22 20 07.2**	**+0.5**
	0.4nm,0.6s,mb3.4,baz=302,slow=9.0,SNR=5.1						
WRAB	**Tennant Creek**	**42.58**	**122**	P	**P**	**22 20 06.2**	**-0.5**
	2.0nm,0.7s,mb4.0						
MKAR	**Makanchi Array**	**46.88**	**346**	P	**P**	**22 20 41.5**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=161,slow=8.2,SNR=3.9						
SONM	**Songino Array**	**46.95**	**9**	P	**P**	**22 20 41.1**	**-0.2**
	0.7nm,0.8s,mb3.6,baz=188,slow=8.0,SNR=4.0						
BVAR	**Borovoye Array**	**55.85**	**341**	P	**P**	**22 21 48.3**	**-0.1**
	1.0nm,0.6s,mb4.0,baz=143,slow=7.4,SNR=3.6						
CHKZ	**Chkalovo**	**56.33**	**342**	*e*P	**P**	**22 21 51.2**	**-0.6**
	1.1nm,0.6s,mb4.1						

*IDC **28** 22:15:57.5±0.6, 2.22N×96.85E, mb4.5/15, mb1 4.5/15, mb1mx4.4/19, mbtmp4.5/15, Error ellipse: s-maj=26.1km s-min=13.4km az=47.0*
*BJI **28** 22:15:59.1, 1.75N×96.77E, h47km, mB5.4, mb4.8, Ms4.8, Msz4.9*
*NEIC **28** 22:16:01.1±0.4, 2.08N×96.67E, h30km, mb4.7/14, Error ellipse: s-maj=10.2km s-min=5.6km az=225.0*
ISC 28 22:16:00.2±0.5, 2.08N±0.07×96.76E±0.06, h33km, (h28km±1.8km: pP-P), n61, σ⊕92/63, mb4.6/42, MS4.7/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.02**	**51**	*e*P	**P**	**22 17 15.9**	**+0.7**
KSM	**Kuching**	**13.56**	**92**	*e*P	**P**	**22 19 14.4**	**+1.6**
CM31	**Chiang Mai Arr**	**16.41**	**7**	*e*P	**P**	**22 19 49.1**	**-0.6**
	17nm,0.8s						
KKM	**Kota Kinabalu**	**19.80**	**78**	*e*P	**P**	**22 20 30.7**	**-0.1**
HYB	**Hyderabad**	**23.50**	**312**	*e*P	**P**	**22 21 17.0**	**+8.8**
HYB	**Hyderabad**	**23.50**	**312**	*i* P	**P**	**22 21 17.0**	**+8.8**
KMI	**Kunming**	**23.62**	**14**	P	**P**	**22 21 10.8**	**+1.4**
KMI				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.2						
GYA	**Guiyang**	**26.04**	**21**	⇑*i*P	**P**	**22 21 32.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
JIRN	**Jiri**	**27.37**	**339**	*e*P	**P**	**22 21 45.3**	**+0.6**
	comp=Z,51nm,0.7s,mb5.2						
PKI	**Pulchoki**	**27.57**	**338**	*e*P	**P**	**22 21 47.7**	**+1.1**
	comp=Z,12nm,0.6s,mb4.7						
DMN	**Daman**	**27.73**	**337**	*e*P	**P**	**22 21 48.3**	**+0.4**
	comp=Z,23nm,0.9s,mb4.8						
KKN	**Kakani**	**27.82**	**338**	*e*P	**P**	**22 21 49.0**	**+0.2**
	comp=Z,48nm,1.1s,mb5.0						
LSA	**Lhasa**	**27.98**	**350**	P	**P**	**22 21 50.0**	**-0.2**
LSA	**Lhasa**	**27.98**	**350**	*e*P	**P**	**22 21 50.3**	**+0.1**
	comp=Z,10.0nm,0.7s,mb4.5						
GKN	**Gorkha**	**28.26**	**337**	*e*P	**P**	**22 21 52.0**	**-0.7**
	comp=Z,39nm,0.9s,mb5.0						
KOLN	**Koldanda**	**28.48**	**335**	*e*P	**P**	**22 21 55.3**	**+0.7**
	comp=Z,30nm,0.7s,mb5.0						
ENH	**Enshi**	**30.52**	**22**	*e*P	**P**	**22 22 10.6**	**-2.3**
	comp=Z,6.0nm,1.0s,mb4.4						
DDI	**Dehra Dun**	**33.22**	**330**	*e*	**P**	**22 22 36.0**	**-0.4**
XAN	**Xi'an**	**33.76**	**18**	P	**P**	**22 22 39.8**	**-1.3**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
LZH	**Lanzhou**	**34.47**	**10**	*e*P	**P**	**22 22 47.0**	**-0.1**
LZH				AP	pP	22 22 55.0	-1.8
LZH				XP	sP	22 23 00.3	-0.8
LZH				AMB	AMB		
	comp=Z,43nm,1.6s,mb5.1						
LZH				AMB	AMB		
	comp=Z,120nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,16.0s						
LZH				LR	LR		
	comp=Z,2μm,18.0s,MS4.9						
FITZ	**Fitzroy Crossi**	**34.80**	**126**	*e*P	**P**	**22 22 48.9**	**-1.3**
	comp=Z,11nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.80**	**126**	P	**P**	**22 22 49.1**	**-1.1**
	comp=Z,13nm,0.8s,mb4.9,baz=319,slow=3.9,SNR=13						
GTA	**Gaotai**	**37.26**	**4**	*e*P	**P**	**22 23 10.5**	**-0.3**
GTA				AP	pP	22 23 19.0	-1.5
GTA				PP	PP	22 24 39.3	+0.8
GTA				PPP	PPP	22 25 01.0	+2.0
GTA				S	**S**	**22 28 58.5**	**+3.2**
GTA				SS	SS	22 31 31.5	+4.2
GTA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.9						
GTA				AMB	AMB		
	comp=Z,873nm,7.8s						
GTA				LR	LR		
	comp=N,641nm,19.8s,MS4.5						
GTA				LR	LR		
	comp=E,460nm,17.7s,MS4.5						
GTA				LR	LR		
	comp=Z,3μm,17.1s,MS5.2						
KAKA	**Kakadu**	**38.35**	**113**	*e*P	**P**	**22 23 19.5**	**-0.6**
	comp=Z,12nm,0.6s,mb4.8						
JOW	**Kunigami**	**38.97**	**48**	P	**P**	**22 23 25.3**	**+0.1**
	comp=Z,12nm,0.5s,mb4.9,baz=262,slow=21,SNR=5.1						
HHC	**Hu-ho-hao-te**	**40.85**	**17**	*e*P	**P**	**22 23 42.5**	**+1.9**
HHC				AP	pP	22 23 52.3	+1.9
HHC				XP	sP	22 23 56.0	+1.4
HHC				PP	PP	22 25 20.5	+2.7
HHC				PCP	PcP	22 25 43.3	+1.6
HHC				PCS		22 29 30.0	
HHC				S	**S**	**22 29 54.0**	**+4.6**
HHC				SS	SS	22 32 52.8	+6.2
HHC				AMB	AMB		
	comp=Z,16nm,0.3s,mb5.1						
HHC				LR	LR		
	comp=N,196nm,5.5s						
HHC				LR	LR		
	comp=E,495nm,6.5s						
HHC				LR	LR		
	comp=Z,4μm,29.7s,MS5.1						
BJT	**Baijiatuao**	**41.67**	**23**	*e*P	**P**	**22 23 47.3**	**-0.1**
	comp=Z,30nm,1.3s,mb4.8						
BJI	**Beijing**	**41.69**	**23**	P	**P**	**22 23 48.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.6						
WMQ	**Urumqi**	**42.33**	**350**	P	**P**	**22 23 53.0**	**+0.2**
WMQ				AP	pP	22 24 02.0	-0.7
WMQ				*e*S	**S**	**22 30 11.5**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,102nm,5.8s						
WMQ				LR	LR		
	comp=N,137nm,21.4s,MS4.0						
WMQ				LR	LR		
	comp=E,195nm,20.9s,MS4.0						
WRA	**Warramunga Arr**	**42.88**	**123**	P	**P**	**22 23 57.4**	**-0.2**
	comp=E,10nm,0.6s,mb4.7,baz=300,slow=9.2,SNR=64						
WRAB	**Tennant Creek**	**42.88**	**122**	*e*P	**P**	**22 23 57.2**	**-0.4**
	comp=E,22nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**42.89**	**123**	*e*P	**P**	**22 23 57.6**	**-0.1**
ASAR	**Alice Springs**	**44.28**	**128**	P	**P**	**22 24 09.0**	**+0.1**
	comp=E,4.9nm,1.0s,mb4.2,baz=304,slow=6.9,SNR=27						
ASAR				PcP	PcP	22 25 53.7	+0.3
	comp=E,1.0nm,0.7s,baz=305,slow=3.4,SNR=4.2						
UCH	**Uchtor**	**44.67**	**336**	P	**P**	**22 24 12.6**	**+0.9**
	SNR=12						
TKM2	**Tokmak 2**	**44.84**	**338**	P	**P**	**22 24 13.5**	**+0.4**
	SNR=12						
KBK	**Karagaybulak**	**44.86**	**337**	P	**P**	**22 24 14.3**	**+1.0**
	SNR=14						
AML	**Almayashu**	**44.92**	**336**	P	**P**	**22 24 14.6**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**45.02**	**337**	*e*P	**P**	**22 24 13.6**	**-1.0**
	comp=E,8.1nm,1.1s,mb4.5						
EKS2	**Erkin-Say**	**45.33**	**336**	P	**P**	**22

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**42.09**	**122**	P	**P**	**22 30 51.0**	**-0.7**
ASAR	**Alice Springs**	**43.49**	**128**	P	**P**	**22 31 03.6**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.5,baz=304,slow=9.3,SNR=6.5						
SONM	**Songino Array**	**46.69**	**8**	P	**P**	**22 31 29.3**	**+1.0**
	comp=Z,3.5nm,0.9s,mb4.3,baz=192,slow=8.1,SNR=19						
ULN	**Ulaanbaatar**	**46.82**	**9**	*e*P	**P**	**22 31 28.5**	**-0.8**
MKAR	**Makanchi Array**	**46.89**	**346**	P	**P**	**22 31 29.9**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.3,baz=160,slow=8.4,SNR=20						
MKAR	**Makanchi Array**	**46.89**	**346**	P	**P**	**22 31 29.9**	**0.0**
KURK	**Kurchatov**	**51.44**	**345**	*e*P	**P**	**22 32 04.3**	**-0.6**
STKA	**Stephens Creek**	**53.49**	**132**	P	**P**	**22 32 20.2**	**-0.2**
CHKZ	**Chkalovo**	**56.40**	**341**	*e*P	**P**	**22 32 39.6**	**-1.7**
	comp=Z,2.3nm,0.6s,mb4.4						
GNI	**Garni**	**61.13**	**316**	P	**P**	**22 33 15.8**	**+1.4**

IDC 28 22:24:49.2±9.0**, 4.04N×96.78E, mb4.0**/4**, mb1 4.2**/4**, mb1mx3.7**/16**, mbtmp4.0**/4**, Error ellipse: s-maj=309.3km s-min=27.8km az=68.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.97**	**129**	*e*P	P	22 31 49.8	-4.1
	4.4nm,0.9s						
FITZ	**Fitzroy Crossi**	**35.97**	**129**	P	P	22 31 50.0	-3.8
	5.2nm,0.8s,baz=356,slow=10.0,SNR=6.8						
WRA	**Warramunga Arr**	**43.93**	**124**	P	P	22 32 59.5	-0.4
	3.2nm,0.8s,baz=300,slow=9.2,SNR=13						
WB2	**Warramunga Arr**	**43.94**	**124**	*e*P	P	22 32 59.2	-0.7
SONM	**Songino Array**	**44.41**	**9**	P	P	22 33 01.6	-1.9
	0.6nm,0.9s,baz=190,slow=5.3,SNR=3.0						
ASAR	**Alice Springs**	**45.46**	**129**	P	P	22 33 10.6	-1.6
	2.3nm,0.9s,baz=308,slow=7.9,SNR=13						

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*IDC **28** 22:25:27.0±1.2, 3.35N×96.54E, mb4.1/11, mb1 4.3/11, mb1mx4.1/18, mbtmp4.1/11, Error ellipse: s-maj=50.0km s-min=25.7km az=47.0*

*NEIC **28** 22:25:30.8±0.9, 3.36N×96.75E, h30km, mb4.4/10, Error ellipse: s-maj=22.1km s-min=12.0km az=216.0*

*BJI **28** 22:25:31.8, 3.40N×96.80E, h30km, mB5.3, mb4.6, Ms4.7, Msz4.9*

ISC 28 22:25:29.5±0.9**, 3.3N**±0.1×**96.68E**±0.10**, h30km, n30, σ1.13**/30**, mb4.3**/26**, MS5.2**/1**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.41**	**64**	*e*P	**Pn**	**22 26 35.3**	**-0.9**
GYA	**Guiyang**	**24.91**	**22**⇑	*i*P	**P**	**22 30 54.0**	**+2.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**26.19**	**339**	*e*P	**P**	**22 31 03.8**	**+0.3**
	comp=Z,24nm,0.8s,mb4.8						
PKI	**Pulchoki**	**26.40**	**337**	*e*P	**P**	**22 31 05.2**	**-0.3**
	comp=Z,8.9nm,0.6s,mb4.5						
DMN	**Daman**	**26.55**	**337**	*e*P	**P**	**22 31 06.8**	**-0.1**
	comp=Z,16nm,0.9s,mb4.5						
KKN	**Kakani**	**26.65**	**337**	*e*P	**P**	**22 31 07.6**	**-0.1**
	comp=Z,16nm,0.8s,mb4.6						
LSA	**Lhasa**	**26.75**	**349**	*e*P	**P**	**22 31 09.3**	**+0.7**
	comp=Z,5.3nm,0.8s,mb4.1						
GKN	**Gorkha**	**27.09**	**336**	*e*P	**P**	**22 31 11.6**	**-0.2**
KOLN	**Koldanda**	**27.32**	**334**	*e*P	**P**	**22 31 13.6**	**-0.3**
	comp=Z,17nm,1.0s,mb4.6						
GTA	**Gaotai**	**36.02**	**4**	*e*P	**P**	**22 32 31.0**	**+0.9**
GTA				AP	pP	22 32 40.3	+1.2
GTA				XP	sP	22 32 44.0	+1.1
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,341nm,6.3s						
GTA				LR	LR		
	comp=N,409nm,12.9s						
GTA				LR	LR		
	comp=E,308nm,21.0s						
GTA				LR	LR		
	comp=Z,3μm,12.9s,MS5.2						
HHC	**Hu-ho-hao-te**	**39.69**	**18**	*e*P	**P**	**22 33 01.3**	**+0.5**
HHC				AP	pP	22 33 10.3	+0.5
HHC				XP	sP	22 33 14.5	+1.0
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb5.0						
BJT	**Baijiatuau**	**40.56**	**23**	P	**P**	**22 33 06.0**	**-2.0**
	comp=Z,10.0nm,0.7s,mb4.5						
BJI	**Beijing**	**40.58**	**23**	P	**P**	**22 33 09.8**	**+1.6**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
WMQ	**Urumqi**	**41.10**	**350**	*e*P	**P**	**22 33 13.3**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,89nm,4.7s						
WRA	**Warramunga Arr**	**43.62**	**124**	P	**P**	**22 33 34.2**	**+0.9**
	comp=Z,1.5nm,0.7s,mb3.8,baz=302,slow=9.1,SNR=3.8						
WRAB	**Tennant Creek**	**43.62**	**124**	*e*P	**P**	**22 33 30.6**	**-2.8**
AAK	**Ala-Archa**	**43.85**	**336**	P	**P**	**22 33 34.5**	**-0.4**
MKAR	**Makanchi Array**	**45.06**	**346**	P	**P**	**22 33 43.6**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.4,baz=164,slow=7.8,SNR=18						
SONM	**Songino Array**	**45.12**	**9**	P	**P**	**22 33 45.8**	**+0.8**
	comp=Z,2.4nm,0.6s,mb4.2,baz=189,slow=9.2,SNR=13						
ULN	**Ulaanbaatar**	**45.26**	**10**	*e*P	**P**	**22 33 45.5**	**-0.7**
	comp=Z,1.0nm,0.5s,mb3.9						
KURK	**Kurchatov**	**49.61**	**345**	*e*P	**P**	**22 34 18.0**	**-2.2**
	comp=Z,8.4nm,1.6s,mb4.5						
BVAR	**Borovoye Array**	**54.08**	**341**	P	**P**	**22 34 51.1**	**-2.6**
	comp=Z,1.6nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=5.7						
CHKZ	**Chkalovo**	**54.55**	**341**	*e*P	**P**	**22 34 54.1**	**-3.1**
	comp=Z,2.4nm,0.6s,mb4.4						
BRTR	**Keskin Array B**	**67.31**	**312**	P	**P**	**22 36 24.1**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.9,baz=131,slow=6.7,SNR=5.5						
MLR	**Muntele Rosu**	**74.18**	**316**	P	**P**	**22 37 05.7**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.2,baz=144,slow=10.0,SNR=3.5						
FINES	**FINESS Array B**	**77.88**	**332**	P	**P**	**22 37 27.2**	**+1.4**
	comp=Z,0.8nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=5.3						
ARCES	**ARCESS Array B**	**80.37**	**340**	P	**P**	**22 37 40.3**	**+1.1**
	comp=Z,5.7nm,1.0s,mb4.5,baz=79,slow=4.6,SNR=4.0						
GERES	**GERESS Array B**	**82.88**	**319**	P	**P**	**22 37 53.0**	**+0.2**
	comp=Z,0.9nm,0.9s,mb3.8,baz=108,slow=4.2,SNR=6.6						
NOA	**NORSAR Array B**	**84.91**	**331**	P	**P**	**22 38 03.4**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.7,baz=97,slow=5.0,SNR=3.3						
DAVOX	**Davos**	**85.40**	**316**	P	**P**	**22 38 05.0**	**-0.5**
	comp=Z,1.3nm,0.5s,mb4.3,baz=166,slow=18,SNR=5.7						

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*NEIC **28** 22:28:33.0±5.1, 33.46S×177.47W, h75km±44km, mb4.3/1, Error ellipse: s-maj=54.5km s-min=33.2km az=197.0*

IDC 28 22:28:24.5±2.9**, 32.90S×177.50W, mb4.1**/3**, mb1 4.3**/5**, mb1mx4.0**/15**, mbtmp4.2**/5**, ML4.2**/2**, Error ellipse: s-maj=63.9km s-min=38.8km az=118.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.65**	**354**	Sn	Sn	22 30 01.1	-6.8
	259nm,0.3s,baz=278,slow=23,SNR=7.2						
MXZ	**Matakaoa Point**	**5.79**	**215**	PN	Pn	22 29 49.2	-4.5
MXZ				SN	Sn	22 31 04.0	+2.3
MXZ	**Matakaoa Point**	**5.79**	**215**	PN	Pn	22 29 49.2	-4.5
MXZ				SN	Sn	22 31 04.0	+2.3
PUZ	**Puketiti**	**6.22**	**213**	*e*P	Pn	22 29 56.6	-3.2
PUZ				S	Sn	22 31 13.1	+0.5
PUZ	**Puketiti**	**6.22**	**213**	PN	Pn	22 29 56.6	-3.2
PUZ				SN	Sn	22 31 13.1	+0.5
PUZ	**Puketiti**	**6.22**	**213**	PN	Pn	22 29 56.6	-3.2
PUZ				SN	Sn	22 31 13.1	+0.5
MWZ	**Matawai**	**6.77**	**215**	*e*P	Pn	22 30 03.8	-3.8
MWZ				S	Sn	22 31 28.0	+1.6
MWZ	**Matawai**	**6.77**	**215**	PN	Pn	22 30 03.8	-3.8
MWZ				SN	Sn	22 31 28.0	+1.6
MWZ	**Matawai**	**6.77**	**215**	PN	Pn	22 30 03.8	-3.8
MWZ				SN	Sn	22 31 28.0	+1.6
URZ	**Urewera**	**6.92**	**218**	Pn	Pn	22 30 07.0	-2.8
	2.3nm,0.3s,baz=5.3,slow=3.8,SNR=42						
URZ				Sn	Sn	22 31 23.9	-6.3
	4.1nm,0.3s,baz=34,slow=7.3,SNR=3.8						
URZ	**Urewera**	**6.92**	**218**	*e*P	Pn	22 30 06.1	-3.6
URZ	**Urewera**	**6.92**	**218**	PN	Pn	22 30 06.1	-3.7
URZ				SN	Sn	22 31 32.1	+1.9
URZ	**Urewera**	**6.92**	**218**	PN	Pn	22 30 06.1	-3.7
URZ				SN	Sn	22 31 32.1	+1.9
KNZ	**Kokohu**	**7.26**	**211**	*e*P	Pn	22 30 07.4	-7.0
KNZ	**Kokohu**	**7.26**	**211**	PN	Pn	22 30 08.9	-5.5
KNZ				SN	Sn	22 31 37.7	-0.8
KNZ	**Kokohu**	**7.26**	**211**	PN	Pn	22 30 08.9	-5.5
KNZ				SN	Sn	22 31 37.7	-0.8
BKZ	**Black Stump Fm**	**7.93**	**216**	*e*P	Pn	22 30 18.2	-5.6
BKZ				S	Sn	22 31 54.8	-0.5
BKZ	**Black Stump Fm**	**7.93**	**216**	PN	Pn	22 30 18.2	-5.6
BKZ				SN	Sn	22 31 54.8	-0.5
BKZ	**Black Stump Fm**	**7.93**	**216**	PN	Pn	22 30 18.2	-5.6
BKZ				SN	Sn	22 31 54.8	-0.5
NGZ	**Ngauruhoe**	**8.39**	**220**	*e*P	P	22 30 27.1	-3.2
NGZ	**Ngauruhoe**	**8.39**	**220**	PN	P	22 30 27.1	-3.3
NGZ	**Ngauruhoe**	**8.39**	**220**	PN	P	22 30 27.1	-3.3
CNZ	**Chateau**	**8.44**	**220**	PN	P	22 30 27.7	-3.2
CNZ	**Chateau**	**8.44**	**220**	PN	P	22 30 27.7	-3.2
MOVZ	**Moawhango**	**8.48**	**218**	*e*P	P	22 30 27.4	-4.2
MOVZ	**Moawhango**	**8.48**	**218**	*e*PN	P	22 30 28.0	-3.6
MOVZ	**Moawhango**	**8.48**	**218**	*e*PN	P	22 30 28.0	-3.6
WNVZ	**Wahianoa**	**8.51**	**219**	*e*P	P	22 30 28.9	-3.0
WNVZ	**Wahianoa**	**8.51**	**219**	*e*PN	P	22 30 29.2	-2.7
WNVZ	**Wahianoa**	**8.51**	**219**	*e*PN	P	22 30 29.2	-2.7
MRZ	**Mangatainoka R**	**9.53**	**214**	*e*P	P	22 30 36.1	-10
MRZ				S	Sn	22 32 29.3	-5.8
KIW	**Kapiti Island**	**10.01**	**215**	*e*P	P	22 30 44.2	-8.4
SNZO	**South Karori**	**10.45**	**214**	P	P	22 30 49.5	-9.1
QRZ	**Quartz Range**	**11.24**	**222**	*e*P	P	22 31 04.6	-4.9
THZ	**Tophouse**	**11.68**	**218**	*e*P	P	22 31 08.1	-7.4
KHZ	**Kahutara**	**11.86**	**214**	*e*P	P	22 31 11.9	-6.0
DSZ	**Denniston Nort**	**12.26**	**221**	*e*P	P	22 31 18.2	-5.1
LTZ	**Lake Taylor**	**12.75**	**216**	*e*P	P	22 31 23.8	-6.1
LTZ				S	S	22 33 43.8	-10
RPZ	**Rata Peaks**	**14.04**	**216**	Pn	P	22 31 43.2	-3.7
	1.7nm,0.3s,baz=63,slow=1.8,SNR=6.9						
RPZ				Sn	S	22 34 15.2	-9.4
	1.8nm,0.3s,baz=318,slow=19,SNR=9.5						
FOZ	**Fox Glacier**	**14.64**	**220**	*e*P	P	22 31 48.9	-5.9
ODZ	**Otahua Downs**	**15.22**	**214**	*e*P	P	22 31 54.3	-8.0
CTA	**Charters Tower**	**34.69**	**282**	P	P	22 35 17.1	-1.0
	1.9nm,0.7s,baz=99,slow=8.0,SNR=4.1						
ASAR	**Alice Springs**	**43.46**	**269**	P	P	22 36 29.4	-1.7
	1.4nm,0.8s,baz=116,slow=7.5,SNR=11						
WRAB	**Tennant Creek**	**44.66**	**274**	*e*P	P	22 36 39.1	-1.8
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**44.67**	**274**	P	P	22 36 38.7	-2.2
	1.0nm,0.4s,baz=112,slow=7.9,SNR=6.1						
FINES	**FINESS Array B**	**147.63**	**339**	PKPbc	PKPdf	22 48 09.4	+0.2
	0.6nm,0.6s,baz=37,slow=6.9,SNR=2.2						

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*IDC **28** 22:28:31.3±2.0, 1.14N×97.02E, mb4.0/5, mb1 4.1/5, mb1mx3.8/16, mbtmp4.0/5, Error ellipse: s-maj=78.5km s-min=26.7km az=53.0*

*NEIC **28** 22:28:36.0±0.8, 1.24N×97.12E, h30km, mb4.2/6, Error ellipse: s-maj=27.2km s-min=11.4km az=53.0*

*BJI **28** 22:28:36.9, 1.20N×97.10E, h30km, mb4.5*

ISC 28 22:28:33.8±1.1**, 1.2N**±0.2×**97.0E**±0.2**, h30km, n18, σ1.02**/18**, mb4.2**/14**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**24.44**	**13**	P	**P**	**22 33 53.8**	**+2.5**
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb4.5						
LSA	**Lhasa**	**28.91**	**349**	*e*P	**P**	**22 34 33.0**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.2						
ENH	**Enshi**	**31.26**	**21**	*e*P	**P**	**22 34 51.4**	**-1.9**
	comp=Z,5.8nm,0.9s,mb4.4						
ENH				*e*		22 34 57.5	
GTA	**Gaotai**	**38.13**	**4**	*e*P	**P**	**22 35 53.0**	**+0.8**
GTA				AP	pP	22 36 02.3	+1.2
GTA				XP	sP	22 36 06.0	+1.1
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**42.18**	**122**	P	**P**	**22 36 25.8**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.6,baz=301,slow=9.1,SNR=8.5						
WRAB	**Tennant Creek**	**42.18**	**122**	*e*P	**P**	**22 36 26.2**	**+0.3**
	comp=Z,2.1nm,0.5s,mb4.0						
BJI	**Beijing**	**42.42**	**22**	P	**P**	**22 36 35.0**	**+7.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**45.95**	**337**	*e*P	**P**	**22 36 56.0**	**+0.1**
SONM	**Songino Array**	**47.18**	**9**	P	**P**	**22 37 06.2**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=188,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**47.22**	**346**	P	**P**	**22 37 06.9**	**+1.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=161,slow=8.5,SNR=11						
ULN	**Ulaanbaatar**	**47.31**	**9**	*e*P	**P**	**22 37 06.6**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9						
TLY	**Talaya**	**50.63**	**5**	*e*P	**P**	**22 37 32.0**	**-0.1**
HIA	**Hailar**	**51.72**	**19**	*e*P	**P**	**22 37 39.4**	**-1.1**
KURK	**Kurchatov**	**51.77**	**345**	*e*P	**P**	**22 37 40.7**	**-0.1**
	comp=Z,2.3nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**56.21**	**341**	P	**P**	**22 38 12.3**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=141,slow=9.5,SNR=7.8						
CHKZ	**Chkalovo**	**56.69**	**342**	*e*P	**P**	**22 38 15.7**	**-1.2**
	comp=Z,2.5nm,0.7s,mb4.3						
ARU	**Arti**	**63.13**	**337**	*e*P	**P**	**22 38 59.7**	**-1.3**
GERES	**GERESS Array B**	**84.71**	**319**	P	**P**	**22 41 07.7**	**+1.4**
	comp=Z,0.2nm,0.5s,mb3.5,baz=108,slow=3.1,SNR=3.7						

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*BJI **28** 22:29:51.5, 34.62N×22.81E, h39km, mb4.5*

*MOS **28** 22:29:55.3±1.5, 34.50N×23.68E, h33km, mb4.2/10, Error ellipse: s-maj=11.3km s-min=5.4km az=102.7*

*CSEM **28** 22:29:56.0±0.1, 34.50N×23.55E, h40km, mb4.0/10, Error ellipse: s-maj=5.1km s-min=2.4km az=25.0*

*IDC **28** 22:29:59.8±3.1, 34.70N×23.50E, h51km±25km, mb3.7/9, mb1 3.8/14, mb1mx3.7/25, mbtmp3.9/14, ML3.8/5, Error ellipse: s-maj=27.5km s-min=18.7km az=17.0*

*ATH **28** 22:30:00.3, 34.89N×23.63E, h39km±2km, MD3.8/16, ML4.1*

*NEIC **28** 22:30:01.1, 34.93N×23.69E, h39km, mb3.9/11, MD3.8(ATH), After ATH.*

ISC 28 22:29:56.6±0.6**, 34.56N**±0.06×**23.56E**±0.04**, h39km, n94, σ1.39**/102**, mb4.0**/17**, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.51**	**57**	*e*PB	**P**	**22 30 10.0**	**+2.6**
VAM	**Vamos**	**0.99**	**32**	*e*PN	**P**	**22 30 14.6**	**+0.4**
IDI	**Anoyia**	**1.31**	**56**	P	**P**	**22 30 21.6**	**+2.8**
	30nm,0.3s,baz=247,slow=16,SNR=144						
IDI				S	**S**	**22 30 37.9**	**+2.6**
	55nm,0.3s,baz=329,slow=23,SNR=15						
IDI	**Anoyia**	**1.31**	**56**	P	**P**	**22 30 21.6**	**+2.8**
IDI				S	**S**	**22 30 37.9**	**+2.6**
KYTH	**Kithira**	**1.77**	**346**	*e*PN	**P**	**22 30 26.0**	**+0.7**
XRY	**Khrisi**	**1.78**	**79**	*e*PN	**P**	**22 30 28.5**	**+3.0**
NPS	**Neapolis**	**1.82**	**67**	*e*Pb	**P**	**22 30 30.0**	**+3.9**
NPS	**Neapolis**	**1.82**	**67**	*e*PB	**P**	**22 30 29.2**	**+3.1**
NPS				*e*SN	**S**	**22 30 49.0**	**+0.9**
VLI	**Veliai**	**2.21**	**347**	*e*PB	**P**	**22 30 33.0**	**+1.4**
VLI				*e*SN	**S**	**22 30 56.0**	**-1.9**
VLI	**Veliai**	**2.21**	**347**	*e*Pb	**P**	**22 30 34.0**	**+2.4**
SANT	**Santorini**	**2.38**	**40**	*e*P	**P**	**22 30 33.1**	**-0.8**
SANT	**Santorini**	**2.38**	**40**	*e*P	**P**	**22 30 33.2**	**-0.8**
ITM	**Ithomi**	**2.93**	**334**	*e*PN	**P**	**22 30 43.5**	**+1.6**
KARP	**Karpathos**	**3.11**	**71**	*e*PN	**P**	**22 30 46.5**	**+2.1**
NAIG	**Nisos Aigina**	**3.19**	**359**	*e*PN	**P**	**22 30 45.5**	**-0.1**
NSAL	**Nisos Salamina**	**3.34**	**359**	*e*PN	**P**	**22 30 47.5**	**-0.2**
ATH	**Athens Observa**	**3.41**	**2**	*e*PN	**P**	**22 30 47.5**	**-1.1**
MGER	**Gerania Oros**	**3.43**	**356**	*e*PN	**P**	**22 30 48.2**	**-0.7**
MGER	**Gerania Oros**	**3.43**	**356**	*e*Pn	**P**	**22 30 47.8**	**-1.1**
PTL	**Penteli**	**3.49**	**4**	*e*PN	**P**	**22 30 48.5**	**-1.3**
MPAR	**Parnis Oros**	**3.58**	**2**	*e*PN	**P**	**22 30 50.5**	**-0.6**
MPAR	**Parnis Oros**	**3.58**	**2**	*e*Pn	**P**	**22 30 50.0**	**-1.1**
VLS	**Valsamata**	**4.33**	**327**	*e*PN	**P**	**22 31 03.0**	**+1.3**
VLS	**Valsamata**	**4.33**	**327**	*e*P	**P**	**22 31 05.0**	**+3.3**
EVR	**Evrytania**	**4.57**	**343**	*e*PN	**P**	**22 31 06.3**	**+1.2**
KEK	**Kerkira**	**5.96**	**331**	*e*PN	**P**	**22 31 26.5**	**+2.0**
VAE	**Valguarnera**	**7.96**	**294**	S	**S**	**22 33 16.0**	**-6.4**
	4.6nm,0.3s,baz=312,slow=21,SNR=4.8						
STON	**Ston**	**9.47**	**333**	*i* Pn	**P**	**22 32 08.1**	**-5.4**
STON				*i* Sn	**S**	**22 33 42.8**	**-17**
BRTR	**Keskin Array B**	**9.55**	**54**	P	**P**	**22 32 13.5**	**-1.0**
	0.1nm,0.3s,baz=245,slow=14,SNR=11						
EIL	**Elat**	**10.81**	**114**	P	**P**	**22 32 32.7**	**+0.8**
	0.7nm,0.3s,baz=356,slow=30,SNR=8.6						
EIL				S	**S**	**22 34 27.1**	**-5.6**
	0.7nm,0.3s,baz=327,slow=33,SNR=4.4						
ASF	**Jabal al Asfar**	**11.40**	**98**	P	**P**	**22 32 39.2**	**-0.7**
	0.1nm,0.3s,baz=169,slow=9.6,SNR=4.2						
ASF				S	**S**	**22 34 46.2**	**-0.7**
	0.1nm,0.3s,baz=339,slow=22,SNR=2.4						
MALT	**Malatya**	**12.54**	**68**	*e*P	**P**	**22 32 55.3**	**+0.1**
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
MALT	**Malatya**	**12.54**	**68**	*e*P	**P**	**22 32 55.3**	**+0.1**
	comp=Z,4.0nm,0.9s						
MALT	**Malatya**	**12.54**	**68**	*e*P	**P**	**22 32 55.3**	**+0.1**
	comp=Z,4.0nm,0.9s						
BOJS	**Bojanci**	**12.64**	**332**	*e*Pn	**P**	**22 32 51.4**	**-5.0**
BOJS				*e*Sn	**S**	**22 35 00.8**	**-16**
PSZ	**Piszkesteto**	**13.62**	**349**	P	**P**	**22 33 05.5**	**-3.9**
PERS	**Pernice**	**13.65**	**335**	*e*Pn	**P**	**22 33 04.7**	**-5.0**
ROBS	**Robic**	**13.94**	**330**	*e*Pn	**P**	**22 33 21.3**	**+7.8**
VRAC	**Vranov**	**15.61**	**343**	P	**P**	**22 33 34.5**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=200,slow=14,SNR=4.4						
OKC	**Ostrava-Krasne**	**15.78**	**347**	*e*P	**P**	**22 33 40.3**	**+2.9**
MORC	**Moravsky Berou**	**15.84**	**346**	*e*P	**P**	**22 33 37.6**	**-0.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MORC	**Moravsky Berou**	**15.84**	**346**	*e*P	**P**	**22 33 37.6**	**-0.5**
	comp=Z,3.1nm,0.9s						
MORC	**Moravsky Berou**	**15.84**	**346**	*e*P	**P**	**22 33 37.6**	**-0.5**
	comp=Z,3.1nm,0.9s						
GERES	**GERESS Array B**	**16.04**	**336**	P	**P**	**22 33 38.3**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=158,slow=11,SNR=3.4						
KHC	**Kasperske Hory**	**16.32**	**336**	*e*P	**P**	**22 33 47.3**	**+3.0**
KHC				*e*x	x	22 34 01.4	
DPC	**Dobruska-Polom**	**16.64**	**344**	*e*P	**P**	**22 33 49.1**	**+0.8**
DPC				*e*x	x	22 34 02.3	
PRU	**Pruhonice**	**16.78**	**339**	*e*P	**P**	**22 33 51.5**	**+1.5**
PRU				*e*x	x	22 34 03.4	
UPC	**Upice**	**16.86**	**343**	*e*P	**P**	**22 33 52.5**	**+1.4**
UPC				*e*x	x	22 34 04.6	
PVCC	**Panska Ves**	**17.26**	**340**	*e*P	**P**	**22 33 56.7**	**+0.7**
KIV	**Kislovodsk**	**17.50**	**52**	*e*P	**P**	**22 33 57.6**	**-1.5**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KIV	**Kislovodsk**	**17.50**	**52**	*e*P	**P**	**22 33 57.6**	**-1.5**
	comp=Z,8.0nm,0.8s						
BRG	**Berggiesshubel**	**17.74**	**340**	P	**P**	**22 34 02.8**	**+0.7**
BRG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRG	**Berggiesshubel**	**17.74**	**340**	P	**P**	**22 34 02.8**	**+0.7**
	comp=Z,2.9nm,0.8s						
HINF	**Hinteralfeld**	**18.21**	**322**	*e*P	**P**	**22 34 09.0**	**+1.0**
CDF	**Champ du Feu**	**18.39**	**324**	*e*P	**P**	**22 34 10.1**	**-0.2**
	comp=Z,11nm,1.1s						
CDF	**Champ du Feu**	**18.39**	**324**	*e*P	**P**	**22 34 10.1**	**-0.2**
CDF				pmax	pmax		
	comp=Z,5.0nm,1.1s						
CLL	**Collm**	**18.40**	**339**	P	**P**	**22 34 09.6**	**-0.7**
CLL				*e**SP		22 34 24.0	
WLF	**Walferdange**	**19.79**	**325**	P	**P**	**22 34 28.7**	**+2.5**
TCF	**Toulx Ste Croi**	**19.97**	**312**	*e*P	**P**	**22 34 28.0**	**-0.1**
GIVF	**Givet**	**20.72**	**324**	*e*P	**P**	**22 34 36.0**	**0.0**
DOU	**Dourbes**	**20.83**	**324**	P	**P**	**22 34 36.7**	**-0.4**
BAIF	**Baives**	**20.99**	**323**	*e*P	**P**	**22 34 38.8**	**+0.1**
	comp=Z,8.3nm,0.6s						
BAIF	**Baives**	**20.99**	**323**	*e*P	**P**	**22 34 38.8**	**+0.1**
BAIF				pmax	pmax		
	comp=Z,4.0nm,0.6s						
OBN	**Obninsk**	**22.45**	**20**	*e*P	**P**	**22 34 51.9**	**-1.4**
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0						
OBN	**Obninsk**	**22.45**	**20**	*e*P	**P**	**22 34 51.9**	**-1.4**
	comp=Z,4.0nm,0.7s,mb4.0						
LDF	**La Druitiere**	**22.47**	**316**	*e*P	**P**	**22 34 53.5**	**0.0**
	comp=Z,9.5nm,0.6s,mb4.1						
LDF	**La Druitiere**	**22.47**	**316**	*e*P	**P**	**22 34 53.5**	**0.0**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
FLN	**La Foliniere**	**22.76**	**316**	*e*P	**P**	**22 34 57.7**	**+1.4**
	comp=Z,16nm,0.7s,mb4.2						
FLN	**La Foliniere**	**22.76**	**316**	*e*P	**P**	**22 34 57.7**	**+1.4**
FLN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.3						
GRR	**Gorron**	**22.80**	**315**	*e*P	**P**	**22 34 59.2**	**+2.5**
	comp=Z,6.1nm,0.5s,mb4.0						
GRR	**Gorron**	**22.80**	**315**	*e*P	**P**	**22 34 59.2**	**+2.5**
GRR				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.0						
HFS	**Hagfors**	**26.38**	**349**	P	**P**	**22 35 28.8**	**-2.1**
	comp=Z,4.2nm,0.6s,mb4.2,baz=157,slow=11,SNR=23						
FINES	**FINESS Array B**	**26.95**	**3**	P	**P**	**22 35 33.5**	**-2.5**
	comp=Z,0.9nm,0.6s,mb3.5,baz=158,slow=10,SNR=6.1						
NAO01	**NORSAR Array S**	**27.55**	**347**	*e*P	**P**	**22 35 39.0**	**-2.5**
NB2	**NORSAR Subarra**	**27.66**	**347**	P	**P**	**22 35 40.2**	**-2.4**
	comp=Z,0.9nm,0.5s,mb3.7,baz=155,slow=9.3						
NB2	**NORSAR Subarra**	**27.66**	**347**	P	**P**	**22 35 40.2**	**-2.4**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.7						
NOA	**NORSAR Array B**	**27.66**	**347**	P	**P**	**22 35 40.5**	**-2.1**
	comp=Z,0.8nm,0.5s,mb3.6,baz=155,slow=8.9,SNR=7.0						
EKA	**Eskdalemuir Ar**	**27.79**	**327**	P	**P**	**22 35 43.4**	**-0.4**
	comp=Z,1.5nm,0.5s,mb3.9,baz=129,slow=7.8,SNR=11						
ARCES	**ARCESS Array B**	**35.04**	**1**	P	**P**	**22 36 45.1**	**-2.2**
	comp=Z,3.2nm,0.9s,mb4.2,baz=180,slow=8.5,SNR=6.0						
CHKZ	**Chkalovo**	**37.96**	**45**	*e*P	**P**	**22 37 10.3**	**-1.7**
CHKZ				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.2						
CHKZ	**Chkalovo**	**37.96**	**45**	*e*P	**P**	**22 37 10.3**	**-1.7**
	comp=Z,3.9nm,0.8s,mb4.2						
AAK	**Ala-Archa**	**40.10**	**63**	*e*P	**P**	**22 37 29.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
AAK	**Ala-Archa**	**40.10**	**63**	*e*P	**P**	**22 37 29.6**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.9						
AAK	**Ala-Archa**	**40.10**	**63**	*e*P	**P**	**22 37 29.6**	**-0.3**
	comp=Z,1.4nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**45.20**	**56**	P	**P**	**22 38 11.2**	**-0.1**
	comp=Z,0.9nm,0.5s,mb3.9,baz=268,slow=7.7,SNR=7.3						
ZAK	**Zakamensk**	**58.12**	**48**	*e*P	**P**	**22 39 48.3**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
ZAK	**Zakamensk**	**58.12**	**48**	*e*P	**P**	**22 39 48.3**	**-0.1**
	comp=Z,2.0nm,1.0s,mb4.1						
SONM	**Songino Array**	**60.88**	**50**	P	**P**	**22 40 07.1**	**-0.3**
	comp=Z,1.4nm,0.9s,mb4.1,baz=284,slow=7.9,SNR=6.8						
ULN	**Ulaanbaatar**	**61.28**	**50**	*e*P	**P**	**22 40 08.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
ULN	**Ulaanbaatar**	**61.28**	**50**	*e*P	**P**	**22 40 08.8**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**61.28**	**50**	*e*P	**P**	**22 40 08.8**	**-1.3**
	comp=Z,1.0nm,0.6s,mb4.1						
SCHQ	**Schefferville**	**62.79**	**319**	P	**P**	**22 40 19.9**	**-0.2**
	comp=Z,0.8nm,0.4s,mb4.2,baz=92,slow=18,SNR=5.4						
HHC	**Hu-ho-hao-te**	**67.06**	**55**	*e*P	**P**	**22 40 45.8**	**-2.0**
HHC				AP	pP	22 40 58.3	-1.2
HHC				XP	sP	22 41 03.5	-0.3
HHC				PP	PP	22 43 17.3	-0.2
HHC				PCS		22 45 19.8	
YKA	**Yellowknife Ar**	**77.61**	**342**	P	**P**	**22 41 50.2**	**+0.4**
	comp=Z,0.3nm,0.5s,mb3.5,baz=36,slow=5.4,SNR=6.6						

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*IDC **28** 22:34:54.6±7.0, 0.49N×97.32E, mb3.9/7, mb1 4.1/7, mb1mx3.9/17, mbtmp3.9/7, Error ellipse: s-maj=174.1km s-min=56.6km az=137.0*

*NEIC **28** 22:34:59.0±0.8, 0.56N×97.54E, h30km, mb4.2/2, Error ellipse: s-maj=17.4km s-min=16.0km az=214.0*

ISC 28 22:34:57.4±1.1**, 0.6N**±0.2×**97.6E**±0.1**, h30km, n13, σ0.80**/13**, mb3.9**/9**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**34**	*e*P	**Pn**	**22 36 20.2**	**-0.4**
LSA	**Lhasa**	**29.56**	**349**	P	**P**	**22 41 02.6**	**+0.6**
WRAB	**Tennant Creek**	**41.43**	**122**	P	**P**	**22 42 43.1**	**-0.1**
	2.1nm,0.7s,mb3.9						
SONM	**Songino Array**	**47.65**	**8**	P	**P**	**22 43 33.8**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=192,slow=9.0,SNR=7.8						
ULN	**Ulaanbaatar**	**47.78**	**9**	*e*P	**P**	**22 43 34.4**	**+0.4**
MKAR	**Makanchi Array**	**47.89**	**346**	P	**P**	**22 43 35.4**	**+0.5**
	1.3nm,0.6s,mb4.2,baz=160,slow=9.1,SNR=22						
BVAR	**Borovoye Array**	**56.91**	**341**	P	**P**	**22 44 41.1**	**-1.0**
	1.3nm,0.7s,mb4.1,baz=149,slow=8.6,SNR=6.7						
CHKZ	**Chkalovo**	**57.39**	**341**	*e*P	**P**	**22 44 43.8**	**-1.7**
	2.6nm,0.7s,mb4.4						
BRTR	**Keskin Array B**	**69.76**	**312**	P	**P**	**22 46 06.0**	**-1.0**
	1.1nm,0.7s,mb3.9,baz=126,slow=6.7,SNR=6.1						
MLR	**Muntele Rosu**	**76.73**	**317**	P	**P**	**22 46 48.3**	**+0.6**
	2.2nm,0.9s,mb4.1,baz=353,slow=11,SNR=3.9						
FINES	**FINESS Array B**	**80.68**	**333**	P	**P**	**22 47 08.8**	**0.0**
	0.6nm,0.5s,mb3.8,baz=90,slow=9.5,SNR=7.8						
FINES	**FINESS Array B**	**80.68**	**333**	P	**P**	**22 47 08.8**	**-0.1**

GERES	**GERESS Array B**	**85.48**	**319**	P		**P**		**22 47 34.8**	**+1.1**		
	0.1nm,0.4s,mb3.3,baz=95,slow=6.4,SNR=3.7										

IDC ***28*** *22:40:36.2±1.3, 1.25N×97.25E, mb4.1/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.1/9, Error ellipse: s-maj=69.2km s-min=16.8km az=54.0*

NEIC ***28*** *22:40:40.0±0.7, 1.28N×97.24E, h30km, mb4.2/5, Error ellipse: s-maj=18.7km s-min=10.4km az=46.0*

ISC 28 22:40:40.7±5.5, 1.4N±0.2×97.4E±0.3, h48km±44km, n19, σ1s08/19, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.07**	**40**	*eP*		**P**		**22 41 56.5**	**+0.4**
KSM	**Kuching**	**12.91**	**89**	P		**P**		**22 43 44.0**	**0.0**
ENH	**Enshi**	**30.95**	**21**	*eP*		**P**		**22 46 54.5**	**-1.1**
	4.2nm,0.6s,mb4.5								
WRA	**Warramunga Arr**	**41.97**	**122**	P		**P**		**22 48 29.2**	**+0.2**
	1.5nm,0.5s,mb3.9,baz=301,slow=9.1,SNR=20								
WRAB	**Tennant Creek**	**41.97**	**122**	*eP*		**P**		**22 48 27.5**	**-1.5**
	1.6nm,0.5s,mb3.9								
ASAR	**Alice Springs**	**43.35**	**127**	P		**P**		**22 48 40.7**	**+0.4**
	0.8nm,0.6s,mb3.6,baz=305,slow=8.8,SNR=7.3								
AAK	**Ala-Archa**	**45.92**	**336**	*eP*		**P**		**22 48 58.2**	**-2.4**
	2.4nm,0.7s,mb4.2								
SONM	**Songino Array**	**46.93**	**8**	P		**P**		**22 49 10.1**	**+1.6**
	1.5nm,0.5s,mb4.2,baz=190,slow=9.3,SNR=17								
ULN	**Ulaanbaatar**	**47.06**	**9**	*eP*		**P**		**22 49 09.0**	**-0.6**
MKAR	**Makanchi Array**	**47.12**	**346**	P		**P**		**22 49 11.1**	**+1.1**
	2.4nm,0.5s,mb4.4,baz=161,slow=8.7,SNR=58								
MKAR	**Makanchi Array**	**47.12**	**346**	P		**P**		**22 49 11.1**	**+1.1**
KURK	**Kurchatov**	**51.67**	**345**	*eP*		**P**		**22 49 44.7**	**-0.2**
	1.9nm,0.9s,mb4.0								
STKA	**Stephens Creek**	**53.33**	**132**	P		**P**		**22 49 58.0**	**+0.3**
	3.1nm,0.6s,mb4.4,baz=279,slow=1.2,SNR=9.0								
BVAR	**Borovoye Array**	**56.15**	**341**	P		**P**		**22 50 17.4**	**-0.4**
	2.0nm,0.7s,mb4.2,baz=153,slow=9.9,SNR=9.1								
CHKZ	**Chkalovo**	**56.62**	**341**	*eP*		**P**		**22 50 20.9**	**-0.3**
	4.5nm,0.9s,mb4.5								
KIV	**Kislovodsk**	**64.30**	**319**	P		**P**		**22 51 12.0**	**-1.6**
FINES	**FINESS Array B**	**79.93**	**332**	P		**P**		**22 52 46.7**	**+0.6**
	1.2nm,0.9s,mb3.8,baz=108,slow=6.0,SNR=7.1								
ARCES	**ARCESS Array B**	**82.44**	**340**	P		**P**		**22 52 60.0**	**+0.9**
	3.6nm,0.9s,mb4.3,baz=104,slow=5.0,SNR=9.9								
GERES	**GERESS Array B**	**84.81**	**319**	P		**P**		**22 53 13.8**	**+2.4**
	0.3nm,0.7s,mb3.5,baz=135,slow=1.4,SNR=4.2								

BJI ***28*** *22:41:11.5, 0.41N×97.25E, h30km, mB5.1, mb4.8, Ms4.8, Msz4.9*

IDC ***28*** *22:41:13.3±0.4, 1.10N×97.42E, mb4.7/24, mb1 4.8/24, mb1mx4.8/27, mbtmp4.7/24, Error ellipse: s-maj=16.9km s-min=11.4km az=46.0*

MOS ***28*** *22:41:16.7±0.8, 1.07N×97.44E, h33km, mb5.2/38, Error ellipse: s-maj=13.6km s-min=5.5km az=123.7*

NEIC ***28*** *22:41:17.8±0.1, 1.04N×97.40E, h30km, mb4.9/49, Error ellipse: s-maj=5.5km s-min=3.9km az=219.0*

ISC 28 22:41:17.7±1.3, 1.04N±0.04×97.46E±0.05, h42km±11km, h28km±3.0km:pP-P, n218, σ0s85/213, mb4.8/88, MS4.8/7, 10C-16D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.29**	**37**	*eP*		**P**		**22 42 36.5**	**+0.2**
BDT	**Bhumibol Dam**	**16.17**	**5**	P		**P**		**22 45 06.0**	**+2.2**
CM31	**Chiang Mai Arr**	**17.37**	**5**	*eP*		**P**		**22 45 17.2**	**-1.6**
	17nm,0.6s								
CHRT	**Chiangrai**	**18.85**	**7**	⇑P		**P**		**22 45 36.0**	**-1.1**
	132nm,1.0s								
KKM	**Kota Kinabalu**	**19.36**	**75**	P		**P**		**22 45 43.0**	**+0.1**
QIZ	**Qiongzhong**	**21.61**	**33**	*eP*		**P**		**22 46 07.3**	**+1.1**
KMI	**Kunming**	**24.48**	**12**	P		**P**		**22 46 36.3**	**+1.9**
KMI					AP			22 46 42.8	
KMI					AMB	AMB			
	comp=Z,11nm,1.7s,mb4.0								
HYB	**Hyderabad**	**24.71**	**312**	*eP*		**P**		**22 46 37.5**	**+0.8**
HYB	**Hyderabad**	**24.71**	**312**	*i P*		**P**		**22 46 37.5**	**+0.8**
GYA	**Guiyang**	**26.78**	**19**	⇑*iP*		**P**		**22 47 01.5**	**+5.5**
GYA					AP	pP		22 47 11.0	+3.9
GYA					XP	sP		22 47 14.5	+2.3
GYA					PP	PP		22 47 44.8	+3.3
GYA					S	**S**		**22 51 32.8**	**+5.7**
GYA					AMB	AMB			
	comp=Z,20nm,0.9s,mb4.7								
GYA					AMB	AMB			
	comp=Z,120nm,4.2s								
GYA					LR	LR			
	comp=N,4μm,15.8s,MS5.3								
GYA					LR	LR			
	comp=E,6μm,16.0s,MS5.3								
GYA					LR	LR			
	comp=Z,6μm,16.4s,MS5.2								
JIRN	**Jiri**	**28.59**	**339**	*eP*		**P**		**22 47 12.1**	**-0.2**
PKI	**Pulchoki**	**28.80**	**337**	*eP*		**P**		**22 47 14.9**	**+0.7**
	comp=Z,27nm,0.7s,mb5.1								
DMN	**Daman**	**28.95**	**337**	*eP*		**P**		**22 47 16.2**	**+0.7**
	comp=Z,37nm,0.8s,mb5.2								
KKN	**Kakani**	**29.05**	**337**	*eP*		**P**		**22 47 16.6**	**+0.2**
	comp=Z,42nm,0.8s,mb5.2								
LSA	**Lhasa**	**29.13**	**349**	P		**P**		**22 47 17.5**	**+0.4**
LSA	**Lhasa**	**29.13**	**349**	*eP*		**P**		**22 47 16.9**	**-0.2**
LSA					pmax	pmax			
	comp=Z,16nm,0.8s,mb4.8								
LSA	**Lhasa**	**29.13**	**349**	*eP*		**P**		**22 47 16.9**	**-0.2**
	comp=Z,16nm,0.8s,mb4.8								
GKN	**Gorkha**	**29.49**	**337**	*eP*		**P**		**22 47 20.1**	**-0.2**
	comp=Z,35nm,0.7s,mb5.2								
KOLN	**Koldanda**	**29.71**	**335**	*eP*		**P**		**22 47 22.4**	**+0.1**
	comp=Z,34nm,0.6s,mb5.2								
ENH	**Enshi**	**31.24**	**20**	*eP*		**P**		**22 47 34.3**	**-1.5**
	comp=Z,36nm,0.8s,mb5.3								
PTH	**Pithoragarh**	**32.77**	**331**	*e*		**P**		**22 47 49.1**	**-0.1**
WHN	**Wuhan**	**33.44**	**27**	⇓P		**P**		**22 47 55.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.62**	**126**	*eP*		**P**		**22 47 55.5**	**-1.2**
	comp=Z,9.3nm,0.8s,mb4.8								
FITZ	**Fitzroy Crossi**	**33.62**	**126**	P		**P**		**22 47 55.6**	**-1.1**
	comp=Z,7.3nm,0.6s,mb4.8,baz=337,slow=8.1,SNR=17								
DDI	**Dehra Dun**	**34.46**	**329**	*e*		**P**		**22 48 04.1**	**+0.3**
XAN	**Xi'an**	**34.54**	**17**	P		**P**		**22 48 03.5**	**-0.9**
XAN					AMB	AMB			
	comp=Z,17nm,0.6s,mb5.2								
LZH	**Lanzhou**	**35.37**	**9**	*eP*		**P**		**22 48 12.5**	**+1.0**
LZH					XP	sP		22 48 24.5	-3.8
LZH					AMB	AMB			
	comp=Z,28nm,1.5s,mb5.0								
LZH					AMB	AMB			
	comp=Z,130nm,5.2s								
LZH					LR	LR			
	comp=E,795nm,15.4s								
LZH					LR	LR			
	comp=Z,1μm,17.0s,MS4.7								
KAKA	**Kakadu**	**37.30**	**113**	*eP*		**P**		**22 48 26.7**	**-1.3**
	comp=Z,8.0nm,0.6s,mb4.7								
GTA	**Gaotai**	**38.25**	**3**	*eP*		**P**		**22 48 36.0**	**+0.3**
GTA					AP	pP		22 48 43.0	-4.2
GTA					PP	PP		22 50 07.8	+0.8
GTA					PPP	PPP		22 50 31.5	+1.9
GTA					PCP	PcP		22 50 49.5	-0.4
GTA					S	**S**		**22 54 30.8**	**+4.5**
GTA					SS	SS		22 57 12.8	+6.4
GTA					AMB	AMB			
	comp=Z,6.0nm,1.0s,mb4.3								
GTA					AMB	AMB			
	comp=Z,328nm,6.3s								
GTA					LR	LR			
	comp=N,495nm,13.8s,MS4.5								
GTA					LR	LR			
	comp=E,349nm,16.5s,MS4.5								
GTA					LR	LR			
	comp=Z,2μm,15.6s,MS5.1								
NWAO	**Narrogin (SRO)**	**38.60**	**153**	P		**P**		**22 48 40.0**	**+1.3**
	comp=Z,12nm,0.8s,mb4.7,baz=327,slow=12,SNR=12								
JOW	**Kunigami**	**39.16**	**46**	P		**P**		**22 48 41.8**	**-1.6**
	comp=Z,19nm,0.8s,mb4.9,baz=79,slow=15,SNR=3.9								
HHC	**Hu-ho-hao-te**	**41.64**	**16**	*eP*		**P**		**22 49 05.8**	**+2.1**
HHC					AP	pP		22 49 14.5	-0.9
HHC					XP	sP		22 49 18.5	-2.0
HHC					PP	PP		22 50 45.8	+2.5
HHC					PCP	PcP		22 51 00.0	-0.8
HHC					SCP			22 54 46.0	
HHC					S	**S**		**22 55 20.8**	**+3.7**
HHC					XS			22 55 40.8	
HHC					SCS	ScS		22 59 01.8	+0.6
HHC					AMB	AMB			
	comp=Z,11nm,0.4s,mb4.8								
HHC					AMB	AMB			
	comp=Z,332nm,11.9s								
HHC					LR	LR			
	comp=N,417nm,16.1s,MS4.7								
HHC					LR	LR			
	comp=E,720nm,18.4s,MS4.7								
HHC					LR	LR			
	comp=Z,2μm,28.0s								
WRA	**Warramunga Arr**	**41.73**	**122**	P		**P**		**22 49 04.6**	**-0.2**
	comp=Z,4.3nm,0.5s,mb4.4,baz=302,slow=9.1,SNR=33								
WRAB	**Tennant Creek**	**41.73**	**122**	*eP*		**P**		**22 49 04.2**	**-0.6**
WRAB					pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.6								
WRAB	**Tennant Creek**	**41.73**	**122**	*eP*		**P**		**22 49 04.2**	**-0.6**
	comp=Z,9.7nm,0.6s,mb4.6								
WB2	**Warramunga Arr**	**41.74**	**122**	*eP*		**P**		**22 49 04.1**	**-0.8**
BJT	**Baijiatuau**	**42.37**	**21**	*eP*		**P**		**22 49 11.1**	**+1.3**
BJT					pmax	pmax			
	comp=Z,26nm,0.6s								
BJT	**Baijiatuau**	**42.37**	**21**	*eP*		**P**		**22 49 11.1**	**+1.4**
	comp=Z,26nm,0.6s,mb5.0								
BJI	**Beijing**	**42.39**	**21**	P		**P**		**22 49 11.5**	**+1.6**
BJI					AMB	AMB			
	comp=Z,37nm,0.7s,mb5.1								
FORT	**Forrest**	**42.99**	**140**	*eP*		**P**		**22 49 16.4**	**+1.4**
	comp=Z,964nm,0.6s								
ASPA	**Alice Springs**	**43.09**	**127**	*eP*		**P**		**22 49 15.8**	**-0.1**
ASAR	**Alice Springs**	**43.09**	**127**	P		**P**		**22 49 15.9**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.2,baz=302,slow=7.8,SNR=15								
ASAR					PcP	PcP		22 51 06.0	+0.2
	comp=Z,1.6nm,0.7s,baz=295,slow=2.0,SNR=4.5								
WMQ	**Urumqi**	**43.48**	**350**	⇑*iP*		**P**		**22 49 19.5**	**+0.8**
WMQ					AP	pP		22 49 29.0	-1.4
WMQ					XP	sP		22 49 33.0	-2.5
WMQ					PP	PP		22 51 03.0	+1.0
WMQ					S	**S**		**22 55 45.5**	**+1.6**
WMQ					XS			22 56 02.0	
WMQ					AMB	AMB			
	comp=Z,17nm,1.2s,mb4.7								
WMQ					AMB	AMB			
	comp=Z,113nm,3.9s								
WMQ					LR	LR			
	comp=N,517nm,18.4s,MS4.7								
WMQ					LR	LR			
	comp=E,623nm,18.6s,MS4.7								
WMQ					LR	LR			
	comp=Z,448nm,20.2s,MS4.4								
JMDO	**Jabal Madar**	**43.74**	**302**	⇓P		**P**		**22 49 21.4**	**+0.2**
SMDO	**Samad**	**44.07**	**303**	⇓P		**P**		**22 49 24.4**	**+0.6**
BIDO	**Bidbid**	**44.19**	**303**	P		**P**		**22 49 25.7**	**+0.9**
	SNR=7.7								
BSY	**Bisya**	**44.66**	**302**	P		**P**		**22 49 29.4**	**+0.9**
	SNR=6.3								
ARQ	**Araqi**	**45.47**	**302**	⇑P		**P**		**22 49 35.9**	**+0.9**
KS15	**Wonju Array Si**	**45.80**	**34**	*eP*		**P**		**22 49 37.3**	**-0.2**
AAK	**Ala-Archa**	**46.25**	**337**	*eP*		**P**		**22 49 40.5**	**-0.4**
AAK					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
AAK	**Ala-Archa**	**46.25**	**337**	*eP*		**P**		**22 49 40.5**	**-0.4**
	comp=Z,4.3nm,0.8s,mb4.4								
SONM	**Songino Array**	**47.25**	**8**	P		**P**		**22 49 49.2**	**+0.5**
	comp=Z,3.1nm,0.5s,mb4.5,baz=191,slow=9.1,SNR=19								
SONM					PcP	PcP		22 51 19.9	0.0
	comp=Z,6.0nm,0.6s,baz=192,slow=3.7,SNR=16								
ULN	**Ulaanbaatar**	**47.38**	**9**	*eP*		**P**		**22 49 49.7**	**0.0**
ULN					pmax	pmax			
	comp=Z,180nm,2.4s,mb5.6								
ULN	**Ulaanbaatar**	**47.38**	**9**	*eP*		**P**		**22 49 49.7**	**0.0**
	comp=Z,180nm,2.4s,mb5.6								
MKAR	**Makanchi Array**	**47.46**	**346**	*eP*		**P**		**22 49 50.3**	**-0.1**
MKAR					pmax	pmax			
	comp=Z,6.0nm,0.6s								
MKAR	**Makanchi Array**	**47.46**	**346**	P		**P**		**22 49 50.4**	**0.0**
	comp=Z,10nm,0.6s,mb5.0,baz=160,slow=8.5,SNR=35								
CN2	**Changchun**	**49.33**	**27**	*eP*		**P**		**22 50 05.0**	**+0.1**
CN2					*e*XP	sP		22 50 17.3	-4.4
CN2					*e*S	**S**		**22 57 05.0**	**-2.2**
CN2					AMB	AMB			
	comp=Z,10.0nm,0.7s,mb5.0								
CN2					AMB	AMB			
	comp=Z,300nm,3.0s								
CN2					LR	LR			
	comp=N,600nm,15.0s,MS4.9								
CN2					LR	LR			
	comp=E,800nm,15.0s,MS4.9								
CN2					LR	LR			
	comp=Z,1μm,15.0s,MS5.0								
ZAK	**Zakamensk**	**49.41**	**5**	*eP*		**P**		**22 50 05.5**	**+0.1**
ZAK					pmax	pmax			
	comp=Z,4.0nm,1.0s,mb4.4								
TLY	**Talaya**	**50.73**	**5**	*eP*		**P**		**22 50 15.4**	**-0.1**
TLY					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.3								
HIA	**Hailar**	**51.71**	**18**	*eP*		**P**		**22 50 22.8**	**-0.1**
HIA					pmax	pmax			
	comp=Z,15nm,0.8s								
HIA	**Hailar**	**51.71**	**18**	*eP*		**P**		**22 50 22.8**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0								
KURK	**Kurchatov**	**52.01**	**345**	*i P*		**P**		**22 50 24.8**	**-0.4**
KURK					pmax	pmax			
	comp=Z,12nm,1.3s,mb4.7								
KURK	**Kurchatov**	**52.01**	**345**	*eP*		**P**		**22 50 24.4**	**-0.8**
	comp=Z,16nm,1.0s,mb4.9								
STKA	**Stephens Creek**	**53.06**	**132**	*eP*		**P**		**22 50 33.6**	**+0.3**
	comp=Z,12nm,0.9s,mb4.8								
STKA	**Stephens Creek**	**53.06**	**132**	P		**P**		**22 50 33.7**	**+0.4**
	comp=Z,14nm,0.9s,mb4.9,baz=310,slow=6.7,SNR=18								
NVS	**Novosibirsk**	**54.88**	**350**	*eP*		**P**		**22 50 44.7**	**-1.6**
NVS					*e*S	**S**		**22 58 21.2**	**-1.7**
NVS					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7								
NVS					pmax	pmax			
	comp=N,4.0nm,0.6s								
NVS					pmax	pmax			
	comp=E,4.0nm,0.6s								
NVS					smax				
	comp=N,3.0nm,1.2s								
NVS					smax				
	comp=E,8.0nm,1.2s								
RAYN	**Ar Rayn**	**55.06**	**298**	P		**P**		**22 50 46.5**	**-1.6**
	comp=E,76nm,0.6s,SNR=13								
KLR	**Kul'dur**	**56.28**	**26**	*eP*		**P**		**22 50 53.8**	**-2.7**
BVA0	**Borovoye Array**	**56.48**	**341**	*i P*		**P**		**22 50 56.4**	**-1.5**
BVA0					pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0								
BVAR	**Borovoye Array**	**56.48**	**341**	P		**P**		**22 50 56.6**	**-1.3**
	comp=Z,7.4nm,0.5s,mb5.0,baz=141,slow=9.9,SNR=31								
CHKZ	**Chkalovo**	**56.96**	**341**	*eP*		**P**		**22 50 59.9**	**-1.4**
BOD	**Bodaibo**	**58.12**	**10**	*eP*		**P**		**22 51 08.9**	**-0.5**
BOD					pmax	pmax			
	comp=Z,16nm,1.1s,mb5.0								
KMBO	**Kilima Mbogo**	**60.24**	**268**	*eP*		**P**		**22 51 23.8**	**-0.9**
KMBO					pmax	pmax			
	comp=Z,10.0nm,1.2s								
KMBO	**Kilima Mbogo**	**60.24**	**268**	P		**P**		**22 51 24.5**	**-0.2**
	comp=Z,5.6nm,0.8s,mb4.7,baz=55,slow=10,SNR=19								
KMBO	**Kilima Mbogo**	**60.24**	**268**	*eP*		**P**		**22 51 23.8**	**-0.9**
	comp=Z,10nm,1.2s,mb4.7								
SVE	**Sverdlovsk**	**62.93**	**338**	⇓*eP*		**P**		**22 51 42.0**	**-0.2**
SVE					pmax	pmax			
	comp=Z,40nm,1.5s,mb5.3								
SVE					MLR	MLR			
	comp=E,100nm,16.0s								
SVE					MLR	MLR			
	comp=Z,700nm,16.0s,MS4.9								
ARU	**Arti**	**63.43**	**337**	*eP*		**P**		**22 51 43.1**	**-2.4**
ARU	**Arti**	**63.43**	**337**	*eP*		**P**		**22 51 43.0**	**-2.5**
	comp=Z,9.1nm,1.0s,mb4.9								
KIV	**Kislovodsk**	**64.60**	**319**	*eP*		**P**		**22 51 51.6**	**-1.6**
KIV					pmax	pmax			
	comp=Z,16nm,1.2s,mb4.9								
KIV	**Kislovodsk**	**64.60**	**319**	*eP*		**P**		**22 51 51.5**	**-1.8**
	comp=Z,16nm,1.1s,mb5.0								
ASF	**Jabal al Asfar**	**64.77**	**305**	P		**P**		**22 51 54.8**	**+0.3**
	comp=Z,6.9nm,0.9s,mb4.7,baz=327,slow=4.6,SNR=8.8								
GOF	**Gofitskoye**	**64.85**	**320**	*eP*		**P**		**22 51 53.5**	**-1.4**
MALT	**Malatya**	**65.43**	**312**	*eP*		**P**		**22 51 58.1**	**-0.6**
MALT					pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.6								
MALT	**Malatya**	**65.43**	**312**	*eP*		**P**		**22 51 58.1**	**-0.7**
	comp=Z,7.2nm,1.1s,mb4.6								
EIL	**Elat**	**65.76**	**302**	*eP*		**P**		**22 51 59.9**	**-1.1**
	comp=Z,24nm,1.1s,mb5.2								
MBAR	**Mbarara**	**66.74**	**269**	P		**P**		**22 52 06.1**	**-1.4**
	comp=Z,82nm,0.8s,mb5.8,SNR=11								
MBAR	**Mbarara**	**66.74**	**269**	*eP*		**P**		**22 52 06.0**	**-1.5**
MBAR					pmax	pmax			
	comp=Z,15nm,1.1s,mb4.9								
MBAR	**Mbarara**	**66.74**	**269**	*eP*		**P**		**22 52 06.0**	**-1.5**
	comp=Z,15nm,1.1s,mb4.9								
BRTR	**Keskin Array B**	**69.41**	**312**	P		**P**		**22 52 21.9**	**-1.8**
	comp=Z,4.3nm,0.9s,mb4.4,baz=136,slow=7.3,SNR=17								
DZM	**Mont Dzumac**	**70.98**	**114**	P		**P**		**22 52 33.9**	**+0.4**
	comp=Z,5.4nm,0.7s,mb4.6,baz=263,slow=10,SNR=5.9								
MA2	**Magadan**	**71.36**	**26**	*eP*		**P**		**22 52 35.4**	**+0.3**
MA2					pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5								
OBN	**Obninsk**	**72.89**	**328**	*eP*		**P**		**22 52 42.3**	**-2.0**
OBN					pmax	pmax			
	comp=Z,7.0nm,0.9s,mb4.6								
LBTB	**Lobatse**	**74.05**	**244**	*eP*		**P**		**22 52 50.6**	**-1.1**
LBTB					pmax	pmax			
	comp=Z,24nm,1.3s,mb5.0								
LBTB	**Lobatse**	**74.05**	**244**	P		**P**		**22 52 50.8**	**-0.9**
	comp=Z,9.4nm,0.7s,mb4.8,baz=99,slow=5.9,SNR=14								
LBTB	**Lobatse**	**74.05**	**244**	*eP*		**P**		**22 52 50.6**	**-1.0**
	comp=Z,24nm,1.3s,mb5.0								
TIRR	**Tirgusor**	**74.42**	**316**	⇑P		**P**		**22 52 52.4**	**-1.0**
TIRR	**Tirgusor**	**74.42**	**316**	⇑P		**P**		**22 52 52.3**	**-1.1**
BOSA	**Boshof**	**74.92**	**240**	P		**P**		**22 52 56.4**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.6,baz=107,slow=6.4,SNR=10								
MLR	**Muntele Rosu**	**76.36**	**317**	⇓P		**P**		**22 53 04.9**	**+0.4**
MLR	**Muntele Rosu**	**76.36**	**317**	P		**P**		**22 53 04.3**	**-0.2**
	comp=Z,11nm,1.0s,mb4.8,baz=178,slow=1.8,SNR=12								
MLR	**Muntele Rosu**	**76.36**	**317**	⇓P		**P**		**22 53 04.8**	**+0.3**
BURAR	**Bucovina Array**	**77.31**	**319**	⇓P		**P**		**22 53 10.2**	**+0.4**
SUR	**Sutherland**	**79.30**	**237**	P		**P**		**22 53 22.2**	**+1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=102,slow=5.9,SNR=7.7								
KWP	**Kalwaria**	**79.36**	**320**	*eP*		**P**		**22 53 20.4**	**-0.6**
KOLS	**Kolonicke sedl**	**79.51**	**320**	*i P*		**P**		**22 53 22.5**	**+0.7**
SYO	**Syowa Base**	**79.93**	**198**	⇑P		**P**		**22 53 24.0**	**+0.3**
SYO	**Syowa Base**	**79.93**	**198**	⇑PcP		PcP		22 53 29.2	-2.2
SUW	**Suwalki**	**79.95**	**325**	*eP*		**P**		**22 53 22.5**	**-1.5**
CRVS	**Cervenica-Dubn**	**80.03**	**319**	*i P*		**P**		**22 53 24.4**	**-0.2**
FINES	**FINESS Array B**	**80.26**	**332**	P		**P**		**22 53 25.1**	**-0.5**
	comp=Z,3.7nm,0.6s,mb4.5,baz=94,slow=6.0,SNR=20								
KAF	**Kangasniemi**	**80.34**	**333**	*ep*		**P**		**22 53 25.6**	**-0.4**
	comp=Z,5.6nm,0.6s,mb4.7								
KAF	**Kangasniemi**	**80.34**	**333**	*eP*		**P**		**22 53 25.6**	**-0.4**
KAF					pmax	pmax			
	comp=Z,6.0nm,0.6s,mb4.7								
TSUM	**Tsumeb**	**80.78**	**250**	P		**P**		**22 53 30.1**	**+0.9**
	comp=Z,9.2nm,1.0s,mb4.7,baz=108,slow=6.2,SNR=8.8								
NIE	**Niedzica**	**80.86**	**320**	*eP*		**P**		**22 53 28.5**	**-0.5**
PSZ	**Piszkesteto**	**80.90**	**318**	*eP*		**P**		**22 53 28.7**	**-0.5**
PSZ					pmax	pmax			
	comp=Z,9.0nm,1.1s,mb4.6								
PSZ	**Piszkesteto**	**80.90**	**318**	*eP*		**P**		**22 53 28.7**	**-0.6**
	comp=Z,9.1nm,1.1s,mb4.6								
OJC	**Ojcow**	**81.31**	**321**	*eP*		**P**		**22 53 31.6**	**+0.3**
VYHS	**Vyhne**	**81.68**	**319**	*i P*		**P**		**22 53 33.4**	**+0.1**
OKC	**Ostrava-Krasne**	**82.31**	**320**	*eP*		**P**		**22 53 36.7**	**+0.2**
MORC	**Moravsky Berou**	**82.69**	**320**	*eP*		**P**		**22 53 38.1**	**-0.4**
MORC					pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8								
MORC	**Moravsky Berou**	**82.69**	**320**	*eP*		**P**		**22 53 38.1**	**-0.4**
	comp=Z,8.9nm,1.0s,mb4.8								
ARCES	**ARCESS Array B**	**82.77**	**340**	P		**P**		**22 53 38.9**	**+0.4**
	comp=Z,3.7nm,0.6s,mb4.6,baz=97,slow=4.2,SNR=18								
KOGS	**Kog**	**83.18**	**317**	*eP*		**P**		**22 53 41.0**	**0.0**
KTK1	**Kautokeino**	**83.41**	**340**	*eP*		**P**		**22 53 43.4**	**+1.6**
DPC	**Dobruska-Polom**	**83.54**	**320**	*eP*		**P**		**22 53 43.5**	**+0.7**
DPC					*ex*	x		22 53 50.0	
KSP	**Ksiaz**	**83.61**	**321**

LPG	**La Plagne**	**89.76**	**315**	*eP*		**P**	**22 54 13.6**	**+0.4**
	comp=Z,17nm,1.0s,mb5.0								
LPG	**La Plagne**	**89.76**	**315**	*eP*		**P**	**22 54 13.6**	**+0.4**
LPG				pmax	pmax				
	comp=Z,8.0nm,1.0s,mb5.0								
MBDF	**Montbardon**	**89.77**	**315**	*eP*		**P**	**22 54 12.7**	**-0.5**
	comp=Z,4.7nm,0.7s,mb4.6								
MBDF	**Montbardon**	**89.77**	**315**	*eP*		**P**	**22 54 12.7**	**-0.5**
MBDF				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.6								
LPL	**La Plagne**	**89.78**	**315**	*eP*		**P**	**22 54 13.6**	**+0.3**
	comp=Z,13nm,0.7s,mb5.1								
LPL	**La Plagne**	**89.78**	**315**	*eP*		**P**	**22 54 13.6**	**+0.3**
LPL				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb5.1								
FRF	**La Foret Royal**	**89.88**	**313**	*eP*		**P**	**22 54 13.9**	**+0.1**
	comp=Z,20nm,0.9s,mb5.1								
FRF	**La Foret Royal**	**89.88**	**313**	*eP*		**P**	**22 54 13.9**	**+0.1**
FRF				pmax	pmax				
	comp=Z,10.0nm,0.9s,mb5.2								
HAU	**Haudompre**	**89.98**	**318**	*eP*		**P**	**22 54 13.9**	**-0.3**
	comp=Z,19nm,1.0s,mb5.1								
HAU	**Haudompre**	**89.98**	**318**	*eP*		**P**	**22 54 13.9**	**-0.3**
HAU				pmax	pmax				
	comp=Z,10.0nm,1.0s,mb5.1								
CABF	**La Chapelle**	**90.20**	**316**	*eP*		**P**	**22 54 15.5**	**+0.3**
	comp=Z,11nm,0.7s,mb5.0								
CABF	**La Chapelle**	**90.20**	**316**	*eP*		**P**	**22 54 15.5**	**+0.3**
CABF				pmax	pmax				
	comp=Z,6.0nm,0.7s,mb5.0								
ORIF	**Oris-en-Rattie**	**90.39**	**315**	*eP*		**P**	**22 54 16.6**	**+0.4**
	comp=Z,5.8nm,0.6s,mb4.8								
ORIF	**Oris-en-Rattie**	**90.39**	**315**	*eP*		**P**	**22 54 16.6**	**+0.4**
ORIF				pmax	pmax				
	comp=Z,3.0nm,0.6s,mb4.8								
MEZF	**Maizieres J'vi**	**90.83**	**318**	*eP*		**P**	**22 54 18.3**	**+0.2**
GIVF	**Givet**	**90.91**	**320**	*eP*		**P**	**22 54 18.6**	**+0.1**
	comp=Z,26nm,1.0s,mb5.2								
GIVF	**Givet**	**90.91**	**320**	*eP*		**P**	**22 54 18.6**	**+0.1**
GIVF				pmax	pmax				
	comp=Z,13nm,1.0s,mb5.2								
VIVF	**Saint-Julien-l**	**91.25**	**315**	*eP*		**P**	**22 54 20.3**	**+0.1**
BAIF	**Baives**	**91.31**	**320**	*eP*		**P**	**22 54 20.9**	**+0.6**
	comp=Z,29nm,0.9s,mb5.3								
BAIF	**Baives**	**91.31**	**320**	*eP*		**P**	**22 54 20.9**	**+0.6**
BAIF				pmax	pmax				
	comp=Z,15nm,0.9s,mb5.3								
SMF	**Signal de Mont**	**91.74**	**317**	*eP*		**P**	**22 54 22.3**	**-0.1**
	comp=Z,16nm,0.8s,mb5.1								
SMF	**Signal de Mont**	**91.74**	**317**	*eP*		**P**	**22 54 22.3**	**-0.1**
SMF				pmax	pmax				
	comp=Z,8.0nm,0.8s,mb5.1								
SSF	**Saint Saulge**	**91.95**	**317**	*eP*		**P**	**22 54 23.4**	**+0.1**
SSF				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.6								
SSF	**Saint Saulge**	**91.95**	**317**	*eP*		**P**	**22 54 23.4**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.6								
AVF	**Avril sur Loir**	**92.07**	**317**	*eP*		**P**	**22 54 24.0**	**+0.1**
	comp=Z,19nm,1.0s,mb5.1								
AVF	**Avril sur Loir**	**92.07**	**317**	*eP*		**P**	**22 54 24.0**	**+0.1**
AVF				pmax	pmax				
	comp=Z,9.0nm,1.0s,mb5.0								
BGF	**Bois d'Agland**	**92.43**	**316**	*eP*		**P**	**22 54 26.0**	**+0.4**
	comp=Z,41nm,1.0s,mb5.4								
BGF	**Bois d'Agland**	**92.43**	**316**	*eP*		**P**	**22 54 26.0**	**+0.4**
BGF				pmax	pmax				
	comp=Z,21nm,1.0s,mb5.4								
HYF	**Humbligny**	**92.52**	**317**	*eP*		**P**	**22 54 26.8**	**+0.8**
TCF	**Toulx Ste Croi**	**92.89**	**316**	*eP*		**P**	**22 54 28.0**	**+0.3**
	comp=Z,16nm,1.1s,mb5.1								
TCF	**Toulx Ste Croi**	**92.89**	**316**	*eP*		**P**	**22 54 28.0**	**+0.3**
TCF				pmax	pmax				
	comp=Z,8.0nm,1.1s,mb5.1								
MTLF	**Montolieu**	**93.11**	**313**	*eP*		**P**	**22 54 29.1**	**+0.3**
RJF	**Les Rejaudoux**	**93.46**	**315**	*eP*		**P**	**22 54 31.2**	**+0.9**
EKA	**Eskdalemuir Ar**	**95.19**	**326**	P		**P**	**22 54 38.5**	**+0.6**
	comp=Z,2.4nm,0.6s,mb4.8,baz=95,slow=5.4,SNR=10								
YKA	**Yellowknife Ar**	**112.17**	**15**	PP		PP	23 00 38.1	+0.1
	comp=Z,0.2nm,0.7s,baz=331,slow=6.0,SNR=4.3								
YKA				PKKPbc			23 10 40.4		
	comp=Z,0.4nm,0.7s,baz=140,slow=3.6,SNR=9.0								
SCHQ	**Schefferville**	**122.83**	**349**	PKP		PKPdf	23 00 10.8	+1.3
	comp=Z,1.4nm,0.7s,baz=52,slow=16,SNR=3.8								
SCHQ	**Schefferville**	**122.83**	**349**	PKP		PKPdf	23 00 10.8	+1.3
ULM	**Lac du Bonnet**	**127.64**	**11**	PKP		PKPdf	23 00 20.2	+1.3
	comp=Z,1.7nm,0.7s,baz=186,slow=3.0,SNR=4.3								
PDAR	**Pinedale Array**	**130.07**	**26**	PKP		PKPdf	23 00 25.8	+2.1
	comp=Z,0.8nm,0.6s,baz=188,slow=1.1,SNR=7.0								
BDFB	**Brasilia**	**142.98**	**245**	PKhKP			23 00 45.2		
	comp=Z,3.5nm,0.7s,baz=166,slow=4.1,SNR=7.2								
TXAR	**Lajitas Array**	**143.66**	**32**	PKP		PKPdf	23 00 50.1	+1.2
	comp=Z,1.5nm,0.7s,baz=270,slow=2.5,SNR=11								
GOGA	**Godfrey**	**145.72**	**1**	*e*PKP		PKPdf	23 00 54.2	+1.9
LRAL	**Lakeview Retre**	**145.85**	**7**	*e*PKP		PKPdf	23 00 54.1	+1.6
LPAZ	**La Paz**	**159.23**	**222**	PKP		PKPdf	23 01 15.2	+2.8
	comp=Z,0.7nm,0.8s,baz=84,slow=1.2,SNR=4.6								

*IDC **28** 22:49:01.4±2.7, 0.90S×97.51E, mb4.0/6, mb1 4.1/6, mb1mx3.8/16, mbtmp4.0/6, Error ellipse: s-maj=120.6km s-min=19.8km az=57.0*
*NEIC **28** 22:49:05.2±1.6, 0.87S×97.59E, h30km, mb4.2/3, Error ellipse: s-maj=67.8km s-min=12.5km az=53.0*
ISC 28 22:49:04.3±1.6, 0.7S±0.3×97.6E±0.4, h33km, n14, σ0§97/13, mb4.1/9, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.66**	**120**	P	**P**	**22 56 42.3**	**-1.0**
	1.4nm,0.7s,mb3.7,baz=301,slow=9.0,SNR=7.3						
WRAB	**Tennant Creek**	**40.66**	**120**	*e*P	**P**	**22 56 42.4**	**-1.0**
	2.4nm,0.6s,mb4.0						
ASAR	**Alice Springs**	**41.90**	**126**	P	**P**	**22 56 54.0**	**+0.4**
	0.7nm,0.5s,mb3.5,baz=298,slow=7.8,SNR=6.4						
AAK	**Ala-Archa**	**47.94**	**337**	P	**P**	**22 57 41.7**	**0.0**
SONM	**Songino Array**	**48.97**	**8**	P	**P**	**22 57 51.6**	**+2.0**
	3.0nm,0.5s,mb4.6,baz=191,slow=9.0,SNR=32						
ULN	**Ulaanbaatar**	**49.10**	**8**	*e*P	**P**	**22 57 49.6**	**-0.9**
	6.2nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**49.22**	**346**	P	**P**	**22 57 52.2**	**+0.7**
	3.4nm,0.5s,mb4.6,baz=153,slow=8.2,SNR=27						
MKAR	**Makanchi Array**	**49.22**	**346**	P	**P**	**22 57 52.2**	**+0.7**
STKA	**Stephens Creek**	**51.74**	**131**	P	**P**	**22 58 12.5**	**+1.6**
	1.0nm,0.7s,mb3.9,baz=322,slow=7.1,SNR=2.9						
STKA	**Stephens Creek**	**51.74**	**131**	P	**P**	**22 58 12.5**	**+1.6**
KURK	**Kurchatov**	**53.77**	**345**	*e*P	**P**	**22 58 25.2**	**-0.5**
BVAR	**Borovoye Array**	**58.21**	**341**	P	**P**	**22 58 57.3**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=144,slow=8.5,SNR=4.8						
CHKZ	**Chkalovo**	**58.69**	**342**	*e*P	**P**	**22 59 00.2**	**-0.8**
	1.1nm,0.6s,mb4.1						
TXAR	**Lajitas Array**	**145.05**	**34**	PKPbc	PKPbc	23 08 41.4	+2.2
	0.8nm,0.4s,baz=344,slow=6.6,SNR=6.8						

*IDC **28** 22:51:47.4±2.5, 1.89N×98.06E, mb3.9/6, mb1 4.0/6, mb1mx3.7/16, mbtmp3.9/6, Error ellipse: s-maj=114.7km s-min=20.3km az=59.0*
*NEIC **28** 22:51:51.8±1.3, 1.91N×98.09E, h30km, mb4.1/3, Error ellipse: s-maj=67.1km s-min=10.0km az=55.0*
ISC 28 22:51:49.5±1.7, 1.9N±0.4×98.0E±0.5, h30km, n10, σ0§67/10, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.73**	**123**	P	**P**	**22 59 38.2**	**+0.3**
	0.9nm,0.7s,mb3.5,baz=301,slow=9.1,SNR=5.6						
WRAB	**Tennant Creek**	**41.74**	**123**	P	**P**	**22 59 37.8**	**-0.1**
	1.6nm,0.5s,mb3.9						
ASAR	**Alice Springs**	**43.18**	**128**	P	**P**	**22 59 49.8**	**+0.1**
	0.7nm,0.7s,mb3.5,baz=293,slow=7.0,SNR=4.5						
AAK	**Ala-Archa**	**45.72**	**336**	P	**P**	**23 00 10.6**	**+0.8**
SONM	**Songino Array**	**46.38**	**8**	P	**P**	**23 00 14.8**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=199,slow=3.4,SNR=4.2						
MKAR	**Makanchi Array**	**46.80**	**345**	P	**P**	**23 00 19.9**	**+1.5**
	1.5nm,0.5s,mb4.2,baz=161,slow=8.6,SNR=7.2						
KURK	**Kurchatov**	**51.37**	**344**	*e*P	**P**	**23 00 53.0**	**-0.5**
	1.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**53.23**	**133**	P	**P**	**23 01 07.5**	**-0.1**
	1.4nm,0.7s,mb4.0,baz=319,slow=6.3,SNR=3.5						
BVAR	**Borovoye Array**	**55.90**	**340**	P	**P**	**23 01 26.0**	**-0.8**
	1.3nm,0.7s,mb4.1,baz=144,slow=8.6,SNR=5.4						
CHKZ	**Chkalovo**	**56.36**	**341**	*e*P	**P**	**23 01 29.4**	**-0.8**
	1.7nm,0.6s,mb4.2						

*IDC **28** 22:54:38.0±5.0, 1.63S×98.70E, mb3.5/3, mb1 3.6/3, mb1mx3.3/14, mbtmp3.5/3, Error ellipse: s-maj=187.6km s-min=30.7km az=56.0*
*NEIC **28** 22:54:43.1±1.3, 1.37S×98.83E, h30km, mb3.8/2, Error ellipse: s-maj=38.8km s-min=15.6km az=62.0*
ISC 28 22:54:41.0±1.4, 1.3S±0.2×98.8E±0.3, h30km, n7, σ0§91/7, mb3.7/5, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.83**	**16**	P	**Pn**	**22 56 21.8**	**-0.2**
WRA	**Warramunga Arr**	**39.36**	**120**	P	**P**	**23 02 08.8**	**-1.1**
	0.3nm,0.5s,mb3.2,baz=303,slow=9.0,SNR=3.7						
WRAB	**Tennant Creek**	**39.37**	**120**	P	**P**	**23 02 11.0**	**+1.1**
	1.7nm,0.7s,mb3.9						
SONM	**Songino Array**	**49.41**	**7**	P	**P**	**23 03 33.9**	**+3.7**
	0.7nm,0.9s,mb3.7,baz=186,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**50.07**	**345**	P	**P**	**23 03 35.0**	**-0.3**
	0.6nm,0.7s,mb3.7,baz=161,slow=7.6,SNR=3.8						
KURK	**Kurchatov**	**54.64**	**344**	P	**P**	**23 04 10.1**	**+0.8**
CHKZ	**Chkalovo**	**59.62**	**341**	*e*P	**P**	**23 04 43.9**	**-0.7**
	0.5nm,0.6s,mb3.7						

*IDC **28** 23:00:46.3±1.7, 2.62N×95.93E, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, Error ellipse: s-maj=71.3km s-min=27.7km az=52.0*
*NEIC **28** 23:00:51.2±0.7, 2.73N×96.19E, h30km, mb4.1/3, Error ellipse: s-maj=20.8km s-min=10.4km az=48.0*
ISC 28 23:00:49.6±0.9, 2.8N±0.1×96.2E±0.1, h30km, n12, σ0§91/12, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.08**	**61**	*e*P	**Pn**	**23 02 05.4**	**-0.4**
WRA	**Warramunga Arr**	**43.72**	**123**	P	**P**	**23 08 54.7**	**+0.5**
	1.3nm,0.5s,mb3.9,baz=301,slow=9.1,SNR=6.3						
WRAB	**Tennant Creek**	**43.72**	**123**	P	**P**	**23 08 55.2**	**+1.0**
	6.1nm,1.0s,mb4.3						
AAK	**Ala-Archa**	**44.16**	**337**	P	**P**	**23 08 58.4**	**+0.8**
ASPA	**Alice Springs**	**45.14**	**128**	*e*P	**P**	**23 09 04.3**	**-1.3**
MKAR	**Makanchi Array**	**45.48**	**347**	P	**P**	**23 09 09.2**	**+1.2**
	0.8nm,0.5s,mb3.8,baz=157,slow=9.2,SNR=7.3						
SONM	**Songino Array**	**45.73**	**10**	P	**P**	**23 09 10.8**	**+0.9**
	0.5nm,0.4s,mb3.8,baz=190,slow=8.9,SNR=8.3						
KURK	**Kurchatov**	**50.02**	**345**	*e*P	**P**	**23 09 43.0**	**-0.3**
	0.8nm,0.5s,mb4.0						
BVAR	**Borovoye Array**	**54.44**	**341**	P	**P**	**23 10 14.6**	**-1.8**
	0.3nm,0.6s,mb3.4,baz=141,slow=9.2,SNR=2.7						
CHKZ	**Chkalovo**	**54.92**	**342**	*e*P	**P**	**23 10 19.0**	**-1.0**
	1.0nm,0.5s,mb4.1						
ARCES	**ARCESS Array B**	**80.72**	**340**	P	**P**	**23 13 01.4**	**+0.2**
	3.5nm,0.9s,mb4.3,baz=90,slow=5.4,SNR=4.8						
GERES	**GERESS Array B**	**82.97**	**319**	P	**P**	**23 13 13.3**	**0.0**
	0.2nm,0.4s,mb3.5,baz=90,slow=4.9,SNR=3.8						

IDC 28 23:04:32.6±2.5, 27.05N×44.08W, mb3.7/3, mb1 3.9/3, mb1mx3.4/20, mbtmp3.7/3, Error ellipse: s-maj=166.5km s-min=31.0km az=33.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**42.40**	**111**	P	P	23 12 29.1	-1.7
	4.4nm,1.1s,baz=311,slow=11,SNR=3.5						
PDAR	**Pinedale Array**	**54.65**	**305**	P	P	23 14 03.5	-1.9
	0.8nm,0.9s,baz=90,slow=10,SNR=4.8						
YKA	**Yellowknife Ar**	**57.41**	**329**	P	P	23 14 22.5	-2.5
	0.4nm,1.0s,baz=95,slow=7.1,SNR=6.0						

*IDC **28** 23:04:28.5±1.8, 3.83S×130.61E, mb4.1/2, mb1 4.3/5, mb1mx4.0/13, mbtmp4.1/5, ML4.2/3, Error ellipse: s-maj=103.8km s-min=24.0km az=71.0*
*NEIC **28** 23:04:36.4±3.9, 4.06S×130.39E, h69km±40km, mb4.4/1, Error ellipse: s-maj=41.4km s-min=21.1km az=53.0*
ISC 28 23:04:33.1±2.8, 3.96S±0.08×130.5E±0.1, h58km±30km, n12, σ1§06/15, mb3.9/2, Seram

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**8.92**	**167**	*e*P	**P**	**23 06 42.3**	**+0.5**
	6.7nm,0.4s						
KAKA				*e*S	**S**	**23 08 25.1**	**+3.3**
FITZ	**Fitzroy Crossi**	**14.83**	**198**	*e*P	**P**	**23 08 01.3**	**+0.3**
	2.0nm,0.2s						
FITZ	**Fitzroy Crossi**	**14.83**	**198**	Pn	**P**	**23 08 00.6**	**-0.4**
	0.7nm,0.3s,baz=24,slow=5.1,SNR=22						
FITZ				Sn	**S**	**23 10 44.7**	**+0.4**
	0.2nm,0.3s,baz=178,slow=16,SNR=1.9						
WRAB	**Tennant Creek**	**16.33**	**167**	*e*P	**P**	**23 08 19.3**	**-0.8**
	11nm,0.3s						
WRA	**Warramunga Arr**	**16.33**	**167**	Pn	**P**	**23 08 18.9**	**-1.3**
	0.6nm,0.3s,baz=350,slow=11,SNR=21						
WRA				Sn	**S**	**23 11 17.6**	**-1.5**
	0.3nm,0.3s,baz=349,slow=24,SNR=4.6						
WB2	**Warramunga Arr**	**16.34**	**167**	*e*P	**P**	**23 08 20.0**	**-0.2**
WB2				*e*		23 08 25.8	
ASAR	**Alice Springs**	**19.88**	**171**	P	**P**	**23 09 04.2**	**+1.9**
	2.4nm,0.3s,baz=350,slow=11,SNR=119						
STKA	**Stephens Creek**	**29.68**	**161**	P	**P**	**23 10 36.5**	**+0.7**
	0.8nm,0.4s,mb3.8,baz=327,slow=11,SNR=3.3						
KULM	**Kulim**	**31.16**	**287**	P	**P**	**23 10 48.2**	**-0.9**
ULN	**Ulaanbaatar**	**55.54**	**341**	P	**P**	**23 14 04.5**	**-0.4**
MKAR	**Makanchi Array**	**65.96**	**326**	P	**P**	**23 15 16.5**	**+1.0**
	1.3nm,0.7s,mb4.0,baz=133,slow=5.8,SNR=7.5						
MKAR	**Makanchi Array**	**65.96**	**326**	P	**P**	**23 15 16.5**	**+1.0**

*MOS **28** 23:08:11.5±1.3, 35.76N×137.15E, h276km, mb4.0/4, Error ellipse: s-maj=21.1km s-min=13.1km az=101.9*
*BJI **28** 23:08:11.8, 35.92N×137.19E, h283km, mB4.9, mb4.3*
*NEIC **28** 23:08:12.5±0.6, 35.71N×137.05E, h270km±6km, mb4.0/5, Error ellipse: s-maj=14.7km s-min=9.9km az=71.0*
*JMA **28** 23:08:12.9±0.2, 35.79N×137.17E, h268km±2km, M3.9*
*IDC **28** 23:08:12.9±1.1, 35.85N×137.35E, h275km±14km, mb3.3/11, mb1 3.5/13, mb1mx3.4/21, mbtmp4.0/13, Error ellipse: s-maj=24.2km s-min=11.5km az=78.0*
ISC 28 23:08:11.7±0.3, 35.78N±0.05×137.09E±0.07, h274km±3km, n48, σ0§91/58, mb3.7/17, 8D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**0.28**	**129**	ǁP	**P**	**23 08 47.2**	**+0.1**
JGF				S	**S**	**23 09 13.9**	**-0.9**
JGM	**Miyama**	**0.31**	**256**	ǁP	**P**	**23 08 47.6**	**+0.4**
JGM				S	**S**	**23 09 14.1**	**-0.8**
MAJO	**Matsushiro**	**1.18**	**49**	ǁ*i*P	**P**	**23 08 51.1**	**+0.6**
MAT	**Matsushiro**	**1.18**	**49**	*e*P	**P**	**23 08 51.0**	**+0.5**
MAT				*e*S	**S**	**23 09 20.0**	**-0.9**
MAT	**Matsushiro**	**1.18**	**49**	P	**P**	**23 08 51.0**	**+0.5**
MAT				S	**S**	**23 09 20.2**	**-0.7**
MAT	**Matsushiro**	**1.18**	**49**	P	**P**	**23 08 51.0**	**+0.5**
MAT				*e*S	**S**	**23 09 20.8**	**-0.1**
JYN	**Shimod**	**1.22**	**103**	ǁP	**P**	**23 08 50.9**	**+0.2**
JIE	**Ise**	**1.42**	**193**	ǁP	**P**	**23 08 52.9**	**+0.8**
JIE				S	**S**	**23 09 23.4**	**-0.1**
JWT	**Wachi**	**1.47**	**251**	P	**P**	**23 08 53.0**	**+0.6**
JWT				S	**S**	**23 09 23.1**	**-1.0**
JRY	**Ryogami san**	**1.49**	**80**	ǁP	**P**	**23 08 52.9**	**+0.4**
JSZ	**Suzu**	**1.68**	**7**	ǁP	**P**	**23 08 54.2**	**+0.3**
JOD2	**Odawara 2**	**1.71**	**107**	ǁP	**P**	**23 08 54.5**	**+0.4**
JAG	**Ashikaga**	**2.02**	**71**	ǁP	**P**	**23 08 56.0**	**-0.6**
TK01	**Tokai 1**	**2.05**	**168**	P	**P**	**23 08 57.8**	**+0.9**
JIM2	**Oshima 3**	**2.19**	**118**	P	**P**	**23 08 58.1**	**0.0**
BSO1	**Boso 1**	**3.37**	**108**	P	**P**	**23 09 08.6**	**-1.5**
JHJ	**Hachijo jima 2**	**3.46**	**139**	P	**P**	**23 09 12.2**	**+1.2**
	8.3nm,0.3s,baz=319,slow=19,SNR=2.1						
JHJ				S	**S**	**23 09 58.6**	**+1.3**
	15nm,0.3s,baz=85,slow=23,SNR=4.6						
ASAJ	**Asahikawa**	**9.34**	**25**	P	**P**	**23 10 20.2**	**-2.3**
ASAJ				S	**S**	**23 11 59.6**	**-5.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.34**	**25**	P	**P**	**23 10 20.2**	**-2.3**
	comp=N,2.4nm,0.3s,baz=216,slow=9.6,SNR=6.8						
ASAJ				S	**S**	**23 11 59.5**	**-5.9**
	comp=N,1.0nm,0.3s,baz=25,slow=31,SNR=3.9						
CN2	**Changchun**	**12.01**	**315**	*e*P	**P**	**23 10 57.0**	**+1.2**
ENH	**Enshi**	**23.75**	**265**	*e*P	**P**	**23 13 00.0**	**-0.9**
	comp=N,18nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**25.27**	**308**	*e*P	**P**	**23 13 16.4**	**+1.8**
SONM	**Songino Array**	**25.68**	**307**	P	**P**	**23 13 17.9**	**-0.5**
	comp=N,1.0nm,0.7s,mb3.4,baz=120,slow=9.4,SNR=7.5						
WMQ	**Urumqi**	**38.31**	**298**	*e*P	**P**	**23 15 08.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,193nm,5.8s						
NVS	**Novosibirsk**	**41.22**	**315**	*i* P	**P**	**23 15 31.1**	**-0.2**
MKAR	**Makanchi Array**	**41.85**	**303**	P	**P**	**23 15 37.3**	**+0.9**
	comp=Z,4.3nm,0.8s,mb3.9,baz=90,slow=10,SNR=27						
KURK	**Kurchatov**	**43.98**	**309**	*e*P	**P**	**23 15 52.3**	**-1.1**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.0						
KURK	**Kurchatov**	**43.98**	**309**	*e*P	**P**	**23 15 52.3**	**-1.1**
	comp=Z,8.7nm,0.8s,mb4.0						
AAK	**Ala-Archa**	**48.01**	**298**	*e*P	**P**	**23 16 24.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.2						
AAK	**Ala-Archa**	**48.01**	**298**	*e*P	**P**	**23 16 24.9**	**-0.1**
	comp=Z,1.4nm,0.8s,mb3.3						
CHKZ	**Chkalovo**	**48.63**	**313**	*e*P	**P**	**23 16 27.5**	**-2.1**
CHKZ				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
CHKZ	**Chkalovo**	**48.63**	**313**	*e*P	**P**	**23 16 27.5**	**-2.1**
	comp=Z,5.1nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**48.84**	**313**	P	**P**	**23 16 31.6**	**+0.4**
	comp=Z,1.4nm,0.3s,mb3.7,baz=107,slow=8.7,SNR=18						
MCK	**McKinley**	**51.60**	**33**	*e*P	**P**	**23 16 51.3**	**-0.3**
WRAB	**Tennant Creek**	**55.46**	**183**	*e*P	**P**	**23 17 19.1**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.8						
WRAB	**Tennant Creek**	**55.46**	**183**	*e*P	**P**	**23 17 19.1**	**-1.1**
	comp=Z,1.6nm,0.5s,mb3.7						
WB2	**Warramunga Arr**	**55.47**	**183**	*e*P	**P**	**23 17 19.3**	**-0.9**
WRA	**Warramunga Arr**	**55.47**	**183**	P	**P**	**23 17 19.4**	**-0.9**
	comp=Z,1.0nm,0.4s,mb3.6,baz=0.1,slow=7.7,SNR=26						
INK	**Inuvik**	**57.08**	**26**	*e*P	**P**	**23 17 31.7**	**+0.8**
ASAR	**Alice Springs**	**59.20**	**183**	P	**P**	**23 17 45.1**	**-1.1**
	comp=Z,0.5nm,0.6s,mb3.1,baz=11,slow=9.2,SNR=4.3						
ARCES	**ARCESS Array B**	**63.92**	**339**	P	**P**	**23 18 16.3**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.0,baz=58,slow=7.0,SNR=12						
FINES	**FINESS Array B**	**68.27**	**331**	P	**P**	**23 18 44.8**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.8,baz=62,slow=7.1,SNR=15						
NB2	**NORSAR Subarra**	**73.95**	**336**	P	**P**	**23 19 17.7**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.4,baz=72,slow=4.3						
NOA	**NORSAR Array B**	**73.95**	**336**	P	**P**	**23 19 18.3**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=44,slow=5.7,SNR=3.9						
BRTR	**Keskin Array B**	**77.02**	**310**	P	**P**	**23 19 37.6**	**+1.8**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
BRTR	**Keskin Array B**	**77.02**	**310**	P	**P**	**23 19 37.6**	**+1.8**
	comp=Z,1.4nm,0.9s,mb3.7,baz=56,slow=5.2,SNR=6.8						
PDAR	**Pinedale Array**	**81.00**	**43**	P	**P**	**23 19 57.4**	**+0.5**
	comp=Z,0.3nm,0.7s,mb3.1,baz=90,slow=1.5,SNR=3.5						
GERES	**GERESS Array B**	**81.88**	**326**	P	**P**	**23 20 02.3**	**+0.9**
	comp=Z,0.1nm,0.3s,mb3.0,baz=31,slow=7.8,SNR=5.0						

*NEIC **28** 23:08:30.3±0.6, 1.34N×97.13E, mb4.3/4, Error ellipse: s-maj=15.1km s-min=8.3km az=61.0*
*IDC **28** 23:08:30.1±1.1, 1.37N×97.09E, h23km±5km, mb3.9/9, mb1 3.9/9, mb1mx3.8/17, mbtmp4.0/9, Error ellipse: s-maj=44.1km s-min=15.1km az=57.0*
ISC 28 23:08:28.3±0.8, 1.35N±0.10×97.1E±0.1, h23km, h23km±.7km: pP-P, n17, σ0§65/17, mb4.1/13, Northern Sumatera

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TSM	**Tawau**	**21.18**	**79**	P	**P**	**23 17 44.2 +0.3**
VIS	**Vishakhapatnam**	**22.09**	**323**	*e*P	**P**	**23 17 55.0 +2.2**
VIS				*e*		23 18 18.9
	comp=Z,500nm,1.6s					
BATP	**Bataraza**	**22.36**	**67**	*e*P	**P**	**23 17 55.3 -0.4**
QIZ	**Qiongzhong**	**22.56**	**33**	P	**P**	**23 17 57.3 -0.4**
QIZ				XP		23 18 09.5
QIZ				S	**S**	**23 21 56.5 -1.4**
QIZ				AMB	AMB	
	comp=Z,178nm,1.1s,mb5.4					
QIZ				LR	LR	
	comp=N,9µm,18.5s,MS5.4					
QIZ				LR	LR	
	comp=E,7µm,17.0s,MS5.4					
QIZ				LR	LR	
	comp=Z,8µm,13.3s,MS5.3					
QIZ	**Qiongzhong**	**22.56**	**33**	*e*P	**P**	**23 17 56.9 -0.8**
	comp=Z,216nm,1.0s,mb5.5					
BWNR	**Bhubaneshwar**	**22.86**	**332**	*e*P	**P**	**23 18 02.7 +2.0**
BWNR				*e*		23 18 17.8
	comp=Z,920nm,0.9s					
PPR	**Puerto Princes**	**23.58**	**65**	⇑*i*P	**P**	**23 18 08.4 +0.7**
CAL	**Calcutta**	**23.83**	**340**	*e*	**P**	**23 18 07.2 -2.8**
CAL				*e*S	**S**	**23 22 24.4 +4.2**
AGT	**Agartala**	**24.26**	**347**	*i* P	**P**	**23 18 15.0 +0.8**
AGT				*i*		23 19 27.0
ENPP	**El Nido**	**24.78**	**63**	*e*P	**P**	**23 18 19.4 +0.1**
HYB	**Hyderabad**	**25.04**	**314**	⇓*i*P	**P**	**23 18 22.5 +0.8**
HYB				pmax	pmax	
	comp=Z,120nm,1.0s,mb5.4					
HYB	**Hyderabad**	**25.04**	**314**	⇓*i*P	**P**	**23 18 22.5 +0.8**
	comp=Z,120nm,1.0s,mb5.4					
HYB				*es*P	sP	23 18 38.0 +1.7
HYB				*e*PP	PP	23 19 01.0 +1.1
KMI	**Kunming**	**25.43**	**12**	⇑P	**P**	**23 18 27.3 +1.9**
KMI				AP	pP	23 18 36.5 +0.9
KMI				XP	sP	23 18 39.5 -0.5
KMI				PP	PP	23 19 08.3 +3.4
KMI				S	**S**	**23 22 51.5 +4.4**
KMI				XS		23 23 05.5
KMI				SS	SS	23 23 55.5 +5.0
KMI				AMB	AMB	
	comp=Z,137nm,1.3s,mb5.3					
KMI				AMB	AMB	
	comp=Z,2µm,4.4s					
KMI				LR	LR	
	comp=N,15µm,12.9s					
KMI				LR	LR	
	comp=E,16µm,18.4s					
KMI				LR	LR	
	comp=Z,18µm,13.0s,MS5.8					
MNGI	**Mangalore**	**25.46**	**301**	*i* P	**P**	**23 18 27.3 +1.5**
MNGI				*i*		23 22 57.1
	comp=Z,112nm,1.3s					
DGAR	**Diego Garcia**	**25.68**	**252**	PFAKE		23 18 40.0 +12
DGAR				LR	LR	
	comp=Z,868nm,22.0s					
BUSP	**Coron**	**25.80**	**62**	*e*P	**P**	**23 18 29.4 +0.4**
CUYO	**Cuyo Island**	**26.07**	**65**	*e*P	**P**	**23 18 32.8 +1.3**
BLSP	**Bilaspur**	**26.25**	**327**	*e*P	**P**	**23 18 33.7 +0.6**
BLSP				*e*		23 18 48.5
	comp=Z,489nm,1.3s					
BLSP				*e*		23 21 46.7
SHBG	**Sahibganj**	**26.53**	**341**	*e*	**P**	**23 18 52.0 +16**
LUBP	**Lubang**	**26.62**	**59**	*e*P	**P**	**23 18 37.4 +0.8**
SJMP	**San Jose**	**26.81**	**62**	*e*P	**P**	**23 18 36.0 -2.2**
LATR	**Latur**	**27.12**	**313**	*e*P	**P**	**23 18 42.1 +1.0**
PAGZ	**Pagadian**	**27.32**	**73**	*e*P	**P**	**23 18 43.7 +0.7**
GOA	**Goa**	**27.56**	**305**	⇓*i*P	**P**	**23 18 44.0 -1.1**
GOA				*i*		23 23 29.8
GYA	**Guiyang**	**27.74**	**19**	⇑*i*P	**P**	**23 18 46.5 -0.2**
GYA				AP	pP	23 18 55.8 -1.3
GYA				XP	sP	23 18 59.5 -2.3
GYA				PP	PP	23 19 34.3 -1.7
GYA				S	**S**	**23 23 24.8 -0.1**
GYA				AMB	AMB	
	comp=Z,150nm,1.0s,mb5.6					
GYA				AMB	AMB	
	comp=Z,1µm,8.7s					
GYA				LR	LR	
	comp=N,11µm,13.5s,MS5.8					
GYA				LR	LR	
	comp=E,11µm,12.6s,MS5.8					
GYA				LR	LR	
	comp=Z,7µm,17.7s					
BOAC	**Boac**	**27.88**	**61**	*e*P	**P**	**23 18 49.9 +1.9**
GTK	**Gangtok**	**28.22**	**344**	*e*	**P**	**23 18 46.0 -5.0**
KAD	**Karad**	**28.26**	**308**	*e*P	**P**	**23 18 52.2 +0.8**
KAD				*e*		23 18 56.0
	comp=Z,52nm,0.8s					
AUQP	**San Andres**	**28.55**	**62**	*e*P	**P**	**23 18 57.4 +3.4**
BALP	**Baler**	**28.73**	**56**	*e*P	**P**	**23 18 57.2 +1.6**
BUKP	**Musuan**	**28.94**	**74**	*e*P	**P**	**23 18 58.6 +1.1**
ABRA	**Dolores**	**29.04**	**52**	*e*P	**P**	**23 18 52.4 -5.9**
POO	**Poona**	**29.22**	**310**	*e*P	**P**	**23 19 00.8 +0.8**
POO				*e*		23 19 03.2
	comp=Z,103nm,1.1s					
DAV	**Davao City (W)**	**29.25**	**76**	*e*P	**P**	**23 19 05.0 +4.7**
JIRN	**Jiri**	**29.28**	**340**	*e*P	**P**	**23 19 01.2 +0.8**
	comp=Z,484nm,0.9s,mb6.2					
PKI	**Pulchoki**	**29.48**	**339**	*e*P	**P**	**23 19 02.5 +0.3**
	comp=Z,429nm,1.2s,mb6.0					
APYP	**Conner**	**29.58**	**52**	*e*P	**P**	**23 19 01.3 -1.9**
DMN	**Daman**	**29.62**	**338**	*e*P	**P**	**23 19 03.9 +0.4**
	comp=Z,262nm,0.8s,mb6.0					
KKN	**Kakani**	**29.72**	**339**	*e*P	**P**	**23 19 04.6 +0.2**
	comp=Z,925nm,1.3s,mb6.3					
BHPL	**Bhopal**	**29.86**	**322**	*e*P	**P**	**23 19 05.8 +0.1**
BHPL				*e*		23 19 19.9
	comp=Z,69nm,1.6s					
LSA	**Lhasa**	**29.93**	**350**	P	**P**	**23 19 07.0 +0.9**
LSA				AMB	AMB	
	comp=Z,50nm,0.9s,mb5.2					
LSA	**Lhasa**	**29.93**	**350**	*e*P	**P**	**23 19 06.9 +0.8**
LSA				pmax	pmax	
	comp=Z,467nm,1.4s,mb6.0					
LSA	**Lhasa**	**29.93**	**350**	*e*P	**P**	**23 19 06.9 +0.7**
	comp=Z,467nm,1.4s,mb6.0					
PVCP	**Virac**	**29.97**	**62**	*e*P	**P**	**23 19 07.0 +0.4**
GKN	**Gorkha**	**30.15**	**338**	*e*P	**P**	**23 19 08.5 +0.3**
	comp=Z,1µm,1.4s,mb6.4					
BOM	**Bombay**	**30.23**	**309**	*e*P	**P**	**23 19 10.4 +1.5**
BOM				*e*		23 24 12.7
KOLN	**Koldanda**	**30.35**	**336**	*e*P	**P**	**23 19 10.5 +0.5**
	comp=Z,863nm,0.9s,mb6.5					
MBWA	**Marble Bar**	**30.64**	**135**	*e*P	**P**	**23 19 12.5 -0.1**
	comp=Z,34nm,0.8s,mb5.2					
CD2	**Chengdu**	**31.25**	**11**	P	**P**	**23 19 17.0 -0.8**
CD2				S	**S**	**23 24 20.5 0.0**
CD2				AMB	AMB	
	comp=Z,180nm,0.7s,mb6.0					
CD2				AMB	AMB	
	comp=Z,1µm,5.7s					
CD2				LR	LR	
	comp=N,10µm,12.6s					
CD2				LR	LR	
	comp=Z,9µm,12.0s,MS5.7					
BBP	**Basco**	**31.62**	**49**	*e*P	**P**	**23 19 21.1 -0.1**
ENH	**Enshi**	**32.20**	**20**	*e*P	**P**	**23 19 25.0 -1.2**
	comp=Z,156nm,0.8s,mb5.9					
LGTI	**Lohaghat**	**33.27**	**333**	*e*P	**P**	**23 19 36.0 +0.5**
PTH	**Pithoragarh**	**33.37**	**333**	*e*P	**P**	**23 19 36.9 +0.6**
PTH				*e*		23 24 38.1
FITZ	**Fitzroy Crossi**	**33.43**	**124**	⇓*i*P	**P**	**23 19 35.9 -1.1**
	comp=Z,186nm,0.9s,mb6.0					
FITZ				*e*S	**S**	**23 24 56.6 +1.9**
FITZ				*e*PCS		23 26 03.1
FITZ	**Fitzroy Crossi**	**33.43**	**124**	P	**P**	**23 19 36.1 -0.9**
	comp=Z,230nm,0.8s,mb6.1,baz=332,slow=5.7,SNR=172					
NACB	**Ninganchiao**	**33.70**	**43**	*e*P	**P**	**23 19 39.1 -0.1**
YHNB	**Yeheng**	**33.88**	**42**	*e*P	**P**	**23 19 40.9 +0.1**
AJM	**Ajmer**	**33.94**	**322**	⇓*i*P	**P**	**23 19 41.0 -0.3**
NDI	**New Delhi**	**34.14**	**328**	*e*P	**P**	**23 19 41.0 -2.0**
NDI				*e*S	**S**	**23 25 04.0 -1.7**
TATO	**Taipei**	**34.16**	**42**	PFAKE		23 19 50.0 +6.8
TATO				LR	LR	
	comp=Z,2µm,22.0s,MS4.9					
WHN	**Wuhan**	**34.40**	**27**	⇑P	**P**	**23 19 45.5 +0.3**
WHN				S	**S**	**23 25 15.0 +5.4**
WHN				LR	LR	
	comp=Z,9µm,12.9s,MS5.7					
DDI	**Dehra Dun**	**35.04**	**331**	*e*P	**P**	**23 19 50.3 -0.4**
DDI				*e*		23 25 47.2
XAN	**Xi'an**	**35.50**	**17**	P	**P**	**23 19 54.3 -0.3**
XAN				AP	pP	23 20 05.5 +0.2
XAN				AMB	AMB	
	comp=Z,103nm,1.1s,mb5.7					
LZH	**Lanzhou**	**36.31**	**9**	*e*P	**P**	**23 20 03.3 +1.9**
LZH				AP	pP	23 20 11.0 -1.1
LZH				XP	sP	23 20 15.0 -1.9
LZH				PP	PP	23 21 27.8 +2.6
LZH				S	**S**	**23 25 39.0 0.0**
LZH				SS	SS	23 28 11.0 +6.3
LZH				SCS	ScS	23 30 15.0 +2.1
LZH				AMB	AMB	
	comp=Z,111nm,1.8s,mb5.5					
LZH				AMB	AMB	
	comp=Z,1µm,6.4s					
LZH				LR	LR	
	comp=E,13µm,16.3s					
LZH				LR	LR	
	comp=Z,15µm,19.0s,MS5.8					
SDNR	**Sundarnagar**	**36.53**	**330**	*e*P	**P**	**23 20 03.2 -0.2**
MUN	**Mundaring**	**36.72**	**152**	⇓*i*P	**P**	**23 20 05.9 +1.0**
	comp=Z,38nm,0.9s,mb5.2					
MUN	**Mundaring**	**36.72**	**152**	⇓*i*P	**P**	**23 20 05.9 +1.0**
MUN				pmax	pmax	
	comp=Z,38nm,0.9s,mb5.2					
BHK	**Bhakra**	**36.74**	**330**	*e*	**P**	**23 20 17.7 +13**
KLBR	**Kellerberrin**	**37.15**	**150**	⇓*i*P	**P**	**23 20 09.0 +0.5**
	comp=Z,567nm,0.8s,mb6.5					
KAKA	**Kakadu**	**37.33**	**111**	*e*P	**P**	**23 20 08.0 -2.2**
	comp=Z,22nm,0.6s,mb5.2					
PONG	**Pong**	**37.41**	**330**	*e*P	**P**	**23 20 11.0 +0.3**
PONG				*e*		23 26 31.0
NJ2	**Nanjing**	**37.82**	**31**	*e*P	**P**	**23 20 17.0 +2.8**
NJ2				AP	pP	23 20 26.3 +1.4
NJ2				XP	sP	23 20 32.0 +2.3
NJ2				PP	PP	23 21 47.3 +3.3
NJ2				S	**S**	**23 26 04.0 +1.8**
NJ2				XS		23 26 18.0
NJ2				AMB	AMB	
	comp=Z,60nm,0.8s,mb5.4					
NJ2				AMB	AMB	
	comp=Z,1µm,10.3s					
NJ2				LR	LR	
	comp=N,15µm,17.8s,MS6.0					
NJ2				LR	LR	
	comp=E,15µm,16.2s,MS6.0					
NJ2				LR	LR	
	comp=Z,6µm,17.2s,MS5.4					
NWAO	**Narrogin (SRO)**	**37.99**	**152**	P	**P**	**23 20 16.1 +0.5**
	comp=Z,96nm,0.8s,baz=317,slow=9.4,SNR=58					
NWAO				LR	LR	23 34 07.6
	comp=Z,17nm,18.9s,baz=330,slow=33					
SSE	**Sheshan**	**38.34**	**34**	P	**P**	**23 20 21.5 +3.0**
SSE				AP	pP	23 20 30.0 +0.8
SSE				XP	sP	23 20 34.0 0.0
SSE				S	**S**	**23 26 09.8 -0.3**
SSE				AMB	AMB	
	comp=Z,85nm,0.9s,mb5.5					
SSE				AMB	AMB	
	comp=Z,695nm,4.4s					
SSE				LR	LR	
	comp=N,4µm,20.0s,MS5.3					
SSE				LR	LR	
	comp=E,3µm,20.0s,MS5.3					
SSE				LR	LR	
	comp=Z,4µm,25.1s					
GTA	**Gaotai**	**39.16**	**3**	*e*P	**P**	**23 20 26.0 +0.8**
GTA				AP	pP	23 20 35.3 -0.6
GTA				XP	sP	23 20 38.5 -2.1
GTA				PP	PP	23 22 02.8 +3.6
GTA				PCP	PcP	23 22 35.3 +0.5
GTA				S	**S**	**23 26 22.8 +0.5**
GTA				AMB	AMB	
	comp=Z,13nm,1.1s,mb4.6					
GTA				AMB	AMB	
	comp=Z,1µm,5.7s					
GTA				LR	LR	
	comp=N,2µm,21.3s,MS5.3					
GTA				LR	LR	
	comp=E,4µm,23.6s,MS5.3					
GTA				LR	LR	
	comp=Z,3µm,24.3s,MS5.1					
JOW	**Kunigami**	**40.05**	**46**	P	**P**	**23 20 33.9 +1.1**
	comp=Z,49nm,0.6s,mb5.4,baz=243,slow=4.1,SNR=16					
JOW				LR	LR	23 36 13.0
	comp=Z,2µm,21.8s,MS4.9,baz=271,slow=35					
TIA	**Tai'an**	**40.43**	**25**	⇑P	**P**	**23 20 35.8 0.0**
TIA				*e*S	**S**	**23 26 38.0 -3.4**
TIA				AMB	AMB	
	comp=Z,76nm,1.4s,mb5.2					
TIA				LR	LR	
	comp=N,3µm,18.6s,MS5.5					
TIA				LR	LR	
	comp=E,5µm,18.0s,MS5.5					
WRA	**Warramunga Arr**	**41.60**	**121**	P	**P**	**23 20 45.1 -0.5**
	comp=E,212nm,0.8s,mb5.8,baz=299,slow=9.2,SNR=463					
WRA				S	**S**	**23 26 55.7 -3.4**
	comp=E,3.4nm,1.1s,baz=292,slow=17,SNR=8.4					
WRAB	**Tennant Creek**	**41.60**	**121**	P	**P**	**23 20 45.0 -0.7**
	comp=E,2µm,0.8s					
WRAB	**Tennant Creek**	**41.60**	**121**	*e*P	**P**	**23 20 45.3 -0.4**
WRAB				pmax	pmax	
	comp=Z,97nm,1.9s,mb5.1					
WRAB	**Tennant Creek**	**41.60**	**121**	*e*P	**P**	**23 20 45.3 -0.4**
	comp=Z,97nm,1.9s,mb5.1					
WB2	**Warramunga Arr**	**41.61**	**121**	⇓*i*P	**P**	**23 20 44.9 -0.9**
WB2				*e*PCS		23 26 31.3
WB2				*e*S	**S**	**23 26 57.8 -1.4**
MSEY	**Mahe Island**	**41.82**	**263**	P	**P**	**23 20 49.4 +1.8**
	comp=Z,276nm,1.3s,mb5.7,SNR=9.6					
BTO	**Baotou**	**41.95**	**15**	*e*P	**P**	**23 20 49.5 +1.2**
BTO				S	**S**	**23 27 04.8 +0.7**
BTO				AMB	AMB	
	comp=Z,67nm,1.2s,mb5.2					
FORT	**Forrest**	**42.56**	**139**	⇓*i*P	**P**	**23 20 54.5 +1.0**
	comp=Z,5µm,0.8s					
HHC	**Hu-ho-hao-te**	**42.60**	**16**	*e*P	**P**	**23 20 56.0 +2.4**
HHC				AP	pP	23 21 05.8 +1.4
HHC				XP	sP	23 21 09.8 +0.7
HHC				PP	PP	23 22 36.0 +0.9
HHC				PCP	PcP	23 22 50.3 +4.3
HHC				PCS		23 26 41.0
HHC				S	**S**	**23 27 13.8 +0.4**
HHC				XS		23 27 29.8
HHC				SS	SS	23 30 16.5 -1.6
HHC				SCS	ScS	23 30 53.0 +3.5
HHC				AMB	AMB	
	comp=Z,27nm,0.3s,mb5.5					
HHC				LR	LR	
	comp=N,4µm,17.6s,MS5.7					
HHC				LR	LR	
	comp=E,6µm,15.1s,MS5.7					
HHC				LR	LR	
	comp=Z,4µm,14.7s,MS5.5					
ASPA	**Alice Springs**	**42.87**	**126**	⇓*i*P	**P**	**23 20 56.0 -0.1**
ASPA				*e*PCS		23 26 37.1
ASPA				*e*S	**S**	**23 27 17.3 -0.4**
ASPA	**Alice Springs**	**42.87**	**126**	⇓*i*P	**P**	**23 20 56.0 -0.1**
ASPA				*e*S	**S**	**23 27 17.3 -0.4**
ASAR	**Alice Springs**	**42.87**	**126**	P	**P**	**23 20 56.1 0.0**
	comp=Z,57nm,0.8s,mb5.3,baz=301,slow=7.6,SNR=285					
ASAR				PcP	PcP	23 22 47.2 +0.1
	comp=Z,13nm,0.9s,baz=305,slow=3.2,SNR=5.4					
ASAR				S	**S**	**23 27 17.1 -0.7**
	comp=Z,1.7nm,0.8s,baz=314,slow=3.5,SNR=4.1					
ASAR				LR	LR	23 42 18.1
	comp=Z,2µm,18.5s,MS5.0,baz=318,slow=41					
WBK	**Wadi Bani Khal**	**43.27**	**304**	P	**P**	**23 21 01.2 +1.8**
SNR=10.0						
BJT	**Baijiatuan**	**43.34**	**21**	*e*P	**P**	**23 21 00.7 +1.1**
BJT				pmax	pmax	
	comp=Z,509nm,1.2s					
BJT	**Baijiatuan**	**43.34**	**21**	*e*P	**P**	**23 21 00.7 +1.1**
	comp=Z,509nm,1.2s,mb6.1					
BJI	**Beijing**	**43.36**	**21**	P	**P**	**23 21 01.3 +1.5**
BJI				AP	pP	23 21 12.3 +1.6
BJI				PP	PP	23 22 43.3 +0.6
BJI				S	**S**	**23 27 25.0 +0.4**
BJI				XS		23 27 47.0
BJI				AMB	AMB	
	comp=Z,42nm,0.6s,mb5.3					
BJI				AMB	AMB	
	comp=Z,2µm,5.3s					
BJI				LR	LR	
	comp=N,3µm,16.3s,MS5.5					
BJI				LR	LR	
	comp=E,4µm,16.3s,MS5.5					
BJI				LR	LR	
	comp=Z,2µm,19.2s,MS4.9					
MENI	**Mendum Tagoi**	**43.41**	**94**	*e*Pn	**P**	**23 20 59.9 -0.7**
YOMI	**Yo Moklole**	**43.56**	**94**	*e*Pn	**P**	**23 20 59.6 -2.2**
KSH	**Kashi**	**43.67**	**336**	*e*P	**P**	**23 21 01.0 -1.4**
KSH				*e*AP	pP	23 21 11.5 -1.7
KSH				*e*XP	sP	23 21 15.3 -2.5
KSH				*e*PP	PP	23 22 45.8 -0.1
KSH				*e*PCP	PcP	23 22 50.5 +0.9
KSH				*e*PPP	PPP	23 23 20.8 -2.2
KSH				*e*SCP		23 26 38.3
KSH				*e*PCS		23 26 42.0
KSH				*e*S	**S**	**23 27 28.0 -1.2**
KSH				*e*SS	SS	23 30 34.8 -2.6
KSH				*e*SCS	ScS	23 30 57.3 +1.1
KSH				AMB	AMB	
	comp=Z,1µm,3.8s					
KSH				LR	LR	
	comp=N,4µm,13.8s,MS5.6					
KSH				LR	LR	
	comp=E,4µm,14.4s,MS5.6					
JMDO	**Jabal Madar**	**43.89**	**303**	P	**P**	**23 21 05.7 +1.3**
SNR=20						
SMDO	**Samad**	**44.23**	**304**	P	**P**	**23 21 08.7 +1.7**
SNR=27						
WMQ	**Urumqi**	**44.28**	**350**	⇑*i*P	**P**	**23 21 09.0 +1.8**
WMQ				AP	pP	23 21 19.0 +0.9
WMQ				XP	sP	23 21 23.0 +0.3
WMQ				PP	PP	23 22 53.5 +1.6
WMQ				PPP	PPP	23 23 32.0 +1.2
WMQ				PCS		23 26 46.5
WMQ				S	**S**	**23 27 39.5 +1.6**
WMQ				XS		23 27 55.5
WMQ				SCS	ScS	23 31 03.0 +3.1
WMQ				AMB	AMB	
	comp=Z,208nm,1.5s,mb5.6					
WMQ				AMB	AMB	
	comp=Z,1µm,4.2s					
WMQ				LR	LR	
	comp=N,2µm,17.2s,MS5.3					
WMQ				LR	LR	
	comp=E,3µm,19.8s,MS5.3					
WMQ				LR	LR	
	comp=Z,3µm,21.7s,MS5.1					
BIDO	**Bidbid**	**44.37**	**304**	P	**P**	**23 21 10.0 +1.9**
SNR=37						
SHAO	**Shalim**	**44.44**	**296**	P	**P**	**23 21 09.7 +0.9**
SNR=42						
DL2	**Dalian**	**44.66**	**27**	P	**P**	**23 21 09.5 -0.8**
DL2				S	**S**	**23 27 46.0 +2.5**
DL2				AMB	AMB	
	comp=Z,130nm,1.1s,mb5.7					
DL2				AMB	AMB	
	comp=Z,670nm,4.4s					
DL2				LR	LR	
	comp=E,4µm,16.5s					
DL2				LR	LR	
	comp=Z,2µm,25.5s					
BSY	**Bisya**	**44.81**	**303**	P	**P**	**23 21 13.1 +1.4**
SNR=53						
RBK	**Rabkut**	**45.56**	**295**	P	**P**	**23 21 18.6 +0.8**
SNR=92						
ARQ	**Araqi**	**45.62**	**303**	P	**P**	**23 21 19.6 +1.4**
SNR=19						
ULHL	**Ulahol**	**45.92**	**338**	P	**P**	**23 21 20.9 +0.6**
SNR=60						
WHFO	**Wadi Hawf**	**46.08**	**295**	P	**P**	**23 21 22.8 +0.9**
SNR=116						
KZA	**Kyzart**	**46.15**	**337**	P	**P**	**23 21 23.2 +1.1**
SNR=33						
UCH	**Uchtor**	**46.56**	**337**	P	**P**	**23 21 26.5 +1.2**
SNR=110						
AAA	**Alma-Ata**	**46.56**	**340**	*e*P	**P**	**23 21 24.0 -1.3**
AAA				*e*		23 23 00.0
AAA				*e*S	**S**	**23 28 14.0 +3.4**
AAA				pmax	pmax	
	comp=Z,1µm,4.0s					
AAA				smax		
	comp=N,2µm,6.0s					
AAA				MLR	MLR	
	comp=N,800nm,15.0s,MS5.1					
AAA				MLR	MLR	
	comp=E,1µm,15.0s,MS5.1					
AAA				MLR	MLR	
	comp=Z,1µm,15.0s,MS5.0					
ASHO	**Ashiyiah**	**46.57**	**305**	P	**P**	**23 21 27.9 +2.2**
SNR=7.8						
TKM2	**Tokmak 2**	**46.74**	**338**	P	**P**	**23 21 27.6 +0.8**
SNR=88						
KS15	**Wonju Array Si**	**46.75**	**34**	*e*P	**P**	**23 21 28.1 +1.1**
KBK	**Karagaybulak**	**46.76**	**338**	P	**P**	**23 21 28.2 +1.3**
SNR=68						
AML	**Almayashu**	**46.80**	**336**	P	**P**	**23 21 29.0 +1.8**
SNR=11						
AAK	**Ala-Archa**	**46.91**	**337**	*d*P	**P**	**23 21 28.2 +0.1**
	comp=Z,507nm,1.9s,mb6.1,SNR=46					
AAK	**Ala-Archa**	**46.91**	**337**	*d*⇓*i*P	**P**	**23 21 27.9 -0.2**
AAK				pmax	pmax	
	comp=Z,121nm,2.6s,mb5.4					
AAK				MLR	MLR	
	comp=Z,3µm,19.0s,MS5.3					
AAK	**Ala-Archa**	**46.91**	**337**	*e*P	**P**	**23 21 27.8 -0.3**
	comp=Z,236nm,1.5s,mb5.9					
FRU	**Bishkek**	**47.03**	**337**	⇑*i*P	**P**	**23 21 30.1 +1.0**
FRU				*i*	pP	23 21 42.0 +2.1
FRU				*e*		23 28 20.0
FRU				pmax	pmax	
	comp=Z,220nm,2.0s,mb5.7					
FRU				MLR	MLR	
	comp=Z,3µm,18.0s,MS5.3					
CHMS	**Chumysh**	**47.12**	**338**	P	**P**	**23 21 29.9 +0.1**
SNR=29						
EKS2	**Erkin-Say**	**47.22**	**337**	P	**P**	**23 21 31.5 +1.0**
SNR=130						
USP	**Ospenovka**	**47.45**	**338**	P	**P**	**23 21 32.8 +0.5**
SNR=266						
SNY	**Shenyang**	**47.89**	**27**	⇓P	**P**	**23 21 36.3 +0.5**
SNY				AP	pP	23 21 46.5 -0.2
SNY				XP	sP	23 21 50.3 -1.0
SNY				S	**S**	**23 28 30.5 +1.0**
SNY				AMB	AMB	
	comp=Z,20nm,1.1s,mb5.1					
SNY				AMB	AMB	
	comp=Z,2µm,10.2s					
SNY				LR	LR	
	comp=N,4µm,16.5s,MS5.6					
SNY				LR	LR	
	comp=E,4µm,17.3s,MS5.6					
SNY				LR	LR	
	comp=Z,4µm,17.8s,MS5.5					
SONM	**Songino Array**	**48.18**	**8**	P	**P**	**23 21 38.5 +0.5**
	comp=Z,20nm,0.7s,mb5.3,baz=191,slow=8.6,SNR=109					
SONM				pP	pP	23 21 50.1 +1.3
	comp=Z,44nm,0.8s,baz=187,slow=9.3,SNR=14					
SONM				PcP	PcP	23 23 04.7 -0.6
	comp=Z,20nm,0.8s,baz=201,slow=4.2,SNR=5.4					
SONM				LR	LR	23 44 51.0
	comp=Z,5µm,18.5s,MS5.5,baz=184,slow=40					
MKAR	**Makanchi Array**	**48.23**	**346**	P	**P**	**23 21 38.4 +0.1**
	comp=Z,92nm,0.5s,mb6.0,baz=161,slow=7.8,SNR=282					
MKAR				pP	pP	23 21 49.9 +0.7
	comp=Z,82nm,0.6s,baz=160,slow=8.6,SNR=14					
ULN	**Ulaanbaatar**	**48.31**	**9**	*e*P	**P**	**23 21 39.1 +0.1**
ULN				pmax	pmax	
	comp=Z,147nm,1.9s,mb5.7					
ULN	**Ulaanbaatar**	**48.31**	**9**	*e*P	**P**	**23 21 39.1 +0.1**
	comp=Z,147nm,1.9s,mb5.7					
CN2	**Changchun**	**50.29**	**27**	*e*P	**P**	**23 21 54.3 0.0**
CN2				*e*AP	pP	23 22 04.8 -0.4
CN2				PP	PP	23 23 51.5 +0.8
CN2				*e*S	**S**	**23 29 03.5 +0.6**
CN2				SS	SS	23 32 34.0 +0.3
CN2				AMB	AMB	
	comp=Z,30nm,0.7s,mb5.4					
CN2				AMB	AMB	
	comp=Z,1µm,6.0s					
CN2				LR	LR	
	comp=N,3µm,10.0s,MS5.9					
CN2				LR	LR	
	comp=E,5µm,10.0s,MS5.9					
CN2				LR	LR	
	comp=Z,4µm,20.0s					
ZAK	**Zakamensk**	**50.33**	**5**	⇓*i*P	**P**	**23 21 54.3 -0.

PMG	**Port Moresby**	**50.75**	**102**	P		**P**		**23 21 58.2**	**0.0**	
	comp=Z,110nm,0.7s,mb5.9,baz=302,slow=4.7,SNR=29									
PMG				pP		pP		23 22 09.2	+0.1	
	comp=Z,103nm,0.7s,baz=314,slow=3.4,SNR=9.7									
CBIJ	**Chichi jima**	**50.93**	**54**	LR		LR		23 41 05.9		
	comp=Z,951nm,20.2s,MS4.8,baz=333,slow=33									
MOY	**Mondy**	**51.44**	**3**	*e*P		**P**		**23 22 03.5**	**+0.7**	
MOY				pmax		pmax				
	comp=Z,149nm,2.6s,mb5.5									
TLY	**Talaya**	**51.65**	**5**	*e*P		**P**		**23 22 05.0**	**+0.6**	
TLY				*e*				23 24 08.2		
TLY				*e*S		**S**		**23 29 19.4**	**-2.0**	
TLY				pmax		pmax				
	comp=Z,21nm,0.9s,mb5.1									
TLY				MLR		MLR				
	comp=Z,3μm,17.0s,MS5.4									
TLY	**Talaya**	**51.65**	**5**	*e*Pr				23 22 04.2		
CTA	**Charters Tower**	**52.16**	**116**⇓	*i*P		**P**		**23 22 08.4**	**-0.2**	
	comp=Z,110nm,0.9s,mb5.8									
CTA				*e*S		**S**		**23 29 30.1**	**+1.2**	
CTA	**Charters Tower**	**52.16**	**116**⇓	*i*P		**P**		**23 22 08.4**	**-0.2**	
CTA				*e*S		**S**		**23 29 30.1**	**+1.2**	
CTA				pmax		pmax				
	comp=Z,110nm,0.9s									
CTA	**Charters Tower**	**52.16**	**116**	P		**P**		**23 22 08.6**	**-0.1**	
	comp=Z,127nm,0.9s,mb5.9,baz=288,slow=8.7,SNR=81									
CTA				pP		pP		23 22 20.1	+0.5	
	comp=Z,46nm,0.8s,baz=282,slow=9.7,SNR=6.6									
CTA				LR		LR		23 47 01.0		
	comp=Z,3μm,19.6s,MS5.4,baz=286,slow=39									
CTAO	**Charters Tower**	**52.16**	**116**	*e*P		**P**		**23 22 08.4**	**-0.2**	
CTAO				pmax		pmax				
	comp=Z,70nm,0.8s,mb5.6									
CTAO	**Charters Tower**	**52.16**	**116**	*e*P		**P**		**23 22 08.4**	**-0.2**	
	comp=Z,70nm,0.8s,mb5.6									
ADE	**Adelaide**	**52.24**	**136**	*e*P		**P**		**23 22 10.1**	**+1.0**	
IRK	**Irkutsk**	**52.26**	**6**	*e*P		**P**		**23 22 09.9**	**+0.9**	
IRK				*e*S		**S**		**23 29 29.3**	**-0.6**	
IRK				pmax		pmax				
	comp=Z,167nm,2.0s,mb5.6									
MAJO	**Matsushiro**	**52.55**	**42**	*e*P		**P**		**23 22 11.1**	**-0.3**	
MAJO				pmax		pmax				
	comp=Z,76nm,1.1s,mb5.5									
MAJO	**Matsushiro**	**52.55**	**42**	*e*P		**P**		**23 22 11.1**	**-0.3**	
	comp=Z,76nm,1.1s,mb5.5									
MAT	**Matsushiro**	**52.55**	**42**	*e*P		**P**		**23 22 11.0**	**-0.4**	
MAT				*e*S		**S**		**23 29 32.0**	**-2.1**	
MAT				pmax		pmax				
	comp=Z,83nm,1.5s,mb5.4									
MAT				MLR		MLR				
	comp=Z,2μm,20.0s,MS5.2									
MAT	**Matsushiro**	**52.55**	**42**	*e*P		**P**		**23 22 11.0**	**-0.4**	
	comp=Z,83nm,1.5s,mb5.4									
MAT				*e*S		**S**		**23 29 32.0**	**-2.1**	
MAT				LR		LR				
	comp=Z,2μm,20.0s,MS5.2									
MAT	**Matsushiro**	**52.55**	**42**	P		**P**		**23 22 11.2**	**-0.2**	
MAT				S		**S**		**23 29 32.4**	**-1.7**	
HIA	**Hailar**	**52.67**	**19**	*e*P		**P**		**23 22 11.6**	**-0.5**	
HIA				pmax		pmax				
	comp=Z,83nm,0.8s									
HIA	**Hailar**	**52.67**	**19**	*e*P		**P**		**23 22 11.6**	**-0.5**	
	comp=Z,83nm,0.8s,mb5.7									
STKA	**Stephens Creek**	**52.76**	**131**⇓	*i*P		**P**		**23 22 13.1**	**+0.1**	
	comp=Z,162nm,0.9s,mb6.0									
STKA	**Stephens Creek**	**52.76**	**131**	P		**P**		**23 22 13.1**	**+0.1**	
	comp=Z,188nm,0.9s,mb6.0,baz=306,slow=6.4,SNR=240									
KURK	**Kurchatov**	**52.77**	**345**	*e*P		**P**		**23 22 11.8**	**-1.0**	
KURK				pmax		pmax				
	comp=Z,382nm,1.3s,mb6.2									
KURK	**Kurchatov**	**52.77**	**345**	*e*P		**P**		**23 22 11.8**	**-1.0**	
	comp=Z,382nm,1.3s,mb6.2									
MDJ	**Mudanjiang**	**52.84**	**29**	P		**P**		**23 22 17.5**	**+4.0**	
MDJ				AP		pP		23 22 25.0	+0.5	
MDJ				PP		PP		23 24 19.5	+5.1	
MDJ				S		**S**		**23 29 43.3**	**+5.4**	
MDJ				AMB		AMB				
	comp=Z,43nm,1.2s,mb5.2									
MDJ				AMB		AMB				
	comp=Z,947nm,8.0s									
MDJ				LR		LR				
	comp=N,2μm,19.6s,MS5.5									
MDJ				LR		LR				
	comp=E,4μm,19.6s,MS5.5									
MDJ				LR		LR				
	comp=Z,3μm,21.0s,MS5.3									
MDJ	**Mudanjiang**	**52.84**	**29**	*e*P		**P**		**23 22 11.4**	**-2.1**	
	comp=Z,59nm,1.0s,mb5.5									
ATD	**Arta Tunnel**	**55.01**	**284**	P		**P**		**23 22 29.9**	**+0.1**	
	comp=Z,75nm,1.2s,mb5.6,baz=83,slow=3.7,SNR=26									
ATD				pP		pP		23 22 42.0	+1.2	
	comp=Z,44nm,1.0s,baz=114,slow=22,SNR=6.5									
ATD	**Arta Tunnel**	**55.01**	**284**	P		**P**		**23 22 29.9**	**+0.1**	
ATD				pP		pP		23 22 42.0	+1.2	
RAYN	**Ar Rayn**	**55.14**	**299**	P		**P**		**23 22 30.5**	**-0.2**	
	comp=Z,545nm,0.7s									
BVAR	**Borovoye Array**	**57.20**	**341**	P		**P**		**23 22 43.3**	**-1.7**	
	comp=Z,22nm,0.5s,mb5.4,baz=149,slow=8.6,SNR=90									
BVAR				pP		pP		23 22 54.6	-1.5	
	comp=Z,30nm,0.7s,baz=144,slow=7.8,SNR=14									
KLR	**Kul'dur**	**57.25**	**26**	*e*P		**P**		**23 22 42.8**	**-2.6**	
KLR				*e*		pP		23 22 52.2	-4.3	
KLR				*e*				23 24 48.0		
KLR				*e*S		**S**		**23 30 39.5**	**+2.7**	
KLR				pmax		pmax				
	comp=N,700nm,6.0s									
KLR				pmax		pmax				
	comp=Z,2μm,6.0s									
KLR				MLR		MLR				
	comp=E,2μm,14.0s									
KLR				MLR		MLR				
	comp=Z,4μm,14.0s,MS5.6									
CHKZ	**Chkalovo**	**57.68**	**342**	*e*P		**P**		**23 22 46.8**	**-1.6**	
CHKZ				*e**PP		pP		23 22 58.1	-1.4	
CHKZ				pmax		pmax				
	comp=Z,387nm,1.3s,mb6.3									
CHKZ	**Chkalovo**	**57.68**	**342**	*e*P		**P**		**23 22 46.8**	**-1.5**	
	comp=Z,387nm,1.3s,mb6.3									
CHKZ				*e*pP		pP		23 22 58.1	-1.4	
TOO	**Toolangi**	**58.28**	**136**⇓	*i*P		**P**		**23 22 53.8**	**+1.0**	
	comp=Z,2.6nm,0.9s									
TOO	**Toolangi**	**58.28**	**136**⇓	*i*P		**P**		**23 22 53.8**	**+1.0**	
TOO				pmax		pmax				
	comp=Z,3.0nm,0.9s									
BOD	**Bodaibo**	**59.06**	**10**	*e*P		**P**		**23 22 57.4**	**-0.5**	
BOD				pmax		pmax				
	comp=Z,60nm,1.6s,mb5.4									
BHD	**Baghdad**	**59.39**	**309**	*i*P		**P**		**23 22 51.0**	**-10**	
BHD				*e*S		**S**		**23 30 58.0**	**-7.0**	
ASAJ	**Asahikawa**	**59.58**	**37**	P		**P**		**23 23 02.6**	**+0.9**	
	comp=Z,12nm,0.5s,mb5.2,baz=276,slow=21,SNR=5.2									
ASAJ				pP		pP		23 23 12.7	-0.2	
	comp=Z,21nm,0.6s,baz=255,slow=27,SNR=4.0									
ASAJ				LR		LR		23 49 15.3		
	comp=Z,2μm,19.3s,MS5.3,baz=357,slow=36									
KMBO	**Kilima Mbogo**	**59.83**	**269**	*e*P		**P**		**23 23 03.3**	**-0.6**	
KMBO				*e**PP		pP		23 23 14.1	-0.9	
KMBO				pmax		pmax				
	comp=Z,45nm,1.3s									
KMBO	**Kilima Mbogo**	**59.83**	**269**	P		**P**		**23 23 03.9**	**0.0**	
	comp=Z,19nm,0.9s,mb5.1,baz=63,slow=9.3,SNR=47									
KMBO				pP		pP		23 23 14.8	-0.2	
	comp=Z,15nm,0.9s,baz=72,slow=9.4,SNR=7.7									
KMBO				LR		LR		23 45 39.0		
	comp=Z,2μm,20.9s,MS5.1,baz=105,slow=33									
KMBO	**Kilima Mbogo**	**59.83**	**269**	*e*P		**P**		**23 23 03.3**	**-0.6**	
	comp=Z,45nm,1.3s,mb5.3									
KMBO				*e*pP		pP		23 23 14.1	-1.0	
CNB	**Canberra Magne**	**60.08**	**132**	*e*P		**P**		**23 23 06.1**	**+0.8**	
CLNS	**Chul'man**	**60.78**	**17**⇓	*e*P		**P**		**23 23 09.2**	**-0.5**	
CLNS				*e**PP		pP		23 23 19.8	-1.1	
CLNS				*e*				23 23 50.4		
CLNS				*e*				23 25 23.8		
CLNS				*e*PPP		PPP		23 26 53.0	-0.4	
CLNS				*i*S		**S**		**23 31 27.4**	**+4.9**	
CLNS				*e*				23 32 59.2		
CLNS				*e*SS		SS		23 35 21.2	-1.7	
CLNS				pmax		pmax				
	comp=Z,23nm,0.9s,mb5.3									
CLNS				pmax		pmax				
	comp=N,13nm,1.0s									
CLNS				pmax		pmax				
	comp=E,9.0nm,1.5s									
CLNS				pmax		pmax				
	comp=N,9.0nm,0.8s									
CLNS				pmax		pmax				
	comp=Z,10.0nm,0.8s,mb5.0									
CLNS				pmax		pmax				
	comp=E,14nm,1.5s									
CLNS				smax						
	comp=N,15nm,1.6s									
CLNS				smax						
	comp=E,7.0nm,1.1s									
CLNS				MLR		MLR				
	comp=N,2μm,14.0s,MS5.5									
CLNS				MLR		MLR				
	comp=E,700nm,14.0s,MS5.5									
CLNS				MLR		MLR				
	comp=Z,4μm,14.0s,MS5.8									
YSS	**Yuzh-Sakhalins**	**61.28**	**34**⇑	*e*P		**P**		**23 23 12.8**	**-0.5**	
YSS				*e*		pP		23 23 24.0	-0.5	
YSS				*e*S		**S**		**23 31 30.0**	**+0.9**	
YSS				pmax		pmax				
	comp=Z,1μm,6.0s									
YSS				pmax		pmax				
	comp=Z,60nm,1.0s,mb5.7									
YSS				pmax		pmax				
	comp=N,70nm,1.1s									
YSS				pmax		pmax				
	comp=Z,210nm,1.1s,mb6.2									
YSS				MLR		MLR				
	comp=Z,1μm,16.0s,MS5.1									
YSS				MLR		MLR				
	comp=N,1μm,17.0s,MS5.3									
YSS				MLR		MLR				
	comp=E,2μm,17.0s,MS5.3									
YSS	**Yuzh-Sakhalins**	**61.28**	**34**	*e*P		**P**		**23 23 12.5**	**-0.8**	
	comp=E,288nm,1.2s,mb6.3									
YSS				*e*pP		pP		23 23 23.9	-0.6	
YSS				LR		LR				
	comp=Z,283nm,21.0s,MS4.4									
MAK	**Makhachkala**	**61.45**	**320***c*	*i*P		**P**		**23 23 13.5**	**-1.0**	
MAK				pmax		pmax				
	comp=Z,1μm,7.0s									
MSL	**Mosul**	**61.54**	**312**	*e*P		**P**		**23 23 14.0**	**-1.1**	
MSL				*e*pP		pP		23 23 26.0	-0.3	
MSL				*e*S		**S**		**23 31 32.0**	**-0.5**	
GNI	**Garni**	**61.96**	**317***d*	*i*P		**P**		**23 23 17.5**	**-0.4**	
GNI				pmax		pmax				
	comp=Z,1μm,21.0s									
GNI	**Garni**	**61.96**	**317**	P		**P**		**23 23 17.3**	**-0.6**	
	comp=Z,47nm,1.0s,mb5.6,baz=78,slow=3.9,SNR=14									
GNI	**Garni**	**61.96**	**317**	*e*P		**P**		**23 23 16.5**	**-1.5**	
	comp=Z,119nm,1.0s,mb6.0									
TAU	**Tasmania Unive**	**62.09**	**140**	P		**P**		**23 23 20.8**	**+2.0**	
	comp=Z,612nm,0.9s,mb6.7,SNR=9.1									
TAU	**Tasmania Unive**	**62.09**	**140**	PFAKE						
TAU				LR		LR		23 23 30.0	+11	
	comp=Z,387nm,20.0s,MS4.6									
DGRG	**David-gareji**	**62.12**	**318**	P		**P**		**23 23 19.6**	**+0.6**	
TI2	**Plekhanov**	**62.67**	**318***k*	*i*P		**P**		**23 23 22.0**	**-0.6**	
TI2				*e*S		**S**		**23 31 45.0**	**-1.6**	
TI2				pmax		pmax				
	comp=Z,160nm,0.8s									
TI2				pmax		pmax				
	comp=Z,2μm,1.0s									
TBLG	**Delisi**	**62.67**	**318**	P		**P**		**23 23 21.8**	**-0.8**	
DUS	**Dusheti**	**62.86**	**319**	P		**P**		**23 23 22.8**	**-1.1**	
HNR	**Honiara**	**63.29**	**101**	PFAKE						
HNR				LR		LR		23 23 40.0	+13	
	comp=Z,399nm,19.0s,MS4.6									
BEST	**Besiri**	**63.50**	**313**	*i*P		**P**		**23 23 27.4**	**-0.8**	
SVE	**Sverdlovsk**	**63.61**	**339**⇓	*i*P		**P**		**23 23 27.8**	**-0.8**	
SVE				*e*				23 24 10.0		
SVE				*e*S		**S**		**23 32 00.0**	**+1.8**	
SVE				pmax		pmax				
	comp=Z,300nm,1.3s,mb6.2									
SVE				MLR		MLR				
	comp=N,1μm,20.0s,MS5.1									
SVE				MLR		MLR				
	comp=E,900nm,20.0s,MS5.1									
SVE				MLR		MLR				
	comp=Z,2μm,20.0s,MS5.3									
ZEI	**Tsey**	**63.70**	**319**	*e*P		**P**		**23 23 28.9**	**-0.6**	
ZEI				*i*				23 25 48.5		
ZEI				pmax		pmax				
	comp=Z,30nm,0.9s,mb5.3									
ARU	**Arti**	**64.10**	**337**⇓	*i*P		**P**		**23 23 30.2**	**-1.6**	
ARU				*e*				23 24 06.4		
ARU				*e*				23 25 58.0		
ARU				*e*S		**S**		**23 32 06.5**	**+2.3**	
ARU				*e*				23 33 20.2		
ARU				*e*SS		SS		23 36 14.0	-1.0	
ARU				pmax		pmax				
	comp=Z,178nm,1.3s,mb5.9									
ARU				MLR		MLR				
	comp=Z,2μm,18.0s,MS5.4									
ARU				MLR		MLR				
	comp=N,2μm,19.0s,MS5.3									
ARU				MLR		MLR				
	comp=E,800nm,19.0s,MS5.3									
ARU	**Arti**	**64.10**	**337**	*e*P		**P**		**23 23 30.0**	**-1.8**	
	comp=E,232nm,1.4s,mb6.0									
ARU				*e*		pP		23 23 41.2	-1.8	
ARU				LR		LR				
	comp=Z,684nm,19.0s,MS4.9									
ASF	**Jabal al Asfar**	**64.97**	**306**	P		**P**		**23 23 38.0**	**+0.1**	
	comp=Z,38nm,0.7s,mb5.6,baz=346,slow=3.2,SNR=71									
ASF				pP		pP		23 23 49.2	0.0	
	comp=Z,43nm,1.0s,baz=46,slow=2.3,SNR=11									
KIV	**Kislovodsk**	**65.02**	**320***d*	*i*P		**P**		**23 23 37.0**	**-1.0**	
KIV				pmax		pmax				
	comp=Z,117nm,1.0s,mb5.9									
KIV				MLR		MLR				
	comp=Z,800nm,19.0s,MS4.9									
KIV	**Kislovodsk**	**65.02**	**320**	*e*P		**P**		**23 23 36.6**	**-1.4**	
ELZG	**Elazig**	**65.39**	**313**	*i*P		**P**		**23 23 40.3**	**-0.2**	
MALT	**Malatya**	**65.74**	**313**	*e*P		**P**		**23 23 42.4**	**-0.3**	
MALT				*e*		pP		23 23 54.0	-0.1	
MALT				pmax		pmax				
	comp=Z,101nm,1.0s,mb5.8									
MALT	**Malatya**	**65.74**	**313**	*e*P		**P**		**23 23 42.4**	**-0.3**	
	comp=Z,101nm,1.0s,mb5.8									
MALT				*e*		pP		23 23 54.0	-0.1	
EIL	**Elat**	**65.91**	**303**	*e*P		**P**		**23 23 43.5**	**-0.4**	
	comp=Z,187nm,1.1s,mb6.0									
EIL				*e*		pP		23 23 55.8	+0.5	
GZT	**Gaziantep**	**66.05**	**311**	*i*P		**P**		**23 23 44.6**	**-0.2**	
MBAR	**Mbarara**	**66.34**	**269**	P		**P**		**23 23 46.0**	**-0.9**	
	comp=Z,160nm,1.0s,mb6.0,SNR=25									
MBAR	**Mbarara**	**66.34**	**269**	*e*P		**P**		**23 23 46.0**	**-0.9**	
MBAR				pmax		pmax				
	comp=Z,35nm,1.1s,mb5.3									
MBAR	**Mbarara**	**66.34**	**269**	*e*P		**P**		**23 23 46.0**	**-0.9**	
	comp=Z,35nm,1.1s,mb5.3									
YAK	**Yakutsk**	**66.46**	**16***d*	*i*P		**P**		**23 23 45.8**	**-1.1**	
YAK				*e**PP		pP		23 23 57.7	-0.5	
YAK				*e*				23 24 15.1		
YAK				*e*				23 26 14.7		
YAK				*e*S		S		23 32 33.3	+0.3	
YAK				*e**SS				23 32 52.2		
YAK				*e*				23 33 33.3		
YAK				*e*SS		SS		23 36 58.1	+6.4	
YAK				pmax		pmax				
	comp=Z,56nm,0.9s,mb5.6									
YAK				pmax		pmax				
	comp=N,17nm,1.1s									
YAK				pmax		pmax				
	comp=E,13nm,1.1s									
YAK				pmax		pmax				
	comp=Z,270nm,10.5s									
YAK				pmax		pmax				
	comp=N,100nm,9.7s									
YAK				pmax		pmax				
	comp=E,41nm,10.0s									
YAK				smax						
	comp=N,329nm,8.8s									
YAK				smax						
	comp=Z,258nm,14.7s									
YAK				smax						
	comp=E,268nm,10.5s									
YAK				MLR		MLR				
	comp=Z,2μm,14.0s,MS5.5									
YAK				MLR		MLR				
	comp=N,1μm,13.0s,MS5.5									
YAK				MLR		MLR				
	comp=E,1μm,15.0s,MS5.5									
YAK	**Yakutsk**	**66.46**	**16**	*e*P		**P**		**23 23 46.0**	**-0.9**	
BHL	**Bhannes**	**66.47**	**307**	*e*P		**P**		**23 23 47.8**	**+0.4**	
MIR	**Mirnyy**	**66.62**	**182***c*	*i*P		**P**		**23 23 47.0**	**-0.8**	
MIR				pmax		pmax				
	comp=Z,200nm,2.2s,mb5.8									
KAHT	**Ahir Dag**	**66.66**	**311**	*i*P		**P**		**23 23 49.0**	**+0.4**	
COBT	**Iskenderun**	**66.78**	**310**	*i*P		**P**		**23 23 48.9**	**-0.4**	
SOC	**Sochi**	**66.81**	**318**	*i*P		**P**		**23 23 47.5**	**-1.9**	
SOC				*e*				23 26 17.0		
SOC				*e*S		S		23 32 37.3	-0.3	
SOC				*e*				23 33 38.4		
SOC				*e*SS		SS		23 36 49.0	-8.7	
SOC				pmax		pmax				
	comp=N,49nm,0.9s									
SOC				pmax		pmax				
	comp=Z,129nm,0.9s,mb6.0									
SOC				pmax		pmax				
	comp=E,32nm,1.1s									
CASY	**Casey**	**66.98**	**174**⇓	*i*P		**P**		**23 23 49.6**	**-0.5**	
TOKT	**Tokat**	**67.80**	**314**	*e*P		**P**		**23 23 54.9**	**-0.8**	
BNN	**Bunyan**	**67.82**	**312**	*e*P		**P**		**23 23 55.6**	**-0.2**	
PHNC	**Paralimni**	**68.06**	**308**	P		**P**		**23 23 56.7**	**-0.7**	
MEST	**Erdemli**	**68.42**	**310**	*i*P		**P**		**23 23 58.5**	**-1.1**	
CSS	**Prodhromos**	**68.60**	**308**⇓	*i*P		**P**		**23 24 00.2**	**-0.6**	
	comp=E,2.4nm,1.3s									
CSS	**Prodhromos**	**68.60**	**308**⇓	*e*P		**P**		**23 24 00.2**	**-0.6**	
MAMC	**Mammari**	**68.75**	**308**	P		**P**		**23 24 01.0**	**-0.7**	
ANN	**Anapa**	**68.80**	**319**	*e*P		**P**		**23 23 59.6**	**-2.2**	
ANN				*i**PP		pP		23 24 09.5	-3.7	
ANN				*i*		pP		23 24 12.1	-1.1	
ANN				*i*				23 24 30.2		
ANN				*e*S		S		23 33 02.7	+1.3	
ANN				pmax		pmax				
	comp=Z,52nm,1.3s,mb5.3									
SZAC	**Souni-Zanaja**	**68.90**	**307**⇓	*i*P		**P**		**23 24 02.2**	**-0.4**	
SZAC	**Souni-Zanaja**	**68.90**	**307**⇓	*e*P		**P**		**23 24 02.2**	**-0.4**	
LEF	**Lefka**	**68.99**	**308**	*i*P		**P**		**23 24 03.5**	**+0.3**	
ALFC	**Alevga**	**69.23**	**308**	⇓P		**P**		**23 24 03.7**	**-1.0**	
	comp=Z,1.6nm,0.6s									
ALFC	**Alevga**	**69.23**	**308**⇓	*e*P		**P**		**23 24 03.7**	**-1.0**	
PPCY	**Paphos**	**69.36**	**307**	⇓P		**P**		**23 24 04.7**	**-0.8**	
PPCY	**Paphos**	**69.36**	**307**⇓	*e*P		**P**		**23 24 04.7**	**-0.8**	
BYBT	**Boyabat**	**69.45**	**315**	*i*P		**P**		**23 24 05.4**	**-0.5**	
KAMT	**Kaman**	**69.56**	**312**	P		**P**		**23 24 05.8**	**-0.8**	
BR131	**Keskin Array S**	**69.72**	**313**	PFAKE				23 24 20.0	+12	
BR131				LR		LR				
	comp=Z,677nm,20.0s,MS4.9									
BRTR	**Keskin Array B**	**69.72**	**313**	P		**P**		**23 24 06.2**	**-1.3**	
	comp=Z,36nm,0.7s,mb5.4,baz=132,slow=6.7,SNR=211									
BRTR				pP		pP		23 24 17.6	-1.4	
	comp=Z,34nm,0.9s,baz=135,slow=5.2,SNR=11									
TOS	**Tosya**	**69.85**	**314**	*e*P		**P**		**23 24 08.2**	**-0.1**	
CANT	**Cankiri**	**70.00**	**314**	*i*P		**P**		**23 24 08.8**	**-0.5**	
BZK	**Bozkurt**	**70.15**	**315**	*i*P		**P**		**23 24 10.3**	**+0.2**	
KONT	**Konya--Tatoy**	**70.17**	**311**	*e*P		**P**		**23 24 10.4**	**+0.1**	
PECR	**Pechory**	**70.27**	**332**	*i*P		**P**		**23 24 09.5**	**-1.1**	
PECR				pmax		pmax				
	comp=Z,2μm,20.0s									
VRSR	**Storozhevoye**	**70.34**	**326**	*e*P		**P**		**23 24 09.3**	**-1.8**	
VRSR				*e**PP		pP		23 24 17.8	-4.7	
VRSR				*e**SP		sP		23 24 21.2	-5.5	
VRSR				*e*				23 26 47.3		
VRSR				*e*S		S		23 33 21.7	+2.3	
VRSR				*e*				23 34 08.4		
VRSR				pmax		pmax				
	comp=Z,60nm,0.9s,mb5.5									
VRSR				pmax		pmax				
	comp=N,10.0nm,0.7s									
VRSR				pmax		pmax				
	comp=E,40nm,1.1s									
VRSR				smax						
	comp=N,10.0nm,0.9s									
VRSR				smax						
	comp=E,2.0nm,0.6s									
VRSR				smax						
	comp=Z,2.0nm,0.6s									
LOD	**Lodumlu**	**70.42**	**313**	*e*P		**P**		**23 24 10.9**	**-0.9**	
BALT	**Daday**	**70.46**	**314**	*i*P		**P**		**23 24 11.2**	**-0.8**	
VOR	**Voronezh**	**70.56**	**326**	*e*P		**P**		**23 24 12.0**	**-0.5**	
VOR				pmax		pmax				
	comp=N,100nm,1.3s									
KWAJ	**Kwajalein Atol**	**70.75**	**81**	PFAKE				23 24 30.0	+16	
KWAJ				LR		LR				
	comp=Z,520nm,20.0s,MS4.8									
SKR	**Severo-Kuril's**	**70.78**	**35**	*e*P		**P**		**23 24 09.9**	**-3.9**	
SKR				*e*				23 24 29.0		
SKR				*e*PPP		PPP		23 28 38.0	+4.3	
SKR				*e*S		S		23 33 31.0	+6.5	
SKR				*e*				23 34 09.0		
SKR				*e*PS		PS		23 34 10.0	+13	
SKR				pmax		pmax				
	comp=N,90nm,1.0s									
SKR				pmax		pmax				
	comp=Z,220nm,1.0s,mb6.0									
SKR				smax						
	comp=N,3μm,8.0s									
SKR				smax						
	comp=E,5μm,8.0s									
SKR				MLR		MLR				
	comp=N,3μm,18.0s,MS5.7									
SKR				MLR		MLR				
	comp=E,3μm,18.0s,MS5.7									
SKR				MLR		MLR				
	comp=Z,3μm,18.0s,MS5.6									
KIZT	**Kizilcal**	**70.79**	**311**

PET Petropavlovsk 73.17 34 *e*P **P** 23 24 27.8 -0.2
comp=Z,60nm,0.6s,mb5.7
PET LR LR
comp=Z,1μm,20.0s,MS5.2
LBTB Lobatse 73.31 244 *e*P **P** 23 24 29.2 -0.2
LBTB pmax pmax
comp=Z,54nm,1.1s,mb5.4
LBTB MLR MLR
comp=Z,2μm,19.0s,MS5.3
LBTB Lobatse 73.31 244 *e*P **P** 23 24 29.1 -0.2
comp=Z,54nm,1.1s,mb5.4
LBTB LR LR
comp=Z,2μm,19.0s,MS5.3
ORLT Orhaneli 73.32 312 *i* P **P** 23 24 28.9 -0.3
BADT Buyukada 73.36 313 *e*P **P** 23 24 28.5 -0.9
OBN Obninsk 73.44 329 P **P** 23 24 28.3 -1.2
comp=Z,935nm,1.1s,mb6.6,SNR=24
OBN Obninsk 73.44 329 *d*/P **P** 23 24 28.5 -1.0
OBN *i* pP 23 24 41.1 +0.2
OBN *e* 23 27 13.3
OBN *e*S S 23 33 56.2 +1.3
OBN *e*SS SS 23 38 40.0 -0.1
OBN pmax pmax
comp=Z,224nm,1.3s,mb5.9
OBN Obninsk 73.44 329 *e*P **P** 23 24 28.1 -1.5
OBN *e*pP pP 23 24 40.1 -0.8
OBN LR LR
comp=Z,466nm,21.0s,MS4.7
ISK Istanbul-Kandi 73.45 313 *e*P **P** 23 24 28.9 -1.0
KARP Karpathos 73.64 307 *e*P **P** 23 24 31.5 +0.4
BALB Balikesir 73.98 311 *e*P **P** 23 24 32.7 -0.3
BNT Bandirma 74.12 312 *e*P **P** 23 24 32.1 -1.7
BOSA Boshof 74.15 240 *e*P **P** 23 24 33.3 -0.9
BOSA pmax pmax
comp=Z,55nm,1.1s,mb5.4
BOSA Boshof 74.15 240 P **P** 23 24 33.6 -0.6
comp=Z,20nm,0.6s,mb5.2,baz=88,slow=5.5,SNR=54
BOSA pP pP 23 24 44.5 -1.0
comp=Z,9.8nm,0.7s,baz=92,slow=6.8,SNR=4.3
BOSA Boshof 74.15 240 *e*P **P** 23 24 33.3 -0.9
comp=Z,56nm,1.1s,mb5.4
IZM Izmir 74.17 310 *i* P **P** 23 24 34.1 0.0
TIXI Tiksi 74.24 10 *e*P **P** 23 24 30.7 -3.1
TIXI pmax pmax
comp=Z,117nm,1.4s,mb5.6
TIXI Tiksi 74.24 10 *i* Pr 23 24 32.7
SEY Seymchan 74.77 23 *e*P **P** 23 24 39.8 +2.7
SEY pP 23 24 52.3 +3.8
SEY *e* 23 27 30.5
SEY *e*S S 23 34 09.2 -0.4
SEY 23 34 54.9
SEY *e*SS SS 23 38 56.4 -3.5
SEY *e*SSS SSS 23 42 20.1 +6.6
SEY pmax pmax
comp=Z,60nm,1.0s,mb5.5
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=E,10.0nm,0.8s
SEY MLR MLR
comp=Z,13μm,23.0s,MS6.2
SEY MLR MLR
comp=N,3μm,15.0s
SEY MLR MLR
comp=E,5μm,18.0s
TIRR Tirgusor 74.79 316 P **P** 23 24 36.9 -0.7
TIRR Tirgusor 74.79 316 ⇓P **P** 23 24 37.0 -0.6
NPS Neapolis 74.83 306 *e*P **P** 23 24 38.0 0.0
PRK Paraskevi 75.11 311 *e*P **P** 23 24 38.5 -1.0
SANT Santorini 75.16 308 *e*P **P** 23 24 38.7 -1.2
comp=E,61nm,0.6s,mb5.7
CFR Carcaliu 75.17 317⇑*i*P **P** 23 24 39.5 -0.2
HARR Harsova 75.18 316⇑*i*P **P** 23 24 39.8 0.0
KIS Kishinev 75.20 319 *e*P **P** 23 24 37.0 -2.9
KIS *i* pP 23 24 49.0 -2.3
KIS *i* 23 24 56.0
KIS *e* 23 27 29.0
KIS *e*S S 23 34 09.0 -5.7
KIS *e*PS PS 23 34 43.0 -13
KIS pmax pmax
comp=Z,180nm,1.2s,mb5.9
KIS pmax pmax
comp=Z,800nm,6.0s
JMB Yambol 75.59 314 P **P** 23 24 42.0 -0.2
ALN Alexandroupoli 75.63 312 *e*P **P** 23 24 42.7 +0.2
GVD Gavdhos 75.99 306 *e*P **P** 23 24 44.2 -0.4
comp=Z,147nm,1.1s,mb5.8
GVD Gavdhos 75.99 306 *e*P **P** 23 24 44.0 -0.6
VAM Vamos 75.99 306 *e*P **P** 23 24 45.0 +0.4
AKASG Malin Array Be 76.01 323 P **P** 23 24 43.1 -1.2
baz=89,slow=5.0
AKASG pP pP 23 24 54.7 -1.1
comp=Z,62nm,0.7s,baz=85,slow=5.8,SNR=9.6
AKASG Malin Array Be 76.01 323 P **P** 23 24 43.1 -1.2
AKASG pP pP 23 24 54.7 -1.1
RDO Rodhopi 76.06 312 *e*P pP 23 24 54.5 -1.8
IAS Iasi 76.08 319 P **P** 23 24 44.5 -0.4
SZH Strazhica 76.24 315 P **P** 23 24 45.0 -0.9
DIM Dimitrovgrad 76.26 313 P **P** 23 24 46.0 0.0
KDZ Kurdzhali 76.26 313 P **P** 23 24 45.0 -1.0
VRI Vrincioaia 76.30 317⇓*i*P **P** 23 24 45.9 -0.2
MLR Muntele Rosu 76.74 317⇓*i*P **P** 23 24 48.5 -0.2
RZN Rozhen 76.78 313 P **P** 23 24 47.5 -1.5
PLD Plovdiv 76.87 313 P **P** 23 24 49.0 -0.5
OUR Ouranopolis 77.06 311 *e*P **P** 23 24 48.1 -2.5
KYTH Kithira 77.07 307 *e*P **P** 23 24 50.0 -0.7
PAIG Paliouri 77.21 311 *e*P **P** 23 24 49.8 -1.6
VLI Veliai 77.22 308 *e*P **P** 23 24 50.0 -1.6
MTUR Matau 77.29 316 P **P** 23 24 51.6 -0.1
PLG Polygyros 77.47 311 *e*P **P** 23 24 52.0 -0.8
MMB Musomiste 77.48 313 P **P** 23 24 52.0 -0.9
SRS Serrai 77.50 312 *e*P **P** 23 24 51.4 -1.6
SOH Sokhos 77.62 312 *e*P **P** 23 24 53.2 -0.5
BURAR Bucovina Array 77.73 319 P **P** 23 24 54.8 +0.7
BURAR Bucovina Array 77.73 319 ⇑P **P** 23 24 54.9 +0.8
THE Thessaloniki 77.87 312 *e*P **P** 23 24 53.3 -1.8
MNK Minsk 77.94 326⇓*e*P **P** 23 24 53.0 -2.2
KKB Krupnik 78.01 313 P **P** 23 24 52.0 -3.8
VTS Vitosha 78.06 314 P **P** 23 24 55.3 -0.7
VTS Vitosha 78.06 314 P **P** 23 24 55.0 -1.0
AGG Agios Georgios 78.08 310 *e*P **P** 23 24 55.0 -1.2
ITM Ithomi 78.09 308 *e*P **P** 23 24 56.0 -0.3
LIT Litokhoron 78.14 311 *e*P **P** 23 24 55.0 -1.5
VAY Valandovo 78.29 312⇓*i*P **P** 23 24 55.9 -1.4
PUL Pulkovo 78.35 332 *i* P **P** 23 24 57.1 -0.2
GRG Griva 78.35 312 *e*P **P** 23 24 56.1 -1.6
EVR Evrytania 78.46 310 *e*P **P** 23 24 57.5 -0.8
SUR Sutherland 78.49 237 P **P** 23 25 00.2 +1.6
comp=Z,455nm,1.2s,mb6.3,SNR=9.4
SUR Sutherland 78.49 237 *e*P **P** 23 24 58.9 +0.3
comp=Z,62nm,1.0s,mb5.5
SUR LR LR
comp=Z,727nm,20.0s,MS5.0
IDID Didziasalis 78.78 327 *e*P **P** 23 24 59.5 -0.2
IDID AMb AMB 23 25 02.1
comp=Z,60nm,0.8s,mb5.6
IDID *e*pP pP 23 25 10.6 -0.6
LVV L'vov 79.00 321*d*/P **P** 23 25 00.8 -0.2
LVV *e*S S 23 34 55.0 -0.7
IIGN Ignalina 79.08 327 *e*P **P** 23 25 01.2 -0.1
IIGN AMb AMB 23 25 03.8
comp=Z,73nm,0.8s,mb5.6
IIGN *e*pP pP 23 25 12.6 -0.2
FNA Florina 79.09 311 *e*P **P** 23 24 59.6 -2.1
BARS Barje 79.10 314⇑*i*P **P** 23 25 01.7 -0.1
IZAR Zarasai 79.17 327 *e*P **P** 23 25 01.6 -0.3
IZAR AMb AMB 23 25 04.2
comp=Z,40nm,0.9s,mb5.3
ISAL Salakas 79.19 327 *e*P **P** 23 25 01.7 -0.3
ISAL AMb AMB 23 25 04.3
comp=Z,45nm,1.0s,mb5.4
ISAL *e*pP pP 23 25 13.5 0.0
SKO Skopje 79.24 313⇓*i*P **P** 23 25 01.0 -1.5
SKO *i* pmax pmax
comp=Z,30nm,0.8s,mb5.3
SKO Skopje 79.24 313⇓*i*P **P** 23 25 01.0 -1.5
comp=Z,0.0nm,0.8s
VLS Valsamata 79.29 309 *e*P **P** 23 25 02.0 -0.9
JAN Janina 79.31 310 *e*P **P** 23 25 02.5 -0.5
OHR Ohrid 79.57 312⇓*i*P **P** 23 25 02.6 -1.8
OHR ⇑*i* pP 23 25 14.5 -1.4
VSU Vasula 79.69 330 *i* P **P** 23 25 03.9 -0.7
VSU Vasula 79.69 330 *i* Pr 23 25 03.9

IGT Igoumenitsa 79.69 310 *e*P **P** 23 25 03.8 -1.2
BZS Buzias 79.74 316 P **P** 23 25 05.0 -0.2
BZS Buzias 79.74 316 ⇓P **P** 23 25 05.2 0.0
BZS Buzias 79.74 316 ⇓P **P** 23 25 05.2 0.0
LVZ Lovozero 79.77 340 *i* P **P** 23 25 04.5 -0.4
SVIS Svilajnac 79.79 315⇑*i*P **P** 23 25 04.2 -1.2
KWP Kalwaria 79.79 320 *e*P **P** 23 25 05.3 0.0
KWP *e* 23 25 10.1
KWP *e* pP 23 25 16.9 0.0
UZH Uzhgorod 79.86 319*d*/P **P** 23 25 00.0 -5.7
UZH *e*S S 23 34 56.0 -8.8
KOLS Kolonicke sedl 79.93 320 *i* P **P** 23 25 07.0 +0.9
KOLS *i* pP pP 23 25 19.2 +1.6
APA Apatity 80.06 340⇑*i*P **P** 23 25 06.2 -0.2
APA *i* pP 23 25 17.1 -0.8
APA *i* S S 23 35 07.0 +0.5
APA *e*PS PS 23 35 53.0 -3.5
APA *e*SS SS 23 40 23.0 +2.9
APA pmax pmax
comp=Z,78nm,1.0s,mb5.6
APA MLR MLR
comp=Z,2μm,18.0s,MS5.5
GRUS Gruza 80.08 314⇑*i*P **P** 23 25 06.5 -0.5
KEK Kerkira 80.12 310 *e*P **P** 23 25 06.8 -0.5
TSUM Tsumeb 80.12 251 *e*P **P** 23 25 07.5 -0.2
comp=Z,21nm,1.0s,mb5.0
TSUM LR LR
comp=Z,2μm,19.0s,MS5.4
QSH Qafa e Shtames 80.30 312 *i* p **P** 23 25 09.0 +0.8
PVY Plav 80.41 313⇑*i*P **P** 23 25 07.2 -1.6
CRVS Cervenica-Dubn 80.45 320 *i* P **P** 23 25 09.4 +0.5
SUW Suwalki 80.45 325 *e*P **P** 23 25 08.0 -0.8
SUW *e* pP 23 25 19.7 -0.6
IVA Berane 80.51 313⇑*i*P **P** 23 25 08.1 -1.2
DIVS Divcibare 80.63 315⇑*i*P **P** 23 25 09.3 -0.6
SNZO South Karori 80.81 132 PFAKE 23 25 20.0 +9.0
SNZO LR LR
comp=Z,3μm,22.0s,MS5.5
ULC Ulcinj 80.85 312⇑*i*P **P** 23 25 09.4 -1.8
FINES FINESS Array B 80.87 333 P **P** 23 25 10.2 -0.6
comp=Z,47nm,0.6s,mb5.6,baz=98,slow=5.3,SNR=328
FINES pP pP 23 25 21.6 -0.7
comp=Z,31nm,0.7s,baz=117,slow=4.3,SNR=10
TTG Podgorica 80.91 313⇑*i*P **P** 23 25 09.3 -2.1
PLE Pljevlja 80.94 314⇑*i*P **P** 23 25 11.1 -0.5
KAF Kangasniemi 80.96 333 *e*p pP 23 25 23.7 +0.9
comp=Z,50nm,0.7s
KAF Kangasniemi 80.96 333 *e*P **P** 23 25 11.4 +0.1
KAF *e* pP 23 25 23.7 +0.9
KAF pmax pmax
comp=Z,69nm,0.6s,mb5.8
KAF Kangasniemi 80.96 333 *e*P **P** 23 25 11.4 +0.1
comp=Z,69nm,0.6s,mb5.8
KAF *e*P pP 23 25 23.7 +0.9
KECS Kecovo 81.01 319 *i* P **P** 23 25 12.2 +0.4
NKY Niksic 81.15 313⇑*i*P **P** 23 25 10.6 -2.2
BUM Brajici-Budva 81.16 313⇑*i*P **P** 23 25 11.2 -1.5
PKSN Nyarlorinc 81.16 317⇑*i*P **P** 23 25 13.5 +0.9
UPM Unac-Piva 81.27 314⇑*i*P **P** 23 25 12.0 -1.3
NIE Niedzica 81.28 320 *e*P **P** 23 25 11.6 -1.7
PSZ Piszkesteto 81.31 318 P **P** 23 25 12.7 -0.7
PSZ pmax pmax
comp=Z,130nm,1.3s,mb5.7
PSZ Piszkesteto 81.31 318⇓*e*P **P** 23 25 13.5 +0.1
PKS6 Bocsa 81.31 317⇑*i*P **P** 23 25 14.1 +0.6
WAR Warsaw 81.36 323 *e*P **P** 23 25 13.0 -0.6
WAR Warsaw 81.36 323 *e*P **P** 23 25 13.0 -0.6
HCY Herceg Novi 81.47 313⇑*i*P **P** 23 25 12.6 -1.7
BRY Bratogost 81.50 313⇑*i*P **P** 23 25 13.2 -1.2
FX1 Attu Island--F 81.51 36 *e*P **P** 23 25 14.7 +0.4
OJC Ojcow 81.75 321 *e*P **P** 23 25 15.8 +0.1
OJC *e*PcP PcP 23 25 28.0 +6.3
PKSM Moragy 81.89 317⇓*i*P **P** 23 25 16.4 -0.1
VYHS Vyhne 82.09 319 *i* P **P** 23 25 17.5 0.0
VYHS *i* pP pP 23 25 30.4 +1.4
VYHS *i* S S 23 35 26.5 -1.4
BILL Bilibino 82.19 21 *i* P **P** 23 25 16.7 -0.9
BILL pmax pmax
comp=Z,27nm,2.1s,mb4.8
BILL MLR MLR
comp=Z,4μm,17.0s,MS5.8
BILL Bilibino 82.19 21 *e*P **P** 23 25 16.6 -0.9
comp=Z,40nm,1.4s,mb5.2
SRO2 Moca 82.28 318 *i* P **P** 23 25 19.5 +1.1
SRO2 *i* pP 23 25 32.0 +2.0
SRO Srobarova 82.34 318 *i* P **P** 23 25 19.5 +0.8
SRO1 Iza 82.39 318 *i* P **P** 23 25 19.2 +0.2
SRO1 *i* pP pP 23 25 32.3 +1.8
TIP Timpagrande 82.39 309 *e*P **P** 23 25 19.0 -0.2
LTRZ Laterza 82.50 311 *e*P **P** 23 25 19.8 +0.1
GRI Giriifalco 82.62 309 *e*P **P** 23 25 21.2 +0.8
ORI Oriolo Calabro 82.72 310 *e*P **P** 23 25 21.9 +1.0
OKC Ostrava-Krasne 82.74 320 *e*P **P** 23 25 21.1 +0.4
OKC *e*pP pP 23 25 33.1 +0.8
OKC *e*S S 23 35 37.2 +2.8
OKC AMS AMS 00 10 00.0
comp=Z,1μm,23.8s
RAC Raciborz 82.75 320 *e*P **P** 23 25 21.1 +0.3
SOI Samo 82.83 308 *e*P **P** 23 25 21.9 +0.4
SMOL Smolenice 83.02 319 *i* P **P** 23 25 23.0 +0.8
KEV Kevo 83.05 341 *e*p pP 23 25 33.8 +0.3
KEV Kevo 83.05 341 *e*P **P** 23 25 22.6 +0.7
KEV *e* pP 23 25 33.8 +0.3
MTTG Motta San Giov 83.11 308 *e*P **P** 23 25 24.0 +1.1
MORC Moravsky Berou 83.12 320 *e*P **P** 23 25 22.9 +0.2
MORC *e* pP 23 25 35.1 +0.8
MORC pmax pmax
comp=Z,128nm,1.4s,mb5.8
MORC Moravsky Berou 83.12 320 *e*P **P** 23 25 22.9 +0.2
comp=Z,128nm,1.4s,mb5.8
MORC *e* pP 23 25 35.1 +0.8
ZST Bratislava 83.20 318 *i* P **P** 23 25 23.9 +0.8
ZST *i* pP 23 25 35.6 +0.9
ZST *i* S S 23 35 44.7 +5.7
FGMS Monte Sant'Ang 83.26 312 *e*P **P** 23 25 23.6 +0.1
SISC Sisak 83.36 316 *i* P **P** 23 25 22.9 -1.2
SLCN Sala Consilina 83.38 311 *e*P **P** 23 25 24.6 +0.4
MGR Morigerati 83.41 310 *e*P **P** 23 25 23.8 -0.5
ARCES ARCESS Array B 83.48 340 P **P** 23 25 24.8 +0.7
comp=Z,23nm,0.4s,mb5.6,baz=105,slow=4.8,SNR=268
ARCES pP pP 23 25 35.4 -0.3
comp=Z,21nm,0.5s,baz=79,slow=6.2,SNR=8.7
ARE0 ARCESS Array S 83.48 340 *e*P **P** 23 25 24.8 +0.7
SOP Sopron 83.50 318⇑*i*P **P** 23 25 25.2 +0.6
SOP *e*sP sP 23 25 41.5 +1.2
MRLC Muro Lucano 83.52 311 *e*P **P** 23 25 25.0 0.0
FG4 Candela 83.53 311 *e*P **P** 23 25 26.1 +1.1
KOGS Kog 83.56 317 *e*P **P** 23 25 25.2 +0.2
KOGS *e*pP pP 23 25 37.0 +0.3
SGO Sicignano 83.64 311 *e*P **P** 23 25 25.7 +0.1
VRAC Vranov 83.67 320 P **P** 23 25 26.0 +0.5
VKA Vienna 83.73 318⇓*i*P **P** 23 25 25.8 0.0
comp=Z,653nm,3.5s
VKA Vienna 83.73 318⇓*i*P **P** 23 25 25.8 0.0
VKA pmax pmax
comp=Z,653nm,3.5s
FG5 Orsara di Pugl 83.73 311 *e*P **P** 23 25 26.5 +0.5
GKP Gorka Klasztor 83.80 324 *e*P **P** 23 25 25.5 -0.5
GKP *e* pP 23 25 36.6 -1.0
GKP Gorka Klasztor 83.80 324 *e*P **P** 23 25 25.5 -0.5
GKP *e* 23 25 29.2
GKP *e* pP 23 25 36.6 -1.0
GKP Gorka Klasztor 83.80 324 *e*P **P** 23 25 25.5 -0.5
GKP *e* 23 25 29.2
GKP *e* pP 23 25 36.6 -1.0
CSSN Cassano Irpino 83.88 311 *e*P **P** 23 25 27.0 +0.2
DPC Dobruska-Polom 83.98 321 *e*P **P** 23 25 27.9 +0.9
DPC *e*pP pP 23 25 40.0 +1.4
DPC *e*S S 23 35 48.2 +1.4
DPC AMS AMS 00 10 00.0
comp=Z,1μm,20.0s
KSP Ksiaz 84.06 321⇑*e*P **P** 23 25 27.5 +0.1
KSP *e**PP pP 23 25 39.6 +0.6
KSP *e*S S 23 35 49.0 +1.4
KSP MLR MLR
comp=Z,4μm,24.8s,MS5.6
KSP Ksiaz 84.06 321 *e*P **P** 23 25 27.4 0.0
KSP *e* 23 25 31.7
KSP *e* pP 23 25 39.9 +0.9
KTK1 Kautokeino 84.11 340 *e*P **P** 23 25 28.8 +1.6
comp=Z,168nm,1.3s,mb6.0
KTK1 Kautokeino 84.11 340 *e*P **P** 23 25 28.8 +1.6

KTK1 AMb AMB 23 25 30.1
comp=Z,168nm,1.3s,mb6.0
KTK1 *e*pP pP 23 25 39.8 +1.0
ARSA Arzberg 84.15 317⇑*i*P **P** 23 25 28.5 +0.5
comp=Z,88nm,1.5s,mb5.7
UPC Upice 84.19 321 *e*P **P** 23 25 28.5 +0.4
UPC *e*pP pP 23 25 40.5 +0.8
VISS Visnje 84.47 316 *e*P **P** 23 25 29.6 0.0
VISS *e*pP pP 23 25 41.5 +0.3
CII Carovilli 84.49 312 *e*P **P** 23 25 30.5 +0.6
LJU Ljubljana 84.71 316 *e*P **P** 23 25 31.1 +0.3
LJU *i* pP pP 23 25 43.1 +0.7
OBKA Obir 84.74 317⇑*i*P **P** 23 25 31.6 +0.7
comp=Z,64nm,1.2s,mb5.6
VNDA Vanda 84.83 169 *e*P **P** 23 25 30.4 -0.3
VNDA pmax pmax
comp=Z,66nm,1.4s
VNDA MLR MLR
comp=Z,1μm,19.0s
VNDA Vanda 84.83 169 P **P** 23 25 30.9 +0.2
comp=Z,19nm,1.1s,mb5.1,baz=298,slow=5.2,SNR=41
VNDA Vanda 84.83 169 *e*P **P** 23 25 30.4 -0.3
comp=Z,66nm,1.4s,mb5.6
VNDA LR LR
comp=Z,1μm,19.0s,MS5.3
SDI San Donato 84.86 312 *e*P **P** 23 25 31.2 -0.5
MOA Molln 85.05 318⇑*i*P **P** 23 25 32.6 +0.1
comp=Z,64nm,1.6s,mb5.5
PRU Pruhonice 85.07 320 *e*P **P** 23 25 33.3 +0.8
PRU *e*pP pP 23 25 44.9 +0.7
PRU *e*S S 23 35 58.2 +0.5
PRU AMS AMS 00 10 50.0
comp=Z,2μm,22.6s
PVCC Panska Ves 85.11 321 *e*P **P** 23 25 33.6 +0.9
PVCC *e*pP pP 23 25 45.9 +1.6
PVCC *e*S S 23 35 58.9 +0.9
PVCC AMS AMS 00 10 30.0
comp=Z,1μm,19.1s
VOY Vojsko 85.15 316 *e*P **P** 23 25 32.8 -0.2
VOY *e* pP 23 25 44.6 0.0
PTQR Pietraquaria 85.19 312 *e*P **P** 23 25 33.6 +0.3
TRI Trieste 85.21 316 *e*P **P** 23 25 33.1 -0.2
AQU L'Aquila 85.21 312 *e*P **P** 23 25 34.0 +0.6
BSD Bornholm Skovb 85.38 325 *i* P **P** 23 25 34.0 +0.1
BSD *i* pP 23 25 46.1 +0.5
BSD pmax pmax
comp=Z,63nm,0.8s,mb5.8
BSD Bornholm Skovb 85.38 325 *i* P **P** 23 25 34.0 +0.1
comp=Z,62nm,0.8s,mb5.8
BSD *i* pP 23 25 46.1 +0.5
NRCA Norcia 85.46 313 *e*P **P** 23 25 34.7 +0.1
GERES GERESS Array B 85.52 319 P **P** 23 25 35.2 +0.4
comp=Z,35nm,1.0s,mb5.5,baz=108,slow=4.2,SNR=176
GERES pP pP 23 25 46.2 -0.2
comp=Z,36nm,1.0s,baz=108,slow=4.2,SNR=14
BRG Berggiesshubel 85.54 321 *i* P **P** 23 25 35.5 +0.7
BRG *i* pP 23 25 47.5 +1.1
BRG pmax pmax
comp=Z,116nm,1.4s,mb5.9
BRG Berggiesshubel 85.54 321 *i* P **P** 23 25 35.5 +0.7
comp=Z,116nm,1.4s,mb5.9
BRG *i* pP 23 25 47.5 +1.1
PTCC Patocco-Chiusa 85.55 316 *e*P **P** 23 25 35.2 +0.2
KBA Koelnbreinsper 85.61 317⇑*i*P **P** 23 25 35.1 -0.1
comp=Z,42nm,1.2s,mb5.5
KBA Koelnbreinsper 85.61 317⇑*i*P **P** 23 25 35.1 -0.1
KBA pmax pmax
comp=Z,42nm,1.2s,mb5.5
SNTG Esanatoglia 85.61 313 *e*P **P** 23 25 35.5 +0.1
KHC Kasperske Hory 85.62 319 *e*P **P** 23 25 35.7 +0.5
KHC *e*pP pP 23 25 48.2 +1.3
KHC *e*S S 23 36 07.7 +4.7
KHC AMS AMS 00 14 20.0
comp=Z,900nm,18.2s
GMNA Gemona 85.62 316 *e*P **P** 23 25 35.5 +0.2
ARV Arcevia 85.63 313 *e*P **P** 23 25 36.0 +0.6
TRO Tromso 85.74 340 *e*P **P** 23 25 34.8 -0.5
comp=Z,120nm,1.4s,mb5.9
TRO Tromso 85.74 340 *e*P **P** 23 25 34.8 -0.5
TRO AMb AMB 23 25 36.1
comp=Z,120nm,1.4s,mb5.9
TRO *e*pP pP 23 25 46.5 -0.5
RUE Ruedersdorf 85.79 322 *e*P **P** 23 25 36.2 +0.2
comp=Z,148nm,1.1s,mb6.1
RUE *e*pP pP 23 25 47.5 -0.1
SBA Scott Base 85.93 169 *e*P **P** 23 25 37.3 +1.2
SBA pmax pmax
comp=Z,471nm,2.2s,mb6.3
SBA MLR MLR
comp=Z,794nm,20.0s,MS5.1
SBA Scott Base 85.93 169 *e*P **P** 23 25 37.3 +1.2
comp=Z,471nm,2.2s,mb6.3
SBA LR LR
comp=Z,794nm,20.0s,MS5.1
FVI Forni Avoltri 85.96 317 *e*P **P** 23 25 37.0 0.0
RSM Repubblica di 86.02 314 *e*P **P** 23 25 38.4 +1.1
WET Wettzell 86.08 319 *e*P **P** 23 25 38.0 +0.5
CLL Collm 86.17 321⇓*i*P **P** 23 25 37.7 -0.1
CLL *i* pP 23 25 49.6 +0.1
CLL pmax pmax
comp=Z,50nm,1.2s,mb5.6
CLL Collm 86.17 321⇓*i*P **P** 23 25 37.7 -0.1
comp=Z,50nm,1.2s,mb5.6
CLL *i* pP 23 25 49.6 +0.1
CLL Collm 86.17 321 ⇓P **P** 23 25 37.7 -0.1
comp=Z,logA/T=1.6,mb5.6
CLL *i* *PP pP 23 25 49.6 +0.1
CLL *e**SP sP 23 25 57.0 +3.5
CLL *e* 23 29 18.0
CLL *e* 23 29 32.0
CLL *e* 23 31 26.0
NKC Novy Kostel 86.44 320 *e*P **P** 23 25 39.9 +0.7
NKC *e*pP pP 23 25 51.5 +0.6
SFI Santa Sofia 86.45 314 *e*P **P** 23 25 40.8 +1.4
PGD Poggio Sodo 86.54 314 *e*P **P** 23 25 41.0 +1.1
VMG Vicchio 86.67 314 *e*P **P** 23 25 41.1 +0.6
CTI Castel Tesino 86.71 316 *e*P **P** 23 25 41.2 +0.6
WTTA Wattenberg 86.78 317⇑*i*P **P** 23 25 40.9 -0.1
comp=Z,68nm,1.2s,mb5.8
WTTA Wattenberg 86.78 317⇑*i*P **P** 23 25 40.9 -0.1
WTTA pmax pmax
comp=Z,68nm,1.2s,mb5.8
SEI Scarperia 86.81 314 *e*P **P** 23 25 42.1 +0.9
WATA Walderalm 86.83 317⇑*i*P **P** 23 25 40.9 -0.3
comp=Z,60nm,1.3s,mb5.7
WATA Walderalm 86.83 317⇑*i*P **P** 23 25 40.9 -0.3
WATA pmax pmax
comp=Z,60nm,1.3s,mb5.7
COP Copenhagen 86.85 326 *i* P pP 23 25 54.2 +1.5
comp=Z,44nm,0.8s
MOR8 Moi Rana 86.88 336 *e*P **P** 23 25 40.9 -0.1
comp=Z,76nm,1.1s,mb5.8
MOR8 Moi Rana 86.88 336 *e*P **P** 23 25 40.9 -0.1
MOR8 AMb AMB 23 25 42.5
comp=Z,76nm,1.1s,mb5.8
MOR8 *e*pP pP 23 25 52.8 +0.2
MOX Moxa 87.00 321 *e*P **P** 23 25 42.5 +0.6
MOX pmax pmax
comp=Z,99nm,1.7s,mb5.8
MOX Moxa 87.00 321 *e*P **P** 23 25 42.5 +0.6
comp=Z,99nm,1.7s,mb5.8
MOX Moxa 87.00 321 *i* P **P** 23 25 42.5 +0.6
comp=Z,logA/T=1.8,mb5.8
GRFL Gerfalco 87.04 313 *e*P **P** 23 25 42.0 -0.3
SQTA Sankt Quirin 87.07 317⇑*i*P **P** 23 25 42.3 -0.1
comp=Z,43nm,1.2s,mb5.5
SQTA Sankt Quirin 87.07 317⇑*i*P **P** 23 25 42.3 -0.1
SQTA pmax pmax
comp=Z,43nm,1.2s,mb5.5
FUR Furstenfeldbru 87.08 318 *e*P **P** 23 25 42.7 +0.3
ZCCA Zocca 87.10 314 *e*P **P** 23 25 44.1 +1.6
GRA1 Grafenberg Arr 87.19 320 *e*P **P** 23 25 43.8 +0.9
comp=Z,79nm,1.1s,mb5.9
GRA1 *e*pP pP 23 25 55.5 +0.9
GRA1 *e*sP sP 23 26 02.1 +3.6
GRF Grafenberg Arr 87.19 320 *e*P **P** 23 25 43.8 +0.9
GRF *e**PP pP 23 25 55.5 +0.9
GRF *e**SP sP 23 26 02.1 +3.6
GRF pmax pmax
comp=Z,79nm,1.1s,mb5.9
GRF Grafenberg Arr 87.19 320 *e*P **P** 23 25 43.8 +0.9
GRF *e**PP pP 23 25 55.5 +0.9
GRF *e**SP sP 23 26 02.1 +3.6
GRF pmax pmax

comp=Z,79nm,1.1s,mb5.9
GRF Grafenberg Arr 87.19 320 *e*P **P** **23 25 43.8 +0.9**
comp=Z,79nm,1.1s,mb5.9
GRF *ep*P pP 23 25 55.5 +0.9
GRF *es*P sP 23 26 02.1 +3.6
GSCL Gusciola 87.38 314 *e*P **P** **23 25 45.1 +1.2**
PII Pisa 87.40 314 *e*P **P** **23 25 42.9 -1.1**
SAL Salo 87.47 315 *e*P **P** **23 25 45.3 +0.9**
ERBM Eremo 87.50 314 *e*P **P** **23 25 45.9 +1.3**
ADK Adak 87.56 38 *e*P **P** **23 25 46.1 +1.5**
ADK MLR MLR
comp=Z,309nm,19.0s,MS4.7
BRMO Bormio 87.61 316 *e*P **P** **23 25 45.6 +0.6**
VALM 87.62 314 P **P** **23 25 45.1 0.0**
VINC Vinca 87.68 314 P **P** **23 25 44.8 -0.6**
BACM 87.74 314 P **P** **23 25 45.2 -0.5**
NSS Namsos 87.75 334 *e*P **P** **23 25 44.9 -0.4**
NSS *ep*P pP 23 25 57.1 +0.1
NSS AMb AMB 23 25 60.0
comp=Z,133nm,1.3s,mb6.0
GRAM 87.75 314 P **P** **23 25 45.9 +0.1**
HDH Heidenheim 87.81 318‖ *e*P **P** **23 25 45.8 -0.1**
CLZ Clausthal 87.84 322 *e*P **P** **23 25 46.9 +1.0**
comp=Z,93nm,1.4s,mb5.8
UBR Uberruh 87.84 318‖ *e*P **P** **23 25 46.2 +0.1**
NB2 NORSAR Subarra 87.86 331 P **P** **23 25 45.9 +0.1**
comp=Z,176nm,1.4s,mb6.1,baz=96,slow=4.6
NB2 NORSAR Subarra 87.86 331 P **P** **23 25 45.9 +0.1**
NB2 pmax pmax
comp=Z,177nm,1.4s,mb6.1
NB2 NORSAR Subarra 87.86 331 P **P** **23 25 45.9 +0.1**
baz=96,slow=4.8
NOA NORSAR Array B 87.86 331 P **P** **23 25 45.5 -0.3**
comp=Z,29nm,0.8s,mb5.5,baz=95,slow=4.8,SNR=80
NOA pP pP 23 25 56.9 -0.6
comp=Z,56nm,1.1s,baz=96,slow=4.7,SNR=14
NOA PP PP 23 29 26.6 +12
comp=Z,3.3nm,1.0s,baz=87,slow=7.7,SNR=3.4
CODM 87.91 314 P **P** **23 25 46.3 -0.2**
HSP Hornsund 87.94 347 *e*P **P** **23 25 44.0 -1.9**
BSEG Bad Segeberg 87.96 324 *e*P **P** **23 25 47.6 +1.1**
DAVOX Davos 87.96 317 LR LR 00 10 59.0
comp=Z,803nm,21.9s,MS5.1,baz=52,slow=40
DAVA Damuels 87.98 317⇑ *i*P **P** **23 25 47.4 +0.7**
comp=Z,2nm,1.2s,mb5.8
NAO01 NORSAR Array S 88.00 331 *e*P **P** **23 25 46.7 +0.2**
comp=Z,89nm,1.2s,mb5.9
NAO01 *ep*P pP 23 25 58.4 +0.1
NAO01 LR LR
comp=Z,2μm,21.0s,MS5.4
OSL Oslo 88.04 330 *e*P **P** **23 25 48.0 +1.3**
VSL Villasalto 88.12 309 *e*P **P** **23 25 47.0 -0.6**
comp=Z,40nm,0.9s,mb5.7
BOB Bobbio (Coli) 88.20 315 *e*P **P** **23 25 48.7 +0.8**
SIND Sindeldorf 88.23 319‖ *e*P **P** **23 25 48.4 +0.5**
SUCH Bad Urach 88.37 318‖ *e*P **P** **23 25 48.9 +0.3**
PGF Pioggiola 88.48 312‖ *i*P **P** **23 25 49.4 +0.2**
comp=Z,36nm,0.8s,mb5.4
PGF Pioggiola 88.48 312‖ *i*P **P** **23 25 49.4 +0.2**
PGF pmax pmax
comp=Z,18nm,0.8s,mb5.3
STU Stuttgart 88.49 319 *e*P **P** **23 25 48.8 -0.3**
STU *e**PP pP 23 26 00.3 -0.5
STU pmax pmax
comp=Z,88nm,1.6s,mb5.7
STU Stuttgart 88.49 319 *e*P **P** **23 25 48.8 -0.3**
comp=Z,88nm,1.6s,mb5.7
STU *ep*P pP 23 26 00.3 -0.5
GUT Gutenstein 88.52 318‖ *e*P **P** **23 25 49.6 +0.3**
NVL N'lazarevskaya 88.56 199⇑ *i*P **P** **23 25 51.3 +2.3**
KONO Kongsberg 88.59 330 *e*P **P** **23 25 50.0 +0.6**
comp=Z,63μm,1.6s
KONO LR LR
comp=Z,633nm,19.0s
KONO Kongsberg 88.59 330 *e*P **P** **23 25 50.0 +0.6**
KONO *ep*P pP 23 26 01.6 +0.5
SPAK Spaichingen 88.74 318 *e*P **P** **23 25 50.5 +0.1**
SPAK Spaichingen 88.74 318‖ *e*P **P** **23 25 50.8 +0.4**
LBG Lerchenberg 88.75 318 *e*P **P** **23 25 50.7 +0.3**
TOD Tromm 88.76 319 *e*P **P** **23 25 50.7 +0.1**
TOD Tromm 88.76 319 *e*P **P** **23 25 50.7 +0.3**
SWS Schriesheim 88.83 319‖ *e*P **P** **23 25 51.0 +0.3**
PCP Pian Castagno 88.84 314 P **P** **23 25 50.6 -0.3**
TNS Taunus Mts 89.00 320 *e*P **P** **23 25 52.4 +0.8**
BFO Black Forest 89.05 318 P **P** **23 25 51.5 -0.3**
comp=Z,108nm,0.8s,mb6.2,SNR=12
BFO Black Forest 89.05 318 *e*P **P** **23 25 52.0 +0.2**
BFO pmax pmax
comp=Z,24nm,1.0s,mb5.5
BFO Black Forest 89.05 318 *e*P **P** **23 25 52.0 +0.2**
comp=Z,24nm,1.0s,mb5.5
FIN Finale Ligure 89.08 314 *e*P **P** **23 25 52.3 +0.2**
KTD Kalmit 89.23 319 *e*P **P** **23 25 53.2 +0.6**
MCGN Macugnaga 89.26 316 *e*P **P** **23 25 53.8 +0.9**
ORO Oropa 89.26 315 *e*P **P** **23 25 52.0 -0.9**
ORX Oropa 89.26 315 P **P** **23 25 51.7 -1.2**
FELD Feldberg 89.26 318‖ *e*P **P** **23 25 53.1 +0.2**
IMI Imperia 89.31 314 *e*P **P** **23 25 53.6 +0.4**
KIZ Kirchzarten 89.32 318‖ *e*P **P** **23 25 53.2 +0.1**
ROB Roburent 89.32 314 P **P** **23 25 53.4 +0.2**
LANF Langenberg 89.41 319 *e*P **P** **23 25 54.2 +0.7**
MONE Monesi 89.41 314 P **P** **23 25 53.4 -0.2**
TRAV 89.42 315 P **P** **23 25 52.8 -0.9**
NEGI Negi 89.44 314 P **P** **23 25 53.5 -0.2**
LIBD Limburg 89.54 318 *e*P **P** **23 25 54.2 +0.1**
LIBD Limburg 89.54 318 *e*P **P** **23 25 54.6 +0.5**
SAOF Saorge 89.55 314 *e*P **P** **23 25 54.8 +0.5**
ABH Alteburg 89.58 320 *e*P **P** **23 25 54.9 +0.6**
ABH Alteburg 89.58 320‖ *e*P **P** **23 25 55.1 +0.8**
ABSA Djebel Ababsia 89.59 306 P **P** **23 25 58.0 +3.3**
BBS Basel-Blauen 89.60 317 *e*P **P** **23 25 54.0 -0.4**
BBS Basel-Blauen 89.60 317‖ *e*P **P** **23 25 54.4 0.0**
CMAH Djebel Manchou 89.63 306 P **P** **23 25 57.0 +2.1**
SBF Sospel 89.64 314‖ *i*P **P** **23 25 54.9 +0.2**
comp=Z,198nm,1.2s,mb6.0
SBF Sospel 89.64 314‖ *i*P **P** **23 25 54.9 +0.2**
SBF pmax pmax
comp=Z,99nm,1.2s,mb6.0
AUTN L'Aution 89.64 314 *e*P **P** **23 25 55.6 +0.9**
ENR Entracque 89.65 314 P **P** **23 25 53.6 -1.2**
REVF Revere 89.69 314 *e*P **P** **23 25 55.5 +0.6**
WLS Welschbruch 89.70 318 *e*P **P** **23 25 55.2 +0.3**
STV2 Anna di Valdie 89.72 314 P **P** **23 25 54.1 -1.0**
STV Sta Anna Valdi 89.72 314 P **P** **23 25 54.9 -0.2**
CDF Champ du Feu 89.75 318‖ *i*P **P** **23 25 55.0 -0.1**
comp=Z,46nm,1.1s,mb5.4
CDF Champ du Feu 89.75 318‖ *i*P **P** **23 25 55.0 -0.1**
CDF pmax pmax
comp=Z,23nm,1.0s,mb5.5
BHB Bricherasio 89.76 315 P **P** **23 25 54.1 -1.2**
RSP Reno Superiore 89.77 315 P **P** **23 25 54.5 -0.8**
TOUF Mont Tournerai 89.77 314 *e*P **P** **23 25 55.6 +0.3**
DOI San Damiano 89.77 314 *e*P **P** **23 25 53.9 -1.4**
SNART Snartemo 89.80 328 *e*P **P** **23 25 55.0 -0.1**
ECH Echery 89.83 318 *e*P **P** **23 25 55.4 -0.1**
LSD Ceresole Reale 89.84 315 P **P** **23 25 55.7 +0.1**
MVIF Mont Vial 89.84 314 *e*P **P** **23 25 56.3 +0.6**
MOF Molkenrain 89.85 318 *e*P **P** **23 25 55.7 +0.1**
PZZ Prazzo 89.88 314 P **P** **23 25 54.6 -1.2**
RUP Ruppelstein 89.90 320 *e*P **P** **23 25 56.4 +0.6**
RUP Ruppelstein 89.90 320‖ *e*P **P** **23 25 56.5 +0.7**
FENE Fenestrelle 89.90 315 P **P** **23 25 55.7 -0.3**
CALN Calern 90.03 314 *e*P **P** **23 25 57.4 +0.8**
HINF Hinteralfeld 90.04 318‖ *i*P **P** **23 25 55.9 -0.6**
comp=Z,46nm,1.4s,mb5.3
HINF Hinteralfeld 90.04 318‖ *i*P **P** **23 25 55.9 -0.6**
HINF pmax pmax
comp=Z,23nm,1.4s,mb5.3
WTSB Winterswijk 90.05 322 *e*P **P** **23 25 57.1 +0.6**
comp=Z,84nm,1.4s,mb5.9
WTSB *ex* x 23 26 08.7
LOMF Lomont 90.06 317 *e*P **P** **23 25 56.4 -0.2**
SURF Saint Ours 90.08 314 *e*P **P** **23 25 57.9 +1.1**
QSPA South Pole Qui 90.10 180 *e*P **P** **23 25 57.3 +1.2**
comp=Z,57nm,1.0s,mb5.9
RRL Cesana Torines 90.10 315 P **P** **23 25 56.2 -0.7**
MBDF Montbardon 90.11 315‖ *i*P **P** **23 25 56.6 -0.3**
LPG La Plagne 90.12 315‖ *i*P **P** **23 25 57.4 +0.5**
comp=Z,174nm,1.3s,mb5.9
LPG La Plagne 90.12 315‖ *i*P **P** **23 25 57.4 +0.5**
LPG pmax pmax
comp=Z,87nm,1.3s,mb5.9
LPL La Plagne 90.13 315‖ *i*P **P** **23 25 57.5 +0.5**
comp=Z,172nm,1.2s,mb6.0
LPL La Plagne 90.13 315‖ *i*P **P** **23 25 57.5 +0.5**
LPL pmax pmax
comp=Z,86nm,1.2s,mb6.0
OG01 Vacheresse 90.16 316 *e*P **P** **23 25 58.0 +0.9**
BNI Bardonecchia 90.17 315 *e*P **P** **23 25 56.7 -0.5**
BNI pmax pmax
comp=Z,47nm,1.0s,mb5.8
BNI Bardonecchia 90.17 315 *e*P **P** **23 25 56.6 -0.6**
comp=Z,47nm,1.0s,mb5.8
BLS5 Blasjo 90.19 329 *e*P **P** **23 25 58.6 +1.7**
comp=Z,49nm,1.4s,mb5.6
BLS5 Blasjo 90.19 329 *e*P **P** **23 25 58.6 +1.7**
BLS5 AMb AMB 23 26 00.2
comp=Z,49nm,1.4s,mb5.6
BLS5 *ep*P pP 23 26 10.7 +2.1
CKFL Kef-Lekhel 90.20 306 P **P** **23 25 59.0 +1.5**
FRF La Foret Royal 90.21 313‖ *i*P **P** **23 25 57.7 +0.3**
comp=Z,209nm,1.4s,mb6.0
FRF La Foret Royal 90.21 313‖ *i*P **P** **23 25 57.7 +0.3**
FRF pmax pmax
comp=Z,105nm,1.4s,mb6.0
RSL Roselend 90.21 315 *e*P **P** **23 25 57.5 +0.2**
LMR La Mourre 90.31 313‖ *i*P **P** **23 25 58.1 +0.2**
comp=Z,135nm,1.3s,mb5.8
LMR La Mourre 90.31 313‖ *i*P **P** **23 25 58.1 +0.2**
LMR pmax pmax
comp=Z,68nm,1.3s,mb5.8
HAU Haudompre 90.38 318‖ *i*P **P** **23 25 58.0 -0.1**
comp=Z,141nm,1.1s,mb5.9
HAU Haudompre 90.38 318‖ *i*P **P** **23 25 58.0 -0.1**
HAU pmax pmax
comp=Z,70nm,1.1s,mb5.9
CTEI Djebel Teioual 90.45 306 P **P** **23 26 00.0 +1.3**
WLF Walferdange 90.49 319 *e*P **P** **23 25 59.1 +0.6**
WLF *e**PP pP 23 26 10.5 +0.2
WLF pmax pmax
comp=Z,162nm,1.4s,mb6.2
WLF Walferdange 90.49 319 *e*P **P** **23 25 59.1 +0.5**
comp=Z,162nm,1.4s,mb6.2
WLF *ep*P pP 23 26 10.5 +0.2
CABF La Chapelle 90.57 316‖ *i*P **P** **23 25 59.6 +0.6**
comp=Z,162nm,1.1s,mb6.0
CABF La Chapelle 90.57 316‖ *i*P **P** **23 25 59.6 +0.6**
CABF pmax pmax
comp=Z,81nm,1.1s,mb6.0
HGN Heimansgroeve 90.61 321 *e*P **P** **23 25 59.5 +0.4**
comp=Z,54nm,1.5s,mb5.7
HGN *ex* x 23 26 11.7
OG25 Le Caire 90.61 314 *e*P **P** **23 25 59.8 +0.5**
THEF They Montfort 90.62 318 *e*P **P** **23 25 59.3 +0.1**
ORIF Oris-en-Rattie 90.74 315‖ *i*P **P** **23 26 00.1 +0.2**
comp=Z,60nm,0.9s,mb5.6
ORIF Oris-en-Rattie 90.74 315‖ *i*P **P** **23 26 00.1 +0.2**
ORIF pmax pmax
comp=Z,30nm,0.9s,mb5.6
GRN Grenoble 90.83 315 *e*P **P** **23 26 01.3 +1.0**
CMER Merouana 90.87 305 P **P** **23 26 03.0 +2.3**
DFRA Djebel Bou Aff 90.88 306 P **P** **23 26 03.0 +2.3**
CKHR Kef el Ahmar 91.18 306 P **P** **23 26 05.0 +2.9**
MEZF Maizieres J'vi 91.23 318‖ *i*P **P** **23 26 02.4 +0.3**
comp=Z,188nm,1.3s,mb6.0
SET Setif 91.27 306 P **P** **23 26 04.0 +1.5**
GIVF Givet 91.33 320‖ *i*P **P** **23 26 02.8 +0.3**
comp=Z,123nm,1.2s,mb5.8
GIVF Givet 91.33 320‖ *i*P **P** **23 26 02.8 +0.3**
GIVF pmax pmax
comp=Z,61nm,1.2s,mb5.8
VIVF Saint-Julien-l 91.60 315‖ *i*P **P** **23 26 04.1 +0.2**
comp=Z,105nm,1.3s,mb5.7
VIVF Saint-Julien-l 91.60 315‖ *i*P **P** **23 26 04.1 +0.2**
VIVF pmax pmax
comp=Z,52nm,1.3s,mb5.7
BAIF Baives 91.73 320‖ *i*P **P** **23 26 04.9 +0.6**
comp=Z,236nm,1.2s,mb6.1
BAIF Baives 91.73 320‖ *i*P **P** **23 26 04.9 +0.6**
BAIF pmax pmax
comp=Z,118nm,1.2s,mb6.1
TNA Tin City 91.95 24 *e*P **P** **23 26 04.9 0.0**
comp=Z,6.2nm,0.8s,mb5.0
TNA *ep*P pP 23 26 15.7 -1.0
SMF Signal de Mont 92.12 317‖ *i*P **P** **23 26 06.3 +0.1**
comp=Z,185nm,1.2s,mb6.0
SMF Signal de Mont 92.12 317‖ *i*P **P** **23 26 06.3 +0.1**
SMF pmax pmax
comp=Z,92nm,1.2s,mb6.0
LASF Ste Croix 92.22 314‖ *i*P **P** **23 26 07.1 +0.4**
comp=Z,118nm,1.4s,mb5.7
COLF Collangettes 92.27 315 *e*P **P** **23 26 07.3 +0.4**
PLDF La Plantade 92.30 316 *e*P **P** **23 26 08.6 +1.6**
SSF Saint Saulge 92.33 317‖ *i*P **P** **23 26 07.4 +0.3**
SSF pmax pmax
comp=Z,63nm,1.3s,mb5.8
SSF Saint Saulge 92.33 317‖ *i*P **P** **23 26 07.4 +0.3**
comp=Z,62nm,1.3s,mb5.8
AVF Avril sur Loir 92.45 317‖ *i*P **P** **23 26 07.7 0.0**
comp=Z,103nm,1.1s,mb5.8
AVF Avril sur Loir 92.45 317‖ *i*P **P** **23 26 07.7 0.0**
AVF pmax pmax
comp=Z,51nm,1.1s,mb5.8
LBL Lubilhac 92.60 315 *e*P **P** **23 26 10.2 +1.8**
BGF Bois d'Agland 92.81 316‖ *i*P **P** **23 26 09.9 +0.5**
comp=Z,230nm,1.4s,mb6.1
BGF Bois d'Agland 92.81 316‖ *i*P **P** **23 26 09.9 +0.5**
BGF pmax pmax
comp=Z,115nm,1.4s,mb6.1
HYF Humbligny 92.91 317 *e*P **P** **23 26 10.5 +0.7**
MENF Mencas 93.02 320 *e*P **P** **23 26 10.3 +0.1**
LRDF Laroque-de-Fa 93.23 313 *e*P **P** **23 26 12.1 +0.7**
FILF Fillols 93.23 312 *e*P **P** **23 26 12.7 +1.3**
TCF Toulx Ste Croi 93.26 316‖ *i*P **P** **23 26 11.8 +0.4**
comp=Z,61nm,1.4s,mb5.5
TCF Toulx Ste Croi 93.26 316‖ *i*P **P** **23 26 11.8 +0.4**
TCF pmax pmax
comp=Z,30nm,1.4s,mb5.5
MTLF Montolieu 93.44 313‖ *i*P **P** **23 26 12.7 +0.4**
comp=Z,137nm,1.5s,mb5.9
MTLF Montolieu 93.44 313‖ *i*P **P** **23 26 12.7 +0.4**
MTLF pmax pmax
comp=Z,68nm,1.5s,mb5.9
CAF Calviac 93.45 315‖ *i*P **P** **23 26 12.9 +0.6**
comp=Z,93nm,1.4s,mb5.7
CAF Calviac 93.45 315‖ *i*P **P** **23 26 12.9 +0.6**
CAF pmax pmax
comp=Z,46nm,1.4s,mb5.7
UNV Unalaska Valle 93.68 36 PFAKE 23 26 20.0 +6.9
UNV LR LR
comp=Z,4μm,20.0s,MS5.8
RJF Les Rejaudoux 93.81 315‖ *i*P **P** **23 26 14.6 +0.7**
comp=Z,89nm,1.4s,mb5.7
RJF Les Rejaudoux 93.81 315‖ *i*P **P** **23 26 14.6 +0.7**
RJF pmax pmax
comp=Z,45nm,1.4s,mb5.7
LFF La Frestale 94.39 315‖ *i*P **P** **23 26 17.3 +0.7**
comp=Z,65nm,1.2s,mb5.6
LFF La Frestale 94.39 315‖ *i*P **P** **23 26 17.3 +0.7**
LFF pmax pmax
comp=Z,33nm,1.2s,mb5.6
LDF La Druitiere 94.66 319‖ *i*P **P** **23 26 17.9 +0.2**
EPF Esparros 94.83 313‖ *i*P **P** **23 26 18.4 -0.2**
comp=Z,5.9nm,0.8s,mb4.8
EPF Esparros 94.83 313‖ *i*P **P** **23 26 18.4 -0.2**
EPF pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
MFF Saint Martin d 94.86 317‖ *i*P **P** **23 26 18.9 +0.2**
comp=Z,24nm,0.9s,mb5.3
MFF Saint Martin d 94.86 317‖ *i*P **P** **23 26 18.9 +0.2**
MFF pmax pmax
comp=Z,12nm,0.9s,mb5.3
FLN La Foliniere 94.88 319‖ *i*P **P** **23 26 18.9 +0.2**
comp=Z,28nm,0.7s,mb5.5
FLN La Foliniere 94.88 319‖ *i*P **P** **23 26 18.9 +0.2**
FLN pmax pmax
comp=Z,14nm,0.7s,mb5.5
EBR Ebro Roquetas 94.89 311 *e*P **P** **23 26 20.0 +1.0**
HPK Haverah Park 95.01 324 *e*P **P** **23 26 20.0 +0.8**
HPK AMb AMB 23 26 23.8
comp=Z,226nm,1.7s,mb6.3
KBI1 Birley Grange 95.04 323 *e*P **P** **23 26 19.6 +0.2**
KBI1 AMb AMB 23 26 20.8
comp=Z,74nm,1.5s,mb5.9
GRR Gorron 95.17 318 *e*P **P** **23 26 20.1 +0.1**
LHO Holmfirth 95.19 324 *e*P **P** **23 26 20.7 +0.7**
LHO AMb AMB 23 26 21.6
comp=Z,54nm,1.7s,mb5.7
KWE Weaver Farm 95.25 323 *e*P **P** **23 26 20.7 +0.4**
KWE AMb AMB 23 26 21.6
comp=Z,23nm,1.5s,mb5.4
ETSF Etsaut 95.50 313‖ *i*P **P** **23 26 22.2 +0.5**
comp=Z,15nm,0.8s,mb5.2
ETSF Etsaut 95.50 313‖ *i*P **P** **23 26 22.2 +0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb5.2
DAG Danmarks Havn 95.59 348⇑ *i*P **P** **23 26 21.1 -0.3**
DAG *i* pP 23 26 33.2 +0.1
DAG pmax pmax
comp=Z,13nm,0.9s,mb5.4
DAG Danmarks Havn 95.59 348⇑ *i*P **P** **23 26 21.1 -0.3**
comp=Z,13nm,0.9s,mb5.3
DAG *i* pP 23 26 33.2 +0.1
ESK Eskdalemuir 95.73 326 PFAKE 23 26 30.0 +7.6
ESK LR LR
comp=Z,207nm,19.0s,MS4.6
SJPF Ste Jean 95.97 313‖ *i*P **P** **23 26 24.5 +0.7**
comp=Z,31nm,1.1s,mb5.3
SJPF Ste Jean 95.97 313‖ *i*P **P** **23 26 24.5 +0.7**
SJPF pmax pmax
comp=Z,16nm,1.1s,mb5.4
IMA Indian Mountai 97.59 23 P **P** **23 26 31.9 +1.2**
IMA pmax pmax
comp=Z,85nm,1.0s,mb6.2
IMA Indian Mountai 97.59 23 *e*P **P** **23 26 32.0 +1.3**
ESDC Sonseca Array 98.40 310 P **P** **23 26 34.0 -0.9**
comp=Z,0.7nm,0.6s,baz=64,slow=4.0,SNR=8.1
ESDC PP PP 23 30 33.7 -4.3
comp=Z,1.4nm,0.8s,baz=71,slow=6.8,SNR=4.5
ESLA Sonseca Array 98.40 310 PFAKE 23 26 50.0 +15
ESLA LR LR
comp=Z,4μm,19.0s,MS5.9
MCK McKinley 100.29 24 *e*P P 23 26 42.3 -0.6
MCK pmax pmax
comp=Z,4.0nm,1.1s
MCK MLR MLR
comp=Z,537nm,19.0s,MS5.1
MCK McKinley 100.29 24 *e*Pdif P 23 26 42.3 -0.7
comp=Z,3.9nm,1.1s
MCK *e* 23 26 53.0
MCK LR LR
comp=Z,537nm,19.0s,MS5.1
COLA College 100.29 23 PFAKE 23 26 50.0 +7.1
COLA LR LR
comp=Z,731nm,19.0s,MS5.2
FIB Fire Island 100.67 27 PFAKE 23 27 00.0 +15
FIB LR LR
comp=Z,2μm,21.0s,MS5.6
BORG Borgarnes 101.64 337 PFAKE 23 27 00.0 +11
BORG LR LR
comp=Z,192nm,20.0s,MS4.6
DBIC Dimbokro 101.83 277 P P 23 26 51.6 +0.6
DBIC MLR MLR
comp=Z,676nm,22.0s
DBIC Dimbokro 101.83 277 P P 23 26 51.6 +0.6
comp=Z,7.4nm,1.0s,baz=114,slow=5.1,SNR=6.3
SUMG Summit 102.27 348 Pdif Pdif 23 26 51.8 +0.2
comp=Z,40nm,1.9s
RAR Rarotonga 102.31 112 PFAKE 23 27 00.0 +7.0
RAR LR LR
comp=Z,3μm,19.0s,MS5.8
DIV Divide 102.67 26 PFAKE 23 27 10.0 +16
DIV LR LR
comp=Z,2μm,22.0s,MS5.7
INK Inuvik 103.51 17 Pdiff Pdif 23 26 56.9 -0.3
comp=Z,2.5nm,0.9s,baz=237,slow=2.9,SNR=6.4
INK PP PP 23 31 16.4 +0.4
comp=Z,1.5nm,0.5s,baz=352,slow=4.7,SNR=13
INK PKKPbc 23 42 49.6
comp=Z,1.1nm,0.9s,baz=128,slow=1.7,SNR=3.6
INK Inuvik 103.51 17 Pdif Pdif 23 26 56.9 -0.3
INK PP PP 23 31 16.4 +0.4
INK PKKPbc 23 42 49.6
SFJ Sondre 109.26 347 PFAKE 23 31 40.0
SFJ LR LR
comp=Z,1μm,21.0s,MS5.4
DLBC Dease Lake 110.85 24 PKiKP 23 31 28.4
comp=Z,2.6nm,0.8s,baz=281,slow=4.2,SNR=4.5
DLBC PKKPbc 23 42 24.7
comp=Z,1.1nm,0.6s,baz=325,slow=26,SNR=3.8
DLBC Dease Lake 110.85 24 PKPdf PKPdf 23 31 28.4 +0.3
DLBC PKKPbc 23 42 24.7
YKA Yellowknife Ar 113.13 15 Pdiff Pdif 23 27 42.6 +3.0
comp=Z,0.1nm,0.3s,baz=317,slow=4.4,SNR=3.8
YKA PKiKP 23 31 32.2
comp=Z,1.8nm,0.8s,baz=326,slow=2.1,SNR=18
YKA PP PP 23 32 18.1 -9.4
comp=Z,0.8nm,0.7s,baz=328,slow=7.3,SNR=3.9
YKA PKKPbc 23 42 19.1
comp=Z,2.0nm,0.9s,baz=142,slow=3.5,SNR=30
YKA Yellowknife Ar 113.13 15 Pdif Pdif 23 27 42.6 +3.0
YKA PKPdf PKPdf 23 31 32.2 -0.2
YKA PP PP 23 32 18.1 -9.4
YKA PKKPbc 23 42 19.1
PMSA Palmer Station 114.07 189 PFAKE 23 31 50.0 +16
PMSA LR LR
comp=Z,2μm,22.0s,MS5.7
FRB Frobisher Bay 115.37 353 PKP PKPdf 23 31 36.4 -0.6
comp=Z,3.3nm,0.6s,baz=44,slow=3.0,SNR=15
FRB PP PP 23 32 38.8 -4.4
comp=Z,5.7nm,0.9s,baz=8,slow=5.8,SNR=5.0
FCC Fort Churchill 120.61 7 *e*PKiKP PKPdf 23 31 47.4 +0.3
EDM Edmonton 121.10 21 *e*PKiKP PKPdf 23 31 49.6 +1.4
EDM *e* 23 32 00.9
COR Corvallis 122.86 33 PFAKE 23 32 00.0 +8.1
COR LR LR
comp=Z,296nm,19.0s,MS5.0
FFC Flin Flon 123.11 13 PFAKE 23 32 00.0 +7.9
FFC LR LR
comp=Z,247nm,22.0s,MS4.8
NEW Newport 123.42 27 *e*PKiKP PKPdf 23 31 54.1 +1.2
NEW *e* 23 32 05.5
NEW MLR MLR
comp=Z,796nm,20.0s
NEW Newport 123.42 27 PKP PKPdf 23 31 54.0 +1.1
comp=Z,11nm,0.8s,baz=21,slow=0.8,SNR=15
HAWA Hanford 123.63 30 *e*PKP PKPdf 23 31 54.7 +1.4
HAWA *ep*PKP 23 32 06.6
SCHQ Schefferville 123.63 349 PKP PKPdf 23 31 53.8 +0.7
comp=Z,4.2nm,0.5s,baz=20,slow=1.1,SNR=36
SCHQ PP PP 23 33 30.4 -10
comp=Z,2.6nm,0.9s,baz=61,slow=15,SNR=2.4
SCHQ Schefferville 123.63 349 *e*PKPdf PKPdf 23 31 54.3 +1.2
SCHQ *e* 23 32 04.9
WALA Waterton Lakes 124.19 24 *e*PKP PKPdf 23 31 55.2 +0.9
HUMO Hull Mountain 124.30 35 *e*PKP PKPdf 23 31 56.9 +2.2
HUMO LR LR
comp=Z,926nm,20.0s,MS5.4
KHMM Horse Mountain 124.91 37 *e*PKP PKPdf 23 31 58.1 +2.1
YBH Yreka Blue Hor 124.99 36 PKiKP PKPdf 23 31 57.6 +1.5
YBH MLR MLR
comp=Z,852nm,20.0s
YBH Yreka Blue Hor 124.99 36 PKP PKPdf 23 31 57.6 +1.5
comp=Z,4.9nm,1.0s,baz=83,slow=5.6,SNR=5.4
WDC Whiskeytown Da 125.81 37 *e*PKiKP PKPdf 23 31 58.9 +1.2
WDC MLR MLR
comp=Z,423nm,19.0s,MS5.1
BMO Blue Mountains 125.82 30 PFAKE 23 32 10.0 +12
BMO LR LR
comp=Z,647nm,21.0s,MS5.3
MSO Missoula 125.92 26 *e*PKP PKPdf 23 31 58.3 +0.6
MSO *ep*PKP 23 32 09.9
MSO LR LR
comp=Z,726nm,22.0s,MS5.3
CHMT Chamberlain Mo 126.15 25 *e*PKP PKPdf 23 31 58.9 +0.7
MOD Modoc 126.27 34 *e*PKP PKPdf 23 32 00.2 +1.7
MOD LR LR
comp=Z,712nm,21.0s,MS5.3
HOPS Hopland 126.45 39 PFAKE 23 32 10.0 +11
HOPS LR LR
comp=Z,1μm,22.0s,MS5.5
WVOR Wild Horse Val 126.83 33 *e*PKiKP PKPdf 23 32 00.9 +1.3
WVOR MLR MLR
comp=Z,375nm,22.0s,MS5.0
BOZ Bozeman (W) 127.84 25 *e*PKiKP PKPdf 23 32 02.5 +1.0
BOZ *e* 23 32 14.2
BOZ MLR MLR
comp=Z,735nm,22.0s,MS5.3
HLID Hailey 128.18 29 *e*PKP PKPdf 23 32 03.4 +1.3
HLID LR LR
comp=Z,577nm,19.0s,MS5.3
WCN Washoe City 128.28 36 *e*PKiKP PKPdf 23 32 04.1 +1.6
WCN *e* 23 32 16.5

QLMT Earthquake Lak 128.57 26 *e*PKP PKPdf 23 32 05.6 +2.8
QLMT *ep*PKP 23 32 17.3
ULM Lac du Bonnet 128.59 11 PKP PKPdf 23 32 03.5 +0.8
comp=Z,10nm,0.6s,baz=335,slow=2.8,SNR=26
ULM pPKP 23 32 14.9
comp=Z,11nm,0.6s,baz=344,slow=3.3,SNR=9.0
ULM Lac du Bonnet 128.59 11 *e*PKP PKPdf 23 32 02.9 +0.1
ULM *ep*PKP 23 32 14.4
CMB Columbia Colle 128.70 38 *e*PKIKP PKPdf 23 32 04.7 +1.4
CMB MLR MLR
comp=Z,662nm,20.0s,MS5.3
SAO San Andreas Ge 128.81 40 PFAKE 23 32 20.0 +16
SAO LR LR
comp=Z,717nm,20.0s,MS5.4
YMR Madison River 128.90 26 *e*PKP PKPdf 23 32 06.2 +2.7
YMR *ep*PKP 23 32 17.7
YNR Norris Junctio 128.99 25 *e*PKP PKPdf 23 32 06.5 +2.8
LAO LASA Array 129.08 21 *e*PKP PKPdf 23 32 06.0 +2.2
LAO *ep*PKP 23 32 17.0
LAO LR LR
comp=Z,1μm,19.0s,MS5.6
YFT Old Faithful 129.13 26 *e*PKPdf PKPdf 23 32 07.3 +3.4
YFT *e* 23 32 20.1
LKWY Lake 129.23 25 PFAKE 23 32 20.0 +16
LKWY LR LR
comp=Z,2μm,21.0s,MS5.7
IMW Indian Meadow 129.53 26 *e*PKPdf PKPdf 23 32 07.6 +2.9
MOOW Moose Ponds 129.73 26 *e*PKP PKPdf 23 32 06.7 +1.6
MNV Mina 129.79 36 *e*PKIKP PKPdf 23 32 07.5 +2.1
MNV *e* 23 32 19.8
MNV MLR MLR
comp=Z,501nm,22.0s,MS5.2
RRI2 Red Ridge 129.79 27 *e*PKPdf PKPdf 23 32 08.1 +2.8
OMM Old Mammoth Mi 129.82 37 *e*PKPdf PKPdf 23 32 08.1 +2.7
OMM *ep*PKPdf 23 32 18.4
TPAW Teton Pass 129.84 26 *e*PKPdf PKPdf 23 32 07.2 +1.8
SNOW Snow King Moun 129.95 26 *e*PKPdf PKPdf 23 32 07.8 +2.3
SNOW *e* 23 32 20.4
HVU Hansel Valley 130.32 29 *e*PKIKP PKPdf 23 32 08.1 +1.8
AHID Auburn Hatcher 130.35 27 *e*PKP PKPdf 23 32 06.6 +0.3
AHID LR LR
comp=Z,942nm,20.0s,MS5.5
TPH Tonopah 130.57 36 *e*PKIKP PKPdf 23 32 09.4 +2.5
TPH MLR MLR
comp=Z,455nm,20.0s,MS5.2
BGU Big Grassy Mou 130.83 30 *e*PKPdf PKPdf 23 32 09.3 +2.0
HWUT Hardware Ranch 131.03 28 *e*PKPdf PKPdf 23 32 08.9 +1.2
BW06 Boulder Array 131.04 26 PFAKE 23 32 20.0 +12
BW06 LR LR
comp=Z,510nm,19.0s,MS5.2
PDAR Pinedale Array 131.04 26 PKP PKPdf 23 32 08.0 +0.4
comp=Z,2.6nm,0.5s,baz=315,slow=2.1,SNR=9.1
PDAR pPKP 23 32 20.5
comp=Z,5.7nm,0.7s,baz=72,slow=3.5,SNR=13
PDAR PP PP 23 34 31.4 +2.0
comp=Z,1.1nm,0.9s,baz=225,slow=1.3,SNR=3.5
TRCR Troy Canyon 131.33 34 *e*PKP PKPdf 23 32 10.5 +2.2
TCUT Toone Canyon 131.49 29 *e*PKP PKPdf 23 32 10.2 +1.7
TCUT *ep*PKP 23 32 22.2
DUG Dugway 131.49 31 *e*PKIKP PKPdf 23 32 10.7 +2.1
DUG MLR MLR
comp=Z,526nm,21.0s,MS5.2
EYMN Ely 131.52 8 *e*PKPdf PKPdf 23 32 09.2 +0.8
EYMN LR LR
comp=Z,1μm,21.0s,MS5.6
DAC Darwin (Calif) 131.54 38 PFAKE 23 32 20.0 +11
DAC LR LR
comp=Z,850nm,20.0s,MS5.5
PQI Presque Isle 131.57 346 PFAKE 23 32 20.0 +11
PQI LR LR
comp=Z,5μm,22.0s,MS6.2
JLU Jordanelle 131.86 29 *e*PKP PKPdf 23 32 10.3 +1.0
NLU North Lily Min 132.04 30 *e*PKP PKPdf 23 32 11.0 +1.4
RSSD Black Hills 132.08 20 *e*PKIKP PKPdf 23 32 10.5 +0.9
RSSD MLR MLR
comp=Z,237nm,20.0s,MS4.9
DAU Daniels Canyon 132.10 29 *e*PKIKP PKPdf 23 32 11.2 +1.5
RCBR Riachuelo 132.72 262 PFAKE 23 32 20.0 +8.4
RCBR LR LR
comp=Z,1μm,21.0s,MS5.5
ARUT Antelope Range 132.92 33 *e*PKIKP PKPdf 23 32 13.1 +1.7
MVU Marysvale 133.06 32 *e*PKP PKPdf 23 32 13.7 +2.1
MVU LR LR
comp=Z,302nm,21.0s,MS5.0
MSU Marysvale 133.07 32 *e*PKIKP PKPdf 23 32 13.6 +2.0
EMMW East Machias 133.27 345 PFAKE 23 32 20.0 +8.2
EMMW LR LR
comp=Z,5μm,21.0s,MS6.2
SRU San Rafael 133.46 30 *e*PKIKP PKPdf 23 32 14.2 +1.9
WVL Waterville 133.94 347 PFAKE 23 32 30.0 +17
WVL LR LR
comp=Z,3μm,20.0s,MS6.0
PFO Pinyon Flat Ob 133.97 40 PFAKE 23 32 30.0 +17
PFO LR LR
comp=Z,78nm,20.0s,MS4.4
PV10 Paradox Valley 134.76 29 *e*PKP PKPdf 23 32 16.0 +1.2
SADO Sadowa 135.15 356 PKP PKPdf 23 32 15.8 +0.5
comp=Z,6.8nm,0.5s,baz=31,slow=2.8,SNR=12
SADO pPKP 23 32 27.1
comp=Z,9.8nm,0.7s,baz=328,slow=3.5,SNR=5.7
SADO PP PP 23 34 53.2 -1.7
comp=Z,4.0nm,0.9s,baz=353,slow=16,SNR=2.9
NCB Newcomb 135.39 351 PFAKE 23 32 30.0 +14
NCB LR LR
comp=Z,991nm,20.0s,MS5.5
CS6B Jaguaretama 135.50 262 *e*P PKPdf 23 32 18.6 +1.9
RW3 Ridgway 135.51 28 *e*PKP PKPdf 23 32 17.8 +1.7
HRV Harvard--Oak R 136.32 348 PFAKE 23 32 30.0 +13
HRV LR LR
comp=Z,908nm,22.0s,MS5.5
WES Weston 136.39 348 PFAKE 23 32 30.0 +12
WES LR LR
comp=Z,574nm,21.0s,MS5.3
JFWS Jewell Farm 136.63 8 PFAKE 23 32 30.0 +12
JFWS LR LR
comp=Z,873nm,20.0s,MS5.5
SDCO Great Sand Dun 136.92 26 PFAKE 23 32 30.0 +11
SDCO LR LR
comp=Z,1μm,22.0s,MS5.5
TRQA Tornquist 137.63 205 *e*PKPdf PKPdf 23 32 20.2 +0.1
TRQA LR LR
comp=Z,815nm,22.0s,MS5.4
AAM Ann Arbor 137.74 1 PFAKE 23 32 30.0 +10
AAM LR LR
comp=Z,1μm,20.0s,MS5.7
ERPA Erie 137.84 357 PFAKE 23 32 30.0 +10
ERPA LR LR
comp=Z,1μm,20.0s,MS5.6
PLCA Paso Flores 138.07 194 PKhKP 23 32 11.7
comp=Z,1.7nm,0.5s,baz=209,slow=4.5,SNR=5.1
CBKS Cedar Bluff 138.27 20 PFAKE 23 32 30.0 +8.8
CBKS LR LR
comp=Z,1μm,20.0s,MS5.6
TUC Tucson 138.36 37 PFAKE 23 32 30.0 +8.5
TUC LR LR
comp=Z,394nm,20.0s,MS5.2
ANMO Albuquerque 138.74 30 PKHKP 23 32 16.1
ANMO *e* 23 32 23.1
ANMO Albuquerque 138.74 30 PKhKP 23 32 16.1
comp=Z,1.2nm,0.4s,baz=232,slow=1.1,SNR=3.6
ANMO PKP PKPdf 23 32 24.4 +2.2
comp=Z,7.7nm,0.9s,baz=266,slow=2.4,SNR=14
ANMO pPKP 23 32 36.7
comp=Z,9.3nm,1.0s,baz=302,slow=2.3,SNR=5.7
ANMO PP PP 23 35 17.9 +0.2
comp=Z,0.5nm,0.3s,baz=270,slow=10,SNR=2.4
KSU1 Kansas State U 138.97 16 *e*PKPdf PKPdf 23 32 23.5 +1.1
LPM Los Pinos Moun 139.15 31 *e*PKPdf PKPdf 23 32 25.1 +2.2
LPM *ep*PKPdf 23 32 36.3
MVL Millersville 139.59 352 *e*PKPdf PKPdf 23 32 24.1 +0.6
ACSO Alum Creek Sta 139.81 0 PFAKE 23 32 40.0 +16
ACSO LR LR
comp=Z,1μm,20.0s,MS5.6
MCWV Mont Chateau 140.28 356 PFAKE 23 32 40.0 +15
MCWV LR LR
comp=Z,2μm,20.0s,MS5.8
AMTX Amarillo 140.99 25 *e*PKP PKPdf 23 32 21.1 -5.1
AMTX LR LR
comp=Z,2μm,20.0s,MS5.8
CCM Cathedral Cave 141.22 11 PKP PKPdf 23 32 21.2 -5.3
CCM LR LR
comp=Z,228nm,19.0s,MS5.0
CBN Corbin 141.49 353 PFAKE 23 32 40.0 +13
CBN LR LR
comp=Z,1μm,21.0s,MS5.6
WCI Wyandotte Cave 141.69 4 *e*PKP PKPdf 23 32 22.1 -5.2
WCI LR LR
comp=Z,265nm,22.0s,MS5.0
MNTX Cornudas Mount 141.85 32 *e*PKPpre 23 32 24.1
MNTX *e*PKPdf PKPdf 23 32 28.8 +0.9
MNTX LR LR
comp=Z,1μm,21.0s,MS5.6
GDL2 Guadalupe Moun 141.98 30 *e*PKP PKPdf 23 32 24.4 -3.6
CLNB Carlsbad 142.17 30 *e*PKP PKPdf 23 32 24.8 -3.5
BAO Brasilia Array 142.24 244 P PKPdf 23 32 25.0 -3.8
BDFB Brasilia 142.25 244 PKhKP 23 32 24.9
comp=Z,6.4nm,0.7s,baz=185,slow=4.1,SNR=13
WMOK Wichita Mounta 142.26 22 *e*PKHKP 23 32 24.5
WMOK *e* 23 32 30.4
WMOK MLR MLR
comp=Z,1μm,22.0s,MS5.5
FWV Forest Hill 142.41 357 *e*PKPdf PKPdf 23 32 30.4 +1.9
BLA Blacksburg 142.75 357 PFAKE 23 32 40.0 +11
BLA LR LR
comp=Z,1μm,20.0s,MS5.7
RPN Rapa Nui 143.07 139 PFAKE 23 32 40.0 +12
RPN LR LR
comp=Z,395nm,22.0s,MS5.1
BBSR BB Station 143.36 334 PFAKE 23 32 40.0 +11
BBSR LR LR
comp=Z,908nm,21.0s,MS5.5
TZTN Tazewell 143.49 1 *e*PKP PKPdf 23 32 27.9 -2.6
WVT Waverly 143.62 7 *e*PKIKP PKPdf 23 32 28.4 -2.3
WVT MLR MLR
comp=Z,875nm,20.0s,MS5.5
MIAR Mount Ida 144.08 15 *e*PKIKP PKPdf 23 32 30.5 -1.0
MIAR MLR MLR
comp=Z,996nm,22.0s,MS5.5
LPIG La Paz 144.14 46 *i* P PKPbc 23 32 32.8 +1.6
UALR University of 144.16 13 *e*PKP PKPdf 23 32 29.9 -1.7
CPCT Cooper Cave 144.55 2 *e*PKPdf PKPdf 23 32 32.3 -0.1
CPCT *e* 23 32 43.3
TXAR Lajitas Array 144.62 32 PKP PKPdf 23 32 33.2 +0.6
comp=Z,42nm,0.6s,baz=274,slow=1.7,SNR=267
TXAR pPKP 23 32 45.2
comp=Z,66nm,1.0s,baz=297,slow=2.8,SNR=12
TXAR Lajitas Array 144.62 32 PKP PKPdf 23 32 33.2 +0.6
TXAR pPKP 23 32 45.2
SWET Sewanee 144.71 4 *e*PKPdf PKPdf 23 32 31.9 -0.8
PLAL Pickwick Lake 144.72 7 *e*PKP PKPdf 23 32 31.7 -1.0
PLAL LR LR
comp=Z,1μm,22.0s,MS5.6
MDZ Mendoza 144.84 201 *i* P PKPdf 23 32 34.1 +1.2
FCH Farellones 144.92 199 ⇓*i* P PKPdf 23 32 34.6 +1.6
CLCH Cerro Calan 144.94 198 ⇓*i* P PKPdf 23 32 34.2 +1.1
SCR San Cristobal 144.98 198 ⇓*i* P PKPdf 23 32 34.0 +0.8
OXF Oxford 144.99 9 *e*PKIKP PKPdf 23 32 33.6 +0.4
OXF *e* 23 32 45.1
OXF MLR MLR
comp=Z,1μm,20.0s,MS5.7
JSC Jenkinsville 145.72 358 *e*PKPdf PKPdf 23 32 35.8 +1.4
JSC *e* 23 32 47.4
NATX Nacogdoches 146.38 18 *e*PKPdf PKPdf 23 32 36.9 +1.3
NATX LR LR
comp=Z,2μm,21.0s,MS5.8
COW Cow Castle Cre 146.58 357 *e*PKPbc PKPbc 23 32 39.0 +1.7
GOGA Godfrey 146.62 1 *e*PKP2 PKPab 23 32 39.0 -1.7
GOGA MLR MLR
comp=Z,2μm,21.0s,MS5.8
GOGA Godfrey 146.62 1 *e*PKPbc PKPbc 23 32 39.0 +1.6
GOGA *e* 23 32 50.8
GOGA LR LR
comp=Z,2μm,21.0s,MS5.8
LRAL Lakeview Retre 146.77 6 *e*PKPbc PKPbc 23 32 38.8 +1.1
LRAL LR LR
comp=Z,1μm,21.0s,MS5.6
TWB Tillmans-White 146.81 356 *e*PKPdf PKPdf 23 32 37.3 +1.0
NHSC New Hope 146.82 356 PFAKE 23 32 50.0 +14
NHSC LR LR
comp=Z,2μm,22.0s,MS5.8
RGRS Roger Stewart 147.02 356 *e*PKPbc PKPdf 23 32 40.2 +3.5
TLL Tololo Astrono 147.99 200 *i* P PKPdf 23 32 43.4 +5.1
DWPF Disney 151.87 357 PFAKE 23 33 00.0 +16
DWPF LR LR
comp=Z,349nm,19.0s,MS5.2
LVC Limon Verde 153.83 210 *e*PKPdf PKPdf 23 32 50.6 +3.3
LVC *e*PKPbc PKPdf 23 32 58.1 +11
LVC LR LR
comp=Z,1μm,20.0s,MS5.8
LPAZ La Paz 158.32 222 *e*PKIKP PKPdf 23 32 55.6 +2.3
LPAZ MLR MLR
comp=Z,1μm,20.0s
LPAZ La Paz 158.32 222 PKP PKPdf 23 32 55.3 +2.0
comp=Z,6.9nm,0.9s,baz=62,slow=2.0,SNR=24
LPAZ pPKP 23 33 07.0
comp=Z,9.7nm,1.0s,baz=121,slow=2.9,SNR=11
LPAZ PP PP 23 37 08.0 -3.4
comp=Z,0.8nm,0.7s,baz=143,slow=4.0,SNR=3.5
TEIG Tepich 159.09 14 PFAKE 23 33 10.0 +16
TEIG LR LR
comp=Z,527nm,22.0s,MS5.3
SDV Santo Domingo 164.82 307 PKP PKPdf 23 33 01.4 +1.2
comp=Z,3.1nm,0.9s,baz=122,slow=6.9,SNR=4.3
SDV pPKP 23 33 12.9
comp=Z,6.9nm,1.0s,baz=280,slow=5.9,SNR=4.1
SDV PKPab PKPab 23 33 57.0 -1.3
comp=Z,6.9nm,0.9s,baz=108,slow=1.7,SNR=5.1
SDV PP PP 23 37 46.6 +0.6
comp=Z,2.2nm,0.5s,baz=74,slow=9.0,SNR=3.5
SDV Santo Domingo 164.82 307 PKP PKPdf 23 33 01.4 +1.2
SDV pPKP 23 33 12.9
SDV PKPab PKPab 23 33 57.0 -1.3
SDV PP PP 23 37 46.6 +0.6
SDV LR LR
comp=Z,1μm,21.0s
JTS JuntasAbangare 169.44 11 PFAKE 23 33 20.0 +17
JTS LR LR
comp=Z,194nm,20.0s
ROSC El Rosal 170.08 300 PKP PKPdf 23 33 05.6 +1.8
comp=Z,8.0nm,0.5s,baz=108,slow=23,SNR=15
ROSC pPKP 23 33 17.5
comp=Z,24nm,1.1s,baz=51,slow=4.0,SNR=3.3
OTAV Otavalo 175.51 275 *e*PKP PKPdf 23 33 07.8 +1.6
OTAV LR LR
comp=Z,766nm,19.0s

IDC ***28*** *23:20:26.8≈0.8, 0.80N×97.26E, mb4.5/15, mb1 4.6/15, mb1mx4.5/19, mbtmp4.5/15, Error ellipse: s-maj=37.5km s-min=14.3km az=46.0*
BJI ***28*** *23:20:27.5, 0.36N×97.54E, h39km, mb4.9*
NEIC ***28*** *23:20:31.6≈0.4, 0.86N×97.36E, h30km, mb4.7/5, Error ellipse: s-maj=12.1km s-min=6.5km az=50.0*
ISC 28 23:20:30.0±0.5, 0.86N±0.08×97.40E±0.09, h30km, n34, σ0°93/34, mb4.5/24, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**5.46**	**36**	*e*P		**Pn**	**23 21 51.4**	**-0.2**
KKM	**Kota Kinabalu**	**19.47**	**74**	*e*P		**P**	**23 24 56.8**	**-0.7**
KMI	**Kunming**	**24.66**	**12**	P		**P**	**23 25 51.5**	**+1.8**
KMI				AMB	AMB			
comp=Z,20nm,1.1s,mb4.6								
LSA	**Lhasa**		**29.29**	**349**	*e*P		**P**	**23 26 32.3**	**+0.2**
comp=Z,10.0nm,0.6s,mb4.7								
ENH	**Enshi**	**31.42**	**20**	*e*P		**P**	**23 26 49.3**	**-1.7**
FITZ	**Fitzroy Crossi**	**33.57**	**126**	P		**P**	**23 27 09.3**	**-0.6**
comp=Z,12nm,0.9s,mb4.8,baz=342,slow=5.2,SNR=2.3								
GTA	**Gaotai**	**38.43**	**3**	*e*P		**P**	**23 27 51.3**	**+0.5**
GTA				AP	pP		23 28 00.5	+0.7
GTA				XP	sP		23 28 03.5	-0.1
GTA				AMB	AMB			
comp=Z,13nm,0.9s,mb4.7								
JOW	**Kunigami**	**39.33**	**46**	P		**P**	**23 27 59.0**	**+0.5**
comp=Z,26nm,1.0s,mb4.9,baz=278,slow=9.1,SNR=5.0								
WRA	**Warramunga Arr**	**41.69**	**122**	P		**P**	**23 28 17.9**	**-0.2**
comp=Z,4.3nm,0.7s,mb4.2,baz=304,slow=9.2,SNR=11								
WRAB	**Tennant Creek**	**41.69**	**122**	*e*P		**P**	**23 28 17.0**	**-1.1**
comp=Z,5.3nm,0.6s,mb4.3								
WB2	**Warramunga Arr**	**41.70**	**122**	*e*P		**P**	**23 28 18.5**	**+0.4**
BJT	**Baijiatuau**	**42.55**	**21**	*e*P		**P**	**23 28 25.6**	**+0.7**
BJI	**Beijing**	**42.58**	**21**	P		**P**	**23 28 26.3**	**+1.2**
BJI				AMB	AMB			
comp=Z,32nm,0.7s,mb5.2								
ASPA	**Alice Springs**	**43.03**	**127**	*e*P		**P**	**23 28 29.9**	**+0.9**
ASAR	**Alice Springs**	**43.03**	**127**	P		**P**	**23 28 29.5**	**+0.5**
comp=Z,1.0nm,0.3s,mb4.0,baz=300,slow=8.0,SNR=7.8								
AAK	**Ala-Archa**	**46.38**	**337**	*e*P		**P**	**23 28 55.1**	**-0.5**
SNY	**Shenyang**	**47.11**	**27**	⇓P		**P**	**23 29 01.5**	**+0.1**
SNY				AMB	AMB			
comp=Z,10.0nm,1.0s,mb4.7								
SONM	**Songino Array**	**47.43**	**8**	P		**P**	**23 29 04.0**	**+0.2**
comp=Z,3.8nm,0.6s,mb4.5,baz=191,slow=9.9,SNR=18								
SONM				PcP	PcP		23 30 33.9	-0.4
comp=Z,2.2nm,0.9s,baz=184,slow=4.1,SNR=3.9								
ULN	**Ulaanbaatar**	**47.56**	**9**	*e*P		**P**	**23 29 04.8**	**0.0**
MKAR	**Makanchi Array**	**47.61**	**346**	P		**P**	**23 29 05.7**	**+0.4**
comp=Z,12nm,0.5s,mb5.2,baz=160,slow=8.6,SNR=58								
PMG	**Port Moresby**	**50.59**	**103**	P		**P**	**23 29 27.8**	**-0.8**
comp=Z,8.7nm,0.6s,mb4.9,baz=188,slow=7.2,SNR=3.6								
KURK	**Kurchatov**	**52.17**	**345**	*e*P		**P**	**23 29 37.8**	**-2.3**
comp=Z,11nm,1.0s,mb4.7								
STKA	**Stephens Creek**	**52.98**	**132**	P		**P**	**23 29 47.0**	**+0.6**
comp=Z,3.1nm,0.7s,mb4.3,baz=174,slow=23,SNR=4.0								
BVAR	**Borovoye Array**	**56.63**	**341**	P		**P**	**23 30 11.2**	**-1.5**
comp=Z,5.0nm,0.7s,mb4.7,baz=143,slow=7.4,SNR=12								
CHKZ	**Chkalovo**	**57.11**	**341**	*e*P		**P**	**23 30 15.1**	**-1.0**
comp=Z,10nm,0.9s,mb4.9								
KMBO	**Kilima Mbogo**	**60.18**	**268**	P		**P**	**23 30 45.4**	**+7.4**
comp=Z,1.7nm,0.8s,mb4.1,baz=59,slow=12,SNR=5.5								
BRTR	**Keskin Array B**	**69.48**	**312**	P		**P**	**23 31 35.6**	**-2.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=126,slow=7.5,SNR=2.9								
FINES	**FINESS Array B**	**80.39**	**333**	P		**P**	**23 32 40.4**	**+0.4**
comp=Z,1.8nm,0.6s,mb4.2,baz=108,slow=6.0,SNR=6.8								
KAF	**Kangasniemi**	**80.47**	**333**	*ep*		**P**	**23 32 40.9**	**+0.5**
ARCES	**ARCESS Array B**	**82.92**	**340**	P		**P**	**23 32 53.6**	**+0.6**
comp=Z,4.0nm,0.9s,mb4.5,baz=108,slow=7.7,SNR=3.6								
GERES	**GERESS Array B**	**85.20**	**319**	P		**P**	**23 33 05.9**	**+0.9**
comp=Z,1.7nm,0.9s,mb4.2,baz=90,slow=4.0,SNR=8.0								
NB2	**NORSAR Subarra**	**87.39**	**331**	P		**P**	**23 33 16.0**	**+0.6**
comp=Z,1.0nm,0.7s,mb4.2,baz=95,slow=4.8								
NOA	**NORSAR Array B**	**87.39**	**331**	P		**P**	**23 33 15.2**	**-0.3**
comp=Z,1.7nm,0.8s,mb4.3,baz=95,slow=5.0,SNR=5.1								
DAVOX	**Davos**	**87.67**	**317**	P		**P**	**23 33 18.4**	**+1.3**
comp=Z,3.8nm,0.9s,mb4.6,baz=95,slow=12,SNR=3.3								

BJI ***28*** *23:26:38.4, 0.96N×97.29E, h39km, mB5.4, mb4.9*
IDC ***28*** *23:26:39.9≈0.6, 1.20N×96.96E, h22km±3km, mb4.2/15, mb1 4.3/15, mb1mx4.2/20, mbtmp4.4/15, Error ellipse: s-maj=30.7km s-min=10.1km az=53.0*
MOS ***28*** *23:26:40.4≈0.9, 1.52N×97.37E, h33km, mb4.9/4, Error ellipse: s-maj=30.3km s-min=13.6km az=101.9*
NEIC ***28*** *23:26:40.0≈0.3, 1.28N×97.06E, mb4.6/12, Error ellipse: s-maj=9.7km s-min=6.1km az=52.0*
ISC 28 23:26:38.6±0.5, 1.30N±0.06×97.15E±0.07, h24km, h24km±1.3km:pP-P, n63, σ0°86/61, mb4.6/41, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KULM	**Kulim**	**5.28**	**41**	*e*P		**Pn**	**23 27 58.3**	**+0.1**
KKM	**Kota Kinabalu**	**19.60**	**76**	*e*P		**P**	**23 31 07.1**	**-1.3**
QIZ	**Qiongzhong**	**21.57**	**34**	*e*P		**P**	**23 31 29.2**	**+0.5**
KMI	**Kunming**	**24.29**	**12**	P		**P**	**23 31 56.5**	**+1.0**
KMI				AP			23 32 04.0	
KMI				AMB	AMB			
comp=Z,40nm,1.6s,mb4.6								
HYB	**Hyderabad**	**24.30**	**312**	*e*P		**P**	**23 32 06.0**	**+10**
HYB	**Hyderabad**	**24.30**	**312**	*i* P		**P**	**23 32 06.0**	**+10**
GYA	**Guiyang**	**26.63**	**19**	⇑*i* P		**P**	**23 32 17.8**	**+0.3**
GYA				AP	pP		23 32 27.0	+2.4
GYA				XP	sP		23 32 31.3	+3.5
GYA				PP	PP		23 33 01.8	-0.1
GYA				S	**S**		**23 36 48.0**	**-1.1**
GYA				AMB	AMB			
comp=Z,20nm,0.8s,mb4.7								
GYA				AMB	AMB			
comp=Z,130nm,4.8s								
JIRN	**Jiri**	**28.23**	**339**	*e*P		**P**	**23 32 32.8**	**+0.8**
comp=Z,88nm,1.0s,mb5.3								
PKI	**Pulchoki**	**28.44**	**338**	*e*P		**P**	**23 32 35.2**	**+1.3**
DMN	**Daman**	**28.59**	**337**	*e*P		**P**	**23 32 36.4**	**+1.2**
comp=Z,38nm,1.0s,mb5.1								
KKN	**Kakani**	**28.68**	**338**	*e*P		**P**	**23 32 36.7**	**+0.6**
comp=Z,84nm,1.3s,mb5.3								
LSA	**Lhasa**	**28.81**	**349**	*e*P		**P**	**23 32 37.3**	**+0.1**
comp=Z,9.8nm,0.8s,mb4.6								
GKN	**Gorkha**	**29.12**	**337**	*e*P		**P**	**23 32 40.8**	**+0.7**
comp=Z,52nm,1.0s,mb5.2								
KOLN	**Koldanda**	**29.34**	**335**	*e*P		**P**	**23 32 43.0**	**+1.0**
comp=Z,42nm,0.7s,mb5.3								
ENH	**Enshi**	**31.10**	**21**	*e*P		**P**	**23 32 56.4**	**-1.3**
comp=Z,25nm,0.8s,mb5.1								
FITZ	**Fitzroy Crossi**	**34.03**	**126**	*e*P		**P**	**23 33 23.0**	**-0.3**
comp=Z,4.3nm,0.7s,mb4.5								
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P		**P**	**23 33 22.7**	**-0.6**
comp=Z,7.4nm,0.8s,mb4.6,baz=310,slow=3.3,SNR=6.1								
FITZ				pP	pP		23 33 29.0	-1.5
comp=Z,5.9nm,0.7s,baz=294,slow=3.6,SNR=4.3								
XAN	**Xi'an**	**34.38**	**17**	P		**P**	**23 33 25.3**	**-0.8**
XAN				AMB	AMB			
comp=Z,22nm,1.1s,mb5.0								
GTA	**Gaotai**	**38.00**	**3**	*e*P		**P**	**23 33 57.5**	**+0.8**
GTA				AP	pP		23 34 07.0	+3.1
GTA				XP	sP		23 34 11.0	+4.0
GTA				AMB	AMB			
comp=Z,11nm,0.9s,mb4.6								
NWAO	**Narrogin (SRO)**	**38.97**	**153**	P		**P**	**23 34 05.3**	**+0.4**
comp=Z,4.8nm,0.9s,mb4.2,baz=323,slow=10,SNR=2.6								
JOW	**Kunigami**	**39.21**	**47**	P		**P**	**23 34 07.6**	**+0.7**
comp=Z,22nm,0.7s,mb5.0,baz=166,slow=7.4,SNR=3.6								
WRA	**Warramunga Arr**	**42.14**	**122**	P		**P**	**23 34 30.9**	**-0.2**
comp=Z,3.7nm,0.7s,mb4.1,baz=301,slow=9.1,SNR=16								
WRA				pP	pP		23 34 37.9	-0.5
comp=Z,3.7nm,0.6s,baz=301,slow=9.0,SNR=12								
WRAB	**Tennant Creek**	**42.14**	**122**	*e*P		**P**	**23 34 31.3**	**+0.1**
WB2	**Warramunga Arr**	**42.15**	**122**	*e*P		**P**	**23 34 31.5**	**+0.2**
BJT	**Baijiatuau**	**42.24**	**22**	*e*P		**P**	**23 34 32.9**	**+1.1**
comp=Z,12nm,0.6s,mb4.7								
BJI	**Beijing**	**42.26**	**22**	P		**P**	**23 34 33.0**	**+1.0**
BJI				AMB	AMB			
comp=Z,19nm,0.7s,mb4.8								
WMQ	**Urumqi**	**43.16**	**350**	*e*P		**P**	**23 34 40.8**	**+1.6**
WMQ				AMB	AMB			
comp=Z,16nm,1.1s,mb4.7								
WMQ				AMB	AMB			
comp=Z,341nm,8.5s								
FORT	**Forrest**	**43.39**	**140**	*e*P		pP	23 34 51.0	+2.5
comp=Z,344nm,0.7s								
ASAR	**Alice Springs**	**43.50**	**127**	P		**P**	**23 34 43.1**	**+0.9**
comp=Z,2.3nm,0.8s,mb4.0,baz=297,slow=7.6,SNR=14								
ASAR				pP	pP		23 34 49.5	0.0
comp=Z,2.0nm,0.6s,baz=300,slow=8.0,SNR=11								
ASAR				PcP	PcP		23 36 30.1	-0.5
comp=Z,1.4nm,1.1s,baz=281,slow=4.6,SNR=3.4								
AAK	**Ala-Archa**	**45.88**	**337**	*e*P		**P**	**23 35 00.2**	**-0.9**
AAK				pmax	pmax			
comp=Z,8.0nm,1.4s,mb4.5								
AAK	**Ala-Archa**	**45.88**	**337**	*e*P		**P**	**23 35 00.2**	**-0.9**
comp=Z,8.3nm,1.4s,mb4.5								
SONM	**Songino Array**	**47.04**	**9**	P		**P**	**23 35 11.1**	**+0.9**
comp=Z,8.5nm,0.8s,mb4.7,baz=188,slow=8.7,SNR=53								
SONM				pP	pP		23 35 17.9	+0.4
comp=Z,6.3nm,1.0s,baz=193,slow=7.9,SNR=11								
SONM				PcP	PcP		23 36 40.8	-1.7
comp=Z,1.1nm,0.8s,baz=220,slow=2.6,SNR=2.9								
MKAR	**Makanchi Array**	**47.13**	**346**	*i* P		**P**	**23 35 11.1**	**+0.2**
MKAR				pmax	pmax			
comp=Z,24nm,1.2s								
MKAR	**Makanchi Array**	**47.13**	**346**	P		**P**	**23 35 11.2**	**+0.3**
comp=Z,4.5nm,0.8s,mb4.5,baz=159,slow=8.2,SNR=27								
MKAR				pP	pP		23 35 19.1	+0.9
comp=Z,4.4nm,0.8s,baz=162,slow=8.1,SNR=10								
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P		**P**	**23 35 11.4**	**+0.3**
comp=Z,5.2nm,0.9s,mb4.5								
ZAK	**Zakamensk**	**49.17**	**5**	*e*P		**P**	**23 35 26.4**	**-0.3**
ZAK				pmax	pmax			
comp=Z,3.0nm,1.6s,mb4.1								
CN2	**Changchun**	**49.24**	**27**	*e*P		**P**	**23 35 27.3**	**0.0**
CN2				AMB	AMB			
comp=

STKA					pP		pP	23 36 07.3	+0.5
	comp=Z,4.2nm,0.6s,baz=294,slow=6.9,SNR=6.4								
NVS	**Novosibirsk**	**54.56**	**350**	*i*	P		**P**	**23 36 06.0**	**-1.2**
BVA0	**Borovoye Array**	**56.13**	**341**		P		**P**	**23 36 17.5**	**-1.1**
BVA0					pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9								
BVAR	**Borovoye Array**	**56.13**	**341**		P		**P**	**23 36 17.8**	**-0.7**
	comp=Z,6.0nm,0.8s,mb4.7,baz=141,slow=9.5,SNR=29								
KLR	**Kul'dur**	**56.19**	**27**	*eP*			**P**	**23 36 15.8**	**-3.2**
CHKZ	**Chkalovo**	**56.61**	**341**		P		**P**	**23 36 21.2**	**-0.8**
CHKZ					pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.8								
CHKZ	**Chkalovo**	**56.61**	**341**	*eP*			**P**	**23 36 21.1**	**-0.9**
	comp=Z,11nm,0.8s,mb5.0								
BOD	**Bodaibo**	**57.92**	**11**	*eP*			**P**	**23 36 29.8**	**-1.3**
BOD					pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8								
ARU	**Arti**	**63.07**	**337**	*eP*			**P**	**23 37 01.9**	**-4.3**
KIV	**Kislovodsk**	**64.19**	**319**	*eP*			pP	23 37 20.2	-1.2
KIV					pmax		pmax		
	comp=Z,11nm,1.2s,mb4.8								
KIV	**Kislovodsk**	**64.19**	**319**	P			**P**	**23 37 13.0**	**-0.8**
	comp=Z,11nm,1.0s,mb4.8								
MALT	**Malatya**	**65.02**	**312**	P			**P**	**23 37 18.8**	**-0.6**
	comp=Z,5.7nm,1.2s,mb4.5								
YAK	**Yakutsk**	**65.33**	**16**	*eP*			**P**	**23 37 18.6**	**-2.3**
YAK					pmax		pmax		
	comp=Z,19nm,1.0s,mb5.1								
BRTR	**Keskin Array B**	**69.00**	**312**	P			**P**	**23 37 43.2**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=121,slow=8.4,SNR=3.3								
BRTR					pP		pP	23 37 50.9	-1.2
	comp=Z,1.4nm,0.8s,baz=135,slow=7.0,SNR=6.4								
MA2	**Magadan**	**71.26**	**26**	*eP*			**P**	**23 37 58.1**	**+0.2**
MA2					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5								
FINES	**FINESS Array B**	**79.88**	**333**	P			**P**	**23 38 46.8**	**+0.1**
	comp=Z,1.3nm,0.8s,mb3.9,baz=117,slow=4.3,SNR=5.3								
FINES					pP		pP	23 38 53.1	-1.4
	comp=Z,1.6nm,0.7s,baz=117,slow=9.3,SNR=3.6								
FINES					sP		sP	23 38 56.6	-0.4
	comp=Z,1.6nm,0.7s,baz=104,slow=7.9,SNR=3.5								
MORC	**Moravsky Berou**	**82.29**	**320**	P			**P**	**23 38 59.2**	**-0.4**
ARCES	**ARCESS Array B**	**82.42**	**340**	P			**P**	**23 39 00.3**	**+0.4**
	comp=Z,5.9nm,1.0s,mb4.5,baz=90,slow=4.5,SNR=3.8								
GERES	**GERESS Array B**	**84.70**	**319**	P			**P**	**23 39 11.6**	**-0.3**
	comp=Z,0.4nm,0.5s,mb3.8,baz=101,slow=6.8,SNR=6.9								
NB2	**NORSAR Subarra**	**86.89**	**331**	P			**P**	**23 39 22.6**	**+0.1**
	comp=Z,1.5nm,0.8s,mb4.3,baz=98,slow=4.8								
NOA	**NORSAR Array B**	**86.89**	**331**	P			**P**	**23 39 22.2**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.2,baz=96,slow=4.9,SNR=4.4								
TXAR	**Lajitas Array**	**143.61**	**32**	PKP			PKPdf	23 46 12.0	-4.8
	comp=Z,0.5nm,0.8s,baz=333,slow=2.0,SNR=3.6								

IDC 28 23:35:43.3±3.8, 7.11N×96.05E, mb3.2/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.2/3, Error ellipse: s-maj=145.4km s-min=28.7km az=61.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**41.26**	**346**	P	P	23 43 30.1	-1.7
	0.2nm,0.5s,baz=152,slow=8.8,SNR=3.7						
SONM	**Songino Array**	**41.52**	**11**	P	P	23 43 32.5	-1.5
	0.1nm,0.4s,baz=200,slow=7.6,SNR=2.4						
WRA	**Warramunga Arr**	**46.28**	**126**	P	P	23 44 10.9	-1.9
	0.5nm,0.7s,baz=306,slow=8.4,SNR=3.5						

*IDC **28** 23:37:26.3±0.4, 2.89N×96.42E, mb5.3/29, mb1 5.3/29, mb1mx5.3/29, mbtmp5.3/29, MS5.1/8, Ms1 5.0/8, ms1mx4.7/19, Error ellipse: s-maj=15.0km s-min=10.2km az=46.0*

*BJI **28** 23:37:26.6, 2.44N×96.39E, h39km, mB5.8, mb5.3, Ms5.9, Msz5.6*

*MOS **28** 23:37:30.3±0.9, 2.95N×96.49E, h33km, mb5.8/90, MS5.5/18, Error ellipse: s-maj=9.6km s-min=3.8km az=124.6*

*NEIC **28** 23:37:31.4±0.1, 2.89N×96.41E, mb5.6/104, MS5.5/4, Error ellipse: s-maj=4.7km s-min=3.0km az=216.0*

NEIC Felt at Shah Alam, Malaysia.

ISC 28 23:37:29.9±1.0, 2.91N±0.03×96.44E±0.02, h30km±6km, h30km±.8km: pP-P, n617, σ099/579, mb5.5/170, MS5.6/37, 45C-32D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.82**	**60**	*eP*	**Pn**	**23 38 44.8**	**+2.4**
IPM	**Ipoh**	**4.86**	**70**	P	**Pn**	**23 38 45.3**	**+2.3**
SNG	**Songkhla**	**5.94**	**44**	P	**Pn**	**23 39 01.0**	**+2.8**
	840nm,1.0s						
KGM	**Kluang**	**6.92**	**97**	P	**Pn**	**23 39 13.0**	**+0.9**
NNT	**Nongplab**	**10.16**	**19**	P	**P**	**23 40 02.5**	**+5.4**
NST	**Nakhon Sawan**	**13.20**	**16**	P	**P**	**23 40 40.2**	**+2.2**
KSM	**Kuching**	**13.93**	**96**	*eP*	**P**	**23 40 49.3**	**+1.4**
BDT	**Bhumibol Dam**	**14.47**	**10**	P	**P**	**23 41 02.0**	**+7.1**
	38nm,0.8s						
KKTK	**Khon Kaen**	**14.75**	**25**	P	**P**	**23 41 03.0**	**+4.5**
UBT	**Ubonrachathani**	**14.89**	**34**	P	**P**	**23 41 02.0**	**+1.6**
CM31	**Chiang Mai Arr**	**15.65**	**9**	Pn	**P**	**23 41 11.3**	**+1.1**
	95nm,0.8s						
CM31				*eP*		23 41 13.5	
PALK	**Pallekele**	**16.27**	**286**	*eP*	**P**	**23 41 17.4**	**-0.7**
	573nm,1.5s						
CHRT	**Chiangrai**	**17.17**	**11**	P	**P**	**23 41 30.0**	**+0.4**
	447nm,1.1s						
VIS	**Vishakhapatnam**	**19.55**	**320**	*eP*	**P**	**23 41 57.1**	**-1.3**
VIS				*e*		23 42 14.9	
	comp=Z,267nm,1.2s						
KKM	**Kota Kinabalu**	**19.95**	**80**	*iP*	**P**	**23 42 02.9**	**0.0**
KKM	**Kota Kinabalu**	**19.95**	**80**	P	**P**	**23 42 03.1**	**+0.2**
BWNR	**Bhubaneshwar**	**20.16**	**330**	*eP*	**P**	**23 42 06.3**	**+1.4**
BWNR				*e*		23 42 13.2	
	comp=Z,208nm,1.1s						
QIZ	**Qiongzhong**	**20.70**	**38**	P	**P**	**23 42 10.5**	**0.0**
QIZ				AP		23 42 20.5	
QIZ				LR	LR		
	comp=N,18μm,18.4s,MS5.6						
QIZ				LR	LR		
	comp=E,15μm,16.6s,MS5.6						
QIZ				LR	LR		
	comp=Z,10μm,18.6s,MS5.2						
QIZ	**Qiongzhong**	**20.70**	**38**	*eP*	**P**	**23 42 10.3**	**-0.2**
	comp=Z,121nm,1.1s						
TSM	**Tawau**	**21.43**	**86**	P	**P**	**23 42 17.7**	**-0.3**
AGT	**Agartala**	**21.45**	**347**	*eP*	**P**	**23 42 22.0**	**+3.9**
BATP	**Bataraza**	**22.03**	**74**	*eP*	**P**	**23 42 24.3**	**+0.3**
HYB	**Hyderabad**	**22.72**	**311**	*eP*	**P**	**23 42 31.0**	**+0.1**
HYB				*eS*	**S**	**23 46 27.0**	**-5.9**
HYB				pmax	pmax		
	comp=Z,625nm,1.4s,mb5.8						
HYB	**Hyderabad**	**22.72**	**311**	*eP*	**P**	**23 42 31.0**	**+0.1**
	comp=Z,625nm,1.4s,mb5.8						
HYB				*eS*	**S**	**23 46 27.0**	**-5.9**
HYB	**Hyderabad**	**22.72**	**311**	*iP*	**P**	**23 42 31.0**	**+0.1**
	comp=Z,625nm,1.4s,mb5.8						
HYB				*ep*	P	23 42 39.5	
HYB				*eS*	**S**	**23 46 21.0**	**-12**
KMI	**Kunming**	**22.91**	**15**	P	**P**	**23 42 34.0**	**+1.4**
KMI				AP		23 42 42.5	
KMI				XP		23 42 46.5	
KMI				PP	PP	23 43 06.0	+3.7
KMI				AMB	AMB		
	comp=Z,52nm,1.5s,mb4.7						
KMI				AMB	AMB		
	comp=Z,1μm,5.8s						
KMI				LR	LR		
	comp=N,13μm,15.4s						
KMI				LR	LR		
	comp=E,19μm,22.1s						
KMI				LR	LR		
	comp=Z,11μm,11.8s,MS5.5						
BOK	**Bokaro**	**23.14**	**335**	*i*	**P**	**23 42 33.7**	**-1.2**
BOK				*i* S	**S**	**23 46 48.2**	**+7.9**
PPR	**Puerto Princes**	**23.16**	**72**	*eP*	**P**	**23 42 36.5**	**+1.2**
MNGI	**Mangalore**	**23.60**	**296**	*i* P	**P**	**23 42 40.3**	**+0.9**
MNGI				*i*		23 46 58.6	
	comp=Z,210nm,1.9s						
BLSP	**Bilaspur**	**23.63**	**325**	*eP*	**P**	**23 42 39.8**	**+0.1**
BLSP				*e*		23 42 53.6	
	comp=Z,308nm,1.3s						
ENPP	**El Nido**	**24.23**	**69**	*eP*	**P**	**23 42 46.8**	**+1.2**
NGP	**Nagpur**	**24.81**	**318**	*eP*	**P**	**23 42 53.1**	**+1.9**
NGP				*e*		23 43 04.6	
LATR	**Latur**	**24.84**	**310**	*eP*	**P**	**23 42 53.5**	**+2.1**
BUSP	**Coron**	**25.20**	**68**	*eP*	**P**	**23 42 54.7**	**-0.2**
GYA	**Guiyang**	**25.39**	**22**	*iP*	**P**	**23 42 56.0**	**-0.5**
GYA				AP	pP	23 43 05.3	+0.1
GYA				XP	sP	23 43 09.8	+0.7
GYA				PP	PP	23 43 34.5	-1.2
GYA				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,2μm,8.8s						
GYA				LR	LR		
	comp=N,16μm,15.6s,MS5.7						
GYA				LR	LR		
	comp=E,11μm,17.3s,MS5.7						
GYA				LR	LR		
	comp=Z,20μm,15.5s,MS5.8						
GTK	**Gangtok**	**25.42**	**344**	*e*	**P**	**23 42 46.0**	**-11**
GOA	**Goa**	**25.55**	**301**	*eP*	**P**	**23 42 56.6**	**-1.5**
GOA				*eS*	**S**	**23 47 24.6**	**+3.2**
CUYO	**Cuyo Island**	**25.62**	**71**	*eP*	**P**	**23 42 59.5**	**+0.7**
LUBP	**Lubang**	**25.86**	**64**	*eP*	**P**	**23 43 00.8**	**-0.2**
KAD	**Karad**	**26.12**	**305**	*eP*	**P**	**23 43 04.1**	**+0.7**
SJMP	**San Jose**	**26.20**	**67**	*eP*	**P**	**23 43 03.8**	**-0.5**
JIRN	**Jiri**	**26.50**	**339**	*eP*	**P**	**23 43 06.5**	**-0.3**
	comp=Z,401nm,0.9s,mb6.0						
PKI	**Pulchoki**	**26.70**	**338**	*eP*	**P**	**23 43 07.9**	**-0.8**
	comp=Z,282nm,1.0s,mb5.7						
DMN	**Daman**	**26.85**	**337**	*eP*	**P**	**23 43 09.5**	**-0.5**
KKN	**Kakani**	**26.95**	**338**	*eP*	**P**	**23 43 10.3**	**-0.6**
	comp=Z,376nm,1.0s,mb5.9						
OTRP	**Odiongan**	**27.01**	**68**	*eP*	**P**	**23 43 12.0**	**+0.4**
POO	**Poona**	**27.03**	**307**	*eP*	**P**	**23 43 11.7**	**-0.1**
POO				*e*		23 43 16.3	
	comp=Z,143nm,0.9s						
LSA	**Lhasa**	**27.12**	**350**	P	**P**	**23 43 12.0**	**-0.5**
LSA				AMB	AMB		
	comp=Z,100nm,0.9s,mb5.3						
LSA	**Lhasa**	**27.12**	**350**	*eP*	**P**	**23 43 12.0**	**-0.5**
LSA				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.4						
LSA	**Lhasa**	**27.12**	**350**	*eP*	**P**	**23 43 12.0**	**-0.5**
	comp=Z,107nm,0.8s,mb5.4						
PAGZ	**Pagadian**	**27.26**	**79**	*eP*	**P**	**23 43 15.0**	**+1.1**
BHPL	**Bhopal**	**27.35**	**319**	*eP*	**P**	**23 43 14.7**	**+0.1**
BHPL				*e*		23 43 26.8	
	comp=Z,155nm,1.2s						
SNPH	**Sibulan**	**27.38**	**75**	*eP*	**P**	**23 43 15.5**	**+0.5**
GKN	**Gorkha**	**27.39**	**337**	*eP*	**P**	**23 43 14.3**	**-0.6**
	comp=Z,530nm,1.0s,mb6.0						
KOLN	**Koldanda**	**27.60**	**335**	*eP*	**P**	**23 43 16.7**	**-0.2**
	comp=Z,388nm,0.9s,mb6.0						
BALP	**Baler**	**27.84**	**61**	*eP*	**P**	**23 43 17.8**	**-1.4**
ABRA	**Dolores**	**27.95**	**57**	*eP*	**P**	**23 43 20.1**	**-0.1**
BOM	**Bombay**	**28.06**	**306**	*eP*	**P**	**23 43 22.0**	**+0.9**
BOM				*eS*	**S**	**23 48 06.4**	**+4.1**
TBP	**Tagbilaran**	**28.06**	**75**	*eP*	**P**	**23 43 20.5**	**-0.6**
LLP	**Lapu-Lapu**	**28.29**	**74**	*eP*	**P**	**23 43 23.5**	**+0.3**
CD2	**Chengdu**	**28.70**	**13**	P	**P**	**23 43 25.0**	**-1.8**
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
CD2				LR	LR		
	comp=N,13μm,11.9s						
CD2				LR	LR		
	comp=Z,10μm,12.7s,MS5.6						
BUKP	**Musuan**	**28.91**	**79**	*eP*	**P**	**23 43 29.7**	**+0.9**
CNP	**Catarman**	**29.51**	**70**	*eP*	**P**	**23 43 34.5**	**+0.2**
ENH	**Enshi**	**29.89**	**23**	*eP*	**P**	**23 43 35.4**	**-2.1**
	comp=Z,103nm,0.7s,mb5.7						
ENH				*eS*	**S**	**23 48 31.3**	**-0.2**
LGTI	**Lohaghat**	**30.55**	**331**	*i* P	**P**	**23 43 42.5**	**-0.8**
AJM	**Ajmer**	**31.41**	**320**	*i*	**P**	**23 43 58.0**	**+7.1**
NDI	**New Delhi**	**31.50**	**326**	*eP*	**P**	**23 43 49.0**	**-2.7**
NDI				*eS*	**S**	**23 48 58.0**	**+1.2**
WHN	**Wuhan**	**32.29**	**30**	P	**P**	**23 43 58.0**	**-0.5**
WHN				AP	pP	23 44 07.3	0.0
WHN				S	**S**	**23 49 05.0**	**-4.1**
WHN				LR	LR		
	comp=Z,17μm,16.2s,MS5.8						
YHNB	**Yeheng**	**32.34**	**46**	P	**P**	**23 43 54.9**	**-4.1**
XAN	**Xi'an**	**33.09**	**19**	P	**P**	**23 44 03.5**	**-2.0**
XAN				AP	pP	23 44 11.5	-2.8
XAN				AMB	AMB		
	comp=Z,68nm,1.0s,mb5.5						
SMLA	**Simla**	**33.45**	**329**	*i*	**P**	**23 43 58.4**	**-10**
SMLA				*i*		23 49 17.8	
LZH	**Lanzhou**	**33.72**	**11**	*eP*	**P**	**23 44 10.0**	**-0.9**
LZH				AP	pP	23 44 18.0	-1.7
LZH				XP	sP	23 44 22.8	-0.7
LZH				PP	PP	23 45 24.3	+0.2
LZH				AMB	AMB		
	comp=Z,75nm,1.8s,mb5.3						
LZH				AMB	AMB		
	comp=Z,482nm,5.4s						
LZH				LR	LR		
	comp=E,10μm,15.4s						
LZH				LR	LR		
	comp=Z,10μm,17.0s,MS5.6						
BHK	**Bhakra**	**34.07**	**328**	*eP*	**P**	**23 44 16.8**	**+2.8**
PONG	**Pong**	**34.74**	**329**	*eP*	**P**	**23 44 20.0**	**+0.3**
DLH	**Dalhousie**	**35.19**	**329**	*eP*	**P**	**23 44 24.0**	**+0.4**
THN	**Thein Dam**	**35.24**	**329**	*eP*	**P**	**23 44 22.3**	**-1.7**
	comp=Z,40nm,0.9s,mb5.3,slow=37						
FITZ	**Fitzroy Crossi**	**35.54**	**127**	*iP*	**P**	**23 44 25.1**	**-1.6**
	comp=Z,97nm,0.6s,mb5.9						
FITZ	**Fitzroy Crossi**	**35.54**	**127**	P	**P**	**23 44 25.0**	**-1.7**
	comp=Z,119nm,0.6s,mb6.0,baz=329,slow=4.6,SNR=122						
FITZ				LR	LR	23 59 10.4	
	comp=Z,6μm,20.2s,MS5.3,baz=286,slow=37						
NJ2	**Nanjing**	**35.84**	**34**	*eP*	**P**	**23 44 29.0**	**-0.1**
NJ2				AP	pP	23 44 38.0	0.0
NJ2				XP	sP	23 44 43.8	+2.1
NJ2				PP	PP	23 45 50.5	-0.1
NJ2				S	**S**	**23 50 05.0**	**+0.8**
NJ2				XS		23 50 21.0	
NJ2				AMB	AMB		
	comp=Z,90nm,1.4s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,1μm,10.0s						
NJ2				LR	LR		
	comp=N,16μm,20.8s,MS6.2						
NJ2				LR	LR		
	comp=E,33μm,18.3s,MS6.2						
NJ2				LR	LR		
	comp=Z,4μm,18.5s,MS5.2						
GTA	**Gaotai**	**36.46**	**4**	*eP*	**P**	**23 44 33.8**	**-0.5**
GTA				AP	pP	23 44 42.8	-0.3
GTA				XP	sP	23 44 47.0	+0.1
GTA				PP	PP	23 45 58.5	0.0
GTA				PPP	PPP	23 46 18.5	0.0
GTA				AMB	AMB		
	comp=Z,49nm,0.9s,mb5.4						
GTA				AMB	AMB		
	comp=Z,438nm,4.9s						
GTA				LR	LR		
	comp=N,3μm,19.8s,MS5.3						
GTA				LR	LR		
	comp=E,4μm,19.8s,MS5.3						
GTA				LR	LR		
	comp=Z,7μm,21.3s,MS5.4						
TIA	**Tai'an**	**38.25**	**27**	*eP*	**P**	**23 44 48.0**	**-1.4**
JOW	**Kunigami**	**38.66**	**49**	P	**P**	**23 44 52.9**	**-0.1**
	comp=Z,19nm,0.5s,mb5.1,baz=181,slow=1.6,SNR=8.4						
KAKA	**Kakadu**	**38.97**	**114**	*iP*	**P**	**23 44 54.1**	**-1.5**
	comp=Z,251nm,0.6s,mb6.1						
MUN	**Mundaring**	**39.45**	**153**	*eP*	**P**	**23 45 00.2**	**+0.8**
	comp=Z,47nm,0.9s,mb5.2						
MUN	**Mundaring**	**39.45**	**153**	*eP*	**P**	**23 45 00.2**	**+0.8**
MUN				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.2						
BTO	**Baotou**	**39.48**	**16**	*eP*	**P**	**23 44 59.3**	**-0.3**
BTO				S	**S**	**23 51 01.3**	**+1.8**
BTO				AMB	AMB		
	comp=Z,39nm,1.2s,mb5.0						
KLBR	**Kellerberrin**	**39.85**	**151**	*iP*	**P**	**23 45 03.0**	**+0.3**
	comp=Z,4μm,1.9s						
HHC	**Hu-ho-hao-te**	**40.16**	**18**	*eP*	**P**	**23 45 06.3**	**+1.1**
HHC				AP	pP	23 45 16.0	+1.9
HHC				XP	sP	23 45 20.3	+2.6
HHC				PP	PP	23 46 43.5	+2.3
HHC				PCP	PcP	23 47 10.0	+0.3
HHC				SCP		23 50 55.5	
HHC				S	**S**	**23 51 07.8**	**-1.8**
HHC				XS		23 51 26.5	
HHC				AMB	AMB		
	comp=Z,21nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,2μm,3.9s						
HHC				LR	LR		
	comp=N,10μm,18.1s,MS5.8						
HHC				LR	LR		
	comp=E,7μm,13.7s,MS5.8						
HHC				LR	LR		
	comp=Z,9μm,19.0s						
NWAO	**Narrogin (SRO)**	**40.71**	**153**	P	**P**	**23 45 09.8**	**0.0**
	comp=Z,99nm,1.0s,baz=320,slow=8.6,SNR=43						
NWAO				LR	LR	00 03 50.7	
	comp=Z,25nm,18.0s,baz=161,slow=39						
NWAO	**Narrogin (SRO)**	**40.71**	**153**	P	**P**	**23 45 09.8**	**0.0**
NWAO				LR	LR	00 03 50.7	
KSH	**Kashi**	**40.91**	**336**	*eP*	**P**	**23 45 10.3**	**-1.1**
KSH				*e*AP	pP	23 45 20.3	0.0
KSH				*e*XP	sP	23 45 24.0	+0.1
KSH				*e*PP	PP	23 46 47.3	-1.4
KSH				*e*PCP	PcP	23 47 13.5	+1.4
KSH				*e*PCS		23 51 02.5	
KSH				S	**S**	**23 51 14.5**	**-6.4**
KSH				AMB	AMB		
	comp=Z,840nm,3.3s						
KSH				LR	LR		
	comp=N,4μm,12.9s,MS5.8						
KSH				LR	LR		
	comp=E,9μm,16.0s,MS5.8						
BJT	**Baijiatuau**	**41.04**	**23**	*eP*	**P**	**23 45 13.2**	**+0.8**
BJT				pmax	pmax		
	comp=Z,101nm,0.8s						
BJT	**Baijiatuau**	**41.04**	**23**	*eP*	**P**	**23 45 13.2**	**+0.8**
	comp=Z,101nm,0.8s,mb5.5						
BJI	**Beijing**	**41.06**	**23**	P	**P**	**23 45 13.3**	**+0.7**
BJI				AP	pP	23 45 22.3	+0.8
BJI				AMB	AMB		
	comp=Z,81nm,1.4s,mb5.2						
BJI				LR	LR		
	comp=N,4μm,17.3s,MS5.6						
BJI				LR	LR		
	comp=E,6μm,17.3s,MS5.6						
BJI				LR	LR		
	comp=Z,2μm,23.6s						
WBK	**Wadi Bani Khal**	**41.26**	**302**	⇓P	**P**	**23 45 14.6**	**+0.2**
	SNR=12						
WMQ	**Urumqi**	**41.48**	**350**	P	**P**	**23 45 16.0**	**+0.1**
WMQ				AP	pP	23 45 26.0	+1.2
WMQ				XP	sP	23 45 30.0	+1.5
WMQ				PP	PP	23 46 55.0	+0.2
WMQ				AMB	AMB		
	comp=Z,51nm,1.5s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,468nm,5.2s						
WMQ				LR	LR		
	comp=N,5μm,17.0s,MS5.5						
WMQ				LR	LR		
	comp=E,4μm,17.6s,MS5.5						
WMQ				LR	LR		
	comp=Z,4μm,19.7s,MS5.3						
JMDO	**Jabal Madar**	**41.91**	**301**	⇓P	**P**	**23 45 19.6**	**-0.3**
	SNR=5.6						
SMDO	**Samad**	**42.22**	**302**	⇑P	**P**	**23 45 22.2**	**-0.2**
	SNR=17						
BIDO	**Bidbid**	**42.33**	**302**	⇑P	**P**	**23 45 23.8**	**+0.5**
	SNR=26						
DL2	**Dalian**	**42.55**	**29**	P	**P**	**23 45 25.8**	**+0.9**
DL2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
DL2				LR	LR		
	comp=N,2μm,18.0s,MS5.5						
DL2				LR	LR		
	comp=E,5μm,18.0s,MS5.5						
DL2				LR	LR		
	comp=Z,3μm,15.3s,MS5.3						
SHAO	**Shalim**	**42.72**	**294**	⇑P	**P**	**23 45 26.1**	**-0.4**
	SNR=14						
BSY	**Bisya**	**42.83**	**301**	⇓P	**P**	**23 45 27.3**	**0.0**
	SNR=34						
ULHL	**Ulahol**	**43.14**	**338**	P	**P**	**23 45 29.5**	**-0.1**
	SNR=153						
KZA	**Kyzart**	**43.38**	**337**	P	**P**	**23 45 32.1**	**+0.6**
	SNR=59						
WRA	**Warramunga Arr**	**43.58**	**123**	P	**P**	**23 45 32.5**	**-1.0**
	comp=Z,143nm,0.7s,mb5.8,baz=298,slow=9.5,SNR=303						
WRA				S	**S**	**23 51 56.2**	**-4.1**
	comp=Z,9.3nm,1.1s,baz=294,slow=16,SNR=6.0						
WRAB	**Tennant Creek**	**43.59**	**123**	P	**P**	**23 45 32.0**	**-1.5**
	comp=Z,2μm,1.4s						
WRAB	**Tennant Creek**	**43.59**	**123**	*iP*	**P**	**23 45 32.9**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,286nm,0.9s,mb6.0						
WRAB	**Tennant Creek**	**43.59**	**123**	*iP*	**P**	**23 45 32.9**	**-0.6**
	comp=Z,286nm,0.9s,mb6.0						
WB2	**Warramunga Arr**	**43.59**	**123**	*iP*	**P**	**23 45 32.8**	**-0.7**
WB2				*e*S	**S**	**23 52 00.7**	**+0.2**
ARQ	**Araqi**	**43.63**	**301**	⇑P	**P**	**23 45 34.1**	**+0.3**
	SNR=13						
AAA	**Alma-Ata**	**43.78**	**339**	*eP*	**P**	**23 45 35.0**	**+0.3**
AAA				*i*		23 47 50.0	
AAA				*eS*	**S**	**23 52 04.0**	**+1.2**
AAA				pmax	pmax		
	comp=Z,1μm,4.0s						
AAA				smax			
	comp=N,4μm,6.0s						
AAA				smax			
	comp=E,2μm,6.0s						
UCH	**Uchtor**	**43.80**	**336**	P	**P**	**23 45 35.5**	**+0.6**
	SNR=164						
RBK	**Rabkut**	**43.89**	**292**	⇑P	**P**	**23 45 36.6**	**+0.6**
	SNR=33						
TKM2	**Tokmak 2**	**43.96**	**338**	P	**P**	**23 45 36.4**	**+0.2**
	SNR=140						
KBK	**Karagaybulak**	**43.99**	**337**	P	**P**	**23 45 37.2**	**+0.7**
	SNR=192						
AML	**Almayashu**	**44.05**	**336**	P	**P**	**23 45 37.4**	**+0.5**
	SNR=169						
AAK	**Ala-Archa**	**44.14**	**337**	P	**P**	**23 45 37.5**	**-0.2**
	comp=E,454nm,0.8s,mb6.2						
AAK	**Ala-Archa**	**44.14**	**337**	⇑*eP*	**P**	**23 45 36.9**	**-0.8**
AAK				pmax	pmax		
	comp=Z,143nm,1.2s,mb5.6						
AAK	**Ala-Archa**	**44.14**	**337**	⇑*eP*	**P**	**23 45 36.9**	**-0.9**
	comp=Z,143nm,1.2s,mb5.6						
FRU	**Bishkek**	**44.27**	**337

ZAK pmax pmax
comp=Z,17nm,1.5s,mb4.8
CN2 Changchun 48.15 28 *e*P **P 23 46 08.0 -1.4**
CN2 *e*XP sP 23 46 21.8 -0.2
CN2 PCP PcP 23 47 36.5 -0.4
CN2 AMB AMB
comp=Z,40nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,2µm,9.0s
CN2 LR LR
comp=N,4µm,16.0s,MS5.8
CN2 LR LR
comp=E,8µm,16.0s,MS5.8
CN2 LR LR
comp=Z,4µm,17.0s,MS5.5
MOY Mondy 48.74 4 *e*P **P 23 46 13.6 -0.3**
MOY pmax pmax
comp=Z,79nm,1.9s,mb5.4
TLY Talaya 48.98 6 *e*P **P 23 46 15.6 -0.1**
TLY pmax pmax
comp=Z,27nm,0.9s,mb5.3
TLY MLR MLR
comp=Z,3µm,20.0s,MS5.3
TLY Talaya 48.98 6 *e*P **P 23 46 16.2 +0.5**
comp=Z,43nm,0.8s,mb5.5
IRK Irkutsk 49.60 6 *e*P **P 23 46 18.5 -2.0**
IRK pmax pmax
comp=Z,125nm,1.8s,mb5.6
KURK Kurchatov 49.96 345⇑ *e*P **P 23 46 22.1 -1.1**
comp=Z,237nm,1.3s,mb6.1
HIA Hailar 50.29 20 *e*P **P 23 46 25.2 -0.6**
HIA pmax pmax
comp=Z,135nm,1.1s
HIA Hailar 50.29 20 *e*P **P 23 46 25.1 -0.6**
comp=Z,135nm,1.1s,mb5.9
MDJ Mudanjiang 50.77 30 P **P 23 46 29.5 0.0**
MDJ AMB AMB
comp=Z,42nm,1.1s,mb5.3
MAT Matsushiro 50.97 44 *e*P **P 23 46 31.0 -0.1**
MAT pmax pmax
comp=Z,38nm,1.3s,mb5.2
MAT Matsushiro 50.97 44 *e*P **P 23 46 31.0 -0.1**
comp=Z,38nm,1.3s,mb5.2
MAT Matsushiro 50.97 44 P **P 23 46 30.8 -0.3**
PMG Port Moresby 51.99 104 P **P 23 46 38.2 -0.9**
comp=Z,130nm,0.6s,mb6.0,baz=324,slow=3.2,SNR=48
RAYN Ar Rayn 53.30 297 P **P 23 46 47.5 -1.3**
comp=Z,354nm,0.7s,SNR=84
ATD Arta Tunnel 53.78 282 P **P 23 46 51.5 -0.9**
comp=Z,15nm,1.1s,mb4.9,baz=95,slow=5.2,SNR=15
CTA Charters Tower 53.94 117⇓ *i*P **P 23 46 53.1 -0.4**
comp=Z,150nm,1.6s,mb5.7
CTA Charters Tower 53.94 117⇓ *i*P **P 23 46 53.1 -0.4**
CTA pmax pmax
comp=Z,150nm,1.6s
CTA Charters Tower 53.94 117 P **P 23 46 52.2 -1.3**
comp=Z,101nm,0.9s,mb5.7,baz=294,slow=8.8,SNR=58
CTA LR LR 00 11 08.1
comp=Z,4µm,21.5s,MS5.5,baz=288,slow=38
BVAR Borovoye Array 54.40 341 P **P 23 46 54.9 -1.6**
comp=Z,35nm,0.8s,mb5.3,baz=142,slow=8.1,SNR=104
ADE Adelaide 54.67 137 *e*P **P 23 46 59.0 +0.3**
CHKZ Chkalovo 54.88 342 *e*P **P 23 46 58.1 -1.9**
CHKZ pmax pmax
comp=Z,103nm,0.8s,mb5.9
CHKZ Chkalovo 54.88 342 *e*P **P 23 46 58.1 -1.9**
comp=Z,103nm,0.8s,mb5.9
STKA Stephens Creek 55.05 133⇓ *i*P **P 23 47 00.7 -0.9**
comp=Z,87nm,0.7s,mb5.9
STKA Stephens Creek 55.05 133 P **P 23 46 59.2 -2.4**
comp=Z,78nm,0.7s,mb5.8,baz=301,slow=5.8,SNR=3.9
KLR Kul'dur 55.09 28 *e*P **P 23 46 57.8 -3.8**
KLR pmax pmax
comp=N,32nm,1.0s
KLR pmax pmax
comp=E,54nm,1.0s
KLR pmax pmax
comp=Z,62nm,1.0s,mb5.6
KLR MLR MLR
comp=Z,13µm,14.0s,MS6.2
BOD Bodaibo 56.49 11 *e*P **P 23 47 10.0 -1.5**
BOD pmax pmax
comp=Z,69nm,1.0s,mb5.6
BHD Baghdad 57.19 308 *i* P **P 23 47 07.0 -10**
BHD *e*PP PP 23 49 24.0 -1.4
BHD *e*S **S 23 54 57.0 -12**
ASAJ Asahikawa 57.77 38 LR LR 00 16 54.1
comp=Z,2µm,18.1s,MS5.3,baz=260,slow=41
CLNS Chul'man 58.35 18⇑ *i*P **P 23 47 25.0 +0.3**
CLNS *e**PP pP 23 47 31.5 -2.4
CLNS *e* 23 48 12.7
CLNS *e* 23 49 39.5
CLNS *i* S **S 23 55 27.2 +3.7**
CLNS *e* 23 57 06.0
CLNS pmax pmax
comp=Z,39nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,20nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS pmax pmax
comp=N,38nm,0.9s
CLNS pmax pmax
comp=Z,50nm,0.9s,mb5.5
CLNS pmax pmax
comp=E,20nm,0.8s
CLNS pmax pmax
comp=Z,20nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,5.0nm,0.9s
CLNS smax
comp=N,48nm,1.4s
CLNS smax
comp=Z,12nm,1.6s
CLNS smax
comp=E,24nm,1.3s
CLNS MLR MLR
comp=N,5µm,17.0s,MS5.7
CLNS MLR MLR
comp=Z,8µm,17.0s,MS5.9
CLNS MLR MLR
comp=E,900nm,14.0s,MS5.7
MAK Makhachkala 58.95 320 *e*P **P 23 47 26.0 -3.1**
MSL Mosul 59.25 311 *e*P **P 23 47 29.5 -1.7**
MSL *e*pP pP 23 47 38.0 -2.5
MSL *e*PP PP 23 49 47.0 +3.1
MSL *e*S **S 23 55 36.0 +0.5**
KMBO Kilima Mbogo 59.31 267⇑ *i*P **P 23 47 31.7 -0.2**
KMBO pmax pmax
comp=Z,73nm,1.1s
KMBO Kilima Mbogo 59.31 267 P **P 23 47 31.4 -0.6**
comp=Z,12nm,0.9s,mb4.9,baz=60,slow=11,SNR=29
KMBO LR LR 00 11 52.1
comp=Z,4µm,18.4s,MS5.6,baz=94,slow=35
KMBO Kilima Mbogo 59.31 267⇑ *i*P **P 23 47 31.7 -0.2**
comp=Z,72nm,1.1s,mb5.6
YSS Yuzh-Sakhalins 59.38 35 *i* P **P 23 47 30.3 -1.7**
YSS pmax pmax
comp=Z,56nm,1.0s,mb5.5
YSS MLR MLR
comp=Z,2µm,19.0s,MS5.4
YSS Yuzh-Sakhalins 59.38 35 *e*P **P 23 47 30.6 -1.4**
comp=Z,32nm,0.8s,mb5.4
YSS *e*pP pP 23 47 40.9 -0.4
GNI Garni 59.55 316 *i* P **P 23 47 32.5 -0.7**
GNI pmax pmax
comp=Z,49nm,0.9s
GNI Garni 59.55 316 P **P 23 47 33.5 +0.2**
comp=Z,40nm,0.9s,mb5.5,baz=74,slow=2.9,SNR=14
DGRG David-gareji 59.67 317 P **P 23 47 34.2 +0.2**
TVAN Van 59.85 314 *i* P **P 23 47 29.6 -5.7**
TI2 Plekhanov 60.22 317 *e*P **P 23 47 39.0 +1.2**
TI2 *i* S **S 23 55 49.0 +1.2**
DUS Dusheti 60.40 318 P **P 23 47 37.2 -1.9**
TOO Toolangi 60.69 137⇓ *i*P **P 23 47 41.6 +0.5**
comp=Z,2.2nm,1.1s
TOO Toolangi 60.69 137⇓ *i*P **P 23 47 41.6 +0.5**
TOO pmax pmax
comp=Z,2.0nm,1.1s
SVE Sverdlovsk 60.83 338 *e*P **P 23 47 41.0 -0.8**
SVE *e* 23 48 19.0
SVE *e* 23 49 56.2
SVE *e*S **S 23 55 56.0 +0.5**
SVE pmax pmax
comp=Z,60nm,1.6s,mb5.5
SVE MLR MLR
comp=N,2µm,16.0s,MS5.7
SVE MLR MLR
comp=E,4µm,16.0s,MS5.7
SVE MLR MLR
comp=Z,5µm,16.0s,MS5.8
ZEI Tsey 61.23 318 *e*P **P 23 47 43.6 -1.1**
ZEI *i* *PP pP 23 47 56.5 +2.6
ZEI *i* 23 49 59.7
ZEI pmax pmax
comp=Z,15nm,0.9s,mb5.1
ARU Arti 61.33 337⇓ *i*P **P 23 47 43.5 -1.6**
ARU *i* 23 48 25.0
ARU *i* 23 49 56.4
ARU *i* S **S 23 56 01.1 -0.7**
ARU *e* 23 57 31.3
ARU *e*SS SS 00 00 03.9 0.0
ARU pmax pmax
comp=Z,62nm,1.0s,mb5.7
ARU MLR MLR
comp=N,3µm,17.0s,MS5.6
ARU MLR MLR
comp=Z,5µm,17.0s,MS5.7
ARU MLR MLR
comp=E,2µm,16.5s,MS5.6
ARU Arti 61.33 337 *e*P **P 23 47 43.0 -2.1**
comp=E,136nm,1.4s,mb5.9
CNB Canberra Magne 62.39 133 *e*P **P 23 47 51.6 -1.0**
comp=E,3µm,1.9s
KIV Kislovodsk 62.53 319*c i*P **P 23 47 51.7 -1.7**
KIV pmax pmax
comp=Z,66nm,1.0s,mb5.7
KIV Kislovodsk 62.53 319⇑ *e*P **P 23 47 51.5 -1.9**
comp=Z,296nm,1.7s,mb6.1
ASF Jabal al Asfar 62.87 305 P **P 23 47 55.4 -0.4**
comp=Z,13nm,1.0s,mb5.0,baz=352,slow=2.7,SNR=20
ELZG Elazig 63.08 312 *i* P **P 23 47 56.5 -0.6**
MALT Malatya 63.43 312⇑ *e*P **P 23 47 58.6 -0.8**
MALT pmax pmax
comp=Z,65nm,1.1s,mb5.7
MALT Malatya 63.43 312⇑ *e*P **P 23 47 58.6 -0.8**
comp=Z,65nm,1.1s,mb5.7
KELT Kelkit 63.44 314 *i* P **P 23 48 00.2 +0.8**
GZT Gaziantep 63.78 311 *i* P **P 23 48 01.4 -0.4**
EIL Elat 63.92 302⇑ *e*P **P 23 48 01.8 -1.1**
comp=Z,39nm,1.0s,mb5.4
YAK Yakutsk 64.01 17 *e*P **P 23 48 02.1 -0.7**
YAK *e**PP pP 23 48 10.1 -2.0
YAK *e* 23 48 38.0
YAK *e* 23 50 26.5
YAK *e*S **S 23 56 35.1 -0.3**
YAK *e**SS 23 56 52.4
YAK pmax pmax
comp=N,59nm,1.1s
YAK pmax pmax
comp=Z,132nm,1.1s,mb5.9
YAK pmax pmax
comp=E,45nm,1.2s
YAK pmax pmax
comp=Z,66nm,1.0s,mb5.6
YAK pmax pmax
comp=N,37nm,1.2s
YAK pmax pmax
comp=E,24nm,1.3s
YAK smax
comp=N,42nm,1.2s
YAK smax
comp=E,50nm,1.1s
YAK smax
comp=Z,12nm,1.1s
YAK MLR MLR
comp=N,3µm,15.0s,MS5.7
YAK MLR MLR
comp=Z,4µm,15.0s,MS5.8
YAK MLR MLR
comp=E,3µm,17.0s,MS5.7
YAK Yakutsk 64.01 17 *e*P **P 23 48 01.7 -1.1**
comp=E,216nm,1.0s,mb6.1
SOC Sochi 64.36 318 *e*P **P 23 48 02.9 -2.5**
SOC *e* 23 48 38.3
SOC *e* 23 50 31.7
SOC *e*PPP PPP 23 52 03.8 +2.3
SOC *e*S **S 23 56 35.5 -4.6**
SOC *e* 23 57 58.2
SOC pmax pmax
comp=Z,171nm,1.3s,mb5.9
SOC pmax pmax
comp=N,59nm,0.9s
SOC pmax pmax
comp=E,30nm,0.7s
KAHT Ahir Dag 64.39 311 *i* P **P 23 48 06.1 +0.4**
COBT Iskenderun 64.55 309 *i* P **P 23 48 06.1 -0.6**
TAU Tasmania Unive 64.61 141 *e*P **P 23 48 06.8 -0.2**
TAU pmax pmax
comp=Z,110nm,1.3s,mb5.7
TAU Tasmania Unive 64.61 141 *e*P **P 23 48 06.8 -0.2**
comp=Z,110nm,1.3s,mb5.7
MBAR Mbarara 65.77 268 P **P 23 48 14.6 -0.4**
comp=Z,158nm,1.5s,mb5.8,SNR=22
MBAR Mbarara 65.77 268 *e*P **P 23 48 14.2 -0.8**
MBAR pmax pmax
comp=Z,81nm,1.3s,mb5.6
MBAR Mbarara 65.77 268 *e*P **P 23 48 14.2 -0.9**
comp=Z,81nm,1.3s,mb5.6
MEST Erdemli 66.20 309 *i* P **P 23 48 15.8 -1.5**
ANN Anapa 66.33 318 *e*P **P 23 48 17.8 -0.3**
ANN *e**PP pP 23 48 28.5 +1.2
ANN *i* 23 48 44.1
ANN *i* 23 50 46.2
ANN *e*PPP PPP 23 52 23.4 +1.5
ANN *e*S S 23 57 08.8 +4.6
ANN pmax pmax
comp=Z,91nm,1.9s,mb5.5
CSS Prodhromos 66.44 307 *e*P **P 23 48 17.6 -1.4**
comp=Z,58nm,1.0s,mb5.6
BOYT Boyabat 66.98 314 *i* P **P 23 48 15.0 -7.2**
BRTR Keskin Array B 67.41 312 P **P 23 48 22.9 -2.1**
comp=Z,3.6nm,0.5s,mb4.7,baz=129,slow=6.7,SNR=24
PECR Pechory 67.56 331 *i* P **P 23 48 24.0 -1.7**
PECR pmax pmax
comp=Z,2.0nm,1.6s
PECR pmax pmax
comp=Z,700nm,6.0s
PECR MLR MLR
comp=Z,2µm,21.0s
PECR MLR MLR
comp=Z,2µm,19.0s
VRSR Storozhevoye 67.73 325 *e*P **P 23 48 25.8 -1.1**
VRSR *e**PP pP 23 48 34.4 -1.7
VRSR *e**SP sP 23 48 37.8 -1.6
VRSR *e* 23 48 52.5
VRSR *e* 23 50 57.5
VRSR *e*S S 23 57 17.5 -3.5
VRSR *e* 23 58 19.5
VRSR pmax pmax
comp=Z,70nm,1.2s,mb5.6
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,40nm,0.7s
VRSR smax
comp=N,80nm,1.3s
VRSR smax
comp=Z,3.0nm,0.7s
VRSR smax
comp=E,20nm,1.0s
VRSR MLR MLR
comp=Z,2µm,18.0s,MS5.4
VRSR MLR MLR
comp=N,680nm,19.0s
VOR Voronezh 67.94 326 P **P 23 48 28.0 -0.2**
VOR *e* 23 57 21.0
VOR pmax pmax
comp=N,70nm,1.4s
BALT Daday 68.10 314 *i* P **P 23 48 24.4 -4.9**
SIM Simferopol' 68.60 318 *e*P **P 23 48 30.8 -1.6**
SIM *i* S S 23 57 29.9 -1.6
SIM pmax pmax
comp=Z,100nm,0.9s,mb5.8
ISP Isparta 69.32 309 *e*P **P 23 48 36.5 -0.4**
ISP pmax pmax
comp=Z,130nm,1.5s,mb5.6
ISP Isparta 69.32 309 *e*P **P 23 48 36.1 -0.8**
comp=Z,130nm,1.5s,mb5.6
MIR Mirnyy 69.34 181*c i*P **P 23 48 35.5 -1.0**
MIR pmax pmax
comp=Z,110nm,1.8s,mb5.5
ESKT Eskisehir 69.44 311 *i* P **P 23 48 37.6 -0.1**
CASY Casey 69.77 174 *e*P **P 23 48 37.7 -1.4**
comp=Z,157nm,1.4s,mb5.8
MA2 Magadan 70.14 26 *e*P **P 23 48 40.4 -1.1**
MA2 *e* pP 23 48 50.4 -0.3
MA2 *e*S S 23 57 41.7 -7.6
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
MA2 Magadan 70.14 26 *i* Pr **P 23 48 40.5 -1.0**
MOS Moscow 70.49 329 *e*P **P 23 48 41.9 -1.8**
MOS *e* pP 23 48 51.6 -1.4
MOS *e* 23 48 57.6
MOS *e* 23 49 07.8
MOS pmax pmax
comp=Z,183nm,1.3s,mb5.8
OBN Obninsk 70.78 328 P **P 23 48 44.5 -1.0**
comp=Z,890nm,1.3s,mb6.5,SNR=18
OBN Obninsk 70.78 328 *i* P **P 23 48 44.2 -1.3**
OBN *i* pP 23 48 54.0 -0.8
OBN *i* 23 57 54.3
OBN pmax pmax
comp=Z,88nm,1.2s,mb5.6
OBN Obninsk 70.78 328⇑ *e*P **P 23 48 44.0 -1.5**
comp=Z,260nm,1.2s,mb6.0
OBN *e*pP pP 23 48 52.7 -2.1
ULDT Uludag 70.87 312 *i* P **P 23 48 42.1 -4.2**
PET Petropavlovsk 71.25 34 *i* P **P 23 48 47.3 -1.1**
PET pmax pmax
comp=Z,83nm,1.3s,mb5.5
PET MLR MLR
comp=Z,2µm,18.0s,MS5.4
PET Petropavlovsk 71.25 34 *e*P **P 23 48 47.4 -1.0**
comp=Z,50nm,0.8s,mb5.5
KARP Karpathos 71.50 306 *e*P **P 23 48 51.0 +0.8**
BTOK Tokmak 71.62 311 *i* P **P 23 48 49.9 -1.0**
KDAG Bornova 71.94 309 *i* P **P 23 48 45.5 -7.2**
TIRR Tirgusor 72.38 316⇑ P **P 23 48 54.4 -0.9**
TIRR Tirgusor 72.38 316⇑ P **P 23 48 54.3 -1.0**
SEY Seymchan 72.50 23 *e*P **P 23 48 54.5 -1.1**
SEY pP 23 49 04.8 -0.1
SEY *e*S S 23 58 17.6 +1.1
SEY *e* 23 58 55.8
SEY pmax pmax
comp=Z,80nm,1.2s,mb5.5
SEY pmax pmax
comp=E,40nm,0.9s
SEY MLR MLR
comp=Z,7µm,18.0s,MS6.0
SEY MLR MLR
comp=N,14µm,21.0s,MS6.2
SEY MLR MLR
comp=E,8µm,22.0s,MS6.2
NOUC Port Laguerre 72.54 114 *e*P **P 23 48 56.6 -0.1**
NOUC Port Laguerre 72.54 114 *e*P **P 23 48 56.6 -0.1**
XRY Khrisi 72.58 306 *e*P **P 23 48 58.0 +1.3**
XRY Khrisi 72.58 306 *e*P **P 23 48 58.0 +1.3**
DZM Mont Dzumac 72.66 114 *e*P **P 23 48 58.1 +0.7**
DZM Mont Dzumac 72.66 114 *e*P **P 23 48 58.1 +0.7**
NPS Neapolis 72.70 306 *e*P **P 23 48 57.5 +0.1**
KIS Kishinev 72.73 318 *e*P **P 23 48 55.0 -2.3**
KIS *e* 23 49 09.0
KIS *e* 23 49 19.0
KIS *e* 23 51 41.0
KIS *e*S S 23 58 14.0 -5.4
KIS pmax pmax
comp=Z,70nm,1.3s,mb5.4
KIS pmax pmax
comp=Z,700nm,5.0s
CFR Carcaliu 72.74 317⇓ P **P 23 48 56.6 -0.8**
HARR Harsova 72.77 316⇓ *i*P **P 23 48 56.9 -0.7**
JMB Yambol 73.24 313 *e*P **P 23 49 00.0 -0.4**
AKASG Malin Array Be 73.45 322 P **P 23 48 58.7 -2.8**
comp=Z,12nm,0.6s,mb5.0,baz=88,slow=5.0,SNR=22
RDO Rodhopi 73.76 312 *e*P **P 23 49 03.0 -0.4**
VRI Vrincioaia 73.86 317⇑ *i*P **P 23 49 04.2 +0.3**
VAM Vamos 73.87 306 *e*P **P 23 49 04.8 +0.6**
SZH Strazhica 73.87 314 *e*P **P 23 49 05.0 +1.0**
DIM Dimitrovgrad 73.93 313 *e*P **P 23 49 05.0 +0.6**
KDZ Kurdzhali 73.94 312 *e*P **P 23 49 05.0 +0.6**
LBTB Lobatse 73.97 243 *e*P **P 23 49 04.8 -0.2**
LBTB pmax pmax
comp=Z,172nm,1.5s,mb5.8
LBTB Lobatse 73.97 243 P **P 23 49 04.4 -0.6**
comp=Z,40nm,1.1s,mb5.3,baz=102,slow=5.5,SNR=18
LBTB LR LR 00 20 20.8
comp=Z,3µm,18.8s,MS5.5,baz=118,slow=35
LBTB Lobatse 73.97 243 *e*P **P 23 49 04.8 -0.2**
comp=Z,172nm,1.5s,mb5.8
MAW Mawson 74.19 193 *e*P **P 23 49 04.9 -0.5**
MAW pmax pmax
comp=Z,85nm,1.3s
MAW Mawson 74.19 193 P **P 23 49 04.5 -0.9**
comp=Z,15nm,1.0s,mb4.9,baz=89,slow=12,SNR=8.1
MAW LR LR 00 16 29.5
comp=Z,1µm,20.0s,MS5.2,baz=86,slow=32
MAW Mawson 74.19 193 *e*P **P 23 49 04.9 -0.5**
comp=Z,85nm,1.3s,mb5.5
MLR Muntele Rosu 74.32 316⇑ *i*P **P 23 49 06.8 +0.2**
RZN Rozhen 74.46 312 *e*P **P 23 49 06.2 -1.3**
MTUR Matau 74.87 316 P **P 23 49 10.3 +0.5**
KYTH Kithira 74.92 307 *e*P **P 23 49 07.0 -3.3**
BOSA Boshof 74.98 240 *e*P **P 23 49 10.0 -0.8**
BOSA pmax pmax
comp=Z,73nm,1.3s,mb5.5
BOSA Boshof 74.98 240 P **P 23 49 09.9 -0.9**
comp=Z,15nm,0.8s,mb5.0,baz=89,slow=6.0,SNR=22
BOSA Boshof 74.98 240 *e*P **P 23 49 10.0 -0.8**
comp=Z,73nm,1.3s,mb5.5
VLI Veliai 75.06 307 *e*P **P 23 49 08.0 -3.1**
MMB Musomiste 75.17 312 P **P 23 49 10.0 -1.6**
BURAR Bucovina Array 75.25 319 P **P 23 49 13.8 +1.9**
BURAR Bucovina Array 75.25 319⇓ P **P 23 49 12.3 +0.4**
PUL Pulkovo 75.64 331 *i* P **P 23 49 13.4 -0.5**
KKB Krupnik 75.69 312 P **P 23 49 12.0 -2.6**
VTS Vitosha 75.72 313 P **P 23 49 15.2 +0.5**
VTS Vitosha 75.72 313 P **P 23 49 13.0 -1.7**
ITM Ithomi 75.92 307 *e*P **P 23 49 19.0 +3.0**
IDID Didziasalis 76.15 326 *e*P **P 23 49 16.1 -0.7**
IDID AMb AMB 23 49 28.5
comp=Z,45nm,1.4s,mb5.2
EVR Evrytania 76.23 309 *e*P **P 23 49 17.0 -0.7**
IIGN Ignalina 76.45 326 *e*P **P 23 49 18.0 -0.5**
IIGN AMb AMB 23 49 22.3
comp=Z,29nm,1.3s,mb5.0
LVV L'vov 76.48 321 *i* P **P 23 49 19.8 +1.0**
LVV *e*S S 23 58 56.0 -5.0
IZAR Zarasai 76.54 327 *e*P **P 23 49 18.4 -0.6**
ISAL Salakas 76.56 327 *e*P **P 23 49 18.6 -0.5**
ISAL AMb AMB 23 49 22.1
comp=Z,16nm,1.2s,mb4.8
SKO Skopje 76.92 312 *e*P **P 23 49 20.5 -1.0**
LVZ Lovozero 76.98 340 *i* P **P 23 49 20.5 -0.7**
LVZ pmax pmax
comp=Z,82nm,1.1s,mb5.6
LVZ Lovozero 76.98 340 *i* P **P 23 49 20.6 -0.6**
VSU Vasula 77.00 330 *i* P **P 23 49 21.0 -0.5**
VSU Vasula 77.00 330 *i* P **P 23 49 21.1 -0.4**
JAN Janina 77.07 310 *e*P **P 23 49 20.0 -2.3**
VLS Valsamata 77.09 308 *e*P **P 23 49 22.0 -0.5**
APA Apatity 77.28 339⇑ *i*P **P 23 49 23.0 +0.1**
APA *i* 23 49 29.3
APA *e*S S 23 59 14.0 +4.7
APA pmax pmax
comp=Z,90nm,1.2s,mb5.6
APA MLR MLR
comp=Z,4µm,17.0s,MS5.8
KWP Kalwaria 77.28 320 P **P 23 49 22.8 -0.5**
KWP pmax pmax
comp=Z,140nm,1.1s,mb5.8
KWP Kalwaria 77.28 320 *e*P **P 23 49 24.6 +1.3**
KWP *e* 23 49 31.4
KWP Kalwaria 77.28 320 *e*P **P 23 49 24.6 +1.4**
KWP *e* 23 49 31.4
BZS Buzias 77.33 316⇑ P **P 23 49 23.4 -0.2**
UZH Uzhgorod 77.37 319 *e*P **P 23 49 24.0 +0.2**
UZH *e*S S 23 59 11.0 +0.3
KOLS Kolonicke sedl 77.44 319 *e*P **P 23 49 24.9 +0.8**
KOLS *e* pP 23 49 33.8 +0.3
SUW Suwalki 77.86 325 P **P 23 49 25.4 -0.9**
SUW pmax pmax
comp=Z,160nm,1.0s,mb5.9

SUW **Suwalki** 77.86 325 *e*P P **23 49 25.5 -0.8**
SUW **Suwalki** 77.86 325 *e*P P **23 49 25.5 -0.8**
CRVS **Cervenica-Dubn** 77.96 319 *e*P P **23 49 31.0 +4.0**
CRVS *e* 23 49 44.3
FINES **FINESS Array B** 78.15 332 P P **23 49 26.9 -0.8**
comp=Z,10nm,0.6s,mb4.9,baz=104,slow=7.9,SNR=44
KAF **Kangasniemi** 78.23 333 *e*p P **23 49 28.2 0.0**
DIVS **Divcibare** 78.26 314 ⇓*i*(P) P **23 49 29.1 +0.3**
KECS **Kecovo** 78.53 319 *e*P P **23 49 28.8 -1.4**
KECS *e* 23 49 42.0
KECS *e* 23 49 47.0
NIE **Niedzica** 78.79 320 *e*P P **23 49 30.2 -1.3**
PSZ **Piszkesteto** 78.84 318 P P **23 49 31.3 -0.6**
PSZ pmax pmax
comp=Z,89nm,1.2s,mb5.6
PSZ **Piszkesteto** 78.84 318⇓*e*P P **23 49 31.8 -0.1**
OJC **Ojcow** 79.23 320 *e*P P **23 49 34.7 +0.7**
SUR **Sutherland** 79.46 236 *e*P P **23 49 35.8 +0.2**
comp=Z,75nm,0.9s,mb5.6
PKSM **Moragy** 79.47 316⇓*e*P P **23 49 34.8 -0.5**
PKSM *i* 23 51 51.3
VYHS **Vyhne** 79.62 319 *e*P P **23 49 36.5 +0.4**
VYHS *e* 23 49 55.1
VYHS *e*S S 23 59 33.4 -1.3
FX1 **Attu Island--F** 79.68 37 P P **23 49 37.1 +0.8**
comp=Z,31nm,0.6s,mb5.4,baz=216,slow=4.9,SNR=11
FX1 **Attu Island--F** 79.68 37 *e*P P **23 49 36.4 0.0**
SRO2 **Moca** 79.82 318 *e*P P **23 49 38.5 +1.3**
SRO2 *e* 23 49 56.3
RHK1 **Bakonya** 79.85 316 *e*P P **23 49 37.6 +0.2**
BILL **Bilibino** 79.85 21 *i* P P **23 49 36.8 -0.1**
BILL pmax pmax
comp=Z,15nm,1.8s,mb4.6
BILL MLR MLR
comp=Z,5μm,18.0s,MS5.9
BILL **Bilibino** 79.85 21 *i* P P **23 49 36.9 0.0**
SRO **Srobarova** 79.88 318 *e*P P **23 49 38.7 +1.2**
SRO1 **Iza** 79.93 318 *e*P P **23 49 39.2 +1.4**
SRO1 *e* pP **23 49 47.4 +0.2**
TIP **Timpagrande** 80.17 309 P P **23 49 37.6 -1.6**
OKC **Ostrava-Krasne** 80.24 320 *e*P P **23 49 39.6 +0.2**
OKC AMS AMS 00 36 40.0
comp=Z,700nm,15.2s
KEV **Kevo** 80.25 341 *e*p P **23 49 38.6 -0.4**
comp=Z,0.7nm,0.3s
KEV **Kevo** 80.25 341 *e*P P **23 49 38.6 -0.4**
KEV pmax pmax
comp=Z,1.0nm,0.3s
GRI **Girifalco** 80.41 309 *e*P P **23 49 38.6 -1.9**
SMOL **Smolenice** 80.55 319 *e*P P **23 49 42.0 +1.0**
MORC **Moravsky Berou** 80.62 320 *e*P P **23 49 41.0 -0.4**
MORC pmax pmax
comp=Z,57nm,1.2s,mb5.4
MORC **Moravsky Berou** 80.62 320 *e*P P **23 49 41.0 -0.4**
comp=Z,57nm,1.2s,mb5.4
ARCES **ARCESS Array B** 80.69 340 P P **23 49 41.3 -0.1**
comp=Z,11nm,0.5s,mb5.1,baz=96,slow=5.4,SNR=105
ARE0 **ARCESS Array S** 80.69 340 *e*P P **23 49 41.5 +0.2**
MTTG **Motta San Giov** 80.93 308 *e*P P **23 49 44.3 +1.0**
SOP **Sopron** 81.05 318 *e*P P **23 49 44.1 +0.4**
SLCN **Sala Consilina** 81.12 310 *e*P P **23 49 45.3 +1.1**
KOGS **Kog** 81.14 316 *e*P P **23 49 44.6 +0.4**
VRAC **Vranov** 81.18 319 P P **23 49 45.5 +1.1**
GKP **Gorka Klasztor** 81.22 323 *e*P P **23 49 45.6 +1.2**
GKP *e* pP 23 49 53.1 -0.8
MRLC **Muro Lucano** 81.26 311 *e*P P **23 49 46.6 +1.7**
KTK1 **Kautokeino** 81.32 340 *e*P P **23 49 45.6 +0.9**
comp=Z,200nm,1.4s,mb5.9
KTK1 **Kautokeino** 81.32 340 *e*P P **23 49 45.6 +0.9**
KTK1 AMb AMB 23 49 57.1
comp=Z,200nm,1.4s,mb5.8
SGO **Sicignano** 81.38 310 *e*P P **23 49 45.4 -0.2**
SYO **Syowa Base** 81.38 198 ⇑P P **23 49 46.2 +1.2**
SYO **Syowa Base** 81.38 198 ⇑PcP PcP 23 49 49.5 -2.0
SYO **Syowa Base** 81.38 198 ⇑pP pP 23 49 54.8 +0.3
DPC **Dobruska-Polom** 81.46 320 *e*P P **23 49 46.5 +0.7**
DPC AMS AMS 00 33 50.0
comp=Z,1μm,18.7s
KSP **Ksiaz** 81.53 321 *e*P P **23 49 46.5 +0.4**
KSP *e**PP pP 23 49 53.6 -2.0
KSP **Ksiaz** 81.53 321 *e*P P **23 49 47.1 +1.0**
CSSN **Cassano Irpino** 81.61 311 *e*P P **23 49 46.5 -0.3**
UPC **Upice** 81.68 320 *e*P P **23 49 47.8 +0.9**
ARSA **Arzberg** 81.71 317 ⇓*i*P P **23 49 47.5 +0.4**
comp=Z,40nm,1.2s,mb5.2
VISS **Visnje** 82.07 316 *e*P P **23 49 49.3 +0.3**
CII **Carovilli** 82.20 312 *e*P P **23 49 50.2 +0.4**
comp=Z,76nm,1.4s,mb5.4
LJU **Ljubljana** 82.30 316 *e*P P **23 49 51.3 +1.1**
OBKA **Obir** 82.32 316 ⇑*i*P P **23 49 51.1 +0.8**
comp=Z,41nm,1.8s,mb5.1
PRU **Pruhonice** 82.57 320 *e*P P **23 49 51.1 -0.4**
PRU *e*pP pP 23 50 01.2 +0.2
PRU AMS AMS 00 36 00.0
comp=Z,2μm,16.4s
SDI **San Donato** 82.57 312 *e*P P **23 49 51.0 -0.7**
PVCC **Panska Ves** 82.60 320 *e*P P **23 49 51.6 -0.1**
PVCC AMS AMS 00 32 50.0
comp=Z,2μm,17.2s
MOA **Molln** 82.60 318 ⇑*i*P P **23 49 51.9 +0.2**
comp=Z,25nm,1.1s,mb5.2
VOY **Vojsko** 82.74 316 *e*P P **23 49 52.1 -0.4**
VOY *e* pP 23 50 02.6 +0.6
BSD **Bornholm Skovb** 82.78 325 *e*P P **23 49 51.9 -0.6**
BSD *e* pP 23 50 03.3 +1.3
BSD pmax pmax
comp=Z,16nm,0.7s,mb5.2
BSD **Bornholm Skovb** 82.78 325 *e*P P **23 49 51.9 -0.6**
comp=Z,16nm,0.7s,mb5.2
BSD *e* pP 23 50 03.3 +1.3
BSD **Bornholm Skovb** 82.78 325 *i* P P **23 49 51.9 -0.6**
comp=Z,16nm,0.7s,mb5.2
BSD *e* pP 23 50 03.3 +1.3
TRI **Trieste** 82.81 316 *e*P P **23 49 52.8 -0.1**
AQU **L'Aquila** 82.91 312 *e*P P **23 49 53.4 -0.1**
AQU pmax pmax
comp=Z,110nm,1.1s,mb5.8
AQU **L'Aquila** 82.91 312 *e*P P **23 49 53.6 +0.1**
TRO **Tromso** 82.95 340 *e*P P **23 49 51.4 -1.7**
TRO pmax pmax
comp=Z,98nm,1.3s,mb5.7
TRO **Tromso** 82.95 340 *e*P P **23 49 51.4 -1.7**
comp=Z,98nm,1.3s,mb5.7
TRO **Tromso** 82.95 340 *e*P P **23 49 51.4 -1.7**
TRO *e*pP pP 23 50 02.2 -0.4
TRO AMb AMB 23 50 03.3
comp=Z,98nm,1.3s,mb5.7
BRG **Berggiesshubel** 83.02 321 *e*P P **23 49 54.5 +0.7**
BRG *i* pP 23 50 02.4 -0.9
BRG pmax pmax
comp=Z,92nm,1.8s,mb5.5
BRG **Berggiesshubel** 83.02 321 *e*P P **23 49 54.5 +0.7**
comp=Z,92nm,1.8s,mb5.5
BRG *i* pP 23 50 02.4 -0.9
BRG *e* 23 52 11.6
BRG *e* 23 55 25.6
GERES **GERESS Array B** 83.04 319 P P **23 49 54.0 0.0**
comp=Z,9.2nm,0.8s,mb4.8,baz=90,slow=5.3,SNR=70
PTCC **Patocco-Chiusa** 83.14 316 *e*P P **23 49 54.5 0.0**
KHC **Kasperske Hory** 83.14 319 *e*P P **23 49 54.2 -0.3**
KHC *e**PP pP 23 50 04.1 +0.1
KHC **Kasperske Hory** 83.14 319 *e*P P **23 49 54.2 -0.3**
KHC *e* 23 49 59.0
KHC *e*pP pP 23 50 04.1 +0.1
KHC **Kasperske Hory** 83.14 319 *e*P P **23 49 54.2 -0.3**
KHC x x 23 49 59.0
KHC *e*pP pP 23 50 04.1 +0.1
NRCA **Norcia** 83.14 313 *e*P P **23 49 54.5 -0.1**
KBA **Koelnbreinsper** 83.18 317 ⇑*i*P P **23 49 54.7 0.0**
comp=Z,22nm,1.3s,mb5.0
KBA **Koelnbreinsper** 83.18 317 ⇑*i*P P **23 49 54.7 0.0**
KBA pmax pmax
comp=Z,23nm,1.3s,mb5.0
GMNA **Gemona** 83.21 316 *e*P P **23 49 54.8 -0.2**
RUE **Ruedersdorf** 83.23 322 *e*P P **23 49 55.1 +0.2**
comp=Z,43nm,0.7s,mb5.6
SNTG **Esanatoglia** 83.28 313 *e*P P **23 49 56.2 +0.8**
ARV **Arcevia** 83.29 313 *e*P P **23 49 55.9 +0.5**
ERC **Erice** 83.38 308 *e*P P **23 49 57.6 +1.6**
MNS **Montasola** 83.44 312 *e*P P **23 49 55.4 -0.8**
FVI **Forni Avoltri** 83.54 316 *e*P P **23 49 56.4 -0.2**
WET **Wettzell** 83.60 319 *e*P P **23 49 56.8 -0.1**
CLL **Collm** 83.64 321 *i* P P **23 49 57.0 0.0**
CLL *i* pP 23 50 05.2 -1.3
CLL *i* 23 50 13.7
CLL pmax pmax
comp=Z,46nm,1.9s,mb5.3
CLL **Collm** 83.64 321 *i* P P **23 49 57.0 0.0**
comp=Z,46nm,1.9s,mb5.3
CLL *i* pP 23 50 05.2 -1.3
CLL *i* 23 50 13.7
CLL **Collm** 83.64 321 P P **23 49 57.0 0.0**
comp=Z,logA/T=1.4,mb5.3
CLL *i**PP pP 23 50 05.2 -1.3
CLL *i* 23 50 13.7
CLL *e*S S 00 00 17.0 +1.1
CLL *e*SCS ScS 00 00 32.0 +4.8
CLL *e*SP SP 00 01 04.0 -4.8
CLL *e*SS SS 00 05 48.0 +2.3
RSM **Repubblica di** 83.67 314 *e*P P **23 49 58.3 +1.0**
NKC **Novy Kostel** 83.93 320 *e*P P **23 49 59.8 +1.3**
NKC AMS AMS 00 33 50.0
comp=Z,2μm,17.0s
SFI **Santa Sofia** 84.10 314 *e*P P **23 50 00.6 +1.1**
MOR8 **Moi Rana** 84.12 336 *e*P P **23 49 58.9 -0.2**
comp=Z,114nm,1.4s,mb5.8
MOR8 **Moi Rana** 84.12 336 *e*P P **23 49 58.9 -0.2**
MOR8 AMb AMB 23 50 10.3
comp=Z,114nm,1.4s,mb5.8
PGD **Poggio Sodo** 84.19 314 *e*P P **23 50 01.8 +1.8**
CTI **Castel Tesino** 84.31 316 *e*P P **23 50 00.9 +0.4**
VMG **Vicchio** 84.32 314 *e*P P **23 50 01.7 +1.1**
WTTA **Wattenberg** 84.35 317 ⇑*i*P P **23 50 00.5 -0.2**
comp=Z,50nm,1.4s,mb5.5
WTTA **Wattenberg** 84.35 317 ⇑*i*P P **23 50 00.5 -0.2**
WTTA pmax pmax
comp=Z,50nm,1.4s,mb5.5
WATA **Walderalm** 84.39 317 ⇑*i*P P **23 50 00.5 -0.4**
comp=Z,36nm,1.5s,mb5.3
WATA **Walderalm** 84.39 317 ⇑*i*P P **23 50 00.5 -0.4**
WATA pmax pmax
comp=Z,36nm,1.5s,mb5.3
SEI **Scarperia** 84.46 314 *e*P P **23 50 02.7 +1.4**
MOX **Moxa** 84.48 320 *e*P P **23 50 02.5 +1.2**
MOX pmax pmax
comp=Z,42nm,1.8s,mb5.3
MOX MLR MLR
comp=Z,1μm,18.0s,MS5.4
MOX **Moxa** 84.48 320 *e*P P **23 50 02.5 +1.2**
comp=Z,42nm,1.8s,mb5.3
MOX LR LR
comp=Z,1μm,18.0s,MS5.4
MOX **Moxa** 84.48 320 *i* P P **23 50 02.5 +1.2**
comp=Z,logA/T=1.4,mb5.3
MOX L 00 35 35.0
FUR **Furstenfeldbru** 84.62 318 *e*P P **23 50 02.0 0.0**
SQTA **Sankt Quirin** 84.64 317 ⇑*i*P P **23 50 02.1 -0.1**
comp=Z,43nm,1.5s,mb5.4
SQTA **Sankt Quirin** 84.64 317 ⇑*i*P P **23 50 02.1 -0.1**
SQTA pmax pmax
comp=Z,43nm,1.5s,mb5.4
LOF **Lofoten** 84.67 338 *e*P P **23 50 04.5 +2.7**
comp=Z,166nm,1.7s,mb5.9
LOF **Lofoten** 84.67 338 *e*P P **23 50 04.5 +2.7**
LOF AMb AMB 23 50 13.7
comp=Z,166nm,1.7s,mb5.9
GRA1 **Grafenberg Arr** 84.70 319 *e*P P **23 50 02.7 +0.3**
comp=Z,143nm,2.0s,mb5.8
GRF **Grafenberg Arr** 84.70 319 *e*P P **23 50 02.7 +0.3**
GRF pmax pmax
comp=Z,143nm,2.0s,mb5.8
GRF **Grafenberg Arr** 84.70 319 *e*P P **23 50 02.7 +0.3**
GRF pmax pmax
comp=Z,143nm,2.0s,mb5.8
GRF **Grafenberg Arr** 84.70 319 *e*P P **23 50 02.7 +0.3**
comp=Z,143nm,2.0s,mb5.8
GRFL **Gerfalco** 84.72 313 *e*P P **23 50 02.2 -0.5**
ZCCA **Zocca** 84.74 314 *e*P P **23 50 04.5 +1.8**
NSS **Namsos** 85.01 334 *e*P P **23 50 03.0 -0.6**
comp=Z,146nm,1.5s,mb5.9
NSS **Namsos** 85.01 334 *e*P P **23 50 03.0 -0.6**
NSS AMb AMB 23 50 14.2
comp=Z,146nm,1.5s,mb5.9
GSCL **Gusciola** 85.02 314 *e*P P **23 50 04.9 +0.8**
SAL **Salo** 85.08 315 *e*P P **23 50 04.9 +0.5**
HSP **Hornsund** 85.14 347 *e*P P **23 50 01.5 -2.4**
ERBM **Eremo** 85.14 314 *e*P P **23 50 06.1 +1.4**
NB2 **NORSAR Subarra** 85.16 331 P P **23 50 04.2 -0.2**
comp=Z,85nm,1.7s,mb5.6,baz=97,slow=5.0
NB2 **NORSAR Subarra** 85.16 331 P P **23 50 04.2 -0.2**
NB2 pmax pmax
comp=Z,85nm,1.7s,mb5.6
NB2 **NORSAR Subarra** 85.16 331 P P **23 50 04.2 -0.2**
baz=97,slow=5.3
NOA **NORSAR Array B** 85.16 331 P P **23 50 03.8 -0.6**
comp=Z,8.2nm,1.0s,mb4.8,baz=93,slow=5.3,SNR=16
VLC **Villacollemand** 85.16 314 P P **23 50 04.7 -0.2**
comp=Z,15nm,0.9s,mb5.1
BRMO **Bormio** 85.20 316 *e*P P **23 50 05.4 +0.4**
CLZ **Clausthal** 85.30 322 *e*P P **23 50 06.0 +0.7**
comp=Z,78nm,2.0s,mb5.5
NAO01 **NORSAR Array S** 85.31 331 *e*P P **23 50 04.9 -0.3**
comp=Z,66nm,1.3s,mb5.6
BSEG **Bad Segeberg** 85.38 324 *e*P P **23 50 06.1 +0.4**
DAVOX **Davos** 85.54 317 P P **23 50 06.4 -0.3**
comp=Z,29nm,0.5s,mb5.7,baz=113,slow=5.1,SNR=59
DAVA **Damuels** 85.55 317 ⇑*i*P P **23 50 06.9 +0.2**
comp=Z,49nm,1.0s,mb5.7
KONO **Kongsberg** 85.91 329 P P **23 50 08.2 0.0**
KONO pmax pmax
comp=Z,170nm,1.4s,mb6.1
KONO **Kongsberg** 85.91 329 *e*P P **23 50 08.1 -0.1**
STU **Stuttgart** 86.02 319 *e*P P **23 50 07.9 -1.1**
STU pmax pmax
comp=Z,13nm,0.7s,mb5.3
STU **Stuttgart** 86.02 319 *e*P P **23 50 07.9 -1.0**
comp=Z,13nm,0.7s,mb5.3
PGF **Pioggiola** 86.17 312 *e*P P **23 50 09.3 -0.6**
comp=Z,105nm,1.3s,mb5.6
PGF **Pioggiola** 86.17 312 *e*P P **23 50 09.3 -0.6**
PGF pmax pmax
comp=Z,52nm,1.3s,mb5.6
SPAK **Spaichingen** 86.29 318 *e*P P **23 50 11.5 +1.2**
TNS **Taunus Mts** 86.50 320 *e*P P **23 50 11.4 +0.1**
TNS pmax pmax
comp=Z,28nm,1.2s,mb5.4
TNS **Taunus Mts** 86.50 320 *e*P P **23 50 11.4 +0.1**
comp=Z,28nm,1.2s,mb5.4
BFO **Black Forest** 86.59 318 P P **23 50 11.5 -0.3**
comp=Z,95nm,0.8s,mb6.1,SNR=11
BFO **Black Forest** 86.59 318 *e*P P **23 50 11.2 -0.6**
BFO pmax pmax
comp=Z,13nm,0.9s,mb5.2
BFO **Black Forest** 86.59 318 *e*P P **23 50 11.2 -0.6**
comp=Z,13nm,0.9s,mb5.2
FIN **Finale Ligure** 86.73 314 *e*P P **23 50 12.6 0.0**
FELD **Feldberg** 86.82 318 *e*P P **23 50 14.6 +1.7**
MCGN **Macugnaga** 86.86 316 *e*P P **23 50 14.2 +1.1**
MOL **Molde** 86.93 332 *e*P P **23 50 14.6 +1.5**
comp=Z,133nm,1.5s,mb6.0
MOL **Molde** 86.93 332 *e*P P **23 50 14.6 +1.5**
MOL AMb AMB 23 50 26.3
comp=Z,133nm,1.5s,mb6.0
IMI **Imperia** 86.96 314 *e*P P **23 50 14.4 +0.7**
ABH **Alteburg** 87.09 320 *e*P P **23 50 15.4 +1.2**
SAOF **Saorge** 87.20 314 *e*P P **23 50 14.7 -0.2**
WLS **Welschbruch** 87.24 318 *e*P P **23 50 15.4 +0.4**
SBF **Sospel** 87.29 314 *e*P P **23 50 15.1 -0.2**
comp=Z,66nm,0.9s,mb5.6
SBF **Sospel** 87.29 314 *e*P P **23 50 15.1 -0.2**
SBF pmax pmax
comp=Z,33nm,0.9s,mb5.6
CDF **Champ du Feu** 87.29 318 *e*P P **23 50 14.7 -0.5**
comp=Z,23nm,1.0s,mb5.1
CDF **Champ du Feu** 87.29 318 *e*P P **23 50 14.7 -0.5**
CDF pmax pmax
comp=Z,11nm,1.0s,mb5.0
ECH **Echery** 87.38 318 *e*P P **23 50 16.3 +0.7**
RUP **Ruppelstein** 87.41 319 *e*P P **23 50 17.1 +1.4**
TOUF **Mont Tournerai** 87.42 314 *e*P P **23 50 16.8 +0.8**
ABSA **Djebel Ababsia** 87.47 306 P P **23 50 19.0 +2.6**
CMAH **Djebel Manchou** 87.50 306 P P **23 50 19.0 +2.5**
BLS5 **Blasjo** 87.51 329 *e*P P **23 50 17.6 +1.7**
comp=Z,60nm,1.0s,mb5.8
BLS5 **Blasjo** 87.51 329 *e*P P **23 50 17.6 +1.7**
BLS5 AMb AMB 23 50 30.9
comp=Z,60nm,1.1s,mb5.8
WTSB **Winterswijk** 87.51 322 *e*P P **23 50 17.0 +0.8**
comp=Z,42nm,4.6s
HINF **Hinteralfeld** 87.59 318 *e*P P **23 50 15.9 -0.8**
comp=Z,10nm,0.7s,mb4.9
HINF **Hinteralfeld** 87.59 318 *e*P P **23 50 15.9 -0.8**
HINF pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
LOMF **Lomont** 87.62 317 *e*P P **23 50 17.3 +0.5**
VNDA **Vanda** 87.64 169 *e*P P **23 50 15.9 -0.4**
VNDA *e**PP pP 23 50 25.6 -0.2
VNDA pmax pmax
comp=Z,34nm,1.3s
VNDA **Vanda** 87.64 169 P P **23 50 16.1 -0.1**
comp=Z,5.8nm,0.7s,mb4.9,baz=296,slow=4.2,SNR=11
VNDA **Vanda** 87.64 169 *e*P P **23 50 15.9 -0.4**
comp=Z,34nm,1.3s,mb5.4
VNDA *e*pP pP 23 50 25.6 -0.2
CALN **Calern** 87.69 314 *e*P P **23 50 13.8 -3.4**
LPG **La Plagne** 87.73 315 *e*P P **23 50 17.7 +0.3**
comp=Z,48nm,0.8s,mb5.5
LPG **La Plagne** 87.73 315 *e*P P **23 50 17.7 +0.3**
LPG pmax pmax
comp=Z,24nm,0.8s,mb5.5
MBDF **Montbardon** 87.74 314 *e*P P **23 50 16.8 -0.7**
comp=Z,23nm,0.8s,mb5.2
MBDF **Montbardon** 87.74 314 *e*P P **23 50 16.8 -0.7**
MBDF pmax pmax
comp=Z,12nm,0.8s,mb5.2
LPL **La Plagne** 87.75 315 *e*P P **23 50 17.6 +0.1**
comp=Z,80nm,1.0s,mb5.6
LPL **La Plagne** 87.75 315 *e*P P **23 50 17.6 +0.1**
LPL pmax pmax
comp=Z,40nm,1.0s,mb5.6
BNI **Bardonecchia** 87.80 315 *e*P P **23 50 19.9 +2.2**
BNI pmax pmax
comp=Z,16nm,0.8s,mb5.3
BNI **Bardonecchia** 87.80 315 *e*P P **23 50 19.9 +2.2**
comp=Z,16nm,0.8s,mb5.3
FRF **La Foret Royal** 87.87 313 *e*P P **23 50 18.0 -0.1**
comp=Z,81nm,1.2s,mb5.5
FRF **La Foret Royal** 87.87 313 *e*P P **23 50 18.0 -0.1**
FRF pmax pmax
comp=Z,40nm,1.2s,mb5.5
HAU **Haudompre** 87.93 318 *e*P P **23 50 17.9 -0.4**
comp=Z,43nm,0.8s,mb5.4
HAU **Haudompre** 87.93 318 *e*P P **23 50 17.9 -0.4**
HAU pmax pmax
comp=Z,22nm,0.8s,mb5.4
LMR **La Mourre** 87.98 313 *e*P P **23 50 18.7 +0.1**
WLF **Walferdange** 88.00 319 P P **23 50 19.5 +1.0**
WLF *e**PP pP 23 50 28.0 -0.1
WLF pmax pmax
comp=Z,40nm,1.6s,mb5.4
WLF **Walferdange** 88.00 319 P P **23 50 19.4 +0.9**
comp=Z,40nm,1.6s,mb5.4
WLF *e*pP pP 23 50 28.0 -0.1
CKFL **Kef-Lekhel** 88.07 306 P P **23 50 20.0 +0.7**
HGN **Heimansgroeve** 88.10 321 *e*P P **23 50 20.6 +1.6**
comp=Z,9.6nm,1.3s,mb4.9
CABF **La Chapelle** 88.16 316 *e*P P **23 50 19.6 +0.2**
comp=Z,51nm,0.9s,mb5.5
CABF **La Chapelle** 88.16 316 *e*P P **23 50 19.6 +0.2**
CABF pmax pmax
comp=Z,26nm,0.9s,mb5.5
THEF **They Montfort** 88.16 318 *e*P P **23 50 18.1 -1.3**
CTEI **Djebel Teioual** 88.34 306 P P **23 50 23.0 +2.5**
ORIF **Oris-en-Rattie** 88.37 315 *e*P P **23 50 20.6 +0.1**
SBA **Scott Base** 88.74 168 *e*P P **23 50 22.3 +0.8**
SBA pmax pmax
comp=Z,23nm,0.6s,mb5.7
SBA **Scott Base** 88.74 168 *e*P P **23 50 22.3 +0.8**
comp=Z,23nm,0.6s,mb5.7
DFRA **Djebel Bou Aff** 88.75 306 P P **23 50 25.0 +2.5**
CMER **Merouana** 88.77 305 P P **23 50 26.5 +3.9**
MEZF **Maizieres J'vi** 88.77 318 *e*P P **23 50 22.2 -0.1**
GIVF **Givet** 88.83 320 *e*P P **23 50 22.8 +0.2**
comp=Z,24nm,0.9s,mb5.2
GIVF **Givet** 88.83 320 *e*P P **23 50 22.8 +0.2**
GIVF pmax pmax
comp=Z,12nm,0.9s,mb5.2
SET **Setif** 89.15 306 P P **23 50 27.0 +2.6**
VIVF **Saint-Julien-l** 89.23 315 *e*P P **23 50 24.6 0.0**
comp=Z,40nm,1.1s,mb5.4
VIVF **Saint-Julien-l** 89.23 315 *e*P P **23 50 24.6 0.0**
VIVF pmax pmax
comp=Z,20nm,1.1s,mb5.4
BAIF **Baives** 89.23 320 *e*P P **23 50 24.8 +0.3**
comp=Z,51nm,0.9s,mb5.5
BAIF **Baives** 89.23 320 *e*P P **23 50 24.8 +0.3**
BAIF pmax pmax
comp=Z,26nm,0.9s,mb5.6
SMF **Signal de Mont** 89.70 317 *e*P P **23 50 26.6 -0.1**
comp=Z,44nm,1.0s,mb5.4
SMF **Signal de Mont** 89.70 317 *e*P P **23 50 26.6 -0.1**
SMF pmax pmax
comp=Z,22nm,1.0s,mb5.4
TNA **Tin City** 89.71 24 *e*P P **23 50 25.4 -1.0**
comp=Z,8.1nm,0.9s,mb5.0
LASF **Ste Croix** 89.86 314 *e*P P **23 50 28.0 +0.4**
SSF **Saint Saulge** 89.90 317 *e*P P **23 50 27.9 +0.2**
SSF pmax pmax
comp=Z,29nm,1.3s,mb5.5
SSF **Saint Saulge** 89.90 317 *e*P P **23 50 27.9 +0.2**
comp=Z,29nm,1.3s,mb5.4
AVF **Avril sur Loir** 90.03 317 *e*P P **23 50 28.1 -0.1**
comp=Z,83nm,1.4s,mb5.6
AVF **Avril sur Loir** 90.03 317 *e*P P **23 50 28.1 -0.1**
AVF pmax pmax
comp=Z,41nm,1.4s,mb5.6
BGF **Bois d'Agland** 90.39 316 *e*P P **23 50 30.3 +0.4**
comp=Z,140nm,1.4s,mb5.8
BGF **Bois d'Agland** 90.39 316 *e*P P **23 50 30.3 +0.4**
BGF pmax pmax
comp=Z,70nm,1.4s,mb5.8
HYF **Humbligny** 90.47 317 *e*P P **23 50 30.9 +0.6**
TCF **Toulx Ste Croi** 90.85 316 *e*P P **23 50 32.4 +0.3**
comp=Z,132nm,1.8s,mb5.7
TCF **Toulx Ste Croi** 90.85 316 *e*P P **23 50 32.4 +0.3**
TCF pmax pmax
comp=Z,66nm,1.8s,mb5.7
LRDF **Laroque-de-Fa** 90.90 313 *e*P P **23 50 33.7 +1.3**
FILF **Fillols** 90.92 313 *e*P P **23 50 34.3 +1.8**
NVL **N'lazarevskaya** 90.94 199 ⇑*i*P P **23 50 41.9 +10**
NVL *i**PP pP 23 50 50.1 +8.7
NVL *e*S tx 23 56 08.7
NVL *e* S 00 01 34.0 +10
NVL pmax pmax
comp=Z,81nm,1.2s,mb5.9
MAIT **Maitri** 90.97 199 *e*P P **23 50 34.2 +2.1**
CAF **Calviac** 91.07 315 *e*P P **23 50 33.6 +0.5**
comp=Z,52nm,1.4s,mb5.4
CAF **Calviac** 91.07 315 *e*P P **23 50 33.6 +0.5**
CAF pmax pmax
comp=Z,26nm,1.4s,mb5.4
MTLF **Montolieu** 91.10 313 *e*P P **23 50 33.7 +0.4**
comp=Z,54nm,1.1s,mb5.5
MTLF **Montolieu** 91.10 313 *e*P P **23 50 33.7 +0.4**
MTLF pmax pmax
comp=Z,27nm,1.1s,mb5.5
EMHD **Djebel Mahouad** 91.12 306 P P **23 50 39.0 +5.4**
VALF **Valcebaliere** 91.33 312 *e*P P **23 50 35.6 +1.2**
RJF **Les Rejaudoux** 91.42 315 *e*P P **23 50 35.4 +0.7**
comp=Z,137nm,1.7s,mb5.7
RJF **Les Rejaudoux** 91.42 315 *e*P P **23 50 35.4 +0.7**
RJF pmax pmax
comp=Z,69nm,1.7s,mb5.7
LFF **La Frestale** 92.01 315 *e*P P **23 50 38.2 +0.8**
LDF **La Druitiere** 92.19 319 *e*P P **23 50 38.5 +0.4**
EBNR **Beni Rached** 92.26 306 P P **23 50 39.5 +0.7**
FLN **La Foliniere** 92.40 319 *e*P P **23 50 39.3 +0.2**
comp=Z,75nm,1.2s,mb5.6
FLN *e*R
comp=Z,2μm,18.0s
FLN **La Foliniere** 92.40 319 *e*P P **23 50 39.3 +0.2**
FLN pmax pmax
comp=Z,37nm,1.2s,mb5.6
FLN MLR MLR
comp=Z,2μm,18.0s,MS5.5
ECHA **Ech Chlef** 92.41 306 P P **23 50 40.5 +1.0**
MFF **Saint Martin d** 92.44 317 *e*P P **23 50 39.7 +0.4**
comp=Z,108nm,1.4s,mb5.7
MFF **Saint Martin d** 92.44 317 *e*P P **23 50 39.7 +0.4**
MFF pmax pmax
comp=Z,54nm,1.4s,mb5.7
EPF **Esparros** 92.50 313 *e*P P **23 50 39.3 -0.4**
ETRT **Tiaret** 92.53 305 P P **23 50 46.0 +5.9**

EBR	**Ebro Roquetas**	**92.62**	**311**	*e*P		**P**		**23 50 40.2**	**-0.2**
EANR	**'Ain N'Sour**	**92.64**	**306**	P		**P**		**23 50 41.0**	**+0.5**
GRR	**Gorron**	**92.70**	**319**	*e*P		**P**		**23 50 40.9**	**+0.4**
	comp=Z,90nm,1.4s,mb5.7								
GRR	**Gorron**	**92.70**	**319**	*e*P		**P**		**23 50 40.9**	**+0.4**
GRR				pmax		pmax			
	comp=Z,45nm,1.4s,mb5.7								
DAG	**Danmarks Havn**	**92.78**	**348**⇑	*e*P		**P**		**23 50 39.8**	**-0.5**
DAG				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb4.9								
DAG				MLR		MLR			
	comp=Z,2µm,20.0s,MS5.5								
DAG	**Danmarks Havn**	**92.78**	**348**⇑	*e*P		**P**		**23 50 39.8**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.9								
DAG				LR		LR			
	comp=Z,2µm,20.0s,MS5.5								
DAG	**Danmarks Havn**	**92.78**	**348**⇑	*i*P		**P**		**23 50 39.8**	**-0.5**
	comp=Z,3.3nm,0.6s,mb4.9								
	comp=Z,2µm,20.0s								
QSPA	**South Pole Qui**	**92.84**	**180**⇑	*i*P		**P**		**23 50 41.6**	**+1.1**
	comp=Z,19nm,1.3s,mb5.4								
ETSF	**Etsaut**	**93.17**	**313**	*e*P		**P**		**23 50 43.6**	**+0.8**
	comp=Z,57nm,1.2s,mb5.6								
ETSF	**Etsaut**	**93.17**	**313**	*e*P		**P**		**23 50 43.6**	**+0.8**
ETSF				pmax		pmax			
	comp=Z,28nm,1.2s,mb5.6								
SJPF	**Ste Jean**	**93.63**	**313**	*e*P		**P**		**23 50 45.7**	**+0.8**
	comp=Z,49nm,1.2s,mb5.5								
SJPF	**Ste Jean**	**93.63**	**313**	*e*P		**P**		**23 50 45.7**	**+0.8**
SJPF				pmax		pmax			
	comp=Z,24nm,1.2s,mb5.5								
QUIF	**Quistinic**	**94.30**	**318**	*e*P		**P**		**23 50 47.3**	**-0.6**
IMA	**Indian Mountai**	**95.31**	**23**	*e*P		**P**		**23 50 52.2**	**+0.1**
IMA				pmax		pmax			
	comp=Z,193nm,1.3s,mb6.4								
IMA	**Indian Mountai**	**95.31**	**23**	*e*P		**P**		**23 50 52.2**	**+0.1**
	comp=Z,193nm,1.3s,mb6.4								
SNAA	**Sanae**	**95.67**	**198**	P		**P**		**23 50 51.8**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=166,slow=4.2,SNR=2.6								
ESDC	**Sonseca Array**	**96.16**	**310**	P		**P**		**23 50 56.8**	**+0.2**
	comp=Z,1.2nm,0.7s,mb4.5,baz=62,slow=4.3,SNR=8.0								
SML	**Sawmill**	**99.08**	**26**	*e*P		**P**		**23 51 09.5**	**+0.3**
SML				*e*		pP		23 51 20.4	+1.6
SUMG	**Summit**	**99.46**	**348**	*e*P		**P**		**23 51 11.5**	**+0.7**
	comp=Z,21nm,1.1s,mb5.6								
INK	**Inuvik**	**101.08**	**17**	P		P		23 51 17.3	-0.8
	comp=Z,3.6nm,1.0s,baz=280,slow=5.4,SNR=8.1								
INK				PP		PP		23 55 23.4	-6.3
	comp=Z,2.6nm,1.0s,baz=278,slow=6.6,SNR=2.7								
DAWY	**Dawson**	**101.62**	**22**	*e*Pdif		P		23 51 20.2	-0.5
RES	**Resolute Bay**	**102.22**	**3**	*e*P		Pdif		23 51 23.2	+0.1
YKA	**Yellowknife Ar**	**110.65**	**15**	Pdiff		Pdif		23 52 03.1	+2.7
	comp=Z,0.3nm,0.7s,baz=326,slow=4.0,SNR=7.3								
YKA				PKiKP				23 56 00.5	
	comp=Z,0.3nm,0.7s,baz=0.7,slow=3.6,SNR=3.8								
YKA				PP		PP		23 56 30.4	-10
	comp=Z,2.5nm,1.0s,baz=326,slow=6.7,SNR=11								
YKA				PKKPbc				00 06 59.1	
	comp=Z,0.4nm,0.7s,baz=151,slow=3.4,SNR=6.4								
EDM	**Edmonton**	**118.75**	**20**	*e*PKP		PKPdf		23 56 16.1	-4.4
FFC	**Flin Flon**	**120.57**	**12**	*e*PKP		PKPdf		23 56 18.9	-5.1
SCHQ	**Schefferville**	**120.82**	**349**	PKP		PKPdf		23 56 19.6	-4.8
	comp=Z,6.0nm,0.7s,baz=16,slow=3.9,SNR=22								
SCHQ	**Schefferville**	**120.82**	**349**	*e*PKP		PKPdf		23 56 19.8	-4.7
NEW	**Newport**	**121.24**	**26**	PKP		PKPdf		23 56 20.6	-4.9
	comp=Z,6.8nm,1.0s,baz=235,slow=3.6,SNR=5.4								
NEW	**Newport**	**121.24**	**26**	*e*PKPdf		PKPdf		23 56 21.5	-4.0
MSO	**Missoula**	**123.71**	**25**	*e*PKPdf		PKPdf		23 56 25.9	-4.4
WVOR	**Wild Horse Val**	**124.83**	**31**	*e*PKPdf		PKPdf		23 56 29.2	-3.4
BOZ	**Bozeman (W)**	**125.61**	**24**	*e*PKPdf		PKPdf		23 56 30.2	-3.7
ULM	**Lac du Bonnet**	**126.00**	**10**	PKP		PKPdf		23 56 29.5	-5.1
	comp=Z,13nm,0.7s,baz=356,slow=2.6,SNR=26								
ULM	**Lac du Bonnet**	**126.00**	**10**	*e*PKPdf		PKPdf		23 56 29.9	-4.7
HLID	**Hailey**	**126.06**	**27**	*e*PKPdf		PKPdf		23 56 31.6	-3.3
YMR	**Madison River**	**126.68**	**24**	*e*PKPdf		PKPdf		23 56 33.2	-2.7
LAO	**LASA Array**	**126.72**	**19**	*e*PKPdf		PKPdf		23 56 32.9	-3.1
YNR	**Norris Junctio**	**126.76**	**24**	*e*PKPdf		PKPdf		23 56 33.5	-2.6
MOOW	**Moose Ponds**	**127.53**	**25**	*e*PKPdf		PKPdf		23 56 34.1	-3.6
TPAW	**Teton Pass**	**127.65**	**25**	*e*PKPdf		PKPdf		23 56 34.9	-3.0
LOHW	**Long Hollow**	**127.70**	**25**	*e*PKPdf		PKPdf		23 56 34.4	-3.7
REDW	**Red Top Meadow**	**127.80**	**25**	*e*PKPdf		PKPdf		23 56 34.8	-3.5
MNV	**Mina**	**127.92**	**34**	*e*PKPdf		PKPdf		23 56 35.2	-3.4
OMM	**Old Mammoth Mi**	**127.99**	**36**	*e*PKPdf		PKPdf		23 56 35.8	-3.0
BGU	**Big Grassy Mou**	**128.75**	**29**	*e*PKPdf		PKPdf		23 56 36.5	-3.7
PDAR	**Pinedale Array**	**128.83**	**24**	PKP		PKPdf		23 56 36.0	-4.2
	comp=Z,3.6nm,0.8s,baz=270,slow=1.5,SNR=26								
EYMN	**Ely**	**128.88**	**7**	*e*PKPdf		PKPdf		23 56 35.0	-5.1
HWUT	**Hardware Ranch**	**128.90**	**27**	*e*PKPdf		PKPdf		23 56 36.6	-3.8
TCUT	**Toone Canyon**	**129.36**	**27**	*e*PKPdf		PKPdf		23 56 37.5	-3.8
DUG	**Dugway**	**129.43**	**29**	*e*PKPdf		PKPdf		23 56 38.5	-2.9
RSSD	**Black Hills**	**129.71**	**19**	*e*PKPdf		PKPdf		23 56 38.0	-3.8
NLU	**North Lily Min**	**129.97**	**29**	*e*PKPdf		PKPdf		23 56 39.6	-2.9
TMUT	**Trail Mountain**	**130.90**	**28**	*e*PKPdf		PKPdf		23 56 40.5	-3.7
ARUT	**Antelope Range**	**130.94**	**32**	*e*PKPdf		PKPdf		23 56 40.8	-3.6
MVU	**Marysvale**	**131.03**	**30**	*e*PKPdf		PKPdf		23 56 41.6	-2.9
MSU	**Marysvale**	**131.04**	**30**	*e*PKPdf		PKPdf		23 56 42.5	-2.1
SRU	**San Rafael**	**131.37**	**28**	*e*PKPdf		PKPdf		23 56 41.8	-3.4
NCB	**Newcomb**	**132.59**	**351**	PKPdf		PKPdf		23 56 43.5	-3.9
PV10	**Paradox Valley**	**132.65**	**27**	*e*PKPdf		PKPdf		23 56 45.1	-2.5
TUC	**Tucson**	**136.49**	**34**	*e*PKPdf		PKPdf		23 56 51.9	-2.9
KSU1	**Kansas State U**	**136.50**	**15**	*e*PKPdf		PKPdf		23 56 51.3	-3.4
MVL	**Millersville**	**136.79**	**352**	*e*PKPdf		PKPdf		23 56 50.3	-4.8
MNTX	**Cornudas Mount**	**139.81**	**29**	*e*PKPdf		PKPdf		23 56 57.4	-3.6
ELN	**Prospectdale**	**139.99**	**357**	*e*PKP		PKPdf		23 56 56.7	-4.4
PLCA	**Paso Flores**	**140.56**	**196**	PKhKP				23 56 54.2	
	comp=Z,5.0nm,0.9s,baz=187,slow=7.7,SNR=2.9								
PLCA	**Paso Flores**	**140.56**	**196**	PKP		PKPdf		23 56 54.2	-7.9
MIAR	**Mount Ida**	**141.57**	**13**	*e*PKP		PKPdf		23 56 53.9	-10
PLAL	**Pickwick Lake**	**142.07**	**6**	*e*PKP		PKPdf		23 56 55.3	-10
TXAR	**Lajitas Array**	**142.59**	**30**	PKhKP				23 56 58.1	
	comp=Z,2.7nm,0.7s,baz=233,slow=1.5,SNR=14								
BAO	**Brasilia Array**	**142.77**	**248**	P		PKPdf		23 56 59.0	-7.6
BDFB	**Brasilia**	**142.79**	**248**	PKhKP				23 56 58.1	
	comp=Z,20nm,1.1s,baz=166,slow=2.3,SNR=7.8								
BDFB				PKP		PKPdf		23 57 03.5	-3.1
	comp=Z,18nm,1.1s,baz=22,slow=3.7,SNR=13								
NATX	**Nacogdoches**	**143.95**	**16**	*e*PKP		PKPdf		23 57 02.4	-5.8
LRAL	**Lakeview Retre**	**144.11**	**5**	*e*PKP		PKPdf		23 57 01.9	-6.5
FCH	**Farellones**	**147.29**	**201**	*i*P		PKPdf		23 57 12.4	-1.5
LPAZ	**La Paz**	**159.82**	**228**	PKP		PKPdf		23 57 28.9	-3.0
	comp=Z,12nm,1.2s,baz=55,slow=2.1,SNR=18								
LPAZ				PKPab		PKPab		23 58 08.2	-0.1
	comp=Z,7.3nm,0.7s,baz=149,slow=2.9,SNR=7.3								
LPAZ	**La Paz**	**159.82**	**228**	*e*PKP		PKPdf		23 57 29.1	-2.8
ARE	**Arequipa**	**162.05**	**221**	*e*P		PKPdf		23 57 32.0	-2.1
ROSC	**El Rosal**	**167.98**	**310**	PKP		PKPdf		23 57 36.2	-3.2
	comp=Z,4.5nm,0.4s,baz=92,slow=20,SNR=6.0								

BJI ***28*** *23:39:40.5,2.18N×96.32E,h28km,mB5.7,mb5.2,Ms5.6, Msz5.4*

MOS ***28*** *23:39:47.2±1.2,2.95N×96.34E,h33km,mb5.7/18,Error ellipse: s-maj=18.0km s-min=7.7km az=119.9*

IDC ***28*** *23:39:47.6±0.5,2.99N×96.42E,h26km±3km,mb4.9/22, mb1 4.9/22,mb1mx4.9/25,mbtmp5.1/22,MS5.4/2, Ms1 5.4/2,ms1mx4.3/18,Error ellipse: s-maj=18.2km s-min=10.3km az=42.0*

NEIC ***28*** *23:39:48.1±0.2,2.91N×96.39E,mb5.4/42,Error ellipse: s-maj=5.9km s-min=4.2km az=216.0*

ISC 28 23:39:46.2±0.2,**2.89N**±0.05×**96.41E**±0.04,**h28**km, **h28**km±.6km:**pP-P,n188,**σ0**s93/177,mb5.2**/73,**MS5.5**/10, **3C-1D,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**15.67**	**9**	P	**P**		**23 43 28.2**	**+1.1**
	49nm,0.8s							
PALK	**Pallekele**	**16.23**	**286**	P	**P**		**23 43 34.9**	**+0.6**
	94nm,0.8s							
VIS	**Vishakhapatnam**	**19.54**	**320**	*e*P	**P**		**23 44 14.1**	**-0.7**
VIS				*e*			23 44 20.2	
	comp=Z,202nm,1.4s							
KKM	**Kota Kinabalu**	**19.99**	**80**	*e*P	**P**		**23 44 20.6**	**+0.8**
BWNR	**Bhubaneshwar**	**20.16**	**330**	*e*P	**P**		**23 44 22.2**	**+0.9**
BWNR				*e*			23 44 30.6	
	comp=Z,285nm,1.8s							
BWNR				*e*S	**S**		**23 48 07.5**	**+6.6**
QIZ	**Qiongzhong**	**20.74**	**38**	P	**P**		**23 44 28.5**	**+1.1**
QIZ	**Qiongzhong**	**20.74**	**38**	*e*P	**P**		**23 44 28.1**	**+0.7**
	comp=Z,33nm,0.7s							
HYB	**Hyderabad**	**22.71**	**311**	*e*P	**P**		**23 44 49.0**	**+1.7**
HYB				pmax	pmax			
	comp=Z,425nm,1.4s,mb5.7							
HYB	**Hyderabad**	**22.71**	**311**	*e*P	**P**		**23 44 49.0**	**+1.7**
	comp=Z,425nm,1.4s,mb5.7							
HYB	**Hyderabad**	**22.71**	**311**	*i*P	**P**		**23 44 49.0**	**+1.7**
	comp=Z,425nm,1.4s,mb5.7							
KMI	**Kunming**	**22.93**	**15**	P	**P**		**23 44 51.0**	**+1.6**
KMI				S	**S**		**23 48 58.8**	**+5.6**
KMI				AMB	AMB			
	comp=Z,21nm,0.8s,mb4.6							
KMI				LR	LR			
	comp=N,9µm,12.4s,MS5.6							
KMI				LR	LR			
	comp=E,12µm,14.6s,MS5.6							
KMI				LR	LR			
	comp=Z,8µm,12.4s,MS5.4							
BLSP	**Bilaspur**	**23.62**	**325**	*e*P	**P**		**23 44 58.1**	**+2.0**
BLSP				*e*			23 45 01.4	
	comp=Z,248nm,1.4s							
BLSP				*e*S	**S**		**23 49 11.4**	**+6.1**
NGP	**Nagpur**	**24.80**	**318**	*e*P	**P**		**23 45 08.5**	**+0.9**
GYA	**Guiyang**	**25.42**	**22**⇑	P	**P**		**23 45 13.5**	**+0.1**
GYA				AP	pP		23 45 22.8	+1.2
GYA				XP	sP		23 45 24.0	-1.3
GYA				PP	PP		23 45 57.3	+4.7
GYA				S	**S**		**23 49 43.5**	**+7.8**
GYA				AMB	AMB			
	comp=Z,70nm,1.0s,mb5.2							
GYA				AMB	AMB			
	comp=Z,1µm,6.2s							
GYA				LR	LR			
	comp=N,7µm,15.3s,MS5.3							
GYA				LR	LR			
	comp=E,4µm,15.8s,MS5.3							
GYA				LR	LR			
	comp=Z,6µm,14.8s,MS5.2							
DGAR	**Diego Garcia**	**26.00**	**247**	*e*P	**P**		**23 45 18.4**	**-0.5**
DGAR				pmax	pmax			
	comp=Z,290nm,1.3s,mb5.7							
DGAR	**Diego Garcia**	**26.00**	**247**	*e*P	**P**		**23 45 18.4**	**-0.5**
	comp=Z,288nm,1.4s,mb5.6							
POO	**Poona**	**27.01**	**307**	*e*P	**P**		**23 45 28.0**	**-0.1**
POO				*e*			23 45 32.2	
	comp=Z,174nm,1.8s							
LSA	**Lhasa**	**27.13**	**350**	P	**P**		**23 45 28.9**	**-0.2**
LSA				pmax	pmax			
	comp=Z,66nm,0.8s,mb5.2							
LSA	**Lhasa**	**27.13**	**350**	P	**P**		**23 45 28.9**	**-0.2**
	comp=Z,66nm,0.8s,mb5.2							
ENH	**Enshi**	**29.92**	**23**	*e*P	**P**		**23 45 51.6**	**-2.7**
	comp=Z,63nm,0.7s,mb5.5							
LGTI	**Lohaghat**	**30.55**	**331**	*e*P	**P**		**23 46 00.0**	**+0.1**
PTH	**Pithoragarh**	**30.65**	**332**	*e*	**S**		**23 50 59.3**	**-0.8**
LZH	**Lanzhou**	**33.74**	**11**	*e*P	**P**		**23 46 31.0**	**+3.3**
LZH				PP	PP		23 47 45.0	+4.0
LZH				AMB	AMB			
	comp=Z,71nm,1.6s,mb5.3							
LZH				AMB	AMB			
	comp=Z,223nm,5.0s							
LZH				LR	LR			
	comp=E,14µm,13.4s							
LZH				LR	LR			
	comp=Z,16µm,15.2s,MS5.8							
PONG	**Pong**	**34.73**	**329**	*e*P	**P**		**23 46 36.0**	**-0.2**
DLH	**Dalhousie**	**35.19**	**329**	*e*P	**P**		**23 46 41.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**35.56**	**127**	*e*P	**P**		**23 46 42.0**	**-1.4**
	comp=Z,53nm,0.9s,mb5.5							
FITZ	**Fitzroy Crossi**	**35.56**	**127**	P	**P**		**23 46 41.6**	**-1.9**
	comp=Z,50nm,0.9s,mb5.5,baz=285,slow=2.3,SNR=3.8							
GTA	**Gaotai**	**36.48**	**4**	*e*P	**P**		**23 46 51.0**	**0.0**
GTA				AP	pP		23 46 59.8	+0.4
GTA				XP	sP		23 47 03.5	+0.5
GTA				PP	PP		23 48 16.5	+1.2
GTA				AMB	AMB			
	comp=Z,54nm,1.0s,mb5.4							
GTA				AMB	AMB			
	comp=Z,444nm,6.5s							
GTA				LR	LR			
	comp=N,5µm,17.5s,MS5.4							
GTA				LR	LR			
	comp=E,4µm,20.1s,MS5.4							
GTA				LR	LR			
	comp=Z,7µm,20.9s,MS5.4							
JOW	**Kunigami**	**38.70**	**49**	P	**P**		**23 47 08.9**	**-0.8**
	comp=Z,6.0nm,0.3s,mb4.8,baz=191,slow=19,SNR=2.5							
KAKA	**Kakadu**	**39.00**	**114**	*e*P	**P**		**23 47 11.8**	**-0.5**
	comp=Z,92nm,0.8s,mb5.6							
NWAO	**Narrogin (SRO)**	**40.71**	**153**	P	**P**		**23 47 26.6**	**+0.3**
	comp=Z,43nm,1.0s,mb5.0,baz=288,slow=6.0,SNR=3.2							
NWAO				pP	pP		23 47 36.0	+1.2
	comp=Z,40nm,0.9s,baz=336,slow=12,SNR=4.1							
NWAO	**Narrogin (SRO)**	**40.71**	**153**	P	**P**		**23 47 26.6**	**+0.3**
NWAO				pP	pP		23 47 36.0	+1.2
BJT	**Baijiatuau**	**41.07**	**23**	*e*P	**P**		**23 47 30.3**	**+1.1**
BJT				pmax	pmax			
	comp=Z,41nm,0.7s							
BJT	**Baijiatuau**	**41.07**	**23**	*e*P	**P**		**23 47 30.3**	**+1.1**
	comp=Z,41nm,0.7s,mb5.2							
BJI	**Beijing**	**41.09**	**23**	P	**P**		**23 47 30.3**	**+0.9**
BJI				AMB	AMB			
	comp=Z,32nm,0.9s,mb5.0							
WMQ	**Urumqi**	**41.49**	**350**	P	**P**		**23 47 32.3**	**-0.2**
WMQ				AP	pP		23 47 42.0	+1.0
WMQ				XP	sP		23 47 46.0	+1.5
WMQ				PP	PP		23 49 11.0	-0.4
WMQ				AMB	AMB			
	comp=Z,30nm,1.4s,mb4.7							
WMQ				AMB	AMB			
	comp=Z,218nm,6.0s							
WMQ				LR	LR			
	comp=N,4µm,15.9s,MS5.5							
WMQ				LR	LR			
	comp=E,3µm,15.7s,MS5.5							
WMQ				LR	LR			
	comp=Z,3µm,18.8s,MS5.2							
DL2	**Dalian**	**42.59**	**29**	P	**P**		**23 47 43.3**	**+1.6**
DL2				AMB	AMB			
	comp=Z,30nm,0.7s,mb5.1							
WRA	**Warramunga Arr**	**43.60**	**123**	P	**P**		**23 47 49.2**	**-1.0**
	comp=Z,64nm,1.0s,mb5.3,baz=302,slow=9.1,SNR=5.2							
WRA				pP	pP		23 47 58.3	-0.3
	comp=Z,100nm,1.1s,baz=302,slow=9.0,SNR=7.4							
WRAB	**Tennant Creek**	**43.61**	**123**	P	**P**		**23 47 50.0**	**-0.2**
	comp=Z,682nm,0.8s,mb6.4,SNR=8.2							
WRAB	**Tennant Creek**	**43.61**	**123**	*e*P	**P**		**23 47 50.3**	**+0.1**
WRAB				pmax	pmax			
	comp=Z,180nm,1.0s,mb5.8							
WRAB	**Tennant Creek**	**43.61**	**123**	*e*P	**P**		**23 47 50.2**	**0.0**
	comp=Z,181nm,1.0s,mb5.8							
WB2	**Warramunga Arr**	**43.62**	**123**	*e*P	**P**		**23 47 50.6**	**+0.3**
AAK	**Ala-Archa**	**44.15**	**337**	P	**P**		**23 47 54.0**	**-0.3**
AAK				pmax	pmax			
	comp=Z,61nm,1.0s,mb5.3							
AAK	**Ala-Archa**	**44.15**	**337**	P	**P**		**23 47 54.0**	**-0.3**
	comp=Z,61nm,1.0s,mb5.3							
ASAR	**Alice Springs**	**45.05**	**128**	P	**P**		**23 48 01.9**	**+0.1**
	comp=Z,13nm,0.6s,mb5.0,baz=298,slow=7.8,SNR=4.1							
ASAR				pP	pP		23 48 10.3	+0.1
	comp=Z,11nm,0.6s,baz=299,slow=7.9,SNR=4.3							
MKAR	**Makanchi Array**	**45.42**	**346**	P	**P**		**23 48 03.6**	**-0.8**
	comp=Z,31nm,0.3s,mb5.6,baz=155,slow=8.2,SNR=35							
SONM	**Songino Array**	**45.60**	**9**	P	**P**		**23 48 05.3**	**-0.5**
	comp=Z,25nm,0.8s,mb5.2,baz=192,slow=8.2,SNR=7.2							
SONM				PcP	PcP		23 49 43.1	-1.4
	comp=Z,5.2nm,0.5s,baz=184,slow=3.8,SNR=4.1							
SONM				pPcP			23 49 53.2	
	comp=Z,9.1nm,0.6s,baz=195,slow=3.9,SNR=6.1							
SONM				LR	LR		00 10 37.6	
	comp=Z,6µm,18.6s,MS5.5,baz=188,slow=41							
SNY	**Shenyang**	**45.79**	**28**	⇑P	**P**		**23 48 07.8**	**+0.4**
SNY				AMB	AMB			
	comp=Z,30nm,1.1s,mb5.1							
CN2	**Changchun**	**48.18**	**28**	*e*P	**P**		**23 48 25.8**	**-0.4**
CN2				AMB	AMB			
	comp=Z,20nm,1.0s,mb5.1							
TLY	**Talaya**	**49.00**	**6**	*i*P	**P**		**23 48 32.6**	**+0.2**
TLY				pmax	pmax			
	comp=Z,36nm,1.0s,mb5.4							
TLY	**Talaya**	**49.00**	**6**	*e*P	**P**		**23 48 32.2**	**-0.3**
	comp=Z,20nm,0.8s,mb5.2							
KURK	**Kurchatov**	**49.97**	**345**	*e*P	**P**		**23 48 39.5**	**-0.4**
KURK				pmax	pmax			
	comp=Z,72nm,0.9s,mb5.7							
KURK	**Kurchatov**	**49.97**	**345**	*e*P	**P**		**23 48 39.5**	**-0.4**
	comp=Z,72nm,0.9s,mb5.7							
HIA	**Hailar**	**50.32**	**20**	*e*P	**P**		**23 48 40.9**	**-1.6**
PMG	**Port Moresby**	**52.02**	**104**	P	**P**		**23 48 55.9**	**-0.1**
	comp=Z,29nm,0.7s,mb5.3,baz=330,slow=7.0,SNR=6.3							
PMG				LR	LR		00 11 06.8	
	comp=Z,3µm,20.2s,MS5.3,baz=266,slow=36							
ATD	**Arta Tunnel**	**53.75**	**282**	P	**P**		**23 49 09.8**	**+1.1**
	comp=Z,14nm,1.0s,mb4.8,baz=338,slow=1.4,SNR=4.0							
ATD	**Arta Tunnel**	**53.75**	**282**	P	**P**		**23 49 09.8**	**+1.1**
CTA	**Charters Tower**	**53.97**	**117**	*e*P	**P**		**23 49 10.3**	**0.0**
	comp=Z,28nm,0.8s,mb5.2							
CTA	**Charters Tower**	**53.97**	**117**	P	**P**		**23 49 09.8**	**-0.5**
	comp=Z,21nm,0.8s,mb5.1,baz=286,slow=9.7,SNR=3.8							
CTA				pP	pP		23 49 18.9	0.0
	comp=Z,37nm,0.8s,baz=267,slow=7.3,SNR=5.1							
BVAR	**Borovoye Array**	**54.41**	**341**	P	**P**		**23 49 11.4**	**-1.6**
	comp=Z,16nm,0.7s,mb5.1,baz=132,slow=8.8,SNR=6.0							
CHKZ	**Chkalovo**	**54.88**	**342**	*e*P	**P**		**23 49 15.3**	**-1.3**
CHKZ				pmax	pmax			
	comp=Z,66nm,0.8s,mb5.7							
CHKZ	**Chkalovo**	**54.88**	**342**	*e*P	**P**		**23 49 15.3**	**-1.3**
	comp=Z,66nm,0.8s,mb5.7							
STKA	**Stephens Creek**	**55.07**	**133**	*e*P	**P**		**23 49 18.0**	**-0.3**
	comp=Z,25nm,0.9s,mb5.2							
STKA	**Stephens Creek**	**55.07**	**133**	P	**P**		**23 49 17.6**	**-0.6**
	comp=Z,30nm,0.8s,mb5.4,baz=292,slow=10,SNR=3.9							
STKA				pP	pP		23 49 25.5	-1.4
	comp=Z,22nm,0.6s,baz=307,slow=9.1,SNR=3.2							
MAK	**Makhachkala**	**58.94**	**320**	*e*P	**P**		**23 49 43.0**	**-2.5**
KMBO	**Kilima Mbogo**	**59.27**	**267**	P	**P**		**23 49 48.4**	**+0.1**
	comp=Z,16nm,1.0s,mb5.0,baz=61,slow=9.7,SNR=6.5							
KMBO	**Kilima Mbogo**	**59.27**	**267**	*e*P	**P**		**23 49 48.5**	**+0.3**
	comp=Z,26nm,0.9s,mb5.2							
GNI	**Garni**	**59.54**	**316**	P	**P**		**23 49 47.2**	**-2.6**
	comp=Z,7.7nm,0.7s,mb4.9,baz=257,slow=18,SNR=1.5							
TBLG	**Delisi**	**60.21**	**317**	P	**P**		**23 49 53.2**	**-1.1**
SVE	**Sverdlovsk**	**60.84**	**338**	*e*P	**P**		**23 49 58.7**	**+0.4**
SVE				pmax	pmax			
	comp=Z,150nm,2.8s,mb5.6							
SVE				MLR	MLR			
	comp=N,1µm,15.0s,MS5.4							
SVE				MLR	MLR			
	comp=E,2µm,15.0s,MS5.4							
SVE				MLR	MLR			
	comp=Z,3µm,15.0s,MS5.6							
ARU	**Arti**	**61.33**	**337**⇑	*i*P	**P**		**23 49 59.1**	**-2.6**
ARU				*e*			23 50 41.0	
ARU				*e*			23 52 11.8	
ARU				*e*S	**S**		**23 58 17.6**	**-1.0**
ARU				*e*SS	SS		00 02 19.3	-1.4
ARU				pmax	pmax			
	comp=Z,48nm,1.4s,mb5.4							
ARU	**Arti**	**61.33**	**337**	*e*P	**P**		**23 49 59.8**	**-1.9**
	comp=Z,87nm,1.4s,mb5.7							
KIV	**Kislovodsk**	**62.52**	**319**	*i*P	**P**		**23 50 08.1**	**-1.8**
KIV				pmax	pmax			
	comp=Z,98nm,1.7s,mb5.7							
KIV	**Kislovodsk**	**62.52**	**319**	P	**P**		**23 50 08.8**	**-1.1**
	comp=Z,50nm,1.0s,mb5.6							
ASF	**Jabal al Asfar**	**62.85**	**305**	P	**P**		**23 50 11.3**	**-0.9**
	comp=Z,5.9nm,0.9s,mb4.7,baz=36,slow=7.9,SN

	OJC	**Ojcow**	**79.22**	**320**	*e*P	**P**	**23 51 49.9**	**-0.6**
	VYHS	**Vyhne**	**79.61**	**319**	*e*P	**P**	**23 51 51.9**	**-0.7**
	VYHS				*e*	pP	23 52 01.7	+0.2
	SRO2	**Moca**	**79.81**	**318**	*e*P	**P**	**23 51 54.4**	**+0.7**
	SRO	**Srobarova**	**79.87**	**318**	*e*P	**P**	**23 51 54.0**	**0.0**
	BILL	**Bilibino**	**79.88**	**21**	*e*P	**P**	**23 51 53.6**	**-0.1**
	BILL				*e*	pP	23 52 00.8	-1.8
	BILL				*e*		23 54 57.3	
	BILL				pmax	pmax		
		comp=Z,7.0nm,1.2s,mb4.5						
	SRO1	**Iza**	**79.92**	**318**	*e*P	**P**	**23 51 53.9**	**-0.4**
	OKC	**Ostrava-Krasne**	**80.23**	**320**	*e*P	**P**	**23 51 56.4**	**+0.5**
	ARCES	**ARCESS Array B**	**80.69**	**340**	P	**P**	**23 51 58.0**	**0.0**
		comp=Z,6.0nm,0.4s,mb4.8,baz=100,slow=6.9,SNR=12						
	KOGS	**Kog**	**81.13**	**316**	*e*P	**P**	**23 52 00.4**	**-0.3**
	KOGS				*e*	pP	23 52 10.0	+0.4
	GKP	**Gorka Klasztor**	**81.22**	**323**	*e*P	**P**	**23 52 02.2**	**+1.2**
	KTK1	**Kautokeino**	**81.32**	**340**	*e*P	**P**	**23 52 02.8**	**+1.6**
	DPC	**Dobruska-Polom**	**81.45**	**320**	*e*P	**P**	**23 52 03.4**	**+1.1**
	KSP	**Ksiaz**	**81.52**	**321**	*e*P	**P**	**23 52 01.4**	**-1.2**
	KSP	**Ksiaz**	**81.52**	**321**	*e*P	**P**	**23 52 01.9**	**-0.8**
	UPC	**Upice**	**81.67**	**320**	*e*P	**P**	**23 52 03.9**	**+0.5**
	VISS	**Visnje**	**82.06**	**316**	*e*P	**P**	**23 52 06.2**	**+0.7**
	LJU	**Ljubljana**	**82.29**	**316**	*e*P	**P**	**23 52 06.9**	**+0.2**
	PRU	**Pruhonice**	**82.56**	**320**	*e*P	**P**	**23 52 10.4**	**+2.3**
	PVCC	**Panska Ves**	**82.59**	**320**	*e*P	**P**	**23 52 05.4**	**-2.8**
	AQU	**L'Aquila**	**82.89**	**312**	P	**P**	**23 52 10.3**	**+0.4**
	TRO	**Tromso**	**82.95**	**340**	*e*P	**P**	**23 52 09.0**	**-0.7**
	TRO				*e*pP	pP	23 52 17.7	-1.0
	TRO				*e*sP	sP	23 52 22.3	+0.6
	GERES	**GERESS Array B**	**83.03**	**319**	P	**P**	**23 52 10.3**	**-0.2**
		comp=Z,14nm,1.0s,mb4.9,baz=104,slow=5.5,SNR=5.7						
	GERES				pP	pP	23 52 19.7	+0.2
		comp=Z,5.6nm,0.7s,baz=130,slow=4.9,SNR=4.4						
	KHC	**Kasperske Hory**	**83.13**	**319**	*e*P	**P**	**23 52 11.4**	**+0.4**
	CLL	**Collm**	**83.63**	**321**	*e*P	**P**	**23 52 14.0**	**+0.5**
	CLL				pmax	pmax		
		comp=Z,31nm,1.6s,mb5.2						
	CLL	**Collm**	**83.63**	**321**	*e*P	**P**	**23 52 14.0**	**+0.5**
		comp=Z,31nm,1.6s,mb5.2						
	CLL	**Collm**	**83.63**	**321**	P	**P**	**23 52 14.0**	**+0.5**
		comp=Z,logA/T=1.3,mb5.2						
	CLL				*e*		23 52 40.0	
	CLL				*e*PP	PP	23 55 28.0	-0.1
	CLL				*e*		23 55 54.0	
	CLL				*e*SP	SP	00 03 26.0	+0.6
	NKC	**Novy Kostel**	**83.92**	**320**	*e*P	**P**	**23 52 15.5**	**+0.5**
	NOA	**NORSAR Array B**	**85.16**	**331**	P	**P**	**23 52 20.1**	**-0.9**
		comp=Z,7.7nm,1.0s,mb4.8,baz=96,slow=5.1,SNR=3.5						
	PGF	**Pioggiola**	**86.15**	**312**	*e*P	**P**	**23 52 26.7**	**+0.3**
	MOL	**Molde**	**86.93**	**332**	*e*P	**P**	**23 52 31.1**	**+1.4**
	MOL				*e*pP	pP	23 52 39.5	+0.8
	SBF	**Sospel**	**87.28**	**314**	*e*P	**P**	**23 52 31.9**	**+0.1**
	CDF	**Champ du Feu**	**87.28**	**318**	*e*P	**P**	**23 52 31.3**	**-0.4**
		comp=Z,25nm,1.1s,mb5.0						
	LPG	**La Plagne**	**87.72**	**315**	*e*P	**P**	**23 52 34.3**	**+0.4**
		comp=Z,22nm,0.8s,mb5.2						
	MBDF	**Montbardon**	**87.73**	**314**	*e*P	**P**	**23 52 33.5**	**-0.5**
		comp=Z,20nm,1.2s,mb5.0						
	LPL	**La Plagne**	**87.73**	**315**	*e*P	**P**	**23 52 34.3**	**+0.3**
		comp=Z,34nm,0.8s,mb5.3						
	FRF	**La Foret Royal**	**87.86**	**313**	*e*P	**P**	**23 52 34.9**	**+0.3**
	HAU	**Haudompre**	**87.91**	**318**	*e*P	**P**	**23 52 34.6**	**-0.2**
		comp=Z,38nm,0.9s,mb5.3						
	WLF	**Walferdange**	**87.98**	**319**	P	**P**	**23 52 36.0**	**+0.9**
	CABF	**La Chapelle**	**88.14**	**316**	*e*P	**P**	**23 52 35.5**	**-0.4**
	ORIF	**Oris-en-Rattie**	**88.36**	**315**	*e*P	**P**	**23 52 37.4**	**+0.4**
		comp=Z,24nm,1.0s,mb5.1						
	MEZF	**Maizieres J'vi**	**88.76**	**318**	*e*P	**P**	**23 52 39.1**	**+0.3**
	GIVF	**Givet**	**88.82**	**320**	*e*P	**P**	**23 52 39.5**	**+0.4**
	VIVF	**Saint-Julien-l**	**89.22**	**315**	*e*P	**P**	**23 52 41.4**	**+0.3**
	BAIF	**Baives**	**89.22**	**320**	*e*P	**P**	**23 52 41.5**	**+0.5**
		comp=Z,66nm,1.2s,mb5.5						
	SMF	**Signal de Mont**	**89.69**	**317**	*e*P	**P**	**23 52 43.2**	**0.0**
		comp=Z,64nm,1.4s,mb5.5						
	LASF	**Ste Croix**	**89.85**	**314**	*e*P	**P**	**23 52 44.7**	**+0.6**
		comp=Z,86nm,1.6s,mb5.5						
	SSF	**Saint Saulge**	**89.89**	**317**	*e*P	**P**	**23 52 44.6**	**+0.4**
	AVF	**Avril sur Loir**	**90.01**	**317**	*e*P	**P**	**23 52 44.8**	**0.0**
		comp=Z,58nm,1.4s,mb5.4						
	BGF	**Bois d'Agland**	**90.38**	**316**	*e*P	**P**	**23 52 47.0**	**+0.6**
	HYF	**Humbligny**	**90.46**	**317**	*e*P	**P**	**23 52 47.6**	**+0.8**
	TCF	**Toulx Ste Croi**	**90.84**	**316**	*e*P	**P**	**23 52 49.2**	**+0.6**
	CAF	**Calviac**	**91.06**	**315**	*e*P	**P**	**23 52 50.5**	**+0.9**
	MTLF	**Montolieu**	**91.09**	**313**	*e*P	**P**	**23 52 50.4**	**+0.6**
	RJF	**Les Rejaudoux**	**91.41**	**315**	*e*P	**P**	**23 52 52.3**	**+1.1**
	LFF	**La Frestale**	**91.99**	**315**	*e*P	**P**	**23 52 54.9**	**+1.0**
	LDF	**La Druitiere**	**92.18**	**319**	*e*P	**P**	**23 52 55.2**	**+0.5**
		comp=Z,94nm,1.3s,mb5.6						
	FLN	**La Foliniere**	**92.39**	**319**	*e*P	**P**	**23 52 56.0**	**+0.4**
		comp=Z,57nm,1.1s,mb5.5						
	MFF	**Saint Martin d**	**92.43**	**317**	*e*P	**P**	**23 52 56.4**	**+0.5**
		comp=Z,46nm,1.1s,mb5.4						
	GRR	**Gorron**	**92.69**	**319**	*e*P	**P**	**23 52 57.5**	**+0.5**
		comp=Z,89nm,1.5s,mb5.7						
	ETSF	**Etsaut**	**93.16**	**313**	*e*P	**P**	**23 53 00.3**	**+1.0**
		comp=Z,23nm,0.9s,mb5.3						
	SJPF	**Ste Jean**	**93.61**	**313**	*e*P	**P**	**23 53 02.4**	**+1.0**
	IMA	**Indian Mountai**	**95.34**	**23**	*e*P	**P**	**23 53 10.5**	**+1.7**
	IMA	**Indian Mountai**	**95.34**	**23**	*e*P	**P**	**23 53 09.9**	**+1.1**
	YKA	**Yellowknife Ar**	**110.68**	**15**	PP	PP	23 58 47.9	-10
		comp=Z,1.5nm,1.0s,baz=328,slow=7.5,SNR=3.2						
	YKA					PKKPbc	00 09 22.8	
		comp=Z,0.2nm,0.4s,baz=149,slow=2.8,SNR=4.7						
	SCHQ	**Schefferville**	**120.83**	**349**	PKP	PKPdf	23 58 36.8	-4.1
		comp=Z,3.4nm,0.7s,baz=39,slow=6.5,SNR=3.0						
	MSO	**Missoula**	**123.74**	**25**	*e*PKPdf	PKPdf	23 58 44.0	-2.8
	ULM	**Lac du Bonnet**	**126.03**	**10**	PKP	PKPdf	23 58 48.0	-3.1
		comp=Z,6.0nm,0.8s,baz=352,slow=3.3,SNR=3.3						
	ULM					pPKP	23 58 55.3	
		comp=Z,12nm,0.8s,baz=346,slow=2.9,SNR=7.7						
	LAO	**LASA Array**	**126.75**	**19**	*e*PKPdf	PKPdf	23 58 50.5	-2.0
	LOHW	**Long Hollow**	**127.73**	**25**	*e*PKPdf	PKPdf	23 58 52.1	-2.5
	REDW	**Red Top Meadow**	**127.83**	**25**	PKP	PKPdf	23 58 51.3	-3.4
	PDAR	**Pinedale Array**	**128.86**	**24**	PKhKP		23 58 41.9	
		comp=Z,1.2nm,0.8s,baz=333,slow=2.0,SNR=2.9						
	PDAR					PKP	PKPdf	23 58 53.6	-3.1
		comp=Z,1.7nm,0.6s,baz=4.2,slow=1.2,SNR=3.8						
	DUG	**Dugway**	**129.46**	**29**	*e*PKPdf	PKPdf	23 58 55.8	-2.2
	NLU	**North Lily Min**	**130.00**	**29**	PKP	PKPdf	23 58 55.9	-3.1
	MSU	**Marysvale**	**131.07**	**30**	PKP	PKPdf	23 58 58.1	-3.0
	PV10	**Paradox Valley**	**132.68**	**27**	PKPdf	PKPdf	23 59 02.1	-2.0
	PV10				*e*		23 59 11.7	
	SSPA	**Standing Stone**	**136.37**	**354**	PKPdf	PKPdf	23 59 08.6	-2.2
	KSU1	**Kansas State U**	**136.53**	**15**	PKP	PKPdf	23 59 07.2	-4.0
	WVT	**Waverly**	**140.98**	**5**	PKP	PKPdf	23 59 15.9	-3.5
	TXAR	**Lajitas Array**	**142.63**	**30**	PKP	PKPdf	23 59 19.8	-2.6
		comp=Z,2.9nm,0.6s,baz=270,slow=0.9,SNR=4.7						
	LPAZ	**La Paz**	**159.78**	**228**	PKP	PKPdf	23 59 46.9	-1.3
		comp=Z,3.0nm,0.8s,baz=182,slow=5.4,SNR=1.9						
	LPAZ					PKPab	PKPab	00 00 26.1	+1.5
		comp=Z,5.0nm,0.7s,baz=112,slow=4.3,SNR=2.6						
	LPAZ	**La Paz**	**159.78**	**228**	PKP	PKPdf	23 59 46.9	-1.3
	LPAZ					PKPab	PKPab	00 00 26.1	+1.5

BJI ***28*** *23:44:37.4,2.05N×96.32E,h27km,mB5.6,mb4.9,Ms5.4, Msz5.1*
NEIC ***28*** *23:44:44.8±0.2,2.86N×96.35E,mb5.0/15,Error ellipse: s-maj=8.5km s-min=5.5km az=220.0*
IDC ***28*** *23:44:44.9±0.5,2.88N×96.41E,h26km±2km,mb4.5/22, mb1 4.5/22,mb1mx4.5/24,mbtmp4.7/22,Error ellipse: s-maj=17.8km s-min=10.0km az=46.0*
ISC 28 23:44:43.1±0.3,2.81N±0.05×96.34E±0.06,h28km, h28km±.7km:pP-P,n71,σ1§00/66,mb4.8/40,MS5.2/7,2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.96**	**60**	*e*P	**Pn**	**23 45 59.2**	**+1.4**
KKM	**Kota Kinabalu**	**20.07**	**80**	*e*P	**P**	**23 49 15.8**	**-1.7**
QIZ	**Qiongzhong**	**20.84**	**38**	*e*P	**P**	**23 49 29.5**	**+4.1**
KMI	**Kunming**	**23.03**	**15**	P	**P**	**23 49 49.8**	**+2.6**
KMI				S	**S**	**23 53 55.5**	**+3.7**
KMI				LR	LR		
	comp=N,7μm,13.5s,MS5.4						
KMI				LR	LR		
	comp=E,6μm,15.0s,MS5.4						
KMI				LR	LR		
	comp=Z,6μm,15.4s,MS5.2						
GYA	**Guiyang**	**25.52**	**22**	*i*P	**P**	**23 50 10.8**	**-0.4**
GYA				AP	pP	23 50 19.5	+0.2
GYA				XP	sP	23 50 23.8	+0.8
GYA				PP	PP	23 50 54.5	+3.7
GYA				S	**S**	**23 54 40.8**	**+6.5**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.2s						
GYA				LR	LR		
	comp=N,3μm,15.2s,MS5.2						
GYA				LR	LR		
	comp=E,5μm,15.0s,MS5.2						
GYA				LR	LR		
	comp=Z,5μm,15.8s,MS5.2						
LSA	**Lhasa**	**27.20**	**350**	*e*P	**P**	**23 50 26.5**	**-0.1**
	comp=Z,63nm,1.4s,mb5.0						
ENH	**Enshi**	**30.02**	**23**	P	**P**	**23 50 49.2**	**-2.9**
LZH	**Lanzhou**	**33.83**	**11**	*e*P	**P**	**23 51 27.8**	**+2.4**
LZH				AP	pP	23 51 35.8	+2.2
LZH				XP	sP	23 51 39.5	+2.3
LZH				PP	PP	23 52 41.5	+2.5
LZH				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,71nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,16.5s						
LZH				LR	LR		
	comp=Z,2μm,18.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**35.57**	**127**	*e*P	**P**	**23 51 39.5**	**-0.9**
	comp=Z,15nm,0.5s,mb5.2						
FITZ	**Fitzroy Crossi**	**35.57**	**127**	P	**P**	**23 51 39.1**	**-1.2**
	comp=Z,21nm,0.6s,mb5.3,baz=337,slow=4.9,SNR=15						
NJ2	**Nanjing**	**35.98**	**34**	*e*P	**P**	**23 51 48.0**	**+4.2**
NJ2				XP	sP	23 52 01.0	+5.4
NJ2				PP	PP	23 53 09.5	+3.8
NJ2				S	**S**	**23 57 24.0**	**+4.1**
NJ2				XS		23 57 41.0	
NJ2				AMB	AMB		
	comp=Z,510nm,4.5s						
NJ2				LR	LR		
	comp=N,5μm,13.7s,MS5.7						
NJ2				LR	LR		
	comp=E,9μm,16.1s,MS5.7						
NJ2				LR	LR		
	comp=Z,3μm,18.4s,MS5.1						
GTA	**Gaotai**	**36.57**	**5**	*e*P	**P**	**23 51 48.3**	**-0.3**
GTA				AP	pP	23 51 56.8	-0.1
GTA				XP	sP	23 52 01.3	+0.9
GTA				PP	PP	23 53 13.0	-0.3
GTA				PPP	PPP	23 53 33.5	+0.2
GTA				PCP	PcP	23 54 12.0	0.0
GTA				S	**S**	**23 57 28.5**	**-0.3**
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,717nm,6.5s						
GTA				LR	LR		
	comp=N,2μm,16.0s,MS5.3						
GTA				LR	LR		
	comp=E,3μm,15.2s,MS5.3						
GTA				LR	LR		
	comp=Z,2μm,14.8s,MS5.1						
JOW	**Kunigami**	**38.81**	**49**	P	**P**	**23 52 06.9**	**-0.7**
	comp=Z,5.9nm,0.3s,mb4.8,baz=134,slow=24,SNR=4.1						
KAKA	**Kakadu**	**39.02**	**114**	*e*P	**P**	**23 52 08.3**	**-1.2**
	comp=Z,43nm,0.6s,mb5.3						
HHC	**Hu-ho-hao-te**	**40.29**	**18**	*e*P	**P**	**23 52 24.5**	**+4.8**
HHC				AP	pP	23 52 34.0	+6.0
HHC				XP	sP	23 52 38.3	+6.8
HHC				PP	PP	23 53 57.8	+1.9
HHC				PCP	PcP	23 54 24.3	+0.7
HHC				SCP		23 58 11.0	
HHC				PCS		23 58 13.5	
HHC				S	**S**	**23 58 34.3**	**+9.2**
HHC				XS		23 58 49.5	
HHC				AMB	AMB		
	comp=Z,18nm,0.3s,mb5.3						
HHC				AMB	AMB		
	comp=Z,284nm,3.9s						
HHC				LR	LR		
	comp=N,1μm,16.7s,MS5.1						
HHC				LR	LR		
	comp=E,2μm,15.7s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,13.7s,MS5.0						
NWAO	**Narrogin (SRO)**	**40.67**	**153**	P	**P**	**23 52 24.6**	**+1.7**
	comp=Z,15nm,0.9s,mb4.6,baz=339,slow=12,SNR=6.2						
BJI	**Beijing**	**41.19**	**23**	P	**P**	**23 52 27.3**	**+0.2**
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
WMQ	**Urumqi**	**41.55**	**351**	P	**P**	**23 52 30.0**	**-0.1**
WMQ				AP	pP	23 52 40.0	+1.6
WMQ				XP	sP	23 52 44.0	+2.1
WMQ				PP	PP	23 54 09.0	-0.2
WMQ				S	**S**	**23 58 43.0**	**-0.9**
WMQ				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,692nm,9.8s						
WMQ				LR	LR		
	comp=N,2μm,14.8s,MS5.2						
WMQ				LR	LR		
	comp=E,1μm,13.7s,MS5.2						
WMQ				LR	LR		
	comp=Z,2μm,18.6s,MS4.9						
WRA	**Warramunga Arr**	**43.62**	**123**	P	**P**	**23 52 47.1**	**-0.2**
	comp=Z,19nm,0.5s,mb5.1,baz=302,slow=9.2,SNR=32						
WRA					pP	23 52 55.4	-0.1
	comp=Z,20nm,0.7s,baz=301,slow=9.2,SNR=7.9						
WRAB	**Tennant Creek**	**43.62**	**123**	P	**P**	**23 52 47.0**	**-0.3**
	comp=Z,257nm,0.4s,SNR=17						
WB2	**Warramunga Arr**	**43.63**	**123**	*e*P	**P**	**23 52 47.4**	**+0.1**
ASPA	**Alice Springs**	**45.05**	**128**	*e*P	**P**	**23 52 58.9**	**+0.2**
ASAR	**Alice Springs**	**45.05**	**128**	P	**P**	**23 52 58.5**	**-0.3**
	comp=Z,10nm,0.5s,mb4.9,baz=298,slow=7.9,SNR=32						
FORT	**Forrest**	**45.05**	**140**	*e*P	**P**	**23 53 00.0**	**+1.3**
	comp=Z,2μm,0.6s						
MKAR	**Makanchi Array**	**45.49**	**346**	P	**P**	**23 53 01.7**	**-0.2**
	comp=Z,7.3nm,0.4s,mb4.9,baz=155,slow=9.3,SNR=30						
MKAR					pP	23 53 10.3	0.0
	comp=Z,22nm,0.7s,baz=160,slow=8.6,SNR=12						
MKAR					PP	23 54 41.3	-7.6
	comp=Z,3.7nm,0.5s,baz=165,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**45.49**	**346**	P	**P**	**23 53 01.7**	**-0.2**
MKAR					pP	23 53 10.3	0.0
MKAR					PP	23 54 41.3	-7.6
SONM	**Songino Array**	**45.69**	**9**	P	**P**	**23 53 03.3**	**-0.1**
	comp=Z,7.5nm,0.4s,mb5.0,baz=190,slow=9.4,SNR=55						
SONM					pP	23 53 11.8	0.0
	comp=Z,13nm,0.7s,baz=192,slow=8.8,SNR=11						
SONM					PcP	23 54 41.6	-0.1
	comp=Z,6.7nm,0.6s,baz=206,slow=3.7,SNR=13						
ULN	**Ulaanbaatar**	**45.83**	**10**	*e*P	**P**	**23 53 03.7**	**-0.9**
	comp=Z,5.4nm,0.5s,mb4.7						
CN2	**Changchun**	**48.28**	**28**	*e*P	**P**	**23 53 24.8**	**+0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
PMG	**Port Moresby**	**52.07**	**104**	P	**P**	**23 53 52.7**	**-0.5**
	comp=Z,24nm,0.6s,mb5.3,baz=340,slow=2.6,SNR=10.0						
CTA	**Charters Tower**	**53.99**	**117**	*e*P	**P**	**23 54 07.5**	**+0.2**
	comp=Z,9.7nm,0.8s,mb4.8						
CTA	**Charters Tower**	**53.99**	**117**	P	**P**	**23 54 07.2**	**-0.2**
	comp=Z,7.1nm,0.8s,mb4.7,baz=289,slow=8.7,SNR=6.8						
BVAR	**Borovoye Array**	**54.46**	**341**	P	**P**	**23 54 09.4**	**-1.0**
	comp=Z,3.3nm,0.5s,mb4.5,baz=139,slow=11,SNR=26						
BVAR					PP	23 55 58.4	-16
	comp=Z,6.0nm,0.7s,baz=141,slow=10,SNR=5.1						
CHKZ	**Chkalovo**	**54.94**	**342**	*e*P	**P**	**23 54 13.1**	**-0.8**
	comp=Z,22nm,0.7s,mb5.3						
STKA	**Stephens Creek**	**55.07**	**133**	*i*P	**P**	**23 54 15.0**	**-0.2**
	comp=Z,12nm,0.6s,mb5.1						
STKA	**Stephens Creek**	**55.07**	**133**	P	**P**	**23 54 14.4**	**-0.7**
	comp=Z,15nm,0.6s,mb5.2,baz=303,slow=7.3,SNR=17						
KMBO	**Kilima Mbogo**	**59.20**	**267**	P	**P**	**23 54 45.8**	**+1.2**
	comp=Z,2.7nm,0.9s,mb4.3,baz=32,slow=8.8,SNR=4.9						
KMBO					pP	23 54 53.0	-0.3
	comp=Z,6.0nm,0.8s,baz=61,slow=10,SNR=10						
KMBO	**Kilima Mbogo**	**59.20**	**267**	P	**P**	**23 54 45.8**	**+1.2**
KMBO					pP	23 54 53.0	-0.3
GNI	**Garni**	**59.55**	**316**	P	**P**	**23 54 47.0**	**+0.3**
	comp=Z,1.1nm,0.4s,mb4.3,slow=10,SNR=2.6						
GNI					pP	23 54 55.1	-0.2
	comp=Z,16nm,0.9s,baz=25,slow=4.9,SNR=4.0						
GNI	**Garni**	**59.55**	**316**	P	**P**	**23 54 47.0**	**+0.3**
GNI					pP	23 54 55.1	-0.3
ARU	**Arti**	**61.38**	**337**	P	**P**	**23 54 58.8**	**-0.1**
KIV	**Kislovodsk**	**62.54**	**319**	P	**P**	**23 55 05.5**	**-1.4**
	comp=Z,30nm,1.3s,mb5.3						
KIV				*e*pP	pP	23 55 15.0	-0.6
ASF	**Jabal al Asfar**	**62.84**	**305**	P	**P**	**23 55 10.4**	**+1.4**
	comp=Z,1.6nm,0.8s,mb4.2,baz=187,slow=8.1,SNR=2.5						
ASF				pP	pP	23 55 18.3	+0.5
	comp=Z,4.2nm,0.9s,baz=340,slow=3.3,SNR=5.2						
MALT	**Malatya**	**63.42**	**312**	*e*P	**P**	**23 55 13.7**	**+0.9**
	comp=Z,7.2nm,0.8s,mb4.8						
MALT				*e*pP	pP	23 55 22.1	+0.6
EIL	**Elat**	**63.88**	**302**	*e*P	**P**	**23 55 14.9**	**-1.2**
	comp=Z,3.9nm,0.7s,mb4.5						
MBAR	**Mbarara**	**65.67**	**268**	P	**P**	**23 55 26.8**	**-1.0**
	comp=Z,6.7nm,1.0s,mb4.6						
MBAR				*e*pP	pP	23 55 35.6	-1.0
BRTR	**Keskin Array B**	**67.40**	**312**	P	**P**	**23 55 37.6**	**-0.9**
	comp=Z,0.6nm,0.4s,mb4.0,baz=137,slow=3.7,SNR=4.9						
BRTR					pP	23 55 45.6	-1.6
	comp=Z,3.2nm,0.7s,baz=131,slow=6.4,SNR=10						
LBTB	**Lobatse**	**73.83**	**243**	P	**P**	**23 56 17.3**	**-0.3**
	comp=Z,10nm,1.0s,mb4.7						
BOSA	**Boshof**	**74.84**	**240**	P	**P**	**23 56 24.2**	**+0.7**
	comp=Z,2.1nm,0.6s,mb4.2,baz=269,slow=12,SNR=4.6						
BOSA	**Boshof**	**74.84**	**240**	P	**P**	**23 56 22.4**	**-1.1**
	comp=Z,2.5nm,0.6s,mb4.3						
SUW	**Suwalki**	**77.87**	**325**	*e*P	**P**	**23 56 39.8**	**-0.1**
	comp=Z,68nm,1.0s,mb5.5						
SUW				*e*pP	pP	23 56 48.8	+0.1
FINES	**FINESS Array B**	**78.19**	**332**	P	**P**	**23 56 40.3**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.3,baz=86,slow=6.3,SNR=9.6						
KAF	**Kangasniemi**	**78.27**	**333**	*e*p	**P**	**23 56 41.6**	**-0.3**
OJC	**Ojcow**	**79.24**	**321**	*e*P	pP	23 56 56.4	+0.1
KEV	**Kevo**	**80.31**	**341**	*e*p	**P**	**23 56 52.6**	**-0.2**
ARCES	**ARCESS Array B**	**80.74**	**340**	P	**P**	**23 56 55.5**	**+0.4**
	comp=Z,4.7nm,0.4s,mb4.7,baz=96,slow=5.3,SNR=34						
GERES	**GERESS Array B**	**83.05**	**319**	P	**P**	**23 57 08.4**	**+0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=104,slow=5.5,SNR=5.1						
GERES					pP	23 57 16.7	+0.2
	comp=Z,6.3nm,1.0s,baz=102,slow=5.1,SNR=11						
KHC	**Kasperske Hory**	**83.14**	**319**	*e*pP	pP	23 57 18.5	+1.6
NOA	**NORSAR Array B**	**85.19**	**331**	P	**P**	**23 57 18.2**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.0,baz=98,slow=5.4,SNR=3.0						
DAVOX	**Davos**	**85.54**	**317**	P	**P**	**23 57 21.4**	**+1.3**
	comp=Z,5.7nm,0.5s,mb5.1,baz=204,slow=13						
VNDA	**Vanda**	**87.56**	**169**	P	**P**	**23 57 30.5**	**+1.1**
	comp=Z,1.1nm,0.7s,mb4.2,baz=339,slow=5.8,SNR=5.2						
LPG	**La Plagne**	**87.73**	**315**	*e*P	**P**	**23 57 31.7**	**+0.8**
	comp=Z,12nm,0.8s,mb4.9						
YKA	**Yellowknife Ar**	**110.77**	**15**	PP	PP	00 03 48.6	-6.5
	comp=Z,0.3nm,0.6s,baz=327,slow=7.3,SNR=4.0						
SCHQ	**Schefferville**	**120.89**	**349**	PKP	PKPdf	00 03 34.5	-3.4
	comp=Z,1.7nm,0.4s,baz=19,slow=6.0,SNR=12						
SCHQ					pPKP	00 03 42.6	
	comp=Z,1.4nm,0.7s,baz=335,slow=3.3,SNR=4.1						
ULM	**Lac du Bonnet**	**126.11**	**10**	PKP	PKPdf	00 03 44.2	-3.9
	comp=Z,2.7nm,0.6s,baz=354,slow=4.8,SNR=6.1						
ULM					pPKP	00 03 52.9	
	comp=Z,5.4nm,0.9s,baz=316,slow=1.8,SNR=4.6						
ULM	**Lac du Bonnet**	**126.11**	**10**	PKP	PKPdf	00 03 44.2	-3.9
ULM					pPKP	00 03 52.9	
PDAR	**Pinedale Array**	**128.96**	**24**	PKP	PKPdf	00 03 50.1	-3.7
	comp=Z,0.8nm,0.5s,baz=127,slow=2.0,SNR=9.0						
PDAR					pPKP	00 03 58.1	
	comp=Z,1.5nm,0.9s,baz=315,slow=2.1,SNR=5.1						
SADO	**Sadowa**	**132.46**	**356**	PKP	PKPdf	00 03 56.8	-3.7
	comp=Z,3.7nm,0.6s,baz=344,sl

HHC				XS			00 08 29.3	
HHC				SS	SS		00 11 13.5	+5.6
HHC				AMB	AMB			
	comp=Z,18nm,0.5s,mb5.0							
WMQ	**Urumqi**	**42.40**	**350**	*eP*	**P**		**00 02 11.5**	**-0.6**
WMQ				AMB	AMB			
	comp=Z,8.0nm,0.7s,mb4.5							
WMQ				LR	LR			
	comp=Z,247nm,24.3s,MS4.0							
WRA	**Warramunga Arr**	**42.90**	**122**	P	**P**		**00 02 16.7**	**+0.3**
	comp=Z,6.4nm,0.6s,mb4.5,baz=301,slow=9.2,SNR=28							
WRA				pP	pP		00 02 23.6	-0.5
	comp=Z,1.9nm,0.5s,baz=302,slow=9.1,SNR=6.1							
WRAB	**Tennant Creek**	**42.90**	**122**	*eP*	**P**		**00 02 16.3**	**-0.2**
	comp=Z,7.6nm,0.5s,mb4.7							
WB2	**Warramunga Arr**	**42.91**	**122**	*iP*	**P**		**00 02 16.8**	**+0.3**
FORT	**Forrest**	**44.22**	**140**	*eP*	**P**		**00 02 29.0**	**+2.0**
	comp=Z,471nm,0.7s							
ASAR	**Alice Springs**	**44.29**	**127**	P	**P**		**00 02 27.8**	**+0.1**
	comp=Z,1.6nm,0.7s,mb3.9,baz=303,slow=8.1,SNR=10.0							
ASAR				pP	pP		00 02 34.8	-0.5
	comp=Z,1.4nm,0.7s,baz=307,slow=7.2,SNR=7.1							
MKAR	**Makanchi Array**	**46.35**	**346**	P	**P**		**00 02 43.3**	**-0.4**
	comp=Z,3.4nm,0.4s,mb4.6,baz=162,slow=8.9,SNR=25							
SONM	**Songino Array**	**46.42**	**9**	P	**P**		**00 02 44.3**	**-0.1**
	comp=Z,2.0nm,0.4s,mb4.4,baz=190,slow=9.2,SNR=25							
SONM				pP	pP		00 02 51.1	-0.9
	comp=Z,2.6nm,0.4s,baz=190,slow=8.7,SNR=16							
ULN	**Ulaanbaatar**	**46.56**	**10**	*eP*	**P**		**00 02 45.8**	**+0.4**
	comp=Z,5.7nm,0.9s,mb4.5							
CN2	**Changchun**	**48.83**	**28**	*eP*	**P**		**00 03 05.5**	**+2.3**
CN2				AMB	AMB			
	comp=Z,10.0nm,1.1s,mb4.8							
MDJ	**Mudanjiang**	**51.43**	**30**	P	**P**		**00 03 21.3**	**-1.7**
MDJ				AMB	AMB			
	comp=Z,9.0nm,1.3s,mb4.5							
MDJ				AMB	AMB			
	comp=Z,184nm,3.8s							
PMG	**Port Moresby**	**51.54**	**104**	pP	pP		00 03 31.0	-1.1
	comp=Z,20nm,0.8s,baz=264,slow=5.7,SNR=3.3							
STKA	**Stephens Creek**	**54.27**	**132**	P	**P**		**00 03 44.4**	**0.0**
	comp=Z,1.2nm,0.4s,mb4.2,baz=293,slow=7.9,SNR=6.1							
STKA	**Stephens Creek**	**54.27**	**132**	*eP*	**P**		**00 03 44.2**	**-0.1**
	comp=Z,1.7nm,0.5s,mb4.4,baz=141,slow=8.9,SNR=11							
ARU	**Arti**	**62.25**	**337**	*eP*	**P**		**00 04 41.2**	**+1.3**
	comp=Z,2.3nm,0.7s,mb4.4							
BRTR	**Keskin Array B**	**68.19**	**312**	P	**P**		**00 05 16.8**	**-1.7**
	comp=Z,0.4nm,0.6s,mb3.7,baz=146,slow=5.2,SNR=3.0							
BRTR				pP	pP		00 05 24.1	-2.4
	comp=Z,0.7nm,0.8s,baz=138,slow=6.9,SNR=3.7							
LBTB	**Lobatse**	**73.78**	**243**	P	**P**		**00 05 51.9**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=148,slow=9.7,SNR=4.0							
LBTB	**Lobatse**	**73.78**	**243**	P	**P**		**00 05 51.9**	**-0.5**
FINES	**FINESS Array B**	**79.06**	**333**	P	**P**		**00 06 20.2**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.7,baz=106,slow=6.9,SNR=8.2							
ARCES	**ARCESS Array B**	**81.61**	**340**	P	**P**		**00 06 34.7**	**-0.1**
	comp=Z,1.9nm,0.8s,mb4.1,baz=90,slow=4.9,SNR=8.8							
ARCES				pP	pP		00 06 42.8	-0.1
	comp=Z,4.9nm,0.9s,baz=80,slow=5.5,SNR=2.4							
GERES	**GERESS Array B**	**83.88**	**319**	P	**P**		**00 06 47.0**	**+0.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=108,slow=4.2,SNR=5.8							
GERES				sP	sP		00 06 58.6	+0.9
	comp=Z,0.8nm,0.9s,baz=90,slow=5.3,SNR=4.3							
DAVOX	**Davos**	**86.36**	**317**	P	**P**		**00 06 59.7**	**+0.4**
	comp=Z,1.7nm,0.5s,mb4.6,baz=260,slow=4.8,SNR=8.9							
DAVOX				sP	sP		00 07 11.1	+1.0
	comp=Z,1.4nm,0.5s,baz=146,slow=20,SNR=3.3							
CFAA	**Coronel Fontan**	**147.29**	**204**	PKPbc	PKPdf		00 14 01.8	-0.3
	comp=Z,0.5nm,0.4s,baz=136,slow=2.5,SNR=11							
LPAZ	**La Paz**	**159.38**	**226**	PKPab	PKPab		00 14 56.1	+1.2
	comp=Z,0.7nm,0.6s,baz=17,slow=5.3,SNR=4.6							

*IDC **29** 00:00:26.2±2.9, 2.94N×96.08E, mb3.7/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, Error ellipse: s-maj=127.0km s-min=20.2km az=57.0*

ISC 29 00:00:28.6±2.7, 2.9N±0.4×95.9E±0.7, h33km, n6, σ1$06/6, mb3.7/6, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**35.91**	**127**	P	**P**	**00 07 27.0**	**-1.1**
	2.6nm,0.7s,mb4.3,baz=220,slow=7.9,SNR=4.1						
WRA	**Warramunga Arr**	**43.97**	**123**	P	**P**	**00 08 35.3**	**+0.4**
	0.4nm,0.4s,mb3.5,baz=302,slow=9.0,SNR=5.2						
MKAR	**Makanchi Array**	**45.35**	**347**	P	**P**	**00 08 46.5**	**+0.9**
	0.5nm,0.4s,mb3.7,baz=161,slow=8.6,SNR=7.1						
ASAR	**Alice Springs**	**45.39**	**128**	P	**P**	**00 08 46.9**	**+0.7**
	0.7nm,1.1s,mb3.4,baz=302,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**45.71**	**10**	P	**P**	**00 08 48.2**	**-0.2**
	0.4nm,0.5s,mb3.6,baz=190,slow=8.8,SNR=4.5						
BVAR	**Borovoye Array**	**54.29**	**341**	P	**P**	**00 09 53.1**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=153,slow=6.4,SNR=2.9						

IDC 29 00:02:22.6±1.4, 0.22N×97.22E, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=129.9km s-min=30.4km az=81.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**48.09**	**8**	P	P	00 11 04.1	-1.9
	0.5nm,0.4s,baz=190,slow=10.0,SNR=6.2						
MKAR	**Makanchi Array**	**48.19**	**346**	P	P	00 11 04.6	-2.2
	1.4nm,0.8s,baz=162,slow=7.7,SNR=8.3						
BVAR	**Borovoye Array**	**57.18**	**341**	P	P	00 12 11.3	-2.4
	0.6nm,0.7s,baz=101,slow=7.3,SNR=4.9						
VNDA	**Vanda**	**84.87**	**169**	P	P	00 14 58.8	-1.2
	0.4nm,0.3s,baz=310,slow=7.9,SNR=7.7						

IDC 29 00:04:19.9±4.2, 1.43N×96.64E, mb3.5/4, mb1 3.7/4, mb1mx3.5/15, mbtmp3.5/4, Error ellipse: s-maj=165.9km s-min=25.0km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.63**	**122**	P	P	00 12 17.7	-2.3
	0.3nm,0.4s,baz=304,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**43.98**	**127**	P	P	00 12 29.6	-1.4
	0.3nm,0.8s,baz=296,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**46.89**	**347**	P	P	00 12 51.3	-2.5
	1.1nm,0.7s,baz=158,slow=8.6,SNR=5.4						
SONM	**Songino Array**	**46.99**	**9**	P	P	00 12 53.5	-1.1
	0.4nm,0.4s,baz=198,slow=6.2,SNR=5.8						

*IDC **29** 00:04:35.7±0.8, 1.46N×97.38E, mb4.1/10, mb1 4.2/10, mb1mx4.0/16, mbtmp4.1/10, Error ellipse: s-maj=41.4km s-min=16.6km az=50.0*

*NEIC **29** 00:04:40.4±0.5, 1.32N×97.24E, h30km, mb4.3/5, Error ellipse: s-maj=17.9km s-min=10.4km az=58.0*

ISC 29 00:04:39.0±0.6, 1.33N±0.09×97.3E±0.1, h33km, n22, σ1$11/20, mb4.1/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.19**	**41**	*eP*	**P**	**00 05 56.6**	**+0.3**
LSA	**Lhasa**	**28.80**	**349**	P	**P**	**00 10 37.5**	**+1.3**
	5.1nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	**P**	**00 11 20.4**	**-1.4**
	2.7nm,0.8s,mb4.2,baz=5.9,slow=14,SNR=2.5						
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**	**00 12 28.8**	**-0.8**
	1.6nm,0.6s,mb3.8,baz=301,slow=9.0,SNR=11						
WRAB	**Tennant Creek**	**42.06**	**122**	*eP*	**P**	**00 12 29.8**	**+0.1**
	3.9nm,0.5s,mb4.3						
FORT	**Forrest**	**43.34**	**140**	*eP*	**P**	**00 12 42.1**	**+2.1**
	387nm,0.7s						
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**00 12 40.4**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=312,slow=8.6,SNR=5.3						
SONM	**Songino Array**	**46.99**	**8**	P	**P**	**00 13 11.4**	**+2.6**
	2.8nm,0.5s,mb4.4,baz=202,slow=6.7,SNR=5.4						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**00 13 09.4**	**-0.5**
	2.8nm,0.9s,mb4.2,baz=157,slow=7.9,SNR=8.4						
HIA	**Hailar**	**51.50**	**19**	P	**P**	**00 13 34.0**	**-10**
	5.6nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.68**	**345**	P	**P**	**00 13 43.5**	**-1.3**
	1.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**53.41**	**132**	*eP*	**P**	**00 13 58.9**	**+0.9**
	2.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**00 13 58.0**	**0.0**
	4.3nm,0.7s,mb4.5,baz=324,slow=7.5,SNR=8.4						
STKA	**Stephens Creek**	**53.41**	**132**	*eP*	**P**	**00 13 57.4**	**-0.6**
BVAR	**Borovoye Array**	**56.14**	**341**	P	**P**	**00 14 16.2**	**-1.4**
	1.2nm,0.8s,mb4.0,baz=141,slow=9.2,SNR=6.6						
MALT	**Malatya**	**65.08**	**312**	P	**P**	**00 15 17.7**	**-1.0**
	1.3nm,0.8s,mb4.0						
BOSA	**Boshof**	**74.89**	**240**	P	**P**	**00 16 19.9**	**+1.2**
	1.5nm,0.6s,mb4.1,baz=95,slow=8.6,SNR=3.7						
FINES	**FINESS Array B**	**79.91**	**332**	P	**P**	**00 16 45.7**	**-0.2**
	0.3nm,0.4s,mb3.5,baz=114,slow=6.0,SNR=3.7						
ARCES	**ARCESS Array B**	**82.43**	**340**	P	**P**	**00 17 00.1**	**+1.1**
	4.7nm,0.9s,mb4.4,baz=80,slow=7.4,SNR=3.6						
GERES	**GERESS Array B**	**84.75**	**319**	P	**P**	**00 17 10.8**	**-0.4**
	0.2nm,0.4s,mb3.6,baz=127,slow=6.7,SNR=5.5						
CFAA	**Coronel Fontan**	**146.92**	**203**	PKPbc	PKPbc	00 24 21.8	+3.4
	0.3nm,0.5s,baz=112,slow=2.8,SNR=5.0						
CFAA	**Coronel Fontan**	**146.92**	**203**	PKPbc	PKPbc	00 24 21.8	+3.4

*IDC **29** 00:05:46.0±1.0, 1.75N×96.94E, mb4.2/10, mb1 4.2/10, mb1mx4.0/17, mbtmp4.2/10, Error ellipse: s-maj=57.6km s-min=16.9km az=57.0*

*BJI **29** 00:05:48.7, 1.77N×97.31E, h31km, mb4.8*

*NEIC **29** 00:05:50.6±0.5, 1.82N×96.96E, h30km, mb4.6/9, Error ellipse: s-maj=16.1km s-min=8.2km az=225.0*

ISC 29 00:05:49.1±0.6, 1.88N±0.10×97.05E±0.10, h30km, n35, σ0$86/25, mb4.4/22, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**13.26**	**92**	P	**P**	**00 08 59.1**	**+1.1**
KKM	**Kota Kinabalu**	**19.56**	**77**	P	**P**	**00 10 18.0**	**+0.3**
LSA	**Lhasa**	**28.23**	**349**	*eP*	**P**	**00 11 40.4**	**-1.4**
	7.5nm,0.6s,mb4.5						
ENH	**Enshi**	**30.61**	**21**	*eP*	**P**	**00 12 01.3**	**-1.7**
	8.3nm,0.5s,mb4.8						
XAN	**Xi'an**	**33.87**	**18**	P	**P**	**00 12 30.5**	**-0.9**
XAN				AP	pP	00 12 37.0	-3.3
XAN				AMB	AMB		
	comp=Z,15nm,0.8s,mb5.0						
GTA	**Gaotai**	**37.44**	**4**	*eP*	**P**	**00 13 02.5**	**+0.8**
GTA				AP	pP	00 13 10.8	+0.2
GTA				XP	sP	00 13 14.5	+0.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.5						
NWAO	**Narrogin (SRO)**	**39.52**	**153**	P	**P**	**00 13 18.6**	**-0.5**
	comp=Z,3.9nm,0.9s,mb4.2,baz=243,slow=9.0,SNR=2.2						
BJT	**Baijiatuan**	**41.75**	**22**	*eP*	**P**	**00 13 37.7**	**+0.3**
	comp=Z,33nm,1.0s,mb4.9						
BJI	**Beijing**	**41.77**	**22**	*eP*	**P**	**00 13 38.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.8						
WRA	**Warramunga Arr**	**42.52**	**123**	P	**P**	**00 13 42.7**	**-1.4**
	comp=Z,1.2nm,0.7s,mb3.7,baz=300,slow=9.3,SNR=5.4						
WRA	**Warramunga Arr**	**42.52**	**123**	P	pP	00 13 49.2	-3.8
	comp=Z,1.4nm,0.4s,baz=304,slow=9.0,SNR=7.8						
WRAB	**Tennant Creek**	**42.53**	**122**	*eP*	**P**	**00 13 44.0**	**-0.1**
	comp=Z,5.3nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.53**	**122**	*eP*	pP	00 13 51.2	-1.9
ASAR	**Alice Springs**	**43.92**	**128**	P	**P**	**00 13 55.5**	**+0.2**
	comp=Z,0.9nm,0.7s,mb3.6,baz=305,slow=7.9,SNR=5.9						
AAK	**Ala-Archa**	**45.32**	**337**	*eP*	**P**	**00 14 05.5**	**-0.8**
	comp=Z,4.9nm,1.0s,mb4.3						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**00 14 16.3**	**+0.8**
	comp=Z,2.3nm,0.5s,mb4.3,baz=186,slow=9.4,SNR=9.1						
SONM				PcP	PcP	00 15 50.1	0.0
	comp=Z,1.2nm,0.7s,baz=190,slow=3.8,SNR=4.6						
SONM	**Songino Array**	**46.49**	**9**	P	pP	00 14 22.8	-1.8
	comp=Z,1.5nm,0.5s,baz=188,slow=8.7,SNR=6.0						
MKAR	**Makanchi Array**	**46.55**	**346**	P	**P**	**00 14 16.5**	**+0.5**
	comp=Z,2.5nm,0.5s,mb4.4,baz=159,slow=7.8,SNR=7.7						
MKAR	**Makanchi Array**	**46.55**	**346**	P	pP	00 14 25.1	+0.1
	comp=Z,2.4nm,0.6s,baz=167,slow=7.6,SNR=7.0						
HIA	**Hailar**	**51.05**	**19**	*eP*	**P**	**00 14 50.7**	**0.0**
	comp=Z,3.2nm,0.4s,mb4.6						
KURK	**Kurchatov**	**51.10**	**345**	*eP*	**P**	**00 14 51.1**	**0.0**
	comp=Z,5.5nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**55.56**	**341**	P	**P**	**00 15 23.6**	**-0.5**
	comp=Z,3.2nm,0.5s,mb4.6,baz=143,slow=7.4,SNR=13						
BVAR	**Borovoye Array**	**55.56**	**341**	P	pP	00 15 31.1	-2.3
	comp=Z,3.1nm,0.7s,baz=153,slow=6.4,SNR=5.6						
ARU	**Arti**	**62.50**	**337**	*eP*	**P**	**00 16 10.7**	**-1.5**
	comp=Z,7.2nm,1.1s,mb4.7						
BRTR	**Keskin Array B**	**68.55**	**312**	P	pP	00 16 59.8	-0.9
	comp=Z,1.0nm,0.9s,baz=135,slow=6.1,SNR=3.2						
AKASG	**Malin Array Ae**	**74.63**	**322**	P	pP	00 17 37.7	+0.8
	baz=Z,slow=4.8						
FINES	**FINESS Array B**	**79.33**	**332**	P	**P**	**00 17 53.3**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.9,baz=90,slow=5.7,SNR=7.0						
FINES	**FINESS Array B**	**79.33**	**332**	P	pP	00 18 01.3	-1.7
	comp=Z,1.3nm,0.7s,baz=90,slow=3.8,SNR=5.2						
MORC	**Moravsky Berou**	**81.79**	**320**	P	**P**	**00 18 07.9**	**+1.2**
	comp=Z,3.2nm,1.2s,mb4.1						
ARCES	**ARCESS Array B**	**81.85**	**340**	P	**P**	**00 18 08.1**	**+1.5**
	comp=Z,3.4nm,0.8s,mb4.3,baz=97,slow=7.3,SNR=4.7						
ARCES	**ARCESS Array B**	**81.85**	**340**	P	pP	00 18 16.4	+0.3
	comp=Z,2.2nm,0.8s,baz=90,slow=4.5,SNR=3.6						
GERES	**GERESS Array B**	**84.21**	**319**	P	**P**	**00 18 19.4**	**+0.3**
	comp=Z,0.5nm,0.4s,mb4.0,baz=115,slow=4.4,SNR=8.0						
GERES	**GERESS Array B**	**84.21**	**319**	P	pP	00 18 27.4	-1.3
	comp=Z,0.5nm,0.7s,baz=108,slow=4.2,SNR=4.0						
CLL	**Collm**	**84.81**	**321**	P	**P**	**00 18 23.0**	**+0.9**
NOA	**NORSAR Array B**	**86.34**	**331**	P	**P**	**00 18 29.8**	**+0.3**
	comp=Z,0.8nm,0.8s,mb4.0,baz=92,slow=4.7,SNR=3.7						

*IDC **29** 00:08:45.7±0.6, 0.75N×97.33E, mb4.1/15, mb1 4.2/15, mb1mx4.1/19, mbtmp4.1/15, Error ellipse: s-maj=25.9km s-min=13.7km az=53.0*

*NEIC **29** 00:08:50.2±0.4, 0.74N×97.38E, h30km, mb4.5/3, Error ellipse: s-maj=19.4km s-min=9.1km az=55.0*

ISC 29 00:08:49.0±0.5, 0.7N±0.1×97.4E±0.1, h33km, n22, σ0$79/21, mb4.1/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**19.50**	**74**	P	**P**	**00 13 21.1**	**+4.7**
LSA	**Lhasa**	**29.42**	**349**	P	**P**	**00 14 53.6**	**+1.8**
	6.9nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.49**	**125**	P	**P**	**00 15 26.9**	**-0.8**
	3.5nm,0.7s,mb4.4,baz=294,slow=2.1,SNR=5.0						
NWAO	**Narrogin (SRO)**	**38.34**	**153**	P	**P**	**00 16 09.3**	**+0.6**
	5.7nm,0.9s,mb4.3,baz=336,slow=10.0,SNR=3.4						
WRA	**Warramunga Arr**	**41.61**	**122**	P	**P**	**00 16 35.8**	**-0.3**
	2.3nm,0.6s,mb4.0,baz=300,slow=9.0,SNR=8.1						
WRAB	**Tennant Creek**	**41.62**	**122**	*eP*	**P**	**00 16 35.3**	**-0.7**
	3.8nm,0.7s,mb4.1						
ASAR	**Alice Springs**	**42.95**	**127**	P	**P**	**00 16 47.5**	**+0.6**
	2.2nm,0.6s,mb4.1,baz=299,slow=8.1,SNR=16						
SONM	**Songino Array**	**47.57**	**8**	P	**P**	**00 17 23.5**	**0.0**
	0.4nm,0.4s,mb3.8,baz=190,slow=9.1,SNR=5.9						
MKAR	**Makanchi Array**	**47.75**	**346**	P	**P**	**00 17 24.8**	**0.0**
	2.0nm,0.5s,mb4.4,baz=164,slow=8.5,SNR=14						
KURK	**Kurchatov**	**52.30**	**345**	P	**P**	**00 17 56.1**	**-3.4**
	5.1nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**52.89**	**132**	P	**P**	**00 18 04.8**	**+0.6**
	1.9nm,0.5s,mb4.3,baz=328,slow=9.0,SNR=6.0						
BVAR	**Borovoye Array**	**56.76**	**341**	P	**P**	**00 18 31.1**	**-1.0**
	1.0nm,0.7s,mb4.0,baz=137,slow=11,SNR=5.6						
BRTR	**Keskin Array B**	**69.58**	**312**	P	**P**	**00 19 56.0**	**-0.9**
	0.6nm,0.7s,mb3.7,baz=134,slow=8.2,SNR=3.6						
LBTB	**Lobatse**	**73.86**	**244**	P	**P**	**00 20 22.7**	**-0.1**
	1.5nm,0.6s,mb4.1,baz=117,slow=6.8,SNR=3.3						
BOSA	**Boshof**	**74.72**	**240**	P	**P**	**00 20 27.8**	**+0.1**
	1.6nm,0.7s,mb4.1,baz=90,slow=2.0,SNR=3.3						
FINES	**FINESS Array B**	**80.51**	**333**	P	**P**	**00 20 58.7**	**-0.5**
	0.3nm,0.6s,mb3.9,baz=110,slow=5.5,SNR=7.8						
ARCES	**ARCESS Array B**	**83.05**	**340**	P	**P**	**00 21 12.5**	**+0.3**
	2.3nm,0.8s,mb4.2,baz=100,slow=5.5,SNR=5.4						
ARCES	**ARCESS Array B**	**83.05**	**340**	P	**P**	**00 21 12.5**	**+0.3**
GERES	**GERESS Array B**	**85.30**	**319**	P	**P**	**00 21 24.8**	**+0.9**
	0.5nm,0.5s,mb3.9,baz=104,slow=5.5,SNR=7.8						
NB2	**NORSAR Subarra**	**87.52**	**331**	P	**P**	**00 21 34.4**	**-0.1**
	1.8nm,0.9s,mb4.3,baz=92,slow=5.0						
NOA	**NORSAR Array B**	**87.52**	**331**	P	**P**	**00 21 34.8**	**+0.3**
	0.8nm,1.1s,mb3.9,baz=91,slow=6.1,SNR=2.8						
CFAA	**Coronel Fontan**	**146.41**	**202**	PKPbc	PKPbc	00 28 29.5	+2.3
	0.4nm,0.6s,baz=125,slow=1.7,SNR=4.9						

*CSEM **29** 00:10:31.0±1.7, 27.81N×14.15W, h10km±26km, mb3.5/2, Error ellipse: s-maj=37.9km s-min=4.8km az=144.0, After MDD*

MDD 29 00:10:32.4±1.3, 27.99N×14.27W, mbLg1.7/3, Error ellipse: s-maj=15.4km s-min=3.2km az=144.0, PRXIMO SIN SOLUCIN TT-MODEL: CANARY, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CFTV	**Fuerteventura**	**0.46**	**21**	P	Pg	00 10 41.2	-0.3
	1.2nm,0.1s,SNR=7.9						
CFTV				S	Sg	00 10 50.2	+2.6
	2.4nm,0.1s,SNR=7.9						
CFTV	**Fuerteventura**	**0.46**	**21**	P	Pg	00 10 40.8	-0.7
	1.2nm,0.1s,SNR=7.9						
CFTV				S	Sg	00 10 50.2	+2.6
	2.4nm,0.1s,SNR=7.9						
CFUE	**Fuerteventura**	**0.72**	**24**	P	Pg	00 10 46.2	-0.6
	2.6nm,0.1s,SNR=7.9						
CFUE				S	Sg	00 10 55.4	-1.1
	6.5nm,0.0s,SNR=7.9						
EOSO	**Osorio**	**1.14**	**275**	P	Pb	00 10 53.1	-1.5
	7.7nm,0.5s,SNR=7.9						
EOSO				S	Sb	00 11 06.1	-3.7
	13nm,0.5s,SNR=7.9						

IDC 29 00:15:20.4±4.4, 0.13S×98.03E, mb3.4/4, mb1 3.6/4, mb1mx3.4/15, mbtmp3.4/4, Error ellipse: s-maj=174.7km s-min=25.6km az=58.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.64**	**121**	P	P	00 23 02.3	-1.8
	0.4nm,0.5s,baz=300,slow=9.3,SNR=2.5						
ASAR	**Alice Springs**	**41.94**	**126**	P	P	00 23 13.4	-1.5
	0.3nm,0.6s,baz=306,slow=8.1,SNR=3.8						
SONM	**Songino Array**	**48.32**	**8**	P	P	00 24 04.6	-1.1
	0.4nm,0.7s,baz=179,slow=6.6,SNR=4.0						
MKAR	**Makanchi Array**	**48.72**	**346**	P	P	00 24 06.0	-2.7
	0.6nm,0.7s,baz=159,slow=7.8,SNR=5.3						

*NEIC **29** 00:19:00.8±0.5, 9.71N×93.57E, h30km, mb4.4/12, Error ellipse: s-maj=13.6km s-min=8.6km az=53.0*

*BJI **29** 00:19:00.8, 9.70N×93.60E, h30km, mb4.3*

*IDC **29** 00:19:06.4±12.0, 9.86N×93.71E, h81km±120km, mb3.7/16, mb1 3.8/16, mb1mx3.7/21, mbtmp4.0/16, Error ellipse: s-maj=24.2km s-min=14.3km az=49.0*

ISC 29 00:18:58.3±3.7, 9.72N±0.08×93.57E±0.09, h27km±27km, n40, σ1$02/41, mb4.2/21, 1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNT	**Nongplab**	**6.68**	**64**	P	**Pn**	**00 20 36.2**	**-1.2**
KULM	**Kulim**	**8.28**	**122**	P	**P**	**00 20 59.5**	**-0.3**
NST	**Nakhon Sawan**	**8.71**	**47**	P	**P**	**00 21 05.5**	**-0.2**
CM31	**Chiang Mai Arr**	**10.12**	**30**	*eP*	**P**	**00 21 26.9**	**+1.7**
CHG	**Chiang Mai**	**10.43**	**29**	*iP*	**P**	**00 21 30.9**	**+1.5**
	11nm,0.9s						
NANT	**Nan**	**11.36**	**37**	P	**P**	**00 21 43.0**	**+0.8**
VIS	**Vishakhapatnam**	**12.73**	**310**	*iP*	**P**	**00 21 57.5**	**-3.1**
VIS				*iS*	**S**	**00 24 11.0**	**-11**
JIRN	**Jiri**	**19.15**	**340**	*eP*	**P**	**00 23 21.2**	**-1.3**
	55nm,1.0s						
PKI	**Pulchoki**	**19.35**	**338**	*eP*	**P**	**00 23 24.9**	**+0.1**
	31nm,1.0s						
DMN	**Daman**	**19.50**	**337**	*eP*	**P**	**00 23 26.2**	**-0.3**
	26nm,0.8s						
KKN	**Kakani**	**19.60**	**338**	*eP*	**P**	**00 23 27.5**	**-0.1**
	41nm,1.1s						
LSA	**Lhasa**	**20.00**	**354**	P	**P**	**00 23 29.1**	**-2.8**
	6.9nm,0.9s						
GKN	**Gorkha**	**20.04**	**336**	*eP*	**P**	**00 23 32.7**	**+0.4**
	34nm,0.7s						
KOLN	**Koldanda**	**20.26**	**334**	*eP*	**P**	**00 23 35.3**	**+

*IDC **29** 00:23:54.0±1.0,0.78N×97.45E,mb3.8/9,mb1 3.9/9, mb1mx3.8/17,mbtmp3.8/9,Error ellipse: s-maj=55.4km s-min=16.9km az=54.0*
*NEIC **29** 00:23:58.3±0.5,0.77N×97.45E,h30km,mb4.3/4,Error ellipse: s-maj=14.6km s-min=7.7km az=62.0*
ISC 29 00:23:58.1±5.8,**0.8N**±0.2×**97.5E**±0.3,**h43**km±46km,**n16,** σ0§**57**/15,**mb3.9**/13,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**35**	*eP*		**P**		**00 25 18.8**	**+0.2**
ENH	**Enshi**	**31.42**	**20**	P		**P**		**00 30 17.0**	**-0.7**
	4.5nm,0.4s,mb4.7								
FITZ	**Fitzroy Crossi**	**33.45**	**126**	P		**P**		**00 30 34.5**	**-0.9**
	2.8nm,1.0s,mb4.2,baz=189,slow=6.2,SNR=2.3								
WRA	**Warramunga Arr**	**41.56**	**122**	P		**P**		**00 31 43.9**	**+0.2**
	0.3nm,0.4s,mb3.3,baz=304,slow=8.9,SNR=4.8								
WRAB	**Tennant Creek**	**41.57**	**122**	*eP*		**P**		**00 31 43.5**	**-0.2**
	2.6nm,0.6s,mb4.0								
ASAR	**Alice Springs**	**42.91**	**127**	P		**P**		**00 31 54.8**	**+0.1**
	0.8nm,0.5s,mb3.7,baz=296,slow=8.0,SNR=8.5								
AAK	**Ala-Archa**	**46.47**	**337**	*eP*		**P**		**00 32 22.0**	**-0.9**
	1.0nm,0.6s,mb3.9								
SONM	**Songino Array**	**47.45**	**8**	P		**P**		**00 32 31.3**	**+0.8**
	0.4nm,0.5s,mb3.6,baz=198,slow=8.2,SNR=5.9								
MKAR	**Makanchi Array**	**47.68**	**346**	P		**P**		**00 32 32.9**	**+0.5**
	1.8nm,0.6s,mb4.3,baz=159,slow=7.7,SNR=6.9								
HIA	**Hailar**	**51.89**	**18**	P		**P**		**00 33 04.8**	**+0.2**
KURK	**Kurchatov**	**52.23**	**345**	*eP*		**P**		**00 33 06.7**	**-0.4**
	4.8nm,1.1s,mb4.3								
STKA	**Stephens Creek**	**52.87**	**132**	P		**P**		**00 33 12.7**	**+0.6**
	0.7nm,0.5s,mb3.9,baz=333,slow=2.3,SNR=2.3								
BVAR	**Borovoye Array**	**56.71**	**341**	P		**P**		**00 33 39.3**	**-0.5**
	0.4nm,0.5s,mb3.7,baz=90,slow=3.0,SNR=3.8								
FINES	**FINESS Array B**	**80.48**	**332**	P		**P**		**00 36 06.9**	**-0.1**
	0.7nm,0.9s,mb3.6,baz=56,slow=6.9,SNR=4.0								
GERES	**GERESS Array B**	**85.31**	**319**	P		**P**		**00 36 32.9**	**+1.0**
	0.1nm,0.3s,mb3.4,baz=90,slow=3.9,SNR=3.7								
CFAA	**Coronel Fontan**	**146.55**	**202**	PKPbc		PKPbc		00 43 37.6	+2.2
	0.2nm,0.5s,baz=161,slow=2.6,SNR=4.4								

*IDC **29** 00:24:51.9±0.6,2.94N×96.42E,mb4.3/14,mb1 4.4/14, mb1mx4.3/19,mbtmp4.3/14,Error ellipse: s-maj=32.4km s-min=13.1km az=51.0*
*NEIC **29** 00:24:56.3±0.3,3.03N×96.53E,h30km,mb4.6/14,Error ellipse: s-maj=12.6km s-min=6.2km az=45.0*
ISC 29 00:24:55.0±0.5,**3.06N**±0.09×**96.58E**±0.09,**h33**km,**n38,** σ0§**92**/36,**mb4.4**/25,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**13.81**	**96**	P		**P**		**00 28 09.8**	**-1.1**
KKM	**Kota Kinabalu**	**19.80**	**81**	P		**P**		**00 29 24.4**	**-1.2**
HYB	**Hyderabad**	**22.72**	**310**	*eP*		**P**		**00 30 00.0**	**+4.5**
HYB	**Hyderabad**	**22.72**	**310**	*iP*		**P**		**00 30 00.0**	**+4.5**
LSA	**Lhasa**	**26.99**	**350**	P		**P**		**00 30 33.8**	**-2.2**
	9.7nm,1.0s,mb4.3								
ENH	**Enshi**	**29.70**	**23**	P		**P**		**00 31 00.2**	**-0.1**
	5.1nm,0.6s,mb4.4								
FITZ	**Fitzroy Crossi**	**35.53**	**127**	*eP*		**P**		**00 31 50.6**	**-0.6**
	4.2nm,0.7s,mb4.5								
FITZ	**Fitzroy Crossi**	**35.53**	**127**	P		**P**		**00 31 50.5**	**-0.7**
	5.0nm,0.8s,mb4.5,baz=323,slow=2.4,SNR=7.0								
KAKA	**Kakadu**	**38.91**	**114**	*eP*		**P**		**00 32 19.6**	**0.0**
	10nm,0.6s,mb4.7								
NWAO	**Narrogin (SRO)**	**40.79**	**153**	P		**P**		**00 32 35.5**	**+0.6**
	4.0nm,0.7s,mb4.1,baz=281,slow=5.2,SNR=2.7								
WRA	**Warramunga Arr**	**43.56**	**123**	P		**P**		**00 32 58.3**	**+0.4**
	5.9nm,0.8s,mb4.4,baz=301,slow=9.2,SNR=14								
WRAB	**Tennant Creek**	**43.56**	**123**	*eP*		**P**		**00 32 58.4**	**+0.4**
	13nm,0.8s,mb4.7								
WB2	**Warramunga Arr**	**43.57**	**123**	*eP*		**P**		**00 32 58.3**	**+0.3**
AAK	**Ala-Archa**	**44.05**	**336**	*eP*		**P**		**00 33 01.6**	**-0.1**
	6.9nm,1.2s,mb4.3								
ASAR	**Alice Springs**	**45.02**	**128**	P		**P**		**00 33 09.8**	**+0.3**
	1.7nm,0.5s,mb4.1,baz=298,slow=8.0,SNR=15								
MKAR	**Makanchi Array**	**45.30**	**346**	P		**P**		**00 33 12.4**	**+0.9**
	5.5nm,0.7s,mb4.5,baz=162,slow=7.7,SNR=14								
SONM	**Songino Array**	**45.40**	**9**	P		**P**		**00 33 14.1**	**+1.8**
	4.1nm,0.9s,mb4.2,baz=187,slow=9.0,SNR=14								
SONM					PcP	PcP		00 34 52.7	+1.0
	1.6nm,0.7s,baz=200,slow=3.4,SNR=5.3								
KURK	**Kurchatov**	**49.84**	**345**	*eP*		**P**		**00 33 47.2**	**+0.2**
	7.3nm,1.0s,mb4.7								
HIA	**Hailar**	**50.10**	**20**	*eP*		**P**		**00 33 50.7**	**+1.8**
	17nm,1.3s,mb4.9								
CTA	**Charters Tower**	**53.90**	**118**	P		**P**		**00 34 18.1**	**+0.3**
	4.1nm,0.8s,mb4.4,baz=279,slow=7.1,SNR=4.1								
CTAO	**Charters Tower**	**53.90**	**118**	P		**P**		**00 34 17.6**	**-0.2**
	8.1nm,0.8s,mb4.7								
BVAR	**Borovoye Array**	**54.30**	**341**	P		**P**		**00 34 19.9**	**-0.4**
	2.6nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=8.0								
STKA	**Stephens Creek**	**55.06**	**133**	*eP*		**P**		**00 34 25.8**	**-0.4**
	2.6nm,0.6s,mb4.4								
STKA	**Stephens Creek**	**55.06**	**133**	P		**P**		**00 34 26.0**	**-0.2**
	3.7nm,0.7s,mb4.5,baz=320,slow=4.8,SNR=6.5								
STKA	**Stephens Creek**	**55.06**	**133**	*eP*		**P**		**00 34 24.8**	**-1.4**
KMBO	**Kilima Mbogo**	**59.45**	**267**	P		**P**		**00 34 56.6**	**-0.9**
	1.9nm,0.8s,mb4.2,baz=51,slow=9.0,SNR=6.3								
KMBO	**Kilima Mbogo**	**59.45**	**267**	*eP*		**P**		**00 34 56.6**	**-0.9**
	5.1nm,1.0s,mb4.5								
KIV	**Kislovodsk**	**62.50**	**319**	P		**P**		**00 35 17.4**	**-0.3**
	4.1nm,0.5s,mb4.8								
MALT	**Malatya**	**63.43**	**312**	*eP*		**P**		**00 35 21.7**	**-2.2**
	3.5nm,0.9s,mb4.5								
BRTR	**Keskin Array B**	**67.41**	**312**	P		**P**		**00 35 49.0**	**-0.5**
	0.9nm,0.9s,mb3.8,baz=124,slow=4.5,SNR=4.4								
FINES	**FINESS Array B**	**78.07**	**332**	P		**P**		**00 36 52.1**	**+0.2**
	1.6nm,0.7s,mb4.1,baz=72,slow=6.0,SNR=6.8								
KAF	**Kangasniemi**	**78.15**	**333**	*ep*		**P**		**00 36 52.4**	**0.0**
	6.1nm,0.9s,mb4.5								
ARCES	**ARCESS Array B**	**80.58**	**340**	P		**P**		**00 37 06.2**	**+0.8**
	3.9nm,0.8s,mb4.4,baz=90,slow=3.6,SNR=8.0								
ARCES	**ARCESS Array B**	**80.58**	**340**	P		**P**		**00 37 06.2**	**+0.8**
GERES	**GERESS Array B**	**83.01**	**319**	P		**P**		**00 37 19.3**	**+0.9**
	1.3nm,0.9s,mb4.0,baz=108,slow=4.2,SNR=8.6								
SBA	**Scott Base**	**88.86**	**169**	*eP*		**P**		**00 37 47.7**	**+1.1**
	2.5nm,0.9s,mb4.5								
TXAR	**Lajitas Array**	**142.40**	**30**	PKP		PKPdf		00 44 26.3	+1.2
	0.3nm,0.5s,baz=318,slow=0.8,SNR=3.8								
BDFB	**Brasilia**	**142.97**	**248**	PKP		PKPdf		00 44 28.4	+2.0
	1.6nm,0.5s,baz=124,slow=3.8,SNR=3.2								

*IDC **29** 00:30:09.8±2.9,2.54S×98.50E,mb4.1/6,mb1 4.3/6, mb1mx3.9/16,mbtmp4.1/6,Error ellipse: s-maj=124.7km s-min=18.8km az=54.0*
ISC 29 00:30:10.4±3.1,**3.0S**±0.5×**98.0E**±0.7,**h33**km,**n7,** σ0§**84**/7, **mb3.9**/6,**Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**31.01**	**121**	P		**P**		**00 36 27.8**	**+0.3**
	1.9nm,0.5s,mb4.2,baz=343,slow=8.7,SNR=4.2								
WRA	**Warramunga Arr**	**39.30**	**118**	P		**P**		**00 37 37.2**	**-0.8**
	1.1nm,0.4s,mb3.9,baz=301,slow=9.2,SNR=7.1								
WB2	**Warramunga Arr**	**39.30**	**118**	*eP*		**P**		**00 37 37.1**	**-1.1**
ASAR	**Alice Springs**	**40.37**	**124**	P		**P**		**00 37 48.5**	**+1.5**
	0.7nm,0.5s,mb3.6,baz=298,slow=8.1,SNR=8.9								
SONM	**Songino Array**	**51.11**	**7**	P		**P**		**00 39 12.6**	**+0.6**
	0.8nm,0.5s,mb3.9,baz=192,slow=9.2,SNR=6.9								
MKAR	**Makanchi Array**	**51.43**	**346**	P		**P**		**00 39 13.7**	**-0.7**
	1.9nm,0.5s,mb4.3,baz=160,slow=8.6,SNR=20								
BVAR	**Borovoye Array**	**60.40**	**341**	P		**P**		**00 40 19.0**	**+0.2**
	0.6nm,0.7s,mb3.8,baz=146,slow=10,SNR=3.9								

*IDC **29** 00:35:44.3±2.0,1.93N×96.56E,mb4.0/6,mb1 4.1/6, mb1mx3.7/17,mbtmp4.0/6,Error ellipse: s-maj=89.3km s-min=21.5km az=54.0*
ISC 29 00:35:47.8±1.8,**2.0N**±0.4×**96.7E**±0.5,**h33**km,**n6,** σ0§**40**/6, **mb4.0**/6,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**34.81**	**126**	P		**P**		**00 42 37.4**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=312,slow=4.7,SNR=3.0								
WRA	**Warramunga Arr**	**42.90**	**122**	P		**P**		**00 43 45.6**	**+0.4**
	0.9nm,0.5s,mb3.8,baz=300,slow=9.3,SNR=6.0								
MKAR	**Makanchi Array**	**46.37**	**346**	P		**P**		**00 44 12.5**	**-0.2**
	1.6nm,0.7s,mb4.1,baz=160,slow=7.6,SNR=16								
SONM	**Songino Array**	**46.45**	**9**	P		**P**		**00 44 13.4**	**0.0**
	0.5nm,0.4s,mb3.8,baz=188,slow=9.2,SNR=8.1								
FINES	**FINESS Array B**	**79.07**	**333**	P		**P**		**00 47 50.0**	**-0.2**
	0.3nm,0.4s,mb3.6,baz=90,slow=4.2,SNR=4.5								
ARCES	**ARCESS Array B**	**81.63**	**340**	P		**P**		**00 48 04.1**	**+0.4**
	5.7nm,1.1s,mb4.4,baz=104,slow=7.4,SNR=4.3								

IDC 29 00:38:02.1±1.6,**4.24N×94.27E,mb3.6/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.6/5,Error ellipse: s-maj=65.5km s-min=27.8km az=52.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.65**	**348**	P		**P**		**00 46 07.8**	**-2.3**
	0.7nm,0.4s,baz=170,slow=8.1,SNR=12								
SONM	**Songino Array**	**44.67**	**12**	P		**P**		**00 46 17.3**	**-1.2**
	0.3nm,0.6s,baz=204,slow=9.3,SNR=3.2								
WRA	**Warramunga Arr**	**46.12**	**123**	P		**P**		**00 46 28.3**	**-2.0**
	0.5nm,0.6s,baz=303,slow=8.9,SNR=4.1								
FINES	**FINESS Array B**	**75.98**	**333**	P		**P**		**00 49 50.8**	**-1.7**
	0.5nm,0.6s,baz=90,slow=5.7,SNR=5.4								
GERES	**GERESS Array B**	**80.62**	**319**	P		**P**		**00 50 17.1**	**-1.1**
	0.4nm,0.6s,baz=104,slow=5.5,SNR=7.0								

IDC 29 00:38:13.2±1.6,**4.30N×94.80E,mb4.0/5,mb1 4.2/5, mb1mx3.8/17,mbtmp4.0/5,Error ellipse: s-maj=77.9km s-min=24.5km az=58.0,Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.69**	**348**	P		**P**		**00 46 18.7**	**-2.9**
	0.6nm,0.5s,baz=168,slow=8.2,SNR=8.0								
SONM	**Songino Array**	**44.50**	**11**	P		**P**		**00 46 27.4**	**-0.7**
	0.6nm,0.8s,baz=197,slow=7.5,SNR=4.0								
ASAR	**Alice Springs**	**47.17**	**128**	P		**P**		**00 46 46.2**	**-3.5**
	0.4nm,0.7s,baz=293,slow=7.6,SNR=4.4								
STKA	**Stephens Creek**	**57.20**	**132**	P		**P**		**00 48 03.8**	**-1.0**
	2.0nm,0.7s,baz=307,slow=7.4,SNR=3.6								
GERES	**GERESS Array B**	**80.91**	**319**	P		**P**		**00 50 30.1**	**-0.8**
	0.1nm,0.5s,baz=90,slow=4.9,SNR=5.1								

*IDC **29** 00:38:38.4±0.8,3.14N×96.72E,mb4.1/12,mb1 4.2/12, mb1mx4.1/19,mbtmp4.1/12,Error ellipse: s-maj=49.0km s-min=14.0km az=54.0*
*NEIC **29** 00:38:42.4±0.6,3.05N×96.60E,h30km,mb4.6/4,Error ellipse: s-maj=19.4km s-min=10.5km az=50.0*
ISC 29 00:38:41.0±0.6,**3.2N**±0.1×**96.8E**±0.1,**h30**km,**n24,** σ0§**87**/24,**mb4.2**/16,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.33**	**61**	*ePn*		**Pn**		**00 39 52.7**	**+6.2**
KKM	**Kota Kinabalu**	**19.52**	**81**	P		**P**		**00 43 09.4**	**+0.2**
ENH	**Enshi**	**29.45**	**23**	P		**P**		**00 44 44.6**	**-0.1**
	5.9nm,0.3s,mb4.8								
FITZ	**Fitzroy Crossi**	**35.42**	**128**	P		**P**		**00 45 36.1**	**-0.7**
	2.9nm,0.8s,mb4.3,baz=347,slow=6.5,SNR=4.6								
NWAO	**Narrogin (SRO)**	**40.81**	**153**	P		**P**		**00 46 23.3**	**+1.6**
	3.5nm,0.9s,mb4.0,baz=76,slow=6.7,SNR=3.6								
NWAO	**Narrogin (SRO)**	**40.81**	**153**	P		**P**		**00 46 23.3**	**+1.6**
WRA	**Warramunga Arr**	**43.43**	**124**	P		**P**		**00 46 43.6**	**+0.3**
	5.1nm,0.6s,mb4.4,baz=300,slow=9.3,SNR=23								
WRAB	**Tennant Creek**	**43.43**	**124**	*eP*		**P**		**00 46 42.2**	**-1.1**
	8.3nm,0.6s,mb4.6								
WB2	**Warramunga Arr**	**43.44**	**124**	*eP*		**P**		**00 46 43.5**	**+0.1**
AAK	**Ala-Archa**	**44.02**	**336**	*eP*		**P**		**00 46 48.0**	**+0.3**
	1.1nm,0.6s,mb3.8								
ASAR	**Alice Springs**	**44.91**	**128**	P		**P**		**00 46 54.9**	**-0.4**
	0.6nm,0.4s,mb3.7,baz=298,slow=7.8,SNR=9.2								
ASAR	**Alice Springs**	**44.91**	**128**	P		**P**		**00 46 54.9**	**-0.4**
SONM	**Songino Array**	**45.21**	**9**	P		**P**		**00 46 59.0**	**+1.7**
	1.8nm,0.4s,mb4.3,baz=192,slow=9.3,SNR=26								
SONM					PcP	PcP		00 48 38.3	+0.7
	0.9nm,0.4s,baz=197,slow=4.1,SNR=8.2								
MKAR	**Makanchi Array**	**45.21**	**346**	P		**P**		**00 46 57.7**	**+0.4**
	3.2nm,0.4s,mb4.5,baz=157,slow=8.7,SNR=47								
MKAR	**Makanchi Array**	**45.21**	**346**	P		**P**		**00 46 57.7**	**+0.4**
KURK	**Kurchatov**	**49.76**	**345**	*eP*		**P**		**00 47 30.6**	**-2.2**
	2.9nm,0.5s,mb4.6								
BVAR	**Borovoye Array**	**54.24**	**341**	P		**P**		**00 48 05.8**	**-0.5**
	1.4nm,0.6s,mb4.0,baz=132,slow=9.2,SNR=7.5								
STKA	**Stephens Creek**	**54.98**	**133**	P		**P**		**00 48 12.0**	**-0.2**
	2.1nm,1.0s,mb4.1,baz=315,slow=9.7,SNR=3.7								
STKA	**Stephens Creek**	**54.98**	**133**	P		**P**		**00 48 12.0**	**-0.2**
BRTR	**Keskin Array B**	**67.50**	**312**	P		**P**		**00 49 37.4**	**+0.7**
	0.3nm,0.5s,mb3.6,baz=121,slow=6.8,SNR=2.6								
AKASG	**Malin Array Be**	**73.45**	**322**	P		**P**		**00 50 11.6**	**-0.9**
	1.7nm,0.6s,mb4.2,baz=90,slow=4.8,SNR=6.7								
FINES	**FINESS Array B**	**78.05**	**332**	P		**P**		**00 50 38.1**	**-0.2**
	1.0nm,0.8s,mb3.8,baz=104,slow=7.9,SNR=4.9								
ARCES	**ARCESS Array B**	**80.53**	**340**	P		**P**		**00 50 52.2**	**+0.6**
	2.2nm,0.8s,mb4.2,baz=63,slow=5.4,SNR=6.8								
ARCES	**ARCESS Array B**	**80.53**	**340**	P		**P**		**00 50 52.2**	**+0.6**

*IDC **29** 00:41:46.6±0.5,0.20N×97.19E,mb4.2/17,mb1 4.4/17, mb1mx4.3/20,mbtmp4.2/17,Error ellipse: s-maj=25.5km s-min=13.2km az=51.0*
*NEIC **29** 00:41:51.2±0.3,0.28N×97.34E,h30km,mb4.5/6,Error ellipse: s-maj=9.9km s-min=6.7km az=59.0*
ISC 29 00:41:50.0±0.4,**0.31N**±0.08×**97.36E**±0.09,**h33**km,**n34,** σ0§**66**/31,**mb4.2**/20,**2C,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.94**	**33**	*eP*		**P**		**00 43 17.3**	**-0.6**
KSM	**Kuching**	**12.99**	**85**	P		**P**		**00 44 49.5**	**-5.6**
CM31	**Chiang Mai Arr**	**18.10**	**5**	P		**P**		**00 46 00.1**	**-0.7**
	4.5nm,0.5s								
FITZ	**Fitzroy Crossi**	**33.28**	**125**	*eP*		**P**		**00 48 26.1**	**-0.8**
	6.4nm,0.6s,mb4.7								
FITZ	**Fitzroy Crossi**	**33.28**	**125**	P		**P**		**00 48 26.3**	**-0.6**
	8.5nm,0.7s,mb4.8,baz=277,slow=2.1,SNR=14								
WRA	**Warramunga Arr**	**41.43**	**121**	P		**P**		**00 49 35.5**	**+0.1**
	3.5nm,0.5s,mb4.3,baz=302,slow=9.0,SNR=19								
WRAB	**Tennant Creek**	**41.44**	**121**	*eP*		**P**		**00 49 35.6**	**+0.1**
	4.2nm,0.5s,mb4.3								
WB2	**Warramunga Arr**	**41.44**	**121**	*iP*		**P**		**00 49 35.6**	**+0.1**
ASAR	**Alice Springs**	**42.73**	**126**	P		**P**		**00 49 46.3**	**+0.1**
	1.3nm,0.5s,mb3.9,baz=306,slow=7.6,SNR=11								
ASAR					PcP	PcP		00 51 38.0	0.0
	0.8nm,0.8s,baz=284,slow=3.7,SNR=4.8								
BJT	**Baijiatuao**	**43.08**	**21**	P		**P**		**00 49 48.4**	**-0.4**
	8.2nm,0.5s,mb4.7								
SONM	**Songino Array**	**47.98**	**8**	P		**P**		**00 50 29.2**	**+1.5**
	0.5nm,0.4s,mb3.9,baz=187,slow=10,SNR=6.5								
SONM					PcP	PcP		00 51 55.8	-0.1
	0.8nm,0.6s,baz=192,slow=4.0,SNR=3.6								
MKAR	**Makanchi Array**	**48.14**	**346**	P		**P**		**00 50 29.7**	**+0.8**
	1.7nm,0.5s,mb4.3,baz=162,slow=8.9,SNR=22								
MKAR					PcP	PcP		00 51 57.0	+0.6
	0.1nm,0.3s,baz=153,slow=3.2,SNR=1.9								
STKA	**Stephens Creek**	**52.64**	**132**	*eP*		**P**		**00 51 03.3**	**-0.1**
	5.9nm,0.6s,mb4.7								
STKA	**Stephens Creek**	**52.64**	**132**	P		**P**		**00 51 03.7**	**+0.3**
	7.5nm,0.6s,mb4.8,baz=316,slow=8.3,SNR=18								
STKA	**Stephens Creek**	**52.64**	**132**	*eP*		**P**		**00 51 03.4**	**0.0**
BVAR	**Borovoye Array**	**57.14**	**341**	P		**P**		**00 51 35.0**	**-0.8**
	1.0nm,0.5s,mb4.1,baz=141,slow=9.0,SNR=6.9								
MALT	**Malatya**	**65.84**	**312**	*eP*		**P**		**00 52 35.1**	**+0.5**
	4.0nm,1.0s,mb4.4								
BRTR	**Keskin Array B**	**69.83**	**313**	P		**P**		**00 52 58.5**	**-0.9**
	1.4nm,0.7s,mb4.0,baz=135,slow=6.1,SNR=8.0								
LBTB	**Lobatse**	**73.64**	**244**	P		**P**		**00 53 21.6**	**-0.9**
	1.4nm,0.6s,mb4.0,baz=259,slow=5.2,SNR=2.8								
BOSA	**Boshof**	**74.48**	**240**	P		**P**		**00 53 27.0**	**-0.4**
	1.6nm,0.8s,mb4.0,baz=104,slow=4.2,SNR=2.4								
AKASG	**Malin Array Be**	**76.06**	**323**	P		**P**		**00 53 35.2**	**-0.7**
	1.4nm,0.4s,mb4.2,baz=90,slow=5.1,SNR=10								
MLR	**Muntele Rosu**	**76.82**	**317**	P		**P**		**00 53 40.5**	**+0.1**
	1.8nm,0.7s,mb4.1,baz=164,slow=6.1,SNR=3.5								
MLR	**Muntele Rosu**	**76.82**	**317**	P		**P**		**00 53 40.5**	**+0.1**
FINES	**FINESS Array B**	**80.86**	**333**	P		**P**		**00 54 02.0**	**-0.1**
	1.1nm,0.6s,mb3.9,baz=108,slow=6.0,SNR=9.2								
KAF	**Kangasniemi**	**80.95**	**333**	*ep*		pP		00 54 12.3	-0.6
	2.4nm,0.5s								
ARCES	**ARCESS Array B**	**83.42**	**340**	P		**P**		**00 54 16.3**	**+1.2**
	6.3nm,0.9s,mb4.7,baz=67,slow=6.9,SNR=3.8								
ARCES	**ARCESS Array B**	**83.42**	**340**	P		**P**		**00 54 16.3**	**+1.2**
VNDA	**Vanda**	**84.92**	**169**	P		**P**		**00 54 23.2**	**+0.7**
	0.4nm,0.5s,mb3.8,baz=277,slow=3.7,SNR=3.0								
VNDA	**Vanda**	**84.92**	**169**	P		**P**		**00 54 23.2**	**+0.7**
GERES	**GERESS Array B**	**85.59**	**319**	P		**P**		**00 54 27.2**	**+0.8**
	0.2nm,0.4s,mb3.7,baz=135,slow=5.7,SNR=5.5								
NB2	**NORSAR Subarra**	**87.86**	**331**	P		pP		00 54 47.5	-0.2
	2.2nm,1.0s,baz=89,slow=5.6								
NOA	**NORSAR Array B**	**87.86**	**331**	P		**P**		**00 54 37.4**	**+0.3**
	0.4nm,0.8s,mb3.7,baz=99,slow=7.8,SNR=2.5								
NOA	**NORSAR Array B**	**87.86**	**331**	P		**P**		**00 54 37.4**	**+0.3**
TXAR	**Lajitas Array**	**144.33**	**33**	PKP		PKPdf		01 01 24.6	+1.2
	1.0nm,0.6s,baz=299,slow=1.1,SNR=7.1								

IDC 29 00:44:19.3±2.4,**1.57N×97.05E,mb3.8/5,mb1 3.9/5, mb1mx3.6/17,mbtmp3.8/5,Error ellipse: s-maj=71.6km s-min=27.4km az=54.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.35**	**122**	P		**P**		**00 52 15.4**	**-1.7**
	0.4nm,0.5s,baz=301,slow=9.1,SNR=4.2								
JNU	**Nakatsue**	**44.63**	**42**	P		**P**		**00 52 33.8**	**-1.8**
	0.5nm,0.3s,baz=225,slow=7.1,SNR=2.2								
SONM	**Songino Array**	**46.80**	**9**	P		**P**		**00 52 50.7**	**-1.8**
	1.8nm,0.7s,baz=192,slow=8.9,SNR=9.2								
MKAR	**Makanchi Array**	**46.85**	**346**	P		**P**		**00 52 51.4**	**-1.6**
	2.1nm,0.6s,baz=162,slow=7.8,SNR=8.4								
BVAR	**Borovoye Array**	**55.86**	**341**	P		**P**		**00 53 58.0**	**-2.9**
	0.6nm,0.6s,baz=149,slow=8.4,SNR=4.1								

IDC 29 00:50:13.3±2.8,**3.03N×96.91E,mb4.0/5,mb1 4.2/5, mb1mx3.9/17,mbtmp4.0/5,Error ellipse: s-maj=123.6km s-min=21.1km az=59.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.25**	**128**	P		**P**		**00 57 08.8**	**-3.1**
	4.3nm,0.7s,baz=349,slow=10,SNR=6.4								
ASAR	**Alice Springs**	**44.74**	**128**	P		**P**		**00 58 29.6**	**-1.0**
	3.2nm,0.9s,baz=311,slow=7.8,SNR=11								
SONM	**Songino Array**	**45.38**	**9**	P		**P**		**00 58 34.0**	**-1.4**
	0.8nm,0.4s,baz=192,slow=10.0,SNR=8.2								
MKAR	**Makanchi Array**	**45.41**	**346**	P		**P**		**00 58 34.2**	**-1.3**
	0.6nm,0.4s,baz=162,slow=8.6,SNR=8.3								
BVAR	**Borovoye Array**	**54.44**	**341**	P		**P**		**00 59 41.3**	**-3.3**
	0.4nm,0.4s,baz=138,slow=10.0,SNR=5.0								

*IDC **29** 00:50:11.9±0.7,0.93N×96.

comp=Z,2.6nm,0.8s,mb4.3,baz=112,slow=3.7,SNR=2.6
BVAR Borovoye Array 56.35 341 P **P 00 59 54.2 -0.7**
comp=Z,4.6nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=22
CHKZ Chkalovo 56.83 342 *e*P **P 00 59 57.5 -0.9**
comp=Z,14nm,0.8s,mb5.0
ARU Arti 63.25 337 *e*P **P 01 00 40.9 -1.5**
comp=Z,10nm,1.0s,mb4.9
ARU *e* pP 01 00 50.4 -2.1
MALT Malatya 64.97 312 *e*P **P 01 00 50.9 -2.9**
comp=Z,3.6nm,1.3s,mb4.2
BRTR Keskin Array B 68.96 313 P **P 01 01 16.8 -2.1**
comp=Z,0.4nm,0.7s,mb3.5,baz=136,slow=5.8,SNR=2.3
LSZ Lusaka 69.61 253 P **P 01 01 21.6 -1.7**
comp=Z,0.8nm,0.6s,mb3.8
BOSA Boshof 74.27 240 P **P 01 01 49.7 -1.2**
comp=Z,3.2nm,1.0s,mb4.2,baz=214,slow=6.0,SNR=3.2
BOSA Boshof 74.27 240 P **P 01 01 49.7 -1.2**
FINES FINESS Array B 80.02 333 P **P 01 02 22.3 -0.1**
comp=Z,0.6nm,0.7s,mb3.7,baz=79,slow=7.1,SNR=3.2
ARCES ARCESS Array B 82.63 340 P **P 01 02 37.0 +1.1**
comp=Z,2.3nm,0.8s,mb4.3,baz=79,slow=6.2,SNR=4.0
ARCES ARCESS Array B 82.63 340 P **P 01 02 37.0 +1.1**
GERES GERESS Array B 84.71 319 P **P 01 02 48.9 +2.1**
comp=Z,0.3nm,0.8s,mb3.5,baz=90,slow=5.3,SNR=3.7
TXAR Lajitas Array 144.12 31 PKP PKPdf 01 09 48.9 +1.0
comp=Z,0.5nm,0.7s,baz=336,slow=0.3,SNR=6.1
NATX Nacogdoches 145.72 17 *e*PKP PKPdf 01 09 53.9 +3.3
LRAL Lakeview Retre 146.02 6 *e*PKP PKPdf 01 09 52.8 +1.7

IDC 29 00:54:00.1±3.1**, 0.21N×97.51E, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=131.9km s-min=22.8km az=56.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.26**	**121**	P	P	01 01 47.1	-1.8
	0.3nm,0.4s,baz=308,slow=9.1,SNR=5.1						
ASAR	**Alice Springs**	**42.56**	**126**	P	P	01 01 58.2	-1.4
	0.7nm,0.5s,baz=297,slow=8.0,SNR=5.5						
SONM	**Songino Array**	**48.06**	**8**	P	P	01 02 41.4	-1.9
	0.7nm,0.8s,baz=180,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**48.27**	**346**	P	P	01 02 43.3	-1.6
	0.5nm,0.5s,baz=158,slow=8.5,SNR=3.3						
BVAR	**Borovoye Array**	**57.28**	**341**	P	P	01 03 48.9	-3.0
	0.7nm,0.6s,baz=143,slow=7.2,SNR=3.6						

*BJI **29** 00:56:01.7, 1.51N×97.21E, h34km, mB5.5, mb5.2, Ms5.1, Msz4.9*
*MOS **29** 00:56:02.7±0.7, 1.68N×97.19E, h33km, mb5.2/41, Error ellipse: s-maj=11.3km s-min=5.5km az=118.5*
*NEIC **29** 00:56:03.9±0.2, 1.62N×97.13E, h30km, mb5.0/53, Error ellipse: s-maj=5.3km s-min=4.0km az=208.0*
*IDC **29** 00:56:05.3±3.0, 1.59N×97.10E, h39km±25km, mb4.6/22, mb1 4.7/22, mb1mx4.6/24, mbtmp4.8/22, Error ellipse: s-maj=18.4km s-min=10.1km az=41.0*
ISC 29 00:56:02.0±0.2**, 1.68N**±0.04**×97.15E**±0.03**, h26**km, **h26**km±.9km**:pP-P, n247, σ0.93/242, mb5.0**/103**, MS4.7**/12**, 24C-13D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.82**	**53**	P	**Pn**	**00 57 16.6**	**+1.7**
KULM	**Kulim**	**5.00**	**44**	*e*P	**Pn**	**00 57 18.4**	**+1.0**
KGM	**Kluang**	**6.17**	**87**	P	**Pn**	**00 57 36.4**	**+2.5**
SNG	**Songkhla**	**6.46**	**32**	P	**Pn**	**00 57 38.0**	**0.0**
	726nm,1.0s						
NNT	**Nongplab**	**11.14**	**13**	P	**P**	**00 58 43.1**	**+0.2**
KSM	**Kuching**	**13.15**	**91**	P	**P**	**00 59 10.4**	**+0.5**
NST	**Nakhon Sawan**	**14.21**	**12**	P	**P**	**00 59 21.7**	**-2.3**
BDT	**Bhumibol Dam**	**15.57**	**7**	P	**P**	**00 59 45.0**	**+3.3**
CM31	**Chiang Mai Arr**	**16.77**	**6**	*e*P	**P**	**00 59 56.1**	**-0.8**
	12nm,0.4s						
CHG	**Chiang Mai**	**17.12**	**6**	⇑P	**P**	**01 00 00.0**	**-1.3**
	24nm,0.8s						
NANT	**Nan**	**17.36**	**11**	P	**P**	**01 00 00.0**	**-4.4**
CHRT	**Chiangrai**	**18.26**	**8**	⇓P	**P**	**01 00 15.5**	**-0.1**
	184nm,0.8s						
KKM	**Kota Kinabalu**	**19.50**	**77**	*e*P	**P**	**01 00 30.1**	**-0.3**
KKM	**Kota Kinabalu**	**19.50**	**77**	P	**P**	**01 00 31.0**	**+0.7**
TSM	**Tawau**	**20.85**	**82**	P	**P**	**01 00 45.0**	**+0.4**
VIS	**Vishakhapatnam**	**20.94**	**320**	*i* P	**P**	**01 00 45.0**	**-0.5**
QIZ	**Qiongzhong**	**21.26**	**35**	P	**P**	**01 00 48.5**	**-0.2**
QIZ				S	**S**	**01 04 37.8**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,44nm,1.0s,mb4.7						
QIZ				LR	LR		
	comp=N,1μm,13.0s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,15.3s,MS4.6						
QIZ	**Qiongzhong**	**21.26**	**35**	*e*P	**P**	**01 00 47.6**	**-1.1**
	comp=E,51nm,0.8s,mb4.9						
KMI	**Kunming**	**23.92**	**13**	⇓P	**P**	**01 01 17.5**	**+2.5**
KMI				AP		01 01 26.0	
KMI				XP		01 01 28.8	
KMI				PP	PP	01 01 52.5	+3.5
KMI				S	**S**	**01 05 31.8**	**+5.2**
KMI				XS		01 05 44.8	
KMI				SS	SS	01 06 22.5	+4.8
KMI				AMB	AMB		
	comp=Z,54nm,1.2s,mb4.8						
KMI				AMB	AMB		
	comp=Z,523nm,4.6s						
KMI				LR	LR		
	comp=N,2μm,15.8s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,13.2s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,17.4s,MS4.7						
HYB	**Hyderabad**	**24.05**	**312**	*i* P	**P**	**01 01 19.0**	**+2.6**
BLSP	**Bilaspur**	**25.03**	**325**	*e*P	**P**	**01 01 25.7**	**-0.1**
BLSP				AMb	AMB	01 01 28.1	
	comp=Z,57nm,1.3s,mb5.0						
GYA	**Guiyang**	**26.28**	**20**	⇑*i*P	**P**	**01 01 37.0**	**-0.4**
GYA				AP	pP	01 01 46.5	+1.5
GYA				XP	sP	01 01 50.0	+1.5
GYA				PP	PP	01 02 20.5	+0.5
GYA				S	**S**	**01 06 05.8**	**-0.4**
GYA				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.1						
GYA				AMB	AMB		
	comp=Z,210nm,3.3s						
GYA				LR	LR		
	comp=N,2μm,14.4s,MS4.9						
GYA				LR	LR		
	comp=E,980nm,12.9s,MS4.9						
GYA				LR	LR		
	comp=Z,4μm,13.7s,MS5.1						
KAD	**Karad**	**27.40**	**306**	*e*P	**P**	**01 01 48.0**	**+0.3**
KAD				AMb	AMB	01 01 49.6	
	comp=Z,18nm,1.0s,mb4.5						
JIRN	**Jiri**	**27.88**	**339**	*e*P	**P**	**01 01 53.1**	**+1.1**
	comp=Z,11nm,0.5s,mb4.7						
PKI	**Pulchoki**	**28.09**	**337**	*e*P	**P**	**01 01 54.4**	**+0.5**
	comp=Z,96nm,1.2s,mb5.3						
PKI	**Pulchoki**	**28.09**	**337**	*e*P	**P**	**01 01 54.4**	**+0.5**
PKI				pmax	pmax		
	comp=Z,48nm,1.2s,mb5.0						
DMN	**Daman**	**28.25**	**337**	*e*P	**P**	**01 01 55.9**	**+0.6**
	comp=Z,88nm,1.1s,mb5.3						
KKN	**Kakani**	**28.34**	**337**	*e*P	**P**	**01 01 56.7**	**+0.6**
	comp=Z,108nm,1.0s,mb5.4						
KKN	**Kakani**	**28.34**	**337**	*e*P	**P**	**01 01 56.7**	**+0.6**
KKN				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.1						
LSA	**Lhasa**	**28.44**	**349**	P	**P**	**01 01 58.8**	**+1.8**
LSA	**Lhasa**	**28.44**	**349**	*e*P	**P**	**01 01 57.5**	**+0.5**
LSA				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
LSA	**Lhasa**	**28.44**	**349**	*e*P	**P**	**01 01 57.5**	**+0.5**
	comp=Z,23nm,0.6s,mb5.0						
BHPL	**Bhopal**	**28.73**	**320**	*e*P	**P**	**01 01 60.0**	**+0.3**
BHPL				AMb	AMB	01 02 02.3	
	comp=Z,16nm,0.7s,mb4.8						
GKN	**Gorkha**	**28.78**	**337**	*e*P	**P**	**01 02 00.6**	**+0.5**
	comp=Z,186nm,1.1s,mb5.7						
KOLN	**Koldanda**	**29.00**	**335**	*e*P	**P**	**01 02 02.8**	**+0.7**
	comp=Z,76nm,0.8s,mb5.5						
CD2	**Chengdu**	**29.74**	**12**	P	**P**	**01 02 07.3**	**-1.4**
CD2				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.0						
ENH	**Enshi**	**30.75**	**21**	*e*P	**P**	**01 02 15.8**	**-1.8**
	comp=Z,90nm,0.8s,mb5.7						
LGTI	**Lohaghat**	**31.96**	**331**	*i* P	**P**	**01 02 28.7**	**+0.4**
PTH	**Pithoragarh**	**32.06**	**331**	*e*P	**P**	**01 02 29.9**	**+0.8**
NDI	**New Delhi**	**32.91**	**327**	*e*P	**P**	**01 02 34.5**	**-2.0**
WHN	**Wuhan**	**33.01**	**28**	⇓P	**P**	**01 02 38.0**	**+0.6**
DDI	**Dehra Dun**	**33.76**	**329**	*e*P	**P**	**01 02 43.0**	**-0.9**
DDI				*e*		01 08 16.0	
XAN	**Xi'an**	**34.02**	**18**	P	**P**	**01 02 45.3**	**-0.8**
XAN				AP	pP	01 02 51.0	-2.9
XAN				AMB	AMB		
	comp=Z,129nm,1.0s,mb5.8						
FITZ	**Fitzroy Crossi**	**34.25**	**126**	*e*P	**P**	**01 02 46.4**	**-1.8**
	comp=Z,14nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.25**	**126**	P	**P**	**01 02 46.9**	**-1.3**
	comp=Z,20nm,0.8s,mb5.1,baz=312,slow=2.9,SNR=24						
LZH	**Lanzhou**	**34.79**	**10**	*e*P	**P**	**01 02 52.0**	**-0.7**
LZH				AP	pP	01 03 00.5	0.0
LZH				XP	sP	01 03 04.3	+0.4
LZH				PP	PP	01 04 10.0	-0.3
LZH				AMB	AMB		
	comp=Z,104nm,1.2s,mb5.6						
LZH				AMB	AMB		
	comp=Z,350nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.9s						
LZH				LR	LR		
	comp=Z,2μm,17.8s,MS5.0						
SMLA	**Simla**	**34.86**	**329**	*i*	**P**	**01 02 44.2**	**-9.2**
NJ2	**Nanjing**	**36.48**	**32**	*e*P	**P**	**01 03 07.5**	**+0.4**
NJ2				AP	pP	01 03 20.0	+5.1
NJ2				XP	sP	01 03 22.5	+4.2
NJ2				PP	PP	01 04 32.3	+0.9
NJ2				S	**S**	**01 08 50.0**	**+3.2**
NJ2				XS		01 09 06.0	
NJ2				AMB	AMB		
	comp=Z,130nm,0.7s,mb6.0						
NJ2				AMB	AMB		
	comp=Z,730nm,4.6s						
NJ2				LR	LR		
	comp=N,3μm,16.5s,MS5.3						
NJ2				LR	LR		
	comp=E,3μm,17.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,16.8s,MS4.9						
SSE	**Sheshan**	**37.05**	**35**	P	**P**	**01 03 10.0**	**-1.9**
SSE				AP	pP	01 03 18.8	-0.9
SSE				S	**S**	**01 08 56.3**	**+0.8**
SSE				XS		01 09 11.5	
SSE				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,345nm,12.0s						
SSE				LR	LR		
	comp=N,791nm,24.7s,MS4.5						
SSE				LR	LR		
	comp=E,359nm,24.6s,MS4.5						
SSE				LR	LR		
	comp=Z,807nm,18.4s						
GTA	**Gaotai**	**37.63**	**3**	⇑P	**P**	**01 03 17.0**	**+0.4**
GTA				AP	pP	01 03 26.3	+1.8
GTA				XP	sP	01 03 29.0	+1.2
GTA				PP	PP	01 04 45.5	-0.1
GTA				PCP	PcP	01 05 33.3	-1.1
GTA				S	**S**	**01 09 02.3**	**-2.0**
GTA				XS		01 09 17.0	
GTA				AMB	AMB		
	comp=Z,54nm,0.9s,mb5.3						
GTA				AMB	AMB		
	comp=Z,146nm,5.0s						
GTA				LR	LR		
	comp=N,664nm,13.3s,MS4.7						
GTA				LR	LR		
	comp=E,578nm,14.5s,MS4.7						
GTA				LR	LR		
	comp=Z,1μm,16.7s,MS4.8						
KAKA	**Kakadu**	**37.83**	**113**	*e*P	**P**	**01 03 17.2**	**-1.4**
	comp=Z,17nm,0.6s,mb5.0						
JOW	**Kunigami**	**38.95**	**47**	P	**P**	**01 03 28.9**	**+1.0**
	comp=Z,55nm,0.9s,mb5.3,baz=280,slow=7.6,SNR=8.4						
NWAO	**Narrogin (SRO)**	**39.30**	**153**	P	**P**	**01 03 38.2**	**+7.5**
	comp=Z,3.5nm,0.7s,mb4.2,baz=298,slow=8.7,SNR=2.9						
BTO	**Baotou**	**40.46**	**15**	*e*P	**P**	**01 03 40.8**	**+0.6**
BTO				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.1						
BJT	**Baijiatuau**	**41.89**	**22**	*e*P	**P**	**01 03 53.2**	**+1.2**
BJT				pmax	pmax		
	comp=Z,118nm,0.6s						
BJT	**Baijiatuau**	**41.89**	**22**	*e*P	**P**	**01 03 53.2**	**+1.2**
	comp=Z,118nm,0.6s,mb5.7						
BJI	**Beijing**	**41.91**	**22**	*e*P	**P**	**01 03 53.5**	**+1.3**
BJI				AMB	AMB		
	comp=Z,447nm,2.4s,mb5.7						
BJI				LR	LR		
	comp=N,669nm,14.2s,MS4.8						
BJI				LR	LR		
	comp=E,657nm,16.1s,MS4.8						
BJI				LR	LR		
	comp=Z,645nm,16.4s,MS4.6						
KSH	**Kashi**	**42.31**	**335**	*e*P	**P**	**01 03 55.0**	**-0.5**
KSH				*e*AP	pP	01 04 05.0	+1.6
KSH				*e*XP	sP	01 04 09.0	+2.3
KSH				*e*PP	PP	01 05 36.3	-0.1
KSH				*e*PCP	PcP	01 05 44.8	-4.7
KSH				*e*PPP	PPP	01 06 08.5	-0.6
KSH				*e*SCP		01 09 36.5	
KSH				*e*PCS		01 09 40.5	
KSH				*e*S	**S**	**01 10 12.3**	**-2.2**
KSH				*e*XS		01 10 29.5	
KSH				*e*SS	SS	01 13 15.3	-2.4
KSH				*e*SCS	ScS	01 13 53.0	-0.4
KSH				AMB	AMB		
	comp=Z,180nm,2.3s,mb5.3						
KSH				LR	LR		
	comp=N,560nm,13.3s						
KSH				LR	LR		
	comp=E,420nm,7.4s						
WRA	**Warramunga Arr**	**42.33**	**122**	P	**P**	**01 03 55.5**	**-0.4**
	comp=E,5.9nm,0.6s,mb4.4,baz=301,slow=9.2,SNR=24						
WRA				S	**S**	**01 10 16.0**	**+1.0**
	comp=E,1.3nm,1.1s,baz=294,slow=17,SNR=4.7						
WRAB	**Tennant Creek**	**42.34**	**122**	P	**P**	**01 03 56.0**	**+0.1**
	comp=E,173nm,0.6s,mb5.9,SNR=8.8						
WRAB	**Tennant Creek**	**42.34**	**122**	*i* P	**P**	**01 03 55.7**	**-0.2**
WRAB	**Tennant Creek**	**42.34**	**122**	*e*P	**P**	**01 03 54.9**	**-1.0**
	comp=E,27nm,0.6s,mb5.0						
WB2	**Warramunga Arr**	**42.34**	**122**	*e*P	**P**	**01 03 55.3**	**-0.6**
WB2				*i*	pP	01 04 04.1	+0.3
FORT	**Forrest**	**43.67**	**140**	*e*P	**P**	**01 04 07.6**	**+1.0**
	comp=E,617nm,0.6s						
ASAR	**Alice Springs**	**43.72**	**127**	P	**P**	**01 04 07.1**	**0.0**
	comp=E,8.5nm,0.9s,mb4.5,baz=303,slow=7.2,SNR=38						
ASAR				PcP	PcP	01 05 54.4	0.0
	comp=E,2.4nm,0.8s,baz=302,slow=4.5,SNR=5.5						
ASAR				S	**S**	**01 10 34.7**	**-0.5**
	comp=E,1.3nm,0.9s,baz=301,slow=14,SNR=3.3						
ULHL	**Ulahol**	**44.53**	**338**	P	**P**	**01 04 14.6**	**+1.1**
	SNR=36						
KZA	**Kyzart**	**44.77**	**337**	P	**P**	**01 04 16.9**	**+1.5**
	SNR=15						
TKM2	**Tokmak 2**	**45.36**	**338**	P	**P**	**01 04 21.2**	**+1.2**
	SNR=46						
KBK	**Karagaybulak**	**45.38**	**337**	P	**P**	**01 04 22.0**	**+1.8**
	SNR=62						
KS15	**Wonju Array Si**	**45.45**	**35**	*e*P	**P**	**01 04 21.2**	**+0.4**
AAK	**Ala-Archa**	**45.54**	**337**	P	**P**	**01 04 22.2**	**+0.7**
	comp=E,110nm,1.0s,mb5.7,SNR=18						
AAK	**Ala-Archa**	**45.54**	**337**	*e*P	**P**	**01 04 21.4**	**-0.1**
AAK				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**45.54**	**337**	*e*P	**P**	**01 04 21.4**	**0.0**
	comp=Z,20nm,1.0s,mb5.0						
FRU	**Bishkek**	**45.66**	**337**	*e*P	**P**	**01 04 23.0**	**+0.6**
FRU				*e*	pP	01 04 32.0	+1.7
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.2						
CHMS	**Chumysh**	**45.75**	**337**	P	**P**	**01 04 24.0**	**+0.9**
	SNR=13						
EKS2	**Erkin-Say**	**45.85**	**336**	P	**P**	**01 04 25.4**	**+1.5**
	SNR=42						
USP	**Ospenovka**	**46.07**	**337**	P	**P**	**01 04 26.6**	**+0.9**
	SNR=72						
SNY	**Shenyang**	**46.50**	**27**	⇑P	**P**	**01 04 29.0**	**-0.1**
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SONM	**Songino Array**	**46.67**	**9**	P	**P**	**01 04 31.1**	**+0.8**
	comp=Z,48nm,0.7s,mb5.5,baz=190,slow=8.7,SNR=264						
SONM				PcP	PcP	01 06 03.9	-0.3
	comp=Z,5.1nm,0.8s,baz=203,slow=3.4,SNR=4.3						
MKAR	**Makanchi Array**	**46.77**	**346**	P	**P**	**01 04 31.6**	**+0.5**
	comp=Z,104nm,0.9s,mb5.8,baz=162,slow=7.7,SNR=262						
ULN	**Ulaanbaatar**	**46.80**	**9**	*e*P	**P**	**01 04 31.5**	**+0.2**
	comp=Z,27nm,1.0s,mb5.1						
ULN	**Ulaanbaatar**	**46.80**	**9**	*e*P	**P**	**01 04 31.5**	**+0.2**
	comp=Z,27nm,1.0s,mb5.1						
ZAK	**Zakamensk**	**48.80**	**5**	*e*P	**P**	**01 04 47.2**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
CN2	**Changchun**	**48.90**	**27**	*e*P	**P**	**01 04 47.3**	**-0.5**
CN2				*e*AP	pP	01 04 56.8	+1.0
CN2				PCP	PcP	01 06 12.0	-0.3
CN2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
CN2				AMB	AMB		
	comp=Z,450nm,4.0s						
CN2				LR	LR		
	comp=N,890nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,720nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,910nm,18.0s,MS4.8						
MOY	**Mondy**	**49.91**	**3**	*e*P	**P**	**01 04 56.1**	**+0.6**
MOY				pmax	pmax		
	comp=Z,41nm,1.9s,mb5.1						
TLY	**Talaya**	**50.12**	**5**	*e*P	**P**	**01 04 57.5**	**+0.4**
TLY				pmax	pmax		
	comp=Z,35nm,0.8s,mb5.4						
TLY				MLR	MLR		
	comp=Z,671nm,17.0s,MS4.7						
TLY	**Talaya**	**50.12**	**5**	*e*P	**P**	**01 04 57.6**	**+0.5**
	comp=Z,32nm,0.8s,mb5.4						
IRK	**Irkutsk**	**50.74**	**6**	*e*P	**P**	**01 04 58.9**	**-2.8**
IRK				*e*		01 06 16.7	
IRK				pmax	pmax		
	comp=Z,33nm,1.6s,mb5.0						
HIA	**Hailar**	**51.20**	**19**	*e*P	**P**	**01 05 05.1**	**-0.2**
HIA				pmax	pmax		
	comp=Z,21nm,0.8s						
HIA	**Hailar**	**51.20**	**19**	*e*P	**P**	**01 05 05.1**	**-0.2**
	comp=Z,21nm,0.8s,mb5.1						
KURK	**Kurchatov**	**51.32**	**345**	*i* P	**P**	**01 05 06.3**	**+0.1**
KURK				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.2						
KURK	**Kurchatov**	**51.32**	**345**	*e*P	**P**	**01 05 06.0**	**-0.1**
	comp=Z,38nm,0.9s,mb5.3						
MAJO	**Matsushiro**	**51.37**	**43**	*e*P	**P**	**01 05 04.7**	**-2.1**
MAJO				pmax	pmax		
	comp=Z,19nm,0.9s,mb5.0						
MAJO	**Matsushiro**	**51.37**	**43**	*e*P	**P**	**01 05 04.7**	**-2.0**
	comp=Z,19nm,0.9s,mb5.0						
MAT	**Matsushiro**	**51.37**	**43**	*e*P	**P**	**01 05 05.0**	**-1.8**
MAT				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
MAT	**Matsushiro**	**51.37**	**43**	*e*P	**P**	**01 05 05.0**	**-1.8**
	comp=Z,17nm,0.9s,mb5.0						
MAT	**Matsushiro**	**51.37**	**43**	P	**P**	**01 05 05.0**	**-1.8**
MDJ	**Mudanjiang**	**51.47**	**29**	P	**P**	**01 05 08.0**	**+0.6**
MDJ				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.2						
MDJ				AMB	AMB		
	comp=Z,241nm,3.9s						
MDJ	**Mudanjiang**	**51.47**	**29**	P	**P**	**01 05 07.0**	**-0.4**
	comp=Z,28nm,1.0s,mb5.2						
CTA	**Charters Tower**	**52.76**	**117**	*e*P	**P**	**01 05 17.6**	**+0.1**
	comp=Z,10nm,0.9s,mb4.8						
CTA	**Charters Tower**	**52.76**	**117**	*e*P	**P**	**01 05 17.6**	**+0.1**
CTA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
STKA	**Stephens Creek**	**53.71**	**132**	*e*P	**P**	**01 05 24.5**	**+0.2**
	comp=Z,14nm,1.0s,mb4.8						
STKA				*e*	pP	01 05 31.8	-0.6
STKA	**Stephens Creek**	**53.71**	**132**	P	**P**	**01 05 24.0**	**-0.3**
	comp=Z,15nm,0.9s,mb4.9,baz=316,slow=7.7,SNR=18						
NVS	**Novosibirsk**	**54.20**	**350**	*i* P	**P**	**01 05 27.0**	**-0.5**
NVS				*i* S	**S**	**01 13 02.0**	**+0.7**
NVS				pmax	pmax		
	comp=N,46nm,1.4s						
NVS				pmax	pmax		
	comp=E,26nm,1.4s						
NVS				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.3						
NVS				smax			
	comp=N,10.0nm,1.6s						
NVS				smax			
	comp=E,20nm,1.7s						
RAYN	**Ar Rayn**	**54.49**	**298**	P	**P**	**01 05 29.4**	**-0.7**
	comp=E,114nm,0.7s,SNR=16						
ATD	**Arta Tunnel**	**54.73**	**283**	P	**P**	**01 05 31.8**	**-0.2**
	comp=E,4.2nm,0.8s,mb4.5,baz=82,slow=20,SNR=3.3						
BVA0	**Borovoye Array**	**55.78**	**341**	*i* P	**P**	**01 05 38.1**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**55.78**	**341**	P	**P**	**01 05 38.1**	**-1.0**
	comp=Z,15nm,0.6s,mb5.2,baz=146,slow=8.9,SNR=94						
CHKZ	**Chkalovo**	**56.26**	**341**	⇑*e*P	**P**	**01 05 41.6**	**-0.9**
CHKZ				*e*	pP	01 05 50.0	-0.6
CHKZ				pmax	pmax		
	comp=Z,37nm,0.7s,mb5.5						
CHKZ	**Chkalovo**	**56.26**	**341**	⇑*e*P	**P**	**01 05 41.6**	**-0.9**
	comp=Z,37nm,0.7s,mb5.5						
CHKZ				*e*	pP	01 05 50.0	-0.7
BOD	**Bodaibo**	**57.55**	**11**	*e*P	**P**	**01 05 50.7**	**-1.0**
BOD				pmax	pmax		
	comp=Z,25nm,0.9s,mb5.2						
KMBO	**Kilima Mbogo**	**59.96**	**268**	*e*P	**P**	**01 06 08.5**	**-0.5**
KMBO	**Kilima Mbogo**	**59.96**	**268**	P	**P**	**01 06 08.7**	**-0.3**
	comp=Z,19nm,0.8s,mb4.2,baz=52,slow=9.4,SNR=7.9						
YSS	**Yuzh-Sakhalins**	**59.98**	**34**	⇑*i*P	**P**	**01 06 08.4**	**-0.3**
YSS				*e*		01 06 23.0	
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,120nm,1.0s,mb5.9						
YSS	**Yuzh-Sakhalins**	**59.98**	**34**	*e*P	**P**	**01 06 08.5**	**-0.2**
	comp=Z,122nm,1.2s,mb5.8						
GNI	**Garni**	**60.91**	**316**	P	**P**	**01 06 14.9**	**-0.2**
	comp=Z,14nm,1.0s,mb5.0,baz=14,slow=18,SNR=4.0						
DGRG	**David-gareji**	**61.05**	**318**	P	**P**	**01 06 16.1**	**+0.1**
DGRG				S	pP	01 06 25.0	+0.8
TI2	**Plekhanov**	**61.59**	**318**	*i* P	**P**	**01 06 20.0**	**+0.3**
TBLG	**Delisi**	**61.60**	**318**	P	**P**	**01 06 19.4**	**-0.4**
DUS	**Dusheti**	**61.78**	**318**	P	**P**	**01 06 20.2**	**-0.8**
SVE	**Sverdlovsk**	**62.23**	**338**	*e*P	**P**	**01 06 23.5**	**-0.3**
SVE				*e*		01 07 00.

comp=Z,12nm,0.9s,mb4.9
SOC Sochi 65.73 318 *e*P **P 01 06 43.7 -3.2**
SOC *e* 01 07 24.6
SOC *e* 01 09 06.0
SOC *e*S S 01 15 26.8 -3.0
SOC *e* 01 16 35.0
SOC *e*SS SS 01 19 43.8 -2.0
SOC pmax pmax
comp=Z,33nm,0.8s,mb5.4
SOC pmax pmax
comp=N,20nm,1.0s
SOC pmax pmax
comp=E,36nm,0.8s
MBAR Mbarara 66.44 269 *e*P **P 01 06 51.3 -0.6**
MBAR pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
MBAR Mbarara 66.44 269 *e*P **P 01 06 51.3 -0.6**
comp=Z,6.1nm,1.2s,mb4.5
ANN Anapa 67.71 318 *e*P **P 01 06 54.4 -5.0**
ANN pmax pmax
comp=Z,30nm,1.3s,mb5.2
BRTR Keskin Array B 68.75 312 P **P 01 07 04.7 -1.4**
comp=Z,6.3nm,0.7s,mb4.6,baz=131,slow=7.1,SNR=39
VRSR Storozhevoye 69.14 325 *e*P **P 01 07 06.6 -1.5**
VRSR pmax pmax
comp=Z,20nm,1.0s,mb5.0
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,20nm,1.0s
SIM Simferopol' 69.98 318 *de*P **P 01 07 13.1 -0.3**
SIM pmax pmax
comp=Z,16nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,200nm,20.0s,MS4.4
MA2 Magadan 70.92 26 *e*P **P 01 07 18.8 -0.1**
MA2 *e*S S 01 16 32.0 +0.6
MA2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MA2 Magadan 70.92 26 *e*P **P 01 07 18.4 -0.5**
comp=Z,16nm,0.7s,mb5.1
PET Petropavlovsk 71.86 34 *e*P **P 01 07 23.9 -0.7**
PET pmax pmax
comp=Z,38nm,0.6s,mb5.5
PET Petropavlovsk 71.86 34 *e*P **P 01 07 23.9 -0.8**
comp=Z,38nm,0.6s,mb5.5
MOS Moscow 71.90 329 *e*P **P 01 07 24.1 -0.7**
MOS *e* 01 07 40.5
MOS pmax pmax
comp=Z,52nm,1.2s,mb5.3
OBN Obninsk 72.19 328 *ce*P **P 01 07 25.7 -0.8**
OBN *e* 01 10 05.5
OBN *e*S S 01 16 47.9 +1.9
OBN pmax pmax
comp=Z,27nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.4
OBN Obninsk 72.19 328 *e*P **P 01 07 25.4 -1.2**
comp=Z,20nm,0.7s,mb5.2
TIXI Tiksi 72.72 10⇑ *i*P **P 01 07 28.6 -0.8**
SEY Seymchan 73.34 23 *e*P **P 01 07 36.2 +3.1**
SEY pmax pmax
comp=Z,30nm,1.0s,mb5.2
LBTB Lobatse 74.06 244 P **P 01 07 38.0 0.0**
comp=Z,3.6nm,0.8s,mb4.4,baz=106,slow=3.3,SNR=5.1
CFR Carcaliu 74.11 317⇑ *i*P **P 01 07 37.4 -0.6**
AKASG Malin Array Be 74.85 322 P **P 01 07 40.5 -1.6**
comp=Z,6.8nm,0.6s,mb4.8,baz=87,slow=5.5,SNR=2.6
BOSA Boshof 74.97 240 P **P 01 07 42.6 -0.7**
comp=Z,1.4nm,0.8s,baz=260,slow=17,SNR=3.7
VRI Vrincioaia 75.23 317⇑ *i*P **P 01 07 44.1 -0.4**
MLR Muntele Rosu 75.69 317 P **P 01 07 47.1 0.0**
comp=Z,15nm,1.0s,mb4.9,baz=148,slow=2.5,SNR=15
MLR Muntele Rosu 75.69 317⇑ *i*P **P 01 07 47.3 +0.3**
SNX Sinaia 75.95 316⇓ *i*P **P 01 07 48.5 -0.1**
BURAR Bucovina Array 76.63 319⇑ P **P 01 07 53.1 +0.8**
LVZ Lovozero 78.37 340 *e*P **P 01 08 00.0 -1.5**
VSU Vasula 78.41 330 *i* P **P 01 08 01.1 -0.8**
KWP Kalwaria 78.67 320 *e*P **P 01 08 03.8 +0.3**
KOLS Kolonicke sedl 78.82 320 *i* P **P 01 08 05.1 +0.8**
KOLS *e* pP 01 08 14.2 +1.5
SUW Suwalki 79.26 325 *e*P **P 01 08 06.0 -0.6**
FINES FINESS Array B 79.55 332 P **P 01 08 07.8 -0.2**
comp=Z,6.9nm,0.7s,mb4.7,baz=93,slow=6.3,SNR=25
KAF Kangasniemi 79.63 333 *ep* **P 01 08 07.1 -1.4**
comp=Z,8.4nm,0.6s,mb4.8,baz=104,slow=5.0
KAF Kangasniemi 79.63 333 *e*P **P 01 08 07.1 -1.4**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KECS Kecovo 79.91 319 *e*P pP 01 08 18.8 +0.2
KECS Kecovo 79.91 319 *ep*P pP 01 08 18.8 +0.2
NIE Niedzica 80.17 320 *e*P **P 01 08 11.5 -0.1**
PSZ Piszkesteto 80.22 318⇑ *e*P **P 01 08 12.1 +0.2**
SYO Syowa Base 80.44 198⇑ P **P 01 08 14.8 +2.1**
SYO Syowa Base 80.44 198⇓ *p*P pP 01 08 22.0 +0.9
OJC Ojcow 80.62 321 *e*P **P 01 08 14.1 +0.1**
OJC *e*PcP PcP 01 08 22.8 +1.6
TSUM Tsumeb 80.70 250 P **P 01 08 15.7 +0.6**
comp=Z,11nm,1.0s,mb4.8
BILL Bilibino 80.73 21 *i* P **P 01 08 14.2 0.0**
BILL *e* 01 11 27.4
BILL pmax pmax
comp=Z,6.0nm,1.2s,mb4.4
BILL Bilibino 80.73 21 *e*P **P 01 08 14.3 0.0**
comp=Z,4.0nm,0.6s,mb4.5
PKSM Moragy 80.84 316⇑ *i*P **P 01 08 15.0 -0.2**
VYHS Vyhne 81.00 319 *e*P **P 01 08 15.9 -0.1**
VYHS *ep*P pP 01 08 24.5 +0.1
OKC Ostrava-Krasne 81.62 320 *e*P **P 01 08 19.7 +0.5**
OKC *ep*P pP 01 08 27.6 0.0
KEV Kevo 81.64 341 *ep* **P 01 08 17.5 -1.4**
comp=Z,20nm,0.9s,mb5.0
KEV Kevo 81.64 341 *e*P **P 01 08 17.5 -1.4**
KEV pmax pmax
comp=Z,20nm,0.9s,mb5.0
MORC Moravsky Berou 82.01 320 *e*P **P 01 08 21.5 +0.3**
MORC *e* pP 01 08 28.7 -0.9
MORC pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MORC Moravsky Berou 82.01 320 *e*P **P 01 08 21.5 +0.3**
comp=Z,5.5nm,0.7s,mb4.6
MORC *e* pP 01 08 28.7 -0.9
ARCES ARCESS Array B 82.07 340 P **P 01 08 21.8 +0.7**
comp=Z,8.0nm,0.7s,mb4.8,baz=101,slow=3.9,SNR=25
ZST Bratislava 82.11 318 *e*P **P 01 08 22.4 +0.6**
ZST *ep*P pP 01 08 31.1 +0.9
KOGS Kog 82.51 316 *i* P **P 01 08 24.4 +0.5**
DPC Dobruska-Polom 82.85 320 *e*P **P 01 08 26.5 +0.9**
DPC *ep*P pP 01 08 35.0 +1.0
KSP Ksiaz 82.92 321 *e*P **P 01 08 26.6 +0.6**
KSP *e**PP pP 01 08 35.3 +0.9
UPC Upice 83.06 321 *e*P **P 01 08 27.5 +0.8**
UPC *ep*P pP 01 08 35.2 +0.1
ARSA Arzberg 83.08 317⇓ *i*P **P 01 08 27.2 +0.4**
comp=Z,11nm,1.0s,mb4.8
BOJS Bojanci 83.12 315 *e*P **P 01 08 27.4 +0.3**
BOJS *e* 01 13 32.3
LJU Ljubljana 83.67 316 *e*P **P 01 08 30.5 +0.6**
LJU *i* pP 01 08 39.5 +1.1
LJU *i* 01 13 35.8
PRU Pruhonice 83.96 320 *e*P **P 01 08 31.7 +0.4**
PRU *ep*P pP 01 08 38.6 -1.1
PVCC Panska Ves 83.98 320 *e*P **P 01 08 32.0 +0.6**
PVCC *ep*P pP 01 08 38.6 -1.2
AQU L'Aquila 84.25 312 P **P 01 08 32.7 -0.2**
AQU pmax pmax
comp=Z,18nm,1.1s,mb5.1
AQU L'Aquila 84.25 312 P **P 01 08 32.7 -0.2**
comp=Z,18nm,1.1s,mb5.1
BRG Berggiesshubel 84.41 321 *e*P **P 01 08 33.7 +0.2**
BRG *e* pP 01 08 41.2 -0.8
BRG pmax pmax
comp=Z,7.0nm,1.3s,mb4.6
BRG Berggiesshubel 84.41 321 *e*P **P 01 08 33.7 +0.2**
comp=Z,7.3nm,1.3s,mb4.7
BRG *e* pP 01 08 41.2 -0.8
GERES GERESS Array B 84.42 319 P **P 01 08 34.1 +0.5**
comp=Z,7.4nm,1.0s,mb4.8,baz=104,slow=5.5,SNR=46
PTCC Patocco-Chiusa 84.50 316 *e*P **P 01 08 34.0 -0.1**
KHC Kasperske Hory 84.52 319 *e*P **P 01 08 34.3 +0.2**
KHC *ep*P pP 01 08 41.0 -1.6
KBA Koelnbreinsper 84.55 317⇑ *i*P **P 01 08 33.9 -0.4**
comp=Z,3.2nm,0.7s,mb4.6
KBA Koelnbreinsper 84.55 317⇑ *i*P **P 01 08 33.9 -0.4**
KBA pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
ARV Arcevia 84.64 313 *e*P **P 01 08 35.7 +0.8**
CLL Collm 85.03 321 *i* P **P 01 08 36.8 +0.2**
CLL *i* pP 01 08 46.1 +1.0
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
CLL Collm 85.03 321 *i* P **P 01 08 36.8 +0.2**
comp=Z,8.0nm,1.2s,mb4.7
CLL *i* pP 01 08 46.1 +1.0
CLL Collm 85.03 321 P **P 01 08 36.8 +0.2**
comp=Z,logA/T=0.8,mb4.7
CLL *i* *PP pP 01 08 46.1 +1.0
NKC Novy Kostel 85.32 320 *e*P **P 01 08 38.9 +0.8**
SFI Santa Sofia 85.45 314 *e*P **P 01 08 39.2 +0.3**
CTI Castel Tesino 85.67 316 *e*P **P 01 08 40.8 +0.9**
VMG Vicchio 85.67 314 *e*P **P 01 08 41.0 +1.0**
WTTA Wattenberg 85.72 317⇑ *i*P **P 01 08 40.0 -0.2**
comp=Z,7.8nm,0.7s,mb5.0
WTTA Wattenberg 85.72 317⇑ *i*P **P 01 08 40.0 -0.2**
WTTA pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
WATA Walderalm 85.77 317⇓ *i*P **P 01 08 40.1 -0.3**
comp=Z,5.0nm,1.1s,mb4.7
WATA Walderalm 85.77 317⇓ *i*P **P 01 08 40.1 -0.3**
WATA pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
SEI Scarperia 85.81 314 *e*P **P 01 08 40.7 0.0**
MOX Moxa 85.87 320 *e*P **P 01 08 41.4 +0.6**
MOX Moxa 85.87 320 *i* P **P 01 08 41.4 +0.6**
SQTA Sankt Quirin 86.01 317⇓ *i*P **P 01 08 41.4 -0.2**
comp=Z,3.2nm,0.9s,mb4.5
SQTA Sankt Quirin 86.01 317⇓ *i*P **P 01 08 41.4 -0.2**
SQTA pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
GRA1 Grafenberg Arr 86.09 320 *e*P **P 01 08 42.7 +0.8**
comp=Z,8.0nm,0.9s,mb5.0
GRA1 *ep*P pP 01 08 49.6 -0.8
GRF Grafenberg Arr 86.09 320 *e*P **P 01 08 42.7 +0.8**
GRF *e**PP pP 01 08 49.6 -0.8
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRF Grafenberg Arr 86.09 320 *e*P **P 01 08 42.7 +0.8**
GRF *e**PP pP 01 08 49.7 -0.7
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
GRF Grafenberg Arr 86.09 320 *e*P **P 01 08 42.7 +0.8**
comp=Z,8.0nm,0.9s,mb5.0
GRF *ep*P pP 01 08 49.7 -0.7
VNDA Vanda 86.30 169 P **P 01 08 40.5 -1.9**
comp=Z,4.5nm,0.5s,mb5.0,baz=348,slow=1.7,SNR=43
VNDA PP PP 01 12 04.2 -1.1
comp=Z,0.6nm,0.3s,baz=245,slow=13,SNR=14
NB2 NORSAR Subarra 86.56 331 P **P 01 08 43.7 -0.3**
comp=Z,0.7nm,0.7s,mb4.0,baz=94,slow=5.6
NB2 NORSAR Subarra 86.56 331 P **P 01 08 43.7 -0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 86.56 331 P **P 01 08 44.3 +0.3**
comp=Z,4.9nm,0.8s,mb4.8,baz=95,slow=4.9,SNR=18
DAVA Damuels 86.92 317⇑ *i*P **P 01 08 46.2 +0.1**
comp=Z,7.2nm,0.9s,mb4.9
LPG La Plagne 89.09 315 *e*P **P 01 08 57.1 +0.6**
comp=Z,11nm,0.9s,mb4.9
LPG La Plagne 89.09 315 *e*P **P 01 08 57.1 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
NVL N'lazarevskaya 90.03 199⇑ *i*P pP 01 09 09.1 +0.3
NVL pmax pmax
comp=Z,25nm,0.8s,mb5.6
MAIT Maitri 90.06 199 *e*P **P 01 09 03.4 +2.9**
DAG Danmarks Havn 94.12 348⇑ *i*P **P 01 09 19.1 0.0**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.7
DAG Danmarks Havn 94.12 348⇑ *i*P **P 01 09 19.1 0.0**
comp=Z,3.4nm,0.9s,mb4.8
IMA Indian Mountai 96.16 23 *e*P **P 01 09 29.6 +1.0**
comp=Z,17nm,0.6s,mb5.7
YKA Yellowknife Ar 111.64 15 PKiKP 01 14 35.3
comp=Z,0.1nm,0.7s,baz=323,slow=1.6,SNR=3.8
YKA PP PP 01 15 15.3 -5.0
comp=Z,1.0nm,0.9s,baz=330,slow=7.0,SNR=6.8
SCHQ Schefferville 122.15 349 PKP PKPdf 01 14 55.5 -3.8
comp=Z,1.8nm,0.9s,baz=247,slow=18,SNR=3.8
SCHQ Schefferville 122.15 349 PKP PKPdf 01 14 55.5 -3.8
ULM Lac du Bonnet 127.08 10 PKP PKPdf 01 15 05.3 -3.6
comp=Z,0.9nm,0.3s,baz=320,slow=4.7,SNR=4.7
PDAR Pinedale Array 129.63 25 PKP PKPdf 01 15 11.3 -2.8
comp=Z,0.8nm,0.8s,SNR=6.2
PDAR PP PP 01 17 20.4 -3.7
comp=Z,0.9nm,0.9s,baz=27,slow=3.3,SNR=4.7
PLCA Paso Flores 139.56 194 PKP PKPdf 01 15 27.3 -5.3
comp=Z,0.9nm,0.5s,baz=354,slow=10,SNR=3.1
PLCA Paso Flores 139.56 194 PKP PKPdf 01 15 27.3 -5.3
BDFB Brasilia 142.96 246 PKP PKPdf 01 15 33.9 -5.3
comp=Z,3.3nm,0.9s,baz=196,slow=8.9,SNR=4.2
TXAR Lajitas Array 143.29 31 PKP PKPdf 01 15 33.6 -5.8
comp=Z,1.6nm,0.9s,baz=237,slow=0.6,SNR=11
TXAR PP PP 01 18 55.5 +5.9
comp=Z,1.1nm,0.9s,baz=355,slow=4.2,SNR=5.7
NATX Nacogdoches 144.91 18 *e*PKP PKPdf 01 15 38.2 -4.0
LRAL Lakeview Retre 145.25 6 *e*PKP PKPdf 01 15 38.4 -4.4
LPAZ La Paz 159.49 224 PKP PKPdf 01 16 01.3 -2.5
comp=Z,0.9nm,0.5s,baz=38,slow=2.9,SNR=5.0

IDC ***29*** *01:00:53.9±0.7, 0.06N×97.73E, mb4.5/13, mb1 4.6/13, mb1mx4.4/19, mbtmp4.5/13, Error ellipse: s-maj=33.4km s-min=14.5km az=44.0*
MOS ***29*** *01:00:58.2±0.8, 0.30N×98.19E, h33km, mb4.9/11, Error ellipse: s-maj=29.8km s-min=13.3km az=113.1*
NEIC ***29*** *01:00:59.1±0.4, 0.17N×97.90E, h30km, mb4.8/22, Error ellipse: s-maj=12.9km s-min=8.4km az=46.0*
BJI ***29*** *01:00:59.1, 0.20N×97.90E, h30km, mB5.3, mb4.9, Ms5.1, Msz4.9*
ISC 29 01:00:57.9±0.4, 0.17N±0.07×97.97E±0.07, h33km, (h28km±1.3km: pP-P), n69, σ1s25/68, mb4.7/42, MS4.8/4, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.75**	**28**	*e*P	**P**	**01 02 22.8**	**-0.3**
CM31	**Chiang Mai Arr**	**18.20**	**3**	*e*P	**P**	**01 05 09.0**	**-0.9**
	9.9nm,0.5s						
KKM	**Kota Kinabalu**	**19.13**	**72**	P	**P**	**01 05 19.5**	**-1.7**
KMI	**Kunming**	**25.23**	**10**	P	**P**	**01 06 26.3**	**+3.6**
KMI				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.5						
LSA	**Lhasa**		**30.08 348**	P	**P**	**01 07 03.7**	**-2.9**
LSA				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.7						
LSA	**Lhasa**		**30.08 348**	P	**P**	**01 07 03.7**	**-2.9**
	comp=Z,12nm,0.7s,mb4.8						
ENH	**Enshi**		**31.88 19**	*e*P	**P**	**01 07 22.1**	**-0.4**
	comp=Z,9.6nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**		**32.71 125**	*e*P	**P**	**01 07 30.8**	**+0.9**
	comp=Z,8.6nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**		**32.71 125**	P	**P**	**01 07 29.2**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9,baz=324,slow=4.9,SNR=7.7						
XAN	**Xi'an**	**35.23**	**16**	P	**P**	**01 07 51.5**	**+0.1**
XAN				AP	pP	01 07 59.5	-1.6
XAN				AMB	AMB		
	comp=Z,25nm,0.9s,mb5.1						
LZH	**Lanzhou**	**36.15**	**8**	*e*P	**P**	**01 08 01.5**	**+2.3**
LZH				AP	pP	01 08 10.0	+1.1
LZH				XP	sP	01 08 13.5	+0.3
LZH				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH				LR	LR		
	comp=E,896nm,14.7s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
WRA	**Warramunga Arr**		**40.84 121**	P	**P**	**01 08 37.9**	**-0.6**
	comp=Z,6.4nm,0.8s,mb4.3,baz=299,slow=9.1,SNR=12						
WRAB	**Tennant Creek**		**40.85 121**	*e*P	**P**	**01 08 37.8**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
WRAB	**Tennant Creek**		**40.85 121**	*e*P	**P**	**01 08 37.8**	**-0.7**
	comp=Z,20nm,0.9s,mb4.7						
WB2	**Warramunga Arr**		**40.85 121**	*e*P	**P**	**01 08 37.8**	**-0.8**
ASPA	**Alice Springs**		**42.16 127**	*e*P	**P**	**01 08 51.5**	**+2.1**
ASAR	**Alice Springs**		**42.17 127**	P	**P**	**01 08 49.5**	**+0.1**
HHC	**Hu-ho-hao-te**	**42.33**	**15**	*e*P	**P**	**01 08 53.0**	**+2.4**
HHC				AP	pP	01 09 02.0	+1.6
HHC				XP	sP	01 09 05.5	+0.9
HHC				PP	PP	01 10 35.5	+4.0
HHC				PCS		01 14 36.0	
HHC				S	**S**	**01 15 13.8**	**+4.7**
HHC				XS		01 15 29.5	
HHC				SCS	ScS	01 18 49.5	+1.9
HHC				AMB	AMB		
	comp=Z,21nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,239nm,10.7s						
HHC				LR	LR		
	comp=N,378nm,16.1s,MS4.6						
HHC				LR	LR		
	comp=E,410nm,14.9s,MS4.6						
BJT	**Baijiatuao**	**43.00**	**21**	*e*P	**P**	**01 08 57.5**	**+1.5**
	comp=E,24nm,0.8s,mb5.0						
BJI	**Beijing**	**43.02**	**21**	*e*P	**P**	**01 09 00.3**	**+4.1**
BJI				AMB	AMB		
	comp=Z,23nm,0.9s,mb4.9						
WMQ	**Urumqi**	**44.42**	**349**	*e*P	**P**	**01 09 08.5**	**+1.1**
WMQ				AP	pP	01 09 18.0	+0.7
WMQ				XP	sP	01 09 22.0	+0.6
WMQ				PCP	PcP	01 10 52.0	+0.7
WMQ				*e*S	**S**	**01 15 41.0**	**+1.6**
WMQ				XS		01 15 57.0	
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,271nm,7.0s						
WMQ				LR	LR		
	comp=N,1μm,23.4s,MS4.8						
WMQ				LR	LR		
	comp=E,508nm,19.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,742nm,19.0s,MS4.6						
AAK	**Ala-Archa**	**47.24**	**336**	*e*P	**P**	**01 09 30.0**	**+0.2**
AAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
AAK	**Ala-Archa**	**47.24**	**336**	*e*P	**P**	**01 09 30.0**	**+0.2**
	comp=Z,7.5nm,1.0s,mb4.6						
SONM	**Songino Array**	**48.04**	**8**	P	**P**	**01 09 36.5**	**+0.5**
	comp=Z,9.3nm,0.7s,mb4.9,baz=190,slow=8.8,SNR=23						
SONM				PcP	PcP	01 11 04.6	+0.6
	comp=Z,2.9nm,0.9s,baz=197,slow=3.4,SNR=4.4						
ULN	**Ulaanbaatar**	**48.16**	**8**	*e*P	**P**	**01 09 37.7**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.7						
MKAR	**Makanchi Array**	**48.42**	**346**	P	**P**	**01 09 38.5**	**-0.4**
	comp=Z,17nm,0.8s,mb5.1,baz=162,slow=7.7,SNR=23						
CN2	**Changchun**	**49.88**	**26**	*e*P	**P**	**01 09 49.0**	**-1.3**
CN2				*e*AP	pP	01 09 58.0	-2.2
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=E,900nm,14.0s,MS5.0						
CN2				LR	LR		
	comp=Z,1μm,15.0s,MS5.0						
ZAK	**Zakamensk**	**50.23**	**4**	*e*P	**P**	**01 09 52.4**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
TLY	**Talaya**	**51.55**	**5**	*e*P	**P**	**01 10 05.3**	**+2.5**
TLY				*e*		01 10 19.9	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**52.10**	**132**	P	**P**	**01 10 08.7**	**+1.5**
	comp=Z,3.7nm,1.0s,mb4.3,baz=320,slow=10,SNR=3.9						
HIA	**Hailar**	**52.37**	**18**	*e*P	**P**	**01 10 07.8**	**-1.2**
	comp=Z,10nm,0.8s,mb4.8						
NVS	**Novosibirsk**	**55.82**	**350**	*i* P	**P**	**01 10 34.9**	**+0.7**
KLR	**Kul'dur**	**56.84**	**26**	*e*P	**P**	**01 10 40.0**	**-1.6**
BVAR	**Borovoye Array**	**57.47**	**341**	P	**P**	**01 10 43.7**	**-2.3**
	comp=Z,8.8nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=20						
CHKZ	**Chkalovo**	**57.94**	**341**	*e*P	**P**	**01 10 47.5**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.3						
CHKZ	**Chkalovo**	**57.94**	**341**	*e*P	**P**	**01 10 47.5**	**-1.8**
	comp=Z,31nm,0.9s,mb5.3						
BOD	**Bodaibo**	**58.88**	**10**	*e*P	**P**	**01 10 55.8**	**-0.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KMBO	**Kilima Mbogo**	**60.72**	**269**	P	**P**	**01 11 06.5**	**-2.6**
	comp=Z,1.6nm,0.8s,mb4.2,baz=42,slow=23,SNR=2.5						
KMBO	**Kilima Mbogo**	**60.72**	**269**	*e*P	**P**	**01 11 06.7**	**-2.4**
	comp=Z,3.8nm,1.0s,mb4.5						
SVE	**Sverdlovsk**	**63.92**	**338**	*e*P	**P**	**01 11 30.8**	**+1.0**
ARU	**Arti**	**64.43**	**337**	*e*P	**P**	**01 11 33.3**	**+0.2**
KIV	**Kislovodsk**	**65.58**	**319**	*e*P	**P**	**01 11 40.5**	**-0.3**
KIV				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.9						
KIV	**Kislovodsk**	**65.58**	**319**	*e*P	**P**	**01 11 39.8**	**-1.0**
	comp=Z,25nm,1.1s,mb5.2						
ASF	**Jabal al Asfar**	**65.68**	**305**	P	**P**	**01 11 41.3**	**-0.3**
	comp=Z,4.1nm,0.9s,mb4.5,baz=356,slow=3.7,SNR=6.4						
MALT	**Malatya**	**66.39**	**312**	*e*P	**P**	**01 11 45.0**	**-1.0**
	comp=Z,7.2nm,1.0s,mb4.7						
BRTR	**Keskin Array B**	**70.37**	**312**	P	**P**	**01 12 07.9**	**-2.7**
	comp=Z,2.1nm,0.8s,mb4.1,baz=135,slow=7.0,SNR=8.6						
OBN	**Obninsk**	**73.89**	**328**	*ce*P	**P**	**01 12 32.3**	**+1.0**
OBN				pmax	pmax		
	comp=Z,17nm,1.5s,mb4.8						
TIXI	**Tiksi**	**74.06**	**10**	*e*P	**P**	**01 12 30.8**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
KOLS	**Kolonicke sedl**	**80.49**	**320**	*e*P	**P**	**01 13 08.8**	**+0.5**
SUW	**Suwalki**	**80.95**	**325**	P	**P**	**01 13 09.8**	**-0.8**
	comp=Z,31nm,1.0s,mb5.2						
FINES	**FINESS Array B**	**81.26**	**332**	P	**P**	**01 13 10.8**	**-1.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=124,slow=6.9,SNR=5.9						
KAF	**Kangasniemi**	**81.34**	**333**	*ep*	**P**	**01 13 11.7**	**-0.8**
	comp=Z,6.0nm,0.9s,mb4.5						
KAF	**Kangasniemi**	**81.34**	**333**	*e*P	**P**	**01 13 11.7**	**-0.8**
KAF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
MORC	**Moravsky Berou**	**83.68**	**320**	P	**P**	**01 13 25.1**	**+0.4**
	comp=Z,8.9nm,1.3s,mb4.7						
AQU	**L'Aquila**	**85.86**	**312**	P	**P**	**01 13 37.7**	**+1.9**
	comp=Z,16nm,1.0s,mb5.2						
BRG	**Berggiesshubel**	**86.09**	**321**	*e*P	**P**	**01 13 37.5**	**+0.8**
BRG				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.7						
BRG	**Berggiesshubel**	**86.09**	**321**	*e*P	**P**	**01 13 37.5**	**+0.8**
	comp=Z,5.7nm,1.3s,mb4.6						
GERES	**GERESS Array B**	**86.09**	**319**	P	**P**	**01 13 36.6**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.3,baz=104,slow=5.5,SNR=10						
CLL	**Collm**	**86.71**	**321**	*e*P	**P**	**01 13 40.0**	**+0.3**
CLL	**Collm**	**86.71**	**321**	P	**P**	**01 13 40.0**	**+0.3**
GRA1	**Grafenberg Arr**	**87.76**	**320**	*e*P	**P**	**01 13 46.7**	**+1.9**
	comp=Z,4.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**87.76**	**320**	*e*P	**P**	**01 13 46.7**	**+1.9**
GRF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.6						
GRF	**Grafenberg Arr**	**87.76**	**320**	*e*P	**P**	**01 13 46.7**	**+1.9**
	comp=Z,4.0nm,1.1s,mb4.6						
NB2	**NORSAR Subarra**	**88.27**	**331**	P	**P**	**01 13 48.8**	**+1.8**
	comp=Z,2.1nm,0.8s,mb4.4,baz=96,slow=4.6						
NOA	**NORSAR Array B**	**88.27**	**331**	P	**P**	**01 13 48.5**	**+1.5**
	comp=Z,1.6nm,0.8s,mb4.3,baz=95,slow=4.9,SNR=4.9						
LPG	**La Plagne**	**90.74**	**315**	*e*P	**P**	**01 13 59.1**	**+0.1**
	comp=Z,14nm,0.9s,mb5.0						
TXAR	**Lajitas Array**	**144.12**	**33**	PKP	PKPdf	01 20 32.1	+1.1
	comp=Z,0.9nm,0.6s,baz=254,slow=1.9,SNR=9.0						
NATX	**Nacogdoches**	**146.07**	**19**	PKP	PKPdf	01 20 38.0	+3.7
LRAL	**Lakeview Retre**	**146.65**	**8**	PKP	PKPdf	01 20 40.2	+4.9

BJI ***29*** *01:04:30.2, 0.43N×97.38E, h22km, mB5.5, mb4.7*
IDC ***29*** *01:04:34.4±1.1, 1.15N×97.00E, mb4.3/11, mb1 4.4/11, mb1mx4.2/18, mbtmp4.3/11, Error ellipse: s-maj=46.5km s-min=15.5km az=54.0*
NEIC ***29*** *01:04:37.8±0.6, 1.17N×97.07E, mb4.6/6, Error ellipse: s-maj=20.0km s-min=7.6km az=60.0*
ISC 29 01:04:37.6±0.8, 1.17N±0.10×97.1E±0.2, h33km, n28, σ0s72/26, mb4.5/19, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr

KMI					AMB	AMB			
	comp=Z,22nm,1.1s,mb4.5								
GYA	**Guiyang**	**26.77**	**19**	⇑*iP*	**P**		**01 10 17.3**	**+0.6**	
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
LSA	**Lhasa**	**28.93**	**349**	P	**P**		**01 10 35.7**	**-0.4**	
	comp=Z,6.5nm,0.6s,mb4.5								
ENH	**Enshi**	**31.25**	**21**	*eP*	**P**		**01 10 54.7**	**-1.9**	
	comp=Z,9.3nm,0.6s,mb4.8								
ENH				*e*			01 11 01.9		
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**		**01 11 20.0**	**-0.8**	
	comp=Z,3.7nm,0.7s,mb4.4,baz=265,slow=3.7,SNR=5.2								
GTA	**Gaotai**	**38.14**	**3**	*eP*	**P**		**01 11 56.0**	**+0.5**	
GTA				AP	pP		01 12 05.5	+0.2	
GTA				XP	sP		01 12 09.0	-0.5	
GTA				AMB	AMB				
	comp=Z,11nm,0.8s,mb4.6								
JOW	**Kunigami**	**39.34**	**47**	P	**P**		**01 12 06.1**	**+0.4**	
	comp=Z,17nm,0.6s,mb4.9,baz=330,slow=6.7,SNR=4.2								
WRA	**Warramunga Arr**	**42.12**	**122**	P	**P**		**01 12 28.7**	**-0.1**	
	comp=Z,3.0nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=10								
WRAB	**Tennant Creek**	**42.12**	**122**	*eP*	**P**		**01 12 28.4**	**-0.4**	
	comp=Z,5.5nm,0.5s,mb4.4								
WB2	**Warramunga Arr**	**42.13**	**122**	*eP*	**P**		**01 12 29.0**	**+0.1**	
ASAR	**Alice Springs**	**43.47**	**127**	P	**P**		**01 12 40.4**	**+0.5**	
	comp=Z,2.0nm,0.7s,mb4.0,baz=297,slow=8.0,SNR=10								
ASAR				PcP	PcP		01 14 28.8	+0.7	
	comp=Z,0.6nm,0.8s,baz=270,slow=1.4,SNR=4.0								
SONM	**Songino Array**	**47.17**	**9**	P	**P**		**01 13 09.4**	**+0.5**	
	comp=Z,3.2nm,0.7s,mb4.3,baz=189,slow=8.2,SNR=13								
SONM				PcP	PcP		01 14 40.8	+0.3	
	comp=Z,1.0nm,0.6s,baz=193,slow=4.5,SNR=5.0								
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**		**01 13 09.8**	**+0.4**	
	comp=Z,3.4nm,0.5s,mb4.5,baz=161,slow=9.0,SNR=24								
MKAR	**Makanchi Array**	**47.24**	**346**	P	**P**		**01 13 09.8**	**+0.4**	
CN2	**Changchun**	**49.38**	**27**	*eP*	**P**		**01 13 25.8**	**-0.3**	
CN2				AMB	AMB				
	comp=Z,20nm,1.0s,mb5.1								
HIA	**Hailar**	**51.70**	**19**	P	**P**		**01 13 43.5**	**-0.2**	
	comp=Z,6.1nm,0.6s,mb4.7								
STKA	**Stephens Creek**	**53.42**	**132**	*eP*	**P**		**01 13 57.6**	**+0.8**	
	comp=Z,2.4nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**		**01 13 57.3**	**+0.5**	
	comp=Z,3.3nm,0.6s,mb4.4,baz=330,slow=6.5,SNR=6.7								
STKA	**Stephens Creek**	**53.42**	**132**	*eP*	**P**		**01 13 57.1**	**+0.3**	
STKA				*e*			01 14 04.7		
BVAR	**Borovoye Array**	**56.24**	**341**	P	**P**		**01 14 16.0**	**-1.0**	
	comp=Z,4.3nm,0.7s,mb4.6,baz=144,slow=9.0,SNR=20								
CHKZ	**Chkalovo**	**56.71**	**342**⇑	*eP*	**P**		**01 14 19.6**	**-0.8**	
	comp=Z,7.6nm,0.8s,mb4.8								
CHKZ				*ep*	pP		01 14 25.5	-5.0	
FINES	**FINESS Array B**	**79.97**	**333**	P	**P**		**01 16 44.6**	**-0.3**	
	comp=Z,0.8nm,0.7s,mb3.8,baz=104,slow=7.9,SNR=3.5								
ARCES	**ARCESS Array B**	**82.52**	**340**	P	**P**		**01 16 58.7**	**+0.6**	
	comp=Z,4.3nm,1.0s,mb4.5,baz=76,slow=5.0,SNR=5.6								
ARCES	**ARCESS Array B**	**82.52**	**340**	P	**P**		**01 16 58.7**	**+0.6**	
GERES	**GERESS Array B**	**84.76**	**319**	P	**P**		**01 17 10.6**	**+0.7**	
	comp=Z,0.1nm,0.5s,baz=90,slow=2.7,SNR=5.2								
TXAR	**Lajitas Array**	**143.75**	**32**	PKP	PKPdf		01 24 09.8	-0.2	
	comp=Z,0.1nm,0.3s,baz=139,slow=0.6,SNR=5.3								
LRAL	**Lakeview Retre**	**145.76**	**6**	PKP	PKPdf		01 24 15.0	+1.5	

IDC 29 01:05:22.9±1.5, 2.82N×96.45E, mb4.1/6, mb1 4.3/6, mb1mx3.9/16, mbtmp4.1/6, Error ellipse: s-maj=70.9km s-min=21.3km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**35.49**	**127**	P	P	01 12 20.4	-3.1
	2.9nm,0.6s,baz=317,slow=6.8,SNR=3.4						
WRA	**Warramunga Arr**	**43.53**	**123**	P	P	01 13 29.3	-1.0
	1.9nm,0.5s,baz=300,slow=9.2,SNR=4.0						
MKAR	**Makanchi Array**	**45.50**	**346**	P	P	01 13 43.4	-2.5
	1.0nm,0.4s,baz=159,slow=9.1,SNR=7.6						
SONM	**Songino Array**	**45.66**	**9**	P	P	01 13 45.5	-1.6
	1.1nm,0.4s,baz=188,slow=9.0,SNR=9.0						
SONM				PcP	PcP	01 15 24.5	-1.3
	0.6nm,0.4s,baz=203,slow=4.7,SNR=5.5						
ARCES	**ARCESS Array B**	**80.77**	**340**	P	P	01 17 37.6	-1.8
	5.5nm,1.0s,baz=90,slow=7.2,SNR=4.2						
GERES	**GERESS Array B**	**83.11**	**319**	P	P	01 17 50.9	-1.0
	0.2nm,0.4s,baz=72,slow=3.1,SNR=2.9						

*IDC **29** 01:09:44.8±1.2, 1.59N×97.47E, mb4.1/5, mb1 4.2/5, mb1mx3.8/16, mbtmp4.1/5, Error ellipse: s-maj=57.9km s-min=26.5km az=62.0*
*NEIC **29** 01:09:49.0±0.7, 1.55N×97.36E, h30km, mb4.2/4, Error ellipse: s-maj=19.4km s-min=13.4km az=63.0*
ISC 29 01:09:47.5±1.0, 1.6N±0.1×97.4E±0.2, h33km, n12, σ0§74/11, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.96**	**42**	*ePn*	**Pn**	**01 11 02.3**	**+0.5**
WRA	**Warramunga Arr**	**42.10**	**122**	P	**P**	**01 17 38.1**	**-0.4**
	0.8nm,0.6s,mb3.5,baz=302,slow=9.1,SNR=5.5						
WRAB	**Tennant Creek**	**42.10**	**122**	*eP*	**P**	**01 17 38.8**	**+0.3**
	4.1nm,0.8s,mb4.1						
SONM	**Songino Array**	**46.76**	**8**	P	**P**	**01 18 15.6**	**+0.1**
	1.1nm,0.5s,mb4.1,baz=189,slow=9.7,SNR=15						
SONM				PcP	PcP	01 19 49.3	+0.4
	0.3nm,0.3s,baz=186,slow=4.2,SNR=4.9						
ULN	**Ulaanbaatar**	**46.89**	**9**	P	**P**	**01 18 14.8**	**-1.7**
	1.5nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**46.93**	**346**	P	**P**	**01 18 17.6**	**+0.7**
	1.5nm,0.4s,mb4.3,baz=160,slow=8.9,SNR=34						
MKAR				PcP	PcP	01 19 49.5	-0.1
	0.2nm,0.4s,baz=165,slow=4.9,SNR=3.7						
KURK	**Kurchatov**	**51.49**	**345**	*eP*	**P**	**01 18 51.7**	**-0.2**
	2.5nm,0.9s,mb4.1						
CHKZ	**Chkalovo**	**56.44**	**341**	*eP*	**P**	**01 19 27.4**	**-0.8**
	2.7nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**79.75**	**332**	P	**P**	**01 21 54.1**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=95,slow=4.5,SNR=9.3						
ARCES	**ARCESS Array B**	**82.25**	**340**	P	**P**	**01 22 07.6**	**+1.0**
	4.8nm,1.1s,mb4.4,baz=90,slow=6.1,SNR=6.4						
ARCES	**ARCESS Array B**	**82.25**	**340**	P	**P**	**01 22 07.6**	**+1.0**
CFAA	**Coronel Fontan**	**147.16**	**203**	PKPbc	PKPdf	01 29 30.4	+4.7
	0.3nm,0.5s,baz=169,slow=8.4,SNR=5.5						

*IDC **29** 01:17:26.8±0.9, 1.48N×97.07E, mb3.8/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.8/9, Error ellipse: s-maj=51.2km s-min=17.4km az=54.0*
*NEIC **29** 01:17:30.9±0.7, 1.46N×97.19E, h30km, mb4.3/3, Error ellipse: s-maj=32.4km s-min=12.6km az=56.0*
ISC 29 01:17:29.7±0.9, 1.5N±0.2×97.3E±0.2, h33km, n16, σ0§99/15, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENH	**Enshi**	**30.85**	**21**	P	**P**	**01 23 45.1**	**-0.2**
	4.8nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**01 25 20.9**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=305,slow=8.9,SNR=7.6						
WRAB	**Tennant Creek**	**42.16**	**122**	*eP*	**P**	**01 25 20.4**	**-0.8**
	12nm,1.4s,mb4.3						
ASAR	**Alice Springs**	**43.54**	**127**	P	**P**	**01 25 35.4**	**+2.9**
	0.2nm,0.5s,mb3.1,baz=297,slow=8.1,SNR=2.8						
SONM	**Songino Array**	**46.80**	**8**	P	**P**	**01 25 58.5**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=179,slow=8.1,SNR=7.3						
MKAR	**Makanchi Array**	**46.94**	**346**	P	**P**	**01 26 00.2**	**+1.0**
	1.0nm,0.6s,mb3.9,baz=162,slow=9.0,SNR=10.0						
MKAR	**Makanchi Array**	**46.94**	**346**	P	**P**	**01 26 00.2**	**+1.0**
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**01 26 50.5**	**+0.8**
	1.0nm,0.6s,mb3.9,baz=311,slow=8.3,SNR=4.5						
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**01 26 48.0**	**-1.7**
BVAR	**Borovoye Array**	**55.96**	**341**	P	**P**	**01 27 06.7**	**-0.4**
	0.7nm,0.7s,mb3.8,baz=135,slow=7.2,SNR=7.6						
CHKZ	**Chkalovo**	**56.44**	**341**	*eP*	**P**	**01 27 08.7**	**-1.8**
	1.9nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**01 28 33.7**	**0.0**
	0.4nm,0.6s,mb3.5,baz=141,slow=7.9,SNR=4.7						
FINES	**FINESS Array B**	**79.74**	**332**	P	**P**	**01 29 35.8**	**0.0**
	1.3nm,0.9s,mb3.8,baz=90,slow=5.7,SNR=7.0						
ARCES	**ARCESS Array B**	**82.25**	**340**	P	**P**	**01 29 49.7**	**+0.9**
	8.2nm,1.2s,mb4.5,baz=72,slow=7.7,SNR=5.5						
ARCES	**ARCESS Array B**	**82.25**	**340**	P	**P**	**01 29 49.7**	**+0.9**
CFAA	**Coronel Fontan**	**147.10**	**203**	PKPbc	PKPdf	01 37 11.0	+3.2
	0.3nm,0.6s,baz=281,slow=4.4,SNR=5.2						

IDC 29 01:17:35.9±2.5, 1.70N×96.90E, mb3.8/4, mb1 3.9/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=101.0km s-min=30.2km az=55.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.56**	**122**	P	P	01 25 33.7	-1.7
	0.6nm,0.8s,baz=302,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**46.69**	**346**	P	P	01 26 06.4	-1.8
	1.5nm,0.6s,baz=157,slow=8.1,SNR=12						
SONM	**Songino Array**	**46.69**	**9**	P	P	01 26 06.5	-1.7
	0.6nm,0.6s,baz=198,slow=9.1,SNR=7.8						
FINES	**FINESS Array B**	**79.42**	**333**	P	P	01 29 43.6	-1.7
	0.4nm,0.4s,baz=108,slow=6.0,SNR=3.7						

*IDC **29** 01:18:22.8±1.6, 1.44N×96.66E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7, Error ellipse: s-maj=77.7km s-min=19.9km az=55.0*
*NEIC **29** 01:18:26.1±0.7, 1.57N×96.83E, mb4.3/9, Error ellipse: s-maj=19.8km s-min=13.2km az=42.0*
ISC 29 01:18:24.0±0.7, 1.6N±0.1×96.84E±0.10, h22km, n18, σ1§16/17, mb4.1/15, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.28**	**46**	*eP*	**Pn**	**01 19 42.8**	**-0.9**
PALK	**Pallekele**	**17.04**	**290**	*eP*	**P**	**01 22 21.1**	**-1.8**
	20nm,0.6s						
ENH	**Enshi**	**30.94**	**22**	P	**P**	**01 24 39.9**	**-1.9**
	5.3nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**42.55**	**122**	P	**P**	**01 26 20.0**	**-0.2**
	1.5nm,0.8s,mb3.8,baz=300,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	**42.55**	**122**	P	**P**	**01 26 19.2**	**-1.0**
	4.6nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.92**	**127**	P	**P**	**01 26 31.8**	**+0.4**
	0.4nm,0.5s,mb3.4,baz=298,slow=7.5,SNR=4.1						
AAK	**Ala-Archa**	**45.49**	**337**	*eP*	**P**	**01 26 45.8**	**+2.2**
	1.8nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**46.77**	**346**	P	**P**	**01 26 55.4**	**+1.7**
	1.7nm,0.7s,mb4.1,baz=158,slow=7.6,SNR=7.6						
MKAR				PP	PP	01 28 43.0	-0.5
	0.5nm,0.6s,baz=158,slow=8.8,SNR=5.7						
SONM	**Songino Array**	**46.79**	**9**	P	**P**	**01 26 54.8**	**+1.0**
	1.2nm,0.7s,mb4.0,baz=192,slow=9.9,SNR=7.1						
SONM				pP	pP	01 27 01.4	+0.9
	1.4nm,0.8s,baz=189,slow=8.2,SNR=3.7						
SONM				PcP	PcP	01 28 30.7	+3.4
	0.4nm,0.7s,baz=207,slow=2.8,SNR=3.5						
ULN	**Ulaanbaatar**	**46.92**	**9**	*eP*	**P**	**01 26 58.0**	**+3.1**
	1.9nm,0.6s,mb4.2						
KURK	**Kurchatov**	**51.31**	**345**	*eP*	**P**	**01 27 28.6**	**-0.1**
	2.4nm,0.8s,mb4.2						
HIA	**Hailar**	**51.38**	**19**	P	**P**	**01 27 28.4**	**-0.8**
	4.8nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**53.89**	**132**	P	**P**	**01 27 49.3**	**+1.1**
	3.4nm,0.9s,mb4.3,baz=358,slow=8.3,SNR=4.3						
BVAR	**Borovoye Array**	**55.76**	**341**	P	**P**	**01 28 01.5**	**0.0**
	0.9nm,0.7s,mb3.9,baz=146,slow=10,SNR=4.2						
CHKZ	**Chkalovo**	**56.23**	**342**	*eP*	**P**	**01 28 04.8**	**-0.1**
	4.4nm,0.8s,mb4.5						
CHKZ				*ep*	pP	01 28 11.7	-0.1
MALT	**Malatya**	**64.60**	**312**	P	**P**	**01 29 01.8**	**-0.5**
	1.0nm,0.6s,mb4.0						
GERES	**GERESS Array B**	**84.28**	**319**	P	**P**	**01 30 55.5**	**0.0**
	0.4nm,0.8s,mb3.6,baz=90,slow=5.9,SNR=5.2						
TXAR	**Lajitas Array**	**143.51**	**31**	PKP	PKPdf	01 38 02.0	-0.1
	0.2nm,0.6s,baz=243,slow=2.0,SNR=3.5						

SKHL 29 01:18:40.6±0.1, 53.82N×125.61E, h10km, mb3.8/4, Priamurye-Northeastern China border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEA	**Zeya**	**0.98**	**94**	*ePg*	Pg	01 18 58.8	-1.4
ZEA				AMB	AMB	01 18 59.5	
	37nm,0.2s						
ZEA				*eSg*	Sg	01 19 12.0	-1.3
ZEA				A		01 19 12.6	
	250nm,0.2s						
ZEA				A		01 19 12.6	
	330nm,0.2s						
ZEA				A		01 19 12.6	
	75nm,0.2s						
KROS	**Kirovskiy**	**1.01**	**52**	*i* Pg	Pg	01 18 59.0	-1.8
KROS				AMB	AMB	01 18 59.8	
	20nm,0.4s						
KROS				AMB	AMB	01 18 59.8	
	26nm,0.4s						
KROS				AMB	AMB	01 18 59.8	
	30nm,0.4s						
KROS				*erx*	rx	01 19 03.0	
KROS				*i* Sg	Sg	01 19 12.5	-1.8
KROS				A		01 19 14.1	
	120nm,0.4s						
KROS				A		01 19 14.1	
	85nm,0.4s						
KROS				A		01 19 14.1	
	53nm,0.4s						
YASR	**Yasnyy**	**1.51**	**110**	*ePg*	Pg	01 19 08.1	-2.7
YASR				AMB	AMB	01 19 09.6	
	20nm,0.4s						
YASR				AMB	AMB	01 19 09.6	
	50nm,0.4s						
YASR				*i* Sg	Sg	01 19 28.1	-2.9
YASR				A		01 19 31.1	
	90nm,0.6s						
YASR				A		01 19 31.1	
	30nm,0.6s						
BMKR	**Bomnak**	**2.10**	**63**	*ePn*	Pn	01 19 16.5	+0.3
BMKR				*ePg*	Pg	01 19 18.7	-3.8
BMKR				AMB	AMB	01 19 19.3	
	8.0nm,0.5s						
BMKR				AMB	AMB	01 19 19.3	
	18nm,0.5s						
BMKR				*eSn*	Sn	01 19 41.8	-0.8
BMKR				*eSg*	Sg	01 19 46.5	-3.9
BMKR				A		01 19 47.8	
	75nm,0.4s						
BMKR				A		01 19 47.8	
	88nm,0.4s						
EKMR	**Ekimchan**	**4.45**	**97**	*erx*	rx	01 20 14.0	
EKMR				*eSg*	Sg	01 20 59.7	-9.2
EKMR				A		01 21 08.9	
	11nm,0.5s						

IDC 29 01:24:18.1±3.3, 0.21N×97.49E, mb3.7/4, mb1 3.8/4, mb1mx3.5/17, mbtmp3.7/4, Error ellipse: s-maj=129.4km s-min=28.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDI	**New Delhi**	**34.32**	**327**	*eP*	P	01 31 01.0	-7.6
WRA	**Warramunga Arr**	**41.27**	**121**	P	P	01 32 05.3	-1.7
	0.1nm,0.4s,baz=302,slow=9.1,SNR=5.3						
SONM	**Songino Array**	**48.06**	**8**	P	P	01 33 00.0	-1.2
	0.6nm,0.4s,baz=192,slow=9.0,SNR=6.8						
MKAR	**Makanchi Array**	**48.27**	**346**	P	P	01 33 00.3	-2.5
	0.9nm,0.4s,baz=163,slow=8.9,SNR=14						
BVAR	**Borovoye Array**	**57.27**	**341**	P	P	01 34 07.4	-2.5
	0.3nm,0.6s,baz=166,slow=5.9,SNR=2.6						

*NEIC **29** 01:25:27.9, 15.43N×94.75W, h16km, MD3.8(MEX), After MEX.*
MEX 29 01:25:27.9±1.3, 15.50N×94.74W, h20km±103km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.34**	**282**	*i* P	Pn	01 25 48.4	-3.4
HUIG				*i* S	Sb	01 26 03.5	-5.6
CMIG	**Matias Romero**	**1.59**	**355**	*i* P	Pn	01 25 51.7	-3.6
CMIG				*i* S	Sn	01 26 10.8	-4.6
OXX	**Oaxaca**	**2.47**	**310**	*i* P	Pn	01 26 04.0	-3.9
OXX				*i* S	Sn	01 26 27.0	-11
VHO	**Vista Hermosa**	**2.47**	**310**	*i* P	Pn	01 26 06.1	-1.9
VHO				*i* S	Sn	01 26 34.3	-3.5
CCIG	**Comitan**	**2.62**	**72**	*i* P	Pn	01 26 07.8	-2.3
CCIG				*i* S	Sn	01 26 36.4	-5.3

IDC 29 01:26:33.7±4.7, 1.98N×97.42E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=180.1km s-min=30.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.26**	**123**	P	P	01 34 29.1	-1.7
	0.5nm,0.4s,baz=302,slow=9.2,SNR=5.1						
SONM	**Songino Array**	**46.33**	**8**	P	P	01 35 01.6	-1.5
	0.4nm,0.9s,baz=191,slow=9.5,SNR=4.4						
MKAR	**Makanchi Array**	**46.54**	**346**	P	P	01 35 02.8	-2.1
	0.3nm,0.4s,baz=161,slow=9.0,SNR=4.5						

*IDC **29** 01:26:58.0±2.0, 2.27N×96.21E, h24km±6km, mb3.8/7, mb1 3.9/7, mb1mx3.6/18, mbtmp3.9/7, Error ellipse: s-maj=86.1km s-min=17.3km az=58.0*
*NEIC **29** 01:26:59.0±0.7, 2.47N×96.52E, mb4.4/5, Error ellipse: s-maj=20.8km s-min=9.1km az=57.0*
ISC 29 01:26:57.0±0.9, 2.5N±0.1×96.5E±0.2, h25km, h25km±.3km:pP-P, n15, σ0§73/15, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.99**	**56**	P	**Pn**	**01 28 11.9**	**-0.5**
LSA	**Lhasa**	**27.55**	**350**	P	**P**	**01 32 44.2**	**+0.1**
	3.8nm,0.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**35.24**	**127**	P	**P**	**01 33 51.6**	**-0.3**
	4.2nm,0.7s,mb4.5,baz=238,slow=1.8,SNR=7.2						
WRA	**Warramunga Arr**	**43.30**	**123**	P	**P**	**01 34 59.1**	**+0.2**
	0.7nm,0.5s,mb3.6,baz=300,slow=9.2,SNR=3.9						
WRAB	**Tennant Creek**	**43.31**	**123**	P	**P**	**01 34 59.6**	**+0.6**
	1.5nm,0.3s,mb4.2						
ASAR	**Alice Springs**	**44.72**	**128**	P	**P**	**01 35 10.4**	**+0.1**
	0.8nm,0.6s,mb3.7,baz=300,slow=8.0,SNR=7.7						
MKAR	**Makanchi Array**	**45.84**	**346**	P	**P**	**01 35 19.4**	**+0.5**
	1.4nm,0.4s,mb4.2,baz=162,slow=7.4,SNR=15						
MKAR				pP	pP	01 35 26.9	+0.4
	3.0nm,0.6s,baz=158,slow=8.8,SNR=13						
MKAR	**Makanchi Array**	**45.84**	**346**	P	**P**	**01 35 19.4**	**+0.4**
MKAR				pP	pP	01 35 26.9	+0.4
SONM	**Songino Array**	**45.98**	**9**	P	**P**	**01 35 21.1**	**+1.0**
	1.3nm,0.7s,mb4.0,baz=188,slow=9.2,SNR=8.8						
SONM				pP	pP	01 35 28.9	+1.3
	0.5nm,0.7s,baz=189,slow=8.9,SNR=3.5						
KURK	**Kurchatov**	**50.39**	**345**	P	**P**	**01 35 55.0**	**+0.8**
	3.1nm,1.0s,mb4.3						
CTAO	**Charters Tower**	**53.70**	**117**	P	**P**	**01 36 20.2**	**+0.7**
	8.9nm,1.1s,mb4.6						
STKA	**Stephens Creek**	**54.73**	**132**	P	**P**	**01 36 26.6**	**-0.4**
	1.2nm,0.7s,mb4.6,baz=308,slow=7.3,SNR=3.7						
STKA	**Stephens Creek**	**54.73**	**132**	*eP*	**P**	**01 36 25.0**	**-1.9**
BVAR	**Borovoye Array**	**54.82**	**341**	P	**P**	**01 36 26.5**	**-0.9**
	0.8nm,0.7s,mb3.9,baz=158,slow=8.0,SNR=5.2						
BVAR				pP	pP	01 36 33.9	-1.1
	1.0nm,0.6s,baz=143,slow=7.4,SNR=6.3						
CHKZ	**Chkalovo**	**55.30**	**342**	*eP*	**P**	**01 36 29.7**	**-1.2**
	2.8nm,0.7s,mb4.4						
CHKZ				*e*	pP	01 36 37.5	-1.1

*BJI **29** 01:30:02.8, 2.00N×96.61E, h29km, mB4.9, mb4.7, Ms5.0, Msz4.7*
*MOS **29** 01:30:04.7±1.2, 2.25N×96.57E, h33km, mb4.9/12, Error ellipse: s-maj=24.8km s-min=10.6km az=114.4*
*NEIC **29** 01:30:05.8±0.4, 2.12N×96.43E, h30km, mb4.7/16, Error ellipse: s-maj=12.0km s-min=6.4km az=223.0*
*IDC **29** 01:30:05.5±0.6, 2.19N×96.55E, h24km±3km, mb3.9/13, mb1 4.0/13, mb1mx4.0/17, mbtmp4.0/13, MS4.4/1, Ms1 4.4/1, ms1mx3.6/19, Error ellipse: s-maj=27.6km s-min=11.8km az=48.0*
ISC 29 01:30:03.3±0.5, 2.12N±0.07×96.43E±0.07, h26km, h26km±1.8km:pP-P, n70, σ1§12/65, mb4.4/34, MS4.6/5, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.26**	**53**	*eP*	**Pn**	**01 31 22.7**	**+0.4**
KSM	**Kuching**	**13.88**	**92**	*eP*	**P**	**01 33 21.7**	**+0.7**
CM31	**Chiang Mai Arr**	**16.42**	**8**	P	**P**	**01 33 55.6**	**+1.8**
	6.8nm,0.4s						
CHG	**Chiang Mai**	**16.77**	**8**	P	**P**	**01 34 05.1**	**+6.8**
KKM	**Kota Kinabalu**	**20.11**	**78**	*eP*	**P**	**01 34 38.6**	**+0.4**
HYB	**Hyderabad**	**23.23**	**312**	*eP*	**P**	**01 35 16.0**	**+6.3**
HYB	**Hyderabad**	**23.23**	**312**	*iP*	**P**	**01 35 16.0**	**+6.3**
KMI	**Kunming**	**23.67**	**14**	P	**P**	**01 35 16.0**	**+2.2**
KMI				AP		01 35 25.0	
KMI				XP		01 35 27.8	
KMI				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,187nm,4.2s						
KMI				LR	LR		
	comp=N,1μm,14.6s,MS4.8						
KMI				LR	LR		
	comp=E,2μm,15.0s,MS4.8						
KMI				LR	LR		
	comp=Z,1μm,13.8s,MS4.6						
GYA	**Guiyang**	**26.12**	**21**⇑	*iP*	**P**	**01 35 36.3**	**-0.9**
GYA				AP	pP	01 35 45.8	+1.0
GYA				XP	sP	01 35 49.5	+1.2
GYA				PP	PP	01 36 20.3

WMQ					AMB	AMB			
	comp=Z,7.0nm,0.7s,mb4.4								
WMQ					AMB	AMB			
	comp=Z,74nm,3.5s								
WMQ					LR	LR			
	comp=N,479nm,17.8s,MS4.5								
WMQ					LR	LR			
	comp=E,440nm,19.2s,MS4.5								
WMQ					LR	LR			
	comp=Z,386nm,22.0s,MS4.2								
WRA	**Warramunga Arr**	**43.17**	**122**		P	**P**	**01 38 03.9**	**-0.1**	
WRA					*PP	pP	01 38 12.3	+0.5	
WRA	**Warramunga Arr**	**43.17**	**122**		P	**P**	**01 38 03.8**	**-0.1**	
	comp=Z,1.8nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=13								
WRA					pP	pP	01 38 12.3	+0.4	
	comp=Z,4.2nm,0.8s,baz=300,slow=9.2,SNR=10.0								
WRAB	**Tennant Creek**	**43.17**	**122**	*e*P		**P**	**01 38 03.9**	**-0.1**	
WRAB					pmax	pmax			
	comp=Z,14nm,1.4s,mb4.5								
WRAB	**Tennant Creek**	**43.17**	**122**	*e*P		**P**	**01 38 03.9**	**-0.2**	
	comp=Z,14nm,1.4s,mb4.5								
WB2	**Warramunga Arr**	**43.18**	**122**	*e*P		**P**	**01 38 04.5**	**+0.4**	
ASAR	**Alice Springs**	**44.56**	**127**	P		**P**	**01 38 15.4**	**+0.2**	
	comp=Z,0.9nm,0.6s,mb3.8,baz=299,slow=7.9,SNR=12								
AAK	**Ala-Archa**	**44.86**	**337**	*e*P		**P**	**01 38 18.8**	**+1.4**	
AAK					pmax	pmax			
	comp=Z,13nm,1.3s,mb4.6								
AAK	**Ala-Archa**	**44.86**	**337**	*e*P		**P**	**01 38 18.8**	**+1.4**	
	comp=Z,13nm,1.3s,mb4.6								
FRU	**Bishkek**	**44.98**	**337**	*e*P		**P**	**01 38 26.5**	**+8.1**	
MKAR	**Makanchi Array**	**46.17**	**347**	*i* P		**P**	**01 38 27.3**	**-0.4**	
MKAR					pmax	pmax			
	comp=Z,12nm,1.0s								
MKAR	**Makanchi Array**	**46.17**	**347**	P		**P**	**01 38 27.4**	**-0.3**	
	comp=Z,4.7nm,0.8s,mb4.5,baz=160,slow=8.3,SNR=35								
MKAR	**Makanchi Array**	**46.17**	**347**	P		**P**	**01 38 27.4**	**-0.3**	
SONM	**Songino Array**	**46.35**	**9**	P		**P**	**01 38 28.9**	**-0.2**	
	comp=Z,1.1nm,0.7s,mb3.9,baz=190,slow=8.9,SNR=11								
SONM					pP	pP	01 38 37.5	+0.5	
	comp=Z,2.0nm,0.6s,baz=190,slow=8.7,SNR=9.3								
SONM					PcP	PcP	01 40 04.1	-0.3	
	comp=Z,1.1nm,0.8s,baz=180,slow=3.8,SNR=2.5								
SONM					PP	PP	01 40 16.2	-1.7	
	comp=Z,0.9nm,0.8s,baz=181,slow=3.7,SNR=4.1								
ZAK	**Zakamensk**	**48.44**	**6**	*e*P		**P**	**01 38 52.4**	**+7.0**	
ZAK					pmax	pmax			
	comp=Z,3.0nm,1.6s,mb4.1								
CN2	**Changchun**	**48.84**	**28**	*e*P		**P**	**01 38 50.5**	**+1.8**	
KURK	**Kurchatov**	**50.72**	**345**	*i* P		**P**	**01 39 02.0**	**-0.9**	
KURK					pmax	pmax			
	comp=Z,15nm,1.7s,mb4.7								
KURK	**Kurchatov**	**50.72**	**345**	*e*P		**P**	**01 39 02.1**	**-0.8**	
	comp=Z,9.9nm,1.1s,mb4.7								
NVS	**Novosibirsk**	**53.65**	**351**	*e*P		**P**	**01 39 23.1**	**-1.7**	
STKA	**Stephens Creek**	**54.54**	**132**	P		**P**	**01 39 31.3**	**-0.4**	
	comp=Z,1.8nm,0.6s,mb4.2,baz=304,slow=4.8,SNR=3.7								
BVAR	**Borovoye Array**	**55.14**	**341**	P		**P**	**01 39 34.6**	**-1.2**	
	comp=Z,2.6nm,0.8s,mb4.3,baz=117,slow=6.6,SNR=13								
BVAR					pP	pP	01 39 42.5	-1.3	
	comp=Z,2.1nm,0.7s,baz=153,slow=9.9,SNR=6.8								
CHKZ	**Chkalovo**	**55.62**	**342**	*e*P		**P**	**01 39 38.1**	**-1.1**	
CHKZ					pmax	pmax			
	comp=Z,8.0nm,0.7s,mb4.9								
CHKZ	**Chkalovo**	**55.62**	**342**	*e*P		**P**	**01 39 38.1**	**-1.1**	
	comp=Z,8.2nm,0.7s,mb4.9								
BOD	**Bodaibo**	**57.26**	**11**	*e*P		**P**	**01 39 49.3**	**-1.6**	
BOD					pmax	pmax			
	comp=Z,7.0nm,2.0s,mb4.3								
KMBO	**Kilima Mbogo**	**59.26**	**267**	P		**P**	**01 40 06.3**	**+0.8**	
KMBO					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KMBO	**Kilima Mbogo**	**59.26**	**267**	P		**P**	**01 40 07.0**	**+1.5**	
	comp=Z,0.5nm,0.6s,mb3.7,baz=49,slow=22,SNR=3.1								
KMBO					pP	pP	01 40 14.5	+0.8	
	comp=Z,1.1nm,0.7s,baz=52,slow=13,SNR=3.5								
KMBO	**Kilima Mbogo**	**59.26**	**267**	P		**P**	**01 40 06.3**	**+0.8**	
	comp=Z,3.8nm,1.1s,mb4.3								
SVE	**Sverdlovsk**	**61.56**	**339**	*e*P		**P**	**01 40 27.3**	**+6.7**	
ARU	**Arti**	**62.05**	**337**	P		**P**	**01 40 22.5**	**-1.4**	
ARU					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
ARU	**Arti**	**62.05**	**337**	P		**P**	**01 40 22.4**	**-1.4**	
	comp=Z,9.6nm,1.0s,mb4.9								
KIV	**Kislovodsk**	**63.12**	**319**	*e*P		**P**	**01 40 38.4**	**+7.3**	
KIV					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.9								
BRTR	**Keskin Array B**	**67.93**	**312**	P		**P**	**01 41 04.2**	**+2.0**	
	comp=Z,0.8nm,0.7s,mb3.9,baz=112,slow=7.8,SNR=5.1								
FINES	**FINESS Array B**	**78.84**	**333**	P		**P**	**01 42 08.2**	**+2.7**	
	comp=Z,0.3nm,0.4s,mb3.6,baz=208,slow=32,SNR=3.5								
FINES					pP	pP	01 42 13.2	-0.6	
	comp=Z,0.5nm,0.5s,baz=90,slow=9.5,SNR=2.0								
SYO	**Syowa Base**	**80.64**	**198**	⇑sP		sP	01 42 30.0	+3.9	
SYO	**Syowa Base**	**80.64**	**198**	⇓P		sP	01 42 34.9	+8.8	
ARCES	**ARCESS Array B**	**81.42**	**340**	P		**P**	**01 42 20.6**	**+1.5**	
	comp=Z,5.0nm,1.0s,mb4.4,baz=76,slow=7.4,SNR=2.6								
GERES	**GERESS Array B**	**83.62**	**319**	P		**P**	**01 42 32.0**	**+1.1**	
	comp=Z,0.6nm,0.8s,mb3.8,baz=104,slow=5.5,SNR=7.2								
GERES					pP	pP	01 42 38.7	-0.6	
	comp=Z,1.5nm,1.0s,baz=90,slow=4.0,SNR=6.6								
CLL	**Collm**	**84.24**	**321**	*e*P		pP	01 42 44.0	+1.6	
CLL	**Collm**	**84.24**	**321**	*e**PP		pP	01 42 44.0	+1.6	
NOA	**NORSAR Array B**	**85.84**	**331**	P		**P**	**01 42 41.7**	**0.0**	
	comp=Z,0.6nm,0.8s,mb3.9,baz=38,slow=13,SNR=2.7								
TXAR	**Lajitas Array**	**143.28**	**30**	pPKP			01 49 44.2		
	comp=Z,0.4nm,0.9s,baz=281,slow=4.6,SNR=3.1								

*BJI **29** 01:32:12.1, 1.04N× 99.13E, h30km, mB5.1, mb4.7, Ms5.0, Msz4.9*
*IDC **29** 01:32:13.7± 0.5, 1.79N× 99.22E, mb4.2/17, mb1 4.4/17, mb1mx4.3/21, mbtmp4.2/17, MS4.5/5, Ms1 4.5/5, ms1mx4.1/19, Error ellipse: s-maj=25.3km s-min=14.0km az=53.0*
*NEIC **29** 01:32:18.3± 0.3, 1.66N× 99.15E, h30km, mb4.7/14, Error ellipse: s-maj=10.7km s-min=7.2km az=48.0*
ISC 29 01:32:17.9±1.6, 1.69N±0.06× 99.21E±0.09, h40km±14km, h31km±.7km: pP-P, n53, σ1§14/50, mb4.5/32, MS4.6/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.40**	**32**	P	**P**	**01 33 10.3**	**+0.5**
KULM	**Kulim**	**3.85**	**22**	*e*Pn	**P**	**01 33 15.8**	**-0.5**
KGM	**Kluang**	**4.12**	**85**	P	**P**	**01 33 18.7**	**-1.4**
KSM	**Kuching**	**11.10**	**91**	P	**P**	**01 34 57.6**	**+0.5**
NST	**Nakhon Sawan**	**13.92**	**4**	P	**P**	**01 35 42.1**	**+7.2**
CM31	**Chiang Mai Arr**	**16.67**	**359**	*e*P	**P**	**01 36 12.7**	**+2.4**
KKM	**Kota Kinabalu**	**17.51**	**75**	P	**P**	**01 36 22.4**	**+1.5**
KMI	**Kunming**	**23.55**	**8**	P	**P**	**01 37 28.5**	**+2.8**
KMI				AMB	AMB		
	comp=Z,12nm,0.5s,mb4.6						
HYB	**Hyderabad**	**25.62**	**309**	*e*P	**P**	**01 37 47.0**	**+1.3**
HYB	**Hyderabad**	**25.62**	**309**	*i* P	**P**	**01 37 47.0**	**+1.3**
ENH	**Enshi**	**30.05**	**18**	P	**P**	**01 38 25.1**	**-0.6**
	comp=Z,5.3nm,0.4s,mb4.6						
NDI	**New Delhi**	**34.07**	**324**	*e*P	**P**	**01 39 01.0**	**+0.2**
MUN	**Mundaring**	**37.16**	**156**	*e*P	**P**	**01 39 27.0**	**0.0**
	comp=Z,11nm,0.9s,mb4.7						
KLBR	**Kellerberrin**	**37.49**	**154**	*e*P	**P**	**01 39 32.4**	**+2.6**
	comp=Z,134nm,1.0s						
GTA	**Gaotai**	**37.55**	**1**	*e*P	**P**	**01 39 29.5**	**-0.7**
GTA				AP	pP	01 39 38.8	-2.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.3						
NWAO	**Narrogin (SRO)**	**38.41**	**155**	P	**P**	**01 39 37.6**	**+0.2**
	comp=Z,10nm,0.8s,baz=323,slow=12,SNR=7.2						
NWAO				LR	LR	01 54 45.5	
	comp=Z,4.7nm,18.5s,baz=125,slow=35						
HHC	**Hu-ho-hao-te**	**40.55**	**14**	*e*P	**P**	**01 39 56.3**	**+1.1**
HHC				AP	pP	01 40 06.0	-0.4
HHC				XP	sP	01 40 10.3	-1.1
HHC				PP	PP	01 41 32.3	+0.2
HHC				PCP	PcP	01 41 55.0	-2.6
HHC				SCP		01 45 42.0	
HHC				PCS		01 45 45.8	
HHC				S	**S**	**01 46 07.0**	**+5.6**
HHC				XS		01 46 22.5	
HHC				SS	SS	01 49 07.8	+11
HHC				SCS	ScS	01 49 57.8	+2.5
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				LR	LR		
	comp=N,855nm,15.3s,MS4.9						
HHC				LR	LR		
	comp=E,905nm,14.9s,MS4.9						
HHC				LR	LR		
	comp=Z,1μm,12.2s,MS5.0						
WRA	**Warramunga Arr**	**40.61**	**124**	P	**P**	**01 39 54.5**	**-1.3**
	comp=Z,4.7nm,0.7s,mb4.2,baz=302,slow=9.0,SNR=5.1						
WRA				PcP	PcP	01 41 56.8	-1.1
	comp=Z,1.3nm,0.8s,baz=313,slow=2.5,SNR=5.4						
WRAB	**Tennant Creek**	**40.62**	**124**	*e*P	**P**	**01 39 53.7**	**-2.2**
	comp=Z,8.2nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**42.11**	**129**	P	**P**	**01 40 08.9**	**+0.6**
	comp=Z,2.4nm,0.8s,mb3.9,baz=307,slow=6.6,SNR=5.9						
ASAR				PcP	PcP	01 42 03.2	+0.3
	comp=Z,2.3nm,0.7s,baz=314,slow=2.9,SNR=9.1						
FORT	**Forrest**	**42.39**	**142**	*e*P	**P**	**01 40 11.6**	**+1.2**
	comp=Z,369nm,0.5s						
WMQ	**Urumqi**	**43.18**	**348**	P	**P**	**01 40 17.8**	**+1.0**
WMQ				AP	pP	01 40 27.0	-1.1
WMQ				XP	sP	01 40 31.0	-2.0
WMQ				PP	PP	01 42 00.0	+0.6
WMQ				*e*S	**S**	**01 46 42.0**	**+1.8**
WMQ				XS		01 46 59.0	
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,102nm,3.6s						
WMQ				LR	LR		
	comp=N,496nm,18.2s,MS4.6						
WMQ				LR	LR		
	comp=E,523nm,19.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,418nm,23.0s,MS4.3						
AAK	**Ala-Archa**	**46.38**	**335**	*e*P	**P**	**01 40 42.6**	**+0.2**
	comp=Z,8.5nm,1.0s,mb4.6						
SONM	**Songino Array**	**46.38**	**7**	P	**P**	**01 40 41.9**	**-0.4**
	comp=Z,3.3nm,1.0s,mb4.2,baz=194,slow=8.1,SNR=4.2						
SONM				PcP	PcP	01 42 16.7	-0.6
	comp=Z,3.9nm,0.9s,baz=195,slow=3.4,SNR=6.8						
SONM				LR	LR	02 00 21.3	
	comp=Z,750nm,19.1s,MS4.7,baz=65,slow=36						
MKAR	**Makanchi Array**	**47.29**	**344**	P	**P**	**01 40 48.9**	**-0.5**
	comp=Z,4.0nm,0.7s,mb4.5,baz=159,slow=6.7,SNR=12						
CTAO	**Charters Tower**	**50.94**	**118**	P	**P**	**01 41 15.7**	**-2.2**
	comp=Z,9.4nm,1.0s,mb4.7						
KURK	**Kurchatov**	**51.87**	**343**	*e*P	**P**	**01 41 23.8**	**-0.7**
	comp=Z,8.1nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**52.21**	**133**	P	**P**	**01 41 28.3**	**+1.0**
	comp=Z,4.5nm,0.7s,mb4.5,baz=302,slow=9.0,SNR=6.7						
STKA				LR	LR	02 06 20.1	
	comp=Z,456nm,19.4s,MS4.5,baz=100,slow=39						
BVAR	**Borovoye Array**	**56.47**	**340**	P	**P**	**01 41 56.5**	**-1.7**
	comp=Z,2.1nm,0.7s,mb4.3,baz=142,slow=9.5,SNR=7.8						
CHKZ	**Chkalovo**	**56.93**	**340**	*e*P	**P**	**01 41 59.5**	**-1.9**
	comp=Z,5.2nm,0.6s,mb4.7						
KMBO	**Kilima Mbogo**	**62.01**	**268**	P	**P**	**01 42 37.5**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=64,slow=14,SNR=2.1						
KMBO	**Kilima Mbogo**	**62.01**	**268**	P	**P**	**01 42 37.5**	**+0.5**
ARU	**Arti**	**63.53**	**336**	*e*P	**P**	**01 42 45.6**	**-0.9**
	comp=Z,3.9nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**65.26**	**318**	*e*P	**P**	**01 42 55.4**	**-2.5**
	comp=Z,7.8nm,0.7s,mb4.8						
ASF	**Jabal al Asfar**	**65.83**	**305**	P	**P**	**01 43 02.0**	**+0.2**
	comp=Z,3.6nm,1.2s,mb4.3,baz=340,slow=3.5,SNR=3.5						
MALT	**Malatya**	**66.30**	**311**	*e*P	**P**	**01 43 04.0**	**-0.7**
	comp=Z,4.2nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**70.28**	**312**	P	**P**	**01 43 28.4**	**-1.0**
	comp=Z,2.4nm,0.7s,mb4.2,baz=143,slow=6.9,SNR=8.7						
LBTB	**Lobatse**	**75.90**	**244**	P	**P**	**01 44 03.2**	**+0.5**
	comp=Z,3.8nm,0.8s,mb4.4,baz=246,slow=4.2,SNR=5.5						
LBTB	**Lobatse**	**75.90**	**244**	P	**P**	**01 44 03.2**	**+0.5**
AKASG	**Malin Array Be**	**76.10**	**322**	P	**P**	**01 44 02.2**	**-1.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=86,slow=5.6,SNR=4.8						
BOSA	**Boshof**	**76.76**	**240**	P	**P**	**01 44 08.2**	**+0.6**
	comp=Z,2.5nm,0.7s,mb4.2,baz=91,slow=6.1,SNR=4.9						
MLR	**Muntele Rosu**	**77.10**	**316**	P	**P**	**01 44 08.7**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=225,slow=12,SNR=4.4						
MLR				LR	LR	02 20 02.8	
	comp=Z,144nm,21.3s,MS4.3,baz=195,slow=37						
RPZ	**Rata Peaks**	**78.13**	**135**	LR	LR	02 18 47.4	
	comp=Z,423nm,18.6s,MS4.8,baz=203,slow=36						
FX1	**Attu Island--F**	**79.00**	**36**	LR	LR	02 22 54.0	
	comp=Z,8.3nm,19.6s,baz=220,slow=38						
SUW	**Suwalki**	**80.44**	**324**	P	**P**	**01 44 28.0**	**+0.9**
	comp=Z,21nm,0.9s,mb5.1						
FINES	**FINESS Array B**	**80.50**	**332**	P	**P**	**01 44 27.0**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=92,slow=6.7,SNR=7.8						
ARCES	**ARCESS Array B**	**82.76**	**340**	P	**P**	**01 44 39.0**	**+0.2**
	comp=Z,4.4nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=5.9						
ARCES				LR	LR	02 24 39.7	
	comp=Z,385nm,20.9s,MS4.8,baz=63,slow=38						
NB2	**NORSAR Subarra**	**87.56**	**331**	P	**P**	**01 45 03.0**	**+0.2**
	comp=Z,9.5nm,1.7s,mb4.8,baz=93,slow=4.8						
NOA	**NORSAR Array B**	**87.56**	**331**	P	**P**	**01 45 03.1**	**+0.3**
	comp=Z,0.9nm,0.9s,mb4.0,baz=95,slow=4.7,SNR=3.4						
LPG	**La Plagne**	**90.53**	**315**	*e*P	**P**	**01 45 18.0**	**+0.8**
	comp=Z,13nm,1.0s,mb4.9						
SCHQ	**Schefferville**	**122.50**	**350**	PKP	PKPdf	01 51 10.1	+0.8
	comp=Z,1.3nm,0.7s,baz=358,slow=3.0,SNR=5.0						
SCHQ	**Schefferville**	**122.50**	**350**	PKP	PKPdf	01 51 10.1	+0.8
BDFB	**Brasilia**	**144.84**	**245**	PKP	PKPdf	01 51 53.1	+1.4
	comp=Z,4.9nm,0.7s,baz=172,slow=3.6,SNR=9.6						

*STR **29** 01:34:09.0± 0.2, 42.61N× 0.83E, h5km± 1km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 01:34:09.0± 0.1, 42.60N× 0.82E, h11km, Md2.5/1, Ml2.3/7, Error ellipse: s-maj=1.6km s-min=0.7km az=169.0*
*CSEM **29** 01:34:09.3± 0.1, 42.62N× 0.82E, h10km, ML2.4/7, Error ellipse: s-maj=1.1km s-min=0.9km az=172.0*
MDD 29 01:34:09.5±0.2, 42.61N×0.83E, mbLg1.9/9, 1C, Error ellipse: s-maj=2.4km s-min=1.4km az=2.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MELF	**Melles**	**0.27**	**350**	Pg	Pg	01 34 14.9	-0.1
MELF				Sg	Sg	01 34 18.8	+0.2
MELF	**Melles**	**0.27**	**350**	Pg	Pg	01 34 15.0	0.0
MELF				Lg		01 34 18.8	
SALF	**Salau**	**0.31**	**60**	Pg	Pg	01 34 15.4	-0.3
SALF				Sg	Sg	01 34 19.3	-0.5
SALF	**Salau**	**0.31**	**60**	Pg	Pg	01 34 15.4	-0.3
SALF				Lg		01 34 19.4	
MLS	**Moulis**	**0.41**	**29**	Pg	Pg	01 34 17.1	-0.5
MLS				Sg	Sg	01 34 22.6	-0.4
MLS	**Moulis**	**0.41**	**29**	Pg	Pg	01 34 17.2	-0.4
MLS				Lg		01 34 22.1	
RESF	**Ens**	**0.41**	**300**	Pg	Pg	01 34 17.3	-0.5
RESF				Sg	Sg	01 34 23.1	-0.2
RESF	**Ens**	**0.41**	**300**	Pg	Pg	01 34 17.4	-0.4
RESF				Lg		01 34 22.8	
EBIE	**Bielsa**	**0.51**	**279**	⇑Pg	Pg	01 34 18.9	-0.8
	2.9nm,0.2s,SNR=18						
EBIE				Lg		01 34 25.8	
	9.9nm,0.1s,SNR=42						
EBIE	**Bielsa**	**0.51**	**279**	Pg	Pg	01 34 18.9	-0.8
	2.9nm,0.2s,SNR=18						
PAND	**Andorre**	**0.54**	**99**	Pg	Pg	01 34 19.2	-1.1
PAND				Lg		01 34 25.7	
EPF	**Esparros**	**0.56**	**320**	*e*Pg	Pg	01 34 19.7	-0.9
EPF				*e*Sg	Sg	01 34 27.2	-0.9
	13nm,0.2s						
GRBF	**Gourbit**	**0.57**	**65**	Pg	Pg	01 34 20.2	-0.8
GRBF				Lg		01 34 27.5	
VIEF	**Viey**	**0.65**	**296**	Pg	Pg	01 34 21.4	-1.2
VIEF				Sg	Sg	01 34 30.3	-1.0
VIEF	**Viey**	**0.65**	**296**	Pg	Pg	01 34 21.5	-1.1
VIEF				Lg		01 34 29.9	
LABF	**Labassere**	**0.71**	**309**	Pg	Pg	01 34 22.8	-0.9
LABF				Lg		01 34 32.3	
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	01 34 25.7	-1.1
	1.9nm,0.1s,SNR=11						
EMIR				Lg		01 34 37.8	
	3.5nm,0.1s,SNR=9.0						
EMIR	**Miracle**	**0.86**	**143**	Pg	Pg	01 34 25.7	-1.1
	1.9nm,0.1s,SNR=11						
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	01 34 27.1	-1.4
CARF				Lg		01 34 39.5	
REYF	**Montagne du Re**	**1.01**	**298**	Lg		01 34 41.4	
ETSF	**Etsaut**	**1.06**	**287**	*e*Pg	Pg	01 34 28.8	-1.9
ETSF				*e*Sg	Sg	01 34 42.9	-2.0
	15nm,0.2s						
ATE	**Arette**	**1.22**	**294**	Lg		01 34 47.7	
MTLF	**Montolieu**	**1.26**	**54**	*e*Pn	Pn	01 34 31.2	-3.1
MTLF				*e*Pg	Pg	01 34 32.7	-2.0
MTLF				*e*Sg	Sg	01 34 48.9	-2.5
	8.9nm,0.3s						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	01 34 33.0	-1.8
	0.8nm,0.1s,SNR=7.9						
EPOB				Lg		01 34 50.2	
	5.3nm,0.1s,SNR=6.9						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	01 34 33.0	-1.8
	0.8nm,0.1s,SNR=7.9						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	01 34 34.0	-1.6
	3.1nm,0.1s,SNR=8.3						
ESAC				Lg		01 34 51.9	
	55nm,0.2s,SNR=5.0						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	01 34 34.6	-1.0
	3.1nm,0.1s,SNR=8.3						
LARF	**Larrau**	**1.40**	**289**	Lg		01 34 54.8	
SJAF	**Saint Jean de**	**1.52**	**94**	Lg		01 34 54.4	
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	01 34 38.3	-1.8
	1.3nm,0.1s,SNR=10.0						
EJON				Lg		01 34 54.8	
	2.8nm,0.1s,SNR=6.0						
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	01 34 38.3	-1.8
	1.3nm,0.1s,SNR=10.0						
SJPF	**Ste Jean**	**1.59**	**289**	*e*Pg	Pg	01 34 38.6	-2.7
SJPF				*e*Sg	Sg	01 34 59.2	-3.3
	12nm,0.3s						
EALK	**Alkurruntz**	**1.82**	**291**	Pg	Pg	01 34 43.1	-2.8
	1.3nm,0.2s,SNR=7.9						
EALK				Lg		01 35 07.6	
	8.2nm,0.3s,SNR=9.8						
EALK	**Alkurruntz**	**1.82**	**291**	Pg	Pg	01 34 44.1	-1.8
	1.3nm,0.2s,SNR=7.9						
LFF	**La Frestale**	**2.33**	**358**	*e*Pg	Pg	01 34 52.1	-4.0
LFF				*e*Sg	Sg	01 35 22.8	-4.5
	4.0nm,0.4s						
EMOS	**Mosqueruela**	**2.44**	**204**	Pg	Pg	01 34 54.0	-4.3
	4.7nm,0.4s,SNR=7.9						
EMOS				Lg		01 35 25.2	
	1.3nm,0.2s,SNR=4.0						
CAF	**Calviac**	**2.49**	**21**	*e*Pn	Pn	01 34 47.7	-4.2
CAF				*e*Pg	Pg	01 34 55.2	-4.0
CAF				*e*Sn	Sn	01 35 16.6	-6.8
CAF				*e*Sg	Sg	01 35 27.6	-4.8
	2.1nm,0.2s						
LASF	**Ste Croix**	**2.66**	**55**	*e*Sg	Sg	01 35 32.8	-5.1
	1.0nm,0.2s						
RJF	**Les Rejaudoux**	**2.75**	**10**	*e*Pg	Pg	01 34 59.9	-4.4
RJF				*e*Sn	Sn	01 35 22.2	-7.8
RJF				*e*Sg	Sg	01 35 34.9	-6.0
	2.2nm,0.3s						

*IDC **29** 01:36:59.7± 1.4, 2.66N× 98.57E, mb3.7/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, Error ellipse: s-maj=60.0km s-min=25.5km az=48.0*
*NEIC **29** 01:37:04.3± 0.8, 2.69N× 98.68E, h30km, mb4.4/5, Error ellipse: s-maj=20.4km s-min=14.1km az=50.0*
ISC 29 01:37:02.8±0.9, 2.7N±0.1× 98.6E±0.1, h33km, n12, σ0§99/12, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.27**	**38**	Pn	**Pn**	**01 37 54.0**	**+0.8**
ENH	**Enshi**	**29.29**	**19**	P	**P**	**01 43 02.5**	**-2.0**
	3.9nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**41.65**	**124**	P	**P**	**01 44 50.3**	**+0.2**
	2.8nm,0.9s,mb3.9,baz=303,slow=9.0,SNR=9.0						
WRAB	**Tennant Creek**	**41.65**	**124**	P	**P**	**01 44 50.0**	**-0.2**
	12nm,1.1s,mb4.4						
AAK	**Ala-Archa**	**45.23**	**335**	P	**P**	**01 45 21.4**	**+2.5**
	0.6nm,0.4s,mb3.8						
SONM	**Songino Array**	**45.46**	**7**	P	**P**	**01 45 21.0**	**+0.4**
	0.3nm,0.8s,mb3.2,baz=207,slow=3.2,SNR=3.0						
MKAR	**Makanchi Array**	**46.17**	**344**	P	**P**	**01 45 26.1**	**-0.2**
	0.9nm,0.7s,mb3.8,baz=153,slow=8.1,SNR=4.3						
CTA	**Charters Tower**	**51.91**	**118**	*e*P	**P**	**01 46 15.2**	**+4.4**
	2.6nm,0.3s,mb4.6						

FINES	FINESS Array B	136.50	345	PKP	PKPdf	01 58 33.7	+2.2
	comp=Z,0.5nm,0.7s,baz=27,slow=6.2,SNR=3.3						
AKASG	Malin Array Be	144.19	333	PKP	PKPdf	01 58 44.0	-1.4
	comp=Z,1.0nm,0.4s,baz=38,slow=4.4,SNR=11						
MALT	Malatya	145.81	309	*e*PKP	PKPdf	01 58 51.5	+2.9
BRTR	Keskin Array B	148.60	314	PKPbc	PKPdf	01 58 58.2	+5.1
	comp=Z,1.6nm,0.6s,baz=141,slow=4.7,SNR=9.3						
CLL	Collm	148.64	350	*e*PKP	PKPdf	01 59 01.0	+8.1
CLL	Collm	148.64	350	*i* PKP1	PKPdf	01 58 58.0	+5.1
CLL				*e*PKP2	PKPab	01 59 01.0	-2.1
ASF	Jabal al Asfar	148.86	298	PKPbc	PKPdf	01 59 00.1	+6.3
	comp=Z,3.1nm,0.7s,baz=161,slow=3.5,SNR=8.9						
MLR	Muntele Rosu	149.53	329	PKPbc	PKPdf	01 59 01.1	+6.6
	comp=Z,2.0nm,0.8s,baz=176,slow=15,SNR=3.3						
GIVF	Givet	150.57	360	*e*PKP1	PKPdf	01 59 02.9	+7.0
BAIF	Baives	150.61	0	*e*PKP1	PKPdf	01 59 03.2	+7.3
	comp=Z,7.8nm,0.8s						
GERES	GERESS Array B	150.87	347	PKPbc	PKPdf	01 59 03.4	+7.0
	comp=Z,2.6nm,0.8s,baz=27,slow=3.0,SNR=25						
FLN	La Foliniere	151.63	7	*e*PKP1	PKPdf	01 59 05.1	+7.6
	comp=Z,7.3nm,0.5s						
LDF	La Druitiere	151.84	6	*e*PKP1	PKPdf	01 59 05.4	+7.6
	comp=Z,4.5nm,0.6s						
SGMF	Saint Gilles	151.85	10	*e*PKP1	PKPdf	01 59 05.5	+7.7
	comp=Z,16nm,0.7s						
GRR	Gorron	151.96	8	*e*PKP1	PKPdf	01 59 06.0	+8.0
	comp=Z,15nm,0.7s						
MEZF	Maizieres J'vi	152.17	359	*e*PKP1	PKPdf	01 59 06.8	+8.5
	comp=Z,13nm,0.9s						
CDF	Champ du Feu	152.17	356	*e*PKP1	PKPdf	01 59 06.7	+8.4
	comp=Z,12nm,1.0s						
HAU	Haudompre	152.63	357	*e*PKP1	PKPdf	01 59 07.6	+8.6
	comp=Z,8.2nm,0.7s						
HINF	Hinteralfeld	152.79	356	*e*PKP1	PKPdf	01 59 07.7	+8.5
	comp=Z,3.8nm,0.6s						
DAVOX	Davos	153.52	352	PKPbc	PKPdf	01 59 10.0	+10
	comp=Z,2.2nm,0.7s,baz=330,slow=9.8,SNR=5.3						
SSF	Saint Saulge	153.60	1	*e*PKP1	PKPdf	01 59 09.9	+10
	comp=Z,14nm,1.2s						
TCF	Toulx Ste Croi	154.32	4	*e*PKP1	PKPdf	01 59 11.2	+10
	comp=Z,3.8nm,0.7s						
LPL	La Plagne	155.09	356	*e*PKP1	PKPdf	01 59 14.4	+12
LPG	La Plagne	155.11	356	*e*PKP1	PKPdf	01 59 14.5	+12
MBDF	Montbardon	155.87	356	*e*PKP1	PKPdf	01 59 15.8	+12
	comp=Z,13nm,1.2s						

IDC ***29*** *01:41:01.6±8.1,34.65N×24.13E,mb3.4/1,mb1 3.6/3, mb1mx3.3/19,mbtmp3.4/3,ML3.4/2,Error ellipse: s-maj=142.6km s-min=45.0km az=23.0*
CSEM ***29*** *01:41:11.8±0.1,35.88N×24.69E,h5km,MD3.6,Error ellipse: s-maj=2.6km s-min=1.7km az=64.0*
ATH ***29*** *01:41:12.4,35.83N×24.61E,h26km±3km,MD3.6/19, ML3.6*
NEIC ***29*** *01:41:12.3,35.82N×24.61E,h27km,MD3.6(ATH),After ATH.*

ISC 29 01:41:11.9±0.4,35.86N±0.03×24.61E±0.04,h10km,n35, σ1§05/37,mb3.3/1,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VAM	Vamos	0.56	216	*e*Pn	Pb	01 41 23.2	-0.1
SANT	Santorini	0.86	53	*e*Pn	Pn	01 41 30.3	+0.5
SANT	Santorini	0.86	53	*e*Pn	Pn	01 41 30.3	+0.5
NPS	Neapolis	1.01	126	*e*PN	Pn	01 41 31.4	-0.6
GVD	Gavdhos	1.10	203	*e*PN	Pn	01 41 33.0	-0.3
GVD				*e*SN	Sn	01 41 49.0	+0.4
XRY	Khrisi	1.32	138	*e*PN	Pn	01 41 36.5	0.0
KYTH	Kithira	1.34	289	*e*Pn	Pn	01 41 35.0	-1.7
KYTH	Kithira	1.34	289	*e*PB	Pb	01 41 36.8	+0.2
APE	Apeiranthos	1.42	31	*e*PN	Pn	01 41 38.3	+0.5
VLI	Veliai	1.60	303	*e*PB	Pb	01 41 40.5	-0.6
VLI	Veliai	1.60	303	*e*Pb	Pb	01 41 39.5	-1.6
NAIG	Nisos Aigina	2.10	335	*e*PN	Pn	01 41 47.5	0.0
KARP	Karpathos	2.10	98	*e*PN	Pn	01 41 47.5	-0.1
KARP				*e*SN	Sn	01 42 14.0	0.0
KARP	Karpathos	2.10	98	*e*Pn	Pn	01 41 46.1	-1.5
ATH	Athens Observa	2.23	342	*e*PB	Pb	01 41 50.5	-1.3
NSAL	Nisos Salamina	2.24	336	*e*PB	Pb	01 41 51.0	-1.0
PTL	Penteli	2.27	345	*e*PB	Pb	01 41 51.0	-1.5
MGER	Gerania Oros	2.38	333	*e*PN	Pn	01 41 52.5	+0.9
MPAR	Parnis Oros	2.39	343	*e*PB	Pb	01 41 53.5	-1.1
ITM	Ithomi	2.53	302	*e*PN	Pn	01 41 54.5	+0.8
SMG	Samos	2.57	43	*e*PB	Pb	01 41 56.0	-1.7
ARG	Arkhangelos	2.88	82	*e*PN	Pn	01 42 00.0	+1.4
LKR	Lokris	3.07	336	*e*PN	Pn	01 42 01.7	+0.3
NEO	Neokhori	3.61	343	*e*PN	Pn	01 42 09.6	+0.5
AGG	Agios Georgios	3.64	331	*e*P	Pn	01 42 10.2	+0.7
EVR	Evrytania	3.78	325	*e*PN	Pn	01 42 12.5	+1.0
VLS	Valsamata	3.96	307	*e*PN	Pn	01 42 15.0	+0.9
OUR	Ouranopolis	4.50	354	*e*P	Pn	01 42 21.7	+0.1
LIT	Litokhoron	4.55	339	*e*P	Pn	01 42 22.5	+0.1
GRG	Griva	5.38	342	*e*P	Pn	01 42 35.7	+1.6
KEK	Kerkira	5.41	317	*e*PN	Pn	01 42 34.2	-0.4
FNA	Florina	5.53	334	*e*P	Pn	01 42 36.4	0.0
BRTR	Keskin Array B	8.12	59	Pn	P	01 43 15.4	+2.7
	0.1nm,0.3s,baz=241,slow=13,SNR=4.0						
GERES	GERESS Array B	15.26	332	Pn	P	01 44 51.3	+2.5
	0.1nm,0.3s,baz=148,slow=13,SNR=8.8						
MKAR	Makanchi Array	43.77	57	P	P	01 49 16.5	-2.6
	0.2nm,0.3s,mb3.3,baz=266,slow=8.2,SNR=5.3						

NEIC ***29*** *01:42:01.5±1.0,1.88N×96.70E,mb4.2/4,Error ellipse: s-maj=27.4km s-min=14.4km az=52.0*
IDC ***29*** *01:42:02.5±2.0,2.00N×96.74E,h24km±6km,mb3.9/5, mb1 4.0/5,mb1mx3.6/16,mbtmp4.0/5,Error ellipse: s-maj=87.3km s-min=17.3km az=56.0*

ISC 29 01:42:00.3±1.0,2.0N±0.1×96.7E±0.1,h25km, h25km±1km:pP-P,n11,σ0§82/11,mb4.1/9,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.15	50	*e*P	Pn	01 43 18.0	+0.1
LSA	Lhasa	28.06	350	P	P	01 47 51.5	-0.6
	4.4nm,0.5s,mb4.3						
WRA	Warramunga Arr	42.89	122	P	P	01 49 58.8	-0.1
	1.7nm,0.7s,mb3.9,baz=301,slow=9.1,SNR=7.1						
WRA				pP	pP	01 50 06.2	-0.1
	1.3nm,0.8s,baz=301,slow=9.3,SNR=5.6						
WRAB	Tennant Creek	42.89	122	P	P	01 49 55.2	-3.8
	3.4nm,0.6s,mb4.2						
ASAR	Alice Springs	44.28	127	P	P	01 50 10.4	+0.3
	0.7nm,0.6s,mb3.6,baz=307,slow=8.9,SNR=5.3						
ASAR				pP	pP	01 50 17.8	+0.2
	1.0nm,0.6s,baz=299,slow=7.6,SNR=6.6						
AAK	Ala-Archa	45.08	337	*e*P	P	01 50 17.7	+1.4
	1.2nm,0.6s,mb3.9						
MKAR	Makanchi Array	46.36	346	P	P	01 50 26.5	+0.1
	3.3nm,0.7s,mb4.4,baz=161,slow=7.6,SNR=25						
MKAR				pP	pP	01 50 34.0	+0.1
	2.1nm,0.8s,baz=162,slow=7.7,SNR=6.7						
SONM	Songino Array	46.44	9	P	P	01 50 27.6	+0.6
	2.3nm,0.8s,mb4.2,baz=191,slow=8.2,SNR=14						
KURK	Kurchatov	50.91	345	*e*P	P	01 51 00.4	-1.2
	2.7nm,0.9s,mb4.2						
CHKZ	Chkalovo	55.83	342	*e*P	P	01 51 37.0	-0.9
	29nm,0.6s						
FINES	FINESS Array B	79.07	333	P	P	01 54 04.6	+0.7
	2.9nm,1.1s,mb4.1,baz=90,slow=9.7,SNR=4.4						

IDC ***29*** *01:52:01.7±2.9,1.82N×96.48E,mb3.7/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=129.2km s-min=22.0km az=56.0*
NEIC ***29*** *01:52:06.2±0.8,1.82N×96.50E,h30km,mb4.2/2,Error ellipse: s-maj=20.6km s-min=12.5km az=51.0*

ISC 29 01:52:04.2±1.2,1.8N±0.2×96.5E±0.2,h30km,n9,σ0§45/9, mb3.9/7,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.39	50	*e*P	Pn	01 53 24.6	-0.2
WRA	Warramunga Arr	42.98	122	P	P	02 00 02.6	-0.3
	0.3nm,0.4s,mb3.4,baz=302,slow=9.1,SNR=2.5						
ASAR	Alice Springs	44.35	127	P	P	02 00 14.3	+0.4
	0.5nm,0.6s,mb3.4,baz=295,slow=8.4,SNR=5.0						
MKAR	Makanchi Array	46.45	347	P	P	02 00 30.7	+0.4
	1.2nm,0.4s,mb4.2,baz=162,slow=9.0,SNR=15						
MKAR	Makanchi Array	46.45	347	P	P	02 00 30.7	+0.4
SONM	Songino Array	46.61	9	P	P	02 00 32.3	+0.7
	0.7nm,0.6s,mb3.8,baz=190,slow=9.0,SNR=3.8						
KURK	Kurchatov	50.99	345	P	P	02 01 05.6	+0.2
	1.1nm,0.5s,mb4.0						
BVAR	Borovoye Array	55.41	341	P	P	02 01 37.5	-0.7
	1.2nm,0.7s,mb4.0,baz=141,slow=9.2,SNR=6.9						
CHKZ	Chkalovo	55.89	342	*e*P	P	02 01 41.1	-0.5
	2.5nm,0.7s,mb4.3						

BJI ***29*** *01:54:54.1,1.04N×97.23E,h25km,mB5.5,mb4.9*
IDC ***29*** *01:55:01.9±0.8,1.82N×97.07E,h23km±3km,mb4.0/11, mb1 4.1/11,mb1mx3.9/18,mbtmp4.2/11,MS3.9/1, Ms1 3.9/1,ms1mx3.0/12,Error ellipse: s-maj=49.6km s-min=13.8km az=50.0*
NEIC ***29*** *01:55:02.2±0.4,1.80N×97.09E,mb4.5/14,Error ellipse: s-maj=11.7km s-min=6.9km az=221.0*

ISC 29 01:55:01.1±6.6,1.8N±0.1×97.1E±0.1,h30km±46km, h26km±9km:pP-P,n36,σ0§93/35,mb4.4/29,MS3.8/1,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	4.96	46	*e*P	Pn	01 56 16.9	+1.3
KSM	Kuching	13.22	91	P	P	01 58 06.5	-3.0
QIZ	Qiongzhong	21.19	35	*e*P	P	01 59 46.5	-0.1
KMI	Kunming	23.82	13	P	P	02 00 14.8	+2.3
KMI				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.4						
PKI	Pulchoki	27.95	337	*e*P	P	02 00 51.7	+0.5
	comp=Z,9.1nm,0.6s,mb4.6						
GUN	Gumba	28.09	339	*e*P	P	02 00 52.4	0.0
	comp=Z,31nm,0.8s,mb5.0						
DMN	Daman	28.11	337	*e*P	P	02 00 52.7	+0.1
	comp=Z,18nm,0.8s,mb4.7						
KKN	Kakani	28.20	337	*e*P	P	02 00 53.1	-0.3
	comp=Z,15nm,0.8s,mb4.7						
GKN	Gorkha	28.64	337	*e*P	P	02 00 57.0	-0.4
	comp=Z,12nm,0.8s,mb4.7						
KOLN	Koldanda	28.86	335	*e*P	P	02 00 59.6	+0.2
	comp=Z,11nm,0.7s,mb4.7						
ENH	Enshi	30.66	21	*e*P	P	02 01 13.7	-1.6
	comp=Z,9.2nm,0.6s,mb4.8						
XAN	Xi'an	33.92	18	P	P	02 01 42.0	-1.8
XAN				AP	pP	02 01 48.8	-4.0
XAN				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.9						
FITZ	Fitzroy Crossi	34.37	126	LR	LR	02 17 49.7	
	comp=Z,179nm,18.5s,MS3.8,baz=275,slow=40						
GTA	Gaotai	37.51	3	*e*P	P	02 02 14.3	+0.1
GTA				AP	pP	02 02 23.3	+0.1
GTA				XP	sP	02 02 26.5	-0.6
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
BJT	Baijiatuan	41.80	22	*e*P	P	02 02 50.6	+0.8
	comp=Z,26nm,0.8s,mb4.9						
BJI	Beijing	41.82	22	*e*P	P	02 02 51.5	+1.5
BJI				AMB	AMB		
	comp=Z,26nm,1.1s,mb4.8						
WRA	Warramunga Arr	42.45	122	P	P	02 02 54.9	-0.4
	comp=Z,1.1nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=8.9						
WRA				pP	pP	02 03 01.8	-2.7
	comp=Z,2.9nm,0.7s,baz=302,slow=9.1,SNR=13						
WRAB	Tennant Creek	42.46	122	*e*P	P	02 02 55.5	+0.1
	comp=Z,6.2nm,0.7s,mb4.3						
ASAR	Alice Springs	43.85	128	P	P	02 03 07.0	+0.3
	comp=Z,0.8nm,0.6s,mb3.6,baz=296,slow=7.8,SNR=8.3						
AAK	Ala-Archa	45.40	337	*e*P	P	02 03 18.5	-0.4
	comp=Z,2.9nm,0.9s,mb4.1						
SONM	Songino Array	46.55	9	P	P	02 03 28.0	+0.1
	comp=Z,3.2nm,0.8s,mb4.3,baz=186,slow=9.1,SNR=18						
SONM				PcP	PcP	02 05 02.0	-0.3
	comp=Z,0.7nm,0.7s,baz=206,slow=3.1,SNR=3.4						
SONM				ScP		02 08 53.2	
	comp=Z,0.2nm,0.5s,baz=214,slow=5.2,SNR=2.2						
MKAR	Makanchi Array	46.63	346	P	P	02 03 28.2	-0.4
	comp=Z,3.4nm,0.8s,mb4.4,baz=162,slow=8.6,SNR=23						
MKAR	Makanchi Array	46.63	346	P	P	02 03 28.2	-0.4
ULN	Ulaanbaatar	46.68	9	*e*P	P	02 03 28.9	-0.1
	comp=Z,0.8nm,0.6s,mb3.8						
KURK	Kurchatov	51.18	345	*e*P	P	02 04 02.6	-1.0
	comp=Z,23nm,1.6s,mb4.9						
KURK				*e*pP	pP	02 04 11.1	-1.9
STKA	Stephens Creek	53.84	132	P	P	02 04 24.4	+0.6
	comp=Z,2.7nm,1.0s,mb4.1,baz=276,slow=10,SNR=2.9						
BVAR	Borovoye Array	55.64	341	P	P	02 04 35.4	-1.2
	comp=Z,4.6nm,0.7s,mb4.6,baz=138,slow=9.1,SNR=31						
BVAR				pP	pP	02 04 43.1	-2.8
	comp=Z,3.3nm,0.9s,baz=153,slow=9.9,SNR=8.4						
CHKZ	Chkalovo	56.12	341⇑	*e*P	P	02 04 38.7	-1.3
	comp=Z,7.5nm,0.7s,mb4.8						
KMBO	Kilima Mbogo	59.90	268	P	P	02 05 07.5	+0.4
	comp=Z,2.5nm,0.8s,mb4.3						
FINES	FINESS Array B	79.41	332	P	P	02 07 05.7	-0.1
	comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=5.7,SNR=6.3						
FINES				pP	pP	02 07 13.3	-2.2
	comp=Z,1.0nm,0.7s,baz=104,slow=7.9,SNR=4.8						
FINES	FINESS Array B	79.41	332	P	P	02 07 05.7	-0.1
FINES				pP	pP	02 07 13.3	-2.2
ARCES	ARCESS Array B	81.93	340	P	P	02 07 20.5	+1.6
	comp=Z,5.2nm,0.9s,mb4.5,baz=63,slow=8.1,SNR=4.8						
GERES	GERESS Array B	84.29	319	P	P	02 07 31.7	+0.2
	comp=Z,0.8nm,0.6s,mb4.0,baz=90,slow=4.0,SNR=12						
GERES				pP	pP	02 07 39.7	-1.5
	comp=Z,1.4nm,0.9s,baz=98,slow=6.9,SNR=6.2						
NOA	NORSAR Array B	86.42	331	P	P	02 07 42.2	+0.4
	comp=Z,0.7nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=3.3						
NOA	NORSAR Array B	86.42	331	P	P	02 07 42.2	+0.4
DAVOX	Davos	86.78	317	P	P	02 07 44.1	+0.2
	comp=Z,2.1nm,0.6s,mb4.6,baz=331,slow=15,SNR=8.8						
DAVOX				pP	pP	02 07 52.9	-0.8
	comp=Z,3.1nm,0.7s,baz=144,slow=9.4,SNR=6.9						

IDC 29 02:01:48.8±1.8,2.01N×96.70E,mb3.7/5,mb1 3.9/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=74.6km s-min=27.8km az=53.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.89	122	P	P	02 09 49.3	-1.7
	0.6nm,0.5s,baz=303,slow=9.1,SNR=5.9						
MKAR	Makanchi Array	46.34	346	P	P	02 10 17.4	-1.0
	1.4nm,0.7s,baz=157,slow=8.4,SNR=14						
SONM	Songino Array	46.41	9	P	P	02 10 17.1	-1.8
	0.8nm,0.5s,baz=194,slow=9.3,SNR=7.5						
BVAR	Borovoye Array	55.33	341	P	P	02 11 23.4	-3.2
	0.2nm,0.3s,baz=146,slow=10,SNR=3.4						
GERES	GERESS Array B	83.88	319	P	P	02 14 20.5	-1.3
	0.1nm,0.4s,baz=104,slow=4.0,SNR=3.6						

NEIC ***29*** *02:02:42.2±2.7,6.51S×154.00E,h94km±24km,mb4.4/7, Error ellipse: s-maj=20.0km s-min=17.1km az=66.0*
IDC ***29*** *02:02:42.3±4.5,6.64S×154.10E,h92km±39km,mb3.9/6, mb1 4.0/9,mb1mx3.9/14,mbtmp4.2/9,Error ellipse: s-maj=26.8km s-min=24.8km az=68.0*
BJI ***29*** *02:02:42.2,6.50S×154.00E,h93km,mB5.2,mb5.1*

ISC 29 02:02:41.4±3.9,6.6S±0.1×154.2E±0.1,h105km±35km,n20, σ1§09/20,mb4.2/12,2C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	7.47	248	P	P	02 04 26.0	-3.3
	3.5nm,0.3s,baz=52,slow=10.0,SNR=7.9						
PMG				S	S	02 05 53.6	+0.7
	1.1nm,0.3s,baz=180,slow=17,SNR=4.8						
CTA	Charters Tower	15.45	209	P	P	02 06 16.2	+1.3
	0.1nm,0.3s,baz=22,slow=15,SNR=4.3						
CTAO	Charters Tower	15.45	209	P	P	02 06 17.2	+2.3
	4.5nm,0.7s						
DZM	Mont Dzumac	19.44	144	P	P	02 07 02.3	+0.1
	0.5nm,0.3s,baz=14,slow=12,SNR=4.6						
KAKA	Kakadu	22.24	252	*e*P	P	02 07 31.0	+0.5
	8.0nm,0.6s,mb4.2						
WRAB	Tennant Creek	23.36	234	*e*P	P	02 07 41.4	+0.1
	20nm,1.0s,mb4.4						
WB2	Warramunga Arr	23.36	233	P⇑	P	02 07 41.5	+0.1
WRA	Warramunga Arr	23.37	233	P	P	02 07 41.7	+0.2
	9.4nm,1.0s,mb4.1,baz=56,slow=9.9,SNR=26						
ASAR	Alice Springs	25.82	227	P	P	02 08 04.3	-0.6
	1.5nm,0.6s,mb3.6,baz=59,slow=8.9,SNR=13						
STKA	Stephens Creek	27.76	203	*e*P	P	02 08 21.1	-1.4
	2.4nm,0.6s,mb3.9						
STKA	Stephens Creek	27.76	203	P	P	02 08 21.4	-1.1
	2.6nm,0.6s,mb3.9,baz=34,slow=13,SNR=7.7						

FITZ	Fitzroy Crossi	30.06	245⇑	*i*P	P	02 08 42.1	-1.0
	3.8nm,0.6s,mb4.2						
FITZ	Fitzroy Crossi	30.06	245	P	P	02 08 42.6	-0.5
	6.9nm,0.8s,mb4.3,baz=127,slow=2.0,SNR=6.7						
HIA	Hailar	63.20	336	*e*P	P	02 13 00.0	-0.8
	3.7nm,0.4s,mb4.7						
GTA	Gaotai	67.87	317	*e*P	P	02 13 32.8	+2.0
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.7						
SONM	Songino Array	68.54	328	P	P	02 13 35.3	+0.5
	comp=Z,1.7nm,0.7s,mb4.0,baz=149,slow=5.6,SNR=10.0						
KURK	Kurchatov	85.99	322	*e*P	P	02 15 09.8	-1.4
	comp=Z,6.3nm,0.9s,mb4.5						
CHKZ	Chkalovo	91.44	324	*e*P	P	02 15 32.1	-4.9
	comp=Z,1.6nm,0.6s,mb4.3						
YKA	Yellowknife Ar	96.37	28	P	P	02 16 00.0	+0.8
	comp=Z,0.1nm,0.6s,mb3.4,baz=265,slow=4.5,SNR=4.5						
GERES	GERESS Array B	126.27	329	PKP	PKPdf	02 21 35.6	+3.7
	comp=Z,0.3nm,0.6s,baz=56,slow=4.8,SNR=5.0						

IDC 29 02:11:04.5±4.3,1.20S×99.02E,mb3.3/4,mb1 3.5/4, mb1mx3.3/15,mbtmp3.3/4,Error ellipse: s-maj=169.8km s-min=24.6km az=59.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	39.24	121	P	P	02 18 33.6	-3.1
	0.2nm,0.4s,baz=302,slow=10.0,SNR=4.0						
ASAR	Alice Springs	40.51	126	P	P	02 18 46.8	-0.4
	0.2nm,0.4s,baz=306,slow=6.4,SNR=3.3						
SONM	Songino Array	49.26	7	P	P	02 19 56.5	-0.4
	0.4nm,0.6s,baz=188,slow=10,SNR=2.1						
MKAR	Makanchi Array	50.00	345	P	P	02 19 58.8	-3.9
	0.5nm,0.7s,baz=163,slow=7.5,SNR=3.5						

ISC 29 02:11:43.7±2.3,36.43N±0.09×70.5E±0.3,h208km±19km, n20,σ0§95/25,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	5.88	131	*e*P	P	02 13 10.7	+0.5
THN				*e*S	S	02 14 16.6	-0.9
	33nm,0.7s						
DLH	Dalhousie	5.96	129	*e*P	P	02 13 13.0	+1.8
DLH				*e*S	S	02 14 20.0	+0.6
PONG	Pong	6.36	133	*e*P	P	02 13 19.0	+2.6
PONG				*e*S	S	02 14 29.0	+0.4
EKS2	Erkin-Say	6.73	21	P	P	02 13 21.4	+0.2
	SNR=53						
KZA	Kyzart	6.75	32	P	P	02 13 21.1	-0.3
	SNR=64						
KBK	Karagaybulak	7.11	28	P	P	02 13 26.6	+0.4
	SNR=44						
SDNR	Sundarnagar	7.29	131	*e*	P	02 13 25.4	-3.1
SDNR				*e*S	S	02 14 47.0	-3.4
ULHL	Ulahol	7.33	36	P	P	02 13 29.0	+0.1
	SNR=27						
CHMS	Chumysh	7.34	25	P	P	02 13 28.8	-0.4
	SNR=27						
USP	Ospenovka	7.50	23	P	P	02 13 30.6	-0.6
	SNR=12						
TKM2	Tokmak 2	7.59	30	P	P	02 13 32.4	0.0
	SNR=154						
DDI	Dehra Dun	8.78	132	*e*P	P	02 13 47.4	-0.5
NDI	New Delhi	9.58	142	*e*P	P	02 13 56.5	-1.7
NDI				*e*S	S	02 15 36.0	-7.5
KOLN	Koldanda	14.06	124	*e*P	P	02 14 54.4	-0.6
	25nm,0.5s						
GKN	Gorkha	14.62	121	*e*P	P	02 15 01.8	-0.1
	68nm,0.4s						
DMN	Daman	15.19	121	*e*P	P	02 15 09.4	+0.5
KKN	Kakani	15.20	120	*e*P	P	02 15 09.3	+0.3
	73nm,0.4s						
PKI	Pulchoki	15.42	121	*e*P	P	02 15 12.1	+0.3
	57nm,0.5s						
GUN	Gumba	15.54	119	*e*P	P	02 15 13.4	+0.1
	22nm,0.3s						
JIRN	Jiri	15.91	119	*e*P	P	02 15 18.5	+0.7
	35nm,0.3s						

IDC ***29*** *02:12:53.4±1.3,1.77N×96.92E,mb4.0/8,mb1 4.1/8, mb1mx3.8/18,mbtmp4.0/8,Error ellipse: s-maj=61.2km s-min=21.2km az=51.0*
NEIC ***29*** *02:12:58.0±0.6,1.81N×97.01E,h30km,mb4.7/4,Error ellipse: s-maj=16.3km s-min=9.8km az=54.0*

ISC 29 02:12:59.5±5.7,1.9N±0.2×97.1E±0.3,h54km±45km,n14, σ0§81/14,mb4.2/12,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	4.84	46	*e*P	P	02 14 12.0	+0.3
ENH	Enshi	30.53	21	P	P	02 19 08.2	-1.9
	6.2nm,0.5s,mb4.7						
BJT	Baijiatuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**35**	*e*P	**P**	**02 22 56.4**	**+0.5**
CM31	**Chiang Mai Arr**	**17.52**	**4**	*e*P	**P**	**02 25 38.2**	**-1.2**
	6.4nm,0.4s						
CHG	**Chiang Mai**	**17.88**	**4**	⇓P	**P**	**02 25 42.8**	**-1.0**
	33nm,1.0s						
NANT	**Nan**	**18.08**	**10**	⇑P	**P**	**02 25 45.0**	**-1.3**
	275nm,1.0s						
KKM	**Kota Kinabalu**	**19.33**	**74**	*e*P	**P**	**02 26 03.0**	**+1.6**
QIZ	**Qiongzhong**	**21.70**	**33**	*e*P	**P**	**02 26 26.0**	**0.0**
KMI	**Kunming**	**24.62**	**11**	P	**P**	**02 26 57.0**	**+2.3**
KMI				AMB	AMB		
	comp=Z,25nm,0.8s,mb4.8						
HYB	**Hyderabad**	**24.88**	**312**	*e*P		02 27 09.0	
HYB	**Hyderabad**	**24.88**	**312**	*i* P		02 27 09.0	
JIRN	**Jiri**	**28.77**	**339**	*e*P	**P**	**02 27 34.0**	**+1.2**
	comp=Z,6.0nm,0.3s,mb4.8						
PKI	**Pulchoki**	**28.98**	**337**	*e*P	**P**	**02 27 36.5**	**+1.8**
GUN	**Gumba**	**29.11**	**338**	*e*P	**P**	**02 27 36.1**	**+0.2**
	comp=Z,24nm,0.6s,mb5.1						
DMN	**Daman**	**29.13**	**337**	*e*P	**P**	**02 27 37.9**	**+1.8**
	comp=Z,30nm,0.8s,mb5.1						
KKN	**Kakani**	**29.22**	**337**	*e*P	**P**	**02 27 36.9**	**0.0**
	comp=Z,18nm,0.7s,mb4.9						
LSA	**Lhasa**	**29.30**	**349**	*e*P	**P**	**02 27 38.3**	**+0.7**
	comp=Z,18nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.67**	**336**	*e*P	**P**	**02 27 40.6**	**-0.2**
	comp=Z,75nm,1.4s,mb5.2						
KOLN	**Koldanda**	**29.89**	**335**	*e*P	**P**	**02 27 42.9**	**+0.1**
	comp=Z,19nm,0.7s,mb4.9						
ENH	**Enshi**	**31.36**	**20**	*e*P	**P**	**02 27 54.4**	**-1.5**
	comp=Z,10nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.47**	**126**	*e*P	**P**	**02 28 13.6**	**-0.7**
	comp=Z,3.3nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.47**	**126**	P	**P**	**02 28 13.7**	**-0.7**
	comp=Z,5.0nm,0.7s,mb4.6,baz=181,slow=7.8,SNR=12						
XAN	**Xi'an**	**34.67**	**17**	P	**P**	**02 28 23.5**	**-1.0**
XAN				AP	pP	02 28 29.0	-5.5
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
GTA	**Gaotai**	**38.41**	**3**	*e*P	**P**	**02 28 56.5**	**+0.5**
GTA				AP	pP	02 29 05.8	-0.3
GTA				XP	sP	02 29 09.0	-1.5
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.58**	**122**	P	**P**	**02 29 22.1**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.0,baz=302,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**41.59**	**122**	*e*P	**P**	**02 29 22.4**	**-0.2**
	comp=Z,8.8nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**41.59**	**122**	*e*P	**P**	**02 29 22.7**	**+0.1**
BJT	**Baijiatuau**	**42.49**	**21**	*e*P	**P**	**02 29 31.1**	**+1.3**
	comp=Z,16nm,0.6s,mb4.8						
ASAR	**Alice Springs**	**42.93**	**127**	P	**P**	**02 29 34.0**	**+0.4**
	comp=Z,2.1nm,0.6s,mb4.0,baz=298,slow=7.6,SNR=23						
ULHL	**Ulahol**	**45.42**	**338**	P	**P**	**02 29 54.1**	**+0.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**46.24**	**338**	P	**P**	**02 30 00.6**	**+0.7**
	SNR=5.6						
KBK	**Karagaybulak**	**46.27**	**337**	P	**P**	**02 30 00.0**	**0.0**
	SNR=5.8						
AAK	**Ala-Archa**	**46.43**	**337**	*e*P	**P**	**02 30 00.2**	**-1.1**
	comp=Z,2.4nm,0.9s,mb4.1						
EKS2	**Erkin-Say**	**46.74**	**336**	P	**P**	**02 30 04.7**	**+0.9**
	SNR=7.5						
USP	**Ospenovka**	**46.96**	**337**	P	**P**	**02 30 06.0**	**+0.5**
	SNR=10.0						
SONM	**Songino Array**	**47.40**	**8**	P	**P**	**02 30 09.4**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.4,baz=188,slow=9.3,SNR=25						
ULN	**Ulaanbaatar**	**47.52**	**9**	*e*P	**P**	**02 30 09.1**	**-0.8**
	comp=Z,2.1nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**	**02 30 10.7**	**-0.1**
	comp=Z,8.6nm,0.7s,mb4.9,baz=158,slow=7.9,SNR=47						
HIA	**Hailar**	**51.84**	**18**	*e*P	**P**	**02 30 42.2**	**-0.7**
	comp=Z,7.2nm,0.7s,mb4.7						
KURK	**Kurchatov**	**52.19**	**345**	*e*P	**P**	**02 30 45.0**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**52.89**	**132**	*e*P	**P**	**02 30 51.7**	**+0.7**
	comp=Z,2.7nm,0.8s,mb4.2						
STKA				*i*		02 30 59.0	
STKA	**Stephens Creek**	**52.89**	**132**	P	**P**	**02 30 52.1**	**+1.0**
	comp=Z,3.7nm,0.8s,mb4.3,baz=312,slow=8.2,SNR=6.2						
STKA	**Stephens Creek**	**52.89**	**132**	*e*P	**P**	**02 30 49.5**	**-1.5**
STKA				*i*	pP	02 30 59.0	-2.4
BVAR	**Borovoye Array**	**56.66**	**341**	P	**P**	**02 31 17.0**	**-1.2**
	comp=Z,3.2nm,0.8s,mb4.4,baz=143,slow=7.4,SNR=15						
CHKZ	**Chkalovo**	**57.14**	**341**	*e*P	**P**	**02 31 20.1**	**-1.5**
	comp=Z,10nm,0.9s,mb4.8						
AKASG	**Malin Array Be**	**75.72**	**322**	P	**P**	**02 33 18.4**	**-1.4**
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=5.1,SNR=9.6						
AKASG	**Malin Array Be**	**75.72**	**322**	P	**P**	**02 33 18.4**	**-1.4**
MLR	**Muntele Rosu**	**76.53**	**317**	P	**P**	**02 33 23.6**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.1,baz=182,slow=4.7,SNR=4.0						
FINES	**FINESS Array B**	**80.44**	**332**	P	**P**	**02 33 45.3**	**-0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=7.6,SNR=8.2						
MORC	**Moravsky Berou**	**82.86**	**320**	P	**P**	**02 33 58.7**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.2						
ARCES	**ARCESS Array B**	**82.95**	**340**	P	**P**	**02 33 58.6**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.3,baz=90,slow=7.3,SNR=4.5						
GERES	**GERESS Array B**	**85.28**	**319**	P	**P**	**02 34 11.1**	**+0.5**
	comp=Z,1.0nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=10						
NB2	**NORSAR Subarra**	**87.45**	**331**	P	**P**	**02 34 20.9**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.4,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.45**	**331**	P	**P**	**02 34 20.9**	**0.0**
	comp=Z,1.6nm,0.8s,mb4.3,baz=95,slow=4.9,SNR=8.2						
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	02 41 08.7	+0.5
	comp=Z,0.4nm,0.7s,baz=297,slow=2.8,SNR=4.7						
LRAL	**Lakeview Retre**	**146.00**	**7**	*e*PKPdf	PKPdf	02 41 14.3	+2.3

NEIC ***29*** *02:22:41.8±0.1, 1.03N×97.48E, mb5.1/65, Error ellipse: s-maj=5.8km s-min=3.6km az=218.0*
BJI ***29*** *02:22:41.6, 0.88N×97.15E, h34km, mB5.3, mb5.0, Ms4.8, Msz4.7*
MOS ***29*** *02:22:42.0±1.0, 1.17N×97.57E, h33km, mb5.3/24, Error ellipse: s-maj=22.3km s-min=7.6km az=115.5*
IDC ***29*** *02:22:42.1±0.4, 1.04N×97.57E, h25km±2km, mb4.6/27, mb1 4.7/27, mb1mx4.7/28, mbtmp4.8/27, Error ellipse: s-maj=15.4km s-min=7.8km az=46.0*
ISC 29 02:22:40.2±1.4**, 1.02N**±0.04×**97.52E**±0.04**, h23**km±9km**, h23**km±.4km**:pP-P, n262,**σ0°**86/266, mb5.0**/117**, MS4.6**/13**, 12C-29D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.27**	**36**	P	**Pn**	**02 24 00.1**	**+0.4**
KSM	**Kuching**	**12.79**	**88**	P	**P**	**02 25 43.4**	**-0.4**
NST	**Nakhon Sawan**	**14.79**	**10**	P	**P**	**02 26 19.8**	**+10**
BDT	**Bhumibol Dam**	**16.19**	**5**	P	**P**	**02 26 32.0**	**+3.8**
	20nm,0.6s						
CM31	**Chiang Mai Arr**	**17.39**	**5**	*e*P	**P**	**02 26 42.9**	**-0.4**
	72nm,0.8s						
PALK	**Pallekele**	**17.88**	**291**	*e*P	**P**	**02 26 49.5**	**0.0**
	18nm,0.8s						
KKM	**Kota Kinabalu**	**19.31**	**75**	*e*P	**P**	**02 27 06.9**	**+0.1**
QIZ	**Qiongzhong**	**21.60**	**33**	P	**P**	**02 27 31.0**	**+0.2**
QIZ				*e*S	**S**	**02 31 24.8**	**+0.9**
QIZ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.3						
QIZ				LR	LR		
	comp=N,807nm,14.0s						
VIS	**Vishakhapatnam**	**21.68**	**321**	*e*P	**P**	**02 27 33.0**	**+1.3**
VIS				*e*P		02 27 33.4	
BWNR	**Bhubaneshwar**	**22.32**	**330**	*e*P	**P**	**02 27 39.0**	**+1.0**
BWNR				AMb	AMB	02 27 42.6	
	comp=Z,64nm,1.7s,mb4.8						
BWNR				*e*S	**S**	**02 31 40.0**	**+2.8**
KMI	**Kunming**	**24.49**	**11**	P	**P**	**02 28 01.8**	**+2.6**
KMI				AP		02 28 07.8	
KMI				XP		02 28 11.5	
KMI				PP	PP	02 28 38.8	+3.7
KMI				S	**S**	**02 32 20.0**	**+4.7**
KMI				XS		02 32 31.5	
KMI				SS	SS	02 33 16.8	+6.2
KMI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
KMI				AMB	AMB		
	comp=Z,40nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,14.0s,MS4.7						
KMI				LR	LR		
	comp=E,768nm,11.4s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,15.7s,MS4.6						
HYB	**Hyderabad**	**24.77**	**312**	*e*P	**P**	**02 28 03.5**	**+1.5**
HYB	**Hyderabad**	**24.77**	**312**	*i* P	**P**	**02 28 03.5**	**+1.5**
GYA	**Guiyang**	**26.78**	**18**	⇑*i*P	**P**	**02 28 26.5**	**+5.8**
GYA				AP	pP	02 28 34.0	+6.7
GYA				XP	sP	02 28 37.3	+6.9
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,1μm,12.6s,MS4.6						
GYA				LR	LR		
	comp=E,620nm,14.0s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,11.3s,MS4.7						
JIRN	**Jiri**	**28.63**	**339**	*e*P	**P**	**02 28 36.9**	**-0.5**
	comp=Z,12nm,0.3s,mb5.1						
PKI	**Pulchoki**	**28.84**	**337**	*e*P	**P**	**02 28 38.9**	**-0.4**
	comp=Z,144nm,1.4s,mb5.5						
GUN	**Gumba**	**28.97**	**338**	*e*P	**P**	**02 28 41.2**	**+0.7**
	comp=Z,92nm,0.6s,mb5.7						
DMN	**Daman**	**29.00**	**337**	*e*P	**P**	**02 28 40.1**	**-0.6**
	comp=Z,57nm,0.8s,mb5.3						
KKN	**Kakani**	**29.09**	**337**	*e*P	**P**	**02 28 41.7**	**+0.2**
	comp=Z,73nm,0.9s,mb5.4						
LSA	**Lhasa**	**29.16**	**349**	*e*P	**P**	**02 28 43.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.8						
LSA	**Lhasa**	**29.16**	**349**	*e*P	**P**	**02 28 43.3**	**+1.2**
	comp=Z,13nm,0.6s,mb4.8						
BHPL	**Bhopal**	**29.47**	**320**	*e*P	**P**	**02 28 45.5**	**+0.5**
BHPL				AMb	AMB	02 28 46.0	
	comp=Z,15nm,0.7s,mb4.8						
GKN	**Gorkha**	**29.53**	**336**	*e*P	**P**	**02 28 45.6**	**+0.1**
	comp=Z,133nm,1.1s,mb5.6						
KOLN	**Koldanda**	**29.76**	**335**	*e*P	**P**	**02 28 48.0**	**+0.4**
	comp=Z,65nm,0.7s,mb5.5						
CD2	**Chengdu**	**30.31**	**11**	P	**P**	**02 28 57.3**	**+4.9**
ENH	**Enshi**	**31.24**	**20**	*e*P	**P**	**02 28 59.9**	**-0.7**
	comp=Z,51nm,0.8s,mb5.4						
LGTI	**Lohaghat**	**32.72**	**331**	⇑*i*P	**P**	**02 29 13.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**33.56**	**126**	*e*P	**P**	**02 29 19.2**	**-1.8**
	comp=Z,12nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.56**	**126**	P	**P**	**02 29 19.8**	**-1.2**
	comp=Z,14nm,0.8s,mb4.9,baz=324,slow=5.0,SNR=12						
NDI	**New Delhi**	**33.66**	**327**	*e*P	**P**	**02 29 20.0**	**-1.7**
NDI	**New Delhi**	**33.66**	**327**	*e*P	**P**	**02 29 20.0**	**-1.7**
DDI	**Dehra Dun**	**34.51**	**329**	*e*	**P**	**02 29 28.0**	**-1.1**
XAN	**Xi'an**	**34.54**	**17**	P	**P**	**02 29 28.5**	**-0.8**
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb5.1						
LZH	**Lanzhou**	**35.38**	**9**	*e*P	**P**	**02 29 37.5**	**+1.0**
LZH				AP	pP	02 29 44.0	+0.7
LZH				XP	sP	02 29 47.3	+1.1
LZH				PP	PP	02 30 57.3	+1.0
LZH				*e*S	**S**	**02 35 10.3**	**+1.4**
LZH				XS		02 35 24.3	
LZH				SS	SS	02 37 30.5	+3.4
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,15.8s						
LZH				LR	LR		
	comp=Z,2μm,17.4s,MS4.9						
NJ2	**Nanjing**	**36.85**	**31**	*e*P	**P**	**02 29 47.3**	**-1.6**
NJ2				S	**S**	**02 35 33.0**	**+1.5**
NJ2				XS		02 35 47.0	
NJ2				AMB	AMB		
	comp=Z,340nm,4.9s						
NJ2				LR	LR		
	comp=N,2μm,20.8s,MS5.0						
NJ2				LR	LR		
	comp=E,2μm,18.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,460nm,16.4s,MS4.3						
KAKA	**Kakadu**	**37.24**	**113**	*e*P	**P**	**02 29 50.1**	**-2.2**
	comp=Z,6.1nm,0.5s,mb4.7						
MUN	**Mundaring**	**37.29**	**153**	*e*P	**P**	**02 29 53.7**	**+1.2**
	comp=Z,8.4nm,0.9s,mb4.6						
MUN	**Mundaring**	**37.29**	**153**	*e*P	**P**	**02 29 53.7**	**+1.2**
MUN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
SSE	**Sheshan**	**37.38**	**35**	P	**P**	**02 30 00.0**	**+6.7**
SSE				XP	sP	02 30 12.5	+9.5
SSE				S	**S**	**02 35 44.3**	**+4.7**
SSE				XS		02 35 59.8	
SSE				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,240nm,12.0s						
SSE				LR	LR		
	comp=N,328nm,22.5s,MS4.1						
SSE				LR	LR		
	comp=E,59nm,22.5s,MS4.1						
SSE				LR	LR		
	comp=Z,457nm,15.8s						
KLBR	**Kellerberrin**	**37.69**	**151**	*e*P	**P**	**02 29 56.9**	**+1.0**
	comp=Z,113nm,0.9s,mb5.6						
GTA	**Gaotai**	**38.27**	**3**	*e*P	**P**	**02 30 01.3**	**+0.6**
GTA				AP	pP	02 30 08.0	+0.4
GTA				PP	PP	02 31 28.5	-3.3
GTA				PCP	PcP	02 32 15.5	+0.3
GTA				S	**S**	**02 35 44.5**	**-8.5**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
GTA				AMB	AMB		
	comp=Z,54nm,4.0s						
GTA				LR	LR		
	comp=N,211nm,15.6s,MS4.2						
GTA				LR	LR		
	comp=E,229nm,16.3s,MS4.2						
GTA				LR	LR		
	comp=Z,946nm,13.7s,MS4.8						
NWAO	**Narrogin (SRO)**	**38.55**	**153**	P	**P**	**02 30 04.6**	**+1.4**
	comp=Z,18nm,0.8s,mb4.9,baz=320,slow=11,SNR=15						
NWAO				pP		02 30 11.5	+1.5
	comp=Z,14nm,0.8s,baz=321,slow=12,SNR=6.5						
NWAO	**Narrogin (SRO)**	**38.55**	**153**	*e*P	**P**	**02 30 03.0**	**-0.2**
	comp=Z,36nm,1.3s,mb4.9						
JOW	**Kunigami**	**39.13**	**46**	P	**P**	**02 30 09.2**	**+1.1**
	comp=Z,23nm,0.6s,mb5.1,baz=228,slow=6.4,SNR=8.9						
JOW				pP	pP	02 30 15.9	+1.0
	comp=Z,37nm,0.7s,baz=271,slow=7.7,SNR=6.2						
HHC	**Hu-ho-hao-te**	**41.64**	**16**	*e*P	**P**	**02 30 31.0**	**+2.4**
HHC				AP	pP	02 30 40.0	+4.5
HHC				XP	sP	02 30 43.5	+5.2
HHC				PP	PP	02 32 11.0	+3.0
HHC				PCP	PcP	02 32 25.5	-0.5
HHC				PCS		02 36 14.8	
HHC				S	**S**	**02 36 49.8**	**+6.3**
HHC				XS		02 37 07.0	
HHC				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.5						
HHC				LR	LR		
	comp=N,604nm,13.1s,MS4.7						
HHC				LR	LR		
	comp=E,310nm,16.7s,MS4.7						
HHC				LR	LR		
	comp=Z,963nm,16.6s,MS4.8						
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**02 30 29.0**	**-0.1**
	comp=Z,6.1nm,0.5s,mb4.5,baz=303,slow=9.0,SNR=16						
WRA				S	**S**	**02 36 40.1**	**-4.1**
	comp=Z,1.6nm,1.0s,baz=293,slow=17,SNR=4.7						
WRAB	**Tennant Creek**	**41.67**	**122**	P	**P**	**02 30 29.9**	**+0.7**
	comp=Z,123nm,0.7s,mb5.7,SNR=11						
WRAB	**Tennant Creek**	**41.67**	**122**	*e*P	**P**	**02 30 28.3**	**-0.8**
	comp=Z,21nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**41.68**	**122**	*e*P	**P**	**02 30 29.1**	**-0.1**
BJT	**Baijiatuau**	**42.37**	**21**	*e*P	**P**	**02 30 34.6**	**0.0**
	comp=Z,40nm,0.6s,mb5.2						
FORT	**Forrest**	**42.93**	**140**	*e*P	**P**	**02 30 40.9**	**+1.6**
	comp=Z,982nm,0.7s						
ASPA	**Alice Springs**	**43.03**	**127**	*e*P	**P**	**02 30 40.3**	**+0.1**
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**02 30 40.0**	**-0.3**
	comp=Z,1.9nm,0.4s,mb4.2,baz=300,slow=7.8,SNR=11						
ASAR				S	**S**	**02 37 02.9**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=291,slow=13,SNR=5.9						
KSH	**Kashi**	**43.07**	**335**	*e*P	**P**	**02 30 40.3**	**0.0**
KSH				*e*AP	pP	02 30 48.5	+1.3
KSH				*e*XP	sP	02 30 51.8	+1.8
KSH				*e*PP	PP	02 32 22.0	-0.7
KSH				*e*PCP	PcP	02 32 29.5	-1.2
KSH				*e*PPP	PPP	02 32 55.3	-2.3
KSH				*e*SCP		02 36 17.3	
KSH				*e*S	**S**	**02 37 04.0**	**-0.5**
KSH				*e*XS		02 37 16.5	
KSH				*e*SS	SS	02 40 10.8	+0.1
KSH				*e*SCS	ScS	02 40 35.3	-1.9
KSH				AMB	AMB		
	comp=Z,110nm,3.8s						
KSH				LR	LR		
	comp=N,340nm,5.0s						
KSH				LR	LR		
	comp=E,290nm,5.6s						
WBK	**Wadi Bani Khal**	**43.17**	**303**	⇑P	**P**	**02 30 41.8**	**+0.5**
WMQ	**Urumqi**	**43.51**	**350**	P	**P**	**02 30 45.3**	**+1.5**
WMQ				AP	pP	02 30 52.0	+1.3
WMQ				XP	sP	02 30 56.0	+2.5
WMQ				PP	PP	02 32 28.5	+1.5
WMQ				PPP	PPP	02 33 05.0	+1.8
WMQ				PCS		02 36 25.0	
WMQ				S	**S**	**02 37 12.0**	**+1.2**
WMQ				XS		02 37 23.5	
WMQ				SS	SS	02 40 20.0	+1.6
WMQ				AMB	AMB		
	comp=Z,44nm,1.4s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,285nm,3.7s						
WMQ				LR	LR		
	comp=N,768nm,15.8s,MS4.9						
WMQ				LR	LR		
	comp=E,928nm,15.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,850nm,18.8s,MS4.7						
JMDO	**Jabal Madar**	**43.81**	**302**	⇓P	**P**	**02 30 47.1**	**+0.6**
SMDO	**Samad**	**44.13**	**303**	⇓P	**P**	**02 30 49.8**	**+0.6**
	SNR=6.0						
SHAO	**Shalim**	**44.47**	**295**	⇓P	**P**	**02 30 52.4**	**+0.4**
BSY	**Bisya**	**44.72**	**302**	⇑P	**P**	**02 30 54.9**	**+0.9**
ULHL	**Ulahol**	**45.28**	**338**	P	**P**	**02 30 58.5**	**+0.3**
	SNR=9.2						
KZA	**Kyzart**	**45.52**	**337**	P	**P**	**02 31 00.8**	**+0.7**
	SNR=5.9						
ARQ	**Araqi**	**45.53**	**302**	⇑P	**P**	**02 30 59.9**	**-0.5**
RBK	**Rabkut**	**45.61**	**294**	P	**P**	**02 31 01.8**	**+0.7**
	SNR=10						
KS15	**Wonju Array Si**	**45.79**	**34**	*e*P	**P**	**02 31 02.7**	**+0.5**
UCH	**Uchtor**	**45.94**	**336**	P	**P**	**02 31 04.4**	**+1.0**
	SNR=11						
TKM2	**Tokmak 2**	**46.10**	**338**	P	**P**	**02 31 05.5**	**+0.8**
	SNR=12						
WHFO	**Wadi Hawf**	**46.13**	**294**	P	**P**	**02 31 05.4**	**+0.3**
	SNR=18						
KBK	**Karagaybulak**	**46.13**	**337**	P	**P**	**02 31 06.6**	**+1.7**
	SNR=8.2						
AML	**Almayashu**	**46.20**	**335**	P	**P**	**02 31 04.0**	**-1.4**
	SNR=10						
AAK	**Ala-Archa**	**46.29**	**336**	*i* P	**P**	**02 31 02.2**	**-3.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
AAK	**Ala-Archa**	**46.29**	**336**	*e*P	**P**	**02 31 05.3**	**-0.8**
	comp=Z,18nm,1.1s,mb4.9						
ABTO	**Aybut**	**46.41**	**293**	P	**P**	**02 31 07.8**	**+0.5**
	SNR=13						
FRU	**Bishkek**	**46.41**	**337**	*e*P	**P**	**02 31 24.0**	**+17**
EKS2	**Erkin-Say**	**46.60**	**336**	P	**P**	**02 31 09.5**	**+0.9**
	SNR=11						
USP	**Ospenovka**	**46.82**	**337**	P	**P**	**02 31 10.8**	**+0.5**
	SNR=17						
SNY	**Shenyang**	**46.92**	**27**	⇑P	**P**	**02 31 18.0**	**+6.9**
SNY				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.5						
SONM	**Songino Array**	**47.26**	**8**	P	**P**	**02 31 14.2**	**+0.5**
	comp=Z,3.7nm,0.5s,mb4.5,baz=191,slow=9.4,SNR=12						
SONM				pP	pP	02 31 21.1	+0.4
	comp=Z,12nm,0.6s,baz=192,slow=9.0,SNR=12						
SONM				PcP	PcP	02 32 45.0	-0.2
	comp=Z,4.0nm,0.6s,baz=193,slow=4.5,SNR=4.7						
ULN	**Ulaanbaatar**	**47.39**	**9**	*i* P	**P**	**02 31 15.4**	**+0.7**
ULN	**Ulaanbaatar**	**47.39**	**9**	*e*P	**P**	**02 31 14.2**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8						
MKAR	**Makanchi Array**	**47.49**	**346**	*e*P	**P**	**02 31 15.4**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,16nm,0.6s						
MKAR	**Makanchi Array**	**47.49**	**346**	P	**P**	**02 31 15.6**	**0.0**
	comp=Z,22nm,0.5s,mb5.3,baz=161,slow=7.8,SNR=41						
MKAR				pP	pP	02 31 22.6	+0.1
	comp=Z,25nm,0.7s,baz=159,slow=7.6,SNR=12						
CN2	**Changchun**	**49.32**	**27**	*e*P	**P**	**02 31 29.5**	**-0.3**
CN2				*e*AP	pP	02 31 40.5	+3.8
CN2				*e*S	**S**	**02 38 33.0**	**-0.7**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,320nm,3.0s						
CN2				LR	LR		
	comp=N,940nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,730nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=Z,830nm,16.0s,MS4.8						
ZAK	**Zakamensk**	**49.42**	**5**	*e*P	**P**	**02 31 30.5**	**0.0**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
MOY	**Mondy**	**50.55**	**3**	*e*P	**P**	**02 31 46.2**	**+7.2**
TLY	**Talaya**	**50.74**	**5**	*e*P	**P**	**02 31 41.2**	**+0.7**
TLY				*e*		02 31 55.0	
TLY				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
TLY				MLR	MLR		
	comp=Z,433nm,19.0s,MS4.5						
HIA	**Hailar**	**51.71**	**18**	*e*P	**P**	**02 31 47.0**	**-0.9**
	comp=Z,17nm,0.7s,mb5.1						
KURK	**Kurchatov**	**52.05**

ARMA *i* pP 02 32 57.6 +1.5
KMBO Kilima Mbogo 60.30 268 P **P** **02 32 49.8 -0.3**
comp=N,6,8nm,0.9s,mb4.7,baz=63,slow=9.1,SNR=18
KMBO Kilima Mbogo 60.30 268 *e*P **P** **02 32 49.4 -0.7**
comp=N,11nm,1.2s,mb4.8
YSS Yuzh-Sakhalins 60.32 34 *e*P **P** **02 32 56.7 +7.0**
YSS *e* 02 33 09.0
YSS pmax pmax
comp=Z,40nm,1.0s,mb5.4
GNI Garni 61.64 316 P **P** **02 32 58.4 -0.4**
comp=Z,9.2nm,0.9s,mb4.9,baz=353,slow=19,SNR=3.3
TI2 Plekhanov 62.32 318⇓ *i*P **P** **02 33 02.0 -1.4**
SVE Sverdlovsk 62.97 338⇓ *e*P **P** **02 33 06.2 -1.2**
SVE *e*S **S** **02 41 40.0 +5.5**
SVE pmax pmax
comp=Z,40nm,1.5s,mb5.3
SVE MLR MLR
comp=N,100nm,16.0s,MS4.4
SVE MLR MLR
comp=E,200nm,16.0s,MS4.4
SVE MLR MLR
comp=Z,200nm,16.0s,MS4.4
ARU Arti 63.47 337 *i* P **P** **02 33 08.8 -1.9**
ARU *e* 02 33 49.5
ARU *e* 02 35 28.4
ARU *e*S **S** **02 41 29.1 -12**
ARU pmax pmax
comp=Z,17nm,1.2s,mb5.0
ARU Arti 63.47 337 *e*P **P** **02 33 08.5 -2.2**
comp=Z,13nm,0.8s,mb5.1
ARU *e*pP pP 02 33 15.7 -2.2
KIV Kislovodsk 64.65 319 *i* P **P** **02 33 17.0 -1.6**
KIV pmax pmax
comp=Z,33nm,1.3s,mb5.2
KIV Kislovodsk 64.65 319 *e*P **P** **02 33 16.8 -1.9**
comp=Z,18nm,1.0s,mb5.1
ASF Jabal al Asfar 64.83 305 P **P** **02 33 20.3 +0.3**
comp=Z,9.9nm,1.1s,mb4.8,baz=357,slow=2.8,SNR=12
ASF pP pP 02 33 28.0 +0.9
comp=Z,5.2nm,1.0s,baz=28,slow=4.5,SNR=4.8
GOF Gofitskoye 64.91 320 *e*P **P** **02 33 16.6 -3.7**
MALT Malatya 65.49 312 *e*P **P** **02 33 22.8 -1.4**
comp=Z,7.9nm,1.0s,mb4.7
YAK Yakutsk 65.50 16 *e*P **P** **02 33 28.9 +5.1**
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.2s
EIL Elat 65.82 302 *e*P **P** **02 33 25.1 -1.3**
comp=E,29nm,1.1s,mb5.2
EIL *e*pP pP 02 33 33.1 -0.4
MBAR Mbarara 66.80 269 P **P** **02 33 32.0 -0.9**
comp=E,81nm,1.0s,mb5.7,SNR=11
MBAR Mbarara 66.80 269 *e*P **P** **02 33 31.2 -1.7**
comp=E,16nm,1.1s,mb5.0
VRSR Storozhevoye 69.89 325 *e*P **P** **02 33 49.5 -1.9**
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,10.0nm,0.8s
SIM Simferopol' 70.71 318 *ce*P **P** **02 33 45.0 -12**
SIM pmax pmax
comp=Z,16nm,0.7s,mb5.1
MA2 Magadan 71.36 25 *e*P **P** **02 33 59.9 -0.3**
MA2 pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MA2 Magadan 71.36 25 *e*P **P** **02 34 00.0 -0.2**
comp=Z,6.9nm,0.6s,mb4.8
MA2 *e*pP pP 02 34 06.9 -0.5
MAW Mawson 72.61 193 P **P** **02 34 08.0 +0.5**
comp=Z,7.7nm,0.7s,mb4.8,baz=335,slow=4.5,SNR=9.2
MOS Moscow 72.65 329 *e*P **P** **02 34 06.2 -1.8**
MOS *e* pP 02 34 15.0 -0.2
MOS pmax pmax
comp=Z,48nm,0.7s,mb5.5
OBN Obninsk 72.94 328 *d i*P **P** **02 34 08.4 -1.3**
OBN *e* 02 36 49.1
OBN *e*S S 02 43 26.2 -7.4
OBN pmax pmax
comp=Z,24nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,20.0s,MS4.1
TIXI Tiksi 73.31 10 *e*P **P** **02 34 09.7 -1.8**
TIXI pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
TIRR Tirgusor 74.47 316⇓ P **P** **02 34 17.7 -1.1**
TIRR Tirgusor 74.47 316⇓ P **P** **02 34 17.7 -1.1**
CFR Carcaliu 74.84 317⇓ P **P** **02 34 20.3 -0.7**
CFR Carcaliu 74.84 317⇓ P **P** **02 34 20.3 -0.6**
BOSA Boshof 74.97 240 P **P** **02 34 21.8 -0.3**
comp=Z,8.6nm,0.7s,mb4.8,baz=85,slow=5.4,SNR=16
IDI Anoyia 75.26 306 P **P** **02 34 23.1 -0.5**
comp=Z,15nm,0.8s,mb5.0,baz=113,slow=6.5,SNR=7.8
AKASG Malin Array Be 75.59 322 P **P** **02 34 23.6 -1.6**
comp=Z,9.3nm,0.7s,mb4.8,baz=90,slow=4.8,SNR=23
AKASG pP pP 02 34 30.9 -1.4
comp=Z,4.4nm,0.6s,baz=90,slow=5.2,SNR=7.3
VRI Vrincioaia 75.97 317⇓ *i*P **P** **02 34 26.8 -0.6**
VRI Vrincioaia 75.97 317⇓ *i*P **P** **02 34 26.8 -0.5**
MLR Muntele Rosu 76.42 317 P **P** **02 34 29.9 0.0**
comp=Z,19nm,1.0s,mb5.0,baz=144,slow=1.8,SNR=16
MLR Muntele Rosu 76.42 317⇓ *i*P **P** **02 34 29.6 -0.3**
MLR Muntele Rosu 76.42 317⇓ *i*P **P** **02 34 29.6 -0.3**
BURAR Bucovina Array 77.37 319⇓ P **P** **02 34 35.5 +0.4**
VSU Vasula 79.17 330 *i* P **P** **02 34 44.3 -0.4**
KWP Kalwaria 79.41 320 *e*P **P** **02 34 46.1 -0.2**
BZS Buzias 79.43 316⇓ P **P** **02 34 45.9 -0.5**
BZS Buzias 79.43 316⇓ P **P** **02 34 45.9 -0.5**
KOLS Kolonicke sedl 79.56 320 *i* P **P** **02 34 47.6 +0.5**
KOLS *e*pP pP 02 34 55.5 +1.1
SYO Syowa Base 79.93 198⇓ P **P** **02 34 48.2 -0.5**
SUW Suwalki 80.01 325 *e*P **P** **02 34 48.2 -1.2**
FINES FINESS Array B 80.31 332 P **P** **02 34 50.3 -0.5**
comp=Z,4.5nm,0.6s,mb4.5,baz=90,slow=5.7,SNR=15
FINES pP pP 02 34 57.8 -0.3
comp=Z,4.1nm,0.7s,baz=108,slow=6.0,SNR=6.8
KAF Kangasniemi 80.39 333 *ep* **P** **02 34 49.9 -1.3**
comp=Z,8.0nm,0.6s,mb4.8,baz=102,slow=5.0
KAF Kangasniemi 80.39 333 *e*P **P** **02 34 49.9 -1.3**
KAF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
PKSN Nyarlorinc 80.82 317 *e*P **P** **02 34 56.3 +2.4**
NIE Niedzica 80.91 320 *e*P **P** **02 34 53.0 -1.3**
PSZ Piszkesteto 80.95 318⇑ *e*P **P** **02 34 54.7 +0.2**
OJC Ojcow 81.37 321 *e*P **P** **02 34 56.4 -0.2**
PKSM Moragy 81.57 316⇓ *i*P **P** **02 34 57.3 -0.5**
PKSM *i* pP 02 35 04.7 -0.4
VYHS Vyhne 81.74 319 *e*P **P** **02 34 58.7 +0.1**
VYHS *e*pP pP 02 35 05.1 -0.8
SRO Srobarova 82.00 318 *e*P **P** **02 35 01.0 +1.1**
OKC Ostrava-Krasne 82.37 320 *e*P **P** **02 35 02.1 +0.3**
OKC *e*pP pP 02 35 08.6 -0.5
KEV Kevo 82.38 341 *ep* **P** **02 34 59.3 -2.2**
comp=Z,19nm,0.8s,mb5.1
KEV Kevo 82.38 341 *e*P **P** **02 34 59.3 -2.2**
KEV pmax pmax
comp=Z,19nm,0.8s,mb5.1
SMOL Smolenice 82.67 319 *e*P **P** **02 35 03.6 +0.2**
MORC Moravsky Berou 82.75 320 *e*P **P** **02 35 03.5 -0.3**
comp=Z,16nm,1.1s,mb5.0
MORC *e*pP pP 02 35 10.6 -0.5
ARCES ARCESS Array B 82.81 340 P **P** **02 35 04.0 +0.2**
comp=Z,2.7nm,0.6s,mb4.5,baz=101,slow=4.8,SNR=11
ARCES ARCESS Array B 82.81 340 P **P** **02 35 04.0 +0.2**
ZST Bratislava 82.85 318 *e*P **P** **02 35 04.8 +0.4**
ZST *e*pP pP 02 35 11.0 -0.7
KOGS Kog 83.24 317⇓ *i*P **P** **02 35 06.4 0.0**
DPC Dobruska-Polom 83.59 320 *e*P **P** **02 35 07.9 -0.3**
DPC *e*pP pP 02 35 15.7 +0.2
KSP Ksiaz 83.67 321 *e*P **P** **02 35 08.9 +0.4**
KSP *e**PP pP 02 35 15.8 0.0
KSP Ksiaz 83.67 321 *e*P **P** **02 35 08.9 +0.4**
UPC Upice 83.81 321 *e*P **P** **02 35 10.0 +0.8**
UPC *e*pP pP 02 35 15.5 -1.1
ARSA Arzberg 83.81 317⇓ *i*P **P** **02 35 09.6 +0.3**
comp=Z,20nm,1.4s,mb5.0
BOJS Bojanci 83.85 316 *e*P **P** **02 35 09.5 -0.1**
VAE Valguarnera 83.91 307 P **P** **02 35 11.8 +1.8**
comp=Z,3.8nm,0.3s,mb5.0,baz=132,slow=17,SNR=6.1
LJU Ljubljana 84.40 316 *e*P **P** **02 35 12.6 +0.3**

OBKA Obir 84.42 316⇓ *i*P **P** **02 35 12.7 +0.3**
comp=Z,14nm,1.2s,mb5.0
SDI San Donato 84.62 312 *e*P **P** **02 35 12.9 -0.7**
PRU Pruhonice 84.70 320 *e*P **P** **02 35 13.8 +0.1**
PRU *e*pP pP 02 35 21.1 0.0
MOA Molln 84.71 318⇓ *i*P **P** **02 35 13.6 -0.2**
comp=Z,12nm,1.7s,mb4.7
PVCC Panska Ves 84.73 320 *e*P **P** **02 35 14.2 +0.4**
PVCC *e*pP pP 02 35 21.0 -0.2
PTQR Pietraquaria 84.94 312 *e*P **P** **02 35 15.1 0.0**
AQU L'Aquila 84.96 312 *e*P **P** **02 35 15.8 +0.6**
BRG Berggiesshubel 85.15 321 *i* P **P** **02 35 16.6 +0.7**
BRG *e* pP 02 35 23.5 +0.2
BRG pmax pmax
comp=Z,25nm,1.5s,mb5.1
BRG Berggiesshubel 85.15 321 *i* P **P** **02 35 16.6 +0.7**
comp=Z,25nm,1.5s,mb5.1
BRG *e* pP 02 35 23.5 +0.2
GEC2 GERESS Array S 85.16 319 *e*P **P** **02 35 16.4 +0.4**
GEC2 pmax pmax
comp=Z,23nm,1.1s,mb5.2
GEC2 GERESS Array S 85.16 319 *e*P **P** **02 35 16.4 +0.4**
comp=Z,23nm,1.1s,mb5.2
GERES GERESS Array B 85.16 319 P **P** **02 35 16.3 +0.2**
comp=Z,8.2nm,0.9s,mb4.9,baz=104,slow=5.5,SNR=42
GERES pP pP 02 35 24.6 +1.2
comp=Z,2.6nm,0.7s,baz=90,slow=4.0,SNR=6.1
PTCC Patocco-Chiusa 85.23 316 *e*P **P** **02 35 16.2 -0.3**
KHC Kasperske Hory 85.26 319 *e*P **P** **02 35 16.5 0.0**
KHC *e* pP 02 35 23.5 -0.4
KHC Kasperske Hory 85.26 319 *e*P **P** **02 35 16.1 -0.4**
KHC *e*pP pP 02 35 23.7 -0.2
KBA Koelnbreinsper 85.28 317⇓ *i*P **P** **02 35 16.2 -0.5**
comp=Z,7.4nm,1.4s,mb4.6
ARV Arcevia 85.36 313 *e*P **P** **02 35 17.7 +0.5**
VNDA Vanda 85.58 169 P **P** **02 35 18.4 +0.8**
comp=Z,2.4nm,1.0s,mb4.4,baz=296,slow=5.3,SNR=7.9
FVI Forni Avoltri 85.64 316 *e*P **P** **02 35 18.4 -0.2**
WET Wettzell 85.72 319 *e*P **P** **02 35 19.0 +0.2**
WET pmax pmax
comp=Z,14nm,1.1s,mb5.1
WET Wettzell 85.72 319 *e*P **P** **02 35 19.0 +0.2**
comp=Z,14nm,1.1s,mb5.1
CLL Collm 85.77 321⇑ *i*P **P** **02 35 19.1 +0.1**
CLL pmax pmax
comp=Z,16nm,1.3s,mb5.1
CLL Collm 85.77 321⇑ *i*P **P** **02 35 19.1 +0.1**
comp=Z,16nm,1.3s,mb5.1
CLL Collm 85.77 321 ⇑P **P** **02 35 19.1 +0.1**
comp=Z,logA/T=1.1,mb5.1
HFS Hagfors 86.04 330 P **P** **02 35 20.9 +0.8**
comp=Z,5.2nm,0.6s,mb5.0,baz=135,slow=4.2,SNR=12
NKC Novy Kostel 86.06 320 *e*P **P** **02 35 20.5 0.0**
NKC *e*pP pP 02 35 28.1 +0.2
SFI Santa Sofia 86.17 314 *e*P **P** **02 35 22.0 +0.8**
PGD Poggio Sodo 86.26 314 *e*P **P** **02 35 22.7 +1.0**
CTI Castel Tesino 86.40 316 *e*P **P** **02 35 22.7 +0.4**
WTTA Wattenberg 86.46 317⇓ *i*P **P** **02 35 22.2 -0.3**
comp=Z,18nm,1.4s,mb5.1
WATA Walderalm 86.50 317⇓ *i*P **P** **02 35 22.0 -0.7**
comp=Z,6.8nm,1.2s,mb4.8
MOX Moxa 86.61 320 *e*P **P** **02 35 23.6 +0.4**
MOX pmax pmax
comp=Z,12nm,1.4s,mb4.9
MOX Moxa 86.61 320 *e*P **P** **02 35 23.6 +0.4**
comp=Z,12nm,1.4s,mb4.9
MOX Moxa 86.61 320 *i* P **P** **02 35 23.6 +0.4**
comp=Z,logA/T=0.9,mb4.9
FUR Furstenfeldbru 86.73 318 *e*P **P** **02 35 24.3 +0.4**
SQTA Sankt Quirin 86.75 317⇓ *i*P **P** **02 35 23.5 -0.4**
comp=Z,4.4nm,0.9s,mb4.7
MOTA Moosalm 86.82 317⇓ *i*P **P** **02 35 23.8 -0.5**
GRA1 Grafenberg Arr 86.83 320 *e*P **P** **02 35 24.8 +0.5**
comp=Z,21nm,1.1s,mb5.3
GRA1 *e*pP pP 02 35 32.0 +0.4
GRF Grafenberg Arr 86.83 320 *e*P **P** **02 35 24.8 +0.5**
GRF *e**PP pP 02 35 32.0 +0.4
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.3
GRF Grafenberg Arr 86.83 320 *e*P **P** **02 35 24.8 +0.5**
comp=Z,21nm,1.1s,mb5.3
GRF *e*pP pP 02 35 32.0 +0.4
NB2 NORSAR Subarra 87.32 331 P **P** **02 35 25.9 -0.5**
comp=Z,7.6nm,0.8s,mb5.0,baz=95,slow=4.8
NOA NORSAR Array B 87.32 331 P **P** **02 35 26.1 -0.3**
comp=Z,5.3nm,0.8s,mb4.8,baz=95,slow=4.9,SNR=17
CLZ Clausthal 87.44 322 *e*P **P** **02 35 27.6 +0.4**
comp=Z,27nm,1.6s,mb5.2
DAVOX Davos 87.64 317 P **P** **02 35 28.9 +0.6**
comp=Z,8.1nm,0.6s,mb5.1,baz=143,slow=5.1,SNR=7.0
DAVA Damuels 87.65 317⇑ *i*P **P** **02 35 28.9 +0.6**
comp=Z,15nm,1.1s,mb5.1
PGF Pioggiola 88.22 312 *e*P **P** **02 35 31.0 -0.2**
comp=Z,86nm,1.4s,mb5.5
TNS Taunus Mts 88.63 320 *e*P **P** **02 35 33.4 +0.5**
BFO Black Forest 88.71 318 *e*P **P** **02 35 34.2 +0.9**
BFO pmax pmax
comp=Z,17nm,1.6s,mb5.1
BFO Black Forest 88.71 318 *e*P **P** **02 35 34.2 +0.9**
comp=Z,17nm,1.6s,mb5.1
SBF Sospel 89.36 314 *e*P **P** **02 35 36.3 -0.3**
comp=Z,30nm,0.8s,mb5.4
CDF Champ du Feu 89.41 318 *e*P **P** **02 35 36.1 -0.6**
comp=Z,10nm,1.0s,mb4.8
MAIT Maitri 89.56 199 *e*P **P** **02 35 39.1 +2.2**
LPG La Plagne 89.82 315 *e*P **P** **02 35 38.8 +0.1**
comp=Z,26nm,1.0s,mb5.2
MBDF Montbardon 89.82 315 *e*P **P** **02 35 38.0 -0.7**
comp=Z,16nm,1.0s,mb5.0
LPL La Plagne 89.83 315 *e*P **P** **02 35 38.8 +0.1**
comp=Z,41nm,1.1s,mb5.4
FRF La Foret Royal 89.94 313 *e*P **P** **02 35 39.2 -0.1**
HAU Haudompre 90.04 318 *e*P **P** **02 35 39.2 -0.4**
comp=Z,38nm,1.2s,mb5.3
LMR La Mourre 90.05 313 *e*P **P** **02 35 39.5 -0.3**
comp=Z,27nm,1.1s,mb5.2
CABF La Chapelle 90.25 316 *e*P **P** **02 35 40.8 +0.1**
comp=Z,28nm,0.9s,mb5.3
ORIF Oris-en-Rattie 90.45 315 *e*P **P** **02 35 41.8 +0.2**
comp=Z,18nm,1.0s,mb5.0
MEZF Maizieres J'vi 90.89 318 *e*P **P** **02 35 43.5 0.0**
GIVF Givet 90.96 320 *e*P **P** **02 35 43.9 +0.1**
VIVF Saint-Julien-l 91.31 315 *e*P **P** **02 35 45.5 -0.1**
comp=Z,29nm,1.2s,mb5.2
BAIF Baives 91.36 320 *e*P **P** **02 35 46.1 +0.5**
comp=Z,42nm,1.0s,mb5.4
SMF Signal de Mont 91.80 317 *e*P **P** **02 35 47.6 -0.2**
comp=Z,42nm,1.0s,mb5.4
LASF Ste Croix 91.94 314 *e*P **P** **02 35 48.9 +0.4**
comp=Z,16nm,1.0s,mb5.0
SSF Saint Saulge 92.00 317 *e*P **P** **02 35 48.7 0.0**
comp=Z,40nm,1.3s,mb5.3
AVF Avril sur Loir 92.13 317 *e*P **P** **02 35 49.2 -0.1**
comp=Z,29nm,1.0s,mb5.2
BGF Bois d'Agland 92.49 316 *e*P **P** **02 35 51.3 +0.4**
comp=Z,22nm,1.2s,mb5.5
HYF Humbligny 92.58 317 *e*P **P** **02 35 51.9 +0.6**
TCF Toulx Ste Croi 92.95 316 *e*P **P** **02 35 53.3 +0.2**
comp=Z,11nm,0.9s,mb5.0
CAF Calviac 93.16 315 *e*P **P** **02 35 54.6 +0.5**
comp=Z,24nm,1.2s,mb5.2
MTLF Montolieu 93.17 313 *e*P **P** **02 35 54.3 +0.1**
comp=Z,22nm,1.1s,mb5.2
RJF Les Rejaudoux 93.51 315 *e*P **P** **02 35 56.2 +0.5**
IMA Indian Mountai 96.62 23 *e*P **P** **02 36 09.1 -0.3**
IMA *e*pP pP 02 36 17.2 +0.4
YKA Yellowknife Ar 112.18 15 PP PP 02 42 00.6 -2.4
comp=Z,0.1nm,0.6s,baz=333,slow=7.5,SNR=3.7
ULM Lac du Bonnet 127.66 11 PKP PKPdf 02 41 44.5 -4.0
comp=Z,0.7nm,0.3s,baz=357,slow=2.5,SNR=3.5
PDAR Pinedale Array 130.06 26 PKP PKPdf 02 41 50.5 -2.8
comp=Z,0.4nm,0.6s,baz=252,slow=3.9,SNR=5.0
MSU Marysvale 132.10 32 PKP PKPdf 02 41 52.3 -5.1
SADO Sadowa 134.32 357 PKP PKPdf 02 41 56.8 -4.5
comp=Z,2.8nm,0.7s,baz=55,slow=23,SNR=3.5
ANMO Albuquerque 137.76 30 PKP PKPdf 02 42 04.6 -3.3
comp=Z,0.9nm,0.6s,baz=15,slow=8.4,SNR=4.0
PLCA Paso Flores 139.01 194 PKP PKPdf 02 42 07.2 -2.8
comp=Z,1.6nm,0.8s,baz=322,slow=2.8,SNR=3.0
BDFB Brasilia 143.03 245 PKhKP 02 42 11.2
comp=Z,2.5nm,0.7s,baz=174,slow=5.2,SNR=5.0
TXAR Lajitas Array 143.65 32 PKP PKPdf 02 42 13.7 -4.8
comp=Z,1.0nm,0.6s,baz=234,slow=1.1,SNR=11
LRAL Lakeview Retre 145.86 7 *e*PKP PKPdf 02 42 18.9 -3.4
LRAL *e* 02 42 26.2
SDV Santo Domingo 164.63 310 PKPab PKPab 02 43 39.4 -1.3
comp=Z,3.5nm,0.8s,baz=319,slow=15,SNR=4.5

*NEIC **29** 02:23:14.5, 15.41N×95.10W, h22km, MD3.8(MEX), After MEX.*
MEX 29 02:23:12.7±1.5, 15.17N×95.14W, h33km±83km, MD3.9, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
HUIG	**Huatulco**	**1.11**	**303**	*i* P	P		02 23 30.6	-1.4
HUIG				*i* S	S		02 23 42.5	-3.8
CMIG	**Matias Romero**	**1.93**	**7**	*e*P	P		02 23 40.9	-2.8
CMIG				*i* S	S		02 24 04.8	-2.2
VHO	**Vista Hermosa**	**2.44**	**321**	*e*P	P		02 23 49.3	-1.7
VHO				*i* S	S		02 24 15.4	-4.5
OXX	**Oaxaca**	**2.44**	**322**	*i* P	P		02 23 53.0	+2.0
OXX				*i* S	S		02 24 20.0	+0.1
CCIG	**Comitan**	**3.10**	**69**	*i* P	P		02 23 58.5	-1.9
CCIG				*i* S	S		02 24 31.9	-4.8
PPM	**Popocatepetl**	**5.11**	**320**	*e*P	P		02 24 30.0	+1.0

*IDC **29** 02:30:02.5±2.2, 2.23N×96.12E, mb3.9/7, mb1 4.0/7, mb1mx3.8/18, mbtmp3.9/7, Error ellipse: s-maj=99.9km s-min=18.5km az=56.0*
*NEIC **29** 02:30:07.1±0.6, 2.27N×96.15E, h30km, mb4.4/4, Error ellipse: s-maj=16.3km s-min=8.3km az=49.0*
ISC 29 02:30:05.3±0.9, 2.3N±0.1×96.2E±0.1, h30km, n13, σ0s53/13, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KULM	**Kulim**	**5.37**	**56**	*e*P	**Pn**		**02 31 25.8**	**+0.2**
KKM	**Kota Kinabalu**	**20.34**	**79**	P	**P**		**02 34 41.7**	**-0.4**
LSA	**Lhasa**	**27.67**	**351**	*e*P	**P**		**02 35 52.4**	**-0.4**
	6.7nm,0.7s,mb4.4							
FITZ	**Fitzroy Crossi**	**35.40**	**126**	P	**P**		**02 36 59.9**	**-1.0**
	1.9nm,0.7s,mb4.1,baz=333,slow=4.5,SNR=2.6							
WRA	**Warramunga Arr**	**43.49**	**122**	P	**P**		**02 38 08.2**	**+0.2**
	0.4nm,0.4s,mb3.5,baz=300,slow=9.3,SNR=3.5							
WRAB	**Tennant Creek**	**43.49**	**122**	P	**P**		**02 38 08.9**	**+0.9**
	3.3nm,0.6s,mb4.2							
ASAR	**Alice Springs**	**44.87**	**127**	P	**P**		**02 38 19.2**	**0.0**
	0.4nm,0.5s,mb3.5,baz=298,slow=8.0,SNR=4.2							
MKAR	**Makanchi Array**	**45.94**	**347**	P	**P**		**02 38 28.1**	**+0.8**
	4.2nm,0.9s,mb4.4,baz=162,slow=8.2,SNR=21							
SONM	**Songino Array**	**46.22**	**10**	P	**P**		**02 38 29.6**	**+0.1**
	1.3nm,0.4s,mb4.2,baz=188,slow=9.0,SNR=9.7							
KURK	**Kurchatov**	**50.48**	**346**	*e*P	**P**		**02 39 02.7**	**+0.2**
	5.8nm,1.2s,mb4.5							
BVAR	**Borovoye Array**	**54.89**	**341**	P	**P**		**02 39 34.7**	**-0.7**
	0.7nm,0.5s,mb3.9,baz=141,slow=9.5,SNR=5.8							
CHKZ	**Chkalovo**	**55.37**	**342**	*e*P	**P**		**02 39 38.4**	**-0.5**
	2.2nm,0.7s,mb4.3							
ARCES	**ARCESS Array B**	**81.17**	**340**	P	**P**		**02 42 19.7**	**+0.5**
	5.0nm,1.0s,mb4.4,baz=80,slow=5.5,SNR=4.4							

*IDC **29** 02:36:41.6±2.3, 0.78N×97.36E, mb4.0/6, mb1 4.2/6, mb1mx3.9/17, mbtmp4.0/6, Error ellipse: s-maj=105.1km s-min=21.1km az=55.0*
*NEIC **29** 02:36:46.1±0.5, 0.82N×97.39E, h30km, mb4.2/3, Error ellipse: s-maj=15.1km s-min=10.3km az=59.0*
ISC 29 02:36:44.1±0.8, 0.8N±0.1×97.4E±0.1, h30km, n11, σ0s52/11, mb4.1/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
KULM	**Kulim**	**5.49**	**36**	*e*P	**Pn**		**02 38 05.6**	**-0.5**
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**		**02 44 31.9**	**-0.3**
	0.9nm,0.6s,mb3.6,baz=303,slow=9.0,SNR=5.3							
ASAR	**Alice Springs**	**43.04**	**127**	P	**P**		**02 44 43.4**	**+0.2**
	1.0nm,0.6s,mb3.7,baz=298,slow=7.7,SNR=9.2							
SONM	**Songino Array**	**47.45**	**8**	P	**P**		**02 45 19.0**	**+0.9**
	0.6nm,0.3s,mb3.9,baz=191,slow=9.6,SNR=9.7							
MKAR	**Makanchi Array**	**47.63**	**346**	P	**P**		**02 45 20.1**	**+0.6**
	2.1nm,0.5s,mb4.5,baz=159,slow=9.0,SNR=29							
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**		**02 45 53.6**	**-0.6**
	1.9nm,0.7s,mb4.1							
STKA	**Stephens Creek**	**52.99**	**132**	*e*P	**P**		**02 46 00.7**	**+0.1**
BVAR	**Borovoye Array**	**56.64**	**341**	P	**P**		**02 46 26.6**	**-0.2**
	0.8nm,0.7s,mb3.9,baz=135,slow=8.4,SNR=5.1							
CHKZ	**Chkalovo**	**57.12**	**341**	*e*P	**P**		**02 46 29.6**	**-0.6**
	2.0nm,0.7s,mb4.3							
CHKZ				*e*			02 46 36.5	
KMBO	**Kilima Mbogo**	**60.16**	**268**	P	**P**		**02 46 51.5**	**-0.4**
	1.5nm,0.6s,mb4.2							
ARCES	**ARCESS Array B**	**82.93**	**340**	P	**P**		**02 49 07.8**	**+0.6**
	5.0nm,1.1s,mb4.5,baz=101,slow=4.6,SNR=4.2							

*IDC **29** 02:40:33.1±0.9, 1.09N×97.05E, mb4.3/13, mb1 4.4/13, mb1mx4.2/19, mbtmp4.3/13, Error ellipse: s-maj=53.6km s-min=14.3km az=50.0*
*BJI **29** 02:40:33.4, 0.62N×97.32E, h41km, mB5.4, mb4.8, Ms4.5, Msz4.4*
*MOS **29** 02:40:36.8±1.4, 1.25N×97.32E, h33km, mb4.8/12, Error ellipse: s-maj=24.1km s-min=9.7km az=114.1*
*NEIC **29** 02:40:36.9±0.5, 1.11N×97.21E, mb4.7/19, Error ellipse: s-maj=14.8km s-min=8.0km az=46.0*
ISC 29 02:40:36.2±1.7, 1.14N±0.06×97.21E±0.06, h30km±12km, h27km±1.2km: pP-P, n74, σ1s15/77, mb4.6/45, MS4.5/7, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
IPM	**Ipoh**	**5.12**	**48**	P	**Pn**		**02 41 53.2**	**+0.3**
KULM	**Kulim**	**5.37**	**40**	*e*P	**Pn**		**02 41 56.2**	**-0.2**
KGM	**Kluang**	**6.17**	**82**	P	**Pn**		**02 42 09.1**	**+1.4**
KKM	**Kota Kinabalu**	**19.58**	**75**	P	**P**		**02 45 04.8**	**-0.2**
QIZ	**Qiongzhong**	**21.67**	**34**	*e*P	**P**		**02 45 26.5**	**0.0**
KMI	**Kunming**	**24.43**	**12**	P	**P**		**02 45 55.0**	**+1.3**
KMI				AP			02 46 01.8	
KMI				PP	PP		02 46 32.3	+2.8
KMI				S	**S**		**02 50 11.3**	**+2.6**
KMI				AMB	AMB			
	comp=Z,29nm,1.3s,mb4.5							
KMI				LR	LR			
	comp=N,536nm,19.3s,MS4.1							
KMI				LR	LR			
	comp=E,325nm,17.8s,MS4.1							
KMI				LR	LR			
	comp=Z,606nm,16.0s,MS4.2							
HYB	**Hyderabad**	**24.46**	**312**	*e*P	**P**		**02 45 56.0**	**+2.0**
HYB	**Hyderabad**	**24.46**	**312**	*i* P	**P**		**02 45 56.0**	**+2.0**
GYA	**Guiyang**	**26.77**	**19**⇑	*i*P	**P**		**02 46 15.3**	**-0.2**
GYA				AP	pP		02 46 22.5	-1.9
GYA				PP	PP		02 47 05.3	+4.7
GYA				S	**S**		**02 50 56.5**	**+9.0**
GYA				AMB	AMB			
	comp=Z,20nm,0.6s,mb4.8							
GYA				AMB	AMB			
	comp=Z,200nm,2.4s,mb5.2							
GYA				LR	LR			
	comp=N,600nm,14.4s,MS4.3							
GYA				LR	LR			
	comp=E,210nm,14.4s,MS4.3							
GYA				LR	LR			
	comp=Z,770nm,14.3s,MS4.4							
JIRN	**Jiri**	**28.41**	**339**	*e*P	**P**		**02 46 31.8**	**+1.5**
	comp=Z,4.9nm,0.3s,mb4.6							
PKI	**Pulchoki**	**28.61**	**338**	*e*P	**P**		**02 46 34.8**	**+2.6**
	comp=Z,30nm,1.0s,mb5.0							
PKI	**Pulchoki**	**28.61**	**338**	*e*P	**P**		**02 46 34.8**	**+2.6**
PKI				pmax	pmax			
	comp=Z,15nm,1.0s,mb4.7							
GUN	**Gumba**	**28.75**	**339**	*e*P	**P**		**02 46 34.0**	**+0.6**
	comp=Z,40nm,0.7s,mb5.2							
DMN	**Daman**	**28.76**	**337**	*e*P	**P**		**02 46 35.8**	**+2.2**
	comp=Z,18nm,0.8s,mb4.8							
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**		**02 46 34.8**	**+0.4**
	comp=Z,51nm,1.0s,mb5.2							
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**		**02 46 34.8**	**+0.4**
KKN				pmax	pmax			
	comp=Z,26nm,1.0s,mb4.9							
LSA	**Lhasa**	**28.98**	**349**	*e*P	**P**		**02 46 37.1**	**+1.6**
LSA				pmax	pmax			
	comp=Z,8.0nm,0.6s

KOLN	**Koldanda**	**29.51**	**335**	*e*P		**P**	**02 46 40.9**	**+0.5**
	comp=Z,15nm,0.6s,mb4.9								
ENH	**Enshi**	**31.23**	**21**	*e*P		**P**	**02 46 53.4**	**-2.1**
	comp=Z,18nm,0.6s,mb5.1								
ENH				*e*			02 47 00.2		
FITZ	**Fitzroy Crossi**	**33.89**	**126**	*e*P		**P**	**02 47 17.3**	**-1.5**
	comp=Z,5.1nm,0.9s,mb4.5								
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P		**P**	**02 47 18.1**	**-0.7**
	comp=Z,4.2nm,0.7s,mb4.5,baz=323,slow=2.8,SNR=7.6								
XAN	**Xi'an**	**34.52**	**17**	P		**P**	**02 47 22.3**	**-1.7**
XAN				AMB	AMB				
	comp=Z,13nm,0.9s,mb4.9								
LZH	**Lanzhou**	**35.31**	**9**	*e*P		**P**	**02 47 32.0**	**+1.2**
LZH				AP	pP		02 47 39.8	-0.1	
LZH				XP	sP		02 47 44.0	+0.3	
LZH				PP	PP		02 48 52.0	+1.5	
LZH				AMB	AMB				
	comp=Z,27nm,1.4s,mb5.0								
LZH				AMB	AMB				
	comp=Z,101nm,4.0s								
LZH				LR	LR				
	comp=E,1μm,16.0s								
LZH				LR	LR				
	comp=Z,1μm,17.3s,MS4.8								
GTA	**Gaotai**	**38.16**	**3**	*e*P		**P**	**02 47 55.0**	**+0.2**
GTA				AP	pP		02 48 04.3	+0.4	
GTA				XP	sP		02 48 07.5	-0.2	
GTA				PP	PP		02 49 25.5	-0.1	
GTA				PCP	PcP		02 50 10.3	+0.7	
GTA				S	**S**		**02 53 45.5**	**-0.2**	
GTA				AMB	AMB				
	comp=Z,16nm,0.9s,mb4.8								
GTA				AMB	AMB				
	comp=Z,145nm,4.2s								
GTA				LR	LR				
	comp=N,111nm,18.2s,MS3.9								
GTA				LR	LR				
	comp=E,138nm,16.0s,MS3.9								
GTA				LR	LR				
	comp=Z,634nm,19.0s,MS4.5								
HHC	**Hu-ho-hao-te**	**41.61**	**16**	*e*P		**P**	**02 48 24.0**	**+0.7**
HHC				AP	pP		02 48 33.0	+0.5	
HHC				XP	sP		02 48 37.3	+1.1	
HHC				PP	PP		02 50 05.8	+3.3	
HHC				PCP			02 54 09.5		
HHC				S	**S**		**02 54 39.8**	**+2.4**	
HHC				XS			02 54 55.3		
HHC				SS	SS		02 57 38.3	+0.4	
HHC				AMB	AMB				
	comp=Z,16nm,0.5s,mb4.9								
HHC				LR	LR				
	comp=N,246nm,22.0s,MS4.3								
HHC				LR	LR				
	comp=E,310nm,20.2s,MS4.3								
HHC				LR	LR				
	comp=Z,903nm,21.4s,MS4.6								
WRA	**Warramunga Arr**	**42.00**	**122**	P		**P**	**02 48 26.9**	**+0.2**	
	comp=Z,3.7nm,0.7s,mb4.2,baz=300,slow=9.1,SNR=26								
WRAB	**Tennant Creek**	**42.00**	**122**	*e*P		**P**	**02 48 27.0**	**+0.2**	
WRAB				pmax	pmax				
	comp=Z,9.0nm,0.7s,mb4.5								
WRAB	**Tennant Creek**	**42.00**	**122**	*e*P		**P**	**02 48 27.0**	**+0.2**	
	comp=Z,9.4nm,0.7s,mb4.5								
WB2	**Warramunga Arr**	**42.01**	**122**	||*i*P		**P**	**02 48 26.8**	**0.0**	
BJT	**Baijiatuau**	**42.37**	**22**	*e*P		**P**	**02 48 30.4**	**+0.8**	
BJT				pmax	pmax				
	comp=Z,14nm,0.6s								
BJT	**Baijiatuau**	**42.37**	**22**	*e*P		**P**	**02 48 30.4**	**+0.8**	
	comp=Z,14nm,0.6s,mb4.8								
BJI	**Beijing**	**42.39**	**22**	*e*P		**P**	**02 48 30.3**	**+0.6**	
BJI				AMB	AMB				
	comp=Z,19nm,0.9s,mb4.7								
WMQ	**Urumqi**	**43.33**	**350**	*e*P		**P**	**02 48 37.3**	**0.0**	
WMQ				AP	pP		02 48 46.5	0.0	
WMQ				XP	sP		02 48 50.5	+0.2	
WMQ				PP	PP		02 50 19.5	-0.6	
WMQ				*e*S	**S**		**02 55 01.5**	**-1.0**	
WMQ				AMB	AMB				
	comp=Z,10.0nm,1.1s,mb4.5								
WMQ				AMB	AMB				
	comp=Z,94nm,3.8s								
WMQ				LR	LR				
	comp=N,415nm,23.6s,MS4.4								
WMQ				LR	LR				
	comp=E,397nm,25.3s,MS4.4								
WMQ				LR	LR				
	comp=Z,364nm,23.4s,MS4.2								
ASAR	**Alice Springs**	**43.35**	**127**	P		**P**	**02 48 38.3**	**+0.5**	
	comp=Z,2.5nm,0.8s,mb4.0,baz=304,slow=7.4,SNR=17								
KS15	**Wonju Array Si**	**45.86**	**34**	*e*P		**P**	**02 48 57.5**	**-0.2**	
KS15				*e*		pP	02 49 04.7	-2.1	
AAK	**Ala-Archa**	**46.06**	**337**	*e*P		**P**	**02 48 57.5**	**-1.7**	
AAK				pmax	pmax				
	comp=Z,2.0nm,0.5s,mb4.3								
AAK	**Ala-Archa**	**46.06**	**337**	*e*P		**P**	**02 48 57.5**	**-1.7**	
	comp=Z,1.9nm,0.5s,mb4.3								
SONM	**Songino Array**	**47.19**	**8**	P		**P**	**02 49 08.3**	**+0.2**	
	comp=Z,3.4nm,0.6s,mb4.4,baz=190,slow=9.6,SNR=30								
SONM				PcP	PcP		02 50 39.7	+0.1	
	comp=Z,1.3nm,0.6s,baz=193,slow=4.2,SNR=5.1								
MKAR	**Makanchi Array**	**47.30**	**346**	*e*P		**P**	**02 49 08.7**	**-0.3**	
MKAR				pmax	pmax				
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**47.30**	**346**	P		**P**	**02 49 09.1**	**+0.1**	
	comp=Z,4.0nm,0.5s,mb4.6,baz=161,slow=9.1,SNR=49								
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P		**P**	**02 49 07.5**	**-1.6**	
ULN				pmax	pmax				
	comp=Z,5.0nm,0.9s,mb4.4								
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P		**P**	**02 49 07.5**	**-1.6**	
	comp=Z,5.1nm,0.9s,mb4.5								
ZAK	**Zakamensk**	**49.33**	**5**	*e*P		**P**	**02 49 24.2**	**-0.5**	
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.7s,mb3.9								
CN2	**Changchun**	**49.35**	**27**	*e*P		**P**	**02 49 24.5**	**-0.4**	
CN2				*e*AP	pP		02 49 31.0	-3.2	
CN2				*e*S	**S**		**02 56 29.5**	**+1.1**	
CN2				AMB	AMB				
	comp=Z,20nm,0.7s,mb5.3								
CN2				AMB	AMB				
	comp=Z,300nm,3.0s								
CN2				LR	LR				
	comp=N,900nm,15.0s,MS5.0								
CN2				LR	LR				
	comp=E,700nm,15.0s,MS5.0								
CN2				LR	LR				
	comp=Z,1μm,16.0s,MS5.0								
HIA	**Hailar**	**51.69**	**19**	*e*P		**P**	**02 49 41.9**	**-0.8**	
HIA				pmax	pmax				
	comp=Z,9.0nm,0.8s								
HIA	**Hailar**	**51.69**	**19**	*e*P		**P**	**02 49 41.9**	**-0.8**	
	comp=Z,9.5nm,0.8s,mb4.8								
KURK	**Kurchatov**	**51.85**	**345**	*i* P		**P**	**02 49 43.3**	**-0.5**	
KURK				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.3								
KURK	**Kurchatov**	**51.85**	**345**	*e*P		**P**	**02 49 43.1**	**-0.7**	
	comp=Z,8.9nm,1.0s,mb4.7								
STKA	**Stephens Creek**	**53.31**	**132**	*e*P		**P**	**02 49 55.7**	**+0.7**	
	comp=Z,2.7nm,0.6s,mb4.3								
STKA				*i*		pP	02 50 03.6	-0.7	
STKA	**Stephens Creek**	**53.31**	**132**	P		**P**	**02 49 55.7**	**+0.7**	
	comp=Z,3.3nm,0.6s,mb4.4,baz=329,slow=10,SNR=9.1								
NVS	**Novosibirsk**	**54.74**	**350**	*e*P		**P**	**02 50 03.2**	**-1.9**	
BVA0	**Borovoye Array**	**56.31**	**341**	*i* P		**P**	**02 50 14.8**	**-1.7**	
BVA0				pmax	pmax				
	comp=Z,1.0nm,1.0s,mb3.8								
BVAR	**Borovoye Array**	**56.31**	**341**	P		**P**	**02 50 15.0**	**-1.5**	
	comp=Z,5.7nm,0.9s,mb4.6,baz=141,slow=8.5,SNR=21								
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P		**P**	**02 50 18.7**	**-1.2**	
CHKZ				*e*			02 50 24.8		
CHKZ				pmax	pmax				
	comp=Z,35nm,0.6s,mb5.6								
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P		**P**	**02 50 18.7**	**-1.3**	
	comp=Z,35nm,0.6s,mb5.6								
CHKZ				*e*			02 50 24.8		
BOD	**Bodaibo**	**58.07**	**10**	*e*P		**P**	**02 50 26.0**	**-2.9**	
BOD				pmax	pmax				
	comp=Z,7.0nm,0.9s,mb4.7								
MALT	**Malatya**	**65.17**	**312**	*e*P		**P**	**02 51 16.5**	**-0.5**	
MALT				pmax	pmax				
	comp=Z,2.0nm,0.9s,mb4.2								
MALT	**Malatya**	**65.17**	**312**	*e*P		**P**	**02 51 16.5**	**-0.5**	
	comp=Z,2.3nm,0.9s,mb4.2								
YAK	**Yakutsk**	**65.47**	**16**	P		**P**	**02 51 16.9**	**-1.6**	
YAK				pmax	pmax				
	comp=Z,24nm,0.6s,mb5.4								
YAK	**Yakutsk**	**65.47**	**16**	P		**P**	**02 51 16.9**	**-1.6**	
	comp=Z,24nm,0.6s,mb5.4								
BRTR	**Keskin Array B**	**69.16**	**312**	P		**P**	**02 51 40.8**	**-1.3**	
	comp=Z,0.8nm,0.6s,mb3.8,baz=143,slow=5.7,SNR=6.2								
MA2	**Magadan**	**71.38**	**26**	*e*P		**P**	**02 51 55.3**	**0.0**	
MA2				pmax	pmax				
	comp=Z,4.0nm,0.7s,mb4.5								
TIXI	**Tiksi**	**73.24**	**10**	*e*P		**P**	**02 52 03.9**	**-2.1**	
TIXI				pmax	pmax				
	comp=Z,4.0nm,0.9s,mb4.3								
SYO	**Syowa Base**	**79.95**	**198**	⇑P		**P**	**02 52 46.5**	**+2.9**	
SYO	**Syowa Base**	**79.95**	**198**	⇑PcP		PcP	02 52 54.2	+2.8	
FINES	**FINESS Array B**	**80.06**	**333**	P		**P**	**02 52 43.9**	**-0.5**	
	comp=Z,1.1nm,0.8s,mb3.9,baz=101,slow=7.1,SNR=6.1								
ARCES	**ARCESS Array B**	**82.59**	**340**	P		**P**	**02 52 57.5**	**0.0**	
	comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=4.9,SNR=5.1								
GERES	**GERESS Array B**	**84.86**	**319**	P		**P**	**02 53 10.6**	**+1.2**	
	comp=Z,0.9nm,0.8s,mb4.0,baz=90,slow=4.0,SNR=9.2								
HFS	**Hagfors**	**85.78**	**330**	P		**P**	**02 53 14.6**	**+0.9**	
	comp=Z,1.1nm,0.7s,mb4.2,baz=126,slow=13,SNR=4.9								
NOA	**NORSAR Array B**	**87.06**	**331**	P		**P**	**02 53 20.4**	**+0.4**	
	comp=Z,0.4nm,0.8s,mb3.7,baz=95,slow=4.8,SNR=3.8								
TXAR	**Lajitas Array**	**143.72**	**32**	PKP		PKPdf	03 00 09.1	-5.0	
	comp=Z,0.4nm,0.6s,baz=49,slow=4.4,SNR=5.6								
LRAL	**Lakeview Retre**	**145.78**	**6**	*e*PKP		PKPdf	03 00 13.1	-4.5	

JMA 29 02:45:43.0,35.14N×135.66E,h13km,M3.6,1C-1D
Broadband fault plane solution: P waves. NP1:ϕ_s314°, δ32°,λ-11°. **NP2:**ϕ_s53°,δ84°,λ-121°. **Principal axes:** T Plg32°, Azm169°; N Plg31°, Azm57°; P Plg42°, Azm294°;
Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.26**	**304**	||P	Pg	02 45 48.5	-0.1
JWT				S	Sg	02 45 52.0	-0.3
JHE	**Heguri**	**0.49**	**178**	⇑P	Pb	02 45 52.4	-0.5
JHE				S	Sb	02 45 58.8	-0.8
MAT	**Matsushiro**	**2.50**	**55**	P	Pn	02 46 26.4	+2.3
MAT				*e*S	Sn	02 47 01.1	+6.5

IDC ***29*** *02:46:13.6±1.8, 0.99N×97.31E, mb3.9/7, mb1 4.0/7, mb1mx3.8/17, mbtmp3.9/7 Error ellipse: s-maj=79.8km s-min=18.8km az=56.0*
NEIC ***29*** *02:46:17.5±0.8, 1.00N×97.30E, h30km, mb4.1/5, Error ellipse: s-maj=25.4km s-min=11.5km az=67.0*
ISC 29 02:46:18.8±6.6, 1.1N±0.2×97.5E±0.4, h49km±50km, n14, σ0^{2}76/13, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**37**	*e*P	**P**	**02 47 36.9**	**+0.5**
CM31	**Chiang Mai Arr**	**17.33**	**5**	P	**P**	**02 50 18.2**	**-0.7**
	5.6nm,0.5s						
FITZ	**Fitzroy Crossi**	**33.60**	**126**	P	**P**	**02 52 56.4**	**-0.4**
	3.1nm,0.8s,mb4.3,baz=294,slow=5.0,SNR=3.4						
WRA	**Warramunga Arr**	**41.71**	**122**	P	**P**	**02 54 05.4**	**+0.6**
	0.6nm,0.7s,mb3.3,baz=301,slow=8.9,SNR=6.4						
WRAB	**Tennant Creek**	**41.71**	**122**	P	**P**	**02 54 03.1**	**-1.7**
	1.3nm,0.6s,mb3.7						
ASAR	**Alice Springs**	**43.07**	**127**	P	**P**	**02 54 17.1**	**+1.1**
	1.1nm,0.8s,mb3.6,baz=300,slow=6.4,SNR=8.0						
SONM	**Songino Array**	**47.21**	**8**	P	**P**	**02 54 49.2**	**+0.6**
	1.8nm,0.8s,mb4.1,baz=186,slow=9.0,SNR=13						
ULN	**Ulaanbaatar**	**47.34**	**9**	P	**P**	**02 54 49.7**	**+0.1**
	1.8nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**02 54 50.1**	**-0.3**
	1.9nm,0.8s,mb4.0,baz=160,slow=8.0,SNR=11						
HIA	**Hailar**	**51.66**	**18**	P	**P**	**02 55 22.8**	**0.0**
	3.3nm,0.5s,mb4.5						
KURK	**Kurchatov**	**51.99**	**345**	*e*P	**P**	**02 55 21.3**	**-4.0**
	2.9nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**53.04**	**132**	P	**P**	**02 55 33.4**	**-0.1**
	1.4nm,0.5s,mb4.1,baz=318,slow=8.3,SNR=5.1						
GERES	**GERESS Array B**	**85.11**	**319**	P	**P**	**02 58 51.5**	**+0.6**
	0.1nm,0.3s,mb3.5,baz=90,slow=2.0,SNR=3.8						
LRAL	**Lakeview Retre**	**145.81**	**7**	PKPdf	PKPdf	03 05 54.9	+2.2

IDC ***29*** *02:48:34.4±1.2, 1.73N×97.28E, mb4.1/9, mb1 4.2/9, mb1mx4.0/17, mbtmp4.1/9, Error ellipse: s-maj=66.7km s-min=16.7km az=54.0*
NEIC ***29*** *02:48:38.9±0.5, 1.82N×97.44E, h30km, mb4.6/7, Error ellipse: s-maj=14.9km s-min=7.7km az=58.0*
ISC 29 02:48:37.6±0.7, 1.8N±0.1×97.5E±0.1, h33km, n21, σ0^{2}75/20, mb4.2/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.68**	**43**	*e*P	**P**	**02 49 48.9**	**+1.0**
ENH	**Enshi**	**30.50**	**21**	P	**P**	**02 54 48.6**	**-1.4**
	11nm,0.4s,mb4.9						
BJT	**Baijiatuau**	**41.63**	**22**	*e*P	**P**	**02 56 23.9**	**-0.6**
	23nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**42.17**	**123**	P	**P**	**02 56 29.2**	**0.0**
	3.8nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=24						
WRAB	**Tennant Creek**	**42.17**	**123**	*e*P	**P**	**02 56 28.8**	**-0.5**
	7.1nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**42.18**	**123**	*e*P	**P**	**02 56 29.1**	**-0.2**
ASAR	**Alice Springs**	**43.59**	**128**	P	**P**	**02 56 40.8**	**0.0**
	1.0nm,0.7s,mb3.6,baz=300,slow=7.5,SNR=7.8						
AAK	**Ala-Archa**	**45.51**	**336**	*e*P	**P**	**02 56 55.6**	**-0.3**
	1.6nm,0.6s,mb4.1						
SONM	**Songino Array**	**46.46**	**8**	P	**P**	**02 57 04.5**	**+1.2**
	1.1nm,0.4s,mb4.1,baz=188,slow=9.6,SNR=16						
SONM				PcP	PcP	02 58 38.3	+0.2
	1.0nm,0.5s,baz=190,slow=3.7,SNR=8.0						
ULN	**Ulaanbaatar**	**46.59**	**9**	P	**P**	**02 57 03.7**	**-0.6**
	1.4nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**46.68**	**346**	P	**P**	**02 57 05.7**	**+0.7**
	3.1nm,0.5s,mb4.5,baz=160,slow=8.6,SNR=59						
KURK	**Kurchatov**	**51.24**	**345**	*e*P	**P**	**02 57 40.1**	**-0.1**
	3.4nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.60**	**133**	P	**P**	**02 57 58.7**	**+0.6**
	2.3nm,0.6s,mb4.3,baz=317,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**53.60**	**133**	*e*P	**P**	**02 57 58.1**	**0.0**
BVAR	**Borovoye Array**	**55.73**	**341**	P	**P**	**02 58 12.6**	**-0.7**
	1.3nm,0.5s,mb4.2,baz=141,slow=9.6,SNR=13						
CHKZ	**Chkalovo**	**56.20**	**341**	*e*P	**P**	**02 58 15.6**	**-1.1**
	4.2nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**79.55**	**332**	P	**P**	**03 00 42.8**	**+0.1**
	0.5nm,0.4s,mb3.8,baz=112,slow=10,SNR=8.4						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**03 00 56.7**	**+1.2**
	1.0nm,0.5s,mb4.0,baz=101,slow=6.2,SNR=7.1						
ARCES	**ARCESS Array B**	**82.02**	**340**	P	**P**	**03 00 56.7**	**+1.2**
GERES	**GERESS Array B**	**84.50**	**319**	P	**P**	**03 01 09.6**	**+1.0**
	0.2nm,0.7s,mb3.4,baz=135,slow=2.8,SNR=3.5						
TXAR	**Lajitas Array**	**143.00**	**32**	PKP	PKPdf	03 08 10.9	+2.2
	0.3nm,0.6s,SNR=4.8						

IDC ***29*** *02:51:32.1±0.8, 0.45N×97.77E, mb4.2/13, mb1 4.3/13, mb1mx4.2/20, mbtmp4.2/13, MS3.9/1, Ms1 3.9/1, ms1mx2.7/16, Error ellipse: s-maj=51.4km s-min=13.9km az=48.0*
BJI ***29*** *02:51:32.1, 0.07N×97.37E, h39km, mB4.9, mb4.7, Ms4.8, Msz4.5*
NEIC ***29*** *02:51:36.9±0.4, 0.50N×97.84E, h30km, mb4.6/15, Error ellipse: s-maj=15.2km s-min=7.1km az=52.0*
ISC 29 02:51:33.4±2.7, 0.50N±0.07×97.83E±0.10, h18km±19km, h32km±.8km:pP-P, n42, σ1^{8}00/43, mb4.5/31, MS4.3/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.53**	**31**	*e*P	**Pn**	**02 52 56.1**	**-0.9**
KSM	**Kuching**	**12.52**	**85**	P	**P**	**02 54 28.2**	**-5.4**
KKM	**Kota Kinabalu**	**19.16**	**73**	P	**P**	**02 55 59.2**	**+0.5**
JIRN	**Jiri**	**29.23**	**339**	*e*P	**P**	**02 57 37.5**	**+1.0**
	4.9nm,0.3s,mb4.7						
PKI	**Pulchoki**	**29.44**	**337**	*e*P	**P**	**02 57 43.4**	**+4.9**
	2.0nm,1.0s,mb4.9						
GUN	**Gumba**	**29.57**	**338**	*e*P	**P**	**02 57 40.3**	**+0.7**
	45nm,0.9s,mb5.2						
KKN	**Kakani**	**29.69**	**337**	*e*P	**P**	**02 57 44.6**	**+3.9**
	41nm,1.2s,mb5.0						
LSA	**Lhasa**	**29.73**	**348**	P	**P**	**02 57 38.0**	**-3.1**
LSA	**Lhasa**	**29.73**	**348**	*e*P	**P**	**02 57 41.6**	**+0.5**
	8.1nm,0.5s,mb4.7						
GKN	**Gorkha**	**30.13**	**336**	*e*P	**P**	**02 57 49.9**	**+5.3**
	37nm,1.0s,mb5.1						
MBWA	**Marble Bar**	**30.36**	**136**	P	**P**	**02 57 48.0**	**+1.4**
	2.7nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**33.01**	**125**	*e*P	**P**	**02 58 08.8**	**-1.1**
	4.2nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.01**	**125**	P	**P**	**02 58 09.0**	**-1.0**
	5.2nm,0.6s,mb4.6,baz=254,slow=2.0,SNR=12						
XAN	**Xi'an**	**34.95**	**16**	P	**P**	**02 58 24.3**	**-2.3**
XAN				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.7						
GTA	**Gaotai**	**38.77**	**2**	*e*P	**P**	**02 58 58.5**	**-0.2**
GTA				AP	pP	02 59 08.0	+3.8
GTA				XP	sP	02 59 10.8	+4.3
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,83nm,6.1s						
GTA				LR	LR		
	comp=N,293nm,14.1s,MS4.4						
GTA				LR	LR		
	comp=E,337nm,14.8s,MS4.4						
GTA				LR	LR		
	comp=Z,212nm,15.2s,MS4.1						
WRA	**Warramunga Arr**	**41.13**	**122**	P	**P**	**02 59 18.1**	**-0.3**
	comp=Z,2.9nm,0.5s,mb4.2,baz=303,slow=9.0,SNR=31						
WRAB	**Tennant Creek**	**41.14**	**122**	*e*P	**P**	**02 59 17.4**	**-1.0**
	comp=Z,7.6nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**41.14**	**122**	*e*P	**P**	**02 59 17.9**	**-0.6**
HHC	**Hu-ho-hao-te**	**42.06**	**16**	*e*P	**P**	**02 59 28.0**	**+2.2**
HHC				AP	pP	02 59 37.0	+5.7
HHC				XP	sP	02 59 41.3	+7.7
HHC				PP	PP	03 01 10.0	+3.6
HHC				PCP	PcP	03 01 22.0	+0.8
HHC				SCP		03 05 08.5	
HHC				S	**S**	**03 05 44.3**	**+0.4**
HHC				XS		03 06 02.8	
HHC				SCS	ScS	03 09 24.3	-1.1
HHC				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.6						
HHC				LR	LR		
	comp=N,533nm,15.5s,MS4.7						
HHC				LR	LR		
	comp=E,378nm,13.1s,MS4.7						
HHC				LR	LR		
	comp=Z,677nm,17.8s,MS4.6						
ASPA	**Alice Springs**	**42.47**	**127**	*e*P	**P**	**02 59 29.6**	**+0.2**
ASAR	**Alice Springs**	**42.47**	**127**	P	**P**	**02 59 29.6**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.0,baz=300,slow=8.1,SNR=26						
BJT	**Baijiatuau**	**42.74**	**21**	*e*P	**P**	**02 59 31.6**	**+0.1**
	comp=Z,24nm,0.9s,mb4.9						
BJI	**Beijing**	**42.76**	**21**	*e*P	**P**	**02 59 31.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.7						
BJI				LR	LR		
	comp=N,285nm,16.0s,MS4.5						
BJI				LR	LR		
	comp=E,429nm,17.2s,MS4.5						
WMQ	**Urumqi**	**44.07**	**349**	*e*P	**P**	**02 59 43.0**	**+0.8**
WMQ				AP	pP	02 59 53.0	+5.3
WMQ				*e*S	**S**	**03 06 12.5**	**-0.7**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,120nm,5.3s						
WMQ				LR	LR		
	comp=N,448nm,20.4s,MS4.5						
WMQ				LR	LR		
	comp=E,423nm,22.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,316nm,20.9s,MS4.2						
SONM	**Songino Array**	**47.73**	**8**	P	**P**	**03 00 11.2**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.2,baz=193,slow=9.2,SNR=14						
ULN	**Ulaanbaatar**	**47.86**	**8**	*e*P	**P**	**03 00 12.2**	**0.0**
	comp=Z,3.0nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**48.07**	**346**	P	**P**	**03 00 13.8**	**-0.1**
	comp=Z,2.5nm,0.7s,mb4.4,baz=161,slow=8.5,SNR=21						
MKAR				LR	LR	03 24 39.0	
	comp=Z,121nm,20.9s,MS3.9,baz=163,slow=41						
CN2	**Changchun**	**49.65**	**26**	*e*P	**P**	**03 00 29.0**	**+2.9**
STKA	**Stephens Creek**	**52.42**	**132**	*e*P	**P**	**03 00 48.6**	**+1.3**
	comp=Z,2.1nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**52.42**	**132**	P	**P**	**03 00 47.3**	**0.0**
	comp=Z,1.9nm,0.5s,mb4.3,baz=301,slow=7.1,SNR=11						
KURK	**Kurchatov**	**52.63**	**345**	*e*P	**P**	**03 00 48.3**	**-0.2**
	comp=Z,8.3nm,1.1s,mb4.6						
BVAR	**Borovoye Array**	**57.12**	**341**	P	**P**	**03 01 20.3**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=153,slow=8.9,SNR=7.0						
CHKZ	**Chkalovo**	**57.59**	**341**	*e*P	**P**	**03 01 23.5**	**-1.0**
	comp=Z,6.1nm,0.8s,mb4.7						
BRTR	**Keskin Array B**	**70.05**	**312**	P	**P**	**03 02 46.0**	**-0.5**
	comp=Z,0.7nm,0.4s,mb3.9,baz=147,slow=5.5,SNR=6.4						
AKASG	**Malin Array Be**	**76.19**	**322**	P	**P**	**03 03 22.0**	**-0.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=82,slow=5.7,SNR=5.4						
MLR	**Muntele Rosu**	**77.01**	**317**	P	**P**	**03 03 28.1**	**+1.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=44,slow=3.6,SNR=7.4						
FINES	**FINESS Array B**	**80.91**	**332**	P	**P**	**03 03 48.4**	**+0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=98,slow=5.6,SNR=26						
KAF	**Kangasniemi**	**80.99**	**333**	*e*p	**P**	**03 03 46.1**	**-2.1**
	comp=Z,1.9nm,0.5s,mb4.3						
GERES	**GERESS Array B**	**85.75**	**319**	P	**P**

IDC 29 03:03:59.5±2.8, 1.47N×97.79E, mb3.7/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.7/6, Error ellipse: s-maj=124.6km s-min=19.6km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.61**	**127**	P	P	03 10 40.7	-3.2
	1.9nm,0.6s,baz=318,slow=5.1,SNR=3.7						
WRA	**Warramunga Arr**	**41.68**	**123**	P	P	03 11 51.2	-0.6
	0.8nm,0.7s,baz=302,slow=9.3,SNR=5.1						
ASAR	**Alice Springs**	**43.09**	**128**	P	P	03 12 01.6	-1.6
	0.4nm,0.5s,baz=297,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**46.78**	**8**	P	P	03 12 30.9	-1.7
	0.3nm,0.6s,baz=181,slow=8.9,SNR=2.9						
MKAR	**Makanchi Array**	**47.13**	**345**	P	P	03 12 32.5	-2.8
	1.0nm,0.6s,baz=155,slow=7.7,SNR=7.9						
BVAR	**Borovoye Array**	**56.20**	**340**	P	P	03 13 41.9	-1.6
	0.7nm,0.6s,baz=158,slow=8.0,SNR=3.9						

IDC 29 03:04:14.8±2.7, 10.41N×95.77E, mb3.8/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.8/5, Error ellipse: s-maj=122.0km s-min=21.6km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**38.02**	**345**	P	P	03 11 35.6	-0.8
	0.4nm,0.4s,baz=159,slow=8.6,SNR=10.0						
SONM	**Songino Array**	**38.36**	**12**	P	P	03 11 36.0	-3.3
	0.4nm,0.4s,baz=192,slow=10.0,SNR=5.6						
WRA	**Warramunga Arr**	**48.49**	**128**	P	P	03 13 00.6	-1.0
	1.2nm,0.6s,baz=301,slow=9.2,SNR=8.2						
ASAR	**Alice Springs**	**50.37**	**133**	P	P	03 13 12.5	-3.5
	0.6nm,0.7s,baz=299,slow=8.2,SNR=4.3						
STKA	**Stephens Creek**	**60.73**	**136**	P	P	03 14 29.4	-1.3
	3.2nm,1.0s,baz=306,slow=13,SNR=3.3						

IDC 29 03:05:31.2±2.9, 5.09N×96.80E, mb4.5/6, mb1 4.7/6, mb1mx4.1/17, mbtmp4.5/6, Error ellipse: s-maj=122.6km s-min=19.1km az=63.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**36.61**	**130**	P	P	03 12 37.5	-3.9
	8.0nm,0.7s,baz=272,slow=2.4,SNR=7.7						
SONM	**Songino Array**	**43.37**	**9**	P	P	03 13 34.9	-2.2
	2.0nm,0.6s,baz=191,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**43.40**	**345**	P	P	03 13 35.7	-1.5
	3.0nm,0.7s,baz=159,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**44.50**	**125**	P	P	03 13 45.3	-1.3
	5.3nm,0.6s,baz=301,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**46.11**	**130**	P	P	03 13 57.6	-1.7
	9.6nm,0.6s,baz=298,slow=7.8,SNR=38						
STKA	**Stephens Creek**	**56.28**	**134**	P	P	03 15 15.2	-1.0
	5.6nm,0.8s,baz=295,slow=5.8,SNR=8.1						

*IDC **29** 03:05:52.4±0.6, 0.33N×97.70E, mb4.3/20, mb1 4.4/20, mb1mx4.4/24, mbtmp4.3/20, MS4.4/1, Ms1 4.4/1, ms1mx3.0/20, Error ellipse: s-maj=23.6km s-min=14.6km az=47.0*

*BJI **29** 03:05:55.4, 0.10N×97.93E, h40km, mB5.1, mb4.7, Ms4.5, Msz4.4*

*NEIC **29** 03:05:56.3±0.3, 0.36N×97.75E, mb4.7/13, Error ellipse: s-maj=9.1km s-min=6.8km az=219.0*

ISC 29 03:05:55.0±0.3, 0.34N±0.06×97.72E±0.07, h28km, h28km±.9km: pP-P, n51, σ0§81/48, mb4.4/36, MS4.4/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.72**	**31**	*eP*	**Pn**	**03 07 20.6**	**+0.2**
KKM	**Kota Kinabalu**	**19.31**	**73**	*eP*	**P**	**03 10 17.2**	**-3.8**
ENH	**Enshi**	**31.80**	**20**	*eP*	**P**	**03 12 16.9**	**-2.7**
	7.9nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.01**	**125**	*eP*	**P**	**03 12 29.2**	**-1.1**
	2.8nm,0.6s,mb4.4						
FITZ				*e*	pP	03 12 37.6	-0.8
FITZ	**Fitzroy Crossi**	**33.01**	**125**	P	**P**	**03 12 29.3**	**-0.9**
	4.2nm,0.8s,mb4.4,baz=289,slow=4.9,SNR=5.1						
XAN	**Xi'an**	**35.13**	**16**	P	**P**	**03 12 47.8**	**-0.6**
XAN				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.8						
LZH	**Lanzhou**	**36.02**	**8**	*eP*	**P**	**03 12 56.0**	**+0.1**
LZH				AP	pP	03 13 05.5	+1.3
LZH				XP	sP	03 13 09.5	+1.8
LZH				AMB	AMB		
	comp=Z,26nm,1.4s,mb5.0						
LZH				AMB	AMB		
	comp=Z,839nm,4.0s						
LZH				LR	LR		
	comp=E,536nm,12.3s						
LZH				LR	LR		
	comp=Z,729nm,14.0s,MS4.6						
GTA	**Gaotai**	**38.93**	**3**	*eP*	**P**	**03 13 20.8**	**+0.5**
GTA				AP	pP	03 13 30.3	+1.7
GTA				XP	sP	03 13 33.0	+0.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.0						
GTA				AMB	AMB		
	comp=Z,46nm,3.8s						
GTA				LR	LR		
	comp=N,141nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,290nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,390nm,16.4s,MS4.3						
WRA	**Warramunga Arr**	**41.15**	**121**	P	**P**	**03 13 38.5**	**-0.3**
	comp=Z,0.8nm,0.3s,mb3.8,baz=310,slow=9.1,SNR=18						
WRA	**Warramunga Arr**	**41.15**	**121**	P	**P**	**03 13 38.5**	**-0.3**
WRAB	**Tennant Creek**	**41.15**	**121**	P	**P**	**03 13 38.7**	**-0.1**
	comp=Z,13nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**41.16**	**121**	*eP*	**P**	**03 13 39.0**	**+0.1**
WB2				*e*	pP	03 13 46.5	-0.7
ASPA	**Alice Springs**	**42.47**	**127**	*eP*	**P**	**03 13 49.5**	**-0.2**
ASPA				*e*	pP	03 13 57.5	-0.5
ASAR	**Alice Springs**	**42.47**	**127**	P	**P**	**03 13 50.3**	**+0.6**
	comp=Z,1.8nm,0.6s,mb3.9,baz=299,slow=7.1,SNR=14						
ASAR	**Alice Springs**	**42.47**	**127**	P	**P**	**03 13 50.3**	**+0.6**
BJI	**Beijing**	**42.95**	**21**	*eP*	**P**	**03 13 54.5**	**+1.1**
BJI				AMB	AMB		
	comp=Z,17nm,1.7s,mb4.5						
WMQ	**Urumqi**	**44.21**	**350**	P	**P**	**03 14 05.3**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,116nm,4.1s						
AAK	**Ala-Archa**	**46.99**	**337**	*eP*	**P**	**03 14 29.9**	**+4.2**
	comp=Z,5.9nm,1.2s,mb4.4						
SONM	**Songino Array**	**47.91**	**8**	P	**P**	**03 14 33.7**	**+0.8**
	comp=Z,2.8nm,0.7s,mb4.4,baz=195,slow=8.7,SNR=12						
SONM				LR	LR	03 37 17.3	
	comp=Z,403nm,21.1s,MS4.4,baz=183,slow=39						
ULN	**Ulaanbaatar**	**48.03**	**8**	*eP*	**P**	**03 14 33.3**	**-0.4**
	comp=Z,5.8nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**48.20**	**346**	P	**P**	**03 14 35.6**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.5,baz=153,slow=8.1,SNR=13						
CN2	**Changchun**	**49.84**	**26**	*eP*	**P**	**03 14 49.0**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**52.40**	**132**	*eP*	**P**	**03 15 07.6**	**+0.2**
	comp=Z,2.6nm,0.9s,mb4.2						
STKA				*e*	pP	03 15 15.9	+0.1
STKA	**Stephens Creek**	**52.40**	**132**	*eP*	**P**	**03 15 08.0**	**+0.6**
STKA				*e*	pP	03 15 15.8	-0.1
KURK	**Kurchatov**	**52.75**	**345**	*eP*	**P**	**03 15 08.8**	**-0.9**
	comp=Z,10nm,0.9s,mb4.8						
KURK				*e*	pP	03 15 18.0	-0.2
BVAR	**Borovoye Array**	**57.23**	**341**	P	**P**	**03 15 41.1**	**-1.1**
	comp=Z,4.0nm,0.8s,mb4.5,baz=149,slow=8.6,SNR=14						
CHKZ	**Chkalovo**	**57.70**	**341**	*eP*	**P**	**03 15 44.5**	**-1.0**
	comp=Z,9.0nm,0.9s,mb4.8						
CHKZ				*e*pP	pP	03 15 52.3	-1.8
KMBO	**Kilima Mbogo**	**60.48**	**269**	P	**P**	**03 16 05.0**	**-0.3**
	comp=Z,1.3nm,0.8s,mb4.0,baz=232,slow=22,SNR=3.6						
KMBO	**Kilima Mbogo**	**60.48**	**269**	P	**P**	**03 16 05.0**	**-0.3**
ASF	**Jabal al Asfar**	**65.38**	**305**	P	**P**	**03 16 38.0**	**+0.4**
	comp=Z,3.8nm,0.8s,mb4.5,baz=353,slow=6.1,SNR=5.8						
MALT	**Malatya**	**66.08**	**312**	*eP*	**P**	**03 16 41.7**	**-0.3**
	comp=Z,5.8nm,1.0s,mb4.6						
MALT				*e*pP	pP	03 16 49.3	-1.3
MALT				*es*P	sP	03 16 53.9	+0.2
EIL	**Elat**	**66.35**	**302**	P	**P**	**03 16 44.0**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.6,baz=356,slow=13,SNR=5.5						
EIL	**Elat**	**66.35**	**302**	*eP*	**P**	**03 16 43.1**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.7						
EIL				*e*pP	pP	03 16 51.7	-0.7
BRTR	**Keskin Array B**	**70.07**	**312**	P	**P**	**03 17 06.0**	**-0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=121,slow=7.2,SNR=7.6						
LSZ	**Lusaka**	**70.36**	**254**	*eP*	**P**	**03 17 08.2**	**-0.8**
	comp=Z,5.9nm,1.2s,mb4.4						
LBTB	**Lobatse**	**73.97**	**244**	P	**P**	**03 17 30.4**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.3,baz=133,slow=3.7,SNR=4.3						
BOSA	**Boshof**	**74.80**	**240**	P	**P**	**03 17 35.0**	**0.0**
	comp=Z,3.5nm,1.0s,mb4.2,baz=131,slow=13,SNR=3.2						
AKASG	**Malin Array Be**	**76.25**	**322**	P	**P**	**03 17 41.6**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=94,slow=4.8,SNR=7.7						
MLR	**Muntele Rosu**	**77.04**	**317**	P	**P**	**03 17 47.9**	**+0.5**
	comp=Z,5.2nm,0.9s,mb4.5,baz=170,slow=12,SNR=5.1						
TSUM	**Tsumeb**	**80.79**	**251**	P	**P**	**03 18 09.8**	**+1.5**
	comp=Z,5.7nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**81.00**	**333**	P	**P**	**03 18 08.1**	**-0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=117,slow=4.3,SNR=5.1						
FINES	**FINESS Array B**	**81.00**	**333**	P	**P**	**03 18 08.1**	**-0.4**
VNDA	**Vanda**	**84.88**	**169**	P	**P**	**03 18 28.4**	**+0.3**
	comp=Z,2.2nm,1.1s,mb4.2,baz=300,slow=7.6,SNR=3.5						
GERES	**GERESS Array B**	**85.80**	**319**	P	**P**	**03 18 33.7**	**+0.4**
	comp=Z,2.5nm,1.1s,mb4.4,baz=101,slow=6.8,SNR=12						
BRG	**Bergqiesshubel**	**85.80**	**321**	*eP*	pP	03 18 41.1	-1.0
	comp=Z,2.7nm,0.9s						
NB2	**NORSAR Subarra**	**88.00**	**331**	P	**P**	**03 18 43.5**	**-0.2**
	comp=Z,3.3nm,1.0s,mb4.5,baz=96,slow=4.8						
NOA	**NORSAR Array B**	**88.00**	**331**	P	**P**	**03 18 44.0**	**+0.3**
	comp=Z,2.2nm,1.1s,mb4.3,baz=96,slow=4.9,SNR=3.7						
DAVOX	**Davos**	**88.27**	**317**	P	**P**	**03 18 46.1**	**+0.8**
	comp=Z,2.4nm,0.7s,mb4.5,baz=197,slow=19,SNR=5.0						
LPG	**La Plagne**	**90.44**	**315**	*eP*	**P**	**03 18 55.8**	**+0.3**
	comp=Z,10nm,1.1s,mb4.8						
TXAR	**Lajitas Array**	**144.12**	**33**	PKP	PKPdf	03 25 29.5	-4.2
	comp=Z,0.6nm,0.8s,baz=315,slow=1.8,SNR=5.7						
LRAL	**Lakeview Retre**	**146.51**	**7**	PKPdf	PKPdf	03 25 34.0	-3.8

*NEIC **29** 03:09:15.6±1.1, 16.91S×179.24W, h476km±18km, mb3.8/3, Error ellipse: s-maj=85.8km s-min=10.9km az=156.0*

*IDC **29** 03:09:17.4±7.2, 17.19S×179.14W, h498km±80km, mb3.2/6, mb1 3.5/6, mb1mx3.4/13, mbtmp4.0/6, Error ellipse: s-maj=96.0km s-min=27.6km az=154.0*

ISC 29 03:09:14.2±1.6, 16.8S±0.8×179.3W±0.4, h466km±29km, n15, σ0§48/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**7.83**	**69**	P	**P**	**03 11 09.4**	**0.0**
CTAO	**Charters Tower**	**32.78**	**259**	P	**P**	**03 15 08.3**	**-0.5**
	6.6nm,0.9s,mb4.1						
WRAB	**Tennant Creek**	**43.97**	**259**	P	**P**	**03 16 41.2**	**+0.7**
	1.3nm,0.6s,mb3.5						
WRA	**Warramunga Arr**	**43.98**	**259**	P	**P**	**03 16 39.7**	**-0.8**
	0.4nm,0.5s,mb3.1,baz=96,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**44.25**	**253**	P	**P**	**03 16 43.3**	**+0.6**
	3.4nm,0.5s,mb4.0,baz=88,slow=8.1,SNR=33						
ASAR				PcP	PcP	03 18 15.5	-2.3
	0.6nm,0.5s,baz=106,slow=4.1,SNR=5.3						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**03 21 06.2**	**-0.1**
	0.9nm,0.7s,mb3.5,baz=214,slow=6.3,SNR=13						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**03 21 06.2**	**-0.1**
PDAR	**Pinedale Array**	**87.17**	**44**	P	**P**	**03 21 10.6**	**-0.3**
	0.6nm,0.6s,mb3.5,baz=217,slow=3.5,SNR=7.3						
INK	**Inuvik**	**91.08**	**15**	P	**P**	**03 21 28.9**	**+0.5**
	1.0nm,0.9s,mb3.7,baz=194,slow=9.1,SNR=5.2						
INK	**Inuvik**	**91.08**	**15**	P	**P**	**03 21 28.4**	**+0.1**
	0.9nm,0.7s,mb3.8						
YKA	**Yellowknife Ar**	**93.72**	**25**	P	**P**	**03 21 40.7**	**0.0**
	0.1nm,0.3s,mb3.3,baz=243,slow=4.2,SNR=5.5						
YKA	**Yellowknife Ar**	**93.72**	**25**	P	**P**	**03 21 40.7**	**0.0**
BRTR	**Keskin Array B**	**143.41**	**315**	PKP	PKPdf	03 27 55.1	+0.4
	0.8nm,0.6s,baz=95,slow=3.2,SNR=4.1						
GERES	**GERESS Array B**	**146.34**	**344**	PKPbc	PKPbc	03 28 03.0	+1.9
	1.1nm,0.6s,baz=33,slow=3.3,SNR=12						
DAVOX	**Davos**	**149.17**	**348**	PKPbc	PKPdf	03 28 09.9	+5.9
	baz=10,slow=15						

*IDC **29** 03:13:44.9±1.5, 2.16N×96.69E, mb3.9/7, mb1 4.0/7, mb1mx3.7/17, mbtmp3.9/7, Error ellipse: s-maj=64.4km s-min=26.2km az=48.0*

*NEIC **29** 03:13:49.1±1.1, 2.04N×96.59E, h30km, mb4.3/3, Error ellipse: s-maj=25.4km s-min=18.0km az=203.0*

ISC 29 03:13:47.3±1.2, 2.1N±0.2×96.6E±0.1, h30km, n11, σ1§02/11, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.16**	**52**	P	**Pn**	**03 15 04.9**	**+0.2**
LSA	**Lhasa**	**27.97**	**350**	P	**P**	**03 19 39.3**	**+1.7**
	10nm,0.4s,mb4.8						
WRA	**Warramunga Arr**	**43.01**	**122**	P	**P**	**03 21 46.3**	**+0.1**
	0.9nm,0.6s,mb3.7,baz=301,slow=9.6,SNR=5.5						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**03 22 12.5**	**+0.6**
	1.1nm,0.4s,mb4.1,baz=163,slow=8.8,SNR=13						
SONM	**Songino Array**	**46.38**	**9**	P	**P**	**03 22 11.2**	**-1.6**
	0.4nm,0.3s,mb3.8,baz=187,slow=10,SNR=4.8						
KURK	**Kurchatov**	**50.81**	**345**	*eP*	**P**	**03 22 47.3**	**+0.2**
	2.4nm,1.1s,mb4.0						
BVAR	**Borovoye Array**	**55.24**	**341**	P	**P**	**03 23 19.4**	**-0.6**
	0.6nm,0.4s,mb3.9,baz=146,slow=9.0,SNR=4.1						
CHKZ	**Chkalovo**	**55.72**	**342**	*eP*	**P**	**03 23 20.9**	**-2.5**
	2.0nm,0.7s,mb4.3						
BRTR	**Keskin Array B**	**68.08**	**312**	P	**P**	**03 24 46.8**	**+0.2**
	0.2nm,0.3s,mb3.6,baz=120,slow=5.1,SNR=3.1						
FINES	**FINESS Array B**	**78.95**	**333**	P	**P**	**03 25 49.6**	**+0.1**
	1.0nm,0.7s,mb3.9,baz=108,slow=8.8,SNR=6.2						
ARCES	**ARCESS Array B**	**81.52**	**340**	P	**P**	**03 26 03.9**	**+0.8**
	3.0nm,0.9s,mb4.2,baz=90,slow=6.3,SNR=6.3						

IDC 29 03:14:08.6±6.1, 0.40N×120.86E, mb4.0/3, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML3.4/1, Error ellipse: s-maj=153.1km s-min=92.9km az=70.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**18.98**	**166**	P	P	03 18 31.3	-2.8
	0.1nm,0.3s,baz=353,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**24.15**	**148**	P	P	03 19 26.3	-1.3
	4.4nm,0.8s,baz=329,slow=9.9,SNR=15						
ASAR	**Alice Springs**	**27.07**	**153**	P	P	03 19 53.7	-1.3
	1.8nm,0.7s,baz=333,slow=9.9,SNR=7.4						
STKA	**Stephens Creek**	**37.62**	**150**	P	P	03 21 25.4	-1.7
	3.0nm,0.7s,baz=336,slow=14,SNR=6.6						

*NNC **29** 03:14:34.4±17.0, 43.08N×85.13E, mpv2.8, Error ellipse: s-maj=164.7km s-min=99.3km az=152.0*

BJI 29 03:14:50.0, 43.99N×84.60E, h30km, ML3.0, 2C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**2.24**	**93**	*eP*G	Pn	03 15 30.5	+4.6
WMQ				SG	Sn	03 16 02.0	+9.1
WMQ				Smax			
	comp=N,160nm,0.4s						
WMQ				Smax			
	comp=E,251nm,0.5s						
MK31	**Makanchi Array**	**3.24**	**331**	⇓Pn	Pn	03 15 42.1	+2.0
	comp=E,0.6nm,0.5s,baz=147,slow=14,SNR=30						
MK31				⇑Pg	Pn	03 15 54.3	+14
	comp=E,0.8nm,0.3s,baz=145,slow=16,SNR=11						
MK31				⇑Lg		03 16 44.2	
	comp=E,8.9nm,0.5s,baz=154,slow=27,SNR=6.8						

*IDC **29** 03:15:06.6±2.7, 0.98N×96.94E, mb4.0/6, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, Error ellipse: s-maj=122.6km s-min=19.5km az=56.0*

*NEIC **29** 03:15:11.3±0.9, 1.14N×97.14E, h30km, mb4.4/4, Error ellipse: s-maj=25.0km s-min=12.1km az=61.0*

ISC 29 03:15:10.0±1.0, 1.2N±0.1×97.1E±0.2, h33km, n14, σ0§92/11, mb4.1/10, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.38**	**40**	P	**P**	**03 16 30.4**	**+0.3**
ENH	**Enshi**	**31.23**	**21**	*eP*	**P**	**03 21 26.7**	**-2.2**
	6.4nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	**P**	**03 21 52.0**	**-0.7**
	1.3nm,0.5s,mb4.1,baz=326,slow=4.4,SNR=4.1						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**03 23 01.4**	**+0.7**
	1.3nm,0.6s,mb3.7,baz=300,slow=9.1,SNR=7.2						
WRAB	**Tennant Creek**	**42.08**	**122**	*eP*	**P**	**03 23 00.4**	**-0.4**
	4.4nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**03 23 12.2**	**+0.4**
	1.8nm,1.1s,mb3.7,baz=303,slow=6.9,SNR=5.9						
SONM	**Songino Array**	**47.17**	**8**	P	**P**	**03 23 42.7**	**+1.5**
	0.8nm,0.4s,mb4.0,baz=190,slow=7.5,SNR=5.1						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**03 23 43.0**	**+1.1**
	1.6nm,0.5s,mb4.2,baz=160,slow=9.2,SNR=10.0						
KURK	**Kurchatov**	**51.80**	**345**	*eP*	**P**	**03 24 16.2**	**-0.6**
	3.6nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**56.26**	**341**	P	**P**	**03 24 49.2**	**-0.3**
	1.1nm,0.6s,mb4.1,baz=162,slow=9.4,SNR=5.4						
CHKZ	**Chkalovo**	**56.73**	**341**	*eP*	**P**	**03 24 52.5**	**-0.3**
	3.8nm,0.9s,mb4.4						
CLL	**Collm**	**85.42**	**321**	⇑*e*PKIKP	pP	03 27 56.9	+1.0
	logA/T=0.8						
TXAR	**Lajitas Array**	**143.72**	**32**	PKP	PKPdf	03 34 42.7	+0.4
	0.1nm,0.5s,baz=331,slow=3.3,SNR=3.6						
TXAR	**Lajitas Array**	**143.72**	**32**	PKP	PKPdf	03 34 42.7	+0.4

IDC 29 03:17:21.4±3.3, 1.41N×97.38E, mb3.6/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.6/4, Error ellipse: s-maj=139.4km s-min=27.3km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.99**	**122**	P	P	03 25 14.6	-1.7
	0.5nm,0.7s,baz=304,slow=9.0,SNR=4.0						
SONM	**Songino Array**	**46.90**	**8**	P	P	03 25 53.8	-1.6
	0.8nm,0.7s,baz=198,slow=9.1,SNR=3.5						
MKAR	**Makanchi Array**	**47.08**	**346**	P	P	03 25 55.9	-1.0
	0.9nm,0.8s,baz=153,slow=6.8,SNR=4.7						
BVAR	**Borovoye Array**	**56.11**	**341**	P	P	03 27 01.4	-3.4
	1.0nm,0.8s,baz=135,slow=6.1,SNR=4.1						

IDC 29 03:17:52.3±2.8, 1.19N×97.31E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=121.2km s-min=23.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	03 25 45.0	-1.8
	0.8nm,0.7s,baz=300,slow=9.1,SNR=4.8						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	03 25 56.0	-1.9
	0.6nm,0.7s,baz=294,slow=7.3,SNR=4.0						
SONM	**Songino Array**	**47.12**	**8**	P	P	03 26 26.2	-1.8
	0.5nm,0.4s,baz=188,slow=7.6,SNR=3.6						
MKAR	**Makanchi Array**	**47.27**	**346**	P	P	03 26 28.1	-1.2
	0.6nm,0.4s,baz=159,slow=9.1,SNR=6.3						
BVAR	**Borovoye Array**	**56.29**	**341**	P	P	03 27 33.4	-3.7
	0.6nm,0.5s,baz=143,slow=7.4,SNR=3.6						
TXAR	**Lajitas Array**	**143.62**	**32**	PKP	PKPdf	03 37 31.6	-0.1
	0.1nm,0.6s,baz=322,slow=5.2,SNR=3.9						

IDC 29 03:22:31.5±4.2, 2.65N×96.37E, mb4.0/3, mb1 4.1/3, mb1mx3.6/16, mbtmp4.0/3, Error ellipse: s-maj=156.6km s-min=30.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.50**	**123**	P	P	03 30 36.9	-1.8
	0.2nm,0.4s,baz=301,slow=9.1,SNR=4.7						
MKAR	**Makanchi Array**	**45.65**	**346**	P	P	03 30 53.6	-2.0
	1.7nm,0.4s,baz=156,slow=9.0,SNR=45						
SONM	**Songino Array**	**45.84**	**9**	P	P	03 30 55.6	-1.5
	0.8nm,0.4s,baz=191,slow=9.1,SNR=6.3						

*IDC **29** 03:23:48.0±0.7, 1.09N×97.14E, mb4.2/12, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, Error ellipse: s-maj=36.2km s-min=14.7km az=51.0*

*BJI **29** 03:23:48.8, 0.86N×97.29E, h29km, mB5.3, mb4.9, Ms4.6, Msz4.5*

*NEIC **29** 03:23:51.6±0.5, 1.03N×97.18E, mb4.7/16, Error ellipse: s-maj=13.3km s-min=8.1km az=51.0*

ISC 29 03:23:49.9±0.5, 1.04N±0.06×97.13E±0.06, h23km, h23km±.4km: pP-P, n48, σ1§10/49, mb4.6/33, MS4.3/4, 2C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.25**	**48**	P	**Pn**	**03 25 09.3**	**+0.2**
KULM	**Kulim**	**5.50**	**40**	*eP*	**Pn**	**03 25 11.8**	**-0.8**
KGM	**Kluang**	**6.27**	**81**	P	**Pn**	**03 25 24.3**	**+0.8**
KSM	**Kuching**	**13.19**	**88**	P	**P**	**03 27 00.9**	**+2.3**
KKM	**Kota Kinabalu**	**19.68**	**75**	*eP*	**P**	**03 28 20.6**	**-0.1**
KKM	**Kota Kinabalu**	**19.68**	**75**	P	**P**	**03 28 21.6**	**+0

comp=Z,26nm,1.2s,mb5.0
LZH LR LR
comp=E,692nm,15.6s
LZH LR LR
comp=Z,935nm,17.0s,MS4.6
WRA Warramunga Arr 42.01 122 P P **03 31 41.3 -0.3**
comp=Z,3.5nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=12
WRAB Tennant Creek 42.02 122 *eP* P **03 31 41.5 -0.1**
comp=Z,7.3nm,0.7s,mb4.4
WB2 Warramunga Arr 42.02 122 ‖*iP* P **03 31 41.4 -0.3**
WB2 *e* pP 03 31 48.1 -0.5
BJT Baijiatuan 42.49 22 *eP* P **03 31 45.7 +0.4**
comp=Z,18nm,0.7s,mb4.8
BJI Beijing 42.51 22 *eP* P **03 31 46.0 +0.5**
BJI AMB AMB
comp=Z,22nm,0.9s,mb4.9
FORT Forrest 43.20 140 *eP* P **03 31 57.8 +6.6**
comp=Z,719nm,0.7s
ASAR Alice Springs 43.36 127 P P **03 31 52.9 +0.3**
comp=Z,3.3nm,0.8s,mb4.1,baz=304,slow=7.7,SNR=20
WMQ Urumqi 43.42 350 P P **03 31 53.3 +0.6**
WMQ AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,78nm,4.2s
AAK Ala-Archa 46.12 337 *eP* P **03 32 13.8 -0.5**
comp=Z,2.9nm,0.8s,mb4.3
SONM Songino Array 47.30 8 P P **03 32 23.5 -0.2**
comp=Z,3.6nm,0.6s,mb4.5,baz=193,slow=9.2,SNR=12
SONM PcP PcP 03 33 54.7 -0.2
comp=Z,1.4nm,0.8s,baz=190,slow=4.5,SNR=4.0
MKAR Makanchi Array 47.38 346 P P **03 32 24.1 -0.2**
comp=Z,3.2nm,0.5s,mb4.5,baz=161,slow=8.3,SNR=21
ULN Ulaanbaatar 47.43 9 *eP* P **03 32 23.2 -1.5**
comp=Z,2.7nm,0.5s,mb4.4
CN2 Changchun 49.48 27 *eP* P **03 32 40.0 -0.6**
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.3
HIA Hailar 51.81 19 *eP* P **03 32 57.3 -1.0**
comp=Z,5.4nm,0.6s,mb4.7
KURK Kurchatov 51.93 345 *eP* P **03 32 58.2 -0.9**
comp=Z,6.9nm,0.8s,mb4.6
STKA Stephens Creek 53.30 132 *eP* P **03 33 10.3 +0.6**
comp=Z,4.0nm,0.9s,mb4.3
STKA *i* pP 03 33 17.4 +0.7
STKA Stephens Creek 53.30 132 P P **03 33 10.2 +0.5**
comp=Z,4.6nm,0.8s,mb4.5,baz=301,slow=5.4,SNR=7.1
STKA Stephens Creek 53.30 132 *eP* P **03 33 09.4 -0.3**
STKA *e* pP 03 33 16.4 -0.4
BVAR Borovoye Array 56.38 341 P P **03 33 30.2 -1.5**
comp=Z,3.0nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=15
CHKZ Chkalovo 56.85 342⇑*eP* P **03 33 33.7 -1.5**
comp=Z,9.9nm,0.7s,mb5.0
CHKZ *e*pP pP 03 33 40.5 -1.7
BRTR Keskin Array B 69.16 312 P P **03 34 56.9 -0.1**
comp=Z,0.3nm,0.4s,mb3.6,baz=63,slow=6.6,SNR=2.6
BOSA Boshof 74.64 240 P P **03 35 30.4 +0.6**
comp=Z,3.5nm,1.2s,mb4.2,baz=126,slow=12,SNR=3.4
FINES FINESS Array B 80.11 333 P P **03 35 59.1 -0.3**
comp=Z,1.2nm,0.8s,mb3.9,baz=90,slow=1.4,SNR=3.6
ARCES ARCESS Array B 82.66 340 P P **03 36 12.0 -0.6**
comp=Z,3.6nm,1.0s,mb4.4,baz=112,slow=4.9,SNR=3.0
GERES GERESS Array B 84.89 319 P P **03 36 25.2 +0.9**
comp=Z,0.3nm,0.8s,baz=41,slow=3.6,SNR=2.6
YKA Yellowknife Ar 112.27 15 PP PP 03 43 10.3 -3.0
comp=Z,0.2nm,0.7s,baz=330,slow=6.9,SNR=4.7
TXAR Lajitas Array 143.84 32 PKP PKPdf 03 43 23.5 -5.0
comp=Z,0.3nm,0.5s,baz=92,slow=0.8,SNR=5.4

*IDC **29** 03:26:14.3±4.1,23.97N×125.07E,mb3.5/4,mb1 3.6/5, mb1mx3.5/17,mbtmp3.5/5,ML2.8/1,Error ellipse: s-maj=88.9km s-min=32.8km az=167.0*
*JMA **29** 03:26:17.7±0.2,23.86N×125.01E,h27km±5km,M3.3*
ISC 29 03:26:17.1±1.4,23.83N±0.09×125.07E±0.05,h35km±12km, n15,σ0°80/23,mb3.4/4,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.87**	**337**	P		**P**		**03 26 33.0**	**+0.1**
JTJ				S		**S**		**03 26 44.4**	**-0.2**
JOGS	**Gusukube**	**0.97**	**18**	P		**P**		**03 26 35.6**	**+1.2**
JOGS				S		**S**		**03 26 48.3**	**+1.1**
JIJ	**Ishigaki jima**	**1.00**	**302**	P		**P**		**03 26 34.7**	**-0.1**
JIJ				S		**S**		**03 26 47.0**	**-0.9**
JMJ	**Miyako jima 2**	**1.00**	**12**	P		**P**		**03 26 35.7**	**+0.9**
JMJ				S		**S**		**03 26 48.6**	**+0.7**
JKRS	**Kuro-shima**	**1.05**	**293**	P		**P**		**03 26 36.0**	**+0.5**
JKRS				S		**S**		**03 26 48.9**	**-0.2**
HATJ	**Hateruma jima**	**1.18**	**281**	P		**P**		**03 26 37.9**	**+0.6**
HATJ				S		**S**		**03 26 51.9**	**-0.5**
IRIF	**Iriomote-Funau**	**1.32**	**293**	P		**P**		**03 26 39.6**	**+0.2**
YOJ	**Yonaguni jima**	**1.98**	**289**	P		**P**		**03 26 48.9**	**+0.1**
JKE	**Kume jima 2**	**2.93**	**32**	P		**P**		**03 27 01.8**	**-0.6**
JKE				*e*S		**S**		**03 27 35.7**	**-1.1**
JOW	**Kunigami**	**4.16**	**43**	Pn		**P**		**03 27 17.6**	**-2.2**
	1.2nm,0.3s,baz=176,slow=15,SNR=3.5								
JOW				Sn		**S**		**03 28 07.3**	**-0.7**
	2.9nm,0.3s,baz=127,slow=25,SNR=5.9								
SONM	**Songino Array**	**28.19**	**333**	P		**P**		**03 32 07.7**	**-0.7**
	0.3nm,0.7s,mb3.1,baz=141,slow=9.2,SNR=2.1								
MKAR	**Makanchi Array**	**41.09**	**315**	P		**P**		**03 33 59.1**	**0.0**
	0.6nm,0.4s,mb3.5,baz=102,slow=8.7,SNR=7.9								
NB2	**NORSAR Subarra**	**80.17**	**333**	P		**P**		**03 38 25.2**	**+0.2**
	1.3nm,0.9s,mb3.9,baz=61,slow=5.3								
NOA	**NORSAR Array B**	**80.17**	**333**	P		**P**		**03 38 24.7**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=54,slow=5.7,SNR=4.0								
YKA	**Yellowknife Ar**	**81.89**	**24**	P		**P**		**03 38 35.3**	**+1.3**
	0.2nm,0.6s,mb3.2,baz=302,slow=5.7,SNR=4.9								

*IDC **29** 03:29:04.3±0.6,2.92N×96.39E,mb4.4/16,mb1 4.5/16, mb1mx4.4/19,mbtmp4.4/16,MS3.6/1,Ms1 3.6/1, ms1mx2.7/16,Error ellipse: s-maj=27.6km s-min=12.2km az=50.0*
*MOS **29** 03:29:07.8±0.9,3.03N×96.55E,h33km,mb4.9/19,Error ellipse: s-maj=19.4km s-min=8.7km az=121.6*
*BJI **29** 03:29:07.5,2.63N×96.01E,h42km,mB4.9,mb4.7,Ms4.6, Msz4.5*
*NEIC **29** 03:29:08.3±0.3,2.87N×96.34E,mb4.7/21,Error ellipse: s-maj=12.0km s-min=6.7km az=221.0*
ISC 29 03:29:08.6±1.6,2.84N±0.06×96.36E±0.07,h43km±14km, h31km±.6km:pP-P,n86,σ1§10/78,mb4.5/41,MS4.3/5,1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.93**	**60**	*e*Pn		**P**		**03 30 22.5**	**+0.4**
KSM	**Kuching**	**14.01**	**95**	*eP*		**P**		**03 32 28.0**	**+1.4**
CM31	**Chiang Mai Arr**	**15.73**	**9**	P		P		**03 32 51.0**	**+2.1**
PALK	**Pallekele**	**16.20**	**286**	P		P		**03 32 54.7**	**-0.2**
	33nm,0.9s								
KKM	**Kota Kinabalu**	**20.05**	**80**	*eP*		**P**		**03 33 39.7**	**-1.4**
GYA	**Guiyang**	**25.48**	**22**⇑*iP*			**P**		**03 34 34.3**	**-0.4**
GYA				AP		pP		03 34 43.5	-2.4
GYA				XP		sP		03 34 47.8	-3.1
GYA				PP		PP		03 35 19.5	+4.8
GYA				S		**S**		**03 39 06.3**	**+10**
GYA				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb4.2								
GYA				LR		LR			
	comp=N,710nm,13.8s,MS4.4								
GYA				LR		LR			
	comp=E,580nm,17.5s,MS4.4								
GYA				LR		LR			
	comp=Z,850nm,11.7s								
LSA	**Lhasa**	**27.16**	**350**	P		**P**		**03 34 49.5**	**-0.8**
LSA	**Lhasa**	**27.16**	**350**	*eP*		**P**		**03 34 49.4**	**-0.9**
LSA				pmax		pmax			
	comp=Z,10.0nm,0.4s,mb4.7								
LSA	**Lhasa**	**27.16**	**350**	*eP*		**P**		**03 34 49.4**	**-0.8**
	comp=Z,9.9nm,0.4s,mb4.7								
DDI	**Dehra Dun**	**32.36**	**330**	*e*		**P**		**03 35 36.0**	**-0.5**
MBWA	**Marble Bar**	**33.06**	**137**	*eP*		**P**		**03 35 41.9**	**-0.7**
	comp=Z,7.0nm,0.7s,mb4.7								
FITZ	**Fitzroy Crossi**	**35.57**	**127**	*eP*		**P**		**03 36 02.6**	**-1.6**
	comp=Z,8.2nm,0.6s,mb4.8								
FITZ	**Fitzroy Crossi**	**35.57**	**127**	P		**P**		**03 36 02.9**	**-1.3**
	comp=Z,12nm,0.6s,mb5.0,baz=330,slow=5.0,SNR=34								
GTA	**Gaotai**	**36.53**	**5**	*eP*		**P**		**03 36 13.0**	**+0.9**
GTA				AP		pP		03 36 22.0	-1.8
GTA				XP		sP		03 36 25.5	-3.6
GTA				PP		PP		03 37 40.8	+3.7
GTA				S		**S**		**03 41 57.8**	**+6.9**
GTA				XS				03 42 14.0	
GTA				AMB		AMB			
	comp=Z,4.0nm,0.8s,mb4.3								
GTA				AMB		AMB			
	comp=Z,103nm,4.2s								
GTA				LR		LR			
	comp=N,227nm,16.0s,MS4.2								
GTA				LR		LR			
	comp=E,187nm,14.4s,MS4.2								
GTA				LR		LR			
	comp=Z,691nm,14.1s,MS4.6								
HHC	**Hu-ho-hao-te**	**40.25**	**18**	*eP*		**P**		**03 36 45.0**	**+2.0**
HHC				AP		pP		03 36 54.3	-0.5
HHC				XP		sP		03 36 58.0	-2.0
HHC				PP		PP		03 38 23.0	+3.5
HHC				SCP				03 42 33.8	
HHC				S		**S**		**03 42 50.5**	**+3.4**
HHC				XS				03 43 07.0	
HHC				AMB		AMB			
	comp=Z,12nm,0.4s,mb5.0								
HHC				AMB		AMB			
	comp=Z,273nm,14.3s								
HHC				LR		LR			
	comp=N,252nm,17.8s,MS4.4								
HHC				LR		LR			
	comp=E,341nm,14.9s,MS4.4								
HHC				LR		LR			
	comp=Z,1μm,22.6s								
NWAO	**Narrogin (SRO)**	**40.69**	**153**	P		**P**		**03 36 47.8**	**+1.0**
	comp=Z,7.5nm,0.9s,mb4.3,baz=4.4,slow=13,SNR=3.1								
WMQ	**Urumqi**	**41.52**	**351**	*eP*		**P**		**03 36 54.3**	**+0.8**
WMQ				XP		sP		03 37 07.5	-3.0
WMQ				PP		PP		03 38 33.5	+0.7
WMQ				*eS*		**S**		**03 43 07.0**	**+0.9**
WMQ				AMB		AMB			
	comp=Z,11nm,0.9s,mb4.5								
WMQ				AMB		AMB			
	comp=Z,83nm,4.6s								
WMQ				LR		LR			
	comp=N,1μm,22.4s,MS4.8								
WMQ				LR		LR			
	comp=E,986nm,25.2s,MS4.8								
WMQ				LR		LR			
	comp=Z,721nm,23.7s,MS4.5								
WRA	**Warramunga Arr**	**43.62**	**123**	P		**P**		**03 37 10.8**	**-0.2**
	comp=Z,12nm,0.5s,mb4.8,baz=301,slow=9.2,SNR=141								
WRAB	**Tennant Creek**	**43.63**	**123**	P		**P**		**03 37 11.0**	**-0.1**
	comp=Z,144nm,0.5s,SNR=13								
WRAB	**Tennant Creek**	**43.63**	**123**	*eP*		**P**		**03 37 10.7**	**-0.4**
WRAB				*e*				03 37 18.5	
WRAB				pmax		pmax			
	comp=Z,12nm,0.5s,mb4.9								
WRAB	**Tennant Creek**	**43.63**	**123**	*eP*		**P**		**03 37 10.7**	**-0.3**
	comp=Z,12nm,0.5s,mb4.9								
WRAB				*e*				03 37 18.5	
WB2	**Warramunga Arr**	**43.63**	**123**	‖*iP*		**P**		**03 37 10.4**	**-0.7**
AAK	**Ala-Archa**	**44.17**	**337**	*eP*		**P**		**03 37 15.6**	**+0.5**
AAK				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.6								
AAK	**Ala-Archa**	**44.17**	**337**	*eP*		**P**		**03 37 15.6**	**+0.4**
	comp=Z,7.4nm,0.6s,mb4.6								
FRU	**Bishkek**	**44.29**	**337**	*eP*		**P**		**03 37 17.0**	**+0.9**
ASPA	**Alice Springs**	**45.05**	**128**	‖*iP*		**P**		**03 37 22.1**	**-0.4**
ASAR	**Alice Springs**	**45.06**	**128**	P		**P**		**03 37 22.2**	**-0.2**
	comp=Z,5.7nm,0.5s,mb4.7,baz=299,slow=8.0,SNR=83								
FORT	**Forrest**	**45.07**	**140**	*eP*		**P**		**03 37 23.7**	**+1.2**
	comp=Z,576nm,0.6s								
FORT				*i*				03 37 31.4	
MKAR	**Makanchi Array**	**45.46**	**346**	*i* P		**P**		**03 37 24.8**	**-0.6**
MKAR				pmax		pmax			
	comp=Z,4.0nm,0.5s								
MKAR	**Makanchi Array**	**45.46**	**346**	P		**P**		**03 37 24.9**	**-0.5**
	comp=Z,7.9nm,0.7s,mb4.7,baz=162,slow=8.0,SNR=38								
MKAR				LR		LR		04 01 19.6	
	comp=Z,72nm,19.8s,MS3.6,baz=106,slow=43								
SONM	**Songino Array**	**45.65**	**9**	P		**P**		**03 37 26.6**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.3,baz=191,slow=9.9,SNR=14								
SONM				PcP		PcP		03 39 05.3	+0.3
	comp=Z,0.6nm,0.4s,baz=196,slow=3.7,SNR=5.8								
ULN	**Ulaanbaatar**	**45.79**	**10**	*eP*		**P**		**03 37 28.0**	**0.0**
ULN				pmax		pmax			
	comp=Z,3.0nm,0.7s,mb4.3								
ULN	**Ulaanbaatar**	**45.79**	**10**	*eP*		**P**		**03 37 28.0**	**0.0**
	comp=Z,2.6nm,0.7s,mb4.3								
ZAK	**Zakamensk**	**47.73**	**6**	*eP*		**P**		**03 37 42.7**	**-0.6**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.6s,mb3.9								
CN2	**Changchun**	**48.25**	**28**	*eP*		pP		03 37 53.8	-5.5
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb5.0								
KURK	**Kurchatov**	**50.00**	**345**	*eP*		**P**		**03 37 59.8**	**-1.0**
KURK				pmax		pmax			
	comp=Z,13nm,1.0s,mb4.9								
KURK	**Kurchatov**	**50.00**	**345**	*eP*		**P**		**03 37 59.8**	**-0.9**
	comp=Z,13nm,1.0s,mb4.9								
HIA	**Hailar**	**50.38**	**20**	P		**P**		**03 38 00.5**	**-3.2**
HIA				pmax		pmax			
	comp=Z,5.0nm,0.6s								
HIA	**Hailar**	**50.38**	**20**	P		**P**		**03 38 00.5**	**-3.1**
	comp=Z,5.4nm,0.6s,mb4.8								
PMG	**Port Moresby**	**52.06**	**104**	P		**P**		**03 38 16.4**	**-0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=294,slow=16,SNR=3.6								
NVS	**Novosibirsk**	**52.93**	**351**	*i* P		**P**		**03 38 25.9**	**+3.1**
CTA	**Charters Tower**	**53.99**	**117**	*eP*		**P**		**03 38 30.8**	**-0.3**
	comp=Z,7.4nm,0.9s,mb4.6								
CTA	**Charters Tower**	**53.99**	**117**	*eP*		**P**		**03 38 30.8**	**-0.3**
CTA				pmax		pmax			
	comp=Z,7.0nm,0.9s								
CTA	**Charters Tower**	**53.99**	**117**	P		**P**		**03 38 31.2**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.6,baz=276,slow=7.8,SNR=7.6								
CTAO	**Charters Tower**	**53.99**	**117**	*eP*		**P**		**03 38 31.1**	**0.0**
CTAO				pmax		pmax			
	comp=Z,15nm,1.0s,mb4.9								
CTAO	**Charters Tower**	**53.99**	**117**	*eP*		**P**		**03 38 31.1**	**0.0**
	comp=Z,15nm,1.0s,mb4.9								
BVA0	**Borovoye Array**	**54.43**	**341**	*i* P		**P**		**03 38 32.1**	**-1.8**
BVA0				pmax		pmax			
	comp=Z,1.0nm,0.9s,mb3.8								
BVAR	**Borovoye Array**	**54.43**	**341**	P		**P**		**03 38 32.5**	**-1.4**
	comp=Z,2.0nm,0.6s,mb4.2,baz=143,slow=7.4,SNR=12								
CHKZ	**Chkalovo**	**54.91**	**342**	*eP*		**P**		**03 38 35.5**	**-1.9**
CHKZ				pmax		pmax			
	comp=Z,11nm,0.6s,mb5.1								
CHKZ	**Chkalovo**	**54.91**	**342**	*eP*		**P**		**03 38 35.5**	**-1.8**
	comp=Z,11nm,0.6s,mb5.1								
STKA	**Stephens Creek**	**55.08**	**133**	*eP*		**P**		**03 38 38.4**	**-0.5**
	comp=Z,4.2nm,0.9s,mb4.5								
STKA				*e*				03 38 46.3	
STKA	**Stephens Creek**	**55.08**	**133**	P		**P**		**03 38 38.9**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.7,baz=310,slow=8.8,SNR=9.9								
BOD	**Bodaibo**	**56.57**	**11**	*eP*		**P**		**03 38 47.2**	**-2.0**
BOD				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.8								
KMBO	**Kilima Mbogo**	**59.22**	**267**	*eP*		**P**		**03 39 09.4**	**+1.0**
KMBO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KMBO	**Kilima Mbogo**	**59.22**	**267**	P		**P**		**03 39 09.3**	**+0.9**
	comp=Z,2.0nm,0.6s,mb4.3,baz=52,slow=9.3,SNR=9.0								
KMBO	**Kilima Mbogo**	**59.22**	**267**	*eP*		**P**		**03 39 09.4**	**+1.0**
	comp=Z,5.0nm,1.0s,mb4.5								
SVE	**Sverdlovsk**	**60.86**	**338**	*eP*		**P**		**03 39 19.0**	**-0.1**
KIV	**Kislovodsk**	**62.52**	**319**	*eP*		**P**		**03 39 31.3**	**+0.9**
KIV				pmax		pmax			
	comp=Z,12nm,1.1s,mb4.9								
KIV	**Kislovodsk**	**62.52**	**319**	*eP*		**P**		**03 39 29.9**	**-0.5**
	comp=Z,11nm,0.8s,mb5.0								
GOF	**Gofitskoye**	**62.77**	**320**	*eP*		**P**		**03 39 37.5**	**+5.5**
MALT	**Malatya**	**63.41**	**312**	*eP*		**P**		**03 39 36.3**	**-0.1**
MALT				pmax		pmax			
	comp=Z,9.0nm,0.9s,mb4.9								
MALT	**Malatya**	**63.41**	**312**	*eP*		**P**		**03 39 36.2**	**-0.1**
	comp=Z,9.5nm,0.9s,mb4.9								
EIL	**Elat**	**63.88**	**302**	*eP*		**P**		**03 39 38.5**	**-1.1**
	comp=Z,5.2nm,0.7s,mb4.7								
BRTR	**Keskin Array B**	**67.39**	**312**	P		**P**		**03 40 01.0**	**-0.9**
	comp=Z,1.3nm,0.7s,mb4.1,baz=122,slow=6.7,SNR=8.0								
OBN	**Obninsk**	**70.79**	**328**‖*eP*			**P**		**03 40 23.7**	**+1.2**
OBN				pmax		pmax			
	comp=Z,27nm,1.6s,mb4.9								
KOLS	**Kolonicke sedl**	**77.43**	**319**	*eP*		pP		03 41 08.0	-5.8
KOLS	**Kolonicke sedl**	**77.43**	**319**	*ep*		pP		03 41 08.0	-5.8
FINES	**FINESS Array B**	**78.16**	**332**	P		**P**		**03 41 04.5**	**-0.4**
	comp=Z,1.0nm,0.6s,mb4.0,baz=108,slow=6.0,SNR=6.6								
KAF	**Kangasniemi**	**78.25**	**333**	*ep*		**P**		**03 41 05.6**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.4								
KAF	**Kangasniemi**	**78.25**	**333**	*eP*		**P**		**03 41 05.6**	**+0.2**
KAF				pmax		pmax			
	comp=Z,4.0nm,0.8s,mb4.4								
ARCES	**ARCESS Array B**	**80.72**	**340**	P		**P**		**03 41 18.4**	**-0.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=90,slow=6.1,SNR=10.0								
GOLS	**Golise**	**81.52**	**316**	*eP*		pP		03 41 31.7	-4.4
VISS	**Visnje**	**82.05**	**316**	*eP*		pP		03 41 34.5	-4.3
LJU	**Ljubljana**	**82.29**	**316**	*eP*		pP		03 41 36.2	-3.8
BRG	**Berggiesshubel**	**83.01**	**321**	*eP*		pP		03 41 40.2	-3.4
BRG				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.6								
BRG	**Berggiesshubel**	**83.01**	**321**	*eP*		pP		03 41 40.2	-3.4
	comp=Z,6.5nm,1.2s								
GERES	**GERESS Array B**	**83.03**	**319**	P		**P**		**03 41 31.9**	**+0.9**
	comp=Z,0.6nm,0.7s,mb3.7,baz=108,slow=4.2,SNR=7.5								
GRF	**Grafenberg Arr**	**84.69**	**319**	*eP*		pP		03 41 48.4	-3.8
GRF				pmax		pmax			
	comp=Z,7.0nm,1.2s,mb4.7								
NB2	**NORSAR Subarra**	**85.17**	**331**	P		**P**		**03 41 44.3**	**+2.8**
	comp=Z,7.8nm,1.2s,mb4.7,baz=98,slow=4.6								
NB2	**NORSAR Subarra**	**85.17**	**331**	P		**P**		**03 41 44.3**	**+2.8**
NB2				pmax		pmax			
	comp=Z,8.0nm,1.2s,mb4.7								
NOA	**NORSAR Array B**	**85.17**	**331**	P		**P**		**03 41 44.6**	**+3.2**
	comp=Z,3.6nm,1.2s,mb4.4,baz=93,slow=4.9,SNR=4.1								
VNDA	**Vanda**	**87.59**	**169**	P		**P**		**03 41 54.0**	**+1.0**
	comp=Z,0.7nm,1.0s,mb3.9,baz=326,slow=3.6,SNR=2.6								
SBA	**Scott Base**	**88.69**	**168**	*eP*		**P**		**03 42 00.4**	**+2.1**
	comp=Z,2.7nm,1.0s,mb4.5								
SDCO	**Great Sand Dun**	**134.82**	**25**	*e*PKP		PKPdf		03 48 23.6	0.0
TXAR	**Lajitas Array**	**142.69**	**30**	PKP		PKPdf		03 48 37.3	-0.7
	comp=Z,0.3nm,0.7s,baz=243,slow=0.3,SNR=4.7								
CFAA	**Coronel Fontan**	**147.92**	**205**	PKPbc		PKPdf		03 48 51.4	+4.5
	comp=Z,0.3nm,0.5s,baz=157,slow=0.8,SNR=7.9								

IDC 29 03:30:53.6±2.1,23.94N×94.60E,mb3.5/4,mb1 3.8/4, mb1mx3.6/18,mbtmp3.5/4,1C,Error ellipse: s-maj=87.2km s-min=24.1km az=69.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.04**	**324**⇑	*iP*		P	Pb	03 31 18.0	+3.9
MKAR	**Makanchi Array**	**24.86**	**340**	P		P	P	03 36 17.8	-1.2
	0.2nm,0.4s,baz=156,slow=9.4,SNR=4.7								
SONM	**Songino Array**	**25.63**	**19**	P		P	P	03 36 24.9	-1.5
	0.4nm,0.5s,baz=197,slow=8.4,SNR=4.2								
WRA	**Warramunga Arr**	**58.32**	**135**	P		P	P	03 40 50.4	-2.6
	0.6nm,0.3s,baz=321,slow=7.5,SNR=5.7								
ASAR	**Alice Springs**	**60.78**	**138**	P		P	P	03 41 08.0	-2.0
	0.4nm,0.5s,baz=323,slow=6.4,SNR=4.8								

*IDC **29** 03:38:23.6±0.7,2.25N×96.23E,mb4.5/14,mb1 4.6/14, mb1mx4.4/20,mbtmp4.5/14,Error ellipse: s-maj=34.4km s-min=13.1km az=50.0*
*BJI **29** 03:38:26.9,2.15N×96.42E,h38km,mB5.1,mb5.0,Ms4.7, Msz4.4*
*NEIC **29** 03:38:28.4±0.4,2.27N×96.35E,h30km,mb4.7/23,Error ellipse: s-maj=13.1km s-min=6.5km az=46.0*
ISC 29 03:38:26.7±0.5,2.27N±0.06×96.40E±0.07,h30km, h30km±1.4km:pP-P,n70,σ1§03/64,mb4.8/44,MS4.6/4,5C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**13.93**	**93**	*eP*		**P**		**03 41 46.6**	**+1.9**
CM31	**Chiang Mai Arr**	**16.28**	**9**	*eP*		**P**		**03 42 16.4**	**+1.3**
PALK	**Pallekele**	**16.41**	**288**	*eP*		**P**		**03 42 19.6**	**+2.9**
	14nm,0.8s								
KKM	**Kota Kinabalu**	**20.12**	**79**	*eP*		**P**		**03 43 01.3**	**0.0**
QIZ	**Qiongzhong**	**21.23**	**37**	*eP*		**P**		**03 43 12.0**	**-0.7**
HYB	**Hyderabad**	**23.10**	**312**	*eP*		**P**		**03 43 36.0**	**+4.6**
HYB	**Hyderabad**	**23.10**	**312**	*i* P		**P**		**03 43 36.0**	**+4.6**
KMI	**Kunming**	**23.53**	**15**	P		**P**		**03 43 37.8**	**+2.3**
KMI				AMB		AMB			
	comp=Z,22nm,0.8s,mb4.6								
GYA	**Guiyang**	**25.99**	**21**⇑	*iP*		**P**		**03 43 59.0**	**0.0**
GYA				AMB		AMB			
	comp=Z,40nm,0.8s,mb5.0								
JIRN	**Jiri**	**27.07**	**340**	*eP*		**P**		**03 44 09.3**	**+0.4**
	comp=Z,9.5nm,0.3s,mb4.9								
PKI	**Pulchoki**	**27.27**	**338**	*eP*		**P**		**03 44 10.0**	**-0.7**
	comp=Z,30nm,0.7s,mb5.0								
DMN	**Daman**	**27.41**	**338**	*eP*		**P**		**03 44 12.3**	**+0.3**
	comp=Z,30nm,0.6s,mb5.0								
KKN	**Kakani**	**27.51**	**338**	*eP*		**P**		**03 44 13.0**	**+0.1**
	comp=Z,48nm,0.8s,mb5.2								
LSA	**Lhasa**	**27.73**	**350**	P		**P**		**03 44 15.5**	**+0.6**
LSA	**Lhasa**	**27.73**	**350**	*eP*		**P**		**03 44 14.9**	**0.0**
	comp=Z,23nm,0.8s,mb4.9								
LS

comp=N,731nm,19.8s,MS4.7
WMQ LR LR
comp=E,823nm,20.4s,MS4.7
WMQ LR LR
comp=Z,657nm,21.3s,MS4.5
WRA Warramunga Arr 43.28 122 P **P 03 46 28.1 +0.2**
comp=Z,3.2nm,0.5s,mb4.3,baz=301,slow=9.2,SNR=37
WRA PcP PcP 03 48 16.9 -0.2
comp=Z,0.3nm,0.5s,baz=312,slow=2.8,SNR=4.8
WRAB Tennant Creek 43.29 122 *eP* **P 03 46 28.1 +0.2**
comp=Z,7.8nm,0.6s,mb4.6
WB2 Warramunga Arr 43.29 122 *eP* **P 03 46 28.1 +0.1**
ULHL Ulahol 43.71 338 P **P 03 46 31.7 +0.7**
SNR=14
KZA Kyzart 43.94 337 P **P 03 46 33.9 +1.0**
SNR=6.1
TKM2 Tokmak 2 44.53 338 P **P 03 46 38.1 +0.3**
SNR=7.5
ASAR Alice Springs 44.68 127 P **P 03 46 39.4 +0.2**
comp=Z,2.8nm,0.6s,mb4.2,baz=299,slow=7.9,SNR=26
AAK Ala-Archa 44.70 337 *eP* **P 03 46 38.4 -0.7**
comp=Z,7.8nm,1.0s,mb4.5
EKS2 Erkin-Say 45.01 336 P **P 03 46 42.7 +1.1**
SNR=8.6
USP Ospenovka 45.24 337 P **P 03 46 44.2 +0.8**
SNR=7.1
MKAR Makanchi Array 46.02 347 P **P 03 46 49.1 -0.4**
comp=Z,8.8nm,0.5s,mb5.0,baz=158,slow=9.1,SNR=207
SONM Songino Array 46.20 9 P **P 03 46 50.9 -0.1**
comp=Z,4.9nm,0.4s,mb4.8,baz=189,slow=9.1,SNR=55
SONM PcP PcP 03 48 26.9 +0.1
comp=Z,3.6nm,0.6s,baz=194,slow=3.3,SNR=9.2
ULN Ulaanbaatar 46.34 10 *eP* **P 03 46 50.0 -2.0**
comp=Z,4.1nm,0.6s,mb4.5
CN2 Changchun 48.73 28 *eP* **P 03 47 15.5 +4.8**
TLY Talaya 49.61 6 *eP* **P 03 47 18.6 +1.1**
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 50.56 345 *eP* **P 03 47 23.9 -0.8**
comp=Z,3.7nm,0.6s,mb4.5
HIA Hailar 50.90 20 *eP* **P 03 47 27.1 -0.2**
comp=Z,15nm,0.9s,mb4.9
PMG Port Moresby 51.88 104 P **P 03 47 35.0 -0.2**
comp=Z,4.1nm,0.4s,mb4.7,baz=133,slow=2.0,SNR=3.7
STKA Stephens Creek 54.67 132 *eP* **P 03 47 55.9 +0.3**
comp=Z,3.1nm,0.7s,mb4.5
STKA Stephens Creek 54.67 132 P **P 03 47 55.9 +0.3**
comp=Z,3.7nm,0.7s,mb4.6,baz=293,slow=7.6,SNR=11
BVAR Borovoye Array 54.98 341 P **P 03 47 56.1 -1.5**
comp=Z,6.6nm,0.5s,mb4.9,baz=143,slow=9.9,SNR=53
CHKZ Chkalovo 55.46 342⇑*iP* **P 03 47 59.8 -1.2**
comp=Z,14nm,0.4s,mb5.3
ASAJ Asahikawa 58.30 38 P **P 03 48 21.2 -0.1**
comp=Z,11nm,0.8s,mb4.9,slow=1.0,SNR=3.3
KMBO Kilima Mbogo 59.23 267 P **P 03 48 33.7 +5.4**
comp=Z,2.4nm,0.9s,mb4.2
MBAR Mbarara 65.70 268 P **P 03 49 16.5 +5.1**
comp=Z,5.0nm,1.1s,mb4.5
BRTR Keskin Array B 67.80 312 P **P 03 49 22.8 -1.5**
comp=Z,1.3nm,0.8s,mb4.0,baz=119,slow=6.0,SNR=7.2
MA2 Magadan 70.72 26 *eP* **P 03 49 41.0 -0.9**
comp=Z,8.7nm,0.6s,mb4.9
AKASG Malin Array Be 73.92 322 P **P 03 49 59.4 -1.7**
comp=Z,1.6nm,0.5s,mb4.2,baz=89,slow=5.2,SNR=11
FINES FINESS Array B 78.68 333 P **P 03 50 27.2 -0.3**
comp=Z,2.4nm,0.5s,mb4.4,baz=94,slow=5.6,SNR=36
KAF Kangasniemi 78.77 333 *ep* **P 03 50 27.0 -1.0**
comp=Z,3.0nm,0.5s,mb4.5,baz=103,slow=5.1
SYO Syowa Base 80.77 198⇑⇑P **P 03 50 45.0 +6.3**
ARCES ARCESS Array B 81.26 340 P **P 03 50 41.5 +0.3**
comp=Z,4.5nm,0.5s,mb4.7,baz=96,slow=5.6,SNR=57
GERES GERESS Array B 83.48 319 P **P 03 50 53.2 +0.1**
comp=Z,0.6nm,0.5s,mb3.9,baz=90,slow=4.0,SNR=8.4
YKA Yellowknife Ar 111.27 15 PP PP 03 57 32.1 -10
comp=Z,0.3nm,0.8s,baz=328,slow=7.4,SNR=6.3
ULM Lac du Bonnet 126.63 10 PKP PKPdf 03 57 28.5 -4.0
comp=Z,0.6nm,0.4s,baz=58,slow=1.9,SNR=3.6
ULM Lac du Bonnet 126.63 10 PKP PKPdf 03 57 28.5 -4.1
TXAR Lajitas Array 143.17 30 PKP PKPdf 03 57 58.0 -5.8
comp=Z,1.2nm,0.7s,baz=20,slow=0.9,SNR=11
LRAL Lakeview Retre 144.74 5 PKP PKPdf 03 58 01.2 -5.2
CFAA Coronel Fontan 147.42 205 PKPbc PKPdf 03 58 10.3 -0.7
comp=Z,0.4nm,0.6s,baz=159,slow=2.6,SNR=5.5
CFAA Coronel Fontan 147.42 205 PKPbc PKPdf 03 58 10.3 -0.7

*IDC **29** 03:40:57.4±3.9, 1.32N×97.42E, mb4.1/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, Error ellipse: s-maj=156.9km s-min=21.9km az=60.0*
*BJI **29** 03:40:58.5, 0.94N×97.75E, h37km, mB5.5, mb5.0*
*NEIC **29** 03:41:00.6±0.7, 1.19N×97.13E, h30km, mb4.4/8, Error ellipse: s-maj=18.9km s-min=9.7km az=63.0*
ISC 29 03:40:59.9±5.5, 1.2N±0.2×97.2E±0.3, h38km±42km, n15, σ0s82/15, mb4.3/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.33**	**41**	*eP*	**P**	**03 42 19.3**	**+0.2**
ENH	**Enshi**	**31.17**	**21**	*eP*	**P**	**03 47 16.3**	**-1.5**
	15nm,0.8s,mb4.9						
ENH				*ep*	pP	03 47 23.0	-5.5
FITZ	**Fitzroy Crossi**	**33.97**	**126**	P	**P**	**03 47 41.9**	**-0.3**
	3.1nm,0.7s,mb4.4,baz=283,slow=3.9,SNR=3.7						
GTA	**Gaotai**	**38.09**	**3**	*eP*	**P**	**03 48 18.0**	**+1.1**
GTA				AP	pP	03 48 27.3	-0.4
GTA				XP	sP	03 48 30.0	-2.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**03 48 51.1**	**+0.9**
	comp=Z,1.9nm,0.6s,mb3.9,baz=303,slow=8.9,SNR=4.6						
WRAB	**Tennant Creek**	**42.08**	**122**	*eP*	**P**	**03 48 51.0**	**+0.8**
	comp=Z,2.9nm,0.5s,mb4.2						
BJT	**Baijiatuan**	**42.31**	**22**	P	**P**	**03 48 52.5**	**+0.7**
	comp=Z,7.6nm,0.5s,mb4.6						
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**	**03 48 59.8**	**-1.5**
	comp=Z,1.2nm,0.8s,mb3.7,baz=300,slow=7.3,SNR=3.7						
SONM	**Songino Array**	**47.12**	**8**	P	**P**	**03 49 30.6**	**+0.4**
	comp=Z,3.1nm,0.8s,mb4.3,baz=188,slow=8.9,SNR=6.7						
MKAR	**Makanchi Array**	**47.21**	**346**	P	**P**	**03 49 31.4**	**+0.4**
	comp=Z,1.5nm,0.5s,mb4.2,baz=160,slow=9.3,SNR=7.7						
ULN	**Ulaanbaatar**	**47.24**	**9**	P	**P**	**03 49 31.3**	**+0.1**
	comp=Z,4.1nm,0.9s,mb4.4						
HIA	**Hailar**	**51.63**	**19**	P	**P**	**03 50 04.3**	**-0.6**
	comp=Z,4.2nm,0.9s,mb4.4						
KURK	**Kurchatov**	**51.76**	**345**	*eP*	**P**	**03 50 05.3**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2						
CHKZ	**Chkalovo**	**56.70**	**341**	*eP*	**P**	**03 50 41.0**	**-1.0**
	comp=Z,4.8nm,0.7s,mb4.6						
MORC	**Moravsky Berou**	**82.37**	**320**	P	**P**	**03 53 20.1**	**+0.7**
	comp=Z,1.8nm,0.8s,mb4.0						

*IDC **29** 03:44:31.7±0.7, 1.32N×97.01E, mb4.5/14, mb1 4.6/14, mb1mx4.4/19, mbtmp4.5/14, MS4.1/1, Ms1 4.1/1, ms1mx2.9/25, Error ellipse: s-maj=30.9km s-min=13.8km az=54.0*
*BJI **29** 03:44:33.1, 1.05N×97.28E, h37km, mB5.5, mb5.0, Ms4.8, Msz4.7*
*MOS **29** 03:44:34.8±0.9, 1.41N×97.10E, h33km, mb5.0/22, Error ellipse: s-maj=17.1km s-min=7.7km az=108.7*
*NEIC **29** 03:44:35.4±0.3, 1.34N×97.11E, mb4.9/25, Error ellipse: s-maj=10.4km s-min=6.1km az=53.0*
ISC 29 03:44:34.6±1.7, 1.36N±0.05×97.11E±0.06, h31km±11km, h28km±1.4km:pP-P, n97, σ0s92/99, mb4.8/54, MS4.5/9, 4C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.05**	**51**	P	**Pn**	**03 45 50.7**	**+0.4**
KULM	**Kulim**	**5.27**	**42**	*eP*	**Pn**	**03 45 53.1**	**-0.2**
KGM	**Kluang**	**6.24**	**84**	P	**Pn**	**03 46 08.3**	**+1.2**
KSM	**Kuching**	**13.20**	**89**	P	**P**	**03 47 54.4**	**+12**
CM31	**Chiang Mai Arr**	**17.09**	**6**	*eP*	**P**	**03 48 31.2**	**-1.7**
	17nm,0.6s						
KKM	**Kota Kinabalu**	**19.62**	**76**	*eP*	**P**	**03 49 03.0**	**-0.6**
KKM	**Kota Kinabalu**	**19.62**	**76**	P	**P**	**03 49 04.1**	**+0.4**
QIZ	**Qiongzhong**	**21.54**	**35**	P	**P**	**03 49 24.0**	**+0.5**
QIZ				*eS*	**S**	**03 53 10.0**	**-5.5**
QIZ				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.3						
KMI	**Kunming**	**24.24**	**13**	P	**P**	**03 49 52.0**	**+1.9**
KMI				XP		03 50 07.0	
KMI				S	**S**	**03 54 06.8**	**+3.2**
KMI				AMB	AMB		
	comp=Z,50nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,164nm,3.1s						
KMI				LR	LR		
	comp=N,307nm,17.8s,MS4.1						
KMI				LR	LR		
	comp=E,490nm,17.0s,MS4.1						
KMI				LR	LR		
	comp=Z,496nm,24.6s						
GYA	**Guiyang**	**26.59**	**19**⇑	*iP*	**P**	**03 50 12.0**	**-0.1**
GYA				AP	pP	03 50 20.8	-0.5
GYA				XP	sP	03 50 24.5	-1.0
GYA				PP	PP	03 50 57.0	+0.6
GYA				S	**S**	**03 54 42.5**	**-0.3**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,240nm,3.0s						
GYA				LR	LR		
	comp=N,990nm,13.5s,MS4.6						
GYA				LR	LR		
	comp=E,580nm,11.7s,MS4.6						
GYA				LR	LR		
	comp=Z,2μm,15.3s,MS4.7						
JIRN	**Jiri**	**28.16**	**339**	*eP*	**P**	**03 50 27.6**	**+1.2**
PKI	**Pulchoki**	**28.37**	**338**	*eP*	**P**	**03 50 29.0**	**+0.7**
DMN	**Daman**	**28.52**	**337**	*eP*	**P**	**03 50 30.9**	**+1.3**
KKN	**Kakani**	**28.62**	**338**	*eP*	**P**	**03 50 31.2**	**+0.7**
	comp=Z,82nm,1.2s,mb5.3						
KKN	**Kakani**	**28.62**	**338**	*eP*	**P**	**03 50 31.2**	**+0.7**
KKN				pmax	pmax		
	comp=Z,41nm,1.2s,mb5.0						
LSA	**Lhasa**	**28.75**	**349**	*eP*	**P**	**03 50 33.0**	**+1.3**
LSA				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
LSA	**Lhasa**	**28.75**	**349**	*eP*	**P**	**03 50 33.0**	**+1.3**
	comp=Z,15nm,0.6s,mb4.9						
GKN	**Gorkha**	**29.06**	**337**	*eP*	**P**	**03 50 35.3**	**+0.8**
	comp=Z,67nm,0.9s,mb5.4						
KOLN	**Koldanda**	**29.27**	**335**	*eP*	**P**	**03 50 37.5**	**+1.1**
	comp=Z,53nm,0.8s,mb5.3						
ENH	**Enshi**	**31.06**	**21**	*eP*	**P**	**03 50 51.0**	**-1.3**
	comp=Z,52nm,0.7s,mb5.5						
ENH				*e*		03 50 57.1	
FITZ	**Fitzroy Crossi**	**34.10**	**126**	*eP*	**P**	**03 51 17.9**	**-0.9**
	comp=Z,5.0nm,0.6s,mb4.6						
FITZ				*i*		03 52 22.1	
FITZ	**Fitzroy Crossi**	**34.10**	**126**	P	**P**	**03 51 18.1**	**-0.7**
	comp=Z,6.9nm,0.7s,mb4.7,baz=322,slow=4.3,SNR=12						
XAN	**Xi'an**	**34.34**	**18**	P	**P**	**03 51 19.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,36nm,1.0s,mb5.3						
LZH	**Lanzhou**	**35.11**	**10**	*eP*	**P**	**03 51 27.3**	**0.0**
LZH				AP	pP	03 51 34.3	-2.4
LZH				XP	sP	03 51 37.3	-3.4
LZH				PP	PP	03 52 46.5	+0.2
LZH				AMB	AMB		
	comp=Z,50nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=E,692nm,15.6s						
LZH				LR	LR		
	comp=Z,935nm,17.0s,MS4.6						
NJ2	**Nanjing**	**36.78**	**32**	*eP*	**P**	**03 51 40.0**	**-1.4**
NJ2				AP	pP	03 51 49.0	-1.8
NJ2				XP	sP	03 51 50.5	-4.3
NJ2				PP	PP	03 53 07.0	-0.1
NJ2				S	**S**	**03 57 28.0**	**+5.3**
NJ2				XS		03 57 38.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,340nm,4.6s						
NJ2				LR	LR		
	comp=N,500nm,12.8s,MS4.7						
NJ2				LR	LR		
	comp=E,680nm,13.9s,MS4.7						
NJ2				LR	LR		
	comp=Z,700nm,12.6s,MS4.6						
KAKA	**Kakadu**	**37.75**	**113**⇓	*iP*	**P**	**03 51 48.8**	**-1.0**
	comp=Z,9.7nm,0.6s,mb4.7						
GTA	**Gaotai**	**37.95**	**3**	*eP*	**P**	**03 51 51.5**	**+0.3**
GTA				AP	pP	03 52 00.8	+0.2
GTA				XP	sP	03 52 04.0	-0.5
GTA				PP	PP	03 53 20.8	-0.5
GTA				S	**S**	**03 57 40.0**	**-0.6**
GTA				XS		03 57 55.5	
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,119nm,5.3s						
GTA				LR	LR		
	comp=N,311nm,13.3s,MS4.3						
GTA				LR	LR		
	comp=E,216nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,2μm,13.7s,MS5.0						
JOW	**Kunigami**	**39.20**	**47**	P	**P**	**03 52 02.8**	**+0.9**
	comp=Z,34nm,0.7s,mb5.2,baz=228,slow=9.3,SNR=11						
HHC	**Hu-ho-hao-te**	**41.43**	**17**	*eP*	**P**	**03 52 20.5**	**+0.5**
HHC				AP	pP	03 52 30.5	+1.1
HHC				XP	sP	03 52 34.5	+1.2
HHC				PP	PP	03 54 00.0	+1.3
HHC				PCP	PcP	03 54 17.3	-0.9
HHC				SCP		03 58 04.0	
HHC				PCS		03 58 08.8	
HHC				S	**S**	**03 58 33.5**	**+0.7**
HHC				XS		03 58 51.3	
HHC				SCS	ScS	04 02 13.5	-5.7
HHC				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.5						
HHC				LR	LR		
	comp=N,678nm,12.4s,MS4.8						
HHC				LR	LR		
	comp=E,363nm,11.6s,MS4.8						
HHC				LR	LR		
	comp=Z,851nm,15.7s,MS4.7						
WRA	**Warramunga Arr**	**42.20**	**122**	P	**P**	**03 52 26.7**	**+0.1**
	comp=Z,4.8nm,0.7s,mb4.2,baz=301,slow=9.1,SNR=33						
BJT	**Baijiatuan**	**42.20**	**22**	*eP*	**P**	**03 52 27.3**	**+0.9**
BJT				*e**PP	pP	03 52 34.0	-1.8
BJT				pmax	pmax		
	comp=Z,35nm,0.6s						
BJT	**Baijiatuan**	**42.20**	**22**	*eP*	**P**	**03 52 27.3**	**+0.8**
	comp=Z,35nm,0.6s,mb5.2						
BJT				*ep*	pP	03 52 34.0	-1.8
WRAB	**Tennant Creek**	**42.20**	**122**	*iP*	**P**	**03 52 26.5**	**-0.2**
WB2	**Warramunga Arr**	**42.21**	**122**⇓	*iP*	**P**	**03 52 26.9**	**+0.2**
WMQ	**Urumqi**	**43.10**	**350**⇓	*iP*	**P**	**03 52 34.5**	**+0.8**
WMQ				AP	pP	03 52 42.0	-1.1
WMQ				XP	sP	03 52 45.0	-2.0
WMQ				PP	PP	03 54 17.0	+1.0
WMQ				PPP	PPP	03 54 51.0	-0.2
WMQ				*eS*	**S**	**03 58 58.0**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,98nm,4.4s						
WMQ				LR	LR		
	comp=N,745nm,18.0s,MS4.8						
WMQ				LR	LR		
	comp=E,823nm,19.2s,MS4.8						
WMQ				LR	LR		
	comp=Z,689nm,21.4s,MS4.5						
ASPA	**Alice Springs**	**43.56**	**127**	*eP*	**P**	**03 52 38.2**	**+0.5**
ASAR	**Alice Springs**	**43.56**	**127**	P	**P**	**03 52 38.3**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.2,baz=302,slow=7.3,SNR=26						
KS15	**Wonju Array Si**	**45.74**	**35**	*eP*	**P**	**03 52 54.7**	**-0.3**
AAK	**Ala-Archa**	**45.82**	**337**	*iP*	**P**	**03 52 54.6**	**-0.9**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.4						
AAK	**Ala-Archa**	**45.82**	**337**	*eP*	**P**	**03 52 56.2**	**+0.7**
	comp=Z,4.5nm,1.0s,mb4.3						
SONM	**Songino Array**	**46.99**	**9**	P	**P**	**03 53 05.3**	**+0.6**
	comp=Z,14nm,0.8s,mb4.9,baz=191,slow=8.6,SNR=79						
MKAR	**Makanchi Array**	**47.06**	**346**	*iP*	**P**	**03 53 05.8**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**47.06**	**346**	P	**P**	**03 53 06.1**	**+0.8**
	comp=Z,8.4nm,0.5s,mb4.9,baz=158,slow=9.0,SNR=68						
ULN	**Ulaanbaatar**	**47.12**	**9**	*eP*	**P**	**03 53 06.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
ULN	**Ulaanbaatar**	**47.12**	**9**	*eP*	**P**	**03 53 06.0**	**+0.3**
	comp=Z,12nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**49.12**	**5**	*eP*	**P**	**03 53 21.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**49.20**	**27**	*eP*	**P**	**03 53 21.8**	**-0.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
TLY	**Talaya**	**50.44**	**5**	*eP*	**P**	**03 53 32.3**	**+0.9**
TLY				*e*	pP	03 53 42.2	+1.2
TLY				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TLY	**Talaya**	**50.44**	**5**	*eP*	**P**	**03 53 31.6**	**+0.2**
	comp=Z,8.4nm,0.7s,mb4.9						
HIA	**Hailar**	**51.52**	**19**	*eP*	**P**	**03 53 39.3**	**-0.3**
HIA				pmax	pmax		
	comp=Z,28nm,1.2s						
HIA	**Hailar**	**51.52**	**19**	*eP*	**P**	**03 53 39.3**	**-0.3**
	comp=Z,28nm,1.2s,mb5.1						
KURK	**Kurchatov**	**51.61**	**345**	*iP*	**P**	**03 53 39.1**	**-1.2**
KURK				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
KURK	**Kurchatov**	**51.61**	**345**⇑	*eP*	**P**	**03 53 40.2**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8						
CTA	**Charters Tower**	**52.66**	**117**	LR	LR	04 17 35.4	
	comp=Z,194nm,19.5s,MS4.2,baz=322,slow=38						
STKA	**Stephens Creek**	**53.53**	**132**	*eP*	**P**	**03 53 55.2**	**+0.4**
	comp=Z,4.2nm,0.6s,mb4.5						
STKA				*e*	pP	03 54 02.9	-1.6
STKA	**Stephens Creek**	**53.53**	**132**	P	**P**	**03 53 55.6**	**+0.8**
	comp=Z,5.3nm,0.7s,mb4.6,baz=314,slow=7.7,SNR=12						
NVS	**Novosibirsk**	**54.50**	**350**	*eP*	**P**	**03 54 00.5**	**-1.1**
NVS				pmax	pmax		
	comp=N,3.0nm,1.0s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.0s						
NVS				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
BVA0	**Borovoye Array**	**56.07**	**341**	*i* P	**P**	**03 54 12.1**	**-0.9**
BVA0				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
KLR	**Kul'dur**	**56.15**	**27**	*eP*	**P**	**03 54 11.6**	**-2.1**
CHKZ	**Chkalovo**	**56.55**	**341**⇑	*iP*	**P**	**03 54 15.7**	**-0.7**
CHKZ				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
CHKZ	**Chkalovo**	**56.55**	**341**⇑	*iP*	**P**	**03 54 15.7**	**-0.8**
	comp=Z,12nm,0.7s,mb5.0						
BOD	**Bodaibo**	**57.87**	**11**	*eP*	**P**	**03 54 24.8**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
SVE	**Sverdlovsk**	**62.51**	**338**	*eP*	**P**	**03 54 56.8**	**-0.7**
SVE				*e*		03 55 29.0	
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
ARU	**Arti**	**63.00**	**337**	*d iP*	**P**	**03 54 58.8**	**-1.9**
ARU				*e*		03 57 16.0	
ARU				*e*S	**S**	**04 03 28.3**	**+1.1**
ARU				*e*SS	SS	04 07 34.6	-0.3
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
ARU	**Arti**	**63.00**	**337**	*eP*	**P**	**03 54 58.3**	**-2.4**
	comp=Z,3.6nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**64.13**	**319**	*i* P	**P**	**03 55 07.2**	**-1.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
KIV	**Kislovodsk**	**64.13**	**319**	P	**P**	**03 55 07.9**	**-0.4**
	comp=Z,8.8nm,0.5s,mb5.0						
MALT	**Malatya**	**64.95**	**312**	*eP*	**P**	**03 55 14.5**	**+0.7**
MALT				*e*		03 55 21.9	
MALT				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
MALT	**Malatya**	**64.95**	**312**	*eP*	**P**	**03 55 14.5**	**+0.7**
	comp=Z,4.4nm,0.9s,mb4.5						
MALT				*e*		03 55 21.9	
YAK	**Yakutsk**	**65.29**	**16**	*eP*	**P**	**03 55 14.8**	**-0.8**
YAK				pmax	pmax		
	comp=Z,70nm,0.8s,mb5.7						
YAK	**Yakutsk**	**65.29**	**16**	*eP*	**P**	**03 55 14.8**	**-0.8**
	comp=Z,70nm,0.8s,mb5.7						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**03 55 37.9**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.9,baz=143,slow=6.2,SNR=3.5						
MA2	**Magadan**	**71.23**	**26**	*eP*	**P**	**03 55 52.3**	**-0.3**
MA2				*e*	pP	03 56 01.3	-1.1
MA2				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
MA2	**Magadan**	**71.23**	**26**	*eP*	**P**	**03 55 52.3**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0						
MA2				*e*	pP	03 56 01.3	-1.1
PET	**Petropavlovsk**	**72.15**	**34**	*eP*	**P**	**03 55 58.2**	**0.0**
PET				*e*S	S	04 05 17.9	+1.0
PET				pmax	pmax		
	comp=Z,37nm,0.6s,mb5.5						
OBN	**Obninsk**	**72.43**	**328**	*eP*	**P**	**03 55 58.6**	**-1.2**
OBN				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
TIXI	**Tiksi**	**73.05**	**10**	*eP*	**P**	**03 56 00.0**	**-3.1**
TIXI				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
RPZ	**Rata Peaks**	**79.38**	**135**	P	**P**	**03 56 39.7**	**+0.3**
	comp=Z,4.8nm,0.6s,mb4.6,baz=43,slow=18,SNR=3.4						
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**03 56 41.4**	**+0.1**
	comp=Z,2.7nm,0.7s,mb4.3,baz=101,slow=5.4,SNR=15						
KAF	**Kangasniemi**	**79.90**	**333**	*ep*	**P**	**03 56 41.3**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5,baz=103,slow=5.0						
KAF	**Kangasniemi**	**79.90**	**333**	*eP*	**P**	**03 56 41.3**	**-0.4**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
BILL	**Bilibino**	**81.05**	**21**	*i* P	**P**	**03 56 47.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KEV	**Kevo**	**81.92**	**341**	*ep*	**P**	**03 56 50.2**	**-2.0**
	comp=Z,20nm,0.9s,mb5.1						
KEV	**Kevo**	**81.92**	**341**	*eP*	**P**	**03 56 50.2**	**-2.0**
KEV				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.1						
MORC	**Moravsky Berou**	**82.22**	**320**	*eP*	**P**	**03 56 54.9**	**+0.7**
MORC				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.4						
MORC	**Moravsky Berou**	**82.22**	**320**	*eP*	**P**	**03 56 54.9**	**+0.8**
	comp=Z,6.1nm,1.1s,mb4.4						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	**P**	**03 56 55.0**	**+0.6**
	comp=Z,2.4nm,0.5s,mb4.4,baz=93,slow=5.4,SNR=18						
GERES	**GERESS Array B**	**84.63**	**319**	P	**P**	**03 57 07.7**	**+1.2**
	comp=Z,1.2nm,0.9s,mb4.0,baz=104,slow=5.5,SNR=10						
CLL	**Collm**	**85.25**	**321**	*e**PP	pP	03 57 16.0	-3.6
VNDA	**Vanda**	**86.00**	**169**	P	**P**	**03 57 13.8**	**+1.0**
	comp=Z,0.5nm,1.0s,mb3.7,baz=17,

0.1nm,0.3s,baz=230,slow=17,SNR=6.6
CFAA Coronel Fontan 14.10 176 P P 03 52 59.2 +0.3
CFAA S S 03 55 26.1 -5.3
OTAV Otavalo 19.72 332 *eP* **P 03 54 05.7 +1.6**
3.6nm,0.7s
BDFB Brasilia 20.61 88 P P 03 54 11.4 -1.6
13nm,0.5s,baz=267,slow=10,SNR=22
TRQA Tornquist 21.51 164 *eP* P 03 54 21.4 -0.4
1.9nm,0.6s,mb3.7
PLCA Paso Flores 23.19 182 P P 03 54 39.6 +1.5
10.0nm,0.9s,mb4.2,baz=358,slow=9.5,SNR=19
PLCA Paso Flores 23.19 182 *eP* P 03 54 39.1 +1.0
13nm,0.9s,mb4.4
SDV Santo Domingo 26.23 357 P P 03 55 04.9 -1.9
2.0nm,0.4s,mb4.1,baz=210,slow=3.1,SNR=12
SDV Santo Domingo 26.23 357 *eP* P 03 55 05.1 -1.7
2.9nm,0.5s,mb4.2
NATX Nacogdoches 54.62 334 P P 03 58 56.5 -2.4
7.9nm,0.6s,mb4.6
TXAR Lajitas Array 57.08 324 P P 03 59 15.5 -1.0
0.4nm,0.7s,mb3.4,baz=158,slow=9.7,SNR=4.7
DBIC Dimbokro 68.13 75 P P 04 00 28.7 -1.1
32nm,0.6s,mb5.2,baz=229,slow=6.6,SNR=113
DBIC Dimbokro 68.13 75 P P 04 00 28.7 -1.1
MSU Marysvale 68.61 325 P P 04 00 32.1 -0.2
PDAR Pinedale Array 70.41 330 P P 04 00 43.0 -0.2
0.4nm,0.4s,mb3.5,baz=126,slow=8.4,SNR=5.1
ULM Lac du Bonnet 71.36 342 P P 04 00 47.8 -0.9
9.1nm,0.4s,mb4.8,baz=154,slow=6.6,SNR=21
ULM Lac du Bonnet 71.36 342 *eP* P 04 00 47.5 -1.2
9.7nm,0.4s,mb4.9
SCHQ Schefferville 72.06 2 P P 04 00 51.1 -1.7
1.3nm,0.6s,mb3.9,baz=248,slow=12,SNR=5.9
EGRO El Granado 79.88 45 P P 04 01 37.4 +0.4
4.7nm,0.7s,mb4.2
EMIN Mina Concepcio 80.56 46 P P 04 01 40.8 +0.2
18nm,1.2s,mb4.6
VNDA Vanda 80.70 190 P P 04 01 42.9 +2.3
0.7nm,0.6s,mb3.5,baz=81,slow=3.8,SNR=5.7
VNDA Vanda 80.70 190 *eP* P 04 01 41.2 +0.6
0.9nm,0.7s,mb3.5
EBAD Badajoz 80.83 45 P P 04 01 42.7 +0.7
1.2nm,0.4s,mb3.9
EINC Incio 82.64 41 P P 04 01 51.9 +0.6
62nm,1.6s,mb5.1
ECAL Calabor 82.66 42 P P 04 01 51.4 0.0
18nm,1.2s,mb4.7
EQES Quesada 83.06 47 P P 04 01 53.6 +0.1
3.2nm,0.4s,mb4.4
EPON Pontenova 83.12 41 P P 04 01 54.0 +0.3
35nm,1.2s,mb5.0
ESDC Sonseca Array 83.34 45 P P 04 01 55.7 +0.8
1.6nm,0.7s,mb3.9,baz=248,slow=5.2,SNR=8.4
ESDC Sonseca Array 83.34 45 P P 04 01 55.9 +1.0
0.7nm,0.4s,mb3.7
EARI Arriondas 84.32 41 P P 04 02 00.3 +0.5
47nm,1.6s,mb5.0
ETOB Tobarra 84.51 47 P P 04 02 01.6 +0.8
53nm,1.4s,mb5.1
EBEN Beniarda 85.46 47 P P 04 02 05.5 -0.1
43nm,1.4s,mb5.0
YKA Yellowknife Ar 87.25 341 P P 04 02 14.1 +0.5
1.5nm,0.5s,mb4.1,baz=133,slow=4.9,SNR=37
YKA pP pP 04 02 57.1 +1.1
0.8nm,0.8s,baz=136,slow=4.8,SNR=3.1
EBIE Bielsa 87.48 44 P P 04 02 16.4 +1.3
WRA Warramunga Arr 136.09 213 PKP PKPdf 04 08 49.2 +1.9
0.4nm,0.5s,baz=148,slow=1.9,SNR=6.4
SONM Songino Array 149.54 6 PKPbc PKPdf 04 09 17.2 +7.3
1.2nm,0.5s,baz=312,slow=0.9,SNR=7.5

*IDC **29** 03:50:19.7±1.9, 17.63S×178.17W, h382km±24km, mb3.6/6, mb1 3.7/7, mb1mx3.5/15, mbtmp4.3/7, Error ellipse: s-maj=86.7km s-min=15.4km az=153.0*
*NEIC **29** 03:50:20.4±1.3, 17.85S×178.06W, h402km±16km, mb3.9/9, Error ellipse: s-maj=22.3km s-min=11.9km az=172.0*
ISC 29 03:50:19.2±1.6, 17.8S±0.2×178.10W±0.10, h404km±25km, n24, σ0§83/23, mb3.8/12, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AFI	**Afiamalu**	**7.20**	**59**	P		**P**	**03 52 06.3**	**+0.3**
	1.2nm,0.3s,baz=138,slow=15,SNR=2.4							
AFI				S		**S**	**03 53 29.8**	**-0.4**
	1.8nm,0.3s,baz=78,slow=20,SNR=3.7							
CTA	**Charters Tower**	**33.76**	**260**	P		**P**	**03 56 27.6**	**+1.1**
	1.9nm,0.4s,mb3.8,baz=104,slow=4.2,SNR=4.9							
CTAO	**Charters Tower**	**33.76**	**260**	P		**P**	**03 56 27.0**	**+0.5**
	8.3nm,1.0s,mb4.0							
STKA	**Stephens Creek**	**38.95**	**241**	⇑*i*P		**P**	**03 57 10.8**	**+1.2**
	2.2nm,0.6s,mb3.7							
STKA	**Stephens Creek**	**38.95**	**241**	P		**P**	**03 57 10.9**	**+1.3**
	2.8nm,0.6s,mb3.8,baz=86,slow=8.8,SNR=10							
WB2	**Warramunga Arr**	**44.93**	**259**	*eP*		**P**	**03 57 57.1**	**-0.7**
WRAB	**Tennant Creek**	**44.94**	**259**	*eP*		**P**	**03 57 57.0**	**-0.8**
	4.0nm,0.7s,mb3.9							
WRA	**Warramunga Arr**	**44.94**	**259**	P		**P**	**03 57 57.3**	**-0.6**
	1.0nm,0.3s,mb3.6,baz=93,slow=7.6,SNR=43							
ASAR	**Alice Springs**	**45.11**	**254**	P		**P**	**03 57 59.4**	**+0.3**
	9.6nm,0.5s,mb4.4,baz=90,slow=8.3,SNR=136							
ASPA	**Alice Springs**	**45.11**	**254**	*eP*		**P**	**03 57 59.2**	**0.0**
KAKA	**Kakadu**	**47.88**	**269**	*eP*		**P**	**03 58 20.2**	**-0.4**
	5.7nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**53.34**	**260**	*eP*		**P**	**03 59 01.1**	**0.0**
	2.4nm,0.7s,mb3.5							
FITZ	**Fitzroy Crossi**	**53.34**	**260**	P		**P**	**03 59 01.4**	**+0.3**
	2.9nm,0.4s,mb3.8,baz=71,slow=4.5,SNR=17							
MBWA	**Marble Bar**	**58.39**	**256**	*eP*		**P**	**03 59 35.8**	**-0.5**
	2.2nm,0.3s,mb4.0							
NWAO	**Narrogin (SRO)**	**59.53**	**242**	*eP*		**P**	**03 59 44.5**	**+0.7**
	1.9nm,0.7s,mb3.6							
SBA	**Scott Base**	**60.56**	**184**	P		**P**	**03 59 50.9**	**+0.8**
	1.5nm,0.8s,mb3.5							
QSPA	**South Pole Qui**	**72.27**	**180**	⇓*i*P		**P**	**04 01 03.3**	**+0.4**
	4.0nm,0.7s,mb4.1							
TXAR	**Lajitas Array**	**85.68**	**58**	P		**P**	**04 02 16.4**	**+1.3**
	0.4nm,0.7s,mb3.2,baz=202,slow=6.7,SNR=3.6							
TXAR	**Lajitas Array**	**85.68**	**58**	P		**P**	**04 02 16.4**	**+1.3**
VNA3	**Neumayer Olymp**	**90.84**	**176**	⇑*i*P		**P**	**04 02 38.8**	**+0.5**
VNA3				*e*			04 02 50.2	
VNA2	**Neumayer--Watz**	**91.29**	**177**	⇑*i*P		**P**	**04 02 39.1**	**-1.3**
VNA2				*e*			04 02 50.5	
VNA1	**Neumayer--Stat**	**91.51**	**177**	⇑*i*P		**P**	**04 02 39.4**	**-2.0**
VNA1				*e*			04 02 49.6	
BRTR	**Keskin Array B**	**144.91**	**315**	PKP		PKPdf	04 09 10.9	+2.0
	0.5nm,0.7s,baz=167,slow=3.9,SNR=3.7							
GERES	**GERESS Array B**	**147.57**	**345**	PKPbc		PKPdf	04 09 19.1	+6.0
	0.5nm,0.5s,baz=27,slow=3.0,SNR=6.6							

IDC 29 03:54:02.8±3.3, 1.31N×97.21E, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=135.7km s-min=29.0km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.09**	**122**	P		P	04 01 56.8	-1.7
	0.5nm,0.6s,baz=302,slow=9.3,SNR=5.0							
SONM	**Songino Array**	**47.02**	**8**	P		P	04 02 36.3	-1.5
	0.5nm,0.7s,baz=192,slow=9.1,SNR=3.8							
MKAR	**Makanchi Array**	**47.14**	**346**	P		P	04 02 37.6	-1.1
	0.4nm,0.5s,baz=158,slow=8.0,SNR=6.7							
BVAR	**Borovoye Array**	**56.15**	**341**	P		P	04 03 43.2	-3.3
	0.4nm,0.4s,baz=157,slow=11,SNR=3.5							

*IDC **29** 03:54:36.1±1.3, 1.33N×97.10E, mb4.1/9, mb1 4.1/9, mb1mx3.9/17, mbtmp4.1/9, Error ellipse: s-maj=44.2km s-min=20.3km az=48.0*
*BJI **29** 03:54:38.8, 1.03N×97.54E, h41km, mb4.7*
*NEIC **29** 03:54:40.4±0.7, 1.33N×97.11E, h30km, mb4.5/3, Error ellipse: s-maj=16.3km s-min=12.6km az=49.0*
ISC 29 03:54:41.2±4.7, 1.4N±0.2×97.2E±0.2, h49km±37km, n15, σ0§61/14, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.17**	**42**	*eP*		**P**	**03 55 58.0**	**0.0**
ENH	**Enshi**	**30.98**	**21**	*eP*		**P**	**04 00 55.2**	**-1.1**
	6.6nm,0.5s,mb4.7							
GTA	**Gaotai**	**37.89**	**3**	*eP*		**P**	**04 01 55.8**	**+0.4**
GTA				AP		pP	04 02 04.0	-4.4
GTA				XP		sP	04 02 07.8	-6.6
GTA				AMB		AMB		
	comp=Z,3.0nm,1.3s,mb3.9							
JOW	**Kunigami**	**39.10**	**47**	P		**P**	**04 02 05.8**	**+0.2**
	comp=Z,11nm,0.7s,mb4.7,baz=285,slow=16,SNR=3.9							
WRA	**Warramunga Arr**	**42.16**	**122**	P		**P**	**04 02 30.6**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.3,baz=302,slow=9.0,SNR=3.6							
ASAR	**Alice Springs**	**43.54**	**127**	P		**P**	**04 02 42.8**	**+0.5**
	comp=Z,0.8nm,0.9s,mb3.4,baz=284,slow=5.9,SNR=4.5							
SONM	**Songino Array**	**46.92**	**8**	P		**P**	**04 03 09.8**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.4,baz=191,slow=8.4,SNR=25							
MKAR	**Makanchi Array**	**47.03**	**346**	P		**P**	**04 03 10.5**	**+0.8**
	comp=Z,3.2nm,0.6s,mb4.4,baz=153,slow=8.1,SNR=27							
ULN	**Ulaanbaatar**	**47.05**	**9**	*eP*		**P**	**04 03 10.0**	**+0.2**
	comp=Z,2.1nm,0.5s,mb4.3							
BVAR	**Borovoye Array**	**56.04**	**341**	P		**P**	**04 04 17.1**	**-0.3**
	comp=Z,0.6nm,0.5s,mb3.9,baz=149,slow=8.6,SNR=5.8							
CHKZ	**Chkalovo**	**56.52**	**341**	*eP*		**P**	**04 04 19.9**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.4							
BRTR	**Keskin Array B**	**68.95**	**312**	P		**P**	**04 05 43.8**	**+0.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=80,slow=7.5,SNR=3.6							
FINES	**FINESS Array B**	**79.80**	**332**	P		**P**	**04 06 46.1**	**+0.3**
	comp=Z,0.3nm,0.5s,mb3.5,baz=90,slow=3.8,SNR=5.0							
ARCES	**ARCESS Array B**	**82.33**	**340**	P		**P**	**04 06 58.1**	**-0.8**
	comp=Z,1.3nm,0.8s,mb3.9,baz=90,slow=7.3,SNR=4.6							
LRAL	**Lakeview Retre**	**145.51**	**6**	*e*PKP		PKPdf	04 14 15.7	+1.1

IDC 29 03:56:26.7±2.9, 0.31N×97.76E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=130.7km s-min=22.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.09**	**121**	P		P	04 04 12.2	-2.0
	0.8nm,0.5s,baz=302,slow=9.0,SNR=5.6							
ASAR	**Alice Springs**	**42.42**	**127**	P		P	04 04 23.7	-1.4
	0.6nm,0.6s,baz=298,slow=8.0,SNR=7.2							
SONM	**Songino Array**	**47.92**	**8**	P		P	04 05 07.6	-1.2
	0.6nm,0.5s,baz=188,slow=9.1,SNR=3.6							
MKAR	**Makanchi Array**	**48.23**	**346**	P		P	04 05 09.8	-1.4
	0.7nm,0.5s,baz=159,slow=8.5,SNR=4.6							
BVAR	**Borovoye Array**	**57.27**	**341**	P		P	04 06 15.1	-3.3
	0.5nm,0.6s,baz=127,slow=7.2,SNR=2.9							

*BJI **29** 04:02:08.8, 0.50N×97.41E, h30km, mB5.5, mb4.6*
*IDC **29** 04:02:12.5±1.6, 1.30N×97.11E, mb4.0/7, mb1 4.1/7, mb1mx3.8/17, mbtmp4.0/7, Error ellipse: s-maj=77.6km s-min=18.7km az=56.0*
*NEIC **29** 04:02:17.3±0.6, 1.35N×97.21E, h30km, mb4.5/8, Error ellipse: s-maj=16.9km s-min=9.7km az=54.0*
ISC 29 04:02:16.1±4.7, 1.4N±0.1×97.3E±0.2, h35km±37km, n22, σ0§88/21, mb4.3/18, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.17**	**41**	*eP*		**P**	**04 03 33.0**	**-0.1**
KKM	**Kota Kinabalu**	**19.48**	**76**	P		**P**	**04 06 43.6**	**+0.5**
GYA	**Guiyang**	**26.54**	**19**	⇑*i*P		**P**	**04 07 53.0**	**+0.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.3							
LSA	**Lhasa**	**28.77**	**349**	*eP*		**P**	**04 08 14.1**	**+1.1**
	comp=Z,5.9nm,0.5s,mb4.6							
ENH	**Enshi**	**31.01**	**21**	*eP*		**P**	**04 08 30.6**	**-2.3**
	comp=Z,14nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P		**P**	**04 08 54.6**	**-4.3**
	comp=Z,1.6nm,0.4s,mb4.3,baz=187,slow=3.4,SNR=5.9							
GTA	**Gaotai**	**37.94**	**3**	*eP*		**P**	**04 09 32.8**	**+0.6**
GTA				AP		pP	04 09 41.8	-0.5
GTA				XP		sP	04 09 45.8	-0.9
GTA				AMB		AMB		
	comp=Z,6.0nm,0.9s,mb4.3							
WRA	**Warramunga Arr**	**42.08**	**122**	P		**P**	**04 10 06.0**	**-0.8**
	comp=Z,1.3nm,0.9s,mb3.6,baz=300,slow=9.0,SNR=7.5							
WRAB	**Tennant Creek**	**42.09**	**122**	P		**P**	**04 10 06.3**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.0							
BJT	**Baijiatuan**	**42.15**	**22**	*eP*		**P**	**04 10 07.8**	**+0.8**
	comp=Z,14nm,0.6s,mb4.8							
ASAR	**Alice Springs**	**43.46**	**127**	P		**P**	**04 10 18.2**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.6,baz=296,slow=6.2,SNR=7.3							
AAK	**Ala-Archa**	**45.87**	**337**	P		**P**	**04 10 38.3**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.2							
SONM	**Songino Array**	**46.96**	**8**	P		**P**	**04 10 46.0**	**+0.5**
	comp=Z,4.3nm,0.8s,mb4.4,baz=188,slow=9.1,SNR=30							
ULN	**Ulaanbaatar**	**47.09**	**9**	*eP*		**P**	**04 10 46.6**	**+0.1**
	comp=Z,3.5nm,0.8s,mb4.3							
MKAR	**Makanchi Array**	**47.09**	**346**	P		**P**	**04 10 46.7**	**+0.1**
	comp=Z,3.6nm,0.9s,mb4.3,baz=153,slow=8.1,SNR=21							
MKAR	**Makanchi Array**	**47.09**	**346**	P		**P**	**04 10 46.7**	**+0.1**
KURK	**Kurchatov**	**51.65**	**345**	*eP*		**P**	**04 11 21.0**	**-0.6**
	comp=Z,4.1nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**53.43**	**132**	P		**P**	**04 11 36.1**	**+1.0**
	comp=Z,2.9nm,0.9s,mb4.2,baz=270,slow=11,SNR=2.9							
BVAR	**Borovoye Array**	**56.11**	**341**	P		**P**	**04 11 53.3**	**-1.0**
	comp=Z,2.6nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=16							
CHKZ	**Chkalovo**	**56.59**	**341**	*eP*		**P**	**04 11 56.1**	**-1.7**
	comp=Z,4.4nm,0.8s,mb4.5							
GERES	**GERESS Array B**	**84.72**	**319**	P		**P**	**04 14 48.2**	**+0.2**
	comp=Z,0.2nm,0.5s,mb3.5,baz=117,slow=6.0,SNR=3.4							
TXAR	**Lajitas Array**	**143.50**	**32**	PKP		PKPdf	04 21 50.1	+2.2
	comp=Z,0.2nm,0.7s,baz=118,slow=2.3,SNR=4.1							

IDC 29 04:02:54.4±8.6, 2.08N×99.12E, mb3.6/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.6/3, Error ellipse: s-maj=302.8km s-min=30.3km az=66.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.90**	**124**	P		P	04 10 38.9	-1.4
	0.9nm,0.6s,baz=305,slow=8.8,SNR=4.7							
ASAR	**Alice Springs**	**42.43**	**129**	P		P	04 10 50.9	-2.0
	0.7nm,0.6s,baz=299,slow=8.1,SNR=5.9							
SONM	**Songino Array**	**46.01**	**7**	P		P	04 11 19.7	-1.7
	0.5nm,0.7s,baz=188,slow=11,SNR=2.0							

IDC 29 04:08:04.8±2.8, 0.76N×97.14E, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=116.1km s-min=25.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.86**	**122**	P		P	04 15 57.0	-1.6
	0.4nm,0.4s,baz=302,slow=9.0,SNR=6.3							
ASAR	**Alice Springs**	**43.18**	**127**	P		P	04 16 07.5	-1.9
	0.4nm,0.9s,baz=295,slow=7.4,SNR=4.2							
SONM	**Songino Array**	**47.57**	**8**	P		P	04 16 42.7	-1.4
	0.3nm,0.3s,baz=198,slow=7.8,SNR=4.1							
MKAR	**Makanchi Array**	**47.65**	**346**	P		P	04 16 42.5	-2.2
	0.9nm,0.5s,baz=161,slow=8.6,SNR=9.3							
BDFB	**Brasilia**	**142.57**	**245**	PKP		PKPdf	04 27 39.4	-3.3
	1.2nm,0.4s,baz=127,slow=4.2,SNR=3.3							

*BJI **29** 04:09:12.0, 1.42N×97.20E, h35km, mB5.7, mb5.3, Ms5.4, Msz5.3*
*MOS **29** 04:09:13.1±0.9, 1.68N×97.13E, h33km, mb5.4/47, MS5.1/6, Error ellipse: s-maj=10.2km s-min=5.0km az=117.5*
*NEIC **29** 04:09:13.7±0.2, 1.61N×97.05E, mb5.2/56, Error ellipse: s-maj=5.3km s-min=3.8km az=217.0*
*IDC **29** 04:09:14.1±0.3, 1.66N×97.11E, h25km±1km, mb4.7/26, mb1 4.7/26, mb1mx4.7/27, mbtmp4.8/26, MS4.9/1, Ms1 4.9/1, ms1mx3.3/26, Error ellipse: s-maj=12.7km s-min=7.5km az=47.0*
ISC 29 04:09:12.0±0.2, 1.59N±0.03×97.06E±0.03, h26km, h26km±4km: pP-P, n288, σ0§92/277, mb5.1/107, MS5.2/23, 26C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**4.95**	**53**	P		**Pn**	**04 10 28.1**	**+1.4**
KULM	**Kulim**	**5.13**	**44**	*eP*		**Pn**	**04 10 30.2**	**+1.0**
KGM	**Kluang**	**6.27**	**86**	P		**Pn**	**04 10 47.2**	**+2.0**
SNG	**Songkhla**	**6.58**	**32**	P		**Pn**	**04 10 49.0**	**-0.7**
	1µm,1.0s							
NNT	**Nongplab**	**11.24**	**13**	P		**P**	**04 11 54.0**	**-0.3**
KSM	**Kuching**	**13.24**	**90**	*eP*		**P**	**04 12 22.6**	**+1.5**
NST	**Nakhon Sawan**	**14.32**	**12**	P		**P**	**04 12 43.0**	**+7.7**
BDT	**Bhumibol Dam**	**15.67**	**7**	P		**P**	**04 12 57.0**	**+4.0**
	22nm,0.7s							

CM31	**Chiang Mai Arr**	**16.86**	**6**	*e*P		**P**	**04 13 07.4**	**-0.7**
	32nm,0.8s							
CHG	**Chiang Mai**	**17.22**	**6**	⇑P		**P**	**04 13 11.3**	**-1.3**
	34nm,1.0s							
PALK	**Pallekele**	**17.25**	**290**	*eP*		**P**	**04 13 12.0**	**-1.1**
	62nm,1.1s							
NANT	**Nan**	**17.47**	**12**	⇑P		**P**	**04 13 17.0**	**+1.3**
	1µm,1.0s							
KKM	**Kota Kinabalu**	**19.61**	**76**	*eP*		**P**	**04 13 41.3**	**-0.3**
KKM	**Kota Kinabalu**	**19.61**	**76**	P		**P**	**04 13 41.8**	**+0.2**
TSM	**Tawau**	**20.95**	**82**	P		**P**	**04 13 55.4**	**-0.3**
VIS	**Vishakhapatnam**	**20.95**	**321**	*eP*		**P**	**04 13 56.3**	**+0.7**
VIS				*e*			04 13 58.3	
	comp=Z,63nm,0.9s							
TRD	**Trivandrum**	**21.16**	**290**	*eP*		**P**	**04 13 58.6**	**+0.8**
TRD				AMb		AMB	04 14 02.8	
	comp=Z,62nm,1.0s,mb4.9							
QIZ	**Qiongzhong**	**21.38**	**35**	P		**P**	**04 13 59.5**	**-0.5**
QIZ				S		**S**	**04 17 52.8**	**+1.8**
QIZ				XS			04 18 04.0	
QIZ				AMB		AMB		
	comp=Z,49nm,1.3s,mb4.7							
QIZ				LR		LR		
	comp=N,4µm,14.1s,MS5.1							
QIZ				LR		LR		
	comp=E,4µm,15.6s,MS5.1							
QIZ	**Qiongzhong**	**21.38**	**35**	*eP*		**P**	**04 13 59.2**	**-0.7**
	comp=E,103nm,1.1s,mb5.1							
KMI	**Kunming**	**24.03**	**13**	⇑P		**P**	**04 14 28.0**	**+1.9**
KMI				AP			04 14 36.0	
KMI				XP			04 14 40.0	
KMI				PP		PP	04 15 02.5	+2.0
KMI				AMB		AMB		
	comp=Z,85nm,1.8s,mb4.9							
KMI				AMB		AMB		
	comp=Z,719nm,4.9s							
KMI				LR		LR		
	comp=N,8µm,15.6s,MS5.4							
KMI				LR		LR		
	comp=E,5µm,13.9s,MS5.4							
KMI				LR		LR		
	comp=Z,9µm,14.6s,MS5.4							
HYB	**Hyderabad**	**24.05**	**312**	*eP*		**P**	**04 14 28.0**	**+1.6**
HYB				*e*			04 14 40.0	
HYB				pmax		pmax		
	comp=Z,100nm,1.0s,mb5.2							
HYB	**Hyderabad**	**24.05**	**312**	*eP*		**P**	**04 14 28.0**	**+1.6**
	comp=Z,100nm,1.0s,mb5.2							
HYB				*e*			04 14 40.0	
HYB				*e*			04 15 23.0	
HYB	**Hyderabad**	**24.05**	**312**	*i* P		**P**	**04 14 28.0**	**+1.6**
	comp=Z,100nm,1.0s,mb5.2							
HYB				*es*P			04 14 40.0	
HYB				*e*S		**S**	**04 18 41.0**	**+2.1**
BOK	**Bokaro**	**24.59**	**335**	*eP*		**P**	**04 14 30.1**	**-1.4**
BOK				*e*			04 14 35.5	
	comp=Z,100nm,0.5s							
MNGI	**Mangalore**	**24.74**	**298**	*i*		**P**	**04 14 39.7**	**+6.6**
MNGI				*i*			04 18 57.2	
BLSP	**Bilaspur**	**25.06**	**326**	*eP*		**P**	**04 14 37.2**	**+1.2**
BLSP				AMb		AMB	04 14 41.7	
	comp=Z,100nm,1.3s,mb5.2							
BLSP				*e*			04 19 40.8	
GYA	**Guiyang**	**26.39**	**20**	⇑*i*P		**P**	**04 14 48.0**	**-0.4**
GYA				AP		pP	04 14 55.5	-0.5
GYA				XP		sP	04 14 59.3	-0.1
GYA				PP		PP	04 15 32.5	+0.9
GYA				S		**S**	**04 19 18.8**	**+0.7**
GYA				AMB		AMB		
	comp=Z,50nm,1.2s,mb4.9							
GYA				AMB		AMB		
	comp=Z,740nm,4.5s							
GYA				LR		LR		
	comp=N,8µm,16.7s,MS5.4							
GYA				LR		LR		
	comp=E,4µm,14.9s,MS5.4							
GYA				LR		LR		
	comp=Z,8µm,14.8s,MS5.4							
GTK	**Gangtok**	**26.85**	**343**	*e*		**P**	**04 14 42.0**	**-11**
JIRN	**Jiri**	**27.94**	**339**	*eP*		**P**	**04 15 03.6**	**+1.1**
PKI	**Pulchoki**	**28.14**	**338**	*eP*		**P**	**04 15 04.0**	**-0.4**
	comp=Z,42nm,0.8s,mb5.1							
PKI	**Pulchoki**	**28.14**	**338**	*eP*		**P**	**04 15 04.0**	**-0.4**
PKI				pmax		pmax		
	comp=Z,21nm,0.8s,mb4.8							
DMN	**Daman**	**28.29**	**337**	*eP*		**P**	**04 15 06.3**	**+0.6**
	comp=Z,124nm,1.1s,mb5.5							
POO	**Poona**	**28.31**	**308**	*eP*		**P**	**04 15 07.0**	**+1.0**
KKN	**Kakani**	**28.39**	**338**	*eP*		**P**	**04 15 07.1**	**+0.5**
	comp=Z,134nm,1.1s,mb5.5							
KKN	**Kakani**	**28.39**	**338**	*eP*		**P**	**04 15 07.1**	**+0.5**
KKN				pmax		pmax		
	comp=Z,67nm,1.1s,mb5.2							
LSA	**Lhasa**	**28.52**	**349**	P		**P**	**04 15 12.5**	**+4.8**
LSA	**Lhasa**	**28.52**	**349**	*eP*		**P**	**04 15 08.3**	**+0.6**
LSA				pmax		pmax		
	comp=Z,31nm,0.9s,mb5.0							
LSA	**Lhasa**	**28.52**	**349**	*eP*		**P**	**04 15 08.3**	**+0.7**
	comp=Z,31nm,0.9s,mb5.0							
GKN	**Gorkha**	**28.83**	**337**	*eP*		**P**	**04 15 10.0**	**-0.5**
	comp=Z,243nm,1.1s,mb5.8							
KOLN	**Koldanda**	**29.05**	**335**	*eP*		**P**	**04 15 13.1**	**+0.6**
	comp=Z,103nm,0.9s,mb5.6							
CD2	**Chengdu**	**29.84**	**12**	P		**P**	**04 15 18.5**	**-1.1**
CD2				XP		sP	04 15 29.8	-0.8
CD2				S		**S**	**04 20 10.8**	**-2.8**
CD2				SS		SS	04 21 48

NJ2 AMB AMB
comp=Z,370nm,1.0s,mb6.2
NJ2 LR LR
comp=Z,520nm,5.2s
NJ2 LR LR
comp=N,7μm,13.2s,MS5.7
NJ2 LR LR
comp=E,6μm,14.0s,MS5.7
NJ2 LR LR
comp=Z,5μm,15.0s,MS5.4
THN Thein Dam 36.67 329 *e*P **P 04 16 17.8 -0.9**
comp=Z,44nm,1.4s,mb5.1
SSE Sheshan 37.17 35 P **P 04 16 22.8 -0.1**
SSE S **S 04 22 08.5 +1.0**
SSE XS 04 22 23.0
SSE AMB AMB
comp=Z,38nm,0.7s,mb5.3
SSE LR LR
comp=N,768nm,19.7s,MS4.8
SSE LR LR
comp=E,1μm,19.7s,MS4.8
SSE LR LR
comp=Z,2μm,17.4s,MS4.9
GTA Gaotai 37.73 3 ⇑P **P 04 16 27.8 +0.3**
GTA AP pP 04 16 37.0 +1.8
GTA XP sP 04 16 39.8 +1.4
GTA SCP 04 22 28.5
GTA AMB AMB
comp=Z,40nm,1.5s,mb4.9
GTA AMB AMB
comp=Z,350nm,7.2s
GTA LR LR
comp=N,2μm,12.0s,MS5.2
GTA LR LR
comp=E,1μm,12.6s,MS5.2
GTA LR LR
comp=Z,2μm,15.0s,MS5.1
KAKA Kakadu 37.88 113 *e*P **P 04 16 27.5 -1.5**
comp=Z,28nm,0.9s,mb5.0
MUN Mundaring 38.00 153 *e*P sP 04 16 41.1 +0.3
comp=Z,14nm,1.1s
KLBR Kellerberrin 38.40 151 *e*P pP 04 16 41.3 +0.3
comp=Z,149nm,1.0s
JOW Kunigami 39.08 47 P **P 04 16 39.1 +0.2**
comp=Z,52nm,0.7s,mb5.4,baz=220,slow=7.9
JOW pP pP 04 16 46.7 0.0
TIA Tai'an 39.14 26 P **P 04 16 38.8 -0.6**
NWAO Narrogin (SRO) 39.26 153 P **P 04 16 42.4 +1.9**
comp=Z,1.9nm,0.4s,mb4.2,baz=328,slow=11,SNR=4.1
NWAO pP pP 04 16 49.6 +1.5
comp=Z,11nm,0.9s,baz=331,slow=11,SNR=4.3
BTO Baotou 40.57 15 *e*P **P 04 16 51.5 +0.4**
HHC Hu-ho-hao-te 41.23 17 *e*P **P 04 16 58.0 +1.5**
HHC AP pP 04 17 07.8 +3.6
HHC XP sP 04 17 11.8 +4.3
HHC PP PP 04 18 39.5 +4.8
HHC PCP PcP 04 18 57.8 +2.0
HHC SCP 04 22 39.5
HHC PCS 04 22 45.0
HHC S **S 04 23 11.3 +2.9**
HHC XS 04 23 25.8
HHC SS SS 04 26 11.8 +4.5
HHC AMB AMB
comp=Z,33nm,0.7s,mb5.1
HHC LR LR
comp=N,3μm,15.3s,MS5.5
HHC LR LR
comp=E,3μm,14.1s,MS5.5
HHC LR LR
comp=Z,3μm,15.9s,MS5.3
BJT Baijiatuau 42.01 22 *e*P **P 04 17 03.3 +0.3**
BJT pmax pmax
comp=Z,112nm,0.9s
BJT Baijiatuau 42.01 22 *e*P **P 04 17 03.3 +0.4**
comp=Z,112nm,0.9s,mb5.5
BJI Beijing 42.03 22 P **P 04 17 04.3 +1.2**
BJI AP pP 04 17 12.8 +1.9
BJI XP sP 04 17 17.5 +3.4
BJI AMB AMB
comp=Z,116nm,0.8s,mb5.6
BJI AMB AMB
comp=Z,525nm,3.5s
BJI LR LR
comp=N,1μm,15.3s,MS5.2
BJI LR LR
comp=E,2μm,13.7s,MS5.2
BJI LR LR
comp=Z,1μm,17.7s,MS4.9
WRA Warramunga Arr 42.36 122 P **P 04 17 05.5 -0.6**
WRA *PP pP 04 17 14.5 +0.7
WRA S **S 04 23 22.9 -2.5**
WRA Warramunga Arr 42.36 122 P **P 04 17 05.5 -0.6**
comp=Z,11nm,0.7s,mb4.6,baz=301,slow=9.2,SNR=39
WRA pP pP 04 17 14.5 +0.6
comp=Z,9.5nm,0.5s,baz=301,slow=9.0,SNR=14
WRA ScP 04 22 50.2
comp=Z,4.0nm,1.2s,baz=308,slow=3.5,SNR=5.9
WRA S **S 04 23 22.9 -2.5**
comp=Z,5.4nm,1.2s,baz=296,slow=15,SNR=9.1
KSH Kashi 42.36 336 *e*P **P 04 17 06.3 +0.4**
KSH *e*AP pP 04 17 15.3 +1.7
KSH *e*XP sP 04 17 19.0 +2.2
KSH *e*PP PP 04 18 43.3 -3.6
KSH *e*S **S 04 23 21.8 -3.4**
KSH AMB AMB
comp=Z,320nm,2.8s,mb5.5
KSH LR LR
comp=N,2μm,12.7s,MS5.3
KSH LR LR
comp=E,2μm,14.7s,MS5.3
WRAB Tennant Creek 42.36 122 P **P 04 17 05.0 -1.1**
comp=E,126nm,0.9s,mb5.5,SNR=13
WRAB Tennant Creek 42.36 122 *e*P **P 04 17 05.1 -1.0**
WRAB pmax pmax
comp=Z,40nm,0.8s,mb5.1
WRAB Tennant Creek 42.36 122 *e*P **P 04 17 05.1 -1.0**
comp=Z,40nm,0.8s,mb5.1
WB2 Warramunga Arr 42.37 122 *e*P **P 04 17 05.4 -0.8**
WB2 *e*S **S 04 23 22.7 -2.9**
WMQ Urumqi 42.87 350 ⇑*i*P **P 04 17 11.0 +1.0**
WMQ AP pP 04 17 19.0 +1.3
WMQ XP sP 04 17 21.5 +0.6
WMQ PP PP 04 18 53.0 +1.1
WMQ PPP PPP 04 19 27.0 +0.7
WMQ PCS 04 22 51.0
WMQ S **S 04 23 34.0 +1.4**
WMQ XS 04 23 47.0
WMQ AMB AMB
comp=Z,43nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,453nm,4.3s
WMQ LR LR
comp=N,2μm,13.8s,MS5.3
WMQ LR LR
comp=E,2μm,18.8s,MS5.3
WMQ LR LR
comp=Z,2μm,22.9s,MS4.9
DL2 Dalian 43.40 28 P **P 04 17 15.5 +1.2**
DL2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
FORT Forrest 43.66 140 *e*P pP 04 17 22.6 -1.7
comp=Z,761nm,0.7s
ASPA Alice Springs 43.74 127 ⇑*i*P **P 04 17 16.9 -0.4**
ASAR Alice Springs 43.74 127 P **P 04 17 17.1 -0.2**
ASAR *PP pP 04 17 24.7 -0.3
ASAR S **S 04 23 46.8 +1.3**
ASAR Alice Springs 43.74 127 P **P 04 17 17.1 -0.2**
comp=Z,11nm,0.8s,mb4.6,baz=302,slow=7.4,SNR=65
ASAR pP pP 04 17 24.7 -0.3
comp=Z,18nm,1.1s,baz=301,slow=7.7,SNR=14
ASAR ScP 04 22 56.2
comp=Z,3.3nm,0.9s,baz=307,slow=4.6,SNR=6.8
ASAR S **S 04 23 46.8 +1.3**
comp=Z,3.4nm,1.1s,baz=298,slow=14,SNR=4.2
ULHL Ulahol 44.58 338 P **P 04 17 24.6 +0.8**
SNR=45
KZA Kyzart 44.82 337 P **P 04 17 27.2 +1.4**
SNR=16
TKM2 Tokmak 2 45.41 338 P **P 04 17 31.5 +1.0**
SNR=43
KBK Karagaybulak 45.43 337 P **P 04 17 29.4 -1.2**
SNR=6.3
KS15 Wonju Array Si 45.58 35 *e*P **P 04 17 31.8 -0.1**
AAK Ala-Archa 45.59 337 P **P 04 17 32.0 +0.1**
comp=Z,136nm,1.1s,mb5.8,SNR=31
AAK Ala-Archa 45.59 337 *e*P **P 04 17 31.5 -0.4**
AAK pmax pmax
comp=Z,41nm,1.1s,mb5.3
AAK Ala-Archa 45.59 337 *e*P **P 04 17 31.5 -0.4**
comp=Z,40nm,1.1s,mb5.3
FRU Bishkek 45.71 337 *e*P **P 04 17 33.0 +0.2**
FRU pmax pmax
comp=Z,120nm,2.2s,mb5.4
CHMS Chumysh 45.80 337 P **P 04 17 34.1 +0.6**
SNR=9.0
EKS2 Erkin-Say 45.90 336 P **P 04 17 35.5 +1.2**
SNR=28
USP Ospenovka 46.12 337 P **P 04 17 36.7 +0.7**
SNR=68
SNY Shenyang 46.62 27 ⇑P **P 04 17 39.3 -0.7**
SNY AMB AMB
comp=Z,30nm,1.0s,mb5.2
SONM Songino Array 46.77 9 P **P 04 17 41.1 0.0**
comp=Z,56nm,0.9s,mb5.5,baz=190,slow=7.7,SNR=250
SONM pP pP 04 17 49.5 +0.6
comp=Z,27nm,0.8s,baz=193,slow=7.4,SNR=12
MKAR Makanchi Array 46.83 346 P **P 04 17 41.9 +0.2**
comp=Z,60nm,0.8s,mb5.6,baz=162,slow=7.7,SNR=266
MKAR pP pP 04 17 49.2 -0.3
comp=Z,34nm,0.8s,baz=160,slow=8.4,SNR=14
ULN Ulaanbaatar 46.90 9 *e*P **P 04 17 42.1 0.0**
ULN pmax pmax
comp=Z,39nm,0.9s,mb5.3
ULN Ulaanbaatar 46.90 9 *e*P **P 04 17 42.1 -0.1**
comp=Z,39nm,0.9s,mb5.3
ZAK Zakamensk 48.90 5 *e*P **P 04 17 58.0 +0.3**
ZAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
CN2 Changchun 49.02 27 *e*P **P 04 17 58.0 -0.7**
CN2 *e*XP sP 04 18 12.5 +2.8
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,470nm,4.0s
CN2 LR LR
comp=N,910nm,17.0s,MS5.0
CN2 LR LR
comp=E,850nm,17.0s,MS5.0
CN2 LR LR
comp=Z,1μm,18.0s,MS4.9
MOY Mondy 50.01 3 *e*P **P 04 18 06.8 +0.6**
MOY pmax pmax
comp=Z,39nm,3.1s
TLY Talaya 50.22 5 *e*P **P 04 18 08.2 +0.4**
TLY *e* pP 04 18 17.3 +1.6
TLY *e*S **S 04 25 17.8 +0.8**
TLY pmax pmax
comp=Z,25nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,2μm,18.0s,MS5.2
TLY Talaya 50.22 5 *e*P **P 04 18 06.9 -0.9**
comp=Z,25nm,0.8s,mb5.3
IRK Irkutsk 50.84 6 *e*P **P 04 18 12.8 +0.3**
IRK pmax pmax
comp=Z,81nm,2.3s,mb5.2
HIA Hailar 51.32 19 *e*P **P 04 18 15.9 -0.3**
HIA pmax pmax
comp=Z,40nm,1.0s
HIA Hailar 51.32 19 *e*P **P 04 18 15.9 -0.3**
comp=Z,40nm,1.0s,mb5.3
KURK Kurchatov 51.38 345 *e*P **P 04 18 15.9 -0.8**
KURK pmax pmax
comp=Z,79nm,1.2s,mb5.5
KURK Kurchatov 51.38 345 *e*P **P 04 18 15.9 -0.7**
comp=Z,79nm,1.2s,mb5.5
MAT Matsushiro 51.50 43 *e*P **P 04 18 17.0 -0.7**
MAT S **S 04 25 36.0 +1.1**
MAT pmax pmax
comp=Z,31nm,1.2s,mb5.1
MAT Matsushiro 51.50 43 *e*P **P 04 18 17.0 -0.7**
comp=Z,31nm,1.2s,mb5.1
MAT S **S 04 25 36.0 +1.1**
MAT Matsushiro 51.50 43 P **P 04 18 16.6 -1.1**
MAT *e*S **S 04 25 36.0 +1.1**
MDJ Mudanjiang 51.59 29 P **P 04 18 18.8 +0.4**
MDJ AMB AMB
comp=Z,32nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,301nm,4.5s
MDJ LR LR
comp=N,611nm,19.8s,MS4.9
MDJ LR LR
comp=E,850nm,17.0s,MS4.9
MDJ LR LR
comp=Z,1μm,15.6s,MS5.1
MDJ Mudanjiang 51.59 29 *e*P **P 04 18 18.4 0.0**
comp=Z,37nm,1.0s,mb5.3
CTA Charters Tower 52.80 117 *e*P **P 04 18 27.5 -0.3**
comp=Z,12nm,0.9s,mb4.8
CTA Charters Tower 52.80 117 *e*P **P 04 18 27.5 -0.3**
CTA pmax pmax
comp=Z,12nm,0.9s
CTA Charters Tower 52.80 117 P **P 04 18 27.6 -0.1**
comp=Z,18nm,1.1s,mb4.9,baz=300,slow=9.6,SNR=7.4
CTA pP pP 04 18 35.1 -0.6
comp=Z,13nm,0.8s,baz=284,slow=9.1,SNR=7.3
STKA Stephens Creek 53.72 132 *e*P **P 04 18 34.3 -0.1**
comp=Z,12nm,0.8s,mb4.9
STKA Stephens Creek 53.72 132 P **P 04 18 34.7 +0.3**
comp=Z,5.0nm,0.6s,mb4.6,baz=295,slow=8.8,SNR=12
STKA pP pP 04 18 42.2 -0.1
comp=Z,17nm,0.9s,baz=312,slow=7.6,SNR=15
NVS Novosibirsk 54.27 350 *i* P **P 04 18 36.5 -1.6**
NVS *i* S **S 04 26 12.1 -0.3**
NVS pmax pmax
comp=N,57nm,1.6s
NVS pmax pmax
comp=Z,62nm,1.6s,mb5.3
NVS pmax pmax
comp=E,26nm,1.4s
RAYN Ar Rayn 54.45 298 P **P 04 18 39.3 -0.6**
comp=E,165nm,0.8s,SNR=21
ATD Arta Tunnel 54.67 283 P **P 04 18 42.2 +0.6**
comp=E,4.9nm,0.7s,mb4.7,baz=97,slow=20,SNR=6.6
ATD pP pP 04 18 50.1 +0.7
comp=E,10nm,0.8s,baz=4.3,slow=2.4,SNR=3.8
ATD Arta Tunnel 54.67 283 P **P 04 18 42.2 +0.6**
ATD pP pP 04 18 50.1 +0.7
BVA0 Borovoye Array 55.84 341 *i* P **P 04 18 48.3 -1.2**
BVA0 pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BVAR Borovoye Array 55.84 341 P **P 04 18 48.3 -1.2**
comp=Z,17nm,0.7s,mb5.2,baz=143,slow=7.4,SNR=98
BVAR pP pP 04 18 57.7 +0.2
comp=Z,16nm,0.8s,baz=144,slow=9.9,SNR=12
KLR Kul'dur 55.97 27 *e*P **P 04 18 47.5 -3.0**
KLR pmax pmax
comp=N,25nm,1.2s
KLR pmax pmax
comp=E,43nm,1.2s
KLR pmax pmax
comp=Z,60nm,1.2s,mb5.5
KLR MLR MLR
comp=E,1μm,15.0s
KLR MLR MLR
comp=Z,2μm,15.0s,MS5.4
CHKZ Chkalovo 56.31 341 P **P 04 18 52.2 -0.7**
CHKZ pmax pmax
comp=Z,54nm,1.0s,mb5.5
BOD Bodaibo 57.65 11 *e*P **P 04 19 01.3 -1.1**
BOD pmax pmax
comp=Z,31nm,1.4s,mb5.2
ASAJ Asahikawa 58.44 37 P **P 04 19 08.0 -0.1**
comp=Z,24nm,1.0s,mb5.2,baz=119,slow=4.1,SNR=4.5
ASAJ pP pP 04 19 15.8 -0.3
comp=Z,32nm,0.8s,baz=256,slow=13,SNR=5.3
BHD Baghdad 58.48 309 *e*P **P 04 19 01.0 -7.5**
CLNS Chul'man 59.41 17 *e*P **P 04 19 14.6 -0.1**
CLNS *e* pP 04 19 21.4 -1.3
CLNS *e*PPP tx 04 19 27.4
CLNS *e*SS PP 04 21 23.7 -4.0
CLNS pmax pmax
comp=N,23nm,0.9s
CLNS pmax pmax
comp=Z,28nm,0.9s,mb5.3
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS pmax pmax
comp=N,10.0nm,0.8s
CLNS pmax pmax
comp=Z,20nm,0.8s,mb5.2
CLNS pmax pmax
comp=E,12nm,0.9s
KMBO Kilima Mbogo 59.87 268 *e*P **P 04 19 17.8 -0.6**
KMBO pmax pmax
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 59.87 268 P **P 04 19 18.6 +0.2**
comp=Z,2.0nm,0.9s,mb4.1,baz=73,slow=23,SNR=4.8
KMBO pP pP 04 19 28.1 +1.7
comp=Z,4.9nm,1.0s,baz=67,slow=8.4,SNR=6.7
KMBO Kilima Mbogo 59.87 268 *e*P **P 04 19 17.8 -0.5**
comp=Z,11nm,1.3s,mb4.7
YSS Yuzh-Sakhalins 60.10 34 ⇑*i*P **P 04 19 19.0 -0.6**
YSS *e* 04 19 29.8
YSS pmax pmax
comp=E,60nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s,mb5.8
YSS MLR MLR
comp=E,1μm,16.0s
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.2
YSS Yuzh-Sakhalins 60.10 34 *e*P **P 04 19 18.9 -0.7**
comp=Z,61nm,0.9s,mb5.6
YSS *e* pP 04 19 27.4 -0.2
MSL Mosul 60.58 311 *e*P **P 04 19 22.0 -0.9**
ARMA Armidale 60.87 126 *e*P pP 04 19 33.9 +0.8
GNI Garni 60.92 316 *e*P **P 04 19 24.6 -0.6**
GNI pmax pmax
comp=Z,30nm,1.2s
GNI Garni 60.92 316 P **P 04 19 25.6 +0.4**
comp=Z,4.6nm,0.4s,mb5.0,baz=334,slow=7.1,SNR=5.2
GNI Garni 60.92 316 *e*P **P 04 19 24.6 -0.6**
comp=Z,30nm,1.2s,mb5.3
DGRG David-gareji 61.05 318 P **P 04 19 26.5 +0.4**
TI2 Plekhanov 61.60 318 ⇑*i*P **P 04 19 28.6 -1.2**
TI2 pmax pmax
comp=Z,30nm,1.0s,mb5.4
TBLG Delisi 61.60 318 P **P 04 19 29.6 -0.2**
SVE Sverdlovsk 62.28 338 ⇑*i*P **P 04 19 33.8 -0.3**
SVE pmax pmax
comp=Z,80nm,1.9s,mb5.5
SVE MLR MLR
comp=N,800nm,18.0s,MS5.0
SVE MLR MLR
comp=E,400nm,18.0s,MS5.0
SVE MLR MLR
comp=Z,1μm,18.0s,MS5.0
ZEI Tsey 62.62 318 *e*P **P 04 19 29.4 -7.2**
ZEI *i* *PP pP 04 19 37.4 -7.2
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ARU Arti 62.77 337 *e*P **P 04 19 35.6 -1.8**
ARU pmax pmax
comp=Z,43nm,1.2s,mb5.5
ARU Arti 62.77 337 *e*P **P 04 19 35.6 -1.8**
comp=Z,43nm,1.2s,mb5.5
KIV Kislovodsk 63.92 319 *c i*P **P 04 19 44.2 -1.0**
KIV *e*S **S 04 28 13.8 -3.9**
KIV pmax pmax
comp=Z,22nm,0.8s,mb5.2
KIV Kislovodsk 63.92 319 *e*P **P 04 19 44.1 -1.1**
comp=Z,50nm,1.0s,mb5.5
ASF Jabal al Asfar 64.13 305 P **P 04 19 47.3 +0.6**
comp=Z,8.4nm,0.8s,mb4.8,baz=349,slow=4.3,SNR=12
ASF pP pP 04 19 55.6 +0.8
comp=Z,14nm,1.0s,baz=352,slow=4.9,SNR=5.7
GOF Gofitskoye 64.18 320 *e*P **P 04 19 48.5 +1.7**
MALT Malatya 64.77 312 *e*P **P 04 19 49.8 -1.0**
MALT *e*PP pP 04 19 58.4 -0.5
MALT pmax pmax
comp=Z,18nm,1.1s,mb5.0
MALT Malatya 64.77 312 *e*P **P 04 19 49.8 -1.0**
comp=Z,18nm,1.1s,mb5.0
MALT *e*pP pP 04 19 58.4 -0.4
YAK Yakutsk 65.09 16 *c i*P **P 04 19 51.5 -0.9**
YAK *e*PP pP 04 19 58.9 -1.6
YAK *e* 04 22 13.7
YAK *e*S S 04 28 32.6 +1.0
YAK *e* 04 29 47.3
YAK *e*SS SS 04 32 42.9 -3.0
YAK pmax pmax
comp=Z,87nm,1.0s,mb5.7
YAK pmax pmax
comp=N,34nm,1.2s
YAK pmax pmax
comp=E,21nm,1.1s
YAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
YAK smax
comp=N,7.0nm,1.1s
YAK smax
comp=E,6.0nm,1.1s
YAK MLR MLR
comp=N,1μm,15.0s,MS5.3
YAK MLR MLR
comp=Z,1μm,15.0s,MS5.3
YAK MLR MLR
comp=E,928nm,16.0s,MS5.3
YAK Yakutsk 65.09 16 *e*P **P 04 19 51.4 -1.0**
comp=E,131nm,0.9s,mb6.0
YAK *e*pP pP 04 19 59.2 -1.3
EIL Elat 65.13 302 *e*P **P 04 19 52.8 -0.5**
comp=E,48nm,1.0s,mb5.5
EIL *e*pP pP 04 20 00.8 -0.6
BHL Bhannes 65.60 307 *e*P **P 04 19 59.3 +3.1**
MBAR Mbarara 66.35 269 *i* P **P 04 20 00.5 -0.9**
CSS Prodhromos 67.72 307 *e*P **P 04 20 09.1 -0.6**
comp=E,23nm,1.0s,mb5.2
BRTR Keskin Array B 68.75 312 P **P 04 20 14.8 -1.2**
comp=E,6.9nm,0.8s,mb4.6,baz=129,slow=6.8,SNR=38
BRTR pP pP 04 20 23.2 -0.9
comp=E,8.9nm,0.9s,baz=125,slow=6.4,SNR=15
VOR Voronezh 69.37 326 P **P 04 20 19.0 -0.6**
VOR pmax pmax
comp=Z,60nm,1.1s,mb5.4
SIM Simferopol' 69.99 318 *de*P **P 04 20 22.4 -1.1**
SIM *e*S S 04 29 29.0 -1.8
SIM pmax pmax
comp=Z,26nm,1.0s,mb5.1
ISP Isparta 70.63 310 P **P 04 20 27.4 -0.1**
MA2 Magadan 71.04 26 *e*P **P 04 20 29.2 -0.4**
MA2 pmax pmax
comp=Z,34nm,0.9s,mb5.3
MA2 Magadan 71.04 26 *e*P **P 04 20 29.2 -0.4**
comp=Z,34nm,0.9s,mb5.3
DZM Mont Dzumac 71.56 114 P **P 04 20 33.6 +0.2**
comp=Z,4.5nm,0.8s,mb4.5,baz=292,slow=8.1,SNR=3.5
DZM pP pP 04 20 42.4 +0.9
comp=Z,11nm,1.1s,baz=45,slow=5.9,SNR=4.8
MOS Moscow 71.93 329 *α i*P **P 04 20 34.5 -0.5**
MOS *e* pP 04 20 40.8 -2.3
MOS *e* 04 20 47.3
MOS pmax pmax
comp=Z,79nm,0.8s,mb5.7
PET Petropavlovsk 71.98 34 *e*P **P 04 20 35.0 -0.4**
PET *e*S S 04 29 50.9 -2.9
PET pmax pmax
comp=Z,43nm,0.7s,mb5.5
OBN Obninsk 72.22 328 *c i*P **P 04 20 35.5 -1.2**
OBN *e* 04 23 16.6
OBN *i* S S 04 29 55.8 -0.6
OBN pmax pmax
comp=Z,52nm,1.9s,mb5.1
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
OBN Obninsk 72.22 328 *e*P **P 04 20 35.7 -1.0**
comp=Z,21nm,0.4s,mb5.4
TIXI Tiksi 72.83 10 ⇑*i*P **P 04 20 37.6 -2.4**
TIXI pmax pmax
comp=Z,29nm,1.0s,mb5.2
TIXI Tiksi 72.83 10 ⇑*i*P **P 04 20 39.2 -0.8**
MAW Mawson 73.06 193 P **P 04 20 42.0 +0.5**
comp=Z,4.4nm,0.8s,mb4.4,baz=36,slow=4.8,SNR=5.3
MAW pP pP 04 20 49.6 0.0
comp=Z,7.8nm,0.9s,baz=1.8,slow=7.3,SNR=5.4
SEY Seymchan 73.46 23 *e*P **P 04 20 45.9 +2.1**
SEY *e* 04 30 35.6
SEY *e* 04 30 40.6
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.5
SEY pmax pmax
comp=N,20nm,0.8s
SEY pmax pmax
comp=E,20nm,1.2s
LBTB Lobatse 73.94 244 *e*P **P 04 20 46.0 -1.4**
LBTB *e*PP pP 04 20 54.0 -1.5
LBTB pmax pmax
comp=Z,14nm,1.0s,mb4.8
LBTB Lobatse 73.94 244 LR LR 04 48 14.5

comp=Z,756nm,20.0s,MS5.0,baz=84,slow=32
LBTB Lobatse 73.94 244 *e*P **P 04 20 46.0 -1.4**
comp=Z,14nm,1.0s,mb4.8
LBTB *e*pP pP 04 20 54.0 -1.6
CFR Carcaliu 74.11 317 ⇑P **P 04 20 47.8 -0.2**
IDI Anoyia 74.56 306 P **P 04 20 51.1 +0.2**
comp=Z,10nm,1.0s,mb4.7,baz=126,slow=14,SNR=2.8
IDI pP pP 04 20 59.4 +0.5
comp=Z,14nm,0.9s,baz=73,slow=6.1,SNR=3.8
BOSA Boshof 74.85 240 P **P 04 20 54.9 +2.2**
comp=Z,6.3nm,1.0s,mb4.5,baz=73,slow=6.7,SNR=4.1
BOSA pP pP 04 21 00.6 -0.3
comp=Z,8.7nm,0.9s,baz=98,slow=6.1,SNR=6.7
ISR Istrita 75.20 316⇑*i*P **P 04 20 55.5 +1.2**
VRI Vrincioaia 75.24 317⇑*i*P **P 04 20 54.6 +0.1**
MLR Muntele Rosu 75.69 317⇓*i*P **P 04 20 57.2 +0.1**
BURAR Bucovina Array 76.64 319⇑P **P 04 21 02.9 +0.5**
KWP Kalwaria 78.68 320 *e*P **P 04 21 13.8 +0.2**
BZS Buzias 78.70 316⇑P **P 04 21 13.9 +0.1**
KOLS Kolonicke sedl 78.83 320 *e*P **P 04 21 15.1 +0.7**
KOLS epP pP 04 21 23.7 +1.1
KOLS *e* 04 22 10.0
SUW Suwalki 79.28 325 *e*P **P 04 21 15.7 -1.1**
CRVS Cervenica-Dubn 79.35 319 *e*sP sP 04 21 28.7 +0.5
RPZ Rata Peaks 79.58 135 P **P 04 21 19.0 +0.4**
comp=Z,2.6nm,0.3s,mb4.6,baz=261,slow=19,SNR=3.2
RPZ pP pP 04 21 27.4 +0.6
comp=Z,11nm,0.6s,baz=107,slow=3.5,SNR=3.2
FINES FINESS Array B 79.59 332 P **P 04 21 18.2 -0.1**
comp=Z,6.3nm,0.7s,mb4.6,baz=104,slow=7.9,SNR=29
FINES pP pP 04 21 26.6 +0.1
comp=Z,8.6nm,0.9s,baz=90,slow=7.6,SNR=9.9
KAF Kangasniemi 79.67 333 *ep* **P 04 21 17.2 -1.5**
comp=Z,21nm,1.0s,mb5.0,baz=104,slow=5.0
KAF Kangasniemi 79.67 333 *e*P **P 04 21 17.2 -1.5**
KAF pmax pmax
comp=Z,21nm,1.0s,mb5.0
KECS Kecovo 79.92 319 *e*pP pP 04 21 28.8 +0.2
NIE Niedzica 80.18 320 *e*P **P 04 21 20.2 -1.5**
PSZ Piszkesteto 80.23 318⇑*e*P **P 04 21 21.7 -0.3**
PSZ pmax pmax
comp=Z,17nm,0.9s,mb5.0
PSZ Piszkesteto 80.23 318⇑*e*P **P 04 21 21.7 -0.3**
comp=Z,17nm,0.9s,mb5.0
OJC Ojcow 80.64 321 *e*P **P 04 21 23.9 -0.2**
PKSM Moragy 80.84 316⇑*e*P **P 04 21 24.9 -0.4**
PKSM *e* pP 04 21 33.2 -0.3
BILL Bilibino 80.85 21 *i* P **P 04 21 24.4 -0.5**
BILL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BILL Bilibino 80.85 21 *i* P **P 04 21 24.5 -0.4**
VYHS Vyhne 81.01 319 *e*P **P 04 21 26.0 -0.1**
VYHS *e*pP pP 04 21 34.6 +0.3
VYHS *e* 04 22 20.0
OKC Ostrava-Krasne 81.64 320 *e*P **P 04 21 29.5 +0.2**
OKC *e*pP pP 04 21 37.1 -0.5
KEV Kevo 81.69 341 *ep* **P 04 21 27.6 -1.6**
comp=Z,28nm,0.9s,mb5.2
KEV Kevo 81.69 341 *e*P **P 04 21 27.6 -1.6**
KEV pmax pmax
comp=Z,28nm,0.9s,mb5.2
MORC Moravsky Berou 82.02 320 *e*P **P 04 21 31.5 +0.2**
MORC *e**PP pP 04 21 39.9 +0.3
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 82.02 320 *e*P **P 04 21 31.5 +0.2**
comp=Z,13nm,1.0s,mb4.8
MORC *e*pP pP 04 21 39.9 +0.3
ZST Bratislava 82.12 318 *e*P **P 04 21 32.4 +0.5**
ZST *e*pP pP 04 21 40.8 +0.7
ZST *e* 04 22 26.5
ARCES ARCESS Array B 82.12 340 P **P 04 21 31.6 +0.2**
comp=Z,13nm,0.9s,mb4.8,baz=93,slow=5.0,SNR=14
ARCES pP pP 04 21 40.2 +0.4
comp=Z,10nm,0.9s,baz=99,slow=4.0,SNR=3.3
KOGS Kog 82.52 316 *e*P **P 04 21 34.0 +0.1**
DPC Dobruska-Polom 82.86 320 *e*P **P 04 21 36.3 +0.6**
DPC *e*pP pP 04 21 43.9 -0.1
DPC AMS AMS 05 12 20.0
comp=Z,400nm,15.7s
KSP Ksiaz 82.94 321 *e*P **P 04 21 36.0 0.0**
KSP *e**PP pP 04 21 44.6 +0.3
KSP *e*S S 04 31 54.0 +2.2
UPC Upice 83.08 321 *e*P **P 04 21 37.4 +0.6**
UPC *e*pP pP 04 21 43.5 -1.6
BOJS Bojanci 83.12 315 *e*P **P 04 21 37.3 +0.2**
BOJS *e* pP 04 21 45.8 +0.4
LJU Ljubljana 83.67 316 *e*P **P 04 21 40.5 +0.5**
LJU *e* 04 22 35.5
PRU Pruhonice 83.97 320 *e*P **P 04 21 41.5 +0.1**
PRU *e*pP pP 04 21 50.2 +0.5
PRU AMS AMS 05 05 00.0
comp=Z,300nm,18.5s
PVCC Panska Ves 84.00 320 *e*P **P 04 21 42.3 +0.8**
PVCC *e*pP pP 04 21 50.4 +0.6
BRG Berggiesshubel 84.42 321 *e*P **P 04 21 44.2 +0.6**
BRG pmax pmax
comp=Z,15nm,1.1s,mb5.0
BRG Berggiesshubel 84.42 321 *e*P **P 04 21 44.2 +0.6**
comp=Z,15nm,1.1s,mb5.0
BRG *e* 04 22 38.3
GEC2 GERESS Array S 84.43 319 *e*P **P 04 21 43.8 +0.1**
GEC2 pmax pmax
comp=Z,31nm,1.1s,mb5.3
GEC2 GERESS Array S 84.43 319 *e*P **P 04 21 43.8 +0.1**
comp=Z,31nm,1.1s,mb5.3
GERES GERESS Array B 84.43 319 P **P 04 21 44.4 +0.7**
comp=Z,4.9nm,0.9s,mb4.7,baz=104,slow=5.5,SNR=42
GERES pP pP 04 21 53.1 +1.1
comp=Z,14nm,1.0s,baz=117,slow=3.0,SNR=20
NRCA Norcia 84.48 313 *e*P **P 04 21 44.1 0.0**
PTCC Patocco-Chiusa 84.51 316 *e*P **P 04 21 44.5 +0.3**
KHC Kasperske Hory 84.53 319 *e*P **P 04 21 44.4 +0.2**
KHC *e*pP pP 04 21 51.8 -0.7
KHC AMS AMS 05 05 30.0
comp=Z,300nm,19.1s
ARV Arcevia 84.64 313 *e*P **P 04 21 45.3 +0.4**
WET Wettzell 84.99 319 *e*P **P 04 21 46.4 -0.1**
WET pmax pmax
comp=Z,17nm,1.1s,mb5.1
WET Wettzell 84.99 319 *e*P **P 04 21 46.4 -0.1**
comp=Z,17nm,1.1s,mb5.1
CLL Collm 85.04 321 *i* P **P 04 21 47.0 +0.3**
CLL *i* pP 04 21 55.5 +0.5
CLL pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
CLL Collm 85.04 321 *i* P **P 04 21 47.0 +0.3**
comp=Z,7.0nm,1.1s,mb4.7
CLL *i* pP 04 21 55.5 +0.5
CLL Collm 85.04 321 P **P 04 21 47.0 +0.3**
comp=Z,logA/T=0.8,mb4.7
CLL *i**P pP 04 21 55.5 +0.5
CLL *e**SP sP 04 21 59.0 +1.3
NKC Novy Kostel 85.33 320 *e*P **P 04 21 48.8 +0.6**
NKC *e*pP pP 04 21 56.7 +0.2
SFI Santa Sofia 85.45 314 *e*P **P 04 21 48.9 0.0**
PGD Poggio Sodo 85.54 314 *e*P **P 04 21 50.7 +1.3**
CTI Castel Tesino 85.67 316 *e*P **P 04 21 50.0 0.0**
MOX Moxa 85.88 320 *e*P **P 04 21 51.1 +0.2**
MOX pmax pmax
comp=Z,17nm,1.4s,mb5.1
MOX Moxa 85.88 320 *e*P **P 04 21 51.1 +0.2**
comp=Z,17nm,1.4s,mb5.1
MOX Moxa 85.88 320 *i* P **P 04 21 51.1 +0.2**
comp=Z,logA/T=1.1,mb5.1
GRA1 Grafenberg Arr 86.10 320 *e*P **P 04 21 52.3 +0.3**
comp=Z,35nm,1.2s,mb5.5
GRA1 *e*pP pP 04 22 01.1 +0.8
GRF Grafenberg Arr 86.10 320 *e*P **P 04 21 52.3 +0.3**
GRF *e**PP pP 04 22 01.1 +0.8
GRF pmax pmax
comp=Z,35nm,1.2s,mb5.5
GRF Grafenberg Arr 86.10 320 *e*P **P 04 21 52.3 +0.3**
comp=Z,35nm,1.2s,mb5.5
GRF *e*pP pP 04 22 01.1 +0.8
VNDA Vanda 86.23 169 *e*P **P 04 21 54.0 +1.9**
VNDA pmax pmax
comp=Z,12nm,1.3s
VNDA Vanda 86.23 169 P **P 04 21 55.0 +3.0**
comp=Z,3.2nm,0.9s,mb4.6,baz=290,slow=4.2,SNR=13
VNDA Vanda 86.23 169 *e*P **P 04 21 54.0 +2.0**
comp=Z,12nm,1.3s,mb5.0
NB2 NORSAR Subarra 86.60 331 P **P 04 21 54.1 -0.1**
comp=Z,3.0nm,0.8s,mb4.6,baz=97,slow=4.8
NB2 NORSAR Subarra 86.60 331 P **P 04 21 54.1 -0.1**
NB2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
NOA NORSAR Array B 86.60 331 P **P 04 21 54.4 +0.2**
comp=Z,4.5nm,0.8s,mb4.8,baz=94,slow=4.9,SNR=20
NOA pP pP 04 22 01.9 -0.5
comp=Z,8.0nm,1.0s,baz=94,slow=4.9,SNR=11
CLZ Clausthal 86.71 322 *e*P **P 04 21 55.0 +0.1**
comp=Z,12nm,1.0s,mb5.1
NAO01 NORSAR Array S 86.75 331 *e*P **P 04 21 54.4 -0.5**
comp=Z,10nm,1.1s,mb5.0
BSEG Bad Segeberg 86.80 324 *e*P **P 04 21 55.6 +0.3**
KONO Kongsberg 87.35 329 *i* P **P 04 21 57.6 -0.3**
TNS Taunus Mts 87.90 320 *e*P **P 04 22 00.9 +0.2**
BFO Black Forest 87.98 318 *e*P **P 04 22 00.5 -0.6**
BFO pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
BFO Black Forest 87.98 318 *e*P **P 04 22 00.5 -0.6**
comp=Z,6.0nm,1.0s,mb4.8
LPG La Plagne 89.10 315 *e*P **P 04 22 06.8 +0.2**
comp=Z,22nm,1.1s,mb5.1
LPG La Plagne 89.10 315 *e*P **P 04 22 06.8 +0.2**
LPG pmax pmax
comp=Z,11nm,1.1s,mb5.1
NVL N'lazarevskaya 89.91 199⇓*i*P **P 04 22 11.7 +1.9**
NVL *e**PP pP 04 22 17.9 -0.2
MAIT Maitri 89.94 199 *e*P **P 04 22 12.2 +2.2**
VNA2 Neumayer--Watz 96.20 199 *e* sP 04 22 48.9 -0.8
VNA2 Neumayer--Watz 96.20 199⇓*i*P pP 04 22 44.9 -2.2
VNA2 *e* sP 04 22 48.9 -0.8
IMA Indian Mountai 96.28 23 *e*P **P 04 22 40.0 +0.8**
comp=Z,39nm,1.2s,mb5.7
VNA1 Neumayer--Stat 96.55 199 *e* sP 04 22 50.3 -1.0
VNA1 Neumayer--Stat 96.55 199⇓*i*P pP 04 22 46.4 -2.2
VNA1 *e* sP 04 22 50.3 -1.0
VNA3 Neumayer Olymp 96.84 198 *e* pP 04 22 50.4 +0.5
VNA3 Neumayer Olymp 96.84 198⇓*i*P **P 04 22 46.0 +4.4**
VNA3 *e* 04 22 50.4
INK Inuvik 102.15 17 P Pdif 04 23 04.3 -1.2
comp=Z,1.2nm,1.1s,baz=151,slow=3.7,SNR=3.2
INK PP PP 04 27 18.8 -1.1
comp=Z,4.4nm,1.2s,baz=286,slow=9.7,SNR=3.5
YKA Yellowknife Ar 111.75 15 Pdiff Pdif 04 23 46.7 -1.2
comp=Z,0.3nm,1.1s,baz=257,slow=1.1,SNR=4.0
YKA PKiKP 04 27 46.1
comp=Z,0.1nm,0.3s,baz=313,slow=2.2,SNR=4.1
YKA PP PP 04 28 23.2 -7.9
comp=Z,0.9nm,0.9s,baz=329,slow=7.4,SNR=6.1
YKA Yellowknife Ar 111.75 15 Pdif Pdif 04 23 46.7 -1.2
YKA PKPdf PKPdf 04 27 46.1 -2.7
YKA PP PP 04 28 23.2 -7.9
TBI Tubuai 112.14 114 *e*LR LR 05 01 10.1
comp=Z,505nm,27.0s
PPT Papeete 112.73 108 *e*SS SS 04 44 24.5 +7.7
PPT *e*LR LR 05 01 28.1
comp=Z,392nm,25.0s
SCHQ Schefferville 122.22 349 PKP PKPdf 04 28 06.3 -3.1
comp=Z,2.2nm,0.8s,baz=320,slow=3.2,SNR=4.5
SCHQ pPKP 04 28 15.1
comp=Z,3.1nm,0.9s,baz=54,slow=0.5,SNR=4.7
SCHQ Schefferville 122.22 349 PKP PKPdf 04 28 06.3 -3.1
SCHQ pPKP 04 28 15.1
RKT Rikitea 125.23 117 *e*LR LR 05 07 15.8
comp=Z,382nm,28.5s
ULM Lac du Bonnet 127.18 10 PKP PKPdf 04 28 15.3 -3.7
comp=Z,3.7nm,0.8s,baz=358,slow=2.1,SNR=8.6
ULM pPKP 04 28 24.1
comp=Z,4.9nm,0.9s,baz=271,slow=2.2,SNR=5.5
ULM Lac du Bonnet 127.18 10 *e*PKP PKPdf 04 28 14.5 -4.6
ULM *e* 04 28 23.5
REDW Red Top Meadow 128.71 26 *e*PKP PKPdf 04 28 19.6 -2.7
PDAR Pinedale Array 129.75 25 PKP PKPdf 04 28 20.8 -3.5
comp=Z,1.6nm,1.0s,baz=299,slow=1.3,SNR=7.4
PDAR pPKP 04 28 29.9
comp=Z,0.9nm,0.8s,baz=270,slow=1.5,SNR=3.8
PDAR PP PP 04 30 32.9 -2.0
comp=Z,1.0nm,1.0s,baz=297,slow=3.3,SNR=4.0
MSU Marysvale 131.85 31 *e*PKPdf PKPdf 04 28 25.6 -2.8
PLCA Paso Flores 139.45 195 PKP PKPdf 04 28 41.4 -1.0
comp=Z,2.5nm,1.1s,baz=221,slow=6.7,SNR=2.8
TXAR Lajitas Array 143.41 31 PKhKP 04 28 43.9
comp=Z,2.4nm,1.0s,baz=270,slow=2.5,SNR=15
TXAR PKP PKPdf 04 28 48.7 -0.9
comp=Z,2.9nm,0.9s,baz=155,slow=0.9,SNR=10
TXAR pPKP 04 28 54.6
comp=Z,1.9nm,0.9s,baz=134,slow=0.6,SNR=4.8
TXAR Lajitas Array 143.41 31 PKP PKPdf 04 28 43.9 -5.8
TXAR PKP PKPdf 04 28 48.7 -0.9
TXAR pPKP 04 28 54.6
NATX Nacogdoches 145.02 18 *e*PKP PKPdf 04 28 48.5 -3.9
LRAL Lakeview Retre 145.35 6 *e*PKP PKPdf 04 28 48.5 -4.5
CFAA Coronel Fontan 147.08 203 PKPbc PKPdf 04 28 55.6 -0.3
comp=Z,0.9nm,0.7s,baz=166,slow=3.0,SNR=12
CFAA pPKPbc 04 29 03.1
comp=Z,3.2nm,0.7s,baz=165,slow=2.8,SNR=15
LPAZ La Paz 159.36 224 PKP PKPdf 04 29 12.7 -0.9
comp=Z,1.7nm,1.0s,baz=33,slow=11,SNR=3.7
OTAV Otavalo 175.16 292 *e*PKPdf PKPdf 04 29 22.3 -2.9

BJI ***29*** *04:09:56.6, 1.20N×97.20E, h25km, mB5.8, mb5.5, Ms5.4, Msz5.3*
MOS ***29*** *04:09:58.2±1.0, 1.34N×97.14E, h33km, mb5.6/8, Error ellipse: s-maj=19.6km s-min=11.4km az=103.1*
NEIC ***29*** *04:09:58.6±0.3, 1.25N×97.15E, mb5.3/12, Error ellipse: s-maj=11.5km s-min=7.0km az=56.0*
IDC ***29*** *04:09:58.5±0.4, 1.24N×97.11E, h24km±2km, mb4.7/20, mb1 4.8/20, mb1mx4.7/23, mbtmp4.9/20, MS4.6/1, Ms1 4.6/1, ms1mx3.2/26, Error ellipse: s-maj=17.7km s-min=9.7km az=51.0*
ISC 29 04:09:56.6±0.4, 1.25N±0.06×97.15E±0.07, h24km, h24km±.5km: pP-P, n67, σ1§01/60, mb5.1/40, MS5.1/4, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.32**	**41**	P	**Pn**	**04 11 17.3**	**+0.6**
KSM	**Kuching**	**13.16**	**89**	*e*P	**P**	**04 13 10.0**	**+5.2**
KSM				*e*		04 13 16.5	
CM31	**Chiang Mai Arr**	**17.19**	**6**	P	**P**	**04 13 56.5**	**-0.5**
	69nm,0.9s						
KMI	**Kunming**	**24.34**	**12**	P	**P**	**04 15 16.8**	**+2.8**
KMI				S	**S**	**04 19 33.8**	**+5.0**
KMI				AMB	AMB		
	comp=Z,245nm,1.3s,mb5.5						
KMI				AMB	AMB		
	comp=Z,950nm,4.3s						
KMI				LR	LR		
	comp=N,3μm,16.8s,MS4.9						
KMI				LR	LR		
	comp=E,2μm,17.6s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,15.6s,MS4.8						
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**04 15 57.1**	**+1.4**
LSA				pmax	pmax		
	comp=Z,53nm,0.9s,mb5.3						
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**04 15 57.1**	**+1.4**
	comp=Z,54nm,0.9s,mb5.3						
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**04 16 14.4**	**-1.6**
	comp=Z,167nm,1.1s,mb5.8						
ENH				*e*pP	pP	04 16 21.5	-1.6
FITZ	**Fitzroy Crossi**	**34.00**	**126**	P	**P**	**04 16 39.4**	**-1.6**
	comp=Z,32nm,0.8s,mb5.3,baz=268,slow=3.3,SNR=6.1						
FITZ				pP	pP	04 16 47.3	-0.8
	comp=Z,21nm,0.7s,baz=235,slow=1.9,SNR=3.1						
XAN	**Xi'an**	**34.43**	**17**	P	**P**	**04 16 44.0**	**-0.5**
XAN				AP	pP	04 16 50.8	-0.9
XAN				AMB	AMB		
	comp=Z,98nm,0.9s,mb5.7						
LZH	**Lanzhou**	**35.21**	**9**	*e*P	**P**	**04 16 52.0**	**+0.8**
LZH				AP	pP	04 16 59.0	+0.6
LZH				XP	sP	04 17 01.5	0.0
LZH				AMB	AMB		
	comp=Z,117nm,1.2s,mb5.7						
LZH				LR	LR		
	comp=E,4μm,13.0s						
LZH				LR	LR		
	comp=E,5μm,16.0s,MS5.3						
KAKA	**Kakadu**	**37.67**	**113**	*e*P	**P**	**04 17 10.2**	**-1.9**
	comp=Z,34nm,0.9s,mb5.1						
NWAO Narrogin (SRO) 38.93 153 P **P 04 17 24.4 +1.9**
comp=Z,9.1nm,0.8s,mb4.6,baz=313,slow=12,SNR=3.7
JOW Kunigami 39.24 47 P **P 04 17 25.9 +0.8**
comp=Z,95nm,0.8s,mb5.6,baz=263,slow=7.4,SNR=9.9
JOW pP pP 04 17 33.1 +0.6
comp=Z,66nm,0.9s,baz=256,slow=14,SNR=3.9
WRA Warramunga Arr 42.10 122 P **P 04 17 48.7 -0.2**
comp=Z,10nm,0.6s,mb4.7,baz=302,slow=9.0,SNR=5.4
WRA pP pP 04 17 55.8 -0.4
comp=Z,20nm,0.7s,baz=301,slow=9.0,SNR=3.8
WRAB Tennant Creek 42.11 122 *e*P **P 04 17 48.6 -0.3**
WRAB *e**PP pP 04 17 55.0 -1.2
BJI Beijing 42.31 22 *e*P **P 04 17 51.5 +1.2**
BJI AMB AMB
comp=Z,83nm,0.9s,mb5.4
BJI AMB AMB
comp=Z,623nm,3.9s
ASPA Alice Springs 43.46 127 *e*P **P 04 18 00.4 +0.5**
ASAR Alice Springs 43.47 127 P **P 04 18 00.5 +0.5**
comp=Z,16nm,0.9s,mb4.7,baz=309,slow=7.8,SNR=4.8
ASAR pP pP 04 18 07.8 +0.5
comp=Z,17nm,1.0s,baz=299,slow=7.8,SNR=4.6
ASAR PcP PcP 04 19 51.1 +2.7
comp=Z,3.6nm,1.0s,baz=296,slow=3.3,SNR=4.0
DL2 Dalian 43.66 28 P **P 04 18 02.5 +1.2**
DL2 AMB AMB
comp=Z,40nm,1.0s,mb5.1
SNY Shenyang 46.88 27⇓P **P 04 18 27.0 0.0**
SNY AMB AMB
comp=Z,50nm,0.9s,mb5.4
SONM Songino Array 47.09 8 P **P 04 18 28.9 +0.4**
comp=Z,28nm,0.9s,mb5.2,baz=191,slow=7.1,SNR=6.8
SONM pP pP 04 18 36.9 +1.0
comp=Z,20nm,0.8s,baz=192,slow=8.5,SNR=3.1
MKAR Makanchi Array 47.18 346 P **P 04 18 29.7 +0.4**
comp=Z,16nm,0.7s,mb5.0,baz=157,slow=10.0,SNR=6.1
MKAR pP pP 04 18 37.2 +0.6
comp=Z,21nm,0.6s,baz=162,slow=7.7,SNR=2.9
CN2 Changchun 49.28 27 *e*P **P 04 18 45.3 -0.3**
CN2 AMB AMB
comp=Z,70nm,0.9s,mb5.7
HIA Hailar 51.61 19 *e*P **P 04 19 02.8 -0.5**
HIA pmax pmax
comp=Z,53nm,0.8s
HIA Hailar 51.61 19 *e*P **P 04 19 02.8 -0.5**
comp=Z,52nm,0.8s,mb5.5
CTA Charters Tower 52.57 117 P **P 04 19 10.0 -0.9**
comp=Z,9.7nm,0.9s,mb4.7,baz=285,slow=6.1,SNR=2.5
CTA pP pP 04 19 18.6 +0.2
comp=Z,20nm,0.9s,baz=290,slow=7.2,SNR=4.9
CTAO Charters Tower 52.57 117 P **P 04 19 09.8 -1.1**
CTAO pmax pmax
comp=Z,17nm,0.8s,mb5.0
CTAO Charters Tower 52.57 117 P **P 04 19 09.8 -1.1**
comp=Z,17nm,0.8s,mb5.0
STKA Stephens Creek 53.43 132 *e*P **P 04 19 18.2 +1.1**
comp=Z,14nm,1.0s,mb4.9
STKA Stephens Creek 53.43 132 P **P 04 19 18.3 +1.1**
comp=Z,15nm,0.9s,mb4.9,baz=300,slow=5.3,SNR=5.0
STKA pP pP 04 19 24.9 +0.3
comp=Z,12nm,0.8s,baz=299,slow=9.2,SNR=2.5
BVAR Borovoye Array 56.18 341 P **P 04 19 35.9 -1.0**
comp=Z,32nm,1.0s,mb5.3,baz=143,slow=7.4,SNR=7.1
BVAR pP pP 04 19 44.0 -0.4
comp=Z,17nm,0.8s,baz=135,slow=6.3,SNR=3.1
CHKZ Chkalovo 56.66 341 *e*P **P 04 19 39.0 -1.3**
CHKZ pmax pmax
comp=Z,74nm,0.9s,mb5.7
CHKZ Chkalovo 56.66 341 *e*P **P 04 19 39.0 -1.4**
comp=Z,74nm,0.9s,mb5.7
BOD Bodaibo 57.97 11 *e*P **P 04 19 47.9 -1.6**
CLNS Chul'man 59.71 17 *e*P **P 04 19 59.7 -1.9**
CLNS *e**PP pP 04 20 05.2 -3.9
CLNS *e* 04 22 17.3
CLNS *e*PPP PPP 04 23 41.4 +0.6
CLNS *e*S S 04 28 30.1 +21
CLNS *e* 04 29 52.2
CLNS *e*SS SS 04 31 58.2 -8.1
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,15nm,0.8s
CLNS pmax pmax
comp=Z,46nm,0.8s,mb5.6
CLNS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CLNS smax
comp=E,84nm,12.8s
CLNS smax
comp=Z,75nm,13.9s
CLNS smax
comp=N,134nm,14.2s
CLNS MLR MLR
comp=Z,3μm,14.0s,MS5.6
CLNS MLR MLR
comp=N,2μm,15.0s,MS5.3
CLNS MLR MLR
comp=E,500nm,14.0s,MS5.3
YSS Yuzh-Sakhalins 60.33 34 *e*P **P 04 20 06.2 +0.2**
GNI Garni 61.22 316 P **P 04 20 13.1 +0.9**
comp=E,21nm,0.9s,mb5.3,baz=15,slow=7.7,SNR=3.9
GNI LR LR 04 51 37.5
comp=E,471nm,19.5s,MS4.7,baz=300,slow=41
SVE Sverdlovsk 62.62 338 *e*P **P 04 20 11.0 -10**
KIV Kislovodsk 64.23 319 P **P 04 20 32.0 -0.1**
KIV pmax pmax
comp=Z,78nm,1.1s,mb5.7
KIV Kislovodsk 64.23 319 P **P 04 20 32.0 -0.2**
comp=Z,78nm,1.1s,mb5.7
ASF Jabal al Asfar 64.39 305 P **P 04 20 32.3 -1.1**
comp=Z,1.9nm,0.4s,mb4.5,baz=228,slow=2.1,SNR=3.1
MALT Malatya 65.06 312 *e*P **P 04 20 35.7 -1.9**
MALT pmax pmax
comp=Z,14nm,0.9s,mb5.0
MALT Malatya 65.06 312 *e*P **P 04 20 35.7 -1.8**
comp=Z,14nm,0.9s,mb5.0
YAK Yakutsk 65.38 16 *e*P **P 04 20 38.6 -0.6**
YAK *e**PP pP 04 20 46.3 -0.5
YAK pmax pmax
comp=Z,191nm,0.9s,mb6.1
YAK Yakutsk 65.38 16 *e*P **P 04 20 38.6 -0.6**
comp=Z,191nm,0.9s,mb6.1
YAK *e*pP pP 04 20 46.3 -0.5
BRTR Keskin Array B 69.04 312 P **P 04 21 01.6 -1.0**
comp=Z,6.4nm,0.9s,mb4.5,baz=127,slow=7.2,SNR=2.7
BRTR pP pP 04 21 09.7 -0.6
comp=Z,9.6nm,1.0s,baz=127,slow=6.2,SNR=3.2
MA2 Magadan 71.31 26 *e*P **P 04 21 16.1 0.0**
MA2 *e* 04 30 26.6
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 pmax pmax
comp=N,10.0nm,1.1s
MA2 pmax pmax
comp=E,4.0nm,1.0s
DZM Mont Dzumac 71.35 114 P **P 04 21 17.1 0.0**
comp=E,9.5nm,0.9s,mb4.7,baz=127,slow=23,SNR=4.1
DZM pP pP 04 21 24.9 +0.3
comp=E,12nm,0.9s,baz=252,slow=23,SNR=3.1
PET Petropavlovsk 72.22 34 *e*P **P 04 21 21.8 +0.1**
PET pmax pmax
comp=Z,87nm,1.0s,mb5.6
MAW Mawson 72.75 193 P **P 04 21 24.4 -0.2**
comp=Z,7.4nm,1.1s,mb4.5,baz=18,slow=9.6,SNR=2.5
MAW pP pP 04 21 31.9 -0.2
comp=Z,1.7nm,0.3s,baz=310,slow=13,SNR=2.3
SEY Seymchan 73.73 23 *e*P **P 04 21 31.7 +1.4**
BOSA Boshof 74.76 240 P **P 04 21 38.0 +0.9**
comp=Z,6.7nm,0.9s,mb4.6,baz=63,slow=3.9,SNR=4.3
BOSA pP pP 04 21 44.2 -0.4
comp=Z,6.3nm,0.9s,baz=97,slow=6.2,SNR=2.8
FINES FINESS Array B 79.93 333 P **P 04 22 04.8 -0.1**
comp=Z,5.5nm,0.8s,mb4.5,baz=104,slow=7.9,SNR=3.8
FINES pP pP 04 22 13.1 +0.3
comp=Z,4.4nm,0.8s,baz=98,slow=5.8,SNR=2.2
MORC Moravsky Berou 82.33 320 *e*P **P 04 22 18.6 +0.8**
MORC *e* pP 04 22 25.9 +0.3
MORC pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MORC Moravsky Berou 82.33 320 *e*P **P 04 22 18.6 +0.8**
comp=Z,9.8nm,1.0s,mb4.7
MORC *e* pP 04 22 25.9 +0.3
ARCES ARCESS Array B 82.47 340 P **P 04 22 18.8 +0.7**
comp=Z,10nm,0.9s,mb4.7,baz=90,slow=4.9,SNR=4.8
ARCES pP pP 04 22 26.6 +0.7
comp=Z,12nm,0.9s,baz=79,slow=6.2,SNR=3.5
GERES GERESS Array B 84.74 319 P **P 04 22 31.3 +1.2**

comp=Z,4.7nm,0.9s,mb4.6,baz=101,slow=5.0,SNR=2.2
GERES pP pP 04 22 38.7 +0.8
comp=Z,11nm,1.0s,baz=90,slow=4.0,SNR=3.9
CLL Collm 85.36 321 P **P** **04 22 33.9 +0.7**
comp=Z,logA/T=0.9,mb4.8
CLL *i* *PP pP 04 22 41.9 +0.9
NOA NORSAR Array B 86.94 331 P **P** **04 22 40.3 -0.4**
comp=Z,6.5nm,1.0s,mb4.8,baz=94,slow=5.0,SNR=4.0
NOA pP pP 04 22 50.2 +1.7
comp=Z,3.1nm,0.8s,baz=94,slow=4.9,SNR=1.9
INK Inuvik 102.44 17 P Pdif 04 23 54.7 +2.9
comp=Z,1.0nm,0.8s,baz=295,slow=6.3,SNR=3.5
INK pP 04 24 00.4
comp=Z,2.4nm,1.0s,baz=250,slow=4.6,SNR=3.5
YKA Yellowknife Ar 112.06 15 Pdiff Pdif 04 24 37.1 +3.0
comp=Z,0.2nm,0.8s,baz=326,slow=4.1,SNR=4.7
YKA PP PP 04 29 09.7 -8.5
comp=Z,1.4nm,0.9s,baz=333,slow=7.0,SNR=4.0
YKA Yellowknife Ar 112.06 15 Pdif Pdif 04 24 37.1 +3.0
YKA PP PP 04 29 09.7 -8.5
ULM Lac du Bonnet 127.50 11 PKP PKPdf 04 29 02.0 -2.5
comp=Z,5.0nm,0.9s,baz=339,slow=2.7,SNR=4.9
PDAR Pinedale Array 130.02 26 PKP PKPdf 04 29 06.8 -2.7
comp=Z,1.3nm,0.9s,baz=90,slow=1.5,SNR=4.0
PDAR pPKP 04 29 14.7
comp=Z,0.8nm,0.6s,baz=221,slow=2.7,SNR=2.3
TXAR Lajitas Array 143.65 32 PKP PKPdf 04 29 30.3 -4.5
comp=Z,7.4nm,1.1s,baz=180,slow=1.3,SNR=6.8
TXAR pPKP 04 29 38.8
comp=Z,3.8nm,0.8s,baz=56,slow=1.4,SNR=3.4
NATX Nacogdoches 145.31 18 *e*PKP PKPdf 04 29 34.5 -3.2
LRAL Lakeview Retre 145.67 6 *e*PKP PKPdf 04 29 34.9 -3.4

IDC 29 04:15:22.9±3.0, 3.24N×96.55E, mb4.0/5, mb1 4.1/5, mb1mx3.8/17, mbtmp4.0/5, Error ellipse: s-maj=129.1km s-min=22.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.67**	**123**	P	P	04 23 29.6	-2.0
	0.9nm,0.8s,baz=299,slow=9.0,SNR=3.9						
MKAR	**Makanchi Array**	**45.12**	**346**	P	P	04 23 41.0	-1.9
	1.5nm,0.5s,baz=159,slow=9.0,SNR=11						
ASAR	**Alice Springs**	**45.15**	**128**	P	P	04 23 41.9	-1.6
	4.7nm,1.2s,baz=288,slow=4.1,SNR=4.0						
SONM	**Songino Array**	**45.23**	**9**	P	P	04 23 41.9	-1.8
	0.8nm,0.5s,baz=198,slow=9.0,SNR=4.8						
BVAR	**Borovoye Array**	**54.12**	**341**	P	P	04 24 49.7	-2.2
	0.8nm,0.5s,baz=149,slow=8.6,SNR=3.7						

*BJI **29** 04:18:59.3, 1.09N×97.25E, h28km, mB5.6, mb5.5, Ms5.4, Msz5.2*
*MOS **29** 04:19:01.3±0.9, 1.27N×97.23E, h33km, mb5.5/55, MS5.0/12, Error ellipse: s-maj=10.5km s-min=5.2km az=119.8*
*NEIC **29** 04:19:01.4±0.1, 1.22N×97.16E, mb5.2/61, MS4.7/1, Error ellipse: s-maj=4.6km s-min=3.3km az=47.0*
*IDC **29** 04:19:01.8±0.3, 1.24N×97.08E, h24km±1km, mb4.7/30, mb1 4.7/30, mb1mx4.7/31, mbtmp4.9/30, Error ellipse: s-maj=12.4km s-min=7.1km az=45.0*
ISC 29 04:19:00.0±1.0, 1.25N±0.03×97.20E±0.03, h24km±7km, **h23**km±.5km**:pP-P, n315, σ099/308, mb5.2**/114, **MS5.2**/25, **31C-18D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.05**	**49**	P	**Pn**	**04 20 17.9**	**+1.5**
KULM	**Kulim**	**5.29**	**40**	*e*P	**Pn**	**04 20 20.4**	**+0.6**
KGM	**Kluang**	**6.16**	**83**	P	**Pn**	**04 20 33.6**	**+1.6**
SNG	**Songkhla**	**6.80**	**30**	P	**Pn**	**04 20 40.0**	**-1.1**
	700nm,1.0s						
NNT	**Nongplab**	**11.55**	**12**	P	**P**	**04 21 45.9**	**-0.8**
	2μm,1.2s						
KSM	**Kuching**	**13.10**	**89**	*e*P	**P**	**04 22 08.5**	**+1.0**
NST	**Nakhon Sawan**	**14.62**	**11**	P	**P**	**04 22 25.7**	**-2.0**
KKTK	**Khon Kaen**	**15.98**	**20**	⇑P	**P**	**04 22 49.2**	**+3.9**
	2μm,0.7s						
BDT	**Bhumibol Dam**	**16.00**	**6**	P	**P**	**04 22 48.0**	**+2.5**
	33nm,0.6s						
CM31	**Chiang Mai Arr**	**17.19**	**6**	*e*P	**P**	**04 22 59.2**	**-1.3**
	71nm,0.7s						
PALK	**Pallekele**	**17.50**	**290**	*e*P	**P**	**04 23 03.2**	**-1.3**
	166nm,1.4s						
NANT	**Nan**	**17.78**	**11**	⇑P	**P**	**04 23 05.0**	**-2.9**
	1μm,0.8s						
CHRT	**Chiangrai**	**18.68**	**8**	⇑P	**P**	**04 23 16.5**	**-2.5**
	613nm,0.7s						
KKM	**Kota Kinabalu**	**19.56**	**75**	*e*P	**P**	**04 23 28.7**	**-0.6**
KKM	**Kota Kinabalu**	**19.56**	**75**	P	**P**	**04 23 29.4**	**+0.1**
TSM	**Tawau**	**20.86**	**81**	P	**P**	**04 23 42.9**	**-0.2**
VIS	**Vishakhapatnam**	**21.31**	**321**	*e*P	**P**	**04 23 48.6**	**+1.1**
VIS				*e*S	**S**	**04 27 37.8**	**-0.3**
QIZ	**Qiongzhong**	**21.58**	**34**	P	**P**	**04 23 50.0**	**-0.3**
QIZ				AP		04 23 56.8	
QIZ				S	**S**	**04 27 44.0**	**+0.7**
QIZ				AMB	AMB		
	comp=Z,94nm,1.6s,mb5.0						
QIZ				LR	LR		
	comp=N,4μm,15.2s						
QIZ	**Qiongzhong**	**21.58**	**34**	*e*P	**P**	**04 23 49.5**	**-0.8**
	comp=N,132nm,1.2s,mb5.2						
KMI	**Kunming**	**24.33**	**12**	⇑P	**P**	**04 24 19.5**	**+2.1**
KMI				AP		04 24 26.5	
KMI				XP		04 24 30.0	
KMI				PP	PP	04 24 55.8	+3.0
KMI				S	**S**	**04 28 37.3**	**+5.1**
KMI				XS		04 28 49.0	
KMI				SS	SS	04 29 30.5	+4.1
KMI				AMB	AMB		
	comp=Z,301nm,1.2s,mb5.6						
KMI				AMB	AMB		
	comp=Z,1μm,3.1s						
KMI				LR	LR		
	comp=N,8μm,14.3s,MS5.4						
KMI				LR	LR		
	comp=E,4μm,14.4s,MS5.4						
KMI				LR	LR		
	comp=Z,9μm,14.4s,MS5.4						
HYB	**Hyderabad**	**24.38**	**312**	*e*P	**P**	**04 24 19.0**	**+1.0**
HYB				*e*S	**S**	**04 28 35.0**	**+1.8**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
HYB	**Hyderabad**	**24.38**	**312**	*e*P	**P**	**04 24 19.0**	**+1.0**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**04 28 35.0**	**+1.8**
HYB	**Hyderabad**	**24.38**	**312**	*i* P	**P**	**04 24 19.0**	**+1.0**
	comp=Z,60nm,1.0s,mb5.0						
HYB				*e*S	**S**	**04 28 35.0**	**+1.8**
SHL	**Shillong**	**24.72**	**348**	*e*P	**P**	**04 24 21.0**	**-0.1**
SHL				*e*S	**S**	**04 28 40.0**	**+1.2**
BLSP	**Bilaspur**	**25.42**	**326**	*e*P	**P**	**04 24 28.6**	**+0.8**
BLSP				*e*		04 29 40.8	
GYA	**Guiyang**	**26.67**	**19**	⇑*i*P	**P**	**04 24 38.8**	**-0.5**
GYA				AP	pP	04 24 45.5	-0.7
GYA				XP	sP	04 24 48.5	-0.8
GYA				PP	PP	04 25 23.0	-0.8
GYA				S	**S**	**04 29 10.0**	**-1.2**
GYA				AMB	AMB		
	comp=Z,170nm,0.9s,mb5.6						
GYA				AMB	AMB		
	comp=Z,830nm,5.1s						
GYA				LR	LR		
	comp=N,6μm,13.8s,MS5.3						
GYA				LR	LR		
	comp=E,3μm,15.3s,MS5.3						
GYA				LR	LR		
	comp=Z,9μm,13.2s,MS5.5						
KAD	**Karad**	**27.70**	**307**	*e*P	**P**	**04 24 49.8**	**+1.0**
KAD				*e*	pP	04 24 56.6	+0.9
	comp=Z,36nm,1.7s						
KAD				AMb	AMB	04 25 04.6	
	comp=Z,47nm,1.3s,mb5.0						
JIRN	**Jiri**	**28.31**	**339**	*e*P	**P**	**04 24 55.4**	**+1.2**
	comp=Z,50nm,0.8s,mb5.2						
PKI	**Pulchoki**	**28.51**	**338**	*e*P	**P**	**04 24 56.8**	**+0.7**
	comp=Z,284nm,1.3s,mb5.8						
PKI	**Pulchoki**	**28.51**	**338**	*e*P	**P**	**04 24 56.8**	**+0.7**
PKI				pmax	pmax		
	comp=Z,142nm,1.3s,mb5.5						
DMN	**Daman**	**28.66**	**337**	*e*P	**P**	**04 24 58.1**	**+0.7**
	comp=Z,172nm,0.8s,mb5.8						
KKN	**Kakani**	**28.76**	**338**	*e*P	**P**	**04 24 58.9**	**+0.6**
	comp=Z,236nm,0.9s,mb5.9						
KKN	**Kakani**	**28.76**	**338**	*e*P	**P**	**04 24 58.9**	**+0.6**
KKN				pmax	pmax		
	comp=Z,118nm,0.9s,mb5.6						
LSA	**Lhasa**	**28.88**	**349**	*e*P	**P**	**04 25 00.2**	**+0.9**
LSA				pmax	pmax		
	comp=Z,119nm,1.0s,mb5.6						
LSA	**Lhasa**	**28.88**	**349**	*e*P	**P**	**04 25 00.2**	**+0.9**
	comp=Z,120nm,1.0s,mb5.6						
GKN	**Gorkha**	**29.20**	**337**	*e*P	**P**	**04 25 02.9**	**+0.7**
	comp=Z,235nm,0.9s,mb5.9						
KOLN	**Koldanda**	**29.42**	**335**	*e*P	**P**	**04 25 04.9**	**+0.7**
	comp=Z,162nm,0.7s,mb5.8						
CD2	**Chengdu**	**30.15**	**11**	P	**P**	**04 25 09.3**	**-1.4**
ENH	**Enshi**	**31.14**	**21**	*e*P	**P**	**04 25 18.0**	**-1.4**
	comp=Z,137nm,0.6s,mb6.0						
MBWA	**Marble Bar**	**31.33**	**137**	*e*P	**P**	**04 25 20.7**	**-0.4**
	comp=Z,34nm,1.1s,mb5.1						
PTH	**Pithoragarh**	**32.46**	**332**	*e*P	**P**	**04 25 32.2**	**+1.2**
NDI	**New Delhi**	**33.30**	**327**	*e*P	**P**	**04 25 37.5**	**-0.8**
NDI				*e*		04 31 54.0	
WHN	**Wuhan**	**33.37**	**28**	*e*P	**P**	**04 25 39.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*e*P	**P**	**04 25 43.2**	**-0.8**
	comp=Z,10nm,0.6s,mb4.9						
FITZ				*e*		04 25 53.2	
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**04 25 43.3**	**-0.8**
	comp=Z,13nm,0.6s,mb5.0,baz=320,slow=3.7,SNR=20						
FITZ				pP	pP	04 25 52.5	+1.5
	comp=Z,38nm,0.8s,baz=279,slow=2.2,SNR=14						
XAN	**Xi'an**	**34.42**	**17**	P	**P**	**04 25 46.8**	**-1.1**
XAN				AP	pP	04 25 54.5	-0.4
XAN				AMB	AMB		
	comp=Z,159nm,0.8s,mb6.0						
LZH	**Lanzhou**	**35.21**	**9**	⇑*i*P	**P**	**04 25 54.5**	**-0.2**
LZH				AP	pP	04 26 01.5	-0.2
LZH				XP	sP	04 26 04.8	+0.1
LZH				PP	PP	04 27 15.0	+1.1
LZH				*e*S	**S**	**04 31 26.0**	**+0.2**
LZH				XS		04 31 39.0	
LZH				SS	SS	04 33 44.0	+1.2
LZH				AMB	AMB		
	comp=Z,108nm,1.4s,mb5.6						
LZH				AMB	AMB		
	comp=Z,650nm,4.0s						
LZH				LR	LR		
	comp=E,4μm,14.8s						
LZH				LR	LR		
	comp=Z,5μm,17.3s,MS5.3						
SMLA	**Simla**	**35.26**	**329**	⇓*i*	**P**	**04 25 45.1**	**-10**
SMLA				*i*		04 30 58.2	
NJ2	**Nanjing**	**36.82**	**32**	*e*P	**P**	**04 26 09.0**	**+0.7**
NJ2				AP	pP	04 26 18.0	+2.6
NJ2				XP	sP	04 26 19.5	+1.1
NJ2				PP	PP	04 27 36.0	+1.9
NJ2				S	**S**	**04 31 54.0**	**+3.3**
NJ2				XS		04 32 04.0	
NJ2				AMB	AMB		
	comp=Z,340nm,0.8s,mb6.2						
NJ2				AMB	AMB		
	comp=Z,380nm,5.0s						
NJ2				LR	LR		
	comp=N,5μm,14.3s,MS5.5						
NJ2				LR	LR		
	comp=E,4μm,15.8s,MS5.5						
NJ2				LR	LR		
	comp=Z,2μm,14.8s,MS5.1						
SSE	**Sheshan**	**37.37**	**35**	*e*P	**P**	**04 26 13.5**	**+0.5**
SSE				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,493nm,7.3s						
SSE				LR	LR		
	comp=N,993nm,21.1s,MS4.7						
SSE				LR	LR		
	comp=E,824nm,21.1s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,19.1s,MS4.8						
KAKA	**Kakadu**	**37.62**	**113**	*e*P	**P**	**04 26 13.1**	**-2.0**
	comp=Z,29nm,0.7s,mb5.1						
MUN	**Mundaring**	**37.63**	**153**	⇓*i*P	**P**	**04 26 16.0**	**+0.9**
	comp=Z,14nm,0.8s,mb4.8						
MUN	**Mundaring**	**37.63**	**153**	⇓*i*P	**P**	**04 26 16.0**	**+0.9**
MUN				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.8						
KLBR	**Kellerberrin**	**38.04**	**151**	⇓*i*P	**P**	**04 26 19.0**	**+0.5**
	comp=Z,167nm,0.7s,mb5.9						
GTA	**Gaotai**	**38.06**	**3**	⇑*i*P	**P**	**04 26 19.0**	**+0.4**
GTA				AP	pP	04 26 28.5	+2.8
GTA				XP	sP	04 26 32.0	+3.3
GTA				SCP		04 32 21.5	
GTA				SCS	ScS	04 36 27.5	+0.5
GTA				AMB	AMB		
	comp=Z,101nm,0.8s,mb5.6						
GTA				AMB	AMB		
	comp=Z,607nm,6.6s						
GTA				LR	LR		
	comp=N,2μm,14.7s,MS5.2						
GTA				LR	LR		
	comp=E,2μm,14.4s,MS5.2						
GTA				LR	LR		
	comp=Z,2μm,15.3s,MS5.0						
NWAO	**Narrogin (SRO)**	**38.90**	**153**	*e*P	**P**	**04 26 25.7**	**0.0**
NWAO				pmax	pmax		
	comp=Z,44nm,1.0s						
NWAO	**Narrogin (SRO)**	**38.90**	**153**	P	**P**	**04 26 26.6**	**+0.9**
	comp=Z,42nm,0.9s,mb5.2,baz=324,slow=11,SNR=27						
NWAO	**Narrogin (SRO)**	**38.90**	**153**	*e*P	**P**	**04 26 25.7**	**-0.1**
	comp=Z,44nm,1.0s,mb5.1						
JOW	**Kunigami**	**39.21**	**47**	P	**P**	**04 26 29.1**	**+0.7**
	comp=Z,79nm,0.6s,mb5.6,baz=254,slow=8.3,SNR=34						
JOW				pP	pP	04 26 36.1	+0.7
	comp=Z,65nm,0.7s,baz=275,slow=9.4,SNR=6.9						
TIA	**Tai'an**	**39.39**	**26**	*e*P	**P**	**04 26 29.3**	**-0.5**
TIA				LR	LR		
	comp=N,4μm,13.0s,MS5.5						
TIA				LR	LR		
	comp=E,3μm,13.0s,MS5.5						
BTO	**Baotou**	**40.87**	**15**	*e*P	**P**	**04 26 42.5**	**+0.6**
BTO				S	**S**	**04 32 53.0**	**+1.4**
BTO				AMB	AMB		
	comp=Z,34nm,0.7s,mb5.1						
BTO				LR	LR		
	comp=E,3μm,11.8s						
HHC	**Hu-ho-hao-te**	**41.51**	**16**	*e*P	**P**	**04 26 49.0**	**+1.7**
HHC				AP	pP	04 26 58.5	+4.1
HHC				XP	sP	04 27 02.5	+5.2
HHC				PP	PP	04 28 26.5	+0.2
HHC				SCP		04 32 34.8	
HHC				PCS		04 32 38.3	
HHC				S	**S**	**04 33 01.5**	**+0.2**
HHC				XS		04 33 14.5	
HHC				AMB	AMB		
	comp=Z,35nm,0.5s,mb5.2						
HHC				AMB	AMB		
	comp=Z,377nm,3.2s						
HHC				LR	LR		
	comp=N,3μm,15.9s,MS5.4						
HHC				LR	LR		
	comp=E,3μm,16.7s,MS5.4						
HHC				LR	LR		
	comp=Z,3μm,17.6s,MS5.2						
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**04 26 51.9**	**-0.1**
WRA				*PP	pP	04 26 59.6	+0.5
WRA				S	**S**	**04 33 06.2**	**-3.4**
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**04 26 51.9**	**-0.1**
	comp=Z,8.8nm,0.5s,mb4.7,baz=302,slow=9.2,SNR=58						
WRA				pP	pP	04 26 59.6	+0.5
	comp=Z,17nm,0.7s,baz=302,slow=9.0,SNR=17						
WRA				ScP		04 32 37.3	
	comp=Z,2.3nm,1.1s,baz=312,slow=3.6,SNR=6.4						
WRA				S	**S**	**04 33 06.2**	**-3.4**
	comp=Z,3.3nm,1.1s,baz=297,slow=15,SNR=6.5						
WRAB	**Tennant Creek**	**42.06**	**122**	P	**P**	**04 26 51.0**	**-1.0**
	comp=Z,169nm,1.1s,mb5.6,SNR=13						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**04 26 51.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**04 26 51.5**	**-0.6**
	comp=Z,31nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**42.07**	**122**	⇑*i*P	**P**	**04 26 51.7**	**-0.4**
BJT	**Baijiatuao**	**42.27**	**22**	*e*P	**P**	**04 26 54.4**	**+0.9**
BJT				pmax	pmax		
	comp=Z,122nm,0.7s						
BJT	**Baijiatuao**	**42.27**	**22**	*e*P	**P**	**04 26 54.4**	**+0.8**
	comp=Z,122nm,0.7s,mb5.6						
BJI	**Beijing**	**42.30**	**22**	P	**P**	**04 26 55.0**	**+1.3**
BJI				AP	pP	04 27 03.0	+2.2
BJI				XP	sP	04 27 06.5	+2.8
BJI				S	**S**	**04 33 16.0**	**+3.2**
BJI				AMB	AMB		
	comp=Z,150nm,0.7s,mb5.7						
BJI				LR	LR		
	comp=N,888nm,16.2s,MS5.1						
BJI				LR	LR		
	comp=E,2μm,14.1s,MS5.1						
BJI				LR	LR		
	comp=Z,868nm,19.8s						
KSH	**Kashi**	**42.73**	**336**	*e*P	**P**	**04 26 58.3**	**+1.0**
KSH				*e*AP	pP	04 27 08.3	+3.9
KSH				*e*XP	sP	04 27 10.5	+3.2
KSH				*e*PP	PP	04 28 40.0	+1.0
KSH				*e*PCP	PcP	04 28 49.5	+0.2
KSH				*e*PPP	PPP	04 29 13.5	+0.6
KSH				*e*SCP		04 32 35.5	
KSH				*e*PCS		04 32 39.5	
KSH				*e*S	**S**	**04 33 19.5**	**+0.3**
KSH				*e*XS		04 33 35.3	
KSH				*e*SS	SS	04 36 22.8	-1.3
KSH				*e*SCS	ScS	04 36 55.3	+0.6
KSH				AMB	AMB		
	comp=Z,520nm,2.0s,mb5.9						
KSH				LR	LR		
	comp=N,1μm,12.7s,MS5.3						
KSH				LR	LR		
	comp=E,2μm,14.7s,MS5.3						
WBK	**Wadi Bani Khal**	**42.78**	**303**	⇑P	**P**	**04 26 59.0**	**+1.0**
WMQ	**Urumqi**	**43.23**	**350**	⇑*i*P	**P**	**04 27 02.5**	**+1.2**
WMQ				AP	pP	04 27 08.8	+0.5
WMQ				XP	sP	04 27 12.0	+0.7
WMQ				PP	PP	04 28 45.0	+1.1
WMQ				PCP	PcP	04 28 52.0	+1.1
WMQ				PCS		04 32 43.0	
WMQ				AMB	AMB		
	comp=Z,53nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,400nm,3.5s						
WMQ				LR	LR		
	comp=N,2μm,18.6s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,18.7s,MS5.2						
WMQ				LR	LR		
	comp=Z,2μm,23.2s,MS4.9						
FORT	**Forrest**	**43.31**	**140**	⇓*i*P	**P**	**04 27 03.1**	**+1.0**
	comp=Z,2μm,0.6s						
FORT				*e*	pP	04 27 10.4	+1.2
ASPA	**Alice Springs**	**43.42**	**127**	⇑*i*P	**P**	**04 27 03.4**	**+0.3**
ASPA				*e*	pP	04 27 09.9	-0.2
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**04 27 03.0**	**-0.1**
ASAR				*PP	pP	04 27 11.9	+1.7
ASAR						04 28 51.6	
ASAR				S	**S**	**04 33 28.1**	**-1.3**
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**04 27 03.0**	**-0.1**
	comp=Z,7.1nm,0.5s,mb4.6,baz=298,slow=7.9,SNR=47						
ASAR				pP	pP	04 27 11.8	+1.7
	comp=Z,26nm,1.0s,baz=301,slow=8.2,SNR=19						
ASAR				PcP	PcP	04 28 51.5	-0.3
	comp=Z,6.1nm,0.9s,baz=304,slow=4.0,SNR=5.2						
ASAR				pPcP		04 29 01.7	
	comp=Z,3.8nm,0.7s,baz=318,slow=2.9,SNR=4.2						
ASAR				ScP		04 32 40.4	
	comp=Z,2.5nm,1.0s,baz=302,slow=3.6,SNR=5.5						
ASAR				S	**S**	**04 33 28.1**	**-1.3**
	comp=Z,2.2nm,0.9s,baz=297,slow=14,SNR=5.9						
JMDO	**Jabal Madar**	**43.42**	**302**	⇓P	**P**	**04 27 03.7**	**+0.6**
DL2	**Dalian**	**43.63**	**28**	P	**P**	**04 27 05.5**	**+0.9**
DL2				AMB	AMB		
	comp=Z,60nm,0.7s,mb5.4						
SMDO	**Samad**	**43.74**	**303**	⇑P	**P**	**04 27 06.6**	**+0.9**
SHAO	**Shalim**	**44.09**	**295**	⇑P	**P**	**04 27 09.5**	**+0.9**
BSY	**Bisya**	**44.33**	**302**	P	**P**	**04 27 11.8**	**+1.3**
	SNR=6.5						
ULHL	**Ulahol**	**44.95**	**338**	P	**P**	**04 27 15.9**	**+0.7**
	SNR=26						
KZA	**Kyzart**	**45.19**	**337**	P	**P**	**04 27 18.5**	**+1.4**
	SNR=11						
RBK	**Rabkut**	**45.23**	**294**	⇓P	**P**	**04 27 18.4**	**+0.7**
	SNR=7.2						
WHFO	**Wadi Hawf**	**45.75**	**294**	⇓P	**P**	**04 27 22.1**	**+0.3**
	SNR=30						
TKM2	**Tokmak 2**	**45.78**	**338**	P	**P**	**04 27 22.7**	**+0.9**
	SNR=21						
KS15	**Wonju Array Si**	**45.78**	**35**	*e*P	**P**	**04 27 21.9**	**+0.1**
KS15				*e*pP	pP	04 27 28.7	-0.2
AAK	**Ala-Archa**	**45.96**	**337**	P	**P**	**04 27 23.1**	**-0.1**
	comp=Z,178nm,0.8s,mb6.0,SNR=19						
AAK	**Ala-Archa**	**45.96**	**337**	*i* P	**P**	**04 27 22.6**	**-0.6**
AAK				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.9						
AAK	**Ala-Archa**	**45.96**	**337**	*e*P	**P**	**04 27 23.0**	**-0.2**
	comp=Z,34nm,1.0s,mb5.2						
ABTO	**Aybut**	**46.03**	**293**	⇓P	**P**	**04 27 24.0**	**0.0**
	SNR=14						
FRU	**Bishkek**	**46.08**	**337**	*e*P	**P**	**04 27 26.0**	**+1.9**
FRU				pmax	pmax		
	comp=Z,120nm,2.0s,mb5.5						
CHMS	**Chumysh**	**46.17**	**337**	P	**P**	**04 27 25.3**	**+0.5**
	SNR=8.5						
EKS2	**Erkin-Say**	**46.27**	**336**	P	**P**	**04 27 27.0**	**+1.4**
	SNR=37						
USP	**Ospenovka**	**46.49**	**337**	P	**P**	**04 27 28.2**	**+0.8**
	SNR=52						
SNY	**Shenyang**	**46.86**	**27**	⇑P	**P**	**04 27 30.0**	**-0.3**
SNY				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.5						
SNY				LR	LR		
	comp=N,2μm,17.4s,MS5.3						
SNY				LR	LR		
	comp=E,3μm,16.2s,MS5.3						
SNY				LR	LR		
	comp=Z,3μm,15.6s,MS5.3						
SONM	**Songino Array**	**47.09**	**8**	P	**P**	**04 27 32.6**	**+0.6**
	comp=Z,28nm,0.7s,mb5.3,baz=189,slow=8.7,SNR=117						
SONM				pP	pP	04 27 39.9	+0.8
	comp=Z,36nm,0.8s,baz=193,slow=9.2,SNR=15						
SONM				PcP	PcP	04 29 04.1	0.0
	comp=Z,2.5nm,0.4s,baz=191,slow=3.1,SNR=8.5						
SONM				pPcP		04 29 11.3	
	comp=Z,6.6nm,0.6s,baz=195,slow=4.2,SNR=4.5						
MKAR	**Makanchi Array**	**47.20**	**346**	P	**P**	**04 27 33.1**	**+0.2**
	comp=Z,26nm,0.6s,mb5.3,baz=159,slow=7.7,SNR=109						
MKAR				pP	pP	04 27 39.8	-0.3
	comp=Z,20nm,0.6s,baz=161,slow=8.4,SNR=9.7						
ULN	**Ulaanbaatar**	**47.22**	**9**	*e*P	**P**	**04 27 33.1**	**+0.1**
ULN				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
ULN	**Ulaanbaatar**	**47.22**	**9**	*e*P	**P**	**04 27 33.1**	**+0.1**
	comp=Z,25nm,0.8s,mb5.2						
ZAK	**Zakamensk**	**49.23**	**5**	*e*P	**P**	**04 27 47.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
CN2	**Changchun**	**49.26**	**27**	⇑P	**P**	**04 27 48.8**	**-0.2**
CN2				*eAP	pP	04 27 58.5	+2.3
CN2				PP	PP	04 29 43.0	-0.2
CN

IRK pmax pmax
comp=Z,84nm,1.6s,mb5.4
HIA Hailar 51.59 19 *e*P **P 04 28 06.2 -0.5**
HIA pmax pmax
comp=Z,52nm,0.8s
HIA Hailar 51.59 19 *e*P **P 04 28 06.2 -0.5**
comp=Z,52nm,0.8s,mb5.5
MAT Matsushiro 51.65 42 *e*P **P 04 28 05.0 -2.3**
MAT pmax pmax
comp=Z,23nm,1.0s,mb5.1
MAT Matsushiro 51.65 42 *e*P **P 04 28 05.0 -2.3**
comp=Z,23nm,1.0s,mb5.1
MAT Matsushiro 51.65 42 P **P 04 28 05.3 -2.0**
KURK Kurchatov 51.75 345 *i* P **P 04 28 07.7 -0.1**
KURK pmax pmax
comp=Z,39nm,1.1s,mb5.2
KURK Kurchatov 51.75 345 *e*P **P 04 28 07.2 -0.6**
comp=Z,56nm,1.0s,mb5.4
MDJ Mudanjiang 51.83 29 P **P 04 28 08.8 +0.3**
MDJ AMB AMB
comp=Z,39nm,0.7s,mb5.5
MDJ AMB AMB
comp=Z,242nm,3.8s
MDJ LR LR
comp=N,739nm,15.9s,MS5.0
MDJ LR LR
comp=E,808nm,17.7s,MS5.0
MDJ LR LR
comp=Z,1μm,16.5s,MS5.1
MDJ Mudanjiang 51.83 29 *e*P **P 04 28 08.3 -0.2**
comp=Z,32nm,0.8s,mb5.3
CTA Charters Tower 52.52 117 *e*P **P 04 28 19.3 +5.2**
comp=Z,5.4nm,0.6s,mb4.7
CTA Charters Tower 52.52 117 P **P 04 28 14.1 0.0**
comp=Z,2.0nm,0.4s,mb4.4,baz=304,slow=12,SNR=4.2
CTA pP pP 04 28 22.4 +1.2
comp=Z,4.1nm,0.4s,baz=274,slow=11,SNR=4.4
CTA Charters Tower 52.52 117 P **P 04 28 14.1 0.0**
CTA *e*P 04 28 19.3
CTA pP pP 04 28 22.4 +1.2
CTAO Charters Tower 52.52 117 P **P 04 28 12.1 -2.0**
CTAO pmax pmax
comp=Z,36nm,1.4s,mb5.1
CTAO Charters Tower 52.52 117 P **P 04 28 12.1 -1.9**
comp=Z,36nm,1.4s,mb5.1
STKA Stephens Creek 53.38 132⇓ *i* P **P 04 28 20.2 -0.1**
comp=Z,23nm,0.9s,mb5.1
STKA *e* pP 04 28 27.3 -0.3
STKA Stephens Creek 53.38 132 P **P 04 28 20.3 0.0**
comp=Z,28nm,0.8s,mb5.2,baz=305,slow=7.2,SNR=38
STKA pP pP 04 28 27.9 +0.4
comp=Z,30nm,0.8s,baz=312,slow=6.6,SNR=18
NVS Novosibirsk 54.63 350 *i* P **P 04 28 27.6 -1.5**
NVS *i* S **S 04 36 05.0 -0.8**
NVS pmax pmax
comp=N,60nm,1.4s
NVS pmax pmax
comp=E,26nm,1.4s
NVS pmax pmax
comp=Z,68nm,1.4s,mb5.5
NVS smax
comp=N,30nm,1.8s
NVS smax
comp=E,48nm,1.8s
RAYN Ar Rayn 54.74 298 P **P 04 28 28.1 -2.3**
comp=E,122nm,0.9s,SNR=22
ATD Arta Tunnel 54.88 283 P **P 04 28 31.4 -0.1**
comp=E,18nm,1.0s,mb5.0,baz=108,slow=23,SNR=9.8
ATD Arta Tunnel 54.88 283 P **P 04 28 31.4 -0.1**
BVA0 Borovoye Array 56.21 341 *i* P **P 04 28 39.3 -1.3**
BVA0 pmax pmax
comp=Z,13nm,1.7s,mb4.7
BVAR Borovoye Array 56.21 341 P **P 04 28 39.4 -1.2**
comp=Z,16nm,0.7s,mb5.2,baz=143,slow=8.7,SNR=56
BVAR pP pP 04 28 47.7 -0.1
comp=Z,13nm,0.7s,baz=149,slow=8.9,SNR=11
KLR Kul'dur 56.21 27⇓ *e*P **P 04 28 37.5 -3.2**
KLR *e* 04 30 46.8
KLR pmax pmax
comp=N,28nm,1.0s
KLR pmax pmax
comp=E,36nm,1.0s
KLR pmax pmax
comp=Z,56nm,1.0s,mb5.5
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,3μm,14.0s,MS5.5
CHKZ Chkalovo 56.68 341 P **P 04 28 43.2 -0.8**
CHKZ pmax pmax
comp=Z,55nm,1.0s,mb5.5
BOD Bodaibo 57.96 11 *e*P **P 04 28 51.7 -1.2**
BOD pmax pmax
comp=Z,40nm,1.1s,mb5.4
ASAJ Asahikawa 58.62 37 P **P 04 28 57.6 -0.2**
comp=Z,4.9nm,0.3s,mb5.0,baz=233,slow=32,SNR=3.4
ASAJ pP pP 04 29 06.2 +1.1
comp=Z,22nm,0.9s,baz=249,slow=26,SNR=3.1
BHD Baghdad 58.81 309 *e*P **P 04 28 51.0 -8.2**
CLNS Chul'man 59.70 17 *e*P **P 04 29 05.2 +0.2**
CLNS *e**PP pP 04 29 11.7 -0.7
CLNS *e*S **S 04 37 04.3 -8.2**
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=Z,45nm,0.7s,mb5.6
CLNS pmax pmax
comp=E,18nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
CLNS smax
comp=N,287nm,3.7s
CLNS smax
comp=Z,236nm,3.7s
CLNS smax
comp=E,203nm,3.9s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,15.0s,MS5.2
CLNS MLR MLR
comp=E,400nm,15.0s,MS5.2
KMBO Kilima Mbogo 59.99 268 *e*P **P 04 29 06.7 -0.9**
KMBO pmax pmax
comp=Z,18nm,1.4s
KMBO Kilima Mbogo 59.99 268 P **P 04 29 07.2 -0.5**
comp=Z,6.0nm,0.8s,mb4.7,baz=62,slow=9.5,SNR=20
KMBO pP pP 04 29 14.7 -0.4
comp=Z,3.3nm,0.8s,baz=56,slow=5.9,SNR=5.6
KMBO Kilima Mbogo 59.99 268 *e*P **P 04 29 06.7 -1.0**
comp=Z,18nm,1.4s,mb4.9
YSS Yuzh-Sakhalins 60.31 34 *e*P **P 04 29 08.2 -1.1**
YSS pmax pmax
comp=Z,80nm,1.1s,mb5.7
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.4
YSS Yuzh-Sakhalins 60.31 34 *i* P **P 04 29 08.6 -0.7**
ARMA Armidale 60.56 126⇑ *i*P **P 04 29 12.9 +1.6**
ARMA *e* pP 04 29 19.7 +1.1
MSL Mosul 60.91 311 *e*P **P 04 29 11.0 -2.6**
GNI Garni 61.26 316 P **P 04 29 16.1 +0.2**
comp=Z,3.4nm,0.4s,mb4.8,baz=343,slow=18,SNR=2.9
GNI pP pP 04 29 22.6 -0.7
comp=Z,18nm,0.8s,baz=327,slow=14,SNR=3.4
TI2 Plekhanov 61.94 318 *e*P **P 04 29 19.4 -1.1**
SVE Sverdlovsk 62.65 338⇑ *e*P **P 04 29 24.0 -1.0**
SVE *e* 04 30 10.5
SVE *e*S **S 04 37 50.0 -0.1**
SVE *e* 04 39 10.0
SVE pmax pmax
comp=Z,40nm,1.8s,mb5.2
SVE MLR MLR
comp=N,600nm,16.0s,MS4.9
SVE MLR MLR
comp=E,100nm,16.0s,MS4.9
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.3
ZEI Tsey 62.97 318 *e*P **P 04 29 24.3 -2.9**
ZEI *i* *PP pP 04 29 32.6 -2.0
ZEI *i* 04 31 40.3
ZEI pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
ARU Arti 63.14 337⇑ *i*P **P 04 29 26.8 -1.4**
ARU *e* 04 31 45.2
ARU *e*S **S 04 37 55.7 -0.6**
ARU *e*SS SS 04 42 01.5 -2.9
ARU pmax pmax
comp=Z,37nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,800nm,19.0s,MS4.9
ARU MLR MLR
comp=N,400nm,18.0s,MS4.9
ARU MLR MLR
comp=E,600nm,18.0s,MS4.9
ARU Arti 63.14 337 *e*P **P 04 29 26.6 -1.6**
comp=E,30nm,0.9s,mb5.4
ARU *e*pP pP 04 29 33.3 -2.3
KIV Kislovodsk 64.28 319 *e*P **P 04 29 34.8 -1.1**
KIV pmax pmax
comp=Z,17nm,0.5s,mb5.3
KIV Kislovodsk 64.28 319 *e*P **P 04 29 34.8 -1.1**
comp=Z,17nm,0.5s,mb5.3
ASF Jabal al Asfar 64.44 305 P **P 04 29 34.8 -2.3**
comp=Z,8.0nm,0.8s,mb4.8,baz=328,slow=5.8,SNR=14
ASF pP pP 04 29 43.4 -1.1
comp=Z,3.2nm,0.6s,baz=6.3,slow=6.9,SNR=2.7
GOF Gofitskoye 64.53 320 *e*P **P 04 29 36.0 -1.5**
MALT Malatya 65.10 312 *e*P **P 04 29 40.2 -1.1**
MALT *e**PP pP 04 29 47.3 -1.4
MALT pmax pmax
comp=Z,19nm,1.2s,mb5.0
MALT Malatya 65.10 312 *e*P **P 04 29 40.2 -1.1**
comp=Z,19nm,1.2s,mb5.0
MALT *e*pP pP 04 29 47.3 -1.4
YAK Yakutsk 65.38 16 *e*P **P 04 29 40.9 -1.8**
YAK *e**PP pP 04 29 47.5 -2.6
YAK *e* 04 30 12.0
YAK *e* 04 32 05.9
YAK *e*S S 04 38 23.3 -0.5
YAK *e**SS 04 38 41.0
YAK *e* 04 39 31.7
YAK *e*SS SS 04 42 35.1 -3.7
YAK pmax pmax
comp=Z,51nm,1.0s,mb5.5
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YAK smax
comp=N,5.0nm,1.1s
YAK MLR MLR
comp=N,900nm,14.0s,MS5.2
YAK MLR MLR
comp=Z,1μm,14.0s,MS5.2
YAK MLR MLR
comp=E,500nm,15.0s,MS5.2
YAK Yakutsk 65.38 16 *e*P **P 04 29 41.4 -1.3**
comp=E,98nm,0.9s,mb5.8
EIL Elat 65.43 302 *e*P **P 04 29 42.8 -0.9**
comp=E,44nm,1.1s,mb5.4
SOC Sochi 66.09 318 *e*P **P 04 29 45.5 -2.1**
SOC *e* 04 30 10.9
SOC *e* 04 32 15.4
SOC *e*PPP PPP 04 33 44.6 -5.9
SOC *e*S S 04 38 30.8 -2.1
SOC *e* 04 39 35.1
SOC *e*SS SS 04 42 46.9 -3.0
SOC pmax pmax
comp=Z,32nm,0.9s,mb5.3
SOC pmax pmax
comp=N,16nm,0.6s
SOC pmax pmax
comp=E,23nm,1.0s
MBAR Mbarara 66.49 269 P **P 04 29 49.1 -1.5**
comp=E,131nm,1.1s,mb5.9,SNR=14
MBAR Mbarara 66.49 269 *e*P **P 04 29 49.0 -1.6**
MBAR pmax pmax
comp=Z,37nm,1.3s,mb5.2
MBAR Mbarara 66.49 269 *e*P **P 04 29 49.0 -1.6**
comp=Z,38nm,1.3s,mb5.3
CASY Casey 68.05 174⇑ *i*P **P 04 29 59.3 -0.3**
ANN Anapa 68.07 318 *e*P **P 04 29 52.3 -7.8**
ANN pmax pmax
comp=Z,145nm,1.6s,mb5.8
BRTR Keskin Array B 69.08 312 P **P 04 30 05.0 -1.4**
comp=Z,2.7nm,0.5s,mb4.5,baz=127,slow=6.2,SNR=15
BRTR pP pP 04 30 12.1 -1.8
comp=Z,4.3nm,0.7s,baz=138,slow=6.2,SNR=12
VOR Voronezh 69.73 326 P **P 04 30 09.0 -1.2**
VOR pmax pmax
comp=Z,70nm,1.4s,mb5.4
LSZ Lusaka 70.13 253 *e*P **P 04 30 11.8 -1.4**
LSZ pmax pmax
comp=Z,45nm,1.5s,mb5.2
LSZ Lusaka 70.13 253 *e*P **P 04 30 11.8 -1.4**
comp=Z,45nm,1.5s,mb5.2
SIM Simferopol' 70.33 318 P **P 04 30 13.2 -0.8**
SIM *e*S S 04 39 21.0 -2.4
SIM pmax pmax
comp=Z,17nm,0.7s,mb5.1
SIM MLR MLR
comp=Z,250nm,17.0s,MS4.5
MA2 Magadan 71.29 26⇑ *i*P **P 04 30 19.3 -0.2**
DZM Mont Dzumac 71.30 114 P **P 04 30 19.7 -0.6**
comp=Z,3.7nm,1.0s,mb4.3,baz=258,slow=15,SNR=2.4
DZM pP pP 04 30 28.0 +0.4
comp=Z,7.3nm,1.1s,baz=284,slow=4.8,SNR=3.7
PET Petropavlovsk 72.19 34 *i* P **P 04 30 24.3 -0.7**
MOS Moscow 72.30 329 *e*P **P 04 30 26.6 +1.0**
MOS pmax pmax
comp=Z,83nm,1.4s,mb5.5
OBN Obninsk 72.58 328⇓ *e*P **P 04 30 27.0 -0.3**
OBN *i* S S 04 39 49.3 +0.1
OBN pmax pmax
comp=Z,61nm,1.2s,mb5.4
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.7
OBN Obninsk 72.58 328 *e*P **P 04 30 26.3 -1.0**
comp=Z,23nm,0.8s,mb5.2
OBN *e*pP pP 04 30 32.6 -2.1
MAW Mawson 72.76 193⇓ *i*P **P 04 30 27.7 -0.4**
comp=Z,9.3nm,0.9s,mb4.7
MAW Mawson 72.76 193⇓ *i*P **P 04 30 27.7 -0.4**
MAW pmax pmax
comp=Z,9.0nm,0.9s
MAW Mawson 72.76 193 P **P 04 30 27.8 -0.2**
comp=Z,11nm,0.9s,mb4.8,baz=3.9,slow=7.8,SNR=9.3
TIXI Tiksi 73.14 10⇑ *i*P **P 04 30 29.1 -1.2**
LBTB Lobatse 73.91 244 *e*P **P 04 30 34.5 -1.2**
LBTB pmax pmax
comp=Z,45nm,1.0s,mb5.3
LBTB Lobatse 73.91 244 *e*P **P 04 30 34.5 -1.2**
comp=Z,45nm,1.0s,mb5.3
TIRR Tirgusor 74.09 316⇑ P **P 04 30 39.9 +3.6**
CFR Carcaliu 74.46 317⇑ P **P 04 30 42.9 +4.5**
KIS Kishinev 74.47 319 *e*P **P 04 30 32.0 -6.4**
BOSA Boshof 74.81 240 P **P 04 30 40.4 -0.4**
comp=Z,18nm,0.9s,mb5.0,baz=82,slow=6.2,SNR=21
IDI Anoyia 74.88 306 P **P 04 30 40.0 -1.1**
comp=Z,7.7nm,0.8s,mb4.7,baz=108,slow=9.6,SNR=4.3
IDI pP pP 04 30 46.6 -1.9
comp=Z,6.4nm,0.7s,baz=59,slow=8.5,SNR=2.7
AKASG Malin Array Be 75.22 322 P **P 04 30 41.3 -1.4**
comp=Z,1.9nm,0.4s,mb4.4,baz=83,slow=5.8,SNR=15
AKASG pP pP 04 30 48.4 -1.8
comp=Z,9.2nm,0.7s,baz=89,slow=5.1,SNR=19
VRI Vrincioaia 75.59 317⇑ *i*P **P 04 30 45.0 +0.1**
MLR Muntele Rosu 76.04 317⇑ *i*P **P 04 30 46.3 -1.1**
BURAR Bucovina Array 76.99 319⇑ P **P 04 30 53.3 +0.6**
MNK Minsk 77.11 326 *e*P **P 04 30 57.0 +3.7**
LVZ Lovozero 78.79 340 *e*P **P 04 31 07.6 +5.4**
VSU Vasula 78.81 330 *i* P **P 04 31 03.1 +0.6**
KWP Kalwaria 79.04 320 *e*P **P 04 31 04.2 +0.3**
KWP Kalwaria 79.04 320 *e*P **P 04 31 04.2 +0.3**
BZS Buzias 79.05 316⇑ P **P 04 31 03.1 -1.0**
APA Apatity 79.08 339⇓ *i*P **P 04 31 10.8 +7.0**
APA pmax pmax
comp=Z,16nm,1.0s,mb4.9
APA MLR MLR
comp=Z,1μm,15.0s,MS5.3
KOLS Kolonicke sedl 79.19 320 *i* P **P 04 31 05.4 +0.7**
KOLS *e*pP pP 04 31 11.9 -0.4
SUR Sutherland 79.19 237 *e*P **P 04 31 05.3 +0.2**
comp=Z,96nm,1.4s,mb5.5
RPZ Rata Peaks 79.24 135 P **P 04 31 05.5 +0.4**
comp=Z,15nm,0.7s,mb5.0,baz=226,slow=3.9,SNR=4.5
RPZ pP pP 04 31 13.4 +0.8
comp=Z,14nm,0.6s,baz=5.1,slow=9.6,SNR=3.1
SUW Suwalki 79.64 325 *e*P **P 04 31 07.1 0.0**
FINES FINESS Array B 79.96 332 P **P 04 31 08.8 +0.1**
comp=Z,1.7nm,0.5s,mb4.2,baz=101,slow=6.0,SNR=15
FINES pP pP 04 31 15.5 -0.7
comp=Z,6.4nm,0.7s,baz=100,slow=4.3,SNR=15
KAF Kangasniemi 80.04 333 *e*P **P 04 31 13.9 +4.8**
comp=Z,14nm,0.7s,mb5.0,baz=102,slow=5.0
KAF Kangasniemi 80.04 333 *e*P **P 04 31 13.9 +4.8**
KAF pmax pmax
comp=Z,14nm,0.7s,mb5.0
NIE Niedzica 80.53 320 *e*P **P 04 31 10.8 -1.2**
PSZ Piszkesteto 80.58 318 *e*P **P 04 31 10.6 -1.6**
PSZ pmax pmax
comp=Z,37nm,1.5s,mb5.1
PSZ Piszkesteto 80.58 318 *e*P **P 04 31 10.6 -1.7**
comp=Z,37nm,1.5s,mb5.1
TSUM Tsumeb 80.61 250 *e*P **P 04 31 13.2 +0.3**
comp=Z,26nm,1.0s,mb5.1
OJC Ojcow 80.99 321 *e*P **P 04 31 14.1 -0.3**
BILL Bilibino 81.12 21 *e*P **P 04 31 13.6 -1.1**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BILL Bilibino 81.12 21 *e*P **P 04 31 13.6 -1.1**
comp=Z,4.8nm,0.6s,mb4.6
PKSM Moragy 81.19 316⇓ *e*P **P 04 31 14.9 -0.6**
VYHS Vyhne 81.36 319 *e*P **P 04 31 17.8 +1.5**
VYHS *e* 04 31 23.1
OKC Ostrava-Krasne 81.99 320 *e*P **P 04 31 20.0 +0.4**
OKC *e*pP pP 04 31 26.0 -1.1
OKC *e*S S 04 41 31.6 +0.8
KEV Kevo 82.06 341 *e*p **P 04 31 23.8 +4.3**
comp=Z,25nm,0.9s,mb5.2
KEV Kevo 82.06 341 *e*P **P 04 31 23.8 +4.3**
KEV pmax pmax
comp=Z,25nm,0.9s,mb5.1
MORC Moravsky Berou 82.37 320 *e*P **P 04 31 21.0 -0.5**
MORC pmax pmax
comp=Z,13nm,1.0s,mb4.8
MORC Moravsky Berou 82.37 320 *e*P **P 04 31 21.0 -0.5**
comp=Z,13nm,1.0s,mb4.8
ZST Bratislava 82.47 318 *e*P **P 04 31 23.2 +1.1**
ZST *e* pP 04 31 29.3 -0.3
ARCES ARCESS Array B 82.49 340 P **P 04 31 23.0 +1.2**
comp=Z,8.5nm,1.0s,mb4.7,baz=96,slow=5.2,SNR=14
ARCES pP pP 04 31 29.8 +0.4
comp=Z,15nm,1.0s,baz=90,slow=5.2,SNR=5.5
URZ Urewera 82.84 129 P **P 04 31 24.9 +0.6**
comp=Z,2.5nm,0.3s,mb4.7,baz=280,slow=11,SNR=2.6
URZ pP pP 04 31 32.0 +0.2
comp=Z,13nm,1.1s,baz=214,slow=3.5,SNR=3.0
DPC Dobruska-Polom 83.22 320 *e*P **P 04 31 26.5 +0.6**
DPC *e*pP pP 04 31 33.4 -0.1
DPC *e*S S 04 41 39.4 -3.9
DPC AMS AMS 05 12 10.0
comp=Z,400nm,15.7s
KSP Ksiaz 83.29 321 *e*P **P 04 31 26.6 +0.3**
KSP *e**PP pP 04 31 32.9 -0.9
KSP *e*S S 04 41 41.0 -3.0
UPC Upice 83.43 321 *e*P **P 04 31 27.7 +0.7**
UPC *e*pP pP 04 31 33.9 -0.7
BOJS Bojanci 83.47 316 *i* P **P 04 31 27.4 +0.1**
BOJS *e* pP 04 31 34.0 -0.8
LJU Ljubljana 84.02 316 *e*P **P 04 31 30.4 +0.3**
LJU *i* pP 04 31 37.2 -0.4
LJU *i* 04 31 45.1
SDI San Donato 84.24 312 *e*P **P 04 31 30.9 -0.4**
PRU Pruhonice 84.32 320 *e*P **P 04 31 32.0 +0.5**
PRU *e**PP pP 04 31 38.8 -0.3
PRU MLR MLR
comp=Z,300nm,16.9s,MS4.8
PRU Pruhonice 84.32 320 *e*P **P 04 31 32.0 +0.5**
PRU *e*pP pP 04 31 38.8 -0.3
PRU *e*S S 04 42 10.5 +16
PRU AMS AMS 05 16 00.0
comp=Z,300nm,16.9s
PVCC Panska Ves 84.35 320 *e*P **P 04 31 32.4 +0.7**
PVCC *e*pP pP 04 31 38.9 -0.3
PVCC AMS AMS 05 08 20.0
comp=Z,300nm,16.7s
PTQR Pietraquaria 84.56 312 *e*P **P 04 31 33.0 0.0**
BRG Berggiesshubel 84.78 321 *e*P **P 04 31 34.4 +0.6**
BRG *e* pP 04 31 40.9 -0.5
BRG *e* 04 38 26.5
GEC2 GERESS Array S 84.78 319 *e*P **P 04 31 34.1 +0.2**
GEC2 pmax pmax
comp=Z,41nm,1.5s,mb5.3
GEC2 GERESS Array S 84.78 319 *e*P **P 04 31 34.1 +0.2**
comp=Z,41nm,1.5s,mb5.3
GERES GERESS Array B 84.78 319 P **P 04 31 34.0 +0.2**
comp=Z,11nm,1.1s,mb4.9,baz=90,slow=4.0,SNR=33
GERES pP pP 04 31 41.3 -0.1
comp=Z,6.0nm,0.8s,baz=91,slow=2.3,SNR=15
NRCA Norcia 84.82 313 *e*P **P 04 31 34.1 -0.1**
PTCC Patocco-Chiusa 84.85 316 *e*P **P 04 31 34.0 -0.3**
KHC Kasperske Hory 84.88 319 *e*P **P 04 31 33.9 -0.4**
KHC *e*pP pP 04 31 40.8 -1.1
KHC *e*S S 04 42 01.9 +2.0
KHC AMS AMS 05 05 40.0
comp=Z,300nm,19.1s
SNTG Esanatoglia 84.97 313 *e*P **P 04 31 34.2 -0.7**
ARV Arcevia 84.98 313 *e*P **P 04 31 35.4 +0.4**
WET Wettzell 85.34 319 *e*P **P 04 31 36.8 +0.2**
WET pmax pmax
comp=Z,12nm,1.0s,mb5.0
WET Wettzell 85.34 319 *e*P **P 04 31 36.8 +0.2**
comp=Z,12nm,1.0s,mb5.0
CLL Collm 85.40 321 *i* P **P 04 31 37.6 +0.7**
CLL *i* pP 04 31 43.6 -0.9
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
CLL Collm 85.40 321 *i* P **P 04 31 37.6 +0.7**
comp=Z,8.0nm,1.2s,mb4.7
CLL *i* pP 04 31 43.6 -0.9
CLL Collm 85.40 321 P **P 04 31 37.6 +0.7**
comp=Z,logA/T=0.8,mb4.7
CLL *i* *PP pP 04 31 43.6 -0.9
NKC Novy Kostel 85.69 320 *e*P **P 04 31 38.5 +0.2**
NKC *e*pP pP 04 31 45.8 -0.1
NKC *e*S tx 04 42 38.5
NKC AMS AMS 05 16 50.0
comp=Z,400nm,18.6s
SFI Santa Sofia 85.79 314 *e*P **P 04 31 40.0 +1.0**
VNDA Vanda 85.87 169 *e*P **P 04 31 38.3 -0.4**
VNDA pmax pmax
comp=Z,47nm,1.8s
VNDA Vanda 85.87 169 P **P 04 31 38.9 +0.2**
comp=Z,9.3nm,1.0s,mb5.0,baz=302,slow=5.0,SNR=33
VNDA pP pP 04 31 47.1 +0.8
comp=Z,4.4nm,0.8s,baz=83,slow=11,SNR=6.2
VNDA Vanda 85.87 169 *e*P **P 04 31 38.3 -0.4**
comp=Z,46nm,1.8s,mb5.4
VMG Vicchio 86.01 314 *e*P **P 04 31 40.8 +0.7**
CTI Castel Tesino 86.02 316 *e*P **P 04 31 40.6 +0.5**
MOX Moxa 86.24 320 *e*P **P 04 31 42.1 +1.0**
MOX pmax pmax
comp=Z,21nm,1.4s,mb5.2
MOX Moxa 86.24 320 *e*P **P 04 31 42.1 +1.0**
comp=Z,21nm,1.4s,mb5.2
MOX Moxa 86.24 320 *i* P **P 04 31 42.1 +1.0**
comp=Z,logA/T=1.2,mb5.2
GRA1 Grafenberg Arr 86.45 320 *e*P **P 04 31 42.6 +0.5**
comp=Z,57nm,1.6s,mb5.5
GRA1 *e*pP pP 04 31 49.5 -0.2
GRF Grafenberg Arr 86.45 320 *e*P **P 04 31 42.6 +0.5**
GRF *e**PP pP 04 31 49.5 -0.2
GRF pmax pmax
comp=Z,57nm,1.6s,mb5.5
GRF Grafenberg Arr 86.45 320 *e*P **P 04 31 42.6 +0.5**
GRF *e*PP pP 04 31 49.5 -0.2
GRF pmax pmax
comp=Z,57nm,1.6s,mb5.5
GRF Grafenberg Arr 86.45 320 *e*P **P 04 31 42.6 +0.5**
comp=Z,57nm,1.6s,mb5.5
GRF *e*pP pP 04 31 49.5 -0.2
BRMO Bormio 86.92 316 *e*P **P 04 31 44.8 +0.3**
NB2 NORSAR Subarra 86.97 331 P **P 04 31 44.6 +0.2**
comp=Z,14nm,0.9s,mb5.2,baz=96,slow=4.8
NB2 NORSAR Subarra 86.97 331 P **P 04 31 44.6 +0.2**
NB2 pmax pmax
comp=Z,14nm,0.9s,mb5.2
NB2 NORSAR Subarra 86.97 331 P **P 04 31 44.6 +0.2**
baz=96,slow=5.1
NOA NORSAR Array B 86.97 331 P **P 04 31 44.9 +0.5**
comp=Z,3.6nm,0.8s,mb4.6,baz=97,slow=5.2,SNR=11
NOA pP pP 04 31 51.3 -0.6

comp=Z,8.5nm,0.8s,baz=95,slow=4.9,SNR=20
SBA Scott Base 86.97 169 *e*P **P 04 31 44.8 +0.7**
SBA pmax pmax
comp=Z,13nm,0.8s,mb5.2
SBA Scott Base 86.97 169 *e*P **P 04 31 44.8 +0.7**
comp=Z,13nm,0.8s,mb5.2
CLZ Clausthal 87.06 322 *e*P **P 04 31 45.4 +0.3**
comp=Z,8.0nm,0.8s,mb5.0
BSEG Bad Segeberg 87.16 324 *e*P **P 04 31 46.0 +0.5**
TNS Taunus Mts 88.25 320 *e*P **P 04 31 51.3 +0.5**
BFO Black Forest 88.33 318 *e*P **P 04 31 50.8 -0.4**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.8
BFO Black Forest 88.33 318 *e*P **P 04 31 50.8 -0.4**
comp=Z,8.0nm,1.2s,mb4.8
LPG La Plagne 89.44 315 *e*P **P 04 31 56.0 -0.6**
comp=Z,29nm,1.2s,mb5.2
LPG La Plagne 89.44 315 *e*P **P 04 31 56.0 -0.6**
LPG pmax pmax
comp=Z,15nm,1.2s,mb5.2
NVL N'lazarevskaya 89.64 199⇑*i*P **P 04 31 58.3 +1.4**
NVL *i**PP pP 04 32 06.2 +1.7
MAIT Maitri 89.67 199 *e*P **P 04 31 59.2 +2.1**
TNA Tin City 90.90 24 *e*P **P 04 32 02.7 -0.2**
comp=Z,2.9nm,0.7s,mb4.7
QSPA South Pole Qui 91.19 180⇓*i*P **P 04 32 04.7 +0.8**
comp=Z,13nm,1.0s,mb5.2
QSPA ⇓*i*P pP 04 32 12.6 +1.1
SNAA Sanae 94.34 198 P **P 04 32 18.5 -0.1**
comp=Z,1.7nm,0.9s,mb4.5,baz=133,slow=6.3,SNR=5.3
VNA2 Neumayer--Watz 95.92 199 *e* **P 04 32 33.7 +7.8**
VNA2 Neumayer--Watz 95.92 199⇑*i*P **P 04 32 30.0 +4.1**
VNA2 *e* 04 32 33.7
VNA2 *e* 04 42 52.4
VNA2 *e* 04 43 01.7
VNA1 Neumayer--Stat 96.27 199 *e* **P 04 32 31.8 +4.3**
VNA1 Neumayer--Stat 96.27 199⇑*i*P **P 04 32 28.7 +1.2**
VNA1 *e* 04 32 31.8
VNA1 *e* 04 42 53.4
VNA1 *e* 04 43 02.2
IMA Indian Mountai 96.54 23 *e*P **P 04 32 29.3 +0.6**
VNA3 Neumayer Olymp 96.56 198 *e* **P 04 32 32.9 +4.1**
VNA3 Neumayer Olymp 96.56 198⇑*i*P **P 04 32 29.5 +0.7**
VNA3 *e* 04 32 32.9
VNA3 *e* 04 42 49.9
VNA3 *e* 04 42 58.8
INK Inuvik 102.43 17 P Pdif 04 32 56.8 +1.5
comp=Z,0.7nm,0.8s,baz=331,slow=8.7,SNR=4.5
INK pP 04 33 02.6
comp=Z,0.9nm,0.8s,baz=276,slow=7.8,SNR=3.2
YKA Yellowknife Ar 112.05 15 PKiKP 04 37 33.4
comp=Z,0.1nm,0.3s,baz=205,slow=6.3,SNR=3.6
YKA PP PP 04 38 14.3 -7.3
comp=Z,0.9nm,0.8s,baz=328,slow=7.3,SNR=7.6
YKA PKKPbc 04 48 25.7
comp=Z,0.8nm,0.9s,baz=144,slow=3.2,SNR=11
YKA PKKPab 04 48 34.4
comp=Z,0.9nm,0.9s,baz=142,slow=4.2,SNR=9.2
YKA PKKP PKKP 04 48 45.3 +6.0
comp=Z,0.6nm,0.9s,baz=137,slow=4.0,SNR=5.0
YKA Yellowknife Ar 112.05 15 PKPdf PKPdf 04 37 33.4 -4.2
YKA PP PP 04 38 14.3 -7.3
YKA PKKPbc 04 48 25.7
YKA PKKPab 04 48 34.4
YKA PKKP PKKP 04 48 45.4 +6.0
FFC Flin Flon 122.02 13 PKP PKPdf 04 37 54.8 -2.5
SCHQ Schefferville 122.58 349 PP PP 04 39 31.5 -4.0
comp=Z,2.9nm,0.9s,baz=46,slow=5.7,SNR=3.7
MSO Missoula 124.88 26 *e*PKP PKPdf 04 37 59.8 -3.2
MSO *e* 04 38 07.1
BOZ Bozeman (W) 126.80 25 *e*PKP PKPdf 04 38 04.4 -2.3
HLID Hailey 127.16 29 *e*PKP PKPdf 04 38 03.7 -3.8
HLID *ep*PKP 04 38 12.3
ULM Lac du Bonnet 127.49 11 PKP PKPdf 04 38 04.2 -3.7
comp=Z,3.5nm,0.5s,baz=74,slow=1.3,SNR=7.1
ULM Lac du Bonnet 127.49 11 *e*PKPdf PKPdf 04 38 03.7 -4.2
PDAR Pinedale Array 130.00 26 PKP PKPdf 04 38 10.8 -2.2
comp=Z,1.5nm,0.7s,baz=162,slow=4.7,SNR=6.9
PDAR pPKP 04 38 17.6
comp=Z,1.6nm,0.7s,baz=135,slow=2.1,SNR=10
PDAR PP PP 04 40 22.9 -1.9
comp=Z,1.2nm,1.0s,baz=270,slow=1.5,SNR=3.7
MSU Marysvale 132.07 31 PKP PKPdf 04 38 15.4 -1.6
PV10 Paradox Valley 133.75 29 *e*PKP PKPdf 04 38 16.2 -3.9
PV10 *e* 04 38 25.0
ANMO Albuquerque 137.72 29 *e*PKP PKPdf 04 38 23.0 -4.6
KSU1 Kansas State U 137.89 16 PKP PKPdf 04 38 25.6 -2.1
PLCA Paso Flores 139.16 194 PKP PKPdf 04 38 26.4 -3.6
comp=Z,3.6nm,1.0s,baz=177,slow=5.5,SNR=4.4
PLCA Paso Flores 139.16 194 PKP PKPdf 04 38 26.4 -3.6
MNTX Cornudas Mount 140.85 31 *e*PKP PKPdf 04 38 31.0 -2.4
GDL2 Guadalupe Moun 140.97 30 *e*PKPpre 04 38 24.1
GDL2 *e*PKPdf PKPdf 04 38 30.5 -3.1
WVT Waverly 142.52 7 PKP PKPdf 04 38 32.6 -3.5
BDFB Brasilia 142.84 245 PKP PKPdf 04 38 34.3 -2.9
comp=Z,2.4nm,0.6s,baz=170,slow=1.0,SNR=5.6
BDFB pPKP 04 38 42.4
comp=Z,3.9nm,0.8s,baz=32,slow=2.1,SNR=3.4
MIAR Mount Ida 142.99 15 PKP PKPdf 04 38 30.1 -6.9
TXAR Lajitas Array 143.63 32 PKP PKPdf 04 38 34.1 -4.1
comp=Z,1.1nm,0.5s,baz=175,slow=0.8,SNR=40
NATX Nacogdoches 145.30 18 *e*PKPdf PKPdf 04 38 37.9 -3.2
NATX *ep*PKPdf 04 38 45.2
LRAL Lakeview Retre 145.67 6 *e*PKPdf PKPdf 04 38 38.0 -3.7
LRAL *ep*PKPdf 04 38 45.6
CFAA Coronel Fontan 146.82 203 PKPbc PKPbc 04 38 41.4 +0.7
comp=Z,4.7nm,0.7s,baz=176,slow=2.4,SNR=80
CFAA pPKPbc 04 38 50.8
comp=Z,3.2nm,0.7s,baz=145,slow=2.2,SNR=8.7
LPAZ La Paz 159.21 223 PKP PKPdf 04 38 59.3 -2.4
comp=Z,3.4nm,1.0s,baz=45,slow=3.7,SNR=7.9
LPAZ pPKP 04 39 08.2
comp=Z,2.1nm,0.9s,baz=33,slow=17,SNR=3.3
LPAZ PKPab PKPab 04 39 36.5 -0.2
comp=Z,1.3nm,0.6s,baz=90,slow=2.3,SNR=3.7
LPAZ pPKPab 04 39 46.3
comp=Z,2.4nm,0.8s,baz=119,slow=8.0,SNR=3.0
LPAZ PP PP 04 43 16.0 -2.6
comp=Z,2.4nm,1.1s,baz=109,slow=5.2,SNR=4.9
ROSC El Rosal 169.59 306 PKP PKPdf 04 39 07.9 -3.0
comp=Z,1.5nm,0.3s,baz=70,slow=16,SNR=3.6
OTAV Otavalo 175.41 289 *e*PKPdf PKPdf 04 39 10.4 -3.1

*IDC **29** 04:26:38.0±0.5, 10.13N×93.97E, mb4.3/18, mb1 4.3/18, mb1mx4.3/22, mbtmp4.3/18, Error ellipse: s-maj=23.5km s-min=14.6km az=56.0*
*BJI **29** 04:26:41.3, 9.68N×93.68E, h44km, mB4.9, mb4.7, Ms5.1, Msz4.8*
*NEIC **29** 04:26:42.4±0.4, 9.97N×93.90E, mb4.6/18, Error ellipse: s-maj=14.7km s-min=7.9km az=53.0*
ISC 29 04:26:41.7±1.9, 9.92N±0.06×93.84E±0.07, h38km±17km, h30km±.4km:pP-P,n65,σ1$26/63,mb4.4/31,MS5.0/3,4C-3D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**8.17**	**124**	P		**P**	**P**	**04 28 34.0**	**-6.6**
HYB	**Hyderabad**	**16.61**	**298**	*e*P		**P**	**P**	**04 30 38.0**	**+4.6**
HYB				*e*S		**S**	**S**	**04 33 41.0**	**+5.2**
HYB	**Hyderabad**	**16.61**	**298**	*i*P		**P**	**P**	**04 30 38.0**	**+4.6**
HYB				*e*S		**S**	**S**	**04 33 41.0**	**+5.2**
KMI	**Kunming**	**17.33**	**28**	P		**P**	**P**	**04 30 46.0**	**+3.6**
KMI				AMB	AMB				
comp=Z,13nm,1.3s									
KSM	**Kuching**	**18.40**	**116**	P		**P**	**P**	**04 30 55.3**	**-0.7**
JIRN	**Jiri**	**19.06**	**339**	*e*P		**P**	**P**	**04 31 05.0**	**+1.3**
PKI	**Pulchoki**	**19.27**	**337**	*e*P		**P**	**P**	**04 31 07.7**	**+1.7**
comp=Z,166nm,1.6s									
DMN	**Daman**	**19.43**	**336**	*e*P		**P**	**P**	**04 31 09.0**	**+1.3**
comp=Z,58nm,0.9s									
KKN	**Kakani**	**19.52**	**337**	*e*P		**P**	**P**	**04 31 09.2**	**+0.5**
comp=Z,81nm,1.1s									
LSA	**Lhasa**	**19.84**	**353**	*e*P		**P**	**P**	**04 31 10.9**	**-1.3**
comp=Z,24nm,0.7s									
GKN	**Gorkha**	**19.96**	**336**	*e*P		**P**	**P**	**04 31 12.5**	**-1.1**
comp=Z,83nm,1.0s									
KOLN	**Koldanda**	**20.20**	**333**	*e*P		**P**	**P**	**04 31 16.3**	**+0.2**
comp=Z,43nm,0.9s									
GYA	**Guiyang**	**20.44**	**35**	⇓*i*P		**P**	**P**	**04 31 20.5**	**+1.9**
GYA				AMB	AMB				
comp=Z,30nm,1.1s									
KKM	**Kota Kinabalu**	**22.49**	**98**	P		**P**	**P**	**04 31 40.4**	**+1.1**
CD2	**Chengdu**	**22.84**	**22**	P		**P**	**P**	**04 31 46.5**	**+3.8**
ENH	**Enshi**	**24.96**	**34**	P		**P**	**P**	**04 32 05.3**	**+2.0**
comp=Z,37nm,1.1s,mb4.8									
WMQ	**Urumqi**	**34.19**	**352**	⇑*i*P		**P**	**P**	**04 33 25.8**	**+0.1**
WMQ				AP	pP	04 33 35.0	-1.3		
WMQ				XP	sP	04 33 39.0	-2.1		
WMQ				PP	PP	04 34 41.0	0.0		
WMQ				PCP	PcP	04 36 02.0	-0.2		
WMQ				*e*S	**S**	**04 38 49.0**	**+0.3**		
WMQ				AMB	AMB				
comp=Z,12nm,0.8s,mb4.9									
WMQ				AMB	AMB				
comp=Z,172nm,5.4s									
WMQ				LR	LR				
comp=N,1μm,18.4s,MS4.7									
WMQ				LR	LR				
comp=E,993nm,19.0s,MS4.7									
WMQ				LR	LR				
comp=Z,1μm,22.7s,MS4.5									
HHC	**Hu-ho-hao-te**	**34.57**	**24**	*e*P		**P**	**P**	**04 33 28.5**	**-0.5**
HHC				AP	pP	04 33 37.5	-2.1		
HHC				PP	PP	04 34 46.3	+0.4		
HHC				PCP	PcP	04 36 04.0	+0.7		
HHC				S	**S**	**04 38 56.5**	**+1.9**		
HHC				XS		04 39 12.5			
HHC				PCS		04 39 46.5			
HHC				SS	SS	04 41 10.0	+2.5		
HHC				AMB	AMB				
comp=Z,22nm,0.5s,mb5.3									
HHC				AMB	AMB				
comp=Z,829nm,12.5s									
HHC				LR	LR				
comp=N,3μm,18.4s,MS5.1									
HHC				LR	LR				
comp=E,2μm,15.5s,MS5.1									
HHC				LR	LR				
comp=Z,3μm,16.1s,MS5.2									
AAK	**Ala-Archa**	**36.72**	**336**	*e*P		**P**	**P**	**04 33 45.5**	**-1.7**
comp=Z,11nm,0.8s,mb4.8									
MKAR	**Makanchi Array**	**38.04**	**347**	P		**P**		**04 33 57.6**	**-0.6**
comp=Z,3.9nm,0.8s,mb4.2,baz=162,slow=7.7,SNR=13									
SONM	**Songino Array**	**39.25**	**13**	PcP		PcP		04 36 17.2	-0.2
comp=Z,1.1nm,0.7s,baz=236,slow=5.2,SNR=5.0									
ULN	**Ulaanbaatar**	**39.43**	**14**	*e*P		**P**		**04 34 07.8**	**-1.9**
comp=Z,9.4nm,0.7s,mb4.6									
KURK	**Kurchatov**	**42.57**	**346**	*e*P		**P**		**04 34 35.2**	**-0.4**
comp=Z,5.1nm,1.1s,mb4.2									
CN2	**Changchun**	**43.48**	**33**	*e*P		**P**		**04 34 45.0**	**+1.8**
CN2				*e*S		**S**		**04 41 13.0**	**+4.3**
CN2				AMB	AMB				
comp=Z,10.0nm,0.9s,mb4.5									
CN2				AMB	AMB				
comp=Z,30nm,3.0s									
CN2				LR	LR				
comp=N,2μm,14.0s,MS5.3									
CN2				LR	LR				
comp=E,2μm,14.0s,MS5.3									
CN2				LR	LR				
comp=Z,2μm,15.0s,MS5.2									
BVAR	**Borovoye Array**	**46.97**	**341**	P		**P**		**04 35 09.9**	**-0.9**
comp=Z,1.7nm,0.8s,mb4.0,baz=153,slow=6.6,SNR=4.3									
CHKZ	**Chkalovo**	**47.45**	**341**	*e*P		**P**		**04 35 13.5**	**-1.1**
comp=Z,6.2nm,0.8s,mb4.6									
WRA	**Warramunga Arr**	**49.70**	**127**	P		**P**		**04 35 31.8**	**-0.7**
comp=Z,1.4nm,0.5s,mb4.3,baz=304,slow=8.6,SNR=20									
WRAB	**Tennant Creek**	**49.71**	**127**	*e*P		**P**		**04 35 31.8**	**-0.7**
comp=Z,10nm,0.8s,mb4.9									
WRAB				*e*	pP	04 35 41.2	-2.1		
WB2	**Warramunga Arr**	**49.71**	**127**	*e*P		**P**		**04 35 31.7**	**-0.8**
ASPA	**Alice Springs**	**51.46**	**131**	*e*P		**P**		**04 35 45.4**	**-0.4**
ASPA				*e*		04 35 52.6			
ASAR	**Alice Springs**	**51.46**	**131**	P		**P**		**04 35 44.7**	**-1.1**
comp=Z,2.8nm,0.7s,mb4.3,baz=306,slow=6.6,SNR=18									
ASAR				PcP	PcP	04 37 00.5	+0.6		
comp=Z,0.8nm,0.7s,baz=315,slow=2.4,SNR=4.7									
KIV	**Kislovodsk**	**55.62**	**317**	*e*P		**P**		**04 36 16.0**	**-0.2**
comp=Z,11nm,0.6s,mb5.1									
MALT	**Malatya**	**56.93**	**309**	P		**P**		**04 36 22.8**	**-2.9**
comp=Z,1.2nm,0.6s,mb4.1									
KMBO	**Kilima Mbogo**	**57.37**	**262**	P		**P**		**04 36 31.3**	**+2.2**
comp=Z,1.7nm,0.9s,mb4.1,baz=62,slow=7.8,SNR=4.2									
BRTR	**Keskin Array B**	**60.88**	**310**	P		**P**		**04 36 50.9**	**-2.2**
comp=Z,2.6nm,0.8s,mb4.4,baz=134,slow=8.4,SNR=12									
STKA	**Stephens Creek**	**61.73**	**134**	*e*P		**P**		**04 36 58.5**	**-0.4**
comp=Z,5.6nm,1.2s,mb4.6									
STKA	**Stephens Creek**	**61.73**	**134**	P		**P**		**04 36 59.8**	**+0.8**
comp=Z,2.3nm,0.8s,mb4.4,baz=299,slow=1.3,SNR=3.6									
CFR	**Carcaliu**	**65.94**	**315**	⇑P		**P**		**04 37 24.4**	**-1.8**
CFR	**Carcaliu**	**65.94**	**315**	⇑P		**P**		**04 37 24.4**	**-1.8**
AKASG	**Malin Array Be**	**66.38**	**321**	P		**P**		**04 37 28.4**	**-0.5**
comp=Z,1.1nm,0.6s,mb4.1,baz=87,slow=5.3,SNR=4.8									
AKASG	**Malin Array Be**	**66.38**	**321**	P		**P**		**04 37 28.4**	**-0.5**
MLR	**Muntele Rosu**	**67.51**	**315**	⇓P		**P**		**04 37 35.7**	**-0.4**
MLR	**Muntele Rosu**	**67.51**	**315**	⇓P		**P**		**04 37 35.7**	**-0.4**
BURAR	**Bucovina Array**	**68.34**	**317**	⇑P		**P**		**04 37 40.5**	**-0.8**
FINES	**FINESS Array B**	**70.78**	**332**	P		**P**		**04 37 54.9**	**-1.1**
comp=Z,0.9nm,0.7s,mb3.8,baz=90,slow=5.7,SNR=5.1									
ARCES	**ARCESS Array B**	**73.25**	**340**	P		**P**		**04 38 09.3**	**-1.2**
comp=Z,4.9nm,0.8s,mb4.5,baz=100,slow=7.2,SNR=9.1									
ARCES	**ARCESS Array B**	**73.25**	**340**	P		**P**		**04 38 09.3**	**-1.2**
MORC	**Moravsky Berou**	**73.64**	**319**	P		**P**		**04 38 06.7**	**-6.5**
comp=Z,6.8nm,1.1s,mb4.5									
LBTB	**Lobatse**	**74.96**	**241**	P		**P**		**04 38 23.3**	**+2.0**
comp=Z,2.6nm,0.7s,mb4.3,baz=90,slow=8.0,SNR=4.2									
GERES	**GERESS Array B**	**76.11**	**318**	P		**P**		**04 38 27.1**	**-0.3**
comp=Z,1.9nm,0.8s,mb4.1,baz=108,slow=4.2,SNR=12									
BOSA	**Boshof**	**76.42**	**237**	P		**P**		**04 38 31.1**	**+1.5**
comp=Z,4.2nm,0.8s,mb4.4,baz=93,slow=6.0,SNR=5.8									
HFS	**Hagfors**	**76.55**	**330**	P		**P**		**04 38 30.7**	**+1.1**
comp=Z,2.3nm,0.7s,mb4.2,baz=135,slow=6.3,SNR=5.5									
CLL	**Collm**	**76.60**	**320**	P		**P**		**04 38 32.0**	**+1.9**
NB2	**NORSAR Subarra**	**77.81**	**330**	P		**P**		**04 38 35.5**	**-1.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=91,slow=5.8									
NOA	**NORSAR Array B**	**77.81**	**330**	P		**P**		**04 38 35.7**	**-1.0**
comp=Z,1.5nm,0.8s,mb4.0,baz=92,slow=5.7,SNR=6.6									
DAVOX	**Davos**	**78.72**	**316**	P		**P**		**04 38 43.0**	**+1.1**
comp=Z,3.1nm,0.7s,mb4.3,baz=23,slow=3.8,SNR=5.3									
TSUM	**Tsumeb**	**80.48**	**249**	P		**P**		**04 38 54.0**	**+2.0**
comp=Z,1.4nm,0.7s,mb4.0,baz=334,slow=18,SNR=10									
LPG	**La Plagne**	**80.97**	**315**	*e*P		**P**		**04 38 53.3**	**-0.8**
comp=Z,19nm,1.1s,mb4.7									
SUR	**Sutherland**	**81.25**	**235**	P		**P**		**04 38 56.7**	**+0.9**
comp=Z,6.1nm,0.8s,mb4.6,baz=54,slow=13,SNR=3.8									
YKA	**Yellowknife Ar**	**104.52**	**13**	PP		PP		04 45 10.1	+4.0
comp=Z,0.1nm,0.5s,baz=326,slow=7.1,SNR=3.6									
PDAR	**Pinedale Array**	**123.38**	**20**	PKP		PKPdf		04 45 36.9	+1.6
comp=Z,1.4nm,1.1s,baz=63,slow=3.3,SNR=5.6									
MSU	**Marysvale**	**126.05**	**25**	*e*PKP		PKPdf		04 45 44.0	+3.4
TXAR	**Lajitas Array**	**137.48**	**23**	PKP		PKPdf		04 46 04.2	+1.8
comp=Z,0.4nm,0.6s,baz=169,slow=0.3,SNR=6.5									
BDFB	**Brasilia**	**142.40**	**257**	PKP		PKPdf		04 46 15.7	+4.2
comp=Z,2.4nm,1.0s,baz=156,slow=2.7,SNR=3.0									
PLCA	**Paso Flores**	**146.34**	**202**	PKPbc		PKPbc		04 46 23.1	+4.3
comp=Z,1.8nm,0.7s,baz=233,slow=2.8,SNR=6.1									

IDC 29 04:34:51.6±4.0, 1.95N×96.27E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=161.9km s-min=24.7km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.22**	**122**	P		P	P	04 42 54.7	-1.9
0.3nm,0.4s,baz=301,slow=9.2,SNR=7.1									
ASAR	**Alice Springs**	**44.59**	**127**	P		P	P	04 43 06.0	-1.7
0.4nm,0.6s,baz=300,slow=7.7,SNR=4.6									
MKAR	**Makanchi Array**	**46.30**	**347**	P		P	P	04 43 18.7	-2.2
0.6nm,0.4s,baz=158,slow=8.2,SNR=12									
SONM	**Songino Array**	**46.54**	**9**	P		P	P	04 43 21.6	-1.3
0.5nm,0.6s,baz=188,slow=8.7,SNR=3.6									

IDC 29 04:35:28.4±3.4, 1.07N×97.84E, mb3.7/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=145.2km s-min=22.0km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.42**	**122**	P		P	P	04 43 16.5	-2.0
2.3nm,1.1s,baz=303,slow=9.1,SNR=7.4									
ASAR	**Alice Springs**	**42.80**	**127**	P		P	P	04 43 28.2	-1.7
0.3nm,0.6s,baz=292,slow=7.6,SNR=2.7									
SONM	**Songino Array**	**47.17**	**8**	P		P	P	04 44 03.2	-1.4
0.2nm,0.3s,baz=185,slow=9.4,SNR=2.0									
MKAR	**Makanchi Array**	**47.53**	**346**	P		P	P	04 44 05.0	-2.4
1.0nm,0.5s,baz=158,slow=9.1,SNR=8.2									
STKA	**Stephens Creek**	**52.79**	**132**	P		P	P	04 44 46.1	-1.8
2.3nm,1.0s,baz=314,slow=11,SNR=4.2									

*STR **29** 04:38:52.3±0.3, 42.32N×2.13E, h5km±1km, Ml2.2, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
*LDG **29** 04:38:52.8±0.0, 42.34N×2.14E, h4km, Md2.5/1, Ml2.3/9, Error ellipse: s-maj=0.8km s-min=0.7km az=159.0*
MDD 29 04:38:53.3±0.2, 42.34N×2.15E, mbLg1.9/15, Error ellipse: s-maj=1.7km s-min=1.5km az=168.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBRU	**Bruguera**	**0.06**	**155**	Pg		Pg	Pg	04 38 54.5	-0.1
CBRU				Lg				04 38 55.7	
193nm,0.1s									
VALF	**Valcebollere**	**0.11**	**302**	Pg		Pg	Pg	04 38 55.2	-0.3
VALF				Sg		Sg	Sg	04 38 56.9	-0.1
VALF	**Valcebollere**	**0.11**	**302**	Pg		Pg	Pg	04 38 55.2	-0.3
VALF				Lg				04 38 57.1	
CARF	**Carcanieres**	**0.37**	**356**	Pg		Pg	Pg	04 39 00.4	-0.4
CARF				Sg		Sg	Sg	04 39 05.6	-0.2
CARF	**Carcanieres**	**0.37**	**356**	Pg		Pg	Pg	04 39 00.4	-0.4
CARF				Lg				04 39 05.5	
FILF	**Fillols**	**0.38**	**55**	Pg		Pg	Pg	04 38 58.8	-2.0
FILF				Sg		Sg	Sg	04 39 02.9	-3.0
FILF	**Fillols**	**0.38**	**55**	Pg		Pg	Pg	04 38 58.8	-2.0
FILF				Lg				04 39 03.0	
PAND	**Andorre**	**0.48**	**292**	Pg		Pg	Pg	04 39 02.0	-0.9
PAND				Lg				04 39 08.4	
EJON	**La Jonquera**	**0.56**	**79**	Pg		Pg	Pg	04 39 03.8	-0.7
0.8nm,0.1s,SNR=7.5									
EJON				Lg				04 39 11.6	
10nm,0.2s,SNR=5.0									
SJAF	**Saint Jean de**	**0.56**	**75**	Pg		Pg	Pg	04 39 03.3	-1.3
SJAF				Sg		Sg	Sg	04 39 11.0	-1.1
SJAF	**Saint Jean de**	**0.56**	**75**	Pg		Pg	Pg	04 39 03.5	-1.1
SJAF				Lg				04 39 10.7	
CFON	**Fontmartina**	**0.62**	**159**	Pg		Pg	Pg	04 39 04.6	-1.1
CFON				Lg				04 39 12.8	
20nm,0.1s									
CORG	**Organya**	**0.62**	**260**	Pg		Pg	Pg	04 39 04.7	-1.1
EMIR	**Miracle**	**0.63**	**227**	Pg		Pg	Pg	04 39 04.8	-1.0
6.9nm,0.1s,SNR=13									
EMIR				Lg				04 39 13.9	
33nm,0.1s,SNR=17									
LRDF	**Laroque-de-Fa**	**0.66**	**26**	Pg		Pg	Pg	04 39 05.9	-0.6
LRDF				Sg		Sg	Sg	04 39 15.5	+0.1
LRDF	**Laroque-de-Fa**	**0.66**	**26**	Pg		Pg	Pg	04 39 05.8	-0.7
LRDF				Lg				04 39 15.4	
CSOR	**Sort**	**0.75**	**273**	Pg		Pg	Pg	04 39 07.0	-1.3
CSOR				Lg				04 39 17.7	
7.2nm,0.2s									
SALF	**Salau**	**0.82**	**301**	Pg		Pg	Pg	04 39 08.2	-1.5
SALF				Sg		Sg	Sg	04 39 19.2	-1.4
SALF	**Salau**	**0.82**	**301**	Pg		Pg	Pg	04 39 09.1	-0.6
SALF				Lg				04 39 18.9	
MTLF	**Montolieu**	**1.00**	**3**	*e*Pg		Pg	Pg	04 39 11.6	-1.7
MTLF				*e*Sg		Sg	Sg	04 39 24.5	-2.1
MTLF				*e*Sn		Sn	Sn	04 39 26.3	-3.1
16nm,0.3s									
CAVN	**Les Avellanes**	**1.13**	**247**	Pg		Pg	Pg	04 39 14.0	-1.9
CAVN				Lg				04 39 28.8	
22nm,0.1s									
MELF	**Melles**	**1.15**	**298**	Lg				04 39 29.9	
EPOB	**Poblet**	**1.27**	**219**	Pg		Pg	Pg	04 39 16.5	-2.2
4.8nm,0.1s,SNR=30									
EPOB				Lg				04 39 33.2	
20nm,0.1s,SNR=18									
CGAR	**Garraf**	**1.29**	**216**	Lg				04 39 27.3	
7.6nm,0.2s									
RESF	**Ens**	**1.41**	**290**	Lg				04 39 38.8	
EPF	**Esparros**	**1.50**	**298**	*e*Pn		Pn		04 39 18.9	-2.6
EPF				*e*Pg		Pg		04 39 20.7	-2.5
EPF				*e*Sg		Sg		04 39 40.1	-3.1
5.4nm,0.2s									
EBIE	**Bielsa**	**1.52**	**284**	Pg		Pg		04 39 21.6	-2.0
0.6nm,0.1s,SNR=11									
EBIE				Lg				04 39 42.2	
8.1nm,0.2s,SNR=22									
ESAC	**San Caprasio**	**2.04**	**253**	Pg		Pg	Pg	04 39 30.7	-3.4
2.5nm,0.1s,SNR=7.9									
ESAC				Sn		Sn		04 39 54.4	-1.5
2.3nm,0.2s,SNR=7.9									
ESAC				Lg				04 39 57.7	
12nm,0.2s,SNR=6.4									
ETSF	**Etsaut**	**2.07**	**286**	*e*Pn		Pn		04 39 26.5	-3.2
ETSF				*e*Pg		Pg		04 39 31.5	-3.2
ETSF				*e*Sg		Sg		04 39 57.4	-4.9
6.4nm,0.3s									
LASF	**Ste Croix**	**2.14**	**35**	*e*Pn		Pn		04 39 27.7	-3.0
LASF				*e*Pg		Pg		04 39 32.4	-3.6
LASF				*e*Sg		Sg		04 39 59.9	-4.6
3.3nm,0.4s			

comp=Z,19nm,0.7s,mb4.8
ASAR Alice Springs 43.10 127 P **P** **04 46 55.9 +0.5**
comp=Z,1.1nm,0.6s,mb3.8,baz=307,slow=7.4,SNR=8.8
SONM Songino Array 47.31 8 P **P** **04 47 29.0 +0.3**
comp=Z,1.3nm,0.5s,mb4.1,baz=188,slow=7.6,SNR=9.3
SONM PcP PcP 04 48 59.9 +0.2
comp=Z,0.8nm,0.5s,baz=180,slow=6.2,SNR=3.6
SONM Songino Array 47.31 8 P **P** **04 47 29.0 +0.3**
SONM PcP PcP 04 48 59.9 +0.2
ULN Ulaanbaatar 47.44 9 *eP* **P** **04 47 29.6 -0.1**
comp=Z,1.7nm,0.6s,mb4.2
MKAR Makanchi Array 47.50 346 P **P** **04 47 30.5 +0.3**
comp=Z,3.4nm,0.5s,mb4.6,baz=159,slow=8.2,SNR=31
MKAR Makanchi Array 47.50 346 P **P** **04 47 30.5 +0.3**
KURK Kurchatov 52.05 345 *eP* **P** **04 48 04.2 -0.8**
comp=Z,3.3nm,0.7s,mb4.4
CTA Charters Tower 52.22 116 P **P** **04 48 06.5 -0.2**
comp=Z,2.9nm,0.7s,mb4.3,baz=324,slow=7.5,SNR=2.2
CTA Charters Tower 52.22 116 P **P** **04 48 06.5 -0.2**
STKA Stephens Creek 53.06 132 P **P** **04 48 14.1 +1.3**
comp=Z,1.6nm,0.7s,mb4.1,baz=333,slow=13,SNR=3.6
BVAR Borovoye Array 56.52 341 P **P** **04 48 36.6 -1.1**
comp=Z,2.8nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=10
CHKZ Chkalovo 57.00 341 *eP* **P** **04 48 39.9 -1.2**
comp=Z,6.3nm,0.8s,mb4.7
ARCES ARCESS Array B 82.81 340 P **P** **04 51 17.5 -0.7**
comp=Z,3.1nm,0.9s,mb4.3,baz=76,slow=5.0,SNR=3.6
ARCES ARCESS Array B 82.81 340 P **P** **04 51 17.5 -0.7**
GERES GERESS Array B 85.11 319 P **P** **04 51 30.8 +0.5**
comp=Z,0.2nm,0.4s,mb3.6,baz=100,slow=8.1,SNR=4.9
HFS Hagfors 86.01 330 P **P** **04 51 35.1 +0.5**
comp=Z,2.0nm,1.0s,mb4.3,baz=297,slow=3.3,SNR=5.0
NB2 NORSAR Subarra 87.30 331 P **P** **04 51 41.1 +0.3**
comp=Z,0.9nm,0.8s,mb4.0,baz=97,slow=6.2
NOA NORSAR Array B 87.30 331 P **P** **04 51 41.6 +0.8**
comp=Z,0.4nm,0.6s,mb3.8,baz=97,slow=5.4,SNR=3.4
LRAL Lakeview Retre 145.91 7 *e*PKPdf PKPdf 04 58 33.0 -4.5

BJI ***29*** *04:41:54.4,0.44N×97.22E,h20km,mB5.5,mb5.0*
NEIC ***29*** *04:41:55.3±0.5,0.30N×96.75E,mb4.4/9,Error ellipse: s-maj=16.7km s-min=10.0km az=59.0*
IDC ***29*** *04:41:55.4±0.5,0.29N×96.78E,h27km±2km,mb4.0/14, mb1 4.1/14,mb1mx4.0/18,mbtmp4.2/14,Error ellipse: s-maj=22.8km s-min=11.6km az=54.0*
ISC 29 04:41:53.6±0.5,0.35N±0.08×96.79E±0.10,h28km, h28km±.6km:pP-P,n36,σ1§44/34,mb4.3/26,2C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.24**	**38**	P	**Pn**	**04 43 28.6**	**+2.2**
CM31	**Chiang Mai Arr**	**18.12**	**7**	P	**P**	**04 46 05.2**	**-0.1**
	11nm,0.6s						
LSA	**Lhasa**	**29.68**	**350**	*e*P	**P**	**04 47 58.4**	**-1.2**
	5.0nm,0.6s,mb4.4						
ENH	**Enshi**	**32.12**	**21**	*e*P	**P**	**04 48 14.2**	**-6.8**
	12nm,0.4s,mb5.1						
FITZ	**Fitzroy Crossi**	**33.78**	**124**	P	**P**	**04 48 34.6**	**-1.0**
	3.2nm,0.4s,mb4.6,baz=336,slow=2.0,SNR=5.4						
GTA	**Gaotai**	**38.98**	**4**	*e*P	**P**	**04 49 16.5**	**-2.9**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
WRA	**Warramunga Arr**	**41.95**	**121**	P	**P**	**04 49 43.7**	**-0.4**
	comp=Z,2.4nm,0.5s,mb4.1,baz=302,slow=9.1,SNR=18						
WRA				pP	pP	04 49 52.0	-0.4
	comp=Z,2.4nm,0.8s,baz=301,slow=9.0,SNR=6.0						
WRAB	**Tennant Creek**	**41.95**	**121**	*e*P	**P**	**04 49 43.9**	**-0.3**
	comp=Z,2.5nm,0.5s,mb4.1						
WB2	**Warramunga Arr**	**41.96**	**121**	⇑*i*P	**P**	**04 49 43.7**	**-0.5**
ASAR	**Alice Springs**	**43.22**	**126**	P	**P**	**04 49 55.1**	**+0.6**
	comp=Z,0.8nm,0.4s,mb3.8,baz=293,slow=7.2,SNR=8.7						
ASAR				pP	pP	04 50 03.4	+0.6
	comp=Z,0.8nm,0.5s,baz=296,slow=6.7,SNR=4.9						
ASAR				PcP	PcP	04 51 45.1	+1.0
	comp=Z,0.9nm,0.9s,baz=322,slow=2.1,SNR=5.2						
AAK	**Ala-Archa**	**46.62**	**337**	*e*P	**P**	**04 50 22.4**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.9						
MKAR	**Makanchi Array**	**47.97**	**347**	P	**P**	**04 50 30.9**	**-1.0**
	comp=Z,4.1nm,0.5s,mb4.7,baz=161,slow=8.8,SNR=40						
MKAR				pP	pP	04 50 39.4	-1.0
	comp=Z,6.4nm,0.7s,baz=156,slow=8.9,SNR=15						
SONM	**Songino Array**	**48.03**	**9**	P	**P**	**04 50 29.1**	**-3.3**
	comp=Z,1.0nm,0.5s,mb4.1,baz=192,slow=8.9,SNR=6.1						
SONM				pP	pP	04 50 36.7	-4.1
	comp=Z,2.2nm,0.5s,baz=188,slow=9.2,SNR=11						
SONM				PcP	PcP	04 52 00.4	-0.1
	comp=Z,0.5nm,0.6s,baz=198,slow=2.5,SNR=3.5						
ULN	**Ulaanbaatar**	**48.16**	**9**	P	**P**	**04 50 31.0**	**-2.5**
	comp=Z,5.0nm,1.0s,mb4.5						
CN2	**Changchun**	**50.25**	**27**	*e*P	**P**	**04 50 52.3**	**+2.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
KURK	**Kurchatov**	**52.51**	**346**	*e*P	**P**	**04 51 05.2**	**-1.3**
	comp=Z,4.2nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**53.10**	**131**	⇑*i*P	**P**	**04 51 13.0**	**+1.8**
	comp=Z,3.0nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**53.10**	**131**	P	**P**	**04 51 13.4**	**+2.2**
	comp=Z,4.5nm,0.8s,mb4.5,baz=314,slow=4.6,SNR=8.3						
STKA				pP	pP	04 51 23.1	+3.4
	comp=Z,1.8nm,0.6s,baz=304,slow=11,SNR=2.7						
STKA	**Stephens Creek**	**53.10**	**131**	*e*P	**P**	**04 51 12.7**	**+1.5**
BVAR	**Borovoye Array**	**56.92**	**341**	P	**P**	**04 51 37.1**	**-1.6**
	comp=Z,1.3nm,0.6s,mb4.1,baz=145,slow=9.5,SNR=5.7						
BVAR				pP	pP	04 51 44.9	-2.3
	comp=Z,3.5nm,0.6s,baz=139,slow=9.2,SNR=9.4						
BVAR				sP	sP	04 51 50.3	0.0
	comp=Z,3.0nm,0.6s,baz=146,slow=11,SNR=7.7						
CHKZ	**Chkalovo**	**57.40**	**342**	*e*P	**P**	**04 51 40.4**	**-1.7**
	comp=Z,7.1nm,0.6s,mb4.9						
CHKZ				*e*	pP	04 51 48.2	-2.3
BRTR	**Keskin Array B**	**69.38**	**313**	P	**P**	**04 53 01.9**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=148,slow=7.4,SNR=4.1						
BRTR				pP	pP	04 53 10.8	+0.9
	comp=Z,0.7nm,0.7s,baz=117,slow=8.3,SNR=2.4						
MAW	**Mawson**	**71.79**	**193**	P	**P**	**04 53 13.1**	**-2.3**
	comp=Z,5.1nm,0.3s,mb4.9,baz=27,slow=2.3,SNR=38						
MAW				pP	pP	04 53 23.3	-0.8
	comp=Z,2.0nm,0.7s,baz=226,slow=18,SNR=2.1						
LBTB	**Lobatse**	**73.14**	**244**	P	**P**	**04 53 23.5**	**-0.7**
	comp=Z,2.3nm,1.0s,mb4.1,baz=103,slow=23,SNR=2.0						
LBTB				pP	pP	04 53 33.4	+0.5
	comp=Z,2.6nm,0.8s,baz=251,slow=17,SNR=3.1						
MLR	**Muntele Rosu**	**76.40**	**317**	P	**P**	**04 53 44.4**	**+2.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=45,slow=7.7,SNR=4.5						
MLR				pP	pP	04 53 52.6	+1.4
	comp=Z,1.9nm,0.7s,baz=165,slow=4.6,SNR=2.8						
MLR	**Muntele Rosu**	**76.40**	**317**	P	**P**	**04 53 44.4**	**+2.0**
MLR				pP	pP	04 53 52.6	+1.4
FINES	**FINESS Array B**	**80.56**	**333**	P	**P**	**04 54 05.5**	**+0.7**
	comp=Z,0.7nm,0.6s,mb3.8,baz=117,slow=4.3,SNR=4.8						
FINES				pP	pP	04 54 13.9	+0.3
	comp=Z,0.8nm,0.6s,baz=135,slow=2.7,SNR=2.6						
FINES	**FINESS Array B**	**80.56**	**333**	P	**P**	**04 54 05.5**	**+0.6**
FINES				pP	pP	04 54 13.9	+0.3
MORC	**Moravsky Berou**	**82.79**	**320**	P	**P**	**04 54 17.2**	**+0.5**
	comp=Z,3.6nm,1.0s,mb4.4						
ARCES	**ARCESS Array B**	**83.19**	**340**	P	**P**	**04 54 19.6**	**+1.2**
	comp=Z,17nm,1.3s,mb4.9,baz=63,slow=5.4,SNR=5.9						
ARCES				pP	pP	04 54 28.3	+1.1
	comp=Z,2.5nm,0.8s,baz=90,slow=6.1,SNR=1.9						
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**04 54 30.5**	**+1.7**
	comp=Z,0.3nm,0.3s,mb3.8,baz=117,slow=6.0,SNR=6.5						
GERES				pP	pP	04 54 39.3	+1.6
	comp=Z,0.8nm,0.7s,baz=72,slow=4.2,SNR=4.4						
HFS	**Hagfors**	**86.25**	**330**	P	**P**	**04 54 35.6**	**+1.8**
	comp=Z,0.6nm,0.5s,mb4.1,baz=108,slow=4.6,SNR=5.3						
HFS				pP	pP	04 54 44.2	+1.5
	comp=Z,0.9nm,0.5s,baz=149,slow=8.6,SNR=2.2						
NOA	**NORSAR Array B**	**87.55**	**331**	P	**P**	**04 54 41.6**	**+1.5**
	comp=Z,0.7nm,0.8s,mb3.9,baz=119,slow=3.9,SNR=2.8						
NOA				pP	pP	04 54 49.7	+0.7
	comp=Z,0.6nm,0.7s,baz=95,slow=4.8,SNR=2.5						
NOA	**NORSAR Array B**	**87.55**	**331**	P	**P**	**04 54 41.6**	**+1.5**
NOA				pP	pP	04 54 49.7	+0.7
TXAR	**Lajitas Array**	**144.61**	**32**	PKP	PKPdf	05 01 28.5	-4.8
	comp=Z,0.3nm,0.5s,baz=197,slow=1.5,SNR=4.1						
TXAR				pPKP		05 01 37.5	
	comp=Z,0.2nm,0.5s,baz=23,slow=0.8,SNR=2.8						
LRAL	**Lakeview Retre**	**146.61**	**6**	PKP	PKPdf	05 01 34.8	-1.8

JMA ***29*** *04:43:29.8±0.2,23.87N×125.00E,h24km,M3.5*
ISC 29 04:43:29.1±3.6,23.8N±0.2×125.03E±0.09,h26km±19km, n9,σ0§39/15,mb3.9/1,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**0.85**	**340**	P	**Pb**	**04 43 45.0**	**-0.2**
JTJ				S	**Sb**	**04 43 55.7**	**-0.5**
JIJ	**Ishigaki jima**	**0.96**	**303**	P	**Pn**	**04 43 46.6**	**-0.5**
JIJ				S	**Sb**	**04 43 59.2**	**-0.2**
JOGS	**Gusukube**	**0.98**	**21**	P	**Pn**	**04 43 47.6**	**+0.3**
JOGS				S	**Sb**	**04 44 00.2**	**+0.4**
JMJ	**Miyako jima 2**	**1.00**	**14**	P	**Pn**	**04 43 47.7**	**+0.1**
JMJ				S	**Sb**	**04 44 00.6**	**+0.2**
JKRS	**Kuro-shima**	**1.01**	**293**	P	**Pn**	**04 43 48.1**	**+0.3**
JKRS				S	**Sb**	**04 44 00.9**	**+0.1**
HATJ	**Hateruma jima**	**1.14**	**281**	P	**Pn**	**04 43 49.8**	**+0.2**
HATJ				eS	**Sn**	**04 44 05.1**	**+0.6**
IRIF	**Iriomote-Funau**	**1.28**	**293**	P	**Pn**	**04 43 51.8**	**+0.1**
YOJ	**Yonaguni jima**	**1.94**	**289**	P	**Pn**	**04 44 01.1**	**0.0**
NB2	**NORSAR Subarra**	**80.14**	**333**	P	**P**	**04 55 37.2**	**-1.0**
	0.9nm,0.6s,mb3.9,baz=62,slow=5.3						

STR ***29*** *04:43:37.4±0.2,42.36N×2.17E,h10km±1km,Ml2.9,Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*
NEIC ***29*** *04:43:37.5,42.34N×2.14E,h4km,ML3.0(LDG), ML2.9(STR),ML2.4(MRB),MN2.8(MDD),After LDG.*
LDG ***29*** *04:43:37.5±0.0,42.34N×2.14E,h4km,Md3.1/1,Ml3.0/21, Error ellipse: s-maj=0.8km s-min=0.6km az=147.0*
MDD ***29*** *04:43:37.7±0.2,42.34N×2.15E,h6km±2km,mbLg2.6/19, Error ellipse: s-maj=1.6km s-min=1.3km az=171.0, PRXIMO*
CSEM ***29*** *04:43:37.5±0.0,42.33N×2.17E,h8km,ML3.0/27,Error ellipse: s-maj=0.9km s-min=0.7km az=139.0*
ISC 29 04:43:35.8±0.2,42.41N±0.02×2.17E±0.02,h10km±2km, n138,σ1§41/237,5C,Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VALF	**Valcebollere**	**0.12**	**265**	Pg	**Pg**	**04 43 40.7**	**+2.0**
VALF	**Valcebollere**	**0.12**	**265**	Pg	**Pg**	**04 43 39.8**	**+1.1**
VALF				Lg		04 43 41.5	
CBRU	**Bruguera**	**0.13**	**177**	Pg	**Pg**	**04 43 39.1**	**+0.1**
CBRU				Sg	**Sg**	**04 43 40.3**	**-0.7**
CBRU	**Bruguera**	**0.13**	**177**	Pg	**Pg**	**04 43 39.0**	**+0.1**
CBRU				Lg		04 43 40.3	
	89nm,0.1s						
CBRU	**Bruguera**	**0.13**	**177**	Pg	**Pg**	**04 43 39.1**	**+0.2**
CBRU				Sg	**Sg**	**04 43 40.3**	**-0.7**
CARF	**Carcanieres**	**0.31**	**351**	Pg	**Pg**	**04 43 44.9**	**+2.7**
CARF				Sg	**Sg**	**04 43 50.1**	**+3.6**
CARF	**Carcanieres**	**0.31**	**351**	Pg	**Pg**	**04 43 44.9**	**+2.7**
CARF				Lg		04 43 50.0	
FILF	**Fillols**	**0.32**	**63**	Pg	**Pg**	**04 43 43.2**	**+0.7**
FILF				Sg	**Sg**	**04 43 47.7**	**+0.7**
FILF	**Fillols**	**0.32**	**63**	Pg	**Pg**	**04 43 43.3**	**+0.8**
FILF				Lg		04 43 47.4	
PAND	**Andorre**	**0.47**	**284**	Pg	**Pg**	**04 43 46.4**	**+1.0**
PAND				Lg		04 43 52.9	
SJAF	**Saint Jean de**	**0.53**	**82**	Pg	**Pg**	**04 43 47.9**	**+1.3**
SJAF	**Saint Jean de**	**0.53**	**82**	Pg	**Pg**	**04 43 48.1**	**+1.5**
SJAF				Lg		04 43 55.8	
EJON	**La Jonquera**	**0.53**	**86**	⇑Pg	**Pg**	**04 43 48.1**	**+1.6**
	16nm,0.1s,SNR=18						
EJON				Lg		04 43 55.8	
	40nm,0.1s,SNR=5.0						
EJON	**La Jonquera**	**0.53**	**86**	Pg	**Pg**	**04 43 48.1**	**+1.5**
	16nm,0.1s,SNR=18						
LPEF	**Le Peyrat**	**0.57**	**340**	Pg	**Pg**	**04 43 49.8**	**+2.5**
LPEF				Sg	**Sg**	**04 43 58.5**	**+3.5**
LPEF	**Le Peyrat**	**0.57**	**340**	Pg	**Pg**	**04 43 49.8**	**+2.5**
LPEF				Lg		04 43 58.7	
LRDF	**Laroque-de-Fa**	**0.59**	**27**	Pg	**Pg**	**04 43 50.3**	**+2.6**
LRDF	**Laroque-de-Fa**	**0.59**	**27**	Pg	**Pg**	**04 43 50.0**	**+2.3**
LRDF				Lg		04 43 59.9	
GRBF	**Gourbit**	**0.64**	**313**	Pg	**Pg**	**04 43 50.1**	**+1.5**
GRBF	**Gourbit**	**0.64**	**313**	Pg	**Pg**	**04 43 50.1**	**+1.5**
CORG	**Organya**	**0.66**	**254**	Pg	**Pg**	**04 43 49.0**	**0.0**
CORG	**Organya**	**0.66**	**254**	Pg	**Pg**	**04 43 49.0**	**-0.1**
CFON	**Fontmartina**	**0.68**	**163**	Pg	**Pg**	**04 43 49.1**	**-0.4**
CFON				Sg	**Sg**	**04 43 57.5**	**-1.2**
CFON	**Fontmartina**	**0.68**	**163**	Pg	**Pg**	**04 43 49.0**	**-0.5**
CFON				Lg		04 43 57.4	
	119nm,0.1s						
CFON	**Fontmartina**	**0.68**	**163**	Pg	**Pg**	**04 43 49.1**	**-0.4**
CFON				Sg	**Sg**	**04 43 57.5**	**-1.1**
EMIR	**Miracle**	**0.69**	**224**	⇑Pg	**Pg**	**04 43 49.3**	**-0.4**
	29nm,0.1s,SNR=18						
EMIR				Lg		04 43 58.0	
	131nm,0.1s,SNR=38						
EMIR	**Miracle**	**0.69**	**224**	Pg	**Pg**	**04 43 49.3**	**-0.4**
	29nm,0.1s,SNR=18						
CSOR	**Sort**	**0.77**	**268**	Pg	**Pg**	**04 43 51.5**	**+0.2**
CSOR				Sg	**Sg**	**04 44 01.7**	**+0.1**
CSOR	**Sort**	**0.77**	**268**	Pg	**Pg**	**04 43 51.4**	**+0.1**
CSOR				Lg		04 44 01.6	
	31nm,0.1s						
CSOR	**Sort**	**0.77**	**268**	Pg	**Pg**	**04 43 51.5**	**+0.2**
CSOR				Sg	**Sg**	**04 44 01.7**	**+0.1**
SALF	**Salau**	**0.80**	**296**	Pg	**Pg**	**04 43 52.7**	**+0.7**
SALF				Sg	**Sg**	**04 44 04.5**	**+1.7**
SALF	**Salau**	**0.80**	**296**	Pg	**Pg**	**04 43 52.6**	**+0.7**
SALF				Lg		04 44 02.6	
MTLF	**Montolieu**	**0.93**	**2**	*e*Pg	**Pg**	**04 43 56.2**	**+1.8**
MTLF				*e*Pn	**Pn**	**04 43 56.8**	**+2.1**
MTLF				*e*Sg	**Sg**	**04 44 09.2**	**+2.3**
MTLF				*e*Sn	**Sn**	**04 44 10.5**	**+2.4**
	49nm,0.2s						
MTLF	**Montolieu**	**0.93**	**2**	Pg	**Pg**	**04 43 56.2**	**+1.8**
MTLF				Lg		04 44 09.2	
MTLF	**Montolieu**	**0.93**	**2**	*e*Pn	**Pn**	**04 43 56.8**	**+2.1**
MTLF				*e*Sg	**Sg**	**04 44 09.2**	**+2.3**
MTLF				*e*Sn	**Sn**	**04 44 10.5**	**+2.4**
	24nm,0.2s						
MLS	**Moulis**	**0.96**	**305**	Pg	**Pg**	**04 43 56.4**	**+1.3**
MLS				Sg	**Sg**	**04 44 09.8**	**+1.8**
MLS	**Moulis**	**0.96**	**305**	Pg	**Pg**	**04 43 56.5**	**+1.4**
MLS				Lg		04 44 09.4	
MELF	**Melles**	**1.14**	**294**	Pg	**Pg**	**04 43 58.9**	**+0.3**
MELF				Lg		04 44 13.1	
CAVN	**Les Avellanes**	**1.18**	**244**	Pg	**Pg**	**04 43 58.6**	**-0.9**
CAVN				Sg	**Sg**	**04 44 13.5**	**-1.8**
CAVN	**Les Avellanes**	**1.18**	**244**	Pg	**Pg**	**04 43 58.5**	**-1.0**
CAVN				Lg		04 44 13.4	
	123nm,0.1s						
CAVN	**Les Avellanes**	**1.18**	**244**	Pg	**Pg**	**04 43 58.6**	**-0.9**
CAVN				Sg	**Sg**	**04 44 13.5**	**-1.7**
EPOB	**Poblet**	**1.34**	**218**	⇑Pg	**Pg**	**04 44 00.9**	**-1.6**
	26nm,0.1s,SNR=18						
EPOB				Lg		04 44 17.7	
	128nm,0.1s,SNR=5.0						
EPOB	**Poblet**	**1.34**	**218**	Pg	**Pg**	**04 44 00.9**	**-1.7**
	26nm,0.1s,SNR=18						
CGAR	**Garraf**	**1.36**	**215**	Pg	**Pg**	**04 43 57.3**	**-5.7**
CGAR				Sg	**Sg**	**04 44 11.9**	**-9.3**
CGAR	**Garraf**	**1.36**	**215**	Pg	**Pg**	**04 43 57.3**	**-5.7**
CGAR				Lg		04 44 11.9	
	48nm,0.2s						
RESF	**Ens**	**1.41**	**287**	Pg	**Pg**	**04 44 04.5**	**+0.5**
RESF				Sg	**Sg**	**04 44 24.7**	**+1.9**
RESF	**Ens**	**1.41**	**287**	Pg	**Pg**	**04 44 03.5**	**-0.5**
RESF				Lg		04 44 24.3	
EPF	**Esparros**	**1.48**	**295**	*e*Pn	**Pn**	**04 44 03.3**	**+0.6**
EPF				*e*Pg	**Pg**	**04 44 05.3**	**-0.2**
EPF				*e*Sg	**Sg**	**04 44 24.4**	**-0.9**
	43nm,0.3s						
EBIE	**Bielsa**	**1.52**	**281**	Pn	**Pn**	**04 44 05.4**	**+2.1**
EBIE				Pg	**Pg**	**04 44 06.9**	**+0.6**
EBIE				Lg		04 44 27.6	
EBIE	**Bielsa**	**1.52**	**281**	Pn	**Pn**	**04 44 04.9**	**+1.6**
	0.6nm,0.1s,SNR=4.0						
EBIE				Pg	**Pg**	**04 44 06.1**	**-0.2**
	8.2nm,0.2s,SNR=41						
EBIE				Lg		04 44 26.7	
	30nm,0.1s,SNR=25						
EBIE	**Bielsa**	**1.52**	**281**	Pn	**Pn**	**04 44 05.4**	**+2.2**
	0.6nm,0.1s,SNR=4.0						
EBIE	**Bielsa**	**1.52**	**281**	Pg	**Pg**	**04 44 06.9**	**+0.6**
	8.2nm,0.2s,SNR=41						
VIEF	**Viey**	**1.65**	**287**	Pg	**Pg**	**04 44 08.2**	**-0.7**
VIEF	**Viey**	**1.65**	**287**	Pg	**Pg**	**04 44 07.7**	**-1.2**
VIEF				Lg		04 44 31.5	
LABF	**Labassere**	**1.67**	**293**	Pn	**Pn**	**04 44 05.7**	**+0.4**
LABF				Sg	**Sg**	**04 44 33.5**	**+2.0**

LABF	**Labassere**	**1.67**	**293**	Pg	**Pg**	**04 44 08.6**	**-0.6**
LABF				Lg		04 44 32.3	
REYF	**Montagne du Re**	**2.00**	**290**	Pg	**Pg**	**04 44 15.3**	**-0.5**
REYF				Sg	**Sg**	**04 44 42.7**	**+0.3**
REYF	**Montagne du Re**	**2.00**	**290**	Pg	**Pg**	**04 44 15.5**	**-0.3**
REYF				Lg		04 44 42.3	
EBR	**Ebro Roquetas**	**2.03**	**219**	*e*PN	**Pn**	**04 44 13.0**	**+2.5**
EBR				*e*SN	**Sn**	**04 44 39.0**	**+3.0**
LASF	**Ste Croix**	**2.07**	**36**	*e*Pn	**Pn**	**04 44 12.5**	**+1.5**
LASF				*e*Pg	**Pg**	**04 44 17.4**	**+0.3**
LASF				*e*Sn	**Sn**	**04 44 37.5**	**+0.4**
LASF				*e*Sg	**Sg**	**04 44 44.5**	**-0.2**
	9.8nm,0.2s						
ETSF	**Etsaut**	**2.07**	**284**	*e*Pn	**Pn**	**04 44 11.2**	**+0.1**
ETSF				*e*Pg	**Pg**	**04 44 16.2**	**-1.0**
ETSF				*e*Sg	**Sg**	**04 44 41.9**	**-3.0**
	48nm,0.4s						
ESAC	**San Caprasio**	**2.08**	**252**	⇑Pn	**Pn**	**04 44 12.8**	**+1.6**
ESAC				Pg	**Pg**	**04 44 15.4**	**-2.1**
ESAC				Sn	**Sn**	**04 44 38.5**	**+1.1**
ESAC				Lg		04 44 41.9	
ESAC	**San Caprasio**	**2.08**	**252**	⇑Pn	**Pn**	**04 44 12.5**	**+1.3**
	20nm,0.3s,SNR=18						
ESAC				Pg	**Pg**	**04 44 15.4**	**-2.1**
	41nm,0.2s,SNR=10						
ESAC				Sn	**Sn**	**04 44 37.9**	**+0.4**
	36nm,0.2s,SNR=5.0						
ESAC				Lg		04 44 41.9	
	65nm,0.2s,SNR=11						
ESAC	**San Caprasio**	**2.08**	**252**	Pn	**Pn**	**04 44 12.8**	**+1.5**
	20nm,0.3s,SNR=18						
ESAC	**San Caprasio**	**2.08**	**252**	Pg	**Pg**	**04 44 15.4**	**-2.0**
	41nm,0.2s,SNR=10						
ESAC				Sn	**Sn**	**04 44 38.5**	**+1.1**
	36nm,0.2s,SNR=5.0						
ATE	**Arette**	**2.22**	**289**	Pg	**Pg**	**04 44 19.5**	**-0.6**
ATE				Lg		04 44 47.0	
LARF	**Larrau**	**2.41**	**286**	Pg	**Pg**	**04 44 22.6**	**-1.4**
LARF				Lg		04 44 55.5	
ORDF	**Ordiarp**	**2.42**	**290**	Pn	**Pn**	**04 44 16.5**	**+0.4**
ORDF				Sg	**Sg**	**04 44 57.0**	**+0.5**
ORDF	**Ordiarp**	**2.42**	**290**	Pg	**Pg**	**04 44 22.8**	**-1.4**
ORDF				Lg		04 44 54.7	
CAF	**Calviac**	**2.51**	**358**	*e*Pn	**Pn**	**04 44 18.8**	**+1.4**
CAF				*e*Pg	**Pg**	**04 44 25.5**	**-0.5**
CAF				*e*Sn	**Sn**	**04 44 48.3**	**-0.1**
CAF				*e*Sg	**Sg**	**04 44 58.6**	**-0.9**
	20nm,0.2s						
SJPF	**Ste Jean**	**2.60**	**287**	*e*Pn	**Pn**	**04 44 18.4**	**-0.2**
SJPF				*e*Pg	**Pg**	**04 44 25.6**	**-2.1**
SJPF				*e*Sg	**Sg**	**04 44 58.9**	**-3.4**
	23nm,0.4s						
ETOS	**Mallorca**	**2.69**	**169**	Pn	**Pn**	**04 44 19.0**	**-0.9**
ETOS				Sn	**Sn**	**04 44 48.5**	**-4.3**
ETOS	**Mallorca**	**2.69**	**169**	Pn	**Pn**	**04 44 19.0**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**04 44 48.9**	**-3.8**
	2.8nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**2.69**	**169**	Pn	**Pn**	**04 44 19.0**	**-0.9**
	0.6nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**04 44 48.5**	**-4.3**
LFF	**La Frestale**	**2.73**	**338**	*e*Pn	**Pn**	**04 44 21.2**	**+0.7**
LFF				*e*Pg	**Pg**	**04 44 29.1**	**-1.3**
LFF				*e*Sn	**Sn**	**04 44 53.0**	**-0.9**
LFF				*e*Sg	**Sg**	**04 45 04.7**	**-2.1**
	22nm,0.3s						
EALK	**Alkurruntz**	**2.82**	**288**	Pn	**Pn**	**04 44 25.7**	**+3.9**
EALK				Pg	**Pg**	**04 44 29.8**	**-2.4**
EALK				Sn	**Sn**	**04 44 59.2**	**+2.9**
EALK				Lg		04 45 08.7	
EALK	**Alkurruntz**	**2.82**	**288**	Pn	**Pn**	**04 44 24.1**	**+2.3**
	1.1nm,0.2s,SNR=7.9						
EALK				Pg	**Pg**	**04 44 29.8**	**-2.4**
	6.5nm,0.3s,SNR=10						
EALK				Sn	**Sn**	**04 44 59.2**	**+2.9**
	4.9nm,0.

SMF					*e*Sg	**Sg**	04 45 57.8	-4.4
	5.3nm,0.4s							
FENE	**Fenestrelle**	**4.41**	**52**		P	**Pn**	04 44 45.5	+1.2
FENE	**Fenestrelle**	**4.41**	**52**		P	**Pn**	04 44 45.5	+1.2
MONE	**Monesi**	**4.41**	**66**		P	**Pn**	04 44 46.2	+1.9
MONE	**Monesi**	**4.41**	**66**		P	**Pn**	04 44 46.2	+1.9
BHB	**Bricherasio**	**4.42**	**55**		P	**Pn**	04 44 46.2	+1.6
BHB	**Bricherasio**	**4.42**	**55**		P	**Pn**	04 44 46.2	+1.7
AVF	**Avril sur Loir**	**4.46**	**10**	*e*Pn		**Pn**	04 44 45.1	+0.1
AVF					*e*Pg	**Pg**	04 45 01.3	-3.5
AVF					*e*Sn	**Sn**	04 45 34.2	-3.4
AVF					*e*Sg	**Sg**	04 45 59.4	-4.8
	3.3nm,0.3s							
MFF	**Saint Martin d**	**4.50**	**339**	*e*Pn		**Pn**	04 44 45.8	+0.1
LPG	**La Plagne**	**4.52**	**45**	*e*Pn		**Pn**	04 44 45.9	0.0
LPL	**La Plagne**	**4.52**	**45**	*e*Pn		**Pn**	04 44 46.1	+0.1
LPL					*e*Sn	**Sn**	04 45 36.5	-2.8
	0.8nm,0.3s							
ROB	**Roburent**	**4.56**	**64**		P	**Pn**	04 44 49.0	+2.5
ROB	**Roburent**	**4.56**	**64**		P	**Pn**	04 44 49.0	+2.5
ETOB	**Tobarra**	**4.71**	**218**		Pn	**Pn**	04 44 48.0	-0.6
	1.0nm,0.4s,SNR=7.9							
ETOB					Sn	**Sn**	04 45 39.2	-4.8
	1.0nm,0.2s,SNR=7.9							
ETOB	**Tobarra**	**4.71**	**218**		Pn	**Pn**	04 44 48.0	-0.6
	1.0nm,0.4s,SNR=7.9							
ETOB					Sn	**Sn**	04 45 39.2	-4.8
	1.0nm,0.2s,SNR=7.9							
SSF	**Saint Saulge**	**4.74**	**11**	*e*Pn		**Pn**	04 44 49.1	0.0
SSF					*e*Pg	**Pg**	04 45 06.7	-3.8
SSF					*e*Sg	**Sg**	04 46 08.1	-5.7
	2.9nm,0.4s							
HYF	**Humbligny**	**4.87**	**4**	*e*Pn		**Pn**	04 44 50.8	0.0
HYF					*e*Sg	**Sg**	04 46 12.1	-5.8
CABF	**La Chapelle**	**5.04**	**32**	*e*Pn		**Pn**	04 44 53.0	-0.4
PGF	**Pioggiola**	**5.05**	**86**	*e*Pn		**Pn**	04 44 52.3	-1.1
PGF					*e*Sn	**Sn**	04 45 47.3	-5.3
	4.0nm,0.2s							
EARI	**Arriondas**	**5.50**	**282**		Pn	**Pn**	04 45 01.4	+1.6
EARI					Sn	**Sn**	04 46 01.1	-2.7
EARI	**Arriondas**	**5.50**	**282**		Pn	**Pn**	04 44 58.9	-0.8
	0.5nm,0.3s,SNR=7.9							
EARI					Sn	**Sn**	04 45 56.9	-6.9
	0.3nm,0.2s,SNR=7.9							
EARI	**Arriondas**	**5.50**	**282**		Pn	**Pn**	04 45 01.4	+1.7
	0.5nm,0.3s,SNR=7.9							
EARI					Sn	**Sn**	04 46 01.1	-2.7
	0.3nm,0.2s,SNR=7.9							
LDF	**La Druitiere**	**6.39**	**346**	*e*Pn		**Pn**	04 45 11.4	-0.9
FLN	**La Foliniere**	**6.62**	**345**	*e*Pn		**Pn**	04 45 13.9	-1.6
ECAL	**Calabor**	**6.64**	**269**		Pn	**Pn**	04 45 15.9	+0.1
ECAL					Sn	**Sn**	04 46 26.2	-6.1
ECAL	**Calabor**	**6.64**	**269**		Pn	**Pn**	04 45 15.1	-0.7
	0.8nm,0.3s,SNR=4.0							
ECAL					Sn	**Sn**	04 46 26.2	-6.1
	0.7nm,0.2s,SNR=4.0							
ECAL	**Calabor**	**6.64**	**269**		Pn	**Pn**	04 45 15.9	+0.1
	0.8nm,0.3s,SNR=4.0							
ECAL					Sn	**Sn**	04 46 26.2	-6.1
QUIF	**Quistinic**	**6.67**	**327**	*e*Pn		**Pn**	04 45 15.2	-1.1
EADA	**Adamuz**	**6.68**	**233**		Sn	**Sn**	04 46 25.3	-8.0
	0.4nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.68**	**233**		Sn	**Sn**	04 46 25.3	-8.0
	0.4nm,0.2s,SNR=7.9							
SGMF	**Saint Gilles**	**6.72**	**332**	*e*Pn		**Pn**	04 45 15.8	-1.2
ROSF	**Rostrenen**	**7.05**	**329**	*e*Pn		**Pn**	04 45 20.3	-1.4

*IDC **29** 04:45:17.7±1.2, 1.10N×97.03E, h32km±4km, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, mbtmp4.2/9, Error ellipse: s-maj=82.4km s-min=12.3km az=50.0*
*BJI **29** 04:45:17.1, 1.20N×97.30E, h30km, mb4.7*
*NEIC **29** 04:45:18.1±0.6, 1.18N×97.31E, h30km, mb4.6/14, Error ellipse: s-maj=18.3km s-min=8.6km az=55.0*
ISC 29 04:45:16.4±0.6, 1.19N±0.09×97.3E±0.1, h30km, h30km±1.3km:pP-P, n30, σ0s96/29, mb4.5/23, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**39**	*e*P	**Pn**	**04 46 35.9**	**+0.8**
CM31	**Chiang Mai Arr**	**17.23**	**5**	P	**P**	**04 49 15.8**	**-1.0**
	8.0nm,0.7s						
GYA	**Guiyang**	**26.68**	**19⇑**	*i*P	**P**	**04 50 56.8**	**+1.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	**Jiri**	**28.39**	**339**	*e*P	**P**	**04 51 12.5**	**+2.0**
	comp=Z,19nm,0.3s,mb5.2						
PKI	**Pulchoki**	**28.60**	**338**	*e*P	**P**	**04 51 14.5**	**+2.1**
GUN	**Gumba**	**28.73**	**339**	*e*P	**P**	**04 51 13.9**	**+0.4**
	comp=Z,15nm,0.4s,mb5.1						
DMN	**Daman**	**28.75**	**337**	*e*P	**P**	**04 51 15.4**	**+1.7**
	comp=Z,19nm,0.3s,mb5.3						
KKN	**Kakani**	**28.85**	**337**	*e*P	**P**	**04 51 14.7**	**+0.1**
LSA	**Lhasa**	**28.95**	**349**	*e*P	**P**	**04 51 15.9**	**+0.5**
	comp=Z,7.0nm,0.6s,mb4.6						
GKN	**Gorkha**	**29.29**	**337**	*e*P	**P**	**04 51 18.3**	**-0.3**
	comp=Z,13nm,0.4s,mb5.0						
KOLN	**Koldanda**	**29.51**	**335**	*e*P	**P**	**04 51 20.3**	**-0.3**
	comp=Z,8.3nm,0.4s,mb4.8						
ENH	**Enshi**	**31.15**	**21**	*e*P	**P**	**04 51 33.8**	**-1.2**
	comp=Z,9.2nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.83**	**126**	P	**P**	**04 51 57.8**	**-0.8**
	comp=Z,1.6nm,0.5s,mb4.2,baz=204,slow=2.7,SNR=3.9						
GTA	**Gaotai**	**38.11**	**3**	*e*P	**P**	**04 52 34.5**	**0.0**
GTA				AP	pP	04 52 42.8	-0.7
GTA				XP	sP	04 52 46.0	-1.2
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**04 53 06.5**	**0.0**
	comp=Z,1.3nm,0.5s,mb3.9,baz=303,slow=9.0,SNR=12						
WRA				pP	pP	04 53 17.1	+1.7
	comp=Z,0.7nm,0.4s,baz=306,slow=9.2,SNR=4.8						
WB2	**Warramunga Arr**	**41.95**	**122**	*e*P	**P**	**04 53 07.0**	**+0.4**
BJT	**Baijiatuau**	**42.28**	**22**	*e*P	**P**	**04 53 07.9**	**-1.2**
	comp=Z,6.6nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**43.30**	**127**	P	**P**	**04 53 18.2**	**+0.6**
	comp=Z,0.9nm,0.3s,mb4.0,baz=297,slow=7.2,SNR=13						
ASAR				pP	pP	04 53 28.8	+2.2
	comp=Z,1.1nm,0.4s,baz=302,slow=8.0,SNR=7.6						
AAK	**Ala-Archa**	**46.05**	**337**	*e*P	**P**	**04 53 39.3**	**0.0**
	comp=Z,3.0nm,0.9s,mb4.2						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**04 53 48.9**	**-0.1**
	comp=Z,3.2nm,0.5s,mb4.5,baz=157,slow=7.8,SNR=46						
MKAR				pP	pP	04 53 58.3	+0.3
	comp=Z,1.4nm,0.4s,baz=151,slow=8.5,SNR=5.3						
HIA	**Hailar**	**51.61**	**19**	P	**P**	**04 54 21.8**	**-0.4**
	comp=Z,3.5nm,0.5s,mb4.5						
KURK	**Kurchatov**	**51.83**	**345**	*e*P	**P**	**04 54 23.1**	**-0.8**
	comp=Z,3.9nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.27**	**132**	*e*P	**P**	**04 54 35.7**	**+0.8**
	comp=Z,4.3nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**04 54 35.0**	**+0.1**
	comp=Z,5.1nm,1.0s,mb4.4,baz=320,slow=6.7,SNR=8.7						
STKA				pP	pP	04 54 45.0	+0.9
	comp=Z,2.7nm,0.9s,baz=328,slow=15,SNR=2.9						
BVAR	**Borovoye Array**	**56.29**	**341**	P	**P**	**04 54 55.1**	**-1.5**
	comp=Z,1.8nm,0.4s,mb4.4,baz=149,slow=8.6,SNR=8.5						
BVAR				pP	pP	04 55 03.9	-1.9
	comp=Z,0.9nm,0.4s,baz=162,slow=9.4,SNR=3.3						
CHKZ	**Chkalovo**	**56.77**	**341**	*e*P	**P**	**04 54 58.4**	**-1.7**
	comp=Z,52nm,0.8s,mb5.6						
CHKZ				*e*pP	pP	04 55 04.8	-4.5
FINES	**FINESS Array B**	**80.06**	**332**	P	**P**	**04 57 24.7**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.7,baz=117,slow=4.3,SNR=5.8						
FINES				pP	pP	04 57 33.6	-0.5
	comp=Z,0.4nm,0.4s,baz=97,slow=6.5,SNR=2.6						
ARCES	**ARCESS Array B**	**82.58**	**340**	P	**P**	**04 57 37.0**	**-0.6**
	comp=Z,4.2nm,1.0s,mb4.4,baz=95,slow=5.7,SNR=5.5						
ARCES				pP	pP	04 57 46.8	-0.4
	comp=Z,3.5nm,0.9s,baz=34,slow=4.4,SNR=1.5						
GERES	**GERESS Array B**	**84.89**	**319**	P	**P**	**04 57 49.4**	**-0.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=287,slow=28,SNR=2.6						
GERES				pP	pP	04 57 58.6	-0.8
	comp=Z,0.6nm,0.8s,baz=45,slow=7.5,SNR=2.8						
TXAR	**Lajitas Array**	**143.62**	**32**	PKP	PKPdf	05 04 48.6	-5.5
	comp=Z,0.1nm,0.4s,baz=324,slow=0.7,SNR=4.3						

IDC 29 04:46:48.8±3.8, 2.76N×96.27E, mb4.0/5, mb1 4.1/5, mb1mx3.7/17, mbtmp4.0/5, Error ellipse: s-maj=152.3km s-min=21.8km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.59**	**127**	P	P	04 53 48.1	-2.2
	2.8nm,0.9s,baz=336,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**43.65**	**123**	P	P	04 54 55.6	-1.6
	0.7nm,0.5s,baz=300,slow=9.3,SNR=5.5						
ASAR	**Alice Springs**	**45.07**	**128**	P	P	04 55 06.9	-1.8
	0.9nm,0.9s,baz=297,slow=6.6,SNR=5.1						
MKAR	**Makanchi Array**	**45.52**	**347**	P	P	04 55 10.0	-1.9
	3.4nm,0.7s,baz=161,slow=7.3,SNR=8.2						
SONM	**Songino Array**	**45.75**	**10**	P	P	04 55 11.9	-1.8
	0.7nm,0.5s,baz=184,slow=6.8,SNR=3.2						

*BJI **29** 04:49:36.3, 60.30N×151.00W, h67km, mB4.7, mb4.5, Ms4.5, Msz4.3*
*NEIC **29** 04:49:38.4, 60.27N×150.98W, h67km, mb3.7/5, ML4.3(PMR), ML4.0(AEIC), After AEIC.*
NEIC Felt [IV] at Soldotna; [III] at Chugiak, Eagle River, Lawing, Palmer and Wasilla; [II] at Anchorage, Chickaloon and Sterling.
*IDC **29** 04:49:43.8±1.3, 60.50N×150.03W, h81km±4km, mb3.6/6, mb1 4.0/10, mb1mx3.7/20, mbtmp4.1/10, Error ellipse: s-maj=29.0km s-min=14.1km az=50.0*
ISC 29 04:49:36.4±0.2, 60.27N±0.02×150.94W±0.04, h67km±3km, h77km±4.3km:pP-P, n110, σ0s96/123, mb3.9/12, Kenai Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNL	**Ninilchik**	**0.29**	**218**	P	**P**	**04 49 49.8**	**+1.2**
SLKM	**Skilak Lake**	**0.43**	**56**	P	**P**	**04 49 50.3**	**+0.8**
NKA	**Nikishka**	**0.49**	**343**	P	**P**	**04 49 51.9**	**+1.8**
HOM	**Homer**	**0.71**	**210**	P	**P**	**04 49 53.0**	**+0.7**
HOM				S	**S**	**04 50 03.7**	**-0.4**
CNPM	**China Poot**	**0.77**	**191**	P	**P**	**04 49 53.5**	**+0.5**
VOGL	**Vogel Lake**	**0.77**	**19**	P	**P**	**04 49 54.6**	**+1.7**
VOGL				S	**S**	**04 50 06.1**	**+0.9**
MPA	**Moose Pass**	**0.81**	**74**	P	**P**	**04 49 54.5**	**+1.0**
XLV	**Seldovia**	**0.91**	**206**	P	**P**	**04 49 54.7**	**+0.1**
XLV				S	**S**	**04 50 07.6**	**-0.5**
DFR	**Drift River**	**0.92**	**291**	P	**P**	**04 49 54.6**	**-0.1**
RDN	**Redoubt North**	**0.94**	**286**	P	**P**	**04 49 54.6**	**-0.2**
FIB	**Fire Island**	**0.97**	**22**	P	**P**	**04 49 56.8**	**+1.5**
RC01	**Rabbit Creek A**	**1.01**	**35**	P	**P**	**04 49 56.5**	**+0.8**
RC01				S	**S**	**04 50 10.8**	**+0.5**
ILIM	**Iliamna**	**1.03**	**260**	P	**P**	**04 49 55.8**	**-0.1**
NCT	**North Crescent**	**1.03**	**287**	P	**P**	**04 49 56.0**	**0.0**
SPU	**Mount Spurr**	**1.06**	**330**	*e*P	**P**	**04 49 55.4**	**-1.0**
IVE	**Iliamna Volcan**	**1.07**	**257**	P	**P**	**04 49 56.3**	**-0.2**
IVE				S	**S**	**04 50 11.0**	**-0.6**
INE	**Iliamna NE**	**1.08**	**260**	P	**P**	**04 49 56.6**	**-0.1**
ILW	**Iliamna West**	**1.12**	**260**	P	**P**	**04 49 57.2**	**+0.1**
CKN	**Chakachatna No**	**1.13**	**328**	P	**P**	**04 49 57.8**	**+0.5**
CKL	**Chakachamna La**	**1.15**	**324**	P	**P**	**04 49 57.9**	**+0.4**
CRP	**Crater Peak**	**1.16**	**330**	P	**P**	**04 49 58.4**	**+0.7**
CRP				S	**S**	**04 50 14.2**	**+0.6**
STLK	**Strandline Lak**	**1.30**	**341**	P	**P**	**04 50 00.5**	**+0.8**
OPT	**Oil Point**	**1.31**	**243**	P	**P**	**04 49 59.7**	**0.0**
PWL	**Port Wells**	**1.42**	**64**	P	**P**	**04 50 01.5**	**+0.3**
PWA	**Palmer West**	**1.48**	**20**	P	**P**	**04 50 02.6**	**+0.7**
AUE	**Augustine Isla**	**1.53**	**234**	P	**P**	**04 50 02.8**	**+0.1**
AUW	**Augustine West**	**1.57**	**236**	P	**P**	**04 50 03.5**	**+0.4**
AUI	**Augustine Isla**	**1.57**	**234**	P	**P**	**04 50 03.3**	**+0.2**
AUI				S	**S**	**04 50 22.6**	**-0.2**
PMR	**Palmer**	**1.59**	**33**	P	**P**	**04 50 03.7**	**+0.3**
PMR				S	**S**	**04 50 23.1**	**-0.2**
KNK	**Knik Glacier**	**1.67**	**46**	P	**P**	**04 50 05.0**	**+0.6**
GHO	**Glory Hole Cre**	**1.80**	**32**	P	**P**	**04 50 06.7**	**+0.5**
SYI	**Shuyak Island**	**1.83**	**205**	P	**P**	**04 50 07.0**	**+0.5**
SML	**Sawmill**	**2.00**	**38**	P	**P**	**04 50 09.3**	**+0.5**
SML				S	**S**	**04 50 33.4**	**+0.7**
MCNL	**McNeil River**	**2.04**	**239**	P	**P**	**04 50 09.0**	**-0.4**
CUT	**Chulitna**	**2.16**	**8**	P	**P**	**04 50 11.3**	**+0.1**
JPK	**Jack Peak**	**2.28**	**68**	P	**P**	**04 50 12.6**	**-0.2**
SCM	**Sheep Creek Mo**	**2.35**	**47**	P	**P**	**04 50 14.1**	**+0.3**
VLZ	**Valdez**	**2.42**	**67**	P	**P**	**04 50 14.4**	**-0.5**
SVW2	**Sparrevohn**	**2.43**	**292**	P	**P**	**04 50 13.4**	**-1.5**
MID	**Middleton Isla**	**2.47**	**108**	P	**P**	**04 50 15.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**2.59**	**82**	P	**P**	**04 50 16.0**	**-1.1**
KAHC	**Katmai Hardscr**	**2.64**	**234**	P	**P**	**04 50 17.1**	**-0.7**
DIV	**Divide**	**2.68**	**69**	P	**P**	**04 50 18.0**	**-0.5**
ANCK	**Angle Creek**	**3.13**	**230**	P	**P**	**04 50 24.3**	**-0.4**
CAHL	**Cahill**	**3.16**	**227**	P	**P**	**04 50 24.9**	**-0.2**
TRF	**Thorofare Moun**	**3.20**	**5**	P	**P**	**04 50 26.2**	**+0.5**
TZL	**Tazlina**	**3.21**	**54**	P	**P**	**04 50 26.1**	**+0.2**
KJL	**Kejulik**	**3.26**	**229**	P	**P**	**04 50 26.2**	**-0.7**
KAIM	**Kayak Island**	**3.29**	**93**	P	**P**	**04 50 26.2**	**-0.7**
DHY	**Denali Highway**	**3.29**	**30**	P	**P**	**04 50 27.6**	**+0.8**
KTH	**Kantishna Hill**	**3.29**	**0**	P	**P**	**04 50 27.2**	**+0.2**
RND	**Reindeer**	**3.30**	**17**	P	**P**	**04 50 27.7**	**+0.7**
TT01	**Tatalina**	**3.59**	**320**	P	**P**	**04 50 30.3**	**-0.8**
MCK	**McKinley**	**3.60**	**14**	P	**P**	**04 50 31.5**	**+0.3**
GLB	**Gilahina Butte**	**3.68**	**68**	P	**P**	**04 50 31.6**	**-0.8**
PAX	**Paxson**	**3.76**	**42**	P	**P**	**04 50 33.5**	**+0.1**
BWN	**Browne**	**3.97**	**9**	P	**P**	**04 50 35.9**	**-0.5**
THY	**Trims Highway**	**4.00**	**36**	P	**P**	**04 50 36.6**	**-0.2**
TGL	**Tana Glacier**	**4.04**	**80**	P	**P**	**04 50 35.9**	**-1.4**
CYK	**Cape Yakataga**	**4.23**	**89**	P	**P**	**04 50 39.7**	**-0.2**
BALM	**Baldy**	**4.30**	**76**	P	**P**	**04 50 39.6**	**-1.3**
MENT	**Mentasta**	**4.36**	**49**	P	**P**	**04 50 41.3**	**-0.5**
NEA	**Nenana**	**4.41**	**11**	P	**P**	**04 50 41.9**	**-0.5**
HDA	**Harding Lake**	**4.54**	**22**	P	**P**	**04 50 43.9**	**-0.5**
CCB	**Clear Creek Bu**	**4.62**	**17**	P	**P**	**04 50 44.8**	**-0.7**
DOT	**Dot Lake**	**4.69**	**41**	P	**P**	**04 50 45.7**	**-0.7**
MLY	**Manley**	**4.78**	**1**	P	**P**	**04 50 47.0**	**-0.5**
CTGM	**Chitina Glacie**	**4.78**	**78**	P	**P**	**04 50 47.2**	**-0.5**
COLA	**College**	**4.83**	**16**	P	**P**	**04 50 47.8**	**-0.5**
MDM	**Murphy Dome**	**4.87**	**14**	P	**P**	**04 50 48.3**	**-0.5**
GCSA	**Galena City Sc**	**5.26**	**331**	P	**P**	**04 50 53.0**	**-1.2**
PNL	**Peninsula**	**5.83**	**91**	P	**P**	**04 51 00.2**	**-1.8**
IM3	**Indian Mountai**	**5.87**	**349**	P	**P**	**04 51 01.0**	**-1.6**
IMA	**Indian Mountai**	**5.95**	**349**	*e*P	**P**	**04 51 03.6**	**0.0**
DAWY	**Dawson**	**6.61**	**50**	P	**P**	**04 51 11.1**	**-1.8**
COLD	**Coldfoot**	**6.99**	**2**	P	**P**	**04 51 16.4**	**-1.8**
BM3	**Burnt Mountain**	**7.70**	**19**	P	**P**	**04 51 26.4**	**-1.5**
DOL	**Dolgoi Island**	**7.78**	**233**	P	**P**	**04 51 27.4**	**-1.6**
WHY	**Whitehorse**	**7.95**	**80**	P	**P**	**04 51 29.3**	**-2.0**
TNA	**Tin City**	**9.37**	**312**	*e*P	**P**	**04 51 48.9**	**-1.7**
DLBC	**Dease Lake**	**10.82**	**91**	P	**P**	**04 52 11.0**	**+0.9**
	0.9nm,0.3s,baz=272,slow=11,SNR=12						
DLBC				S	**S**	**04 54 03.7**	**-6.5**
	0.3nm,0.3s,baz=118,slow=24,SNR=4.2						
DLBC	**Dease Lake**	**10.82**	**91**	*e*P	**P**	**04 52 09.4**	**-0.7**
INK	**Inuvik**	**11.01**	**36**	P	**P**	**04 52 11.8**	**-0.8**
	0.7nm,0.3s,baz=219,slow=15,SNR=50						
INK				S	**S**	**04 54 08.0**	**-6.6**
	0.1nm,0.3s,baz=7.4,slow=26,SNR=2.4						
INK	**Inuvik**	**11.01**	**36**	*e*P	**P**	**04 52 11.0**	**-1.6**
BBB	**Bella Bella**	**14.99**	**113**	P	**P**	**04 53 06.8**	**+2.0**
	0.2nm,0.3s,baz=315,slow=8.6,SNR=2.5						
BBB				S	**S**	**04 55 46.1**	**-3.1**
	0.4nm,0.3s,baz=223,slow=4.1,SNR=4.3						
BBB	**Bella Bella**	**14.99**	**113**	P	**P**	**04 53 06.8**	**+2.0**
BBB				S	**S**	**04 55 46.1**	**-3.1**
YKW3	**Yellowknife Ar**	**17.38**	**67**	*e*P	**P**	**04 53 33.9**	**-1.0**
YKA	**Yellowknife Ar**	**17.40**	**67**	P	**P**	**04 53 34.8**	**-0.3**
	0.7nm,0.3s,baz=276,slow=12,SNR=85						
YKA				pP		04 53 52.7	
	0.4nm,0.3s,baz=279,slow=10,SNR=7.5						
YKA				sP		04 53 59.1	
	0.2nm,0.3s,baz=277,slow=10.0,SNR=2.1						
YKA	**Yellowknife Ar**	**17.40**	**67**	P	**P**	**04 53 34.8**	**-0.3**
YKA				pP		04 53 52.7	
YKA				sP		04 53 59.1	
NEW	**Newport**	**22.83**	**107**	P	**P**	**04 54 36.3**	**+3.4**
	2.0nm,0.6s,mb3.6,baz=298,slow=8.6,SNR=5.3						
NEW				pP		04 54 52.1	
	3.0nm,0.7s,baz=313,slow=5.5,SNR=4.0						
NEW	**Newport**	**22.83**	**107**	*e*P	**P**	**04 54 36.0**	**+3.1**
	3.6nm,1.0s,mb3.7						
HLID	**Hailey**	**27.57**	**111**	P	**P**	**04 55 18.9**	**+1.3**
FCC	**Fort Churchill**	**28.12**	**68**	*e*P	**P**	**04 55 22.6**	**+0.1**
	0.7nm,0.6s,mb3.4						
BW06	**Boulder Array**	**30.47**	**106**	*e*P	**P**	**04 55 43.8**	**+0.3**
PDAR	**Pinedale Array**	**30.47**	**106**	P	**P**	**04 55 45.9**	**+2.4**
	0.6nm,0.6s,mb3.4,baz=326,slow=5.3,SNR=5.4						
PDAR				pP	pP	04 56 04.0	+2.0
	0.8nm,0.7s,baz=333,slow=3.3,SNR=5.2						
PDAR				sP	sP	04 56 13.4	+2.1
	0.6nm,0.6s,baz=307,slow=7.4,SNR=2.7						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUG	**Dugway**	**30.95**	**113**	P	**P**	**04 55 46.7**	**-1.1**
	1.1nm,0.7s,mb3.7						
SDCO	**Great Sand Dun**	**36.32**	**108**	P	**P**	**04 56 33.5**	**-0.6**
MNTX	**Cornudas Mount**	**41.34**	**113**	*e*P	**P**	**04 57 17.1**	**+1.4**
	0.7nm,0.5s,mb3.8						
WMOK	**Wichita Mounta**	**41.97**	**103**	*e*P	**P**	**04 57 22.0**	**+1.2**
	4.2nm,1.2s,mb4.0						
TXAR	**Lajitas Array**	**44.13**	**113**	P	**P**	**04 57 40.7**	**+2.3**
	0.9nm,0.7s,mb3.6,baz=327,slow=5.8,SNR=14						
TXAR				pP	pP	04 58 02.2	+4.6
	0.4nm,0.8s,baz=342,slow=7.9,SNR=3.3						
TXAR				sP	sP	04 58 09.9	+3.2
	0.4nm,0.7s,baz=316,slow=4.8,SNR=3.6						
TXAR	**Lajitas Array**	**44.13**	**113**	P	**P**	**04 57 40.7**	**+2.3**
TXAR				pP	pP	04 58 02.2	+4.6
TXAR				sP	sP	04 58 09.9	+3.2
CN2	**Changchun**	**50.35**	**291**	*e*P	**P**	**04 58 27.5**	**+0.6**
ARCES	**ARCESS Array B**	**50.46**	**2**	P	**P**	**04 58 31.5**	**+4.1**
	2.1nm,0.7s,mb4.2,baz=358,slow=8.4,SNR=6.6						
ARCES				pP	pP	04 58 51.3	+4.3
	7.2nm,1.1s,baz=32,slow=11,SNR=1.9						
ARCES	**ARCESS Array B**	**50.46**	**2**	P	**P**	**04 58 31.5**	**+4.1**
ARCES				pP	pP	04 58 51.3	+4.3
FINES	**FINESS Array B**	**58.59**	**2**	P	**P**	**04 59 29.9**	**+3.2**
	0.5nm,0.3s,mb4.0,baz=7.4,slow=9.7,SNR=6.3						
FINES				pP	pP	04 59 49.2	+2.4
	0.9nm,0.5s,baz=11,slow=9.7,SNR=2.7						
FINES	**FINESS Array B**	**58.59**	**2**	P	**P**	**04 59 29.9**	**+3.2**
FINES				pP	pP	04 59 49.2	+2.4
NJ2	**Nanjing**	**62.85**	**287**	*e*P	**P**	**04 59 55.8**	**-0.2**
WMQ	**Urumqi**	**65.77**	**317**	*e*P	**P**	**05 00 17.0**	**+2.4**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.3						
LZH	**Lanzhou**	**66.27**	**301**	*e*P	**P**	**05 00 19.5**	**+1.5**
LZH				AP	pP	05 00 37.5	-1.0
LZH				XP	sP	05 00 47.0	-0.1
LZH				PCP	PcP	05 00 52.5	+5.2
LZH				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
AKASG	**Malin Array Be**	**69.38**	**360**	P	**P**	**05 00 40.2**	**+3.2**
	comp=Z,1.1nm,0.4s,mb4.1,baz=3.7,slow=6.2,SNR=8.7						

*MOS **29** 04:50:06.0±1.0, 0.20N×97.11E, h33km, mb5.6/48, MS4.8/15, Error ellipse: s-maj=11.5km s-min=5.5km az=120.2*
*BJI **29** 04:50:06.3, 0.06N×97.14E, h43km, mB5.6, mb5.1, Ms5.3, Msz5.0*
*NEIC **29** 04:50:07.9±0.1, 0.19N×97.10E, mb5.4/58, MS4.7/25, Error ellipse: s-maj=5.6km s-min=3.7km az=45.0*
*HRVD **29** 04:50:07.9±1.1, 0.30N×96.95E, h28km±3km, MW5.5/29, Centroid moment Tensor Solution. LP body waves: s6,c6; Mantle waves: s29,c35; Half duration: 1s2 Moment tensor: Scale 10^17Nm; Mrr-1.87±.65; Mθθ0.57±.35; Mφφ1.30±.35; Mrθ0.65±.66; Mrφ-1.27±.14; Mθφ0.24±.54; Best double couple: M0 2.199×10^17 NP1:φ163°, δ46°, λ-60°. NP2:φ304°, δ51°, λ-117°. Principal axes: T 2.266, Plg3°,

PKI **Pulchoki** 29.47 338 eP P 04 56 10.1 +0.8
PKI pmax pmax
comp=Z,111nm,1.1s,mb5.5
GUN **Gumba** 29.61 340 eP P 04 56 10.4 -0.2
comp=Z,175nm,0.7s,mb5.9
DMN **Daman** 29.61 338 eP P 04 56 11.8 +1.1
comp=Z,175nm,0.8s,mb5.8
KKN **Kakani** 29.71 338 eP P 04 56 11.4 -0.1
comp=Z,313nm,1.0s,mb6.0
KKN **Kakani** 29.71 338 eP P 04 56 11.4 -0.1
KKN pmax pmax
comp=Z,157nm,1.0s,mb5.7
BHPL **Bhopal** 29.87 321 eP P 04 56 13.7 +0.7
BHPL e 04 56 32.7
comp=Z,23nm,0.8s
BHPL i 05 01 12.1
LSA **Lhasa** 29.90 350 eP P 04 56 14.0 +0.8
LSA pmax pmax
comp=Z,52nm,0.6s,mb5.4
LSA MLR MLR
comp=Z,2μm,20.0s,MS4.7
LSA **Lhasa** 29.90 350 eP P 04 56 14.0 +0.8
comp=Z,52nm,0.6s,mb5.4
LSA LR LR
comp=Z,2μm,20.0s,MS4.7
GKN **Gorkha** 30.15 338 eP P 04 56 15.5 +0.1
comp=Z,265nm,1.0s,mb5.9
KOLN **Koldanda** 30.35 336 eP P 04 56 17.3 +0.1
comp=Z,326nm,0.7s,mb6.1
MBWA **Marble Bar** 30.61 135 eP P 04 56 18.1 -1.5
comp=Z,53nm,1.0s,mb5.3
MBWA LR LR
comp=Z,1μm,20.0s,MS4.5
CD2 **Chengdu** 31.19 11 P P 04 56 23.5 -1.2
ENH **Enshi** 32.14 20 eP P 04 56 32.0 -1.0
comp=Z,102nm,0.9s,mb5.7
ENH LR LR
comp=Z,2μm,19.0s,MS4.9
LGTI **Lohaghat** 33.27 332 eP P 04 56 43.0 +0.2
FITZ **Fitzroy Crossi** 33.40 124 ⇓iP P 04 56 43.5 -0.5
comp=Z,108nm,0.9s,mb5.8
FITZ **Fitzroy Crossi** 33.40 124 P P 04 56 43.5 -0.4
comp=Z,133nm,0.9s,mb5.9,baz=322,slow=4.3,SNR=99
FITZ pP pP 04 56 56.0 +1.5
comp=Z,46nm,0.8s,baz=256,slow=1.4,SNR=6.6
FITZ LR LR 05 12 27.6
comp=Z,2μm,19.1s,MS4.8,baz=296,slow=40
NDI **New Delhi** 34.15 328 eP P 04 56 48.0 -2.4
NDI e 05 02 02.0
WHN **Wuhan** 34.34 27 eP P 04 56 52.5 +0.6
WHN S S 05 02 25.0 +9.1
WHN LR LR
comp=Z,2μm,12.4s,MS5.1
DDI **Dehra Dun** 35.04 330 e P 04 57 07.0 +9.0
XAN **Xi'an** 35.44 17 P P 04 57 00.5 -0.9
XAN AP pP 04 57 11.8 -0.2
XAN AMB AMB
comp=Z,45nm,1.1s,mb5.3
SMLA **Simla** 36.14 330 i P 04 56 53.8 -14
SMLA i 05 03 09.0
LZH **Lanzhou** 36.26 9 eP P 04 57 08.5 +0.2
LZH AP pP 04 57 19.5 +0.6
LZH XP sP 04 57 23.8 +0.1
LZH AMB AMB
comp=Z,42nm,1.5s,mb5.2
LZH LR LR
comp=E,2μm,14.9s
LZH LR LR
comp=Z,3μm,16.1s,MS5.1
SDNR **Sundarnagar** 36.54 330 eP P 04 57 09.6 -1.0
MUN **Mundaring** 36.72 152 ⇓iP P 04 57 13.3 +1.1
comp=Z,33nm,1.1s,mb5.1
MUN **Mundaring** 36.72 152 ⇓iP P 04 57 13.3 +1.1
MUN pmax pmax
comp=Z,33nm,1.1s,mb5.1
KLBR **Kellerberrin** 37.15 150 ⇓iP P 04 57 16.5 +0.7
comp=Z,219nm,0.6s,mb6.2
KAKA **Kakadu** 37.28 111 eP P 04 57 13.5 -3.5
comp=Z,8.1nm,0.6s,mb4.7
NJ2 **Nanjing** 37.76 31 eP P 04 57 23.5 +2.6
NJ2 AP pP 04 57 33.5 +1.9
NJ2 XP sP 04 57 38.0 +1.7
NJ2 PP PP 04 58 55.0 +4.6
NJ2 AMB AMB
comp=Z,340nm,4.5s
NJ2 LR LR
comp=N,4μm,17.5s,MS5.5
NJ2 LR LR
comp=E,5μm,16.5s,MS5.5
NJ2 LR LR
comp=Z,2μm,20.0s,MS4.9
NWAO **Narrogin (SRO)** 37.99 152 eP P 04 57 22.4 -0.4
NWAO pmax pmax
comp=Z,111nm,1.1s
NWAO MLR MLR
comp=Z,1μm,22.0s
NWAO **Narrogin (SRO)** 37.99 152 P P 04 57 23.7 +0.9
comp=Z,74nm,0.9s,mb5.4,baz=322,slow=9.4,SNR=45
NWAO pP pP 04 57 35.5 +2.0
comp=Z,13nm,0.7s,baz=359,slow=2.7,SNR=4.2
NWAO **Narrogin (SRO)** 37.99 152 eP P 04 57 22.4 -0.4
comp=Z,111nm,1.1s,mb5.5
NWAO LR LR
comp=Z,1μm,22.0s,MS4.6
GTA **Gaotai** 39.11 3 eP P 04 57 33.0 +0.9
GTA AP pP 04 57 43.5 +0.7
GTA XP sP 04 57 47.0 -0.5
GTA AMB AMB
comp=Z,6.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,215nm,5.4s
GTA LR LR
comp=N,728nm,13.2s,MS4.9
GTA LR LR
comp=E,1μm,14.7s,MS4.9
GTA LR LR
comp=Z,865nm,17.4s,MS4.6
JOW **Kunigami** 39.98 46 P P 04 57 39.7 +0.3
comp=Z,22nm,0.9s,mb4.9,baz=274,slow=15,SNR=3.6
JOW pP pP 04 57 52.5 +2.4
comp=Z,36nm,0.6s,baz=244,slow=10,SNR=5.1
JOW LR LR 05 13 07.4
comp=Z,507nm,20.4s,MS4.3,baz=17,slow=34
WRA **Warramunga Arr** 41.56 121 P P 04 57 52.6 0.0
comp=Z,115nm,0.9s,mb5.5,baz=299,slow=9.2,SNR=222
WRA S S 05 04 04.6 -1.1
comp=Z,8.0nm,1.1s,baz=297,slow=16,SNR=5.5
WRAB **Tennant Creek** 41.56 121 P P 04 57 52.0 -0.6
comp=Z,897nm,0.7s,SNR=77
WRAB **Tennant Creek** 41.56 121 eP P 04 57 52.3 -0.3
WRAB pmax pmax
comp=Z,215nm,0.9s,mb5.8
WRAB MLR MLR
comp=Z,416nm,21.0s,MS4.3
WRAB **Tennant Creek** 41.56 121 eP P 04 57 52.2 -0.4
comp=Z,215nm,0.9s,mb5.8
WRAB LR LR
comp=Z,416nm,21.0s,MS4.3
WB2 **Warramunga Arr** 41.57 121 ⇓iP P 04 57 52.7 0.0
WB2 eS S 05 04 04.5 -1.4
HHC **Hu-ho-hao-te** 42.54 16 eP P 04 58 00.5 +0.1
HHC AP pP 04 58 10.3 -0.9
HHC XP sP 04 58 14.3 -1.5
HHC S S 05 04 16.3 -3.6
HHC SCS ScS 05 07 59.8 +3.4
HHC AMB AMB
comp=Z,7.0nm,0.3s,mb4.9
HHC AMB AMB
comp=Z,355nm,4.1s
HHC LR LR
comp=N,1μm,17.6s,MS5.1
HHC LR LR
comp=E,2μm,20.8s,MS5.1
HHC LR LR
comp=Z,982nm,20.8s,MS4.7
FORT **Forrest** 42.55 139 ⇓iP P 04 58 02.0 +1.4
comp=Z,3μm,0.9s
ASPA **Alice Springs** 42.84 126 ⇓iP P 04 58 03.6 +0.5
ASPA eS S 05 04 29.1 +4.7
ASAR **Alice Springs** 42.84 126 P P 04 58 03.6 +0.5
ASAR *PP pP 04 58 15.4 +1.5
ASAR 04 59 52.7
ASAR S S 05 04 23.6 -0.9
ASAR **Alice Springs** 42.84 126 P P 04 58 03.6 +0.5
comp=Z,30nm,0.8s,mb5.0,baz=304,slow=7.7,SNR=148
ASAR pP pP 04 58 15.3 +1.5
comp=Z,13nm,0.7s,baz=300,slow=7.8,SNR=7.8
ASAR PcP PcP 04 59 52.7 -1.6
comp=Z,7.9nm,1.0s,baz=289,slow=6.1,SNR=4.2
ASAR ScP 05 03 43.3
comp=Z,1.2nm,0.9s,baz=318,slow=5.4,SNR=4.3
ASAR S S 05 04 23.6 -0.9
comp=Z,2.6nm,1.1s,baz=291,slow=12,SNR=4.7
ASAR LR LR 05 18 32.2
comp=Z,614nm,18.8s,MS4.5,baz=310,slow=40
BJT **Baijiatuao** 43.27 21 eP P 04 58 07.5 +1.1
BJT pmax pmax
comp=Z,83nm,0.8s
BJT MLR MLR
comp=Z,612nm,19.0s
BJT **Baijiatuao** 43.27 21 eP P 04 58 07.5 +1.1
comp=Z,83nm,0.8s,mb5.5
BJT LR LR
comp=Z,612nm,19.0s,MS4.5
BJI **Beijing** 43.30 21 eP P 04 58 07.8 +1.2
BJI AMB AMB
comp=Z,61nm,0.8s,mb5.4
WMQ **Urumqi** 44.26 350 P P 04 58 15.0 +0.7
WMQ AP pP 04 58 25.0 -0.1
WMQ XP sP 04 58 29.0 -0.7
WMQ PP PP 05 00 00.0 +1.1
WMQ AMB AMB
comp=Z,72nm,1.4s,mb5.2
WMQ AMB AMB
comp=Z,512nm,3.8s
WMQ LR LR
comp=N,1μm,12.3s,MS5.2
WMQ LR LR
comp=E,2μm,16.0s,MS5.2
WMQ LR LR
comp=Z,2μm,21.0s,MS5.0
SMDO **Samad** 44.27 304 ⇑P P 04 58 08.9 -5.8
BIDO **Bidbid** 44.40 304 ⇓P P 04 58 09.7 -6.1
SHAO **Shalim** 44.48 296 ⇓P P 04 58 17.0 +0.6
DL2 **Dalian** 44.59 27 P P 04 58 18.3 +1.2
DL2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
BSY **Bisya** 44.85 303 ⇑P P 04 58 13.9 -5.4
RBK **Rabkut** 45.61 295 P P 04 58 25.8 +0.3
SNR=6.2
WHFO **Wadi Hawf** 46.13 295 P P 04 58 29.0 -0.5
SNR=16
ABTO **Aybut** 46.39 294 P P 04 58 31.4 -0.2
SNR=6.6
KS15 **Wonju Array Si** 46.68 34 eP P 04 58 33.5 -0.1
AAK **Ala-Archa** 46.90 337 P P 04 58 35.4 +0.1
comp=Z,144nm,0.6s,mb6.1,SNR=26
AAK **Ala-Archa** 46.90 337 eP P 04 58 34.8 -0.5
AAK pmax pmax
comp=Z,21nm,0.8s,mb5.1
AAK MLR MLR
comp=Z,293nm,21.0s,MS4.2
AAK **Ala-Archa** 46.90 337 eP P 04 58 34.8 -0.5
comp=Z,21nm,0.8s,mb5.1
AAK LR LR
comp=Z,293nm,21.0s,MS4.2
FRU **Bishkek** 47.03 337 eP P 04 58 38.0 +1.7
FRU pmax pmax
comp=Z,390nm,2.6s,mb5.9
SNY **Shenyang** 47.83 27 ⇑P P 04 58 41.0 -1.6
SNY AMB AMB
comp=Z,30nm,1.1s,mb5.2
SONM **Songino Array** 48.14 8 P P 04 58 45.5 +0.6
comp=Z,8.2nm,0.7s,mb4.8,baz=191,slow=8.8,SNR=45
SONM pP pP 04 58 56.5 +0.8
comp=Z,42nm,0.8s,baz=193,slow=9.2,SNR=44
SONM PcP PcP 05 00 10.5 -1.9
comp=Z,5.2nm,0.8s,baz=180,slow=10,SNR=2.0
MKAR **Makanchi Array** 48.21 346 P P 04 58 45.2 -0.2
comp=Z,17nm,0.8s,mb5.1,baz=157,slow=7.9,SNR=37
MKAR pP pP 04 58 56.5 +0.3
comp=Z,38nm,0.7s,baz=160,slow=7.7,SNR=22
ULN **Ulaanbaatar** 48.27 9 eP P 04 58 45.2 -0.7
ULN e pP 04 58 57.2 +0.5
ULN pmax pmax
comp=Z,24nm,0.8s,mb5.3
ULN MLR MLR
comp=Z,1μm,19.0s,MS4.9
ULN **Ulaanbaatar** 48.27 9 eP P 04 58 45.2 -0.7
comp=Z,24nm,0.8s,mb5.3
ULN e pP 04 58 57.2 +0.5
ULN LR LR
comp=Z,1μm,19.0s,MS4.9
CN2 **Changchun** 50.23 27 eP P 04 59 00.5 -0.6
CN2 eAP pP 04 59 12.5 +0.6
CN2 eS S 05 06 06.8 -2.5
CN2 AMB AMB
comp=Z,30nm,0.8s,mb5.4
CN2 AMB AMB
comp=Z,850nm,5.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.2
CN2 LR LR
comp=E,2μm,16.0s,MS5.2
CN2 LR LR
comp=Z,830nm,18.0s,MS4.8
ZAK **Zakamensk** 50.28 5 eP P 04 59 01.6 +0.2
ZAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
PMG **Port Moresby** 50.69 102 eP P 04 59 04.7 -0.3
PMG pmax pmax
comp=Z,30nm,0.8s
PMG MLR MLR
comp=Z,383nm,22.0s
PMG **Port Moresby** 50.69 102 P P 04 59 05.0 +0.1
comp=Z,35nm,0.8s,mb5.3,baz=310,slow=6.9,SNR=7.8
PMG pP pP 04 59 17.7 +1.9
comp=Z,26nm,0.8s,baz=243,slow=3.4,SNR=3.5
PMG **Port Moresby** 50.69 102 eP P 04 59 04.7 -0.3
comp=Z,30nm,0.8s,mb5.3
PMG LR LR
comp=Z,383nm,22.0s,MS4.4
MOY **Mondy** 51.40 3 eP P 04 59 12.4 +2.6
MOY pmax pmax
comp=Z,43nm,2.3s,mb5.0
TLY **Talaya** 51.60 5 eP P 04 59 12.0 +0.7
TLY e pP 04 59 23.3 +1.1
TLY pmax pmax
comp=Z,43nm,0.8s,mb5.4
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.0
TLY **Talaya** 51.60 5 eP P 04 59 11.3 0.0
comp=Z,41nm,0.8s,mb5.4
TLY LR LR
comp=Z,534nm,20.0s,MS4.6
CTA **Charters Tower** 52.11 116 ⇓iP P 04 59 15.8 +0.2
comp=Z,50nm,0.9s,mb5.4
CTA **Charters Tower** 52.11 116 ⇓iP P 04 59 15.8 +0.2
CTA pmax pmax
comp=Z,50nm,0.9s
CTA **Charters Tower** 52.11 116 LR LR 05 24 19.4
comp=Z,956nm,20.6s,MS4.8,baz=103,slow=39
CTAO **Charters Tower** 52.11 116 eP P 04 59 15.3 -0.3
CTAO pmax pmax
comp=Z,82nm,1.0s,mb5.6
CTAO MLR MLR
comp=Z,989nm,19.0s,MS4.9
CTAO **Charters Tower** 52.11 116 eP P 04 59 15.3 -0.2
comp=Z,82nm,1.0s,mb5.6
CTAO LR LR
comp=Z,989nm,19.0s,MS4.9
IRK **Irkutsk** 52.22 6 eP P 04 59 16.9 +1.0
IRK e 05 01 14.2
IRK pmax pmax
comp=Z,82nm,1.6s,mb5.4
MAT **Matsushiro** 52.48 42 eP P 04 59 16.0 -2.1
MAT pmax pmax
comp=Z,15nm,0.9s,mb4.9
MAT **Matsushiro** 52.48 42 eP P 04 59 16.0 -2.1
comp=Z,15nm,0.9s,mb4.9
MAT **Matsushiro** 52.48 42 P P 04 59 16.4 -1.7
HIA **Hailar** 52.61 18 eP P 04 59 18.9 0.0
HIA pmax pmax
comp=Z,49nm,0.7s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA **Hailar** 52.61 18 eP P 04 59 18.9 -0.1
comp=Z,49nm,0.7s,mb5.5
HIA LR LR
comp=Z,1μm,20.0s,MS5.0
STKA **Stephens Creek** 52.73 132 ⇓iP P 04 59 20.5 +0.5
comp=Z,89nm,1.0s,mb5.7
KURK **Kurchatov** 52.75 345 eP P 04 59 19.2 -0.8
KURK e pP 04 59 30.5 -0.4
KURK pmax pmax
comp=Z,97nm,1.3s,mb5.6
KURK MLR MLR
comp=Z,187nm,20.0s,MS4.1
KURK **Kurchatov** 52.75 345 eP P 04 59 19.2 -0.8
comp=Z,97nm,1.3s,mb5.6
KURK e pP 04 59 30.4 -0.5
KURK LR LR
comp=Z,187nm,20.0s,MS4.1
MDJ **Mudanjiang** 52.78 29 P P 04 59 21.0 +0.8
MDJ AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
MDJ AMB AMB
comp=Z,345nm,4.5s
MDJ LR LR
comp=N,615nm,17.2s,MS5.0
MDJ LR LR
comp=E,1μm,19.6s,MS5.0
MDJ LR LR
comp=Z,1μm,24.5s,MS4.8
MDJ **Mudanjiang** 52.78 29 eP P 04 59 20.2 0.0
comp=Z,16nm,0.9s,mb5.0
MDJ LR LR
comp=Z,2μm,19.0s,MS5.1
ATD **Arta Tunnel** 55.07 284 P P 04 59 36.1 -1.4
comp=Z,3.4nm,0.4s,mb4.7,baz=278,slow=22,SNR=6.2
NVS **Novosibirsk** 55.66 350 eP P 04 59 39.3 -1.9
NVS iS S 05 07 24.1 +1.1
NVS pmax pmax
comp=Z,122nm,1.5s,mb5.7
NVS pmax pmax
comp=N,110nm,1.4s
NVS pmax pmax
comp=E,58nm,1.4s
NVS smax
comp=N,38nm,1.9s
NVS smax
comp=E,14nm,1.4s
BVAR **Borovoye Array** 57.18 341 P P 04 59 51.3 -0.9
comp=E,2.6nm,0.8s,mb4.3,baz=149,slow=8.6,SNR=9.4
BVAR pP pP 05 00 01.9 -1.4
comp=E,8.7nm,0.6s,baz=146,slow=5.3,SNR=17
TOO **Toolangi** 58.26 136 eP P 05 00 01.7 +1.8
comp=E,1.1nm,0.9s
TOO **Toolangi** 58.26 136 eP P 05 00 01.7 +1.8
TOO pmax pmax
comp=Z,1.0nm,0.9s
BOD **Bodaibo** 59.01 10 eP P 05 00 04.1 -0.8
BOD pmax pmax
comp=Z,45nm,1.3s,mb5.3
BHD **Baghdad** 59.42 309 eP P 05 00 01.0 -7.1
KMBO **Kilima Mbogo** 59.90 269 eP P 05 00 10.3 -1.3
KMBO pmax pmax
comp=Z,10.0nm,1.1s
KMBO MLR MLR
comp=Z,657nm,22.0s
KMBO **Kilima Mbogo** 59.90 269 P P 05 00 11.1 -0.5
comp=Z,3.7nm,0.9s,mb4.4,baz=44,slow=10,SNR=8.8
KMBO pP pP 05 00 23.3 +0.6
comp=Z,2.4nm,0.7s,baz=53,slow=15,SNR=4.0
KMBO **Kilima Mbogo** 59.90 269 eP P 05 00 10.2 -1.4
comp=Z,10nm,1.1s,mb4.8
KMBO LR LR
comp=Z,657nm,22.0s,MS4.7
CNB **Canberra Magne** 60.05 132 eP P 05 00 12.7 +0.3
comp=Z,197nm,1.0s,mb6.1
CLNS **Chul'man** 60.72 17 eP pP 05 00 26.1 -1.6
CLNS pmax pmax
comp=Z,30nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,13nm,0.7s
CLNS pmax pmax
comp=E,13nm,0.7s
CLNS MLR MLR
comp=Z,2μm,14.0s,MS5.3
CLNS MLR MLR
comp=N,1μm,17.0s,MS5.1
CLNS MLR MLR
comp=E,200nm,14.0s,MS5.1
YSS **Yuzh-Sakhalins** 61.21 34 eP P 05 00 24.7 +4.6
YSS e 05 00 31.2
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS **Yuzh-Sakhalins** 61.21 34 P P 05 00 19.0 -1.1
comp=Z,65nm,1.1s,mb5.7
YSS LR LR
comp=Z,871nm,19.0s,MS4.9
MSL **Mosul** 61.56 312 iP P 05 00 32.0 +9.4
GNI **Garni** 61.98 317 eP P 05 00 25.1 -0.2
GNI pmax pmax
comp=Z,101nm,1.6s
GNI MLR MLR
comp=Z,869nm,20.0s
GNI **Garni** 61.98 317 pP pP 05 00 38.0 +1.5
comp=Z,8.7nm,0.7s,baz=116,slow=7.3,SNR=3.2
GNI **Garni** 61.98 317 eP P 05 00 25.1 -0.3
comp=Z,101nm,1.6s,mb5.7
GNI LR LR
comp=Z,869nm,20.0s,MS4.9
TI2 **Plekhanov** 62.69 318 eP P 05 00 29.0 -1.0
HNR **Honiara** 63.23 101 eP P 05 00 33.8 -0.2
HNR pmax pmax
comp=Z,181nm,0.8s,mb6.2
HNR MLR MLR
comp=Z,387nm,21.0s,MS4.6
HNR **Honiara** 63.23 101 eP P 05 00 33.8 -0.2
comp=Z,181nm,0.8s,mb6.2
HNR LR LR
comp=Z,387nm,21.0s,MS4.6
SVE **Sverdlovsk** 63.60 339 ⇑eP P 05 00 35.0 -0.9
SVE e pP 05 00 46.2 -0.9
SVE pmax pmax
comp=Z,40nm,1.6s,mb5.2
ARU **Arti** 64.09 337 ⇓iP P 05 00 40.5 +1.5
ARU e 05 01 14.2
ARU e 05 03 03.2
ARU eS S 05 09 18.2 +6.8
ARU pmax pmax
comp=Z,21nm,1.3s,mb5.0
ARU **Arti** 64.09 337 eP P 05 00 37.6 -1.4
comp=Z,14nm,0.7s,mb5.1
ARU LR LR
comp=Z,322nm,21.0s,MS4.5
ASF **Jabal al Asfar** 65.00 306 P P 05 00 45.4 +0.1
comp=Z,1.9nm,0.3s,mb4.5,baz=250,slow=1.6,SNR=10
ASF pP pP 05 00 56.4 -0.3
comp=Z,11nm,0.9s,baz=352,slow=3.0,SNR=5.6
KIV **Kislovodsk** 65.03 320 iP P 05 00 40.5 -4.9
KIV e 05 01 14.4
KIV e 05 03 07.8
KIV pmax pmax
comp=Z,38nm,2.1s,mb5.1
GOF **Gofitskoye** 65.31 321 ⇑iP P 05 00 59.5 +12
GOF pmax pmax
comp=Z,80nm,2.0s,mb5.4
ELZG **Elazig** 65.42 313 iP P 05 00 48.0 +0.1
MALT **Malatya** 65.77 313 eP P 05 00 49.4 -0.7
MALT pmax pmax
comp=Z,28nm,1.1s,mb5.2
MALT **Malatya** 65.77 313 eP P 05 00 49.4 -0.8
comp=Z,28nm,1.1s,mb5.2
EIL **Elat** 65.95 303 P P 05 00 51.3 -0.2
comp=Z,4.2nm,0.7s,mb4.6,baz=91,slow=9.0,SNR=5.8
EIL pP pP 05 01 01.6 -1.1
comp=Z,14nm,0.8s,baz=181,slow=5.8,SNR=8.2
EIL **Elat** 65.95 303 eP P 05 00 51.1 -0.4
comp=Z,12nm,0.7s,mb5.0
EIL e pP 05 01 01.5 -1.3
GZT **Gaziantep** 66.08 311 iP P 05 00 51.2 -1.0
YAK **Yakutsk** 66.40 16 eP P 05 00 53.7 -0.1
YAK e*PP pP 05 01 04.3 -0.8
YAK pmax pmax
comp=Z,152nm,0.8s,mb6.1
YAK MLR MLR
comp=Z,1μm,21.0s,MS5.1
YAK **Yakutsk** 66.40 16 eP P 05 00 53.7 -0.1
comp=Z,152nm,0.8s,mb6.1
YAK epP pP 05 01 04.3 -0.9
YAK LR LR
comp=Z,1μm,21.0s,MS5.1
KAHT **Ahir Dag** 66.69 311 iP P 05 00 56.0 0.0
COBT **Iskenderun** 66.81 310 iP P 05 00 53.0 -3.7
MEST **Erdemli** 68.45 310 iP P 05 01 02.5 -4.6
CSS **Prodhromos** 68.64 308 eP P 05 01 07.6 -0.6
comp=Z,70nm,1.5s,mb5.4

BOYT	Boyabat	69.36	315	*i* P		P		05 01 12.9	+0.3
BRTR	Keskin Array B	69.75	313	P		P		05 01 13.6	-1.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=127,slow=6.2,SNR=12								
BRTR				pP		pP		05 01 24.8	-1.6
	comp=Z,7.0nm,0.7s,baz=132,slow=8.0,SNR=17								
VRSR	Storozhevoye	70.35	326	*e*P		P		05 01 16.8	-1.6
VRSR				pmax	pmax				
	comp=Z,10.0nm,1.3s,mb4.6								
VRSR				pmax	pmax				
	comp=N,8.0nm,0.9s								
VRSR				pmax	pmax				
	comp=E,9.0nm,0.8s								
BALT	Daday	70.48	314	*i* P		P		05 01 21.4	+2.0
DZM	Mont Dzumac	70.93	113	P		P		05 01 23.7	+1.2
	comp=E,13nm,0.9s,mb4.8,baz=279,slow=2.3,SNR=9.8								
SIM	Simferopol'	71.07	318	*ce*P		P		05 01 33.0	+10
SIM				pmax	pmax				
	comp=Z,37nm,0.9s,mb5.3								
MAW	Mawson	71.72	193	P		P		05 01 27.5	+1.1
	comp=Z,11nm,0.8s,mb4.8,baz=11,slow=7.2,SNR=14								
MAW				pP		pP		05 01 37.9	+0.1
	comp=Z,5.6nm,0.7s,baz=90,slow=18,SNR=4.1								
ESKT	Eskisehir	71.76	312	*i* P		P		05 01 24.5	-2.6
MA2	Magadan	72.27	25	*e*P		P		05 01 29.6	-0.1
MA2				*e*		pP		05 01 41.2	+0.1
MA2				pmax	pmax				
	comp=Z,21nm,0.6s,mb5.2								
MA2				MLR		MLR			
	comp=Z,1μm,21.0s,MS5.1								
MA2	Magadan	72.27	25	*e*P		P		05 01 29.6	-0.1
	comp=Z,21nm,0.6s,mb5.2								
MA2				*e*		pP		05 01 41.2	+0.1
MA2				LR		LR			
	comp=Z,1μm,21.0s,MS5.1								
PET	Petropavlovsk	73.10	34	*e*P		P		05 01 44.9	+10
PET				pmax	pmax				
	comp=Z,60nm,0.6s,mb5.7								
MOS	Moscow	73.17	329	*e*P		P		05 01 34.3	-0.9
MOS				*e*		pP		05 01 44.5	-2.1
MOS				pmax	pmax				
	comp=Z,60nm,0.6s,mb5.7								
ULDT	Uludag	73.19	312	*i* P		P		05 01 31.9	-3.8
LBTB	Lobatse	73.39	244	P		P		05 01 36.8	-0.4
	comp=Z,4.0nm,0.9s,mb4.4,baz=106,slow=6.8,SNR=5.5								
LBTB				pP		pP		05 01 47.6	-0.9
	comp=Z,6.0nm,0.7s,baz=100,slow=5.0,SNR=5.8								
LBTB				LR		LR		05 28 33.0	
	comp=Z,438nm,19.5s,MS4.8,baz=5.0,slow=32								
OBN	Obninsk	73.45	329	*e*P		P		05 01 34.7	-2.1
OBN				*e*PPP		PPP		05 06 02.4	-4.2
OBN				pmax	pmax				
	comp=Z,42nm,1.4s,mb5.2								
OBN				MLR		MLR			
	comp=Z,600nm,22.0s,MS4.8								
TIXI	Tiksi	74.19	10	*e*P		P		05 01 39.4	-1.4
TIXI				pmax	pmax				
	comp=Z,42nm,0.9s,mb5.4								
TIXI				MLR		MLR			
	comp=Z,982nm,16.0s,MS5.2								
KDAG	Bornova	74.20	310	*i* P		P		05 01 34.5	-7.1
BOSA	Boshof	74.23	240	P		P		05 01 40.8	-1.1
	comp=Z,4.5nm,0.7s,mb4.5,baz=88,slow=7.3,SNR=8.7								
BOSA				pP		pP		05 01 52.5	-0.8
	comp=Z,5.0nm,0.5s,baz=105,slow=4.8,SNR=5.3								
SEY	Seymchan	74.71	23	*e*P		P		05 01 44.6	+0.6
SEY				*e*		pP		05 01 57.5	+2.1
SEY				pmax	pmax				
	comp=Z,20nm,0.8s,mb5.1								
CFR	Carcaliu	75.19	317	⇓P		P		05 01 39.4	-7.7
KIS	Kishinev	75.22	319	*e*P		P		05 01 45.0	-2.2
KIS				*e*		pP		05 02 04.0	
AKASG	Malin Array Be	76.02	323	PP		PP		05 04 40.7	-3.7
	comp=Z,0.3nm,0.2s,baz=90,slow=7.6,SNR=4.5								
MLR	Muntele Rosu	76.76	317	P		P		05 01 56.0	0.0
	comp=Z,12nm,1.0s,mb4.8,baz=96,slow=3.1,SNR=6.9								
MLR				pP		pP		05 02 07.9	+0.5
	comp=Z,25nm,0.9s,baz=237,slow=2.1,SNR=9.5								
MLR				LR		LR		05 38 43.2	
	comp=Z,1μm,19.9s,MS5.2,baz=102,slow=38								
MLR	Muntele Rosu	76.76	317	⇑P		P		05 01 57.2	+1.1
MLR	Muntele Rosu	76.76	317	⇑P		P		05 01 57.2	+1.1
BURAR	Bucovina Array	77.74	319	⇓P		P		05 02 02.3	+0.8
RPZ	Rata Peaks	78.54	135	P		P		05 02 06.6	+0.6
	comp=Z,19nm,0.7s,mb5.1,baz=286,slow=2.7,SNR=6.9								
RPZ				pP		pP		05 02 18.8	+1.5
	comp=Z,7.7nm,0.5s,baz=12,slow=17,SNR=2.5								
SYO	Syowa Base	79.03	198	⇓P		P		05 02 07.7	-0.4
LVZ	Lovozero	79.76	340	*e*P		P		05 02 11.9	-0.2
BZS	Buzias	79.76	316	⇓P		P		05 02 12.4	-0.1
KWP	Kalwaria	79.81	320	*e*P		P		05 02 12.5	-0.2
KOLS	Kolonicke sedl	79.95	320	*e*P		P		05 02 14.1	+0.6
KOLS				*e*		pP		05 02 23.2	-1.7
KOLS	Kolonicke sedl	79.95	320	*e*P		P		05 02 14.1	+0.6
KOLS				*e*				05 02 18.4	
KOLS				*e*		pP		05 02 23.2	-1.7
APA	Apatity	80.05	340	⇑*i*P		P		05 02 25.5	+12
APA				pmax	pmax				
	comp=Z,130nm,1.6s,mb5.6								
APA				MLR		MLR			
	comp=Z,1μm,20.0s,MS5.2								
SUW	Suwalki	80.47	325	*e*P		P		05 02 14.6	-1.5
FINES	FINESS Array B	80.87	333	P		P		05 02 17.8	-0.3
	comp=Z,3.3nm,0.6s,mb4.5,baz=94,slow=6.6,SNR=18								
FINES				pP		pP		05 02 28.9	-0.6
	comp=Z,5.7nm,0.5s,baz=92,slow=5.8,SNR=12								
KAF	Kangasniemi	80.96	333	*e*p		P		05 02 17.1	-1.4
	comp=Z,15nm,0.7s,mb5.0,baz=103,slow=4.8								
KAF	Kangasniemi	80.96	333	*e*P		P		05 02 17.1	-1.4
KAF				pmax	pmax				
	comp=Z,15nm,0.7s,mb5.0								
NIE	Niedzica	81.30	320	*e*P		P		05 02 20.5	-0.1
PSZ	Piszkesteto	81.32	318	⇑*e*P		P		05 02 20.8	0.0
FX1	Attu Island--F	81.43	36	P		P		05 02 22.6	+1.4
	comp=Z,11nm,0.7s,mb4.9,baz=90,slow=23,SNR=3.1								
FX1				pP		pP		05 02 33.9	+1.2
	comp=Z,31nm,0.6s,baz=39,slow=0.4,SNR=6.1								
OJC	Ojcow	81.77	321	*e*P		P		05 02 22.7	-0.3
PKSM	Moragy	81.91	317	⇓*i*P		P		05 02 23.2	-0.6
VYHS	Vyhne	82.11	319	*e*P		P		05 02 23.9	-0.9
VYHS				*e*pP		pP		05 02 35.7	-0.7
BILL	Bilibino	82.13	21	*i* P		P		05 02 27.8	+3.3
BILL				pmax	pmax				
	comp=Z,2.0nm,0.7s,mb4.2								
URZ	Urewera	82.23	129	P		P		05 02 25.5	-0.2
	comp=Z,37nm,1.1s,mb5.2,baz=343,slow=1.2,SNR=8.8								
OKC	Ostrava-Krasne	82.76	320	*e*P		P		05 02 28.3	+0.2
OKC				*e*pP		pP		05 02 39.0	-0.6
KEV	Kevo	83.03	341	*e*p		P		05 02 27.8	-1.3
	comp=Z,31nm,1.1s,mb5.2								
KEV	Kevo	83.03	341	*e*P		P		05 02 27.8	-1.3
KEV				pmax	pmax				
	comp=Z,31nm,1.1s,mb5.2								
MORC	Moravsky Berou	83.14	320	*e*P		P		05 02 30.1	+0.1
MORC				pmax	pmax				
	comp=Z,31nm,1.2s,mb5.2								
MORC	Moravsky Berou	83.14	320	*e*P		P		05 02 30.1	+0.1
	comp=Z,31nm,1.2s,mb5.2								
ZST	Bratislava	83.22	318	*e*P		pP		05 02 41.2	-0.8
ZST	Bratislava	83.22	318	*e*pP		pP		05 02 41.2	-0.8
ARCES	ARCESS Array B	83.47	340	P		P		05 02 31.8	+0.5
	comp=Z,2.5nm,0.5s,mb4.5,baz=98,slow=4.5,SNR=19								
ARCES				pP		pP		05 02 43.2	+0.3
	comp=Z,11nm,0.7s,baz=112,slow=4.4,SNR=8.5								
DPC	Dobruska-Polom	83.99	321	*e*P		P		05 02 35.2	+0.8
DPC				*e*pP		pP		05 02 45.9	0.0
KSP	Ksiaz	84.07	321	*e*P		P		05 02 35.0	+0.2
KSP				*e**PP		pP		05 02 45.6	-0.7
KSP	Ksiaz	84.07	321	*e*P		P		05 02 35.3	+0.5
GROS	Grobnik	84.10	317	*e*P		P		05 02 34.8	-0.2
BOJS	Bojanci	84.17	316	*e*P		P		05 02 34.1	-1.3
UPC	Upice	84.21	321	*e*P		P		05 02 36.0	+0.5
UPC				*e*pP		pP		05 02 48.0	+1.0
LJU	Ljubljana	84.73	316	*e*P		P		05 02 38.4	+0.2
LJU				*i*		pP		05 02 49.4	-0.3
VNDA	Vanda	84.85	169	*e*P		P		05 02 38.0	-0.1
VNDA				pmax	pmax				
	comp=Z,29nm,1.4s								
VNDA	Vanda	84.85	169	P		P		05 02 38.1	0.0
	comp=Z,12nm,1.1s,mb4.9,baz=297,slow=5.2,SNR=25								
VNDA				pP		pP		05 02 49.8	+0.1
	comp=Z,6.7nm,1.0s,baz=50,slow=5.2,SNR=7.5								
VNDA	Vanda	84.85	169	*e*P		P		05 02 38.0	-0.1
	comp=Z,29nm,1.4s,mb5.2								
PRU	Pruhonice	85.09	320	*e*P		P		05 02 40.1	+0.2
PRU				*e*pP		pP		05 02 50.8	-0.7
PVCC	Panska Ves	85.13	321	*e*P		P		05 02 38.8	-1.2
PVCC				*e*pP		pP		05 02 51.4	-0.2
PTQR	Pietraquaria	85.22	312	*e*P		P		05 02 41.6	+0.9
NRCA	Norcia	85.49	313	*e*P		P		05 02 41.9	-0.1
GEC2	GERESS Array S	85.53	319	*e*P		P		05 02 42.6	+0.5
GEC2				pmax	pmax				
	comp=Z,56nm,1.6s,mb5.5								
GEC2	GERESS Array S	85.53	319	*e*P		P		05 02 42.6	+0.5
	comp=Z,56nm,1.6s,mb5.5								
GERES	GERESS Array B	85.53	319	P		P		05 02 42.5	+0.4
	comp=Z,5.0nm,1.0s,mb4.7,baz=108,slow=4.2,SNR=23								
GERES				pP		pP		05 02 53.2	-0.5
	comp=Z,7.5nm,0.9s,baz=90,slow=4.0,SNR=14								
BRG	Berggiesshubel	85.56	321	*e*P		P		05 02 42.7	+0.6
BRG				*i*		pP		05 02 53.6	-0.1
BRG				pmax	pmax				
	comp=Z,43nm,1.8s,mb5.4								
BRG	Berggiesshubel	85.56	321	*e*P		P		05 02 42.7	+0.6
	comp=Z,43nm,1.8s,mb5.4								
BRG				*i*		pP		05 02 53.6	-0.1
PTCC	Patocco-Chiusa	85.57	316	*e*P		P		05 02 42.4	+0.1
KHC	Kasperske Hory	85.64	319	*e*P		P		05 02 43.0	+0.4
KHC				*e*pP		pP		05 02 53.2	-1.0
ARV	Arcevia	85.66	313	*e*P		P		05 02 42.7	-0.1
FVI	Forni Avoltri	85.98	317	*e*P		P		05 02 44.9	+0.6
WET	Wettzell	86.10	319	*e*P		P		05 02 45.2	+0.4
WET				pmax	pmax				
	comp=Z,37nm,1.7s,mb5.3								
WET	Wettzell	86.10	319	*e*P		P		05 02 45.2	+0.4
	comp=Z,37nm,1.7s,mb5.3								
CLL	Collm	86.18	321	*i* P		P		05 02 45.0	-0.2
CLL				*i*		pP		05 02 55.5	-1.3
CLL				pmax	pmax				
	comp=Z,9.0nm,1.3s,mb4.8								
CLL	Collm	86.18	321	*i* P		P		05 02 45.0	-0.2
	comp=Z,9.0nm,1.3s,mb4.8								
CLL				*i*		pP		05 02 55.5	-1.3
CLL				*e*				05 03 12.0	
CLL	Collm	86.18	321	P		P		05 02 45.0	-0.2
	comp=Z,logA/T=0.8,mb4.8								
CLL				*i* *PP		pP		05 02 55.5	-1.3
CLL				*e*				05 03 12.0	
NKC	Novy Kostel	86.45	320	*e*P		P		05 02 47.1	+0.6
NKC				*e*pP		pP		05 02 57.8	-0.4
SFI	Santa Sofia	86.47	314	*e*P		P		05 02 46.7	-0.1
VMG	Vicchio	86.70	314	*e*P		P		05 02 50.0	+2.1
CTI	Castel Tesino	86.73	316	*e*P		P		05 02 48.3	+0.3
MOX	Moxa	87.01	321	*e*P		P		05 02 46.0	-3.3
GRA1	Grafenberg Arr	87.21	320	*e*P		P		05 02 51.0	+0.7
	comp=Z,75nm,1.8s,mb5.6								
GRA1				*e*pP		pP		05 03 02.1	+0.2
GRF	Grafenberg Arr	87.21	320	*e*P		P		05 02 51.0	+0.7
GRF				*e**PP		pP		05 03 02.1	+0.2
GRF				pmax	pmax				
	comp=Z,75nm,1.8s,mb5.6								
GRF	Grafenberg Arr	87.21	320	*e*P		P		05 02 51.0	+0.7
GRF				*e**PP		pP		05 03 02.1	+0.2
GRF				pmax	pmax				
	comp=Z,75nm,1.8s,mb5.6								
GRF	Grafenberg Arr	87.21	320	*e*P		P		05 02 51.0	+0.7
	comp=Z,75nm,1.8s,mb5.6								
GRF				*e*pP		pP		05 03 02.1	+0.2
CLZ	Clausthal	87.85	322	*e*P		P		05 02 53.9	+0.6
	comp=Z,57nm,1.8s,mb5.5								
NB2	NORSAR Subarra	87.86	331	P		P		05 02 52.7	-0.4
	comp=Z,9.6nm,0.8s,mb5.1,baz=96,slow=4.8								
NB2	NORSAR Subarra	87.86	331	P		P		05 02 52.7	-0.4
NB2				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb5.1								
NB2	NORSAR Subarra	87.86	331	P		P		05 02 52.7	-0.4
	baz=96,slow=4.8								
NOA	NORSAR Array B	87.86	331	P		P		05 02 53.2	+0.1
	comp=Z,4.7nm,0.9s,mb4.7,baz=95,slow=4.9,SNR=14								
NOA				pP		pP		05 03 04.7	-0.1
	comp=Z,5.2nm,0.7s,baz=96,slow=4.8,SNR=10								
BSEG	Bad Segeberg	87.97	324	*e*P		P		05 02 54.5	+0.7
NVL	N'lazarevskaya	88.62	199	⇓*i*P		P		05 02 57.8	+1.3
NVL				*i*				05 03 13.0	
MAIT	Maitri	88.65	199	*e*P		P		05 02 59.0	+2.3
TNS	Taunus Mts	89.02	320	*e*P		P		05 02 59.6	+0.7
BFO	Black Forest	89.07	318	*e*P		P		05 02 59.1	-0.1
BFO				pmax	pmax				
	comp=Z,22nm,1.6s,mb5.2								
BFO	Black Forest	89.07	318	*e*P		P		05 02 59.1	-0.1
	comp=Z,22nm,1.6s,mb5.2								
LPG	La Plagne	90.14	315	*e*P		P		05 03 04.5	+0.2
	comp=Z,20nm,0.8s,mb5.2								
BNI	Bardonecchia	90.20	315	P		P		05 03 03.3	-1.3
	comp=Z,7.0nm,0.9s,mb5.0								
TNA	Tin City	91.88	25	*e*P		P		05 03 12.4	+0.5
	comp=Z,4.6nm,0.9s,mb4.8								
TNA				LR		LR			
	comp=Z,353nm,19.0s,MS4.8								
VNA2	Neumayer--Watz	94.91	199	*e*		P		05 03 32.4	+6.8
VNA2	Neumayer--Watz	94.91	199	*e*		pP		05 03 37.4	+0.1
VNA2	Neumayer--Watz	94.91	199	⇑*i*P		P		05 03 23.9	-1.7
VNA2				*e*				05 03 32.4	
VNA2				*e*		pP		05 03 37.4	+0.1
VNA1	Neumayer--Stat	95.25	199	*e*		P		05 03 32.7	+5.5
VNA1	Neumayer--Stat	95.25	199	*e*		pP		05 03 38.1	-0.8
VNA1	Neumayer--Stat	95.25	199	⇑*i*P		P		05 03 23.4	-3.8
VNA1				*e*		pP		05 03 32.7	-6.2
VNA1				*e*		pP		05 03 38.1	-0.8
VNA3	Neumayer Olymp	95.54	198	*e*		P		05 03 33.8	+5.3
VNA3	Neumayer Olymp	95.54	198	*e*		pP		05 03 38.8	-1.4
VNA3	Neumayer Olymp	95.54	198	⇑*i*P		P		05 03 24.6	-3.9
VNA3				*e*		pP		05 03 33.8	-6.4
VNA3				*e*		pP		05 03 38.8	-1.4
IMA	Indian Mountai	97.53	23	*e*P		P		05 03 36.7	-1.0
INK	Inuvik	103.45	17	PP		PP		05 08 20.0	-3.0
	comp=Z,1.4nm,1.0s,baz=254,slow=2.8,SNR=3.4								
INK				PKKPbc				05 19 57.4	
	comp=Z,1.2nm,1.1s,baz=262,slow=3.7,SNR=3.2								
YKA	Yellowknife Ar	113.08	15	PKiKP				05 08 40.0	
	comp=Z,0.4nm,0.9s,baz=315,slow=2.4,SNR=7.0								
YKA				PP		PP		05 09 28.4	-6.0
	comp=Z,0.7nm,1.0s,baz=322,slow=8.0,SNR=4.9								
YKA				PKKPbc				05 19 27.0	
	comp=Z,0.9nm,0.8s,baz=145,slow=3.3,SNR=17								
YKA				PKKPab				05 19 34.6	
	comp=Z,1.3nm,1.0s,baz=142,slow=4.5,SNR=11								
YKA				PKKP		PKKP		05 19 42.9	+2.7
	comp=Z,0.3nm,0.9s,baz=155,slow=3.2,SNR=3.7								
YKA	Yellowknife Ar	113.08	15	PKPdf		PKPdf		05 08 40.0	+0.4
YKA				PP		PP		05 09 28.4	-6.0
YKA				PKKPbc				05 19 27.1	
YKA				PKKPab				05 19 34.6	
YKA				PKKP		PKKP		05 19 42.9	+2.7
NEW	Newport	123.36	27	PKP		PKPdf		05 09 01.9	+1.9
	comp=Z,1.2nm,0.6s,baz=58,slow=5.1,SNR=3.8								
NEW				pPKP				05 09 14.8	
	comp=Z,3.9nm,0.8s,baz=18,slow=3.5,SNR=5.1								
NEW	Newport	123.36	27	PKP		PKPdf		05 09 01.9	+1.9
NEW				pPKP				05 09 14.8	
SCHQ	Schefferville	123.61	349	PKP		PKPdf		05 09 02.0	+1.7
	comp=Z,2.1nm,0.9s,baz=251,slow=4.4,SNR=3.7								
SCHQ				pPKP				05 09 15.1	
	comp=Z,1.5nm,0.7s,baz=358,slow=3.0,SNR=2.5								
MSO	Missoula	125.85	26	*e*PKP		PKPdf		05 09 05.8	+1.0
BOZ	Bozeman (W)	127.78	25	*e*PKP		PKPdf		05 09 10.4	+1.8
BOZ				*e*				05 09 22.5	
BOZ				LR		LR			
	comp=Z,638nm,20.0s,MS5.3								
QLMT	Earthquake Lak	128.51	26	*e*PKP		PKPdf		05 09 10.9	+0.9
ULM	Lac du Bonnet	128.54	11	PKP		PKPdf		05 09 11.4	+1.5
	comp=Z,2.5nm,0.7s,baz=32,slow=4.3,SNR=7.5								
ULM				pPKP				05 09 22.6	
	comp=Z,3.9nm,0.8s,baz=344,slow=3.2,SNR=5.0								
LKWY	Lake	129.16	25	PKP		PKPdf		05 09 14.3	+3.0
LKWY				LR		LR			
	comp=Z,2μm,21.0s,MS5.7								
SNOW	Snow King Moun	129.89	26	PKP		PKPdf		05 09 14.8	+2.1
BGU	Big Grassy Mou	130.77	30	*e*PKP		PKPdf		05 09 16.4	+2.0
PDAR	Pinedale Array	130.97	26	PKP		PKPdf		05 09 16.9	+2.1
	comp=Z,1.0nm,0.7s,baz=259,slow=0.7,SNR=9.8								
PDAR				pPKP				05 09 28.1	
	comp=Z,1.4nm,0.8s,baz=203,slow=1.2,SNR=6.7								
PDAR				SKPbc				05 12 37.6	
	comp=Z,1.4nm,1.1s,baz=45,slow=2.1,SNR=3.8								
TRCR	Troy Canyon	131.26	34	*e*PKP		PKPdf		05 09 17.5	+2.1
NLU	North Lily Min	131.98	30	*e*PKP		PKPdf		05 09 19.0	+2.2
TMUT	Trail Mountain	132.91	30	*e*PKP		PKPdf		05 09 21.5	+2.9
MSU	Marysvale	133.00	32	*e*PKP		PKPdf		05 09 21.6	+2.9
MSU				*e*SKP				05 12 46.9	
PV10	Paradox Valley	134.70	29	*e*PKP		PKPdf		05 09 24.4	+2.5
PLCA	Paso Flores	138.12	194	PKP		PKPdf		05 09 29.1	+1.0
	comp=Z,3.5nm,1.1s,baz=133,slow=7.8,SNR=2.9								
PLCA				pPKP				05 09 41.2	
	comp=Z,1.3nm,0.7s,baz=78,slow=9.2,SNR=1.5								
PLCA	Paso Flores	138.12	194	PKP		PKPdf		05 09 29.1	+1.0
PLCA				pPKP				05 09 41.2	
TUC	Tucson	138.28	37	*e*PKP		PKPdf		05 09 31.2	+2.5
ANMO	Albuquerque	138.67	30	*e*PKP		PKPdf		05 09 29.9	+0.6
MNTX	Cornudas Mount	141.78	32	*e*PKP		PKPdf		05 09 34.7	-0.2
GDL2	Guadalupe Moun	141.91	30	*e*PKP		PKPdf		05 09 31.2	-3.9
BDFB	Brasilia	142.33	244	PKP		PKPdf		05 09 38.5	+2.2
	comp=Z,6.8nm,1.0s,baz=133,slow=2.4,SNR=7.2								
MIAR	Mount Ida	144.02	15	*e*PKP		PKPdf		05 09 37.7	-1.0
CPCT	Cooper Cave	144.51	2	*e*PKP		PKPdf		05 09 38.9	-0.6
TXAR	Lajitas Array	144.55	32	PKP		PKPdf		05 09 40.9	+1.1
	comp=Z,9.8nm,0.8s,baz=264,slow=1.2,SNR=99								
TXAR				pPKP				05 09 52.8	
	comp=Z,16nm,0.6s,baz=295,SNR=24								
SWET	Sewanee	144.66	4	*e*PKP		PKPdf		05 09 38.0	-1.8
PLAL	Pickwick Lake	144.68	7	*e*PKP		PKPdf		05 09 39.1	-0.7
PLAL				*e*				05 09 50.8	
OXF	Oxford	144.94	9	*e*PKP		PKPdf		05 09 40.5	+0.2
FCH	Farellones	144.98	199	⇓*e*P		PKPdf		05 09 41.5	+1.1
NATX	Nacogdoches	146.32	18	*e*PKP		PKPdf		05 09 45.2	+2.4
LRAL	Lakeview Retre	146.73	6	*e*PKPbc		PKPbc		05 09 45.8	+1.0
LVC	Limon Verde	153.90	210	*e*PKPbc		PKPdf		05 10 04.3	+10
LPAZ	La Paz	158.39	222	PKP		PKPdf		05 10 02.8	+2.1
	comp=Z,2.0nm,0.9s,baz=25,slow=5.1,SNR=7.0								
ROSC	El Rosal	170.12	301	PKP		PKPdf		05 10 12.2	+1.1
	comp=Z,3.8nm,0.8s,baz=242,slow=23,SNR=4.9								

IDC 29 04:58:14.4±2.7, 1.50N×97.24E, h29km±6km, mb3.6/5, mb1 3.8/5, mb1mx3.5/16, mbtmp3.8/5, Error ellipse: s-maj=108.1km s-min=17.5km az=60.0

ISC 29 04:58:12.5±3.1, 1.5N±0.4×97.3E±0.8, h29km, h29km±.3km:pP-P, n6, σ0s59/5, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	Warramunga Arr	42.14	122	P		P	05 06 03.8	-0.7
	0.8nm,0.7s,mb3.5,baz=301,slow=9.1,SNR=4.8							
WRA				pP		pP	05 06 12.7	-0.5
	0.8nm,0.4s,baz=302,slow=9.0,SNR=3.7							
ASAR	Alice Springs	43.53	127	P		P	05 06 16.4	+0.6
	0.2nm,0.4s,mb3.2,baz=297,slow=8.0,SNR=2.8							
SONM	Songino Array	46.79	8	P		P	05 06 41.7	+0.2
	1.6nm,0.8s,mb4.0,baz=192,slow=8.5,SNR=7.7							
SONM				pP		pP	05 06 50.2	+0.1
	0.3nm,0.4s,baz=194,slow=9.0,SNR=2.9							
SONM				sP		sP	05 06 55.0	+1.4
	0.6nm,0.6s,baz=189,slow=10,SNR=3.9							
MKAR	Makanchi Array	46.94	346	P		P	05 06 42.5	-0.2
	1.3nm,0.5s,mb4.1,baz=162,slow=8.9,SNR=16							
MKAR				pP		pP	05 06 51.1	-0.2
	1.3nm,0.6s,baz=155,slow=8.0,SNR=5.6							
STKA	Stephens Creek	53.52	132	P		P	05 07 33.1	0.0
	1.5nm,0.6s,mb4.1,ba

s-maj=161.7km s-min=24.1km az=60.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.66**	**122**	P	P	05 19 14.0	-2.2
	0.3nm,0.6s,baz=302,slow=9.3,SNR=3.1						
ASAR	**Alice Springs**	**43.05**	**127**	P	P	05 19 26.2	-1.3
	0.3nm,0.8s,baz=293,slow=6.9,SNR=2.9						
SONM	**Songino Array**	**46.99**	**8**	P	P	05 19 57.3	-1.4
	0.6nm,0.5s,baz=202,slow=7.8,SNR=6.5						
MKAR	**Makanchi Array**	**47.29**	**346**	P	P	05 19 58.8	-2.4
	0.4nm,0.5s,baz=159,slow=8.6,SNR=5.9						

IDC 29 05:13:02.9±9.0, 1.21N×97.38E, mb4.0/3, mb1 4.1/3, mb1mx3.6/16, mbtmp4.0/3, Error ellipse: s-maj=207.5km s-min=117.9km az=142.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**47.09**	**8**	P	P	05 21 36.7	-1.8
	0.9nm,0.5s,baz=184,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**47.27**	**346**	P	P	05 21 37.9	-2.0
	0.6nm,0.6s,baz=154,slow=9.0,SNR=8.6						
ARCES	**ARCES Array B**	**82.58**	**340**	P	P	05 25 27.6	-1.3
	4.2nm,0.9s,baz=90,slow=6.3,SNR=3.9						

*IDC **29** 05:13:46.5±0.4, 0.25N×98.07E, mb4.5/22, mb1 4.6/22, mb1mx4.5/25, mbtmp4.5/22, MS5.0/1, Ms1 5.0/1, ms1mx3.5/21, Error ellipse: s-maj=23.7km s-min=11.5km az=51.0*

*BJI **29** 05:13:49.3, 0.03N×98.29E, h38km, mB5.2, mb4.9, Ms5.5, Msz5.4*

*NEIC **29** 05:13:51.1±0.2, 0.20N×98.05E, h30km, mb4.9/21, Error ellipse: s-maj=8.5km s-min=6.2km az=56.0*

ISC 29 05:13:50.3±2.3, 0.18N±0.07×98.09E±0.08, h38km±20km, h30km±3.0km:pP-P,n81,σ0s99/68, mb4.7/48, MS5.1/2, 1C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.68**	**27**	*e*P	**P**	**05 15 13.2**	**-1.2**
SNG	**Songkhla**	**7.39**	**20**	P	**P**	**05 15 40.0**	**+1.6**
	2μm,1.0s						
KSM	**Kuching**	**12.29**	**84**	P	**P**	**05 16 39.9**	**-5.8**
CM31	**Chiang Mai Arr**	**18.18**	**3**	P	**P**	**05 17 54.2**	**-7.5**
	3.1nm,0.5s						
KKM	**Kota Kinabalu**	**19.01**	**72**	*e*P	**P**	**05 18 12.7**	**+0.9**
QIZ	**Qiongzhong**	**22.00**	**31**	P	**P**	**05 18 44.4**	**+1.4**
	22nm,1.1s,mb4.5						
KMI	**Kunming**	**25.20**	**10**	P	**P**	**05 19 15.5**	**+1.3**
KMI				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.5						
HYB	**Hyderabad**	**25.75**	**313**	*e*P	**P**	**05 19 23.0**	**+3.6**
HYB	**Hyderabad**	**25.75**	**313**	*i* P	**P**	**05 19 23.0**	**+3.6**
MBWA	**Marble Bar**	**29.95**	**136**	*e*P	**P**	**05 19 58.1**	**+0.6**
	comp=Z,11nm,1.0s,mb4.5						
LSA	**Lhasa**	**30.09**	**348**	*e*P	**P**	**05 19 58.7**	**+0.1**
	comp=Z,16nm,0.8s,mb4.8						
ENH	**Enshi**	**31.83**	**19**	*e*P	**P**	**05 20 13.9**	**-0.1**
	comp=Z,5.9nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**32.62**	**125**	P	**P**	**05 20 19.7**	**-1.3**
	comp=Z,7.6nm,1.1s,mb4.5,baz=351,slow=6.6,SNR=3.2						
FITZ				PcP	PcP	05 23 08.5	+1.9
	comp=Z,6.7nm,0.7s,baz=295,slow=3.5,SNR=7.5						
LZH	**Lanzhou**	**36.12**	**8**	*e*P	**P**	**05 20 50.0**	**-0.8**
LZH				AP	pP	05 20 58.8	-2.7
LZH				XP	sP	05 21 01.8	-4.6
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,200nm,4.6s						
NWAO	**Narrogin (SRO)**	**37.55**	**153**	P	**P**	**05 21 01.6**	**-1.3**
	comp=Z,3.5nm,0.6s,mb4.2,baz=288,slow=3.2,SNR=2.2						
GTA	**Gaotai**	**39.07**	**2**	*e*P	**P**	**05 21 15.5**	**+0.1**
GTA				AP	pP	05 21 23.0	-3.2
GTA				XP	sP	05 21 26.5	-4.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.3						
WRA	**Warramunga Arr**	**40.75**	**122**	P	**P**	**05 21 28.8**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.0,baz=300,slow=9.1,SNR=13						
WRA				PcP	PcP	05 23 32.1	+1.0
	comp=Z,1.6nm,0.9s,baz=310,slow=2.3,SNR=6.2						
WRAB	**Tennant Creek**	**40.76**	**122**	*e*P	**P**	**05 21 28.7**	**-0.9**
	comp=Z,8.2nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**42.08**	**127**	P	**P**	**05 21 40.7**	**+0.1**
	comp=Z,2.2nm,0.8s,mb3.8,baz=306,slow=8.1,SNR=20						
ASAR				PcP	PcP	05 23 36.5	+0.9
	comp=Z,1.4nm,0.8s,baz=301,slow=3.1,SNR=7.1						
HHC	**Hu-ho-hao-te**	**42.29**	**15**	*e*P	**P**	**05 21 43.3**	**+1.2**
HHC				AP	pP	05 21 53.8	+0.9
HHC				XP	sP	05 21 56.5	-1.1
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,732nm,6.4s						
HHC				LR	LR		
	comp=N,2μm,7.4s						
HHC				LR	LR		
	comp=E,3μm,12.8s						
HHC				LR	LR		
	comp=Z,3μm,9.0s						
BJT	**Baijiatuan**	**42.94**	**20**	*e*P	**P**	**05 21 47.4**	**0.0**
	comp=Z,130nm,1.4s,mb5.5						
BJI	**Beijing**	**42.96**	**20**	*e*P	**P**	**05 21 48.0**	**+0.4**
BJI				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.9						
WMQ	**Urumqi**	**44.42**	**349**	P	**P**	**05 22 00.0**	**+0.6**
WMQ				AP	pP	05 22 10.0	-0.3
WMQ				XP	sP	05 22 14.0	-0.9
WMQ				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,111nm,3.6s						
WMQ				LR	LR		
	comp=N,1μm,16.3s,MS5.1						
WMQ				LR	LR		
	comp=E,1μm,17.2s,MS5.1						
WMQ				LR	LR		
	comp=Z,1μm,22.6s						
KS15	**Wonju Array Si**	**46.16**	**33**	*e*P	**P**	**05 22 09.2**	**-4.1**
AAK	**Ala-Archa**	**47.28**	**336**	P	**P**	**05 22 22.6**	**+0.6**
	comp=Z,57nm,1.5s,mb5.3,SNR=16						
AAK	**Ala-Archa**	**47.28**	**336**	*e*P	**P**	**05 22 21.0**	**-1.0**
	comp=Z,52nm,1.8s,mb5.2						
SONM	**Songino Array**	**48.01**	**8**	P	**P**	**05 22 26.9**	**-0.7**
	comp=Z,3.5nm,0.8s,mb4.5,baz=196,slow=9.0,SNR=16						
SONM				PcP	PcP	05 23 55.7	+0.1
	comp=Z,2.8nm,1.0s,baz=196,slow=3.9,SNR=2.8						
ULN	**Ulaanbaatar**	**48.13**	**8**	*e*P	**P**	**05 22 28.0**	**-0.5**
	comp=Z,12nm,1.1s,mb4.8						
MKAR	**Makanchi Array**	**48.44**	**346**	P	**P**	**05 22 30.6**	**-0.3**
	comp=Z,12nm,0.8s,mb5.0,baz=157,slow=8.0,SNR=25						
CN2	**Changchun**	**49.81**	**26**	*e*P	**P**	**05 22 40.0**	**-1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
TLY	**Talaya**	**51.52**	**4**	*e*P	**P**	**05 22 54.0**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**52.02**	**132**	P	**P**	**05 22 59.3**	**+0.8**
	comp=Z,8.7nm,0.8s,mb4.7,baz=301,slow=5.3,SNR=12						
STKA	**Stephens Creek**	**52.02**	**132**	*e*P	**P**	**05 22 59.1**	**+0.6**
KURK	**Kurchatov**	**53.00**	**345**	*e*P	**P**	**05 23 04.5**	**-1.1**
	comp=Z,42nm,1.1s,mb5.3						
BVAR	**Borovoye Array**	**57.49**	**341**	P	**P**	**05 23 36.4**	**-1.7**
	comp=Z,11nm,0.9s,mb4.9,baz=143,slow=7.4,SNR=27						
CHKZ	**Chkalovo**	**57.97**	**341**	*e*P	**P**	**05 23 39.5**	**-1.8**
	comp=Z,28nm,0.9s,mb5.3						
KMBO	**Kilima Mbogo**	**60.84**	**269**	P	**P**	**05 24 01.2**	**-0.6**
	comp=Z,22nm,1.9s,mb5.0						
ARU	**Arti**	**64.46**	**337**	*e*P	**P**	**05 24 22.9**	**-2.2**
	comp=Z,3.6nm,0.4s,mb4.8						
KIV	**Kislovodsk**	**65.65**	**319**	P	**P**	**05 24 34.9**	**+1.8**
	comp=Z,28nm,1.0s,mb5.2						
ASF	**Jabal al Asfar**	**65.77**	**305**	P	**P**	**05 24 33.6**	**-0.4**
	comp=Z,3.2nm,0.8s,mb4.4,baz=291,slow=1.4,SNR=5.7						
MALT	**Malatya**	**66.46**	**312**	*e*P	**P**	**05 24 38.0**	**-0.3**
	comp=Z,17nm,1.0s,mb5.0						
EIL	**Elat**	**66.74**	**302**	P	**P**	**05 24 39.2**	**-1.0**
	comp=Z,8.5nm,0.9s,mb4.8,baz=78,slow=14,SNR=5.4						
EIL				LR	LR	05 50 22.2	
	comp=Z,1μm,21.9s,MS5.1,baz=110,slow=33						
BRTR	**Keskin Array B**	**70.45**	**312**	P	**P**	**05 25 01.9**	**-1.1**
	comp=Z,4.3nm,0.8s,mb4.4,baz=129,slow=7.2,SNR=15						
LBTB	**Lobatse**	**74.24**	**244**	P	**P**	**05 25 26.9**	**+1.2**
	comp=Z,6.5nm,0.9s,mb4.5,baz=75,slow=5.2,SNR=7.3						
LBTB	**Lobatse**	**74.24**	**244**	P	**P**	**05 25 26.9**	**+1.2**
BOSA	**Boshof**	**75.05**	**240**	P	**P**	**05 25 30.9**	**+0.5**
	comp=Z,2.7nm,0.8s,mb4.2,baz=80,slow=11,SNR=2.4						
BOSA	**Boshof**	**75.05**	**240**	*e*P	**P**	**05 25 31.1**	**+0.7**
	comp=Z,6.0nm,1.1s,mb4.4						
AKASG	**Malin Array Be**	**76.60**	**322**	P	**P**	**05 25 37.4**	**-1.4**
	comp=Z,0.5nm,0.3s,mb3.9,baz=94,slow=4.9,SNR=6.2						
MLR	**Muntele Rosu**	**77.41**	**317**	P	**P**	**05 25 43.5**	**+0.1**
	comp=Z,8.5nm,1.0s,mb4.6,baz=89,slow=4.4,SNR=8.0						
MLR	**Muntele Rosu**	**77.41**	**317**	⇓P	**P**	**05 25 43.5**	**0.0**
MLR	**Muntele Rosu**	**77.41**	**317**	⇓P	**P**	**05 25 43.5**	**+0.1**
BURAR	**Bucovina Array**	**78.37**	**319**	⇓P	**P**	**05 25 49.6**	**+1.0**
SYO	**Syowa Base**	**79.32**	**198**	⇑X		05 25 50.5	
BZS	**Buzias**	**80.42**	**316**	⇓P	**P**	**05 25 59.6**	**-0.1**
BZS	**Buzias**	**80.42**	**316**	⇓P	**P**	**05 25 59.6**	**-0.2**
FINES	**FINESS Array B**	**81.30**	**332**	P	**P**	**05 26 03.8**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.2,baz=349,slow=9.7,SNR=9.1						
PSZ	**Piszkesteto**	**81.95**	**318**	*e*P	**P**	**05 26 08.5**	**+0.8**
	comp=Z,4.9nm,0.7s,mb4.5						
MORC	**Moravsky Berou**	**83.75**	**320**	*e*P	**P**	**05 26 17.2**	**+0.3**
	comp=Z,12nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**83.78**	**340**	P	**P**	**05 26 17.0**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.8,baz=90,slow=6.1,SNR=5.3						
VNDA	**Vanda**	**84.66**	**169**	P	**P**	**05 26 22.3**	**+1.4**
	comp=Z,1.7nm,1.1s,mb4.1,baz=280,slow=4.7,SNR=5.4						
GERES	**GERESS Array B**	**86.16**	**319**	P	**P**	**05 26 30.0**	**+1.1**
	comp=Z,2.5nm,0.8s,mb4.5,baz=112,slow=7.2,SNR=11						
HFS	**Hagfors**	**87.04**	**330**	P	**P**	**05 26 33.7**	**+0.8**
	comp=Z,5.4nm,0.9s,mb4.8,baz=108,slow=4.7,SNR=7.8						
GRA1	**Grafenberg Arr**	**87.83**	**320**	*e*P	**P**	**05 26 41.7**	**+4.8**
GRF	**Grafenberg Arr**	**87.83**	**320**	*e*P	**P**	**05 26 41.7**	**+4.8**
NB2	**NORSAR Subarra**	**88.32**	**331**	P	**P**	**05 26 39.0**	**0.0**
	comp=Z,6.8nm,1.1s,mb4.8,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**88.32**	**331**	P	**P**	**05 26 39.4**	**+0.4**
	comp=Z,3.1nm,1.0s,mb4.5,baz=96,slow=4.8,SNR=4.0						
DAVOX	**Davos**	**88.64**	**317**	P	**P**	**05 26 41.8**	**+0.9**
	comp=Z,7.5nm,1.1s,mb4.9,baz=151,slow=8.7,SNR=5.5						
LPG	**La Plagne**	**90.81**	**315**	*e*P	**P**	**05 26 51.3**	**+0.1**
	comp=Z,33nm,1.3s,mb5.2						
IMA	**Indian Mountai**	**97.17**	**23**	*e*P	**P**	**05 27 21.1**	**+1.4**
	comp=Z,26nm,1.1s,mb5.6						
INK	**Inuvik**	**103.18**	**17**	Pdiff	Pdif	05 27 45.7	-1.0
	comp=Z,1.0nm,1.0s,baz=326,slow=3.6,SNR=2.7						
INK	**Inuvik**	**103.18**	**17**	Pdif	Pdif	05 27 45.7	-1.0
YKA	**Yellowknife Ar**	**112.83**	**16**	PP	PP	05 33 07.9	-8.3
	comp=Z,0.4nm,0.9s,baz=334,slow=7.3,SNR=2.7						
ULM	**Lac du Bonnet**	**128.36**	**11**	PKP	PKPdf	05 32 55.1	+1.8
	comp=Z,7.0nm,0.3s,baz=21,slow=0.3,SNR=3.2						
PDAR	**Pinedale Array**	**130.56**	**27**	PKP	PKPdf	05 33 00.8	+3.1
	comp=Z,1.4nm,1.1s,SNR=7.2						
MSU	**Marysvale**	**132.50**	**32**	*e*PKP	PKPdf	05 33 04.7	+3.1
PV10	**Paradox Valley**	**134.23**	**30**	*e*PKP	PKPdf	05 33 07.9	+3.1
MNTX	**Cornudas Mount**	**141.28**	**33**	*e*PKP	PKPdf	05 33 20.8	+3.0
TXAR	**Lajitas Array**	**144.04**	**33**	PKP	PKPdf	05 33 23.3	+0.7
	comp=Z,3.5nm,0.8s,baz=263,slow=1.6,SNR=27						
NATX	**Nacogdoches**	**146.01**	**20**	*e*PKP	PKPdf	05 33 29.2	+3.2
CFAA	**Coronel Fontan**	**146.17**	**201**	PKPbc	PKPbc	05 33 29.2	+1.9
	comp=Z,0.9nm,0.9s,baz=165,slow=3.8,SNR=3.2						
LRAL	**Lakeview Retre**	**146.61**	**8**	*e*PKP	PKPdf	05 33 29.1	+2.2

IDC 29 05:16:17.7±25.0, 2.32N×96.99E, mb4.3/3, mb1 4.5/3, mb1mx4.3/16, mbtmp4.3/3, Error ellipse: s-maj=495.4km s-min=221.6km az=144.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.81**	**123**	P	P	05 24 17.5	-1.8
	3.4nm,0.7s,baz=301,slow=9.1,SNR=14						
WRAB	**Tennant Creek**	**42.81**	**123**	P	P	05 24 16.9	-2.5
ASAR	**Alice Springs**	**44.24**	**128**	P	P	05 24 29.1	-1.8
	3.6nm,0.9s,baz=300,slow=7.4,SNR=9.8						
STKA	**Stephens Creek**	**54.26**	**133**	P	P	05 25 45.8	-2.2
	3.6nm,0.6s,baz=298,slow=7.9,SNR=6.8						

*BJI **29** 05:16:27.2, 2.41N×96.55E, h40km, mB6.3, mb5.7, Ms6.1, Msz6.0*

*MOS **29** 05:16:28.9±0.9, 2.68N×96.60E, h33km, mb6.0/93, MS5.6/54, Error ellipse: s-maj=8.6km s-min=3.6km az=125.6*

*NEIC **29** 05:16:29.9±0.1, 2.65N×96.58E, h30km, mb5.8/121, ME5.8, MS5.9/142, Error ellipse: s-maj=4.3km s-min=2.9km az=216.0 Broadband fault plane solution: P waves. NP1: φs120°,δ80°,λ90°. NP2:φs300°,δ10°,λ90°. Principal axes: T Plg55°, Azm30°; N Plg0°, Azm0°; P Plg35°, Azm210°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

NEIC Felt at Medan, Meulaboh and Rantauprapat, Sumatra. Felt [III] in the Kuala Lumpur area, Malaysia.

*HRVD **29** 05:16:29.9±0.6, 2.39N×96.39E, h30km, MW5.9/57, Centroid moment Tensor Solution. LP body waves: s39,c48;Mantle waves: s57,c88; Half duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr4.36±.37; Mθθ-3.83±.22; Mφφ-0.53±.31; Mrθ6.28±.38; Mθφ2.25±.17; Mφr-2.57±.61; Best double couple: M◎8.236×10^17 NP1: φs302°,δ17°,λ99°. NP2:φs113°,δ73°,λ87°. Principal axes: T 7.943, Plg62°, Azm19°; N .585, Plg3°, Azm114°; P -8.528, Plg28°, Azm205°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*IDC **29** 05:16:30.4±0.4, 2.65N×96.63E, h32km±2km, mb5.1/37, mb1 5.1/37,mb1mx5.1/37, mbtmp5.3/37, MS5.9/7, Ms1 5.9/7,ms1mx5.4/11 Error ellipse: s-maj=11.9km s-min=7.2km az=45.0*

ISC 29 05:16:28.5±0.1, 2.65N±0.02×96.62E±0.02, h31km, h31km±.7km:pP-P,n798,σ0s98/691, mb5.7/184, MS5.8/178, 138C-22D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.80**	**66**	P	**Pn**	**05 17 44.2**	**+3.5**
KULM	**Kulim**	**4.80**	**57**	*e*P	**Pn**	**05 17 43.5**	**+2.7**
KGM	**Kluang**	**6.73**	**95**	P	**Pn**	**05 18 10.6**	**+2.8**
NNT	**Nongplab**	**10.35**	**17**	P	**P**	**05 19 08.7**	**+10**
NST	**Nakhon Sawan**	**13.40**	**15**	P	**P**	**05 19 38.5**	**-0.7**
	128nm,2.2s						
KSM	**Kuching**	**13.73**	**95**	*e*Pn	**P**	**05 19 44.6**	**+0.9**
BDT	**Bhumibol Dam**	**14.70**	**9**	P	**P**	**05 19 57.0**	**+0.7**
	31nm,0.8s						
KKTK	**Khon Kaen**	**14.91**	**24**	P	**P**	**05 20 03.0**	**+3.8**
	6μm,0.8s						
CM31	**Chiang Mai Arr**	**15.88**	**8**	*e*P	**P**	**05 20 11.9**	**+0.2**
	136nm,0.8s						
CHG	**Chiang Mai**	**16.23**	**8**	⇑P	**P**	**05 20 16.7**	**+0.6**
	150nm,1.3s						
PALK	**Pallekele**	**16.50**	**287**	*e*Pn	**P**	**05 20 18.6**	**-1.0**
	139nm,1.0s						
PALK				*e*Sn	**S**	**05 23 01.6**	**-19**
CHRT	**Chiangrai**	**17.40**	**10**	⇑P	**P**	**05 20 31.5**	**+0.7**
	605nm,1.0s						
MDRS	**Chennai**	**19.22**	**303**	⇑*i* P	**P**	**05 20 54.0**	**+0.9**
MDRS				*e*		05 23 59.0	
KKM	**Kota Kinabalu**	**19.83**	**80**	*e*P	**P**	**05 20 53.9**	**-6.1**
KKM	**Kota Kinabalu**	**19.83**	**80**	P	**P**	**05 20 55.5**	**-4.5**
VIS	**Vishakhapatnam**	**19.86**	**320**	⇑*e*P	**P**	**05 21 00.1**	**-0.1**
VIS				*e*		05 21 05.8	
	comp=Z,534nm,1.4s						
QIZ	**Qiongzhong**	**20.80**	**38**	P	**P**	**05 21 09.8**	**-0.2**
QIZ				AP		05 21 19.0	
QIZ				S	**S**	**05 24 56.0**	**+0.5**
QIZ				LR	LR		
	comp=N,50μm,14.5s,MS6.1						
QIZ				LR	LR		
	comp=E,34μm,14.6s,MS6.1						
QIZ				LR	LR		
	comp=Z,65μm,14.4s,MS6.2						
QIZ	**Qiongzhong**	**20.80**	**38**	⇑*e*P	**P**	**05 21 09.5**	**-0.5**
	comp=Z,190nm,1.1s						
TSM	**Tawau**	**21.28**	**85**	P	**P**	**05 21 15.1**	**+0.2**
CAL	**Calcutta**	**21.35**	**339**	*e*P	**P**	**05 21 13.7**	**-1.8**
CAL				*e*		05 25 18.7	
AGT	**Agartala**	**21.74**	**347**	*i* P	**P**	**05 21 18.0**	**-1.4**
AGT				*i*		05 21 51.0	
HYB	**Hyderabad**	**23.02**	**311**	⇑*e*P	**P**	**05 21 32.5**	**+0.3**
HYB				*e*S	**S**	**05 25 44.0**	**+7.5**
HYB				pmax	pmax		
	comp=Z,370nm,1.0s,mb5.8						
HYB	**Hyderabad**	**23.02**	**311**	⇑*e*P	**P**	**05 21 32.5**	**+0.3**
	comp=Z,370nm,1.0s,mb5.8						
HYB				*e*pP		05 21 42.0	
HYB				*e*S	**S**	**05 25 44.0**	**+7.5**
HYB				LR	LR		
	comp=Z,17nm,22.0s						
KMI	**Kunming**	**23.11**	**14**	⇑P	**P**	**05 21 35.0**	**+1.9**
KMI				AP		05 21 43.5	
KMI				XP		05 21 47.3	
KMI				PP	PP	05 22 07.0	+3.3
KMI				S	**S**	**05 25 41.5**	**+3.4**
KMI				XS		05 25 57.0	
KMI				SS	SS	05 26 29.0	+5.1
KMI				AMB	AMB		
	comp=Z,261nm,2.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,6μm,5.0s						
KMI				LR	LR		
	comp=N,32μm,18.4s,MS5.9						
KMI				LR	LR		
	comp=E,16μm,17.6s,MS5.9						
KMI				LR	LR		
	comp=Z,39μm,16.6s,MS5.9						
SHL	**Shillong**	**23.24**	**349**	*e*P	**P**	**05 21 32.0**	**-2.3**
SHL				*e*S	**S**	**05 25 42.0**	**+1.7**
BOK	**Bokaro**	**23.45**	**335**	*i* P	**P**	**05 21 33.9**	**-2.5**
BOK				*i*		05 25 51.9	
MNGI	**Mangalore**	**23.86**	**297**	*i* P	**P**	**05 21 42.0**	**+1.6**
	comp=Z,173nm,1.3s,mb5.3						
MNGI				*i* S	**S**	**05 25 58.8**	**+7.5**
BLSP	**Bilaspur**	**23.94**	**325**	*i* P	**P**	**05 21 41.1**	**0.0**
BLSP				*e*		05 26 02.6	
NGP	**Nagpur**	**25.12**	**318**	*e*P	**P**	**05 21 53.9**	**+1.4**
NGP				*e*		05 26 30.4	
LATR	**Latur**	**25.14**	**310**	*e*P	**P**	**05 21 54.2**	**+1.5**
LATR				*e*		05 26 36.0	
GYA	**Guiyang**	**25.57**	**21**	⇑*i* P	**P**	**05 21 56.3**	**-0.4**
GYA				AP	pP	05 22 05.5	-0.2
GYA				XP	sP	05 22 09.5	-0.3
GYA				S	**S**	**05 26 22.3**	**+2.5**
GYA				AMB	AMB		
	comp=Z,140nm,0.9s,mb5.5						
GYA				AMB	AMB		
	comp=Z,3μm,8.4s						
GYA				LR	LR		
	comp=N,26μm,18.3s,MS5.9						
GYA				LR	LR		
	comp=E,18μm,14.4s,MS5.9						
GYA				LR	LR		
	comp=Z,48μm,16.2s,MS6.1						
GOA	**Goa**	**25.83**	**301**	*i*	**P**	**05 21 56.8**	**-2.4**
GOA				*e*		05 26 25.3	
HKC	**Hong Kong**	**25.93**	**40**	⇓*i* P	**P**	**05 22 06.0**	**+5.9**
HKC				S	**S**	**05 26 40.0**	**+14**
DGAR	**Diego Garcia**	**26.10**	**247**	*i* P	**P**	**05 22 00.0**	**-1.7**
DGAR				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.0						
DGAR	**Diego Garcia**	**26.10**	**247**	*i* Pr		05 22 00.0	
DGAR				LR	LR		
	comp=Z,5μm,21.0s,MS5.0						
KAD	**Karad**	**26.41**	**305**	⇑*e*P	**P**	**05 22 04.8**	**+0.3**
KAD				*e*		05 22 24.7	
	comp=Z,177nm,1.6s						
JIRN	**Jiri**	**26.80**	**339**	*e*P	**P**	**05 22 07.5**	**-0.5**
	comp=Z,768nm,1.1s,mb6.1						
PKI	**Pulchoki**	**27.00**	**338**	*e*P	**P**	**05 22 08.8**	**-1.1**
	comp=Z,1μm,1.5s,mb6.2						
PKI	**Pulchoki**	**27.00**	**338**	*e*P	**P**	**05 22 08.8**	**-1.1**
PKI				pmax	pmax		
	comp=Z,542nm,1.5s,mb5.9						
GUN	**Gumba**	**27.14**	**339**	*e*P	**P**	**05 22 10.2**	**-0.9**
	comp=Z,1μm,1.1s,mb6.4						
DMN	**Daman**	**27.15**	**337**	*e*P	**P**	**05 22 10.7**	**-0.6**
	comp=Z,608nm,0.9s,mb6.1						
KKN	**Kakani**	**27.25**	**338**	*e*P	**P**	**05 22 11.1**	**-1.0**
	comp=Z,508nm,0.9s,mb6.1						
KKN	**Kakani**	**27.25**	**338**	*e*P	**P**	**05 22 11.1**	**-1.0**
KKN				pmax	pmax		
	comp=Z,254nm,0.9s,mb5.8						
POO	**Poona**	**27.32**	**307**	⇑*e*P	**P**	**05 22 13.4**	**+0.6**
POO				*e*		05 22 16.6	
	comp=Z,130nm,1.8s						
LSA	**Lhasa**	**27.40**	**350**	P	**P**	**05 22 13.8**	**+0.3**
LSA				AP	pP	05 22 21.5	-1.1
LSA				XP	sP	05 22 25.5	-1.2
LSA				AMB	AMB		
	comp=Z,170nm,1.1s,mb5.5						
LSA				LR	LR		
	comp=N,4μm,23.0s						
LSA				LR	LR		
	comp=E,8μm,31.2s						
LSA				LR	LR		
	comp=Z,9μm,23.0s,MS5.3						
LSA	**Lhasa**	**27.40**	**350**	⇑*i* P	**P**	**05 22 13.4**	**-0.1**
LSA				pmax	pmax		
	comp=Z,429nm,1.2s,mb5.8						
LSA	**Lhasa**	**27.40**	**350**	⇑*i* P	**P**	**05 22 13.4**	**-0.1**
	comp=Z,430nm,1.2s,mb5.8						
BHPL	**Bhopal**	**27.65**	**319**	⇑*i* P	**P**	**05 22 16.6**	**+0.8**
BHPL				*i*		05 28 43.7	
GKN	**Gorkha**	**27.69**	**337**	*e*P	**P**	**05 22 15.3**	**-0.8**
	comp=Z,2μm,1.1s,mb6.5						
KOLN	**Koldanda**	**27.91**	**335**	*e*P	**P**	**05 22 17.4**	**-0.7**

XAN S **S** **05 28 25.0 +2.3**
XAN AMB AMB
comp=Z,228nm,1.1s,mb6.0
XAN AMB AMB
comp=Z,2μm,14.7s
XAN LR LR
comp=N,16μm,17.8s,MS5.8
XAN LR LR
comp=E,8μm,17.1s,MS5.8
XAN LR LR
comp=Z,28μm,18.2s,MS6.0
LZH Lanzhou 33.94 11⇑ *i*P **P** **05 23 10.3 -1.0**
LZH AP pP 05 23 17.8 -2.7
LZH PP PP 05 24 24.0 -1.3
LZH S **S** **05 28 33.3 +0.3**
LZH SS SS 05 30 44.0 +3.3
LZH AMB AMB
comp=Z,464nm,1.8s,mb6.1
LZH AMB AMB
comp=Z,1μm,4.0s
LZH LR LR
comp=E,28μm,18.5s
LZH LR LR
comp=Z,35μm,19.6s,MS6.1
SDNR Sundarnagar 34.16 329 *e*P **P** **05 23 12.6 -0.6**
SDNR *e* 05 28 48.2
BHK Bhakra 34.38 328 *e*P **P** **05 23 17.1 +2.0**
BHK *e*S **S** **05 28 41.1 +1.3**
PONG Pong 35.05 329 *e*P **P** **05 23 21.0 +0.2**
PONG *e* 05 29 09.0
FITZ Fitzroy Crossi 35.25 127⇑ *i*P **P** **05 23 21.3 -1.4**
comp=Z,126nm,1.0s,mb5.8
FITZ *e*S **S** **05 28 47.2 -6.2**
FITZ Fitzroy Crossi 35.25 127 P **P** **05 23 21.4 -1.3**
comp=Z,40nm,0.6s,mb5.5,baz=332,slow=5.8,SNR=39
FITZ pP pP 05 23 30.5 -1.4
comp=Z,168nm,0.9s,baz=335,slow=4.6,SNR=23
FITZ S **S** **05 28 48.8 -4.6**
comp=Z,13nm,1.1s,baz=12,slow=9.3,SNR=1.8
NJ2 Nanjing 35.96 33 *e*P **P** **05 23 29.0 +0.4**
NJ2 AP pP 05 23 39.0 +1.2
NJ2 XP sP 05 23 42.3 +0.5
NJ2 PP PP 05 24 51.8 +1.2
NJ2 S **S** **05 29 05.0 +0.7**
NJ2 AMB AMB
comp=Z,1μm,1.0s
NJ2 AMB AMB
comp=Z,1μm,4.5s
NJ2 LR LR
comp=N,45μm,17.4s
NJ2 LR LR
comp=E,52μm,16.6s
NJ2 LR LR
comp=Z,25μm,17.9s
SSE Sheshan 36.59 37 P **P** **05 23 34.5 +0.6**
SSE S **S** **05 29 19.5 +5.6**
SSE XS 05 29 35.0
SSE AMB AMB
comp=Z,57nm,0.8s,mb5.5
SSE AMB AMB
comp=Z,1μm,9.8s
SSE LR LR
comp=N,8μm,19.3s,MS5.8
SSE LR LR
comp=E,12μm,19.2s,MS5.8
SSE LR LR
comp=Z,17μm,17.0s,MS5.9
GTA Gaotai 36.71 4⇑ P **P** **05 23 34.5 -0.3**
GTA AP pP 05 23 44.0 0.0
GTA XP sP 05 23 46.8 -1.2
GTA PP PP 05 25 00.5 +0.4
GTA PPP PPP 05 25 19.0 -1.1
GTA PCP PcP 05 25 58.0 +0.7
GTA S **S** **05 29 15.0 -0.7**
GTA SCP 05 29 42.3
GTA AMB AMB
comp=Z,249nm,1.6s,mb5.8
GTA AMB AMB
comp=Z,3μm,4.6s
GTA LR LR
comp=N,8μm,14.4s,MS5.8
GTA LR LR
comp=E,9μm,17.1s,MS5.8
GTA LR LR
comp=Z,9μm,25.9s
TIA Tai'an 38.40 27 P **P** **05 23 48.0 -1.1**
TIA S **S** **05 29 43.5 +2.0**
TIA AMB AMB
comp=Z,286nm,1.8s,mb5.7
TIA AMB AMB
comp=Z,1μm,6.0s
TIA LR LR
comp=N,12μm,13.0s,MS6.0
TIA LR LR
comp=E,5μm,11.0s,MS6.0
JOW Kunigami 38.71 49 P **P** **05 23 52.5 +0.8**
comp=E,106nm,0.5s,mb5.8,baz=223,slow=7.6,SNR=38
KAKA Kakadu 38.71 114 *e*P **P** **05 23 50.6 -1.2**
comp=E,108nm,0.6s,mb5.8
MUN Mundaring 39.14 153 *e*P **P** **05 23 56.3 +1.1**
comp=E,47nm,0.9s,mb5.2
MUN *e*S **S** **05 29 49.3 -3.3**
MUN Mundaring 39.14 153 *e*P **P** **05 23 56.3 +1.1**
MUN *e*S **S** **05 29 49.3 -3.3**
MUN pmax pmax
comp=Z,47nm,0.9s,mb5.2
KLBR Kellerberrin 39.54 151 *e*P **P** **05 23 59.1 +0.5**
comp=Z,834nm,1.0s,mb6.4
BTO Baotou 39.69 16 *e*P **P** **05 24 00.3 +0.6**
BTO S **S** **05 30 02.5 +1.7**
BTO AMB AMB
comp=Z,224nm,1.9s,mb5.6
BTO LR LR
comp=E,16μm,15.7s
HHC Hu-ho-hao-te 40.36 18 *e*P **P** **05 24 06.3 +1.1**
HHC AP pP 05 24 16.0 +1.5
HHC XP sP 05 24 20.0 +1.6
HHC PP PP 05 25 43.5 +2.0
HHC PCP PcP 05 26 07.8 -0.9
HHC SCP 05 29 52.3
HHC PCS 05 29 55.0
HHC S **S** **05 30 12.3 +1.5**
HHC XS 05 30 31.8
HHC AMB AMB
comp=Z,272nm,1.5s,mb5.8
HHC AMB AMB
comp=Z,3μm,3.6s
HHC LR LR
comp=N,16μm,18.4s,MS6.1
HHC LR LR
comp=E,13μm,13.9s,MS6.1
HHC LR LR
comp=Z,13μm,17.4s,MS5.8
NWAO Narrogin (SRO) 40.40 153 P **P** **05 24 06.5 +0.9**
NWAO S **S** **05 30 12.6 +1.0**
NWAO PKiKP 05 32 28.6
NWAO Narrogin (SRO) 40.40 153 P **P** **05 24 05.1 -0.5**
NWAO pmax pmax
comp=Z,150nm,1.2s
NWAO Narrogin (SRO) 40.40 153 P **P** **05 24 06.2 +0.5**
comp=Z,72nm,1.0s,mb5.4,baz=323,slow=9.5,SNR=32
NWAO Narrogin (SRO) 40.40 153⇓ *i*P **P** **05 24 06.0 +0.4**
comp=Z,254nm,1.3s,mb5.8
NWAO LR LR
comp=Z,12μm,21.0s,MS5.7
BJT Baijiatuau 41.21 23⇑ *e*P **P** **05 24 12.7 +0.5**
BJT pmax pmax
comp=Z,132nm,0.6s
BJT Baijiatuau 41.21 23⇑ *e*P **P** **05 24 12.7 +0.5**
comp=Z,132nm,0.6s,mb5.7
KSH Kashi 41.22 336⇑ *i*P **P** **05 24 12.8 +0.5**
KSH *e*AP pP 05 24 21.5 -0.1
KSH *e*XP sP 05 24 25.3 -0.2
KSH *e*PP PP 05 25 51.0 +0.6
KSH *e*PCP PcP 05 26 10.3 -1.2
KSH *e*PPP PPP 05 26 20.0 -0.8
KSH *e*SCP 05 29 55.5
KSH *e*PCS 05 30 01.3
KSH S **S** **05 30 25.0 +1.3**
KSH *e*XS 05 30 40.3
KSH *e*SCS ScS 05 34 10.8 -1.1
KSH AMB AMB
comp=Z,5μm,3.3s
KSH LR LR
comp=N,16μm,15.8s,MS6.1
KSH LR LR
comp=E,19μm,19.9s,MS6.1
BJI Beijing 41.23 23 P **P** **05 24 13.5 +1.1**
BJI AP pP 05 24 22.5 +0.8
BJI XP sP 05 24 26.3 +0.7
BJI PP PP 05 25 53.5 +3.0
BJI S **S** **05 30 20.0 -3.9**
BJI AMB AMB
comp=Z,213nm,1.1s,mb5.7
BJI AMB AMB
comp=Z,4μm,4.3s
BJI LR LR
comp=N,13μm,18.3s,MS5.9
BJI LR LR
comp=E,8μm,20.3s,MS5.9
BJI LR LR
comp=Z,8μm,17.6s,MS5.7
WBK Wadi Bani Khal 41.55 302⇓ P **P** **05 24 17.1 +1.8**
WMQ Urumqi 41.76 350⇑ *i*P **P** **05 24 16.3 -0.4**
WMQ AP pP 05 24 25.0 -1.0
WMQ XP sP 05 24 30.0 +0.1
WMQ PP PP 05 25 56.5 +0.2
WMQ PPP PPP 05 26 27.5 -0.3
WMQ SCP 05 29 59.0
WMQ S **S** **05 30 31.5 -0.1**
WMQ XS 05 30 47.5
WMQ AMB AMB
comp=Z,258nm,1.7s,mb5.6
WMQ AMB AMB
comp=Z,2μm,5.5s
WMQ LR LR
comp=N,7μm,19.0s,MS5.8
WMQ LR LR
comp=E,9μm,20.0s,MS5.8
WMQ LR LR
comp=Z,5μm,21.0s,MS5.4
JMDO Jabal Madar 42.19 301⇓ P **P** **05 24 21.8 +1.2**
SMDO Samad 42.50 302⇑ P **P** **05 24 25.1 +2.0**
BIDO Bidbid 42.62 302⇓ P **P** **05 24 25.6 +1.6**
DL2 Dalian 42.69 29⇑ P **P** **05 24 25.0 +0.6**
DL2 S **S** **05 30 51.0 +5.5**
DL2 AMB AMB
comp=Z,130nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,900nm,5.1s
DL2 LR LR
comp=N,6μm,14.7s,MS5.7
DL2 LR LR
comp=E,3μm,15.3s,MS5.7
DL2 LR LR
comp=Z,6μm,14.7s,MS5.6
SHAO Shalim 42.98 294 P **P** **05 24 29.1 +2.0**
SNR=5.5
BSY Bisya 43.11 301 P **P** **05 24 29.5 +1.5**
SNR=9.6
WRA Warramunga Arr 43.30 123 P **P** **05 24 29.3 -0.3**
WRA *PP pP 05 24 39.0 +0.1
WRA S **S** **05 30 50.1 -4.4**
WRA Warramunga Arr 43.30 123 P **P** **05 24 29.3 -0.3**
comp=Z,24nm,0.6s,mb5.1,baz=299,slow=9.3,SNR=46
WRA pP pP 05 24 39.0 +0.1
comp=Z,159nm,0.8s,baz=302,slow=9.2,SNR=23
WRA ScP 05 30 08.6
comp=Z,4.4nm,1.0s,baz=307,slow=3.4,SNR=5.0
WRA S **S** **05 30 50.1 -4.4**
comp=Z,9.1nm,1.1s,baz=290,slow=17,SNR=5.1
WRAB Tennant Creek 43.30 123 P **P** **05 24 29.0 -0.6**
comp=Z,1μm,1.6s,mb6.5,SNR=10
WRAB Tennant Creek 43.30 123 *e*P **P** **05 24 29.2 -0.4**
comp=Z,371nm,0.9s,mb6.1
WRAB LR LR
comp=Z,4μm,20.0s,MS5.3
WB2 Warramunga Arr 43.31 123 *e*P **P** **05 24 29.0 -0.7**
WB2 *e*S **S** **05 30 45.8 -8.8**
ULHL Ulahol 43.44 338 P **P** **05 24 30.4 -0.1**
SNR=47
KZA Kyzart 43.68 337 P **P** **05 24 33.2 +0.8**
SNR=30
ARQ Araqi 43.91 301 P **P** **05 24 36.1 +1.6**
SNR=8.7
AAA Alma-Ata 44.08 339 *i* P **P** **05 24 36.0 +0.4**
AAA *e* 05 26 20.0
AAA *e*S **S** **05 31 10.0 +4.5**
AAA pmax pmax
comp=Z,1μm,5.0s
AAA smax
comp=N,3μm,6.0s
AAA MLR MLR
comp=Z,4μm,18.0s,MS5.4
RBK Rabkut 44.15 292 P **P** **05 24 38.4 +1.9**
SNR=8.3
TKM2 Tokmak 2 44.27 338 P **P** **05 24 37.5 +0.4**
SNR=67
INCN Inchon 44.29 35 PFAKE 05 24 50.0 +13
INCN LR LR
comp=Z,39μm,19.9s,MS6.3
KBK Karagaybulak 44.29 337 P **P** **05 24 38.3 +0.9**
SNR=15
AML Almayashu 44.35 336 P **P** **05 24 35.0 -2.9**
SNR=72
AAK Ala-Archa 44.45 337 P **P** **05 24 38.6 0.0**
comp=Z,691nm,2.1s,mb6.0,SNR=62
AAK Ala-Archa 44.45 337 *e*P **P** **05 24 38.7 +0.1**
AAK pmax pmax
comp=Z,1μm,2.2s,mb6.3
AAK Ala-Archa 44.45 337⇑ *e*P **P** **05 24 38.4 -0.2**
comp=Z,1μm,2.3s,mb6.3
AAK LR LR
comp=Z,3μm,20.0s,MS5.2
FRU Bishkek 44.57 337α *i*P **P** **05 24 41.0 +1.4**
FRU *e* 05 24 59.0
FRU *e*S **S** **05 31 15.0 +2.3**
FRU *e*SS SS 05 34 38.0 +14
FRU MLR MLR
comp=Z,11μm,20.0s,MS5.8
WHFO Wadi Hawf 44.66 293 P **P** **05 24 40.9 +0.3**
SNR=30
CHMS Chumysh 44.66 337 P **P** **05 24 40.1 -0.2**
SNR=32
ASPA Alice Springs 44.73 128 *e*P **P** **05 24 40.9 -0.3**
ASAR Alice Springs 44.73 128 P **P** **05 24 41.1 -0.1**
ASAR *PP pP 05 24 50.6 +0.1
ASAR S **S** **05 31 15.3 0.0**
ASAR Alice Springs 44.73 128 P **P** **05 24 41.1 -0.1**
comp=Z,7.8nm,0.5s,mb4.8,baz=299,slow=7.8,SNR=51
ASAR pP pP 05 24 50.6 +0.1
comp=Z,37nm,0.9s,baz=299,slow=8.0,SNR=19
ASAR ScP 05 30 14.6
comp=Z,4.6nm,1.0s,baz=297,slow=4.3,SNR=5.1
ASAR S **S** **05 31 15.2 0.0**
comp=Z,1.4nm,0.8s,baz=304,slow=3.3,SNR=2.4
FORT Forrest 44.75 140⇑ *i*P **P** **05 24 41.9 +0.6**
comp=Z,2μm,0.6s
FORT *e* pP 05 24 51.4 +0.8
FORT *i*S **S** **05 31 16.0 +0.5**
EKS2 Erkin-Say 44.76 336 P **P** **05 24 41.6 +0.4**
SNR=41
ASHO Ashiyiah 44.81 303 P **P** **05 24 43.8 +2.0**
SNR=6.3
ABTO Aybut 44.95 292 P **P** **05 24 44.0 +1.0**
SNR=13
KS15 Wonju Array Si 44.98 36 *e*P **P** **05 24 42.2 -0.8**
USP Ospenovka 44.98 337 P **P** **05 24 43.0 0.0**
SNR=107
MKAR Makanchi Array 45.71 346 P **P** **05 24 47.9 -0.7**
comp=Z,123nm,0.7s,mb5.9,baz=170,slow=6.2,SNR=78
MKAR S **S** **05 31 29.4 +0.5**
comp=Z,0.8nm,0.8s,baz=173,slow=12,SNR=2.3
SONM Songino Array 45.80 9 P **P** **05 24 49.6 +0.3**
comp=Z,124nm,0.8s,mb5.9,baz=218,slow=11,SNR=117
SONM PcP PcP 05 26 27.5 +0.5
comp=Z,12nm,0.7s,baz=191,slow=2.9,SNR=4.3
SONM ScP 05 30 19.1
comp=Z,2.3nm,0.9s,baz=207,slow=3.1,SNR=3.4
SONM LR LR 05 46 21.1
comp=Z,22μm,18.3s,MS6.1,baz=188,slow=39
ULN Ulaanbaatar 45.94 10 *e*P **P** **05 24 50.2 -0.2**
ULN pmax pmax
comp=Z,87nm,0.7s,mb5.8
ULN MLR MLR
comp=Z,13μm,20.0s,MS5.9
ULN Ulaanbaatar 45.94 10 *e*P **P** **05 24 50.2 -0.2**
comp=Z,87nm,0.7s,mb5.8
ULN LR LR
comp=Z,13μm,20.0s,MS5.9
ZAK Zakamensk 47.90 6 *e*P **P** **05 25 05.9 +0.1**
ZAK pmax pmax
comp=Z,30nm,2.1s,mb5.0
CN2 Changchun 48.30 28 *e*P **P** **05 25 08.5 -0.5**
CN2 *e*AP pP 05 25 19.3 +0.9
CN2 PCP PcP 05 26 33.0 -2.9
CN2 *e*S **S** **05 32 08.5 +2.8**
CN2 AMB AMB
comp=Z,100nm,1.3s,mb5.7
CN2 AMB AMB
comp=Z,2μm,4.0s
CN2 LR LR
comp=N,7μm,19.0s,MS5.9
CN2 LR LR
comp=E,9μm,19.0s,MS5.9
CN2 LR LR
comp=Z,11μm,19.0s,MS5.8
GUMO Guam 48.89 74 PFAKE 05 25 30.0 +16
GUMO LR LR
comp=Z,3μm,20.0s,MS5.3
MOY Mondy 48.99 4 *e*P **P** **05 25 14.3 +0.1**
MOY pmax pmax
comp=Z,51nm,3.0s
TLY Talaya 49.22 6*c* *i*P **P** **05 25 16.4 +0.4**
TLY *e* 05 27 12.3
TLY *e*PPP PPP 05 28 00.6 -3.8
TLY *e*S **S** **05 32 19.7 +1.2**
TLY *e* 05 35 01.2
TLY *e*SS SS 05 35 51.6 +5.8
TLY pmax pmax
comp=Z,18nm,1.1s,mb5.0
TLY MLR MLR
comp=Z,22μm,19.0s,MS6.2
TLY Talaya 49.22 6⇑ *e*P **P** **05 25 16.1 +0.1**
comp=Z,149nm,0.9s,mb6.0
TLY LR LR
comp=Z,6μm,20.0s,MS5.6
IRK Irkutsk 49.84 6⇑ *i*P **P** **05 25 20.8 0.0**
IRK *e*S **S** **05 32 31.5 +4.4**
IRK pmax pmax
comp=Z,586nm,2.7s,mb6.1
CBIJ Chichi jima 49.89 56 P **P** **05 25 21.1 -0.4**
comp=Z,241nm,0.8s,mb6.3,baz=288,slow=20,SNR=6.5
KURK Kurchatov 50.25 345 *e*P **P** **05 25 23.2 -0.7**
KURK pmax pmax
comp=Z,41nm,0.6s,mb5.6
KURK Kurchatov 50.25 345⇑ *e*P **P** **05 25 23.0 -0.9**
comp=Z,42nm,0.6s,mb5.6
KURK LR LR
comp=Z,2μm,20.0s,MS5.2
HIA Hailar 50.47 19⇑ *e*P **P** **05 25 24.8 -0.8**
HIA pmax pmax
comp=Z,91nm,1.0s
HIA Hailar 50.47 19⇑ *e*P **P** **05 25 24.8 -0.8**
comp=Z,91nm,1.0s,mb5.8
MDJ Mudanjiang 50.91 30 P **P** **05 25 28.5 -0.5**
MDJ AP pP 05 25 38.0 -0.5
MDJ XP sP 05 25 41.8 -0.4
MDJ PP PP 05 27 29.5 +3.4
MDJ S **S** **05 32 50.5 +8.5**
MDJ AMB AMB
comp=Z,56nm,1.8s,mb5.2
MDJ AMB AMB
comp=Z,1μm,6.9s
MDJ LR LR
comp=N,6μm,13.8s,MS6.0
MDJ LR LR
comp=E,8μm,12.8s,MS6.0
MDJ LR LR
comp=Z,9μm,12.8s,MS6.0
MDJ Mudanjiang 50.91 30⇑ *e*P **P** **05 25 28.8 -0.2**
comp=Z,88nm,1.1s,mb5.6
MAJO Matsushiro 51.03 43 *e*P **P** **05 25 29.4 -0.7**
MAJO pmax pmax
comp=Z,30nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,9μm,19.0s,MS5.8
MAJO Matsushiro 51.03 43 *e*P **P** **05 25 29.4 -0.6**
comp=Z,30nm,0.8s,mb5.3
MAJO LR LR
comp=Z,9μm,19.0s,MS5.8
MAT Matsushiro 51.03 43 *e*P **P** **05 25 27.0 -3.1**
MAT pmax pmax
comp=Z,1μm,3.0s
MAT MLR MLR
comp=Z,9μm,18.0s,MS5.8
MAT Matsushiro 51.03 43 *e*P **P** **05 25 27.0 -3.1**
comp=Z,1μm,3.0s
MAT LR LR
comp=Z,9μm,18.0s,MS5.8
MAT Matsushiro 51.03 43 P **P** **05 25 28.4 -1.7**
MAT S **S** **05 32 35.0 -8.9**
PMG Port Moresby 51.76 104 P **P** **05 25 35.6 -0.3**
PMG MLR MLR
comp=Z,4μm,22.0s
PMG Port Moresby 51.76 104 P **P** **05 25 35.6 -0.3**
comp=Z,73nm,0.8s,mb5.7,baz=262,slow=7.5,SNR=11
RAYN Ar Rayn 53.57 297 P **P** **05 25 48.3 -0.9**
comp=Z,248nm,0.8s,SNR=34
CTA Charters Tower 53.67 117 *e*P **P** **05 25 50.0 0.0**
comp=Z,43nm,0.9s,mb5.4
CTA *i*S **S** **05 33 21.3 +1.2**
CTA Charters Tower 53.67 117 *e*P **P** **05 25 50.0 0.0**
CTA *i*S **S** **05 33 21.3 +1.2**
CTA pmax pmax
comp=Z,43nm,0.9s
CTA Charters Tower 53.67 117 P **P** **05 25 50.0 0.0**
comp=Z,20nm,0.8s,mb5.1,baz=293,slow=7.6,SNR=7.0
CTAO Charters Tower 53.67 117 *e*P **P** **05 25 49.7 -0.3**
CTAO pmax pmax
comp=Z,100nm,1.1s,mb5.7
CTAO MLR MLR
comp=Z,8μm,21.0s,MS5.7
CTAO Charters Tower 53.67 117 *e*P **P** **05 25 49.7 -0.3**
comp=Z,100nm,1.1s,mb5.7
CTAO LR LR
comp=Z,8μm,21.0s,MS5.7
ATD Arta Tunnel 54.00 282 P **P** **05 25 53.2 +0.8**
comp=Z,11nm,1.0s,mb4.8,baz=68,slow=6.9,SNR=15
ADE Adelaide 54.36 137 *e*P **P** **05 25 55.4 +0.5**
BVA0 Borovoye Array 54.70 341 P **P** **05 25 55.4 -1.7**
BVAR Borovoye Array 54.70 341 P **P** **05 25 55.4 -1.7**
comp=Z,54nm,0.7s,mb5.7,baz=144,slow=8.1,SNR=53
STKA Stephens Creek 54.75 133 *e*P **P** **05 25 56.7 -1.1**
comp=Z,47nm,0.9s,mb5.5
STKA *e*S **S** **05 33 20.2 -14**
STKA Stephens Creek 54.75 133 P **P** **05 25 57.2 -0.6**
comp=Z,18nm,0.6s,mb5.3,baz=346,slow=8.5,SNR=28
STKA pP pP 05 26 06.6 -0.8
comp=Z,64nm,0.9s,baz=319,slow=6.9,SNR=16
KLR Kul'dur 55.24 27 *e*P **P** **05 25 58.0 -3.1**
KLR *e*S **S** **05 33 42.0 +1.3**
KLR MLR MLR
comp=Z,39μm,15.0s,MS6.6
BOD Bodaibo 56.71 11 *e*P **P** **05 26 10.4 -1.1**
BOD pmax pmax
comp=Z,169nm,1.8s,mb5.8
ASAJ Asahikawa 57.87 38 P **P** **05 26 19.6 -0.3**
comp=Z,14nm,0.8s,mb5.1,baz=257,slow=18,SNR=6.2
ASAJ pP pP 05 26 28.1 -1.5
comp=Z,29nm,0.9s,baz=209,slow=8.4,SNR=4.8
CLNS Chul'man 58.55 18 *e*P **P** **05 26 24.3 -0.2**
CLNS *e**PP pP 05 26 31.7 -2.4
CLNS *e* 05 27 10.0
CLNS *e* 05 28 33.6
CLNS *e*S **S** **05 34 34.5 +10**
CLNS *e*PS PS 05 34 50.4 +8.1
CLNS *e* 05 36 01.4
CLNS pmax pmax
comp=N,62nm,0.9s
CLNS pmax pmax
comp=E,37nm,0.9s
CLNS pmax pmax
comp=Z,105nm,0.9s,mb5.9
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,31nm,1.8s
CLNS pmax pmax
comp=E,19nm,1.5s
CLNS MLR MLR
comp=N,15μm,15.0s,MS6.3
CLNS MLR MLR
comp=Z,22μm,15.0s,MS6.4
CLNS MLR MLR
comp=E,3μm,14.0s,MS6.3
MAK Makhachkala 59.26 320*d* *i*P **P** **05 26 28.7 -0.9**

MAK e 05 28 44.0
MAK ePPP PPP 05 30 10.0 +2.8
MAK i S S **05 34 31.0 -2.8**
MAK i PS PS 05 34 55.0 +2.5
MAK i 05 36 16.0
MAK pmax pmax
comp=Z,468nm,2.0s,mb6.2
MAK pmax pmax
comp=Z,2μm,8.0s
MAK smax
comp=N,2μm,10.0s
MAK smax
comp=E,3μm,10.0s
KMBO Kilima Mbogo 59.47 267 eP P **05 26 31.7 +0.3**
KMBO pmax pmax
comp=Z,87nm,1.3s
KMBO MLR MLR
comp=Z,7μm,20.0s
KMBO Kilima Mbogo 59.47 267 P P **05 26 32.0 +0.6**
comp=Z,16nm,1.0s,mb5.0,baz=62,slow=10,SNR=31
KMBO LR LR 05 47 56.1
comp=Z,7μm,20.4s,MS5.8,baz=84,slow=32
KMBO Kilima Mbogo 59.47 267 eP P **05 26 31.7 +0.3**
comp=Z,87nm,1.3s,mb5.6
KMBO LR LR
comp=Z,7μm,20.0s,MS5.8
YSS Yuzh-Sakhalins 59.50 35 i P P **05 26 29.8 -1.4**
YSS pmax pmax
comp=Z,263nm,1.7s,mb6.0
YSS Yuzh-Sakhalins 59.50 35 P P **05 26 31.4 +0.2**
comp=Z,168nm,1.1s,mb6.0
YSS LR LR
comp=Z,9μm,22.0s,MS5.8
GNI Garni 59.85 316c iP P **05 26 32.1 -1.7**
GNI pmax pmax
comp=Z,208nm,2.5s
GNI Garni 59.85 316 P P **05 26 33.6 -0.2**
comp=Z,20nm,0.8s,mb5.2,baz=315,slow=8.7,SNR=8.1
GNI Garni 59.85 316⇑ eP P **05 26 32.6 -1.1**
comp=Z,136nm,1.2s,mb5.9
GNI LR LR
comp=Z,2μm,20.0s,MS5.3
DGRG David-gareji 59.98 317 P P **05 26 34.3 -0.2**
DGRG S pP 05 26 42.6 -1.7
TVAN Van 60.15 314 i P P **05 26 40.2 +4.4**
TOO Toolangi 60.38 136 eP P **05 26 38.1 +0.7**
comp=Z,2.2nm,1.0s
TOO i S S **05 34 47.5 -0.8**
MTA Mtatsminda 60.48 317 P P **05 26 36.4 -1.6**
MTA Mtatsminda 60.48 317 P P **05 26 37.0 -1.0**
MTA S pP 05 26 49.1 +1.5
TI2 Plekhanov 60.52 317α iP P **05 26 37.2 -1.1**
TI2 i 05 28 52.8
TI2 e 05 34 48.8
TI2 e 05 36 27.4
TI2 pmax pmax
comp=Z,120nm,1.2s,mb5.9
TI2 pmax pmax
comp=Z,4μm,4.0s
TBLG Delisi 60.53 317 P P **05 26 37.5 -0.8**
SVE Sverdlovsk 61.14 338⇑ iP P **05 26 41.8 -0.4**
SVE e PcP 05 27 25.5 +0.8
SVE e PP 05 28 56.5 -2.5
SVE e 05 34 50.0
SVE ePS ScS 05 36 28.0 +0.8
SVE e 05 39 00.0
SVE e 05 41 30.0
SVE pmax pmax
comp=Z,240nm,2.0s,mb6.0
SVE pmax pmax
comp=N,700nm,4.0s
SVE pmax pmax
comp=E,500nm,4.0s
SVE pmax pmax
comp=Z,2μm,4.0s
SVE MLR MLR
comp=N,3μm,18.0s,MS5.7
SVE MLR MLR
comp=E,3μm,18.0s,MS5.7
SVE MLR MLR
comp=Z,7μm,18.0s,MS5.8
ZEI Tsey 61.54 318 eP P **05 26 38.2 -7.0**
ZEI i *PP pP 05 26 48.4 -6.5
ZEI i 05 28 58.8
ZEI i S S **05 34 59.8 -3.2**
ZEI pmax pmax
comp=Z,14nm,0.9s,mb5.1
ARU Arti 61.63 337⇑ iP P **05 26 44.2 -1.4**
ARU i S S **05 35 03.7 -0.3**
ARU i 05 36 33.1
ARU eSSS SSS 05 41 51.6 +4.0
ARU pmax pmax
comp=Z,108nm,1.1s,mb5.9
ARU MLR MLR
comp=N,1μm,21.0s,MS5.7
ARU MLR MLR
comp=E,5μm,20.0s,MS5.7
ARU MLR MLR
comp=Z,5μm,20.0s,MS5.7
ARU Arti 61.63 337 eP P **05 26 43.4 -2.2**
comp=Z,214nm,1.4s,mb6.1
ARU LR LR
comp=Z,2μm,21.0s,MS5.2
CNB Canberra Magne 62.09 133 eP P **05 26 47.5 -1.5**
comp=Z,607nm,1.2s,mb6.6
ERZM Erzurum 62.14 314 i P P **05 26 49.1 -0.2**
KIV Kislovodsk 62.84 319c iP P **05 26 52.7 -1.1**
KIV e 05 27 06.0
KIV e 05 27 33.4
KIV i 05 29 13.1
KIV eSS SS 05 39 23.8 -2.8
KIV pmax pmax
comp=Z,214nm,2.5s,mb5.8
KIV Kislovodsk 62.84 319 eP P **05 26 52.5 -1.3**
comp=Z,218nm,1.3s,mb6.1
KIV LR LR
comp=Z,788nm,19.0s,MS4.9
GOF Gofitskoye 63.08 320⇓ iP P **05 26 54.0 -1.4**
GOF i S S **05 35 22.6 +0.2**
GOF pmax pmax
comp=Z,310nm,2.2s,mb6.0
GOF pmax pmax
comp=Z,2μm,3.0s
GOF smax
comp=E,700nm,3.1s
GOF smax
comp=E,5μm,6.0s
GOF MLR MLR
comp=E,6μm,20.0s
GOF MLR MLR
comp=Z,4μm,20.0s,MS5.6
ASF Jabal al Asfar 63.16 305 P P **05 26 56.4 +0.3**
comp=Z,9.9nm,0.8s,mb5.0,baz=339,slow=2.9,SNR=23
MALT Malatya 63.73 312 eP P **05 26 58.5 -1.4**
MALT pmax pmax
comp=Z,108nm,1.4s,mb5.7
MALT Malatya 63.73 312 eP P **05 26 58.5 -1.4**
comp=Z,108nm,1.4s,mb5.7
EIL Elat 64.20 302 P P **05 27 02.8 -0.3**
comp=Z,16nm,0.8s,mb5.1,baz=5.9,slow=2.7,SNR=13
EIL pP pP 05 27 11.9 -0.8
comp=Z,16nm,0.7s,baz=302,slow=1.2,SNR=6.6
EIL Elat 64.20 302 eP P **05 27 02.2 -0.9**
comp=Z,57nm,1.3s,mb5.4
YAK Yakutsk 64.21 17c iP P **05 27 00.6 -1.9**
YAK pmax pmax
comp=Z,465nm,1.7s,mb6.2
YAK Yakutsk 64.21 17 eP P **05 27 01.3 -1.2**
comp=Z,244nm,0.9s,mb6.2
YAK LR LR
comp=Z,13μm,19.0s,MS6.1
HNR Honiara 64.22 102 P P **05 27 01.7 -1.7**
HNR pmax pmax
comp=Z,189nm,0.8s,mb6.2
HNR MLR MLR
comp=Z,2μm,21.0s,MS5.4
HNR Honiara 64.22 102 P P **05 27 01.7 -1.8**
comp=Z,189nm,0.8s,mb6.2
HNR LR LR
comp=Z,2μm,21.0s,MS5.4
TAU Tasmania Unive 64.30 141 eP P **05 27 00.0 -3.5**
TAU pmax pmax
comp=Z,241nm,1.6s,mb6.0
TAU MLR MLR
comp=Z,1μm,20.0s,MS5.1
TAU Tasmania Unive 64.30 141 eP P **05 27 00.0 -3.4**
comp=Z,241nm,1.6s,mb6.0
TAU LR LR
comp=Z,1μm,20.0s,MS5.1
BHL Bhannes 64.61 306 eP P **05 27 05.6 0.0**
SOC Sochi 64.66 318 i P P **05 27 02.8 -3.0**
SOC e 05 27 36.6
SOC e 05 29 23.8
SOC ePPP PPP 05 30 59.8 -3.5
SOC eS S **05 35 41.2 -0.9**
SOC e 05 36 55.4
SOC eSS SS 05 39 56.4 +1.6
SOC pmax pmax
comp=Z,84nm,1.0s,mb5.7
SOC pmax pmax
comp=N,78nm,1.1s
SOC pmax pmax
comp=E,57nm,1.2s
SOC MLR MLR
comp=Z,1μm,20.0s,MS5.2
SOC MLR MLR
comp=N,2μm,21.0s,MS5.3
SOC MLR MLR
comp=E,985nm,19.0s,MS5.3
KAHT Ahir Dag 64.69 311 i P sP 05 27 20.2 +0.9
COBT Iskenderun 64.84 309 i P sP 05 27 20.2 -0.1
MBAR Mbarara 65.94 268 P P **05 27 14.6 +0.1**
comp=E,129nm,1.9s,mb5.6,SNR=14
MBAR Mbarara 65.94 268 eP P **05 27 13.1 -1.4**
MBAR pmax pmax
comp=Z,54nm,1.2s,mb5.5
MBAR MLR MLR
comp=Z,1μm,20.0s,MS5.1
MBAR Mbarara 65.94 268 eP P **05 27 13.1 -1.4**
comp=Z,54nm,1.2s,mb5.5
MBAR LR LR
comp=Z,1μm,20.0s,MS5.1
MEST Erdemli 66.50 309 i P P **05 27 16.2 -1.5**
AVNT Avonos 66.54 311 i P P **05 27 20.2 +2.2**
ANN Anapa 66.64 318 eP P **05 27 12.6 -5.9**
ANN e 05 29 41.4
ANN eS S 05 35 59.1 -7.1
ANN eSS SS 05 40 23.8 -1.6
ANN pmax pmax
comp=Z,105nm,1.6s,mb5.6
CSS Prodhromos 66.73 307 eP P **05 27 17.4 -1.9**
comp=Z,71nm,1.0s,mb5.7
BOYT Boyabat 67.28 314 i P P **05 27 20.2 -2.4**
BR131 Keskin Array S 67.71 312 PFAKE 05 27 40.0 +15
BR131 LR LR
comp=Z,2μm,21.0s,MS5.3
BRTR Keskin Array B 67.71 312 P P **05 27 23.8 -1.6**
comp=Z,13nm,0.8s,mb5.0,baz=127,slow=6.4,SNR=33
PECR Pechory 67.87 331 i P P **05 27 24.6 -1.5**
PECR e 05 27 51.0
PECR i 05 29 54.6
PECR i S S 05 36 17.0 -3.8
PECR e 05 37 20.0
PECR pmax pmax
comp=Z,680nm,2.0s,mb6.3
PECR pmax pmax
comp=Z,2μm,3.0s
PECR pmax pmax
comp=N,500nm,4.0s
PECR pmax pmax
comp=E,800nm,4.0s
PECR pmax pmax
comp=Z,1μm,4.0s
PECR smax
comp=N,1μm,11.0s
PECR smax
comp=E,2μm,11.0s
PECR MLR MLR
comp=N,2μm,16.0s,MS5.6
PECR MLR MLR
comp=E,3μm,20.0s,MS5.6
PECR MLR MLR
comp=Z,3μm,20.0s,MS5.5
VRSR Storozhevoye 68.04 325c iP P **05 27 25.2 -2.0**
VRSR e*PP pP 05 27 32.9 -4.0
VRSR e 05 27 51.3
VRSR e 05 29 56.4
VRSR eS S 05 36 17.2 -5.7
VRSR e 05 37 18.3
VRSR pmax pmax
comp=Z,90nm,1.6s,mb5.5
VRSR pmax pmax
comp=N,20nm,1.1s
VRSR pmax pmax
comp=E,30nm,1.0s
VRSR smax
comp=N,250nm,4.7s
VRSR smax
comp=Z,230nm,3.7s
VRSR smax
comp=E,320nm,3.8s
VRSR MLR MLR
comp=Z,3μm,20.0s,MS5.5
VRSR MLR MLR
comp=N,1μm,15.0s
VRSR MLR MLR
comp=E,2μm,21.0s
ELDT Eldivan 68.08 313 i P P **05 27 20.2 -7.4**
VOR Voronezh 68.25 326 eP P **05 27 27.0 -1.5**
VOR e*PP pP 05 27 34.5 -3.7
VOR e 05 29 54.5
VOR pmax pmax
comp=N,160nm,1.8s
VOR pmax pmax
comp=Z,380nm,1.8s,mb6.1
VOR pmax pmax
comp=N,80nm,2.0s
BALT Daday 68.40 314 i P P **05 27 20.2 -9.4**
SIM Simferopol' **68.91 318**ce P P **05 27 31.8 -0.9**
SIM e 05 30 05.0
SIM eS S 05 36 31.0 -2.4
SIM pmax pmax
comp=Z,91nm,1.0s,mb5.7
SKR Severo-Kuril's 69.03 36 eP P **05 27 31.0 -2.3**
SKR e pP 05 27 39.0 -4.0
SKR ePPP PPP 05 31 48.0 +1.8
SKR eS S 05 36 38.0 +3.3
SKR ePS PS 05 37 03.6 -0.7
SKR e 05 37 25.6
SKR eSS SS 05 40 56.0 -6.5
SKR pmax pmax
comp=E,4μm,3.0s
SKR pmax pmax
comp=Z,5μm,3.0s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=E,220nm,1.0s
SKR pmax pmax
comp=Z,270nm,1.0s,mb6.1
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,5μm,10.0s
SKR MLR MLR
comp=N,7μm,18.0s,MS6.0
SKR MLR MLR
comp=Z,6μm,18.0s,MS5.9
SKR MLR MLR
comp=E,3μm,20.0s,MS6.0
MIR Mirnyy 69.09 182c iP P **05 27 32.5 -0.9**
MIR pmax pmax
comp=Z,190nm,2.0s,mb5.7
SGKT Sivrigoynuk 69.11 313 i P P **05 27 32.3 -1.7**
CASY Casey 69.49 174 eP P **05 27 35.3 -0.6**
CASY i S S 05 36 42.3 +2.4
ISP Isparta 69.61 309⇑ iP P **05 27 34.7 -2.4**
ESKT Eskisehir 69.74 311 i P P **05 27 36.7 -1.2**
LSZ Lusaka 69.97 253 eP P **05 27 38.4 -1.2**
comp=Z,11nm,0.6s,mb5.0
MA2 Magadan 70.29 26ce P P **05 27 40.6 -0.3**
MA2 eS S 05 36 50.0 +0.6
MA2 pmax pmax
comp=Z,100nm,1.7s,mb5.5
MA2 Magadan 70.29 26 eP P **05 27 39.9 -1.0**
comp=Z,58nm,0.8s,mb5.6
MA2 LR LR
comp=Z,14μm,19.0s,MS6.2
WAKE Wake Island 70.29 71 PFAKE 05 27 50.0 +8.4
WAKE LR LR
comp=Z,228μm,20.0s
MOS Moscow 70.80 329 i P P **05 27 43.3 -0.7**
MOS e 05 27 48.3
MOS e 05 28 02.5
MOS i 05 30 18.2
MOS ePPP PPP 05 32 00.3 -3.5
MOS eS S 05 36 53.0 -2.4
MOS e 05 37 43.6
MOS pmax pmax
comp=Z,2μm,3.0s
MOS pmax pmax
comp=Z,477nm,1.7s,mb6.2
MOS smax
comp=E,2μm,3.6s
MOS MLR MLR
comp=Z,4μm,20.6s,MS5.7
MOS MLR MLR
comp=N,4μm,20.5s
KWAJ Kwajalein Atol 70.83 82 PFAKE 05 28 00.0 +15
KWAJ LR LR
comp=Z,390nm,20.0s
OBN Obninsk 71.09 328 P P **05 27 45.6 -0.2**
comp=Z,679nm,1.2s,mb6.5,SNR=28
OBN Obninsk 71.09 328c iP P **05 27 44.6 -1.2**
OBN i 05 30 20.1
OBN i S S 05 36 54.2 -4.6
OBN pmax pmax
comp=Z,350nm,1.7s,mb6.0
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.4
OBN Obninsk 71.09 328⇑ iP P **05 27 44.6 -1.2**
comp=Z,419nm,1.4s,mb6.2
OBN LR LR
comp=Z,678nm,20.0s,MS4.9
ULDT Uludag 71.17 312 i P P **05 27 45.1 -1.4**
PET Petropavlovsk 71.37 34c iP P **05 27 47.4 -0.1**
PET e 05 28 06.5
PET eS S 05 37 06.5 +4.5
PET ePPS PPS 05 37 47.8 -0.1
PET pmax pmax
comp=Z,2μm,3.5s
PET pmax pmax
comp=Z,61nm,0.7s,mb5.6
PET pmax pmax
comp=Z,500nm,12.3s
PET MLR MLR
comp=Z,7μm,19.0s,MS5.9
PET MLR MLR
comp=Z,6μm,18.0s
PET Petropavlovsk 71.37 34 eP P **05 27 47.1 -0.4**
comp=Z,201nm,1.4s,mb5.9
PET LR LR
comp=Z,6μm,20.0s,MS5.9
KARP Karpathos 71.79 306 ePG P **05 27 48.6 -1.8**
TIXI Tiksi 71.88 10 eP P **05 27 47.3 -3.0**
TIXI eS S 05 37 04.1 -3.4
TIXI pmax pmax
comp=Z,91nm,1.0s,mb5.7
TIXI MLR MLR
comp=N,4μm,18.0s,MS6.0
TIXI MLR MLR
comp=E,6μm,17.0s,MS6.0
TIXI MLR MLR
comp=Z,10μm,17.0s,MS6.2
TIXI Tiksi 71.88 10⇑ iP P **05 27 48.9 -1.4**
TIXI LR LR
comp=Z,12μm,19.0s,MS6.2
KDAG Bornova 72.23 309 i P P **05 27 52.0 -1.0**
NOUC Port Laguerre 72.28 114 eP P **05 27 53.8 +0.4**
DZM Mont Dzumac 72.40 114 LR LR 06 03 07.5
comp=Z,6μm,19.6s,MS5.9,baz=56,slow=39
SEY Seymchan 72.67 23 i P P **05 27 56.6 +1.6**
SEY pP 05 28 07.9 +3.1
SEY e 05 30 38.9
SEY ePPP PPP 05 32 15.8 -5.6
SEY eS S 05 37 20.7 +4.0
SEY i 05 37 58.1
SEY eSS SS 05 42 02.7 +4.1
SEY pmax pmax
comp=Z,140nm,0.8s,mb5.9
SEY smax
comp=N,2μm,10.1s
SEY smax
comp=E,4μm,13.6s
SEY MLR MLR
comp=Z,34μm,22.0s,MS6.6
SEY MLR MLR
comp=N,28μm,26.0s
SEY MLR MLR
comp=E,15μm,20.0s
XRY Khrisi 72.87 306 ePG P **05 27 55.8 -1.0**
NPS Neapolis 73.00 306 ePB P **05 27 56.8 -0.7**
KIS Kishinev 73.03 319c iP P **05 27 54.0 -3.5**
KIS e 05 28 12.0
KIS e 05 30 38.0
KIS ePPP PPP 05 32 28.0 +2.7
KIS i S S 05 37 16.0 -5.1
KIS MLR MLR
comp=N,1μm,18.0s
KIS MLR MLR
comp=Z,2μm,18.0s,MS5.3
CFR Carcaliu 73.05 317⇓ iP P **05 27 57.2 -0.4**
HARR Harsova 73.07 316⇓ iP P **05 27 57.1 -0.7**
PRK Paraskevi 73.15 310 ePG P **05 27 57.7 -0.7**
JMB Yambol 73.55 314 eP P **05 28 00.5 -0.1**
IDI Anoyia 73.58 306 P P **05 28 00.5 -0.5**
comp=Z,25nm,0.9s,mb5.1,baz=84,slow=6.3,SNR=9.2
AKASG Malin Array Be 73.76 322 P P **05 28 00.4 -1.3**
comp=Z,12nm,0.6s,mb5.0,baz=90,slow=5.0,SNR=50
MAW Mawson 73.98 193 eP P **05 28 02.4 -0.2**
comp=Z,24nm,2.0s,mb4.8
MAW i S S 05 37 33.0 +1.7
MAW Mawson 73.98 193 P P **05 28 02.6 0.0**
comp=Z,17nm,1.0s,mb4.9,baz=28,slow=6.7,SNR=24
MAW pP pP 05 28 12.4 0.0
comp=Z,17nm,0.9s,baz=337,slow=8.0,SNR=8.3
LBTB Lobatse 74.01 243 eP P **05 28 02.9 -0.7**
LBTB pmax pmax
comp=Z,157nm,1.5s,mb5.7
LBTB MLR MLR
comp=Z,9μm,20.0s,MS6.0
LBTB Lobatse 74.01 243 P P **05 28 03.7 +0.1**
comp=Z,28nm,0.9s,mb5.2,baz=109,slow=7.1,SNR=35
LBTB Lobatse 74.01 243 eP P **05 28 02.9 -0.7**
comp=Z,157nm,1.5s,mb5.7
LBTB LR LR
comp=Z,9μm,20.0s,MS6.0
RDO Rodhopi 74.06 312 ePG P **05 28 02.2 -1.4**
LIA Limnos Island 74.10 311 ePN P **05 28 02.7 -1.1**
VAM Vamos 74.16 306 ePG P **05 28 03.5 -0.8**
VRI Vrincioaia 74.17 317⇓ iP P **05 28 04.1 0.0**
SZH Strazhica 74.17 314 eP P **05 28 04.0 -0.2**
DIM Dimitrovgrad 74.23 313 eP P **05 28 04.0 -0.5**
KDZ Kurdzhali 74.24 313 eP P **05 28 05.0 +0.4**
PVL Pavlikeni 74.59 314 eP P **05 28 07.0 +0.4**
MLR Muntele Rosu 74.62 316 P P **05 28 06.7 0.0**
comp=Z,30nm,1.0s,mb5.2,baz=122,slow=2.9,SNR=19
MLR Muntele Rosu 74.62 316⇑ iP P **05 28 06.8 +0.1**
RZN Rozhen 74.76 312 i P P **05 28 07.0 -0.6**
PLD Plovdiv 74.85 313 eP P **05 28 07.5 -0.6**
SNX Sinaia 74.89 316 P P **05 28 08.6 +0.3**
BOSA Boshof 75.00 240 eP P **05 28 08.4 -0.9**
BOSA pmax pmax
comp=Z,222nm,1.9s,mb5.8
BOSA MLR MLR
comp=Z,7μm,19.0s,MS6.0
BOSA Boshof 75.00 240 P P **05 28 09.2 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=80,slow=6.1,SNR=13
BOSA LR LR 05 58 18.9
comp=Z,7μm,18.1s,MS6.0,baz=59,slow=33
BOSA Boshof 75.00 240 eP P **05 28 08.4 -0.9**
comp=Z,222nm,1.9s,mb5.8
BOSA LR LR
comp=Z,7μm,19.0s,MS6.0
MTUR Matau 75.18 316 P P **05 28 09.9 -0.1**
NVR Nevrokopi 75.34 312 ePG P **05 28 09.7 -1.2**
MMB Musomiste 75.47 312 eP P **05 28 10.5 -1.2**
PLG Polygyros 75.49 311 ePN P **05 28 10.6 -1.2**
NEO Neokhori 75.50 310 ePG P **05 28 09.6 -2.3**
BURAR Bucovina Array 75.56 319 P P **05 28 12.2 +0.1**
LKR Lokris 75.57 309 ePG P **05 28 09.9 -2.5**
MNK Minsk 75.63 326⇓ eP P **05 28 09.0 -3.4**
DRV Dumont d'Urvil 75.69 164 S S 05 37 52.0 +1.6
DRV SS SS 05 42 44.0 -0.8
PUL Pulkovo 75.95 331 eP P **05 28 12.0 -2.0**
PUL eS S 05 37 50.5 -2.8

PUL pmax pmax
comp=Z,88nm,0.3s,mb6.2
PUL smax
comp=N,3μm,5.7s
PUL smax
comp=E,2μm,4.1s
PUL MLR MLR
comp=N,2μm,20.0s,MS5.7
PUL MLR MLR
comp=Z,3μm,20.0s,MS5.6
PUL MLR MLR
comp=E,3μm,23.0s,MS5.7
KKB Krupnik 76.00 312 *i* P **P** **05 28 13.5 -1.2**
VTS Vitosha 76.02 313 *i* P **P** **05 28 14.0 -0.8**
ITM Ithomi 76.22 308 *e*PN **P** **05 28 15.2 -0.8**
VAY Valandovo 76.29 312⇑ *i*P **P** **05 28 14.8 -1.6**
EVR Evrytania 76.53 309 *e*PN **P** **05 28 11.2 -6.5**
RLS Riolos of Patr 76.69 308 *e*PG **P** **05 28 17.7 -0.9**
LVV L'vov 76.79 321 *e*P **P** **05 28 17.9 -1.0**
LVV *e*S S 05 37 56.0 -6.6
BARS Barje 77.06 313⇑ *i*P **P** **05 28 21.2 +0.6**
BOLS Boljevac 77.12 314⇓ *i*P **P** **05 28 19.8 -1.2**
SKO Skopje 77.22 312⇑ *i*P **P** **05 28 20.0 -1.5**
LVZ Lovozero 77.28 340 *e*P **P** **05 28 20.6 -0.7**
LVZ *e*S S 05 38 03.3 -4.4
LVZ pmax pmax
comp=Z,219nm,1.7s,mb5.8
LVZ pmax pmax
comp=N,70nm,2.2s
LVZ pmax pmax
comp=E,105nm,2.9s
LVZ smax
comp=N,2μm,5.4s
LVZ smax
comp=E,1μm,7.6s
VSU Vasula 77.31 330⇑ *i*P **P** **05 28 21.1 -0.6**
APA Apatity 77.58 339⇓ *i*P **P** **05 28 23.2 +0.3**
APA *i* S S 05 38 10.0 -0.8
APA *e* 05 38 39.0
APA pmax pmax
comp=Z,460nm,1.8s,mb6.1
OHR Ohrid 77.59 311⇑ *i*P **P** **05 28 21.7 -1.8**
KWP Kalwaria 77.59 320⇑ *e*P **P** **05 28 22.9 -0.4**
KWP MLR MLR 06 08 44.8
comp=Z,2μm,21.6s,MS5.5
BZS Buzias 77.64 316 P **P** **05 28 23.8 +0.1**
UZH Uzhgorod 77.68 319 *e*P **P** **05 28 23.5 -0.4**
UZH *i* S S 05 38 05.5 -6.8
KOLS Kolonicke sedl 77.75 319 *i* P **P** **05 28 25.0 +0.8**
GRUS Gruza 78.02 314⇓ *i*P **P** **05 28 25.1 -0.7**
SUW Suwalki 78.17 325 *e*P **P** **05 28 25.5 -0.9**
SUW pmax pmax
comp=Z,250nm,1.0s,mb6.1
SUW Suwalki 78.17 325⇑ *e*P **P** **05 28 25.6 -0.8**
SUW Suwalki 78.17 325⇑ *e*P **P** **05 28 25.6 -0.8**
SUW MLR MLR 06 10 11.4
comp=Z,3μm,18.7s,MS5.7
CRVS Cervenica-Dubn 78.27 319 *e*P **P** **05 28 28.8 +1.7**
CRVS *e*S S 05 38 16.4 -2.2
CRVS Cervenica-Dubn 78.27 319 *e*P **P** **05 28 28.8 +1.7**
CRVS *e* 05 28 49.1
CRVS *e*S S 05 38 16.4 -2.2
FINES FINESS Array B 78.45 332 P **P** **05 28 27.4 -0.5**
comp=Z,23nm,0.9s,mb5.1,baz=104,slow=7.9,SNR=57
KAF Kangasniemi 78.54 333 *e*p **P** **05 28 27.9 -0.4**
comp=Z,53nm,0.9s,mb5.5,baz=104,slow=5.0
KAF Kangasniemi 78.54 333 *e*P **P** **05 28 27.9 -0.4**
KAF pmax pmax
comp=Z,53nm,0.9s,mb5.5
DIVS Divcibare 78.56 314⇓ *i*P **P** **05 28 28.3 -0.5**
KECS Kecova 78.84 319 *e*P **P** **05 28 30.3 0.0**
NIE Niedzica 79.09 320 *e*P **P** **05 28 30.5 -1.1**
PSZ Piszkesteto 79.15 318 *e*P **P** **05 28 31.9 -0.1**
PSZ pmax pmax
comp=Z,70nm,1.1s,mb5.5
PSZ Piszkesteto 79.15 318⇑ *e*P **P** **05 28 32.1 +0.1**
SUR Sutherland 79.46 237 P **P** **05 28 35.6 +1.6**
comp=Z,259nm,1.5s,mb5.9,SNR=7.5
SUR Sutherland 79.46 237 PFAKE 05 28 50.0 +16
SUR LR LR
comp=Z,2μm,19.0s,MS5.5
OJC Ojcow 79.54 321 *e*P **P** **05 28 33.8 -0.2**
OJC *e*PcP PcP 05 28 41.8 -0.5
OJC *e*S S 05 38 29.7 -2.4
OJC *e*SS SS 05 43 37.6 -5.6
OJC MLR MLR 06 12 47.6
comp=Z,2μm,19.1s,MS5.4
PKSM Moragy 79.78 316⇑ *i*P **P** **05 28 35.2 -0.2**
FX1 Attu Island--F 79.79 37 P **P** **05 28 36.3 +1.0**
comp=Z,35nm,0.5s,mb5.5,baz=121,slow=3.5,SNR=15
FX1 Attu Island--F 79.79 37 *e*P **P** **05 28 36.2 +0.9**
VYHS Vyhne 79.93 319 *i* P **P** **05 28 36.2 +0.1**
VYHS *e*S S 05 38 34.1 -2.1
BILL Bilibino 80.03 21 *c i*P **P** **05 28 35.2 -1.1**
BILL *e* 05 31 40.2
BILL pmax pmax
comp=Z,144nm,2.5s,mb5.5
BILL MLR MLR
comp=Z,18μm,17.0s,MS6.5
BILL Bilibino 80.03 21⇑ *i*P **P** **05 28 35.4 -0.9**
comp=Z,306nm,2.0s,mb5.9
BILL LR LR
comp=Z,20μm,19.0s,MS6.5
PKS9 Tamasi 80.07 317⇑ *e*P **P** **05 28 36.9 0.0**
STON Ston 80.08 313 *i* P **P** **05 28 35.8 -1.3**
STON Ston 80.08 313 *i* P **P** **05 28 35.8 -1.3**
SRO Srobarova 80.19 318 *e*P **P** **05 28 38.7 +1.1**
SRO1 Iza 80.24 318 *e*P **P** **05 28 39.3 +1.5**
TIP Timpagrande 80.47 309⇑ *i*P **P** **05 28 39.2 0.0**
TSUM Tsumeb 80.52 250 *e*P **P** **05 28 39.9 0.0**
comp=Z,12nm,1.1s,mb4.7
TSUM LR LR
comp=Z,5μm,19.0s,MS5.9
OKC Ostrava-Krasne 80.55 320 *e*P **P** **05 28 39.5 +0.1**
OKC *e*PP PP 05 31 44.0 -0.8
OKC *e*S S 05 38 40.0 -2.6
OKC AMS AMS 06 11 10.0
comp=Z,900nm,20.2s
RAC Raciborz 80.55 320 *e*P **P** **05 28 39.3 -0.1**
RAC MLR MLR
comp=Z,2μm,21.5s,MS5.3
RAC Raciborz 80.55 320 *e*P **P** **05 28 39.3 -0.1**
RAC LMN 06 06 20.0
RAC MLR MLR 06 07 24.9
RAC LME 06 07 32.8
comp=Z,2μm,23.9s
KEV Kevo 80.55 341 *e*p **P** **05 28 36.0 -3.1**
comp=Z,52nm,1.0s,mb5.4
KEV Kevo 80.55 341 *e*P **P** **05 28 36.0 -3.1**
KEV pmax pmax
comp=Z,52nm,1.0s,mb5.4
RPZ Rata Peaks 80.63 135 LR LR 06 03 55.8
comp=Z,7μm,21.5s,MS6.0,baz=280,slow=35
GRI Girifalco 80.71 309 *e*P **P** **05 28 41.3 +0.8**
SMOL Smolenice 80.86 319 *e*P **P** **05 28 41.2 +0.1**
MORC Moravsky Berou 80.93 320⇑ *i*P **P** **05 28 41.3 -0.1**
MORC pmax pmax
comp=Z,185nm,1.8s,mb5.7
MORC Moravsky Berou 80.93 320⇑ *i*P **P** **05 28 41.3 -0.1**
comp=Z,185nm,1.8s,mb5.7
SOI Samo 80.94 308 *e*P **P** **05 28 41.8 +0.1**
ARCES ARCESS Array B 80.99 340 P **P** **05 28 41.3 -0.1**
comp=Z,23nm,0.7s,mb5.2,baz=94,slow=5.0,SNR=70
ARE0 ARCESS Array S 80.99 340 *e*P **P** **05 28 41.6 +0.3**
ZST Bratislava 81.04 318 *e*P **P** **05 28 42.3 +0.3**
ZST *e*S S 05 38 47.1 -0.7
SYO Syowa Base 81.19 198⇑ P **P** **05 28 42.5 +0.1**
SYO Syowa Base 81.19 198⇑ pP pP 05 28 56.0 +3.7
MTTG Motta San Giov 81.22 308 *e*P **P** **05 28 44.2 +1.0**
SLCN Sala Consilina 81.42 310 *e*P **P** **05 28 45.0 +0.9**
KOGS Kog 81.45 316 *i* P **P** **05 28 44.5 +0.3**
MGR Morigerati 81.47 310 *e*P **P** **05 28 41.6 -2.8**
VRAC Vranov 81.49 319 P **P** **05 28 44.8 +0.4**
VRAC Vranov 81.49 319 P **P** **05 28 44.6 +0.2**
comp=Z,5.5nm,0.8s,baz=125,slow=6.1,SNR=13
GKP Gorka Klasztor 81.53 323⇑ *e*P **P** **05 28 44.2 -0.2**
GKP MLR MLR 06 10 32.5
comp=Z,2μm,20.2s,MS5.5
MRLC Muro Lucano 81.56 311 *e*P **P** **05 28 43.3 -1.5**
VKA Vienna 81.57 318⇑ *i*P **P** **05 28 45.1 +0.3**
comp=Z,966nm,3.5s
KTK1 Kautokeino 81.62 340 *e*P **P** **05 28 45.7 +1.0**
comp=Z,239nm,1.8s,mb5.8
KTK1 Kautokeino 81.62 340 *e*P **P** **05 28 45.7 +1.0**
KTK1 AMb AMB 05 28 54.9
comp=Z,239nm,1.8s,mb5.8
SGO Sicignano 81.68 310 *e*P **P** **05 28 45.7 +0.2**
FG5 Orsara di Pugl 81.76 311 *e*P **P** **05 28 46.7 +0.8**
DPC Dobruska-Polom 81.77 320 *e*P **P** **05 28 46.6 +0.8**
DPC *e*PP PP 05 31 54.9 -0.2
DPC *e*S S 05 38 52.3 -2.9
DPC AMS AMS 06 10 40.0
comp=Z,2μm,18.9s
KSP Ksiaz 81.84 321 *e*P **P** **05 28 46.7 +0.6**
KSP *e*PP pP 05 28 58.9 +2.8
KSP *e*S S 05 38 52.0 -3.9
KSP MLR MLR
comp=Z,4μm,17.8s,MS5.9
KSP Ksiaz 81.84 321⇑ *e*P **P** **05 28 46.8 +0.6**
KSP MLR MLR 06 09 40.0
comp=Z,2μm,25.6s,MS5.5
UPC Upice 81.99 320 *e*P **P** **05 28 47.5 +0.6**
MNO Monte Soro 82.01 308 *e*P **P** **05 28 48.6 +1.3**
ARSA Arzberg 82.01 317⇑ *i*P **P** **05 28 47.5 +0.4**
comp=Z,1μm,3.6s
BOJS Bojanci 82.06 315 *i* P **P** **05 28 47.6 +0.2**
comp=Z,582nm,2.4s,mb6.1
BOJS *e*S S 05 38 55.4 -2.9
VAE Valguarnera 82.21 307 P **P** **05 28 49.7 +1.4**
comp=Z,9.7nm,0.3s,mb5.2,baz=328,slow=1.2,SNR=5.3
CII Carovilli 82.50 312 *e*P **P** **05 28 50.2 +0.4**
LJU Ljubljana 82.61 316 *e*P **P** **05 28 50.8 +0.6**
LJU *e* 05 32 02.6
LJU *e*S S 05 39 02.6 -1.3
LJU pmax pmax
comp=Z,901nm,2.3s,mb6.4
LJU Ljubljana 82.61 316 *e*P **P** **05 28 50.8 +0.5**
comp=Z,901nm,2.3s,mb6.4
LJU *e*PP PP 05 32 02.6 +0.8
LJU *e* 05 32 17.4
LJU *e*S S 05 39 02.6 -1.3
OBKA Obir 82.62 316⇑ *i*P **P** **05 28 50.5 +0.2**
comp=Z,1μm,3.4s
SNZO South Karori 82.81 132 PFAKE 05 29 00.0 +8.6
SNZO LR LR
comp=Z,9μm,21.0s,MS6.1
SDI San Donato 82.87 312 *e*P **P** **05 28 51.3 -0.4**
PRU Pruhonice 82.88 320 *e*P **P** **05 28 52.0 +0.4**
PRU *e*PP PP 05 32 03.5 -0.5
PRU *e*S S 05 39 05.5 -1.1
PRU AMS AMS 06 11 20.0
comp=Z,2μm,18.9s
PVCC Panska Ves 82.91 320 *e*P **P** **05 28 52.4 +0.7**
PVCC *e*S S 05 39 06.8 0.0
PVCC AMS AMS 06 14 20.0
comp=Z,2μm,18.1s
MOA Molln 82.91 318⇑ *i*P **P** **05 28 51.6 -0.2**
comp=Z,769nm,4.3s
JAVS Javornik 82.92 316 *e*P **P** **05 28 51.7 -0.2**
comp=Z,881nm,3.6s
PRA Prague 82.96 320 P **P** **05 28 53.0 +1.0**
VOY Vojsko 83.05 316 *e*P **P** **05 28 52.2 -0.3**
BSD Bornholm Skovb 83.09 325⇑ *i*P **P** **05 28 52.2 -0.3**
BSD *i* S S 05 39 08.1 -0.4
BSD pmax pmax
comp=Z,32nm,0.7s,mb5.5
BSD Bornholm Skovb 83.09 325⇑ *i*P **P** **05 28 52.2 -0.3**
comp=Z,32nm,0.7s,mb5.5
BSD *i* S S 05 39 08.1 -0.4
BSD Bornholm Skovb 83.09 325⇑ *i*P **P** **05 28 52.2 -0.3**
comp=Z,32nm,0.7s,mb5.5
BSD Bornholm Skovb 83.09 325 *i* S S 05 39 08.1 -0.4
comp=Z,3μm,18.0s
TRI Trieste 83.12 316 *e*P **P** **05 28 52.4 -0.5**
PTQR Pietraquaria 83.19 312 *e*P **P** **05 28 53.5 +0.1**
AQU L'Aquila 83.21 312 P **P** **05 28 53.7 +0.3**
AQU pmax pmax
comp=Z,120nm,1.0s,mb5.9
AQU L'Aquila 83.21 312 *e*P **P** **05 28 53.8 +0.4**
TRO Tromso 83.25 340⇑ *i*P **P** **05 28 51.2 -1.9**
comp=Z,145nm,1.5s,mb5.8
TRO Tromso 83.25 340⇑ *i*P **P** **05 28 51.2 -1.9**
TRO AMb AMB 05 29 02.8
comp=Z,145nm,1.5s,mb5.8
BRG Berggiesshubel 83.33 321 *i* P **P** **05 28 54.5 +0.7**
BRG *i* 05 29 07.4
BRG *e*S S 05 39 13.0 +2.0
BRG pmax pmax
comp=Z,152nm,2.1s,mb5.7
BRG MLR MLR
comp=Z,3μm,18.4s,MS5.6
BRG Berggiesshubel 83.33 321 *i* P **P** **05 28 54.5 +0.7**
comp=Z,152nm,2.1s,mb5.7
BRG *i* 05 29 07.4
BRG *i* 05 29 31.7
BRG *e*S S 05 39 13.0 +2.0
BRG LR LR
comp=Z,3μm,18.4s,MS5.6
GEC2 GERESS Array S 83.35 319 *e*P **P** **05 28 54.3 +0.3**
GEC2 pmax pmax
comp=Z,108nm,1.4s,mb5.7
GEC2 GERESS Array S 83.35 319 *e*P **P** **05 28 54.3 +0.3**
comp=Z,108nm,1.4s,mb5.7
GERES GERESS Array B 83.35 319 P **P** **05 28 54.3 +0.3**
comp=Z,15nm,0.8s,mb5.1,baz=104,slow=5.5,SNR=80
GERES PP PP 05 32 02.7 -5.0
comp=Z,2.1nm,0.8s,baz=84,slow=8.9,SNR=2.7
NRCA Norcia 83.44 313 *e*P **P** **05 28 54.7 +0.1**
PTCC Patocco-Chiusa 83.44 316 *e*P **P** **05 28 54.7 +0.1**
KHC Kasperske Hory 83.45 319 *e*P **P** **05 28 53.4 -1.1**
KHC *e*pP pP 05 29 04.5 +0.1
KHC *e*PP PP 05 32 07.3 -1.2
KHC *e*S S 05 39 14.8 +2.5
KHC AMS AMS 06 18 00.0
comp=Z,2μm,19.7s
KBA Koelnbreinsper 83.48 317⇑ *i*P **P** **05 28 54.0 -0.7**
comp=Z,542nm,4.3s
GMNA Gemona 83.52 316 *e*P **P** **05 28 55.1 +0.2**
SNTG Esanatoglia 83.59 313 *e*P **P** **05 28 55.7 +0.3**
ARV Arcevia 83.60 313 *e*P **P** **05 28 55.8 +0.4**
MNS Montasola 83.74 312 *e*P **P** **05 28 55.7 -0.5**
FVI Forni Avoltri 83.85 316 *e*P **P** **05 28 56.6 0.0**
WET Wettzell 83.91 319 *e*P **P** **05 28 57.0 +0.2**
WET pmax pmax
comp=Z,53nm,1.3s,mb5.5
WET Wettzell 83.91 319 *e*P **P** **05 28 57.0 +0.2**
comp=Z,53nm,1.3s,mb5.5
CLL Collm 83.95 321 *i* P **P** **05 28 56.9 -0.1**
CLL *i* 05 29 09.3
CLL *e*S S 05 39 15.0 -2.2
CLL pmax pmax
comp=Z,93nm,1.8s,mb5.6
CLL Collm 83.95 321 *i* P **P** **05 28 56.9 -0.1**
comp=Z,93nm,1.8s,mb5.6
CLL *i* 05 29 09.3
CLL *e*S S 05 39 15.0 -2.2
CLL *i* sS 05 39 34.7
CLL Collm 83.95 321 P **P** **05 28 56.9 -0.1**
comp=Z,logA/T=1.7,mb5.6
CLL *i* *SP sP 05 29 09.3 -0.9
CLL *e* 05 29 23.0
CLL *i* 05 29 43.1
CLL *e*PP PP 05 32 18.0 +5.5
CLL *e*S S 05 39 15.0 -2.2
CLL *i* *SS 05 39 34.7
CLL *e*PS PS 05 40 12.0 -3.2
CLL *e*SS SS 05 44 48.0 -0.3
CLL *e*SSS SSS 05 47 54.0 -21
RSM Repubblica di 83.97 314 *e*P **P** **05 28 58.4 +1.1**
URZ Urewera 84.17 129 LR LR 06 07 55.8
comp=Z,9μm,20.1s,MS6.1,baz=94,slow=37
HFS Hagfors 84.19 330 P **P** **05 28 58.0 +0.1**
comp=Z,15nm,0.6s,mb5.3,baz=108,slow=4.7,SNR=45
HFS pP pP 05 29 09.3 +1.3
comp=Z,15nm,0.6s,baz=124,slow=5.3,SNR=11
NKC Novy Kostel 84.24 320 *e*P **P** **05 28 59.5 +1.0**
NKC *e*PP PP 05 32 14.0 -0.9
NKC *e*S S 05 39 17.7 -2.5
NKC AMS AMS 06 15 30.0
comp=Z,2μm,15.9s
SFI Santa Sofia 84.40 314 *e*P **P** **05 29 00.7 +1.2**
MOR8 Moi Rana 84.42 336 *e*P **P** **05 28 58.9 -0.2**
comp=Z,165nm,1.6s,mb5.9
MOR8 Moi Rana 84.42 336⇑ *i*P **P** **05 28 58.9 -0.2**
MOR8 AMb AMB 05 29 01.6
comp=Z,165nm,1.6s,mb5.9
PGD Poggio Sodo 84.49 314 *e*P **P** **05 29 01.1 +1.2**
CTI Castel Tesino 84.61 316 *e*P **P** **05 29 01.2 +0.8**
VMG Vicchio 84.62 314 *e*P **P** **05 29 01.4 +0.9**
WTTA Wattenberg 84.66 317⇑ *i*P **P** **05 29 00.0 -0.6**
comp=Z,374nm,2.5s,mb6.1
WTTA Wattenberg 84.66 317⇑ *i*P **P** **05 29 00.0 -0.6**
WTTA pmax pmax
comp=Z,374nm,2.5s,mb6.1
WATA Walderalm 84.70 317⇑ *i*P **P** **05 29 00.4 -0.5**
comp=Z,30nm,1.2s,mb5.3
WATA Walderalm 84.70 317⇑ *i*P **P** **05 29 00.4 -0.5**
WATA pmax pmax
comp=Z,31nm,1.2s,mb5.3
MOX Moxa 84.79 320 *e*P **P** **05 29 01.5 +0.3**
MOX *e*S S 05 39 27.0 +1.4
MOX pmax pmax
comp=Z,115nm,2.0s,mb5.7
MOX MLR MLR
comp=Z,1μm,22.0s,MS5.3
MOX Moxa 84.79 320 *e*P **P** **05 29 01.5 +0.3**
comp=Z,115nm,2.0s,mb5.7
MOX *e*S S 05 39 27.0 +1.4
MOX LR LR
comp=Z,1μm,22.0s,MS5.3
MOX Moxa 84.79 320 *i* P **P** **05 29 01.5 +0.3**
comp=Z,logA/T=1.8,mb5.7
MOX S S 05 39 27.0 +1.4
MOX L 06 15 18.0
FUR Furstenfeldbru 84.93 318 *e*P **P** **05 29 01.6 -0.4**
SQTA Sankt Quirin 84.95 317⇓ *i*P **P** **05 29 01.8 -0.3**
comp=Z,27nm,1.0s,mb5.3
SQTA Sankt Quirin 84.95 317⇓ *i*P **P** **05 29 01.8 -0.3**
SQTA pmax pmax
comp=Z,27nm,1.0s,mb5.3
LOF Lofoten 84.97 338⇑ *i*P **P** **05 29 03.8 +2.0**
comp=Z,134nm,2.2s,mb5.7
LOF Lofoten 84.97 338⇑ *i*P **P** **05 29 03.8 +2.0**
LOF AMb AMB 05 29 12.8
comp=Z,134nm,2.2s,mb5.7
GRA1 Grafenberg Arr 85.01 319 *e*P **P** **05 29 02.9 +0.6**
comp=Z,80nm,1.2s,mb5.7
GRA1 *e*S S 05 39 33.9 +6.1
GRA1 LR LR
comp=Z,2μm,21.0s,MS5.5
GRF Grafenberg Arr 85.01 319 *e*P **P** **05 29 02.9 +0.6**
GRF *e*S S 05 39 33.9 +6.1
GRF pmax pmax
comp=Z,80nm,1.2s,mb5.7
GRF MLR MLR
comp=Z,2μm,21.0s,MS5.5
GRF Grafenberg Arr 85.01 319 *e*P **P** **05 29 02.9 +0.6**
GRF *e*S S 05 39 33.9 +6.1
GRF pmax pmax
comp=Z,80nm,1.2s,mb5.7
GRF MLR MLR
comp=Z,2μm,21.0s,MS5.5
GRF Grafenberg Arr 85.01 319 *e*P **P** **05 29 02.9 +0.6**
comp=Z,80nm,1.2s,mb5.7
GRF *e*S S 05 39 33.9 +6.1
GRF LR LR
comp=Z,2μm,21.0s,MS5.5
GRFL Gerfalco 85.02 313 *e*P **P** **05 29 02.1 -0.5**
MOTA Moosalm 85.02 317⇑ *i*P **P** **05 29 02.1 -0.4**
ZCCA Zocca 85.04 314 *e*P **P** **05 29 03.7 +1.1**
MIDW Midway 85.25 62 PFAKE 05 29 20.0 +16
MIDW LR LR
comp=Z,3μm,20.0s,MS5.7
NSS Namsos 85.32 334⇑ *i*P **P** **05 29 02.8 -0.7**
comp=Z,186nm,1.6s,mb6.0
NSS Namsos 85.32 334⇑ *i*P **P** **05 29 02.8 -0.7**
NSS AMb AMB 05 29 05.5
comp=Z,186nm,1.6s,mb6.0
GSCL Gusciola 85.32 314 *e*P **P** **05 29 05.2 +1.2**
SAL Salo 85.38 315 *e*P **P** **05 29 05.5 +1.2**
HSP Hornsund 85.42 347 *e*P **P** **05 29 04.4 +0.5**
ERBM Eremo 85.45 314 *e*P **P** **05 29 06.1 +1.5**
NB2 NORSAR Subarra 85.47 331 P **P** **05 29 03.9 -0.4**
comp=Z,550nm,2.5s,mb6.2,baz=91,slow=5.0
NB2 NORSAR Subarra 85.47 331 P **P** **05 29 03.9 -0.4**
NB2 pmax pmax
comp=Z,550nm,2.5s,mb6.2
NB2 NORSAR Subarra 85.47 331 P **P** **05 29 03.9 -0.4**
baz=91,slow=5.1
NOA NORSAR Array B 85.47 331 P **P** **05 29 04.3 0.0**
comp=Z,15nm,0.9s,mb5.1,baz=94,slow=5.0,SNR=40
NOA pP pP 05 29 15.9 +1.6
comp=Z,21nm,0.9s,baz=94,slow=5.0,SNR=14
BRMO Bormio 85.50 316 *e*P **P** **05 29 05.5 +0.6**
FUORN Ofenpass 85.58 316⇑ *i*P **P** **05 29 05.5 +0.2**
KIWB Kanaga Island 85.60 38 *e*P **P** **05 29 04.8 -0.5**
CLZ Clausthal 85.61 322 *e*P **P** **05 29 05.6 +0.3**
comp=Z,49nm,1.2s,mb5.6
NAO01 NORSAR Array S 85.62 331⇑ *e*P **P** **05 29 05.2 +0.1**
comp=Z,44nm,1.1s,mb5.6
NAO01 LR LR
comp=Z,3μm,21.0s,MS5.7
HDH Heidenheim 85.65 318⇑ *e*P **P** **05 29 05.4 -0.2**
UBR Uberruh 85.70 317⇑ *e*P **P** **05 29 05.8 -0.1**
BERNI Berninapass 85.75 316⇑ *i*P **P** **05 29 06.9 +0.8**
DAVOX Davos 85.85 317 P **P** **05 29 07.2 +0.6**
comp=Z,47nm,0.6s,mb5.9,baz=132,slow=4.0,SNR=54
DAVOX pP pP 05 29 19.0 +2.4
comp=Z,31nm,0.5s,baz=198,slow=8.6,SNR=8.0
DAVOX Davos 85.85 317⇑ *i*P **P** **05 29 06.9 +0.3**
DAVA Damuels 85.85 317⇑ *i*P **P** **05 29 07.0 +0.4**
comp=Z,421nm,2.6s,mb6.2
SIND Sindeldorf 86.06 319⇑ *e*P **P** **05 29 08.1 +0.5**
LIENZ Alp Oberkamor 86.12 317⇑ *i*P **P** **05 29 08.2 +0.3**
BOB Bobbio (Coli) 86.14 315 *e*P **P** **05 29 08.6 +0.5**
PLONS Plons 86.19 317⇑ *i*P **P** **05 29 08.6 +0.3**
VSL Villasalto 86.20 309 *e*P **P** **05 29 08.2 -0.4**
comp=Z,45nm,1.1s,mb5.6
BUCH Bad Urach 86.22 318⇑ *e*P **P** **05 29 08.6 +0.2**
KONO Kongsberg 86.22 329 *e*P **P** **05 29 08.0 -0.1**
KONO pmax pmax
comp=Z,81nm,1.1s,mb5.9
KONO Kongsberg 86.22 329⇑ *i*P **P** **05 29 08.2 +0.1**
comp=Z,6μm,1.5s
GUT Gutenstein 86.38 318⇑ *e*P **P** **05 29 09.3 +0.1**
MUGIO Muggio 86.43 316⇑ *i*P **P** **05 29 08.7 -0.8**
LLS Linth-Limmern 86.45 317⇑ *i*P **P** **05 29 09.8 +0.2**
PGF Pioggiola 86.47 312 *e*P **P** **05 29 09.7 -0.1**
WILA Wila 86.52 317⇑ *i*P **P** **05 29 10.1 +0.2**
TOD Tromm 86.58 319 *e*P **P** **05 29 10.2 +0.1**
TOD Tromm 86.58 319⇑ *e*P **P** **05 29 10.5 +0.4**
LBG Lerchenberg 86.59 318 *e*P **P** **05 29 10.3 +0.1**
SPAK Spaichingen 86.60 318⇑ *e*P **P** **05 29 10.6 +0.3**
SWS Schriesheim 86.65 319 *e*P **P** **05 29 10.6 +0.1**
MUO Muotathal 86.70 317⇑ *e*P **P** **05 29 11.1 +0.3**
SLE Schleitheim 86.79 318⇑ *i*P **P** **05 29 11.0 -0.2**
TNS Taunus Mts 86.81 320 *e*P **P** **05 29 11.6 +0.4**
BNALP Bannalp 86.85 317⇑ *i*P **P** **05 29 11.9 +0.4**
BFO Black Forest 86.90 318 P **P** **05 29 11.1 -0.6**
comp=Z,142nm,0.7s,mb6.3,SNR=10
BFO Black Forest 86.90 318 *e*P **P** **05 29 11.3 -0.4**
BFO pmax pmax
comp=Z,30nm,1.1s,mb5.4
BFO Black Forest 86.90 318 *e*P **P** **05 29 11.3 -0.4**
comp=Z,30nm,1.1s,mb5.4
FIN Finale Ligure 87.03 314 *e*P **P** **05 29 12.4 -0.1**
HASLI Hasliberg 87.04 317⇑ *i*P **P** **05 29 12.5 +0.1**
SULZ Sulz-Cheisache 87.05 317⇑ *e*P **P** **05 29 12.0 -0.5**
KTD Kalmit 87.05 319 *e*P **P** **05 29 12.8 +0.4**
FELD Feldberg 87.12 318⇑ *e*P **P** **05 29 12.9 +0.1**
MCGN Macugnaga 87.16 316 *e*P **P** **05 29 13.8 +0.8**
KIZ Kirchzarten 87.18 318 *e*P **P** **05 29 13.3 +0.2**
LANF Langenberg 87.24 319 *e*P **P** **05 29 14.0 +0.6**
MOL Molde 87.24 332 *e*P **P** **05 29 14.0 +0.9**
comp=Z,157nm,1.5s,mb6.0
MOL Molde 87.24 332 *e*P **P** **05 29 14.0 +0.9**
MOL AMb AMB 05 29 16.8
comp=Z,157nm,1.6s,mb6.0
IMI Imperia 87.26 314 *e*P **P** **05 29 14.2 +0.6**
RAO Raoul Island 87.32 119 PFAKE 05 29 30.0 +16
RAO LR LR
comp=Z,3μm,20.0s,MS5.7
BALST Balsthal 87.34 317⇑ *e*P **P** **05 29 13.7 -0.2**
VNDA Vanda 87.35 169⇓ *e*P **P** **05 29 12.5 -0.8**
VNDA pmax pmax
comp=Z,29nm,1.3s
VNDA MLR MLR
comp=Z,5μm,19.0s
VNDA Vanda 87.35 169 P **P** **05 29 13.5 +0.2**
comp=Z,2.7nm,0.9s,baz=302,slow=4.5,SNR=12
VNDA PKKPbc 05 47 04.2
comp=Z,1.0nm,1.0s,baz=243,slow=2.3,SNR=2.7

VNDA LR LR 06 07 08.9
comp=Z,5µm,18.6s,baz=302,slow=35
VNDA Vanda 87.35 169⇓ *e*P **P 05 29 12.5 -0.8**
comp=Z,29nm,1.3s,mb5.3
VNDA LR LR
comp=Z,5µm,19.0s,MS5.9
LIBD Limburg 87.39 318 *e*P **P 05 29 14.4 +0.3**
LIBD Limburg 87.39 318⇑ *e*P **P 05 29 14.5 +0.4**
ABH Alteburg 87.39 320 *e*P **P 05 29 14.6 +0.5**
ABH Alteburg 87.39 320⇑ *e*P **P 05 29 14.8 +0.7**
WIMIS Wimmis 87.40 316⇑ *i*P **P 05 29 14.5 +0.3**
LKBD Leukerbad 87.40 316⇑ *i*P **P 05 29 14.8 +0.6**
BBS Basel-Blauen 87.46 317 *e*P **P 05 29 14.4 -0.1**
BBS Basel-Blauen 87.46 317⇑ *e*P **P 05 29 14.5 0.0**
SAOF Saorge 87.50 314 *e*P **P 05 29 15.1 +0.3**
WLS Welschbruch 87.55 318 *e*P **P 05 29 14.9 0.0**
DIX Grande Dixence 87.56 316⇑ *i*P **P 05 29 16.1 +1.1**
SBF Sospel 87.59 314 *e*P **P 05 29 14.9 -0.3**
comp=Z,84nm,1.1s,mb5.6
SBF Sospel 87.59 314 *e*P **P 05 29 14.9 -0.3**
SBF pmax pmax
comp=Z,42nm,1.1s,mb5.6
CDF Champ du Feu 87.60 318 *e*P **P 05 29 14.6 -0.5**
comp=Z,18nm,0.7s,mb5.1
CDF Champ du Feu 87.60 318 *e*P **P 05 29 14.6 -0.5**
CDF pmax pmax
comp=Z,9,0nm,0.7s,mb5.1
SENIN Lac Senin 87.63 316⇑ *i*P **P 05 29 15.8 +0.5**
ECH Echery 87.68 318 *e*P **P 05 29 15.4 -0.1**
MOF Molkenrain 87.71 318 *e*P **P 05 29 15.4 -0.2**
RUP Ruppelstein 87.71 319 *e*P **P 05 29 16.3 +0.7**
RUP Ruppelstein 87.71 319⇑ *e*P **P 05 29 16.4 +0.8**
TOUF Mont Tournerai 87.72 314 *e*P **P 05 29 16.4 +0.6**
ABSA Djebel Ababsia 87.76 306 P **P 05 29 17.0 +0.8**
GRYON Gryon 87.77 316⇑ *i*P **P 05 29 16.5 +0.6**
CMAH Djebel Manchou 87.79 306 P **P 05 29 18.0 +1.7**
MVIF Mont Vial 87.80 314 *e*P **P 05 29 16.6 +0.4**
SALAN Lac Salanfe 87.86 316⇑ *i*P **P 05 29 17.1 +0.7**
AIGLE Aigle 87.87 316⇑ *i*P **P 05 29 16.6 +0.2**
WIT Witteveen 87.88 323 *e*P **P 05 29 17.8 +1.5**
comp=Z,521nm,5.2s
HINF Hinteralfeld 87.90 318 *e*P **P 05 29 15.9 -0.6**
EMV Vieux Emosson 87.92 316⇑ *i*P **P 05 29 17.3 +0.6**
LOMF Lomont 87.93 317 *e*P **P 05 29 16.8 +0.1**
CALN Calern 87.99 314 *e*P **P 05 29 17.2 +0.1**
LPG La Plagne 88.04 315 *e*P **P 05 29 17.5 +0.2**
comp=Z,52nm,0.9s,mb5.5
LPG La Plagne 88.04 315 *e*P **P 05 29 17.5 +0.2**
LPG pmax pmax
comp=Z,26nm,0.9s,mb5.5
MBDF Montbardon 88.05 314 *e*P **P 05 29 16.6 -0.7**
comp=Z,63nm,1.4s,mb5.3
MBDF Montbardon 88.05 314 *e*P **P 05 29 16.6 -0.7**
MBDF pmax pmax
comp=Z,32nm,1.4s,mb5.4
LPL La Plagne 88.05 315 *e*P **P 05 29 17.5 +0.2**
comp=Z,69nm,1.0s,mb5.5
LPL La Plagne 88.05 315 *e*P **P 05 29 17.5 +0.2**
LPL pmax pmax
comp=Z,34nm,1.0s,mb5.5
BNI Bardonecchia 88.10 315 *e*P **P 05 29 16.2 -1.4**
BNI pmax pmax
comp=Z,31nm,1.2s,mb5.4
BNI Bardonecchia 88.10 315 *e*P **P 05 29 16.2 -1.4**
comp=Z,31nm,1.2s,mb5.4
FRF La Foret Royal 88.17 313 *e*P **P 05 29 17.9 -0.1**
BRANT Les Verrieres 88.18 317⇑ *i*P **P 05 29 18.3 +0.4**
HAU Haudompre 88.23 318 *e*P **P 05 29 17.7 -0.4**
comp=Z,65nm,0.8s,mb5.6
HAU *e*R
comp=Z,3µm,22.2s
HAU Haudompre 88.23 318 *e*P **P 05 29 17.7 -0.4**
HAU pmax pmax
comp=Z,32nm,0.8s,mb5.6
HAU MLR MLR
comp=Z,3µm,22.3s,MS5.6
WLF Walferdange 88.30 319⇑ *i*P **P 05 29 19.3 +0.9**
WLF pmax pmax
comp=Z,172nm,1.8s,mb6.0
WLF Walferdange 88.30 319⇑ *i*P **P 05 29 19.3 +0.8**
comp=Z,172nm,1.8s,mb6.0
CKFL Kef-Lekhel 88.36 306 P **P 05 29 18.0 -1.1**
HGN Heimansgroeve 88.41 321⇑ *i*P **P 05 29 19.3 +0.4**
comp=Z,68nm,1.3s,mb5.7
HGN *e*PP PP 05 32 35.5 -14
HGN *i* S S 05 39 54.6 -5.5
HGN *ex* x 05 42 37.2
HGN *ex* x 05 46 02.1
SBA Scott Base 88.45 169 *e*P **P 05 29 17.8 -0.8**
SBA pmax pmax
comp=Z,235nm,1.9s,mb6.1
SBA MLR MLR
comp=Z,4µm,19.0s,MS5.8
SBA Scott Base 88.45 169 *e*P **P 05 29 17.8 -0.7**
comp=Z,235nm,1.9s,mb6.1
SBA LR LR
comp=Z,4µm,19.0s,MS5.8
CABF La Chapelle 88.46 316 *e*P **P 05 29 19.5 +0.2**
THEF They Montfort 88.47 318 *e*P **P 05 29 19.4 +0.1**
CASM Ain Smara 88.56 306 P **P 05 29 21.0 +1.0**
CTEI Djebel Teioual 88.63 306 P **P 05 29 22.0 +1.7**
ORIF Oris-en-Rattie 88.67 315 *e*P **P 05 29 20.5 +0.2**
ORIF *e*R
comp=Z,2µm,22.2s
OG05 Jujurieux 88.92 316 *e*P **P 05 29 22.1 +0.6**
DFRA Djebel Bou Aff 89.04 306 P **P 05 29 24.0 +1.7**
CMER Merouana 89.06 305 P **P 05 29 25.0 +2.6**
MEZF Maizieres J'vi 89.08 318 *e*P **P 05 29 22.1 -0.1**
GIVF Givet 89.14 320 *e*P **P 05 29 22.6 +0.2**
comp=Z,65nm,1.1s,mb5.6
GIVF Givet 89.14 320 *e*P **P 05 29 22.6 +0.2**
GIVF pmax pmax
comp=Z,32nm,1.1s,mb5.6
CKHR Kef el Ahmar 89.36 306 P **P 05 29 26.0 +2.2**
SET Setif 89.44 306 P **P 05 29 26.0 +1.8**
VIVF Saint-Julien-l 89.53 315 *e*P **P 05 29 24.5 +0.1**
BAIF Baives 89.54 320 *e*P **P 05 29 24.7 +0.4**
comp=Z,89nm,0.9s,mb5.8
BAIF Baives 89.54 320 *e*P **P 05 29 24.7 +0.4**
BAIF pmax pmax
comp=Z,45nm,0.9s,mb5.8
TNA Tin City 89.88 24 *e*P **P 05 29 24.6 -0.9**
comp=Z,35nm,1.5s,mb5.5
TNA LR LR
comp=Z,5µm,19.0s,MS6.0
SMF Signal de Mont 90.00 317 *e*P **P 05 29 26.4 -0.2**
comp=Z,79nm,1.1s,mb5.7
SMF Signal de Mont 90.00 317 *e*P **P 05 29 26.4 -0.2**
SMF pmax pmax
comp=Z,40nm,1.1s,mb5.7
LASF Ste Croix 90.17 314 *e*P **P 05 29 27.8 +0.4**
comp=Z,169nm,1.7s,mb5.8
COLF Collangettes 90.18 315 *e*P **P 05 29 28.1 +0.7**
SSF Saint Saulge 90.21 317 *e*P **P 05 29 27.6 +0.1**
SSF pmax pmax
comp=Z,112nm,1.9s,mb5.9
SSF Saint Saulge 90.21 317 *e*P **P 05 29 27.6 +0.1**
comp=Z,112nm,1.9s,mb5.9
AVF Avril sur Loir 90.33 317 *e*P **P 05 29 28.0 -0.1**
BGF Bois d'Agland 90.69 316 *e*P **P 05 29 30.3 +0.6**
comp=Z,176nm,1.4s,mb5.9
BGF Bois d'Agland 90.69 316 *e*P **P 05 29 30.3 +0.6**
BGF pmax pmax
comp=Z,88nm,1.4s,mb5.9
NVL N'lazarevskaya 90.75 199⇓ *i*P **P 05 29 31.0 +1.5**
NVL *e* pP 05 29 41.8 +2.4
NVL *i* 05 29 48.9
NVL *e*S S 05 40 27.4 +6.4
NVL *e*SSS SS 05 46 25.1 -2.1
NVL MLR MLR
comp=Z,4µm,16.7s,MS5.9
HYF Humbligny 90.78 317 *e*P **P 05 29 30.8 +0.7**
MAIT Maitri 90.79 199 *e*P **P 05 29 31.6 +2.0**
MENF Mencas 90.82 321 *e*P **P 05 29 31.1 +0.9**
EJON La Jonquera 90.99 312 P **P 05 29 29.6 -1.6**
comp=Z,38nm,1.7s,mb5.4
TCF Toulx Ste Croi 91.16 316 *e*P **P 05 29 32.4 +0.5**
LRDF Laroque-de-Fa 91.21 313 *e*P **P 05 29 33.1 +0.9**
FILF Fillols 91.22 313 *e*P **P 05 29 33.5 +1.2**
ETOS Mallorca 91.25 310 P **P 05 29 33.3 +0.8**
comp=Z,132nm,1.6s,mb6.0
CAF Calviac 91.38 315 *e*P **P 05 29 33.6 +0.7**
MTLF Montolieu 91.41 313 *e*P **P 05 29 33.5 +0.4**
comp=Z,82nm,1.3s,mb5.6
MTLF Montolieu 91.41 313 *e*P **P 05 29 33.5 +0.4**
MTLF pmax pmax
comp=Z,41nm,1.3s,mb5.6
EMHD Djebel Mahouad 91.41 306 P **P 05 29 36.0 +2.7**
VALF Valcebollere 91.63 312 *e*P **P 05 29 35.6 +1.4**
RJF Les Rejaudoux 91.73 315 *e*P **P 05 29 35.2 +0.7**
comp=Z,92nm,1.3s,mb5.7
RJF *e*R
comp=Z,2µm,22.8s
RJF Les Rejaudoux 91.73 315 *e*P **P 05 29 35.2 +0.7**
RJF pmax pmax
comp=Z,46nm,1.3s,mb5.7
RJF MLR MLR
comp=Z,2µm,22.8s,MS5.4
UNV Unalaska Valle 91.95 36 PFAKE 05 29 50.0 +15
UNV LR LR
comp=Z,6µm,21.0s,MS6.0
EMIR Miracle 92.04 312 P **P 05 29 36.0 0.0**
comp=Z,58nm,0.9s,mb5.9
AFI Afiamalu 92.19 104 PFAKE 05 29 50.0 +13
AFI LR LR
comp=Z,1µm,19.0s,MS5.3
LFF La Frestale 92.31 315 *e*P **P 05 29 38.0 +0.8**
EPOB Poblet 92.43 311 P **P 05 29 37.6 -0.3**
comp=Z,70nm,1.7s,mb5.7
LDF La Druitiere 92.50 319 *e*P **P 05 29 38.2 +0.2**
comp=Z,82nm,1.1s,mb5.7
LDF La Druitiere 92.50 319 *e*P **P 05 29 38.2 +0.2**
LDF pmax pmax
comp=Z,41nm,1.0s,mb5.7
EBNR Beni Rached 92.55 306 P **P 05 29 39.0 +0.5**
ECHA Ech Chlef 92.70 306 P **P 05 29 41.0 +1.8**
FLN La Foliniere 92.71 319 *e*P **P 05 29 39.0 0.0**
comp=Z,24nm,0.7s,mb5.5
FLN *e*R
comp=Z,2µm,22.8s
FLN La Foliniere 92.71 319 *e*P **P 05 29 39.0 0.0**
FLN pmax pmax
comp=Z,12nm,0.7s,mb5.4
FLN MLR MLR
comp=Z,2µm,22.8s,MS5.5
MFF Saint Martin d 92.75 317 *e*P **P 05 29 39.4 +0.2**
comp=Z,92nm,1.2s,mb5.8
MFF Saint Martin d 92.75 317 *e*P **P 05 29 39.4 +0.2**
MFF pmax pmax
comp=Z,46nm,1.2s,mb5.8
KBI1 Birley Grange 92.77 323 *e*P **P 05 29 39.2 0.0**
KBI1 AMb AMB 05 29 42.2
comp=Z,67nm,1.4s,mb5.9
EPF Esparros 92.80 313 *e*P **P 05 29 39.4 -0.1**
ETRT Tiaret 92.82 305 P **P 05 29 44.0 +4.2**
EBR Ebro Roquetas 92.92 311 *e*Ts **P 05 29 43.0 +2.9**
EANR 'Ain N'Sour 92.93 306 P **P 05 29 43.2 +2.9**
EBIE Bielsa 92.98 313 P **P 05 29 39.8 -0.6**
comp=Z,60nm,2.0s,mb5.7
KWE Weaver Farm 93.00 323 *e*P **P 05 29 38.2 -2.0**
KWE AMb AMB 05 29 43.4
comp=Z,74nm,1.6s,mb5.9
GRR Gorron 93.01 319 *e*P **P 05 29 40.6 +0.3**
comp=Z,142nm,1.4s,mb5.9
GRR Gorron 93.01 319 *e*P **P 05 29 40.6 +0.3**
GRR pmax pmax
comp=Z,71nm,1.4s,mb5.9
DAG Danmarks Havn 93.07 348⇓ *i*P **P 05 29 40.1 +0.1**
DAG pmax pmax
comp=Z,19nm,0.8s,mb5.6
DAG MLR MLR
comp=Z,4µm,21.0s,MS5.8
DAG Danmarks Havn 93.07 348⇓ *i*P **P 05 29 40.1 +0.1**
comp=Z,19nm,0.8s,mb5.6
comp=Z,4µm,21.0s
EKA Eskdalemuir Ar 93.40 326 P **P 05 29 42.7 +0.8**
comp=Z,10nm,0.7s,mb5.3,baz=96,slow=4.9,SNR=24
ESK Eskdalemuir 93.43 326 PFAKE 05 29 50.0 +7.9
ESK LR LR
comp=Z,523nm,21.0s,MS5.0
ETSF Etsaut 93.47 313 *e*P **P 05 29 43.3 +0.7**
comp=Z,44nm,1.0s,mb5.5
ETSF Etsaut 93.47 313 *e*P **P 05 29 43.3 +0.7**
ETSF pmax pmax
comp=Z,22nm,1.0s,mb5.5
ESAC San Caprasio 93.55 312 P **P 05 29 43.1 +0.2**
comp=Z,130nm,2.0s,mb6.0
EMOS Mosqueruela 93.70 311 P **P 05 29 43.7 -0.1**
comp=Z,109nm,1.6s,mb6.0
SJPF Ste Jean 93.93 313 *e*P **P 05 29 45.5 +0.8**
comp=Z,16nm,0.7s,mb5.2
SJPF Ste Jean 93.93 313 *e*P **P 05 29 45.5 +0.8**
SJPF pmax pmax
comp=Z,8.0nm,0.7s,mb5.3
EALK Alkurruntz 94.12 313 P **P 05 29 44.0 -1.6**
comp=Z,45nm,1.6s,mb5.7
SGMF Saint Gilles 94.15 319 *e*P **P 05 29 44.8 -0.8**
comp=Z,60nm,1.2s,mb5.6
SGMF Saint Gilles 94.15 319 *e*P **P 05 29 44.8 -0.8**
SGMF pmax pmax
comp=Z,30nm,1.2s,mb5.6
IMA Indian Mountai 95.48 23 *e*P **P 05 29 52.6 +1.3**
IMA Indian Mountai 95.48 23 *e*P **P 05 29 52.2 +0.9**
SVW2 Sparrevohn 96.22 28 *e*P **P 05 29 55.8 +1.0**
ESDC Sonseca Array 96.45 310 P **P 05 29 56.8 +0.4**
comp=Z,0.7nm,0.5s,baz=63,slow=3.7,SNR=4.5
ESDC Sonseca Array 96.45 310 P **P 05 29 55.7 -0.7**
comp=Z,11nm,2.0s,mb5.0
ESLA Sonseca Array 96.45 310 PFAKE 05 30 10.0 +14
ESLA LR LR
comp=Z,9µm,21.0s,MS6.2
SCO Scoresbysund 96.74 343 *e*P **P 05 29 58.3 +1.4**
SCO pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
SCO Scoresbysund 96.74 343 *e*P **P 05 29 58.3 +1.4**
comp=Z,2.8nm,0.7s,mb4.8
SCO Scoresbysund 96.74 343 *i*P **P 05 29 58.3 +1.4**
comp=Z,2.8nm,0.7s,mb4.8
VNA2 Neumayer--Watz 97.05 199 *e* **P 05 30 07.3 +9.0**
VNA2 Neumayer--Watz 97.05 199 *e* **P 05 30 10.3 +12**
VNA2 Neumayer--Watz 97.05 199⇑ *i*P **P 05 30 00.1 +1.8**
VNA2 *e* 05 30 07.3
VNA2 *e* pP 05 30 10.3 +2.0
VNA1 Neumayer--Stat 97.40 199⇑ *i*P **P 05 30 06.7 +6.8**
VNA3 Neumayer Olymp 97.70 198 *e* **P 05 30 19.9 +19**
VNA3 Neumayer Olymp 97.70 198⇑ *i*P **P 05 30 13.5 +12**
VNA3 *e* 05 30 19.9
VNA3 *e* pP 05 30 23.2 +12
COLA College 98.19 23 PFAKE 05 30 20.0 +16
COLA LR LR
comp=Z,3µm,21.0s,MS5.8
MCK McKinley 98.22 24 *e*P **P 05 30 03.3 -0.4**
MCK pmax pmax
comp=Z,26nm,1.3s,mb5.6
MCK MLR MLR
comp=Z,3µm,20.0s,MS5.8
MCK McKinley 98.22 24 *e*P **P 05 30 03.2 -0.4**
comp=Z,26nm,1.3s,mb5.6
MCK LR LR
comp=Z,3µm,20.0s,MS5.8
FIB Fire Island 98.67 27 PFAKE 05 30 20.0 +14
FIB LR LR
comp=Z,2µm,19.0s,MS5.5
BORG Borgarnes 99.17 337 PFAKE 05 30 20.0 +12
BORG LR LR
comp=Z,775nm,21.0s,MS5.2
SML Sawmill 99.24 26 P **P 05 30 09.3 +1.0**
SUMG Summit 99.75 348 *e*P **P 05 30 11.3 +0.8**
comp=Z,221nm,2.3s,mb6.2
DIV Divide 100.64 26 PFAKE 05 30 30.0 +15
DIV LR LR
comp=Z,11µm,21.0s,MS6.3
MENT Mentasta 100.68 24 *e*P P 05 30 16.1 +1.2
DBIC Dimbokro 101.07 277 PKKP PKKP 05 46 40.4 +13
comp=Z,2.3nm,1.0s,baz=139,slow=5.8,SNR=3.1
DBIC Dimbokro 101.07 277 PFAKE 05 30 30.0 +12
DBIC LR LR
comp=Z,3µm,20.0s,MS5.8
INK Inuvik 101.27 17 *e*P P 05 30 17.0 -0.5
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 101.27 17 P P 05 30 17.4 0.0
comp=Z,2.3nm,0.5s,baz=303,slow=5.7,SNR=28
INK PP PP 05 34 25.4 -4.1
comp=Z,4.5nm,0.9s,baz=316,slow=6.6,SNR=5.8
INK PKKPbc 05 46 25.3
comp=Z,0.7nm,1.0s,baz=155,slow=7.2,SNR=3.3
INK Inuvik 101.27 17 *e*Pdif P 05 30 17.0 -0.4
comp=Z,5.9nm,1.0s
DAWY Dawson 101.80 22 *e*Pdif P 05 30 20.1 +0.2
RES Resolute Bay 102.47 3 *e*P Pdif 05 30 22.8 +0.2
RES pmax pmax
comp=Z,14nm,1.2s
RES Resolute Bay 102.47 3 *e*Pdif Pdif 05 30 22.8 +0.2
comp=Z,14nm,1.2s
KIP Kipapa 103.30 67 PFAKE 05 30 40.0 +13
KIP LR LR
comp=Z,3µm,19.0s,MS5.8
POHA Pohakuloa 105.84 69 PFAKE 05 35 00.0
POHA LR LR
comp=Z,13µm,19.0s,MS6.5
SFJ Sondre 106.74 347 PFAKE 05 35 00.0
SFJ LR LR
comp=Z,4µm,21.0s,MS6.0
SFJD Kangerlussuaq 106.74 347 *i* P Pdif 05 30 22.0 -20
comp=Z,18nm,1.2s
SFJD Kangerlussuaq 106.74 347 *i* S SKS 05 41 24.9 -1.8
SFJD *i* 05 44 21.4
comp=Z,4µm,20.0s
SIT Sitka 107.34 27 PFAKE 05 35 00.0
SIT LR LR
comp=Z,5µm,19.0s,MS6.1
DLBC Dease Lake 108.77 24 PP PP 05 35 19.0 -6.9
comp=Z,2.4nm,0.8s,baz=337,slow=7.7,SNR=3.4
DLBC PKKPbc 05 46 05.2
comp=Z,1.1nm,0.8s,baz=96,slow=26,SNR=2.5
YKW3 Yellowknife Ar 110.80 15 *e*PP PP 05 35 33.0 -7.2
YKA Yellowknife Ar 110.86 15 *e*Pdiff Pdif 05 30 60.0 +0.3
comp=Z,1.1nm,0.8s,baz=324,slow=4.2,SNR=18
YKA PP PP 05 35 24.7 -16
comp=Z,1.4nm,0.9s,baz=328,slow=5.8,SNR=6.0
YKA PKKPbc 05 46 03.3
comp=Z,1.4nm,0.8s,baz=145,slow=3.1,SNR=11
YKA Yellowknife Ar 110.86 15 Pdif Pdif 05 30 60.0 +0.3
YKA PP PP 05 35 24.8 -16
YKA PKKPbc 05 46 03.3
TBI Tubuai 112.98 114 *e*SP SP 05 45 31.3 +7.7
TBI *e*SS SS 05 51 40.8 +5.4
TBI *e*LR LR 06 09 10.2
comp=Z,3µm,23.0s
PPT Papeete 113.48 108 *e*SP SP 05 45 42.6 +14
PPT *e*SS SS 05 51 39.5 -2.6
PPT *e*LR LR 06 09 23.9
comp=Z,3µm,22.5s
PMSA Palmer Station 116.45 189 PFAKE 05 35 20.0 +5.7
PMSA LR LR
comp=Z,5µm,21.0s,MS6.1
EDM Edmonton 118.93 20 *e*PKIKP PKPdf 05 35 15.0 -4.3
FFC Flin Flon 120.79 12 *e*PKIKP PKPdf 05 35 18.4 -4.5
FFC *e* 05 36 44.5
FFC MLR MLR
comp=Z,721nm,20.0s,MS5.3
COR Corvallis 121.02 32 PFAKE 05 35 30.0 +6.3
COR LR LR
comp=Z,559nm,20.0s,MS5.2
SCHQ Schefferville 121.11 349 PKP PKPdf 05 35 19.5 -4.0
comp=Z,2.3nm,0.5s,baz=50,slow=5.9,SNR=13
SCHQ Schefferville 121.11 349 *e*PKPdf PKPdf 05 35 19.1 -4.5
SCHQ LR LR
comp=Z,5µm,19.0s,MS6.2
NEW Newport 121.40 26 PFAKE 05 35 30.0 +5.7
NEW LR LR
comp=Z,2µm,20.0s,MS5.9
HAWA Hanford 121.68 29 PFAKE 05 35 30.0 +5.1
HAWA LR LR
comp=Z,178nm,22.0s
HUMO Hull Mountain 122.52 34 PFAKE 05 35 30.0 +3.5
HUMO LR LR
comp=Z,2µm,21.0s,MS5.8
YBH Yreka Blue Hor 123.23 35 PFAKE 05 35 40.0 +12
YBH LR LR
comp=Z,1µm,19.0s,MS5.7
TAOE Nuku Hiva Isla 123.24 99 *e*LR LR 06 13 53.3
MSO Missoula 123.87 25 *e*PKPdf PKPdf 05 35 24.5 -4.6
MSO LR LR
comp=Z,2µm,19.0s,MS5.8
BMO Blue Mountains 123.88 29 PFAKE 05 35 40.0 +11
BMO LR LR
comp=Z,2µm,20.0s,MS5.8
WDC Whiskeytown Da 124.08 35 PFAKE 05 35 40.0 +10
WDC LR LR
comp=Z,2µm,21.0s,MS5.7
CHMT Chamberlain Mo 124.09 24 *e*PKPdf PKPdf 05 35 25.6 -3.9
MOD Modoc 124.45 33 PFAKE 05 35 40.0 +10
MOD LR LR
comp=Z,2µm,21.0s,MS5.8
HOPS Hopland 124.77 37 PFAKE 05 35 40.0 +8.9
HOPS LR LR
comp=Z,2µm,20.0s,MS5.8
HRY Holter Researc 124.83 24 *e*PKP PKPdf 05 35 28.8 -2.2
WVOR Wild Horse Val 124.97 31 PKIKP PKPdf 05 35 28.8 -2.5
WVOR *e* 05 35 35.6
WVOR Wild Horse Val 124.97 31 *e*PKP PKPdf 05 35 27.5 -3.8
WVOR LR LR
comp=Z,3µm,20.0s,MS5.9
BOZ Bozeman (W) 125.78 24 *e*PKIKP PKPdf 05 35 28.8 -4.0
BOZ *e* 05 37 20.8
BOZ MLR MLR
comp=Z,3µm,21.0s,MS6.0
RKT Rikitea 126.11 117 *e*SS SS 05 54 31.7 +7.5
RKT *e*LR LR 06 15 15.6
comp=Z,2µm,28.2s
HLID Hailey 126.21 28 *e*PKP PKPdf 05 35 29.8 -3.9
HLID *e*PP PP 05 37 24.4 -3.1
HLID LR LR
comp=Z,3µm,21.0s,MS5.9
ULM Lac du Bonnet 126.23 10 PKP PKPdf 05 35 29.1 -4.3
comp=Z,7.6nm,0.8s,baz=346,slow=3.3,SNR=16
ULM Lac du Bonnet 126.23 10 *e*PKP PKPdf 05 35 28.9 -4.6
ULM LR LR
comp=Z,6µm,21.0s,MS6.2
QLMT Earthquake Lak 126.52 25 *e*PKP PKPdf 05 35 31.6 -2.6
YMR Madison River 126.85 24 *e*PKP PKPdf 05 35 32.2 -2.6
LAO LASA Array 126.91 20 *e*PKP PKPdf 05 35 31.7 -3.2
LAO LR LR
comp=Z,3µm,19.0s,MS5.9
CMB Columbia Colle 127.00 37 PFAKE 05 35 40.0 +4.7
CMB LR LR
comp=Z,2µm,20.0s,MS5.7
LKWY Lake 127.16 24 *e*PKIKP PKPdf 05 35 33.4 -2.1
LKWY MLR MLR
comp=Z,5µm,19.0s,MS6.2
SAO San Andreas Ge 127.18 38 PFAKE 05 35 40.0 +4.3
SAO LR LR
comp=Z,2µm,20.0s,MS5.7
LOHW Long Hollow 127.86 25 *e*PKP PKPdf 05 35 32.8 -4.1
LOHW *e*PP PP 05 37 34.1 -4.0
REDW Red Top Meadow 127.96 25 *e*PKP PKPdf 05 35 33.0 -4.1
MNV Mina 128.03 35 *e*PKIKP PKPdf 05 35 34.5 -2.9
MNV MLR MLR
comp=Z,2µm,20.0s,MS5.7
AHID Auburn Hatcher 128.33 26 PFAKE 05 35 50.0 +12
AHID LR LR
comp=Z,3µm,21.0s,MS5.9
TPH Tonopah 128.81 34 PFAKE 05 35 50.0 +11
TPH LR LR
comp=Z,2µm,19.0s,MS5.7
BGU Big Grassy Mou 128.90 29 *e*PKP PKPdf 05 35 35.7 -3.2
BW06 Boulder Array 128.99 25 PFAKE 05 35 50.0 +11
BW06 LR LR
comp=Z,2µm,19.0s,MS5.9
PDAR Pinedale Array 128.99 25 PKP PKPdf 05 35 35.7 -3.4
comp=Z,1.1nm,0.5s,baz=120,slow=2.0,SNR=18
PDAR pPKP 05 35 47.2
comp=Z,3.1nm,0.6s,baz=90,slow=1.5,SNR=11
HWUT Hardware Ranch 129.05 27 *e*PKP PKPdf 05 35 35.8 -3.4
HWUT LR LR
comp=Z,3µm,19.0s,MS6.0
PQI Presque Isle 129.06 346 PFAKE 05 35 50.0 +11
PQI LR LR
comp=Z,17µm,19.0s,MS6.8
EYMN Ely 129.12 7 PKP PKPdf 05 35 34.8 -4.3
EYMN LR LR
comp=Z,4µm,19.0s,MS6.1
TRCR Troy Canyon 129.52 33 *e*PKP PKPdf 05 35 35.1 -5.1
DUG Dugway 129.57 29 *e*PKIKP PKPdf 05 35 36.8 -3.5
DUG MLR MLR
comp=Z,2µm,21.0s,MS5.9
PTCN Pitcairn Islan 129.83 121 PFAKE 05 35 50.0 +8.8
PTCN LR LR
comp=Z,3µm,22.0s,MS5.9
DAC Darwin (Calif) 129.83 36 PFAKE 05 35 50.0 +9.1
DAC LR LR
comp=Z,1µm,20.0s,MS5.7
RSSD Black Hills 129.90 19 *e*PKIKP PKPdf 05 35 36.8 -4.0

RSSD				*e*			05 37 46.8			
RSSD				MLR	MLR					
	comp=Z,873nm,21.0s,MS5.4									
NLU	**North Lily Min**	**130.11**	**29**	*e*PKP	PKPdf	05 35 38.4	-2.9			
EMMW	**East Machias**	**130.75**	**345**	PFAKE		05 35 50.0	+7.6			
EMMW				LR	LR					
	comp=Z,17µm,20.0s,MS6.7									
MVU	**Marysvale**	**131.16**	**30**	*e*PKP	PKPdf	05 35 41.0	-2.4			
MVU				*e*SKP		05 39 03.8				
MVU				LR	LR					
	comp=Z,2µm,22.0s,MS5.9									
MSU	**Marysvale**	**131.18**	**30**	*e*PKP	PKPdf	05 35 41.9	-1.5			
MSU				*e*SKP		05 39 03.6				
WVL	**Waterville**	**131.42**	**347**	PFAKE		05 35 50.0	+6.4			
WVL				LR	LR					
	comp=Z,13µm,20.0s,MS6.6									
SRU	**San Rafael**	**131.51**	**28**	*e*PKIKP	PKPdf	05 35 41.4	-2.6			
PFO	**Pinyon Flat Ob**	**132.33**	**38**	PFAKE		05 35 50.0	+4.3			
PFO				LR	LR					
	comp=Z,375nm,19.0s,MS5.1									
RCBR	**Riachuelo**	**132.55**	**265**	PFAKE		05 35 50.0	+3.4			
RCBR				LR	LR					
	comp=Z,3µm,19.0s,MS6.1									
PV10	**Paradox Valley**	**132.80**	**28**	*e*PKP	PKPdf	05 35 43.9	-2.6			
NCB	**Newcomb**	**132.87**	**351**	PFAKE		05 35 50.0	+3.6			
NCB				LR	LR					
	comp=Z,3µm,22.0s,MS6.0									
ISCO	**Idaho Springs**	**133.09**	**24**	PFAKE		05 36 00.0	+13			
ISCO				LR	LR					
	comp=Z,4µm,22.0s,MS6.0									
PV01	**Paradox Valley**	**133.21**	**27**	*e*PKPdf	PKPdf	05 35 44.7	-2.5			
HRV	**Harvard--Oak R**	**133.80**	**348**	PFAKE		05 36 00.0	+12			
HRV				LR	LR					
	comp=Z,3µm,19.0s,MS6.1									
WES	**Weston**	**133.87**	**348**	PFAKE		05 36 00.0	+12			
WES				LR	LR					
	comp=Z,3µm,20.0s,MS6.1									
WUAZ	**Wupatki**	**133.88**	**32**	PFAKE		05 36 00.0	+12			
WUAZ				LR	LR					
	comp=Z,2µm,21.0s,MS5.8									
JFWS	**Jewell Farm**	**134.23**	**7**	PFAKE		05 36 00.0	+11			
JFWS				LR	LR					
	comp=Z,4µm,20.0s,MS6.1									
SDCO	**Great Sand Dun**	**134.88**	**25**	PFAKE		05 36 00.0	+10			
SDCO				LR	LR					
	comp=Z,3µm,19.0s,MS6.0									
AAM	**Ann Arbor**	**135.26**	**0**	PFAKE		05 36 00.0	+9.1			
AAM				LR	LR					
	comp=Z,6µm,20.0s,MS6.3									
ERPA	**Erie**	**135.34**	**356**	PFAKE		05 36 00.0	+9.0			
ERPA				LR	LR					
	comp=Z,5µm,19.0s,MS6.3									
CBKS	**Cedar Bluff**	**136.07**	**18**	PFAKE		05 36 00.0	+7.6			
CBKS				LR	LR					
	comp=Z,4µm,22.0s,MS6.1									
TUC	**Tucson**	**136.60**	**35**	PFAKE		05 36 00.0	+6.4			
TUC				LR	LR					
	comp=Z,1µm,20.0s,MS5.6									
SSPA	**Standing Stone**	**136.63**	**354**	PFAKE		05 36 00.0	+6.6			
SSPA				LR	LR					
	comp=Z,776nm,22.0s,MS5.4									
KSU1	**Kansas State U**	**136.71**	**15**	PKPdf	PKPdf	05 35 50.0	-3.5			
ANMO	**Albuquerque**	**136.78**	**28**	*e*PKIKP	PKPdf	05 35 45.8	-8.0			
ANMO				*e*		05 35 50.6				
ANMO				MLR	MLR					
	comp=Z,3µm,20.0s									
ACSO	**Alum Creek Sta**	**137.33**	**360**	*e*PKP	PKPdf	05 35 49.9	-4.8			
ACSO				LR	LR					
	comp=Z,4µm,20.0s,MS6.2									
MCWV	**Mont Chateau**	**137.78**	**356**	PFAKE		05 36 00.0	+4.4			
MCWV				LR	LR					
	comp=Z,5µm,20.0s,MS6.2									
CCM	**Cathedral Cave**	**138.85**	**9**	PFAKE		05 36 10.0	+12			
CCM				LR	LR					
	comp=Z,907nm,19.0s,MS5.5									
AMTX	**Amarillo**	**138.91**	**23**	PFAKE		05 36 10.0	+12			
AMTX				LR	LR					
	comp=Z,3µm,20.0s,MS6.1									
CBN	**Corbin**	**138.98**	**353**	PFAKE		05 36 10.0	+12			
CBN				LR	LR					
	comp=Z,4µm,20.0s,MS6.2									
WCI	**Wyandotte Cave**	**139.24**	**4**	*e*PKIKP	PKPdf	05 35 54.3	-4.0			
WCI				MLR	MLR					
	comp=Z,808nm,20.0s,MS5.5									
TRQA	**Tornquist**	**139.67**	**206**	PFAKE		05 36 10.0	+11			
TRQA				LR	LR					
	comp=Z,3µm,20.0s,MS6.0									
MNTX	**Cornudas Mount**	**139.96**	**30**	PKPdf	PKPdf	05 35 55.6	-4.2			
MNTX				*e*PP	PP	05 38 53.8	-1.4			
MNTX				LR	LR					
	comp=Z,3µm,22.0s,MS6.0									
WMOK	**Wichita Mounta**	**140.10**	**20**	*e*PKHKP		05 35 46.8				
WMOK				MLR	MLR					
	comp=Z,3µm,22.0s,MS6.0									
BLA	**Blacksburg**	**140.25**	**356**	PFAKE		05 36 10.0	+10			
BLA				LR	LR					
	comp=Z,5µm,19.0s,MS6.2									
PLCA	**Paso Flores**	**140.35**	**195**	PKhKP		05 35 49.4				
	comp=Z,0.9nm,0.7s,baz=225,slow=2.9,SNR=2.6									
PLCA				PKP	PKPdf	05 35 56.7	-3.5			
	comp=Z,2.2nm,0.8s,baz=186,slow=4.8,SNR=6.6									
PLCA	**Paso Flores**	**140.35**	**195**	PKP	PKPdf	05 35 56.7	-3.5			
PLCA				LR	LR					
	comp=Z,6µm,20.0s,MS6.4									
BBSR	**BB Station**	**140.93**	**335**	PFAKE		05 36 10.0	+8.4			
BBSR				LR	LR					
	comp=Z,2µm,21.0s,MS5.9									
WVT	**Waverly**	**141.20**	**6**	*e*PKHKP		05 35 50.2				
WVT				MLR	MLR					
	comp=Z,3µm,20.0s,MS6.0									
MIAR	**Mount Ida**	**141.79**	**14**	*e*PKIKP	PKPdf	05 35 54.0	-8.9			
MIAR	**Mount Ida**	**141.79**	**14**	*e*PKPpre		05 35 52.8				
MIAR				LR	LR					
	comp=Z,4µm,20.0s,MS6.2									
PLAL	**Pickwick Lake**	**142.31**	**6**	*e*PKP	PKPdf	05 35 59.5	-4.3			
PLAL				LR	LR					
	comp=Z,3µm,21.0s,MS6.0									
OXF	**Oxford**	**142.61**	**8**	PFAKE		05 36 10.0	+5.7			
OXF				LR	LR					
	comp=Z,5µm,21.0s,MS6.3									
TXAR	**Lajitas Array**	**142.73**	**30**	PKhKP		05 35 58.5				
	comp=Z,1.7nm,0.5s,baz=6.2,slow=0.5,SNR=20									
TXAR				PP	PP	05 38 52.6	-19			
	comp=Z,1.0nm,0.9s,baz=315,slow=2.6,SNR=2.1									
TXAR				SKP		05 39 22.6				
	comp=Z,3.1nm,0.9s,baz=346,slow=3.7,SNR=4.2									
BAO	**Brasilia Array**	**142.83**	**247**	P	PKPdf	05 35 58.0	-7.2			
BDFB	**Brasilia**	**142.85**	**247**	PKhKP		05 35 57.9				
	comp=Z,2.7nm,0.8s,baz=174,slow=7.0,SNR=5.4									
GOGA	**Godfrey**	**144.14**	**0**	PFAKE		05 36 10.0	+8.9			
GOGA				LR	LR					
	comp=Z,4µm,19.0s,MS6.2									
NATX	**Nacogdoches**	**144.15**	**17**	*e*PKP	PKPdf	05 36 01.9	-5.1			
NATX				LR	LR					
	comp=Z,3µm,19.0s,MS6.1									
NHSC	**New Hope**	**144.31**	**355**	PFAKE		05 36 20.0	+18			
NHSC				LR	LR					
	comp=Z,5µm,20.0s,MS6.3									
LRAL	**Lakeview Retre**	**144.35**	**5**	*e*PKP	PKPdf	05 36 01.2	-6.2			
LRAL				LR	LR					
	comp=Z,3µm,21.0s,MS6.0									
RPN	**Rapa Nui**	**145.22**	**137**	PFAKE		05 36 20.0	+16			
RPN				LR	LR					
	comp=Z,281nm,20.0s,MS5.0									
FCH	**Farellones**	**147.11**	**200**	*e*P	PKPdf	05 36 08.9	-3.2			
CFAA	**Coronel Fontan**	**147.85**	**205**	PKPbc	PKPdf	05 36 12.4	-0.9			
	comp=Z,2.3nm,0.6s,baz=174,slow=3.3,SNR=26									
DWPF	**Disney**	**149.37**	**357**	PFAKE		05 36 20.0	+4.1			
DWPF				LR	LR					
	comp=Z,1µm,22.0s,MS5.7									
SFJM	**Santa Fe**	**150.00**	**39**	*e*P	PKPdf	05 36 20.0	+2.9			
TLL	**Tololo Astrono**	**150.14**	**202**	*e*P	PKPdf	05 36 18.7	+1.7			
COLM	**Colima**	**150.52**	**42**	*e*P	PKPdf	05 36 22.8	+4.9			
MOIG	**Morelia**	**151.75**	**38**	*i* P	PKPdf	05 36 16.0	-3.7			
SJG	**San Juan**	**153.28**	**321**	PKPab	PKPab	05 36 34.8	-3.8			
	comp=Z,20nm,0.8s,baz=20,slow=15,SNR=3.2									
SJG	**San Juan**	**153.28**	**321**	PFAKE		05 36 30.0	+8.1			
SJG				LR	LR					
	comp=Z,3µm,20.0s,MS6.1									
PPM	**Popocatepetl**	**153.73**	**34**	*e*P	PKPdf	05 36 20.0	-2.5			
PPM				*i* P		05 36 20.7				
LVC	**Limon Verde**	**155.69**	**214**	PFAKE		05 36 30.0	+5.0			
LVC				LR	LR					
	comp=Z,3µm,20.0s,MS6.1									
TEIG	**Tepich**	**156.77**	**12**	*e*PKPab	PKPab	05 36 52.3	-1.1			
TEIG				LR	LR					
	comp=Z,2µm,21.0s,MS5.8									
LPAZ	**La Paz**	**159.78**	**227**	*e*PKIKP	PKPdf	05 36 27.5	-2.8			
LPAZ				MLR	MLR					
	comp=Z,2µm,20.0s									
LPAZ	**La Paz**	**159.78**	**227**	PKP	PKPdf	05 36 28.0	-2.3			
	comp=Z,1.5nm,0.9s,baz=180,slow=1.0,SNR=3.3									
SDV	**Santo Domingo**	**162.89**	**312**	PKP	PKPdf	05 36 29.7	-3.8			
	comp=Z,2.6nm,0.8s,baz=138,slow=3.5,SNR=4.0									
SDV				PKPab	PKPab	05 37 19.9	0.0			
	comp=Z,7.9nm,0.9s,baz=102,slow=4.0,SNR=6.3									
SDV	**Santo Domingo**	**162.89**	**312**	PKP	PKPdf	05 36 29.7	-3.9			
SDV				PKPab	PKPab	05 37 19.9	0.0			
SDV				LR	LR					
	comp=Z,3µm,19.0s									
JTS	**JuntasAbangare**	**167.06**	**7**	PFAKE		05 36 40.0	+2.7			
JTS				LR	LR					
	comp=Z,722nm,20.0s									
ROSC	**El Rosal**	**168.28**	**309**	PKP	PKPdf	05 36 34.9	-3.2			
	comp=Z,3.8nm,0.9s,baz=90,slow=20,SNR=3.5									
ROSC				pPKP		05 36 44.1				
	comp=Z,6.8nm,0.9s,baz=225,slow=8.6,SNR=4.8									
PAYG	**Puerto Ayora**	**172.83**	**74**	PFAKE		05 36 50.0	+9.2			
PAYG				LR	LR					
	comp=Z,2µm,19.0s									
OTAV	**Otavalo**	**174.30**	**300**	*e*PKPdf	PKPdf	05 36 38.1	-3.1			
OTAV				LR	LR					
	comp=Z,4µm,21.0s									

BJI ***29*** *05:23:51.1, 0.99N×97.28E, h35km, mB5.6, mb5.2, Ms6.0, Msz5.5*
MOS ***29*** *05:23:52.4±1.3, 1.14N×97.08E, h33km, mb5.3/10, Error ellipse: s-maj=22.5km s-min=10.4km az=110.6*
NEIC ***29*** *05:23:53.0±0.4, 1.18N×97.12E, mb5.1/16, Error ellipse: s-maj=12.3km s-min=7.8km az=49.0*
IDC ***29*** *05:23:53.1±0.5, 1.23N×97.04E, h24km±3km, mb4.2/16, mb1 4.3/16, mb1mx4.2/20, mbtmp4.4/16, Error ellipse: s-maj=21.8km s-min=10.5km az=48.0*

ISC 29 05:23:51.2±0.5, 1.18N±0.07×97.15E±0.07, h24km, h24km±.6km:pP-P, n67, σ0=99/60, mb4.8/41, MS5.4/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**40**	*e*Pn		**P**	**Pn**	**05 25 12.1**	**+0.1**
KKM	**Kota Kinabalu**	**19.62**	**75**	*e*P		**P**	**P**	**05 28 20.4**	**-0.7**
QIZ	**Qiongzhong**	**21.66**	**34**	P		**P**	**P**	**05 28 42.5**	**+0.3**
KMI	**Kunming**	**24.40**	**12**	P		**P**	**P**	**05 29 09.5**	**+0.3**
KMI				AMB	AMB				
	comp=Z,63nm,1.6s,mb4.8								
GYA	**Guiyang**	**26.74**	**19**	↑*i*P		**P**	**P**	**05 29 30.3**	**-0.8**
GYA				AMB	AMB				
	comp=Z,30nm,1.2s,mb4.7								
JIRN	**Jiri**	**28.35**	**339**	*e*P		**P**	**P**	**05 29 46.9**	**+1.2**
	comp=Z,9.2nm,0.3s,mb4.9								
PKI	**Pulchoki**	**28.55**	**338**	*e*P		**P**	**P**	**05 29 49.2**	**+1.7**
	comp=Z,308nm,2.0s,mb5.7								
PKI	**Pulchoki**	**28.55**	**338**	*e*P		**P**	**P**	**05 29 49.2**	**+1.7**
PKI				pmax	pmax				
	comp=Z,154nm,2.0s,mb5.4								
GUN	**Gumba**	**28.68**	**339**	*e*P		**P**	**P**	**05 29 49.5**	**+0.8**
	comp=Z,93nm,0.7s,mb5.6								
DMN	**Daman**	**28.70**	**337**	*e*P		**P**	**P**	**05 29 50.7**	**+1.9**
KKN	**Kakani**	**28.80**	**338**	*e*P		**P**	**P**	**05 29 50.3**	**+0.6**
LSA	**Lhasa**	**28.93**	**349**	*e*P		**P**	**P**	**05 29 53.9**	**+3.0**
LSA				pmax	pmax				
	comp=Z,26nm,0.9s,mb5.0								
LSA	**Lhasa**	**28.93**	**349**	*e*P		**P**	**P**	**05 29 53.9**	**+3.0**
	comp=Z,26nm,0.9s,mb5.0								
GKN	**Gorkha**	**29.24**	**337**	*e*P		**P**	**P**	**05 29 52.8**	**-0.9**
	comp=Z,47nm,0.7s,mb5.3								
KOLN	**Koldanda**	**29.45**	**335**	*e*P		**P**	**P**	**05 29 55.5**	**-0.1**
	comp=Z,59nm,0.8s,mb5.4								
ENH	**Enshi**	**31.21**	**21**	*e*P		**P**	**P**	**05 30 09.0**	**-2.1**
	comp=Z,60nm,0.6s,mb5.6								
ENH				*e*		pP		05 30 16.0	-2.3
LGTI	**Lohaghat**	**32.40**	**332**	*e*P		**P**	**P**	**05 30 24.0**	**+2.5**
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P		**P**	**P**	**05 30 34.6**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.7,baz=346,slow=4.2,SNR=3.9								
GTA	**Gaotai**	**38.12**	**3**	*e*P		**P**	**P**	**05 31 10.5**	**+0.2**
GTA				AP		pP		05 31 19.0	+1.5
GTA				XP		sP		05 31 22.3	+1.7
GTA				AMB	AMB				
	comp=Z,21nm,0.8s,mb4.9								
JOW	**Kunigami**	**39.28**	**47**	P		**P**	**P**	**05 31 20.4**	**+0.3**
	comp=Z,34nm,0.6s,mb5.2,baz=207,slow=4.8,SNR=14								
HHC	**Hu-ho-hao-te**	**41.59**	**17**	*e*P		**P**	**P**	**05 31 40.0**	**+1.0**
HHC				AP		pP		05 31 49.0	+2.8
HHC				XP		sP		05 31 52.5	+3.2
HHC				AMB	AMB				
	comp=Z,20nm,0.6s,mb4.9								
HHC				AMB	AMB				
	comp=Z,1µm,4.5s								
HHC				LR	LR				
	comp=N,2µm,14.5s,MS5.2								
HHC				LR	LR				
	comp=E,2µm,19.2s,MS5.2								
HHC				LR	LR				
	comp=Z,4µm,14.5s,MS5.4								
WRA	**Warramunga Arr**	**42.06**	**122**	P		**P**	**P**	**05 31 43.7**	**+0.6**
	comp=Z,5.6nm,0.6s,mb4.4,baz=302,slow=9.1,SNR=18								
WRA				pP		pP		05 31 51.2	+0.8
	comp=Z,4.9nm,0.6s,baz=302,slow=9.1,SNR=3.3								
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P		**P**	**P**	**05 31 43.2**	**0.0**
WRAB				*e*		pP		05 31 51.2	+0.7
WRAB				pmax	pmax				
	comp=Z,10.0nm,0.5s,mb4.7								
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P		**P**	**P**	**05 31 43.2**	**0.0**
	comp=Z,10nm,0.5s,mb4.7								
WRAB				*e*		pP		05 31 51.1	+0.7
BJT	**Baijiatuau**	**42.35**	**22**	*e*P		**P**	**P**	**05 31 45.9**	**+0.7**
BJT				*e*		pP		05 31 52.6	+0.1
BJT				pmax	pmax				
	comp=Z,31nm,0.6s								
BJT	**Baijiatuau**	**42.35**	**22**	*e*P		**P**	**P**	**05 31 45.9**	**+0.7**
	comp=Z,31nm,0.6s,mb5.1								
BJT				*e*		pP		05 31 52.6	+0.1
BJI	**Beijing**	**42.37**	**22**	*e*P		**P**	**P**	**05 31 45.5**	**+0.1**
BJI				AMB	AMB				
	comp=Z,26nm,0.7s,mb5.0								
WMQ	**Urumqi**	**43.28**	**350**	*e*P		**P**	**P**	**05 31 54.0**	**+1.2**
WMQ				AP		pP		05 32 01.5	+1.4
WMQ				XP		sP		05 32 05.0	+1.9
WMQ				AMB	AMB				
	comp=Z,15nm,1.4s,mb4.5								
WMQ				AMB	AMB				
	comp=Z,276nm,4.6s								
WMQ				LR	LR				
	comp=N,2µm,16.8s,MS5.3								
WMQ				LR	LR				
	comp=E,3µm,19.0s,MS5.3								
WMQ				LR	LR				
	comp=Z,2µm,22.6s,MS5.0								
ASAR	**Alice Springs**	**43.42**	**127**	P		**P**	**P**	**05 31 55.0**	**+0.9**
	comp=Z,2.9nm,0.6s,mb4.2,baz=296,slow=7.6,SNR=10								
ASAR				pP		pP		05 32 02.9	+1.4
	comp=Z,3.3nm,0.7s,baz=301,slow=8.0,SNR=2.5								
KS15	**Wonju Array Si**	**45.86**	**35**	*e*P		**P**	**P**	**05 32 13.5**	**0.0**
KS15				*e*pP		pP		05 32 20.3	-0.6
AAK	**Ala-Archa**	**46.00**	**337**	*e*P		**P**	**P**	**05 32 15.0**	**+0.4**
AAK				pmax	pmax				
	comp=Z,17nm,1.1s,mb4.9								
AAK	**Ala-Archa**	**46.00**	**337**	*e*P		**P**	**P**	**05 32 15.0**	**+0.4**
	comp=Z,17nm,1.1s,mb4.9								
SONM	**Songino Array**	**47.15**	**8**	P		**P**	**P**	**05 32 23.8**	**+0.2**
	comp=Z,12nm,0.8s,mb4.9,baz=189,slow=8.9,SNR=20								
SONM				pP		pP		05 32 30.8	-0.2
	comp=Z,11nm,0.8s,baz=192,slow=8.5,SNR=13								
MKAR	**Makanchi Array**	**47.25**	**346**	P		**P**	**P**	**05 32 24.5**	**+0.1**
	comp=Z,8.8nm,0.7s,mb4.8,baz=164,slow=8.3,SNR=36								
MKAR				pP		pP		05 32 32.0	+0.3
	comp=Z,7.6nm,0.6s,baz=160,slow=7.3,SNR=8.7								
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P		**P**	**P**	**05 32 24.8**	**+0.1**
ULN				*e*		pP		05 32 31.4	-0.6
ULN				pmax	pmax				
	comp=Z,7.0nm,0.7s,mb4.7								
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P		**P**	**P**	**05 32 24.8**	**+0.1**
	comp=Z,6.7nm,0.7s,mb4.7								
ULN				*e*		pP		05 32 31.4	-0.6
ZAK	**Zakamensk**	**49.29**	**5**	*e*P		**P**	**P**	**05 32 38.5**	**-1.7**
ZAK				pmax	pmax				
	comp=Z,6.0nm,1.4s,mb4.4								
CN2	**Changchun**	**49.34**	**27**	*e*P		**P**	**P**	**05 32 40.0**	**-0.7**
CN2				*e*AP		pP		05 32 47.0	-1.1
CN2				AMB	AMB				
	comp=Z,20nm,0.7s,mb5.3								
CN2				AMB	AMB				
	comp=Z,300nm,4.0s								
CN2				LR	LR				
	comp=N,7µm,18.0s,MS5.9								
CN2				LR	LR				
	comp=E,9µm,18.0s,MS5.9								
CN2				LR	LR				
	comp=Z,6µm,19.0s,MS5.6								
HIA	**Hailar**	**51.67**	**19**	*e*P		**P**	**P**	**05 32 57.8**	**-0.6**
HIA				pmax	pmax				
	comp=Z,21nm,0.9s								
HIA	**Hailar**	**51.67**	**19**	*e*P		**P**	**P**	**05 32 57.8**	**-0.5**
	comp=Z,21nm,0.9s,mb5.1								
KURK	**Kurchatov**	**51.80**	**345**	*e*P		**P**	**P**	**05 32 58.8**	**-0.5**
KURK				pmax	pmax				
	comp=Z,21nm,1.0s,mb5.0								
KURK	**Kurchatov**	**51.80**	**345**	*e*P		**P**	**P**	**05 32 58.8**	**-0.5**
	comp=Z,21nm,1.0s,mb5.0								
MDJ	**Mudanjiang**	**51.90**	**29**	P		**P**	**P**	**05 33 00.5**	**+0.3**
MDJ				AMB	AMB				
	comp=Z,14nm,1.4s,mb4.7								
MDJ				AMB	AMB				
	comp=Z,485nm,4.7s								
CTA	**Charters Tower**	**52.54**	**116**	P		**P**	**P**	**05 33 06.2**	**+0.9**
	comp=Z,1.8nm,0.5s,mb4.2,baz=191,slow=10,SNR=2.6								
CTA				pP		pP		05 33 13.0	+0.3
	comp=Z,6.3nm,1.0s,baz=284,slow=10,SNR=3.3								
STKA	**Stephens Creek**	**53.38**	**132**	*e*P		**P**	**P**	**05 33 12.5**	**+1.1**
	comp=Z,4.2nm,0.6s,mb4.5								
STKA	**Stephens Creek**	**53.38**	**132**	P		**P**	**P**	**05 33 12.8**	**+1.4**
	comp=Z,3.6nm,0.7s,mb4.4,baz=247,slow=6.9,SNR=5.7								
STKA				pP		pP		05 33 19.2	+0.4
	comp=Z,5.1nm,0.7s,baz=330,slow=6.2,SNR=4.2								
BVAR	**Borovoye Array**	**56.25**	**341**	P		**P**	**P**	**05 33 30.6**	**-1.3**
	comp=Z,7.6nm,0.7s,mb4.8,baz=139,slow=8.7,SNR=16								
BVAR				pP		pP		05 33 37.1	-2.3
	comp=Z,3.0nm,0.5s,baz=143,slow=11,SNR=5.8								
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P		**P**	**P**	**05 33 34.3**	**-1.1**
CHKZ				pmax	pmax				
	comp=Z,18nm,0.7s,mb5.2								
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P		**P**	**P**	**05 33 34.3**	**-1.1**
	comp=Z,18nm,0.7s,mb5.2								
KMBO	**Kilima Mbogo**	**59.94**	**268**	P		**P**	**P**	**05 33 56.9**	**-1.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=57,slow=17,SNR=3.3								
YAK	**Yakutsk**	**65.45**	**16**	*e*P		**P**	**P**	**05 34 32.4**	**-1.8**
YAK				*e*		pP		05 34 39.8	-2.0
YAK				pmax	pmax				
	comp=Z,39nm,0.7s,mb5.5								
YAK	**Yakutsk**	**65.45**	**16**	*e*P		**P**	**P**	**05 34 32.4**	**-1.8**
	comp=Z,40nm,0.7s,mb5.5								
YAK				*e*		pP		05 34 39.8	-2.1
BRTR	**Keskin Array B**	**69.09**	**312**	P		**P**	**P**	**05 34 57.0**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=140,slow=11,SNR=3.5								
BRTR				pP		pP		05 35 03.5	-1.7
	comp=Z,1.7nm,0.7s,baz=137,slow=6.2,SNR=5.4								
MA2	**Magadan**	**71.37**	**26**	*e*P		**P**	**P**	**05 35 10.7**	**-0.4**
MA2				pmax	pmax				
	comp=Z,7.0nm,0.8s,mb4.6								
MA2	**Magadan**	**71.37**	**26**	*e*P		**P**	**P**	**05 35 10.0**	**-1.1**
	comp=Z,10nm,0.7s,mb4.9								
AKASG	**Malin Array Be**	**75.24**	**322**	P		**P**	**P**	**05 35 32.8**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.7,baz=94,slow=4.9,SNR=4.6								
MLR	**Muntele Rosu**	**76.05**	**317**	pP		pP	**P**	05 35 46.1	-0.1
	comp=Z,4.6nm,0.9s,baz=168,slow=2.6,SNR=4.1								
FINES	**FINESS Array B**	**79.99**	**333**	P		**P**	**P**	**05 35 59.7**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=90,slow=7.6,SNR=3.9								
ARCES	**ARCESS Array B**	**82.53**	**340**	P		**P**	**P**	**05 36 12.4**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.2,baz=90,slow=4.9,SNR=5.0								
ARCES				pP		pP		05 36 21.2	+0.4
	comp=Z,3.3nm,0.8s,baz=90,slow=4.9,SNR=2.1								
GERES	**GERESS Array B**	**84.80**	**319**	P		**P**	**P**	**05 36 25.7**	**+0.7**

WRAB	**Tennant Creek**	**41.58**	**122**	*eP*		**P**		**05 32 46.9**	**+0.6**
WRAB				*e*		pP		05 32 52.6	-1.0
WRAB					pmax	pmax			
	comp=Z,63nm,0.9s,mb5.2								
WRAB	**Tennant Creek**	**41.58**	**122**	*eP*		**P**		**05 32 46.9**	**+0.6**
	comp=Z,64nm,0.9s,mb5.2								
WRAB				*e*		pP		05 32 52.6	-1.0
WB2	**Warramunga Arr**	**41.59**	**122**	*eP*		**P**		**05 32 45.8**	**-0.5**
WB2				*i*		pP		05 32 53.4	-0.3
BJT	**Baijiatuau**	**42.47**	**21**	*eP*		**P**		**05 32 54.8**	**+1.5**
BJT					pmax	pmax			
	comp=Z,89nm,0.9s								
BJT	**Baijiatuau**	**42.47**	**21**	*eP*		**P**		**05 32 54.8**	**+1.5**
	comp=Z,89nm,0.9s,mb5.4								
BJI	**Beijing**	**42.49**	**21**	*eP*		**P**		**05 32 55.0**	**+1.5**
BJI					XP	sP		05 33 12.5	+8.6
BJI					AMB	AMB			
	comp=Z,65nm,0.9s,mb5.3								
ASPA	**Alice Springs**	**42.93**	**127**	*eP*		**P**		**05 32 57.0**	**-0.3**
ASAR	**Alice Springs**	**42.93**	**127**	P		**P**		**05 32 57.2**	**-0.1**
	comp=Z,9.5nm,0.8s,mb4.5,baz=304,slow=7.7,SNR=8.3								
ASAR					pP			05 33 04.7	0.0
	comp=Z,10nm,0.9s,baz=299,slow=7.7,SNR=5.2								
DL2	**Dalian**	**43.78**	**27**	P		**P**		**05 33 05.5**	**+1.5**
DL2					AMB	AMB			
	comp=Z,40nm,0.8s,mb5.2								
KS15	**Wonju Array Si**	**45.87**	**34**	*eP*		**P**		**05 33 21.6**	**+0.8**
SONM	**Songino Array**	**47.38**	**8**	P		**P**		**05 33 33.1**	**+0.5**
	comp=Z,9.0nm,0.8s,mb4.7,baz=185,slow=9.7,SNR=6.5								
ULN	**Ulaanbaatar**	**47.51**	**9**	*eP*		**P**		**05 33 33.5**	**0.0**
ULN					pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8								
ULN	**Ulaanbaatar**	**47.51**	**9**	*eP*		**P**		**05 33 33.5**	**-0.1**
	comp=Z,7.7nm,0.9s,mb4.7								
MKAR	**Makanchi Array**	**47.62**	**346**	P		**P**		**05 33 34.5**	**0.0**
	comp=Z,20nm,0.9s,mb5.1,baz=160,slow=8.7,SNR=8.0								
MKAR					pP	pP		05 33 42.2	+0.4
	comp=Z,16nm,0.9s,baz=157,slow=7.0,SNR=4.0								
CN2	**Changchun**	**49.42**	**26**	*eP*		**P**		**05 33 47.8**	**-0.6**
CN2					AMB	AMB			
	comp=Z,20nm,0.9s,mb5.2								
PMG	**Port Moresby**	**50.45**	**103**	P		**P**		**05 33 56.3**	**-0.3**
	comp=Z,19nm,0.8s,mb5.2,baz=265,slow=12,SNR=4.3								
MAT	**Matsushiro**	**51.68**	**42**	*eP*		**P**		**05 34 05.0**	**-0.7**
MAT					pmax	pmax			
	comp=Z,11nm,1.0s,mb4.7								
MAT	**Matsushiro**	**51.68**	**42**	*eP*		**P**		**05 34 05.0**	**-0.7**
	comp=Z,11nm,1.0s,mb4.7								
MAT	**Matsushiro**	**51.68**	**42**	PCP		**P**		**05 34 04.9**	**-0.8**
HIA	**Hailar**	**51.82**	**18**	*eP*		**P**		**05 34 06.4**	**-0.2**
HIA					pmax	pmax			
	comp=Z,20nm,0.9s								
HIA	**Hailar**	**51.82**	**18**	*eP*		**P**		**05 34 06.3**	**-0.2**
	comp=Z,20nm,0.9s,mb5.0								
CTA	**Charters Tower**	**52.05**	**116**	P		**P**		**05 34 08.4**	**-0.3**
	comp=Z,5.2nm,0.9s,mb4.5,baz=255,slow=12,SNR=2.3								
KURK	**Kurchatov**	**52.18**	**345**	P		**P**		**05 34 08.9**	**-0.3**
KURK					pmax	pmax			
	comp=Z,42nm,0.8s,mb5.4								
KURK	**Kurchatov**	**52.18**	**345**	P		**P**		**05 34 08.8**	**-0.4**
	comp=Z,42nm,0.8s,mb5.4								
STKA	**Stephens Creek**	**52.89**	**132**	⇓ *iP*		**P**		**05 34 15.0**	**+0.1**
	comp=Z,11nm,0.9s,mb4.8								
STKA				*i*		pP		05 34 22.6	+0.2
STKA	**Stephens Creek**	**52.89**	**132**	P		**P**		**05 34 15.4**	**+0.6**
	comp=Z,11nm,0.9s,mb4.8,baz=315,slow=7.3,SNR=5.6								
STKA					pP	pP		05 34 22.8	+0.4
	comp=Z,16nm,0.8s,baz=318,slow=5.6,SNR=6.0								
KLR	**Kul'dur**	**56.37**	**26**	*eP*		**P**		**05 34 37.4**	**-2.6**
BVAR	**Borovoye Array**	**56.65**	**341**	P		**P**		**05 34 40.8**	**-1.1**
	comp=Z,6.9nm,1.0s,mb4.7,baz=135,slow=10,SNR=2.6								
BVAR					pP	pP		05 34 48.0	-1.5
	comp=Z,5.8nm,0.8s,baz=162,slow=9.4,SNR=2.7								
ARMA	**Armidale**	**60.07**	**126**	*eP*		**P**		**05 35 07.6**	**+1.5**
ARMA				*e*		pP		05 35 15.3	+1.5
MALT	**Malatya**	**65.59**	**312**	P		**P**		**05 35 42.5**	**-0.1**
MALT					pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.3								
MALT	**Malatya**	**65.59**	**312**	P		**P**		**05 35 42.5**	**-0.1**
	comp=Z,1.5nm,0.6s,mb4.2								
YAK	**Yakutsk**	**65.62**	**16**	*i* P		**P**		**05 35 41.0**	**-1.4**
YAK					pmax	pmax			
	comp=Z,60nm,1.0s,mb5.6								
YAK	**Yakutsk**	**65.62**	**16**	*eP*		**P**		**05 35 40.0**	**-2.4**
	comp=Z,40nm,0.6s,mb5.6								
BOSA	**Boshof**	**74.93**	**240**	P		**P**		**05 36 39.5**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.2,baz=45,slow=5.7,SNR=2.5								
BOSA					pP	pP		05 36 47.4	0.0
	comp=Z,3.2nm,0.8s,baz=91,slow=5.0,SNR=2.4								
KOLS	**Kolonicke sedl**	**79.67**	**320**	*eP*		**P**		**05 37 06.4**	**+0.8**
KOLS				*e*				05 37 27.4	
KOLS				*e*				05 40 21.9	
SUW	**Suwalki**	**80.12**	**325**	P		**P**		**05 37 05.4**	**-2.4**
SUW					pmax	pmax			
	comp=Z,12nm,0.5s,mb5.1								
SUW	**Suwalki**	**80.12**	**325**	P		**P**		**05 37 05.3**	**-2.5**
	comp=Z,12nm,0.5s,mb5.1								
FINES	**FINESS Array B**	**80.43**	**332**	P		**P**		**05 37 08.6**	**-0.7**
	comp=Z,1.6nm,0.7s,mb4.1,baz=117,slow=8.5,SNR=4.0								
MORC	**Moravsky Berou**	**82.86**	**320**	P		**P**		**05 37 22.4**	**+0.2**
MORC					pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.3								
MORC	**Moravsky Berou**	**82.86**	**320**	P		**P**		**05 37 22.4**	**+0.1**
	comp=Z,3.2nm,1.0s,mb4.3								
ARCES	**ARCESS Array B**	**82.94**	**340**	P		**P**		**05 37 22.6**	**+0.4**
	comp=Z,12nm,1.0s,mb4.9,baz=23,slow=9.2,SNR=6.2								
GERES	**GERESS Array B**	**85.27**	**319**	P		**P**		**05 37 35.1**	**+0.7**
	comp=Z,1.9nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=5.3								
GERES					pP	pP		05 37 42.7	+0.3
	comp=Z,1.6nm,0.8s,baz=108,slow=4.2,SNR=2.6								
CLL	**Collm**	**85.89**	**321**	P		**P**		**05 37 39.0**	**+1.5**
HFS	**Hagfors**	**86.16**	**330**	P		**P**		**05 37 39.1**	**+0.5**
	comp=Z,3.2nm,0.9s,mb4.5,baz=135,slow=2.0,SNR=2.9								
NB2	**NORSAR Subarra**	**87.44**	**331**	P		**P**		**05 37 44.2**	**-0.6**
	comp=Z,3.0nm,0.8s,mb4.6,baz=95,slow=4.8								
NB2	**NORSAR Subarra**	**87.44**	**331**	P		**P**		**05 37 44.2**	**-0.6**
NB2					pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.6								
NOA	**NORSAR Array B**	**87.44**	**331**	P		**P**		**05 37 44.7**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.5,baz=94,slow=4.9,SNR=5.2								
NOA					pP	pP		05 37 52.8	+0.1
	comp=Z,0.9nm,0.8s,baz=121,slow=4.6,SNR=2.4								
TXAR	**Lajitas Array**	**143.74**	**32**	PKP		PKPdf		05 44 31.9	-4.8
	comp=Z,1.4nm,0.8s,baz=209,slow=2.3,SNR=4.7								
NATX	**Nacogdoches**	**145.52**	**19**	*e*PKP		PKPdf		05 44 37.0	-2.7
CFAA	**Coronel Fontan**	**146.63**	**202**	PKPbc		PKPbc		05 44 39.4	+1.0
	comp=Z,0.3nm,0.6s,baz=148,slow=3.6,SNR=3.2								
CFAA					pPKPbc			05 44 47.3	
	comp=Z,1.4nm,1.0s,baz=132,slow=1.3,SNR=4.5								

*BJI **29** 05:25:20.6, 1.57N×96.71E, h37km, mB5.5, mb5.3, Ms5.7, Msz5.5*
*MOS **29** 05:25:24.9±1.2, 2.23N×96.80E, h33km, mb5.4/15, Error ellipse: s-maj=15.2km s-min=8.4km az=114.6*
*NEIC **29** 05:25:25.4±0.3, 2.14N×96.63E, mb5.3/18, Error ellipse: s-maj=10.0km s-min=7.3km az=221.0*
*IDC **29** 05:25:25.9±0.4, 2.23N×96.78E, h25km±3km, mb4.6/23, mb1 4.6/23, mb1mx4.6/26, mbtmp4.8/23, Error ellipse: s-maj=19.2km s-min=9.7km az=46.0*

ISC 29 05:25:23.9±2.0, 2.1N±0.05×96.69E±0.06, h27km±13km, h29km±.8km: pP-P, n90, σ1§10/88, mb5.0/51, MS5.5/9, 3C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.04**	**51**	*eP*		**Pn**	**05 26 40.2**	**+0.4**
KSM	**Kuching**	**13.63**	**93**	P		**P**	**05 28 38.9**	**+0.8**
CM31	**Chiang Mai Arr**	**16.37**	**8**	*eP*		**P**	**05 29 14.8**	**+1.1**
	144nm,0.8s							
PALK	**Pallekele**	**16.73**	**288**	*eP*		**P**	**05 29 16.4**	**-1.8**
	43nm,1.0s							
HYB	**Hyderabad**	**23.41**	**312**	*eP*		**P**	**05 30 30.0**	**-1.9**
HYB	**Hyderabad**	**23.41**	**312**	*i* P		**P**	**05 30 30.0**	**-1.9**
KMI	**Kunming**	**23.59**	**14**	⇑P		**P**	**05 30 35.3**	**+1.8**
KMI				S		**S**	**05 34 46.3**	**+3.7**
KMI					AMB	AMB		
	comp=Z,56nm,1.4s,mb4.8							
KMI					LR	LR		
	comp=N,5μm,18.5s,MS5.1							
KMI					LR	LR		
	comp=E,4μm,18.5s,MS5.1							
KMI					LR	LR		
	comp=Z,6μm,20.9s,MS5.0							
GYA	**Guiyang**	**26.01**	**21**	⇑ *iP*		**P**	**05 30 57.5**	**+0.8**
GYA					AP	pP	05 31 06.8	+2.2
GYA					XP	sP	05 31 11.0	+2.8
GYA					PP	PP	05 31 39.0	+0.9
GYA					S	**S**	**05 35 23.8**	**+0.3**
GYA					AMB	AMB		
	comp=Z,70nm,0.8s,mb5.2							
GYA					AMB	AMB		
	comp=Z,340nm,4.2s							
GYA					LR	LR		
	comp=N,8μm,12.9s,MS5.7							
GYA					LR	LR		
	comp=E,13μm,13.8s,MS5.7							
GYA					LR	LR		
	comp=Z,6μm,12.0s,MS5.4							
LSA	**Lhasa**	**27.92**	**350**	P		**P**	**05 31 14.2**	**+0.2**
LSA					pmax	pmax		
	comp=Z,74nm,0.9s,mb5.3							
LSA	**Lhasa**	**27.92**	**350**	P		**P**	**05 31 14.2**	**+0.2**
	comp=Z,74nm,0.9s,mb5.3							
MBWA	**Marble Bar**	**32.32**	**137**	P		**P**	**05 31 53.1**	**-0.1**
	comp=Z,46nm,1.1s,mb5.2							
MBWA				*e*		pP	05 32 01.3	+0.1
LZH	**Lanzhou**	**34.43**	**10**	*eP*		**P**	**05 32 09.5**	**-1.8**
LZH					AP	pP	05 32 17.5	-1.9
LZH					AMB	AMB		
	comp=Z,75nm,1.5s,mb5.4							
LZH					AMB	AMB		
	comp=Z,238nm,4.0s							
LZH					LR	LR		
	comp=E,3μm,15.4s							
LZH					LR	LR		
	comp=Z,5μm,16.9s,MS5.3							
DLH	**Dalhousie**	**35.98**	**329**	*eP*		**P**	**05 32 27.0**	**+2.4**
NJ2	**Nanjing**	**36.35**	**33**	*eP*		**P**	**05 32 27.3**	**-0.4**
NJ2					AP	pP	05 32 38.0	+2.2
NJ2					XP	sP	05 32 40.0	+0.8
NJ2					PP	PP	05 33 52.0	+0.6
NJ2					S	**S**	**05 38 02.0**	**-4.4**
NJ2					AMB	AMB		
	comp=Z,440nm,4.0s							
NJ2					LR	LR		
	comp=N,20μm,15.7s,MS6.1							
NJ2					LR	LR		
	comp=E,11μm,13.3s,MS6.1							
NJ2					LR	LR		
	comp=Z,11μm,12.9s,MS5.8							
JOW	**Kunigami**	**38.99**	**48**	P		**P**	**05 32 50.1**	**+0.2**
	comp=Z,19nm,0.6s,mb5.0,baz=238,slow=7.1,SNR=5.0							
NWAO	**Narrogin (SRO)**	**39.91**	**153**	P		**P**	**05 32 59.9**	**+2.4**
	comp=Z,6.5nm,0.9s,mb4.3,baz=304,slow=15,SNR=1.7							
NWAO					pP	pP	05 33 07.6	+2.0
	comp=Z,20nm,1.0s,baz=323,slow=11,SNR=4.1							
HHC	**Hu-ho-hao-te**	**40.82**	**17**	*eP*		**P**	**05 33 06.0**	**+1.1**
HHC					AP	pP	05 33 17.0	+4.0
HHC					XP	sP	05 33 20.5	+4.1
HHC					PP	PP	05 34 41.3	-0.8
HHC					SCP		05 38 50.3	
HHC					PCS		05 38 52.3	
HHC					S	**S**	**05 39 20.3**	**+6.4**
HHC					XS		05 39 35.8	
HHC					SS	SS	05 42 20.5	+10
HHC					SCS	ScS	05 43 06.0	0.0
HHC					AMB	AMB		
	comp=Z,37nm,0.3s,mb5.5							
HHC					AMB	AMB		
	comp=Z,391nm,5.4s							
HHC					LR	LR		
	comp=N,2μm,16.2s,MS5.3							
HHC					LR	LR		
	comp=E,3μm,14.7s,MS5.3							
HHC					LR	LR		
	comp=Z,4μm,14.1s,MS5.4							
BJT	**Baijiatuau**	**41.65**	**23**	P		**P**	**05 33 11.7**	**0.0**
WMQ	**Urumqi**	**42.27**	**350**	⇓ *iP*		**P**	**05 33 16.8**	**0.0**
WMQ					AP	pP	05 33 26.5	+1.6
WMQ					XP	sP	05 33 30.5	+2.2
WMQ					PP	PP	05 34 58.0	+0.4
WMQ					PPP	PPP	05 35 30.0	-0.3
WMQ					*e*S	**S**	**05 39 35.0**	**-0.5**
WMQ					AMB	AMB		
	comp=Z,37nm,1.9s,mb4.7							
WMQ					AMB	AMB		
	comp=Z,256nm,6.0s							
WMQ					LR	LR		
	comp=N,4μm,16.9s,MS5.5							
WMQ					LR	LR		
	comp=E,3μm,14.8s,MS5.5							
WMQ					LR	LR		
	comp=Z,4μm,21.0s							
WRA	**Warramunga Arr**	**42.96**	**123**	P		**P**	**05 33 22.3**	**-0.4**
	comp=Z,10.0nm,0.8s,mb4.6,baz=300,slow=9.4,SNR=3.6							
WRA					pP	pP	05 33 29.8	-1.1
	comp=Z,13nm,0.8s,baz=304,slow=8.8,SNR=3.1							
ASAR	**Alice Springs**	**44.36**	**128**	P		**P**	**05 33 33.5**	**-0.5**
	comp=Z,7.9nm,0.8s,mb4.5,baz=304,slow=7.7,SNR=5.0							
ASAR					pP	pP	05 33 41.4	-0.8
	comp=Z,14nm,0.9s,baz=304,slow=8.2,SNR=5.2							
AAK	**Ala-Archa**	**44.95**	**337**	*i* P		**P**	**05 33 40.6**	**+2.1**
AAK					pmax	pmax		
	comp=Z,20nm,1.3s,mb4.8							
AAK	**Ala-Archa**	**44.95**	**337**	P		**P**	**05 33 38.9**	**+0.4**
	comp=Z,17nm,0.8s,mb4.9							
KS15	**Wonju Array Si**	**45.35**	**35**	P		**P**	**05 33 41.4**	**-0.4**
MKAR	**Makanchi Array**	**46.22**	**346**	P		**P**	**05 33 48.9**	**+0.4**
	comp=Z,92nm,0.8s,mb5.8,baz=160,slow=7.7,SNR=30							
SONM	**Songino Array**	**46.29**	**9**	P		**P**	**05 33 49.8**	**+0.7**
	comp=Z,35nm,0.8s,mb5.3,baz=189,slow=8.7,SNR=22							
ULN	**Ulaanbaatar**	**46.43**	**10**	*eP*		**P**	**05 33 50.2**	**+0.1**
ULN					pmax	pmax		
	comp=Z,35nm,1.0s,mb5.2							
ULN	**Ulaanbaatar**	**46.43**	**10**	*eP*		**P**	**05 33 50.2**	**+0.1**
	comp=Z,35nm,1.0s,mb5.2							
ZAK	**Zakamensk**	**48.40**	**6**	*eP*		**P**	**05 34 05.5**	**-0.1**
ZAK					pmax	pmax		
	comp=Z,11nm,1.8s,mb4.6							
CN2	**Changchun**	**48.71**	**28**	*eP*		**P**	**05 34 07.3**	**-0.8**
CN2				*e*AP		pP	05 34 16.0	-0.3
CN2				*e*S		**S**	**05 41 08.3**	**+0.5**
CN2					AMB	AMB		
	comp=Z,40nm,0.8s,mb5.5							
CN2					AMB	AMB		
	comp=Z,500nm,3.0s							
CN2					LR	LR		
	comp=N,11μm,15.0s,MS6.0							
CN2					LR	LR		
	comp=E,6μm,15.0s,MS6.0							
CN2					LR	LR		
	comp=Z,12μm,17.0s,MS5.9							
TLY	**Talaya**	**49.72**	**6**	*eP*		**P**	**05 34 16.5**	**+0.8**
TLY					pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9							
TLY	**Talaya**	**49.72**	**6**	*eP*		**P**	**05 34 16.5**	**+0.8**
	comp=Z,9.6nm,0.8s,mb4.9							
KURK	**Kurchatov**	**50.77**	**345**	*i* P		**P**	**05 34 21.9**	**-1.8**
KURK	**Kurchatov**	**50.77**	**345**	*eP*		**P**	**05 34 23.5**	**-0.2**
	comp=Z,39nm,0.8s,mb5.4							
HIA	**Hailar**	**50.93**	**19**	*eP*		**P**	**05 34 24.4**	**-0.6**
HIA					pmax	pmax		
	comp=Z,63nm,1.0s							
HIA	**Hailar**	**50.93**	**19**	*eP*		**P**	**05 34 24.4**	**-0.6**
	comp=Z,63nm,1.0s,mb5.5							
MDJ	**Mudanjiang**	**51.31**	**30**	P		**P**	**05 34 27.5**	**-0.4**
MDJ					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3							
MDJ					AMB	AMB		
	comp=Z,295nm,4.4s							
MDJ					LR	LR		
	comp=N,828nm,12.1s,MS5.5							
MDJ					LR	LR		
	comp=E,3μm,15.8s,MS5.5							
MDJ					LR	LR		
	comp=Z,4μm,13.4s,MS5.6							
MDJ	**Mudanjiang**	**51.31**	**30**	P		**P**	**05 34 27.3**	**-0.6**
	comp=Z,42nm,0.9s,mb5.4							
PMG	**Port Moresby**	**51.56**	**104**	P		**P**	**05 34 29.5**	**-0.8**
	comp=Z,24nm,0.7s,mb5.2,baz=288,slow=8.5,SNR=4.9							
PMG					pP	pP	05 34 37.5	-1.1
	comp=Z,33nm,0.8s,baz=263,slow=15,SNR=4.7							
CTA	**Charters Tower**	**53.37**	**117**	*eP*		**P**	**05 34 42.5**	**-1.2**
	comp=Z,12nm,1.0s,mb4.8							
CTA				*i*		pP	05 34 52.0	0.0
CTA	**Charters Tower**	**53.37**	**117**	*eP*		**P**	**05 34 42.5**	**-1.2**
CTA				*i*		pP	05 34 52.0	0.0
CTA					pmax	pmax		
	comp=Z,12nm,1.0s							
CTA	**Charters Tower**	**53.37**	**117**	P		**P**	**05 34 42.9**	**-0.9**
	comp=Z,11nm,0.9s,mb4.8,baz=282,slow=10,SNR=5.0							
CTA					pP	pP	05 34 51.9	-0.1
	comp=Z,22nm,0.9s,baz=285,slow=8.9,SNR=6.0							
NVS	**Novosibirsk**	**53.68**	**350**	*i* P		**P**	**05 34 44.0**	**-1.4**
NVS				*e*S		**S**	**05 42 10.1**	**-5.8**
NVS					pmax	pmax		
	comp=Z,57nm,1.0s,mb5.5							
NVS					pmax	pmax		
	comp=N,36nm,0.9s							
NVS					pmax	pmax		
	comp=E,46nm,1.4s							
NVS					smax			
	comp=N,26nm,1.8s							
STKA	**Stephens Creek**	**54.36**	**132**	*eP*		pP	05 34 58.7	-0.3
	comp=N,17nm,0.9s							
STKA	**Stephens Creek**	**54.36**	**132**	P		**P**	**05 34 50.6**	**-0.1**
	comp=N,3.7nm,0.7s,mb4.5,baz=310,slow=8.8,SNR=1.6							
STKA					pP	pP	05 34 58.9	-0.2
	comp=N,22nm,0.9s,baz=311,slow=7.2,SNR=5.5							
STKA	**Stephens Creek**	**54.36**	**132**	P		**P**	**05 34 50.6**	**-0.1**
STKA				*eP*		pP	05 34 58.7	-0.3
STKA					pP	pP	05 34 58.9	-0.2
BVAR	**Borovoye Array**	**55.21**	**341**	P		**P**	**05 34 55.5**	**-1.2**
	comp=N,25nm,0.8s,mb5.3,baz=135,slow=8.4,SNR=15							
ASAJ	**Asahikawa**	**58.23**	**37**	P		**P**	**05 35 18.4**	**+0.1**
	comp=N,15nm,0.8s,mb5.1,baz=117,slow=7.5,SNR=4.2							
CLNS	**Chul'man**	**59.01**	**18**	*eP*		**P**	**05 35 21.9**	**-1.7**
CLNS					pmax	pmax		
	comp=Z,35nm,0.7s,mb5.5							
CLNS					pmax	pmax		
	comp=N,10.0nm,0.6s							
CLNS					pmax	pmax		
	comp=E,11nm,0.6s							
KMBO	**Kilima Mbogo**	**59.52**	**267**	P		**P**	**05 35 28.6**	**+0.9**
KMBO					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KMBO	**Kilima Mbogo**	**59.52**	**267**	P		**P**	**05 35 28.8**	**+1.1**
	comp=Z,3.6nm,0.9s,mb4.4,baz=66,slow=7.6,SNR=5.7							
KMBO	**Kilima Mbogo**	**59.52**	**267**	P		**P**	**05 35 28.6**	**+1.0**
	comp=Z,5.5nm,1.0s,mb4.5							
GNI	**Garni**	**60.27**	**316**	pP		pP	05 35 40.2	-0.8
	comp=Z,6.7nm,0.6s,baz=356,slow=15,SNR=2.5							
ZEI	**Tsey**	**61.97**	**318**	*eP*		**P**	**05 35 45.3**	**+1.3**
ZEI				*i* *PP		pP	05 35 53.9	+1.5
ZEI				*i*			05 37 58.6	
ZEI					pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.9							
ARU	**Arti**	**62.13**	**337**	*eP*		**P**	**05 35 43.3**	**-1.6**
ARU	**Arti**	**62.13**	**337**	*eP*		**P**	**05 35 42.8**	**-2.0**
	comp=Z,25nm,0.8s,mb5.4							
KIV	**Kislovodsk**	**63.27**	**319**	*eP*		**P**	**05 35 58.5**	**+5.9**
KIV					pmax	pmax		
	comp=Z,35nm,1.0s,mb5.4							
ASF	**Jabal al Asfar**	**63.51**	**305**	P		**P**	**05 35 46.9**	**-7.5**
	comp=Z,2.9nm,0.7s,mb4.4,baz=100,slow=6.1,SNR=4.7							
HNR	**Honiara**	**64.04**	**101**	P		**P**	**05 35 55.9**	**-2.3**
	comp=Z,93nm,0.8s,mb5.8,baz=252,slow=9.6,SNR=2.3							
YAK	**Yakutsk**	**64.67**	**16**	*eP*		**P**	**05 36 00.2**	**-1.3**
YAK					pmax	pmax		
	comp=Z,164nm,0.9s,mb6.1							
YAK	**Yakutsk**	**64.67**	**16**	*eP*		**P**	**05 36 00.2**	**-1.3**
	comp=Z,164nm,0.9s,mb6.1							
BRTR	**Keskin Array B**	**68.11**	**312**	P		**P**	**05 36 22.9**	**-0.8**
	comp=Z,2.9nm,0.8s,mb4.4,baz=129,slow=7.8,SNR=5.5							
BRTR					pP	pP	05 36 32.1	-0.1
	comp=Z,5.0nm,0.8s,baz=124,slow=6.9,SNR=7.0							
VOR	**Voronezh**	**68.72**	**326**	P		**P**	**05 36 21.0**	**-6.3**
VOR					pmax	pmax		
	comp=Z,110nm,1.9s,mb5.5							
MA2	**Magadan**	**70.72**	**26**	*eP*		**P**	**05 36 39.2**	**-0.2**
MA2					pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0							
MA2					pmax	pmax		
	comp=N,6.0nm,1.0s							
MA2	**Magadan**	**70.72**	**26**	*eP*		**P**	**05 36 39.0**	**-0.3**
	comp=N,34nm,0.8s,mb5.3							
AKASG	**Malin Array Be**	**74.21**	**322**	P		**P**	**05 36 59.0**	**-1.2**
	comp=N,4.4nm,0.7s,mb4.5,baz=88,slow=5.2,SNR=7.1							
BOSA	**Boshof**	**74.80**	**240**	P		**P**	**05 37 04.4**	**+0.3**
BOSA					pmax	pmax		
	comp=Z,52nm,1.6s,mb5.2							
BOSA	**Boshof**	**74.80**	**240**	P		**P**	**05 37 04.4**	**+0.3**
	comp=Z,52nm,1.6s,mb5.2							
APA	**Apatity**	**78.08**	**339**	⇓ *iP*		**P**	**05 37 22.6**	**+1.0**
APA				*i*			05 37 38.1	
APA					pmax	pmax		
	comp=Z,21nm,1.0s,mb5.0							
APA					MLR	MLR		
	comp=Z,2μm,18.0s,MS5.6							
FINES	**FINESS Array B**	**78.94**	**332**	P		**P**	**05 37 26.6**	**+0.1**
	comp=Z,5.9nm,0.7s,mb4.6,ba

WRAB				*e*		pP		05 35 19.1	0.0
ASAR	**Alice Springs**	**44.30**	**128**	P		**P**		**05 35 23.3**	**+0.2**
	2.9nm,0.7s,mb4.1,baz=308,slow=7.8,SNR=5.0								
ASAR				pP		pP		05 35 30.6	+0.2
	1.7nm,0.6s,baz=301,slow=8.0,SNR=2.2								
MKAR	**Makanchi Array**	**46.25**	**346**	P		**P**		**05 35 38.6**	**+0.4**
	17nm,0.7s,mb5.1,baz=159,slow=9.5,SNR=8.6								
SONM	**Songino Array**	**46.30**	**9**	P		**P**		**05 35 39.0**	**+0.4**
	8.8nm,0.8s,mb4.8,baz=190,slow=9.4,SNR=7.2								
KURK	**Kurchatov**	**50.80**	**345**	*eP*		**P**		**05 36 12.6**	**-0.9**
	11nm,0.8s,mb4.8								
HIA	**Hailar**	**50.93**	**19**	*eP*		**P**		**05 36 13.9**	**-0.6**
	5.6nm,0.4s,mb4.8								
PMG	**Port Moresby**	**51.50**	**104**	P		**P**		**05 36 19.4**	**+0.1**
	14nm,0.6s,mb5.1,baz=331,slow=10,SNR=4.5								
CTA	**Charters Tower**	**53.31**	**117**	P		**P**		**05 36 33.7**	**+0.9**
	4.3nm,0.8s,mb4.5,baz=307,slow=5.1,SNR=2.5								
CTA				pP		pP		05 36 41.5	+1.3
	5.8nm,0.8s,baz=278,slow=12,SNR=2.8								
CTA	**Charters Tower**	**53.31**	**117**	P		**P**		**05 36 33.7**	**+0.9**
CTA				pP		pP		05 36 41.5	+1.3
STKA	**Stephens Creek**	**54.30**	**132**	P		**P**		**05 36 40.3**	**+0.4**
	4.9nm,0.9s,mb4.4,baz=354,slow=10,SNR=2.7								
BVAR	**Borovoye Array**	**55.24**	**341**	P		**P**		**05 36 46.0**	**-0.5**
	5.2nm,0.7s,mb4.7,baz=141,slow=9.2,SNR=5.0								
CHKZ	**Chkalovo**	**55.72**	**342**	*eP*		**P**		**05 36 49.2**	**-0.7**
	12nm,0.8s,mb5.0								
YAK	**Yakutsk**	**64.67**	**16**	*eP*		**P**		**05 37 49.8**	**-1.2**
	49nm,0.8s,mb5.6								
FINES	**FINESS Array B**	**78.99**	**332**	P		**P**		**05 39 16.4**	**+0.2**
	2.5nm,0.6s,mb4.3,baz=108,slow=6.0,SNR=5.2								
FINES				pP		pP		05 39 24.4	+0.5
	1.5nm,0.7s,baz=101,slow=7.1,SNR=2.6								
FINES	**FINESS Array B**	**78.99**	**332**	P		**P**		**05 39 16.4**	**+0.2**
FINES				pP		pP		05 39 24.4	+0.5
ARCES	**ARCESS Array B**	**81.53**	**340**	P		**P**		**05 39 30.1**	**+0.5**
	3.3nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=6.1								
ARCES				pP		pP		05 39 36.9	-0.4
	2.5nm,0.7s,baz=79,slow=6.2,SNR=1.7								
GERES	**GERESS Array B**	**83.83**	**319**	P		**P**		**05 39 43.3**	**+1.4**
	1.5nm,0.8s,mb4.2,baz=104,slow=8.1,SNR=3.3								
GERES				pP		pP		05 39 51.1	+1.4
	0.8nm,0.6s,baz=108,slow=4.2,SNR=2.7								
PDAR	**Pinedale Array**	**129.41**	**25**	PKP		PKPdf		05 46 19.8	-4.9
	0.6nm,0.8s,slow=2.7,SNR=3.2								
TXAR	**Lajitas Array**	**143.12**	**31**	PKP		PKPdf		05 46 48.3	-1.9
	0.2nm,0.5s,baz=45,slow=1.3,SNR=2.8								
CFAA	**Coronel Fontan**	**147.43**	**204**	PKPbc		PKPdf		05 46 56.8	-0.8
	0.3nm,0.9s,baz=135,slow=4.3,SNR=1.9								
CFAA				pPKPbc				05 47 05.5	
	0.7nm,0.9s,baz=159,slow=2.9,SNR=3.3								

*IDC **29** 05:32:05.5±2.5, 1.67N×99.18E, mb3.7/5, mb1 3.8/5, mb1mx3.6/16, mbtmp3.7/5, Error ellipse: s-maj=116.5km s-min=22.6km az=58.0*
*NEIC **29** 05:32:10.1±1.0, 1.76N×99.20E, h30km, mb4.3/2, Error ellipse: s-maj=32.0km s-min=13.1km az=65.0*
ISC 29 05:32:06.8±0.9, **1.54N**±0.08×**98.8E**±0.1, **h30**km, **n8, σ1§01/9, mb3.8/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**4.14**	**26**	*e*	Pn	**Pn**	**05 33 06.3**	**-3.5**
KULM				*e*	S	**Sn**	**05 33 58.2**	**+0.4**
WRA	**Warramunga Arr**	**40.85**	**123**	P		**P**	**05 39 47.6**	**-0.3**
	1.1nm,0.6s,mb3.7,baz=302,slow=9.2,SNR=8.3							
WRAB	**Tennant Creek**	**40.85**	**123**	*e*	P	**P**	**05 39 48.9**	**+1.0**
	4.0nm,0.6s,mb4.2							
SONM	**Songino Array**	**46.58**	**7**	P		**P**	**05 40 34.1**	**+0.2**
	0.2nm,0.5s,mb3.3,baz=203,slow=11,SNR=1.9							
MKAR	**Makanchi Array**	**47.33**	**345**	P		**P**	**05 40 39.9**	**0.0**
	0.3nm,0.7s,mb3.4,baz=154,slow=8.6,SNR=3.0							
STKA	**Stephens Creek**	**52.39**	**133**	P		**P**	**05 41 18.3**	**-0.5**
	1.4nm,0.7s,mb4.0,baz=323,slow=10,SNR=2.9							
BVAR	**Borovoye Array**	**56.48**	**340**	P		**P**	**05 41 49.8**	**+1.4**
	0.9nm,0.6s,mb4.0,baz=125,slow=7.2,SNR=4.1							
CHKZ	**Chkalovo**	**56.94**	**340**	P		**P**	**05 41 50.5**	**-1.2**
	1.9nm,0.5s,mb4.4							

*BJI **29** 05:35:35.2, 0.60N×97.47E, h36km, mB5.7, mb5.0, Ms5.4, Msz5.0*
*MOS **29** 05:35:36.1±0.9, 0.86N×97.47E, h33km, mb4.9/19, Error ellipse: s-maj=14.8km s-min=8.2km az=115.7*
*IDC **29** 05:35:36.7±0.4, 0.81N×97.45E, h25km±2km, mb4.2/21, mb1 4.3/21, mb1mx4.3/23, mbtmp4.4/21, Error ellipse: s-maj=20.0km s-min=8.6km az=45.0*
*NEIC **29** 05:35:37.1±0.3, 0.78N×97.41E, mb4.8/26, Error ellipse: s-maj=10.5km s-min=5.8km az=56.0*
ISC 29 05:35:35.2±0.3, **0.78N**±0.04×**97.38E**±0.05, **h25**km, **h25**km±6km**:pP-P, n103,** σ1§12/103**, mb4.7**/58**, MS5.2**/4**, 2C-3D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**5.24**	**44**	P		**Pn**	**05 36 55.1**	**+1.1**
KULM	**Kulim**	**5.54**	**36**	*e*	P	**Pn**	**05 36 58.5**	**+0.2**
KGM	**Kluang**	**6.06**	**78**	P		**Pn**	**05 37 06.9**	**+1.3**
CM31	**Chiang Mai Arr**	**17.63**	**5**	*e*	P	**P**	**05 39 39.8**	**-1.2**
	54nm,1.1s							
KKM	**Kota Kinabalu**	**19.51**	**74**	*e*	P	**P**	**05 40 03.0**	**-0.7**
TSM	**Tawau**	**20.76**	**80**	P		**P**	**05 40 19.7**	**+2.7**
QIZ	**Qiongzhong**	**21.87**	**33**	*e*	P	**P**	**05 40 26.3**	**-1.9**
KMI	**Kunming**	**24.75**	**12**	P		**P**	**05 40 58.0**	**+1.6**
KMI				AP			05 41 06.3	
KMI				AMB		AMB		
	comp=Z,34nm,1.4s,mb4.7							
GYA	**Guiyang**	**27.05**	**19**	⇑ *i*	P	**P**	**05 41 16.8**	**-0.9**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.5							
JIRN	**Jiri**	**28.80**	**339**	*e*	P	**P**	**05 41 35.5**	**+1.9**
PKI	**Pulchoki**	**29.01**	**338**	*e*	P	**P**	**05 41 38.3**	**+2.8**
	comp=Z,39nm,1.0s,mb5.1							
PKI	**Pulchoki**	**29.01**	**338**	*e*	P	**P**	**05 41 38.3**	**+2.8**
PKI				pmax		pmax		
	comp=Z,20nm,1.0s,mb4.8							
GUN	**Gumba**	**29.14**	**339**	*e*	P	**P**	**05 41 37.3**	**+0.6**
	comp=Z,88nm,0.8s,mb5.5							
DMN	**Daman**	**29.16**	**337**	*e*	P	**P**	**05 41 39.3**	**+2.5**
	comp=Z,22nm,0.7s,mb5.0							
KKN	**Kakani**	**29.25**	**338**	*e*	P	**P**	**05 41 38.2**	**+0.5**
	comp=Z,38nm,0.7s,mb5.2							
KKN	**Kakani**	**29.25**	**338**	*e*	P	**P**	**05 41 38.2**	**+0.5**
KKN				pmax		pmax		
	comp=Z,19nm,0.7s,mb4.9							
LSA	**Lhasa**	**29.36**	**349**	*e*	P	**P**	**05 41 38.8**	**+0.1**
LSA				*e*		pP	05 41 47.4	+1.3
LSA				pmax		pmax		
	comp=Z,19nm,0.8s,mb4.9							
LSA	**Lhasa**	**29.36**	**349**	*e*	P	**P**	**05 41 38.8**	**+0.1**
	comp=Z,19nm,0.8s,mb4.9							
LSA				*e*		pP	05 41 47.4	+1.3
GKN	**Gorkha**	**29.69**	**337**	*e*	P	**P**	**05 41 41.9**	**+0.3**
	comp=Z,56nm,0.9s,mb5.3							
KOLN	**Koldanda**	**29.91**	**335**	*e*	P	**P**	**05 41 44.1**	**+0.5**
	comp=Z,25nm,0.7s,mb5.0							
MBWA	**Marble Bar**	**30.87**	**136**	P		**P**	**05 41 54.3**	**+2.2**
	comp=Z,22nm,1.2s,mb4.9							
ENH	**Enshi**	**31.50**	**20**	*e*	P	**P**	**05 41 55.9**	**-1.7**
	comp=Z,12nm,0.5s,mb5.0							
FITZ	**Fitzroy Crossi**	**33.54**	**125**	⇓ *i*	P	**P**	**05 42 13.9**	**-1.5**
	comp=Z,9.8nm,0.8s,mb4.8							
FITZ				*i*		pP	05 42 22.0	-0.9
FITZ	**Fitzroy Crossi**	**33.54**	**125**	P		**P**	**05 42 14.0**	**-1.4**
	comp=Z,15nm,0.8s,mb4.9,baz=286,slow=1.8,SNR=12							
FITZ				pP		pP	05 42 21.9	-1.0
	comp=Z,27nm,0.8s,baz=263,slow=2.2,SNR=15							
XAN	**Xi'an**	**34.81**	**17**	P		**P**	**05 42 25.0**	**-1.2**
XAN				AP		pP	05 42 32.0	-1.7
XAN				AMB		AMB		
	comp=Z,31nm,0.9s,mb5.2							
LZH	**Lanzhou**	**35.64**	**9**	*e*	P	**P**	**05 42 33.3**	**0.0**
LZH				AP		pP	05 42 41.0	+0.3
LZH				XP		sP	05 42 43.5	-0.4
LZH				AMB		AMB		
	comp=Z,40nm,1.0s,mb5.3							
LZH				AMB		AMB		
	comp=Z,170nm,4.0s							
NJ2	**Nanjing**	**37.12**	**31**	*e*	P	**P**	**05 42 48.3**	**+2.5**
NJ2				AP		pP	05 42 58.0	+4.7
NJ2				XP		sP	05 43 01.0	+4.5
NJ2				PP		PP	05 44 17.0	+4.1
NJ2				S		**S**	**05 48 34.0**	**+3.9**
NJ2				XS			05 48 52.0	
NJ2				AMB		AMB		
	comp=Z,540nm,4.5s							
NJ2				LR		LR		
	comp=N,5μm,13.2s,MS5.6							
NJ2				LR		LR		
	comp=E,4μm,14.9s,MS5.6							
NJ2				LR		LR		
	comp=Z,1μm,15.4s,MS4.8							
NWAO	**Narrogin (SRO)**	**38.40**	**153**	P		**P**	**05 42 57.2**	**+0.6**
	comp=Z,8.0nm,0.8s,mb4.5,baz=304,slow=11,SNR=5.1							
NWAO				pP		pP	05 43 04.5	+0.5
	comp=Z,11nm,0.9s,baz=310,slow=10,SNR=5.1							
GTA	**Gaotai**	**38.51**	**3**	*eP*		**P**	**05 42 57.5**	**+0.1**
GTA				AP		pP	05 43 05.0	+0.1
GTA				XP		sP	05 43 08.3	+0.2
GTA				AMB		AMB		
	comp=Z,11nm,1.1s,mb4.5							
WRA	**Warramunga Arr**	**41.66**	**122**	P		**P**	**05 43 23.3**	**-0.4**
	comp=Z,4.4nm,0.5s,mb4.4,baz=305,slow=8.6,SNR=48							
WRA				pP		pP	05 43 30.7	-0.6
	comp=Z,14nm,0.9s,baz=305,slow=8.8,SNR=23							
WRAB	**Tennant Creek**	**41.67**	**122**	*eP*		**P**	**05 43 23.0**	**-0.7**
WRAB				*e*		pP	05 43 30.5	-0.8
WRAB				pmax		pmax		
	comp=Z,53nm,1.1s,mb5.1							
WRAB	**Tennant Creek**	**41.67**	**122**	*eP*		**P**	**05 43 23.0**	**-0.7**
	comp=Z,53nm,1.1s,mb5.1							
WRAB				*e*		pP	05 43 30.5	-0.8
WB2	**Warramunga Arr**	**41.67**	**122**	⇓ *iP*		**P**	**05 43 23.0**	**-0.8**
WB2				*e*		pP	05 43 31.6	+0.3
HHC	**Hu-ho-hao-te**	**41.91**	**16**	*eP*		**P**	**05 43 25.5**	**+0.1**
HHC				AP		pP	05 43 32.3	-0.7
HHC				XP		sP	05 43 36.0	-0.1
HHC				PP		PP	05 45 05.0	-0.6
HHC				PCS			05 49 12.3	
HHC				S		**S**	**05 49 39.8**	**-2.1**
HHC				SCS		ScS	05 53 24.5	+0.1
HHC				AMB		AMB		
	comp=Z,36nm,0.4s,mb5.3							
HHC				LR		LR		
	comp=N,2μm,14.3s,MS5.3							
HHC				LR		LR		
	comp=E,2μm,18.4s,MS5.3							
BJI	**Beijing**	**42.66**	**21**	*eP*		**P**	**05 43 32.5**	**+0.9**
BJI				AMB		AMB		
	comp=Z,36nm,1.0s,mb5.1							
FORT	**Forrest**	**42.84**	**140**	*eP*		**P**	**05 43 35.1**	**+1.9**
	comp=Z,432nm,0.6s							
ASPA	**Alice Springs**	**43.00**	**127**	*eP*		**P**	**05 43 34.1**	**-0.5**
ASAR	**Alice Springs**	**43.00**	**127**	P		**P**	**05 43 34.3**	**-0.3**
	comp=Z,4.1nm,0.8s,mb4.2,baz=301,slow=6.8,SNR=25							
ASAR				pP		pP	05 43 41.8	-0.4
	comp=Z,4.7nm,0.8s,baz=296,slow=7.6,SNR=12							
ASAR				S		**S**	**05 49 54.8**	**-3.4**
	comp=Z,1.4nm,1.0s,baz=291,slow=16,SNR=5.5							
WMQ	**Urumqi**	**43.71**	**350**	⇓ *iP*		**P**	**05 43 41.3**	**+1.2**
WMQ				AP		pP	05 43 48.5	+0.8
WMQ				XP		sP	05 43 52.0	+1.2
WMQ				PP		PP	05 45 24.5	+0.8
WMQ				PPP		PPP	05 46 01.0	+0.4
WMQ				*e*S		**S**	**05 50 09.0**	**+0.8**
WMQ				AMB		AMB		
	comp=Z,16nm,1.3s,mb4.6							
WMQ				LR		LR		
	comp=N,2μm,17.8s,MS5.2							
WMQ				LR		LR		
	comp=E,2μm,14.5s,MS5.2							
WMQ				LR		LR		
	comp=Z,2μm,21.0s							
DL2	**Dalian**	**43.96**	**27**	P		**P**	**05 43 43.3**	**+1.1**
DL2				AMB		AMB		
	comp=Z,30nm,0.9s,mb5.0							
AAK	**Ala-Archa**	**46.45**	**337**	*i* P		**P**	**05 44 01.5**	**-0.5**
AAK				pmax		pmax		
	comp=Z,6.0nm,1.7s,mb4.2							
AAK	**Ala-Archa**	**46.45**	**337**	*eP*		**P**	**05 44 02.1**	**+0.1**
	comp=Z,3.9nm,0.8s,mb4.4							
SONM	**Songino Array**	**47.52**	**8**	P		**P**	**05 44 10.6**	**+0.2**
	comp=Z,6.1nm,0.9s,mb4.7,baz=191,slow=8.0,SNR=29							
ULN	**Ulaanbaatar**	**47.64**	**9**	*eP*		**P**	**05 44 11.4**	**0.0**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5							
ULN	**Ulaanbaatar**	**47.64**	**9**	*eP*		**P**	**05 44 11.4**	**0.0**
	comp=Z,4.3nm,0.9s,mb4.5							
MKAR	**Makanchi Array**	**47.69**	**346**	P		**P**	**05 44 11.6**	**-0.1**
	comp=Z,13nm,0.7s,mb5.1,baz=158,slow=7.7,SNR=106							
CN2	**Changchun**	**49.59**	**27**	*eP*		**P**	**05 44 27.0**	**+0.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
ZAK	**Zakamensk**	**49.67**	**5**	*eP*		**P**	**05 44 26.9**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,3.0nm,2.0s,mb4.0							
PMG	**Port Moresby**	**50.59**	**103**	P		**P**	**05 44 34.5**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9,baz=295,slow=14,SNR=3.4							
TLY	**Talaya**	**50.99**	**5**	*i* P		**P**	**05 44 37.0**	**0.0**
TLY				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
HIA	**Hailar**	**51.98**	**18**	*eP*		**P**	**05 44 43.3**	**-1.2**
HIA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
HIA	**Hailar**	**51.98**	**18**	*eP*		**P**	**05 44 43.3**	**-1.2**
	comp=Z,10nm,0.8s,mb4.8							
CTA	**Charters Tower**	**52.16**	**116**	P		**P**	**05 44 44.6**	**-1.6**
	comp=Z,2.1nm,0.8s,mb4.1,baz=342,slow=6.4,SNR=2.4							
CTAO	**Charters Tower**	**52.16**	**116**	P		**P**	**05 44 46.2**	**-0.1**
CTAO				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.7							
CTAO	**Charters Tower**	**52.16**	**116**	P		**P**	**05 44 46.2**	**-0.1**
	comp=Z,10nm,1.0s,mb4.7							
KURK	**Kurchatov**	**52.24**	**345**	*i* P		**P**	**05 44 46.0**	**-0.5**
KURK	**Kurchatov**	**52.24**	**345**	*eP*		**P**	**05 44 45.8**	**-0.7**
	comp=Z,17nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**52.94**	**132**	*eP*		**P**	**05 44 51.8**	**-0.2**
	comp=Z,12nm,1.3s,mb4.7							
STKA	**Stephens Creek**	**52.94**	**132**	P		**P**	**05 44 52.0**	**-0.1**
	comp=Z,5.1nm,0.7s,mb4.6,baz=304,slow=6.9,SNR=9.7							
STKA				pP		pP	05 44 59.4	-0.4
	comp=Z,19nm,1.2s,baz=316,slow=8.2,SNR=9.6							
KLR	**Kul'dur**	**56.54**	**26**	*eP*		**P**	**05 45 15.0**	**-3.0**
BVAR	**Borovoye Array**	**56.70**	**341**	P		**P**	**05 45 17.3**	**-1.8**
	comp=Z,3.3nm,0.8s,mb4.4,baz=149,slow=8.6,SNR=15							
CHKZ	**Chkalovo**	**57.18**	**341**	*eP*		**P**	**05 45 21.1**	**-1.4**
CHKZ				*e*		pP	05 45 28.8	-1.4
CHKZ				pmax		pmax		
	comp=Z,8.0nm,0.8s,mb4.8							
CHKZ	**Chkalovo**	**57.18**	**341**	*eP*		**P**	**05 45 21.1**	**-1.3**
	comp=Z,8.4nm,0.8s,mb4.8							
CHKZ				*e*		pP	05 45 28.8	-1.4
BOD	**Bodaibo**	**58.38**	**10**	*eP*		**P**	**05 45 29.4**	**-1.4**
BOD				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
KMBO	**Kilima Mbogo**	**60.16**	**268**	*eP*		**P**	**05 45 43.4**	**-0.3**
KMBO				pmax		pmax		
	comp=Z,8.0nm,1.2s							
KMBO	**Kilima Mbogo**	**60.16**	**268**	P		**P**	**05 45 43.6**	**-0.1**
	comp=Z,1.8nm,0.8s,mb4.2,baz=56,slow=7.7,SNR=6.3							
KMBO	**Kilima Mbogo**	**60.16**	**268**	*eP*		**P**	**05 45 43.4**	**-0.3**
	comp=Z,7.9nm,1.2s,mb4.6							
SVE	**Sverdlovsk**	**63.14**	**338**	*eP*		**P**	**05 46 04.0**	**+0.9**
ARU	**Arti**	**63.64**	**337**	*c iP*		**P**	**05 46 05.7**	**-0.7**
ARU				*e*			05 48 24.1	
ARU				*e*S		**S**	**05 54 38.8**	**+1.5**
ARU				*e*SS		SS	05 58 41.5	-5.1
ARU				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
KIV	**Kislovodsk**	**64.74**	**319**	*i* P		**P**	**05 46 12.4**	**-1.4**
ASF	**Jabal al Asfar**	**64.85**	**305**	P		**P**	**05 46 14.9**	**+0.1**
	comp=Z,1.3nm,0.3s,mb4.4,baz=154,slow=7.4,SNR=4.0							
MALT	**Malatya**	**65.54**	**312**	P		**P**	**05 46 18.7**	**-0.4**
MALT				pmax		pmax		
	comp=Z,2.0nm,0.5s,mb4.4							
MALT	**Malatya**	**65.54**	**312**	P		**P**	**05 46 18.7**	**-0.4**
	comp=Z,1.5nm,0.5s,mb4.3							
YAK	**Yakutsk**	**65.77**	**16**	*eP*		**P**	**05 46 19.1**	**-1.0**
YAK				*e*		pP	05 46 26.9	-1.1
YAK				pmax		pmax		
	comp=Z,21nm,0.5s,mb5.4							
YAK	**Yakutsk**	**65.77**	**16**	*eP*		**P**	**05 46 19.1**	**-1.1**
	comp=Z,21nm,0.5s,mb5.4							
YAK				*e*		pP	05 46 26.9	-1.1
BRTR	**Keskin Array B**	**69.53**	**312**	P		**P**	**05 46 43.0**	**-1.0**
	comp=Z,0.7nm,0.6s,mb3.8,baz=104,slow=5.9,SNR=3.4							
MA2	**Magadan**	**71.63**	**25**	*eP*		**P**	**05 46 56.2**	**-0.3**
MA2				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
MA2	**Magadan**	**71.63**	**25**	*eP*		**P**	**05 46 56.2**	**-0.3**
	comp=Z,7.5nm,0.7s,mb4.7							
MAW	**Mawson**	**72.35**	**193**	*eP*		**P**	**05 47 01.0**	**+0.4**
MAW				pmax		pmax		
	comp=Z,6.0nm,0.7s							
MAW	**Mawson**	**72.35**	**193**	P		**P**	**05 47 01.0**	**+0.4**
	comp=Z,2.6nm,0.5s,mb4.4,baz=21,slow=8.9,SNR=6.5							
MAW	**Mawson**	**72.35**	**193**	*eP*		**P**	**05 47 01.0**	**+0.4**
	comp=Z,6.0nm,0.7s,mb4.6							
OBN	**Obninsk**	**73.07**	**328**	*eP*		**P**	**05 47 04.6**	**-0.5**
OBN				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.7							
TIXI	**Tiksi**	**73.56**	**10**	*eP*		**P**	**05 47 04.7**	**-3.0**
TIXI				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
TIXI				MLR		MLR		
	comp=Z,2μm,19.0s,MS5.3							
BOSA	**Boshof**	**74.73**	**240**	P		**P**	**05 47 14.6**	**-0.7**
	comp=Z,1.2nm,0.5s,mb4.1,baz=102,slow=2.9,SNR=4.2							
IDI	**Amoyia**	**75.29**	**306**	P		**P**	**05 47 17.4**	**-0.9**
	comp=Z,3.2nm,0.6s,mb4.4,baz=27,slow=11,SNR=2.9							
FINES	**FINESS Array B**	**80.45**	**333**	P		**P**	**05 47 46.1**	**-0.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=90,slow=5.7,SNR=15							
FINES				sP		sP	05 47 56.7	-0.2
	comp=Z,1.4nm,0.6s,baz=86,slow=4.7,SNR=3.9							
BILL	**Bilibino**	**81.49**	**21**	*i* P		**P**	**05 47 54.9**	**+3.4**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.6s,mb4.0							
ARCES	**ARCESS Array B**	**82.99**	**340**	P		**P**	**05 47 59.6**	**+0.3**
	comp=Z,3.8nm,0.9s,mb4.4,baz=99,slow=5.5,SNR=13							
ARCES				pP		pP	05 48 07.2	-0.1
	comp=Z,1.9nm,0.6s,baz=90,slow=4.9,SNR=2.2							
GERES	**GERESS Array B**	**85.25**	**319**	P		**P**	**05 48 12.3**	**+1.2**
	comp=Z,0.3nm,0.2s,mb4.0,baz=90,slow=4.0,SNR=9.9							
GERES				pP		pP	05 48 19.6	+0.5
	comp=Z,0.9nm,0.5s,baz=108,slow=4.2,SNR=4.7							
SBA	**Scott Base**	**86.48**	**169**	P		**P**	**05 48 17.7**	**+1.1**
SBA				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.5							
SBA	**Scott Base**	**86.48**	**169**	P		**P**	**05 48 17.6**	**+1.0**
	comp=Z,2.6nm,1.0s,mb4.4							
GRF	**Grafenberg Arr**	**86.92**	**320**	*eP*		**P**	**05 48 27.9**	**+8.6**
GRF				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.7							
NB2	**NORSAR Subarra**	**87.46**	**331**	P		**P**	**05 48 22.2**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.9,baz=96,slow=4.6							
NB2	**NORSAR Subarra**	**87.46**	**331**	P		**P**	**05 48 22.2**	**+0.5**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.2							
NB2	**NORSAR Subarra**	**87.46**	**331**	P		**P**	**05 48 22.2**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.9							
NOA	**NORSAR Array B**	**87.46**	**331**	P		**P**	**05 48 22.2**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.6,baz=102,slow=7.4,SNR=3.8							
NOA				pP		pP	05 48 29.4	-0.4
	comp=Z,2.0nm,1.0s,baz=94,slow=4.9,SNR=5.3							
DAVOX	**Davos**	**87.72**	**317**	P		**P**	**05 48 24.1**	**+0.8**
	comp=Z,1.0nm,0.4s,mb4.4,baz=118,slow=23,SNR=3.6							
DAVOX				pP		pP	05 48 31.9	+0.6
	comp=Z,3.3nm,0.9s,baz=154,slow=13,SNR=2.6							
DAVOX	**Davos**	**87.72**	**317**	P		**P**	**05 48 24.1**	**+0.8**
DAVOX				pP		pP	05 48 31.9	+0.6
YKA	**Yellowknife Ar**	**112.44**	**15**	PP		PP	05 54 44.8	-15
MNTX	**Cornudas Mount**	**141.16**	**32**	*e*PKP		PKPdf	05 55 03.4	-5.6
TXAR	**Lajitas Array**	**143.93**	**32**	PKP		PKPdf	05 55 09.4	-4.4
	comp=Z,0.2nm,0.5s,baz=359,slow=1.9,SNR=5.3							
CFAA	**Coronel Fontan**	**146.46**	**203**	PKPbc		PKPbc	05 55 16.2	+1.4
	comp=Z,0.4nm,0.5s,baz=158,slow=2.7,SNR=11							
CFAA				pPKPbc			05 55 24.4	
	comp=Z,0.6nm,0.

1.2nm,0.7s,mb3.8
TXAR Lajitas Array 90.16 58 P **P 06 05 56.0 +0.6**
0.9nm,0.7s,mb3.7,baz=214,slow=6.4,SNR=15
TXAR Lajitas Array 90.16 58 P **P 06 05 56.0 +0.5**
PDAR Pinedale Array 92.36 44 P **P 06 06 05.2 0.0**
0.6nm,0.7s,mb3.7,baz=207,slow=3.3,SNR=5.5
DAWY Dawson 92.84 17 *eP* **P 06 06 06.1 -0.7**
ARCES ARCESS Array B 131.53 348 PKP PKPdf 06 12 02.3 +0.3
5.6nm,1.1s,baz=45,slow=2.6,SNR=4.6
TSUM Tsumeb 134.23 203 PKP PKPdf 06 12 09.9 +1.5
2.0nm,0.4s,baz=143,slow=4.2,SNR=8.1
NB2 NORSAR Subarra141.72 351 PKPabc PKPdf 06 12 16.4 -4.2
0.6nm,0.7s,baz=19,slow=3.6
NB2 NORSAR Subarra141.72 351 PKPab PKPdf 06 12 16.4 -4.2
NOA NORSAR Array B 141.72 351 PKhKP 06 12 16.7
0.6nm,0.6s,baz=33,slow=5.2,SNR=4.8
AKASG Malin Array Be 144.70 328 PKP PKPdf 06 12 26.9 +0.9
0.5nm,0.3s,baz=45,slow=4.0,SNR=8.5
ASF Jabal al Asfar 146.46 293 PKPbc PKPdf 06 12 31.6 0.0
1.4nm,0.3s,baz=360,slow=0.9,SNR=2.2

IDC 29 05:56:32.3±2.8, 0.98N×97.15E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=118.9km s-min=22.1km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.96**	**122**	P	P	06 04 25.1	-1.9
	0.6nm,0.8s,baz=300,slow=9.3,SNR=3.9						
ASAR	**Alice Springs**	**43.31**	**127**	P	P	06 04 36.8	-1.2
	0.8nm,1.0s,baz=306,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**47.35**	**8**	P	P	06 05 08.1	-1.9
	1.4nm,0.5s,baz=191,slow=9.4,SNR=11						
MKAR	**Makanchi Array**	**47.44**	**346**	P	P	06 05 09.2	-1.5
	1.5nm,0.7s,baz=159,slow=7.8,SNR=17						
BVAR	**Borovoye Array**	**56.44**	**341**	P	P	06 06 15.3	-2.8
	0.4nm,0.4s,baz=117,slow=6.4,SNR=3.8						
TXAR	**Lajitas Array**	**143.88**	**32**	PKP	PKPdf	06 16 08.3	-3.8
	0.2nm,0.8s,baz=270,slow=0.9,SNR=2.8						

IDC 29 05:59:12.8±1.1, 1.07N×96.87E, mb3.8/5, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=36.4km s-min=25.3km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.25**	**122**	P	P	06 07 08.1	-1.7
	0.7nm,0.8s,baz=302,slow=9.2,SNR=5.1						
ASAR	**Alice Springs**	**43.59**	**127**	P	P	06 07 19.1	-1.5
	0.4nm,0.7s,baz=297,slow=6.5,SNR=3.9						
MKAR	**Makanchi Array**	**47.28**	**346**	P	P	06 07 48.4	-1.4
	1.7nm,0.5s,baz=163,slow=8.2,SNR=12						
SONM	**Songino Array**	**47.30**	**9**	P	P	06 07 47.5	-2.5
	0.4nm,0.5s,baz=196,slow=9.0,SNR=3.6						
BOSA	**Boshof**	**74.43**	**240**	P	P	06 10 53.3	-1.7
	2.9nm,0.9s,baz=90,slow=4.0,SNR=3.3						

*IDC **29** 06:00:08.2±0.6, 1.85N×99.26E, mb4.0/10, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, Error ellipse: s-maj=36.8km s-min=16.4km az=50.0*
*NEIC **29** 06:00:12.6±0.4, 1.79N×99.28E, h30km, mb4.3/7, Error ellipse: s-maj=16.2km s-min=9.6km az=64.0*
ISC 29 06:00:11.1±0.6, 1.77N±0.09×99.2E±0.1, h33km, n25, σ1s06/20, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**3.77**	**22**	*e*Pn	**Pn**	**06 01 08.2**	**-0.3**
KULM				*e*S	**S**	**06 02 01.1**	**+8.9**
CM31	**Chiang Mai Arr**	**16.59**	**359**	*e*P	**P**	**06 04 05.0**	**+2.1**
	25nm,1.1s						
WRA	**Warramunga Arr**	**40.63**	**124**	P	**P**	**06 07 50.1**	**+0.1**
	5.0nm,0.8s,mb4.2,baz=302,slow=9.1,SNR=16						
WRA				PcP	PcP	06 09 53.3	+1.1
	1.4nm,0.7s,baz=309,slow=2.7,SNR=8.3						
WRAB	**Tennant Creek**	**40.64**	**124**	*e*P	**P**	**06 07 50.6**	**+0.6**
	7.6nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**42.14**	**129**	P	**P**	**06 08 02.0**	**-0.4**
	0.9nm,0.8s,mb3.5,baz=300,slow=8.0,SNR=6.9						
ASAR				PcP	PcP	06 09 58.4	+1.2
	1.3nm,0.7s,baz=308,slow=3.0,SNR=10						
SONM	**Songino Array**	**46.30**	**7**	P	**P**	**06 08 36.4**	**+0.8**
	0.9nm,0.7s,mb3.8,baz=190,slow=7.5,SNR=3.7						
AAK	**Ala-Archa**	**46.32**	**335**	*e*P	**P**	**06 08 35.1**	**-0.6**
	5.1nm,1.3s,mb4.3						
MKAR	**Makanchi Array**	**47.22**	**344**	P	**P**	**06 08 42.5**	**-0.2**
	1.5nm,0.7s,mb4.0,baz=156,slow=8.0,SNR=7.4						
KURK	**Kurchatov**	**51.80**	**343**	*e*P	**P**	**06 09 17.3**	**-0.5**
	4.0nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**52.25**	**134**	P	**P**	**06 09 21.2**	**-0.3**
	2.1nm,0.7s,mb4.2,baz=296,slow=23,SNR=4.8						
STKA	**Stephens Creek**	**52.25**	**134**	*e*P	**P**	**06 09 20.9**	**-0.6**
BVAR	**Borovoye Array**	**56.41**	**340**	P	**P**	**06 09 49.9**	**-1.8**
	1.3nm,0.7s,mb4.1,baz=147,slow=10,SNR=5.6						
CHKZ	**Chkalovo**	**56.86**	**340**	*e*P	**P**	**06 09 53.1**	**-1.8**
	6.5nm,1.0s,mb4.6						
KMBO	**Kilima Mbogo**	**62.04**	**268**	P	**P**	**06 10 31.9**	**+0.8**
	0.3nm,0.4s,mb3.8,baz=70,slow=20,SNR=4.4						
KMBO	**Kilima Mbogo**	**62.04**	**268**	P	**P**	**06 10 32.3**	**+1.1**
	1.4nm,0.7s,mb4.2						
MALT	**Malatya**	**66.27**	**311**	P	**P**	**06 10 59.8**	**+1.4**
	1.3nm,0.5s,mb4.2						
BRTR	**Keskin Array B**	**70.24**	**312**	P	**P**	**06 11 21.8**	**-1.3**
	2.0nm,1.1s,mb4.0,baz=127,slow=6.2,SNR=3.9						
FINES	**FINESS Array B**	**80.44**	**332**	P	**P**	**06 12 21.2**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=104,slow=7.9,SNR=4.3						
NOA	**NORSAR Array B**	**87.50**	**331**	P	**P**	**06 12 57.9**	**+1.4**
	0.2nm,0.6s,mb3.5,baz=49,slow=5.8,SNR=3.1						
ULM	**Lac du Bonnet**	**126.58**	**12**	PKP	PKPdf	06 19 13.3	+1.9
	0.9nm,0.5s,baz=14,slow=4.2,SNR=3.0						
ULM	**Lac du Bonnet**	**126.58**	**12**	PKP	PKPdf	06 19 13.3	+1.9
PDAR	**Pinedale Array**	**128.63**	**27**	PKP	PKPdf	06 19 17.8	+2.3
	0.4nm,0.8s,baz=315,slow=2.1,SNR=4.7						
TXAR	**Lajitas Array**	**142.09**	**34**	PKP	PKPdf	06 19 41.2	+0.5
	0.5nm,0.8s,baz=135,slow=1.8,SNR=5.7						
BDFB	**Brasilia**	**144.90**	**245**	PKP	PKPdf	06 19 47.8	+1.9
	1.8nm,0.6s,baz=230,slow=3.4,SNR=4.5						
CFAA	**Coronel Fontan**	**148.06**	**200**	PKPbc	PKPdf	06 19 57.3	+6.5
	0.4nm,0.9s,baz=204,slow=4.9,SNR=3.3						

*IDC **29** 06:01:33.8±1.6, 0.85N×97.72E, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, Error ellipse: s-maj=87.1km s-min=17.8km az=52.0*
*NEIC **29** 06:01:38.8±0.9, 0.96N×97.82E, h30km, mb4.2/6, Error ellipse: s-maj=43.7km s-min=9.5km az=54.0*
ISC 29 06:01:37.7±1.1, 1.0N±0.2×97.9E±0.3, h33km, n17, σ0s92/16, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**29.23**	**348**	P	**P**	**06 07 39.8**	**+1.0**
	5.8nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.26**	**126**	P	**P**	**06 08 13.1**	**-1.4**
	2.1nm,0.6s,mb4.2,baz=1.0,slow=9.6,SNR=2.6						
WRA	**Warramunga Arr**	**41.35**	**122**	P	**P**	**06 09 23.2**	**+0.7**
	0.6nm,0.6s,mb3.4,baz=301,slow=9.3,SNR=5.3						
WRAB	**Tennant Creek**	**41.36**	**122**	P	**P**	**06 09 24.7**	**+2.2**
	1.0nm,0.6s,mb3.6						
ASAR	**Alice Springs**	**42.74**	**127**	P	**P**	**06 09 32.9**	**-1.1**
	0.5nm,0.4s,mb3.6,baz=295,slow=7.6,SNR=4.6						
AAK	**Ala-Archa**	**46.43**	**336**	*e*P	**P**	**06 10 03.7**	**+0.4**
	2.4nm,0.8s,mb4.2						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**06 10 09.5**	**+0.3**
	1.0nm,0.7s,mb3.9,baz=193,slow=8.6,SNR=4.0						
ULN	**Ulaanbaatar**	**47.32**	**8**	P	**P**	**06 10 09.6**	**-0.6**
	2.4nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**47.58**	**345**	P	**P**	**06 10 12.6**	**+0.3**
	2.1nm,0.4s,mb4.5,baz=161,slow=8.7,SNR=14						
MKAR	**Makanchi Array**	**47.58**	**345**	P	**P**	**06 10 12.6**	**+0.3**
KURK	**Kurchatov**	**52.14**	**345**	*e*P	**P**	**06 10 46.5**	**-0.5**
	1.7nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**56.64**	**340**	P	**P**	**06 11 19.1**	**-0.9**
	1.4nm,0.5s,mb4.3,baz=148,slow=11,SNR=4.4						
CHKZ	**Chkalovo**	**57.11**	**341**	*e*P	**P**	**06 11 22.1**	**-1.2**
	1.3nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**80.47**	**332**	P	**P**	**06 13 47.8**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=90,slow=3.8,SNR=6.9						
ARCES	**ARCESS Array B**	**82.93**	**340**	P	**P**	**06 14 00.8**	**+0.5**
	2.2nm,0.8s,mb4.2,baz=100,slow=5.5,SNR=3.8						
NOA	**NORSAR Array B**	**87.49**	**331**	P	**P**	**06 14 23.8**	**+0.7**
	0.3nm,0.6s,mb3.7,baz=96,slow=5.0,SNR=2.8						
TXAR	**Lajitas Array**	**143.44**	**33**	PKP	PKPdf	06 21 10.4	+0.8
	0.2nm,0.5s,baz=8.7,slow=0.3,SNR=5.4						

*IDC **29** 06:05:36.0±1.7, 1.02N×96.97E, mb4.1/8, mb1 4.2/8, mb1mx3.9/19, mbtmp4.1/8, Error ellipse: s-maj=59.0km s-min=17.5km az=59.0*
*BJI **29** 06:05:39.8, 1.10N×97.10E, h30km, mb4.5*
*NEIC **29** 06:05:40.8±0.7, 1.12N×97.11E, h30km, mb4.5/6, Error ellipse: s-maj=18.3km s-min=9.6km az=60.0*
ISC 29 06:05:39.7±0.8, 1.13N±0.10×97.2E±0.1, h33km, n22, σ0s88/21, mb4.3/16, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.40**	**40**	*e*P	**P**	**06 06 59.1**	**-0.9**
KKM	**Kota Kinabalu**	**19.63**	**75**	*e*P	**P**	**06 10 07.5**	**-1.0**
KMI	**Kunming**	**24.46**	**12**	P	**P**	**06 10 59.3**	**+2.3**
KMI				AMB	AMB		
	comp=Z,26nm,1.4s,mb4.5						
KMI				AMB	AMB		
	comp=Z,1μm,13.7s						
ENH	**Enshi**	**31.26**	**21**	P	**P**	**06 11 54.7**	**-4.3**
	comp=Z,6.3nm,0.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.91**	**126**	*e*P	**P**	**06 12 22.0**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.91**	**126**	P	**P**	**06 12 21.7**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=185,slow=5.9,SNR=3.1						
GTA	**Gaotai**	**38.18**	**3**	*e*P	**P**	**06 12 58.3**	**+0.3**
GTA				AP	pP	06 13 05.5	-2.3
GTA				XP	sP	06 13 09.0	-3.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
JOW	**Kunigami**	**39.32**	**47**	P	**P**	**06 13 08.9**	**+1.4**
	comp=Z,19nm,1.0s,mb4.8,baz=126,slow=14,SNR=3.0						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**06 13 30.0**	**-0.1**
	comp=Z,1.7nm,0.6s,mb3.9,baz=300,slow=9.1,SNR=16						
WRAB	**Tennant Creek**	**42.03**	**122**	*e*P	**P**	**06 13 30.4**	**+0.2**
	comp=Z,3.9nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**42.04**	**122**	*e*P	**P**	**06 13 30.1**	**-0.1**
WMQ	**Urumqi**	**43.34**	**350**	P	**P**	**06 13 41.5**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**06 13 42.0**	**+0.9**
	comp=Z,1.3nm,0.8s,mb3.7,baz=303,slow=7.2,SNR=11						
SONM	**Songino Array**	**47.21**	**8**	P	**P**	**06 14 11.6**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=190,slow=8.2,SNR=6.7						
MKAR	**Makanchi Array**	**47.30**	**346**	P	**P**	**06 14 12.4**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=160,slow=8.1,SNR=14						
HIA	**Hailar**	**51.72**	**19**	P	**P**	**06 14 45.6**	**-0.3**
	comp=Z,3.1nm,0.5s,mb4.5						
KURK	**Kurchatov**	**51.85**	**345**	*e*P	**P**	**06 14 46.3**	**-0.6**
	comp=Z,4.1nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**06 14 58.1**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=207,slow=20,SNR=4.1						
STKA	**Stephens Creek**	**53.33**	**132**	*e*P	**P**	**06 14 58.2**	**-0.1**
BVAR	**Borovoye Array**	**56.31**	**341**	P	**P**	**06 15 18.5**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=7.5						
CHKZ	**Chkalovo**	**56.78**	**341**	*e*P	**P**	**06 15 21.6**	**-1.4**
	comp=Z,3.9nm,0.7s,mb4.5						
TXAR	**Lajitas Array**	**143.75**	**32**	PKP	PKPdf	06 25 11.4	-0.7
	comp=Z,0.1nm,0.4s,baz=270,slow=1.3,SNR=3.9						

*CSEM **29** 06:13:01.4±0.3, 39.58N×21.84E, h25km, ML2.9, Error ellipse: s-maj=10.3km s-min=7.7km az=77.0*
*ATH **29** 06:13:02.1, 39.59N×21.94E, h11km±4km, MD3.1/5*
*THE **29** 06:13:02.3, 39.60N×21.88E, h11km, ML2.9*
ISC 29 06:13:02.2±0.5, 39.60N±0.03×21.90E±0.06, h11km, n11, σ1s04/17, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEV	**Metsovon**	**0.55**	**290**	*e*Pg	**Pg**	**06 13 12.7**	**-0.7**
AGG	**Agios Georgios**	**0.66**	**150**	*e*Pg	**Pg**	**06 13 14.5**	**-1.0**
AGG				*e*Sg	**Sg**	**06 13 25.7**	**+1.2**
LIT	**Litokhoron**	**0.68**	**42**	*e*Pg	**Pg**	**06 13 14.6**	**-1.3**
LIT				*e*Sg	**Sg**	**06 13 26.4**	**+1.0**
EVR	**Evrytania**	**0.68**	**186**	*e*PB	**Pb**	**06 13 14.2**	**-1.4**
EVR				*e*SB	**Sb**	**06 13 25.0**	**+0.2**
EVR	**Evrytania**	**0.68**	**186**	*e*P	**Pb**	**06 13 14.2**	**-1.4**
EVR				*e*S	**Sb**	**06 13 25.5**	**+0.7**
KZN	**Kozani**	**0.72**	**352**	*e*PG	**Pg**	**06 13 15.6**	**-1.0**
KZN				*e*SB	**Sb**	**06 13 27.0**	**+1.2**
JAN	**Janina**	**0.82**	**275**	*e*PB	**Pb**	**06 13 18.0**	**+0.1**
NEO	**Neokhori**	**1.06**	**105**	*e*PB	**Pb**	**06 13 21.7**	**-0.4**
FNA	**Florina**	**1.25**	**341**	*e*Pb	**Pb**	**06 13 24.6**	**-0.8**
FNA				*e*Sb	**Sb**	**06 13 42.2**	**+0.8**
PLG	**Polygyros**	**1.42**	**56**	*e*PB	**Pb**	**06 13 28.0**	**-0.2**
VLS	**Valsamata**	**1.75**	**216**	*e*PN	**Pn**	**06 13 35.0**	**+2.3**

*IDC **29** 06:14:14.0±1.0, 1.04N×96.98E, mb4.2/12, mb1 4.3/12, mb1mx4.1/18, mbtmp4.2/12, Error ellipse: s-maj=54.8km s-min=14.5km az=50.0*
*BJI **29** 06:14:14.3, 0.52N×97.35E, h42km, mB5.4, mb4.8, Ms5.2, Msz5.1*
*NEIC **29** 06:14:19.0±0.5, 1.13N×97.22E, h30km, mb4.6/12, Error ellipse: s-maj=15.6km s-min=7.3km az=52.0*
ISC 29 06:14:17.7±0.6, 1.11N±0.08×97.18E±0.10, h33km, (h27km±1.8km:pP-P), n38, σ0s83/37, mb4.4/29, MS5.2/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.41**	**40**	*e*P	**P**	**06 15 37.1**	**-1.0**
KKM	**Kota Kinabalu**	**19.61**	**75**	P	**P**	**06 18 39.4**	**-6.9**
KMI	**Kunming**	**24.47**	**12**	P	**P**	**06 19 37.0**	**+1.9**
KMI				AMB	AMB		
	comp=Z,31nm,1.6s,mb4.5						
GYA	**Guiyang**	**26.81**	**19**	*i*P	**P**	**06 19 56.5**	**-0.5**
GYA				PP	PP	06 20 40.5	-1.8
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				LR	LR		
	comp=N,3μm,14.7s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,13.8s,MS5.0						
GYA				LR	LR		
	comp=Z,1μm,11.4s,MS4.7						
PKI	**Pulchoki**	**28.63**	**338**	*e*P	**P**	**06 20 14.4**	**+0.9**
GUN	**Gumba**	**28.77**	**339**	*e*P	**P**	**06 20 15.5**	**+0.8**
	comp=Z,28nm,0.7s,mb5.1						
DMN	**Daman**	**28.78**	**337**	*e*P	**P**	**06 20 16.4**	**+1.5**
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**06 20 15.6**	**-0.1**
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**06 20 19.9**	**+0.3**
	comp=Z,12nm,0.5s,mb4.8						
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**06 20 22.3**	**+0.8**
	comp=Z,17nm,0.7s,mb4.9						
ENH	**Enshi**	**31.27**	**21**	*e*P	**P**	**06 20 33.7**	**-3.3**
	comp=Z,12nm,0.6s,mb4.9						
ENH				*e*	pP	06 20 41.6	-5.0
FITZ	**Fitzroy Crossi**	**33.89**	**126**	P	**P**	**06 20 59.1**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.3,baz=339,slow=3.1,SNR=6.8						
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**06 21 36.0**	**-0.1**
GTA				AP	pP	06 21 44.8	-1.1
GTA				XP	sP	06 21 48.8	-1.3
GTA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
HHC	**Hu-ho-hao-te**	**41.65**	**16**	*e*P	**P**	**06 22 06.3**	**+1.5**
HHC				AP	pP	06 22 15.0	+0.4
HHC				XP	sP	06 22 19.3	+0.5
HHC				PP	PP	06 23 46.0	+1.9
HHC				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.5						
HHC				LR	LR		
	comp=N,6μm,18.4s,MS5.6						
HHC				LR	LR		
	comp=E,4μm,14.9s,MS5.6						
HHC				LR	LR		
	comp=Z,6μm,16.7s,MS5.6						
WRA	**Warramunga Arr**	**42.00**	**122**	P	**P**	**06 22 07.9**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.0,baz=300,slow=9.1,SNR=46						
WRAB	**Tennant Creek**	**42.01**	**122**	*e*P	**P**	**06 22 08.1**	**+0.2**
	comp=Z,6.3nm,0.7s,mb4.3						
WB2	**Warramunga Arr**	**42.01**	**122**	*e*P	**P**	**06 22 08.1**	**+0.2**
BJT	**Baijiatuan**	**42.41**	**22**	*e*P	**P**	**06 22 11.1**	**+0.2**
	comp=Z,11nm,0.5s,mb4.8						
BJI	**Beijing**	**42.43**	**22**	*e*P	**P**	**06 22 11.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**43.35**	**127**	P	**P**	**06 22 19.4**	**+0.5**
	comp=Z,1.5nm,0.6s,mb3.9,baz=302,slow=7.5,SNR=16						
AAK	**Ala-Archa**	**46.08**	**337**	*e*P	**P**	**06 22 39.8**	**-0.7**
	comp=Z,1.6nm,0.6s,mb4.1						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**06 22 49.6**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=191,slow=8.9,SNR=17						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**06 22 50.2**	**-0.1**
	comp=Z,2.8nm,0.6s,mb4.4,baz=160,slow=8.1,SNR=50						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**06 22 50.2**	**-0.1**
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**06 22 50.6**	**+0.2**
	comp=Z,4.1nm,0.8s,mb4.4						
CN2	**Changchun**	**49.40**	**27**	*e*P	**P**	**06 23 05.8**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.73**	**19**	*e*P	**P**	**06 23 23.5**	**-0.5**
	comp=Z,9.9nm,1.1s,mb4.7						
KURK	**Kurchatov**	**51.88**	**345**	*e*P	**P**	**06 23 24.6**	**-0.5**
	comp=Z,9.7nm,1.1s,mb4.7						
STKA	**Stephens Creek**	**53.30**	**132**	*e*P	**P**	**06 23 36.6**	**+0.6**
	comp=Z,2.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.30**	**132**	P	**P**	**06 23 37.0**	**+1.0**
	comp=Z,2.9nm,0.6s,mb4.4,baz=279,slow=7.7,SNR=9.0						
BVAR	**Borovoye Array**	**56.33**	**341**	P	**P**	**06 23 56.6**	**-1.2**
	comp=Z,3.3nm,0.8s,mb4.4,baz=173,slow=12,SNR=14						
CHKZ	**Chkalovo**	**56.81**	**341**	*e*P	**P**	**06 23 59.9**	**-1.3**
	comp=Z,9.8nm,0.8s,mb4.9						
BRTR	**Keskin Array B**	**69.16**	**312**	P	**P**	**06 25 22.3**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.8,baz=104,slow=5.1,SNR=4.0						
AKASG	**Malin Array Be**	**75.32**	**322**	P	**P**	**06 25 58.0**	**-1.4**
	comp=Z,0.3nm,0.3s,mb3.6,baz=100,slow=4.5,SNR=4.5						
FINES	**FINESS Array B**	**80.07**	**333**	P	**P**	**06 26 25.4**	**-0.2**
	comp=Z,1.3nm,0.8s,mb3.9,baz=117,slow=8.5,SNR=4.5						
ARCES	**ARCESS Array B**	**82.62**	**340**	P	**P**	**06 26 38.6**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=101,slow=6.2,SNR=6.2						
GERES	**GERESS Array B**	**84.87**	**319**	P	**P**	**06 26 50.9**	**+0.4**
	comp=Z,0.7nm,0.8s,mb3.8,baz=90,slow=4.0,SNR=6.7						
TXAR	**Lajitas Array**	**143.76**	**32**	PKP	PKPdf	06 33 50.3	+0.2
	comp=Z,0.2nm,0.6s,baz=270,slow=2.5,SNR=5.2						

IDC 29 06:15:45.0±2.1, 1.27N×97.18E, mb4.1/6, mb1 4.2/6, mb1mx3.8/18, mbtmp4.1/6, MS5.0/1, Ms1 5.0/1, ms1mx3.7/10, Error ellipse: s-maj=94.7km s-min=26.6km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	P	06 22 30.4	-2.4
	2.1nm,0.7s,baz=29,slow=10,SNR=4.2						
SONM	**Songino Array**	**47.07**	**8**	P	P	06 24 19.2	-1.2
	0.7nm,0.3s,baz=194,slow=8.8,SNR=7.3						
MKAR	**Makanchi Array**	**47.17**	**346**	P	P	06 24 18.6	-2.6
	2.3nm,0.6s,baz=152,slow=9.7,SNR=8.1						
BVAR	**Borovoye Array**	**56.18**	**341**	P	P	06 25 25.7	-3.3
	0.9nm,0.6s,baz=135,slow=8.2,SNR=3.0						
DZM	**Mont Dzumac**	**71.33**	**114**	LR	LR	07 04 25.7	
	comp=Z,938nm,18.0s,baz=14,slow=41						
FINES	**FINESS Array B**	**79.93**	**333**	P	P	06 27 56.2	-1.0
	0.8nm,0.6s,baz=90,slow=8.3,SNR=3.4						
ARCES	**ARCESS Array B**	**82.47**	**340**	P	P	06 28 10.0	-0.4
	4.2nm,0.9s,baz=97,slow=7.3,SNR=5.3						

*BJI **29** 06:16:08.6, 1.13N×98.84E, h30km, mB5.5, mb4.8, Ms5.6, Msz5.3*
*IDC **29** 06:16:10.7±0.4, 1.85N×99.33E, mb4.6/21, mb1 4.7/21, mb1mx4.7/22, mbtmp4.6/21, MS5.1/1, Ms1 5.1/1, ms1mx3.8/11, Error ellipse: s-maj=20.6km s-min=11.4km az=52.0*
*MOS **29** 06:16:14.2±1.3, 1.94N×99.32E, h33km, mb5.3/37, MS5.2/11, Error ellipse: s-maj=12.1km s-min=5.4km az=122.3*
*NEIC **29** 06:16:15.2±0.2, 1.78N×99.21E, h30km, mb5.0/44, Error ellipse: s-maj=8.6km s-min=5.5km az=50.0*
*HRVD **29** 06:16:15.2±0.5, 1.83N×99.10E, h20km±2km, MW5.5/52, Centroid moment Tensor Solution. LP body waves: s7,c7; Mantle waves: s52,c76; Half duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.15±.21; $M_{\theta\theta}$-1.83±.15; $M_{\phi\phi}$1.68±.13; $M_{r\theta}$-0.30±.24; $M_{\theta\phi}$0.87±.09; $M_{\phi r}$-0.06±.29; Best double couple: $M_0$1.981×10^{17} NP1:ϕ_s148°, δ82°, λ-178°. NP2:ϕ_s58°, δ88°, λ-8°. Principal axes: T 1.894, Plg4°, Azm103°; N .172, Plg82°, Azm224°

LSA pmax pmax
comp=Z,15nm,1.0s,mb4.7
LSA Lhasa 28.78 345 *e*P **P 06 22 10.7 -0.6**
comp=Z,15nm,1.0s,mb4.7
PKI Pulchoki 28.81 334 *e*P **P 06 22 09.8 -1.7**
GUN Gumba 28.90 335 *e*P **P 06 22 11.4 -1.0**
comp=Z,44nm,0.7s,mb5.3
KAD Karad 28.96 304 *i*P **P 06 22 11.9 -1.1**
KAD AMb AMB 06 22 20.7
comp=Z,20nm,0.8s,mb4.9
DMN Daman 28.97 334 *e*P **P 06 22 12.2 -0.8**
comp=Z,24nm,0.6s,mb5.1
KKN Kakani 29.05 334 *e*P **P 06 22 11.6 -2.1**
comp=Z,19nm,0.5s,mb5.1
KKN Kakani 29.05 334 *e*P **P 06 22 11.6 -2.1**
KKN pmax pmax
comp=Z,10.0nm,0.5s,mb4.8
GKN Gorkha 29.52 333 *e*P **P 06 22 16.4 -1.6**
comp=Z,31nm,0.8s,mb5.1
KOLN Koldanda 29.80 332 *e*P **P 06 22 18.8 -1.7**
comp=Z,36nm,0.7s,mb5.2
POO Poona 29.85 306 *e*P **P 06 22 18.3 -2.6**
POO AMb AMB 06 22 22.4
comp=Z,16nm,1.6s,mb4.5
POO *e* 06 27 10.9
ENH Enshi 29.99 18 *e*P **P 06 22 20.3 -1.8**
comp=Z,27nm,1.0s,mb4.9
FITZ Fitzroy Crossi 32.74 128 *e*P **P 06 22 42.5 -3.9**
comp=Z,9.3nm,0.9s,mb4.7
FITZ Fitzroy Crossi 32.74 128 P **P 06 22 43.2 -3.2**
comp=Z,11nm,1.0s,mb4.7,baz=346,slow=13,SNR=3.3
LGTI Lohaghat 32.85 329 *e*P **P 06 22 48.0 +0.8**
AYAN Aya Nagar 33.85 324 *e*P **P 06 22 54.9 -1.0**
AYAN *e* 06 22 57.5
comp=Z,24nm,0.8s
NDI New Delhi 33.94 324 *e*P **P 06 22 54.5 -2.2**
NDI *e*S **S 06 28 18.0 -0.7**
KUDL Kundal 33.98 323 *e*P **P 06 22 55.7 -1.3**
KUDL *e* 06 22 59.0
comp=Z,21nm,1.5s
KHET Khetri 34.35 322 *e* **P 06 23 03.7 +3.5**
comp=Z,26nm,1.5s,mb5.0
LZH Lanzhou 34.41 7 *e*P **P 06 23 00.5 -0.1**
LZH AP pP 06 23 07.5 -1.3
LZH XP sP 06 23 10.5 -1.7
LZH PP PP 06 24 17.5 +0.9
LZH *e*S **S 06 28 26.0 +0.1**
LZH AMB AMB
comp=Z,25nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,120nm,4.0s
LZH LR LR
comp=E,6µm,15.1s
LZH LR LR
comp=Z,7µm,17.4s,MS5.4
NJ2 Nanjing 35.39 30 *e*P **P 06 23 10.5 +1.5**
NJ2 AP pP 06 23 19.5 +2.3
NJ2 XP sP 06 23 23.0 +2.4
NJ2 PP PP 06 24 31.5 +2.6
NJ2 S **S 06 28 44.0 +2.9**
NJ2 XS 06 29 02.0
NJ2 AMB AMB
comp=Z,440nm,4.0s
NJ2 LR LR
comp=N,8µm,18.6s
NJ2 LR LR
comp=E,5µm,13.4s
NJ2 LR LR
comp=Z,5µm,15.6s,MS5.3
KLP Kalpa 35.55 328 *e*P **P 06 23 09.1 -1.4**
KLP *e* 06 23 30.7
comp=Z,29nm,0.6s
SSE Sheshan 35.85 33 P **P 06 23 09.8 -3.2**
SSE S **S 06 28 44.0 -4.3**
SSE SS SS 06 31 19.5 +9.3
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.2
SSE AMB AMB
comp=Z,183nm,3.9s
SSE LR LR
comp=N,3µm,21.7s,MS5.3
SSE LR LR
comp=E,5µm,21.7s,MS5.3
SSE LR LR
comp=Z,2µm,15.7s
SDNR Sundarnagar 36.21 327 *e*P **P 06 23 15.0 -1.0**
MUN Mundaring 37.28 156⇓ *i*P **P 06 23 28.5 +3.5**
comp=Z,20nm,0.6s,mb5.1
MUN Mundaring 37.28 156⇓ *i*P **P 06 23 28.5 +3.5**
MUN pmax pmax
comp=Z,20nm,0.6s,mb5.1
GTA Gaotai 37.45 1 *e*P **P 06 23 26.0 -0.4**
GTA AP pP 06 23 35.5 +1.0
GTA XP sP 06 23 38.0 0.0
GTA PP PP 06 24 54.3 -0.3
GTA PCP PcP 06 25 45.5 +0.5
GTA S **S 06 29 12.0 -0.7**
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,249nm,6.0s
GTA LR LR
comp=N,3µm,14.4s,MS5.3
GTA LR LR
comp=E,3µm,15.3s,MS5.3
GTA LR LR
comp=Z,3µm,15.6s,MS5.2
THN Thein Dam 37.61 327 *e*P **P 06 23 26.8 -0.9**
comp=Z,15nm,0.7s,mb4.8
KLBR Kellerberrin 37.62 153 *e*P **P 06 23 30.3 +2.5**
comp=Z,555nm,1.1s
NWAO Narrogin (SRO) 38.54 155 *e*P **P 06 23 35.3 -0.2**
NWAO pmax pmax
comp=Z,14nm,0.8s
NWAO Narrogin (SRO) 38.54 155 P **P 06 23 33.7 -1.9**
comp=Z,8.1nm,0.9s,mb4.4,baz=90,slow=4.0,SNR=3.2
NWAO Narrogin (SRO) 38.54 155 *e*P **P 06 23 35.3 -0.3**
comp=Z,14nm,0.8s,mb4.8
HHC Hu-ho-hao-te 40.48 15 *e*P **P 06 23 52.0 +0.4**
HHC AP pP 06 24 01.0 +1.2
HHC XP sP 06 24 05.0 +1.8
HHC PP PP 06 25 29.0 +0.8
HHC PCP PcP 06 25 56.5 +1.9
HHC S **S 06 29 57.8 -0.6**
HHC XS 06 30 15.3
HHC AMB AMB
comp=Z,14nm,0.4s,mb5.0
HHC LR LR
comp=N,6µm,18.4s,MS5.6
HHC LR LR
comp=E,4µm,14.9s,MS5.6
HHC LR LR
comp=Z,6µm,17.2s,MS5.5
WRA Warramunga Arr 40.74 124 P **P 06 23 51.4 -2.4**
comp=Z,31nm,0.9s,mb4.9,baz=301,slow=9.1,SNR=22
WRA PcP PcP 06 25 55.6 0.0
comp=Z,4.1nm,0.7s,baz=315,slow=2.6,SNR=7.4
WRA ScP 06 29 44.9
comp=Z,1.4nm,1.0s,baz=332,slow=3.3,SNR=5.3
WRAB Tennant Creek 40.74 124 P **P 06 23 52.1 -1.8**
comp=Z,207nm,0.8s,mb5.8,SNR=9.9
WRAB Tennant Creek 40.74 124 *i*P **P 06 23 51.8 -2.1**
WRAB Tennant Creek 40.74 124 *e*P **P 06 23 51.5 -2.4**
comp=Z,36nm,0.8s,mb5.1
WB2 Warramunga Arr 40.75 124 *e*P **P 06 23 51.3 -2.6**
BJI Beijing 41.11 20 P **P 06 23 57.5 +0.8**
BJI AP pP 06 24 05.8 +0.9
BJI XP sP 06 24 10.3 +2.0
BJI AMB AMB
comp=Z,8.0nm,0.7s,mb4.5
BJI LR LR
comp=N,3µm,14.1s,MS5.5
BJI LR LR
comp=E,5µm,16.2s,MS5.5
BJI LR LR
comp=Z,3µm,18.0s,MS5.3
ASPA Alice Springs 42.24 129 *e*P **P 06 24 05.0 -1.3**
ASAR Alice Springs 42.24 129 P **P 06 24 04.6 -1.7**
comp=Z,5.5nm,0.8s,mb4.3,baz=306,slow=8.1,SNR=13
ASAR PcP PcP 06 26 00.6 0.0
comp=Z,3.2nm,0.8s,baz=300,slow=1.9,SNR=5.9
ASAR ScP 06 29 50.4
comp=Z,0.7nm,0.9s,baz=297,slow=4.0,SNR=2.9
FORT Forrest 42.52 142 *e*P **P 06 24 07.3 -1.2**
comp=Z,1µm,0.6s
KSH Kashi 43.07 334 *e*P **P 06 24 12.5 -0.3**
KSH *e*AP pP 06 24 21.0 0.0
KSH *e*XP sP 06 24 25.8 +1.4
KSH *e*PP PP 06 25 55.0 -0.1
KSH *e*PCP PcP 06 26 03.3 +0.2
KSH *e*PPP PPP 06 26 27.5 -2.6
KSH *e*SCP 06 29 48.8
KSH *e*PCS 06 29 53.3
KSH *e*S **S 06 30 34.5 -2.1**
KSH *e*XS 06 30 52.0
KSH *e*SCS ScS 06 34 07.3 -1.8
KSH AMB AMB
comp=Z,800nm,10.8s
KSH LR LR
comp=N,2µm,14.4s,MS5.3
KSH LR LR
comp=E,2µm,14.8s,MS5.3
WMQ Urumqi 43.07 348⇑ *i*P **P 06 24 13.5 +0.7**
WMQ AP pP 06 24 23.0 +2.0
WMQ XP sP 06 24 27.0 +2.6
WMQ PP PP 06 25 56.0 +0.9
WMQ PPP PPP 06 26 31.0 +0.9
WMQ *e*S **S 06 30 37.0 +0.4**
WMQ XS 06 30 53.0
WMQ AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,120nm,4.9s
WMQ LR LR
comp=N,1µm,15.8s,MS5.0
WMQ LR LR
comp=E,1µm,18.2s,MS5.0
WMQ LR LR
comp=Z,770nm,22.6s,MS4.5
ULHL Ulahol 45.21 336 P **P 06 24 30.7 +0.6**
SNR=11
KZA Kyzart 45.48 335 P **P 06 24 33.5 +1.2**
SNR=11
TKM2 Tokmak 2 46.03 336 P **P 06 24 36.9 +0.4**
SNR=20
AML Almayashu 46.20 334 P **P 06 24 38.8 +0.9**
SNR=21
AAK Ala-Archa 46.26 335 P **P 06 24 38.1 -0.2**
comp=Z,148nm,1.2s,mb5.8,SNR=18
AAK Ala-Archa 46.26 335 *e*P **P 06 24 37.6 -0.7**
AAK pmax pmax
comp=Z,41nm,1.2s,mb5.2
AAK Ala-Archa 46.26 335 *e*P **P 06 24 37.6 -0.7**
comp=Z,41nm,1.2s,mb5.2
SONM Songino Array 46.30 7 P **P 06 24 39.1 +0.5**
comp=Z,2.9nm,0.6s,mb4.4,baz=193,slow=8.9,SNR=9.1
SONM PcP PcP 06 26 13.8 -0.3
comp=Z,5.7nm,0.9s,baz=194,slow=5.1,SNR=4.6
SONM ScP 06 30 06.9
comp=Z,1.1nm,1.0s,baz=207,slow=2.8,SNR=3.9
FRU Bishkek 46.37 335 *e*P **P 06 24 40.0 +0.8**
FRU pmax pmax
comp=Z,100nm,2.1s,mb5.4
ULN Ulaanbaatar 46.41 7 *e*P **P 06 24 38.4 -1.1**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ULN Ulaanbaatar 46.41 7 *e*P **P 06 24 38.4 -1.0**
comp=Z,2.4nm,0.6s,mb4.3
CHMS Chumysh 46.45 335 P **P 06 24 39.8 0.0**
SNR=9.6
EKS2 Erkin-Say 46.59 334 P **P 06 24 41.8 +0.8**
SNR=24
USP Ospenovka 46.77 335 P **P 06 24 42.7 +0.3**
SNR=24
MKAR Makanchi Array 47.17 344 *i*P **P 06 24 44.8 -0.7**
MKAR pmax pmax
comp=Z,17nm,0.8s
MKAR Makanchi Array 47.17 344 P **P 06 24 45.5 0.0**
comp=Z,7.8nm,0.6s,mb4.8,baz=162,slow=7.7,SNR=18
MKAR Makanchi Array 47.17 344 P **P 06 24 45.5 0.0**
CN2 Changchun 47.93 26 *e*P **P 06 24 52.5 +0.9**
CN2 *e*XP sP 06 25 06.0 +2.9
CN2 PCP PcP 06 26 22.0 +2.0
CN2 *e*S **S 06 31 49.8 +3.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,420nm,4.0s
CN2 LR LR
comp=N,4µm,16.0s,MS5.7
CN2 LR LR
comp=E,5µm,16.0s,MS5.7
CN2 LR LR
comp=Z,3µm,16.0s,MS5.3
ZAK Zakamensk 48.55 4 *e*P **P 06 24 56.0 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
PMG Port Moresby 49.12 104 *i*P **P 06 24 57.8 -3.3**
TLY Talaya 49.86 4 *e*P **P 06 25 06.2 -0.1**
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
TLY MLR MLR
comp=Z,3µm,16.0s,MS5.4
CTA Charters Tower 51.06 118 *e*P **P 06 25 15.9 +0.1**
comp=Z,16nm,0.9s,mb4.9
CTA Charters Tower 51.06 118 *e*P **P 06 25 15.9 +0.1**
CTA pmax pmax
comp=Z,16nm,0.9s
CTAO Charters Tower 51.06 118 *e*P **P 06 25 15.2 -0.6**
CTAO pmax pmax
comp=Z,85nm,1.5s,mb5.5
CTAO Charters Tower 51.06 118 *e*P **P 06 25 15.2 -0.6**
comp=Z,85nm,1.5s,mb5.5
KURK Kurchatov 51.75 344 *d i*P **P 06 25 19.6 -1.1**
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.9
KURK Kurchatov 51.75 344 P **P 06 25 20.0 -0.7**
KURK pmax pmax
comp=Z,17nm,1.0s,mb4.9
KURK Kurchatov 51.75 344 *e*P **P 06 25 19.5 -1.1**
comp=Z,28nm,0.9s,mb5.2
STKA Stephens Creek 52.34 133 *e*P **P 06 25 23.9 -1.5**
comp=Z,14nm,0.9s,mb4.9
STKA Stephens Creek 52.34 133 P **P 06 25 24.4 -1.0**
comp=Z,15nm,0.7s,mb5.0,baz=317,slow=7.2,SNR=18
NVS Novosibirsk 54.45 349 *e*P **P 06 25 38.4 -2.2**
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=Z,14nm,1.7s,mb4.6
NVS pmax pmax
comp=E,1.0nm,0.7s
KLR Kul'dur 54.89 26 *e*P **P 06 25 42.8 -1.1**
KLR MLR MLR
comp=Z,5µm,13.5s,MS5.8
RAYN Ar Rayn 56.19 297 P **P 06 25 53.2 -0.4**
comp=Z,58nm,0.8s,SNR=9.9
BVA0 Borovoye Array 56.35 340 *i*P **P 06 25 52.9 -1.5**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BVAR Borovoye Array 56.35 340 P **P 06 25 53.1 -1.3**
comp=Z,5.9nm,0.6s,mb4.8,baz=141,slow=9.5,SNR=16
ATD Arta Tunnel 56.63 283 P **P 06 25 57.6 +0.7**
comp=Z,11nm,1.1s,mb4.8,baz=117,slow=18,SNR=4.0
BOD Bodaibo 57.10 9 *e*P **P 06 25 58.3 -1.4**
BOD pmax pmax
comp=Z,12nm,1.6s,mb4.7
YSS Yuzh-Sakhalins 58.79 34 P **P 06 26 11.5 -0.2**
KMBO Kilima Mbogo 61.93 268 *e*P **P 06 26 34.0 +0.4**
KMBO pmax pmax
comp=Z,16nm,1.5s
KMBO Kilima Mbogo 61.93 268 P **P 06 26 34.9 +1.3**
comp=Z,4.0nm,0.8s,mb4.6,baz=47,slow=10,SNR=13
KMBO Kilima Mbogo 61.93 268 *e*P **P 06 26 34.0 +0.4**
comp=Z,16nm,1.5s,mb4.9
TAU Tasmania Unive 62.06 142 P **P 06 26 33.3 -0.8**
TI2 Plekhanov 62.85 317 *e*P **P 06 26 38.2 -1.1**
SVE Sverdlovsk 62.87 337⇓ *i*P **P 06 26 38.5 -0.7**
SVE *e* 06 27 19.0
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.5
SVE MLR MLR
comp=N,600nm,18.0s,MS4.9
SVE MLR MLR
comp=E,500nm,18.0s,MS4.9
SVE MLR MLR
comp=Z,2µm,18.0s,MS5.3
ARU Arti 63.41 336⇑ *i*P **P 06 26 41.2 -1.6**
ARU *e* 06 29 03.5
ARU *e*S **S 06 35 12.0 -0.1**
ARU *e*SS SS 06 39 18.7 -2.1
ARU pmax pmax
comp=Z,21nm,1.5s,mb5.0
ARU MLR MLR
comp=Z,2µm,20.0s,MS5.2
ARU MLR MLR
comp=N,1µm,21.0s,MS5.1
ARU MLR MLR
comp=E,800nm,19.0s,MS5.1
ARU Arti 63.41 336 *e*P **P 06 26 41.1 -1.7**
comp=E,27nm,1.0s,mb5.3
YAK Yakutsk 64.34 15 *i*P **P 06 26 45.6 -3.2**
KIV Kislovodsk 65.13 318 *i*P **P 06 26 50.9 -3.3**
KIV *e* 06 27 02.7
KIV *e* 06 27 28.1
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.9
KIV Kislovodsk 65.13 318 *e*P **P 06 26 52.6 -1.7**
comp=Z,48nm,1.1s,mb5.4
GOF Gofitskoye 65.35 320 *e*P **P 06 27 00.0 +4.4**
ASF Jabal al Asfar 65.70 305 P **P 06 26 58.6 +0.5**
comp=Z,2.6nm,0.6s,mb4.4,baz=355,slow=3.1,SNR=6.3
ELZG Elazig 65.81 312 *i*P **P 06 26 59.1 +0.5**
MALT Malatya 66.17 311 *e*P **P 06 27 00.4 -0.6**
MALT pmax pmax
comp=Z,11nm,0.8s,mb4.9
MALT Malatya 66.17 311 *e*P **P 06 27 00.4 -0.5**
comp=Z,11nm,0.8s,mb4.9
GZT Gaziantep 66.54 310 *i*P **P 06 27 03.9 +0.5**
SOC Sochi 66.98 317 *e*P **P 06 27 02.9 -3.2**
SOC *e* 06 27 32.7
SOC *e* 06 29 31.6
SOC *e*PPP PPP 06 31 06.2 -6.1
SOC *e*S S 06 35 54.9 -1.2
SOC *e* 06 37 00.5
SOC *e*SS SS 06 40 15.8 -0.9
SOC pmax pmax
comp=N,39nm,0.8s
SOC pmax pmax
comp=E,17nm,0.8s
SOC pmax pmax
comp=Z,50nm,0.8s,mb5.6
KAHT Ahir Dag 67.15 310 *i*P **P 06 27 07.7 +0.4**
COBT Iskenderun 67.32 309 *i*P **P 06 27 08.2 -0.1**
MBAR Mbarara 68.41 269 *i*P **P 06 27 16.1 +0.6**
MBAR Mbarara 68.41 269 *e*P **P 06 27 15.2 -0.4**
comp=Z,14nm,1.2s,mb4.9
MEST Erdemli 68.98 309 *i*P **P 06 27 18.3 -0.4**
DZM Mont Dzumac 69.77 114 LR LR 06 55 23.1
comp=Z,1µm,20.8s,MS5.2,baz=13,slow=34
MA2 Magadan 69.98 25 *de*P **P 06 27 24.6 +0.2**
MA2 *e* 06 27 50.9
MA2 *e* 06 29 59.9
MA2 *e*S S 06 36 31.6 +0.1
MA2 *e*SSS SSS 06 44 08.6 +1.3
MA2 pmax pmax
comp=Z,20nm,1.3s,mb4.9
MA2 MLR MLR
comp=Z,2µm,20.0s,MS5.3
MA2 Magadan 69.98 25 *e*P **P 06 27 24.4 +0.1**
comp=Z,38nm,1.3s,mb5.2
BRTR Keskin Array B 70.15 312 P **P 06 27 24.9 -0.8**
comp=Z,5.7nm,0.7s,mb4.6,baz=130,slow=7.5,SNR=22
VRSR Storozhevoye 70.18 325 *e*P **P 06 27 23.8 -1.9**
VRSR pmax pmax
comp=Z,20nm,1.2s,mb4.9
VRSR pmax pmax
comp=N,8.0nm,0.6s
VRSR pmax pmax
comp=E,20nm,1.0s
ELDT Eldivan 70.50 312 *i*P **P 06 27 27.5 -0.3**
PET Petropavlovsk 70.68 33 *e*P **P 06 27 28.7 0.0**
PET pmax pmax
comp=Z,31nm,1.2s,mb5.1
PET MLR MLR
comp=Z,700nm,17.0s,MS5.0
SIM Simferopol' 71.23 317 P **P 06 27 32.3 +0.1**
SIM pmax pmax
comp=Z,23nm,1.0s,mb5.1
TIXI Tiksi 72.29 9 *e*P **P 06 27 35.2 -2.9**
TIXI pmax pmax
comp=Z,57nm,1.1s,mb5.4
TIXI MLR MLR
comp=Z,1µm,14.0s,MS5.4
SEY Seymchan 72.48 23 *e*P **P 06 27 41.4 +2.1**
SEY *e* pP 06 27 51.9 +4.0
SEY pmax pmax
comp=E,20nm,1.2s
SEY pmax pmax
comp=Z,80nm,1.2s,mb5.5
MOS Moscow 72.82 329 *e*P **P 06 27 41.8 +0.3**
MOS *e* pP 06 27 50.1 +0.1
MOS MLR MLR
comp=Z,1µm,20.2s,MS5.2
OBN Obninsk 73.14 328⇑ *e*P **P 06 27 41.8 -1.5**
OBN *e* 06 30 24.8
OBN *e*S S 06 37 09.8 +1.9
OBN *e*SS SS 06 41 56.0 +4.2
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,600nm,20.0s,MS4.9
ULDT Uludag 73.61 311 *i*P **P 06 27 44.5 -1.9**
MAW Mawson 73.72 194 P **P 06 27 48.0 +1.5**
comp=Z,3.8nm,0.7s,mb4.4,baz=72,slow=8.8,SNR=4.2
BTOK Tokmak 74.37 311 *i*P **P 06 27 50.4 -0.3**
CFR Carcaliu 75.39 316⇑ P **P 06 27 50.7 -5.9**
LBTB Lobatse 75.87 244 P **P 06 28 00.9 +1.2**
comp=Z,7.7nm,0.9s,mb4.6,baz=114,slow=6.1,SNR=7.4
AKASG Malin Array Be 75.97 322 P **P 06 27 58.9 -0.8**
comp=Z,3.1nm,0.7s,mb4.4,baz=87,slow=4.8,SNR=17
BOSA Boshof 76.73 240 P **P 06 28 05.4 +0.9**
comp=Z,6.4nm,1.0s,mb4.5,baz=117,slow=7.0,SNR=5.0
MLR Muntele Rosu 76.97 316⇓ *i*P **P 06 28 06.1 +0.7**
BURAR Bucovina Array 77.86 318⇑ P **P 06 28 11.5 +1.2**
APA Apatity 79.26 339⇑ *e*P **P 06 28 31.2 +14**
APA MLR MLR
comp=Z,2µm,20.0s,MS5.5
KWP Kalwaria 79.85 320 *e*P **P 06 28 21.5 +0.4**
BILL Bilibino 79.94 21 *i*P **P 06 28 21.0 -0.2**
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
BILL MLR MLR
comp=Z,1µm,19.0s,MS5.3
BZS Buzias 79.99 316⇑ P **P 06 28 22.5 +0.6**
KOLS Kolonicke sedl 80.02 319 *e*P **P 06 28 23.8 +1.8**
KOLS *e* 06 28 34.8
SUW Suwalki 80.31 324 *e*P **P 06 28 23.7 +0.3**
FINES FINESS Array B 80.37 332 P **P 06 28 23.9 +0.3**
comp=Z,3.6nm,0.5s,mb4.5,baz=100,slow=5.5,SNR=18
KAF Kangasniemi 80.43 333 *e*p **P 06 28 23.7 -0.2**
comp=Z,6.3nm,0.6s,mb4.7,baz=99,slow=5.0
KAF Kangasniemi 80.43 333 *e*P **P 06 28 23.7 -0.2**
KAF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
NIE Niedzica 81.36 320 *e*P **P 06 28 28.5 -0.6**
PSZ Piszkesteto 81.45 318 *e*P **P 06 28 29.2 -0.4**
PSZ pmax pmax
comp=Z,16nm,1.1s,mb4.9
PSZ Piszkesteto 81.45 318 *e*P **P 06 28 29.2 -0.3**
comp=Z,16nm,1.1s,mb4.9
OJC Ojcow 81.80 320 *e*P **P 06 28 32.7 +1.4**
PKSM Moragy 82.12 316 *e*P **P 06 28 33.5 +0.4**
KEV Kevo 82.19 340 *e*p **P 06 28 30.1 -2.9**
comp=Z,16nm,1.1s,mb4.9
KEV Kevo 82.19 340 *e*P **P 06 28 30.1 -2.9**
KEV pmax pmax
comp=Z,16nm,1.1s,mb4.9
VYHS Vyhne 82.22 319 *e*P **P 06 28 34.7 +1.1**
TSUM Tsumeb 82.59 250 *e*P **P 06 28 36.4 +0.3**
comp=Z,15nm,1.3s,mb4.9
ARCES ARCESS Array B 82.64 340 P **P 06 28 35.6 +0.3**
comp=Z,4.0nm,0.6s,mb4.7,baz=101,slow=4.1,SNR=14
OKC Ostrava-Krasne 82.81 320 *e*P **P 06 28 37.9 +1.3**
MORC Moravsky Berou 83.20 320 P **P 06 28 34.4 -4.2**
MORC pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MORC Moravsky Berou 83.20 320 P **P 06 28 34.4 -4.2**
comp=Z,7.6nm,0.9s,mb4.7
ZST Bratislava 83.35 318 *e*P **P 06 28 41.1 +1.7**
KOGS Kog 83.79 316 *i*P **P 06 28 42.7 +1.0**
DPC Dobruska-Polom 84.03 320 *e*P **P 06 28 44.6 +1.8**
KSP Ksiaz 84.08 321 *e*P **P 06 28 44.1 +1.0**
KSP Ksiaz 84.08 321 *e*P **P 06 28 44.5 +1.4**
UPC Upice 84.24 320 *e*P **P 06 28 45.4 +1.5**

GROS	**Grobnik**	**84.31**	**316**	*e*P		**P**	**06 28 45.2**	**+0.9**
BOJS	**Bojanci**	**84.43**	**315**	*i* P		**P**	**06 28 46.0**	**+1.0**
LJU	**Ljubljana**	**84.96**	**316**	*e*P		**P**	**06 28 48.9**	**+1.3**
PRU	**Pruhonice**	**85.15**	**320**	*e*P		**P**	**06 28 51.9**	**+3.5**
PVCC	**Panska Ves**	**85.16**	**320**	*e*P		**P**	**06 28 50.1**	**+1.7**
BRG	**Berggiesshubel**	**85.57**	**321**	*e*P		**P**	**06 28 52.3**	**+1.8**
BRG					pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.9							
BRG	**Berggiesshubel**	**85.57**	**321**	*e*P		**P**	**06 28 52.3**	**+1.8**
	comp=Z,8.7nm,1.1s,mb4.9							
GEC2	**GERESS Array S**	**85.64**	**319**	*e*P		**P**	**06 28 50.9**	**0.0**
GEC2					pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1							
GEC2	**GERESS Array S**	**85.64**	**319**	*e*P		**P**	**06 28 50.9**	**0.0**
	comp=Z,17nm,1.3s,mb5.1							
GERES	**GERESS Array B**	**85.64**	**319**	P		**P**	**06 28 51.8**	**+0.9**
	comp=Z,1.7nm,0.7s,mb4.4,baz=101,slow=5.0,SNR=18							
KHC	**Kasperske Hory**	**85.73**	**319**	*e*P		**P**	**06 28 48.2**	**-3.2**
KHC				*e*		pP	06 28 57.5	-2.6
KHC	**Kasperske Hory**	**85.73**	**319**	*e*P		**P**	**06 28 48.2**	**-3.2**
KHC				pP		pP	06 28 57.5	-2.6
PTCC	**Patocco-Chiusa**	**85.79**	**316**	*e*P		**P**	**06 28 51.1**	**-0.6**
ARV	**Arcevia**	**86.00**	**313**	*e*P		**P**	**06 28 54.1**	**+1.2**
VNDA	**Vanda**	**86.02**	**169**	P		**P**	**06 28 53.6**	**+1.4**
	comp=Z,3.7nm,0.9s,mb4.6,baz=294,slow=4.9,SNR=13							
CLL	**Collm**	**86.18**	**321**	*e*P		**P**	**06 28 54.0**	**+0.5**
CLL	**Collm**	**86.18**	**321**	P		**P**	**06 28 54.0**	**+0.5**
WET	**Wettzell**	**86.19**	**319**	*e*P		**P**	**06 28 53.6**	**-0.1**
WET					pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.7							
WET	**Wettzell**	**86.19**	**319**	*e*P		**P**	**06 28 53.6**	**-0.1**
	comp=Z,6.0nm,1.1s,mb4.7							
RSM	**Repubblica di**	**86.37**	**314**	*e*P		**P**	**06 28 55.1**	**+0.5**
SFI	**Santa Sofia**	**86.80**	**314**	*e*P		**P**	**06 28 58.6**	**+1.8**
CTI	**Castel Tesino**	**86.97**	**316**	*e*P		**P**	**06 28 59.1**	**+1.6**
MOX	**Moxa**	**87.04**	**320**	*e*P		**P**	**06 28 57.0**	**-0.8**
SBA	**Scott Base**	**87.12**	**169**	*e*P		**P**	**06 28 59.1**	**+1.5**
SBA					pmax	pmax		
	comp=Z,19nm,1.1s,mb5.2							
SBA	**Scott Base**	**87.12**	**169**	*e*P		**P**	**06 28 59.1**	**+1.5**
	comp=Z,19nm,1.1s,mb5.2							
GRA1	**Grafenberg Arr**	**87.29**	**319**	*e*P		**P**	**06 28 59.4**	**+0.4**
	comp=Z,26nm,1.4s,mb5.3							
GRF	**Grafenberg Arr**	**87.29**	**319**	*e*P		**P**	**06 28 59.4**	**+0.4**
GRF					pmax	pmax		
	comp=Z,26nm,1.4s,mb5.3							
GRF	**Grafenberg Arr**	**87.29**	**319**	*e*P		**P**	**06 28 59.4**	**+0.4**
GRF					pmax	pmax		
	comp=Z,26nm,1.4s,mb5.3							
GRF	**Grafenberg Arr**	**87.29**	**319**	*e*P		**P**	**06 28 59.4**	**+0.4**
	comp=Z,26nm,1.4s,mb5.3							
NB2	**NORSAR Subarra**	**87.43**	**331**	P		**P**	**06 28 59.7**	**+0.3**
	comp=Z,12nm,1.1s,mb5.0,baz=91,slow=5.0							
NB2	**NORSAR Subarra**	**87.43**	**331**	P		**P**	**06 28 59.7**	**+0.3**
NB2					pmax	pmax		
	comp=Z,12nm,1.1s,mb5.0							
NOA	**NORSAR Array B**	**87.43**	**331**	P		**P**	**06 28 59.8**	**+0.5**
	comp=Z,4.5nm,0.8s,mb4.7,baz=93,slow=4.8,SNR=13							
CLZ	**Clausthal**	**87.83**	**322**	*e*P		**P**	**06 29 01.8**	**+0.3**
CLZ					pmax	pmax		
	comp=Z,36nm,1.4s,mb5.4							
CLZ	**Clausthal**	**87.83**	**322**	*e*P		**P**	**06 29 01.8**	**+0.3**
	comp=Z,36nm,1.4s,mb5.4							
TNS	**Taunus Mts**	**89.07**	**320**	*e*P		**P**	**06 29 07.8**	**+0.3**
BFO	**Black Forest**	**89.21**	**318**	*e*P		**P**	**06 29 07.7**	**-0.5**
BFO					pmax	pmax		
	comp=Z,17nm,1.6s,mb5.1							
BFO	**Black Forest**	**89.21**	**318**	*e*P		**P**	**06 29 07.7**	**-0.5**
	comp=Z,17nm,1.6s,mb5.1							
TNA	**Tin City**	**89.62**	**25**	*e*P		**P**	**06 29 09.7**	**0.0**
	comp=Z,3.7nm,1.0s,mb4.7							
LPG	**La Plagne**	**90.40**	**315**	*e*P		**P**	**06 29 15.2**	**+1.4**
	comp=Z,28nm,0.9s,mb5.3							
LPG	**La Plagne**	**90.40**	**315**	*e*P		**P**	**06 29 15.2**	**+1.4**
LPG					pmax	pmax		
	comp=Z,14nm,0.9s,mb5.3							
BNI	**Bardonecchia**	**90.48**	**315**	*e*P		**P**	**06 29 15.0**	**+0.8**
BNI					pmax	pmax		
	comp=Z,10.0nm,0.9s,mb5.2							
BNI	**Bardonecchia**	**90.48**	**315**	*e*P		**P**	**06 29 14.9**	**+0.8**
	comp=Z,9.6nm,0.9s,mb5.1							
IMA	**Indian Mountai**	**95.30**	**23**	*e*P		**P**	**06 29 36.6**	**+0.8**
IMA					pmax	pmax		
	comp=Z,26nm,0.8s,mb5.7							
IMA	**Indian Mountai**	**95.30**	**23**	*e*P		**P**	**06 29 36.6**	**+0.8**
	comp=Z,26nm,0.8s,mb5.7							
SCHQ	**Schefferville**	**122.39**	**350**	PKP		PKPdf	06 35 08.0	-3.1
	comp=Z,2.8nm,0.8s,baz=21,slow=3.0,SNR=4.7							
CHMT	**Chamberlain Mo**	**123.79**	**26**	PKP		PKPdf	06 35 10.5	-3.5
BOZ	**Bozeman (W)**	**125.49**	**26**	*e*PKP		PKPdf	06 35 09.1	-8.2
QLMT	**Earthquake Lak**	**126.21**	**27**	*e*PKP		PKPdf	06 35 14.5	-4.2
YMR	**Madison River**	**126.54**	**26**	*e*PKP		PKPdf	06 35 17.8	-1.5
ULM	**Lac du Bonnet**	**126.59**	**12**	PKP		PKPdf	06 35 15.8	-3.5
	comp=Z,4.3nm,0.8s,baz=354,slow=1.5,SNR=9.5							
PDAR	**Pinedale Array**	**128.67**	**27**	PKP		PKPdf	06 35 20.9	-2.7
	comp=Z,1.7nm,0.7s,baz=94,slow=1.3,SNR=11							
DUG	**Dugway**	**129.04**	**31**	*e*PKP		PKPdf	06 35 20.6	-3.7
MSU	**Marysvale**	**130.60**	**32**	*e*PKP		PKPdf	06 35 25.8	-1.6
PV10	**Paradox Valley**	**132.34**	**30**	*e*PKP		PKPdf	06 35 28.7	-1.9
KSU1	**Kansas State U**	**136.82**	**18**	PKP		PKPdf	06 35 34.6	-4.2
MNTX	**Cornudas Mount**	**139.38**	**33**	PKPdf		PKPdf	06 35 39.8	-4.0
GDL2	**Guadalupe Moun**	**139.53**	**31**	*e*PKPpre			06 35 34.6	
PLCA	**Paso Flores**	**140.12**	**192**	PKP		PKPdf	06 35 42.1	-2.7
	comp=Z,2.7nm,1.0s,baz=124,slow=3.6,SNR=2.8							
TXAR	**Lajitas Array**	**142.15**	**33**	PKP		PKPdf	06 35 43.0	-5.8
	comp=Z,0.6nm,0.6s,baz=279,slow=1.2,SNR=8.7							
NATX	**Nacogdoches**	**144.17**	**20**	*e*PKP		PKPdf	06 35 46.2	-6.0
BAO	**Brasilia Array**	**144.78**	**245**	P		PKPbc	06 35 48.0	-0.8
BDFB	**Brasilia**	**144.80**	**245**	PKPbc		PKPbc	06 35 50.9	+2.1
	comp=Z,21nm,0.8s,baz=128,slow=2.6,SNR=35							
LRAL	**Lakeview Retre**	**144.89**	**9**	*e*PKPdf		PKPdf	06 35 49.1	-4.3
LPAZ	**La Paz**	**160.89**	**220**	PKP		PKPdf	06 36 15.3	-1.3
	comp=Z,2.0nm,1.0s,baz=70,slow=4.0,SNR=5.6							
LPAZ	**La Paz**	**160.89**	**220**	PKP		PKPdf	06 36 15.3	-1.3
OTAV	**Otavalo**	**176.85**	**310**	*e*PKPdf		PKPdf	06 36 23.6	-3.4

CASC 29 06:22:02.9±2.4, 12.19N×87.18W, h56km±26km, MD3.8, ML3.7, 3C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.36**	**52**↓	*e*P	P	06 22 13.2	-0.1
TEL3	**Telica 3**	**0.50**	**41**↓	*e*P	P	06 22 15.0	+0.3
CRIN	**San Cristobal**	**0.52**	**141**	*e*P	P	06 22 15.7	+0.9
MIRN	**Miramar**	**0.52**	**62**↑	*i*P	P	06 22 15.0	+0.1
MIRN				*e*S	S	06 22 24.6	+0.9
TELN	**Telica**	**0.54**	**40**↓	*e*P	P	06 22 15.4	+0.4
TELN				*e*S	S	06 22 25.5	+1.6
CNGN	**Cerro Negro**	**0.56**	**57**↓	*e*P	P	06 22 15.2	-0.1
MOMJ	**Momotombo**	**0.67**	**71**↓	*e*P	P	06 22 15.9	-0.6
MGAN	**Managua**	**0.92**	**93**↓	*e*P	P	06 22 18.9	-1.0
MGAN				*e*S	S	06 22 31.6	-0.9
	comp=N,958nm,0.4s						
TICN	**Ticuantepe**	**0.94**	**99**↓	*e*P	P	06 22 19.3	-1.0
WILN	**Americas 2**	**0.97**	**92**↓	*e*P	P	06 22 19.7	-1.0
WILN				*e*S	S	06 22 33.4	-0.4
	comp=N,4μm,0.3s						
APON	**Apoyo**	**1.12**	**104**↑	*e*P	P	06 22 21.1	-1.7
PYTN	**Playitas**	**1.15**	**72**↓	*e*P	P	06 22 22.4	-0.7
PYTN				*e*S	S	06 22 38.2	+0.1
CNCH	**Conchagua**	**1.25**	**330**	*e*P	P	06 22 25.4	+0.8
CNCH				*e*S	S	06 22 42.1	+1.5
BLLM	**Bellamira**	**1.61**	**321**	*e*P	P	06 22 30.1	+0.5
VSM	**San Miguel**	**1.63**	**319**	*e*P	P	06 22 30.5	+0.7
VSM				*e*S	S	06 22 51.2	+1.5
CAHU	**Cacacuatique**	**1.86**	**328**	*e*P	P	06 22 33.9	+0.8
CAHU				*e*S	S	06 22 58.2	+2.8
LCBS	**La Ceiba**	**2.28**	**310**	*e*P	P	06 22 38.6	-0.3
LCBS				*e*S	S	06 23 04.1	-1.7
LFRS	**El Faro**	**2.32**	**308**	*e*P	P	06 22 39.2	-0.4
LFRS				*e*S	S	06 23 05.5	-1.4
LFU	**La Fuente**	**2.44**	**310**	*e*P	P	06 22 41.2	0.0
BOQS	**Boqueron**	**2.56**	**307**	*e*P	P	06 22 42.9	-0.1
BOQS				*e*S	S	06 23 11.5	-1.4
SBLS	**San Blas**	**2.89**	**305**	*e*P	P	06 22 47.8	+0.1
SBLS				*e*S	S	06 23 19.4	-1.9
RTR	**El Retiro**	**2.94**	**306**	*e*P	P	06 22 48.4	+0.1
RTR				*e*S	S	06 23 22.0	-0.6
CGA2	**Cerro Gallo 2**	**3.43**	**129**	*e*P	P	06 22 55.0	-0.3
PRS1	**Puriscal**	**3.57**	**128**	*e*P	P	06 22 58.5	+1.3
LAJ	**Bijagual**	**3.79**	**127**	*e*P	P	06 22 56.6	-3.7
LCR2	**La Lucha 2**	**3.96**	**128**	*e*P	P	06 23 03.3	+0.6
LCR2				*e*S	S	06 23 51.5	+3.2

IDC **29** *06:24:50.5±0.5, 1.09N×97.42E, mb4.7/21, mb1 4.7/21, mb1mx4.7/23, mbtmp4.7/21, Error ellipse: s-maj=19.0km s-min=11.9km az=51.0*
MOS **29** *06:24:51.5±1.4, 0.73N×97.44E, h33km, mb5.0/22, Error ellipse: s-maj=20.2km s-min=8.8km az=100.9*
BJI **29** *06:24:51.2, 0.67N×97.53E, h35km, mB5.5, mb5.0, Ms5.0, Msz4.9*
NEIC **29** *06:24:54.6±0.3, 1.01N×97.45E, mb4.8/31, Error ellipse: s-maj=9.0km s-min=5.6km az=58.0*
ISC 29 06:24:52.7±0.3, 1.01N±0.05×97.42E±0.05, h26km, h26km±1.5km: pP-P, n110, σ1§10/108, mb4.8/58, MS4.9/3, 2C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.06**	**45**	P	**Pn**	**06 26 10.3**	**+1.3**
KULM	**Kulim**	**5.34**	**37**	*e*P	**Pn**	**06 26 13.6**	**+0.7**
KGM	**Kluang**	**5.99**	**80**	P	**Pn**	**06 26 24.2**	**+2.2**
CM31	**Chiang Mai Arr**	**17.41**	**5**	*e*P	**P**	**06 28 56.2**	**+0.6**
	39nm,0.6s						
KKM	**Kota Kinabalu**	**19.41**	**75**	*e*P	**P**	**06 29 19.4**	**-0.7**
KKM	**Kota Kinabalu**	**19.41**	**75**	P	**P**	**06 29 22.5**	**+2.5**
QIZ	**Qiongzhong**	**21.66**	**33**	P	**P**	**06 29 43.0**	**-0.5**
KMI	**Kunming**	**24.52**	**12**	P	**P**	**06 30 13.5**	**+1.9**
KMI				AMB	AMB		
	comp=Z,36nm,1.4s,mb4.7						
HYB	**Hyderabad**	**24.70**	**312**	*e*P		06 30 23.0	
HYB	**Hyderabad**	**24.70**	**312**	*i* P		06 30 23.0	
GYA	**Guiyang**	**26.82**	**19**↓	*i*P	**P**	**06 30 33.0**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
JIRN	**Jiri**	**28.60**	**339**	*e*P	**P**	**06 30 49.8**	**+0.6**
PKI	**Pulchoki**	**28.81**	**337**	*e*P	**P**	**06 30 51.7**	**+0.6**
	comp=Z,54nm,1.3s,mb5.1						
PKI	**Pulchoki**	**28.81**	**337**	*e*P	**P**	**06 30 51.7**	**+0.6**
PKI				pmax	pmax		
	comp=Z,27nm,1.3s,mb4.8						
GUN	**Gumba**	**28.95**	**339**	*e*P	**P**	**06 30 52.0**	**-0.2**
	comp=Z,52nm,0.8s,mb5.3						
DMN	**Daman**	**28.97**	**337**	*e*P	**P**	**06 30 53.9**	**+1.5**
	comp=Z,26nm,0.7s,mb5.1						
KKN	**Kakani**	**29.06**	**337**	*e*P	**P**	**06 30 53.6**	**+0.3**
	comp=Z,51nm,1.0s,mb5.2						
KKN	**Kakani**	**29.06**	**337**	*e*P	**P**	**06 30 53.6**	**+0.3**
KKN				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9						
LSA	**Lhasa**	**29.15**	**349**	P	**P**	**06 30 56.0**	**+1.9**
LSA	**Lhasa**	**29.15**	**349**	*e*P	**P**	**06 30 55.0**	**+0.9**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**29.15**	**349**	*e*P	**P**	**06 30 55.0**	**+0.9**
	comp=Z,8.4nm,0.6s,mb4.7						
GKN	**Gorkha**	**29.50**	**337**	*e*P	**P**	**06 30 57.4**	**+0.1**
	comp=Z,40nm,0.9s,mb5.2						
KOLN	**Koldanda**	**29.72**	**335**	*e*P	**P**	**06 30 59.9**	**+0.6**
	comp=Z,34nm,0.8s,mb5.2						
MBWA	**Marble Bar**	**31.01**	**137**	P	**P**	**06 31 08.8**	**-1.8**
	comp=Z,6.9nm,1.1s,mb4.4						
ENH	**Enshi**	**31.28**	**20**	*e*P	**P**	**06 31 11.4**	**-1.6**
	comp=Z,47nm,0.8s,mb5.4						
FITZ	**Fitzroy Crossi**	**33.64**	**126**	*e*P	**P**	**06 31 32.6**	**-1.1**
	comp=Z,4.7nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.64**	**126**	P	**P**	**06 31 32.7**	**-0.9**
	comp=Z,5.5nm,0.7s,mb4.6,baz=342,slow=5.8,SNR=16						
XAN	**Xi'an**	**34.58**	**17**	P	**P**	**06 31 40.3**	**-1.4**
XAN				AP	pP	06 31 46.5	-3.0
XAN				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.2						
LZH	**Lanzhou**	**35.41**	**9**	*e*P	**P**	**06 31 48.5**	**-0.2**
LZH				AP	pP	06 31 56.3	-0.2
LZH				XP	sP	06 32 01.0	+1.1
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,115nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,13.3s						
LZH				LR	LR		
	comp=Z,2μm,15.0s,MS4.9						
GTA	**Gaotai**	**38.28**	**3**	*e*P	**P**	**06 32 13.0**	**+0.1**
GTA				AP	pP	06 32 22.5	+1.8
GTA				XP	sP	06 32 25.8	+1.7
GTA				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
NWAO	**Narrogin (SRO)**	**38.59**	**153**	P	**P**	**06 32 16.6**	**+1.2**
	comp=Z,5.4nm,0.9s,mb4.3,baz=14,slow=8.3,SNR=2.9						
JOW	**Kunigami**	**39.22**	**46**	P	**P**	**06 32 20.8**	**0.0**
	comp=Z,35nm,0.8s,mb5.1,baz=250,slow=8.3,SNR=8.4						
HHC	**Hu-ho-hao-te**	**41.68**	**16**	*e*P	**P**	**06 32 41.0**	**+0.1**
HHC				XP	sP	06 32 51.3	-0.9
HHC				PP	PP	06 34 21.0	+0.6
HHC				S	**S**	**06 38 54.5**	**-1.3**
HHC				SS	SS	06 41 58.0	+1.5
HHC				LR	LR		
	comp=N,1μm,19.0s						
HHC				LR	LR		
	comp=Z,2μm,20.2s,MS5.0						
WRA	**Warramunga Ar**	**41.75**	**122**	P	**P**	**06 32 42.0**	**+0.2**
	comp=Z,3.8nm,0.6s,mb4.2,baz=301,slow=9.0,SNR=36						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**06 32 40.7**	**-1.1**
WRAB				*e*	pP	06 32 49.8	+0.1
WRAB				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**06 32 40.7**	**-1.1**
	comp=Z,13nm,0.8s,mb4.6						
WRAB				*e*	pP	06 32 49.8	+0.1
WB2	**Warramunga Arr**	**41.76**	**122**↓	*i*P	**P**	**06 32 41.9**	**+0.1**
BJT	**Baijiatuau**	**42.42**	**21**	*e*P	**P**	**06 32 48.0**	**+1.0**
BJT				pmax	pmax		
	comp=Z,58nm,0.7s						
BJT	**Baijiatuau**	**42.42**	**21**	*e*P	**P**	**06 32 48.0**	**+1.0**
	comp=Z,58nm,0.7s,mb5.3						
BJI	**Beijing**	**42.44**	**21**	*e*P	**P**	**06 32 48.3**	**+1.1**
BJI				AMB	AMB		
	comp=Z,62nm,0.7s,mb5.3						
ASPA	**Alice Springs**	**43.10**	**127**	*e*P	**P**	**06 32 53.3**	**+0.5**
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**06 32 53.4**	**+0.6**
	comp=Z,3.2nm,0.8s,mb4.1,baz=301,slow=7.7,SNR=20						
WMQ	**Urumqi**	**43.50**	**350**	P	**P**	**06 32 57.3**	**+1.5**
WMQ				AP	pP	06 33 05.0	+1.3
WMQ				XP	sP	06 33 09.0	+2.0
WMQ				PP	PP	06 34 40.5	+1.6
WMQ				PCS		06 38 36.5	
WMQ				*e*S	**S**	**06 39 24.0**	**+1.6**
WMQ				XS		06 39 37.0	
WMQ				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,294nm,8.0s						
WMQ				LR	LR		
	comp=N,796nm,15.9s,MS4.9						
WMQ				LR	LR		
	comp=E,887nm,17.5s,MS4.9						
WMQ				LR	LR		
	comp=Z,606nm,21.0s,MS4.5						
DL2	**Dalian**	**43.75**	**28**	P	**P**	**06 32 59.0**	**+1.2**
DL2				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.2						
AAK	**Ala-Archa**	**46.26**	**337**	*e*P	**P**	**06 33 17.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AAK	**Ala-Archa**	**46.26**	**337**	*e*P	**P**	**06 33 17.7**	**-0.1**
	comp=Z,5.2nm,0.9s,mb4.5						
SNY	**Shenyang**	**46.98**	**27**	↓P	**P**	**06 33 22.3**	**-1.2**
SNY				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**06 33 26.0**	**+0.1**
	comp=Z,6.5nm,0.5s,mb4.8,baz=190,slow=9.6,SNR=52						
SONM				PcP	PcP	06 34 57.0	-0.1
	comp=Z,4.9nm,0.8s,baz=176,slow=3.4,SNR=7.6						
ULN	**Ulaanbaatar**	**47.42**	**9**	*e*P	**P**	**06 33 27.0**	**+0.1**
ULN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.7						
ULN	**Ulaanbaatar**	**47.42**	**9**	*e*P	**P**	**06 33 27.0**	**+0.1**
	comp=Z,5.8nm,0.6s,mb4.7						
MKAR	**Makanchi Array**	**47.48**	**346**	*i* P	**P**	**06 33 27.5**	**0.0**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MKAR	**Makanchi Array**	**47.48**	**346**	P	**P**	**06 33 27.8**	**+0.3**
	comp=Z,21nm,0.7s,mb5.2,baz=158,slow=7.7,SNR=130						
CN2	**Changchun**	**49.38**	**27**	*e*P	**P**	**06 33 41.8**	**-0.4**
CN2				*e*XP	sP	06 33 52.3	-1.1
CN2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**49.45**	**5**	*e*P	**P**	**06 33 42.4**	**-0.2**
ZAK				*e*		06 35 04.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
TLY	**Talaya**	**50.77**	**5**	*e*P	**P**	**06 33 52.7**	**0.0**
TLY				*e*	pP	06 34 00.4	-0.3
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
TLY	**Talaya**	**50.77**	**5**	*e*P	**P**	**06 33 52.7**	**+0.1**
	comp=Z,7.2nm,0.8s,mb4.7						
TLY				*e*	pP	06 34 00.3	-0.4
HIA	**Hailar**	**51.75**	**18**	*e*P	**P**	**06 33 59.8**	**-0.4**
HIA				pmax	pmax		
	comp=Z,17nm,0.8s						
HIA	**Hailar**	**51.75**	**18**	*e*P	**P**	**06 33 59.8**	**-0.4**
	comp=Z,17nm,0.8s,mb5.0						
KURK	**Kurchatov**	**52.03**	**345**↑	*i*P	**P**	**06 34 01.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.2						
KURK	**Kurchatov**	**52.03**	**345**↑	*i*P	**P**	**06 34 01.9**	**-0.4**
	comp=Z,30nm,1.0s,mb5.2						
STKA	**Stephens Creek**	**53.07**	**132**	*e*P	**P**	**06 34 11.1**	**+0.8**
	comp=Z,7.4nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**53.07**	**132**	P	**P**	**06 34 10.7**	**+0.4**
	comp=Z,9.2nm,0.9s,mb4.7,baz=298,slow=5.6,SNR=9.2						
NVS	**Novosibirsk**	**54.90**	**350**	*i* P	**P**	**06 34 21.5**	**-1.9**
NVS				pmax	pmax		
	comp=N,10.0nm,0.8s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.8s						
NVS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
KLR	**Kul'dur**	**56.33**	**26**	*e*P	**P**	**06 34 31.0**	**-2.8**
BVA0	**Borovoye Array**	**56.50**	**341**	*i* P	**P**	**06 34 33.6**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.50**	**341**	P	**P**	**06 34 33.7**	**-1.2**
	comp=Z,12nm,0.7s,mb5.2,baz=139,slow=8.8,SNR=48						
BOD	**Bodaibo**	**58.16**	**10**	*e*P	**P**	**06 34 45.3**	**-1.3**
KMBO	**Kilima Mbogo**	**60.20**	**268**	*e*P	**P**	**06 35 02.5**	**+1.2**
KMBO				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KMBO	**Kilima Mbogo**	**60.20**	**268**	P	**P**	**06 35 00.9**	**-0.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=67,slow=16,SNR=4.3						
KMBO	**Kilima Mbogo**	**60.20**	**268**	*e*P	**P**	**06 35 02.5**	**+1.2**
	comp=Z,2.8nm,0.9s,mb4.3						
SVE	**Sverdlovsk**	**62.95**	**338**	*e*P	**P**	**06 35 19.0**	**-0.2**
HNR	**Honiara**	**63.12**	**101**	P	**P**	**06 35 19.0**	**-1.9**
	comp=Z,38nm,0.4s,baz=9.5,slow=6.1,SNR=3.0						
ARU	**Arti**	**63.45**	**337**	*e*P	**P**	**06 35 20.7**	**-1.8**
ARU	**Arti**	**63.45**	**337**	*e*P	**P**	**06 35 20.2**	**-2.3**
	comp=Z,6.2nm,0.8s,mb4.8						
YAK	**Yakutsk**	**65.55**	**16**	*e*P	**P**	**06 35 33.7**	**-2.3**
YAK				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
YAK	**Yakutsk**	**65.55**	**16**	P	**P**	**06 35 33.1**	**-2.9**
	comp=Z,21nm,0.5s,mb5.4						
MBAR	**Mbarara**	**66.69**	**269**	P	**P**	**06 35 39.4**	**-4.8**
MBAR				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.3						
MBAR	**Mbarara**	**66.69**	**269**	P	**P**	**06 35 39.4**	**-4.8**
	comp=Z,4.5nm,1.4s,mb4.3						
BRTR	**Keskin Array B**	**69.40**	**312**	P	**P**	**06 35 59.4**	**-1.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=129,slow=7.9,SNR=4.7						
MA2	**Magadan**	**71.41**	**26**	*e*P	**P**	**06 36 12.4**	**-0.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MA2				pmax	pmax		
	comp=E,2.0nm

3.6nm,0.7s,mb4.2
ASAR Alice Springs 44.47 127 P **P 06 36 08.0 -0.1**
0.5nm,0.6s,mb3.4,baz=296,slow=8.0,SNR=4.0
MKAR Makanchi Array 46.28 347 P **P 06 36 21.9 -0.3**
2.3nm,0.5s,mb4.4,baz=155,slow=8.6,SNR=15
SONM Songino Array 46.45 9 P **P 06 36 23.4 -0.1**
0.6nm,0.4s,mb3.9,baz=186,slow=8.9,SNR=5.5
ULN Ulaanbaatar 46.58 10 P **P 06 36 26.4 +1.8**
1.5nm,0.6s,mb4.1
BVAR Borovoye Array 55.25 341 P **P 06 37 29.1 -1.1**
1.9nm,0.6s,mb4.3,baz=135,slow=8.4,SNR=4.5

IDC 29 06:29:11.2±4.3, 1.35N×97.28E, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=172.0km s-min=24.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	P	06 35 56.3	-2.3
	1.0nm,0.5s,baz=0.7,slow=15,SNR=2.6						
WRA	**Warramunga Arr**	**42.04**	**122**	P	P	06 37 05.0	-1.5
	0.6nm,0.6s,baz=300,slow=9.1,SNR=2.8						
SONM	**Songino Array**	**46.98**	**8**	P	P	06 37 44.1	-1.7
	1.2nm,0.8s,baz=196,slow=7.8,SNR=3.9						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	06 37 44.9	-2.0
	0.7nm,0.5s,baz=159,slow=8.3,SNR=5.2						

*BJI **29** 06:33:30.6, 20.10S×174.20W, h10km, mB5.3, mb4.4, Ms5.6, Msz5.1*
*IDC **29** 06:33:31.3±0.7, 20.16S×174.08W, mb4.4/11, mb1 4.6/13, mb1mx4.4/19, mbtmp4.4/13, ML3.9/2, Error ellipse: s-maj=28.0km s-min=17.9km az=140.0*
*NEIC **29** 06:33:32.7±0.4, 20.10S×174.20W, h10km, mb4.9/12, Error ellipse: s-maj=14.6km s-min=8.3km az=136.0*
ISC 29 06:33:31.3±0.4, 20.25S±0.09×174.22W±0.09, h10km, n45, σ0§80/41, mb4.5/20, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**6.73**	**21**	Pn	**Pn**	**06 35 06.5**	**-6.1**
	4.5nm,0.3s,baz=61,slow=11,SNR=6.0						
AFI				Sn	**Sn**	**06 36 15.9**	**-14**
	3.3nm,0.3s,baz=241,slow=15,SNR=3.2						
AFI	**Afiamalu**	**6.73**	**21**	*eP*	**Pn**	**06 35 06.4**	**-6.3**
AFI				*eS*	**Sn**	**06 36 18.5**	**-12**
RAR	**Rarotonga**	**13.55**	**97**	P	**P**	**06 36 28.1**	**-18**
DZM	**Mont Dzumac**	**18.13**	**261**	P	**P**	**06 37 46.2**	**+1.2**
	0.1nm,0.3s,baz=12,slow=19,SNR=2.3						
URZ	**Urewera**	**19.45**	**201**	P	**P**	**06 38 00.0**	**-0.9**
	2.0nm,0.3s,baz=6.9,slow=3.2,SNR=11						
RPZ	**Rata Peaks**	**26.44**	**204**	P	**P**	**06 39 11.4**	**+1.3**
	10nm,0.7s,mb4.5,baz=351,slow=19,SNR=3.8						
CTAO	**Charters Tower**	**37.04**	**263**	*eP*	**P**	**06 40 41.2**	**-2.2**
	27nm,1.4s,mb4.9						
PMG	**Port Moresby**	**38.77**	**280**	P	**P**	**06 40 58.0**	**0.0**
	10nm,0.5s,mb4.8,baz=257,slow=4.3,SNR=4.1						
PMG	**Port Moresby**	**38.77**	**280**	*eP*	**P**	**06 40 57.6**	**-0.4**
	54nm,1.1s,mb5.2						
STKA	**Stephens Creek**	**41.09**	**244**	*eP*	**P**	**06 41 18.1**	**+1.1**
	3.9nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**41.09**	**244**	P	**P**	**06 41 18.1**	**+1.1**
	5.2nm,0.9s,mb4.2,baz=102,slow=7.4,SNR=8.0						
STKA	**Stephens Creek**	**41.09**	**244**	*eP*	**P**	**06 41 15.0**	**-2.0**
STKA				*eP*	pP	06 41 18.1	-1.9
ASAR	**Alice Springs**	**48.02**	**256**	P	**P**	**06 42 13.8**	**+0.9**
	6.3nm,0.8s,mb4.7,baz=89,slow=8.4,SNR=51						
ASAR				PcP	PcP	06 43 42.1	+0.9
	3.0nm,0.8s,baz=106,slow=3.6,SNR=8.3						
ASPA	**Alice Springs**	**48.03**	**256**	*eP*	**P**	**06 42 13.5**	**+0.6**
WB2	**Warramunga Arr**	**48.13**	**261**	*eP*	**P**	**06 42 12.7**	**-1.1**
WRAB	**Tennant Creek**	**48.14**	**261**	*eP*	**P**	**06 42 13.4**	**-0.4**
	10nm,0.9s,mb4.8						
WRA	**Warramunga Arr**	**48.15**	**261**	P	**P**	**06 42 14.1**	**+0.2**
	3.6nm,0.7s,mb4.5,baz=97,slow=6.9,SNR=27						
WRA				PcP	PcP	06 43 42.0	+0.3
	2.3nm,0.8s,baz=97,slow=3.2,SNR=5.1						
FORT	**Forrest**	**52.64**	**246**	*eP*	**P**	**06 42 47.6**	**-0.4**
	344nm,0.8s						
FITZ	**Fitzroy Crossi**	**56.57**	**261**	*eP*	**P**	**06 43 17.6**	**+0.8**
	4.9nm,1.5s,mb4.3						
FITZ	**Fitzroy Crossi**	**56.57**	**261**	P	**P**	**06 43 16.8**	**0.0**
	7.1nm,1.1s,mb4.6,baz=42,slow=2.7,SNR=3.3						
SBA	**Scott Base**	**58.38**	**185**	P	**P**	**06 43 29.3**	**+0.5**
	8.4nm,0.9s,mb4.8						
VNDA	**Vanda**	**58.49**	**186**	P	**P**	**06 43 29.4**	**-0.2**
	2.4nm,1.0s,mb4.2,baz=8.4,slow=7.6,SNR=8.1						
MBWA	**Marble Bar**	**61.36**	**256**	*eP*	**P**	**06 43 48.7**	**-1.3**
	5.7nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**61.37**	**244**	*eP*	**P**	**06 43 50.5**	**+0.6**
	79nm,0.9s						
NWAO	**Narrogin (SRO)**	**61.64**	**243**	P	**P**	**06 43 52.6**	**+0.8**
	4.8nm,0.8s,mb4.7,baz=124,slow=11,SNR=2.9						
CASY	**Casey**	**65.70**	**205**	P	**P**	**06 44 17.4**	**-0.5**
	18nm,1.1s,mb5.0						
QSPA	**South Pole Qui**	**69.82**	**180**	*eP*	**P**	**06 44 43.4**	**-0.1**
	10.0nm,1.1s,mb4.7						
MSU	**Marysvale**	**82.42**	**44**	*eP*	**P**	**06 45 56.2**	**+1.0**
HLID	**Hailey**	**83.86**	**39**	*eP*	**P**	**06 46 02.2**	**-0.3**
	4.9nm,1.1s,mb4.5						
TXAR	**Lajitas Array**	**83.96**	**56**	P	**P**	**06 46 02.6**	**-0.8**
	1.4nm,1.0s,mb4.1,baz=213,slow=5.4,SNR=6.1						
CN2	**Changchun**	**84.31**	**321**	*eP*	**P**	**06 46 04.5**	**-0.3**
GDL2	**Guadalupe Moun**	**84.74**	**53**	*eP*	**P**	**06 46 07.1**	**-0.2**
AHID	**Auburn Hatcher**	**85.42**	**41**	*eP*	**P**	**06 46 10.9**	**+0.5**
	6.5nm,0.9s,mb4.8						
TNA	**Tin City**	**85.68**	**3**	*eP*	**P**	**06 46 12.1**	**+0.9**
	3.6nm,0.9s,mb4.6						
PDAR	**Pinedale Array**	**86.38**	**42**	P	**P**	**06 46 14.4**	**-0.7**
	1.0nm,0.9s,mb4.0,baz=225,slow=4.2,SNR=5.9						
DAWY	**Dawson**	**88.29**	**15**	*eP*	**P**	**06 46 24.5**	**+0.6**
ENH	**Enshi**	**88.86**	**303**	P	**P**	**06 46 27.0**	**-0.4**
YKA	**Yellowknife Ar**	**94.83**	**24**	P	**P**	**06 46 54.2**	**0.0**
	0.2nm,0.7s,mb3.7,baz=239,slow=4.2,SNR=5.0						
YKA	**Yellowknife Ar**	**94.83**	**24**	P	**P**	**06 46 54.2**	**0.0**
AKASG	**Malin Array Be**	**144.43**	**334**	PKP	PKPdf	06 53 07.8	-2.9
	1.9nm,0.4s,baz=39,slow=4.4,SNR=12						
CLL	**Collm**	**148.49**	**351**	*e*PKP2	PKPab	06 53 23.0	-0.6
BRTR	**Keskin Array B**	**149.24**	**315**	PKPbc	PKPdf	06 53 22.6	+3.6
	1.6nm,0.9s,baz=135,slow=7.0,SNR=4.0						
ASF	**Jabal al Asfar**	**149.78**	**299**	PKPbc	PKPdf	06 53 24.3	+4.1
	1.3nm,0.3s,baz=153,slow=6.8,SNR=2.5						
KHC	**Kasperske Hory**	**150.52**	**350**	*e*PKPAB	PKPab	06 53 35.0	+3.0
GERES	**GERESS Array B**	**150.77**	**349**	PKPbc	PKPdf	06 53 25.3	+4.1
	1.1nm,0.8s,baz=45,slow=1.9,SNR=6.2						

IDC 29 06:37:31.3±7.2, 1.16N×98.23E, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=370.1km s-min=29.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.14**	**123**	P	P	06 45 17.9	-1.3
	0.3nm,0.4s,baz=303,slow=8.8,SNR=4.3						
ASAR	**Alice Springs**	**42.55**	**128**	P	P	06 45 28.7	-2.1
	0.2nm,0.4s,baz=298,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**47.54**	**345**	P	P	06 46 08.4	-2.0
	0.4nm,0.5s,baz=157,slow=8.9,SNR=5.0						

IDC 29 06:41:52.6±2.5, 1.70N×96.91E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=103.9km s-min=26.9km az=54.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.55**	**122**	P	P	06 49 50.2	-1.9
	0.2nm,0.5s,baz=302,slow=9.2,SNR=3.1						
SONM	**Songino Array**	**46.69**	**9**	P	P	06 50 23.4	-1.5
	0.5nm,0.5s,baz=198,slow=9.1,SNR=2.8						
MKAR	**Makanchi Array**	**46.69**	**346**	P	P	06 50 23.6	-1.4
	0.9nm,0.8s,baz=157,slow=7.7,SNR=8.7						
BVAR	**Borovoye Array**	**55.69**	**341**	P	P	06 51 29.1	-3.9
	0.3nm,0.5s,baz=288,slow=4.6,SNR=2.4						
ARCES	**ARCESS Array B**	**81.97**	**340**	P	P	06 54 14.9	-0.5
	2.1nm,0.8s,baz=76,slow=3.7,SNR=2.5						

IDC 29 06:41:59.1±2.4, 1.43N×96.82E, mb3.9/6, mb1 4.1/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=144.3km s-min=28.5km az=50.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.48**	**122**	P	P	06 49 56.4	-1.7
	0.4nm,0.6s,baz=302,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**46.92**	**346**	P	P	06 50 32.2	-1.1
	1.1nm,0.7s,baz=160,slow=8.1,SNR=10						
BVAR	**Borovoye Array**	**55.91**	**341**	P	P	06 51 38.1	-3.0
	1.3nm,0.6s,baz=129,slow=6.3,SNR=7.7						
FINES	**FINESS Array B**	**79.62**	**333**	P	P	06 54 07.9	-1.7
	0.6nm,0.7s,baz=117,slow=3.1,SNR=2.9						
ARCES	**ARCESS Array B**	**82.19**	**340**	P	P	06 54 22.2	-0.8
	2.5nm,0.8s,baz=90,slow=4.5,SNR=5.3						
NOA	**NORSAR Array B**	**86.62**	**331**	P	P	06 54 44.0	-1.5
	0.2nm,0.5s,baz=94,slow=4.7,SNR=3.4						

IDC 29 06:47:25.6±4.0, 1.35N×97.29E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=159.2km s-min=22.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.94**	**126**	P	P	06 54 10.0	-2.9
	2.4nm,0.8s,baz=346,slow=4.3,SNR=2.6						
WRA	**Warramunga Arr**	**42.03**	**122**	P	P	06 55 19.3	-1.5
	0.6nm,0.7s,baz=300,slow=9.2,SNR=6.9						
ASAR	**Alice Springs**	**43.41**	**127**	P	P	06 55 30.9	-1.1
	0.5nm,0.9s,baz=303,slow=7.2,SNR=4.8						
SONM	**Songino Array**	**46.97**	**8**	P	P	06 55 58.6	-1.5
	1.0nm,0.8s,baz=191,slow=7.7,SNR=6.3						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	06 55 59.1	-2.2
	0.6nm,0.6s,baz=161,slow=8.2,SNR=7.7						

*IDC **29** 06:51:15.3±1.9, 0.02S×97.52E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=91.6km s-min=17.4km az=53.0*
*NEIC **29** 06:51:20.5±0.7, 0.13N×97.80E, h30km, mb4.2/3, Error ellipse: s-maj=22.1km s-min=10.0km az=62.0*
ISC 29 06:51:19.2±1.0, 0.2N±0.1×97.8E±0.2, h33km, n12, σ0§67/11, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.82**	**29**	*eP*	**P**	**06 52 44.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**32.84**	**125**	P	**P**	**06 57 51.8**	**-0.5**
	3.6nm,0.9s,mb4.3,baz=31,slow=5.9,SNR=2.9						
WRA	**Warramunga Arr**	**40.98**	**121**	P	**P**	**06 59 01.0**	**+0.1**
	1.3nm,0.6s,mb3.7,baz=301,slow=9.0,SNR=17						
WRAB	**Tennant Creek**	**40.98**	**121**	*eP*	**P**	**06 59 00.0**	**-0.8**
	2.9nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**42.29**	**127**	P	**P**	**06 59 12.8**	**+1.0**
	1.4nm,0.6s,mb3.7,baz=296,slow=7.7,SNR=16						
BJT	**Baijiatuan**	**43.05**	**21**	P	**P**	**06 59 18.6**	**+0.9**
	6.2nm,0.5s,mb4.6						
SONM	**Songino Array**	**48.06**	**8**	P	**P**	**06 59 58.2**	**+0.8**
	1.3nm,0.6s,mb4.2,baz=190,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**48.38**	**346**	P	**P**	**07 00 00.4**	**+0.4**
	2.5nm,0.5s,mb4.5,baz=155,slow=8.1,SNR=28						
KURK	**Kurchatov**	**52.94**	**345**	*eP*	**P**	**07 00 34.1**	**-0.4**
	2.2nm,0.9s,mb4.1						
BVAR	**Borovoye Array**	**57.42**	**341**	P	**P**	**07 01 06.1**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=143,slow=7.2,SNR=5.0						
FINES	**FINESS Array B**	**81.19**	**332**	P	**P**	**07 03 32.8**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=50,slow=11,SNR=2.7						
TXAR	**Lajitas Array**	**144.21**	**33**	PKP	PKPdf	07 10 53.6	+1.2
	0.2nm,0.6s,baz=270,slow=1.8,SNR=3.6						

IDC 29 06:54:30.8±4.3, 1.31N×98.67E, mb3.5/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=161.1km s-min=28.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.85**	**123**	P	P	07 02 14.6	-1.6
	1.4nm,0.7s,baz=300,slow=9.3,SNR=10						
SONM	**Songino Array**	**46.83**	**7**	P	P	07 03 02.7	-1.5
	0.2nm,0.5s,baz=187,slow=12,SNR=2.5						
MKAR	**Makanchi Array**	**47.51**	**345**	P	P	07 03 07.4	-2.3
	0.3nm,0.5s,baz=143,slow=7.6,SNR=4.0						

*ATH **29** 06:55:08.5, 36.17N×28.23E, h49km±2km, MD3.3/8*
*ISK **29** 06:55:08.8, 36.14N×28.19E, h47km, MD3.1*
*NEIC **29** 06:55:08.4, 36.15N×28.22E, h49km, MD3.1(ATH), After ATH.*
*CSEM **29** 06:55:08.7±0.2, 36.17N×28.23E, h42km±3km, MD3.1, Error ellipse: s-maj=6.1km s-min=3.6km az=172.0*
ISC 29 06:55:09.4±0.6, 36.14N±0.04×28.19E±0.04, h48km±7km, n20, σ0§63/30, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.09**	**325**	*eP*	**P**	**06 55 16.9**	**+1.0**
ARG				*eS*	**S**	**06 55 22.4**	**+0.2**
DALT	**Dalyan (Mudla)**	**0.72**	**30**	PG	**P**	**06 55 24.1**	**+0.7**
DALT				SG	**S**	**06 55 33.8**	**+0.1**
FETY	**Fethiye**	**0.87**	**55**	PG	**P**	**06 55 25.2**	**-0.3**
NISR	**Nisiros**	**0.98**	**299**	*eP*	**P**	**06 55 27.0**	**+0.1**
KARP	**Karpathos**	**1.02**	**235**	*i*P	**P**	**06 55 27.2**	**-0.4**
BDRM	**Kayabasi**	**1.10**	**327**	*i* P	**P**	**06 55 28.8**	**+0.2**
BDRM				*i* S	**S**	**06 55 42.0**	**-1.0**
KSL	**Kastellorizon**	**1.13**	**89**	*eP*	**P**	**06 55 28.4**	**-0.6**
KSL				*eS*	**S**	**06 55 43.1**	**-0.5**
AKAS	**Kas**	**1.15**	**85**	*i* P	**P**	**06 55 30.0**	**+0.7**
AKAS				*i* S	**S**	**06 55 43.5**	**-0.6**
BODT	**Bodrum**	**1.16**	**323**	PN	**P**	**06 55 29.2**	**-0.3**
BODT				SN	**S**	**06 55 44.5**	**0.0**
ELL	**Elmali**	**1.51**	**66**	*e*PN	**P**	**06 55 33.9**	**-0.7**
AYDN	**Tasoluk**	**1.54**	**351**	*i* P	**P**	**06 55 35.2**	**+0.3**
AYDN				*i* S	**S**	**06 55 53.1**	**-0.8**
DNZL	**Cakiroluk**	**1.69**	**24**	*i* P	**P**	**06 55 39.2**	**+2.1**
DNZL				*i* S	**S**	**06 56 04.5**	**+6.8**
DENT	**Denizli**	**1.75**	**22**	*e*PN	**P**	**06 55 38.0**	**+0.1**
SMG	**Samos**	**1.91**	**326**	*e*P	**P**	**06 55 39.7**	**-0.4**
NPS	**Neapolis**	**2.27**	**248**	*e*P	**P**	**06 55 45.9**	**+0.6**
NPS				*e*S	**S**	**06 56 11.8**	**-0.4**
APE	**Apeiranthos**	**2.33**	**294**	*e*PN	**P**	**06 55 46.1**	**-0.1**
APE	**Apeiranthos**	**2.33**	**294**	*e*P	**P**	**06 55 46.2**	**0.0**
MANT	**Manisa**	**2.37**	**7**	*i* P	**P**	**06 55 46.7**	**+0.1**
MANT				*i* S	**S**	**06 56 15.5**	**+0.9**
XRY	**Khrisi**	**2.40**	**239**	*e*P	**P**	**06 55 48.0**	**+0.9**
BLCB	**Balcova**	**2.42**	**338**	*e*PN	**P**	**06 55 46.8**	**-0.7**

IDC 29 06:55:43.5±4.3, 0.69N×97.47E, mb3.7/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, Error ellipse: s-maj=171.6km s-min=24.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.41**	**125**	P	P	07 02 23.7	-2.6
	1.1nm,0.5s,baz=343,slow=10,SNR=4.1						
WRA	**Warramunga Arr**	**41.53**	**122**	P	P	07 03 33.3	-1.5
	0.3nm,0.5s,baz=303,slow=8.9,SNR=6.0						
SONM	**Songino Array**	**47.59**	**8**	P	P	07 04 22.4	-0.7
	0.1nm,0.4s,baz=179,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**47.80**	**346**	P	P	07 04 21.9	-2.8
	0.5nm,0.5s,baz=156,slow=9.1,SNR=8.4						

*IDC **29** 06:56:49.7±1.6, 1.05N×97.14E, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, Error ellipse: s-maj=80.5km s-min=17.3km az=55.0*
*NEIC **29** 06:56:53.7±0.8, 1.04N×97.18E, h30km, mb4.3/6, Error ellipse: s-maj=23.9km s-min=11.6km az=64.0*
ISC 29 06:56:52.5±0.8, 1.08N±0.10×97.2E±0.1, h33km, n16, σ1§16/15, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.41**	**39**	*eP*	**P**	**06 58 12.8**	**-0.2**
CM31	**Chiang Mai Arr**	**17.36**	**6**	P	**P**	**07 00 56.1**	**+2.2**
	7.5nm,0.9s						
ENH	**Enshi**	**31.29**	**21**	*eP*	**P**	**07 03 10.6**	**-1.4**
	10nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**07 03 34.2**	**0.0**
	3.0nm,0.8s,mb4.3,baz=222,slow=1.7,SNR=3.5						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**07 04 43.0**	**+0.6**
	1.7nm,0.7s,mb3.8,baz=299,slow=9.1,SNR=7.5						
WRAB	**Tennant Creek**	**41.97**	**122**	P	**P**	**07 04 39.8**	**-2.6**
	5.5nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**07 04 54.4**	**+1.0**
	0.8nm,0.8s,mb3.5,baz=299,slow=7.3,SNR=6.6						
AAK	**Ala-Archa**	**46.12**	**337**	*eP*	**P**	**07 05 13.2**	**-2.4**
	2.2nm,0.8s,mb4.1						
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**07 05 25.0**	**+0.6**
	1.5nm,0.8s,mb4.0,baz=190,slow=9.2,SNR=8.9						
SONM				PcP	PcP	07 06 55.9	+0.2
	0.7nm,0.8s,baz=198,slow=3.9,SNR=4.2						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**07 05 25.8**	**+0.5**
	1.6nm,0.8s,mb4.0,baz=162,slow=7.7,SNR=10						
HIA	**Hailar**	**51.75**	**19**	*eP*	**P**	**07 05 58.7**	**-0.2**
	4.5nm,0.6s,mb4.6						
KURK	**Kurchatov**	**51.91**	**345**	*eP*	**P**	**07 05 59.8**	**-0.4**
	4.3nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**07 06 10.7**	**+0.2**
	1.9nm,0.9s,mb4.0,baz=315,slow=5.5,SNR=4.3						
BVAR	**Borovoye Array**	**56.37**	**341**	P	**P**	**07 06 32.1**	**-0.7**
	1.2nm,0.7s,mb4.0,baz=135,slow=8.4,SNR=5.5						
GERES	**GERESS Array B**	**84.91**	**319**	P	**P**	**07 09 26.9**	**+1.4**
	0.2nm,0.2s,mb3.8,baz=117,slow=6.6,SNR=3.4						
LRAL	**Lakeview Retre**	**145.84**	**6**	PKP	PKPdf	07 16 30.5	+2.0

*NEIC **29** 06:57:14.4, 37.32S×177.13E, h153km, MG4.2(WEL), After WEL.*
WEL 29 06:57:14.3±0.2, 37.31S×177.09E, h152km±1km, ML4.3/13, 3C, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.23**	**160**	P	P	06 57 35.3	-0.1
WIZ	**White Island**	**0.23**	**160**	PN	P	06 57 35.2	-0.1
MYRZ	**Mayor Island**	**0.68**	**272**	PN	P	06 57 36.6	-0.7
MARZ	**Manawake**	**0.75**	**206**	PN	P	06 57 37.7	-0.2
TGRZ	**Tauranga**	**0.78**	**237**	P	P	06 57 37.7	-0.2
TGRZ				S	S	06 57 55.8	-0.3
TGRZ	**Tauranga**	**0.78**	**237**	PN	P	06 57 37.7	-0.2
TGRZ				SN	S	06 57 55.7	-0.3
EDRZ	**Edgecumbe**	**0.84**	**199**	P	P	06 57 38.7	+0.4
EDRZ	**Edgecumbe**	**0.84**	**199**	PN	P	06 57 38.7	+0.4
URZ	**Urewera**	**0.94**	**179**	P	P	06 57 38.9	-0.1
URZ	**Urewera**	**0.94**	**179**	PN	P	06 57 38.9	-0.1
URZ				SN	S	06 57 57.5	-0.6
MXZ	**Matakaoa Point**	**1.00**	**105**	⇑P	P	06 57 39.4	0.0
MXZ				S	S	06 57 57.8	-1.0
MXZ	**Matakaoa Point**	**1.00**	**105**	⇑PN	P	06 57 39.4	0.0
MXZ				SN	S	06 57 58.4	-0.4
TAZ	**Tarawera**	**1.03**	**207**	P	P	06 57 40.4	+0.7
TAZ	**Tarawera**	**1.03**	**207**	PN	P	06 57 40.4	+0.7
MWZ	**Matawai**	**1.08**	**161**	P	P	06 57 39.8	-0.4
MWZ	**Matawai**	**1.08**	**161**	PN	P	06 57 39.9	-0.4
PUZ	**Puketiti**	**1.20**	**130**	P	P	06 57 40.7	-0.6
PUZ	**Puketiti**	**1.20**	**130**	PN	P	06 57 41.1	-0.2
KUZ	**Kuaotunu**	**1.23**	**297**	P	P	06 57 41.2	-0.5
KUZ	**Kuaotunu**	**1.23**	**297**	PN	P	06 57 41.2	-0.5
PATZ	**Paeroa**	**1.25**	**211**	*eP*	P	06 57 41.9	0.0
PATZ	**Paeroa**	**1.25**	**211**	PN	P	06 57 42.5	+0.6
KNZ	**Kokohu**	**1.77**	**165**	*eP*	P	06 57 46.6	-0.6
KNZ	**Kokohu**	**1.77**	**165**	PN	P	06 57 46.6	-0.7
BKZ	**Black Stump Fm**	**1.91**	**194**	P	P	06 57 47.9	-1.0
BKZ				S	S	06 58 14.2	-1.3
BKZ	**Black Stump Fm**	**1.91**	**194**	PN	P	06 57 47.9	-1.0
BKZ				SN	S	06 58 14.2	-1.3
MGZ	**Maungaku**	**2.08**	**215**	P	P	06 57 51.7	+0.8
MGZ	**Maungaku**	**2.08**	**215**	PN	P	06 57 51.7	+0.8
HIZ	**Hauiti**	**2.14**	**235**	P	P	06 57 52.7	+1.1
HIZ	**Hauiti**	**2.14**	**235**	PN	P	06 57 52.7	+1.1
WTVZ	**West Tongariro**	**2.15**	**213**	P	P	06 57 52.2	+0.4
WTVZ	**West Tongariro**	**2.15**	**213**	PN	P	06 57 52.2	+0.4
OTVZ	**Oturere**	**2.16**	**211**	⇑PN	P	06 57 52.3	+0.4
TWVZ	**Taurewa**	**2.19**	**216**	P	P	06 57 52.6	+0.4
TWVZ	**Taurewa**	**2.19**	**216**	PN	P	06 57 52.6	+0.5
NGZ	**Ngauruhoe**	**2.20**	**212**	P	P	06 57 52.6	+0.3
NGZ	**Ngauruhoe**	**2.20**	**212**	PN	P	06 57 52.7	+0.3
CNZ	**Chateau**	**2.24**	**212**	P	P	06 57 53.1	+0.2
CNZ	**Chateau**	**2.24**	**212**	PN	P	06 57 53.1	+0.2
TUVZ	**Tukino**	**2.26**	**210**	P	P	06 57 52.9	-0.2
TUVZ				P		06 57 53.1	
TUVZ	**Tukino**	**2.26**	**210**	PN	P	06 57 53.1	0.

1.1nm,0.7s,baz=191,slow=8.1,SNR=8.8
BVAR Borovoye Array 54.59 342 P P 07 11 13.1 -2.7
1.0nm,0.6s,baz=149,slow=8.6,SNR=4.9

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*IDC **29** 07:01:47.8±6.6, 6.23S×152.66E, h54km±56km, mb3.8/8, mb1 4.0/9, mb1mx3.9/13, mbtmp4.1/9, ML3.0/1, Error ellipse: s-maj=46.7km s-min=27.4km az=106.0*
ISC 29 07:01:46.2±4.7, **6.2S**±0.2×**152.6E**±0.2, **h54**km±39km, **n11**, σ0§**85**/12, **mb3.8**/8, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.26**	**239**	P		**P**	**P**	**07 03 18.0**	**-0.1**
	2.3nm,0.3s,baz=47,slow=12,SNR=6.2								
PMG				S			**S**	**07 04 29.7**	**+0.5**
	2.1nm,0.3s,baz=100,slow=21,SNR=4.6								
KAKA	**Kakadu**	**20.91**	**251**	*e*P		**P**	**P**	**07 06 25.2**	**-1.4**
	11nm,0.6s								
WRA	**Warramunga Arr**	**22.38**	**231**	P		**P**	**P**	**07 06 42.1**	**+0.9**
	1.8nm,0.9s,mb3.5,baz=55,slow=10.0,SNR=8.9								
ASAR	**Alice Springs**	**24.99**	**224**	P		**P**	**P**	**07 07 08.1**	**+1.5**
	1.4nm,0.5s,mb3.7,baz=60,slow=9.1,SNR=20								
STKA	**Stephens Creek**	**27.51**	**201**	P		**P**	**P**	**07 07 28.7**	**-1.2**
	1.4nm,0.6s,mb3.8,baz=34,slow=14,SNR=4.8								
FITZ	**Fitzroy Crossi**	**28.84**	**243**	*e*P		**P**	**P**	**07 07 40.9**	**-1.0**
	8.3nm,0.5s,mb4.7								
FITZ	**Fitzroy Crossi**	**28.84**	**243**	P		**P**	**P**	**07 07 41.0**	**-0.9**
	12nm,0.6s,mb4.8,baz=53,slow=5.2,SNR=27								
SONM	**Songino Array**	**67.44**	**328**	P		**P**	**P**	**07 12 37.9**	**-0.4**
	0.2nm,0.5s,mb3.5,baz=130,slow=4.4,SNR=4.5								
MKAR	**Makanchi Array**	**81.28**	**319**	P		**P**	**P**	**07 13 58.7**	**+0.4**
	0.9nm,0.9s,mb3.7,baz=100,slow=7.4,SNR=6.6								
INK	**Inuvik**	**89.85**	**21**	P		**P**	**P**	**07 14 40.2**	**+0.2**
	0.7nm,0.9s,mb4.0,baz=252,slow=4.2,SNR=4.9								
YKA	**Yellowknife Ar**	**96.77**	**28**	P		**P**	**P**	**07 15 12.5**	**+0.6**
	0.1nm,0.4s,mb3.6,baz=274,slow=4.7,SNR=4.0								

IDC 29 07:07:44.2±3.0, **1.02N**×**97.49E**, **mb3.8**/5, **mb1 4.0**/5, **mb1mx3.7**/18, **mbtmp3.8**/5, **Error ellipse: s-maj=128.7km s-min=21.4km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.59**	**126**	P		P	P	07 14 26.2	-2.4
	1.4nm,0.6s,baz=3.8,slow=16,SNR=1.9								
WRA	**Warramunga Arr**	**41.69**	**122**	P		P	P	07 15 35.2	-1.5
	0.4nm,0.5s,baz=302,slow=9.0,SNR=6.5								
SONM	**Songino Array**	**47.27**	**8**	P		P	P	07 16 19.6	-1.6
	0.6nm,0.4s,baz=190,slow=11,SNR=5.6								
MKAR	**Makanchi Array**	**47.49**	**346**	P		P	P	07 16 21.2	-1.7
	1.5nm,0.5s,baz=162,slow=8.6,SNR=32								
BVAR	**Borovoye Array**	**56.51**	**341**	P		P	P	07 17 27.7	-2.9
	0.7nm,0.5s,baz=135,slow=6.1,SNR=4.5								

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*IDC **29** 07:09:30.4±1.6, 0.78N×96.82E, mb4.0/9, mb1 4.1/9, mb1mx3.9/18, mbtmp4.0/9, Error ellipse: s-maj=84.1km s-min=16.6km az=54.0*
*NEIC **29** 07:09:35.9±0.6, 1.01N×97.21E, h30km, mb4.4/5, Error ellipse: s-maj=19.5km s-min=9.1km az=61.0*
ISC 29 07:09:34.6±0.8, **1.0N**±0.1×**97.2E**±0.2, **h33**km, **n17**, σ0§**77**/16, **mb4.1**/14, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.45**	**39**	P		**P**	**P**	**07 10 54.8**	**-0.8**
ENH	**Enshi**	**31.34**	**21**	P		**P**	**P**	**07 15 57.7**	**+3.3**
	4.8nm,0.5s,mb4.6								
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P		**P**	**P**	**07 16 17.0**	**+1.0**
	1.4nm,0.5s,mb4.2,baz=166,slow=6.8,SNR=2.7								
WRA	**Warramunga Arr**	**41.92**	**122**	P		**P**	**P**	**07 17 23.9**	**-0.2**
	0.2nm,0.2s,mb3.3,baz=306,slow=9.0,SNR=8.9								
WRAB	**Tennant Creek**	**41.93**	**122**	*e*P		**P**	**P**	**07 17 23.6**	**-0.6**
	11nm,1.2s,mb4.3								
ASAR	**Alice Springs**	**43.27**	**127**	P		**P**	**P**	**07 17 35.2**	**+0.1**
	0.5nm,0.4s,mb3.6,baz=304,slow=8.3,SNR=7.0								
SONM	**Songino Array**	**47.30**	**8**	P		**P**	**P**	**07 18 07.7**	**+0.8**
	1.5nm,0.5s,mb4.2,baz=188,slow=9.3,SNR=9.6								
MKAR	**Makanchi Array**	**47.42**	**346**	P		**P**	**P**	**07 18 08.7**	**+0.8**
	2.3nm,0.8s,mb4.2,baz=157,slow=7.7,SNR=14								
ULN	**Ulaanbaatar**	**47.43**	**9**	P		**P**	**P**	**07 18 08.0**	**+0.1**
	1.1nm,0.5s,mb4.0								
HIA	**Hailar**	**51.80**	**19**	*e*P		**P**	**P**	**07 18 41.2**	**-0.2**
	3.5nm,0.5s,mb4.5								
KURK	**Kurchatov**	**51.97**	**345**	*e*P		**P**	**P**	**07 18 42.5**	**-0.1**
	3.0nm,1.0s,mb4.2								
STKA	**Stephens Creek**	**53.22**	**132**	P		**P**	**P**	**07 18 52.6**	**+0.4**
	1.0nm,0.6s,mb3.9,baz=3.0,slow=16,SNR=3.2								
STKA	**Stephens Creek**	**53.22**	**132**	*e*P		**P**	**P**	**07 18 51.8**	**-0.5**
BVAR	**Borovoye Array**	**56.42**	**341**	P		**P**	**P**	**07 19 14.5**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=146,slow=11,SNR=4.9								
FINES	**FINESS Array B**	**80.17**	**333**	P		**P**	**P**	**07 21 41.9**	**-1.0**
	0.6nm,0.6s,mb3.7,baz=118,slow=28,SNR=2.6								
ARCES	**ARCESS Array B**	**82.71**	**340**	P		**P**	**P**	**07 21 56.2**	**+0.1**
	4.3nm,1.0s,mb4.4,baz=90,slow=3.6,SNR=3.3								
TXAR	**Lajitas Array**	**143.81**	**32**	PKP			PKPdf	07 29 08.4	+1.3
	0.1nm,0.5s,baz=90,slow=1.8,SNR=3.7								

IDC 29 07:10:24.0±3.4, **1.07N**×**97.09E**, **mb3.9**/4, **mb1 4.0**/4, **mb1mx3.6**/17, **mbtmp3.9**/4, **Error ellipse: s-maj=135.2km s-min=28.1km az=55.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.06**	**122**	P		P	P	07 18 17.7	-1.7
	1.1nm,0.6s,baz=301,slow=9.1,SNR=7.9								
SONM	**Songino Array**	**47.27**	**9**	P		P	P	07 18 59.4	-1.6
	1.0nm,0.7s,baz=196,slow=9.0,SNR=4.6								
MKAR	**Makanchi Array**	**47.34**	**346**	P		P	P	07 19 00.1	-1.4
	0.9nm,0.6s,baz=161,slow=8.7,SNR=4.1								
BVAR	**Borovoye Array**	**56.34**	**341**	P		P	P	07 20 05.9	-3.1
	1.2nm,0.8s,baz=146,slow=10,SNR=4.1								

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*IDC **29** 07:14:25.1±1.0, 2.77N×96.34E, mb4.4/10, mb1 4.4/10, mb1mx4.1/19, mbtmp4.4/10, Error ellipse: s-maj=50.9km s-min=15.0km az=54.0*
*NEIC **29** 07:14:29.4±0.5, 2.82N×96.31E, h30km, mb4.5/5, Error ellipse: s-maj=15.1km s-min=7.6km az=53.0*
ISC 29 07:14:28.6±5.8, **2.9N**±0.2×**96.4E**±0.3, **h38**km±46km, **n25**, σ0§**78**/22, **mb4.3**/14, **1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.91**	**60**	*e*P		**P**	**P**	**07 15 42.3**	**+0.3**
KKM	**Kota Kinabalu**	**20.04**	**80**	*e*P		**P**	**P**	**07 19 01.2**	**-0.2**
LSA	**Lhasa**	**27.16**	**350**	*e*P		**P**	**P**	**07 20 10.0**	**-0.7**
	7.8nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**35.57**	**127**	*e*P		**P**	**P**	**07 21 23.5**	**-1.2**
	3.0nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**35.57**	**127**	P		**P**	**P**	**07 21 23.3**	**-1.4**
	3.9nm,0.5s,mb4.6,baz=317,slow=4.5,SNR=12								
WRA	**Warramunga Arr**	**43.62**	**123**	P		**P**	**P**	**07 22 31.5**	**0.0**
	2.8nm,0.3s,mb4.4,baz=303,slow=9.0,SNR=39								
WRAB	**Tennant Creek**	**43.62**	**123**	*e*P		**P**	**P**	**07 22 31.5**	**0.0**
	4.2nm,0.5s,mb4.4								
WB2	**Warramunga Arr**	**43.63**	**123**	*i*P		**P**	**P**	**07 22 31.1**	**-0.5**
AAK	**Ala-Archa**	**44.16**	**337**	*e*P		**P**	**P**	**07 22 34.4**	**-1.2**
	2.1nm,0.6s,mb4.0								
ASPA	**Alice Springs**	**45.05**	**128**	*e*P		**P**	**P**	**07 22 43.1**	**+0.1**
ASAR	**Alice Springs**	**45.05**	**128**	P		**P**	**P**	**07 22 43.0**	**0.0**
	2.1nm,0.5s,mb4.2,baz=299,slow=7.9,SNR=37								
FORT	**Forrest**	**45.07**	**140**	*e*P		**P**	**P**	**07 22 44.4**	**+1.4**
	516nm,0.6s								
MKAR	**Makanchi Array**	**45.45**	**346**	P		**P**	**P**	**07 22 47.1**	**+1.3**
	5.2nm,0.7s,mb4.5,baz=164,slow=7.7,SNR=32								
SONM	**Songino Array**	**45.64**	**9**	P		**P**	**P**	**07 22 47.9**	**+0.6**
	0.9nm,0.4s,mb4.0,baz=191,slow=9.2,SNR=9.6								
KURK	**Kurchatov**	**49.99**	**345**	*e*P		**P**	**P**	**07 23 19.5**	**-1.7**
	4.9nm,0.9s,mb4.5								
PMG	**Port Moresby**	**52.05**	**104**	P		**P**	**P**	**07 23 37.2**	**0.0**
	14nm,0.7s,mb5.0,baz=297,slow=4.5,SNR=3.4								
BVAR	**Borovoye Array**	**54.42**	**341**	P		**P**	**P**	**07 23 54.8**	**+0.5**
	1.0nm,0.6s,mb4.0,baz=140,slow=12,SNR=5.1								
STKA	**Stephens Creek**	**55.08**	**133**	*e*P		**P**	**P**	**07 23 59.5**	**+0.1**
	3.6nm,0.7s,mb4.5								
STKA	**Stephens Creek**	**55.08**	**133**	P		**P**	**P**	**07 23 59.4**	**0.0**
	3.9nm,0.7s,mb4.6,baz=298,slow=8.2,SNR=13								
STKA	**Stephens Creek**	**55.08**	**133**	*e*P		**P**	**P**	**07 23 59.1**	**-0.3**
FINES	**FINESS Array B**	**78.16**	**332**	P		**P**	**P**	**07 26 25.9**	**+0.4**
	0.4nm,0.4s,mb3.8,baz=79,slow=7.1,SNR=5.2								
ARCES	**ARCESS Array B**	**80.71**	**340**	P		**P**	**P**	**07 26 39.9**	**+0.7**
	4.9nm,0.9s,mb4.4,baz=97,slow=7.4,SNR=5.4								
TXAR	**Lajitas Array**	**142.68**	**30**	PKP			PKPdf	07 34 00.6	+2.0
	0.2nm,0.4s,baz=274,slow=1.0,SNR=5.3								
TXAR	**Lajitas Array**	**142.68**	**30**	PKP			PKPdf	07 34 00.6	+2.0
CFAA	**Coronel Fontan**	**147.93**	**205**	PKPbc			PKPdf	07 34 12.4	+5.0
	0.3nm,0.6s,baz=129,slow=2.9,SNR=5.5								

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*BJI **29** 07:16:40.0, 0.42N×97.18E, h30km, mB5.3, mb4.9, Ms4.6, Msz4.5*
*IDC **29** 07:16:43.8±0.9, 1.16N×97.03E, mb4.4/13, mb1 4.5/13, mb1mx4.3/19, mbtmp4.4/13, Error ellipse: s-maj=37.8km s-min=14.9km az=50.0*
*NEIC **29** 07:16:48.5±0.4, 1.18N×97.11E, h30km, mb4.6/17, Error ellipse: s-maj=12.5km s-min=6.9km az=49.0*
*MOS **29** 07:16:49.5±1.3, 1.65N×97.60E, h33km, mb4.8/12, Error ellipse: s-maj=27.2km s-min=11.4km az=100.9*
ISC 29 07:16:48.3±1.7, **1.27N**±0.07×**97.23E**±0.08, **h40**km±14km, **h30**km±4.0km**:pP-P, n74**, σ1§**06**/73, **mb4.6**/45, **MS4.6**/3, **1C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.25**	**40**	*e*P		**P**	**P**	**07 18 06.8**	**+0.4**
CM31	**Chiang Mai Arr**	**17.16**	**6**	*e*P		**P**	**P**	**07 20 45.4**	**-1.5**
	18nm,0.9s								
KKM	**Kota Kinabalu**	**19.53**	**75**	*e*P		**P**	**P**	**07 21 15.9**	**+0.5**
QIZ	**Qiongzhong**	**21.55**	**34**	*e*P		**P**	**P**	**07 21 36.8**	**+0.4**
KMI	**Kunming**	**24.30**	**12**	P		**P**	**P**	**07 22 05.0**	**+1.5**
KMI						AMB	AMB		
	comp=Z,36nm,1.2s,mb4.7								
HYB	**Hyderabad**	**24.38**	**312**	*e*P		**P**	**P**	**07 22 02.0**	**-2.3**
HYB	**Hyderabad**	**24.38**	**312**	*i* P		**P**	**P**	**07 22 02.0**	**-2.3**
GYA	**Guiyang**	**26.64**	**19**	*i*P		**P**	**P**	**07 22 26.3**	**+0.9**
GYA						AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8								
PKI	**Pulchoki**	**28.50**	**338**	*e*P		**P**	**P**	**07 22 42.7**	**+0.4**
	comp=Z,18nm,0.7s,mb4.8								
GUN	**Gumba**	**28.63**	**339**	*e*P		**P**	**P**	**07 22 44.2**	**+0.7**
	comp=Z,54nm,0.7s,mb5.4								
DMN	**Daman**	**28.65**	**337**	*e*P		**P**	**P**	**07 22 44.5**	**+0.9**
	comp=Z,24nm,0.8s,mb5.0								
KKN	**Kakani**	**28.75**	**338**	*e*P		**P**	**P**	**07 22 45.1**	**+0.6**
LSA	**Lhasa**	**28.86**	**349**	*e*P		**P**	**P**	**07 22 48.5**	**+3.1**
	comp=Z,16nm,0.8s,mb4.8								
GKN	**Gorkha**	**29.18**	**337**	*e*P		**P**	**P**	**07 22 48.8**	**+0.4**
	comp=Z,32nm,0.8s,mb5.1								
KOLN	**Koldanda**	**29.41**	**335**	*e*P		**P**	**P**	**07 22 50.9**	**+0.5**
	comp=Z,23nm,0.8s,mb5.0								
ENH	**Enshi**	**31.10**	**21**	*e*P		**P**	**P**	**07 23 04.2**	**-1.3**
	comp=Z,23nm,0.6s,mb5.2								
ENH				*e*				07 23 11.1	
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*e*P		**P**	**P**	**07 23 29.6**	**-0.7**
	comp=Z,4.2nm,0.7s,mb4.5								
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P		**P**	**P**	**07 23 28.9**	**-1.4**
	comp=Z,5.3nm,0.7s,mb4.6,baz=330,slow=5.0,SNR=5.8								
XAN	**Xi'an**	**34.39**	**17**	P		**P**	**P**	**07 23 33.0**	**-0.9**
XAN						AP	pP	07 23 40.0	-5.0
XAN						AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0								
LZH	**Lanzhou**	**35.18**	**9**	*e*P		**P**	**P**	**07 23 40.0**	**-0.7**
LZH						AP	pP	07 23 49.5	-2.3
LZH						XP	sP	07 23 53.5	-3.3
LZH						AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0								
LZH						AMB	AMB		
	comp=Z,110nm,4.0s								
LZH						LR	LR		
	comp=E,603nm,15.2s								
LZH						LR	LR		
	comp=Z,740nm,16.8s,MS4.5								
NJ2	**Nanjing**	**36.79**	**32**	*e*P		**P**	**P**	**07 23 52.0**	**-2.3**
NJ2						AP	pP	07 24 03.3	-2.1
NJ2						XP	sP	07 24 06.5	-4.0
NJ2						PP	PP	07 25 16.8	-3.5
NJ2						S	**S**	**07 29 34.0**	**-1.1**
NJ2						XS		07 29 52.0	
NJ2						AMB	AMB		
	comp=Z,440nm,4.0s								
NJ2						LR	LR		
	comp=N,1μm,9.9s								
NJ2						LR	LR		
	comp=E,260nm,13.8s								
NJ2						LR	LR		
	comp=Z,1μm,12.3s,MS4.9								
GTA	**Gaotai**	**38.03**	**3**	*e*P		**P**	**P**	**07 24 04.8**	**+0.1**
GTA						AP	pP	07 24 13.5	-2.3
GTA						XP	sP	07 24 16.5	-4.3
GTA						AMB	AMB		
	comp=Z,16nm,0.8s,mb4.8								
JOW	**Kunigami**	**39.17**	**47**	P		**P**	**P**	**07 24 15.4**	**+1.2**
	comp=Z,23nm,0.6s,mb5.1,baz=216,slow=7.9,SNR=9.3								
WRA	**Warramunga Arr**	**42.05**	**122**	P		**P**	**P**	**07 24 38.3**	**+0.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=300,slow=9.1,SNR=11								
WRAB	**Tennant Creek**	**42.05**	**122**	*i* P		**P**	**P**	**07 24 38.7**	**+0.5**
WRAB	**Tennant Creek**	**42.05**	**122**	*e*P		**P**	**P**	**07 24 38.2**	**0.0**
	comp=Z,8.6nm,0.6s,mb4.6								
WB2	**Warramunga Arr**	**42.06**	**122**	*e*P		**P**	**P**	**07 24 38.5**	**+0.2**
BJT	**Baijiatuau**	**42.24**	**22**	*e*P		**P**	**P**	**07 24 40.9**	**+1.4**
	comp=Z,14nm,0.6s,mb4.8								
BJI	**Beijing**	**42.26**	**22**	*e*P		**P**	**P**	**07 24 41.0**	**+1.3**
BJI						XP	sP	07 24 47.5	-8.3
BJI						AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8								
WMQ	**Urumqi**	**43.21**	**350**	P		**P**	**P**	**07 24 48.5**	**+1.1**
WMQ						AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5								
WMQ						AMB	AMB		
	comp=Z,216nm,4.2s								
ASAR	**Alice Springs**	**43.42**	**127**	P		**P**	**P**	**07 24 49.8**	**+0.4**
	comp=Z,2.8nm,0.8s,mb4.0,baz=303,slow=7.8,SNR=13								
AAK	**Ala-Archa**	**45.95**	**337**	*i* P		**P**	**P**	**07 25 13.5**	**+4.2**
AAK						pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3								
AAK	**Ala-Archa**	**45.95**	**337**	*e*P		**P**	**P**	**07 25 09.2**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.2								
SONM	**Songino Array**	**47.06**	**8**	P		**P**	**P**	**07 25 18.6**	**+0.7**
	comp=Z,6.7nm,0.7s,mb4.7,baz=190,slow=8.7,SNR=28								
MKAR	**Makanchi Array**	**47.18**	**346**	*i* P		**P**	**P**	**07 25 19.1**	**+0.1**
MKAR						pmax	pmax		
	comp=Z,3.0nm,0.6s								
MKAR	**Makanchi Array**	**47.18**	**346**	P		**P**	**P**	**07 25 19.2**	**+0.2**
	comp=Z,5.6nm,0.6s,mb4.7,baz=160,slow=8.0,SNR=18								
MKAR	**Makanchi Array**	**47.18**	**346**	P		**P**	**P**	**07 25 19.2**	**+0.2**
ULN	**Ulaanbaatar**	**47.19**	**9**	*i* P		**P**	**P**	**07 25 19.4**	**+0.4**
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P		**P**	**P**	**07 25 19.4**	**+0.4**
	comp=Z,4.9nm,0.8s,mb4.5								
ZAK	**Zakamensk**	**49.20**	**5**	*e*P		**P**	**P**	**07 25 34.8**	**+0.2**
ZAK						pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1								
CN2	**Changchun**	**49.23**	**27**	*e*P		**P**	**P**	**07 25 34.8**	**-0.1**
CN2						AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3								
TLY	**Talaya**	**50.52**	**5**	*i* P		**P**	**P**	**07 25 45.6**	**+0.9**
TLY						pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5								
HIA	**Hailar**	**51.56**	**19**	*e*P		**P**	**P**	**07 25 52.6**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.6								
KURK	**Kurchatov**	**51.73**	**345**	P		**P**	**P**	**07 25 53.7**	**-0.2**
KURK						pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4								
KURK	**Kurchatov**	**51.73**	**345**	*e*P		**P**	**P**	**07 25 53.5**	**-0.3**
	comp=Z,8.7nm,1.0s,mb4.6								
STKA	**Stephens Creek**	**53.38**	**132**	P		**P**	**P**	**07 26 06.8**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.3,baz=320,slow=7.3,SNR=5.0								
STKA	**Stephens Creek**	**53.38**	**132**	*e*P		**P**	**P**	**07 26 06.3**	**-0.1**
NVS	**Novosibirsk**	**54.61**	**350**	*i* P		**P**	**P**	**07 26 13.6**	**-1.6**
KLR	**Kul'dur**	**56.18**	**27**	*e*P		**P**	**P**	**07 26 24.2**	**-2.4**
BVAO	**Borovoye Array**	**56.19**	**341**	*i* P		**P**	**P**	**07 26 24.7**	**-1.9**
BVAO						pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9								
BVAR	**Borovoye Array**	**56.19**	**341**	P		**P**	**P**	**07 26 25.6**	**-1.0**
	comp=Z,6.1nm,0.7s,mb4.8,baz=149,slow=8.6,SNR=20								
CHKZ	**Chkalovo**	**56.67**	**341**	P		**P**	**P**	**07 26 29.2**	**-0.8**
CHKZ						pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7								
BOD	**Bodaibo**	**57.94**	**11**	*e*P		**P**	**P**	**07 26 37.9**	**-1.0**
BOD						pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8								
GNI	**Garni**	**61.26**	**316**	*i* P		**P**	**P**	**07 27 05.8**	**+3.8**
GNI						pmax	pmax		
	comp=Z,32nm,1.7s								
SVE	**Sverdlovsk**	**62.63**	**338**	*e*P		**P**	**P**	**07 27 10.6**	**-0.4**
SVE						MLR	MLR		
	comp=N,100nm,20.0s,MS4.3								
SVE						MLR	MLR		
	comp=E,200nm,20.0s,MS4.3								
SVE						MLR	MLR		
	comp=Z,200nm,20.0s,MS4.3								
ARU	**Arti**	**63.13**	**337**	*d* P		**P**	**P**	**07 27 13.1**	**-1.2**
ARU				*e*				07 27 50.0	
ARU				*e*				07 29 31.4	
ARU				*eS*		**S**	**S**	**07 35 42.4**	**+1.6**
ARU				pmax		pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.6								
KIV	**Kislovodsk**	**64.27**	**319**	*i* P		**P**	**P**	**07 27 25.2**	**+3.3**
YAK	**Yakutsk**	**65.34**	**16**	*e*P		**P**	**P**	**07 27 27.6**	**-1.0**
YAK				pmax		pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9								
MA2	**Magadan**	**71.26**	**26**	*e*P		**P**	**P**	**07 28 05.7**	**+0.4**
MA2				pmax		pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3								
MA2	**Magadan**	**71.26**	**26**	*e*P		**P**	**P**	**07 28 05.5**	**+0.2**
	comp=Z,6.1nm,0.8s,mb4.6								
OBN	**Obninsk**	**72.57**	**328**	*e*P		**P**	**P**	**07 28 15.9**	**+2.7**
OBN				*e*				07 31 00.8	
OBN				pmax		pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4								
TIXI	**Tiksi**	**73.11**	**10**	*e*P		**P**	**P**	**07 28 14.5**	**-1.6**
TIXI				pmax		pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5								
AKASG	**Malin Array Be**	**75.22**	**322**	P		**P**	**P**	**07 28 27.6**	**-1.1**
	comp=Z,0.2nm,0.2s,mb3.6,baz=76,slow=3.8,SNR=4.6								
FINES	**FINESS Array B**	**79.95**	**332**	*i* P		**P**	**P**	**07 28 54.6**	**-0.1**
FINES				pmax		pmax	pmax		
	comp=Z,2.0nm,0.7s								
FINES	**FINESS Array B**	**79.95**	**332**	P		**P**	**P**	**07 28 54.5**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.0,baz=143,slow=9.5,SNR=5.9								
FX1	**Attu Island--F**	**80.52**	**37**	P		**P**	**P**	**07 28 58.4**	**+0.5**
	baz=338,slow=11								
BILL	**Bilibino**	**81.09**	**21**	*i* P		**P**	**P**	**07 29 00.4**	**-0.2**
BILL				pmax		pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2								
ARCES	**ARCESS Array B**	**82.48**	**340**	P		**P**	**P**	**07 29 08.4**	**+0.5**
	comp=Z,4.4nm,0.9s,mb4.4,baz=104,slow=3.7,SNR=3.9								
GERES	**GERESS Array B**	**84.78**	**319**	P		**P**	**P**	**07 29 20.6**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=72,slow=4.2,SNR=5.6								
NB2	**NORSAR Subarra**	**86.96**	**331**	P		**P**	**P**	**07 29 30.7**	**+0.4**
	comp=Z,0.8nm,0.8s,mb4.0,baz=96,slow=4.8								
NOA	**NORSAR Array B**	**86.96**	**331**	P		**P**	**P**	**07 29 30.4**	**+0.1**
	comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.8,SNR=4.3								
TXAR	**Lajitas Array**	**143.59**	**32**	PKP		PKPdf	PKPdf	07 36 18.9	-0.7
	comp=Z,0.7nm,0.9s,baz=159,slow=1.4,SNR=5.1								
TXAR	**Lajitas Array**	**143.59**	**32**	PKP		PKPdf	PKPdf	07 36 18.9	-0.7
LRAL	**Lakeview Retre**	**145.65**	**6**	*e*PKP		PKPdf	PKPdf	07 36 23.8	+0.7

IDC 29 07:19:59.8±2.2, **0.83S**×**96.96E**, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.7**/17, **mbtmp3.8**/4, **Error ellipse: s-maj=109.5km s-min=26.7km az=51.0, Southwest of Sumatera**

| Code | Station Name | Δ° | AZ° | Phase |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.61**	**126**	P	**P**	**07 40 33.7**	**-0.9**
	2.3nm,0.7s,mb4.2,baz=38,slow=4.6,SNR=2.5						
SDNR	**Sundarnagar**	**35.93**	**329**	*eP*	**P**	**07 40 55.8**	**+1.4**
WRA	**Warramunga Arr**	**41.70**	**122**	P	**P**	**07 41 43.1**	**+0.5**
	0.4nm,0.7s,mb3.2,baz=300,slow=9.0,SNR=2.6						
ASAR	**Alice Springs**	**43.08**	**127**	P	**P**	**07 41 54.4**	**+0.5**
	0.6nm,0.8s,mb3.4,baz=306,slow=7.8,SNR=4.3						
SONM	**Songino Array**	**47.16**	**8**	P	**P**	**07 42 26.6**	**+0.5**
	1.4nm,0.6s,mb4.1,baz=188,slow=9.4,SNR=8.7						
MKAR	**Makanchi Array**	**47.40**	**346**	P	**P**	**07 42 27.7**	**-0.3**
	1.6nm,0.8s,mb4.0,baz=163,slow=9.2,SNR=5.9						
BVAR	**Borovoye Array**	**56.44**	**341**	P	**P**	**07 43 33.7**	**-2.0**
	baz=143,slow=7.2						

IDC 29 07:35:44.5±3.9, 3.53N×100.12E, mb3.6/3, mb1 3.7/3, mb1mx3.4/16, mbtmp3.6/3, Error ellipse: s-maj=163.2km s-min=28.8km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.91**	**126**	P	P	07 43 28.9	-1.5
	0.2nm,0.4s,baz=302,slow=9.1,SNR=4.3						
SONM	**Songino Array**	**44.47**	**6**	P	P	07 43 56.9	-2.4
	0.6nm,0.7s,baz=180,slow=7.4,SNR=3.9						
MKAR	**Makanchi Array**	**45.79**	**343**	P	P	07 44 08.3	-1.4
	0.6nm,0.5s,baz=160,slow=9.4,SNR=6.2						

*IDC **29** 07:39:33.5±2.5, 0.98N×97.88E, mb4.0/7, mb1 4.1/7, mb1mx3.9/18, mbtmp4.0/7, Error ellipse: s-maj=112.7km s-min=17.6km az=58.0*

ISC 29 07:39:35.9±2.2, 0.9N±0.4×97.8E±0.6, h33km, n10, σ0s81/10, mb4.0/7, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.32**	**126**	*eP*	**P**	**07 46 11.7**	**-1.5**
	2.9nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.32**	**126**	P	**P**	**07 46 11.8**	**-1.3**
	3.5nm,0.6s,mb4.5,baz=275,slow=3.4,SNR=8.8						
WRA	**Warramunga Arr**	**41.42**	**122**	P	**P**	**07 47 21.0**	**-0.2**
	2.4nm,0.6s,mb4.0,baz=301,slow=9.0,SNR=22						
WB2	**Warramunga Arr**	**41.43**	**122**	*i* P	**P**	**07 47 20.8**	**-0.5**
ASPA	**Alice Springs**	**42.79**	**127**	*eP*	**P**	**07 47 33.3**	**+0.8**
ASAR	**Alice Springs**	**42.79**	**127**	P	**P**	**07 47 32.7**	**+0.1**
	1.1nm,0.4s,mb3.9,baz=297,slow=7.8,SNR=21						
SONM	**Songino Array**	**47.33**	**8**	P	**P**	**07 48 08.9**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=207,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**07 48 11.5**	**+0.5**
	1.1nm,0.5s,mb4.2,baz=161,slow=9.0,SNR=15						
STKA	**Stephens Creek**	**52.76**	**132**	P	**P**	**07 48 51.5**	**+1.3**
	1.0nm,0.5s,mb4.0,baz=297,slow=9.1,SNR=5.0						
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**07 49 17.6**	**-1.0**
	0.5nm,0.5s,mb3.8,baz=135,slow=8.4,SNR=4.4						

IDC 29 07:49:53.2±4.5, 1.06N×97.93E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=175.1km s-min=29.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.34**	**122**	P	P	07 57 41.0	-1.7
	0.2nm,0.4s,baz=303,slow=9.0,SNR=3.2						
SONM	**Songino Array**	**47.17**	**8**	P	P	07 58 28.2	-1.1
	0.3nm,0.5s,baz=189,slow=8.3,SNR=3.9						
MKAR	**Makanchi Array**	**47.56**	**345**	P	P	07 58 30.0	-2.4
	0.6nm,0.5s,baz=161,slow=9.0,SNR=9.1						

*IDC **29** 07:52:31.8±0.9, 0.67N×97.42E, mb4.3/12, mb1 4.4/12, mb1mx4.2/20, mbtmp4.3/12, Error ellipse: s-maj=52.4km s-min=13.7km az=53.0*

*MOS **29** 07:52:33.7±2.0, 0.45N×97.25E, h33km, mb4.5/5, Error ellipse: s-maj=44.4km s-min=19.5km az=113.9*

*NEIC **29** 07:52:36.4±0.5, 0.66N×97.46E, h30km, mb4.5/6, Error ellipse: s-maj=16.0km s-min=7.6km az=56.0*

*BJI **29** 07:52:36.3, 0.70N×97.50E, h30km, mb4.9*

ISC 29 07:52:37.3±4.4, 0.8N±0.1×97.6E±0.2, h52km±36km, n35, σ0s89/34, mb4.3/19, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**34**	*eP*	**P**	**07 53 57.6**	**-0.1**
KKM	**Kota Kinabalu**	**19.32**	**74**	*eP*	**P**	**07 57 01.7**	**+0.6**
HYB	**Hyderabad**	**24.98**	**313**	*eP*	**P**	**07 58 05.0**	**+7.2**
HYB	**Hyderabad**	**24.98**	**313**	*i* P	**P**	**07 58 05.0**	**+7.2**
LSA	**Lhasa**	**29.41**	**349**	*eP*	**P**	**07 58 37.4**	**-0.7**
	4.6nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.37**	**126**	*eP*	**P**	**07 59 11.8**	**-1.2**
	11nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.37**	**126**	P	**P**	**07 59 12.0**	**-1.1**
	14nm,0.7s,mb5.0,baz=341,slow=6.2,SNR=16						
NWAO	**Narrogin (SRO)**	**38.31**	**153**	P	**P**	**07 59 55.6**	**+0.9**
	5.4nm,0.9s,mb4.3,baz=326,slow=8.7,SNR=4.9						
WRA	**Warramunga Arr**	**41.49**	**122**	*i* P	**P**	**08 00 21.6**	**+0.5**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA	**Warramunga Arr**	**41.49**	**122**	P	**P**	**08 00 21.1**	**0.0**
	comp=Z,7.5nm,0.8s,mb4.4,baz=302,slow=9.0,SNR=45						
WRAB	**Tennant Creek**	**41.49**	**122**	*i* P	**P**	**08 00 19.6**	**-1.6**
WRAB	**Tennant Creek**	**41.49**	**122**	*eP*	**P**	**08 00 20.9**	**-0.3**
	comp=Z,21nm,0.9s,mb4.8						
WB2	**Warramunga Arr**	**41.50**	**122**	*i* P	**P**	**08 00 21.0**	**-0.3**
BJI	**Beijing**	**42.60**	**21**	*eP*	**P**	**08 00 33.5**	**+3.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
ASPA	**Alice Springs**	**42.84**	**127**	*eP*	**P**	**08 00 32.3**	**0.0**
ASAR	**Alice Springs**	**42.84**	**127**	P	**P**	**08 00 32.2**	**0.0**
	comp=Z,5.8nm,0.9s,mb4.3,baz=307,slow=7.9,SNR=42						
AAK	**Ala-Archa**	**46.54**	**337**	P	**P**	**08 01 03.9**	**+2.3**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**46.54**	**337**	P	**P**	**08 01 03.9**	**+2.3**
	comp=Z,1.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**47.50**	**8**	P	**P**	**08 01 10.3**	**+1.2**
	comp=Z,0.7nm,0.6s,mb3.8,baz=191,slow=9.7,SNR=14						
MKAR	**Makanchi Array**	**47.74**	**346**	*i* P	**P**	**08 01 10.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**47.74**	**346**	P	**P**	**08 01 11.4**	**+0.4**
	comp=Z,2.9nm,0.7s,mb4.4,baz=158,slow=8.4,SNR=24						
CTA	**Charters Tower**	**51.98**	**116**	P	**P**	**08 01 44.1**	**+0.4**
	comp=Z,3.3nm,0.8s,mb4.3,baz=312,slow=14,SNR=2.1						
KURK	**Kurchatov**	**52.30**	**345**	*i* P	**P**	**08 01 45.0**	**-0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
KURK	**Kurchatov**	**52.30**	**345**	*eP*	**P**	**08 01 44.9**	**-0.8**
	comp=Z,3.7nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**52.79**	**132**	*eP*	**P**	**08 01 50.0**	**+0.3**
	comp=Z,4.7nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**52.79**	**132**	P	**P**	**08 01 49.8**	**0.0**
	comp=Z,6.0nm,0.9s,mb4.5,baz=300,slow=5.6,SNR=8.2						
NVS	**Novosibirsk**	**55.16**	**350**	*eP*	**P**	**08 02 05.6**	**-1.2**
BVAR	**Borovoye Array**	**56.77**	**341**	P	**P**	**08 02 17.7**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=6.6						
BOD	**Bodaibo**	**58.36**	**10**	*eP*	**P**	**08 02 33.8**	**+4.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.8s,mb4.2						
TIXI	**Tiksi**	**73.54**	**10**	*eP*	**P**	**08 04 05.2**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
AKASG	**Malin Array Be**	**75.83**	**322**	P	**P**	**08 04 19.2**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=88,slow=4.3,SNR=3.8						
FINES	**FINESS Array B**	**80.55**	**332**	P	**P**	**08 04 45.7**	**+0.3**
	comp=Z,2.0nm,0.8s,mb4.1,baz=104,slow=5.7,SNR=4.4						
FINES	**FINESS Array B**	**80.55**	**332**	P	**P**	**08 04 45.7**	**+0.3**
GERES	**GERESS Array B**	**85.38**	**319**	P	**P**	**08 05 11.2**	**+0.9**
	comp=Z,0.3nm,0.2s,mb4.0,baz=90,slow=4.0,SNR=5.7						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf	08 12 08.2	+0.9
	comp=Z,0.4nm,0.7s,baz=205,slow=1.0,SNR=5.8						

*IDC **29** 07:55:15.1±0.5, 1.58N×97.37E, mb4.4/18, mb1 4.5/18, mb1mx4.4/21, mbtmp4.4/18, Error ellipse: s-maj=25.5km s-min=12.6km az=52.0*

*BJI **29** 07:55:17.3, 1.64N×97.48E, h19km, mb5.0, Ms4.3, Msz4.3*

*NEIC **29** 07:55:19.7±0.3, 1.48N×97.36E, h30km, mb4.6/20, Error ellipse: s-maj=11.3km s-min=6.5km az=51.0*

ISC 29 07:55:18.5±0.4, 1.52N±0.06×97.40E±0.06, h33km, n56, σ0s96/53, mb4.5/37, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.95**	**41**	*eP*	**P**	**07 56 34.0**	**+1.5**
KKM	**Kota Kinabalu**	**19.30**	**76**	*eP*	**P**	**07 59 44.0**	**+0.4**
QIZ	**Qiongzhong**	**21.25**	**34**	*eP*	**P**	**08 00 04.0**	**-0.1**
HYB	**Hyderabad**	**24.35**	**312**	*eP*	**P**	**08 00 36.0**	**+1.2**
HYB	**Hyderabad**	**24.35**	**312**	*i* P	**P**	**08 00 36.0**	**+1.2**
GYA	**Guiyang**	**26.35**	**19**	⇑*i* P	**P**	**08 00 53.0**	**-0.6**
GYA				AP	pP	08 01 03.8	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
JIRN	**Jiri**	**28.12**	**339**	*eP*	**P**	**08 01 11.4**	**+1.6**
	comp=Z,6.0nm,0.3s,mb4.7						
PKI	**Pulchoki**	**28.34**	**337**	*eP*	**P**	**08 01 12.9**	**+1.2**
	comp=Z,23nm,0.9s,mb4.8						
GUN	**Gumba**	**28.47**	**338**	*eP*	**P**	**08 01 13.2**	**+0.3**
	comp=Z,28nm,0.6s,mb5.1						
DMN	**Daman**	**28.49**	**337**	*eP*	**P**	**08 01 14.8**	**+1.7**
KKN	**Kakani**	**28.59**	**337**	*eP*	**P**	**08 01 13.9**	**0.0**
LSA	**Lhasa**	**28.65**	**349**	P	**P**	**08 01 15.9**	**+1.4**
	comp=Z,7.4nm,0.5s,mb4.7						
KOLN	**Koldanda**	**29.26**	**334**	*eP*	**P**	**08 01 20.4**	**+0.5**
	comp=Z,36nm,0.6s,mb5.3						
ENH	**Enshi**	**30.81**	**21**	*eP*	**P**	**08 01 31.9**	**-1.9**
	comp=Z,19nm,0.8s,mb5.0						
ENH				*e*		08 01 39.1	
LGTI	**Lohaghat**	**32.22**	**331**	*eP*	**P**	**08 01 46.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*eP*	**P**	**08 01 59.5**	**-1.7**
	comp=Z,4.3nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P	**P**	**08 01 59.9**	**-1.3**
	comp=Z,6.3nm,0.8s,mb4.6,baz=189,slow=3.9,SNR=4.9						
XAN	**Xi'an**	**34.10**	**17**	P	**P**	**08 02 01.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.2						
KAKA	**Kakadu**	**37.54**	**113**	*eP*	**P**	**08 02 30.6**	**-1.1**
	comp=Z,10nm,0.6s,mb4.7						
NWAO	**Narrogin (SRO)**	**39.05**	**153**	P	**P**	**08 02 44.0**	**-0.1**
	comp=Z,3.7nm,1.0s,mb4.1,baz=302,slow=15,SNR=2.0						
BJT	**Baijiatuan**	**41.95**	**22**	*eP*	**P**	**08 03 07.3**	**-0.7**
	comp=Z,16nm,0.8s,mb4.7						
BJI	**Beijing**	**41.97**	**22**	*eP*	**P**	**08 03 08.8**	**+0.6**
BJI				AMB	AMB		
	comp=Z,16nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**08 03 09.0**	**0.0**
	comp=Z,4.8nm,0.6s,mb4.3,baz=302,slow=9.0,SNR=20						
WRAB	**Tennant Creek**	**42.04**	**122**	*eP*	**P**	**08 03 08.7**	**-0.3**
	comp=Z,8.3nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**42.04**	**122**	*eP*	**P**	**08 03 08.6**	**-0.4**
FORT	**Forrest**	**43.39**	**140**	*eP*	**P**	**08 03 22.2**	**+2.3**
	comp=Z,518nm,0.6s						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**08 03 20.6**	**+0.3**
	comp=Z,1.5nm,0.8s,mb3.8,baz=306,slow=8.3,SNR=5.3						
AAK	**Ala-Archa**	**45.79**	**336**	*eP*	**P**	**08 03 39.5**	**+0.4**
	comp=Z,5.8nm,1.0s,mb4.5						
SONM	**Songino Array**	**46.79**	**8**	P	**P**	**08 03 47.2**	**+0.4**
	comp=Z,8.2nm,0.8s,mb4.7,baz=190,slow=8.6,SNR=26						
SONM				PcP	PcP	08 05 19.8	-0.3
	comp=Z,1.4nm,0.5s,baz=190,slow=4.6,SNR=5.1						
ULN	**Ulaanbaatar**	**46.92**	**9**	*eP*	**P**	**08 03 48.1**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.6						
MKAR	**Makanchi Array**	**46.98**	**346**	P	**P**	**08 03 48.3**	**0.0**
	comp=Z,5.2nm,0.5s,mb4.7,baz=158,slow=8.9,SNR=25						
TLY	**Taiya**	**50.26**	**5**	*eP*	**P**	**08 04 13.5**	**-0.1**
	comp=Z,1.7nm,0.6s,mb4.2						
KURK	**Kurchatov**	**51.54**	**345**	*eP*	**P**	**08 04 22.9**	**-0.4**
	comp=Z,12nm,0.9s,mb4.8						
STKA	**Stephens Creek**	**53.42**	**132**	*eP*	**P**	**08 04 38.6**	**+0.9**
	comp=Z,3.8nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**53.42**	**132**	P	**P**	**08 04 38.7**	**+1.1**
	comp=Z,3.2nm,0.6s,mb4.4,baz=328,slow=6.8,SNR=8.8						
RAYN	**Ar Rayn**	**54.79**	**298**	P	**P**	**08 04 47.2**	**-0.6**
	comp=Z,77nm,0.7s,SNR=10						
BVAR	**Borovoye Array**	**56.02**	**341**	P	**P**	**08 04 55.0**	**-1.3**
	comp=Z,2.9nm,0.5s,mb4.5,baz=143,slow=9.5,SNR=13						
KMBO	**Kilima Mbogo**	**60.20**	**268**	P	**P**	**08 05 26.6**	**+0.4**
	comp=Z,3.2nm,0.8s,mb4.4,baz=62,slow=9.9,SNR=13						
KMBO	**Kilima Mbogo**	**60.20**	**268**	*eP*	**P**	**08 05 26.2**	**+0.1**
	comp=Z,5.0nm,0.8s,mb4.6						
ASF	**Jabal al Asfar**	**64.45**	**305**	P	**P**	**08 05 53.4**	**-0.8**
	comp=Z,2.3nm,0.6s,mb4.4,baz=19,slow=1.6,SNR=4.0						
MALT	**Malatya**	**65.07**	**312**	*eP*	**P**	**08 05 56.0**	**-2.2**
	comp=Z,4.6nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**69.05**	**312**	P	**P**	**08 06 21.9**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.3,baz=135,slow=7.7,SNR=11						
LBTB	**Lobatse**	**74.21**	**244**	P	**P**	**08 06 55.0**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=133,slow=10,SNR=4.3						
AKASG	**Malin Array Be**	**75.13**	**322**	P	**P**	**08 06 57.6**	**-1.6**
	comp=Z,1.9nm,0.4s,mb4.3,baz=85,slow=5.6,SNR=11						
FINES	**FINESS Array B**	**79.81**	**332**	P	**P**	**08 07 24.4**	**-0.6**
	comp=Z,2.3nm,0.4s,mb4.4,baz=98,slow=5.2,SNR=22						
KAF	**Kangasniemi**	**79.89**	**333**	*ep*	**P**	**08 07 24.4**	**-1.0**
	comp=Z,2.4nm,0.4s,mb4.5						
MORC	**Moravsky Berou**	**82.29**	**320**	*eP*	**P**	**08 07 37.8**	**-0.4**
	comp=Z,2.4nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**82.31**	**340**	P	**P**	**08 07 38.1**	**+0.2**
	comp=Z,3.6nm,0.7s,mb4.4,baz=89,slow=4.7,SNR=20						
GERES	**GERESS Array B**	**84.71**	**319**	P	**P**	**08 07 51.4**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.2,baz=90,slow=4.0,SNR=9.4						
VNDA	**Vanda**	**86.09**	**169**	P	**P**	**08 07 58.2**	**+1.5**
	comp=Z,0.7nm,0.5s,mb4.1,baz=304,slow=4.2,SNR=7.1						
VNDA	**Vanda**	**86.09**	**169**	P	**P**	**08 07 58.2**	**+1.5**
NB2	**NORSAR Subarra**	**86.83**	**331**	P	**P**	**08 08 00.3**	**-0.3**
	comp=Z,1.2nm,0.7s,mb4.2,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**86.83**	**331**	P	**P**	**08 08 00.6**	**0.0**
	comp=Z,1.4nm,0.7s,mb4.3,baz=94,slow=4.9,SNR=7.4						
PDAR	**Pinedale Array**	**129.67**	**26**	PKP	PKPdf	08 14 25.6	+0.7
	comp=Z,0.4nm,0.6s,SNR=3.9						
TXAR	**Lajitas Array**	**143.29**	**32**	PKP	PKPdf	08 14 49.5	-0.6
	comp=Z,0.3nm,0.5s,baz=78,slow=0.6,SNR=11						
LRAL	**Lakeview Retre**	**145.38**	**7**	*e*PKP	PKPdf	08 14 54.3	+0.6

*IDC **29** 08:01:15.7±3.0, 0.98N×97.26E, mb3.8/5, mb1 3.9/5, mb1mx3.7/17, mbtmp3.8/5, Error ellipse: s-maj=126.5km s-min=21.8km az=57.0*

*NEIC **29** 08:01:20.4±1.1, 0.99N×97.33E, h30km, mb4.4/2, Error ellipse: s-maj=28.6km s-min=15.8km az=67.0*

ISC 29 08:01:18.4±1.3, 1.0N±0.1×97.3E±0.2, h30km, n8, σ0s90/8, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**38**	*eP*	**Pn**	**08 02 39.1**	**-0.1**
ENH	**Enshi**	**31.31**	**21**	P	**P**	**08 07 37.3**	**-1.1**
	6.0nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**41.86**	**122**	P	**P**	**08 09 08.2**	**+0.4**
	0.8nm,0.9s,mb3.4,baz=309,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**43.21**	**127**	P	**P**	**08 09 18.5**	**-0.4**
	0.9nm,0.9s,mb3.5,baz=291,slow=7.2,SNR=5.9						
SONM	**Songino Array**	**47.29**	**8**	P	**P**	**08 09 51.2**	**0.0**
	2.2nm,0.8s,mb4.1,baz=190,slow=9.0,SNR=12						
ULN	**Ulaanbaatar**	**47.42**	**9**	*eP*	**P**	**08 09 54.4**	**+2.2**
	1.5nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**47.44**	**346**	P	**P**	**08 09 52.5**	**+0.2**
	1.4nm,0.6s,mb4.0,baz=160,slow=7.9,SNR=15						
BVAR	**Borovoye Array**	**56.45**	**341**	P	**P**	**08 10 58.9**	**-0.9**
	0.8nm,0.6s,mb4.0,baz=143,slow=8.4,SNR=4.4						

*IDC **29** 08:02:43.8±0.9, 1.72N×97.79E, mb4.3/12, mb1 4.4/12, mb1mx4.2/18, mbtmp4.3/12, Error ellipse: s-maj=58.6km s-min=14.3km az=53.0*

*NEIC **29** 08:02:48.0±0.4, 1.64N×97.76E, h30km, mb4.5/6, Error ellipse: s-maj=13.3km s-min=6.3km az=54.0*

ISC 29 08:02:46.5±0.6, 1.61N±0.09×97.69E±0.09, h33km, n28, σ0s80/26, mb4.3/17, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.45**	**48**	P	**P**	**08 03 53.7**	**+0.3**
KULM	**Kulim**	**4.70**	**39**	*eP*	**P**	**08 03 56.6**	**-0.4**
KGM	**Kluang**	**5.64**	**86**	P	**P**	**08 04 12.6**	**+2.5**
HYB	**Hyderabad**	**24.51**	**311**	*eP*	**P**	**08 08 10.0**	**+5.6**
HYB	**Hyderabad**	**24.51**	**311**	*i* P	**P**	**08 08 10.0**	**+5.6**
FITZ	**Fitzroy Crossi**	**33.77**	**127**	P	**P**	**08 09 26.4**	**-1.2**
	4.7nm,0.8s,mb4.5,slow=7.1,SNR=6.2						
FITZ				PcP	PcP	08 12 07.9	+1.3
	1.3nm,0.4s,baz=45,slow=2.9,SNR=2.6						
WRA	**Warramunga Arr**	**41.84**	**123**	P	**P**	**08 10 35.1**	**-0.2**
	3.6nm,0.3s,mb4.5,baz=304,slow=8.9,SNR=34						
WRA				PcP	PcP	08 12 32.2	+0.7
	1.1nm,0.7s,baz=316,slow=2.7,SNR=6.3						
WRAB	**Tennant Creek**	**41.84**	**123**	*eP*	**P**	**08 10 35.0**	**-0.4**
	10nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**41.85**	**123**	*eP*	**P**	**08 10 35.3**	**-0.1**
ASAR	**Alice Springs**	**43.25**	**128**	P	**P**	**08 10 46.9**	**0.0**
	1.0nm,0.5s,mb3.8,baz=301,slow=8.0,SNR=10						
ASAR				PcP	PcP	08 12 37.2	+1.0
	1.1nm,0.8s,baz=316,slow=2.3,SNR=8.5						
AAK	**Ala-Archa**	**45.82**	**336**	*eP*	**P**	**08 11 07.7**	**+0.4**
	1.2nm,0.6s,mb4.0						
SONM	**Songino Array**	**46.66**	**8**	P	**P**	**08 11 13.1**	**-0.6**
	3.1nm,0.7s,mb4.4,baz=188,slow=9.1,SNR=20						
SONM				PcP	PcP	08 12 47.6	0.0
	0.5nm,0.4s,baz=198,slow=3.9,SNR=4.9						
ULN	**Ulaanbaatar**	**46.78**	**9**	*eP*	**P**	**08 11 13.8**	**-0.9**
	2.8nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**46.97**	**346**	P	**P**	**08 11 16.6**	**+0.4**
	1.2nm,0.5s,mb4.1,baz=158,slow=7.1,SNR=10						
KURK	**Kurchatov**	**51.53**	**345**	*eP*	**P**	**08 11 50.6**	**-0.7**
	8.2nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**53.27**	**133**	P	**P**	**08 12 05.1**	**+0.5**
	1.1nm,0.5s,mb4.0,baz=306,slow=7.6,SNR=4.4						
STKA	**Stephens Creek**	**53.27**	**133**	*eP*	**P**	**08 12 05.0**	**+0.5**
BVAR	**Borovoye Array**	**56.03**	**340**	P	**P**	**08 12 23.6**	**-0.8**
	1.6nm,0.5s,mb4.3,baz=143,slow=7.2,SNR=8.0						
MA2	**Magadan**	**70.75**	**26**	*eP*	**P**	**08 14 00.2**	**-1.0**
	5.5nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**75.24**	**322**	P	**P**	**08 14 27.5**	**-0.3**
	1.4nm,0.5s,mb4.2,baz=89,slow=5.1,SNR=6.2						
FINES	**FINESS Array B**	**79.86**	**332**	P	**P**	**08 14 53.6**	**+0.4**
	1.2nm,0.4s,mb4.2,baz=100,slow=5.7,SNR=19						
ARCES	**ARCESS Array B**	**82.32**	**340**	P	**P**	**08 15 06.7**	**+0.8**
	6.9nm,1.0s,mb4.5,baz=98,slow=6.4,SNR=7.0						
ARCES	**ARCESS Array B**	**82.32**	**340**	P	**P**	**08 15 06.7**	**+0.7**
GERES	**GERESS Array B**	**84.83**	**319**	P	**P**	**08 15 20.4**	**+1.3**
	0.2nm,0.2s,mb3.8,baz=79,slow=5.0,SNR=3.7						
NB2	**NORSAR Subarra**	**86.89**	**331**	P	**P**	**08 15 29.7**	**+0.8**
	0.9nm,0.6s,mb4.2,baz=96,slow=4.6						
NOA	**NORSAR Array B**	**86.89**	**331**	P	**P**	**08 15 30.0**	**+1.1**
	1.5nm,0.7s,mb4.3,baz=95,slow=5.0,SNR=6.9						
TXAR	**Lajitas Array**	**143.06**	**32**	PKP	PKPdf	08 22 19.8	+2.0
	0.6nm,0.7s,baz=170,slow=1.5,SNR=6.3						
TXAR	**Lajitas Array**	**143.06**	**32**	PKP	PKPdf	08 22 19.8	+2.0

*IDC **29** 08:07:05.8±1.4, 2.84N×96.27E, mb4.1/8, mb1 4.2/8, mb1mx3.9/17, mbtmp4.1/8, Error ellipse: s-maj=69.3km s-min=19.7km az=52.0*

*NEIC **29** 08:07:10.1±0.7, 2.80N×96.28E, h30km, mb4.3/4, Error ellipse: s-maj=27.1km s-min=13.1km az=52.0*

ISC 29 08:07:08.0±0.8, 2.8N±0.1×96.3E±0.2, h30km, n14, σ0s84/14, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.66**	**123**	P	**P**	**08 15 10.9**	**-1.3**
	1.0nm,0.6s,mb3.7,baz=303,slow=9.1,SNR=8.5						
WRAB	**Tennant Creek**	**43.66**	**123**	P	**P**	**08 15 11.9**	**-0.3**
	7.6nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**45.08**	**128**	P	**P**	**08 15 26.2**	**+2.6**
	0.3nm,0.5s,mb3.4,baz=302,slow=8.5

LABF	**Labassere**	**0.71**	**308**	Pg	Pg	08 16 46.1	-1.1
LABF				Lg		08 16 55.8	
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	08 16 47.0	-0.7
CAVN				Sg	Sg	08 16 57.6	+0.2
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	08 16 46.9	-0.7
CAVN				Lg		08 16 57.6	
	75nm,0.1s						
CAVN	**Les Avellanes**	**0.73**	**184**	Pg	Pg	08 16 47.0	-0.6
CAVN				Sg	Sg	08 16 57.7	+0.3
LPEF	**Le Peyrat**	**0.86**	**67**	Pg	Pg	08 16 49.4	-0.9
LPEF				Sg	Sg	08 17 00.5	-1.4
LPEF	**Le Peyrat**	**0.86**	**67**	Pg	Pg	08 16 49.3	-1.0
LPEF				Lg		08 17 00.9	
EMIR	**Miracle**	**0.87**	**143**	⇑Pg	Pg	08 16 49.1	-1.3
	9.1nm,0.3s,SNR=18						
EMIR				Lg		08 17 01.3	
	15nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**0.87**	**143**	⇑Pg	Pg	08 16 49.0	-1.4
VALF	**Valcebollere**	**0.90**	**103**	Pg	Pg	08 16 49.3	-1.8
VALF	**Valcebollere**	**0.90**	**103**	Pg	Pg	08 16 49.2	-1.9
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	08 16 50.6	-1.4
CARF				Sg	Sg	08 17 02.9	-1.8
CARF	**Carcanieres**	**0.95**	**83**	Pg	Pg	08 16 50.6	-1.4
CARF				Lg		08 17 03.0	
REYF	**Montagne du Re**	**1.01**	**298**	Pg	Pg	08 16 51.5	-1.7
REYF				Sg	Sg	08 17 05.0	-1.7
REYF	**Montagne du Re**	**1.01**	**298**	Pg	Pg	08 16 51.5	-1.7
REYF				Lg		08 17 04.9	
CBRU	**Bruguera**	**1.05**	**107**	Pg	Pg	08 16 52.0	-2.1
CBRU				Sg	Sg	08 17 06.2	-1.9
CBRU	**Bruguera**	**1.05**	**107**	Pg	Pg	08 16 52.0	-2.1
CBRU				Lg		08 17 06.1	
	31nm,0.1s						
CBRU	**Bruguera**	**1.05**	**107**	Pg	Pg	08 16 52.0	-2.1
CBRU				Sg	Sg	08 17 06.2	-1.9
ETSF	**Etsaut**	**1.06**	**286**	*e*Pg	Pg	08 16 52.2	-2.1
ETSF				*e*Sg	Sg	08 17 06.4	-2.0
	148nm,0.2s						
ATE	**Arette**	**1.22**	**293**	Pg	Pg	08 16 55.2	-2.2
ATE				Lg		08 17 11.1	
MTLF	**Montolieu**	**1.25**	**54**	*e*Pn	Pn	08 16 55.8	-1.0
MTLF				*e*Pg	Pg	08 16 56.6	-1.5
MTLF				*e*Sn	Sn	08 17 12.4	-1.6
	74nm,0.3s						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	08 16 56.0	-2.4
	9.4nm,0.4s,SNR=40						
EPOB				Lg		08 17 13.6	
	8.6nm,0.1s,SNR=14						
EPOB	**Poblet**	**1.27**	**171**	Pg	Pg	08 16 56.0	-2.4
	9.4nm,0.4s,SNR=40						
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	08 16 54.8	-3.8
FILF				Sg	Sg	08 17 10.8	-4.9
FILF	**Fillols**	**1.28**	**92**	Pg	Pg	08 16 54.9	-3.8
FILF				Lg		08 17 10.3	
LRDF	**Laroque-de-Fa**	**1.30**	**75**	Pg	Pg	08 16 57.2	-1.8
LRDF				Sg	Sg	08 17 14.6	-1.8
LRDF	**Laroque-de-Fa**	**1.30**	**75**	Pg	Pg	08 16 57.2	-1.9
LRDF				Lg		08 17 14.2	
ESAC	**San Caprasio**	**1.31**	**228**	⇓Pg	Pg	08 16 57.3	-1.9
	106nm,0.3s,SNR=18						
ESAC				Lg		08 17 15.7	
	543nm,0.2s,SNR=50						
ESAC	**San Caprasio**	**1.31**	**228**	Pg	Pg	08 16 57.3	-1.9
	106nm,0.3s,SNR=18						
CGAR	**Garraf**	**1.33**	**170**	Lg		08 17 21.7	
	14nm,0.1s						
LARF	**Larrau**	**1.40**	**288**	Pg	Pg	08 16 58.6	-2.4
LARF	**Larrau**	**1.40**	**288**	Pg	Pg	08 16 58.6	-2.5
LARF				Lg		08 17 18.2	
ORDF	**Ordiarp**	**1.43**	**296**	Pg	Pg	08 16 59.8	-1.8
ORDF				Sg	Sg	08 17 19.2	-1.5
ORDF	**Ordiarp**	**1.43**	**296**	Pg	Pg	08 16 59.7	-1.9
ORDF				Lg		08 17 18.6	
CFON	**Fontmartina**	**1.47**	**125**	Pg	Pg	08 16 59.9	-2.4
CFON				Sg	Sg	08 17 19.3	-2.5
CFON	**Fontmartina**	**1.47**	**125**	Pg	Pg	08 16 59.9	-2.4
CFON				Lg		08 17 19.3	
	270nm,0.2s						
CFON	**Fontmartina**	**1.47**	**125**	Pg	Pg	08 16 59.9	-2.4
CFON				Sg	Sg	08 17 19.3	-2.5
SJAF	**Saint Jean de**	**1.52**	**94**	Pg	Pg	08 17 01.2	-2.3
SJAF				Sg	Sg	08 17 21.9	-1.9
SJAF	**Saint Jean de**	**1.52**	**94**	Pg	Pg	08 17 01.1	-2.3
SJAF				Lg		08 17 21.3	
EJON	**La Jonquera**	**1.53**	**95**	Pn	Pn	08 17 00.5	-0.3
EJON				Pg	Pg	08 17 01.6	-2.0
EJON				Lg		08 17 23.3	
EJON	**La Jonquera**	**1.53**	**95**	Pn	Pn	08 17 00.5	-0.3
	1.0nm,0.3s,SNR=7.9						
EJON				Pg	Pg	08 17 01.6	-2.0
	27nm,0.3s,SNR=51						
EJON				Lg		08 17 21.7	
	27nm,0.1s,SNR=7.9						
EJON	**La Jonquera**	**1.53**	**95**	Pn	Pn	08 17 00.5	-0.3
	SNR=7.9						
EJON	**La Jonquera**	**1.53**	**95**	Pg	Pg	08 17 01.6	-2.0
	27nm,0.3s,SNR=51						
SJPF	**Ste Jean**	**1.59**	**289**	*e*Pn	Pn	08 16 59.6	-2.0
SJPF				*e*Pg	Pg	08 17 02.3	-2.5
SJPF				*e*Sn	Sn	08 17 19.4	-3.2
SJPF				*e*Sg	Sg	08 17 22.9	-3.1
	146nm,0.4s						
OSSF	**Osses**	**1.67**	**294**	Pg	Pg	08 17 02.9	-3.4
OSSF				Sg	Sg	08 17 26.5	-2.0
OSSF	**Osses**	**1.67**	**294**	Pg	Pg	08 17 02.9	-3.3
OSSF				Lg		08 17 24.9	
EBR	**Ebro Roquetas**	**1.81**	**188**	*e*P*	Pb	08 17 06.5	+0.6
EBR	**Ebro Roquetas**	**1.81**	**188**	*e*SN	Sn	08 17 29.8	+1.8
EALK	**Alkurruntz**	**1.82**	**290**	Pn	Pn	08 17 06.0	+1.1
EALK				Sn	Sn	08 17 29.7	+1.4
EALK				Lg		08 17 32.7	
EALK	**Alkurruntz**	**1.82**	**290**	Pg	Pg	08 17 06.0	-3.4
	9.3nm,0.3s,SNR=25						
EALK				Sn	Sn	08 17 29.7	+1.4
	10nm,0.2s,SNR=7.9						
EALK				Lg		08 17 31.4	
	224nm,0.5s,SNR=17						
LFF	**La Frestale**	**2.33**	**358**	*e*Pn	Pn	08 17 10.0	-2.2
LFF				*e*Pg	Pg	08 17 16.5	-3.0
LFF				*e*Sg	Sg	08 17 46.6	-4.0
	28nm,0.3s						
EMOS	**Mosqueruela**	**2.45**	**204**	Pn	Pn	08 17 15.1	+1.2
EMOS				Pg	Pg	08 17 17.1	-4.8
EMOS				Lg		08 17 50.1	
EMOS	**Mosqueruela**	**2.45**	**204**	Pn	Pn	08 17 13.1	-0.9
	0.1nm,0.2s,SNR=7.9						
EMOS				Pg	Pg	08 17 17.1	-4.8
	3.8nm,0.3s,SNR=11						
EMOS				Lg		08 17 50.1	
	7.6nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**204**	Pn	Pn	08 17 15.1	+1.2
	SNR=7.9						
EMOS	**Mosqueruela**	**2.45**	**204**	Pg	Pg	08 17 17.1	-4.8
	3.8nm,0.3s,SNR=11						
CAF	**Calviac**	**2.48**	**21**	*e*Pn	Pn	08 17 12.3	-2.1
CAF				*e*Pg	Pg	08 17 19.2	-3.4
CAF				*e*Sn	Sn	08 17 41.5	-3.7
CAF				*e*Sg	Sg	08 17 50.3	-5.4
	22nm,0.2s						
LASF	**Ste Croix**	**2.65**	**55**	*e*Pn	Pn	08 17 14.9	-1.9
LASF				*e*Pg	Pg	08 17 22.1	-3.9
LASF				*e*Sn	Sn	08 17 45.2	-4.3
LASF				*e*Sg	Sg	08 17 56.7	-4.6
	17nm,0.3s						
RJF	**Les Rejaudoux**	**2.74**	**10**	*e*Pn	Pn	08 17 15.9	-2.2
RJF				*e*Pg	Pg	08 17 23.9	-3.8
RJF				*e*Sn	Sn	08 17 46.7	-5.0
RJF				*e*Sg	Sg	08 17 59.3	-4.9
	11nm,0.2s						
ELAN	**Lanestosa**	**3.19**	**283**	Pn	Pn	08 17 24.4	-0.1
ELAN				Sn	Sn	08 18 02.4	-0.7
ELAN				Lg		08 18 13.9	
ELAN	**Lanestosa**	**3.19**	**283**	Pn	Pn	08 17 22.7	-1.8
	1.2nm,0.3s,SNR=7.9						
ELAN				Sn	Sn	08 18 02.4	-0.7
	2.6nm,0.2s,SNR=7.9						
ELAN				Lg		08 18 13.9	
	8.4nm,0.3s,SNR=4.0						
ELAN	**Lanestosa**	**3.19**	**283**	Pn	Pn	08 17 24.4	-0.1
	SNR=7.9						
ETOS	**Mallorca**	**3.21**	**152**	Sn	Sn	08 17 59.2	-4.5
	1.1nm,0.2s,SNR=7.9						
ETOS	**Mallorca**	**3.21**	**152**	Sn	Sn	08 17 59.2	-4.5
	SNR=7.9						
VIVF	**Saint-Julien-l**	**3.58**	**50**	*e*Pn	Pn	08 17 27.2	-2.8
VIVF				*e*Pg	Pg	08 17 39.0	-5.5
VIVF				*e*Sg	Sg	08 18 26.0	-6.2
	12nm,0.4s						
TCF	**Toulx Ste Croi**	**3.81**	**15**	*e*Pn	Pn	08 17 30.4	-2.9
TCF				*e*Pg	Pg	08 17 44.0	-5.0
TCF				*e*Sg	Sg	08 18 32.6	-7.2
	5.3nm,0.3s						
MFF	**Saint Martin d**	**4.05**	**350**	*e*Pn	Pn	08 17 34.0	-2.7
MFF				*e*Sn	Sn	08 18 19.2	-5.8
MFF				*e*Sg	Sg	08 18 40.1	-7.8
	7.5nm,0.5s						
BGF	**Bois d'Agland**	**4.20**	**19**	*e*Pg	Pg	08 17 50.6	-6.3
BGF				*e*Sg	Sg	08 18 45.5	-7.4
	21nm,0.3s						
LMR	**La Mourre**	**4.23**	**78**	*e*Pn	Pn	08 17 35.6	-3.7
LMR				*e*Sn	Sn	08 18 22.8	-6.7
	4.0nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.33**	**56**	*e*Pn	Pn	08 17 37.3	-3.3
ORIF				*e*Sg	Sg	08 18 48.6	-8.4
	6.7nm,0.3s						
FRF	**La Foret Royal**	**4.37**	**75**	*e*Pn	Pn	08 17 37.9	-3.3
EARI	**Arriondas**	**4.49**	**281**	Pn	Pn	08 17 41.4	-1.5
	0.5nm,0.1s,SNR=7.9						
EARI				Sn	Sn	08 18 30.9	-5.0
	1.6nm,0.4s,SNR=7.9						
AVF	**Avril sur Loir**	**4.55**	**22**	*e*Pn	Pn	08 17 40.5	-3.3
AVF				*e*Pg	Pg	08 17 57.4	-6.5
AVF				*e*Sg	Sg	08 18 56.4	-8.1
	3.5nm,0.3s						
SMF	**Signal de Mont**	**4.57**	**27**	*e*Sg	Sg	08 18 56.9	-8.3
	3.3nm,0.3s						
HYF	**Humbligny**	**4.83**	**15**	*e*Sg	Sg	08 19 04.8	-9.1
SSF	**Saint Saulge**	**4.84**	**22**	*e*Pn	Pn	08 17 44.5	-3.4
SSF				*e*Sg	Sg	08 19 05.1	-9.1
	2.2nm,0.3s						
SBF	**Sospel**	**4.99**	**73**	*e*Pn	Pn	08 17 46.2	-3.8
ECAL	**Calabor**	**5.65**	**266**	Pn	Pn	08 17 56.8	-2.6
	3.5nm,0.4s,SNR=7.9						
ECAL				Sn	Sn	08 18 58.4	-6.9
	1.5nm,0.2s,SNR=7.9						
EPON	**Pontenova**	**5.90**	**280**	Pn	Pn	08 18 00.7	-2.1
	0.9nm,0.2s,SNR=7.9						
EPON				Sn	Sn	08 19 03.1	-8.3
	1.4nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**6.06**	**225**	Pn	Pn	08 18 02.4	-2.7
	0.3nm,0.2s,SNR=7.9						
EADA				Sn	Sn	08 19 05.9	-10
	0.3nm,0.2s,SNR=7.9						
EADA				Lg		08 19 42.3	
	0.5nm,0.2s,SNR=7.9						
ROSF	**Rostrenen**	**6.41**	**335**	*e*Pn	Pn	08 18 06.0	-4.1

IDC 29 08:32:59.0±2.7, 2.83N×96.45E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=114.9km s-min=21.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.54**	**123**	P	P	08 41 04.7	-1.9
	1.2nm,0.5s,baz=301,slow=9.0,SNR=14						
ASAR	**Alice Springs**	**44.98**	**128**	P	P	08 41 16.6	-1.6
	0.2nm,0.5s,baz=305,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**45.49**	**346**	P	P	08 41 20.2	-1.7
	0.7nm,0.4s,baz=158,slow=9.0,SNR=17						
SONM	**Songino Array**	**45.64**	**9**	P	P	08 41 21.4	-1.7
	0.6nm,0.4s,baz=189,slow=9.5,SNR=9.4						
BVAR	**Borovoye Array**	**54.47**	**341**	P	P	08 42 27.9	-2.6
	0.4nm,0.4s,baz=129,slow=9.2,SNR=3.0						

*IDC **29** 08:37:29.6±1.1, 6.68N×72.78W, h173km±13km, mb3.3/5, mb1 3.6/7, mb1mx3.3/20, mbtmp3.8/7, Error ellipse: s-maj=23.1km s-min=13.0km az=114.0*
*NEIC **29** 08:37:30.2±1.0, 6.61N×72.70W, h182km±10km, mb3.7/1, Error ellipse: s-maj=19.2km s-min=15.5km az=113.0*
ISC 29 08:37:28.6±0.8, 6.7N±0.1×72.9W±0.1, h176km±9km, n11, σ0§94/12, mb3.6/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROSC	**El Rosal**	**2.32**	**218**	P	**P**	**08 38 11.1**	**+1.6**
	23nm,0.3s,baz=88,slow=17,SNR=159						
ROSC				S	**S**	**08 38 39.7**	**-1.4**
	54nm,0.3s,baz=76,slow=19,SNR=11						
SDV	**Santo Domingo**	**3.12**	**46**	P	**P**	**08 38 20.3**	**+1.2**
	6.6nm,0.3s,baz=224,slow=8.2,SNR=171						
SDV				S	**S**	**08 38 57.1**	**-0.9**
	15nm,0.3s,baz=78,slow=24,SNR=33						
JTS	**JuntasAbangare**	**12.46**	**287**	P	**P**	**08 40 25.9**	**+5.0**
LPAZ	**La Paz**	**23.31**	**168**	P	**P**	**08 42 21.9**	**-0.1**
	0.7nm,0.3s,mb3.5,baz=336,slow=10.0,SNR=9.3						
LPAZ	**La Paz**	**23.31**	**168**	*e*P	**P**	**08 42 21.8**	**-0.2**
	1.0nm,0.4s,mb3.6						
TXAR	**Lajitas Array**	**36.72**	**312**	P	**P**	**08 44 20.8**	**+0.3**
	0.3nm,0.4s,mb3.3,baz=125,slow=9.3,SNR=8.7						
ULM	**Lac du Bonnet**	**47.48**	**340**	P	**P**	**08 45 46.6**	**-0.8**
	1.7nm,0.4s,mb4.0,baz=144,slow=8.7,SNR=4.5						
PDAR	**Pinedale Array**	**48.32**	**324**	P	**P**	**08 45 54.3**	**+0.3**
	0.3nm,0.5s,mb3.2,baz=125,slow=11,SNR=2.9						
YKA	**Yellowknife Ar**	**63.46**	**340**	P	**P**	**08 47 41.4**	**-0.2**
	0.9nm,0.6s,mb3.8,baz=133,slow=6.6,SNR=46						
YKA	**Yellowknife Ar**	**63.46**	**340**	P	**P**	**08 47 41.4**	**-0.2**
ASAR	**Alice Springs**	**149.23**	**234**	PKPbc	PKPdf	08 56 59.9	+7.4
	0.8nm,1.1s,baz=125,slow=3.3,SNR=4.6						

*IDC **29** 08:38:33.7±4.4, 0.57N×97.04E, mb3.6/4, mb1 3.7/4, mb1mx3.5/15, mbtmp3.6/4, MS3.8/1, Ms1 3.8/1, ms1mx2.7/17, Error ellipse: s-maj=177.1km s-min=24.4km az=59.0*
ISC 29 08:38:36.5±4.1, 0.5N±0.6×97.0E±1.0, h33km, n6, σ0§17/5, mb3.7/5, MS3.8/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.74**	**125**	LR	LR	08 58 53.0	
	comp=Z,157nm,18.3s,MS3.8,baz=301,slow=36						
WRA	**Warramunga Arr**	**41.89**	**121**	P	**P**	**08 46 25.6**	**-0.2**
	0.3nm,0.4s,mb3.3,baz=310,slow=9.0,SNR=9.3						
ASAR	**Alice Springs**	**43.19**	**126**	P	**P**	**08 46 36.5**	**+0.2**
	0.2nm,0.3s,mb3.3,baz=295,slow=7.6,SNR=7.0						
SONM	**Songino Array**	**47.81**	**9**	P	**P**	**08 47 12.8**	**0.0**
	0.7nm,0.9s,mb3.7,baz=191,slow=7.3,SNR=4.5						
MKAR	**Makanchi Array**	**47.82**	**346**	P	**P**	**08 47 12.8**	**0.0**
	1.6nm,0.7s,mb4.2,baz=183,slow=7.9,SNR=7.4						
STKA	**Stephens Creek**	**53.09**	**132**	P	**P**	**08 47 59.0**	**+5.9**
	0.8nm,0.5s,mb3.9,baz=321,slow=6.5,SNR=2.6						

*OMAN **29** 08:39:02.7, 12.61N×58.29E, h20km, Error ellipse: s-maj=186.2km s-min=9.5km az=339.0*
*IDC **29** 08:39:04.9±0.6, 12.94N×58.03E, mb4.2/19, mb1 4.3/19, mb1mx4.2/24, mbtmp4.2/19, MS3.6/5, Ms1 3.6/5, ms1mx3.2/26, Error ellipse: s-maj=16.6km s-min=15.0km az=74.0*
*NEIC **29** 08:39:08.1±0.6, 13.18N×57.59E, h10km, mb4.5/13, Error ellipse: s-maj=14.1km s-min=8.4km az=128.0*
*CSEM **29** 08:39:11.7±0.1, 13.23N×57.70E, h60km, mb4.5/12, Ms3.6, Error ellipse: s-maj=7.0km s-min=3.3km az=105.0*
ISC 29 08:39:04.2±0.5, 12.97N±0.06×57.86E±0.07, h10km, n65, σ1§20/63, mb4.3/33, MS3.6/4, 5C-3D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHAO	**Shalim**	**5.46**	**337**	⇓P	**Pn**	**08 40 27.2**	**-0.5**
	SNR=32						
RBK	**Rabkut**	**5.72**	**322**	⇑P	**Pn**	**08 40 33.0**	**+1.7**
ABTO	**Aybut**	**6.19**	**315**	⇑P	**Pn**	**08 40 40.4**	**+2.4**
	SNR=13						
WHFO	**Wadi Hawf**	**6.30**	**322**	⇑P	**Pn**	**08 40 42.3**	**+2.8**
JMDO	**Jabal Madar**	**9.35**	**1**	⇑P	**P**	**08 41 22.0**	**0.0**
	SNR=13						
WBK	**Wadi Bani Khal**	**9.64**	**6**	⇓P	**P**	**08 41 25.4**	**-0.8**
SMDO	**Samad**	**10.03**	**1**	P	**P**	**08 41 31.2**	**-0.3**
	SNR=9.2						
ARQ	**Araqi**	**10.39**	**353**	⇓P	**P**	**08 41 37.2**	**+0.8**
BIDO	**Bidbid**	**10.50**	**1**	P	**P**	**08 41 38.0**	**+0.1**
	SNR=5.4						
ASHO	**Ashiyiah**	**11.77**	**352**	⇑P	**P**	**08 41 55.3**	**-0.1**
ATD	**Arta Tunnel**	**14.74**	**266**	LR	LR	08 46 26.7	
	comp=Z,92nm,21.8s,baz=196,slow=30						
RAYN	**Ar Rayn**	**15.73**	**314**	Pn	**P**	**08 42 47.2**	**-0.4**
	78nm,0.9s,SNR=11						
KMBO	**Kilima Mbogo**	**24.78**	**237**	P	**P**	**08 44 30.2**	**+2.4**
	6.4nm,0.9s,mb4.2,baz=44,slow=12,SNR=16						
KMBO	**Kilima Mbogo**	**24.78**	**237**	*e*P	**P**	**08 44 30.0**	**+2.2**
	7.1nm,0.8s,mb4.2						
KMBO	**Kilima Mbogo**	**24.78**	**237**	*e*P	**P**	**08 44 30.0**	**+2.2**
	7.1nm,0.8s,mb4.2						
ASF	**Jabal al Asfar**	**27.10**	**318**	P	**P**	**08 44 52.4**	**+3.1**
	2.9nm,0.6s,mb4.0,baz=118,slow=4.1,SNR=5.4						
ASF				LR	LR	08 54 53.9	
	comp=Z,54nm,19.7s,MS3.1,baz=195,slow=35						
GNI	**Garni**	**29.43**	**339**	LR	LR	08 58 37.2	
	comp=Z,169nm,18.3s,MS3.7,baz=68,slow=40						
AAK	**Ala-Archa**	**32.88**	**23**	*e*P	**P**	**08 45 42.8**	**+2.3**
	3.3nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**32.88**	**23**	*e*P	**P**	**08 45 42.8**	**+2.2**
	3.3nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**34.15**	**326**	P	**P**	**08 45 53.1**	**+1.6**
	0.6nm,0.7s,mb3.6,baz=144,slow=3.7,SNR=3.6						
IDI	**Anoyia**	**37.12**	**312**	P	**P**	**08 46 19.9**	**+3.0**
	21nm,0.7s,mb5.1,baz=107,slow=10,SNR=13						
MKAR	**Makanchi Array**	**39.48**	**27**	P	**P**	**08 46 38.4**	**+1.8**
	1.1nm,0.5s,mb3.9,baz=214,slow=10.0,SNR=35						
MKAR				LR	LR	09 03 42.8	
	comp=Z,118nm,21.7s,MS3.7,baz=183,slow=38						
BVAR	**Borovoye Array**	**41.19**	**11**	P	**P**	**08 46 52.6**	**+2.1**
	0.6nm,0.5s,mb3.5,baz=191,slow=7.3,SNR=3.9						
KURK	**Kurchatov**	**41.27**	**20**	*e*P	**P**	**08 46 52.8**	**+1.7**
	5.7nm,0.9s,mb4.2						
KURK	**Kurchatov**	**41.27**	**20**	*e*P	**P**	**08 46 52.8**	**+1.6**
	5.7nm,0.9s,mb4.2						
CHKZ	**Chkalovo**	**41.85**	**11**	*e*P	**P**	**08 46 57.1**	**+1.3**
	5.8nm,0.6s,mb4.4						
CHKZ	**Chkalovo**	**41.85**	**11**	*e*P	**P**	**08 46 57.1**	**+1.2**
	5.8nm,0.6s,mb4.4						
LBTB	**Lobatse**	**49.15**	**220**	P	**P**	**08 47 56.3**	**+1.8**
	4.7nm,0.6s,mb4.7,baz=44,slow=8.8,SNR=8.6						
LBTB				LR	LR	09 06 54.7	
	comp=Z,138nm,18.5s,MS4.0,baz=338,slow=34						
MORC	**Moravsky Berou**	**49.33**	**326**	P	**P**	**08 47 55.4**	**-0.1**
	2.2nm,0.7s,mb4.3						
MORC	**Moravsky Berou**	**49.33**	**326**	P	**P**	**08 47 55.4**	**-0.1**
	2.2nm,0.7s,mb4.3						
PGF	**Pioggiola**	**51.38**	**315**	*e*P	**P**	**08 48 09.7**	**-1.5**
BOSA	**Boshof**	**51.99**	**217**	P	**P**	**08 48 18.0**	**+1.9**
	2.0nm,0.8s,mb4.1,baz=45,slow=8.6,SNR=3.2						
DAVOX	**Davos**	**52.38**	**320**	P	**P**	**08 48 18.6**	**-0.1**
	2.4nm,0.6s,mb4.3						
DAVOX	**Davos**	**52.38**	**320**	P	**P**	**08 48 18.6**	**-0.1**
CLL	**Collm**	**52.60**	**326**	P	**P**	**08 48 21.0**	**+0.7**
	logA/T=0.9,mb4.6						
SONM	**Songino Array**	**53.15**	**39**	P	**P**	**08 48 24.9**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=259,slow=6.3,SNR=4.0						
FINES	**FINESS Array B**	**53.57**	**342**	P	**P**	**08 48 27.4**	**0.0**
	1.8nm,0.6s,mb4.2,baz=134,slow=7.8,SNR=12						
MBDF	**Montbardon**	**53.64**	**316**	*e*P	**P**	**08 48 27.6**	**-0.5**
	6.5nm,0.8s,mb4.3						
LPG	**La Plagne**	**53.91**	**317**	*e*P	**P**	**08 48 30.2**	**+0.1**
	15nm,0.8s,mb4.7						
LPL	**La Plagne**	**53.93**	**317**	*e*P	**P**	**08 48 29.8**	**-0.4**
	12nm,0.8s,mb4.6						
CDF	**Champ du Feu**	**54.64**	**321**	*e*P	**P**	**08 48 34.6**	**-0.8**
HINF	**Hinteralfeld**	**54.68**	**320**	*e*P	**P**	**08 48 34.7**	**-1.0**
CABF	**La Chapelle**	**54.73**	**318**	*e*P	**P**	**08 48 35.3**	**-0.8**
	42nm,1.1s,mb5.1						
VIVF	**Saint-Julien-l**	**55.09**	**316**	*e*P	**P**	**08 48 38.0**	**-0.8**
LASF	**Ste Croix**	**55.42**	**315**	*e*P	**P**	**08 48 40.4**	**-0.8**
	18nm,1.1s,mb4.7						
SSF	**Saint Saulge**	**56.55**	**318**	*e*P	**P**	**08 48 48.2**	**-1.1**
AVF	**Avril sur Loir**	**56.57**	**318**	*e*P	**P**	**08 48 48.3**	**-1.1**
	2.2nm,0.5s,mb4.2						
BGF	**Bois d'Agland**	**56.83**	**318**	*e*P	**P**	**08 48 50.0**	**-1.3**
HFS	**Hagfors**	**57.11**	**335**	P	**P**	**08 48 52.4**	**-0.6**
	1.9nm,0.5s,mb4.4,baz=149,slow=8.6,SNR=8.6						
LFF	**La Frestale**	**57.80**	**315**	*e*P	**P**	**08 48 56.8**	**-1.3**
	7.4nm,0.4s,mb4.7						
ETSF	**Etsaut**	**58.23**	**313**	*e*P	**P**	**08 49 00.1**	**-1.1**
NOA	**NORSAR Array B**	**58.63**	**336**	P	**P**	**08 49 02.9**	**-0.8**
	0.8nm,0.8s,mb3.8,baz=116,slow=7.6,SNR=3.5						
NOA	**NORSAR Array B**	**58.63**	**336**	P	**P**	**08 49 02.8**	**-0.9**
SJPF	**Ste Jean**	**58.76**	**313**	*e*P	**P**	**08 49 03.7**	**-1.1**
	8.1nm,0.7s,mb4.5						
LDF	**La Druriere**	**59.34**	**319**	*e*P	**P

mb1mx3.6/17,**mbtmp3.8**/4,**Error ellipse: s-maj=139.5km s-min=29.7km az=54.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.81**	**122**	P	P	09 01 36.2	-1.8
	0.8nm,0.8s,baz=303,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**47.57**	**8**	P	P	09 02 22.7	-1.3
	0.7nm,0.6s,baz=188,slow=9.2,SNR=4.1						
MKAR	**Makanchi Array**	**47.67**	**346**	P	P	09 02 23.9	-0.8
	1.1nm,0.5s,baz=157,slow=9.1,SNR=5.1						
BVAR	**Borovoye Array**	**56.67**	**341**	P	P	09 03 27.9	-4.1
	0.8nm,0.6s,baz=143,slow=7.2,SNR=3.9						

IDC ***29*** *08:54:21.7±1.7,0.51N×97.30E,mb4.0/7,mb1 4.2/7, mb1mx3.9/17,mbtmp4.0/7,Error ellipse: s-maj=81.0km s-min=19.1km az=53.0*

NEIC ***29*** *08:54:25.8±0.8,0.43N×97.26E,h30km,mb4.3/3,Error ellipse: s-maj=34.5km s-min=10.2km az=58.0*

ISC 29 08:54:24.5±1.2,0.5N±0.2×97.3E±0.3,h33km,n12, σ0s95/11,mb4.0/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**17.97**	**5**	P	**P**	**08 58 34.2**	**+0.7**
	5.6nm,0.8s						
FITZ	**Fitzroy Crossi**	**33.44**	**125**	P	**P**	**09 01 02.4**	**-0.3**
	4.6nm,0.8s,mb4.5,baz=342,slow=4.5,SNR=4.3						
WRA	**Warramunga Arr**	**41.59**	**121**	P	**P**	**09 02 11.8**	**+0.5**
	2.6nm,0.8s,mb3.9,baz=300,slow=9.2,SNR=7.8						
WRAB	**Tennant Creek**	**41.59**	**121**	*eP*	**P**	**09 02 10.3**	**-1.0**
	6.4nm,0.9s,mb4.2						
ASAR	**Alice Springs**	**42.89**	**127**	P	**P**	**09 02 22.6**	**+0.6**
	1.9nm,0.9s,mb3.8,baz=301,slow=7.8,SNR=12						
SONM	**Songino Array**	**47.85**	**8**	P	**P**	**09 03 01.3**	**+0.2**
	0.8nm,0.8s,mb3.8,baz=194,slow=6.7,SNR=3.2						
MKAR	**Makanchi Array**	**47.98**	**346**	P	**P**	**09 03 02.0**	**-0.1**
	1.4nm,0.7s,mb4.1,baz=157,slow=9.2,SNR=4.2						
BVAR	**Borovoye Array**	**56.97**	**341**	P	**P**	**09 04 07.8**	**-1.3**
	0.8nm,0.6s,mb3.9,baz=153,slow=6.6,SNR=4.2						
CHKZ	**Chkalovo**	**57.45**	**342**	*eP*	**P**	**09 04 11.3**	**-1.2**
	2.6nm,0.7s,mb4.4						
GERES	**GERESS Array B**	**85.42**	**319**	P	**P**	**09 07 02.0**	**+2.0**
	0.3nm,0.2s,mb4.0,baz=127,slow=6.7,SNR=4.5						
NOA	**NORSAR Array B**	**87.69**	**331**	P	**P**	**09 07 16.4**	**+5.7**
	0.3nm,0.5s,mb3.8,baz=138,slow=6.0,SNR=2.2						
TXAR	**Lajitas Array**	**144.26**	**32**	PKP	PKPdf	09 13 59.0	+1.2
	0.3nm,0.8s,baz=198,slow=2.9,SNR=3.1						

IDC ***29*** *08:57:41.4±1.6,1.60N×97.60E,mb4.1/9,mb1 4.2/9, mb1mx4.0/18,mbtmp4.1/9,Error ellipse: s-maj=82.7km s-min=15.9km az=55.0*

NEIC ***29*** *08:57:45.8±0.6,1.60N×97.61E,h30km,mb4.5/5,Error ellipse: s-maj=20.2km s-min=9.1km az=57.0*

ISC 29 08:57:44.2±0.8,1.6N±0.1×97.6E±0.1,h33km,n16, σ0s78/15,mb4.2/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.77**	**40**	*eP*	**P**	**08 58 56.2**	**+0.5**
FITZ	**Fitzroy Crossi**	**33.85**	**127**	P	**P**	**09 04 24.5**	**-1.4**
	4.5nm,0.9s,mb4.4,baz=345,slow=7.2,SNR=3.6						
WRA	**Warramunga Arr**	**41.92**	**123**	P	**P**	**09 05 34.1**	**+0.4**
	2.2nm,0.7s,mb3.9,baz=304,slow=8.8,SNR=19						
WRAB	**Tennant Creek**	**41.92**	**123**	*eP*	**P**	**09 05 33.7**	**0.0**
	3.9nm,0.4s,mb4.4						
ASAR	**Alice Springs**	**43.33**	**128**	P	**P**	**09 05 45.8**	**+0.6**
	0.4nm,0.4s,mb3.5,baz=298,slow=7.5,SNR=6.1						
AAK	**Ala-Archa**	**45.79**	**336**	P	**P**	**09 06 05.0**	**+0.3**
	1.0nm,0.6s,mb3.9						
SONM	**Songino Array**	**46.68**	**8**	P	**P**	**09 06 11.7**	**+0.1**
	3.4nm,0.8s,mb4.3,baz=188,slow=9.4,SNR=18						
ULN	**Ulaanbaatar**	**46.81**	**9**	P	**P**	**09 06 11.0**	**-1.6**
	3.2nm,0.8s,mb4.3						
MKAR	**Makanchi Array**	**46.95**	**346**	P	**P**	**09 06 14.6**	**+0.9**
	5.6nm,0.5s,mb4.8,baz=162,slow=8.4,SNR=71						
KURK	**Kurchatov**	**51.51**	**345**	*eP*	**P**	**09 06 49.0**	**+0.2**
	6.0nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**53.34**	**133**	P	**P**	**09 07 03.0**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=326,slow=7.3,SNR=2.9						
BVAR	**Borovoye Array**	**56.00**	**341**	P	**P**	**09 07 21.6**	**-0.3**
	1.4nm,0.5s,mb4.2,baz=143,slow=9.3,SNR=8.6						
CHKZ	**Chkalovo**	**56.48**	**341**	*eP*	**P**	**09 07 23.8**	**-1.5**
	3.1nm,0.5s,mb4.6						
FINES	**FINESS Array B**	**79.83**	**332**	P	**P**	**09 09 51.2**	**+0.5**
	0.4nm,0.4s,mb3.7,baz=110,slow=4.6,SNR=6.5						
ARCES	**ARCESS Array B**	**82.29**	**340**	P	**P**	**09 10 04.3**	**+0.8**
	4.4nm,1.3s,mb4.3,baz=76,slow=5.0,SNR=4.3						
TXAR	**Lajitas Array**	**143.13**	**32**	PKP	PKPdf	09 17 19.0	+3.5
	0.1nm,0.5s,baz=13,slow=0.9,SNR=4.0						

IDC 29 08:58:39.4±3.0,1.82N×97.00E,mb3.8/4,mb1 3.9/4, mb1mx3.6/17,mbtmp3.8/4,Error ellipse: s-maj=135.9km s-min=26.4km az=62.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.92**	**127**	P	P	09 06 47.2	-2.8
	0.2nm,0.3s,baz=315,slow=7.7,SNR=5.4						
SONM	**Songino Array**	**46.55**	**9**	P	P	09 07 09.3	-1.3
	1.5nm,0.7s,baz=185,slow=9.3,SNR=6.4						
STKA	**Stephens Creek**	**53.92**	**132**	P	P	09 08 06.2	-1.0
	2.0nm,0.8s,baz=324,slow=10,SNR=2.8						
BVAR	**Borovoye Array**	**55.60**	**341**	P	P	09 08 16.3	-2.9
	0.7nm,0.5s,baz=149,slow=8.4,SNR=4.1						

IGQ 29 09:01:29.9,2.46S×79.90W,h12km±8km,mb4.0,4C-5D, Error ellipse: s-maj=10.6km s-min=3.6km az=71.6,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.59**	**52**	⇓P	Pn	09 01 59.2	+1.2
IGUA				S	Sn	09 02 22.2	+3.6
ARRY	**Arrayan**	**1.73**	**57**	⇓P	Pn	09 02 01.1	+1.1
ARRY				S	Sn	09 02 24.9	+2.7
CUSU	**Cusua**	**1.74**	**54**	P	Pn	09 02 03.2	+2.9
RETU	**Refugio**	**1.77**	**55**	P	Pn	09 02 02.4	+1.8
RETU				S	Sn	09 02 29.4	+6.3
ULBA	**Ulba**	**1.80**	**56**	P	Pn	09 02 03.7	+2.6
ULBA				S	Sn	09 02 29.8	+5.8
PISA	**Pisayambo**	**2.06**	**47**	⇑P	Pn	09 02 07.8	+3.0
PISA				S	Sn	09 02 36.9	+6.3
NAS1	**Nasa**	**2.31**	**38**	P	Pn	09 02 11.3	+2.9
NAS1				S	Sn	09 02 44.0	+7.1
TAMB	**Tambo**	**2.33**	**41**	P	Pn	09 02 12.1	+3.4
TAMB				S	Sn	09 02 44.2	+6.7
VC1	**Cotopaxi 1**	**2.35**	**40**	⇓P	Pn	09 02 12.2	+3.2
VC1				S	Sn	09 02 44.4	+6.5
JUA2	**San Juan 2**	**2.58**	**30**	P	Pn	09 02 14.2	+1.9
PINO	**Pino**	**2.63**	**29**	⇓P	Pn	09 02 14.4	+1.4
ANTI	**Antisana**	**2.65**	**41**	⇑P	Pn	09 02 16.5	+3.2
ANTI				S	Sn	09 02 52.6	+7.0
JOR1	**San Jorge 1**	**2.75**	**27**	⇑P	Pn	09 02 13.0	-1.7
JOR1				S	Sn	09 02 45.6	-2.6
CAYR	**Refugio Cayamb**	**3.10**	**38**	P	Pn	09 02 25.9	+6.1
CAYA	**Cayambe**	**3.16**	**37**	P	Pn	09 02 25.8	+5.3
COTA	**Cotacachi**	**3.19**	**29**	⇑P	Pn	09 02 23.1	+2.2
ECEN	**Cerro Negro**	**3.79**	**31**	⇓P	Pn	09 02 32.9	+3.4
ECEN				S	Sn	09 03 20.0	+5.5

IDC ***29*** *09:15:59.7±0.6,1.86N×96.94E,mb4.5/19,mb1 4.6/19, mb1mx4.5/23,mbtmp4.5/19,Error ellipse: s-maj=25.9km s-min=12.2km az=46.0*

BJI ***29*** *09:16:01.9,1.83N×97.03E,h30km,mB5.3,mb5.1,Ms4.9, Msz4.6*

MOS ***29*** *09:16:02.7±1.0,1.94N×97.05E,h33km,mb5.3/28,Error ellipse: s-maj=12.9km s-min=7.1km az=109.3*

NEIC ***29*** *09:16:03.8±0.3,1.89N×96.97E,mb5.0/33,Error ellipse: s-maj=7.9km s-min=5.0km az=224.0*

ISC 29 09:16:02.0±0.3,1.88N±0.04×96.98E±0.04,h27km, h27km±6km:pP-P,n153,σ1s02/155,mb5.0/74,MS4.6/21, 11C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.85**	**56**	P	**Pn**	**09 17 16.8**	**+1.5**
KULM	**Kulim**	**4.99**	**47**	*eP*	**Pn**	**09 17 18.1**	**+0.9**
KULM				*e*		09 17 25.4	
KGM	**Kluang**	**6.34**	**89**	P	**Pn**	**09 17 38.2**	**+1.9**
KSM	**Kuching**	**13.33**	**92**	*eP*	**P**	**09 19 13.4**	**+1.1**
CM31	**Chiang Mai Arr**	**16.59**	**7**	*eP*	**P**	**09 19 53.7**	**-0.9**
	47nm,1.0s						
KKM	**Kota Kinabalu**	**19.63**	**77**	*eP*	**P**	**09 20 31.6**	**-0.1**
KKM	**Kota Kinabalu**	**19.63**	**77**	P	**P**	**09 20 31.5**	**-0.2**
VIS	**Vishakhapatnam**	**20.68**	**320**	*i* P	**P**	**09 20 43.7**	**+0.9**
VIS				*i*		09 24 20.8	
TSM	**Tawau**	**21.00**	**83**	P	**P**	**09 20 45.8**	**-0.3**
QIZ	**Qiongzhong**	**21.20**	**36**	P	**P**	**09 20 48.3**	**+0.3**
QIZ				AP		09 20 55.5	
QIZ				S	**S**	**09 24 39.5**	**+2.1**
QIZ				XS		09 24 50.3	
QIZ				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.5						
QIZ				LR	LR		
	comp=N,1μm,15.2s,MS4.5						
QIZ				LR	LR		
	comp=E,922nm,15.5s,MS4.5						
QIZ				LR	LR		
	comp=Z,1μm,13.3s,MS4.5						
QIZ	**Qiongzhong**	**21.20**	**36**	*eP*	**P**	**09 20 46.0**	**-2.1**
	comp=Z,40nm,1.0s,mb4.7						
KMI	**Kunming**	**23.77**	**13**	⇓P	**P**	**09 21 15.3**	**+1.8**
KMI				AP		09 21 23.0	
KMI				XP		09 21 28.0	
KMI				PP	PP	09 21 49.8	+2.9
KMI				S	**S**	**09 25 28.3**	**+4.3**
KMI				XS		09 25 40.3	
KMI				AMB	AMB		
	comp=Z,44nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,152nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,14.0s						
KMI				LR	LR		
	comp=E,972nm,20.3s						
KMI				LR	LR		
	comp=Z,1μm,15.1s,MS4.5						
HYB	**Hyderabad**	**23.80**	**312**	*eP*	**P**	**09 21 15.0**	**+1.2**
HYB	**Hyderabad**	**23.80**	**312**	*i* P	**P**	**09 21 15.0**	**+1.2**
GYA	**Guiyang**	**26.16**	**20**	⇑*i*P	**P**	**09 21 35.8**	**-0.4**
GYA				AP	pP	09 21 42.5	-1.4
GYA				XP	sP	09 21 46.0	-1.4
GYA				PP	PP	09 22 17.5	-0.7
GYA				S	**S**	**09 26 01.8**	**-2.3**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,100nm,4.2s						
GYA				LR	LR		
	comp=N,2μm,15.3s,MS4.8						
GYA				LR	LR		
	comp=E,740nm,12.6s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,14.1s,MS4.8						
JIRN	**Jiri**	**27.64**	**339**	*eP*	**P**	**09 21 50.4**	**+0.7**
PKI	**Pulchoki**	**27.85**	**338**	*eP*	**P**	**09 21 51.8**	**+0.2**
	comp=Z,37nm,0.7s,mb5.1						
PKI	**Pulchoki**	**27.85**	**338**	*eP*	**P**	**09 21 51.8**	**+0.2**
PKI				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.8						
GUN	**Gumba**	**27.98**	**339**	*eP*	**P**	**09 21 53.4**	**+0.6**
	comp=Z,87nm,0.8s,mb5.5						
DMN	**Daman**	**28.00**	**337**	*eP*	**P**	**09 21 53.2**	**+0.2**
	comp=Z,49nm,0.9s,mb5.1						
KKN	**Kakani**	**28.09**	**338**	*eP*	**P**	**09 21 53.9**	**+0.1**
	comp=Z,169nm,1.1s,mb5.6						
KKN	**Kakani**	**28.09**	**338**	*eP*	**P**	**09 21 53.9**	**+0.1**
KKN				pmax	pmax		
	comp=Z,84nm,1.1s,mb5.3						
LSA	**Lhasa**	**28.22**	**349**	P	**P**	**09 21 56.0**	**+1.1**
LSA	**Lhasa**	**28.22**	**349**	*eP*	**P**	**09 21 55.5**	**+0.6**
LSA				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.1						
LSA	**Lhasa**	**28.22**	**349**	*eP*	**P**	**09 21 55.5**	**+0.5**
	comp=Z,50nm,1.0s,mb5.1						
GKN	**Gorkha**	**28.54**	**337**	*eP*	**P**	**09 21 57.8**	**0.0**
	comp=Z,103nm,0.9s,mb5.5						
KOLN	**Koldanda**	**28.75**	**335**	*eP*	**P**	**09 22 00.2**	**+0.4**
	comp=Z,47nm,0.9s,mb5.2						
CD2	**Chengdu**	**29.58**	**12**	*eP*	**P**	**09 22 05.0**	**-2.2**
ENH	**Enshi**	**30.64**	**22**	*eP*	**P**	**09 22 14.4**	**-2.1**
	comp=Z,31nm,0.8s,mb5.2						
ENH				*e*	pP	09 22 22.0	-2.3
LGTI	**Lohaghat**	**31.71**	**331**	*eP*	**P**	**09 22 26.7**	**+0.7**
NDI	**New Delhi**	**32.65**	**327**	*eP*	**P**	**09 22 32.0**	**-2.2**
WHN	**Wuhan**	**32.93**	**28**	*eP*	**P**	**09 22 35.5**	**-1.1**
WHN				LR	LR		
	comp=Z,2μm,22.5s,MS4.8						
XAN	**Xi'an**	**33.89**	**18**	P	**P**	**09 22 42.5**	**-2.4**
XAN				AP	pP	09 22 50.0	-2.8
XAN				AMB	AMB		
	comp=Z,53nm,0.9s,mb5.5						
FITZ	**Fitzroy Crossi**	**34.50**	**126**	*eP*	**P**	**09 22 49.3**	**-1.0**
	comp=Z,8.1nm,1.3s,mb4.5						
FITZ	**Fitzroy Crossi**	**34.50**	**126**	P	**P**	**09 22 49.4**	**-1.0**
	comp=Z,4.4nm,0.9s,mb4.4,baz=203,slow=5.4,SNR=3.9						
LZH	**Lanzhou**	**34.63**	**10**	*eP*	**P**	**09 22 50.8**	**-0.5**
LZH				AP	pP	09 22 57.8	-1.3
LZH				XP	sP	09 23 04.0	+1.5
LZH				PP	PP	09 24 07.5	-0.6
LZH				SS	SS	09 30 32.0	+1.2
LZH				AMB	AMB		
	comp=Z,40nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,150nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,14.7s						
LZH				LR	LR		
	comp=Z,1μm,16.5s,MS4.8						
SDNR	**Sundarnagar**	**35.00**	**329**	*eP*	**P**	**09 22 54.0**	**-0.5**
THN	**Thein Dam**	**36.39**	**329**	*eP*	**P**	**09 23 05.6**	**-0.6**
	comp=Z,18nm,0.8s,mb5.0						
NJ2	**Nanjing**	**36.41**	**32**	P	**P**	**09 23 06.5**	**+0.1**
NJ2				AP	pP	09 23 14.0	-0.3
NJ2				XP	sP	09 23 16.3	-1.4
NJ2				PP	PP	09 24 29.5	-0.9
NJ2				S	**S**	**09 28 49.0**	**+3.4**
NJ2				AMB	AMB		
	comp=Z,240nm,4.2s						
NJ2				LR	LR		
	comp=N,2μm,18.9s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,14.2s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,18.1s,MS4.6						
SSE	**Sheshan**	**37.00**	**36**	P	**P**	**09 23 12.3**	**+1.0**
SSE				XP	sP	09 23 25.0	+2.4
SSE				S	**S**	**09 28 58.0**	**+3.4**
SSE				AMB	AMB		
	comp=Z,41nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,102nm,3.8s						
SSE				LR	LR		
	comp=N,516nm,16.6s,MS4.4						
SSE				LR	LR		
	comp=E,91nm,16.6s,MS4.4						
SSE				LR	LR		
	comp=Z,545nm,17.4s,MS4.4						
GTA	**Gaotai**	**37.45**	**4**	*eP*	**P**	**09 23 15.0**	**0.0**
GTA				AP	pP	09 23 23.0	0.0
GTA				XP	sP	09 23 26.5	+0.2
GTA				PP	PP	09 24 43.3	0.0
GTA				PPP	PPP	09 25 06.0	+1.8
GTA				PCP	PcP	09 25 34.3	+0.5
GTA				S	**S**	**09 28 58.3**	**-3.1**
GTA				XS		09 29 18.5	
GTA				SS	SS	09 31 32.3	-2.3
GTA				AMB	AMB		
	comp=Z,33nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,123nm,7.5s						
GTA				LR	LR		
	comp=N,219nm,18.6s,MS4.3						
GTA				LR	LR		
	comp=E,353nm,16.5s,MS4.3						
GTA				LR	LR		
	comp=Z,316nm,17.1s,MS4.2						
KAKA	**Kakadu**	**38.07**	**113**	*eP*	**P**	**09 23 19.6**	**-0.9**
	comp=Z,14nm,0.9s,mb4.7						
JOW	**Kunigami**	**38.95**	**48**	P	**P**	**09 23 28.9**	**+1.1**
	comp=Z,24nm,0.7s,mb5.0,baz=239,slow=9.2,SNR=5.7						
NWAO	**Narrogin (SRO)**	**39.56**	**153**	P	**P**	**09 23 31.8**	**-1.0**
	comp=Z,5.9nm,1.0s,mb4.3,baz=288,slow=16,SNR=2.1						
HHC	**Hu-ho-hao-te**	**40.98**	**17**	*eP*	**P**	**09 23 44.8**	**+0.4**
HHC				AP	pP	09 23 53.8	+1.5
HHC				XP	sP	09 23 57.5	+1.9
HHC				PP	PP	09 25 24.0	+2.1
HHC				PCP	PcP	09 25 44.3	-0.6
HHC				PCS		09 29 35.8	
HHC				S	**S**	**09 29 53.5**	**-1.1**
HHC				XS		09 30 10.5	
HHC				SCS	ScS	09 33 43.3	-1.9
HHC				AMB	AMB		
	comp=Z,36nm,0.9s,mb5.0						
HHC				LR	LR		
	comp=N,742nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=E,487nm,16.1s,MS4.7						
BJT	**Baijiatuao**	**41.78**	**22**	⇑*eP*	**P**	**09 23 51.6**	**+0.6**
BJT				*e*	pP	09 24 00.6	+1.6
BJT				pmax	pmax		
	comp=Z,105nm,1.0s						
BJT	**Baijiatuao**	**41.78**	**22**	⇑*eP*	**P**	**09 23 51.6**	**+0.6**
	comp=Z,105nm,1.0s,mb5.4						
BJT				*e*	pP	09 24 00.6	+1.6
BJI	**Beijing**	**41.80**	**22**	*eP*	**P**	**09 23 51.8**	**+0.6**
BJI				AP	pP	09 24 00.5	+1.4
BJI				XP	sP	09 24 04.0	+1.6
BJI				AMB	AMB		
	comp=Z,79nm,1.0s,mb5.3						
BJI				LR	LR		
	comp=N,503nm,17.8s,MS4.7						
BJI				LR	LR		
	comp=E,573nm,15.4s,MS4.7						
BJI				LR	LR		
	comp=Z,208nm,17.0s,MS4.1						
KSH	**Kashi**	**42.07**	**336**	*eP*	**P**	**09 23 54.0**	**+0.6**
KSH				*e*AP	pP	09 24 00.8	-0.5
KSH				*e*XP	sP	09 24 04.8	+0.2
KSH				*e*PP	PP	09 25 34.0	+0.2
KSH				*e*PCP	PcP	09 25 48.5	0.0
KSH				*e*PPP	PPP	09 26 06.5	+0.7
KSH				*e*SCP		09 29 37.0	
KSH				*e*PCS		09 29 39.0	
KSH				*e*S	**S**	**09 30 11.5**	**+0.8**
KSH				*e*XS		09 30 23.5	
KSH				*e*SS	SS	09 33 12.8	-0.2
KSH				*e*SCS	ScS	09 33 53.5	+1.7
KSH				LR	LR		
	comp=N,460nm,4.1s						
KSH				LR	LR		
	comp=E,280nm,3.7s						
WMQ	**Urumqi**	**42.57**	**350**	P	**P**	**09 23 58.3**	**+0.8**
WMQ				AP	pP	09 24 05.5	+0.1
WMQ				XP	sP	09 24 08.8	+0.1
WMQ				PP	PP	09 25 40.0	+1.2
WMQ				PCS		09 29 42.5	
WMQ				*e*S	**S**	**09 30 19.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,134nm,5.9s						
WMQ				LR	LR		
	comp=N,1μm,17.2s,MS5.0						
WMQ				LR	LR		
	comp=E,1μm,18.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,923nm,20.2s,MS4.7						
WRA	**Warramunga Arr**	**42.58**	**122**	P	**P**	**09 23 57.8**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.2,baz=301,slow=9.1,SNR=31						
WRAB	**Tennant Creek**	**42.59**	**122**	*eP*	**P**	**09 23 57.1**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**42.59**	**122**	*eP*	**P**	**09 23 57.1**	**-0.8**
	comp=Z,8.6nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**42.59**	**122**	*eP*	**P**	**09 23 57.8**	**-0.1**
DL2	**Dalian**	**43.19**	**28**	P	**P**	**09 24 03.3**	**+0.8**
DL2				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.2						
FORT	**Forrest**	**43.93**	**140**	*eP*	**P**	**09 24 11.0**	**+2.3**
	comp=Z,295nm,0.6s						
ASPA	**Alice Springs**	**43.98**	**128**	*eP*	**P**	**09 24 09.4**	**+0.3**
ASAR	**Alice Springs**	**43.98**	**128**	P	**P**	**09 24 09.3**	**+0.2**
	comp=Z,3.8nm,1.0s,mb4.1,baz=303,slow=7.6,SNR=23						
ULHL	**Ulahol**	**44.29**	**338**	P	**P**	**09 24 12.6**	**+1.2**
	SNR=14						
KZA	**Kyzart**	**44.53**	**337**	P	**P**	**09 24 14.6**	**+1.2**
	SNR=10						
TKM2	**Tokmak 2**	**45.11**	**338**	P	**P**	**09 24 18.9**	**+0.9**
	SNR=28						
AAK	**Ala-Archa**	**45.29**	**337**	P	**P**	**09 24 20.8**	**+1.4**
	comp=Z,124nm,0.9s,mb5.7,SNR=11						
AAK	**Ala-Archa**	**45.29**	**337**	*eP*	**P**	**09 24 19.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.0						
AAK	**Ala-Archa**	**45.29**	**337**	*eP*	**P**	**09 24 19.4**	**-0.1**
	comp=Z,25nm,1.0s,mb5.0						
KS15	**Wonju Array Si**	**45.39**	**35**	*eP*	**P**	**09 24 20.3**	**0.0**
KS15				*e*	pP	09 24 28.1	-0.2
FRU	**Bishkek**	**45.41**	**337**	*eP*	**P**	**09 24 23.0**	**+2.6**
CHMS	**Chumysh**	**45.50**	**337**	P	**P**	**09 24 22.0**	**+0.9**
	SNR=6.0						
EKS2	**Erkin-Say**	**45.61**	**336**	P	**P**	**09 24 23.1**	**+1.2**
	SNR=10						
USP	**Ospenovka**	**45.83**	**337**	P	**P**	**09 24 24.4**	**+0.7**
	SNR=32						
SNY	**Shenyang**	**46.41**	**28**	⇓P	**P**	**09 24 28.0**	**-0.3**
SNY				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
SONM	**Songino Array**	**46.50**	**9**	P	**P**	**09 24 29.1**	**+0.2**
	comp=Z,18nm,0.9s,mb5.0,baz=190,slow=8.3,SNR=97						
SONM				PcP	PcP	09 26 03.8	+0.2
	comp=Z,3.2nm,0.7s,baz=192,slow=3.6,SNR=5.7						
MKAR	**Makanchi Array**	**46.54**	**346**	*i* P	**P**	**09 24 29.3**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,47nm,1.1s						
MKAR	**Makanchi Array**	**46.54**	**346**	P	**P**	**09 24 29.1**	**-0.1**
	comp=Z,14nm,0.7s,mb5.0,baz=160,slow=7.7,SNR=175						
ULN	**Ulaanbaatar**	**46.63**	**9**	*eP*	**P**	**09 24 29.6**	**-0.4**
ULN				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**46.63**	**9**	*eP*	**P**	**09 24 29.6**	**-0.3**
	comp=Z,14nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**48.63**	**5**	⇑*eP*	**P**	**09 24 45.8**	**+0.3**
ZAK				*e*		09 26 11.0	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb4.5						
ZAK			

comp=Z,33nm,1.1s,mb5.2
KURK *e* pP 09 25 11.4 -1.0
PMG Port Moresby 51.23 104 P **P** **09 25 06.2 +0.3**
comp=Z,14nm,0.7s,mb5.0,baz=305,slow=5.9,SNR=5.1
MAT Matsushiro 51.35 43 *eP* **P** **09 25 06.0 -0.5**
MAT pmax pmax
comp=Z,38nm,1.3s,mb5.2
MAT Matsushiro 51.35 43 *e*P **P** **09 25 06.0 -0.5**
comp=Z,38nm,1.3s,mb5.2
MAT Matsushiro 51.35 43 P **P** **09 25 05.9 -0.6**
MDJ Mudanjiang 51.39 30 P **P** **09 25 06.5 -0.2**
MDJ AMB AMB
comp=Z,17nm,1.0s,mb4.9
MDJ AMB AMB
comp=Z,338nm,4.6s
MDJ LR LR
comp=N,163nm,16.1s,MS4.4
MDJ LR LR
comp=E,254nm,16.1s,MS4.4
MDJ LR LR
comp=Z,289nm,20.1s,MS4.3
STKA Stephens Creek 53.97 132 *e*P **P** **09 25 26.6 +0.5**
comp=Z,5.9nm,0.9s,mb4.5
STKA Stephens Creek 53.97 132 P **P** **09 25 26.1 +0.1**
comp=Z,2.7nm,0.8s,mb4.2,baz=321,slow=6.5,SNR=7.0
NVS Novosibirsk 53.98 350 *i* P **P** **09 25 24.5 -1.3**
NVS *e*S **S** **09 32 50.5 -7.8**
NVS pmax pmax
comp=N,22nm,0.8s
NVS pmax pmax
comp=Z,29nm,0.8s,mb5.3
NVS pmax pmax
comp=E,13nm,1.2s
NVS smax
comp=N,109nm,1.5s
NVS smax
comp=E,12nm,0.8s
RAYN Ar Rayn 54.24 298 P **P** **09 25 28.1 -0.1**
comp=E,48nm,0.8s,SNR=10
BVA0 Borovoye Array 55.54 341 *i* P **P** **09 25 36.2 -1.1**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BVAR Borovoye Array 55.54 341 P **P** **09 25 36.5 -0.8**
comp=Z,16nm,0.7s,mb5.1,baz=143,slow=7.4,SNR=94
KLR Kul'dur 55.76 27 *eP* **P** **09 25 36.5 -2.4**
KLR MLR MLR
comp=E,800nm,17.0s
KLR MLR MLR
comp=Z,2μm,17.0s,MS5.2
CHKZ Chkalovo 56.02 341⇑ *iP* **P** **09 25 39.7 -1.0**
CHKZ *e**PP pP 09 25 48.1 -0.8
CHKZ pmax pmax
comp=Z,27nm,0.7s,mb5.4
CHKZ Chkalovo 56.02 341⇑ *iP* **P** **09 25 39.7 -1.0**
comp=Z,27nm,0.7s,mb5.4
CHKZ *e*pP pP 09 25 48.0 -0.8
BOD Bodaibo 57.39 11 *eP* **P** **09 25 49.1 -1.4**
BOD *e* pP 09 25 57.2 -1.5
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
BOD pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS Chul'man 59.17 17 *eP* **P** **09 26 02.0 -0.9**
CLNS *e**PP pP 09 26 09.6 -1.5
CLNS *e*PPP PPP 09 29 39.5 -0.6
CLNS *e*S **S** **09 34 20.6 +14**
CLNS pmax pmax
comp=N,8.0nm,0.7s
CLNS pmax pmax
comp=Z,21nm,0.7s,mb5.3
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS smax
comp=N,134nm,2.9s
CLNS smax
comp=E,71nm,4.6s
CLNS MLR MLR
comp=Z,700nm,15.0s,MS4.9
CLNS MLR MLR
comp=N,800nm,17.0s,MS5.0
CLNS MLR MLR
comp=E,100nm,13.0s,MS5.0
KMBO Kilima Mbogo 59.79 268 *eP* **P** **09 26 08.5 +0.7**
KMBO *e* pP 09 26 17.9 +1.9
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 59.79 268 P **P** **09 26 08.2 +0.5**
comp=Z,3.3nm,0.8s,mb4.4,baz=60,slow=11,SNR=5.7
KMBO Kilima Mbogo 59.79 268 *eP* **P** **09 26 08.4 +0.7**
comp=Z,6.6nm,0.9s,mb4.7
KMBO *e* pP 09 26 17.9 +1.8
YSS Yuzh-Sakhalins 59.92 35 *eP* **P** **09 26 04.9 -3.3**
YSS pmax pmax
comp=Z,86nm,1.1s,mb5.7
YSS Yuzh-Sakhalins 59.92 35 *eP* **P** **09 26 04.9 -3.3**
comp=Z,86nm,1.1s,mb5.7
SVE Sverdlovsk 61.98 338⇑ *eP* **P** **09 26 21.6 -0.5**
SVE pmax pmax
comp=Z,40nm,1.3s,mb5.4
SVE MLR MLR
comp=N,200nm,18.0s,MS4.5
SVE MLR MLR
comp=E,200nm,18.0s,MS4.5
SVE MLR MLR
comp=Z,300nm,18.0s,MS4.5
ARU Arti 62.48 337⇑ *iP* **P** **09 26 24.1 -1.3**
ARU *e* 09 28 41.6
ARU *e*S **S** **09 34 57.4 +8.2**
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.1
ARU Arti 62.48 337 *eP* **P** **09 26 23.5 -1.9**
comp=Z,25nm,1.1s,mb5.2
ARU *e* pP 09 26 32.7 -0.9
KIV Kislovodsk 63.65 319 *i* P **P** **09 26 32.7 -0.6**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.9
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
ASF Jabal al Asfar 63.90 305 P **P** **09 26 36.4 +1.3**
comp=Z,1.1nm,0.4s,mb4.2,baz=86,slow=10,SNR=2.0
YAK Yakutsk 64.84 16 *eP* **P** **09 26 39.3 -1.4**
YAK pmax pmax
comp=Z,48nm,0.4s,mb5.9
YAK Yakutsk 64.84 16 *eP* **P** **09 26 39.3 -1.5**
comp=Z,48nm,0.4s,mb5.9
SOC Sochi 65.47 318 *eP* **P** **09 26 39.1 -6.0**
SOC *e*PPP PPP 09 30 45.5 -0.4
SOC *e*S S 09 35 27.1 +0.6
SOC *e* 09 36 35.0
SOC *e*SS SS 09 39 46.3 +4.5
SOC pmax pmax
comp=Z,28nm,0.6s,mb5.5
SOC pmax pmax
comp=N,36nm,1.0s
SOC pmax pmax
comp=E,51nm,1.0s
MBAR Mbarara 66.27 269 *eP* **P** **09 26 50.6 -0.2**
MBAR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
MBAR Mbarara 66.27 269 *eP* **P** **09 26 50.6 -0.1**
comp=Z,8.2nm,0.9s,mb4.8
BRTR Keskin Array B 68.49 312 P **P** **09 27 03.2 -1.1**
comp=Z,1.1nm,0.6s,mb4.1,baz=143,slow=6.2,SNR=5.2
MA2 Magadan 70.82 26 *eP* pP 09 27 26.2 -0.3
MA2 *e* 09 36 53.8
MA2 pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MA2 Magadan 70.82 26 *eP* **P** **09 27 17.8 -0.4**
comp=Z,22nm,0.8s,mb5.2
MA2 *e* pP 09 27 26.2 -0.3
MOS Moscow 71.64 329 *eP* **P** **09 27 30.2 +7.0**
MOS *e* pP 09 27 38.3 +6.8
MOS pmax pmax
comp=Z,42nm,0.6s,mb5.5
PET Petropavlovsk 71.80 34 *eP* **P** **09 27 24.1 -0.1**
PET *e*S S 09 36 40.5 -1.0
PET pmax pmax
comp=Z,65nm,1.1s,mb5.5
PET MLR MLR
comp=Z,200nm,17.0s,MS4.5
OBN Obninsk 71.93 328 *eP* **P** **09 27 22.1 -2.8**
OBN *e*S S 09 36 40.2 -2.7
OBN pmax pmax
comp=Z,23nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
TIXI Tiksi 72.56 10 *eP* **P** **09 27 25.2 -3.2**
TIXI pmax pmax
comp=Z,18nm,1.2s,mb4.9
TIXI MLR MLR
comp=Z,267nm,16.0s,MS4.6
KIS Kishinev 73.85 319 *eP* pP 09 27 43.0 -1.7
AKASG Malin Array Be 74.59 322 P **P** **09 27 39.8 -0.8**
comp=Z,1.4nm,0.5s,mb4.2,baz=90,slow=5.2,SNR=7.9
FINES FINESS Array B 79.30 332 P **P** **09 28 06.8 +0.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=90,slow=5.7,SNR=14
KAF Kangasniemi 79.38 333 *ep* **P** **09 28 06.3 -0.7**
comp=Z,9.6nm,0.9s,mb4.7,baz=104,slow=5.0
KAF Kangasniemi 79.38 333 *eP* **P** **09 28 06.3 -0.7**
KAF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 80.62 21 *eP* **P** **09 28 12.0 -1.5**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BILL Bilibino 80.62 21 *eP* **P** **09 28 12.0 -1.5**
comp=Z,4.1nm,0.6s,mb4.5
OKC Ostrava-Krasne 81.36 320 *eP* pP 09 28 25.8 -0.5
OKC Ostrava-Krasne 81.36 320 *ep*P pP 09 28 25.8 -0.5
MORC Moravsky Berou 81.75 320 *eP* **P** **09 28 19.9 +0.1**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
MORC Moravsky Berou 81.75 320 *eP* **P** **09 28 19.9 +0.1**
comp=Z,2.6nm,0.6s,mb4.3
ARCES ARCESS Array B 81.83 340 P **P** **09 28 20.1 +0.3**
comp=Z,1.9nm,0.5s,mb4.2,baz=97,slow=5.1,SNR=14
DPC Dobruska-Polom 82.59 320 *eP* pP 09 28 35.0 +2.3
DPC Dobruska-Polom 82.59 320 *ep*P pP 09 28 35.0 +2.3
PVCC Panska Ves 83.72 320 *eP* **P** **09 28 34.2 +4.2**
GERES GERESS Array B 84.16 319 P **P** **09 28 33.3 +1.0**
comp=Z,4.6nm,1.0s,mb4.6,baz=104,slow=5.5,SNR=22
KHC Kasperske Hory 84.26 319 *eP* **P** **09 28 33.7 +1.0**
CLL Collm 84.77 321 *eP* **P** **09 28 35.0 -0.2**
CLL Collm 84.77 321 P **P** **09 28 35.0 -0.2**
MOX Moxa 85.61 320 *eP* **P** **09 28 40.0 +0.6**
NB2 NORSAR Subarra 86.31 331 P **P** **09 28 42.4 -0.3**
comp=Z,5.7nm,1.0s,mb4.8,baz=96,slow=4.8
NB2 NORSAR Subarra 86.31 331 P **P** **09 28 42.4 -0.3**
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
NOA NORSAR Array B 86.31 331 P **P** **09 28 42.2 -0.4**
comp=Z,2.5nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=8.7
DAVOX Davos 86.65 317 P **P** **09 28 45.8 +1.1**
comp=Z,7.7nm,0.6s,mb5.2,baz=132,slow=4.5,SNR=12
IMA Indian Mountai 96.05 23 *eP* **P** **09 29 29.1 +1.1**
comp=Z,48nm,1.1s,mb5.8
IMA *e* pP 09 29 38.4 +1.8
ULM Lac du Bonnet 126.92 10 PKP PKPdf 09 35 05.0 -3.5
comp=Z,1.0nm,0.5s,baz=324,slow=3.9,SNR=3.5
PDAR Pinedale Array 129.53 25 PKP PKPdf 09 35 11.1 -2.8
comp=Z,0.6nm,0.7s,baz=225,slow=1.3,SNR=4.8
TXAR Lajitas Array 143.21 31 PKP PKPdf 09 35 35.2 -4.0
comp=Z,0.4nm,0.6s,baz=132,slow=0.9,SNR=7.3
NATX Nacogdoches 144.77 17 *e*PKP PKPdf 09 35 37.6 -4.3
LRAL Lakeview Retre 145.08 6 *e*PKP PKPdf 09 35 37.2 -5.2

IDC ***29*** *09:26:07.2±0.6, 0.02S×97.02E, mb4.3/15, mb1 4.4/15, mb1mx4.3/19, mbtmp4.3/15, Error ellipse: s-maj=25.9km s-min=14.3km az=46.0*
BJI ***29*** *09:26:10.5, 0.19N×97.35E, h25km, mB5.0, mb4.8, Ms4.9, Msz4.4*
NEIC ***29*** *09:26:11.9±0.3, 0.06N×97.12E, h30km, mb4.6/12, Error ellipse: s-maj=10.7km s-min=7.7km az=45.0*
ISC 29 09:26:10.5±0.4, 0.07N±0.07×97.15E±0.08, h33km, (h31km±2.7km:pP-P), n36, σ0.95/35, mb4.4/27, MS4.5/1, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.25**	**34**	*eP*	**P**	**09 27 41.5**	**-1.4**
KSM	**Kuching**	**13.23**	**84**	P	**P**	**09 29 27.4**	**+8.6**
KKM	**Kota Kinabalu**	**19.94**	**72**	*eP*	**P**	**09 30 42.2**	**-0.5**
KMI	**Kunming**	**25.48**	**12**	P	**P**	**09 31 33.0**	**-4.6**
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.6						
ENH	**Enshi**	**32.25**	**20**	*eP*	**P**	**09 32 39.8**	**+1.4**
	comp=Z,11nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.33**	**124**	*eP*	**P**	**09 32 47.4**	**-0.4**
	comp=Z,7.8nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.33**	**124**	P	**P**	**09 32 46.8**	**-1.1**
	comp=Z,11nm,0.8s,mb4.8,baz=321,slow=5.8,SNR=10						
WRA	**Warramunga Ar**	**41.50**	**121**	P	**P**	**09 33 56.7**	**+0.3**
	comp=Z,5.5nm,0.7s,mb4.3,baz=301,slow=8.9,SNR=32						
WRAB	**Tennant Creek**	**41.50**	**121**	*eP*	**P**	**09 33 56.3**	**-0.3**
	comp=Z,9.0nm,0.6s,mb4.6						
WB2	**Warramunga Arr**	**41.51**	**121**	⇓ *iP*	**P**	**09 33 56.7**	**0.0**
HHC	**Hu-ho-hao-te**	**42.65**	**16**	*eP*	**P**	**09 34 06.3**	**+0.5**
HHC				AP	pP	09 34 14.5	-1.1
HHC				XP	sP	09 34 19.3	-0.5
HHC				PP	PP	09 35 48.0	+0.8
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.9						
HHC				AMB	AMB		
	comp=Z,113nm,3.5s						
ASPA	**Alice Springs**	**42.77**	**126**	*eP*	**P**	**09 34 10.9**	**+3.9**
ASAR	**Alice Springs**	**42.77**	**126**	P	**P**	**09 34 07.3**	**+0.3**
	comp=Z,4.4nm,0.8s,mb4.3,baz=306,slow=7.7,SNR=34						
WMQ	**Urumqi**	**44.37**	**350**	*eP*	**P**	**09 34 19.5**	**-0.1**
WMQ				AP	pP	09 34 29.5	0.0
WMQ				XP	sP	09 34 33.5	-0.1
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,103nm,3.7s						
WMQ				LR	LR		
	comp=N,562nm,22.4s,MS4.7						
WMQ				LR	LR		
	comp=E,706nm,20.6s,MS4.7						
WMQ				LR	LR		
	comp=Z,528nm,21.8s,MS4.4						
AAK	**Ala-Archa**	**47.01**	**337**	*eP*	**P**	**09 34 41.6**	**+1.0**
	comp=Z,1.9nm,0.7s,mb4.1						
SONM	**Songino Array**	**48.25**	**8**	P	**P**	**09 34 51.2**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.1,baz=188,slow=9.5,SNR=8.2						
MKAR	**Makanchi Array**	**48.32**	**346**	P	**P**	**09 34 51.5**	**+0.8**
	comp=Z,3.9nm,0.6s,mb4.7,baz=158,slow=8.4,SNR=29						
ULN	**Ulaanbaatar**	**48.38**	**9**	*eP*	**P**	**09 34 55.0**	**+3.8**
	comp=Z,3.3nm,0.7s,mb4.5						
TLY	**Talaya**	**51.71**	**5**	P	**P**	**09 35 14.1**	**-2.6**
	comp=Z,4.4nm,0.7s,mb4.5						
TLY				*e*		09 35 27.4	
CTAO	**Charters Tower**	**52.06**	**116**	P	**P**	**09 35 19.7**	**+0.1**
	comp=Z,6.2nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**52.65**	**131**	*eP*	**P**	**09 35 24.6**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**52.65**	**131**	P	**P**	**09 35 24.6**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.3,baz=325,slow=9.1,SNR=6.9						
HIA	**Hailar**	**52.72**	**18**	P	**P**	**09 35 24.7**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**57.29**	**341**	P	**P**	**09 35 56.6**	**-0.9**
	comp=Z,1.7nm,0.6s,mb4.3,baz=141,slow=9.2,SNR=7.9						
CHKZ	**Chkalovo**	**57.77**	**342**	P	**P**	**09 35 59.1**	**-1.7**
	comp=Z,5.1nm,0.7s,mb4.7						
CHKZ				*e*	pP	09 36 09.7	-1.2
KMBO	**Kilima Mbogo**	**59.90**	**269**	P	**P**	**09 36 16.6**	**+0.5**
	comp=Z,0.8nm,0.5s,mb4.0,baz=45,slow=5.7,SNR=4.2						
MALT	**Malatya**	**65.84**	**313**	*eP*	**P**	**09 36 54.6**	**-0.5**
	comp=Z,5.1nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**69.83**	**313**	P	**P**	**09 37 18.8**	**-1.2**
	comp=Z,2.3nm,0.7s,mb4.2,baz=129,slow=7.0,SNR=9.7						
LBTB	**Lobatse**	**73.34**	**244**	P	**P**	**09 37 40.5**	**-0.9**
	comp=Z,2.6nm,0.6s,mb4.3,baz=95,slow=5.5,SNR=4.5						
BOSA	**Boshof**	**74.17**	**240**	P	**P**	**09 37 45.1**	**-1.0**
	comp=Z,2.0nm,0.7s,mb4.2,baz=53,slow=5.1,SNR=4.1						
BOSA	**Boshof**	**74.17**	**240**	P	**P**	**09 37 46.3**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**76.11**	**323**	P	**P**	**09 37 56.4**	**-0.4**
	comp=Z,4.2nm,0.6s,mb4.5,baz=89,slow=5.1,SNR=16						
FINES	**FINESS Array B**	**80.97**	**333**	P	**P**	**09 38 23.8**	**+0.7**
	comp=Z,1.8nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=7.8						
ARCES	**ARCESS Array B**	**83.57**	**340**	P	**P**	**09 38 37.4**	**+1.0**
	comp=Z,4.4nm,1.0s,mb4.5,baz=112,slow=6.5,SNR=5.1						
GERES	**GERESS Array B**	**85.62**	**319**	P	**P**	**09 38 48.3**	**+1.3**
	comp=Z,0.3nm,0.2s,mb4.1,baz=124,slow=3.5,SNR=4.1						
TXAR	**Lajitas Array**	**144.65**	**32**	PKP	PKPdf	09 45 46.1	+1.5
	comp=Z,0.9nm,0.8s,baz=226,slow=1.5,SNR=8.7						

BJI ***29*** *09:28:20.1, 1.23N×97.31E, h25km, mB5.4, mb5.1, Ms5.1, Msz4.9*
MOS ***29*** *09:28:21.9±0.9, 1.32N×97.14E, h33km, mb5.1/26, MS4.8/4, Error ellipse: s-maj=13.0km s-min=7.2km az=109.7*
NEIC ***29*** *09:28:22.5±0.3, 1.31N×97.18E, mb5.0/33, Error ellipse: s-maj=8.5km s-min=5.2km az=49.0*
IDC ***29*** *09:28:22.2±0.5, 1.28N×97.04E, h22km±2km, mb4.4/19, mb1 4.4/19, mb1mx4.4/22, mbtmp4.5/19, MS4.3/1, Ms1 4.3/1, ms1mx3.0/31, Error ellipse: s-maj=18.2km s-min=9.9km az=53.0*
ISC 29 09:28:20.9±0.3, 1.31N±0.04×97.21E±0.04, h24km, h24km±.9km:pP-P, n144, σ1.09/151, mb5.0/73, MS4.8/17, 24C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.00**	**49**	P	**Pn**	**09 29 37.8**	**+1.3**
KULM	**Kulim**	**5.23**	**41**	*eP*	**Pn**	**09 29 40.3**	**+0.6**
KGM	**Kluang**	**6.14**	**83**	P	**Pn**	**09 29 54.4**	**+1.8**
KSM	**Kuching**	**13.09**	**89**	P	**P**	**09 31 31.9**	**+3.6**
KSM				*e*		09 31 40.6	
PALK	**Pallekele**	**17.49**	**290**	*eP*	**P**	**09 32 25.7**	**+0.6**
	38nm,1.0s						
KKM	**Kota Kinabalu**	**19.53**	**76**	*eP*	**P**	**09 32 49.4**	**-0.4**
KKM	**Kota Kinabalu**	**19.53**	**76**	P	**P**	**09 32 50.2**	**+0.4**
TSM	**Tawau**	**20.84**	**81**	P	**P**	**09 33 03.9**	**+0.2**
VIS	**Vishakhapatnam**	**21.26**	**321**	*eP*	**P**	**09 33 09.7**	**+1.8**
VIS				*e*		09 33 19.3	
	comp=Z,158nm,1.5s						
VIS				*e*S	**S**	**09 37 02.6**	**+4.5**
QIZ	**Qiongzhong**	**21.52**	**34**	P	**P**	**09 33 09.5**	**-1.1**
QIZ				XP		09 33 19.8	
QIZ				S	**S**	**09 36 58.3**	**-4.7**
QIZ				AMB	AMB		
	comp=Z,31nm,1.8s,mb4.4						
QIZ				LR	LR		
	comp=N,1μm,13.6s						
QIZ	**Qiongzhong**	**21.52**	**34**	*eP*	**P**	**09 33 09.6**	**-0.9**
	comp=N,29nm,0.8s,mb4.8						
BWNR	**Bhubaneshwar**	**21.92**	**330**	*eP*	**P**	**09 33 15.8**	**+1.3**
BWNR				*e*		09 33 20.5	
	comp=Z,74nm,1.1s						
BWNR				*e*S	**S**	**09 37 14.5**	**+4.2**
KMI	**Kunming**	**24.27**	**12**	⇑P	**P**	**09 33 39.5**	**+1.9**
KMI				AP		09 33 46.0	
KMI				PP	PP	09 34 16.8	+4.0
KMI				S	**S**	**09 37 54.0**	**+2.1**
KMI				XS		09 38 04.3	
KMI				AMB	AMB		
	comp=Z,123nm,1.3s,mb5.2						
KMI				AMB	AMB		
	comp=Z,566nm,3.5s						
KMI				LR	LR		
	comp=N,4μm,15.0s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,15.7s,MS5.1						
KMI				LR	LR		
	comp=Z,4μm,15.9s,MS5.0						
HYB	**Hyderabad**	**24.35**	**312**	*eP*	**P**	**09 33 41.0**	**+2.6**
HYB	**Hyderabad**	**24.35**	**312**	*i* P	**P**	**09 33 41.0**	**+2.6**
SHL	**Shillong**	**24.66**	**348**	*eP*	**P**	**09 33 42.0**	**+0.7**
BOK	**Bokaro**	**24.90**	**335**	*eP*	**P**	**09 33 45.3**	**+1.6**
BOK				*e*		09 33 47.2	
	comp=Z,106nm,1.2ns						
BOK				*e*S	**S**	**09 38 04.7**	**+2.0**
BLSP	**Bilaspur**	**25.37**	**326**	*eP*	**P**	**09 33 49.1**	**+0.9**
BLSP				*e*		09 33 50.9	
	comp=Z,73nm,1.1s						
BLSP				*e*S	**S**	**09 38 13.2**	**+2.7**
GYA	**Guiyang**	**26.60**	**19**⇑	*iP*	**P**	**09 33 58.3**	**-1.2**
GYA				AP	pP	09 34 05.5	-0.9
GYA				XP	sP	09 34 08.5	-1.1
GYA				PP	PP	09 34 39.3	-4.4
GYA				S	**S**	**09 38 29.5**	**-1.5**
GYA				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,4.0s						
GYA				LR	LR		
	comp=N,4μm,14.6s,MS5.1						
GYA				LR	LR		
	comp=E,2μm,14.9s,MS5.1						
GYA				LR	LR		
	comp=Z,5μm,14.4s,MS5.2						
JIRN	**Jiri**	**28.25**	**339**	*eP*	**P**	**09 34 15.4**	**+0.9**
	comp=Z,95nm,1.1s,mb5.3						
PKI	**Pulchoki**	**28.46**	**338**	*eP*	**P**	**09 34 16.8**	**+0.4**
	comp=Z,194nm,1.5s,mb5.5						
PKI	**Pulchoki**	**28.46**	**338**	*eP*	**P**	**09 34 16.8**	**+0.4**
PKI				pmax	pmax		
	comp=Z,97nm,1.5s,mb5.2						
GUN	**Gumba**	**28.59**	**339**	*eP*	**P**	**09 34 18.3**	**+0.8**
	comp=Z,204nm,1.0s,mb5.8						
DMN	**Daman**	**28.61**	**337**	*eP*	**P**	**09 34 18.1**	**+0.4**
	comp=Z,109nm,1.2s,mb5.5						
KKN	**Kakani**	**28.70**	**338**	*eP*	**P**	**09 34 19.0**	**+0.4**
	comp=Z,172nm,1.2s,mb5.7						
KKN	**Kakani**	**28.70**	**338**	*eP*	**P**	**09 34 19.0**	**+0.4**
KKN				pmax	pmax		
	comp=Z,86nm,1.2s,mb5.4						
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**09 34 18.5**	**-1.1**
LSA	**Lhasa**	**28.82**	**349**	*eP*	**P**	**09 34 20.1**	**+0.5**
LSA				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.82**	**349**	*eP*	**P**	**09 34 20.1**	**+0.6**
	comp=Z,28nm,0.8s,mb5.0						
BHPL	**Bhopal**	**29.05**	**320**	*eP*	**P**	**09 34 23.2**	**+1.4**
BHPL				*e*	pP	09 34 32.1	+3.4
	comp=Z,14nm,1.6s						
GKN	**Gorkha**	**29.14**	**337**	*eP*	**P**	**09 34 22.9**	**+0.4**
	comp=Z,210nm,1.1s,mb5.8						
KOLN	**Koldanda**	**29.36**	**335**	*eP*	**P**	**09 34 25.2**	**+0.7**
	comp=Z,79nm,0.8s,mb5.5						
CD2	**Chengdu**	**30.08**	**11**	P	**P**	**09 34 29.3**	**-1.6**
ENH	**Enshi**	**31.07**	**21**	*eP*	**P**	**09 34 37.9**	**-1.7**
	comp=Z,56nm,0.4s,mb5.7						
MBWA	**Marble Bar**	**31.37**	**137**	*eP*	**P**	**09 34 42.8**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.5						
LGTI	**Lohaghat**	**32.31**	**332**	*eP*	**P**	**09 34 51.5**	**+1.0**
NDI	**New Delhi**	**33.25**	**327**	*e*	**P**	**09 34 58.0**	**-0.7**
WHN	**Wuhan**	**33.31**	**28**	⇓P	**P**	**09 34 59.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**33.98**	**126**	⇑ *iP*	**P**	**09 35 04.2**	**-0.9**
	comp=Z,8.9nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**09 35 04.3**	**-0.8**
	comp=Z,10nm,0.6s,mb4.9,baz=311,slow=4.3,SNR=15						
FITZ				PcP	PcP	09 37 43.5	+0.4
	comp=Z,2.4nm,0.5s,baz=323,slow=5.1,SNR=2.8						
DDI	**Dehra Dun**	**34.11**	**330**	*eP*	**P**	**09 35 05.3**	**-0.8**
XAN	**Xi'an**	**34.35**	**17**	P	**P**	**09 35 06.8**	**-1.4**
XAN				AP	pP	09 35 12.8	-2.4
XAN				AMB	AMB		
	comp=Z,75nm,1.0s,mb5.6						
LZH	**Lanzhou**	**35.14**	**9**	⇑P	**P**	**09 35 14.5**	**-0.4**
LZH				AP	pP	09 35 22.0	0.0
LZH				XP	sP	09 35 24.3	-0.7
LZH				PP	PP	09 36 33.0	-0.9
LZH				*e*S	**S**	**09 40 44.0**	**-1.6**
LZH				XS		09 40 58.0	
LZH				SS	SS	09 42 59.5	-2.5
LZH				AMB	AMB		
	comp=Z,97nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,310nm,4.7s						
LZH				LR	LR		
	comp=E,2μm,14.4s						
LZH				LR	LR		
	comp=Z,3μm,15.7s,MS5.2						
SDNR	**Sundarnagar**	**35.60**	**329**	*eP*	**P**	**09 35 18.6**	**-0.3**
NJ2	**Nanjing**	**36.76**	**32**	*eP*	**P**	**09 35 30.0**	**+1.4**
NJ2				AP	pP	09 35 42.0	+6.3
NJ2				XP	sP	09 35 44.5	+5.8
NJ2				PP	PP	09 36 57.5	+3.4
NJ2				S	**S**	**09 41 12.0**	**+1.5**
NJ2				AMB	AMB		
	comp=Z,440nm,4.0s						
NJ2				LR	LR		
	comp=N,2μm,13.8s,MS5.2						
NJ2				LR	LR		
	comp=E,2μm,13.8s,MS5.2						
NJ2				LR	LR		
	comp=Z,1μm,14.9s,MS4.9						

SSE Sheshan 37.31 35 *e*P P **09 35 32.5 -0.8**
SSE AMB AMB
comp=Z,24nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,80nm,3.8s
SSE LR LR
comp=N,599nm,19.1s,MS4.5
SSE LR LR
comp=E,380nm,19.2s,MS4.5
SSE LR LR
comp=Z,598nm,16.5s,MS4.5
KAKA Kakadu 37.63 113⇑ *i*P P **09 35 34.8 -1.3**
comp=Z,15nm,0.6s,mb4.9
GTA Gaotai 37.99 3 *e*P P **09 35 38.8 -0.1**
GTA AP pP 09 35 46.5 +0.5
GTA XP sP 09 35 50.0 +1.1
GTA PP PP 09 37 08.5 -0.6
GTA PPP PPP 09 37 30.3 -0.8
GTA PCP PcP 09 37 54.3 -0.5
GTA S S **09 41 23.5 -5.8**
GTA XS 09 41 44.5
GTA AMB AMB
comp=Z,28nm,0.9s,mb5.0
GTA AMB AMB
comp=Z,291nm,4.8s
GTA LR LR
comp=N,872nm,12.9s,MS4.8
GTA LR LR
comp=E,577nm,14.4s,MS4.8
GTA LR LR
comp=Z,1µm,14.1s,MS4.8
NWAO Narrogin (SRO) 38.95 153 P P **09 35 46.6 -0.4**
comp=Z,1.8nm,0.8s,mb3.9,baz=63,slow=18,SNR=1.7
JOW Kunigami 39.15 47 P P **09 35 49.4 +0.6**
comp=Z,59nm,0.6s,mb5.5,baz=236,slow=7.5,SNR=33
BTO Baotou 40.80 15 *e*P P **09 36 03.0 +0.8**
HHC Hu-ho-hao-te 41.45 17 *e*P P **09 36 08.8 +1.3**
HHC AP pP 09 36 18.5 +3.9
HHC XP sP 09 36 22.5 +5.0
HHC PP PP 09 37 46.3 0.0
HHC PCP PcP 09 38 09.0 +3.2
HHC SCP 09 41 52.5
HHC PCS 09 41 56.0
HHC S S **09 42 20.0 -1.1**
HHC XS 09 42 36.3
HHC SS SS 09 45 18.8 -2.0
HHC SCS ScS 09 46 04.3 -3.4
HHC AMB AMB
comp=Z,17nm,0.3s,mb5.2
HHC AMB AMB
comp=Z,287nm,4.3s
HHC LR LR
comp=N,2µm,16.1s,MS5.1
HHC LR LR
comp=E,763nm,14.5s,MS5.1
HHC LR LR
comp=Z,2µm,16.5s,MS5.0
WRA Warramunga Arr 42.08 122 P P **09 36 13.0 -0.1**
comp=Z,7.6nm,0.6s,mb4.5,baz=302,slow=9.1,SNR=44
WRAB Tennant Creek 42.09 122 P P **09 36 13.0 -0.1**
comp=Z,95nm,0.5s,mb5.7,SNR=9.4
WRAB Tennant Creek 42.09 122⇑ *e*P P **09 36 12.7 -0.4**
WRAB pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
WRAB Tennant Creek 42.09 122⇑ *e*P P **09 36 12.7 -0.4**
comp=Z,9.6nm,0.5s,mb4.7
WB2 Warramunga Arr 42.09 122⇑ *i*P P **09 36 12.9 -0.2**
BJT Baijiatuan 42.21 22⇑ *e*P P **09 36 14.5 +0.7**
BJT pmax pmax
comp=Z,45nm,0.6s
BJT Baijiatuan 42.21 22⇑ *e*P P **09 36 14.5 +0.7**
comp=Z,45nm,0.6s,mb5.3
BJI Beijing 42.23 22 *e*P P **09 36 14.8 +0.8**
BJI AP pP 09 36 21.5 +0.4
BJI XP sP 09 36 26.0 +2.0
BJI AMB AMB
comp=Z,51nm,0.7s,mb5.3
BJI LR LR
comp=N,820nm,14.4s,MS4.8
BJI LR LR
comp=E,341nm,16.8s,MS4.8
BJI LR LR
comp=Z,458nm,18.0s,MS4.4
WMQ Urumqi 43.17 350⇑ *i*P P **09 36 22.3 +0.7**
WMQ AP pP 09 36 30.5 +1.8
WMQ XP sP 09 36 33.0 +1.4
WMQ PP PP 09 38 05.0 +0.9
WMQ PPP PPP 09 38 40.0 +0.7
WMQ S S **09 42 46.5 +0.2**
WMQ XS 09 42 59.0
WMQ SCS ScS 09 46 19.0 +0.9
WMQ AMB AMB
comp=Z,35nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,172nm,4.7s
WMQ LR LR
comp=N,936nm,14.8s,MS5.0
WMQ LR LR
comp=E,1µm,17.6s,MS5.0
WMQ LR LR
comp=Z,864nm,23.2s
ASPA Alice Springs 43.45 127⇑ *i*P P **09 36 24.6 +0.5**
ASAR Alice Springs 43.45 127 P P **09 36 24.6 +0.5**
comp=Z,3.5nm,0.6s,mb4.3,baz=300,slow=7.9,SNR=19
ASAR pP pP 09 36 31.2 0.0
comp=Z,2.1nm,0.4s,baz=298,slow=8.0,SNR=9.0
ASAR PcP PcP 09 38 12.2 -0.5
comp=Z,0.9nm,0.6s,baz=288,slow=2.7,SNR=4.0
DL2 Dalian 43.57 28 P P **09 36 25.5 +0.6**
DL2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
DL2 LR LR
comp=N,370nm,16.7s,MS4.5
DL2 LR LR
comp=E,320nm,14.9s,MS4.5
DL2 LR LR
comp=Z,500nm,14.7s,MS4.5
KS15 Wonju Array Si 45.72 35 *e*P P **09 36 41.9 -0.3**
AAK Ala-Archa 45.90 337 *e*P P **09 36 43.2 -0.3**
AAK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
AAK Ala-Archa 45.90 337 *e*P P **09 36 43.1 -0.4**
comp=Z,10nm,0.9s,mb4.8
FRU Bishkek 46.02 337 *e*P P **09 36 44.0 -0.5**
SNY Shenyang 46.80 27⇓ P P **09 36 50.5 -0.1**
SONM Songino Array 47.02 8 P P **09 36 52.6 +0.3**
comp=Z,19nm,0.7s,mb5.1,baz=191,slow=9.7,SNR=53
SONM pP pP 09 36 59.4 0.0
comp=Z,7.2nm,0.5s,baz=191,slow=9.5,SNR=8.8
SONM PcP PcP 09 38 24.5 -0.2
comp=Z,2.1nm,0.5s,baz=183,slow=4.5,SNR=4.9
MKAR Makanchi Array 47.14 346 P P **09 36 53.2 0.0**
comp=Z,15nm,0.8s,mb5.0,baz=153,slow=8.1,SNR=20
MKAR LR LR 10 00 28.2
comp=Z,337nm,21.0s,MS4.3,baz=99,slow=41
ULN Ulaanbaatar 47.15 9⇑ *e*P P **09 36 53.3 0.0**
ULN pmax pmax
comp=Z,14nm,0.9s,mb4.9
ULN Ulaanbaatar 47.15 9⇑ *e*P P **09 36 53.3 0.0**
comp=Z,14nm,0.9s,mb4.9
ZAK Zakamensk 49.16 5 *e*P P **09 37 08.1 -0.8**
ZAK pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
CN2 Changchun 49.20 27 *e*P P **09 37 08.3 -1.0**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
MOY Mondy 50.28 3 *e*P P **09 37 17.3 -0.2**
MOY pmax pmax
comp=Z,30nm,3.0s
TLY Talaya 50.48 5⇑ *i*P P **09 37 19.3 +0.3**
TLY *e* pP 09 37 26.2 -0.1
TLY pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
TLY Talaya 50.48 5⇑ *i*P P **09 37 19.3 +0.3**
comp=Z,6.5nm,0.6s,mb4.8
TLY *e* pP 09 37 26.2 0.0
PMG Port Moresby 50.87 103 P P **09 37 22.7 +0.2**
baz=297,slow=9.2
IRK Irkutsk 51.10 6 *e*P P **09 37 22.4 -1.3**
IRK *e* 09 37 38.4
IRK pmax pmax
comp=Z,32nm,1.6s,mb5.0
HIA Hailar 51.53 19 *e*P P **09 37 26.3 -0.7**
HIA pmax pmax
comp=Z,21nm,1.1s
comp=Z,21nm,1.1s,mb5.0
KURK Kurchatov 51.69 345*c i*P P **09 37 27.5 -0.7**
MDJ Mudanjiang 51.76 29 P P **09 37 27.8 -1.1**
MDJ AMB AMB
comp=Z,20nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,338nm,4.4s
MDJ LR LR
comp=N,452nm,21.4s
MDJ LR LR
comp=E,152nm,26.8s
MDJ LR LR
comp=Z,556nm,17.5s,MS4.7
CTA Charters Tower 52.54 117 *e*P P **09 37 36.1 +1.1**
comp=Z,5.3nm,0.8s,mb4.5
CTA Charters Tower 52.54 117 *e*P P **09 37 36.1 +1.1**
CTA pmax pmax
comp=Z,5.0nm,0.8s
CTAO Charters Tower 52.54 117 *e*P P **09 37 35.9 +0.9**
CTAO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CTAO Charters Tower 52.54 117 *e*P P **09 37 35.9 +0.9**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 53.42 132⇑ *i*P P **09 37 42.1 +0.7**
comp=Z,7.6nm,0.6s,mb4.8
STKA Stephens Creek 53.42 132 P P **09 37 42.0 +0.5**
comp=Z,7.5nm,0.8s,mb4.7,baz=310,slow=8.0,SNR=24
STKA pP pP 09 37 49.1 +0.5
comp=Z,8.6nm,0.6s,baz=313,slow=7.3,SNR=10
NVS Novosibirsk 54.57 350 *i*P P **09 37 47.3 -2.2**
KLR Kul'dur 56.15 27 *e*P P **09 37 57.5 -3.5**
BVAR Borovoye Array 56.15 341 P P **09 37 59.6 -1.4**
comp=Z,14nm,0.8s,mb5.0,baz=141,slow=9.1,SNR=15
BOD Bodaibo 57.90 11 *e*P P **09 38 12.2 -1.1**
BOD pmax pmax
comp=Z,21nm,1.2s,mb5.0
ASAJ Asahikawa 58.56 37 P P **09 38 18.9 +0.7**
comp=Z,6.8nm,0.8s,mb4.7,baz=242,slow=4.3,SNR=5.0
CLNS Chul'man 59.63 17*c i*P P **09 38 25.3 -0.1**
CLNS *e**PP pP 09 38 31.4 -1.3
CLNS *e*PPP PPP 09 42 11.5 +7.2
CLNS *e*S S **09 46 46.4 +14**
CLNS pmax pmax
comp=Z,22nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
CLNS smax
comp=N,253nm,5.2s
CLNS smax
comp=E,231nm,3.7s
CLNS MLR MLR
comp=N,800nm,16.0s,MS5.0
CLNS MLR MLR
comp=Z,1µm,16.0s,MS5.2
CLNS MLR MLR
comp=E,200nm,15.0s,MS5.0
KMBO Kilima Mbogo 60.01 268 P P **09 38 34.0 +5.5**
KMBO pmax pmax
comp=Z,16nm,1.8s
KMBO Kilima Mbogo 60.01 268 P P **09 38 34.0 +5.4**
comp=Z,16nm,1.8s,mb4.7
YSS Yuzh-Sakhalins 60.25 34⇑ *e*P P **09 38 29.0 -0.7**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
SVE Sverdlovsk 62.59 338⇓ *i*P P **09 38 44.0 -1.4**
SVE pmax pmax
comp=Z,60nm,1.5s,mb5.5
SVE MLR MLR
comp=N,300nm,17.0s,MS4.8
SVE MLR MLR
comp=E,400nm,17.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,17.0s,MS4.8
ARU Arti 63.09 337 *e*P P **09 38 47.1 -1.6**
ARU pmax pmax
comp=Z,20nm,1.1s,mb5.2
ARU Arti 63.09 337 *e*P P **09 38 47.1 -1.6**
comp=Z,20nm,1.1s,mb5.2
KIV Kislovodsk 64.23 319 *i*P P **09 38 54.9 -1.5**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.9
GOF Gofitskoye 64.49 320 *e*P pP 09 39 05.3 -0.1
MALT Malatya 65.06 312 *e*P P **09 39 01.6 -0.3**
MALT *e* pP 09 39 08.7 -0.6
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MALT Malatya 65.06 312 *e*P P **09 39 01.6 -0.4**
comp=Z,4.7nm,0.8s,mb4.6
MALT *e* pP 09 39 08.7 -0.6
YAK Yakutsk 65.31 16⇑ *i*P P **09 39 01.8 -1.3**
YAK pmax pmax
comp=Z,91nm,0.8s,mb5.9
YAK Yakutsk 65.31 16⇑ *i*P P **09 39 01.8 -1.2**
comp=Z,91nm,0.8s,mb5.9
SOC Sochi 66.05 318 *e*P P **09 39 04.3 -3.8**
SOC *e* 09 39 39.6
SOC *e* 09 41 37.8
SOC *e*PPP PPP 09 43 05.4 -5.5
SOC *e*S S 09 47 51.3 -1.9
SOC *e* 09 48 52.3
SOC *e*SS SS 09 52 06.7 -3.4
SOC pmax pmax
comp=Z,45nm,0.9s,mb5.5
SOC pmax pmax
comp=N,10.0nm,0.6s
SOC pmax pmax
comp=E,27nm,1.0s
BRTR Keskin Array B 69.05 312 P P **09 39 25.6 -1.5**
comp=E,1.1nm,0.8s,baz=153,slow=5.5,SNR=3.9
BRTR pP pP 09 39 32.7 -1.7
comp=E,3.1nm,0.8s,baz=133,slow=6.7,SNR=8.8
VRSR Storozhevoye 69.47 325 *e*P P **09 39 27.7 -1.7**
VRSR pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
VRSR pmax pmax
comp=N,7.0nm,1.3s
VRSR pmax pmax
comp=E,4.0nm,0.5s
MA2 Magadan 71.22 26⇑ *i*P P **09 39 39.6 -0.3**
MA2 pmax pmax
comp=Z,16nm,0.6s,mb5.1
MA2 Magadan 71.22 26⇑ *i*P P **09 39 39.6 -0.4**
comp=Z,16nm,0.6s,mb5.1
PET Petropavlovsk 72.13 34 *e*P P **09 39 45.3 -0.2**
PET pmax pmax
comp=Z,65nm,1.1s,mb5.5
PET MLR MLR
comp=Z,200nm,20.0s,MS4.4
MOS Moscow 72.24 329 *e*P P **09 39 49.0 +2.9**
MOS pmax pmax
comp=Z,45nm,0.6s,mb5.6
OBN Obninsk 72.53 328⇓ *i*P P **09 39 47.0 -0.8**
OBN *e* 09 42 27.9
OBN *e*S S 09 49 05.4 -4.0
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
OBN Obninsk 72.53 328 *e*P P **09 39 46.8 -1.0**
TIXI Tiksi 73.07 10 *e*P P **09 39 47.6 -3.1**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
TIXI MLR MLR
comp=Z,913nm,16.0s,MS5.2
SEY Seymchan 73.65 23 *e*P P **09 39 55.9 +1.7**
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
LBTB Lobatse 73.95 244 P P **09 39 56.3 -0.4**
comp=Z,3.5nm,0.8s,mb4.3,baz=99,slow=3.9,SNR=4.1
BOSA Boshof 74.85 240 P P **09 39 60.0 -1.9**
comp=Z,3.8nm,1.0s,mb4.3,baz=104,slow=8.3,SNR=3.3
AKASG Malin Array Be 75.18 322 P P **09 40 01.7 -1.5**
comp=Z,0.6nm,0.3s,mb4.0,baz=88,slow=5.1,SNR=7.2
AKASG pP pP 09 40 09.2 -1.5
comp=Z,1.5nm,0.5s,baz=88,slow=5.0,SNR=3.2
FINES FINESS Array B 79.91 332 P P **09 40 28.9 -0.3**
comp=Z,1.9nm,0.6s,mb4.2,baz=94,slow=5.1,SNR=15
FINES pP pP 09 40 36.3 -0.4
comp=Z,1.6nm,0.6s,baz=107,slow=7.0,SNR=4.2
KAF Kangasniemi 79.99 333 *e*P P **09 40 28.2 -1.4**
comp=Z,2.8nm,0.5s,mb4.5
KAF Kangasniemi 79.99 333 *e*P P **09 40 28.2 -1.4**
KAF pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BILL Bilibino 81.06 21 *e*P P **09 40 34.1 -1.1**
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 82.33 320 *e*P P **09 40 42.6 +0.5**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MORC Moravsky Berou 82.33 320 *e*P P **09 40 42.6 +0.5**
comp=Z,3.7nm,0.8s,mb4.4
ARCES ARCESS Array B 82.44 340 P P **09 40 42.5 +0.2**
comp=Z,2.0nm,0.5s,mb4.3,baz=100,slow=4.5,SNR=12
ARCES pP pP 09 40 49.6 -0.2
comp=Z,3.6nm,0.8s,baz=97,slow=4.9,SNR=2.7
BRG Berggiesshubel 84.73 321 P P **09 40 56.1 +1.7**
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
BRG Berggiesshubel 84.73 321 P P **09 40 56.1 +1.7**
comp=Z,4.8nm,1.1s,mb4.5
GERES GERESS Array B 84.74 319 P P **09 40 55.2 +0.7**
comp=Z,0.4nm,0.3s,mb4.1,baz=104,slow=5.5,SNR=11
GERES pP pP 09 41 01.6 -0.4
comp=Z,0.4nm,0.3s,baz=90,slow=5.3,SNR=3.3
CLL Collm 85.35 321 P P **09 40 58.0 +0.5**
VNDA Vanda 85.93 169 P P **09 41 01.7 +1.9**
comp=Z,0.3nm,0.5s,baz=278,slow=7.1,SNR=2.4
VNDA pP pP 09 41 07.9 +0.5
comp=Z,1.1nm,0.5s,baz=305,slow=5.4,SNR=6.2
VNDA Vanda 85.93 169 P P **09 41 01.7 +1.8**
VNDA pP pP 09 41 07.9 +0.5
NB2 NORSAR Subarra 86.92 331 P P **09 41 04.0 -0.9**
comp=Z,0.1nm,0.6s,baz=94,slow=5.6
NOA NORSAR Array B 86.92 331 P P **09 41 03.9 -1.1**
comp=Z,1.9nm,0.8s,mb4.3,baz=93,slow=5.0,SNR=6.0
NOA pP pP 09 41 12.0 -0.6
comp=Z,1.3nm,0.8s,baz=94,slow=5.0,SNR=3.8
SBA Scott Base 87.03 169 *e*P P **09 41 07.6 +2.4**
comp=Z,34nm,1.8s,mb5.3
SBA *e* pP 09 41 14.1 +1.3
IMA Indian Mountai 96.47 23 *e*P P **09 41 50.4 +1.1**
comp=Z,29nm,1.4s,mb5.5
INK Inuvik 102.36 17 P Pdif 09 42 17.6 +1.9
comp=Z,1.6nm,1.2s,baz=297,slow=4.5,SNR=3.4
INK pP 09 42 22.6
comp=Z,0.4nm,0.5s,baz=303,slow=3.5,SNR=2.3
MNTX Cornudas Mount 140.79 31 *e*PKP PKPdf 09 47 51.6 -2.5
TXAR Lajitas Array 143.57 32 PKP PKPdf 09 47 53.8 -5.1
comp=Z,1.2nm,0.7s,baz=330,slow=6.6,SNR=19
NATX Nacogdoches 145.23 18 *e*PKP PKPdf 09 47 58.5 -3.3
LRAL Lakeview Retre 145.61 6 *e*PKP PKPdf 09 47 58.6 -3.8

IDC 29 09:35:22.8±2.7,**2.74N**×**96.33E**,**mb3.5**/5,**mb1 3.6**/5,
mb1mx3.5/17,**mbtmp3.5**/5,**Error ellipse:**
s-maj=116.8km s-min=21.5km az=57.0,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.59**	**123**	P	P		P	09 43 29.7	-1.1
	0.4nm,0.4s,baz=302,slow=9.1,SNR=5.7								
ASAR	**Alice Springs**	**45.02**	**128**	P	P		P	09 43 39.7	-2.5
	0.2nm,0.5s,baz=307,slow=9.0,SNR=3.2								
MKAR	**Makanchi Array**	**45.55**	**346**	P	P		P	09 43 44.2	-1.8
	0.9nm,0.4s,baz=167,slow=8.1,SNR=13								
SONM	**Songino Array**	**45.75**	**9**	P	P		P	09 43 46.1	-1.6
	0.3nm,0.4s,baz=198,slow=9.4,SNR=3.1								
BVAR	**Borovoye Array**	**54.52**	**341**	P	P		P	09 44 52.0	-2.5
	0.3nm,0.4s,baz=101,slow=7.3,SNR=3.6								

BJI ***29*** *09:37:52.6,0.35*N*×97.79E,h30*km*,mb4.8*
IDC ***29*** *09:37:55.9*±*1.6,1.19*N*×97.09E,mb4.1/6,mb1 4.3/6,*
mb1mx3.9/18,mbtmp4.1/6,Error ellipse: s-maj=72.1km
s-min=20.8km az=54.0
NEIC ***29*** *09:38:00.7*±*0.8,1.31*N*×97.27E,h30*km*,mb4.4/7,Error*
ellipse: s-maj=25.8km s-min=10.0km az=60.0
ISC 29 09:37:58.6±1.0,**1.3N**±0.1×**97.2E**±0.2,**h30**km,**n14,**
σ0$74/14,**mb4.3**/13,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**17.15**	**6**	P	P		P	**09 41 57.2**	**-0.7**
	6.8nm,0.6s								
GYA	**Guiyang**	**26.63**	**19**	P	P		P	**09 43 37.8**	**+1.1**
GYA					AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4								
ENH	**Enshi**	**31.10**	**21**	*e*P	P		P	**09 44 15.3**	**-1.5**
	comp=Z,12nm,0.7s,mb4.8								
ENH				*e*			pP	09 44 22.9	-2.8
WRA	**Warramunga Arr**	**42.09**	**122**	P	P		P	**09 45 49.7**	**-0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=302,slow=9.0,SNR=4.9								
WRAB	**Tennant Creek**	**42.10**	**122**	P	P		P	**09 45 49.7**	**-0.4**
	comp=Z,4.5nm,0.7s,mb4.2								
ASAR	**Alice Springs**	**43.46**	**127**	P	P		P	**09 46 01.4**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.7,baz=306,slow=8.2,SNR=8.4								
SONM	**Songino Array**	**47.05**	**8**	P	P		P	**09 46 30.4**	**+1.0**
	comp=Z,2.6nm,0.8s,mb4.2,baz=191,slow=8.5,SNR=16								
MKAR	**Makanchi Array**	**47.15**	**346**	P	P		P	**09 46 31.1**	**+0.8**
	comp=Z,1.8nm,0.6s,mb4.2,baz=159,slow=8.2,SNR=17								
ULN	**Ulaanbaatar**	**47.17**	**9**	*e*P	P		P	**09 46 30.9**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.2								
HIA	**Hailar**	**51.56**	**19**	P	P		P	**09 47 04.6**	**+0.5**
	comp=Z,5.9nm,0.7s,mb4.6								
KURK	**Kurchatov**	**51.70**	**345**	*e*P	P		P	**09 47 04.7**	**-0.5**
	comp=Z,2.9nm,0.7s,mb4.3								
BVAR	**Borovoye Array**	**56.16**	**341**	P	P		P	**09 47 37.0**	**-0.9**
	comp=Z,1.8nm,0.8s,mb4.2,baz=127,slow=7.4,SNR=8.9								
CHKZ	**Chkalovo**	**56.64**	**341**	*e*P	P		P	**09 47 40.8**	**-0.5**
	comp=Z,3.0nm,0.6s,mb4.5								
CHKZ				*e*				09 47 46.7	
MLR	**Muntele Rosu**	**75.99**	**317**	P	P		P	**09 49 45.3**	**+0.4**
	comp=Z,2.4nm,0.7s,mb4.2,baz=273,slow=2.3,SNR=4.0								

IDC ***29*** *09:39:05.0*±*0.8,8.92*N*×126.62E,mb4.0/10,mb1 4.1/10,*
mb1mx3.9/20,mbtmp4.0/10,MS2.7/1,Ms1 2.7/1,
ms1mx2.3/34,Error ellipse: s-maj=49.3km s-min=15.8km
az=78.0
NEIC ***29*** *09:39:06.5*±*0.5,8.91*N*×126.59E,h10*km*,mb4.4/2,Error*
ellipse: s-maj=31.6km s-min=9.5km az=75.0
MAN ***29*** *09:39:10.3,9.10*N*×126.59E,h1*km*,mb4.6,ML3.5,MS3.4*
ISC 29 09:39:05.2±0.6,**8.93N**±0.04×**127.01E**±0.05,**h10**km,**n29,**
σ1$38/35,**mb4.0**/12,**MS2.6**/1,**3C-3D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.97**	**221**⇓	*e*P	P		**Pb**	**09 39 25.2**	**+1.5**
BIPH				*e*S			**Sb**	**09 39 36.0**	**-0.4**
BUTP	**Butuan**	**1.37**	**272**	*e*P	P		**Pn**	**09 39 28.9**	**-1.5**
SCPH	**Surigao**	**1.72**	**300**	*e*P	P		**Pn**	**09 39 35.5**	**0.0**
SCPH				*e*S			**Sn**	**09 39 53.7**	**-4.0**
BUKP	**Musuan**	**2.19**	**242**	*e*P	P		**Pn**	**09 39 44.4**	**+2.3**
CGP	**Cagayan de Oro**	**2.33**	**259**⇑	*e*P	P		**Pn**	**09 39 44.8**	**+0.5**
CGP				*e*S			**Sn**	**09 40 11.2**	**-2.0**
MSLP	**Maasin**	**2.43**	**300**	*e*P	P		**Pn**	**09 39 47.2**	**+1.6**
KCP	**Kidapawan**	**2.69**	**225**⇓	*e*P	P		**Pn**	**09 39 54.4**	**+5.1**
KCP				*e*S			**Sn**	**09 40 26.6**	**+4.4**
BESP	**Borongan**	**3.07**	**330**	*e*P	P		**Pn**	**09 39 55.9**	**+1.1**
TBP	**Tagbilaran**	**3.19**	**284**⇑	*e*P	P		**Pn**	**09 39 57.0**	**+0.5**
TBP				*i*S			**Sn**	**09 40 34.0**	**-1.1**
LLP	**Lapu-Lapu**	**3.30**	**295**	*e*P	P		**Pn**	**09 39 59.9**	**+1.9**
LLP				*e*S			**Sn**	**09 40 37.6**	**-0.1**
DCPH	**Dipolog City**	**3.63**	**265**⇓	*i*P	P		**Pn**	**09 40 03.1**	**+0.4**
PAGZ	**Pagadian**	**3.74**	**254**	*e*P	P		**Pn**	**09 40 06.9**	**+2.6**
SNPH	**Sibulan**	**3.75**	**277**	*e*P	P		**Pn**	**09 40 04.0**	**-0.3**
CNP	**Catarman**	**4.24**	**327**	*e*P	P		**Pn**	**09 40 11.9**	**+0.5**
RCP	**Roxas**	**4.94**	**302**⇑	*e*P	P		**Pn**	**09 40 22.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**26.89**	**183**	P	P		**P**	**09 44 47.9**	**-0.6**
	2.6nm,0.5s,mb4.0,baz=6.3,slow=11,SNR=4.5								
WRA	**Warramunga Arr**	**29.58**	**166**	P	P		**P**	**09 45 11.0**	**-1.7**
	0.3nm,0.6s,mb3.2,baz=346,slow=9.5,SNR=4.2								
ASAR	**Alice Springs**	**33.09**	**168**	P	P		**P**	**09 45 43.6**	**+0.1**
	0.3nm,0.4s,mb3.5,baz=355,slow=7.0,SNR=11								
NWAO	**Narrogin (SRO)**	**42.65**	**192**	P	P		**P**	**09 47 03.2**	**-0.5**
	5.1nm,0.8s,mb4.3,baz=21,slow=8.5,SNR=4.2								
NWAO				LR	LR			10 07 18.6	
	comp=Z,7.8nm,18.4s,MS2.6,baz=155,slow=40								
NWAO	**Narrogin (SRO)**	**42.65**	**192**	P	P		**P**	**09 47 03.2**	**-0.6**
STKA	**Stephens Creek**	**42.90**	**162**	P	P		**P**	**09 47 06.6**	**+0.7**
	1.0nm,0.3s,mb4.0,baz=322,slow=7.4,SNR=13								
STKA	**Stephens Creek**	**42.90**	**162**	P	P		**P**	**09 47 06.6**	**+0.7**

MKAR Makanchi Array 53.53 323 P **P** **09 48 26.1 -2.2**
2.8nm,0.7s,mb4.3,baz=122,slow=8.8,SNR=8.7
KURK Kurchatov 57.58 326 *eP* **P** **09 48 54.2 -3.3**
8.5nm,1.2s,mb4.7
BVAR Borovoye Array 63.18 326 P **P** **09 49 33.3 -2.4**
1.1nm,0.6s,mb4.1,baz=121,slow=8.4,SNR=4.2
CHKZ Chkalovo 63.30 326 P **P** **09 49 33.6 -2.9**
0.9nm,0.6s,mb4.1
INK Inuvik 85.26 22 P **P** **09 51 44.6 +1.6**
1.4nm,1.1s,mb4.0,baz=259,slow=4.5,SNR=3.5
FINES FINESS Array B 87.41 332 P **P** **09 51 52.3 -1.4**
0.3nm,0.4s,mb3.9,baz=101,slow=7.1,SNR=4.6
YKA Yellowknife Ar 94.68 24 P **P** **09 52 28.7 +1.2**
0.3nm,0.7s,mb3.8,baz=303,slow=4.6,SNR=9.9

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*IDC **29** 09:42:53.7±0.5, 1.11N×97.23E, mb4.5/21, mb1 4.6/21, mb1mx4.5/24, mbtmp4.5/21, MS4.6/19, Ms1 4.5/19, ms1mx4.3/32, Error ellipse: s-maj=30.2km s-min=12.6km az=48.0*

*BJI **29** 09:42:54.0, 0.67N×97.34E, h38km, mB5.5, mb5.0, Ms5.2, Msz4.9*

*MOS **29** 09:42:57.0±0.9, 1.22N×97.33E, h33km, mb5.1/23, MS4.8/5, Error ellipse: s-maj=15.1km s-min=7.7km az=108.8*

*HRVD **29** 09:42:57.2±1.4, 0.49N×97.10E, h35km±3km, MW5.2/26, Centroid moment Tensor Solution. LP body waves: s10,c11; Mantle waves: s26,c29; Half duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_rr=0.72±.14; $M_{\theta\theta}$=-0.58±.09; $M_{\phi\phi}$=-0.14±.10; $M_{r\theta}$=0.31±.14; $M_{\theta\phi}$=0.35±.05; $M_{\phi r}$=-0.22±.17; Best double couple: M_o=8.39×10^{17} NP1: ϕ_s296°,δ32°,λ84°. NP2:ϕ_s122°,δ59°,λ93°. Principal axes: T .814, Plg76°, Azm43°; N .049, Plg3°, Azm300°; P -.863, Plg14°, Azm210°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 09:42:57.2±0.2, 1.08N×97.26E, mb4.9/31 Error ellipse: s-maj=7.5km s-min=5.2km az=47.0*

ISC 29 09:42:56.6±1.5, 1.13N±0.05×97.29E±0.04, h30km±10km, h26km±1.7km:pP-P, n154, σ1§06/148, mb4.8/73, MS4.8/36, 14C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IPM	**Ipoh**	**5.07**	**47**	P	**Pn**	**09 44 13.7**	**+1.1**
KULM	**Kulim**	**5.33**	**39**	*eP*	**Pn**	**09 44 16.7**	**+0.5**
KGM	**Kluang**	**6.09**	**82**	P	**Pn**	**09 44 28.7**	**+1.7**
KSM	**Kuching**	**13.02**	**88**	P	**P**	**09 46 12.7**	**+10**
KKTK	**Khon Kaen**	**16.07**	**20**	P	**P**	**09 46 45.5**	**+3.3**
	617nm,1.0s						
CM31	**Chiang Mai Arr**	**17.30**	**5**	*eP*	**P**	**09 46 56.0**	**-1.7**
	49nm,1.0s						
NANT	**Nan**	**17.88**	**11**	⇑P	**P**	**09 47 04.0**	**-0.9**
	706nm,1.0s						
CHRT	**Chiangrai**	**18.79**	**7**	⇑P	**P**	**09 47 06.6**	**-9.5**
	187nm,0.9s						
CHRT	**Chiangrai**	**18.79**	**7**	⇓P	**P**	**09 47 16.0**	**-0.1**
	210nm,1.0s						
KKM	**Kota Kinabalu**	**19.50**	**75**	*eP*	**P**	**09 47 24.1**	**-0.4**
KKM	**Kota Kinabalu**	**19.50**	**75**	P	**P**	**09 47 24.3**	**-0.2**
TSM	**Tawau**	**20.80**	**81**	P	**P**	**09 47 38.1**	**0.0**
VIS	**Vishakhapatnam**	**21.45**	**321**	*i* P	**P**	**09 47 43.1**	**-1.7**
QIZ	**Qiongzhong**	**21.63**	**34**	P	**P**	**09 47 46.5**	**0.0**
QIZ				S	**S**	**09 51 40.5**	**+1.1**
QIZ				AMB	AMB		
	comp=Z,35nm,1.6s,mb4.5						
QIZ				LR	LR		
	comp=E,3μm,14.9s						
QIZ				LR	LR		
	comp=Z,3μm,12.7s,MS4.9						
QIZ	**Qiongzhong**	**21.63**	**34**	*eP*	**P**	**09 47 45.7**	**-0.9**
	comp=Z,50nm,1.1s,mb4.9						
KMI	**Kunming**	**24.43**	**12**	⇑P	**P**	**09 48 16.0**	**+2.0**
KMI				AP		09 48 22.3	
KMI				XP		09 48 25.3	
KMI				PP	PP	09 48 51.5	+1.7
KMI				S	**S**	**09 52 34.0**	**+5.0**
KMI				AMB	AMB		
	comp=Z,139nm,1.8s,mb5.1						
KMI				AMB	AMB		
	comp=Z,954nm,5.7s						
KMI				LR	LR		
	comp=N,6μm,15.2s,MS5.2						
KMI				LR	LR		
	comp=E,3μm,14.9s,MS5.2						
KMI				LR	LR		
	comp=Z,6μm,15.0s,MS5.2						
HYB	**Hyderabad**	**24.53**	**312**	*eP*	**P**	**09 48 16.0**	**+1.0**
HYB	**Hyderabad**	**24.53**	**312**	*i* P	**P**	**09 48 16.0**	**+1.0**
GYA	**Guiyang**	**26.75**	**19**⇑	*i*P	**P**	**09 48 35.5**	**-0.2**
GYA				AP	pP	09 48 42.5	-2.1
GYA				XP	sP	09 48 46.0	-2.7
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,4.3s						
GYA				LR	LR		
	comp=N,2μm,17.7s,MS5.1						
GYA				LR	LR		
	comp=E,4μm,17.1s,MS5.1						
GYA				LR	LR		
	comp=Z,1μm,17.0s,MS4.5						
JIRN	**Jiri**	**28.45**	**339**	*eP*	**P**	**09 48 52.0**	**+0.9**
	comp=Z,17nm,0.7s,mb4.8						
PKI	**Pulchoki**	**28.66**	**338**	*eP*	**P**	**09 48 53.1**	**+0.1**
	comp=Z,106nm,1.1s,mb5.5						
GUN	**Gumba**	**28.79**	**339**	*eP*	**P**	**09 48 54.8**	**+0.6**
	comp=Z,127nm,0.9s,mb5.7						
DMN	**Daman**	**28.81**	**337**	*eP*	**P**	**09 48 54.6**	**+0.3**
KKN	**Kakani**	**28.90**	**338**	*eP*	**P**	**09 48 55.3**	**+0.1**
	comp=Z,120nm,1.1s,mb5.5						
LSA	**Lhasa**	**29.01**	**349**	P	**P**	**09 48 58.0**	**+1.8**
LSA	**Lhasa**	**29.01**	**349**	*eP*	**P**	**09 48 56.7**	**+0.5**
	comp=Z,18nm,0.7s,mb4.9						
GKN	**Gorkha**	**29.34**	**337**	*eP*	**P**	**09 48 59.4**	**+0.2**
KOLN	**Koldanda**	**29.56**	**335**	*eP*	**P**	**09 49 01.5**	**+0.4**
	comp=Z,98nm,1.0s,mb5.5						
CD2	**Chengdu**	**30.25**	**11**	P	**P**	**09 49 06.8**	**-0.4**
ENH	**Enshi**	**31.22**	**21**	*eP*	**P**	**09 49 14.0**	**-1.7**
	comp=Z,51nm,1.1s,mb5.3						
LGTI	**Lohaghat**	**32.51**	**332**	*i* P	**P**	**09 49 28.3**	**+1.2**
NDI	**New Delhi**	**33.44**	**327**	*eP*	**P**	**09 49 33.0**	**-2.2**
	comp=Z,8.0nm,0.5s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	*eP*	**P**	**09 49 37.5**	**-1.0**
	comp=Z,7.1nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.81**	**126**	P	**P**	**09 49 37.7**	**-0.8**
	comp=Z,8.5nm,0.6s,mb4.8,baz=312,slow=2.5,SNR=17						
DDI	**Dehra Dun**	**34.30**	**330**	*eP*	**P**	**09 49 42.0**	**-0.6**
XAN	**Xi'an**	**34.51**	**17**	P	**P**	**09 49 43.0**	**-1.3**
XAN				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	**P**	**09 49 51.0**	**-0.2**
LZH				AP	pP	09 49 58.0	-2.2
LZH				XP	sP	09 50 01.5	-2.6
LZH				AMB	AMB		
	comp=Z,58nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,203nm,4.0s						
LZH				LR	LR		
	comp=E,3μm,15.8s						
LZH				LR	LR		
	comp=Z,4μm,18.7s,MS5.2						
SDNR	**Sundarnagar**	**35.80**	**330**	*eP*	**P**	**09 49 54.6**	**-0.8**
NJ2	**Nanjing**	**36.88**	**31**	*eP*	**P**	**09 50 05.0**	**+0.6**
NJ2				AP	pP	09 50 15.0	+1.5
NJ2				XP	sP	09 50 17.5	+0.1
NJ2				PP	PP	09 51 31.5	+0.9
NJ2				S	**S**	**09 55 45.0**	**-1.5**
NJ2				XS		09 56 02.0	
NJ2				AMB	AMB		
	comp=Z,440nm,4.0s						
NJ2				LR	LR		
	comp=N,820nm,14.4s,MS4.8						
NJ2				LR	LR		
	comp=E,860nm,12.6s,MS4.8						
NJ2				LR	LR		
	comp=Z,510nm,11.5s,MS4.5						
SSE	**Sheshan**	**37.42**	**35**	*eP*	**P**	**09 50 07.3**	**-1.7**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,291nm,4.7s						
SSE				LR	LR		
	comp=N,637nm,15.9s,MS4.7						
SSE				LR	LR		
	comp=E,618nm,16.0s,MS4.7						
SSE				LR	LR		
	comp=Z,888nm,15.7s,MS4.7						
KAKA	**Kakadu**	**37.49**	**113**	*eP*	**P**	**09 50 08.4**	**-1.3**
	comp=Z,9.6nm,0.6s,mb4.8						
GTA	**Gaotai**	**38.17**	**3**	*eP*	**P**	**09 50 15.3**	**+0.1**
GTA				AP	pP	09 50 22.5	-1.8
GTA				XP	sP	09 50 26.0	-2.1
GTA				PP	PP	09 51 43.0	-3.0
GTA				PPP	PPP	09 52 03.0	-5.3
GTA				PCP	PcP	09 52 31.3	+1.3
GTA				S	**S**	**09 56 00.5**	**-5.7**
GTA				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,301nm,5.1s						
GTA				LR	LR		
	comp=N,1μm,14.7s,MS5.0						
GTA				LR	LR		
	comp=E,831nm,15.6s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,19.5s,MS4.9						
JOW	**Kunigami**	**39.23**	**47**	LR	LR	10 05 20.8	
	comp=Z,432nm,20.1s,MS4.3,baz=254,slow=34						
BTO	**Baotou**	**40.96**	**15**	*eP*	**P**	**09 50 40.0**	**+1.7**
HHC	**Hu-ho-hao-te**	**41.60**	**16**	*eP*	**P**	**09 50 44.5**	**+0.9**
HHC				AP	pP	09 50 54.5	+1.8
HHC				XP	sP	09 50 58.8	+2.3
HHC				PP	PP	09 52 22.3	-0.5
HHC				S	**S**	**09 56 57.0**	**-0.6**
HHC				SS	SS	09 59 57.8	-0.3
HHC				SCS	ScS	10 00 42.5	0.0
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,456nm,5.1s						
HHC				LR	LR		
	comp=N,2μm,12.0s,MS5.2						
HHC				LR	LR		
	comp=E,1μm,14.9s,MS5.2						
HHC				LR	LR		
	comp=Z,2μm,16.7s,MS5.2						
WRA	**Warramunga Arr**	**41.92**	**122**	P	**P**	**09 50 46.1**	**-0.3**
	comp=Z,11nm,0.6s,mb4.7,baz=300,slow=9.1,SNR=63						
WRAB	**Tennant Creek**	**41.92**	**122**	*i* P	**P**	**09 50 46.6**	**+0.1**
WRAB	**Tennant Creek**	**41.92**	**122**	*eP*	**P**	**09 50 46.0**	**-0.5**
	comp=Z,19nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**41.93**	**122**	⇓*i*P	**P**	**09 50 46.5**	**0.0**
BJT	**Baijiatuau**	**42.35**	**22**	*eP*	**P**	**09 50 50.8**	**+1.0**
BJT				pmax	pmax		
	comp=Z,22nm,0.6s						
BJT	**Baijiatuau**	**42.35**	**22**	*eP*	**P**	**09 50 50.8**	**+1.0**
	comp=Z,22nm,0.6s,mb5.0						
BJI	**Beijing**	**42.37**	**22**	*eP*	**P**	**09 50 51.0**	**+1.1**
BJI				AP	pP	09 50 57.5	-1.6
BJI				AMB	AMB		
	comp=Z,28nm,1.1s,mb4.8						
BJI				AMB	AMB		
	comp=Z,433nm,4.1s						
BJI				LR	LR		
	comp=N,1μm,16.0s,MS5.0						
BJI				LR	LR		
	comp=E,1μm,16.8s,MS5.0						
BJI				LR	LR		
	comp=Z,639nm,20.6s,MS4.5						
FORT	**Forrest**	**43.16**	**140**	*eP*	**P**	**09 50 59.8**	**+3.3**
	comp=Z,571nm,0.6s						
ASPA	**Alice Springs**	**43.28**	**127**	*eP*	**P**	**09 50 58.0**	**+0.5**
ASAR	**Alice Springs**	**43.28**	**127**	P	**P**	**09 50 57.7**	**+0.2**
	comp=Z,3.1nm,0.6s,mb4.2,baz=299,slow=7.7,SNR=24						
ASAR				LR	LR	10 10 50.2	
	comp=Z,495nm,20.3s,MS4.4,baz=298,slow=39						
WMQ	**Urumqi**	**43.36**	**350**⇑	*i*P	**P**	**09 50 58.8**	**+0.9**
WMQ				AP	pP	09 51 06.0	-1.1
WMQ				XP	sP	09 51 09.8	-1.1
WMQ				PP	PP	09 52 42.0	+1.3
WMQ				PPP	PPP	09 53 18.5	+1.8
WMQ				*e*S	**S**	**09 57 25.0**	**+1.7**
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,258nm,4.3s						
WMQ				LR	LR		
	comp=N,1μm,14.3s						
WMQ				LR	LR		
	comp=E,2μm,19.4s						
WMQ				LR	LR		
	comp=Z,803nm,24.0s						
DL2	**Dalian**	**43.70**	**28**	P	**P**	**09 51 01.8**	**+1.1**
DL2				*e*S	**S**	**09 57 38.0**	**+10**
DL2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
DL2				LR	LR		
	comp=N,340nm,15.5s,MS4.6						
DL2				LR	LR		
	comp=E,460nm,16.3s,MS4.6						
DL2				LR	LR		
	comp=Z,540nm,14.1s,MS4.6						
ULHL	**Ulahol**	**45.10**	**338**	P	**P**	**09 51 13.0**	**+1.0**
	SNR=8.0						
KZA	**Kyzart**	**45.34**	**337**	P	**P**	**09 51 14.8**	**+1.0**
	SNR=8.1						
KS15	**Wonju Array Si**	**45.83**	**34**	*eP*	**P**	**09 51 18.1**	**+0.3**
TKM2	**Tokmak 2**	**45.92**	**338**	P	**P**	**09 51 19.1**	**+0.7**
	SNR=15						
AML	**Almayashu**	**46.01**	**336**	P	**P**	**09 51 19.6**	**+0.4**
	SNR=15						
AAK	**Ala-Archa**	**46.10**	**337**	*i* P	**P**	**09 51 19.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**46.10**	**337**	*eP*	**P**	**09 51 19.8**	**-0.1**
	comp=Z,18nm,1.1s,mb4.9						
FRU	**Bishkek**	**46.22**	**337**	*eP*	**P**	**09 51 22.0**	**+1.2**
FRU				MLR	MLR		
	comp=Z,1μm,18.0s,MS4.8						
EKS2	**Erkin-Say**	**46.41**	**336**	P	**P**	**09 51 23.4**	**+1.1**
	SNR=13						
USP	**Ospenovka**	**46.63**	**337**	P	**P**	**09 51 24.6**	**+0.5**
	SNR=20						
SNY	**Shenyang**	**46.93**	**27**⇑	P	**P**	**09 51 25.8**	**-0.6**
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**09 51 28.7**	**+0.2**
	comp=Z,14nm,0.9s,mb4.9,baz=190,slow=9.9,SNR=36						
SONM				PcP	PcP	09 53 01.7	+1.8
	comp=Z,2.0nm,0.7s,baz=192,slow=3.8,SNR=3.0						
SONM				LR	LR	10 14 04.5	
	comp=Z,3μm,18.6s,MS5.3,baz=88,slow=40						
ULN	**Ulaanbaatar**	**47.32**	**9**	*eP*	**P**	**09 51 29.3**	**-0.2**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**47.32**	**9**	*eP*	**P**	**09 51 29.3**	**-0.2**
	comp=Z,15nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**47.34**	**346**	P	**P**	**09 51 29.6**	**0.0**
	comp=Z,12nm,0.8s,mb4.8,baz=162,slow=7.7,SNR=21						
MKAR				LR	LR	10 15 31.8	
	comp=Z,446nm,20.7s,MS4.4,baz=270,slow=41						
CN2	**Changchun**	**49.33**	**27**	*eP*	**P**	**09 51 44.5**	**-0.6**
CN2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.4						
ZAK	**Zakamensk**	**49.34**	**5**	*eP*	**P**	**09 51 44.6**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
CBIJ	**Chichi jima**	**50.19**	**55**	LR	LR	10 09 52.4	
	comp=Z,202nm,21.5s,MS4.1,baz=171,slow=32						
MOY	**Mondy**	**50.46**	**3**	*eP*	**P**	**09 51 51.1**	**-2.5**
MOY				pmax	pmax		
	comp=Z,34nm,2.6s,mb4.9						
TLY	**Talaya**	**50.66**	**5**	*i* P	**P**	**09 51 54.3**	**-0.8**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
TLY	**Talaya**	**50.66**	**5**	*eP*	**P**	**09 51 55.5**	**+0.4**
	comp=Z,9.3nm,0.9s,mb4.7						
IRK	**Irkutsk**	**51.27**	**5**	*eP*	**P**	**09 52 00.4**	**+0.6**
IRK				pmax	pmax		
	comp=Z,31nm,2.1s,mb4.9						
HIA	**Hailar**	**51.68**	**19**	*eP*	**P**	**09 52 02.4**	**-0.5**
HIA				pmax	pmax		
	comp=Z,21nm,0.9s						
HIA	**Hailar**	**51.68**	**19**	*eP*	**P**	**09 52 02.4**	**-0.5**
	comp=Z,22nm,0.9s,mb5.1						
KURK	**Kurchatov**	**51.89**	**345**	*ci*P	**P**	**09 52 03.6**	**-0.9**
KURK	**Kurchatov**	**51.89**	**345**	*eP*	**P**	**09 52 03.7**	**-0.8**
	comp=Z,22nm,1.0s,mb5.0						
MDJ	**Mudanjiang**	**51.89**	**29**	P	**P**	**09 52 04.3**	**-0.3**
MDJ				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,304nm,3.8s						
MDJ				LR	LR		
	comp=N,560nm,16.1s,MS4.8						
MDJ				LR	LR		
	comp=E,454nm,16.1s,MS4.8						
MDJ				LR	LR		
	comp=Z,964nm,16.8s,MS4.9						
MDJ	**Mudanjiang**	**51.89**	**29**	*eP*	**P**	**09 52 04.6**	**0.0**
	comp=Z,16nm,0.9s,mb4.9						
CTA	**Charters Tower**	**52.39**	**116**	LR	LR	10 16 48.5	
	comp=Z,776nm,20.0s,MS4.7,baz=279,slow=39						
STKA	**Stephens Creek**	**53.24**	**132**	*eP*	**P**	**09 52 15.2**	**+0.4**
	comp=Z,8.6nm,0.6s,mb4.9						
STKA	**Stephens Creek**	**53.24**	**132**	P	**P**	**09 52 15.1**	**+0.3**
	comp=Z,5.4nm,0.6s,mb4.7,baz=310,slow=5.6,SNR=30						
NVS	**Novosibirsk**	**54.76**	**350**	*i* P	**P**	**09 52 23.6**	**-2.1**
NVS				*i*		09 53 33.1	
NVS				*e*S	**S**	**10 00 02.9**	**+0.4**
NVS				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
NVS				pmax	pmax		
	comp=N,12nm,1.0s						
NVS				pmax	pmax		
	comp=E,8.0nm,1.0s						
NVS				smax			
	comp=N,23nm,1.8s						
NVS				smax			
	comp=E,4.0nm,1.2s						
ATD	**Arta Tunnel**	**54.99**	**283**	LR	LR	10 13 09.7	
	comp=E,259nm,19.3s,MS4.3,baz=65,slow=33						
KLR	**Kul'dur**	**56.28**	**26**	*eP*	**P**	**09 52 33.8**	**-2.9**
KLR				MLR	MLR		
	comp=N,3μm,17.0s,MS5.5						
KLR				MLR	MLR		
	comp=E,1μm,17.0s,MS5.5						
KLR				MLR	MLR		
	comp=E,1μm,13.0s						
KLR				MLR	MLR		
	comp=Z,3μm,13.0s,MS5.6						
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**09 52 36.0**	**-1.1**
	comp=Z,8.0nm,0.8s,mb4.8,baz=143,slow=7.4,SNR=27						
CHKZ	**Chkalovo**	**56.83**	**341**⇑	*eP*	**P**	**09 52 39.0**	**-1.6**
CHKZ				*e*		09 52 45.5	
CHKZ				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.4						
CHKZ	**Chkalovo**	**56.83**	**341**⇑	*eP*	**P**	**09 52 39.0**	**-1.6**
	comp=Z,39nm,1.0s,mb5.4						
CHKZ				*e*		09 52 45.5	
BOD	**Bodaibo**	**58.07**	**10**	*eP*	**P**	**09 52 48.0**	**-1.2**
BOD				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.1						
KMBO	**Kilima Mbogo**	**60.08**	**268**	LR	LR	10 17 40.0	
	comp=Z,552nm,18.0s,MS4.7,baz=96,slow=35						
SVE	**Sverdlovsk**	**62.79**	**338**⇑	*eP*	**P**	**09 53 20.6**	**-0.8**
SVE				*e*		09 53 38.9	
SVE				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.0						
SVE				MLR	MLR		
	comp=E,500nm,20.0s						
SVE				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.7						
ARU	**Arti**	**63.29**	**337**	*c i*P	**P**	**09 53 24.2**	**-0.5**
ARU				*e*		09 53 57.2	
ARU				*e*		09 55 44.0	
ARU				*e*S	**S**	**10 01 56.1**	**+3.1**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**64.42**	**319**	*i* P	**P**	**09 53 32.5**	**+0.1**
KIV				*e*		09 53 48.2	
KIV				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ASF	**Jabal al Asfar**	**64.58**	**305**	P	**P**	**09 53 34.7**	**+1.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=358,slow=4.0,SNR=4.0						
ASF				LR	LR	10 20 19.4	
	comp=Z,194nm,18.0s,MS4.3,baz=338,slow=35						
MALT	**Malatya**	**65.25**	**312**	*eP*	**P**	**09 53 37.5**	**-0.3**
MALT				*e*		09 53 44.6	
MALT				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MALT	**Malatya**	**65.25**	**312**	*eP*	**P**	**09 53 37.5**	**-0.3**
	comp=Z,5.4nm,0.9s,mb4.6						
MALT				*e*		09 53 44.6	
YAK	**Yakutsk**	**65.47**	**16**⇑	*eP*	**P**	**09 53 37.5**	**-1.3**
YAK				*e**PP	pP	09 53 44.3	-4.0
YAK				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
YAK	**Yakutsk**	**65.47**	**16**⇑	*eP*	**P**	**09 53 37.5**	**-1.3**
	comp=Z,23nm,0.8s,mb5.3						
YAK				*e*pP	pP	09 53 44.3	-4.1
EIL	**Elat**	**65.57**	**302**	P	**P**	**09 53 40.1**	**0.0**
	comp=Z,4.4nm,0.9s,mb4.5,baz=32,slow=10,SNR=4.5						
EIL	**Elat**	**65.57**	**302**	*eP*	**P**	**09 53 39.2**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9						
EIL				*e*pP	pP	09 53 46.6	-2.9
SOC	**Sochi**	**66.23**	**318**	*eP*	**P**	**09 53 41.8**	**-2.2**
SOC				*e*		09 54 10.1	
SOC				*e*		09 56 06.6	
SOC				*e*PPP	PPP	09 57 41.4	-6.1
SOC				*e*S	S	10 02 27.2	-2.3
SOC				*e*		10 03 34.8	
SOC				*e*SS	SS	10 06 44.8	-2.3
SOC				pmax	pmax		
	comp=Z,35nm,0.6s,mb5.6						
SOC				pmax	pmax		
	comp=N,22nm,0.9s						
SOC				pmax	pmax		
	comp=E,21nm,0.7s						
MBAR	**Mbarara**	**66.57**	**269**	P	**P**	**09 53 43.6**	**-3.1**
MBAR				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.8						
MBAR	**Mbarara**	**66.57**	**269**	P	**P**	**09 53 43.6**	**-3.1**
	comp=Z,15nm,1.4s,mb4.8						
BRTR	**Keskin Array B**	**69.23**	**312**	P	**P**	**09 54 01.6**	**-1.3**
	comp=Z,2.2nm,0.8s,mb4.1,baz=129,slow=7.8,SNR=9.4						
MA2	**Magadan**	**71.36**	**26**	*eP*	**P**	**09 54 14.4**	**-1.1**
MA2				*e*		09 54 21.7	
MA2				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
MA2	**Magadan**	**71.36**	**26**	*eP*	**P**	**09 54 14.4**	**-1.0**
	comp=Z,11nm,0.8s,mb4.8						
MA2				*e*		09 54 21.7	
PET	**Petropavlovsk**	**72.24**	**34**	*eP*	**P**	**09 54 19.8**	**-1.1**
PET				*e*S	S	10 03 40.2	0.0
PET				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.2						
PET				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.8						
MAW	**Mawson**	**72.66**	**193**	LR	LR	10 22 45.1	
	comp=Z,418nm,18.7s,MS4.7,baz=65,slow=33						
OBN	**Obninsk**	**72.73**	**328**⇓	*eP*	**P**	**09 54 22.9**	**-0.8**
OBN				*e*		09 57 02.6	
OBN				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
OBN				MLR	MLR		
	comp=Z,300nm,20.0s,MS4.6						
TIXI	**Tiksi**	**73.24**	**10**	*eP*	**P**	**09 54 23.0**	**-3.4**
TIXI				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,832nm,14.0s,MS5.2						
SEY	**Seymchan**	**73.79**	**23**	*eP*	**P**	**09 54 31.5**	**+1.8**
SEY				*e*		10 04 35.2	
SEY				pmax	pmax		
	comp=Z,60n

MORC	**Moravsky Berou**	**82.52**	**320**	*e*P		**P**	**09 55 18.5**	**+0.7**
MORC				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.6							
MORC	**Moravsky Berou**	**82.52**	**320**	*e*P		**P**	**09 55 18.5**	**+0.7**
	comp=Z,5.7nm,0.9s,mb4.6							
ARCES	**ARCESS Array B**	**82.64**	**340**	P		**P**	**09 55 18.4**	**+0.3**
	comp=Z,4.5nm,0.8s,mb4.5,baz=96,slow=5.0,SNR=16							
ARCES				LR		LR	10 36 26.8	
	comp=Z,480nm,19.0s,MS4.9,baz=257,slow=39							
URZ	**Urewera**	**82.70**	**129**	LR		LR	10 33 45.6	
	comp=Z,554nm,20.2s,MS4.9,baz=259,slow=37							
BRG	**Berggiesshubel**	**84.92**	**321**	*e*P		**P**	**09 55 40.9**	**+11**
GERES	**GERESS Array B**	**84.93**	**319**	P		**P**	**09 55 30.8**	**+0.7**
	comp=Z,2.0nm,0.8s,mb4.3,baz=101,slow=6.8,SNR=14							
GERES				LR		LR	10 40 25.4	
	comp=Z,126nm,19.5s,MS4.3,baz=270,slow=41							
KHC	**Kasperske Hory**	**85.03**	**319**	*e*P		**P**	**09 55 30.0**	**-0.6**
KHC				*e*		pP	09 55 40.0	-0.4
KHC	**Kasperske Hory**	**85.03**	**319**	*e*P		**P**	**09 55 30.0**	**-0.6**
KHC				pP		pP	09 55 40.0	-0.4
CLL	**Collm**	**85.55**	**321**	P		**P**	**09 55 35.0**	**+1.9**
VNDA	**Vanda**	**85.73**	**169**	P		**P**	**09 55 34.5**	**+1.0**
	comp=Z,0.4nm,0.6s,mb3.8,baz=282,slow=5.4,SNR=3.5							
HFS	**Hagfors**	**85.83**	**330**	P		**P**	**09 55 35.3**	**+1.0**
	comp=Z,2.2nm,0.8s,mb4.5,baz=90,slow=4.4,SNR=4.5							
MOX	**Moxa**	**86.39**	**320**	*e*P		**P**	**09 55 40.0**	**+2.7**
GRA1	**Grafenberg Arr**	**86.60**	**320**	*e*P		**P**	**09 55 38.1**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.7							
GRF	**Grafenberg Arr**	**86.60**	**320**	*e*P		**P**	**09 55 38.1**	**-0.3**
GRF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.7							
GRF	**Grafenberg Arr**	**86.60**	**320**	*e*P		**P**	**09 55 38.1**	**-0.3**
GRF				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.7							
GRF	**Grafenberg Arr**	**86.60**	**320**	*e*P		**P**	**09 55 38.1**	**-0.3**
	comp=Z,5.0nm,1.0s,mb4.7							
NB2	**NORSAR Subarra**	**87.11**	**331**	P		**P**	**09 55 41.1**	**+0.5**
	comp=Z,1.0nm,0.7s,mb4.2,baz=93,slow=5.0							
NB2	**NORSAR Subarra**	**87.11**	**331**	P		**P**	**09 55 41.1**	**+0.5**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.2							
NOA	**NORSAR Array B**	**87.11**	**331**	P		**P**	**09 55 41.0**	**+0.4**
	comp=Z,2.0nm,0.8s,mb4.4,baz=94,slow=5.0,SNR=7.8							
DAVOX	**Davos**	**87.41**	**317**	P		**P**	**09 55 43.5**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.5,baz=244,slow=8.4,SNR=3.2							
DAVOX				LR		LR	10 39 07.1	
	comp=Z,131nm,19.0s,MS4.4,baz=76,slow=39							
LPG	**La Plagne**	**89.58**	**315**	*e*P		**P**	**09 55 53.9**	**+1.1**
	comp=Z,9.1nm,0.6s,mb5.0							
LPG	**La Plagne**	**89.58**	**315**	*e*P		**P**	**09 55 53.9**	**+1.1**
LPG				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb5.0							
JMIC	**Jan Mayen**	**94.06**	**342**	LR		LR	10 42 37.4	
	comp=Z,150nm,19.5s,MS4.5,baz=330,slow=38							
EKA	**Eskdalemuir Ar**	**95.03**	**326**	P		**P**	**09 56 18.5**	**+0.9**
	comp=Z,0.9nm,0.7s,mb4.3,baz=112,slow=4.5,SNR=4.0							
YKA	**Yellowknife Ar**	**112.14**	**15**	PP		PP	10 02 14.8	-3.0
	comp=Z,0.7nm,0.9s,baz=331,slow=7.2,SNR=6.4							
PDAR	**Pinedale Array**	**130.07**	**26**	PKP		PKPdf	10 02 04.3	-4.9
	comp=Z,0.5nm,0.7s,baz=225,slow=1.1,SNR=4.1							
PV10	**Paradox Valley**	**133.81**	**29**	*e*PKP		PKPdf	10 02 15.0	-1.4
PV10				*e*			10 02 23.2	
TXAR	**Lajitas Array**	**143.68**	**32**	PKP		PKPdf	10 02 29.7	-4.7
	comp=Z,0.6nm,0.6s,baz=157,slow=1.0,SNR=12							
NATX	**Nacogdoches**	**145.39**	**18**	*e*PKP		PKPdf	10 02 33.7	-3.6
NATX				*e*			10 02 41.2	
LRAL	**Lakeview Retre**	**145.78**	**6**	*e*PKP		PKPdf	10 02 34.1	-3.9
LRAL				*e*			10 02 41.8	

IDC 29 10:02:15.2±3.6, 2.65N×96.43E, mb3.5/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=144.7km s-min=23.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.45**	**123**	P	P	10 10 19.9	-2.2
	0.3nm,0.4s,baz=301,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**44.88**	**128**	P	P	10 10 32.1	-1.4
	0.2nm,0.5s,baz=302,slow=8.0,SNR=6.5						
MKAR	**Makanchi Array**	**45.66**	**346**	P	P	10 10 37.4	-2.1
	0.9nm,0.4s,baz=159,slow=8.7,SNR=21						
SONM	**Songino Array**	**45.83**	**9**	P	P	10 10 39.2	-1.5
	0.9nm,0.8s,baz=193,slow=9.7,SNR=8.0						

IDC 29 10:02:49.7±1.8, 1.08N×97.18E, mb4.0/8, mb1 4.1/8, mb1mx3.9/17, mbtmp4.0/8, Error ellipse: s-maj=89.3km s-min=18.7km az=55.0
NEIC 29 10:02:54.3±0.6, 1.09N×97.25E, h30km, mb4.3/4, Error ellipse: s-maj=18.4km s-min=9.4km az=64.0
ISC 29 10:02:53.0±0.8, 1.1N±0.1×97.3E±0.1, h33km, n17, σ0°64/15, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**39**	*e*P	**P**	**10 04 12.4**	**-0.1**
CM31	**Chiang Mai Arr**	**17.30**	**5**	P	**P**	**10 06 55.1**	**+1.3**
	4.7nm,0.8s						
ENH	**Enshi**	**31.23**	**21**	*e*P	**P**	**10 09 10.5**	**-1.4**
	5.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**10 10 42.2**	**-0.5**
	1.3nm,0.8s,mb3.6,baz=301,slow=9.2,SNR=8.2						
WRAB	**Tennant Creek**	**41.95**	**122**	*e*P	**P**	**10 10 42.8**	**0.0**
	6.7nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**43.30**	**127**	P	**P**	**10 10 53.8**	**0.0**
	1.3nm,1.0s,mb3.6,baz=307,slow=7.1,SNR=7.2						
SONM	**Songino Array**	**47.20**	**8**	P	**P**	**10 11 24.7**	**+0.2**
	1.2nm,0.6s,mb4.0,baz=188,slow=9.1,SNR=9.5						
SONM				PcP	PcP	10 12 56.3	+0.3
	0.6nm,0.7s,baz=180,slow=1.4,SNR=3.8						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**10 11 25.8**	**+0.2**
	1.7nm,0.7s,mb4.1,baz=160,slow=7.8,SNR=9.1						
MKAR	**Makanchi Array**	**47.33**	**346**	P	**P**	**10 11 25.8**	**+0.2**
KURK	**Kurchatov**	**51.88**	**345**	P	**P**	**10 12 00.6**	**+0.3**
	2.6nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**53.26**	**132**	P	**P**	**10 12 11.8**	**+0.8**
	3.0nm,1.1s,mb4.2,baz=293,slow=9.3,SNR=2.9						
BVAR	**Borovoye Array**	**56.34**	**341**	P	**P**	**10 12 32.4**	**-0.7**
	0.6nm,0.5s,mb3.9,baz=169,slow=7.6,SNR=4.3						
CHKZ	**Chkalovo**	**56.82**	**341**	*e*P	**P**	**10 12 35.7**	**-0.8**
	2.6nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**80.09**	**333**	P	**P**	**10 15 01.1**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=243,slow=4.3,SNR=3.4						
ARCES	**ARCESS Array B**	**82.63**	**340**	P	**P**	**10 15 14.5**	**+0.4**
	11nm,1.3s,mb4.8,baz=76,slow=5.0,SNR=4.1						
TXAR	**Lajitas Array**	**143.70**	**32**	PKP	PKPdf	10 22 25.7	+0.4
	0.1nm,0.4s,baz=148,slow=0.3,SNR=4.2						
TXAR	**Lajitas Array**	**143.70**	**32**	PKP	PKPdf	10 22 25.7	+0.4

LDG 29 10:10:29.5±0.5, 14.35S×167.14E, h10km, Mb4.5/2, Error ellipse: s-maj=48.9km s-min=33.8km az=2.0
IDC 29 10:10:40.3±0.7, 14.55S×167.16E, h99km±5km, mb4.4/13, mb1 4.5/15, mb1mx4.4/18, mbtmp4.8/15, Error ellipse: s-maj=14.5km s-min=12.4km az=130.0
BJI 29 10:10:40.3, 14.60S×167.10E, h116km, mB5.6, mb4.7
NEIC 29 10:10:42.3±1.0, 14.63S×167.06E, h116km±8km, mb4.7/15, Error ellipse: s-maj=8.1km s-min=8.0km az=147.0
MOS 29 10:10:44.0±1.1, 14.69S×167.03E, h146km, mb4.5/11, Error ellipse: s-maj=14.5km s-min=10.9km az=156.7
ISC 29 10:10:39.0±0.3, 14.60S±0.04×167.09E±0.06, h100km, h100km±1.8km:pP-P, n119, σ1°03/75, mb4.6/26, 5C-7D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.45**	**185**	*i*P	**P**	**10 12 27.8**	**+1.1**
DZM				*e*S	**S**	**10 13 49.4**	**-0.8**
DZM	**Mont Dzumac**	**7.45**	**185**	P	**P**	**10 12 27.8**	**+1.1**
	34nm,0.3s,baz=26,slow=13,SNR=370						
DZM				S	**S**	**10 13 53.8**	**+3.6**
	16nm,0.3s,baz=133,slow=23,SNR=3.8						
NOUC	**Port Laguerre**	**7.49**	**186**	*i*P	**P**	**10 12 28.9**	**+1.6**
NOUC				*e*S	**S**	**10 13 51.8**	**+0.5**
NOUC	**Port Laguerre**	**7.49**	**186**	*i*P	**P**	**10 12 28.9**	**+1.6**
NOUC				*e*S	**S**	**10 13 51.8**	**+0.5**
HNR	**Honiara**	**8.67**	**306**	P	**P**	**10 12 43.8**	**+0.6**
	33nm,0.3s,baz=85,slow=0.9,SNR=14						
HNR				S	**S**	**10 14 20.6**	**+0.6**
	35nm,0.3s,baz=37,slow=21,SNR=8.0						
HNR	**Honiara**	**8.67**	**306**	*e*P	**P**	**10 12 44.0**	**+0.8**
HNR				*e*S	**S**	**10 14 21.7**	**+1.7**
PMG	**Port Moresby**	**20.16**	**283**	P	**P**	**10 15 08.3**	**+0.6**
	26nm,0.9s,baz=88,slow=14,SNR=3.7						
AFI	**Afiamalu**	**20.50**	**91**	P	**P**	**10 15 12.7**	**+1.5**
AFI				pmax	pmax		
	comp=Z,38nm,0.8s						
AFI	**Afiamalu**	**20.50**	**91**	P	**P**	**10 15 11.1**	**-0.1**
	comp=Z,30nm,0.8s,baz=289,slow=22,SNR=4.0						
AFI	**Afiamalu**	**20.50**	**91**	P	**P**	**10 15 12.7**	**+1.5**
	comp=Z,38nm,0.8s						
CTA	**Charters Tower**	**20.61**	**252**	*i*P	**P**	**10 15 13.8**	**+1.5**
	comp=Z,26nm,0.8s						
CTA	**Charters Tower**	**20.61**	**252**	*i*P	**P**	**10 15 13.8**	**+1.5**
CTA				pmax	pmax		
	comp=Z,27nm,0.8s						
CTA	**Charters Tower**	**20.61**	**252**	P	**P**	**10 15 14.0**	**+1.7**
	comp=Z,30nm,0.8s,baz=82,slow=11,SNR=26						
CTAO	**Charters Tower**	**20.61**	**252**	*e*P	**P**	**10 15 13.8**	**+1.5**
CTAO				pmax	pmax		
	comp=Z,31nm,0.8s						
CTAO	**Charters Tower**	**20.61**	**252**	*e*P	**P**	**10 15 13.8**	**+1.5**
	comp=Z,31nm,0.8s						
STKA	**Stephens Creek**	**28.94**	**229**	*i*P	**P**	**10 16 32.1**	**+1.0**
	comp=Z,26nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**28.94**	**229**	P	**P**	**10 16 32.1**	**+1.1**
	comp=Z,32nm,0.6s,mb5.1,baz=41,slow=7.7,SNR=106						
TUZ	**Tuapeka**	**31.33**	**177**	*e*PN	**P**	**10 16 52.2**	**+0.2**
WB2	**Warramunga Arr**	**31.67**	**256**	*i*P	**P**	**10 16 53.7**	**-1.6**
WRAB	**Tennant Creek**	**31.67**	**256**	*i* P	**P**	**10 16 54.0**	**-1.3**
WRAB	**Tennant Creek**	**31.67**	**256**	*e*P	**P**	**10 16 53.5**	**-1.8**
	comp=Z,4.2nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**31.68**	**256**	P	**P**	**10 16 54.0**	**-1.3**
	comp=Z,4.6nm,0.6s,mb4.4,baz=85,slow=9.3,SNR=54						
WRA				pP	pP	10 17 17.6	-0.4
	comp=Z,3.4nm,0.8s,baz=85,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**32.55**	**249**	P	**P**	**10 17 01.8**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.6,baz=71,slow=9.6,SNR=96						
ASAR				pP	pP	10 17 24.9	-0.7
	comp=Z,3.6nm,0.6s,baz=81,slow=9.0,SNR=3.8						
ASPA	**Alice Springs**	**32.55**	**249**	*e*P	**P**	**10 17 01.7**	**-1.2**
FORT	**Forrest**	**39.21**	**239**	↑*i*P	**P**	**10 17 59.7**	**+0.7**
	comp=Z,783nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.86**	**259**	↑*i*P	**P**	**10 18 04.7**	**+0.1**
	comp=Z,21nm,0.9s,mb5.0						
FITZ	**Fitzroy Crossi**	**39.86**	**259**	P	**P**	**10 18 04.9**	**+0.3**
	comp=Z,27nm,0.8s,mb5.1,baz=113,slow=3.4,SNR=24						
FITZ				pP	pP	10 18 28.5	+0.5
	comp=Z,14nm,0.8s,baz=106,slow=3.2,SNR=4.6						
MBWA	**Marble Bar**	**45.41**	**255**	*e*P	**P**	**10 18 48.5**	**-1.1**
	comp=Z,12nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**48.01**	**241**	*e*P	**P**	**10 19 09.3**	**-0.7**
	comp=Z,44nm,0.6s,mb5.5						
NWAO	**Narrogin (SRO)**	**48.66**	**239**	P	**P**	**10 19 14.9**	**-0.1**
	comp=Z,9.2nm,0.7s,mb4.8,baz=86,slow=4.6,SNR=8.2						
NWAO				pP	pP	10 19 40.0	+1.1
	comp=Z,7.1nm,0.8s,baz=71,slow=8.1,SNR=2.5						
MUN	**Mundaring**	**49.37**	**240**	*e*P	**P**	**10 19 20.3**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.7						
MUN	**Mundaring**	**49.37**	**240**	*e*P	**P**	**10 19 20.3**	**-0.2**
MUN				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
VNDA	**Vanda**	**62.98**	**181**	P	**P**	**10 20 55.8**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=3.8,slow=6.7,SNR=17						
SBA	**Scott Base**	**63.26**	**180**	*e*P	**P**	**10 20 59.4**	**+0.5**
SBA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
SBA	**Scott Base**	**63.26**	**180**	*e*P	**P**	**10 20 59.4**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8						
YSS	**Yuzh-Sakhalins**	**65.05**	**342**	P	**P**	**10 21 12.0**	**+1.0**
YSS				*e*	pP	10 21 37.5	+1.4
NJ2	**Nanjing**	**65.46**	**316**	*e*P	**P**	**10 21 14.5**	**+0.6**
NJ2				PP	PP	10 23 43.0	+1.8
NJ2				AMB	AMB		
	comp=Z,470nm,4.8s						
NJ2				LR	LR		
	comp=N,390nm,10.0s						
NJ2				LR	LR		
	comp=E,430nm,14.0s						
NJ2				LR	LR		
	comp=Z,320nm,12.0s						
ENH	**Enshi**	**71.15**	**309**	*e*P	**P**	**10 21 48.4**	**-0.7**
	comp=Z,8.4nm,0.6s,mb4.8						
MA2	**Magadan**	**75.10**	**351**	*e*P	**P**	**10 22 10.0**	**-1.5**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
MA2	**Magadan**	**75.10**	**351**	*e*P	**P**	**10 22 10.6**	**-0.9**
	comp=Z,8.5nm,0.9s,mb4.5						
HHC	**Hu-ho-hao-te**	**75.38**	**320**	*e*P	**P**	**10 22 14.5**	**+1.0**
HHC				S	S	10 31 42.8	-0.8
HHC				AMB	AMB		
	comp=Z,16nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,228nm,5.4s						
HHC				LR	LR		
	comp=N,414nm,16.6s						
HHC				LR	LR		
	comp=E,326nm,16.1s						
HHC				LR	LR		
	comp=Z,477nm,19.6s						
QSPA	**South Pole Qui**	**75.42**	**180**	↑*i*P	**P**	**10 22 13.4**	**+0.4**
	comp=Z,11nm,0.8s,mb4.6						
SEY	**Seymchan**	**78.14**	**353**	*e*P	**P**	**10 22 30.1**	**+1.7**
SEY				*e*		10 25 36.7	
SEY				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
YAK	**Yakutsk**	**81.86**	**343**	*i* P	**P**	**10 22 47.9**	**-0.5**
YAK				pmax	pmax		
	comp=Z,23nm,0.7s,mb5.1						
ULN	**Ulaanbaatar**	**81.93**	**324**	*i* P	**P**	**10 22 49.9**	**+0.9**
MAW	**Mawson**	**81.93**	**202**	P	**P**	**10 22 46.8**	**-1.8**
MAW				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MAW	**Mawson**	**81.93**	**202**	P	**P**	**10 22 46.8**	**-1.8**
	comp=Z,8.1nm,1.0s,mb4.5						
SONM	**Songino Array**	**82.29**	**324**	P	**P**	**10 22 51.8**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.0,baz=158,slow=6.7,SNR=4.9						
SONM				pP	pP	10 23 17.1	+0.1
	comp=Z,3.0nm,0.8s,baz=135,slow=5.2,SNR=4.4						
BILL	**Bilibino**	**82.42**	**360**	*e*P	**P**	**10 22 50.2**	**-0.9**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5						
BILL	**Bilibino**	**82.42**	**360**	*e*P	**P**	**10 22 50.2**	**-0.9**
	comp=Z,5.6nm,0.7s,mb4.5						
ZAK	**Zakamensk**	**85.35**	**325**	*e*P	**P**	**10 23 05.6**	**-0.5**
ZAK				*e*		10 26 28.6	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
YBH	**Yreka Blue Hor**	**85.45**	**45**	P	**P**	**10 23 05.8**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.3,baz=187,slow=7.2,SNR=3.1						
IMA	**Indian Mountai**	**85.58**	**15**	*e*P	**P**	**10 23 08.2**	**+1.3**
TLY	**Talaya**	**85.79**	**326**	*i* P	**P**	**10 23 08.5**	**+0.2**
TLY				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
COLA	**College**	**86.25**	**18**	*i* P	**P**	**10 23 09.4**	**-0.8**
TIXI	**Tiksi**	**89.81**	**349**	*e*P	**P**	**10 23 25.5**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
WMQ	**Urumqi**	**92.51**	**315**	*e*P	**P**	**10 23 40.5**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,167nm,4.2s						
VNA3	**Neumayer Olymp**	**94.34**	**181**	*e*	**P**	**10 23 52.6**	**+4.7**
VNA3	**Neumayer Olymp**	**94.34**	**181**	*e*	**P**	**10 23 56.2**	**+8.3**
VNA3	**Neumayer Olymp**	**94.34**	**181**	↑*i*P	**P**	**10 23 47.5**	**-0.4**
VNA3				*e*		10 23 52.6	
VNA3				*e*		10 23 56.2	
VNA3				*e*	pP	10 24 13.4	-1.3
VNA3				*e*	pP	10 24 15.9	+1.2
VNA2	**Neumayer--Watz**	**94.60**	**182**	*e*	**P**	**10 23 53.4**	**+4.3**
VNA2	**Neumayer--Watz**	**94.60**	**182**	*e*	**P**	**10 23 56.9**	**+7.8**
VNA2	**Neumayer--Watz**	**94.60**	**182**	↑*i*P	**P**	**10 23 49.1**	**0.0**
VNA2				*e*		10 23 53.4	
VNA2				*e*		10 23 56.9	
VNA2				*e*	pP	10 24 14.2	-1.7
VNA2				*e*	pP	10 24 16.5	+0.6
VNA1	**Neumayer--Stat**	**94.90**	**182**	*e*	**P**	**10 23 52.6**	**+2.1**
VNA1	**Neumayer--Stat**	**94.90**	**182**	P	**P**	**10 23 48.6**	**-1.9**
VNA1				*e*		10 23 52.6	
TXAR	**Lajitas Array**	**96.37**	**61**	pP	pP	10 24 24.8	-0.1
	comp=Z,0.2nm,0.8s,baz=243,slow=6.0,SNR=2.3						
MKAR	**Makanchi Array**	**96.99**	**316**	P	**P**	**10 24 01.0**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.8,baz=99,slow=6.6,SNR=5.8						
MKAR				pP	pP	10 24 27.3	-0.1
	comp=Z,3.1nm,0.8s,baz=101,slow=6.2,SNR=5.5						
MKAR	**Makanchi Array**	**96.99**	**316**	P	**P**	**10 24 01.0**	**+0.4**
MKAR				pP	pP	10 24 27.3	-0.1
YKA	**Yellowknife Ar**	**97.52**	**27**	P	**P**	**10 24 02.3**	**-0.3**
	comp=Z,0.2nm,0.5s,mb3.9,baz=255,slow=4.5,SNR=7.3						
YKA				pP	pP	10 24 27.8	-1.5
	comp=Z,0.2nm,0.6s,baz=253,slow=4.6,SNR=2.1						
YKA	**Yellowknife Ar**	**97.52**	**27**	P	**P**	**10 24 02.3**	**-0.3**
YKA				pP	pP	10 24 27.8	-1.5
ARCES	**ARCESS Array B**	**120.09**	**345**	PKP	PKPdf	10 29 18.3	+0.6
	comp=Z,1.4nm,0.5s,baz=58,slow=2.2,SNR=14						
ARCES				pPKP		10 29 45.2	
	comp=Z,14nm,1.2s,baz=72,slow=1.3,SNR=3.0						
ARCES	**ARCESS Array B**	**120.09**	**345**	PKP	PKPdf	10 29 18.3	+0.6
ARCES				pPKP		10 29 45.2	
FINES	**FINESS Array B**	**125.54**	**338**	PKP	PKPdf	10 29 29.0	+0.7
	comp=Z,2.6nm,0.9s,baz=90,slow=1.9,SNR=8.1						
FINES				pPKP		10 29 55.8	
	comp=Z,1.6nm,0.8s,baz=45,slow=5.4,SNR=1.8						
FINES	**FINESS Array B**	**125.54**	**338**	PKP	PKPdf	10 29 29.0	+0.7
FINES				pPKP		10 29 55.8	
NB2	**NORSAR Subarra**	**130.46**	**345**	PKPdf	PKPdf	10 29 37.4	-0.4
	comp=Z,2.0nm,1.1s,baz=31,slow=1.9						
NOA	**NORSAR Array B**	**130.46**	**345**	PKP	PKPdf	10 29 38.6	+0.8
	comp=Z,1.2nm,0.8s,baz=32,slow=2.0,SNR=5.4						
NOA				SKPbc		10 32 53.7	
	comp=Z,6.3nm,0.9s,baz=33,slow=2.8,SNR=11						
AKASG	**Malin Array Be**	**130.53**	**326**	SKPbc		10 32 53.1	
	comp=Z,0.9nm,0.4s,baz=41,slow=3.5,SNR=5.4						
HFS	**Hagfors**	**130.55**	**343**	PKP	PKPdf	10 29 37.4	-0.6
	comp=Z,3.2nm,1.0s,baz=63,slow=3.3,SNR=3.8						
HFS				SKPbc		10 32 53.5	
	comp=Z,4.0nm,0.8s,baz=79,slow=7.6,SNR=7.3						
BRTR	**Keskin Array B**	**132.29**	**311**	SKPbc		10 33 02.8	
	comp=Z,0.9nm,0.6s,baz=90,slow=1.2,SNR=4.8						
KHC	**Kasperske Hory**	**139.29**	**333**	*e*PKPDF	PKPdf	10 29 58.0	+3.5
GERES	**GERESS Array B**	**139.45**	**333**	PKP	PKPdf	10 29 56.4	+1.6
	comp=Z,1.4nm,0.7s,baz=90,slow=1.3,SNR=8.4						
GERES	**GERESS Array B**	**139.45**	**333**	PKP	PKPdf	10 29 56.4	+1.6
SNTG	**Esanatoglia**	**143.86**	**327**	*e*PKP	PKPdf	10 30 02.8	+0.1
SFI	**Santa Sofia**	**143.96**	**329**	*e*PKP	PKPdf	10 30 03.6	+0.9
PGD	**Poggio Sodo**	**144.04**	**329**	*e*PKP	PKPdf	10 30 03.9	+1.0
TIP	**Timpagrande**	**144.24**	**319**	*e*PKP	PKPdf	10 30 03.3	-0.1
CABF	**La Chapelle**	**144.34**	**337**	*e*PKP1	PKPbc	10 30 04.9	+1.9
	comp=Z,18nm,1.0s						
FLN	**La Foliniere**	**144.43**	**346**	*e*PKP1	PKPbc	10 30 04.8	+1.6
	comp=Z,24nm,0.9s						
LDF	**La Druitiere**	**144.50**	**345**	*e*PKP1	PKPbc	10 30 05.4	+2.0
	comp=Z,15nm,0.9s						
SSF	**Saint Saulge**	**144.86**	**340**	*e*PKP1	PKPbc	10 30 05.5	+1.1
	comp=Z,42nm,0.7s						
GRR	**Gorron**	**144.87**	**346**	*e*PKP1	PKPbc	10 30 05.6	+1.2
	comp=Z,24nm,0.6s						
HYF	**Humbligny**	**144.95**	**341**	*e*PKP1	PKPbc	10 30 05.9	+1.2
LPL	**La Plagne**	**145.01**	**336**	*e*PKP1	PKPbc	10 30 06.5	+1.6
	comp=Z,21nm,0.7s						
LPG	**La Plagne**	**145.01**	**336**	*e*PKP1	PKPbc	10 30 06.6	+1.7
	comp=Z,25nm,0.7s						
SMF	**Signal de Mont**	**145.11**	**340**	*e*PKP1	PKPbc	10 30 06.1	+1.0
	comp=Z,32nm,0.9s						
AVF	**Avril sur Loir**	**145.15**	**340**	*e*PKP1	PKPbc	10 30 06.1	+0.9
	comp=Z,28nm,0.8s						
SOI	**Samo**	**145.32**	**318**	*e*PKP	PKPdf	10 30 07.4	+2.1
SGMF	**Saint Gilles**	**145.37**	**348**	*e*PKP1	PKPbc	10 30 06.5	+0.8
	comp=Z,30nm,0.6s						
BNI	**

HHC				AP	pP	10 20 39.0	+1.0
HHC				XP	sP	10 20 43.5	+2.6
HHC				PP	PP	10 22 07.0	-3.6
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,210nm,4.7s						
HHC				LR	LR		
	comp=N,146nm,4.7s						
HHC				LR	LR		
	comp=E,224nm,4.3s						
HHC				LR	LR		
	comp=Z,299nm,6.3s						
WRA	**Warramunga Arr**	**41.98**	**122**	P	**P**	**10 20 33.3**	**+0.5**
	comp=Z,3.1nm,0.7s,mb4.0,baz=301,slow=9.1,SNR=13						
WRA				pP	pP	10 20 41.0	+1.0
	comp=Z,1.6nm,0.7s,baz=304,slow=9.0,SNR=4.3						
WRAB	**Tennant Creek**	**41.99**	**122**	*eP*	**P**	**10 20 33.1**	**+0.2**
	comp=Z,5.3nm,0.6s,mb4.3						
BJT	**Baijiatuau**	**42.53**	**22**	P	**P**	**10 20 37.4**	**+0.4**
	comp=Z,12nm,0.5s,mb4.9						
BJI	**Beijing**	**42.55**	**22**	*eP*	**P**	**10 20 38.0**	**+0.8**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.8						
ASAR	**Alice Springs**	**43.32**	**127**	P	**P**	**10 20 44.0**	**+0.3**
	comp=Z,1.5nm,0.7s,mb3.8,baz=295,slow=7.1,SNR=6.6						
ASAR				pP	pP	10 20 50.6	-0.2
	comp=Z,2.1nm,0.8s,baz=301,slow=8.3,SNR=5.6						
WMQ	**Urumqi**	**43.46**	**350**	*eP*	**P**	**10 20 45.3**	**+0.7**
WMQ				PP	PP	10 22 29.0	+1.3
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,145nm,3.9s						
WMQ				LR	LR		
	comp=N,547nm,21.2s,MS4.6						
WMQ				LR	LR		
	comp=E,583nm,22.5s,MS4.6						
WMQ				LR	LR		
	comp=Z,409nm,23.9s,MS4.2						
AAK	**Ala-Archa**	**46.16**	**337**	*eP*	**P**	**10 21 06.0**	**-0.2**
	comp=Z,2.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**10 21 15.2**	**-0.3**
	comp=Z,2.9nm,0.8s,mb4.2,baz=192,slow=9.1,SNR=21						
SONM				pP	pP	10 21 22.1	-0.6
	comp=Z,1.6nm,0.5s,baz=190,slow=8.2,SNR=7.6						
SONM				PcP	PcP	10 22 46.2	-0.3
	comp=Z,1.7nm,0.8s,baz=200,slow=5.8,SNR=2.3						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**10 21 15.9**	**-0.3**
	comp=Z,3.5nm,0.7s,mb4.4,baz=159,slow=7.9,SNR=36						
ULN	**Ulaanbaatar**	**47.47**	**9**	P	**P**	**10 21 15.3**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.3						
CN2	**Changchun**	**49.51**	**27**	*eP*	**P**	**10 21 31.5**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.85**	**19**	*eP*	**P**	**10 21 49.3**	**-0.8**
	comp=Z,8.6nm,0.7s,mb4.8						
KURK	**Kurchatov**	**51.97**	**345**	P	**P**	**10 21 50.3**	**-0.6**
	comp=Z,8.4nm,1.2s,mb4.5						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**10 22 02.0**	**+1.2**
	comp=Z,1.7nm,0.7s,mb4.1,baz=259,slow=6.8,SNR=3.8						
STKA				pP	pP	10 22 08.3	+0.1
	comp=Z,6.3nm,0.7s,baz=302,slow=8.2,SNR=8.1						
STKA	**Stephens Creek**	**53.27**	**132**	P	**P**	**10 22 02.0**	**+1.2**
STKA				pP	pP	10 22 08.3	+0.1
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**10 22 21.9**	**-1.6**
	comp=Z,2.3nm,0.7s,mb4.3,baz=143,slow=7.4,SNR=12						
BVAR				pP	pP	10 22 28.6	-2.3
	comp=Z,1.9nm,0.7s,baz=141,slow=9.5,SNR=6.9						
CHKZ	**Chkalovo**	**56.90**	**342**	*eP*	**P**	**10 22 25.1**	**-1.8**
	comp=Z,7.1nm,0.9s,mb4.7						
CHKZ				*e*	pP	10 22 31.3	-3.1
KMBO	**Kilima Mbogo**	**59.92**	**268**	P	**P**	**10 22 46.6**	**-1.9**
FINES	**FINESS Array B**	**80.15**	**333**	P	**P**	**10 24 50.0**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=129,slow=24,SNR=2.9						
FINES				pP	pP	10 24 57.7	-1.0
	comp=Z,1.0nm,0.6s,baz=90,slow=5.7,SNR=2.8						
FINES	**FINESS Array B**	**80.15**	**333**	P	**P**	**10 24 50.0**	**-1.1**
FINES				pP	pP	10 24 57.7	-1.0
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**10 25 04.4**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.2,baz=90,slow=6.1,SNR=4.5						
ARCES				pP	pP	10 25 11.8	-0.2
	comp=Z,4.0nm,1.1s,baz=72,slow=3.8,SNR=1.7						
GERES	**GERESS Array B**	**84.92**	**319**	P	**P**	**10 25 16.4**	**+0.4**
	comp=Z,0.4nm,0.6s,mb3.7,baz=112,slow=7.2,SNR=5.0						
GERES				pP	pP	10 25 24.1	+0.5
	comp=Z,0.5nm,0.8s,baz=108,slow=4.2,SNR=2.9						
TXAR	**Lajitas Array**	**143.88**	**32**	PKP	PKPdf	10 32 15.2	-4.9
	comp=Z,0.2nm,0.6s,baz=216,slow=2.5,SNR=4.3						
LRAL	**Lakeview Retre**	**145.93**	**6**	*e*PKP	PKPdf	10 32 20.7	-2.9
LVC	**Limon Verde**	**154.59**	**211**	PKP	PKPdf	10 32 32.3	-4.7

*IDC **29** 10:13:14.3±1.0,0.97N×97.47E,h22km±5km,mb4.0/15, mb1 4.2/15,mb1mx4.1/19,mbtmp4.2/15,Error ellipse: s-maj=24.6km s-min=18.5km az=50.0*
*NEIC **29** 10:13:15.3±0.4,0.92N×97.45E,h30km,mb4.6/5,Error ellipse: s-maj=11.0km s-min=10.3km az=126.0*
ISC 29 10:13:12.6±0.6,0.94N±0.10×97.5E±0.1,h22km±.8km:pP-P,n23,σ0§64/22,mb4.2/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**36**	P	**Pn**	**10 14 33.5**	**0.0**
LSA	**Lhasa**	**29.23**	**349**	*eP*	**P**	**10 19 16.6**	**+1.4**
	7.9nm,0.6s,mb4.6						
ENH	**Enshi**	**31.33**	**20**	P	**P**	**10 19 33.3**	**-0.6**
	7.5nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**41.68**	**122**	P	**P**	**10 21 01.7**	**+0.1**
	0.9nm,0.4s,mb3.8,baz=302,slow=9.2,SNR=4.1						
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**10 21 12.5**	**-0.2**
	0.9nm,0.5s,mb3.7,baz=301,slow=7.7,SNR=6.3						
SONM	**Songino Array**	**47.35**	**8**	P	**P**	**10 21 47.4**	**+0.6**
	1.1nm,0.8s,mb3.9,baz=192,slow=9.2,SNR=2.5						
SONM				pP	pP	10 21 53.7	+0.2
	3.0nm,0.7s,baz=187,slow=9.4,SNR=5.1						
MKAR	**Makanchi Array**	**47.56**	**346**	P	**P**	**10 21 48.9**	**+0.4**
	2.9nm,0.6s,mb4.5,baz=161,slow=7.2,SNR=9.7						
MKAR				pP	pP	10 21 55.5	+0.4
	3.3nm,0.5s,baz=162,slow=8.3,SNR=4.0						
BVAR	**Borovoye Array**	**56.58**	**341**	pP	pP	10 23 00.6	-2.2
	2.5nm,0.6s,baz=142,slow=9.1,SNR=4.6						
KMBO	**Kilima Mbogo**	**60.24**	**268**	P	**P**	**10 23 23.2**	**+1.2**
	0.9nm,0.4s,mb4.2,baz=57,slow=7.0,SNR=5.0						
KMBO	**Kilima Mbogo**	**60.24**	**268**	*eP*	**P**	**10 23 21.6**	**-0.4**
	2.6nm,0.6s,mb4.4						
ASF	**Jabal al Asfar**	**64.83**	**305**	P	**P**	**10 23 52.3**	**-0.1**
	1.2nm,0.3s,mb4.4,baz=53,slow=5.1,SNR=4.2						
BRTR	**Keskin Array B**	**69.48**	**312**	P	**P**	**10 24 20.5**	**-1.1**
	1.7nm,0.6s,mb4.1,baz=128,slow=8.5,SNR=5.9						
LBTB	**Lobatse**	**74.00**	**244**	P	**P**	**10 24 49.6**	**+0.7**
	3.5nm,0.7s,mb4.4,baz=107,slow=6.8,SNR=6.2						
BOSA	**Boshof**	**74.87**	**240**	P	**P**	**10 24 54.0**	**+0.2**
	1.5nm,0.6s,mb4.1,baz=103,slow=14,SNR=5.2						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**10 24 56.5**	**-1.2**
	0.3nm,0.2s,mb3.8,baz=86,slow=4.5,SNR=5.0						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**10 24 56.5**	**-1.2**
MLR	**Muntele Rosu**	**76.43**	**317**	P	**P**	**10 25 01.9**	**-0.6**
	3.0nm,0.7s,mb4.3,baz=166,slow=8.3,SNR=4.8						
FINES	**FINESS Array B**	**80.35**	**332**	P	**P**	**10 25 22.8**	**-0.7**
	0.8nm,0.6s,mb3.8,baz=117,slow=6.2,SNR=3.2						
FINES				pP	pP	10 25 30.6	+0.1
	0.9nm,0.6s,baz=72,slow=4.4,SNR=2.3						
MORC	**Moravsky Berou**	**82.77**	**320**	*eP*	**P**	**10 25 36.4**	**0.0**
	6.2nm,1.1s,mb4.5						
ARCES	**ARCESS Array B**	**82.87**	**340**	P	**P**	**10 25 36.6**	**+0.1**
	2.7nm,0.9s,mb4.3,baz=79,slow=4.6,SNR=2.7						
ARCES				pP	pP	10 25 43.3	-0.3
	2.8nm,0.9s,baz=63,slow=2.7,SNR=1.7						
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**10 25 49.0**	**+0.4**
	1.5nm,0.8s,mb4.2,baz=90,slow=6.7,SNR=8.8						
NB2	**NORSAR Subarra**	**87.36**	**331**	P	**P**	**10 25 58.8**	**-0.2**
	1.2nm,0.7s,mb4.2,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**87.36**	**331**	P	**P**	**10 25 59.2**	**+0.3**
	0.9nm,0.7s,mb4.1,baz=94,slow=4.8,SNR=4.0						

*NEIC **29** 10:17:34.8±0.4,1.16N×97.21E,mb4.4/9,Error ellipse: s-maj=10.8km s-min=7.8km az=54.0*
*IDC **29** 10:17:35.4±0.8,1.21N×97.23E,h23km±4km,mb4.0/13, mb1 4.1/13,mb1mx4.0/19,mbtmp4.1/13,Error ellipse: s-maj=27.4km s-min=13.2km az=53.0*
ISC 29 10:17:32.8±0.5,1.18N±0.08×97.22E±0.08,h21km, h21km±.8km:pP-P,n34,σ0§98/29,mb4.2/22,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**41**	*eP*	**P**	**10 24 27.3**	**+0.2**
KSM	**Kuching**	**13.12**	**89**	P	**P**	**10 26 14.0**	**-1.8**
CM31	**Chiang Mai Arr**	**17.11**	**6**	*eP*	**P**	**10 27 04.6**	**-2.8**
	20nm,0.9s						
KKM	**Kota Kinabalu**	**19.56**	**76**	P	**P**	**10 27 37.5**	**+0.4**
KMI	**Kunming**	**24.26**	**12**	P	**P**	**10 28 27.0**	**+2.6**
KMI				AP		10 28 33.8	
KMI				S	**S**	**10 32 44.5**	**+6.4**
KMI				AMB	AMB		

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.32**	**40**	*eP*	**Pn**	**10 18 54.2**	**+0.9**
KSM	**Kuching**	**13.09**	**89**	*eP*	**P**	**10 20 50.8**	**+10**
KKM	**Kota Kinabalu**	**19.55**	**75**	*eP*	**P**	**10 22 00.7**	**-1.7**
ENH	**Enshi**	**31.19**	**21**	*eP*	**P**	**10 23 52.6**	**-0.4**
	12nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P	**P**	**10 24 15.4**	**-1.3**
	3.8nm,0.8s,mb4.4,baz=8.5,slow=1.4,SNR=3.9						
WRA	**Warramunga Arr**	**42.01**	**122**	P	**P**	**10 25 24.4**	**-0.3**
	3.5nm,0.6s,mb4.2,baz=301,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**42.01**	**122**	*eP*	**P**	**10 25 24.7**	**0.0**
	9.6nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**42.02**	**122**	⇑*iP*	**P**	**10 25 25.0**	**+0.2**
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**10 25 35.9**	**+0.1**
	1.2nm,0.8s,mb3.7,baz=299,slow=8.2,SNR=7.7						
ASAR				pP	pP	10 25 42.0	-0.2
	1.4nm,0.7s,baz=299,slow=8.0,SNR=7.4						
AAK	**Ala-Archa**	**46.02**	**337**	P	**P**	**10 25 56.1**	**-0.7**
	2.0nm,0.8s,mb4.1						
SONM	**Songino Array**	**47.14**	**8**	P	**P**	**10 26 06.4**	**+0.7**
	2.9nm,0.9s,mb4.2,baz=191,slow=9.1,SNR=7.6						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**10 26 07.3**	**+0.8**
	1.4nm,0.5s,mb4.1,baz=161,slow=8.6,SNR=12						
MKAR				pP	pP	10 26 13.8	+0.8
	2.9nm,0.6s,baz=162,slow=8.6,SNR=12						
MKAR	**Makanchi Array**	**47.26**	**346**	P	**P**	**10 26 07.3**	**+0.7**
MKAR				pP	pP	10 26 13.8	+0.8
ULN	**Ulaanbaatar**	**47.27**	**9**	*eP*	**P**	**10 26 08.1**	**+1.5**
	4.6nm,1.1s,mb4.3						
HIA	**Hailar**	**51.65**	**19**	P	**P**	**10 26 40.6**	**+0.4**
	2.5nm,0.5s,mb4.4						
KURK	**Kurchatov**	**51.81**	**345**	P	**P**	**10 26 41.5**	**0.0**
	5.1nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**10 26 54.7**	**+1.6**
	0.9nm,0.6s,mb3.9,baz=282,slow=9.0,SNR=3.0						
STKA				pP	pP	10 27 00.5	+0.9
	7.2nm,0.9s,baz=298,slow=4.2,SNR=8.5						
STKA	**Stephens Creek**	**53.33**	**132**	P	**P**	**10 26 54.7**	**+1.6**
STKA				pP	pP	10 27 00.5	+0.9
BVAR	**Borovoye Array**	**56.27**	**341**	P	**P**	**10 27 13.6**	**-0.6**
	1.2nm,0.6s,mb4.1,baz=170,slow=9.0,SNR=4.9						
BVAR				pP	pP	10 27 20.6	-0.1
	1.4nm,0.6s,baz=127,slow=7.4,SNR=6.3						
CHKZ	**Chkalovo**	**56.75**	**341**	*eP*	**P**	**10 27 16.9**	**-0.7**
	6.2nm,0.8s,mb4.7						
CHKZ				*e*pP	pP	10 27 23.8	-0.3
MALT	**Malatya**	**65.16**	**312**	P	**P**	**10 28 13.0**	**-1.8**
	1.6nm,0.5s,mb4.3						
BRTR	**Keskin Array B**	**69.14**	**312**	P	**P**	**10 28 39.0**	**-1.0**
	1.3nm,0.8s,mb3.9,baz=141,slow=7.9,SNR=4.6						
LBTB	**Lobatse**	**73.90**	**244**	P	**P**	**10 29 09.8**	**+1.1**
	2.4nm,0.7s,mb4.3,baz=70,slow=14,SNR=4.1						
BOSA	**Boshof**	**74.79**	**240**	P	**P**	**10 29 14.5**	**+0.7**
	2.9nm,0.7s,mb4.3,baz=121,slow=2.2,SNR=5.2						
BOSA	**Boshof**	**74.79**	**240**	P	**P**	**10 29 14.5**	**+0.7**
FINES	**FINESS Array B**	**80.02**	**333**	P	**P**	**10 29 42.3**	**+0.2**
	0.7nm,0.6s,mb3.8,baz=90,slow=3.8,SNR=4.8						
MORC	**Moravsky Berou**	**82.43**	**320**	*eP*	**P**	**10 29 51.9**	**-3.1**
	3.0nm,0.9s,mb4.2						
ARCES	**ARCESS Array B**	**82.56**	**340**	P	**P**	**10 29 56.4**	**+1.1**
	1.4nm,0.6s,mb4.2,baz=93,slow=3.2,SNR=3.7						
GERES	**GERESS Array B**	**84.84**	**319**	P	**P**	**10 30 07.7**	**+0.4**
	0.3nm,0.4s,mb3.8,baz=90,slow=6.9,SNR=5.3						
RKT	**Rikitea**	**124.91**	**118**	*e*LR	LR	10 36 12.7	
	214nm,25.8s						
TXAR	**Lajitas Array**	**143.67**	**32**	PKP	PKPdf	10 37 09.7	-1.5
	0.3nm,0.7s,baz=14,slow=3.7,SNR=3.8						
LRAL	**Lakeview Retre**	**145.73**	**6**	PKP	PKPdf	10 37 12.0	-2.8
CFAA	**Coronel Fontan**	**146.77**	**203**	PKPbc	PKPbc	10 37 16.3	+2.5
	0.4nm,0.6s,baz=120,slow=3.6,SNR=5.9						
CFAA	**Coronel Fontan**	**146.77**	**203**	PKPbc	PKPbc	10 37 16.3	+2.5

MEX 29 10:17:48.7±0.6,17.90N×100.37W,h20km,MD3.5, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.85**	**173**	*i* P	Pb	10 18 01.9	-2.7
CAIG				*i* S	Sb	10 18 12.2	-3.5
ZIIG	**Zihuatanejo**	**1.08**	**255**	*i* P	Pb	10 18 05.3	-3.2
ZIIG				*i* S	Sb	10 18 18.8	-3.5
ACX	**Acapulco**	**1.12**	**157**	*i* P	Pb	10 18 06.0	-3.2
ACX				*i* S	Sb	10 18 20.0	-3.3

IDC 29 10:18:37.0±8.7,3.67N×98.77E,mb3.9/3,mb1 4.1/3, mb1mx3.7/16,mbtmp3.9/3,Error ellipse: s-maj=312.6km s-min=29.9km az=68.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.09**	**125**	P	P	10 26 31.8	-0.9
	0.6nm,0.5s,baz=307,slow=9.0,SNR=4.5						
WRA				pP	pP	10 26 38.7	+6.0
	1.9nm,0.7s,baz=302,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**43.70**	**130**	P	P	10 26 43.5	-2.4
	1.7nm,0.6s,baz=298,slow=8.0,SNR=7.8						
ASAR				pP	pP	10 26 50.1	+4.3
	2.5nm,0.8s,baz=305,slow=8.0,SNR=5.8						
SONM	**Songino Array**	**44.48**	**7**	P	P	10 26 50.1	-1.7
	0.7nm,0.9s,baz=201,slow=12,SNR=1.8						
SONM				pP	pP	10 26 56.3	+4.4
	0.6nm,0.7s,baz=188,slow=10,SNR=1.0						

*IDC **29** 10:21:55.3±4.7,1.35N×97.24E,mb3.9/4,mb1 4.0/4, mb1mx3.8/15,mbtmp3.9/4,Error ellipse: s-maj=252.4km s-min=22.5km az=53.0*
*NEIC **29** 10:21:59.2±0.8,1.29N×97.20E,h30km,mb4.4/4,Error ellipse: s-maj=22.4km s-min=12.0km az=59.0*
ISC 29 10:21:57.1±1.1,1.3N±0.1×97.2E±0.2,h30km,n10,σ0§68/9, mb4.2/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.26**	**41**	*eP*	**Pn**	**10 23 16.4**	**+0.5**
ENH	**Enshi**	**31.08**	**21**	*eP*	**P**	**10 28 13.9**	**-1.2**
	11nm,0.6s,mb4.9						
WRA	**Warramunga Arr**	**42.13**	**122**	P	**P**	**10 29 49.1**	**+0.3**
	1.1nm,0.6s,mb3.7,baz=302,slow=9.0,SNR=9.3						
WRA				pP	pP	10 29 55.9	-2.0
	0.6nm,0.4s,baz=308,slow=9.0,SNR=5.0						
WRAB	**Tennant Creek**	**42.14**	**122**	*eP*	**P**	**10 29 48.2**	**-0.7**
	2.1nm,0.4s,mb4.1						
ASAR	**Alice Springs**	**43.50**	**127**	P	**P**	**10 30 00.5**	**+0.5**
	0.5nm,0.6s,mb3.4,baz=294,slow=7.6,SNR=4.0						
ASAR				pP	pP	10 30 07.2	-1.8
	0.5nm,0.6s,baz=301,slow=8.0,SNR=4.3						
MKAR	**Makanchi Array**	**47.12**	**346**	P	**P**	**10 30 29.4**	**+1.0**
	2.1nm,0.6s,mb4.2,baz=160,slow=9.0,SNR=15						
KURK	**Kurchatov**	**51.67**	**345**	*eP*	**P**	**10 31 04.0**	**+0.5**
	3.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.47**	**132**	pP	pP	10 31 24.1	-2.2
	1.8nm,0.6s,baz=320,slow=12,SNR=3.0						
BVAR	**Borovoye Array**	**56.12**	**341**	P	**P**	**10 31 36.0**	**-0.2**
	2.3nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=10						
CHKZ	**Chkalovo**	**56.60**	**341**	*eP*	**P**	**10 31 38.9**	**-0.7**
	4.0nm,0.8s,mb4.5						

*BJI **29** 10:23:01.7,0.56N×97.23E,h21km,mB5.4,mb4.8,Ms4.6, Msz4.5*
*IDC **29** 10:23:05.8±1.0,1.36N×97.10E,mb4.2/9,mb1 4.3/9, mb1mx4.1/17,mbtmp4.2/9,Error ellipse: s-maj=67.5km s-min=17.5km az=52.0*
*NEIC **29** 10:23:08.9±0.6,1.37N×97.13E,mb4.6/9,Error ellipse: s-maj=16.6km s-min=11.0km az=48.0*
ISC 29 10:23:09.0±0.7,1.33N±0.09×97.18E±0.09,h33km,n36, σ1§15/33,mb4.5/23,MS4.5/3,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**33**	*eP*	**Pn**	**10 29 35.4**	**+0.4**
KKM	**Kota Kinabalu**	**19.05**	**74**	*eP*	**P**	**10 32 41.1**	**+0.8**
KMI	**Kunming**	**24.51**	**11**	P	**P**	**10 33 37.3**	**+1.4**
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.3						
JIRN	**Jiri**	**28.81**	**338**	*eP*	**P**	**10 34 16.3**	**+0.8**
	comp=Z,26nm,0.8s,mb5.0						
PKI	**Pulchoki**	**29.03**	**337**	*eP*	**P**	**10 34 17.6**	**+0.1**
GUN	**Gumba**	**29.15**	**338**	*eP*	**P**	**10 34 18.1**	**-0.5**
	comp=Z,28nm,0.6s,mb5.2						
KKN	**Kakani**	**29.27**	**337**	*eP*	**P**	**10 34 18.6**	**-1.1**
LSA	**Lhasa**	**29.30**	**348**	*eP*	**P**	**10 34 21.0**	**+1.1**
	comp=Z,12nm,0.7s,mb4.8						
GKN	**Gorkha**	**29.72**	**336**	*eP*	**P**	**10 34 23.1**	**-0.6**
KOLN	**Koldanda**	**29.95**	**334**	*eP*	**P**	**10 34 24.9**	**-0.9**
	comp=Z,18nm,0.8s,mb4.8						
MBWA	**Marble Bar**	**30.69**	**137**	P	**P**	**10 34 32.8**	**+0.6**
ENH	**Enshi**	**31.21**	**20**	*eP*	**P**	**10 34 34.6**	**-2.2**
	comp=Z,8.3nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.28**	**126**	⇑*iP*	**P**	**10 34 53.7**	**-1.3**
	comp=Z,10nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.28**	**126**	P	**P**	**10 34 53.7**	**-1.3**
	comp=Z,14nm,0.6s,mb5.1,baz=322,slow=4.4,SNR=26						
GTA	**Gaotai**	**38.33**	**2**	*eP*	**P**	**10 35 38.3**	**+0.6**
GTA				AP	pP	10 35 47.5	+1.3
GTA				XP	sP	10 35 50.3	+0.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.7						
NWAO	**Narrogin (SRO)**	**38.35**	**153**	P	**P**	**10 35 40.2**	**+2.3**
	comp=Z,4.8nm,0.8s,mb4.4,baz=327,slow=0.9,SNR=5.0						
WRA	**Warramunga Arr**	**41.38**	**122**	P	**P**	**10 36 02.4**	**-0.6**
	comp=Z,8.2nm,0.8s,mb4.4,baz=304,slow=8.8,SNR=46						
WRA				PcP	PcP	10 38 02.4	+0.8
	comp=Z,1.5nm,0.8s,baz=309,slow=3.0,SNR=7.2						
WRAB	**Tennant Creek**	**41.38**	**122**	P	**P**	**10 36 02.0**	**-1.1**
	comp=Z,67nm,0.6s,mb5.5,SNR=8.8						
WRAB	**Tennant Creek**	**41.38**	**122**	*eP*	**P**	**10 36 02.4**	**-0.7**
	comp=Z,11nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**41.39**	**122**	*eP*	**P**	**10 36 02.5**	**-0.6**
HHC	**Hu-ho-hao-te**	**41.63**	**16**	*eP*	**P**	**10 36 05.8**	**+0.8**
HHC				XP	sP	10 36 18.8	+1.8
HHC				PP	PP	10 37 45.5	+1.2
HHC				PCP	PcP	10 38 04.5	+2.2
HHC				S	**S**	**10 42 18.5**	**-0.9**
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,143nm,4.9s						
HHC				LR	LR		
	comp=N,308nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=E,326nm,13.7s,MS4.5						
HHC				LR	LR		
	comp=Z,477nm,19.6s						
BJT	**Baijiatuau**	**42.33**	**21**	*eP*	**P**	**10 36 11.3**	**+0.5**
	comp=Z,5.4nm,0.5s,mb4.4						
BJI	**Beijing**	**42.35**	**21**	*eP*	**P**	**10 36 11.5**	**+0.6**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.3						
ASPA	**Alice Springs**	**42.75**	**127**	⇓*iP*	**P**	**10 36 14.2**	**-0.2**
	comp=Z,35nm,1.1s,mb4.7						
KMI				AMB	AMB		
	comp=Z,148nm,3.3s						
KMI				LR	LR		
	comp=N,791nm,15.7s,MS4.4						
KMI				LR	LR		
	comp=E,592nm,15.0s,MS4.4						
KMI				LR	LR		
	comp=Z,975nm,14.6s,MS4.4						
GYA	**Guiyang**	**26.60**	**19**	⇑*iP*	**P**	**10 28 47.0**	**+0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**28.79**	**349**	*eP*	**P**	**10 29 07.9**	**+1.7**
	comp=Z,9.0nm,0.6s,mb4.7						
ENH	**Enshi**	**31.07**	**21**	*eP*	**P**	**10 29 25.6**	**-0.9**
	comp=Z,25nm,1.1s,mb5.0						
ENH				*e*		10 29 32.3	
LZH	**Lanzhou**	**35.13**	**9**	*eP*	**P**	**10 30 02.3**	**+0.6**
LZH				AP	pP	10 30 12.0	+0.6
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,89nm,4.

ASAR	**Alice Springs**	**42.75**	**127**	P	**P**	**10 36 14.2**	**-0.2**
	comp=Z,4.1nm,0.6s,mb4.3,baz=298,slow=7.9,SNR=64						
ASAR				PcP	PcP	10 38 06.9	+0.7
	comp=Z,1.1nm,0.7s,baz=308,slow=3.2,SNR=7.2						
WMQ	**Urumqi**	**43.64**	**349**	*eP*	**P**	**10 36 22.3**	**+1.0**
WMQ				AP	pP	10 36 32.0	+2.2
WMQ				XP	sP	10 36 36.0	+2.7
WMQ				PP	PP	10 38 06.0	+1.3
WMQ				*eS*	**S**	**10 42 50.0**	**+1.4**
WMQ				XS		10 43 05.0	
WMQ				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,152nm,4.5s						
WMQ				LR	LR		
	comp=N,467nm,19.8s,MS4.6						
WMQ				LR	LR		
	comp=E,501nm,20.3s,MS4.6						
WMQ				LR	LR		
	comp=Z,398nm,21.8s,MS4.3						
AAK	**Ala-Archa**	**46.48**	**336**	*eP*	**P**	**10 36 43.7**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.1						
SONM	**Songino Array**	**47.30**	**8**	P	**P**	**10 36 50.9**	**+0.4**
	comp=Z,3.1nm,0.6s,mb4.4,baz=187,slow=9.4,SNR=15						
ULN	**Ulaanbaatar**	**47.42**	**8**	P	**P**	**10 36 51.4**	**-0.1**
	comp=Z,2.6nm,0.3s,mb4.6						
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**10 36 53.3**	**+0.1**
	comp=Z,12nm,0.8s,mb5.0,baz=159,slow=8.6,SNR=68						
CN2	**Changchun**	**49.26**	**26**	*eP*	**P**	**10 37 05.0**	**-0.7**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**51.69**	**18**	*eP*	**P**	**10 37 22.4**	**-1.8**
	comp=Z,11nm,0.7s,mb4.9						
CTA	**Charters Tower**	**51.84**	**117**	P	**P**	**10 37 25.5**	**-0.2**
	comp=Z,5.1nm,1.1s,mb4.4,baz=300,slow=8.1,SNR=3.5						
CTAO	**Charters Tower**	**51.84**	**117**	P	**P**	**10 37 26.0**	**+0.3**
	comp=Z,7.6nm,0.8s,mb4.7						
KURK	**Kurchatov**	**52.20**	**345**	*eP*	**P**	**10 37 27.4**	**-0.6**
	comp=Z,5.0nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**52.73**	**132**	⇑*iP*	**P**	**10 37 32.8**	**+0.6**
	comp=Z,2.9nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**52.73**	**132**	P	**P**	**10 37 32.8**	**+0.6**
	comp=Z,3.8nm,0.6s,mb4.5,baz=315,slow=7.8,SNR=10						
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**10 37 59.5**	**-1.4**
	comp=Z,3.4nm,0.5s,mb4.6,baz=139,slow=9.8,SNR=16						
CHKZ	**Chkalovo**	**57.17**	**341**	*eP*	**P**	**10 38 02.8**	**-1.4**
	comp=Z,5.8nm,0.5s,mb4.9						
MBAR	**Mbarara**	**67.09**	**269**	*eP*	**P**	**10 39 11.2**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.3						
BRTR	**Keskin Array B**	**69.74**	**312**	P	**P**	**10 39 26.4**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.0,baz=123,slow=8.3,SNR=6.0						
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**10 40 02.2**	**-0.7**
	comp=Z,1.7nm,0.6s,mb4.2,baz=88,slow=5.4,SNR=7.7						
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**10 40 02.2**	**-0.7**
FINES	**FINESS Array B**	**80.51**	**332**	P	**P**	**10 40 28.4**	**+0.2**
	comp=Z,1.1nm,0.6s,mb4.0,baz=88,slow=3.6,SNR=7.9						
ARCES	**ARCESS Array B**	**82.98**	**340**	P	**P**	**10 40 42.1**	**+1.1**
	comp=Z,1.2nm,0.6s,mb4.1,baz=90,slow=4.9,SNR=3.7						
GERES	**GERESS Array B**	**85.41**	**319**	P	**P**	**10 40 54.9**	**+1.2**
	comp=Z,0.6nm,0.8s,mb3.8,baz=90,slow=2.7,SNR=6.4						
HFS	**Hagfors**	**86.25**	**330**	P	**P**	**10 40 58.9**	**+1.3**
	comp=Z,1.7nm,0.6s,mb4.5,baz=162,slow=4.7,SNR=8.0						
NOA	**NORSAR Array B**	**87.53**	**331**	P	**P**	**10 41 04.5**	**+0.8**
	comp=Z,1.3nm,0.9s,mb4.2,baz=95,slow=4.9,SNR=3.5						
PDAR	**Pinedale Array**	**130.00**	**26**	PKP	PKPdf	10 47 27.8	-2.3
	comp=Z,0.4nm,0.8s,SNR=3.7						
PLCA	**Paso Flores**	**139.01**	**194**	PKP	PKPdf	10 47 43.8	-3.1
	comp=Z,1.9nm,0.9s,baz=276,slow=15,SNR=3.1						
TXAR	**Lajitas Array**	**143.56**	**33**	PKP	PKPdf	10 47 50.9	-4.4
	comp=Z,0.4nm,0.5s,baz=233,slow=1.1,SNR=10						
CFAA	**Coronel Fontan**	**146.77**	**202**	PKPbc	PKPbc	10 48 00.1	+2.9
	comp=Z,0.2nm,0.5s,baz=215,slow=3.9,SNR=4.2						

MOS 29 10:29:47.9±2.1, 48.00N×103.24E, h15km, mb4.2/1, Error ellipse: s-maj=26.5km s-min=11.8km az=99.3, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAK	**Zakamensk**	**2.38**	**1**	*e*PN	Pn	10 30 29.2	+2.1
ZAK				*e*S	Sn	10 31 01.8	+5.5
ZAK				pmax	pmax		
	comp=Z,51nm,0.7s						
ZAK				smax			
	comp=E,291nm,0.8s						
ULN	**Ulaanbaatar**	**2.57**	**92**	*i* PN	Pn	10 30 29.8	+0.1
TLY	**Talaya**	**3.69**	**4**	*e*PN	Pn	10 30 52.7	+7.0
TLY				*e*		10 31 41.8	
TLY				pmax	pmax		
	comp=Z,29nm,0.7s						
TLY				smax			
	comp=E,136nm,1.3s						
MOY	**Mondy**	**3.95**	**339**	*e*PN	Pn	10 30 57.9	+8.5
MOY				*e*		10 31 50.9	
MOY				pmax	pmax		
	comp=Z,9.0nm,0.4s						
MOY				smax			
	comp=E,313nm,1.4s						
LSTR	**Listvyanka**	**4.01**	**14**	*e*PN	Pn	10 30 59.5	+9.3
LSTR				*e*		10 31 53.4	
LSTR				pmax	pmax		
	comp=Z,24nm,0.7s						
LSTR				smax			
	comp=N,81nm,1.0s						
IRK	**Irkutsk**	**4.30**	**8**	*e*PN	Pn	10 31 06.5	+12
IRK				*e*		10 32 00.6	
IRK				pmax	pmax		
	comp=Z,222nm,0.1s						
IRK				smax			
	comp=N,291nm,0.4s						
KAB	**Kabansk**	**4.61**	**27**	*e*PN	Pn	10 31 13.3	+14
ORL	**Orlik**	**5.05**	**335**	*e*PN	Pn	10 31 18.3	+13
ORL				*e*		10 32 26.6	
ORL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
ORL				smax			
	comp=N,34nm,1.4s						
KURK	**Kurchatov**	**16.25**	**289**	*i* P	P	10 33 28.9	-8.1
AAK	**Ala-Archa**	**20.85**	**266**	*i* P	P	10 34 36.1	+4.7

*IDC **29** 10:34:42.2±1.0, 1.75N×99.18E, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=55.3km s-min=15.4km az=51.0*
*NEIC **29** 10:34:47.1±0.6, 1.83N×99.35E, h30km, mb4.3/6, Error ellipse: s-maj=21.8km s-min=10.1km az=53.0*

ISC 29 10:34:44.9±0.7, 1.8N±0.1×99.2E±0.1, h33km, n22, σ0990/21, mb4.1/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**3.79**	**23**	*e*Pn	**Pn**	**10 35 42.5**	**-0.1**
KULM				*e*S	**S**	**10 36 40.0**	**+13**
CM31	**Chiang Mai Arr**	**16.58**	**359**	*e*P	**P**	**10 38 41.9**	**+5.3**
	7.8nm,0.7s						
HYB	**Hyderabad**	**25.54**	**309**	*e*P	**P**	**10 40 17.0**	**+4.5**
HYB	**Hyderabad**	**25.54**	**309**	*i* P	**P**	**10 40 17.0**	**+4.5**
NDI	**New Delhi**	**33.98**	**324**	*e*	**P**	**10 41 26.5**	**-1.2**
WRA	**Warramunga Arr**	**40.69**	**124**	P	**P**	**10 42 24.8**	**+0.6**
	3.9nm,0.8s,mb4.1,baz=302,slow=9.1,SNR=18						
WRA				PcP	PcP	10 44 27.7	+1.6
	0.7nm,0.7s,baz=321,slow=2.6,SNR=6.9						
WRAB	**Tennant Creek**	**40.70**	**124**	*e*P	**P**	**10 42 24.9**	**+0.7**
	11nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**42.20**	**129**	P	**P**	**10 42 36.5**	**-0.1**
	0.5nm,0.7s,mb3.2,baz=303,slow=8.1,SNR=5.8						
ASAR				PcP	PcP	10 44 31.9	+0.8
	0.5nm,0.6s,baz=304,slow=2.4,SNR=7.0						
AAK	**Ala-Archa**	**46.29**	**335**	P	**P**	**10 43 09.4**	**+0.1**
	2.1nm,0.7s,mb4.2						
SONM	**Songino Array**	**46.31**	**7**	P	**P**	**10 43 10.0**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=185,slow=9.4,SNR=7.1						
SONM				PcP	PcP	10 44 46.3	+1.5
	0.7nm,0.9s,baz=180,slow=4.9,SNR=3.7						
ULN	**Ulaanbaatar**	**46.42**	**7**	*e*P	**P**	**10 43 10.6**	**+0.3**
	1.5nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**47.19**	**344**	P	**P**	**10 43 17.1**	**+0.7**
	1.6nm,0.8s,mb4.0,baz=156,slow=7.0,SNR=13						
PMG	**Port Moresby**	**49.08**	**104**	P	**P**	**10 43 31.0**	**-0.4**
	23nm,1.1s,mb5.1,baz=215,slow=14,SNR=3.1						
KURK	**Kurchatov**	**51.78**	**344**	*e*P	**P**	**10 43 50.5**	**-1.0**
	5.7nm,1.1s,mb4.4						
STKA	**Stephens Creek**	**52.30**	**133**	P	**P**	**10 43 54.3**	**-1.4**
	1.3nm,0.7s,mb4.0,baz=315,slow=11,SNR=2.7						
BVAR	**Borovoye Array**	**56.38**	**340**	P	**P**	**10 44 23.9**	**-1.3**
	1.4nm,0.5s,mb4.2,baz=117,slow=6.4,SNR=6.3						
CHKZ	**Chkalovo**	**56.84**	**340**	*e*P	**P**	**10 44 28.3**	**-0.2**
	4.3nm,0.8s,mb4.5						
BRTR	**Keskin Array B**	**70.19**	**312**	P	**P**	**10 45 57.0**	**+0.4**
	0.3nm,0.5s,mb3.5,baz=268,slow=32,SNR=3.4						
FINES	**FINESS Array B**	**80.41**	**332**	P	**P**	**10 46 55.5**	**+0.9**
	0.4nm,0.4s,mb3.7,baz=117,slow=6.2,SNR=3.3						
HFS	**Hagfors**	**86.21**	**330**	P	**P**	**10 47 27.0**	**+3.0**
	0.7nm,0.5s,mb4.2,baz=108,slow=4.7,SNR=5.6						
TXAR	**Lajitas Array**	**142.13**	**34**	PKP	PKPdf	10 54 17.4	+2.9
	0.3nm,0.8s,baz=225,slow=1.8,SNR=4.5						
TXAR	**Lajitas Array**	**142.13**	**34**	PKP	PKPdf	10 54 17.4	+2.9

*IDC **29** 10:36:50.0±1.8, 1.07N×97.02E, h21km±4km, mb4.0/8, mb1 4.1/8, mb1mx3.8/18, mbtmp4.1/8, Error ellipse: s-maj=77.7km s-min=13.9km az=55.0*
*NEIC **29** 10:36:51.3±0.8, 1.24N×97.37E, mb4.5/11, Error ellipse: s-maj=36.0km s-min=9.1km az=55.0*
*BJI **29** 10:36:51.8, 1.20N×97.40E, h21km, mB4.9, mb4.7, Ms4.8, Msz4.4*

ISC 29 10:36:49.3±0.9, 1.2N±0.1×97.3E±0.2, h23km, h23km±1.3km:pP-P, n26, σ1907/26, mb4.5/22, MS4.4/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**24.38**	**12**	P	**P**	**10 42 09.3**	**+2.0**
KMI				AMB	AMB		
	comp=Z,19nm,1.0s,mb4.5						
JIRN	**Jiri**	**28.40**	**339**	*e*P	**P**	**10 42 44.9**	**+0.5**
	comp=Z,12nm,0.6s,mb4.7						
PKI	**Pulchoki**	**28.61**	**338**	*e*P	**P**	**10 42 48.1**	**+1.8**
	comp=Z,13nm,0.8s,mb4.7						
GUN	**Gumba**	**28.74**	**339**	*e*P	**P**	**10 42 47.9**	**+0.4**
	comp=Z,21nm,0.7s,mb5.0						
DMN	**Daman**	**28.76**	**337**	*e*P	**P**	**10 42 49.4**	**+1.7**
	comp=Z,8.5nm,0.6s,mb4.7						
KKN	**Kaani**	**28.85**	**338**	*e*P	**P**	**10 42 49.4**	**+0.9**
	comp=Z,14nm,0.7s,mb4.8						
LSA	**Lhasa**	**28.96**	**349**	P	**P**	**10 42 47.8**	**-1.7**
	comp=Z,5.9nm,0.4s,mb4.7						
KOLN	**Koldanda**	**29.51**	**335**	*e*P	**P**	**10 42 54.8**	**+0.3**
	comp=Z,13nm,0.8s,mb4.7						
ENH	**Enshi**	**31.17**	**21**	*e*P	**P**	**10 43 07.4**	**-1.7**
	comp=Z,14nm,0.8s,mb4.8						
ENH				*e*	pP	10 43 14.2	-1.6
FITZ	**Fitzroy Crossi**	**33.85**	**126**	P	**P**	**10 43 31.8**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=326,slow=6.4,SNR=5.0						
GTA	**Gaotai**	**38.12**	**3**	*e*P	**P**	**10 44 09.0**	**+0.4**
GTA				AP	pP	10 44 17.8	+2.4
GTA				XP	sP	10 44 21.5	+3.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**41.56**	**16**	*e*P	**P**	**10 44 44.5**	**+7.4**
HHC				S	**S**	**10 50 44.5**	**-7.0**
HHC				XS		10 51 07.0	
HHC				AMB	AMB		
	comp=Z,12nm,0.3s,mb5.0						
HHC				AMB	AMB		
	comp=Z,103nm,5.4s						
HHC				LR	LR		
	comp=N,283nm,7.1s						
HHC				LR	LR		
	comp=E,206nm,5.7s						
HHC				LR	LR		
	comp=Z,350nm,12.2s,MS4.4						
WRA	**Warramunga Arr**	**41.95**	**122**	P	**P**	**10 44 40.6**	**0.0**
	comp=Z,1.8nm,0.6s,mb3.9,baz=302,slow=9.2,SNR=14						
WRA				pP	pP	10 44 47.6	+0.2
	comp=Z,1.9nm,0.6s,baz=304,slow=9.0,SNR=6.3						
WRAB	**Tennant Creek**	**41.96**	**122**	*e*P	**P**	**10 44 40.9**	**+0.3**
	comp=Z,4.2nm,0.6s,mb4.2						
BJT	**Baijiatuan**	**42.31**	**22**	P	**P**	**10 44 43.7**	**+0.5**
	comp=Z,6.9nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**43.31**	**127**	P	**P**	**10 44 52.5**	**+0.8**
	comp=Z,0.7nm,0.4s,mb3.7,baz=299,slow=7.6,SNR=12						
SONM	**Songino Array**	**47.14**	**8**	P	**P**	**10 45 21.9**	**0.0**
	comp=Z,1.4nm,0.5s,mb4.2,baz=189,slow=9.2,SNR=9.9						
SONM				pP	pP	10 45 28.7	-0.1
	comp=Z,2.0nm,0.7s,baz=194,slow=8.9,SNR=6.4						
SONM				PcP	PcP	10 46 52.8	-1.0
	comp=Z,0.7nm,0.5s,baz=180,slow=5.4,SNR=6.5						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**10 45 22.6**	**-0.5**
	comp=Z,2.3nm,0.5s,mb4.4,baz=160,slow=9.0,SNR=33						
MKAR				pP	pP	10 45 29.1	-0.8
	comp=Z,1.3nm,0.4s,baz=158,slow=8.1,SNR=7.8						
KURK	**Kurchatov**	**51.84**	**345**	*e*P	**P**	**10 45 56.7**	**-1.2**
	comp=Z,2.5nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**10 46 09.3**	**+0.3**
	comp=Z,3.1nm,1.0s,mb4.2,baz=317,slow=12,SNR=4.2						
STKA	**Stephens Creek**	**53.28**	**132**	P	**P**	**10 46 09.3**	**+0.3**
BVAR	**Borovoye Array**	**56.30**	**341**	P	**P**	**10 46 28.9**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=141,slow=9.5,SNR=6.7						
BVAR				pP	pP	10 46 35.3	-2.4
	comp=Z,2.6nm,0.7s,baz=149,slow=8.6,SNR=9.2						
CHKZ	**Chkalovo**	**56.77**	**341**	*e*P	**P**	**10 46 32.4**	**-1.7**
	comp=Z,42nm,0.7s						
ARCES	**ARCESS Array B**	**82.59**	**340**	P	**P**	**10 49 11.3**	**-0.4**
	comp=Z,6.0nm,1.1s,mb4.5,baz=68,slow=4.9,SNR=2.6						
ARCES				pP	pP	10 49 17.4	-1.5
	comp=Z,1.5nm,0.7s,baz=90,slow=3.6,SNR=1.3						
ARCES	**ARCESS Array B**	**82.59**	**340**	P	**P**	**10 49 11.3**	**-0.4**
ARCES				pP	pP	10 49 17.4	-1.5
TXAR	**Lajitas Array**	**143.65**	**32**	PKP	PKPdf	10 56 23.1	-4.5
	comp=Z,0.2nm,0.5s,baz=16,slow=0.2,SNR=6.2						

IDC 29 10:40:25.7±3.9, 1.37N×97.72E, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=156.0km s-min=25.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.69**	**122**	P	P	10 48 16.4	-1.7
	0.7nm,0.7s,baz=300,slow=9.1,SNR=6.7						
WRA				pP	pP	10 48 24.3	+6.2
	0.5nm,0.7s,baz=304,slow=9.0,SNR=4.0						
ASAR	**Alice Springs**	**43.09**	**128**	P	P	10 48 27.8	-1.8
	0.3nm,0.6s,baz=298,slow=7.5,SNR=3.9						
ASAR				pP	pP	10 48 34.6	+5.1
	0.4nm,0.6s,baz=293,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**46.89**	**8**	P	P	10 48 58.1	-1.5
	0.9nm,0.9s,baz=194,slow=8.9,SNR=4.8						
MKAR	**Makanchi Array**	**47.20**	**346**	P	P	10 48 60.0	-2.2
	0.8nm,0.7s,baz=161,slow=8.1,SNR=6.9						
STKA	**Stephens Creek**	**53.09**	**132**	pP	pP	10 49 52.1	+4.7
	1.9nm,0.8s,baz=332,slow=7.9,SNR=2.5						

IDC 29 10:44:49.7±4.0, 1.91N×97.74E, mb3.3/4, mb1 3.4/4, mb1mx3.3/16, mbtmp3.3/4, Error ellipse: s-maj=160.5km s-min=24.3km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.95**	**123**	P	P	10 52 41.8	-2.5
	0.2nm,0.4s,baz=304,slow=8.9,SNR=3.0						
ASAR	**Alice Springs**	**43.39**	**128**	P	P	10 52 54.9	-1.1
	0.1nm,0.7s,baz=297,slow=7.4,SNR=2.1						
SONM	**Songino Array**	**46.36**	**8**	P	P	10 53 18.3	-1.1
	0.6nm,0.6s,baz=195,slow=8.1,SNR=6.4						
MKAR	**Makanchi Array**	**46.70**	**345**	P	P	10 53 19.6	-2.5
	0.4nm,0.4s,baz=153,slow=9.0,SNR=4.8						

MEX 29 10:46:55.5±0.5, 16.16N×98.33W, h11km±6km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNIG	**Pinotepa**	**0.30**	**40**	*i* P	Pg	10 47 01.2	-0.7
PNIG				*i* S	Sg	10 47 05.8	-0.3
ACX	**Acapulco**	**1.68**	**295**	*i* P	Pn	10 47 22.0	-3.0
ACX				*i* S	Sn	10 47 41.0	-5.6
VHO	**Vista Hermosa**	**1.78**	**59**	*i* P	Pn	10 47 23.8	-2.7
VHO				*i* S	Sn	10 47 43.9	-5.3
OXX	**Oaxaca**	**1.79**	**59**	*i* P	Pn	10 47 29.0	+2.3

*IDC **29** 10:51:20.6±1.0, 1.92N×99.34E, mb3.9/9, mb1 4.1/9, mb1mx3.9/17, mbtmp3.9/9, Error ellipse: s-maj=59.2km s-min=16.9km az=52.0*
*NEIC **29** 10:51:24.8±0.7, 1.83N×99.25E, h30km, mb4.4/6, Error ellipse: s-maj=24.8km s-min=10.9km az=58.0*

ISC 29 10:51:22.7±0.7, 1.74N±0.09×99.1E±0.1, h33km, n19, σ0996/18, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**3.44**	**35**	P	**P**	**10 52 15.9**	**+0.7**
KULM	**Kulim**	**3.87**	**24**	*e*Pn	**Pn**	**10 52 21.1**	**-0.3**
KGM	**Kluang**	**4.27**	**86**	P	**P**	**10 52 27.2**	**+0.2**
CM31	**Chiang Mai Arr**	**16.61**	**360**	*e*P	**P**	**10 55 18.4**	**+3.6**
	37nm,1.3s						
LSA	**Lhasa**	**28.81**	**346**	P	**P**	**10 57 18.9**	**-1.1**
	7.4nm,0.5s,mb4.7						
WRA	**Warramunga Arr**	**40.76**	**124**	P	**P**	**10 59 02.7**	**+0.1**
	2.6nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=18						
WRA				PcP	PcP	11 01 04.8	+0.7
	0.4nm,0.8s,baz=313,slow=2.6,SNR=4.8						
WRAB	**Tennant Creek**	**40.77**	**124**	*e*P	**P**	**10 59 03.0**	**+0.4**
	4.5nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**42.26**	**129**	P	**P**	**10 59 14.3**	**-0.6**
	0.9nm,1.1s,mb3.3,baz=183,slow=27,SNR=4.3						
ASAR				PcP	PcP	11 01 10.1	+1.0
	0.4nm,0.8s,baz=297,slow=2.3,SNR=4.2						
AAK	**Ala-Archa**	**46.27**	**335**	*e*P	**P**	**10 59 48.5**	**+1.5**
	6.0nm,1.2s,mb4.4						
SONM	**Songino Array**	**46.35**	**7**	P	**P**	**10 59 46.7**	**-0.8**
	0.2nm,0.6s,mb3.2,baz=112,slow=6.7,SNR=2.6						
MKAR	**Makanchi Array**	**47.20**	**344**	P	**P**	**10 59 54.0**	**-0.2**
	1.2nm,0.8s,mb3.9,baz=153,slow=8.1,SNR=8.2						
KURK	**Kurchatov**	**51.78**	**344**	*e*P	**P**	**11 00 28.5**	**-0.8**
	3.1nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**52.36**	**133**	P	**P**	**11 00 33.6**	**-0.2**
	2.1nm,0.8s,mb4.1,baz=325,slow=8.7,SNR=4.3						
BVAR	**Borovoye Array**	**56.37**	**340**	P	**P**	**11 01 02.2**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=146,slow=5.3,SNR=6.8						
CHKZ	**Chkalovo**	**56.83**	**340**	*e*P	**P**	**11 01 05.5**	**-0.8**
	4.8nm,1.1s,mb4.4						
BRTR	**Keskin Array B**	**70.13**	**312**	P	**P**	**11 02 34.8**	**+0.8**
	2.0nm,1.1s,mb4.0,baz=127,slow=7.2,SNR=2.6						
ARCES	**ARCESS Array B**	**82.66**	**340**	P	**P**	**11 03 47.1**	**+3.2**
	5.2nm,0.9s,mb4.6,baz=90,slow=5.4,SNR=3.6						
GERES	**GERESS Array B**	**85.64**	**319**	P	**P**	**11 04 03.1**	**+3.8**
	0.3nm,0.2s,mb4.1,baz=63,slow=6.0,SNR=4.4						
TXAR	**Lajitas Array**	**142.22**	**33**	PKP	PKPdf	11 10 55.6	+3.1
	0.5nm,0.8s,SNR=4.5						

IDC 29 10:54:20.4±5.9, 3.48N×95.68E, mb3.6/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.6/3, 1D, Error ellipse: s-maj=292.1km s-min=28.4km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.54**	**123**	P	P	11 02 33.3	-2.7
	0.4nm,0.5s,baz=299,slow=8.4,SNR=14						
MKAR	**Makanchi Array**	**44.68**	**347**	P	P	11 02 35.0	-1.9
	0.3nm,0.3s,baz=159,slow=8.7,SNR=5.3						
ASAR	**Alice Springs**	**45.98**	**128**	P	P	11 02 46.5	-0.9
	0.6nm,0.6s,baz=302,slow=8.4,SNR=12						
STKA	**Stephens Creek**	**56.01**	**133**	⇓*iP*	P	11 04 15.1	+12
	1.2nm,0.2s						

*BJI **29** 10:56:51.5, 2.18N×96.61E, h26km, mB5.4, mb5.2, Ms4.8, Msz4.6*
*MOS **29** 10:56:53.4±0.9, 2.38N×96.62E, h33km, mb5.4/50, Error ellipse: s-maj=10.4km s-min=5.3km az=115.8*
*NEIC **29** 10:56:53.7±0.2, 2.23N×96.49E, mb5.2/55, Error ellipse: s-maj=6.0km s-min=3.7km az=223.0*
*IDC **29** 10:56:53.4±0.6, 2.27N×96.48E, h24km±3km, mb4.7/24, mb1 4.8/24, mb1mx4.8/25, mbtmp4.9/24, MS4.1/9, Ms1 4.1/9, ms1mx3.7/28, Error ellipse: s-maj=17.8km s-min=9.5km az=47.0*

ISC 29 10:56:52.2±0.2, 2.24N±0.03×96.52E±0.03, h26km, h26km±.6km:pP-P, n264, σ0995/248, mb5.1/99, MS4.5/25, 36C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.07**	**63**	P	**Pn**	**10 58 09.8**	**+1.3**
KULM	**Kulim**	**5.12**	**54**	⇑*eP*	**Pn**	**10 58 10.6**	**+1.4**
SNG	**Songkhla**	**6.38**	**40**	P	**Pn**	**10 58 27.0**	**-0.1**
	560nm,1.0s						
KGM	**Kluang**	**6.80**	**92**	P	**Pn**	**10 58 34.3**	**+1.3**
KSM	**Kuching**	**13.81**	**93**	*e*P	**P**	**11 00 09.7**	**+0.9**
NST	**Nakhon Sawan**	**13.82**	**15**	P	**P**	**11 00 09.8**	**+0.8**
KKTK	**Khon Kaen**	**15.32**	**24**	P	**P**	**11 00 30.0**	**+1.3**
	1μm,0.8s						
CM31	**Chiang Mai Arr**	**16.29**	**8**	*e*P	**P**	**11 00 41.6**	**+0.4**
	18nm,0.6s						
PALK	**Pallekele**	**16.53**	**288**	*e*P	**P**	**11 00 45.2**	**+1.0**
	32nm,1.0s						
CHG	**Chiang Mai**	**16.64**	**8**	⇓*iP*	**P**	**11 00 45.3**	**-0.2**
	22nm,0

POO Poona 27.49 308 *e*P **P 11 02 38.0 -0.7**
DMN Daman 27.49 338 *e*P **P 11 02 39.1 +0.5**
comp=Z,93nm,0.9s,mb5.3
KKN Kakani 27.59 338 *e*P **P 11 02 39.9 +0.4**
comp=Z,97nm,0.8s,mb5.5
KKN Kakani 27.59 338 *e*P **P 11 02 39.9 +0.4**
KKN pmax pmax
comp=Z,49nm,0.8s,mb5.2
LSA Lhasa 27.78 350 P **P 11 02 42.5 +1.2**
LSA Lhasa 27.78 350⇑*i*P **P 11 02 41.9 +0.6**
LSA pmax pmax
comp=Z,76nm,0.9s,mb5.3
LSA Lhasa 27.78 350⇑*i*P **P 11 02 41.9 +0.6**
comp=Z,76nm,0.9s,mb5.3
GKN Gorkha 28.02 337 *e*P **P 11 02 43.8 +0.4**
comp=Z,114nm,0.8s,mb5.5
KOLN Koldanda 28.23 335 *e*P **P 11 02 45.9 +0.6**
comp=Z,117nm,0.9s,mb5.5
CD2 Chengdu 29.33 13 P **P 11 02 54.0 -1.2**
ENH Enshi 30.47 23 *e*P **P 11 03 03.4 -1.9**
comp=Z,38nm,0.5s,mb5.4
LGTI Lohaghat 31.17 332 *e*P **P 11 03 12.0 +0.5**
MBWA Marble Bar 32.52 137 *e*P **P 11 03 22.1 -1.2**
comp=Z,18nm,0.8s,mb5.1
MBWA *e* pP 11 03 30.1 -1.0
WHN Wuhan 32.83 29 *e*P **P 11 03 25.5 -0.5**
DDI Dehra Dun 32.96 330 *e* **P 11 03 25.4 -1.7**
XAN Xi'an 33.69 19 P **P 11 03 31.8 -1.7**
XAN AP pP 11 03 38.0 -3.2
XAN AMB AMB
comp=Z,92nm,0.8s,mb5.8
SMLA Simla 34.06 330 *i* **P 11 03 26.8 -10**
SMLA *i* 11 09 42.2
LZH Lanzhou 34.36 11 ⇑P **P 11 03 38.8 -0.4**
LZH AP pP 11 03 46.0 -0.9
LZH XP sP 11 03 51.0 +0.7
LZH PP PP 11 04 55.5 +0.6
LZH SS SS 11 11 15.5 +0.7
LZH AMB AMB
comp=Z,81nm,1.2s,mb5.5
LZH AMB AMB
comp=Z,283nm,4.0s
LZH LR LR
comp=E,995nm,14.0s
LZH LR LR
comp=Z,1μm,15.3s,MS4.8
FITZ Fitzroy Crossi 35.09 126⇑*i*P **P 11 03 44.6 -1.0**
comp=Z,46nm,0.6s,mb5.6
FITZ Fitzroy Crossi 35.09 126 P **P 11 03 44.3 -1.3**
comp=Z,71nm,0.8s,mb5.7,baz=324,slow=4.1,SNR=63
PONG Pong 35.34 329 *e*P **P 11 03 48.0 +0.4**
THN Thein Dam 35.84 329 *e*P **P 11 03 50.8 -1.1**
comp=Z,21nm,0.8s,mb5.1
NJ2 Nanjing 36.36 33 *e*P **P 11 03 56.0 -0.2**
NJ2 AP pP 11 04 08.5 +4.5
NJ2 XP sP 11 04 11.0 +3.7
NJ2 PP PP 11 05 21.0 +1.1
NJ2 S **S 11 09 37.0 +1.9**
NJ2 AMB AMB
comp=Z,340nm,4.0s
NJ2 LR LR
comp=N,3μm,14.5s,MS5.2
NJ2 LR LR
comp=E,570nm,12.7s,MS5.2
NJ2 LR LR
comp=Z,1μm,19.8s
SSE Sheshan 36.98 37 P **P 11 03 58.0 -3.4**
SSE AP pP 11 04 06.8 -2.4
SSE S **S 11 09 39.5 -5.1**
SSE XS 11 09 55.0
SSE AMB AMB
comp=Z,36nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,138nm,4.0s
SSE LR LR
comp=N,165nm,17.6s,MS4.1
SSE LR LR
comp=E,253nm,17.7s,MS4.1
SSE LR LR
comp=Z,292nm,14.8s,MS4.2
GTA Gaotai 37.12 4 ⇑P **P 11 04 02.5 -0.1**
GTA AP pP 11 04 10.0 -0.3
GTA XP sP 11 04 13.8 +0.2
GTA PP PP 11 05 29.3 -0.3
GTA PCP PcP 11 06 23.5 +0.5
GTA S **S 11 09 47.5 +0.8**
GTA XS 11 09 58.5
GTA SS SS 11 12 17.5 +0.1
GTA AMB AMB
comp=Z,60nm,0.8s,mb5.5
GTA AMB AMB
comp=Z,229nm,4.9s
GTA LR LR
comp=N,301nm,14.8s,MS4.3
GTA LR LR
comp=E,292nm,15.2s,MS4.3
GTA LR LR
comp=Z,367nm,15.2s,MS4.3
KAKA Kakadu 38.64 114⇑*i*P **P 11 04 14.4 -1.1**
comp=Z,52nm,0.6s,mb5.4
TIA Tai'an 38.81 27 *e*P **P 11 04 15.8 -1.0**
MUN Mundaring 38.82 153 *e*P **P 11 04 19.6 +2.7**
comp=Z,6.4nm,0.8s,mb4.4
MUN Mundaring 38.82 153 *e*P **P 11 04 19.6 +2.7**
MUN pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
JOW Kunigami 39.05 48 P **P 11 04 19.4 +0.5**
comp=Z,43nm,0.6s,mb5.3,baz=231,slow=7.3,SNR=13
KLBR Kellerberrin 39.23 151 *e*P **P 11 04 21.7 +1.3**
comp=Z,101nm,0.9s,mb5.5
NWAO Narrogin (SRO) 40.09 152 *e*P **P 11 04 28.1 +0.7**
NWAO pmax pmax
comp=Z,19nm,1.0s
NWAO Narrogin (SRO) 40.09 152 P **P 11 04 28.9 +1.5**
comp=Z,11nm,0.8s,mb4.6,baz=322,slow=9.6,SNR=7.9
NWAO pP pP 11 04 35.0 -0.3
comp=Z,20nm,1.0s,baz=316,slow=11,SNR=6.5
NWAO Narrogin (SRO) 40.09 152 *e*P **P 11 04 28.1 +0.7**
comp=Z,19nm,1.0s,mb4.8
BTO Baotou 40.10 16 *e*P **P 11 04 28.0 +0.6**
HHC Hu-ho-hao-te 40.77 18 *e*P **P 11 04 34.5 +1.6**
HHC AP pP 11 04 44.3 +3.5
HHC XP sP 11 04 48.0 +4.0
HHC PP PP 11 06 12.5 +2.4
HHC PCP PcP 11 06 35.3 +0.8
HHC SCP 11 10 21.0
HHC PCS 11 10 25.5
HHC S **S 11 10 43.0 +1.2**
HHC SCS ScS 11 14 33.3 -1.0
HHC AMB AMB
comp=Z,41nm,0.3s,mb5.5
HHC LR LR
comp=N,567nm,16.2s,MS4.7
HHC LR LR
comp=E,508nm,11.3s,MS4.7
HHC LR LR
comp=Z,650nm,15.9s,MS4.6
KSH Kashi 41.55 336 *e*P **P 11 04 39.8 +0.4**
KSH *e*AP pP 11 04 46.0 -1.2
KSH *e*XP sP 11 04 49.8 -0.7
KSH *e*PP PP 11 06 17.8 -0.7
KSH *e*PCP PcP 11 06 36.8 -0.3
KSH *e*PPP PPP 11 06 49.0 -0.4
KSH *e*SCP 11 10 24.3
KSH *e*PCS 11 10 27.5
KSH *e*S **S 11 10 52.5 -0.9**
KSH *e*SS SS 11 13 51.0 -2.6
KSH *e*SCS ScS 11 14 38.8 -0.2
KSH AMB AMB
comp=Z,250nm,3.8s
KSH LR LR
comp=N,250nm,4.8s
KSH LR LR
comp=E,320nm,4.8s
BJT Baijiatuau 41.62 23⇑*i*P **P 11 04 40.7 +0.7**
BJT pmax pmax
comp=Z,72nm,0.7s
BJT Baijiatuau 41.62 23⇑*i*P **P 11 04 40.7 +0.8**
comp=Z,72nm,0.7s,mb5.4
BJI Beijing 41.64 23 *e*P **P 11 04 41.0 +0.9**
BJI AP pP 11 04 50.0 +2.0
BJI XP sP 11 04 53.5 +2.3
BJI AMB AMB
comp=Z,99nm,0.7s,mb5.5
BJI AMB AMB
comp=Z,272nm,4.3s
BJI LR LR
comp=N,529nm,14.2s,MS4.7
BJI LR LR
comp=E,390nm,14.7s,MS4.7
BJI LR LR
comp=Z,196nm,16.3s,MS4.1
WMQ Urumqi 42.14 350⇓*i*P **P 11 04 45.0 +0.8**
WMQ AP pP 11 04 51.8 -0.2
WMQ XP sP 11 04 55.5 +0.2
WMQ PP PP 11 06 26.0 +1.2
WMQ PPP PPP 11 06 58.0 +1.0
WMQ SCP 11 10 28.0
WMQ S **S 11 11 03.0 +0.9**
WMQ SS SS 11 14 06.0 +1.4
WMQ AMB AMB
comp=Z,29nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,186nm,6.4s
WMQ LR LR
comp=N,1μm,15.0s,MS5.0
WMQ LR LR
comp=E,1μm,14.2s,MS5.0
WMQ LR LR
comp=Z,1μm,20.2s
DL2 Dalian 43.09 29 P **P 11 04 52.5 +0.5**
DL2 AMB AMB
comp=Z,30nm,0.7s,mb5.1
WRA Warramunga Arr 43.16 123 P **P 11 04 52.6 -0.2**
comp=Z,18nm,0.6s,mb5.0,baz=300,slow=9.3,SNR=173
WRA PcP PcP 11 06 41.3 -1.4
comp=Z,7.1nm,0.8s,baz=315,slow=2.7,SNR=7.3
WRA pPcP 11 06 50.3
comp=Z,3.2nm,0.6s,baz=314,slow=2.6,SNR=5.0
WRAB Tennant Creek 43.17 122 P **P 11 04 52.0 -0.9**
comp=Z,207nm,0.7s,mb6.0,SNR=20
WRAB Tennant Creek 43.17 122*i e*P **P 11 04 52.6 -0.3**
WRAB *e* 11 06 42.1
WRAB pmax pmax
comp=Z,31nm,0.6s,mb5.2
WRAB Tennant Creek 43.17 122⇑*e*P **P 11 04 52.6 -0.2**
comp=Z,31nm,0.6s,mb5.2
WRAB *e*PcP PcP 11 06 42.1 -0.7
WB2 Warramunga Arr 43.17 122⇑*i*P **P 11 04 52.6 -0.3**
ULHL Ulahol 43.78 338 P **P 11 04 58.2 +0.7**
SNR=12
KZA Kyzart 44.02 337 P **P 11 05 00.7 +1.2**
SNR=18
UCH Uchtor 44.43 337 P **P 11 05 04.1 +1.2**
SNR=38
FORT Forrest 44.51 140⇑*i*P **P 11 05 04.8 +1.2**
comp=Z,2μm,0.6s
ASPA Alice Springs 44.56 127⇑*i*P **P 11 05 04.1 0.0**
ASAR Alice Springs 44.56 127 P **P 11 05 04.1 -0.1**
comp=Z,14nm,0.7s,mb4.9,baz=299,slow=7.9,SNR=135
ASAR PcP PcP 11 06 46.5 -0.9
comp=Z,7.2nm,0.7s,baz=303,slow=3.5,SNR=12
ASAR pPcP 11 06 55.3
comp=Z,6.0nm,0.7s,baz=312,slow=3.0,SNR=7.5
ASAR ScP 11 10 38.4
comp=Z,1.2nm,1.1s,baz=306,slow=4.5,SNR=4.4
ASAR LR LR 11 25 02.6
comp=Z,160nm,21.8s,MS3.9,baz=312,slow=38
TKM2 Tokmak 2 44.60 338 P **P 11 05 05.0 +0.8**
SNR=29
KBK Karagaybulak 44.62 337 P **P 11 05 04.4 0.0**
SNR=12
AML Almayashu 44.68 336 P **P 11 05 06.1 +1.3**
SNR=42
AAK Ala-Archa 44.78 337 P **P 11 05 08.0 +2.4**
SNR=15
AAK Ala-Archa 44.78 337 P **P 11 05 05.7 0.0**
comp=Z,71nm,0.7s,mb5.6,SNR=18
AAK Ala-Archa 44.78 337*e*P **P 11 05 05.4 -0.3**
AAK pmax pmax
comp=Z,28nm,1.3s,mb4.9
AAK Ala-Archa 44.78 337⇑*e*P **P 11 05 05.4 -0.3**
comp=Z,28nm,1.3s,mb4.9
FRU Bishkek 44.90 337 *e*P **P 11 05 08.0 +1.4**
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.0
CHMS Chumysh 44.99 337 P **P 11 05 07.8 +0.5**
SNR=6.7
EKS2 Erkin-Say 45.09 336 P **P 11 05 09.3 +1.2**
SNR=29
USP Ospenovka 45.32 337 P **P 11 05 10.3 +0.5**
SNR=56
KS15 Wonju Array Si 45.37 36 *e*P **P 11 05 10.0 -0.4**
MKAR Makanchi Array 46.08 346 P **P 11 05 15.8 -0.1**
comp=Z,58nm,0.8s,mb5.6,baz=164,slow=7.0,SNR=415
MKAR LR LR 11 27 51.3
comp=Z,118nm,21.2s,MS3.8,baz=90,slow=40
SONM Songino Array 46.22 9 P **P 11 05 17.1 +0.1**
comp=Z,14nm,0.5s,mb5.2,baz=190,slow=9.4,SNR=117
SONM PcP PcP 11 06 52.4 -0.4
comp=Z,8.4nm,0.7s,baz=193,slow=3.6,SNR=7.6
SONM pPcP 11 07 01.0
comp=Z,5.3nm,0.6s,baz=191,slow=2.9,SNR=5.9
SNY Shenyang 46.30 28⇑P **P 11 05 17.3 -0.4**
ULN Ulaanbaatar 46.35 10 *e*P **P 11 05 18.0 0.0**
ULN pmax pmax
comp=Z,11nm,0.6s,mb5.0
ULN Ulaanbaatar 46.35 10 *e*P **P 11 05 17.9 -0.1**
comp=Z,11nm,0.6s,mb5.0
ZAK Zakamensk 48.31 6 *e*P **P 11 05 33.0 -0.4**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
CN2 Changchun 48.70 28 *e*P **P 11 05 36.3 -0.2**
CN2 *e*XP sP 11 05 50.0 +2.5
CN2 PP PP 11 07 32.0 +2.6
CN2 *e*S **S 11 12 33.5 -2.7**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,340nm,5.0s
CN2 LR LR
comp=N,250nm,14.0s,MS4.6
CN2 LR LR
comp=E,320nm,14.0s,MS4.6
CN2 LR LR
comp=Z,370nm,15.0s,MS4.5
MOY Mondy 49.40 4 *e*P **P 11 05 38.2 -3.5**
TLY Talaya 49.63 6 *i*P **P 11 05 43.9 +0.4**
TLY pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
TLY Talaya 49.63 6 *e*P **P 11 05 43.8 +0.3**
comp=Z,15nm,0.7s,mb5.1
IRK Irkutsk 50.25 6 *e*P **P 11 05 48.4 +0.1**
IRK *e* 11 07 11.7
IRK pmax pmax
comp=Z,38nm,2.5s,mb5.0
KURK Kurchatov 50.62 345⇑*i*P **P 11 05 50.7 -0.4**
KURK pmax pmax
comp=Z,45nm,0.9s,mb5.4
KURK Kurchatov 50.62 345⇑*i*P **P 11 05 50.7 -0.3**
comp=Z,44nm,0.9s,mb5.4
HIA Hailar 50.89 19 *e*P **P 11 05 52.6 -0.5**
HIA pmax pmax
comp=Z,30nm,0.8s
HIA Hailar 50.89 19 *e*P **P 11 05 52.6 -0.5**
comp=Z,30nm,0.8s,mb5.3
MDJ Mudanjiang 51.31 30 P **P 11 05 56.5 +0.1**
MDJ AMB AMB
comp=Z,13nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,262nm,4.4s
MAT Matsushiro 51.40 43 P **P 11 05 57.0 -0.2**
MAT pmax pmax
comp=Z,56nm,1.5s,mb5.3
MAT Matsushiro 51.40 43 P **P 11 05 57.0 -0.2**
comp=Z,56nm,1.5s,mb5.3
PMG Port Moresby 51.76 104 *e*P **P 11 05 59.5 -0.7**
PMG *e* pP 11 06 08.0 -0.2
PMG pmax pmax
comp=Z,45nm,0.7s
PMG Port Moresby 51.76 104 P **P 11 05 60.0 -0.2**
comp=Z,46nm,0.7s,mb5.5,baz=354,slow=3.6,SNR=16
PMG Port Moresby 51.76 104 *e*P **P 11 05 59.5 -0.7**
comp=Z,45nm,0.7s,mb5.5
PMG *e* pP 11 06 08.0 -0.2
NVS Novosibirsk 53.54 350⇑*i*P **P 11 06 11.5 -1.4**
NVS *e* 11 07 23.1
NVS *e*S **S 11 13 35.8 -6.9**
NVS pmax pmax
comp=Z,51nm,1.1s,mb5.4
NVS pmax pmax
comp=N,38nm,1.2s
NVS pmax pmax
comp=E,25nm,1.1s
NVS smax
comp=N,8.0nm,1.8s
NVS smax
comp=E,13nm,1.8s
CTA Charters Tower 53.58 117⇑*i*P **P 11 06 13.6 -0.1**
comp=E,12nm,0.8s,mb4.9
CTA Charters Tower 53.58 117⇑*i*P **P 11 06 13.6 -0.1**
CTA pmax pmax
comp=Z,12nm,0.8s
CTA Charters Tower 53.58 117 P **P 11 06 13.7 0.0**
comp=Z,15nm,0.8s,mb5.0,baz=291,slow=8.0,SNR=17
CTAO Charters Tower 53.58 117 *e*P **P 11 06 13.3 -0.4**
CTAO pmax pmax
comp=Z,20nm,0.8s,mb5.1
CTAO Charters Tower 53.58 117 *e*P **P 11 06 13.3 -0.4**
comp=Z,20nm,0.8s,mb5.1
RAYN Ar Rayn 53.67 298 P **P 11 06 14.1 -0.2**
comp=Z,122nm,1.0s,SNR=27
STKA Stephens Creek 54.55 132⇑*i*P **P 11 06 20.5 -0.2**
comp=Z,15nm,0.6s,mb5.2
STKA Stephens Creek 54.55 132 P **P 11 06 20.1 -0.6**
comp=Z,21nm,0.7s,mb5.3,baz=307,slow=6.7,SNR=48
STKA LR LR 11 32 15.5
comp=Z,235nm,18.9s,MS4.3,baz=242,slow=39
BVA0 Borovoye Array 55.05 341 *i* P **P 11 06 22.9 -1.1**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BVAR Borovoye Array 55.05 341 P **P 11 06 22.8 -1.2**
comp=Z,28nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=140
CHKZ Chkalovo 55.53 342⇑*i*P **P 11 06 26.6 -0.9**
KLR Kul'dur 55.64 27 *e*P **P 11 06 25.8 -2.6**
KLR MLR MLR
comp=Z,2μm,16.0s,MS5.2
BOD Bodaibo 57.12 11 *e*P **P 11 06 37.3 -1.6**
BOD pmax pmax
comp=Z,21nm,0.9s,mb5.2
ASAJ Asahikawa 58.26 38 LR LR 11 35 12.0
comp=Z,134nm,18.2s,MS4.1,baz=244,slow=40
CLNS Chul'man 58.96 18 *e*P **P 11 06 50.8 -0.9**
CLNS *e**PP pP 11 06 57.3 -2.5
CLNS *e* 11 09 06.2
CLNS *e*S S 11 15 18.1 +24
CLNS pmax pmax
comp=Z,17nm,0.6s,mb5.2
CLNS pmax pmax
comp=N,9.0nm,0.8s
CLNS pmax pmax
comp=E,6.0nm,0.8s
CLNS pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CLNS smax
comp=E,266nm,6.9s
CLNS smax
comp=Z,112nm,3.1s
CLNS smax
comp=N,211nm,3.0s
CLNS MLR MLR
comp=Z,500nm,13.0s,MS4.8
CLNS MLR MLR
comp=N,400nm,14.0s,MS4.7
CLNS MLR MLR
comp=E,100nm,14.0s,MS4.7
KMBO Kilima Mbogo 59.35 267 *i* P **P 11 06 57.6 +2.6**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO Kilima Mbogo 59.35 267 P **P 11 06 55.4 +0.4**
comp=Z,3.3nm,1.0s,mb4.3,baz=50,slow=24,SNR=7.9
KMBO pP pP 11 07 02.8 -0.3
comp=Z,7.4nm,1.0s,baz=45,slow=8.8,SNR=10.0
KMBO Kilima Mbogo 59.35 267 *e*P **P 11 06 55.2 +0.2**
comp=Z,8.0nm,1.0s,mb4.7
YSS Yuzh-Sakhalins 59.89 35⇑*e*P **P 11 06 57.7 -0.5**
TI2 Plekhanov 60.75 318 *i* P **P 11 07 03.8 -0.4**
TI2 pmax pmax
comp=Z,60nm,1.0s,mb5.7
SVE Sverdlovsk 61.48 338⇑*i*P **P 11 07 08.4 -0.5**
SVE pmax pmax
comp=Z,60nm,1.1s,mb5.6
ARU Arti 61.97 337⇑*i*P **P 11 07 10.7 -1.6**
ARU *e* 11 09 28.8
ARU *e*S **S 11 15 32.1 -0.9**
ARU *e*SS SS 11 19 31.8 -5.5
ARU pmax pmax
comp=Z,32nm,1.0s,mb5.4
ARU Arti 61.97 337 *e*P **P 11 07 10.8 -1.5**
comp=Z,42nm,1.1s,mb5.5
KIV Kislovodsk 63.08 319 *e*P **P 11 07 18.8 -1.0**
KIV *e* pP 11 07 26.9 -1.0
KIV pmax pmax
comp=Z,29nm,0.8s,mb5.5
KIV Kislovodsk 63.08 319 *e*P **P 11 07 18.8 -1.0**
comp=Z,28nm,0.8s,mb5.5
KIV *e* pP 11 07 26.9 -1.0
ASF Jabal al Asfar 63.31 305 P **P 11 07 21.2 -0.2**
comp=Z,5.5nm,0.8s,mb4.7,baz=330,slow=2.1,SNR=7.6
MALT Malatya 63.93 312 *e*P **P 11 07 25.1 -0.4**
MALT *e* pP 11 07 33.4 -0.3
MALT pmax pmax
comp=Z,12nm,0.9s,mb4.9
MALT Malatya 63.93 312 *e*P **P 11 07 25.1 -0.4**
comp=Z,12nm,0.9s,mb4.9
MALT *e* pP 11 07 33.4 -0.3
EIL Elat 64.33 302 *e*P **P 11 07 27.6 -0.6**
comp=Z,16nm,0.9s,mb5.1
EIL *e* pP 11 07 35.1 -1.3
YAK Yakutsk 64.62 17⇑*i*P **P 11 07 28.1 -1.5**
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.6
YAK Yakutsk 64.62 17⇑*i*P **P 11 07 28.1 -1.6**
comp=Z,54nm,0.9s,mb5.6
BRTR Keskin Array B 67.91 312 P **P 11 07 49.6 -1.3**
comp=Z,3.1nm,0.7s,mb4.5,baz=129,slow=7.9,SNR=12
BRTR pP pP 11 07 56.8 -2.4
comp=Z,4.1nm,0.8s,baz=143,slow=6.2,SNR=8.4
VRSR Storozhevoye 68.32 325 *e*P **P 11 07 51.3 -2.0**
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=Z,20nm,1.1s,mb5.1
VRSR pmax pmax
comp=E,20nm,0.9s
SIM Simferopol' 69.14 318 P **P 11 08 05.9 +7.4**
SIM pmax pmax
comp=Z,28nm,1.0s,mb5.2
SKR Severo-Kuril's 69.42 36 *e*P **P 11 07 56.9 -3.2**
SKR pmax pmax
comp=Z,80nm,0.5s,mb5.9
MA2 Magadan 70.70 26 *e*P **P 11 08 08.0 +0.3**
MA2 pmax pmax
comp=Z,20nm,0.8s,mb5.1
MA2 pmax pmax
comp=N,5.0nm,0.9s
MA2 pmax pmax
comp=E,8.0nm,1.2s
MA2 Magadan 70.70 26⇑*i*P **P 11 08 07.2 -0.5**
comp=E,30nm,0.8s,mb5.3
MA2 *e* pP 11 08 16.0 +0.1
MOS Moscow 71.10 329 *e*P **P 11 08 09.4 -0.8**
MOS *e* 11 08 36.5
MOS pmax pmax
comp=Z,59nm,0.6s,mb5.7
OBN Obninsk 71.38 328*c i*P **P 11 08 10.8 -1.1**
OBN *e* 11 10 52.9
OBN S S 11 17 57.9 +31
OBN pmax pmax
comp=Z,28nm,0.7s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
PET Petropavlovsk 71.76 34 *e*P **P 11 08 14.1 -0.1**
PET *e* 11 17 33.1
PET pmax pmax
comp=Z,35nm,0.6s,mb5.5
PET MLR MLR
comp=Z,100nm,21.0s,MS4.1
TIXI Tiksi 72.29 10 *e*P **P 11 08 14.4 -2.7**
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,223nm,16.0s,MS4.5
DZM Mont Dzumac 72.33 114 P **P 11 08 16.6 -1.5**
comp=Z,7.9nm,0.9s,mb4.7,baz=313,slow=9.1,SNR=4.4

SEY Seymchan 73.08 23 *e*P **P 11 08 23.7 +1.9**
SEY *e* 11 10 59.4
SEY pmax pmax
comp=E,60nm,1.2s,mb5.4
SEY pmax pmax
comp=E,30nm,0.8s
CFR Carcaliu 73.27 317 ⇓P **P 11 08 22.5 -0.8**
MAW Mawson 73.56 193 P **P 11 08 24.4 -0.1**
comp=E,1.8nm,0.6s,mb4.2,baz=29,slow=7.1,SNR=3.1
LBTB Lobatse 73.74 243 LR LR 11 39 46.4
comp=E,227nm,18.6s,MS4.5,baz=90,slow=35
AKASG Malin Array Be 74.02 322 P **P 11 08 26.2 -1.3**
comp=E,6.0nm,0.5s,mb4.8,baz=89,slow=5.2,SNR=31
VRI Vrincioaia 74.40 317 ⇓*i*P **P 11 08 30.0 +0.2**
BOSA Boshof 74.71 240 P **P 11 08 30.4 -1.6**
comp=E,4.0nm,0.9s,mb4.3,baz=91,slow=7.2,SNR=4.7
BOSA LR LR 11 40 31.8
comp=E,229nm,18.3s,MS4.5,baz=351,slow=35
MLR Muntele Rosu 74.85 317 P **P 11 08 32.2 -0.2**
comp=E,8.1nm,1.0s,mb4.6,baz=107,slow=3.9,SNR=7.2
MLR Muntele Rosu 74.85 317 ⇓*i*P **P 11 08 32.1 -0.3**
LVZ Lovozero 77.63 340 *e*P **P 11 08 47.1 -0.5**
KWP Kalwaria 77.84 320 *e*P **P 11 08 48.5 -0.6**
APA Apatity 77.92 340 ⇑*i*P **P 11 08 49.0 -0.2**
APA *i* pP 11 08 57.2 -0.3
APA pmax pmax
comp=Z,81nm,1.4s,mb5.5
KOLS Kolonicke sedl 77.99 320 *i* P **P 11 08 50.7 +0.8**
KOLS *e* pP 11 08 57.6 -0.6
SUW Suwalki 78.44 325 *e*P **P 11 08 51.9 -0.4**
CRVS Cervenica-Dubn 78.51 319 *e*P pP 11 08 59.5 -1.6
CRVS *e* 11 09 09.5
CRVS Cervenica-Dubn 78.51 319 *e*pP pP 11 08 59.5 -1.6
CRVS *e* 11 09 09.5
FINES FINESS Array B 78.77 333 P **P 11 08 53.7 -0.3**
comp=Z,11nm,0.7s,mb4.9,baz=104,slow=7.9,SNR=46
FINES LR LR 11 48 48.8
comp=Z,140nm,21.1s,MS4.3,baz=155,slow=40
KAF Kangasniemi 78.85 333 *e*p **P 11 08 53.1 -1.3**
comp=Z,15nm,0.7s,mb5.0,baz=104,slow=5.2
KAF Kangasniemi 78.85 333 *e*P **P 11 08 53.1 -1.3**
KAF pmax pmax
comp=Z,15nm,0.7s,mb5.0
KECS Kecovo 79.08 319 *e*P pP 11 09 07.9 +3.6
KECS Kecovo 79.08 319 *e*pP pP 11 09 07.9 +3.6
PSZ Piszkesteto 79.38 318 *e*P **P 11 08 57.6 0.0**
PSZ *e* pP 11 09 05.3 -0.6
PSZ pmax pmax
comp=Z,17nm,0.9s,mb5.0
PSZ Piszkesteto 79.38 318 *e*P **P 11 08 57.6 0.0**
comp=Z,16nm,0.9s,mb5.0
PSZ *e* pP 11 09 05.3 -0.6
PKSM Moragy 80.00 316 ⇑*i*P **P 11 09 00.7 -0.3**
PKSM *i* pP 11 09 09.1 -0.2
VYHS Vyhne 80.17 319 *e*P **P 11 09 02.0 +0.2**
VYHS *e* 11 09 07.9
BILL Bilibino 80.44 21 P **P 11 09 02.6 -0.3**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BILL Bilibino 80.44 21 P **P 11 09 02.6 -0.3**
comp=Z,6.4nm,0.8s,mb4.6
SYO Syowa Base 80.78 198 ⇓PcP PcP 11 09 12.3 +0.7
SYO Syowa Base 80.78 198 ⇓pP pP 11 09 16.6 +3.6
OKC Ostrava-Krasne 80.79 320 *e*P **P 11 09 05.5 +0.4**
KEV Kevo 80.90 341 *e*p **P 11 09 04.7 -0.6**
comp=Z,21nm,0.9s,mb5.1
KEV Kevo 80.90 341 *e*P **P 11 09 04.7 -0.6**
KEV pmax pmax
comp=Z,21nm,0.9s,mb5.1
MORC Moravsky Berou 81.17 320 *e*P **P 11 09 07.2 +0.1**
MORC *e* pP 11 09 15.7 +0.3
MORC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
MORC Moravsky Berou 81.17 320 *e*P **P 11 09 07.2 +0.1**
comp=Z,7.5nm,1.2s,mb4.5
MORC *e* pP 11 09 15.7 +0.3
ZST Bratislava 81.28 318 *e*P **P 11 09 08.1 +0.4**
ZST *e* pP 11 09 16.7 +0.7
ARCES ARCESS Array B 81.33 340 P **P 11 09 07.2 -0.4**
comp=Z,7.3nm,0.7s,mb4.7,baz=90,slow=6.1,SNR=20
ARCES LR LR 11 51 40.9
comp=Z,107nm,18.9s,MS4.2,baz=199,slow=40
DPC Dobruska-Polom 82.02 320 *e*P **P 11 09 12.7 +1.2**
DPC *e*pP pP 11 09 20.8 +1.0
KSP Ksiaz 82.09 321 *e*P **P 11 09 12.3 +0.5**
KSP Ksiaz 82.09 321 *e*P **P 11 09 12.2 +0.4**
GROS Grobnik 82.19 316 *e*P **P 11 09 12.7 +0.3**
UPC Upice 82.23 321 *e*P **P 11 09 11.2 -1.4**
UPC *e*pP pP 11 09 20.7 -0.2
BOJS Bojanci 82.28 315 *i*P **P 11 09 13.1 +0.2**
comp=Z,15nm,0.8s,mb5.0
BOJS *i* pP 11 09 21.4 +0.1
PDKS Podkum 82.50 316 *e*P **P 11 09 14.5 +0.4**
PVCC Panska Ves 83.15 320 *e*P **P 11 09 17.9 +0.6**
PVCC *e*pP pP 11 09 26.5 +0.8
AQU L'Aquila 83.41 312 P **P 11 09 19.0 +0.2**
BRG Berggiesshubel 83.58 321 *e*P **P 11 09 19.8 +0.3**
BRG *e* pP 11 09 28.2 +0.3
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG Berggiesshubel 83.58 321 *e*P **P 11 09 19.8 +0.3**
comp=Z,9.1nm,1.0s,mb4.9
BRG *e* pP 11 09 28.2 +0.3
GEC2 GERESS Array S 83.59 319 *e*P **P 11 09 19.6 0.0**
GEC2 pmax pmax
comp=Z,17nm,1.1s,mb5.1
GEC2 GERESS Array S 83.59 319 *e*P **P 11 09 19.6 0.0**
comp=Z,17nm,1.1s,mb5.1
GERES GERESS Array B 83.59 319 P **P 11 09 20.0 +0.4**
comp=Z,5.6nm,0.8s,mb4.8,baz=104,slow=5.5,SNR=41
GERES pP pP 11 09 27.4 -0.6
comp=Z,6.1nm,0.8s,baz=104,slow=5.5,SNR=9.3
PTCC Patocco-Chiusa 83.67 316 *e*P **P 11 09 20.5 +0.4**
KHC Kasperske Hory 83.69 319 *e*P **P 11 09 20.0 -0.1**
ARV Arcevia 83.80 313 *e*P **P 11 09 21.6 +0.8**
FVI Forni Avoltri 84.07 316 *e*P **P 11 09 21.9 -0.2**
WET Wettzell 84.15 319 *e*P **P 11 09 22.3 -0.1**
WET pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
WET Wettzell 84.15 319 *e*P **P 11 09 22.3 -0.1**
comp=Z,10.0nm,1.0s,mb4.9
CLL Collm 84.20 321 *e*P **P 11 09 23.0 +0.3**
CLL Collm 84.20 321 P **P 11 09 23.0 +0.3**
NKC Novy Kostel 84.49 320 *e*P **P 11 09 24.6 +0.5**
NKC *e*pP pP 11 09 33.2 +0.7
CTI Castel Tesino 84.83 316 *e*P **P 11 09 26.8 +0.9**
MOX Moxa 85.04 320 *e*P **P 11 09 27.1 +0.2**
MOX Moxa 85.04 320 *i* P **P 11 09 27.1 +0.2**
GRA1 Grafenberg Arr 85.25 319 *e*P **P 11 09 28.2 +0.2**
comp=Z,12nm,0.8s,mb5.1
GRA1 *e*pP pP 11 09 37.4 +1.1
GRF Grafenberg Arr 85.25 319 *e*P **P 11 09 28.2 +0.2**
GRF *e**PP pP 11 09 37.4 +1.1
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRF Grafenberg Arr 85.25 319 *e*P **P 11 09 28.2 +0.2**
GRF *e**PP pP 11 09 37.4 +1.1
GRF pmax pmax
comp=Z,12nm,0.8s,mb5.1
GRF Grafenberg Arr 85.25 319 *e*P **P 11 09 28.2 +0.2**
comp=Z,12nm,0.8s,mb5.1
GRF *e*pP pP 11 09 37.4 +1.1
NB2 NORSAR Subarra 85.77 331 P **P 11 09 30.2 -0.1**
comp=Z,18nm,1.4s,mb5.1,baz=97,slow=4.8
NB2 NORSAR Subarra 85.77 331 P **P 11 09 30.2 -0.1**
NB2 pmax pmax
comp=Z,18nm,1.4s,mb5.1
NB2 NORSAR Subarra 85.77 331 P **P 11 09 30.2 -0.1**
baz=97,slow=5.1
NOA NORSAR Array B 85.77 331 P **P 11 09 29.8 -0.5**
comp=Z,3.4nm,0.9s,mb4.6,baz=94,slow=5.1,SNR=8.2
NOA LR LR 11 52 16.4
comp=Z,72nm,20.4s,MS4.1,baz=105,slow=39
CLZ Clausthal 85.86 322 *e*P **P 11 09 31.4 +0.5**
CLZ pmax pmax
comp=Z,12nm,0.9s,mb5.1
CLZ Clausthal 85.86 322 *e*P **P 11 09 31.4 +0.5**
comp=Z,12nm,0.9s,mb5.1
BSEG Bad Segeberg 85.96 324 *e*P **P 11 09 32.3 +0.9**
VNDA Vanda 86.97 169 P **P 11 09 36.2 +0.4**
comp=Z,1.3nm,0.7s,mb4.3,baz=290,slow=5.7,SNR=12
TNS Taunus Mts 87.06 320 *e*P **P 11 09 36.8 0.0**
BFO Black Forest 87.13 318 *e*P **P 11 09 37.1 -0.2**
BFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
BFO Black Forest 87.13 318 *e*P **P 11 09 37.1 -0.2**
comp=Z,5.0nm,0.8s,mb4.8
SBA Scott Base 88.07 168 *e*P **P 11 09 42.2 +1.1**
SBA pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
SBA Scott Base 88.07 168 *e*P **P 11 09 42.2 +1.1**
comp=Z,4.9nm,0.8s,mb4.8
LPG La Plagne 88.25 315 *e*P **P 11 09 43.3 +0.6**
comp=Z,8.0nm,0.7s,mb4.8
LPG La Plagne 88.25 315 *e*P **P 11 09 43.3 +0.6**
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
TNA Tin City 90.29 24 *e*P **P 11 09 50.4 -1.4**
comp=Z,1.9nm,0.8s,mb4.5
MAIT Maitri 90.37 199 *e*P **P 11 09 54.9 +2.8**
IMA Indian Mountai 95.89 23 *e*P **P 11 10 18.7 +1.1**
IMA *e* pP 11 10 27.2 +1.2
IMA pmax pmax
comp=Z,15nm,0.7s,mb5.5
IMA Indian Mountai 95.89 23 *e*P **P 11 10 18.7 +1.1**
comp=Z,15nm,0.7s,mb5.5
IMA *e* pP 11 10 27.2 +1.2
COLA College 98.60 23 *i* P **P 11 10 31.4 +1.6**
YKA Yellowknife Ar 111.27 15 P Pdif 11 11 27.1 +1.1
YKA 11 16 00.6
YKA Yellowknife Ar 111.27 15 Pdiff Pdif 11 11 27.0 +1.0
comp=Z,0.1nm,0.6s,baz=326,slow=4.3,SNR=5.7
YKA PKiKP 11 15 25.9
comp=Z,0.3nm,0.7s,baz=324,slow=2.5,SNR=6.2
YKA PP PP 11 16 00.6 -7.3
comp=Z,0.1nm,0.4s,baz=328,slow=6.6,SNR=4.9
YKA Yellowknife Ar 111.27 15 Pdif Pdif 11 11 27.1 +1.0
YKA PKPdf PKPdf 11 15 25.9 -2.2
YKA PP PP 11 16 00.6 -7.3
SCHQ Schefferville 121.48 349 PKP PKPdf 11 15 44.9 -3.4
comp=Z,2.0nm,0.5s,baz=336,slow=2.8,SNR=10.0
SCHQ PP PP 11 17 17.0 -2.6
comp=Z,3.6nm,1.0s,baz=6.8,slow=9.3,SNR=3.8
MSO Missoula 124.28 25 *e*PKP PKPdf 11 15 49.4 -4.5
ULM Lac du Bonnet 126.64 10 PKP PKPdf 11 15 54.0 -4.2
comp=Z,3.7nm,0.6s,baz=356,slow=4.1,SNR=10
ULM Lac du Bonnet 126.64 10 *e*PKP PKPdf 11 15 54.3 -4.0
REDW Red Top Meadow 128.37 25 *e*PKP PKPdf 11 15 58.8 -3.0
PDAR Pinedale Array 129.40 25 PKP PKPdf 11 15 59.7 -4.1
comp=Z,1.1nm,0.6s,slow=1.5,SNR=8.4
DUG Dugway 129.97 29 *e*PKP PKPdf 11 16 01.8 -3.2
MSU Marysvale 131.57 30 *e*PKP PKPdf 11 16 06.2 -1.9
PV10 Paradox Valley 133.20 28 *e*PKP PKPdf 11 16 09.2 -2.0
ANMO Albuquerque 137.19 28 *e*PKP PKPdf 11 16 16.0 -2.5
PLCA Paso Flores 139.94 195 PKP PKPdf 11 16 18.6 -4.8
comp=Z,1.6nm,0.9s,baz=285,slow=4.8,SNR=4.5
MNTX Cornudas Mount 140.36 30 *e*PKP PKPdf 11 16 21.0 -3.4
GDL2 Guadalupe Moun 140.44 28 PKP PKPdf 11 16 20.6 -4.0
TXAR Lajitas Array 143.13 30 PKP PKPdf 11 16 23.5 -5.8
comp=Z,2.0nm,0.9s,baz=41,slow=3.7,SNR=18
TXAR PP PP 11 19 39.1 +0.2
comp=Z,0.4nm,0.7s,baz=270,slow=1.3,SNR=4.0
TXAR Lajitas Array 143.13 30 PKP PKPdf 11 16 23.5 -5.8
TXAR PP PP 11 19 39.1 +0.2
NATX Nacogdoches 144.56 17 PKP PKPdf 11 16 26.0 -5.7
LRAL Lakeview Retre 144.76 5 *e*PKP PKPdf 11 16 26.5 -5.6
LPAZ La Paz 159.43 226 PKP PKPdf 11 16 51.1 -2.8
comp=Z,1.7nm,1.0s,baz=51,slow=4.3,SNR=4.5
LPAZ PKPab PKPab 11 17 29.8 +0.4
comp=Z,1.4nm,0.8s,baz=179,slow=4.5,SNR=4.9

DJA 29 10:57:14.1±0.9, 8.35S×110.51E, h320km, mb4.7/2, MD4.7/4, ML5.2/3, 2C-6D, Error ellipse: s-maj=113.6km s-min=5.8km az=13.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRDI	**Scrawed**	**3.59**	**92**	*i*ePn	P	10 58 18.2	+0.6
	516nm,0.2s						
SRDI				⇓*e*Sn	S	10 59 05.6	-1.6
KELI	**Kelakatan**	**3.94**	**88**	⇓*e*Pn	P	10 58 22.2	+1.0
	194nm,0.2s						
PULI	**Pulasari**	**4.92**	**294**	⇓*e*Pn	P	10 58 34.0	+2.0
RATI	**Rata**	**4.98**	**95**	*i*ePn	P	10 58 34.7	+2.1
	1µm,0.2s						
KEDI	**Kedomdong**	**5.54**	**92**	⇓*e*P	P	10 58 40.2	+1.0
	230nm,0.2s						
KEDI				⇓*e*S	S	10 59 45.5	-0.5
PENI	**Pendagan**	**5.98**	**297**	⇓*e*P	P	10 58 44.6	+0.3
	323nm,0.2s						

IDC 29 11:06:03.6±4.8, 2.92N×98.46E, mb3.5/4, mb1 3.6/4, mb1mx3.4/17, mbtmp3.5/4, Error ellipse: s-maj=282.3km s-min=22.5km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.91**	**124**	P	P	11 13 56.0	-1.8
	0.4nm,0.5s,baz=304,slow=9.1,SNR=8.2						
ASAR	**Alice Springs**	**43.46**	**129**	P	P	11 14 08.9	-1.6
	0.2nm,0.8s,baz=300,slow=7.0,SNR=3.3						
MKAR	**Makanchi Array**	**45.91**	**345**	P	P	11 14 28.6	-1.3
	1.2nm,0.8s,baz=161,slow=8.0,SNR=11						
BVAR	**Borovoye Array**	**55.07**	**340**	P	P	11 15 36.4	-3.2
	0.5nm,0.4s,baz=147,slow=8.9,SNR=4.4						

*BJI **29** 11:08:09.8, 0.00N×97.33E, h30km, mB5.3, mb4.9, Ms4.5, Msz4.2*
*IDC **29** 11:08:13.8±1.1, 0.80N×97.33E, mb4.2/12, mb1 4.3/12, mb1mx4.2/18, mbtmp4.2/12, Error ellipse: s-maj=60.9km s-min=15.1km az=51.0*
*NEIC **29** 11:08:18.4±0.5, 0.83N×97.43E, h30km, mb4.5/11, Error ellipse: s-maj=15.5km s-min=7.9km az=52.0*
ISC 29 11:08:17.0±0.6, 0.85N±0.08×97.46E±0.09, h32km, h32km±.0km: pP-P, n37, σ0s99/38, mb4.5/28, MS4.3/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.44**	**36**	*e*Pn	**Pn**	**11 09 38.1**	**-0.1**
CM31	**Chiang Mai Arr**	**17.56**	**5**	P	**P**	**11 12 19.6**	**-1.6**
KKM	**Kota Kinabalu**	**19.42**	**74**	*e*P	**P**	**11 12 44.8**	**+1.0**
KKM				*e*		11 12 51.9	
JIRN	**Jiri**	**28.77**	**339**	*e*P	**P**	**11 14 15.0**	**+0.8**
	9.4nm,0.5s,mb4.8						
PKI	**Pulchoki**	**28.98**	**338**	*e*P	**P**	**11 14 17.3**	**+1.2**
GUN	**Gumba**	**29.11**	**339**	*e*P	**P**	**11 14 17.9**	**+0.6**
	16nm,0.4s,mb5.1						
DMN	**Daman**	**29.13**	**337**	*e*P	**P**	**11 14 18.7**	**+1.2**
	14nm,0.7s,mb4.8						
KKN	**Kakani**	**29.22**	**337**	*e*P	**P**	**11 14 19.4**	**+1.1**
KOLN	**Koldanda**	**29.89**	**335**	*e*P	**P**	**11 14 24.4**	**+0.1**
	16nm,0.8s,mb4.8						
ENH	**Enshi**	**31.42**	**20**	*e*P	**P**	**11 14 35.9**	**-1.8**
	8.4nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.51**	**126**	P	**P**	**11 14 55.3**	**-0.8**
	2.9nm,0.7s,mb4.3,baz=293,slow=3.9,SNR=5.2						
XAN	**Xi'an**	**34.72**	**17**	P	**P**	**11 15 05.0**	**-1.4**
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
GTA	**Gaotai**	**38.44**	**3**	*e*P	**P**	**11 15 37.5**	**-0.2**
GTA				AP	pP	11 15 47.0	-0.2
GTA				XP	sP	11 15 51.0	-0.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.63**	**122**	P	**P**	**11 16 04.3**	**0.0**
	comp=Z,1.7nm,0.5s,mb3.9,baz=302,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**41.63**	**122**	*e*P	**P**	**11 16 03.2**	**-1.2**
	comp=Z,7.5nm,0.8s,mb4.4						
WB2	**Warramunga Ar**	**41.64**	**122**	*e*P	**P**	**11 16 04.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**41.82**	**16**	*e*P	**P**	**11 16 07.0**	**+1.4**
HHC				AP	pP	11 16 16.5	+1.4
HHC				XP	sP	11 16 19.5	+0.4
HHC				PP	PP	11 17 46.5	+1.1
HHC				SCP		11 21 46.0	
HHC				S	**S**	**11 22 23.5**	**+2.6**
HHC				SS	SS	11 25 28.8	+6.5
HHC				SCS	ScS	11 26 03.8	-0.1
HHC				AMB	AMB		
	comp=Z,29nm,0.4s,mb5.3						
HHC				AMB	AMB		
	comp=Z,180nm,14.9s						
BJT	**Baijiatuao**	**42.55**	**21**	*e*P	**P**	**11 16 12.6**	**+1.0**
	comp=Z,11nm,0.6s,mb4.8						
BJI	**Beijing**	**42.57**	**21**	*e*P	**P**	**11 16 12.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,14nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**42.98**	**127**	P	**P**	**11 16 15.7**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=297,slow=7.6,SNR=21						
WMQ	**Urumqi**	**43.66**	**350**	*e*P	**P**	**11 16 20.5**	**-0.1**
WMQ				AP	pP	11 16 30.0	-0.1
WMQ				PP	PP	11 18 04.0	0.0
WMQ				PPP	PPP	11 18 41.0	+0.1
WMQ				*e*S	**S**	**11 22 47.0**	**-0.8**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WMQ				LR	LR		
	comp=N,250nm,18.0s,MS4.4						
WMQ				LR	LR		
	comp=E,374nm,22.2s,MS4.4						
WMQ				LR	LR		
	comp=Z,372nm,21.4s,MS4.3						
AAK	**Ala-Archa**	**46.42**	**337**	P	**P**	**11 16 40.8**	**-1.9**
	comp=Z,2.6nm,0.9s,mb4.2						
SONM	**Songino Array**	**47.44**	**8**	P	**P**	**11 16 50.9**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=189,slow=9.8,SNR=17						
ULN	**Ulaanbaatar**	**47.57**	**9**	*e*P	**P**	**11 16 50.9**	**-0.8**
	comp=Z,2.3nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**47.65**	**346**	P	**P**	**11 16 52.2**	**0.0**
	comp=Z,4.8nm,0.5s,mb4.8,baz=159,slow=9.1,SNR=68						
KURK	**Kurchatov**	**52.20**	**345**	*e*P	**P**	**11 17 26.3**	**-0.8**
	comp=Z,4.8nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**52.93**	**132**	P	**P**	**11 17 33.8**	**+1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=293,slow=14,SNR=4.4						
BVAR	**Borovoye Array**	**56.67**	**341**	P	**P**	**11 17 58.4**	**-1.2**
	comp=Z,3.2nm,0.9s,mb4.4,baz=143,slow=7.4,SNR=12						
CHKZ	**Chkalovo**	**57.14**	**341**	*e*P	**P**	**11 18 01.9**	**-1.2**
	comp=Z,5.0nm,0.9s,mb4.5						
CHKZ				*e*		11 18 08.0	
AKASG	**Malin Array Be**	**75.69**	**322**	P	**P**	**11 20 00.0**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=83,slow=5.0,SNR=4.3						
FINES	**FINESS Array B**	**80.43**	**332**	P	**P**	**11 20 27.1**	**+0.2**
	comp=Z,11nm,0.5s,mb4.0,baz=108,slow=6.0,SNR=6.0						
ARCES	**ARCESS Array B**	**82.95**	**340**	P	**P**	**11 20 40.5**	**+0.6**
	comp=Z,6.1nm,1.2s,mb4.5,baz=90,slow=3.6,SNR=7.5						
ARCES	**ARCESS Array B**	**82.95**	**340**	P	**P**	**11 20 40.5**	**+0.6**
GERES	**GERESS Array B**	**85.25**	**319**	P	**P**	**11 20 53.2**	**+1.3**
	comp=Z,0.3nm,0.3s,mb4.0,baz=45,slow=2.8,SNR=3.4						
NB2	**NORSAR Subarra**	**87.44**	**331**	P	**P**	**11 21 02.4**	**0.0**
	comp=Z,1.5nm,0.9s,mb4.2,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.44**	**331**	P	**P**	**11 21 02.6**	**+0.3**
	comp=Z,0.9nm,0.7s,mb4.1,baz=94,slow=4.8,SNR=4.2						
TXAR	**Lajitas Array**	**143.83**	**32**	PKP	PKPdf	11 27 50.2	-4.8
	comp=Z,0.2nm,0.6s,slow=1.3,SNR=3.7						

*IDC **29** 11:09:52.8±2.1, 1.17N×96.79E, mb4.0/7, mb1 4.1/7, mb1mx3.9/17, mbtmp4.0/7, Error ellipse: s-maj=101.4km s-min=19.6km az=56.0*
*NEIC **29** 11:09:58.3±0.7, 1.42N×97.12E, h30km, mb4.4/7, Error ellipse: s-maj=20.5km s-min=10.5km az=60.0*
ISC 29 11:09:56.3±0.8, 1.4N±0.1×97.1E±0.1, h30km, n15, σ0s90/15, mb4.1/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.22**	**43**	P	**Pn**	**11 11 14.3**	**-0.1**
ENH	**Enshi**	**31.00**	**21**	P	**P**	**11 16 11.8**	**-1.8**
	9.5nm,0.8s,mb4.7						
BJT	**Baijiatuao**	**42.14**	**22**	P	**P**	**11 17 48.6**	**+0.8**
	8.1nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**42.23**	**122**	P	**P**	**11 17 49.6**	**+0.7**
	0.6nm,0.5s,mb3.5,baz=302,slow=9.0,SNR=4.9						
WRAB	**Tennant Creek**	**42.24**	**122**	P	**P**	**11 17 49.6**	**+0.7**
	13nm,1.2s,mb4.4						
ASAR	**Alice Springs**	**43.61**	**127**	P	**P**	**11 17 59.9**	**-0.2**
	0.8nm,0.8s,mb3.5,baz=296,slow=7.4,SNR=3.9						
AAK	**Ala-Archa**	**45.75**	**337**	*e*P	**P**	**11 18 16.2**	**-0.8**
	1.5nm,0.7s,mb4.0						
SONM	**Songino Array**	**46.92**	**9**	P	**P**	**11 18 27.0**	**+0.9**
	2.8nm,0.7s,mb4.3,baz=191,slow=8.9,SNR=8.4						
MKAR	**Makanchi Array**	**47.00**	**346**	P	**P**	**11 18 28.1**	**+1.4**
	3.4nm,0.8s,mb4.3,baz=153,slow=8.1,SNR=5.6						
ULN	**Ulaanbaatar**	**47.05**	**9**	*e*P	**P**	**11 18 26.9**	**-0.2**
	3.2nm,0.9s,mb4.2						
KURK	**Kurchatov**	**51.55**	**345**	P	**P**	**11 19 02.8**	**+1.0**
	1.2nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**53.58**	**132**	P	**P**	**11 19 15.8**	**-1.3**
	2.5nm,1.0s,mb4.1,baz=356,slow=17,SNR=2.9						
BVAR	**Borovoye Array**	**56.00**	**341**	P	**P**	**11 19 33.9**	**-0.6**
	0.5nm,0.4s,mb3.9,baz=129,slow=9.2,SNR=2.8						
CHKZ	**Chkalovo**	**56.48**	**341**	*e*P	**P**	**11 19 36.9**	**-1.0**
	2.0nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**82.29**	**340**	P	**P**	**11 22 16.4**	**+0.3**
	2.1nm,0.8s,mb4.1,baz=76,slow=7.4,SNR=3.6						

IDC 29 11:19:23.6±4.6, 1.63N×97.84E, mb3.5/4, mb1 3.6/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=260.2km s-min=22.8km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.72**	**123**	P	P	11 27 14.9	-1.4
	0.3nm,0.5s,baz=300,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**43.15**	**128**	P	P	11 27 26.0	-2.0
	0.3nm,0.5s,baz=300,slow=7.9,SNR=4.0						
MKAR	**Makanchi Array**	**46.99**	**345**	P	P	11 27 57.1	-1.2
	1.0nm,0.7s,baz=160,slow=8.0,SNR=5.5						
BVAR	**Borovoye Array**	**56.06**	**340**	P	P	11 29 03.7	-3.0
	0.3nm,0.4s,baz=135,slow=6.1,SNR=3.0						

IDC 29 11:22:04.5±6.2, 2.82N×96.45E, mb3.3/3, mb1 3.4/3, mb1mx3.3/16, mbtmp3.3/3, Error ellipse: s-maj=309.3km s-min=30.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.53**	**123**	P	P	11 30 10.2	-1.8
	0.3nm,0.4s,baz=302,slow=9.2,SNR=6.2						
ASAR	**Alice Springs**	**44.97**	**128**	P	P	11 30 21.9	-1.7
	0.2nm,0.5s,baz=298,slow=8.1,SNR=4.3						
MKAR	**Makanchi Array**	**45.50**	**346**	P	P	11 30 25.6	-1.9
	0.3nm,0.6s,baz=162,slow=8.5,SNR=3.7						

*MOS **29** 11:28:05.1±1.3, 1.68N×96.39E, h33km, mb4.8/9, Error ellipse: s-maj=30.1km s-min=13.1km az=98.4*
*IDC **29** 11:28:05.1±0.9, 2.03N×96.51E, mb4.4/12, mb1 4.5/12, mb1mx4.3/18, mbtmp4.4/12, Error ellipse: s-maj=53.5km s-min=14.4km az=50.0*
*BJI **29** 11:28:07.7, 2.01N×96.74E, h33km, mB5.1, mb4.8, Ms4.5, Msz4.1*
*NEIC **29** 11:28:09.8±0.5, 2.09N×96.63E, h30km, mb4.8/16, Error ellipse: s-maj=13.0km s-min=6.5km az=47.0*
ISC 29 11:28:08.4±0.5, 2.06N±0.06×96.64E±0.06, h33km, (h30km±.8km: pP-P), n70, σ0s99/75, mb4.7/42, MS4.1/5, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.04**	**60**	P	**P**	**11 29 23.6**	**-0.1**
KULM	**Kulim**	**5.13**	**51**	*e*P	**P**	**11 29 24.5**	**-0.3**
KSM	**Kuching**	**13.67**	**92**	*e*P	**P**	**11 31 23.7**	**+1.2**
CM31	**Chiang Mai Arr**	**16.45**	**8**	*e*P	**P**	**11 31 59.4**	**+1.0**
	24nm,0.7s						
KKM	**Kota Kinabalu**	**19.92**	**78**	*e*P	**P**	**11 32 39.1**	**-1.2**
KKM	**Kota Kinabalu**	**19.92**	**78**	P	**P**	**11 32 41.0**	**+0.7**
KMI	**Kunming**

comp=Z,20nm,0.8s,mb4.8
GKN Gorkha 28.23 337 *e*P **P 11 34 00.6 -0.1**
KOLN Koldanda 28.45 335 *e*P **P 11 34 02.9 +0.4**
comp=Z,30nm,0.7s,mb5.1
ENH Enshi 30.59 22 *e*P **P 11 34 18.2 -3.4**
comp=Z,5.0nm,0.4s,mb4.7
LZH Lanzhou 34.51 10 *e*P **P 11 34 54.5 -1.2**
LZH AP pP 11 35 03.5 -1.9
LZH XP sP 11 35 08.3 -1.4
LZH PP PP 11 36 15.5 +3.3
LZH AMB AMB
comp=Z,26nm,1.1s,mb5.1
FITZ Fitzroy Crossi 34.88 126⇓*i*P **P 11 34 58.6 -0.4**
comp=Z,5.9nm,0.6s,mb4.7
FITZ Fitzroy Crossi 34.88 126 P **P 11 34 58.8 -0.3**
comp=Z,7.6nm,0.6s,mb4.8,baz=317,slow=3.3,SNR=13
NJ2 Nanjing 36.44 33 *e*P **P 11 35 16.0 +3.9**
NJ2 XP sP 11 35 30.0 +3.9
NJ2 S **S 11 40 59.0 +8.0**
NJ2 AMB AMB
comp=Z,440nm,4.0s
NJ2 LR LR
comp=N,1μm,12.7s,MS4.8
NJ2 LR LR
comp=E,190nm,16.6s,MS4.8
NJ2 LR LR
comp=Z,1μm,13.3s,MS4.8
SSE Sheshan 37.05 36 P **P 11 35 16.8 -0.4**
SSE S **S 11 41 03.5 +3.2**
SSE XS 11 41 20.3
SSE AMB AMB
comp=Z,23nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,59nm,3.8s
SSE LR LR
comp=N,84nm,19.9s,MS3.6
SSE LR LR
comp=E,54nm,19.8s,MS3.6
SSE LR LR
comp=Z,105nm,17.7s,MS3.7
GTA Gaotai 37.29 4⇑P **P 11 35 19.0 -0.2**
GTA AP pP 11 35 28.0 -0.9
GTA XP sP 11 35 31.8 -1.4
GTA PP PP 11 36 46.5 -0.5
GTA S **S 11 41 04.8 +0.9**
GTA XS 11 41 19.0
GTA AMB AMB
comp=Z,28nm,0.8s,mb5.1
GTA AMB AMB
comp=Z,46nm,5.3s
GTA LR LR
comp=N,136nm,17.9s,MS3.9
GTA LR LR
comp=E,80nm,18.6s,MS3.9
GTA LR LR
comp=Z,220nm,14.1s,MS4.1
HHC Hu-ho-hao-te 40.90 17 *e*P **P 11 35 49.8 +0.6**
HHC AP pP 11 35 59.3 +0.2
HHC XP sP 11 36 03.5 +0.3
HHC PP PP 11 37 28.3 +1.7
HHC PCP PcP 11 37 50.5 +0.5
HHC PCS 11 41 38.3
HHC S **S 11 41 58.5 +0.1**
HHC XS 11 42 14.8
HHC SS SS 11 44 58.0 +2.0
HHC SCS ScS 11 45 49.5 +0.1
HHC AMB AMB
comp=Z,12nm,0.4s,mb4.9
HHC AMB AMB
comp=Z,216nm,4.6s
HHC LR LR
comp=N,112nm,4.0s
HHC LR LR
comp=E,158nm,3.3s
HHC LR LR
comp=Z,77nm,4.1s
BJT Baijiatuau 41.74 23 *e*P **P 11 35 56.5 +0.3**
comp=Z,18nm,0.9s,mb4.7
BJI Beijing 41.76 23 *e*P **P 11 35 56.5 +0.2**
BJI AMB AMB
comp=Z,17nm,1.0s,mb4.6
WMQ Urumqi 42.34 350 *e*P **P 11 36 01.3 +0.3**
WMQ XP sP 11 36 14.8 -0.2
WMQ PP PP 11 37 43.0 +1.1
WMQ *e*S **S 11 42 19.8 +0.3**
WMQ AMB AMB
comp=Z,5.0nm,1.0s,mb4.1
WMQ AMB AMB
comp=Z,68nm,4.1s
WMQ LR LR
comp=N,376nm,19.2s,MS4.4
WMQ LR LR
comp=E,323nm,21.5s,MS4.4
WMQ LR LR
comp=Z,204nm,20.7s,MS4.0
WRA Warramunga Arr 42.96 122 P **P 11 36 06.7 +0.2**
comp=Z,6.4nm,0.6s,mb4.5,baz=300,slow=9.3,SNR=68
WRAB Tennant Creek 42.97 122 *i*P **P 11 36 04.0 -2.5**
WRAB Tennant Creek 42.97 122 *e*P **P 11 36 06.8 +0.3**
comp=Z,25nm,1.1s,mb4.8
WRAB *e* 11 36 13.9
WB2 Warramunga Arr 42.97 122⇓*i*P **P 11 36 06.9 +0.4**
ASPA Alice Springs 44.35 127 *e*P **P 11 36 18.5 +0.8**
ASAR Alice Springs 44.36 127 P **P 11 36 18.4 +0.7**
comp=Z,2.6nm,0.7s,mb4.1,baz=301,slow=8.1,SNR=34
UCH Uchtor 44.64 337 P **P 11 36 21.2 +1.5**
SNR=12
TKM2 Tokmak 2 44.81 338 P **P 11 36 22.4 +1.3**
SNR=8.9
AML Almayashu 44.89 336 P **P 11 36 23.2 +1.5**
SNR=11
AAK Ala-Archa 44.99 337 *i*P **P 11 36 22.5 0.0**
AAK pmax pmax
comp=Z,10.0nm,1.7s,mb4.4
AAK Ala-Archa 44.99 337 *e*P **P 11 36 22.4 -0.1**
comp=Z,5.7nm,1.0s,mb4.4
EKS2 Erkin-Say 45.30 336 P **P 11 36 26.4 +1.4**
SNR=8.9
USP Ospenovka 45.53 337 P **P 11 36 27.6 +0.8**
SNR=16
MKAR Makanchi Array 46.28 346 P **P 11 36 32.5 -0.1**
comp=Z,18nm,0.8s,mb5.1,baz=160,slow=7.9,SNR=176
SONM Songino Array 46.37 9 P **P 11 36 33.7 +0.3**
comp=Z,7.5nm,0.8s,mb4.7,baz=188,slow=8.6,SNR=69
ULN Ulaanbaatar 46.51 10 *i*P **P 11 36 34.5 +0.1**
ULN Ulaanbaatar 46.51 10 *e*P **P 11 36 34.0 -0.5**
comp=Z,7.5nm,0.8s,mb4.7
ZAK Zakamensk 48.48 6⇑*i*P **P 11 36 49.6 -0.2**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
CN2 Changchun 48.80 28 *e*P **P 11 36 51.8 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.7
TLY Talaya 49.80 6 *i*P **P 11 37 00.0 0.0**
TLY pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KURK Kurchatov 50.82 345 *i*P **P 11 37 07.5 -0.3**
KURK Kurchatov 50.82 345 *e*P **P 11 37 07.3 -0.5**
comp=Z,12nm,0.8s,mb4.9
HIA Hailar 51.01 19 *e*P **P 11 37 08.2 -1.1**
comp=Z,16nm,1.0s,mb4.9
NVS Novosibirsk 53.74 350⇑*i*P **P 11 37 28.7 -0.9**
NVS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
NVS pmax pmax
comp=N,12nm,0.9s
NVS pmax pmax
comp=E,6.0nm,0.6s
STKA Stephens Creek 54.34 132 P **P 11 37 35.2 +0.9**
comp=E,2.7nm,0.9s,mb4.2,baz=13,slow=10,SNR=4.2
BVAR Borovoye Array 55.26 341 P **P 11 37 39.7 -1.0**
comp=E,4.4nm,0.7s,mb4.6,baz=135,slow=8.4,SNR=23
KLR Kul'dur 55.74 27 *e*P **P 11 37 40.2 -4.0**
BOD Bodaibo 57.27 11 *e*P **P 11 37 53.4 -1.7**
BOD pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
ARU Arti 62.18 337 *e*P **P 11 38 28.1 -0.7**
ARU *e* 11 40 45.9
ARU *e*S **S 11 46 55.2 +4.9**
ARU *e*SS SS 11 51 00.6 +5.4
KIV Kislovodsk 63.29 319 *i*P **P 11 38 34.6 -1.8**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
YAK Yakutsk 64.76 17 *e*P **P 11 38 43.5 -2.1**
YAK pmax pmax
comp=Z,15nm,0.9s,mb5.0
YAK Yakutsk 64.76 17 *e*P **P 11 38 43.4 -2.2**
comp=Z,40nm,0.9s,mb5.5
SOC Sochi 65.11 318 *e*P **P 11 38 43.2 -5.0**
SOC *e* 11 39 16.6
SOC *e* 11 41 07.3
SOC *e*PPP PPP 11 42 44.2 -3.5
SOC *e*S S 11 47 24.4 -2.5
SOC *e*SS SS 11 51 36.9 -4.3
SOC pmax pmax
comp=Z,62nm,1.3s,mb5.5
SOC pmax pmax
comp=N,30nm,0.8s
SOC pmax pmax
comp=E,52nm,1.1s
BRTR Keskin Array B 68.12 312 P **P 11 39 07.0 -0.3**
comp=E,0.9nm,0.8s,mb3.8,baz=135,slow=7.0,SNR=4.4
MA2 Magadan 70.81 26 *e*P **P 11 39 23.0 -0.4**
MA2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MA2 Magadan 70.81 26 *e*P **P 11 39 22.7 -0.7**
comp=Z,5.3nm,0.8s,mb4.5
OBN Obninsk 71.60 328 *e*P **P 11 39 26.6 -1.6**
OBN *e* 11 42 12.7
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 72.44 10 *e*P **P 11 39 30.0 -3.0**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
AKASG Malin Array Be 74.24 322 P **P 11 39 41.8 -2.1**
comp=Z,0.2nm,0.3s,baz=99,slow=5.0,SNR=4.7
FINES FINESS Array B 78.38 333 P **P 11 40 10.7 +0.4**
comp=Z,1.4nm,0.7s,mb4.0,baz=90,slow=9.5,SNR=6.0
BILL Bilibino 80.56 21 *i*P **P 11 40 17.6 -1.1**
BILL pmax pmax
comp=Z,7.0nm,2.5s,mb4.2
ARCES ARCESS Array B 81.54 340 P **P 11 40 24.8 +1.0**
comp=Z,5.7nm,1.0s,mb4.5,baz=76,slow=5.0,SNR=11
GERES GERESS Array B 83.80 319 P **P 11 40 37.4 +1.5**
comp=Z,1.3nm,0.8s,mb4.1,baz=90,slow=6.7,SNR=7.9
TXAR Lajitas Array 143.22 30 PKP PKPdf 11 47 39.5 -0.3
comp=Z,0.3nm,0.5s,baz=320,slow=0.7,SNR=4.6

IDC 29 11:47:54.5±4.0, 1.26N×97.68E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=163.9km s-min=23.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.66**	**122**	P	P	11 55 43.6	-3.1
	0.3nm,0.3s,baz=300,slow=9.1,SNR=9.2						
ASAR	**Alice Springs**	**43.05**	**127**	P	P	11 55 57.8	-0.3
	0.4nm,0.7s,baz=299,slow=7.5,SNR=7.3						
SONM	**Songino Array**	**47.01**	**8**	P	P	11 56 28.2	-1.2
	0.4nm,0.4s,baz=187,slow=9.5,SNR=5.7						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	11 56 29.2	-2.5
	0.6nm,0.7s,baz=160,slow=8.2,SNR=7.5						

IDC 29 11:57:06.9±4.3, 4.33N×97.00E, mb3.4/3, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=162.6km s-min=30.3km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.91**	**125**	P	P	12 05 15.6	-1.8
	0.2nm,0.4s,baz=302,slow=9.1,SNR=5.6						
SONM	**Songino Array**	**44.09**	**9**	P	P	12 05 16.8	-1.7
	0.8nm,0.8s,baz=187,slow=9.8,SNR=6.6						
MKAR	**Makanchi Array**	**44.18**	**346**	P	P	12 05 17.4	-1.8
	0.6nm,0.8s,baz=155,slow=8.1,SNR=6.1						

IDC 29 12:03:19.9±3.5, 1.28N×97.52E, mb3.5/5, mb1 3.6/5, mb1mx3.5/16, mbtmp3.5/5, Error ellipse: s-maj=146.6km s-min=22.6km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.81**	**122**	P	P	12 11 11.2	-2.1
	0.2nm,0.3s,baz=300,slow=9.0,SNR=6.8						
ASAR	**Alice Springs**	**43.19**	**127**	P	P	12 11 22.6	-1.9
	0.3nm,0.9s,baz=296,slow=7.7,SNR=3.4						
SONM	**Songino Array**	**47.01**	**8**	P	P	12 11 53.4	-1.3
	0.7nm,0.7s,baz=195,slow=9.3,SNR=6.3						
MKAR	**Makanchi Array**	**47.24**	**346**	P	P	12 11 54.2	-2.4
	0.4nm,0.6s,baz=161,slow=7.2,SNR=6.5						
STKA	**Stephens Creek**	**53.17**	**122**	P	P	12 12 40.6	-1.6
	3.3nm,1.2s,baz=301,slow=12,SNR=3.2						

IDC 29 12:06:18.8±3.9, 0.82N×98.49E, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, Error ellipse: s-maj=158.9km s-min=24.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.74**	**122**	P	P	12 14 00.9	-2.4
	0.6nm,0.5s,baz=304,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	**42.14**	**128**	P	P	12 14 13.7	-1.2
	0.3nm,0.8s,baz=311,slow=8.3,SNR=3.3						
SONM	**Songino Array**	**47.33**	**7**	P	P	12 14 56.0	-0.2
	1.6nm,1.2s,baz=189,slow=7.0,SNR=5.0						
MKAR	**Makanchi Array**	**47.93**	**345**	P	P	12 14 57.6	-3.3
	0.7nm,0.6s,baz=162,slow=7.4,SNR=6.9						

IDC 29 12:17:12.2±3.2, 1.20N×97.32E, mb3.8/5, mb1 3.9/5, mb1mx3.7/15, mbtmp3.8/5, Error ellipse: s-maj=134.9km s-min=21.3km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.93**	**122**	P	P	12 25 04.8	-1.8
	0.7nm,0.5s,baz=300,slow=9.1,SNR=14						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	12 25 16.1	-1.7
	0.4nm,0.6s,baz=296,slow=7.9,SNR=6.8						
SONM	**Songino Array**	**47.11**	**8**	P	P	12 25 46.2	-1.7
	0.5nm,0.4s,baz=190,slow=9.8,SNR=8.6						
MKAR	**Makanchi Array**	**47.27**	**346**	P	P	12 25 47.1	-2.1
	0.8nm,0.5s,baz=160,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**53.26**	**132**	P	P	12 26 33.0	-2.2
	0.9nm,0.5s,baz=310,slow=7.9,SNR=4.1						

IDC 29 12:18:00.5±3.2, 1.45N×97.35E, mb3.9/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.9/5, Error ellipse: s-maj=133.7km s-min=21.6km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.04**	**122**	P	P	12 25 53.7	-2.1
	1.1nm,0.6s,baz=301,slow=9.2,SNR=6.8						
ASAR	**Alice Springs**	**43.43**	**127**	P	P	12 26 05.2	-1.8
	0.7nm,0.8s,baz=297,slow=8.2,SNR=4.7						
SONM	**Songino Array**	**46.87**	**8**	P	P	12 26 32.7	-1.5
	2.0nm,0.8s,baz=191,slow=9.1,SNR=12						
MKAR	**Makanchi Array**	**47.04**	**346**	P	P	12 26 33.3	-2.2
	1.1nm,0.6s,baz=159,slow=8.9,SNR=9.0						
STKA	**Stephens Creek**	**53.41**	**132**	P	P	12 27 22.7	-1.8
	1.5nm,0.7s,baz=311,slow=11,SNR=2.3						

SKHL 29 12:19:51.3±0.4, 56.09N×124.95E, h15km, mb3.8/5, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KROS	**Kirovskiy**	**2.02**	**144**	*e*Pn	Pn	12 20 24.6	-0.8
KROS				⇓*i*Pg	Pg	12 20 28.6	-3.2
KROS				AMB	AMB	12 20 28.9	
	30nm,0.4s						
KROS				AMB	AMB	12 20 28.9	
	18nm,0.4s						
KROS				AMB	AMB	12 20 28.9	
	40nm,0.4s						
KROS				*e*Sn	Sn	12 20 51.0	+0.5
KROS				*i* Sg	Sg	12 20 55.3	-3.5
KROS				A		12 20 57.3	
	49nm,0.4s						
KROS				A		12 20 57.3	
	77nm,0.4s						
KROS				A		12 20 57.3	
	37nm,0.4s						
BMKR	**Bomnak**	**2.62**	**120**	*e*Pn	Pn	12 20 32.5	-1.3
BMKR				*e*Pg	Pg	12 20 38.3	-5.3
BMKR				AMB	AMB	12 20 38.7	
	15nm,0.4s						
BMKR				*e*rx	rx	12 20 41.5	
BMKR				*e*Sg	Sg	12 21 12.9	-5.6
BMKR				A		12 21 17.6	
	63nm,0.3s						
BMKR				A		12 21 17.6	
	95nm,0.3s						
ZEA	**Zeya**	**2.71**	**150**	*e*Pg	Pg	12 20 39.5	-5.9
ZEA				AMB	AMB	12 20 41.2	
	29nm,0.4s						
ZEA				*e*rx	rx	12 20 44.1	
ZEA				*e*Sg	Sg	12 21 14.6	-6.9
ZEA				A		12 21 18.9	
	42nm,0.4s						
ZEA				A		12 21 18.9	
	58nm,0.4s						
ZEA				A		12 21 18.9	
	25nm,0.4s						
TUP	**Tupik**	**3.31**	**242**	*e*Pn	Pn	12 20 44.0	+0.3
TUP				*e*Pg	Pg	12 20 51.6	-5.8
TUP				AMB	AMB	12 20 54.4	
	7.0nm,0.3s						
TUP				*e*Sn	Sn	12 21 23.4	+0.3
TUP				*e*Sg	Sg	12 21 34.7	-6.9
TUP				A		12 21 38.9	
	20nm,0.5s						
YASR	**Yasnyy**	**3.31**	**147**	*e*Pn	Pn	12 20 42.7	-1.0
YASR				*e*Pg	Pg	12 20 50.9	-6.6
YASR				AMB	AMB	12 20 53.2	
	8.0nm,0.5s						
YASR				*e*Sg	Sg	12 21 34.5	-7.1
YASR				A		12 21 38.3	
	16nm,0.5s						
EKMR	**Ekimchan**	**5.55**	**120**	*e*rx	rx	12 22 37.5	
EKMR				*e*Sg	Sg	12 22 43.5	-13
EKMR				A		12 22 51.0	
	14nm,0.9s						

IDC 29 12:23:26.0±3.7, 1.49N×97.71E, mb3.5/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=152.2km s-min=24.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.75**	**123**	P	P	12 31 17.4	-1.6
	0.5nm,0.7s,baz=302,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**43.16**	**128**	P	P	12 31 28.6	-1.9
	0.3nm,0.6s,baz=300,slow=7.9,SNR=4.7						
SONM	**Songino Array**	**46.77**	**8**	P	P	12 31 57.5	-1.5
	0.4nm,0.4s,baz=192,slow=11,SNR=6.3						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	12 31 59.5	-2.1
	0.5nm,0.5s,baz=161,slow=9.1,SNR=14						

*IDC **29** 12:30:13.3±2.1, 2.76N×96.30E, mb3.9/8, mb1 4.0/8, mb1mx3.9/17, mbtmp3.9/8, Error ellipse: s-maj=103.7km s-min=16.8km az=57.0*
*NEIC **29** 12:30:18.0±0.7, 2.73N×96.34E, h30km, mb4.2/4, Error ellipse: s-maj=21.8km s-min=10.3km az=56.0*
ISC 29 12:30:15.9±0.9, 2.7N±0.1×96.3E±0.1, h30km, n14, σ0°72/14, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.01**	**59**	*e*P	**Pn**	**12 31 31.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**35.54**	**127**	P	**P**	**12 37 12.3**	**-0.3**
	2.9nm,0.8s,mb4.2,baz=325,slow=3.3,SNR=4.3						
WRA	**Warramunga Arr**	**43.60**	**123**	P	**P**	**12 38 20.0**	**+0.5**
	1.3nm,0.5s,mb3.9,baz=301,slow=9.3,SNR=13						
WRAB	**Tennant Creek**	**43.60**	**123**	*e*P	**P**	**12 38 19.1**	**-0.4**
	2.3nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**45.02**	**128**	P	**P**	**12 38 31.6**	**+0.6**
	0.8nm,0.5s,mb3.8,baz=299,slow=7.9,SNR=19						
MKAR	**Makanchi Array**	**45.55**	**347**	P	**P**	**12 38 34.5**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=162,slow=7.5,SNR=19						
SONM	**Songino Array**	**45.77**	**9**	P	**P**	**12 38 36.4**	**-0.1**
	0.4nm,0.5s,mb3.6,baz=191,slow=8.6,SNR=5.8						
ULN	**Ulaanbaatar**	**45.91**	**10**	*e*P	**P**	**12 38 37.0**	**-0.6**
	1.2nm,0.7s,mb3.9						
KURK	**Kurchatov**	**50.09**	**345**	P	**P**	**12 39 12.7**	**+2.5**
	1.8nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**54.52**	**341**	P	**P**	**12 39 43.3**	**0.0**
	0.4nm,0.4s,mb3.8,baz=129,slow=9.2,SNR=3.5						
CHKZ	**Chkalovo**	**55.00**	**342**	*e*P	**P**	**12 39 45.9**	**-0.9**
	3.4nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**55.03**	**132**	P	**P**	**12 39 47.0**	**-0.4**
	0.9nm,0.6s,mb4.0,baz=347,slow=14,SNR=4.6						
STKA	**Stephens Creek**	**55.03**	**132**	P	**P**	**12 39 47.0**	**-0.4**
ARCES	**ARCESS Array B**	**80.81**	**340**	P	**P**	**12 42 28.1**	**+0.2**
	2.7nm,0.8s,mb4.2,baz=7.1,slow=9.8,SNR=4.7						

JSN 29 12:31:27.0±1.0, 17.75N×78.70W, MD3.9, 1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCJ	**Malvern**	**0.98**	**80**	*e*S	Sg	12 31 58.1	-1.4
STH	**Stony Hill**	**1.83**	**80**	*e*P	Pn	12 31 57.6	-2.3
STH				*i* S	Sn	12 32 21.9	-2.2
GWJ	**Greenwich**	**1.90**	**80**⇓	*e*P	Pn	12 31 59.6	-1.4

*ATH **29** 12:34:13.3, 40.02N×19.93E, h10km±1km, MD3.5/5*
*NEIC **29** 12:34:13.9, 39.96N×19.97E, h10km, MD3.5(ATH), After ATH.*
*THE **29** 12:34:13.9, 39.87N×19.92E, h10km, ML3.3*
*CSEM **29** 12:34:14.5±0.2, 39.98N×19.94E, h2km, MD3.5, Error ellipse: s-maj=4.6km s-min=3.3km az=94.0*
ISC 29 12:34:14.7±0.5, 39.93N±0.03×19.95E±0.04, h10km, n25, σ1°18/41, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.06**	**144**	*i* Pg	**Pg**	**12 34 16.4**	**-0.5**
SRN				*i* Sg	**Sg**	**12 34 18.1**	**-0.2**
KEK	**Kerkira**	**0.25**	**209**	*e*PB	**Pb**	**12 34 19.7**	**-1.1**
KEK				*e*SB	**Sb**	**12 34 24.5**	**-0.3**
TPE	**Tepelena**	**0.37**	**7**	*i* Pg	**Pg**	**12 34 20.4**	**-1.9**
TPE				*i* Sg	**Sg**	**12 34 28.1**	**+0.8**
LSK	**Leskovik**	**0.54**	**66**	*i* Pg	**Pg**	**12 34 23.7**	**-2.0**
LSK				*i* Sg	**Sg**	**12 34 31.9**	**-1.1**
JAN	**Janina**	**0.74**	**111**	*e*PG	**Pg**	**12 34 28.0**	**-1.7**
JAN				*e*SB	**Sb**	**12 34 39.1**	**-0.1**
KBN	**Korca**	**0.94**	**42**	*i* Pg	**Pg**	**12 34 27.2**	**-6.4**
KBN				*i* Sg	**Sg**	**12 34 46.0**	**-0.2**
MEV	**Metsovon**	**0.99**	**98**	*e*Pg	**Pg**	**12 34 32.3**	**-2.3**
MEV				*e*Sg	**Sg**	**12 34 47.9**	**0.0**
MEV	**Metsovon**	**0.99**	**98**	*e*Pg	**Pg**	**12 34 32.3**	**-2.3**
MEV				*e*Sg	**Sg**	**12 34 47.8**	**-0.1**
OHR	**Ohrid**	**1.34**	**28**	*e*P	**Pb**	**12 34 40.0**	**+0.4**
OHR				*i*		12 34 41.6	
OHR				*i* Sn	**Sn**	**12 35 01.2**	**+3.6**
OHR				*i*		12 35 08.6	
OHR	**Ohrid**	**1.34**	**28**	*e*P	**Pb**	**12 34 40.0**	**+0.4**
OHR				*i* Sn	**Sn**	**12 35 01.2**	**+3.6**
FNA	**Florina**	**1.38**	**51**	*e*Pb	**Pb**	**12 34 39.9**	**-0.3**
FNA				*e*Sb	**Sb**	**12 35 01.9**	**+4.1**
TIR	**Tirane**	**1.42**	**357**	*e*Pn	**Pn**	**12 34 42.0**	**+1.4**
TIR				*i* Sn	**Sn**	**12 35 06.0**	**+6.5**
KZN	**Kozani**	**1.44**	**74**	*e*PB	**Pb**	**12 34 41.0**	**-0.3**
QSH	**Qafa e Shtames**	**1.59**	**359**	*i* Pn	**Pn**	**12 34 47.5**	**+4.4**
QSH				*i* Sn	**Sn**	**12 35 10.5**	**+6.6**
EVR	**Evrytania**	**1.76**	**125**	*e*PN	**Pn**	**12 34 46.5**	**+1.0**
EVR				*e*SN	**Sn**	**12 35 11.5**	**+3.4**
VLS	**Valsamata**	**1.82**	**164**	*e*PN	**Pn**	**12 34 47.9**	**+1.5**
LIT	**Litokhoron**	**1.96**	**84**	*e*Pn	**Pn**	**12 34 48.1**	**-0.2**
LIT				*e*Sn	**Sn**	**12 35 14.4**	**+1.3**
AGG	**Agios Georgios**	**2.05**	**115**	*e*Pn	**Pn**	**12 34 49.6**	**-0.1**
AGG				*e*Sn	**Sn**	**12 35 16.6**	**+1.0**
GRG	**Griva**	**2.13**	**60**	*e*Pn	**Pn**	**12 34 51.1**	**+0.2**
RLS	**Riolos of Patr**	**2.21**	**147**	*e*PN	**Pn**	**12 34 53.9**	**+1.9**
SKO	**Skopje**	**2.33**	**28**	*i* Pn	**Pn**	**12 34 54.5**	**+0.8**
SKO				*i*		12 34 59.0	
TIP	**Timpagrande**	**2.58**	**254**	*e*Pn	**Pn**	**12 34 56.5**	**-0.8**

TIP	**Timpagrande**	**2.58**	**254**	*e*Pn	**Pn**	**12 34 56.5 -0.8**
NEO	**Neokhori**	**2.60**	**103**	*e*PB	**Pb**	**12 34 57.8 -3.3**
LKR	**Lokris**	**2.69**	**117**	*e*PN	**Pn**	**12 35 00.0 +1.2**

*CSEM **29** 12:36:59.4, 31.39N×56.96E, h14km, ML3.6*
THR 29 12:36:59.4±0.3, 31.39N×56.96E, h14km±5km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRBR	**Kerman**	**1.41**	**187**	*e*PG	Pg	12 37 25.6	-2.1
KRBR				AML	AML	12 37 36.6	
	comp=N,3μm,0.2s						
ZHSF	**Zahedan**	**3.74**	**117**	*e*PN	Pn	12 37 59.0	+0.9
ZHSF				AML	AML	12 38 46.2	
	comp=N,65nm,0.6s						
NASN	**Na'in**	**3.79**	**293**	*e*SG	Sg	12 38 57.5	-8.2
NASN				AML	AML	12 39 01.5	
	comp=E,48nm,0.5s						
NASN	**Na'in**	**3.79**	**293**	*e*Sg	Sg	12 38 57.5	-8.2
	comp=E,48nm,0.5s,SNR=90						
BNDS	**Bandar-Abbas**	**4.03**	**190**	*e*PN	Pn	12 38 03.0	+0.9
BNDS				AML	AML	12 38 51.1	
	comp=N,63nm,0.7s						

IDC 29 12:41:56.3±3.9, 2.31N×97.00E, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=154.5km s-min=24.0km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.80**	**123**	P	P	12 49 56.4	-1.4
	0.4nm,0.9s,baz=302,slow=9.1,SNR=5.7						
ASAR	**Alice Springs**	**44.23**	**128**	P	P	12 50 07.2	-2.1
	0.7nm,0.9s,baz=304,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**46.07**	**9**	P	P	12 50 22.2	-1.6
	0.3nm,0.5s,baz=202,slow=8.2,SNR=3.3						
MKAR	**Makanchi Array**	**46.12**	**346**	P	P	12 50 22.1	-2.1
	0.3nm,0.5s,baz=166,slow=8.2,SNR=4.0						

*NEIC **29** 12:42:39.3, 36.77S×177.64E, h178km, mb4.4/1, After WEL.*
*WEL **29** 12:42:39.0±0.2, 36.77S×177.61E, h180km±2km, ML4.2/7, Error ellipse: s-maj=1.8km s-min=1.3km az=90.0*
*IDC **29** 12:42:40.5±1.3, 37.30S×177.56E, h212km±8km, mb3.8/2, mb1 3.9/3, mb1mx3.5/11, mbtmp4.2/3, Error ellipse: s-maj=31.5km s-min=28.0km az=158.0*
ISC 29 12:42:38.7±0.8, 36.91S±0.06×177.36E±0.09, h180km, n61, σ1§46/65, mb4.2/3, 3C-4D, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.00**	**131**	⇑P	**P**	**12 43 06.4**	**-0.2**
MXZ				S	**S**	**12 43 27.3**	**-0.9**
MXZ	**Matakaoa Point**	**1.00**	**131**	⇑PN	**P**	**12 43 06.4**	**-0.2**
MXZ				SN	**S**	**12 43 27.3**	**-0.9**
KUZ	**Kuaotunu**	**1.32**	**276**	P	**P**	**12 43 11.4**	**+2.0**
KUZ	**Kuaotunu**	**1.32**	**276**	⇓PN	**P**	**12 43 11.4**	**+2.0**
URZ	**Urewera**	**1.36**	**188**	P	**P**	**12 43 11.6**	**+1.8**
	24nm,0.3s,baz=0.1,slow=2.6,SNR=925						
URZ				S	**S**	**12 43 36.3**	**+2.5**
	111nm,0.3s,baz=137,slow=20,SNR=69						
URZ	**Urewera**	**1.36**	**188**	P	**P**	**12 43 11.6**	**+1.8**
URZ	**Urewera**	**1.36**	**188**	PN	**P**	**12 43 11.5**	**+1.7**
PUZ	**Puketiti**	**1.37**	**149**	P	**P**	**12 43 10.1**	**+0.3**
PUZ	**Puketiti**	**1.37**	**149**	PN	**P**	**12 43 10.1**	**+0.3**
PUZ				SN	**S**	**12 43 33.6**	**-0.2**
MWZ	**Matawai**	**1.43**	**175**	P	**P**	**12 43 11.9**	**+1.5**
MWZ	**Matawai**	**1.43**	**175**	PN	**P**	**12 43 11.9**	**+1.5**
KNZ	**Kokohu**	**2.13**	**173**	*e*P	**P**	**12 43 18.7**	**+1.1**
KNZ	**Kokohu**	**2.13**	**173**	PN	**P**	**12 43 18.7**	**+1.1**
BKZ	**Black Stump Fm**	**2.36**	**197**	⇑*e*P	**P**	**12 43 21.8**	**+1.5**
BKZ	**Black Stump Fm**	**2.36**	**197**	⇓PN	**P**	**12 43 21.8**	**+1.5**
BKZ				SN	**S**	**12 43 56.0**	**+3.7**
MGZ	**Maungaku**	**2.54**	**214**	P	**P**	**12 43 25.4**	**+3.0**
MGZ	**Maungaku**	**2.54**	**214**	PN	**P**	**12 43 25.4**	**+3.0**
WCZ	**Waipu Caves**	**2.61**	**291**	⇓P	**P**	**12 43 24.9**	**+1.6**
WCZ	**Waipu Caves**	**2.61**	**291**	⇓PN	**P**	**12 43 24.9**	**+1.6**
OTVZ	**Oturere**	**2.62**	**210**	PN	**P**	**12 43 26.0**	**+2.6**
NGZ	**Ngauruhoe**	**2.66**	**211**	P	**P**	**12 43 27.0**	**+3.2**
NGZ	**Ngauruhoe**	**2.66**	**211**	PN	**P**	**12 43 26.9**	**+3.0**
TUVZ	**Tukino**	**2.71**	**209**	*e*P	**P**	**12 43 26.4**	**+1.9**
TUVZ	**Tukino**	**2.71**	**209**	PN	**P**	**12 43 26.8**	**+2.3**
FWVZ	**Far West T-bar**	**2.74**	**211**	*e*P	**P**	**12 43 27.0**	**+2.1**
FWVZ	**Far West T-bar**	**2.74**	**211**	PN	**P**	**12 43 27.0**	**+2.1**
WNVZ	**Wahianoa**	**2.79**	**209**	*e*P	**P**	**12 43 27.4**	**+2.0**
WNVZ	**Wahianoa**	**2.79**	**209**	PN	**P**	**12 43 27.4**	**+2.1**
TSZ	**Takapari Road**	**3.33**	**199**	PN	**P**	**12 43 32.3**	**+0.2**
WAZ	**Wanganui**	**3.40**	**212**	*e*P	**P**	**12 43 34.9**	**+1.9**
WAZ	**Wanganui**	**3.40**	**212**	PN	**P**	**12 43 34.9**	**+1.9**
BFZ	**Birch Farm**	**3.87**	**193**	PN	**P**	**12 43 39.0**	**+0.1**
MRZ	**Mangatainoka R**	**4.00**	**200**	PN	**P**	**12 43 40.2**	**-0.3**
KIW	**Kapiti Island**	**4.39**	**205**	P	**P**	**12 43 44.8**	**-0.7**
KIW	**Kapiti Island**	**4.39**	**205**	PN	**P**	**12 43 44.8**	**-0.7**
MTW	**Mount Morrison**	**4.49**	**198**	P	**P**	**12 43 45.8**	**-1.0**
MTW	**Mount Morrison**	**4.49**	**198**	PN	**P**	**12 43 45.8**	**-1.0**
CAW	**Cannon Point**	**4.56**	**202**	P	**P**	**12 43 46.9**	**-0.8**
CAW	**Cannon Point**	**4.56**	**202**	PN	**P**	**12 43 46.7**	**-1.0**
PAWZ	**Paruwai Farm**	**4.71**	**198**	PN	**P**	**12 43 48.6**	**-1.1**
MRW	**Makara Radio**	**4.79**	**205**	P	**P**	**12 43 49.9**	**-0.8**
MSWZ	**Moikau Station**	**4.79**	**199**	P	**P**	**12 43 49.6**	**-1.1**
SNZO	**South Karori**	**4.86**	**204**	P	**P**	**12 43 50.4**	**-1.2**
BHW	**Baring Head**	**4.89**	**202**	P	**P**	**12 43 50.2**	**-1.9**
NNZ	**Nelson**	**5.30**	**214**	*e*P	**P**	**12 43 56.4**	**-1.0**
KHZ	**Kahutara**	**6.24**	**207**	*e*P	**P**	**12 44 07.8**	**-1.9**
LTZ	**Lake Taylor**	**7.05**	**212**	*e*P	**P**	**12 44 17.5**	**-2.9**
MQZ	**McQueen's Vall**	**7.68**	**206**	*e*P	**P**	**12 44 25.4**	**-3.3**
RPZ	**Rata Peaks**	**8.33**	**213**	P	**P**	**12 44 36.0**	**-1.3**
	0.9nm,0.3s,baz=100,slow=22,SNR=6.2						
RPZ				S	**S**	**12 46 03.0**	**-6.8**
	1.8nm,0.3s,baz=106,slow=17,SNR=12						
ODZ	**Otahua Downs**	**9.58**	**210**	*e*P	**P**	**12 44 51.1**	**-2.4**
ASAR	**Alice Springs**	**39.45**	**277**	P	**P**	**12 49 52.4**	**-0.5**
	4.4nm,0.7s,mb4.2,baz=119,slow=8.0,SNR=59						
ASPA	**Alice Springs**	**39.45**	**277**	*e*P	**P**	**12 49 52.3**	**-0.6**
WB2	**Warramunga Arr**	**41.05**	**282**	*e*P	**P**	**12 50 05.4**	**-0.6**
WRAB	**Tennant Creek**	**41.05**	**282**	*e*P	**P**	**12 50 04.7**	**-1.4**
	5.7nm,0.5s,mb4.5						
WRA	**Warramunga Arr**	**41.05**	**282**	P	**P**	**12 50 05.3**	**-0.8**
	2.9nm,0.7s,mb4.0,baz=120,slow=7.8,SNR=43						
WRA	**Warramunga Arr**	**41.05**	**282**	P	**P**	**12 50 05.3**	**-0.8**
VNA3	**Neumayer Olymp**	**72.04**	**178**	*e*	**P**	**12 53 38.5**	**-5.6**
VNA2	**Neumayer--Watz**	**72.42**	**178**	*e*	**P**	**12 53 45.5**	**-0.9**
VNA1	**Neumayer--Stat**	**72.67**	**178**	*e*	**P**	**12 53 40.9**	**-6.9**
FINES	**FINESS Array B**	**149.56**	**333**	PKPbc	PKPdf	13 02 02.6	+1.7
	1.1nm,0.6s,baz=56,slow=5.0,SNR=4.8						
DBIC	**Dimbokro**	**149.84**	**176**	PKPbc	PKPdf	13 02 05.5	+2.7
	2.9nm,0.8s,baz=176,slow=4.4,SNR=4.5						

*IDC **29** 12:44:02.1±0.8, 0.99N×97.30E, mb4.3/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, Error ellipse: s-maj=38.6km s-min=14.2km az=48.0*
*BJI **29** 12:44:02.9, 0.62N×97.52E, h39km, mB5.0, mb4.9, Ms4.2, Msz4.2*
*MOS **29** 12:44:05.4±0.8, 1.07N×97.43E, h33km, mb4.8/10, Error ellipse: s-maj=19.7km s-min=8.7km az=107.0*
*NEIC **29** 12:44:06.6±0.3, 1.05N×97.39E, h30km, mb4.6/20, Error ellipse: s-maj=9.9km s-min=5.5km az=51.0*
ISC 29 12:44:06.7±1.6, 1.08N±0.07×97.40E±0.08, h45km±12km, n80, σ0§90/80, mb4.6/45, MS4.1/2, 5C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.02**	**46**	P	**P**	**12 45 21.7**	**+0.1**
KULM	**Kulim**	**5.29**	**38**	⇑*i*P	**P**	**12 45 25.0**	**-0.3**
KGM	**Kluang**	**5.99**	**81**	P	**P**	**12 45 35.6**	**+0.5**
CM31	**Chiang Mai Arr**	**17.34**	**5**	*e*P	**P**	**12 48 05.6**	**-1.5**
	24nm,0.8s						
KKM	**Kota Kinabalu**	**19.41**	**75**	*e*P	**P**	**12 48 31.6**	**-0.5**
KKM	**Kota Kinabalu**	**19.41**	**75**	P	**P**	**12 48 34.0**	**+1.9**
TSM	**Tawau**	**20.70**	**81**	P	**P**	**12 48 48.8**	**+3.0**
QIZ	**Qiongzhong**	**21.61**	**34**	P	**P**	**12 48 54.4**	**-0.5**
	9.1nm,0.8s,mb4.3						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**12 49 24.8**	**+2.0**
KMI				AP		12 49 33.8	
				S	**S**	**12 53 38.0**	**+1.0**
KMI				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.5						
KMI				AMB	AMB		
	comp=Z,91nm,3.1s						
KMI				LR	LR		
	comp=N,300nm,14.6s,MS4.1						
KMI				LR	LR		
	comp=E,290nm,11.8s,MS4.1						
KMI				LR	LR		
	comp=Z,424nm,14.1s,MS4.1						
HYB	**Hyderabad**	**24.64**	**312**	*e*P	**P**	**12 49 20.0**	**-4.7**
HYB	**Hyderabad**	**24.64**	**312**	*i* P	**P**	**12 49 20.0**	**-4.7**
GYA	**Guiyang**	**26.76**	**19**	⇓*i*P	**P**	**12 49 44.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**28.53**	**339**	*e*P	**P**	**12 50 01.1**	**+0.6**
	comp=Z,31nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.74**	**337**	*e*P	**P**	**12 50 03.4**	**+1.0**
GUN	**Gumba**	**28.87**	**339**	*e*P	**P**	**12 50 02.8**	**-0.7**
	comp=Z,22nm,0.6s,mb5.0						
DMN	**Daman**	**28.89**	**337**	*e*P	**P**	**12 50 03.9**	**+0.2**
KKN	**Kakani**	**28.99**	**337**	*e*P	**P**	**12 50 04.0**	**-0.5**
	comp=Z,20nm,0.8s,mb4.9						
KKN	**Kakani**	**28.99**	**337**	*e*P	**P**	**12 50 04.0**	**-0.5**
KKN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**29.08**	**349**	*e*P	**P**	**12 50 05.6**	**+0.3**
LSA				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**29.08**	**349**	*e*P	**P**	**12 50 05.6**	**+0.3**
	comp=Z,7.5nm,0.5s,mb4.7						
GKN	**Gorkha**	**29.43**	**337**	*e*P	**P**	**12 50 07.4**	**-1.1**
KOLN	**Koldanda**	**29.65**	**335**	*e*P	**P**	**12 50 09.8**	**-0.7**
	comp=Z,22nm,0.8s,mb4.9						
ENH	**Enshi**	**31.22**	**20**	*e*P	**P**	**12 50 22.8**	**-1.5**
	comp=Z,30nm,0.8s,mb5.2						
ENH				epP	pP	12 50 30.1	-6.3
FITZ	**Fitzroy Crossi**	**33.70**	**126**	*e*P	**P**	**12 50 44.7**	**-1.3**
	comp=Z,3.6nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.70**	**126**	P	**P**	**12 50 44.8**	**-1.2**
	comp=Z,3.5nm,0.5s,mb4.5,baz=338,slow=11,SNR=11						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**12 50 52.0**	**-0.9**
XAN				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
GTA	**Gaotai**	**38.21**	**3**	*e*P	**P**	**12 51 24.5**	**+0.5**
GTA				AP	pP	12 51 33.8	-2.4
GTA				XP	sP	12 51 38.3	-3.5
GTA				PP	PP	12 52 53.3	-1.9
GTA				S	**S**	**12 57 12.0**	**-2.1**
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,46nm,4.6s						
GTA				LR	LR		
	comp=N,148nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=E,146nm,16.3s,MS4.1						
GTA				LR	LR		
	comp=Z,236nm,12.5s,MS4.2						
JOW	**Kunigami**	**39.18**	**47**	P	**P**	**12 51 32.5**	**+0.4**
	comp=Z,16nm,0.6s,mb5.0,baz=270,slow=6.1,SNR=4.7						
WRA	**Warramunga Arr**	**41.80**	**122**	P	**P**	**12 51 54.0**	**0.0**
	comp=Z,1.6nm,0.4s,mb4.0,baz=302,slow=9.0,SNR=22						
WRAB	**Tennant Creek**	**41.81**	**122**	*e*P	**P**	**12 51 53.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
WRAB	**Tennant Creek**	**41.81**	**122**	*e*P	**P**	**12 51 53.0**	**-1.1**
	comp=Z,4.0nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**41.81**	**122**	*e*P	**P**	**12 51 53.8**	**-0.3**
BJT	**Baijiatuau**	**42.35**	**22**	*e*P	**P**	**12 51 58.5**	**+0.2**
BJT				pmax	pmax		
	comp=Z,31nm,0.6s						
BJT	**Baijiatuau**	**42.35**	**22**	*e*P	**P**	**12 51 58.5**	**+0.2**
	comp=Z,30nm,0.6s,mb5.1						
BJI	**Beijing**	**42.38**	**22**	*e*P	**P**	**12 51 58.8**	**+0.3**
BJI				AMB	AMB		
	comp=Z,36nm,0.7s,mb5.1						
ASPA	**Alice Springs**	**43.16**	**127**	*e*P	**P**	**12 52 05.0**	**-0.1**
ASAR	**Alice Springs**	**43.16**	**127**	P	**P**	**12 52 05.2**	**0.0**
	comp=Z,3.7nm,1.1s,mb4.0,baz=299,slow=8.0,SNR=14						
WMQ	**Urumqi**	**43.42**	**350**	P	**P**	**12 52 08.5**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,74nm,4.2s						
DL2	**Dalian**	**43.69**	**28**	P	**P**	**12 52 10.3**	**+1.1**
DL2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
AAK	**Ala-Archa**	**46.19**	**337**	*i* P	**P**	**12 52 29.9**	**+0.8**
AAK	**Ala-Archa**	**46.19**	**337**	*e*P	**P**	**12 52 29.2**	**+0.1**
	comp=Z,7.0nm,1.3s,mb4.4						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**12 52 37.9**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.6,baz=190,slow=9.8,SNR=32						
SONM				PcP	PcP	12 54 09.0	+0.7
	comp=Z,1.9nm,0.5s,baz=191,slow=4.4,SNR=6.8						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**12 52 38.0**	**-0.1**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**47.35**	**9**	*e*P	**P**	**12 52 38.0**	**-0.1**
	comp=Z,1.6nm,0.6s,mb4.1						
MKAR	**Makanchi Array**	**47.41**	**346**	P	**P**	**12 52 39.1**	**+0.5**
	comp=Z,10.0nm,0.7s,mb4.8,baz=158,slow=7.8,SNR=79						
CN2	**Changchun**	**49.32**	**27**	*e*P	**P**	**12 52 53.8**	**+0.3**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
ZAK	**Zakamensk**	**49.37**	**5**	*e*P	**P**	**12 52 54.0**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9						
TLY	**Talaya**	**50.69**	**5**	*e*P	**P**	**12 53 04.4**	**+0.5**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TLY	**Talaya**	**50.69**	**5**	*e*P	**P**	**12 53 04.4**	**+0.5**
	comp=Z,3.2nm,0.8s,mb4.3						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**12 53 11.4**	**0.0**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**51.69**	**19**	*e*P	**P**	**12 53 11.3**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8						
KURK	**Kurchatov**	**51.96**	**345**	*i* P	**P**	**12 53 13.9**	**+0.5**
KURK	**Kurchatov**	**51.96**	**345**	*e*P	**P**	**12 53 13.4**	**0.0**
	comp=Z,7.4nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**53.13**	**132**	*e*P	**P**	**12 53 23.1**	**+0.6**
	comp=Z,16nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**53.13**	**132**	P	**P**	**12 53 22.8**	**+0.3**
	comp=Z,4.2nm,0.9s,mb4.4,baz=342,slow=12,SNR=5.5						
NVS	**Novosibirsk**	**54.83**	**350**	*i* P	**P**	**12 53 33.4**	**-1.2**
NVS				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
NVS				pmax	pmax		
	comp=N,5.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,3.0nm,0.6s						
KLR	**Kul'dur**	**56.27**	**26**	*e*P	**P**	**12 53 42.0**	**-3.1**
BVAR	**Borovoye Array**	**56.43**	**341**	P	**P**	**12 53 45.5**	**-0.6**
	comp=E,6.7nm,0.7s,mb4.8,baz=138,slow=9.6,SNR=22						
CHKZ	**Chkalovo**	**56.90**	**341**	⇑*i*P	**P**	**12 53 49.0**	**-0.6**
CHKZ				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.5						
CHKZ	**Chkalovo**	**56.90**	**341**	⇑*i*P	**P**	**12 53 49.0**	**-0.6**
	comp=Z,29nm,0.6s,mb5.5						
BOD	**Bodaibo**	**58.09**	**10**	*e*P	**P**	**12 53 57.1**	**-0.7**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
SVE	**Sverdlovsk**	**62.87**	**338**	*e*P	**P**	**12 54 30.5**	**+0.1**
ARU	**Arti**	**63.37**	**337**	*i* P	**P**	**12 54 42.4**	**+8.7**
YAK	**Yakutsk**	**65.48**	**16**	*c i*P	**P**	**12 54 46.4**	**-0.9**
YAK	**Yakutsk**	**65.48**	**16**	P	**P**	**12 54 44.8**	**-2.5**
	comp=Z,17nm,0.9s,mb5.1						
BRTR	**Keskin Array B**	**69.34**	**312**	P	**P**	**12 55 11.7**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.9,baz=143,slow=7.2,SNR=3.5						
MA2	**Magadan**	**71.35**	**26**	*e*P	**P**	**12 55 23.9**	**+0.2**
MA2				pmax	pmax		
	comp=N,1.0nm,0.7s						
MA2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
OBN	**Obninsk**	**72.82**	**328**	*c e*P	**P**	**12 55 51.4**	**+19**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.7						
TIXI	**Tiksi**	**73.27**	**10**	⇓*i*P	**P**	**12 55 33.5**	**-1.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
AKASG	**Malin Array Be**	**75.47**	**322**	P	**P**	**12 55 47.4**	**-0.5**
	comp=Z,0.3nm,0.3s,mb3.7,baz=93,slow=4.1,SNR=4.4						
AKASG	**Malin Array Be**	**75.47**	**322**	P	**P**	**12 55 47.4**	**-0.5**
FINES	**FINESS Array B**	**80.20**	**332**	P	**P**	**12 56 14.1**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=124,slow=6.9,SNR=5.6						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**12 56 27.9**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=100,slow=7.4,SNR=7.6						
GERES	**GERESS Array B**	**85.03**	**319**	P	**P**	**12 56 40.2**	**+1.3**
	comp=Z,1.4nm,0.8s,mb4.2,baz=90,slow=3.9,SNR=8.4						
HFS	**Hagfors**	**85.92**	**330**	P	**P**	**12 56 44.4**	**+1.4**
	comp=Z,1.9nm,0.9s,mb4.3,baz=53,slow=7.4,SNR=4.3						
NB2	**NORSAR Subarra**	**87.21**	**331**	P	**P**	**12 56 49.7**	**+0.4**
	comp=Z,1.9nm,0.8s,mb4.4,baz=95,slow=4.6						
NB2	**NORSAR Subarra**	**87.21**	**331**	P	**P**	**12 56 49.7**	**+0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
NOA	**NORSAR Array B**	**87.21**	**331**	P	**P**	**12 56 50.2**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=7.2						
TXAR	**Lajitas Array**	**143.66**	**32**	PKP	PKPdf	13 03 37.8	+0.3
	comp=Z,0.6nm,0.8s,baz=359,slow=1.8,SNR=5.8						
LRAL	**Lakeview Retre**	**145.82**	**7**	*e*PKP	PKPdf	13 03 43.2	+2.1

IDC 29 12:44:52.9±4.9, 5.24N×93.78E, mb4.6/4, mb1 4.7/4, mb1mx4.1/17, mbtmp4.6/4, Error ellipse: s-maj=248.6km s-min=96.9km az=34.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**39.06**	**127**	*e*P	P	12 52 22.1	-1.4
	7.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.06**	**127**	P	P	12 52 20.6	-2.9
	14nm,0.9s,baz=340,slow=7.4,SNR=6.3						
WRA	**Warramunga Arr**	**47.07**	**123**	P	P	12 53 27.3	-1.3
	16nm,0.9s,baz=301,slow=9.0,SNR=25						
WB2	**Warramunga Arr**	**47.08**	**123**	*e*P	P	12 53 27.6	-1.1
ASAR	**Alice Springs**	**48.55**	**128**	P	P	12 53 38.5	-1.5
	3.3nm,0.8s,baz=303,slow=7.4,SNR=13						
ASAR				PcP	PcP	12 55 03.5	-2.8
	1.2nm,0.7s,baz=300,slow=2.7,SNR=5.0						
STKA	**Stephens Creek**	**58.58**	**132**	P	P	12 54 51.9	-2.2
	3.9nm,0.8s,baz=306,slow=8.5,SNR=5.9						

IGQ 29 12:48:40.8, 1.39S×80.87W, h12km±40km, mb4.0, 1C, Error ellipse: s-maj=41.2km s-min=10.7km az=162.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IGUA	**Igualata**	**2.23**	**93**	P	Pn	12 49 18.9	+0.7
IGUA				S	Sn	12 49 48.9	+3.0
ARRY	**Arrayan**	**2.42**	**93**	P	Pn	12 49 21.4	+0.6
ARRY				S	Sn	12 49 51.8	+1.2
ULBA	**Ulba**	**2.46**	**91**	P	Pn	12 49 24.8	+3.3
PISA	**Pisayambo**	**2.51**	**83**	P	Pn	12 49 24.6	+2.6
NAS1	**Nasa**	**2.51**	**73**	P	Pn	12 49 25.8	+3.7
JUA2	**San Juan 2**	**2.55**	**63**	P	Pn	12 49 23.8	+1.2
TERV	**Terraza Guagua**	**2.57**	**62**	P	Pn	12 49 26.7	+3.8
PINO	**Pino**	**2.57**	**62**	⇑P	Pn	12 49 24.2	+1.2
VC1	**Cotopaxi 1**	**2.58**	**73**	P	Pn	12 49 25.0	+2.0
TAMB	**Tambo**	**2.59**	**75**	P	Pn	12 49 27.2	+3.9
JOR1	**San Jorge 1**	**2.62**	**58**	P	Pn	12 49 22.3	-1.4
ANTI	**Antisana**	**2.87**	**71**	P	Pn	12 49 28.8	+1.6
COTA	**Cotacachi**	**3.06**	**56**	P	Pn	12 49 30.9	+1.0
CAYR	**Refugio Cayamb**	**3.19**	**64**	P	Pn	12 49 34.7	+3.0
CAYA	**Cayambe**	**3.22**	**63**	P	Pn	12 49 34.7	+2.4
ECEN	**Cerro Negro**	**3.64**	**53**	P	Pn	12 49 39.7	+1.6

IDC 29 12:49:58.7±4.0, 1.31N×95.38E, mb3.4/4, mb1 3.6/4, mb1mx3.5/15, mbtmp3.4/4, Error ellipse: s-maj=154.2km s-min=24.8km az=60.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.64**	**121**	P	P	12 58 04.5	-2.5
	0.7nm,0.6s,baz=302,slow=9.0,SNR=6.6						
ASAR	**Alice Springs**	**44.92**	**126**	P	P	12 58 16.2	-1.2
	0.2nm,0.5s,baz=298,slow=8.2,SNR=4.2						
MKAR	**Makanchi Array**	**46.72**	**348**	P	P	12 58 28.7	-2.6
	1.0nm,0.6s,baz=173,slow=11,SNR=9.5						
SONM	**Songino Array**	**47.32**	**10**	P	P

QIZ S **S** **13 04 37.3 +4.1**
QIZ XS 13 04 48.3
QIZ AMB AMB
comp=Z,87nm,1.0s
QIZ LR LR
comp=N,1µm,17.8s,MS4.4
QIZ LR LR
comp=E,662nm,17.8s,MS4.4
QIZ LR LR
comp=Z,884nm,13.1s,MS4.3
QIZ Qiongzhong 20.95 49 ⇓*iP* **P** **13 00 46.4 +0.6**
comp=Z,104nm,0.9s
KMI Kunming 21.50 24 P **P** **13 00 53.0 +1.6**
KMI AP 13 01 00.8
KMI XP 13 01 03.3
KMI PP PP 13 01 19.5 +3.7
KMI S **S** **13 04 48.0 +4.6**
KMI XS 13 04 59.0
KMI SS SS 13 05 22.5 +3.3
KMI AMB AMB
comp=Z,50nm,1.3s,mb4.8
KMI AMB AMB
comp=Z,93nm,3.1s
KMI LR LR
comp=N,770nm,15.0s,MS4.3
KMI LR LR
comp=E,667nm,16.6s,MS4.3
KMI LR LR
comp=Z,726nm,12.5s,MS4.3
KAD Karad 22.16 304 *eP* **P** **13 00 58.3 +0.3**
KAD *e* 13 01 16.7
comp=Z,92nm,1.5s
KAD *eS* **S** **13 04 58.6 +3.0**
KKM Kota Kinabalu 22.73 87 *eP* **P** **13 01 04.9 +1.1**
KKM Kota Kinabalu 22.73 87 P **P** **13 01 04.1 +0.3**
POO Poona 23.05 306 *eP* **P** **13 01 04.9 -2.0**
POO *eS* **S** **13 05 19.8 +7.9**
JIRN Jiri 23.10 344 *eP* **P** **13 01 08.1 +0.9**
PKI Pulchoki 23.25 342 *eP* **P** **13 01 09.7 +1.0**
comp=Z,63nm,1.0s,mb5.0
PKI Pulchoki 23.25 342 *eP* **P** **13 01 09.7 +1.0**
PKI pmax pmax
comp=Z,31nm,1.0s,mb4.7
DMN Daman 23.38 341 *eP* **P** **13 01 11.7 +1.8**
BHPL Bhopal 23.42 321 *eP* **P** **13 01 12.0 +1.6**
BHPL *e* 13 01 35.1
comp=Z,36nm,1.5s
BHPL *e* 13 05 40.3
GUN Gumba 23.42 343 *eP* **P** **13 01 11.6 +1.2**
comp=Z,185nm,1.1s,mb5.4
KKN Kakani 23.49 342 *eP* **P** **13 01 11.9 +0.9**
comp=Z,142nm,1.3s,mb5.2
KKN Kakani 23.49 342 *eP* **P** **13 01 11.9 +0.9**
KKN pmax pmax
comp=Z,71nm,1.3s,mb4.9
GKN Gorkha 23.89 341 *eP* **P** **13 01 16.4 +1.4**
KOLN Koldanda 24.04 338 *eP* **P** **13 01 17.7 +1.3**
comp=Z,273nm,1.4s,mb5.5
LSA Lhasa 24.19 355 P **P** **13 01 19.8 +2.0**
LSA Lhasa 24.19 355 *eP* **P** **13 01 19.2 +1.4**
LSA pmax pmax
comp=Z,52nm,0.8s,mb5.0
LSA Lhasa 24.19 355 *eP* **P** **13 01 19.1 +1.3**
comp=Z,52nm,0.8s,mb5.0
GYA Guiyang 24.42 30 ⇑*iP* **P** **13 01 21.0 +0.9**
GYA AP 13 01 27.8
GYA XP 13 01 31.0
GYA AMB AMB
comp=Z,40nm,0.7s,mb5.0
GYA AMB AMB
comp=Z,230nm,3.8s
GYA LR LR
comp=N,2µm,12.6s,MS4.8
GYA LR LR
comp=E,980nm,13.8s,MS4.8
GYA LR LR
comp=Z,1µm,12.9s,MS4.7
TSM Tawau 24.43 92 P **P** **13 01 19.7 -0.6**
AGRA Agra 26.16 327 *eP* **P** **13 01 36.0 -0.5**
AGRA *e* 13 01 46.9
comp=Z,57nm,0.5s
PTH Pithoragarh 26.98 334 *e* **P** **13 01 37.2 -6.8**
CD2 Chengdu 27.12 20 P **P** **13 01 44.3 -0.9**
CD2 AMB AMB
comp=Z,34nm,1.2s,mb4.8
SONA Sohna 27.43 327 *eP* **P** **13 01 48.4 +0.3**
SONA *e* pP 13 01 57.4 +1.7
comp=Z,37nm,1.4s
AYAN Aya Nagar 27.59 328 *eP* **P** **13 01 49.3 -0.3**
AYAN *e* 13 01 59.3
comp=Z,16nm,1.1s
NDI New Delhi 27.70 328 *eP* **P** **13 01 49.5 -1.1**
NDI *e* 13 07 14.0
KHET Khetri 27.99 325 *eP* **P** **13 01 53.1 -0.2**
KHET *e* 13 02 03.1
comp=Z,25nm,1.7s
DDI Dehra Dun 28.62 332 *e* **P** **13 02 04.5 +5.6**
ENH Enshi 28.96 30 *eP* **P** **13 02 00.3 -1.6**
comp=Z,36nm,1.0s,mb5.1
KLP Kalpa 29.55 333 *eP* **P** **13 02 06.6 -0.6**
KLP *e* 13 02 21.3
comp=Z,24nm,0.9s
XAN Xi'an 31.87 25 P **P** **13 02 26.0 -1.7**
XAN AP pP 13 02 33.5 -1.8
XAN AMB AMB
comp=Z,25nm,1.1s,mb5.0
LZH Lanzhou 31.95 16 *eP* **P** **13 02 27.5 -0.8**
LZH AP pP 13 02 34.5 -1.5
LZH XP sP 13 02 37.5 -1.9
LZH PP PP 13 03 34.5 -0.1
LZH AMB AMB
comp=Z,39nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,160nm,4.0s
LZH LR LR
comp=E,1µm,13.4s
LZH LR LR
comp=Z,1µm,16.3s,MS4.7
GTA Gaotai 34.28 9 ⇑P **P** **13 02 48.5 0.0**
GTA AP pP 13 02 56.0 -0.3
GTA XP sP 13 02 59.0 -0.6
GTA PP PP 13 04 03.0 -0.9
GTA PCP PcP 13 05 25.3 +0.6
GTA S **S** **13 08 13.0 0.0**
GTA XS 13 08 24.8
GTA SS SS 13 10 22.3 -0.8
GTA AMB AMB
comp=Z,15nm,0.7s,mb5.0
GTA AMB AMB
comp=Z,66nm,5.7s
GTA LR LR
comp=N,216nm,16.3s,MS4.1
GTA LR LR
comp=E,207nm,16.4s,MS4.1
GTA LR LR
comp=Z,444nm,16.0s,MS4.3
NJ2 Nanjing 35.59 39 *eP* **P** **13 02 59.5 -0.3**
NJ2 AP pP 13 03 08.3 +0.8
NJ2 XP sP 13 03 11.5 +0.7
NJ2 PP PP 13 04 21.5 +1.1
NJ2 S **S** **13 08 37.0 +3.6**
NJ2 AMB AMB
comp=Z,440nm,4.0s
NJ2 LR LR
comp=N,1µm,12.2s,MS5.0
NJ2 LR LR
comp=E,1µm,12.1s,MS5.0
NJ2 LR LR
comp=Z,960nm,11.2s,MS4.8
SSE Sheshan 36.48 42 P **P** **13 03 04.5 -2.8**
SSE AP pP 13 03 13.5 -1.6
SSE XP sP 13 03 17.0 -1.4
SSE S **S** **13 08 45.5 -1.6**
SSE XS 13 09 01.3
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,73nm,3.8s
SSE LR LR
comp=N,387nm,21.2s,MS4.2
SSE LR LR
comp=E,219nm,21.2s,MS4.2
SSE LR LR
comp=Z,312nm,13.2s
MBWA Marble Bar 37.00 136 *eP* **P** **13 03 10.9 -0.9**
comp=Z,20nm,0.7s,mb5.1
KSH Kashi 37.36 338 *eP* **P** **13 03 14.3 -0.3**
KSH *e*AP pP 13 03 23.5 +1.1
KSH *e*XP sP 13 03 27.0 +1.4
KSH *e*PP PP 13 04 41.0 -1.5
KSH *e*PPP PPP 13 05 01.8 -1.4
KSH *e*PCP PcP 13 05 34.3 +0.5
KSH *eS* **S** **13 08 57.3 -3.1**
KSH *e*XS 13 09 14.5
KSH *e*PCS 13 09 21.0
KSH *e*SS SS 13 11 28.5 -4.4
KSH *e*SCS ScS 13 13 23.5 -1.1
KSH AMB AMB
comp=Z,360nm,4.1s
KSH LR LR
comp=N,370nm,5.0s
KSH LR LR
comp=E,550nm,9.1s
TIA Tai'an 37.56 32 *eP* **P** **13 03 16.3 0.0**
WMQ Urumqi 38.52 353 ⇑*iP* **P** **13 03 25.5 +1.2**
WMQ AP pP 13 03 32.8 +0.7
WMQ XP sP 13 03 35.5 +0.2
WMQ PP PP 13 04 58.0 +1.8
WMQ PCP PcP 13 05 39.0 +1.7
WMQ S **S** **13 09 20.0 +2.1**
WMQ XS 13 09 30.5
WMQ SS SS 13 12 00.0 +1.0
WMQ AMB AMB
comp=Z,25nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,176nm,4.4s
WMQ LR LR
comp=N,1µm,16.9s,MS4.9
WMQ LR LR
comp=E,1µm,19.7s,MS4.9
WMQ LR LR
comp=Z,920nm,21.0s,MS4.6
HHC Hu-ho-hao-te 38.81 22 *eP* **P** **13 03 27.8 +1.0**
HHC AP pP 13 03 37.5 +2.9
HHC XP sP 13 03 41.5 +3.7
HHC AMB AMB
comp=Z,21nm,0.4s,mb5.2
HHC AMB AMB
comp=Z,70nm,4.3s
HHC LR LR
comp=N,325nm,6.9s
HHC LR LR
comp=E,440nm,12.0s
HHC LR LR
comp=Z,336nm,15.3s,MS4.3
JOW Kunigami 39.45 54 P **P** **13 03 33.1 +0.9**
comp=Z,11nm,0.6s,mb4.8,baz=235,slow=7.4,SNR=4.6
JOW LR LR 13 22 42.2
comp=Z,271nm,19.8s,MS4.1,baz=350,slow=41
FITZ Fitzroy Crossi 39.52 127 ⇓*iP* **P** **13 03 31.9 -1.0**
comp=Z,41nm,0.6s,mb5.3
FITZ *i* PCP PcP 13 05 40.9 +0.1
FITZ Fitzroy Crossi 39.52 127 P **P** **13 03 31.9 -1.0**
comp=Z,70nm,0.7s,mb5.5,baz=318,slow=3.6,SNR=49
FITZ PcP PcP 13 05 40.9 +0.2
comp=Z,9.0nm,0.4s,baz=346,slow=2.3,SNR=7.1
ULHL Ulahol 39.66 340 P **P** **13 03 34.5 +0.7**
SNR=5.8
KZA Kyzart 39.86 339 P **P** **13 03 36.1 +0.6**
SNR=11
BJI Beijing 40.07 28 *eP* **P** **13 03 38.3 +1.1**
BJI AP pP 13 03 46.8 +1.8
BJI XP sP 13 03 51.0 +2.8
BJI S **S** **13 09 49.5 +8.1**
BJI AMB AMB
comp=Z,15nm,1.1s,mb4.6
BJI AMB AMB
comp=Z,102nm,3.4s
BJI LR LR
comp=N,473nm,14.2s,MS4.5
BJI LR LR
comp=E,295nm,18.5s,MS4.5
BJI LR LR
comp=Z,228nm,22.1s,MS4.0
UCH Uchtor 40.26 338 P **P** **13 03 39.6 +0.8**
SNR=25
KBK Karagaybulak 40.47 339 P **P** **13 03 41.7 +1.2**
SNR=26
TKM2 Tokmak 2 40.48 340 P **P** **13 03 40.9 +0.4**
SNR=13
AML Almayashu 40.48 337 P **P** **13 03 41.7 +1.1**
SNR=52
AAK Ala-Archa 40.62 338 P **P** **13 03 42.8 +1.1**
comp=Z,123nm,1.4s,mb5.3,SNR=20
AAK Ala-Archa 40.62 338⇑*eP* **P** **13 03 41.8 +0.1**
AAK pmax pmax
comp=Z,35nm,1.1s,mb4.9
AAK Ala-Archa 40.62 338⇑*eP* **P** **13 03 41.8 +0.1**
comp=Z,35nm,1.1s,mb4.9
FRU Bishkek 40.75 339 *eP* **P** **13 03 45.0 +2.3**
FRU pmax pmax
comp=Z,30nm,1.5s,mb4.7
EKS2 Erkin-Say 40.91 338 P **P** **13 03 45.1 +1.0**
SNR=9.0
USP Ospenovka 41.17 339 P **P** **13 03 46.6 +0.4**
SNR=29
MKAR Makanchi Array 42.26 349 P **P** **13 03 55.1 0.0**
comp=Z,13nm,0.6s,mb4.8,baz=167,slow=8.0,SNR=94
KAKA Kakadu 42.81 115 ⇓*iP* **P** **13 03 59.1 -1.0**
comp=Z,8.2nm,0.6s,mb4.6
MUN Mundaring 43.13 151 *eP* **P** **13 04 02.9 +0.4**
comp=Z,12nm,0.6s,mb4.8
MUN Mundaring 43.13 151 *eP* **P** **13 04 02.9 +0.4**
MUN pmax pmax
comp=Z,12nm,0.6s,mb4.8
KLBR Kellerberrin 43.58 149 *eP* **P** **13 04 07.2 +1.1**
comp=Z,253nm,1.4s,mb5.8
SONM Songino Array 43.65 13 P **P** **13 04 06.5 0.0**
comp=Z,16nm,0.9s,mb4.8,baz=194,slow=7.9,SNR=88
SONM PcP PcP 13 05 54.1 +0.1
comp=Z,4.7nm,0.5s,baz=201,slow=3.9,SNR=16
ULN Ulaanbaatar 43.83 13 *eP* **P** **13 04 07.3 -0.6**
ULN *e* 13 05 54.5
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
ULN Ulaanbaatar 43.83 13 *eP* **P** **13 04 07.3 -0.6**
comp=Z,8.4nm,0.9s,mb4.5
ULN *e*PcP PcP 13 05 54.5 -0.2
NWAO Narrogin (SRO) 44.40 151 P **P** **13 04 12.8 +0.1**
comp=Z,13nm,0.6s,mb4.8,baz=312,slow=6.6,SNR=20
ZAK Zakamensk 45.52 9 *eP* **P** **13 04 20.9 -0.5**
ZAK *e* 13 06 00.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,1.2s
ZAK pmax pmax
comp=Z,1.0nm,1.2s
MOY Mondy 46.47 7 *eP* **P** **13 04 29.4 +0.5**
KURK Kurchatov 46.75 347 *iP* **P** **13 04 31.2 0.0**
KURK pmax pmax
comp=Z,30nm,1.2s,mb5.1
KURK Kurchatov 46.75 347⇓*eP* **P** **13 04 30.8 -0.4**
comp=Z,62nm,1.2s,mb5.4
TLY Talaya 46.84 9 ⇓*iP* **P** **13 04 32.0 +0.2**
TLY *eS* **S** **13 11 22.0 +2.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CN2 Changchun 47.45 31 *eP* **P** **13 04 37.5 +0.7**
CN2 *e*AP pP 13 04 49.0 +4.3
CN2 PCP PcP 13 06 07.5 +0.2
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.6
CN2 AMB AMB
comp=Z,420nm,5.0s
CN2 LR LR
comp=N,310nm,12.0s,MS4.7
CN2 LR LR
comp=E,340nm,12.0s,MS4.7
CN2 LR LR
comp=Z,660nm,12.0s,MS4.8
IRK Irkutsk 47.48 9 *eP* **P** **13 04 36.1 -0.8**
IRK pmax pmax
comp=Z,22nm,3.0s
WRA Warramunga Arr 47.54 123 P **P** **13 04 37.3 -0.5**
comp=Z,94nm,0.8s,mb5.9,baz=301,slow=9.1,SNR=400
WRA PcP PcP 13 06 07.6 -0.3
comp=Z,2.2nm,0.3s,baz=309,slow=2.9,SNR=5.8
WRAB Tennant Creek 47.54 123 P **P** **13 04 37.0 -0.8**
comp=Z,853nm,0.7s,SNR=62
WRAB Tennant Creek 47.54 123 *iP* **P** **13 04 37.4 -0.4**
WRAB Tennant Creek 47.54 123 ⇓*iP* **P** **13 04 37.3 -0.5**
comp=Z,134nm,0.7s
WB2 Warramunga Arr 47.55 123 ⇓*iP* **P** **13 04 37.5 -0.4**
WB2 *i* PCP PcP 13 06 07.7 -0.3
FORT Forrest 48.98 140 ⇓*iP* **P** **13 04 49.2 +0.4**
comp=Z,971nm,0.6s
ASPA Alice Springs 49.01 128 ⇓*iP* **P** **13 04 48.7 -0.4**
ASPA *i* PCP PcP 13 06 13.2 0.0
ASAR Alice Springs 49.01 128 P **P** **13 04 48.3 -0.8**
comp=Z,26nm,0.8s,mb5.3,baz=298,slow=7.7,SNR=52
ASAR PcP PcP 13 06 12.9 -0.2
comp=Z,10nm,0.7s,baz=302,slow=3.4,SNR=10
HIA Hailar 49.01 23 *eP* **P** **13 04 47.8 -1.0**
HIA *e* pP 13 04 56.7 0.0
HIA pmax pmax
comp=Z,11nm,0.9s
HIA Hailar 49.01 23 *eP* **P** **13 04 47.8 -1.0**
comp=Z,11nm,0.9s,mb4.9
HIA *e* pP 13 04 56.7 -0.1
RAYN Ar Rayn 49.42 296 P **P** **13 04 53.0 +0.7**
comp=Z,114nm,1.3s,SNR=9.0
NVS Novosibirsk 49.90 352 *i* P **P** **13 04 54.6 -0.9**
NVS *i* *PP pP 13 05 02.0 -1.5
NVS *i* S **S** **13 11 59.9 -2.8**
NVS pmax pmax
comp=Z,23nm,1.0s,mb5.2
NVS pmax pmax
comp=N,22nm,1.2s
NVS pmax pmax
comp=E,10.0nm,1.2s
NVS smax
comp=N,23nm,1.8s
MDJ Mudanjiang 50.21 33 P **P** **13 04 58.5 +0.4**
MDJ AMB AMB
comp=Z,5.0nm,0.6s,mb4.7
MDJ AMB AMB
comp=Z,171nm,4.8s
MDJ LR LR
comp=N,128nm,25.2s
MDJ LR LR
comp=E,75nm,18.3s
MDJ LR LR
comp=Z,160nm,16.0s
BVA0 Borovoye Array 51.02 342 *i* P **P** **13 05 03.1 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BVAR Borovoye Array 51.02 342 P **P** **13 05 03.1 -0.9**
comp=Z,11nm,0.8s,mb4.9,baz=143,slow=7.4,SNR=55
BVAR PcP PcP 13 06 19.6 -0.5
comp=Z,1.5nm,0.4s,baz=209,slow=3.0,SNR=4.7
GUMO Guam 51.33 77 LR LR 13 24 59.4
comp=Z,91nm,18.8s,MS3.8,baz=262,slow=34
CHKZ Chkalovo 51.52 343 ⇓*iP* **P** **13 05 07.2 -0.6**
CHKZ *e* pP 13 05 13.7 -2.1
CHKZ pmax pmax
comp=Z,26nm,0.6s,mb5.3
CHKZ Chkalovo 51.52 343 ⇓*iP* **P** **13 05 07.2 -0.7**
comp=Z,26nm,0.6s,mb5.3
CHKZ *e* pP 13 05 13.7 -2.2
BOD Bodaibo 54.64 13 *eP* **P** **13 05 29.5 -1.5**
BOD pmax pmax
comp=Z,18nm,0.9s,mb5.1
KMBO Kilima Mbogo 56.43 265 *eP* **P** **13 05 45.3 +0.7**
KMBO *e* pP 13 05 52.6 0.0
KMBO pmax pmax
comp=Z,6.0nm,0.8s
KMBO Kilima Mbogo 56.43 265 P **P** **13 05 45.6 +1.1**
comp=Z,2.8nm,1.0s,mb4.3,baz=49,slow=15,SNR=5.2
KMBO Kilima Mbogo 56.43 265 *eP* **P** **13 05 45.3 +0.8**
comp=Z,6.3nm,0.8s,mb4.7
KMBO *e* pP 13 05 52.6 0.0
CLNS Chul'man 56.93 20 *eP* **P** **13 05 43.3 -4.3**
CLNS pmax pmax
comp=Z,25nm,1.0s,mb5.2
CLNS pmax pmax
comp=N,16nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.8s
ZEI Tsey 57.29 318 *eP* **P** **13 05 49.8 -0.5**
ZEI *i* *PP pP 13 05 57.6 -0.7
ZEI pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
SVE Sverdlovsk 57.35 339 *eP* **P** **13 05 48.0 -2.5**
SVE *e* pP 13 05 57.5 -1.0
SVE pmax pmax
comp=Z,50nm,1.0s,mb5.5
SVE MLR MLR
comp=N,200nm,16.0s,MS4.5
SVE MLR MLR
comp=E,200nm,16.0s,MS4.5
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.6
ASAJ Asahikawa 57.72 40 LR LR 13 31 56.7
comp=Z,178nm,18.1s,MS4.2,baz=267,slow=37
ARU Arti 57.80 338 ⇑*iP* **P** **13 05 52.6 -1.1**
ARU *e* 13 06 50.3
ARU *e* 13 08 00.2
ARU *eS* **S** **13 13 50.5 +1.1**
ARU *e*SS SS 13 17 43.0 +1.3
ARU pmax pmax
comp=Z,28nm,1.1s,mb5.2
ARU Arti 57.80 338 *eP* **P** **13 05 52.2 -1.4**
comp=Z,29nm,1.1s,mb5.2
CTA Charters Tower 57.84 118 *eP* **P** **13 05 53.6 -0.8**
comp=Z,12nm,1.1s,mb4.9
CTA Charters Tower 57.84 118 *eP* **P** **13 05 53.6 -0.8**
CTA pmax pmax
comp=Z,13nm,1.1s
CTA Charters Tower 57.84 118 LR LR 13 36 15.9
comp=Z,222nm,18.1s,MS4.3,baz=257,slow=42
KIV Kislovodsk 58.60 319 *iP* **P** **13 05 58.9 -0.5**
KIV pmax pmax
comp=Z,12nm,1.2s,mb4.8
ADE Adelaide 58.62 137 *eP* **P** **13 06 00.7 +1.0**
ASF Jabal al Asfar 58.91 304 P **P** **13 06 02.9 +1.2**
comp=Z,1.6nm,0.4s,mb4.4,baz=291,slow=5.4,SNR=3.7
STKA Stephens Creek 59.03 132 ⇓*iP* **P** **13 06 02.1 -0.5**
comp=Z,17nm,0.6s,mb5.2
STKA Stephens Creek 59.03 132 P **P** **13 06 02.2 -0.4**
comp=Z,26nm,0.8s,mb5.3,baz=308,slow=6.7,SNR=71
EIL Elat 59.98 301 *eP* **P** **13 06 09.4 +0.3**
comp=Z,12nm,0.9s,mb4.9
EIL *e* pP 13 06 16.3 -1.0
SOC Sochi 60.41 318 *eP* **P** **13 06 08.4 -3.5**
SOC *e* 13 08 20.3
SOC *eS* **S** **13 14 19.9 -3.6**
SOC pmax pmax
comp=Z,38nm,1.0s,mb5.4
SOC pmax pmax
comp=N,48nm,0.8s
SOC pmax pmax
comp=E,23nm,0.6s
CSS Prodhromos 62.46 307 P **P** **13 06 25.1 -0.8**
comp=E,33nm,1.2s,mb5.3
CSS *e* pP 13 06 33.6 -0.4
YAK Yakutsk 62.50 18 *eP* **P** **13 06 23.3 -2.4**
YAK pmax pmax
comp=Z,50nm,0.8s,mb5.7
YAK Yakutsk 62.50 18 *eP* **P** **13 06 23.3 -2.4**
comp=Z,50nm,0.8s,mb5.7
BRTR Keskin Array B 63.43 312 P **P** **13 06 30.5 -1.7**
comp=Z,2.1nm,0.8s,mb4.3,baz=121,slow=7.2,SNR=8.2
VRSR Storozhevoye 63.89 325 *eP* **P** **13 06 39.4 +4.3**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.1s
TOO Toolangi 64.65 136 ⇓*iP* **P** **13 06 41.0 +0.8**
comp=E,0.6nm,0.9s
TOO Toolangi 64.65 136 ⇓*iP* **P** **13 06 41.0 +0.8**
TOO pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
MOS Moscow 66.73 329 *eP* **P** **13 06 48.5 -4.8**
MOS *e* pP 13 06 57.7 -3.7
OBN Obninsk 67.00 329*c iP* **P** **13 06 53.2 -1.8**
OBN *e* 13 09 20.8
OBN *i* S S 13 16 01.1 +16
OBN pmax pmax
comp=Z,12nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
CFR Carcaliu 68.78 316 ⇓P pP 13 07 14.0 -0.5
MA2 Magadan 69.23 27 *eP* **P** **13 07 07.9 -0.9**
MA2 pmax pmax

comp=Z,6.0nm,0.7s,mb4.6
MA2 pmax pmax
comp=E,3.0nm,1.1s
MA2 Magadan 69.23 27 *e*P **P 13 07 07.7 -1.1**
comp=E,5.5nm,0.6s,mb4.7
IDI Anoyia 69.32 306 P **P 13 07 09.6 -0.2**
comp=E,6.5nm,0.5s,mb4.8,baz=124,slow=10,SNR=6.9
TIXI Tiksi 69.72 11⇑*i*P **P 13 07 09.4 -2.2**
TIXI pmax pmax
comp=Z,12nm,0.7s,mb4.9
MLR Muntele Rosu 70.36 316 P **P 13 07 16.2 +0.3**
comp=Z,13nm,1.0s,mb4.8,baz=130,slow=2.9,SNR=13
MLR Muntele Rosu 70.36 316⇑P **P 13 07 16.0 +0.1**
SEY Seymchan 71.41 24 *e*P **P 13 07 22.9 +0.9**
SEY 13 07 41.1
SEY *e* 13 10 03.3
SEY *e*PPP PPP 13 11 43.8 0.0
SEY 13 17 28.4
SEY pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SEY MLR MLR
comp=Z,800nm,21.0s,MS5.0
SEY MLR MLR
comp=E,400nm,20.0s
LBTB Lobatse 72.44 242 P **P 13 07 30.6 +1.9**
comp=E,2.0nm,0.9s,mb4.0,baz=118,slow=4.9,SNR=2.6
KWP Kalwaria 73.36 320 *e*P **P 13 07 32.9 -0.9**
BZS Buzias 73.37 316⇑P pP 13 07 41.2 -0.9
KOLS Kolonicke sedl 73.51 319 *e*P **P 13 07 34.8 +0.2**
KOLS *e*pP pP 13 07 42.3 -0.5
BOSA Boshof 73.68 238 P **P 13 07 36.4 +0.3**
comp=E,0.8nm,0.5s,mb3.9,baz=114,slow=10.0,SNR=3.6
BOSA LR LR 13 34 51.9
comp=E,162nm,18.2s,MS4.3,baz=83,slow=32
APA Apatity 73.82 340⇓*i*P **P 13 07 34.5 -1.5**
APA *i* pP 13 07 42.0 -2.2
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
APA MLR MLR
comp=Z,500nm,17.0s,MS4.9
SUW Suwalki 74.00 325 *e*P **P 13 07 36.2 -1.2**
CRVS Cervenica-Dubn 74.03 319 *e*P sP 13 07 49.3 +0.6
CRVS Cervenica-Dubn 74.03 319 *es*P sP 13 07 49.3 +0.6
FINES FINESS Array B 74.47 333 P **P 13 07 39.0 -0.9**
comp=Z,6.9nm,0.6s,mb4.7,baz=104,slow=7.9,SNR=29
FINES LR LR 13 44 46.8
comp=Z,152nm,19.6s,MS4.3,baz=148,slow=39
KAF Kangasniemi 74.57 333 *ep* **P 13 07 39.2 -1.3**
comp=Z,15nm,0.9s,mb4.9,baz=106,slow=5.5
KAF Kangasniemi 74.57 333 *e*P **P 13 07 39.2 -1.3**
KAF pmax pmax
comp=Z,15nm,0.9s,mb4.9
KECS Kecovo 74.60 319 *e*P **P 13 07 39.7 -1.2**
KECS *e* pP 13 07 49.1 0.0
NIE Niedzica 74.86 320 *e*P **P 13 07 41.8 -0.7**
OJC Ojcow 75.32 320 *e*P **P 13 07 44.9 -0.2**
VYHS Vyhne 75.68 319 *e*P **P 13 07 46.7 -0.5**
VYHS *e*pP pP 13 07 54.8 -0.6
MAW Mawson 76.05 192 P **P 13 07 50.2 +1.3**
comp=Z,8.8nm,0.9s,mb4.7,baz=38,slow=8.4,SNR=6.4
OKC Ostrava-Krasne 76.32 320 *e*P **P 13 07 51.4 +0.7**
OKC *e*pP pP 13 07 59.3 +0.4
OKC Ostrava-Krasne 76.32 320 *e*P **P 13 07 51.4 +0.7**
OKC *e*pP pP 13 07 59.3 +0.4
OKC AMS AMS 13 47 00.0
comp=Z,200nm,27.0s
MORC Moravsky Berou 76.70 320 *e*P **P 13 07 53.0 +0.2**
MORC *e* pP 13 08 00.2 -0.9
MORC pmax pmax
comp=Z,19nm,1.2s,mb4.9
MORC Moravsky Berou 76.70 320 *e*P **P 13 07 53.0 +0.2**
comp=Z,19nm,1.2s,mb4.9
MORC *e* pP 13 08 00.2 -0.8
ZST Bratislava 76.79 318 *e*P **P 13 07 53.6 +0.2**
ZST *e*pP pP 13 08 00.6 -1.1
KEV Kevo 76.84 341 *ep* **P 13 07 51.2 -2.0**
comp=Z,9.8nm,0.7s,mb4.8
KEV Kevo 76.84 341 *e*P **P 13 07 51.2 -2.0**
KEV pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ARCES ARCESS Array B 77.26 340 P **P 13 07 55.5 -0.1**
comp=Z,4.8nm,0.4s,mb4.8,baz=98,slow=5.8,SNR=51
ARCES LR LR 13 45 28.6
comp=Z,218nm,18.6s,MS4.5,baz=16,slow=38
DPC Dobruska-Polom 77.55 320 *e*P **P 13 07 58.2 +0.7**
DPC *e*pP pP 13 08 05.8 0.0
KSP Ksiaz 77.62 321 *e*P **P 13 07 58.0 +0.1**
KSP *e**PP pP 13 08 05.8 -0.4
KSP Ksiaz 77.62 321 *e*P **P 13 07 58.5 +0.6**
GROS Grobnik 77.70 316 *e*P **P 13 07 58.5 0.0**
ARSA Arzberg 77.76 317⇑*i*P **P 13 07 59.5 +0.7**
comp=Z,23nm,1.0s,mb5.1
UPC Upice 77.76 320 *e*P **P 13 07 59.5 +0.8**
UPC *e*pP pP 13 08 06.8 -0.2
BOJS Bojanci 77.79 315 *e*P **P 13 07 58.5 -0.5**
BOJS *e* pP 13 08 06.5 -0.7
PDKS Podkum 78.02 316 *e*P **P 13 08 00.1 -0.1**
OBKA Obir 78.36 316⇓*i*P **P 13 08 02.2 +0.1**
comp=Z,19nm,1.1s,mb4.9
BILL Bilibino 78.58 22⇑*i*P **P 13 08 02.3 -0.6**
BILL pmax pmax
comp=Z,11nm,1.2s,mb4.7
PRU Pruhonice 78.65 320 *e*P **P 13 08 04.0 +0.4**
PRU *e*pP pP 13 08 12.1 +0.2
PRU AMS AMS 13 47 10.0
comp=Z,100nm,17.9s
MOA Molln 78.66 318⇑*i*P **P 13 08 03.9 +0.2**
comp=Z,15nm,1.3s,mb4.8
PVCC Panska Ves 78.68 320 *e*P **P 13 08 04.4 +0.6**
PVCC *e*pP pP 13 08 11.8 -0.2
PVCC AMS AMS 13 47 50.0
comp=Z,100nm,16.4s
VOY Vojsko 78.78 316 *e*P **P 13 08 04.2 -0.2**
VOY *e* pP 13 08 11.7 -1.0
GEC2 GERESS Array S 79.11 319 *e*P **P 13 08 06.4 +0.3**
GEC2 pmax pmax
comp=Z,28nm,1.1s,mb5.1
GEC2 GERESS Array S 79.11 319 *e*P **P 13 08 06.4 +0.3**
comp=Z,28nm,1.1s,mb5.1
GERES GERESS Array B 79.11 319 P **P 13 08 06.4 +0.3**
comp=Z,8.9nm,0.9s,mb4.7,baz=90,slow=5.3,SNR=53
BRG Berggiesshubel 79.11 321 *e*P **P 13 08 06.4 +0.3**
BRG *e* pP 13 08 14.5 +0.1
BRG pmax pmax
comp=Z,13nm,1.2s,mb4.7
BRG Berggiesshubel 79.11 321 *e*P **P 13 08 06.4 +0.3**
comp=Z,13nm,1.2s,mb4.7
BRG *e* pP 13 08 14.5 +0.1
PTCC Patocco-Chiusa 79.18 316 *e*P **P 13 08 06.6 0.0**
KHC Kasperske Hory 79.21 319 *e*P **P 13 08 06.5 -0.2**
KHC *e* pP 13 08 14.5 -0.4
KHC Kasperske Hory 79.21 319 *e*P **P 13 08 06.5 -0.2**
KHC pP pP 13 08 14.5 -0.4
KBA Koelnbreinsper 79.22 317⇑*i*P **P 13 08 06.6 -0.2**
comp=Z,13nm,1.2s,mb4.7
KBA Koelnbreinsper 79.22 317⇑*i*P **P 13 08 06.6 -0.2**
KBA pmax pmax
comp=Z,13nm,1.2s,mb4.7
ARV Arcevia 79.32 313 *e*P **P 13 08 07.4 0.0**
FVI Forni Avoltri 79.58 316 *e*P **P 13 08 08.9 +0.1**
WET Wettzell 79.67 319 *e*P **P 13 08 09.3 +0.2**
WET pmax pmax
comp=Z,14nm,1.1s,mb4.8
WET Wettzell 79.67 319 *e*P **P 13 08 09.3 +0.2**
comp=Z,14nm,1.1s,mb4.8
CLL Collm 79.73 321 *i* P **P 13 08 08.9 -0.5**
CLL *i* pP 13 08 17.1 -0.6
CLL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLL Collm 79.73 321 *i* P **P 13 08 08.9 -0.5**
comp=Z,6.0nm,0.9s,mb4.5
CLL *i* pP 13 08 17.1 -0.6
CLL Collm 79.73 321 P **P 13 08 08.9 -0.5**
comp=Z,logA/T=0.8,mb4.5
CLL *i* *PP pP 13 08 17.1 -0.6
NKC Novy Kostel 80.01 320 *e*P **P 13 08 12.1 +1.1**
NKC *e*pP pP 13 08 19.5 +0.2
NKC AMS AMS 13 48 50.0
comp=Z,100nm,19.3s
SFI Santa Sofia 80.13 313 *e*P **P 13 08 12.8 +1.1**
HFS Hagfors 80.14 330 P **P 13 08 11.0 -0.5**
comp=Z,3.6nm,0.6s,mb4.5,baz=117,slow=6.6,SNR=25
PGD Poggio Sodo 80.22 313 *e*P **P 13 08 13.4 +1.2**
CTI Castel Tesino 80.34 316 *e*P **P 13 08 13.3 +0.5**

VMG Vicchio 80.35 314 *e*P **P 13 08 14.1 +1.2**
WTTA Wattenberg 80.40 317⇑*i*P **P 13 08 13.0 -0.1**
comp=Z,26nm,1.0s,mb5.1
WTTA Wattenberg 80.40 317⇑*i*P **P 13 08 13.0 -0.1**
WTTA pmax pmax
comp=Z,26nm,1.0s,mb5.1
WATA Walderalm 80.44 317⇓*i*P **P 13 08 12.9 -0.4**
comp=Z,12nm,1.1s,mb4.8
WATA Walderalm 80.44 317⇓*i*P **P 13 08 12.9 -0.4**
WATA pmax pmax
comp=Z,12nm,1.1s,mb4.7
MOX Moxa 80.57 320 *e*P **P 13 08 14.1 +0.2**
MOX Moxa 80.57 320 *i* P **P 13 08 14.1 +0.2**
SQTA Sankt Quirin 80.69 317⇑*i*P **P 13 08 14.5 -0.1**
comp=Z,14nm,1.0s,mb4.8
SQTA Sankt Quirin 80.69 317⇑*i*P **P 13 08 14.5 -0.1**
SQTA pmax pmax
comp=Z,14nm,1.0s,mb4.8
MOTA Moosalm 80.76 317⇑*i*P **P 13 08 14.8 -0.2**
GRA1 Grafenberg Arr 80.78 319 *e*P **P 13 08 15.1 +0.1**
comp=Z,22nm,1.0s,mb5.0
GRA1 *e*pP pP 13 08 23.6 +0.3
GRF Grafenberg Arr 80.78 319 *e*P **P 13 08 15.1 +0.1**
GRF *e**PP pP 13 08 23.6 +0.3
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 80.78 319 *e*P **P 13 08 15.1 +0.1**
GRF *e**PP pP 13 08 23.6 +0.3
GRF pmax pmax
comp=Z,22nm,1.0s,mb5.0
GRF Grafenberg Arr 80.78 319 *e*P **P 13 08 15.1 +0.1**
comp=Z,22nm,1.0s,mb5.0
GRF *e*pP pP 13 08 23.6 +0.3
CLZ Clausthal 81.40 321 *e*P **P 13 08 18.4 +0.1**
CLZ pmax pmax
comp=Z,19nm,1.1s,mb4.9
CLZ Clausthal 81.40 321 *e*P **P 13 08 18.4 +0.1**
comp=Z,19nm,1.1s,mb4.9
NB2 NORSAR Subarra 81.44 331 P **P 13 08 17.5 -0.8**
comp=Z,9.7nm,1.2s,mb4.6,baz=98,slow=4.8
NB2 NORSAR Subarra 81.44 331 P **P 13 08 17.5 -0.8**
NB2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
NOA NORSAR Array B 81.44 331 P **P 13 08 17.8 -0.5**
comp=Z,2.9nm,0.8s,mb4.3,baz=94,slow=5.6,SNR=7.6
DAVOX Davos 81.59 316 P **P 13 08 20.0 +0.6**
comp=Z,15nm,0.7s,mb5.0,baz=107,slow=6.6,SNR=18
DAVA Damuels 81.59 317⇑*i*P **P 13 08 19.9 +0.5**
comp=Z,22nm,1.0s,mb5.0
TNS Taunus Mts 82.58 320 *e*P **P 13 08 24.6 +0.2**
BFO Black Forest 82.65 318 *e*P **P 13 08 24.6 -0.2**
BFO pmax pmax
comp=Z,11nm,1.1s,mb4.8
BFO Black Forest 82.65 318 *e*P **P 13 08 24.6 -0.2**
comp=Z,11nm,1.1s,mb4.8
SYO Syowa Base 82.90 197⇑P **P 13 08 27.2 +1.5**
LPG La Plagne 83.77 315 *e*P **P 13 08 31.1 +0.5**
comp=Z,20nm,0.8s,mb5.0
LPG La Plagne 83.77 315 *e*P **P 13 08 31.1 +0.5**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
BNI Bardonecchia 83.83 315 *e*P **P 13 08 30.8 -0.2**
BNI pmax pmax
comp=Z,18nm,1.1s,mb5.1
BNI Bardonecchia 83.83 315 *e*P **P 13 08 30.8 -0.2**
comp=Z,18nm,1.1s,mb5.1
RPZ Rata Peaks 84.91 135 P **P 13 08 36.9 +0.5**
comp=Z,7.6nm,0.7s,mb4.9,baz=288,slow=11,SNR=5.9
TNA Tin City 88.65 24 *e*P **P 13 08 53.5 -0.7**
comp=Z,4.9nm,0.9s,mb4.8
TNA *e* 13 09 03.9
EKA Eskdalemuir Ar 89.25 325 P **P 13 08 57.8 +0.5**
comp=Z,4.6nm,0.6s,mb5.0,baz=92,slow=5.4,SNR=16
VNDA Vanda 90.75 168 P **P 13 09 04.9 +1.1**
comp=Z,2.0nm,0.8s,mb4.5,baz=273,slow=4.5,SNR=10
VNDA Vanda 90.75 168 *e*P **P 13 09 04.6 +0.8**
comp=Z,3.7nm,0.8s,mb4.8
ESDC Sonseca Array 92.17 310 P **P 13 09 12.1 +0.9**
comp=Z,0.9nm,0.5s,mb4.4,baz=44,slow=5.4,SNR=4.4
IMA Indian Mountai 94.12 22 *e*P **P 13 09 20.1 +0.7**
DBIC Dimbokro 97.51 277 LR LR 13 52 35.7
comp=Z,57nm,21.4s,MS4.0,baz=75,slow=35
INK Inuvik 99.49 16 P **P 13 09 44.3 +0.5**
comp=Z,0.3nm,0.4s,mb4.2,baz=253,slow=7.3,SNR=12
YKA Yellowknife Ar 108.92 13 PP PP 13 14 54.5 -6.9
comp=Z,0.8nm,1.0s,baz=333,slow=7.2,SNR=5.6
MSO Missoula 122.58 22 *e*PKP PKPdf 13 14 56.9 -3.6
CHMT Chamberlain Mo 122.76 21 *e*PKP PKPdf 13 14 57.6 -3.2
ULM Lac du Bonnet 123.93 7 PKP PKPdf 13 14 59.4 -3.7
comp=Z,0.7nm,0.3s,baz=22,slow=3.5,SNR=7.6
LAO LASA Array 125.23 16 PKP PKPdf 13 15 03.8 -1.9
LKWY Lake 125.80 21 *e*PKP PKPdf 13 15 05.6 -1.2
SNOW Snow King Moun 126.62 22 *e*PKP PKPdf 13 15 06.5 -1.9
REDW Red Top Meadow 126.67 22 *e*PKP PKPdf 13 15 06.3 -2.2
REDW *e* 13 15 14.4
PDAR Pinedale Array 127.66 21 PKP PKPdf 13 15 07.6 -2.9
comp=Z,3.4nm,0.8s,baz=31,slow=1.8,SNR=28
HWUT Hardware Ranch 127.90 24 *e*PKP PKPdf 13 15 08.5 -2.6
RSSD Black Hills 128.20 16 PKP PKPdf 13 15 09.2 -2.3
DUG Dugway 128.56 26 *e*PKP PKPdf 13 15 10.7 -1.6
DUG *e* 13 15 18.8
MSU Marysvale 130.23 26 *e*PKP PKPdf 13 15 14.3 -1.2
ANMO Albuquerque 135.66 24 *e*PKP PKPdf 13 15 24.0 -1.8
LPM Los Pinos Moun 136.15 24 *e*PKP PKPdf 13 15 25.1 -1.6
MNTX Cornudas Mount 138.93 25 *e*PKP PKPdf 13 15 29.4 -2.4
TXAR Lajitas Array 141.71 24 PKHKP 13 15 29.8
comp=Z,0.8nm,0.6s,baz=193,slow=0.7,SNR=6.3
TXAR PKP PKPdf 13 15 36.0 -1.0
comp=Z,2.0nm,0.5s,baz=94,slow=0.3,SNR=14
LVC Limon Verde 155.85 223 *e*PKPab PKPab 13 16 24.5 +0.6
LPAZ La Paz 158.92 238 PKP PKPdf 13 16 02.2 -1.1
comp=Z,1.9nm,0.7s,baz=36,slow=2.1,SNR=6.8
LPAZ La Paz 158.92 238 PKP PKPdf 13 16 02.2 -1.1
OTAV Otavalo 170.06 305 *e*PKPab PKPab 13 17 26.7 +0.8

*BJI **29** 13:00:07.6, 4.61N×93.22E, h36km, mb4.9*
*IDC **29** 13:00:12.1±0.8, 6.08N×94.14E, mb4.6/11, mb1 4.6/11, mb1mx4.3/19, mbtmp4.6/11, MS4.2/1, Ms1 4.2/1, ms1mx3.0/30, Error ellipse: s-maj=47.2km s-min=14.8km az=50.0*
*NEIC **29** 13:00:14.3±0.5, 5.40N×93.28E, mb4.6/8, Error ellipse: s-maj=14.3km s-min=7.2km az=55.0*
ISC 29 13:00:13.5±0.7, 5.42N±0.09×93.3E±0.1, h33km, n34, σ0§80/30, mb4.4/17, MS4.3/1, 1C-5D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KULM	**Kulim**	**7.29**	**91**	*e*P	**P**		**13 02 00.2**	**-0.1**
CM31	**Chiang Mai Arr**	**14.06**	**22**	P	**P**		**13 03 33.7**	**+1.0**
QIZ	**Qiongzhong**	**21.02**	**49**⇑	P	**P**		**13 04 57.8**	**+1.0**
QIZ	**Qiongzhong**	**21.02**	**49**	*e*P	**P**		**13 04 56.7**	**-0.1**
	14nm,0.9s,mb4.3							
LSA	**Lhasa**	**24.23**	**355**	*e*P	**P**		**13 05 31.1**	**+2.6**
	25nm,0.9s,mb4.6							
CD2	**Chengdu**	**27.18**	**20**	*e*P	**P**		**13 05 55.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.52**	**127**⇓	*i*P	**P**		**13 07 42.8**	**-0.3**
	11nm,0.7s,mb4.7							
FITZ	**Fitzroy Crossi**	**39.52**	**127**	P	**P**		**13 07 42.7**	**-0.3**
	16nm,0.7s,mb4.8,baz=314,slow=2.7,SNR=8.6							
FITZ				PcP	PcP		13 09 51.6	+0.7
	5.0nm,0.8s,baz=340,slow=4.5,SNR=3.7							
AAK	**Ala-Archa**	**40.65**	**339**	*e*P	**P**		**13 07 53.2**	**+1.0**
	6.0nm,1.1s,mb4.1							
MKAR	**Makanchi Array**	**42.30**	**349**	P	**P**		**13 08 05.5**	**-0.3**
	3.2nm,0.7s,mb4.0,baz=166,slow=8.0,SNR=6.1							
SONM	**Songino Array**	**43.71**	**13**	PcP	PcP		13 10 04.1	-0.3
	1.0nm,0.6s,baz=194,slow=3.3,SNR=5.0							
ULN	**Ulaanbaatar**	**43.89**	**13**	*e*P	**P**		**13 08 17.5**	**-1.1**
	2.6nm,0.8s,mb4.0							
KURK	**Kurchatov**	**46.79**	**347**	*e*P	**P**		**13 08 41.1**	**-0.6**
	5.4nm,0.8s,mb4.5							
WRA	**Warramunga Arr**	**47.55**	**123**	P	**P**		**13 08 48.3**	**+0.3**
	22nm,0.8s,mb5.2,baz=301,slow=9.1,SNR=36							
WRAB	**Tennant Creek**	**47.55**	**123**	P	**P**		**13 08 48.0**	**-0.1**
	210nm,0.7s,SNR=15							
WRAB	**Tennant Creek**	**47.55**	**123**⇓	*e*P	**P**		**13 08 48.3**	**+0.2**
	28nm,0.9s,mb5.3							
WRAB				*e*pP	pP		13 08 57.1	-0.9
WB2	**Warramunga Arr**	**47.56**	**123**⇓	*i*P	**P**		**13 08 48.3**	**+0.1**
ASPA	**Alice Springs**	**49.01**	**128**⇓	*i*P	**P**		**13 08 59.6**	**+0.2**
ASAR	**Alice Springs**	**49.01**	**128**	P	**P**		**13 08 59.5**	**+0.2**
	5.6nm,0.8s,mb4.7,baz=302,slow=7.5,SNR=14							
ASAR				PcP	PcP		13 10 23.6	+0.3
	2.5nm,0.6s,baz=299,slow=3.6,SNR=6.7							
BVAR	**Borovoye Array**	**51.05**	**342**	P	**P**		**13 09 14.3**	**-0.3**
	2.2nm,0.7s,mb4.2,baz=180,slow=10,SNR=5.1							
JHJ	**Hachijo jima 2**	**51.19**	**51**	P	**P**		**13 09 08.4**	**-7.5**
	99nm,0.4s,baz=246,slow=0.7,SNR=5.1							
CHKZ	**Chkalovo**	**51.55**	**343**	*e*P	**P**		**13 09 18.1**	**-0.2**
	4.8nm,0.7s,mb4.5							
CHKZ				*e*pP	pP		13 09 25.1	-3.2
PMG	**Port Moresby**	**55.63**	**105**	LR	LR		13 37 37.8	
	comp=Z,214nm,18.3s,MS4.3,baz=253,slow=41							
STKA	**Stephens Creek**	**59.03**	**132**⇓	*i*P	**P**		**13 10 13.1**	**+0.3**
	4.2nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**59.03**	**132**	P	**P**		**13 10 12.9**	**+0.1**
	5.6nm,0.7s,mb4.7,baz=324,slow=10,SNR=7.4							
STKA	**Stephens Creek**	**59.03**	**132**	*e*P	**P**		**13 10 12.9**	**+0.1**
YAK	**Yakutsk**	**62.56**	**18**	*e*P	**P**		**13 10 34.4**	**-1.9**
BRTR	**Keskin Array B**	**63.44**	**312**	P	**P**		**13 10 46.6**	**+4.2**
	1.3nm,0.8s,mb4.1,baz=112,slow=6.7,SNR=4.9							
FINES	**FINESS Array B**	**74.50**	**333**	P	**P**		**13 11 49.8**	**-0.4**
	1.4nm,0.7s,mb4.0,baz=117,slow=13,SNR=4.7							
ARCES	**ARCESS Array B**	**77.29**	**340**	P	**P**		**13 12 05.8**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=117,slow=5.4,SNR=6.8							
ARCES	**ARCESS Array B**	**77.29**	**340**	P	**P**		**13 12 05.8**	**-0.2**
GERES	**GERESS Array B**	**79.11**	**319**	P	**P**		**13 12 17.1**	**+0.7**
	1.3nm,0.7s,mb4.0,baz=90,slow=6.7,SNR=5.7							
PDAR	**Pinedale Array**	**127.73**	**21**	PKP	PKPdf		13 19 17.6	+1.5
	0.5nm,0.8s,SNR=4.1							
TXAR	**Lajitas Array**	**141.78**	**24**	PKP	PKPdf		13 19 46.5	+4.0
	0.3nm,0.8s,baz=46,slow=1.4,SNR=3.6							

IDC 29 13:06:01.9±3.7, 0.15S×100.52E, mb4.0/5, mb1 4.2/5, mb1mx3.8/16, mbtmp4.0/5, 1C, Error ellipse: s-maj=199.4km s-min=26.3km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**30.46**	**127**	P	P		13 12 18.0	-0.8
	3.6nm,0.7s,baz=321,slow=4.6,SNR=4.6							
WRA	**Warramunga Arr**	**38.51**	**123**	P	P		13 13 25.8	-2.1
	4.5nm,0.8s,baz=301,slow=9.1,SNR=16							
WB2	**Warramunga Arr**	**38.52**	**123**⇑	*i*P	P		13 13 26.1	-1.9
ASAR	**Alice Springs**	**39.95**	**128**	P	P		13 13 37.0	-2.8
	1.3nm,0.7s,baz=299,slow=8.0,SNR=7.2							
MKAR	**Makanchi Array**	**49.41**	**344**	P	P		13 14 53.4	-2.0
	0.3nm,0.4s,baz=164,slow=8.3,SNR=5.1							
STKA	**Stephens Creek**	**50.01**	**133**	P	P		13 14 58.5	-1.7
	0.7nm,0.6s,baz=270,slow=20,SNR=2.8							

IGQ 29 13:06:07.5, 3.81S×77.65W, h12km±4km, mb4.4, 2D, Error ellipse: s-maj=20.3km s-min=4.4km az=159.2, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARRY	**Arrayan**	**2.43**	**341**	⇓P	P		13 06 49.2	+1.5
ARRY				S		Sn	13 07 18.8	+1.3
ULBA	**Ulba**	**2.47**	**342**	⇓P	P		13 06 50.2	+1.9
ULBA				S		Sn	13 07 20.8	+2.3
RETU	**Refugio**	**2.48**	**341**	P	P		13 06 50.5	+2.1
RETU				S		Sn	13 07 21.4	+2.6
CUSU	**Cusua**	**2.50**	**341**	P	P		13 06 51.2	+2.6
CUSU				S		Sn	13 07 21.5	+2.2
IGUA	**Igualata**	**2.51**	**337**	P	P		13 06 51.3	+2.5
IGUA				S		Sn	13 07 23.1	+3.5
PISA	**Pisayambo**	**2.83**	**345**	P	P		13 06 55.2	+1.8
PISA				S		Sn	13 07 34.9	+7.1
TAMB	**Tambo**	**3.18**	**347**	P	P		13 07 00.1	+1.8
VC1	**Cotopaxi 1**	**3.24**	**347**	P	P		13 07 01.7	+2.5
VC1				S		Sn	13 07 45.9	+7.9
NAS1	**Nasa**	**3.26**	**345**	P	P		13 07 02.7	+3.1
NAS1				S		Sn	13 07 47.7	+9.0
ANTI	**Antisana**	**3.38**	**351**	P	P		13 07 01.6	+0.4
CONE	**Cono NE Rev Vo**	**3.72**	**0**	P	P		13 07 06.0	0.0
TERV	**Terraza Guagua**	**3.74**	**345**	P	P		13 07 14.1	+7.8
PINO	**Pino**	**3.75**	**345**	P	P		13 07 10.6	+4.0
CAYR	**Refugio Cayamb**	**3.82**	**355**	P	P		13 07 16.6	+9.1
CAYA	**Cayambe**	**3.87**	**355**	P	P		13 07 17.4	+9.2
JOR1	**San Jorge 1**	**3.91**	**345**	P	P		13 07 12.8	+4.0
ECEN	**Cerro Negro**	**4.62**	**356**	P	P		13 07 36.7	+18

*IDC **29** 13:12:31.6±2.2, 0.91N×97.30E, h22km±5km, mb3.4/5, mb1 3.5/5, mb1mx3.4/17, mbtmp3.6/5, Error ellipse: s-maj=92.8km s-min=17.8km az=56.0*
ISC 29 13:12:28.9±1.3, 0.8N±0.3×97.1E±0.3, h22km, (h22km±7km:pP-P), n6, σ0§71/6, mb3.6/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
POO	**Poona**	**28.83**	**309**	*e*P	**P**		**13 18 28.0**	**-0.1**
WRA	**Warramunga Arr**	**41.91**	**122**	P	**P**		**13 20 19.5**	**-0.4**
	0.4nm,0.6s,mb3.2,baz=302,slow=9.1,SNR=5.6							
ASAR	**Alice Springs**	**43.23**	**127**	P	**P**		**13 20 31.1**	**+0.4**
	0.3nm,0.6s,mb3.2,baz=302,slow=7.8,SNR=5.1							
ASAR				pP	pP		13 20 37.6	+0.4
	0.3nm,0.5s,baz=296,slow=7.8,SNR=3.0							
SONM	**Songino Array**	**47.51**	**8**	P	**P**		**13 21 04.2**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=189,slow=11,SNR=4.1							
SONM				pP	pP		13 21 11.4	+0.3
	0.3nm,0.7s,baz=166,slow=5.9,SNR=2.7							
MKAR	**Makanchi Array**	**47.58**	**346**	P	**P**		**13 21 06.0**	**+0.9**
	1.1nm,0.5s,mb4.1,baz=158,slow=8.1,SNR=12							
MKAR				pP	pP		13 21 13.1	+1.4
	0.5nm,0.4s,baz=156,slow=8.9,SNR=5.2							
BVAR	**Borovoye Array**	**56.57**	**341**	P	**P**		**13 22 11.8**	**-0.5**
	0.5nm,0.5s,mb3.8,baz=129,slow=9.2,SNR=3.3							
BVAR				pP	pP		13 22 18.0	-1.1
	0.6nm,0.5s,baz=145,slow=7.7,SNR=2.7							

*MOS **29** 13:20:17.2±1.5, 52.65N×159.46E, h60km, mb4.5/4, Error ellipse: s-maj=13.3km s-min=6.7km az=88.4*
MOS Felt (II) at Petropavlovsk-Kamchatskii.
*NEIC **29** 13:20:18.8±0.9, 52.75N×159.31E, h57km±8km, mb4.3/8, Error ellipse: s-maj=12.3km s-min=8.4km az=179.0*
NEIC Felt [II] at Petropavlovsk-Kamchatskiy.
*IDC **29** 13:20:18.6±3.0, 52.86N×159.26E, h48km±29km, mb3.7/14, mb1 4.0/16, mb1mx3.9/22, mbtmp4.1/16, ML4.1/2, Error ellipse: s-maj=20.6km s-min=14.5km az=158.0*
*KRSC **29** 13:20:19.3±0.6, 52.69N×159.59E, h38km±4km, ML4.6*
ISC 29 13:20:18.3±0.4, 52.67N±0.03×159.60E±0.06, h65km±3km, n77, σ1§19/106, mb4.1/21, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.50**	**30**	*i*P	**P**		**13 20 30.0**	**-0.9**
SPN				*i*S	**S**		**13 20 37.8**	**-2.2**
NLC	**Nalytchevo**	**0.53**	**343**	P	**P**		**13 20 30.6**	**-0.6**
NLC				S	**S**		**13 20 39.2**	**-1.3**
NLC	**Nalytchevo**	**0.53**	**343**	*i*P	**P**		**13 20 30.5**	**-0.7**
NLC				*i*S	**S**		**13 20 39.2**	**-1.3**
PET	**Petropavlovsk**	**0.68**	**302**	P	**P**		**13 20 32.5**	**-0.3**
PET				S	**S**		**13 20 42.0**	**-1.5**
PET	**Petropavlovsk**	**0.68**	**302**⇓	*i*PN	**P**		**13 20 32.5**	**-0.3**
PET				*e*S	**S**		**13 20 42.0**	**-1.5**
PET				pmax	pmax			
	comp=Z,3μm,0.3s							
PET				pmax	pmax			
	comp=Z,3μm,0.3s							
PET				smax				
	comp=E,16μm,0.9s							
PET				smax				
	comp=E,15μm,0.9

SMAR	**Somma**	**0.77**	**321**	*i* P		**P**	**13 20 33.8**	**-0.1**
AVH	**Avacha**	**0.80**	**319**	*i* P		**P**	**13 20 34.6**	**+0.4**
AVH				*i* S		**S**	**13 20 45.6**	**-0.4**
KOK	**Koryaka**	**0.86**	**317**	*i* P		**P**	**13 20 35.3**	**+0.3**
KOK				*i* S		**S**	**13 20 47.0**	**-0.3**
KRMR	**Karymshinskiy**	**0.91**	**281**	*i* P		**P**	**13 20 35.6**	**0.0**
KRMR				*i* S		**S**	**13 20 47.5**	**-1.0**
GRL	**Gorelyy**	**0.94**	**264**	*i* P		**P**	**13 20 37.1**	**+1.1**
GRL				*e*S		**S**	**13 20 50.4**	**+1.2**
KII	**Karymskiy**	**1.38**	**356**	P		**P**	**13 20 42.1**	**+0.1**
KII				S		**S**	**13 20 58.5**	**-1.1**
KII	**Karymskiy**	**1.38**	**356**	*i* P		**P**	**13 20 42.0**	**0.0**
KII				*i* S		**S**	**13 20 58.8**	**-0.8**
GNL	**Ganaly**	**1.44**	**317**	*i* P		**P**	**13 20 43.4**	**+0.6**
GNL				*i* S		**S**	**13 21 01.7**	**+0.8**
APC	**Apacha**	**1.51**	**281**	*i* P		**P**	**13 20 45.0**	**+1.2**
APC				*i* S		**S**	**13 21 04.1**	**+1.5**
APC	comp=N,2μm,0.7s			Smax				
PAU	**Pauzhetka**	**2.10**	**236**	*i* P		**P**	**13 20 53.7**	**+1.8**
PAU				*e*S		**S**	**13 21 18.2**	**+1.4**
PAU	comp=N,1μm,0.5s			Smax				
MKZ	**Mys Kozlova**	**2.28**	**33**	P		**P**	**13 20 54.0**	**-0.5**
MKZ				S		**S**	**13 21 19.2**	**-2.1**
MKZ	**Mys Kozlova**	**2.28**	**33**	*e*P		**P**	**13 20 54.9**	**+0.4**
MKZ				*e*S		**S**	**13 21 20.8**	**-0.6**
TUMR	**Tumrok**	**2.64**	**7**	*e*P		**P**	**13 21 01.4**	**+1.8**
TUMR				*e*S		**S**	**13 21 32.4**	**+1.9**
ALID	**Alaid**	**3.10**	**236**	*e*P		**P**	**13 21 06.1**	**+0.1**
KMNR	**Kamenistaya**	**3.12**	**7**	*e*P		**P**	**13 21 07.8**	**+1.5**
KMNR				*e*S		**S**	**13 21 43.2**	**+0.7**
ESO	**Esso**	**3.31**	**351**	*i* P		**P**	**13 21 09.1**	**+0.1**
ESO	comp=N,110nm,0.8s			Smax				
KOZ	**Kozyrevsk**	**3.40**	**3**	P		**P**	**13 21 11.4**	**+1.1**
KOZ	**Kozyrevsk**	**3.40**	**3**	*e*P		**P**	**13 21 11.3**	**+1.0**
KOZR	**Kozyr**	**3.41**	**3**	PN		**P**	**13 21 11.4**	**+1.0**
SRDR	**Sredinnyy**	**3.66**	**1**	*e*P		**P**	**13 21 14.0**	**+0.1**
KLY	**Klyuchi**	**3.71**	**9**	P		**P**	**13 21 15.8**	**+1.3**
KLY				S		**S**	**13 21 57.1**	**-0.2**
KLY	**Klyuchi**	**3.71**	**9**	*e*P		**P**	**13 21 16.0**	**+1.5**
KLY				*e*S		**S**	**13 21 57.4**	**+0.1**
KBTR	**Krutoberegovo**	**4.01**	**27**	P		**P**	**13 21 19.7**	**+0.8**
KBTR				S		**S**	**13 22 03.9**	**-1.1**
KBTR	**Krutoberegovo**	**4.01**	**27**	*e*P		**P**	**13 21 20.4**	**+1.5**
KBTR				*e*S		**S**	**13 22 04.8**	**-0.2**
KBG	**Krutoberegovo**	**4.03**	**25**	*e*P		**P**	**13 21 22.0**	**+3.0**
KBG				*e*S		**S**	**13 22 07.3**	**+2.0**
KBG	comp=N,810nm,0.6s			Smax				
BKI	**Bering**	**4.54**	**53**	*i* P		**P**	**13 21 25.0**	**-1.2**
BKI				*i* S		**S**	**13 22 12.0**	**-6.2**
FX1	**Attu Island--F**	**8.23**	**83**	P		**P**	**13 22 16.4**	**-0.9**
FX1	comp=N,17nm,0.3s,baz=308,slow=3.0,SNR=117			S		**S**	**13 23 41.7**	**-8.0**
FX1	comp=N,11nm,0.3s,baz=250,slow=2.3,SNR=10 **Attu Island--F**	**8.23**	**83**	*e*P		**P**	**13 22 16.3**	**-1.0**
MA2	**Magadan**	**8.50**	**328**	*e*PN		**P**	**13 22 19.0**	**-2.0**
MA2	comp=Z,3.0nm,1.3s			pmax	pmax			
MA2	**Magadan**	**8.50**	**328**	P		**P**	**13 22 15.2**	**-5.8**
SMY	**Shemya**	**8.81**	**84**	*e*PN		**P**	**13 22 24.5**	**-0.7**
ASAJ	**Asahikawa**	**14.14**	**240**	P		**P**	**13 23 36.9**	**+0.4**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax			
ASAJ	**Asahikawa**	**14.14**	**240**	P		**P**	**13 23 36.9**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=87,slow=12,SNR=5.0							
BILL	**Bilibino**	**15.76**	**9**	*e*P		**P**	**13 23 58.5**	**+1.4**
BILL	comp=Z,4.0nm,0.5s			pmax	pmax			
BILL	**Bilibino**	**15.76**	**9**	*e*P		**P**	**13 23 58.5**	**+1.4**
	comp=Z,3.6nm,0.5s							
YAK	**Yakutsk**	**18.50**	**312**	*e*P		**P**	**13 24 27.9**	**-3.3**
YAK	comp=Z,16nm,0.8s			pmax	pmax			
YAK	**Yakutsk**	**18.50**	**312**	*e*P		**P**	**13 24 27.9**	**-3.2**
	comp=Z,16nm,0.8s							
TNA	**Tin City**	**20.77**	**39**	*e*P		**P**	**13 24 55.8**	**+0.1**
	comp=Z,2.9nm,0.8s							
MAJO	**Matsushiro**	**22.05**	**232**	P		**P**	**13 25 07.2**	**-1.4**
MAJO	comp=Z,8.0nm,0.6s,mb4.2			pmax	pmax			
MAJO	**Matsushiro**	**22.05**	**232**	P		**P**	**13 25 07.2**	**-1.4**
	comp=Z,7.7nm,0.6s,mb4.2							
TIXI	**Tiksi**	**23.35**	**336**	*e*P		**P**	**13 25 19.2**	**-1.6**
TIXI	comp=Z,3.0nm,0.7s,mb3.7			pmax	pmax			
COLA	**College**	**26.91**	**45**	*i* P		**P**	**13 26 14.1**	**+1.4**
SONM	**Songino Array**	**33.71**	**284**	P		**P**	**13 26 53.4**	**-1.6**
	comp=Z,0.2nm,0.3s,mb3.4,baz=63,slow=8.2,SNR=5.9							
SONM				PcP	PcP		13 29 32.5	-1.1
	comp=Z,0.4nm,0.7s,baz=90,slow=1.4,SNR=3.8							
INK	**Inuvik**	**34.39**	**37**	P		**P**	**13 27 00.7**	**+0.1**
	comp=Z,2.0nm,0.3s,mb4.4,baz=272,slow=6.0,SNR=29							
INK				PcP	PcP		13 29 35.1	-0.2
	comp=Z,0.3nm,0.4s,baz=206,slow=2.3,SNR=4.6							
YKA	**Yellowknife Ar**	**43.68**	**42**	P		**P**	**13 28 18.3**	**+0.7**
	comp=Z,0.7nm,0.7s,mb3.5,baz=302,slow=8.1,SNR=14							
KURK	**Kurchatov**	**47.71**	**302**	*e*P		**P**	**13 28 46.7**	**-3.1**
KURK	comp=Z,3.0nm,0.5s,mb4.4			pmax	pmax			
KURK	**Kurchatov**	**47.71**	**302**	*e*P		**P**	**13 28 46.6**	**-3.2**
	comp=Z,2.6nm,0.5s,mb4.3							
MKAR	**Makanchi Array**	**48.07**	**296**	P		**P**	**13 28 50.5**	**-2.2**
	comp=Z,1.0nm,0.4s,mb4.0,baz=56,slow=7.0,SNR=27							
CHKZ	**Chkalovo**	**49.92**	**309**	*e*P		**P**	**13 29 03.2**	**-3.6**
CHKZ	comp=Z,3.0nm,0.4s,mb4.6			pmax	pmax			
CHKZ	**Chkalovo**	**49.92**	**309**	*e*P		**P**	**13 29 03.2**	**-3.6**
	comp=Z,3.0nm,0.4s,mb4.6							
BVAR	**Borovoye Array**	**50.42**	**308**	P		**P**	**13 29 08.0**	**-2.7**
	comp=Z,1.2nm,0.4s,mb4.2,baz=59,slow=7.4,SNR=11							
SUMG	**Summit**	**54.42**	**7**	*e*P		**P**	**13 29 38.2**	**-2.1**
	comp=Z,8.6nm,0.9s,mb4.8							
PDAR	**Pinedale Array**	**57.99**	**60**	P		**P**	**13 30 07.2**	**+1.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=334,slow=2.9,SNR=11							
FINES	**FINESS Array B**	**60.39**	**336**	P		**P**	**13 30 20.5**	**-2.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=56,slow=6.9,SNR=7.1							
NB2	**NORSAR Subarra**	**63.87**	**343**	P		**P**	**13 30 44.0**	**-1.5**
	comp=Z,0.5nm,0.3s,mb3.8,baz=26,slow=6.5							
NB2	**NORSAR Subarra**	**63.87**	**343**	P		**P**	**13 30 44.0**	**-1.5**
NB2	comp=Z,1.0nm,0.3s,mb4.1			pmax	pmax			
NOA	**NORSAR Array B**	**63.87**	**343**	P		**P**	**13 30 43.7**	**-1.8**
	comp=Z,0.4nm,0.4s,mb3.6,baz=14,slow=5.5,SNR=3.5							
SCHQ	**Schefferville**	**66.17**	**27**	P		**P**	**13 30 59.8**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=252,slow=19,SNR=4.1							
ANN	**Anapa**	**70.97**	**320**	*e*P		**P**	**13 31 30.4**	**+0.2**
ANN	comp=Z,126nm,1.4s,mb5.5			pmax	pmax			
SOC	**Sochi**	**71.08**	**318**	*e*P		**P**	**13 31 32.4**	**+1.5**
SOC				*e*			13 34 04.8	
SOC				*e*PPP	PPP		13 35 55.1	+2.6
SOC				*e*S	S		13 40 46.6	+5.8
SOC				*e*			13 41 36.5	
SOC				*e*SS	SS		13 45 22.4	+5.1
SOC	comp=Z,55nm,1.3s,mb5.2			pmax	pmax			
SOC	comp=N,25nm,1.0s			pmax	pmax			
SOC	comp=E,17nm,0.9s			pmax	pmax			
TXAR	**Lajitas Array**	**71.08**	**66**	P		**P**	**13 31 32.4**	**+1.2**
	comp=E,0.7nm,0.4s,mb3.8,baz=287,slow=4.2,SNR=9.1							
KHC	**Kasperske Hory**	**74.56**	**338**	*e*P		**P**	**13 31 51.5**	**+0.3**
GERES	**GERESS Array B**	**74.80**	**337**	P		**P**	**13 31 52.2**	**-0.4**
	comp=E,1.0nm,0.4s,mb3.9,baz=45,slow=1.9,SNR=9.2							
WRA	**Warramunga Arr**	**75.57**	**204**	P		**P**	**13 31 58.0**	**+0.5**
	comp=E,0.7nm,0.7s,mb3.5,baz=17,slow=6.1,SNR=7.3							
ASAR	**Alice Springs**	**79.25**	**204**	P		**P**	**13 32 19.2**	**+1.3**
	comp=E,0.4nm,0.5s,mb3.5,baz=18,slow=5.0,SNR=10							
ASF	**Jabal al Asfar**	**81.88**	**314**	P		**P**	**13 32 31.2**	**-0.5**
	comp=E,0.9nm,0.3s,mb4.1,baz=354,slow=1.8,SNR=3.7							

IDC 29 13:21:47.9±3.4, 1.28N×97.58E, mb3.6/5, mb1 3.8/5, mb1mx3.6/15, mbtmp3.6/5, Error ellipse: s-maj=141.6km s-min=22.5km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.75**	**122**	P	P	13 29 38.9	-2.0
	comp=Z,11nm,0.9s,mb4.7			AMB	AMB		
GTA				AMB	AMB		
	comp=Z,114nm,4.6s						
GTA				LR	LR		
	comp=N,178nm,14.5s,MS4.1						
GTA				LR	LR		
	comp=E,148nm,14.1s,MS4.1						
GTA				LR	LR		
	comp=Z,239nm,13.7s,MS4.2						
JOW	**Kunigami**	**39.23**	**48**	P	**P**	**13 43 21.3**	**+0.6**
	comp=Z,21nm,0.7s,mb5.0,baz=357,slow=23,SNR=4.8						
BJT	**Baijiatuau**	**41.88**	**23**	*e*P	**P**	**13 43 43.0**	**+0.6**
BJT				*e*	pP	13 43 50.2	+0.2
BJI	**Beijing**	**41.90**	**23**	*e*P	**P**	**13 43 43.5**	**+0.9**
BJI				AP	pP	13 43 50.5	+0.3
BJI				XP	sP	13 43 54.5	+1.1
BJI	comp=Z,18nm,1.2s,mb4.6			AMB	AMB		
WRA	**Warramunga Arr**	**43.00**	**122**	P	**P**	**13 43 52.2**	**+0.5**
	comp=Z,2.9nm,0.9s,mb4.0,baz=302,slow=9.1,SNR=15						
WRA				pP	pP	13 44 00.2	+0.7
	comp=Z,7.3nm,0.6s,baz=302,slow=9.0,SNR=23						
WRAB	**Tennant Creek**	**43.00**	**122**	*i* P	**P**	**13 43 52.4**	**+0.6**
WRAB	**Tennant Creek**	**43.00**	**122**	*e*P	**P**	**13 43 52.0**	**+0.2**
	comp=Z,25nm,1.0s,mb4.9						
WB2	**Warramunga Arr**	**43.01**	**122**	*e*P	**P**	**13 43 52.2**	**+0.3**
ASAR	**Alice Springs**	**44.38**	**127**	P	**P**	**13 44 03.4**	**+0.4**
	comp=Z,0.7nm,0.6s,mb3.6,baz=299,slow=7.8,SNR=17						
ASAR				pP	pP	13 44 11.2	+0.5
	comp=Z,4.3nm,1.0s,baz=304,slow=7.2,SNR=16						
ASAR				PcP	PcP	13 45 46.5	-0.7
	comp=Z,0.4nm,0.8s,baz=252,slow=2.9,SNR=2.5						
ASAR				pPcP		13 45 55.8	
	comp=Z,1.3nm,0.8s,baz=299,slow=3.6,SNR=6.1						
AAK	**Ala-Archa**	**45.05**	**337**	*i* P	**P**	**13 44 10.0**	**+1.9**
AAK	comp=Z,4.0nm,1.0s,mb4.2			pmax	pmax		
AAK	**Ala-Archa**	**45.05**	**337**	*e*P	**P**	**13 44 08.4**	**+0.3**
	comp=Z,3.1nm,0.7s,mb4.2						
MKAR	**Makanchi Array**	**46.36**	**346**	*i* P	**P**	**13 44 18.6**	**+0.2**
MKAR	comp=Z,3.0nm,0.5s			pmax	pmax		
MKAR	**Makanchi Array**	**46.36**	**346**	P	**P**	**13 44 18.4**	**0.0**
	comp=Z,8.1nm,0.6s,mb4.8,baz=162,slow=7.7,SNR=111						
MKAR				LR	LR	14 08 54.3	
	comp=Z,60nm,20.1s,MS3.5,baz=156,slow=43						
SONM	**Songino Array**	**46.50**	**9**	P	**P**	**13 44 20.2**	**+0.7**
	comp=Z,3.6nm,0.4s,mb4.7,baz=190,slow=9.2,SNR=47						
SONM				pP	pP	13 44 27.5	+0.4
	comp=Z,7.7nm,0.7s,baz=189,slow=8.7,SNR=24						
ULN	**Ulaanbaatar**	**46.63**	**10**	*i* P	**P**	**13 44 20.7**	**+0.2**
ULN	**Ulaanbaatar**	**46.63**	**10**	*e*P	**P**	**13 44 20.8**	**+0.3**
	comp=Z,6.4nm,0.9s,mb4.5						
ULN				*e*pP	pP	13 44 28.2	-0.1
ZAK	**Zakamensk**	**48.59**	**6**	*e*P	**P**	**13 44 36.0**	**+0.2**
ZAK	comp=Z,3.0nm,2.1s,mb4.0			pmax	pmax		
CN2	**Changchun**	**48.95**	**28**	*e*P	**P**	**13 44 45.8**	**+7.2**
CN2	comp=Z,10.0nm,0.6s,mb5.0			AMB	AMB		
TLY	**Talaya**	**49.91**	**6**	*i* P	**P**	**13 44 45.6**	**-0.4**
TLY	comp=Z,4.0nm,0.8s,mb4.5			pmax	pmax		
TLY	**Talaya**	**49.91**	**6**	*e*P	**P**	**13 44 46.8**	**+0.8**
	comp=Z,5.8nm,0.7s,mb4.7						
KURK	**Kurchatov**	**50.90**	**345***c*	*i*P	**P**	**13 44 53.5**	**0.0**
KURK	comp=Z,4.0nm,0.9s,mb4.3			pmax	pmax		
KURK	**Kurchatov**	**50.90**	**345**‖	*e*P	**P**	**13 44 53.4**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.6						
HIA	**Hailar**	**51.15**	**19**	*e*P	**P**	**13 44 55.4**	**0.0**
	comp=Z,8.1nm,0.8s,mb4.7						
HIA				*e*pP	pP	13 45 03.2	0.0
NVS	**Novosibirsk**	**53.83**	**351**	*i* P	**P**	**13 45 13.9**	**-1.4**
NVS	comp=Z,10.0nm,1.0s,mb4.7			pmax	pmax		
NVS	comp=N,6.0nm,0.8s			pmax	pmax		
NVS	comp=E,4.0nm,0.6s			pmax	pmax		
STKA	**Stephens Creek**	**54.35**	**132**	P	**P**	**13 45 19.4**	**-0.1**
	comp=E,2.6nm,1.0s,mb4.1,baz=252,slow=3.6,SNR=3.2						
STKA				pP	pP	13 45 27.7	+0.4
	comp=E,5.3nm,0.9s,baz=287,slow=5.5,SNR=6.7						
STKA	**Stephens Creek**	**54.35**	**132**	P	**P**	**13 45 19.4**	**-0.1**
STKA				pP	pP	13 45 27.7	+0.4
BVA0	**Borovoye Array**	**55.33**	**341**	*i* P	**P**	**13 45 25.4**	**-0.9**
BVA0	comp=Z,1.0nm,0.8s,mb3.9			pmax	pmax		
BVAR	**Borovoye Array**	**55.33**	**341**	P	**P**	**13 45 25.2**	**-1.2**
	comp=Z,3.7nm,0.7s,mb4.5,baz=135,slow=8.4,SNR=22						
CHKZ	**Chkalovo**	**55.81**	**342**	P	**P**	**13 45 29.4**	**-0.4**
CHKZ	comp=Z,4.0nm,0.7s,mb4.6			pmax	pmax		
CHKZ	**Chkalovo**	**55.81**	**342**	*e*P	**P**	**13 45 29.0**	**-0.8**
	comp=Z,28nm,0.6s,mb5.5						
KLR	**Kul'dur**	**55.89**	**27**	*e*P	**P**	**13 45 27.8**	**-2.6**
BOD	**Bodaibo**	**57.40**	**11**	*e*P	**P**	**13 45 38.5**	**-2.6**
BOD	comp=Z,3.0nm,0.9s,mb4.3			pmax	pmax		
KMBO	**Kilima Mbogo**	**59.35**	**268**	P	**P**	**13 45 54.1**	**-1.2**
	comp=Z,1.5nm,0.6s,mb4.2						
SVE	**Sverdlovsk**	**61.75**	**339**	*e*P	**P**	**13 46 16.0**	**+4.9**
ARU	**Arti**	**62.24**	**337**	*i* P	**P**	**13 46 16.5**	**+2.2**
KIV	**Kislovodsk**	**63.31**	**319**	*i* P	**P**	**13 46 25.8**	**+4.2**
KIV	comp=Z,11nm,1.2s,mb4.9			pmax	pmax		
YAK	**Yakutsk**	**64.89**	**17**	*e*P	**P**	**13 46 30.3**	**-1.3**
	comp=Z,27nm,0.8s,mb5.3						
YAK				*e*pP	pP	13 46 38.0	-1.7
SOC	**Sochi**	**65.12**	**318**	*e*P	**P**	**13 46 35.6**	**+2.2**
SOC				*e*		13 47 07.9	
SOC				*e*		13 48 59.3	
SOC				*e*PPP	PPP	13 50 32.9	0.0
SOC				*e*S	S	13 55 15.7	+2.8
SOC				*e*		13 56 27.2	
SOC				*e*SS	SS	13 59 30.5	+3.3
SOC	comp=N,23nm,0.7s			pmax	pmax		
SOC	comp=E,22nm,0.7s			pmax	pmax		
SOC	comp=Z,17nm,0.7s,mb5.2			pmax	pmax		
BRTR	**Keskin Array B**	**68.12**	**312**	P	**P**	**13 46 50.0**	**-2.5**
	comp=Z,0.4nm,0.4s,mb3.8,baz=54,slow=29,SNR=3.8						
BRTR				pP	pP	13 46 58.1	-2.5
	comp=Z,2.0nm,0.8s,baz=143,slow=6.2,SNR=4.5						
MA2	**Magadan**	**70.95**	**26**	*e*P	**P**	**13 47 09.3**	**-0.3**
OBN	**Obninsk**	**71.63**	**328***d*	*i*P	**P**	**13 47 18.1**	**+4.4**
OBN	comp=Z,40nm,2.5s,mb4.9			pmax	pmax		
TIXI	**Tiksi**	**72.57**	**10**	*e*P	**P**	**13 47 15.0**	**-4.0**
TIXI	comp=Z,4.0nm,0.8s,mb4.4			pmax	pmax		
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**13 47 27.8**	**-1.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=90,slow=4.8,SNR=4.5						
AKASG				pP	pP	13 47 36.8	-0.5
	comp=Z,2.1nm,0.7s,baz=92,slow=4.6,SNR=3.5						
FINES	**FINESS Array B**	**79.03**	**333**	P	**P**	**13 47 55.7**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=7.4						
FINES				pP	pP	13 48 03.5	-0.3
	comp=Z,2.4nm,0.7s,baz=101,slow=7.1,SNR=6.2						
FINES	**FINESS Array B**	**79.03**	**333**	P	**P**	**13 47 55.7**	**0.0**
FINES				pP	pP	13 48 03.5	-0.3
KAF	**Kangasniemi**	**79.12**	**333**	*e*p	**P**	**13 47 56.2**	**0.0**
	comp=Z,3.3nm,0.6s,mb4.4						
KAF	**Kangasniemi**	**79.12**	**333**	*e*P	**P**	**13 47 56.2**	**0.0**
KAF	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
BILL	**Bilibino**	**80.71**	**21**	*i* P	**P**	**13 48 04.8**	**+0.2**
BILL	comp=Z,1.0nm,1.2s,mb3.6			pmax	pmax		
ARCES	**ARCESS Array B**	**81.61**	**340**	P	**P**	**13 48 09.8**	**+0.6**
	comp=Z,2.0nm,0.7s,mb4.2,baz=99,slow=6.3,SNR=12						
ARCES				pP	pP	13 48 17.9	+0.4
	comp=Z,3.9nm,0.8s,baz=90,slow=5.2,SNR=1.8						
GERES	**GERESS Array B**	**83.81**	**319**	P	**P**	**13 48 22.2**	**+1.2**
	comp=Z,0.2nm,0.3s,mb3.8,baz=90,slow=2.7,SNR=3.7						
GERES				pP	pP	13 48 30.8	+1.5
	comp=Z,3.0nm,0.9s,baz=104,slow=5.5,SNR=9.0						

*IDC **29** 13:42:41.1±2.5, 1.06N×97.24E, mb3.6/6, mb1 3.7/6, mb1mx3.6/17, mbtmp3.6/6, Error ellipse: s-maj=111.8km*

*IDC **29** 13:26:39.0±2.8, 1.55N×97.22E, h23km±6km, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.7/4, Error ellipse: s-maj=108.5km s-min=18.7km az=59.0, Northern Sumatera*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.20**	**122**	P	P	13 34 30.2	-2.0
	0.2nm,0.4s,baz=302,slow=9.4,SNR=3.7						
WRA				pP	pP	13 34 37.2	-1.9
	0.3nm,0.4s,baz=303,slow=8.9,SNR=4.2						
ASAR	**Alice Springs**	**43.59**	**127**	P	P	13 34 41.8	-1.7
	0.2nm,0.6s,baz=299,slow=8.3,SNR=3.8						
SONM	**Songino Array**	**46.79**	**8**	P	P	13 35 07.2	-1.5
	2.4nm,0.9s,baz=189,slow=8.9,SNR=16						
SONM				pP	pP	13 35 14.7	-1.0
	0.9nm,0.7s,baz=192,slow=9.2,SNR=4.2						
MKAR	**Makanchi Array**	**46.91**	**346**	P	P	13 35 07.2	-2.5
	1.8nm,0.7s,baz=160,slow=7.7,SNR=20						
MKAR				pP	pP	13 35 14.2	-2.4
	1.2nm,0.8s,baz=162,slow=8.4,SNR=6.1						

*NEIC **29** 13:28:39.4±0.9, 1.43N×97.32E, mb4.4/3, Error ellipse: s-maj=34.0km s-min=9.3km az=57.0*

*IDC **29** 13:28:40.1±2.2, 1.53N×97.45E, h24km±6km, mb3.7/7, mb1 3.8/7, mb1mx3.6/18, mbtmp3.8/7, Error ellipse: s-maj=86.5km s-min=16.0km az=56.0*

ISC 29 13:28:37.5±1.3, 1.5N±0.2×97.3E±0.3, h24km, (h24km±2km: pP-P), n12, σ0≥49/12, mb4.0/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**30.89**	**21**	*e*P	**P**	**13 34 54.4**	**-0.2**
	4.3nm,0.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**13 35 21.7**	**0.0**
	1.8nm,0.6s,mb4.2,baz=135,slow=1.4,SNR=3.0						
WRA	**Warramunga Arr**	**42.07**	**122**	P	**P**	**13 36 29.9**	**+0.4**
	0.2nm,0.4s,mb3.1,baz=303,slow=9.0,SNR=5.1						
WRA				pP	pP	13 36 37.0	+0.3
	0.5nm,0.5s,baz=303,slow=9.1,SNR=4.3						
ASAR	**Alice Springs**	**43.45**	**127**	P	**P**	**13 36 40.4**	**-0.4**
	0.2nm,0.6s,mb3.0,baz=300,slow=7.6,SNR=4.3						
SONM	**Songino Array**	**46.85**	**8**	P	**P**	**13 37 08.3**	**+0.7**
	1.6nm,0.7s,mb4.0,baz=190,slow=9.0,SNR=9.0						
SONM				pP	pP	13 37 15.4	+0.6
	0.5nm,0.4s,baz=189,slow=8.5,SNR=4.8						
MKAR	**Makanchi Array**	**47.02**	**346**	P	**P**	**13 37 09.3**	**+0.4**
	1.2nm,0.7s,mb3.9,baz=163,slow=6.9,SNR=8.3						
MKAR				pP	pP	13 37 16.4	+0.2
	1.2nm,0.7s,baz=161,slow=7.5,SNR=4.9						
MKAR	**Makanchi Array**	**47.02**	**346**	P	**P**	**13 37 09.3**	**+0.4**
MKAR				pP	pP	13 37 16.4	+0.2
KURK	**Kurchatov**	**51.57**	**345**	P	**P**	**13 37 43.7**	**-0.2**
	1.5nm,0.6s,mb4.1						
BVAR	**Borovoye Array**	**56.04**	**341**	P	**P**	**13 38 16.2**	**-0.6**
	1.0nm,0.8s,mb3.9,baz=157,slow=11,SNR=5.7						
CHKZ	**Chkalovo**	**56.52**	**341**	*e*P	**P**	**13 38 19.6**	**-0.6**
	2.5nm,0.7s,mb4.3						
YAK	**Yakutsk**	**65.13**	**16**	P	**P**	**13 39 18.2**	**-0.3**
	9.1nm,0.8s,mb4.9						
ARCES	**ARCESS Array B**	**82.33**	**340**	P	**P**	**13 40 59.3**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=90,slow=6.1,SNR=4.6						

*IDC **29** 13:35:53.8±0.6, 1.85N×96.33E, h26km±3km, mb4.1/13, mb1 4.1/13, mb1mx4.0/19, mbtmp4.2/13, MS3.5/1, Ms1 3.5/1, ms1mx2.8/27, Error ellipse: s-maj=31.4km s-min=10.7km az=49.0*

*NEIC **29** 13:35:54.2±0.4, 1.92N×96.48E, mb4.7/20, Error ellipse: s-maj=10.2km s-min=5.9km az=222.0*

*BJI **29** 13:35:54.2, 1.90N×96.50E, h26km, mB5.1, mb4.9, Ms4.2, Mss2.4.1*

*MOS **29** 13:35:56.3±1.5, 2.47N×97.15E, h33km, mb4.7/9, Error ellipse: s-maj=28.2km s-min=11.5km az=102.4*

ISC 29 13:35:52.4±0.5, 1.95N±0.06×96.53E±0.06, h26km, h26km±.5km: pP-P, n72, σ1≥07/75, mb4.6/47, MS4.0/5, 3C-2D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.19**	**60**	P	**Pn**	**13 37 10.4**	**-0.1**
KULM	**Kulim**	**5.28**	**51**	*i* P	**Pn**	**13 37 11.7**	**-0.1**
KGM	**Kluang**	**6.78**	**89**	P	**Pn**	**13 37 33.6**	**+0.6**
KSM	**Kuching**	**13.78**	**92**	*e*P	**P**	**13 39 10.2**	**+1.4**
CM31	**Chiang Mai Arr**	**16.57**	**8**	*e*P	**P**	**13 39 43.7**	**-1.2**
	15nm,0.7s						
KKM	**Kota Kinabalu**	**20.05**	**78**	*e*P	**P**	**13 40 26.6**	**-0.2**
KKM	**Kota Kinabalu**	**20.05**	**78**	P	**P**	**13 40 26.8**	**+0.1**
QIZ	**Qiongzhong**	**21.40**	**37**	*e*P	**P**	**13 40 40.0**	**-0.6**
QIZ				*e*S	**S**	**13 44 35.0**	**+

s-min=19.7km az=58.0
*NEIC **29** 13:42:45.7±0.8, 1.08N±97.33E, h30km, mb4.2/4, Error ellipse: s-maj=20.7km s-min=12.0km az=58.0*
ISC 29 13:42:43.6±1.0, 1.1N±0.1×97.3E±0.1, h30km, n13, σ1§06/13, mb3.8/10, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.33	38	⇑*eP*		Pn		13 44 04.3	+1.1
KKM	Kota Kinabalu	19.48	75	P		P		13 47 09.4	-1.9
ENH	Enshi	31.23	21	P		P		13 49 01.7	-1.2
	2.6nm,0.5s,mb4.3								
WRA	Warramunga Arr	41.87	122	P		P		13 50 33.2	0.0
	0.4nm,0.6s,mb3.2,baz=301,slow=9.1,SNR=6.2								
ASAR	Alice Springs	43.23	127	P		P		13 50 45.4	+1.1
	0.7nm,0.9s,mb3.4,baz=299,slow=7.3,SNR=5.8								
SONM	Songino Array	47.21	8	P		P		13 51 16.3	+0.6
	1.2nm,0.5s,mb4.1,baz=188,slow=9.0,SNR=9.5								
ULN	Ulaanbaatar	47.34	9	P		P		13 51 18.2	+1.4
	1.5nm,0.6s,mb4.1								
MKAR	Makanchi Array	47.37	346	P		P		13 51 17.9	+1.0
	1.0nm,0.7s,mb3.9,baz=162,slow=8.3,SNR=11								
KURK	Kurchatov	51.92	345	*eP*		P		13 51 52.1	+0.3
	1.9nm,0.9s,mb4.0								
STKA	Stephens Creek	53.19	132	P		P		13 52 01.5	-0.1
	0.7nm,0.6s,mb3.8,baz=342,slow=16,SNR=3.5								
STKA	Stephens Creek	53.19	132	P		P		13 52 01.5	-0.1
BVAR	Borovoye Array	56.39	341	P		P		13 52 23.1	-1.4
	0.2nm,0.3s,mb3.6,baz=112,slow=7.8,SNR=3.6								
CHKZ	Chkalovo	56.86	341	*eP*		P		13 52 26.8	-1.2
	1.4nm,0.6s,mb4.2								

IDC 29 13:44:23.8±2.8, 2.24N×96.54E, mb3.6/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, Error ellipse: s-maj=124.4km s-min=22.7km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.15	123	P		P		13 52 26.6	-1.5
	0.3nm,0.6s,baz=302,slow=9.0,SNR=4.5								
ASAR	Alice Springs	44.55	128	P		P		13 52 37.4	-2.1
	0.4nm,0.6s,baz=304,slow=7.7,SNR=4.6								
MKAR	Makanchi Array	46.08	346	P		P		13 52 49.8	-1.5
	1.9nm,0.6s,baz=149,slow=7.1,SNR=12								
SONM	Songino Array	46.21	9	P		P		13 52 50.9	-1.4
	0.3nm,0.3s,baz=191,slow=7.3,SNR=4.7								
BVAR	Borovoye Array	55.05	341	P		P		13 53 56.6	-3.0
	0.9nm,0.8s,baz=130,slow=11,SNR=3.8								

IDC 29 13:45:57.1±5.7, 1.23N×98.39E, mb3.7/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=293.0km s-min=28.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.04	123	P		P		13 53 43.0	-1.2
	0.7nm,0.5s,baz=302,slow=9.0,SNR=4.9								
ASAR	Alice Springs	42.47	128	P		P		13 53 53.8	-2.1
	0.5nm,0.7s,baz=297,slow=7.3,SNR=4.8								
MKAR	Makanchi Array	47.51	345	P		P		13 54 34.0	-2.0
	1.0nm,0.6s,baz=159,slow=8.0,SNR=6.1								

*IDC **29** 13:47:13.6±2.2, 2.36N×96.22E, mb4.0/7, mb1 4.1/7, mb1mx3.8/18, mbtmp4.0/7, Error ellipse: s-maj=97.9km s-min=18.5km az=56.0*
*NEIC **29** 13:47:17.7±0.6, 2.28N×96.15E, h30km, mb4.4/3, Error ellipse: s-maj=16.2km s-min=9.1km az=58.0*
ISC 29 13:47:17.5±5.3, 2.3N±0.2×96.2E±0.2, h42km±42km, n19, σ0§62/19, mb4.3/16, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.30	56	⇑*iP*		P		13 48 35.7	-0.6
CM31	Chiang Mai Arr	16.26	9	P		P		13 51 05.6	+0.9
JIRN	Jiri	26.97	340	*ePg*		P		13 52 58.3	+0.8
	22nm,0.9s,mb4.7								
PKI	Pulchoki	27.17	339	*ePg*		P		13 52 59.4	+0.1
	11nm,0.8s,mb4.4								
GUN	Gumba	27.31	340	*ePg*		P		13 53 01.0	+0.4
	28nm,1.0s,mb4.8								
KKN	Kakani	27.41	339	*ePg*		P		13 53 01.5	-0.1
	17nm,1.0s,mb4.5								
LSA	Lhasa	27.66	350	*eP*		P		13 52 56.4	-7.4
LSA				*e*		pP		13 53 05.0	-10
GKN	Gorkha	27.84	338	*ePg*		P		13 53 05.7	+0.2
	6.5nm,0.4s,mb4.6								
KOLN	Koldanda	28.05	336	*ePg*		P		13 53 07.8	+0.5
	15nm,0.9s,mb4.6								
FITZ	Fitzroy Crossi	35.36	126	P		P		13 54 11.3	-0.1
	5.0nm,0.9s,mb4.4,baz=356,slow=9.0,SNR=5.5								
BJT	Baijiatuan	41.66	23	*eP*		P		13 55 04.3	+0.5
	7.8nm,0.7s,mb4.5								
WRA	Warramunga Arr	43.44	122	P		P		13 55 19.1	+0.5
	0.4nm,0.5s,mb3.4,baz=301,slow=9.1,SNR=5.3								
ASAR	Alice Springs	44.83	127	P		P		13 55 29.8	0.0
	0.3nm,0.6s,mb3.3,baz=299,slow=7.8,SNR=5.2								
MKAR	Makanchi Array	45.94	347	P		P		13 55 37.6	-0.6
	2.9nm,0.7s,mb4.3,baz=160,slow=8.0,SNR=18								
SONM	Songino Array	46.19	9	P		P		13 55 40.1	-0.1
	1.4nm,0.5s,mb4.2,baz=192,slow=9.2,SNR=14								
KURK	Kurchatov	50.48	346	*eP*		P		13 56 12.1	-1.3
	4.8nm,1.4s,mb4.3								
BVAR	Borovoye Array	54.89	341	P		P		13 56 45.4	-0.8
	0.7nm,0.5s,mb4.0,baz=153,slow=9.9,SNR=6.5								
CHKZ	Chkalovo	55.37	342	*eP*		P		13 56 48.8	-0.9
	2.3nm,0.7s,mb4.3								
ARCES	ARCESS Array B	81.17	340	P		P		13 59 30.7	+0.7
	1.1nm,0.7s,mb3.9,baz=90,slow=4.9,SNR=4.0								

IDC 29 13:51:26.8±4.0, 4.00N×97.64E, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=156.9km s-min=29.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.20	125	P		P		13 59 29.8	-1.8
	0.2nm,0.6s,baz=304,slow=8.9,SNR=6.0								
SONM	Songino Array	44.31	8	P		P		13 59 38.7	-1.6
	0.5nm,0.4s,baz=190,slow=9.9,SNR=4.8								
MKAR	Makanchi Array	44.66	345	P		P		13 59 41.2	-1.9
	2.0nm,0.5s,baz=160,slow=8.8,SNR=23								

*IDC **29** 13:54:42.2±1.7, 1.06N×97.00E, h23km±5km, mb3.8/8, mb1 3.9/8, mb1mx3.7/18, mbtmp4.0/8, Error ellipse: s-maj=76.1km s-min=16.0km az=56.0*
*NEIC **29** 13:54:43.5±0.7, 1.20N×97.20E, h30km, mb4.3/6, Error ellipse: s-maj=21.8km s-min=9.5km az=64.0*
*BJI **29** 13:54:43.4, 1.20N×97.20E, h30km, mb4.7*
ISC 29 13:54:40.4±0.8, 1.16N±0.10×97.1E±0.2, h24km, h24km±1.5km:pP-P, n19, σ0§90/19, mb4.2/14, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.40	40	⇑*eP*		Pn		13 56 01.8	+0.1
CM31	Chiang Mai Arr	17.28	6	P		P		13 58 39.7	-2.3
	4.5nm,0.7s								
KMI	Kunming	24.43	12	P		P		14 00 01.5	+2.8
KMI					AMB	AMB			
	comp=Z,12nm,1.3s,mb4.2								
FITZ	Fitzroy Crossi	33.96	126	P		P		14 01 24.1	-0.4
	comp=Z,1.9nm,0.7s,mb4.1,baz=350,slow=11,SNR=3.0								
WRA	Warramunga Arr	42.07	122	P		P		14 02 32.7	+0.2
	comp=Z,1.1nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=14								
WRAB	Tennant Creek	42.08	122	*eP*		P		14 02 31.6	-0.9
	comp=Z,3.0nm,0.6s,mb4.1								
ASAR	Alice Springs	43.43	127	P		P		14 02 44.2	+0.8
	comp=Z,1.8nm,1.1s,mb3.7,baz=297,slow=7.7,SNR=12								
SONM	Songino Array	47.18	9	P		P		14 03 14.1	+1.0
	comp=Z,1.5nm,0.8s,mb4.0,baz=187,slow=8.1,SNR=10								
SONM					pP	pP		14 03 20.6	+0.3
	comp=Z,0.5nm,0.5s,baz=196,slow=9.0,SNR=4.1								
MKAR	Makanchi Array	47.26	346	P		P		14 03 14.5	+0.7
	comp=Z,1.5nm,0.5s,mb4.2,baz=161,slow=8.3,SNR=28								
MKAR					pP	pP		14 03 21.9	+1.0
	comp=Z,0.9nm,0.4s,baz=163,slow=9.0,SNR=11								
MKAR	Makanchi Array	47.26	346	P		P		14 03 14.5	+0.7
MKAR					pP	pP		14 03 21.9	+1.0
HIA	Hailar	51.70	19	P		P		14 03 47.8	0.0
	comp=Z,3.1nm,0.6s,mb4.4								
KURK	Kurchatov	51.81	345	*eP*		P		14 03 48.7	+0.1
	comp=Z,3.6nm,1.0s,mb4.3								
STKA	Stephens Creek	53.38	132	P		P		14 04 01.1	+0.4
	comp=Z,1.2nm,0.8s,mb3.9,baz=4.2,slow=23,SNR=4.8								
STKA	Stephens Creek	53.38	132	*eP*		P		14 04 00.3	-0.4
BVAR	Borovoye Array	56.26	341	P		P		14 04 20.8	-0.5
	comp=Z,1.2nm,0.6s,mb4.1,baz=153,slow=9.9,SNR=6.1								
BVAR					pP	pP		14 04 27.4	-1.2
	comp=Z,1.0nm,0.6s,baz=135,slow=10,SNR=4.3								
CHKZ	Chkalovo	56.74	341	*eP*		P		14 04 24.3	-0.4
	comp=Z,2.7nm,0.7s,mb4.4								
YAK	Yakutsk	65.48	16	P		P		14 05 23.1	-0.5
	comp=Z,5.5nm,0.6s,mb4.8								
ARCES	ARCESS Array B	82.55	340	P		P		14 07 02.5	+0.1
	comp=Z,5.2nm,1.1s,mb4.5,baz=53,slow=9.0,SNR=2.4								
ARCES					pP	pP		14 07 11.1	+1.1
	comp=Z,4.6nm,0.9s,baz=45,slow=5.1,SNR=2.4								
ARCES	ARCESS Array B	82.55	340	P		P		14 07 02.5	+0.1
ARCES					pP	pP		14 07 11.1	+1.1

IDC 29 13:58:27.1±4.3, 2.73N×97.40E, mb3.5/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.5/3, Error ellipse: s-maj=166.7km s-min=30.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.69	124	P		P		14 06 26.0	-1.7
	0.3nm,0.7s,baz=301,slow=9.1,SNR=5.1								
SONM	Songino Array	45.59	8	P		P		14 06 49.1	-1.7
	0.4nm,0.4s,baz=189,slow=9.8,SNR=4.3								
MKAR	Makanchi Array	45.81	346	P		P		14 06 50.6	-1.9
	0.4nm,0.3s,baz=156,slow=9.3,SNR=12								

*NEIC **29** 13:59:22.7±0.9, 1.14N×96.48E, mb4.1/2, Error ellipse: s-maj=24.9km s-min=13.3km az=59.0*
*IDC **29** 13:59:25.2±2.5, 1.56N×97.09E, h33km±7km, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.8/5, Error ellipse: s-maj=109.6km s-min=17.1km az=56.0*
ISC 29 13:59:20.7±1.1, 1.2N±0.1×96.5E±0.2, h33km, h33km±1.6km:pP-P, n8, σ0§64/8, mb3.9/7, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.84	46	⇑*eP*		Pn		14 00 47.5	+0.1
WRA	Warramunga Arr	42.65	122	P		P		14 07 15.6	-0.6
	2.0nm,1.0s,mb3.8,baz=301,slow=9.2,SNR=7.3								
WRA					pP	pP		14 07 25.8	-0.2
	0.6nm,0.8s,baz=306,slow=8.5,SNR=3.0								
WRAB	Tennant Creek	42.65	121	*eP*		P		14 07 16.3	+0.1
	4.1nm,0.9s,mb4.2								
ASAR	Alice Springs	43.97	127	P		P		14 07 27.4	+0.6
	0.3nm,0.4s,mb3.3,baz=296,slow=7.9,SNR=5.6								
ASAR					pP	pP		14 07 38.0	+1.3
	0.3nm,0.5s,baz=300,slow=8.1,SNR=3.2								
MKAR	Makanchi Array	47.09	347	P		P		14 07 52.6	+1.1
	1.3nm,0.4s,mb4.2,baz=163,slow=8.8,SNR=20								
MKAR					pP	pP		14 08 01.4	0.0
	1.4nm,0.5s,baz=160,slow=8.3,SNR=8.3								
SONM	Songino Array	47.27	9	P		P		14 07 52.4	-0.4
	0.5nm,0.4s,mb3.8,baz=190,slow=8.4,SNR=3.2								
KURK	Kurchatov	51.63	346	*eP*		P		14 08 25.3	-1.0
	1.3nm,0.7s,mb4.0								
BVAR	Borovoye Array	56.04	341	P		P		14 08 58.9	+0.2
	0.8nm,0.7s,mb3.9,baz=130,slow=11,SNR=4.6								

*IDC **29** 14:00:36.1±2.9, 1.07N×97.74E, mb3.9/6, mb1 4.1/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=131.0km s-min=19.5km az=56.0*
*NEIC **29** 14:00:38.6±1.0, 0.79N×97.37E, h30km, mb4.2/2, Error ellipse: s-maj=24.8km s-min=13.3km az=59.0*
ISC 29 14:00:36.5±1.1, 0.8N±0.1×97.4E±0.2, h30km, n10, σ1§12/10, mb4.0/8, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.52	36	⇑*eP*		Pn		14 01 59.5	+0.6
KKM	Kota Kinabalu	19.51	74	P		P		14 05 03.6	-0.9
FITZ	Fitzroy Crossi	33.56	125	P		P		14 07 15.1	-1.2
	4.0nm,0.9s,mb4.3,baz=352,slow=5.8,SNR=8.6								
WRA	Warramunga Arr	41.69	122	P		P		14 08 26.1	+1.5
	0.9nm,0.5s,mb3.6,baz=302,slow=9.3,SNR=5.7								
WRAB	Tennant Creek	41.69	122	P		P		14 08 23.3	-1.3
	3.8nm,0.8s,mb4.1								
ASAR	Alice Springs	43.03	127	P		P		14 08 37.4	+1.9
	0.2nm,0.4s,mb3.2,baz=301,slow=7.9,SNR=6.7								
SONM	Songino Array	47.48	8	P		P		14 09 10.9	+0.1
	0.6nm,0.4s,mb3.9,baz=191,slow=10.0,SNR=4.2								
MKAR	Makanchi Array	47.65	346	P		P		14 09 13.1	+1.0
	2.6nm,0.5s,mb4.5,baz=160,slow=8.7,SNR=22								
BVAR	Borovoye Array	56.67	341	P		P		14 10 19.3	-0.1
	0.7nm,0.7s,mb3.8,baz=149,slow=8.6,SNR=3.9								
CHKZ	Chkalovo	57.14	341	*eP*		P		14 10 21.5	-1.4
	1.9nm,0.8s,mb4.2								

IDC 29 14:02:25.8±3.2, 1.83S×97.70E, mb3.6/4, mb1 3.6/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=139.3km s-min=27.3km az=56.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	41.22	125	P		P		14 10 12.6	-1.6
	0.2nm,0.7s,baz=315,slow=6.4,SNR=2.2								
SONM	Songino Array	50.05	8	P		P		14 11 22.6	-1.6
	0.5nm,0.4s,baz=190,slow=9.8,SNR=6.4								
MKAR	Makanchi Array	50.29	346	P		P		14 11 23.4	-2.6
	1.3nm,0.7s,baz=163,slow=8.4,SNR=6.3								
BVAR	Borovoye Array	59.26	341	P		P		14 12 29.1	-2.3
	0.6nm,0.7s,baz=135,slow=8.2,SNR=3.8								

*NEIC **29** 14:13:41.4±0.6, 6.28N×94.70E, h30km, mb4.7/3, Error ellipse: s-maj=26.0km s-min=11.1km az=53.0*
*IDC **29** 14:13:41.4±1.5, 6.22N×94.64E, h30km±5km, mb3.7/7, mb1 3.9/7, mb1mx3.7/18, mbtmp3.9/7, Error ellipse: s-maj=65.8km s-min=14.7km az=59.0*
ISC 29 14:13:39.6±0.7, 6.3N±0.1×94.7E±0.2, h31km, h31km±1.7km:pP-P, n11, σ0§93/11, mb4.0/10, 1C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	38.97	129	P		P		14 21 04.4	-0.6
	6.0nm,0.8s,mb4.4,baz=318,slow=5.5,SNR=5.9								
MKAR	Makanchi Array	41.77	347	P		P		14 21 27.2	-0.6
	0.5nm,0.5s,mb3.4,baz=166,slow=8.5,SNR=10								
MKAR					pP	pP		14 21 36.1	-0.9
	0.7nm,0.8s,baz=169,slow=9.1,SNR=6.5								
SONM	Songino Array	42.60	12	P		P		14 21 35.8	+1.1
	0.5nm,0.6s,mb3.4,baz=202,slow=6.7,SNR=4.0								
SONM					pP	pP		14 21 45.4	+1.5
	0.5nm,0.8s,baz=191,slow=6.3,SNR=3.9								
WRA	Warramunga Arr	46.89	125	P		P		14 22 09.9	+0.6
	3.9nm,0.8s,mb4.4,baz=301,slow=9.2,SNR=28								
WRA					pP	pP		14 22 17.9	-0.8
	1.7nm,0.7s,baz=301,slow=9.2,SNR=6.2								
WRAB	Tennant Creek	46.89	125	*eP*		P		14 22 09.8	+0.4
	8.8nm,0.8s,mb4.7								
WB2	Warramunga Arr	46.90	125	⇑*iP*		P		14 22 10.4	+0.9
ASAR	Alice Springs	48.47	129	P		P		14 22 21.1	-0.7
	0.8nm,0.7s,mb3.9,baz=300,slow=7.6,SNR=14								
ASAR					pP	pP		14 22 31.7	+0.6
	0.3nm,0.4s,baz=300,slow=7.9,SNR=2.7								
CHKZ	Chkalovo	51.16	342	*eP*		P		14 22 40.1	-1.7
	1.1nm,0.5s,mb4.0								
STKA	Stephens Creek	58.60	133	P		P		14 23 35.4	-1.0
	1.0nm,0.7s,mb4.0,baz=280,slow=11,SNR=2.9								
LSZ	Lusaka	69.27	251	*eP*		P		14 24 46.6	+0.2
	6.5nm,0.8s,mb4.6								
GERES	GERESS Array B	79.39	318	P		P		14 25 45.7	+1.4
	0.2nm,0.3s,mb3.5,baz=90,slow=9.8,SNR=4.2								

*IDC **29** 14:15:46.1±1.2, 1.04N×97.09E, mb4.2/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.2/10, MS4.5/1, Ms1 4.6/1, ms1mx3.1/23, Error ellipse: s-maj=68.3km s-min=17.3km az=52.0*
*NEIC **29** 14:15:52.0±0.7, 1.11N×97.39E, h30km, mb4.6/3, Error ellipse: s-maj=20.2km s-min=11.1km az=45.0*
ISC 29 14:15:49.6±0.7, 1.07N±0.08×97.19E±0.09, h33km, n27, σ1§05/27, mb4.2/13, MS4.6/1, 4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.18	48	P		P		14 17 08.3	+1.5
KULM	Kulim	5.43	39	*eP*		P		14 17 08.7	-1.7
KGM	Kluang	6.20	81	P		P		14 17 21.9	+0.8
SNG	Songkhla	6.97	29	P		P		14 17 32.5	+0.6
	362nm,0.9s								
NST	Nakhon Sawan	14.80	11	P		P		14 19 26.4	+7.9
CHG	Chiang Mai	17.72	5	⇓P		P		14 19 55.4	-0.2
	24nm,0.8s								
CHRT	Chiangrai	18.86	8	⇓P		P		14 20 10.0	+0.3
	132nm,1.0s								
KKM	Kota Kinabalu	19.62	75	*eP*		P		14 20 17.1	-1.1
ENH	Enshi	31.31	21	*eP*		P		14 22 08.4	-0.8
	4.8nm,0.6s,mb4.5								
WRA	Warramunga Arr	41.97	122	P		P		14 23 39.4	-0.1
	1.1nm,0.6s,mb3.6,baz=302,slow=9.0,SNR=5.8								
WRA					pP	pP		14 23 46.6	-2.8
	1.5nm,0.3s,baz=330,slow=14,SNR=21								
WRAB	Tennant Creek	41.98	122	P		P		14 23 39.3	-0.3
	4.8nm,0.5s,mb4.4								
BJT	Baijiatuan	42.44	22	*eP*		P		14 23 44.6	+1.4
	13nm,0.7s,mb4.7								
ASAR	Alice Springs	43.32	127	P		P		14 23 50.2	-0.3
	1.6nm,0.8s,mb3.8,baz=308,slow=8.0,SNR=9.8								
ASAR					pP	pP		14 23 57.0	-3.5
	0.7nm,0.5s,baz=297,slow=7.8,SNR=9.3								
SONM	Songino Array	47.26	8	P		P		14 24 22.5	+0.9
	5.0nm,0.9s,mb4.5,baz=191,slow=8.3,SNR=19								
MKAR	Makanchi Array	47.37	346	P		P		14 24 20.6	-1.8
	3.8nm,0.7s,mb4.4,baz=154,slow=7.9,SNR=26								
STKA	Stephens Creek	53.27	132	P		P		14 25 08.1	+0.5
	3.0nm,0.8s,mb4.3,baz=311,slow=5.3,SNR=7.3								
BVAR	Borovoye Array	56.37	341	P		P		14 25 29.8	-0.1
	4.3nm,0.5s,mb4.7,baz=149,slow=8.4,SNR=19								
KLR	Kul'dur	56.38	27	*eP*		P		14 25 28.0	-2.0
KLR					MLR	MLR			
	comp=N,2μm,15.0s								
KLR					MLR	MLR			
	comp=E,2μm,15.0s								
KLR					MLR	MLR			
	comp=Z,3μm,15.0s								
BOD	Bodaibo	58.14	11	*eP*		P		14 25 42.2	-0.1
CLNS	Chul'man	59.87	17	*eP*		P		14 25 55.2	+0.8
CLNS					pmax	pmax			
	comp=Z,15nm,0.8s								
CLNS					pmax	pmax			
	comp=N,7.0nm,0.9s								
TI2	Plekhanov	62.07	318	*eP*		P		14 26 02.2	-7.2
VRI	Vrincioaia	75.71	317	⇓*iP*		P		14 27 38.2	+4.5
VRI	Vrincioaia	75.71	317	⇓*iP*		P		14 27 38.2	+4.6
FINES	FINESS Array B	80.11	333	P		P		14 27 56.2	-1.4
	comp=N,1.7nm,0.9s,mb4.0,baz=56,slow=10.0,SNR=3.5								
ARCES	ARCESS Array B	82.66	340	P		P		14 28 10.3	-0.4
	comp=N,5.3nm,1.0s,mb4.5,baz=82,slow=6.4,SNR=2.8								
ARCES					LR	LR		15 12 49.2	
	comp=N,290nm,20.2s,MS4.6,baz=218,slow=41								
GERES	GERESS Array B	84.91	319	P		P		14 28 24.3	+1.7
	comp=N,0.6nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=5.7								
NOA	NORSAR Array B	87.12	331	P		P		14 28 34.5	+1.4
	comp=N,0.9nm,0.8s,mb4.1,baz=97,slow=5.1,SNR=4.7								

*MOS **29** 14:16:05.9±1.2, 2.53N×96.08E, h33km, mb5.3/40, MS4.6/9, Error ellipse: s-maj=13.7km s-min=6.1km az=123.5*
*BJI **29** 14:16:05.3, 2.81N×96.00E, h15km, mB5.4, mb4.9, Ms5.1, Msz4.9*
*NEIC **29** 14:16:06.2±0.2, 2.55N×96.07E, mb5.1/39, MS5.0/46, Error ellipse: s-maj=8.3km s-min=5.3km az=217.0*
*IDC **29** 14:16:06.2±0.4, 2.62N×96.14E, h24km±2km, mb4.5/26, mb1 4.6/26, mb1mx4.6/27, mbtmp4.7/26, MS4.4/1, Ms1 4.5/1, ms1mx3.1/23, Error ellipse: s-maj=17.0km s-min=9.1km az=51.0*
*HRVD **29** 14:16:06.2±1.0, 2.62N×95.99E, h23km, MW5.1/31, Centroid moment Tensor Solution. LP body waves: s9,c11;Mantle waves: s31,c47; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.97±.56; $M_{\theta\theta}$1.10±.30; $M_{\phi\phi}$2.87±.42; $M_{r\theta}$3.64±.59; $M_{\theta\phi}$-2.04±.24; $M_{\phi r}$-0.51±.58; Best double couple: $M_0$5.446×10^{16} NP1:ϕ_s167°, δ33°, λ-48°. NP2:ϕ_s300°, δ66°, λ-114°. Principal axes: T 4.992, Plg18°, Azm47°; N .907, Plg22°, Azm310°; P -5.9, Plg61°, Azm173°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 29 14:16:04.7±0.2, 2.46N±0.04×96.05E±0.04, h25km, h25km±.6km:pP-P, n294, σ1§20/244, mb5.0/89, MS4.9/64, 13C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	Kulim	5.38	58	*eP*		Pn		14 17 26.3	+0.8
NNT	Nongplab	10.70	20	P		P		14 18 47.4	+7.7
PENI	Pendagan	12.11	131	⇑*iP*		P		14 18 54.0	-4.8
PENI				*i*	S	S		14 21 07.0	-7.0
PENI				pmax	pmax				
	comp=Z,218nm,0.3s								
PENI	Pendagan	12.11	131

comp=Z,42nm,0.5s,mb5.2
POO Poona 26.98 308 *e*P **P** **14 21 42.0 -4.8**
POO *e* 14 27 44.0
DMN Daman 27.11 338 *e*P **P** **14 21 48.8 +1.0**
comp=Z,99nm,0.9s,mb5.3
GUN Gumba 27.11 340 *e*P **P** **14 21 49.0 +1.2**
comp=Z,128nm,0.6s,mb5.6
KKN Kakani 27.21 339 *e*P **P** **14 21 49.5 +0.8**
comp=Z,151nm,0.9s,mb5.5
LSA Lhasa 27.48 351 P **P** **14 21 51.0 -0.2**
LSA Lhasa 27.48 351 *e*P **P** **14 21 51.6 +0.4**
LSA pmax pmax
comp=Z,46nm,0.8s,mb5.1
LSA MLR MLR
comp=Z,1μm,21.0s,MS4.5
LSA Lhasa 27.48 351 *e*P **P** **14 21 51.6 +0.4**
comp=Z,46nm,0.8s,mb5.0
LSA LR LR
comp=Z,1μm,21.0s,MS4.5
GKN Gorkha 27.64 338 *e*P **P** **14 21 53.5 +0.9**
comp=Z,287nm,1.1s
KOLN Koldanda 27.84 336 *e*P **P** **14 21 55.5 +1.0**
comp=Z,140nm,0.7s,mb5.7
CD2 Chengdu 29.22 14 P **P** **14 22 05.5 -1.4**
ENH Enshi 30.45 23 P **P** **14 22 14.6 -3.2**
comp=Z,25nm,0.8s,mb5.0
ENH LR LR
comp=Z,1μm,20.0s,MS4.5
LGTI Lohaghat 30.76 332 *i* P **P** **14 22 21.5 +1.0**
LGTI *e* 14 31 43.0
NDI New Delhi 31.66 327 *e*P **P** **14 22 27.5 -1.0**
NDI *e*S **S** **14 27 30.0 -5.0**
DDI Dehra Dun 32.53 330 *e*P **P** **14 22 35.3 -0.8**
DDI *e* 14 31 58.1
XAN Xi'an 33.63 20 P **P** **14 22 44.5 -1.1**
XAN AP pP 14 22 52.0 -1.0
XAN AMB AMB
comp=Z,47nm,1.0s,mb5.4
SDNR Sundarnagar 34.03 330 *e*P **P** **14 22 49.2 +0.1**
LZH Lanzhou 34.22 11 ⇑P **P** **14 22 50.0 -0.7**
LZH AP pP 14 22 57.5 -0.6
LZH XP sP 14 23 01.0 -0.3
LZH PP PP 14 24 06.0 +0.2
LZH S **S** **14 28 16.0 +1.1**
LZH XS 14 28 29.5
LZH AMB AMB
comp=Z,106nm,1.6s,mb5.5
LZH AMB AMB
comp=Z,256nm,4.0s
LZH LR LR
comp=E,2μm,13.9s
LZH LR LR
comp=Z,3μm,16.0s,MS5.2
PONG Pong 34.91 329 *e*P **P** **14 22 58.0 +1.3**
THN Thein Dam 35.41 330 *e*P **P** **14 23 00.0 -0.9**
comp=Z,26nm,0.8s,mb5.2
FITZ Fitzroy Crossi 35.59 126 *e*P **P** **14 23 01.2 -1.4**
comp=Z,22nm,0.8s,mb5.1
FITZ Fitzroy Crossi 35.59 126 P **P** **14 23 01.3 -1.3**
comp=Z,28nm,0.8s,mb5.2,baz=276,slow=2.6,SNR=18
NJ2 Nanjing 36.42 34 *e*P **P** **14 23 12.0 +2.5**
NJ2 AP pP 14 23 19.5 +2.6
NJ2 XP sP 14 23 22.5 +2.5
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,540nm,4.2s
NJ2 LR LR
comp=N,4μm,12.3s,MS5.5
NJ2 LR LR
comp=E,5μm,15.8s,MS5.5
NJ2 LR LR
comp=Z,2μm,14.3s,MS5.1
GTA Gaotai 36.93 5 *e*P **P** **14 23 09.5 -4.2**
GTA AP pP 14 23 16.8 -4.3
GTA XP sP 14 23 20.3 -4.0
GTA PP PP 14 24 35.8 -4.2
GTA S **S** **14 28 51.3 -5.3**
GTA XS 14 29 04.0
GTA SS SS 14 31 20.0 -5.9
GTA AMB AMB
comp=Z,8.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,337nm,4.6s
GTA LR LR
comp=N,976nm,16.7s
GTA LR LR
comp=E,390nm,10.6s
GTA LR LR
comp=Z,1μm,15.6s,MS4.9
TIA Tai'an 38.82 28 *e*P **P** **14 23 28.3 -1.3**
MUN Mundaring 39.23 152 *e*P **P** **14 23 35.1 +2.1**
comp=Z,5.7nm,0.6s,mb4.5
MUN Mundaring 39.23 152 *e*P **P** **14 23 35.1 +2.1**
MUN pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
BTO Baotou 40.02 17 *e*P **P** **14 23 39.5 +0.1**
BTO AMB AMB
comp=Z,30nm,1.9s,mb4.7
NWAO Narrogin (SRO) 40.50 152 P **P** **14 23 44.0 +0.5**
comp=Z,22nm,1.0s,mb4.7,baz=318,slow=10,SNR=7.8
HHC Hu-ho-hao-te 40.70 18 *e*P **P** **14 23 46.3 +1.3**
HHC AP pP 14 23 56.0 +3.5
HHC PP PP 14 25 24.0 +1.9
HHC PCP PcP 14 25 47.3 +0.3
HHC SCP 14 29 32.3
HHC PCS 14 29 37.0
HHC S **S** **14 29 55.5 +2.0**
HHC AMB AMB
comp=Z,33nm,0.4s,mb5.3
HHC AMB AMB
comp=Z,351nm,4.3s
HHC LR LR
comp=N,1μm,13.7s,MS5.1
HHC LR LR
comp=E,1μm,13.7s,MS5.1
HHC LR LR
comp=Z,1μm,14.3s,MS4.9
KSH Kashi 41.16 336 *e*P **P** **14 23 47.5 -1.3**
KSH *e*AP pP 14 23 58.0 +1.7
KSH *e*XP sP 14 24 02.5 +3.1
KSH *e*PP PP 14 25 26.5 -0.3
KSH *e*PCP PcP 14 25 48.5 0.0
KSH *e*PPP PPP 14 25 56.5 -0.4
KSH *e*SCP 14 29 33.3
KSH *e*PCS 14 29 37.3
KSH *e*S **S** **14 29 57.5 -2.8**
KSH *e*XS 14 30 15.3
KSH *e*SS SS 14 32 58.8 -0.1
KSH *e*SCS ScS 14 33 48.3 -1.1
KSH AMB AMB
comp=Z,320nm,5.0s
KSH LR LR
comp=N,310nm,5.0s
KSH LR LR
comp=E,620nm,6.0s
BJT Baijiatuau 41.60 23 PFAKE 14 24 00.0 +7.6
BJT LR LR
comp=Z,875nm,20.0s,MS4.6
BJI Beijing 41.62 23 *e*P **P** **14 23 53.8 +1.2**
BJI AP pP 14 24 02.0 +1.9
BJI XP sP 14 24 06.5 +3.3
BJI PP PP 14 25 30.3 -1.6
BJI S **S** **14 30 09.8 +2.6**
BJI AMB AMB
comp=Z,50nm,1.4s,mb5.0
BJI AMB AMB
comp=Z,422nm,4.0s
BJI LR LR
comp=N,687nm,15.3s,MS5.0
BJI LR LR
comp=E,1μm,15.3s,MS5.0
BJI LR LR
comp=Z,529nm,19.6s,MS4.4
WMQ Urumqi 41.84 351 P **P** **14 23 53.5 -0.9**
WMQ AP pP 14 24 01.0 -0.9
WMQ XP sP 14 24 03.5 -1.5
WMQ PP PP 14 25 34.0 -0.4
WMQ S **S** **14 30 09.3 -1.2**
WMQ XS 14 30 21.5
WMQ AMB AMB
comp=Z,25nm,1.5s,mb4.6
WMQ AMB AMB
comp=Z,210nm,3.8s
WMQ LR LR
comp=N,1μm,16.8s
WMQ LR LR
comp=E,2μm,22.0s
WMQ LR LR
comp=Z,972nm,19.7s,MS4.7
ULHL Ulahol 43.40 339 P **P** **14 24 07.4 +0.2**
SNR=7.3
KZA Kyzart 43.63 337 P **P** **14 24 11.5 +2.5**
SNR=12
WRA Warramunga Arr 43.67 122 P **P** **14 24 09.1 -0.6**
comp=Z,21nm,1.0s,mb4.8,baz=301,slow=9.2,SNR=25
WRA ScP 14 29 46.7
comp=Z,2.0nm,1.3s,baz=322,slow=3.4,SNR=4.6
WRAB Tennant Creek 43.68 122 *e*P **P** **14 24 08.9 -0.8**
WRAB pmax pmax
comp=Z,57nm,1.0s,mb5.3
WRAB Tennant Creek 43.68 122 *e*P **P** **14 24 08.8 -0.8**
comp=Z,57nm,1.0s,mb5.2
WB2 Warramunga Arr 43.68 122 *e*P **P** **14 24 08.9 -0.8**
TKM2 Tokmak 2 44.23 338 P **P** **14 24 15.9 +2.1**
SNR=16
KBK Karagaybulak 44.24 338 P **P** **14 24 14.5 +0.6**
SNR=27
AAK Ala-Archa 44.40 337 P **P** **14 24 16.3 +1.1**
comp=Z,96nm,0.9s,mb5.5,SNR=18
AAK Ala-Archa 44.40 337 *i* P **P** **14 24 12.5 -2.7**
AAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.4
AAK Ala-Archa 44.40 337 *e*P **P** **14 24 15.0 -0.3**
comp=Z,24nm,1.1s
AAK LR LR
comp=Z,98nm,19.0s
FRU Bishkek 44.52 337 *e*P **P** **14 24 18.0 +1.8**
FRU pmax pmax
comp=Z,170nm,2.6s,mb5.4
CHMS Chumysh 44.61 338 P **P** **14 24 18.6 +1.7**
SNR=5.2
EKS2 Erkin-Say 44.70 337 P **P** **14 24 18.3 +0.6**
SNR=21
INCN Inchon 44.76 35 PFAKE 14 24 30.0 +12
INCN LR LR
comp=Z,2μm,19.0s,MS5.1
USP Ospenovka 44.93 338 P **P** **14 24 19.3 -0.2**
SNR=51
FORT Forrest 44.97 140 *e*P **P** **14 24 21.2 +1.2**
comp=Z,523nm,0.6s
ASPA Alice Springs 45.06 127 *e*P **P** **14 24 20.7 -0.1**
ASAR Alice Springs 45.07 127 P **P** **14 24 19.8 -1.1**
comp=Z,8.3nm,1.0s,mb4.5,baz=303,slow=7.4,SNR=22
ASAR pP pP 14 24 28.6 +0.3
comp=Z,6.4nm,0.6s,baz=301,slow=7.8,SNR=11
ASAR ScP 14 29 52.5
comp=Z,1.0nm,1.0s,baz=299,slow=4.3,SNR=4.0
MKAR Makanchi Array 45.75 347 *i* P **P** **14 24 24.4 -1.5**
MKAR pmax pmax
comp=Z,25nm,0.8s
MKAR Makanchi Array 45.75 347 P **P** **14 24 23.7 -2.3**
comp=Z,3.8nm,0.7s,mb4.5,baz=155,slow=8.1,SNR=31
MKAR Makanchi Array 45.75 347 P **P** **14 24 23.7 -2.3**
SONM Songino Array 46.07 10 P **P** **14 24 25.4 -3.0**
comp=Z,9.3nm,0.7s,mb4.8,baz=187,slow=8.4,SNR=19
SONM PcP PcP 14 26 04.9 -0.2
comp=Z,2.2nm,0.5s,baz=194,slow=3.5,SNR=6.8
SONM pPcP 14 26 12.4
comp=Z,6.2nm,0.6s,baz=190,slow=3.6,SNR=10
SONM Songino Array 46.07 10 P **P** **14 24 25.4 -3.0**
ULN Ulaanbaatar 46.22 10 *i* P **P** **14 24 26.8 -2.8**
SNY Shenyang 46.33 29 ⇓P **P** **14 24 30.5 -0.1**
SNY AMB AMB
comp=Z,30nm,1.8s,mb4.9
ZAK Zakamensk 48.14 6 *e*P **P** **14 24 39.5 -5.2**
ZAK pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
CN2 Changchun 48.72 28 *e*P **P** **14 24 45.3 -4.0**
CN2 *e*AP pP 14 24 56.0 -0.9
CN2 *e*S **S** **14 31 49.3 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,430nm,4.0s
CN2 LR LR
comp=N,720nm,19.0s,MS4.9
CN2 LR LR
comp=E,940nm,19.0s,MS4.9
CN2 LR LR
comp=Z,1μm,20.0s,MS4.8
MOY Mondy 49.21 4 *e*P **P** **14 24 53.8 +0.9**
MOY pmax pmax
comp=Z,34nm,2.4s,mb5.0
TLY Talaya 49.46 6 ⇓*i*P **P** **14 24 55.8 +0.9**
TLY *e* 14 26 45.0
TLY *e*SS ScS 14 34 40.0 -2.0
TLY pmax pmax
comp=Z,14nm,0.9s,mb5.0
TLY MLR MLR
comp=Z,692nm,17.0s,MS4.7
TLY Talaya 49.46 6 *e*P **P** **14 24 54.5 -0.4**
comp=Z,9.1nm,0.8s,mb4.9
GUMO Guam 49.48 74 PFAKE 14 25 10.0 +14
GUMO LR LR
comp=Z,482nm,22.0s,MS4.5
IRK Irkutsk 50.08 7 *e*P **P** **14 24 59.9 +0.3**
IRK pmax pmax
comp=Z,506nm,2.2s
KURK Kurchatov 50.29 346 *e*P **P** **14 24 58.3 -2.9**
KURK pmax pmax
comp=Z,16nm,0.8s,mb5.1
KURK Kurchatov 50.29 346 *e*P **P** **14 24 58.3 -2.9**
comp=Z,16nm,0.8s,mb5.1
HIA Hailar 50.83 20 *e*P **P** **14 24 56.5 -8.9**
HIA pmax pmax
comp=Z,27nm,1.2s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA Hailar 50.83 20 *e*P **P** **14 24 56.5 -8.8**
comp=Z,27nm,1.2s,mb5.0
HIA LR LR
comp=Z,1μm,19.0s,MS4.9
MDJ Mudanjiang 51.34 30 P **P** **14 25 08.8 -0.5**
MDJ AMB AMB
comp=Z,18nm,1.4s,mb4.8
MDJ AMB AMB
comp=Z,455nm,4.2s
MDJ LR LR
comp=N,428nm,18.4s,MS4.7
MDJ LR LR
comp=E,569nm,19.8s,MS4.7
MDJ LR LR
comp=Z,546nm,18.4s,MS4.6
RAYN Ar Rayn 53.16 298 P **P** **14 25 23.0 -0.2**
comp=Z,92nm,0.8s,SNR=23
NVS Novosibirsk 53.25 351 *e*P **P** **14 25 21.1 -2.4**
NVS *e*S **S** **14 32 44.1 -7.3**
NVS pmax pmax
comp=N,46nm,1.8s
NVS pmax pmax
comp=Z,38nm,1.8s,mb5.0
NVS pmax pmax
comp=E,22nm,1.7s
NVS smax
comp=N,14nm,1.8s
NVS smax
comp=E,27nm,1.9s
CTA Charters Tower 54.09 117 *e*P **P** **14 25 29.7 -0.4**
comp=E,19nm,1.3s,mb4.9
CTA Charters Tower 54.09 117 *e*P **P** **14 25 29.7 -0.4**
CTA pmax pmax
comp=Z,19nm,1.3s
CTA Charters Tower 54.09 117 P **P** **14 25 30.0 0.0**
comp=Z,15nm,1.0s,mb4.9,baz=293,slow=8.5,SNR=5.1
CTAO Charters Tower 54.09 117 *e*P **P** **14 25 28.8 -1.3**
CTAO pmax pmax
comp=Z,79nm,1.8s,mb5.3
CTAO MLR MLR
comp=Z,594nm,21.0s,MS4.6
CTAO Charters Tower 54.09 117 *e*P **P** **14 25 28.8 -1.3**
comp=Z,79nm,1.8s,mb5.3
CTAO LR LR
comp=Z,594nm,21.0s,MS4.6
BVA0 Borovoye Array 54.69 341 *i* P **P** **14 25 33.4 -0.7**
BVA0 pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
BVAR Borovoye Array 54.69 341 P **P** **14 25 33.1 -1.0**
comp=Z,4.3nm,0.5s,mb4.7,baz=141,slow=10,SNR=33
BVAR Borovoye Array 54.69 341 P **P** **14 25 33.1 -1.0**
STKA Stephens Creek 55.05 132 ⇓*i*P **P** **14 25 36.4 -0.6**
comp=Z,13nm,0.9s,mb5.0
STKA Stephens Creek 55.05 132 P **P** **14 25 36.6 -0.4**
comp=Z,13nm,0.9s,mb5.0,baz=301,slow=6.9,SNR=12
CHKZ Chkalovo 55.17 342 *e*P **P** **14 25 33.6 -4.0**
CHKZ pmax pmax
comp=Z,72nm,1.2s,mb5.6
CHKZ Chkalovo 55.17 342 *e*P **P** **14 25 33.5 -4.1**
comp=Z,72nm,1.2s,mb5.6
BOD Bodaibo 56.99 11 *e* **P** **14 25 49.6 -1.0**
BOD pmax pmax
comp=Z,21nm,1.8s,mb4.9
KMBO Kilima Mbogo 58.90 267 *e*P **P** **14 26 03.4 -1.1**
KMBO *e* pP 14 26 12.0 -0.3
KMBO pmax pmax
comp=Z,9.0nm,1.1s
KMBO Kilima Mbogo 58.90 267 P **P** **14 26 04.6 0.0**
comp=Z,5.6nm,1.0s,mb4.6,baz=53,slow=9.6,SNR=13
KMBO pP pP 14 26 12.9 +0.6
comp=Z,4.6nm,0.9s,baz=48,slow=12,SNR=5.1
KMBO Kilima Mbogo 58.90 267 *e*P **P** **14 26 03.4 -1.1**
comp=Z,9.0nm,1.1s,mb4.7
KMBO *e* pP 14 26 12.0 -0.3
GNI Garni 59.59 316 PFAKE 14 26 20.0 +11
GNI LR LR
comp=Z,265nm,22.0s,MS4.3
YSS Yuzh-Sakhalins 59.97 35 P **P** **14 26 14.3 +2.8**
SVE Sverdlovsk 61.10 339 *e*P **P** **14 26 18.5 -0.5**
SVE pmax pmax
comp=E,400nm,16.0s
ARU Arti 61.58 337 ⇓*i*P **P** **14 26 28.4 +6.1**
ARU *e* 14 26 57.1
ARU *e* 14 28 44.9
ARU *e*S **S** **14 34 57.2 +16**
ARU pmax pmax
comp=Z,31nm,1.2s,mb5.3
ARU Arti 61.58 337 P **P** **14 26 21.1 -1.3**
ARU *e* pP 14 26 27.8 -2.3
ARU LR LR
comp=Z,119nm,22.0s,MS4.0
KIV Kislovodsk 62.61 319 *i* P **P** **14 26 26.9 -2.5**
KIV *e* pP 14 26 35.9 -1.3
KIV *e*S **S** **14 34 50.6 -3.5**
KIV *e*SS SS 14 39 02.1 +1.6
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.0
KIV Kislovodsk 62.61 319 *e*P **P** **14 26 28.5 -0.8**
comp=Z,28nm,0.9s,mb5.4
ASF Jabal al Asfar 62.80 305 P **P** **14 26 30.4 -0.5**
comp=Z,3.8nm,0.6s,mb4.7,baz=329,slow=4.6,SNR=6.1
GOF Gofitskoye 62.87 320 *e*P **P** **14 26 37.6 +6.6**
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.4
MALT Malatya 63.44 312 *e*P **P** **14 26 33.5 -1.4**
MALT pmax pmax
comp=Z,1μm,1.0s
MALT Malatya 63.44 312 *e*P **P** **14 26 33.5 -1.4**
comp=Z,1μm,1.0s
EIL Elat 63.82 302 P **P** **14 26 37.1 -0.5**
comp=Z,12nm,0.8s,mb5.0,baz=22,slow=1.1,SNR=14
EIL pP pP 14 26 45.2 -0.2
comp=Z,18nm,0.8s,baz=194,slow=8.7,SNR=9.6
EIL Elat 63.82 302 *e*P **P** **14 26 36.8 -0.8**
comp=Z,22nm,0.8s,mb5.2
SOC Sochi 64.42 318 *e*P **P** **14 26 37.1 -4.2**
SOC *e* 14 27 10.2
SOC *e* 14 29 04.0
SOC *e*PPP PPP 14 30 36.5 -1.2
SOC *e*S **S** **14 35 14.5 -2.2**
SOC *e* 14 36 32.5
SOC *e*SS SS 14 39 24.7 -3.9
SOC pmax pmax
comp=Z,37nm,0.7s,mb5.5
SOC pmax pmax
comp=N,34nm,0.9s
SOC pmax pmax
comp=E,11nm,0.7s
YAK Yakutsk 64.54 17 *e*P **P** **14 26 36.3 -5.5**
YAK *e**PP pP 14 26 46.5 -3.1
YAK *e* 14 27 13.4
YAK *e**SS 14 35 17.7
YAK pmax pmax
comp=N,8.0nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,16nm,1.2s,mb4.9
YAK MLR MLR
comp=N,524nm,15.0s,MS4.9
YAK MLR MLR
comp=Z,678nm,15.0s,MS5.0
YAK MLR MLR
comp=E,323nm,14.0s,MS4.9
YAK Yakutsk 64.54 17 *e*P **P** **14 26 38.4 -3.3**
comp=E,78nm,1.0s,mb5.7
HNR Honiara 64.73 102 PFAKE 14 27 00.0 +16
HNR LR LR
comp=Z,224nm,19.0s,MS4.4
MBAR Mbarara 65.37 268 P **P** **14 26 47.8 -0.1**
comp=Z,50nm,1.1s,mb5.5,SNR=7.2
MBAR Mbarara 65.37 268 *e*P **P** **14 26 46.7 -1.2**
MBAR pmax pmax
comp=Z,16nm,1.3s,mb4.9
MBAR Mbarara 65.37 268 *e*P **P** **14 26 46.7 -1.2**
comp=Z,16nm,1.3s,mb4.9
BRTR Keskin Array B 67.42 312 P **P** **14 26 58.6 -2.0**
comp=Z,4.2nm,0.8s,mb4.5,baz=130,slow=6.5,SNR=13
BRTR pP pP 14 27 06.7 -1.7
comp=Z,5.9nm,0.8s,baz=135,slow=7.0,SNR=12
VRSR Storozhevoye 67.87 325 *e*P **P** **14 27 01.2 -2.0**
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,9.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' **68.67 318** P **P** **14 27 01.5 -6.7**
SIM pmax pmax
comp=Z,15nm,0.9s,mb4.9
CASY Casey 69.37 174 PFAKE 14 27 20.0 +7.8
CASY LR LR
comp=Z,528nm,20.0s,MS4.8
MOS Moscow 70.67 329 *e*P **P** **14 27 27.0 +6.7**
MOS pmax pmax
comp=Z,53nm,0.6s,mb5.7
MA2 Magadan 70.70 26 *e*P **P** **14 27 20.3 -0.1**
MA2 pmax pmax
comp=Z,20nm,1.8s,mb4.8
MA2 Magadan 70.70 26 *e*P **P** **14 27 19.8 -0.6**
comp=Z,37nm,1.5s,mb5.1
OBN Obninsk 70.95 328 *c i*P **P** **14 27 20.8 -1.2**
OBN *e* 14 29 57.0
OBN *i* S S 14 36 35.7 +0.9
OBN *e*SS SS 14 41 05.3 -4.5
OBN pmax pmax
comp=Z,16nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
TIXI Tiksi 72.15 10 *e*P **P** **14 27 25.5 -3.5**
TIXI *e*S S 14 36 40.9 -7.5
TIXI *e*SS SS 14 41 26.4 -1.4
TIXI pmax pmax
comp=Z,41nm,1.6s,mb5.1
TIXI MLR MLR
comp=Z,686nm,15.0s,MS5.0
TIRR Tirgusor 72.42 316 ⇑P **P** **14 27 37.1 +6.1**
CFR Carcaliu 72.79 317 ⇑P **P** **14 27 39.9 +6.7**
SANT Santorini 72.95 307 *e*P **P** **14 27 31.8 -2.5**
comp=Z,59nm,0.8s,mb5.6
SEY Seymchan 73.06 23 *e*P **P** **14 27 25.9 -8.5**
SEY *e* 14 27 44.0
SEY *e*PPP PPP 14 32 08.7 +6.3
SEY *e* 14 36 48.2
SEY pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SEY MLR MLR
comp=Z,2μm,22.0s,MS5.3
SEY MLR MLR
comp=N,300nm,13.0s
SEY MLR MLR
comp=E,900nm,18.0s
LBTB Lobatse 73.42 243 *e*P **P** **14 27 36.3 -1.0**
LBTB pmax pmax
comp=Z,12nm,0.8s,mb4.9
LBTB Lobatse 73.42 243 P **P** **14 27 37.3 0.0**

comp=Z,11nm,0.8s,mb4.9,baz=104,slow=5.4,SNR=19
LBTB Lobatse 73.42 243 *e*P **P 14 27 36.3 -1.0**
comp=Z,12nm,0.8s,mb4.9
AKASG Malin Array Be 73.56 322 P **P 14 27 35.8 -1.7**
comp=Z,0.8nm,0.3s,mb4.2,baz=90,slow=5.3,SNR=18
AKASG pP pP 14 27 43.7 -1.7
comp=Z,11nm,0.7s,baz=91,slow=4.8,SNR=11
AKASG Malin Array Be 73.56 322 P **P 14 27 35.8 -1.7**
AKASG pP pP 14 27 43.7 -1.7
MAW Mawson 73.68 193 P **P 14 27 38.1 +0.1**
comp=Z,2.4nm,0.6s,mb4.3,baz=0.1,slow=7.8,SNR=3.6
MAW pP pP 14 27 46.6 +0.8
comp=Z,2.6nm,0.5s,baz=352,slow=16,SNR=2.9
MLR Muntele Rosu 74.37 317 P **P 14 27 41.9 -0.4**
comp=Z,5.7nm,0.9s,mb4.5,baz=131,slow=5.4,SNR=8.2
MLR pP pP 14 27 49.8 -0.4
comp=Z,17nm,1.0s,baz=145,slow=3.5,SNR=12
MLR Muntele Rosu 74.37 317⇑*i*P **P 14 27 42.2 -0.1**
MLR Muntele Rosu 74.37 317⇑*i*P **P 14 27 42.2 -0.1**
BOSA Boshof 74.42 240 P **P 14 27 43.0 0.0**
BOSA MLR MLR
comp=Z,607nm,20.0s,MS4.9
BOSA Boshof 74.42 240 P **P 14 27 43.0 0.0**
comp=Z,5.3nm,0.8s,mb4.5,baz=129,slow=8.3,SNR=8.4
BURAR Bucovina Array 75.33 319⇑P **P 14 27 48.1 +0.3**
KWP Kalwaria 77.37 320 *e*P **P 14 27 58.3 -1.0**
KOLS Kolonicke sedl 77.52 320 *e*P **P 14 28 01.2 +1.1**
KOLS *e*pP pP 14 28 08.3 +0.3
APA Apatity 77.55 340⇑*i*P **P 14 28 05.0 +5.1**
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1
SUW Suwalki 77.99 325 *e*P **P 14 28 02.0 -0.5**
CRVS Cervenica-Dubn 78.04 319 *e*P pP 14 28 11.4 +0.6
CRVS Cervenica-Dubn 78.04 319 *e*pP pP 14 28 11.4 +0.6
FINES FINESS Array B 78.36 333 P **P 14 28 04.0 -0.4**
FINES **PP pP 14 28 11.2 -1.1
FINES FINESS Array B 78.36 333 P **P 14 28 04.0 -0.4**
comp=Z,3.5nm,0.7s,mb4.4,baz=90,slow=7.6,SNR=17
FINES pP pP 14 28 11.2 -1.1
comp=Z,11nm,0.6s,baz=100,slow=5.0,SNR=21
FINES FINESS Array B 78.36 333 P **P 14 28 04.0 -0.4**
FINES pP pP 14 28 11.2 -1.1
KAF Kangasniemi 78.44 333 *e*p pP 14 28 11.6 -1.2
comp=Z,10nm,0.6s
KAF Kangasniemi 78.44 333 *e*P pP 14 28 11.6 -1.2
KAF pmax pmax
comp=Z,11nm,0.6s,mb5.0
KECS Kecovo 78.61 319 *e*P **P 14 28 05.6 -0.4**
KECS *e*pP pP 14 28 14.0 0.0
NIE Niedzica 78.87 320 *e*P **P 14 28 07.3 -0.2**
PSZ Piszkesteto 78.91 318 *e*p **P 14 28 05.5 -2.2**
OJC Ojcow 79.33 321 *e*P **P 14 28 10.6 +0.7**
PKSM Moragy 79.52 316⇓*e*P **P 14 28 10.8 -0.3**
PKSM *i* pP 14 28 18.4 -0.6
VYHS Vyhne 79.69 319 *e*P **P 14 28 12.3 +0.3**
VYHS *e*pP pP 14 28 19.8 -0.1
TIP Timpagrande 80.15 309 *e*P **P 14 28 13.2 -1.4**
FX1 Attu Island--F 80.27 37 P **P 14 28 13.4 -1.5**
OKC Ostrava-Krasne 80.32 320 *e*P **P 14 28 16.0 +0.7**
OKC *e*pP pP 14 28 23.6 +0.4
OKC *e*S S 14 38 30.4 +12
OKC AMS AMS 14 48 50.0
comp=Z,100nm,19.5s
GRI Girifalco 80.38 309 *e*P **P 14 28 17.0 +1.2**
BILL Bilibino 80.40 21 *i* P **P 14 28 14.3 -1.1**
BILL pmax pmax
comp=Z,4.0nm,1.6s,mb4.1
BILL MLR MLR
comp=Z,1μm,16.0s,MS5.3
MORC Moravsky Berou 80.70 320 *e*P **P 14 28 15.7 -1.6**
MORC *e**PP pP 14 28 24.9 -0.4
MORC pmax pmax
comp=Z,13nm,1.4s,mb4.7
MORC Moravsky Berou 80.70 320 *e*P **P 14 28 15.7 -1.6**
comp=Z,13nm,1.4s,mb4.7
MORC *e*pP pP 14 28 24.9 -0.4
ZST Bratislava 80.80 318 *e*P **P 14 28 18.6 +0.7**
ZST *e*pP pP 14 28 25.9 +0.1
ARCES ARCESS Array B 80.97 340 P **P 14 28 18.9 +0.6**
comp=Z,1.8nm,0.4s,mb4.3,baz=92,slow=5.0,SNR=23
ARCES pP pP 14 28 25.0 -1.3
comp=Z,3.1nm,0.5s,baz=91,slow=6.6,SNR=3.0
ARCES ARCESS Array B 80.97 340 P **P 14 28 18.9 +0.6**
ARCES pP pP 14 28 25.0 -1.3
DPC Dobruska-Polom 81.55 320 *e*P **P 14 28 23.0 +1.3**
DPC *e*pP pP 14 28 30.2 +0.5
KSP Ksiaz 81.63 321 *e*P **P 14 28 23.0 +0.9**
KSP *e**PP pP 14 28 30.3 +0.2
KSP *e*S S 14 38 32.0 +0.6
KSP Ksiaz 81.63 321 *e*P **P 14 28 30.5 +0.5**
UPC Upice 81.77 321 *e*P **P 14 28 23.9 +1.1**
UPC *e*pP pP 14 28 31.6 +0.8
BOJS Bojanci 81.80 315⇓*e*P **P 14 28 23.1 0.0**
BOJS *e*pP pP 14 28 31.0 0.0
PDKS Podkum 82.02 316⇓*i*P **P 14 28 24.9 +0.7**
PDKS *e* pP 14 28 32.2 0.0
LJU Ljubljana 82.35 316 *i* P **P 14 28 26.8 +0.9**
PRU Pruhonice 82.66 320 *e*P **P 14 28 28.6 +1.1**
PRU *e*pP pP 14 28 36.0 +0.5
PRU *e*S S 14 38 44.4 +2.4
PRU AMS AMS 14 49 40.0
comp=Z,100nm,16.9s
PVCC Panska Ves 82.69 320 *e*P **P 14 28 28.7 +1.1**
PVCC *e**PP pP 14 28 35.8 +0.2
PVCC MLR MLR
comp=Z,100nm,19.4s,MS4.2
PVCC Panska Ves 82.69 320 *e*P **P 14 28 28.7 +1.1**
PVCC *e*pP pP 14 28 35.8 +0.2
PVCC *e*S S 14 38 54.6 +12
PVCC AMS AMS 14 49 00.0
comp=Z,100nm,19.4s
VOY Vojsko 82.79 316 *e*P **P 14 28 28.3 +0.1**
VOY *e* pP 14 28 35.8 -0.4
PTQR Pietraquaria 82.89 312 *e*P **P 14 28 29.4 +0.5**
AQU L'Aquila 82.91 312 *e*P **P 14 28 28.5 -0.5**
GEC2 GERESS Array S 83.11 319 *e*P **P 14 28 30.8 +0.9**
GEC2 pmax pmax
comp=Z,40nm,1.3s,mb5.3
GEC2 GERESS Array S 83.11 319 *e*P **P 14 28 30.8 +0.9**
comp=Z,40nm,1.3s,mb5.3
GERES GERESS Array B 83.11 319 P **P 14 28 30.6 +0.7**
comp=Z,3.8nm,0.8s,mb4.5,baz=90,slow=5.3,SNR=27
GERES pP pP 14 28 38.2 +0.4
comp=Z,12nm,0.9s,baz=104,slow=5.5,SNR=22
PTCC Patocco-Chiusa 83.18 316 *e*P **P 14 28 30.4 +0.1**
KHC Kasperske Hory 83.22 319 *e*P **P 14 28 31.0 +0.6**
KHC *e* pP 14 28 38.0 -0.4
KHC Kasperske Hory 83.22 319 *e*P **P 14 28 31.0 +0.6**
KHC pP pP 14 28 38.0 -0.4
SNTG Esanatoglia 83.30 313 *e*P **P 14 28 31.7 +0.7**
ARV Arcevia 83.31 313 *e*P **P 14 28 31.7 +0.7**
WET Wettzell 83.67 319 *e*P **P 14 28 33.5 +0.8**
WET pmax pmax
comp=Z,23nm,1.3s,mb5.2
WET Wettzell 83.67 319 *e*P **P 14 28 33.5 +0.8**
comp=Z,23nm,1.3s,mb5.2
CLL Collm 83.74 321 *e*P **P 14 28 37.0 +4.0**
CLL *i* 14 28 41.1
CLL Collm 83.74 321 P **P 14 28 37.0 +4.0**
CLL *i* *PP pP 14 28 41.1 +0.1
NKC Novy Kostel 84.02 320 *e*pP pP 14 28 43.1 +0.6
NKC AMS AMS 14 51 20.0
comp=Z,100nm,12.4s
HFS Hagfors 84.06 330 P **P 14 28 34.9 +0.5**
comp=Z,2.3nm,0.7s,mb4.4,baz=90,slow=5.9,SNR=7.4
HFS pP pP 14 28 42.5 +0.1
comp=Z,6.9nm,0.5s,baz=108,slow=4.7,SNR=13
SFI Santa Sofia 84.12 314 *e*P **P 14 28 35.8 +0.7**
PGD Poggio Sodo 84.21 314 *e*P **P 14 28 37.1 +1.5**
VMG Vicchio 84.34 314 *e*P **P 14 28 37.9 +1.6**
MOX Moxa 84.57 320 *e*P pP 14 28 45.5 +0.3
MOX Moxa 84.57 320 *i* P pP 14 28 45.5 +0.3
FUR Furstenfeldbru 84.69 318 *e*P **P 14 28 37.9 0.0**
GRA1 Grafenberg Arr 84.78 319 *e*P **P 14 28 39.4 +1.1**
comp=Z,29nm,1.2s,mb5.3
GRA1 *e*pP pP 14 28 46.9 +0.6
GRF Grafenberg Arr 84.78 319 *e*P **P 14 28 39.4 +1.1**
GRF *e**PP pP 14 28 46.9 +0.6
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.3
GRF Grafenberg Arr 84.78 319 *e*P **P 14 28 39.4 +1.1**
GRF *e**PP pP 14 28 46.9 +0.6
GRF pmax pmax
comp=Z,29nm,1.2s,mb5.3
GRF Grafenberg Arr 84.78 319 *e*P **P 14 28 39.4 +1.1**
comp=Z,29nm,1.2s,mb5.3
GRF *e*pP pP 14 28 46.9 +0.6
BRMO Bormio 85.25 316 *e*P **P 14 28 41.7 +1.0**
NB2 NORSAR Subarra 85.35 331 P **P 14 28 40.5 -0.4**
comp=Z,20nm,1.2s,mb5.1,baz=92,slow=5.6
NB2 NORSAR Subarra 85.35 331 P **P 14 28 40.5 -0.4**
NB2 pmax pmax
comp=Z,20nm,1.2s,mb5.1
NB2 NORSAR Subarra 85.35 331 P **P 14 28 40.5 -0.4**
baz=92,slow=5.6
NOA NORSAR Array B 85.35 331 P **P 14 28 40.9 0.0**
NOA **PP pP 14 28 48.8 -0.1
NOA NORSAR Array B 85.35 331 P **P 14 28 40.9 0.0**
comp=Z,2.3nm,0.9s,mb4.3,baz=95,slow=5.1,SNR=5.1
NOA pP pP 14 28 48.8 -0.1
comp=Z,6.1nm,1.0s,baz=96,slow=5.1,SNR=12
NOA LR LR 15 10 11.1
comp=Z,196nm,21.4s,MS4.5,baz=85,slow=38
NOA NORSAR Array B 85.35 331 P **P 14 28 40.9 0.0**
NOA pP pP 14 28 48.8 -0.1
NOA LR LR 15 10 11.1
CLZ Clausthal 85.40 322 *e*P **P 14 28 42.2 +0.9**
CLZ pmax pmax
comp=Z,18nm,1.2s,mb5.1
CLZ Clausthal 85.40 322 *e*P **P 14 28 42.2 +0.9**
comp=Z,18nm,1.2s,mb5.1
DAVOX Davos 85.59 317 P **P 14 28 42.8 +0.4**
comp=Z,6.3nm,0.5s,mb5.1,baz=137,slow=6.3,SNR=7.8
DAVOX pP pP 14 28 50.9 +0.4
comp=Z,17nm,0.6s,baz=108,slow=6.8,SNR=15
BFO Black Forest 86.66 318 *e*P **P 14 28 47.4 -0.2**
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BFO Black Forest 86.66 318 *e*P **P 14 28 47.4 -0.2**
comp=Z,10.0nm,0.8s,mb5.1
VNDA Vanda 87.28 169 P **P 14 28 50.8 +0.7**
comp=Z,1.3nm,0.9s,mb4.1,baz=317,slow=5.2,SNR=5.4
VNDA pP pP 14 28 59.1 +1.0
comp=Z,2.3nm,1.1s,baz=324,slow=5.4,SNR=5.2
LPG La Plagne 87.77 315 *e*P **P 14 28 53.9 +0.8**
comp=Z,26nm,0.9s,mb5.2
LPG La Plagne 87.77 315 *e*P **P 14 28 53.9 +0.8**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.2
BNI Bardonecchia 87.83 315 P **P 14 28 50.2 -3.2**
BNI pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
BNI Bardonecchia 87.83 315 P **P 14 28 50.2 -3.2**
comp=Z,9.1nm,0.9s,mb5.0
QSPA South Pole Qui 92.40 180 *e*P **P 14 29 15.1 +1.1**
comp=Z,11nm,1.1s,mb5.1
EKA Eskdalemuir Ar 93.23 326 P **P 14 29 18.5 +0.2**
comp=Z,2.2nm,0.8s,mb4.6,baz=120,slow=6.7,SNR=4.9
EKA pP pP 14 29 26.8 +0.5
comp=Z,4.5nm,0.8s,baz=99,slow=5.3,SNR=8.5
IMA Indian Mountai 95.87 23 P **P 14 29 27.3 -2.8**
comp=Z,92nm,1.5s,mb6.0
ESLA Sonseca Array 96.14 310 PFAKE 14 29 40.0 +8.0
ESLA LR LR
comp=Z,749nm,19.0s,MS5.2
COLA College 98.57 23 PFAKE 14 29 50.0 +7.7
COLA LR LR
comp=Z,274nm,21.0s,MS4.7
FIB Fire Island 99.08 27 PFAKE 14 30 00.0 +15
FIB LR LR
comp=Z,1μm,22.0s,MS5.3
DBIC Dimbokro 100.54 277 PFAKE 14 30 00.0 +7.5
DBIC LR LR
comp=Z,226nm,21.0s,MS4.7
DIV Divide 101.05 26 PFAKE 14 30 00.0 +6.3
DIV LR LR
comp=Z,1μm,20.0s,MS5.4
YKA Yellowknife Ar 111.17 15 PKKP PKKP 14 45 47.1 +1.8
comp=Z,0.2nm,0.6s,baz=121,slow=3.1,SNR=5.8
TBI Tubuai 113.42 114 *e*LR LR 15 08 41.5
comp=Z,222nm,24.5s
PPT Papeete 113.96 108 *e*LR LR 15 08 56.6
comp=Z,193nm,24.8s
FFC Flin Flon 121.09 12 PFAKE 14 35 10.0 +10
FFC LR LR
comp=Z,106nm,19.0s,MS4.5
SCHQ Schefferville 121.17 349 pPKP 14 35 03.9
comp=Z,3.5nm,0.8s,baz=247,slow=3.3,SNR=4.7
HUMO Hull Mountain 122.98 34 PFAKE 14 35 10.0 +6.1
HUMO LR LR
comp=Z,304nm,20.0s,MS5.0
BMO Blue Mountains 124.30 28 PFAKE 14 35 10.0 +3.5
BMO LR LR
comp=Z,275nm,20.0s,MS4.9
BOZ Bozeman (W) 126.17 24 PFAKE 14 35 20.0 +10
BOZ LR LR
comp=Z,338nm,20.0s,MS5.0
ULM Lac du Bonnet 126.50 10 pPKP 14 35 14.2
comp=Z,4.8nm,0.9s,baz=17,slow=3.1,SNR=5.7
ULM Lac du Bonnet 126.50 10 PKPdf PKPdf 14 35 06.7 -3.9
RKT Rikitea 126.53 117 *e*LR LR 15 14 45.7
comp=Z,187nm,27.0s
HLID Hailey 126.63 27 PFAKE 14 35 20.0 +9.0
HLID LR LR
comp=Z,415nm,20.0s,MS5.1
LAO LASA Array 127.26 19 PFAKE 14 35 20.0 +7.8
LAO LR LR
comp=Z,304nm,21.0s,MS5.0
CMB Columbia Colle 127.48 36 PFAKE 14 35 20.0 +7.1
CMB LR LR
comp=Z,279nm,19.0s,MS5.0
LKWY Lake 127.56 24 PFAKE 14 35 20.0 +7.2
LKWY LR LR
comp=Z,447nm,19.0s,MS5.2
BMN Battle Mountai 127.59 32 PFAKE 14 35 20.0 +7.0
BMN LR LR
comp=Z,239nm,20.0s,MS4.9
AHID Auburn Hatcher 128.74 26 PFAKE 14 35 20.0 +4.8
AHID LR LR
comp=Z,371nm,19.0s,MS5.1
EYMN Ely 129.37 7 PFAKE 14 35 20.0 +3.8
EYMN LR LR
comp=Z,389nm,20.0s,MS5.1
BW06 Boulder Array 129.39 24 PFAKE 14 35 20.0 +3.6
BW06 LR LR
comp=Z,299nm,20.0s,MS5.0
PDAR Pinedale Array 129.39 24 PKP PKPdf 14 35 13.2 -3.1
comp=Z,0.6nm,0.9s,baz=90,slow=1.5,SNR=4.7
PDAR pPKP 14 35 21.8
comp=Z,5.0nm,1.3s,slow=1.5,SNR=5.8
HWUT Hardware Ranch 129.47 27 PFAKE 14 35 20.0 +3.4
HWUT LR LR
comp=Z,342nm,19.0s,MS5.1
TRCR Troy Canyon 129.97 33 PKP PKPdf 14 35 13.0 -4.6
DUG Dugway 130.00 29 *e*PKP PKPdf 14 35 10.6 -7.0
DUG LR LR
comp=Z,308nm,19.0s,MS5.0
DAC Darwin (Calif) 130.31 36 PFAKE 14 35 30.0 +12
DAC LR LR
comp=Z,261nm,21.0s,MS4.9
EMMW East Machias 130.78 344 PFAKE 14 35 30.0 +11
EMMW LR LR
comp=Z,5μm,19.0s
MSU Marysvale 131.61 30 PKP PKPdf 14 35 14.8 -6.0
PV10 Paradox Valley 133.22 27 PKP PKPdf 14 35 19.6 -4.2
ISCO Idaho Springs 133.48 23 PFAKE 14 35 30.0 +5.8
ISCO LR LR
comp=Z,357nm,19.0s,MS5.1
JFWS Jewell Farm 134.47 6 PFAKE 14 35 30.0 +4.1
JFWS LR LR
comp=Z,408nm,21.0s,MS5.1
AAM Ann Arbor 135.44 360 PFAKE 14 35 40.0 +12
AAM LR LR
comp=Z,407nm,22.0s,MS5.1
ERPA Erie 135.48 356 PFAKE 14 35 40.0 +12
ERPA LR LR
comp=Z,317nm,19.0s,MS5.1
CBKS Cedar Bluff 136.42 18 PFAKE 14 35 40.0 +10
CBKS LR LR
comp=Z,373nm,19.0s,MS5.1
SSPA Standing Stone 136.75 353 *e*PKP PKPdf 14 35 25.6 -4.5
ANMO Albuquerque 137.21 28 PFAKE 14 35 40.0 +8.8
ANMO LR LR
comp=Z,259nm,19.0s,MS5.0
ACSO Alum Creek Sta 137.50 359 PFAKE 14 35 40.0 +8.4
ACSO LR LR
comp=Z,453nm,20.0s,MS5.2
CBN Corbin 139.08 352 PFAKE 14 35 40.0 +5.5
CBN LR LR
comp=Z,928nm,22.0s,MS5.5
CCM Cathedral Cave 139.12 9 PFAKE 14 35 40.0 +5.4
CCM LR LR
comp=Z,337nm,21.0s,MS5.1
AMTX Amarillo 139.29 23 PFAKE 14 35 40.0 +5.0
AMTX LR LR
comp=Z,275nm,20.0s,MS5.0
LTX Lajitas 143.17 29 PFAKE 14 35 50.0 +14
LTX LR LR
comp=Z,12nm,21.0s
TXAR Lajitas Array 143.17 29 pPKP 14 35 45.4
comp=Z,0.6nm,0.4s,baz=315,slow=1.8,SNR=3.0
GOGA Godfrey 144.32 359 PFAKE 14 35 50.0 +11
GOGA LR LR
comp=Z,529nm,19.0s,MS5.3
NATX Nacogdoches 144.47 16 *e*PKP PKPdf 14 35 40.0 -4.2
LRAL Lakeview Retre 144.58 4 PFAKE 14 35 50.0 +10
LRAL LR LR
comp=Z,454nm,21.0s,MS5.2
LPAZ La Paz 159.24 228 PKP PKPdf 14 36 05.3 -1.0
comp=Z,0.5nm,0.3s,baz=269,slow=5.3,SNR=4.1
LPAZ PKPab PKPab 14 36 42.8 +1.5
comp=Z,2.5nm,0.8s,baz=116,slow=2.5,SNR=6.4
SDV Santo Domingo 162.59 311 PKP PKPdf 14 36 05.5 -4.3
JTS JuntasAbangare 167.29 5 PFAKE 14 36 20.0 +6.0
JTS LR LR
comp=Z,56nm,21.0s
OTAV Otavalo 173.88 296 *e*PKP PKPdf 14 36 14.4 -3.2

BJI ***29*** *14:24:21.6, 0.96N×97.40E, h40km, mB5.3, mb4.9, Ms5.1, Msz4.7*
NEIC ***29*** *14:24:23.3±0.4, 1.31N×97.07E, mb4.7/15, Error ellipse: s-maj=13.3km s-min=7.3km az=54.0*
IDC ***29*** *14:24:23.1±0.7, 1.24N×97.03E, h24km±3km, mb4.3/14, mb1 4.3/14, mb1mx4.2/19, mbtmp4.4/14, Error ellipse: s-maj=30.1km s-min=10.8km az=50.0*
ISC 29 14:24:21.5±0.5, 1.31N±0.06×97.11E±0.06, h23km, h23km±.5km: pP-P, n62, σ0.97/58, mb4.7/41, MS4.5/2, 5C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.08**	**50**	P	**Pn**	**14 25 39.0**	**+0.6**
KULM	**Kulim**	**5.30**	**42**	*e*P	**Pn**	**14 25 41.8**	**+0.3**
KGM	**Kluang**	**6.25**	**84**	P	**Pn**	**14 25 55.9**	**+1.1**
SNG	**Songkhla**	**6.79**	**31**	P	**Pn**	**14 26 01.5**	**-1.0**
	360nm,0.9s						
NANT	**Nan**	**17.73**	**11**	⇑P	**P**	**14 28 29.0**	**+0.2**
	98nm,0.7s						
CHRT	**Chiangrai**	**18.63**	**8**	⇓P	**P**	**14 28 37.0**	**-2.9**
	105nm,0.7s						
KKM	**Kota Kinabalu**	**19.63**	**76**	*e*P	**P**	**14 28 51.1**	**-0.7**
KKM	**Kota Kinabalu**	**19.63**	**76**	P	**P**	**14 28 52.8**	**+1.1**
TSM	**Tawau**	**20.95**	**81**	P	**P**	**14 29 05.2**	**-0.3**
QIZ	**Qiongzhong**	**21.58**	**35**	⇑P	**P**	**14 29 12.3**	**+0.4**
KMI	**Kunming**	**24.29**	**12**	P	**P**	**14 29 41.0**	**+2.5**
KMI				AP		14 29 47.3	
KMI				AMB	AMB		
	comp=Z,35nm,1.4s,mb4.6						
GYA	**Guiyang**	**26.64**	**19**⇑*i*P		**P**	**14 30 00.5**	**-0.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
JIRN	**Jiri**	**28.21**	**339**	*e*P	**P**	**14 30 16.4**	**+1.5**
	comp=Z,74nm,1.0s,mb5.3						
PKI	**Pulchoki**	**28.41**	**338**	*e*P	**P**	**14 30 15.5**	**-1.2**
	comp=Z,17nm,0.7s,mb4.8						
GUN	**Gumba**	**28.55**	**339**	*e*P	**P**	**14 30 19.3**	**+1.4**
	comp=Z,66nm,0.8s,mb5.4						
DMN	**Daman**	**28.56**	**337**	*e*P	**P**	**14 30 16.7**	**-1.4**
	comp=Z,28nm,0.7s,mb5.1						
KKN	**Kakani**	**28.66**	**338**	*e*P	**P**	**14 30 18.2**	**-0.7**
	comp=Z,25nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.79**	**349**	*e*P	**P**	**14 30 21.8**	**+1.7**
	comp=Z,14nm,0.6s,mb4.9						
GKN	**Gorkha**	**29.10**	**337**	*e*P	**P**	**14 30 23.5**	**+0.6**
KOLN	**Koldanda**	**29.32**	**335**	*e*P	**P**	**14 30 26.1**	**+1.2**
	comp=Z,39nm,0.7s,mb5.3						
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**14 30 38.9**	**-1.8**
	comp=Z,36nm,0.6s,mb5.4						
ENH				*e*pP	pP	14 30 44.9	-2.6
FITZ	**Fitzroy Crossi**	**34.07**	**126**⇓*i*P		**P**	**14 31 05.6**	**-1.0**
	comp=Z,5.9nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.07**	**126**	P	**P**	**14 31 05.7**	**-0.9**
	comp=Z,8.4nm,0.7s,mb4.8,baz=203,slow=2.3,SNR=8.4						
XAN	**Xi'an**	**34.38**	**18**	P	**P**	**14 31 08.0**	**-1.2**
XAN				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
LZH	**Lanzhou**	**35.16**	**9**	*e*P	**P**	**14 31 15.5**	**-0.3**
LZH				AP	pP	14 31 22.5	-0.2
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.0						
KAKA	**Kakadu**	**37.73**	**113**⇓*i*P		**P**	**14 31 36.3**	**-1.4**
	comp=Z,10nm,0.8s,mb4.6						
GTA	**Gaotai**	**38.00**	**3**⇑*e*P		**P**	**14 31 40.0**	**+0.3**
GTA				AP	pP	14 31 47.8	+1.2
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
JOW	**Kunigami**	**39.23**	**47**	P	**P**	**14 31 50.4**	**+0.3**
	comp=Z,31nm,0.6s,mb5.2,baz=237,slow=6.2,SNR=8.5						
HHC	**Hu-ho-hao-te**	**41.48**	**17**	*e*P	**P**	**14 32 08.5**	**0.0**
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,233nm,4.8s						
HHC				LR	LR		
	comp=N,419nm,16.6s,MS4.7						
HHC				LR	LR		
	comp=E,605nm,14.3s,MS4.7						
HHC				LR	LR		
	comp=Z,757nm,16.1s,MS4.7						
WRA	**Warramunga Arr**	**42.17**	**122**	P	**P**	**14 32 14.3**	**-0.2**
	comp=Z,3.8nm,0.6s,mb4.2,baz=303,slow=9.0,SNR=37						
WRA				pP	pP	14 32 21.3	-0.1
	comp=Z,4.4nm,0.6s,baz=301,slow=9.1,SNR=11						
WRAB	**Tennant Creek**	**42.18**	**122**	*e*P	**P**	**14 32 14.2**	**-0.4**
	comp=Z,5.7nm,0.6s,mb4.4						
WRAB				*e*	pP	14 32 21.2	-0.3
WB2	**Warramunga Arr**	**42.18**	**122**⇓*i*P		**P**	**14 32 14.5**	**-0.1**
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**14 32 15.7**	**+0.8**
	comp=Z,18nm,0.6s,mb4.9						
BJT				*e*	pP	14 32 22.5	+0.7
WMQ	**Urumqi**	**43.15**	**350**	P	**P**	**14 32 23.8**	**+1.6**
WMQ				AP	pP	14 32 30.0	+0.9
WMQ				AMB	AMB		
	comp=Z,11nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,72nm,3.6s						
WMQ				LR	LR		
	comp=N,588nm,19.4s						
WMQ				LR	LR		
	comp=E,902nm,26.2s						
WMQ				LR	LR		
	comp=Z,453nm,21.8s,MS4.3						
FORT	**Forrest**	**43.42**	**140**	*e*P	**P**	**14 32 26.7**	**+2.1**
	comp=Z,252nm,0.6s						
ASPA	**Alice Springs**	**43.53**	**127**	*e*P	**P**	**14 32 28.8**	**+3.2**
ASAR	**Alice Springs**	**43.54**	**127**	P	**P**	**14 32 25.2**	**-0.3**
	comp=Z,7.0nm,1.2s,mb4.3,baz=300,slow=8.1,SNR=20						
ASAR				pP	pP	14 32 32.4	-0.1
	comp=Z,1.6nm,0.6s,baz=307,slow=8.3,SNR=9.4						
AAK	**Ala-Archa**	**45.86**	**337**	*e*P	**P**	**14 32 44.2**	**+0.2**
	comp=Z,2.8nm,0.6s,mb4.4						
SONM	**Songino Array**	**47.03**	**9**	P	**P**	**14 32 53.5**	**+0.4**
	comp=Z,8.6nm,0.8s,mb4.8,baz=192,slow=8.7,SNR=34						
SONM				pP	pP	14 33 00.5	+0.4
	comp=Z,6.8nm,0.7s,baz=191,slow=7.9,SNR=11						
MKAR	**Makanchi Array**	**47.11**	**346**	P	**P**	**14 32 54.1**	**+0.4**
	comp=Z,4.1nm,0.5s,mb4.6,baz=158,slow=8.2,SNR=36						
MKAR				pP	pP	14 33 01.5	+0.7
	comp=Z,6.3nm,0.7s,baz=161,slow=7.3,SNR=11						
ULN	**Ulaanbaatar**	**47.16**	**9**	*e*P	**P**	**14 32 54.4**	**+0.2**
	comp=Z,5.1nm,0.8s,mb4.5						
ULN				*e*pP	pP	14 33 01.2	0.0
CN2	**Changchun**	**49.24**	**27**	*e*P	**P**	**14 33 09.5**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
HIA	**Hailar**	**51.56**	**19**	*e*P	**P**	**14 33 27.6**	**-0.4**
	comp=Z,5.3nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.66**	**345**	*e*P	**P**	**14 33 28.5**	**-0.2**
	comp=Z,7.6nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**51.81**	**29**	P	**P**	**14 33 30.3**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
MDJ				AMB	AMB		

comp=Z,260nm,4.2s
STKA Stephens Creek 53.50 132 ⇓*i*P **P** **14 33 43.5 +0.8**
comp=Z,3.7nm,0.6s,mb4.5
STKA Stephens Creek 53.50 132 P **P** **14 33 42.4 -0.4**
STKA pP pP 14 33 50.2 +0.4
comp=Z,5.0nm,0.6s,baz=321,slow=6.0,SNR=5.8
BVAR Borovoye Array 56.11 341 P **P** **14 34 00.6 -0.8**
comp=Z,5.9nm,0.7s,mb4.7,baz=140,slow=8.6,SNR=34
CHKZ Chkalovo 56.59 341 *e*P **P** **14 34 04.3 -0.6**
comp=Z,27nm,0.8s,mb5.3
CHKZ *e*pP pP 14 34 09.8 -2.2
YAK Yakutsk 65.34 16⇑*e*P **P** **14 35 02.6 -1.4**
comp=Z,50nm,0.9s,mb5.5
YAK *e*pP pP 14 35 09.7 -1.5
BRTR Keskin Array B 68.97 312 P **P** **14 35 26.4 -0.9**
comp=Z,0.9nm,0.7s,mb3.8,baz=143,slow=5.7,SNR=4.9
BRTR pP pP 14 35 33.8 -0.7
comp=Z,1.3nm,0.7s,baz=125,slow=6.2,SNR=4.3
MA2 Magadan 71.27 26 *e*P **P** **14 35 40.4 -0.6**
comp=Z,9.8nm,0.7s,mb4.8
AKASG Malin Array Be 75.11 322 P **P** **14 36 02.8 -0.9**
comp=Z,1.3nm,0.5s,mb4.1,baz=89,slow=5.2,SNR=8.3
FINES FINESS Array B 79.86 333 P **P** **14 36 29.4 -0.3**
comp=Z,1.6nm,0.6s,mb4.2,baz=96,slow=5.2,SNR=12
ARCES ARCESS Array B 82.40 340 P **P** **14 36 43.3 +0.4**
comp=Z,4.1nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=9.9
ARCES pP pP 14 36 50.5 +0.2
comp=Z,3.1nm,0.9s,baz=104,slow=5.0,SNR=1.7
GERES GERESS Array B 84.67 319 P **P** **14 36 55.5 +0.7**
comp=Z,1.3nm,0.8s,mb4.1,baz=90,slow=4.0,SNR=7.8
GERES pP pP 14 37 03.7 +1.4
comp=Z,0.5nm,0.5s,baz=72,slow=4.2,SNR=2.6
HFS Hagfors 85.58 330 pP pP 14 37 06.9 +0.4
comp=Z,0.8nm,0.7s,baz=150,slow=12,SNR=1.6
NB2 NORSAR Subarra 86.86 331 P **P** **14 37 05.7 +0.3**
comp=Z,0.8nm,0.8s,mb4.0,baz=94,slow=5.3
NOA NORSAR Array B 86.86 331 P **P** **14 37 05.6 +0.2**
comp=Z,0.9nm,0.7s,mb4.1,baz=95,slow=4.9,SNR=4.6
NOA pP pP 14 37 13.4 +0.6
comp=Z,1.1nm,0.8s,baz=94,slow=5.1,SNR=3.4
YKA Yellowknife Ar 112.01 15 PP PP 14 43 35.8 -7.1
comp=Z,0.3nm,0.7s,baz=330,slow=7.1,SNR=5.6
TXAR Lajitas Array 143.62 31 PKP PKPdf 14 43 55.1 -4.6
comp=Z,0.6nm,0.6s,baz=25,slow=0.3,SNR=3.5
LPAZ La Paz 159.19 224 PKP PKPdf 14 44 21.2 -2.0
comp=Z,0.6nm,0.3s,baz=243,slow=2.3,SNR=2.7

BJI ***29*** *14:25:12.7, 1.03N×97.26E, h38km, mB5.7, mb5.1, Ms5.2, Msz5.0*
MOS ***29*** *14:25:13.9±1.1, 1.32N×97.17E, h33km, mb5.2/15, Error ellipse: s-maj=15.9km s-min=8.6km az=110.1*
NEIC ***29*** *14:25:14.6±0.3, 1.34N×97.12E, mb5.0/21, Error ellipse: s-maj=9.0km s-min=6.8km az=48.0*
IDC ***29*** *14:25:14.4±0.5, 1.33N×97.10E, h24km±3km, mb4.4/19, mb1 4.5/19, mb1mx4.5/22, mbtmp4.6/19, MS4.5/4, Ms1 4.5/4, ms1mx3.7/32, Error ellipse: s-maj=19.6km s-min=10.7km az=44.0*
ISC 29 14:25:13.1±0.4, 1.33N±0.05×97.15E±0.06, h25km, h25km±.7km:pP-P,n100,σ1s05/93,mb4.8/51,MS4.8/13, 5C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.26**	**42**	*e*P		**Pn**	**14 26 33.3**	**+1.1**
KSM	**Kuching**	**13.16**	**89**	*e*P		**P**	**14 28 24.4**	**+3.3**
KSM				*e*			14 28 33.5	
NST	**Nakhon Sawan**	**14.55**	**12**	P		**P**	**14 28 45.0**	**+5.5**
CM31	**Chiang Mai Arr** 18nm,0.7s	**17.11**	**6**	*e*P		**P**	**14 29 11.6**	**-0.8**
KKM	**Kota Kinabalu**	**19.59**	**76**	*e*P		**P**	**14 29 42.0**	**-0.5**
QIZ	**Qiongzhong**	**21.54**	**34**	P		**P**	**14 30 03.0**	**+0.3**
QIZ	**Qiongzhong** 25nm,0.9s,mb4.7	**21.54**	**34**	*e*P		**P**	**14 30 02.8**	**0.0**
KMI	**Kunming**	**24.26**	**12**	⇑P		**P**	**14 30 31.5**	**+2.0**
KMI				AP			14 30 38.3	
KMI				S		**S**	**14 34 44.5**	**+0.9**
KMI	comp=Z,109nm,1.5s,mb5.1			AMB	AMB			
KMI	comp=Z,396nm,3.1s			AMB	AMB			
KMI	comp=N,4μm,14.3s,MS5.1			LR	LR			
KMI	comp=E,2μm,14.1s,MS5.1			LR	LR			
KMI	comp=Z,4μm,12.9s,MS5.1			LR	LR			
HYB	**Hyderabad**	**24.28**	**312**	*e*P		**P**	**14 30 32.0**	**+2.2**
HYB				*e*			15 00 39.0	
HYB	**Hyderabad**	**24.28**	**312**	*i* P		**P**	**14 30 32.0**	**+2.2**
HYB				esP			14 30 39.0	
GYA	**Guiyang**	**26.60**	**19**⇑	*i*P		**P**	**14 30 51.0**	**-0.5**
GYA				AP		pP	14 30 57.8	-1.2
GYA				PP		PP	14 31 35.0	-0.7
GYA				S		**S**	**14 35 22.3**	**-0.5**
GYA	comp=Z,40nm,1.0s,mb4.9			AMB	AMB			
GYA	comp=Z,210nm,4.2s			AMB	AMB			
GYA	comp=N,3μm,14.2s,MS5.1			LR	LR			
GYA	comp=E,1μm,11.6s,MS5.1			LR	LR			
GYA	comp=Z,4μm,14.1s,MS5.2			LR	LR			
LSA	**Lhasa**	**28.78**	**349**	*e*P		**P**	**14 31 13.6**	**+2.4**
LSA				pmax	pmax			
LSA	comp=Z,32nm,0.8s,mb5.1							
LSA	**Lhasa** comp=Z,32nm,0.8s,mb5.1	**28.78**	**349**	*e*P		**P**	**14 31 13.6**	**+2.4**
CD2	**Chengdu**	**30.07**	**11**	*e*P		**P**	**14 31 21.3**	**-1.5**
ENH	**Enshi** comp=Z,71nm,0.7s,mb5.6	**31.07**	**21**	*e*P		**P**	**14 31 30.0**	**-1.6**
ENH				*e*		pP	14 31 37.6	-1.5
FITZ	**Fitzroy Crossi** comp=Z,9.4nm,0.6s,mb4.9	**34.05**	**126**	*e*P		**P**	**14 31 56.8**	**-0.9**
FITZ	**Fitzroy Crossi** comp=Z,12nm,0.7s,mb5.0,baz=317,slow=3.3,SNR=8.4	**34.05**	**126**	P		**P**	**14 31 56.9**	**-0.8**
XAN	**Xi'an**	**34.35**	**17**	P		**P**	**14 31 58.8**	**-1.4**
XAN	comp=Z,47nm,1.0s,mb5.4			AMB	AMB			
LZH	**Lanzhou**	**35.13**	**9**	⇑P		**P**	**14 32 07.0**	**+0.2**
LZH				AP		pP	14 32 14.5	+0.1
LZH				XP		sP	14 32 17.3	-0.3
LZH	comp=Z,92nm,1.7s,mb5.4			AMB	AMB			
LZH	comp=E,2μm,14.4s			LR	LR			
LZH	comp=Z,3μm,16.5s,MS5.1			LR	LR			
GTA	**Gaotai**	**37.98**	**3**	⇑P		**P**	**14 32 31.0**	**+0.3**
GTA				AP		pP	14 32 38.3	0.0
GTA				XP		sP	14 32 42.0	+0.5
GTA				PP		PP	14 33 59.0	-1.9
GTA				S		**S**	**14 38 15.3**	**-5.5**
GTA	comp=Z,23nm,1.2s,mb4.8			AMB	AMB			
GTA	comp=Z,295nm,5.7s			AMB	AMB			
GTA	comp=N,1μm,14.8s,MS4.9			LR	LR			
GTA	comp=E,925nm,14.1s,MS4.9			LR	LR			
GTA	comp=Z,1μm,14.1s,MS4.8			LR	LR			
JOW	**Kunigami** comp=Z,36nm,0.5s,mb5.4,baz=226,slow=6.7,SNR=14	**39.19**	**47**	P		**P**	**14 32 41.4**	**+0.3**
HHC	**Hu-ho-hao-te**	**41.45**	**17**	*e*P		**P**	**14 33 00.8**	**+1.4**
HHC				AP		pP	14 33 10.3	+3.2
HHC				XP		sP	14 33 14.5	+4.3
HHC				PP		PP	14 34 38.0	-0.3
HHC				PCP		PcP	14 35 01.0	+3.3
HHC				SCP			14 38 45.3	
HHC				PCS			14 38 48.3	
HHC				S		**S**	**14 39 11.3**	**-1.5**
HHC				XS			14 39 28.3	
HHC				SCS		ScS	14 42 59.0	-0.4
HHC	comp=Z,17nm,0.5s,mb4.9			AMB	AMB			
HHC	comp=Z,227nm,3.3s			AMB	AMB			
HHC	comp=N,2μm,13.5s,MS5.1			LR	LR			
HHC	comp=E,886nm,13.5s,MS5.1			LR	LR			
HHC	comp=Z,2μm,15.7s,MS5.0			LR	LR			
WRA	**Warramunga Arr 42.15 122** comp=Z,5.6nm,0.5s,mb4.4,baz=300,slow=9.3,SNR=11			P		**P**	**14 33 05.0**	**-0.5**
WRA	comp=Z,6.8nm,0.6s,baz=308,slow=9.2,SNR=5.1			pP		pP	14 33 12.6	-0.6
WRAB	**Tennant Creek 42.15 122**			*e*P		**P**	**14 33 05.3**	**-0.3**
WRAB				*e*		pP	14 33 12.9	-0.3
WRAB	comp=Z,16nm,0.6s,mb4.8			pmax	pmax			
WRAB	**Tennant Creek 42.15 122** comp=Z,16nm,0.6s,mb4.8			*e*P		**P**	**14 33 05.3**	**-0.3**
WRAB				*e*		pP	14 33 12.9	-0.3
WB2	**Warramunga Arr 42.16 122**			*e*P		**P**	**14 33 05.8**	**+0.2**
BJT	**Baijiatuao 42.21 22**			*e*P		**P**	**14 33 06.8**	**+1.0**
BJT				*e*	*P	pP	14 33 13.7	+0.2
BJT	comp=Z,30nm,0.7s			pmax	pmax			
BJT	**Baijiatuao 42.21 22** comp=Z,30nm,0.7s,mb5.0			*e*P		**P**	**14 33 06.8**	**+1.0**
BJT				*e*pP		pP	14 33 13.7	+0.2
BJI	**Beijing 42.23 22**			*e*P		**P**	**14 33 07.0**	**+1.0**
BJI				AP		pP	14 33 14.5	+0.9
BJI	comp=Z,39nm,0.8s,mb5.1			AMB	AMB			
WMQ	**Urumqi 43.13 350**⇑			*i* P		**P**	**14 33 14.5**	**+1.2**
WMQ				AP		pP	14 33 23.0	+2.1
WMQ				PP		PP	14 34 57.0	+1.3
WMQ				S		**S**	**14 39 38.5**	**+0.9**
WMQ	comp=Z,43nm,1.2s,mb5.0			AMB	AMB			
WMQ	comp=Z,170nm,4.7s			AMB	AMB			
WMQ	comp=N,2μm,18.0s,MS5.1			LR	LR			
WMQ	comp=E,2μm,21.0s,MS5.1			LR	LR			
WMQ	comp=Z,960nm,23.0s,MS4.6			LR	LR			
FORT	**Forrest 43.41 140** comp=Z,545nm,0.7s			*e*P		**P**	**14 33 17.6**	**+1.9**
ASPA	**Alice Springs 43.51 127**⇓			*i*P		**P**	**14 33 17.2**	**+0.6**
ASAR	**Alice Springs 43.52 127** comp=Z,7.0nm,0.9s,mb4.4,baz=300,slow=7.2,SNR=17			P		**P**	**14 33 16.4**	**-0.2**
ASAR				pP		pP	14 33 23.1	-1.2
ASAR	comp=Z,2.7nm,0.6s,baz=300,slow=8.0,SNR=5.1			PcP		PcP	14 35 04.4	-0.5
ASAR	comp=Z,2.1nm,0.9s,baz=299,slow=3.7,SNR=4.7			pPcP			14 35 12.2	
ASAR	comp=Z,4.2nm,1.0s,baz=296,slow=3.3,SNR=6.7			ScP			14 38 54.6	
DL2	**Dalian 43.58 28**			P		**P**	**14 33 18.0**	**+1.0**
DL2	comp=Z,1.1nm,0.9s,baz=318,slow=4.5,SNR=5.0			AMB	AMB			
KS15	**Wonju Array Si 45.74 35** comp=Z,30nm,1.1s,mb4.9			P		**P**	**14 33 32.4**	**-1.9**
KS15				*e*		pP	14 33 41.1	-0.8
AAK	**Ala-Archa 45.86 337**			*i* P		**P**	**14 33 35.8**	**+0.6**
AAK	**Ala-Archa 45.86 337** comp=Z,14nm,1.2s,mb4.8			P		**P**	**14 33 35.4**	**+0.3**
FRU	**Bishkek 45.98 337**			*e*P		**P**	**14 33 38.0**	**+1.9**
FRU	comp=Z,90nm,2.3s,mb5.3			pmax	pmax			
SONM	**Songino Array 47.01 9** comp=Z,16nm,0.8s,mb5.0,baz=192,slow=8.5,SNR=21			P		**P**	**14 33 44.6**	**+0.4**
SONM	comp=Z,13nm,0.8s,baz=202,slow=6.7,SNR=6.3			pP		pP	14 33 51.7	-0.1
MKAR	**Makanchi Array 47.10 346** comp=Z,6.6nm,0.4s,mb4.9,baz=160,slow=8.9,SNR=15			P		**P**	**14 33 44.9**	**0.0**
ZAK	**Zakamensk 49.15 5**			*e*P		**P**	**14 34 01.0**	**+0.2**
ZAK	comp=Z,6.0nm,1.7s,mb4.3			pmax	pmax			
MOY	**Mondy 50.26 3**			*e*P		**P**	**14 34 09.3**	**0.0**
TLY	**Talaya 50.47 5**			*e*P		**P**	**14 34 11.1**	**+0.2**
TLY	comp=Z,11nm,0.9s,mb4.9			pmax	pmax			
TLY	comp=Z,738nm,16.0s,MS4.8			MLR	MLR			
TLY	**Talaya 50.47 5** comp=Z,20nm,1.2s,mb5.0			*e*P		**P**	**14 34 10.5**	**-0.4**
IRK	**Irkutsk 51.08 6**			*e*P		**P**	**14 34 16.0**	**+0.5**
IRK	comp=Z,41nm,1.9s,mb5.0			pmax	pmax			
HIA	**Hailar 51.53 19**			*e*P		**P**	**14 34 18.6**	**-0.4**
HIA	comp=Z,23nm,0.9s			pmax	pmax			
HIA	**Hailar 51.53 19** comp=Z,23nm,0.9s,mb5.1			*e*P		**P**	**14 34 18.6**	**-0.4**
MDJ	**Mudanjiang 51.78 29**			P		**P**	**14 34 21.3**	**+0.4**
MDJ	comp=Z,24nm,1.3s,mb5.0			AMB	AMB			
MDJ	comp=Z,500nm,4.8s			AMB	AMB			
STKA	**Stephens Creek 53.48 132** comp=Z,12nm,1.0s,mb4.8			*e*P		**P**	**14 34 33.9**	**+0.1**
STKA	**Stephens Creek 53.48 132** comp=Z,17nm,1.0s,mb4.9,baz=315,slow=6.3,SNR=9.1			P		**P**	**14 34 34.0**	**+0.2**
STKA	comp=Z,8.8nm,0.7s,baz=295,slow=6.6,SNR=5.2			pP		pP	14 34 41.4	-0.2
STKA	comp=Z,716nm,20.6s,MS4.7,baz=242,slow=38			LR		LR	14 59 18.5	
NVS	**Novosibirsk 54.54 350**			*i* P		**P**	**14 34 39.7**	**-1.5**
NVS				*e*PP		pP	14 34 53.2	+4.2
NVS				*i* S		**S**	**14 42 19.3**	**+2.2**
NVS	comp=Z,21nm,1.1s,mb5.1			pmax	pmax			
NVS	comp=N,23nm,2.0s			smax				
NVS	comp=E,10.0nm,2.0s			smax				
ATD	**Arta Tunnel 54.81 283** comp=E,145nm,18.1s,MS4.1,baz=95,slow=32			LR		LR	14 54 31.7	
BVAR	**Borovoye Array 56.11 341** comp=E,8.2nm,0.5s,mb5.0,baz=145,slow=11,SNR=14			P		**P**	**14 34 51.5**	**-1.2**
KLR	**Kul'dur 56.16 27**			*e*P		**P**	**14 34 58.8**	**+5.8**
CHKZ	**Chkalovo 56.58 341**			*e*P		**P**	**14 34 55.1**	**-0.9**
CHKZ	comp=Z,28nm,0.8s,mb5.3			pmax	pmax			
CHKZ	**Chkalovo 56.58 341** comp=Z,28nm,0.8s,mb5.3			*e*P		**P**	**14 34 55.1**	**-1.0**
CLNS	**Chul'man 59.63 17**			*e*P		**P**	**14 35 16.6**	**-0.7**
CLNS	comp=Z,22nm,0.7s,mb5.3			pmax	pmax			
CLNS	comp=N,6.0nm,0.6s			pmax	pmax			
KMBO	**Kilima Mbogo 59.94 268**			P		**P**	**14 35 20.7**	**+0.6**
KMBO	comp=Z,2.0nm,0.8s			pmax	pmax			
KMBO	**Kilima Mbogo 59.94 268** comp=Z,0.3nm,0.2s,mb3.9,baz=55,slow=23,SNR=3.6			P		**P**	**14 35 19.2**	**-0.9**
KMBO	**Kilima Mbogo 59.94 268** comp=Z,1.9nm,0.8s,mb4.2			P		**P**	**14 35 20.7**	**+0.6**
YSS	**Yuzh-Sakhalins 60.27 34**			P		**P**	**14 35 14.0**	**-7.8**
GNI	**Garni 61.16 316** comp=Z,2.7nm,0.6s,mb4.6,baz=80,slow=6.1,SNR=2.0			P		**P**	**14 35 26.4**	**-1.6**
SVE	**Sverdlovsk 62.55 338**			*e*P		**P**	**14 35 30.0**	**-7.1**
SVE				*e*			14 36 18.0	
SVE				*e*S		**S**	**14 44 15.0**	**+14**
SVE				*e*			14 45 20.0	
SVE	comp=N,400nm,18.0s,MS4.6			MLR	MLR			
SVE	comp=E,100nm,18.0s,MS4.6			MLR	MLR			
SVE	comp=Z,400nm,18.0s,MS4.6			MLR	MLR			
KIV	**Kislovodsk 64.17 319**			P		**P**	**14 35 43.1**	**-4.9**
KIV				*e*			14 35 55.7	
KIV	comp=Z,27nm,1.1s,mb5.2			pmax	pmax			
KIV	**Kislovodsk 64.17 319** comp=Z,27nm,1.1s,mb5.2			P		**P**	**14 35 43.1**	**-4.9**
KIV				*e*			14 35 55.7	
YAK	**Yakutsk 65.31 16**			*e*P		**P**	**14 35 53.8**	**-1.2**
YAK				*e*PP		pP	14 36 01.5	-1.5
YAK	comp=Z,87nm,0.9s,mb5.8			pmax	pmax			
YAK	**Yakutsk 65.31 16** comp=Z,87nm,0.9s,mb5.8			*e*P		**P**	**14 35 53.8**	**-1.2**
YAK				*e*pP		pP	14 36 01.4	-1.5
MBAR	**Mbarara 66.43 269**			*e*P		**P**	**14 36 03.0**	**0.0**
MBAR	comp=Z,14nm,1.4s,mb4.8			pmax	pmax			
MBAR	**Mbarara 66.43 269** comp=Z,14nm,1.4s,mb4.8			*e*P		**P**	**14 36 03.0**	**0.0**
BRTR	**Keskin Array B 68.98 312** comp=Z,1.6nm,0.9s,mb4.0,baz=125,slow=8.0,SNR=2.4			P		**P**	**14 36 17.8**	**-0.8**
BRTR	comp=Z,3.8nm,1.0s,baz=112,slow=6.7,SNR=5.1			pP		pP	14 36 26.0	-0.6
MA2	**Magadan 71.23 26**			*e*P		**P**	**14 36 31.9**	**-0.1**
MA2	comp=Z,10.0nm,1.0s,mb4.7			pmax	pmax			
MA2	**Magadan 71.23 26** comp=Z,17nm,0.7s,mb5.1			*e*P		**P**	**14 36 31.6**	**-0.4**
MOS	**Moscow 72.19 329**			*e*P		**P**	**14 36 38.0**	**+0.3**
MAW	**Mawson 72.83 193**			LR		LR	15 03 21.1	
TIXI	**Tiksi 73.06 10** comp=Z,260nm,18.1s,MS4.5,baz=61,slow=31			*e*P		**P**	**14 36 40.5**	**-2.1**
TIXI	comp=Z,15nm,1.1s,mb4.8			pmax	pmax			
LBTB	**Lobatse 73.90 244**			pP		pP	14 36 55.8	-0.6
AKASG	**Malin Array Be 75.12 322** comp=Z,7.0nm,1.1s,baz=105,slow=8.2,SNR=4.3			P		**P**	**14 36 53.3**	**-1.6**
AKASG	comp=Z,0.5nm,0.3s,mb4.0,baz=88,slow=4.9,SNR=7.5			pP		pP	14 37 01.5	-1.4
MLR	**Muntele Rosu 75.94 317** comp=Z,1.4nm,0.5s,baz=85,slow=5.6,SNR=2.6			pP		pP	14 37 07.6	-0.1
SUR	**Sutherland 79.19 237** comp=Z,5.5nm,1.1s,baz=169,slow=1.0,SNR=3.1			LR		LR	15 07 27.3	
FINES	**FINESS Array B 79.86 332** comp=Z,568nm,18.7s,MS4.9,baz=60,slow=32			P		**P**	**14 37 19.9**	**-1.0**
KAF	**Kangasniemi 79.94 333** comp=Z,1.9nm,0.5s,mb4.2,baz=99,slow=6.0,SNR=6.8			*e*p		**P**	**14 37 20.4**	**-0.9**
KAF	**Kangasniemi** comp=Z,3.6nm,0.5s,mb4.6	**79.94**	**333**	*e*P		**P**	**14 37 20.4**	**-0.9**
KAF	comp=Z,4.0nm,0.5s,mb4.6			pmax	pmax			
TSUM	**Tsumeb 80.59 250** comp=Z,0.7nm,0.3s,mb4.1,baz=91,slow=5.5,SNR=4.4			P		**P**	**14 37 26.5**	**+0.9**
TSUM	comp=Z,6.9nm,1.0s,baz=108,slow=6.5,SNR=5.1			pP		pP	14 37 34.1	+0.4
BILL	**Bilibino**	**81.06**	**21**	*e*P		**P**	**14 37 27.1**	**0.0**
BILL	comp=Z,6.0nm,1.2s,mb4.4			pmax	pmax			
BILL	comp=Z,600nm,17.0s,MS5.0			MLR	MLR			
ARCES	**ARCESS Array B 82.39 340** comp=Z,2.3nm,0.4s,mb4.4,baz=100,slow=4.8,SNR=13			P		**P**	**14 37 34.2**	**+0.2**
ARCES	comp=Z,2.4nm,0.5s,baz=97,slow=5.7,SNR=2.3			pP		pP	14 37 41.9	-0.3
BRG	**Berggiesshubel 84.67 321**			P		pP	14 37 54.9	+0.7
BRG	comp=Z,4.0nm,0.8s,mb4.6			pmax	pmax			
BRG	**Berggiesshubel** comp=Z,3.7nm,0.8s	**84.67**	**321**	P		pP	14 37 54.9	+0.7
GERES	**GERESS Array B 84.68 319** comp=Z,1.9nm,0.8s,mb4.3,baz=104,slow=5.5,SNR=7.7			P		**P**	**14 37 47.2**	**+1.1**
VNDA	**Vanda** comp=Z,5.8nm,1.1s,baz=288,slow=5.4,SNR=9.9	**85.97**	**169**	pP		pP	14 37 59.5	-0.7
NB2	**NORSAR Subarra 86.86 331** comp=Z,4.0nm,0.8s,mb4.7,baz=94,slow=4.8			P		**P**	**14 37 55.9**	**-0.7**
NB2	**NORSAR Subarra** comp=Z,4.0nm,0.8s,mb4.7	**86.86**	**331**	P		**P**	**14 37 55.9**	**-0.7**
NB2				pmax	pmax			
NOA	**NORSAR Array B 86.86 331** comp=Z,3.5nm,0.9s,mb4.6,baz=94,slow=4.9,SNR=7.2			P		**P**	**14 37 55.9**	**-0.7**
SBA	**Scott Base** comp=Z,18nm,1.1s	**87.06**	**169**	P		pP	14 38 06.4	+0.9
DAVOX	**Davos** comp=Z,1.2nm,0.3s,mb4.6,baz=295,slow=7.1,SNR=3.3	**87.16**	**317**	P		**P**	**14 37 58.4**	**0.0**
EKA	**Eskdalemuir Ar** comp=Z,3.0nm,1.1s,mb4.6,baz=84,slow=7.1,SNR=3.6	**94.78**	**326**	P		**P**	**14 38 34.6**	**+0.9**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.9s,baz=207,slow=2.0,SNR=4.3	**129.94**	**26**	PKP		PKPdf	14 44 23.1	-2.6
PV10	**Paradox Valley**	**133.69**	**29**	PKP		PKPdf	14 44 29.8	-3.1
TXAR	**Lajitas Array** comp=Z,1.2nm,0.7s,baz=41,slow=0.6,SNR=6.3	**143.58**	**32**	PKP		PKPdf	14 44 46.0	-5.0
NATX	**Nacogdoches**	**145.23**	**18**	*e*PKP		PKPdf	14 44 50.4	-3.5
LRAL	**Lakeview Retre**	**145.59**	**6**	*e*PKP		PKPdf	14 44 51.0	-3.5

NEIC ***29*** *14:26:33.5, 33.31N×25.34E, h36km, MD3.7(ATH), After ATH.*
IDC ***29*** *14:26:41.0±4.2, 34.14N×26.60E, mb3.8/3, mb1 3.8/4, mb1mx3.6/17, mbtmp3.7/4, ML3.9/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/24, Error ellipse: s-maj=72.0km s-min=45.9km az=165.0*
ATH ***29*** *14:26:44.2, 34.12N×25.40E, h45km, MD3.6/6*
ISC 29 14:26:44.9±3.5, 34.1N±0.3×25.4E±0.2, h56km±16km, n14, σ0s56/14, mb3.7/3, MS3.7/1, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
XRY	**Khrisi**	**0.79**	**17**	*e*P		**P**	**14 27 00.4**	**+0.3**
XRY				*e*S		**S**	**14 27 11.0**	**-0.3**
NPS	**Neapolis**	**1.15**	**8**	*e*Pn		**P**	**14 27 06.5**	**+1.5**
NPS	**Neapolis**	**1.15**	**8**	*e*P		**P**	**14 27 05.5**	**+0.5**
IDI	**Anoyia** 4.0nm,0.3s,baz=132,slow=17,SNR=18	**1.24**	**340**	Pn		**P**	**14 27 13.7**	**+7.4**
VAM	**Vamos**	**1.62**	**322**	*e*P		**P**	**14 27 11.1**	**-0.6**
KARP	**Karpathos**	**2.02**	**45**	*e*P		**P**	**14 27 16.6**	**-0.7**
APE	**Apeiranthos**	**2.94**	**2**	*e*P		**P**	**14 27 31.0**	**+0.7**
VLI	**Veliai**	**3.29**	**323**	*e*P		**P**	**14 27 35.0**	**-0.2**
AKASG	**Malin Array Be** 0.5nm,0.3s,baz=193,slow=11,SNR=3.0	**16.80**	**8**	Pn		**P**	**14 30 37.1**	**-0.5**
FINES	**FINESS Array B** 0.5nm,0.4s,mb3.4,baz=155,slow=10,SNR=6.4	**27.34**	**1**	P		**P**	**14 32 26.2**	**-0.1**
ATD	**Arta Tunnel** comp=Z,184nm,18.1s,MS3.7,baz=92,slow=43	**27.55**	**141**	LR		LR	14 45 50.1	
ARCES	**ARCESS Array B** 3.4nm,1.0s,mb4.2,baz=185,slow=8.6,SNR=8.9	**35.47**	**0**	P		**P**	**14 33 37.9**	**+0.4**
YKA	**Yellowknife Ar** 0.3nm,0.6s,mb3.4,baz=29,slow=5.6,SNR=7.1	**78.50**	**342**	P		**P**	**14 38 45.9**	**+4.9**
YKA	**Yellowknife Ar**	**78.50**	**342**	P		**P**	**14 38 45.9**	**+4.8**

IDC 29 14:36:19.9±6.6, 2.96N×96.52E, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=334.6km s-min=29.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr** 0.3nm,0.8s,baz=300,slow=9.3,SNR=5.7	**43.55**	**123**	P		P	14 44 25.7	-1.8
ASAR	**Alice Springs** 0.3nm,0.7s,baz=301,slow=8.3,SNR=4.6	**45.00**	**128**	P		P	14 44 37.4	-1.8
MKAR	**Makanchi Array** 0.5nm,0.7s,baz=162,slow=7.7,SNR=4.7	**45.38**	**346**	P		P	14 44 40.0	-1.9

BJI ***29*** *14:36:49.4, 1.80N×96.90E, h30km, mb4.7*
NEIC ***29*** *14:36:50.4±0.4, 1.79N×96.94E, h30km, mb4.4/9, Error ellipse: s-maj=12.3km s-min=7.1km az=61.0*
IDC ***29*** *14:36:50.2±1.2, 1.81N×96.90E, h28km±5km, mb3.8/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.9/9, Error ellipse: s-maj=56.4km s-min=15.9km az=52.0*
ISC 29 14:36:48.9±9.0, 1.8N±0.1×96.9E±0.2, h32km±60km, h26km±2.0km:pP-P,n21,σ0s62/21, mb4.2/19, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.08**	**47**	*e*P		**Pn**	**14 38 04.1**	**-0.7**
CM31	**Chiang Mai Arr** 3.0nm,0.7s	**16.68**	**7**	P		**P**	**14 40 42.7**	**+0.7**
LSA	**Lhasa** 2.9nm,0.7s,mb4.0	**28.29**	**349**	P		**P**	**14 42 42.0**	**+0.3**
ENH	**Enshi** 3.5nm,0.6s,mb4.4	**30.72**	**22**	*e*P		**P**	**14 43 02.4**	**-1.0**
GTA	**Gaotai**	**37.53**	**4**	*e*P		**P**	**14 44 02.3**	**+0.4**
GTA				AP		pP	14 44 08.5

comp=Z,1.4nm,0.7s,baz=162,slow=7.7,SNR=5.7
ULN Ulaanbaatar 46.72 9 *e*P P **14 45 17.4 +0.6**
comp=Z,2.9nm,1.0s,mb4.2
KURK Kurchatov 51.16 345 *e*P P **14 45 50.8 -0.1**
comp=Z,7.8nm,1.2s,mb4.5
STKA Stephens Creek 53.95 132 P P **14 46 11.7 -0.3**
comp=Z,1.3nm,0.9s,mb3.9,baz=316,slow=13,SNR=5.1
BVAR Borovoye Array 55.61 341 P P **14 46 23.2 -0.7**
comp=Z,2.5nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=16
BVAR pP pP 14 46 32.4 -1.4
comp=Z,2.6nm,0.8s,baz=135,slow=8.4,SNR=10
CHKZ Chkalovo 56.08 341⇑*e*P P **14 46 26.7 -0.6**
comp=Z,5.4nm,0.8s,mb4.6
YAK Yakutsk 64.93 16 *e*P P **14 47 26.4 -1.0**
comp=Z,6.1nm,0.6s,mb4.8
AKASG Malin Array Be 74.63 322 P P **14 48 27.6 +0.7**
comp=Z,0.4nm,0.2s,mb4.0,baz=101,slow=4.1,SNR=5.3
FINES FINESS Array B 79.36 332 P P **14 48 52.2 -0.8**
comp=Z,0.9nm,0.7s,mb3.8,baz=124,slow=5.0,SNR=3.8
GERES GERESS Array B 84.20 319 P P **14 49 18.7 +0.2**
comp=Z,0.9nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=7.6
GERES pP pP 14 49 28.2 -0.7
comp=Z,0.3nm,0.3s,baz=90,slow=4.0,SNR=3.0

*NEIC **29** 14:40:03.4±0.5,2.32N×96.03E,mb4.5/14, Error ellipse: s-maj=13.4km s-min=6.9km az=49.0*
*IDC **29** 14:40:03.3±0.9,2.38N×95.96E,h24km±3km,mb3.8/10, mb1 4.0/10,mb1mx3.8/18,mbtmp4.0/10, Error ellipse: s-maj=44.0km s-min=12.5km az=52.0*
*BJI **29** 14:40:03.3,2.30N×96.00E,h25km,mb4.7*
ISC 29 14:40:01.5±0.6,2.32N±0.09×96.06E±0.09,h25km, h25km±.7km:pP-P,n31,σ0ᵴ93/31,mb4.3/26,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.45**	**57**	*e*P		**Pn**	**14 41 23.5**	**+0.1**
CM31	**Chiang Mai Arr**	**16.29**	**10**	*e*P		**P**	**14 43 51.6**	**+1.0**
	2.8nm,0.6s							
KKM	**Kota Kinabalu**	**20.44**	**79**	*e*P		**P**	**14 44 40.1**	**+0.1**
JIRN	**Jiri**	**26.91**	**340**	*e*P		**P**	**14 45 43.6**	**+0.7**
	24nm,0.6s,mb4.9							
PKI	**Pulchoki**	**27.10**	**339**	*e*P		**P**	**14 45 46.5**	**+1.9**
	11nm,0.6s,mb4.5							
DMN	**Daman**	**27.25**	**338**	*e*P		**P**	**14 45 48.1**	**+2.1**
	6.9nm,0.4s,mb4.6							
GUN	**Gumba**	**27.25**	**340**	*e*P		**P**	**14 45 46.1**	**+0.1**
	36nm,0.9s,mb4.9							
KKN	**Kakani**	**27.35**	**339**	*e*P		**P**	**14 45 46.9**	**0.0**
	28nm,1.1s,mb4.7							
LSA	**Lhasa**	**27.63**	**351**	*e*P		**P**	**14 45 49.4**	**0.0**
	5.3nm,0.7s,mb4.3							
GKN	**Gorkha**	**27.78**	**338**	*e*P		**P**	**14 45 50.6**	**-0.2**
	73nm,1.1s,mb5.2							
KOLN	**Koldanda**	**27.98**	**336**	*e*P		**P**	**14 45 53.3**	**+0.7**
	17nm,0.8s,mb4.7							
ENH	**Enshi**	**30.58**	**23**	P		**P**	**14 46 13.8**	**-2.1**
	2.7nm,0.4s,mb4.4							
FITZ	**Fitzroy Crossi**	**35.50**	**126**	P		**P**	**14 46 58.1**	**-0.6**
	4.2nm,0.8s,mb4.4,baz=308,slow=3.0,SNR=4.2							
GTA	**Gaotai**	**37.08**	**5**	*e*P		**P**	**14 47 11.5**	**-0.3**
GTA				AP	pP		14 47 18.3	-0.8
GTA				XP	sP		14 47 21.0	-1.2
GTA				AMB	AMB			
	comp=Z,9.0nm,0.7s,mb4.7							
BJT	**Baijiatuau**	**41.73**	**23**	P		**P**	**14 47 51.3**	**+0.8**
	comp=Z,7.5nm,0.4s,mb4.7							
BJI	**Beijing**	**41.75**	**23**	*e*P		**P**	**14 47 51.3**	**+0.7**
BJI				AMB	AMB			
	comp=Z,9.0nm,0.9s,mb4.4							
WRA	**Warramunga Arr**	**43.59**	**122**	P		**P**	**14 48 06.6**	**+0.8**
	comp=Z,1.5nm,0.9s,mb3.7,baz=301,slow=9.2,SNR=5.2							
WRA				pP	pP		14 48 15.1	+1.9
	comp=Z,1.5nm,0.6s,baz=302,slow=9.1,SNR=9.3							
WRAB	**Tennant Creek**	**43.59**	**122**	*e*P		**P**	**14 48 05.5**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.4							
ASAR	**Alice Springs**	**44.97**	**127**	P		**P**	**14 48 17.7**	**+0.7**
	comp=Z,0.8nm,0.7s,mb3.6,baz=300,slow=7.8,SNR=8.3							
ASAR				pP	pP		14 48 25.5	+1.1
	comp=Z,0.8nm,0.6s,baz=300,slow=8.0,SNR=6.3							
MKAR	**Makanchi Array**	**45.90**	**347**	P		**P**	**14 48 23.7**	**-0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=160,slow=8.3,SNR=32							
MKAR				pP			14 48 30.8	-0.5
	comp=Z,1.9nm,0.6s,baz=164,slow=8.8,SNR=9.0							
MKAR	**Makanchi Array**	**45.90**	**347**	P		**P**	**14 48 23.7**	**-0.3**
MKAR				pP	pP		14 48 30.8	-0.5
SONM	**Songino Array**	**46.22**	**10**	P		**P**	**14 48 25.5**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=189,slow=8.8,SNR=12							
SONM				pP	pP		14 48 33.4	-0.5
	comp=Z,3.2nm,1.0s,baz=196,slow=7.9,SNR=8.4							
SONM				PcP	PcP		14 50 02.4	0.0
	comp=Z,0.4nm,0.6s,baz=197,slow=3.5,SNR=2.8							
SONM				pPcP			14 50 10.1	
	comp=Z,1.1nm,0.8s,baz=197,slow=3.6,SNR=4.0							
ULN	**Ulaanbaatar**	**46.36**	**10**	*e*P		**P**	**14 48 26.5**	**-1.1**
	comp=Z,2.2nm,0.8s,mb4.1							
KURK	**Kurchatov**	**50.43**	**346**	*e*P		**P**	**14 48 58.5**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3							
BVAR	**Borovoye Array**	**54.83**	**341**	P		**P**	**14 49 30.4**	**-1.6**
	comp=Z,1.0nm,0.5s,mb4.1,baz=135,slow=10,SNR=6.0							
STKA	**Stephens Creek**	**54.94**	**132**	P		**P**	**14 49 33.5**	**+0.3**
	comp=Z,0.9nm,0.4s,mb4.2,baz=320,slow=11,SNR=3.8							
CHKZ	**Chkalovo**	**55.32**	**342**	*e*P		**P**	**14 49 34.2**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.3							
AKASG	**Malin Array Be**	**73.69**	**322**	P		**P**	**14 51 33.8**	**-1.4**
	comp=Z,0.2nm,0.2s,mb3.6,baz=94,slow=4.5,SNR=2.0							
AKASG				pP	pP		14 51 41.2	-1.6
	comp=Z,2.1nm,0.7s,baz=92,slow=5.1,SNR=2.5							
FINES	**FINESS Array B**	**78.49**	**333**	P		**P**	**14 52 01.9**	**-0.1**
	comp=Z,1.9nm,1.0s,mb4.0,baz=63,slow=8.5,SNR=3.9							
FINES				pP	pP		14 52 09.1	-0.7
	comp=Z,1.5nm,0.7s,baz=76,slow=7.9,SNR=4.3							
FINES	**FINESS Array B**	**78.49**	**333**	P		**P**	**14 52 01.9**	**-0.1**
FINES				pP	pP		14 52 09.1	-0.7
GERES	**GERESS Array B**	**83.23**	**319**	P		**P**	**14 52 28.1**	**+0.7**
	comp=Z,0.2nm,0.2s,mb3.7,baz=108,slow=4.2,SNR=3.8							
GERES				pP	pP		14 52 35.6	+0.4
	comp=Z,2.4nm,0.9s,baz=104,slow=5.5,SNR=6.6							

*NEIC **29** 14:43:10.6,32.80S×68.75W,h5km,ML3.1(GUC), After GUC.*
GUC 29 14:43:10.6±0.8,32.80S×68.75W,h5km,MD4.0,ML3.1,2C, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FCH	**Farellones**	**1.40**	**247**	*e*P		**Pb**	**14 43 34.9**	**-1.9**
FCH				*i* S		Sb	14 43 53.5	-1.3
FCH				AMP			14 44 00.5	
	comp=N,272nm,0.3s							
JACH	**Jahuel**	**1.56**	**274**⇑	*i*P		Pn	14 43 37.0	-2.1
JACH				*i* S		Sb	14 43 57.9	-1.5
LMEL	**Las Melosas**	**1.60**	**229**	*e*P		Pn	14 43 39.2	-0.6
LMEL				*i* S		Sb	14 44 01.4	+0.6
LMEL				AMP			14 44 04.1	
	comp=N,449nm,0.2s							
CLCH	**Cerro Calan**	**1.61**	**248**	*e*P		Pn	14 43 38.9	-1.0
CLCH				*i* S		Sb	14 44 00.9	-0.1
CLCH				AMP			14 44 04.8	
	comp=E,332nm,0.4s							
PCH	**Pirque**	**1.69**	**241**⇑	*i*P		Pn	14 43 40.8	-0.2
RCDM	**Rinconada Maip**	**1.86**	**248**	*e*P		Pn	14 43 43.2	-0.2
RCDM				AMP			14 44 11.2	
	comp=N,196nm,0.6s							
ROCH	**El Roble**	**1.91**	**264**	*e*P		Pn	14 43 43.4	-0.7
ROCH				*i* S		Sn	14 44 09.3	+0.5
CHCH	**Chadas Angostu**	**1.95**	**234**	*i*P		Pn	14 43 45.6	+0.8
TACH	**Talagante**	**2.02**	**244**	*e*P		Pn	14 43 45.9	+0.2
CICH	**Cipreses**	**2.06**	**222**	*e*P		Pn	14 43 47.2	+0.9
CHNG	**Los Chungos**	**2.50**	**291**	*e*P		Pn	14 43 52.9	+0.3
CHNG				*i* S		Sn	14 44 24.7	+0.9
TLL	**Tololo Astrono**	**3.16**	**326**	*e*P		Pn	14 44 02.8	+0.8
TLL				*i* S		Sn	14 44 42.2	+1.7
TLL				AMP			14 44 51.4	
	comp=N,219nm,0.7s							

*BJI **29** 14:43:28.1,0.53N×97.55E,h39km,mB5.4,mb4.9,Ms4.9, Msz4.4*
*IDC **29** 14:43:30.3±0.7,0.90N×97.39E,h23km±3km,mb4.4/16, mb1 4.4/16,mb1mx4.3/20,mbtmp4.5/16, Error ellipse: s-maj=34.5km s-min=11.1km az=49.0*

*MOS **29** 14:43:31.2±1.7,1.02N×97.58E,h33km,mb5.0/15, Error ellipse: s-maj=17.6km s-min=8.1km az=109.2*
*NEIC **29** 14:43:31.5±0.3,0.90N×97.48E,h30km,mb4.8/20, Error ellipse: s-maj=10.5km s-min=5.8km az=50.0*
ISC 29 14:43:29.4±0.4,0.87N±0.05×97.45E±0.05,h27km, h27km±1.6km:pP-P,n96,σ1ᵴ07/98,mb4.7/48,MS4.4/6, 3C-2D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**5.13**	**44**	P		**Pn**	**14 44 47.6**	**+1.1**
KULM	**Kulim**	**5.43**	**36**	*e*P		**Pn**	**14 44 50.9**	**+0.2**
KGM	**Kluang**	**5.98**	**79**	P		**Pn**	**14 45 00.4**	**+2.0**
CM31	**Chiang Mai Arr**	**17.54**	**5**	*e*P		**P**	**14 47 31.8**	**-2.0**
	4.4nm,0.4s							
KKM	**Kota Kinabalu**	**19.42**	**74**	*e*P		**P**	**14 47 56.1**	**-0.5**
KKM	**Kota Kinabalu**	**19.42**	**74**	P		**P**	**14 47 58.4**	**+1.8**
TSM	**Tawau**	**20.68**	**80**	P		**P**	**14 48 09.6**	**-0.5**
QIZ	**Qiongzhong**	**21.76**	**33**	*e*P		**P**	**14 48 20.3**	**-0.6**
KMI	**Kunming**	**24.65**	**12**	P		**P**	**14 48 50.8**	**+1.5**
KMI				AP			14 49 00.8	
KMI				XP			14 49 03.3	
KMI				PP		PP	14 49 30.5	+4.7
KMI				S		**S**	**14 53 08.5**	**+2.4**
KMI				XS			14 53 24.8	
KMI				SS		SS	14 54 05.5	+2.6
KMI				AMB		AMB		
	comp=Z,25nm,1.0s,mb4.7							
KMI				AMB		AMB		
	comp=Z,84nm,3.1s							
KMI				LR		LR		
	comp=N,447nm,15.1s,MS4.2							
KMI				LR		LR		
	comp=E,307nm,12.2s,MS4.2							
KMI				LR		LR		
	comp=Z,440nm,18.9s							
HYB	**Hyderabad**	**24.82**	**313**	*e*P		**P**	**14 48 53.0**	**+2.0**
HYB				*e*			14 49 03.0	
HYB	**Hyderabad**	**24.82**	**313**	*i* P		**P**	**14 48 53.0**	**+2.0**
HYB				*es*P			14 49 03.0	
GYA	**Guiyang**	**26.94**	**18**⇓	*i*P		**P**	**14 49 10.0**	**-0.7**
GYA				AP		pP	14 49 19.8	+1.1
GYA				XP		sP	14 49 23.3	+1.0
GYA				PP		PP	14 49 55.8	-0.7
GYA				S		**S**	**14 53 42.3**	**-1.9**
GYA				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.8							
GYA				AMB		AMB		
	comp=Z,120nm,4.6s							
GYA				LR		LR		
	comp=N,310nm,11.4s							
GYA				LR		LR		
	comp=E,350nm,16.8s							
GYA				LR		LR		
	comp=Z,570nm,12.0s,MS4.3							
JIRN	**Jiri**	**28.74**	**339**	*e*P		**P**	**14 49 27.6**	**+0.7**
	comp=Z,29nm,0.7s,mb5.1							
PKI	**Pulchoki**	**28.95**	**338**	*e*P		**P**	**14 49 28.9**	**+0.1**
GUN	**Gumba**	**29.08**	**339**	*e*P		**P**	**14 49 30.6**	**+0.6**
	comp=Z,30nm,0.5s,mb5.3							
DMN	**Daman**	**29.10**	**337**	*e*P		**P**	**14 49 30.3**	**+0.1**
KKN	**Kakani**	**29.20**	**337**	*e*P		**P**	**14 49 31.1**	**+0.1**
LSA	**Lhasa**	**29.29**	**349**⇑	*e*P		**P**	**14 49 32.5**	**+0.6**
LSA				pmax		pmax		
	comp=Z,16nm,0.6s,mb4.9							
LSA	**Lhasa**	**29.29**	**349**⇑	*e*P		**P**	**14 49 32.5**	**+0.6**
	comp=Z,16nm,0.6s,mb4.9							
KOLN	**Koldanda**	**29.86**	**335**	*e*P		**P**	**14 49 37.4**	**+0.4**
	comp=Z,26nm,0.7s,mb5.1							
ENH	**Enshi**	**31.40**	**20**	*e*P		**P**	**14 49 48.5**	**-2.1**
	comp=Z,16nm,0.5s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.53**	**126**	*e*P		**P**	**14 50 08.5**	**-0.7**
	comp=Z,4.1nm,0.4s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.53**	**126**	P		**P**	**14 50 08.2**	**-1.0**
	comp=Z,5.0nm,0.6s,mb4.6,baz=323,slow=6.3,SNR=14							
FITZ				pP		pP	14 50 15.7	-1.6
	comp=Z,5.3nm,0.5s,baz=317,slow=2.2,SNR=5.0							
XAN	**Xi'an**	**34.70**	**17**	P		**P**	**14 50 17.8**	**-1.4**
XAN				AP		pP	14 50 25.3	-2.0
XAN				AMB		AMB		
	comp=Z,33nm,0.8s,mb5.3							
LZH	**Lanzhou**	**35.54**	**9**	*e*P		**P**	**14 50 26.0**	**-0.3**
LZH				AP		pP	14 50 33.5	-1.0
LZH				XP		sP	14 50 36.5	-1.4
LZH				PP		PP	14 51 45.0	-1.7
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb5.0							
NJ2	**Nanjing**	**37.02**	**31**	*e*P		**P**	**14 50 41.0**	**+2.3**
NJ2				AP		pP	14 50 52.8	+5.9
NJ2				XP		sP	14 50 55.5	+5.1
NJ2				PP		PP	14 52 06.5	+1.0
NJ2				S		**S**	**14 56 25.0**	**+2.9**
NJ2				XS			14 56 40.0	
NJ2				AMB		AMB		
	comp=Z,840nm,4.0s							
NJ2				LR		LR		
	comp=N,760nm,10.6s,MS4.8							
NJ2				LR		LR		
	comp=E,340nm,11.6s,MS4.8							
NJ2				LR		LR		
	comp=Z,360nm,11.4s,MS4.4							
GTA	**Gaotai**	**38.42**	**3**	*e*P		**P**	**14 50 50.8**	**+0.3**
GTA				AP		pP	14 51 00.0	+1.3
GTA				XP		sP	14 51 03.5	+1.4
GTA				PP		PP	14 52 23.3	+1.3
GTA				S		**S**	**14 56 45.0**	**+1.7**
GTA				XS			14 57 00.0	
GTA				SS		SS	14 59 22.3	-1.4
GTA				AMB		AMB		
	comp=Z,14nm,0.8s,mb4.7							
GTA				AMB		AMB		
	comp=Z,78nm,4.4s							
GTA				LR		LR		
	comp=N,150nm,15.6s,MS4.1							
GTA				LR		LR		
	comp=E,186nm,15.6s,MS4.1							
GTA				LR		LR		
	comp=Z,247nm,17.1s,MS4.1							
JOW	**Kunigami**	**39.28**	**46**	P		**P**	**14 50 56.9**	**-0.9**
	comp=Z,28nm,0.6s,mb5.1,baz=234,slow=8.0,SNR=6.7							
WRA	**Warramunga Arr**	**41.65**	**122**	P		**P**	**14 51 17.7**	**+0.2**
	comp=Z,3.7nm,0.5s,mb4.3,baz=304,slow=9.2,SNR=35							
WRAB	**Tennant Creek**	**41.66**	**122**	*e*P		**P**	**14 51 17.3**	**-0.2**
WRAB				pmax		pmax		
	comp=Z,7.0nm,0.6s,mb4.5							
WRAB	**Tennant Creek**	**41.66**	**122**	*e*P		**P**	**14 51 17.3**	**-0.2**
	comp=Z,6.9nm,0.6s,mb4.5							
WB2	**Warramunga Arr**	**41.66**	**122**⇓	*i*P		**P**	**14 51 17.7**	**+0.2**
HHC	**Hu-ho-hao-te**	**41.80**	**16**	*e*P		**P**	**14 51 18.5**	**+0.1**
HHC				AP		pP	14 51 29.0	+2.3
HHC				XP		sP	14 51 32.5	+2.4
HHC				PP		PP	14 53 00.5	+2.3
HHC				S		**S**	**14 57 27.5**	**-6.5**
HHC				AMB		AMB		
	comp=Z,9.0nm,0.3s,mb4.9							
HHC				AMB		AMB		
	comp=Z,453nm,6.9s							
HHC				LR		LR		
	comp=N,207nm,4.3s							
HHC				LR		LR		
	comp=E,315nm,3.9s							
HHC				LR		LR		
	comp=Z,438nm,10.0s,MS4.6							
BJT	**Baijiatuau**	**42.53**	**21**	*e*P		**P**	**14 51 25.0**	**+0.6**
BJT				pmax		pmax		
	comp=Z,30nm,0.7s							
BJT	**Baijiatuau**	**42.53**	**21**	*e*P		**P**	**14 51 25.0**	**+0.5**
	comp=Z,30nm,0.7s,mb5.1							
BJI	**Beijing**	**42.55**	**21**	*e*P		**P**	**14 51 25.5**	**+0.9**
BJI				AMB		AMB		
	comp=Z,34nm,0.7s,mb5.2							
ASPA	**Alice Springs**	**43.00**	**127**	*e*P		**P**	**14 51 29.0**	**+0.6**
ASAR	**Alice Springs**	**43.00**	**127**	P		**P**	**14 51 29.0**	**+0.5**
	comp=Z,3.9nm,0.6s,mb4.3,baz=298,slow=7.8,SNR=57							
WMQ	**Urumqi**	**43.64**	**350**	P		**P**	**14 51 34.0**	**+0.6**
WMQ				AP		pP	14 51 44.0	+2.4
WMQ				XP		sP	14 51 48.0	+3.0
WMQ				PP		PP	14 53 17.5	+0.7
WMQ				*es*		**S**	**14 58 01.0**	**+0.2**
WMQ				XS			14 58 17.0	
WMQ				AMB		AMB		
	comp=Z,11nm,1.1s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,207nm,5.4s							
WMQ				LR		LR		
	comp=N,681nm,18.6s,MS4.7							
WMQ				LR		LR		
	comp=E,747nm,20.6s,MS4.7							
WMQ				LR		LR		
	comp=Z,582nm,29.4s							
DL2	**Dalian**	**43.85**	**27**	P		**P**	**14 51 36.0**	**+0.8**
DL2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.1							
KZA	**Kyzart**	**45.63**	**337**	P		**P**	**14 51 50.5**	**+1.1**
	SNR=5.2							
TKM2	**Tokmak 2**	**46.22**	**338**	P		**P**	**14 51 54.8**	**+0.8**
	SNR=11							
KBK	**Karagaybulak**	**46.24**	**337**	P		**P**	**14 51 55.5**	**+1.3**
	SNR=12							
AML	**Almayashu**	**46.30**	**336**	P		**P**	**14 51 55.8**	**+1.1**
	SNR=16							
EKS2	**Erkin-Say**	**46.71**	**336**	P		**P**	**14 51 59.0**	**+1.1**
	SNR=15							
USP	**Ospenovka**	**46.93**	**337**	P		**P**	**14 52 00.1**	**+0.5**
	SNR=20							
SONM	**Songino Array**	**47.42**	**8**	P		**P**	**14 52 03.7**	**+0.3**
	comp=Z,3.8nm,0.4s,mb4.7,baz=190,slow=9.8,SNR=33							
SONM				PcP		PcP	14 53 33.1	-0.9
	comp=Z,1.9nm,0.7s,baz=188,slow=4.2,SNR=4.3							
ULN	**Ulaanbaatar**	**47.55**	**9**	*e*P		**P**	**14 52 03.8**	**-0.6**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.5							
ULN	**Ulaanbaatar**	**47.55**	**9**	*e*P		**P**	**14 52 03.8**	**-0.7**
	comp=Z,3.9nm,0.8s,mb4.5							
MKAR	**Makanchi Array**	**47.62**	**346**	*e*P		**P**	**14 52 04.9**	**-0.1**
MKAR				pmax		pmax		
	comp=Z,5.0nm,0.5s							
MKAR	**Makanchi Array**	**47.62**	**346**	P		**P**	**14 52 05.0**	**-0.1**
	comp=Z,16nm,0.5s,mb5.3,baz=159,slow=8.0,SNR=165							
MKAR	**Makanchi Array**	**47.62**	**346**	P		**P**	**14 52 05.0**	**-0.1**
CN2	**Changchun**	**49.48**	**27**	*e*P		**P**	**14 52 19.0**	**-0.5**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
CN2				AMB		AMB		
	comp=Z,310nm,5.0s							
ZAK	**Zakamensk**	**49.58**	**5**	*e*P		**P**	**14 52 20.1**	**0.0**
ZAK				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.2							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8							
TLY	**Talaya**	**50.90**	**5**	*e*P		**P**	**14 52 29.6**	**-0.5**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
TLY	**Talaya**	**50.90**	**5**	*e*P		**P**	**14 52 28.9**	**-1.2**
	comp=Z,4.9nm,0.6s,mb4.6							
HIA	**Hailar**	**51.87**	**18**	*e*P		**P**	**14 52 36.8**	**-0.8**
HIA				pmax		pmax		
	comp=Z,11nm,0.8s							
HIA	**Hailar**	**51.87**	**18**	*e*P		**P**	**14 52 36.8**	**-0.8**
	comp=Z,11nm,0.8s,mb4.8							
KURK	**Kurchatov**	**52.17**	**345**	*e*P		**P**	**14 52 38.7**	**-1.1**
KURK				pmax		pmax		
	comp=Z,10.0nm,0.8s,mb4.8							
KURK	**Kurchatov**	**52.17**	**345**	*e*P		**P**	**14 52 38.6**	**-1.2**
	comp=Z,10nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**52.95**	**132**	*e*P		**P**	**14 52 47.0**	**+1.1**
	comp=Z,2.7nm,0.6s,mb4.3							
STKA	**Stephens Creek**	**52.95**	**132**	P		**P**	**14 52 47.0**	**+1.1**
	comp=Z,4.5nm,0.8s,mb4.4,baz=304,slow=8.9,SNR=9.8							
STKA				pP		pP	14 52 54.0	-0.3
	comp=Z,2.5nm,0.5s,baz=303,slow=6.7,SNR=4.9							
NVS	**Novosibirsk**	**55.04**	**350**	*i* P		**P**	**14 52 59.0**	**-1.9**
NVS				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.8							
NVS				pmax		pmax		
	comp=N,6.0nm,1.0s							
NVS				pmax		pmax		
	comp=E,5.0nm,1.1s							
KLR	**Kul'dur**	**56.44**	**26**	*e*P		**P**	**14 53 08.0**	**-3.0**
BVA0	**Borovoye Array**	**56.64**	**341**	*i* P		**P**	**14 53 10.8**	**-1.7**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.9							
BVAR	**Borovoye Array**	**56.64**	**341**	P		**P**	**14 53 10.7**	**-1.7**
	comp=Z,5.7nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=31							
BVAR				pP		pP	14 53 17.8	-3.1
	comp=Z,2.5nm,0.5s,baz=140,slow=11,SNR=9.3							
CHKZ	**Chkalovo**	**57.12**	**341**	*e*P		**P**	**14 53 14.6**	**-1.3**
CHKZ				pmax		pmax		
	comp=Z,13nm,0.8s,mb5.0							
CHKZ	**Chkalovo**	**57.12**	**341**	*e*P		**P**	**14 53 14.6**	**-1.2**
	comp=Z,13nm,0.8s,mb5.0							
BOD	**Bodaibo**	**58.29**	**10**	*e*P		**P**	**14 53 22.8**	**-1.2**
BOD				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
KMBO	**Kilima Mbogo**	**60.23**	**268**	pP		pP	14 53 45.7	-0.9
	comp=Z,2.0nm,0.7s,baz=63,slow=12,SNR=4.3							
YAK	**Yakutsk**	**65.67**	**16**	*e*P		**P**	**14 54 11.7**	**-1.6**
YAK				pmax		pmax		
	comp=Z,28nm,1.0s,mb5.2							
YAK	**Yakutsk**	**65.67**	**16**	*e*P		**P**	**14 54 11.7**	**-1.6**
	comp=Z,28nm,1.0s,mb5.2							
BRTR	**Keskin Array B**	**69.52**	**312**	P		**P**	**14 54 37.1**	**-0.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=156,slow=7.6,SNR=4.8							
BRTR				pP		pP	14 54 43.9	-2.5
	comp=Z,0.6nm,0.5s,baz=144,slow=6.9,SNR=2.5							
MA2	**Magadan**	**71.52**	**25**	*e*P		**P**	**14 54 44.5**	**-5.2**
MA2				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
TIXI	**Tiksi**	**73.47**	**10**	*e*P		**P**	**14 54 57.0**	**-3.9**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
AKASG	**Malin Array Be**

CM31	**Chiang Mai Arr**	**15.86**	**9**	*eP*	**P**	**14 49 43.9**	**+0.5**
	4.9nm,0.8s						
KKM	**Kota Kinabalu**	**20.00**	**80**	*eP*	**P**	**14 50 33.1**	**-0.7**
LSA	**Lhasa**	**27.32**	**350**	*eP*	**P**	**14 51 45.7**	**+0.8**
	3.8nm,0.5s,mb4.2						
WRA	**Warramunga Arr**	**43.48**	**123**	P	**P**	**14 54 03.2**	**0.0**
	1.0nm,0.3s,mb4.0,baz=303,slow=9.1,SNR=6.4						
WRA				pP	pP	14 54 12.4	-0.9
	2.0nm,0.4s,baz=302,slow=9.1,SNR=8.5						
WRAB	**Tennant Creek**	**43.48**	**123**	*eP*	**P**	**14 54 03.3**	**0.0**
	4.3nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**44.91**	**128**	P	**P**	**14 54 14.7**	**+0.1**
	0.9nm,0.9s,mb3.6,baz=296,slow=7.5,SNR=2.6						
ASAR				pP	pP	14 54 24.5	-0.2
	1.5nm,0.8s,baz=307,slow=7.9,SNR=5.4						
MKAR	**Makanchi Array**	**45.61**	**346**	P	**P**	**14 54 20.1**	**+0.1**
	2.7nm,0.5s,mb4.5,baz=167,slow=7.6,SNR=9.4						
SONM	**Songino Array**	**45.78**	**9**	P	**P**	**14 54 21.4**	**+0.1**
	2.9nm,0.4s,mb4.6,baz=190,slow=9.0,SNR=14						
SONM				PcP	PcP	14 55 58.6	-0.3
	1.1nm,0.4s,baz=194,slow=3.8,SNR=5.3						
ULN	**Ulaanbaatar**	**45.92**	**10**	*eP*	**P**	**14 54 20.6**	**-1.7**
	2.0nm,0.5s,mb4.3						
TLY	**Talaya**	**49.19**	**6**	*eP*	**P**	**14 54 48.0**	**+0.2**
	2.4nm,0.6s,mb4.4						
KURK	**Kurchatov**	**50.16**	**345**	*eP*	**P**	**14 54 55.5**	**+0.3**
	2.7nm,0.6s,mb4.5						
BVAR	**Borovoye Array**	**54.59**	**341**	P	**P**	**14 55 26.6**	**-1.8**
	1.4nm,0.4s,mb4.3,baz=146,slow=10,SNR=6.6						
BVAR				pP	pP	14 55 38.0	-0.6
	2.0nm,0.6s,baz=146,slow=9.5,SNR=5.6						
CHKZ	**Chkalovo**	**55.07**	**342**	*eP*	**P**	**14 55 31.4**	**-0.4**
	4.1nm,0.6s,mb4.6						
KIV	**Kislovodsk**	**62.68**	**319**	P	**P**	**14 56 24.3**	**-0.5**
	7.8nm,0.7s,mb5.0						
AKASG	**Malin Array Be**	**73.61**	**322**	P	**P**	**14 57 32.6**	**-0.2**
	0.3nm,0.3s,mb3.7,baz=89,slow=5.0,SNR=4.5						
FINES	**FINESS Array B**	**78.33**	**332**	P	**P**	**14 57 59.3**	**+0.1**
	0.7nm,0.4s,mb4.0,baz=93,slow=4.8,SNR=7.1						
ARCES	**ARCESS Array B**	**80.88**	**340**	P	**P**	**14 58 13.4**	**+0.5**
	0.7nm,0.4s,mb3.9,baz=103,slow=5.9,SNR=7.8						
GERES	**GERESS Array B**	**83.19**	**319**	P	**P**	**14 58 27.1**	**+1.9**
	0.2nm,0.2s,mb3.7,baz=101,slow=6.8,SNR=3.7						

IDC 29 14:52:08.5±4.8, 30.10S×177.69W, h70km±37km, mb3.9/3, mb1 4.1/3, mb1mx3.7/11, mbtmp4.2/3, Error ellipse: s-maj=70.2km s-min=50.5km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**347**	P	P	14 52 25.4	-0.1
	74nm,0.3s,baz=58,slow=19,SNR=3.9						
RAO				S	S	14 52 38.7	+0.5
	422nm,0.3s,baz=208,slow=22,SNR=11						
STKA	**Stephens Creek**	**34.81**	**256**	P	P	14 58 52.8	-1.8
	2.4nm,0.5s,baz=90,slow=11,SNR=12						
ASAR	**Alice Springs**	**43.40**	**266**	P	P	15 00 04.1	-1.9
	1.0nm,0.5s,baz=105,slow=7.3,SNR=19						
WRA	**Warramunga Arr**	**44.36**	**272**	P	P	15 00 12.2	-1.6
	1.6nm,0.3s,baz=110,slow=8.1,SNR=68						
FINES	**FINESS Array B**	**144.96**	**340**	PKP	PKPdf	15 11 36.5	-0.4
	1.0nm,0.6s,baz=63,slow=4.3,SNR=6.0						

JMA 29 15:03:41.2±0.5, 30.40N×139.53E, h476km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIM2	**Oshima 3**	**4.31**	**359**	P	P	15 05 00.9	-0.4
BSO1	**Boso 1**	**4.41**	**16**	P	P	15 05 02.9	+0.6
BSO3	**Boso 3**	**4.47**	**10**	P	P	15 05 02.7	-0.1
BSO3				*eS*	S	15 06 09.1	+1.8
JIE	**Ise**	**4.64**	**330**	P	P	15 05 04.1	-0.2
JOD2	**Odawara 2**	**4.86**	**356**	P	P	15 05 06.2	-0.2
JHU	**Hanno**	**5.44**	**358**	P	P	15 05 11.6	-0.3
JHU				*eS*	S	15 06 23.9	+0.3
JRY	**Ryogami san**	**5.63**	**355**	P	P	15 05 14.3	+0.5
JRY				*eS*	S	15 06 28.5	+1.6
JYT	**Yasato**	**5.84**	**5**	P	P	15 05 16.2	+0.3
JYT				*eS*	S	15 06 30.8	+0.1
JAG	**Ashikaga**	**6.01**	**359**	P	P	15 05 17.3	-0.3

IDC 29 15:05:10.9±3.7, 2.64N×96.56E, mb3.4/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=146.4km s-min=24.1km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.34**	**123**	P	P	15 13 14.8	-2.0
	0.3nm,0.6s,baz=300,slow=9.0,SNR=5.3						
ASAR	**Alice Springs**	**44.77**	**128**	P	P	15 13 26.9	-1.5
	0.2nm,0.5s,baz=296,slow=8.1,SNR=5.7						
MKAR	**Makanchi Array**	**45.70**	**346**	P	P	15 13 34.0	-1.5
	0.5nm,0.4s,baz=162,slow=9.6,SNR=12						
SONM	**Songino Array**	**45.82**	**9**	P	P	15 13 34.0	-2.3
	0.2nm,0.5s,baz=190,slow=8.8,SNR=3.2						

IDC 29 15:05:40.0±3.7, 3.28N×97.59E, mb3.6/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.6/4, Error ellipse: s-maj=156.6km s-min=24.6km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.83**	**124**	P	P	15 13 40.5	-1.4
	0.2nm,0.4s,baz=304,slow=8.7,SNR=5.0						
ASAR	**Alice Springs**	**44.36**	**129**	P	P	15 13 52.0	-2.2
	0.6nm,0.6s,baz=304,slow=7.9,SNR=8.1						
SONM	**Songino Array**	**45.02**	**8**	P	P	15 13 57.9	-1.4
	0.3nm,0.4s,baz=191,slow=9.1,SNR=3.7						
MKAR	**Makanchi Array**	**45.33**	**345**	P	P	15 13 59.5	-2.2
	0.8nm,0.7s,baz=157,slow=9.2,SNR=7.0						

IGQ 29 15:06:24.9, 0.26N×80.12W, h4km±3km, mb4.0, 2C-1D, Error ellipse: s-maj=3.7km s-min=2.8km az=12.8, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOR1	**San Jorge 1**	**1.50**	**100**	P	Pn	15 06 53.9	+1.2
JOR1				S	Sb	15 07 15.4	+3.0
PINO	**Pino**	**1.57**	**105**	↑P	Pn	15 06 54.8	+1.1
TERV	**Terraza Guagua**	**1.58**	**106**	P	Pn	15 06 54.5	+0.8
JUA2	**San Juan 2**	**1.59**	**107**	P	Pn	15 06 56.1	+2.2
YANA	**Yana**	**1.59**	**104**	↓P	Pn	15 06 55.2	+1.2
YANA				S	Sb	15 07 16.2	+1.3
LORE	**San Lorenzo**	**1.64**	**51**	P	Pn	15 06 56.2	+1.6
LORE				S	Sb	15 07 17.8	+1.6
COTA	**Cotacachi**	**1.79**	**88**	↑P	Pn	15 06 58.3	+1.6
COTA				S	Sn	15 07 24.1	+4.0
NAS1	**Nasa**	**1.87**	**118**	P	Pn	15 07 00.5	+2.5
VC1	**Cotopaxi 1**	**1.94**	**118**	P	Pn	15 07 01.6	+2.7
TAMB	**Tambo**	**1.99**	**118**	P	Pn	15 07 02.4	+2.7
ANTI	**Antisana**	**2.08**	**110**	P	Pn	15 07 03.7	+2.7
ANTI				S	Sn	15 07 29.8	+2.1
CAYR	**Refugio Cayamb**	**2.13**	**97**	P	Pn	15 07 05.9	+4.3
CAYR				S	Sn	15 07 35.1	+6.3
CAYA	**Cayambe**	**2.14**	**95**	P	Pn	15 07 04.5	+2.7
CAYA				S	Sn	15 07 31.8	+2.7
PISA	**Pisayambo**	**2.17**	**127**	P	Pn	15 07 04.8	+2.5
PISA				S	Sn	15 07 35.2	+5.2
ECEN	**Cerro Negro**	**2.22**	**75**	P	Pn	15 07 04.4	+1.4
ECEN				S	Sn	15 07 32.2	+0.9

IDC 29 15:14:48.1±8.5, 6.13S×147.74E, h59km±59km, mb3.7/3, mb1 3.8/5, mb1mx3.5/11, mbtmp3.8/5, ML3.1/2, Error ellipse: s-maj=71.2km s-min=48.4km az=65.0
ISC 29 15:14:46.7±5.3, 6.1S±0.2×147.6E±0.4, h57km±37km, n7, σ1§16/8, mb3.8/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.32**	**187**	P	P	**15 15 37.5**	**+0.1**
	1.8nm,0.3s,baz=356,slow=10,SNR=7.4						
PMG				S	S	**15 16 16.2**	**+0.3**
	2.0nm,0.3s,baz=196,slow=20,SNR=3.7						
WB2	**Warramunga Arr**	**18.82**	**222**	*eP*	P	**15 19 03.3**	**-1.2**
WRA	**Warramunga Arr**	**18.83**	**222**	P	P	**15 19 03.5**	**-1.1**
	0.3nm,0.3s,baz=49,slow=11,SNR=19						
ASAR	**Alice Springs**	**21.86**	**216**	P	P	**15 19 36.6**	**+0.4**
	1.0nm,0.4s,mb3.6,baz=47,slow=9.4,SNR=73						
ASPA	**Alice Springs**	**21.86**	**216**	*eP*	P	**15 19 36.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**24.49**	**239**	P	P	**15 20 03.5**	**+1.4**
	7.6nm,0.7s,mb4.2,baz=53,slow=5.8,SNR=22						
STKA	**Stephens Creek**	**26.25**	**192**	P	P	**15 20 18.1**	**-0.5**
	1.7nm,1.0s,mb3.5,baz=9.5,slow=11,SNR=4.0						

IDC 29 15:20:10.0±3.7, 0.81N×97.65E, mb3.7/5, mb1 3.8/5, mb1mx3.6/17, mbtmp3.7/5, Error ellipse: s-maj=152.4km s-min=21.5km az=59.0
NEIC 29 15:20:13.2±1.3, 0.60N×97.41E, h30km, mb4.0/1, Error ellipse: s-maj=29.3km s-min=16.2km az=64.0
ISC 29 15:20:12.1±1.4, 0.7N±0.2×97.5E±0.2, h33km, n8, σ1§14/8, mb3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.52**	**34**	*eP*	**P**	**15 21 37.1**	**+3.1**
KKM	**Kota Kinabalu**	**19.40**	**74**	P	**P**	**15 24 36.2**	**-2.1**
FITZ	**Fitzroy Crossi**	**33.39**	**125**	P	**P**	**15 26 50.0**	**0.0**
	2.3nm,0.9s,mb4.1,baz=342,slow=3.2,SNR=2.4						
WRA	**Warramunga Arr**	**41.51**	**122**	P	**P**	**15 27 58.7**	**+0.5**
	0.1nm,0.5s,mb2.8,baz=303,slow=9.1,SNR=5.8						
ASAR	**Alice Springs**	**42.85**	**127**	P	**P**	**15 28 09.8**	**+0.6**
	0.2nm,0.5s,mb3.1,baz=300,slow=8.1,SNR=6.6						
SONM	**Songino Array**	**47.56**	**8**	P	**P**	**15 28 47.3**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=191,slow=7.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.79**	**346**	P	**P**	**15 28 48.1**	**-0.2**
	1.3nm,0.5s,mb4.2,baz=161,slow=9.5,SNR=26						
KURK	**Kurchatov**	**52.34**	**345**	P	**P**	**15 29 21.9**	**-1.0**
	1.8nm,0.9s,mb4.0						

IDC 29 15:23:44.3±4.1, 1.09N×97.27E, mb3.2/4, mb1 3.4/4, mb1mx3.3/16, mbtmp3.2/4, Error ellipse: s-maj=160.6km s-min=24.7km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.92**	**122**	P	P	15 31 37.3	-1.3
	0.4nm,0.8s,baz=301,slow=9.3,SNR=4.5						
ASAR	**Alice Springs**	**43.27**	**127**	P	P	15 31 47.5	-2.1
	0.1nm,0.5s,baz=291,slow=7.7,SNR=3.2						
SONM	**Songino Array**	**47.23**	**8**	P	P	15 32 19.1	-1.9
	0.2nm,0.4s,baz=190,slow=9.1,SNR=3.0						
MKAR	**Makanchi Array**	**47.37**	**346**	P	P	15 32 20.0	-2.0
	0.2nm,0.4s,baz=162,slow=8.8,SNR=5.7						

IDC 29 15:30:45.7±0.7, 16.96N×95.64E, mb3.9/13, mb1 4.1/13, mb1mx4.0/18, mbtmp3.9/13, Error ellipse: s-maj=34.3km s-min=16.0km az=59.0
NEIC 29 15:31:03.1±1.5, 17.22N×95.97E, h146km±14km, mb4.2/6, Error ellipse: s-maj=20.4km s-min=8.0km az=65.0
ISC 29 15:31:03.3±1.7, 17.25N±0.10×96.0E±0.2, h167km±16km, n26, σ0§85/27, mb3.9/18, 2C-1D, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**3.02**	**66**	*ePn*	**P**	**15 31 51.0**	**-1.1**
CHG	**Chiang Mai**	**3.17**	**60**	↓P	**P**	**15 31 55.0**	**+0.9**
	122nm,0.6s						
CHRT	**Chiangrai**	**4.41**	**53**	↑PN	**P**	**15 32 05.0**	**-5.0**
CHRT				PG	**P**	**15 32 30.0**	**+20**
CHRT				SG	S	15 33 39.0	+38
NANT	**Nan**	**4.70**	**70**	↑P	**P**	**15 32 27.0**	**+13**
	562nm,0.7s						
KULM	**Kulim**	**12.71**	**159**	*eP*	**P**	**15 33 59.9**	**+0.8**
LSA	**Lhasa**	**13.18**	**341**	P	**P**	**15 33 58.9**	**-6.1**
AAK	**Ala-Archa**	**31.26**	**329**	*eP*	**P**	**15 37 07.8**	**-1.7**
	5.2nm,1.3s,mb4.1						
MKAR	**Makanchi Array**	**31.58**	**342**	P	**P**	**15 37 11.5**	**-0.7**
	1.6nm,0.6s,mb4.0,baz=157,slow=9.4,SNR=30						
SONM	**Songino Array**	**31.66**	**13**	P	**P**	**15 37 14.0**	**+1.0**
	0.1nm,0.4s,mb2.9,baz=180,slow=2.9,SNR=3.1						
KURK	**Kurchatov**	**36.18**	**341**	*eP*	**P**	**15 37 51.5**	**+0.1**
	3.8nm,0.6s,mb4.2						
BVAR	**Borovoye Array**	**40.95**	**336**	P	**P**	**15 38 30.5**	**-0.5**
	0.5nm,0.5s,mb3.4,baz=135,slow=13,SNR=4.8						
CHKZ	**Chkalovo**	**41.38**	**337**	*eP*	**P**	**15 38 34.3**	**-0.1**
	3.2nm,0.5s,mb4.2						
KIV	**Kislovodsk**	**51.99**	**313**	*eP*	**P**	**15 39 57.6**	**+0.2**
	16nm,0.8s,mb4.7						
KIV				*e*		15 40 02.1	
WRA	**Warramunga Arr**	**52.73**	**133**	P	**P**	**15 40 02.5**	**-0.7**
	1.6nm,0.8s,mb3.8,baz=318,slow=7.4,SNR=7.1						
WRAB	**Tennant Creek**	**52.73**	**133**	*eP*	**P**	**15 40 02.6**	**-0.7**
	5.1nm,0.8s,mb4.3						
WRAB				*e*		15 40 06.9	
ASAR	**Alice Springs**	**54.97**	**137**	P	**P**	**15 40 19.1**	**-0.5**
	0.5nm,0.5s,mb3.5,baz=313,slow=7.1,SNR=9.2						
AKASG	**Malin Array Be**	**62.18**	**319**	P	**P**	**15 41 07.8**	**-1.2**
	0.2nm,0.3s,mb3.4,baz=79,slow=6.6,SNR=5.1						
FINES	**FINESS Array B**	**65.43**	**330**	P	**P**	**15 41 30.6**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=104,slow=12,SNR=2.7						
STKA	**Stephens Creek**	**65.52**	**138**	P	**P**	**15 41 31.8**	**+0.6**
	1.2nm,0.8s,mb3.8,baz=41,slow=21,SNR=3.4						
ARCES	**ARCESS Array B**	**67.18**	**339**	P	**P**	**15 41 42.4**	**+1.4**
	5.1nm,0.9s,mb4.4,baz=63,slow=5.4,SNR=6.8						
ARCES	**ARCESS Array B**	**67.18**	**339**	P	**P**	**15 41 42.4**	**+1.4**
GERES	**GERESS Array B**	**72.22**	**317**	P	**P**	**15 42 12.9**	**+1.1**
	1.1nm,0.6s,mb3.7,baz=76,slow=5.5,SNR=12						
NB2	**NORSAR Subarra**	**72.58**	**329**	P	**P**	**15 42 14.4**	**+0.7**
	0.7nm,0.6s,mb3.6,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**72.58**	**329**	P	**P**	**15 42 14.6**	**+0.9**
	0.8nm,0.7s,mb3.6,baz=87,slow=5.7,SNR=4.8						
BOSA	**Boshof**	**82.18**	**237**	P	**P**	**15 43 07.0**	**-0.2**
	3.5nm,0.5s,mb4.3,baz=72,slow=5.4,SNR=13						
YKA	**Yellowknife Ar**	**96.93**	**14**	P	**P**	**15 44 21.9**	**+5.6**
	0.1nm,0.4s,mb3.5,baz=309,slow=4.0,SNR=3.2						

BJI 29 15:32:46.1, 1.50N×97.60E, h30km, mB5.3, mb4.7, Ms4.5, Msz4.2
IDC 29 15:32:47.0±27.0, 1.77N×98.32E, mb3.9/3, mb1 4.1/3, mb1mx3.9/16, mbtmp3.9/3, MS3.6/2, Ms1 3.6/2, ms1mx3.1/33, Error ellipse: s-maj=525.3km s-min=228.5km az=143.0
NEIC 29 15:32:48.1±0.7, 1.49N×97.62E, h30km, mb4.4/1, Error ellipse: s-maj=18.7km s-min=14.1km az=53.0
ISC 29 15:32:46.5±1.9, 1.5N±0.1×97.6E±0.3, h33km, n10, σ0§71/8, mb4.2/7, MS3.6/2, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.87**	**39**	*eP*	**P**	**15 33 59.8**	**+0.4**
GYA	**Guiyang**	**26.33**	**19**	↑*iP*	**P**	**15 38 21.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
XAN	**Xi'an**	**34.09**	**17**	P	**P**	**15 39 29.8**	**-0.5**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.4						
LZH	**Lanzhou**	**34.93**	**9**	*eP*	**P**	**15 39 38.0**	**+0.6**
LZH				AP	pP	15 39 45.0	-2.1
LZH				XP	sP	15 39 48.0	-3.4
LZH				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
WRA	**Warramunga Arr**	**41.85**	**122**	P	**P**	**15 40 34.7**	**-0.8**
	comp=Z,1.4nm,0.6s,mb3.8,baz=300,slow=9.1,SNR=9.4						
WRAB	**Tennant Creek**	**41.86**	**122**	*eP*	**P**	**15 40 34.6**	**-0.9**
	comp=Z,11nm,1.3s,mb4.3						
ASAR	**Alice Springs**	**43.26**	**128**	P	**P**	**15 40 48.0**	**+1.0**
	comp=Z,0.9nm,0.7s,mb3.6,baz=299,slow=7.5,SNR=7.2						
MKAR	**Makanchi Array**	**47.07**	**346**	LR	LR	16 05 12.1	
	comp=Z,88nm,19.2s,MS3.7,baz=272,slow=41						
STKA	**Stephens Creek**	**53.26**	**132**	P	**P**	**15 42 05.2**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=315,slow=7.1,SNR=4.7						
GNI	**Garni**	**61.36**	**316**	LR	LR	16 13 25.6	
	comp=Z,38nm,19.5s,MS3.5,baz=322,slow=40						

IDC 29 15:32:52.0±0.6, 2.91N×96.31E, mb4.4/16, mb1 4.5/16, mb1mx4.4/19, mbtmp4.4/16, MS3.8/3, Ms1 3.8/3, ms1mx3.0/34, Error ellipse: s-maj=25.1km s-min=14.1km az=50.0
MOS 29 15:32:55.0±1.7, 2.90N×96.47E, h33km, mb4.9/22, Error ellipse: s-maj=15.7km s-min=8.3km az=110.8
NEIC 29 15:32:56.8±0.4, 2.85N×96.34E, h30km, mb4.8/25, Error ellipse: s-maj=11.1km s-min=7.5km az=224.0
ISC 29 15:32:55.4±0.4, 2.87N±0.06×96.41E±0.05, h33km, n93, σ1§12/91, mb4.6/46, MS3.9/6, 4C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.87**	**60**	*eP*	**P**	**15 34 10.8**	**+2.5**
SNG	**Songkhla**	**5.99**	**44**	P	**P**	**15 34 23.0**	**-1.0**
	160nm,1.0s						
CM31	**Chiang Mai Arr**	**15.69**	**9**	*eP*	**P**	**15 36 37.1**	**+1.3**
	13nm,0.8s						
KKM	**Kota Kinabalu**	**20.00**	**80**	*eP*	**P**	**15 37 28.6**	**+0.4**
QIZ	**Qiongzhong**	**20.76**	**38**	*eP*	**P**	**15 37 34.3**	**-1.7**
HYB	**Hyderabad**	**22.72**	**311**	*eP*	**P**	**15 37 57.0**	**+1.2**
HYB	**Hyderabad**	**22.72**	**311**	*i P*	**P**	**15 37 57.0**	**+1.2**
KMI	**Kunming**	**22.95**	**15**	P	**P**	**15 37 59.3**	**+1.3**
KMI				XP		15 38 14.5	
KMI				S	**S**	**15 42 15.5**	**+14**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb3.9						
KMI				LR	LR		
	comp=N,497nm,14.4s,MS4.2						
KMI				LR	LR		
	comp=E,264nm,13.5s,MS4.2						
KMI				LR	LR		
	comp=Z,554nm,14.8s,MS4.1						
JIRN	**Jiri**	**26.52**	**339**	*eP*	**P**	**15 38 32.2**	**+0.2**
	comp=Z,42nm,0.8s,mb5.0						
PKI	**Pulchoki**	**26.72**	**338**	*eP*	**P**	**15 38 36.2**	**+2.3**
	comp=Z,16nm,0.6s,mb4.7						
PKI	**Pulchoki**	**26.72**	**338**	*eP*	**P**	**15 38 36.2**	**+2.3**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
GUN	**Gumba**	**26.86**	**339**	*eP*	**P**	**15 38 34.0**	**-1.2**
	comp=Z,49nm,0.9s,mb5.0						
DMN	**Daman**	**26.87**	**337**	*eP*	**P**	**15 38 37.3**	**+2.0**
	comp=Z,30nm,0.8s,mb4.9						
KKN	**Kakani**	**26.97**	**338**	*eP*	**P**	**15 38 37.5**	**+1.3**
	comp=Z,49nm,1.0s,mb5.0						
KKN	**Kakani**	**26.97**	**338**	*eP*	**P**	**15 38 37.5**	**+1.3**
KKN				pmax	pmax		
	comp=Z,24nm,1.0s,mb4.7						
LSA	**Lhasa**	**27.15**	**350**	*eP*	**P**	**15 38 37.7**	**-0.1**
LSA				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.5						
LSA	**Lhasa**	**27.15**	**350**	*eP*	**P**	**15 38 37.7**	**-0.1**
	comp=Z,14nm,0.8s,mb4.5						
GKN	**Gorkha**	**27.40**	**337**	*eP*	**P**	**15 38 40.1**	**-0.1**
	comp=Z,46nm,0.8s,mb5.1						
KOLN	**Koldanda**	**27.62**	**335**	*eP*	**P**	**15 38 42.5**	**+0.4**
	comp=Z,40nm,0.7s,mb5.2						
ENH	**Enshi**	**29.94**	**23**	*eP*	**P**	**15 39 01.0**	**-1.8**
	comp=Z,13nm,0.8s,mb4.7						
ENH				*e*		15 39 06.6	
DDI	**Dehra Dun**	**32.37**	**329**	*e*	**P**	**15 39 22.2**	**-2.0**
SDNR	**Sundarnagar**	**33.86**	**329**	*eP*	**P**	**15 39 37.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**35.55**	**127**	P	**P**	**15 39 51.5**	**-0.2**
	comp=Z,2.8nm,0.6s,mb4.3,baz=349,slow=7.4,SNR=3.5						
GTA	**Gaotai**	**36.51**	**4**	*eP*	**P**	**15 40 00.0**	**+0.4**
GTA				AP	pP	15 40 09.0	-0.3
GTA				XP	sP	15 40 12.0	-1.6
GTA				PP	PP	15 41 28.5	+4.4
GTA				S	**S**	**15 45 46.3**	**+7.3**
GTA				XS		15 46 02.8	
GTA				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,74nm,4.2s						
GTA				LR	LR		
	comp=N,197nm,15.2s,MS4.1						
GTA				LR	LR		
	comp=E,138nm,17.1s,MS4.1						
GTA				LR	LR		
	comp=Z,209nm,14.4s,MS4.1						
HHC	**Hu-ho-hao-te**	**40.21**	**18**	*eP*	**P**	**15 40 33.0**	**+2.5**
HHC				AP	pP	15 40 43.5	+3.2
HHC				XP	sP	15 40 47.0	+2.5
HHC				S	**S**	**15 46 35.0**	**-0.1**
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.8						
HHC				AMB	AMB		
	comp=Z,154nm,4.6s						
HHC				LR	LR		
	comp=N,147nm,4.4s						
HHC				LR	LR		
	comp=E,223nm,5.1s						
HHC				LR	LR		
	comp=Z,174nm,6.3s						
BJT	**Baijiatuao**	**41.09**	**23**	*eP*	**P**	**15 40 36.2**	**-1.6**
BJT				pmax	pmax		
	comp=Z,16nm,0.7s						
BJT	**Baijiatuao**	**41.09**	**23**	*eP*	**P**	**15 40 36.2**	**-1.6**
	comp=Z,16nm,0.7s,mb4.8						
BJI	**Beijing**	**41.11**	**23**	*eP*	**P**	**15 40 38.0**	**0.0**
BJI				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.7						
BJI				LR	LR		
	comp=Z,96nm,18.5s,MS3.7						
KZA	**Kyzart**	**43.40**	**337**	P	**P**	**15 40 57.8**	**+1.1**
	SNR=9.2						
WRA	**Warramunga Arr**	**43.59**	**123**	P	**P**	**15 40 59.2**	**+0.6**
	comp=Z,1.8nm,0.4s,mb4.2,baz=301,slow=9.1,SNR=9.7						
WRAB	**Tennant Creek**	**43.60**	**123**	*eP*	**P**	**15 40 59.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
WRAB	**Tennant Creek**	**43.60**	**123**	*eP*	**P**	**15 40 59.0**	**+0.4**

CHKZ					pmax	pmax			
	comp=Z,11nm,0.8s,mb4.9								
CHKZ	**Chkalovo**	**54.90**	**342**	⇑*i*P	**P**		**15 42 24.1**	**-1.0**	
	comp=Z,11nm,0.8s,mb4.9								
STKA	**Stephens Creek**	**55.06**	**133**	P	**P**		**15 42 26.8**	**+0.3**	
	comp=Z,2.5nm,0.7s,mb4.3,baz=290,slow=7.3,SNR=3.6								
KLR	**Kul'dur**	**55.14**	**28**	*e*P	**P**		**15 42 21.3**	**-5.6**	
BOD	**Bodaibo**	**56.53**	**11**	*e*P	**P**		**15 42 34.7**	**-2.1**	
BOD					pmax	pmax			
	comp=Z,6.0nm,1.4s,mb4.4								
KMBO	**Kilima Mbogo**	**59.27**	**267**	*e*P	**P**		**15 42 57.1**	**+0.5**	
KMBO					pmax	pmax			
	comp=Z,11nm,1.0s								
KMBO	**Kilima Mbogo**	**59.27**	**267**	P	**P**		**15 42 57.1**	**+0.5**	
	comp=Z,5.3nm,0.9s,mb4.6,baz=58,slow=10,SNR=14								
KMBO					LR	LR	16 06 09.1		
	comp=Z,92nm,18.5s,MS3.9,baz=93,slow=34								
KMBO	**Kilima Mbogo**	**59.27**	**267**	*e*P	**P**		**15 42 57.1**	**+0.5**	
	comp=Z,11nm,1.0s,mb4.8								
SVE	**Sverdlovsk**	**60.85**	**338**	*e*P	**P**		**15 43 05.0**	**-1.9**	
SVE					pmax	pmax			
	comp=Z,20nm,1.5s,mb5.0								
KIV	**Kislovodsk**	**62.53**	**319**	*e*P	**P**		**15 43 17.1**	**-1.2**	
KIV					pmax	pmax			
	comp=Z,13nm,1.1s,mb5.0								
KIV	**Kislovodsk**	**62.53**	**319**	*e*P	**P**		**15 43 17.4**	**-0.9**	
	comp=Z,7.1nm,0.5s,mb5.0								
ASF	**Jabal al Asfar**	**62.86**	**305**	P	**P**		**15 43 20.7**	**0.0**	
	comp=Z,1.5nm,0.3s,mb4.6,baz=129,slow=4.7,SNR=3.0								
MALT	**Malatya**	**63.43**	**312**	*e*P	**P**		**15 43 24.7**	**+0.3**	
MALT					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.8								
MALT	**Malatya**	**63.43**	**312**	*e*P	**P**		**15 43 24.7**	**+0.3**	
	comp=Z,7.1nm,0.8s,mb4.8								
YAK	**Yakutsk**	**64.06**	**17**	*e*P	**P**		**15 43 24.2**	**-3.8**	
YAK					pmax	pmax			
	comp=Z,25nm,1.1s,mb5.2								
YAK	**Yakutsk**	**64.06**	**17**	*e*P	**P**		**15 43 24.2**	**-3.8**	
	comp=Z,25nm,1.1s,mb5.2								
MBAR	**Mbarara**	**65.73**	**268**	*e*P	**P**		**15 43 39.5**	**-0.2**	
MBAR					pmax	pmax			
	comp=Z,6.0nm,1.2s,mb4.5								
MBAR	**Mbarara**	**65.73**	**268**	*e*P	**P**		**15 43 39.5**	**-0.2**	
	comp=Z,5.8nm,1.2s,mb4.5								
BRTR	**Keskin Array B**	**67.41**	**312**	P	**P**		**15 43 48.6**	**-1.2**	
	comp=Z,2.4nm,0.8s,mb4.3,baz=133,slow=7.4,SNR=8.2								
TIXI	**Tiksi**	**71.69**	**10**	*e*P	**P**		**15 44 11.9**	**-3.7**	
TIXI					pmax	pmax			
	comp=Z,5.0nm,1.1s,mb4.4								
AKASG	**Malin Array Be**	**73.46**	**322**	P	**P**		**15 44 24.9**	**-1.5**	
	comp=Z,0.9nm,0.4s,mb4.0,baz=89,slow=4.8,SNR=15								
BOSA	**Boshof**	**74.93**	**240**	P	**P**		**15 44 33.4**	**-1.9**	
	comp=Z,4.7nm,1.1s,mb4.3,baz=219,slow=3.8,SNR=3.1								
FINES	**FINESS Array B**	**78.16**	**332**	P	**P**		**15 44 51.9**	**-1.0**	
	comp=Z,1.2nm,0.7s,mb3.9,baz=135,slow=5.4,SNR=6.7								
ARCES	**ARCESS Array B**	**80.71**	**340**	P	**P**		**15 45 06.9**	**+0.4**	
	comp=Z,4.4nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=11								
BOJS	**Bojanci**	**81.76**	**315**	*e*P	**P**		**15 45 12.7**	**+0.2**	
GERES	**GERESS Array B**	**83.04**	**319**	P	**P**		**15 45 19.5**	**+0.6**	
	comp=Z,1.2nm,0.7s,mb4.0,baz=225,slow=15,SNR=6.7								
GRA1	**Grafenberg Arr**	**84.71**	**319**	*e*P	**P**		**15 45 28.7**	**+1.3**	
	comp=Z,6.0nm,1.3s,mb4.6								
GRF	**Grafenberg Arr**	**84.71**	**319**	*e*P	**P**		**15 45 28.7**	**+1.3**	
GRF					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.6								
GRF	**Grafenberg Arr**	**84.71**	**319**	*e*P	**P**		**15 45 28.7**	**+1.3**	
GRF					pmax	pmax			
	comp=Z,6.0nm,1.3s,mb4.6								
GRF	**Grafenberg Arr**	**84.71**	**319**	*e*P	**P**		**15 45 28.7**	**+1.3**	
	comp=Z,6.0nm,1.3s,mb4.6								
NB2	**NORSAR Subarra**	**85.17**	**331**	P	**P**		**15 45 29.3**	**-0.1**	
	comp=Z,8.6nm,1.4s,mb4.7,baz=97,slow=4.8								
NB2	**NORSAR Subarra**	**85.17**	**331**	P	**P**		**15 45 29.3**	**-0.1**	
NB2					pmax	pmax			
	comp=Z,9.0nm,1.4s,mb4.7								
NOA	**NORSAR Array B**	**85.17**	**331**	P	**P**		**15 45 29.4**	**0.0**	
	comp=Z,1.4nm,0.9s,mb4.1,baz=96,slow=5.0,SNR=2.4								
PDAR	**Pinedale Array**	**128.88**	**24**	PKP	PKPdf		15 52 02.5	+2.3	
	comp=Z,1.3nm,1.2s,baz=270,slow=3.0,SNR=4.2								
LRAL	**Lakeview Retre**	**144.15**	**5**	*e*PKP	PKPdf		15 52 32.8	+4.4	
CFAA	**Coronel Fontan**	**147.96**	**205**	PKPbc	PKPdf		15 52 38.8	+3.9	
	comp=Z,0.3nm,0.4s,baz=203,slow=0.9,SNR=5.2								
LPAZ	**La Paz**	**159.77**	**228**	PKPab	PKPab		15 53 34.3	+1.4	
	comp=Z,0.5nm,0.2s,baz=184,slow=1.5,SNR=4.7								

IDC 29 15:34:06.4±7.8, 4.25N×127.22E, h208km±81km, mb3.3/6, mb1 3.4/6, mb1mx3.2/17, mbtmp3.8/6, Error ellipse: s-maj=52.8km s-min=16.1km az=79.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**22.26**	**184**	P	P	15 38 47.9	+1.0
	2.3nm,0.5s,baz=11,slow=10.0,SNR=13						
WRA	**Warramunga Arr**	**25.03**	**164**	P	P	15 39 10.7	-2.6
	1.2nm,0.4s,baz=343,slow=10,SNR=33						
ASAR	**Alice Springs**	**28.50**	**167**	P	P	15 39 42.5	-2.2
	0.5nm,0.5s,baz=357,slow=8.4,SNR=22						
ASAR				PcP	PcP	15 42 49.8	-1.3
	0.3nm,0.4s,baz=353,slow=2.3,SNR=4.2						
JNU	**Nakatsue**	**28.93**	**6**	P	P	15 39 47.5	-1.0
	0.8nm,0.4s,baz=299,slow=6.0,SNR=3.6						
STKA	**Stephens Creek**	**38.44**	**160**	P	P	15 41 07.5	-2.3
	0.7nm,0.4s,baz=342,slow=7.3,SNR=8.0						
MKAR	**Makanchi Array**	**57.42**	**325**	P	P	15 43 32.1	-3.3
	0.4nm,0.4s,baz=111,slow=8.2,SNR=4.8						

*IDC **29** 15:35:44.5±1.3, 1.03N×96.77E, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, Error ellipse: s-maj=56.2km s-min=16.5km az=52.0*
*NEIC **29** 15:35:50.4±0.6, 1.25N×97.15E, h30km, mb4.5/11, Error ellipse: s-maj=15.5km s-min=7.4km az=49.0*
ISC 29 15:35:48.6±0.7, 1.27N±0.09×97.2E±0.1, h30km, n28, σ0°89/28, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.28**	**41**	*e*P	**Pn**	**15 37 07.7**	**+0.2**
KKM	**Kota Kinabalu**	**19.56**	**75**	P	**P**	15 40 17.0	-0.2
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**	**15 41 42.6**	**+0.9**
	21nm,1.0s,mb4.7						
PKI	**Pulchoki**	**28.49**	**338**	*e*P	**P**	**15 41 44.2**	**+0.7**
GUN	**Gumba**	**28.62**	**339**	*e*P	**P**	**15 41 45.5**	**+0.8**
	16nm,0.6s,mb4.9						
DMN	**Daman**	**28.64**	**337**	*e*P	**P**	**15 41 45.5**	**+0.6**
KKN	**Kakani**	**28.73**	**338**	*e*P	**P**	**15 41 46.0**	**+0.3**
LSA	**Lhasa**	**28.85**	**349**	*e*P	**P**	**15 41 48.0**	**+1.2**
	4.8nm,0.8s,mb4.3						
GKN	**Gorkha**	**29.17**	**337**	*e*P	**P**	**15 41 50.3**	**+0.6**
	3.1nm,0.2s,mb4.7						
KOLN	**Koldanda**	**29.39**	**335**	*e*P	**P**	**15 41 52.3**	**+0.6**
	9.9nm,0.8s,mb4.6						
ENH	**Enshi**	**31.12**	**21**	*e*P	**P**	**15 42 05.0**	**-1.9**
	6.1nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.97**	**126**	P	**P**	**15 42 31.0**	**-0.9**
	3.2nm,0.7s,mb4.3,baz=346,slow=7.8,SNR=3.4						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**15 43 39.9**	**+0.1**
	1.4nm,0.6s,mb3.8,baz=302,slow=9.1,SNR=5.3						
WRAB	**Tennant Creek**	**42.08**	**122**	*e*P	**P**	**15 43 40.3**	**+0.4**
	3.8nm,0.7s,mb4.1						
BJT	**Baijiatuau**	**42.26**	**22**	P	**P**	**15 43 41.8**	**+0.8**
	9.6nm,0.4s,mb4.8						
ASAR	**Alice Springs**	**43.44**	**127**	P	**P**	**15 43 51.1**	**+0.2**
	1.8nm,1.1s,mb3.7,baz=300,slow=7.5,SNR=5.2						
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**15 44 19.8**	**+0.3**
	2.2nm,0.7s,mb4.2,baz=190,slow=9.4,SNR=8.6						
SONM				PcP	PcP	15 45 51.3	-0.3
	0.4nm,0.4s,baz=186,slow=2.8,SNR=3.8						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**15 44 20.4**	**+0.1**
	1.9nm,0.6s,mb4.2,baz=160,slow=8.7,SNR=9.1						
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**15 44 19.6**	**-0.9**
	1.4nm,0.7s,mb4.0						
GUMO	**Guam**	**48.72**	**73**	P	**P**	**15 44 35.1**	**+2.3**
	71nm,0.9s,baz=67,slow=20,SNR=2.6						
HIA	**Hailar**	**51.58**	**19**	P	**P**	**15 44 53.9**	**-0.3**
KURK	**Kurchatov**	**51.72**	**345**	*e*P	**P**	**15 44 54.5**	**-0.8**
	2.3nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**15 45 08.7**	**+0.5**
	1.2nm,0.7s,mb4.0,baz=321,slow=8.3,SNR=4.2						
BVAR	**Borovoye Array**	**56.18**	**341**	P	**P**	**15 45 27.0**	**-1.1**
	2.0nm,0.7s,mb4.3,baz=135,slow=9.5,SNR=6.9						
CHKZ	**Chkalovo**	**56.66**	**341**	*e*P	**P**	**15 45 30.3**	**-1.1**
	5.3nm,0.7s,mb4.7						
YAK	**Yakutsk**	**65.36**	**16**	*e*P	**P**	**15 46 28.8**	**-1.4**
	7.9nm,0.5s,mb5.0						
FINES	**FINESS Array B**	**79.94**	**332**	P	**P**	**15 47 54.6**	**-1.5**
	0.8nm,0.8s,mb3.7,baz=135,slow=7.9,SNR=3.7						
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**	**15 48 09.0**	**-0.3**
	2.9nm,0.9s,mb4.2,baz=82,slow=6.4,SNR=2.9						

*IDC **29** 15:40:07.0±3.1, 2.66N×95.99E, mb3.9/6, mb1 4.0/6, mb1mx3.8/18, mbtmp3.9/6, Error ellipse: s-maj=114.7km s-min=20.2km az=59.0*
*NEIC **29** 15:40:11.1±0.9, 2.64N×95.96E, h30km, mb4.1/2, Error ellipse: s-maj=21.8km s-min=13.0km az=56.0*
ISC 29 15:40:09.0±1.1, 2.7N±0.1×96.0E±0.2, h30km, n10, σ0°87/10, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.36**	**61**	*e*P	**Pn**	**15 41 30.0**	**+0.8**
KKM	**Kota Kinabalu**	**20.48**	**80**	P	**P**	**15 44 45.2**	**-2.2**
FITZ	**Fitzroy Crossi**	**35.79**	**126**	P	**P**	**15 47 07.2**	**-0.7**
	1.6nm,0.6s,mb4.2,baz=355,slow=11,SNR=3.8						
WRA	**Warramunga Arr**	**43.86**	**123**	P	**P**	**15 48 14.9**	**0.0**
	0.9nm,0.5s,mb3.8,baz=300,slow=9.2,SNR=16						
WRAB	**Tennant Creek**	**43.87**	**123**	*e*P	**P**	**15 48 15.2**	**+0.3**
	1.9nm,0.7s,mb3.9						
ASAR	**Alice Springs**	**45.27**	**127**	P	**P**	**15 48 26.6**	**+0.5**
	0.5nm,0.5s,mb3.6,baz=300,slow=7.9,SNR=13						
MKAR	**Makanchi Array**	**45.54**	**347**	P	**P**	**15 48 28.6**	**+0.7**
	1.4nm,0.5s,mb4.2,baz=158,slow=8.8,SNR=27						
SONM	**Songino Array**	**45.89**	**10**	P	**P**	**15 48 30.8**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=189,slow=10.0,SNR=3.3						
PMG	**Port Moresby**	**52.41**	**104**	P	**P**	**15 49 22.3**	**+0.9**
	9.3nm,0.7s,mb4.8,baz=281,slow=10,SNR=2.9						
CHKZ	**Chkalovo**	**54.95**	**342**	*e*P	**P**	**15 49 38.8**	**-0.9**
	1.1nm,0.5s,mb4.1						

IDC 29 15:42:13.4±3.8, 1.03N×98.26E, mb3.4/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.4/4, Error ellipse: s-maj=151.9km s-min=24.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.05**	**122**	P	P	15 49 58.7	-1.7
	0.2nm,0.4s,baz=304,slow=9.0,SNR=4.7						
ASAR	**Alice Springs**	**42.45**	**128**	P	P	15 50 10.3	-1.7
	0.2nm,0.5s,baz=298,slow=7.7,SNR=4.2						
SONM	**Songino Array**	**47.15**	**7**	P	P	15 50 48.3	-1.1
	0.1nm,0.4s,baz=191,slow=7.3,SNR=2.2						
MKAR	**Makanchi Array**	**47.67**	**345**	P	P	15 50 50.9	-2.6
	0.4nm,0.5s,baz=159,slow=8.9,SNR=8.8						

*ROM **29** 15:44:11.1±0.2, 46.35N×10.65E, h5km, MD2.3/2, ML1.7/2, Error ellipse: s-maj=1.9km s-min=1.5km az=0.0*
*CSEM **29** 15:44:11.1±0.1, 46.35N×10.59E, h10km, ML2.6/5, Error ellipse: s-maj=3.1km s-min=1.8km az=144.0*
*ZUR **29** 15:44:12.0, 46.35N×10.57E, h4km±3km, ML1.9/5*
ISC 29 15:44:11.4±0.4, 46.38N±0.03×10.64E±0.03, h2km±6km, n19, σ0°54/31, 8C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRMO	**Bormio**	**0.21**	**298**	⇓*i*PG	**Pg**	**15 44 16.5**	**+0.9**
BRMO				SG	**Sg**	**15 44 19.3**	**+0.9**
	138nm,0.2s						
MABI	**Malga Bissina**	**0.34**	**195**	⇑*i*PG	**Pg**	**15 44 18.3**	**+0.2**
MABI				SG	**Sg**	**15 44 22.4**	**-0.2**
FUORN	**Ofenpass**	**0.35**	**313**	⇓*i*P	**Pg**	**15 44 18.9**	**+0.4**
APPI	**Appiano**	**0.42**	**76**	⇑*i*PG	**Pg**	**15 44 20.5**	**+0.7**
APPI				SG	**Sg**	**15 44 26.3**	**+0.9**
BERNI	**Berninapass**	**0.43**	**275**	⇑*i*P	**Pg**	**15 44 20.2**	**+0.2**
BERNI				*e*S	**Sg**	**15 44 25.4**	**-0.3**
DAVOX	**Davos**	**0.66**	**308**	*e*P	**Pg**	**15 44 24.4**	**-0.2**
CTI	**Castel Tesino**	**0.78**	**115**	*e*PG	**Pg**	**15 44 27.0**	**+0.1**
BRES	**Bressanone**	**0.82**	**67**	⇑*i*PG	**Pg**	**15 44 27.8**	**0.0**
MDI	**Monti di Nese**	**0.88**	**227**	*e*PG	**Pg**	**15 44 28.3**	**-0.7**
SQTA	**Sankt Quirin**	**0.93**	**25**	⇑*i*PG	**Pg**	**15 44 29.8**	**-0.1**
SQTA				*i* SG	**Sg**	**15 44 42.3**	**0.0**
	17nm,0.2s						
MOTA	**Moosalm**	**1.02**	**18**	⇑*i*PG	**Pg**	**15 44 31.5**	**-0.2**
MOTA				*i* SG	**Sg**	**15 44 44.9**	**-0.4**
DAVA	**Damuels**	**1.05**	**330**	⇓*i*PG	**Pg**	**15 44 32.2**	**-0.1**
DAVA				*i* SG	**Sg**	**15 44 45.8**	**-0.5**
	8.7nm,0.2s						
WTTA	**Wattenberg**	**1.12**	**37**	⇓*i*PG	**Pg**	**15 44 33.6**	**-0.1**
WTTA				*i* SG	**Sg**	**15 44 48.4**	**-0.3**
	3.0nm,0.2s						
SEST	**Monte Rota**	**1.15**	**71**	*e*PN	**Pn**	**15 44 33.8**	**-0.6**
WATA	**Walderalm**	**1.15**	**34**	⇑*i*PG	**Pg**	**15 44 33.8**	**-0.6**
WATA				*i* SG	**Sg**	**15 44 49.6**	**-0.2**
	3.8nm,0.2s						
MUGIO	**Muggio**	**1.20**	**248**	*e*P	**Pb**	**15 44 33.7**	**-0.8**
LIENZ	**Alp Oberkamor**	**1.21**	**320**	*e*P	**Pb**	**15 44 35.7**	**+1.0**
FVI	**Forni Avoltri**	**1.50**	**81**	*e*PN	**Pn**	**15 44 40.2**	**+0.9**
	11nm,0.2s						
KBA	**Koelnbreinsper**	**1.99**	**68**	⇑*i*PN	**Pn**	**15 44 46.4**	**0.0**
KBA				*i* PG	**Pg**	**15 44 50.0**	**-1.1**
KBA				*i* SN	**Sn**	**15 45 12.2**	**0.0**
KBA				*i* SG	**Sg**	**15 45 17.8**	**+0.2**
	2.5nm,0.2s						

*BJI **29** 15:48:30.5, 0.60N×97.24E, h41km, mB5.2, mb4.6*
*IDC **29** 15:48:31.9±1.9, 1.02N×97.05E, h22km±4km, mb3.9/7, mb1 4.0/7, mb1mx3.7/18, mbtmp4.0/7, Error ellipse: s-maj=92.9km s-min=14.4km az=56.0*
*NEIC **29** 15:48:32.5±0.6, 1.07N×97.16E, mb4.4/8, Error ellipse: s-maj=15.0km s-min=7.2km az=64.0*
ISC 29 15:48:30.3±0.7, 1.03N±0.08×97.11E±0.1, h23km, h23km±1.2km: pP-P, n25, σ0°90/25, mb4.3/17, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.26**	**48**	P	**Pn**	**15 49 50.1**	**+0.5**
KULM	**Kulim**	**5.51**	**40**	⇑*i*P	**Pn**	**15 49 52.9**	**-0.3**
KGM	**Kluang**	**6.28**	**81**	P	**Pn**	**15 50 05.0**	**+0.9**
CM31	**Chiang Mai Arr**	**17.41**	**6**	*e*P	**P**	**15 52 33.0**	**-0.5**
	6.9nm,0.8s						
KKM	**Kota Kinabalu**	**19.70**	**75**	*e*P	**P**	**15 53 00.0**	**-1.2**
KMI	**Kunming**	**24.56**	**12**	P	**P**	**15 53 51.8**	**+1.9**
KMI				AP		15 53 58.0	
KMI				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.5						
KMI				AMB	AMB		
	comp=Z,45nm,3.1s						
ENH	**Enshi**	**31.36**	**21**	*e*P	**P**	**15 54 50.3**	**-1.5**
	comp=Z,8.4nm,0.4s,mb4.9						
ENH				*e*	pP	15 54 56.4	-2.2
FITZ	**Fitzroy Crossi**	**33.91**	**125**	P	**P**	**15 55 13.0**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,slow=5.1,SNR=3.0						
FITZ				pP	pP	15 55 19.3	-1.6
	comp=Z,2.5nm,0.7s,baz=357,slow=1.7,SNR=2.5						
GTA	**Gaotai**	**38.27**	**3**	*e*P	**P**	**15 55 51.5**	**+0.7**
GTA				AP	pP	15 55 59.5	+1.7
GTA				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
HHC	**Hu-ho-hao-te**	**41.74**	**17**	*e*P	**P**	**15 56 26.0**	**+6.5**
HHC				AMB	AMB		
	comp=Z,13nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,178nm,4.9s						
WRA	**Warramunga Arr**	**42.02**	**122**	P	**P**	**15 56 22.3**	**+0.3**
	comp=Z,1.8nm,0.7s,mb3.8,baz=300,slow=9.1,SNR=20						
WRA				pP	pP	15 56 30.2	+1.1
	comp=Z,1.4nm,0.7s,baz=300,slow=9.1,SNR=7.2						
WRAB	**Tennant Creek**	**42.03**	**122**	*e*P	**P**	**15 56 21.4**	**-0.7**
	comp=Z,2.9nm,0.9s,mb3.9						
WB2	**Warramunga Arr**	**42.03**	**122**	*e*P	**P**	**15 56 23.0**	**+0.9**
ASAR	**Alice Springs**	**43.37**	**127**	P	**P**	**15 56 33.7**	**+0.7**
	comp=Z,1.1nm,0.8s,mb3.6,baz=299,slow=7.7,SNR=11						
ASAR				pP	pP	15 56 40.0	0.0
	comp=Z,1.1nm,0.6s,baz=298,slow=7.9,SNR=8.6						
SONM	**Songino Array**	**47.31**	**9**	P	**P**	**15 57 04.6**	**+0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=201,slow=8.0,SNR=14						
SONM	**Songino Array**	**47.31**	**9**	P	**P**	**15 57 04.6**	**+0.5**
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**15 57 05.0**	**+0.3**
	comp=Z,2.4nm,0.7s,mb4.2,baz=157,slow=7.7,SNR=9.6						
ULN	**Ulaanbaatar**	**47.44**	**9**	P	**P**	**15 57 05.1**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.3						
HIA	**Hailar**	**51.83**	**19**	*e*P	**P**	**15 57 38.4**	**-0.4**
	comp=Z,5.0nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**53.31**	**132**	P	**P**	**15 57 48.8**	**-1.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=297,slow=6.7,SNR=4.5						
STKA				pP	pP	15 57 57.9	+0.6
	comp=Z,3.8nm,0.7s,baz=294,slow=4.8,SNR=5.9						
STKA	**Stephens Creek**	**53.31**	**132**	*e*P	**P**	**15 57 50.7**	**+0.6**
STKA				*e*pP	pP	15 57 58.1	+0.8
BVAR	**Borovoye Array**	**56.38**	**341**	P	**P**	**15 58 10.8**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=162,slow=9.1,SNR=6.5						
BVAR				pP	pP	15 58 17.2	-2.1
	comp=Z,1.4nm,0.6s,baz=141,slow=9.5,SNR=5.5						
CHKZ	**Chkalovo**	**56.85**	**342**	*e*P	**P**	**15 58 14.6**	**-0.9**
	comp=Z,5.1nm,1.1s,mb4.5						
CHKZ				*e*pP	pP	15 58 21.8	-1.0
YAK	**Yakutsk**	**65.60**	**16**	P	**P**	**15 59 14.4**	**0.0**
	comp=Z,7.9nm,0.4s,mb5.1						
NB2	**NORSAR Subarra**	**87.11**	**331**	P	**P**	**16 01 17.0**	**+1.6**
	comp=Z,0.7nm,0.8s,mb3.9,baz=91,slow=4.8						

*IDC **29** 15:49:23.6±0.6, 0.01N×96.90E, mb4.2/13, mb1 4.3/13, mb1mx4.2/17, mbtmp4.2/13, Error ellipse: s-maj=28.3km s-min=15.2km az=52.0*
*NEIC **29** 15:49:28.3±0.5, 0.06N×97.08E, mb4.5/7, Error ellipse: s-maj=15.0km s-min=10.6km az=51.0*
ISC 29 15:49:26.8±0.5, 0.07N±0.09×97.12E±0.09, h33km, (h32km±2.0km: pP-P), n28, σ1°16/24, mb4.2/18, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.27**	**34**	*e*P	**P**	**15 50 57.7**	**-1.6**
CM31	**Chiang Mai Arr**	**18.36**	**6**	*e*P	**P**	**15 53 44.7**	**+3.9**
	4.1nm,0.5s						
KKM	**Kota Kinabalu**	**19.96**	**72**	*e*P	**P**	**15 53 59.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**33.35**	**124**	P	**P**	**15 56 04.0**	**-0.3**
	4.2nm,0.8s,mb4.4,baz=346,slow=3.6,SNR=2.8						
WRA	**Warramunga Arr**	**41.52**	**121**	P	**P**	**15 57 13.2**	**+0.1**
	1.5nm,0.5s,mb3.9,baz=300,slow=9.0,SNR=6.0						
WRAB	**Tennant Creek**	**41.53**	**121**	*e*P	**P**	**15 57 10.8**	**-2.3**
	6.3nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**42.79**	**126**	P	**P**	**15 57 25.4**	**+2.0**
	0.9nm,0.7s,mb3.6,baz=299,slow=7.6,SNR=8.3						
AAK	**Ala-Archa**	**47.00**	**337**	P	**P**	**15 57 57.2**	**+0.5**
	1.3nm,0.6s,mb4.0						
SONM	**Songino Array**	**48.25**	**8**	P	**P**	**15 58 07.8**	**+1.2**
	1.2nm,0.7s,mb4.0,baz=188,slow=8.4,SNR=4.9						
MKAR	**Makanchi Array**	**48.31**	**346**	P	**P**	**15 58 07.0**	**0.0**
	3.9nm,0.6s,mb4.6,baz=157,slow=7.8,SNR=7.7						
STKA	**Stephens Creek**	**52.67**	**131**	P	**P**	**15 58 42.0**	**+1.6**
	3.1nm,0.8s,mb4.3,baz=330,slow=9.8,SNR=5.6						
STKA	**Stephens Creek**	**52.67**	**131**	*e*P	**P**	**15 58 42.5**	**+2.1**
KURK	**Kurchatov**	**52.85**	**345**	*e*P	**P**	**15 58 42.0**	**+0.5**
	8.7nm,1.2s,mb4.6						
KURK				*e*pP	pP	15 58 51.6	+0.2
CHKZ	**Chkalovo**	**57.76**	**342**	*e*P	**P**	**15 59 16.9**	**0.0**
	6.5nm,1.1s,mb4.6						
CHKZ				*e*pP	pP	15 59 26.2	-0.9
MALT	**Malatya**	**65.82**	**313**	*e*P	**P**	**16 00 10.1**	**-1.2**
	11nm,1.1s,mb4.8						
MALT				*e*	pP	16 00 21.1	-0.5
BRTR	**Keskin Array B**	**69.81**	**313**	P	**P**	**16 00 35.2**	**-0.9**
	2.0nm,0.8s,mb4.1,baz=117,slow=5.5,SNR=6.2						
MAW	**Mawson**	**71.60**	**193**	P	**P**	**16 00 44.9**	**-1.6**
	3.2nm,

SMLA				*i* S		**Sn**	**15 54 22.2**	**-12**	
SDNR	**Sundarnagar**	**7.51**	**299**	*e*		**Pn**	**15 53 19.4**	**+3.3**	
SDNR				*e*			15 54 42.2		
KHET	**Khetri**	**7.83**	**272**	*e*P		**Pn**	**15 53 22.2**	**+1.8**	
KHET				*e*S		**Sn**	**15 54 46.4**	**-3.6**	
KHET				*e*			15 55 46.9		
	comp=E,40nm,0.6s								
KHET				*e*			15 55 47.0		
	comp=N,46nm,0.7s								
BHPL	**Bhopal**	**8.11**	**235**	*e*P		**P**	**15 53 22.4**	**-1.9**	
BHPL				*e*S		**Sn**	**15 54 52.2**	**-4.8**	
BHPL				*e*			15 55 48.6		
	comp=E,69nm,0.6s								
BHPL				*e*			15 55 48.7		
	comp=N,97nm,0.6s								
NGP	**Nagpur**	**8.57**	**218**	*e*P		**P**	**15 53 30.7**	**-0.1**	
NGP				*e*			15 55 10.3		
THN	**Thein Dam**	**8.88**	**302**	*e*P		**P**	**15 53 34.8**	**-0.3**	
THN				*e*			15 55 16.7		
AJM	**Ajmer**	**9.05**	**262**	*i* P		**P**	**15 53 37.6**	**+0.1**	
AJM				*e*S		**Sn**	**15 55 11.7**	**-9.0**	
HYB	**Hyderabad**	**12.00**	**209**	*i* P		**P**	**15 54 14.0**	**-3.9**	
HYB				*e*S		**S**	**15 56 43.0**	**+10**	
LATR	**Latur**	**12.15**	**220**	*e*P		**P**	**15 54 17.0**	**-2.9**	
JASL	**Jaisalmer**	**12.27**	**268**	*e*S		**S**	**15 56 30.4**	**-9.0**	
KAD	**Karad**	**14.42**	**224**	*e*		**P**	**15 54 45.2**	**-4.8**	
WMQ	**Urumqi**	**15.91**	**8**	P		**P**	**15 55 09.5**	**+0.1**	
WMQ				AMB		AMB			
	comp=Z,5.0nm,0.8s								
WMQ				AMB		AMB			
	comp=Z,115nm,3.7s								
AAK	**Ala-Archa**	**16.72**	**333**	*e*P		**P**	**15 55 18.8**	**-0.9**	
	comp=Z,3.5nm,0.8s								
MKAR	**Makanchi Array**	**18.79**	**355**	P		**P**	**15 55 45.3**	**-0.1**	
	comp=Z,0.5nm,0.3s,baz=169,slow=12,SNR=34								
KURK	**Kurchatov**	**23.08**	**350**	*e*P		**P**	**15 56 31.5**	**+1.1**	
	comp=Z,7.9nm,0.8s,mb4.2								
SONM	**Songino Array**	**25.98**	**35**	P		**P**	**15 56 58.7**	**+0.5**	
	comp=Z,1.7nm,0.7s,mb3.7,baz=221,slow=8.9,SNR=18								
SONM	**Songino Array**	**25.98**	**35**	P		**P**	**15 56 58.7**	**+0.5**	
BVAR	**Borovoye Array**	**27.09**	**341**	P		**P**	**15 57 08.0**	**-0.3**	
	comp=Z,0.5nm,0.6s,mb3.2,baz=101,slow=7.3,SNR=5.2								
BVAR	**Borovoye Array**	**27.09**	**341**	P		**P**	**15 57 08.0**	**-0.3**	
CHKZ	**Chkalovo**	**27.60**	**342**	*e*P		**P**	**15 57 13.7**	**+0.7**	
	comp=Z,1.2nm,0.5s,mb3.8								
BRTR	**Keskin Array B**	**43.40**	**299**	P		**P**	**15 59 29.9**	**+1.7**	
	comp=Z,0.3nm,0.3s,mb3.5,baz=121,slow=8.4,SNR=2.7								
AKASG	**Malin Array Be**	**47.16**	**314**	P		**P**	**15 59 57.2**	**-0.8**	
	comp=Z,1.9nm,0.6s,mb4.2,baz=77,slow=7.3,SNR=4.8								
FINES	**FINESS Array B**	**50.82**	**328**	P		**P**	**16 00 23.7**	**-2.5**	
	comp=Z,1.4nm,0.8s,mb4.0,baz=101,slow=9.7,SNR=5.7								
ARCES	**ARCESS Array B**	**53.31**	**338**	P		**P**	**16 00 42.8**	**-2.1**	
	comp=Z,4.3nm,0.8s,mb4.4,baz=96,slow=7.6,SNR=7.0								
GERES	**GERESS Array B**	**57.20**	**312**	P		**P**	**16 01 13.1**	**-0.2**	
	comp=Z,0.2nm,0.3s,mb3.7,baz=72,slow=4.2,SNR=3.4								
YKA	**Yellowknife Ar**	**88.45**	**9**	P		**P**	**16 04 15.9**	**-1.0**	
	comp=Z,0.3nm,0.9s,mb3.5,baz=334,slow=4.6,SNR=5.0								

BJI ***29*** *15:52:30.7, 0.45N×97.48E, h39km, mB4.9, mb4.9, Ms4.5, Msz4.2*

IDC ***29*** *15:52:33.5±0.6, 0.74N×97.15E, h25km±3km, mb4.2/16, mb1 4.3/16, mb1mx4.2/21, mbtmp4.4/16, Error ellipse: s-maj=29.4km s-min=10.6km az=52.0*

NEIC ***29*** *15:52:34.3±0.4, 0.84N×97.30E, h30km, mb4.7/11, Error ellipse: s-maj=11.4km s-min=6.5km az=58.0*

ISC 29 15:52:31.9±0.5, 0.84N±0.06×97.32E±0.08, h25km, h25km±1.0km:pP-P, n43, σ0°88/44, mb4.5/33, MS4.1/2, 2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.53**	**37**	*e*P	**Pn**	**15 53 54.6**	**-0.2**
CM31	**Chiang Mai Arr** 13nm,0.6s	**17.58**	**5**	*e*P	**P**	**15 56 36.2**	**-0.9**
KKM	**Kota Kinabalu**	**19.55**	**74**	*e*P	**P**	**15 57 00.4**	**-0.5**
QIZ	**Qiongzhong**	**21.85**	**33**	*e*P	**P**	**15 57 24.5**	**-0.2**
KMI	**Kunming**	**24.70**	**12**	⇓P	**P**	**15 57 54.8**	**+2.2**
KMI				AP		15 58 02.5	
KMI				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.4						
LSA	**Lhasa**	**29.30**	**349**	*e*P	**P**	**15 58 36.0**	**+1.3**
	comp=Z,8.5nm,0.5s,mb4.7						
ENH	**Enshi**	**31.47**	**20**	*e*P	**P**	**15 58 52.0**	**-2.0**
	comp=Z,17nm,0.9s,mb4.9						
ENH				*e*	pP	15 58 59.1	-2.3
FITZ	**Fitzroy Crossi**	**33.62**	**125**	P	**P**	**15 59 12.5**	**-0.3**
	comp=Z,3.8nm,0.8s,mb4.4						
XAN	**Xi'an**	**34.77**	**17**	P	**P**	**15 59 21.3**	**-1.3**
XAN				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
GTA	**Gaotai**	**38.45**	**3**	*e*P	**P**	**15 59 54.0**	**+0.4**
GTA				AP	pP	16 00 02.3	+1.2
GTA				XP	sP	16 00 05.8	+1.5
GTA				PP	PP	16 01 23.3	-2.0
GTA				S	**S**	**16 05 39.5**	**-7.4**
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,53nm,5.3s						
GTA				LR	LR		
	comp=N,111nm,16.7s,MS4.0						
GTA				LR	LR		
	comp=E,157nm,17.1s,MS4.0						
GTA				LR	LR		
	comp=Z,142nm,14.1s,MS3.9						
NWAO	**Narrogin (SRO)**	**38.48**	**153**	P	**P**	**15 59 54.0**	**0.0**
	comp=Z,2.8nm,0.7s,mb4.1						
JOW	**Kunigami**	**39.40**	**46**	P	**P**	**16 00 02.1**	**+0.5**
	comp=Z,20nm,0.7s,mb5.0,baz=270,slow=7.1						
WRA	**Warramunga Arr**	**41.74**	**122**	P	**P**	**16 00 21.3**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.0,baz=301,slow=9.0,SNR=15						
WRA				pP	pP	16 00 28.9	+0.3
	comp=Z,1.6nm,0.4s,baz=303,slow=8.9,SNR=6.8						
WRAB	**Tennant Creek**	**41.75**	**122**	*e*P	**P**	**16 00 19.9**	**-1.2**
	comp=Z,4.2nm,0.5s,mb4.3						
WB2	**Warramunga Arr**	**41.75**	**122**	*e*P	**P**	**16 00 21.9**	**+0.8**
BJT	**Baijiatuau**	**42.60**	**21**	*e*P	**P**	**16 00 28.7**	**+0.8**
	comp=Z,23nm,0.6s,mb5.1						
BJI	**Beijing**	**42.63**	**21**	*e*P	**P**	**16 00 29.0**	**+1.0**
BJI				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.1						
ASAR	**Alice Springs**	**43.08**	**127**	P	**P**	**16 00 32.6**	**+0.7**
	comp=Z,1.3nm,0.6s,mb3.8,baz=296,slow=7.8,SNR=11						
ASAR				pP	pP	16 00 40.4	+0.9
	comp=Z,1.2nm,0.5s,baz=299,slow=8.2,SNR=9.6						
WMQ	**Urumqi**	**43.65**	**350**	*e*P	**P**	**16 00 36.5**	**+0.2**
WMQ				AP	pP	16 00 46.0	+2.2
WMQ				*e*S	**S**	**16 07 04.5**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,73nm,5.4s						
WMQ				LR	LR		
	comp=N,418nm,23.8s,MS4.4						
WMQ				LR	LR		
	comp=E,232nm,20.5s,MS4.4						
WMQ				LR	LR		
	comp=Z,276nm,22.9s,MS4.1						
AAK	**Ala-Archa**	**46.38**	**337**	*e*P	**P**	**16 00 58.2**	**+0.1**
	comp=Z,3.5nm,0.9s,mb4.3						
SNY	**Shenyang**	**47.17**	**27**	⇓P	**P**	**16 01 04.5**	**+0.1**
SONM	**Songino Array**	**47.47**	**8**	P	**P**	**16 01 07.2**	**+0.5**
	comp=Z,3.4nm,0.6s,mb4.5,baz=190,slow=9.4,SNR=27						
SONM				pP	pP	16 01 14.9	+0.6
	comp=Z,2.1nm,0.8s,baz=188,slow=10,SNR=5.8						
SONM				PcP	PcP	16 02 37.7	+0.6
	comp=Z,1.5nm,0.7s,baz=189,slow=3.7,SNR=4.8						
ULN	**Ulaanbaatar**	**47.60**	**9**	*e*P	**P**	**16 01 07.9**	**+0.3**
	comp=Z,6.2nm,1.0s,mb4.6						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**16 01 08.4**	**+0.5**
	comp=Z,9.9nm,0.5s,mb5.1,baz=162,slow=8.5,SNR=100						
MKAR				sP	sP	16 01 20.4	+1.9
	comp=Z,9.6nm,0.8s,baz=153,slow=8.1,SNR=12						
CN2	**Changchun**	**49.57**	**27**	*e*P	**P**	**16 01 22.5**	**-0.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.94**	**18**	*e*P	**P**	**16 01 40.3**	**-0.6**
	comp=Z,8.4nm,0.7s,mb4.8						
KURK	**Kurchatov**	**52.17**	**345**	*e*P	**P**	**16 01 41.8**	**-0.8**
	comp=Z,7.6nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**53.02**	**132**	P	**P**	**16 01 50.0**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.1,baz=308,slow=6.5,SNR=3.9						
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**	**16 02 14.5**	**-0.7**
	comp=Z,5.3nm,0.7s,mb4.7,baz=135,slow=8.4,SNR=24						
BVAR				pP	pP	16 02 20.9	-2.1
	comp=Z,2.4nm,0.6s,baz=135,slow=8.4,SNR=5.9						
CHKZ	**Chkalovo**	**57.10**	**341**	*e*P	**P**	**16 02 18.1**	**-0.6**
	comp=Z,14nm,0.8s,mb5.0						
ASF	**Jabal al Asfar**	**64.77**	**305**	P	**P**	**16 03 06.4**	**-4.5**
	comp=Z,1.4nm,0.3s,mb4.4,baz=166,slow=2.1,SNR=3.1						
BRTR	**Keskin Array B**	**69.44**	**312**	P	**P**	**16 03 38.1**	**-2.1**
	comp=Z,0.7nm,0.6s,mb3.8,baz=141,slow=9.2,SNR=3.4						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**16 04 15.6**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=89,slow=5.4,SNR=8.3						
AKASG				pP	pP	16 04 23.4	-1.1
	comp=Z,1.5nm,0.8s,baz=79,slow=5.8,SNR=3.2						
AKASG				sP	sP	16 04 27.7	+0.5
	comp=Z,0.2nm,0.2s,baz=41,slow=47,SNR=2.3						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**16 04 15.6**	**-0.9**
AKASG				pP	pP	16 04 23.4	-1.1
AKASG				sP	sP	16 04 27.7	+0.5
RPZ	**Rata Peaks**	**78.87**	**135**	P	**P**	**16 04 33.9**	**-0.8**
	comp=Z,1.1nm,0.9s,mb4.8,baz=333,slow=9.0,SNR=2.6						
FINES	**FINESS Array B**	**80.37**	**333**	P	**P**	**16 04 42.8**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1,baz=101,slow=9.7,SNR=7.0						
FINES				pP	pP	16 04 49.9	-0.5
	comp=Z,2.2nm,1.1s,baz=108,slow=6.0,SNR=2.0						
FINES	**FINESS Array B**	**80.37**	**333**	P	**P**	**16 04 42.8**	**+0.3**
FINES				pP	pP	16 04 49.9	-0.5
MORC	**Moravsky Berou**	**82.76**	**320**	P	**P**	**16 04 54.4**	**-0.7**
	comp=Z,3.1nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**82.91**	**340**	P	**P**	**16 04 56.8**	**+1.2**
	comp=Z,3.1nm,0.9s,mb4.4,baz=90,slow=6.3,SNR=5.5						
GERES	**GERESS Array B**	**85.16**	**319**	P	**P**	**16 05 08.7**	**+1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=104,slow=5.5,SNR=9.4						
GERES				pP	pP	16 05 16.5	+1.1
	comp=Z,0.3nm,0.4s,baz=90,slow=4.0,SNR=3.1						
NB2	**NORSAR Subarra**	**87.38**	**331**	P	**P**	**16 05 18.9**	**+0.9**
	comp=Z,0.2nm,0.7s,mb3.5,baz=94,slow=5.6						
NOA	**NORSAR Array B**	**87.38**	**331**	P	**P**	**16 05 18.4**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.3,baz=95,slow=4.8,SNR=7.6						
YKA	**Yellowknife Ar**	**112.41**	**15**	PP	PP	16 11 51.6	-4.5
	comp=Z,0.1nm,0.4s,baz=328,slow=6.6,SNR=3.6						

NEIC ***29*** *15:59:45.8, 16.07N×98.39W, h8km, MD3.9(MEX), After MEX.*

MEX 29 15:59:45.9±1.1, 16.08N×98.39W, h8km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.40**	**39**	*i* P	Pg	15 59 53.2	-0.8
PNIG				*i* S	Sg	15 59 59.4	-0.2
ACX	**Acapulco**	**1.66**	**298**	*i* P	Pn	16 00 13.0	-2.5
ACX				*i* S	Sn	16 00 32.1	-5.1
VHO	**Vista Hermosa**	**1.87**	**58**	*i* P	Pn	16 00 14.3	-4.3
VHO				*i* S	Sn	16 00 38.2	-4.3
OXX	**Oaxaca**	**1.88**	**58**	*i* P	Pn	16 00 16.1	-2.6
OXX				*i* S	Sn	16 00 39.7	-3.2
CAIG	**El Cayaco**	**2.04**	**298**	*i* P	Pn	16 00 15.6	-5.4
CAIG				*i* S	Sn	16 00 40.3	-6.6
PLIG	**Platanillo**	**2.54**	**335**	*e*P	Pn	16 00 27.5	-0.5
PLIG				*i* S	Sn	16 00 53.4	-6.0
PLIG	**Platanillo**	**2.54**	**335**	*i* P	Pn	16 00 25.0	-3.0
PLIG				*i* S	Sn	16 00 53.4	-6.0
YAIG	**Yautepec**	**2.84**	**347**	*i* P	Pn	16 00 32.7	+0.3
YAIG				*i* S	Sn	16 01 03.0	-4.2
YAIG	**Yautepec**	**2.84**	**347**	*e*P	Pn	16 00 29.7	-2.8
YAIG				*i* S	Sn	16 01 03.0	-4.2
PPM	**Popocatepetl**	**2.98**	**356**	*i* P	Pn	16 00 29.7	-4.7
PPM				*i* P		16 00 38.0	
PPM				*i* S	Sn	16 01 06.9	-3.8
PPM				*i* S	Sn	16 01 09.0	-1.7
PPM	**Popocatepetl**	**2.98**	**356**	*i* P	Pn	16 00 29.7	-4.7
PPM				*i* P		16 00 34.0	
PPM				*i* S	Sn	16 01 06.9	-3.8
PPM				*i* S	Sn	16 01 09.0	-1.7
IISM	**Ciudad Serdan**	**3.05**	**18**	*i* P	Pn	16 00 37.3	+1.9
IISM				*i* S	Sn	16 01 06.1	-6.4
IISM	**Ciudad Serdan**	**3.05**	**18**	*i* P	Pn	16 00 34.5	-0.9
IISM				*i* S	Sn	16 01 06.1	-6.4

IGQ 29 16:04:11.2, 1.04S×78.33W, h15km±1km, mb4.0, Error ellipse: s-maj=2.8km s-min=0.8km az=12.7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PISA	**Pisayambo**	**0.06**	**251**	P	Pb	16 04 14.7	+1.0
TAMB	**Tambo**	**0.34**	**353**	P	Pb	16 04 18.8	+0.3
VC1	**Cotopaxi 1**	**0.40**	**349**	P	Pb	16 04 19.8	+0.3
ULBA	**Ulba**	**0.42**	**191**	P	Pb	16 04 19.8	0.0
RETU	**Refugio**	**0.43**	**196**	P	Pb	16 04 20.3	+0.3
NAS1	**Nasa**	**0.43**	**339**	P	Pb	16 04 20.4	+0.4
CUSU	**Cusua**	**0.43**	**201**	P	Pb	16 04 21.2	+1.2
ARRY	**Arrayan**	**0.48**	**196**	P	Pb	16 04 20.9	0.0
ARRY				S	Sb	16 04 27.4	-0.1
IGUA	**Igualata**	**0.55**	**215**	P	Pb	16 04 22.8	+0.8
IGUA				S	Sb	16 04 30.9	+1.5
ANTI	**Antisana**	**0.61**	**16**	P	Pb	16 04 23.0	0.0
JUA2	**San Juan 2**	**0.86**	**341**	P	Pb	16 04 28.6	+1.1
PINO	**Pino**	**0.92**	**342**	P	Pb	16 04 29.7	+1.3
ELAGU	**Cayambe Volc**	**1.06**	**18**	P	Pb	16 04 31.2	+0.4
JOR1	**San Jorge 1**	**1.08**	**343**	P	Pb	16 04 28.0	-3.0
CAYR	**Refugio Cayamb**	**1.09**	**17**	P	Pb	16 04 32.2	+0.9
CAYR				S	Sb	16 04 46.1	+0.9
CAYA	**Cayambe**	**1.15**	**17**	P	Pb	16 04 33.9	+1.6
CONE	**Cono NE Rev Vo**	**1.18**	**35**	P	Pb	16 04 34.1	+1.3
ECEN	**Cerro Negro**	**1.88**	**11**	P	Pn	16 04 47.5	+4.2

IDC 29 16:05:15.4±4.3, 2.75N×95.71E, mb3.4/3, mb1 3.6/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=157.2km s-min=29.4km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 1.2nm,0.8s,baz=300,slow=9.2,SNR=8.3	**44.12**	**122**	P	P	16 13 25.8	-1.8
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=153,slow=8.8,SNR=7.1	**45.40**	**347**	P	P	16 13 35.3	-2.2
SONM	**Songino Array** 0.2nm,0.7s,baz=180,slow=8.6,SNR=2.8	**45.85**	**10**	P	P	16 13 39.8	-1.4

IDC ***29*** *16:10:43.2±1.3, 33.68S×71.94W, mb4.1/4, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, ML3.9/2, MS3.8/1, Ms1 3.7/1, ms1mx2.8/23, Error ellipse: s-maj=41.5km s-min=24.1km az=83.0*

GUC ***29*** *16:10:45.7±0.9, 33.75S×72.15W, h5km±4km, MD4.2, ML4.0*

NEIC ***29*** *16:10:45.7, 33.75S×72.15W, h5km, mb4.1/2, ML4.0(GUC), After GUC.*

ISC 29 16:10:43.2±0.6, 33.75S±0.03×72.29W±0.04, h5km, n35, σ0°92/48, mb4.0/5, MS3.7/1, 13C-6D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.66**	**66**	*i* P	**Pg**	**16 10 57.3**	**+0.9**
LNV	**Longovilo**	**0.76**	**106**	⇓*i* P	**Pg**	**16 10 59.2**	**+0.7**
IHA	**Instituto Hidr**	**0.90**	**37**	⇑*i* P	**Pb**	**16 11 02.1**	**+1.1**
IHA				*i* S	**Sb**	**16 11 14.0**	**+1.0**
TACH	**Talagante**	**1.13**	**86**	⇑*i* P	**Pb**	**16 11 04.5**	**-0.3**
RCDM	**Rinconada Maip**	**1.27**	**79**	⇑*i* P	**Pb**	**16 11 06.6**	**-0.6**
RCDM				*i* S	**Sb**	**16 11 22.1**	**-1.5**
RCDM				AMP		16 11 26.5	
	comp=E,4μm,0.4s						
PUEX	**Pudahuel**	**1.32**	**77**	⇑*i* P	**Pb**	**16 11 08.4**	**+0.3**
PUEX				*i* S	**Sb**	**16 11 25.5**	**+0.4**
PUEX				AMP		16 11 31.5	
	comp=N,9μm,0.4s						
ROCH	**El Roble**	**1.32**	**55**	⇑*i* P	**Pb**	**16 11 08.5**	**+0.4**
SFDO	**San Fernando**	**1.37**	**130**	⇑*i* P	**Pb**	**16 11 08.6**	**-0.3**
CHCH	**Chadas Angostu**	**1.38**	**98**	⇑*i* P	**Pb**	**16 11 08.7**	**-0.3**
PACH	**Papudo**	**1.40**	**31**	*e*P	**Pn**	**16 11 10.2**	**+0.7**
PACH				*i* S	**Sb**	**16 11 29.2**	**+1.6**
STL	**Santa Lucia**	**1.41**	**78**	⇑*i* P	**Pn**	**16 11 09.4**	**-0.3**
STL				*i* S	**Sb**	**16 11 26.9**	**-1.0**
STL				AMP		16 11 35.0	
	comp=E,2μm,0.6s						
CACH	**El Canelo**	**1.46**	**105**	⇑*i* P	**Pn**	**16 11 10.9**	**+0.7**
CACH				*i* S	**Sb**	**16 11 29.6**	**+0.5**
DSCH	**Colegio Aleman**	**1.48**	**77**	⇓*i* P	**Pn**	**16 11 10.6**	**0.0**
DSCH				*i* S	**Sb**	**16 11 29.6**	**-0.3**
DSCH				AMP		16 11 36.4	
	comp=E,9μm,0.4s						
PCH	**Pirque**	**1.49**	**86**	⇑*i* P	**Pn**	**16 11 10.4**	**-0.3**
CLCH	**Cerro Calan**	**1.51**	**77**	⇓*i* P	**Pn**	**16 11 10.8**	**-0.1**
CLCH				*i* S	**Sb**	**16 11 30.1**	**-0.5**
CLCH				AMP		16 11 45.5	
	comp=E,5μm,0.7s						
NICH	**Los Niches**	**1.53**	**145**	⇑*i* P	**Pn**	**16 11 12.1**	**+0.8**
SJCH	**San Jose de Ma**	**1.62**	**87**	*e*P	**Pn**	**16 11 12.4**	**-0.2**
SJCH				*i* S	**Sb**	**16 11 33.1**	**-0.8**
SJCH				AMP		16 11 38.7	
	comp=N,3μm,0.5s						
CICH	**Cipreses**	**1.66**	**111**	⇑*i* P	**Pn**	**16 11 13.2**	**+0.1**
FCH	**Farellones**	**1.72**	**77**	⇓*i* P	**Pn**	**16 11 14.4**	**+0.4**
FCH				*i* S	**Sn**	**16 11 37.1**	**+0.4**
FCH				AMP		16 11 42.5	
	comp=E,5μm,0.4s						
TALC	**Talca**	**1.73**	**162**	*e*P	**Pn**	**16 11 15.1**	**+0.9**
TALC				*i* S	**Sn**	**16 11 38.9**	**+1.9**
LMEL	**Las Melosas**	**1.74**	**94**	⇓*i* P	**Pn**	**16 11 14.4**	**0.0**
LMEL				*i* S	**Sn**	**16 11 36.7**	**-0.5**
LMEL				AMP		16 11 41.3	
	comp=N,5μm,0.4s						
JACH	**Jahuel**	**1.78**	**54**	⇓*i* P	**Pn**	**16 11 14.9**	**+0.1**
ZON	**Zonda**	**3.76**	**55**	*e*P	**Pn**	**16 11 45.0**	**+2.0**
CFAA	**Coronel Fontan**	**4.03**	**59**	Pn	**Pn**	**16 11 46.5**	**-0.4**
	comp=N,0.6nm,0.3s,baz=225,slow=11,SNR=32						
CFAA				Pg	**Pg**	**16 11 57.0**	**-6.7**
	comp=N,2.2nm,0.3s,baz=227,slow=14,SNR=34						
CFAA				Lg		16 12 41.9	
	comp=N,1.5nm,0.3s,baz=173,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**7.11**	**169**	Pn	**Pn**	**16 12 30.4**	**-0.1**
	comp=N,0.4nm,0.3s,baz=345,slow=13,SNR=7.1						
PLCA				Sn	**Sn**	**16 13 57.0**	**+4.5**
	baz=304,slow=22,SNR=1.6						
PLCA	**Paso Flores**	**7.11**	**169**	*e*P	**Pn**	**16 12 30.1**	**-0.3**
LPAZ	**La Paz**	**17.79**	**13**	P	**P**	**16 14 52.4**	**-0.8**
	comp=N,0.2nm,0.3s,baz=186,slow=8.7,SNR=12						
LPAZ	**La Paz**	**17.79**	**13**	*e*P	**P**	**16 14 52.4**	**-0.8**
	comp=N,6.2nm,0.9s						
SAML	**Samuel**	**26.07**	**21**	*e*P	**P**	**16 16 17.4**	**-2.1**
	comp=N,5.9nm,0.8s,mb4.2						
BDFB	**Brasilia**	**28.37**	**56**	P	**P**	**16 16 36.4**	**-4.0**
	comp=N,3.2nm,0.5s,mb4.2,baz=236,slow=6.1,SNR=4.6						
BDFB				LR	LR	16 29 22.8	
	comp=N,169nm,19.0s,MS3.7,baz=178,slow=40						
SNAA	**Sanae**	**51.90**	**158**	P	**P**	**16 19 52.3**	**-2.0**
	comp=N,0.8nm,0.8s,mb3.7,baz=263,slow=16,SNR=4.1						
TXAR	**Lajitas Array**	**69.41**	**331**	P	**P**	**16 21 53.6**	**-0.7**
	comp=N,0.3nm,0.5s,mb3.5,baz=140,slow=7.0,SNR=2.8						
DBIC	**Dimbokro**	**75.30**	**72**	P	**P**	**16 22 27.2**	**-2.3**
	comp=N,2.6nm,0.8s,mb4.2,baz=213,slow=8.8,SNR=3.9						
DBIC	**Dimbokro**	**75.30**	**72**	P	**P**	**16 22 27.2**	**-2.3**
CHKZ	**Chkalovo**	**147.12**	**41**	*e*PKPbc	PKPdf	16 30 27.3	+0.3

AUST 29 16:15:58.5, 22.14S×126.61E, h5km, ML3.5, Western Australia

NEIC ***29*** *16:16:53.7, 33.72S×72.21W, h26km, ML3.0(GUC), After GUC.*

GUC 29 16:16:53.7±0.6, 33.72S×72.21W, h26km±17km, MD3.9, ML3.0, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.59**	**65**	⇑*i* P	Pb	16 17 05.0	-0.4
LNV	**Longovilo**	**0.70**	**110**	⇓*i* P	Pb	16 17 06.9	-0.4
LNV				*i* S	Sb	16 17 18.6	0.0
TACH	**Talagante**	**1.06**	**87**	*e*P	Pn	16 17 12.3	-0.8
TACH				*i* S	Sb	16 17 26.5	-0.3
RCDM	**Rinconada Maip**	**1.19**	**79**	*e*P	Pn	16 17 14.5	-0.4
RCDM				AMP		16 17 32.3	
	comp=N,538nm,0.2s						
CHCH	**Chadas Angostu**	**1.31**	**100**	⇑*i* P	Pn	16 17 16.5	-0.1
CHCH				*i* S	Sn	16 17 34.1	+0.6
ANTU	**Antumapu**	**1.32**	**84**	*e*P	Pn	16 17 16.7	-0.1
ANTU				*i* S	Sn	16 17 34.0	+0.3
ANTU				AMP		16 17 36.2	
	comp=N,797nm,0.3s						
SFDO	**San Fernando**	**1.

h38km±1.3km**:pP-P,n188,**σ1§**03**/182,**mb5.0**/81,**MS4.1**/17,
24C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		
IPM	**Ipoh**	**4.26**	**49**	P	**P**	**16 22 20.4**	**+3.3**
KULM	**Kulim**	**4.50**	**39**	*e*P	**P**	**16 22 23.5**	**+2.9**
KGM	**Kluang**	**5.53**	**88**	P	**P**	**16 22 39.4**	**+4.4**
SNG	**Songkhla**	**6.05**	**28**	P	**P**	**16 22 44.0**	**+1.7**
	790nm,1.0s						
NNT	**Nongplab**	**10.90**	**10**	P	**P**	**16 23 51.3**	**+1.6**
NST	**Nakhon Sawan**	**13.99**	**9**	P	**P**	**16 24 35.0**	**+4.0**
KKTK	**Khon Kaen**	**15.28**	**19**	P	**P**	**16 24 52.0**	**+4.1**
	617nm,1.0s						
CM31	**Chiang Mai Arr**	**16.61**	**4**	*e*P	**P**	**16 25 04.8**	**+0.1**
	38nm,0.8s						
CHG	**Chiang Mai**	**16.96**	**4**	⇑P	**P**	**16 25 09.1**	**0.0**
	23nm,0.9s						
NANT	**Nan**	**17.15**	**9**	⇑P	**P**	**16 25 11.0**	**-0.5**
	102nm,0.9s						
KKM	**Kota Kinabalu**	**18.86**	**77**	*e*P	**P**	**16 25 33.9**	**+1.2**
KKM	**Kota Kinabalu**	**18.86**	**77**	P	**P**	**16 25 34.3**	**+1.5**
TSM	**Tawau**	**20.21**	**82**	P	**P**	**16 25 48.4**	**+0.9**
QIZ	**Qiongzhong**	**20.81**	**34**	⇓P	**P**	**16 25 52.5**	**-1.3**
QIZ				AMB	AMB		
	comp=Z,16nm,1.0s						
QIZ				LR	LR		
	comp=N,306nm,16.8s						
QIZ				LR	LR		
	comp=Z,388nm,18.8s,MS3.8						
QIZ	**Qiongzhong**	**20.81**	**34**	*e*P	**P**	**16 25 52.1**	**-1.6**
	comp=Z,19nm,0.9s						
KMI	**Kunming**	**23.69**	**11**	⇑P	**P**	**16 26 23.8**	**+1.5**
KMI				AP		16 26 31.8	
KMI				XP		16 26 36.5	
KMI				PP	PP	16 26 58.0	+2.3
KMI				S	**S**	**16 30 39.8**	**+8.5**
KMI				XS		16 30 54.0	
KMI				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=N,973nm,16.2s,MS4.4						
KMI				LR	LR		
	comp=E,378nm,17.9s,MS4.4						
KMI				LR	LR		
	comp=Z,1μm,16.4s,MS4.4						
HYB	**Hyderabad**	**24.47**	**311**	*e*P	**P**	**16 26 31.0**	**+1.0**
HYB	**Hyderabad**	**24.47**	**311**	*i* P	**P**	**16 26 31.0**	**+1.0**
JIRN	**Jiri**	**28.02**	**338**	*e*P	**P**	**16 27 03.3**	**+0.4**
	comp=Z,108nm,0.9s,mb5.5						
PKI	**Pulchoki**	**28.25**	**336**	*e*P	**P**	**16 27 05.3**	**+0.4**
	comp=Z,115nm,1.1s,mb5.4						
PKI	**Pulchoki**	**28.25**	**336**	*e*P	**P**	**16 27 05.3**	**+0.4**
PKI				pmax	pmax		
	comp=Z,58nm,1.1s,mb5.1						
GUN	**Gumba**	**28.36**	**337**	*e*P	**P**	**16 27 06.1**	**+0.1**
	comp=Z,172nm,0.9s,mb5.7						
DMN	**Daman**	**28.40**	**336**	*e*P	**P**	**16 27 06.1**	**-0.2**
	comp=Z,77nm,0.9s,mb5.3						
LSA	**Lhasa**	**28.47**	**348**	P	**P**	**16 27 08.0**	**+1.1**
LSA	**Lhasa**	**28.47**	**348**⇑	*e*P	**P**	**16 27 07.3**	**+0.4**
LSA				pmax	pmax		
	comp=Z,44nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.47**	**348**⇑	*e*P	**P**	**16 27 07.3**	**+0.4**
	comp=Z,44nm,1.0s,mb5.0						
KKN	**Kakani**	**28.49**	**336**	*e*P	**P**	**16 27 07.0**	**-0.1**
	comp=Z,158nm,1.1s,mb5.6						
KKN	**Kakani**	**28.49**	**336**	*e*P	**P**	**16 27 07.0**	**-0.1**
KKN				pmax	pmax		
	comp=Z,79nm,1.1s,mb5.3						
GKN	**Gorkha**	**28.95**	**335**	*e*P	**P**	**16 27 11.2**	**+0.1**
	comp=Z,109nm,1.0s,mb5.5						
KOLN	**Koldanda**	**29.19**	**334**	*e*P	**P**	**16 27 13.6**	**+0.3**
	comp=Z,103nm,0.8s,mb5.6						
CD2	**Chengdu**	**29.51**	**10**	*e*P	**P**	**16 27 15.3**	**-0.8**
ENH	**Enshi**	**30.43**	**20**	*e*P	**P**	**16 27 22.1**	**-2.2**
	comp=Z,16nm,0.7s,mb4.8						
XAN	**Xi'an**	**33.73**	**17**	P	**P**	**16 27 51.3**	**-1.8**
XAN				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.80**	**127**	*e*P	**P**	**16 27 52.6**	**-1.3**
	comp=Z,11nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**33.80**	**127**	P	**P**	**16 27 51.6**	**-2.2**
	comp=Z,17nm,0.8s,mb5.0,baz=297,slow=2.4,SNR=14						
FITZ				pP	pP	16 28 04.0	-0.6
	comp=Z,11nm,0.7s,baz=332,slow=4.3,SNR=5.3						
FITZ				LR	LR	16 41 26.7	
	comp=Z,115nm,19.0s,MS3.6,baz=287,slow=36						
LZH	**Lanzhou**	**34.59**	**9**	*e*P	**P**	**16 28 00.5**	**0.0**
LZH				AP	pP	16 28 07.5	-3.7
LZH				PP	PP	16 29 22.0	+4.5
LZH				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.3						
LZH				AMB	AMB		
	comp=Z,223nm,4.0s						
LZH				LR	LR		
	comp=E,506nm,14.5s						
LZH				LR	LR		
	comp=Z,697nm,16.0s,MS4.5						
SMLA	**Simla**	**35.10**	**328**	*i*	**P**	**16 27 55.7**	**-9.3**
NJ2	**Nanjing**	**36.06**	**31**	*e*P	**P**	**16 28 14.3**	**+1.2**
NJ2				AP	pP	16 28 26.0	+2.2
NJ2				XP	sP	16 28 28.3	-0.3
NJ2				PP	PP	16 29 39.5	+3.8
NJ2				S	**S**	**16 33 53.0**	**+4.1**
NJ2				XS		16 34 07.0	
NJ2				AMB	AMB		
	comp=Z,2μm,6.0s						
NJ2				LR	LR		
	comp=N,2μm,13.6s,MS5.0						
NJ2				LR	LR		
	comp=E,560nm,12.6s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,19.4s						
SSE	**Sheshan**	**36.60**	**35**	P	**P**	**16 28 16.0**	**-1.6**
SSE				AP	pP	16 28 25.0	-3.3
SSE				S	**S**	**16 33 57.8**	**+0.6**
SSE				XS		16 34 13.0	
SSE				AMB	AMB		
	comp=Z,43nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,55nm,5.6s						
SSE				LR	LR		
	comp=N,170nm,19.3s,MS3.9						
SSE				LR	LR		
	comp=E,93nm,19.2s,MS3.9						
SSE				LR	LR		
	comp=Z,265nm,18.6s,MS4.0						
KAKA	**Kakadu**	**37.29**	**114**	*e*P	**P**	**16 28 22.4**	**-1.1**
	comp=Z,17nm,0.7s,mb5.0						
GTA	**Gaotai**	**37.49**	**3**	*e*P	**P**	**16 28 24.5**	**-0.5**
GTA				AP	pP	16 28 37.5	+1.7
GTA				XP	sP	16 28 43.3	+2.7
GTA				PP	PP	16 29 52.0	-1.7
GTA				S	**S**	**16 34 05.3**	**-5.4**
GTA				AMB	AMB		
	comp=Z,26nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,170nm,4.9s						
GTA				LR	LR		
	comp=N,261nm,14.8s,MS4.3						
GTA				LR	LR		
	comp=E,190nm,14.1s,MS4.3						
GTA				LR	LR		
	comp=Z,247nm,18.2s,MS4.0						
MUN	**Mundaring**	**37.85**	**154**	*e*P	**P**	**16 28 33.8**	**+5.7**
	comp=Z,9.4nm,0.9s,mb4.5						
MUN	**Mundaring**	**37.85**	**154**	*e*P	**P**	**16 28 33.8**	**+5.7**
MUN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5						
KLBR	**Kellerberrin**	**38.23**	**152**	*e*P	**P**	**16 28 33.9**	**+2.7**
	comp=Z,97nm,0.8s,mb5.6						
NWAO	**Narrogin (SRO)**	**39.11**	**154**	P	**P**	**16 28 43.6**	**+5.1**
	comp=Z,5.5nm,0.7s,mb4.4,baz=311,slow=12,SNR=4.9						
HHC	**Hu-ho-hao-te**	**40.83**	**16**	*e*P	**P**	**16 28 54.3**	**+1.5**
HHC				AP	pP	16 29 04.0	+0.4
HHC				XP	sP	16 29 08.0	-0.3
HHC				PP	PP	16 30 33.0	+2.9
HHC				PCP	PcP	16 30 53.8	0.0
HHC				SCP		16 34 41.0	
HHC				PCS		16 34 43.0	
HHC				S	**S**	**16 35 04.3**	**+3.2**
HHC				XS		16 35 20.8	
HHC				SS	SS	16 38 03.5	+5.0
HHC				SCS	ScS	16 38 54.3	+1.8
HHC				AMB	AMB		
	comp=Z,18nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,125nm,5.1s						
HHC				LR	LR		
	comp=N,539nm,6.5s						
HHC				LR	LR		
	comp=E,309nm,4.5s						
HHC				LR	LR		
	comp=Z,400nm,17.7s,MS4.3						
BJT	**Baijiatuau**	**41.56**	**21**⇑	*e*P	**P**	**16 28 58.9**	**+0.1**
BJT				pmax	pmax		
	comp=Z,17nm,0.6s						
BJT	**Baijiatuau**	**41.56**	**21**⇑	*e*P	**P**	**16 28 58.9**	**+0.1**
	comp=Z,17nm,0.6s,mb4.9						
BJI	**Beijing**	**41.58**	**21**	*e*P	**P**	**16 28 59.5**	**+0.5**
BJI				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.9						
BJI				LR	LR		
	comp=Z,127nm,18.1s,MS3.8						
WRA	**Warramunga Arr**	**41.85**	**123**	P	**P**	**16 29 01.0**	**-0.4**
	comp=Z,20nm,1.0s,mb4.7,baz=301,slow=9.2,SNR=83						
WRA				pP	pP	16 29 11.8	-0.5
	comp=Z,19nm,0.6s,baz=302,slow=9.1,SNR=14						
WRA				PcP	PcP	16 30 57.0	-0.5
	comp=Z,3.0nm,0.8s,baz=307,slow=2.6,SNR=4.7						
WRA				pPcP		16 31 10.3	
	comp=Z,3.9nm,0.8s,baz=310,slow=2.8,SNR=6.9						
WRA				S	**S**	**16 35 10.8**	**-5.6**
	comp=Z,2.0nm,1.0s,baz=290,slow=20,SNR=5.1						
WRAB	**Tennant Creek**	**41.85**	**123**	P	**P**	**16 29 01.0**	**-0.5**
	comp=Z,205nm,0.6s,mb5.9,SNR=11						
WRAB	**Tennant Creek**	**41.85**	**123**	*i* P	**P**	**16 29 01.5**	**0.0**
WRAB	**Tennant Creek**	**41.85**	**123**	*e*P	**P**	**16 29 01.0**	**-0.5**
	comp=Z,43nm,0.7s,mb5.2						
WB2	**Warramunga Arr**	**41.86**	**123**	*e*P	**P**	**16 29 00.9**	**-0.6**
KSH	**Kashi**	**42.49**	**335**	*e*P	**P**	**16 29 06.0**	**-0.4**
KSH				*e*AP	pP	16 29 16.0	-1.3
KSH				*e*XP	sP	16 29 21.0	-1.0
KSH				AMB	AMB		
	comp=Z,380nm,5.2s						
WMQ	**Urumqi**	**42.81**	**349**⇓	*i* P	**P**	**16 29 10.0**	**+1.0**
WMQ				AP	pP	16 29 19.5	-0.3
WMQ				XP	sP	16 29 23.5	-1.0
WMQ				PP	PP	16 30 52.0	+1.2
WMQ				PPP	PPP	16 31 26.0	+0.7
WMQ				S	**S**	**16 35 32.5**	**+2.4**
WMQ				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,274nm,3.6s						
WMQ				LR	LR		
	comp=N,913nm,31.2s,MS4.6						
WMQ				LR	LR		
	comp=E,670nm,27.8s,MS4.6						
WMQ				LR	LR		
	comp=Z,688nm,26.6s,MS4.4						
ASPA	**Alice Springs**	**43.28**	**128**	*e*P	**P**	**16 29 12.7**	**-0.4**
ASAR	**Alice Springs**	**43.28**	**128**	P	**P**	**16 29 12.8**	**-0.3**
	comp=Z,3.5nm,0.8s,mb4.2,baz=299,slow=7.2,SNR=37						
ASAR				PcP	PcP	16 31 03.0	+0.8
	comp=Z,1.4nm,0.8s,baz=343,slow=1.6,SNR=4.4						
ASAR				S	**S**	**16 35 32.8**	**-4.6**
	comp=Z,0.8nm,0.8s,baz=292,slow=15,SNR=3.6						
ASAR				LR	LR	16 48 38.9	
	comp=Z,97nm,20.3s,MS3.7,baz=302,slow=38						
FORT	**Forrest**	**43.35**	**141**	*i* P	**P**	**16 29 15.3**	**+1.7**
	comp=Z,786nm,0.6s						
KZA	**Kyzart**	**44.93**	**336**	P	**P**	**16 29 27.4**	**+1.3**
	SNR=13						
KS15	**Wonju Array Si**	**45.00**	**34**	*e*P	**P**	**16 29 26.3**	**-0.5**
TKM2	**Tokmak 2**	**45.51**	**337**	P	**P**	**16 29 31.4**	**+0.7**
	SNR=37						
KBK	**Karagaybulak**	**45.54**	**336**	P	**P**	**16 29 32.2**	**+1.2**
	SNR=48						
AAK	**Ala-Archa**	**45.70**	**336**	P	**P**	**16 29 32.7**	**+0.4**
	comp=Z,86nm,1.0s,mb5.6,SNR=31						
AAK	**Ala-Archa**	**45.70**	**336**	*e*P	**P**	**16 29 32.2**	**-0.1**
AAK				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.0						
AAK	**Ala-Archa**	**45.70**	**336**	*e*P	**P**	**16 29 32.2**	**-0.1**
	comp=Z,17nm,0.8s,mb5.0						
FRU	**Bishkek**	**45.82**	**336**	*e*P	**P**	**16 29 34.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,70nm,2.0s,mb5.2						
CHMS	**Chumysh**	**45.90**	**336**	P	**P**	**16 29 34.3**	**+0.5**
	SNR=14						
EKS2	**Erkin-Say**	**46.02**	**335**	P	**P**	**16 29 36.0**	**+1.2**
	SNR=34						
USP	**Ospenovka**	**46.23**	**336**	P	**P**	**16 29 37.1**	**+0.7**
	SNR=73						
SONM	**Songino Array**	**46.47**	**8**	P	**P**	**16 29 38.6**	**+0.4**
	comp=Z,31nm,0.8s,mb5.3,baz=188,slow=9.0,SNR=242						
SONM				sP	sP	16 29 51.7	-2.1
	comp=Z,6.3nm,0.6s,baz=187,slow=9.9,SNR=6.1						
SONM				PcP	PcP	16 31 12.7	-0.2
	comp=Z,4.6nm,0.8s,baz=207,slow=3.3,SNR=4.5						
SONM				LR	LR	16 51 17.9	
	comp=Z,354nm,19.2s,MS4.3,baz=188,slow=39						
ULN	**Ulaanbaatar**	**46.59**	**9***c*	*i* P	**P**	**16 29 39.3**	**+0.1**
MKAR	**Makanchi Array**	**46.82**	**345**	P	**P**	**16 29 41.1**	**+0.1**
	comp=Z,80nm,0.8s,mb5.7,baz=158,slow=7.5,SNR=574						
MKAR				pP	pP	16 29 52.5	+0.5
	comp=Z,37nm,0.9s,baz=149,slow=7.1,SNR=7.1						
MKAR				sP	sP	16 29 56.1	-0.4
	comp=Z,36nm,0.9s,baz=159,slow=5.9,SNR=7.1						
MKAR				LR	LR	16 52 20.2	
	comp=Z,107nm,21.7s,MS3.8,baz=161,slow=40						
GUMO	**Guam**	**48.00**	**73**	LR	LR	16 50 29.2	
	comp=Z,60nm,18.1s,MS3.6,baz=220,slow=37						
CN2	**Changchun**	**48.52**	**27**	*e*P	**P**	**16 29 53.5**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
ZAK	**Zakamensk**	**48.64**	**5**	*i* P	**P**	**16 29 55.5**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TLY	**Talaya**	**49.96**	**5**⇑	*e*P	**P**	**16 30 05.8**	**+0.5**
TLY				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
TLY	**Talaya**	**49.96**	**5**⇑	*e*P	**P**	**16 30 05.8**	**+0.5**
	comp=Z,21nm,1.2s,mb5.0						
IRK	**Irkutsk**	**50.57**	**5**	*e*P	**P**	**16 30 09.8**	**-0.2**
IRK				*e*		16 32 07.2	
IRK				pmax	pmax		
	comp=Z,28nm,2.0s,mb4.8						
MAT	**Matsushiro**	**50.86**	**42**	*e*P	**P**	**16 30 11.0**	**-1.4**
MAT				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
MAT	**Matsushiro**	**50.86**	**42**	*e*P	**P**	**16 30 11.0**	**-1.4**
	comp=Z,20nm,1.0s,mb5.0						
MAT	**Matsushiro**	**50.86**	**42**	P	**P**	**16 30 11.1**	**-1.3**
HIA	**Hailar**	**50.90**	**18**⇑	*e*P	**P**	**16 30 11.9**	**-0.6**
HIA				pmax	pmax		
	comp=Z,19nm,0.8s						
HIA	**Hailar**	**50.90**	**18**⇑	*e*P	**P**	**16 30 11.9**	**-0.6**
	comp=Z,19nm,0.8s,mb5.1						
KURK	**Kurchatov**	**51.38**	**345**⇑	*i* P	**P**	**16 30 15.9**	**-0.2**
KURK				*e**PP	pP	16 30 28.5	+1.4
KURK				pmax	pmax		
	comp=Z,70nm,0.9s,mb5.6						
KURK	**Kurchatov**	**51.38**	**345**⇑	*i* P	**P**	**16 30 15.8**	**-0.3**
	comp=Z,70nm,0.9s,mb5.6						
KURK				*e*pP	pP	16 30 28.5	+1.4
CTA	**Charters Tower**	**52.24**	**117**	*e*P	**P**	**16 30 23.2**	**+0.2**
	comp=Z,8.3nm,0.9s,mb4.7						
CTA	**Charters Tower**	**52.24**	**117**	*e*P	**P**	**16 30 23.2**	**+0.2**
CTA				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CTA	**Charters Tower**	**52.24**	**117**	P	**P**	**16 30 22.5**	**-0.5**
	comp=Z,6.7nm,0.8s,mb4.7,baz=235,slow=7.3,SNR=4.5						
STKA	**Stephens Creek**	**53.31**	**133**	*e*P	**P**	**16 30 31.1**	**+0.2**
	comp=Z,8.5nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**53.31**	**133**	P	**P**	**16 30 30.2**	**-0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=321,slow=11,SNR=14						
STKA				pP	pP	16 30 41.2	-0.7
	comp=Z,7.4nm,0.6s,baz=311,slow=4.9,SNR=8.5						
NVS	**Novosibirsk**	**54.20**	**350**⇑	*i* P	**P**	**16 30 35.5**	**-1.6**
NVS				*e**PP	pP	16 30 51.3	+3.1
NVS				*e*S	**S**	**16 38 00.8**	**-9.1**
NVS				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.1						
NVS				pmax	pmax		
	comp=N,18nm,0.9s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.9s						
NVS				smax			
	comp=N,11nm,1.8s						
NVS				smax			
	comp=E,7.0nm,1.8s						
RAYN	**Ar Rayn**	**55.01**	**298**	P	**P**	**16 30 42.9**	**-0.5**
	comp=E,52nm,0.9s,SNR=15						
KAMS	**Al Khamasin**	**55.07**	**294**	P	**P**	**16 30 43.0**	**-0.9**
ATD	**Arta Tunnel**	**55.33**	**283**	LR	LR	16 52 05.0	
	comp=E,77nm,18.6s,MS3.8,baz=129,slow=33						
KLR	**Kul'dur**	**55.47**	**26**	*e*P	**P**	**16 30 43.3**	**-3.0**
DJNS	**Zahran al Janu**	**55.52**	**290**	P	**P**	**16 30 48.3**	**+1.2**
BVA0	**Borovoye Array**	**55.90**	**340**	*i* P	**P**	**16 30 48.3**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**55.90**	**340**	P	**P**	**16 30 48.3**	**-1.1**
	comp=Z,18nm,0.8s,mb5.2,baz=143,slow=7.4,SNR=73						
BVAR				pP	pP	16 31 00.5	0.0
	comp=Z,16nm,0.6s,baz=145,slow=9.3,SNR=13						
CHKZ	**Chkalovo**	**56.36**	**341**⇑	*i* P	**P**	**16 30 51.9**	**-0.8**
CHKZ				*e**PP	pP	16 31 03.6	-0.3
CHKZ				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.4						
CHKZ	**Chkalovo**	**56.36**	**341**⇑	*i* P	**P**	**16 30 51.9**	**-0.8**
	comp=Z,34nm,0.8s,mb5.4						
CHKZ				*e*pP	pP	16 31 03.6	-0.3
AFFS	**'Afif**	**57.33**	**297**	P	**P**	**16 30 59.9**	**-0.1**
BOD	**Bodaibo**	**57.33**	**10**	*e*P	**P**	**16 30 58.3**	**-1.3**
BOD				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.8						
CLNS	**Chul'man**	**59.01**	**17**	*e*P	**P**	**16 31 08.6**	**-2.7**
CLNS				pmax	pmax		
	comp=Z,23nm,0.8s,mb5.3						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.6s						
YSS	**Yuzh-Sakhalins**	**59.53**	**34**⇓	*i* P	**P**	**16 31 15.0**	**-0.1**
YSS				*e*	pP	16 31 27.4	+1.1
YSS				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.7						
YSS	**Yuzh-Sakhalins**	**59.53**	**34**	*e*P	**P**	**16 31 15.1**	**0.0**
	comp=Z,68nm,0.9s,mb5.7						
KMBO	**Kilima Mbogo**	**60.60**	**268**	P	**P**	**16 31 23.7**	**+0.9**
KMBO				*e*	pP	16 31 35.8	+1.8
KMBO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KMBO	**Kilima Mbogo**	**60.60**	**268**	P	**P**	**16 31 23.7**	**+0.9**
	comp=Z,0.7nm,0.6s,mb4.0,baz=63,slow=6.8,SNR=3.6						
KMBO				pP	pP	16 31 34.2	+0.1
	comp=Z,3.4nm,0.8s,baz=47,slow=9.9,SNR=6.6						
KMBO	**Kilima Mbogo**	**60.60**	**268**	P	**P**	**16 31 23.7**	**+0.9**
	comp=Z,3.5nm,0.8s,mb4.5						
KMBO				*e*	pP	16 31 35.8	+1.7
TI2	**Plekhanov**	**61.94**	**317**	*i* P	**P**	**16 31 31.0**	**-0.5**
ARU	**Arti**	**62.88**	**337**	⇓*i* P	**P**	**16 31 36.6**	**-0.9**
ARU				*e*		16 32 10.2	
ARU				*e*		16 33 54.0	
ARU				*e*S	**S**	**16 40 05.2**	**+2.5**
ARU				*e*SS	SS	16 44 11.1	+0.9
ARU				pmax	pmax		
	comp=Z,21nm,1.0s,mb5.2						
HNR	**Honiara**	**62.90**	**101**	P	**P**	**16 31 37.0**	**-1.2**
	comp=Z,34nm,0.8s,mb5.6,baz=233,slow=5.1,SNR=4.1						
ZEI	**Tsey**	**62.95**	**318**	*e*P	**P**	**16 31 37.9**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**64.25**	**319***c*	*i* P	**P**	**16 31 45.6**	**-1.1**
KIV				*e*	pP	16 31 57.5	-0.6
KIV				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.1						
KIV	**Kislovodsk**	**64.25**	**319**⇑	*e*P	**P**	**16 31 45.8**	**-0.9**
	comp=Z,33nm,1.0s,mb5.3						
GOF	**Gofitskoye**	**64.49**	**320**	*e*P	**P**	**16 31 47.0**	**-1.2**
ASF	**Jabal al Asfar**	**64.61**	**305**	P	**P**	**16 31 49.4**	**+0.1**
	comp=Z,1.3nm,0.3s,mb4.5,baz=320,slow=1.6,SNR=5.0						
YAK	**Yakutsk**	**64.70**	**16**	*e*P	**P**	**16 31 47.6**	**-1.7**
YAK				*e*S	**S**	**16 40 24.5**	**-0.7**
YAK				*e**SS		16 41 01.3	
YAK				*e*		16 41 29.9	
YAK				pmax	pmax		
	comp=Z,33nm,1.0s,mb5.3						
YAK				pmax	pmax		
	comp=N,13nm,1.2s						
YAK				pmax	pmax		
	comp=E,8.0nm,1.2s						
YAK				smax			
	comp=N,2.0nm,0.9s						
YAK	**Yakutsk**	**64.70**	**16**⇑	*i* P	**P**	**16 31 48.0**	**-1.3**
	comp=N,42nm,0.8s,mb5.5						
MALT	**Malatya**	**65.18**	**312**⇑	*e*P	**P**	**16 31 52.5**	**-0.3**
MALT				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
MALT	**Malatya**	**65.18**	**312**⇑	*e*P	**P**	**16 31 52.5**	**-0.3**
	comp=Z,6.9nm,0.8s,mb4.7						
EIL	**Elat**	**65.65**	**302**	P	**P**	**16 31 55.4**	**-0.5**
	comp=Z,2.8nm,0.5s,mb4.6,baz=46,slow=7.7,SNR=7.4						
EIL				pP	pP	16 32 05.8	-1.6
	comp=Z,5.1nm,0.6s,baz=86,slow=9.8,SNR=3.1						
EIL	**Elat**	**65.65**	**302**	*e*P	**P**	**16 31 55.5**	**-0.4**
	comp=Z,6.6nm,0.6s,mb4.8						
SOC	**Sochi**	**66.08**	**318**	*e*P	**P**	**16 31 55.4**	**-3.1**
SOC				*e*		16 32 33.7	
SOC				*e*PPP	PPP	16 35 54.4	-7.2
SOC				*e*S	S	16 40 42.7	+0.2
SOC				*e*		16 41 47.8	
SOC				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.4						
SOC				pmax	pmax		
	comp=N,16nm,0.9s						
SOC				pmax	pmax		
	comp=E,24nm,1.0s						
BRTR	**Keskin Array B**	**69.16**	**312**	P	**P**	**16 32 16.2**	**-1.6**
	comp=E,3.9nm,0.8s,mb4.4,baz=134,slow=7.3,SNR=16						
BRTR				pP	pP	16 32 27.8	-1.5
	comp=E,6.1nm,0.7s,baz=131,slow=7.2,SNR=13						
SIM	**Simferopol'**	**70.33**	**317**	P	**P**	**16 32 24.5**	**-0.4**
SIM				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MA2	**Magadan**	**70.55**	**26**	*e*P	**P**	**16 32 26.0**	**+0.1**
MA2				*e*S	S	16 41 35.6	+0.2
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,m

SUR	**Sutherland**	**79.98**	**237**	LR	LR	17 01 45.8		
	comp=Z,233nm,18.9s,MS4.5,baz=49,slow=30							
BILL	**Bilibino**	**80.41**	**21**	*i* P	**P**	**16 33 22.8**	**+0.8**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.1s,mb4.1							
PKSM	**Moragy**	**81.20**	**316**⇑	*e*P	**P**	**16 33 26.3**	**-0.3**
TSUM	**Tsumeb**	**81.34**	**250**	P	**P**	**16 33 29.0**	**+1.1**
	comp=Z,3.4nm,0.9s,mb4.3,baz=60,slow=2.2,SNR=4.2							
TSUM				sP	sP	16 33 41.4	-2.2	
	comp=Z,8.3nm,1.0s,baz=110,slow=4.0,SNR=7.0							
TSUM				LR	LR	17 04 54.1		
	comp=Z,149nm,20.1s,MS4.3,baz=147,slow=32							
TSUM	**Tsumeb**	**81.34**	**250**	P	**P**	**16 33 29.0**	**+1.2**
TSUM				sP	sP	16 33 41.4	-2.2	
KEV	**Kevo**	**81.75**	**341**	*e*p	**P**	**16 33 27.3**	**-1.6**
	comp=Z,20nm,1.0s,mb5.0							
KEV	**Kevo**	**81.75**	**341**	*e*P	**P**	**16 33 27.3**	**-1.6**
KEV				pmax	pmax			
	comp=Z,20nm,1.0s,mb5.0							
ARCES	**ARCESS Array B**	**82.19**	**340**	P	**P**	**16 33 31.4**	**+0.2**
	comp=Z,5.7nm,0.8s,mb4.6,baz=93,slow=5.4,SNR=24							
ARCES				pP	pP	16 33 42.0	-0.9	
	comp=Z,6.2nm,0.7s,baz=100,slow=5.1,SNR=4.3							
ZST	**Bratislava**	**82.46**	**318**	*e*P	**P**	**16 33 32.3**	**-0.7**
ZST				*e*pP	pP	16 33 44.8	+0.1	
BOJS	**Bojanci**	**83.49**	**315**	*e*P	**P**	**16 33 38.6**	**+0.2**
BOJS				*e*	pP	16 33 50.8	+0.8	
PERS	**Pernice**	**83.67**	**317**	*i* P	**P**	**16 33 39.7**	**+0.5**
PERS				*e*	pP	16 33 52.5	+1.6	
LJU	**Ljubljana**	**84.04**	**316**	*e*P	**P**	**16 33 41.8**	**+0.7**
SDI	**San Donato**	**84.32**	**312**	*e*P	sP	16 33 55.5	-2.9	
BRG	**Berggiesshubel**	**84.73**	**321**	*e*P	**P**	**16 33 44.4**	**-0.1**
BRG				*e*	pP	16 33 53.3	-2.9	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.6							
BRG	**Berggiesshubel**	**84.73**	**321**	*e*P	**P**	**16 33 44.4**	**-0.1**
	comp=Z,5.4nm,1.0s,mb4.6							
BRG				*e*	pP	16 33 53.3	-2.9	
GERES	**GERESS Array B**	**84.76**	**319**	P	**P**	**16 33 44.9**	**+0.2**
	comp=Z,1.0nm,0.4s,mb4.3,baz=101,slow=6.8,SNR=19							
GERES				pP	pP	16 33 54.5	-1.9	
	comp=Z,3.0nm,0.8s,baz=117,slow=3.0,SNR=5.6							
KHC	**Kasperske Hory**	**84.86**	**319**	*e*P	**P**	**16 33 45.0**	**-0.2**
KHC				*e*	pP	16 33 58.5	+1.6	
KHC	**Kasperske Hory**	**84.86**	**319**	*e*P	**P**	**16 33 45.0**	**-0.2**
KHC				pP	pP	16 33 58.5	+1.6	
PTCC	**Patocco-Chiusa**	**84.87**	**316**	*e*P	**P**	**16 33 45.6**	**+0.3**
ARV	**Arcevia**	**85.03**	**313**	*e*P	**P**	**16 33 47.3**	**+1.1**
CLL	**Collm**	**85.35**	**321**	P	**P**	**16 33 51.0**	**+3.5**
HFS	**Hagfors**	**85.51**	**330**	P	**P**	**16 33 48.2**	**0.0**
	comp=Z,8.5nm,0.9s,mb5.0,baz=117,slow=3.3,SNR=13							
HFS				pP	pP	16 34 00.2	+0.4	
	comp=Z,2.9nm,0.5s,baz=108,slow=4.7,SNR=4.9							
CTI	**Castel Tesino**	**86.04**	**316**	*e*P	pP	16 34 05.1	+2.3	
VNDA	**Vanda**	**86.28**	**169**	pP	pP	16 34 05.0	+1.7	
	comp=Z,1.4nm,0.8s,baz=332,slow=5.8,SNR=4.9							
GRA1	**Grafenberg Arr**	**86.42**	**319**	*e*P	**P**	**16 33 53.8**	**+1.0**
GRF	**Grafenberg Arr**	**86.42**	**319**	*e*P	**P**	**16 33 53.8**	**+1.0**
NB2	**NORSAR Subarra**	**86.78**	**331**	P	**P**	**16 33 54.4**	**+0.1**
	comp=Z,6.8nm,0.8s,mb4.9,baz=94,slow=4.8							
NB2	**NORSAR Subarra**	**86.78**	**331**	P	**P**	**16 33 54.4**	**+0.1**
NB2				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.9							
NOA	**NORSAR Array B**	**86.78**	**331**	P	**P**	**16 33 54.5**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.9,baz=94,slow=4.9,SNR=27							
NOA				pP	pP	16 34 06.8	+0.7	
	comp=Z,3.4nm,0.6s,baz=94,slow=4.9,SNR=9.1							
SBA	**Scott Base**	**87.38**	**169**	*e*P	**P**	**16 33 59.4**	**+2.5**
SBA				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.8							
SBA	**Scott Base**	**87.38**	**169**	*e*P	**P**	**16 33 59.4**	**+2.4**
	comp=Z,5.9nm,0.9s,mb4.8							
LPG	**La Plagne**	**89.47**	**315**	*e*P	**P**	**16 34 07.8**	**+0.2**
	comp=Z,10nm,0.8s,mb4.9							
MAIT	**Maitri**	**90.37**	**199**	*e*P	**P**	**16 34 13.3**	**+2.1**
EKA	**Eskdalemuir Ar**	**94.76**	**326**	P	**P**	**16 34 32.5**	**+0.7**
	comp=Z,3.7nm,0.9s,mb4.8,baz=34,slow=9.0,SNR=6.8							
IMA	**Indian Mountai**	**95.81**	**23**	*e*P	**P**	**16 34 36.9**	**+0.6**
YKA	**Yellowknife Ar**	**111.37**	**15**	PKiKP		16 39 44.0		
	comp=Z,0.1nm,0.4s,baz=304,slow=2.5,SNR=3.6							
YKA				PP	PP	16 40 17.5	-10	
	comp=Z,0.7nm,1.0s,baz=331,slow=8.0,SNR=4.6							
YKA	**Yellowknife Ar**	**111.37**	**15**	PKPdf	PKPdf	16 39 44.0	+1.3	
YKA				PP	PP	16 40 17.5	-10	
SCHQ	**Schefferville**	**122.16**	**350**	PKP	PKPdf	16 40 05.1	+1.2	
	comp=Z,0.5nm,0.4s,baz=309,slow=7.3,SNR=4.1							
SCHQ	**Schefferville**	**122.16**	**350**	PKP	PKPdf	16 40 05.1	+1.2	
ULM	**Lac du Bonnet**	**126.85**	**11**	PKP	PKPdf	16 40 13.4	+0.3	
	comp=Z,1.5nm,0.6s,baz=253,slow=6.1,SNR=4.2							
PDAR	**Pinedale Array**	**129.26**	**26**	PKP	PKPdf	16 40 19.8	+1.9	
	comp=Z,0.5nm,0.7s,baz=180,slow=1.5,SNR=4.3							
PDAR				PP	PP	16 42 26.4	-5.0	
	comp=Z,1.3nm,1.0s,baz=315,slow=2.1,SNR=5.8							
BDFB	**Brasilia**	**143.59**	**246**	pPKP		16 40 57.0		
	comp=Z,3.8nm,0.7s,baz=151,slow=5.6,SNR=3.8							
NATX	**Nacogdoches**	**144.61**	**18**	*e*PKP	PKPdf	16 40 46.6	+0.4	
LRAL	**Lakeview Retre**	**145.07**	**7**	*e*PKP	PKPdf	16 40 45.9	-1.2	
LPAZ	**La Paz**	**160.00**	**223**	PKP	PKPdf	16 41 10.7	+1.7	
	comp=Z,0.3nm,0.4s,baz=219,slow=1.8,SNR=3.8							
LPAZ				pPKP		16 41 23.9		
	comp=Z,0.9nm,0.8s,baz=64,slow=12,SNR=3.6							

*IDC **29** 16:27:39.8±2.5,24.06S×179.95E,h477km±25km, mb3.6/6, mb1 3.8/6,mb1mx3.6/12,mbtmp4.5/6, Error ellipse: s-maj=85.6km s-min=22.1km az=164.0*

*NEIC **29** 16:27:46.5±2.4,24.41S×179.72E,h552km±25km, mb4.3/6, Error ellipse: s-maj=23.6km s-min=18.6km az=203.0*

ISC 29 16:27:47.1±3.5,24.4S±0.2×179.6E±0.2,h570km±40km, n20,σ0°80/21,mb4.1/10,2C-1D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.34**	**278**	P	**P**	**16 30 29.8**	**+0.5**
	0.4nm,0.3s,baz=107,slow=17,SNR=5.6						
CTA	**Charters Tower**	**31.13**	**271**	P	**P**	**16 33 22.6**	**+1.0**
	11nm,0.4s,mb4.7,baz=93,slow=11,SNR=26						
CTAO	**Charters Tower**	**31.13**	**271**	*e*P	**P**	**16 33 22.1**	**+0.5**
	13nm,0.5s,mb4.7						
STKA	**Stephens Creek**	**34.21**	**249**	*e*P	**P**	**16 33 47.3**	**0.0**
	1.6nm,0.4s,mb3.9						
STKA	**Stephens Creek**	**34.21**	**249**	P	**P**	**16 33 47.1**	**-0.2**
	2.1nm,0.4s,mb4.0,baz=98,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**34.21**	**249**	*e*P	**P**	**16 33 46.9**	**-0.3**
ASAR	**Alice Springs**	**41.61**	**261**	P	**P**	**16 34 47.7**	**+0.1**
	1.1nm,0.4s,mb3.8,baz=86,slow=6.6,SNR=27						
ASAR				S	**S**	**16 40 33.1**	**+8.9**
	0.2nm,0.7s,baz=96,slow=16,SNR=5.4						
ASPA	**Alice Springs**	**41.61**	**261**	*e*P	**P**	**16 34 47.9**	**+0.3**
WB2	**Warramunga Arr**	**42.02**	**267**	⇓*i*P	**P**	**16 34 50.6**	**-0.2**
WB2				*e*		16 35 11.8		
WRAB	**Tennant Creek**	**42.02**	**267**	*e*P	**P**	**16 34 50.4**	**-0.5**
	4.6nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**42.03**	**267**	P	**P**	**16 34 50.5**	**-0.4**
	5.0nm,0.4s,mb4.4,baz=99,slow=8.2,SNR=89						
WRA				ScP		16 39 37.3		
	1.9nm,0.8s,baz=100,slow=3.8,SNR=16							
FORT	**Forrest**	**45.81**	**250**	*e*P	**P**	**16 35 18.9**	**-1.3**
	231nm,0.7s							
KAKA	**Kakadu**	**46.01**	**276**	*e*P	**P**	**16 35 21.7**	**-0.2**
	6.0nm,0.7s,mb4.2							
FITZ	**Fitzroy Crossi**	**50.44**	**266**	*e*P	**P**	**16 35 55.2**	**+0.2**
	5.2nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**50.44**	**266**	P	**P**	**16 35 55.1**	**0.0**
	7.4nm,0.6s,mb4.3,baz=136,slow=4.7,SNR=14							
QSPA	**South Pole Qui**	**65.67**	**180**	*e*P	**P**	**16 37 35.3**	**-1.4**
	1.8nm,0.6s,mb3.8							
VNA3	**Neumayer Olymp**	**84.39**	**177**⇑	*i*	**P**	**16 39 21.8**	**+1.7**
VNA2	**Neumayer--Watz**	**84.80**	**178**⇑	*i*	**P**	**16 39 23.2**	**+1.0**
ENH	**Enshi**	**86.45**	**305**	P	**P**	**16 39 31.8**	**+0.8**
	2.5nm,0.4s,mb4.2						
TXAR	**Lajitas Array**	**91.00**	**58**	P	**P**	**16 39 51.3**	**-0.9**
	0.6nm,0.6s,mb3.7,baz=225,slow=7.7,SNR=4.9						

*NEIC **29** 16:28:27.1,34.69S×72.33W,h26km,ML2.9(GUC),After GUC.*

GUC 29 16:28:27.1±0.6,34.69S×72.33W,h26km±3km,MD3.7, ML2.9,1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LNV	**Longovilo**	**1.05**	**46**	*e*P	Pn	16 28 45.6	-0.8
LNV				*i* S	Sb	16 29 00.0	0.0
SFDO	**San Fernando**	**1.09**	**87**	*e*P	Pn	16 28 46.4	-0.4
SFDO				*i* S	Sb	16 29 00.9	0.0
LCCH	**Las Cruces**	**1.36**	**28**	*e*P	Pn	16 28 50.4	-0.4
CACH	**El Canelo**	**1.54**	**69**	*e*P	Pn	16 28 53.5	+0.2
CACH				*i* S	Sn	16 29 14.1	+1.4
TACH	**Talagante**	**1.55**	**49**⇓	*i*P	Pn	16 28 53.5	+0.1
TACH				*i* S	Sn	16 29 13.8	+1.0
CHCH	**Chadas Angostu**	**1.58**	**62**	*e*P	Pn	16 28 53.8	-0.1
CHCH				*i* S	Sn	16 29 14.7	+1.1
CICH	**Cipreses**	**1.62**	**77**	*e*P	Pn	16 28 55.3	+0.8
LMEL	**Las Melosas**	**1.95**	**65**	*e*P	Pn	16 29 00.3	+1.1
LMEL				*i* S	Sn	16 29 25.0	+1.9
LMEL				AMP		16 29 29.3	
	comp=N,213nm,0.1s						
FCH	**Farellones**	**2.17**	**52**	*e*P	Pn	16 29 03.6	+1.3
FCH				*i* S	Sn	16 29 31.4	+2.8
FCH				AMP		16 29 34.0	
	comp=N,79nm,0.3s						

IDC 29 16:36:30.9±3.8,2.90N×97.46E,mb3.4/4,mb1 3.5/4, mb1mx3.4/16,mbtmp3.4/4,Error ellipse: s-maj=156.1km s-min=24.7km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.73**	**124**	P	P	16 44 29.4	-2.5
	0.2nm,0.5s,baz=302,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**44.22**	**129**	P	P	16 44 42.8	-1.2
	0.3nm,1.0s,baz=307,slow=9.0,SNR=3.2						
SONM	**Songino Array**	**45.42**	**8**	P	P	16 44 51.8	-1.5
	0.4nm,0.6s,baz=180,slow=7.4,SNR=5.6						
MKAR	**Makanchi Array**	**45.67**	**345**	P	P	16 44 53.1	-2.1
	0.2nm,0.4s,baz=156,slow=9.0,SNR=5.8						

*NEIC **29** 16:37:09.4±0.5,1.26N×97.16E,mb4.2/11,Error ellipse: s-maj=18.0km s-min=7.4km az=54.0*

*IDC **29** 16:37:11.1±1.9,1.59N×97.58E,h26km±5km,mb3.7/7, mb1 3.8/7,mb1mx3.6/18,mbtmp3.8/7,Error ellipse: s-maj=83.4km s-min=13.6km az=59.0*

ISC 29 16:37:07.5±0.7,1.3N±0.1×97.2E±0.1,h23km, h23km±1.0km:pP-P,n23,σ0°82/23,mb4.1/18,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.29**	**41**	*e*P	**Pn**	**16 38 27.8**	**+0.5**
JIRN	**Jiri**	**28.27**	**339**	*e*P	**P**	**16 43 01.0**	**-0.4**
	13nm,1.0s,mb4.5						
GUN	**Gumba**	**28.61**	**339**	*e*P	**P**	**16 43 04.9**	**+0.5**
	7.5nm,0.6s,mb4.6						
DMN	**Daman**	**28.63**	**337**	*e*P	**P**	**16 43 05.6**	**+1.0**
KKN	**Kakani**	**28.72**	**338**	*e*P	**P**	**16 43 06.6**	**+1.1**
LSA	**Lhasa**	**28.85**	**349**	P	**P**	**16 43 07.1**	**+0.5**
	2.8nm,0.7s,mb4.1						
GKN	**Gorkha**	**29.16**	**337**	*e*P	**P**	**16 43 09.6**	**+0.2**
KOLN	**Koldanda**	**29.38**	**335**	*e*P	**P**	**16 43 12.0**	**+0.6**
	6.9nm,0.7s,mb4.5						
ENH	**Enshi**	**31.13**	**21**	*e*P	**P**	**16 43 21.7**	**-5.1**
	4.4nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.99**	**126**	P	**P**	**16 43 50.5**	**-1.5**
	3.3nm,0.9s,mb4.2,baz=244,slow=4.6,SNR=2.6						
WRA	**Warramunga Arr**	**42.10**	**122**	P	**P**	**16 45 00.2**	**+0.3**
	0.6nm,0.6s,mb3.4,baz=306,slow=8.9,SNR=6.8						
WRA				pP	pP	16 45 07.3	+0.6
	0.6nm,0.6s,baz=307,slow=9.1,SNR=3.4						
WRAB	**Tennant Creek**	**42.10**	**122**	P	**P**	**16 45 00.1**	**+0.2**
	1.9nm,0.6s,mb3.9						
ASAR	**Alice Springs**	**43.46**	**127**	P	**P**	**16 45 11.7**	**+0.7**
	0.3nm,0.6s,mb3.2,baz=298,slow=8.1,SNR=3.7						
ASAR				pP	pP	16 45 18.6	+0.7
	0.5nm,0.9s,baz=306,slow=7.8,SNR=3.9						
SONM	**Songino Array**	**47.07**	**8**	P	**P**	**16 45 38.9**	**-0.5**
	1.4nm,0.7s,mb4.0,baz=190,slow=9.6,SNR=13						
SONM				pP	pP	16 45 46.2	-0.2
	0.9nm,0.6s,baz=191,slow=8.9,SNR=6.9						
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**	**16 45 40.1**	**0.0**
	0.7nm,0.5s,mb3.9,baz=160,slow=8.4,SNR=14						
MKAR				pP	pP	16 45 47.7	+0.5
	0.6nm,0.4s,baz=161,slow=8.2,SNR=8.3						
ULN	**Ulaanbaatar**	**47.20**	**9**	P	**P**	**16 45 40.5**	**+0.1**
	1.8nm,0.9s,mb4.0						
KURK	**Kurchatov**	**51.72**	**345**	*e*P	**P**	**16 46 14.8**	**-0.3**
	2.2nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**16 46 28.9**	**+0.8**
	1.2nm,1.0s,mb3.8,baz=339,slow=14,SNR=2.3						
STKA				pP	pP	16 46 36.3	+1.1
	1.1nm,0.6s,baz=322,slow=8.8,SNR=2.6						
STKA	**Stephens Creek**	**53.43**	**132**	P	**P**	**16 46 28.9**	**+0.8**
STKA				pP	pP	16 46 36.3	+1.1
BVAR	**Borovoye Array**	**56.17**	**341**	P	**P**	**16 46 45.4**	**-2.4**
	1.2nm,0.7s,mb4.0,baz=141,slow=9.5,SNR=9.2						
CHKZ	**Chkalovo**	**56.65**	**341**	*e*P	**P**	**16 46 50.0**	**-1.2**
	2.0nm,0.7s,mb4.3						
CHKZ				*e*pP	pP	16 46 55.6	-2.8
YAK	**Yakutsk**	**65.36**	**16**	*e*P	**P**	**16 47 49.1**	**-1.0**
	6.5nm,0.6s,mb4.8						
MORC	**Moravsky Berou**	**82.33**	**320**	P	**P**	**16 49 29.0**	**+0.2**
	2.0nm,0.9s,mb4.0						

*IDC **29** 16:38:17.7±0.5,33.65S×72.07W,mb4.9/14,mb1 5.0/16, mb1mx4.9/19,mbtmp4.9/16,ML5.1/2,MS4.9/7,Ms1 4.9/7, ms1mx4.6/17,Error ellipse: s-maj=22.1km s-min=14.4km az=75.0*

*GUC **29** 16:38:20.1±0.7,33.71S×72.28W,h34km±2km,ML5.0*

*NEIC **29** 16:38:20.1,33.71S×72.28W,h34km,mb5.1/37, ML5.0(GUC),After GUC.*

NEIC Felt [IV] at San Antonio; [III] at Casablanca, Santiago, Valparaiso and Vina del Mar; [II] at Curico, Limache, Pichilemu, Rancagua, San Fernando and Talca.

*HRVD **29** 16:38:20.1±0.3,33.76S×72.38W,h20km±2km,MW5.3/43, Centroid moment Tensor Solution. LP body waves: s25,c32;Mantle waves: s43,c72; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr0.59±.05; Mθθ0.09±.03; Mφφ-0.67±.04; Mrθ0.10±.07; Mrφ0.01±.02; Mθφ-0.95±.13; Best double couple: M0:1.146×10^17^ NP1:φ6°,δ17°,λ100°. NP2:φ175°,δ73°,λ87°. Principal axes: T 1.106, Plg62°, Azm80°; N .08, Plg3°, Azm176°; P -1.187, Plg28°, Azm267°: nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **29** 16:38:21.7±1.2,33.72S×72.04W,h33km,mb5.4/15 Error ellipse: s-maj=20.5km s-min=8.6km az=85.8*

*BJI **29** 16:38:23.1,33.70S×72.30W,h34km,mB5.3,Ms5.6, Ms5.2*

ISC 29 16:38:19.7±1.0,33.73S±0.03×72.28W±0.04,h19km±6km, n211,σ0°99/145,mb5.0/44,MS5.0/8,25C-17D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.65**	**67**⇑	*i*P	**Pb**	**16 38 32.2**	**0.0**
LNV	**Longovilo**	**0.76**	**107**⇓	*i*P	**Pb**	**16 38 34.2**	**+0.1**
TACH	**Talagante**	**1.12**	**86**⇑	*i*P	**Pb**	**16 38 39.8**	**-0.6**
RCDM	**Rinconada Maip**	**1.26**	**79**⇓	*i*P	**Pn**	**16 38 41.5**	**-0.9**
RCDM				*i* S	**Sb**	**16 38 58.0**	**-0.4**
RCDM				AMP		16 39 00.9	
	comp=N,31μm,0.5s						
PUEX	**Pudahuel**	**1.31**	**78**⇑	*i*P	**Pn**	**16 38 43.5**	**+0.3**
PUEX				*i* S	**Sb**	**16 39 01.1**	**+1.4**
PUEX				AMP		16 39 17.2	
	comp=E,68μm,0.6s						
ROCH	**El Roble**	**1.31**	**55**⇓	*i*P	**Pn**	**16 38 43.4**	**+0.2**
CHCH	**Chadas Angostu**	**1.37**	**99**⇑	*i*P	**Pn**	**16 38 43.7**	**-0.4**
SFDO	**San Fernando**	**1.37**	**130**⇑	*i*P	**Pn**	**16 38 43.8**	**-0.3**
SAN	**Santiago**	**1.38**	**79**⇓	*i*P	**Pn**	**16 38 44.2**	**0.0**
SAN				*i* S	**Sb**	**16 39 01.9**	**0.0**
ANTU	**Antumapu**	**1.39**	**84**⇑	*i*P	**Pn**	**16 38 44.5**	**+0.1**
ANTU				*i* S	**Sb**	**16 39 02.3**	**+0.2**
ANTU				AMP		16 39 14.9	
	comp=E,54μm,0.7s						
PACH	**Papudo**	**1.39**	**31**⇑	*i*P	**Pn**	**16 38 43.8**	**-0.5**
STL	**Santa Lucia**	**1.40**	**78**⇑	*i*P	**Pn**	**16 38 44.7**	**+0.2**
STL				*i* S	**Sb**	**16 39 02.6**	**+0.1**
STL				AMP		16 39 09.0	
	comp=E,11μm,0.4s						
CACH	**El Canelo**	**1.45**	**106**⇓	*i*P	**Pn**	**16 38 45.9**	**+0.6**
PCH	**Pirque**	**1.48**	**86**⇑	*i*P	**Pn**	**16 38 45.4**	**-0.3**
CLCH	**Cerro Calan**	**1.50**	**78**⇓	*i*P	**Pn**	**16 38 45.9**	**+0.1**
CLCH				*i* S	**Sn**	**16 39 05.6**	**+0.6**
CLCH				AMP		16 39 12.2	
	comp=E,39μm,0.8s						
NICH	**Los Niches**	**1.54**	**146**	*e*P	**Pn**	**16 38 46.6**	**+0.1**
SJCH	**San Jose de Ma**	**1.61**	**87**	*e*P	**Pn**	**16 38 47.5**	**0.0**
SJCH				*i* S	**Sn**	**16 39 08.3**	**+0.4**
SJCH				AMP		16 39 11.5	
	comp=N,31μm,0.5s						
CICH	**Cipreses**	**1.66**	**111**⇑	*i*P	**Pn**	**16 38 48.4**	**+0.3**
FCH	**Farellones**	**1.71**	**77**⇓	*i*P	**Pn**	**16 38 49.5**	**+0.5**
FCH				*i* S	**Sn**	**16 39 12.1**	**+1.6**
FCH				AMP		16 39 20.7	
	comp=E,29μm,0.4s						
LMEL	**Las Melosas**	**1.74**	**94**⇓	*i*P	**Pn**	**16 38 49.5**	**+0.1**
LMEL				*i* S	**Sn**	**16 39 12.1**	**+1.0**
LMEL				AMP		16 39 16.8	
	comp=N,44μm,0.7s						
TALC	**Talca**	**1.75**	**162**⇑	*i*P	**Pn**	**16 38 50.0**	**+0.6**
TALC				*i* S	**Sn**	**16 39 12.2**	**+0.8**
TALC				AMP		16 39 21.6	
	comp=N,107μm,0.6s						
JACH	**Jahuel**	**1.76**	**54**⇓	*i*P	**Pn**	**16 38 49.8**	**+0.1**
CHNG	**Los Chungos**	**1.96**	**20**⇑	*i*P	**Pn**	**16 38 51.6**	**-0.8**
CHNG				AMP		16 39 32.1	
	comp=E,7μm,0.8s						
CNCO	**Chanco**	**2.01**	**186**⇑	*i*P	**Pn**	**16 38 53.5**	**+0.3**
MDZ	**Mendoza**	**3.00**	**75**	*e*P	**Pn**	**16 39 08.0**	**+0.7**
MDZ				*i*		16 39 35.6	
MDZ				*i* S	**Sn**	**16 39 50.2**	**+7.1**
ZON	**Zonda**	**3.74**	**55**	*e*P	**Pn**	**16 39 18.0**	**+0.1**
ZON				*e*S	**Sn**	**16 40 16.0**	**+14**
TLL	**Tololo Astrono**	**3.77**	**20**⇑	*i*P	**Pn**	**16 39 17.5**	**-0.8**
CFAA	**Coronel Fontan**	**4.02**	**59**	Pn	**Pn**	**16 39 22.2**	**+0.4**
	comp=E,6.6nm,0.3s,baz=224,slow=12,SNR=186						
CFAA				Lg		16 40 19.1	
	comp=E,33nm,0.3s,baz=66,slow=15,SNR=7.7						
CFAA	**Coronel Fontan**	**4.02**	**59**	Pn	**Pn**	**16 39 22.2**	**+0.4**
CFAA				Lg		16 40 19.1	
PLCA	**Paso Flores**	**7.12**	**169**	*e*P	**Pn**	**16 40 04.5**	**-1.2**
PLCA	**Paso Flores**	**7.12**	**169**	Pn	**Pn**	**16 40 05.2**	**-0.5**
	comp=E,6.9nm,0.3s,baz=331,slow=12,SNR=82						
PLCA				Lg		16 41 53.5	
	comp=E,2.0nm,0.3s,baz=330,slow=13,SNR=3.2						
TRQA	**Tornquist**	**9.41**	**120**	*e*P	**P**	**16 40 35.8**	**-1.7**
LVC	**Limon Verde**	**11.47**	**16**	*e*P	**P**	**16 40 58.1**	**-7.5**
LPA	**La Plata**	**11.93**	**100**	*de*P	**P**	**16 41 06.0**	**-5.8**
LPA	**La Plata**	**11.93**	**100**	*e*Pr		16 41 06.0	
ARE	**Arequipa**	**17.21**	**3**	*e*P	**P**	**16 42 22.0**	**+1.2**
LPAZ	**La Paz**	**17.77**	**13**	*e*P	**P**	**16 42 27.3**	**-0.5**
LPAZ				pmax	pmax		
	comp=Z,57nm,0.7s						
LPAZ	**La Paz**	**17.77**	**13**	P	**P**	**16 42 27.4**	**-0.4**
	comp=Z,2.7nm,0.3s,baz=192,slow=8.3,SNR=97						
LPAZ	**La Paz**	**17.77**	**13**	*e*P	**P**	**16 42 27.2**	**-0.5**
	comp=Z,57nm,0.7s						
EFI	**East Falkland**	**20.69**	**154**	Pn	**P**	**16 42 58.4**	**-2.7**
	comp=Z,689nm,1.1s,SNR=33						
USHA	**Ushuaia**	**21.27**	**174**	P	**P**	**16 43 07.3**	**+0.2**
	comp=Z,34nm,1.0s,mb4.6,baz=306,slow=8.6,SNR=6.9						
SAML	**Samuel**	**26.05**	**21**⇑	*e*P	**P**	**16 43 52.3**	**-1.5**
	comp=Z,48nm,0.7s,mb5.1						
BDFB	**Brasilia**	**28.35**	**56**	P	**P**	**16 44 11.8**	**-2.9**
	comp=Z,29nm,0.5s,mb5.2,baz=245,slow=7.5,SNR=24						
BDFB				LR	LR	16 57 15.5	
	comp=Z,5μm,18.5s,MS5.1,baz=231,slow=40						
BAO	**Brasilia Array**	**28.37**	**57**	P	**P**	**16 44 10.5**	**-4.5**
CAM4	**Nova Friburgo**	**28.47**	**74**⇑	*i*P	**P**	**16 44 13.2**	**-2.6**
CAM4				*i*		16 44 22.0	
CAM4				*i*		16 44 47.6	
RPN	**Rapa Nui**	**32.49**	**272**	LR	LR	16 54 31.3	
	comp=Z,2μm,18.4s,MS4.9,baz=152,slow=30

MAW	Mawson	73.50	164	P		P		16 49 52.2	-0.1
	comp=Z,28nm,0.8s,mb5.2								
CCM	Cathedral Cave	73.57	344	*e*P		P		16 49 52.4	-0.9
CCM					pmax	pmax			
	comp=Z,62nm,1.0s,mb5.5								
CCM	Cathedral Cave	73.57	344	*e*P		P		16 49 52.4	-0.9
	comp=Z,62nm,1.0s,mb5.5								
AMTX	Amarillo	73.61	335	*e*P		P		16 49 54.5	+0.8
	comp=Z,46nm,1.0s,mb5.4								
LPM	Los Pinos Moun	74.97	331	*e*P		P		16 50 03.2	+1.7
TUC	Tucson	75.03	327	*e*P		P		16 50 02.8	+0.9
TUC					pmax	pmax			
	comp=Z,23nm,1.4s,mb4.9								
TUC	Tucson	75.03	327	*e*P		P		16 50 02.8	+0.8
	comp=Z,23nm,1.4s,mb4.9								
SUR	Sutherland	75.14	119	P		P		16 50 02.4	-0.1
	comp=Z,26nm,1.1s,mb5.1,baz=230,slow=5.3,SNR=3.9								
LAZ	Ladron	75.25	331	*e*P		P		16 50 04.2	+1.0
DBIC	Dimbokro	75.29	72	*e*P		P		16 50 02.2	-1.6
DBIC					pmax	pmax			
	comp=Z,27nm,0.9s								
DBIC	Dimbokro	75.29	72	P		P		16 50 02.4	-1.4
	comp=Z,24nm,1.0s,mb5.1,baz=207,slow=6.3,SNR=30								
DBIC					LR	LR		17 20 59.1	
	comp=Z,591nm,18.9s,MS4.9,baz=215,slow=34								
DBIC	Dimbokro	75.29	72	*e*P		P		16 50 02.2	-1.5
	comp=Z,27nm,0.9s,mb5.2								
ANMO	Albuquerque	75.45	332	*e*P		P		16 50 04.9	+0.6
ANMO					pmax	pmax			
	comp=Z,25nm,1.2s								
ANMO	Albuquerque	75.45	332	P		P		16 50 05.1	+0.8
	comp=Z,8.3nm,0.9s,mb4.7,baz=162,slow=7.2,SNR=10.0								
ANMO	Albuquerque	75.45	332	*e*P		P		16 50 04.9	+0.6
	comp=Z,25nm,1.2s,mb5.0								
SDCO	Great Sand Dun	77.54	334	*e*P		P		16 50 15.6	-0.3
	comp=Z,36nm,1.5s,mb5.1								
WUAZ	Wupatki	77.99	328	*e*P		P		16 50 18.9	+0.5
	comp=Z,37nm,1.1s,mb5.2								
JFWS	Jewell Farm	78.03	347	*e*P		P		16 50 17.0	-1.5
	comp=Z,10nm,0.5s,mb5.0								
PV01	Paradox Valley	79.06	332	*e*P		P		16 50 25.5	+1.2
ISCO	Idaho Springs	79.39	334	*e*P		P		16 50 26.4	+0.4
	comp=Z,23nm,1.4s,mb4.9								
TSUM	Tsumeb	79.48	106	*e*P		P		16 50 26.3	-0.6
	comp=Z,47nm,1.3s,mb5.3								
BOSA	Boshof	80.38	118	P		P		16 50 30.6	-0.9
	comp=Z,24nm,1.1s,mb5.0,baz=236,slow=6.5,SNR=13								
BOSA					LR	LR		17 20 49.0	
	comp=Z,371nm,20.4s,MS4.7,baz=195,slow=32								
BOSA	Boshof	80.38	118	*e*P		P		16 50 30.8	-0.7
	comp=Z,25nm,1.3s,mb5.0								
SRU	San Rafael	80.68	331	P		P		16 50 32.4	-0.5
MSU	Marysvale	80.86	329	*e*P		P		16 50 35.1	+1.2
MVU	Marysvale	80.87	329	*e*P		P		16 50 35.3	+1.4
	comp=Z,7.3nm,1.0s,mb4.6								
NLU	North Lily Min	82.03	330	*e*P		P		16 50 39.7	-0.2
DAU	Daniels Canyon	82.08	331	*e*P		P		16 50 41.9	+1.7
TRCR	Troy Canyon	82.22	327	*e*P		P		16 50 42.9	+2.0
DUG	Dugway	82.54	330	*e*P		P		16 50 43.2	+0.6
	comp=Z,19nm,1.1s,mb5.0								
LBTB	Lobatse	82.60	115	P		P		16 50 42.6	-0.6
	comp=Z,13nm,0.5s,mb5.2,baz=255,slow=5.9,SNR=24								
LBTB	Lobatse	82.60	115	*e*P		P		16 50 42.3	-0.9
	comp=Z,54nm,1.2s,mb5.5								
RSSD	Black Hills	82.71	338	*e*P		P		16 50 43.4	0.0
	comp=Z,13nm,1.0s,mb4.9								
TPH	Tonopah	82.75	326	P		P		16 50 45.5	+1.7
	comp=Z,2.7nm,0.5s,mb4.5								
MTUM	Tungsten Hills	82.81	325	*e*P		P		16 50 44.0	0.0
HWUT	Hardware Ranch	83.22	331	*e*P		P		16 50 46.2	+0.2
	comp=Z,13nm,1.0s,mb4.9								
OMM	Old Mammoth Mi	83.23	324	*e*P		P		16 50 47.7	+1.5
SPUT	South Promonto	83.32	331	*e*P		P		16 50 47.1	+0.5
PDAR	Pinedale Array	83.43	333	P		P		16 50 47.2	+0.1
	comp=Z,4.0nm,1.1s,mb4.4,baz=135,slow=4.2,SNR=16								
URZ	Urewera	83.69	228	LR		LR		17 20 01.2	
	comp=Z,541nm,18.2s,MS5.0,baz=159,slow=30								
HVU	Hansel Valley	83.85	331	*e*P		P		16 50 49.6	+0.3
LOHW	Long Hollow	84.55	333	*e*P		P		16 50 52.8	0.0
	comp=Z,13nm,1.2s,mb4.9								
TPAW	Teton Pass	84.58	333	*e*P		P		16 50 52.9	+0.1
	comp=Z,8.8nm,0.9s,mb4.9								
RRI2	Red Ridge	84.59	333	*e*P		P		16 50 53.4	+0.4
	comp=Z,18nm,1.6s,mb5.0								
IMW	Indian Meadow	84.92	333	*e*P		P		16 50 55.0	+0.4
	comp=Z,19nm,1.3s,mb5.1								
QLMT	Earthquake Lak	85.90	333	*e*P		P		16 51 01.3	+1.9
HLID	Hailey	86.00	331	*e*P		P		16 51 00.9	+0.9
	comp=Z,24nm,1.2s,mb5.3								
ULM	Lac du Bonnet	86.19	345	P		P		16 50 59.9	-0.8
	comp=Z,6.6nm,0.9s,mb4.9,baz=163,slow=2.1,SNR=10								
ULM	Lac du Bonnet	86.19	345	*e*P		P		16 50 59.6	-1.0
	comp=Z,12nm,1.0s,mb5.1								
ULM				*e*		pP		16 51 07.8	+0.9
YBH	Yreka Blue Hor	88.23	325	P		P		16 51 10.9	+0.1
	comp=Z,2.3nm,0.8s,mb4.5,baz=130,slow=10,SNR=3.6								
SCHQ	Schefferville	88.33	3	P		P		16 51 10.2	-0.8
	comp=Z,3.1nm,1.6s,mb4.7,baz=77,slow=1.4,SNR=8.2								
SCHQ	Schefferville	88.33	3	*e*P		P		16 51 10.5	-0.5
	comp=Z,10nm,1.2s,mb4.9								
CHMT	Chamberlain Mo	88.34	333	*e*P		P		16 51 12.0	+0.8
MBAR	Mbarara	100.49	98	*i* P		P		16 52 04.0	-3.7
YKA	Yellowknife Ar	101.74	341	P		P		16 52 10.4	-1.7
	comp=Z,0.3nm,0.6s,baz=144,slow=4.2,SNR=6.8								
YKA	Yellowknife Ar	101.74	341	P		P		16 52 10.4	-1.7
GERES	GERESS Array B	112.11	45	PKiKP				16 56 54.1	
	comp=Z,0.7nm,0.7s,baz=207,slow=3.0,SNR=6.6								
ASAR	Alice Springs	117.72	207	PKP		PKPdf		16 57 05.4	-3.7
	comp=Z,0.7nm,0.5s,baz=130,slow=1.6,SNR=18								
MLR	Muntele Rosu	118.47	52	PKP		PKPdf		16 57 04.8	-5.3
	comp=Z,4.6nm,1.1s,baz=276,slow=6.2								
WB2	Warramunga Arr	120.89	209	*e*P		PKPdf		16 57 11.9	-3.5
WRA	Warramunga Arr	120.90	209	PKP		PKPdf		16 57 11.8	-3.6
	comp=Z,2.0nm,0.4s,baz=160,slow=1.7,SNR=83								
ASF	Jabal al Asfar	121.67	70	PKP		PKPdf		16 57 13.9	-2.8
	comp=Z,0.9nm,0.4s,baz=125,slow=3.6,SNR=3.5								
BRTR	Keskin Array B	121.88	61	PKP		PKPdf		16 57 14.2	-2.7
	comp=Z,2.3nm,0.8s,baz=194,slow=5.1,SNR=9.1								
AKASG	Malin Array Be	122.16	47	PKP		PKPdf		16 57 11.5	-5.6
	comp=Z,2.3nm,0.6s,baz=264,slow=2.9,SNR=22								
AKASG					PP	PP		16 58 44.4	-8.2
	comp=Z,0.2nm,0.2s,baz=256,slow=7.6,SNR=3.7								
FINES	FINESS Array B	122.89	34	PKP		PKPdf		16 57 14.4	-3.8
	comp=Z,3.0nm,0.9s,slow=3.8,SNR=6.1								
ARCES	ARCESS Array B	123.86	25	PKP		PKPdf		16 57 15.8	-4.2
	comp=Z,2.3nm,0.6s,baz=270,slow=1.2,SNR=6.4								
ARCES	ARCESS Array B	123.86	25	PKP		PKPdf		16 57 15.8	-4.2
MALT	Malatya	124.97	64	*e*PKP		PKPdf		16 57 19.7	-3.2
MALT				*e*				16 57 29.0	
FITZ	Fitzroy Crossi	125.70	201	*e*P		PKPdf		16 57 21.5	-3.2
	comp=Z,5.0nm,0.9s								
FITZ	Fitzroy Crossi	125.70	201	PKP		PKPdf		16 57 21.5	-3.2
	comp=Z,6.2nm,0.8s,baz=159,slow=2.2,SNR=6.9								
OBN	Obninsk	127.38	43	*d i* PKIKP		PKPdf		16 57 23.5	-3.5
OBN				*e*SS		SS		17 16 45.5	+12
OBN					pmax	pmax			
	comp=Z,24nm,1.2s								
KIV	Kislovodsk	129.52	58	*i* PKIKP		PKPdf		16 57 28.4	-3.0
KIV				*e*				16 59 41.7	
KIV					pmax	pmax			
	comp=Z,13nm,0.9s								
GOF	Gofitskoye	129.98	57	*e*PKIKP		PKPdf		16 57 29.2	-3.1
ZEI	Tsey	130.15	60	*i* PKIKP		PKPdf		16 57 28.0	-4.7
ZEI				*i*				16 59 43.2	
BILL	Bilibino	132.50	334	*e*PKIKP		PKPdf		16 57 33.0	-3.5
BILL					pmax	pmax			
	comp=Z,9.0nm,1.4s								
TIXI	Tiksi	140.39	350	*e*PKHKP				16 57 38.1	
TIXI					pmax	pmax			
	comp=Z,4.0nm,0.8s								
MA2	Magadan	141.79	326	*e*PKPpre				16 57 45.0	
PALK	Pallekele	143.71	130	*e*PKPpre				16 57 50.7	
KAD	Karad	145.80	110	*e*P		PKPbc		16 57 58.5	0.0
KAD				*e*				16 58 00.2	
	comp=Z,103nm,1.0s								
POO	Poona	146.22	108	*e*P		PKPbc		16 58 00.7	+1.3
POO				*e*				16 58 02.0	
	comp=Z,62nm,0.7s								
POO					AMS	AMS		17 00 20.3	
	comp=N,1μm,19.0s								
CHKZ	Chkalovo	147.11	41	*e*PKPdf		PKPdf		16 57 59.8	-3.0
BVAR	Borovoye Array	147.22	43	PKPbc		PKPdf		16 58 00.6	-2.4
	comp=N,7.6nm,0.8s,baz=270,slow=1.5,SNR=27								
JASL	Jaisalmer	147.63	92	*e*		PKPdf		16 58 04.7	+0.2
KSM	Kuching	147.82	185	*e*PKPbc		PKPdf		16 58 05.7	+0.5
YAK	Yakutsk	148.41	340	*i* PKIKP		PKPdf		16 58 01.0	-3.6
YAK	Yakutsk	148.41	340	*e*PKPdf		PKPdf		16 58 02.2	-2.4
HYB	Hyderabad	149.23	115	*e*P		PKPdf		16 58 08.0	+0.7
HYB	Hyderabad	149.23	115	*i* PKP		PKPdf		16 58 08.0	+0.7
	comp=N,50nm,1.0s								
HYB				*e*				16 58 12.0	
HYB				*e*pPKP				16 58 18.0	
YSS	Yuzh-Sakhalins	150.47	307	PKIKP		PKPdf		16 58 10.3	+2.0
ASAJ	Asahikawa	151.14	301	PKPbc		PKPdf		16 58 11.1	+1.7
	comp=N,11nm,0.9s,baz=97,slow=20,SNR=4.5								
BHPL	Bhopal	151.49	104	*e*P		PKPdf		16 58 13.2	+2.6
BHPL				*e*				16 58 15.0	
	comp=Z,30nm,1.0s								
BHPL				*e*				17 00 37.4	
BHPL				*e*				17 00 38.4	
BHPL				*e*				17 00 51.5	
BHPL					AMS	AMS		17 01 19.2	
	comp=N,64nm,19.2s								
EKS2	Erkin-Say	152.03	61	P		PKPdf		16 58 08.5	-2.3
	SNR=7.0								
AML	Almayashu	152.03	63	P		PKPdf		16 58 14.7	+3.9
	SNR=7.7								
KHET	Khetri	152.11	93	*e*P		PKPdf		16 58 09.0	-2.4
USP	Ospenovka	152.47	60	P		PKPdf		16 58 09.5	-1.9
	SNR=7.2								
AAK	Ala-Archa	152.56	61	P		PKPdf		16 58 16.6	+5.0
	SNR=11								
AAK	Ala-Archa	152.56	61	*i* PKIKP		PKPdf		16 58 07.9	-3.7
AAK	Ala-Archa	152.56	61	*e*PKPdf		PKPdf		16 58 09.3	-2.3
AAK				*e*PKPbc		PKPdf		16 58 15.3	+3.7
FRU	Bishkek	152.62	61	*e*PKIKP		PKPdf		16 58 10.5	-1.1
FRU					pmax	pmax			
	comp=Z,70nm,2.0s								
UCH	Uchtor	152.62	62	P		PKPdf		16 58 10.7	-1.0
	SNR=6.8								
CHMS	Chumysh	152.69	60	P		PKPdf		16 58 14.3	+2.5
	SNR=5.4								
KUDL	Kundal	152.71	93	*e*P		PKPdf		16 58 09.0	-3.2
KURK	Kurchatov	152.82	43	*i* PKIKP		PKPdf		16 58 09.0	-2.7
KURK	Kurchatov	152.82	43	*e*PKPdf		PKPdf		16 58 08.9	-2.8
KURK				*e*PKPbc		PKPdf		16 58 16.3	+4.6
NVS	Novosibirsk	152.82	32	*e*PKIKP		PKPdf		16 58 08.2	-3.3
NVS					pmax	pmax			
	comp=Z,43nm,1.3s								
NVS					pmax	pmax			
	comp=E,14nm,1.4s								
KBK	Karagaybulak	152.89	61	P		PKPdf		16 58 17.3	+5.3
	SNR=6.5								
KZA	Kyzart	153.19	62	P		PKPdf		16 58 16.1	+3.7
	SNR=5.3								
TKM2	Tokmak 2	153.32	60	P		PKPdf		16 58 10.7	-1.9
	SNR=7.3								
AYAN	Aya Nagar	153.35	93	*e*P		PKPdf		16 58 08.6	-4.5
NDI	New Delhi	153.49	93	*e*		PKPdf		16 58 21.0	+7.7
SDNR	Sundarnagar	154.05	86	*e*P		PKPdf		16 58 11.6	-2.4
CLNS	Chul'man	154.07	338	*e*PKIKP		PKPdf		16 58 16.6	+3.4
CLNS					pmax	pmax			
	comp=Z,14nm,1.0s								
CLNS					pmax	pmax			
	comp=E,2.0nm,0.6s								
DDI	Dehra Dun	154.66	90	*e*P		PKPdf		16 58 12.0	-2.8
KALG	Kalgarh	155.02	92	*e*P		PKPdf		16 58 10.5	-4.8
BOD	Bodaibo	155.53	352	*e*PKIKP		PKPdf		16 58 22.1	+7.0
BOD					pmax	pmax			
	comp=Z,15nm,1.1s								
MKAR	Makanchi Array	156.74	48	*i* PKIKP		PKPdf		16 58 14.4	-2.6
MKAR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
MKAR	Makanchi Array	156.74	48	PKP		PKPdf		16 58 13.8	-3.2
	comp=Z,2.9nm,0.9s,baz=297,slow=2.7,SNR=19								
MKAR					PKPab	PKPab		16 58 42.4	-2.6
	comp=Z,3.3nm,0.6s,baz=297,slow=3.2,SNR=20								
IRK	Irkutsk	161.33	7	*e*PKP2		PKPab		16 59 03.1	-1.5
IRK					pmax	pmax			
	comp=Z,23nm,1.6s								
WMQ	Urumqi	161.46	51	PKP		PKPdf		16 58 19.5	-3.1
WMQ				APKP				16 58 30.0	
WMQ				XPKP				16 58 34.0	
WMQ				PKS	PKS			17 01 52.0	+1.1
WMQ				SKS	SKS			17 05 20.0	-6.8
WMQ				PP	PP				
	comp=Z,102nm,4.4s								
WMQ				LR	LR				
	comp=N,384nm,20.2s								
WMQ				LR	LR				
	comp=E,550nm,23.8s								
WMQ				LR	LR				
	comp=Z,447nm,26.0s								
ZAK	Zakamensk	163.04	10	*e*PKP2		PKPab		16 59 11.9	-0.2
ZAK					pmax	pmax			
	comp=Z,5.0nm,2.0s								
ULN	Ulaanbaatar	165.87	2	*i* PKP2		PKPab		16 59 23.9	-0.6
SONM	Songino Array	165.88	4	PKP		PKPdf		16 58 23.4	-3.4
	comp=Z,0.7nm,0.8s,baz=270,slow=2.5,SNR=4.5								
SONM					PKPab	PKPab		16 59 24.0	-0.5
	comp=Z,2.7nm,0.9s,baz=330,slow=4.4,SNR=10								
SONM					PP	PP		17 03 11.8	-1.0
	comp=Z,0.8nm,0.8s,baz=326,slow=4.5,SNR=4.8								
KMI	Kunming	170.39	152	PKP		PKPdf		16 58 28.0	-2.3
GTA	Gaotai	171.49	46	*e*PKP		PKPdf		16 58 28.3	-2.3
GTA				APKP				16 58 39.0	
GTA				XPKP				16 58 42.5	
GTA				PKP2		PKPab		16 59 49.5	0.0
GTA				PKS	PKS			17 01 59.8	+1.9
GTA				PP	PP			17 03 41.0	-0.2
GTA				SKS	SKS			17 05 26.8	-6.3
GTA				LR	LR				
	comp=N,333nm,17.5s								
GTA				LR	LR				
	comp=E,405nm,15.2s								
GTA				LR	LR				
	comp=Z,477nm,19.4s								
HHC	Hu-ho-hao-te	172.26	338	*e*PKP		PKPdf		16 58 28.3	-2.7
HHC				APKP				16 58 38.5	
HHC				XPKP				16 58 42.0	
HHC				SKS	SKS			17 05 24.8	-8.5
HHC				LR	LR				
	comp=N,264nm,20.2s								
HHC				LR	LR				
	comp=E,344nm,18.4s								
HHC				LR	LR				
	comp=Z,359nm,17.2s								
LZH	Lanzhou	176.04	52	*e*PKP		PKPdf		16 58 28.5	-3.9
LZH				APKP				16 58 38.0	
LZH				XPKP				16 58 42.5	
LZH				PP	PP			17 04 03.0	-1.0
LZH				SKS	SKS			17 05 27.0	-7.4
LZH				PP	PP				
	comp=Z,240nm,6.7s								
LZH				LR	LR				
	comp=E,389nm,19.4s								
LZH				LR	LR				
	comp=Z,432nm,21.0s								

IDC 29 16:39:08.1±4.1,1.55N×95.27E,mb3.6/5,mb1 3.7/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=157.3km s-min=22.1km az=60.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
FITZ	Fitzroy Crossi	35.71	125	P	P		16 46 08.1	-2.5
	3.0nm,0.8s,baz=12,slow=9.3,SNR=2.6							
WRA	Warramunga Arr	43.86	121	P	P		16 47 16.5	-1.7
	0.4nm,0.5s,baz=302,slow=9.0,SNR=5.2							
ASAR	Alice Springs	45.15	126	P	P		16 47 27.1	-1.5
	0.4nm,0.6s,baz=300,slow=8.1,SNR=6.8							
MKAR	Makanchi Array	46.47	348	P	P		16 47 36.0	-2.7
	0.4nm,0.7s,baz=157,slow=9.0,SNR=4.7							
SONM	Songino Array	47.10	10	P	P		16 47 42.8	-0.9
	0.5nm,0.7s,baz=186,slow=8.8,SNR=4.1							

*IDC **29** 16:53:13.2±0.9,2.97N×97.59E,mb3.9/11,mb1 4.1/11, mb1mx4.0/18,mbtmp3.9/11,Error ellipse: s-maj=56.4km s-min=14.8km az=50.0*

*NEIC **29** 16:53:17.8±0.6,2.89N×97.40E,h30km,mb4.4/6,Error ellipse: s-maj=19.5km s-min=9.2km az=49.0*

ISC 29 16:53:15.7±0.6,2.9N±0.1×97.4E±0.1,h30km,n20, σ1§10/20,mb4.1/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KULM	Kulim	4.06	54	*e*Pn	Pn		16 54 18.6	+1.1
CM31	Chiang Mai Arr	15.57	6	P		P		16 57 02.3	+7.3
	7.4nm,0.7s								
FITZ	Fitzroy Crossi	34.78	128	*e*P		P		17 00 05.3	-0.7
	7.1nm,0.9s,mb4.6								
FITZ	Fitzroy Crossi	34.78	128	P		P		17 00 04.8	-1.2
	9.0nm,0.8s,mb4.8,baz=306,slow=4.1,SNR=6.5								
WRA	Warramunga Arr	42.78	124	P		P		17 01 12.8	0.0
	6.7nm,0.8s,mb4.5,baz=300,slow=9.4,SNR=26								
WRAB	Tennant Creek	42.79	124	*e*P		P		17 01 13.2	+0.3
	9.8nm,0.7s,mb4.7								
WB2	Warramunga Arr	42.80	124	*e*P		P		17 01 13.4	+0.5
ASAR	Alice Springs	44.27	129	P		P		17 01 24.6	-0.2
	1.9nm,0.8s,mb3.9,baz=304,slow=7.6,SNR=12								
AAK	Ala-Archa	44.55	336	*e*P		P		17 01 27.2	+0.4
	2.9nm,0.8s,mb4.2								
SONM	Songino Array	45.47	9	P		P		17 01 33.3	-0.8
	0.3nm,0.6s,mb3.3,baz=190,slow=7.7,SNR=2.7								
MKAR	Makanchi Array	45.68	346	P		P		17 01 34.6	-1.1
	0.7nm,0.4s,mb3.9,baz=159,slow=8.8,SNR=6.8								
KURK	Kurchatov	50.24	345	*e*P		P		17 02 11.0	-0.2
	2.6nm,0.8s,mb4.3								
STKA	Stephens Creek	54.35	133	P		P		17 02 39.2	-2.9
	3.0nm,0.8s,mb4.3,baz=315,slow=11,SNR=4.3								
STKA	Stephens Creek	54.35	133	*e*P		P		17 02 42.5	+0.3
BVAR	Borovoye Array	54.74	340	P		P		17 02 43.5	-1.3
	1.2nm,0.7s,mb4.0,baz=127,slow=7.2,SNR=4.1								
CHKZ	Chkalovo	55.21	341	*e*P		P		17 02 46.1	-2.1
	3.5nm,0.5s,mb4.7								
BRTR	Keskin Array B	68.13	312	P		P		17 04 16.8	+1.4
	2.0nm,0.4s,mb3.9,baz=124,slow=8.9,SNR=3.7								
AKASG	Malin Array Be	74.05	322	P		P		17 04 51.1	+0.4
	1.3nm,0.6s,mb4.0,baz=82,slow=4.7,SNR=4.9								
FINES	FINESS Array B	78.61	332	P		P		17 05 18.8	+2.6
	0.3nm,0.4s,mb3.6,baz=90,slow=5.7,SNR=4.0								
GERES	GERESS Array B	83.68	319	P		P		17 05 44.1	+1.0
	0.2nm,0.5s,mb3.5,baz=117,slow=2.2,SNR=2.4								

IDC 29 16:54:15.6±2.8,6.77S×108.35E,mb3.8/4,mb1 4.0/4, mb1mx3.7/16,mbtmp3.8/4,Error ellipse: s-maj=160.4km s-min=25.8km az=51.0,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	Warramunga Arr	28.42	120	P	P		17 00 12.9	-1.4
	0.3nm,0.5s,baz=299,slow=9.4,SNR=8.8							
ASAR	Alice Springs	29.75	127	P	P		17 00 24.6	-1.6
	0.4nm,0.6s,baz=297,slow=7.9,SNR=9.9							
STKA	Stephens Creek	39.81	133	P	P		17 01 49.2	-3.2
	1.3nm,0.8s,baz=286,slow=15,SNR=3.4							
MKAR	Makanchi Array	58.13	339	P	P		17 04 11.2	-2.3
	0.6nm,0.4s,baz=149,slow=8.4,SNR=6.0							

IDC 29 16:55:28.4±3.1,13.03N×94.43E,mb3.7/4,mb1 3.8/4, mb1mx3.6/17,mbtmp3.7/4,Error ellipse: s-maj=125.8km s-min=24.1km az=67.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	Makanchi Array	35.17	345	P	P		17 02 24.9	-1.1
	0.6nm,0.4s,baz=155,slow=9.2,SNR=4.5							
SONM	Songino Array	36.10	14	P	P		17 02 31.0	-3.0
	0.5nm,0.5s,baz=187,slow=9.4,SNR=3.4							
WRA	Warramunga Arr	51.15	129	P	P		17 04 34.4	-1.2
	1.3nm,0.6s,baz=302,slow=9.1,SNR=6.4							
ASAR	Alice Springs	53.11	133	P	P		17 04 47.5	-2.8
	0.3nm,0.7s,baz=298,slow=7.4,SNR=3.3							

OTT 29 16:57:51.6±0.3,52.78N×67.22W,MN2.6/6,Blast, Mount Wright, Qc Mining explosion.,Northern Quebec

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SCHQ	Schefferville	2.07	6	PN	Pn		16 58 27.4	-0.7
SCHQ				SN	Sn		16 58 54.4	-0.6
SCHQ				Trac			16 58 56.6	
	comp=Z,9.9nm,0.1s							
MNQ	Manicouagan	2.45	204	PN	Pn		16 58 32.2	-1.2
MNQ				SN	Sn		16 59 03.6	-0.9
MNQ				Trac			16 59 06.3	
	comp=Z,8.4nm,0.1s							
SMQ	Clarke City	2.58	173	PN	Pn		16

SKR MLR MLR
comp=E,16µm,12.0s
SKR MLR MLR
comp=Z,13µm,12.0s
SKR Severo-Kuril's 3.34 21 *e*P **Pn 17 00 51.4 -2.2**
SKR AMB AMB 17 00 55.0
comp=Z,2µm,1.5s
SKR AMB AMB 17 00 55.0
comp=Z,2µm,1.5s
SKR AMB AMB 17 00 55.0
comp=Z,2µm,1.5s
SKR AMB AMB 17 00 56.0
comp=Z,40nm,0.6s
SKR *i* S **Sn 17 01 28.2 -5.5**
SKR A 17 01 43.6
comp=Z,10µm,3.0s
SKR A 17 01 43.6
comp=Z,12µm,3.0s
SKR A 17 01 43.6
comp=Z,12µm,3.0s
SKR A 17 01 43.6
comp=Z,13µm,3.0s
SKR A 17 01 43.6
comp=Z,8µm,3.0s
SKR A 17 01 43.6
comp=Z,4µm,0.8s
SKR A 17 01 43.6
comp=Z,3µm,0.8s
SKR A 17 01 43.6
comp=Z,2µm,0.8s
SKR AMS AMS 17 02 26.0
comp=Z,10µm,12.0s
SKR AMS AMS 17 02 26.0
comp=Z,18µm,12.0s
SKR AMS AMS 17 02 26.0
comp=Z,12µm,12.0s
SKR AMS AMS 17 02 26.0
comp=Z,11µm,12.0s
SKR AMS AMS 17 02 26.0
comp=Z,16µm,12.0s
SKR AMS AMS 17 02 26.0
comp=Z,13µm,12.0s
PAU Pauzhetka 4.24 23 *e*P **Pn 17 01 08.0 +1.7**
PAU *e*S **Sn 17 01 57.0 +0.7**
KUR Kuril'sk 4.98 244⇓ *i*PN **Pn 17 01 17.8 +0.9**
KUR *i* S **Sn 17 02 18.0 +2.8**
KUR pmax pmax
comp=Z,4µm,1.0s
KUR pmax pmax
comp=N,280nm,0.9s
KUR pmax pmax
comp=E,280nm,0.9s
KUR pmax pmax
comp=Z,1µm,0.9s
KUR smax
comp=N,15µm,2.0s
KUR smax
comp=E,20µm,2.0s
KUR smax
comp=N,2µm,0.6s
KUR smax
comp=E,2µm,0.6s
KUR MLR MLR
comp=N,14µm,16.0s
KUR MLR MLR
comp=E,6µm,16.0s
KUR MLR MLR
comp=Z,11µm,16.0s
PET Petropavlovsk 6.14 26 *e*PN **Pn 17 01 32.8 -0.4**
PET pmax pmax
comp=Z,260nm,0.8s
PET MLR MLR
comp=Z,4µm,20.0s
PET Petropavlovsk 6.14 26 *e*P **Pn 17 01 32.4 -0.8**
PET *e*S **Sn 17 02 37.4 -6.8**
PET Petropavlovsk 6.14 26 *e*P **Pn 17 01 32.8 -0.4**
PET AMB AMB 17 02 04.8
comp=Z,420nm,2.0s
PET *e*S **Sn 17 02 51.3 +7.1**
PET A 17 03 03.7
comp=Z,6µm,3.0s
PET A 17 03 04.2
comp=Z,1µm,1.1s
PET A 17 03 06.8
comp=Z,1µm,1.4s
PET AMS AMS 17 03 07.9
comp=Z,6µm,2.3s
PET A 17 03 55.8
comp=Z,3µm,20.0s
YUK Yuzh-Kuril'sk 6.83 242 *e*PN **Pn 17 01 44.2 +1.2**
YUK *e*S **Sn 17 03 07.5 +5.9**
YUK pmax pmax
comp=Z,400nm,0.3s
YUK pmax pmax
comp=E,320nm,0.4s
YUK pmax pmax
comp=Z,7µm,1.8s
YUK smax
comp=N,2µm,0.5s
YUK smax
comp=E,960nm,0.5s
YUK MLR MLR
comp=Z,8µm,16.0s
YUK MLR MLR
comp=E,11µm,15.0s
YUK Yuzh-Kuril'sk 6.83 242 *e*P **Pn 17 01 44.2 +1.2**
YUK AMB AMB 17 01 47.4
comp=E,400nm,0.3s
YUK AMB AMB 17 01 47.4
comp=E,320nm,0.4s
YUK AMB AMB 17 01 59.0
comp=E,7µm,1.8s
YUK *e*S **Sn 17 03 07.5 +5.9**
YUK A 17 03 31.0
comp=E,6µm,0.6s
YUK A 17 03 31.0
comp=E,8µm,0.8s
YUK A 17 03 32.0
comp=E,2µm,0.5s
YUK A 17 03 32.0
comp=E,960nm,0.5s
YUK AMS AMS 17 04 23.0
comp=E,11µm,15.0s
YUK AMS AMS 17 04 23.0
comp=E,8µm,16.0s
YSS Yuzh-Sakhalins 7.82 270 PN **Pn 17 02 00.0 +3.1**
YSS pmax pmax
comp=N,110nm,0.7s
YSS pmax pmax
comp=E,210nm,0.7s
YSS pmax pmax
comp=Z,200nm,0.7s
YSS MLR MLR
comp=Z,7µm,16.0s
YSS MLR MLR
comp=N,3µm,15.0s
YSS MLR MLR
comp=E,6µm,15.0s
YSS Yuzh-Sakhalins 7.82 270 *e*P **Pn 17 02 00.3 +3.4**
YSS Yuzh-Sakhalins 7.82 270 *e*P **Pn 17 02 00.0 +3.1**
YSS ⇓ *i*P 17 02 00.4
YSS AMB AMB 17 02 01.0
comp=E,110nm,0.7s
YSS AMB AMB 17 02 01.0
comp=E,200nm,0.7s
YSS *e*S **Sn 17 03 26.6 +0.3**
YSS A 17 03 37.0
comp=E,110nm,0.5s
YSS AMS AMS 17 04 58.0
comp=E,7µm,16.0s
YSS AMS AMS 17 04 58.0
comp=E,3µm,15.0s
YSS AMS AMS 17 04 58.0
comp=E,6µm,15.0s
UGL Uglegorsk 8.23 285 *e*P **P 17 02 04.0 +1.4**
TYV Tymovskoe 8.25 298⇑ *e*P **P 17 02 03.0 +0.2**
TYV AMB AMB 17 02 05.5
comp=E,500nm,2.0s
TYV AMB AMB 17 02 05.5
comp=E,500nm,2.0s
TYV AMB AMB 17 02 06.5
comp=E,95nm,1.1s
TYV A 17 04 10.0
comp=E,2µm,6.0s
TYV AMS AMS 17 05 40.0
comp=E,6µm,15.0s
TYV AMS AMS 17 05 40.0
comp=E,6µm,15.0s
TYV AMS AMS 17 05 40.0
comp=E,9µm,15.0s
JWK2 Keihoku 8.80 260 P **P 17 02 17.2 +6.7**
ASAJ Asahikawa 8.82 251 PN **P 17 02 12.4 +1.7**
ASAJ pmax pmax
comp=Z,4.0nm,0.3s
ASAJ MLR MLR
comp=Z,5µm,18.1s
ASAJ Asahikawa 8.82 251 P **P 17 02 12.3 +1.6**
comp=Z,4.0nm,0.3s,baz=87,slow=12,SNR=60
ASAJ LR LR 17 05 26.2
comp=Z,5µm,18.1s,baz=71,slow=36
ASAJ Asahikawa 8.82 251 P **P 17 02 13.9 +3.2**
OKH Okha 9.33 314 *e*P **P 17 02 18.0 +0.2**
OKH AMB AMB 17 02 18.8
comp=Z,1µm,2.4s
OKH AMB AMB 17 02 20.1
comp=Z,200nm,0.9s
OKH *e*S **Sn 17 04 03.0 -0.8**
OKH *e*S **Sn 17 04 03.1 -0.7**
OKH A 17 04 07.6
comp=Z,1µm,11.0s
OKH AMS AMS 17 07 20.0
comp=Z,6µm,13.0s
OKH AMS AMS 17 07 20.0
comp=Z,3µm,12.0s
OKH AMS AMS 17 07 20.0
comp=Z,7µm,13.0s
JEW Eniwo 10.18 247 P **P 17 02 30.4 +1.0**
NKL Nikolayevsk 10.28 308⇓ *i*P **P 17 02 29.0 -1.7**
NKL AMB AMB 17 02 30.5
comp=Z,1µm,2.0s
NKL AMB AMB 17 02 33.0
comp=Z,100nm,1.1s
NKL AMB AMB 17 02 33.0
comp=Z,170nm,1.1s
NKL AMB AMB 17 02 33.0
comp=Z,250nm,1.1s
NKL AMS AMS 17 07 30.0
comp=Z,2µm,15.0s
NKL AMS AMS 17 07 30.0
comp=Z,4µm,15.0s
NKL AMS AMS 17 07 30.0
comp=Z,4µm,15.0s
JSH Shimam 11.16 249 P **P 17 02 43.4 +0.5**
JOT Ohata 11.26 241 P **P 17 02 40.9 -3.3**
JTM Tenmabayashi 11.62 239 P **P 17 02 46.0 -3.1**
GRNR Gornyy 12.07 292 *e*P **P 17 03 00.0 +4.9**
GRNR AMB AMB 17 03 02.2
comp=Z,84nm,1.0s
GRNR AMB AMB 17 03 02.2
comp=Z,210nm,1.0s
GRNR AMB AMB 17 03 02.2
comp=Z,230nm,1.0s
MA2 Magadan 12.18 352 PN **P 17 02 56.6 0.0**
MA2 pmax pmax
comp=Z,45nm,0.8s
MA2 Magadan 12.18 352 *e*P **P 17 02 56.7 +0.1**
TEY Ternei 12.44 265 *e*P **P 17 03 02.0 +1.8**
TEY AMS AMS 17 07 44.0
comp=Z,4µm,16.0s
TEY AMS AMS 17 07 44.0
comp=Z,5µm,16.0s
FX1 Attu Island--F 13.22 59 P **P 17 03 08.0 -2.4**
comp=Z,12nm,0.3s,baz=272,slow=6.6,SNR=49
FX1 S **S 17 05 22.4 -16**
comp=Z,9.1nm,0.3s,baz=53,slow=22,SNR=7.7
FX1 LR LR 17 07 30.3
comp=Z,68nm,21.4s,baz=278,slow=33
FX1 Attu Island--F 13.22 59 *e*P **P 17 03 07.6 -2.8**
JMM Marumori 13.83 230 P **P 17 03 20.4 +1.9**
EKMR Ekimchan 14.62 300 *e*P **P 17 03 30.9 +2.1**
EKMR AMB AMB 17 03 38.5
comp=Z,31nm,0.8s
KLR Kul'dur 15.00 285 *e*P **P 17 03 35.8 +2.0**
KLR MLR MLR
comp=E,2µm,13.0s
KLR MLR MLR
comp=Z,6µm,13.0s
KLR Kul'dur 15.00 285 *e*P **P 17 03 35.8 +2.0**
KLR *e*P 17 03 36.0
KLR *e*rx rx 17 06 39.0
KLR *e*rx rx 17 10 33.0
SEY Seymchan 15.41 357 *e*P **P 17 03 44.5 +5.4**
SEY *e*S **S 17 06 37.3 +6.9**
SEY pmax pmax
comp=Z,20nm,0.7s
SEY pmax pmax
comp=N,30nm,0.9s
MAJO Matsushiro 16.19 233 *e*P **P 17 03 46.6 -2.6**
MAJO pmax pmax
comp=Z,140nm,0.9s
MAJO Matsushiro 16.19 233 *e*P **P 17 03 46.6 -2.6**
comp=Z,140nm,0.9s
MAT Matsushiro 16.19 233 *e*P **P 17 03 45.0 -4.2**
MAT *e*S **S 17 06 46.0 -2.6**
MAT pmax pmax
comp=Z,56nm,0.8s
MAT Matsushiro 16.19 233 *e*P **P 17 03 45.0 -4.2**
comp=Z,56nm,0.8s
MAT *e*S **S 17 06 46.0 -2.6**
MAT Matsushiro 16.19 233 P **P 17 03 45.1 -4.1**
MAT S **S 17 06 45.6 -3.0**
MAT Matsushiro 16.19 233 P **P 17 03 47.0 -2.2**
JRY Ryogami san 16.21 230 P **P 17 03 48.9 -0.7**
JOD2 Odawara 2 16.70 228 P **P 17 04 00.3 +4.5**
MDJ Mudanjiang 17.31 269 P **P 17 04 05.8 +2.4**
MDJ AMB AMB
comp=Z,41nm,0.9s
MDJ AMB AMB
comp=Z,615nm,5.5s
MDJ Mudanjiang 17.31 269 *e*P **P 17 04 04.5 +1.1**
comp=Z,37nm,0.9s
BMKR Bomnak 17.38 304 *e*P **P 17 04 03.4 -0.7**
BMKR AMB AMB 17 04 08.4
comp=Z,72nm,0.8s
YASR Yasnyy 17.60 299 *e*P **P 17 04 05.3 -1.6**
YASR AMB AMB 17 04 09.3
comp=Z,5.0nm,0.7s
YASR AMB AMB 17 04 09.3
comp=Z,20nm,0.7s
YASR AMB AMB 17 04 09.3
comp=Z,40nm,0.7s
ZEA Zeya 18.10 300 *e*P **P 17 04 13.5 +0.3**
ZEA AMB AMB 17 04 15.0
comp=Z,46nm,1.0s
KROS Kirovskiy 18.38 302 *e*P **P 17 04 14.4 -2.3**
KROS AMB AMB 17 04 18.5
comp=Z,27nm,0.9s
KROS AMB AMB 17 04 18.5
comp=Z,70nm,0.9s
KROS AMB AMB 17 04 18.5
comp=Z,88nm,0.9s
JWT Wachi 18.65 236 P **P 17 04 19.2 -0.9**
JAD Aida 19.60 237 P **P 17 04 30.5 -0.7**
JWZ Kozaga 19.80 231 P **P 17 04 33.5 0.0**
YAK Yakutsk 20.04 325 *e*P **P 17 04 33.9 -2.0**
YAK *e* 17 04 50.8
YAK *e*S **S 17 08 21.3 +5.8**
YAK *e*SS SS 17 08 42.9 -1.2
YAK *e* 17 16 02.6
YAK pmax pmax
comp=N,12nm,1.2s
YAK pmax pmax
comp=E,19nm,1.2s
YAK pmax pmax
comp=Z,54nm,1.2s
YAK pmax pmax
comp=Z,38nm,0.9s
YAK smax
comp=E,12nm,1.1s
YAK smax
comp=N,8.0nm,1.0s
YAK MLR MLR
comp=Z,1µm,12.0s,MS4.5
YAK MLR MLR
comp=N,957nm,13.0s,MS4.4
YAK MLR MLR
comp=E,703nm,13.0s,MS4.4
YAK Yakutsk 20.04 325 *e*P **P 17 04 34.1 -1.8**
comp=E,224nm,1.4s
YAK LR LR
comp=Z,1µm,19.0s,MS4.3
CLNS Chul'man 20.07 308 *c i*P **P 17 04 38.2 +2.0**
CLNS *e* 17 04 50.1
CLNS *e*PPP PPP 17 05 03.5 -1.2
CLNS *e* 17 08 47.4
CLNS *e*SS SS 17 08 56.0 +11
CLNS *e* 17 16 04.8
CLNS pmax pmax
comp=N,49nm,1.0s
CLNS pmax pmax
comp=Z,91nm,1.0s
CLNS pmax pmax
comp=E,52nm,0.9s
CLNS pmax pmax
comp=Z,87nm,0.9s
CLNS pmax pmax
comp=N,52nm,1.5s
CLNS pmax pmax
comp=E,63nm,1.0s
CLNS MLR MLR
comp=Z,2µm,15.0s,MS4.7
CLNS MLR MLR
comp=N,3µm,13.0s,MS4.8
CLNS MLR MLR
comp=E,300nm,14.0s,MS4.8
JHS Saijyo 20.16 239 P **P 17 04 37.9 +0.6**
CN2 Changchun 20.39 270 *e*P **P 17 04 37.8 -1.9**
CN2 PP PP 17 05 01.0 +0.7
CN2 *e*S **S 17 08 21.3 -1.5**
CN2 AMB AMB
comp=Z,20nm,0.8s
CN2 AMB AMB
comp=Z,300nm,5.0s
CN2 LR LR
comp=N,2µm,16.0s,MS4.8
CN2 LR LR
comp=E,3µm,16.0s,MS4.8
CN2 LR LR
comp=Z,3µm,17.0s,MS4.8
JMN Monobe 20.65 235 P **P 17 04 43.9 +1.5**
BILL Bilibino 21.41 12 *i*P **P 17 04 46.8 -3.2**
BILL *e*S **S 17 08 48.2 +5.7**
BILL pmax pmax
comp=Z,15nm,1.0s,mb4.3
KS15 Wonju Array Si 21.80 252 *e*P **P 17 04 54.6 +0.5**
SNY Shenyang 22.43 266⇓ P **P 17 05 00.3 -0.1**
CBIJ Chichi jima 22.53 209 LR LR 17 13 04.2
comp=Z,266nm,18.2s,MS3.7,baz=353,slow=35
INCN Inchon 22.59 254 *e*P **P 17 05 02.8 +0.9**
comp=Z,122nm,0.9s,mb5.3
INCN LR LR
comp=Z,2µm,19.0s,MS4.5
JNU Nakatsue 22.80 239 P **P 17 05 06.6 +2.6**
HIA Hailar 22.82 287 *e*P **P 17 05 02.9 -1.2**
comp=Z,10nm,0.8s,mb4.3
HIA LR LR
comp=Z,3µm,19.0s,MS4.8
UNV Unalaska Valle 25.39 61 PFAKE 17 05 40.0 +11
UNV LR LR
comp=Z,3µm,20.0s,MS4.7
TIXI Tiksi 26.89 343 *e*P **P 17 05 36.0 -6.5**
TIXI *e*S **S 17 10 06.5 -11**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
TIXI MLR MLR
comp=Z,1µm,13.0s,MS4.7
TIXI Tiksi 26.89 343 PFAKE 17 05 50.0 +7.5
TIXI LR LR
comp=Z,2µm,19.0s,MS4.6
TNA Tin City 26.92 34 *e*P **P 17 05 43.1 +0.2**
comp=Z,29nm,1.2s,mb4.7
TNA LR LR
comp=Z,909nm,19.0s,MS4.3
BJI Beijing 28.24 269 *e*P **P 17 05 56.8 +1.6**
BJI AMB AMB
comp=Z,10.0nm,1.2s,mb4.3
BJI AMB AMB
comp=Z,158nm,4.6s
BJI LR LR
comp=N,1µm,14.9s,MS5.0
BJI LR LR
comp=E,3µm,16.1s,MS5.0
BJI LR LR
comp=Z,2µm,17.9s,MS4.7
BJT Baijiatuau 28.26 269 PFAKE 17 06 10.0 +15
BJT LR LR
comp=Z,3µm,19.0s,MS4.8
MIDW Midway 29.36 121 PFAKE 17 06 20.0 +15
MIDW LR LR
comp=Z,1µm,21.0s,MS4.6
TIA Tai'an 29.59 261 *e*P **P 17 06 07.0 -0.3**
WAKE Wake Island 30.00 156 PFAKE 17 06 20.0 +8.8
WAKE LR LR
comp=Z,132µm,19.0s
NJ2 Nanjing 30.96 253 *e*P **P 17 06 20.0 +0.5**
NJ2 AP pP 17 06 24.0 +1.3
NJ2 XP sP 17 06 27.3 +3.2
NJ2 PP PP 17 07 21.8 +0.4
NJ2 S **S 17 11 20.0 -2.7**
NJ2 AMB AMB
comp=Z,640nm,4.4s
NJ2 LR LR
comp=N,3µm,12.6s,MS5.2
NJ2 LR LR
comp=E,2µm,17.0s,MS5.2
NJ2 LR LR
comp=Z,2µm,14.5s,MS4.8
HHC Hu-ho-hao-te 30.99 273 *e*P **P 17 06 19.5 -0.2**
HHC AP pP 17 06 29.3 +6.4
HHC XP sP 17 06 33.3 +9.0
HHC AMB AMB
comp=Z,17nm,0.3s,mb5.3
HHC AMB AMB
comp=Z,190nm,3.2s
HHC LR LR
comp=N,1µm,13.7s,MS4.9
HHC LR LR
comp=E,1µm,13.7s,MS4.9
HHC LR LR
comp=Z,2µm,12.4s,MS4.9
ULN Ulaanbaatar 31.34 288 *e*P **P 17 06 21.0 -1.7**
ULN pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
ULN MLR MLR
comp=Z,2µm,20.0s,MS4.7
ULN Ulaanbaatar 31.34 288 *e*P **P 17 06 21.0 -1.7**
comp=Z,3.8nm,0.7s,mb4.3
ULN LR LR
comp=Z,2µm,20.0s,MS4.7
SONM Songino Array 31.77 289 P **P 17 06 24.8 -1.7**
comp=Z,1.7nm,0.6s,baz=63,slow=9.0,SNR=13
SONM PcP PcP 17 09 15.7 -2.2
comp=Z,3.6nm,0.9s,baz=103,slow=2.1,SNR=7.7
SONM ScP 17 12 55.0
comp=Z,1.4nm,1.0s,baz=90,slow=1.2,SNR=4.9
SONM LR LR 17 20 16.3
comp=Z,2µm,19.2s,baz=63,slow=38
TLY Talaya 32.47 296⇓ *i*P **P 17 06 31.8 -0.7**
TLY *e* 17 07 48.3
TLY *e*S **S 17 11 50.7 +4.6**
TLY pmax pmax
comp=Z,11nm,1.3s,mb4.5
TLY MLR MLR
comp=Z,3µm,17.0s,MS5.0
TLY Talaya 32.47 296 PFAKE 17 06 40.0 +7.5
TLY LR LR
comp=Z,604nm,19.0s,MS4.3
IMA Indian Mountai 32.69 37 *e*P **P 17 06 34.2 -0.1**
ZAK Zakamensk 33.01 294 *e*P **P 17 06 35.1 -2.2**
ZAK *e* 17 09 20.0
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
MOY Mondy 34.08 297 *e*P **P 17 06 46.5 0.0**
MCK McKinley 34.52 41 *e*P **P 17 06 49.5 -0.7**
MCK pmax pmax
comp=Z,29nm,1.3s,mb5.0
MCK MLR MLR
comp=Z,467nm,21.0s,MS4.2
MCK McKinley 34.52 41 *e*P **P 17 06 49.5 -0.7**
comp=Z,29nm,1.3s,mb5.0
MCK LR LR
comp=Z,467nm,21.0s,MS4.2
GUMO Guam 34.78 196 LR LR 17 22 43.9
comp=Z,480nm,18.1s,MS4.3,baz=258,slow=39
GUMO Guam 34.78 196 PFAKE 17 07 00.0 +7.1
GUMO LR LR
comp=Z,343nm,19.0s,MS4.1
SML Sawmill 34.84 44 *e*P **P 17 06 52.1 -0.9**
WHN Wuhan 34.87 255⇑ P **P 17 06 53.0 -0.5**

COLA College 35.01 39⇑ *e*P **P 17 06 54.5 +0.1**
COLA pmax pmax
comp=Z,43nm,1.0s,mb5.3
COLA MLR MLR
comp=Z,870nm,20.0s,MS4.5
COLA College 35.01 39 *e*P **P 17 06 54.6 +0.2**
COLA LR LR
comp=Z,800nm,18.0s,MS4.5
THY Trims Highway 35.96 42 *e*P **P 17 07 02.6 +0.2**
DIV Divide 36.12 45 PFAKE 17 07 20.0 +16
DIV LR LR
comp=Z,2µm,21.0s,MS4.9
XAN Xi'an 36.34 265 P **P 17 07 05.8 -0.1**
XAN AMB AMB
comp=Z,34nm,1.4s,mb5.1
MENT Mentasta 36.91 42 *e*P **P 17 07 11.1 +0.7**
ENH Enshi 38.26 259⇑ *i*P **P 17 07 21.8 -0.4**
comp=Z,51nm,0.9s,mb5.3
ENH LR LR
comp=Z,681nm,21.0s,MS4.4
LZH Lanzhou 38.62 272 ⇑P **P 17 07 25.5 +0.4**
LZH AP pP 17 07 37.8 +9.5
LZH PP PP 17 08 58.0 +0.9
LZH PCP PcP 17 09 37.5 -0.4
LZH S **S 17 13 17.0 -3.8**
LZH XS 17 13 37.0
LZH SS SS 17 15 59.8 -1.9
LZH AMB AMB
comp=Z,83nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,303nm,4.0s
LZH LR LR
comp=E,2µm,13.5s
LZH LR LR
comp=Z,3µm,15.5s,MS5.2
DAWY Dawson 38.72 40 *e*P **P 17 07 25.7 +0.1**
GTA Gaotai 39.59 279 *e*P **P 17 07 32.5 -0.6**
GTA AP pP 17 07 36.3 -0.1
GTA PP PP 17 09 08.3 +0.3
GTA PPP PPP 17 09 33.0 +0.6
GTA PCP PcP 17 09 41.0 +0.1
GTA S **S 17 13 36.8 +1.3**
GTA SS SS 17 16 20.5 -2.5
GTA AMB AMB
comp=Z,13nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,129nm,5.3s
GTA LR LR
comp=N,986nm,14.5s,MS4.9
GTA LR LR
comp=E,999nm,14.8s,MS4.9
GTA LR LR
comp=Z,1µm,17.1s,MS4.9
INK Inuvik 40.54 33 *e*P **P 17 07 41.4 +0.7**
INK pmax pmax
comp=Z,19nm,0.8s
INK Inuvik 40.54 33 P **P 17 07 41.4 +0.7**
comp=Z,11nm,0.7s,mb4.6,baz=290,slow=6.8,SNR=61
INK Inuvik 40.54 33 *e*P **P 17 07 41.4 +0.7**
comp=Z,19nm,0.8s,mb4.8
CD2 Chengdu 41.70 265 P **P 17 07 51.3 +0.8**
CD2 PCS 17 13 41.0
CD2 S **S 17 14 10.5 +3.5**
CD2 AMB AMB
comp=Z,130nm,0.6s,mb5.7
CD2 LR LR
comp=N,2µm,16.2s
CD2 LR LR
comp=Z,2µm,16.2s,MS5.0
GYA Guiyang 42.63 258⇑ *i*P **P 17 07 58.8 +0.6**
GYA AMB AMB
comp=Z,100nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,230nm,4.0s
GYA LR LR
comp=N,1µm,15.2s,MS4.8
GYA LR LR
comp=E,400nm,16.5s,MS4.8
GYA LR LR
comp=Z,400nm,15.5s,MS4.4
NVS Novosibirsk 43.28 307 *i*P **P 17 08 00.6 -2.5**
NVS *i* 17 09 50.3
NVS *e*S **S 17 14 30.6 +0.7**
NVS pmax pmax
comp=Z,49nm,2.2s,mb4.8
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,30nm,2.1s
NVS smax
comp=N,8.0nm,2.0s
NVS smax
comp=E,13nm,2.0s
DLBC Dease Lake 44.47 47 P **P 17 08 14.2 +1.4**
comp=E,6.2nm,0.9s,mb4.3,baz=274,slow=13,SNR=6.3
WMQ Urumqi 45.33 291⇑ *i*P **P 17 08 19.8 0.0**
WMQ XP sP 17 08 26.5 +2.1
WMQ PP PP 17 10 06.0 -0.6
WMQ PPP PPP 17 10 47.0 -0.9
WMQ PCS 17 13 53.0
WMQ S **S 17 15 00.0 +0.4**
WMQ XS 17 15 07.0
WMQ SS SS 17 18 14.0 -0.2
WMQ AMB AMB
comp=Z,12nm,0.8s,mb4.8
WMQ AMB AMB
comp=Z,227nm,6.0s
WMQ LR LR
comp=N,2µm,14.4s,MS5.3
WMQ LR LR
comp=E,2µm,13.3s,MS5.3
WMQ LR LR
comp=Z,1µm,17.6s,MS5.0
QIZ Qiongzhong 45.87 247 *e*P **P 17 08 25.8 +1.4**
QIZ S **S 17 15 07.0 -0.7**
QIZ PS PS 17 15 18.3 +1.8
QIZ SS SS 17 18 25.3 +1.0
QIZ AMB AMB
comp=Z,23nm,1.6s,mb4.9
QIZ LR LR
comp=N,570nm,17.1s,MS4.7
QIZ LR LR
comp=E,461nm,15.9s,MS4.7
QIZ LR LR
comp=Z,938nm,16.5s,MS4.8
QIZ Qiongzhong 45.87 247 PFAKE 17 08 40.0 +16
QIZ LR LR
comp=Z,676nm,21.0s,MS4.6
KMI Kunming 46.13 260 ⇑P **P 17 08 27.3 +0.9**
KMI PP PP 17 10 14.8 -0.1
KMI S **S 17 15 04.0 -7.4**
KMI SS SS 17 18 23.0 -5.9
KMI AMB AMB
comp=Z,55nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,270nm,3.1s
KMI LR LR
comp=N,1µm,17.3s,MS4.9
KMI LR LR
comp=E,642nm,17.3s,MS4.9
KMI LR LR
comp=Z,601nm,22.5s
MKAR Makanchi Array 47.23 297 *i*P **P 17 08 33.3 -1.5**
MKAR pmax pmax
comp=Z,22nm,0.8s
MKAR Makanchi Array 47.23 297 P **P 17 08 33.2 -1.6**
comp=Z,23nm,0.9s,mb5.1,baz=66,slow=7.5,SNR=115
MKAR LR LR 17 29 47.5
comp=Z,511nm,19.5s,MS4.5,baz=43,slow=38
KURK Kurchatov 47.53 303⇑ *i*P **P 17 08 35.1 -2.0**
KURK pmax pmax
comp=Z,43nm,0.9s,mb5.5
KURK MLR MLR
comp=Z,573nm,19.0s,MS4.6
KURK Kurchatov 47.53 303⇑ *i*P **P 17 08 35.0 -2.1**
comp=Z,43nm,0.9s,mb5.5
KURK LR LR
comp=Z,573nm,19.0s,MS4.6
YKW3 Yellowknife Ar 49.77 37 *e*P **P 17 08 53.7 -0.6**
RES Resolute Bay 49.80 19 *e*P **P 17 08 54.2 -0.2**
RES pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
RES Resolute Bay 49.80 19 *e*P **P 17 08 54.2 -0.2**
comp=Z,10.0nm,0.8s,mb4.9
YKA Yellowknife Ar 49.80 37 P **P 17 08 54.1 -0.4**

YKA 17 10 14.4
YKA Yellowknife Ar 49.80 37 P **P 17 08 54.1 -0.4**
comp=Z,6.7nm,0.9s,mb4.7,baz=297,slow=7.5,SNR=54
YKA PcP PcP 17 10 14.3 -1.2
comp=Z,3.1nm,0.9s,baz=298,slow=5.0,SNR=7.0
CHKZ Chkalovo 50.47 310 *e*P **P 17 08 57.0 -2.7**
CHKZ pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CHKZ Chkalovo 50.47 310 *e*P **P 17 08 57.0 -2.8**
comp=Z,8.9nm,0.6s,mb5.0
BVA0 Borovoye Array 50.91 309 *e*P **P 17 09 01.0 -2.1**
BVAR Borovoye Array 50.91 309 P **P 17 09 00.7 -2.3**
comp=Z,2.8nm,0.4s,mb4.5,baz=54,slow=7.8,SNR=20
BVAR PcP PcP 17 10 19.0 -0.8
comp=Z,4.1nm,0.7s,baz=72,slow=4.7,SNR=5.6
LSA Lhasa 50.98 273 P **P 17 09 05.5 +1.6**
LSA Lhasa 50.98 273 PFAKE 17 09 20.0 +16
LSA LR LR
comp=Z,1µm,22.0s,MS4.8
NANT Nan 51.90 255 ⇑P **P 17 09 09.0 -2.0**
comp=Z,200nm,0.6s,mb6.2
KKTK Khon Kaen 52.32 251 ⇑P **P 17 09 14.6 +0.4**
comp=Z,370nm,1.0s
CHG Chiang Mai 53.04 257 ⇑P **P 17 09 18.8 -0.8**
comp=Z,52nm,1.2s,mb5.3
TKM2 Tokmak 2 53.31 296 P **P 17 09 20.1 -1.1**
SNR=11
SVE Sverdlovsk 53.73 317 *e*P **P 17 09 19.0 -5.1**
SVE MLR MLR
comp=N,500nm,16.0s,MS4.8
SVE MLR MLR
comp=E,500nm,16.0s,MS4.8
SVE MLR MLR
comp=Z,1µm,16.0s,MS5.0
CHMS Chumysh 53.77 297 P **P 17 09 23.8 -0.9**
SNR=8.3
USP Ospenovka 53.78 297 P **P 17 09 23.6 -1.1**
SNR=31
KBK Karagaybulak 53.85 296 P **P 17 09 24.7 -0.5**
SNR=13
FRU Bishkek 53.95 297 *e*P **P 17 09 26.0 +0.1**
FRU MLR MLR
comp=N,1µm,17.0s,MS5.2
FRU MLR MLR
comp=E,1µm,17.0s,MS5.2
FRU MLR MLR
comp=Z,1µm,17.0s,MS5.1
KZA Kyzart 53.99 295 P **P 17 09 25.9 -0.3**
SNR=14
AAK Ala-Archa 54.14 296 P **P 17 09 26.3 -1.0**
SNR=14
AAK Ala-Archa 54.14 296 P **P 17 09 25.0 -2.3**
comp=Z,99nm,0.8s,mb5.8,SNR=22
AAK Ala-Archa 54.14 296⇑ *e*P **P 17 09 24.8 -2.5**
AAK pmax pmax
comp=Z,21nm,0.9s,mb5.1
AAK MLR MLR
comp=Z,249nm,21.0s,MS4.2
AAK Ala-Archa 54.14 296⇑ *e*P **P 17 09 24.8 -2.5**
comp=Z,21nm,0.9s,mb5.1
AAK LR LR
comp=Z,249nm,21.0s,MS4.2
NST Nakhon Sawan 54.54 253 P **P 17 09 31.0 +0.4**
EKS2 Erkin-Say 54.56 297 P **P 17 09 29.8 -0.6**
SNR=27
ARU Arti 54.90 317⇓ *i*P **P 17 09 31.1 -1.7**
ARU *i* 17 10 32.6
ARU *e* 17 11 33.8
ARU *e*S **S 17 17 07.8 -4.5**
ARU *e*SS SS 17 20 52.7 -2.9
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ARU MLR MLR
comp=N,400nm,20.0s,MS4.7
ARU MLR MLR
comp=Z,700nm,20.0s,MS4.7
ARU MLR MLR
comp=E,400nm,19.0s,MS4.7
ARU Arti 54.90 317 PFAKE 17 09 40.0 +7.2
ARU LR LR
comp=Z,203nm,21.0s,MS4.2
AML Almayashu 54.91 296 P **P 17 09 32.5 -0.5**
SNR=11
EDM Edmonton 55.19 47 *e*P **P 17 09 33.7 -1.2**
JIRN Jiri 55.63 275 *e*P **P 17 09 38.2 -0.2**
comp=Z,177nm,0.9s,mb6.1
GUN Gumba 55.68 275 *e*P **P 17 09 38.9 +0.1**
comp=Z,63nm,0.6s,mb5.8
HAWA Hanford 55.81 57 PFAKE 17 09 50.0 +10
HAWA LR LR
comp=Z,55nm,21.0s
DAG Danmarks Havn 55.84 358 *e*P **P 17 09 37.0 -2.3**
DAG Danmarks Havn 55.84 358 *i*P **P 17 09 37.0 -2.3**
HUMO Hull Mountain 56.02 62 PFAKE 17 09 50.0 +8.9
HUMO LR LR
comp=Z,691nm,21.0s,MS4.7
NEW Newport 56.07 54 PFAKE 17 09 50.0 +8.7
NEW LR LR
comp=Z,798nm,22.0s,MS4.8
KKN Kakani 56.16 275 *e*P **P 17 09 42.2 0.0**
comp=Z,229nm,1.1s,mb6.1
PKI Pulchoki 56.21 275 *e*P **P 17 09 42.7 +0.1**
comp=Z,219nm,1.3s,mb6.0
DMN Daman 56.39 275 *e*P **P 17 09 44.2 +0.3**
comp=Z,240nm,0.9s,mb6.2
GKN Gorkha 56.45 276 *e*P **P 17 09 44.2 -0.2**
comp=Z,127nm,0.8s,mb6.0
YBH Yreka Blue Hor 56.69 63 PFAKE 17 10 00.0 +14
YBH LR LR
comp=Z,514nm,21.0s,MS4.6
APA Apatity 56.87 337⇑ *e*P **P 17 09 36.5 -10**
APA *e* 17 09 58.4
APA pmax pmax
comp=Z,110nm,18.0s
APA MLR MLR
comp=Z,1µm,18.0s,MS5.1
HNR Honiara 56.99 173 PFAKE 17 10 00.0 +12
HNR LR LR
comp=Z,478nm,21.0s,MS4.6
PMG Port Moresby 57.09 188 PFAKE 17 10 00.0 +11
PMG LR LR
comp=Z,337nm,21.0s,MS4.4
KOLN Koldanda 57.30 277 *e*P **P 17 09 50.3 -0.1**
comp=Z,130nm,0.9s,mb6.0
ARCES ARCESS Array B 57.31 341 P **P 17 09 48.1 -1.8**
comp=Z,5.0nm,0.8s,mb4.6,baz=18,slow=7.7,SNR=9.4
ARCES LR LR 17 38 07.3
comp=Z,974nm,20.5s,MS4.9,baz=21,slow=40
WALA Waterton Lakes 57.33 51 P **P 17 09 49.6 -0.7**
comp=Z,30nm,1.3s,mb5.2
BMO Blue Mountains 57.98 57 *e*P **P 17 09 53.2 -1.7**
comp=Z,14nm,1.0s,mb4.9
BMO LR LR
comp=Z,610nm,22.0s,MS4.7
MOD Modoc 58.02 61 PFAKE 17 10 10.0 +15
MOD LR LR
comp=Z,522nm,20.0s,MS4.6
MSO Missoula 58.66 53 *e*P **P 17 09 59.0 -0.6**
comp=Z,26nm,1.5s,mb5.0
MSO LR LR
comp=Z,395nm,19.0s,MS4.5
WVOR Wild Horse Val 58.68 60 PFAKE 17 10 10.0 +10
WVOR LR LR
comp=Z,1µm,22.0s,MS4.9
CHMT Chamberlain Mo 58.98 53 *e*P **P 17 10 01.3 -0.6**
SDNR Sundarnagar 59.31 284 *e*P **P 17 10 03.6 -0.8**
THN Thein Dam 59.54 286 *e*P **P 17 10 04.0 -1.9**
comp=Z,16nm,1.0s,mb5.0
FFC Flin Flon 59.61 41 P **P 17 10 06.2 +0.1**
comp=Z,94nm,1.3s,mb5.7,SNR=11
FFC Flin Flon 59.61 41 *e*P **P 17 10 05.8 -0.3**
FFC pmax pmax
comp=Z,29nm,1.1s,mb5.2
FFC MLR MLR
comp=Z,106nm,20.0s,MS4.0
FFC Flin Flon 59.61 41 *e*P **P 17 10 05.8 -0.4**
comp=Z,29nm,1.1s,mb5.2
FFC LR LR
comp=Z,106nm,20.0s,MS4.0
SUMG Summit 59.81 4⇑ *i*P **P 17 10 07.2 -0.1**
comp=Z,75nm,0.8s,mb5.8
HRY Holter Researc 59.87 53 *e*P **P 17 10 08.6 +0.6**
FCC Fort Churchill 60.15 34⇑ *i*P **P 17 10 08.7 -1.1**
comp=Z,25nm,0.9s,mb5.2
CMB Columbia Colle 60.36 65 PFAKE 17 10 20.0 +8.5
CMB LR LR
comp=Z,497nm,20.0s,MS4.7

HLID Hailey 60.42 57 PFAKE 17 10 20.0 +8.2
HLID LR LR
comp=Z,566nm,19.0s,MS4.7
BOZ Bozeman (W) 60.65 53 *e*P **P 17 10 13.5 +0.1**
BOZ pmax pmax
comp=Z,16nm,0.8s,mb5.2
BOZ MLR MLR
comp=Z,601nm,22.0s,MS4.7
BOZ Bozeman (W) 60.65 53 *e*P **P 17 10 13.5 +0.2**
comp=Z,16nm,0.8s,mb5.2
BOZ LR LR
comp=Z,601nm,22.0s,MS4.7
BMN Battle Mountai 60.76 61 PFAKE 17 10 30.0 +16
BMN LR LR
comp=Z,493nm,21.0s,MS4.6
NDI New Delhi 60.97 282 *e*P **P 17 10 13.0 -2.8**
QLMT Earthquake Lak 61.28 54 *e*P **P 17 10 17.9 +0.3**
MNV Mina 61.47 63 *e*P **P 17 10 19.3 +0.3**
MNV pmax pmax
comp=Z,11nm,1.1s,mb4.9
MNV MLR MLR
comp=Z,458nm,20.0s,MS4.6
MNV Mina 61.47 63 *e*P **P 17 10 19.3 +0.2**
comp=Z,11nm,1.1s,mb4.9
MNV LR LR
comp=Z,458nm,20.0s,MS4.6
YMR Madison River 61.63 54 *e*P **P 17 10 20.2 +0.1**
YNR Norris Junctio 61.76 54 *e*P **P 17 10 21.0 0.0**
YFT Old Faithful 61.84 54 *e*P **P 17 10 23.0 +1.5**
LKWY Lake 62.01 54 PFAKE 17 10 30.0 +7.4
LKWY LR LR
comp=Z,748nm,20.0s,MS4.8
BLSP Bilaspur 62.05 273 *e*P **P 17 10 22.2 -1.0**
BLSP *e* pP 17 10 23.6 -2.9
comp=Z,35nm,1.5s
IMW Indian Meadow 62.15 55 *e*P **P 17 10 24.2 +0.7**
comp=Z,18nm,1.0s,mb5.2
TPH Tonopah 62.26 63 PFAKE 17 10 40.0 +16
TPH LR LR
comp=Z,331nm,20.0s,MS4.5
RRI2 Red Ridge 62.29 55 *e*P **P 17 10 25.1 +0.6**
comp=Z,25nm,0.8s,mb5.4
MOOW Moose Ponds 62.35 55 *e*P **P 17 10 24.6 -0.3**
comp=Z,8.7nm,0.8s,mb4.9
TPAW Teton Pass 62.40 55 *e*P **P 17 10 26.2 +0.9**
comp=Z,51nm,1.1s,mb5.6
HVU Hansel Valley 62.48 57 *e*P **P 17 10 25.8 0.0**
LOHW Long Hollow 62.52 55 *e*P **P 17 10 26.3 +0.4**
comp=Z,50nm,1.4s,mb5.5
REDW Red Top Meadow 62.54 55 *e*P **P 17 10 26.7 +0.6**
comp=Z,53nm,1.2s,mb5.5
AHID Auburn Hatcher 62.79 56 PFAKE 17 10 40.0 +12
AHID LR LR
comp=Z,437nm,20.0s,MS4.6
LAO LASA Array 62.84 50 PFAKE 17 10 40.0 +12
LAO LR LR
comp=Z,632nm,22.0s,MS4.7
BGU Big Grassy Mou 62.89 58 *e*P **P 17 10 29.4 +0.9**
KAF Kangasniemi 63.00 335 *e*p **P 17 10 25.6 -3.3**
comp=Z,6.3nm,0.8s,mb4.8,baz=38,slow=6.3
KAF Kangasniemi 63.00 335 *e*P **P 17 10 25.6 -3.3**
KAF pmax pmax
comp=Z,6.0nm,0.8s,mb4.8
TRCR Troy Canyon 63.07 62 P **P 17 10 30.2 +0.5**
DAC Darwin (Calif) 63.20 65 PFAKE 17 10 40.0 +9.4
DAC LR LR
comp=Z,346nm,19.0s,MS4.5
HWUT Hardware Ranch 63.28 57 *e*P **P 17 10 30.9 -0.1**
comp=Z,23nm,0.7s,mb5.4
HWUT LR LR
comp=Z,464nm,21.0s,MS4.6
DUG Dugway 63.49 59 *e*P **P 17 10 32.3 -0.2**
DUG pmax pmax
comp=Z,20nm,1.1s,mb5.2
DUG MLR MLR
comp=Z,367nm,21.0s,MS4.5
DUG Dugway 63.49 59 *e*P **P 17 10 32.3 -0.1**
comp=Z,20nm,1.1s,mb5.2
DUG LR LR
comp=Z,367nm,21.0s,MS4.5
NOQ North Oquirrh 63.59 58 P **P 17 10 33.7 +0.6**
FINES FINESS Array B 63.60 335 P **P 17 10 31.0 -1.7**
comp=Z,5.3nm,0.4s,mb5.0,baz=33,slow=7.8,SNR=57
FINES LR LR 17 42 09.3
comp=Z,687nm,18.9s,MS4.8,baz=168,slow=40
FINES FINESS Array B 63.60 335 P **P 17 10 31.0 -1.7**
FINES LR LR 17 42 09.3
BW06 Boulder Array 63.65 55 PFAKE 17 10 50.0 +17
BW06 LR LR
comp=Z,435nm,22.0s,MS4.6
PDAR Pinedale Array 63.65 55 P **P 17 10 33.3 -0.1**
comp=Z,6.0nm,1.0s,mb4.6,baz=297,slow=3.3,SNR=30
NLU North Lily Min 64.08 59 *e*P **P 17 10 36.2 -0.1**
SFJ Sondre 64.19 11 PFAKE 17 10 50.0 +13
SFJ LR LR
comp=Z,858nm,20.0s,MS4.9
SFJD Kangerlussuaq 64.19 11 *e*P **P 17 10 29.5 -7.0**
SFJD *e* 17 11 05.7
SFJD pmax pmax
comp=Z,12nm,1.1s,mb4.8
SFJD Kangerlussuaq 64.19 11 *i*P **P 17 10 29.5 -7.0**
comp=Z,12nm,1.1s,mb4.8
SFJD *e* 17 11 05.7
DAU Daniels Canyon 64.25 58 P **P 17 10 41.9 +4.6**
BHPL Bhopal 64.47 277 *e*P **P 17 10 38.6 -0.4**
ARUT Antelope Range 64.71 61 *e*P **P 17 10 40.9 +0.5**
MVU Marysvale 64.96 60 *e*P **P 17 10 42.4 +0.4**
comp=Z,14nm,1.1s,mb4.9
MVU LR LR
comp=Z,360nm,22.0s,MS4.5
MSU Marysvale 64.97 60 *e*P **P 17 10 42.3 +0.2**
TMUT Trail Mountain 65.02 59 *e*P **P 17 10 42.4 0.0**
OBN Obninsk 65.04 326 *d*P **P 17 10 39.6 -2.6**
OBN *e*S S 17 19 19.7 -3.0
OBN *i* SS SS 17 23 31.3 -5.4
OBN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
OBN MLR MLR
comp=Z,500nm,21.0s,MS4.7
OBN Obninsk 65.04 326 PFAKE 17 10 50.0 +7.8
OBN LR LR
comp=Z,140nm,21.0s,MS4.1
ULM Lac du Bonnet 65.40 42 P **P 17 10 43.4 -1.2**
comp=Z,1.0nm,0.4s,mb4.2,baz=298,slow=7.0,SNR=4.8
ULM Lac du Bonnet 65.40 42 P **P 17 10 43.4 -1.2**
ULM LR LR
comp=Z,799nm,21.0s,MS4.9
LDFC Landfair 65.51 64 *e*P **P 17 10 46.7 +1.1**
SRU San Rafael 65.53 58 *e*P **P 17 10 45.4 -0.3**
PFO Pinyon Flat Ob 65.66 66 PFAKE 17 11 00.0 +13
PFO LR LR
comp=Z,104nm,21.0s,MS4.0
RSSD Black Hills 65.71 51 *e*P **P 17 10 46.3 -0.4**
RSSD pmax pmax
comp=Z,17nm,0.7s,mb5.2
RSSD Black Hills 65.71 51 *e*P **P 17 10 46.3 -0.4**
comp=Z,17nm,0.7s,mb5.2
PV10 Paradox Valley 66.89 58 *e*P **P 17 10 54.9 +0.6**
PV01 Paradox Valley 67.32 58 *e*P **P 17 10 56.1 -1.0**
WUAZ Wupatki 67.47 62 PFAKE 17 11 10.0 +12
WUAZ LR LR
comp=Z,448nm,20.0s,MS4.7
NB2 NORSAR Subarra 67.68 342 P **P 17 10 57.6 -1.3**
comp=Z,23nm,1.2s,mb5.1,baz=25,slow=6.2
NB2 NORSAR Subarra 67.68 342 P **P 17 10 57.6 -1.3**
NB2 pmax pmax
comp=Z,23nm,1.2s,mb5.1
NB2 NORSAR Subarra 67.68 342 P **P 17 10 57.6 -1.3**
baz=25,slow=6.5
NOA NORSAR Array B 67.68 342 P **P 17 10 58.0 -1.0**
comp=Z,3.7nm,0.6s,mb4.6,baz=26,slow=6.3,SNR=23
NOA LR LR 17 46 45.2
comp=Z,502nm,18.1s,MS4.8,baz=10.0,slow=41
HYB Hyderabad 67.73 272 *e*P **P 17 11 00.0 0.0**
HYB Hyderabad 67.73 272 *i*P **P 17 11 00.0 0.0**
CTA Charters Tower 67.74 188 P **P 17 10 57.9 -2.2**
comp=Z,11nm,0.8s,mb4.9,baz=34,slow=8.1,SNR=5.1
CTA LR LR 17 38 40.1
comp=Z,273nm,19.2s,MS4.5,baz=42,slow=34
CTAO Charters Tower 67.74 188 PFAKE 17 11 10.0 +10
CTAO LR LR
comp=Z,300nm,19.0s,MS4.5
RW3 Ridgway 67.75 57 *e*P **P 17 11 00.2 +0.4**
ISCO Idaho Springs 67.84 55 *e*P **P 17 11 00.6 +0.3**
ISCO pmax pmax

ISCO MLR MLR
comp=Z,521nm,19.0s,MS4.8
ISCO Idaho Springs 67.84 55 *e*P **P 17 11 00.6 +0.3**
comp=Z,17nm,1.2s,mb5.0
ISCO LR LR
comp=Z,521nm,19.0s,MS4.8
NAO01 NORSAR Array S 67.92 342 PFAKE 17 11 10.0 +10
NAO01 LR LR
comp=Z,937nm,19.0s,MS5.0
HFS Hagfors 67.93 340 P **P 17 10 59.5 -1.0**
comp=Z,3.7nm,0.4s,mb4.8,baz=50,slow=3.1,SNR=44
BORG Borgarnes 67.95 358 PFAKE 17 11 10.0 +9.4
BORG LR LR
comp=Z,156nm,20.0s,MS4.2
MNK Minsk 68.68 330 *e*P **P 17 11 03.0 -2.3**
EYMN Ely 69.04 41 PFAKE 17 11 20.0 +12
EYMN LR LR
comp=Z,423nm,21.0s,MS4.7
KONO Kongsberg 69.28 342 PFAKE 17 11 20.0 +11
KONO LR LR
comp=Z,670nm,19.0s,MS4.9
SDCO Great Sand Dun 69.34 56 *e*P **P 17 11 09.7 +0.1**
comp=Z,19nm,1.1s,mb4.9
SDCO LR LR
comp=Z,502nm,22.0s,MS4.7
WRAB Tennant Creek 69.54 200 P **P 17 11 10.0 -1.2**
comp=Z,166nm,1.1s,mb5.9,SNR=13
WRAB Tennant Creek 69.54 200⇑ *e*P **P 17 11 09.7 -1.5**
WRAB pmax pmax
comp=Z,71nm,1.1s,mb5.5
WRAB MLR MLR
comp=Z,196nm,21.0s,MS4.3
WRAB Tennant Creek 69.54 200⇑ *e*P **P 17 11 09.7 -1.4**
comp=Z,71nm,1.1s,mb5.5
WRAB LR LR
comp=Z,196nm,21.0s,MS4.3
WB2 Warramunga Arr 69.55 200⇑ *i*P **P 17 11 09.9 -1.3**
WRA Warramunga Arr 69.55 200 P **P 17 11 09.4 -1.8**
comp=Z,23nm,1.1s,mb5.0,baz=18,slow=6.4,SNR=45
BHJ Bhuj 69.64 282 *e*P **P 17 11 11.6 -0.1**
GOF Gofitskoye 69.77 315⇓ *i*P **P 17 11 11.9 -0.2**
GOF pmax pmax
comp=Z,160nm,2.5s,mb5.5
TUC Tucson 70.03 64 *e*P **P 17 11 21.6 +7.7**
TUC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TUC Tucson 70.03 64 PFAKE 17 11 30.0 +16
TUC LR LR
comp=Z,298nm,21.0s,MS4.5
POO Poona 70.12 276 *e* **P 17 11 17.3 +2.6**
comp=Z,63nm,1.0s,mb5.5
DZM Mont Dzumac 70.20 168 LR LR 17 38 17.0
comp=Z,478nm,19.0s,MS4.8,baz=262,slow=33
FITZ Fitzroy Crossi 70.24 209⇑ *i*P **P 17 11 15.1 -0.3**
comp=Z,22nm,0.8s,mb5.1
FITZ Fitzroy Crossi 70.24 209 P **P 17 11 14.7 -0.7**
comp=Z,34nm,0.9s,mb5.3,baz=10,slow=5.0,SNR=27
SUW Suwalki 70.62 332 *e*P **P 17 11 16.5 -0.6**
SUW Suwalki 70.62 332 *e*P **P 17 11 16.6 -0.6**
SUW MLR MLR 17 48 31.3
comp=Z,800nm,18.0s,MS5.0
LAZ Ladron 70.74 60 P **P 17 11 17.8 -0.4**
KIV Kislovodsk 70.75 315*c* *i*P **P 17 11 18.1 0.0**
KIV *e* 17 11 42.7
KIV *e*S S 17 20 32.3 +1.0
KIV pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,900nm,17.0s,MS5.1
KIV Kislovodsk 70.75 315 PFAKE 17 11 30.0 +12
KIV LR LR
comp=Z,224nm,20.0s,MS4.4
ANMO Albuquerque 70.75 59 *e*P **P 17 11 18.0 -0.3**
ANMO pmax pmax
comp=Z,12nm,1.0s
ANMO MLR MLR
comp=Z,317nm,19.0s
ANMO Albuquerque 70.75 59 *e*P **P 17 11 18.0 -0.3**
comp=Z,12nm,1.0s,mb4.8
ANMO LR LR
comp=Z,317nm,19.0s,MS4.6
KAD Karad 70.76 275 *e*P **P 17 11 18.4 -0.2**
KAD *e* pP 17 11 19.8 -2.2
comp=Z,37nm,0.5s
AKASG Malin Array Be 71.27 327 P **P 17 11 19.5 -1.7**
comp=Z,1.8nm,0.3s,mb4.5,baz=33,slow=6.0,SNR=36
TI2 Plekhanov 71.38 312 *i* P **P 17 11 22.2 +0.2**
CBKS Cedar Bluff 71.74 52 PFAKE 17 11 40.0 +16
CBKS LR LR
comp=Z,289nm,21.0s,MS4.5
SCHQ Schefferville 72.24 24 P **P 17 11 26.2 -0.7**
comp=Z,7.4nm,0.8s,mb4.7,baz=352,slow=7.0,SNR=12
SCHQ LR LR 17 46 53.3
comp=Z,427nm,18.2s,MS4.8,baz=65,slow=39
SCHQ Schefferville 72.24 24 P **P 17 11 26.2 -0.7**
SCHQ LR LR 17 46 53.3
SOC Sochi 72.44 316 *e*P **P 17 11 22.6 -5.7**
SOC *e*PPP PPP 17 15 51.2 -2.5
SOC *e*S S 17 20 43.9 -6.8
SOC *e* 17 21 25.2
SOC *e*SSS SSS 17 28 45.0 +4.2
SOC pmax pmax
comp=Z,38nm,0.8s,mb5.4
SOC pmax pmax
comp=N,20nm,0.6s
SOC pmax pmax
comp=E,18nm,0.6s
SOC MLR MLR
comp=Z,902nm,18.0s,MS5.1
SOC MLR MLR
comp=N,830nm,19.0s,MS5.1
SOC MLR MLR
comp=E,544nm,20.0s,MS5.1
GNI Garni 72.56 311 PFAKE 17 11 40.0 +11
GNI LR LR
comp=Z,1μm,19.0s,MS5.2
ANN Anapa 72.56 318 *e*P **P 17 11 21.9 -7.0**
ANN *e* 17 11 47.8
ANN pmax pmax
comp=Z,103nm,1.7s,mb5.5
GKP Gorka Klasztor 73.07 335 *e*P **P 17 11 31.3 -0.4**
GKP MLR MLR 17 49 27.5
comp=Z,2μm,18.3s,MS5.4
ASAR Alice Springs 73.24 199 P **P 17 11 33.0 -0.3**
comp=Z,21nm,0.9s,mb5.1,baz=12,slow=5.1,SNR=84
ASAR LR LR 17 44 29.9
comp=Z,221nm,18.2s,MS4.5,baz=277,slow=36
ASPA Alice Springs 73.25 199 *e*P **P 17 11 33.0 -0.3**
JFWS Jewell Farm 73.44 44 PFAKE 17 11 50.0 +16
JFWS LR LR
comp=Z,516nm,19.0s,MS4.8
AMTX Amarillo 73.53 56 *e*P **P 17 11 34.5 -0.2**
comp=Z,11nm,0.8s,mb4.8
AMTX LR LR
comp=Z,448nm,19.0s,MS4.8
PALK Pallekele 73.55 263 PFAKE 17 11 50.0 +15
PALK LR LR
comp=Z,175nm,19.0s,MS4.4
MNTX Cornudas Mount 73.70 61 PFAKE 17 11 50.0 +14
MNTX LR LR
comp=Z,281nm,22.0s,MS4.5
SIM Simferopol' 73.91 320 P **P 17 11 37.0 +0.3**
SIM MLR MLR
comp=Z,500nm,16.0s,MS4.9
BSEG Bad Segeberg 74.33 339 *e*P **P 17 11 39.1 +0.2**
KIS Kishinev 74.44 325 *e*P **P 17 11 38.0 -1.8**
KIS pmax pmax
comp=Z,200nm,1.0s,mb6.0
KIS MLR MLR
comp=Z,1μm,15.0s,MS5.2
KWP Kalwaria 74.49 330 P **P 17 11 40.4 +0.4**
KWP pmax pmax
comp=Z,44nm,1.1s,mb5.3
KWP Kalwaria 74.49 330 *e*P **P 17 11 39.8 -0.2**
KWP MLR MLR 17 45 56.8
comp=Z,700nm,22.0s,MS4.9
RUE Ruedersdorf 74.74 336 *e*P **P 17 11 40.9 -0.5**
comp=Z,34nm,0.7s,mb5.4
OJC Ojcow 74.95 332 *e*P **P 17 11 42.5 -0.1**
MBWA Marble Bar 75.13 213 PFAKE 17 12 00.0 +16
MBWA LR LR
comp=Z,309nm,19.0s,MS4.6
KOLS Kolonicke sedl 75.23 330 *e*P **P 17 11 44.5 +0.2**
WMOK Wichita Mounta 75.26 55 *e*P **P 17 11 44.1 -0.6**
WMOK *e* 17 11 59.0
WMOK pmax pmax
comp=Z,18nm,1.0s,mb5.0
WMOK MLR MLR
comp=Z,268nm,20.0s,MS4.5
WMOK Wichita Mounta 75.26 55 *e*P **P 17 11 44.1 -0.6**
comp=Z,18nm,1.0s,mb5.0
WMOK *e* 17 11 59.0
WMOK LR LR
comp=Z,268nm,20.0s,MS4.5
BURAR Bucovina Array 75.30 327 P **P 17 11 44.6 -0.1**
BURAR Bucovina Array 75.30 327⇑ P **P 17 11 44.2 -0.5**
NIE Niedzica 75.47 331 *e*P **P 17 11 45.2 -0.4**
KSP Ksiaz 75.48 334⇑ *e*P **P 17 11 45.6 -0.1**
KSP MLR MLR
comp=Z,3μm,20.0s,MS5.5
KSP Ksiaz 75.48 334 *e*P **P 17 11 45.4 -0.3**
KSP MLR MLR 17 50 34.9
comp=Z,2μm,20.0s,MS5.5
CRVS Cervenica-Dubn 75.53 330 *e*P **P 17 11 46.6 +0.6**
ESK Eskdalemuir 75.72 347 PFAKE 17 12 00.0 +13
ESK LR LR
comp=Z,167nm,22.0s,MS4.3
OKC Ostrava-Krasne 75.80 332⇑ *i*P **P 17 11 47.5 0.0**
OKC *e*pP pP 17 11 51.7 +0.8
OKC AMS AMS 17 50 40.0
comp=Z,800nm,16.0s
UPC Upice 75.86 334⇑ *i*P **P 17 11 48.1 +0.2**
UPC *e*pP pP 17 11 54.0 +2.7
DPC Dobruska-Polom 75.91 334⇑ *i*P **P 17 11 48.5 +0.4**
DPC AMS AMS 17 48 40.0
comp=Z,1μm,19.1s
CLL Collm 76.01 336⇑ *i*P **P 17 11 48.2 -0.5**
CLL pmax pmax
comp=Z,54nm,0.9s,mb5.5
CLL MLR MLR
comp=Z,900nm,18.5s,MS5.1
CLL Collm 76.01 336⇑ *i*P **P 17 11 48.2 -0.5**
comp=Z,54nm,0.9s,mb5.5
CLL *e* pP 17 11 52.0 -0.1
CLL LR LR
comp=Z,900nm,18.5s,MS5.1
CLL Collm 76.01 336 ⇑P **P 17 11 48.2 -0.5**
comp=Z,logA/T=1.8,mb5.5
CLL *e**PP pP 17 11 52.0 -0.1
MORC Moravsky Berou 76.05 333 *e*P **P 17 11 48.3 -0.6**
MORC pmax pmax
comp=Z,31nm,0.9s,mb5.2
MORC Moravsky Berou 76.05 333 *e*P **P 17 11 48.3 -0.6**
comp=Z,32nm,0.9s,mb5.2
BRG Berggiesshubel 76.14 335 *i* P **P 17 11 49.2 -0.2**
BRG *e* 17 11 56.1
BRG pmax pmax
comp=Z,22nm,1.0s,mb5.0
BRG Berggiesshubel 76.14 335 *i* P **P 17 11 49.2 -0.2**
comp=Z,22nm,1.0s,mb5.0
BRG *e* 17 11 56.1
CFR Carcaliu 76.21 324 ⇑P **P 17 11 49.3 -0.6**
CLZ Clausthal 76.22 338 *e*P **P 17 11 50.3 +0.5**
comp=Z,39nm,1.1s,mb5.2
KECS Kecovo 76.22 330 *e*P **P 17 11 50.5 +0.6**
PVCC Panska Ves 76.27 335⇑ *i*P **P 17 11 50.2 +0.1**
PVCC AMS AMS 17 48 50.0
comp=Z,700nm,18.6s
MSL Mosul 76.31 309 *e*P **P 17 11 50.5 -0.2**
BANOM Banah 76.35 293⇓ P **P 17 11 51.4 +0.3**
SNR=13
LTX Lajitas 76.43 61 PFAKE 17 12 00.0 +8.5
LTX LR LR
comp=Z,19nm,22.0s
TXAR Lajitas Array 76.43 61 P **P 17 11 51.0 -0.5**
comp=Z,8.4nm,0.9s,mb4.7,baz=304,slow=4.5,SNR=28
TIRR Tirgusor 76.69 323 ⇑P **P 17 11 52.5 -0.1**
CCM Cathedral Cave 76.71 48 PFAKE 17 12 00.0 +7.1
CCM LR LR
comp=Z,490nm,20.0s,MS4.8
VRAC Vranov 76.75 333 P **P 17 11 52.6 -0.3**
VRAC pmax pmax
comp=Z,19nm,0.8s
VRAC Vranov 76.75 333 P **P 17 11 52.6 -0.2**
comp=Z,19nm,0.8s,mb5.1,baz=34,slow=6.8,SNR=22
VRAC Vranov 76.75 333 P **P 17 11 53.7 +0.8**
VYHS Vyhne 76.76 331 *i* P **P 17 11 53.1 +0.2**
PRU Pruhonice 76.76 335⇑ *i*P **P 17 11 53.1 +0.2**
PRU MLR MLR
comp=Z,600nm,17.7s,MS5.0
PRU Pruhonice 76.76 335⇑ *i*P **P 17 11 53.1 +0.2**
PRU *e*pP pP 17 11 57.2 +0.9
PRU AMS AMS 17 49 00.0
comp=Z,600nm,17.7s
MLR Muntele Rosu 76.81 325 P **P 17 11 53.3 0.0**
MLR pmax pmax
comp=Z,26nm,0.8s
MLR MLR
comp=Z,1μm,19.2s
MLR Muntele Rosu 76.81 325 P **P 17 11 53.3 0.0**
comp=Z,26nm,0.8s,mb5.2,baz=193,slow=2.2,SNR=45
MLR LR LR 17 51 10.9
comp=Z,1μm,19.2s,MS5.2,baz=356,slow=40
MLR Muntele Rosu 76.81 325 ⇑P **P 17 11 53.5 +0.3**
MLR Muntele Rosu 76.81 325 ⇑P **P 17 11 53.5 +0.2**
ISR Istrita 76.89 325 ⇑P **P 17 11 54.2 +0.5**
AAM Ann Arbor 76.91 40 PFAKE 17 12 10.0 +16
AAM LR LR
comp=Z,415nm,21.0s,MS4.7
PSZ Piszkesteto 76.91 330⇑ *i*P **P 17 11 53.9 +0.1**
PSZ pmax pmax
comp=Z,50nm,1.6s,mb5.2
PSZ Piszkesteto 76.91 330⇑ *e*P **P 17 11 54.1 +0.3**
BIDO Bidbid 76.93 290⇓ P **P 17 11 55.8 +1.5**
WTSB Wintersvijk 76.98 340⇑ *i*P **P 17 11 52.9 -1.2**
comp=Z,46nm,0.9s,mb5.4
MOX Moxa 76.99 337 *e*P **P 17 11 54.1 0.0**
MOX pmax pmax
comp=Z,59nm,1.8s,mb5.2
MOX MLR MLR
comp=Z,500nm,21.0s,MS4.8
MOX Moxa 76.99 337 *e*P **P 17 11 54.1 0.0**
comp=Z,59nm,1.8s,mb5.2
MOX LR LR
comp=Z,500nm,21.0s,MS4.8
MOX Moxa 76.99 337 *i* P **P 17 11 54.1 0.0**
comp=Z,logA/T=1.5,mb5.2
MOX L 17 49 04.0
SNX Sinaia 77.09 326⇓ P **P 17 11 55.7 +0.9**
MALT Malatya 77.13 313⇑ *i*P **P 17 11 56.1 +0.9**
MALT pmax pmax
comp=Z,29nm,0.9s,mb5.2
MALT Malatya 77.13 313⇑ *i*P **P 17 11 56.1 +0.9**
comp=Z,29nm,0.9s,mb5.2
NKC Novy Kostel 77.13 336⇑ *i*P **P 17 11 55.1 +0.1**
NKC *e*pP pP 17 11 58.9 +0.5
NKC AMS AMS 17 53 30.0
comp=Z,800nm,15.7s
SMOL Smolenice 77.19 332 *e*P **P 17 11 55.5 +0.2**
SMOL *e*pP pP 17 12 01.3 +2.5
ASHO Ashiyiah 77.39 293⇓ P **P 17 11 57.3 +0.4**
SNR=17
ZST Bratislava 77.58 332 *e*P **P 17 11 57.9 +0.5**
JMDO Jabal Madar 77.77 290⇑ P **P 17 11 59.5 +0.5**
SNR=14
KHC Kasperske Hory 77.81 335⇑ *e*P **P 17 11 59.0 +0.3**
KHC *e*pP pP 17 12 07.0 +4.9
BHD Baghdad 77.91 306 *e*P **P 17 11 51.0 -8.6**
GRA1 Grafenberg Arr 77.96 336 *e*P **P 17 12 00.2 +0.7**
comp=Z,68nm,0.9s,mb5.6
GRA1 LR LR
comp=Z,600nm,20.0s,MS4.9
GRF Grafenberg Arr 77.96 336 *e*P **P 17 12 00.2 +0.7**
GRF pmax pmax
comp=Z,68nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,600nm,20.0s,MS4.9
GRF Grafenberg Arr 77.96 336 *e*P **P 17 12 00.2 +0.7**
GRF pmax pmax
comp=Z,68nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,600nm,20.0s,MS4.9
GRF Grafenberg Arr 77.96 336 *e*P **P 17 12 00.2 +0.7**
comp=Z,68nm,0.9s,mb5.6
GRF LR LR
comp=Z,600nm,20.0s,MS4.9
WET Wettzell 78.00 335 *e*P **P 17 12 00.3 +0.6**
WET pmax pmax
comp=Z,40nm,1.0s,mb5.3
WET Wettzell 78.00 335 *e*P **P 17 12 00.3 +0.6**
comp=Z,40nm,1.0s,mb5.3
GEC2 GERESS Array S 78.03 335 *e*P **P 17 12 00.0 +0.1**
GEC2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
GEC2 GERESS Array S 78.03 335 *e*P **P 17 12 00.0 +0.1**
comp=Z,20nm,0.9s,mb5.0
GERES GERESS Array B 78.03 335 P **P 17 12 00.1 +0.2**
comp=Z,12nm,0.7s,mb4.9,baz=34,slow=4.8,SNR=107
GERES LR LR 17 50 27.9
comp=Z,1μm,18.5s,MS5.3,baz=16,slow=39
ARQ Araqi 78.08 291⇑ P **P 17 12 00.8 +0.1**
SNR=18
BSY Bisya 78.08 291⇑ P **P 17 12 01.5 +0.8**
SNR=20
DLF Lyons Farm 78.17 348⇑ *i*P **P 17 12 00.7 +0.1**
TNS Taunus Mts 78.19 338 *e*P **P 17 12 01.1 +0.3**
TNS pmax pmax
comp=Z,29nm,0.9s,mb5.2
TNS Taunus Mts 78.19 338 *e*P **P 17 12 01.1 +0.3**
comp=Z,29nm,0.9s,mb5.2
MIAR Mount Ida 78.22 51 P **P 17 12 01.4 +0.2**
MIAR pmax pmax
comp=Z,14nm,1.0s,mb4.8
MIAR Mount Ida 78.22 51 P **P 17 12 00.6 -0.7**
comp=Z,14nm,1.0s,mb4.9
MIAR LR LR
comp=Z,597nm,20.0s,MS4.9
DCN Croghan 78.22 349⇑ *i*P **P 17 12 01.1 +0.2**
BR131 Keskin Array S 78.29 317 PFAKE 17 12 10.0 +8.5
BR131 LR LR
comp=Z,419nm,19.0s,MS4.8
BRTR Keskin Array B 78.29 317 P **P 17 12 02.1 +0.5**
comp=Z,18nm,0.9s,mb5.0,baz=66,slow=4.1,SNR=54
HGN Heimansgroeve 78.30 340⇑ *i*P **P 17 12 00.4 -0.9**
comp=Z,48nm,1.7s,mb5.1
BZS Buzias 78.31 328⇑ P **P 17 12 01.0 -0.5**
ERPA Erie 78.63 38 PFAKE 17 12 20.0 +17
ERPA LR LR
comp=Z,359nm,22.0s,MS4.7
TOD Tromm 78.67 338 *e*P **P 17 12 03.6 +0.2**
TOD Tromm 78.67 338⇑ *e*P **P 17 12 03.7 +0.3**
SZH Strazhica 78.68 324 *e*P **P 17 12 03.5 -0.1**
SIND Sindeldorf 78.70 337⇑ *e*P **P 17 12 03.8 +0.2**
ABH Alteburg 78.73 339⇑ *e*P **P 17 12 03.9 +0.1**
MOA Molln 78.76 334⇑ *i*P **P 17 12 04.2 +0.3**
comp=Z,25nm,1.2s,mb5.0
SWS Schriesheim 78.81 338⇑ *e*P **P 17 12 04.4 +0.2**
PKSM Moragy 78.82 330⇑ *i*P **P 17 12 03.6 -0.7**
ACSO Alum Creek Sta 78.89 41 PFAKE 17 12 20.0 +15
ACSO LR LR
comp=Z,660nm,20.0s,MS5.0
ARSA Arzberg 78.91 333⇑ *i*P **P 17 12 05.4 +0.6**
comp=Z,31nm,1.5s,mb5.0
PVL Pavlikeni 78.96 325 *e*P **P 17 12 06.0 +0.9**
WCI Wyandotte Cave 78.98 44 *e*P **P 17 12 05.0 -0.4**
WCI pmax pmax
comp=Z,58nm,1.4s,mb5.3
WCI MLR MLR
comp=Z,653nm,20.0s,MS5.0
WCI Wyandotte Cave 78.98 44 *e*P **P 17 12 05.0 -0.3**
comp=Z,58nm,1.4s,mb5.3
WCI LR LR
comp=Z,653nm,20.0s,MS5.0
RUP Ruppelstein 79.02 339⇑ *e*P **P 17 12 05.3 0.0**
JMB Yambol 79.09 323 *e*P **P 17 12 06.0 +0.1**
PQI Presque Isle 79.13 28 PFAKE 17 12 20.0 +14
PQI LR LR
comp=Z,4μm,20.0s,MS5.8
GIVF Givet 79.17 340 *e*P **P 17 12 06.2 +0.1**
HDH Heidenheim 79.24 337⇑ *e*P **P 17 12 06.8 +0.2**
FUR Furstenfeldbru 79.33 336 *e*P **P 17 12 07.6 +0.5**
FUR pmax pmax
comp=Z,54nm,0.9s,mb5.5
FUR Furstenfeldbru 79.33 336 *e*P **P 17 12 07.6 +0.5**
comp=Z,54nm,0.9s,mb5.5
NCB Newcomb 79.34 33 PFAKE 17 12 20.0 +13
NCB LR LR
comp=Z,534nm,20.0s,MS4.9
BAIF Baives 79.35 341 *e*P **P 17 12 07.3 +0.2**
LANF Langenberg 79.50 338 *e*P **P 17 12 08.3 +0.3**
LBG Lerchenberg 79.54 338⇑ *e*P **P 17 12 08.5 +0.3**
BUCH Bad Urach 79.59 337⇑ *e*P **P 17 12 09.1 +0.6**
GROS Grobnik 79.62 332⇑ *i*P **P 17 12 08.7 0.0**
BOLS Boljevac 79.72 327⇓ *i*P **P 17 12 08.0 -1.3**
KBA Koelnbreinsper 79.72 334⇑ *i*P **P 17 12 10.0 +0.8**
comp=Z,67nm,1.1s,mb5.5
KBA Koelnbreinsper 79.72 334⇑ *i*P **P 17 12 10.0 +0.8**
KBA pmax pmax
comp=Z,67nm,1.1s,mb5.5
NATX Nacogdoches 79.76 54 PFAKE 17 12 20.0 +10
NATX LR LR
comp=Z,374nm,21.0s,MS4.7
DIM Dimitrovgrad 79.86 324 *i* P **P 17 12 11.0 +0.9**
OBKA Obir 79.87 333⇑ *i*P **P 17 12 10.1 +0.1**
comp=Z,151nm,3.7s
STKA Stephens Creek 79.91 191 P **P 17 12 09.7 -0.9**
comp=Z,6.1nm,1.1s,mb4.4,baz=25,slow=7.3,SNR=5.2
STKA Stephens Creek 79.91 191 *e*P **P 17 12 09.6 -1.0**
WVT Waverly 79.91 47 PFAKE 17 12 20.0 +10
WVT LR LR
comp=Z,497nm,21.0s,MS4.8
BFO Black Forest 79.97 338 P **P 17 12 10.1 -0.4**
comp=Z,178nm,0.9s,mb6.0,SNR=13
BFO Black Forest 79.97 338 *e*P **P 17 12 10.8 +0.3**
BFO pmax pmax
comp=Z,34nm,1.0s,mb5.2
BFO Black Forest 79.97 338 *e*P **P 17 12 10.8 +0.3**
comp=Z,34nm,1.0s,mb5.2
PGB Panagyurishte 79.98 325 *e*P **P 17 12 11.5 +0.8**
WATA Walderalm 80.00 335⇑ *i*P **P 17 12 11.5 +0.8**
comp=Z,41nm,1.0s,mb5.3
WATA Walderalm 80.00 335⇑ *i*P **P 17 12 11.5 +0.8**
WATA pmax pmax
comp=Z,41nm,1.0s,mb5.3
GUT Gutenstein 80.00 337⇑ *e*P **P 17 12 11.1 +0.4**
WTTA Wattenberg 80.05 335⇑ *i*P **P 17 12 11.9 +0.9**
comp=Z,94nm,1.2s,mb5.6
WTTA Wattenberg 80.05 335⇑ *i*P **P 17 12 11.9 +0.9**
WTTA pmax pmax
comp=Z,94nm,1.2s,mb5.6
SPAK Spaichingen 80.06 337⇑ *e*P **P 17 12 11.5 +0.5**
UBR Uberruh 80.10 336⇑ *e*P **P 17 12 11.5 +0.3**
GRUS Gruza 80.12 328⇑ *i*P **P 17 12 10.5 -0.9**
MOTA Moosalm 80.13 336⇑ *i*P **P 17 12 12.0 +0.6**
PDKS Podkum 80.13 333⇑ *e*P **P 17 12 11.2 -0.3**
WLS Welschbruch 80.14 338 *e*P **P 17 12 11.8 +0.4**
PLD Plovdiv 80.14 324 *e*P **P 17 12 13.0 +1.4**
CDF Champ du Feu 80.16 338 *e*P **P 17 12 11.7 +0.2**
comp=Z,84nm,1.1s,mb5.3
CDF Champ du Feu 80.16 338 *e*P **P 17 12 11.7 +0.2**
CDF pmax pmax
comp=Z,42nm,1.1s,mb5.3
DIVS Divcibare 80.20 328⇓ *i*P **P 17 12 11.4 -0.4**
SQTA Sankt Quirin 80.21 335⇑ *i*P **P 17 12 12.8 +1.0**
comp=Z,42nm,1.0s,mb5.3
SQTA Sankt Quirin 80.21 335⇑ *i*P **P 17 12 12.8 +1.0**
SQTA pmax pmax
comp=Z,42nm,1.0s,mb5.3
VTS Vitosha 80.31 326 *i* P **P 17 12 14.0 +1.6**
LIBD Limburg 80.32 338 *e*P **P 17 12 12.8 +0.4**
LIBD Limburg 80.32 338 *e*P **P 17 12 13.0 +0.6**
FVI Forni Avoltri 80.33 334 *e*P **P 17 12 12.1 -0.3**
PTCC Patocco-Chiusa 80.33 334⇑ *i*P **P 17 12 11.9 -0.5**
ECH Echery 80.37 338 *e*P **P 17 12 12.8 +0.2**
OXF Oxford 80.40 49 PFAKE 17 12 20.0 +6.9
OXF LR LR
comp=Z,394nm,20.0s,MS4.8
VISS Visnje 80.41 332⇑ *i*P **P 17 12 12.5 -0.4**
comp=Z,41nm,1.2s,mb5.2
KIZ Kirchzarten 80.42 338⇑ *e*P **P 17 12 13.0 +0.1**
WVL Waterville 80.45 30 PFAKE 17 12 20.0 +6.9
WVL LR LR
comp=Z,5μm,20.0s
FELD Feldberg 80.47 338⇑ *e*P **P 17 12 13.4 +0.2**
GMNA Gemona 80.48 334 *e*P **P 17 12 12.5 -0.8**
RZN Rozhen 80.49 324 *e*P **P 17 12 14.0 +0.6**
RAO Raoul Island 80.49 156 PFAKE 17 12 20.0 +6.3
RAO LR LR
comp=Z,770nm,19.0s,MS5.1
DAVA Damuels 80.52 336⇑ *i*P **P 17 12 14.1 +0.7**
comp=Z,38nm,1.2s,mb5.2
BOJS Bojanci 80.55 332⇑ *i*P **P 17 12 13.4 -0.2**
MEZF Maizieres J'vi 80.62 340 *e*P **P 17 12 14.5 +0.6**
comp=Z,95nm,1.1s,mb5.3
THEF They Montfort 80.65 339 *e*P **P 17 12 14.2 +0.1**

PLAL	**Pickwick Lake**	**80.70**	**47**	PFAKE			17 12 30.0	+15
PLAL				LR	LR				
	comp=Z,408nm,20.0s,MS4.8								
MOF	**Molkenrain**	**80.72**	**338**	*eP*		**P**	**17 12 14.7**	**+0.2**
MCWV	**Mont Chateau**	**80.73**	**39**	PFAKE			17 12 30.0	+15
MCWV				LR	LR				
	comp=Z,567nm,19.0s,MS4.9								
HAU	**Haudompre**	**80.77**	**339**	*eP*		**P**	**17 12 14.9**	**+0.2**
	comp=Z,40nm,0.8s,mb5.1								
HAU	**Haudompre**	**80.77**	**339**	*eP*		**P**	**17 12 14.9**	**+0.2**
HAU				pmax	pmax				
	comp=Z,20nm,0.8s,mb5.1								
HINF	**Hinteralfeld**	**80.82**	**338**	*eP*		**P**	**17 12 14.9**	**-0.1**
	comp=Z,44nm,1.1s,mb5.0								
HINF	**Hinteralfeld**	**80.82**	**338**	*eP*		**P**	**17 12 14.9**	**-0.1**
HINF				pmax	pmax				
	comp=Z,22nm,1.1s,mb5.0								
MMB	**Musomiste**	**80.97**	**325**	*i P*		**P**	**17 12 16.5**	**+0.6**
KKB	**Krupnik**	**80.98**	**325**	*eP*		**P**	**17 12 16.0**	**0.0**
BBS	**Basel-Blauen**	**80.98**	**338⇓**	*eP*		**P**	**17 12 16.3**	**+0.4**
DAVOX	**Davos**	**80.98**	**336**	P		**P**	**17 12 16.4**	**+0.5**
	comp=Z,21nm,0.7s,mb5.2,baz=24,slow=4.1,SNR=30								
EMMW	**East Machias**	**81.05**	**29**	PFAKE			17 12 30.0	+14
EMMW				LR	LR				
	comp=Z,4μm,21.0s,MS5.7								
PLE	**Pljevlja**	**81.08**	**328⇑**	*iP*		**P**	**17 12 16.9**	**+0.4**
BRMO	**Bormio**	**81.13**	**336⇑**	*iP*		**P**	**17 12 17.8**	**+1.1**
CTI	**Castel Tesino**	**81.15**	**335⇑**	*iP*		**P**	**17 12 16.5**	**-0.3**
LOMF	**Lomont**	**81.26**	**338**	*eP*		**P**	**17 12 18.0**	**+0.7**
IVA	**Berane**	**81.30**	**328⇑**	*iP*		**P**	**17 12 17.5**	**-0.1**
UPM	**Unac-Piva**	**81.36**	**329⇑**	*iP*		**P**	**17 12 17.6**	**-0.4**
FORT	**Forrest**	**81.48**	**203**	*eP*		**P**	**17 12 19.0**	**+0.2**
	comp=Z,550nm,0.8s								
PVY	**Plav**	**81.51**	**328**	*eP*		**P**	**17 12 18.0**	**-0.7**
SKO	**Skopje**	**81.51**	**326**	*i P*		**P**	**17 12 19.0**	**+0.2**
FLN	**La Foliniere**	**81.55**	**343**	*eP*		**P**	**17 12 18.9**	**+0.1**
	comp=Z,51nm,1.0s,mb5.1								
FLN	**La Foliniere**	**81.55**	**343**	*eP*		**P**	**17 12 18.9**	**+0.1**
FLN				pmax	pmax				
	comp=Z,25nm,1.0s,mb5.1								
SWET	**Sewanee**	**81.57**	**46**	*eP*		**P**	**17 12 18.6**	**-0.6**
HRV	**Harvard--Oak R**	**81.58**	**32**	PFAKE			17 12 30.0	+11
HRV				LR	LR				
	comp=Z,525nm,19.0s,MS4.9								
LDF	**La Druitiere**	**81.64**	**343**	*eP*		**P**	**17 12 19.4**	**+0.1**
VAY	**Valandovo**	**81.64**	**325**	*i P*		**P**	**17 12 19.8**	**+0.3**
NKY	**Niksic**	**81.67**	**328⇑**	*iP*		**P**	**17 12 18.5**	**-1.1**
BRY	**Bratogost**	**81.76**	**329⇑**	*iP*		**P**	**17 12 19.1**	**-0.9**
WES	**Weston**	**81.78**	**32**	PFAKE			17 12 30.0	+10
WES				LR	LR				
	comp=Z,1μm,20.0s,MS5.2								
TTG	**Podgorica**	**81.91**	**328⇑**	*iP*		**P**	**17 12 20.0**	**-0.8**
GRR	**Gorron**	**81.98**	**344**	*eP*		**P**	**17 12 20.8**	**-0.3**
	comp=Z,106nm,1.2s,mb5.3								
GRR	**Gorron**	**81.98**	**344**	*eP*		**P**	**17 12 20.8**	**-0.3**
GRR				pmax	pmax				
	comp=Z,53nm,1.2s,mb5.3								
PPT	**Papeete**	**82.05**	**127**	*eS*		S	17 22 16.8	-18
PPT				*eLR*	LR		17 36 58.1		
	comp=Z,556nm,22.0s,baz=326								
PPT	**Papeete**	**82.05**	**127**	LR	LR		17 43 21.8		
	comp=Z,442nm,18.6s,MS4.8,baz=283,slow=32								
VAI	**Varese**	**82.13**	**336⇑**	*iP*		**P**	**17 12 22.0**	**+0.1**
CABF	**La Chapelle**	**82.13**	**338**	*eP*		**P**	**17 12 21.8**	**-0.1**
	comp=Z,49nm,1.1s,mb5.0								
CABF	**La Chapelle**	**82.13**	**338**	*eP*		**P**	**17 12 21.8**	**-0.1**
CABF				pmax	pmax				
	comp=Z,25nm,1.1s,mb5.1								
BUM	**Brajici-Budva**	**82.16**	**328⇑**	*iP*		**P**	**17 12 21.6**	**-0.5**
HCY	**Herceg Novi**	**82.17**	**329⇑**	*iP*		**P**	**17 12 21.1**	**-1.0**
MCGN	**Macugnaga**	**82.25**	**337⇑**	*iP*		**P**	**17 12 23.4**	**+0.9**
CSS	**Prodhromos**	**82.27**	**315⇑**	*iP*		**P**	**17 12 22.9**	**0.0**
	comp=Z,35nm,0.8s,mb5.3								
ULC	**Ulcinj**	**82.33**	**328⇑**	*iP*		**P**	**17 12 22.4**	**-0.6**
HYF	**Humbligny**	**82.33**	**341**	*eP*		**P**	**17 12 23.2**	**+0.3**
SSF	**Saint Saulge**	**82.33**	**340**	*eP*		**P**	**17 12 22.6**	**-0.3**
SSF				pmax	pmax				
	comp=Z,12nm,0.9s,mb4.8								
SSF	**Saint Saulge**	**82.33**	**340**	*eP*		**P**	**17 12 22.6**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8								
SGMF	**Saint Gilles**	**82.43**	**345**	*eP*		**P**	**17 12 23.5**	**+0.1**
	comp=Z,162nm,1.2s,mb5.5								
SGMF	**Saint Gilles**	**82.43**	**345**	*eP*		**P**	**17 12 23.5**	**+0.1**
SGMF				pmax	pmax				
	comp=Z,81nm,1.2s,mb5.5								
ROSF	**Rostrenen**	**82.48**	**345**	*eP*		**P**	**17 12 23.9**	**+0.3**
	comp=Z,145nm,1.1s,mb5.5								
ROSF	**Rostrenen**	**82.48**	**345**	*eP*		**P**	**17 12 23.9**	**+0.3**
ROSF				pmax	pmax				
	comp=Z,72nm,1.1s,mb5.5								
SHAO	**Shalim**	**82.52**	**288**	⇑P		**P**	**17 12 24.7**	**+0.2**
ORX	**Oropa**	**82.56**	**337**	P		**P**	**17 12 24.3**	**+0.2**
ORO	**Oropa**	**82.56**	**337**	*eP*		**P**	**17 12 24.7**	**+0.6**
AVF	**Avril sur Loir**	**82.62**	**340**	*eP*		**P**	**17 12 24.8**	**+0.4**
	comp=Z,86nm,1.1s,mb5.4								
AVF	**Avril sur Loir**	**82.62**	**340**	*eP*		**P**	**17 12 24.8**	**+0.4**
AVF				pmax	pmax				
	comp=Z,43nm,1.1s,mb5.4								
SMF	**Signal de Mont**	**82.64**	**340**	*eP*		**P**	**17 12 24.9**	**+0.4**
	comp=Z,215nm,1.3s,mb5.7								
SMF	**Signal de Mont**	**82.64**	**340**	*eP*		**P**	**17 12 24.9**	**+0.4**
SMF				pmax	pmax				
	comp=Z,108nm,1.3s,mb5.7								
TRAV		**82.73**	**337**	P		**P**	**17 12 24.8**	**-0.2**
ASF	**Jabal al Asfar**	**82.73**	**311**	P		**P**	**17 12 26.4**	**+1.1**
	comp=Z,21nm,0.9s,mb5.2,baz=273,slow=2.6,SNR=26								
LRAL	**Lakeview Retre**	**82.79**	**48**	PFAKE			17 12 40.0	+14
LRAL				LR	LR				
	comp=Z,411nm,22.0s,MS4.8								
RSL	**Roselend**	**82.86**	**338**	*eP*		**P**	**17 12 26.7**	**+1.0**
QUIF	**Quistinic**	**82.86**	**345**	*eP*		**P**	**17 12 25.8**	**+0.2**
LSD	**Ceresole Reale**	**82.94**	**337**	P		**P**	**17 12 27.1**	**+1.0**
BGF	**Bois d'Agland**	**82.95**	**341**	*eP*		**P**	**17 12 26.2**	**+0.1**
BOB	**Bobbio (Coli)**	**82.95**	**336**	*eP*		**P**	**17 12 27.5**	**+1.3**
FSSB	**Fossombrone**	**82.95**	**333**	*eP*		**P**	**17 12 26.9**	**+0.6**
LPL	**La Plagne**	**82.99**	**338**	*eP*		**P**	**17 12 27.8**	**+1.4**
	comp=Z,48nm,0.8s,mb5.2								
LPL	**La Plagne**	**82.99**	**338**	*eP*		**P**	**17 12 27.8**	**+1.4**
LPL				pmax	pmax				
	comp=Z,24nm,0.8s,mb5.3								
CBN	**Corbin**	**82.99**	**38**	PFAKE			17 12 40.0	+13
CBN				LR	LR				
	comp=Z,726nm,20.0s,MS5.0								
LPG	**La Plagne**	**83.00**	**338**	*eP*		**P**	**17 12 27.9**	**+1.5**
	comp=Z,75nm,1.0s,mb5.4								
LPG	**La Plagne**	**83.00**	**338**	*eP*		**P**	**17 12 27.9**	**+1.5**
LPG				pmax	pmax				
	comp=Z,38nm,1.0s,mb5.4								
GRAM		**83.03**	**335**	P		**P**	**17 12 27.0**	**+0.4**
ARV	**Arcevia**	**83.08**	**333⇑**	*iP*		**P**	**17 12 27.4**	**+0.6**
VMG	**Vicchio**	**83.08**	**334⇑**	*iP*		**P**	**17 12 28.8**	**+1.9**
PGD	**Poggio Sodo**	**83.11**	**334⇑**	*iP*		**P**	**17 12 28.6**	**+1.6**
CODM		**83.19**	**335**	P		**P**	**17 12 27.6**	**+0.2**
RSP	**Reno Superiore**	**83.19**	**337**	P		**P**	**17 12 27.6**	**+0.2**
BACM		**83.22**	**335**	P		**P**	**17 12 27.8**	**+0.2**
SNTG	**Esanatoglia**	**83.30**	**333**	*eP*		**P**	**17 12 28.5**	**+0.5**
VINC	**Vinca**	**83.33**	**335**	P		**P**	**17 12 27.9**	**-0.3**
PLDF	**La Plantade**	**83.33**	**340**	*eP*		**P**	**17 12 30.0**	**+1.9**
TCF	**Toulx Ste Croi**	**83.35**	**341**	*eP*		**P**	**17 12 28.4**	**+0.2**
	comp=Z,49nm,0.9s,mb5.2								
FENE	**Fenestrelle**	**83.36**	**337**	P		**P**	**17 12 28.6**	**+0.3**
AGO	**Saint Agoulin**	**83.36**	**340**	*eP*		**P**	**17 12 30.5**	**+2.2**
PCP	**Pian Castagno**	**83.41**	**336**	P		**P**	**17 12 28.4**	**-0.1**
BNI	**Bardonecchia**	**83.44**	**337⇑**	*iP*		**P**	**17 12 29.9**	**+1.2**
BNI				pmax	pmax				
	comp=Z,10.0nm,0.8s,mb4.9								
BNI	**Bardonecchia**	**83.44**	**337⇑**	*iP*		**P**	**17 12 29.9**	**+1.2**
	comp=Z,10.0nm,0.8s,mb4.9								
BHB	**Bricherasio**	**83.48**	**337**	P		**P**	**17 12 28.2**	**-0.7**
RRL	**Cesana Torines**	**83.53**	**337**	P		**P**	**17 12 29.1**	**0.0**
MFF	**Saint Martin d**	**83.55**	**343**	*eP*		**P**	**17 12 29.0**	**-0.1**
	comp=Z,48nm,1.0s,mb5.3								
MFF	**Saint Martin d**	**83.55**	**343**	*eP*		**P**	**17 12 29.0**	**-0.1**
MFF				pmax	pmax				
	comp=Z,24nm,1.0s,mb5.3								
OG22	**Abries**	**83.58**	**337**	*eP*		**P**	**17 12 31.7**	**+2.4**
MBDF	**Montbardon**	**83.72**	**337**	*eP*		**P**	**17 12 30.5**	**+0.5**
	comp=Z,46nm,1.0s,mb5.3								
MBDF	**Montbardon**	**83.72**	**337**	*eP*		**P**	**17 12 30.5**	**+0.5**
MBDF				pmax	pmax				
	comp=Z,23nm,1.0s,mb5.3								
ORIF	**Oris-en-Rattie**	**83.77**	**338**	*eP*		**P**	**17 12 30.9**	**+0.6**
	comp=Z,73nm,0.9s,mb5.5								
ORIF	**Oris-en-Rattie**	**83.77**	**338**	*eP*		**P**	**17 12 30.9**	**+0.6**
ORIF				pmax	pmax				
	comp=Z,36nm,0.9s,mb5.5								
WHFO	**Wadi Hawf**	**83.79**	**290**	P		**P**	**17 12 30.7**	**-0.3**
	SNR=36								
DOI	**San Damiano**	**83.80**	**337⇑**	*iP*		**P**	**17 12 29.5**	**-0.9**
FIN	**Finale Ligure**	**83.81**	**336**	P		**P**	**17 12 29.5**	**-1.0**
RBK	**Rabkut**	**83.82**	**289⇓**	P		**P**	**17 12 30.9**	**-0.3**
	SNR=7.7								
ROB	**Roburent**	**83.82**	**336**	P		**P**	**17 12 29.6**	**-1.0**
PZZ	**Prazzo**	**83.83**	**337**	P		**P**	**17 12 29.4**	**-1.2**
AQU	**L'Aquila**	**83.97**	**332**	*eP*		**P**	**17 12 31.7**	**+0.4**
AQU				pmax	pmax				
	comp=Z,26nm,1.0s,mb5.3								
AQU	**L'Aquila**	**83.97**	**332**	*eP*		**P**	**17 12 32.8**	**+1.4**
GRFL	**Gerfalco**	**83.99**	**334**	*eP*		**P**	**17 12 31.3**	**-0.1**
ENR	**Entracque**	**84.01**	**337**	P		**P**	**17 12 30.5**	**-1.0**
STV2	**Anna di Valdie**	**84.02**	**337**	P		**P**	**17 12 30.4**	**-1.1**
STV	**Sta Anna Valdi**	**84.02**	**337**	P		**P**	**17 12 30.5**	**-1.0**
MONE	**Monesi**	**84.05**	**336**	P		**P**	**17 12 31.6**	**-0.1**
LBL	**Lubilhac**	**84.11**	**340**	*eP*		**P**	**17 12 33.7**	**+1.7**
VIVF	**Saint-Julien-l**	**84.13**	**339**	*eP*		**P**	**17 12 32.5**	**+0.4**
	comp=Z,132nm,1.5s,mb5.5								
VIVF	**Saint-Julien-l**	**84.13**	**339**	*eP*		**P**	**17 12 32.5**	**+0.4**
VIVF				pmax	pmax				
	comp=Z,66nm,1.5s,mb5.5								
MNS	**Montasola**	**84.17**	**332⇑**	*iP*		**P**	**17 12 32.1**	**-0.2**
IMI	**Imperia**	**84.17**	**336⇑**	*iP*		**P**	**17 12 32.7**	**+0.4**
SAOF	**Saorge**	**84.19**	**336**	*eP*		**P**	**17 12 32.4**	**0.0**
AUTN	**L'Aution**	**84.22**	**337**	*eP*		**P**	**17 12 33.2**	**+0.6**
GOGA	**Godfrey**	**84.22**	**45**	PFAKE			17 12 40.0	+7.1
GOGA				LR	LR				
	comp=Z,473nm,21.0s,MS4.8								
TOUF	**Mont Tournerai**	**84.25**	**337**	*eP*		**P**	**17 12 33.2**	**+0.5**
PTQR	**Pietraquaria**	**84.27**	**332**	*eP*		**P**	**17 12 33.4**	**+0.5**
NEGI	**Negi**	**84.28**	**336**	P		**P**	**17 12 32.1**	**-0.8**
SBF	**Sospel**	**84.34**	**337**	*eP*		**P**	**17 12 33.5**	**+0.3**
	comp=Z,123nm,1.2s,mb5.6								
SBF	**Sospel**	**84.34**	**337**	*eP*		**P**	**17 12 33.5**	**+0.3**
SBF				pmax	pmax				
	comp=Z,62nm,1.2s,mb5.6								
MVIF	**Mont Vial**	**84.39**	**337**	*eP*		**P**	**17 12 34.0**	**+0.6**
SDI	**San Donato**	**84.42**	**331⇑**	*iP*		**P**	**17 12 33.7**	**+0.1**
RJF	**Les Rejaudoux**	**84.44**	**341**	*eP*		**P**	**17 12 33.6**	**0.0**
REVF	**Revere**	**84.47**	**337**	*eP*		**P**	**17 12 34.3**	**+0.4**
ABTO	**Aybut**	**84.51**	**290⇓**	P		**P**	**17 12 34.6**	**0.0**
CALN	**Calern**	**84.59**	**337**	*eP*		**P**	**17 12 35.1**	**+0.7**
STOF	**St-Etienne Org**	**84.62**	**338**	*eP*		**P**	**17 12 35.2**	**+0.6**
CAF	**Calviac**	**84.67**	**341**	*eP*		**P**	**17 12 34.4**	**-0.4**
	comp=Z,17nm,0.9s,mb4.9								
CAF	**Calviac**	**84.67**	**341**	*eP*		**P**	**17 12 34.4**	**-0.4**
CAF				pmax	pmax				
	comp=Z,8.0nm,0.9s,mb4.8								
RAYN	**Ar Rayn**	**84.68**	**299**	P		**P**	**17 12 35.9**	**+0.5**
	comp=Z,164nm,0.8s,SNR=36								
VILF	**Villemus**	**84.80**	**338**	*eP*		**P**	**17 12 36.8**	**+1.3**
FRF	**La Foret Royal**	**84.83**	**337**	*eP*		**P**	**17 12 35.6**	**0.0**
	comp=Z,84nm,1.4s,mb5.4								
FRF	**La Foret Royal**	**84.83**	**337**	*eP*		**P**	**17 12 35.6**	**0.0**
FRF				pmax	pmax				
	comp=Z,42nm,1.4s,mb5.4								
TAVF	**Tavernes**	**84.94**	**337**	*eP*		**P**	**17 12 37.0**	**+0.8**
LFF	**La Frestale**	**84.95**	**341**	*eP*		**P**	**17 12 36.0**	**-0.2**
	comp=Z,40nm,1.0s,mb5.2								
LFF	**La Frestale**	**84.95**	**341**	*eP*		**P**	**17 12 36.0**	**-0.2**
LFF				pmax	pmax				
	comp=Z,20nm,1.0s,mb5.2								
PRAF	**Pradon**	**84.99**	**338**	*eP*		**P**	**17 12 37.5**	**+1.1**
ORI	**Oriolo Calabro**	**85.00**	**329**	*eP*		**P**	**17 12 37.5**	**+0.9**
LASF	**Ste Croix**	**85.06**	**339**	*eP*		**P**	**17 12 37.2**	**+0.4**
LMR	**La Mourre**	**85.08**	**337**	*eP*		**P**	**17 12 37.1**	**+0.2**
	comp=Z,131nm,1.1s,mb5.7								
LMR	**La Mourre**	**85.08**	**337**	*eP*		**P**	**17 12 37.1**	**+0.2**
LMR				pmax	pmax				
	comp=Z,66nm,1.1s,mb5.7								
TREF	**Trevaresse**	**85.10**	**338**	*eP*		**P**	**17 12 38.5**	**+1.5**
PUYF	**Puyloubier**	**85.11**	**338**	*eP*		**P**	**17 12 37.7**	**+0.7**
PGF	**Pioggiola**	**85.12**	**335**	*eP*		**P**	**17 12 37.1**	**0.0**
	comp=Z,34nm,1.0s,mb5.1								
PGF	**Pioggiola**	**85.12**	**335**	*eP*		**P**	**17 12 37.1**	**0.0**
PGF				pmax	pmax				
	comp=Z,17nm,1.0s,mb5.1								
GELF	**Grande-Etoile**	**85.32**	**338**	*eP*		**P**	**17 12 39.4**	**+1.3**
TIP	**Timpagrande**	**85.67**	**328**	*eP*		**P**	**17 12 39.9**	**0.0**
EIL	**Elat**	**85.73**	**310**	P		**P**	**17 12 41.0**	**+0.6**
	comp=Z,17nm,0.8s,mb5.3,baz=0.1,slow=8.0,SNR=28								
EIL	**Elat**	**85.73**	**310**	*eP*		**P**	**17 12 40.8**	**+0.3**
	comp=Z,75nm,1.4s,mb5.7								
IDI	**Anoyia**	**85.85**	**321**	P		**P**	**17 12 41.0**	**+0.1**
	comp=Z,11nm,0.7s,mb5.2,baz=60,slow=9.2,SNR=5.7								
MTLF	**Montolieu**	**86.14**	**340**	*eP*		**P**	**17 12 42.3**	**+0.1**
	comp=Z,23nm,1.0s,mb5.1								
MTLF	**Montolieu**	**86.14**	**340**	*eP*		**P**	**17 12 42.3**	**+0.1**
MTLF				pmax	pmax				
	comp=Z,11nm,1.0s,mb5.0								
NWAO	**Narrogin (SRO)**	**86.75**	**210**	P		**P**	**17 12 44.9**	**-0.6**
NWAO				MLR	MLR				
	comp=Z,245nm,20.0s								
NWAO	**Narrogin (SRO)**	**86.75**	**210**	P		**P**	**17 12 44.9**	**-0.5**
	comp=Z,5.9nm,0.8s,mb4.9,baz=10,slow=6.6,SNR=4.5								
TBI	**Tubuai**	**86.85**	**130**	*eS*		S	17 23 04.0	-18
TBI				*eLR*	LR		17 39 11.3		
	comp=Z,601nm,23.2s,baz=327								
EPF	**Esparros**	**86.86**	**341**	*eP*		**P**	**17 12 45.8**	**+0.1**
	comp=Z,30nm,1.1s,mb5.1								
EPF	**Esparros**	**86.86**	**341**	*eP*		**P**	**17 12 45.8**	**+0.1**
EPF				pmax	pmax				
	comp=Z,15nm,1.1s,mb5.1								
SOI	**Samo**	**86.91**	**328**	*eP*		**P**	**17 12 45.7**	**-0.4**
DGAR	**Diego Garcia**	**89.89**	**259**	PFAKE			17 13 10.0	+9.1
DGAR				LR	LR				
	comp=Z,178nm,22.0s,MS4.5								
ESDC	**Sonseca Array**	**90.97**	**343**	P		**P**	**17 13 04.0**	**-1.2**
	comp=Z,3.5nm,0.9s,mb4.7,baz=8.1,slow=5.3,SNR=11								
ESLA	**Sonseca Array**	**90.97**	**343**	PFAKE			17 13 20.0	+15
ESLA				LR	LR				
	comp=Z,2μm,20.0s,MS5.6								
TEIG	**Tepich**	**92.33**	**56**	PFAKE			17 13 20.0	+8.1
TEIG				LR	LR				
	comp=Z,183nm,20.0s,MS4.5								
JTS	**JuntasAbangare**	**102.17**	**60**	PFAKE			17 14 10.0	+13
JTS				LR	LR				
	comp=Z,48nm,21.0s,MS4.0								
SJG	**San Juan**	**105.25**	**40**	PFAKE			17 18 40.0	
SJG				LR	LR				
	comp=Z,265nm,21.0s,MS4.8								
KMBO	**Kilima Mbogo**	**108.74**	**290**	PFAKE			17 18 40.0	
KMBO				LR	LR				
	comp=Z,448nm,19.0s,MS5.0								
SDV	**Santo Domingo**	**111.18**	**48**	PFAKE			17 18 50.0	+13
SDV				LR	LR				
	comp=Z,206nm,21.0s,MS4.7								
MBAR	**Mbarara**	**112.40**	**296**	PFAKE			17 18 50.0	+10
MBAR				LR	LR				
	comp=Z,92nm,19.0s,MS4.4								
OTAV	**Otavalo**	**114.05**	**61**	PFAKE			17 18 50.0	+7.1
OTAV				LR	LR				
	comp=Z,212nm,20.0s,MS4.7								
CASY	**Casey**	**118.36**	**199**	PFAKE			17 19 00.0	+10
CASY				LR	LR				
	comp=Z,301nm,20.0s,MS4.9								
DBIC	**Dimbokro**	**122.90**	**335**	PKIKP	PKPdf		17 18 56.7	-3.3
DBIC				MLR	MLR				
	comp=Z,338nm,19.0s								
DBIC	**Dimbokro**	**122.90**	**335**	PKP	PKPdf		17 18 56.6	-3.3
	comp=Z,5.6nm,0.7s,baz=329,slow=1.6,SNR=10								
SBA	**Scott Base**	**125.41**	**177**	PFAKE			17 19 10.0	+6.7
SBA				LR	LR				
	comp=Z,193nm,19.0s,MS4.8								
SAML	**Samuel**	**130.17**	**52**	PFAKE			17 19 20.0	+5.9
SAML				LR	LR				
	comp=Z,292nm,21.0s,MS5.0								
LPAZ	**La Paz**	**133.29**	**63**	PKP	PKPdf		17 19 17.4	-2.4
	comp=Z,1.3nm,1.0s,baz=22,slow=4.8,SNR=5.0								
LPAZ	**La Paz**	**133.29**	**63**	*ePKPdf*	PKPdf		17 19 17.7	-2.1
LPAZ				LR	LR				
	comp=Z,310nm,19.0s,MS5.0								
LBTB	**Lobatse**	**133.86**	**281**	PFAKE			17 19 30.0	+9.4
LBTB				LR	LR				
	comp=Z,357nm,21.0s,MS5.1								
TSUM	**Tsumeb**	**134.89**	**294**	PFAKE			17 19 30.0	+7.2
TSUM				LR	LR				
	comp=Z,217nm,20.0s,MS4.9								
BOSA	**Boshof**	**136.46**	**277**	PKIKP	PKPdf		17 19 24.5	-0.8
BOSA				MLR	MLR				
	comp=Z,615nm,20.0s,MS5.3								
BOSA	**Boshof**	**136.46**	**277**	PKP	PKPdf		17 19 24.4	-0.9
	comp=Z,1.9nm,0.7s,baz=86,slow=1.2,SNR=4.8								
LVC	**Limon Verde**	**137.55**	**69**	PFAKE			17 19 40.0	+12
LVC				LR	LR				
	comp=Z,357nm,19.0s,MS5.1								
BDFB	**Brasilia**	**143.22**	**37**	PKhKP			17 19 31.5		
	comp=Z,8.3nm,0.8s,baz=205,slow=1.2,SNR=10								
CFAA	**Coronel Fontan**	**144.10**	**79**	PKP	PKPdf		17 19 34.1	-4.8
	comp=Z,0.8nm,1.0s,baz=263,slow=0.4,SNR=5.4								
PLCA	**Paso Flores**	**147.53**	**95**	*ePKP2*	PKPab		17 19 44.9	-3.2
PLCA				MLR	MLR				
	comp=Z,400nm,19.0s								
PLCA	**Paso Flores**	**147.53**	**95**	PKPbc	PKPdf		17 19 44.3	-0.1
	comp=Z,2.2nm,0.9s,baz=324,slow=11,SNR=4.9								
NVL	**N'lazarevskaya**	**150.71**	**204**	*ePKIKP*	PKPdf		17 19 51.0	+2.4
NVL				*e*			17 20 07.0		
MAIT	**Maitri**	**150.73**	**204**	*ePKP*	PKPdf		17 19 51.6	+3.0
CAM4	**Nova Friburgo**	**151.44**	**34**	*eP*	PKPdf		17 19 55.4	+4.3
CAM4				*i*			17 20 11.3		
SNAA	**Sanae**	**153.57**	**196**	PKPbc	PKPdf		17 19 56.8	+4.2
	comp=Z,2.1nm,0.9s,baz=341,slow=1.2,SNR=5.6								
VNA2	**Neumayer--Watz**	**155.00**	**194⇓**	*iP*	PKPab		17 20 19.6	+1.3
VNA2	**Neumayer--Watz**	**155.00**	**194⇑**	*i*			17 20 28.4		
VNA3	**Neumayer Olymp**	**155.07**	**192⇓**	*iP*	PKPab		17 20 19.4	+0.8
VNA3	**Neumayer Olymp**	**155.07**	**192⇑**	*i*			17 20 27.5		
VNA1	**Neumayer--Stat**	**155.38**	**194⇓**	*iP*	PKPab		17 20 21.5	+1.6

*IDC **29** 17:07:49.5±2.5, 1.05N×97.51E, mb3.9/6, mb1 3.9/6, mb1mx3.7/17, mbtmp3.9/6, Error ellipse: s-maj=112.5km s-min=19.7km az=58.0*

*NEIC **29** 17:07:53.5±0.8, 0.95N×97.37E, h30km, mb4.3/2, Error ellipse: s-maj=23.5km s-min=11.9km az=62.0*

ISC 29 17:07:51.3±1.0, 1.0N±0.1×97.3E±0.2, h30km, n9, σ0.59/9, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.43**	**38**	*eP*		**Pn**	**17 09 12.3**	**-0.1**
WRA	**Warramunga Arr**	**41.80**	**122**	P		**P**	**17 15 39.4**	**-0.8**
	0.4nm,0.5s,mb3.3,baz=303,slow=9.0,SNR=5.4							
ASAR	**Alice Springs**	**43.15**	**127**	P		**P**	**17 15 51.3**	**+0.1**
	0.5nm,0.6s,mb3.4,baz=297,slow=7.7,SNR=6.4							
SONM	**Songino Array**	**47.35**	**8**	P		**P**	**17 16 25.1**	**+0.6**
	0.6nm,0.5s,mb3.8,baz=198,slow=9.1							
MKAR	**Makanchi Array**	**47.51**	**346**	P		**P**	**17 16 26.1**	**+0.4**

KMI AP 17 26 02.3
KMI XP 17 26 07.0
KMI PP PP 17 26 27.8 +5.0
KMI S **S** **17 30 00.5 +3.2**
KMI XS 17 30 15.5
KMI SS SS 17 30 46.5 +3.5
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.2
KMI LR LR
comp=N,316nm,15.8s,MS4.1
KMI LR LR
comp=E,433nm,15.3s,MS4.1
KMI LR LR
comp=Z,518nm,18.2s,MS4.0
HYB Hyderabad 23.40 310 *e*P **P 17 26 01.0 +5.7**
HYB Hyderabad 23.40 310 *i* P **P 17 26 01.0 +5.7**
GYA Guiyang 25.50 20⇑ *i*P **P 17 26 15.3 -0.1**
GYA AP pP 17 26 24.5 +0.3
GYA PP PP 17 26 59.8 +4.9
GYA S **S** **17 30 45.8 +7.6**
GYA AMB AMB
comp=Z,120nm,4.0s
GYA LR LR
comp=N,670nm,14.6s,MS4.4
GYA LR LR
comp=E,470nm,14.8s,MS4.4
GYA LR LR
comp=Z,770nm,16.8s,MS4.3
JIRN Jiri 27.03 338 *e*P **P 17 26 29.7 +0.1**
comp=Z,54nm,1.0s,mb5.0
PKI Pulchoki 27.25 337 *e*P **P 17 26 31.5 0.0**
GUN Gumba 27.37 338 *e*P **P 17 26 33.4 +0.7**
comp=Z,36nm,0.8s,mb5.0
DMN Daman 27.40 337 *e*P **P 17 26 32.3 -0.6**
comp=Z,23nm,0.8s,mb4.7
KKN Kakani 27.49 337 *e*P **P 17 26 33.1 -0.7**
comp=Z,26nm,1.0s,mb4.7
KKN Kakani 27.49 337 *e*P **P 17 26 33.1 -0.7**
KKN pmax pmax
comp=Z,13nm,1.0s,mb4.4
LSA Lhasa 27.57 349 P **P 17 26 34.3 -0.1**
LSA Lhasa 27.57 349 *e*P **P 17 26 34.0 -0.4**
LSA pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
LSA Lhasa 27.57 349 *e*P **P 17 26 34.0 -0.5**
comp=Z,3.4nm,0.6s,mb4.2
GKN Gorkha 27.94 336 *e*P **P 17 26 37.4 -0.4**
comp=Z,40nm,1.0s,mb5.0
KOLN Koldanda 28.17 334 *e*P **P 17 26 39.8 -0.1**
comp=Z,33nm,0.9s,mb5.0
ENH Enshi 29.98 22 P **P 17 26 54.1 -2.1**
comp=Z,3.1nm,0.5s,mb4.3
LZH Lanzhou 33.95 10 *e*P **P 17 27 30.0 -0.8**
LZH AP pP 17 27 38.3 -1.4
LZH XP sP 17 27 43.0 -0.6
LZH AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
FITZ Fitzroy Crossi 34.86 127 *e*P **P 17 27 37.7 -1.0**
comp=Z,7.1nm,0.7s,mb4.7
FITZ Fitzroy Crossi 34.86 127 P **P 17 27 37.6 -1.2**
comp=Z,10nm,0.8s,mb4.8,baz=219,slow=1.7,SNR=9.9
NJ2 Nanjing 35.81 33 *e*P **P 17 27 48.0 +1.3**
NJ2 AP pP 17 27 57.0 +1.4
NJ2 XP sP 17 28 00.3 +0.8
NJ2 PP PP 17 29 10.5 +2.4
NJ2 S **S** **17 33 24.0 +2.6**
NJ2 XS 17 33 43.0
NJ2 AMB AMB
comp=Z,640nm,4.8s
NJ2 LR LR
comp=N,2μm,13.8s,MS4.9
NJ2 LR LR
comp=E,520nm,18.5s,MS4.9
NJ2 LR LR
comp=Z,1μm,12.4s
GTA Gaotai 36.77 4 *e*P **P 17 27 54.0 -0.7**
GTA AP pP 17 28 02.8 -0.9
GTA XP sP 17 28 05.8 -1.7
GTA PP PP 17 29 20.0 -0.3
GTA S **S** **17 33 36.3 +0.2**
GTA XS 17 33 50.3
GTA SS SS 17 36 07.8 +3.4
GTA AMB AMB
comp=Z,6.0nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,238nm,4.2s
GTA LR LR
comp=N,190nm,18.3s,MS4.2
GTA LR LR
comp=E,277nm,14.1s,MS4.2
GTA LR LR
comp=Z,285nm,14.5s,MS4.2
KAKA Kakadu 38.29 114 *e*P **P 17 28 06.7 -1.0**
comp=Z,6.6nm,0.6s,mb4.5
NWAO Narrogin (SRO) 40.13 153 P **P 17 28 23.3 +0.5**
comp=Z,3.7nm,0.8s,mb4.1,baz=277,slow=15,SNR=2.4
HHC Hu-ho-hao-te 40.31 17 *e*P **P 17 28 29.4 +5.1**
HHC AP pP 17 28 39.5 +6.2
HHC XP sP 17 28 43.0 +6.0
HHC PCP PcP 17 30 31.0 +3.0
HHC SCP 17 34 14.3
HHC PCS 17 34 18.5
HHC SCS ScS 17 38 28.5 +2.4
HHC AMB AMB
comp=Z,8.0nm,0.4s,mb4.8
HHC AMB AMB
comp=Z,224nm,6.5s
HHC LR LR
comp=N,264nm,10.8s
HHC LR LR
comp=E,344nm,6.3s
HHC LR LR
comp=Z,359nm,12.7s,MS4.4
BJI Beijing 41.15 22 *e*P **P 17 28 31.0 -0.1**
BJI AMB AMB
comp=Z,15nm,0.9s,mb4.6
WMQ Urumqi 41.92 350 *e*P **P 17 28 38.0 +0.6**
WMQ AP pP 17 28 48.0 +1.5
WMQ XP sP 17 28 52.0 +1.8
WMQ PP PP 17 30 19.0 +1.5
WMQ PPP PPP 17 30 50.0 +0.7
WMQ *e*S **S** **17 34 54.0 +0.5**
WMQ AMB AMB
comp=Z,8.0nm,1.0s,mb4.3
WMQ LR LR
comp=N,260nm,18.0s,MS4.5
WMQ LR LR
comp=E,445nm,17.0s,MS4.5
WMQ LR LR
comp=Z,334nm,18.0s,MS4.3
WRA Warramunga Arr 42.90 123 P **P 17 28 45.3 -0.5**
comp=Z,9.8nm,0.6s,mb4.7,baz=299,slow=9.4,SNR=96
WRAB Tennant Creek 42.90 123 P **P 17 28 45.2 -0.6**
comp=Z,94nm,0.5s,mb5.8,SNR=8.6
WRAB Tennant Creek 42.90 123 *i* P **P 17 28 45.3 -0.5**
WRAB Tennant Creek 42.90 123 *e*P **P 17 28 45.5 -0.3**
comp=Z,24nm,0.9s,mb4.9
WB2 Warramunga Arr 42.91 123⇑ *i*P **P 17 28 45.8 0.0**
KZA Kyzart 43.93 337 P **P 17 28 55.4 +1.5**
SNR=8.1
ASPA Alice Springs 44.34 128 *e*P **P 17 28 58.0 +0.5**
ASAR Alice Springs 44.34 128 P **P 17 28 57.2 -0.3**
comp=Z,4.6nm,0.9s,mb4.2,baz=300,slow=8.1,SNR=48
UCH Uchtor 44.35 336 P **P 17 28 58.9 +1.6**
SNR=27
FORT Forrest 44.41 141 *e*P **P 17 29 00.3 +2.3**
comp=Z,541nm,0.6s
TKM2 Tokmak 2 44.51 337 P **P 17 28 59.1 +0.5**
SNR=18
KBK Karagaybulak 44.54 337 P **P 17 29 00.2 +1.4**
SNR=26
AML Almayashu 44.61 335 P **P 17 29 00.6 +1.3**
SNR=20
AAK Ala-Archa 44.70 336 P **P 17 29 00.2 +0.1**
comp=Z,59nm,0.9s,mb5.4,SNR=19
AAK Ala-Archa 44.70 336 *e*P **P 17 28 59.2 -0.9**
AAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
AAK Ala-Archa 44.70 336 *e*P **P 17 28 59.2 -0.9**
comp=Z,10nm,1.0s,mb4.6
FRU Bishkek 44.82 337 *e*P **P 17 29 02.0 +1.0**
CHMS Chumysh 44.90 337 P **P 17 29 02.2 +0.5**
SNR=7.1
EKS2 Erkin-Say 45.01 336 P **P 17 29 04.0 +1.4**
SNR=12

USP Ospenovka 45.23 337 P **P 17 29 04.7 +0.5**
SNR=31
SONM Songino Array 45.82 9 P **P 17 29 07.7 -1.2**
comp=Z,5.4nm,0.9s,mb4.5,baz=191,slow=7.8,SNR=34
SONM PcP PcP 17 30 46.4 -0.1
comp=Z,2.5nm,0.9s,baz=203,slow=3.3,SNR=5.6
MKAR Makanchi Array 45.89 346 P **P 17 29 08.8 -0.7**
comp=Z,12nm,0.8s,mb4.8,baz=162,slow=7.7,SNR=81
ULN Ulaanbaatar 45.96 9 *e*P **P 17 29 08.7 -1.2**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
ULN Ulaanbaatar 45.96 9 *e*P **P 17 29 08.7 -1.2**
comp=Z,6.6nm,0.9s,mb4.6
ZAK Zakamensk 47.95 5 *e*P **P 17 29 24.5 -1.1**
ZAK pmax pmax
comp=Z,1.0nm,0.9s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
CN2 Changchun 48.18 28 *e*P **P 17 29 29.0 +1.5**
GUMO Guam 48.51 74 LR LR 17 49 32.0
comp=Z,134nm,19.2s,MS3.9,baz=94,slow=36
TLY Talaya 49.27 5 *i* P **P 17 29 35.4 -0.4**
TLY pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
HIA Hailar 50.42 19 P **P 17 29 43.5 -1.1**
HIA pmax pmax
comp=Z,4.0nm,0.6s
HIA Hailar 50.42 19 P **P 17 29 43.5 -1.1**
comp=Z,3.8nm,0.6s,mb4.6
KURK Kurchatov 50.45 345 *i* P **P 17 29 44.6 -0.2**
KURK Kurchatov 50.45 345 *e*P **P 17 29 44.0 -0.8**
comp=Z,14nm,1.0s,mb5.0
CTA Charters Tower 53.26 117 *e*P **P 17 30 06.7 +0.3**
comp=Z,9.4nm,0.9s,mb4.7
CTA Charters Tower 53.26 117 *e*P **P 17 30 06.7 +0.3**
CTA pmax pmax
comp=Z,9.0nm,0.9s
CTA Charters Tower 53.26 117 P **P 17 30 06.0 -0.4**
comp=Z,11nm,0.9s,mb4.8,baz=296,slow=11,SNR=5.5
CTAO Charters Tower 53.26 117 *e*P **P 17 30 03.8 -2.6**
CTAO pmax pmax
comp=Z,19nm,0.9s,mb5.0
CTAO Charters Tower 53.26 117 *e*P **P 17 30 03.8 -2.6**
comp=Z,20nm,0.9s,mb5.0
NVS Novosibirsk 53.32 350⇑ *i*P **P 17 30 04.3 -2.1**
NVS pmax pmax
comp=Z,15nm,1.0s,mb4.9
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,7.0nm,0.9s
STKA Stephens Creek 54.38 133 *e*P **P 17 30 14.9 +0.4**
comp=E,4.3nm,0.8s,mb4.4
STKA Stephens Creek 54.38 133 P **P 17 30 14.6 +0.1**
comp=E,7.1nm,0.9s,mb4.6,baz=313,slow=8.6,SNR=12
BVAR Borovoye Array 54.92 341 P **P 17 30 17.0 -1.2**
comp=E,5.4nm,0.9s,mb4.6,baz=143,slow=7.4,SNR=22
CHKZ Chkalovo 55.40 341 *e*P **P 17 30 20.4 -1.2**
CHKZ pmax pmax
comp=Z,25nm,1.0s,mb5.2
CHKZ Chkalovo 55.40 341 *e*P **P 17 30 20.4 -1.2**
comp=Z,24nm,1.0s,mb5.2
BOD Bodaibo 56.71 11 *e*P **P 17 30 29.9 -1.1**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
CLNS Chul'man 58.50 18 *e*P **P 17 30 40.8 -2.8**
CLNS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLNS pmax pmax
comp=N,3.0nm,0.8s
YSS Yuzh-Sakhalins 59.33 35 *i* P **P 17 30 48.5 -1.0**
YSS pmax pmax
comp=Z,21nm,1.0s,mb5.1
SVE Sverdlovsk 61.38 338 *e*P **P 17 31 03.5 +0.2**
SVE MLR MLR
comp=N,100nm,19.0s,MS4.5
SVE MLR MLR
comp=E,300nm,19.0s,MS4.5
SVE MLR MLR
comp=Z,500nm,19.0s,MS4.7
ARU Arti 61.88 337⇓ *i*P **P 17 31 05.9 -0.8**
ARU *e* 17 31 44.4
ARU *e* 17 33 19.1
ARU *e*S **S** **17 39 28.2 +1.6**
ARU *e*SS SS 17 43 27.5 -3.1
ARU pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
KIV Kislovodsk 63.18 319 *e*P **P 17 31 13.2 -2.3**
KIV pmax pmax
comp=Z,22nm,1.0s,mb5.2
KIV Kislovodsk 63.18 319 *e*P **P 17 31 13.2 -2.3**
comp=Z,22nm,1.0s,mb5.2
MALT Malatya 64.11 312 P **P 17 31 22.3 +0.6**
MALT pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MALT Malatya 64.11 312 P **P 17 31 22.3 +0.6**
comp=Z,4.2nm,1.0s,mb4.4
YAK Yakutsk 64.17 16 *e*P **P 17 31 18.9 -2.8**
YAK pmax pmax
comp=Z,16nm,1.0s,mb5.0
YAK Yakutsk 64.17 16 *e*P **P 17 31 19.5 -2.2**
comp=Z,35nm,0.9s,mb5.4
SOC Sochi 65.01 318 *e*P **P 17 31 23.2 -4.3**
SOC *e* 17 31 54.7
SOC *e*PPP PPP 17 35 20.0 -6.6
SOC *i*S S 17 40 03.1 -2.8
SOC pmax pmax
comp=N,26nm,0.8s
SOC pmax pmax
comp=Z,27nm,0.8s,mb5.3
SOC pmax pmax
comp=E,39nm,1.0s
BRTR Keskin Array B 68.09 312 P **P 17 31 46.6 -0.5**
comp=E,1.2nm,0.7s,mb4.0,baz=135,slow=7.0,SNR=5.5
MA2 Magadan 70.19 26 *e*P **P 17 31 58.5 -1.1**
MA2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
OBN Obninsk 71.39 328 *d* iP **P 17 32 06.9 -0.1**
OBN *e* 17 34 45.6
OBN *e*S S 17 41 26.3 +4.6
OBN pmax pmax
comp=Z,20nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
TIXI Tiksi 71.89 10 *e*P **P 17 32 05.6 -4.1**
TIXI pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
AKASG Malin Array Be 74.09 322 P **P 17 32 22.2 -0.8**
comp=Z,5.4nm,0.7s,mb4.6,baz=87,slow=5.0,SNR=18
APA Apatity 77.81 339⇓ *i*P **P 17 32 43.6 0.0**
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
APA MLR MLR
comp=Z,900nm,18.0s,MS5.1
SUW Suwalki 78.48 325 *e*P **P 17 32 47.8 +0.2**
FINES FINESS Array B 78.73 332 P **P 17 32 49.0 +0.1**
comp=Z,4.0nm,0.8s,mb4.4,baz=101,slow=9.7,SNR=15
BILL Bilibino 79.96 21 *i* P **P 17 32 54.8 -0.6**
BILL pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
RPZ Rata Peaks 80.27 135 P **P 17 32 58.5 +1.0**
comp=Z,7.3nm,0.6s,mb4.8,baz=315,slow=7.1,SNR=4.6
ARCES ARCESS Array B 81.21 340 P **P 17 33 03.1 +1.2**
comp=Z,1.7nm,0.7s,mb4.1,baz=301,slow=7.1,SNR=6.2
MORC Moravsky Berou 81.27 320 *e*P **P 17 33 03.3 +0.7**
MORC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
MORC Moravsky Berou 81.27 320 *e*P **P 17 33 03.3 +0.7**
comp=Z,3.4nm,0.9s,mb4.3
DPC Dobruska-Polom 82.11 320 *e*P **P 17 33 09.3 +2.3**
GERES GERESS Array B 83.69 319 P **P 17 33 16.6 +1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=104,slow=5.5,SNR=12
CLL Collm 84.28 321 *e*P **P 17 33 18.0 -0.1**
CLL *i* 17 33 42.3
CLL Collm 84.28 321 P **P 17 33 18.0 -0.1**
CLL *i* 17 33 42.3
NB2 NORSAR Subarra 85.75 331 P **P 17 33 25.9 +0.7**
comp=Z,4.8nm,1.0s,mb4.7,baz=95,slow=4.6
NB2 NORSAR Subarra 85.75 331 P **P 17 33 25.9 +0.7**
NB2 pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
NOA NORSAR Array B 85.75 331 P **P 17 33 25.9 +0.8**
comp=Z,3.7nm,1.0s,mb4.6,baz=94,slow=5.0,SNR=7.0
TNA Tin City 89.78 24 *e*P **P 17 33 44.2 -0.3**
comp=Z,4.1nm,1.0s,mb4.7
IMA Indian Mountai 95.40 23 *e*P **P 17 34 11.7 +1.4**
IMA pmax pmax
comp=Z,37nm,1.0s,mb5.8
IMA Indian Mountai 95.40 23 *e*P **P 17 34 11.7 +1.3**
comp=Z,37nm,1.0s,mb5.8
ULM Lac du Bonnet 126.24 10 PKP PKPdf 17 39 49.3 -3.6
comp=Z,0.6nm,0.3s,baz=233,slow=4.6,SNR=4.1
LPAZ La Paz 160.02 226 PKP PKPdf 17 40 48.8 -1.1
comp=Z,0.5nm,0.2s,baz=299,slow=4.4,SNR=4.0
LPAZ La Paz 160.02 226 PKPdf PKPdf 17 40 49.4 -0.5

IDC ***29*** *17:27:13.7±3.1, 1.01N×97.84E, mb3.8/5, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, Error ellipse: s-maj=136.6km s-min=21.1km az=61.0*
NEIC ***29*** *17:27:16.9±0.8, 0.84N×97.59E, h30km, mb4.1/4, Error ellipse: s-maj=21.9km s-min=11.2km az=59.0*
ISC 29 17:27:14.2±0.9, 0.77N±0.1×97.4E±0.1, h30km, n14, σ0s63/14, mb4.0/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.28**	**44**	P		P	**Pn**	**17 28 33.2**	**+0.1**
KULM	**Kulim**	**5.57**	**36**	*e*P		P	**Pn**	**17 28 36.3**	**-1.1**
KGM	**Kluang**	**6.10**	**78**	P		P	**Pn**	**17 28 45.7**	**+0.9**
KKM	**Kota Kinabalu**	**19.54**	**74**	P		P		**17 31 37.8**	**-4.8**
LSA	**Lhasa**	**29.37**	**349**	*e*P		P		**17 33 18.0**	**+0.9**
	2.8nm,0.5s,mb4.2								
WRA	**Warramunga Arr**	**41.68**	**122**	P		P		**17 35 01.8**	**-0.4**
	0.8nm,0.6s,mb3.5,baz=303,slow=9.2,SNR=8.5								
WRAB	**Tennant Creek**	**41.69**	**122**	P		P		**17 35 01.8**	**-0.5**
	2.1nm,0.6s,mb3.9								
ASAR	**Alice Springs**	**43.02**	**127**	P		P		**17 35 13.2**	**+0.1**
	0.7nm,0.5s,mb3.6,baz=297,slow=7.7,SNR=13								
SONM	**Songino Array**	**47.54**	**8**	P		P		**17 35 49.1**	**+0.2**
	0.4nm,0.3s,mb3.9,baz=193,slow=9.0,SNR=6.1								
MKAR	**Makanchi Array**	**47.70**	**346**	P		P		**17 35 50.8**	**+0.6**
	1.6nm,0.5s,mb4.3,baz=160,slow=8.8,SNR=31								
KURK	**Kurchatov**	**52.25**	**345**	*e*P		P		**17 36 24.8**	**-0.1**
	1.7nm,0.9s,mb4.0								
STKA	**Stephens Creek**	**52.96**	**132**	P		P		**17 36 30.8**	**+0.3**
	1.0nm,0.7s,mb3.9,baz=333,slow=11,SNR=2.7								
STKA	**Stephens Creek**	**52.96**	**132**	P		P		**17 36 30.8**	**+0.3**
CHKZ	**Chkalovo**	**57.18**	**341**	*e*P		P		**17 36 59.8**	**-1.0**
	2.2nm,0.9s,mb4.2								

IDC 29 17:33:00.5±2.7, 6.08N×94.34E, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=114.5km s-min=26.9km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.87**	**348**	P		P		17 40 53.3	-0.7
	1.1nm,0.8s,baz=161,slow=8.5,SNR=14								
SONM	**Songino Array**	**42.87**	**12**	P		P		17 41 00.1	-2.0
	0.6nm,0.5s,baz=192,slow=8.4,SNR=7.5								
ASAR	**Alice Springs**	**48.63**	**129**	P		P		17 41 46.5	-1.9
	2.2nm,0.7s,baz=301,slow=7.1,SNR=14								
BVAR	**Borovoye Array**	**50.74**	**342**	P		P		17 42 01.2	-3.0
	0.4nm,0.6s,baz=150,slow=12,SNR=3.2								

IDC ***29*** *17:33:30.3±2.6, 0.73N×97.17E, mb4.2/6, mb1 4.4/6, mb1mx4.0/18, mbtmp4.2/6, MS4.8/1, Ms1 4.8/1, ms1mx3.0/27, Error ellipse: s-maj=113.1km s-min=17.9km az=56.0*
BJI ***29*** *17:33:32.5, 0.66N×97.34E, h29km, mB4.9, mb4.7*
NEIC ***29*** *17:33:34.4±0.6, 0.82N×97.37E, mb4.5/17, Error ellipse: s-maj=17.9km s-min=7.9km az=53.0*
ISC 29 17:33:32.8±0.7, 0.77N±0.09×97.3E±0.1, h25km, h25km±4.0km:pP-P, n34, σ0s99/33, mb4.5/25, MS4.8/1, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.58**	**36**	*e*P		P	**Pn**	**17 34 54.9**	**-1.5**
CM31	**Chiang Mai Arr**	**17.64**	**5**	*e*P		P		**17 37 35.7**	**-3.1**
	3.3nm,0.6s								
KKM	**Kota Kinabalu**	**19.57**	**74**	*e*P		P		**17 38 02.3**	**+0.3**
KMI	**Kunming**	**24.77**	**12**	P		P		**17 38 55.5**	**+1.4**
KMI					AP			17 39 01.8	
KMI					AMB	AMB			
	comp=Z,19nm,1.6s,mb4.4								
KMI					AMB	AMB			
	comp=Z,120nm,4.2s								
GYA	**Guiyang**	**27.07**	**19**⇑ *i*P			P		**17 39 17.0**	**+1.4**
GYA					AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
JIRN	**Jiri**	**28.79**	**339**	*e*P		P		**17 39 31.5**	**+0.5**
	comp=Z,22nm,1.0s,mb4.8								
PKI	**Pulchoki**	**28.99**	**338**	*e*P		P		**17 39 34.4**	**+1.5**
GUN	**Gumba**	**29.12**	**339**	*e*P		P		**17 39 33.8**	**-0.3**
	comp=Z,21nm,0.8s,mb4.9								
DMN	**Daman**	**29.14**	**337**	*e*P		P		**17 39 35.3**	**+1.1**
KKN	**Kakani**	**29.24**	**338**	*e*P		P		**17 39 35.3**	**+0.2**
	comp=Z,16nm,1.0s,mb4.7								
LSA	**Lhasa**	**29.36**	**349**	*e*P		P		**17 39 37.0**	**+0.8**
	comp=Z,2.8nm,0.5s,mb4.2								
GKN	**Gorkha**	**29.68**	**337**	*e*P		P		**17 39 38.6**	**-0.5**
	comp=Z,25nm,1.1s,mb4.9								
KOLN	**Koldanda**	**29.89**	**335**	*e*P		P		**17 39 41.1**	**+0.1**
	comp=Z,14nm,0.8s,mb4.7								
ENH	**Enshi**	**31.53**	**20**	*e*P		P		**17 39 53.9**	**-1.5**
	comp=Z,5.6nm,0.6s,mb4.6								
ENH					*e*	pP		17 40 00.2	-2.6
FITZ	**Fitzroy Crossi**	**33.58**	**125**	*e*P		P		**17 40 15.3**	**+1.9**
	comp=Z,3.1nm,0.5s,mb4.5								
FITZ	**Fitzroy Crossi**	**33.58**	**125**	P		P		**17 40 15.2**	**+1.9**
	comp=Z,3.5nm,0.5s,mb4.5,baz=322,slow=4.3,SNR=12								
GTA	**Gaotai**	**38.52**	**3**	*e*P		P		**17 40 55.5**	**+0.5**
GTA					AP	pP		17 41 06.0	+3.4
GTA					XP	sP		17 41 09.5	+3.7
GTA					AMB	AMB			
	comp=Z,9.0nm,0.8s,mb4.5								
WRA	**Warramunga Arr**	**41.71**	**122**	P		P		**17 41 20.8**	**-0.8**
	comp=Z,4.6nm,0.6s,mb4.3,baz=301,slow=9.2,SNR=74								
WRAB	**Tennant Creek**	**41.71**	**122**	*e*P		P		**17 41 21.1**	**-0.6**
	comp=Z,7.3nm,0.8s,mb4.4								
WB2	**Warramunga Arr**	**41.72**	**122**⇑ *i*P			P		**17 41 21.4**	**-0.3**
BJT	**Baijiatuao**	**42.67**	**21**	*e*P		P		**17 41 30.3**	**+1.1**
	comp=Z,9.8nm,0.6s,mb4.7								
BJI	**Beijing**	**42.69**	**21**	*e*P		P		**17 41 30.8**	**+1.4**
BJI					AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.5								
ASPA	**Alice Springs**	**43.04**	**127**	*e*P		P		**17 41 32.7**	**+0.2**
ASAR	**Alice Springs**	**43.04**	**127**	P		P		**17 41 32.2**	**-0.3**
	comp=Z,1.3nm,0.6s,mb3.9,baz=298,slow=7.8,SNR=33								
AAK	**Ala-Archa**	**46.44**	**337**	*e*P		P		**17 41 58.2**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.0								
SONM	**Songino Array**	**47.53**	**8**	P		P		**17 42 08.2**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=190,slow=9.7,SNR=14								
ULN	**Ulaanbaatar**	**47.66**	**9**	*e*P		P		**17 42 09.3**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.3								
MKAR	**Makanchi Array**	**47.68**	**346**	P		P		**17 42 08.7**	**-0.5**
	comp=Z,2.0nm,0.5s,mb4.4,baz=161,slow=9.1,SNR=15								
HIA	**Hailar**	**52.00**	**18**	*e*P		P		**17 42 42.4**	**+0.1**
	comp=Z,4.3nm,0.6s,mb4.6								
KURK	**Kurchatov**	**52.23**	**345**	*e*P		P		**17 42 43.5**	**-0.5**
	comp=Z,2.7nm,0.8s,mb4.2								
ATD	**Arta Tunnel**	**55.10**	**283**	LR		LR		18 02 02.2	
	comp=Z,790nm,18.1s,MS4.8,baz=59,slow=31								
BVAR	**Borovoye Array**	**56.69**	**341**	P		P		**17 43 14.9**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=158,slow=8.0,SNR=10								
CHKZ	**Chkalovo**	**57.17**	**341**	*e*P		P		**17 43 18.8**	**-1.1**
	comp=Z,4.2nm,0.8s,mb4.5								
CHKZ					*e*	pP		17 43 25.2	-2.5
YAK	**Yakutsk**	**65.79**	**16**	*e*P		P		**17 44 17.1**	**-0.8**
	comp=Z,6.8nm,0.6s,mb4.8								

CASC 29 17:34:06.8±3.3, 14.64N×93.17W, h90km±59km, MD4.1, ML3.9, 2C-2D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAT	**Jato**	**1.52**	**102**⇓	*e*P		P		17 34 31.6	-1.7
JAT				*e*S		S		17 34 54.2	+1.4
JAT				AML		AML		17 34 57.9	
	comp=N,3μm,0.3s								
TP2	**Tecpan 2**	**2.08**	**86**⇑	*e*P		P		17 34 40.8	+0.1
TP2				*e*S		S		17 35 07.4	+1.6
TP2				AML		AML		17 35 13.1	
	comp=N,442nm,0.5s								
IXG	**Ixpaco**	**2.67**	**100**⇑	*e*P		P		17 34 47.4	-1.5

IXG				*e*S	S	17 35 21.9	+1.6
IXG				AML	AML	17 35 31.4	
	comp=N,2μm,0.5s						
RBDL	**Robledal**	**3.42**	**98**	*e*P	P	17 34 59.6	+0.5
RBDL				*e*S	S	17 35 41.5	+2.8
RTR	**El Retiro**	**3.50**	**102**	⇓*e*P	P	17 35 02.1	+1.9
RTR				*e*S	S	17 35 41.4	+0.7
SBLS	**San Blas**	**3.53**	**103**	*e*P	P	17 35 01.1	+0.4
SBLS				*e*S	S	17 35 42.5	+1.0
LFRS	**El Faro**	**4.11**	**104**	*e*P	P	17 35 08.3	-0.4
LFRS				*e*S	S	17 35 53.5	-2.4

IDC ***29*** *17:40:10.7±0.7, 1.13N×97.04E, mb4.3/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, Error ellipse: s-maj=30.4km s-min=14.1km az=50.0*

BJI ***29*** *17:40:11.3, 0.69N×97.25E, h40km, mB5.2, mb4.9, Ms4.8, Msz4.4*

MOS ***29*** *17:40:12.1±1.2, 0.97N×97.42E, h33km, mb4.9/19, Error ellipse: s-maj=19.9km s-min=8.5km az=103.8*

NEIC ***29*** *17:40:14.4±0.4, 1.15N×97.16E, mb4.7/23, Error ellipse: s-maj=10.5km s-min=6.5km az=224.0*

ISC 29 17:40:13.4±0.4, 1.15N±0.06×97.17E±0.05, h27km, h27km±2.2km:pP-P,n103,σ1s08/101, mb4.6/55, MS4.5/10, 9C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**48**	P	**Pn**	**17 41 31.4**	**+0.7**
KULM	**Kulim**	**5.38**	**40**	*e*P	**Pn**	**17 41 33.8**	**-0.3**
KGM	**Kluang**	**6.20**	**82**	P	**Pn**	**17 41 47.1**	**+1.3**
KSM	**Kuching**	**13.14**	**88**	P	**P**	**17 43 21.9**	**+0.9**
CM31	**Chiang Mai Arr** 11nm,0.8s	**17.29**	**6**	P	**P**	**17 44 12.1**	**-2.7**
KKM	**Kota Kinabalu**	**19.61**	**75**	*e*P	**P**	**17 44 41.7**	**-1.2**
KKM	**Kota Kinabalu**	**19.61**	**75**	P	**P**	**17 44 44.9**	**+1.9**
TSM	**Tawau**	**20.91**	**81**	P	**P**	**17 44 56.1**	**-0.5**
QIZ	**Qiongzhong**	**21.68**	**34**	*e*P	**P**	**17 45 04.0**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.4						
HYB	**Hyderabad**	**24.43**	**313**	*e*P	**P**	**17 45 33.0**	**+1.7**
HYB	**Hyderabad**	**24.43**	**313**	*i* P	**P**	**17 45 33.0**	**+1.7**
KMI	**Kunming**	**24.43**	**12**	⇑P	**P**	**17 45 33.0**	**+1.7**
KMI				AP		17 45 39.5	
KMI				PP	PP	17 46 04.8	-2.3
KMI				AMB	AMB		
	comp=Z,57nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,316nm,4.0s						
KMI				LR	LR		
	comp=N,1μm,14.5s,MS4.7						
KMI				LR	LR		
	comp=E,733nm,13.7s,MS4.7						
KMI				LR	LR		
	comp=Z,1μm,13.4s,MS4.6						
GYA	**Guiyang**	**26.77**	**19**	⇑*i* P	**P**	**17 45 53.0**	**-0.2**
GYA				AP	pP	17 46 02.8	+1.8
GYA				XP	sP	17 46 06.5	+2.0
GYA				PP	PP	17 46 37.0	-1.2
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,180nm,3.8s						
GYA				LR	LR		
	comp=N,1μm,13.8s,MS4.6						
GYA				LR	LR		
	comp=E,710nm,14.0s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,12.9s,MS4.7						
JIRN	**Jiri**	**28.39**	**339**	*e*P	**P**	**17 46 08.9**	**+1.1**
	comp=Z,67nm,1.0s,mb5.2						
PKI	**Pulchoki**	**28.59**	**338**	*e*P	**P**	**17 46 10.9**	**+1.2**
GUN	**Gumba**	**28.73**	**339**	*e*P	**P**	**17 46 11.9**	**+1.0**
	comp=Z,61nm,0.8s,mb5.4						
DMN	**Daman**	**28.74**	**337**	*e*P	**P**	**17 46 11.8**	**+0.8**
	comp=Z,38nm,1.0s,mb5.1						
KKN	**Kakani**	**28.84**	**338**	*e*P	**P**	**17 46 12.8**	**+0.9**
	comp=Z,61nm,1.0s,mb5.3						
KKN	**Kakani**	**28.84**	**338**	*e*P	**P**	**17 46 12.8**	**+0.9**
KKN				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.97**	**349**	P	**P**	**17 46 14.8**	**+1.7**
LSA	**Lhasa**	**28.97**	**349**	*e*P	**P**	**17 46 12.6**	**-0.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.6						
LSA	**Lhasa**	**28.97**	**349**	*e*P	**P**	**17 46 12.6**	**-0.4**
	comp=Z,11nm,0.8s,mb4.6						
GKN	**Gorkha**	**29.28**	**337**	*e*P	**P**	**17 46 16.8**	**+0.9**
KOLN	**Koldanda**	**29.49**	**335**	*e*P	**P**	**17 46 18.6**	**+0.8**
	comp=Z,68nm,1.0s,mb5.3						
CD2	**Chengdu**	**30.25**	**11**	*e*P	**P**	**17 46 24.3**	**-0.2**
ENH	**Enshi**	**31.24**	**21**	⇑*e*P	**P**	**17 46 31.6**	**-1.6**
	comp=Z,16nm,0.6s,mb5.0						
ENH				*e*pP	pP	17 46 37.7	-3.4
FITZ	**Fitzroy Crossi**	**33.92**	**126**	*e*P	**P**	**17 46 56.1**	**-0.6**
	comp=Z,5.4nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	**P**	**17 46 55.5**	**-1.2**
	comp=Z,5.0nm,0.7s,mb4.5,baz=338,slow=3.9,SNR=6.5						
XAN	**Xi'an**	**34.52**	**17**	P	**P**	**17 47 00.5**	**-1.2**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	**P**	**17 47 08.0**	**-0.5**
LZH				AP	pP	17 47 15.5	-0.9
LZH				XP	sP	17 47 19.3	-0.5
LZH				AMB	AMB		
	comp=Z,29nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,122nm,4.0s						
NJ2	**Nanjing**	**36.92**	**31**	*e*P	**P**	**17 47 21.5**	**-0.6**
NJ2				AP	pP	17 47 32.0	+1.9
NJ2				XP	sP	17 47 34.8	+1.4
NJ2				PP	PP	17 48 49.5	+1.1
NJ2				S	**S**	**17 53 07.0**	**+2.2**
NJ2				XS		17 53 25.0	
NJ2				AMB	AMB		
	comp=Z,640nm,4.0s						
NJ2				LR	LR		
	comp=N,1μm,16.7s,MS4.8						
NJ2				LR	LR		
	comp=E,210nm,17.5s,MS4.8						
NJ2				LR	LR		
	comp=Z,2μm,18.4s,MS5.0						
GTA	**Gaotai**	**38.16**	**3**	*e*P	**P**	**17 47 32.8**	**+0.4**
GTA				AP	pP	17 47 42.5	+2.1
GTA				XP	sP	17 47 46.5	+2.8
GTA				PP	PP	17 49 00.3	-2.8
GTA				PPP	PPP	17 49 20.5	-4.9
GTA				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.9						
GTA				AMB	AMB		
	comp=Z,235nm,3.8s						
GTA				LR	LR		
	comp=N,269nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=E,234nm,12.9s,MS4.3						
GTA				LR	LR		
	comp=Z,413nm,15.6s,MS4.3						
JOW	**Kunigami**	**39.30**	**47**	P	**P**	**17 47 42.8**	**+0.7**
	comp=Z,9.3nm,0.6s,mb4.7,baz=336,slow=10,SNR=4.1						
HHC	**Hu-ho-hao-te**	**41.62**	**16**	*e*P	**P**	**17 48 00.5**	**-0.5**
HHC				PP	PP	17 49 39.8	-0.5
HHC				PCP	PcP	17 49 56.5	-1.9
HHC				AMB	AMB		
	comp=Z,15nm,0.4s,mb5.0						
HHC				AMB	AMB		
	comp=Z,154nm,4.4s						
HHC				LR	LR		
	comp=N,488nm,11.3s,MS4.7						
HHC				LR	LR		
	comp=E,441nm,13.6s,MS4.7						
HHC				LR	LR		
	comp=Z,435nm,14.7s,MS4.5						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**17 48 04.7**	**0.0**
	comp=Z,3.6nm,0.7s,mb4.1,baz=301,slow=9.1,SNR=40						
WRAB	**Tennant Creek**	**42.04**	**122**	*e*P	**P**	**17 48 04.6**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**42.04**	**122**	*e*P	**P**	**17 48 04.6**	**-0.1**
	comp=Z,6.6nm,0.5s,mb4.5						
WB2	**Warramunga Arr**	**42.04**	**122**	*e*P	**P**	**17 48 05.1**	**+0.3**
BJT	**Baijiatuau**	**42.38**	**22**	⇑*e*P	**P**	**17 48 08.3**	**+1.0**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**42.38**	**22**	⇑*e*P	**P**	**17 48 08.3**	**+1.1**
	comp=Z,13nm,0.6s,mb4.7						
BJI	**Beijing**	**42.40**	**22**	*e*P	**P**	**17 48 08.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,19nm,0.9s,mb4.7						
BJI				LR	LR		
	comp=Z,265nm,19.0s,MS4.2						
WMQ	**Urumqi**	**43.32**	**350**	*e*P	**P**	**17 48 15.5**	**+0.6**
WMQ				AP	pP	17 48 23.0	+0.1
WMQ				XP	sP	17 48 26.0	-0.2
WMQ				PP	PP	17 49 58.0	+0.3
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,164nm,4.8s						
WMQ				LR	LR		
	comp=N,467nm,16.0s,MS4.6						
WMQ				LR	LR		
	comp=E,383nm,15.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,345nm,21.8s						
ASPA	**Alice Springs**	**43.38**	**127**	*e*P	**P**	**17 48 16.5**	**+0.8**
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**17 48 16.1**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.1,baz=298,slow=7.6,SNR=38						
ASAR				PcP	PcP	17 50 05.0	+0.5
	comp=Z,0.9nm,0.8s,baz=315,slow=4.6,SNR=4.0						
TKM2	**Tokmak 2**	**45.85**	**338**	P	**P**	**17 48 36.7**	**+1.4**
	SNR=9.6						
KBK	**Karagaybulak**	**45.88**	**337**	P	**P**	**17 48 37.6**	**+2.1**
	SNR=7.9						
AML	**Almayashu**	**45.94**	**336**	P	**P**	**17 48 37.2**	**+1.2**
	SNR=6.2						
AAK	**Ala-Archa**	**46.04**	**337**	*i* P	**P**	**17 48 37.1**	**+0.4**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**46.04**	**337**	*e*P	**P**	**17 48 36.6**	**-0.1**
	comp=Z,3.6nm,0.8s,mb4.3						
EKS2	**Erkin-Say**	**46.35**	**336**	P	**P**	**17 48 40.7**	**+1.5**
	SNR=13						
USP	**Ospenovka**	**46.57**	**337**	P	**P**	**17 48 41.6**	**+0.7**
	SNR=20						
SONM	**Songino Array**	**47.19**	**8**	P	**P**	**17 48 46.1**	**+0.3**
	comp=Z,3.2nm,0.4s,mb4.6,baz=189,slow=9.7,SNR=47						
SONM				PcP	PcP	17 50 17.0	-0.4
	comp=Z,1.1nm,0.4s,baz=191,slow=3.7,SNR=8.0						
MKAR	**Makanchi Array**	**47.28**	**346**	*e*P	**P**	**17 48 46.7**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**47.28**	**346**	P	**P**	**17 48 46.5**	**0.0**
	comp=Z,4.6nm,0.5s,mb4.7,baz=162,slow=8.8,SNR=94						
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P	**P**	**17 48 46.7**	**-0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P	**P**	**17 48 46.6**	**-0.1**
	comp=Z,4.2nm,0.8s,mb4.4						
ZAK	**Zakamensk**	**49.33**	**5**	*e*P	**P**	**17 49 02.6**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.1s,mb3.8						
CN2	**Changchun**	**49.36**	**27**	*e*P	**P**	**17 49 02.3**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
TLY	**Talaya**	**50.65**	**5**	*e*P	**P**	**17 49 12.5**	**+0.1**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**17 49 19.8**	**-0.6**
HIA				pmax	pmax		
	comp=Z,14nm,0.8s						
HIA	**Hailar**	**51.70**	**19**	*e*P	**P**	**17 49 19.8**	**-0.6**
	comp=Z,14nm,0.8s,mb5.0						
KURK	**Kurchatov**	**51.84**	**345**	*e*P	**P**	**17 49 21.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
KURK	**Kurchatov**	**51.84**	**345**	*e*P	**P**	**17 49 21.1**	**-0.3**
	comp=Z,10.0nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**51.92**	**29**	P	**P**	**17 49 22.3**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,417nm,5.5s						
STKA	**Stephens Creek**	**53.34**	**132**	*e*P	**P**	**17 49 33.5**	**+0.6**
	comp=Z,3.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**53.34**	**132**	P	**P**	**17 49 33.3**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.4,baz=315,slow=8.4,SNR=11						
NVS	**Novosibirsk**	**54.72**	**350**	⇑*i* P	**P**	**17 49 40.8**	**-1.9**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
NVS				pmax	pmax		
	comp=N,10.0nm,1.2s						
NVS				pmax	pmax		
	comp=E,6.0nm,1.4s						
BVA0	**Borovoye Array**	**56.29**	**341**	*i* P	**P**	**17 49 52.5**	**-1.6**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.29**	**341**	P	**P**	**17 49 52.7**	**-1.4**
	comp=Z,4.6nm,0.7s,mb4.6,baz=142,slow=8.5,SNR=40						
KLR	**Kul'dur**	**56.31**	**27**	*e*P	**P**	**17 49 51.0**	**-3.3**
CHKZ	**Chkalovo**	**56.77**	**341**	⇑*e*P	**P**	**17 49 56.6**	**-0.9**
CHKZ				*e*	pP	17 50 03.1	-2.6
CHKZ				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
CHKZ	**Chkalovo**	**56.77**	**341**	⇑*e*P	**P**	**17 49 56.5**	**-0.9**
	comp=Z,13nm,0.7s,mb5.1						
CHKZ				*e*	pP	17 50 03.1	-2.7
BOD	**Bodaibo**	**58.06**	**11**	*e*P	**P**	**17 50 05.4**	**-1.2**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KMBO	**Kilima Mbogo**	**59.96**	**268**	P	**P**	**17 50 21.4**	**+1.1**
KMBO				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KMBO	**Kilima Mbogo**	**59.96**	**268**	P	**P**	**17 50 21.4**	**+1.0**
	comp=Z,3.7nm,1.1s,mb4.3						
SVE	**Sverdlovsk**	**62.73**	**338**	*e*P	**P**	**17 50 38.0**	**-0.4**
SVE				*e*	pP	17 50 45.0	-1.7
SVE				*e*		17 51 11.0	
SVE				MLR	MLR		
	comp=N,100nm,16.0s,MS4.4						
SVE				MLR	MLR		
	comp=E,200nm,16.0s,MS4.4						
SVE				MLR	MLR		
	comp=Z,400nm,16.0s,MS4.7						
ARU	**Arti**	**63.22**	**337**	⇓*i* P	**P**	**17 50 39.1**	**-2.5**
ARU				*e*		17 51 10.4	
ARU				*e*		17 52 56.4	
ARU				*e*S	**S**	**17 59 11.8**	**+1.9**
ARU				*e*SS	SS	18 03 21.7	+3.5
ARU				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.8						
KIV	**Kislovodsk**	**64.33**	**319**	*i* P	**P**	**17 50 46.4**	**-2.7**
YAK	**Yakutsk**	**65.48**	**16**	*e*P	**P**	**17 50 53.9**	**-2.3**
YAK				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
SOC	**Sochi**	**66.14**	**318**	*e*P	**P**	**17 50 56.2**	**-4.6**
SOC				*e*S	S	17 59 45.4	-0.7
SOC				*e*		18 00 50.8	
SOC				*e*SS	SS	18 03 59.1	-4.3
SOC				pmax	pmax		
	comp=Z,54nm,1.1s,mb5.5						
SOC				pmax	pmax		
	comp=N,21nm,1.0s						
SOC				pmax	pmax		
	comp=E,58nm,1.1s						
MA2	**Magadan**	**71.39**	**26**	*e*P	**P**	**17 51 29.1**	**-3.9**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
MA2	**Magadan**	**71.39**	**26**	*e*P	**P**	**17 51 32.7**	**-0.3**
	comp=Z,6.1nm,1.0s,mb4.5						
OBN	**Obninsk**	**72.65**	**328**	*e*P	**P**	**17 51 39.1**	**-1.5**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.2						
MAW	**Mawson**	**72.66**	**193**	*e*P	**P**	**17 51 31.2**	**-9.2**
MAW				pmax	pmax		
	comp=Z,9.0nm,0.6s						
MAW	**Mawson**	**72.66**	**193**	*e*P	**P**	**17 51 31.2**	**-9.2**
	comp=Z,9.0nm,0.6s,mb4.9						
TIXI	**Tiksi**	**73.24**	**10**	*e*P	**P**	**17 51 41.4**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TIXI				MLR	MLR		
	comp=Z,252nm,16.0s,MS4.6						
BOSA	**Boshof**	**74.73**	**240**	P	**P**	**17 51 53.6**	**+0.4**
	comp=Z,1.8nm,0.8s,mb4.1,baz=90,slow=12,SNR=3.3						
AKASG	**Malin Array Be**	**75.28**	**322**	P	**P**	**17 51 54.5**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.6,baz=78,slow=6.5,SNR=4.5						
AKASG	**Malin Array Be**	**75.28**	**322**	P	**P**	**17 51 54.5**	**-1.5**
MLR	**Muntele Rosu**	**76.09**	**317**	P	**P**	**17 51 59.5**	**-1.1**
	comp=Z,2.9nm,1.0s,mb4.2,baz=140,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	**80.03**	**333**	P	**P**	**17 52 21.3**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=135,slow=5.4,SNR=7.1						
BILL	**Bilibino**	**81.22**	**21**	*i* P	**P**	**17 52 28.0**	**-0.1**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.2						
MORC	**Moravsky Berou**	**82.42**	**320**	P	**P**	**17 52 34.6**	**-0.1**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**82.42**	**320**	P	**P**	**17 52 34.6**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.1						
ARCES	**ARCESS Array B**	**82.58**	**340**	P	**P**	**17 52 35.0**	**-0.1**
	comp=Z,2.5nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=4.2						
GERES	**GERESS Array B**	**84.83**	**319**	P	**P**	**17 52 47.1**	**+0.1**
	comp=Z,0.2nm,0.3s,mb3.7,baz=90,slow=4.0,SNR=8.9						
SBA	**Scott Base**	**86.88**	**169**	*e*P	pP	17 53 05.8	+0.7
	comp=Z,6.2nm,1.1s						
NB2	**NORSAR Subarra**	**87.04**	**331**	P	**P**	**17 52 57.6**	**0.0**
	comp=Z,0.8nm,0.8s,mb4.0,baz=95,slow=4.6						
NB2	**NORSAR Subarra**	**87.04**	**331**	P	**P**	**17 52 57.6**	**0.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.1						
NOA	**NORSAR Array B**	**87.04**	**331**	P	**P**	**17 52 57.3**	**-0.3**
	comp=Z,1.2nm,0.8s,mb4.2,baz=94,slow=5.0,SNR=4.9						
TXAR	**Lajitas Array**	**143.73**	**32**	PKP	PKPdf	17 59 46.2	-5.4
	comp=Z,0.7nm,0.8s,baz=135,slow=1.8,SNR=4.6						
TXAR	**Lajitas Array**	**143.73**	**32**	PKP	PKPdf	17 59 46.2	-5.4
LRAL	**Lakeview Retre**	**145.77**	**6**	*e*PKP	PKPdf	17 59 50.9	-4.1

IDC ***29*** *17:42:35.9±4.7, 1.27N×97.08E, h17km±28km, mb4.4/21, mb1 4.4/21, mb1mx4.3/25, mbtmp4.5/21, MS4.3/2, Ms1 4.2/2, ms1mx3.3/32, Error ellipse: s-maj=26.8km s-min=11.1km az=44.0*

BJI ***29*** *17:42:35.1, 1.08N×97.30E, h33km, mB5.1, mb5.0, Ms4.7, Msz4.5*

MOS ***29*** *17:42:36.4±1.3, 1.29N×97.19E, h33km, mb5.1/16, Error ellipse: s-maj=17.2km s-min=9.4km az=111.0*

NEIC ***29*** *17:42:37.0±0.3, 1.29N×97.16E, mb4.9/20, Error ellipse: s-maj=10.7km s-min=5.6km az=52.0*

ISC 29 17:42:35.8±0.4, 1.31N±0.05×97.22E±0.06, h25km, h25km±1.5km:pP-P,n93,σ1s08/94, mb4.8/56, MS4.4/10, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**41**	*e*P	**Pn**	**17 43 55.9**	**+1.3**
KSM	**Kuching**	**13.09**	**89**	*e*P	**P**	**17 45 51.4**	**+8.4**
CM31	**Chiang Mai Arr** 11nm,0.8s	**17.12**	**6**	*e*P	**P**	**17 46 34.1**	**-1.3**
KKM	**Kota Kinabalu**	**19.53**	**76**	*e*P	**P**	**17 47 04.7**	**0.0**
QIZ	**Qiongzhong**	**21.52**	**34**	*e*P	**P**	**17 47 25.3**	**-0.1**
QIZ				S	**S**	**17 51 07.8**	**-10**
QIZ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.3						
QIZ				LR	LR		
	comp=N,599nm,15.3s,MS4.4						
QIZ				LR	LR		
	comp=E,937nm,16.5s,MS4.4						
QIZ				LR	LR		
	comp=Z,749nm,12.8s,MS4.3						
KMI	**Kunming**	**24.27**	**12**	⇑P	**P**	**17 47 54.5**	**+2.1**
KMI				AP		17 48 01.5	
KMI				XP		17 48 05.0	
KMI				S	**S**	**17 52 12.3**	**+5.6**
KMI				AMB	AMB		
	comp=Z,57nm,1.3s,mb4.8						
KMI				AMB	AMB		
	comp=Z,206nm,3.3s						
KMI				LR	LR		
	comp=N,950nm,15.3s,MS4.5						
KMI				LR	LR		
	comp=E,601nm,12.5s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,13.6s,MS4.5						
HYB	**Hyderabad**	**24.35**	**312**	*e*P	**P**	**17 47 55.0**	**+1.7**
HYB	**Hyderabad**	**24.35**	**312**	*i* P	**P**	**17 47 55.0**	**+1.7**
GYA	**Guiyang**	**26.60**	**19**	⇑*i*P	**P**	**17 48 14.5**	**+0.1**
GYA				AP	pP	17 48 23.8	+2.3
GYA				XP	sP	17 48 28.0	+3.2
GYA				PP	PP	17 48 58.8	+0.2
GYA				S	**S**	**17 52 44.8**	**-0.9**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,170nm,4.0s						
GYA				LR	LR		
	comp=N,810nm,14.3s,MS4.5						
GYA				LR	LR		
	comp=E,420nm,14.1s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,13.2s,MS4.6						
JIRN	**Jiri**	**28.25**	**339**	*e*P	**P**	**17 48 30.3**	**+1.0**
	comp=Z,96nm,0.9s,mb5.4						
PKI	**Pulchoki**	**28.46**	**338**	*e*P	**P**	**17 48 31.8**	**+0.6**
	comp=Z,44nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.46**	**338**	*e*P	**P**	**17 48 31.8**	**+0.6**
PKI				pmax	pmax		
	comp=Z,22nm,1.0s,mb4.7						
GUN	**Gumba**	**28.59**	**339**	*e*P	**P**	**17 48 33.3**	**+0.9**
	comp=Z,60nm,0.7s,mb5.4						
DMN	**Daman**	**28.61**	**337**	*e*P	**P**	**17 48 33.0**	**+0.4**
	comp=Z,47nm,1.0s,mb5.2						
KKN	**Kakani**	**28.71**	**338**	*e*P	**P**	**17 48 33.8**	**+0.4**
	comp=Z,95nm,1.3s,mb5.4						
KKN	**Kakani**	**28.71**	**338**	*e*P	**P**	**17 48 33.8**	**+0.4**
KKN				pmax	pmax		
	comp=Z,47nm,1.3s,mb5.1						
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**17 48 36.0**	**+1.6**
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**17 48 34.1**	**-0.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**17 48 34.1**	**-0.3**
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.15**	**337**	*e*P	**P**	**17 48 37.8**	**+0.4**
	comp=Z,68nm,0.9s,mb5.4						
KOLN	**Koldanda**	**29.37**	**335**	*e*P	**P**	**17 48 39.9**	**+0.5**
	comp=Z,44nm,0.9s,mb5.2						
CD2	**Chengdu**	**30.09**	**11**	P	**P**	**17 48 45.0**	**-0.8**
ENH	**Enshi**	**31.07**	**21**	*e*P	**P**	**17 48 52.8**	**-1.6**
	comp=Z,46nm,0.7s,mb5.4						
ENH				*e*pP	pP	17 48 59.9	-1.7
FITZ	**Fitzroy Crossi**	**33.98**	**126**	*e*P	**P**	**17 49 11.2**	**-8.7**
	comp=Z,7.7nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.98**	**126**	P	**P**	**17 49 18.1**	**-

comp=Z,12nm,0.6s,mb4.7
HHC LR LR
comp=N,488nm,11.8s,MS4.7
HHC LR LR
comp=E,405nm,13.3s,MS4.7
HHC LR LR
comp=Z,435nm,15.5s,MS4.4
WRA Warramunga Arr 42.08 122 P **P** **17 50 27.6 -0.2**
comp=Z,6.5nm,0.6s,mb4.4,baz=301,slow=9.1,SNR=23
WRAB Tennant Creek 42.08 122 *e*P **P** **17 50 27.4 -0.4**
WRAB *e* pP 17 50 35.4 +0.2
WRAB pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
WRAB Tennant Creek 42.08 122 *e*P **P** **17 50 27.4 -0.4**
comp=Z,7.8nm,0.6s,mb4.5
WRAB *e* pP 17 50 35.4 +0.2
WB2 Warramunga Arr 42.09 122 *e*P **P** **17 50 27.9 0.0**
BJI Beijing 42.23 22 *e*P **P** **17 50 30.0 +1.2**
BJI AMB AMB
comp=Z,24nm,0.7s,mb4.9
BJI LR LR
comp=N,383nm,16.1s,MS4.5
BJI LR LR
comp=E,313nm,14.4s,MS4.5
BJI LR LR
comp=Z,292nm,21.3s
WMQ Urumqi 43.17 350⇓ *i*P **P** **17 50 38.0 +1.6**
WMQ AP pP 17 50 45.5 +1.7
WMQ XP sP 17 50 48.0 +1.2
WMQ PP PP 17 52 20.5 +1.6
WMQ PPP PPP 17 52 55.5 +1.3
WMQ S **S** **17 57 03.0 +1.9**
WMQ SCS ScS 18 00 34.5 +1.7
WMQ AMB AMB
comp=Z,23nm,1.1s,mb4.8
WMQ AMB AMB
comp=Z,126nm,5.6s
WMQ LR LR
comp=N,683nm,15.8s,MS4.8
WMQ LR LR
comp=E,652nm,15.4s,MS4.8
WMQ LR LR
comp=Z,438nm,23.6s
FORT Forrest 43.35 140 *e*P **P** **17 50 40.1 +2.1**
comp=Z,382nm,0.6s
ASPA Alice Springs 43.44 127 *e*P **P** **17 50 39.2 +0.3**
ASAR Alice Springs 43.45 127 P **P** **17 50 38.9 -0.1**
comp=Z,4.6nm,0.8s,mb4.3,baz=298,slow=8.0,SNR=14
ASAR PcP PcP 17 52 27.2 -0.3
comp=Z,1.4nm,0.8s,baz=316,slow=2.7,SNR=5.8
ASAR ScP 17 56 17.2
comp=Z,1.0nm,0.9s,baz=319,slow=3.9,SNR=6.1
UCH Uchtor 45.56 336 P **P** **17 50 57.0 +1.4**
SNR=7.1
TKM2 Tokmak 2 45.72 338 P **P** **17 50 57.9 +1.0**
SNR=6.9
KBK Karagaybulak 45.75 337 P **P** **17 50 58.8 +1.6**
SNR=7.9
AAK Ala-Archa 45.91 337 *e*P **P** **17 50 58.8 +0.4**
AAK pmax pmax
comp=Z,15nm,1.1s,mb4.8
AAK Ala-Archa 45.91 337 *e*P **P** **17 50 58.8 +0.4**
comp=Z,11nm,1.1s,mb4.8
EKS2 Erkin-Say 46.22 336 P **P** **17 51 01.8 +0.9**
SNR=7.1
USP Ospenovka 46.44 337 P **P** **17 51 03.4 +0.8**
SNR=13
SONM Songino Array 47.02 8 P **P** **17 51 07.4 +0.2**
comp=Z,11nm,0.8s,mb4.8,baz=189,slow=9.0,SNR=26
SONM PcP PcP 17 52 39.0 -0.5
comp=Z,2.0nm,0.7s,baz=191,slow=2.9,SNR=4.3
MKAR Makanchi Array 47.14 346 P **P** **17 51 07.9 -0.2**
comp=Z,7.5nm,0.7s,mb4.7,baz=161,slow=8.9,SNR=11
ULN Ulaanbaatar 47.15 9 *e*P **P** **17 51 07.7 -0.5**
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.8
ULN Ulaanbaatar 47.15 9 *e*P **P** **17 51 07.7 -0.5**
comp=Z,11nm,0.9s,mb4.8
ZAK Zakamensk 49.16 5 *e*P **P** **17 51 24.0 +0.2**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CN2 Changchun 49.20 27 *e*P **P** **17 51 24.3 +0.2**
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
TLY Talaya 50.48 5⇓ *i*P **P** **17 51 34.8 +1.0**
TLY pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
TLY MLR MLR
comp=Z,254nm,17.0s,MS4.3
PMG Port Moresby 50.86 103 P **P** **17 51 35.9 -1.3**
comp=Z,10nm,0.7s,mb4.8,baz=305,slow=4.9,SNR=3.3
HIA Hailar 51.53 19 *e*P **P** **17 51 41.5 -0.3**
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 51.53 19 *e*P **P** **17 51 41.5 -0.4**
comp=Z,12nm,0.8s,mb4.9
KURK Kurchatov 51.69 345 *e*P **P** **17 51 42.3 -0.7**
KURK pmax pmax
comp=Z,12nm,0.9s,mb4.8
KURK Kurchatov 51.69 345 *e*P **P** **17 51 42.2 -0.8**
comp=Z,12nm,0.9s,mb4.8
MDJ Mudanjiang 51.76 29 P **P** **17 51 44.5 +0.8**
MDJ AMB AMB
comp=Z,9.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,226nm,5.3s
CTA Charters Tower 52.53 117 LR LR 18 16 12.4
comp=Z,243nm,20.2s,MS4.2,baz=281,slow=38
STKA Stephens Creek 53.41 132 P **P** **17 51 56.4 +0.2**
comp=Z,6.3nm,0.9s,mb4.6,baz=313,slow=9.3,SNR=8.0
STKA LR LR 18 14 27.0
comp=Z,312nm,20.5s,MS4.3,baz=117,slow=36
STKA Stephens Creek 53.41 132 *e*P **P** **17 51 56.3 +0.1**
STKA *e* pP 17 52 03.2 -0.5
NVS Novosibirsk 54.57 350 *i*P **P** **17 52 02.5 -1.8**
NVS *e* 17 52 17.5
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
NVS pmax pmax
comp=E,9.0nm,1.2s
KLR Kul'dur 56.15 27 *e*P **P** **17 52 13.3 -2.5**
BVAR Borovoye Array 56.15 341 P **P** **17 52 14.7 -1.1**
comp=E,8.6nm,0.7s,mb4.9,baz=135,slow=8.4,SNR=19
CHKZ Chkalovo 56.63 341 *e*P **P** **17 52 18.2 -1.0**
CHKZ *e**PP pP 17 52 23.6 -3.2
CHKZ pmax pmax
comp=Z,17nm,0.7s,mb5.2
CHKZ Chkalovo 56.63 341 *e*P **P** **17 52 18.2 -1.1**
comp=Z,17nm,0.7s,mb5.2
CHKZ *e*pP pP 17 52 23.6 -3.2
BOD Bodaibo 57.90 11 *e*P **P** **17 52 26.9 -1.2**
BOD pmax pmax
comp=Z,15nm,0.9s,mb5.0
HNR Honiara 63.37 101 P **P** **17 53 05.6 -0.3**
comp=Z,12nm,0.5s,mb5.3,baz=153,slow=6.8,SNR=3.3
ASF Jabal al Asfar 64.42 305 P **P** **17 53 11.2 -1.5**
comp=Z,1.1nm,0.3s,mb4.3,baz=359,slow=9.8,SNR=3.1
YAK Yakutsk 65.31 16 *e*P **P** **17 53 16.7 -1.2**
YAK *e**PP pP 17 53 23.8 -1.7
YAK pmax pmax
comp=Z,49nm,1.0s,mb5.5
YAK Yakutsk 65.31 16 *e*P **P** **17 53 16.7 -1.2**
comp=Z,49nm,1.0s,mb5.5
YAK *e*pP pP 17 53 23.8 -1.7
EIL Elat 65.41 302 P **P** **17 53 17.7 -1.4**
comp=Z,2.2nm,0.8s,mb4.3,baz=304,slow=11,SNR=4.2
BRTR Keskin Array B 69.05 312 P **P** **17 53 39.6 -2.2**
comp=Z,1.2nm,0.7s,mb3.9,baz=106,slow=7.0,SNR=4.0
MA2 Magadan 71.23 26 *e*P **P** **17 53 54.5 -0.3**
MA2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TIXI Tiksi 73.08 10 *e*P **P** **17 54 02.2 -3.3**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SEY Seymchan 73.65 23 *e*P **P** **17 54 10.9 +1.9**
SEY *e* 17 54 16.4
SEY *e* 17 54 20.8
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
AKASG Malin Array Be 75.18 322 P **P** **17 54 15.8 -2.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=83,slow=5.5,SNR=5.8
MLR Muntele Rosu 76.00 317 P **P** **17 54 22.6 -0.2**
comp=Z,2.1nm,0.9s,mb4.0,baz=178,slow=8.5,SNR=2.6
RPZ Rata Peaks 79.27 135 P **P** **17 54 42.2 +1.2**
comp=Z,19nm,1.0s,mb5.0,baz=297,slow=6.8,SNR=2.8
FINES FINESS Array B 79.91 332 P **P** **17 54 43.2 -0.8**
comp=Z,1.4nm,0.6s,mb4.0,baz=124,slow=6.9,SNR=5.3
ARCES ARCESS Array B 82.44 340 P **P** **17 54 56.4 -0.7**
comp=Z,3.4nm,0.9s,mb4.3,baz=76,slow=5.0,SNR=4.6
GERES GERESS Array B 84.74 319 P **P** **17 55 08.1 -1.2**
comp=Z,1.3nm,0.7s,mb4.2,baz=90,slow=5.3,SNR=8.7
VNDA Vanda 85.93 169 P **P** **17 55 15.1 +0.5**
comp=Z,0.3nm,0.6s,mb3.7,baz=226,slow=15,SNR=2.7
NB2 NORSAR Subarra 86.92 331 P **P** **17 55 19.4 -0.4**
comp=Z,2.2nm,0.8s,mb4.4,baz=96,slow=4.8
NB2 NORSAR Subarra 86.92 331 P **P** **17 55 19.4 -0.4**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
NOA NORSAR Array B 86.92 331 P **P** **17 55 19.5 -0.3**
comp=Z,1.6nm,0.8s,mb4.3,baz=94,slow=4.9,SNR=6.4
SBA Scott Base 87.03 169 *e*P **P** **17 55 21.7 +1.7**
SBA pmax pmax
comp=Z,4.0nm,1.5s,mb4.4
SBA Scott Base 87.03 169 *e*P **P** **17 55 21.7 +1.7**
comp=Z,4.1nm,1.5s,mb4.4
MSU Marysvale 132.01 31 *e*PKP PKPdf 18 01 51.2 -1.4
TXAR Lajitas Array 143.57 32 PKP PKPdf 18 02 11.5 -2.3
comp=Z,1.0nm,0.7s,baz=270,slow=1.3,SNR=3.7
NATX Nacogdoches 145.24 18 PKP PKPdf 18 02 13.7 -2.9
LRAL Lakeview Retre 145.61 6 *e*PKP PKPdf 18 02 13.6 -3.7

*IDC **29** 17:45:46.5±2.9, 1.44N×97.33E, mb4.0/6, mb1 4.1/6, mb1mx3.8/18, mbtmp4.0/6, Error ellipse: s-maj=124.5km s-min=20.3km az=57.0*
*NEIC **29** 17:45:49.7±1.0, 1.32N×97.07E, h30km, mb4.4/6, Error ellipse: s-maj=26.3km s-min=12.8km az=64.0*
ISC 29 17:45:51.3±6.4, 1.4N±0.2×97.2E±0.4, h58km±48km, n14, σ1°01/14, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.16**	**42**	P	**P**	**17 47 08.8**	**+1.0**
KSM	**Kuching**	**13.11**	**90**	*e*P	**P**	**17 49 08.7**	**+12**
CM31	**Chiang Mai Arr**	**17.02**	**6**	P	**P**	**17 49 44.9**	**-2.0**
	4.2nm,0.8s						
LSA	**Lhasa**	**28.71**	**349**	P	**P**	**17 51 45.3**	**-0.1**
	3.1nm,0.6s,mb4.2						
ENH	**Enshi**	**30.98**	**21**	*e*P	**P**	**17 52 03.9**	**-1.6**
	11nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.06**	**126**	P	**P**	**17 52 31.0**	**-1.3**
	4.2nm,0.9s,mb4.4,baz=350,slow=6.1,SNR=3.1						
WRA	**Warramunga Arr**	**42.15**	**122**	P	**P**	**17 53 40.5**	**+0.4**
	0.8nm,0.6s,mb3.5,baz=302,slow=9.6,SNR=7.2						
ASAR	**Alice Springs**	**43.53**	**127**	P	**P**	**17 53 51.7**	**+0.4**
	0.3nm,0.3s,mb3.5,baz=302,slow=7.8,SNR=4.7						
SONM	**Songino Array**	**46.92**	**8**	P	**P**	**17 54 19.0**	**+1.1**
	2.6nm,0.8s,mb4.2,baz=188,slow=8.8,SNR=6.0						
MKAR	**Makanchi Array**	**47.03**	**346**	P	**P**	**17 54 19.7**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=159,slow=9.0,SNR=5.8						
ULN	**Ulaanbaatar**	**47.05**	**9**	P	**P**	**17 54 20.3**	**+1.4**
	2.6nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**56.04**	**341**	P	**P**	**17 55 26.6**	**+0.1**
	1.6nm,0.7s,mb4.2,baz=135,slow=8.4,SNR=4.9						
CHKZ	**Chkalovo**	**56.52**	**341**	*e*P	**P**	**17 55 29.6**	**-0.3**
	3.0nm,0.9s,mb4.3						
YAK	**Yakutsk**	**65.21**	**16**	*e*P	**P**	**17 56 28.3**	**-0.4**
	20nm,1.0s,mb5.1						

*NIED **29** 17:46:00, 36.40N×141.10E, h32km, Mw3.9 Best double couple: M0 7.91×10^14 NP1:φs223°, δ80°, λ-90°. NP2:φs43°, δ10°, λ-90°.*
*JMA **29** 17:46:16.4±0.1, 36.32N×141.06E, h47km±1km, M3.8*
JMA Felt I J1.
ISC 29 17:46:16.1±1.1, 36.34N±0.04×141.09E±0.08, h31km±6km, n9, σ0°57/16, 1C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHO	**Hitachi**	**0.50**	**303**	⇓P	**Pb**	**17 46 27.0**	**+0.3**
JHO				*e*S	**Sb**	**17 46 34.8**	**+0.9**
CHOJ	**Chosi**	**0.66**	**197**	P	**Pb**	**17 46 29.1**	**0.0**
CHOJ				*e*S	**Sb**	**17 46 37.8**	**-0.3**
JYT	**Yasato**	**0.73**	**262**	P	**Pn**	**17 46 30.1**	**-0.2**
JYT				*e*S	**Sb**	**17 46 39.7**	**-0.4**
ONAJ	**Iwakimizuishiy**	**0.80**	**343**	*e*S	**Sb**	**17 46 41.1**	**-0.9**
JFK	**Kawauchi**	**1.04**	**350**	P	**Pn**	**17 46 34.1**	**-0.7**
JAG	**Ashikaga**	**1.32**	**274**	P	**Pn**	**17 46 39.0**	**+0.2**
JAG				*e*S	**Sn**	**17 46 55.3**	**-0.2**
JFT	**Otama**	**1.33**	**333**	⇑P	**Pn**	**17 46 39.5**	**+0.7**
JFT				*e*S	**Sn**	**17 46 55.6**	**+0.1**
JKT	**Katashina**	**1.54**	**287**	P	**Pn**	**17 46 42.9**	**+1.0**
JKT				*e*S	**Sn**	**17 47 00.1**	**-1.0**
MAT	**Matsushiro**	**2.34**	**276**	P	**Pn**	**17 46 53.6**	**+0.4**
MAT				S	**Sn**	**17 47 21.3**	**+0.1**

IDC 29 17:48:19.0±2.8, 1.59N×97.01E, mb3.6/5, mb1 3.7/5, mb1mx3.5/17, mbtmp3.6/5, Error ellipse: s-maj=119.0km s-min=21.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.40**	**122**	P	P	17 56 15.2	-2.1
	0.3nm,0.4s,baz=302,slow=9.0,SNR=3.5						
ASAR	**Alice Springs**	**43.78**	**127**	P	P	17 56 27.1	-1.4
	0.1nm,0.5s,baz=301,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**46.78**	**9**	P	P	17 56 50.7	-1.4
	1.2nm,0.6s,baz=189,slow=8.9,SNR=7.8						
MKAR	**Makanchi Array**	**46.82**	**346**	P	P	17 56 51.1	-1.3
	1.7nm,0.6s,baz=158,slow=8.0,SNR=9.4						
BVAR	**Borovoye Array**	**55.82**	**341**	P	P	17 57 57.2	-3.2
	0.5nm,0.5s,baz=135,slow=6.1,SNR=3.9						

*IDC **29** 17:48:43.9±1.4, 1.96N×96.72E, mb4.1/8, mb1 4.3/8, mb1mx4.0/17, mbtmp4.1/8, Error ellipse: s-maj=69.3km s-min=19.9km az=52.0*
*BJI **29** 17:48:45.1, 1.46N×96.96E, h48km, mb4.8*
*NEIC **29** 17:48:48.4±0.6, 1.94N×96.74E, h30km, mb4.4/9, Error ellipse: s-maj=15.1km s-min=9.4km az=48.0*
ISC 29 17:48:47.1±0.8, 2.0N±0.1×96.8E±0.1, h33km, n23, σ0°93/23, mb4.3/18, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.08**	**49**	*e*P	**P**	**17 50 03.6**	**+0.7**
CM31	**Chiang Mai Arr**	**16.52**	**7**	*e*P	**P**	**17 52 39.7**	**+1.6**
	8.8nm,0.8s						
KKM	**Kota Kinabalu**	**19.80**	**78**	*e*P	**P**	**17 53 17.3**	**-0.5**
LSA	**Lhasa**	**28.09**	**350**	*e*P	**P**	**17 54 38.5**	**+0.4**
	4.8nm,0.6s,mb4.3						
ENH	**Enshi**	**30.62**	**22**	P	**P**	**17 54 58.5**	**-2.1**
	3.4nm,0.5s,mb4.4						
LZH	**Lanzhou**	**34.57**	**10**	*e*P	**P**	**17 55 35.0**	**0.0**
LZH				AP	pP	17 55 43.5	-1.1
LZH				PP	PP	17 56 54.0	+2.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
GTA	**Gaotai**	**37.37**	**4**	*e*P	**P**	**17 55 59.0**	**+0.4**
GTA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
WRA	**Warramunga Arr**	**42.80**	**122**	P	**P**	**17 56 43.7**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=300,slow=9.0,SNR=9.1						
WRAB	**Tennant Creek**	**42.80**	**122**	*e*P	**P**	**17 56 44.1**	**+0.2**
	comp=Z,5.5nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**44.19**	**127**	P	**P**	**17 56 55.6**	**+0.5**
	comp=Z,1.0nm,0.7s,mb3.6,baz=302,slow=8.2,SNR=7.2						
AAK	**Ala-Archa**	**45.13**	**337**	*e*P	**P**	**17 57 03.6**	**+1.2**
	comp=Z,2.1nm,0.8s,mb4.0						
MKAR	**Makanchi Array**	**46.40**	**346**	P	**P**	**17 57 12.3**	**0.0**
	comp=Z,2.5nm,0.5s,mb4.4,baz=159,slow=8.9,SNR=18						
MKAR	**Makanchi Array**	**46.40**	**346**	P	**P**	**17 57 12.3**	**0.0**
SONM	**Songino Array**	**46.44**	**9**	P	**P**	**17 57 12.6**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=192,slow=9.2,SNR=10						
KURK	**Kurchatov**	**50.95**	**345**	*e*P	**P**	**17 57 46.7**	**-0.8**
	comp=Z,2.6nm,0.7s,mb4.3						
HIA	**Hailar**	**51.05**	**19**	*e*P	**P**	**17 57 48.2**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.5						
BVAR	**Borovoye Array**	**55.39**	**341**	P	**P**	**17 58 18.9**	**-1.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=7.9						
CHKZ	**Chkalovo**	**55.67**	**342**	*e*P	**P**	**17 58 22.8**	**-1.0**
	comp=Z,4.9nm,0.7s,mb4.7						
YAK	**Yakutsk**	**64.81**	**16**	*e*P	**P**	**17 59 23.6**	**-1.0**
	comp=Z,8.7nm,0.8s,mb4.8						

FINES FINESS Array B 79.13 332 P **P** **18 00 49.0 -0.8**
comp=Z,1.0nm,0.7s,mb3.9,baz=108,slow=6.0,SNR=4.5
ARCES ARCESS Array B 81.68 340 P **P** **18 01 05.0 +1.7**
comp=Z,5.9nm,1.0s,mb4.5,baz=72,slow=7.7,SNR=4.0
ARCES ARCESS Array B 81.68 340 P **P** **18 01 05.0 +1.7**
GERES GERESS Array B 83.96 319 P **P** **18 01 16.3 +1.0**
comp=Z,0.3nm,0.4s,mb3.7,baz=139,slow=9.0,SNR=3.3

*IDC **29** 17:54:57.8±1.6, 5.37N×93.46E, mb3.6/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=71.8km s-min=21.2km az=55.0*
*NEIC **29** 17:55:02.1±0.8, 5.28N×93.35E, h30km, mb4.3/5, Error ellipse: s-maj=23.6km s-min=8.9km az=46.0*
ISC 29 17:55:01.4±7.6, 5.3N±0.3×93.4E±0.4, h38km±61km, n20, σ0°75/14, mb3.9/11, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**7.18**	**90**	*e*P	**P**	**17 56 46.5**	**-0.1**
CM31	**Chiang Mai Arr**	**14.13**	**22**	*e*P	**P**	**17 58 27.7**	**+6.5**
JIRN	**Jiri**	**23.27**	**344**	*e*P		18 00 24.5	
DMN	**Daman**	**23.55**	**341**	*e*P		18 00 27.8	
	25nm,0.5s						
GUN	**Gumba**	**23.60**	**343**	*e*P		18 00 28.4	
KKN	**Kakani**	**23.66**	**342**	*e*P		18 00 29.8	
	21nm,0.6s						
GKN	**Gorkha**	**24.07**	**341**	*e*P		18 00 35.2	
	22nm,0.3s						
KOLN	**Koldanda**	**24.22**	**338**	*e*P		18 00 37.8	
	12nm,0.4s						
LSA	**Lhasa**	**24.35**	**355**⇑	*e*P	**P**	**18 00 19.4**	**+2.2**
	10nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**40.79**	**338**	*e*P	**P**	**18 02 40.5**	**-0.2**
	3.3nm,1.0s,mb3.9						
MKAR	**Makanchi Array**	**42.43**	**349**	P	**P**	**18 02 54.4**	**+0.2**
	1.8nm,0.5s,mb3.9,baz=165,slow=9.0,SNR=28						
MKAR	**Makanchi Array**	**42.43**	**349**	P	**P**	**18 02 54.4**	**+0.2**
SONM	**Songino Array**	**43.80**	**13**	P	**P**	**18 03 04.8**	**-0.6**
	0.4nm,0.6s,mb3.3,baz=190,slow=8.7,SNR=5.1						
KURK	**Kurchatov**	**46.92**	**347**	*e*P	**P**	**18 03 30.0**	**-0.2**
	1.7nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**47.40**	**123**	P	**P**	**18 03 34.3**	**0.0**
	0.4nm,0.5s,mb3.6,baz=300,slow=9.7,SNR=7.7						
WRAB	**Tennant Creek**	**47.41**	**123**	*e*P	**P**	**18 03 34.5**	**+0.1**
	4.2nm,0.6s,mb4.5						
ASAR	**Alice Springs**	**48.86**	**128**	P	**P**	**18 03 45.8**	**+0.2**
	0.3nm,0.9s,mb3.3,baz=302,slow=8.0,SNR=6.6						
BVAR	**Borovoye Array**	**51.19**	**342**	P	**P**	**18 04 01.8**	**-1.3**
	0.7nm,0.6s,mb3.8,baz=135,slow=9.3,SNR=7.6						
CHKZ	**Chkalovo**	**51.69**	**343**	*e*P	**P**	**18 04 06.2**	**-0.5**
	2.0nm,0.5s,mb4.3						
GERES	**GERESS Array B**	**79.27**	**319**	P	**P**	**18 07 05.2**	**+0.6**
	0.4nm,0.5s,mb3.6,baz=45,slow=3.8,SNR=4.5						

*GUC **29** 17:56:42.4±0.7, 33.72S×72.23W, h38km±1km, MD4.2, ML3.9*
*NEIC **29** 17:56:42.4, 33.72S×72.23W, h38km, mb3.7/2, MD4.2(GUC), After GUC.*
ISC 29 17:56:42.3±0.7, 33.70S±0.03×72.32W±0.06, h43km±13km, n28, σ0°71/43, mb4.0/1, 4C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCCH	**Las Cruces**	**0.67**	**70**⇑	*i*P	**P**	**17 56 54.3**	**-1.1**
LCCH				*i*S	**S**	**17 57 03.7**	**-1.3**
LNV	**Longovilo**	**0.80**	**109**⇓	*i*P	**P**	**17 56 56.2**	**-1.0**
IHA	**Instituto Hidr**	**0.88**	**40**	*e*P	**P**	**17 56 58.6**	**+0.2**
IHA				*i*S	**S**	**17 57 10.4**	**+0.1**
TACH	**Talagante**	**1.16**	**88**⇑	*i*P	**P**	**17 57 01.6**	**-0.6**
TACH				*i*S	**S**	**17 57 16.2**	**-0.8**
RCDM	**Rinconada Maip**	**1.28**	**81**	*e*P	**P**	**17 57 03.6**	**-0.5**
RCDM				*i*S	**S**	**17 57 20.0**	**-0.4**
RCDM				AMP		17 57 23.1	
	comp=N,2μm,0.1s						
ROCH	**El Roble**	**1.32**	**57**	*e*P	**P**	**17 57 05.4**	**+0.8**
PACH	**Papudo**	**1.38**	**33**	*e*P	**P**	**17 57 06.0**	**+0.5**
PACH				*i*S	**S**	**17 57 24.3**	**+1.5**
SAN	**Santiago**	**1.41**	**80**	*e*P	**P**	**17 57 05.9**	**0.0**
CHCH	**Chadas Angostu**	**1.41**	**100**⇑	*i*P	**P**	**17 57 05.7**	**-0.2**
ANTU	**Antumapu**	**1.42**	**85**	*e*P	**P**	**17 57 06.2**	**+0.2**
ANTU				*i*S	**S**	**17 57 23.7**	**0.0**
ANTU				AMP		17 57 26.1	
	comp=N,5μm,0.3s						
SFDO	**San Fernando**	**1.42**	**130**	*e*P	**P**	**17 57 05.5**	**-0.5**
SFDO				*i*S	**S**	**17 57 23.7**	**0.0**
CACH	**El Canelo**	**1.49**	**107**	*e*P	**P**	**17 57 07.7**	**+0.7**
DSCH	**Colegio Aleman**	**1.50**	**79**	*e*P	**P**	**17 57 05.5**	**+0.3**
DSCH				*i*S	**S**	**17 57 25.6**	**-0.1**
DSCH				AMP		17 57 35.4	
	comp=E,4μm,0.4s						
PCH	**Pirque**	**1.51**	**87**⇑	*i*P	**P**	**17 57 07.4**	**0.0**
CLCH	**Cerro Calan**	**1.52**	**79**	*e*P	**P**	**17 57 07.5**	**0.0**
CLCH				*i*S	**S**	**17 57 26.9**	**+0.6**
CLCH				AMP		17 57 34.9	
	comp=N,3μm,0.6s						
NICH	**Los Niches**	**1.58**	**145**	*e*P	**P**	**17 57 08.5**	**+0.2**
CICH	**Cipreses**	**1.69**	**112**	*i*P	**P**	**17 57 10.2**	**+0.3**
FCH	**Farellones**	**1.74**	**78**⇓	*i*P	**P**	**17 57 11.3**	**+0.8**
FCH				*i*S	**S**	**17 57 32.8**	**+1.1**
FCH				AMP		17 57 42.2	
	comp=E,2μm,0.6s						
LMEL	**Las Melosas**	**1.77**	**95**	*e*P	**P**	**17 57 11.3**	**+0.3**
LMEL				*i*S	**S**	**17 57 33.0**	**+0.6**
LMEL				AMP		17 57 37.0	
	comp=N,2μm,0.5s						
JACH	**Jahuel**	**1.77**	**55**	*e*P	**P**	**17 57 11.3**	**+0.3**
TALC	**Talca**	**1.78**	**162**	*e*P	**P**	**17 57 11.3**	**+0.1**
TALC				*i*S	**S**	**17 57 33.6**	**+0.9**
TALC				AMP		17 57 47.8	
	comp=N,7μm,0.6s						
CHNG	**Los Chungos**	**1.94**	**21**	*e*P	**P**	**17 57 13.3**	**-0.1**
CHNG				*i*S	**S**	**17 57 35.8**	**-0.9**
CHNG				AMP		17 57 52.9	
	comp=E,614nm,0.5s						
CCHI	**Chillan**	**2.90**	**176**	*e*P	**P**	**17 57 26.8**	**-0.3**
CCHI				*i*S	**S**	**17 58 02.5**	**+1.5**
TLL	**Tololo Astrono**	**3.75**	**21**	*e*P	**P**	**17 57 39.3**	**+0.1**
TLL				*i*S	**S**	**17 58 22.6**	**-0.1**
PLCA	**Paso Flores**	**7.16**	**169**	*e*P	**P**	**17 58 25.1**	**-2.0**
TRQA	**Tornquist**	**9.45**	**120**	P	**P**	**17 58 57.4**	**-1.3**
LPAZ	**La Paz**	**17.75**	**13**	*e*P	**P**	**18 00 48.6**	**+0.8**
	comp=E,3.0nm,0.8s						
SAML	**Samuel**	**26.04**	**21**	*e*P	**P**	**18 02 12.8**	**-0.6**
	comp=E,4.5nm,1.0s,mb4.0						

*IDC **29** 18:04:05.0±1.0, 0.99S×97.57E, mb4.2/12, mb1 4.3/12, mb1mx4.2/19, mbtmp4.2/12, Error ellipse: s-maj=53.1km s-min=14.0km az=48.0*
*BJI **29** 18:04:08.0, 0.90S×97.80E, h30km, mB5.2, mb4.7, Ms4.3, Msz3.8*
*NEIC **29** 18:04:10.1±0.3, 0.86S×97.77E, h30km, mb4.7/18, Error ellipse: s-maj=11.4km s-min=4.8km az=52.0*
ISC 29 18:04:08.7±0.5, 0.86S±0.07×97.78E±0.09, h33km, n46, σ0°90/44, mb4.5/34, MS4.1/1, 2C-3D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.74**	**25**	*e*P	**P**	**18 05 46.2**	**-1.7**
CM31	**Chiang Mai Arr**	**19.23**	**3**⇓	*e*P	**P**	**18 08 31.8**	**-1.2**
	6.6nm,0.8s						
KKM	**Kota Kinabalu**	**19.64**	**69**	*e*P	**P**	**18 08 36.5**	**-1.2**
QIZ	**Qiongzhong**	**23.04**	**30**	*e*P	**P**	**18 09 14.5**	**+2.2**
KMI	**Kunming**	**26.27**	**10**	P	**P**	**18 09 44.8**	**+1.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.

comp=Z,10nm,0.9s,mb4.7
GKN Gorkha 31.34 337 *e*P **P 18 10 28.0 -0.6**
comp=Z,21nm,0.9s,mb5.0
KOLN Koldanda 31.55 335 *e*P **P 18 10 31.1 +0.6**
comp=Z,27nm,0.9s,mb5.1
FITZ Fitzroy Crossi 32.29 124 *e*P **P 18 10 36.6 -0.4**
comp=Z,8.0nm,0.9s,mb4.5
FITZ Fitzroy Crossi 32.29 124 P **P 18 10 36.6 -0.5**
comp=Z,12nm,0.9s,mb4.7,baz=232,slow=3.9,SNR=8.7
ENH Enshi 32.90 19 *e*P **P 18 10 41.2 -1.0**
comp=Z,14nm,0.8s,mb5.0
XAN Xi'an 36.26 16 P **P 18 11 10.5 -0.4**
XAN AMB AMB
comp=Z,11nm,0.9s,mb4.8
GTA Gaotai 40.11 2 *e*P **P 18 11 44.0 +1.0**
GTA AP pP 18 11 53.5 +0.7
GTA XP sP 18 11 57.3 +0.3
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
WRA Warramunga Arr 40.48 120 P **P 18 11 46.3 0.0**
comp=Z,8.8nm,0.8s,mb4.5,baz=300,slow=8.9,SNR=57
WRAB Tennant Creek 40.49 120 *e*P **P 18 11 46.2 -0.1**
comp=Z,9.1nm,0.8s,mb4.6
WB2 Warramunga Arr 40.49 120⇑ *i*P **P 18 11 46.3 -0.1**
ASPA Alice Springs 41.72 126⇓ *i*P **P 18 11 57.3 +0.8**
ASAR Alice Springs 41.72 126 P **P 18 11 57.1 +0.6**
comp=Z,3.8nm,0.8s,mb4.1,baz=297,slow=7.8,SNR=40
BJT Baijiatuau 44.01 20 *e*P **P 18 12 16.2 +1.2**
comp=Z,18nm,0.9s,mb4.8
BJI Beijing 44.03 20 *e*P **P 18 12 16.3 +1.1**
BJI AP pP 18 12 19.5 -5.6
BJI AMB AMB
comp=Z,15nm,0.8s,mb4.8
BJI LR LR
comp=Z,234nm,21.4s,MS4.1
WMQ Urumqi 45.38 350⇓ *i*P **P 18 12 27.3 +1.3**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.7
WMQ AMB AMB
comp=Z,188nm,5.6s
AAK Ala-Archa 48.10 337 P **P 18 12 46.1 -1.3**
comp=Z,1.1nm,0.8s,mb3.9
SONM Songino Array 49.07 8 P **P 18 12 55.3 +0.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=190,slow=9.0,SNR=19
ULN Ulaanbaatar 49.19 8 *e*P **P 18 12 56.1 +0.4**
comp=Z,10nm,0.8s,mb4.9
ULN *e* 18 13 03.1
MKAR Makanchi Array 49.36 346 P **P 18 12 57.2 +0.2**
comp=Z,4.4nm,0.6s,mb4.7,baz=153,slow=8.2,SNR=58
MKAR Makanchi Array 49.36 346 P **P 18 12 57.2 +0.2**
CN2 Changchun 50.88 26 *e*P **P 18 13 07.8 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CTA Charters Tower 51.09 115 P **P 18 13 10.4 -0.2**
comp=Z,10nm,0.8s,mb4.8,baz=288,slow=6.0,SNR=6.8
CTAO Charters Tower 51.09 115 *e*P **P 18 13 10.2 -0.4**
comp=Z,11nm,0.9s,mb4.8
STKA Stephens Creek 51.57 131 P **P 18 13 14.1 +0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=309,slow=19,SNR=6.2
KURK Kurchatov 53.91 345 *e*P **P 18 13 30.5 -0.7**
comp=Z,5.7nm,1.4s,mb4.3
BVAR Borovoye Array 58.37 341 P **P 18 14 01.8 -1.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=138,slow=8.5,SNR=11
CHKZ Chkalovo 58.84 341 *e*P **P 18 14 04.9 -1.6**
comp=Z,7.5nm,1.0s,mb4.7
YAK Yakutsk 67.22 16 *e*P **P 18 15 00.8 -0.8**
comp=Z,18nm,0.8s,mb5.2
BRTR Keskin Array B 70.92 313 P **P 18 15 24.3 -0.5**
comp=Z,0.5nm,0.5s,mb3.7,baz=117,slow=6.4,SNR=2.4
AKASG Malin Array Be 77.23 323 P **P 18 16 00.5 -0.8**
comp=Z,0.5nm,0.2s,mb4.1,baz=89,slow=5.3,SNR=4.8
FINES FINESS Array B 82.08 333 P **P 18 16 26.9 -0.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=117,slow=4.3,SNR=4.2
GERES GERESS Array B 86.73 319 P **P 18 16 51.4 +0.8**
comp=Z,0.3nm,0.2s,mb4.2,baz=90,slow=4.9,SNR=3.2
MIAR Mount Ida 144.84 16 *e*PKP PKPdf 18 23 44.0 +1.0
TXAR Lajitas Array 145.07 34 PKPbc PKPbc 18 23 46.0 +2.2
comp=Z,2.7nm,0.7s,baz=275,slow=2.0,SNR=24
TXAR PP PP 18 27 04.7 -1.3
comp=Z,0.9nm,0.7s,baz=297,slow=5.6,SNR=6.2

*IDC **29** 18:06:30.8±0.5,2.42N×96.72E,mb4.6/18,mb1 4.7/18, mb1mx4.7/20,mbtmp4.6/18,MS4.3/9,Ms1 4.3/9, ms1mx3.8/30,Error ellipse: s-maj=24.0km s-min=11.4km az=50.0*
*BJI **29** 18:06:32.7,2.21N×96.75E,h37km,mB5.3,mb4.9,Ms4.9, Msz4.8*
*MOS **29** 18:06:34.3±1.3,2.43N×96.76E,h33km,mb5.0/32, MS4.7/5,Error ellipse: s-maj=12.5km s-min=6.1km az=112.8*
*NEIC **29** 18:06:35.2±0.2,2.40N×96.70E,mb4.9/38,Error ellipse: s-maj=7.7km s-min=4.8km az=49.0*
ISC 29 18:06:34.0±0.2,2.40N±0.04×96.73E±0.04,h31km, h31km±.8km:pP-P,n176,σ1s14/179,mb4.9/78,MS4.6/26, 16C-10D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.85**	**54**	*e*P		**Pn**	**18 07 48.5**	**+1.5**
SNG	**Songkhla**	**6.13**	**39**	P		**Pn**	**18 08 06.0**	**+1.1**
	182nm,0.9s							
NNT	**Nongplab**	**10.55**	**16**	P		**P**	**18 09 15.0**	**+8.5**
KSM	**Kuching**	**13.60**	**94**	P		**P**	**18 09 48.7**	**+1.1**
KKTK	**Khon Kaen**	**15.10**	**23**	P		**P**	**18 10 09.0**	**+1.9**
	741nm,0.8s							
CM31	**Chiang Mai Arr**	**16.11**	**8**	*e*P		**P**	**18 10 19.9**	**-0.2**
	33nm,0.7s							
CHG	**Chiang Mai**	**16.46**	**7**	⇓P		**P**	**18 10 24.9**	**+0.3**
	20nm,0.8s							
NANT	**Nan**	**16.76**	**13**	⇑P		**P**	**18 10 28.0**	**-0.4**
	406nm,0.8s							
KKM	**Kota Kinabalu**	**19.76**	**79**	*e*P		**P**	**18 11 05.0**	**+0.2**
VIS	**Vishakhapatnam**	**20.12**	**320**	*i*P		**P**	**18 11 08.7**	**+0.2**
VIS				*i*			18 14 36.6	
QIZ	**Qiongzhong**	**20.93**	**37**	*e*P		**P**	**18 11 17.0**	**+0.2**
QIZ				S		**S**	**18 15 04.3**	**+0.7**
QIZ				LR	LR			
	comp=N,2μm,15.3s,MS4.7							
QIZ				LR	LR			
	comp=E,1μm,15.8s,MS4.7							
QIZ				LR	LR			
	comp=Z,3μm,14.4s,MS4.8							
QIZ	**Qiongzhong**	**20.93**	**37**	*e*P		**P**	**18 11 15.3**	**-1.5**
	comp=Z,17nm,0.8s							
HYB	**Hyderabad**	**23.27**	**311**	*e*P		**P**	**18 11 42.0**	**+1.8**
HYB	**Hyderabad**	**23.27**	**311**	*i*P		**P**	**18 11 42.0**	**+1.8**
KMI	**Kunming**	**23.33**	**14**	⇑P		**P**	**18 11 42.0**	**+1.3**
KMI				AP			18 11 51.0	
KMI				XP			18 11 54.0	
KMI				PP	PP		18 12 15.0	+2.8
KMI				S	S		**18 15 50.8**	**+3.4**
KMI				XS			18 16 04.5	
KMI				SS	SS		18 16 37.0	+2.4
KMI				AMB	AMB			
	comp=Z,32nm,1.3s,mb4.6							
KMI				AMB	AMB			
	comp=Z,206nm,3.5s							
KMI				LR	LR			
	comp=N,2μm,16.1s,MS4.6							
KMI				LR	LR			
	comp=E,1μm,17.5s,MS4.6							
KMI				LR	LR			
	comp=Z,2μm,18.7s,MS4.6							
GYA	**Guiyang**	**25.76**	**21**⇑	*i*P		**P**	**18 12 03.3**	**-0.7**
GYA				AP	pP		18 12 12.8	-0.1
GYA				XP	sP		18 12 17.0	0.0
GYA				PP	PP		18 12 44.0	-0.4
GYA				S	S		**18 16 28.0**	**-0.6**
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB			
	comp=Z,140nm,3.8s							
GYA				LR	LR			
	comp=N,2μm,14.4s,MS4.9							
GYA				LR	LR			
	comp=E,490nm,14.6s,MS4.9							
GYA				LR	LR			
	comp=Z,2μm,14.7s,MS4.7							
JIRN	**Jiri**	**27.07**	**339**	*e*P		**P**	**18 12 16.4**	**+0.4**
	comp=Z,144nm,0.7s,mb5.6							
PKI	**Pulchoki**	**27.27**	**338**	*e*P		**P**	**18 12 17.7**	**-0.2**
	comp=Z,56nm,0.7s,mb5.2							
GUN	**Gumba**	**27.41**	**339**	*e*P		**P**	**18 12 19.2**	**+0.1**
	comp=Z,124nm,0.6s,mb5.6							
DMN	**Daman**	**27.43**	**337**	*e*P		**P**	**18 12 19.1**	**-0.2**
	comp=Z,70nm,0.7s,mb5.3							
KKN	**Kakani**	**27.52**	**338**	*e*P		**P**	**18 12 20.0**	**-0.1**
	comp=Z,80nm,0.7s,mb5.5							
KKN	**Kakani**	**27.52**	**338**	*e*P		**P**	**18 12 20.0**	**-0.1**
KKN				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.3							
LSA	**Lhasa**	**27.67**	**350**	P		**P**	**18 12 22.5**	**+1.1**
LSA	**Lhasa**	**27.67**	**350**⇑	*e*P		**P**	**18 12 21.5**	**+0.1**
LSA				pmax	pmax			
	comp=Z,31nm,0.8s,mb5.0							
LSA	**Lhasa**	**27.67**	**350**⇑	*e*P		**P**	**18 12 21.5**	**+0.1**
	comp=Z,31nm,0.8s,mb5.0							
GKN	**Gorkha**	**27.96**	**337**	*e*P		**P**	**18 12 24.0**	**-0.1**
	comp=Z,10nm,0.9s,mb4.5							
KOLN	**Koldanda**	**28.18**	**335**	*e*P		**P**	**18 12 26.0**	**-0.1**
	comp=Z,148nm,0.7s,mb5.7							
CD2	**Chengdu**	**29.13**	**12**	P		**P**	**18 12 33.0**	**-1.6**
ENH	**Enshi**	**30.25**	**22**	*e*P		**P**	**18 12 42.2**	**-2.4**
	comp=Z,19nm,0.7s,mb4.9							
LGTI	**Lohaghat**	**31.14**	**331**	*e*P		**P**	**18 12 54.0**	**+1.6**
XAN	**Xi'an**	**33.48**	**19**	P		**P**	**18 13 11.5**	**-1.3**
XAN				AP	pP		18 13 19.3	-2.6
XAN				AMB	AMB			
	comp=Z,15nm,0.5s,mb5.2							
SMLA	**Simla**	**34.03**	**329**	*i*		**P**	**18 13 07.8**	**-10**
LZH	**Lanzhou**	**34.16**	**10**	⇑P		**P**	**18 13 18.0**	**-0.7**
LZH				AP	pP		18 13 26.5	-1.3
LZH				XP	sP		18 13 31.0	-0.7
LZH				PP	PP		18 14 33.5	-0.1
LZH				*e*S	S		**18 18 41.5**	**-0.5**
LZH				XS			18 18 57.0	
LZH				SS	SS		18 20 49.0	-2.4
LZH				AMB	AMB			
	comp=Z,44nm,1.5s,mb5.2							
LZH				AMB	AMB			
	comp=Z,200nm,4.0s							
LZH				LR	LR			
	comp=N,926nm,12.9s							
LZH				LR	LR			
	comp=Z,1μm,14.5s,MS4.8							
SDNR	**Sundarnagar**	**34.43**	**329**	*e*P		**P**	**18 13 21.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**35.01**	**127**⇓	*i*P		**P**	**18 13 24.8**	**-1.4**
	comp=Z,25nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**35.01**	**127**	*e*P		PcP	18 15 57.8	-0.3
	comp=Z,3.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**35.01**	**127**	P		**P**	**18 13 24.9**	**-1.2**
	comp=Z,33nm,0.8s,mb5.3,baz=326,slow=4.2,SNR=28							
FITZ				PcP	PcP		18 15 57.8	-0.2
	comp=Z,4.9nm,0.5s,baz=345,slow=6.9,SNR=7.8							
FITZ				LR	LR		18 27 16.6	
	comp=Z,644nm,21.3s,MS4.3,baz=290,slow=36							
NJ2	**Nanjing**	**36.11**	**33**	*e*P		**P**	**18 13 37.3**	**+2.0**
NJ2				AP	pP		18 13 48.0	+3.5
NJ2				XP	sP		18 13 50.8	+2.4
NJ2				PP	PP		18 15 01.0	+3.1
NJ2				S	S		**18 19 15.0**	**+2.9**
NJ2				XS			18 19 31.0	
NJ2				AMB	AMB			
	comp=Z,730nm,4.0s							
NJ2				LR	LR			
	comp=N,2μm,18.9s,MS5.0							
NJ2				LR	LR			
	comp=E,1μm,17.1s,MS5.0							
NJ2				LR	LR			
	comp=Z,1μm,16.4s,MS4.7							
SSE	**Sheshan**	**36.72**	**36**	P		**P**	**18 13 37.8**	**-2.7**
SSE				AP	pP		18 13 46.0	-3.7
SSE				XP	sP		18 13 49.8	-3.7
SSE				S	S		**18 19 21.5**	**0.0**
SSE				XS			18 19 36.5	
SSE				AMB	AMB			
	comp=Z,20nm,0.7s,mb5.1							
SSE				AMB	AMB			
	comp=Z,97nm,3.9s							
SSE				LR	LR			
	comp=N,391nm,18.2s,MS4.3							
SSE				LR	LR			
	comp=E,298nm,18.0s,MS4.3							
SSE				LR	LR			
	comp=Z,563nm,17.0s,MS4.4							
GTA	**Gaotai**	**36.95**	**4**	⇑P		**P**	**18 13 42.0**	**-0.3**
GTA				AP	pP		18 13 51.0	-0.5
GTA				XP	sP		18 13 54.3	-1.0
GTA				PP	PP		18 15 08.5	-0.3
GTA				PPP	PPP		18 15 28.0	-0.8
GTA				S	S		**18 19 26.0**	**+1.1**
GTA				XS			18 19 41.0	
GTA				SS	SS		18 21 55.0	+0.6
GTA				AMB	AMB			
	comp=Z,35nm,0.9s,mb5.2							
GTA				AMB	AMB			
	comp=Z,251nm,5.0s							
GTA				LR	LR			
	comp=N,328nm,17.6s,MS4.4							
GTA				LR	LR			
	comp=E,405nm,14.9s,MS4.4							
GTA				LR	LR			
	comp=Z,477nm,19.1s,MS4.3							
KAKA	**Kakadu**	**38.50**	**114**	*e*P		**P**	**18 13 54.5**	**-1.1**
	comp=Z,32nm,0.6s,mb5.2							
MUN	**Mundaring**	**38.87**	**153**	*e*P		**P**	**18 13 59.8**	**+1.3**
	comp=Z,6.3nm,0.5s,mb4.6							
MUN	**Mundaring**	**38.87**	**153**	*e*P		**P**	**18 13 59.8**	**+1.3**
MUN				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.6							
KLBR	**Kellerberrin**	**39.27**	**151**	*e*P		**P**	**18 14 02.7**	**+0.9**
	comp=Z,135nm,0.8s,mb5.7							
NWAO	**Narrogin (SRO)**	**40.13**	**153**⇓	*e*P		**P**	**18 14 09.4**	**+0.4**
NWAO				pmax	pmax			
	comp=Z,32nm,0.9s							
NWAO	**Narrogin (SRO)**	**40.13**	**153**	P		**P**	**18 14 09.9**	**+1.0**
	comp=Z,26nm,0.8s,mb5.0,baz=329,slow=9.5,SNR=16							
NWAO	**Narrogin (SRO)**	**40.13**	**153**⇓	*e*P		**P**	**18 14 09.3**	**+0.4**
	comp=Z,32nm,0.9s,mb5.0							
HHC	**Hu-ho-hao-te**	**40.56**	**17**	*e*P		**P**	**18 14 15.5**	**+3.1**
HHC				AP	pP		18 14 25.3	+3.7
HHC				XP	sP		18 14 29.3	+3.9
HHC				PP	PP		18 15 54.8	+5.7
HHC				PCP	PcP		18 16 16.8	+1.9
HHC				SCP			18 20 01.8	
HHC				PCS			18 20 04.8	
HHC				S	S		**18 20 25.5**	**+6.1**
HHC				XS			18 20 41.8	
HHC				SCS	ScS		18 24 15.5	+1.9
HHC				AMB	AMB			
	comp=Z,14nm,0.5s,mb4.8							
HHC				AMB	AMB			
	comp=Z,224nm,4.1s							
HHC				LR	LR			
	comp=N,416nm,12.5s,MS4.7							
HHC				LR	LR			
	comp=E,619nm,13.1s,MS4.7							
HHC				LR	LR			
	comp=Z,430nm,17.6s,MS4.4							
BJT	**Baijiatuau**	**41.39**	**23**	*e*P		**P**	**18 14 20.3**	**+1.0**
BJT				*e*	pP		18 14 29.4	+0.9
BJT				pmax	pmax			
	comp=Z,37nm,0.6s							
BJT	**Baijiatuau**	**41.39**	**23**	*e*P		**P**	**18 14 20.3**	**+1.0**
	comp=Z,37nm,0.6s,mb5.2							
BJT				*e*	pP		18 14 29.4	+0.9
BJI	**Beijing**	**41.42**	**23**	*e*P		**P**	**18 14 20.3**	**+0.9**
BJI				AP	pP		18 14 29.8	+1.2
BJI				AMB	AMB			
	comp=Z,36nm,0.9s,mb5.0							
BJI				LR	LR			
	comp=N,681nm,16.9s,MS4.7							
BJI				LR	LR			
	comp=E,436nm,17.4s,MS4.7							
BJI				LR	LR			
	comp=Z,337nm,17.3s,MS4.3							
KSH	**Kashi**	**41.49**	**336**	*e*P		**P**	**18 14 20.5**	**+0.4**
KSH				*e*AP	pP		18 14 29.8	+0.5
KSH				*e*XP	sP		18 14 33.3	+0.2
KSH				*e*PP	PP		18 15 59.3	+0.3
KSH				*e*PCP	PcP		18 16 18.3	+0.3
KSH				*e*PPP	PPP		18 16 29.3	-0.6
KSH				*e*SCP			18 20 04.8	
KSH				*e*PCS			18 20 08.0	
KSH				*e*XS			18 20 48.5	
KSH				AMB	AMB			
	comp=Z,290nm,2.9s,mb5.4							
KSH				LR	LR			
	comp=N,320nm,5.1s							
KSH				LR	LR			
	comp=E,310nm,5.6s							
WMQ	**Urumqi**	**42.02**	**350**⇑	*i*P		**P**	**18 14 24.5**	**+0.1**
WMQ				AP	pP		18 14 34.0	+0.4
WMQ				XP	sP		18 14 38.0	+0.6
WMQ				PP	PP		18 16 05.0	+0.3
WMQ				PPP	PPP		18 16 37.0	+0.3
WMQ				S	S		**18 20 41.0**	**-0.1**
WMQ				XS			18 20 57.0	
WMQ				AMB	AMB			
	comp=Z,12nm,0.8s,mb4.6							
WMQ				AMB	AMB			
	comp=Z,207nm,3.6s							
WMQ				LR	LR			
	comp=N,1μm,15.4s,MS5.1							
WMQ				LR	LR			
	comp=E,2μm,18.2s,MS5.1							
WMQ				LR	LR			
	comp=Z,1μm,20.4s,MS4.7							
WRA	**Warramunga Arr 43.07 123**			P		**P**	**18 14 32.9**	**-0.4**
	comp=Z,11nm,0.6s,mb4.8,baz=302,slow=9.0,SNR=33							
WRA				PcP	PcP		18 16 22.8	-0.7
	comp=Z,2.9nm,0.7s,baz=310,slow=2.8,SNR=5.3							
WRAB	**Tennant Creek 43.07 123**			P		**P**	**18 14 33.6**	**+0.3**
	comp=Z,132nm,1.1s,mb5.6,SNR=12							
WRAB	**Tennant Creek 43.07 123**			*i* P		**P**	**18 14 33.1**	**-0.2**
WRAB	**Tennant Creek 43.07 123**			*e*P		**P**	**18 14 32.0**	**-1.3**
	comp=Z,116nm,1.5s,mb5.4							
WB2	**Warramunga Arr 43.08 123**⇓ *i*P					**P**	**18 14 33.0**	**-0.4**
KZA	**Kyzart 43.95 337**			P		**P**	**18 14 42.3**	**+2.2**
	SNR=7.6							
ASPA	**Alice Springs 44.49 128**⇓ *i*P					**P**	**18 14 44.5**	**-0.3**
FORT	**Forrest 44.49 140**⇓ *i*P					**P**	**18 14 45.6**	**+0.9**
	comp=Z,856nm,0.5s							
ASAR	**Alice Springs 44.49 128**			P		**P**	**18 14 44.5**	**-0.3**
	comp=Z,4.7nm,0.7s,mb4.3,baz=300,slow=7.9,SNR=18							
ASAR				PcP	PcP		18 16 27.8	-0.5
	comp=Z,3.0nm,0.7s,baz=309,slow=3.0,SNR=7.8							
ASAR				LR	LR		18 34 20.2	
	comp=Z,222nm,20.7s,MS4.1,baz=299,slow=38							
TKM2	**Tokmak 2 44.54 338**			P		**P**	**18 14 45.5**	**+0.6**
	SNR=15							
KBK	**Karagaybulak 44.56 337**			P		**P**	**18 14 46.3**	**+1.2**
	SNR=18							
AAK	**Ala-Archa 44.72 337**			P		**P**	**18 14 46.9**	**+0.5**
	comp=Z,93nm,0.6s,mb5.8,SNR=7.3							
AAK	**Ala-Archa 44.72 337**			*e*P		**P**	**18 14 46.3**	**-0.1**
AAK				pmax	pmax			
	comp=Z,11nm,0.7s,mb4.8							
AAK	**Ala-Archa 44.72 337**			*e*P		**P**	**18 14 46.3**	**-0.1**
	comp=Z,11nm,0.7s,mb4.8							
FRU	**Bishkek 44.84 337**			*e*P		**P**	**18 14 48.0**	**+0.7**
FRU				pmax	pmax			
	comp=Z,160nm,2.8s,mb5.4							
EKS2	**Erkin-Say 45.03 336**			P		**P**	**18 14 49.9**	**+1.0**
	SNR=17							
KS15	**Wonju Array Si 45.11 36**			*e*P		**P**	**18 14 49.3**	**-0.3**
USP	**Ospenovka 45.25 337**			P		**P**	**18 14 51.0**	**+0.4**
	SNR=26							
MKAR	**Makanchi Array 45.97 346**			P		**P**	**18 14 55.9**	**-0.4**
	comp=Z,39nm,0.7s,mb5.5,baz=163,slow=7.1,SNR=84							
MKAR				LR	LR		18 38 10.0	
	comp=Z,224nm,19.6s,MS4.1,baz=159,slow=41							
SONM	**Songino Array 46.03 9**			P		**P**	**18 14 56.9**	**+0.2**
	comp=Z,18nm,0.7s,mb5.1,baz=192,slow=9.1,SNR=44							
SONM				PcP	PcP		18 16 33.4	+0.2
	comp=Z,2.5nm,0.6s,baz=188,slow=4.2,SNR=5.8							
ULN	**Ulaanbaatar 46.16 10**			*e*P		**P**	**18 14 57.5**	**-0.2**
ULN				pmax	pmax			
	comp=Z,13nm,0.6s,mb5.0							
ULN	**Ulaanbaatar 46.16 10**			*e*P		**P**	**18 14 57.5**	**-0.2**
	comp=Z,13nm,0.6s,mb5.0							
ZAK	**Zakamensk 48.13 6**			*e*P		**P**	**18 15 13.2**	**0.0**
ZAK				pmax	pmax			
	comp=Z,6.0nm,1.9s,mb4.3							
CN2	**Changchun 48.46 28**			*e*P		**P**	**18 15 16.3**	**+0.5**
CN2				*e*AP	pP		18 15 26.8	+1.7
CN2				*e*S	S		**18 22 13.3**	**-0.3**
CN2				AMB	AMB			
	comp=Z,20nm,1.3s,mb5.0							
CN2				AMB	AMB			
	comp=Z,750nm,4.0s							
CN2				LR	LR			
	comp=N,590nm,12.0s,MS5.0							
CN2				LR	LR			
	comp=E,670nm,12.0s,MS5.0							
CN2				LR	LR			
	comp=Z,780nm,12.0s,MS4.9							
MOY	**Mondy 49.23 4**			*e*P		**P**	**18 15 28.4**	**+6.8**
MOY				pmax	pmax			
	comp=Z,36nm,2.9s,mb4.9							
TLY	**Talaya 49.45 6**			*e*P		**P**	**18 15 23.8**	**+0.5**
TLY				pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8							
TLY				MLR	MLR			
	comp=Z,856nm,18.0s,MS4.8							
TLY	**Talaya 49.45 6**⇑ *e*P					**P**	**18 15 23.6**	**+0.2**
	comp=Z,12nm,0.7s,mb5.0							
CBIJ	**Chichi jima 49.94 56**			LR	LR		18 33 24.8	
	comp=Z,212nm,21.7s,MS4.1,baz=356,slow=32							
IRK	**Irkutsk 50.07 6**			*e*P		**P**	**18 15 27.6**	**-0.5**
IRK				*e*			18 17 24.8	
IRK				pmax	pmax			
	comp=Z,38nm,2.4s,mb5.0							
KURK	**Kurchatov 50.52 345**			*i* P		**P**	**18 15 31.0**	**-0.5**
KURK	**Kurchatov 50.52 345**			*e*P		**P**	**18 15 30.6**	**-0.9**
	comp=Z,24nm,0.7s,mb5.2							
HIA	**Hailar 50.67 19**			*e*P		**P**	**18 15 32.0**	**-0.7**
HIA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
HIA	**Hailar 50.67 19**			*e*P		**P**	**18 15 32.0**	**-0.6**
	comp=Z,8.4nm,0.6s,mb4.8							
MDJ	**Mudanjiang 51.06 30**			P		**P**	**18 15 33.3**	**-2.4**
MDJ				AMB	AMB			
	comp=Z,11nm,1.1s,mb4.7							
MDJ				AMB	AMB			
	comp=Z,361nm,5.5s							
MAT	**Matsushiro 51.14 43**			P		**P**	**18 15 36.0**	**-0.4**
NVS	**Novosibirsk 53.42 350**			*i* P		**P**	**18 15 51.2**	**-2.1**
NVS				*e**PP	pP		18 16 00.8	-1.9
NVS				*i* S	S		**18 23 15.7**	**-6.1**
NVS				*e*			18 25 33.2	
NVS				pmax	pmax			
	comp=N,16nm,1.1s							
NVS				pmax	pmax			
	comp=Z,20nm,1.1s,mb5.0							
NVS				pmax	pmax			
	comp=E,14nm,1.4s							
NVS				smax				
	comp=N,34nm,2.2s							
NVS				smax				
	comp=E,22nm,1.9s							
CTA	**Charters Tower 53.46 117**			P		**P**	**18 15 52.0**	**-2.0**
	comp=E,4.9nm,0.8s,mb4.5,baz=272,slow=14,SNR=4.9							
CTA				LR	LR		18 41 06.3	
	comp=E,376nm,19.1s,MS4.5,baz=36,slow=39							
RAYN	**Ar Rayn 53.79 298**			P		**P**	**18 15 56.8**	**+0.5**
	comp=E,94nm,0.6s,SNR=8.5							
STKA	**Stephens Creek 54.50 133**			P		**P**	**18 16 00.9**	**-0.6**
	comp=E,7.5nm,0.8s,mb4.8,baz=314,slow=7.6,SNR=12							
STKA	**Stephens Creek 54.50 133**			*e*P		**P**	**18 16 00.6**	**-0.9**
BVA0	**Borovoye Array 54.97 341**			*i* P		**P**	**18 16 03.3**	**-1.4**
BVA0				pmax	pmax			
	comp=Z,2.0nm,0.8s,mb4.2							
BVAR	**Borovoye Array 54.97 341**			P		**P**

KMBO pmax pmax
comp=Z,4.0nm,0.8s
KMBO Kilima Mbogo 59.57 267 P P 18 16 38.1 +0.4
comp=Z,3.9nm,0.8s,mb4.5,baz=55,slow=11,SNR=15
KMBO Kilima Mbogo 59.57 267 *e*P **P 18 16 37.9 +0.2**
comp=Z,3.8nm,0.8s,mb4.5
KMBO *e* pP 18 16 47.7 +0.5
TI2 Plekhanov 60.78 317 *e*P **P 18 16 44.6 -1.0**
SVE Sverdlovsk 61.41 338⇓ *e*P **P 18 16 49.0 -0.6**
SVE *e* 18 17 05.7
SVE pmax pmax
comp=Z,60nm,2.0s,mb5.4
SVE MLR MLR
comp=N,300nm,19.0s,MS4.6
SVE MLR MLR
comp=E,300nm,19.0s,MS4.6
SVE MLR MLR
comp=Z,300nm,19.0s,MS4.5
ARU Arti 61.91 337⇓ *i*P **P 18 16 51.8 -1.2**
ARU *e* 18 19 07.3
ARU *e*S **S 18 25 14.2 +1.2**
ARU *e*SS SS 18 29 16.3 -0.7
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.1
ARU Arti 61.91 337 *e*P **P 18 16 51.4 -1.7**
comp=Z,14nm,0.6s,mb5.3
KIV Kislovodsk 63.10 319 *i* P **P 18 17 01.5 +0.4**
KIV pmax pmax
comp=Z,14nm,1.2s,mb5.0
GOF Gofitskoye 63.35 320 *e*P **P 18 17 00.6 -2.1**
ASF Jabal al Asfar 63.40 305 LR LR 18 47 35.3
comp=Z,123nm,18.1s,MS4.1,baz=168,slow=39
MALT Malatya 63.98 312 *e*P **P 18 17 06.8 -0.3**
MALT pmax pmax
comp=Z,11nm,1.3s,mb4.7
MALT Malatya 63.98 312 *e*P **P 18 17 06.8 -0.3**
comp=Z,11nm,1.3s,mb4.7
YAK Yakutsk 64.41 17 *e*P **P 18 17 07.2 -2.2**
YAK *e**PP pP 18 17 18.0 -1.0
YAK *e* 18 17 40.6
YAK *e*S **S 18 25 44.7 +0.4**
YAK *e**SS 18 26 00.3
YAK *e*SS SS 18 29 56.5 +0.5
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
YAK smax
comp=N,2.0nm,1.1s
YAK MLR MLR
comp=N,227nm,15.0s,MS4.6
YAK MLR MLR
comp=Z,374nm,15.0s,MS4.7
YAK MLR MLR
comp=E,216nm,16.0s,MS4.6
YAK Yakutsk 64.41 17 *e*P **P 18 17 07.7 -1.8**
comp=E,46nm,0.9s,mb5.5
EIL Elat 64.43 302 P **P 18 17 09.4 -0.7**
comp=E,5.8nm,0.6s,mb4.8
SOC Sochi 64.92 318 *e*P **P 18 17 09.1 -4.0**
SOC *e* 18 17 41.6
SOC *e* 18 19 36.7
SOC *e*PPP PPP 18 21 07.5 -4.2
SOC *e*S **S 18 25 49.0 -1.9**
SOC *e* 18 27 04.7
SOC *e*SS SS 18 30 01.2 -3.3
SOC pmax pmax
comp=N,30nm,1.1s
SOC pmax pmax
comp=E,48nm,1.1s
SOC pmax pmax
comp=Z,42nm,1.1s,mb5.4
BRTR Keskin Array B 67.96 312 P **P 18 17 31.1 -1.3**
comp=Z,1.5nm,0.9s,mb4.0,baz=141,slow=7.9,SNR=6.0
SIM Simferopol' 69.17 318 P **P 18 17 43.6 +3.8**
SIM pmax pmax
comp=Z,12nm,1.0s,mb4.8
MA2 Magadan 70.47 26 *e*P **P 18 17 47.0 -0.5**
MA2 pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
MA2 Magadan 70.47 26 *e*P **P 18 17 47.0 -0.5**
comp=Z,8.6nm,0.7s,mb4.8
MOS Moscow 71.07 329 *e*P **P 18 17 48.6 -2.6**
MOS *e* pP 18 17 58.5 -2.3
MOS *e* 18 18 10.8
OBN Obninsk 71.36 328 *de*P **P 18 17 53.0 0.0**
OBN pmax pmax
comp=Z,13nm,1.2s,mb4.7
TIXI Tiksi 72.10 10 *e*P **P 18 17 54.4 -2.7**
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
TIXI MLR MLR
comp=Z,403nm,17.0s,MS4.8
SEY Seymchan 72.85 23 *e*P **P 18 18 03.9 +2.2**
SEY *e* pP 18 18 12.7 +1.4
SEY pmax pmax
comp=Z,20nm,0.9s,mb5.0
SEY pmax pmax
comp=N,10.0nm,0.7s
TIRR Tirgusor 72.94 316⇑ **P P 18 18 09.0 +6.4**
AKASG Malin Array Be 74.03 322 *i* P **P 18 18 07.6 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 74.03 322 P **P 18 18 06.7 -2.1**
comp=Z,3.2nm,0.5s,mb4.5,baz=88,slow=5.7,SNR=18
MLR Muntele Rosu 74.88 317⇑ **P P 18 18 15.1 +1.3**
BOSA Boshof 74.97 240 P **P 18 18 14.3 -0.4**
comp=Z,3.6nm,0.7s,mb4.4,baz=86,slow=4.7,SNR=11
BOSA LR LR 18 48 50.5
comp=Z,276nm,18.3s,MS4.6,baz=342,slow=34
BURAR Bucovina Array 75.82 319⇑ **P P 18 18 19.9 +0.8**
KWP Kalwaria 77.86 320 *e*P **P 18 18 27.6 -2.8**
KOLS Kolonicke sedl 78.01 319 *e*P **P 18 18 33.4 +2.2**
KOLS *e* 18 18 37.4
KOLS *e* 18 18 48.8
SUW Suwalki 78.43 325 *e*P **P 18 18 33.1 -0.3**
SUW Suwalki 78.43 325 *e*P **P 18 18 33.1 -0.3**
FINES FINESS Array B 78.73 332 P **P 18 18 34.9 0.0**
comp=Z,2.5nm,0.6s,mb4.3,baz=92,slow=5.5,SNR=16
FINES LR LR 18 57 11.3
comp=Z,129nm,19.8s,MS4.3,baz=306,slow=39
KAF Kangasniemi 78.81 333 *e*p **P 18 18 35.0 -0.4**
comp=Z,4.2nm,0.6s,mb4.5
KAF Kangasniemi 78.81 333 *e*P **P 18 18 35.0 -0.4**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
PSZ Piszkesteto 79.41 318 P **P 18 18 36.2 -2.7**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 79.41 318 P **P 18 18 36.2 -2.7**
comp=Z,4.9nm,0.8s,mb4.5
PKSM Moragy 80.03 316⇑ *i*P **P 18 18 42.2 -0.1**
BILL Bilibino 80.22 21 *i* P **P 18 18 43.7 +0.8**
BILL *e* 18 18 49.9
BILL pmax pmax
comp=Z,12nm,2.5s,mb4.4
BILL MLR MLR
comp=Z,600nm,16.0s,MS5.0
SYO Syowa Base 80.99 198⇑ **P P 18 18 48.4 +1.5**
MORC Moravsky Berou 81.19 320 *e*P **P 18 18 48.7 +0.4**
MORC pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MORC Moravsky Berou 81.19 320 *e*P **P 18 18 48.7 +0.3**
comp=Z,4.2nm,0.7s,mb4.5
ARCES ARCESS Array B 81.26 340 P **P 18 18 49.0 +0.7**
comp=Z,3.6nm,0.6s,mb4.5,baz=85,slow=5.8,SNR=18
DPC Dobruska-Polom 82.03 320 *e*pP pP 18 19 03.8 +1.3
DPC AMS AMS 19 01 20.0
comp=Z,100nm,24.7s
LEGS Legarje 82.31 316 *e*P **P 18 18 55.0 +0.8**
BOJS Bojanci 82.32 315 *e*P **P 18 18 54.9 +0.6**
VISS Visnje 82.63 316 *e*P **P 18 18 55.2 -0.7**
PRU Pruhonice 83.14 320 AMS AMS 19 07 50.0
comp=Z,100nm,15.8s
PVCC Panska Ves 83.17 320 AMS AMS 19 03 20.0
comp=Z,100nm,14.7s
BRG Berggiesshubel 83.59 321 *e*P **P 18 19 02.1 +1.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BRG Berggiesshubel 83.59 321 *e*P **P 18 19 02.1 +1.4**
comp=Z,4.5nm,0.9s,mb4.6
GERES GERESS Array B 83.61 319 P **P 18 19 01.8 +0.9**
comp=Z,0.8nm,0.5s,mb4.1,baz=117,slow=3.0,SNR=14
KHC Kasperske Hory 83.71 319 *e*P **P 18 19 05.5 +4.1**
KHC *e* 18 19 12.0
KHC Kasperske Hory 83.71 319 *e*P **P 18 19 05.5 +4.1**
KHC pP pP 18 19 12.0 +0.8
CLL Collm 84.21 321 *e*P **P 18 19 04.0 +0.1**
CLL Collm 84.21 321 P **P 18 19 04.0 +0.1**
NKC Novy Kostel 84.50 320 AMS AMS 19 04 00.0
comp=Z,100nm,21.4s
GRA1 Grafenberg Arr 85.27 319 *e*P **P 18 19 10.5 +1.3**
comp=Z,7.0nm,1.4s,mb4.6
GRF Grafenberg Arr 85.27 319 *e*P **P 18 19 10.5 +1.3**
GRF pmax pmax
comp=Z,7.0nm,1.4s,mb4.6
GRF Grafenberg Arr 85.27 319 *e*P **P 18 19 10.5 +1.3**
GRF pmax pmax
comp=Z,7.0nm,1.4s,mb4.6
GRF Grafenberg Arr 85.27 319 *e*P **P 18 19 10.5 +1.3**
comp=Z,7.0nm,1.4s,mb4.6
NB2 NORSAR Subarra 85.74 331 P **P 18 19 11.0 -0.3**
comp=Z,5.8nm,1.0s,mb4.8,baz=97,slow=4.6
NB2 NORSAR Subarra 85.74 331 P **P 18 19 11.0 -0.3**
NB2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
NOA NORSAR Array B 85.74 331 P **P 18 19 11.6 +0.3**
comp=Z,1.8nm,0.9s,mb4.3,baz=95,slow=5.2,SNR=5.1
NOA PP PP 18 22 29.3 -2.8
comp=Z,0.7nm,0.8s,baz=94,slow=8.4,SNR=3.5
VNDA Vanda 87.08 169 P **P 18 19 17.5 0.0**
comp=Z,0.7nm,0.6s,mb4.0,baz=262,slow=4.2,SNR=5.7
LPG La Plagne 88.29 315 *e*P **P 18 19 28.7 +4.7**
comp=Z,10nm,0.8s,mb4.8
LPG La Plagne 88.29 315 *e*P **P 18 19 28.7 +4.7**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
MAIT Maitri 90.59 199 *e*P **P 18 19 36.8 +2.6**
IMA Indian Mountai 95.67 23 *e*P **P 18 19 59.4 +1.7**
IMA pmax pmax
comp=Z,12nm,0.8s,mb5.4
IMA Indian Mountai 95.67 23 *e*P **P 18 19 59.4 +1.7**
comp=Z,12nm,0.8s,mb5.4
YKA Yellowknife Ar 111.07 15 PP PP 18 25 46.5 -1.1
comp=Z,0.5nm,0.8s,baz=328,slow=7.8,SNR=7.4
CPRX Cap Rock 139.74 27 PKP PKPdf 18 26 00.3 -4.5
LVC Limon Verde 155.54 214 *e*PKPab PKPab 18 26 54.5 +0.9

*IDC **29** 18:17:21.2±2.3, 1.23N×97.18E, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.1/7, Error ellipse: s-maj=103.1km s-min=17.0km az=58.0*
*BJI **29** 18:17:24.2, 1.26N×97.43E, h32km, mB5.6, mb4.7*
*NEIC **29** 18:17:25.8±0.5, 1.25N×97.21E, h30km, mb4.3/12, Error ellipse: s-maj=15.1km s-min=6.6km az=51.0*
ISC 29 18:17:23.8±0.7, 1.26N±0.10×97.2E±0.1, h30km, n28, σ0§83/28, mb4.3/20, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.25**	**40**	⇑*e*P	**Pn**	**18 18 43.6**	**+1.1**
CM31	**Chiang Mai Arr**	**17.17**	**5**	*e*P	**P**	**18 21 19.0**	**-4.4**
KKM	**Kota Kinabalu**	**19.52**	**75**	*e*P	**P**	**18 21 51.4**	**-0.6**
JIRN	**Jiri**	**28.30**	**339**	*e*P	**P**	**18 23 18.0**	**+0.9**
	18nm,1.0s,mb4.7						
PKI	**Pulchoki**	**28.51**	**338**	*e*P	**P**	**18 23 19.6**	**+0.6**
DMN	**Daman**	**28.66**	**337**	*e*P	**P**	**18 23 20.7**	**+0.4**
KKN	**Kakani**	**28.75**	**338**	*e*P	**P**	**18 23 21.4**	**+0.2**
	14nm,1.0s,mb4.7						
LSA	**Lhasa**	**28.86**	**349**	*e*P	**P**	**18 23 23.1**	**+1.0**
	2.4nm,0.6s,mb4.1						
GKN	**Gorkha**	**29.19**	**337**	*e*P	**P**	**18 23 25.4**	**+0.2**
KOLN	**Koldanda**	**29.41**	**335**	*e*P	**P**	**18 23 27.6**	**+0.5**
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**18 23 41.1**	**-0.9**
	7.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.94**	**126**	P	**P**	**18 24 05.7**	**-1.2**
	2.7nm,0.6s,mb4.4,baz=352,slow=7.1,SNR=4.8						
GTA	**Gaotai**	**38.04**	**3**	*e*P	**P**	**18 24 42.3**	**+0.9**
GTA				AP	pP	18 24 51.5	+1.1
GTA				XP	sP	18 24 55.3	+1.2
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**18 25 15.1**	**+0.3**
	comp=Z,1.8nm,0.6s,mb3.9,baz=302,slow=9.1,SNR=27						
WRAB	**Tennant Creek**	**42.04**	**122**	*e*P	**P**	**18 25 15.1**	**+0.3**
	comp=Z,2.7nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**43.41**	**127**	P	**P**	**18 25 26.4**	**+0.5**
	comp=Z,1.2nm,0.6s,mb3.8,baz=299,slow=8.1,SNR=16						
AAK	**Ala-Archa**	**45.95**	**337**	P	**P**	**18 25 46.0**	**0.0**
	comp=Z,2.9nm,1.1s,mb4.1						
SONM	**Songino Array**	**47.06**	**8**	P	**P**	**18 25 55.4**	**+0.6**
	comp=Z,1.7nm,0.7s,mb4.1,baz=189,slow=8.6,SNR=18						
MKAR	**Makanchi Array**	**47.19**	**346**	P	**P**	**18 25 55.9**	**+0.1**
	comp=Z,2.9nm,0.7s,mb4.3,baz=163,slow=9.0,SNR=25						
ULN	**Ulaanbaatar**	**47.19**	**9**	*e*P	**P**	**18 25 53.7**	**-2.1**
	comp=Z,1.9nm,0.8s,mb4.1						
HIA	**Hailar**	**51.57**	**19**	*e*P	**P**	**18 26 29.0**	**-0.4**
	comp=Z,3.3nm,0.4s,mb4.6						
KURK	**Kurchatov**	**51.74**	**345**	*e*P	**P**	**18 26 29.8**	**-0.9**
	comp=Z,2.2nm,0.7s,mb4.2						
CTAO	**Charters Tower**	**52.50**	**117**	P	**P**	**18 26 38.0**	**+1.2**
	comp=Z,3.6nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**53.37**	**132**	P	**P**	**18 26 43.2**	**+0.1**
	comp=Z,1.4nm,0.6s,mb4.1,baz=314,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**53.37**	**132**	P	**P**	**18 26 43.2**	**+0.1**
BVAR	**Borovoye Array**	**56.20**	**341**	P	**P**	**18 27 02.3**	**-1.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=13						
CHKZ	**Chkalovo**	**56.68**	**341**⇑	*e*P	**P**	**18 27 05.6**	**-1.2**
	comp=Z,3.5nm,0.8s,mb4.4						
CHKZ				*e*pP	pP	18 27 11.5	-4.5
YAK	**Yakutsk**	**65.35**	**16**	*e*P	**P**	**18 28 04.7**	**-0.7**
	comp=Z,7.6nm,0.6s,mb4.9						

IDC 29 18:18:26.0±5.2, 1.75N×99.01E, mb3.9/4, mb1 4.1/4, mb1mx3.7/17, mbtmp3.9/4, Error ellipse: s-maj=275.1km s-min=26.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**32.81**	**128**	P	P	18 25 00.8	-2.7
	2.2nm,0.6s,baz=326,slow=3.6,SNR=3.5						
WRA	**Warramunga Arr**	**40.81**	**124**	P	P	18 26 10.1	-1.0
	0.9nm,0.6s,baz=304,slow=8.9,SNR=4.6						
ASAR	**Alice Springs**	**42.31**	**129**	P	P	18 26 21.7	-1.7
	0.5nm,0.5s,baz=297,slow=7.6,SNR=6.2						
MKAR	**Makanchi Array**	**47.17**	**344**	P	P	18 27 00.2	-1.9
	0.9nm,0.5s,baz=162,slow=8.5,SNR=5.8						

IDC 29 18:21:23.3±4.6, 3.81S×98.31E, mb3.8/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.8/4, Error ellipse: s-maj=176.7km s-min=23.3km az=56.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.60**	**118**	P	P	18 28 46.7	-3.4
	1.3nm,0.7s,baz=289,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**39.62**	**123**	P	P	18 28 58.4	-0.2
	0.7nm,0.6s,baz=299,slow=7.2,SNR=12						
SONM	**Songino Array**	**51.92**	**7**	P	P	18 30 35.1	-0.9
	0.6nm,0.5s,baz=177,slow=8.8,SNR=7.3						
MKAR	**Makanchi Array**	**52.34**	**346**	P	P	18 30 36.0	-3.2
	1.3nm,0.7s,baz=160,slow=7.6,SNR=9.2						

*IDC **29** 18:26:22.4±1.1, 32.42S×177.92W, mb4.6/5, mb1 4.7/10, mb1mx4.4/19, mbtmp4.6/10, ML3.7/5, MS4.1/3, Ms1 4.1/3, ms1mx3.1/33, Error ellipse: s-maj=35.8km s-min=19.9km az=136.0*
*NEIC **29** 18:26:24.6±0.5, 32.28S×178.02W, h10km, mb5.0/6, Error ellipse: s-maj=13.1km s-min=10.4km az=105.0*
ISC 29 18:26:27.7±1.1, 32.57S±0.05×178.3W±0.2, h33km, n66, σ1§25/64, mb4.7/9, MS4.0/2, 10C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.32**	**6**	Pn	**Pn**	**18 27 11.7**	**-6.9**
	66nm,0.3s,baz=135,slow=19,SNR=4.4						
RAO				Sn	**Sn**	**18 27 47.2**	**-10**
	125nm,0.3s,baz=74,slow=20,SNR=4.3						
PUZ	**Puketiti**	**6.18**	**206**	*e*PN	**Pn**	**18 27 55.6**	**-3.5**
PUZ				SN	**Sn**	**18 29 10.1**	**+0.8**
PUZ				SN	**Sn**	**18 29 10.1**	**+0.8**
PUZ	**Puketiti**	**6.18**	**206**	*e*PN	**Pn**	**18 27 55.6**	**-3.5**
PUZ				SN	**Sn**	**18 29 10.1**	**+0.8**
PUZ				SN	**Sn**	**18 29 10.4**	**+1.0**
KUZ	**Kuaotunu**	**6.46**	**228**	*e*PN	**Pn**	**18 28 04.9**	**+1.8**
KUZ	**Kuaotunu**	**6.46**	**228**	*e*PN	**Pn**	**18 28 04.9**	**+1.8**
URZ	**Urewera**	**6.81**	**212**	Pn	**Pn**	**18 28 05.6**	**-2.4**
	2.8nm,0.3s,baz=274,slow=7.5,SNR=16						
URZ				Sn	**Sn**	**18 29 27.0**	**+1.8**
	10nm,0.3s,baz=165,slow=23,SNR=14						
URZ	**Urewera**	**6.81**	**212**	*e*PN	**Pn**	**18 28 06.1**	**-1.9**
URZ				SN	**Sn**	**18 29 25.0**	**-0.1**
URZ				SN	**Sn**	**18 29 26.2**	**+1.0**
URZ	**Urewera**	**6.81**	**212**	*e*PN	**Pn**	**18 28 06.1**	**-1.9**
URZ				SN	**Sn**	**18 29 25.0**	**-0.1**
URZ				SN	**Sn**	**18 29 26.2**	**+1.0**
BKZ	**Black Stump Fm**	**7.83**	**211**	*e*PN	**Pn**	**18 28 20.0**	**-2.3**
BKZ				SN	**Sn**	**18 29 48.7**	**-1.9**
BKZ				SN	**Sn**	**18 29 49.8**	**-0.9**
BKZ	**Black Stump Fm**	**7.83**	**211**	*e*PN	**Pn**	**18 28 20.0**	**-2.3**
BKZ				SN	**Sn**	**18 29 48.7**	**-1.9**
BKZ				SN	**Sn**	**18 29 49.8**	**-0.9**
HIZ	**Hauiti**	**8.15**	**221**	SN	**Sn**	**18 30 02.7**	**+4.0**
BFZ	**Birch Farm**	**9.21**	**207**	SN	**Sn**	**18 30 19.9**	**-5.0**
BFZ				SN	**Sn**	**18 30 20.2**	**-4.8**
BFZ	**Birch Farm**	**9.21**	**207**	SN	**Sn**	**18 30 19.9**	**-5.0**
BFZ				SN	**Sn**	**18 30 20.2**	**-4.8**
MRZ	**Mangatainoka R**	**9.46**	**210**	SN	**Sn**	**18 30 25.0**	**-6.1**
MRZ	**Mangatainoka R**	**9.46**	**210**	SN	**Sn**	**18 30 25.0**	**-6.1**
LTZ	**Lake Taylor**	**12.64**	**214**	SN	**S**	**18 31 38.4**	**-10**
LTZ	**Lake Taylor**	**12.64**	**214**	SN	**S**	**18 31 38.4**	**-10**
MQZ	**McQueen's Vall**	**13.20**	**210**	SN	**S**	**18 31 50.0**	**-12**
MQZ	**McQueen's Vall**	**13.20**	**210**	SN	**S**	**18 31 50.0**	**-12**
RPZ	**Rata Peaks**	**13.92**	**214**	Pn	**P**	**18 29 45.9**	**+1.2**
	0.9nm,0.3s,baz=39,slow=14,SNR=3.5						
RPZ				Sn	**S**	**18 32 10.4**	**-8.7**
	1.0nm,0.3s,baz=344,slow=19,SNR=5.2						
DZM	**Mont Dzumac**	**17.11**	**304**	P	**P**	**18 30 25.3**	**-0.6**
	0.1nm,0.3s,baz=98,slow=15,SNR=2.1						
DZM				LR	LR	18 35 51.5	
	comp=Z,551nm,18.9s,baz=196,slow=33						
AFI	**Afiamalu**	**19.50**	**19**	P	**P**	**18 30 48.7**	**-6.2**
	1.3nm,0.3s,baz=119,slow=13,SNR=2.4						
TBI	**Tubuai**	**27.00**	**77**	*e*LR	LR	18 38 24.9	
	216nm,22.2s						
PPT	**Papeete**	**29.87**	**67**	*e*LQ		18 38 06.9	
PPT				*e*LR	LR	18 39 37.7	
	152nm,20.0s						
PPT	**Papeete**	**29.87**	**67**	LR	LR	18 42 54.4	
	comp=Z,259nm,18.6s,MS3.9,baz=221,slow=34						
STKA	**Stephens Creek**	**33.81**	**260**	*e*P	**P**	**18 33 11.0**	**+2.2**
	2.4nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**33.81**	**260**	P	**P**	**18 33 10.2**	**+1.4**
	1.3nm,0.5s,mb4.1,baz=97,slow=10,SNR=7.4						
CTA	**Charters Tower**	**33.97**	**283**	P	**P**	**18 33 11.6**	**+1.3**
	5.3nm,0.6s,mb4.7,baz=130,slow=9.7,SNR=7.3						
CTAO	**Charters Tower**	**33.97**	**283**	*e*P	**P**	**18 33 11.5**	**+1.3**
	32nm,1.1s,mb5.2						
RKT	**Rikitea**	**39.21**	**87**	*e*LR	LR	18 44 02.7	
	195nm,23.2s						
ASAR	**Alice Springs**	**42.80**	**269**	P	**P**	**18 34 24.1**	**0.0**
	7.7nm,0.7s,mb4.5,baz=106,slow=7.5,SNR=73						
ASPA	**Alice Springs**	**42.80**	**269**	*e*P	**P**	**18 34 24.2**	**+0.1**
WB2	**Warramunga Arr**	**43.97**	**275**⇑	*i*P	**P**	**18 34 33.2**	**-0.4**
WRAB	**Tennant Creek**	**43.97**	**275**	P	**P**	**18 34 33.7**	**0.0**
	135nm,0.7s,mb5.8,SNR=8.2						
WRAB	**Tennant Creek**	**43.97**	**275**⇑	*e*P	**P**	**18 34 33.0**	**-0.6**
	61nm,1.2s,mb5.2						
WRAB				*e*		18 34 45.6	
WRA	**Warramunga Arr**	**43.98**	**275**	P	**P**	**18 34 33.2**	**-0.5**
	7.5nm,0.6s,mb4.6,baz=114,slow=7.6,SNR=104						
FORT	**Forrest**	**45.29**	**257**	*e*P	**P**	**18 34 43.7**	**-0.4**
	731nm,0.6s						
SBA	**Scott Base**	**45.87**	**184**	P	**P**	**18 35 00.6**	**+12**
VNDA	**Vanda**	**45.92**	**186**	LR	LR	18 50 56.1	
	comp=Z,245nm,18.9s,MS4.2,baz=236,slow=32						
VNDA	**Vanda**	**45.92**	**186**	*e*P	**P**	**18 34 58.1**	**+10**
	1.0nm,0.7s,mb3.9						
FITZ	**Fitzroy Crossi**	**52.15**	**272**	*e*P	**P**	**18 35 36.1**	**-1.1**
	8.3nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.15**	**272**	P	**P**	**18 35 36.6**	**-0.6**
	11nm,0.8s,mb4.9,baz=159,slow=3.9,SNR=9.4						
QSPA	**South Pole Qui**	**57.55**	**180**	*e*P	**P**	**18 36 17.1**	**+1.3**
	25nm,0.8s,mb5.3						
SNAA	**Sanae**	**76.00**	**179**	P	**P**	**18 38 11.4**	**-1.1**
	14nm,1.1s,mb4.8						
VNA3	**Neumayer Olymp**	**76.17**	**176**⇑	*i*	**P**	**18 38 14.7**	**+1.2**
VNA3	**Neumayer Olymp**	**76.17**	**176**⇑	*i*	**P**	**18 38 23.3**	**+10**
VNA3	**Neumayer Olymp**	**76.17**	**176**⇑	*i*	**P**	**18 38 25.3**	**+12**
VNA3	**Neumayer Olymp**	**76.17**	**176**⇑	*i*	**P**	**18 38 27.8**	**+14**
VNA3	**Neumayer Olymp**	**76.17**	**176**⇑	*i*	**P**	**18 38 30.4**	**+17**
VNA2	**Neumayer--Watz**	**76.60**	**177**⇑	*i*	**P**	**18 38 18.6**	**+2.7**
VNA2	**Neumayer--Watz**	**76.60**	**177**⇑	*i*	**P**	**18 38 26.6**	**+11**
VNA2	**Neumayer--Watz**	**76.60**	**177**⇑	*i*	**P**	**18 38 29.9**	**+14**
MKAR	**Makanchi Array**	**118.96**	**309**	PKP	PKPdf	18 45 12.3	-0.4
	1.2nm,0.9s,baz=63,slow=2.7,SNR=4.2						
BVAR	**Borovoye Array**	**127.76**	**315**	PKP	PKPdf	18 45 28.3	-1.2
	0.8nm,0.6s,baz=117,slow=3.2,SNR=4.7						
BVAR	**Borovoye Array**	**127.76**	**315**	PKP	PKPdf	18 45 28.3	-1.2
KAF	**Kangasniemi**	**146.49**	**339**	*e*pkp	PKPdf	18 46 04.3	+1.1
	baz=42,slow=2.9						
FINES	**FINESS Array B**	**147.08**	**339**	PKPbc	PKPdf	18 46 06.3	+2.1
	14nm,0.8s,baz=63,slow=4.3,SNR=39						
MALT	**Malatya**	**149.68**	**291**	*e*PKPbc	PKPdf	18 46 15.5	+6.3
ASF	**Jabal al Asfar**	**150.36**	**279**	PKPbc	PKPdf	18 46 17.4	+7.0
	7.1nm,1.0s,baz=259,slow=0.8,SNR=7.4						
NB2	**NORSAR Subarra**	**150.84**	**351**	PKPabc	PKPdf	18 46 15.6	+5.4
	1.8nm,0.7s,baz=15,slow=2.6						
NB2	**NORSAR Subarra**	**150.84**	**351**	PKPab	PKPdf	18 46 15.6	+5.4
NOA	**NORSAR Array B**	**150.84**	**351**	PKPbc	PKPdf	18 46 15.1	+4.9
	4.9nm,1.0s,baz=14,slow=4.1,SNR=9.7						
NOA				PKPab	PKPab	18 46 23.5	-1.9
	1.8nm,0.8s,baz=21,slow=4.2,SNR=9.1						
AKASG	**Malin Array Be**	**152.83**	**320**	PKPbc	PKPdf	18 46 21.4	+8.0
	2.3nm,0.7s,baz=55,slow=2.7,SNR=7.1						
AKASG				PKPab	PKPab	18 46 32.6	-1.4
	2.8nm,0.8s,baz=63,slow=2.1,SNR=6.5						
BRTR	**Keskin Array B**	**153.35**	**295**	PKPbc	PKPdf	18 46 23.7	+9.2
	1.8nm,0.9s,baz=135,slow=2.0,SNR=6.9						
BRTR				PKPab	PKPab	18 46 34.6	-2.0
	3.1nm,0.8s,baz=121,slow=4.1,SNR=8.7						
CLL	**Collm**	**159.52**	**339**	*e*PKP2	PKPab	18 47 01.0	-1.6
CLL				*e**PKP2		18 47 12.0	
GERES	**GERESS Array B**	**161.41**	**335**	PKPab	PKPab	18 47 07.9	-2.9
	0.7nm,0.8s,baz=45,slow=3.8,SNR=5.2						

*IDC **29** 18:28:22.3±2.0, 0.95N×96.93E, mb3.9/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, Error ellipse: s-maj=82.8km s-min=26.7km az=51.0*
*BJI **29** 18:28:25.5, 1.10N×97.10E, h30km, mb4.4*
*NEIC **29** 18:28:27.5±0.8, 1.12N×97.12E, h30km, mb4.2/5, Error ellipse: s-maj=17.7km s-min=11.2km az=219.0*
ISC 29 18:28:26.1±1.0, 1.1N±0.1×97.1E±0.1, h33km, n15, σ0§84/15, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.44**	**40**	*e*P	**P**	**18 29 46.4**	**-0.5**
NANT	**Nan**	**17.92**	**11**	P	**P**	**18 32 34.5**	**0.0**
KKM

BVAR **Borovoye Array** 56.31 341 P **P** 18 38 04.9 -1.1
comp=Z,1.3nm,0.8s,mb4.0,baz=149,slow=8.6,SNR=8.6
CHKZ **Chkalovo** 56.79 341 *e*P **P** 18 38 08.9 -0.5
comp=Z,3.2nm,0.9s,mb4.3
AKASG **Malin Array Be** 75.28 322 P **P** 18 40 07.0 -0.5
comp=Z,0.2nm,0.2s,mb3.7,baz=112,slow=3.9,SNR=4.1

IDC ***29*** *18:29:44.0±0.4, 0.97N×97.86E, mb4.6/20, mb1 4.7/20, mb1mx4.7/22, mbtmp4.6/20, MS4.1/6, Ms1 4.1/6, ms1mx3.7/29, Error ellipse: s-maj=18.9km s-min=11.9km az=49.0*

BJI ***29*** *18:29:45.7, 0.46N×98.01E, h44km, mB5.2, mb5.0, Ms4.8, Msz4.4*

MOS ***29*** *18:29:47.7±1.1, 1.01N×97.98E, h33km, mb5.1/26, Error ellipse: s-maj=13.6km s-min=6.8km az=116.5*

NEIC ***29*** *18:29:48.7±0.2, 0.92N×97.91E, h30km, mb4.9/32, Error ellipse: s-maj=8.3km s-min=5.3km az=54.0*

NEIC Felt [IV] at Banda Aceh, Sumatra.

HRVD ***29*** *18:29:48.7±0.9, 1.01N×97.73E, h18km, 2km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s9,c12;Mantle waves: s35,c67; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.96±.47; $M_{\theta\theta}$2.64±.26; $M_{\phi\phi}$0.32±.32; $M_{r\theta}$1.79±.53; $M_{\theta\phi}$0.41±.15; $M_{r\phi}$0.31±.79; Best double couple: M_o3.367×10^{16} NP1:ϕ80°, δ29°, λ-90°. NP2:ϕ260°, δ61°, λ-90°. Principal axes: T 3.242, Plg16°, Azm350°; N .251, Plg0°, Azm260°; P -3.492, Plg74°, Azm170°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 18:29:46.3±1.2, 0.88N±0.04×97.84E±0.04, h24km±8km, h29km±2.2km: pP-P, n166, σ1§20/168, mb4.8/67, MS4.3/19, 11C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	4.86	41	P		Pn	18 31 01.7	+1.7
KULM	**Kulim**	5.21	33	*e*P		Pn	18 31 05.0	+0.2
KGM	**Kluang**	5.59	78	P		Pn	18 31 12.6	+2.3
SNG	**Songkhla**	6.84	24	P		Pn	18 31 28.0	+0.1
	350nm,0.9s							
NST	**Nakhon Sawan**	14.88	9	P		P	18 33 20.6	+3.4
KKTK	**Khon Kaen**	16.13	17	P		P	18 33 36.0	+2.6
	309nm,1.0s							
CM31	**Chiang Mai Arr**	17.50	3⇑	*e*P		P	18 33 48.6	-2.1
	8.2nm,0.5s							
CHG	**Chiang Mai**	17.86	3	⇑P		P	18 33 52.9	-2.2
	10nm,0.9s							
KKM	**Kota Kinabalu**	19.04	74	*e*P		P	18 34 09.3	-0.3
KKM	**Kota Kinabalu**	19.04	74	P		P	18 34 11.0	+1.4
QIZ	**Qiongzhong**	21.54	32	*e*P		P	18 34 39.0	+2.9
QIZ				S		S	18 38 31.0	+2.3
QIZ				XS			18 38 43.0	
QIZ				LR	LR			
	comp=N,632nm,13.8s,MS4.4							
QIZ				LR	LR			
	comp=E,748nm,13.4s,MS4.4							
QIZ				LR	LR			
	comp=Z,749nm,17.0s,MS4.2							
VIS	**Vishakhapatnam**	21.99	320	*i* P		P	18 34 40.5	-0.2
KMI	**Kunming**	24.57	11	P		P	18 35 06.8	+0.9
KMI				AP			18 35 17.8	
KMI				XP			18 35 20.8	
KMI				PP	PP		18 35 44.3	+2.2
KMI				S	S		18 39 24.5	+2.1
KMI				SS	SS		18 40 22.5	+4.1
KMI				AMB	AMB			
	comp=Z,20nm,1.9s,mb4.3							
KMI				AMB	AMB			
	comp=Z,232nm,4.5s							
KMI				LR	LR			
	comp=N,565nm,13.5s,MS4.5							
KMI				LR	LR			
	comp=E,964nm,17.7s,MS4.5							
KMI				LR	LR			
	comp=Z,644nm,14.8s,MS4.2							
HYB	**Hyderabad**	25.10	312	*e*P		P	18 35 15.0	+4.0
HYB	**Hyderabad**	25.10	312	*i* P		P	18 35 15.0	+4.0
GYA	**Guiyang**	26.82	18	⇑*i*P		P	18 35 28.3	+1.4
GYA				AP		pP	18 35 37.5	+3.7
GYA				XP		sP	18 35 41.3	+4.3
GYA				S		S	18 40 08.5	+8.7
GYA				AMB	AMB			
	comp=Z,20nm,0.8s,mb4.7							
GYA				AMB	AMB			
	comp=Z,100nm,3.7s							
GYA				LR	LR			
	comp=N,780nm,14.9s,MS4.6							
GYA				LR	LR			
	comp=E,820nm,13.5s,MS4.6							
GYA				LR	LR			
	comp=Z,480nm,13.2s,MS4.2							
JIRN	**Jiri**	28.88	338	*e*P		P	18 35 46.2	+0.6
	comp=Z,113nm,1.0s,mb5.5							
PKI	**Pulchoki**	29.10	337	*e*P		P	18 35 47.7	+0.2
	comp=Z,114nm,1.2s,mb5.5							
PKI	**Pulchoki**	29.10	337	*e*P		P	18 35 47.7	+0.2
PKI				pmax	pmax			
	comp=Z,57nm,1.2s,mb5.2							
DMN	**Daman**	29.25	336	*e*P		P	18 35 49.4	+0.5
KKN	**Kakani**	29.34	337	*e*P		P	18 35 49.5	-0.3
	comp=Z,147nm,1.3s,mb5.5							
KKN	**Kakani**	29.34	337	*e*P		P	18 35 49.5	-0.3
KKN				pmax	pmax			
	comp=Z,73nm,1.3s,mb5.2							
LSA	**Lhasa**	29.36	348	P		P	18 35 50.5	+0.6
LSA	**Lhasa**	29.36	348	*e*P		P	18 35 50.0	+0.1
LSA				pmax	pmax			
	comp=Z,31nm,1.1s,mb5.0							
LSA	**Lhasa**	29.36	348	*e*P		P	18 35 50.0	0.0
	comp=Z,31nm,1.1s,mb5.0							
GKN	**Gorkha**	29.79	336	*e*P		P	18 35 53.4	-0.4
	comp=Z,161nm,1.1s,mb5.7							
KOLN	**Koldanda**	30.02	334	*e*P		P	18 35 56.0	+0.2
CD2	**Chengdu**	30.39	10	*e*P		P	18 35 58.0	-1.0
MBWA	**Marble Bar**	30.62	137	*e*P		P	18 36 00.9	-0.3
	comp=Z,76nm,1.8s,mb5.2							
ENH	**Enshi**	31.26	20	P		P	18 36 02.5	-4.2
	comp=Z,12nm,0.8s,mb4.8							
FITZ	**Fitzroy Crossi**	33.22	126	⇑*i*P		P	18 36 22.0	-1.9
	comp=Z,17nm,1.0s,mb4.9							
FITZ	**Fitzroy Crossi**	33.22	126	P		P	18 36 22.1	-1.8
	comp=Z,20nm,0.8s,mb5.1,baz=334,slow=3.0,SNR=9.1							
FITZ				LR		LR	18 52 01.1	
	comp=Z,340nm,20.4s,MS4.0,baz=268,slow=40							
XAN	**Xi'an**	34.59	16	P		P	18 36 33.5	-2.1
XAN				AMB	AMB			
	comp=Z,9.0nm,0.6s,mb4.9							
LZH	**Lanzhou**	35.47	8	*e*P		P	18 36 45.3	+2.2
LZH				AP		pP	18 36 53.5	+3.3
LZH				PP		PP	18 38 06.0	+2.7
LZH				*e*S		S	18 42 16.0	-0.1
LZH				SS		SS	18 44 35.0	-0.1
LZH				AMB	AMB			
	comp=Z,39nm,1.5s,mb5.1							
LZH				AMB	AMB			
	comp=Z,160nm,4.0s							
LZH				LR	LR			
	comp=E,951nm,14.9s							
LZH				LR	LR			
	comp=Z,1μm,16.5s,MS4.8							
SMLA	**Simla**	35.90	329	*i* P		P	18 36 46.9	+0.1
SMLA				*i*			18 42 16.0	
NJ2	**Nanjing**	36.81	31	*e*P		P	18 36 56.3	+1.9
NJ2				AP		pP	18 37 06.3	+4.8
NJ2				XP		sP	18 37 09.5	+5.0
NJ2				PP		PP	18 38 22.0	+1.8
NJ2				S		S	18 42 38.0	+1.3
NJ2				XS			18 42 56.0	
NJ2				AMB	AMB			
	comp=Z,450nm,4.5s							
NJ2				LR	LR			
	comp=N,1μm,14.4s,MS5.0							
NJ2				LR	LR			
	comp=E,1μm,12.9s,MS5.0							
NJ2				LR	LR			
	comp=Z,690nm,13.0s,MS4.6							
SSE	**Sheshan**	37.31	34	P		P	18 36 54.5	-4.2
SSE				S		S	18 42 36.5	-7.9
SSE				AMB	AMB			
	comp=Z,32nm,0.7s,mb5.3							
SSE				AMB	AMB			
	comp=Z,50nm,3.8s							
SSE				LR	LR			
	comp=N,271nm,23.1s,MS4.2							
SSE				LR	LR			
	comp=E,316nm,23.1s,MS4.2							
SSE				LR	LR			
	comp=Z,139nm,14.6s							
NWAO	**Narrogin (SRO)**	38.28	153	P		P	18 37 08.2	+1.4
	comp=Z,9.8nm,0.9s,mb4.5,baz=325,slow=11,SNR=4.1							
GTA	**Gaotai**	38.39	2	*e*P		P	18 37 07.8	+0.1
GTA				AP		pP	18 37 17.0	+2.2
GTA				XP		sP	18 37 20.5	+2.7
GTA				PP		PP	18 38 40.5	+1.4
GTA				PPP		PPP	18 39 03.0	+1.3
GTA				S		S	18 43 02.0	+1.3
GTA				SS		SS	18 45 42.5	+1.7
GTA				AMB	AMB			
	comp=Z,6.0nm,0.9s,mb4.3							
GTA				AMB	AMB			
	comp=Z,187nm,5.7s							
GTA				LR	LR			
	comp=N,257nm,14.9s,MS4.3							
GTA				LR	LR			
	comp=E,245nm,13.8s,MS4.3							
GTA				LR	LR			
	comp=Z,303nm,14.1s,MS4.3							
JOW	**Kunigami**	39.00	46	P		P	18 37 12.8	0.0
	comp=Z,26nm,0.9s,mb5.0,baz=156,slow=20,SNR=2.8							
WRA	**Warramunga Arr**	41.32	122	P		P	18 37 30.7	-1.3
	comp=Z,16nm,0.9s,mb4.6,baz=300,slow=9.2,SNR=28							
WRA				PcP		PcP	18 39 30.9	-0.1
	comp=Z,4.6nm,0.9s,baz=303,slow=2.6,SNR=7.0							
WRAB	**Tennant Creek**	41.33	122	P		P	18 37 31.0	-1.1
	comp=Z,121nm,1.0s,mb5.5,SNR=13							
WRAB	**Tennant Creek**	41.33	122	*i* P		P	18 37 31.2	-0.9
WRAB	**Tennant Creek**	41.33	122	*e*P		P	18 37 30.7	-1.4
	comp=Z,47nm,1.0s,mb5.1							
WB2	**Warramunga Arr**	41.33	122	⇑*i*P		P	18 37 31.0	-1.1
WB2				*i* PCP		PcP	18 39 30.7	-0.3
HHC	**Hu-ho-hao-te**	41.69	16	*e*P		P	18 37 34.5	-0.4
HHC				AP		pP	18 37 44.3	+2.2
HHC				XP		sP	18 37 48.0	+3.0
HHC				PP		PP	18 39 12.5	-2.0
HHC				PCS			18 43 21.3	
HHC				S		S	18 43 49.8	-0.3
HHC				SCS		ScS	18 47 31.5	-3.1
HHC				AMB	AMB			
	comp=Z,18nm,0.5s,mb5.0							
HHC				AMB	AMB			
	comp=Z,258nm,13.1s							
HHC				LR	LR			
	comp=N,348nm,18.4s,MS4.4							
HHC				LR	LR			
	comp=E,348nm,16.7s,MS4.4							
BJT	**Baijiatuau**	42.38	21	*e*P		P	18 37 41.4	+0.8
BJT				pmax	pmax			
	comp=Z,18nm,0.8s							
BJT	**Baijiatuau**	42.38	21	*e*P		P	18 37 41.4	+0.7
	comp=Z,18nm,0.8s,mb4.8							
BJI	**Beijing**	42.41	21	*e*P		P	18 37 41.3	+0.5
BJI				S		S	18 43 58.8	-1.8
BJI				AMB	AMB			
	comp=Z,22nm,0.8s,mb4.8							
BJI				LR	LR			
	comp=N,373nm,13.2s,MS4.7							
BJI				LR	LR			
	comp=E,629nm,14.8s,MS4.7							
BJI				LR	LR			
	comp=Z,244nm,16.4s,MS4.2							
FORT	**Forrest**	42.62	140	*e*P		P	18 37 44.2	+1.5
	comp=Z,671nm,0.6s							
ASPA	**Alice Springs**	42.69	127	⇓*i*P		P	18 37 42.6	-0.8
ASPA				*i* PCP		PcP	18 39 35.7	+0.1
ASAR	**Alice Springs**	42.69	127	P		P	18 37 42.5	-0.8
	comp=Z,8.7nm,0.8s,mb4.5,baz=302,slow=7.5,SNR=33							
ASAR				PcP		PcP	18 39 35.5	0.0
	comp=Z,4.8nm,0.9s,baz=304,slow=3.6,SNR=12							
ASAR				LR	LR		18 58 47.5	
	comp=Z,154nm,18.4s,MS3.9,baz=295,slow=41							
KSH	**Kashi**	43.33	335	P		P	18 37 54.0	+5.7
KSH				*e*AP		pP	18 38 03.0	+7.5
KSH				*e*XP		sP	18 38 06.5	+8.1
KSH				*e*PP		PP	18 39 36.0	+4.8
KSH				*e*S		S	18 44 21.5	+7.4
KSH				*e*XS			18 44 32.0	
KSH				*e*SS		SS	18 47 21.5	+0.4
KSH				*e*SCS		ScS	18 47 46.3	+1.7
KSH				LR	LR			
	comp=N,210nm,6.0s							
KSH				LR	LR			
	comp=E,390nm,4.5s							
WMQ	**Urumqi**	43.70	349	⇑*i*P		P	18 37 52.5	+1.2
WMQ				AP		pP	18 38 02.0	+3.5
WMQ				XP		sP	18 38 06.0	+4.6
WMQ				PP		PP	18 39 36.0	+1.1
WMQ				PPP		PPP	18 40 12.0	+0.3
WMQ				*e*S		S	18 44 20.0	+0.5
WMQ				AMB	AMB			
	comp=Z,18nm,1.0s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,211nm,4.8s							
WMQ				LR	LR			
	comp=N,614nm,28.0s,MS4.7							
WMQ				LR	LR			
	comp=E,976nm,24.0s,MS4.7							
WMQ				LR	LR			
	comp=Z,542nm,21.3s,MS4.4							
KS15	**Wonju Array Si**	45.73	34	*e*P		P	18 38 06.9	-0.8
AAK	**Ala-Archa**	46.55	336	*i* P		P	18 38 13.7	-0.4
AAK				pmax	pmax			
	comp=Z,4.0nm,1.2s,mb4.2							
AAK	**Ala-Archa**	46.55	336	*e*P		P	18 38 13.5	-0.5
	comp=Z,7.8nm,1.0s,mb4.6							
SNY	**Shenyang**	46.90	26	⇑P		P	18 38 16.0	-0.9
SNY				AMB	AMB			
	comp=Z,20nm,0.8s,mb5.1							
SONM	**Songino Array**	47.36	8	P		P	18 38 20.2	-0.2
	comp=Z,9.0nm,0.8s,mb4.7,baz=195,slow=9.3,SNR=18							
ULN	**Ulaanbaatar**	47.48	8	*e*P		P	18 38 21.3	-0.1
ULN				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	47.48	8	*e*P		P	18 38 21.3	-0.1
	comp=Z,8.1nm,0.9s,mb4.7							
MKAR	**Makanchi Array**	47.71	346	P		P	18 38 22.6	-0.6
	comp=Z,12nm,0.7s,mb5.1,baz=164,slow=6.7,SNR=22							
MKAR				LR	LR		19 02 52.8	
	comp=Z,109nm,19.4s,MS3.8,baz=35,slow=42							
CN2	**Changchun**	49.31	26	*e*P		P	18 38 34.3	-1.2
CN2				*e*S		S	18 45 37.5	-1.8
CN2				AMB	AMB			
	comp=Z,20nm,0.9s,mb5.2							
CN2				AMB	AMB			
	comp=Z,330nm,4.0s							
CN2				LR	LR			
	comp=N,300nm,13.0s,MS4.7							
CN2				LR	LR			
	comp=E,420nm,13.0s,MS4.7							
CN2				LR	LR			
	comp=Z,380nm,14.0s,MS4.5							
ZAK	**Zakamensk**	49.54	5	*e*P		P	18 38 36.6	-0.6
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.0s,mb4.1							
TLY	**Talaya**	50.86	5	*i* P		P	18 38 48.4	+1.1
TLY				pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5							
HIA	**Hailar**	51.74	18	*e*P		P	18 38 53.1	-0.9
HIA				pmax	pmax			
	comp=Z,8.0nm,0.3s							
HIA	**Hailar**	51.74	18	*e*P		P	18 38 53.1	-1.0
	comp=Z,8.1nm,0.3s,mb5.1							
CTA	**Charters Tower**	51.79	117	⇑*i*P		P	18 38 54.0	-0.7
	comp=Z,12nm,0.9s,mb4.8							
CTA	**Charters Tower**	51.79	117	⇑*i*P		P	18 38 54.0	-0.7
CTA				pmax	pmax			
	comp=Z,12nm,0.9s							
CTA	**Charters Tower**	51.79	117	P		P	18 38 53.8	-1.0
	comp=Z,13nm,0.9s,mb4.9,baz=287,slow=5.4,SNR=6.9							
KURK	**Kurchatov**	52.27	345	*i* P		P	18 38 56.8	-1.2
KURK	**Kurchatov**	52.27	345	*e*P		P	18 38 57.0	-1.0
	comp=Z,16nm,1.0s,mb4.9							
STKA	**Stephens Creek**	52.67	132	⇓*i*P		P	18 39 00.8	-0.4
	comp=Z,7.3nm,0.6s,mb4.8							
STKA	**Stephens Creek**	52.67	132	P		P	18 39 01.0	-0.2
	comp=Z,9.5nm,0.6s,mb4.9,baz=315,slow=7.4,SNR=13							
NVS	**Novosibirsk**	55.10	350	*e*P		P	18 39 15.2	-3.6
NVS				*e*			18 41 26.2	
NVS				*i* S		S	18 46 56.0	-2.3
NVS				pmax	pmax			
	comp=Z,13nm,1.7s,mb4.7							
NVS				pmax	pmax			
	comp=N,11nm,1.8s							
NVS				smax				
	comp=N,11nm,2.0s							
NVS				smax				
	comp=E,16nm,1.9s							
KLR	**Kul'dur**	56.26	26	*e*P		P	18 39 23.3	-3.9
BVAR	**Borovoye Array**	56.76	341	P		P	18 39 28.8	-1.9
	comp=E,3.6nm,0.5s,mb4.6,baz=138,slow=9.8,SNR=16							
BVAR	**Borovoye Array**	56.76	341	P		P	18 39 28.8	-2.0
CHKZ	**Chkalovo**	57.24	341	*e*P		P	18 39 32.6	-1.5
CHKZ				pmax	pmax			
	comp=Z,21nm,1.0s,mb5.1							
CHKZ	**Chkalovo**	57.24	341	*e*P		P	18 39 32.6	-1.5
	comp=Z,21nm,1.0s,mb5.1							
BOD	**Bodaibo**	58.21	10	*e*P		P	18 39 38.6	-2.3
BOD				pmax	pmax			
	comp=Z,10.0nm,1.2s,mb4.7							
YSS	**Yuzh-Sakhalins**	60.26	34	P		P	18 39 48.0	-7.2
KMBO	**Kilima Mbogo**	60.62	268	*i* P		P	18 39 59.5	+1.4
KMBO				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KMBO	**Kilima Mbogo**	60.62	268	P		P	18 39 56.6	-1.5
	comp=Z,2.2nm,1.0s,mb4.3,baz=61,slow=9.2,SNR=5.2							
KMBO	**Kilima Mbogo**	60.62	268	*e*P		P	18 39 58.6	+0.5
	comp=Z,3.5nm,1.2s,mb4.4							
SVE	**Sverdlovsk**	63.22	338	*e*P		P	18 40 14.0	-1.0
SVE				*e*			18 40 27.0	
SVE				pmax	pmax			
	comp=Z,20nm,1.6s,mb5.0							
ARU	**Arti**	63.73	337	⇓*i*P		P	18 40 16.0	-2.3
ARU				*e*S		S	18 48 50.3	+0.5
ARU				*e*SS		SS	18 52 53.7	-5.7
ARU				pmax	pmax			
	comp=Z,14nm,0.7s,mb5.1							
KIV	**Kislovodsk**	64.97	319	*i* P		P	18 40 25.3	-1.3
KIV				*e*			18 40 55.7	
KIV				*e*S		S	18 49 07.7	+2.4
KIV				pmax	pmax			
	comp=Z,8.0nm,1.0s,mb4.7							
YAK	**Yakutsk**	65.55	16	*e*P		P	18 40 28.1	-1.9
YAK				pmax	pmax			
	comp=Z,61nm,0.8s,mb5.7							
YAK	**Yakutsk**	65.55	16	*e*P		P	18 40 28.1	-1.9
	comp=Z,61nm,0.8s,mb5.7							
MALT	**Malatya**	65.82	312	*e*P		P	18 40 31.6	-0.5
MALT				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.5							
MALT	**Malatya**	65.82	312	*e*P		P	18 40 31.6	-0.5
	comp=Z,3.8nm,0.8s,mb4.5							
EIL	**Elat**	66.17	302	*e*P		P	18 40 33.6	-0.9
	comp=Z,11nm,0.8s,mb4.9							
BRTR	**Keskin Array B**	69.80	312	P		P	18 40 55.6	-1.4
	comp=Z,4.3nm,0.7s,mb4.5,baz=133,slow=7.4,SNR=17							
MA2	**Magadan**	71.35	25	*e*P		P	18 41 05.5	-0.6
MA2				pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.5							
MA2	**Magadan**	71.35	25	*e*P		P	18 41 03.5	-2.6
	comp=Z,6.7nm,0.7s,mb4.7							
MOS	**Moscow**	72.94	329	*e*P		P	18 41 16.0	+0.4
MOS				pmax	pmax			
	comp=Z,30nm,0.7s,mb5.3							
OBN	**Obninsk**	73.23	328	*e*P		P	18 41 14.5	-2.8
OBN				*e*S		S	18 50 48.3	+5.6
OBN				*e*SS		tx	18 58 38.7	
OBN				pmax	pmax			
	comp=Z,11nm,1.7s,mb4.5							
OBN				MLR	MLR			
	comp=Z,100nm,21.0s,MS4.1							
TIXI	**Tiksi**	73.39	10	*e*P		P	18 41 14.9	-3.0
TIXI				pmax	pmax			
	comp=Z,13nm,1.0s,mb4.8							
TIXI				MLR	MLR			
	comp=Z,217nm,16.0s,MS4.5							
SEY	**Seymchan**	73.81	23	*e*P		P	18 41 21.9	+1.4
SEY				pmax	pmax			
	comp=Z,20nm,0.9s,mb5.0							
LBTB	**Lobatse**	74.32	244	P		P	18 41 25.4	+1.1
	comp=Z,7.3nm,0.7s,mb4.7,baz=129,slow=6.1,SNR=12							
TIRR	**Tirgusor**	74.80	316	⇓P		P	18 41 29.9	+3.3
CFR	**Carcaliu**	75.16	317	⇓P		P	18 41 31.7	+3.0
CFR	**Carcaliu**	75.16	317	⇓P		P	18 41 31.6	+2.9
BOSA	**Boshof**	75.17	240	P		P	18 41 29.9	+0.8
	comp=Z,5.7nm,0.7s,mb4.6,baz=85,slow=5.3,SNR=15							
BOSA				LR	LR		19 09 49.4	
	comp=Z,170nm,19.9s,MS4.3,baz=348,slow=32							
AKASG	**Malin Array Be**	75.90	322	P		P	18 41 31.2	-1.6
	comp=Z,1.9nm,0.5s,mb4.3,baz=90,slow=4.8,SNR=9.4							
AKASG	**Malin Array Be**	75.90	322	P		P	18 41 31.2	-1.6
MLR	**Muntele Rosu**	76.74	317	⇑P		P	18 41 37.6	0.0
BURAR	**Bucovina Array**	77.69	319	⇑P		P	18 41 43.6	+0.8
KOLS	**Kolonicke sedl**	79.88	320	*e*P		P	18 41 55.3	+0.6
FINES	**FINESS Array B**	80.58	332	P		P	18 41 57.4	-0.8
	comp=Z,1.4nm,0.4s,mb4.2,baz=99,slow=5.7,SNR=9.0							
FINES	**FINESS Array B**	80.58	332	P		P	18 41 57.4	-0.8
BILL	**Bilibino**	81.24	21	*i* P		P	18 42 03.3	+1.8
BILL				pmax	pmax			
	comp=Z,7.0nm,2.5s,mb4.2							
PKSM	**Moragy**	81.89	316	⇓*e*P		P	18 42 05.2	-0.1
VYHS	**Vyhne**	82.06	319	*e*P		P	18 42 06.4	+0.3
URZ	**Urewera**	82.11	129	LR	LR		19 22 30.8	
	comp=Z,156nm,19.2s,MS4.4,baz=233,slow=38							
OKC	**Ostrava-Krasne**	82.68	320	*e*P		P	18 42 09.5	+0.2
ARCES	**ARCESS Array B**	83.05	340	P		P	18 42 11.0	+0.1
	comp=Z,3.6nm,0.7s,mb4.5,baz=104,slow=5.0,SNR=6.9							
ARCES				LR	LR		19 26 06.6	
	comp=Z,133nm,18.2s,MS4.3,baz=197,slow=41							
MORC	**Moravsky Berou**	83.06	320	*e*P		P	18 42 11.3	0.0
MORC				pmax	pmax			
	comp=Z,8.0nm,1.1s,mb4.7							
MORC	**Moravsky Berou**	83.06	320	*e*P		P	18 42 11.3	0.0
	comp=Z,8.2nm,1.1s,mb4.7							
KOGS	**Kog**	83.56	316	*e*P		P	18 42 13.6	-0.4
DPC	**Dobruska-Polom**	83.91	320	*e*P		P	18 42 16.7	+1.1
BOJS	**Bojanci**	84.17	315	*e*P		P	18 42 17.4	+0.3
PERS	**Pernice**	84.36	317	*e*P		P	18 42 18.5	+0.4
PRU	**Pruhonice**	85.01	320	*e*P		P	18 42 21.8	+0.6
PVCC	**Panska Ves**	85.04	320	*e*P		P	18 42 21.6	+0.3
AQU	**L'Aquila**	85.30	312	P		P	18 42 21.7	-1.1
AQU				pmax	pmax			
	comp=Z,7.0nm,0.4s,mb5.1							
AQU	**L'Aquila**	85.30	312	P		P	18 42 21.7	-1.1
	comp=Z,6.7nm,0.4s,mb5.1							
VNDA	**Vanda**	85.38	169	*e*P		P	18 42 23.4	+0.9

NB2	**NORSAR Subarra**	**87.60**	**331**	P	**P**	**18 42 33.2**	**-0.4**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
NB2	**NORSAR Subarra**	**87.60**	**331**	P	**P**	**18 42 33.2**	**-0.4**
	comp=Z,1.8nm,0.6s,mb4.5						
NOA	**NORSAR Array B**	**87.60**	**331**	P	**P**	**18 42 33.8**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.7,baz=94,slow=4.9,SNR=12						
NOA	**NORSAR Array B**	**87.60**	**331**	P	**P**	**18 42 33.8**	**+0.2**
LPG	**La Plagne**	**90.15**	**315**	*e*P	**P**	**18 42 46.4**	**+0.3**
	comp=Z,12nm,0.7s,mb5.0						
LPG	**La Plagne**	**90.15**	**315**	*e*P	**P**	**18 42 46.4**	**+0.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb5.0						
ULM	**Lac du Bonnet**	**127.73**	**11**	PKP	PKPdf	18 48 50.4	-4.3
	comp=Z,1.5nm,0.6s,baz=332,slow=4.0,SNR=3.7						
PDAR	**Pinedale Array**	**130.05**	**26**	PKP	PKPdf	18 48 56.1	-3.1
	comp=Z,1.0nm,0.7s,baz=157,slow=1.4,SNR=7.3						
PV10	**Paradox Valley**	**133.76**	**29**	*e*PKP	PKPdf	18 49 04.5	-1.9
ELN	**Prospectdale**	**142.06**	**358**	PKP	PKPdf	18 49 16.5	-5.0
MIAR	**Mount Ida**	**143.18**	**16**	*e*PKP	PKPdf	18 49 17.1	-6.4
BDFB	**Brasilia**	**143.26**	**245**	PKP	PKPdf	18 49 18.5	-5.6
	comp=Z,2.1nm,0.7s,baz=13,slow=2.9,SNR=3.2						
TXAR	**Lajitas Array**	**143.60**	**33**	PKP	PKPdf	18 49 19.4	-5.0
	comp=Z,0.7nm,0.5s,baz=270,slow=1.3,SNR=7.4						
GOGA	**Godfrey**	**145.87**	**2**	*e*PKP	PKPdf	18 49 24.5	-3.7
LRAL	**Lakeview Retre**	**145.96**	**7**	*e*PKP	PKPdf	18 49 25.6	-2.8
LVC	**Limon Verde**	**154.84**	**210**	*e*PKPdf	PKPdf	18 49 37.9	-4.3
LPAZ	**La Paz**	**159.37**	**221**	PKP	PKPdf	18 49 46.1	-2.0
	comp=Z,0.7nm,0.3s,baz=47,slow=3.5,SNR=3.7						
LPAZ				PKPab	PKPab	18 50 24.0	+0.4
	comp=Z,0.8nm,0.5s,baz=26,slow=2.5,SNR=3.7						
OTAV	**Otavalo**	**176.13**	**287**	*e*PKPdf	PKPdf	18 49 57.9	-2.0

*MOS **29** 18:30:45.5±0.8, 33.96N×140.08E, h119km, mb4.5/8, Error ellipse: s-maj=30.4km s-min=10.5km az=107.8*
*IDC **29** 18:30:47.9±0.7, 33.93N×139.85E, h118km±8km, mb3.7/11, mb1 3.9/11, mb1mx3.8/19, mbtmp4.1/11, Error ellipse: s-maj=27.4km s-min=16.7km az=85.0*
*NEIC **29** 18:30:48.0±1.2, 33.95N×139.87E, h119km±9km, mb4.2/5, Error ellipse: s-maj=17.2km s-min=12.5km az=80.0*
NEIC Recorded [1 JMA] on Mikura-jima.
*JMA **29** 18:30:48.0±0.1, 33.99N×140.01E, h111km±2km, M3.9*
JMA Felt I J1.

ISC 29 18:30:46.6±0.5, 33.99N±0.04×140.00E±0.09, h124km±3km, n49, σ0§83/61, mb4.1/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMY	**Miyakejima3**	**0.41**	**281**	P	**P**	**18 31 04.7**	**0.0**
NJJJ	**Nii jima 2**	**0.72**	**305**	P	**P**	**18 31 07.2**	**+0.6**
JKO	**Kozu shima**	**0.74**	**285**	P	**P**	**18 31 07.0**	**+0.2**
JKO				S	**S**	**18 31 21.0**	**-1.2**
JIM2	**Oshima 3**	**0.86**	**327**	P	**P**	**18 31 08.1**	**+0.2**
JIM2				S	**S**	**18 31 23.3**	**-0.7**
JHJ	**Hachijo jima 2**	**0.89**	**192**	P	**P**	**18 31 08.4**	**+0.2**
	553nm,0.3s,baz=241,slow=22,SNR=158						
JHJ				S	**S**	**18 31 23.8**	**-0.7**
	628nm,0.3s,baz=65,slow=23,SNR=6.6						
JHJ2	**Mitsune**	**0.89**	**190**	P	**P**	**18 31 08.4**	**+0.2**
JHJ2				*e*S	**S**	**18 31 24.3**	**-0.2**
BSO3	**Boso 3**	**0.91**	**27**	P	**P**	**18 31 09.0**	**+0.6**
JIZS	**Izushimoda**	**1.18**	**308**	P	**P**	**18 31 11.5**	**+0.4**
JOD2	**Odawara 2**	**1.47**	**329**	P	**P**	**18 31 14.9**	**+0.5**
JOD2				S	**S**	**18 31 34.8**	**-0.8**
TK04	**Tokai 4**	**1.81**	**283**	P	**P**	**18 31 19.3**	**+1.0**
SHZ3	**Shizuoka 3**	**1.83**	**306**	P	**P**	**18 31 19.7**	**+1.1**
SHZ3				S	**S**	**18 31 43.9**	**+1.1**
JYN	**Shimob**	**1.92**	**322**	P	**P**	**18 31 20.8**	**+1.1**
TK01	**Tokai 1**	**2.02**	**264**	P	**P**	**18 31 21.0**	**0.0**
JRY	**Ryogami san**	**2.21**	**336**	P	**P**	**18 31 24.2**	**+0.7**
JRY				*e*S	**S**	**18 31 51.3**	**-0.1**
MAJO	**Matsushiro**	**2.94**	**331**	*e*P	**P**	**18 31 33.3**	**+0.2**
MAT	**Matsushiro**	**2.94**	**331**	*e*P	**P**	**18 31 33.0**	**-0.1**
MAT				*e*S	**S**	**18 32 07.0**	**-1.3**
MAT	**Matsushiro**	**2.94**	**331**	P	**P**	**18 31 33.3**	**+0.2**
MAT				S	**S**	**18 32 07.0**	**-1.3**
CBIJ	**Chichi jima**	**7.13**	**164**	P	**P**	**18 32 25.3**	**-4.3**
	23nm,0.3s,baz=287,slow=22,SNR=5.8						
CBIJ				S	**S**	**18 33 40.1**	**-9.4**
	13nm,0.3s,baz=287,slow=19,SNR=3.1						
ASAJ	**Asahikawa**	**10.31**	**11**	P	**P**	**18 33 10.1**	**-2.0**
ASAJ				S	**S**	**18 34 56.1**	**-10**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.31**	**11**	P	**P**	**18 33 10.1**	**-2.0**
	comp=N,1.6nm,0.3s,baz=260,slow=12,SNR=3.6						
ASAJ				S	**S**	**18 34 56.1**	**-10**
	comp=N,1.1nm,0.3s,baz=112,slow=20,SNR=3.2						
HIA	**Hailar**	**21.40**	**322**	P	**P**	**18 35 21.2**	**-4.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HIA	**Hailar**	**21.40**	**322**	P	**P**	**18 35 21.2**	**-4.3**
	comp=Z,5.4nm,0.5s,mb4.1						
CLNS	**Chul'man**	**25.07**	**340**	*e*P	**P**	**18 36 00.3**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,19nm,0.8s,mb4.6						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,600nm,14.0s						
CLNS				MLR	MLR		
	comp=N,400nm,15.0s						
CLNS				MLR	MLR		
	comp=E,100nm,14.0s						
ULN	**Ulaanbaatar**	**28.25**	**309**	*e*P	**P**	**18 36 30.0**	**0.0**
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**28.25**	**309**	*e*P	**P**	**18 36 30.0**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.1						
SONM	**Songino Array**	**28.66**	**309**	P	**P**	**18 36 33.8**	**+0.2**
	comp=Z,2.9nm,0.8s,mb3.9,baz=115,slow=8.1,SNR=21						
ZAK	**Zakamensk**	**31.36**	**313**	*e*P	**P**	**18 36 56.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
NVS	**Novosibirsk**	**44.16**	**316**	*e*P	**P**	**18 38 42.5**	**-1.8**
KURK	**Kurchatov**	**46.96**	**310**	*e*P	**P**	**18 38 57.0**	**-9.5**
KURK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**53.91**	**187**	P	**P**	**18 39 58.2**	**-1.4**
	comp=Z,0.7nm,0.5s,mb4.0,baz=1.5,slow=7.7,SNR=7.8						
INK	**Inuvik**	**57.62**	**26**	*e*P	**P**	**18 40 24.8**	**-0.7**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**57.62**	**26**	P	**P**	**18 40 26.3**	**+0.8**
	comp=Z,0.8nm,0.3s,mb4.2,baz=258,slow=5.8,SNR=8.2						
INK	**Inuvik**	**57.62**	**26**	*e*P	**P**	**18 40 24.8**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2						
ASAR	**Alice Springs**	**57.63**	**187**	P	**P**	**18 40 25.7**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=7.1,slow=7.3,SNR=5.6						
ARCES	**ARCESS Array B**	**66.44**	**340**	P	**P**	**18 41 24.1**	**-0.1**
	comp=Z,3.2nm,0.7s,mb4.2,baz=45,slow=6.8,SNR=7.5						
YKA	**Yellowknife Ar**	**67.02**	**29**	P	**P**	**18 41 28.4**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.3,baz=296,slow=6.3,SNR=6.9						
KAF	**Kangasniemi**	**70.48**	**333**	*e*p	**P**	**18 41 48.2**	**-1.0**
	comp=Z,5.4nm,0.6s,mb4.5,baz=51,slow=5.8						
KAF	**Kangasniemi**	**70.48**	**333**	*e*P	**P**	**18 41 48.2**	**-1.0**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**70.97**	**332**	P	**P**	**18 41 52.1**	**0.0**
FINES	**FINESS Array B**	**70.97**	**332**	P	**P**	**18 41 52.1**	**+0.1**
	comp=Z,2.1nm,0.7s,mb4.1,baz=79,slow=7.1,SNR=10						
AKASG	**Malin Array Be**	**75.99**	**322**	P	**P**	**18 42 21.4**	**0.0**
	comp=Z,1.8nm,0.5s,mb4.1,baz=50,slow=5.3,SNR=9.0						
NB2	**NORSAR Subarra**	**76.54**	**337**	P	**P**	**18 42 24.5**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.0,baz=43,slow=5.6						
NB2	**NORSAR Subarra**	**76.54**	**337**	P	**P**	**18 42 24.5**	**+0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
NOA	**NORSAR Array B**	**76.54**	**337**	P	**P**	**18 42 24.8**	**+0.6**
NOA	**NORSAR Array B**	**76.54**	**337**	P	**P**	**18 42 24.8**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.0,baz=43,slow=5.7,SNR=12						
RAYN	**Ar Rayn**	**80.73**	**292**	P	**P**	**18 42 48.8**	**+1.0**
	comp=Z,57nm,0.6s,SNR=9.6						
PV10	**Paradox Valley**	**83.66**	**48**	*e*P	**P**	**18 43 05.8**	**+3.3**
GERES	**GERESS Array B**	**84.67**	**328**	P	**P**	**18 43 07.7**	**+0.4**
	comp=Z,0.6nm,0.4s,mb3.8,baz=37,slow=6.7,SNR=4.5						
TXAR	**Lajitas Array**	**92.90**	**52**	P	**P**	**18 43 48.4**	**+1.5**
	comp=Z,0.8nm,0.8s,mb4.1,baz=304,slow=4.5,SNR=4.6						

IDC 29 18:35:13.3±2.9, 3.17N×99.01E, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=123.7km s-min=27.3km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.60**	**125**	P	P	18 43 03.3	-1.7
	1.0nm,0.8s,baz=306,slow=9.1,SNR=6.7						
SONM	**Songino Array**	**44.95**	**7**	P	P	18 43 30.1	-1.8
	0.9nm,0.6s,baz=190,slow=9.2,SNR=5.8						
MKAR	**Makanchi Array**	**45.82**	**344**	P	P	18 43 38.6	-0.2
	1.7nm,0.7s,baz=162,slow=7.7,SNR=6.3						
BVAR	**Borovoye Array**	**55.03**	**339**	P	P	18 44 45.0	-3.9
	1.2nm,0.7s,baz=150,slow=11,SNR=6.4						

*INMG **29** 18:40:32.2±1.1, 36.66N×9.74W, h5km±6km, ML2.1, Error ellipse: s-maj=6.9km s-min=4.1km az=63.0*
MDD 29 18:40:32.1±0.7, 36.62N×9.82W, mbLg2.5/13, Error ellipse: s-maj=5.3km s-min=3.2km az=49.0, PRXIMO, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**1.28**	**43**	*e*P	Pb	18 40 54.0	-2.7
PTEO				*e*S	Sb	18 41 10.4	-3.1
	13nm,0.2s						
PTEO	**Sao Teotonio**	**1.28**	**43**	P	Pb	18 40 54.0	-2.7
PTEO				S	Sb	18 41 10.4	-3.1
	6.4nm,0.2s						
EGRO	**El Granado**	**2.08**	**63**	P	Pn	18 41 04.8	-3.8
	1.6nm,0.4s,SNR=4.7						
EGRO				S	Sn	18 41 29.6	-6.1
	5.9nm,0.1s,SNR=7.9						
PBEJ	**Beja**	**2.10**	**47**	*e*Pn	Pn	18 41 05.1	-3.8
PBEJ				*e*Sn	Sn	18 41 29.6	-6.5
	4.0nm,0.1s						
PBEJ	**Beja**	**2.10**	**47**	P	Pn	18 41 05.1	-3.8
PBEJ				S	Sn	18 41 29.6	-6.5
	2.0nm,0.1s						
MOE	**Montemor**	**2.23**	**31**	*e*Sn	Sn	18 41 33.6	-5.9
PLOU	**Loures**	**2.33**	**13**	*e*Pn	Pn	18 41 08.6	-3.6
PLOU				*e*Sn	Sn	18 41 35.5	-6.4
	15nm,0.1s						
PLOU	**Loures**	**2.33**	**13**	P	Pn	18 41 08.6	-3.6
PLOU				S	Sn	18 41 35.5	-6.4
	7.5nm,0.1s						
EMIN	**Mina Concepcio**	**2.76**	**64**	P	Pn	18 41 13.6	-4.9
	0.3nm,0.2s,SNR=7.9						
EMIN				S	Sn	18 41 46.2	-6.8
	1.7nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.09**	**45**	P	Pn	18 41 18.3	-4.7
	1.2nm,0.7s,SNR=9.3						
EBAD				S	Sn	18 41 53.1	-8.0
	3.8nm,0.1s,SNR=7.9						
ESPR	**Espera**	**3.19**	**84**	P	Pn	18 41 20.2	-4.3
	1.2nm,0.3s,SNR=8.2						
ESPR				S	Sn	18 41 56.3	-7.6
	42nm,0.3s,SNR=7.9						
PTOM	**Tomar**	**3.20**	**20**	*e*Pn	Pn	18 41 20.5	-4.1
PTOM				*e*Sn	Sn	18 41 56.6	-7.4
PCBR	**Castelo Branco**	**3.71**	**29**	*e*Pn	Pn	18 41 27.6	-4.3
PCBR				*e*Sn	Sn	18 42 08.2	-8.7
ECAB	**El Cabril**	**3.80**	**66**	P	Pn	18 41 27.8	-5.3
	0.4nm,0.2s,SNR=7.9						
ECAB				S	Sn	18 42 09.9	-9.3
	1.2nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**4.06**	**89**	S	Sn	18 42 18.4	-7.5
	13nm,0.6s,SNR=7.9						
EADA	**Adamuz**	**4.45**	**68**	P	Pn	18 41 37.6	-4.8
	0.3nm,0.2s,SNR=7.9						
EADA				S	Sn	18 42 26.9	-8.9
	1.2nm,0.1s,SNR=7.9						
PVRL	**Vila Real**	**4.93**	**19**	*e*Sn	Sn	18 42 38.7	-9.2
	8.5nm,0.1s						
PVRL	**Vila Real**	**4.93**	**19**	S	Sn	18 42 38.7	-9.2
	4.2nm,0.1s						
EQES	**Quesada**	**5.52**	**76**	S	Sn	18 42 51.8	-11
	1.5nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.54**	**55**	P	Pn	18 41 52.4	-5.4
	0.2nm,0.2s,baz=242,slow=14,SNR=6.6						
ECAL	**Calabor**	**5.83**	**23**	S	Sn	18 43 00.5	-10
	2.7nm,0.3s,SNR=7.9						

IDC 29 18:41:06.8±3.9, 2.27N×96.48E, mb3.7/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.7/4, Error ellipse: s-maj=152.4km s-min=24.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.22**	**123**	P	P	18 49 09.9	-1.8
	0.6nm,0.9s,baz=301,slow=9.0,SNR=4.5						
ASAR	**Alice Springs**	**44.62**	**127**	P	P	18 49 21.1	-1.9
	0.4nm,1.0s,baz=301,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**46.04**	**346**	P	P	18 49 31.9	-2.1
	1.9nm,0.8s,baz=162,slow=7.7,SNR=9.8						
SONM	**Songino Array**	**46.19**	**9**	P	P	18 49 33.6	-1.6
	0.6nm,0.6s,baz=190,slow=8.7,SNR=7.5						

*IDC **29** 18:50:02.1±1.0, 2.20N×96.67E, mb4.1/12, mb1 4.2/12, mb1mx4.0/19, mbtmp4.1/12, Error ellipse: s-maj=51.9km s-min=14.4km az=49.0*
*NEIC **29** 18:50:06.8±0.4, 2.22N×96.73E, h30km, mb4.0/6, Error ellipse: s-maj=12.7km s-min=7.6km az=52.0*
*BJI **29** 18:50:06.5, 2.40N×96.55E, h21km, mB5.2, mb4.4, Ms4.7, Ms24.2*
ISC 29 18:50:05.2±0.5, 2.23N±0.08×96.75E±0.09, h30km, n25, σ1§01/25, mb4.1/19, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.94**	**52**	*e*P	**Pn**	**18 51 20.2**	**+0.7**
CM31	**Chiang Mai Arr**	**16.27**	**7**	*e*P	**P**	**18 53 54.6**	**+1.1**
	1.7nm,0.4s						
LSA	**Lhasa**	**27.84**	**350**	P	**P**	**18 55 53.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**34.90**	**127**	P	**P**	**18 56 55.6**	**-0.9**
	2.4nm,0.7s,mb4.2,baz=296,slow=2.3,SNR=5.1						
HHC	**Hu-ho-hao-te**	**40.71**	**17**	*e*P	**P**	**18 57 47.5**	**+2.6**
HHC				AP	pP	18 57 57.3	+3.4
HHC				XP	sP	18 58 01.5	+3.8
HHC				PP	PP	18 59 25.8	+3.9
HHC				PCP	PcP	18 59 46.3	-0.4
HHC				SCP		19 03 36.0	
HHC				S	**S**	**19 03 59.0**	**+5.9**
HHC				SCS	ScS	19 07 48.0	+2.1
HHC				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.9						
HHC				AMB	AMB		
	comp=Z,266nm,6.9s						
HHC				LR	LR		
	comp=N,119nm,4.5s						
HHC				LR	LR		
	comp=E,150nm,4.3s						
HHC				LR	LR		
	comp=Z,94nm,5.1s						
WMQ	**Urumqi**	**42.19**	**350**	*e*P	**P**	**18 57 57.5**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,182nm,5.0s						
WRA	**Warramunga Arr**	**42.96**	**123**	P	**P**	**18 58 03.6**	**-0.1**
	comp=Z,1.7nm,0.8s,mb3.8,baz=300,slow=9.4,SNR=10						
WRAB	**Tennant Creek**	**42.97**	**123**	*e*P	**P**	**18 58 03.4**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.2						
ASAR	**Alice Springs**	**44.37**	**128**	P	**P**	**18 58 15.2**	**+0.1**
	comp=Z,1.2nm,0.7s,mb3.7,baz=299,slow=8.0,SNR=16						
AAK	**Ala-Archa**	**44.88**	**337**	*e*P	**P**	**18 58 19.8**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.7						
MKAR	**Makanchi Array**	**46.14**	**346**	P	**P**	**18 58 28.8**	**-0.1**
	comp=Z,1.5nm,0.4s,mb4.3,baz=155,slow=9.3,SNR=12						
SONM	**Songino Array**	**46.19**	**9**	P	**P**	**18 58 28.9**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=193,slow=9.2,SNR=11						
SONM				PcP	PcP	19 00 04.9	-0.3
	comp=Z,0.4nm,0.5s,baz=175,slow=3.4,SNR=3.8						
ULN	**Ulaanbaatar**	**46.33**	**10**	P	**P**	**18 58 28.7**	**-1.6**
	comp=Z,0.9nm,0.7s,mb3.8						
PMG	**Port Moresby**	**51.53**	**104**	P	**P**	**18 59 10.5**	**-0.5**
	comp=Z,12nm,0.8s,mb4.9,baz=286,slow=15,SNR=3.6						
STKA	**Stephens Creek**	**54.38**	**132**	P	**P**	**18 59 31.9**	**0.0**
	comp=Z,1.4nm,0.9s,mb3.9,baz=38,slow=20,SNR=3.4						
BVAR	**Borovoye Array**	**55.14**	**341**	P	**P**	**18 59 35.9**	**-1.2**
	comp=Z,1.2nm,0.6s,mb4.1,baz=145,slow=9.3,SNR=7.7						
CHKZ	**Chkalovo**	**55.62**	**341**	*e*P	**P**	**18 59 38.9**	**-1.6**
	comp=Z,4.0nm,0.8s,mb4.5						
KMBO	**Kilima Mbogo**	**59.58**	**267**	P	**P**	**19 00 09.8**	**+0.8**
	comp=Z,2.1nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**68.09**	**312**	P	**P**	**19 01 03.8**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.7,baz=124,slow=4.5,SNR=3.7						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**19 01 39.7**	**-1.1**
	comp=Z,0.2nm,0.3s,mb3.6,baz=87,slow=5.3,SNR=5.4						
AKASG	**Malin Array Be**	**74.17**	**322**	P	**P**	**19 01 39.7**	**-1.1**
SYO	**Syowa Base**	**80.83**	**198**	⇑P	**P**	**19 02 19.5**	**+2.1**
SYO	**Syowa Base**	**80.83**	**198**	⇑pP	pP	19 02 28.8	+1.9
ARCES	**ARCESS Array B**	**81.42**	**340**	P	**P**	**19 02 21.2**	**+0.8**
	comp=Z,7.4nm,1.1s,mb4.5,baz=90,slow=4.9,SNR=14						
GERES	**GERESS Array B**	**83.75**	**319**	P	**P**	**19 02 33.6**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.8,baz=101,slow=6.8,SNR=5.2						

MAN 29 18:52:19.8, 7.71N×125.15E, h1km, mb4.0, ML2.8, MS2.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	**Musuan**	**0.19**	**333**	*e*P	Pg	18 52 23.2	-0.4
BUKP				*e*S	Sg	18 52 28.4	+2.2
KCP	**Kidapawan**	**0.69**	**185**	↑*i*P	Pg	18 52 33.9	+0.3
KCP				*i* S	Sg	18 52 46.6	+3.7
CGP	**Cagayan de Oro**	**0.87**	**329**	↑*e*P	Pg	18 52 35.5	-1.7
CGP				*e*S	Sg	18 52 45.5	-3.3
MATI	**Mati**	**1.33**	**124**	*e*P	Pb	18 52 45.0	-0.2
PAGZ	**Pagadian**	**1.76**	**275**	*e*P	Pn	18 52 51.7	+0.1

*IDC **29** 18:54:22.3±2.0, 1.75N×96.15E, mb3.8/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=92.3km s-min=21.4km az=54.0*
*NEIC **29** 18:54:27.9±0.8, 1.96N×96.51E, h30km, mb4.1/3, Error ellipse: s-maj=19.6km s-min=11.4km az=58.0*
ISC 29 18:54:26.1±0.9, 2.0N±0.1×96.5E±0.1, h30km, n12, σ0§77/12, mb3.9/9, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.28**	**51**	*e*P	**Pn**	**18 55 44.0**	**-1.1**
CM31	**Chiang Mai Arr**	**16.55**	**8**	P	**P**	**18 58 19.2**	**+1.4**
	2.4nm,0.6s						
WRA	**Warramunga Arr**	**43.03**	**122**	P	**P**	**19 02 25.5**	**+0.3**
	1.1nm,0.5s,mb3.8,baz=300,slow=9.2,SNR=7.0						
WRAB	**Tennant Creek**	**43.04**	**122**	*e*P	**P**	**19 02 25.7**	**+0.5**
	2.8nm,0.5s,mb4.2						
ASAR	**Alice Springs**	**44.42**	**127**	P	**P**	**19 02 36.3**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=314,slow=9.2,SNR=4.3						
MKAR	**Makanchi Array**	**46.33**	**347**	P	**P**	**19 02 51.9**	**+0.7**
	1.9nm,0.7s,mb4.2,baz=164,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**46.33**	**347**	P	**P**	**19 02 51.9**	**+0.7**
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**19 02 52.9**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=190,slow=9.5,SNR=7.5						
BVAR	**Borovoye Array**	**55.29**	**341**	P	**P**	**19 03 57.9**	**-1.3**
	0.7nm,0.7s,mb3.8,baz=135,slow=6.1,SNR=4.4						
CHKZ	**Chkalovo**	**55.77**	**342**	*e*P	**P**	**19 04 02.5**	**-0.1**
	1.6nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**78.99**	**333**	P	**P**	**19 06 27.7**	**-0.8**
	0.4nm,0.7s,mb3.5,baz=90,slow=9.7,SNR=3.4						
ARCES	**ARCESS Array B**	**81.57**	**340**	P	**P**	**19 06 42.0**	**-0.1**
	3.1nm,0.8s,mb4.3,baz=107,slow=9.4,SNR=3.6						

*NEIC **29** 19:01:57.4, 15.06N×94.68W, h17km±33km, MD4.1(MEX), After MEX.*
MEX 29 19:01:57.4±1.0, 15.06N×94.68W, h17km±33km, MD4.1, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUIG	**Huatulco**	**1.55**	**297**	*i* P	Pn	19 02 20.6	-3.8
HUIG				*i* S	Sn	19 02 38.6	-5.6
CMIG	**Matias Romero**	**2.03**	**355**	*e*P	Pn	19 02 27.5	-3.9
CMIG				*i* S	Sn	19 02 51.4	-5.2
CCIG	**Comitan**	**2.74**	**63**	*i* P	Pn	19 02 37.9	-3.7
CCIG				*i* S	Sn	19 03 09.8	-4.7
OXX	**Oaxaca**	**2.81**	**316**	*i* P	Pn	19 02 41.0	-1.5
VHO	**Vista Hermosa**	**2.81**	**316**	*i* P	Pn	19 02 40.7	-1.8
VHO				*i* S	Sn	19 03 12.6	-3.7
PNIG	**Pinotepa**	**3.57**	**292**	*i* P	Pn	19 02 50.2	-3.2
PNIG				*i* S	Sn	19 03 28.6	-7.0
ACX	**Acapulco**	**5.35**	**290**	*e*P	Pn	19 03 14.0	-4.5
ACX				*i* S	Sn	19 04 10.0	-10
PPM	**Popocatepetl**	**5.49**	**317**	*e*P	Pn	19

IDC ***29*** *19:04:32.0±2.7,5.49S×145.59E,h63km±25km,mb3.9/9, mb1 4.2/13,mb1mx4.2/16,mbtmp4.4/13,ML4.2/4,MS3.4/4, Ms1 3.4/4,ms1mx3.0/21,Error ellipse: s-maj=19.7km s-min=13.3km az=99.0*

NEIC ***29*** *19:04:34.1±1.8,5.47S×145.66E,h76km±17km,mb4.6/7, Error ellipse: s-maj=14.0km s-min=11.2km az=177.0*

ISC 29 19:04:32.5±1.7,5.52S±0.07×145.67E±0.07,h76km±16km, n26,σ0§99/30,mb4.2/13,2D,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**4.13**	**159**	P		**P**	**19 05 34.6**	**0.0**
PMG	69nm,0.3s,baz=358,slow=4.8,SNR=143			S		**S**	**19 06 20.4**	**-1.7**
CTA	**Charters Tower**	**14.49**	**178**	*e*P		**P**	**19 07 57.6**	**+2.5**
	84nm,0.3s,baz=157,slow=22,SNR=9.4							
CTA	**Charters Tower**	**14.49**	**178**	P		**P**	**19 07 56.0**	**+1.0**
	11nm,0.6s							
CTAO	**Charters Tower**	**14.49**	**178**	P		**P**	**19 07 56.0**	**+1.0**
	0.5nm,0.3s,baz=359,slow=14,SNR=7.3							
CTAO	**Charters Tower**	**14.49**	**178**	*e*P		**P**	**19 07 56.4**	**+1.4**
	14nm,0.8s							
HNR	**Honiara**	**14.68**	**106**	P		**P**	**19 07 58.8**	**+1.2**
	8.3nm,0.3s,baz=196,slow=3.9,SNR=5.3							
HNR				LR		LR	19 12 42.6	
	comp=Z,150nm,18.4s,baz=2.3,slow=33							
KAKA	**Kakadu**	**14.88**	**240**	⇓*i*P		**P**	**19 08 00.0**	**-0.1**
	77nm,1.2s							
WRAB	**Tennant Creek**	**18.06**	**217**	*e*P		**P**	**19 08 40.6**	**+0.6**
	26nm,0.7s							
WB2	**Warramunga Arr**	**18.07**	**217**	*e*P		**P**	**19 08 40.2**	**+0.1**
WB2				*e*S		**S**	**19 11 56.0**	**+0.2**
WRA	**Warramunga Arr**	**18.08**	**217**	P		**P**	**19 08 39.8**	**-0.4**
	0.6nm,0.3s,baz=43,slow=10,SNR=25							
WRA				S		**S**	**19 11 55.7**	**-0.3**
	0.3nm,0.3s,baz=44,slow=24,SNR=5.0							
GUMO	**Guam**	**19.00**	**358**	LR		LR	19 15 26.8	
	comp=Z,49nm,21.4s,baz=57,slow=34							
ASAR	**Alice Springs**	**21.30**	**211**	P		**P**	**19 09 14.7**	**-0.2**
	1.0nm,0.6s,mb3.4,baz=38,slow=7.7,SNR=30							
ASAR				S		**S**	**19 13 07.2**	**+5.4**
	1.5nm,0.9s,baz=35,slow=19,SNR=3.0							
ASPA	**Alice Springs**	**21.30**	**211**	*e*P		**P**	**19 09 17.2**	**+2.4**
ASPA				*e*S		**S**	**19 13 08.6**	**+6.7**
FITZ	**Fitzroy Crossi**	**23.21**	**236**	⇓*i*P		**P**	**19 09 33.0**	**-0.7**
	22nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**23.21**	**236**	P		**P**	**19 09 32.7**	**-1.0**
	28nm,0.6s,mb4.8,baz=46,slow=4.5,SNR=40							
DZM	**Mont Dzumac**	**25.97**	**131**	P		**P**	**19 09 59.2**	**-0.9**
	4.7nm,0.5s,mb4.2,baz=288,slow=8.7,SNR=12							
DZM				LR		LR	19 17 42.3	
	comp=Z,121nm,19.9s,baz=284,slow=30							
STKA	**Stephens Creek**	**26.49**	**188**	*e*P		**P**	**19 10 04.8**	**+0.1**
	5.7nm,0.6s,mb4.2							
STKA	**Stephens Creek**	**26.49**	**188**	P		**P**	**19 10 03.5**	**-1.2**
	5.6nm,0.5s,mb4.2,baz=5.9,slow=10,SNR=16							
STKA				LR		LR	19 20 28.5	
	comp=Z,125nm,21.4s,baz=20,slow=36							
MBWA	**Marble Bar**	**29.56**	**236**	*e*P		**P**	**19 10 31.9**	**-0.5**
	17nm,1.2s,mb4.5							
URZ	**Urewera**	**43.32**	**143**	P		**P**	**19 12 29.1**	**+0.3**
	12nm,0.6s,mb4.8,baz=297,slow=4.5,SNR=8.4							
CM31	**Chiang Mai Arr**	**51.86**	**299**	*e*P		**P**	**19 13 35.9**	**+0.3**
	5.3nm,0.7s,mb4.7							
LSA	**Lhasa**	**62.90**	**307**	*e*P		**P**	**19 14 55.4**	**+2.1**
	4.8nm,1.0s,mb4.4							
SONM	**Songino Array**	**63.35**	**331**	P		**P**	**19 14 54.7**	**-1.4**
	0.4nm,0.5s,mb3.6,baz=138,slow=4.7,SNR=3.0							
SONM				PcP		PcP	19 15 29.2	-3.0
	0.7nm,1.0s,baz=162,slow=4.6,SNR=3.5							
VNDA	**Vanda**	**72.47**	**176**	P		**P**	**19 15 52.6**	**+0.3**
	2.1nm,0.7s,mb4.1,baz=337,slow=7.4,SNR=9.2							
MKAR	**Makanchi Array**	**76.29**	**321**	P		**P**	**19 16 13.9**	**-1.0**
	0.3nm,0.4s,mb3.4,baz=104,slow=5.9,SNR=4.1							
QSPA	**South Pole Qui**	**84.44**	**180**	*e*P		**P**	**19 16 58.2**	**+0.8**
	5.2nm,0.6s,mb4.5							
BVAR	**Borovoye Array**	**85.61**	**324**	P		**P**	**19 17 02.4**	**-1.3**
	0.5nm,0.6s,mb3.6,baz=124,slow=5.3,SNR=3.9							

NEIC ***29*** *19:07:54.1±0.7,44.13N×105.32W,ML2.9,Error ellipse: s-maj=11.2km s-min=8.1km az=163.0,Suspected Mining explosion.*

NEIC 20 km [15 miles] SE of Gillette.

IDC ***29*** *19:07:54.7±1.1,44.34N×105.88W,mb1 3.6/3, mb1mx3.4/20,mbtmp3.3/3,ML3.5/3,Error ellipse: s-maj=25.3km s-min=9.0km az=146.0*

ISC 29 19:07:52.4±0.7,44.18N±0.06×105.33W±0.08,n16, σ1§29/18,Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSSD	**Black Hills**	**0.93**	**93**	*e*Pg		**Pg**	**19 08 12.0**	**+1.1**
RWWY	**Rawlins**	**2.85**	**210**	*e*Pn		**Pn**	**19 08 41.4**	**+1.4**
PHWY	**Pilot Hill**	**2.88**	**182**	*e*Pn		**Pn**	**19 08 39.3**	**-1.1**
PHWY				*e*Sn		**Sn**	**19 09 15.7**	**-0.6**
PDAR	**Pinedale Array**	**3.39**	**247**	Pn		**Pn**	**19 08 49.0**	**+1.4**
	4.5nm,0.3s,baz=68,slow=18,SNR=42							
PDAR				Pg		**Pg**	**19 08 53.2**	**-6.8**
	4.5nm,0.3s,baz=68,slow=20,SNR=82							
PDAR				Lg			19 09 31.8	
	1.9nm,0.3s,baz=62,slow=38,SNR=7.4							
LOHW	**Long Hollow**	**3.86**	**263**	Pn		**Pn**	**19 08 57.0**	**+2.8**
IMW	**Indian Meadow**	**4.06**	**268**	*e*Pn		**Pn**	**19 08 57.6**	**+0.5**
REDW	**Red Top Meadow**	**4.08**	**260**	*e*Pn		**Pn**	**19 08 50.9**	**-6.6**
TPAW	**Teton Pass**	**4.13**	**262**	Pn		**Pn**	**19 08 56.0**	**-2.1**
ISCO	**Idaho Springs**	**4.39**	**183**	Pn		**Pn**	**19 09 01.9**	**+0.2**
RRI2	**Red Ridge**	**4.42**	**261**	*e*Pn		**Pn**	**19 09 02.9**	**+0.6**
HRY	**Holter Researc**	**5.23**	**301**	Pn		**Pn**	**19 09 12.6**	**-1.1**
HWUT	**Hardware Ranch**	**5.26**	**243**	*e*Pn		**Pn**	**19 09 09.1**	**-5.0**
	6.7nm,0.4s							
DAU	**Daniels Canyon**	**5.79**	**231**	Pn		**Pn**	**19 09 22.0**	**+0.4**
SRU	**San Rafael**	**6.39**	**219**	Pn		**Pn**	**19 09 27.0**	**-3.0**
ULM	**Lac du Bonnet**	**8.84**	**43**	Pn		**P**	**19 10 03.6**	**-0.7**
	0.6nm,0.3s,baz=242,slow=12,SNR=4.7							
ULM				Lg			19 12 33.1	
	0.1nm,0.3s,baz=143,slow=19,SNR=4.7							
TXAR	**Lajitas Array**	**14.88**	**174**	Pn		**P**	**19 11 30.4**	**+4.6**
	0.1nm,0.3s,baz=356,slow=12,SNR=3.4							

NIED ***29*** *19:12:00,38.50N×142.20E,h62km,Mw4.3 Best double couple: M0 2.95×10^15 NP1:φ≈348°,δ79°,λ43°. NP2:φ≈248°, δ48°,λ165°.*

JMA ***29*** *19:12:16.5±0.1,38.55N×142.20E,h61km±1km,M4.4 Broadband fault plane solution: P waves. NP1:φ≈239°, δ29°,λ161°. NP2:φ≈346°,δ81°,λ63°. Principal axes: T Plg47°, Azm227°; N Plg27°, Azm350°; P Plg31°, Azm98°; JMA Felt II J1.*

IDC ***29*** *19:12:16.4±0.5,38.52N×142.10E,h65km±4km,mb3.8/15, mb1 4.1/18,mb1mx3.9/25,mbtmp4.2/18 Error ellipse: s-maj=18.3km s-min=8.8km az=94.0*

MOS ***29*** *19:12:17.8±0.7,38.43N×142.17E,h104km,mb4.4/11, Error ellipse: s-maj=16.3km s-min=10.8km az=110.8*

BJI ***29*** *19:12:18.5,38.49N×141.99E,h99km,mB5.1,mb4.6*

NEIC ***29*** *19:12:20.1±1.2,38.47N×142.02E,h101km±10km, mb4.4/12,Error ellipse: s-maj=11.0km s-min=7.6km az=78.0*

NEIC Recorded [2 JMA] in Iwate and [1 JMA] in Fukushima and Miyagi Prefectures.

ISC 29 19:12:14.5±0.7,38.51N±0.03×142.30E±0.07,h70km±5km, h69km±7km:pP-P,n67,σ1§00/80,mb4.2/29,2C-9D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JIO	**Ouri**	**0.75**	**266**	⇓P		**P**	**19 12 30.6**	**+0.5**
JIO				S		**S**	**19 12 40.6**	**-1.1**
OFUJ	**Ofunato**	**0.75**	**319**	⇓P		**P**	**19 12 30.7**	**+0.6**
OFUJ				S		**S**	**19 12 41.0**	**-0.8**
JMK	**Ichinoseki**	**0.95**	**298**	⇓P		**P**	**19 12 33.2**	**+0.6**
JMK				S		**S**	**19 12 45.5**	**-0.6**
JOM	**Ohasama**	**1.24**	**321**	⇓P		**P**	**19 12 37.1**	**+0.7**
JOM				S		**S**	**19 12 52.2**	**-0.5**
JOU	**Okura**	**1.29**	**264**	⇓P		**P**	**19 12 37.6**	**+0.4**
JOU				S		**S**	**19 12 53.5**	**-0.5**
JMM	**Marumori**	**1.35**	**242**	⇓P		**P**	**19 12 38.2**	**+0.2**
JMM				S		**S**	**19 12 54.3**	**-1.1**
JYK	**Kaneyama**	**1.57**	**286**	⇓P		**P**	**19 12 41.4**	**+0.4**
JYK				S		**S**	**19 13 00.3**	**-0.2**
JFK	**Kawauchi**	**1.61**	**225**	⇑P		**P**	**19 12 42.0**	**+0.6**
JFK				S		**S**	**19 13 00.6**	**-0.7**
JYS	**Shirataka**	**1.78**	**261**	⇓P		**P**	**19 12 44.5**	**+0.7**
JYS				S		**S**	**19 13 05.7**	**+0.4**
JFT	**Otama**	**1.84**	**238**	⇓P		**P**	**19 12 45.7**	**+1.1**
JFT				S		**S**	**19 13 06.9**	**+0.1**
MAJO	**Matsushiro**	**3.80**	**240**	*e*P		**P**	**19 13 13.8**	**+1.8**
MAT	**Matsushiro**	**3.80**	**240**	*e*P		**P**	**19 13 14.0**	**+2.0**
MAT				*e*S		**S**	**19 13 58.0**	**+2.2**
MAT	**Matsushiro**	**3.80**	**240**	P		**P**	**19 13 13.7**	**+1.7**
MAT				S		**S**	**19 13 57.8**	**+2.0**
ASAJ	**Asahikawa**	**5.60**	**2**	P		**P**	**19 13 36.3**	**-0.7**
ASAJ				S		**S**	**19 14 36.3**	**-4.5**
ASAJ				pmax	pmax			
	comp=Z,4.0nm,0.3s							
ASAJ				smax				
	comp=N,5.0nm,0.3s							
ASAJ	**Asahikawa**	**5.60**	**2**	P		**P**	**19 13 36.2**	**-0.8**
	comp=N,4.1nm,0.3s,baz=234,slow=6.7,SNR=24							
ASAJ				S		**S**	**19 14 36.2**	**-4.5**
	comp=N,5.4nm,0.3s,baz=29,slow=27,SNR=8.6							
JHJ	**Hachijo jima 2**	**5.76**	**202**	P		**P**	**19 13 37.8**	**-1.3**
	comp=N,36nm,0.3s,baz=85,slow=20,SNR=11							
JHJ				S		**S**	**19 14 39.1**	**-5.5**
	comp=N,85nm,0.3s,baz=243,slow=23,SNR=24							
YSS	**Yuzh-Sakhalins**	**8.44**	**2**	*e*P		**P**	**19 14 15.0**	**-1.3**
MDJ	**Mudanjiang**	**11.30**	**307**	P		**P**	**19 14 58.2**	**+3.1**
CBIJ	**Chichi jima**	**11.38**	**181**	P		**P**	**19 14 55.0**	**-1.2**
	comp=N,12nm,0.3s,baz=303,slow=16,SNR=3.9							
CBIJ				S		**S**	**19 16 52.8**	**-10**
	comp=N,14nm,0.3s,baz=300,slow=22,SNR=3.5							
YAK	**Yakutsk**	**24.80**	**346**	*e*P		**P**	**19 17 31.8**	**+0.9**
YAK				pmax	pmax			
	comp=Z,12nm,0.5s,mb4.6							
YAK	**Yakutsk**	**24.80**	**346**	*e*P		**P**	**19 17 31.8**	**+0.9**
	comp=Z,12nm,0.5s,mb4.6							
BOD	**Bodaibo**	**26.68**	**326**	*e*P		**P**	**19 17 47.9**	**-0.6**
BOD				pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.0							
ULN	**Ulaanbaatar**	**27.14**	**302**	P		**P**	**19 17 53.0**	**+0.2**
ULN				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.6							
ULN	**Ulaanbaatar**	**27.14**	**302**	P		**P**	**19 17 53.0**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.7							
SONM	**Songino Array**	**27.58**	**301**	P		**P**	**19 17 57.1**	**+0.3**
	comp=Z,1.1nm,0.6s,mb3.6,baz=102,slow=8.7,SNR=8.7							
ENH	**Enshi**	**28.18**	**263**	*e*P		**P**	**19 17 59.6**	**-2.8**
	comp=Z,1.1nm,0.7s,mb4.5							
ZAK	**Zakamensk**	**29.94**	**306**	*e*P		**P**	**19 18 17.7**	**-0.1**
GYA	**Guiyang**	**32.18**	**259**	⇑*i*P		**P**	**19 18 36.5**	**-1.3**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.7							
CD2	**Chengdu**	**32.40**	**268**	P		**P**	**19 18 38.8**	**-0.8**
WMQ	**Urumqi**	**40.82**	**295**	*e*P		**P**	**19 19 51.5**	**+1.0**
WMQ				AMB	AMB			
	comp=Z,7.0nm,0.8s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,129nm,6.0s							
NVS	**Novosibirsk**	**42.34**	**313**	*e*P		**P**	**19 20 01.8**	**-1.0**
MKAR	**Makanchi Array**	**43.95**	**301**	P		**P**	**19 20 16.2**	**+0.3**
	comp=Z,5.0nm,0.8s,mb4.3,baz=86,slow=9.8,SNR=19							
MKAR				sP		sP	19 20 39.6	-2.0
	comp=Z,5.2nm,0.7s,baz=90,slow=12,SNR=8.3							
KURK	**Kurchatov**	**45.59**	**307**	*e*P		**P**	**19 20 28.8**	**-0.2**
KURK				pmax	pmax			
	comp=Z,14nm,0.7s,mb4.8							
KURK	**Kurchatov**	**45.59**	**307**	*e*P		**P**	**19 20 28.8**	**-0.2**
	comp=Z,14nm,0.7s,mb4.8							
CHKZ	**Chkalovo**	**49.83**	**312**	*e*P		**P**	**19 21 00.9**	**-1.1**
CHKZ				pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3							
CHKZ	**Chkalovo**	**49.83**	**312**	*e*P		**P**	**19 21 00.8**	**-1.2**
	comp=Z,1.7nm,0.5s,mb4.2							
BVAR	**Borovoye Array**	**50.11**	**312**	P		**P**	**19 21 04.3**	**+0.1**
	comp=Z,1.3nm,0.4s,mb4.2,baz=79,slow=8.1,SNR=9.7							
BVAR				PcP		PcP	19 22 23.5	+0.5
	comp=Z,1.1nm,0.5s,baz=95,slow=3.8,SNR=5.0							
BVAR				pPcP			19 22 42.0	
	comp=Z,0.9nm,0.5s,baz=71,slow=4.4,SNR=3.6							
AAK	**Ala-Archa**	**50.42**	**298**	*e*P		**P**	**19 21 05.7**	**-1.0**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.2							
AAK	**Ala-Archa**	**50.42**	**298**	*e*P		**P**	**19 21 05.7**	**-1.0**
	comp=Z,1.6nm,0.6s,mb4.1							
FITZ	**Fitzroy Crossi**	**58.44**	**199**	P		**P**	**19 22 05.8**	**+0.3**
	comp=Z,2.8nm,0.6s,mb4.5,baz=15,slow=7.2,SNR=7.2							
WRAB	**Tennant Creek**	**58.61**	**189**	*e*P		**P**	**19 22 04.7**	**-1.9**
WRAB				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.6							
WRAB	**Tennant Creek**	**58.61**	**189**	*e*P		**P**	**19 22 04.7**	**-1.9**
	comp=Z,3.7nm,0.6s,mb4.6							
WRA	**Warramunga Arr**	**58.62**	**189**	P		**P**	**19 22 06.0**	**-0.7**
	comp=Z,2.5nm,0.5s,mb4.5,baz=6.8,slow=7.1,SNR=24							
WRA				pP		pP	19 22 24.6	-0.4
	comp=Z,2.1nm,0.7s,baz=6.6,slow=7.3,SNR=5.3							
RES	**Resolute Bay**	**61.00**	**15**	*e*P		**P**	**19 22 22.1**	**-0.2**
RES				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb4.0							
RES	**Resolute Bay**	**61.00**	**15**	*e*P		**P**	**19 22 22.1**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.1							
YKA	**Yellowknife Ar**	**62.18**	**31**	P		**P**	**19 22 30.8**	**+0.5**
	comp=Z,0.1nm,0.5s,mb3.1,baz=301,slow=6.1,SNR=4.5							
YKA				pP		pP	19 22 49.1	+0.3
	comp=Z,0.4nm,0.8s,baz=294,slow=6.5,SNR=3.2							
YKA	**Yellowknife Ar**	**62.18**	**31**	P		**P**	**19 22 30.8**	**+0.5**
YKA				pP		pP	19 22 49.1	+0.3
ASAR	**Alice Springs**	**62.35**	**189**	P		**P**	**19 22 31.9**	**-0.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=12,slow=5.7,SNR=16							
ASAR				pP		pP	19 22 50.2	-0.2
	comp=Z,1.2nm,0.7s,baz=7.9,slow=4.9,SNR=5.6							
ARCES	**ARCESS Array B**	**62.86**	**339**	P		**P**	**19 22 33.7**	**-1.1**
	comp=Z,5.0nm,1.0s,mb4.4,baz=60,slow=9.8,SNR=3.7							
MBWA	**Marble Bar**	**63.02**	**204**	P		**P**	**19 22 35.8**	**-0.7**
	comp=Z,7.5nm,1.0s,mb4.6							
KAF	**Kangasniemi**	**67.32**	**333**	*ep*		**P**	**19 23 02.6**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.2							
KAF	**Kangasniemi**	**67.32**	**333**	*e*P		**P**	**19 23 02.6**	**-0.8**
KAF				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.1							
FINES	**FINESS Array B**	**67.84**	**332**	P		**P**	**19 23 07.0**	**+0.3**
	comp=Z,3.2nm,0.7s,mb4.3,baz=22,slow=10,SNR=14							
FINES				sP		sP	19 23 30.5	-2.5
	comp=Z,1.5nm,0.5s,baz=61,slow=8.2,SNR=3.5							
KIV	**Kislovodsk**	**70.47**	**311**	*e*P		**P**	**19 23 23.1**	**0.0**
KIV				pmax	pmax			
	comp=Z,10.0nm,0.8s,mb4.7							
KIV	**Kislovodsk**	**70.47**	**311**	*e*P		**P**	**19 23 23.1**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.7							
HFS	**Hagfors**	**73.03**	**336**	P		**P**	**19 23 38.5**	**+0.6**
	comp=Z,1.5nm,0.6s,mb4.0,baz=27,slow=6.6,SNR=7.0							
NB2	**NORSAR Subarra**	**73.09**	**337**	P		**P**	**19 23 38.9**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.9,baz=39,slow=6.2							
NB2	**NORSAR Subarra**	**73.09**	**337**	P		**P**	**19 23 38.9**	**+0.6**
NB2				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.8							
NOA	**NORSAR Array B**	**73.09**	**337**	P		**P**	**19 23 39.1**	**+0.8**
	comp=Z,1.4nm,0.7s,mb3.9,baz=39,slow=6.0,SNR=9.3							
NOA				pP		pP	19 23 57.5	+0.2
	comp=Z,0.5nm,0.7s,baz=38,slow=6.1,SNR=2.7							
AKASG	**Malin Array Be**	**73.56**	**322**	P		**P**	**19 23 41.7**	**+0.5**
	comp=Z,1.5nm,0.4s,mb4.0,baz=46,slow=5.9,SNR=14							
PDAR	**Pinedale Array**	**76.13**	**46**	P		**P**	**19 23 58.2**	**+2.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=305,slow=1.2,SNR=14							
PV10	**Paradox Valley**	**79.28**	**49**	*e*P		**P**	**19 24 17.1**	**+3.4**
GERES	**GERESS Array B**	**81.82**	**329**	P		**P**	**19 24 27.8**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.6,baz=53,slow=6.7,SNR=5.7							
TXAR	**Lajitas Array**	**88.67**	**53**	P		**P**	**19 25 03.8**	**+2.6**
	comp=Z,0.3nm,0.4s,mb3.7,baz=255,slow=3.2,SNR=3.9							
LPAZ	**La Paz**	**145.33**	**59**	PKPbc	PKPbc		19 31 48.2	+3.1
	comp=Z,0.4nm,0.3s,baz=326,slow=4.1,SNR=3.5							
LPAZ				pPKPbc			19 32 06.1	
	comp=Z,0.8nm,0.6s,baz=310,slow=5.5,SNR=2.4							
LPAZ	**La Paz**	**145.33**	**59**	PKPbc	PKPbc		19 31 48.2	+3.1
LPAZ				pPKPbc			19 32 06.1	
LVC	**Limon Verde**	**148.99**	**68**	*e*PKPbc	PKPdf		19 31 56.9	+6.5

IDC ***29*** *19:13:18.4±1.0,1.27N×96.97E,mb4.2/12,mb1 4.2/12, mb1mx4.1/19,mbtmp4.2/12,Error ellipse: s-maj=42.8km s-min=15.2km az=51.0*

BJI ***29*** *19:13:21.8,1.06N×97.36E,h47km,mB4.9,mb4.8,Ms4.2, Msz3.9*

NEIC ***29*** *19:13:23.6±0.4,1.36N×97.17E,h30km,mb4.5/12,Error ellipse: s-maj=11.2km s-min=5.9km az=225.0*

ISC 29 19:13:22.0±0.6,1.32N±0.08×97.17E±0.08,h33km,n36, σ0§87/38,mb4.4/26,MS4.0/3,2C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.25**	**41**	⇑*e*P		**P**	**19 14 40.4**	**+0.1**
KSM	**Kuching**	**13.14**	**89**	P		**P**	**19 16 28.0**	**-1.0**
CM31	**Chiang Mai Arr**	**17.12**	**6**	*e*P		**P**	**19 17 19.1**	**-1.3**
	14nm,1.0s							
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*P		**P**	**19 17 50.0**	**-0.2**
KMI	**Kunming**	**24.27**	**12**	⇑P		**P**	**19 18 39.5**	**+2.1**
KMI				AP			19 18 48.0	
KMI				XP			19 18 51.0	
KMI				S		**S**	**19 22 53.5**	**+2.3**
KMI				AMB	AMB			
	comp=Z,16nm,1.2s,mb4.3							
KMI				AMB	AMB			
	comp=Z,95nm,5.8s							
KMI				LR	LR			
	comp=N,381nm,14.2s,MS4.1							
KMI				LR	LR			
	comp=E,221nm,11.8s,MS4.1							
KMI				LR	LR			
	comp=Z,353nm,14.9s,MS4.0							
JIRN	**Jiri**	**28.22**	**339**	*e*P		**P**	**19 19 15.0**	**+0.8**
	comp=Z,36nm,1.0s,mb5.0							
PKI	**Pulchoki**	**28.43**	**338**	*e*P		**P**	**19 19 16.3**	**+0.3**
	comp=Z,14nm,1.0s,mb4.5							
DMN	**Daman**	**28.58**	**337**	*e*P		**P**	**19 19 17.6**	**+0.2**
KKN	**Kakani**	**28.67**	**338**	*e*P		**P**	**19 19 18.5**	**+0.3**
LSA	**Lhasa**	**28.80**	**349**	P		**P**	**19 19 20.0**	**+0.7**
LSA	**Lhasa**	**28.80**	**349**	*e*P		**P**	**19 19 19.6**	**+0.3**
	comp=Z,5.3nm,0.7s,mb4.4							
GKN	**Gorkha**	**29.11**	**337**	*e*P		**P**	**19 19 22.5**	**+0.4**
	comp=Z,22nm,0.9s,mb4.9							
KOLN	**Koldanda**	**29.33**	**335**	*e*P		**P**	**19 19 24.9**	**+0.8**
	comp=Z,16nm,0.8s,mb4.8							
ENH	**Enshi**	**31.08**	**21**	*e*P		**P**	**19 19 37.4**	**-2.1**
	comp=Z,12nm,0.6s,mb4.9							
ENH				*e*			19 19 44.5	
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P		**P**	**19 20 04.8**	**-0.5**
	comp=Z,3.9nm,0.8s,mb4.4,baz=304,slow=6.4,SNR=4.0							
GTA	**Gaotai**	**37.98**	**3**	*e*P		**P**	**19 20 39.0**	**+0.3**
GTA				AP	pP		19 20 46.5	-1.9
GTA				XP	sP		19 20 50.3	-2.4
GTA				PP	PP		19 22 07.0	-2.0
GTA				S	S		**19 26 24.0**	**-4.1**
GTA				AMB	AMB			
	comp=Z,5.0nm,0.9s,mb4.2							
GTA				AMB	AMB			
	comp=Z,50nm,4.6s							
GTA				LR	LR			
	comp=N,160nm,14.5s,MS4.0							
GTA				LR	LR			
	comp=E,77nm,14.1s,MS4.0							
GTA				LR	LR			
	comp=Z,147nm,16.4s,MS3.9							
JOW	**Kunigami**	**39.18**	**47**	P		**P**	**19 20 49.3**	**+0.6**
	comp=Z,11nm,0.6s,mb4.8,baz=244,slow=10,SNR=3.5							
WRA	**Warramunga Arr**	**42.13**	**122**	P		**P**	**19 21 13.8**	**+0.5**
	comp=Z,1.1nm,0.5s,mb3.8,baz=300,slow=9.1,SNR=42							
WRAB	**Tennant Creek**	**42.13**	**122**	*e*P		**P**	**19 21 13.6**	**+0.3**
	comp=Z,3.9nm,0.7s,mb4.2							
BJT	**Baijiatuao**	**42.22**	**22**	*e*P		**P**	**19 21 13.0**	**-0.8**
	comp=Z,13nm,0.7s,mb4.7							
BJI	**Beijing**	**42.24**	**22**	*e*P		**P**	**19 21 14.8**	**+0.9**
BJI				AMB	AMB			
	comp=Z,13nm,0.7s,mb4.7							
BJI				LR	LR			
	comp=Z,149nm,16.7s,MS4.0							
ASAR	**Alice Springs**	**43.49**	**127**	P		**P**	**19 21 25.1**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=300,slow=8.0,SNR=9.2							
SONM	**Songino Array**	**47.02**	**8**	P		**P**	**19 21 52.5**	**+0.4**
	comp=

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.23**	**122**	P	P	19 39 21.8	-1.6
	0.2nm,0.3s,baz=302,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**42.61**	**127**	P	P	19 39 33.0	-1.8
	0.4nm,0.6s,baz=296,slow=7.8,SNR=8.1						
MKAR	**Makanchi Array**	**47.64**	**345**	P	P	19 40 12.8	-2.0
	0.4nm,0.4s,baz=161,slow=7.8,SNR=7.7						

*ROM **29** 19:32:57.7±0.1, 46.16N×12.71E, h10km, MD2.6/2, ML1.9/3, Error ellipse: s-maj=1.1km s-min=0.8km az=90.0*
*NEIC **29** 19:32:57.7, 46.16N×12.71E, h10km, MD2.6(ROM), ML2.4(VIE), After ROM.*
*CSEM **29** 19:32:58.3±0.1, 46.15N×12.75E, h20km, ML2.7/7, Error ellipse: s-maj=2.3km s-min=1.2km az=25.0*
*PRU **29** 19:32:59.9, 46.18N×12.75E*
ISC 29 19:32:58.7±0.4**, 46.20N**±0.02×**12.72E**±0.02**, h10**km±3km**, n40**, σ0°**89/76, 14C-8D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLNI	**Malnisio**	**0.09**	**234**	⇓*i*	Pg	**19 33 01.8**	**+0.6**
MLNI				*e*Sg	**Sg**	**19 33 03.9**	**+1.0**
MPRI	**Monte Prat**	**0.19**	**78**	⇑*i*	Pg	**19 33 03.1**	**+0.2**
MPRI				*i* Sg	**Sg**	**19 33 06.5**	**+0.8**
CAE	**Caneva**	**0.28**	**225**	⇓*e*	Pg	**19 33 04.8**	**+0.3**
CAE				*e*Sg	**Sg**	**19 33 09.8**	**+1.5**
CSO	**Casso**	**0.28**	**285**	⇑*i*	Pg	**19 33 04.7**	**+0.1**
CSO				*i* Sg	**Sg**	**19 33 09.5**	**+1.0**
BUA	**Buia**	**0.28**	**87**	⇓*e*	Pg	**19 33 04.8**	**+0.1**
BUA				*i* Sg	**Sg**	**19 33 09.6**	**+1.0**
BOO	**Bordano**	**0.29**	**66**	⇑*i*	Pg	**19 33 04.5**	**-0.3**
BOO				*i* Sg	**Sg**	**19 33 09.3**	**+0.5**
BAD	**Bernadia**	**0.37**	**85**	⇓*e*	Pg	**19 33 05.8**	**-0.5**
BAD				*i* Sg	**Sg**	**19 33 11.6**	**+0.3**
GMNA	**Gemona**	**0.37**	**79**	*e*	Pg	**19 33 05.1**	**-1.2**
GMNA				SG	**Sg**	**19 33 10.1**	**-1.2**
	367nm,0.3s						
GMNA	**Gemona**	**0.37**	**79**	*e*	Pg	**19 33 05.1**	**-1.2**
GMNA				*e*Sg	**Sg**	**19 33 10.1**	**-1.3**
GMNA	**Gemona**	**0.37**	**79**	*e*	Pg	**19 33 05.1**	**-1.2**
	367nm,0.3s						
GMNA				Sg	**Sg**	**19 33 10.1**	**-1.2**
TLI	**Talmassons**	**0.39**	**136**	⇑*i*	Pg	**19 33 06.3**	**-0.4**
FVI	**Forni Avoltri**	**0.40**	**7**	*e*	PG	**19 33 07.1**	**+0.3**
FVI				SG	**Sg**	**19 33 13.7**	**+1.5**
FVI	**Forni Avoltri**	**0.40**	**7**	*e*	Pg	**19 33 07.0**	**+0.2**
FVI				*e*Sg	**Sg**	**19 33 13.7**	**+1.5**
ZOU	**Zoufplan**	**0.40**	**27**	⇑*e*	Pg	**19 33 06.8**	**0.0**
ZOU				*e*Sg	**Sg**	**19 33 13.2**	**+1.0**
PLRO	**Paularo**	**0.46**	**41**	⇓*i*	Pg	**19 33 07.8**	**-0.2**
PLRO				*i* Sg	**Sg**	**19 33 15.1**	**+0.8**
COLI	**Coloredo**	**0.47**	**98**	⇑*e*	Pg	**19 33 07.6**	**-0.6**
COLI				*e*Sg	**Sg**	**19 33 15.8**	**+1.3**
PTCC	**Patocco-Chiusa**	**0.49**	**65**	*e*	Pg	**19 33 07.9**	**-0.7**
PTCC				SG	**Sg**	**19 33 15.7**	**+0.5**
	53nm,0.3s						
PTCC	**Patocco-Chiusa**	**0.49**	**65**	*e*	Pg	**19 33 07.9**	**-0.7**
PTCC				*e*Sg	**Sg**	**19 33 15.7**	**+0.5**
PTCC	**Patocco-Chiusa**	**0.49**	**65**	*e*	Pg	**19 33 07.9**	**-0.7**
	53nm,0.3s						
PTCC				Sg	**Sg**	**19 33 15.7**	**+0.5**
FAU	**Forcella Aurin**	**0.51**	**273**	⇓*i*	Pg	**19 33 08.6**	**-0.4**
LSR	**Lussari**	**0.62**	**64**	⇑*i*	Pg	**19 33 10.6**	**-0.8**
LSR				*e*Sg	**Sg**	**19 33 20.7**	**+1.0**
DRE	**Drenchia**	**0.65**	**92**	⇑*e*	Pg	**19 33 11.0**	**-0.7**
DRE				*e*Sg	**Sg**	**19 33 21.4**	**+1.0**
CADS	**Cadrg**	**0.71**	**88**	*i*	Pg	**19 33 12.0**	**-1.0**
CADS				*i* Sg	**Sg**	**19 33 23.1**	**+0.6**
	comp=Z,14nm,0.1s						
CADS	**Cadrg**	**0.71**	**88**	Pg	**Pg**	**19 33 12.0**	**-1.0**
CADS				*i* Sg	**Sg**	**19 33 23.1**	**+0.6**
	comp=Z,14nm,0.1s						
VOJS	**Vojsko**	**0.83**	**102**	*i* Pg	**Pg**	**19 33 13.8**	**-1.6**
VOY	**Vojsko**	**0.84**	**101**	*e*Sg	**Sg**	**19 33 27.2**	**+0.5**
TRI	**Trieste**	**0.88**	**124**	*e*PG	**Pg**	**19 33 14.6**	**-1.8**
	comp=Z,21nm,0.4s						
TRI	**Trieste**	**0.88**	**124**	*e*Pg	**Pg**	**19 33 14.6**	**-1.8**
TRI	**Trieste**	**0.88**	**124**	*e*Pg	**Pg**	**19 33 14.6**	**-1.8**
	comp=Z,21nm,0.4s						
GORS	**Gorjuse**	**0.90**	**82**	*i* Pg	**Pg**	**19 33 15.2**	**-1.4**
GORS				*i* Sg	**Sg**	**19 33 28.5**	**-0.1**
	comp=Z,14nm,0.1s						
KBA	**Koelnbreinsper**	**0.98**	**26**	⇑*i*	PG	**19 33 17.8**	**-0.5**
KBA				*i* SG	**Sg**	**19 33 31.5**	**+0.1**
	comp=Z,20nm,0.3s						
WTTA	**Wattenberg**	**1.29**	**325**	⇑*i*	PG	**19 33 24.4**	**-0.2**
WTTA				*i* SG	**Sg**	**19 33 42.5**	**+0.6**
	comp=Z,8.6nm,0.4s						
OBKA	**Obir**	**1.31**	**76**	⇓*i*	PG	**19 33 24.0**	**-0.9**
OBKA				*i* SG	**Sg**	**19 33 41.6**	**-0.7**
	comp=Z,5.4nm,0.2s						
WATA	**Walderalm**	**1.38**	**326**	⇑*i*	PG	**19 33 25.7**	**-0.6**
WATA				*i* SG	**Sg**	**19 33 44.9**	**+0.2**
	comp=Z,3.3nm,0.2s						
SQTA	**Sankt Quirin**	**1.45**	**315**	⇑*i*	PG	**19 33 27.1**	**-0.7**
SQTA				*i* SG	**Sg**	**19 33 46.6**	**-0.6**
	comp=Z,7.9nm,0.3s						
MOTA	**Moosalm**	**1.59**	**316**	⇓*i*	PG	**19 33 29.9**	**-0.6**
MOTA				*i* SG	**Sg**	**19 33 52.0**	**+0.2**
VBY	**Vinica-Bojanci**	**1.91**	**111**	*e*	Pn	**19 33 33.7**	**+2.0**
VBY				*e*Sn	**Sn**	**19 33 59.0**	**+2.9**
MOA	**Molln**	**1.96**	**32**	⇑*i*	PN	**19 33 32.5**	**0.0**
MOA				*i* SN	**Sn**	**19 33 58.0**	**+0.7**
MOA				*i* SG	**Sg**	**19 34 02.8**	**-1.2**
	comp=Z,5.7nm,0.6s						
DAVA	**Damuels**	**2.23**	**300**	⇑*i*	PG	**19 33 41.4**	**-1.9**
DAVA				*i* SG	**Sg**	**19 34 13.0**	**0.0**
	comp=Z,8.9nm,0.4s						
KHC	**Kasperske Hory**	**2.99**	**11**	*e*	PN	**19 33 47.5**	**+0.3**
KHC				*e*PG	**Pg**	**19 33 57.0**	**-1.4**
KHC				*e*SN	**Sn**	**19 34 24.5**	**+1.1**
KHC				*e*SG	**Sg**	**19 34 34.0**	**-4.2**

*IDC **29** 19:37:08.1±1.5, 44.43N×98.40W, mb2.8/1, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=22.5km s-min=12.5km az=138.0*
OTT 29 19:37:13.3±0.4**, 44.65N×97.79W, h18**km**, MN2.8**/5**, Kentucky, Us. 496km south from Altona, Mb, South Dakota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**5.47**	**51**	PN	Pn	19 38 32.5	-3.5
EYMN				SN	Sn	19 39 32.4	-6.8
EYMN				Trac		19 40 17.7	
	comp=Z,122nm,0.2s						
EPLO	**Experimental L**	**5.74**	**27**	PN	Pn	19 38 36.9	-3.0
EPLO				SN	Sn	19 39 38.5	-7.6
EPLO				Trac		19 40 18.8	
	comp=Z,3.4nm,0.2s						
ULM	**Lac du Bonnet**	**5.75**	**12**	Pn	Pn	19 38 37.5	-2.5
	0.6nm,0.3s,baz=195,slow=12,SNR=8.5						
ULM				Pg	Pn	19 38 57.8	+18
	0.8nm,0.3s,baz=197,slow=15,SNR=3.7						
ULM				Sn	Sn	19 39 42.6	-3.7
	1.0nm,0.3s,baz=119,slow=11,SNR=3.1						
ULM				Lg		19 40 15.8	
	2.0nm,0.3s,baz=115,slow=19,SNR=11						
ULM	**Lac du Bonnet**	**5.75**	**12**	PN	Pn	19 38 37.2	-2.8
ULM				SN	Sn	19 39 39.0	-7.3
ULM				Trac		19 39 52.5	
	comp=Z,2.4nm,0.1s						
SOLO	**Sioux Lookout**	**6.63**	**34**	PN	Pn	19 38 49.0	-3.3
SOLO				SN	Sn	19 40 00.1	-8.1
SOLO				Trac		19 40 09.3	
	comp=Z,3.6nm,0.2s						
PKLO	**Pickle Lake**	**8.47**	**33**	PN	P	19 39 14.1	-4.0
PKLO				SN	Sn	19 40 44.6	-10
PKLO				Trac		19 41 17.1	
	comp=Z,1.7nm,0.2s						
PDAR	**Pinedale Array**	**8.73**	**262**	Pn	P	19 39 09.3	-12
	0.1nm,0.3s,baz=79,slow=15,SNR=4.0						
PDAR				Lg		19 41 31.2	
	0.3nm,0.3s,baz=60,slow=29,SNR=7.7						
VIMO	**Victor Mine**	**12.34**	**44**	PN	P	19 40 04.1	-6.9
VIMO				SN	S	19 42 15.5	-14
VIMO				Trac		19 43 54.2	
	comp=Z,1.6nm,0.4s						
SILO	**Sutton Inlier**	**12.89**	**36**	PN	P	19 40 12.8	-5.5
SILO				SN	S	19 42 27.8	-14
SILO				Trac		19 42 37.4	
	comp=Z,0.7nm,0.3s						
SADO	**Sadowa**	**13.27**	**83**	Pn	P	19 40 18.4	-4.9
	0.7nm,0.3s,baz=254,slow=18,SNR=6.1						
FCC	**Fort Churchill**	**14.32**	**8**	PN	P	19 40 20.4	-17
YKA	**Yellowknife Ar**	**20.36**	**337**	P	P	19 41 47.7	-3.6
	0.7nm,0.8s,baz=138,slow=13,SNR=8.8						

IDC 29 19:46:52.2±3.6**, 2.46N×96.26E, mb3.6**/4**, mb1 3.7**/4**, mb1mx3.5**/16**, mbtmp3.6**/4**, Error ellipse: s-maj=145.4km s-min=23.4km az=60.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.50**	**123**	P	P	19 54 57.8	-1.7
	0.2nm,0.4s,baz=302,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**44.90**	**127**	P	P	19 55 08.8	-1.9
	0.2nm,0.5s,baz=297,slow=8.1,SNR=8.2						
MKAR	**Makanchi Array**	**45.81**	**347**	P	P	19 55 15.7	-1.9
	0.7nm,0.5s,baz=156,slow=8.7,SNR=18						
SONM	**Songino Array**	**46.05**	**9**	P	P	19 55 17.7	-1.8
	0.7nm,0.8s,baz=190,slow=9.8,SNR=6.7						

*IDC **29** 19:48:39.9±2.0, 2.41N×96.11E, mb4.1/7, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, Error ellipse: s-maj=94.3km s-min=17.7km az=58.0*
*NEIC **29** 19:48:44.4±0.5, 2.42N×96.21E, h30km, mb4.4/15, Error ellipse: s-maj=12.2km s-min=7.5km az=50.0*
ISC 29 19:48:42.6±0.6**, 2.42N**±0.09×**96.23E**±0.09**, h30**km**, n26, σ0°84/26, mb4.4/21, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.25**	**57**	⇑*i*	P	**19 50 02.5**	**+1.4**
CM31	**Chiang Mai Arr**	**16.16**	**9**	*e*	P	**19 52 29.8**	**+0.4**
	2.5nm,0.6s						
KKM	**Kota Kinabalu**	**20.25**	**79**	*e*	P	**19 53 18.2**	**-0.3**
JIRN	**Jiri**	**26.87**	**340**	*e*	P	**19 54 23.4**	**+0.5**
	24nm,0.7s,mb4.8						
PKI	**Pulchoki**	**27.07**	**339**	*e*	P	**19 54 25.5**	**+0.8**
DMN	**Daman**	**27.22**	**338**	*e*	P	**19 54 26.7**	**+0.7**
	10nm,0.8s,mb4.4						
KKN	**Kakani**	**27.32**	**338**	*e*	P	**19 54 26.9**	**0.0**
	16nm,0.9s,mb4.6						
LSA	**Lhasa**	**27.56**	**350**	*e*	P	**19 54 29.5**	**+0.4**
	4.0nm,0.6s,mb4.2						
GKN	**Gorkha**	**27.75**	**338**	*e*	P	**19 54 31.0**	**+0.2**
	18nm,0.9s,mb4.7						
KOLN	**Koldanda**	**27.95**	**336**	*e*	P	**19 54 33.9**	**+1.2**
	16nm,0.7s,mb4.8						
ENH	**Enshi**	**30.42**	**23**	*e*	P	**19 54 53.0**	**-1.8**
	6.3nm,0.9s,mb4.3						
BJT	**Baijiatuan**	**41.57**	**23**	*e*	P	**19 56 29.3**	**0.0**
	15nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**43.50**	**122**	P	P	**19 56 46.0**	**+0.6**
	0.8nm,0.4s,mb3.8,baz=302,slow=9.0,SNR=19						
WRAB	**Tennant Creek**	**43.50**	**122**	*e*	P	**19 56 43.7**	**-1.7**
	10nm,1.0s,mb4.5						
AAK	**Ala-Archa**	**44.51**	**337**	*e*	P	**19 56 52.6**	**-0.6**
	3nm,1.2s,mb3.8						
ASAR	**Alice Springs**	**44.90**	**127**	P	P	**19 56 57.0**	**+0.4**
	0.9nm,0.7s,mb3.7,baz=301,slow=7.9,SNR=22						
MKAR	**Makanchi Array**	**45.84**	**347**	P	P	**19 57 03.7**	**-0.1**
	4.2nm,0.6s,mb4.5,baz=162,slow=8.0,SNR=43						
SONM	**Songino Array**	**46.09**	**9**	P	P	**19 57 05.9**	**+0.2**
	2.8nm,0.7s,mb4.3,baz=190,slow=8.5,SNR=27						
ULN	**Ulaanbaatar**	**46.23**	**10**	*e*	P	**19 57 06.5**	**-0.3**
	1.3nm,0.6s,mb4.0						
KURK	**Kurchatov**	**50.38**	**346**	*e*	P	**19 57 37.2**	**-1.8**
	2.4nm,1.0s,mb4.2						
BVAR	**Borovoye Array**	**54.79**	**341**	P	P	**19 58 11.1**	**-0.9**
	1.0nm,0.7s,mb3.9,baz=172,slow=10,SNR=5.0						
STKA	**Stephens Creek**	**54.88**	**132**	P	P	**19 58 13.6**	**+0.6**
	2.6nm,0.8s,mb4.3,baz=280,slow=4.5,SNR=6.7						
CHKZ	**Chkalovo**	**55.27**	**342**	*e*	P	**19 58 14.4**	**-1.1**
	2.2nm,0.6s,mb4.4						
BOSA	**Boshof**	**74.55**	**240**	P	P	**20 00 21.6**	**+0.7**
	32nm,1.6s,mb5.0						
ARCES	**ARCESS Array B**	**81.07**	**340**	P	P	**20 00 56.2**	**+0.2**
	9.2nm,1.1s,mb4.6,baz=90,slow=6.3,SNR=3.3						
ARCES	**ARCESS Array B**	**81.07**	**340**	P	P	**20 00 56.2**	**+0.2**

IDC 29 19:54:31.8±4.7**, 1.52N×97.32E, mb3.4**/3**, mb1 3.4**/3**, mb1mx3.3**/16**, mbtmp3.4**/3**, Error ellipse: s-maj=177.2km s-min=29.1km az=58.0, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.10**	**122**	P	P	20 02 25.9	-1.7
	0.1nm,0.4s,baz=308,slow=8.9,SNR=3.4						
SONM	**Songino Array**	**46.80**	**8**	P	P	20 03 03.4	-1.6
	0.6nm,0.7s,baz=194,slow=9.5,SNR=6.3						
MKAR	**Makanchi Array**	**46.96**	**346**	P	P	20 03 04.3	-2.1
	0.7nm,0.5s,baz=163,slow=8.6,SNR=10.0						

*BJI **29** 19:54:54.4, 0.67N×97.40E, h30km, mB4.9, mb4.7, Ms4.1, Msz4.0*
*IDC **29** 19:54:56.0±1.7, 1.18N×96.83E, mb4.1/8, mb1 4.2/8, mb1mx3.9/17, mbtmp4.1/8, Error ellipse: s-maj=84.2km s-min=17.4km az=55.0*
*NEIC **29** 19:55:01.4±0.5, 1.35N×97.13E, h30km, mb4.4/14, Error ellipse: s-maj=13.0km s-min=7.0km az=50.0*
ISC 29 19:55:01.5±2.3**, 1.40N**±0.10×**97.2E**±0.1**, h46**km±19km**, n29, σ0°75/30, mb4.3/24, MS3.9/1, 3C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.18**	**42**	⇑*i*	P	**19 56 18.4**	**-0.1**
CM31	**Chiang Mai Arr**	**17.04**	**6**	*e*	P	**19 58 57.5**	**-0.6**
	13nm,1.0s						
KKM	**Kota Kinabalu**	**19.53**	**76**	*e*	P	**19 59 27.3**	**-0.9**
GYA	**Guiyang**	**26.53**	**19**	⇑*i*	P	**20 00 37.0**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
JIRN	**Jiri**	**28.16**	**339**	*e*	P	**20 00 52.5**	**+0.6**
	comp=Z,22nm,0.9s,mb4.8						
DMN	**Daman**	**28.52**	**337**	*e*	P	**20 00 55.4**	**+0.3**
	comp=Z,14nm,0.9s,mb4.7						
KKN	**Kakani**	**28.61**	**338**	*e*	P	**20 00 56.3**	**+0.4**
LSA	**Lhasa**	**28.73**	**349**	*e*	P	**20 00 57.1**	**+0.2**
	comp=Z,3.8nm,0.7s,mb4.2						
GKN	**Gorkha**	**29.06**	**337**	*e*	P	**20 01 00.0**	**+0.2**
KOLN	**Koldanda**	**29.28**	**335**	*e*	P	**20 01 02.4**	**+0.6**
	comp=Z,13nm,0.7s,mb4.7						
ENH	**Enshi**	**31.00**	**21**	*e*	P	**20 01 15.9**	**-1.2**
	comp=Z,14nm,0.7s,mb4.9						
GTA	**Gaotai**	**37.91**	**3**	*e*	P	**20 02 17.3**	**+1.1**
GTA				AP	pP	20 02 24.5	-4.1
GTA				XP	sP	20 02 27.8	-6.4
GTA				PP	PP	20 03 44.8	-1.6
GTA				S	**S**	**20 08 03.5**	**-0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA				AMB	AMB		
	comp=Z,68nm,4.2s						
GTA				LR	LR		
	comp=N,110nm,14.9s,MS3.9						
GTA				LR	LR		
	comp=E,72nm,11.1s,MS3.9						
GTA				LR	LR		
	comp=Z,141nm,13.0s,MS4.0						
BJT	**Baijiatuan**	**42.14**	**22**	P	P	**20 02 52.5**	**+1.2**
	comp=Z,8.7nm,0.4s,mb4.7						
WRA	**Warramunga Arr**	**42.15**	**122**	P	P	**20 02 51.6**	**0.0**
	comp=Z,1.5nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=18						
WRAB	**Tennant Creek**	**42.15**	**122**	*e*	P	**20 02 51.6**	**+0.1**
	comp=Z,3.3nm,0.5s,mb4.2						
BJI	**Beijing**	**42.16**	**22**	*e*	P	**20 02 53.3**	**+1.9**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**43.52**	**127**	P	P	**20 03 02.9**	**+0.2**
	comp=Z,1.5nm,0.9s,mb3.7,baz=298,slow=8.2,SNR=13						
AAK	**Ala-Archa**	**45.81**	**337**	P	P	**20 03 19.1**	**-1.7**
	comp=Z,1.4nm,0.8s,mb3.9						
SONM	**Songino Array**	**46.94**	**8**	P	P	**20 03 30.5**	**+0.9**
	comp=Z,3.4nm,0.8s,mb4.3,baz=191,slow=9.1,SNR=22						
MKAR	**Makanchi Array**	**47.05**	**346**	P	P	**20 03 30.9**	**+0.5**
	comp=Z,2.0nm,0.5s,mb4.3,baz=160,slow=8.9,SNR=23						
ULN	**Ulaanbaatar**	**47.07**	**9**	*e*	P	**20 03 31.0**	**+0.3**
	comp=Z,2.1nm,0.8s,mb4.1						
HIA	**Hailar**	**51.46**	**19**	*e*	P	**20 04 04.4**	**0.0**
	comp=Z,4.8nm,0.8s,mb4.5						
KURK	**Kurchatov**	**51.60**	**345**	*e*	P	**20 04 05.2**	**-0.3**
	comp=Z,4.2nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**53.49**	**132**	P	P	**20 04 20.1**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=288,slow=16,SNR=4.4						
BVAR	**Borovoye Array**	**56.06**	**341**	P	P	**20 04 37.2**	**-1.0**
	comp=Z,2.4nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=9.0						
CHKZ	**Chkalovo**	**56.54**	**341**	*e*	P	**20 04 40.8**	**-0.8**
	comp=Z,3.8nm,0.6s,mb4.6						
YAK	**Yakutsk**	**65.23**	**16**	*e*	P	**20 05 39.7**	**-0.7**
	comp=Z,9.7nm,0.9s,mb4.8						
FINES	**FINESS Array B**	**79.82**	**332**	P	P	**20 07 06.3**	**-0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=146,slow=6.9,SNR=5.2						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	P	**20 07 18.8**	**-0.8**
	comp=Z,4.8nm,0.9s,mb4.4,baz=82,slow=6.4,SNR=3.9						

JMA 29 19:56:21.5±0.1**, 29.20N×130.90E, h63**km±5km**, M3.5, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**1.10**	**306**	P	P	19 56 41.1	-0.2
JNN				S	S	19 56 56.1	+0.2
JZK	**Kikaishima**	**1.20**	**223**	P	P	19 56 42.7	+0.1
JAM	**Amami Oshima**	**1.38**	**236**	P	P	19 56 44.8	-0.4
JAM				S	S	19 57 02.1	-0.7
JKC	**Kuchinoerabu**	**1.40**	**334**	P	P	19 56 45.4	0.0
JKC				*e*S	S	19 57 03.0	-0.1
JTN	**Tanegashima 3**	**1.45**	**3**	P	P	19 56 45.7	-0.5
JTN				*e*S	S	19 57 04.0	-0.4
JTSR	**Tashiro 2**	**1.96**	**1**	P	P	19 56 53.3	+0.2
JTK	**Tokunoshima**	**2.22**	**231**	P	P	19 56 56.9	+0.1
JTK				*e*S	S	19 57 23.2	+0.2
JSU	**Suzuyama**	**2.33**	**351**	P	P	19 56 58.1	-0.3
JSU				*e*S	S	19 57 24.5	-1.3
JNAR	**Kushima--Naru**	**2.34**	**8**	P	P	19 56 58.6	+0.1
JNAR				*e*S	S	19 57 26.3	+0.2
JSJ	**Shimokoshiki**	**2.67**	**338**	P	P	19 57 02.7	-0.5
JTZ	**Takazaki**	**2.70**	**3**	P	P	19 57 03.7	+0.1
JOW	**Kunigami**	**3.31**	**225**	P	P	19 57 11.0	-1.2
JIH	**Iheya**	**3.37**	**231**	P	P	19 57 11.9	-1.1
JKE	**Kume jima 2**	**4.63**	**233**	P	P	19 57 28.9	-1.8

*NIED **29** 19:59:00, 37.20N×138.80E, h8km, Mw3.7 Best double couple: M0 3.84×10^14 NP1:φs 13°, δ48°, λ81°. NP2:φs 206°, δ43°, λ99°*
*IDC **29** 19:59:07.4±3.5, 37.71N×136.64E, mb3.6/3, mb1 3.9/3, mb1mx3.4/19, mbtmp3.6/3, Error ellipse: s-maj=301.8km s-min=30.3km az=105.0*
*JMA **29** 19:59:12.5, 37.19N×138.83E, h8km±1km, M4.0 Broadband fault plane solution: P waves. NP1:φs 13°, δ46°, λ63°. NP2:φs 229°, δ50°, λ115°. Principal axes: T Plg71°, Azm206°; N Plg19°, Azm33°; P Plg2°, Azm302°;*
JMA Felt II J1.
ISC 29 19:59:11.8±0.6**, 37.18N**±0.03×**138.81E**±0.05**, h8**km**, n12, σ1°04/19, mb3.7/3, 1C-5D, Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHK	**Hiroka**	**0.18**	**66**	⇓	P	**19 59 16.0**	**+0.4**
JHK				S	**Sg**	**19 59 18.9**	**+0.7**
JIZZ	**Izumozaki**	**0.36**	**347**	⇓	P	**19 59 20.1**	**+0.9**
JIZZ				*e*S	**Sg**	**19 59 26.1**	**+2.0**
JKT	**Katashina**	**0.54**	**139**	⇓	P	**19 59 22.9**	**+0.3**
JKT				S	**Sg**	**19 59 30.5**	**+0.6**
JGK	**Kuni**	**0.63**	**193**	⇑	P	**19 59 24.8**	**+0.4**
JGK				S	**Sg**	**19 59 33.6**	**+0.7**
JFY	**Yanaizu**	**0.75**	**72**	⇓	P	**19 59 26.2**	**-0.4**
JNS	**Sasagawa**	**0.76**	**32**	P	P	**19 59 26.2**	**-0.6**
JNS				S	**Sb**	**19 59 36.0**	**-1.0**
MAT	**Matsushiro**	**0.80**	**218**	P	P	**19 59 27.2**	**-0.3**
MAT				S	**Sb**	**19 59 38.0**	**-0.2**
MAT	**Matsushiro**	**0.80**	**218**	P	P	**19 59 27.3**	**-0.2**
MAT				S	**Sb**	**19 59 38.0**	**-0.2**
JAG	**Ashikaga**	**0.91**	**145**	⇓	P	**19 59 29.9**	**+0.5**
WRA	**Warramunga Arr**	**56.97**	**185**	P	P	**20 08 56.7**	**-3.6**
	1.4nm,0.7s,mb4.1,baz=0.6,slow=7.5,SNR=23						
ASAR	**Alice Springs**	**60.69**	**185**	P	P	**20 09 24.3**	**-1.8**
	0.4nm,0.8s,mb3.6,baz=356,slow=5.3,SNR=6.4						
YKA	**Yellowknife Ar**	**64.72**	**29**	P	P	**20 09 49.3**	**-2.8**
	0.3nm,0.6s,mb3.5,baz=302,slow=6.5,SNR=4.3						

*IDC **29** 20:06:06.5±2.0, 2.37N×96.28E, mb4.0/8, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, MS3.8/4, Ms1 3.8/4, ms1mx3.3/26, Error ellipse: s-maj=96.1km s-min=16.9km az=57.0*
*BJI **29** 20:06:06.9, 2.02N×96.39E, h36km, mB4.9, mb4.7, Ms4.3, Msz4.0*
*NEIC **29** 20:06:10.8±0.5, 2.32N×96.27E, h30km, mb4.4/12, Error ellipse: s-maj=13.5km s-min=6.5km az=51.0*
ISC 29 20:06:11.5±3.1**, 2.4N**±0.1×**96.3E**±0.2**, h52**km±24km**, n33, σ0°60/31, mb4.3/22, MS3.8/6, 1C, Northern Sumatera**

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

STKA	**Stephens Creek**	**54.78**	**132**	P	**P**	**20 15 39.7**	**+1.1**
	comp=Z,0.7nm,0.4s,mb4.0,baz=309,slow=8.0,SNR=3.0						
STKA	**Stephens Creek**	**54.78**	**132**	P	**P**	**20 15 39.7**	**+1.1**
BVAR	**Borovoye Array**	**54.87**	**341**	P	**P**	**20 15 38.2**	**-0.7**
	comp=Z,0.8nm,0.6s,mb4.0,baz=139,slow=13,SNR=4.3						
CHKZ	**Chkalovo**	**55.35**	**342**	*eP*	**P**	**20 15 41.5**	**-0.9**
	comp=Z,3.2nm,0.8s,mb4.4						
KMBO	**Kilima Mbogo**	**59.17**	**267**	LR	LR	20 38 12.9	
	comp=Z,98nm,19.3s,MS4.0,baz=89,slow=33						
ARCES	**ARCESS Array B**	**81.15**	**340**	P	**P**	**20 18 23.3**	**+0.6**
	comp=Z,8.0nm,1.1s,mb4.6,baz=90,slow=5.4,SNR=5.4						
ARCES				LR	LR	20 57 38.1	
	comp=Z,61nm,18.9s,MS4.0,baz=171,slow=38						

IDC 29 20:08:42.9±4.3, 0.28N×97.80E, mb3.6/4, mb1 3.8/4, mb1mx3.6/16, mbtmp3.6/4, Error ellipse: s-maj=169.7km s-min=25.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.04**	**121**	P	P	20 16 27.8	-2.0
	0.7nm,0.6s,baz=301,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**42.36**	**127**	P	P	20 16 39.5	-1.3
	0.6nm,0.6s,baz=296,slow=7.5,SNR=5.4						
SONM	**Songino Array**	**47.95**	**8**	P	P	20 17 23.8	-1.4
	0.8nm,0.7s,baz=193,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**48.28**	**346**	P	P	20 17 25.2	-2.5
	0.6nm,0.6s,baz=142,slow=7.7,SNR=3.9						

IDC 29 20:09:41.3±3.8, 0.68N×98.24E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, MS3.7/1, Ms1 3.7/1, ms1mx2.7/23, Error ellipse: s-maj=149.7km s-min=24.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.88**	**122**	P	P	20 17 25.4	-1.6
	0.2nm,0.4s,baz=307,slow=9.0,SNR=6.5						
ASAR	**Alice Springs**	**42.26**	**127**	P	P	20 17 36.6	-1.8
	0.3nm,0.5s,baz=298,slow=8.2,SNR=4.6						
SONM	**Songino Array**	**47.50**	**7**	P	P	20 18 19.1	-1.0
	0.6nm,0.6s,baz=191,slow=8.5,SNR=5.3						
MKAR	**Makanchi Array**	**48.00**	**345**	P	P	20 18 21.2	-2.8
	0.5nm,0.5s,baz=164,slow=8.7,SNR=5.2						
PMG	**Port Moresby**	**49.73**	**103**	LR	LR	20 40 56.4	
	comp=Z,78nm,18.3s,baz=64,slow=38						

IDC 29 20:13:22.1±3.9, 2.84N×96.38E, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=156.8km s-min=24.2km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.60**	**123**	P	P	20 21 28.3	-1.7
	0.6nm,0.5s,baz=301,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**45.03**	**128**	P	P	20 21 39.8	-1.9
	0.3nm,0.5s,baz=302,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**45.47**	**346**	P	P	20 21 42.8	-2.0
	0.7nm,0.4s,baz=161,slow=8.3,SNR=8.8						
SONM	**Songino Array**	**45.65**	**9**	P	P	20 21 44.6	-1.7
	0.2nm,0.5s,baz=186,slow=9.8,SNR=3.9						

*NEIC **29** 20:19:43.3, 36.92S×177.64E, h164km, mb4.2/1, After WEL.*

WEL 29 20:19:43.7±0.3, 36.91S×177.65E, h160km±3km, ML4.1/5, 1C-1D, Error ellipse: s-maj=3.5km s-min=3.0km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.84**	**141**	P	P	20 20 08.0	-0.4
MXZ				S	S	20 20 27.3	-0.2
MXZ	**Matakaoa Point**	**0.84**	**141**	PN	P	20 20 08.0	-0.4
MXZ				SN	S	20 20 27.3	-0.2
PUZ	**Puketiti**	**1.26**	**157**	*eP*	P	20 20 11.9	0.0
PUZ	**Puketiti**	**1.26**	**157**	PN	P	20 20 11.9	-0.1
PUZ				SN	S	20 20 32.8	-1.0
MARZ	**Manawahe**	**1.32**	**216**	P	P	20 20 12.7	+0.1
MARZ	**Manawahe**	**1.32**	**216**	PN	P	20 20 12.7	+0.1
URZ	**Urewera**	**1.41**	**197**	⇓PN	P	20 20 13.2	-0.3
URZ				SN	S	20 20 35.7	-0.8
MWZ	**Matawai**	**1.42**	**184**	P	P	20 20 13.4	-0.2
MWZ				S	S	20 20 36.3	-0.4
MWZ	**Matawai**	**1.42**	**184**	PN	P	20 20 13.4	-0.2
MWZ				SN	S	20 20 36.3	-0.4
MWZ				SN	S	20 20 36.5	-0.2
LIRZ	**Lichensteins R**	**1.48**	**222**	PN	P	20 20 14.4	+0.2
TAZ	**Tarawera**	**1.60**	**214**	PN	P	20 20 15.8	+0.4
PATZ	**Paeroa**	**1.83**	**217**	P	P	20 20 18.2	+0.3
PATZ	**Paeroa**	**1.83**	**217**	PN	P	20 20 18.2	+0.3
KNZ	**Kokohu**	**2.11**	**179**	P	P	20 20 20.3	-0.7
KNZ	**Kokohu**	**2.11**	**179**	PN	P	20 20 20.3	-0.7
KNZ				SN	S	20 20 48.4	-1.4
BKZ	**Black Stump Fm**	**2.43**	**202**	P	P	20 20 23.6	-1.4
BKZ	**Black Stump Fm**	**2.43**	**202**	PN	P	20 20 23.6	-1.4
BKZ				SN	S	20 20 55.2	-1.5
MGZ	**Maungaku**	**2.67**	**218**	P	P	20 20 27.6	-0.4
MGZ	**Maungaku**	**2.67**	**218**	PN	P	20 20 27.6	-0.4
OTVZ	**Oturere**	**2.74**	**214**	PN	P	20 20 28.0	-0.8
NGZ	**Ngauruhoe**	**2.78**	**215**	P	P	20 20 28.7	-0.6
NGZ	**Ngauruhoe**	**2.78**	**215**	PN	P	20 20 28.7	-0.6
TUVZ	**Tukino**	**2.83**	**213**	P	P	20 20 28.6	-1.4
TUVZ				P		20 20 28.8	
TUVZ	**Tukino**	**2.83**	**213**	PN	P	20 20 28.8	-1.2
FWVZ	**Far West T-bar**	**2.87**	**215**	*eP*	P	20 20 29.2	-1.2
FWVZ	**Far West T-bar**	**2.87**	**215**	PN	P	20 20 28.9	-1.5
WNVZ	**Wahianoa**	**2.90**	**213**	*eP*	P	20 20 28.3	-2.6
WNVZ	**Wahianoa**	**2.90**	**213**	*e*PN	P	20 20 28.3	-2.6
PWZ	**Pawanui**	**3.17**	**191**	P	P	20 20 31.9	-2.4
PWZ	**Pawanui**	**3.17**	**191**	PN	P	20 20 31.9	-2.4
TSZ	**Takapari Road**	**3.41**	**202**	*e*PN	P	20 20 34.6	-2.8
BFZ	**Birch Farm**	**3.92**	**196**	P	P	20 20 40.5	-3.5
BFZ	**Birch Farm**	**3.92**	**196**	PN	P	20 20 40.5	-3.5
MRZ	**Mangatainoka R**	**4.08**	**203**	*eP*	P	20 20 41.9	-4.1
MRZ	**Mangatainoka R**	**4.08**	**203**	PN	P	20 20 41.9	-4.1
KIW	**Kapiti Island**	**4.49**	**208**	P	P	20 20 47.0	-4.3
KIW	**Kapiti Island**	**4.49**	**208**	PN	P	20 20 47.0	-4.4
MTW	**Mount Morrison**	**4.56**	**201**	P	P	20 20 47.5	-4.8
MTW	**Mount Morrison**	**4.56**	**201**	PN	P	20 20 47.5	-4.7
CAW	**Cannon Point**	**4.65**	**205**	P	P	20 20 48.6	-4.9
CAW	**Cannon Point**	**4.65**	**205**	PN	P	20 20 48.6	-4.8
MSWZ	**Moikau Station**	**4.87**	**202**	*eP*	P	20 20 51.4	-5.0
MSWZ	**Moikau Station**	**4.87**	**202**	PN	P	20 20 51.4	-4.9
SNZO	**South Karori**	**4.95**	**207**	*eP*	P	20 20 52.3	-5.2
SNZO	**South Karori**	**4.95**	**207**	*e*PN	P	20 20 52.4	-5.0
THZ	**Tophouse**	**6.08**	**216**	*eP*	P	20 21 06.9	-5.5
THZ	**Tophouse**	**6.08**	**216**	*e*PN	P	20 21 07.1	-5.3
LTZ	**Lake Taylor**	**7.17**	**214**	*eP*	P	20 21 20.7	-6.3
LTZ	**Lake Taylor**	**7.17**	**214**	*e*PN	P	20 21 20.8	-6.2
MQZ	**McQueen's Vall**	**7.79**	**208**	*e*PN	P	20 21 27.8	-7.4
WRAB	**Tennant Creek**	**41.28**	**282**	P	P	20 27 10.5	-4.3
	6.2nm,1.0s						
SYO	**Syowa Base**	**69.94**	**195**	⇑X	P	20 30 39.5	+0.7

*IDC **29** 20:21:38.1±2.5, 0.34N×97.11E, mb3.7/6, mb1 3.8/6, mb1mx3.6/17, mbtmp3.7/6, Error ellipse: s-maj=113.0km s-min=19.1km az=57.0*
*NEIC **29** 20:21:43.2±1.1, 0.55N×97.39E, h30km, mb4.2/3, Error ellipse: s-maj=32.8km s-min=15.0km az=64.0*

ISC 29 20:21:40.8±1.1, 0.6N±0.1×97.4E±0.2, h30km, n10, σ0^{2}77/10, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.70**	**35**	*eP*	**Pn**	**20 23 05.5**	**-0.2**
LSA	**Lhasa**	**29.52**	**349**	P	**P**	**20 27 49.6**	**+4.6**
	1.7nm,0.5s,mb4.0						
WRA	**Warramunga Arr**	**41.60**	**122**	P	**P**	**20 29 27.9**	**-0.2**
	0.8nm,0.4s,mb3.7,baz=304,slow=8.9,SNR=18						
WRAB	**Tennant Creek**	**41.61**	**121**	*eP*	**P**	**20 29 27.9**	**-0.3**
	2.6nm,0.5s,mb4.1						
ASAR	**Alice Springs**	**42.93**	**127**	P	**P**	**20 29 39.0**	**0.0**
	0.4nm,0.5s,mb3.5,baz=297,slow=7.8,SNR=8.7						
SONM	**Songino Array**	**47.69**	**8**	P	**P**	**20 30 20.3**	**+3.7**
	0.3nm,0.8s,mb3.4,baz=202,slow=7.8,SNR=3.1						
MKAR	**Makanchi Array**	**47.84**	**346**	P	**P**	**20 30 18.5**	**+0.7**
	0.8nm,0.7s,mb3.9,baz=162,slow=9.5,SNR=12						
STKA	**Stephens Creek**	**52.85**	**132**	P	**P**	**20 30 56.8**	**+0.5**
	1.3nm,0.9s,mb3.9,baz=324,slow=8.7,SNR=3.6						
BVAR	**Borovoye Array**	**56.85**	**341**	P	**P**	**20 31 25.0**	**0.0**
	0.4nm,0.6s,mb3.6,baz=153,slow=9.7,SNR=3.6						
CHKZ	**Chkalovo**	**57.33**	**341**	*eP*	**P**	**20 31 27.2**	**-1.2**
	1.7nm,0.8s,mb4.1						

*CRAAG **29** 20:37:46.8, 36.50N×3.19E, Ml3.0*
*CSEM **29** 20:37:47.0±0.1, 36.49N×3.20E, h5km, ML2.4/5, Error ellipse: s-maj=4.3km s-min=2.4km az=41.0*
*MDD **29** 20:37:48.1±0.4, 36.52N×3.18E, h6km±7km, mb3.9/10, Error ellipse: s-maj=6.2km s-min=4.4km az=78.0, PRXIMO*
*NEIC **29** 20:37:49.8, 36.72N×3.15E, MG4.0(MDD), After MDD.*

ISC 29 20:37:46.6±0.5, 36.58N±0.05×3.08E±0.05, h10km, n36, σ1^{2}20/49, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABA	**Alger-Bouzarea**	**0.23**	**351**	P	**Pg**	**20 37 54.0**	**+2.5**
ABMS	**Boumerdes**	**0.37**	**62**	P	**Pg**	**20 37 54.3**	**+0.1**
EMHD	**Djebel Mahouad**	**0.39**	**195**	P	**Pg**	**20 37 55.0**	**+0.4**
ADJB	**Djebel Djouab**	**0.51**	**145**	P	**Pg**	**20 37 55.3**	**-1.7**
AKET	**Djebel Ketaf**	**0.84**	**129**	P	**Pb**	**20 38 01.8**	**-1.0**
ATAF	**Djebel Tarf**	**1.20**	**126**	P	**Pb**	**20 38 09.1**	**+0.1**
EBNR	**Beni Rached**	**1.28**	**257**	P	**Pb**	**20 38 00.0**	**-10**
ECHA	**Ech Chlef**	**1.45**	**253**	P	**Pn**	**20 38 02.0**	**-11**
ECHF	**Ech Chlef**	**1.46**	**254**	P	**Pn**	**20 38 02.0**	**-11**
EANR	**'Ain N'Sour**	**1.72**	**249**	P	**Pn**	**20 38 04.0**	**-13**
ETRT	**Tiaret**	**1.87**	**231**	P	**Pn**	**20 38 03.0**	**-16**
EIBI	**Ibiza**	**2.80**	**331**	P	**Pn**	**20 38 33.7**	**+1.3**
	3.4nm,0.2s,SNR=16						
EIBI				S	**Sn**	**20 39 05.7**	**-0.9**
	5.5nm,0.2s,SNR=5.0						
EIBI	**Ibiza**	**2.80**	**331**	Pn	**Pn**	**20 38 33.7**	**+1.3**
	1.9nm,0.1s,SNR=16						
EIBI				Sn	**Sn**	**20 39 05.7**	**-0.9**
	5.5nm,0.2s,SNR=5.0						
ETOS	**Mallorca**	**3.19**	**356**	P	**Pn**	**20 38 38.1**	**+0.2**
	1.9nm,0.1s,SNR=13						
ETOS				S	**Sn**	**20 39 13.7**	**-2.7**
	0.4nm,0.3s						
ETOS	**Mallorca**	**3.19**	**356**	Pn	**Pn**	**20 38 38.1**	**+0.2**
	3.1nm,0.2s,SNR=13						
ETOS				Sn	**Sn**	**20 39 13.7**	**-2.7**
	0.4nm,0.3s						
EBEN	**Beniarda**	**3.37**	**310**	P	**Pn**	**20 38 41.2**	**+0.8**
	2.1nm,0.3s,SNR=7.0						
EBEN				S	**Sn**	**20 39 20.9**	**-0.1**
	1.0nm,0.2s						
EBEN	**Beniarda**	**3.37**	**310**	Pn	**Pn**	**20 38 41.2**	**+0.7**
	0.6nm,0.1s,SNR=7.0						
EBEN				Sn	**Sn**	**20 39 20.9**	**-0.1**
	1.0nm,0.2s						
EMUR	**La Murta**	**3.67**	**291**	Pn	**Pn**	**20 38 45.2**	**+0.5**
EMUR	**La Murta**	**3.67**	**291**	P	**Pn**	**20 38 45.0**	**+0.3**
	1.3nm,0.2s,SNR=7.9						
EMUR	**La Murta**	**3.67**	**291**	Pn	**Pn**	**20 38 45.2**	**+0.5**
	0.2nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**4.21**	**301**	P	**Pn**	**20 38 53.4**	**+1.0**
	1.8nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**20 39 41.1**	**-1.2**
	0.3nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**4.21**	**301**	Pn	**Pn**	**20 38 53.4**	**+1.0**
	2.1nm,0.2s,SNR=7.9						
ETOB				Sn	**Sn**	**20 39 41.1**	**-1.1**
	0.3nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**4.69**	**325**	P	**Pn**	**20 39 00.0**	**+0.8**
	1.8nm,0.1s,SNR=27						
EMOS				S	**Sn**	**20 39 52.1**	**-2.4**
	0.6nm,0.2s,SNR=5.0						
EMOS	**Mosqueruela**	**4.69**	**325**	Pn	**Pn**	**20 39 00.0**	**+0.7**
	1.3nm,0.1s,SNR=27						
EMOS				Sn	**Sn**	**20 39 52.1**	**-2.4**
	0.6nm,0.2s,SNR=5.0						
EALB	**Alboran**	**4.98**	**264**	Pn	**Pn**	**20 39 06.8**	**+3.5**
EALB	**Alboran**	**4.98**	**264**	P	**Pn**	**20 39 05.9**	**+2.6**
	15nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.06**	**286**	Pn	**Pn**	**20 39 06.6**	**+2.2**
EQES				Sn	**Sn**	**20 40 02.1**	**-1.5**
EQES	**Quesada**	**5.06**	**286**	P	**Pn**	**20 39 05.1**	**+0.7**
	1.2nm,0.5s,SNR=7.9						
EQES				S	**Sn**	**20 40 01.9**	**-1.7**
	0.1nm,0.1s,SNR=7.9						
EQES	**Quesada**	**5.06**	**286**	Pn	**Pn**	**20 39 06.6**	**+2.2**
	0.2nm,0.1s,SNR=7.9						
EQES				Sn	**Sn**	**20 40 02.2**	**-1.4**
ESDC	**Sonseca Array**	**6.35**	**301**	P	**Pn**	**20 39 22.9**	**+0.2**
	0.3nm,0.2s,baz=111,slow=13,SNR=7.9						
ESDC	**Sonseca Array**	**6.35**	**301**	Pn	**Pn**	**20 39 22.9**	**+0.2**
	0.3nm,0.2s,SNR=7.9						
EARI	**Arriondas**	**9.25**	**319**	Pn	**P**	**20 40 03.6**	**+0.5**
EARI	**Arriondas**	**9.25**	**319**	P	**P**	**20 40 02.7**	**-0.3**
	1.9nm,0.5s,SNR=7.9						
EARI	**Arriondas**	**9.25**	**319**	Pn	**P**	**20 40 03.6**	**+0.5**
	SNR=7.9						
ECAL	**Calabor**	**9.30**	**308**	P	**P**	**20 40 03.1**	**-0.7**
	1.6nm,0.3s,SNR=7.9						
ECAL	**Calabor**	**9.30**	**308**	Pn	**P**	**20 40 03.1**	**-0.7**
	1.8nm,0.3s,SNR=7.9						

*BJI **29** 20:41:35.0, 2.25N×97.33E, h32km, mB5.3, mb5.2, Ms5.0, Msz4.9*
*MOS **29** 20:41:36.4±1.0, 2.40N×97.40E, h33km, mb5.5/44, MS4.9/10, Error ellipse: s-maj=10.8km s-min=4.8km az=120.7*
*NEIC **29** 20:41:37.6±0.1, 2.35N×97.33E, h30km, mb5.1/53, Error ellipse: s-maj=5.5km s-min=3.7km az=219.0*
*IDC **29** 20:41:37.0±4.3, 2.35N×97.30E, h27km±29km, mb4.7/28, mb1 4.7/28, mb1mx4.7/30, mbtmp4.9/28, MS4.5/21, Ms1 4.5/21, ms1mx4.4/31, Error ellipse: s-maj=17.6km s-min=9.8km az=47.0*
*HRVD **29** 20:41:37.6±0.5, 1.86N×97.02E, h58km±1km, MW5.1/48, Centroid moment Tensor Solution. LP body waves: s35,c55;Mantle waves: s48,c82; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.58±.37; $M_{\theta\theta}$-5.22±.26; $M_{\phi\phi}$0.64±.35; $M_{r\theta}$1.61±.17; $M_{\theta\phi}$3.90±.18; $M_{\phi r}$-1.60±.22; Best double couple: M_o6.353×10^{16} NP1:ϕ_s279°, δ37°, λ65°. NP2:ϕ_s130°, δ57°, λ108°. Principal axes: T 5.155, Plg72°, Azm84°; N 2.401, Plg15°, Azm300°; P -7.552, Plg10°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 29 20:41:35.9±0.2, 2.32N±0.03×97.30E±0.03, h30km, h30km±.8km:pP-P, n309, σ1^{2}07/298, mb5.2/108, MS4.7/40, 36C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.34**	**59**	P	**Pn**	**20 42 45.0**	**+3.3**
KULM	**Kulim**	**4.46**	**48**	*eP*	**Pn**	**20 42 46.4**	**+3.0**
SNG	**Songkhla**	**5.85**	**34**	P	**Pn**	**20 43 05.0**	**+2.1**
	630nm,1.0s						
KGM	**Kluang**	**6.02**	**93**	P	**Pn**	**20 43 08.0**	**+2.6**
NNT	**Nongplab**	**10.48**	**13**	P	**P**	**20 44 09.1**	**+1.6**
KSM	**Kuching**	**13.03**	**93**	*eP*	**P**	**20 44 44.0**	**+2.2**
NST	**Nakhon Sawan**	**13.56**	**12**	P	**P**	**20 44 48.0**	**-0.9**
	55nm,1.2s						
KKTK	**Khon Kaen**	**14.95**	**21**	⇓P	**P**	**20 45 12.8**	**+5.6**
	802nm,0.8s						
CM31	**Chiang Mai Arr**	**16.12**	**6**	*eP*	**P**	**20 45 22.2**	**0.0**
	43nm,0.9s						
CHG	**Chiang Mai**	**16.47**	**6**	⇑P	**P**	**20 45 26.9**	**+0.2**
	34nm,1.0s						
NANT	**Nan**	**16.71**	**11**	⇑P	**P**	**20 45 29.0**	**-0.8**
	300nm,1.0s						
PALK	**Pallekele**	**17.25**	**287**	P	**P**	**20 45 35.3**	**-1.3**
	36nm,1.1s						
CHRT	**Chiangrai**	**17.61**	**8**	⇓P	**P**	**20 45 42.0**	**+1.0**
	237nm,1.0s						
KKM	**Kota Kinabalu**	**19.22**	**78**	*eP*	**P**	**20 46 00.7**	**0.0**
KKM	**Kota Kinabalu**	**19.22**	**78**	P	**P**	**20 46 01.4**	**+0.7**
MDRS	**Chennai**	**19.97**	**303**	*e*	**P**	**20 46 00.0**	**-9.0**
MDRS				*eS*	**S**	**20 49 52.0**	**+5.5**
MDRS				*e*		20 51 32.0	
VIS	**Vishakhapatnam**	**20.55**	**319**	*eP*	**P**	**20 46 16.2**	**+1.3**
VIS				*e*		20 46 18.1	
	comp=Z,150nm,1.1s						
VIS				*e*		20 48 48.9	
TSM	**Tawau**	**20.63**	**84**	P	**P**	**20 46 16.5**	**+0.7**
QIZ	**Qiongzhong**	**20.65**	**36**	*eP*	**P**	**20 46 15.0**	**-1.0**
QIZ				PP	PP	20 46 37.0	-0.7
QIZ				PPP	PPP	20 46 48.8	+2.1
QIZ				S	**S**	**20 49 58.5**	**-1.8**
QIZ				SS	SS	20 50 29.0	-2.4
QIZ				AMB	AMB		
	comp=Z,19nm,1.3s						
QIZ				LR	LR		
	comp=E,1μm,18.1s						
QIZ				LR	LR		
	comp=Z,2μm,20.3s,MS4.6						
QIZ	**Qiongzhong**	**20.65**	**36**	*eP*	**P**	**20 46 13.6**	**-2.4**
	comp=Z,38nm,1.3s						
BWNR	**Bhubaneshwar**	**21.10**	**329**	*eP*	**P**	**20 46 21.4**	**+0.9**
BWNR				*e*		20 46 26.0	
	comp=Z,103nm,1.1s						
BWNR				*e*		20 48 37.4	
TRD	**Trivandrum**	**21.15**	**288**	*i*	**P**	**20 46 19.5**	**-1.6**
KMI	**Kunming**	**23.27**	**13**	⇓P	**P**	**20 46 44.0**	**+1.9**
KMI				AP		20 46 54.8	
KMI				XP		20 46 57.3	
KMI				S	**S**	**20 50 50.8**	**+2.3**
KMI				XS		20 51 06.8	
KMI				SS	SS	20 51 40.3	+5.0
KMI				AMB	AMB		
	comp=Z,108nm,1.3s,mb5.1						
KMI				AMB	AMB		
	comp=Z,269nm,3.1s						
KMI				LR	LR		
	comp=N,3μm,18.8s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,17.7s,MS4.8						
KMI				LR	LR		
	comp=Z,4μm,19.2s,MS4.9						
HYB	**Hyderabad**	**23.75**	**310**	*eP*	**P**	**20 46 49.0**	**+2.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**23.75**	**310**	*eP*	**P**	**20 46 49.0**	**+2.2**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**20 51 10.0**	**+13**
HYB	**Hyderabad**	**23.75**	**310**	*i* P	**P**	**20 46 49.0**	**+2.2**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*		20 47 00.0	
HYB				*e*S	**S**	**20 51 00.0**	**+3.1**
BLSP	**Bilaspur**	**24.60**	**324**	*eP*	**P**	**20 46 55.5**	**+0.5**
BLSP				*e*		20 46 57.2	
	comp=Z,72nm,0.9s						
BLSP				*e*		20 50 10.4	
MNGI	**Mangalore**	**24.62**	**297**	*e*	**P**	**20 47 10.7**	**+15**
GYA	**Guiyang**	**25.63**	**20**	⇑*i*P	**P**	**20 47 04.8**	**0.0**
GYA				AP	pP	20 47 14.3	+0.8
GYA				XP	sP	20 47 18.5	+1.0
GYA				PP	PP	20 47 46.8	+2.0
GYA				S	**S**	**20 51 30.5**	**+2.0**
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,270nm,7.2s						
GYA				LR	LR		
	comp=N,2μm,15.6s,MS4.8						
GYA				LR	LR		
	comp=E,1μm,14.1s,MS4.8						
GYA				LR	LR		
	comp=Z,4μm,16.5s,MS5.0						
KAD	**Karad**	**27.16**	**305**	*eP*	**P**	**20 47 21.6**	**+2.8**
KAD				*e*		20 47 25.8	
	comp=Z,17nm,0.9s						
JIRN	**Jiri**	**27.35**	**338**	*eP*	**P**	**20 47 20.8**	**+0.2**
	comp=Z,357nm,1.0s,mb5.9						
PKI	**Pulchoki**	**27.57**	**337**	*eP*	**P**	**20 47 22.3**	**-0.2**
	comp=Z,46nm,0.5s,mb5.3						
PKI	**Pulchoki**	**27.57**	**337**	*eP*	**P**	**20 47 22.3**	**-0.2**
PKI				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.1						
DMN	**Daman**	**27.72**	**336**	*eP*	**P**	**20 47 23.7**	**-0.3**
	comp=Z,102nm,0.8s,mb5.5						
KKN	**Kakani**	**27.81**	**337**	*eP*	**P**	**20 47 24.5**	**-0.3**
	comp=Z,310nm,1.0s,mb5.9						
KKN	**Kakani**	**27.81**	**337**	*eP*	**P**	**20 47 24.5**	**-0.3**
KKN				pmax	pmax		
	comp=Z,155nm,1.0s,mb5.6						
LSA	**Lhasa**	**27.85**	**348**	P	**P**	**20 47 25.5**	**+0.4**
LSA	**Lhasa**	**27.85**	**348**	*eP*	**P**	**20 47 24.9**	**-0.2**
LSA				pmax	pmax		
	comp=Z,31nm,0.7s,mb5.0						
LSA	**Lhasa**	**27.85**	**348**	*eP*	**P**	**20 47 24.9**	**-0.2**
	comp=Z,31nm,0.7s,mb5.0						
POO	**Poona**	**28.06**	**307**	*eP*	**P**	**20 47 30.8**	**+3.7**
GKN	**Gorkha**	**28.26**	**336**	*eP*	**P**	**20 47 28.4**	**-0.4**
	comp=Z,320nm,1.0s,mb5.9						
BHPL	**Bhopal**	**28.35**	**319**	*eP*	**P**	**20 47 30.4**	**+0.8**
BHPL				*e*		20 47 31.8	
	comp=Z,31nm,0.8s						
KOLN	**Koldanda**	**28.50**	**334**	*eP*	**P**	**20 47 31.0**	**+0.1**
	comp=Z,302nm,0.9s,mb5.9						
CD2	**Chengdu**	**29.09**	**11**	P	**P**	**20 47 34.5**	**-1.7**
CD2				AMB	AMB		
	comp=Z,17nm,0.6s,mb5.0						
ENH	**Enshi**	**30.11**	**21**	*eP*	**P**	**20 47 42.8**	**-2.5**
	comp=Z,21nm,0.3s,mb5.3						
QZH	**Quanzhou**	**30.46**	**41**	P	**P**	**20 47 49.0**	**+0.5**
QZH				*e*S	**S**	**20 52 48.3**	**+1.9**
QZH				AMB	AMB		
	comp=

GTA SCS ScS 20 58 55.0 -0.2
GTA AMB AMB
comp=Z,54nm,1.0s,mb5.3
GTA AMB AMB
comp=Z,238nm,4.9s
GTA LR LR
comp=N,548nm,23.6s
GTA LR LR
comp=E,583nm,17.5s
GTA LR LR
comp=Z,900nm,24.7s,MS4.5
KAKA Kakadu 37.95 114 *e*P **P 20 48 51.1 -1.9**
comp=Z,13nm,0.6s,mb4.8
JOW Kunigami 38.41 48 P **P 20 48 56.5 -0.3**
comp=Z,24nm,0.4s,mb5.2,baz=120,slow=28,SNR=11
JOW LR LR 21 04 34.7
comp=Z,633nm,21.5s,MS4.4,baz=266,slow=36
NWAO Narrogin (SRO) 39.80 153 P **P 20 49 09.2 +0.9**
comp=Z,8.4nm,0.8s,baz=324,slow=7.6,SNR=7.2
NWAO LR LR 21 04 08.8
comp=Z,4.7nm,19.2s,baz=168,slow=34
BTO Baotou 39.81 15 *e*P **P 20 49 06.8 -1.5**
HHC Hu-ho-hao-te 40.46 17 *e*P **P 20 49 14.0 +0.4**
HHC AP pP 20 49 23.8 +1.2
HHC XP sP 20 49 27.8 +1.5
HHC PP PP 20 50 52.0 +1.8
HHC PCP PcP 20 51 14.3 -2.3
HHC SCP 20 55 00.8
HHC PCS 20 55 03.0
HHC S **S 20 55 23.5 +3.4**
HHC XS 20 55 39.3
HHC SCS ScS 20 59 13.8 -1.3
HHC AMB AMB
comp=Z,13nm,0.4s,mb5.0
HHC AMB AMB
comp=Z,256nm,5.3s
HHC LR LR
comp=N,2μm,15.7s,MS5.1
HHC LR LR
comp=E,980nm,17.7s,MS5.1
HHC LR LR
comp=Z,2μm,18.1s,MS5.0
BJT Baijiatuau 41.25 22 *e*P **P 20 49 20.6 +0.5**
BJT pmax pmax
comp=Z,60nm,0.7s
BJT Baijiatuau 41.25 22 *e*P **P 20 49 20.6 +0.5**
comp=Z,60nm,0.7s,mb5.3
BJI Beijing 41.27 22 P **P 20 49 21.0 +0.8**
BJI AP pP 20 49 29.8 +0.6
BJI XP sP 20 49 33.8 +0.9
BJI AMB AMB
comp=Z,143nm,2.1s,mb5.2
BJI LR LR
comp=N,652nm,19.3s,MS4.8
BJI LR LR
comp=E,1μm,21.0s,MS4.8
BJI LR LR
comp=Z,688nm,24.5s,MS4.4
KSH Kashi 41.80 335 *e*P **P 20 49 27.5 +2.9**
KSH *e*AP pP 20 49 35.5 +1.9
KSH *e*XP sP 20 49 39.3 +2.0
KSH *e*PP PP 20 51 07.5 +3.1
KSH *e*PCP PcP 20 51 20.0 -1.1
KSH *e*PPP PPP 20 51 39.0 +3.1
KSH *e*SCP 20 55 08.3
KSH *e*PCS 20 55 11.5
KSH *e*S **S 20 55 43.8 +3.8**
KSH *e*XS 20 56 00.8
KSH *e*SS SS 20 58 46.0 +4.7
KSH *e*SCS ScS 20 59 23.3 +0.1
KSH AMB AMB
comp=Z,230nm,2.3s,mb5.4
KSH LR LR
comp=N,450nm,6.7s
KSH LR LR
comp=E,320nm,5.4s
WMQ Urumqi 42.20 350⇓ *i*P **P 20 49 28.5 +0.7**
WMQ AP pP 20 49 38.0 +1.2
WMQ XP sP 20 49 42.0 +1.5
WMQ PP PP 20 51 10.0 +1.5
WMQ PPP PPP 20 51 42.0 +1.0
WMQ PCS 20 55 13.0
WMQ S **S 20 55 46.0 +0.2**
WMQ XS 20 56 02.0
WMQ SS SS 20 58 49.0 +0.4
WMQ AMB AMB
comp=Z,44nm,0.8s,mb5.1
WMQ AMB AMB
comp=Z,355nm,5.9s
WMQ LR LR
comp=N,2μm,14.8s,MS5.2
WMQ LR LR
comp=E,2μm,17.4s,MS5.2
WMQ LR LR
comp=Z,2μm,22.0s,MS5.0
WRA Warramunga Arr 42.55 123 P **P 20 49 30.5 -0.5**
comp=Z,16nm,0.6s,mb5.0,baz=302,slow=9.2,SNR=156
WRAB Tennant Creek 42.55 123 P **P 20 49 30.0 -1.1**
comp=Z,175nm,0.5s,mb6.0,SNR=15
WRAB Tennant Creek 42.55 123 *e*P **P 20 49 29.9 -1.2**
WRAB pmax pmax
comp=Z,26nm,0.6s,mb5.1
WRAB Tennant Creek 42.55 123 *e*P **P 20 49 29.9 -1.2**
comp=Z,26nm,0.6s,mb5.1
WB2 Warramunga Arr 42.56 123⇓ *i*P **P 20 49 30.9 -0.2**
DL2 Dalian 42.65 28 P **P 20 49 33.0 +1.4**
DL2 AMB AMB
comp=Z,40nm,0.7s,mb5.3
ASPA Alice Springs 43.99 128 *e*P **P 20 49 42.8 +0.1**
ASAR Alice Springs 43.99 128 P **P 20 49 42.5 -0.3**
comp=Z,3.4nm,0.5s,mb4.4,baz=296,slow=7.2,SNR=40
ASAR PcP PcP 20 51 27.8 -0.9
comp=Z,2.2nm,1.1s,baz=307,slow=4.2,SNR=4.2
ASAR pPcP 20 51 42.9
comp=Z,2.8nm,0.9s,baz=310,slow=4.0,SNR=4.6
ASAR LR LR 21 10 58.4
comp=Z,481nm,18.9s,MS4.4,baz=297,slow=40
ULHL Ulahol 44.00 337 P **P 20 49 42.8 +0.2**
SNR=43
FORT Forrest 44.07 141⇑ *i*P **P 20 49 44.6 +1.3**
comp=Z,1μm,0.7s
KZA Kyzart 44.25 336 P **P 20 49 45.5 +1.0**
SNR=56
TKM2 Tokmak 2 44.83 337 P **P 20 49 49.8 +0.6**
SNR=100
KS15 Wonju Array Si 44.85 35 P **P 20 49 48.2 -1.2**
KBK Karagaybulak 44.86 337 P **P 20 49 50.5 +1.1**
SNR=122
AAK Ala-Archa 45.02 336 P **P 20 49 50.1 -0.6**
comp=Z,139nm,0.8s,mb5.8,SNR=59
AAK Ala-Archa 45.02 336 *e*P **P 20 49 49.9 -0.8**
AAK pmax pmax
comp=Z,63nm,1.2s,mb5.3
AAK Ala-Archa 45.02 336 *e*P **P 20 49 49.9 -0.9**
comp=Z,63nm,1.2s,mb5.3
FRU Bishkek 45.14 336⇑ *e*P **P 20 49 52.5 +0.8**
FRU pmax pmax
comp=Z,160nm,2.1s,mb5.5
FRU MLR MLR
comp=Z,600nm,20.0s,MS4.5
CHMS Chumysh 45.22 337 P **P 20 49 52.5 +0.2**
SNR=41
EKS2 Erkin-Say 45.34 336 P **P 20 49 54.2 +0.9**
SNR=102
USP Ospenovka 45.55 337 P **P 20 49 55.2 +0.3**
SNR=111
SONM Songino Array 46.02 9 P **P 20 49 58.6 +0.1**
comp=Z,23nm,0.5s,mb5.3,baz=192,slow=9.5,SNR=304
SONM PcP PcP 20 51 35.1 -0.2
comp=Z,10nm,0.6s,baz=193,slow=3.6,SNR=18
SONM ScP 20 55 25.4
comp=Z,1.6nm,1.0s,baz=236,slow=4.5,SNR=4.2
SONM LR LR 21 11 49.0
comp=Z,2μm,19.1s,MS5.0,baz=187,slow=39
ULN Ulaanbaatar 46.15 9 *e*P **P 20 49 58.9 -0.7**
ULN pmax pmax
comp=Z,33nm,0.9s,mb5.3
ULN Ulaanbaatar 46.15 9 *e*P **P 20 49 58.9 -0.7**
comp=Z,33nm,0.9s,mb5.3
MKAR Makanchi Array 46.19 346 P **P 20 49 59.5 -0.4**
comp=Z,74nm,0.8s,mb5.7,baz=157,slow=8.2,SNR=400
MKAR LR LR 21 14 47.6
comp=Z,218nm,19.2s,MS4.1,baz=158,slow=43
ZAK Zakamensk 48.16 5 *e*P **P 20 50 14.9 -0.5**
ZAK *e* 20 51 42.2
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CN2 Changchun 48.27 27 *e*P **P 20 50 15.5 -0.8**
CN2 *e*AP pP 20 50 25.3 -0.1
CN2 *e*S **S 20 57 13.3 +0.3**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.3
CN2 AMB AMB
comp=Z,1μm,6.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.0
CN2 LR LR
comp=E,900nm,18.0s,MS5.0
CN2 LR LR
comp=Z,1μm,21.0s,MS4.8
GUMO Guam 48.32 74 LR LR 21 10 30.9
comp=Z,581nm,20.3s,MS4.5,baz=74,slow=36
MOY Mondy 49.27 3 *e*P **P 20 50 24.0 +0.1**
TLY Talaya 49.48 5⇑ *i*P **P 20 50 25.2 -0.3**
TLY *e* 20 50 40.6
TLY *e* 20 51 53.1
TLY *e*S **S 20 57 28.2 -1.5**
TLY pmax pmax
comp=Z,31nm,1.3s,mb5.2
TLY MLR MLR
comp=Z,2μm,19.0s,MS5.2
TLY Talaya 49.48 5 *e*P **P 20 50 25.3 -0.2**
comp=Z,28nm,1.0s,mb5.2
CBIJ Chichi jima 49.51 56 LR LR 21 09 19.9
comp=Z,395nm,20.4s,MS4.4,baz=130,slow=34
IRK Irkutsk 50.09 6 *e*P **P 20 50 29.5 -0.7**
IRK pmax pmax
comp=Z,46nm,1.8s,mb5.2
HIA Hailar 50.55 19 *i* P **P 20 50 33.6 -0.2**
KURK Kurchatov 50.74 345 *c i*P **P 20 50 34.1 -1.1**
KURK pmax pmax
comp=Z,59nm,1.2s,mb5.4
MDJ Mudanjiang 50.85 29 P **P 20 50 35.3 -0.8**
MDJ AMB AMB
comp=Z,22nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,316nm,5.1s
MDJ LR LR
comp=N,331nm,18.5s,MS4.8
MDJ LR LR
comp=E,777nm,18.5s,MS4.8
MDJ LR LR
comp=Z,888nm,19.9s,MS4.8
MDJ Mudanjiang 50.85 29 *e*P **P 20 50 36.0 -0.1**
comp=Z,35nm,1.1s,mb5.2
PMG Port Moresby 51.02 104 P **P 20 50 35.8 -2.0**
PMG Port Moresby 51.02 104 P **P 20 50 35.7 -2.0**
comp=Z,10nm,0.6s,mb4.9,baz=311,slow=11,SNR=3.3
CTA Charters Tower 52.92 117 P **P 20 50 51.4 -0.6**
comp=Z,13nm,0.9s,mb4.9,baz=301,slow=8.9,SNR=7.3
CTA LR LR 21 18 20.1
comp=Z,359nm,18.4s,MS4.5,baz=94,slow=42
NVS Novosibirsk 53.60 350 *i* P **P 20 50 54.6 -1.9**
NVS *i* S **S 20 58 29.3 +3.0**
NVS pmax pmax
comp=Z,94nm,1.1s,mb5.6
NVS pmax pmax
comp=N,92nm,1.4s
NVS pmax pmax
comp=E,41nm,1.2s
NVS smax
comp=N,27nm,2.0s
NVS smax
comp=E,30nm,2.0s
STKA Stephens Creek 54.03 133 *e*P **P 20 50 59.7 -0.3**
comp=E,9.4nm,0.7s,mb4.8
STKA Stephens Creek 54.03 133 P **P 20 50 59.0 -1.0**
comp=E,12nm,0.7s,mb5.0,baz=307,slow=7.6,SNR=44
STKA LR LR 21 18 10.3
comp=E,601nm,19.1s,MS4.7,baz=105,slow=41
RAYN Ar Rayn 54.33 297 P **P 20 51 01.7 -0.6**
comp=E,86nm,1.0s,SNR=18
KLR Kul'dur 55.22 27 *e*P **P 20 51 05.6 -2.9**
KLR pmax pmax
comp=N,28nm,1.2s
KLR pmax pmax
comp=E,50nm,1.2s
KLR pmax pmax
comp=Z,64nm,1.2s,mb5.5
KLR MLR MLR
comp=E,1μm,17.0s
KLR MLR MLR
comp=Z,2μm,17.0s,MS5.3
BVA0 Borovoye Array 55.23 341 *i* P **P 20 51 07.3 -1.3**
BVA0 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
BVAR Borovoye Array 55.23 341 P **P 20 51 07.1 -1.4**
comp=Z,28nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=145
CHKZ Chkalovo 55.70 341⇑ *i*P **P 20 51 10.9 -1.0**
BOD Bodaibo 56.90 11 *e*P **P 20 51 18.8 -1.6**
BOD pmax pmax
comp=Z,73nm,1.2s,mb5.6
ASAJ Asahikawa 57.71 37 LR LR 21 14 26.9
comp=Z,359nm,21.9s,MS4.7,baz=8.9,slow=34
BHD Baghdad 58.22 308 *e*P **P 20 51 35.0 +4.9**
CLNS Chul'man 58.65 17 *e*P **P 20 51 31.9 -0.8**
CLNS *e* 20 52 18.8
CLNS *e* 20 53 41.1
CLNS *e*PPP PPP 20 55 00.3 -7.8
CLNS *e*S **S 20 59 40.6 +7.3**
CLNS *e* 21 01 15.9
CLNS pmax pmax
comp=Z,47nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,28nm,1.1s
CLNS pmax pmax
comp=E,26nm,1.1s
CLNS pmax pmax
comp=N,11nm,1.5s
CLNS pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS smax
comp=N,183nm,4.1s
CLNS smax
comp=Z,114nm,4.6s
CLNS smax
comp=E,159nm,3.3s
CLNS MLR MLR
comp=Z,2μm,19.0s,MS5.2
CLNS MLR MLR
comp=N,2μm,20.0s,MS5.2
CLNS MLR MLR
comp=E,300nm,15.0s,MS5.2
YSS Yuzh-Sakhalins 59.37 35⇓ *i*P **P 20 51 37.7 -0.2**
YSS pmax pmax
comp=N,60nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS Yuzh-Sakhalins 59.37 35 *e*P **P 20 51 37.4 -0.5**
comp=Z,185nm,1.1s,mb6.0
KMBO Kilima Mbogo 60.13 267 P **P 20 51 42.8 -0.8**
comp=Z,0.7nm,0.2s,mb4.3,baz=33,slow=24,SNR=5.1
KMBO LR LR 21 13 26.0
comp=Z,543nm,20.4s,MS4.7,baz=276,slow=32
MSL Mosul 60.28 311 *e*P **P 20 51 44.0 -0.3**
GNI Garni 60.56 316 P **P 20 51 46.1 -0.1**
comp=Z,16nm,1.0s,mb5.1,baz=71,slow=5.2,SNR=4.1
MTA Mtatsminda 61.18 317 P **P 20 51 49.2 -1.0**
MTA S pP 20 52 06.4 +6.8
TI2 Plekhanov 61.22 317 *e*P **P 20 51 49.0 -1.6**
SVE Sverdlovsk 61.69 338⇑ *i*P **P 20 51 52.5 -1.1**
SVE *e* 20 52 06.0
SVE *e* 20 52 27.3
SVE pmax pmax
comp=Z,140nm,1.1s,mb6.0
SVE MLR MLR
comp=N,100nm,22.0s,MS4.3
SVE MLR MLR
comp=E,200nm,22.0s,MS4.3
SVE MLR MLR
comp=Z,400nm,22.0s,MS4.5
ARU Arti 62.20 337⇑ *i*P **P 20 51 55.4 -1.6**
ARU *e*S **S 21 00 19.6 +0.8**
ARU *e*SS SS 21 04 18.3 -5.5
ARU pmax pmax
comp=Z,48nm,1.0s,mb5.6
ARU Arti 62.20 337 *e*P **P 20 51 55.0 -2.0**
comp=Z,50nm,1.0s,mb5.6
ZEI Tsey 62.23 318 *e*P **P 20 51 51.2 -6.2**
ZEI *i* *PP pP 20 52 00.9 -5.8
ZEI pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
KIV Kislovodsk 63.53 319 *c i*P **P 20 52 04.9 -1.1**
KIV *i* 20 52 20.3
KIV *e* 20 52 49.0
KIV *e*S **S 21 00 31.5 -4.3**
KIV pmax pmax
comp=Z,38nm,1.0s,mb5.4
KIV Kislovodsk 63.53 319 *e*P **P 20 52 04.8 -1.2**
comp=Z,32nm,0.9s,mb5.3
GOF Gofitskoye 63.77 320⇑ *i*P **P 20 52 07.2 -0.3**
GOF *i* 20 52 20.1
GOF pmax pmax
comp=Z,30nm,1.0s,mb5.3
YAK Yakutsk 64.32 16 *e*P **P 20 52 09.2 -1.6**
YAK pmax pmax
comp=Z,220nm,1.0s,mb6.1
YAK Yakutsk 64.32 16 *e*P **P 20 52 09.2 -1.7**
comp=Z,220nm,1.0s,mb6.1
MALT Malatya 64.46 312 *e*P **P 20 52 11.3 -0.9**
MALT pmax pmax
comp=Z,15nm,1.1s,mb4.9
MALT Malatya 64.46 312 *e*P **P 20 52 11.3 -0.9**
comp=Z,15nm,1.1s,mb4.9
EIL Elat 64.95 302 *e*P **P 20 52 13.0 -2.5**
comp=Z,28nm,1.3s,mb5.1
SOC Sochi 65.36 318 *e*P **P 20 52 15.7 -2.2**
SOC *e* 20 52 46.8
SOC *e* 20 54 36.7
SOC *e*S S 21 00 56.5 -1.8
SOC *e* 21 02 03.9
SOC *e*SS SS 21 05 10.1 -3.2
SOC pmax pmax
comp=Z,43nm,0.9s,mb5.5
SOC pmax pmax
comp=N,50nm,1.1s
SOC pmax pmax
comp=E,24nm,0.9s
MBAR Mbarara 66.61 268 *i* P **P 20 52 22.4 -4.0**
MBAR Mbarara 66.61 268 P **P 20 52 25.0 -1.3**
comp=E,6.2nm,0.9s,mb4.6
ANN Anapa 67.33 318 *e*P **P 20 52 28.8 -1.6**
ANN pmax pmax
comp=Z,91nm,1.7s,mb5.5
CSS Prodhromos 67.47 307 *e*P **P 20 52 30.3 -1.2**
comp=Z,41nm,1.4s,mb5.3
BRTR Keskin Array B 68.44 312 P **P 20 52 35.7 -1.8**
comp=Z,5.2nm,1.0s,mb4.5,baz=135,slow=7.2,SNR=16
VRSR Storozhevoye 68.70 325 *e*P **P 20 52 36.8 -2.0**
VRSR pmax pmax
comp=Z,30nm,1.0s,mb5.2
VRSR pmax pmax
comp=N,20nm,1.2s
VRSR pmax pmax
comp=E,40nm,1.0s
VOR Voronezh 68.91 326 *e*P **P 20 52 39.2 -0.9**
VOR *e* 20 52 52.3
VOR pmax pmax
comp=Z,60nm,1.1s,mb5.4
SIM Simferopol' **69.61 317** *de*P **P 20 52 44.2 -0.3**
SIM *e*S S 21 01 46.0 -3.3
SIM pmax pmax
comp=Z,30nm,0.9s,mb5.2
MA2 Magadan 70.29 26 *ce*P **P 20 52 48.1 -0.3**
MA2 *e*S S 21 01 57.4 +0.4
MA2 *e*SS SS 21 06 20.5 -8.6
MA2 pmax pmax
comp=Z,700nm,1.4s
MA2 pmax pmax
comp=N,9.0nm,1.3s
MA2 MLR MLR
comp=Z,2μm,24.0s
MA2 Magadan 70.29 26 *e*P **P 20 52 47.6 -0.7**
comp=Z,74nm,1.4s,mb5.4
PET Petropavlovsk 71.25 34 *e*P **P 20 52 54.4 0.0**
PET *e*S S 21 02 06.7 -1.6
PET *e*PS PS 21 02 36.7 -4.1
PET *e*PPS PPS 21 02 47.7 -6.1
PET pmax pmax
comp=Z,56nm,0.8s,mb5.5
PET pmax pmax
comp=Z,100nm,11.4s
PET smax
comp=E,100nm,13.7s
PET MLR MLR
comp=Z,300nm,19.0s,MS4.6
PET Petropavlovsk 71.25 34 *i* P **P 20 52 53.9 -0.5**
MOS Moscow 71.43 329α *i*P **P 20 52 54.7 -0.7**
MOS *e* pP 20 53 04.6 -0.1
MOS *e* 20 53 18.1
MOS pmax pmax
comp=Z,127nm,0.9s,mb5.8
MOS MLR MLR
comp=Z,800nm,20.5s,MS5.0
DZM Mont Dzumac 71.64 114 P **P 20 52 57.7 +0.5**
comp=Z,10nm,0.9s,mb4.8,baz=319,slow=8.7,SNR=5.2
DZM LR LR 21 24 48.1
comp=Z,274nm,20.5s,MS4.5,baz=214,slow=36
OBN Obninsk 71.72 328 P **P 20 52 56.9 -0.3**
comp=Z,367nm,0.8s,SNR=7.9
OBN Obninsk 71.72 328 *c i*P **P 20 52 56.0 -1.2**
OBN *i* 20 53 14.5
OBN *e* 20 55 36.2
OBN *i*S S 21 02 09.3 -4.4
OBN *e*SS SS 21 06 46.4 -5.1
OBN pmax pmax
comp=Z,73nm,1.2s,mb5.5
OBN Obninsk 71.72 328 *e*P **P 20 52 55.6 -1.5**
comp=Z,67nm,1.0s,mb5.5
TIXI Tiksi 72.07 10 *e*P **P 20 52 54.8 -4.2**
TIXI *e*S S 21 02 08.9 -8.6
TIXI pmax pmax
comp=Z,19nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,670nm,17.0s,MS5.0
TIXI Tiksi 72.07 10 *i* P **P 20 52 57.4 -1.6**
SEY Seymchan 72.70 23 *e*P **P 20 53 04.3 +1.5**
SEY 20 53 16.8
SEY *e*PPP PPP 20 57 22.1 -7.1
SEY *e*S S 21 02 30.1 +5.4
SEY 21 02 58.1
SEY pmax pmax
comp=Z,40nm,1.0s,mb5.3
SEY pmax pmax
comp=N,20nm,0.7s
SEY pmax pmax
comp=E,30nm,0.9s
TIRR Tirgusor 73.39 316⇑ P **P 20 53 07.2 0.0**
KIS Kishinev 73.73 318 *e*P **P 20 53 07.0 -2.1**
CFR Carcaliu 73.75 316⇑ P **P 20 53 09.3 0.0**
MAW Mawson 73.82 193 LR LR 21 19 12.9
comp=E,366nm,19.2s,MS4.7,baz=73,slow=30
AKASG Malin Array Be 74.44 322 P **P 20 53 11.8 -1.3**
comp=E,10nm,0.6s,mb5.0,baz=88,slow=5.1,SNR=67
LBTB Lobatse 74.47 243 P **P 20 53 14.0 +0.2**
comp=E,4.9nm,0.9s,mb4.5,baz=151,slow=5.1,SNR=4.6
ISR Istrita 74.84 316⇑ P **P 20 53 19.9 +4.3**
VRI Vrincioaia 74.87 317⇓ *i*P **P 20 53 16.3 +0.6**
MLR Muntele Rosu 75.33 316 P **P 20 53 18.4 0.0**
comp=E,9.2nm,0.8s,mb4.8
MLR Muntele Rosu 75.33 316⇓ *i*P **P 20 53 18.8 +0.4**
MLR ⇑ *i*P 20 53 19.2
MLR Muntele Rosu 75.33 316⇓ *i*P **P 20 53 18.8 +0.4**
MLR Muntele Rosu 75.33 316⇑ P **P 20 53 19.2 +0.8**
BOSA Boshof 75.42 240 P **P 20 53 19.1 -0.2**
comp=E,4.5nm,1.1s,mb4.3,baz=118,slow=2.3,SNR=7.4
BOSA LR LR 21 25 23.3
comp=E,492nm,18.0s,MS4.8,baz=256,slow=35
SNX Sinaia 75.60 316⇑ P **P 20 53 21.3 +1.4**
BURAR Bucovina Array 76.26 318⇑ P **P 20 53 24.3 +0.7**
MNK Minsk 76.28 326⇓ *e*P **P 20 53 42.0 +18**
APA Apatity 78.12 339⇑ *i*P **P 20 53 33.3 -0.2**
APA *i* 20 53 49.5
APA pmax pmax
comp=Z,36nm,1.0s,mb5.3
KWP Kalwaria 78.28 320 *e*P **P 20 53 34.5 -0.2**
BZS Buzias 78.34 316⇓ P **P 20 53 35.1 0.0**
KOLS Kolonicke sedl 78.44 319 *i*P **P 20 53 35.9 +0.3**
SUW Suwalki 78.82 325 *e*P **P 20 53 36.1 -1.5**
CRVS Cervenica-Dubn 78.96 319 *e*P **P 20 53 41.6 +3.1**
CRVS *e*pP pP 20 53 50.5 +2.6
FINES FINESS Array B 79.06 332 P **P 20 53 38.4 -0.3**
comp=Z,12nm,0.5s,mb5.1,baz=98,slow=5.7,SNR=189

FINES LR LR 21 33 43.6
comp=Z,198nm,20.7s,MS4.4,baz=294,slow=40
KAF Kangasniemi 79.14 333 *e*P **P 20 53 38.2 -0.9**
comp=Z,18nm,0.4s,mb5.4,baz=102,slow=5.0
KAF Kangasniemi 79.14 333 *e*P **P 20 53 38.2 -0.9**
KAF pmax pmax
comp=Z,18nm,0.4s,mb5.3
FX1 Attu Island--F 79.64 37 *e*P **P 20 53 42.0 -0.1**
NIE Niedzica 79.78 320 *e*P **P 20 53 42.1 -0.8**
PSZ Piszkesteto 79.84 318⇓ *e*P **P 20 53 43.8 +0.5**
SUR Sutherland 79.86 237 P **P 20 53 44.8 +1.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=148,slow=5.0,SNR=4.0
RPZ Rata Peaks 79.92 135 P **P 20 53 44.2 +0.4**
comp=Z,12nm,0.6s,mb5.0,baz=212,slow=6.8,SNR=8.4
BILL Bilibino 80.09 21 *i* P **P 20 53 42.8 -1.4**
BILL *e* pP 20 53 51.9 -1.8
BILL pmax pmax
comp=Z,12nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,600nm,13.0s,MS5.1
BILL Bilibino 80.09 21 *i* P **P 20 53 42.9 -1.3**
OJC Ojcow 80.23 320 *e*P **P 20 53 45.5 +0.2**
PKSM Moragy 80.48 316⇑ *e*P **P 20 53 46.5 -0.2**
VYHS Vyhne 80.62 319 *e*P **P 20 53 48.3 +0.9**
STON Ston 80.80 313 *i* P **P 20 53 47.2 -1.3**
KEV Kevo 81.08 341 *e*p **P 20 53 49.6 +0.2**
comp=Z,16nm,0.9s,mb5.0
KEV Kevo 81.08 341 *e*P **P 20 53 49.6 +0.2**
KEV pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIP Timpagrande 81.20 309 *e*P **P 20 53 51.0 +0.3**
OKC Ostrava-Krasne 81.23 320 *e*P **P 20 53 51.6 +1.0**
OKC *e*S S 21 03 55.5 -1.9
OKC AMS AMS 21 37 40.0
comp=Z,100nm,18.7s
ARCES ARCESS Array B 81.52 340 P **P 20 53 52.5 +0.8**
comp=Z,11nm,0.6s,mb5.0,baz=90,slow=5.4,SNR=61
ARCES LR LR 21 32 59.6
comp=Z,360nm,21.8s,MS4.7,baz=103,slow=38
ARE0 ARCESS Array S 81.52 340 P **P 20 53 51.7 0.0**
MORC Moravsky Berou 81.62 320 *e*P **P 20 53 52.1 -0.5**
MORC pmax pmax
comp=Z,17nm,1.3s,mb4.8
MORC Moravsky Berou 81.62 320 *e*P **P 20 53 52.1 -0.5**
comp=Z,17nm,1.3s,mb4.8
ZST Bratislava 81.74 318 *e*P **P 20 53 53.5 +0.3**
DPC Dobruska-Polom 82.46 320 *e*P **P 20 53 57.8 +0.9**
DPC *e*S S 21 04 11.0 +1.1
DPC AMS AMS 21 34 00.0
comp=Z,100nm,22.3s
KSP Ksiaz 82.52 321 *e*P **P 20 53 57.6 +0.4**
KSP *e*S S 21 04 11.0 +0.4
UPC Upice 82.67 320 *e*P **P 20 53 58.7 +0.7**
ARSA Arzberg 82.72 317⇑ *i*P **P 20 53 58.9 +0.6**
comp=Z,10nm,1.2s,mb4.7
BOJS Bojanci 82.77 315 *e*P **P 20 53 58.8 +0.1**
VISS Visnje 83.08 316 *e*P **P 20 54 00.3 +0.1**
LJU Ljubljana 83.31 316 *e*P **P 20 54 02.0 +0.6**
URZ Urewera 83.43 129 P **P 20 54 02.3 0.0**
comp=Z,10nm,0.7s,mb5.0,baz=51,slow=10,SNR=3.5
URZ LR LR 21 33 31.8
comp=Z,374nm,18.8s,MS4.8,baz=345,slow=37
PRU Pruhonice 83.57 320 *e*P **P 20 54 03.6 +0.9**
PRU *e*S S 21 04 22.5 +1.3
PRU AMS AMS 21 37 40.0
comp=Z,100nm,20.2s
PVCC Panska Ves 83.59 320 *e*P **P 20 54 03.4 +0.7**
PVCC AMS AMS 21 36 50.0
comp=Z,200nm,23.5s
GORS Gorjuse 83.70 316 *i* P **P 20 54 03.4 0.0**
VOY Vojsko 83.75 316 *e*P **P 20 54 04.0 +0.3**
AQU L'Aquila 83.93 312 *e*P **P 20 54 05.0 +0.3**
AQU pmax pmax
comp=Z,33nm,1.0s,mb5.4
AQU L'Aquila 83.93 312 *e*P **P 20 54 05.0 +0.3**
comp=Z,33nm,1.0s,mb5.4
BRG Berggiesshubel 84.01 321 *e*P **P 20 54 06.0 +1.1**
BRG *e*S S 21 04 25.0 -0.5
BRG pmax pmax
comp=Z,11nm,1.2s,mb4.9
BRG Berggiesshubel 84.01 321 *e*P **P 20 54 06.0 +1.1**
comp=Z,10nm,1.2s,mb4.8
BRG *e*S S 21 04 25.0 -0.5
GEC2 GERESS Array S 84.04 319 *e*P **P 20 54 06.3 +1.2**
GEC2 pmax pmax
comp=Z,17nm,1.2s,mb5.0
GEC2 GERESS Array S 84.04 319 *e*P **P 20 54 06.3 +1.2**
comp=Z,17nm,1.2s,mb5.0
GERES GERESS Array B 84.04 319 P **P 20 54 05.3 +0.2**
comp=Z,3.1nm,0.6s,mb4.7,baz=104,slow=5.5,SNR=39
GERES LR LR 21 37 57.3
comp=Z,74nm,21.0s,MS4.0,baz=272,slow=40
KHC Kasperske Hory 84.14 319 *e*P **P 20 54 05.5 -0.1**
PTCC Patocco-Chiusa 84.15 316 *e*P **P 20 54 05.9 +0.2**
NRCA Norcia 84.16 313 *e*P **P 20 54 06.6 +0.7**
KBA Koelnbreinsper 84.19 317⇑ *i*P **P 20 54 05.9 0.0**
comp=Z,4.7nm,0.8s,mb4.7
KBA Koelnbreinsper 84.19 317⇑ *i*P **P 20 54 05.9 0.0**
KBA pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
RUE Ruedersdorf 84.22 322 *e*P **P 20 54 06.3 +0.5**
SNTG Esanatoglia 84.31 313 *e*P **P 20 54 07.5 +1.0**
ARV Arcevia 84.32 313 *e*P **P 20 54 07.7 +1.1**
FSSB Fossombrone 84.44 313 *e*P **P 20 54 08.6 +1.4**
WET Wettzell 84.60 319 *e*P **P 20 54 09.0 +1.1**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WET Wettzell 84.60 319 *e*P **P 20 54 09.0 +1.1**
comp=Z,6.0nm,0.9s,mb4.7
CLL Collm 84.63 321 *e*P **P 20 54 09.0 +1.0**
CLL *e* 20 54 15.0
CLL *e* 20 54 27.0
CLL Collm 84.63 321 P **P 20 54 09.0 +1.0**
CLL e*PP pP 20 54 17.0 -0.5
CLL e*SP sP 20 54 24.0 +3.4
RSM Repubblica di 84.69 314 *e*P **P 20 54 09.2 +0.8**
NKC Novy Kostel 84.93 320 *e*P **P 20 54 10.4 +0.9**
NKC AMS AMS 21 38 30.0
comp=Z,200nm,17.3s
SFI Santa Sofia 85.12 314 *e*P **P 20 54 11.7 +1.1**
PGD Poggio Sodo 85.21 314 *e*P **P 20 54 12.9 +1.8**
CTI Castel Tesino 85.32 316 *e*P **P 20 54 12.9 +1.4**
VMG Vicchio 85.34 314 *e*P **P 20 54 14.8 +3.1**
WTTA Wattenberg 85.36 317⇑ *i*P **P 20 54 11.4 -0.3**
comp=Z,16nm,1.2s,mb5.0
WTTA Wattenberg 85.36 317⇑ *i*P **P 20 54 11.4 -0.3**
WTTA pmax pmax
comp=Z,16nm,1.2s,mb5.0
WATA Walderalm 85.40 317⇑ *i*P **P 20 54 11.2 -0.7**
comp=Z,4.2nm,1.1s,mb4.5
WATA Walderalm 85.40 317⇑ *i*P **P 20 54 11.2 -0.7**
WATA pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
KIWB Kanaga Island 85.43 38 P **P 20 54 12.3 +0.3**
MOX Moxa 85.48 320 *e*P **P 20 54 13.2 +1.0**
MOX Moxa 85.48 320 *i* P **P 20 54 13.2 +1.0**
FUR Furstenfeldbru 85.63 318 *e*P **P 20 54 13.6 +0.6**
SQTA Sankt Quirin 85.65 317⇑ *i*P **P 20 54 12.8 -0.4**
comp=Z,20nm,1.6s,mb5.1
SQTA Sankt Quirin 85.65 317⇑ *i*P **P 20 54 12.8 -0.4**
SQTA pmax pmax
comp=Z,20nm,1.6s,mb5.1
GRA1 Grafenberg Arr 85.70 319 *e*P **P 20 54 14.8 +1.4**
comp=Z,11nm,0.9s,mb5.1
GRF Grafenberg Arr 85.70 319 *e*P **P 20 54 14.8 +1.4**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.1
GRF Grafenberg Arr 85.70 319 *e*P **P 20 54 14.8 +1.4**
GRF pmax pmax
comp=Z,11nm,0.9s,mb5.1
GRF Grafenberg Arr 85.70 319 *e*P **P 20 54 14.8 +1.4**
comp=Z,11nm,0.9s,mb5.1
NB2 NORSAR Subarra 86.08 331 P **P 20 54 14.9 -0.1**
comp=Z,19nm,1.0s,mb5.3,baz=92,slow=5.0
NB2 NORSAR Subarra 86.08 331 P **P 20 54 14.9 -0.1**
NB2 pmax pmax
comp=Z,19nm,1.0s,mb5.3
NB2 NORSAR Subarra 86.08 331 P **P 20 54 14.9 -0.1**
baz=92,slow=5.1
NOA NORSAR Array B 86.08 331 P **P 20 54 15.0 0.0**
comp=Z,13nm,0.9s,mb5.2,baz=94,slow=4.9,SNR=42
NOA PP PP 20 57 33.0 -4.0
comp=Z,1.7nm,0.9s,baz=93,slow=8.3,SNR=3.9
BRMO Bormio 86.21 316 *e*P **P 20 54 17.2 +1.2**

NAO01 NORSAR Array S 86.23 331 *e*P **P 20 54 16.3 +0.6**
comp=Z,9.2nm,0.8s,mb5.1
CLZ Clausthal 86.29 322 *e*P **P 20 54 17.4 +1.2**
CLZ pmax pmax
comp=Z,16nm,1.2s,mb5.1
CLZ Clausthal 86.29 322 *e*P **P 20 54 17.4 +1.2**
comp=Z,16nm,1.2s,mb5.1
DAVOX Davos 86.55 317 P **P 20 54 17.5 -0.1**
comp=Z,13nm,0.8s,mb5.2,baz=136,slow=6.0,SNR=18
DAVA Damuels 86.56 317⇑ *i*P **P 20 54 19.0 +1.4**
comp=Z,11nm,0.9s,mb5.1
RAO Raoul Island 86.57 119 LR LR 21 36 06.1
comp=Z,252nm,19.2s,MS4.6,baz=319,slow=38
VNDA Vanda 86.90 169 P **P 20 54 18.6 0.0**
comp=Z,0.6nm,0.9s,baz=308,slow=6.1,SNR=5.7
VNDA LR LR 21 29 48.1
comp=Z,398nm,20.1s,baz=290,slow=33
MUD Monsted U'grnd 87.04 326 *i* P **P 20 54 21.3 +1.5**
MUD *i* S S 21 04 56.2 +1.3
MUD pmax pmax
comp=Z,13nm,0.8s,mb5.2
MUD Monsted U'grnd 87.04 326 *i* P **P 20 54 21.3 +1.5**
comp=Z,13nm,0.8s,mb5.2
MUD *i* S S 21 04 56.2 +1.3
MUD Monsted U'grnd 87.04 326 *i* P **P 20 54 21.3 +1.5**
comp=Z,13nm,0.8s,mb5.2
MUD Monsted U'grnd 87.04 326 *i* S S 21 04 56.2 +1.3
TNS Taunus Mts 87.50 320 *e*P **P 20 54 23.5 +1.4**
BFO Black Forest 87.60 318 *e*P **P 20 54 23.7 +1.1**
BFO pmax pmax
comp=Z,5.0nm,1.1s,mb4.7
BFO Black Forest 87.60 318 *e*P **P 20 54 23.7 +1.1**
comp=Z,5.0nm,1.1s,mb4.7
LPG La Plagne 88.75 315 *e*P **P 20 54 28.5 +0.3**
comp=Z,30nm,1.1s,mb5.2
LPG La Plagne 88.75 315 *e*P **P 20 54 28.5 +0.3**
LPG pmax pmax
comp=Z,15nm,1.1s,mb5.2
TNA Tin City 89.89 24 *e*P **P 20 54 33.3 +0.1**
comp=Z,7.9nm,1.2s,mb4.9
JMIC Jan Mayen 92.94 342 LR LR 21 44 11.1
comp=Z,221nm,21.9s,MS4.6,baz=82,slow=40
DAG Danmarks Havn 93.53 348 *e*P **P 20 54 49.0 -0.7**
DAG Danmarks Havn 93.53 348 *i* P **P 20 54 49.0 -0.7**
IMA Indian Mountai 95.52 23 *e*P **P 20 54 59.3 +0.3**
IMA pmax pmax
comp=Z,69nm,1.0s,mb6.0
IMA Indian Mountai 95.52 23 *e*P **P 20 54 59.3 +0.3**
comp=Z,69nm,1.0s,mb6.0
BORG Borgarnes 99.73 338 LR LR 21 47 33.3
comp=Z,115nm,20.3s,MS4.4,baz=246,slow=40
YKA Yellowknife Ar 110.99 15 Pdiff Pdif 20 56 09.9 +2.0
comp=Z,0.1nm,0.4s,baz=297,slow=1.4,SNR=2.9
YKA PKiKP 21 00 07.0
comp=Z,0.2nm,0.6s,baz=317,slow=1.6,SNR=5.9
YKA PP PP 21 00 39.8 -9.3
comp=Z,2.5nm,0.9s,baz=332,slow=7.5,SNR=11
YKA Yellowknife Ar 110.99 15 Pdif Pdif 20 56 09.9 +2.0
YKA PKPdf PKPdf 21 00 07.0 -4.1
YKA PP PP 21 00 39.8 -9.3
TBI Tubuai 112.22 114 *e*LR LR 21 33 38.7
comp=Z,254nm,30.5s
PPT Papeete 112.73 108 *e*LR LR 21 33 54.0
comp=Z,232nm,24.2s
SCHQ Schefferville 121.55 349 PKP PKPdf 21 00 27.6 -4.2
comp=Z,2.0nm,0.5s,baz=19,slow=5.3,SNR=9.0
SCHQ PP PP 21 01 58.7 -4.5
comp=Z,6.8nm,1.1s,baz=16,slow=8.6,SNR=5.1
MSO Missoula 123.87 25 *e*PKP PKPdf 21 00 32.3 -4.2
RKT Rikitea 125.35 117 *e*LR LR 21 39 43.1
comp=Z,226nm,26.8s
ULM Lac du Bonnet 126.42 10 PKP PKPdf 21 00 37.0 -4.4
comp=Z,6.3nm,0.8s,baz=339,slow=3.4,SNR=12
ULM PP PP 21 02 31.7 -4.3
comp=Z,0.7nm,0.3s,baz=333,slow=4.5,SNR=2.9
ULM Lac du Bonnet 126.42 10 *e*PKP PKPdf 21 00 36.9 -4.4
QLMT Earthquake Lak 126.53 25 *e*PKP PKPdf 21 00 39.0 -2.7
REDW Red Top Meadow 127.95 26 *e*PKP PKPdf 21 00 41.1 -3.5
PDAR Pinedale Array 128.99 25 PKP PKPdf 21 00 42.6 -3.9
comp=Z,1.8nm,0.6s,baz=270,slow=1.5,SNR=14
PDAR PP PP 21 02 49.7 -4.0
comp=Z,2.0nm,1.1s,baz=297,slow=3.3,SNR=3.7
TRCR Troy Canyon 129.41 34 PKP PKPdf 21 00 44.9 -2.5
RSSD Black Hills 129.97 20 *e*PKP PKPdf 21 00 44.6 -3.7
MSU Marysvale 131.11 31 *e*PKP PKPdf 21 00 48.4 -2.3
PV10 Paradox Valley 132.76 28 *e*PKP PKPdf 21 00 51.5 -2.3
MNTX Cornudas Mount 139.89 31 PKP PKPdf 21 01 03.2 -3.8
MIAR Mount Ida 141.93 15 PKP PKPdf 21 01 02.2 -8.4
TXAR Lajitas Array 142.67 31 PKhKP 21 01 04.5
comp=Z,1.3nm,0.5s,baz=128,slow=1.0,SNR=6.0
TXAR PP PP 21 04 15.9 -3.3
comp=Z,2.0nm,0.9s,baz=326,slow=4.5,SNR=6.0
TXAR Lajitas Array 142.67 31 PKP PKPdf 21 01 04.5 -7.6
TXAR PP PP 21 04 15.9 -3.3
BDFB Brasilia 143.35 247 PKP PKPdf 21 01 11.4 -2.1
comp=Z,1.9nm,0.4s,baz=125,slow=5.5,SNR=4.4
LRAL Lakeview Retre 144.60 6 *e*PKP PKPdf 21 01 09.7 -5.6
LPAZ La Paz 160.04 225 PKP PKPdf 21 01 36.1 -2.0
comp=Z,0.4nm,0.3s,baz=333,slow=13,SNR=3.7

IDC 29 20:46:04.2±14.0, 20.22S×178.58W, h632km±131km, mb3.5/4, mb1 3.7/5, mb1mx3.3/15, mbtmp4.6/5, Error ellipse: s-maj=188.1km s-min=92.7km az=142.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.10**	**260**	*e*P	P	20 49 03.5	+0.2
DZM	**Mont Dzumac**	**14.10**	**260**	P	P	20 49 04.1	+0.8
	1.6nm,0.3s,baz=80,slow=20,SNR=16						
CTA	**Charters Tower**	**32.98**	**264**	P	P	20 51 49.8	-1.2
	6.2nm,0.5s,baz=92,slow=9.3,SNR=6.8						
ASAR	**Alice Springs**	**44.05**	**257**	P	P	20 53 18.6	-1.6
	4.5nm,0.6s,baz=90,slow=8.4,SNR=24						
WRA	**Warramunga Arr**	**44.10**	**262**	P	P	20 53 18.6	-2.1
	3.2nm,0.4s,baz=97,slow=7.5,SNR=22						
FITZ	**Fitzroy Crossi**	**52.53**	**262**	P	P	20 54 21.3	-1.7
	3.6nm,0.5s,baz=92,slow=2.6,SNR=12						
BVAR	**Borovoye Array**	**118.52**	**320**	PKP	PKPdf	21 03 41.7	+0.2
	0.5nm,0.4s,baz=132,slow=0.3,SNR=4.8						
AKASG	**Malin Array Be**	**142.51**	**331**	PKP	PKPdf	21 04 23.9	-2.4
	2.3nm,0.4s,baz=44,slow=4.2,SNR=19						
BRTR	**Keskin Array B**	**146.25**	**312**	PKPbc	PKPbc	21 04 36.5	+1.6
	1.5nm,0.8s,baz=143,slow=4.0,SNR=4.3						

IDC 29 20:51:25.8±5.9, 30.57S×178.98W, mb3.8/2, mb1 4.1/2, mb1mx3.8/10, mbtmp3.8/2, Error ellipse: s-maj=233.7km s-min=56.3km az=156.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.26**	**268**	P	P	20 59 20.6	-2.0
	0.5nm,0.6s,baz=110,slow=8.0,SNR=5.2						
WRA	**Warramunga Arr**	**43.26**	**273**	P	P	20 59 29.5	-1.4
	0.8nm,0.3s,baz=113,slow=7.9,SNR=21						
FINES	**FINESS Array B**	**145.01**	**339**	PKPbc	PKPbc	21 11 02.7	-1.7
	0.6nm,0.5s,baz=76,slow=5.7,SNR=4.7						

*IPEC **29** 21:03:27.2±0.3,51.61N×16.16E,ML2.0/3,Error ellipse: s-maj=1.9km s-min=1.5km az=44.0*
*NEIC **29** 21:03:28.0±1.5,51.56N×16.10E,h5km,ML2.7(VIE), ML2.6(SZGRF),ML2.3(BRG),Error ellipse: s-maj=16.8km s-min=6.4km az=195.0*
*PRU **29** 21:03:29.5,51.48N×16.05E*
*CSEM **29** 21:03:29.6±0.3,51.50N×16.04E,h2km,ML3.0/9,Error ellipse: s-maj=5.2km s-min=2.7km az=10.0*
WAR 29 21:03:29.3,51.54N×16.06E,h1km,ML2.7,2C,Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.71**	**168**	*e*PG	Pg	21 03 42.0	-1.5
KSP				*e*SG	Sg	21 03 52.0	-1.0
KSP	**Ksiaz**	**0.71**	**168**	*e*Pg	Pg	21 03 42.0	-1.5
KSP				*e*Sg	Sg	21 03 51.5	-1.5
UPC	**Upice**	**1.03**	**182**	*e*PG	Pg	21 03 48.1	-1.8
DPC	**Dobruska-Polom**	**1.20**	**172**	*e*PG	Pg	21 03 51.0	-2.3
DPC				*e*SG	Sg	21 04 06.5	-2.8
	18nm,0.3s						
PVCC	**Panska Ves**	**1.38**	**223**	*e*PG	Pg	21 03 55.1	-1.7
PVCC	**Panska Ves**	**1.38**	**223**	*e*Pn	Pn	21 03 54.7	-1.0
PVCC				*e*Sg	Sg	21 04 13.6	-1.6
BRG	**Berggiesshubel**	**1.49**	**244**	*i* Pg	Pg	21 03 56.5	-2.5
BRG				*i* Sg	Sg	21 04 16.8	-2.0
PRU	**Pruhonice**	**1.83**	**212**	*e*PN	Pn	21 04 00.4	-1.7
PRU				*e*PG	Pg	21 04 02.2	-3.5
PRU				*ex*	x	21 04 19.2	
PRU				*e*SG	Sg	21 04 26.2	-3.9
	23nm,0.3s						
CLL	**Collm**	**1.93**	**264**	*e*Pn	Pn	21 04 01.0	-2.5
CLL				*e*Pg	Pg	21 04 04.0	-3.7
CLL				*i* Sg	Sg	21 04 30.1	-3.3
CLL	**Collm**	**1.93**	**264**	*e*PN	Pn	21 04 01.0	-2.5
CLL				*e*PG	Pg	21 04 04.0	-3.7
CLL				*e*		21 04 09.0	
CLL				*i* SG	Sg	21 04 30.1	-3.3
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	Pn	21 04 02.7	-1.9
MORC				*e*S	Sn	21 04 30.6	0.0
MORC	**Moravsky Berou**	**2.00**	**151**	*e*Pn	Pn	21 04 02.7	-1.9
MORC				*e*S	Sn	21 04 30.6	0.0
MORC				*e*Sg	Sg	21 04 31.2	-4.7
	11nm,0.3s						
OKC	**Ostrava-Krasne**	**2.16**	**141**	*e*PG	Pg	21 04 07.0	-5.4
OKC				*e*SG	Sg	21 04 36.5	-4.7
	26nm,0.8s						
VRAC	**Vranov**	**2.26**	**171**	*e*Pn	Pn	21 04 06.9	-1.4
VRAC				*e*Sg	Sg	21 04 39.8	-4.7
	7.3nm,0.3s						
KRUC	**Moravsky**	**2.49**	**175**	*e*Pn	Pn	21 04 10.2	-1.4
KRUC				*e*Sg	Sg	21 04 47.0	-5.2
	4.2nm,0.2s						
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN	Pn	21 04 12.4	-1.2
NKC				*e*PG	Pg	21 04 16.2	-5.6
NKC				*e*SG	Sg	21 04 53.0	-3.9
	15nm,0.2s						
OJC	**Ojcow**	**2.71**	**118**	*e*Pg	Pg	21 04 20.8	-2.7
OJC				*e*Sg	Sg	21 04 56.4	-3.2
KHC	**Kasperske Hory**	**2.89**	**214**	*e*PN	Pn	21 04 15.5	-1.8
KHC				*e*PG	Pg	21 04 21.5	-5.4
KHC				*e*SN	Sn	21 04 51.0	-2.1
KHC				*e*SG	Sg	21 04 59.0	-6.4
MOX	**Moxa**	**2.94**	**254**	*e*Pg	Pg	21 04 24.0	-4.0
MOX				*e*Sg	Sg	21 05 03.9	-3.3
GEC2	**GERESS Array S**	**3.09**	**210**	*e*Pn	Pn	21 04 19.3	-0.9
GEC2				*e*Sg	Sg	21 05 05.6	-6.6
WET	**Wettzell**	**3.14**	**222**	*e*Sg	Sg	21 05 08.5	-5.5
SMOL	**Smolenice**	**3.15**	**163**	*e*SG	Sg	21 05 09.6	-4.7
GRA1	**Grafenberg Arr**	**3.59**	**241**	*e*Sg	Sg	21 05 23.0	-5.8
GRF	**Grafenberg Arr**	**3.59**	**241**	*e*Sg	Sg	21 05 23.0	-5.8
MOA	**Molln**	**3.87**	**198**⇑ *i*PN		Pn	21 04 29.2	-2.1
MOA				*i* SG	Sg	21 05 31.5	-6.7
	9.7nm,0.7s						
ARSA	**Arzberg**	**4.31**	**185**⇑ *i*PN		Pn	21 04 35.3	-2.1
ARSA				*i* SG	Sg	21 05 43.9	-8.8
	4.3nm,0.7s						

*DJA **29** 21:04:07.7±17.0,3.18N×128.68E,h33km,mb5.3/3, Error ellipse: s-maj=757.5km s-min=45.1km az=92.0*
*BJI **29** 21:04:37.3,1.47N×128.13E,h246km,mB5.0,mb4.8*
*NEIC **29** 21:04:38.2±1.5,1.68N×127.86E,h218km±15km,mb4.6/29, Error ellipse: s-maj=9.5km s-min=5.2km az=69.0*
*IDC **29** 21:04:38.4±0.7,1.56N×127.60E,h216km±5km,mb4.2/12, mb1 4.3/13,mb1mx4.1/17,mbtmp4.7/13, Error ellipse: s-maj=27.3km s-min=6.8km az=77.0*
*MOS **29** 21:04:39.2±0.9,1.69N×127.81E,h245km,mb4.6/15, Error ellipse: s-maj=14.4km s-min=8.3km az=103.4*
ISC 29 21:04:36.2±1.4, 1.69N±0.04×127.84E±0.07, h210km±13km, h215km±6.1km; pP-P, n109, s0 s91/108, mb4.6/52, 17C-4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKM	**Kota Kinabalu**	**12.38**	**291**	*e*P	P	**21 07 25.9**	**-0.6**
KAKA	**Kakadu**	**15.02**	**162**	*e*P	P	**21 07 59.0**	**-0.5**
	17nm,0.9s						
KEDI	**Kedomdong**	**15.46**	**229**⇓	*e*P	P	**21 08 05.4**	**+0.5**
RATI	**Rata**	**16.05**	**230**⇓	*e*P	P	**21 08 12.8**	**+0.7**
	864nm,0.8s						
KELI	**Kelakatan**	**16.55**	**233**⇑	*e*P	P	**21 08 18.4**	**+0.2**
SRDI	**Scrawed**	**16.99**	**233**⇑	*e*P	P	**21 08 23.9**	**+0.8**
	379nm,0.8s						
KSM	**Kuching**	**17.53**	**270**	*e*P	P	**21 08 28.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**19.79**	**186**	*e*P	P	**21 08 50.7**	**-1.5**
	17nm,0.6s						
FITZ				*e*S	S	**21 12 28.3**	**+10**
FITZ	**Fitzroy Crossi**	**19.79**	**186**	P	P	**21 08 50.4**	**-1.9**
	2.2nm,0.3s,baz=11,slow=8.1,SNR=42						
FITZ				S	S	**21 12 21.2**	**+2.6**
	0.1nm,0.3s,baz=186,slow=14,SNR=3.6						
FITZ				ScP		21 16 17.6	
	0.4nm,0.3s,baz=7.7,slow=0.5,SNR=5.9						
WRAB	**Tennant Creek**	**22.42**	**164**	P	P	**21 09 19.0**	**+0.9**
	161nm,0.7s,SNR=15						
WRAB	**Tennant Creek**	**22.42**	**164**	*e*P	P	**21 09 18.9**	**+0.8**
WRAB				pmax	pmax		
	comp=Z,21nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**22.42**	**164**	*e*P	P	**21 09 18.9**	**+0.7**
	comp=Z,21nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**22.43**	**164**	P	P	**21 09 19.0**	**+0.9**
	comp=Z,5.8nm,0.3s,mb4.5,baz=334,slow=11,SNR=122						
WRA				S	S	**21 13 07.4**	**+2.0**
	comp=Z,2.0nm,0.9s,baz=342,slow=15,SNR=5.5						
WRA				ScP		21 16 23.7	
	comp=Z,2.9nm,0.8s,baz=337,slow=3.1,SNR=12						
WB2	**Warramunga Arr**	**22.43**	**164**	*e*P	P	**21 09 19.2**	**+1.0**
WB2				*e*S	S	**21 13 07.5**	**+2.0**
YHNB	**Yeheng**	**23.68**	**345**	*e*P	P	**21 09 30.3**	**+0.1**
PENI	**Pendagan**	**23.76**	**252**⇓	*e*P	P	**21 09 30.1**	**-1.0**
	comp=Z,186nm,0.6s,mb5.6						
QIZ	**Qiongzhong**	**24.65**	**316**	*e*P	P	**21 09 39.0**	**-0.3**
	comp=Z,14nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**25.89**	**167**	P	P	**21 09 50.4**	**-0.3**
ASAR				*PP	pP	21 10 34.1	+2.0
ASAR						21 13 14.0	
ASAR				S	S	**21 14 02.2**	**-0.8**
ASAR	**Alice Springs**	**25.89**	**167**	P	P	**21 09 50.4**	**-0.4**
	comp=Z,1.7nm,0.7s,mb3.8,baz=346,slow=6.9,SNR=27						
ASAR				pP	pP	21 10 34.0	+2.0
	comp=Z,9.3nm,0.8s,baz=347,slow=11,SNR=7.0						
ASAR				sP	sP	21 10 58.0	+0.8
	comp=Z,4.7nm,1.0s,baz=345,slow=10,SNR=2.5						
ASAR				PcP	PcP	21 13 14.0	-0.4
	comp=Z,6.1nm,0.7s,baz=356,slow=2.2,SNR=20						
ASAR				S	S	**21 14 02.2**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=349,slow=18,SNR=3.4						
ASAR				ScP		21 16 33.6	
	comp=Z,3.7nm,0.7s,baz=344,slow=2.9,SNR=16						
WHN	**Wuhan**	**31.42**	**337**	⇓P	P	**21 10 41.0**	**+1.1**
GYA	**Guiyang**	**31.95**	**322**⇑	*i*P	P	**21 10 45.5**	**+0.9**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
FORT	**Forrest**	**32.29**	**180**⇑	*i*P	P	**21 10 46.4**	**-1.1**
	comp=Z,529nm,0.6s						
CM31	**Chiang Mai Arr**	**32.87**	**302**	P	P	**21 10 52.9**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.0						
ENH	**Enshi**	**33.34**	**330**⇑	*e*P	P	**21 10 56.7**	**+0.3**
	comp=Z,20nm,0.7s,mb4.8						
KMI	**Kunming**	**33.60**	**316**	P	P	**21 11 00.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.4						
KLBR	**Kellerberrin**	**34.46**	**195**⇓	*i*P	P	**21 11 04.7**	**-1.3**
	comp=Z,135nm,0.3s						
MUN	**Mundaring**	**35.26**	**197**	*e*P	P	**21 11 11.8**	**-0.9**
	comp=Z,9.1nm,0.4s,mb4.7						
MUN	**Mundaring**	**35.26**	**197**	*e*P	P	**21 11 11.8**	**-0.9**
MUN				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb4.7						
STKA	**Stephens Creek**	**35.84**	**160**⇑	*i*P	P	**21 11 18.1**	**+0.4**
	comp=Z,11nm,0.8s,mb4.4						
STKA	**Stephens Creek**

comp=Z,19nm,0.7s,mb4.7
MAT Matsushiro 35.98 14 *e*P **P 21 11 18.0 -0.8**
MAT pmax pmax
comp=Z,19nm,0.9s,mb4.6
MAT Matsushiro 35.98 14 *e*P **P 21 11 18.0 -0.8**
comp=Z,19nm,0.9s,mb4.6
MAT Matsushiro 35.98 14 P **P 21 11 17.5 -1.3**
XAN Xi'an 36.72 333 P **P 21 11 25.0 0.0**
XAN AMB AMB
comp=Z,47nm,0.9s,mb5.0
CD2 Chengdu 36.93 324 P **P 21 11 27.0 +0.2**
BJT Baijiatuan 39.60 346 *e*P **P 21 11 48.9 +0.1**
BJT pmax pmax
comp=Z,56nm,0.6s
BJT Baijiatuan 39.60 346 *e*P **P 21 11 48.9 +0.1**
comp=Z,56nm,0.6s,mb5.2
BJI Beijing 39.62 346 *e*P **P 21 11 49.0 0.0**
BJI AMB AMB
comp=Z,68nm,0.7s,mb5.2
SNY Shenyang 40.14 355 ⇑P **P 21 11 54.0 +0.8**
SNY AMB AMB
comp=Z,20nm,0.9s,mb4.5
LZH Lanzhou 40.81 330 *e*P **P 21 12 00.3 +1.5**
LZH AMB AMB
comp=Z,69nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,182nm,4.0s
CN2 Changchun 41.98 357 *e*P **P 21 12 08.3 0.0**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.1
MDJ Mudanjiang 42.77 2 P **P 21 12 15.8 +1.1**
MDJ AMB AMB
comp=Z,23nm,1.2s,mb4.5
MDJ AMB AMB
comp=Z,423nm,6.3s
MDJ Mudanjiang 42.77 2 *e*P **P 21 12 14.8 +0.2**
comp=Z,9.2nm,0.9s,mb4.2
ASAJ Asahikawa 44.23 15 P **P 21 12 26.9 +0.6**
comp=Z,23nm,1.1s,mb4.4,baz=260,slow=32,SNR=3.9
LSA Lhasa 44.62 312 P **P 21 12 31.5 +1.9**
LSA Lhasa 44.62 312 *e*P **P 21 12 31.1 +1.5**
LSA pmax pmax
comp=Z,14nm,0.7s,mb4.4
LSA Lhasa 44.62 312 *e*P **P 21 12 31.1 +1.4**
comp=Z,14nm,0.7s,mb4.4
GTA Gaotai 45.40 329⇑ *i*P **P 21 12 36.5 +0.8**
GTA PCP PcP 21 14 12.8 +1.1
GTA AMB AMB
comp=Z,18nm,1.1s,mb4.3
JIRN Jiri 47.47 307 *e*P **P 21 12 52.6 +0.7**
comp=Z,74nm,0.8s,mb5.1
KLR Kul'dur 47.48 3 *e*P **P 21 12 48.2 -3.5**
HIA Hailar 47.90 353 *e*P **P 21 12 54.8 -0.2**
HIA pmax pmax
comp=Z,8.0nm,0.9s
HIA Hailar 47.90 353 *e*P **P 21 12 54.8 -0.2**
comp=Z,8.2nm,0.9s,mb4.1
PKI Pulchoki 48.05 306 *e*P **P 21 12 56.5 0.0**
KKN Kakani 48.25 307 *e*P **P 21 12 58.1 +0.1**
comp=Z,39nm,0.9s,mb4.8
KKN Kakani 48.25 307 *e*P **P 21 12 58.1 +0.1**
KKN pmax pmax
comp=Z,20nm,0.9s,mb4.5
DMN Daman 48.31 306 *e*P **P 21 12 58.8 +0.3**
comp=Z,44nm,0.8s,mb4.8
GKN Gorkha 48.86 307 *e*P **P 21 13 02.5 -0.1**
comp=Z,40nm,1.0s,mb4.7
ULN Ulaanbaatar 49.39 342⇑ *e*P **P 21 13 06.7 +0.3**
ULN pmax pmax
comp=Z,21nm,0.8s,mb4.5
ULN Ulaanbaatar 49.39 342⇑ *e*P **P 21 13 06.7 +0.4**
comp=Z,21nm,0.8s,mb4.5
SONM Songino Array 49.57 341 P **P 21 13 08.0 +0.3**
comp=Z,7.9nm,0.7s,mb4.1,baz=153,slow=8.5,SNR=65
SONM PcP PcP 21 14 26.4 -0.1
comp=Z,3.0nm,0.8s,baz=150,slow=3.7,SNR=8.4
SONM ScP 21 17 59.7
comp=Z,0.7nm,0.8s,baz=153,slow=2.8,SNR=3.6
KOLN Koldanda 49.60 306 *e*P **P 21 13 08.9 +0.6**
comp=Z,98nm,0.7s,mb5.3
HYB Hyderabad 50.86 291 *e*P **P 21 13 18.0 +0.1**
HYB Hyderabad 50.86 291 *i*P **P 21 13 18.0 +0.1**
ZAK Zakamensk 52.80 340 *e*P **P 21 13 31.3 -0.6**
ZAK *e* 21 14 38.8
ZAK pmax pmax
comp=Z,2.0nm,1.4s
ZAK pmax pmax
comp=Z,1.0nm,1.2s
ZAK pmax pmax
comp=Z,1.0nm,1.0s
MOY Mondy 54.66 340 *e*P **P 21 13 45.9 +0.5**
MOY pmax pmax
comp=Z,27nm,1.9s,mb4.5
WMQ Urumqi 55.02 325 P **P 21 13 48.5 +0.4**
WMQ AMB AMB
comp=Z,36nm,0.7s,mb5.0
WMQ AMB AMB
comp=Z,182nm,3.6s
BOD Bodaibo 57.03 351 *e*P **P 21 14 00.8 -1.4**
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.5
MKAR Makanchi Array 59.85 325 P **P 21 14 21.4 -0.4**
comp=Z,14nm,0.4s,mb5.0,baz=112,slow=7.8,SNR=265
MKAR PcP PcP 21 15 05.5 -0.5
comp=Z,4.8nm,0.8s,baz=121,slow=5.3,SNR=7.0
MKAR ScP 21 18 45.4
comp=Z,0.2nm,0.4s,baz=76,slow=5.9,SNR=3.9
YAK Yakutsk 60.21 1⇑ *e*P **P 21 14 23.5 -0.5**
YAK pmax pmax
comp=Z,64nm,0.7s,mb5.4
YAK Yakutsk 60.21 1⇑ *e*P **P 21 14 23.5 -0.5**
comp=Z,64nm,0.7s,mb5.4
KSH Kashi 60.26 316 *e*P **P 21 14 26.0 +1.3**
KSH AMB AMB
comp=Z,370nm,5.1s
MA2 Magadan 60.41 13 *e*P **P 21 14 25.6 +0.2**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
AAK Ala-Archa 62.60 318 *e*P **P 21 14 38.6 -1.7**
AAK pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
AAK Ala-Archa 62.60 318 *e*P **P 21 14 38.6 -1.7**
comp=Z,2.0nm,0.6s,mb3.9
KURK Kurchatov 64.04 328⇑ *e*P **P 21 14 48.9 -0.7**
KURK pmax pmax
comp=Z,44nm,0.6s,mb5.3
KURK Kurchatov 64.04 328⇑ *e*P **P 21 14 48.9 -0.7**
comp=Z,44nm,0.6s,mb5.3
NVS Novosibirsk 64.18 333 *i*P **P 21 14 48.3 -2.1**
NVS pmax pmax
comp=Z,20nm,0.9s,mb4.8
NVS pmax pmax
comp=N,14nm,1.2s
NVS pmax pmax
comp=E,18nm,1.2s
BVA0 Borovoye Array 69.62 327 *i*P **P 21 15 23.9 -0.6**
BVA0 pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
BVAR Borovoye Array 69.62 327 P **P 21 15 23.8 -0.6**
comp=Z,14nm,0.7s,mb4.7,baz=127,slow=7.4,SNR=75
BVAR pP pP 21 16 15.2 +1.1
comp=Z,3.0nm,0.9s,baz=117,slow=6.6,SNR=2.4
CHKZ Chkalovo 69.79 328⇑ *e*P **P 21 15 24.5 -1.0**
CHKZ pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CHKZ Chkalovo 69.79 328⇑ *e*P **P 21 15 24.5 -1.0**
comp=Z,9.4nm,0.9s,mb4.4
TIXI Tiksi 69.86 0 *e*P **P 21 15 21.7 -3.9**
VNDA Vanda 81.28 173 *e*P **P 21 16 29.8 -0.1**
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 81.28 173 P **P 21 16 30.4 +0.6**
comp=Z,2.0nm,0.5s,mb4.0,baz=318,slow=7.5,SNR=8.4
VNDA Vanda 81.28 173 *e*P **P 21 16 29.8 -0.1**
comp=Z,2.6nm,0.7s,mb4.0
RAYN Ar Rayn 82.30 293 P **P 21 16 35.7 -0.4**
comp=Z,40nm,0.8s,SNR=8.5
IMA Indian Mountai 83.79 24 *e*P **P 21 16 45.2 +2.4**
IMA pmax pmax
comp=Z,74nm,1.0s,mb5.4
IMA Indian Mountai 83.79 24 *e*P **P 21 16 45.2 +2.4**
comp=Z,74nm,1.0s,mb5.4
KIV Kislovodsk 85.34 314 P **P 21 16 44.8 -6.2**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
KIV Kislovodsk 85.34 314 P **P 21 16 44.8 -6.2**
comp=Z,6.7nm,0.9s,mb4.4
MCK McKinley 85.48 26 *e*P **P 21 16 51.4 +0.1**
MCK pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MCK McKinley 85.48 26 *e*P **P 21 16 51.4 +0.1**
comp=Z,5.7nm,0.8s,mb4.3
SML Sawmill 85.59 28 *e*P **P 21 16 52.4 +0.6**
MALT Malatya 88.50 308 *e*P **P 21 17 06.5 +0.2**
MALT pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
MALT Malatya 88.50 308 *e*P **P 21 17 06.5 +0.2**
comp=Z,2.3nm,0.8s,mb4.1
BRTR Keskin Array B 92.17 310 P **P 21 17 22.6 -0.8**
comp=Z,1.1nm,0.8s,mb3.9,baz=121,slow=7.2,SNR=5.0
ARCES ARCESS Array B 92.73 340 P **P 21 17 24.7 -0.5**
comp=Z,9.1nm,0.7s,mb4.9,baz=90,slow=5.4,SNR=16
FINES FINESS Array B 94.14 332 P **P 21 17 30.2 -1.5**
comp=Z,0.4nm,0.4s,mb3.9,baz=45,slow=5.4,SNR=7.2
YKA Yellowknife Ar 100.88 25 P P 21 18 01.4 -1.0
comp=Z,0.7nm,0.7s,baz=296,slow=4.7,SNR=12
NB2 NORSAR Subarra101.09 334 P P 21 18 01.4 -2.0
comp=Z,2.6nm,0.8s,baz=68,slow=4.3
NB2 NORSAR Subarra101.09 334 P P 21 18 01.4 -2.0
NB2 pmax pmax
comp=Z,3.0nm,0.8s
NB2 NORSAR Subarra101.09 334 P P 21 18 01.4 -2.0
baz=68,slow=4.4
NOA NORSAR Array B101.09 334 P P 21 18 01.9 -1.5
comp=Z,1.6nm,0.8s,baz=68,slow=4.5,SNR=7.4
NOA pP 21 18 55.9
comp=Z,0.5nm,0.8s,baz=130,slow=6.2,SNR=2.5
TXAR Lajitas Array 121.94 54 PKP PKPdf 21 23 07.8 +1.7
comp=Z,0.8nm,0.7s,baz=315,slow=1.8,SNR=5.8
TXAR Lajitas Array 121.94 54 PKP PKPdf 21 23 07.8 +1.7

IDC 29 21:13:44.2±3.9, 1.12N×97.90E, mb3.5/4, mb1 3.6/4, mb1mx3.4/16, mbtmp3.5/4, Error ellipse: s-maj=164.3km s-min=23.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.40**	**122**	P	P	21 21 32.8	-1.3
	0.3nm,0.5s,baz=304,slow=9.0,SNR=2.9						
ASAR	**Alice Springs**	**42.79**	**127**	P	P	21 21 43.5	-2.1
	0.2nm,0.6s,baz=301,slow=7.2,SNR=2.9						
SONM	**Songino Array**	**47.11**	**8**	P	P	21 22 18.7	-1.2
	0.3nm,0.7s,baz=183,slow=8.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.49**	**345**	P	P	21 22 20.6	-2.3
	0.8nm,0.5s,baz=160,slow=9.0,SNR=16						

MAN 29 21:14:42.2, 8.17N×126.55E, h31km, mb3.8, ML2.5, MS2.1, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**0.18**	**274**⇓	*e*P	Pb	21 14 51.1	+2.8
BIPH				*e*S	Sb	21 14 58.1	+5.5
BUTP	**Butuan**	**1.21**	**311**	*e*P	Pn	21 15 02.3	-1.0
BUTP				*e*S	Sn	21 15 22.6	+3.9
MATI	**Mati**	**1.25**	**193**	*e*P	Pn	21 15 03.6	-0.2
BUKP	**Musuan**	**1.50**	**259**	*e*P	Pn	21 15 07.0	-0.3

*IPEC **29** 21:16:32.7±0.3, 51.60N×16.17E, ML1.6/3, Error ellipse: s-maj=1.9km s-min=1.5km az=43.0*
*NEIC **29** 21:16:33.3±0.8, 51.57N×16.09E, h5km, ML2.8(VIE), ML2.6(SZGRF), Error ellipse: s-maj=8.6km s-min=6.4km az=205.0*
*PRU **29** 21:16:34.8, 51.49N×16.05E*
*WAR **29** 21:16:34.7, 51.54N×16.06E, h1km, ML2.7, Mining Induced*
*CSEM **29** 21:16:35.6±0.2, 51.48N×16.09E, h1km, ML3.0/6, Error ellipse: s-maj=3.1km s-min=2.2km az=16.0*

ISC 29 21:16:32.6±0.7, 51.49N±0.03×16.04E±0.04, n23, σ1§30/47, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**166**	*e*Pg	**Pg**	**21 16 47.7**	**+1.8**
KSP				*e*Sg	**Sg**	**21 16 55.1**	**+0.3**
KSP				*e*		21 16 57.2	
KSP	**Ksiaz**	**0.67**	**166**	*e*Pg	**Pg**	**21 16 47.5**	**+1.6**
KSP				*e*Sg	**Sg**	**21 16 57.0**	**+2.2**
UPC	**Upice**	**0.98**	**181**	*e*PG	**Pg**	**21 16 53.5**	**+1.3**
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*PG	**Pg**	**21 16 56.4**	**+0.8**
DPC				*e*SG	**Sg**	**21 17 11.9**	**+0.9**
	14nm,0.3s						
DPC	**Dobruska-Polom**	**1.15**	**171**	*e*Pg	**Pg**	**21 16 56.4**	**+0.8**
DPC				*e*Sg	**Sg**	**21 17 11.8**	**+0.8**
PVCC	**Panska Ves**	**1.34**	**225**	*e*PG	**Pg**	**21 17 00.5**	**+1.2**
PVCC	**Panska Ves**	**1.34**	**225**	*e*Pn	**Pn**	**21 17 00.1**	**+1.6**
PVCC	**Panska Ves**	**1.34**	**225**	*i*Pg	**Pg**	**21 17 00.5**	**+1.2**
PVCC				*e*Sg	**Sg**	**21 17 19.1**	**+2.0**
PRU	**Pruhonice**	**1.78**	**213**	*e*PN	**Pn**	**21 17 05.8**	**+1.0**
PRU				*e*PG	**Pg**	**21 17 07.8**	**-0.3**
PRU				*ex*	x	21 17 24.1	
PRU				*e*SG	**Sg**	**21 17 31.7**	**-0.1**
	17nm,0.3s						
CLL	**Collm**	**1.91**	**266**	*i*PG	**Pg**	**21 17 09.7**	**-1.1**
CLL				*e*		21 17 14.0	
CLL				*i*SG	**Sg**	**21 17 35.6**	**-0.7**
CLL	**Collm**	**1.91**	**266**	*i*Pg	**Pg**	**21 17 09.7**	**-1.1**
CLL				*i*Sg	**Sg**	**21 17 35.6**	**-0.7**
MORC	**Moravsky Berou**	**1.96**	**150**	*e*Pn	**Pn**	**21 17 07.7**	**+0.3**
MORC				*e*S	**Sn**	**21 17 34.9**	**+1.8**
MORC	**Moravsky Berou**	**1.96**	**150**	*e*Pn	**Pn**	**21 17 07.7**	**+0.2**
MORC				*e*Sg	**Sg**	**21 17 36.3**	**-1.6**
	3.8nm,0.1s						
OKC	**Ostrava-Krasne**	**2.13**	**140**	*e*PG	**Pg**	**21 17 13.5**	**-1.6**
OKC				*e*SG	**Sg**	**21 17 41.8**	**-1.6**
	14nm,0.5s						
VRAC	**Vranov**	**2.21**	**171**	*e*Pn	**Pn**	**21 17 12.2**	**+1.2**
VRAC				*e*Sg	**Sg**	**21 17 44.9**	**-1.3**
	4.0nm,0.2s						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**21 17 15.6**	**+1.3**
KRUC				*e*Sg	**Sg**	**21 17 52.2**	**-1.6**
	2.6nm,0.2s						
NKC	**Novy Kostel**	**2.60**	**243**	*e*PN	**Pn**	**21 17 17.5**	**+0.9**
NKC				*e*PG	**Pg**	**21 17 23.6**	**-0.9**
NKC				*e*SG	**Sg**	**21 17 57.8**	**-1.4**
	15nm,0.3s						
OJC	**Ojcow**	**2.70**	**117**	*e*PG	**Pg**	**21 17 26.0**	**-0.5**
OJC				*e*SG	**Sg**	**21 18 02.0**	**-0.4**
OJC	**Ojcow**	**2.70**	**117**	*e*Pg	**Pg**	**21 17 26.2**	**-0.3**
OJC				*e*Sg	**Sg**	**21 18 01.9**	**-0.5**
KHC	**Kasperske Hory**	**2.84**	**215**	*e*PN	**Pn**	**21 17 20.5**	**+0.5**
KHC				*e*PG	**Pg**	**21 17 26.5**	**-2.8**
KHC				*e*SN	**Sn**	**21 17 55.0**	**-0.4**
KHC				*e*SG	**Sg**	**21 18 06.5**	**-0.6**
GEC2	**GERESS Array S**	**3.04**	**211**	*e*Pn	**Pn**	**21 17 24.6**	**+1.7**
GEC2				*e*Sg	**Sg**	**21 18 10.6**	**-3.3**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i*P	**Pn**	**21 17 29.8**	**-2.4**
BSD				*i*S	**Sn**	**21 18 11.3**	**-5.8**
MOA	**Molln**	**3.82**	**198**⇑	*i*PN	**Pn**	**21 17 35.0**	**+1.0**
MOA				*i*SG	**Sg**	**21 18 38.2**	**-1.6**
	3.1nm,0.4s						

*IDC **29** 21:17:02.6±1.2, 0.90N×97.26E, mb4.2/10, mb1 4.3/10, mb1mx4.1/16, mbtmp4.2/10, Error ellipse: s-maj=65.3km s-min=15.2km az=52.0*
*BJI **29** 21:17:03.0, 0.49N×97.53E, h39km, mB4.9, mb4.6, Ms4.1, Msz3.9*
*NEIC **29** 21:17:07.4±0.4, 0.95N×97.36E, h30km, mb4.3/12, Error ellipse: s-maj=11.7km s-min=6.2km az=51.0*

ISC 29 21:17:07.2±1.8, 0.98N±0.08×97.39E±0.10, h43km±14km, n42, σ0§81/44, mb4.4/25, MS3.9/2, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.09**	**45**	P	**P**	**21 18 23.2**	**+0.1**
KULM	**Kulim**	**5.38**	**37**⇑	*i*P	**P**	**21 18 26.3**	**-0.7**
KGM	**Kluang**	**6.01**	**80**	P	**P**	**21 18 36.6**	**+0.7**
CM31	**Chiang Mai Arr**	**17.44**	**5**	*e*P	**P**	**21 21 08.4**	**-0.7**
	9.3nm,0.8s						
KKM	**Kota Kinabalu**	**19.44**	**75**	*e*P	**P**	**21 21 33.7**	**+0.6**
KKM	**Kota Kinabalu**	**19.44**	**75**	P	**P**	**21 21 34.4**	**+1.3**
KMI	**Kunming**	**24.55**	**12**	P	**P**	**21 22 26.0**	**+1.5**
KMI				AP		21 22 33.8	
KMI				S	**S**		**21 26 40.8 +1.3**
KMI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=N,206nm,17.1s,MS3.9						
KMI				LR	LR		
	comp=E,201nm,13.4s,MS3.9						
KMI				LR	LR		
	comp=Z,257nm,15.7s,MS3.8						
JIRN	**Jiri**	**28.62**	**339**	*e*P	**P**	**21 23 02.9**	**+0.9**
	comp=Z,11nm,0.8s,mb4.7						
PKI	**Pulchoki**	**28.83**	**338**	*e*P	**P**	**21 23 04.3**	**+0.5**
DMN	**Daman**	**28.98**	**337**	*e*P	**P**	**21 23 06.0**	**+0.8**
KKN	**Kakani**	**29.08**	**338**	*e*P	**P**	**21 23 06.4**	**+0.4**
	comp=Z,22nm,1.2s,mb4.8						
LSA	**Lhasa**	**29.18**	**349**	P	**P**	**21 23 08.0**	**+1.1**
LSA	**Lhasa**	**29.18**	**349**	*e*P	**P**	**21 23 07.7**	**+0.8**
	comp=Z,4.5nm,0.8s,mb4.2						
GKN	**Gorkha**	**29.52**	**337**	*e*P	**P**	**21 23 09.0**	**-0.9**
KOLN	**Koldanda**	**29.74**	**335**	*e*P	**P**	**21 23 11.0**	**-0.9**
ENH	**Enshi**	**31.32**	**20**	*e*P	**P**	**21 23 24.1**	**-1.8**
	comp=Z,8.6nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.64**	**126**	P	**P**	**21 23 45.3**	**-0.9**
	comp=Z,1.8nm,0.6s,mb4.2,baz=0.6,slow=18,SNR=6.6						
XAN	**Xi'an**	**34.62**	**17**	P	**P**	**21 23 53.0**	**-1.4**
XAN				AP	pP	21 24 03.0	-3.2
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.8						
GTA	**Gaotai**	**38.31**	**3**	*e*P	**P**	**21 24 26.0**	**+0.5**
GTA				AP	pP	21 24 35.0	-2.4
GTA				XP	sP	21 24 38.8	-4.0
GTA				PP	PP	21 25 55.5	-1.6
GTA				PCP	PcP	21 26 40.3	+0.9
GTA				S	**S**	**21 30 13.5**	**-3.0**
GTA				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
GTA				AMB	AMB		
	comp=Z,80nm,4.6s						
GTA				LR	LR		
	comp=N,107nm,13.7s,MS4.0						
GTA				LR	LR		
	comp=E,116nm,16.3s,MS4.0						
GTA				LR	LR		
	comp=Z,159nm,14.4s,MS4.0						
WRA	**Warramunga Arr**	**41.76**	**122**	P	**P**	**21 24 53.8**	**-0.5**
	comp=Z,1.8nm,0.5s,mb3.9,baz=301,slow=9.0,SNR=30						
WRAB	**Tennant Creek**	**41.76**	**122**	*e*P	**P**	**21 24 53.9**	**-0.4**
	comp=Z,6.0nm,0.8s,mb4.3						
BJT	**Baijiatuan**	**42.45**	**21**	*e*P	**P**	**21 24 59.3**	**-0.5**
	comp=Z,17nm,0.7s,mb4.8						
BJI	**Beijing**	**42.47**	**21**	*e*P	**P**	**21 25 00.8**	**+0.9**
BJI				AMB	AMB		
	comp=Z,21nm,0.8s,mb4.8						
ASAR	**Alice Springs**	**43.11**	**127**	P	**P**	**21 25 05.5**	**+0.2**
	comp=Z,1.0nm,0.5s,mb3.8,baz=298,slow=7.7,SNR=13						
AAK	**Ala-Archa**	**46.28**	**337**	P	**P**	**21 25 30.5**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.1						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**21 25 39.0**	**+0.4**
	comp=Z,1.8nm,0.5s,mb4.3,baz=190,slow=10,SNR=23						
SONM				PcP	PcP	21 27 09.7	+0.3
	comp=Z,1.1nm,0.6s,baz=186,slow=3.8,SNR=6.5						
ULN	**Ulaanbaatar**	**47.45**	**9**	*e*P	**P**	**21 25 39.9**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.2						
MKAR	**Makanchi Array**	**47.50**	**346**	P	**P**	**21 25 40.2**	**+0.2**
	comp=Z,4.3nm,0.5s,mb4.7,baz=160,slow=8.2,SNR=58						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**21 25 54.8**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.79**	**18**	*e*P	**P**	**21 26 12.5**	**-0.4**
	comp=Z,4.3nm,0.6s,mb4.6						
KURK	**Kurchatov**	**52.05**	**345**	*e*P	**P**	**21 26 14.3**	**-0.5**
	comp=Z,2.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.06**	**132**	P	**P**	**21 26 23.2**	**+0.5**
	comp=Z,2.0nm,0.7s,mb4.2,baz=313,slow=8.8,SNR=7.1						
STKA	**Stephens Creek**	**53.06**	**132**	*e*P	**P**	**21 26 23.2**	**+0.6**
BVAR	**Borovoye Array**	**56.52**	**341**	P	**P**	**21 26 46.5**	**-1.0**
	baz=140,slow=9.9						
CHKZ	**Chkalovo**	**57.00**	**341**⇑	*e*P	**P**	**21 26 49.8**	**-1.1**
	comp=Z,102nm,1.3s						
FINES	**FINESS Array B**	**80.28**	**332**	P	**P**	**21 29 14.6**	**-0.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=101,slow=7.1,SNR=5.1						
FINES	**FINESS Array B**	**80.28**	**332**	P	**P**	**21 29 14.6**	**-0.4**
ARCES	**ARCESS Array B**	**82.81**	**340**	P	**P**	**21 29 28.6**	**+0.7**
	comp=Z,5.5nm,0.9s,mb4.6,baz=72,slow=3.8,SNR=6.2						
GERES	**GERESS Array B**	**85.11**	**319**	P	**P**	**21 29 41.1**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.8,baz=112,slow=7.2,SNR=5.7						
NB2	**NORSAR Subarra**	**87.29**	**331**	P	**P**	**21 29 50.6**	**+0.2**
	comp=Z,0.8nm,0.8s,mb4.0,baz=95,slow=5.3						
NB2	**NORSAR Subarra**	**87.29**	**331**	P	**P**	**21 29 50.6**	**+0.2**
	comp=Z,0.8nm,0.8s,mb4.0						
NOA	**NORSAR Array B**	**87.29**	**331**	P	**P**	**21 29 50.7**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.1,baz=94,slow=5.0,SNR=4.8						

*IDC **29** 21:23:00.3±0.8, 1.80N×97.75E, mb3.9/12, mb1 4.0/12, mb1mx4.0/17, mbtmp3.9/12, Error ellipse: s-maj=36.7km s-min=16.7km az=48.0*

ISC 29 21:23:03.0±0.7, 2.3N±0.2×98.1E±0.2, h33km, n18, σ1§32/18, mb4.0/15, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**27.66**	**337**	*e*P	**P**	**21 28 49.9**	**-0.2**
	8.0nm,0.4s,mb4.7						
PKI	**Pulchoki**	**27.90**	**335**	*e*P	**P**	**21 28 50.4**	**-1.9**
DMN	**Daman**	**28.06**	**335**	*e*P	**P**	**21 28 52.1**	**-1.6**
KKN	**Kakani**	**28.15**	**335**	*e*P	**P**	**21 28 53.5**	**-1.0**
	12nm,0.8s,mb4.5						
GKN	**Gorkha**	**28.60**	**335**	*e*P	**P**	**21 28 58.4**	**-0.1**
KOLN	**Koldanda**	**28.86**	**333**	*e*P	**P**	**21 29 00.1**	**-0.7**
	19nm,0.7s,mb4.9						
WRA	**Warramunga Arr**	**41.89**	**124**	P	**P**	**21 30 51.7**	**-0.6**
	0.4nm,0.7s,mb3.1,baz=303,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**43.37**	**129**	P	**P**	**21 31 05.3**	**+1.0**
	0.8nm,0.5s,mb3.7,baz=299,slow=8.0,SNR=17						
SONM	**Songino Array**	**45.93**	**8**	P	**P**	**21 31 30.6**	**+6.1**
	1.5nm,0.8s,mb4.0,baz=188,slow=8.5,SNR=11						
MKAR	**Makanchi Array**	**46.40**	**345**	P	**P**	**21 31 31.1**	**+2.8**
	2.8nm,0.3s,mb4.6,baz=160,slow=8.7,SNR=90						
STKA	**Stephens Creek**	**53.45**	**133**	P	**P**	**21 32 20.9**	**-1.5**
	1.0nm,0.7s,mb3.9,baz=323,slow=8.8,SNR=3.5						
BVAR	**Borovoye Array**	**55.51**	**340**	P	**P**	**21 32 38.6**	**+1.5**
	1.0nm,0.5s,mb4.1,baz=140,slow=12,SNR=7.1						
KMBO	**Kilima Mbogo**	**60.90**	**267**	P	**P**	**21 33 15.1**	**-0.3**
	1.2nm,0.7s,mb4.1,baz=31,slow=8.6,SNR=5.2						
BRTR	**Keskin Array B**	**69.03**	**312**	P	**P**	**21 34 07.2**	**-0.3**
	0.5nm,0.4s,mb3.8,baz=112,slow=6.7,SNR=4.5						
AKASG	**Malin Array Be**	**74.93**	**322**	P	**P**	**21 34 42.9**	**+0.5**
	0.1nm,0.3s,mb3.2,baz=110,slow=3.9,SNR=4.5						
FINES	**FINESS Array B**	**79.44**	**332**	P	**P**	**21 35 10.4**	**+3.0**
	0.2nm,0.7s,mb3.7,baz=90,slow=3.8,SNR=3.5						
ARCES	**ARCESS Array B**	**81.80**	**340**	P	**P**	**21 35 24.4**	**+4.6**
	2.7nm,1.0s,mb4.1,baz=90,slow=4.9,SNR=9.2						
GERES	**GERESS Array B**	**84.57**	**319**	P	**P**	**21 35 36.3**	**+2.0**
	0.2nm,0.3s,mb3.7,baz=90,slow=4.0,SNR=4.3						

*IDC **29** 21:23:21.2±4.3, 1.68N×97.14E, mb4.1/5, mb1 4.2/5, mb1mx3.8/17, mbtmp4.1/5, MS3.6/1, Ms1 3.6/1, ms1mx2.6/25, Error ellipse: s-maj=220.7km s-min=26.4km az=56.0*
*NEIC **29** 21:23:27.4±1.4, 2.10N×97.69E, h30km, mb4.2/1, Error ellipse: s-maj=28.8km s-min=16.7km az=82.0*

ISC 29 21:23:25.3±1.4, 2.1N±0.1×97.7E±0.2, h30km, n9, σ0§87/9, mb4.1/6, MS3.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.33**	**43**	*e*Pn	**Pn**	**21 24 30.0**	**-1.0**
KSM	**Kuching**	**12.64**	**93**	P	**P**	**21 26 16.2**	**-10**
KSM				*e*		21 26 42.7	
**

*IDC **29** 21:26:27.5±2.3,2.74N×96.35E,mb3.8/6,mb1 4.0/6, mb1mx3.7/16,mbtmp3.8/6,Error ellipse: s-maj=110.9km s-min=20.7km az=58.0*
*NEIC **29** 21:26:34.5±0.9,3.49N×97.36E,h30km,mb4.1/2,Error ellipse: s-maj=26.3km s-min=15.1km az=50.0*
ISC 29 21:26:32.4±1.0,3.5N±0.1×97.3E±0.2,h30km,n9,σ0§99/9, mb3.9/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.78**	**61**	P		**Pn**	**21 27 30.0**	**-0.2**
WRA	**Warramunga Arr**	**43.16**	**124**	P		**P**	**21 34 33.5**	**+0.9**
	0.8nm,0.7s,mb3.6,baz=301,slow=9.3,SNR=5.1							
ASAR	**Alice Springs**	**44.69**	**129**	P		**P**	**21 34 45.2**	**+0.4**
	0.3nm,0.5s,mb3.4,baz=297,slow=8.2,SNR=4.0							
SONM	**Songino Array**	**44.88**	**9**	P		**P**	**21 34 50.5**	**+4.5**
	0.6nm,0.8s,mb3.5,baz=190,slow=9.5,SNR=4.3							
MKAR	**Makanchi Array**	**45.08**	**345**	P		**P**	**21 34 49.3**	**+1.7**
	1.3nm,0.7s,mb3.9,baz=162,slow=6.2,SNR=7.5							
KURK	**Kurchatov**	**49.64**	**344**	P		**P**	**21 35 21.7**	**-1.6**
	1.4nm,0.8s,mb4.0							
CHKZ	**Chkalovo**	**54.63**	**341**	*e*P		**P**	**21 36 00.5**	**-0.1**
	1.2nm,0.6s,mb4.1							
STKA	**Stephens Creek**	**54.80**	**133**	P		**P**	**21 36 00.9**	**-1.2**
	2.3nm,1.1s,mb4.1,baz=333,slow=11,SNR=3.5							
ARCES	**ARCESS Array B**	**80.45**	**340**	P		**P**	**21 38 42.6**	**+0.1**
	4.5nm,1.0s,mb4.4,baz=80,slow=5.5,SNR=3.6							

*IDC **29** 21:29:29.1±2.5,1.95N×98.06E,mb3.9/5,mb1 4.0/5, mb1mx3.7/17,mbtmp3.9/5,Error ellipse: s-maj=110.7km s-min=20.9km az=57.0*
*NEIC **29** 21:29:31.0±0.9,1.32N×97.26E,h30km,mb4.2/9,Error ellipse: s-maj=21.9km s-min=13.1km az=49.0*
ISC 29 21:29:29.5±0.9,1.4N±0.1×97.3E±0.1,h33km,n20, σ1§17/20,mb4.2/14,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.17**	**41**	*e*P		**P**	**21 30 47.9**	**+1.3**
CM31	**Chiang Mai Arr**	**17.08**	**5**	P		**P**	**21 33 26.6**	**-0.9**
	1.7nm,0.4s							
JIRN	**Jiri**	**28.23**	**339**	*e*P		**P**	**21 35 21.8**	**0.0**
	18nm,0.9s,mb4.7							
PKI	**Pulchoki**	**28.44**	**337**	*e*P		**P**	**21 35 23.6**	**-0.1**
DMN	**Daman**	**28.59**	**337**	*e*P		**P**	**21 35 24.4**	**-0.6**
KKN	**Kakani**	**28.69**	**337**	*e*P		**P**	**21 35 26.3**	**+0.4**
LSA	**Lhasa**	**28.79**	**349**	*e*P		**P**	**21 35 29.2**	**+2.4**
	4.7nm,0.9s,mb4.2							
GKN	**Gorkha**	**29.13**	**337**	*e*P		**P**	**21 35 30.2**	**+0.4**
	10nm,0.8s,mb4.6							
KOLN	**Koldanda**	**29.35**	**335**	*e*P		**P**	**21 35 32.7**	**+0.9**
ENH	**Enshi**	**31.02**	**21**	*e*P		**P**	**21 35 45.3**	**-1.3**
	6.3nm,0.5s,mb4.7							
WRA	**Warramunga Arr**	**42.06**	**122**	P		**P**	**21 37 20.5**	**+0.3**
	0.9nm,0.7s,mb3.5,baz=303,slow=9.0,SNR=8.0							
ASAR	**Alice Springs**	**43.43**	**127**	P		**P**	**21 37 31.4**	**0.0**
	0.5nm,0.8s,mb3.3,baz=312,slow=7.2,SNR=5.6							
AAK	**Ala-Archa**	**45.89**	**337**	P		**P**	**21 37 53.0**	**+2.1**
	1.7nm,0.9s,mb4.0							
SONM	**Songino Array**	**46.97**	**8**	P		**P**	**21 37 56.5**	**-2.8**
	2.3nm,0.7s,mb4.2,baz=190,slow=9.0,SNR=21							
ULN	**Ulaanbaatar**	**47.10**	**9**	*e*P		**P**	**21 38 01.2**	**+0.9**
	1.8nm,0.7s,mb4.1							
MKAR	**Makanchi Array**	**47.11**	**346**	P		**P**	**21 38 01.1**	**+0.7**
	1.3nm,0.7s,mb4.0,baz=159,slow=8.2,SNR=15							
KURK	**Kurchatov**	**51.66**	**345**	*e*P		**P**	**21 38 32.7**	**-2.6**
	1.2nm,0.6s,mb4.0							
BVAR	**Borovoye Array**	**56.13**	**341**	P		**P**	**21 39 07.2**	**-0.9**
	2.1nm,0.7s,mb4.3,baz=135,slow=8.4,SNR=14							
CHKZ	**Chkalovo**	**56.61**	**341**	*e*P		**P**	**21 39 10.8**	**-0.8**
	3.0nm,0.7s,mb4.4							
YAK	**Yakutsk**	**65.26**	**16**	*e*P		**P**	**21 40 09.2**	**-0.8**
	17nm,0.5s,mb5.3							

*IDC **29** 21:32:47.5±1.8,23.37S×180.00E,h526km±19km, mb3.9/10,mb1 4.1/11,mb1mx3.9/16,mbtmp4.8/11,Error ellipse: s-maj=18.7km s-min=14.5km az=179.0*
*NEIC **29** 21:32:49.5±1.8,23.43S×179.99E,h555km±19km,mb4.4/8, Error ellipse: s-maj=18.7km s-min=12.5km az=222.0*
ISC 29 21:32:49.6±1.8,23.43S±0.10×180.0E±0.1,h572km±22km, n35,σ0§78/30,mb4.5/16,10D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.54**	**274**	P		**P**	**21 35 35.6**	**+1.8**
	0.7nm,0.3s,baz=98,slow=16,SNR=9.6							
URZ	**Urewera**	**14.98**	**189**	P		**P**	**21 35 57.6**	**-0.4**
	4.0nm,0.3s,baz=327,slow=2.6,SNR=17							
URZ				S		**S**	**21 38 30.6**	**+0.8**
	1.2nm,0.3s,baz=252,slow=22,SNR=11							
SNZO	**South Karori**	**18.37**	**193**	P		**P**	**21 36 29.9**	**-0.5**
RPZ	**Rata Peaks**	**21.52**	**198**	P		**P**	**21 36 58.2**	**-1.4**
	24nm,0.5s,mb5.1,baz=344,slow=2.8,SNR=18							
CTAO	**Charters Tower**	**31.43**	**270**	↓*i*P		**P**	**21 38 27.2**	**+0.8**
CTAO				*e*			21 38 44.0	
PMG	**Port Moresby**	**34.30**	**288**	P		**P**	**21 38 50.6**	**+0.1**
	29nm,0.8s,mb4.9,baz=106,slow=9.0,SNR=6.6							
STKA	**Stephens Creek**	**34.86**	**247**	P		**P**	**21 38 55.5**	**+0.5**
	14nm,0.6s,mb4.7,baz=92,slow=10,SNR=64							
STKA	**Stephens Creek**	**34.86**	**247**	↓*i*P		**P**	**21 38 55.9**	**+0.8**
ASAR	**Alice Springs**	**42.07**	**260**	P		**P**	**21 39 53.9**	**+0.3**
	21nm,0.8s,mb4.8,baz=96,slow=8.0,SNR=168							
ASAR				ScP			21 44 36.8	
	2.3nm,0.9s,baz=115,slow=4.6,SNR=8.6							
ASAR				S		**S**	**21 45 34.3**	**+1.3**
	0.4nm,0.7s,baz=101,slow=15,SNR=4.0							
ASPA	**Alice Springs**	**42.07**	**260**	↓*i*P		**P**	**21 39 53.9**	**+0.3**
WB2	**Warramunga Arr**	**42.38**	**266**	↓*i*P		**P**	**21 39 55.8**	**-0.3**
WRAB	**Tennant Creek**	**42.38**	**266**	P		**P**	**21 39 55.0**	**-1.2**
	207nm,0.7s,SNR=9.9							
WRAB	**Tennant Creek**	**42.38**	**266**	↓*i*P		**P**	**21 39 55.6**	**-0.6**
	23nm,0.7s,mb4.8							
WRA	**Warramunga Arr**	**42.39**	**266**	P		**P**	**21 39 55.2**	**-1.0**
	22nm,0.6s,mb4.8,baz=102,slow=8.1,SNR=144							
WRA				ScP			21 44 38.1	
	2.8nm,0.9s,baz=100,slow=4.1,SNR=9.7							
KAKA	**Kakadu**	**46.22**	**275**	↓*i*P		**P**	**21 40 24.9**	**-1.0**
	13nm,0.6s,mb4.7							
FORT	**Forrest**	**46.43**	**249**	↓*i*P		**P**	**21 40 26.8**	**-0.5**
	1um,0.6s							
FITZ	**Fitzroy Crossi**	**50.82**	**265**	↓*i*P		**P**	**21 41 00.0**	**-0.2**
	19nm,0.8s,mb4.5							
FITZ	**Fitzroy Crossi**	**50.82**	**265**	P		**P**	**21 41 00.2**	**0.0**
	18nm,0.6s,mb4.6,baz=98,slow=3.1,SNR=29							
SBA	**Scott Base**	**54.84**	**183**	*e*P		**P**	**21 41 29.4**	**+1.4**
	6.2nm,1.1s,mb3.8							
VNDA	**Vanda**	**54.84**	**185**	P		**P**	**21 41 28.4**	**+0.3**
	0.9nm,0.5s,baz=353,slow=6.1,SNR=9.2							
KLBR	**Kellerberrin**	**55.13**	**247**	↓*i*P		**P**	**21 41 30.0**	**-0.6**
	184nm,0.6s,mb5.5							
NWAO	**Narrogin (SRO)**	**55.39**	**245**	P		**P**	**21 41 32.2**	**-0.2**
	5.0nm,0.4s,mb4.1,baz=107,slow=6.0,SNR=8.5							
NWAO	**Narrogin (SRO)**	**55.39**	**245**	*e*P		**P**	**21 41 31.9**	**-0.4**
	5.1nm,0.6s,mb3.9							
MBWA	**Marble Bar**	**55.41**	**260**	*e*P		**P**	**21 41 31.8**	**-0.8**
	16nm,0.7s,mb4.4							
MUN	**Mundaring**	**56.38**	**246**	↓*i*P		**P**	**21 41 39.0**	**-0.2**
	11nm,0.6s,mb4.3							
ENH	**Enshi**	**86.13**	**305**	P		**P**	**21 44 32.9**	**+0.9**
	3.5nm,0.7s,mb4.1							
TXAR	**Lajitas Array**	**90.22**	**58**	P		**P**	**21 44 51.2**	**+0.2**
	1.9nm,0.7s,mb4.0,baz=217,slow=6.3,SNR=13							
PDAR	**Pinedale Array**	**92.38**	**44**	P		**P**	**21 45 00.6**	**0.0**
	1.3nm,0.8s,mb4.0,baz=243,slow=2.0,SNR=3.7							
NB2	**NORSAR Subarra141.61**	**351**		PKPabc		PKPdf	21 51 11.7	-3.7
	0.4nm,0.5s,baz=18,slow=3.5							
NB2	**NORSAR Subarra141.61**	**351**		PKPab		PKPdf	21 51 11.7	-3.7
NOA	**NORSAR Array B**	**141.61**	**351**	PKhKP			21 51 11.7	
	0.5nm,0.6s,baz=16,slow=4.7,SNR=5.1							
AKASG	**Malin Array Be**	**144.55**	**328**	PKP		PKPdf	21 51 21.0	+0.1
	1.0nm,0.4s,baz=42,slow=4.1,SNR=5.7							
ASF	**Jabal al Asfar**	**146.31**	**293**	PKPbc		PKPbc	21 51 29.5	+3.2
	0.9nm,0.2s,baz=53,slow=7.9,SNR=3.1							
BRTR	**Keskin Array B**	**147.25**	**308**	PKPbc		PKPdf	21 51 33.5	+7.7
	1.0nm,0.7s,baz=124,slow=5.2,SNR=3.8							
CLL	**Collm**	**150.39**	**343**	*i* PKP1		PKPdf	21 51 37.8	+7.5

*IDC **29** 21:48:25.6±2.5,1.21N×95.01E,h25km±6km,mb3.2/5, mb1 3.4/5,mb1mx3.3/18,mbtmp3.4/5,Error ellipse: s-maj=109.8km s-min=17.9km az=55.0*
*NEIC **29** 21:48:34.5±1.0,1.82N×96.72E,h30km,mb4.1/5,Error ellipse: s-maj=22.4km s-min=12.7km az=63.0*
ISC 29 21:48:32.4±1.2,1.8N±0.1×96.7E±0.2,h28km, h28km±.7km:pP-P,n11,σ0§76/11,mb3.8/9,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**49**	↑*i*P		**Pn**	**21 49 50.0**	**-0.8**
CM31	**Chiang Mai Arr**	**16.68**	**7**	*e*P		**P**	**21 52 27.0**	**+1.1**
	8.4nm,0.9s							
LSA	**Lhasa**	**28.22**	**350**	*e*P		**P**	**21 54 25.3**	**+0.2**
	5.1nm,1.0s,mb4.1							
LSA				*e*		pP	21 54 34.1	+0.7
WRA	**Warramunga Arr**	**42.79**	**122**	P		**P**	**21 56 30.1**	**+0.4**
	0.6nm,0.8s,mb3.4,baz=302,slow=9.3,SNR=4.6							
WRA				pP		pP	21 56 38.0	-0.1
	0.3nm,0.3s,baz=303,slow=9.2,SNR=3.7							
ASAR	**Alice Springs**	**44.17**	**127**	P		**P**	**21 56 40.9**	**0.0**
	0.5nm,0.8s,mb3.3,baz=303,slow=7.7,SNR=4.5							
MKAR	**Makanchi Array**	**46.52**	**346**	P		**P**	**21 56 51.5**	**-7.7**
	0.2nm,0.5s,mb3.3,baz=175,slow=8.4,SNR=4.5							
MKAR				pP		pP	21 56 59.9	-7.9
	3.4nm,0.8s,baz=162,slow=7.7,SNR=23							
SONM	**Songino Array**	**46.59**	**9**	P		**P**	**21 56 59.8**	**+0.1**
	1.1nm,0.8s,mb3.6,baz=190,slow=9.4,SNR=8.7							
ULN	**Ulaanbaatar**	**46.73**	**10**	P		**P**	**21 57 01.6**	**+0.8**
	1.1nm,0.8s,mb3.8							
KURK	**Kurchatov**	**51.06**	**345**	P		**P**	**21 57 32.8**	**-1.5**
	1.8nm,0.6s,mb4.2							
BVAR	**Borovoye Array**	**55.50**	**341**	P		**P**	**21 57 58.0**	**-9.1**
	0.4nm,0.5s,mb3.7,baz=220,slow=42,SNR=2.6							
BVAR				pP		pP	21 58 07.0	-8.8
	1.1nm,0.6s,baz=134,slow=8.6,SNR=9.1							
CHKZ	**Chkalovo**	**55.98**	**342**	*e*P		**P**	**21 58 10.3**	**-0.3**
	2.7nm,0.6s,mb4.5							

*BJI **29** 21:49:50.6,1.40N×97.10E,h24km,mb4.2*
*NEIC **29** 21:49:51.6±0.6,1.41N×97.11E,mb4.3/9,Error ellipse: s-maj=15.7km s-min=8.9km az=58.0*
*IDC **29** 21:49:51.4±1.4,1.30N×97.01E,h23km±4km,mb3.9/10, mb1 4.0/10,mb1mx3.8/18,mbtmp4.1/10,Error ellipse: s-maj=65.1km s-min=13.7km az=55.0*
ISC 29 21:49:49.7±0.7,1.40N±0.09×97.1E±0.1,h24km, h24km±.7km:pP-P,n24,σ1§06/24,mb4.2/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.21**	**42**	P		**Pn**	**21 51 09.4**	**+1.1**
CM31	**Chiang Mai Arr**	**17.04**	**6**	*e*P		**P**	**21 53 47.2**	**-1.1**
	4.4nm,0.8s							
KKM	**Kota Kinabalu**	**19.58**	**76**	P		**P**	**21 54 17.6**	**-1.6**
KMI	**Kunming**	**24.19**	**12**	P		**P**	**21 55 08.0**	**+2.3**
KMI				AMB		AMB		
	comp=Z,13nm,1.5s,mb4.1							
LSA	**Lhasa**	**28.71**	**349**	*e*P		**P**	**21 55 48.0**	**+0.6**
	comp=Z,2.0nm,0.4s,mb4.2							
ENH	**Enshi**	**31.01**	**21**	*e*P		**P**	**21 56 06.5**	**-1.4**
	comp=Z,5.7nm,0.6s,mb4.6							
FITZ	**Fitzroy Crossi**	**34.10**	**126**	P		**P**	**21 56 34.4**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=330,slow=8.1,SNR=3.2							
BJT	**Baijiatuau**	**42.15**	**22**	P		**P**	**21 57 43.4**	**+1.3**
	comp=Z,9.4nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**42.19**	**122**	P		**P**	**21 57 42.7**	**-0.1**
	comp=Z,1.4nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=7.8							
WRA				pP		pP	21 57 50.0	+0.1
	comp=Z,0.8nm,0.5s,baz=308,slow=9.1,SNR=3.3							
ASAR	**Alice Springs**	**43.57**	**127**	P		**P**	**21 57 54.0**	**+0.1**
	comp=Z,0.8nm,0.8s,mb3.5,baz=306,slow=7.8,SNR=5.9							
ASAR				pP		pP	21 58 01.4	+0.4
	comp=Z,0.6nm,0.7s,baz=300,slow=7.3,SNR=3.1							
SONM	**Songino Array**	**46.94**	**9**	P		**P**	**21 58 21.2**	**+0.7**
	comp=Z,2.8nm,0.8s,mb4.2,baz=190,slow=8.6,SNR=14							
SONM				pP		pP	21 58 28.6	+0.9
	comp=Z,1.6nm,0.8s,baz=191,slow=8.0,SNR=5.8							
MKAR	**Makanchi Array**	**47.03**	**346**	P		**P**	**21 58 21.8**	**+0.6**
	comp=Z,2.0nm,0.5s,mb4.3,baz=158,slow=9.0,SNR=18							
MKAR				pP		pP	21 58 29.3	+0.8
	comp=Z,1.9nm,0.6s,baz=162,slow=8.7,SNR=6.1							
MKAR	**Makanchi Array**	**47.03**	**346**	P		**P**	**21 58 21.8**	**+0.6**
MKAR				pP		pP	21 58 29.2	+0.8
ULN	**Ulaanbaatar**	**47.07**	**9**	*e*P		**P**	**21 58 22.1**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2							
TLY	**Talaya**	**50.40**	**5**	P		**P**	**21 58 45.5**	**-1.7**
	comp=Z,2.1nm,0.9s,mb4.2							
HIA	**Hailar**	**51.47**	**19**	*e*P		**P**	**21 58 55.5**	**+0.2**
	comp=Z,2.3nm,0.5s,mb4.4							
KURK	**Kurchatov**	**51.58**	**345**	*e*P		**P**	**21 58 54.2**	**-2.0**
	comp=Z,3.2nm,0.9s,mb4.2							
STKA	**Stephens Creek**	**53.54**	**132**	P		**P**	**21 59 11.9**	**+0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=328,slow=9.6,SNR=4.6							
BVAR	**Borovoye Array**	**56.04**	**341**	P		**P**	**21 59 28.2**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.1,baz=135,slow=8.4,SNR=6.6							
CHKZ	**Chkalovo**	**56.52**	**341**	*e*P		**P**	**21 59 31.4**	**-1.0**
	comp=Z,2.6nm,0.6s,mb4.4							
FINES	**FINESS Array B**	**79.79**	**332**	P		**P**	**22 01 57.4**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.0,baz=90,slow=1.9,SNR=4.1							
FINES	**FINESS Array B**	**79.79**	**332**	P		**P**	**22 01 57.4**	**+0.1**
ARCES	**ARCESS Array B**	**82.33**	**340**	P		**P**	**22 02 11.0**	**+0.5**
	comp=Z,5.1nm,1.0s,mb4.4,baz=90,slow=6.1,SNR=5.4							
ARCES				pP		pP	22 02 17.8	-0.4
	comp=Z,3.2nm,0.8s,baz=63,slow=5.4,SNR=1.5							
NOA	**NORSAR Array B**	**86.80**	**331**	P		**P**	**22 02 34.4**	**+1.2**
	comp=Z,0.5nm,0.7s,mb3.9,baz=66,slow=7.7,SNR=3.6							

IDC 29 22:00:50.1±2.4,1.16N×97.55E,h35km±7km,mb3.0/4, mb1 3.2/4,mb1mx3.0/17,mbtmp3.2/4,Error ellipse: s-maj=98.3km s-min=19.7km az=54.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.72**	**122**	P		P	22 08 35.2	-2.5
	0.4nm,0.8s,baz=304,slow=8.9,SNR=3.2							
WRA				pP		pP	22 08 47.2	-0.9
	0.5nm,0.7s,baz=300,slow=9.2,SNR=4.5							
SONM	**Songino Array**	**47.12**	**8**	P		P	22 09 19.8	-1.0
	0.1nm,0.6s,baz=180,slow=4.3,SNR=2.5							
SONM				pP		pP	22 09 28.6	-2.6
	0.2nm,0.5s,baz=192,slow=12,SNR=3.6							
MKAR	**Makanchi Array**	**47.37**	**346**	P		P	22 09 22.0	-0.7
	0.2nm,0.5s,baz=158,slow=9.6,SNR=5.9							
MKAR				pP		pP	22 09 32.0	-1.1
	0.7nm,0.4s,baz=154,slow=9.1,SNR=11							
BVAR	**Borovoye Array**	**56.41**	**341**	P		P	22 10 26.8	-3.6
	0.2nm,0.7s,baz=132,slow=8.2,SNR=2.3							
BVAR				pP		pP	22 10 37.3	-3.7
	0.5nm,0.6s,baz=90,slow=4.3,SNR=3.8							

*IDC **29** 22:06:03.5±1.1,11.60N×94.58E,mb3.5/7,mb1 3.7/7, mb1mx3.6/18,mbtmp3.5/7,MS3.6/1,Ms1 3.6/1, ms1mx2.7/22,Error ellipse: s-maj=50.0km s-min=20.5km az=53.0*
ISC 29 22:06:06.5±1.0,11.6N±0.2×94.6E±0.3,h33km,n8,σ0§53/7, mb3.5/7,MS3.6/1,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**36.60**	**346**	P		P	**22 13 12.1**	**+0.7**
	0.7nm,0.9s,mb3.5,baz=164,slow=8.8,SNR=6.5							
SONM	**Songino Array**	**37.45**	**13**	P		P	**22 13 18.0**	**-0.6**
	0.3nm,1.0s,mb3.1,baz=196,slow=10,SNR=2.8							
BVAR	**Borovoye Array**	**45.66**	**340**	P		P	**22 14 25.9**	**+0.1**
	0.3nm,0.6s,mb3.4,baz=162,slow=9.4,SNR=3.7							
WRA	**Warramunga Arr**	**50.11**	**128**	P		P	**22 15 01.1**	**+0.2**
	0.8nm,1.0s,mb3.7,baz=309,slow=8.8,SNR=7.1							
ATD	**Arta Tunnel**	**50.66**	**275**	LR		LR	22 32 03.5	
	comp=Z,60nm,20.0s,MS3.6,baz=147,slow=31							
ASAR	**Alice Springs**	**52.00**	**133**	P		P	**22 15 14.9**	**-0.2**
	0.5nm,0.8s,mb3.5,baz=315,slow=10,SNR=5.1							
BRTR	**Keskin Array B**	**60.41**	**309**	P		P	**22 16 14.4**	**-0.8**
	0.5nm,0.7s,mb3.7,baz=104,slow=12,SNR=2.4							
GERES	**GERESS Array B**	**75.40**	**318**	P		P	**22 17 49.2**	**+0.6**
	0.2nm,0.4s,mb3.4,baz=90,slow=5.3,SNR=6.6							

IDC 29 22:07:23.0±3.5,1.85S×98.54E,mb3.7/4,mb1 3.8/4, mb1mx3.5/16,mbtmp3.7/4,Error ellipse: s-maj=144.8km s-min=27.1km az=52.0,Southern Sumatera

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

WRA	**Warramunga Arr**	**39.33**	**120**	P		P	22 14 54.2	-1.7
	0.5nm,0.9s,baz=310,slow=8.9,SNR=3.9							
SONM	**Songino Array**	**49.95**	**7**	P		P	22 16 19.2	-1.6
	0.4nm,0.5s,baz=195,slow=7.7,SNR=5.3							
MKAR	**Makanchi Array**	**50.50**	**346**	P		P	22 16 22.4	-2.6
	1.2nm,0.6s,baz=152,slow=7.7,SNR=18							
BVAR	**Borovoye Array**	**59.55**	**341**	P		P	22 17 28.4	-2.2
	0.9nm,0.6s,baz=135,slow=8.2,SNR=8.3							

*BJI **29** 22:09:22.1,1.08N×98.01E,h44km,mB5.1,mb4.5,Ms4.3, Msz3.9*
*MOS **29** 22:09:23.5±0.8,1.65N×98.35E,h33km,mb4.8/10,Error ellipse: s-maj=29.3km s-min=10.3km az=108.0*
*NEIC **29** 22:09:26.6±0.4,1.59N×97.65E,h30km,mb4.6/14,Error ellipse: s-maj=12.3km s-min=6.3km az=50.0*
*IDC **29** 22:09:27.7±0.9,1.59N×97.59E,h37km±5km,mb4.0/13, mb1 4.1/13,mb1mx4.0/18,mbtmp4.2/13,MS3.3/1, Ms1 3.3/1,ms1mx2.6/22,Error ellipse: s-maj=49.7km s-min=12.6km az=50.0*
ISC 29 22:09:25.8±1.6,1.62N±0.08×97.71E±0.09,h37km±13km, h35km±3.0km:pP-P,n60,σ0§97/59,mb4.4/32,MS3.7/4,2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**4.42**	**48**	P		**P**	**22 10 34.1**	**+1.7**
KULM	**Kulim**	**4.68**	**39**	*e*P		**P**	**22 10 36.9**	**+0.9**
KGM	**Kluang**	**5.62**	**86**	P		**P**	**22 10 47.1**	**-2.0**
CM31	**Chiang Mai Arr**	**16.77**	**4**	*e*P		**P**	**22 13 18.5**	**-1.1**
	6.9nm,0.6s							
KKM	**Kota Kinabalu**	**18.98**	**76**	*e*P		**P**	**22 13 46.9**	**-0.1**
KKM	**Kota Kinabalu**	**18.98**	**76**	P		**P**	**22 13 47.9**	**+1.0**
KMI	**Kunming**	**23.86**	**11**	P		**P**	**22 14 37.3**	**+0.4**
KMI				AP			22 14 46.3	
KMI				XP			22 14 51.0	
KMI				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb3.9							
KMI				LR	LR			
	comp=N,208nm,15.7s,MS3.8							
KMI				LR	LR			
	comp=E,96nm,12.9s,MS3.8							
KMI				LR	LR			
	comp=Z,205nm,14.7s,MS3.7							
HYB	**Hyderabad**	**24.51**	**311**	*e*P		**P**	**22 14 46.0**	**+2.7**
HYB	**Hyderabad**	**24.51**	**311**	*i* P		**P**	**22 14 46.0**	**+2.7**
JIRN	**Jiri**	**28.14**	**338**	*e*P		**P**	**22 15 17.3**	**+0.4**
PKI	**Pulchoki**	**28.36**	**337**	*e*P		**P**	**22 15 19.8**	**+1.0**
DMN	**Daman**	**28.52**	**336**	*e*P		**P**	**22 15 20.6**	**+0.4**
	comp=Z,6.4nm,0.4s,mb4.8							
KKN	**Kakani**	**28.61**	**337**	*e*P		**P**	**22 15 21.0**	**0.0**
	comp=Z,13nm,0.7s,mb4.8							
KKN	**Kakani**	**28.61**	**337**	*e*P		**P**	**22 15 21.0**	**0.0**
KKN				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.4							
LSA	**Lhasa**	**28.61**	**348**	P		**P**	**22 15 21.5**	**+0.5**
LSA	**Lhasa**	**28.61**	**348**	*e*P		**P**	**22 15 21.0**	**0.0**
LSA				pmax	pmax			
	comp=Z,5.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**28.61**	**348**	*e*P		**P**	**22 15 20.9**	**-0.1**
	comp=Z,5.2nm,0.6s,mb4.4							
GKN	**Gorkha**	**29.06**	**336**	*e*P		**P**	**22 15 25.4**	**+0.4**
	comp=Z,10nm,0.4s,mb4.9							
KOLN	**Koldanda**	**29.30**	**334**	*e*P		**P**	**22 15 28.2**	**+1.0**
	comp=Z,31nm,0.8s,mb5.1							
ENH	**Enshi**	**30.61**	**20**	*e*P		**P**	**22 15 35.2**	**-3.6**
	comp=Z,5.0nm,0.3s,mb4.8							
FITZ	**Fitzroy Crossi**	**33.77**	**127**	P		**P**	**22 16 05.8**	**-0.7**
	comp=Z,3.9nm,0.7s,mb4.5,baz=334,slow=2.6,SNR=6.0							
GTA	**Gaotai**	**37.66**	**3**	*e*P		**P**	**22 16 39.3**	**0.0**
GTA				AP		pP	22 16 46.3	-3.6
GTA				AMB	AMB			
	comp=Z

BVAR	**Borovoye Array**	**56.02**	**340**	P		**P**		**22 19 02.0**	**-1.1**
	comp=Z,2.8nm,0.4s,mb4.6,baz=143,slow=10,SNR=26								
BVAR				pP		pP		22 19 14.5	+0.3
	comp=Z,3.8nm,0.6s,baz=146,slow=11,SNR=8.3								
CHKZ	**Chkalovo**	**56.49**	**341**⇑*i*	P		**P**		**22 19 05.6**	**-0.9**
CHKZ				pmax		pmax			
	comp=Z,38nm,0.7s,mb5.5								
CHKZ	**Chkalovo**	**56.49**	**341**⇑*i*	P		**P**		**22 19 05.6**	**-0.9**
	comp=Z,38nm,0.7s,mb5.5								
BOD	**Bodaibo**	**57.50**	**10**	*e*P		**P**		**22 19 11.7**	**-2.0**
BOD				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.7								
BRTR	**Keskin Array B**	**69.20**	**312**	P		**P**		**22 20 30.8**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=124,slow=6.5,SNR=4.4								
AKASG	**Malin Array Be**	**75.23**	**322**	P		**P**		**22 21 05.9**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.5,baz=84,slow=5.5,SNR=4.4								
AKASG				pP		pP		22 21 16.7	-1.2
	comp=Z,2.3nm,0.7s,baz=88,slow=5.4,SNR=4.7								
FINES	**FINESS Array B**	**79.86**	**332**	P		**P**		**22 21 32.2**	**+0.2**
	comp=Z,1.4nm,0.5s,mb4.1,baz=95,slow=5.4,SNR=19								
ARCES	**ARCESS Array B**	**82.31**	**340**	P		**P**		**22 21 45.3**	**+0.5**
	comp=Z,3.4nm,0.9s,mb4.3,baz=76,slow=5.0,SNR=12								
GERES	**GERESS Array B**	**84.83**	**319**	P		**P**		**22 21 58.6**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=108,slow=6.2,SNR=3.6								
NB2	**NORSAR Subarra**	**86.89**	**331**	P		**P**		**22 22 08.0**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.3,baz=94,slow=4.8								
NB2	**NORSAR Subarra**	**86.89**	**331**	P		**P**		**22 22 08.0**	**+0.3**
NB2				pmax		pmax			
	comp=Z,1.0nm,0.7s,mb4.2								
NOA	**NORSAR Array B**	**86.89**	**331**	P		**P**		**22 22 08.5**	**+0.8**
	comp=Z,1.2nm,0.7s,mb4.3,baz=94,slow=4.8,SNR=8.3								
NOA				pP		pP		22 22 20.1	+0.8
	comp=Z,0.7nm,0.7s,baz=94,slow=4.9,SNR=3.7								
NATX	**Nacogdoches**	**144.78**	**18**	*e*PKP		PKPdf		22 28 59.3	-0.2
LRAL	**Lakeview Retre**	**145.24**	**7**	PKP		PKPdf		22 29 01.0	+0.8

*NEIC **29** 22:11:07.6±0.6,38.87S×75.10W,mb4.4/7,Error ellipse: s-maj=15.7km s-min=10.1km az=79.0*
*IDC **29** 22:11:07.2±1.0,38.87S×75.10W,h28km±4km,mb4.0/6, mb1 4.1/9,mb1mx4.0/16,mbtmp4.1/9,ML3.9/3,MS3.8/5, Ms1 3.7/5,ms1mx3.4/20,Error ellipse: s-maj=35.0km s-min=19.2km az=54.0*
ISC 29 22:11:06.5±0.7,38.89S±0.07×75.0W±0.1,h28km, h28km±.4km:pP-P,n28,σ1$23/23,mb4.2/10,MS4.0/3,2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.90**	**120**	Pn			**Pn**	**22 12 06.2**	**0.0**
	6.3nm,0.3s,baz=297,slow=13,SNR=16								
PLCA				Sn			**Sn**	**22 12 57.9**	**+6.3**
	6.1nm,0.3s,baz=3.6,slow=23,SNR=7.7								
PLCA				LR		LR		22 13 43.3	
	comp=Z,636nm,20.9s,baz=66,slow=39								
PLCA	**Paso Flores**	**3.90**	**120**	*e*Pn			**Pn**	**22 12 06.5**	**+0.4**
CFAA	**Coronel Fontan**	**9.14**	**39**	Pn			**P**	**22 13 16.2**	**-3.4**
	0.3nm,0.3s,baz=235,slow=20,SNR=7.6								
TRQA	**Tornquist**	**10.26**	**89**	*e*P			**P**	**22 13 34.5**	**-0.5**
USHA	**Ushuaia**	**16.56**	**167**	Pn			**P**	**22 14 59.4**	**+1.3**
	0.1nm,0.3s,baz=21,slow=16,SNR=1.9								
USHA				LR		LR		22 20 57.6	
	comp=Z,204nm,19.5s,baz=327,slow=36								
LVC	**Limon Verde**	**17.04**	**20**	P			**P**	**22 15 05.2**	**+0.8**
	6.2nm,0.8s								
ARE	**Arequipa**	**22.55**	**9**	P			**P**	**22 16 08.0**	**+2.3**
LPAZ	**La Paz**	**23.31**	**17**	P			**P**	**22 16 14.8**	**+1.7**
	1.3nm,0.8s,mb3.4,baz=186,slow=8.0,SNR=6.2								
LPAZ	**La Paz**	**23.31**	**17**	*e*P			**P**	**22 16 14.1**	**+1.0**
	3.0nm,0.8s,mb3.8								
SAML	**Samuel**	**31.65**	**23**	*e*P			**P**	**22 17 27.4**	**-2.2**
	7.6nm,1.2s,mb4.4								
OTAV	**Otavalo**	**39.06**	**355**	*e*P			**P**	**22 18 34.8**	**+1.9**
	12nm,1.4s,mb4.4								
VNA3	**Neumayer Olymp**	**45.82**	**156**⇑*i*				**P**	**22 19 42.1**	**+15**
VNA2	**Neumayer--Watz**	**46.52**	**155**⇑*i*				**P**	**22 19 42.8**	**+10**
QSPA	**South Pole Qui**	**51.36**	**180**	*e*P			**P**	**22 20 09.5**	**-0.4**
	5.6nm,0.9s,mb4.5								
QSPA				*e*		pP		22 20 18.0	-0.6
MAW	**Mawson**	**69.17**	**164**	LR		LR		22 50 55.5	
	comp=Z,117nm,19.4s,MS4.1,baz=246,slow=34								
TXAR	**Lajitas Array**	**72.94**	**334**	P			**P**	**22 22 33.6**	**-1.6**
	1.9nm,0.9s,mb4.0,baz=153,slow=11,SNR=9.9								
TXAR				pP		pP		22 22 42.9	-1.2
	2.4nm,1.0s,baz=141,slow=8.0,SNR=3.6								
TXAR				LR		LR		22 48 38.9	
	comp=Z,58nm,18.7s,MS3.9,baz=155,slow=31								
DBIC	**Dimbokro**	**78.99**	**72**	P			**P**	**22 23 09.2**	**-0.4**
	2.9nm,0.9s,mb4.2,baz=43,slow=2.4,SNR=4.2								
DBIC				pP		pP		22 23 18.2	-0.4
	2.5nm,0.6s,baz=205,slow=5.2,SNR=2.5								
DBIC	**Dimbokro**	**78.99**	**72**	*e*P			**P**	**22 23 09.3**	**-0.4**
	4.0nm,0.7s,mb4.5								
DBIC				*e*		pP		22 23 18.4	-0.2
BOSA	**Boshof**	**79.89**	**119**	P			**P**	**22 23 14.1**	**-0.1**
	3.8nm,0.9s,mb4.3,baz=177,slow=5.8,SNR=3.6								
BOSA				pP		pP		22 23 22.8	-0.4
	3.4nm,0.8s,baz=193,slow=5.7,SNR=4.1								
BOSA	**Boshof**	**79.89**	**119**	P			**P**	**22 23 14.1**	**-0.1**
BOSA				pP		pP		22 23 22.8	-0.5
LBTB	**Lobatse**	**82.39**	**116**	P			**P**	**22 23 27.5**	**+0.1**
	2.7nm,1.0s,mb4.2,baz=236,slow=7.3,SNR=2.5								
LBTB				pP		pP		22 23 36.3	-0.1
	3.6nm,0.9s,baz=260,slow=5.7,SNR=3.7								
PDAR	**Pinedale Array**	**87.11**	**335**	P			**P**	**22 23 49.9**	**-0.8**
	0.9nm,0.8s,mb4.0,baz=153,slow=6.6,SNR=6.7								
PDAR				LR		LR		22 58 27.9	
	comp=Z,56nm,19.0s,MS4.0,baz=343,slow=33								
HLID	**Hailey**	**89.48**	**333**	*e*P			**P**	**22 24 01.2**	**-0.7**
	2.3nm,0.8s,mb4.6								
HLID				*e*		pP		22 24 10.4	-0.6
GERES	**GERESS Array B**	**117.25**	**48**	PKP		PKPdf		22 29 48.2	-5.5
	0.3nm,0.8s,baz=288,slow=3.1,SNR=4.6								
BVAR	**Borovoye Array**	**152.42**	**48**	PKPbc		PKPdf		22 30 60.0	+2.9
	2.1nm,0.9s,baz=270,slow=3.0,SNR=9.1								
BVAR				PKPab		PKPab		22 31 09.1	-2.5
	1.4nm,0.6s,baz=315,slow=4.2,SNR=7.1								
MKAR	**Makanchi Array**	**161.62**	**57**	PKPab		PKPab		22 31 49.7	-1.4
	0.2nm,0.5s,baz=270,slow=1.4,SNR=3.7								
MKAR				pPKPab				22 31 58.5	
	0.3nm,0.5s,baz=288,slow=3.8,SNR=4.4								
SONM	**Songino Array**	**171.00**	**354**	PKP		PKPdf		22 31 11.3	-4.7
	0.4nm,0.9s,slow=1.4,SNR=3.1								
SONM				PKPab		PKPab		22 32 30.7	-1.5
	0.9nm,0.9s,baz=342,slow=3.9,SNR=5.4								
SONM	**Songino Array**	**171.00**	**354**	PKP		PKPdf		22 31 11.3	-4.7
SONM				PKPab		PKPab		22 32 30.7	-1.5

*IDC **29** 22:14:14.4±2.2,1.72N×99.33E,mb3.6/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.6/5,Error ellipse: s-maj=107.2km s-min=21.0km az=58.0*
*NEIC **29** 22:14:18.5±1.2,1.63N×99.22E,h30km,mb4.1/1,Error ellipse: s-maj=34.9km s-min=13.5km az=69.0*
ISC 29 22:14:16.3±1.4,1.6N±0.1×99.1E±0.2,h30km,n8,σ0$65/9, mb3.7/6,1C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.96**	**23**⇑	*e*Pn			**Pn**	**22 15 16.9**	**+0.2**
KULM				eS			**Sn**	**22 16 15.6**	**+13**
CM31	**Chiang Mai Arr**	**16.74**	**359**	P			**P**	**22 18 10.4**	**-0.1**
WRA	**Warramunga Arr**	**40.64**	**124**	P			**P**	**22 21 54.5**	**-1.2**
	2.3nm,0.9s,mb3.8,baz=302,slow=9.0,SNR=9.0								
ASAR	**Alice Springs**	**42.13**	**129**	P			**P**	**22 22 09.1**	**+1.1**
	0.8nm,0.8s,mb3.4,baz=293,slow=6.9,SNR=6.6								
ASAR				PcP		PcP		22 24 02.9	+0.2
	0.3nm,0.7s,baz=315,slow=1.3,SNR=3.9								
SONM	**Songino Array**	**46.47**	**7**	P			**P**	**22 22 42.4**	**-0.2**
	0.3nm,0.5s,mb3.4,baz=190,slow=6.9,SNR=3.9								
SONM				PcP		PcP		22 24 17.0	-0.2
	0.9nm,0.8s,baz=182,slow=2.9,SNR=6.0								
MKAR	**Makanchi Array**	**47.34**	**344**	P			**P**	**22 22 49.0**	**-0.4**
	0.8nm,0.9s,mb3.7,baz=162,slow=7.7,SNR=5.4								
BVAR	**Borovoye Array**	**56.51**	**340**	P			**P**	**22 23 58.6**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=149,slow=8.6,SNR=4.0								
CHKZ	**Chkalovo**	**56.97**	**340**	P			**P**	**22 23 54.2**	**-7.2**
	2.0nm,0.9s,mb4.2								

*IDC **29** 22:17:28.3±1.2,1.59N×99.18E,mb3.8/7,mb1 3.9/7, mb1mx3.8/17,mbtmp3.8/7,Error ellipse: s-maj=63.5km s-min=18.0km az=53.0*
*NEIC **29** 22:17:33.0±0.6,1.63N×99.18E,h30km,mb4.3/3,Error ellipse: s-maj=20.5km s-min=8.8km az=61.0*
ISC 29 22:17:30.9±0.8,1.6N±0.1×99.1E±0.2,h30km,n13, σ0$62/14,mb3.9/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**3.96**	**23**	*e*Pn			**Pn**	**22 18 31.2**	**+0.1**
KULM				*e*S			**Sn**	**22 19 36.7**	**+20**
WRA	**Warramunga Arr**	**40.66**	**124**	P			**P**	**22 25 09.9**	**-0.4**
	3.4nm,1.0s,mb4.0,baz=302,slow=9.2,SNR=12								
WRAB	**Tennant Creek**	**40.66**	**124**	*e*P			**P**	**22 25 11.5**	**+1.1**
	8.6nm,1.0s,mb4.3								
ASAR	**Alice Springs**	**42.15**	**129**	P			**P**	**22 25 22.6**	**0.0**
	1.0nm,0.9s,mb3.4,baz=312,slow=7.4,SNR=6.7								
ASAR				PcP		PcP		22 27 16.1	-1.3
	0.7nm,1.0s,baz=323,slow=4.5,SNR=3.8								
SONM	**Songino Array**	**46.46**	**7**	P			**P**	**22 25 57.4**	**+0.4**
	0.5nm,0.9s,mb3.4,baz=187,slow=12,SNR=3.8								
SONM				PcP		PcP		22 27 31.5	-0.2
	0.9nm,0.8s,baz=189,slow=2.2,SNR=7.2								
MKAR	**Makanchi Array**	**47.33**	**344**	P			**P**	**22 26 03.9**	**0.0**
	0.4nm,0.5s,mb3.6,baz=150,slow=9.8,SNR=3.9								
KURK	**Kurchatov**	**51.91**	**344**	P			**P**	**22 26 38.7**	**-0.3**
	1.5nm,0.7s,mb4.0								
STKA	**Stephens Creek**	**52.24**	**133**	P			**P**	**22 26 41.0**	**-0.8**
	2.6nm,0.9s,mb4.2,baz=345,slow=5.2,SNR=3.8								
STKA	**Stephens Creek**	**52.24**	**133**	P			**P**	**22 26 41.0**	**-0.8**
BVAR	**Borovoye Array**	**56.50**	**340**	P			**P**	**22 27 12.3**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=135,slow=8.4,SNR=5.1								
CHKZ	**Chkalovo**	**56.96**	**340**	*e*P			**P**	**22 27 15.1**	**-0.8**
	4.9nm,1.3s,mb4.4								
BRTR	**Keskin Array B**	**70.25**	**312**	P			**P**	**22 28 44.5**	**+1.1**
	0.8nm,0.9s,mb3.6,baz=90,slow=8.6,SNR=3.1								
BRTR	**Keskin Array B**	**70.25**	**312**	P			**P**	**22 28 44.5**	**+1.1**

IDC 29 22:19:18.5±3.4,1.00N×96.90E,mb3.5/4,mb1 3.6/4, mb1mx3.4/17,mbtmp3.5/4,Error ellipse: s-maj=134.0km s-min=27.7km az=55.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.18**	**122**	P			P	22 27 13.3	-1.7
	0.4nm,0.7s,baz=299,slow=8.7,SNR=8.8								
MKAR	**Makanchi Array**	**47.36**	**346**	P			P	22 27 54.5	-1.7
	0.6nm,0.6s,baz=163,slow=8.4,SNR=4.7								
SONM	**Songino Array**	**47.37**	**9**	P			P	22 27 54.4	-1.8
	0.5nm,0.8s,baz=180,slow=7.2,SNR=2.8								
BVAR	**Borovoye Array**	**56.34**	**341**	P			P	22 29 00.8	-2.8
	0.6nm,0.7s,baz=135,slow=8.4,SNR=3.7								

IDC 29 22:32:29.0±3.9,1.47N×97.59E,mb3.4/4,mb1 3.5/4, mb1mx3.4/16,mbtmp3.4/4,Error ellipse: s-maj=161.2km s-min=24.1km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.85**	**122**	P			P	22 40 20.0	-2.8
	0.3nm,0.5s,baz=302,slow=9.2,SNR=6.4								
ASAR	**Alice Springs**	**43.25**	**128**	P			P	22 40 33.4	-0.8
	0.3nm,0.9s,baz=297,slow=7.5,SNR=2.5								
SONM	**Songino Array**	**46.81**	**8**	P			P	22 41 01.2	-1.1
	0.2nm,0.4s,baz=193,slow=8.5,SNR=4.5								
MKAR	**Makanchi Array**	**47.07**	**346**	P			P	22 41 02.0	-2.4
	0.4nm,0.5s,baz=159,slow=8.6,SNR=9.0								

IDC 29 22:32:54.4±4.6,0.74N×97.74E,mb3.5/3,mb1 3.7/3, mb1mx3.4/16,mbtmp3.5/3,Error ellipse: s-maj=173.5km s-min=31.2km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.34**	**122**	P			P	22 40 41.9	-1.8
	0.3nm,0.4s,baz=304,slow=9.1,SNR=4.9								
SONM	**Songino Array**	**47.51**	**8**	P			P	22 41 32.7	-0.5
	0.3nm,0.6s,baz=189,slow=7.5,SNR=3.9								
MKAR	**Makanchi Array**	**47.82**	**346**	P			P	22 41 32.7	-2.9
	0.9nm,0.7s,baz=154,slow=7.2,SNR=7.7								

DJA 29 22:35:14.5±1.0,9.33S×112.98E,h2km,ML4.1/3,1C-5D, Error ellipse: s-maj=26.0km s-min=20.4km az=132.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.43**	**54**	Pn			Pn	22 35 37.9	-3.6
	108nm,0.2s								
SRDI					⇓	*e*Sn	Sn	22 35 54.3	-6.8
KELI	**Kelakatan**	**1.86**	**54**	*e*Pn			Pn	22 35 44.9	-2.8
	109nm,0.3s								
KELI					⇓	*e*Sn	Sn	22 36 07.9	-4.2
RATI	**Rata**	**2.59**	**77**	*e*Pn			Pn	22 35 55.0	-3.2
	136nm,0.2s								
RATI					⇓	*e*Sn	Sn	22 36 24.3	-6.4
KEDI	**Kedomdong**	**3.21**	**75**	⇓*e*Pn			Pn	22 36 03.3	-3.7

*IDC **29** 22:37:58.8±1.6,1.48N×96.93E,h26km±5km,mb3.8/6, mb1 3.8/6,mb1mx3.6/17,mbtmp3.9/6,Error ellipse: s-maj=68.0km s-min=17.8km az=56.0*
*NEIC **29** 22:38:00.1±0.8,1.66N×97.15E,h30km,mb4.2/3,Error ellipse: s-maj=20.2km s-min=13.4km az=56.0*
ISC 29 22:37:57.6±1.0,1.7N±0.1×97.1E±0.2,h27km, h27km±1.5km:pP-P,n10,σ0$58/10,mb4.0/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.05**	**44**	*e*P			**Pn**	**22 39 13.0**	**-0.5**
BJT	**Baijiatuan**	**41.93**	**22**	P			**P**	**22 45 48.1**	**+0.3**
	5.7nm,0.5s,mb4.5								
WRA	**Warramunga Arr**	**42.34**	**122**	P			**P**	**22 45 51.2**	**-0.1**
	0.3nm,0.3s,mb3.4,baz=305,slow=9.0,SNR=6.8								
WRA				pP		pP		22 45 58.6	-1.0
	0.6nm,0.5s,baz=303,slow=9.2,SNR=4.2								
SONM	**Songino Array**	**46.70**	**9**	P			**P**	**22 46 26.8**	**+0.8**
	1.4nm,0.6s,mb4.1,baz=190,slow=8.4,SNR=18								
SONM				pP		pP		22 46 36.4	+2.1
	0.4nm,0.5s,baz=196,slow=8.5,SNR=4.0								
MKAR	**Makanchi Array**	**46.79**	**346**	P			**P**	**22 46 27.1**	**+0.5**
	2.2nm,0.6s,mb4.2,baz=160,slow=7.9,SNR=27								
MKAR				pP		pP		22 46 35.7	+0.7
	1.1nm,0.8s,baz=161,slow=7.8,SNR=5.5								
KURK	**Kurchatov**	**51.34**	**345**	P			**P**	**22 47 02.5**	**+0.8**
	2.6nm,1.0s,mb4.1								
STKA	**Stephens Creek**	**53.72**	**132**	P			**P**	**22 47 20.0**	**+0.2**
	1.1nm,0.8s,mb3.9,baz=315,slow=8.6,SNR=2.8								
BVAR	**Borovoye Array**	**55.80**	**341**	P			**P**	**22 47 34.2**	**-0.4**
	0.4nm,0.6s,mb3.7,baz=141,slow=9.5,SNR=4.3								
CHKZ	**Chkalovo**	**56.28**	**341**	*e*P			**P**	**22 47 37.2**	**-0.9**
	1.6nm,0.6s,mb4.2								
FINES	**FINESS Array B**	**79.56**	**332**	P			**P**	**22 50 02.8**	**-0.8**
	0.7nm,0.8s,mb3.6,baz=180,slow=8.3,SNR=2.3								
FINES				pP		pP		22 50 10.8	-1.4
	0.6nm,0.7s,baz=63,slow=8.5,SNR=1.6								

IDC 29 22:46:59.0±4.3,2.88N×96.85E,mb3.5/3,mb1 3.6/3, mb1mx3.3/16,mbtmp3.5/3,Error ellipse: s-maj=160.5km s-min=29.7km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.23**	**123**	P			P	22 55 02.3	-1.8
	0.2nm,0.5s,baz=302,slow=9.2,SNR=6.3								
SONM	**Songino Array**	**45.53**	**9**	P			P	22 55 20.6	-1.6
	0.4nm,0.4s,baz=189,slow=8.8,SNR=9.4								
MKAR	**Makanchi Array**	**45.54**	**346**	P			P	22 55 20.2	-2.0
	0.4nm,0.4s,baz=160,slow=8.5,SNR=8.0								

IDC 29 22:54:12.8±4.2,2.64N×96.46E,mb3.8/3,mb1 3.9/3, mb1mx3.5/16,mbtmp3.8/3,Error ellipse: s-maj=154.3km s-min=29.4km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.42**	**123**	P			P	23 02 17.6	-1.8
	0.3nm,0.4s,baz=302,slow=8.9,SNR=6.0								
MKAR	**Makanchi Array**	**45.68**	**346**	P			P	23 02 35.1	-2.0
	1.3nm,0.4s,baz=164,slow=8.7,SNR=22								
SONM	**Songino Array**	**45.84**	**9**	P			P	23 02 36.8	-1.6
	1.6nm,0.8s,baz=190,slow=8.5,SNR=14								

*IDC **29** 22:59:03.3±2.3,2.85N×96.31E,mb3.9/6,mb1 4.0/6, mb1mx3.7/17,mbtmp3.9/6,Error ellipse: s-maj=106.1km s-min=22.0km az=56.0*
*NEIC **29** 22:59:09.2±0.8,3.10N×96.75E,h30km,mb4.1/3,Error ellipse: s-maj=23.7km s-min=12.4km az=47.0*
ISC 29 22:59:07.3±1.0,3.1N±0.1×96.7E±0.1,h30km,n11, σ0$97/11,mb3.9/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.47**	**61**	P			**Pn**	**23 00 14.5**	**-0.3**
WRA	**Warramunga Arr**	**43.46**	**123**	P			**P**	**23 07 10.0**	**+0.2**
	1.1nm,0.5s,mb3.9,baz=300,slow=9.3,SNR=5.0								
WRAB	**Tennant Creek**	**43.46**	**123**	*e*P			**P**	**23 07 09.8**	**0.0**
	2.8nm,0.5s,mb4.2								
AAK	**Ala-Archa**	**44.07**	**336**	*e*P			**P**	**23 07 16.6**	**+2.2**
	0.9nm,0.7s,mb3.6								
ASAR	**Alice Springs**	**44.93**	**128**	P			**P**	**23 07 21.6**	**-0.1**
	0.6nm,0.5s,mb3.6,baz=300,slow=7.5,SNR=4.6								
MKAR	**Makanchi Array**	**45.28**	**346**	P			**P**	**23 07 24.0**	**-0.1**
	1.2nm,0.3s,mb4.2,baz=159,slow=8.9,SNR=54								
SONM	**Songino Array**	**45.32**	**9**	P			**P**	**23 07 25.7**	**+1.3**
	0.3nm,0.5s,mb3.4,baz=186,slow=9.3,SNR=5.0								
BVAR	**Borovoye Array**	**54.30**	**341**	P			**P**	**23 08 31.8**	**-1.2**
	0.5nm,0.5s,mb3.7,baz=135,slow=6.1,SNR=4.1								
CHKZ	**Chkalovo**	**54.77**	**341**	*e*P			**P**	**23 08 35.1**	**-1.4**
	1.1nm,0.6s,mb4.1								
ARCES	**ARCESS Array B**	**80.58**	**340**	P			**P**	**23 11 17.9**	**-0.2**
	3.7nm,0.9s,mb4.3,baz=100,slow=5.5,SNR=3.6								
ARCES	**ARCESS Array B**	**80.58**	**340**	P			**P**	**23 11 17.9**	**-0.2**

*IDC **29** 23:00:12.8±8.7,2.55N×127.18E,h52km±81km,mb3.8/9, mb1 4.0/9,mb1mx3.8/15,mbtmp4.1/9,Error ellipse: s-maj=98.1km s-min=17.9km az=69.0*
*NEIC **29** 23:00:15.7±2.8,2.54N×127.23E,h84km±26km,mb4.4/6, Error ellipse: s-maj=32.1km s-min=6.4km az=67.0*
ISC 29 23:00:15.9±4.7,2.5N±0.1×127.1E±0.3,h99km±44km,n19, σ0$71/19,mb4.2/14,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KKM	**Kota Kinabalu**	**11.43**	**288**	P			**P**	**23 02 57.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**20.55**	**184**	P			**P**	**23 04 47.5**	**-1.2**
	1.7nm,0.4s,baz=4.6,slow=11,SNR=5.2								
WRAB	**Tennant Creek**	**23.42**	**163**	*e*P			**P**	**23 05 17.6**	**+0.7**
	7.1nm,0.5s,mb4.2								
WRA	**Warramunga Arr**	**23.42**	**163**	P			**P**	**23 05 17.0**	**0.0**
	2.2nm,0.4s,mb3.8,baz=339,slow=11,SNR=23								
WB2	**Warramunga Arr**	**23.43**	**163**	*e*P			**P**	**23 05 17.1**	**+0.1**
ASAR	**Alice Springs**	**26.86**	**166**	P			**P**	**23 05 48.5**	**-0.8**
	0.6nm,0.5s,mb3.4,baz=351,slow=7.7,SNR=12								
STKA	**Stephens Creek**	**36.87**	**159**	P			**P**	**23 07 16.9**	**+0.4**
	2.8nm,0.6s,mb4.3,baz=322,slow=8.0,SNR=9.2								
STKA	**Stephens Creek**	**36.87**	**159**	*e*P			**P**	**23 07 16.5**	**-0.1**
BJT	**Baijiatuan**	**38.62**	**346**	*e*P			**P**	**23 07 30.0**	**-1.1**
	12nm,0.8s,mb4.8								
LSA	**Lhasa**	**43.53**	**312**	P			**P**	**23 08 12.4**	**+0.8**
	1.9nm,0.6s,mb4.0								
ULN	**Ulaanbaatar**	**48.38**	**342**	*e*P			**P**	**23 08 49.8**	**+0.1**
	4.1nm,0.7s,mb4.4								
SONM	**Songino Array**	**48.56**	**341**	P			**P**	**23 08 51.2**	**+0.2**
	1.9nm,0.7s,mb4.1,baz=154,slow=8.3,SNR=17								
SONM				PcP		PcP		23 10 16.4	+0.7
	0.7nm,0.9s,baz=165,slow=3.4,SNR=4.5								
MKAR	**Makanchi Array**	**58.77**	**325**	P			**P**	**23 10 05.4**	**-0.5**
	1.3nm,0.4s,mb4.3,baz=117,slow=7.7,SNR=26								
KURK	**Kurchatov**	**62.96**	**328**	*e*P			**P**	**23 10 33.9**	**-0.4**
	3.5nm,0.6s,mb4.5								
BVAR	**Borovoye Array**	**68.54**	**327**	P			**P**	**23 11 10.4**	**+0.6**

0.5nm,0.4s,mb3.8,baz=191,slow=9.5,SNR=6.8
SONM pP pP 23 28 19.1 +0.3
2.4nm,0.8s,baz=190,slow=8.0,SNR=14
MKAR Makanchi Array 47.07 346 P P 23 28 11.9 +0.4
0.9nm,0.4s,mb4.0,baz=158,slow=8.8,SNR=32
MKAR pP pP 23 28 20.3 +0.8
2.5nm,0.7s,baz=156,slow=8.2,SNR=14
MKAR Makanchi Array 47.07 346 P P 23 28 11.9 +0.4
MKAR pP pP 23 28 20.3 +0.8
STKA Stephens Creek 53.52 132 P P 23 29 01.2 +0.3
0.5nm,0.4s,mb3.8,baz=319,slow=11,SNR=3.3
STKA pP pP 23 29 08.5 -0.4
1.7nm,0.7s,baz=300,slow=7.9,SNR=3.1
CHKZ Chkalovo 56.55 341 *eP* **P 23 29 22.0 -0.7**
3.0nm,0.6s,mb4.5
CHKZ *e*pP pP 23 29 30.1 -0.6
CHKZ *es*P sP 23 29 33.8 +0.1
BRTR Keskin Array B 68.95 312 P **P 23 30 44.7 -0.6**
0.7nm,0.5s,mb3.9,baz=158,slow=6.7,SNR=4.7
BOSA Boshof 74.79 240 P **P 23 31 19.7 -0.6**
2.6nm,0.9s,mb4.2,baz=59,slow=5.9,SNR=3.4
AKASG Malin Array Be 75.09 322 P **P 23 31 20.9 -0.7**
0.5nm,0.3s,mb3.9,baz=89,slow=5.6,SNR=6.2
FINES FINESS Array B 79.82 333 P **P 23 31 47.7 +0.2**
1.0nm,0.5s,mb4.0,baz=90,slow=5.7,SNR=9.3
FINES FINESS Array B 79.82 333 P **P 23 31 47.7 +0.2**
ARCES ARCESS Array B 82.36 340 P **P 23 32 01.8 +1.1**
5.2nm,0.9s,mb4.5,baz=90,slow=3.6,SNR=7.8
GERES GERESS Array B 84.64 319 P **P 23 32 13.8 +1.0**
0.6nm,0.8s,mb3.8,baz=63,slow=6.0,SNR=6.0
GERES pP pP 23 32 21.7 +0.5
0.3nm,0.6s,baz=117,slow=3.0,SNR=3.2

BJI ***29*** *23:23:04.8, 1.73N×97.29E, h38km, mb4.5*
IDC ***29*** *23:23:05.5±0.6, 2.37N×97.16E, mb4.2/16, mb1 4.4/16, mb1mx4.3/20, mbtmp4.2/16, Error ellipse: s-maj=27.9km s-min=13.0km az=47.0*
NEIC ***29*** *23:23:09.8±0.3, 2.24N×97.07E, h30km, mb4.5/12, Error ellipse: s-maj=11.4km s-min=6.7km az=224.0*
ISC 29 23:23:08.5±0.4, 2.26N±0.07×97.09E±0.07, h33km, n49, σ0s96/45, mb4.4/31, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.66**	**50**	*eP*	**P**	**23 24 20.1**	**+1.7**
KKM	**Kota Kinabalu**	**19.44**	**78**	*eP*	**P**	**23 27 35.9**	**+0.7**
KMI	**Kunming**	**23.38**	**13**	P	**P**	**23 28 17.0**	**+1.7**
KMI				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.1						
HYB	**Hyderabad**	**23.63**	**311**	*eP*	**P**	**23 28 21.0**	**+3.2**
HYB	**Hyderabad**	**23.63**	**311**	*i* P	**P**	**23 28 21.0**	**+3.2**
JIRN	**Jiri**	**27.33**	**339**	*eP*	**P**	**23 28 53.0**	**+0.4**
	comp=Z,23nm,0.9s,mb4.7						
PKI	**Pulchoki**	**27.54**	**337**	*eP*	**P**	**23 28 54.8**	**+0.2**
DMN	**Daman**	**27.69**	**337**	*eP*	**P**	**23 28 56.1**	**+0.1**
KKN	**Kakani**	**27.79**	**337**	*eP*	**P**	**23 28 56.9**	**+0.1**
	comp=Z,12nm,0.9s,mb4.5						
GKN	**Gorkha**	**28.23**	**336**	*eP*	**P**	**23 29 01.1**	**+0.3**
KOLN	**Koldanda**	**28.46**	**334**	*eP*	**P**	**23 29 02.9**	**+0.1**
	comp=Z,19nm,0.9s,mb4.8						
ENH	**Enshi**	**30.24**	**22**	*eP*	**P**	**23 29 17.1**	**-1.6**
	comp=Z,6.1nm,0.8s,mb4.4						
XAN	**Xi'an**	**33.49**	**18**	P	**P**	**23 29 45.5**	**-1.6**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.64**	**127**	P	**P**	**23 29 55.9**	**-1.2**
	comp=Z,4.2nm,0.8s,mb4.4,baz=339,slow=4.0,SNR=6.1						
GTA	**Gaotai**	**37.06**	**4**	*eP*	**P**	**23 30 17.5**	**+0.1**
GTA				AP	pP	23 30 24.5	-2.7
GTA				XP	sP	23 30 27.8	-3.6
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.4						
BJT	**Baijiatuao**	**41.38**	**22**	*eP*	**P**	**23 30 53.8**	**+0.5**
	comp=Z,12nm,0.7s,mb4.6						
BJI	**Beijing**	**41.41**	**22**	*eP*	**P**	**23 30 54.3**	**+0.8**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.7						
WRA	**Warramunga Arr**	**42.69**	**123**	P	**P**	**23 31 04.2**	**-0.2**
	comp=Z,4.4nm,0.8s,mb4.2,baz=301,slow=9.3,SNR=16						
WRAB	**Tennant Creek**	**42.70**	**123**	*eP*	**P**	**23 31 03.7**	**-0.8**
	comp=Z,14nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**42.70**	**123**	*eP*	**P**	**23 31 04.6**	**+0.1**
ASPA	**Alice Springs**	**44.12**	**128**	*eP*	**P**	**23 31 05.8**	**-10**
ASAR	**Alice Springs**	**44.12**	**128**	P	**P**	**23 31 16.2**	**+0.3**
	comp=Z,1.9nm,0.9s,mb3.8,baz=304,slow=8.1,SNR=14						
ASAR				PcP	PcP	23 33 01.5	+0.3
	comp=Z,0.6nm,0.7s,baz=299,slow=3.0,SNR=4.5						
AAK	**Ala-Archa**	**44.99**	**336**	*eP*	**P**	**23 31 22.2**	**-0.4**
	comp=Z,2.8nm,0.8s,mb4.1						
SONM	**Songino Array**	**46.11**	**9**	P	**P**	**23 31 31.2**	**-0.3**
	comp=Z,0.9nm,0.3s,mb4.2,baz=192,slow=9.4,SNR=15						
SONM				PcP	PcP	23 33 07.8	+0.1
	comp=Z,0.9nm,0.4s,baz=188,slow=3.4,SNR=7.5						
MKAR	**Makanchi Array**	**46.20**	**346**	P	**P**	**23 31 31.8**	**-0.3**
	comp=Z,1.4nm,0.4s,mb4.3,baz=161,slow=8.0,SNR=27						
ULN	**Ulaanbaatar**	**46.24**	**9**	P	**P**	**23 31 32.5**	**0.0**
KURK	**Kurchatov**	**50.75**	**345**	*eP*	**P**	**23 32 06.2**	**-1.2**
	comp=Z,3.7nm,0.7s,mb4.4						
CTA	**Charters Tower**	**53.08**	**117**	P	**P**	**23 32 25.5**	**+0.3**
	comp=Z,9.5nm,1.1s,mb4.6,baz=270,slow=9.0,SNR=2.4						
CTA	**Charters Tower**	**53.08**	**117**	P	**P**	**23 32 25.5**	**+0.3**
STKA	**Stephens Creek**	**54.15**	**133**	P	**P**	**23 32 32.7**	**-0.3**
	comp=Z,4.5nm,1.0s,mb4.4,baz=331,slow=8.1,SNR=6.6						
STKA	**Stephens Creek**	**54.15**	**133**	P	**P**	**23 32 32.7**	**-0.3**
RAYN	**Ar Rayn**	**54.17**	**297**	P	**P**	**23 32 33.7**	**+0.4**
	comp=Z,32nm,0.8s,SNR=8.4						
BVAR	**Borovoye Array**	**55.22**	**341**	P	**P**	**23 32 39.6**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.6,baz=143,slow=7.4,SNR=23						
CHKZ	**Chkalovo**	**55.70**	**341**	*eP*	**P**	**23 32 42.9**	**-1.0**
	comp=Z,12nm,0.8s,mb5.0						
KMBO	**Kilima Mbogo**	**59.92**	**267**	P	**P**	**23 33 15.6**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=39,slow=14,SNR=3.5						
MALT	**Malatya**	**64.34**	**312**	*eP*	**P**	**23 33 41.1**	**-2.4**
	comp=Z,2.0nm,0.8s,mb4.2						
BRTR	**Keskin Array B**	**68.32**	**312**	P	**P**	**23 34 07.7**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=121,slow=7.2,SNR=5.0						
LBTB	**Lobatse**	**74.26**	**243**	P	**P**	**23 34 46.5**	**+1.9**
	comp=Z,1.4nm,0.8s,mb4.0,baz=91,slow=15,SNR=3.7						
AKASG	**Malin Array Be**	**74.36**	**322**	P	**P**	**23 34 43.3**	**-1.4**
	comp=Z,2.3nm,0.7s,mb4.2,baz=86,slow=5.3,SNR=9.2						
FINES	**FINESS Array B**	**79.02**	**332**	P	**P**	**23 35 11.2**	**+0.5**
	comp=Z,3.0nm,0.7s,mb4.3,baz=100,slow=5.2,SNR=12						
KAF	**Kangasniemi**	**79.10**	**333**	*ep*	**P**	**23 35 10.7**	**-0.4**
	comp=Z,2.9nm,0.5s,mb4.5						
ARCES	**ARCESS Array B**	**81.51**	**340**	P	**P**	**23 35 24.4**	**+0.6**
	comp=Z,3.5nm,0.7s,mb4.4,baz=90,slow=4.9,SNR=8.9						
GERES	**GERESS Array B**	**83.95**	**319**	P	**P**	**23 35 37.8**	**+1.0**
	comp=Z,1.3nm,0.8s,mb4.1,baz=101,slow=6.8,SNR=11						
NB2	**NORSAR Subarra**	**86.03**	**331**	P	**P**	**23 35 47.1**	**+0.4**
	comp=Z,2.3nm,0.8s,mb4.5,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**86.03**	**331**	P	**P**	**23 35 47.4**	**+0.6**
	comp=Z,1.6nm,0.8s,mb4.3,baz=93,slow=4.9,SNR=7.0						
YKA	**Yellowknife Ar**	**111.11**	**15**	PP	PP	23 42 17.0	-5.1
	comp=Z,0.1nm,0.5s,baz=316,slow=7.0,SNR=4.2						
ULM	**Lac du Bonnet**	**126.52**	**10**	PKP	PKPdf	23 42 09.3	+0.7
	comp=Z,0.8nm,0.4s,baz=342,slow=2.9,SNR=3.1						
PDAR	**Pinedale Array**	**129.14**	**25**	PKP	PKPdf	23 42 15.5	+1.7
	comp=Z,0.4nm,0.8s,slow=2.7,SNR=2.4						
LRAL	**Lakeview Retre**	**144.69**	**6**	PKP	PKPdf	23 42 42.6	+0.1

MOS ***29*** *23:27:38.5±0.9, 1.64N×96.68E, h33km, mb4.9/10, Error ellipse: s-maj=44.8km s-min=12.6km az=100.7*
BJI ***29*** *23:27:39.7, 1.59N×96.41E, h41km, mB5.1, mb5.0, Ms4.3, Msz4.0*
NEIC ***29*** *23:27:44.6±0.3, 2.22N×96.31E, mb4.7/20, Error ellipse: s-maj=8.7km s-min=5.4km az=48.0*
IDC ***29*** *23:27:44.6±0.6, 2.31N×96.32E, h22km±3km, mb4.2/16, mb1 4.2/16, mb1mx4.2/19, mbtmp4.3/16, MS3.8/8, Ms1 3.8/8, ms1mx3.5/18, Error ellipse: s-maj=23.1km s-min=11.8km az=44.0*
ISC 29 23:27:42.7±0.4, 2.23N±0.06×96.34E±0.07, h23km, h23km±1.5km:pP-P,n63,σ1s04/64, mb4.6/43, MS3.9/12, 7C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.26**	**55**	*i* P	**Pn**	**23 29 03.0**	**+1.0**
KSM	**Kuching**	**13.98**	**93**	P	**P**	**23 31 11.0**	**+9.1**
CM31	**Chiang Mai Arr**	**16.32**	**9**	*eP*	**P**	**23 31 33.9**	**+1.6**
	5.8nm,0.6s						
KKM	**Kota Kinabalu**	**20.18**	**79**	*eP*	**P**	**23 32 18.4**	**-0.3**
HYB	**Hyderabad**	**23.09**	**312**	*eP*	**P**	**23 33 02.0**	**+14**

KMI	**Kunming**	**23.58**	**15**	‖P	**P**	**23 32 55.3**	**+2.6**
KMI				AP		23 33 03.0	
KMI				S	**S**	**23 37 11.5**	**+9.5**
KMI				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.3						
KMI				LR	LR		
	comp=N,320nm,12.6s						
KMI				LR	LR		
	comp=E,304nm,18.4s						
KMI				LR	LR		
	comp=Z,324nm,13.8s,MS4.0						
JIRN	**Jiri**	**27.09**	**340**	*eP*	**P**	**23 33 26.8**	**+1.0**
	comp=Z,36nm,0.7s,mb5.0						
PKI	**Pulchoki**	**27.28**	**338**	*eP*	**P**	**23 33 28.3**	**+0.7**
	comp=Z,14nm,0.6s,mb4.7						
PKI	**Pulchoki**	**27.28**	**338**	*eP*	**P**	**23 33 28.3**	**+0.7**
PKI				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.4						
DMN	**Daman**	**27.43**	**338**	*eP*	**P**	**23 33 29.4**	**+0.5**
	comp=Z,32nm,0.9s,mb4.9						
KKN	**Kakani**	**27.53**	**338**	*eP*	**P**	**23 33 30.4**	**+0.6**
	comp=Z,24nm,0.8s,mb4.9						
LSA	**Lhasa**	**27.76**	**350**	P	**P**	**23 33 33.0**	**+1.1**
LSA	**Lhasa**	**27.76**	**350**	‖*eP*	**P**	**23 33 32.2**	**+0.3**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.76**	**350**	‖*eP*	**P**	**23 33 32.2**	**+0.3**
	comp=Z,18nm,0.9s,mb4.7						
GKN	**Gorkha**	**27.96**	**338**	*eP*	**P**	**23 33 34.7**	**+0.9**
	comp=Z,30nm,0.7s,mb5.0						
KOLN	**Koldanda**	**28.17**	**336**	*eP*	**P**	**23 33 36.7**	**+1.1**
	comp=Z,20nm,0.7s,mb4.9						
ENH	**Enshi**	**30.55**	**23**	*eP*	**P**	**23 33 54.5**	**-2.4**
	comp=Z,5.3nm,0.6s,mb4.5						
XAN	**Xi'an**	**33.76**	**19**	P	**P**	**23 34 23.5**	**-1.4**
XAN				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.3						
LZH	**Lanzhou**	**34.40**	**11**	*eP*	**P**	**23 34 30.0**	**-0.4**
LZH				AP	pP	23 34 37.5	+0.1
LZH				XP	sP	23 34 41.5	+1.1
LZH				AMB	AMB		
	comp=Z,42nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,167nm,4.0s						
LZH				LR	LR		
	comp=E,698nm,16.3s						
LZH				LR	LR		
	comp=Z,926nm,17.6s,MS4.6						
FITZ	**Fitzroy Crossi**	**35.22**	**126**	*eP*	**P**	**23 34 37.2**	**-0.5**
	comp=Z,8.6nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**35.22**	**126**	P	**P**	**23 34 37.6**	**0.0**
	comp=Z,11nm,0.7s,mb4.9,baz=313,slow=3.1,SNR=12						
FITZ				LR	LR	23 50 19.2	
	comp=Z,129nm,18.5s,MS3.7,baz=291,slow=38						
GTA	**Gaotai**	**37.14**	**4**	*eP*	**P**	**23 34 53.5**	**-0.1**
GTA				AP	pP	23 35 00.8	+0.2
GTA				XP	sP	23 35 04.8	+1.2
GTA				PP	PP	23 36 20.0	-0.7
GTA				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,95nm,5.1s						
GTA				LR	LR		
	comp=N,151nm,13.8s,MS4.1						
GTA				LR	LR		
	comp=E,134nm,13.5s,MS4.1						
GTA				LR	LR		
	comp=Z,149nm,16.8s,MS3.9						
BJT	**Baijiatuao**	**41.70**	**23**	*eP*	**P**	**23 35 32.3**	**+0.9**
	comp=Z,34nm,0.7s,mb5.1						
BJI	**Beijing**	**41.72**	**23**	*eP*	**P**	**23 35 32.5**	**+0.9**
BJI				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.2						
BJI				LR	LR		
	comp=Z,89nm,15.2s,MS3.8						
WRA	**Warramunga Arr**	**43.31**	**122**	P	**P**	**23 35 45.2**	**+0.3**
	comp=Z,1.6nm,0.5s,mb4.0,baz=301,slow=9.3,SNR=8.6						
WRAB	**Tennant Creek**	**43.31**	**122**	*eP*	**P**	**23 35 45.4**	**+0.5**
	comp=Z,11nm,0.8s,mb4.7						
WB2	**Warramunga Arr**	**43.32**	**122**	*eP*	**P**	**23 35 45.0**	**0.0**
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**	**23 35 56.6**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.1,baz=300,slow=8.0,SNR=21						
ASAR				pP	pP	23 36 04.7	+1.5
	comp=Z,1.0nm,0.6s,baz=299,slow=7.8,SNR=6.2						
ASAR				LR	LR	23 56 07.6	
	comp=Z,80nm,18.6s,MS3.7,baz=316,slow=38						
AAK	**Ala-Archa**	**44.72**	**337**	*eP*	**P**	**23 35 55.9**	**-0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
AAK	**Ala-Archa**	**44.72**	**337**	*eP*	**P**	**23 35 55.9**	**-0.2**
	comp=Z,4.6nm,1.1s,mb4.2						
MKAR	**Makanchi Array**	**46.04**	**347**	P	**P**	**23 36 06.4**	**0.0**
	comp=Z,14nm,0.9s,mb4.9,baz=160,slow=8.2,SNR=82						
MKAR				LR	LR	23 58 03.9	
	comp=Z,86nm,21.2s,MS3.7,baz=158,slow=40						
SONM	**Songino Array**	**46.25**	**9**	P	**P**	**23 36 08.1**	**0.0**
	comp=Z,7.2nm,0.7s,mb4.7,baz=190,slow=9.2,SNR=58						
SONM				PcP	PcP	23 37 44.4	+0.5
	comp=Z,3.0nm,0.7s,baz=190,slow=3.8,SNR=10						
ULN	**Ulaanbaatar**	**46.39**	**10**	*eP*	**P**	**23 36 08.9**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.6						
ZAK	**Zakamensk**	**48.34**	**6**	*eP*	**P**	**23 36 24.2**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
MOY	**Mondy**	**49.42**	**4**	*eP*	**P**	**23 36 35.8**	**+3.1**
KURK	**Kurchatov**	**50.58**	**345**	‖*eP*	**P**	**23 36 41.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
KURK	**Kurchatov**	**50.58**	**345**	‖*eP*	**P**	**23 36 41.3**	**-0.4**
	comp=Z,3.5nm,0.8s,mb4.3						
HIA	**Hailar**	**50.95**	**20**	*eP*	**P**	**23 36 43.9**	**-0.6**
	comp=Z,5.7nm,0.7s,mb4.6						
PMG	**Port Moresby**	**51.93**	**104**	P	**P**	**23 36 51.7**	**-0.7**
	comp=Z,14nm,0.9s,mb4.9,baz=315,slow=13,SNR=3.6						
NVS	**Novosibirsk**	**53.52**	**351**	*eP*	**P**	**23 37 02.1**	**-1.6**
NVS				*e*		23 39 03.3	
NVS				pmax	pmax		
	comp=E,2.0nm,0.6s						
STKA	**Stephens Creek**	**54.68**	**132**	P	**P**	**23 37 13.6**	**+1.0**
	comp=E,3.6nm,0.7s,mb4.5,baz=314,slow=8.1,SNR=8.7						
STKA				LR	LR	00 03 11.6	
	comp=E,119nm,21.2s,MS3.9,baz=295,slow=39						
BVAR	**Borovoye Array**	**55.00**	**341**	P	**P**	**23 37 13.5**	**-1.1**
	comp=E,5.3nm,0.8s,mb4.6,baz=140,slow=8.5,SNR=28						
CHKZ	**Chkalovo**	**55.48**	**342**	‖*i* P	**P**	**23 37 17.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
CHKZ	**Chkalovo**	**55.48**	**342**	‖*i* P	**P**	**23 37 17.2**	**-0.9**
	comp=Z,8.6nm,0.7s,mb4.9						
KLR	**Kul'dur**	**55.73**	**27**	*eP*	**P**	**23 37 17.2**	**-2.7**
BOD	**Bodaibo**	**57.16**	**11**	*eP*	**P**	**23 37 27.9**	**-2.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KMBO	**Kilima Mbogo**	**59.17**	**267**	P	**P**	**23 37 44.6**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=58,slow=19,SNR=2.7						
KMBO				pP	pP	23 37 52.6	+0.6
	comp=Z,0.9nm,0.7s,baz=51,slow=13,SNR=3.6						
KMBO				LR	LR	00 00 01.0	
	comp=Z,99nm,19.2s,MS4.0,baz=60,slow=33						
ZEI	**Tsey**	**61.66**	**318**	*i* P	**P**	**23 38 05.7**	**+4.4**
ZEI				*e*		23 38 20.9	
ZEI				pmax	pmax		
	comp=Z,5.0nm,0.1s,mb5.6						
ARU	**Arti**	**61.91**	**337**	*eP*	**P**	**23 38 01.4**	**-1.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ARU	**Arti**	**61.91**	**337**	*eP*	**P**	**23 38 01.4**	**-1.3**
	comp=Z,6.6nm,1.0s,mb4.7						
YAK	**Yakutsk**	**64.68**	**17**	*eP*	**P**	**23 38 18.0**	**-2.9**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
YAK				pmax	pmax		
	comp=N,6.0nm,1.1s						
BRTR	**Keskin Array B**	**67.79**	**312**	P	**P**	**23 38 40.6**	**-0.5**
	comp=N,0.4nm,0.6s,mb3.6,baz=104,slow=5.9,SNR=2.8						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**23 39 16.6**	**-1.2**
	comp=N,0.9nm,0.5s,mb4.0,baz=87,slow=5.8,SNR=5.8						
AKASG				pP	pP	23 39 23.8	-1.5
	comp=N,0.5nm,0.4s,baz=94,slow=4.7,SNR=2.5						
AKASG	**Malin Array Be**	**73.92**	**322**	P	**P**	**23 39 16.6**	**-1.2**
AKASG				pP	pP	23 39 23.8	-1.5
BOSA	**Boshof**	**74.55**	**240**	P	**P**	**23 39 22.1**	**+0.2**
	comp=N,2.8nm,1.0s,mb4.2,baz=74,slow=15,SNR=2.7						
FINES	**FINESS Array B**	**78.69**	**333**	P	**P**	**23 39 44.6**	**+0.2**
	comp=N,3.3nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=16						
FINES				LR	LR	00 18 06.1	
	comp=N,54nm,20.1s,MS3.9,baz=311,slow=38						
KAF	**Kangasniemi**	**78.78**	**333**	*ep*	**P**	**23 39 44.7**	**-0.2**
	comp=N,4.6nm,0.7s,mb4.5,baz=104,slow=5.0						
KAF	**Kangasniemi**	**78.78**	**333**	*eP*	**P**	**23 39 44.7**	**-0.2**
KAF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KEV	**Kevo**	**80.85**	**341**	*ep*	**P**	**23 39 51.6**	**-4.3**
	comp=Z,15nm,1.0s,mb4.9						
KEV	**Kevo**	**80.85**	**341**	*eP*	**P**	**23 39 51.6**	**-4.3**
KEV				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
ARCES	**ARCESS Array B**	**81.28**	**340**	P	**P**	**23 39 58.8**	**+0.6**
	comp=Z,2.7nm,0.6s,mb4.3,baz=104,slow=5.0,SNR=8.3						
ARCES				pP	pP	23 40 04.0	-1.6
	comp=Z,3.7nm,0.8s,baz=106,slow=6.6,SNR=2.3						
ARCES				LR	LR	00 22 07.7	
	comp=Z,56nm,18.7s,MS4.0,baz=195,slow=40						
GERES	**GERESS Array B**	**83.48**	**319**	P	**P**	**23 40 11.3**	**+1.3**
	comp=Z,0.9nm,0.8s,mb3.9,baz=90,slow=6.7,SNR=9.1						
GERES				sP	sP	23 40 20.5	+0.6
	comp=Z,1.0nm,0.8s,baz=90,slow=3.9,SNR=4.6						
NOA	**NORSAR Array B**	**85.69**	**331**	P	**P**	**23 40 21.6**	**+0.8**
	comp=Z,1.2nm,0.9s,mb4.1,baz=91,slow=5.1,SNR=4.1						
NOA				LR	LR	00 24 56.2	
	comp=Z,35nm,18.1s,MS3.8,baz=95,slow=40						

BJI ***29*** *23:30:40.8, 1.82N×96.38E, h8km, mB5.5, mb4.9*
NEIC ***29*** *23:30:43.6±0.9, 1.44N×96.39E, h30km, mb4.4/6, Error ellipse: s-maj=26.2km s-min=14.3km az=51.0*
IDC ***29*** *23:30:47.0±1.3, 1.79N×96.95E, h41km±7km, mb3.8/8, mb1 3.9/8, mb1mx3.7/17, mbtmp4.1/8, MS2.5/1, Ms1 2.5/1, ms1mx2.5/15, Error ellipse: s-maj=65.5km s-min=16.0km az=52.0*
ISC 29 23:30:43.2±0.9, 1.5N±0.1×96.4E±0.1, h42km, h42km±2.6km:pP-P,n23,σ1s27/21, mb4.3/16, 3C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.66**	**48**	‖*i* P	**P**	**23 32 07.2**	**+0.3**
CM31	**Chiang Mai Arr**	**17.02**	**8**	P	**P**	**23 34 37.0**	**-2.8**
	7.5nm,0.9s						
KKM	**Kota Kinabalu**	**20.27**	**77**	P	**P**	**23 35 21.5**	**+3.5**
GYA	**Guiyang**	**26.69**	**21**	‖*i* P	**P**	**23 36 20.0**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
LSA	**Lhasa**	**28.47**	**350**	P	**P**	**23 36 36.0**	**-0.6**
LSA	**Lhasa**	**28.47**	**350**	*eP*	**P**	**23 36 35.1**	**-1.5**
	comp=Z,8.1nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**34.76**	**125**	pP	pP	23 37 42.5	-0.9
	comp=Z,1.7nm,0.6s,baz=334,slow=8.7,SNR=1.9						
GTA	**Gaotai**	**37.84**	**4**	*eP*	**P**	**23 37 56.8**	**-0.9**
GTA				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.8						
NWAO	**Narrogin (SRO)**	**39.51**	**152**	LR	LR	23 52 13.4	
	comp=Z,6.5nm,20.6s,baz=96,slow=33						
BJT	**Baijiatuao**	**42.33**	**23**	*eP*	**P**	**23 38 36.2**	**+1.4**
	comp=Z,16nm,0.6s,mb4.8						
BJI	**Beijing**	**42.35**	**23**	*eP*	**P**	**23 38 36.5**	**+1.5**
BJI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.9						
WRA	**Warramunga Arr**	**42.88**	**122**	P	**P**	**23 38 38.4**	**-1.2**
	comp=Z,0.9nm,0.6s,mb3.7,baz=302,slow=9.2,SNR=3.5						
WRA				pP	pP	23 38 50.7	-0.7
	comp=Z,0.9nm,0.5s,baz=301,slow=9.1,SNR=4.9						
WRAB	**Tennant Creek**	**42.89**	**122**	P	**P**	**23 38 39.2**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**44.22**	**127**	P	**P**	**23 38 50.4**	**-0.1**
	comp=Z,0.3nm,0.3s,mb3.4,baz=300,slow=8.0,SNR=4.2						
ASAR				pP	pP	23 39 01.9	-0.4
	comp=Z,0.9nm,0.7s,baz=301,slow=8.3,SNR=4.4						
AAK	**Ala-Archa**	**45.40**	**337**	P	**P**	**23 39 00.8**	**+1.2**
	comp=Z,4.6nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**46.75**	**347**	P	**P**	**23 39 09.8**	**-0.3**
	comp=Z,6.2nm,0.7s,mb4.7,baz=162,slow=7.8,SNR=25						
SONM	**Songino Array**	**46.94**	**9**	P	**P**	**23 39 11.9**	**+0.2**
	comp=Z,3.2nm,0.5s,mb4.5

WRA	**Warramunga Arr**	**43.51**	**124**	P		**P**		**00 09 26.4**	**+1.4**
ASAR	**Alice Springs**	**44.99**	**128**	P		**P**		**00 09 36.7**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=303,slow=8.0,SNR=4.0								
MKAR	**Makanchi Array**	**45.16**	**346**	P		**P**		**00 09 36.6**	**-1.3**
	0.5nm,0.3s,mb3.8,baz=159,slow=8.5,SNR=15								
MKAR				pP		pP		00 09 44.4	-3.4
	1.0nm,0.7s,baz=158,slow=8.0,SNR=9.8								
MKAR	**Makanchi Array**	**45.16**	**346**	P		**P**		**00 09 36.6**	**-1.3**
MKAR				pP		pP		00 09 44.4	-3.4
SONM	**Songino Array**	**45.19**	**9**	P		**P**		**00 09 39.0**	**+0.9**
	0.4nm,0.4s,mb3.6,baz=192,slow=9.1,SNR=6.9								
SONM				pP		pP		00 09 46.4	-1.6
	0.4nm,0.6s,baz=190,slow=10,SNR=3.8								
BVAR	**Borovoye Array**	**54.18**	**341**	P		**P**		**00 10 51.1**	**+4.1**
	0.5nm,0.6s,mb3.7,baz=135,slow=6.1,SNR=5.0								
CHKZ	**Chkalovo**	**54.66**	**341**	P		**P**		**00 10 49.1**	**-1.3**
	0.9nm,0.7s,mb3.9								
STKA	**Stephens Creek**	**55.06**	**133**	P		**P**		**00 10 52.1**	**-1.5**
	0.7nm,0.4s,mb4.0,baz=323,slow=14,SNR=3.4								
AKASG	**Malin Array Be**	**73.38**	**322**	P		**P**		**00 12 54.9**	**+1.9**
	0.5nm,0.3s,mb3.9,baz=110,slow=4.6,SNR=5.5								

*BJI **30** 00:11:07.5, 1.20N×97.10E, h25km, mb4.5, Ms4.2, Msz4.2*
*NEIC **30** 00:11:10.6±1.6, 1.23N×97.15E, mb4.3/1, Error ellipse: s-maj=73.1km s-min=12.5km az=55.0*
*IDC **30** 00:11:11.2±2.2, 1.30N×97.28E, h25km±5km, mb3.8/5, mb1 3.9/5, mb1mx3.6/16, mbtmp3.9/5, Error ellipse: s-maj=88.6km s-min=16.7km az=58.0*

ISC 30 00:11:08.7±1.8, 1.2N±0.3×97.1E±0.4, h26km, h26km±1.1km:pP-P,n9,σ0§55/9,mb4.0/7,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GTA	**Gaotai**	**38.10**	**3**	*eP*		**P**	**00 18 27.5**	**+0.2**
GTA				AP		pP	00 18 36.8	+1.7
GTA				XP		sP	00 18 40.0	+1.6
GTA				AMB		AMB		
	comp=Z,4.0nm,0.9s,mb4.2							
WRA	**Warramunga Arr**	**42.13**	**122**	P		**P**	**00 19 00.7**	**-0.2**
	comp=Z,0.9nm,0.4s,mb3.8,baz=302,slow=9.1,SNR=8.2							
WRA				pP		pP	00 19 08.2	-0.6
	comp=Z,0.8nm,0.5s,baz=301,slow=9.1,SNR=4.0							
WRAB	**Tennant Creek**	**42.14**	**122**	*eP*		**P**	**00 19 00.7**	**-0.2**
ASAR	**Alice Springs**	**43.49**	**127**	P		**P**	**00 19 12.2**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=299,slow=8.2,SNR=6.1							
ASAR				pP		pP	00 19 19.6	-0.2
	comp=Z,0.3nm,0.6s,baz=298,slow=8.6,SNR=2.8							
SONM	**Songino Array**	**47.13**	**9**	P		**P**	**00 19 40.7**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=188,slow=9.7,SNR=11							
SONM				pP		pP	00 19 48.5	-0.2
	comp=Z,1.1nm,0.7s,baz=191,slow=7.3,SNR=5.0							
MKAR	**Makanchi Array**	**47.20**	**346**	P		**P**	**00 19 41.3**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=158,slow=9.2,SNR=45							
MKAR				pP		pP	00 19 49.1	-0.1
	comp=Z,0.7nm,0.4s,baz=158,slow=9.1,SNR=7.0							
CHKZ	**Chkalovo**	**56.68**	**341**	*eP*		**P**	**00 20 51.1**	**-1.2**
	comp=Z,1.5nm,0.5s,mb4.3							
ARCES	**ARCESS Array B**	**82.49**	**340**	P		**P**	**00 23 30.9**	**+0.9**
	comp=Z,2.9nm,0.9s,mb4.2,baz=90,slow=4.9,SNR=4.9							
ARCES	**ARCESS Array B**	**82.49**	**340**	P		**P**	**00 23 30.9**	**+0.9**

IDC 30 00:20:04.8±6.3, 10.46S×127.10E, mb3.8/1, mb1 4.1/4, mb1mx3.8/12, mbtmp4.0/4, ML4.0/3, MS3.0/1, Ms1 3.0/1, ms1mx2.3/20, Error ellipse: s-maj=74.2km s-min=61.5km az=176.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**7.72**	**190**	Pn		Pn	00 21 59.4	-1.8
	4.0nm,0.3s,baz=11,slow=9.8,SNR=53							
FITZ				Sn		Sn	00 23 39.5	+9.0
	6.3nm,0.3s,baz=209,slow=3.2,SNR=7.8							
FITZ				LR		LR	00 25 34.5	
	comp=Z,108nm,19.3s,baz=321,slow=43							
WRA	**Warramunga Arr**	**11.73**	**144**	Pn		P	00 22 51.7	-4.8
	1.1nm,0.3s,baz=320,slow=14,SNR=19							
WRA				Sn		S	00 25 07.7	-1.7
	1.4nm,0.3s,baz=318,slow=24,SNR=9.1							
ASAR	**Alice Springs**	**14.65**	**155**	Pn		P	00 23 32.9	-2.5
	0.5nm,0.3s,baz=332,slow=9.1,SNR=20							
ASAR				Sn		S	00 26 20.1	+0.6
	0.4nm,0.3s,baz=329,slow=23,SNR=6.7							
STKA	**Stephens Creek**	**25.18**	**150**	P		P	00 25 32.2	-1.3
	1.5nm,0.9s,baz=337,slow=11,SNR=2.9							

*MOS **30** 00:25:44.7±1.1, 0.84N×97.69E, h33km, mb5.0/8, Error ellipse: s-maj=32.7km s-min=12.0km az=98.8*
*BJI **30** 00:25:45.8, 0.85N×97.34E, h39km, mB5.3, mb5.1, Ms5.0, Msz4.8*
*NEIC **30** 00:25:47.9±0.3, 1.07N×97.32E, mb4.9/24, Error ellipse: s-maj=8.9km s-min=6.2km az=52.0*
*IDC **30** 00:25:47.9±0.5, 1.10N×97.27E, h26km±2km, mb4.2/15, mb1 4.3/15, mb1mx4.3/17, mbtmp4.4/15, MS4.4/7, Ms1 4.3/7, ms1mx3.9/22, Error ellipse: s-maj=22.5km s-min=11.1km az=47.0*
*HRVD **30** 00:25:47.9±1.3, 0.78N×97.16E, h33km±1km, MW4.9/31, Centroid moment Tensor Solution. LP body waves: s17,c23;Mantle waves: s31,c46; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 2.53±.29; Mθθ -1.74±.18; Mϕϕ -0.79±.24; Mrθ 1.37±.21; Mθϕ 1.45±. 12; Mϕr -0.18±.27; Best double couple: M0 3.005×10^16 NP1:ϕs 320°, δ 34°, λ 113°. NP2:ϕs 113°, δ 59°, λ 75°. Principal axes: T 2.949, Plg 72°, Azm 347°; N .112, Plg 13°, Azm 121°; P -3.061, Plg 13°, Azm 213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 00:25:46.1±0.4, 1.07N±0.05×97.33E±0.05, h25km, h25km±.8km:pP-P,n103,σ1§03/96,mb4.8/50,MS4.7/19, 4C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**5.07**	**47**	P		**Pn**	**00 27 03.8**	**+1.2**
KULM	**Kulim**	**5.34**	**38**	*eP*		**Pn**	**00 27 07.0**	**+0.6**
KGM	**Kluang**	**6.06**	**81**	P		**Pn**	**00 27 18.6**	**+2.1**
BDT	**Bhumibol Dam**	**16.15**	**6**	P		**P**	**00 29 33.0**	**-0.3**
CM31	**Chiang Mai Arr**	**17.35**	**5**	*eP*		**P**	**00 29 48.4**	**0.0**
	7.2nm,0.5s							
NANT	**Nan**	**17.92**	**10**	⇓P		**P**	**00 29 53.0**	**-2.6**
	248nm,1.0s							
CHRT	**Chiangrai**	**18.84**	**7**	⇑P		**P**	**00 30 06.0**	**-0.8**
	184nm,0.6s							
KKM	**Kota Kinabalu**	**19.48**	**75**	*eP*		**P**	**00 30 13.9**	**-0.4**
KKM	**Kota Kinabalu**	**19.48**	**75**	P		**P**	**00 30 14.0**	**-0.3**
VIS	**Vishakhapatnam**	**21.52**	**321**	*i* P		**P**	**00 30 36.1**	**+0.6**
TRD	**Trivandrum**	**21.59**	**291**	*e*		**P**	**00 30 51.2**	**+15**
TRD				*i*			00 34 01.2	
QIZ	**Qiongzhong**	**21.66**	**34**	*eP*		**P**	**00 30 36.3**	**-0.6**
QIZ				AMB		AMB		
	comp=Z,26nm,1.6s,mb4.4							
QIZ				AMB		AMB		
	comp=Z,264nm,10.9s							
QIZ				LR		LR		
	comp=E,2μm,14.6s							
QIZ				LR		LR		
	comp=Z,1μm,12.2s,MS4.5							
QIZ	**Qiongzhong**	**21.66**	**34**	*eP*		**P**	**00 30 35.1**	**-1.8**
	comp=Z,11nm,0.8s,mb4.3							
KMI	**Kunming**	**24.47**	**12**	P		**P**	**00 31 06.3**	**+1.7**
KMI				AP			00 31 12.5	
KMI				XP			00 31 15.0	
KMI				PP		PP	00 31 45.3	+4.8
KMI				PPP		PPP	00 31 56.3	+5.3
KMI				PCP		PcP	00 34 40.3	-3.9
KMI				S		**S**	**00 35 28.3**	**+7.9**
KMI				XS			00 35 39.0	
KMI				AMB		AMB		
	comp=Z,81nm,1.5s,mb4.9							
KMI				AMB		AMB		
	comp=Z,444nm,3.1s							
KMI				LR		LR		
	comp=N,3μm,15.8s,MS4.9							
KMI				LR		LR		
	comp=E,1μm,14.1s,MS4.9							
KMI				LR		LR		
	comp=Z,3μm,15.2s,MS4.9							
HYB	**Hyderabad**	**24.59**	**312**	*eP*		**P**	**00 31 10.0**	**+4.2**
HYB	**Hyderabad**	**24.59**	**312**	*i* P		**P**	**00 31 10.0**	**+4.2**
JIRN	**Jiri**	**28.51**	**339**	*eP*		**P**	**00 31 42.5**	**+0.6**
	comp=Z,129nm,1.2s,mb5.5							
PKI	**Pulchoki**	**28.72**	**338**	*e*P		**P**	**00 31 44.4**	**+0.6**
	comp=Z,168nm,1.6s,mb5.5							
DMN	**Daman**	**28.87**	**337**	*e*P		**P**	**00 31 45.8**	**+0.7**
	comp=Z,64nm,1.2s,mb5.2							
KKN	**Kakani**	**28.97**	**338**	*e*P		**P**	**00 31 45.9**	**-0.1**
	comp=Z,177nm,1.5s,mb5.6							
LSA	**Lhasa**	**29.07**	**349**	P		**P**	**00 31 47.0**	**+0.1**
LSA	**Lhasa**	**29.07**	**349**	*e*P		**P**	**00 31 47.4**	**+0.5**
	comp=Z,25nm,0.1s							
GKN	**Gorkha**	**29.41**	**337**	*e*P		**P**	**00 31 49.6**	**-0.4**
	comp=Z,224nm,1.5s,mb5.7							
KOLN	**Koldanda**	**29.63**	**335**	*e*P		**P**	**00 31 52.1**	**+0.2**
	comp=Z,43nm,0.8s,mb5.2							
CD2	**Chengdu**	**30.29**	**11**	P		**P**	**00 31 57.3**	**-0.5**
ENH	**Enshi**	**31.25**	**21**	*e*P		**P**	**00 32 04.5**	**-1.8**
	comp=Z,30nm,0.7s,mb5.2							
ENH				*e*pP		pP	00 32 10.8	-2.9
NDI	**New Delhi**	**33.51**	**327**	*e*		**P**	**00 32 28.5**	**+2.5**
FITZ	**Fitzroy Crossi**	**33.75**	**126**	*e*P		**P**	**00 32 26.9**	**-1.2**
	comp=Z,9.9nm,0.9s,mb4.7							
XAN	**Xi'an**	**34.54**	**17**	P		**P**	**00 32 33.5**	**-1.4**
XAN				AMB		AMB		
	comp=Z,37nm,0.8s,mb5.4							
LZH	**Lanzhou**	**35.36**	**9**	⇑P		**P**	**00 32 41.5**	**-0.3**
LZH				AP		pP	00 32 48.0	-1.3
LZH				PP		PP	00 33 59.0	-2.5
LZH				*e*S		**S**	**00 38 05.0**	**-8.8**
LZH				AMB		AMB		
	comp=Z,47nm,1.6s,mb5.2							
LZH				AMB		AMB		
	comp=Z,160nm,4.4s							
LZH				LR		LR		
	comp=E,2μm,14.7s							
LZH				LR		LR		
	comp=Z,3μm,16.4s,MS5.1							
SDNR	**Sundarnagar**	**35.87**	**330**	*e*		**P**	**00 32 46.5**	**+0.3**
NJ2	**Nanjing**	**36.90**	**31**	*e*P		**P**	**00 32 56.0**	**+1.1**
NJ2				AP		pP	00 33 05.8	+3.4
NJ2				XP		sP	00 33 09.8	+4.3
NJ2				PP		PP	00 34 20.0	-1.0
NJ2				S		**S**	**00 38 40.0**	**+2.4**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.8							
NJ2				AMB		AMB		
	comp=Z,1μm,4.8s							
NJ2				LR		LR		
	comp=N,1μm,19.3s,MS5.1							
NJ2				LR		LR		
	comp=E,3μm,15.6s,MS5.1							
NJ2				LR		LR		
	comp=Z,1μm,14.5s,MS4.8							
GTA	**Gaotai**	**38.22**	**3**	*e*P		**P**	**00 33 05.8**	**-0.1**
GTA				AP		pP	00 33 12.5	-0.9
GTA				PP		PP	00 34 36.5	-0.3
GTA				PPP		PPP	00 34 57.3	-1.8
GTA				AMB		AMB		
	comp=Z,17nm,1.0s,mb4.7							
GTA				AMB		AMB		
	comp=Z,156nm,4.5s							
GTA				LR		LR		
	comp=N,640nm,18.6s,MS4.6							
GTA				LR		LR		
	comp=E,507nm,14.1s,MS4.6							
GTA				LR		LR		
	comp=Z,768nm,19.2s							
HHC	**Hu-ho-hao-te**	**41.64**	**16**	*e*P		**P**	**00 33 35.8**	**+1.6**
HHC				AP		pP	00 33 45.8	+4.1
HHC				XP		sP	00 33 49.5	+4.6
HHC				PP		PP	00 35 14.8	+1.3
HHC				PCP		PcP	00 35 33.5	+2.0
HHC				AMB		AMB		
	comp=Z,14nm,0.3s,mb5.1							
HHC				AMB		AMB		
	comp=Z,224nm,5.1s							
HHC				LR		LR		
	comp=N,1μm,14.2s,MS5.0							
HHC				LR		LR		
	comp=E,809nm,13.2s,MS5.0							
HHC				LR		LR		
	comp=Z,1μm,15.7s,MS4.8							
WRA	**Warramunga Arr**	**41.86**	**122**	P		**P**	**00 33 35.6**	**-0.6**
	comp=Z,4.8nm,0.7s,mb4.2,baz=301,slow=9.0,SNR=21							
WRA				pP		pP	00 33 44.2	+0.4
	comp=Z,5.1nm,0.7s,baz=301,slow=9.1,SNR=11							
WB2	**Warramunga Arr**	**41.87**	**122**	⇓*i*P		**P**	**00 33 36.1**	**-0.2**
BJT	**Baijiatuan**	**42.39**	**22**	*e*P		**P**	**00 33 41.3**	**+1.1**
	comp=Z,25nm,0.7s,mb5.0							
BJT				*e*pP		pP	00 33 48.3	+0.5
BJI	**Beijing**	**42.41**	**22**	P		**P**	**00 33 41.5**	**+1.0**
BJI				AP		pP	00 33 48.5	+0.5
BJI				XP		sP	00 33 51.0	-0.2
BJI				PP		PP	00 35 25.0	+3.4
BJI				AMB		AMB		
	comp=Z,32nm,0.6s,mb5.1							
BJI				AMB		AMB		
	comp=Z,347nm,3.9s							
BJI				LR		LR		
	comp=N,690nm,16.3s,MS4.8							
BJI				LR		LR		
	comp=E,772nm,14.3s,MS4.8							
BJI				LR		LR		
	comp=Z,288nm,21.8s							
FORT	**Forrest**	**43.09**	**140**	*e*P		**P**	**00 33 48.2**	**+2.0**
	comp=Z,574nm,0.7s							
ASAR	**Alice Springs**	**43.22**	**127**	P		**P**	**00 33 47.4**	**+0.1**
	comp=Z,4.9nm,0.8s,mb4.3,baz=304,slow=7.7,SNR=39							
ASAR				LR		LR	00 55 12.4	
	comp=Z,264nm,19.3s,MS4.2,baz=298,slow=41							
WMQ	**Urumqi**	**43.42**	**350**	⇑*i*P		**P**	**00 33 49.5**	**+0.9**
WMQ				AP		pP	00 33 57.0	+0.8
WMQ				XP		sP	00 34 00.0	+0.7
WMQ				PP		PP	00 35 33.0	+1.4
WMQ				PPP		PPP	00 36 08.0	+0.3
WMQ				AMB		AMB		
	comp=Z,17nm,1.7s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,144nm,5.2s							
WMQ				LR		LR		
	comp=N,884nm,19.4s							
WMQ				LR		LR		
	comp=E,1μm,14.4s							
WMQ				LR		LR		
	comp=Z,765nm,24.0s,MS4.5							
ULHL	**Ulahol**	**45.16**	**338**	P		**P**	**00 34 02.8**	**+0.1**
	SNR=7.8							
KS15	**Wonju Array Si**	**45.85**	**34**	*e*P		**P**	**00 34 08.4**	**+0.2**
KS15				*e*pP		pP	00 34 15.4	-0.4
TKM2	**Tokmak 2**	**45.98**	**338**	P		**P**	**00 34 09.7**	**+0.5**
	SNR=11							
KBK	**Karagaybulak**	**46.01**	**337**	P		**P**	**00 34 10.4**	**+1.0**
	SNR=8.1							
AML	**Almayashu**	**46.07**	**336**	P		**P**	**00 34 11.1**	**+1.2**
	SNR=12							
AAK	**Ala-Archa**	**46.17**	**337**	*e*P		**P**	**00 34 11.6**	**+0.9**
AAK				pmax		pmax		
	comp=Z,19nm,1.4s,mb4.8							
AAK	**Ala-Archa**	**46.17**	**337**	*e*P		**P**	**00 34 11.6**	**+0.9**
	comp=Z,19nm,1.4s,mb4.8							
FRU	**Bishkek**	**46.29**	**337**	*e*P		**P**	**00 34 13.0**	**+1.4**
EKS2	**Erkin-Say**	**46.48**	**336**	P		**P**	**00 34 13.9**	**+0.8**
	SNR=12							
USP	**Ospenovka**	**46.70**	**337**	P		**P**	**00 34 15.1**	**+0.2**
	SNR=17							
SNY	**Shenyang**	**46.96**	**27**	⇑P		**P**	**00 34 16.5**	**-0.4**
SNY				XP		sP	00 34 34.0	+6.4
SNY				S		**S**	**00 40 58.5**	**-7.2**
SNY				AMB		AMB		
	comp=Z,30nm,1.4s,mb5.0							
SNY				LR		LR		
	comp=N,740nm,15.3s,MS4.9							
SNY				LR		LR		
	comp=E,480nm,12.6s,MS4.9							
SNY				LR		LR		
	comp=Z,1μm,14.7s,MS4.9							
SONM	**Songino Array**	**47.24**	**8**	P		**P**	**00 34 19.2**	**+0.1**
	comp=Z,11nm,0.6s,mb5.0,baz=191,slow=9.1,SNR=58							
SONM				pP		pP	00 34 27.0	+0.3
	comp=Z,10nm,0.6s,baz=192,slow=9.3,SNR=15							
SONM				PcP		PcP	00 35 50.4	-0.1
	comp=Z,3.6nm,0.7s,baz=194,slow=3.7,SNR=6.1							
SONM				pPcP			00 35 57.6	
	comp=Z,0.8nm,0.6s,baz=193,slow=2.8,SNR=4.3							
SONM				LR		LR	00 56 55.8	
	comp=Z,1μm,18.7s,MS5.0,baz=88,slow=40							
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P		**P**	**00 34 20.1**	**0.0**
	comp=Z,9.6nm,0.8s,mb4.8							
MKAR	**Makanchi Array**	**47.40**	**346**	P		**P**	**00 34 20.0**	**-0.3**
	comp=Z,6.4nm,0.6s,mb4.7,baz=158,slow=7.6,SNR=111							
MKAR				pP		pP	00 34 28.2	+0.2
	comp=Z,5.6nm,0.6s,baz=158,slow=7.5,SNR=12							
MKAR				LR		LR	00 59 56.2	
	comp=Z,252nm,18.2s,MS4.2,baz=161,slow=43							
MKAR	**Makanchi Array**	**47.40**	**346**	P		**P**	**00 34 20.0**	**-0.3**
MKAR				pP		pP	00 34 28.2	+0.2
MKAR				LR		LR	00 59 56.2	
CN2	**Changchun**	**49.36**	**27**	*e*P		**P**	**00 34 35.0**	**-0.6**
CN2				*e*AP		pP	00 34 41.0	-2.3
CN2				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.5							
CN2				AMB		AMB		
	comp=Z,110nm,3.0s							
CN2				LR		LR		
	comp=N,650nm,15.0s,MS4.9							
CN2				LR		LR		
	comp=E,560nm,15.0s,MS4.9							
CN2				LR		LR		
	comp=Z,720nm,18.0s,MS4.7							
ZAK	**Zakamensk**	**49.39**	**5**	⇓*i*P		**P**	**00 34 35.3**	**-0.4**
ZAK				pmax		pmax		
	comp=Z,4.0nm,1.7s,mb4.2							
PMG	**Port Moresby**	**50.70**	**103**	P		**P**	**00 34 46.2**	**0.0**
	comp=Z,16nm,0.8s,mb5.0,baz=294,slow=10.0,SNR=3.3							
TLY	**Talaya**	**50.71**	**5**	*e*P		**P**	**00 34 45.8**	**+0.1**
TLY				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
TLY				MLR		MLR		
	comp=Z,715nm,18.0s,MS4.7							
TLY	**Talaya**	**50.71**	**5**	*e*P		**P**	**00 34 46.1**	**+0.3**
	comp=Z,7.1nm,0.7s,mb4.7							
HIA	**Hailar**	**51.72**	**19**	*e*P		**P**	**00 34 53.0**	**-0.5**
	comp=Z,15nm,0.7s,mb5.0							
MDJ	**Mudanjiang**	**51.91**	**29**	P		**P**	**00 34 55.5**	**+0.5**
MDJ				AMB		AMB		
	comp=Z,13nm,0.9s,mb4.9							
MDJ				AMB		AMB		
	comp=Z,251nm,5.2s							
MDJ	**Mudanjiang**	**51.91**	**29**	*e*P		**P**	**00 34 55.0**	**0.0**
	comp=Z,5.6nm,0.5s,mb4.8							
KURK	**Kurchatov**	**51.95**	**345**	*e*P		**P**	**00 34 54.5**	**-0.7**
KURK				pmax		pmax		
	comp=Z,14nm,1.1s,mb4.8							
KURK	**Kurchatov**	**51.95**	**345**	*e*P		**P**	**00 34 54.5**	**-0.7**
	comp=Z,14nm,1.1s,mb4.8							
STKA	**Stephens Creek**	**53.17**	**132**	*e*P		**P**	**00 35 04.9**	**+0.3**
	comp=Z,7.6nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**53.17**	**132**	P		**P**	**00 35 05.3**	**+0.7**
	comp=Z,8.1nm,0.7s,mb4.7,baz=306,slow=7.1,SNR=22							
STKA				pP		pP	00 35 12.7	+0.4
	comp=Z,9.0nm,0.7s,baz=322,slow=6.4,SNR=10.0							
NVS	**Novosibirsk**	**54.82**	**350**	*i* P		**P**	**00 35 14.3**	**-2.1**
NVS				pmax		pmax		
	comp=N,8.0nm,1.4s							
NVS				pmax		pmax		
	comp=E,7.0nm,1.4s							
NVS				pmax		pmax		
	comp=Z,13nm,1.4s,mb4.8							
ATD	**Arta Tunnel**	**55.04**	**283**	LR		LR	00 52 35.0	
	comp=Z,120nm,19.9s,MS4.0,baz=89,slow=29							
KLR	**Kul'dur**	**56.31**	**26**	*e*P		**P**	**00 35 23.8**	**-3.4**
KLR				MLR		MLR		
	comp=E,500nm,14.0s							
KLR				MLR		MLR		
	comp=Z,1μm,14.0s,MS5.2							
BVAR	**Borovoye Array**	**56.41**	**341**	P		**P**	**00 35 26.1**	**-1.8**
	comp=Z,2.8nm,0.6s,mb4.5,baz=140,slow=8.1,SNR=26							
BVAR				pP		pP	00 35 34.5	-1.1
	comp=Z,3.7nm,0.6s,baz=135,slow=8.4,SNR=12							
CHKZ	**Chkalovo**	**56.89**	**341**	*eP*		**P**	**00 35 29.8**	**-1.5**
	comp=Z,8.2nm,0.8s,mb4.8							
BOD	**Bodaibo**	**58.11**	**10**	⇓*i*P		**P**	**00 35 38.6**	**-1.2**
BOD				*e*		pP	00 35 44.8	-2.8
BOD				pmax		pmax		
	comp=Z,11nm,1.0s,mb4.8							
BOD				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.1							
KMBO	**Kilima Mbogo**	**60.11**	**268**	P		**P**	**00 35 55.0**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=139,slow=5.1,SNR=3.2							
KMBO				pP		pP	00 36 02.3	+0.2
	comp=Z,1.0nm,0.6s,baz=69,slow=9.4,SNR=3.6							
KMBO				LR		LR	01 00 40.6	
	comp=Z,229nm,18.1s,baz=95,slow=35							
GNI	**Garni**	**61.47**	**316**	P		**P**	**00 36 05.0**	**+1.8**
	comp=Z,2.6nm,0.8s,mb4.4							
YAK	**Yakutsk**	**65.50**	**16**	*eP*		**P**	**00 36 26.8**	**-2.5**
YAK				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9							
YAK	**Yakutsk**	**65.50**	**16**	*eP*		**P**	**00 36 27.7**	**-1.6**
	comp=Z,22nm,0.6s,mb5.4							
BRTR	**Keskin Array B**	**69.29**	**312**	P		**P**	**00 36 53.0**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.8,baz=120,slow=10.0,SNR=4.2							
BRTR				pP		pP	00 37 00.2	-1.2
	comp=Z,1.0nm,0.6s,baz=135,slow=6.2,SNR=4.6							
MA2	**Magadan**	**71.39**	**26**	*eP*		**P**	**00 37 03.7**	**-2.2**
MA2				*e*			00 46 41.5	
MA2				*e*			00 51 02.4	
MA2				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.5							
MA2	**Magadan**	**71.39**	**26**	*eP*		**P**	**00 37 04.6**	**-1.3**
	comp=Z,11nm,0.8s,mb4.8							
OBN	**Obninsk**	**72.79**	**328**	*eP*		**P**	**00 37 13.3**	**-1.1**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.8							
SEY	**Seymchan**	**73.83**	**23**	*eP*		**P**	**00 37 19.9**	**-0.3**
SEY							00 37 33.9	
SEY				*e*PPP		PPP	00 41 53.7	+2.3
SEY				*e*S		S	00 46 43.0	-5.7
SEY				pmax		pmax		
	comp=Z,30nm,0.8s,mb5.3							
SEY				pmax		pmax		
	comp=E,10.0nm,0.9s							
SEY				smax				
	com

comp=Z,0.8nm,0.3s,baz=343,slow=2.2,SNR=5.1
PDAR Pinedale Array 130.10 26 PKP PKPdf 00 44 55.1 -4.0
comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.0
PDAR pPKP 00 45 04.8
comp=Z,0.4nm,0.6s,baz=90,slow=1.5,SNR=3.4
TXAR Lajitas Array 143.71 32 PKP PKPdf 00 45 19.3 -5.0
comp=Z,0.8nm,0.6s,baz=210,slow=0.9,SNR=12
TXAR pPKP 00 45 29.4
comp=Z,0.9nm,0.6s,baz=160,slow=1.0,SNR=8.8
GOGA Godfrey 145.69 1 *e*PKPdf PKPdf 00 45 24.9 -2.8
LRAL Lakeview Retre 145.83 6 *e*PKPdf PKPdf 00 45 24.3 -3.6

BJI ***30*** *00:31:39.5, 2.39N×96.28E, h25km, mB5.1, mb4.9, Ms5.0, Msz4.8*
NEIC ***30*** *00:31:41.3±0.4, 2.38N×96.40E, mb4.8/16, Error ellipse: s-maj=11.8km s-min=7.4km az=46.0*
IDC ***30*** *00:31:41.2±0.6, 2.38N×96.38E, h22km±3km, mb4.1/10, mb1 4.3/10, mb1mx4.1/18, mbtmp4.2/10, Error ellipse: s-maj=27.0km s-min=11.8km az=45.0*
ISC 30 00:31:39.2±0.5, 2.32N±0.06×96.33E±0.07, h22km, h22km±1.2km:pP-P, n55, σ0°97/55, mb4.7/31, MS4.7/4, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**55**	*e*P		**Pn**		**00 32 59.1**	**+1.0**
SNG	**Songkhla**	**6.45**	**41**	P		**Pn**		**00 33 15.5**	**+0.2**
	322nm,0.8s								
KKTK	**Khon Kaen**	**15.33**	**24**	P		**P**		**00 35 19.5**	**+3.4**
CM31	**Chiang Mai Arr**	**16.24**	**9**	*e*P		**P**		**00 35 26.6**	**-1.3**
PALK	**Pallekele**	**16.33**	**288**	*e*P		**P**		**00 35 32.8**	**+3.8**
NANT	**Nan**	**16.93**	**14**	⇓P		**P**		**00 35 32.0**	**-4.5**
	69nm,1.0s								
KKM	**Kota Kinabalu**	**20.17**	**79**	*e*P		**P**		**00 36 15.5**	**+0.3**
QIZ	**Qiongzhong**	**21.23**	**38**	*e*P		**P**		**00 36 25.0**	**-1.1**
HYB	**Hyderabad**	**23.02**	**312**	*e*P		**P**		**00 36 55.0**	**+11**
HYB	**Hyderabad**	**23.02**	**312**	*i* P		**P**		**00 36 55.0**	**+11**
KMI	**Kunming**	**23.50**	**15**	P		**P**		**00 36 49.3**	**+0.7**
KMI					AMB	AMB			
	comp=Z,14nm,0.8s,mb4.4								
JIRN	**Jiri**	**27.00**	**340**	*e*P		**P**		**00 37 21.6**	**0.0**
	comp=Z,57nm,0.9s,mb5.1								
PKI	**Pulchoki**	**27.20**	**338**	*e*P		**P**		**00 37 23.0**	**-0.4**
	comp=Z,56nm,1.3s,mb4.9								
DMN	**Daman**	**27.34**	**338**	*e*P		**P**		**00 37 24.4**	**-0.4**
	comp=Z,9.7nm,0.5s,mb4.6								
KKN	**Kakani**	**27.44**	**338**	*e*P		**P**		**00 37 25.0**	**-0.7**
	comp=Z,36nm,1.0s,mb4.9								
LSA	**Lhasa**	**27.67**	**350**	P		**P**		**00 37 28.0**	**+0.3**
LSA	**Lhasa**	**27.67**	**350**	*e*P		**P**		**00 37 27.4**	**-0.3**
	comp=Z,7.3nm,0.6s,mb4.5								
GKN	**Gorkha**	**27.88**	**337**	*e*P		**P**		**00 37 28.9**	**-0.7**
KOLN	**Koldanda**	**28.08**	**335**	*e*P		**P**		**00 37 31.1**	**-0.4**
	comp=Z,69nm,1.3s,mb5.1								
CD2	**Chengdu**	**29.29**	**13**	P		**P**		**00 37 40.5**	**-1.8**
ENH	**Enshi**	**30.47**	**23**	*e*P		**P**		**00 37 50.0**	**-2.9**
	comp=Z,3.0nm,0.4s,mb4.4								
MBWA	**Marble Bar**	**32.70**	**137**	*e*P		**P**		**00 38 12.7**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.3								
MBWA				*e*pP		pP		00 38 20.1	+1.0
LZH	**Lanzhou**	**34.31**	**11**	*e*P		**P**		**00 38 25.0**	**-1.3**
LZH					AP	pP		00 38 32.0	-0.9
LZH					XP	sP		00 38 34.0	-1.8
LZH					AMB	AMB			
	comp=Z,27nm,1.3s,mb5.0								
LZH					AMB	AMB			
	comp=Z,110nm,4.0s								
FITZ	**Fitzroy Crossi**	**35.29**	**126**	*e*P		**P**		**00 38 33.9**	**-0.9**
	comp=Z,8.3nm,0.8s,mb4.7								
FITZ	**Fitzroy Crossi**	**35.29**	**126**	P		**P**		**00 38 34.4**	**-0.3**
	comp=Z,13nm,0.8s,mb4.9,baz=295,slow=2.3,SNR=11								
FITZ					pP	pP		00 38 41.2	-0.2
	comp=Z,8.9nm,0.8s,baz=309,slow=3.9,SNR=6.6								
NJ2	**Nanjing**	**36.39**	**33**	*e*P		**P**		**00 38 45.3**	**+1.3**
NJ2					AP	pP		00 38 55.0	+4.3
NJ2					XP	sP		00 38 59.0	+5.5
NJ2					PP	PP		00 40 12.5	+4.7
NJ2					S	**S**		**00 44 24.0**	**+0.5**
NJ2					XS			00 44 40.0	
NJ2					AMB	AMB			
	comp=Z,10.0nm,0.5s,mb5.0								
NJ2					AMB	AMB			
	comp=Z,1μm,4.9s								
NJ2					LR	LR			
	comp=N,2μm,13.3s,MS5.1								
NJ2					LR	LR			
	comp=E,2μm,17.7s,MS5.1								
NJ2					LR	LR			
	comp=Z,1μm,14.7s,MS4.7								
GTA	**Gaotai**	**37.05**	**4**	*e*P		**P**		**00 38 49.0**	**-0.5**
GTA					AP	pP		00 38 54.8	-1.4
GTA					XP	sP		00 38 57.5	-1.5
GTA					S	**S**		**00 44 38.5**	**+5.0**
GTA					AMB	AMB			
	comp=Z,14nm,0.8s,mb4.8								
KAKA	**Kakadu**	**38.84**	**114**	*e*P		**P**		**00 39 03.8**	**-0.9**
	comp=Z,18nm,0.6s,mb5.0								
BTO	**Baotou**	**40.08**	**16**	*e*P		**P**		**00 39 15.5**	**+0.8**
BTO					LR	LR			
	comp=E,1μm,13.7s								
HHC	**Hu-ho-hao-te**	**40.75**	**18**	*e*P		**P**		**00 39 21.0**	**+0.7**
HHC					AMB	AMB			
	comp=Z,28nm,0.8s,mb4.9								
HHC					AMB	AMB			
	comp=Z,158nm,5.6s								
HHC					LR	LR			
	comp=N,1μm,15.5s,MS4.9								
HHC					LR	LR			
	comp=E,809nm,16.1s,MS4.9								
HHC					LR	LR			
	comp=Z,1μm,17.2s,MS4.8								
BJT	**Baijiatuan**	**41.62**	**23**	*e*P		**P**		**00 39 27.7**	**+0.3**
	comp=Z,32nm,0.7s,mb5.1								
BJI	**Beijing**	**41.64**	**23**	P		**P**		**00 39 28.0**	**+0.4**
BJI					AP	pP		00 39 31.0	-3.4
BJI					S	**S**		**00 45 32.5**	**-10**
BJI					SS	SS		00 48 38.3	-4.8
BJI					AMB	AMB			
	comp=Z,36nm,0.6s,mb5.2								
BJI					AMB	AMB			
	comp=Z,98nm,2.4s,mb5.0								
BJI					LR	LR			
	comp=N,688nm,16.3s,MS4.8								
BJI					LR	LR			
	comp=E,765nm,14.0s,MS4.8								
BJI					LR	LR			
	comp=Z,314nm,16.4s,MS4.3								
WMQ	**Urumqi**	**42.03**	**351**	P		**P**		**00 39 32.3**	**+1.5**
WMQ					PP	PP		00 41 11.0	-0.2
WMQ					PPP	PPP		00 41 42.0	-1.0
WMQ				*e*S		**S**		**00 45 44.0**	**-4.3**
WMQ					XS			00 45 57.0	
WMQ					AMB	AMB			
	comp=Z,176nm,5.8s								
WMQ					LR	LR			
	comp=N,520nm,16.2s,MS4.7								
WMQ					LR	LR			
	comp=E,653nm,16.0s,MS4.7								
WMQ					LR	LR			
	comp=Z,426nm,21.0s,MS4.3								
WRA	**Warramunga Arr**	**43.36**	**122**	P		**P**		**00 39 41.8**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.2,baz=299,slow=9.5,SNR=11								
WRA					pP	pP		00 39 49.5	+0.8
	comp=Z,3.8nm,0.5s,baz=301,slow=9.3,SNR=7.0								
WB2	**Warramunga Arr**	**43.38**	**122**	⇑*i*P		**P**		**00 39 41.8**	**-0.2**
ASAR	**Alice Springs**	**44.76**	**127**	P		**P**		**00 39 53.2**	**0.0**
	comp=Z,1.8nm,0.7s,mb4.0,baz=298,slow=7.8,SNR=11								
ASAR					pP	pP		00 40 00.2	+0.2
	comp=Z,2.5nm,0.8s,baz=306,slow=7.8,SNR=6.0								
SONM	**Songino Array**	**46.17**	**9**	P		**P**		**00 40 03.6**	**-0.5**
	comp=Z,5.0nm,0.4s,mb4.8,baz=190,slow=9.3,SNR=61								
SONM					pP	pP		00 40 10.6	-0.2
	comp=Z,4.5nm,0.9s,baz=186,slow=8.4,SNR=7.7								
ULN	**Ulaanbaatar**	**46.31**	**10**	*e*P		**P**		**00 40 04.3**	**-0.9**
	comp=Z,3.5nm,0.5s,mb4.5								
CN2	**Changchun**	**48.72**	**28**	*e*P		**P**		**00 40 26.3**	**+2.2**
TLY	**Talaya**	**49.57**	**6**	P		**P**		**00 40 31.4**	**+0.8**
	comp=Z,24nm,0.9s,mb5.2								
TLY				*e*pP		pP		00 40 37.7	+0.3
HIA	**Hailar**	**50.88**	**20**	*e*P		**P**		**00 40 40.1**	**-0.4**
	comp=Z,16nm,1.2s,mb4.8								
MDJ	**Mudanjiang**	**51.33**	**30**	P		**P**		**00 40 45.0**	**+1.0**
MDJ					AMB	AMB			
	comp=Z,11nm,0.5s,mb5.0								
MDJ					AMB	AMB			
	comp=Z,167nm,4.1s								
STKA	**Stephens Creek**	**54.75**	**132**	*e*P		**P**		**00 41 09.0**	**-0.6**
	comp=Z,2.0nm,0.6s,mb4.3								
STKA	**Stephens Creek**	**54.75**	**132**	P		**P**		**00 41 10.2**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=317,slow=8.6,SNR=3.8								
STKA					pP	pP		00 41 16.5	0.0
	comp=Z,2.3nm,0.7s,baz=347,slow=5.1,SNR=6.2								
KMBO	**Kilima Mbogo**	**59.16**	**267**	P		**P**		**00 41 41.4**	**+0.1**
	comp=Z,1.8nm,0.9s,mb4.1,baz=62,slow=13,SNR=5.1								
KMBO					pP	pP		00 41 48.7	+0.5
	comp=Z,1.0nm,0.8s,baz=73,slow=20,SNR=3.0								
KMBO	**Kilima Mbogo**	**59.16**	**267**	P		**P**		**00 41 41.4**	**+0.1**
KMBO					pP	pP		00 41 48.7	+0.5
SVE	**Sverdlovsk**	**61.33**	**339**	*e*PPP		PcP		00 42 39.5	+2.0
YAK	**Yakutsk**	**64.60**	**17**	P		**P**		**00 42 15.0**	**-2.0**
	comp=Z,14nm,0.5s,mb5.2								
AKASG	**Malin Array Be**	**73.85**	**322**	P		**P**		**00 43 15.3**	**+1.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=88,slow=4.9,SNR=2.6								
FINES	**FINESS Array B**	**78.61**	**333**	P		**P**		**00 43 41.5**	**+0.9**
	comp=Z,1.2nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=4.6								
FINES					pP	pP		00 43 47.4	-0.4
	comp=Z,0.9nm,0.5s,baz=108,slow=6.0,SNR=5.5								
ARCES	**ARCESS Array B**	**81.20**	**340**	P		**P**		**00 43 54.6**	**+0.3**
	comp=Z,7.1nm,1.0s,mb4.5,baz=92,slow=6.3,SNR=9.4								
ARCES					pP	pP		00 44 02.5	+1.0
	comp=Z,6.7nm,1.0s,baz=76,slow=5.0,SNR=5.5								
GERES	**GERESS Array B**	**83.40**	**319**	P		**P**		**00 44 06.8**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=124,slow=4.8,SNR=4.3								
GERES					pP	pP		00 44 13.6	+0.2
	comp=Z,0.9nm,0.8s,baz=108,slow=4.2,SNR=6.4								
YKA	**Yellowknife Ar**	**111.25**	**15**	PP		PP		00 50 51.6	-3.7
	comp=Z,0.3nm,0.9s,baz=335,slow=7.7,SNR=3.6								
TXAR	**Lajitas Array**	**143.16**	**30**	PKP		PKPdf		00 51 12.6	-4.0
	comp=Z,0.2nm,0.4s,baz=352,slow=0.8,SNR=4.9								
TXAR	**Lajitas Array**	**143.16**	**30**	PKP		PKPdf		00 51 12.6	-4.0

MOS ***30*** *00:35:17.6±1.2, 50.22N×87.66E, h19km, mb4.4/3, Error ellipse: s-maj=12.4km s-min=8.8km az=102.9*
IDC ***30*** *00:35:17.3±0.9, 50.33N×87.60E, mb4.0/9, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, ML3.9/3, Error ellipse: s-maj=15.2km s-min=11.6km az=144.0*
NEIC ***30*** *00:35:18.9±0.4, 50.32N×87.59E, h10km, mb4.3/8, Error ellipse: s-maj=10.3km s-min=6.4km az=207.0*
NNC ***30*** *00:35:21.6±2.5, 50.16N×87.27E, h20km±16km, mpv4.4, Error ellipse: s-maj=21.7km s-min=10.0km az=79.0*
BJI ***30*** *00:35:21.8, 49.88N×87.40E, h10km, mb4.6, ML4.6, Ms4.3, Msz4.0*
ISC 30 00:35:17.2±1.0, 50.26N±0.04×87.43E±0.07, h8km±7km, n53, σ1°42/64, mb4.1/12, 9C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKAR	**Aktash**	**0.14**	**65**	*i* PG		**Pg**		**00 35 20.7**	**+0.4**
ARTR	**Artybash**	**1.54**	**357**	*i* PN		**Pn**		**00 35 47.4**	**+2.3**
ARTR				*i* S		**Sb**		**00 36 10.8**	**+5.7**
UKR	**Ust'-Kan**	**1.82**	**293**	*e*PN		**Pn**		**00 35 53.3**	**+4.2**
UKR				*e*S		**Sn**		**00 36 18.0**	**+5.5**
TASR	**Tashtagol**	**2.52**	**6**	*e*PN		**Pn**		**00 36 06.7**	**+7.6**
TASR				*e*S		**Sn**		**00 36 39.8**	**+10**
CERR	**Cheremushki**	**3.60**	**42**	*i* PN		**Pn**		**00 36 24.6**	**+10**
MK31	**Makanchi Array**	**4.87**	**226**	⇓Pn		**Pn**		**00 36 34.6**	**+2.2**
	56nm,0.7s,baz=50,slow=12,SNR=1070								
MK31				⇑Sn		**Sn**		**00 37 31.7**	**+1.9**
	148nm,0.8s,baz=53,slow=21,SNR=5.4								
MK31				⇓Lg				00 37 52.1	
	128nm,0.6s,baz=50,slow=26,SNR=5.1								
MKAR	**Makanchi Array**	**4.87**	**226**	Pn		**Pn**		**00 36 34.6**	**+2.1**
	18nm,0.3s,baz=44,slow=13,SNR=411								
MKAR				Sn		**Sn**		**00 37 32.6**	**+2.8**
	15nm,0.3s,baz=54,slow=23,SNR=10								
MKAR				Lg				00 37 52.5	
	38nm,0.3s,baz=52,slow=28,SNR=8.8								
MKAR	**Makanchi Array**	**4.87**	**226**	Pn		**Pn**		**00 36 34.6**	**+2.1**
MKAR				*e*				00 37 32.6	
NVS	**Novosibirsk**	**5.25**	**332**	*e*PN		**Pn**		**00 36 39.8**	**+1.9**
NVS				*e*				00 36 56.9	
NVS				*e*				00 37 38.6	
NVS				*e*S		Sn		00 38 05.0	+26
KURK	**Kurchatov**	**5.64**	**278**	⇑Pn		**Pn**		**00 36 44.3**	**+0.9**
	29nm,0.8s,baz=98,slow=11,SNR=76								
KURK				⇓Sn		**Sn**		**00 37 48.2**	**-0.9**
	20nm,0.6s,baz=80,slow=16,SNR=5.8								
KURK				⇑Lg				00 38 16.4	
	118nm,0.8s,baz=350,slow=16,SNR=12								
KURK	**Kurchatov**	**5.64**	**278**	*e*Pn		**Pn**		**00 36 44.2**	**+0.8**
WMQ	**Urumqi**	**6.45**	**178**	*e*P		**Pn**		**00 36 54.0**	**-0.8**
WMQ				S		**Sn**		**00 38 03.3**	**-6.1**
WMQ				Smax					
	comp=N,264nm,0.8s								
WMQ				Smax					
	comp=E,283nm,1.0s								
WMQ				LR		LR			
	comp=N,637nm,3.0s								
WMQ				LR		LR			
	comp=E,843nm,4.0s								
MOY	**Mondy**	**8.68**	**75**	*e*P		**P**		**00 37 35.5**	**+9.5**
MOY				*e*S		**Sn**		**00 39 00.8**	**-4.3**
MOY				pmax		pmax			
	comp=Z,13nm,0.8s								
MOY				pmax		pmax			
	comp=E,300nm,1.5s								
CHKZ	**Chkalovo**	**10.92**	**295**	⇑Pn		**P**		**00 37 54.0**	**-2.7**
	comp=E,3.5nm,0.5s								
CHKZ				⇑Sn		**S**		**00 39 57.0**	**-3.0**
	comp=E,13nm,0.8s								
CHKZ				⇑Lg				00 41 05.3	
	comp=E,50nm,1.3s								
CHKZ	**Chkalovo**	**10.92**	**295**	*e*P		**P**		**00 37 54.0**	**-2.7**
BVA0	**Borovoye Array**	**10.94**	**291**	Pn		**P**		**00 37 55.1**	**-2.0**
	comp=E,1.9nm,0.8s,baz=106,slow=14,SNR=79								
BVA0				⇑Sn		**S**		**00 39 56.6**	**-4.0**
	comp=E,2.5nm,0.8s,baz=96,slow=23,SNR=6.1								
BVAR	**Borovoye Array**	**10.94**	**291**	Pn		**P**		**00 37 55.2**	**-1.8**
	comp=E,1.8nm,0.3s,baz=104,slow=14,SNR=28								
BVAR				Sn		**S**		**00 39 53.6**	**-7.1**
	comp=E,1.0nm,0.3s,baz=101,slow=22,SNR=5.1								
TKM2	**Tokmak 2**	**10.95**	**232**	P		**P**		**00 37 55.4**	**-1.8**
	SNR=14								
ULHL	**Ulahol**	**11.14**	**228**	P		**P**		**00 38 00.4**	**+0.7**
	SNR=14								
USP	**Ospenovka**	**11.28**	**237**	P		**P**		**00 37 59.3**	**-2.5**
	SNR=10								
KBK	**Karagaybulak**	**11.47**	**233**	P		**P**		**00 38 04.4**	**0.0**
	SNR=7.1								
AAK	**Ala-Archa**	**11.73**	**234**	*e*P		**P**		**00 38 04.6**	**-3.1**
KZA	**Kyzart**	**11.75**	**230**	P		**P**		**00 38 08.1**	**+0.1**
	SNR=9.9								
EKS2	**Erkin-Say**	**12.09**	**236**	P		**P**		**00 38 10.6**	**-2.0**
	SNR=5.1								
AML	**Almayashu**	**12.50**	**235**	P		**P**		**00 38 18.2**	**0.0**
	SNR=7.9								
SONM	**Songino Array**	**12.68**	**94**	Pn		**P**		**00 38 16.7**	**-3.8**
	comp=E,0.1nm,0.3s,baz=114,slow=32,SNR=3.2								
SONM				Lg				00 41 56.1	
	comp=E,0.4nm,0.3s,baz=263,slow=30,SNR=7.4								
SVE	**Sverdlovsk**	**17.15**	**303**	⇑*e*P		**P**		**00 39 17.8**	**-0.6**
SVE				pmax		pmax			
	comp=Z,60nm,1.3s								
BOD	**Bodaibo**	**17.26**	**54**	*e*P		**P**		**00 39 12.9**	**-6.9**
ARU	**Arti**	**18.21**	**301**	⇓*i*P		**P**		**00 39 33.1**	**+1.3**
ARU				*e*SS		SS		00 42 54.5	-21
ARU				pmax		pmax			
	comp=Z,14nm,0.9s								
ARU	**Arti**	**18.21**	**301**	⇓*i*P		**P**		**00 39 33.1**	**+1.3**
	comp=Z,14nm,0.9s								
ARU				*e*SS		SS		00 42 54.5	-21
LZH	**Lanzhou**	**18.49**	**134**	*e*P		**P**		**00 39 34.5**	**-0.9**
LZH					AP			00 39 43.5	
LZH					XP			00 39 47.0	
LZH					AMB	AMB			
	comp=Z,13nm,1.2s								
LZH	**Lanzhou**	**18.49**	**134**	*e*P		**P**		**00 39 34.5**	**-0.9**
	comp=Z,13nm,1.2s								
LZH					pP			00 39 43.5	
LZH					sP			00 39 47.0	
LSA	**Lhasa**	**20.73**	**171**	*e*P		**P**		**00 40 03.8**	**+3.2**
LSA					pmax	pmax			
	comp=Z,10.0nm,1.0s								
LSA	**Lhasa**	**20.73**	**171**	*e*P		**P**		**00 40 03.8**	**+3.2**
	comp=Z,10nm,1.0s								
KLR	**Kul'dur**	**28.35**	**75**	*e*P		**P**		**00 41 12.5**	**-0.8**
MDJ	**Mudanjiang**	**28.78**	**85**	*e*P		**P**		**00 41 21.3**	**+4.1**
	comp=Z,8.7nm,1.1s,mb4.4								
FINES	**FINESS Array B**	**34.88**	**312**	P		**P**		**00 42 10.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1,baz=53,slow=9.5,SNR=5.1								
QIZ	**Qiongzhong**	**35.92**	**142**	*e*P		**P**		**00 42 20.5**	**+0.6**
	comp=Z,7.0nm,0.8s,mb4.6								
AKASG	**Malin Array Be**	**36.21**	**294**	P		**P**		**00 42 21.4**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.1,baz=57,slow=9.1,SNR=7.1								
MALT	**Malatya**	**36.42**	**270**	*e*P		**P**		**00 42 24.8**	**+0.9**
MALT					pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5								
MALT	**Malatya**	**36.42**	**270**	*e*P		**P**		**00 42 24.8**	**+0.9**
	comp=Z,4.1nm,0.6s,mb4.5								
BRTR	**Keskin Array B**	**38.69**	**275**	P		**P**		**00 42 43.6**	**+0.7**
	comp=Z,8.0nm,0.7s,mb4.5,baz=78,slow=7.8,SNR=34								
CFR	**Carcaliu**	**39.29**	**286**	⇑P		**P**		**00 42 48.8**	**+0.9**
BURAR	**Bucovina Array**	**39.90**	**291**	⇓P		**P**		**00 42 53.5**	**+0.6**
MLR	**Muntele Rosu**	**40.48**	**288**	⇓P		**P**		**00 42 58.5**	**+0.8**
NB2	**NORSAR Subarra**	**41.90**	**315**	P		**P**		**00 43 08.4**	**-0.6**
	comp=Z,2.1nm,0.7s,mb3.9,baz=63,slow=7.9								
NB2	**NORSAR Subarra**	**41.90**	**315**	P		**P**		**00 43 08.4**	**-0.6**
NB2					pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.9								
NOA	**NORSAR Array B**	**41.90**	**315**	P		**P**		**00 43 08.9**	**-0.1**
	comp=Z,3.1nm,0.8s,mb4.0,baz=65,slow=7.8,SNR=14								
GERES	**GERESS Array B**	**46.01**	**298**	P		**P**		**00 43 43.1**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=31,slow=7.8,SNR=4.9								
INK	**Inuvik**	**57.88**	**17**	P		**P**		**00 45 09.2**	**-2.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=3.8,slow=14,SNR=4.9								
YKA	**Yellowknife Ar**	**66.24**	**11**	P		**P**		**00 46 05.2**	**-1.9**
	comp=Z,0.9nm,0.7s,mb3.9,baz=340,slow=6.9,SNR=12								
SCHQ	**Schefferville**	**73.08**	**345**	P		**P**		**00 46 50.4**	**+1.4**
	comp=Z,1.3nm,0.7s,mb4.0,baz=327,slow=5.4,SNR=3.6								
ASAR	**Alice Springs**	**84.31**	**138**	P		**P**		**00 47 51.1**	**+0.4**
	comp=Z,0.5nm,1.0s,mb3.6,baz=328,slow=4.9,SNR=3.9								

IDC ***30*** *00:47:02.4±2.9, 2.73N×96.00E, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=127.2km s-min=21.3km az=57.0*
NEIC ***30*** *00:47:07.9±1.1, 2.94N×96.33E, h30km, mb4.2/1, Error ellipse: s-maj=27.1km s-min=15.4km az=45.0*
ISC 30 00:47:05.8±1.2, 3.0N±0.2×96.3E±0.2, h30km, n9, σ0°99/9, mb3.8/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.92**	**62**	*e*P		**Pn**		**00 48 19.3**	**-0.5**
WRA	**Warramunga Arr**	**43.73**	**123**	P		**P**		**00 55 12.2**	**+1.7**
	0.6nm,0.5s,mb3.6,baz=302,slow=9.1,SNR=3.5								
ASAR	**Alice Springs**	**45.17**	**128**	P		**P**		**00 55 20.7**	**-1.4**
	0.3nm,0.5s,mb3.4,baz=306,slow=7.8,SNR=4.6								
MKAR	**Makanchi Array**	**45.34**	**346**	P		**P**		**00 55 23.9**	**+0.8**
	1.9nm,0.5s,mb4.2,baz=162,slow=7.7,SNR=20								
MKAR	**Makanchi Array**	**45.34**	**346**	P		**P**		**00 55 23.9**	**+0.8**
SONM	**Songino Array**	**45.55**	**10**	P		**P**		**00 55 25.9**	**+1.1**
	0.4nm,0.4s,mb3.7,baz=194,slow=9.1,SNR=4.6								
SONM					PcP	PcP		00 57 09.0	+5.4
	0.6nm,0.6s,baz=184,slow=4.4,SNR=4.3								
KURK	**Kurchatov**	**49.88**	**345**	*e*P		**P**		**00 55 58.6**	**0.0**
BVAR	**Borovoye Array**	**54.31**	**341**	P		**P**		**00 56 30.9**	**-0.8**
	1.2nm,0.8s,mb3.9,baz=149,slow=8.6,SNR=8.0								
CHKZ	**Chkalovo**	**54.79**	**342**	*e*P		**P**		**00 56 34.4**	**-0.9**
	2.0nm,0.8s,mb4.2								

IDC ***30*** *00:57:43.4±0.9, 1.12N×96.89E, mb4.1/12, mb1 4.3/12, mb1mx4.1/18, mbtmp4.1/12, Error ellipse: s-maj=53.4km s-min=14.7km az=50.0*
BJI ***30*** *00:57:44.3, 0.84N×97.25E, h36km, mB5.0, mb4.8, Ms4.8, Msz4.5*
NEIC ***30*** *00:57:46.7±0.5, 1.20N×97.08E, mb4.6/14, Error ellipse: s-maj=13.3km s-min=7.6km az=45.0*
ISC 30 00:57:46.0±2.0, 1.23N±0.07×97.15E±0.08, h25km±14km, h22km±2.3km:pP-P, n42, σ0°86/45, mb4.6/32, MS4.5/3, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**41**	*e*P		**Pn**		**00 59 06.0**	**-0.2**
KKM	**Kota Kinabalu**	**19.61**	**75**	*e*P		**P**		**01 02 15.

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ASAR				PcP	PcP	01 07 37.9	+0.3
	comp=Z,0.9nm,0.8s,baz=307,slow=2.5,SNR=6.3						
AAK	Ala-Archa	45.95	337	eP	P	01 06 09.1	+0.3
	comp=Z,3.9nm,1.1s,mb4.2						
AAK				epP	pP	01 06 13.8	-2.6
SONM	Songino Array	47.11	8	P	P	01 06 18.1	+0.1
	comp=Z,4.0nm,0.8s,mb4.4,baz=190,slow=9.1,SNR=32						
SONM				PcP	PcP	01 07 50.3	+0.4
	comp=Z,0.5nm,0.3s,baz=181,slow=4.2,SNR=4.5						
MKAR	Makanchi Array	47.20	346	P	P	01 06 18.8	+0.1
	comp=Z,3.7nm,0.5s,mb4.6,baz=160,slow=8.6,SNR=50						
MKAR	Makanchi Array	47.20	346	P	P	01 06 18.8	+0.1
ULN	Ulaanbaatar	47.24	9	eP	P	01 06 19.2	+0.3
	comp=Z,4.5nm,0.9s,mb4.4						
ULN				epP	pP	01 06 25.2	-1.3
CN2	Changchun	49.30	27	eP	P	01 06 34.3	-0.7
CN2				eS	S	01 13 38.0	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,90nm,3.0s						
CN2				LR	LR		
	comp=N,390nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=E,190nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=Z,310nm,16.0s,MS4.4						
HIA	Hailar	51.63	19	eP	P	01 06 51.7	-1.0
	comp=Z,7.2nm,0.9s,mb4.6						
KURK	Kurchatov	51.75	345	eP	P	01 06 53.0	-0.6
	comp=Z,2.2nm,0.6s,mb4.3						
STKA	Stephens Creek	53.41	132	eP	P	01 07 06.7	+0.5
	comp=Z,2.6nm,0.8s,mb4.2						
STKA	Stephens Creek	53.41	132	P	P	01 07 07.2	+1.0
	comp=Z,2.3nm,0.5s,mb4.3,baz=252,slow=4.5,SNR=7.3						
CHKZ	Chkalovo	56.68	341	eP	P	01 07 28.0	-1.7
	comp=Z,35nm,0.6s,mb5.6						
BRTR	Keskin Array B	69.06	312	P	P	01 08 51.7	-0.3
	comp=Z,0.3nm,0.6s,baz=143,slow=6.2,SNR=3.6						
AKASG	Malin Array Be	75.20	322	P	P	01 09 26.0	-2.3
	comp=Z,0.9nm,0.5s,mb4.0,baz=87,slow=5.1,SNR=4.4						
FINES	FINESS Array B	79.95	333	P	P	01 09 52.8	-1.6
	comp=Z,1.1nm,0.7s,mb3.9,baz=90,slow=3.8,SNR=4.9						
ARCES	ARCESS Array B	82.49	340	P	P	01 10 08.7	+1.2
	comp=Z,8.3nm,1.1s,mb4.6,baz=90,slow=3.6,SNR=8.1						
GERES	GERESS Array B	84.76	319	P	P	01 10 18.9	-0.6
	comp=Z,0.9nm,0.8s,mb4.0,baz=72,slow=4.2,SNR=6.9						
NOA	NORSAR Array B	86.96	331	P	P	01 10 30.9	+0.9
	comp=Z,1.1nm,0.9s,mb4.1,baz=93,slow=5.2,SNR=3.6						
TXAR	Lajitas Array	143.67	32	PKP	PKPdf	01 17 21.6	-2.5
	comp=Z,0.6nm,0.8s,baz=164,slow=2.4,SNR=3.9						

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*BJI **30** 01:06:06.2, 0.32N×97.20E, h22km, mB5.1, mb4.8, Ms5.0, Msz4.6*
*NEIC **30** 01:06:14.8±0.5, 1.14N×97.18E, mb4.6/13, Error ellipse: s-maj=14.2km s-min=7.4km az=52.0*
*IDC **30** 01:06:14.5±0.7, 1.06N×97.01E, h22km±3km, mb4.1/12, mb1 4.2/12, mb1mx4.0/19, mbtmp4.2/12, Error ellipse: s-maj=39.3km s-min=10.7km az=50.0*
ISC 30 01:06:13.3±0.6, **1.10N**±0.07×**97.17E**±0.07, **h24**km, **h24**km±1.1km**:pP-P, n44,** σ**1ˢ03**/44, **mb4.5**/30, **MS4.7**/2, **2D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.17	48	P	Pn	01 07 31.1	-0.2
KULM	Kulim	5.42	40	eP	Pn	01 07 33.4	-1.4
KGM	Kluang	6.22	82	P	Pn	01 07 46.9	+0.9
KKM	Kota Kinabalu	19.63	75	P	P	01 10 43.1	-0.2
QIZ	Qiongzhong	21.72	34	eP	P	01 11 04.5	-0.4
KMI	Kunming	24.48	12	P	P	01 11 33.3	+1.3
KMI				AP		01 11 39.8	
KMI				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.6						
JIRN	Jiri	28.43	339	eP	P	01 12 08.8	+0.4
	comp=Z,35nm,0.7s,mb5.1						
PKI	Pulchoki	28.63	338	eP	P	01 12 10.2	-0.1
	comp=Z,24nm,1.0s,mb4.9						
DMN	Daman	28.78	337	eP	P	01 12 12.4	+0.8
	comp=Z,7.3nm,0.3s,mb4.9						
KKN	Kakani	28.88	338	eP	P	01 12 12.3	-0.2
	comp=Z,24nm,0.8s,mb5.0						
LSA	Lhasa	29.01	349	eP	P	01 12 13.3	-0.4
	comp=Z,3.4nm,0.4s,mb4.4						
GKN	Gorkha	29.32	337	eP	P	01 12 16.6	+0.1
	comp=Z,17nm,0.6s,mb5.0						
KOLN	Koldanda	29.53	335	eP	P	01 12 18.8	+0.4
	comp=Z,26nm,0.7s,mb5.1						
ENH	Enshi	31.28	21	eP	P	01 12 31.6	-2.2
	comp=Z,12nm,0.5s,mb5.0						
FITZ	Fitzroy Crossi	33.90	126	eP	P	01 12 55.8	-1.0
	comp=Z,3.5nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	33.90	126	P	P	01 12 56.2	-0.6
	comp=Z,4.5nm,0.7s,mb4.5,baz=317,slow=6.6,SNR=8.0						
FITZ				pP	pP	01 13 02.3	-1.6
	comp=Z,2.5nm,0.5s,baz=195,slow=3.1,SNR=2.7						
NJ2	Nanjing	36.96	31	eP	P	01 13 23.8	+1.1
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	Gaotai	38.20	3	eP	P	01 13 33.0	0.0
GTA				AP	pP	01 13 42.0	+1.8
GTA				XP	sP	01 13 45.5	+2.3
GTA				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
HHC	Hu-ho-hao-te	41.66	16	eP	P	01 14 03.5	+1.9
HHC				AP	pP	01 14 13.0	+4.2
HHC				XP	sP	01 14 17.0	+5.2
HHC				PP	PP	01 15 42.8	+1.7
HHC				S	S	01 20 18.5	+1.9
HHC				XS		01 20 34.3	
HHC				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.4						
HHC				AMB	AMB		
	comp=Z,126nm,10.7s						
WRA	Warramunga Arr	42.01	122	P	P	01 14 05.0	+0.2
	comp=Z,3.8nm,0.6s,mb4.2,baz=300,slow=9.0,SNR=14						
WRA				pP	pP	01 14 11.3	-0.7
	comp=Z,2.0nm,0.5s,baz=301,slow=9.0,SNR=5.2						
WB2	Warramunga Arr	42.02	122	⇓iP	P	01 14 04.9	0.0
BJT	Baijiatuau	42.42	22	eP	P	01 14 08.0	+0.1
	comp=Z,11nm,0.7s,mb4.6						
WMQ	Urumqi	43.36	350	⇓iP	P	01 14 16.5	+1.0
WMQ				AP	pP	01 14 26.0	+3.3
WMQ				XP	sP	01 14 27.0	+1.3
WMQ				PP	PP	01 15 59.0	+0.6
WMQ				PPP	PPP	01 16 35.0	+0.8
WMQ				eS	S	01 20 43.0	+1.5
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,125nm,4.4s						
WMQ				LR	LR		
	comp=N,636nm,15.8s,MS4.8						
WMQ				LR	LR		
	comp=E,891nm,17.6s,MS4.8						
WMQ				LR	LR		
	comp=Z,829nm,22.0s,MS4.6						
ASAR	Alice Springs	43.36	127	P	P	01 14 16.2	+0.5
	comp=Z,1.6nm,0.6s,mb3.9,baz=301,slow=7.6,SNR=16						
ASAR				pP	pP	01 14 22.8	-0.2
	comp=Z,0.7nm,0.5s,baz=299,slow=8.2,SNR=4.7						
ASAR				PcP	PcP	01 16 05.2	+0.4
	comp=Z,0.7nm,0.9s,baz=329,slow=2.9,SNR=4.0						
KS15	Wonju Array Si	45.91	34	eP	P	01 14 35.6	-0.5
AAK	Ala-Archa	46.07	337	eP	P	01 14 37.8	+0.6
	comp=Z,4.1nm,1.0s,mb4.3						
SONM	Songino Array	47.23	8	P	P	01 14 46.2	-0.1
	comp=Z,2.4nm,0.5s,mb4.4,baz=189,slow=9.3,SNR=34						
SONM				pP	pP	01 14 53.2	-0.4
	comp=Z,1.2nm,0.4s,baz=188,slow=9.7,SNR=6.8						
SONM				PcP	PcP	01 16 17.8	-0.1
	comp=Z,1.3nm,0.6s,baz=190,slow=4.2,SNR=4.1						
SONM				pPcP		01 16 24.8	
	comp=Z,0.7nm,0.4s,baz=190,slow=3.7,SNR=5.0						
MKAR	Makanchi Array	47.33	346	P	P	01 14 46.9	-0.2
	comp=Z,3.7nm,0.5s,mb4.6,baz=159,slow=8.2,SNR=52						
MKAR				pP	pP	01 14 54.4	0.0
	comp=Z,3.3nm,0.5s,baz=161,slow=8.3,SNR=16						
CN2	Changchun	49.40	27	eP	P	01 15 02.3	-1.0
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,230nm,3.0s						
CN2				LR	LR		
	comp=N,570nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,390nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,420nm,16.0s,MS4.5						
KURK	Kurchatov	51.88	345	eP	P	01 15 16.6	-5.4
	comp=Z,5.8nm,0.9s,mb4.5						
STKA	Stephens Creek	53.32	132	eP	P	01 15 34.0	+1.0
	comp=Z,2.5nm,0.9s,mb4.1						
STKA	Stephens Creek	53.32	132	P	P	01 15 33.7	+0.7
	comp=Z,2.8nm,0.7s,mb4.3,baz=313,slow=6.0,SNR=7.6						
STKA				pP	pP	01 15 40.7	+0.4
	comp=Z,2.5nm,0.6s,baz=316,slow=9.3,SNR=5.0						
BVAR	Borovoye Array	56.33	341	P	P	01 15 52.5	-2.1
	comp=Z,3.1nm,0.7s,mb4.4,baz=149,slow=8.6,SNR=3.6						
BVAR				pP	pP	01 15 59.9	-2.1
	comp=Z,2.6nm,0.6s,baz=144,slow=10.0,SNR=3.6						
CHKZ	Chkalovo	56.81	341	eP	P	01 15 56.5	-1.6
	comp=Z,3.5nm,0.6s,mb4.6						
GNI	Garni	61.34	316	P	P	01 16 32.4	+2.8
	comp=Z,3.6nm,0.9s,mb4.5,baz=263,slow=10,SNR=2.4						
GNI				pP	pP	01 16 38.9	+1.8
	comp=Z,3.4nm,0.7s,baz=300,slow=13,SNR=2.7						
BRTR	Keskin Array B	69.15	312	P	P	01 17 17.8	-2.3
	comp=Z,0.7nm,0.8s,mb3.6,baz=135,slow=7.0,SNR=4.2						
BRTR				pP	pP	01 17 25.6	-1.9
	comp=Z,1.0nm,0.8s,baz=127,slow=6.2,SNR=4.1						
MA2	Magadan	71.43	26	eP	P	01 17 32.7	-0.9
AKASG	Malin Array Be	75.31	322	P	P	01 17 54.7	-1.7
	comp=Z,0.1nm,0.3s,baz=90,slow=4.9,SNR=4.1						
AKASG				pP	pP	01 18 03.3	-0.7
	comp=Z,0.9nm,0.6s,baz=105,slow=4.5,SNR=2.3						
AKASG	Malin Array Be	75.31	322	P	P	01 17 54.7	-1.7
AKASG				pP	pP	01 18 03.3	-0.7
FINES	FINESS Array B	80.07	333	P	P	01 18 22.4	0.0
	comp=Z,1.1nm,0.7s,mb3.9,baz=162,slow=6.0,SNR=5.8						
FINES				pP	pP	01 18 28.8	-1.2
	comp=Z,0.6nm,0.7s,baz=90,slow=5.7,SNR=1.9						
ARCES	ARCESS Array B	82.61	340	P	P	01 18 36.4	+0.8
	comp=Z,3.8nm,0.9s,mb4.5,baz=14,slow=5.0,SNR=3.5						
ARCES				pP	pP	01 18 42.2	-1.0
	comp=Z,5.6nm,1.0s,baz=80,slow=7.4,SNR=1.8						
GERES	GERESS Array B	84.86	319	P	P	01 18 48.5	+1.0
	comp=Z,0.8nm,0.9s,mb3.8,baz=27,slow=3.0,SNR=6.0						
GERES				pP	pP	01 18 55.8	+0.7
	comp=Z,0.9nm,1.0s,baz=104,slow=5.5,SNR=4.0						
TXAR	Lajitas Array	143.77	32	PKP	PKPdf	01 25 48.1	-3.5
	comp=Z,0.3nm,0.6s,baz=22,slow=3.6,SNR=3.6						
LRAL	Lakeview Retre	145.82	6	eP	PKPbc	01 25 51.7	+0.2
LRAL				epP		01 25 59.6	

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*IDC **30** 01:13:11.6±0.4, 1.77N×97.10E, mb5.0/24, mb1 5.1/24, mb1mx5.1/25, mbtmp5.0/24, MS5.1/20, Ms1 5.1/20, ms1mx4.9/25, Error ellipse: s-maj=16.7km s-min=11.9km az=39.0*
*BJI **30** 01:13:13.8, 1.76N×97.21E, h28km, mB5.8, mb5.6, Ms5.9, Msz5.8*
*MOS **30** 01:13:15.2±0.8, 1.86N×97.11E, h33km, mb5.7/83, MS5.3/47, Error ellipse: s-maj=8.4km s-min=3.9km az=126.8*
*HRVD **30** 01:13:15.8±0.2, 1.38N×96.85E, h26km, MW5.5/60, Centroid moment Tensor Solution. LP body waves: s58,c107;Mantle waves: s60,c114; Half duration: 1ˢ3 Moment tensor: Scale 10^{17}Nm; M_{rr}0.81±.04; $M_{\theta\theta}$-0.69±.03; $M_{\phi\phi}$-0.11±.04; $M_{r\theta}$1.69±.06; $M_{\theta\phi}$0.99±.03; $M_{\phi r}$-1.33±.08; Best double couple: $M_0$2.425×10^{17} NP1: ϕ_s303°,δ14°,λ85°. NP2:ϕ_s128°,δ76°,λ91°. Principal axes: T 2.113, Plg59°, Azm40°; N .625, Plg1°, Azm308°; P -2.738, Plg31°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 01:13:15.8±0.1, 1.77N×97.10E, mb5.5/103, ME5.3, MS5.5/126, MW5.7 Error ellipse: s-maj=4.5km s-min=2.9km az=25.0 Broadband fault plane solution: P waves. NP1:ϕ_s120°,δ80°,λ90°. NP2:ϕ_s300°,δ10°,λ90°. Principal axes: T Plg55°, Azm30°; N Plg0°, Azm0°; P Plg35°, Azm210°; Moment Tensor Solution. s8 Moment tensor: Scale 10^{17} Nm; M_{rr}0.65; $M_{\theta\theta}$1.63; $M_{\phi\phi}$-2.28; $M_{r\theta}$2.78; $M_{\theta\phi}$0.67; $M_{\phi r}$-1.59; Best double couple: $M_0$3.8×10^{17} NP1:ϕ_s29°,δ33°,λ170°. NP2:ϕ_s127°,δ84°, λ57°. Principal axes: T 4.01, Plg41°, Azm7°; N -.33, Plg33°, Azm131°; P -3.68, Plg31°, Azm244°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Medan, Sumatra.
ISC 30 01:13:14.0±0.1, **1.77N**±0.03×**97.14E**±0.02, **h27**km, **h27**km±.6km**:pP-P, n630,** σ**0ˢ99**/540, **mb5.4**/159, **MS5.4**/172, **92C-27D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LARI	Lau Rambong	1.51	43	ePn	Pn	01 13 42.6	+2.9
HUTI	Huta Ginjang	1.91	74	ePn	Pn	01 13 48.0	+2.5
SIMI	Simarbalatuk	2.03	63	ePn	Pn	01 13 50.0	+2.8
MRPI	Mariponipon	2.19	94	ePn	Pn	01 13 49.7	+0.2
IPM	Ipoh	4.78	54	P	Pn	01 14 28.0	+1.7
KULM	Kulim	4.95	45	eP	Pn	01 14 30.1	+1.4
KGM	Kluang	6.19	88	P	Pn	01 14 48.6	+2.5
SNG	Songkhla	6.39	33	P	Pn	01 14 49.0	-0.1
	1μm,1.0s						
PENI	Pendagan	10.84	132	⇑eP	P	01 15 46.4	-4.5
PENI				pmax	pmax		
	comp=Z,177nm,0.5s						
PENI	Pendagan	10.84	132	⇑eP	P	01 15 46.4	-4.5
	comp=Z,177nm,0.5s						
NNT	Nongplab	11.05	13	P	P	01 15 53.9	+0.2
PASI	Pasiripis	11.91	135	eP	P	01 15 59.9	-5.5
PULI	Pulasari	11.96	132	⇓eP	P	01 16 04.1	-1.9
	comp=Z,253nm,0.4s						
KSM	Kuching	13.17	91	eP	P	01 16 24.4	+2.3
NST	Nakhon Sawan	14.12	12	P	P	01 16 34.0	-0.8
	comp=Z,92nm,1.0s						
BDT	Bhumibol Dam	15.48	7	P	P	01 16 51.0	-1.6
	comp=Z,20nm,1.0s						
KKTK	Khon Kaen	15.52	21	P	P	01 16 53.0	0.0
CM31	Chiang Mai Arr	16.68	6	eP	P	01 17 07.1	-0.7
	comp=Z,109nm,0.9s						
PALK	Pallekele	17.26	289	eP	P	01 17 14.8	-0.4
	comp=Z,74nm,1.4s						
CHRT	Chiangrai	18.17	8	⇓P	P	01 17 27.0	+0.5
	comp=Z,658nm,1.1s						
KKM	Kota Kinabalu	19.50	77	eP	P	01 17 42.4	+0.1
KKM	Kota Kinabalu	19.50	77	P	P	01 17 42.6	+0.3
SRDI	Scrawed	19.78	121	⇓eP	P	01 17 42.4	-3.0
MDRS	Chennai	20.14	305	eP	P	01 17 49.0	-0.2
MDRS				eS	S	01 21 31.0	+2.4
MDRS				e		01 23 23.0	
TSM	Tawau	20.86	83	P	P	01 17 56.8	+0.2
VIS	Vishakhapatnam	20.86	320	eP	P	01 17 57.0	+0.3
VIS				e		01 18 00.6	
	comp=Z,277nm,1.3s						
VIS				e		01 21 38.1	
RATI	Rata	21.09	120	⇓eP	P	01 17 55.2	-3.9
	comp=Z,106nm,0.3s,mb5.7						
TRD	Trivandrum	21.17	289	eP	P	01 18 01.6	+1.8
TRD				e		01 18 06.3	
	comp=Z,166nm,1.1s						
TRD				eS	S	01 21 51.5	+2.6
QIZ	Qiongzhong	21.19	35	P	P	01 17 59.0	-1.0
QIZ				PPP	PPP	01 18 32.0	-0.7
QIZ				S	S	01 21 47.0	-2.3
QIZ				XS		01 22 01.0	
QIZ				SS	SS	01 22 17.0	-6.2
QIZ				AMB	AMB		
	comp=Z,112nm,0.9s,mb5.2						
QIZ				AMB	AMB		
	comp=Z,1μm,14.4s						
QIZ				LR	LR		
	comp=N,11μm,16.6s,MS5.4						
QIZ				LR	LR		
	comp=E,7μm,14.8s,MS5.4						
QIZ				LR	LR		
	comp=Z,13μm,13.6s,MS5.5						
QIZ	Qiongzhong	21.19	35	P	P	01 17 59.3	-0.7
QIZ	Qiongzhong	21.19	35	eP	P	01 17 59.2	-0.8
	comp=Z,113nm,0.8s,mb5.2						
BWNR	Bhubaneshwar	21.48	330	eP	P	01 18 03.8	+0.8
BWNR				e		01 18 06.4	
	comp=Z,234nm,1.0s						
BWNR				e		01 21 52.6	
KEDI	Kedomdong	21.49	119	⇓eP	P	01 18 00.8	-2.3
KEDI				pmax	pmax		
	comp=Z,43nm,0.5s,mb5.0						
KEDI	Kedomdong	21.49	119	⇓eP	P	01 18 00.8	-2.3
	comp=Z,43nm,0.5s,mb5.0						
BATP	Bataraza	21.72	71	eP	P	01 18 05.7	+0.3
CAL	Calcutta	22.34	338	eP	P	01 18 13.6	+2.1
CAL				e		01 22 18.0	
CAL				eS	S	01 22 18.0	+7.3
AGT	Agartala	22.71	346	i P	P	01 18 15.0	-0.2
AGT				i		01 18 59.0	
TANI	Tanete Lipujan	22.83	103	eP	P	01 18 16.9	+0.4
PPR	Puerto Princes	22.89	69	eP	P	01 18 18.0	+0.9
NINI	Niniconang	23.43	105	eP	P	01 18 23.0	+0.7
BUNI	Buntu Taipa	23.80	103	eP	P	01 18 27.4	+1.5
KMI	Kunming	23.84	13	P	P	01 18 27.5	+1.3
KMI				AP		01 18 35.0	
KMI				XP		01 18 38.0	
KMI				PP	PP	01 19 03.0	+3.2
KMI				PPP	PPP	01 19 13.8	+4.0
KMI				S	S	01 22 42.5	+5.4
KMI				XS		01 22 55.0	
KMI				SSS	SSS	01 23 53.0	+9.1
KMI				AMB	AMB		
	comp=Z,140nm,0.9s,mb5.4						
KMI				AMB	AMB		
	comp=Z,2μm,5.8s						
KMI				LR	LR		
	comp=N,21μm,15.3s,MS5.7						
KMI				LR	LR		
	comp=E,8μm,15.3s,MS5.7						
KMI				LR	LR		
	comp=Z,20μm,14.6s,MS5.7						
HYB	Hyderabad	23.98	312	⇑eP	P	01 18 28.0	+0.4
HYB				e		01 18 38.0	
HYB				eS	S	01 22 44.0	+4.3
HYB				pmax	pmax		
	comp=Z,325nm,1.4s,mb5.6						
HYB	Hyderabad	23.98	312	⇑eP	P	01 18 28.0	+0.4
	comp=Z,325nm,1.4s,mb5.6						
HYB				e		01 18 38.0	
HYB				eS	S	01 22 44.0	+4.3
HYB	Hyderabad	23.98	312	⇑iP	P	01 18 28.0	+0.4
	comp=Z,325nm,1.4s,mb5.6						
HYB				esP		01 18 38.0	
HYB				eS	S	01 22 40.0	+0.3
HYB				LR	LR		
	comp=Z,6.2nm,18.0s						
MNGI	Mangalore	24.72	298	i	P	01 18 39.3	+4.5
MNGI				i S	S	01 22 58.5	+6.2
	comp=Z,207nm,1.8s						
BLSP	Bilaspur	24.95	325	eP	P	01 18 38.0	+1.0
BLSP				e		01 18 39.5	
	comp=Z,136nm,0.9s						
LATR	Latur	26.09	311	eP	P	01 18 50.5	+2.8
NGP	Nagpur	26.11	319	eP	P	01 18 49.4	+1.5
NGP				eS	S	01 23 20.6	+5.2
GYA	Guiyang	26.20	20	⇑iP	P	01 18 48.0	-0.6
GYA				AP	pP	01 18 55.8	-0.6
GYA				XP	sP	01 19 01.3	+1.4
GYA				PP	PP	01 19 31.8	+0.9
GYA				S	S	01 23 18.8	+2.0
GYA				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.1						
GYA				AMB	AMB		
	comp=Z,870nm,4.9s						
GYA				LR	LR		
	comp=N,20μm,14.4s,MS5.8						
GYA				LR	LR		
	comp=E,7μm,13.0s,MS5.8						
GYA				LR	LR		
	comp=Z,27μm,15.3s,MS5.9						
DGAR	Diego Garcia	26.26	249	eP	P	01 18 50.6	+1.3
DGAR				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6						
HKC	Hong Kong	26.28	38	⇑iP	P	01 18 50.0	+0.6
GTK	Gangtok	26.70	343	e	P	01 18 41.0	-12
GOA	Goa	26.73	302	eP	P	01 18 52.0	-1.6
GOA				e		01 23 04.4	
KAD	Karad	27.34	306	eP	P	01 19 01.3	+2.2
KAD				eS	S	01 23 35.0	-0.4
JIRN	Jiri	27.79	339	eP	P	01 19 03.8	+0.6
	comp=Z,212nm,0.8s,mb5.8						
PKI	Pulchoki	28.00	337	eP	P	01 19 05.2	+0.1
	comp=Z,182nm,1.1s,mb5.6						
PKI	Pulchoki	28.00	337	eP	P	01 19 05.2	+0.1
PKI				pmax	pmax		
	comp=Z,91nm,1.1s,mb5.3						
DMN	Daman	28.16	337	eP	P	01 19 06.7	+0.3
	comp=Z,159nm,1.0s,mb5.6						
KKN	Kakani	28.25	337	eP	P	01 19 07.4	+0.1
	comp=Z,264nm,1.1s,mb5.8						
KKN	Kakani	28.25	337	eP	P	01 19 07.4	+0.1
KKN				pmax	pmax		
	comp=Z,132nm,1.1s,mb5.5						
POO	Poona	28.26	308	eP	P	01 19 08.9	+1.4
POO				e	pP	01 19 15.5	+0.2
	comp=Z,23nm,1.0s						
LSA	Lhasa	28.35	349	P	P	01 19 08.5	+0.3
LSA				AMB	AMB		
	comp=Z,100nm,1.3s,mb5.3						
LSA	Lhasa	28.35	349	eP	P	01 19 08.6	+0.4
LSA				pmax	pmax		
	comp=Z,186nm,1.3s,mb5.6						
LSA	Lhasa	28.35	349	eP	P	01 19 08.6	+0.4
	comp=Z,186nm,1.3s,mb5.6						
BHPL	Bhopal	28.65	320	eP	P	01 19 12.1	+1.2
BHPL				e		01 19 16.4	
	comp=Z,45nm,1.2s						
GKN	Gorkha	28.69	337	eP	P	01 19 11.5	+0.2
	comp=Z,421nm,1.2s,mb6.0						
KOLN	Koldanda	28.91	335	eP	P	01 19 13.6	+0.3
	comp=Z,177nm,0.9s,mb5.8						
CD2	Chengdu	29.65	12	P	P	01 19 18.3	-1.6
CD2				AP	pP	01 19 26.3	-1.4
CD2				PPP	PPP	01 20 25.0	-5.2
CD2				AMB	AMB		
	comp=Z,100nm,0.8s,mb5.6						
CD2				LR	LR		
	comp=N,14μm,14.4s						
CD2				LR	LR		
	comp=Z,13μm,16.8s,MS5.7						
ENH	Enshi	30.67	21	eP	P	01 19 27.0	-1.9
	comp=Z,143nm,0.8s,mb5.8						
QZH	Quanzhou	30.98	40	P	P	01 19 31.0	-0.6
QZH				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.5						
QZH				AMB	AMB		
	comp=Z,2μm,4.1s						
QZH				LR	LR		
	comp=N,2μm,14.2s,MS5.8						
QZH				LR	LR		
	comp=E,13μm,13.7s,MS5.8						
QZH				LR	LR		
	comp=Z,35μm,14.7s,MS6.2						
MBWA	Marble Bar	31.75	137	eP	P	01 19 38.7	+0.2
	comp=Z,39nm,1.1s,mb5.2						
MBWA				LR	LR		
	comp=Z,5μm,22.0s,MS5.2						
PTH	Pithoragarh	31.97	331	eP	P	01 19 39.2	-1.1
PTH				eS	S	01 24 52.2	+3.3
YHNB	Yeheng	32.66	44	eP	P	01 19 45.8	-0.5
AJM	Ajmer	32.72	321	i P	P	01 19 47.0	+0.2
NDI	New Delhi	32.82	326	eP	P	01 19 45.5	-2.2
NDI				eS	S	01 25 02.0	-0.2
TATO	Taipei	32.93	44	PFAKE		01 20 00.0	+11
TATO				LR	LR		
	comp=Z,4μm,19.0s,MS5.2						
WHN	Wuhan	32.94	28	P	P	01 19 48.5	-0.3
WHN				LR	LR		
	comp=Z,29μm,15.7s,MS6.1						
DDI	Dehra Dun	33.67	329	eP	P	01 19 54.3	-0.8
DDI				eS	S	01 25 16.5	+1.1
XAN	Xi'an	33.94	18	P	P	01 19 56.0	-1.4
XAN				AP	pP	01 20 03.0	-2.3
XAN				SS	SS	01 27 28.8	+1.8
XAN				AMB	AMB		
	comp=Z,863nm,13.9s						
XAN				LR	LR		
	comp=N,10μm,16.0s,MS5.7						
XAN				LR	LR		
	comp=E,8μm,16.0s,MS5.7						
XAN				LR	LR		
	comp=Z,16μm,16.4s,MS5.8						
FITZ	Fitzroy Crossi	34.32	126	eP	P	01 19 59.4	-1.4
	comp=Z,24nm,0.6s,mb5.3						

FITZ eS **S** **01 25 20.3 -5.1**
FITZ Fitzroy Crossi 34.32 126 P **P** **01 19 59.4 -1.4**
comp=Z,29nm,0.8s,mb5.3,baz=329,slow=4.2,SNR=31
FITZ LR LR 01 33 50.1
comp=Z,5μm,20.9s,MS5.2,baz=289,slow=36
LZH Lanzhou 34.70 10⇑*i*P **P** **01 20 03.0 -1.0**
LZH AP pP 01 20 09.5 -2.4
LZH XP sP 01 20 11.5 -3.8
LZH PP PP 01 21 20.5 -0.7
LZH S **S** **01 25 31.0 -0.3**
LZH XS 01 25 44.0
LZH SS SS 01 27 44.0 -0.6
LZH AMB AMB
comp=Z,247nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,850nm,4.0s
LZH LR LR
comp=E,15μm,16.8s
LZH LR LR
comp=Z,16μm,17.6s,MS5.8
SMLA Simla 34.77 329 *i* **P** **01 19 55.6 -9.0**
SMLA *i* 01 25 18.2
SDNR Sundarnagar 35.17 329 *e*P **P** **01 20 08.4 +0.4**
SDNR *e*S **S** **01 25 40.6 +2.0**
BHK Bhakra 35.39 329 *e*P **P** **01 20 10.2 +0.3**
PONG Pong 36.06 329 *e*P **P** **01 20 16.0 +0.5**
NJ2 Nanjing 36.41 32 *e*P **P** **01 20 19.0 +0.5**
NJ2 AP pP 01 20 26.3 -0.1
NJ2 XP sP 01 20 29.8 0.0
NJ2 PP PP 01 21 43.8 +1.3
NJ2 S **S** **01 26 00.0 +2.3**
NJ2 XS 01 26 13.0
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.7
NJ2 AMB AMB
comp=Z,730nm,6.0s
NJ2 LR LR
comp=N,22μm,14.9s,MS6.2
NJ2 LR LR
comp=E,20μm,15.8s,MS6.2
NJ2 LR LR
comp=Z,18μm,15.6s,MS6.0
DLH Dalhousie 36.51 329 *e*P **P** **01 20 20.0 +0.7**
DLH *e* 01 20 31.0
THN Thein Dam 36.56 329 *e*P **P** **01 20 18.3 -1.4**
comp=Z,44nm,1.0s,mb5.2
SSE Sheshan 36.99 36 P **P** **01 20 23.5 +0.2**
SSE XP sP 01 20 36.3 +1.7
SSE PP PP 01 21 53.5 +3.6
SSE AMB AMB
comp=Z,41nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,514nm,5.0s
SSE LR LR
comp=N,2μm,16.0s,MS5.7
SSE LR LR
comp=E,9μm,16.2s,MS5.7
SSE LR LR
comp=Z,12μm,16.3s,MS5.8
GTA Gaotai 37.54 3⇑*i*P **P** **01 20 28.0 +0.1**
GTA AP pP 01 20 36.0 +0.2
GTA XP sP 01 20 38.8 -0.4
GTA PP PP 01 21 55.5 -1.0
GTA PPP PPP 01 22 16.8 -0.7
GTA PCP PcP 01 22 49.0 +2.9
GTA S **S** **01 26 13.5 -1.4**
GTA XS 01 26 25.5
GTA SCP 01 26 31.3
GTA PCS 01 26 34.8
GTA SS SS 01 28 45.5 -3.3
GTA SCS ScS 01 30 37.5 +0.2
GTA AMB AMB
comp=Z,121nm,1.4s,mb5.4
GTA AMB AMB
comp=Z,824nm,6.3s
GTA LR LR
comp=N,4μm,14.4s,MS5.6
GTA LR LR
comp=E,5μm,14.1s,MS5.6
GTA LR LR
comp=Z,5μm,15.9s,MS5.4
KAKA Kakadu 37.88 113⇑*i*P **P** **01 20 29.4 -1.6**
comp=Z,44nm,0.5s,mb5.5
KLBR Kellerberrin 38.53 151 *e*P **P** **01 20 38.0 +1.7**
comp=Z,307nm,1.3s,mb5.9
JOW Kunigami 38.90 47 P **P** **01 20 40.2 +0.8**
comp=Z,38nm,0.6s,mb5.3,baz=211,slow=11,SNR=11
JOW LR LR 01 36 16.9
comp=Z,3μm,21.8s,MS5.1,baz=273,slow=36
TIA Tai'an 38.95 26 *e*P **P** **01 20 39.3 -0.4**
TIA eS **S** **01 26 41.5 +5.3**
TIA AMB AMB
comp=Z,127nm,1.2s,mb5.5
TIA LR LR
comp=N,12μm,15.0s,MS6.0
TIA LR LR
comp=E,12μm,14.0s,MS6.0
NWAO Narrogin (SRO) 39.39 153 PFAKE 01 21 00.0 +17
NWAO LR LR
comp=Z,5μm,21.0s,MS5.3
BTO Baotou 40.38 15 *e*P **P** **01 20 51.8 +0.3**
BTO S **S** **01 27 02.0 +4.3**
BTO AMB AMB
comp=Z,104nm,1.5s,mb5.3
HHC Hu-ho-hao-te 41.03 17 *e*P **P** **01 20 58.3 +1.4**
HHC AP pP 01 21 08.0 +3.1
HHC XP sP 01 21 12.0 +3.8
HHC PP PP 01 22 36.3 +1.8
HHC PCP PcP 01 22 59.8 +2.7
HHC SCP 01 26 43.0
HHC PCS 01 26 46.5
HHC S **S** **01 27 08.0 +0.6**
HHC XS 01 27 24.8
HHC SS SS 01 30 10.0 +4.4
HHC AMB AMB
comp=Z,143nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,621nm,4.3s
HHC LR LR
comp=N,11μm,15.3s,MS5.9
HHC LR LR
comp=E,5μm,15.5s,MS5.9
HHC LR LR
comp=Z,11μm,17.1s,MS5.8
BJT Baijiatuan 41.81 22 *e*P **P** **01 21 04.3 +1.0**
BJT pmax pmax
comp=Z,423nm,0.8s
BJT Baijiatuan 41.81 22 *e*P **P** **01 21 04.3 +1.0**
comp=Z,424nm,0.8s,mb6.1
BJI Beijing 41.84 22 P **P** **01 21 04.5 +1.0**
BJI AP pP 01 21 12.0 +0.5
BJI XP sP 01 21 15.5 +0.7
BJI PP PP 01 22 47.0 +3.6
BJI AMB AMB
comp=Z,422nm,1.4s,mb5.9
BJI LR LR
comp=N,5μm,14.4s,MS5.7
BJI LR LR
comp=E,6μm,15.7s,MS5.7
BJI LR LR
comp=Z,4μm,16.8s,MS5.4
KSH Kashi 42.23 335 P **P** **01 21 07.3 +0.6**
KSH *e*AP pP 01 21 17.3 +2.6
KSH *e*XP sP 01 21 20.0 +2.0
KSH *e*PP PP 01 22 47.3 -0.2
KSH *e*PCP PcP 01 23 02.0 +0.9
KSH *e*PPP PPP 01 23 19.8 -0.2
KSH *e*SCP 01 26 48.5
KSH *e*PCS 01 26 53.0
KSH S **S** **01 27 22.5 -2.6**
KSH *e*XS 01 27 39.0
KSH *e*SS SS 01 30 23.3 -4.7
KSH *e*SCS ScS 01 31 04.8 0.0
KSH AMB AMB
comp=Z,1μm,4.6s
KSH LR LR
comp=N,3μm,14.7s,MS5.5
KSH LR LR
comp=E,4μm,15.4s,MS5.5
WRA Warramunga Arr 42.39 122 P **P** **01 21 07.9 -0.5**
comp=E,26nm,0.9s,mb4.9,baz=301,slow=9.2,SNR=50
WRA S **S** **01 27 26.8 -1.1**
comp=E,6.7nm,1.3s,baz=294,slow=16,SNR=8.9
WRAB Tennant Creek 42.40 122 P **P** **01 21 08.0 -0.4**
comp=E,225nm,0.5s,mb6.0,SNR=20
WB2 Warramunga Arr 42.40 122⇑*i*P **P** **01 21 07.8 -0.6**
WB2 *e*S **S** **01 27 26.5 -1.5**
WMQ Urumqi 42.70 350⇑*i*P **P** **01 21 11.0 +0.4**
WMQ AP pP 01 21 18.5 -0.1
WMQ XP sP 01 21 22.0 +0.1
WMQ PP PP 01 22 54.0 +1.8
WMQ PPP PPP 01 23 30.0 +3.9
WMQ SCP 01 26 47.5
WMQ S **S** **01 27 39.0 +6.9**
WMQ XS 01 27 50.0
WMQ SCS ScS 01 31 07.0 -0.6
WMQ AMB AMB
comp=Z,83nm,1.6s,mb5.2
WMQ AMB AMB
comp=Z,1μm,4.4s
WMQ LR LR
comp=N,6μm,18.4s,MS5.7
WMQ LR LR
comp=E,7μm,21.0s,MS5.7
WMQ LR LR
comp=Z,5μm,23.8s,MS5.3
JMDO Jabal Madar 43.09 301⇑P **P** **01 21 14.8 +0.9**
DL2 Dalian 43.20 28 P **P** **01 21 15.0 +0.3**
DL2 *e*S **S** **01 27 39.8 +0.4**
DL2 AMB AMB
comp=Z,180nm,1.2s,mb5.7
DL2 AMB AMB
comp=Z,770nm,7.1s
DL2 LR LR
comp=N,4μm,17.2s
DL2 LR LR
comp=Z,4μm,18.9s,MS5.3
SMDO Samad 43.40 302⇑P **P** **01 21 18.8 +2.2**
FORT Forrest 43.75 140 *e*P **P** **01 21 20.7 +1.4**
comp=Z,1μm,0.7s
ASPA Alice Springs 43.79 128*i*P **P** **01 21 19.3 -0.4**
ASPA *e*S **S** **01 27 47.5 -0.6**
ASAR Alice Springs 43.79 128 P **P** **01 21 19.6 -0.1**
comp=Z,11nm,0.8s,mb4.7,baz=298,slow=7.0,SNR=55
ASAR ScP 01 27 01.6
comp=Z,0.9nm,1.0s,baz=317,slow=4.0,SNR=4.0
ASAR S **S** **01 27 47.5 -0.6**
comp=Z,2.6nm,0.9s,baz=292,slow=14,SNR=5.6
ASAR LR LR 01 43 06.4
comp=Z,1μm,19.4s,MS4.9,baz=297,slow=41
SHAO Shalim 43.81 294⇑P **P** **01 21 20.5 +0.7**
BSY Bisya 44.00 301 P **P** **01 21 22.9 +1.5**
SNR=7.9
ULHL Ulahol 44.44 338 P **P** **01 21 25.5 +0.8**
SNR=62
KZA Kyzart 44.68 337 P **P** **01 21 27.9 +1.3**
SNR=41
INCN Inchon 44.71 34 *e*P **P** **01 21 25.9 -1.0**
comp=Z,63nm,0.9s,mb5.5
INCN LR LR
comp=Z,8μm,19.0s,MS5.7
ARQ Araqi 44.80 302⇓P **P** **01 21 29.4 +1.6**
RBK Rabkut 44.96 293 P **P** **01 21 30.7 +1.5**
SNR=8.5
AAA Alma-Ata 45.07 339 *i* P **P** **01 21 30.0 +0.2**
AAA *e*S **S** **01 28 08.0 +1.6**
AAA pmax pmax
comp=Z,2μm,4.0s
AAA smax
comp=N,1μm,6.0s
UCH Uchtor 45.10 336 P **P** **01 21 31.3 +1.3**
SNR=46
TKM2 Tokmak 2 45.27 338 P **P** **01 21 32.2 +0.9**
SNR=118
KBK Karagaybulak 45.29 337 P **P** **01 21 33.0 +1.5**
SNR=59
KS15 Wonju Array Si 45.39 35 *e*P **P** **01 21 32.4 +0.1**
AAK Ala-Archa 45.45 337 P **P** **01 21 32.6 -0.1**
comp=N,203nm,1.4s,mb5.8,SNR=50
AAK Ala-Archa 45.45 337⇑*i*P **P** **01 21 32.6 -0.1**
AAK pmax pmax
comp=Z,119nm,1.3s,mb5.6
AAK MLR MLR
comp=Z,623nm,19.0s,MS4.6
AAK Ala-Archa 45.45 337*i*P **P** **01 21 32.6 -0.2**
comp=Z,119nm,1.3s,mb5.6
AAK LR LR
comp=Z,623nm,19.0s,MS4.6
WHFO Wadi Hawf 45.47 294 P **P** **01 21 33.9 +0.7**
SNR=23
FRU Bishkek 45.57 337⇑*i*P **P** **01 21 25.0 -8.7**
FRU *e*S **S** **01 28 15.0 +1.4**
FRU pmax pmax
comp=Z,310nm,2.2s,mb5.8
FRU MLR MLR
comp=Z,3μm,18.0s,MS5.2
CHMS Chumysh 45.66 337 P **P** **01 21 34.8 +0.4**
SNR=28
ASHO Ashiyiah 45.72 303⇓P **P** **01 21 38.3 +3.2**
ABTO Aybut 45.76 293⇓P **P** **01 21 35.5 0.0**
SNR=9.8
EKS2 Erkin-Say 45.76 336 P **P** **01 21 36.4 +1.2**
SNR=56
USP Ospenovka 45.98 337 P **P** **01 21 37.6 +0.7**
SNR=102
SNY Shenyang 46.43 27⇑P **P** **01 21 40.0 -0.5**
SNY XP sP 01 21 49.5 -2.3
SNY AMB AMB
comp=Z,80nm,1.1s,mb5.6
SNY LR LR
comp=N,8μm,13.0s
SONM Songino Array 46.58 9 P **P** **01 21 42.1 +0.5**
comp=N,47nm,0.6s,mb5.6,baz=192,slow=9.2,SNR=332
SONM PcP PcP 01 23 15.8 -0.1
comp=N,7.0nm,0.5s,baz=187,slow=3.9,SNR=9.0
MKAR Makanchi Array 46.67 346 *i* P **P** **01 21 42.4 +0.1**
MKAR pmax pmax
comp=Z,71nm,0.7s
MKAR Makanchi Array 46.67 346 P **P** **01 21 42.5 +0.2**
comp=Z,73nm,0.6s,mb5.8,baz=159,slow=7.5,SNR=70
MKAR LR LR 01 44 59.3
comp=Z,4μm,20.2s,MS5.3,baz=163,slow=41
ULN Ulaanbaatar 46.71 9⇑*i*P **P** **01 21 42.8 +0.2**
ULN pmax pmax
comp=Z,68nm,0.8s,mb5.6
ULN MLR MLR
comp=Z,7μm,19.0s,MS5.7
ULN Ulaanbaatar 46.71 9⇑*i*P **P** **01 21 42.8 +0.2**
comp=Z,68nm,0.8s,mb5.6
ULN LR LR
comp=Z,7μm,19.0s,MS5.7
GUMO Guam 48.63 73 LR LR 01 41 15.0
comp=Z,684nm,20.4s,MS4.6,baz=249,slow=35
GUMO Guam 48.63 73 PFAKE 01 22 10.0 +12
GUMO LR LR
comp=Z,861nm,21.0s,MS4.7
ZAK Zakamensk 48.71 5⇓*i*P **P** **01 21 58.0 -0.2**
ZAK *e* 01 23 51.8
ZAK pmax pmax
comp=Z,26nm,1.8s,mb5.0
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
ZAK pmax pmax
comp=Z,4.0nm,1.7s
CN2 Changchun 48.83 27 *e*P **P** **01 21 58.5 -0.7**
CN2 *e*AP pP 01 22 08.8 +1.5
CN2 PCP PcP 01 23 23.3 -0.7
CN2 PP PP 01 23 53.0 +0.6
CN2 *e*S **S** **01 28 53.8 -5.9**
CN2 SS SS 01 32 24.0 -1.8
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,630nm,3.0s
CN2 LR LR
comp=N,5μm,17.0s,MS5.7
CN2 LR LR
comp=E,5μm,17.0s,MS5.7
CN2 LR LR
comp=Z,6μm,21.0s,MS5.5
MOY Mondy 49.82 3 *e*P **P** **01 22 06.9 +0.1**
MOY pmax pmax
comp=Z,137nm,3.4s
CBIJ Chichi jima 49.95 56 LR LR 01 42 40.6
comp=Z,1μm,19.0s,MS4.9,baz=347,slow=35
TLY Talaya 50.03 5 *e*P **P** **01 22 08.9 +0.5**
TLY *e* 01 24 05.6
TLY *e*S **S** **01 29 17.7 +1.3**
TLY *e*PS PS 01 29 34.6 +6.5
TLY pmax pmax
comp=Z,41nm,0.6s,mb5.6
TLY MLR MLR
comp=Z,7μm,19.0s,MS5.7
TLY Talaya 50.03 5⇑*i*P **P** **01 22 08.8 +0.5**
comp=Z,48nm,0.6s,mb5.7
TLY LR LR
comp=Z,2μm,19.0s,MS5.1
IRK Irkutsk 50.65 6 *e*P **P** **01 22 12.4 -0.6**
IRK *e*S **S** **01 29 28.8 +3.9**
IRK pmax pmax
comp=Z,135nm,2.5s,mb5.4
PMG Port Moresby 51.05 104 *e*P **P** **01 22 16.0 -0.6**
PMG pmax pmax
comp=Z,28nm,0.8s
PMG MLR MLR
comp=Z,2μm,21.0s
PMG Port Moresby 51.05 104 *e*P **P** **01 22 16.0 -0.6**
comp=Z,28nm,0.8s,mb5.2
PMG LR LR
comp=Z,2μm,21.0s,MS5.1
KURK Kurchatov 51.23 345*c i*P **P** **01 22 17.1 -0.3**
KURK pmax pmax
comp=Z,123nm,1.4s,mb5.6
KURK Kurchatov 51.23 345 PFAKE 01 22 30.0 +13
KURK LR LR
comp=Z,773nm,20.0s,MS4.7
MAJO Matsushiro 51.31 43⇑*e*P **P** **01 22 17.3 -1.0**
MAJO pmax pmax
comp=Z,32nm,0.7s,mb5.4
MAJO MLR MLR
comp=Z,3μm,20.0s,MS5.3
MAJO Matsushiro 51.31 43⇑*e*P **P** **01 22 17.3 -1.0**
comp=Z,32nm,0.7s,mb5.4
MAJO LR LR
comp=Z,3μm,20.0s,MS5.3
MAT Matsushiro 51.31 43 *e*P **P** **01 22 17.0 -1.3**
MAT *e*S **S** **01 29 41.0 +6.7**
MAT pmax pmax
comp=Z,110nm,1.6s,mb5.5
MAT MLR MLR
comp=Z,3μm,18.0s,MS5.4
MAT Matsushiro 51.31 43 *e*P **P** **01 22 17.0 -1.3**
comp=Z,110nm,1.6s,mb5.5
MAT *e*S **S** **01 29 41.0 +6.7**
MAT LR LR
comp=Z,3μm,18.0s,MS5.4
MAT Matsushiro 51.31 43 P **P** **01 22 17.3 -1.0**
MAT S **S** **01 29 40.0 +5.7**
MJAR Matsushiro Arr 51.31 43 P **P** **01 22 18.4 +0.1**
comp=Z,29nm,0.7s,mb5.3,baz=219,slow=6.3,SNR=38
MJAR LR LR 01 45 42.2
comp=Z,3μm,19.5s,MS5.3,baz=240,slow=38
MDJ Mudanjiang 51.40 29 P **P** **01 22 19.3 +0.4**
MDJ AP pP 01 22 25.5 -1.5
MDJ XP sP 01 22 28.0 -2.2
MDJ PCP PcP 01 23 33.0 -0.4
MDJ PCS 01 27 31.0
MDJ S **S** **01 29 39.3 +3.9**
MDJ XS 01 29 50.0
MDJ AMB AMB
comp=Z,41nm,1.7s,mb5.1
MDJ AMB AMB
comp=Z,828nm,7.8s
MDJ LR LR
comp=N,4μm,16.2s,MS5.6
MDJ LR LR
comp=E,4μm,16.2s,MS5.6
MDJ LR LR
comp=Z,7μm,16.2s,MS5.8
MDJ Mudanjiang 51.40 29⇑*e*P **P** **01 22 18.9 0.0**
comp=Z,66nm,1.3s,mb5.4
VLA Vladivostok 51.52 32⇓*i*P **P** **01 22 19.0 -0.8**
VLA *e*S **S** **01 29 53.0 +16**
VLA pmax pmax
comp=Z,2μm,7.0s
VLA pmax pmax
comp=E,2μm,5.0s
VLA smax
comp=E,1μm,5.0s
VLA smax
comp=N,1μm,7.0s
VLA MLR MLR
comp=Z,14μm,16.0s,MS6.1
VLA MLR MLR
comp=N,6μm,18.0s,MS6.0
VLA MLR MLR
comp=E,11μm,18.0s,MS6.0
LBOS 52.66 286⇓*e*P **P** **01 22 29.4 +0.7**
CTA Charters Tower 52.82 117⇑*i*P **P** **01 22 29.9 0.0**
comp=E,19nm,0.9s,mb5.0
CTA *i* S **S** **01 29 55.6 +0.6**
CTA Charters Tower 52.82 117⇑*i*P **P** **01 22 29.9 0.0**
CTA *i* S **S** **01 29 55.6 +0.6**
CTA pmax pmax
comp=Z,19nm,0.9s
CTA Charters Tower 52.82 117 LR LR 01 49 17.3
comp=Z,3μm,18.4s,MS5.3,baz=279,slow=41
CTAO Charters Tower 52.82 117⇑*e*P **P** **01 22 29.9 0.0**
CTAO pmax pmax
comp=Z,35nm,0.9s,mb5.3
CTAO MLR MLR
comp=Z,2μm,20.0s,MS5.1
CTAO Charters Tower 52.82 117⇑*e*P **P** **01 22 29.9 0.0**
comp=Z,35nm,0.9s,mb5.3
CTAO LR LR
comp=Z,2μm,20.0s,MS5.1
STKA Stephens Creek 53.79 132⇑*i*P **P** **01 22 36.9 +0.1**
comp=Z,18nm,0.8s,mb5.1
STKA *i* S **S** **01 30 09.8 +1.7**
STKA Stephens Creek 53.79 132 P **P** **01 22 37.0 +0.2**
comp=Z,19nm,0.9s,mb5.0,baz=304,slow=6.1,SNR=26
STKA LR LR 01 47 43.2
comp=Z,3μm,20.7s,MS5.3,baz=307,slow=38
NVS Novosibirsk 54.10 350⇑*i*P **P** **01 22 37.4 -1.4**
NVS *i* S **S** **01 30 06.7 -5.3**
NVS *i* PS PS 01 30 24.3 -1.8
NVS pmax pmax
comp=Z,221nm,1.1s,mb6.0
NVS pmax pmax
comp=N,133nm,1.2s
NVS pmax pmax
comp=E,120nm,1.2s
NVS smax
comp=N,30nm,1.4s
NVS smax
comp=E,122nm,1.8s
RAYN Ar Rayn 54.43 298 P **P** **01 22 41.4 -0.3**
comp=E,215nm,0.9s,SNR=25
ATD Arta Tunnel 54.70 283 P **P** **01 22 44.4 +0.7**
comp=E,14nm,1.1s,mb4.9,baz=22,slow=2.9,SNR=7.6
ATD LR LR 01 43 14.8
comp=E,2μm,18.2s,MS5.1,baz=255,slow=33
BVA0 Borovoye Array 55.69 341 *i* P **P** **01 22 49.3 -1.1**
BVA0 pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BVAR Borovoye Array 55.69 341 P **P** **01 22 49.2 -1.2**
comp=Z,22nm,0.6s,mb5.4,baz=143,slow=7.4,SNR=107
KLR Kul'dur 55.77 27⇓*e*P **P** **01 22 47.8 -3.3**
KLR *e*S **S** **01 30 40.0 +5.5**
KLR pmax pmax
comp=N,800nm,5.5s
KLR pmax pmax
comp=E,600nm,5.5s
KLR pmax pmax
comp=Z,2μm,5.5s
KLR pmax pmax
comp=N,160nm,2.4s
KLR pmax pmax
comp=E,250nm,2.4s
KLR pmax pmax
comp=Z,380nm,2.4s,mb6.0
KLR MLR MLR
comp=N,10μm,13.5s
KLR MLR MLR
comp=Z,14μm,13.5s,MS6.2
CHKZ Chkalovo 56.17 341 P **P** **01 22 53.0 -0.8**
CHKZ pmax pmax
comp=Z,114nm,1.1s,mb5.8
BOD Bodaibo 57.46 11⇓*i*P **P** **01 23 02.1 -0.9**
BOD pmax pmax
comp=Z,102nm,1.1s,mb5.8
BHD Baghdad 58.43 308 *e*P **P** **01 23 00.0 -10**
BHD *e*S **S** **01 31 00.0 -10**
BHD *e*PPS PPS 01 31 45.0 +10
CLNS Chul'man 59.22 17 *e*P **P** **01 23 15.3 0.0**
CLNS *e* 01 24 08.5

CLNS eS S 01 31 15.6 -4.0
CLNS eSS SS 01 35 13.1 -2.7
CLNS pmax pmax
comp=Z,134nm,1.2s,mb5.8
CLNS pmax pmax
comp=N,48nm,0.8s
CLNS pmax pmax
comp=E,55nm,0.9s
CLNS pmax pmax
comp=Z,11nm,1.2s,mb4.8
CLNS pmax pmax
comp=N,17nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
CLNS smax
comp=N,361nm,11.3s
CLNS smax
comp=Z,229nm,12.8s
CLNS smax
comp=E,106nm,13.1s
CLNS MLR MLR
comp=N,6μm,17.0s,MS5.8
CLNS MLR MLR
comp=E,2μm,17.0s,MS5.8
CLNS MLR MLR
comp=Z,12μm,17.0s,MS6.1
TOO Toolangi 59.40 136 eP P **01 23 18.4 +1.6**
comp=Z,1.2nm,1.2s
TOO Toolangi 59.40 136 eP P **01 23 18.4 +1.6**
TOO pmax pmax
comp=Z,1.0nm,1.2s
YSS Yuzh-Sakhalins 59.91 34αeP P **01 23 20.0 -0.2**
YSS e*SP sP 01 23 35.0 +3.5
YSS S S **01 31 41.0 +12**
YSS pmax pmax
comp=Z,300nm,1.2s,mb6.2
YSS pmax pmax
comp=N,80nm,1.1s
YSS MLR MLR
comp=Z,4μm,15.0s,MS5.7
YSS MLR MLR
comp=N,3μm,14.0s,MS5.8
YSS MLR MLR
comp=E,4μm,15.0s,MS5.8
YSS Yuzh-Sakhalins 59.91 34 eP P **01 23 20.2 0.0**
comp=E,257nm,1.1s,mb6.2
YSS LR LR
comp=Z,3μm,19.0s,MS5.4
KMBO Kilima Mbogo 59.94 268 eP P **01 23 21.3 +0.4**
KMBO pmax pmax
comp=Z,31nm,1.0s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 59.94 268 P P **01 23 21.4 +0.5**
comp=Z,9.8nm,0.9s,mb4.8,baz=55,slow=8.8,SNR=26
KMBO LR LR 01 45 43.0
comp=Z,2μm,20.7s,MS5.3,baz=87,slow=33
KMBO Kilima Mbogo 59.94 268 eP P **01 23 21.2 +0.4**
comp=Z,31nm,1.0s,mb5.3
KMBO LR LR
comp=Z,2μm,20.0s,MS5.3
GNI Garni 60.84 316 P P **01 23 26.5 -0.1**
comp=Z,4.3nm,0.5s,mb4.8,baz=127,slow=5.1,SNR=7.4
ARMA Armidale 60.92 126 eP P **01 23 29.0 +1.7**
DGRG David-gareji 60.97 318 P P **01 23 23.3 -4.1**
TI2 Plekhanov 61.51 318α iP P **01 23 29.6 -1.6**
TI2 i 01 33 20.0
TBLG Delisi 61.52 318 P P **01 23 30.2 -1.0**
DUS Dusheti 61.70 318 P P **01 23 30.9 -1.5**
DUS S tx 01 23 50.8
SVE Sverdlovsk 62.13 338⇑ iP P **01 23 34.2 -0.9**
SVE e pP 01 23 43.5 0.0
SVE e 01 23 50.0
SVE eS S **01 31 54.0 -2.9**
SVE ePS PS 01 32 26.0 +8.7
SVE pmax pmax
comp=Z,180nm,1.5s,mb6.0
SVE MLR MLR
comp=N,900nm,17.0s,MS5.2
SVE MLR MLR
comp=E,1μm,17.0s,MS5.2
SVE MLR MLR
comp=Z,2μm,17.0s,MS5.3
ZEI Tsey 62.53 318 eP P **01 23 36.5 -1.5**
ZEI i 01 25 55.2
ZEI eS S **01 32 00.3 -1.8**
ZEI pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ARU Arti 62.63 337⇑ iP P **01 23 37.0 -1.4**
ARU e 01 24 15.6
ARU i 01 25 52.9
ARU i S S **01 32 01.5 -1.7**
ARU i 01 33 22.1
ARU eSS SS 01 36 04.2 -5.5
ARU pmax pmax
comp=Z,61nm,1.2s,mb5.6
ARU MLR MLR
comp=Z,2μm,22.0s,MS5.1
ARU MLR MLR
comp=N,2μm,21.0s,MS5.3
ARU MLR MLR
comp=E,1μm,20.0s,MS5.3
ARU Arti 62.63 337 eP P **01 23 36.7 -1.7**
comp=E,98nm,1.4s,mb5.7
ARU LR LR
comp=Z,384nm,19.0s,MS4.6
TAU Tasmania Unive 63.30 141 PFAKE 01 23 50.0 +7.0
TAU LR LR
comp=Z,452nm,20.0s,MS4.6
HNR Honiara 63.54 101 LR LR 01 53 13.5
comp=Z,589nm,19.5s,MS4.8,baz=92,slow=38
HNR Honiara 63.54 101 PFAKE 01 24 00.0 +15
HNR LR LR
comp=Z,940nm,21.0s,MS4.9
KIV Kislovodsk 63.83 319c iP P **01 23 45.4 -1.2**
KIV i S S **01 32 20.6 +2.2**
KIV pmax pmax
comp=Z,39nm,1.0s,mb5.4
KIV MLR MLR
comp=Z,900nm,22.0s,MS4.9
KIV Kislovodsk 63.83 319 eP P **01 23 45.3 -1.3**
comp=Z,79nm,1.3s,mb5.6
KIV LR LR
comp=Z,246nm,19.0s,MS4.4
ASF Jabal al Asfar 64.08 305 P P **01 23 48.7 +0.2**
comp=Z,11nm,1.1s,mb4.8,baz=356,slow=1.5,SNR=16
GOF Gofitskoye 64.08 320⇑ iP P **01 23 46.1 -2.1**
GOF eS S **01 32 22.0 +0.5**
GOF e 01 32 46.0
GOF pmax pmax
comp=Z,100nm,1.6s,mb5.6
GOF smax
comp=E,4μm,8.0s
MALT Malatya 64.70 312 eP P **01 23 51.6 -0.7**
MALT pmax pmax
comp=Z,19nm,1.0s,mb5.1
MALT Malatya 64.70 312 eP P **01 23 51.6 -0.7**
comp=Z,19nm,1.0s,mb5.1
YAK Yakutsk 64.89 16 eP P **01 23 52.1 -1.0**
YAK pmax pmax
comp=Z,544nm,1.2s,mb6.5
YAK MLR MLR
comp=Z,8μm,19.0s,MS5.9
YAK Yakutsk 64.89 16 eP P **01 23 52.1 -1.1**
comp=Z,544nm,1.2s,mb6.5
YAK LR LR
comp=Z,8μm,19.0s,MS5.9
EIL Elat 65.10 302 eP P **01 23 54.4 -0.6**
comp=Z,69nm,1.3s,mb5.5
BHL Bhannes 65.55 307 eP P **01 23 58.1 +0.2**
SOC Sochi 65.65 318 i P P **01 23 56.1 -2.2**
SOC e 01 24 29.5
SOC e 01 26 19.4
SOC ePPP PPP 01 27 52.0 -7.7
SOC eS S 01 32 37.5 -3.3
SOC eSS SS 01 36 53.4 -3.2
SOC pmax pmax
comp=Z,40nm,1.1s,mb5.4
SOC pmax pmax
comp=N,32nm,0.9s
SOC pmax pmax
comp=E,13nm,0.9s
SOC MLR MLR
comp=Z,549nm,22.0s,MS4.7
SOC MLR MLR
comp=N,628nm,20.0s,MS4.9
SOC MLR MLR
comp=E,456nm,20.0s,MS4.9
MBAR Mbarara 66.43 269 P P **01 24 02.3 -1.5**
MBAR pmax pmax
comp=Z,91nm,1.6s,mb5.5
MBAR Mbarara 66.43 269 eP P **01 24 02.1 -1.8**
comp=Z,91nm,1.6s,mb5.5
MBAR LR LR
comp=Z,419nm,20.0s,MS4.7
ANN Anapa 67.63 318 eP P **01 24 06.7 -4.2**
ANN eS S 01 32 58.3 -6.4
ANN pmax pmax
comp=Z,62nm,1.8s,mb5.3
CSS Prodhromos 67.67 307 eP P **01 24 10.2 -1.1**
comp=Z,47nm,1.2s,mb5.4
CASY Casey 68.58 174 eP P **01 24 16.8 +0.4**
BR131 Keskin Array S 68.68 312 PFAKE 01 24 30.0 +12
BR131 LR LR
comp=Z,652nm,21.0s,MS4.8
BRTR Keskin Array B 68.68 312 P P **01 24 15.9 -1.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=127,slow=6.2,SNR=30
PECR Pechory 68.88 331α iP P **01 24 17.4 -1.1**
PECR e 01 26 50.0
PECR pmax pmax
comp=Z,1.0nm,1.6s
PECR pmax pmax
comp=Z,500nm,4.0s
PECR MLR MLR
comp=Z,2μm,23.0s,MS5.3
VRSR Storozhevoye 69.05 325c iP P **01 24 17.5 -2.1**
VRSR e*PP pP 01 24 26.1 -1.8
VRSR e 01 24 42.1
VRSR e 01 26 52.2
VRSR eS S 01 33 15.8 -5.7
VRSR e 01 34 13.2
VRSR pmax pmax
comp=Z,30nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,5.0nm,0.4s
VRSR pmax pmax
comp=E,30nm,1.4s
VRSR smax
comp=N,260nm,4.2s
VRSR smax
comp=Z,30nm,3.6s
VRSR smax
comp=E,150nm,3.8s
VOR Voronezh 69.26 326 eP P **01 24 19.5 -1.4**
VOR e*SP sP 01 24 31.0 -1.2
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.5
SKR Severo-Kuril's 69.43 36 eP P **01 24 16.0 -5.9**
SKR e 01 24 30.0
SKR ePPP PPP 01 28 40.0 +3.6
SKR eS S 01 33 31.0 +5.0
SKR ePS PS 01 34 05.0 +9.5
SKR e 01 34 16.0
SKR pmax pmax
comp=Z,2μm,4.0s
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,4μm,10.0s
SKR MLR MLR
comp=N,3μm,16.0s,MS5.8
SKR MLR MLR
comp=E,3μm,16.0s,MS5.8
SKR MLR MLR
comp=Z,3μm,16.0s,MS5.6
SIM Simferopol' 69.90 318c iP P **01 24 24.1 -0.8**
SIM eS S 01 33 29.0 -2.6
SIM ePS PS 01 34 18.0 +16
SIM pmax pmax
comp=Z,220nm,15.3s
SIM pmax pmax
comp=Z,32nm,0.9s,mb5.2
LSZ Lusaka 70.21 253 PFAKE 01 24 40.0 +13
LSZ LR LR
comp=Z,3μm,20.0s,MS5.6
KWAJ Kwajalein Atol 70.44 81 PFAKE 01 24 40.0 +11
KWAJ LR LR
comp=Z,190nm,19.0s,MS4.4
MA2 Magadan 70.85 26ceP P **01 24 30.1 -0.3**
MA2 eS S 01 33 42.2 -0.3
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.3
MA2 pmax pmax
comp=N,10.0nm,0.9s
MA2 pmax pmax
comp=E,10.0nm,1.2s
MA2 MLR MLR
comp=Z,9μm,22.0s,MS6.0
MA2 Magadan 70.85 26 eP P **01 24 29.9 -0.5**
comp=Z,50nm,0.8s,mb5.5
MA2 LR LR
comp=Z,491nm,19.0s,MS4.8
DZM Mont Dzumac 71.57 114 LR LR 01 55 34.6
comp=Z,1μm,20.6s,MS5.1,baz=230,slow=36
PET Petropavlovsk 71.80 34c iP P **01 24 35.9 -0.3**
PET eS S 01 33 53.9 +0.4
PET eSS SS 01 38 32.4 +0.9
PET pmax pmax
comp=Z,84nm,0.5s,mb5.9
PET pmax pmax
comp=Z,600nm,17.2s
PET smax
comp=N,700nm,24.2s
PET MLR MLR
comp=Z,2μm,19.0s,MS5.3
PET Petropavlovsk 71.80 34 eP P **01 24 35.8 -0.5**
comp=Z,62nm,0.6s,mb5.7
PET LR LR
comp=Z,2μm,21.0s,MS5.3
MOS Moscow 71.81 329α iP P **01 24 35.7 -0.6**
MOS i pP 01 24 43.2 -1.4
MOS e 01 27 15.9
MOS ePPP PPP 01 28 57.8 -1.5
MOS i S S 01 33 50.0 -3.6
MOS pmax pmax
comp=Z,300nm,2.0s,mb5.9
MOS pmax pmax
comp=Z,124nm,1.2s,mb5.7
MOS smax
comp=N,1μm,3.8s
MOS MLR MLR
comp=Z,2μm,23.0s,MS5.3
MOS MLR MLR
comp=N,2μm,21.9s
OBN Obninsk 72.10 328 P P **01 24 37.6 -0.4**
comp=N,305nm,1.2s,mb6.1,SNR=13
OBN Obninsk 72.10 328⇑ iP P **01 24 36.3 -1.7**
OBN i pP 01 24 44.3 -2.1
OBN i S S 01 33 59.5 +2.6
OBN eSS SS 01 38 40.9 +4.7
OBN pmax pmax
comp=Z,88nm,1.2s,mb5.6
OBN MLR MLR
comp=Z,2μm,22.0s,MS5.2
OBN Obninsk 72.10 328 eP P **01 24 36.9 -1.1**
comp=Z,114nm,1.3s,mb5.6
OBN LR LR
comp=Z,364nm,21.0s,MS4.6
MAW Mawson 73.25 193 LR LR 01 50 32.6
comp=Z,2μm,21.4s,MS5.3,baz=33,slow=31
SEY Seymchan 73.26 23 i P P **01 24 44.5 -0.2**
SEY ePPP PPP 01 29 19.7 +6.2
SEY eS S 01 34 09.8 -0.2
SEY eSS SS 01 38 46.6 -7.8
SEY pmax pmax
comp=Z,200nm,1.2s,mb5.9
SEY pmax pmax
comp=N,10.0nm,0.5s
SEY pmax pmax
comp=E,100nm,1.4s
SEY smax
comp=N,3μm,22.5s
SEY smax
comp=E,2μm,22.5s
SEY MLR MLR
comp=Z,13μm,20.0s,MS6.2
SEY MLR MLR
comp=N,11μm,23.0s,MS6.2
SEY MLR MLR
comp=E,8μm,21.0s,MS6.2
SMG Samos 73.38 309 ePN P **01 24 44.8 -1.1**
TLCR 73.57 317⇑ P P **01 24 45.4 -1.4**
TIRR Tirgusor 73.67 316 P P **01 24 47.6 +0.2**
TIRR Tirgusor 73.67 316⇓ P P **01 24 45.4 -2.0**
TIRR Tirgusor 73.67 316⇓ P P **01 24 45.4 -2.0**
XRY Khrisi 73.80 306 ePG P **01 24 47.4 -1.0**
NPS Neapolis 73.92 306 ePG P **01 24 48.8 -0.3**
KIS Kishinev 74.03 319 eP P **01 24 47.0 -2.4**
KIS e 01 25 03.0
KIS e 01 27 40.0
KIS e 01 29 25.0
KIS i S S 01 34 14.0 -4.9
KIS MLR MLR
comp=Z,1μm,20.0s,MS5.1
KIS MLR MLR
comp=Z,900nm,20.0s
CFR Carcaliu 74.03 317⇓ P P **01 24 48.9 -0.6**
HARR Harsova 74.06 316⇑ P P **01 24 49.9 +0.2**
HARR Harsova 74.06 316⇑ P P **01 24 49.8 +0.1**
LBTB Lobatse 74.08 243 P P **01 24 49.1 -1.1**
LBTB MLR MLR
comp=Z,3μm,20.0s,MS5.5
LBTB Lobatse 74.08 243 P P **01 24 49.1 -1.1**
comp=Z,10nm,1.0s,mb4.7,baz=108,slow=5.0,SNR=9.6
IDI Anoyia 74.51 306 P P **01 24 52.1 -0.4**
comp=Z,14nm,0.7s,mb5.0,baz=109,slow=8.1,SNR=19
JMB Yambol 74.52 314 eP P **01 24 59.5 +7.1**
DRV Dumont d'Urvil 74.72 164 S S 01 34 29.0 +2.8
DRV SS SS 01 39 08.0 -8.1
AKASG Malin Array Be 74.77 322 P P **01 24 52.2 -1.4**
comp=Z,8.6nm,0.5s,mb4.9,baz=87,slow=5.0,SNR=52
BOSA Boshof 75.01 240 P P **01 24 55.7 +0.2**
comp=Z,12nm,1.0s,mb4.7,baz=88,slow=6.0,SNR=12
BOSA LR LR 01 56 36.2
comp=Z,3μm,18.0s,MS5.6,baz=59,slow=35
VAM Vamos 75.09 306 ePN P **01 24 55.6 -0.2**
VRI Vrincioaia 75.16 317⇑ P P **01 24 56.0 0.0**
DIM Dimitrovgrad 75.20 313 eP P **01 24 57.0 +0.7**
KDZ Kurdzhali 75.21 313 eP P **01 24 56.0 -0.4**
BUC Bucharest 75.27 316⇓ P P **01 24 57.5 +0.8**
BUC1 Bucharest 75.31 315⇓ P P **01 24 57.5 +0.6**
MLR Muntele Rosu 75.61 317 P P **01 24 58.6 0.0**
MLR Muntele Rosu 75.61 317⇑ P P **01 24 58.1 -0.5**
RZN Rozhen 75.73 313 eP P **01 24 58.0 -1.3**
SNX Sinaia 75.88 316 P P **01 25 00.4 +0.3**
MMB Musomiste 76.44 312 eP P **01 25 02.0 -1.4**
BURAR Bucovina Array 76.55 319 P P **01 25 04.5 +0.7**
BURAR Bucovina Array 76.55 319⇑ P P **01 25 04.3 +0.4**
MNK Minsk 76.64 326⇓ eP P **01 25 02.0 -2.2**
KKB Krupnik 76.96 313 eP P **01 25 05.0 -1.3**
VTS Vitosha 76.99 313 P P **01 25 05.8 -0.6**
VTS Vitosha 76.99 313 i P P **01 25 06.0 -0.4**
RLS Riolos of Patr 77.63 308 ePG P **01 25 09.2 -0.8**
LVV L'vov 77.78 321c iP P **01 25 10.2 -0.4**
LVV eS S 01 34 50.6 -9.4
BOLS Boljevac 78.09 314⇓ iP P **01 25 11.2 -1.2**
SKO Skopje 78.19 312 eP P **01 25 11.0 -2.0**
LVZ Lovozero 78.28 340 eP P **01 25 12.7 -0.2**
LVZ eS S 01 35 05.3 +0.4
LVZ pmax pmax
comp=Z,91nm,1.8s,mb5.4
LVZ pmax pmax
comp=N,33nm,2.2s
LVZ pmax pmax
comp=E,33nm,2.8s
LVZ smax
comp=N,373nm,3.2s
LVZ smax
comp=E,543nm,4.7s
LVZ MLR MLR
comp=Z,2μm,22.0s,MS5.5
LVZ MLR MLR
comp=N,2μm,25.0s,MS5.4
LVZ MLR MLR
comp=E,1μm,28.0s,MS5.4
APA Apatity 78.57 339⇓ eP P **01 25 13.7 -0.9**
APA i 01 25 28.5
APA e 01 28 18.0
APA eS S 01 35 06.0 -2.1
APA e 01 35 24.0
APA ePS PS 01 35 42.0 -12
APA eSS SS 01 40 19.0 +4.1
APA pmax pmax
comp=Z,52nm,1.3s,mb5.3
KWP Kalwaria 78.59 320 eP P **01 25 15.2 +0.2**
KWP MLR MLR 02 05 01.5
comp=Z,800nm,24.1s,MS5.0
BZS Buzias 78.62 316 P P **01 25 15.2 -0.1**
BZS Buzias 78.62 316⇑ P P **01 25 14.8 -0.5**
BZS Buzias 78.62 316⇑ P P **01 25 14.8 -0.5**
UZH Uzhgorod 78.67 319 eP P **01 25 16.0 +0.5**
UZH eS S 01 35 10.0 +0.4
KOLS Kolonicke sedl 78.74 320 i P P **01 25 16.5 +0.6**
KOLS epP pP 01 25 25.7 +1.4
KOLS e 01 25 39.9
KEK Kerkira 79.13 310 ePG P **01 25 16.5 -1.7**
SUW Suwalki 79.17 325⇑ eP P **01 25 17.2 -0.9**
SUW MLR MLR 02 06 28.7
comp=Z,1μm,22.6s,MS5.1
CRVS Cervenica-Dubn 79.26 319 eP P **01 25 21.2 +2.5**
SUR Sutherland 79.42 237 PFAKE 01 25 30.0 +10
SUR LR LR
comp=Z,815nm,20.0s,MS5.1
FINES FINESS Array B 79.46 332 P P **01 25 19.2 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=96,slow=5.8,SNR=57
FINES LR LR 02 04 00.2
comp=Z,914nm,21.6s,MS5.1,baz=295,slow=38
FINES FINESS Array B 79.46 332 P P **01 25 19.2 -0.4**
FINES LR LR 02 04 00.2
DIVS Divcibare 79.54 314⇓ iP P **01 25 19.5 -0.8**
KAF Kangasniemi 79.55 333 ep P **01 25 19.5 -0.5**
comp=Z,14nm,0.6s,mb5.0,baz=102,slow=5.1
KAF Kangasniemi 79.55 333 eP P **01 25 19.5 -0.5**
KAF pmax pmax
comp=Z,14nm,0.6s,mb5.1
RPZ Rata Peaks 79.65 135 LR LR 01 57 32.6
comp=Z,1μm,21.2s,MS5.2,baz=294,slow=33
KECS Kecovo 79.83 319 eP P **01 25 21.5 -0.3**
BBLS Bajina Basta - 79.93 314⇓ iP P **01 25 22.4 0.0**
NIE Niedzica 80.09 320 eP P **01 25 22.2 -1.0**
PSZ Piszkesteto 80.14 318 P P **01 25 23.7 +0.2**
PSZ Piszkesteto 80.14 318⇑ eP P **01 25 23.5 0.0**
FX1 Attu Island--F 80.17 37 eP P **01 25 23.1 -0.4**
SYO Syowa Base 80.52 198⇑ P P **01 25 26.2 +1.1**
OJC Ojcow 80.54 321 eP P **01 25 25.2 -0.3**
OJC epPcP PcP 01 25 33.2 +0.4
OJC eS S 01 35 26.8 -2.4
OJC MLR MLR 02 09 18.2
comp=Z,1μm,20.1s,MS5.2
BILL Bilibino 80.66 21⇑ iP P **01 25 25.4 -0.4**
TSUM Tsumeb 80.72 250 eP P **01 25 28.6 +1.5**
comp=Z,26nm,1.0s,mb5.1
TSUM LR LR
comp=Z,1μm,22.0s,MS5.2
PKSM Moragy 80.76 316⇑ eP P **01 25 26.5 -0.3**
VYHS Vyhne 80.92 319 eP P **01 25 27.7 +0.1**
VYHS epP pP 01 25 36.4 +0.3
VYHS eS S 01 35 28.2 -4.9
STON Ston 81.05 313 i P P **01 25 27.1 -1.3**
RHK1 Bakonya 81.14 316 eP P **01 25 28.8 0.0**
SRO Srobarova 81.18 318 eP P **01 25 30.2 +1.2**
TIP Timpagrande 81.42 309 eP P **01 25 30.6 +0.2**
KEV Kevo 81.54 341 ep P **01 25 30.9 +0.5**
comp=Z,6.7nm,0.7s,mb4.7
KEV Kevo 81.54 341 eP P **01 25 30.9 +0.5**
KEV pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
OKC Ostrava-Krasne 81.54 320 eP P **01 25 30.8 0.0**
OKC epP pP 01 25 39.5 +0.2
OKC eS S 01 35 37.7 -1.8
OKC AMS AMS 02 10 00.0
comp=Z,800nm,18.7s
RAC Raciborz 81.55 320 eP P **01 25 31.7 +0.9**
RAC MLR MLR 02 12 45.5
comp=Z,1μm,19.2s,MS5.2
GRI Girifalco 81.65 309 eP P **01 25 32.3 +0.7**
ORI Oriolo Calabro 81.73 310 eP P **01 25 33.7 +1.7**
SNZO South Karori 81.84 132 PFAKE 01 25 40.0 +7.5
SNZO LR LR
comp=Z,4μm,22.0s,MS5.7
SMOL Smolenice 81.85 319 eP P **01 25 32.6 +0.2**
SMOL epP pP 01 25 41.6 +0.7
SOI Samo 81.88 308 eP P **01 25 33.8 +1.0**
MORC Moravsky Berou 81.93 320 P P **01 25 33.1 +0.3**
MORC Moravsky Berou 81.93 320 eP P **01 25 32.8 +0.1**

comp=Z,21nm,1.0s,mb5.0
MORC e pP 01 25 40.9 -0.4
ARCES ARCESS Array B 81.98 340 P **P 01 25 33.1 +0.4**
comp=Z,15nm,0.5s,mb5.2,baz=96,slow=4.7,SNR=102
ARCES LR LR 02 06 17.2
comp=Z,2μm,21.3s,MS5.4,baz=202,slow=39
ARE0 ARCESS Array S 81.98 340 *eP* **P 01 25 32.7 0.0**
ZST Bratislava 82.03 318 *eP* **P 01 25 33.7 +0.3**
ZST e pP 01 25 42.6 +0.7
ZST eS S 01 35 45.1 +0.5
MTTG Motta San Giov 82.16 308 *eP* **P 01 25 36.1 +1.9**
FGMS Monte Sant'Ang 82.23 312 *eP* **P 01 25 35.2 +0.7**
SLCN Sala Consilina 82.38 310 *eP* **P 01 25 36.3 +0.9**
MGR Morigerati 82.42 310 *eP* **P 01 25 35.0 -0.5**
KOGS Kog 82.43 316 *eP* **P 01 25 35.6 +0.2**
KOGS e pP 01 25 43.4 -0.6
MRLC Muro Lucano 82.51 311 *eP* **P 01 25 37.4 +1.4**
GKP Gorka Klasztor 82.54 323 *eP* **P 01 25 36.2 +0.3**
GKP MLR MLR 02 04 59.5
comp=Z,900nm,24.2s,MS5.0
KTK1 Kautokeino 82.61 340 *eP* **P 01 25 37.1 +1.1**
KTK1 eSP sP 01 25 48.4 +1.1
SGO Sicignano 82.64 310⇑ *iP* **P 01 25 36.8 +0.1**
DPC Dobruska-Polom 82.77 320 *eP* **P 01 25 37.9 +0.7**
DPC epP pP 01 25 46.4 +0.7
DPC eS S 01 35 51.8 -0.3
DPC AMS AMS 02 13 40.0
comp=Z,900nm,17.0s
KSP Ksiaz 82.84 321⇑ *eP* **P 01 25 38.0 +0.5**
KSP e*PP pP 01 25 45.8 -0.2
KSP eS S 01 35 52.0 -0.8
KSP MLR MLR
comp=Z,2μm,20.9s,MS5.5
KSP Ksiaz 82.84 321⇑ *eP* **P 01 25 38.1 +0.6**
KSP MLR MLR 02 09 43.3
comp=Z,2μm,20.9s,MS5.5
CSSN Cassano Irpino 82.87 311 *eP* **P 01 25 37.9 0.0**
UPC Upice 82.98 321 *eP* **P 01 25 38.7 +0.4**
UPC epP pP 01 25 45.7 -1.1
ARSA Arzberg 83.00 317⇑ *iP* **P 01 25 38.8 +0.4**
comp=Z,33nm,1.0s,mb5.3
VISS Visnje 83.36 316 *eP* **P 01 25 40.4 +0.1**
VISS e pP 01 25 48.2 -0.6
CII Carovilli 83.47 312 *eP* **P 01 25 41.5 +0.6**
LJU Ljubljana 83.59 316 *i P* **P 01 25 41.9 +0.4**
LJU e pP 01 25 49.8 -0.3
LJU S S 01 35 37.8 -23
LJU *i* 01 36 00.8
OBKA Obir 83.61 316⇑ *iP* **P 01 25 42.0 +0.4**
comp=Z,28nm,1.4s,mb5.2
SDI San Donato 83.84 312⇑ *iP* **P 01 25 42.3 -0.6**
PRU Pruhonice 83.88 320 *eP* **P 01 25 42.7 -0.1**
PRU epP pP 01 25 51.6 +0.2
PRU eS S 01 36 01.8 -1.4
PRU AMS AMS 02 10 10.0
comp=Z,800nm,18.0s
MOA Molln 83.90 318⇑ *iP* **P 01 25 43.0 0.0**
comp=Z,31nm,1.4s,mb5.2
PVCC Panska Ves 83.90 320 *eP* **P 01 25 43.4 +0.4**
PVCC AMS AMS 02 10 10.0
comp=Z,1μm,18.9s
VOY Vojsko 84.03 316 *eP* **P 01 25 43.6 -0.1**
VOY e pP 01 25 51.0 -1.3
VOY *e* 01 26 06.2
TRI Trieste 84.10 316 *eP* **P 01 25 44.3 +0.2**
PTQR Pietraquaria 84.16 312 *eP* **P 01 25 44.5 +0.1**
AQU L'Aquila 84.17 312⇑ *iP* **P 01 25 45.1 +0.6**
TRO Tromso 84.24 340 *eP* **P 01 25 43.4 -0.9**
comp=Z,84nm,1.5s,mb5.7
TRO Tromso 84.24 340 *eP* **P 01 25 43.4 -0.9**
TRO AMb AMB 01 25 45.4
comp=Z,84nm,1.5s,mb5.6
ROBS Robic 84.31 316 *eP* **P 01 25 44.8 -0.4**
ROBS e pP 01 25 52.6 -1.1
BRG Berggiesshubel 84.33 321 *i P* **P 01 25 45.4 +0.3**
BRG *i* pP 01 25 54.6 +1.0
BRG *e* 01 29 03.0
BRG *i* S S 01 36 07.0 -0.6
BRG *i* SS SS 01 41 41.0 +0.4
BRG pmax pmax
comp=Z,41nm,1.5s,mb5.3
BRG MLR MLR
comp=Z,1μm,21.6s,MS5.2
BRG Berggiesshubel 84.33 321 *i P* **P 01 25 45.4 +0.3**
comp=Z,41nm,1.5s,mb5.3
BRG *i* pP 01 25 54.6 +1.0
BRG *e* 01 29 03.0
BRG *i* S S 01 36 07.0 -0.6
BRG *i* SS SS 01 41 41.0 +0.4
BRG LR LR
comp=Z,1μm,21.6s,MS5.2
GEC2 GERESS Array S 84.34 319 *eP* **P 01 25 45.8 +0.6**
GEC2 pmax pmax
comp=Z,61nm,1.3s,mb5.6
GEC2 GERESS Array S 84.34 319 *eP* **P 01 25 45.8 +0.6**
comp=Z,61nm,1.3s,mb5.6
GERES GERESS Array B 84.34 319 P **P 01 25 45.5 +0.3**
comp=Z,16nm,0.9s,mb5.1,baz=108,slow=4.2,SNR=94
NRCA Norcia 84.41 313 *eP* **P 01 25 45.6 -0.1**
PTCC Patocco-Chiusa 84.43 316⇑ *iP* **P 01 25 45.7 0.0**
KHC Kasperske Hory 84.44 319 *eP* **P 01 25 45.7 0.0**
KHC epP pP 01 25 58.2 +3.9
KHC eS S 01 36 09.4 +0.6
KHC AMS AMS 02 14 30.0
comp=Z,700nm,17.0s
KBA Koelnbreinsper 84.47 317⇑ *iP* **P 01 25 45.6 -0.3**
comp=Z,19nm,1.2s,mb5.1
KBA Koelnbreinsper 84.47 317⇑ *iP* **P 01 25 45.6 -0.3**
KBA pmax pmax
comp=Z,19nm,1.2s,mb5.1
GMNA Gemona 84.50 316⇑ *iP* **P 01 25 46.2 +0.1**
RUE Ruedersdorf 84.55 322 *eP* **P 01 25 46.0 -0.2**
comp=Z,114nm,1.5s,mb5.8
SNTG Esanatoglia 84.56 313 *eP* **P 01 25 46.6 +0.2**
ARV Arcevia 84.57 313⇑ *iP* **P 01 25 47.1 +0.6**
FSSB Fossombrone 84.70 314⇑ *iP* **P 01 25 47.7 +0.6**
MNS Montasola 84.71 312⇑ *iP* **P 01 25 46.5 -0.7**
FVI Forni Avoltri 84.83 316 *eP* **P 01 25 47.7 0.0**
WET Wettzell 84.90 319 *eP* **P 01 25 48.4 +0.4**
WET pmax pmax
comp=Z,34nm,1.2s,mb5.3
WET Wettzell 84.90 319 *eP* **P 01 25 48.4 +0.4**
comp=Z,34nm,1.2s,mb5.3
RSM Republblica di 84.94 314⇑ *iP* **P 01 25 49.5 +1.2**
CLL Collm 84.95 321⇑ *iP* **P 01 25 48.0 -0.2**
CLL *i* pP 01 25 56.2 -0.5
CLL eS S 01 36 12.0 -1.7
CLL pmax pmax
comp=Z,16nm,1.3s,mb5.0
CLL Collm 84.95 321⇑ *iP* **P 01 25 48.0 -0.2**
comp=Z,16nm,1.3s,mb5.0
CLL *i* pP 01 25 56.2 -0.5
CLL eS S 01 36 12.0 -1.7
CLL Collm 84.95 321 ⇑P **P 01 25 48.0 -0.2**
comp=Z,logA/T=1.1,mb5.0
CLL *i* *PP pP 01 25 56.2 -0.5
CLL *i* 01 26 40.9
CLL *i* 01 26 55.0
CLL eS S 01 36 12.0 -1.7
CLL ePS PS 01 37 07.0 -6.3
CLL *e* 01 38 37.0
CLL eSSS SSS 01 45 22.0 +4.2
NKC Novy Kostel 85.24 320 *eP* **P 01 25 50.2 +0.6**
NKC epP pP 01 25 58.7 +0.5
NKC Novy Kostel 85.24 320 *eP* **P 01 25 50.2 +0.6**
NKC epP pP 01 25 58.7 +0.5
NKC AMS AMS 02 11 10.0
comp=Z,1μm,20.0s
SFI Santa Sofia 85.38 314⇑ *iP* **P 01 25 51.7 +1.2**
MOR8 Moi Rana 85.43 336 *eP* **P 01 25 50.3 0.0**
comp=Z,49nm,1.4s,mb5.4
MOR8 Moi Rana 85.43 336 *eP* **P 01 25 50.3 0.0**
MOR8 AMb AMB 01 25 52.3
comp=Z,49nm,1.4s,mb5.4
PGD Poggio Sodo 85.47 314 *eP* **P 01 25 51.8 +0.8**
CTI Castel Tesino 85.59 316⇑ *iP* **P 01 25 52.1 +0.6**
VMG Vicchio 85.60 314 *eP* **P 01 25 54.0 +2.4**
WTTA Wattenberg 85.64 317⇑ *iP* **P 01 25 51.5 -0.3**
comp=Z,39nm,1.2s,mb5.5
WTTA Wattenberg 85.64 317⇑ *iP* **P 01 25 51.5 -0.3**
WTTA pmax pmax
comp=Z,39nm,1.2s,mb5.5
WATA Walderalm 85.69 317⇓ *iP* **P 01 25 51.5 -0.5**
comp=Z,15nm,1.1s,mb5.1
WATA Walderalm 85.69 317⇓ *iP* **P 01 25 51.5 -0.5**
WATA pmax pmax
comp=Z,15nm,1.1s,mb5.1
SEI Scarperia 85.74 314 *eP* **P 01 25 55.9 +3.6**
MOX Moxa 85.79 320 *eP* **P 01 25 52.5 +0.1**
MOX *eS* S 01 36 24.0 +2.1
MOX pmax pmax
comp=Z,29nm,1.5s,mb5.3
MOX MLR MLR
comp=Z,500nm,19.0s,MS4.9
MOX Moxa 85.79 320 *eP* **P 01 25 52.5 +0.1**
comp=Z,29nm,1.5s,mb5.3
MOX *eS* S 01 36 24.0 +2.1
MOX LR LR
comp=Z,500nm,19.0s,MS4.9
MOX Moxa 85.79 320 *i P* **P 01 25 52.5 +0.1**
comp=Z,logA/T=1.3,mb5.3
MOX S S 01 36 24.0 +2.1
MOX L 02 15 47.0
FUR Furstenfeldbru 85.92 318 *eP* **P 01 25 53.0 -0.1**
SQTA Sankt Quirin 85.94 317⇑ *iP* **P 01 25 53.0 -0.2**
comp=Z,11nm,1.0s,mb5.0
SQTA Sankt Quirin 85.94 317⇑ *iP* **P 01 25 53.0 -0.2**
SQTA pmax pmax
comp=Z,11nm,1.0s,mb5.0
LOF Lofoten 85.97 338 *eP* **P 01 25 55.3 +2.4**
comp=Z,47nm,1.6s,mb5.5
LOF Lofoten 85.97 338 *eP* **P 01 25 55.3 +2.4**
LOF AMb AMB 01 25 57.3
comp=Z,47nm,1.6s,mb5.5
GRFL Gerfalco 85.99 313 *eP* **P 01 25 53.0 -0.6**
GRA1 Grafenberg Arr 86.01 320 *eP* **P 01 25 54.3 +0.8**
comp=Z,52nm,1.3s,mb5.6
GRA1 epP pP 01 26 02.9 +0.8
GRA1 eS S 01 36 29.1 +5.1
GRA1 eSS SS 01 42 10.3 +4.5
GRA1 LR LR
comp=Z,1μm,20.1s,MS5.3
GRF Grafenberg Arr 86.01 320 *eP* **P 01 25 54.3 +0.8**
GRF e*PP pP 01 26 02.9 +0.8
GRF eS S 01 36 29.1 +5.1
GRF eSS SS 01 42 10.3 +4.5
GRF pmax pmax
comp=Z,52nm,1.3s,mb5.6
GRF MLR MLR
comp=Z,1μm,20.1s,MS5.3
GRF Grafenberg Arr 86.01 320 *eP* **P 01 25 54.3 +0.8**
comp=Z,52nm,1.3s,mb5.6
GRF epP pP 01 26 02.9 +0.8
GRF eS S 01 36 29.1 +5.1
GRF eSS SS 01 42 10.3 +4.5
GRF LR LR
comp=Z,1μm,20.1s,MS5.3
MOTA Moosalm 86.01 317⇓ *iP* **P 01 25 53.2 -0.4**
ZCCA Zocca 86.02 314 *eP* **P 01 25 57.7 +4.0**
GSCL Gusciola 86.30 314 *eP* **P 01 25 56.7 +1.7**
NSS Namsos 86.32 334 *eP* **P 01 25 53.8 -0.9**
comp=Z,38nm,0.9s,mb5.6
NSS Namsos 86.32 334 *eP* **P 01 25 53.8 -0.9**
NSS AMb AMB 01 25 56.3
comp=Z,38nm,0.9s,mb5.6
SAL Salo 86.37 315 *eP* **P 01 25 56.7 +1.3**
VNDA Vanda 86.39 169 P **P 01 25 55.8 +1.0**
comp=Z,2.3nm,1.1s,baz=280,slow=4.3,SNR=6.6
VNDA LR LR 02 02 07.0
comp=Z,2μm,18.7s,MS5.5,baz=308,slow=34
RAO Raoul Island 86.45 119 PFAKE
RAO LR LR 01 26 10.0 +14
comp=Z,2μm,20.0s,MS5.5
NB2 NORSAR Subarra 86.48 331 P **P 01 25 55.1 -0.4**
comp=Z,50nm,1.4s,mb5.6,baz=94,slow=4.8
NB2 NORSAR Subarra 86.48 331 P **P 01 25 55.1 -0.4**
NB2 pmax pmax
comp=Z,50nm,1.4s,mb5.5
NB2 NORSAR Subarra 86.48 331 P **P 01 25 55.1 -0.4**
baz=94,slow=4.8
NOA NORSAR Array B 86.48 331 P **P 01 25 55.4 -0.2**
comp=Z,8.0nm,0.8s,mb5.0,baz=94,slow=4.9,SNR=34
NOA LR LR 02 12 00.7
comp=Z,809nm,20.3s,MS5.1,baz=45,slow=41
BRMO Bormio 86.49 316⇑ *iP* **P 01 25 56.6 +0.6**
CLZ Clausthal 86.61 322 *eP* **P 01 25 57.0 +0.6**
comp=Z,29nm,1.2s,mb5.4
NAO01 NORSAR Array S 86.63 331 *eP* **P 01 25 56.2 -0.1**
comp=Z,12nm,0.8s,mb5.2
NAO01 LR LR
comp=Z,1μm,19.0s,MS5.3
DAVA Damuels 86.84 317⇑ *iP* **P 01 25 58.0 +0.3**
comp=Z,30nm,1.1s,mb5.4
VSL Villasalto 87.15 309 *eP* **P 01 26 00.0 +0.7**
comp=Z,33nm,1.3s,mb5.4
KONO Kongsberg 87.23 329 *eP* **P 01 25 59.4 +0.2**
KONO pmax pmax
comp=Z,41nm,1.3s,mb5.5
KONO MLR MLR
comp=Z,816nm,19.0s,MS5.2
KONO Kongsberg 87.23 329 *eP* **P 01 25 59.4 +0.2**
comp=Z,41nm,1.3s,mb5.5
KONO LR LR
comp=Z,816nm,19.0s,MS5.2
MUD Monsted U'grnd 87.40 326 *eP* **P 01 26 02.1 +2.0**
MUD *i* pP 01 26 10.7 +2.0
MUD pmax pmax
comp=Z,27nm,1.0s,mb5.4
MUD Monsted U'grnd 87.40 326 *eP* **P 01 26 02.1 +2.0**
comp=Z,27nm,1.0s,mb5.4
MUD *i* pP 01 26 10.7 +2.0
MUD Monsted U'grnd 87.40 326 *i P* **P 01 26 02.1 +2.0**
comp=Z,27nm,1.0s,mb5.4
MUD *i* pP 01 26 10.7 +2.0
PGF Pioggiola 87.44 312 *eP* **P 01 26 00.0 -0.6**
comp=Z,80nm,1.4s,mb5.4
PGF Pioggiola 87.44 312 *eP* **P 01 26 00.0 -0.6**
PGF pmax pmax
comp=Z,40nm,1.4s,mb5.5
SBA Scott Base 87.50 169 *eP* **P 01 26 01.6 +1.4**
SBA pmax pmax
comp=Z,107nm,1.9s,mb5.8
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.4
SBA Scott Base 87.50 169 *eP* **P 01 26 01.6 +1.4**
comp=Z,107nm,1.9s,mb5.8
SBA LR LR
comp=Z,2μm,20.0s,MS5.4
TNS Taunus Mts 87.81 320 *eP* **P 01 26 02.9 +0.7**
BFO Black Forest 87.89 318 *eP* **P 01 26 02.6 -0.1**
BFO pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
BFO Black Forest 87.89 318 *eP* **P 01 26 02.6 -0.1**
comp=Z,10.0nm,0.8s,mb5.1
FIN Finale Ligure 88.00 314 *eP* **P 01 26 03.6 +0.3**
MOL Molde 88.25 332 *e* **P 01 26 10.9 +6.8**
MOL AMb AMB 01 26 20.9
comp=Z,51nm,1.1s,mb5.7
SBF Sospel 88.57 314 *eP* **P 01 26 05.2 -0.8**
comp=Z,121nm,1.2s,mb5.8
SBF Sospel 88.57 314 *eP* **P 01 26 05.2 -0.8**
SBF pmax pmax
comp=Z,61nm,1.2s,mb5.8
CDF Champ du Feu 88.59 318 *eP* **P 01 26 05.0 -1.0**
comp=Z,39nm,1.4s,mb5.2
CDF Champ du Feu 88.59 318 *eP* **P 01 26 05.0 -1.0**
CDF pmax pmax
comp=Z,19nm,1.4s,mb5.2
HINF Hinteralfeld 88.89 318 *eP* **P 01 26 06.3 -1.2**
LPG La Plagne 89.02 315 *eP* **P 01 26 07.7 -0.4**
comp=Z,58nm,1.3s,mb5.4
LPG La Plagne 89.02 315 *eP* **P 01 26 07.7 -0.4**
LPG pmax pmax
comp=Z,29nm,1.3s,mb5.5
MBDF Montbardon 89.02 315 *eP* **P 01 26 06.8 -1.4**
comp=Z,6.8nm,0.8s,mb4.7
MBDF Montbardon 89.02 315 *eP* **P 01 26 06.8 -1.4**
MBDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LPL La Plagne 89.03 315 *eP* **P 01 26 07.7 -0.5**
comp=Z,104nm,1.3s,mb5.7
LPL La Plagne 89.03 315 *eP* **P 01 26 07.7 -0.5**
LPL pmax pmax
comp=Z,52nm,1.3s,mb5.7
BNI Bardonecchia 89.08 315 *eP* **P 01 26 05.9 -2.6**
BNI pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
BNI Bardonecchia 89.08 315 *eP* **P 01 26 05.9 -2.6**
comp=Z,9.6nm,0.9s,mb5.1
FRF La Foret Royal 89.15 313 *eP* **P 01 26 08.1 -0.7**
comp=Z,91nm,1.4s,mb5.6
FRF La Foret Royal 89.15 313 *eP* **P 01 26 08.1 -0.7**
FRF pmax pmax
comp=Z,46nm,1.4s,mb5.6
HAU Haudompre 89.22 318 *eP* **P 01 26 08.0 -1.1**
comp=Z,59nm,1.3s,mb5.5
HAU *eR*
comp=Z,936nm,22.0s
HAU Haudompre 89.22 318 *eP* **P 01 26 08.0 -1.1**
HAU pmax pmax
comp=Z,30nm,1.3s,mb5.5
HAU MLR MLR
comp=Z,940nm,22.0s,MS5.2
LMR La Mourre 89.25 313 *eP* **P 01 26 08.4 -0.9**
comp=Z,78nm,1.4s,mb5.5
LMR La Mourre 89.25 313 *eP* **P 01 26 08.4 -0.9**
LMR pmax pmax
comp=Z,39nm,1.4s,mb5.5
WLF Walferdange 89.30 319 *eP* **P 01 26 09.5 +0.1**
WLF *e* pP 01 26 18.1 +0.2
WLF pmax pmax
comp=Z,20nm,1.1s,mb5.4
WLF Walferdange 89.30 319 *eP* **P 01 26 09.5 +0.1**
comp=Z,20nm,1.1s,mb5.3
WLF *e* pP 01 26 18.1 +0.2
CABF La Chapelle 89.45 316 *eP* **P 01 26 09.6 -0.5**
comp=Z,61nm,1.4s,mb5.5
CABF La Chapelle 89.45 316 *eP* **P 01 26 09.6 -0.5**
CABF pmax pmax
comp=Z,31nm,1.4s,mb5.5
ORIF Oris-en-Rattie 89.65 315 *eP* **P 01 26 10.7 -0.4**
comp=Z,58nm,1.3s,mb5.5
ORIF *eR*
comp=Z,980nm,21.8s
MEZF Maizieres J'vi 90.07 318 *eP* **P 01 26 12.4 -0.6**
NVL N'lazarevskaya 90.11 199⇑ *iP* **P 01 26 08.4 -4.3**
NVL *i* *PP pP 01 26 21.1 -0.1
NVL *i* 01 26 22.6
NVL *e* 01 37 02.7
MAIT Maitri 90.14 199 *eP* **P 01 26 15.5 +2.7**
GIVF Givet 90.14 320 *eP* **P 01 26 12.8 -0.5**
TNA Tin City 90.45 24 *eP* **P 01 26 14.5 +0.1**
comp=Z,3.3nm,0.7s,mb4.8
TNA LR LR
comp=Z,2μm,19.0s,MS5.5
VIVF Saint-Julien-l 90.51 315 *eP* **P 01 26 14.6 -0.5**
comp=Z,72nm,1.4s,mb5.5
VIVF Saint-Julien-l 90.51 315 *eP* **P 01 26 14.6 -0.5**
VIVF pmax pmax
comp=Z,36nm,1.4s,mb5.5
BAIF Baives 90.54 320 *eP* **P 01 26 14.9 -0.2**
comp=Z,83nm,1.1s,mb5.7
BAIF Baives 90.54 320 *eP* **P 01 26 14.9 -0.2**
BAIF pmax pmax
comp=Z,41nm,1.1s,mb5.7
SMF Signal de Mont 90.99 317 *eP* **P 01 26 16.5 -0.8**
comp=Z,78nm,1.3s,mb5.6
SMF Signal de Mont 90.99 317 *eP* **P 01 26 16.5 -0.8**
SMF pmax pmax
comp=Z,39nm,1.3s,mb5.6
LASF Ste Croix 91.14 314 *eP* **P 01 26 17.6 -0.4**
comp=Z,73nm,1.5s,mb5.5
SSF Saint Saulge 91.19 317 *eP* **P 01 26 17.7 -0.5**
SSF pmax pmax
comp=Z,39nm,1.4s,mb5.5
SSF Saint Saulge 91.19 317 *eP* **P 01 26 17.7 -0.5**
comp=Z,39nm,1.4s,mb5.5
AVF Avril sur Loir 91.32 317 *eP* **P 01 26 18.1 -0.7**
comp=Z,103nm,1.4s,mb5.7
AVF Avril sur Loir 91.32 317 *eP* **P 01 26 18.1 -0.7**
AVF pmax pmax
comp=Z,51nm,1.4s,mb5.7
BGF Bois d'Agland 91.68 316 *eP* **P 01 26 20.3 -0.2**
comp=Z,91nm,1.2s,mb5.7
BGF Bois d'Agland 91.68 316 *eP* **P 01 26 20.3 -0.2**
BGF pmax pmax
comp=Z,46nm,1.2s,mb5.7
HYF Humbligny 91.77 317 *eP* **P 01 26 20.9 +0.1**
TCF Toulx Ste Croi 92.14 316 *eP* **P 01 26 22.3 -0.3**
comp=Z,60nm,1.3s,mb5.5
TCF Toulx Ste Croi 92.14 316 *eP* **P 01 26 22.3 -0.3**
TCF pmax pmax
comp=Z,30nm,1.3s,mb5.5
UNV Unalaska Valle 92.34 36 PFAKE 01 26 30.0 +6.7
UNV LR LR
comp=Z,3μm,22.0s,MS5.7
CAF Calviac 92.36 315 *eP* **P 01 26 23.5 -0.1**
comp=Z,77nm,1.4s,mb5.5
CAF Calviac 92.36 315 *eP* **P 01 26 23.5 -0.1**
CAF pmax pmax
comp=Z,39nm,1.4s,mb5.5
MTLF Montolieu 92.38 313 *eP* **P 01 26 23.4 -0.3**
comp=Z,79nm,1.4s,mb5.5
MTLF Montolieu 92.38 313 *eP* **P 01 26 23.4 -0.3**
MTLF pmax pmax
comp=Z,40nm,1.4s,mb5.6
RJF Les Rejaudoux 92.71 315 *eP* **P 01 26 25.2 0.0**
comp=Z,47nm,1.2s,mb5.5
RJF *eR*
comp=Z,565nm,20.8s
RJF Les Rejaudoux 92.71 315 *eP* **P 01 26 25.2 0.0**
RJF pmax pmax
comp=Z,23nm,1.2s,mb5.5
RJF MLR MLR
comp=Z,570nm,20.8s,MS5.0
LFF La Frestale 93.29 315 *eP* **P 01 26 27.9 0.0**
comp=Z,70nm,1.3s,mb5.6
LFF La Frestale 93.29 315 *eP* **P 01 26 27.9 0.0**
LFF pmax pmax
comp=Z,35nm,1.3s,mb5.6
LDF La Druitiere 93.49 319 *eP* **P 01 26 28.1 -0.6**
comp=Z,139nm,1.5s,mb5.9
LDF La Druitiere 93.49 319 *eP* **P 01 26 28.1 -0.6**
LDF pmax pmax
comp=Z,70nm,1.5s,mb5.9
MFF Saint Martin d 93.73 317 *eP* **P 01 26 29.3 -0.6**
comp=Z,95nm,1.5s,mb5.7
MFF Saint Martin d 93.73 317 *eP* **P 01 26 29.3 -0.6**
MFF pmax pmax
comp=Z,47nm,1.5s,mb5.7
EPF Esparros 93.77 313 *eP* **P 01 26 29.2 -1.0**
comp=Z,62nm,1.7s,mb5.5
EPF Esparros 93.77 313 *eP* **P 01 26 29.2 -1.0**
EPF pmax pmax
comp=Z,31nm,1.7s,mb5.5
GRR Gorron 94.00 319 *eP* **P 01 26 30.0 -1.1**
DAG Danmarks Havn 94.03 348 *eP* **P 01 26 30.0 -0.6**
DAG LR LR
comp=Z,1μm,18.0s,MS5.4
DAG Danmarks Havn 94.03 348 *i P* **P 01 26 30.0 -0.6**
comp=Z,1μm,18.0s
ESK Eskdalemuir 94.44 326 PFAKE 01 26 40.0 +7.1
ESK LR LR
comp=Z,269nm,22.0s,MS4.7
ETSF Etsaut 94.44 313 *eP* **P 01 26 33.4 +0.1**
comp=Z,39nm,1.3s,mb5.4
ETSF Etsaut 94.44 313 *eP* **P 01 26 33.4 +0.1**
ETSF pmax pmax
comp=Z,20nm,1.3s,mb5.4
SJPF Ste Jean 94.90 313 *eP* **P 01 26 35.5 +0.1**
comp=Z,53nm,1.3s,mb5.5
SJPF Ste Jean 94.90 313 *eP* **P 01 26 35.5 +0.1**
SJPF pmax pmax
comp=Z,27nm,1.3s,mb5.5
QUIF Quistinic 95.59 318 *eP* **P 01 26 37.7 -0.7**
ROSF Rostrenen 95.60 319 *eP* **P 01 26 38.7 +0.3**
IMA Indian Mountai 96.08 23 *eP* **P 01 26 41.6 +1.4**
IMA Indian Mountai 96.08 23 *eP* **P 01 26 42.0 +1.8**
IMA Indian Mountai 96.08 23 *eP* **P 01 26 42.0 +1.8**
ESDC Sonseca Array 97.41 310 P **P 01 26 47.9 +1.1**
comp=Z,0.4nm,0.6s,baz=70,slow=4.0,SNR=5.0
ESLA Sonseca Array 97.41 310 PFAKE 01 27 00.0 +13
ESLA LR LR
comp=Z,2μm,19.0s,MS5.7
COLA College 98.78 23 PFAKE 01 27 00.0 +7.6
COLA LR LR
comp=Z,1μm,21.0s,MS5.4

MCK McKinley 98.80 24 *e*P **P** **01 26 51.6 -0.9**
MCK MLR MLR
comp=Z,635nm,19.0s,MS5.1
FIB Fire Island 99.21 27 PFAKE 01 27 10.0 +16
FIB LR LR
comp=Z,2μm,22.0s,MS5.5
BORG Borgarnes 100.17 337 PFAKE 01 27 10.0 +11
BORG LR LR
comp=Z,255nm,22.0s,MS4.7
SUMG Summit 100.71 348 Pdif P 01 27 02.5 +1.5
SUMG PP PP 01 31 01.3 -10
DIV Divide 101.19 26 PFAKE 01 27 20.0 +17
DIV LR LR
comp=Z,3μm,19.0s,MS5.9
DBIC Dimbokro 101.70 277 PFAKE 01 27 20.0 +13
DBIC LR LR
comp=Z,350nm,19.0s,MS4.9
INK Inuvik 101.95 17 P P 01 27 08.0 +1.3
comp=Z,1.0nm,0.5s,baz=339,slow=6.5,SNR=5.7
INK PP PP 01 31 12.9 -7.5
comp=Z,12nm,1.2s,baz=310,slow=6.8,SNR=4.6
INK Inuvik 101.95 17 P P 01 27 08.0 +1.3
INK PP PP 01 31 12.9 -7.5
SFJ Sondre 107.70 347 PFAKE 01 31 50.0
SFJ LR LR
comp=Z,1μm,20.0s,MS5.5
YKW3 Yellowknife Ar 111.50 15 *e*PP PP 01 32 28.9 -2.4
YKA Yellowknife Ar 111.56 15 PKIKP PKPdf 01 31 47.3 -3.2
YKA 01 32 24.4
YKA 01 42 59.7
YKA Yellowknife Ar 111.56 15 PKiKP 01 31 47.3
comp=Z,0.6nm,0.8s,baz=311,slow=1.5,SNR=4.1
YKA PP PP 01 32 24.4 -7.3
comp=Z,1.7nm,0.8s,baz=332,slow=6.3,SNR=6.8
YKA PKKPbc 01 42 41.4
comp=Z,0.1nm,0.6s,baz=141,slow=2.3,SNR=3.8
YKA PKKPab 01 42 50.5
comp=Z,0.3nm,0.6s,baz=152,slow=2.5,SNR=4.3
YKA PKKP PKKP 01 42 59.6 +6.2
comp=Z,0.4nm,0.7s,baz=144,slow=3.3,SNR=6.1
YKA Yellowknife Ar 111.56 15 PKPdf PKPdf 01 31 47.3 -3.2
YKA PP PP 01 32 24.4 -7.3
YKA PKKPbc 01 42 41.4
YKA PKKPab 01 42 50.5
YKA PKKP PKKP 01 42 59.6 +6.2
TBI Tubuai 112.15 114 *e*PS PS 01 42 26.1 +21
TBI *e*SS SS 01 48 17.5 +7.1
TBI *e*LR LR 02 05 17.1
comp=Z,1μm,24.2s
PPT Papeete 112.72 108 *e*PS PS 01 42 23.0 +12
PPT *e*LR LR 02 05 33.7
comp=Z,1μm,23.0s
PMSA Palmer Station 115.67 189 PFAKE 01 32 10.0 +11
PMSA LR LR
comp=Z,3μm,19.0s,MS5.9
EDM Edmonton 119.56 21 PKIKP PKPdf 01 32 03.0 -3.3
EDM *e* 01 33 23.6
NEW Newport 121.95 26 PFAKE 01 32 20.0 +8.9
NEW LR LR
comp=Z,1μm,21.0s,MS5.6
SCHQ Schefferville 122.06 349 PKP PKPdf 01 32 07.8 -3.4
comp=Z,2.1nm,0.5s,baz=23,slow=4.6,SNR=9.6
SCHQ PP PP 01 33 43.1 -2.3
comp=Z,14nm,1.1s,baz=15,slow=7.1,SNR=4.9
SCHQ Schefferville 122.06 349 *e*PKPdf PKPdf 01 32 06.9 -4.2
SCHQ *e*PP PP 01 33 38.8 -6.6
HUMO Hull Mountain 122.94 35 PFAKE 01 32 20.0 +6.9
HUMO LR LR
comp=Z,721nm,19.0s,MS5.3
YBH Yreka Blue Hor 123.64 35 PFAKE 01 32 20.0 +5.4
YBH LR LR
comp=Z,943nm,21.0s,MS5.4
BMO Blue Mountains 124.39 29 PKIKP PKPdf 01 32 20.0 +4.1
BMO MLR MLR
comp=Z,1μm,19.0s,MS5.5
BMO Blue Mountains 124.39 29 PFAKE 01 32 20.0 +4.1
BMO LR LR
comp=Z,1μm,19.0s,MS5.5
MSO Missoula 124.44 25 PFAKE 01 32 20.0 +4.0
MSO LR LR
comp=Z,1μm,19.0s,MS5.6
WDC Whiskeytown Da 124.47 36 PFAKE 01 32 20.0 +3.8
WDC LR LR
comp=Z,1μm,20.0s,MS5.5
CHMT Chamberlain Mo 124.66 25 *e*PKPdf PKPdf 01 32 12.7 -3.7
CHMT *e*PP PP 01 34 03.4 +0.2
MOD Modoc 124.89 34 PFAKE 01 32 30.0 +13
MOD LR LR
comp=Z,789nm,19.0s,MS5.4
RKT Rikitea 125.25 117 *e*PS PS 01 44 14.4 +10
RKT *e*SS SS 01 51 05.7 +5.2
RKT *e*LR LR 02 11 21.9
comp=Z,929nm,25.8s
WVOR Wild Horse Val 125.43 32 PFAKE 01 32 30.0 +12
WVOR LR LR
comp=Z,1μm,19.0s,MS5.6
BOZ Bozeman (W) 126.35 25 *e*PKIKP PKPdf 01 32 15.9 -3.8
BOZ *e* 01 34 09.5
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.9
MCMT McKenzie Canyo 126.48 26 *e*PP PP 01 34 10.9 -4.3
HLID Hailey 126.73 28 PFAKE 01 32 30.0 +10
HLID LR LR
comp=Z,2μm,19.0s,MS5.8
ULM Lac du Bonnet 126.99 10 PKP PKPdf 01 32 17.1 -3.6
comp=Z,5.8nm,0.8s,baz=1.4,slow=3.3,SNR=11
ULM Lac du Bonnet 126.99 10 *e*PKPdf PKPdf 01 32 16.9 -3.8
ULM LR LR
comp=Z,3μm,20.0s,MS5.9
QLMT Earthquake Lak 127.09 25 *e*PKPdf PKPdf 01 32 18.5 -2.6
CMB Columbia Colle 127.38 37 P Pdif 01 29 15.8 +16
CMB Columbia Colle 127.38 37 PFAKE 01 32 30.0 +8.1
CMB LR LR
comp=Z,714nm,20.0s,MS5.3
YMR Madison River 127.42 25 *e*PKPdf PKPdf 01 32 20.5 -1.3
SAO San Andreas Ge 127.53 39 PFAKE 01 32 30.0 +7.8
SAO LR LR
comp=Z,759nm,20.0s,MS5.4
LAO LASA Array 127.55 20 *e*PKPdf PKPdf 01 32 19.1 -2.9
LAO *ep*P 01 32 27.7
LAO LR LR
comp=Z,1μm,20.0s,MS5.5
LKWY Lake 127.74 25 PFAKE 01 32 30.0 +7.6
LKWY LR LR
comp=Z,5μm,19.0s,MS6.2
MNV Mina 128.44 35 P Pdif 01 28 55.5 -8.5
MNV Mina 128.44 35 PFAKE 01 32 30.0 +6.0
MNV LR LR
comp=Z,1μm,19.0s,MS5.5
SNOW Snow King Moun 128.48 26 *e*PKPdf PKPdf 01 32 21.4 -2.4
REDW Red Top Meadow 128.51 26 *e*PKPdf PKPdf 01 32 21.6 -2.4
AHID Auburn Hatcher 128.88 27 PFAKE 01 32 30.0 +5.3
AHID LR LR
comp=Z,2μm,19.0s,MS5.9
TPH Tonopah 129.22 35 PFAKE 01 32 30.0 +4.5
TPH LR LR
comp=Z,639nm,21.0s,MS5.3
BW06 Boulder Array 129.56 25 PFAKE 01 32 30.0 +4.0
BW06 LR LR
comp=Z,1μm,19.0s,MS5.6
PDAR Pinedale Array 129.56 25 PKP PKPdf 01 32 22.7 -3.3
comp=Z,1.5nm,0.7s,baz=206,slow=0.9,SNR=11
PDAR PP PP 01 34 33.1 -2.6
comp=Z,1.7nm,1.0s,baz=270,slow=1.5,SNR=5.7
HWUT Hardware Ranch 129.58 28 PFAKE 01 32 30.0 +4.0
HWUT LR LR
comp=Z,1μm,20.0s,MS5.7
EYMN Ely 129.91 8 PFAKE 01 32 30.0 +3.5
EYMN LR LR
comp=Z,2μm,19.0s,MS5.8
PQI Presque Isle 130.02 347 PFAKE 01 32 30.0 +3.3
PQI LR LR
comp=Z,7μm,22.0s,MS6.3
DUG Dugway 130.06 30 PFAKE 01 32 40.0 +13
DUG LR LR
comp=Z,1μm,20.0s,MS5.6
DAC Darwin (Calif) 130.22 37 PFAKE 01 32 40.0 +13
DAC LR LR
comp=Z,729nm,20.0s,MS5.4
RSSD Black Hills 130.54 20 *e*PKIKP PKPdf 01 32 24.9 -2.9
RSSD MLR MLR
comp=Z,312nm,19.0s,MS5.0
TMUT Trail Mountain 131.55 29 *e*PKPdf PKPdf 01 32 26.0 -3.8
MVU Marysvale 131.65 31 PFAKE 01 32 40.0 +10
MVU LR LR
comp=Z,1μm,20.0s,MS5.6
MSU Marysvale 131.66 31 *e*PKPdf PKPdf 01 32 27.3 -2.8
MSU *e*PP PP 01 34 41.5 -8.0
MSU *e*SKPbc 01 35 51.2
MSU *e*SKPdf 01 36 07.2
EMMW East Machias 131.72 345 PFAKE 01 32 40.0 +10
EMMW LR LR
comp=Z,6μm,19.0s,MS6.3
SRU San Rafael 132.03 29 *e*PKIKP PKPdf 01 32 27.0 -3.8
WVL Waterville 132.38 347 PFAKE 01 32 40.0 +8.7
WVL LR LR
comp=Z,6μm,19.0s,MS6.3
PFO Pinyon Flat Ob 132.68 39 PFAKE 01 32 40.0 +7.8
PFO LR LR
comp=Z,152nm,21.0s,MS4.7
RCBR Riachuelo 132.98 264 PFAKE 01 32 40.0 +6.8
RCBR LR LR
comp=Z,1μm,21.0s,MS5.5
PV10 Paradox Valley 133.32 28 *e*PKPdf PKPdf 01 32 29.9 -3.2
PV10 *e*PP PP 01 34 51.4 -8.4
ISCO Idaho Springs 133.67 24 PFAKE 01 32 40.0 +6.2
ISCO LR LR
comp=Z,2μm,19.0s,MS5.8
NCB Newcomb 133.81 351 PFAKE 01 32 40.0 +6.1
NCB LR LR
comp=Z,1μm,21.0s,MS5.6
WUAZ Wupatki 134.33 33 PFAKE 01 32 40.0 +4.9
WUAZ LR LR
comp=Z,1μm,21.0s,MS5.6
HRV Harvard--Oak R 134.76 348 PFAKE 01 32 40.0 +4.3
HRV LR LR
comp=Z,1μm,19.0s,MS5.7
WES Weston 134.82 348 PFAKE 01 32 40.0 +4.1
WES LR LR
comp=Z,2μm,22.0s,MS5.8
JFWS Jewell Farm 135.02 8 PFAKE 01 32 40.0 +3.8
JFWS LR LR
comp=Z,2μm,20.0s,MS5.8
SDCO Great Sand Dun 135.45 26 PFAKE 01 32 50.0 +13
SDCO LR LR
comp=Z,1μm,21.0s,MS5.7
AAM Ann Arbor 136.12 1 PFAKE 01 32 50.0 +12
AAM LR LR
comp=Z,2μm,20.0s,MS5.9
ERPA Erie 136.24 357 PFAKE 01 32 50.0 +12
ERPA LR LR
comp=Z,1μm,20.0s,MS5.7
CBKS Cedar Bluff 136.73 19 PKHKP 01 32 13.2
CBKS Cedar Bluff 136.73 19 PFAKE 01 32 50.0 +11
CBKS LR LR
comp=Z,1μm,19.0s,MS5.7
TUC Tucson 137.02 36 PFAKE 01 32 50.0 +10
TUC LR LR
comp=Z,705nm,19.0s,MS5.4
ANMO Albuquerque 137.30 29 *e*PKIKP PKPdf 01 32 37.2 -3.4
ANMO *e* 01 35 19.7
ANMO MLR MLR
comp=Z,2μm,19.0s
SSPA Standing Stone 137.55 354 PFAKE 01 32 50.0 +9.1
SSPA LR LR
comp=Z,357nm,20.0s,MS5.1
ACSO Alum Creek Sta 138.20 0 PFAKE 01 32 50.0 +7.9
ACSO LR LR
comp=Z,1μm,19.0s,MS5.7
MCWV Mont Chateau 138.68 356 PFAKE 01 32 50.0 +7.0
MCWV LR LR
comp=Z,2μm,20.0s,MS5.8
TRQA Tornquist 139.12 205 PFAKE 01 32 50.0 +6.2
TRQA LR LR
comp=Z,1μm,19.0s,MS5.7
AMTX Amarillo 139.49 24 PFAKE 01 32 50.0 +5.4
AMTX LR LR
comp=Z,1μm,20.0s,MS5.6
CCM Cathedral Cave 139.62 10 PFAKE 01 32 50.0 +5.2
CCM LR LR
comp=Z,264nm,20.0s,MS5.0
PLCA Paso Flores 139.65 194 PKIKP PKPdf 01 32 46.1 +1.4
PLCA MLR MLR
comp=Z,1μm,22.0s
PLCA Paso Flores 139.65 194 PKP PKPdf 01 32 46.1 +1.4
comp=Z,3.3nm,1.0s,baz=200,slow=9.0,SNR=2.8
CBN Corbin 139.90 353 PFAKE 01 32 50.0 +4.7
CBN LR LR
comp=Z,1μm,20.0s,MS5.7
WCI Wyandotte Cave 140.07 4 PFAKE 01 32 50.0 +4.4
WCI LR LR
comp=Z,452nm,20.0s,MS5.2
MNTX Cornudas Mount 140.44 31 PFAKE 01 32 50.0 +3.6
MNTX LR LR
comp=Z,2μm,19.0s,MS5.8
WMOK Wichita Mounta 140.73 21 *e*PKHKP 01 32 34.5
WMOK MLR MLR
comp=Z,1μm,20.0s,MS5.6
WMOK Wichita Mounta 140.73 21 *e*PKPpre 01 32 34.5
WMOK *e*PP PP 01 35 35.0 -11
WMOK LR LR
comp=Z,1μm,20.0s,MS5.6
BLA Blacksburg 141.15 357 PFAKE 01 33 00.0 +12
BLA LR LR
comp=Z,2μm,20.0s,MS5.8
WVT Waverly 142.01 7 *e*PKIKP PKPdf 01 32 40.8 -8.3
WVT MLR MLR
comp=Z,2μm,21.0s,MS5.7
MIAR Mount Ida 142.50 15 *e*PKHKP 01 32 41.6
MIAR MLR MLR
comp=Z,2μm,19.0s,MS5.8
BAO Brasilia Array 142.97 246 P PKPdf 01 32 44.5 -6.7
BDFB Brasilia 142.99 246 PKP PKPdf 01 32 49.0 -2.2
comp=Z,2.5nm,0.8s,baz=154,slow=5.0,SNR=4.3
PLAL Pickwick Lake 143.11 7 PFAKE 01 33 00.0 +16
PLAL LR LR
comp=Z,1μm,20.0s,MS5.7
TXAR Lajitas Array 143.22 31 PKhKP 01 32 45.1
comp=Z,2.8nm,0.7s,baz=286,slow=0.5,SNR=18
TXAR PKP PKPdf 01 32 49.0 -2.3
comp=Z,2.8nm,0.7s,baz=225,slow=1.3,SNR=17
TXAR PP PP 01 36 01.3 +0.2
comp=Z,3.2nm,1.1s,baz=270,slow=1.3,SNR=4.3
OXF Oxford 143.39 9 *e*PKIKP PKPdf 01 32 44.3 -7.2
OXF MLR MLR
comp=Z,1μm,21.0s,MS5.7
NATX Nacogdoches 144.82 18 *e*PKPdf PKPdf 01 32 49.5 -4.5
NATX LR LR
comp=Z,2μm,19.0s,MS5.8
COW Cow Castle Cre 144.98 357 *e*PKPdf PKPdf 01 32 50.2 -4.1
GOGA Godfrey 145.00 1 PKHKP 01 32 42.6
GOGA Godfrey 145.00 1 PFAKE 01 33 00.0 +10
GOGA LR LR
comp=Z,1μm,19.0s,MS5.7
LRAL Lakeview Retre 145.16 6 *e*PKPdf PKPdf 01 32 49.7 -4.9
LRAL LR LR
comp=Z,1μm,19.0s,MS5.8
TWB Tillmans-White 145.20 356 *e*PKPdf PKPdf 01 32 51.0 -3.7
NHSC New Hope 145.22 356 PFAKE 01 33 00.0 +10
NHSC LR LR
comp=Z,1μm,20.0s,MS5.7
HBF Harts Bluff 145.40 356 *e*PKIKP PKPdf 01 32 51.6 -3.4
HBF *e* 01 33 00.9
HBF Harts Bluff 145.40 356 *e*PKPdf PKPdf 01 32 51.1 -3.9
RGRS Roger Stewart 145.42 356 *e*PKPdf PKPdf 01 32 51.6 -3.5
DWPF Disney 150.26 357 PFAKE 01 33 10.0 +6.9
DWPF LR LR
comp=Z,374nm,19.0s,MS5.2
SJG San Juan 154.28 321 PFAKE 01 33 20.0 +11
SJG LR LR
comp=Z,1μm,21.0s,MS5.7
LVC Limon Verde 155.24 212 PFAKE 01 33 20.0 +10
LVC LR LR
comp=Z,860nm,21.0s,MS5.5
TEIG Tepich 157.50 13 PFAKE 01 33 20.0 +6.6
TEIG LR LR
comp=Z,442nm,20.0s,MS5.3
SAML Samuel 159.16 249 *e*PKPdf PKPdf 01 33 12.3 -3.3
SAML LR LR
comp=Z,1μm,20.0s,MS5.7
LPAZ La Paz 159.54 224 PKIKP PKPdf 01 33 14.8 -1.1
LPAZ MLR MLR
comp=Z,692nm,20.0s
LPAZ La Paz 159.54 224 PKP PKPdf 01 33 14.8 -1.1
comp=Z,2.0nm,0.8s,baz=54,slow=1.7,SNR=12
SDV Santo Domingo 163.85 311 PFAKE 01 33 30.0 +10
SDV LR LR
comp=Z,927nm,21.0s
JTS JuntasAbangare 167.84 10 PFAKE 01 33 30.0 +6.4
JTS LR LR
comp=Z,247nm,20.0s
PAYG Puerto Ayora 172.50 82 PFAKE 01 33 30.0 +3.6
PAYG LR LR
comp=Z,892nm,21.0s
OTAV Otavalo 175.16 294 *e*PKPdf PKPdf 01 33 23.8 -3.5
OTAV LR LR
comp=Z,1μm,20.0s

*NEIC **30** 01:26:21.9, 16.63N×101.08W, h16km, MD3.6(MEX), After MEX.*

MEX 30 01:26:21.9±0.4, 16.64N×101.08W, h16km±28km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.88**	**62**	*i* P			Pb	01 26 35.6	-2.7
CAIG				*i* S			Sb	01 26 46.9	-2.8
ZIIG	**Zihuatanejo**	**1.03**	**339**	*i* P			Pb	01 26 38.2	-2.7
ZIIG				*i* S			Sb	01 26 50.2	-3.8
ACX	**Acapulco**	**1.14**	**78**	*i* P			Pb	01 26 40.0	-2.8
ACX				*i* S			Sb	01 26 53.0	-4.2
PPM	**Popocatepetl**	**3.36**	**44**	*e*P			Pn	01 27 12.0	-3.0

*LDG **30** 01:28:00.2±0.8, 15.45S×166.74E, h10km, Mb4.0/1, Error ellipse: s-maj=111.1km s-min=64.1km az=38.0*
*NEIC **30** 01:28:14.7±2.1, 15.49S×167.44E, h128km±18km, mb5.1/3, Error ellipse: s-maj=19.5km s-min=12.0km az=185.0*
*IDC **30** 01:28:15.6±6.0, 15.60S×167.58E, h139km±55km, mb4.0/6, mb1 4.2/7, mb1mx3.9/15, mbtmp4.5/7, Error ellipse: s-maj=47.4km s-min=29.0km az=174.0*

ISC 30 01:28:14.8±3.1, 15.6S±0.2×167.4E±0.2, h141km±25km, n49, σ0°95/21, mb4.5/7, 1C-1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.50**	**187**	*e*P			**P**	**01 29 49.3**	**+0.1**
DZM				*e*S			**S**	**01 30 59.9**	**-2.5**
DZM	**Mont Dzumac**	**6.50**	**187**	P			**P**	**01 29 49.5**	**+0.4**
	12nm,0.3s,baz=47,slow=18,SNR=97								
DZM				S			**S**	**01 31 02.1**	**-0.4**
	5.4nm,0.3s,baz=133,slow=23,SNR=6.4								
NOUC	**Port Laguerre**	**6.55**	**189**	*e*P			**P**	**01 29 50.4**	**+0.6**
CTA	**Charters Tower**	**20.57**	**254**	P			**P**	**01 32 47.1**	**+2.9**
	3.3nm,0.5s,baz=81,slow=12,SNR=7.3								
CTAO	**Charters Tower**	**20.57**	**254**	*e*P			**P**	**01 32 44.2**	**0.0**
STKA	**Stephens Creek**	**28.51**	**231**	‖ *i*P			**P**	**01 34 00.2**	**+1.0**
	1.9nm,0.5s,mb4.1								
STKA	**Stephens Creek**	**28.51**	**231**	P			**P**	**01 34 00.3**	**+1.2**
	2.7nm,0.6s,mb4.2,baz=30,slow=6.8,SNR=10								
WB2	**Warramunga Arr**	**31.69**	**257**	*e*P			**P**	**01 34 26.7**	**-0.7**
WRA	**Warramunga Arr**	**31.70**	**257**	P			**P**	**01 34 27.2**	**-0.4**
	3.2nm,0.7s,mb4.1,baz=86,slow=8.9,SNR=15								
ASAR	**Alice Springs**	**32.45**	**250**	P			**P**	**01 34 33.9**	**-0.1**
	5.6nm,0.6s,mb4.5,baz=80,slow=8.6,SNR=66								
ASPA	**Alice Springs**	**32.45**	**250**	*e*P			**P**	**01 34 33.8**	**-0.2**
FORT	**Forrest**	**38.93**	**240**	*e*P			**P**	**01 35 29.7**	**+1.1**
	230nm,0.6s								
FITZ	**Fitzroy Crossi**	**39.94**	**260**	*e*P			**P**	**01 35 37.9**	**+0.9**
	15nm,0.4s,mb5.0								
FITZ	**Fitzroy Crossi**	**39.94**	**260**	P			**P**	**01 35 38.2**	**+1.2**
	20nm,0.4s,mb5.1,baz=82,slow=4.3,SNR=80								
MBWA	**Marble Bar**	**45.40**	**256**	*e*P			**P**	**01 36 19.7**	**-1.6**
TATO	**Taipei**	**60.21**	**311**	*e*P			**P**	**01 38 08.9**	**-1.6**
	68nm,0.6s,mb5.7								
SBA	**Scott Base**	**62.28**	**180**	*e*P			**P**	**01 38 23.9**	**+0.1**
QSPA	**South Pole Qui**	**74.44**	**180**	‖ *i*P			**P**	**01 39 38.6**	**0.0**
	5.8nm,0.8s,mb4.4								
SONM	**Songino Array**	**83.23**	**324**	P			**P**	**01 40 27.2**	**+0.5**
	0.6nm,0.4s,mb3.6,baz=144,slow=9.1,SNR=6.7								
ARCES	**ARCESS Array B**	**121.10**	**345**	PKP			PKPdf	01 46 50.3	-0.1
	2.3nm,0.6s,baz=58,slow=2.2,SNR=11								
FINES	**FINESS Array B**	**126.55**	**338**	PKP			PKPdf	01 47 02.8	+1.8
	0.7nm,0.8s,baz=27,slow=4.3,SNR=5.0								
GERES	**GERESS Array B**	**140.44**	**333**	PKP			PKPdf	01 47 28.4	+1.1
	0.2nm,0.4s,baz=90,slow=1.3,SNR=4.2								
CDF	**Champ du Feu**	**143.40**	**338**	*e*PKP1			PKPbc	01 47 31.9	+1.0
HINF	**Hinteralfeld**	**144.05**	**337**	*e*PKP1			PKPbc	01 47 32.3	-0.6
	3.8nm,0.6s								
HAU	**Haudompre**	**144.08**	**338**	*e*PKP1			PKPbc	01 47 32.6	-0.4
	6.3nm,0.7s								
CABF	**La Chapelle**	**145.35**	**337**	*e*PKP1			PKPbc	01 47 37.6	+1.1
	36nm,1.0s								
FLN	**La Foliniere**	**145.45**	**346**	*e*PKP1			PKPbc	01 47 36.9	+0.3
	10nm,0.6s								
LDF	**La Druitiere**	**145.52**	**345**	*e*PKP1			PKPbc	01 47 37.1	+0.3
SSF	**Saint Saulge**	**145.87**	**340**	*e*PKP1			PKPbc	01 47 38.7	+1.0
	15nm,0.7s								
GRR	**Gorron**	**145.89**	**346**	*e*PKP1			PKPbc	01 47 38.3	+0.6
	9.7nm,0.7s								
HYF	**Humbligny**	**145.96**	**341**	*e*PKP1			PKPbc	01 47 39.8	+1.8
LPL	**La Plagne**	**146.01**	**335**	*e*PKP1			PKPbc	01 47 39.7	+1.6
	9.1nm,0.9s								
LPG	**La Plagne**	**146.01**	**335**	*e*PKP1			PKPbc	01 47 39.8	+1.6
	8.6nm,0.8s								
SMF	**Signal de Mont**	**146.12**	**339**	*e*PKP1			PKPbc	01 47 40.1	+1.7
	7.9nm,0.7s								
AVF	**Avril sur Loir**	**146.16**	**340**	*e*PKP1			PKPbc	01 47 40.3	+1.9
SGMF	**Saint Gilles**	**146.38**	**348**	*e*PKP1			PKPbc	01 47 39.6	+0.7
	14nm,0.7s								
BGF	**Bois d'Agland**	**146.53**	**340**	*e*PKP1			PKPbc	01 47 40.5	+1.2
	12nm,0.6s								
MBDF	**Montbardon**	**146.64**	**334**	*e*PKP1			PKPbc	01 47 39.9	+0.3
	4.2nm,0.7s								
ORIF	**Oris-en-Rattie**	**146.84**	**336**	*e*PKP1			PKPbc	01 47 41.7	+1.6
	6.6nm,0.7s								
TCF	**Toulx Ste Croi**	**146.97**	**341**	*e*PKP1			PKPbc	01 47 41.7	+1.4
PGF	**Pioggiola**	**147.34**	**330**	*e*PKP1			PKPdf	01 47 39.9	+0.6
	36nm,1.2s								
VIVF	**Saint-Julien-l**	**147.36**	**337**	*e*PKP1			PKPdf	01 47 42.3	+3.0
MFF	**Saint Martin d**	**147.37**	**344**	*e*PKP1			PKPdf	01 47 42.7	+3.5
	13nm,0.7s								
LASF	**Ste Croix**	**148.33**	**337**	*e*PKP1			PKPdf	01 47 45.7	+4.8
	11nm,0.8s								
LFF	**La Frestale**	**148.63**	**342**	*e*PKP1			PKPdf	01 47 46.3	+4.9
	6.2nm,0.6s								
MTLF	**Montolieu**	**149.57**	**338**	*e*PKP1			PKPdf	01 47 48.7	+5.9
	13nm,0.9s								
EPF	**Esparros**	**150.48**	**340**	*e*PKP1			PKPdf	01 47 51.9	+7.7
	11nm,1.1s								
ETSF	**Etsaut**	**150.88**	**342**	*e*PKP1			PKPdf	01 47 52.8	+8.0
SJPF	**Ste Jean**	**150.88**	**343**	*e*PKP1			PKPdf	01 47 52.7	+7.9

MEX 30 01:31:28.2±0.6, 19.00N×102.76W, h8km±9km, MD3.9, Michoacan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
COLM	**Colima**	**0.90**	**282**	*i* P			Pb	01 31 43.4	-2.3
COLM				*i* S			Sb	01 31 54.8	-2.8
SFJM	**Santa Fe**	**1.51**	**350**	*i* P			Pn	01 31 52.0	-3.6
MOIG	**Morelia**	**1.63**	**65**	*i* S			Sn	01 32 13.2	-5.6
ZIIG	**Zihuatanejo**	**1.85**	**138**	*i* S			Sn	01 32 18.6	-5.7
CJM	**Chamela**	**2.21**	**283**	*i* P			Pn	01 32 02.8	-3.0
CJM				*e*S			Sn	01 32 29.6	-4.0
ZAIG	**Zacatecas**	**3.76**	**3**	*i* S			Sn	01 33 08.9	-3.8
PPM	**Popocatepetl**	**3.91**	**88**	*i* S			Sn	01 33 14.1	-2.5

KRSC 30 01:37:58.0±0.4, 52.43N×159.53E, h25km±4km, ML3.9, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.62**	**271**	*i* P			Pb	01 38 10.7	+0.5
RUS				*i* S			Sb	01 38 20.0	+1.5
SPN	**Mys Shipunski**	**0.73**	**24**	*e*P			Pb	01 38 12.7	+0.7
SPN				*e*S			Sb	01 38 23.4	+1.7
NLC	**Nalytchevo**	**0.75**	**351**	*i* P			Pb	01 38 12.6	+0.3
NLC				*i* S			Sb	01 38 23.3	+1.1
PET	**Petropavlovsk**	**0.80**	**318**	*e*P			Pb	01 38 13.1	-0.1
PET				*e*S			Sb	01 38 24.1	+0.5
UGLR	**Uglovaya**	**0.89**	**332**	*i* P			Pb	01 38 14.9	+0.2
GRL	**Gorelyy**	**0.90**	**278**	*e*P			Pb	01 38 15.6	+0.8
GRL				*e*S			Sb	01 38 28.6	+2.2
KRMR	**Karymshinskiy**	**0.94**	**296**	*i* P			Pb	01 38 15.4	-0.2
KRMR				*i* S			Sb	01 38 28.0	+0.3
SMAR	**Somma**	**0.94**	**332**	*e*P			Pb	01 38 15.4	-0.2
AVH	**Avacha**	**0.96**	**330**	*i* P			Pb	01 38 16.0	+0.1
AVH				*e*S			Sb	01 38 29.3	+1.0
KOK	**Koryaka**	**1.02**	**328**	*i* P			Pn	01 38 16.8	0.0
KOK				*i* S			Sb	01 38 30.4	+0.5

APC	**Apacha**	**1.53**	**290**	*i* P	Pn	01 38 24.1	0.0
APC				*i* S	Sn	01 38 43.3	0.0
APC				Smax			
	140nm,0.7s						
GNL	**Ganaly**	**1.59**	**324**	*i* P	Pn	01 38 25.2	+0.2
GNL				*e*S	Sn	01 38 45.5	+0.6
KII	**Karymskiy**	**1.61**	**358**	*e*P	Pn	01 38 26.0	+0.7
KII				*e*S	Sn	01 38 46.7	+1.3
PAU	**Pauzhetka**	**1.94**	**241**	*e*P	Pn	01 38 30.2	+0.2
PAU				*e*S	Sn	01 38 53.2	-0.6
PAU				Smax			
	380nm,0.7s						
MKZ	**Mys Kozlova**	**2.50**	**31**	*e*P	Pn	01 38 37.2	-0.9
MKZ				*e*S	Sn	01 39 07.0	-1.1
TUMR	**Tumrok**	**2.88**	**7**	*e*P	Pn	01 38 44.7	+1.2
TUMR				*e*S	Sn	01 39 17.7	0.0
KMNR	**Kamenistaya**	**3.36**	**7**	*e*P	Pn	01 38 52.1	+1.9
ESO	**Esso**	**3.54**	**352**	*e*P	Pn	01 38 53.5	+0.8
SRDR	**Sredinnyy**	**3.90**	**2**	*e*P	Pn	01 38 59.7	+1.8
KBTR	**Krutoberegovo**	**4.25**	**26**	*e*P	Pn	01 39 03.0	+0.1
KBG	**Krutoberegovo**	**4.26**	**25**	*e*P	Pn	01 39 03.4	+0.4
KBG				*e*S	Sn	01 39 50.9	-1.7
BKI	**Bering**	**4.72**	**51**	*e*S	Sn	01 39 56.6	-7.6

IDC 30 01:40:21.5±6.1**,4.40S**×**150.13E,h106**km±49km**,mb3.8**/4**, mb1 4.0**/6**,mb1mx3.7**/13**,mbtmp4.2**/6**,1C,Error ellipse: s-maj=87.5km s-min=40.3km az=102.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.78**	**210**	P	P	01 41 44.9	-1.2
	10.0nm,0.3s,baz=32,slow=5.2,SNR=13						
PMG				S	S	01 42 41.4	-10
	30nm,0.3s,baz=189,slow=23,SNR=16						
CTA	**Charters Tower**	**16.05**	**193**	P	P	01 44 02.3	0.0
	0.4nm,0.3s,baz=15,slow=14,SNR=6.0						
WB2	**Warramunga Arr**	**21.79**	**224**	⇑*i*P	P	01 45 03.7	-2.4
WRA	**Warramunga Ar**	**21.80**	**224**	P	P	01 45 03.9	-2.3
	2.6nm,0.3s,baz=49,slow=11,SNR=19						
ASAR	**Alice Springs**	**24.74**	**218**	P	P	01 45 33.5	-1.2
	3.6nm,0.5s,baz=55,slow=8.9,SNR=51						
ASPA	**Alice Springs**	**24.74**	**218**	*e*P	P	01 45 33.5	-1.2
FITZ	**Fitzroy Crossi**	**27.55**	**238**	P	P	01 45 59.7	-1.1
	2.2nm,0.3s,baz=163,slow=9.9,SNR=14						
MKAR	**Makanchi Array**	**78.28**	**319**	P	P	01 52 09.6	-1.9
	0.1nm,0.4s,baz=225,slow=1.7,SNR=3.7						

*NEIC **30** 01:50:13.2*±*0.4,2.84N*×*96.20E,mb4.5/9,Error ellipse: s-maj=13.0km s-min=6.7km az=43.0*
*IDC **30** 01:50:13.5*±*0.6,2.91N*×*96.28E,h27km*±*3km,mb3.9/13, mb1 4.0/13,mb1mx3.9/19,mbtmp4.1/13,Error ellipse: s-maj=30.4km s-min=11.1km az=51.0*
ISC 30 01:50:11.4±0.5**,2.85N**±0.09×**96.23E**±0.09**,h28**km**, h28**km±1.2km**:pP-P,n32,**σ**0$76/29,mb4.3/22,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.03**	**61**	*e*P	**Pn**	**01 51 28.2**	**+1.0**
KKM	**Kota Kinabalu**	**20.18**	**80**	*e*P	**P**	**01 54 47.1**	**+0.3**
JIRN	**Jiri**	**26.47**	**340**	*e*P	**P**	**01 55 48.5**	**+0.2**
	16nm,0.7s,mb4.7						
GUN	**Gumba**	**26.80**	**339**	*e*P	**P**	**01 55 51.2**	**-0.2**
	23nm,0.8s,mb4.8						
DMN	**Daman**	**26.81**	**338**	*e*P	**P**	**01 55 51.7**	**+0.2**
KKN	**Kakani**	**26.91**	**338**	*e*P	**P**	**01 55 53.6**	**+1.2**
	23nm,0.9s,mb4.7						
LSA	**Lhasa**	**27.13**	**350**	*e*P	**P**	**01 55 52.9**	**-1.5**
GKN	**Gorkha**	**27.35**	**337**	*e*P	**P**	**01 55 57.0**	**+0.6**
	14nm,0.7s,mb4.6						
KOLN	**Koldanda**	**27.56**	**335**	*e*P	**P**	**01 55 59.0**	**+0.7**
	24nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**35.69**	**127**	P	**P**	**01 57 09.5**	**-0.2**
	3.7nm,0.7s,mb4.4,baz=348,slow=6.2,SNR=6.5						
FITZ				pP	pP	01 57 17.5	-0.4
	3.9nm,0.7s,baz=223,slow=2.6,SNR=3.1						
WRA	**Warramunga Arr**	**43.74**	**123**	P	**P**	**01 58 16.4**	**-0.1**
	2.0nm,0.5s,mb4.1,baz=301,slow=9.2,SNR=10						
WRA				pP	pP	01 58 24.1	-0.7
	1.8nm,0.6s,baz=300,slow=9.2,SNR=5.9						
WB2	**Warramunga Arr**	**43.75**	**123**	*e*P	**P**	**01 58 16.0**	**-0.6**
ASAR	**Alice Springs**	**45.17**	**128**	P	**P**	**01 58 27.5**	**-0.5**
	1.1nm,0.7s,mb3.8,baz=299,slow=8.0,SNR=13						
ASAR				pP	pP	01 58 37.5	+1.3
	1.2nm,0.8s,baz=295,slow=6.9,SNR=6.5						
MKAR	**Makanchi Array**	**45.41**	**347**	P	**P**	**01 58 29.6**	**-0.1**
	10nm,0.7s,mb4.8,baz=161,slow=8.1,SNR=127						
MKAR				pP	pP	01 58 38.1	+0.2
	2.4nm,0.7s,baz=160,slow=7.1,SNR=5.0						
SONM	**Songino Array**	**45.66**	**10**	P	**P**	**01 58 31.4**	**-0.2**
	3.0nm,0.7s,mb4.3,baz=192,slow=8.9,SNR=23						
SONM				pP	pP	01 58 40.3	+0.5
	1.7nm,0.8s,baz=187,slow=9.1,SNR=5.4						
SONM				PcP	PcP	02 00 10.2	+0.3
	0.6nm,0.5s,baz=204,slow=3.3,SNR=4.3						
KURK	**Kurchatov**	**49.96**	**345**	*e*P	**P**	**01 59 04.6**	**-0.4**
	4.9nm,1.0s,mb4.5						
BVAR	**Borovoye Array**	**54.38**	**341**	P	**P**	**01 59 37.2**	**-0.9**
	1.9nm,0.6s,mb4.2,baz=140,slow=9.9,SNR=14						
BVAR				pP	pP	01 59 45.9	-0.6
	1.9nm,0.8s,baz=153,slow=6.6,SNR=5.7						
CHKZ	**Chkalovo**	**54.86**	**342**	*e*P	**P**	**01 59 40.7**	**-1.0**
	4.4nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**55.18**	**132**	P	**P**	**01 59 45.5**	**+1.2**
	0.9nm,0.5s,mb4.0,baz=303,slow=15,SNR=4.5						
STKA				pP	pP	01 59 51.7	-1.1
	1.8nm,0.8s,baz=343,slow=20,SNR=3.0						
STKA	**Stephens Creek**	**55.18**	**132**	*e*P	**P**	**01 59 44.1**	**-0.2**
STKA				pP	pP	01 59 51.7	-1.1
KMBO	**Kilima Mbogo**	**59.09**	**267**	P	**P**	**02 00 13.4**	**+1.2**
	0.9nm,0.5s,mb4.0,baz=42,slow=14,SNR=5.0						
KMBO	**Kilima Mbogo**	**59.09**	**267**	*e*P	**P**	**02 00 13.3**	**+1.1**
BRTR	**Keskin Array B**	**67.29**	**312**	P	**P**	**02 01 05.5**	**-0.6**
	1.0nm,0.5s,mb4.1,baz=136,slow=6.9,SNR=5.4						
AKASG	**Malin Array Be**	**73.36**	**322**	P	**P**	**02 01 42.4**	**-0.4**
	0.8nm,0.5s,mb3.9,baz=100,slow=4.3,SNR=5.2						
AKASG				pP	pP	02 01 50.6	-0.7
	0.3nm,0.4s,baz=81,slow=5.6,SNR=1.3						
FINES	**FINESS Array B**	**78.09**	**332**	P	**P**	**02 02 09.9**	**+0.7**
	1.0nm,0.6s,mb3.9,baz=117,slow=8.5,SNR=6.1						
KAF	**Kangasniemi**	**78.18**	**333**	*ep*	**P**	**02 02 09.4**	**-0.3**
	1.0nm,0.6s,mb3.9						
KEV	**Kevo**	**80.23**	**341**	*ep*	**P**	**02 02 19.1**	**-1.6**
	0.7nm,0.3s,mb4.1						
ARCES	**ARCESS Array B**	**80.66**	**340**	P	**P**	**02 02 23.6**	**+0.6**
	1.2nm,0.4s,mb4.1,baz=96,slow=5.2,SNR=15						
GERES	**GERESS Array B**	**82.94**	**319**	P	**P**	**02 02 36.4**	**+1.2**
	0.7nm,0.8s,mb3.7,baz=108,slow=4.2,SNR=8.0						
GERES				pP	pP	02 02 45.1	+1.1
	0.5nm,0.7s,baz=112,slow=7.2,SNR=3.2						
YKA	**Yellowknife Ar**	**110.76**	**15**	PP	PP	02 09 22.5	-0.9
	0.1nm,0.4s,baz=331,slow=9.8,SNR=3.3						
TXAR	**Lajitas Array**	**142.75**	**29**	PKP	PKPdf	02 09 48.5	+0.6
	0.2nm,0.5s,baz=333,slow=2.8,SNR=3.6						
TXAR	**Lajitas Array**	**142.75**	**29**	PKP	PKPdf	02 09 48.5	+0.6

*BJI **30** 01:58:21.5, 1.15N*×*97.25E,h31km,mB5.3,mb5.0,Ms4.9, Msz4.7*
*MOS **30** 01:58:22.9*±*1.2, 1.29N*×*96.96E,h33km,mb5.0/18,Error ellipse: s-maj=18.4km s-min=8.4km az=107.3*
*NEIC **30** 01:58:23.9*±*0.4, 1.32N*×*97.04E,mb4.8/25,Error ellipse: s-maj=11.9km s-min=6.4km az=50.0*
*IDC **30** 01:58:23.6*±*0.5, 1.27N*×*96.94E,h24km±3km,mb4.1/16, mb1 4.2/16,mb1mx4.1/21,mbtmp4.3/16,Error ellipse: s-maj=30.8km s-min=9.6km az=48.0*
ISC 30 01:58:22.1±0.4**,1.35N**±0.06×**97.11E**±0.07**,h25**km**, h25**km±.6km**:pP-P,n87,**σ**1$08/87,mb4.7/52,MS4.7/9,3C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.28**	**42**	*e*P	**Pn**	**01 59 41.7**	**+0.2**
KSM	**Kuching**	**13.20**	**89**	*e*P	**P**	**02 01 33.4**	**+2.7**
KSM				*e*		02 01 42.2	
CM31	**Chiang Mai Arr**	**17.10**	**6**	*e*P	**P**	**02 02 19.2**	**-2.2**
KKM	**Kota Kinabalu**	**19.62**	**76**	*e*P	**P**	**02 02 51.6**	**-0.4**
QIZ	**Qiongzhong**	**21.55**	**35**	*e*P	**P**	**02 03 12.3**	**+0.3**
QIZ	**Qiongzhong**	**21.55**	**35**	*e*P	**P**	**02 03 12.3**	**+0.3**
	16nm,1.0s,mb4.4						
HYB	**Hyderabad**	**24.25**	**312**	*e*P	**P**	**02 03 42.0**	**+3.5**
HYB	**Hyderabad**	**24.25**	**312**	*i* P	**P**	**02 03 42.0**	**+3.5**
KMI	**Kunming**	**24.25**	**13**	P	**P**	**02 03 40.8**	**+2.2**
KMI				AP		02 03 46.8	
KMI				S	**S**	**02 07 48.5**	**-4.2**
KMI				AMB	AMB		
	comp=Z,54nm,1.4s,mb4.8						
KMI				LR	LR		
	comp=N,2μm,16.2s,MS4.8						
KMI				LR	LR		
	comp=E,1μm,13.9s,MS4.8						
KMI				LR	LR		
	comp=Z,2μm,14.1s,MS4.7						
GYA	**Guiyang**	**26.61**	**19**	⇑*i*P	**P**	**02 04 00.5**	**-0.2**
GYA				AP	pP	02 04 07.0	-0.8
GYA				XP	sP	02 04 10.8	-0.3
GYA				PP	PP	02 04 44.5	-0.4
GYA				S	**S**	**02 08 31.3**	**-0.7**
GYA				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,4.9s						
GYA				LR	LR		
	comp=N,2μm,13.8s,MS4.8						
GYA				LR	LR		
	comp=E,570nm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,14.7s,MS4.8						
JIRN	**Jiri**	**28.18**	**339**	*e*P	**P**	**02 04 16.0**	**+1.1**
	comp=Z,114nm,1.0s,mb5.4						
PKI	**Pulchoki**	**28.38**	**338**	*e*P	**P**	**02 04 18.0**	**+1.2**
	comp=Z,55nm,1.1s,mb5.1						
PKI	**Pulchoki**	**28.38**	**338**	*e*P	**P**	**02 04 18.0**	**+1.2**
PKI				pmax	pmax		
	comp=Z,28nm,1.1s,mb4.8						
GUN	**Gumba**	**28.52**	**339**	*e*P	**P**	**02 04 19.3**	**+1.3**
	comp=Z,70nm,0.8s,mb5.4						
DMN	**Daman**	**28.53**	**337**	*e*P	**P**	**02 04 18.8**	**+0.7**
	comp=Z,41nm,0.9s,mb5.2						
KKN	**Kakani**	**28.63**	**338**	*e*P	**P**	**02 04 19.9**	**+0.9**
	comp=Z,72nm,1.1s,mb5.3						
KKN	**Kakani**	**28.63**	**338**	*e*P	**P**	**02 04 19.9**	**+0.9**
KKN				pmax	pmax		
	comp=Z,36nm,1.1s,mb5.0						
LSA	**Lhasa**	**28.76**	**349**	*e*P	**P**	**02 04 20.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.7						
LSA	**Lhasa**	**28.76**	**349**	*e*P	**P**	**02 04 20.5**	**+0.3**
	comp=Z,14nm,0.9s,mb4.7						
GKN	**Gorkha**	**29.07**	**337**	*e*P	**P**	**02 04 23.9**	**+0.9**
	comp=Z,72nm,1.0s,mb5.4						
KOLN	**Koldanda**	**29.29**	**335**	*e*P	**P**	**02 04 26.1**	**+1.2**
	comp=Z,40nm,0.8s,mb5.2						
CD2	**Chengdu**	**30.07**	**11**	*e*P	**P**	**02 04 30.5**	**-1.4**
ENH	**Enshi**	**31.08**	**21**	*e*P	**P**	**02 04 39.1**	**-1.6**
	comp=Z,25nm,0.7s,mb5.2						
ENH				*e*pP	pP	02 04 45.8	-2.2
MBWA	**Marble Bar**	**31.46**	**137**	*e*P	**P**	**02 04 44.6**	**+0.4**
	comp=Z,6nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**34.09**	**126**	*e*P	**P**	**02 05 05.4**	**-1.7**
	comp=Z,7.3nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.09**	**126**	P	**P**	**02 05 06.2**	**-0.9**
	comp=Z,8.8nm,0.7s,mb4.8,baz=314,slow=4.8,SNR=12						
FITZ				pP	pP	02 05 14.4	0.0
	comp=Z,9.0nm,0.9s,baz=5.1,slow=1.2,SNR=3.2						
XAN	**Xi'an**	**34.35**	**18**	P	**P**	**02 05 08.0**	**-1.3**
XAN				AP	pP	02 05 14.0	-2.6
XAN				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.2						
LZH	**Lanzhou**	**35.12**	**10**	⇑P	**P**	**02 05 16.0**	**+0.1**
LZH				AP	pP	02 05 23.0	-0.2
LZH				XP	sP	02 05 29.5	+3.2
LZH				AMB	AMB		
	comp=Z,43nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,167nm,4.0s						
LZH				LR	LR		
	comp=E,1μm,14.8s						
LZH				LR	LR		
	comp=Z,2μm,15.6s,MS4.9						
KAKA	**Kakadu**	**37.74**	**113**	*e*P	**P**	**02 05 36.6**	**-1.5**
	comp=Z,15nm,0.9s,mb4.7						
GTA	**Gaotai**	**37.96**	**3**	*e*P	**P**	**02 05 40.0**	**+0.3**
GTA				AP	pP	02 05 47.3	+0.2
GTA				XP	sP	02 05 50.5	+0.3
GTA				PP	PP	02 07 08.5	-1.3
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
GTA				AMB	AMB		
	comp=Z,352nm,5.4s						
GTA				LR	LR		
	comp=N,416nm,12.6s,MS4.6						
GTA				LR	LR		
	comp=E,445nm,13.2s,MS4.6						
GTA				LR	LR		
	comp=Z,597nm,14.1s,MS4.5						
HHC	**Hu-ho-hao-te**	**41.44**	**17**	*e*P	**P**	**02 06 09.5**	**+1.0**
HHC				AP	pP	02 06 19.3	+3.4
HHC				XP	sP	02 06 23.3	+4.3
HHC				PP	PP	02 07 48.0	+0.6
HHC				AMB	AMB		
	comp=Z,8.0nm,0.3s,mb4.8						
HHC				AMB	AMB		
	comp=Z,249nm,4.1s						
HHC				LR	LR		
	comp=N,822nm,13.7s,MS4.9						
HHC				LR	LR		
	comp=E,790nm,14.2s,MS4.9						
HHC				LR	LR		
	comp=Z,839nm,15.2s,MS4.7						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**02 06 14.8**	**-0.2**
	comp=Z,4.6nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=32						
WRA				pP	pP	02 06 22.3	-0.1
	comp=Z,4.0nm,0.6s,baz=302,slow=9.1,SNR=8.0						
WB2	**Warramunga Ar**	**42.20**	**122**	*e*P	**P**	**02 06 14.4**	**-0.7**
BJT	**Baijiatuao**	**42.22**	**22**	*e*P	**P**	**02 06 15.9**	**+0.9**
BJT				pmax	pmax		
	comp=Z,23nm,0.8s						
BJT	**Baijiatuao**	**42.22**	**22**	*e*P	**P**	**02 06 15.9**	**+0.9**
	comp=Z,23nm,0.8s,mb4.9						
BJI	**Beijing**	**42.24**	**22**	P	**P**	**02 06 16.3**	**+1.2**
BJI				AMB	AMB		
	comp=Z,24nm,0.8s,mb4.9						
WMQ	**Urumqi**	**43.11**	**350**	⇑*i*P	**P**	**02 06 23.3**	**+1.1**
WMQ				AP	pP	02 06 30.0	+0.4
WMQ				XP	sP	02 06 33.0	+0.3
WMQ				PP	PP	02 08 06.0	+1.4
WMQ				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,159nm,5.6s						
WMQ				LR	LR		
	comp=N,331nm,17.2s,MS4.7						
WMQ				LR	LR		
	comp=E,783nm,22.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,460nm,20.0s,MS4.4						
FORT	**Forrest**	**43.45**	**140**	*e*P	**P**	**02 06 27.3**	**+2.2**
	comp=Z,254nm,0.6s						
ASAR	**Alice Springs**	**43.56**	**127**	P	**P**	**02 06 26.1**	**0.0**
	comp=Z,3.1nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=27						
ASAR				pP	pP	02 06 33.4	-0.1
	comp=Z,1.3nm,0.4s,baz=297,slow=7.3,SNR=8.6						
ASAR				PcP	PcP	02 08 16.1	+1.9
	comp=Z,0.8nm,0.9s,baz=294,slow=4.8,SNR=4.0						
KS15	**Wonju Array Si**	**45.75**	**35**	*e*P	**P**	**02 06 43.4**	**-0.1**
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**02 06 43.7**	**-0.3**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
AAK	**Ala-Archa**	**45.83**	**337**	*e*P	**P**	**02 06 43.7**	**-0.3**
	comp=Z,8.6nm,1.1s,mb4.6						
SONM	**Songino Array**	**47.00**	**9**	P	**P**	**02 06 53.8**	**+0.5**
	comp=Z,11nm,0.8s,mb4.8,baz=189,slow=8.7,SNR=70						
SONM				pP	pP	02 07 00.9	+0.2
	comp=Z,12nm,0.9s,baz=186,slow=9.4,SNR=21						
MKAR	**Makanchi Array**	**47.08**	**346**	*i* P	**P**	**02 06 54.3**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,29nm,1.2s						
MKAR	**Makanchi Array**	**47.08**	**346**	P	**P**	**02 06 54.9**	**+1.1**
	comp=Z,8.5nm,0.9s,mb4.7,baz=160,slow=7.9,SNR=61						
ULN	**Ulaanbaatar**	**47.13**	**9**	*e*P	**P**	**02 06 54.5**	**+0.2**
ULN				*e*PP	pP	02 07 01.6	-0.1
ULN				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**47.13**	**9**	*e*P	**P**	**02 06 54.5**	**+0.2**
	comp=Z,7.9nm,0.9s,mb4.6						
ULN				*e*pP	pP	02 07 01.6	-0.1
ZAK	**Zakamensk**	**49.14**	**5**	*e*P	**P**	**02 07 10.1**	**+0.3**
ZAK				*e*		02 09 09.2	
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
CN2	**Changchun**	**49.22**	**27**	*e*P	**P**	**02 07 10.0**	**-0.5**
CN2				*e*XP	sP	02 07 24.8	+3.8
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,600nm,4.0s						
CN2				LR	LR		
	comp=N,590nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=E,590nm,15.0s,MS4.8						
CN2				LR	LR		
	comp=Z,670nm,16.0s,MS4.7						
TLY	**Talaya**	**50.46**	**5**	*e*P	**P**	**02 07 20.5**	**+0.6**
TLY				*e*	pP	02 07 28.3	+0.9
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,453nm,17.0s,MS4.5						
HIA	**Hailar**	**51.53**	**19**	*e*P	**P**	**02 07 28.0**	**-0.1**
HIA				pmax	pmax		
	comp=Z,19nm,1.4s						
HIA	**Hailar**	**51.53**	**19**	*e*P	**P**	**02 07 28.0**	**-0.1**
	comp=Z,19nm,1.4s,mb4.8						
KURK	**Kurchatov**	**51.63**	**345**	*i* P	**P**	**02 07 28.9**	**+0.1**
KURK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
KURK	**Kurchatov**	**51.63**	**345**	*e*P	**P**	**02 07 28.8**	**-0.1**
	comp=Z,19nm,1.1s,mb4.9						
MDJ	**Mudanjiang**	**51.78**	**29**	P	**P**	**02 07 30.5**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,537nm,13.0s						
MDJ	**Mudanjiang**	**51.78**	**29**	P	**P**	**02 07 30.3**	**+0.2**
	comp=Z,7.5nm,0.7s,mb4.7						
CTA	**Charters Tower**	**52.65**	**117**	P	**P**	**02 07 37.6**	**+0.7**
	comp=Z,3.9nm,0.9s,mb4.4,baz=277,slow=13,SNR=3.2						
CTA				pP	pP	02 07 44.4	0.0
	comp=Z,3.0nm,0.5s,baz=120,slow=2.0,SNR=2.7						
CTAO	**Charters Tower**	**52.65**	**117**	*e*P	**P**	**02 07 38.3**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
CTAO	**Charters Tower**	**52.65**	**117**	*e*P	**P**	**02 07 38.3**	**+1.4**
	comp=Z,8.2nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**53.52**	**132**	*e*P	**P**	**02 07 43.4**	**+0.2**
	comp=Z,3.5nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**53.52**	**132**	P	**P**	**02 07 43.6**	**+0.4**
	comp=Z,4.2nm,0.7s,mb4.5,baz=301,slow=8.6,SNR=12						
STKA				pP	pP	02 07 51.9	+1.2
	comp=Z,4.2nm,0.6s,baz=299,slow=6.4,SNR=6.4						
NVS	**Novosibirsk**	**54.52**	**350**	*i* P	**P**	**02 07 48.7**	**-1.5**
NVS				*i*		02 08 05.6	
NVS				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,12nm,1.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,1.5s						
BVA0	**Borovoye Array**	**56.08**	**341**	*i* P	**P**	**02 08 00.5**	**-1.1**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
BVAR	**Borovoye Array**	**56.08**	**341**	P	**P**	**02 08 01.0**	**-0.6**
	comp=Z,6.7nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=42						
CHKZ	**Chkalovo**	**56.56**	**341**	*e*P	**P**	**02 08 04.2**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,73nm,0.6s						
CHKZ	**Chkalovo**	**56.56**	**341**	*e*P	**P**	**02 08 04.2**	**-0.7**
	comp=Z,73nm,0.6s						
BOD	**Bodaibo**	**57.88**	**11**	⇓*i*P	**P**	**02 08 13.4**	**-0.9**
BOD				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
GNI	**Garni**	**61.12**	**316**	P	**P**	**02 08 34.1**	**-2.8**
	comp=Z,1.2nm,0.4s,mb4.4,baz=168,slow=19,SNR=2.7						
GNI				pP	pP	02 08 42.2	-2.3
	comp=Z,0.9nm,0.3s,baz=189,slow=16,SNR=1.8						
KIV	**Kislovodsk**	**64.14**	**319**	*e*P	**P**	**02 08 54.6**	**-2.3**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
YAK	**Yakutsk**	**65.31**	**16**	*e*P	**P**	**02 09 02.5**	**-1.6**
YAK				pmax	pmax		
	comp=Z,23nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,8.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=E,2.0nm,1.0s						
BRTR	**Keskin Array B**	**68.94**	**312**	P	**P**	**02 09 27.0**	**-0.5**
	comp=E,0.6nm,0.7s,baz=143,slow=6.2,SNR=3.5						
BRTR				pP	pP	02 09 34.8	-0.4
	comp=E,1.0nm,0.8s,baz=112,slow=6.7,SNR=4.4						
MA2	**Magadan**	**71.24**	**26**	*e*P	**P**	**02 09 41.0**	**-0.1**
MA2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MA2	**Magadan**	**71.24**	**26**	*e*P	**P**	**02 09 41.0**	**-0.1**
	comp=Z,7.5nm,0.8s,mb4.7						
TIXI	**Tiksi**	**73.06**	**10**	*e*P	**P**	**02 09 48.9**	**-2.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
TIXI				MLR	MLR		
	comp=Z,320nm,15.0s,MS4.7						
AKASG	**Malin Array Be**	**75.09**	**322

23nm,0.7s,mb4.9
KKN Kakani 28.25 338 *e*P **P 02 09 08.6 +0.6**
9.2nm,0.4s,mb4.8
GKN Gorkha 28.68 337 *e*P **P 02 09 12.3 +0.4**
16nm,0.7s,mb4.8
KOLN Koldanda 28.90 335 *e*P **P 02 09 14.1 +0.2**
20nm,0.6s,mb4.9
ENH Enshi 30.85 22 *e*P **P 02 09 30.1 -1.1**
4.5nm,0.4s,mb4.7
NJ2 Nanjing 36.63 32 *e*P **P 02 10 21.5 +0.5**
NJ2 AP pP 02 10 31.0 +1.0
NJ2 PP PP 02 11 49.5 +3.5
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,1μm,6.6s
NJ2 LR LR
comp=N,2μm,17.2s,MS5.1
NJ2 LR LR
comp=E,2μm,18.4s,MS5.1
NJ2 LR LR
comp=Z,2μm,17.2s,MS4.9
GTA Gaotai 37.65 4 *e*P **P 02 10 29.8 +0.3**
GTA AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
HHC Hu-ho-hao-te 41.20 17 *e*P **P 02 11 00.5 +1.6**
HHC AP pP 02 11 09.5 +1.6
HHC PP PP 02 12 40.0 +3.0
HHC PCP PcP 02 12 57.5 -0.8
HHC AMB AMB
comp=Z,14nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,317nm,15.5s
HHC LR LR
comp=N,822nm,13.7s,MS4.7
HHC LR LR
comp=E,313nm,18.4s,MS4.7
WRA Warramunga Arr 42.55 122 P **P 02 11 10.3 -0.1**
comp=E,0.4nm,0.4s,mb3.5,baz=302,slow=8.9,SNR=6.2
WRA pP pP 02 11 18.8 -0.6
comp=E,4.2nm,0.7s,baz=302,slow=9.3,SNR=13
WMQ Urumqi 42.76 350 *e*P **P 02 11 13.0 +1.3**
WMQ AP pP 02 11 23.0 +2.3
WMQ PCP PcP 02 13 03.0 -0.5
WMQ AMB AMB
comp=Z,5.0nm,0.7s,mb4.3
WMQ AMB AMB
comp=Z,79nm,5.0s
WMQ LR LR
comp=N,430nm,20.0s,MS4.4
WMQ LR LR
comp=E,250nm,20.0s,MS4.4
WMQ LR LR
comp=Z,319nm,24.2s,MS4.1
ASAR Alice Springs 43.93 127 P **P 02 11 21.4 -0.1**
comp=Z,1.6nm,0.7s,mb3.9,baz=297,slow=7.7,SNR=12
ASAR pP pP 02 11 30.7 +0.2
comp=Z,0.8nm,0.6s,baz=300,slow=8.4,SNR=4.3
AAK Ala-Archa 45.44 337 *e*P **P 02 11 33.9 +0.5**
comp=Z,2.4nm,0.9s,mb4.0
MKAR Makanchi Array 46.71 346 P **P 02 11 40.4 -3.0**
comp=Z,6.1nm,0.7s,mb4.7,baz=159,slow=8.3,SNR=37
MKAR pP pP 02 11 52.0 -0.4
comp=Z,2.5nm,0.5s,baz=167,slow=8.3,SNR=11
SONM Songino Array 46.71 9 P **P 02 11 39.9 -3.5**
comp=Z,1.8nm,0.5s,mb4.2,baz=188,slow=8.7,SNR=7.7
SONM pP pP 02 11 51.1 -1.3
comp=Z,1.3nm,0.3s,baz=190,slow=9.6,SNR=8.4
CN2 Changchun 49.03 27 *e*P **P 02 12 00.8 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,140nm,3.0s
CN2 LR LR
comp=N,860nm,15.0s,MS5.0
CN2 LR LR
comp=E,590nm,15.0s,MS5.0
CN2 LR LR
comp=Z,810nm,15.0s,MS4.8
TLY Talaya 50.15 5 *e*P **P 02 12 10.2 +0.2**
comp=Z,3.3nm,0.8s,mb4.4
KURK Kurchatov 51.26 345 *e*P **P 02 12 18.1 -0.3**
comp=Z,4.8nm,0.9s,mb4.4
STKA Stephens Creek 53.90 132 P **P 02 12 38.8 +0.4**
comp=Z,0.9nm,0.6s,mb3.9,baz=307,slow=10,SNR=2.9
STKA pP pP 02 12 47.6 0.0
comp=Z,2.5nm,0.8s,baz=326,slow=6.5,SNR=3.7
BVAR Borovoye Array 55.70 341 P **P 02 12 50.4 -0.8**
comp=Z,2.9nm,0.7s,mb4.4,baz=140,slow=8.7,SNR=14
BVAR pP pP 02 12 58.7 -1.7
comp=Z,4.8nm,0.6s,baz=144,slow=9.3,SNR=20
CHKZ Chkalovo 56.18 342 *e*P **P 02 12 53.9 -0.8**
comp=Z,4.2nm,0.6s,mb4.7
CHKZ *e*pP pP 02 13 02.5 -1.4
BRTR Keskin Array B 68.56 312 P **P 02 14 16.8 -0.7**
comp=Z,1.0nm,0.8s,mb3.8,baz=128,slow=9.2,SNR=4.7
AKASG Malin Array Be 74.69 322 P **P 02 14 53.1 -0.8**
comp=Z,1.0nm,0.5s,mb4.0,baz=89,slow=5.3,SNR=7.0
FINES FINESS Array B 79.44 333 P **P 02 15 20.2 +0.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=90,slow=5.7,SNR=8.3
FINES pP pP 02 15 28.9 -0.7
comp=Z,2.6nm,0.5s,baz=95,slow=5.1,SNR=17
FINES FINESS Array B 79.44 333 P **P 02 15 20.2 +0.1**
FINES pP pP 02 15 28.9 -0.7
ARCES ARCESS Array B 81.99 340 P **P 02 15 33.5 +0.2**
comp=Z,5.1nm,0.9s,mb4.5,baz=97,slow=7.3,SNR=5.2
ARCES pP pP 02 15 42.5 -0.5
comp=Z,1.5nm,0.5s,baz=90,slow=6.1,SNR=10
GERES GERESS Array B 84.25 319 P **P 02 15 46.4 +1.0**
comp=Z,0.9nm,0.7s,mb4.0,baz=90,slow=4.0,SNR=9.2
GERES pP pP 02 15 55.3 +0.2
comp=Z,1.1nm,0.7s,baz=108,slow=4.2,SNR=8.5
NB2 NORSAR Subarra 86.44 331 P **P 02 15 56.2 +0.2**
comp=Z,1.4nm,0.8s,mb4.2,baz=96,slow=4.8
NOA NORSAR Array B 86.44 331 P **P 02 15 56.2 +0.2**
comp=Z,0.8nm,0.8s,mb4.0,baz=94,slow=5.0,SNR=5.7
NOA pP pP 02 16 04.5 -1.2
comp=Z,1.1nm,0.8s,baz=93,slow=5.1,SNR=4.4
LRAL Lakeview Retre 145.28 6 *e*PKPdf PKPdf 02 22 51.1 -4.7

*IDC **30** 02:06:08.6±0.7,1.04N×96.87E,mb4.3/15,mb1 4.4/15, mb1mx4.3/20,mbtmp4.3/15,Error ellipse: s-maj=34.2km s-min=13.7km az=52.0*
*MOS **30** 02:06:12.1±1.0,1.15N×97.06E,h33km,mb4.9/15,Error ellipse: s-maj=22.0km s-min=9.3km az=106.4*
*BJI **30** 02:06:12.1,0.86N×97.31E,h48km,mB5.3,mb4.9,Ms4.9, Msz4.7*
*NEIC **30** 02:06:13.8±0.4,1.16N×97.12E,h30km,mb4.8/16,Error ellipse: s-maj=11.6km s-min=7.0km az=53.0*
ISC 30 02:06:11.6±1.8,1.19N±0.06×97.17E±0.07,h26km±13km, h30km±.9km:pP-P,n81,σ0s98/86,mb4.7/46,MS4.7/9,3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.35**	**40**	*e*P		**Pn**	**02 07 31.1**	**-0.9**
CM31	**Chiang Mai Arr**	**17.25**	**6**	P		**P**	**02 10 11.5**	**-1.0**
PALK	**Pallekele**	**17.49**	**291**	P		**P**	**02 10 07.2**	**-8.4**
KKM	**Kota Kinabalu**	**19.61**	**75**	*e*P		**P**	**02 10 41.5**	**+0.4**
QIZ	**Qiongzhong**	**21.65**	**34**	P		**P**	**02 11 02.5**	**+0.3**
QIZ	**Qiongzhong**	**21.65**	**34**	*e*P		**P**	**02 11 02.3**	**+0.1**
	25nm,1.2s,mb4.5							
HYB	**Hyderabad**	**24.39**	**312**	*e*P		**P**	**02 11 33.0**	**+3.7**
HYB	**Hyderabad**	**24.39**	**312**	*i* P		**P**	**02 11 33.0**	**+3.7**
KMI	**Kunming**	**24.39**	**12**	P		**P**	**02 11 30.5**	**+1.3**
KMI				AP			02 11 37.5	
KMI				AMB	AMB			
	comp=Z,56nm,1.2s,mb4.9							
KMI				LR	LR			
	comp=N,2μm,15.3s,MS4.7							
KMI				LR	LR			
	comp=E,807nm,13.4s,MS4.7							
KMI				LR	LR			
	comp=Z,2μm,14.6s,MS4.7							
GYA	**Guiyang**	**26.73**	**19⇑**	*i*P		**P**	**02 11 51.0**	**-0.1**
GYA				PP	PP		02 12 36.0	0.0
GYA				S		**S**	**02 16 30.8**	**+7.5**
GYA				AMB	AMB			
	comp=Z,30nm,0.8s,mb4.9							
GYA				AMB	AMB			
	comp=Z,120nm,4.2s							
GYA				LR	LR			
	comp=N,1μm,11.7s,MS4.7							
GYA				LR	LR			
	comp=E,860nm,13.2s,MS4.7							
GYA				LR	LR			
	comp=Z,2μm,13.1s,MS4.7							
JIRN	**Jiri**	**28.34**	**339**	*e*P		**P**	**02 12 06.6**	**+0.9**
	comp=Z,85nm,1.0s,mb5.3							
PKI	**Pulchoki**	**28.55**	**338**	*e*P		**P**	**02 12 09.2**	**+1.6**
	comp=Z,50nm,1.1s,mb5.2							
PKI	**Pulchoki**	**28.55**	**338**	*e*P		**P**	**02 12 09.2**	**+1.6**
PKI				pmax	pmax			
	comp=Z,25nm,1.1s,mb4.9							
GUN	**Gumba**	**28.68**	**339**	*e*P		**P**	**02 12 09.8**	**+1.0**
	comp=Z,76nm,0.9s,mb5.4							
DMN	**Daman**	**28.70**	**337**	*e*P		**P**	**02 12 09.5**	**+0.6**
KKN	**Kakani**	**28.80**	**338**	*e*P		**P**	**02 12 10.7**	**+0.9**
LSA	**Lhasa**	**28.93**	**349**	P		**P**	**02 12 17.0**	**+6.1**
LSA	**Lhasa**	**28.93**	**349**	*e*P		**P**	**02 12 10.8**	**-0.1**
LSA				pmax	pmax			
	comp=Z,10.0nm,0.6s,mb4.7							
LSA	**Lhasa**	**28.93**	**349**	*e*P		**P**	**02 12 10.8**	**-0.1**
	comp=Z,9.7nm,0.6s,mb4.7							
GKN	**Gorkha**	**29.24**	**337**	*e*P		**P**	**02 12 14.1**	**+0.3**
KOLN	**Koldanda**	**29.45**	**335**	*e*P		**P**	**02 12 16.0**	**+0.3**
	comp=Z,50nm,1.0s,mb5.2							
CD2	**Chengdu**	**30.21**	**11**	P		**P**	**02 12 21.0**	**-1.4**
ENH	**Enshi**	**31.20**	**21**	*e*P		**P**	**02 12 29.3**	**-1.9**
	comp=Z,25nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**33.95**	**126**	*e*P		**P**	**02 12 54.9**	**-0.3**
	comp=E,6.0nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**33.95**	**126**	P		**P**	**02 12 54.8**	**-0.4**
	comp=Z,7.5nm,0.7s,mb4.7,baz=328,slow=4.5,SNR=8.1							
XAN	**Xi'an**	**34.48**	**17**	P		**P**	**02 12 58.8**	**-0.9**
XAN				AMB	AMB			
	comp=Z,23nm,0.9s,mb5.1							
LZH	**Lanzhou**	**35.27**	**9**	*e*P		**P**	**02 13 06.0**	**-0.4**
LZH				AMB	AMB			
	comp=Z,32nm,1.4s,mb5.1							
LZH				LR	LR			
	comp=E,1μm,17.3s							
LZH				LR	LR			
	comp=Z,2μm,18.4s,MS4.8							
SDNR	**Sundarnagar**	**35.69**	**330**	*e*P		**P**	**02 13 11.0**	**+1.0**
NJ2	**Nanjing**	**36.89**	**32**	*e*P		**P**	**02 13 21.0**	**+0.9**
NJ2				AP	pP		02 13 30.5	+2.6
NJ2				XP	sP		02 13 34.5	+3.4
NJ2				PP	PP		02 14 48.0	+1.8
NJ2				S		**S**	**02 19 03.0**	**+0.4**
NJ2				XS			02 19 22.0	
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
NJ2				AMB	AMB			
	comp=Z,620nm,6.2s							
NJ2				LR	LR			
	comp=N,800nm,17.2s,MS5.0							
NJ2				LR	LR			
	comp=E,2μm,19.4s,MS5.0							
NJ2				LR	LR			
	comp=Z,610nm,14.2s							
GTA	**Gaotai**	**38.12**	**3**	*e*P		**P**	**02 13 31.0**	**+0.7**
GTA				S		**S**	**02 19 14.5**	**-6.8**
GTA				AMB	AMB			
	comp=Z,17nm,0.9s,mb4.8							
GTA				AMB	AMB			
	comp=Z,146nm,5.4s							
GTA				LR	LR			
	comp=N,541nm,13.8s,MS4.6							
GTA				LR	LR			
	comp=E,297nm,14.4s,MS4.6							
GTA				LR	LR			
	comp=Z,341nm,14.4s,MS4.3							
JOW	**Kunigami**	**39.27**	**47**	P		**P**	**02 13 40.9**	**+0.8**
	comp=Z,20nm,0.5s,mb5.1,baz=212,slow=9.5,SNR=4.8							
HHC	**Hu-ho-hao-te**	**41.58**	**17**	*e*P		**P**	**02 13 59.8**	**+0.8**
HHC				AP	pP		02 14 09.0	+2.2
HHC				XP	sP		02 14 13.0	+3.0
HHC				PP	PP		02 15 39.0	+0.8
HHC				S		**S**	**02 20 14.5**	**+1.3**
HHC				XS			02 20 30.5	
HHC				SS	SS		02 23 13.5	0.0
HHC				SCS	ScS		02 23 57.8	-0.7
HHC				AMB	AMB			
	comp=Z,15nm,0.5s,mb4.9							
HHC				AMB	AMB			
	comp=Z,316nm,13.1s							
HHC				LR	LR			
	comp=N,822nm,14.3s,MS4.8							
HHC				LR	LR			
	comp=E,273nm,14.9s,MS4.8							
HHC				LR	LR			
	comp=Z,839nm,17.2s,MS4.7							
WRA	**Warramunga Arr**	**42.06**	**122**	P		**P**	**02 14 03.5**	**+0.4**
	comp=Z,5.0nm,0.6s,mb4.3,baz=300,slow=9.0,SNR=16							
WB2	**Warramunga Arr**	**42.07**	**122**	*e*P		**P**	**02 14 03.2**	**-0.1**
BJT	**Baijiatuau**	**42.34**	**22**	*e*P		**P**	**02 14 06.7**	**+1.5**
BJT				pmax	pmax			
	comp=Z,12nm,0.6s							
BJT	**Baijiatuau**	**42.34**	**22**	*e*P		**P**	**02 14 06.7**	**+1.4**
	comp=Z,12nm,0.6s,mb4.7							
BJI	**Beijing**	**42.36**	**22**	P		**P**	**02 14 06.3**	**+0.9**
BJI				AMB	AMB			
	comp=Z,33nm,0.9s,mb5.0							
WMQ	**Urumqi**	**43.28**	**350⇑**	*i*P		**P**	**02 14 13.5**	**+0.7**
WMQ				AP	pP		02 14 22.0	+1.3
WMQ				XP	sP		02 14 27.0	+3.1
WMQ				PP	PP		02 15 56.5	+1.0
WMQ				*e*S		**S**	**02 20 38.0**	**-0.1**
WMQ				AMB	AMB			
	comp=Z,22nm,1.2s,mb4.8							
WMQ				AMB	AMB			
	comp=Z,193nm,6.0s							
WMQ				LR	LR			
	comp=N,430nm,17.2s,MS4.6							
WMQ				LR	LR			
	comp=E,522nm,18.4s,MS4.6							
WMQ				LR	LR			
	comp=Z,403nm,29.6s							
ASPA	**Alice Springs**	**43.41**	**127**	*e*P		**P**	**02 14 14.9**	**+0.7**
ASAR	**Alice Springs**	**43.41**	**127**	P		**P**	**02 14 14.8**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.2,baz=300,slow=7.8,SNR=18							
KS15	**Wonju Array Si**	**45.84**	**35**	*e*P		**P**	**02 14 34.1**	**+0.6**
FRU	**Bishkek**	**46.12**	**337**	*e*P		**P**	**02 14 41.0**	**+5.4**
SONM	**Songino Array**	**47.15**	**8**	P		**P**	**02 14 44.0**	**+0.4**
	comp=Z,7.2nm,0.8s,mb4.7,baz=191,slow=8.8,SNR=30							
SONM				PcP	PcP		02 16 15.6	+0.1
	comp=Z,1.4nm,0.5s,baz=191,slow=4.0,SNR=6.1							
MKAR	**Makanchi Array**	**47.24**	**346**	P		**P**	**02 14 44.9**	**+0.4**
	comp=Z,6.3nm,0.5s,mb4.8,baz=160,slow=9.0,SNR=46							
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P		**P**	**02 14 45.1**	**+0.4**
ULN				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**47.28**	**9**	*e*P		**P**	**02 14 45.1**	**+0.4**
	comp=Z,8.8nm,1.0s,mb4.6							
ZAK	**Zakamensk**	**49.29**	**5**	*e*P		**P**	**02 15 00.4**	**+0.1**
ZAK				pmax	pmax			
	comp=Z,2.0nm,0.9s,mb4.2							
CN2	**Changchun**	**49.33**	**27**	*e*P		**P**	**02 15 00.0**	**-0.7**
CN2				*e*S		**S**	**02 22 03.5**	**-0.8**
CN2				AMB	AMB			
	comp=Z,20nm,1.1s,mb5.1							
CN2				AMB	AMB			
	comp=Z,110nm,3.0s							
CN2				LR	LR			
	comp=N,700nm,15.0s,MS4.9							
CN2				LR	LR			
	comp=E,580nm,15.0s,MS4.9							
CN2				LR	LR			
	comp=Z,590nm,16.0s,MS4.7							
TLY	**Talaya**	**50.61**	**5**	*e*P		**P**	**02 15 10.4**	**+0.1**
TLY				*e*			02 15 27.5	
TLY				pmax	pmax			
	comp=Z,6.0nm,0.7s,mb4.6							
HIA	**Hailar**	**51.66**	**19**	*e*P		**P**	**02 15 17.9**	**-0.5**
HIA				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HIA	**Hailar**	**51.66**	**19**	*e*P		**P**	**02 15 17.9**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.7							
KURK	**Kurchatov**	**51.79**	**345**	*e*P		**P**	**02 15 19.0**	**-0.4**
KURK				pmax	pmax			
	comp=Z,9.0nm,0.9s,mb4.7							
KURK	**Kurchatov**	**51.79**	**345**	*e*P		**P**	**02 15 19.0**	**-0.3**
	comp=Z,9.1nm,0.9s,mb4.7							
STKA	**Stephens Creek**	**53.37**	**132**	*e*P		**P**	**02 15 31.9**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.4							
STKA	**Stephens Creek**	**53.37**	**132**	P		**P**	**02 15 32.1**	**+0.7**
	comp=Z,5.0nm,0.7s,mb4.5,baz=302,slow=6.4,SNR=8.8							
NVS	**Novosibirsk**	**54.68**	**350**	*i* P		**P**	**02 15 39.3**	**-1.4**
NVS				*e*			02 25 22.2	
NVS				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
NVS				pmax	pmax			
	comp=N,15nm,1.7s							
NVS				pmax	pmax			
	comp=E,10.0nm,1.4s							
BVAR	**Borovoye Array**	**56.25**	**341**	P		**P**	**02 15 50.7**	**-1.3**
	comp=E,6.1nm,0.6s,mb4.8,baz=145,slow=8.9,SNR=33							
KLR	**Kul'dur**	**56.28**	**27**	*e*P		**P**	**02 15 48.8**	**-3.5**
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P		**P**	**02 15 53.8**	**-1.7**
CHKZ				pmax	pmax			
	comp=Z,11nm,0.7s,mb5.0							
CHKZ	**Chkalovo**	**56.73**	**341**	*e*P		**P**	**02 15 53.8**	**-1.7**
	comp=Z,11nm,0.7s,mb5.0							
BOD	**Bodaibo**	**58.02**	**11⇑**	*i*P		**P**	**02 16 03.2**	**-1.3**
BOD				pmax	pmax			
	comp=Z,9.0nm,1.3s,mb4.6							
SVE	**Sverdlovsk**	**62.69**	**338**	*e*P		**P**	**02 16 36.0**	**-0.4**
YAK	**Yakutsk**	**65.44**	**16**	*e*P		**P**	**02 16 52.4**	**-1.8**
YAK				pmax	pmax			
	comp=Z,16nm,0.9s,mb5.0							
YAK				pmax	pmax			
	comp=N,5.0nm,1.0s							
YAK				pmax	pmax			
	comp=E,5.0nm,1.2s							
BRTR	**Keskin Array B**	**69.09**	**312**	P		**P**	**02 17 15.6**	**-2.1**
BRTR	**Keskin Array B**	**69.09**	**312**	P		**P**	**02 17 15.5**	**-2.1**
	comp=E,0.6nm,0.7s,mb3.6,baz=135,slow=4.1,SNR=3.6							
MA2	**Magadan**	**71.36**	**26**	*e*P		**P**	**02 17 31.1**	**0.0**
MA2				pmax	pmax			
	comp=Z,6.0nm,0.8s,mb4.6							
OBN	**Obninsk**	**72.61**	**328**	*e*P		**P**	**02 17 48.3**	**+10**
OBN				pmax	pmax			
	comp=Z,12nm,1.1s,mb4.7							
TIXI	**Tiksi**	**73.20**	**10**	*e*P		**P**	**02 17 38.4**	**-3.4**
TIXI				pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5							
TIXI				MLR	MLR			
	comp=Z,262nm,14.0s,MS4.7							
AKASG	**Malin Array Be**	**75.25**	**322**	P		**P**	**02 17 51.1**	**-2.8**
	comp=Z,0.9nm,0.6s,mb3.9,baz=83,slow=5.1,SNR=5.8							
FINES	**FINESS Array B**	**79.99**	**333**	P		**P**	**02 18 20.1**	**+0.1**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=5.7,SNR=4.6							
KAF	**Kangasniemi**	**80.08**	**333**	*e*p		**P**	**02 18 20.1**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.1							
KAF	**Kangasniemi**	**80.08**	**333**	*e*P		**P**	**02 18 20.1**	**-0.3**
KAF				pmax	pmax			
	comp=Z,1.0nm,0.6s,mb3.9							
ARCES	**ARCESS Array B**	**82.53**	**340**	P		**P**	**02 18 33.5**	**+0.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=90,slow=4.9,SNR=5.4							
GERES	**GERESS Array B**	**84.80**	**319**	P		**P**	**02 18 46.4**	**+1.3**
	comp=Z,0.7nm,0.8s,mb3.9,baz=101,slow=6.8,SNR=6.8							
CLL	**Collm**	**85.42**	**321**	P		**P**	**02 18 49.0**	**+0.9**
VNDA	**Vanda**	**85.82**	**169**	P		**P**	**02 18 48.2**	**-1.4**
	comp=Z,0.2nm,0.4s,mb3.7,baz=265,slow=12,SNR=4.8							
NB2	**NORSAR Subarra**	**87.00**	**331**	P		**P**	**02 18 55.5**	**-0.2**
	comp=Z,2.7nm,1.0s,mb4.4,baz=95,slow=4.8							
NB2	**NORSAR Subarra**	**87.00**	**331**	P		**P**	**02 18 55.5**	**-0.2**
NB2				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.5							
NOA	**NORSAR Array B**	**87.00**	**331**	P		**P**	**02 18 55.8**	**+0.1**
NOA	**NORSAR Array B**	**87.00**	**331**	P		**P**	**02 18 55.7**	**+0.1**
	comp=Z,0.6nm,0.7s,mb4.0,baz=97,slow=5.5,SNR=4.2							
PDAR	**Pinedale Array**	**130.06**	**26**	PKP		PKPdf	02 25 21.9	-2.5
	comp=Z,0.4nm,0.7s,baz=72,slow=2.9,SNR=3.1							

IDC 30 02:13:25.4±7.2,4.69N×96.47E,mb4.1/5,mb1 4.1/5, mb1mx3.7/18,mbtmp4.1/5,Error ellipse: s-maj=163.2km s-min=83.6km az=143.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.70**	**346**	P		P	02 21 33.4	-0.5
	3.3nm,0.8s,baz=161,slow=7.8,SNR=26							
SONM	**Songino Array**	**43.82**	**10**	P		P	02 21 32.9	-1.9
	3.1nm,0.8s,baz=189,slow=8.8,SNR=17							
BVAR	**Borovoye Array**	**52.74**	**341**	P		P	02 22 39.9	-4.3
	0.7nm,0.6s,baz=135,slow=6.3,SNR=4.5							
FINES	**FINESS Array B**	**76.59**	**332**	P		P	02 25 17.5	-1.7
	0.7nm,0.6s,baz=100,slow=8.5,SNR=4.2							
ARCES	**ARCESS Array B**	**79.03**	**340**	P		P	02 25 31.7	-0.9
	2.1nm,0.8s,baz=98,slow=6.4,SNR=4.5							

*BJI **30** 02:20:43.9,0.99N×98.87E,h30km,mB5.1,mb4.7,Ms4.7, Msz4.3*
*IDC **30** 02:20:48.1±0.7,2.01N×99.32E,mb4.2/11,mb1 4.3/11, mb1mx4.1/19,mbtmp4.2/11,Error ellipse: s-maj=32.3km s-min=15.1km az=47.0*
*NEIC **30** 02:20:52.3±0.5,1.93N×99.23E,h30km,mb4.4/5,Error ellipse: s-maj=16.3km s-min=10.1km az=52.0*
ISC 30 02:20:46.8±3.1,1.73N±0.09×98.98E±0.09,h11km±19km, n30,σ0s92/30,mb4.3/17,MS4.2/1,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**3.48**	**36**	P		**Pn**	**02 21 42.8**	**+0.7**
KULM	**Kulim**	**3.90**	**25**	*e*P		**Pn**	**02 21 47.5**	**-0.5**
KGM	**Kluang**	**4.34**	**86**	P		**Pn**	**02 21 54.6**	**+0.3**
HYB	**Hyderabad**	**25.42**	**309**	*e*P		**P**	**02 26 18.0**	**+1.8**
HYB	**Hyderabad**	**25.42**	**309**	*i* P		**P**	**02 26 18.0**	**+1.8**
NDI	**New Delhi**	**33.90**	**324**	*e*		**P**	**02 27 30.5**	**-1.5**
GTA	**Gaotai**	**37.51**	**1**	*e*P		**P**	**02 28 02.5**	**0.0**
GTA				AP	pP		02 28 09.5	+3.7
GTA				XP	sP		02 28 12.5	+5.4
GTA				AMB	AMB			
	comp=Z,7.0nm,0.9s,mb4.4							
HHC	**Hu-ho-hao-te**	**40.57**	**15**	*e*P		**P**	**02 28 28.3**	**+0.3**
HHC				AP	pP		02 28 38.5	+7.3
HHC				XP	sP		02 28 42.0	+9.4
HHC				PP	PP		02 30 05.3	+0.4
HHC				PCP	PcP		02 30 29.5	-1.4
HHC				SCP			02 34 15.0	
HHC				S		**S**	**02 34 37.3**	**+0.4**
HHC				XS			02 34 55.5	
HHC				SS	SS		02 37 35.0	+3.7
HHC				SCS	ScS		02 38 31.0	-0.8
HHC				AMB	AMB			
	comp=Z,5.0nm,0.3s,mb4.6							
HHC				AMB	AMB			
	comp=Z,285nm,4.9s							
HHC				LR	LR			
	comp=Z,222nm,12.7s,MS4.2							
WRA	**Warramunga Arr**	**40.82**	**124**	P		**P**	**02 28 31.3**	**+1.0**
	comp=Z,3.3nm,0.8s,mb4.0,baz=303,slow=9.1,SNR=9.9							
ASAR	**Alice Springs**	**42.31**	**129**	P		**P**	**02 28 42.7**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=296,slow=7.0,SNR=4.8							
ASAR				PcP	PcP		02 30 38.0	+1.1
	comp=Z,0.4nm,0.9s,baz=252,slow=2.9,SNR=4.1							
WMQ	**Urumqi**	**43.09**	**348**	*e*P		**P**	**02 28 49.5**	**+0.8**
WMQ				AMB	AMB			
	comp=Z,9.0nm,1.0s,mb4.5							
WMQ				AMB	AMB			
	comp=Z,105nm,4.3s							
AAK	**Ala-Archa**	**46.25**	**335**	*e*P		**P**	**02 29 14.0**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.3							
SONM	**Songino Array**	**46.37**	**7**	P		**P**	**02 29 14.4**	**-0.4**
	comp=Z,1.5nm,1.0s,mb3.9,baz=188,slow=8.7,SNR=7.6							
MKAR	**Makanchi Array**	**47.18**	**344**	P		**P**	**02 29 21.4**	**+0.1**
	comp=Z,2.3nm,0.9s,mb4.1,baz=156,slow=7.9,SNR=18							
KURK	**Kurchatov**	**51.76**	**344**	*e*P		**P**	**02

NB2	NORSAR Subarra	87.41	331	P	P	02 33 33.9	-1.3
	comp=Z,4.1nm,1.2s,mb4.5,baz=94,slow=4.8						
NOA	NORSAR Array B	87.41	331	P	P	02 33 36.4	+1.2
	comp=Z,0.6nm,0.7s,mb3.9,baz=96,slow=5.0,SNR=4.4						
CFAA	Coronel Fontan	147.93	201	PKPbc	PKPdf	02 40 37.4	+4.5
	comp=Z,0.4nm,0.8s,baz=141,slow=3.3,SNR=5.1						

IDC 30 02:21:18.8±7.4, 5.63S×146.81E, h154km±43km, mb3.2/3, mb1 3.3/5, mb1mx3.1/12, mbtmp3.6/5, Error ellipse: s-maj=76.2km s-min=48.6km az=44.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.77	175	P	P	02 22 16.6	-0.3
	2.3nm,0.3s,baz=301,slow=5.9,SNR=7.2						
PMG				S		02 23 01.0	-0.6
	1.5nm,0.3s,baz=195,slow=5.6,SNR=3.9						
WRA	Warramunga Arr	18.70	219	P	P	02 25 24.9	-3.0
	0.4nm,0.3s,baz=38,slow=12,SNR=8.7						
ASAR	Alice Springs	21.82	213	P	P	02 26 00.6	+1.2
	0.4nm,0.3s,baz=48,slow=9.0,SNR=5.1						
FITZ	Fitzroy Crossi	24.11	237	P	P	02 26 19.9	-1.8
	1.5nm,0.5s,baz=37,slow=6.9,SNR=3.9						
STKA	Stephens Creek	26.57	190	P	P	02 26 42.3	-2.1
	0.7nm,0.5s,baz=319,slow=11,SNR=2.8						

IDC 30 02:22:57.7±9.8, 22.57N×94.79W, mb3.5/2, mb1 4.0/3, mb1mx3.5/18, mbtmp3.6/3, ML4.5/1, Error ellipse: s-maj=203.6km s-min=54.5km az=20.0, Gulf of Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	Lajitas Array	10.44	312	Pn	P	02 25 31.1	-0.7
	0.8nm,0.3s,baz=131,slow=14,SNR=23						
TXAR				Sn	S	02 27 24.9	-5.9
	0.8nm,0.3s,baz=120,slow=25,SNR=8.9						
PDAR	Pinedale Array	23.60	332	P	P	02 28 11.8	+0.9
	0.5nm,0.6s,baz=130,slow=13,SNR=4.4						
YKA	Yellowknife Ar	42.12	346	P	P	02 30 50.7	-2.2
	0.6nm,0.5s,baz=150,slow=7.9,SNR=11						

IDC 30 02:32:38.6±8.6, 15.51S×171.62W, mb3.8/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=217.1km s-min=146.1km az=144.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	21.75	249	P	P	02 37 31.8	-2.0
	3.0nm,0.7s,baz=103,slow=18,SNR=3.5						
STKA	Stephens Creek	45.47	240	P	P	02 40 59.9	-1.6
	0.9nm,0.7s,baz=82,slow=15,SNR=3.1						
WRA	Warramunga Arr	51.49	257	P	P	02 41 45.9	-2.4
	0.3nm,0.4s,baz=94,slow=6.5,SNR=4.1						
ASAR	Alice Springs	51.71	252	P	P	02 41 48.1	-1.8
	2.1nm,0.4s,baz=89,slow=8.1,SNR=40						

IDC 30 02:32:56.9±3.7, 1.61N×98.01E, mb3.7/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=151.4km s-min=21.3km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	33.52	127	P	P	02 39 39.4	-1.1
	0.8nm,0.3s,baz=153,slow=3.5,SNR=3.1						
WRA	Warramunga Arr	41.57	123	P	P	02 40 46.3	-2.0
	0.4nm,0.5s,baz=304,slow=9.3,SNR=3.1						
ASAR	Alice Springs	43.00	128	P	P	02 40 57.3	-2.7
	0.6nm,1.0s,baz=311,slow=8.3,SNR=4.2						
SONM	Songino Array	46.61	8	P	P	02 41 27.7	-0.9
	0.9nm,0.5s,baz=189,slow=10,SNR=8.5						
MKAR	Makanchi Array	47.05	345	P	P	02 41 29.4	-2.6
	0.8nm,0.7s,baz=159,slow=7.9,SNR=11						

IDC 30 02:40:30.1±2.4, 0.87N×98.00E, mb3.9/6, mb1 4.0/6, mb1mx3.8/17, mbtmp3.9/6, MS4.6/1, Ms1 4.6/1, ms1mx3.4/25, Error ellipse: s-maj=113.2km s-min=20.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.18	122	P	P	02 48 16.1	-2.1
	0.5nm,0.4s,baz=302,slow=9.1,SNR=6.2						
ASAR	Alice Springs	42.56	127	P	P	02 48 27.6	-2.1
	0.6nm,0.7s,baz=298,slow=7.5,SNR=7.6						
SONM	Songino Array	47.34	8	P	P	02 49 06.0	-1.6
	0.3nm,0.5s,baz=184,slow=10,SNR=3.3						
MKAR	Makanchi Array	47.76	345	P	P	02 49 08.9	-2.0
	0.9nm,0.4s,baz=160,slow=8.6,SNR=23						
CBIJ	Chichi jima	49.75	54	LR	LR	03 06 18.9	
	comp=Z,725nm,21.7s,baz=166,slow=31						
STKA	Stephens Creek	52.54	132	P	P	02 49 46.5	-1.2
	1.0nm,0.5s,baz=317,slow=12,SNR=5.0						
ARCES	ARCESS Array B	83.11	340	P	P	02 52 57.1	-1.7
	4.7nm,0.9s,baz=90,slow=3.6,SNR=4.7						

IDC 30 03:04:31.3±4.3, 1.38N×97.30E, mb3.7/3, mb1 3.9/3, mb1mx3.5/17, mbtmp3.7/3, Error ellipse: s-maj=160.2km s-min=29.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	42.05	122	P	P	03 12 24.9	-1.7
	0.3nm,0.4s,baz=302,slow=9.4,SNR=5.9						
SONM	Songino Array	46.94	8	P	P	03 13 04.1	-1.5
	1.6nm,0.8s,baz=192,slow=9.3,SNR=13						
MKAR	Makanchi Array	47.09	346	P	P	03 13 04.7	-2.2
	0.8nm,0.5s,baz=159,slow=8.6,SNR=17						

*IDC **30** 03:19:21.7±1.0, 2.05N×96.45E, mb4.1/12, mb1 4.2/12, mb1mx4.0/21, mbtmp4.1/12, Error ellipse: s-maj=54.7km s-min=16.4km az=49.0*
*NEIC **30** 03:19:26.3±0.4, 2.05N×96.48E, h30km, mb4.4/1, Error ellipse: s-maj=13.7km s-min=8.1km az=223.0*
ISC 30 03:19:24.6±0.7, 2.1N±0.1×96.5E±0.1, h30km, n16, σ0s57/16, mb4.1/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.20	52	eP	Pn	03 20 43.0	+0.5
FITZ	Fitzroy Crossi	34.99	126	P	P	03 26 16.0	-0.7
	5.5nm,0.8s,mb4.6,baz=181,slow=7.9,SNR=6.3						
WRA	Warramunga Arr	43.08	122	P	P	03 27 24.2	+0.1
	0.9nm,0.5s,mb3.8,baz=302,slow=9.0,SNR=12						
ASAR	Alice Springs	44.47	127	P	P	03 27 35.4	+0.1
	0.6nm,0.5s,mb3.6,baz=300,slow=8.2,SNR=7.2						
MKAR	Makanchi Array	46.22	346	P	P	03 27 48.9	0.0
	4.4nm,0.7s,mb4.5,baz=163,slow=8.0,SNR=52						
MKAR	Makanchi Array	46.22	346	P	P	03 27 48.9	0.0
SONM	Songino Array	46.36	9	P	P	03 27 50.2	+0.2
	1.2nm,0.7s,mb4.0,baz=190,slow=9.4,SNR=8.4						
KURK	Kurchatov	50.77	345	eP	P	03 28 23.7	-0.4
BVAR	Borovoye Array	55.20	341	P	P	03 28 56.1	-0.9
	1.8nm,0.6s,mb4.3,baz=146,slow=10,SNR=8.2						
CHKZ	Chkalovo	55.68	342	eP	P	03 28 59.3	-1.1
	3.2nm,0.8s,mb4.4						
MLR	Muntele Rosu	74.96	317	P	P	03 31 05.5	+0.5
	1.1nm,0.7s,mb3.9,baz=167,slow=14						
FINES	FINESS Array B	78.91	333	P	P	03 31 26.3	-0.3
	1.5nm,1.0s,mb3.9,baz=135,slow=2.7,SNR=5.4						
ARCES	ARCESS Array B	81.48	340	P	P	03 31 40.6	+0.5
	4.9nm,1.1s,mb4.4,baz=90,slow=4.9,SNR=6.2						
GERES	GERESS Array B	83.70	319	P	P	03 31 52.9	+0.8
	0.5nm,0.7s,mb3.8,baz=117,slow=6.0,SNR=6.1						
NOA	NORSAR Array B	85.91	331	P	P	03 32 02.8	0.0
	0.6nm,0.9s,mb3.8,baz=42,slow=4.4,SNR=2.6						
DAVOX	Davos	86.19	317	P	P	03 32 05.3	+0.7
	1.4nm,0.6s,mb4.4,baz=150,slow=20,SNR=2.8						

*IDC **30** 03:25:24.6±0.8, 1.20N×96.97E, mb4.3/15, mb1 4.4/15, mb1mx4.3/22, mbtmp4.3/15, MS4.0/2, Ms1 4.0/2, ms1mx3.0/30, Error ellipse: s-maj=36.6km s-min=13.7km az=48.0*
*BJI **30** 03:25:25.6, 0.81N×97.29E, h41km, mB5.0, mb4.8, Ms4.6, Msz4.4*
*MOS **30** 03:25:26.8±1.1, 1.18N×97.32E, h33km, mb4.8/15, Error ellipse: s-maj=26.9km s-min=9.5km az=100.4*
*NEIC **30** 03:25:28.4±0.5, 1.25N×97.10E, mb4.7/18, Error ellipse: s-maj=14.8km s-min=7.6km az=52.0*
ISC 30 03:25:27.4±2.1, 1.27N±0.07×97.14E±0.08, h28km±15km, h26km±2.4km:pP-P, n68, σ1s07/68, mb4.6/44, MS4.3/9, 3C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.32	41	eP	Pn	03 26 47.3	+0.2
HYB	Hyderabad	24.32	312	i P	P	03 30 45.0	+0.9
KMI	Kunming	24.32	12	P	P	03 30 46.0	+1.8
KMI				AP		03 30 52.0	
KMI				XP		03 30 56.0	
KMI				PP	PP	03 31 21.8	+2.2
KMI				S	S	03 35 04.0	+5.4
KMI				SS	SS	03 35 57.5	+4.8
KMI				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,156nm,4.5s						
KMI				LR	LR		
	comp=N,683nm,16.4s,MS4.3						
KMI				LR	LR		
	comp=E,451nm,13.8s,MS4.3						
KMI				LR	LR		
	comp=Z,745nm,14.4s,MS4.3						
GYA	Guiyang	26.67	19	i P	P	03 31 06.0	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	Jiri	28.26	339	eP	P	03 31 21.8	+1.2
	comp=Z,62nm,1.0s,mb5.2						
PKI	Pulchoki	28.46	338	eP	P	03 31 23.0	+0.6
	comp=Z,32nm,1.1s,mb4.9						
PKI	Pulchoki	28.46	338	eP	P	03 31 23.0	+0.6
PKI				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.6						
GUN	Gumba	28.60	339	eP	P	03 31 24.7	+1.1
	comp=Z,34nm,0.6s,mb5.2						
DMN	Daman	28.61	337	eP	P	03 31 24.8	+1.0
	comp=Z,12nm,0.5s,mb4.9						
KKN	Kakani	28.71	338	eP	P	03 31 25.2	+0.6
	comp=Z,20nm,0.7s,mb5.0						
KKN	Kakani	28.71	338	eP	P	03 31 25.2	+0.6
KKN				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.7						
LSA	Lhasa	28.84	349	P	P	03 31 23.7	-2.1
LSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
LSA	Lhasa	28.84	349	P	P	03 31 23.7	-2.1
	comp=Z,5.3nm,0.7s,mb4.4						
GKN	Gorkha	29.15	337	eP	P	03 31 29.2	+0.6
	comp=Z,44nm,1.0s,mb5.2						
KOLN	Koldanda	29.37	335	eP	P	03 31 31.4	+0.8
	comp=Z,26nm,0.8s,mb5.0						
ENH	Enshi	31.14	21	eP	P	03 31 44.5	-1.7
	comp=Z,24nm,0.6s,mb5.2						
ENH				epP	pP	03 31 51.3	-3.2
FITZ	Fitzroy Crossi	34.02	126	i P	P	03 32 10.4	-1.0
	comp=Z,4.2nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	34.02	126	P	P	03 32 10.4	-1.0
	comp=Z,4.6nm,0.6s,mb4.6,baz=316,slow=2.0,SNR=11						
XAN	Xi'an	34.42	17	P	P	03 32 13.3	-1.4
XAN				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
LZH	Lanzhou	35.20	9	eP	P	03 32 21.5	+0.1
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,103nm,4.0s						
LZH				LR	LR		
	comp=E,589nm,13.8s						
LZH				LR	LR		
	comp=Z,729nm,15.0s,MS4.5						
NJ2	Nanjing	36.84	32	eP	P	03 32 36.5	+1.2
NJ2				AP	pP	03 32 46.0	+2.4
NJ2				XP	sP	03 32 50.0	+2.9
NJ2				PP	PP	03 34 04.5	+3.3
NJ2				S	S	03 38 19.0	+1.7
NJ2				XS		03 38 37.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,5.4s						
NJ2				LR	LR		
	comp=N,760nm,14.9s,MS4.7						
NJ2				LR	LR		
	comp=E,260nm,11.5s,MS4.7						
NJ2				LR	LR		
	comp=Z,410nm,24.0s						
GTA	Gaotai	38.04	3	eP	P	03 32 45.8	+0.5
GTA				AP	pP	03 32 55.0	+1.4
GTA				XP	sP	03 32 58.0	+0.9
GTA				PP	PP	03 34 12.3	-3.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
GTA				AMB	AMB		
	comp=Z,72nm,4.2s						
GTA				LR	LR		
	comp=N,170nm,12.5s,MS4.1						
GTA				LR	LR		
	comp=E,151nm,15.6s,MS4.1						
GTA				LR	LR		
	comp=Z,242nm,14.1s,MS4.2						
JOW	Kunigami	39.24	47	P	P	03 32 56.1	+0.7
	comp=Z,20nm,0.5s,mb5.1,baz=220,slow=7.4,SNR=5.7						
WRA	Warramunga Arr	42.13	122	P	P	03 33 19.3	-0.1
	comp=Z,3.7nm,0.6s,mb4.2,baz=301,slow=9.1,SNR=27						
WB2	Warramunga Arr	42.14	122	i P	P	03 33 19.6	+0.2
BJT	Baijiatuau	42.28	22	eP	P	03 33 21.5	+1.2
BJT				e*PP	pP	03 33 27.7	-1.0
BJT				pmax	pmax		
	comp=Z,11nm,0.6s						
BJT	Baijiatuau	42.28	22	eP	P	03 33 21.5	+1.1
	comp=Z,10nm,0.6s,mb4.6						
BJT				epP	pP	03 33 27.7	-1.0
WMQ	Urumqi	43.19	350	P	P	03 33 28.8	+1.0
WMQ				AP	pP	03 33 36.0	-0.1
WMQ				eS	S	03 39 53.0	+0.7
WMQ				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,135nm,6.5s						
WMQ				LR	LR		
	comp=N,159nm,23.6s,MS4.2						
WMQ				LR	LR		
	comp=E,295nm,22.8s,MS4.2						
WMQ				LR	LR		
	comp=Z,114nm,24.0s,MS3.7						
FORT	Forrest	43.37	140	eP	P	03 33 31.5	+2.1
	comp=Z,236nm,0.6s						
ASAR	Alice Springs	43.49	127	P	P	03 33 30.8	+0.4
	comp=Z,2.2nm,0.7s,mb4.0,baz=296,slow=7.7,SNR=15						
ASAR				PcP	PcP	03 35 19.2	+0.5
	comp=Z,0.9nm,0.8s,baz=309,slow=4.4,SNR=4.6						
AAK	Ala-Archa	45.91	337	eP	P	03 33 50.7	+1.1
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
AAK	Ala-Archa	45.91	337	eP	P	03 33 50.7	+1.1
	comp=Z,4.7nm,1.3s,mb4.3						
SONM	Songino Array	47.07	9	P	P	03 33 59.0	+0.4
	comp=Z,6.3nm,0.8s,mb4.6,baz=189,slow=9.0,SNR=45						
SONM				PcP	PcP	03 35 30.7	-0.1
	comp=Z,1.0nm,0.6s,baz=194,slow=2.5,SNR=4.0						
MKAR	Makanchi Array	47.16	346	i P	P	03 33 59.4	0.0
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	Makanchi Array	47.16	346	P	P	03 33 59.6	+0.2
	comp=Z,4.5nm,0.6s,mb4.5,baz=159,slow=9.0,SNR=39						
ULN	Ulaanbaatar	47.20	9	eP	P	03 33 59.7	0.0
ULN				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
ULN	Ulaanbaatar	47.20	9	eP	P	03 33 59.7	0.0
	comp=Z,4.7nm,0.9s,mb4.4						
ZAK	Zakamensk	49.21	5	i P	P	03 34 15.2	-0.1
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
CN2	Changchun	49.27	27	eP	P	03 34 15.5	-0.3
CN2				eS	S	03 41 19.3	+0.3
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
CN2				AMB	AMB		
	comp=Z,130nm,3.0s						
CN2				LR	LR		
	comp=N,380nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=E,220nm,15.0s,MS4.6						
CN2				LR	LR		
	comp=Z,330nm,16.0s,MS4.4						
TLY	Talaya	50.53	5	eP	P	03 34 25.8	+0.5
TLY				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
TLY				MLR	MLR		
	comp=Z,193nm,19.0s,MS4.1						
HIA	Hailar	51.59	19	eP	P	03 34 32.9	-0.6
HIA				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HIA	Hailar	51.59	19	eP	P	03 34 32.9	-0.6
	comp=Z,2.9nm,0.4s,mb4.6						
KURK	Kurchatov	51.71	345	eP	P	03 34 34.1	-0.2
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KURK	Kurchatov	51.71	345	eP	P	03 34 34.1	-0.2
	comp=Z,7.1nm,1.0s,mb4.5						
CTA	Charters Tower	52.59	117	LR	LR	04 01 38.4	
	comp=Z,108nm,19.0s,MS3.9,baz=48,slow=41						
STKA	Stephens Creek	53.45	132	i P	P	03 34 48.4	+0.8
	comp=Z,2.7nm,0.6s,mb4.3						
STKA	Stephens Creek	53.45	132	P	P	03 34 48.2	+0.6
	comp=Z,4.1nm,0.9s,mb4.4,baz=312,slow=8.1,SNR=7.7						
NVS	Novosibirsk	54.60	350	i P	P	03 34 54.2	-1.4
NVS				e		03 35 10.1	
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
NVS				pmax	pmax		
	comp=N,3.0nm,0.9s						
BVA0	Borovoye Array	56.16	341	P	P	03 35 05.8	-1.2
BVAR	Borovoye Array	56.16	341	P	P	03 35 06.1	-0.9
	comp=N,5.3nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=26						
KLR	Kul'dur	56.22	27	eP	P	03 35 04.6	-2.9
CHKZ	Chkalovo	56.64	341	eP	P	03 35 09.6	-0.8
CHKZ				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
CHKZ	Chkalovo	56.64	341	eP	P	03 35 09.6	-0.8
	comp=Z,10nm,0.8s,mb4.9						
BOD	Bodaibo	57.95	11	eP	P	03 35 17.7	-1.9
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
YAK	Yakutsk	65.37	16	eP	P	03 36 07.2	-2.2
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,5.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.1s						
BRTR	Keskin Array B	69.02	312	P	P	03 36 31.6	-1.2
	comp=E,0.5nm,0.4s,mb3.8,baz=140,slow=11,SNR=4.1						
TIXI	Tiksi	73.13	10	eP	P	03 36 54.4	-2.5
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
AKASG	Malin Array Be	75.16	322	P	P	03 37 07.6	-1.5
	comp=Z,0.3nm,0.3s,mb3.8,baz=83,slow=4.5,SNR=6.6						
MLR	Muntele Rosu	75.57	317	P	P	03 37 14.3	+0.5
	comp=Z,2.2nm,0.9s,mb4.1,baz=198,slow=9.6,SNR=3.6						
FINES	FINESS Array B	79.91	333	P	P	03 37 34.4	-0.7
	comp=Z,0.9nm,0.6s,mb3.9,baz=76,slow=7.9,SNR=5.7						
ARCES	ARCESS Array B	82.45	340	P	P	03 37 48.7	+0.4
	comp=Z,3.7nm,0.8s,mb4.4,baz=76,slow=5.0,SNR=7.5						
URZ	Urewera	82.91	129	LR	LR	04 15 52.2	
	comp=Z,138nm,21.2s,MS4.3,baz=138,slow=36						
GERES	GERESS Array B	84.72	319	P	P	03 38 00.9	+0.6
	comp=Z,0.8nm,0.7s,mb4.0,baz=104,slow=5.5,SNR=7.8						
NB2	NORSAR Subarra	86.91	331	P	P	03 38 10.9	+0.1
	comp=Z,1.1nm,0.7s,mb4.2,baz=93,slow=4.8						
NB2	NORSAR Subarra	86.91	331	P	P	03 38 10.9	+0.1
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	NORSAR Array B	86.91	331	P	P	03 38 11.0	+0.2
	comp=Z,1.1nm,0.9s,mb4.1,baz=93,slow=4.8,SNR=4.3						
TXAR	Lajitas Array	143.64	32	PKP	PKPdf	03 45 00.3	-5.0
	comp=Z,0.6nm,0.8s,baz=32,slow=0.2,SNR=8.4						
TXAR	Lajitas Array	143.64	32	PKP	PKPdf	03 45 00.3	-5.0

*IDC **30** 03:29:39.3±1.0, 1.19N×96.96E, mb4.0/12, mb1 4.1/12, mb1mx4.1/19, mbtmp4.0/12, Error ellipse: s-maj=55.1km s-min=15.6km az=50.0*
*BJI **30** 03:29:42.3, 1.33N×97.47E, h27km, mB5.3, mb4.7, Ms4.2, Msz4.2*
*NEIC **30** 03:29:44.5±0.5, 1.27N×97.16E, h30km, mb4.7/12, Error ellipse: s-maj=15.2km s-min=8.4km az=51.0*
ISC 30 03:29:42.6±0.6, 1.30N±0.09×97.2E±0.1, h30km, (h25km±2.5km:pP-P), n34, σ0s90/34, mb4.4/27, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	Kulim	5.25	41	eP	Pn	03 31 01.6	+0.4
GYA	Guiyang	26.62	19	i P	P	03 35 20.5	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
JIRN	Jiri	28.26	339	eP	P	03 35 36.1	+0.6
	comp=Z,43nm,1.0s,mb5.0						
PKI	Pulchoki	28.46	338	eP	P	03 35 39.0	+1.7
GUN	Gumba	28.60	339	eP	P	03 35 39.2	+0.7
	comp=Z,24nm,0.7s,mb5.0						
DMN	Daman	28.61	337	eP	P	03 35 40.5	+1.8
KKN	Kakani	28.71	338	eP	P	03 35 39.8	+0.3
	comp=Z,44nm,1.1s,mb5.1						
GKN	Gorkha	29.15	337	eP	P	03 35 43.7	+0.2
	comp=Z,41nm,1.0s,mb5.1						
KOLN	Koldanda	29.37	335	eP	P	03 35 45.8	+0.3
	comp=Z,21nm,0.7s,mb5.0						
ENH	Enshi	31.09	21	eP	P	03 35 58.8	-1.9
	comp=Z,94nm,1.1s,mb5.5						
FITZ	Fitzroy Crossi	33.99	126	P	P	03 36 24.8	-1.3
	comp=Z,2.8nm,0.7s,mb4.3,baz=294,slow=2.8,SNR=3.6						
XAN	Xi'an	34.37	17	P	P	03 36 28.0	-1.2
XAN				AP	pP	03 36 34.0	-4.1
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
LZH	Lanzhou	35.16	9	eP	P	03 36 35.5	-0.5
LZH				AP	pP	03 36 43.0	-1.9
LZH				XP	sP	03 36 45.5	-3.2
LZH				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
GTA	Gaotai	38.01	3	eP	P	03 37 00.8	+0.9
GTA				AP	pP	03 37 09.8	+0.9
GTA				XP	sP	03 37 13.8	+1.2
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
WRA	Warramunga Arr	42.09	122	P	P	03 37 34.7	+0.7
	comp=Z,1.6nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=11						
BJT	Baijiatuau	42.23	22	eP	P	03 37 35.8	+1.0
	comp=Z,16nm,0.8s,mb4.7						
ASAR	Alice Springs	43.45	127	P	P	03 37 46.0	+1.0
	comp=Z,0.9nm,0.7s,mb3.6,baz=301,slow=7.8,SNR=6.0						
SONM	Songino Array	47.03	8	P	P	03 38 13.8	+0.5
	comp=Z,5.0nm,0.8s,mb4.5,baz=190,slow=9.3,SNR=27						
MKAR	Makanchi Array	47.15	346	P	P	03 38 14.1	-0.2
	comp=Z,2.1nm,0.5s,mb4.3,baz=159,slow=7.7,SNR=20						
ULN	Ulaanbaatar

IDC 30 03:44:56.9±2.7, 1.46N×96.88E, mb3.8/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=116.2km s-min=21.0km az=57.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.44**	**122**	P	P	03 52 53.5	-2.0
	0.5nm,0.4s,baz=302,slow=8.9,SNR=3.1						
ASAR	**Alice Springs**	**43.80**	**127**	P	P	03 53 05.1	-1.5
	0.2nm,0.4s,baz=294,slow=8.1,SNR=2.5						
MKAR	**Makanchi Array**	**46.92**	**346**	P	P	03 53 29.4	-1.7
	2.3nm,0.6s,baz=162,slow=7.7,SNR=16						
SONM	**Songino Array**	**46.93**	**9**	P	P	03 53 29.5	-1.6
	2.8nm,0.7s,baz=189,slow=8.7,SNR=18						
BVAR	**Borovoye Array**	**55.90**	**341**	P	P	03 54 36.1	-2.7
	1.0nm,0.6s,baz=135,slow=10,SNR=4.4						

*CASC **30** 03:45:09.2±2.2, 15.39N×91.24W, MD4.3, ML5.2, mb4.0(NEIC)*
*MEX **30** 03:45:09.9±0.4, 15.23N×91.03W, h6km±28km, MD4.4*
*NEIC **30** 03:45:14.1±3.0, 15.38N×91.22W, h34km±25km, mb4.0/8, MD4.6(MEX), Error ellipse: s-maj=13.6km s-min=7.6km az=220.0*
NEIC Felt at Coban, Cunen, Panajachel, San Miguel Ixtahuacan and Sipacapa.
*IDC **30** 03:45:20.5±5.9, 15.29N×91.21W, h113km±59km, mb3.5/9, mb1 3.6/11, mb1mx3.5/22, mbtmp3.9/11, MS3.4/2, Ms1 3.4/2, ms1mx2.7/17, Error ellipse: s-maj=35.0km s-min=13.6km az=54.0*

ISC 30 03:45:09.2±0.2, 15.44N±0.03×91.19W±0.03, h6km, n57, σ1°29/75, mb3.8/10, MS3.3/2, 2C-2D, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.04**	**161**	⇑*i* P	**Pb**	**03 45 28.4**	**-0.9**
GCG	**Guatemala City**	**1.06**	**143**	*i* P	**Pb**	**03 45 29.2**	**-0.4**
GCG				*e* P		03 45 29.4	
GCG				*e* S	**Sb**	**03 45 44.1**	**+0.5**
PCG	**Pacaya**	**1.19**	**152**	*e* P	**Pb**	**03 45 31.4**	**-0.3**
JAT	**Jato**	**1.20**	**201**	⇓*e* P	**Pb**	**03 45 31.9**	**-0.1**
JAT				*e* S	**Sb**	**03 45 48.5**	**+0.9**
CCIG	**Comitan**	**1.23**	**313**	*e* P	**Pb**	**03 45 33.5**	**+0.9**
CCIG				*e* S	**Sb**	**03 45 52.1**	**+3.4**
CCIG	**Comitan**	**1.23**	**313**	*i* P	**Pb**	**03 45 33.8**	**+1.2**
CCIG				*i* S	**Sb**	**03 45 52.4**	**+3.7**
IXG	**Ixpaco**	**1.45**	**150**	*e* P	**Pn**	**03 45 35.9**	**-0.2**
IXG				*e* S	**Sb**	**03 45 55.1**	**+0.3**
IXG				AML	AML	03 46 01.9	
	comp=N,58μm,0.5s						
RBDL	**Robledal**	**1.97**	**132**	⇓*e* P	**Pn**	**03 45 43.7**	**+0.2**
RBDL				*e* S	**Sn**	**03 46 12.3**	**+3.6**
MTO2	**Montecristo 2**	**2.05**	**120**	*e* P	**Pn**	**03 45 45.1**	**+0.4**
MTO2				*e* S	**Sn**	**03 46 14.6**	**+3.7**
RTR	**El Retiro**	**2.14**	**136**	*e* P	**Pn**	**03 45 46.5**	**+0.5**
RTR				*e* S	**Sn**	**03 46 16.9**	**+3.6**
SNJE	**San Jose**	**2.19**	**135**	*e* P	**Pn**	**03 45 46.8**	**0.0**
SNJE				*e* S	**Sn**	**03 46 17.6**	**+3.1**
SBLS	**San Blas**	**2.20**	**136**	*e* P	**Pn**	**03 45 47.1**	**+0.2**
LFRS	**El Faro**	**2.74**	**131**	*e* P	**Pn**	**03 45 54.9**	**+0.3**
LCBS	**La Ceiba**	**2.78**	**129**	*e* P	**Pn**	**03 45 55.2**	**0.0**
LCBS				*e* S	**Sn**	**03 46 31.3**	**+1.8**
SCIG		**3.50**	**0**	*e* P	**Pn**	**03 46 05.9**	**+0.5**
SCIG				*e* S	**Sn**	**03 46 48.2**	**+0.4**
CMIG	**Matias Romero**	**3.91**	**295**	*e* P	**Pn**	**03 46 09.9**	**-1.2**
CMIG				*e* S	**Sn**	**03 47 01.4**	**+3.4**
CMIG	**Matias Romero**	**3.91**	**295**	*e* P	**Pn**	**03 46 09.9**	**-1.3**
CMIG				*i* S	**Sn**	**03 47 01.0**	**+3.0**
TUIG	**Tuzandepetl**	**4.03**	**310**	*e* P	**Pn**	**03 46 14.0**	**+1.1**
TUIG				*e* S	**Sn**	**03 47 02.5**	**+1.4**
HUIG	**Huatulco**	**4.75**	**275**	*e* P	**Pn**	**03 46 20.9**	**-2.2**
HUIG				*e* S	**Sn**	**03 47 18.6**	**-0.7**
TEIG	**Tepich**	**5.51**	**30**	*e* P	**Pn**	**03 46 34.1**	**+0.3**
	comp=N,177nm,0.5s						
OXX	**Oaxaca**	**5.56**	**288**	*e* P	**Pn**	**03 46 34.0**	**-0.5**
VHO	**Vista Hermosa**	**5.56**	**288**	*e* P	**Pn**	**03 46 34.2**	**-0.4**
VHO				*e* S	**Sn**	**03 47 39.4**	**-0.4**
IISM	**Ciudad Serdan**	**6.88**	**302**	*e* P	**Pn**	**03 46 50.0**	**-3.2**
JTS	**JuntasAbangare**	**7.95**	**129**	*e* P	**Pn**	**03 47 07.5**	**-0.7**
	comp=N,24nm,0.9s						
PPM	**Popocatepetl**	**7.97**	**298**	*e* P	**Pn**	**03 47 07.6**	**-0.7**
PPM				*e* S	**Sn**	**03 48 43.3**	**+3.5**
PPM	**Popocatepetl**	**7.97**	**298**	*e* P	**Pn**	**03 47 07.6**	**-0.7**
PPM				*e* P		03 47 11.0	
PPM				*e* S	**Sn**	**03 48 43.3**	**+3.5**
LRAL	**Lakeview Retre**	**17.92**	**12**	*e* P	**P**	**03 49 21.2**	**+0.4**
TXAR	**Lajitas Array**	**17.98**	**322**	P	**P**	**03 49 24.2**	**+2.6**
	comp=N,0.2nm,0.3s,baz=140,slow=9.8,SNR=13						
OXF	**Oxford**	**19.05**	**5**	*e* P	**P**	**03 49 35.2**	**+0.5**
	comp=N,32nm,1.0s						
MIAR	**Mount Ida**	**19.14**	**354**	*e* P	**P**	**03 49 33.3**	**-2.5**
	comp=N,13nm,1.1s						
ROSC	**El Rosal**	**19.63**	**121**	P	**P**	**03 49 40.6**	**-1.0**
	comp=N,0.2nm,0.3s,baz=288,slow=20,SNR=3.0						
PLAL	**Pickwick Lake**	**19.66**	**8**	*e* P	**P**	**03 49 41.4**	**-0.3**
	comp=N,4.2nm,0.5s						
OTAV	**Otavalo**	**19.66**	**139**	*e* P	**P**	**03 49 42.7**	**+0.8**
	comp=N,4.3nm,0.9s						
SWET	**Sewanee**	**20.25**	**13**	*e* P	**P**	**03 49 47.9**	**-0.3**
CLNB	**Carlsbad**	**20.34**	**328**	*e* P	**P**	**03 49 51.1**	**+1.9**
WMOK	**Wichita Mounta**	**20.39**	**342**	*e* P	**P**	**03 49 47.5**	**-2.1**
	comp=N,4.6nm,0.6s						
GDL2	**Guadalupe Moun**	**20.55**	**327**	*e* P	**P**	**03 49 53.2**	**+2.0**
MNTX	**Cornudas Mount**	**20.72**	**324**	*e* P	**P**	**03 49 53.1**	**0.0**
	comp=N,4.7nm,0.8s						
WVT	**Waverly**	**20.82**	**8**	P	**P**	**03 49 56.4**	**+2.4**
	comp=N,4.1nm,0.5s						
CPRX	**Cap Rock**	**20.95**	**329**	*e* P	**P**	**03 49 56.8**	**+1.4**
SDV	**Santo Domingo**	**21.11**	**106**	P	**P**	**03 49 56.3**	**-0.9**
	comp=N,16nm,0.7s,mb4.4,baz=289,slow=4.9,SNR=25						
SDV				LR	LR	03 58 39.1	
	comp=N,111nm,20.6s,MS3.2,baz=189,slow=38						
LPM	**Los Pinos Moun**	**23.38**	**326**	*e* P	**P**	**03 50 27.0**	**+7.3**
LENM	**Lemitar**	**23.45**	**325**	P	**P**	**03 50 18.2**	**-2.2**
ANMO	**Albuquerque**	**23.78**	**328**	P	**P**	**03 50 24.4**	**+0.9**
	comp=N,0.4nm,0.3s,mb3.3,baz=126,slow=14,SNR=2.8						
TUC	**Tucson**	**24.48**	**317**	*e* P	**P**	**03 50 31.8**	**+1.4**
	comp=N,2.0nm,0.8s,mb3.6						
SADO	**Sadowa**	**30.96**	**17**	P	**P**	**03 51 27.6**	**-1.8**
	comp=N,1.2nm,0.3s,mb4.1,baz=211,slow=12,SNR=2.6						
PDAR	**Pinedale Array**	**31.46**	**334**	P	**P**	**03 51 32.0**	**-1.8**
	comp=N,0.2nm,0.5s,mb3.2,baz=129,slow=12,SNR=2.0						
REDW	**Red Top Meadow**	**32.50**	**333**	*e* P	**P**	**03 51 42.6**	**-0.3**
SNOW	**Snow King Moun**	**32.54**	**333**	*e* P	**P**	**03 51 43.3**	**0.0**
LPAZ	**La Paz**	**38.89**	**143**	P	**P**	**03 52 35.6**	**-2.0**
	comp=N,0.9nm,0.6s,mb3.7,baz=317,slow=5.4,SNR=3.7						
SCHQ	**Schefferville**	**43.60**	**20**	P	**P**	**03 53 14.0**	**-1.8**
	comp=N,3.5nm,0.9s,mb4.1,baz=202,slow=4.9,SNR=5.2						
SCHQ	**Schefferville**	**43.60**	**20**	P	**P**	**03 53 14.0**	**-1.9**
YKA	**Yellowknife Ar**	**49.81**	**346**	P	**P**	**03 54 02.9**	**-1.8**
	comp=N,0.6nm,0.6s,mb3.8,baz=147,slow=7.6,SNR=13						
YKA				LR	LR	04 18 54.7	
	comp=N,40nm,18.8s,MS3.4,baz=135,slow=40						
YKA	**Yellowknife Ar**	**49.81**	**346**	P	**P**	**03 54 02.9**	**-1.8**
YKA				LR	LR	04 18 54.7	
CFAA	**Coronel Fontan**	**51.71**	**155**	P	**P**	**03 54 13.8**	**-5.8**
	comp=N,0.1nm,0.3s,mb3.2,baz=348,slow=6.8,SNR=3.7						
CFAA	**Coronel Fontan**	**51.71**	**155**	P	**P**	**03 54 13.8**	**-5.8**
DBIC	**Dimbokro**	**84.73**	**85**	P	**P**	**03 57 43.5**	**-2.8**
	comp=N,3.5nm,1.0s,mb4.5,baz=274,slow=3.5,SNR=6.7						

*IDC **30** 03:50:43.8±0.9, 0.92N×97.83E, mb4.2/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, Error ellipse: s-maj=54.7km s-min=14.2km az=50.0*
*BJI **30** 03:50:46.1, 0.75N×97.86E, h38km, mB5.2, mb4.8, Ms4.6, Msz4.3*
*NEIC **30** 03:50:48.1±0.5, 0.93N×97.87E, h30km, mb4.6/10, Error ellipse: s-maj=17.1km s-min=8.6km az=53.0*

ISC 30 03:50:46.3±2.6, 0.96N±0.08×97.9E±0.1, h30km±18km, n33, σ1°06/34, mb4.5/26, MS4.1/2, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.11**	**33**	*e* P	**Pn**	**03 52 04.0**	**+1.1**
JIRN	**Jiri**	**28.82**	**338**	*e* P	**P**	**03 56 43.6**	**-0.7**
	38nm,1.0s,mb5.1						
GUN	**Gumba**	**29.16**	**338**	*e* P	**P**	**03 56 47.9**	**+0.5**
	22nm,0.7s,mb5.0						
KKN	**Kakani**	**29.28**	**337**	*e* P	**P**	**03 56 48.7**	**+0.2**
	18nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.73**	**336**	*e* P	**P**	**03 56 52.1**	**-0.4**
	24nm,0.9s,mb4.9						
KOLN	**Koldanda**	**29.96**	**334**	*e* P	**P**	**03 56 54.4**	**-0.2**
	15nm,0.9s,mb4.7						
ENH	**Enshi**	**31.16**	**20**	*e* P	**P**	**03 57 03.6**	**-1.5**
	5.9nm,0.7s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.23**	**126**	⇑*i* P	**P**	**03 57 22.1**	**-1.2**
	4.8nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.23**	**126**	P	**P**	**03 57 22.1**	**-1.2**
	7.8nm,0.8s,mb4.7,baz=293,slow=6.0,SNR=11						
XAN	**Xi'an**	**34.49**	**16**	P	**P**	**03 57 32.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.9						
NJ2	**Nanjing**	**36.71**	**31**	*e* P	**P**	**03 57 54.3**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
WRA	**Warramunga Arr**	**41.33**	**122**	P	**P**	**03 58 31.2**	**-0.1**
	comp=Z,4.4nm,0.8s,mb4.2,baz=300,slow=9.1,SNR=17						
WB2	**Warramunga Arr**	**41.34**	**122**	⇑*i* P	**P**	**03 58 31.3**	**-0.1**
ASAR	**Alice Springs**	**42.71**	**127**	P	**P**	**03 58 43.0**	**+0.3**
	comp=Z,2.7nm,0.8s,mb4.0,baz=300,slow=7.5,SNR=17						
ASAR				PcP	PcP	04 00 35.6	+0.9
	comp=Z,0.9nm,0.8s,baz=319,slow=3.6,SNR=4.5						
WMQ	**Urumqi**	**43.63**	**349**	P	**P**	**03 58 51.0**	**+1.1**
WMQ				AP	pP	03 59 00.3	+1.4
WMQ				XP	sP	03 59 05.0	+2.5
WMQ				*e*S	**S**	**04 05 18.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,91nm,4.6s						
WMQ				LR	LR		
	comp=N,108nm,21.4s,MS3.9						
WMQ				LR	LR		
	comp=E,146nm,23.2s,MS3.9						
WMQ				LR	LR		
	comp=Z,86nm,20.9s,MS3.6						
KS15	**Wonju Array Si**	**45.62**	**34**	*e* P	**P**	**03 59 06.6**	**+0.6**
SONM	**Songino Array**	**47.27**	**8**	P	**P**	**03 59 19.3**	**+0.4**
	comp=Z,2.1nm,0.7s,mb4.2,baz=188,slow=9.0,SNR=16						
MKAR	**Makanchi Array**	**47.64**	**346**	P	**P**	**03 59 21.6**	**-0.2**
	comp=Z,6.6nm,0.5s,mb4.9,baz=158,slow=7.7,SNR=38						
CN2	**Changchun**	**49.21**	**26**	*e* P	**P**	**03 59 33.3**	**-0.7**
CN2				*e*S	**S**	**04 06 35.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,120nm,3.0s						
CN2				LR	LR		
	comp=N,330nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,180nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,250nm,16.0s,MS4.3						
HIA	**Hailar**	**51.65**	**18**	*e* P	**P**	**03 59 51.9**	**-0.7**
	comp=Z,2.7nm,0.5s,mb4.4						
KURK	**Kurchatov**	**52.20**	**345**	*e* P	**P**	**03 59 56.2**	**-0.5**
	comp=Z,4.6nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**	**04 00 01.4**	**+0.7**
	comp=Z,1.0nm,0.5s,mb4.0,baz=315,slow=9.3,SNR=5.4						
STKA	**Stephens Creek**	**52.69**	**132**	*e* P	**P**	**04 00 01.4**	**+0.7**
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**04 00 28.2**	**-1.3**
	comp=Z,2.2nm,0.5s,mb4.4,baz=135,slow=8.4,SNR=12						
CHKZ	**Chkalovo**	**57.17**	**341**	*e* P	**P**	**04 00 31.9**	**-1.0**
	comp=Z,3.0nm,0.5s,mb4.6						
BRTR	**Keskin Array B**	**69.78**	**312**	P	**P**	**04 01 55.1**	**-1.0**
	comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=3.9,SNR=4.0						
AKASG	**Malin Array Be**	**75.86**	**322**	P	**P**	**04 02 30.1**	**-1.6**
	comp=Z,0.8nm,0.6s,mb3.9,baz=88,slow=5.4,SNR=4.6						
FINES	**FINESS Array B**	**80.52**	**332**	P	**P**	**04 02 59.3**	**+2.2**
	comp=Z,0.9nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=7.0						
ARCES	**ARCESS Array B**	**82.99**	**340**	P	**P**	**04 03 11.7**	**+2.0**
	comp=Z,5.0nm,1.0s,mb4.5,baz=63,slow=4.0,SNR=5.4						
GERES	**GERESS Array B**	**85.44**	**319**	P	**P**	**04 03 23.6**	**+1.1**
	comp=Z,0.6nm,0.8s,mb3.8,baz=90,slow=5.3,SNR=4.8						
NB2	**NORSAR Subarra**	**87.54**	**331**	P	**P**	**04 03 35.1**	**+2.6**
	comp=Z,0.5nm,0.6s,mb3.9,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.54**	**331**	P	**P**	**04 03 35.4**	**+2.9**
	comp=Z,1.0nm,0.9s,mb4.0,baz=101,slow=5.8,SNR=3.1						
TXAR	**Lajitas Array**	**143.50**	**33**	PKP	PKPdf	04 10 19.5	-4.4
	comp=Z,0.3nm,0.5s,baz=270,slow=0.9,SNR=4.5						

MEX 30 03:56:37.7±0.5, 16.99N×95.86W, h13km±6km, MD4.1, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.83**	**277**	*i* P	Pb	03 56 51.0	-2.5
OXX				*i* S	Sb	03 57 02.0	-2.4
VHO	**Vista Hermosa**	**0.84**	**276**	*i* P	Pb	03 56 51.3	-2.4
VHO				*i* S	Sb	03 57 02.3	-2.3
CMIG	**Matias Romero**	**0.94**	**84**	*i* P	Pb	03 56 52.8	-2.5
CMIG				*i* S	Sb	03 57 04.3	-3.1
HUIG	**Huatulco**	**1.24**	**191**	*i* P	Pb	03 56 56.9	-3.5
HUIG				*i* S	Sb	03 57 12.1	-4.0
PPM	**Popocatepetl**	**3.35**	**309**	*e* P	Pn	03 57 28.3	-2.6
PPM				*e* P		03 57 30.0	
PPM				*i* S	Sn	03 58 05.9	-5.0
PPM				*i* S	Sn	03 58 08.0	-2.9
YAIG	**Yautepec**	**3.58**	**302**	*e* P	Pn	03 57 32.5	-1.6
YAIG				*i* S	Sn	03 58 13.8	-3.0
PLIG	**Platanillo**	**3.74**	**292**	*e* P	Pn	03 57 32.6	-3.9
PLIG				*i* S	Sn	03 58 14.5	-6.4
ACX	**Acapulco**	**3.89**	**269**	*i* S	Sn	03 58 22.0	-2.5
CAIG	**El Cayaco**	**4.22**	**271**	*e* P	Pn	03 57 39.8	-3.5
CAIG				*i* S	Sn	03 58 26.8	-6.2

MAN 30 03:57:59.3, 8.06N×123.25E, h5km, mb4.2, ML3.0, MS2.8, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	**Pagadian**	**0.25**	**148**	*e* P	Pg	03 58 05.0	+0.6
DCPH	**Dipolog City**	**0.53**	**12**	⇑*e* P	Pg	03 58 09.8	-0.1
DCPH				*e* S	Sg	03 58 16.4	-0.5
IPIL	**Ipil**	**0.72**	**248**	*e* P	Pg	03 58 13.6	-0.1
IPIL				*e* S	Sg	03 58 23.9	+0.6
BUKP	**Musuan**	**1.81**	**96**	*e* P	Pn	03 58 30.9	-0.5
BUTP	**Butuan**	**2.52**	**69**	*e* P	Pn	03 58 20.8	-21
GUIM	**Jordan**	**2.63**	**346**	*e* P	Pn	03 58 43.2	+0.1
SCPH	**Surigao**	**2.80**	**52**	*e* P	Pn	03 58 33.7	-12
SCPH				*e* S	Sn	03 58 50.9	-29

*IDC **30** 04:03:13.9±1.2, 2.89N×96.18E, mb4.2/10, mb1 4.3/10, mb1mx4.1/19, mbtmp4.2/10, MS4.0/1, Ms1 4.0/1, ms1mx2.9/27, Error ellipse: s-maj=69.1km s-min=15.1km az=53.0*
*BJI **30** 04:03:16.9, 3.16N×96.14E, h17km, mB4.9, mb4.7, Ms4.5, Msz4.3*
*NEIC **30** 04:03:18.6±0.5, 2.93N×96.23E, h30km, mb4.5/5, Error ellipse: s-maj=17.8km s-min=8.2km az=54.0*

ISC 30 04:03:16.8±0.7, 2.93N±0.10×96.2E±0.1, h30km, n23, σ0°79/21, mb4.3/18, MS4.1/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.99**	**62**	*e* P	**Pn**	**04 04 32.6**	**+0.9**
LSA	**Lhasa**	**27.06**	**350**	P	**P**	**04 08 59.6**	**+0.8**
	4.4nm,0.4s,mb4.3						
ENH	**Enshi**	**29.95**	**23**	*e* P	**P**	**04 09 22.3**	**-2.6**
	6.7nm,0.8s,mb4.4						
MBWA	**Marble Bar**	**33.20**	**137**	*e* P	**P**	**04 09 54.5**	**+1.0**
FITZ	**Fitzroy Crossi**	**35.72**	**127**	P	**P**	**04 10 14.4**	**-0.7**
	7.5nm,0.8s,mb4.7,baz=262,slow=2.4,SNR=7.6						
GTA	**Gaotai**	**36.46**	**5**	*e* P	**P**	**04 10 21.3**	**+0.2**
GTA				AP	pP	04 10 30.3	+0.2
GTA				XP	sP	04 10 34.0	+0.1
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
HHC	**Hu-ho-hao-te**	**40.21**	**18**	*e* P	**P**	**04 10 51.8**	**-0.6**
HHC				AP	pP	04 11 00.8	-0.6
HHC				XP	sP	04 11 04.5	-0.7
HHC				PP	PP	04 12 26.8	-1.7
HHC				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
HHC				AMB	AMB		
	comp=Z,73nm,4.4s						
WMQ	**Urumqi**	**41.42**	**351**	*e* P	**P**	**04 11 03.3**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
WMQ				AMB	AMB		
	comp=Z,95nm,3.9s						
WRA	**Warramunga Arr**	**43.77**	**123**	P	**P**	**04 11 21.9**	**0.0**
	comp=Z,2.0nm,0.6s,mb4.0,baz=301,slow=9.1,SNR=17						
WB2	**Warramunga Arr**	**43.78**	**123**	*e* P	**P**	**04 11 22.1**	**+0.2**
AAK	**Ala-Archa**	**44.04**	**337**	*e* P	**P**	**04 11 25.0**	**+1.2**
	comp=Z,3.0nm,0.9s,mb4.0						
ASAR	**Alice Springs**	**45.20**	**128**	P	**P**	**04 11 33.5**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.9,baz=298,slow=7.9,SNR=12						
MKAR	**Makanchi Array**	**45.35**	**347**	P	**P**	**04 11 34.4**	**+0.1**
	comp=Z,5.1nm,0.4s,mb4.7,baz=160,slow=9.0,SNR=177						
SONM	**Songino Array**	**45.59**	**10**	P	**P**	**04 11 35.8**	**-0.3**
	comp=Z,3.1nm,0.7s,mb4.4,baz=200,slow=8.7,SNR=2.7						
KURK	**Kurchatov**	**49.89**	**345**	*e* P	**P**	**04 12 09.1**	**-0.5**
	comp=Z,4.0nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**54.31**	**341**	P	**P**	**04 12 42.0**	**-0.7**
	comp=Z,2.7nm,0.7s,mb4.3,baz=140,slow=8.8,SNR=16						
CHKZ	**Chkalovo**	**54.80**	**342**	*e* P	**P**	**04 12 45.5**	**-0.8**
	comp=Z,6.2nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**55.22**	**133**	P	**P**	**04 12 49.0**	**-0.7**
	comp=Z,1.2nm,0.6s,mb4.1,baz=290,slow=5.6,SNR=6.1						
AKASG	**Malin Array Be**	**73.31**	**322**	P	**P**	**04 14 46.9**	**-0.6**
	comp=Z,0.3nm,0.3s,mb3.7,baz=88,slow=5.0,SNR=6.7						
FINES	**FINESS Array B**	**78.03**	**332**	P	**P**	**04 15 14.4**	**+0.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=72,slow=6.0,SNR=6.7						
TSUM	**Tsumeb**	**80.26**	**250**	LR	LR	04 45 02.9	
	comp=Z,87nm,19.6s,MS4.1,baz=233,slow=31						
ARCES	**ARCESS Array B**	**80.60**	**340**	P	**P**	**04 15 28.6**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.1,baz=76,slow=5.0,SNR=5.9						
TXAR	**Lajitas Array**	**142.68**	**29**	PKP	PKPdf	04 22 48.2	-4.8
	comp=Z,0.2nm,0.5s,baz=230,slow=0.2,SNR=3.7						

*IDC **30** 04:05:41.0±0.8, 0.42N×97.28E, mb4.3/15, mb1 4.4/15, mb1mx4.3/20, mbtmp4.3/15, MS4.0/14, Ms1 4.1/14, ms1mx3.8/26, Error ellipse: s-maj=40.4km s-min=14.2km az=48.0*
*MOS **30** 04:05:43.5±1.8, 0.67N×97.59E, h33km, mb4.9/15, MS4.5/4, Error ellipse: s-maj=20.5km s-min=8.7km az=106.7*
*BJI **30** 04:05:44.5, 0.22N×97.57E, h50km, mB5.1, mb4.8, Ms4.7, Msz4.4*
*NEIC **30** 04:05:46.2±0.4, 0.60N×97.57E, h30km, mb4.8/17, Error ellipse: s-maj=11.9km s-min=7.3km az=46.0*

ISC 30 04:05:44.8±0.5, 0.61N±0.07×97.58E±0.07, h33km, (h27km±3.7km:pP-P), n79, σ1°20/72, mb4.6/42, MS4.3/23, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.57**	**33**	*e* P	**P**	**04 07 09.0**	**+1.6**
CM31	**Chiang Mai Arr**	**17.78**	**4**	*e* P	**P**	**04 09 51.9**	**+0.4**
	4.2nm,0.5s						
PALK	**Pallekele**	**18.08**	**292**	*e* P	**P**	**04 09 58.0**	**+2.8**
	13nm,0.9s						
KKM	**Kota Kinabalu**	**19.37**	**73**	*e* P	**P**	**04 10 10.8**	**+0.2**
VIS	**Vishakhapatnam**	**22.03**	**321**	*i* P	**P**	**04 10 38.2**	**0.0**
KMI	**Kunming**	**24.87**	**11**	P	**P**	**04 11 08.8**	**+2.7**
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.4						
JIRN	**Jiri**	**29.03**	**339**	*e* P	**P**	**04 11 44.5**	**+0.4**
	comp=Z,64nm,1.2s,mb5.2						
PKI	**Pulchoki**	**29.24**	**337**	*e* P	**P**	**04 11 45.7**	**-0.3**
	comp=Z,58nm,1.2s,mb5.2						
PKI	**Pulchoki**	**29.24**	**337**	*e* P	**P**	**04 11 45.7**	**-0.3**
PKI				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
GUN	**Gumba**	**29.37**	**339**	*e* P	**P**	**04 11 47.2**	**+0.1**
	comp=Z,66nm,0.9s,mb5.4						
DMN	**Daman**	**29.39**	**337**	*e* P	**P**	**04 11 48.0**	**+0.7**
	comp=Z,29nm,0.8s,mb5.1						
KKN	**Kakani**	**29.48**	**337**	*e* P	**P**	**04 11 49.1**	**+0.9**
	comp=Z,77nm,1.2s,mb5.3						
KKN	**Kakani**	**29.48**	**337**	*e* P	**P**	**04 11 49.1**	**+0.9**
KKN				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.0						
LSA	**Lhasa**	**29.57**	**349**	*e* P	**P**	**04 11 49.6**	**+0.7**
LSA				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.8						
LSA	**Lhasa**	**29.57**	**349**	*e* P	**P**	**04 11 49.6**	**+0.7**
	comp=Z,18nm,1.0s,mb4.8						
GKN	**Gorkha**	**29.92**	**337**	*e* P	**P**	**04 11 51.7**

WMQ				LR	LR				
	comp=Z,193nm,21.8s,MS4.0								
KS15	**Wonju Array Si**	**46.09**	**34**	P	**P**	**04 14 07.3**	**-0.4**		
AAK	**Ala-Archa**	**46.68**	**337**	*eP*	**P**	**04 14 12.5**	**+0.2**		
AAK				pmax	pmax				
	comp=Z,5.0nm,1.1s,mb4.4								
AAK	**Ala-Archa**	**46.68**	**337**	*eP*	**P**	**04 14 12.5**	**+0.3**		
	comp=Z,4.7nm,1.1s,mb4.3								
FRU	**Bishkek**	**46.80**	**337**	*eP*	**P**	**04 14 23.0**	**+10**		
SONM	**Songino Array**	**47.65**	**8**	P	**P**	**04 14 20.1**	**+0.3**		
	comp=Z,0.9nm,0.4s,mb4.2,baz=193,slow=6.8,SNR=7.1								
SONM				LR	LR	04 37 35.7			
	comp=Z,272nm,18.4s,MS4.3,baz=184,slow=40								
MKAR	**Makanchi Array**	**47.90**	**346**	*iP*	**P**	**04 14 21.3**	**-0.5**		
MKAR				pmax	pmax				
	comp=Z,5.0nm,0.6s								
MKAR	**Makanchi Array**	**47.90**	**346**	P	**P**	**04 14 21.5**	**-0.3**		
	comp=Z,5.3nm,0.6s,mb4.7,baz=162,slow=8.8,SNR=20								
MKAR				LR	LR	04 38 33.9			
	comp=Z,116nm,21.0s,MS3.8,baz=56,slow=41								
ZAK	**Zakamensk**	**49.82**	**5**	*eP*	**P**	**04 14 38.0**	**+1.4**		
ZAK				pmax	pmax				
	comp=Z,2.0nm,1.6s,mb3.9								
TLY	**Talaya**	**51.14**	**5**	*eP*	**P**	**04 14 37.9**	**-8.7**		
TLY				*e*		04 22 14.8			
TLY				*e*		04 25 35.8			
TLY				pmax	pmax				
	comp=Z,4.0nm,0.8s,mb4.4								
TLY				MLR	MLR				
	comp=Z,170nm,15.0s,MS4.2								
MJAR	**Matsushiro Arr**	**51.87**	**42**	P	**P**	**04 14 56.0**	**+3.7**		
	comp=Z,1.2nm,0.4s,mb4.2,baz=236,slow=7.5,SNR=4.3								
MJAR				LR	LR	04 37 27.7			
	comp=Z,188nm,18.3s,MS4.2,baz=260,slow=36								
KURK	**Kurchatov**	**52.45**	**345**	*iP*	**P**	**04 14 55.5**	**-0.9**		
KURK				pmax	pmax				
	comp=Z,11nm,1.4s,mb4.6								
KURK	**Kurchatov**	**52.45**	**345**	*eP*	**P**	**04 14 55.9**	**-0.5**		
	comp=Z,23nm,1.4s,mb4.9								
STKA	**Stephens Creek**	**52.69**	**132**	P	**P**	**04 14 59.2**	**+0.7**		
	comp=Z,1.7nm,0.5s,mb4.3,baz=300,slow=8.8,SNR=6.1								
STKA	**Stephens Creek**	**52.69**	**132**	*eP*	**P**	**04 15 00.0**	**+1.6**		
NVS	**Novosibirsk**	**55.31**	**350**	*eP*	**P**	**04 15 16.9**	**-0.5**		
ATD	**Arta Tunnel**	**55.39**	**284**	LR	LR	04 32 54.2			
	comp=Z,152nm,21.9s,MS4.0,baz=126,slow=30								
KLR	**Kul'dur**	**56.61**	**26**	*eP*	**P**	**04 15 24.7**	**-2.1**		
KLR				MLR	MLR				
	comp=E,500nm,15.0s								
KLR				MLR	MLR				
	comp=Z,800nm,15.0s,MS4.9								
BVA0	**Borovoye Array**	**56.92**	**341**	*i* P	**P**	**04 15 27.0**	**-2.0**		
BVA0				pmax	pmax				
	comp=Z,6.0nm,2.3s,mb4.2								
BVAR	**Borovoye Array**	**56.92**	**341**	P	**P**	**04 15 27.6**	**-1.5**		
	comp=Z,1.7nm,0.6s,mb4.3,baz=162,slow=9.4,SNR=7.6								
CHKZ	**Chkalovo**	**57.40**	**341**	*eP*	**P**	**04 15 30.1**	**-2.3**		
CHKZ				pmax	pmax				
	comp=Z,6.0nm,0.8s,mb4.7								
CHKZ	**Chkalovo**	**57.40**	**341**	*eP*	**P**	**04 15 30.1**	**-2.3**		
	comp=Z,6.4nm,0.8s,mb4.7								
BOD	**Bodaibo**	**58.52**	**10**	*eP*	**P**	**04 15 38.1**	**-2.0**		
BOD				pmax	pmax				
	comp=Z,7.0nm,1.5s,mb4.5								
ASAJ	**Asahikawa**	**58.90**	**37**	LR	LR	04 41 38.5			
	comp=Z,274nm,18.9s,MS4.4,baz=136,slow=36								
KMBO	**Kilima Mbogo**	**60.35**	**268**	LR	LR	04 36 32.8			
	comp=Z,256nm,20.4s,MS4.3,baz=95,slow=31								
GNI	**Garni**	**61.97**	**316**	LR	LR	04 45 03.7			
	comp=Z,89nm,20.4s,MS3.9,baz=337,slow=38								
TI2	**Plekhanov**	**62.86**	**318**	*eP*	**P**	**04 16 05.6**	**-3.0**		
HNR	**Honiara**	**62.88**	**101**	LR	LR	04 47 20.8			
	comp=Z,100nm,19.9s,MS4.0,baz=355,slow=40								
SVE	**Sverdlovsk**	**63.37**	**338**	*eP*	**P**	**04 16 12.5**	**-0.6**		
SVE				*e*		04 16 47.5			
SVE				MLR	MLR				
	comp=N,200nm,20.0s,MS4.3								
SVE				MLR	MLR				
	comp=E,100nm,20.0s,MS4.3								
SVE				MLR	MLR				
	comp=Z,300nm,20.0s,MS4.5								
YAK	**Yakutsk**	**65.88**	**16**	*eP*	**P**	**04 16 27.9**	**-1.3**		
YAK				pmax	pmax				
	comp=Z,11nm,1.0s,mb4.8								
YAK				pmax	pmax				
	comp=N,6.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,4.0nm,1.0s								
BRTR	**Keskin Array B**	**69.78**	**312**	P	**P**	**04 16 52.9**	**-1.1**		
	comp=E,0.9nm,0.6s,mb3.9,baz=146,slow=4.5,SNR=4.3								
TIXI	**Tiksi**	**73.69**	**10**	*eP*	**P**	**04 17 13.5**	**-3.2**		
TIXI				pmax	pmax				
	comp=Z,6.0nm,1.0s,mb4.5								
TIXI				MLR	MLR				
	comp=Z,196nm,14.0s,MS4.5								
IDI	**Anoyia**	**75.55**	**306**	LR	LR	04 49 51.7			
	comp=Z,51nm,19.3s,MS3.8,baz=260,slow=35								
AKASG	**Malin Array Be**	**75.95**	**322**	P	**P**	**04 17 28.2**	**-1.9**		
	comp=Z,1.0nm,0.6s,mb3.9,baz=87,slow=5.0,SNR=9.2								
KOLS	**Kolonicke sedl**	**79.91**	**320**	*eP*	**P**	**04 17 52.8**	**+0.8**		
KOLS				*e*pP	pP	04 18 01.9	-0.5		
KOLS				*e*		04 18 08.3			
FINES	**FINESS Array B**	**80.69**	**332**	P	**P**	**04 17 56.3**	**+0.4**		
	comp=Z,0.8nm,0.5s,mb4.0,baz=90,slow=7.6,SNR=8.4								
FINES				LR	LR	04 57 36.8			
	comp=Z,98nm,19.5s,MS4.2,baz=301,slow=39								
ARCES	**ARCESS Array B**	**83.21**	**340**	P	**P**	**04 18 09.3**	**+0.5**		
	comp=Z,2.5nm,0.8s,mb4.3,baz=117,slow=5.4,SNR=6.1								
ARCES				LR	LR	05 02 27.7			
	comp=Z,135nm,18.2s,MS4.4,baz=22,slow=41								
ARCES	**ARCESS Array B**	**83.21**	**340**	P	**P**	**04 18 09.3**	**+0.5**		
ARCES				LR	LR	05 02 27.7			
BRG	**Berggiesshubel**	**85.50**	**321**	P	**P**	**04 18 26.7**	**+6.1**		
BRG				pmax	pmax				
	comp=Z,13nm,1.7s,mb4.8								
BRG	**Berggiesshubel**	**85.50**	**321**	P	**P**	**04 18 26.7**	**+6.1**		
	comp=Z,13nm,1.7s,mb4.8								
GERES	**GERESS Array B**	**85.50**	**319**	P	**P**	**04 18 21.3**	**+0.7**		
	comp=Z,1.6nm,1.0s,mb4.2,baz=117,slow=3.0,SNR=11								
GERES				LR	LR	04 59 01.5			
	comp=Z,45nm,20.3s,MS3.9,baz=93,slow=38								
CLL	**Collm**	**86.12**	**321**	P	**P**	**04 18 28.0**	**+4.3**		
NB2	**NORSAR Subarra**	**87.70**	**331**	P	**P**	**04 18 32.1**	**+1.0**		
	comp=Z,4.4nm,1.1s,mb4.6,baz=91,slow=5.6								
NB2	**NORSAR Subarra**	**87.70**	**331**	P	**P**	**04 18 32.1**	**+1.0**		
NB2				pmax	pmax				
	comp=Z,4.0nm,1.1s,mb4.6								
NOA	**NORSAR Array B**	**87.70**	**331**	P	**P**	**04 18 31.8**	**+0.7**		
	comp=Z,0.2nm,0.5s,mb3.6,baz=102,slow=5.8,SNR=3.2								
NOA				LR	LR	05 02 08.7			
	comp=Z,106nm,21.3s,MS4.2,baz=250,slow=39								
DAVOX	**Davos**	**87.97**	**317**	P	**P**	**04 18 34.9**	**+2.1**		
	comp=Z,2.5nm,0.5s,mb4.7,baz=85,slow=11,SNR=5.0								
ULM	**Lac du Bonnet**	**128.04**	**11**	PKP	PKPdf	04 24 48.6	+0.8		
	comp=Z,1.4nm,0.4s,baz=23,slow=1.0,SNR=4.3								
BDFB	**Brasilia**	**142.91**	**245**	PKP	PKPdf	04 25 18.2	+2.2		
	comp=Z,1.4nm,0.5s,baz=48,slow=1.6,SNR=3.9								
TXAR	**Lajitas Array**	**143.96**	**33**	PKP	PKPdf	04 25 18.4	+0.8		
	comp=Z,0.7nm,0.6s,baz=310,slow=1.4,SNR=11								

IDC 30 04:14:59.2±1.8, 2.03N×96.70E, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=71.7km s-min=28.0km az=51.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.90**	**122**	P	P	04 22 59.9	-1.7
	0.5nm,0.6s,baz=301,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**46.32**	**346**	P	P	04 23 27.5	-1.1
	1.4nm,0.7s,baz=160,slow=7.8,SNR=19						
SONM	**Songino Array**	**46.39**	**9**	P	P	04 23 27.4	-1.8
	1.2nm,0.6s,baz=188,slow=9.1,SNR=12						
BVAR	**Borovoye Array**	**55.30**	**341**	P	P	04 24 33.9	-2.9
	0.3nm,0.4s,baz=144,slow=7.3,SNR=3.1						
AKASG	**Malin Array Be**	**74.30**	**322**	P	P	04 26 39.1	-1.1
	1.5nm,0.8s,baz=225,slow=7.9,SNR=4.2						
FINES	**FINESS Array B**	**79.03**	**333**	P	P	04 27 04.3	-2.2
	1.3nm,1.1s,baz=117,slow=6.7,SNR=2.9						

*NEIC **30** 04:25:51.7±2.6, 14.37N×146.92E, h35km±21km, mb4.9/6, Error ellipse: s-maj=21.6km s-min=10.7km az=68.0*
*IDC **30** 04:25:52.7±5.3, 14.39N×146.94E, h42km±45km, mb3.8/8, mb1 4.0/9, mb1mx3.8/20, mbtmp4.1/9, ML4.1/1, MS3.7/1, Ms1 3.7/1, ms1mx2.9/33, Error ellipse: s-maj=35.0km s-min=19.2km az=79.0*

ISC 30 04:25:50.6±3.5, 14.4N±0.1×147.0E±0.2, h45km±28km, n28, σ0s48/25, mb4.6/17, MS3.5/1, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.22**	**249**	P	**P**	**04 26 25.7**	**-0.1**
	58nm,0.3s,baz=63,slow=6.8,SNR=13						
GUMO				S	**S**	**04 26 52.7**	**+0.6**
	97nm,0.3s,baz=13,slow=22,SNR=7.4						
GUMO	**Guam**	**2.22**	**249**	*eP*	**P**	**04 26 24.8**	**-1.0**
GUMO				S	**S**	**04 26 52.7**	**+0.6**
JOW	**Kunigami**	**21.42**	**308**	LR	LR	04 38 10.1	
	comp=Z,188nm,19.2s,MS3.5,baz=282,slow=34						
WRA	**Warramunga Arr**	**36.32**	**200**	P	**P**	**04 32 52.3**	**+0.1**
	1.0nm,0.8s,mb3.8,baz=21,slow=9.6,SNR=5.1						
ENH	**Enshi**	**37.93**	**301**	*eP*	**P**	**04 33 05.8**	**+0.3**
	4.0nm,0.7s,mb4.3						
ASAR	**Alice Springs**	**39.94**	**199**	P	**P**	**04 33 22.4**	**+0.1**
	0.4nm,0.6s,mb3.3,baz=24,slow=8.4,SNR=3.3						
SONM	**Songino Array**	**47.30**	**323**	P	**P**	**04 34 21.3**	**-0.3**
	1.2nm,0.6s,mb4.0,baz=136,slow=5.6,SNR=5.9						
LSA	**Lhasa**	**53.49**	**296**	*eP*	**P**	**04 35 09.9**	**+0.9**
JIRN	**Jiri**	**57.78**	**294**	*eP*	**P**	**04 35 40.1**	**+0.2**
	18nm,0.7s,mb5.2						
GUN	**Gumba**	**58.05**	**294**	*eP*	**P**	**04 35 42.1**	**+0.3**
	14nm,0.4s,mb5.3						
PKI	**Pulchoki**	**58.47**	**294**	*eP*	**P**	**04 35 44.4**	**-0.3**
	9.0nm,0.5s,mb5.1						
KKN	**Kakani**	**58.59**	**294**	*eP*	**P**	**04 35 45.2**	**-0.3**
	6.7nm,0.4s,mb5.0						
DMN	**Daman**	**58.74**	**294**	*eP*	**P**	**04 35 46.4**	**-0.2**
	9.6nm,0.4s,mb5.2						
GKN	**Gorkha**	**59.15**	**294**	*eP*	**P**	**04 35 49.0**	**-0.4**
	29nm,0.8s,mb5.4						
KOLN	**Koldanda**	**60.07**	**294**	*eP*	**P**	**04 35 55.0**	**-0.8**
	12nm,0.7s,mb5.0						
MKAR	**Makanchi Array**	**62.37**	**315**	P	**P**	**04 36 11.0**	**+0.1**
	2.4nm,0.5s,mb4.6,baz=91,slow=8.2,SNR=41						
MKAR	**Makanchi Array**	**62.37**	**315**	P	**P**	**04 36 11.0**	**+0.1**
KURK	**Kurchatov**	**65.32**	**319**	*eP*	**P**	**04 36 29.7**	**-0.5**
	11nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**70.48**	**322**	*eP*	**P**	**04 37 02.1**	**-0.2**
BVAR	**Borovoye Array**	**70.59**	**321**	P	**P**	**04 37 03.2**	**+0.2**
	3.8nm,0.5s,mb4.6,baz=90,slow=7.4,SNR=26						
YKA	**Yellowknife Ar**	**81.19**	**28**	P	**P**	**04 38 04.0**	**+1.1**
	0.8nm,0.7s,mb3.7,baz=287,slow=5.4,SNR=14						
YKA	**Yellowknife Ar**	**81.19**	**28**	P	**P**	**04 38 04.0**	**+1.1**
FINES	**FINESS Array B**	**91.30**	**336**	P	**P**	**04 38 52.5**	**+0.2**
	1.1nm,0.8s,mb4.2,baz=63,slow=6.2,SNR=3.7						
VNDA	**Vanda**	**92.14**	**177**	P	**P**	**04 38 55.5**	**-0.4**
	0.6nm,0.8s,mb4.0,baz=17,slow=3.7,SNR=6.2						
DBIC	**Dimbokro**	**145.11**	**305**	PKPbc	PKPbc	04 45 26.4	+1.9
	2.6nm,0.6s,baz=58,slow=5.0,SNR=17						
DBIC	**Dimbokro**	**145.11**	**305**	PKPbc	PKPbc	04 45 26.4	+1.9
LPAZ	**La Paz**	**146.09**	**98**	PKPbc	PKPbc	04 45 31.3	+4.5
	1.2nm,0.5s,baz=293,slow=2.4,SNR=9.8						
LPAZ	**La Paz**	**146.09**	**98**	PKPbc	PKPbc	04 45 31.3	+4.4

IDC 30 04:25:51.3±2.5, 5.74S×107.77E, h319km±23km, mb3.2/6, mb1 3.4/6, mb1mx3.2/18, mbtmp3.9/6, Error ellipse: s-maj=50.5km s-min=13.1km az=50.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.34**	**127**	P	P	04 30 14.0	-0.6
	2.3nm,0.8s,baz=356,slow=12,SNR=5.3						
WRA	**Warramunga Arr**	**29.43**	**121**	P	P	04 31 26.4	-2.0
	0.4nm,0.3s,baz=290,slow=9.8,SNR=19						
ASAR	**Alice Springs**	**30.82**	**128**	P	P	04 31 38.9	-1.6
	0.7nm,0.4s,baz=300,slow=7.7,SNR=12						
ASAR				S	S	04 36 18.2	-1.7
	0.3nm,0.6s,baz=298,slow=14,SNR=4.6						
ASAR				ScP		04 37 40.4	
	0.5nm,0.7s,baz=303,slow=2.9,SNR=3.9						
STKA	**Stephens Creek**	**40.93**	**134**	P	P	04 33 04.0	-1.0
	3.4nm,0.8s,baz=314,slow=6.7,SNR=9.9						
MKAR	**Makanchi Array**	**56.98**	**339**	P	P	04 35 04.0	-2.1
	1.2nm,0.5s,baz=155,slow=7.8,SNR=18						
VNDA	**Vanda**	**77.06**	**170**	P	P	04 37 09.1	-1.6
	0.2nm,0.3s,baz=302,slow=5.6,SNR=5.1						

*JMA **30** 04:37:35.4±0.1, 37.44N×140.34E, h98km±1km, M3.4*
JMA Felt I J1.
*NEIC **30** 04:37:42.5±10.0, 37.14N×139.31E, h144km±44km, mb4.1/1, Error ellipse: s-maj=235.1km s-min=16.2km az=65.0*
*IDC **30** 04:37:45.7±2.4, 36.82N×138.60E, h151km±7km, mb3.3/4, mb1 3.5/4, mb1mx3.1/20, mbtmp3.7/4, Error ellipse: s-maj=86.8km s-min=16.1km az=55.0*

ISC 30 04:37:34.0±0.5, 37.45N±0.05×140.39E±0.06, h108km±4km, n23, σ0s68/34, mb3.8/5, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFT	**Otama**	**0.08**	**332**	P	**P**	**04 37 49.1**	**0.0**
JFT				S	**S**	**04 37 59.3**	**-1.0**
JFK	**Kawauchi**	**0.40**	**101**	P	**P**	**04 37 50.5**	**+0.3**
JFK				*eS*	**S**	**04 38 01.7**	**-0.7**
JMM	**Marumori**	**0.53**	**38**	P	**P**	**04 37 51.5**	**+0.4**
JMM				S	**S**	**04 38 03.3**	**-0.6**
JFY	**Yanaizu**	**0.54**	**266**	P	**P**	**04 37 51.0**	**-0.2**
JFY				*eS*	**S**	**04 38 02.7**	**-1.3**
JYS	**Shirataka**	**0.81**	**342**	P	**P**	**04 37 53.9**	**+0.4**
JYS				*eS*	**S**	**04 38 07.9**	**-0.2**
JNS	**Sasagawa**	**0.93**	**294**	P	**P**	**04 37 54.1**	**-0.5**
JOU	**Okura**	**0.94**	**13**	P	**P**	**04 37 55.6**	**+0.8**
JOU				*eS*	**S**	**04 38 10.9**	**+0.5**
JHK	**Hiroka**	**1.11**	**260**	P	**P**	**04 37 56.5**	**-0.1**
JHK				S	**S**	**04 38 12.7**	**-0.8**
JKT	**Katashina**	**1.13**	**234**	P	**P**	**04 37 57.5**	**+0.6**
JIO	**Ouri**	**1.26**	**37**	P	**P**	**04 37 59.0**	**+0.6**
JIO				S	**S**	**04 38 15.9**	**-0.8**
JYA	**Atsumi**	**1.26**	**335**	P	**P**	**04 37 58.8**	**+0.4**
JYA				*eS*	**S**	**04 38 16.7**	**0.0**
JAG	**Ashikaga**	**1.26**	**217**	P	**P**	**04 37 59.0**	**+0.6**
JYK	**Kaneyama**	**1.47**	**359**	P	**P**	**04 38 01.6**	**+0.8**
JMK	**Ichinoseki**	**1.64**	**23**	P	**P**	**04 38 03.9**	**+1.0**
MJAR	**Matsushiro Arr**	**1.96**	**243**	P	**P**	**04 38 07.4**	**+0.5**
	6.8nm,0.3s,baz=45,slow=10,SNR=27						
MAJO	**Matsushiro**	**1.96**	**243**	*eP*	**P**	**04 38 07.4**	**+0.4**
MAT	**Matsushiro**	**1.96**	**243**	*eP*	**P**	**04 38 07.0**	**+0.1**
MAT				*eS*	**S**	**04 38 33.0**	**+1.5**
MAT	**Matsushiro**	**1.96**	**243**	P	**P**	**04 38 07.4**	**+0.5**
MAT				S	**S**	**04 38 32.8**	**+1.3**
MKAR	**Makanchi Array**	**43.20**	**302**	P	**P**	**04 45 24.7**	**-0.9**
	0.6nm,0.6s,mb3.5,baz=84,slow=9.0,SNR=7.3						
KURK	**Kurchatov**	**45.03**	**308**	*eP*	**P**	**04 45 39.0**	**-1.3**
	3.0nm,0.7s,mb4.1						
BVAR	**Borovoye Array**	**49.69**	**312**	P	**P**	**04 46 16.6**	**0.0**
	0.8nm,0.5s,mb3.9,baz=96,slow=6.4,SNR=4.4						
WRA	**Warramunga Arr**	**57.36**	**187**	P	**P**	**04 47 12.5**	**-0.8**
	0.4nm,0.3s,mb3.9,baz=1.1,slow=7.4,SNR=8.7						
ASAR	**Alice Springs**	**61.09**	**187**	P	**P**	**04 47 39.0**	**0.0**
	0.7nm,0.8s,mb3.8,baz=20,slow=8.0,SNR=5.6						

IDC 30 04:46:59.7±4.1, 0.81N×97.78E, mb3.6/4, mb1 3.8/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=172.0km s-min=24.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.34**	**122**	P	P	04 54 48.0	-1.2
	0.9nm,0.5s,baz=304,slow=9.1,SNR=5.6						
ASAR	**Alice Springs**	**42.70**	**127**	P	P	04 54 58.1	-2.2
	0.6nm,0.6s,baz=304,slow=7.9,SNR=6.6						
SONM	**Songino Array**	**47.43**	**8**	P	P	04 55 37.0	-0.9
	0.2nm,0.5s,baz=202,slow=7.8,SNR=2.2						
MKAR	**Makanchi Array**	**47.76**	**346**	P	P	04 55 37.9	-2.6
	0.6nm,0.5s,baz=163,slow=7.5,SNR=8.8						

IDC 30 04:56:13.0±6.7, 26.87S×177.77W, h138km±67km, mb3.4/2, mb1 3.8/3, mb1mx3.5/12, mbtmp4.0/3, Error ellipse: s-maj=83.3km s-min=35.2km az=174.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.37**	**183**	P	P	04 56 51.6	-0.9
	79nm,0.3s,baz=85,slow=12,SNR=7.9						
RAO				S	S	04 57 22.5	-0.2
	430nm,0.3s,baz=121,slow=22,SNR=16						
ASAR	**Alice Springs**	**43.62**	**263**	P	P	05 04 03.8	-1.5
	0.4nm,0.5s,baz=94,slow=6.9,SNR=4.9						
WRA	**Warramunga Arr**	**44.28**	**268**	P	P	05 04 09.0	-1.7
	1.3nm,0.5s,baz=107,slow=7.7,SNR=18						
ARCES	**ARCESS Array B**	**135.19**	**349**	PKP	PKPdf	05 15 14.6	-0.9
	5.0nm,1.0s,baz=346,slow=3.7,SNR=4.1						
FINES	**FINESS Array B**	**141.89**	**342**	PKhKP		05 15 23.6	
	0.3nm,0.4s,baz=11,slow=9.7,SNR=3.1						
NB2	**NORSAR Subarra**	**145.30**	**352**	PKPabc	PKPdf	05 15 32.2	-1.3
	0.8nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**145.30**	**352**	PKPbc	PKPbc	05 15 33.6	-0.4
	1.5nm,0.8s,baz=12,slow=2.8,SNR=5.9						
AKASG	**Malin Array Be**	**148.55**	**326**	PKPbc	PKPdf	05 15 42.0	+2.8
	0.4nm,0.4s,baz=41,slow=3.6,SNR=4.8						
BRTR	**Keskin Array B**	**150.94**	**304**	PKPbc	PKPdf	05 15 49.2	+6.0
	0.4nm,0.4s,baz=90,slow=1.4,SNR=2.5						
BRTR				PKPab	PKPab	05 15 57.4	-2.0
	0.9nm,0.5s,baz=120,slow=4.1,SNR=4.4						

IDC 30 04:58:45.1±3.5, 0.51N×97.10E, mb3.7/5, mb1 3.9/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=145.4km s-min=22.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.62**	**125**	P	P	05 05 27.8	-1.9
	2.2nm,0.6s,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**41.76**	**121**	P	P	05 06 36.1	-2.1
	0.4nm,0.4s,baz=302,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**43.07**	**126**	P	P	05 06 47.3	-1.5
	0.7nm,0.9s,baz=305,slow=7.3,SNR=4.1						
SONM	**Songino Array**	**47.82**	**8**	P	P	05 07 25.4	-1.1
	0.5nm,0.6s,baz=200,slow=9.0,SNR=4.5						
MKAR	**Makanchi Array**	**47.88**	**346**	P	P	05 07 24.7	-2.3
	1.1nm,0.6s,baz=157,slow=8.1,SNR=11						
TXAR	**Lajitas Array**	**144.30**	**32**	PKP	PKPdf	05 18 22.0	-3.7
	0.2nm,0.5s,baz=315,slow=1.3,SNR=4.2						

IDC 30 05:03:16.0±1.7, 1.74N×127.58E, mb3.9/4, mb1 4.1/5, mb1mx3.8/15, mbtmp3.9/5, ML3.9/1, Error ellipse: s-maj=101.9km s-min=22.3km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.80**	**185**	P	P	05 07 47.9	-3.2
	0.2nm,0.3s,baz=18,slow=9.6,SNR=3.6						
WRA	**Warramunga Arr**	**22.54**	**163**	P	P	05 08 18.5	-0.7
	2.1nm,0.4s,baz=342,slow=10,SNR=23						
ASAR	**Alice Springs**	**25.99**	**167**	P	P	05 08 50.3	-2.1
	0.6nm,0.5s,baz=349,slow=7.2,SNR=11						
STKA	**Stephens Creek**	**35.97**	**159**	P	P	05 10 18.4	-2.2
	1.2nm,0.3s,baz=355,slow=8.3,SNR=7.6						
MKAR	**Makanchi Array**	**59.67**	**326**	P	P	05 13 22.4	-2.2
	0.3nm,0.4s,baz=118,slow=8.1,SNR=8.4						

*IDC **30** 05:17:08.1±0.9, 0.84N×97.33E, mb4.4/16, mb1 4.5/16, mb1mx4.4/22, mbtmp4.4/16, MS3.9/1, Ms1 3.9/1, ms1mx2.6/27, Error ellipse: s-maj=36.0km s-min=13.5km az=50.0*
*BJI **30** 05:17:11.1, 0.72N×97.46E, h40km, mB5.0, mb4.8, Ms4.5, Msz4.0*
*NEIC **30** 05:17:12.9±0.4, 0.93N×97.41E, h30km, mb4.5/9, Error ellipse: s-maj=12.9km s-min=7.3km az=54.0*

ISC 30 05:17:11.7±2.3, 0.90N±0.08×97.4E±0.1, h34km±18km, n44, σ0s81/44, mb4.5/29, MS4.1/4, 3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.15**	**45**	P	**P**	**05 18 28.6**	**+0.2**
KULM	**Kulim**	**5.44**	**37**	*eP*	**P**	**05 18 32.0**	**-0.4**
KGM	**Kluang**	**6.03**	**79**	P	**P**	**05 18 41.1**	**+0.4**
KKM	**Kota Kinabalu**	**19.46**	**74**	*eP*	**P**	**05 21 38.0**	**-0.6**
KKM	**Kota Kinabalu**	**19.46**	**74**	P	**P**	**05 21 39.7**	**+1.2**
QIZ	**Qiongzhong**	**21.76**	**33**	*eP*	**P**	**05 22 02.0**	**-0.4**
KMI	**Kunming**	**24.63**	**12**	P	**P**	**05 22 31.0**	**+0.5**
K

AKASG	**Malin Array Be**	**75.61**	**322**	P	**P**	**05 28 54.5 -0.5**
	comp=Z,0.4nm,0.2s,mb4.0,baz=90,slow=5.0,SNR=4.4					
AKASG	**Malin Array Be**	**75.61**	**322**	P	**P**	**05 28 54.5 -0.5**
FINES	**FINESS Array B**	**80.35**	**333**	P	**P**	**05 29 20.9 -0.1**
	comp=Z,0.3nm,0.4s,mb3.6,baz=63,slow=4.3,SNR=6.3					
ARCES	**ARCESS Array B**	**82.88**	**340**	P	**P**	**05 29 34.4 +0.5**
	comp=Z,9.8nm,1.1s,mb4.8,baz=18,slow=3.8,SNR=5.0					
ARCES	**ARCESS Array B**	**82.88**	**340**	P	**P**	**05 29 34.4 +0.5**
GERES	**GERESS Array B**	**85.16**	**319**	P	**P**	**05 29 47.0 +1.2**
	comp=Z,0.4nm,0.3s,mb4.0,baz=104,slow=5.5,SNR=6.6					
NB2	**NORSAR Subarra**	**87.36**	**331**	P	**P**	**05 29 56.9 +0.6**
	comp=Z,0.5nm,0.6s,mb3.9,baz=94,slow=5.0					
NOA	**NORSAR Array B**	**87.36**	**331**	P	**P**	**05 29 57.0 +0.7**
	comp=Z,0.9nm,0.7s,mb4.1,baz=94,slow=4.7,SNR=4.5					
TXAR	**Lajitas Array**	**143.82**	**32**	PKP	PKPdf	05 36 44.9 +0.8
	comp=Z,0.2nm,0.5s,baz=240,slow=0.7,SNR=4.9					

IDC ***30*** *05:19:48.7±1.0, 1.00N×97.13E, mb4.1/12, mb1 4.2/12, mb1mx4.0/20, mbtmp4.1/12, MS3.6/4, Ms1 3.6/4, ms1mx3.1/27, Error ellipse: s-maj=57.3km s-min=15.4km az=53.0*

NEIC ***30*** *05:19:53.5±0.7, 0.97N×97.21E, h30km, mb4.5/5, Error ellipse: s-maj=39.9km s-min=8.9km az=54.0*

ISC 30 05:19:52.5±1.0, 1.1N±0.2×97.4E±0.3, h33km, n21, σ0§95/19, mb4.2/17, MS3.7/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**28.51**	**339**	*eP*	**P**		**05 25 47.7**	**+0.4**
	11nm,0.6s,mb4.8							
PKI	**Pulchoki**	**28.72**	**338**	*eP*	**P**		**05 25 50.4**	**+1.3**
	15nm,0.8s,mb4.8							
GUN	**Gumba**	**28.85**	**339**	*eP*	**P**		**05 25 51.0**	**+0.7**
	18nm,0.5s,mb5.0							
KKN	**Kakani**	**28.97**	**337**	*eP*	**P**		**05 25 52.5**	**+1.2**
GKN	**Gorkha**	**29.41**	**337**	*eP*	**P**		**05 25 55.3**	**+0.1**
KOLN	**Koldanda**	**29.63**	**335**	*eP*	**P**		**05 25 57.5**	**+0.3**
	17nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.73**	**126**	P	**P**		**05 26 32.1**	**-1.1**
	3.3nm,0.7s,mb4.4,baz=338,slow=5.4,SNR=4.9							
WRA	**Warramunga Arr**	**41.84**	**122**	P	**P**		**05 27 41.9**	**+0.5**
	1.1nm,0.6s,mb3.6,baz=299,slow=9.1,SNR=5.5							
ASAR	**Alice Springs**	**43.20**	**127**	P	**P**		**05 27 53.0**	**+0.5**
	0.6nm,0.7s,mb3.4,baz=297,slow=8.1,SNR=3.5							
SONM	**Songino Array**	**47.22**	**8**	P	**P**		**05 28 24.5**	**+0.3**
	3.2nm,0.5s,mb4.5,baz=190,slow=9.0,SNR=17							
SONM				PcP	PcP		05 29 56.0	+0.3
	0.7nm,0.7s,baz=197,slow=2.9,SNR=4.3							
MKAR	**Makanchi Array**	**47.39**	**346**	P	**P**		**05 28 25.6**	**0.0**
	2.9nm,0.7s,mb4.3,baz=160,slow=7.9,SNR=9.0							
MKAR				LR	LR		05 49 20.9	
	comp=Z,39nm,20.4s,MS3.4,baz=359,slow=37							
STKA	**Stephens Creek**	**53.16**	**132**	P	**P**		**05 29 10.4**	**+0.6**
	2.7nm,0.6s,mb4.4,baz=301,slow=8.6,SNR=5.6							
STKA				LR	LR		05 51 10.2	
	comp=Z,95nm,18.6s,MS3.9,baz=27,slow=35							
ZAL	**Zalesovo**	**53.69**	**351**	P	**P**		**05 29 12.6**	**-0.7**
	2.2nm,0.3s,mb4.5,baz=282,slow=5.6,SNR=5.7							
BVAR	**Borovoye Array**	**56.41**	**341**	P	**P**		**05 29 30.6**	**-2.5**
	0.9nm,0.5s,mb4.0,baz=158,slow=8.0,SNR=5.1							
CHKZ	**Chkalovo**	**56.88**	**341**	*eP*	**P**		**05 29 34.2**	**-2.3**
	0.9nm,0.5s,mb4.1							
DZM	**Mont Dzumac**	**71.09**	**114**	LR	LR		06 06 33.3	
	comp=Z,86nm,18.9s,MS4.0,baz=28,slow=39							
FINES	**FINESS Array B**	**80.17**	**332**	P	**P**		**05 31 59.7**	**-1.2**
	0.4nm,0.5s,mb3.6,baz=113,slow=11,SNR=3.3							
ARCES	**ARCESS Array B**	**82.70**	**340**	P	**P**		**05 32 13.7**	**-0.2**
	2.1nm,0.8s,mb4.2,baz=100,slow=5.5,SNR=4.4							
GERES	**GERESS Array B**	**85.00**	**319**	P	**P**		**05 32 26.2**	**+0.2**
	0.3nm,0.2s,mb4.0,baz=90,slow=6.9,SNR=2.5							
NOA	**NORSAR Array B**	**87.18**	**331**	P	**P**		**05 32 37.0**	**+0.6**
	0.2nm,0.7s,mb3.5,baz=96,slow=5.1,SNR=2.5							
NOA				LR	LR		06 17 00.7	
	comp=Z,19nm,18.7s,MS3.5,baz=315,slow=39							
LPAZ	**La Paz**	**159.20**	**223**	PKP	PKPdf		05 39 50.4	+2.2
	0.3nm,0.4s,baz=301,slow=1.8,SNR=4.6							

IDC 30 05:30:49.3±2.1, 1.00N×97.29E, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=93.1km s-min=27.5km az=52.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.85**	**122**	P		P	05 38 41.4	-1.6
	0.4nm,0.8s,baz=304,slow=9.0,SNR=5.5							
SONM	**Songino Array**	**47.31**	**8**	P		P	05 39 24.7	-1.9
	0.7nm,0.3s,baz=197,slow=8.2,SNR=4.8							
MKAR	**Makanchi Array**	**47.45**	**346**	P		P	05 39 26.2	-1.5
	0.9nm,0.6s,baz=156,slow=7.6,SNR=13							
ZAL	**Zalesovo**	**53.76**	**351**	P		P	05 40 12.6	-3.0
	1.1nm,0.4s,baz=285,slow=4.1,SNR=5.1							
BVAR	**Borovoye Array**	**56.46**	**341**	P		P	05 40 32.9	-2.4
	1.2nm,0.6s,baz=146,slow=10,SNR=4.3							
FINES	**FINESS Array B**	**80.21**	**333**	P		P	05 43 01.5	-1.5
	0.3nm,0.3s,baz=97,slow=11,SNR=3.3							
ARCES	**ARCESS Array B**	**82.75**	**340**	P		P	05 43 14.8	-1.4
	4.4nm,1.0s,baz=97,slow=7.3,SNR=3.9							

NEIC ***30*** *05:38:42.0, 34.15S×70.08W, h5km, ML2.7(GUC), After GUC.*

GUC 30 05:38:42.0±0.6, 34.15S×70.08W, h5km±1km, MD3.6, ML2.7, 8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.32**	**341**	⇑*iP*		Pg	05 38 48.8	+0.5
LMEL				*i* S		Sg	05 38 54.2	+1.7
LMEL				AMP			05 38 54.7	
	comp=E,5μm,0.2s							
CICH	**Cipreses**	**0.33**	**238**	⇑*iP*		Pg	05 38 49.0	+0.3
CICH				*i* S		Sg	05 38 54.2	+1.2
CACH	**El Canelo**	**0.43**	**274**	*eP*		Pg	05 38 50.8	+0.1
CACH				*i* S		Sg	05 38 57.6	+1.2
CHCH	**Chadas Angostu**	**0.52**	**294**	⇑*iP*		Pg	05 38 52.8	+0.4
CHCH				*i* S		Sg	05 39 00.9	+1.6
SJCH	**San Jose de Ma**	**0.55**	**336**	⇓*iP*		Pg	05 38 53.0	-0.1
SJCH				*i* S		Sg	05 39 01.7	+1.2
SJCH				AMP			05 39 02.0	
	comp=N,903nm,0.4s							
PCH	**Pirque**	**0.64**	**325**	⇑*iP*		Pg	05 38 54.8	+0.1
PCH				*i* S		Sg	05 39 04.8	+1.5
ANTU	**Antumapu**	**0.74**	**321**	⇑*iP*		Pg	05 38 56.7	-0.1
ANTU				*i* S		Sg	05 39 07.7	+1.1
ANTU				AMP			05 39 08.9	
	comp=E,706nm,0.3s							
FCH	**Farellones**	**0.83**	**348**	⇑*iP*		Pb	05 38 58.3	-0.3
FCH				*i* S		Sg	05 39 10.8	+1.0
FCH				AMP			05 39 11.7	
	comp=N,739nm,0.2s							
CLCH	**Cerro Calan**	**0.84**	**333**	⇓*iP*		Pb	05 38 58.5	-0.2
CLCH				*i* S		Sg	05 39 11.1	+1.2
CLCH				AMP			05 39 14.0	
	comp=N,662nm,0.6s							
CLCH				AMP			05 39 14.5	
	comp=N,768nm,0.6s							
STL	**Santa Lucia**	**0.85**	**326**	⇓*iP*		Pb	05 38 58.5	-0.3
STL				*i* S		Sg	05 39 10.8	+0.5
STL				AMP			05 39 11.3	
	comp=E,151nm,0.2s							
DSCH	**Colegio Aleman**	**0.85**	**331**	⇓*iP*		Pb	05 38 58.9	0.0
DSCH				*i* S		Sg	05 39 11.1	+0.8
DSCH				AMP			05 39 12.1	
	comp=N,583nm,0.4s							
TACH	**Talagante**	**0.87**	**304**	⇑*iP*		Pb	05 38 58.8	-0.3
TACH				*i* S		Sb	05 39 11.5	+0.7
RCDM	**Rinconada Maip**	**0.89**	**317**	*eP*		Pb	05 38 59.2	-0.4
RCDM				*i* S		Sb	05 39 12.3	+0.8
RCDM				AMP			05 39 13.8	
	comp=E,843nm,0.3s							
SFDO	**San Fernando**	**0.90**	**239**	⇑*iP*		Pb	05 38 59.2	-0.5
SFDO				*i* S		Sb	05 39 12.3	+0.4
SCR	**San Cristobal**	**1.00**	**310**	⇓*iP*		Pb	05 38 58.5	-2.9
SCR				*i* S		Sb	05 39 11.2	-3.5
SCR				AMP			05 39 11.5	
	comp=N,160nm,0.2s							
LNV	**Longovilo**	**1.12**	**279**	⇓*iP*		Pb	05 39 02.9	-0.6
LNV				*i* S		Sb	05 39 18.7	+0.5
PEL	**Peldehue**	**1.12**	**333**	*eS*		Sb	05 39 19.0	+0.8
LCCH	**Las Cruces**	**1.41**	**298**	⇓*iP*		Pn	05 39 08.0	-0.4
LCCH				*i* S		Sb	05 39 26.8	+0.3
CHNG	**Los Chungos**	**2.55**	**332**	*i* S		Sn	05 40 00.8	+4.3

IDC 30 05:49:38.0±4.0, 0.91N×97.89E, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=168.2km s-min=24.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.30**	**122**	P		P	05 57 25.4	-1.7
	1.5nm,1.1s,baz=301,slow=9.3,SNR=5.4							
ASAR	**Alice Springs**	**42.67**	**127**	P		P	05 57 36.9	-1.6
	0.5nm,0.5s,baz=297,slow=7.7,SNR=7.2							
SONM	**Songino Array**	**47.32**	**8**	P		P	05 58 13.6	-1.8
	0.3nm,0.8s,baz=196,slow=9.0,SNR=3.7							
MKAR	**Makanchi Array**	**47.69**	**346**	P		P	05 58 16.2	-2.1
	1.0nm,0.6s,baz=157,slow=8.4,SNR=13							

JMA ***30*** *05:57:46.2±0.1, 29.46N×129.95E, h60km±2km, M3.6*
JMA Felt I J1.
IDC ***30*** *05:57:46.3±5.9, 29.38N×130.05E, h52km±55km, mb3.2/5, mb1 3.5/6, mb1mx3.3/21, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=50.0km s-min=19.3km az=76.0*

ISC 30 05:57:45.8±0.5, 29.44N±0.05×130.0E±0.1, h60km±6km, n16, σ0§65/22, mb3.6/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.41**	**350**	P		**P**	**05 57 57.0**	**0.0**
JNN				*i* S		**S**	**05 58 05.0**	**-0.2**
JKC	**Kuchinoerabu**	**1.04**	**11**	P		**P**	**05 58 04.8**	**+0.1**
JKC				S		**S**	**05 58 18.1**	**-0.6**
JAM	**Amami Oshima**	**1.07**	**197**	P		**P**	**05 58 05.0**	**0.0**
JAM				*eS*		**S**	**05 58 18.4**	**-0.8**
JZK	**Kikaishima**	**1.12**	**179**	P		**P**	**05 58 07.2**	**+1.5**
JTN	**Tanegashima 3**	**1.50**	**36**	P		**P**	**05 58 11.1**	**0.0**
JTK	**Tokunoshima**	**1.87**	**209**	P		**P**	**05 58 16.5**	**+0.4**
JTK				*eS*		**S**	**05 58 38.9**	**+0.4**
JTSR	**Tashiro 2**	**1.92**	**26**	P		**P**	**05 58 16.9**	**+0.1**
JTSR				*eS*		**S**	**05 58 39.0**	**-0.7**
JSU	**Suzuyama**	**2.11**	**12**	P		**P**	**05 58 19.6**	**+0.1**
JSJ	**Shimokoshiki**	**2.25**	**355**	P		**P**	**05 58 21.8**	**+0.4**
JNAR	**Kushima--Naru**	**2.37**	**28**	P		**P**	**05 58 23.8**	**+0.6**
JOW	**Kunigami**	**2.99**	**210**	P		**P**	**05 58 31.6**	**-0.4**
	12nm,0.3s,baz=84,slow=14,SNR=6.4							
JOW				S		**S**	**05 59 06.2**	**-0.6**
	18nm,0.3s,baz=56,slow=30,SNR=7.5							
SONM	**Songino Array**	**25.84**	**322**	P		**P**	**06 03 13.4**	**+0.2**
	0.3nm,0.3s,mb3.2,baz=137,slow=10,SNR=6.5							
BVAR	**Borovoye Array**	**48.96**	**316**	P		**P**	**06 06 28.1**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=45,slow=6.1,SNR=2.7							
WRA	**Warramunga Arr**	**49.27**	**175**	P		**P**	**06 06 27.7**	**-2.9**
	1.1nm,0.7s,mb4.0,baz=355,slow=8.3,SNR=9.8							
ASAR	**Alice Springs**	**52.93**	**175**	P		**P**	**06 06 58.6**	**+0.3**
	0.4nm,0.5s,baz=8.8,slow=14,SNR=6.3							
YKA	**Yellowknife Ar**	**74.99**	**26**	P		**P**	**06 09 21.9**	**0.0**
	0.3nm,0.6s,mb3.4,baz=301,slow=5.9,SNR=6.8							

IDC ***30*** *06:00:59.3±1.7, 1.83N×96.81E, mb4.1/9, mb1 4.2/9, mb1mx4.0/20, mbtmp4.1/9, Error ellipse: s-maj=89.0km s-min=16.6km az=54.0*

NEIC ***30*** *06:01:04.0±0.6, 1.89N×96.92E, h30km, mb4.3/1, Error ellipse: s-maj=17.0km s-min=9.4km az=54.0*

ISC 30 06:01:02.7±0.9, 1.9N±0.1×96.9E±0.2, h33km, n13, σ0§48/12, mb4.1/10, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.00**	**48**	*eP*		**P**	**06 02 17.4**	**0.0**
FITZ	**Fitzroy Crossi**	**34.57**	**126**	P		**P**	**06 07 50.5**	**-0.1**
	4.1nm,0.8s,mb4.4,baz=330,slow=14,SNR=3.4							
WRA	**Warramunga Arr**	**42.64**	**122**	P		**P**	**06 08 58.1**	**-0.1**
	1.1nm,0.6s,mb3.8,baz=301,slow=9.1,SNR=9.6							
ASAR	**Alice Springs**	**44.04**	**128**	P		**P**	**06 09 09.5**	**0.0**
	1.1nm,0.8s,mb3.7,baz=296,slow=8.2,SNR=9.7							
SONM	**Songino Array**	**46.47**	**9**	P		**P**	**06 09 28.6**	**+0.2**
	0.4nm,0.5s,mb3.6,baz=184,slow=9.9,SNR=4.6							
SONM				PcP	PcP		06 11 03.3	+0.2
	0.8nm,0.5s,baz=185,slow=5.4,SNR=4.4							
MKAR	**Makanchi Array**	**46.48**	**346**	P		**P**	**06 09 29.1**	**+0.5**
	1.3nm,0.5s,mb4.1,baz=160,slow=7.7,SNR=13							
ZAL	**Zalesovo**	**52.80**	**351**	P		**P**	**06 10 16.9**	**0.0**
	3.3nm,0.3s,mb4.8,baz=310,slow=6.6,SNR=12							
BVAR	**Borovoye Array**	**55.49**	**341**	P		**P**	**06 10 35.7**	**-0.9**
	1.1nm,0.6s,mb4.0,baz=149,slow=8.6,SNR=6.4							
CHKZ	**Chkalovo**	**55.96**	**341**	*eP*		**P**	**06 10 39.3**	**-0.7**
	2.6nm,0.8s,mb4.3							
FINES	**FINESS Array B**	**79.24**	**332**	P		**P**	**06 13 06.2**	**+0.2**
	0.8nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=7.1							
FINES	**FINESS Array B**	**79.24**	**332**	P		**P**	**06 13 06.2**	**+0.2**
ARCES	**ARCESS Array B**	**81.77**	**340**	P		**P**	**06 13 20.2**	**+0.9**
	3.5nm,0.9s,mb4.3,baz=72,slow=3.8,SNR=8.1							
TXAR	**Lajitas Array**	**143.20**	**31**	PKP	PKPdf		06 20 35.6	+1.4
	0.1nm,0.4s,baz=152,slow=0.9,SNR=4.9							

IDC 30 06:08:01.1±4.3, 1.41N×97.58E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=170.2km s-min=29.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.83**	**122**	P		P	06 15 52.9	-1.8
	0.4nm,0.5s,baz=301,slow=8.9,SNR=5.6							
SONM	**Songino Array**	**46.87**	**8**	P		P	06 16 33.3	-1.6
	0.3nm,0.4s,baz=196,slow=9.6,SNR=3.8							
MKAR	**Makanchi Array**	**47.13**	**346**	P		P	06 16 34.9	-2.1
	0.5nm,0.5s,baz=162,slow=8.9,SNR=6.9							
ZAL	**Zalesovo**	**53.40**	**351**	P		P	06 17 22.4	-2.4
	1.6nm,0.4s,baz=67,slow=1.3,SNR=5.0							

IDC ***30*** *06:18:35.3±2.4, 1.33N×96.99E, mb4.1/7, mb1 4.3/7, mb1mx3.9/19, mbtmp4.1/7, Error ellipse: s-maj=111.3km s-min=17.2km az=58.0*

NEIC ***30*** *06:18:40.4±0.6, 1.47N×97.22E, h30km, mb4.5/7, Error ellipse: s-maj=17.2km s-min=8.6km az=52.0*

ISC 30 06:18:38.4±0.8, 1.5N±0.1×97.2E±0.1, h30km, n16, σ0§69/16, mb4.4/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.11**	**42**	*eP*		**Pn**	**06 19 54.7**	**-0.3**
JIRN	**Jiri**	**28.09**	**339**	*eP*		**P**	**06 24 30.8**	**+1.0**
	14nm,0.7s,mb4.7							
GUN	**Gumba**	**28.43**	**339**	*eP*		**P**	**06 24 33.7**	**+0.8**
	20nm,0.6s,mb4.9							
DMN	**Daman**	**28.45**	**337**	*eP*		**P**	**06 24 31.8**	**-1.2**
KKN	**Kakani**	**28.55**	**337**	*eP*		**P**	**06 24 34.0**	**+0.1**
	14nm,0.8s,mb4.7							
GKN	**Gorkha**	**28.99**	**337**	*eP*		**P**	**06 24 37.8**	**-0.1**
	11nm,0.6s,mb4.8							
KOLN	**Koldanda**	**29.21**	**335**	*eP*		**P**	**06 24 40.5**	**+0.6**
	19nm,0.7s,mb5.0							
ENH	**Enshi**	**30.92**	**21**	*eP*		**P**	**06 24 54.9**	**-0.1**
	7.5nm,0.8s,mb4.6							
WRA	**Warramunga Arr**	**42.17**	**122**	P		**P**	**06 26 30.2**	**-0.2**
	1.3nm,0.6s,mb3.7,baz=301,slow=9.1,SNR=12							
ASAR	**Alice Springs**	**43.55**	**127**	P		**P**	**06 26 41.8**	**+0.2**
	1.4nm,0.8s,mb3.7,baz=304,slow=7.1,SNR=11							
SONM	**Songino Array**	**46.86**	**8**	P		**P**	**06 27 08.7**	**+1.1**
	1.9nm,0.7s,mb4.2,baz=190,slow=9.3,SNR=22							
MKAR	**Makanchi Array**	**46.98**	**346**	P		**P**	**06 27 09.1**	**+0.4**
	1.3nm,0.4s,mb4.2,baz=160,slow=8.9,SNR=33							
ZAL	**Zalesovo**	**53.28**	**351**	P		**P**	**06 27 56.4**	**-0.3**
	4.3nm,0.5s,mb4.7,baz=304,slow=4.2,SNR=12							
STKA	**Stephens Creek**	**53.53**	**132**	P		**P**	**06 27 59.1**	**+0.2**
	2.5nm,0.6s,mb4.3,baz=310,slow=8.6,SNR=6.6							
BVAR	**Borovoye Array**	**55.99**	**341**	P		**P**	**06 28 15.4**	**-1.1**
	1.2nm,0.6s,mb4.1,baz=145,slow=8.4,SNR=9.6							
CHKZ	**Chkalovo**	**56.47**	**341**	*eP*		**P**	**06 28 18.7**	**-1.2**
	3.5nm,0.6s,mb4.6							

CSEM ***30*** *06:20:41.7±0.1, 38.67N×44.57E, h20km, MD3.1, Error ellipse: s-maj=2.5km s-min=1.6km az=128.0*
THR ***30*** *06:20:43.4±0.8, 38.75N×44.79E, h14km±14km, ML2.7*
ISK ***30*** *06:20:50.0, 38.40N×43.96E, h23km, MD3.1*
TIF ***30*** *06:20:52.2, 40.65N×44.10E, h15km*
ISC 30 06:20:42.5±0.7, 38.70N±0.05×44.57E±0.07, h14km, n12, σ1§23/17, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAKU	**Maku**	**0.66**	**8**	*ePG*		**Pg**	**06 20 55.1**	**-0.8**
MAKU				*eSG*		**Sg**	**06 21 04.6**	**-0.2**
MAKU				AML		AML	06 21 08.8	
	comp=N,313nm,0.3s							
MAKU	**Maku**	**0.66**	**8**	*ePg*		**Pg**	**06 20 55.1**	**-0.8**
	SNR=90							
MAKU				*eSg*		**Sg**	**06 21 04.6**	**-0.2**
	comp=N,313nm,0.3s,SNR=90							
TVAN	**Van**	**0.93**	**260**	*i* P		**Pb**	**06 21 01.1**	**+1.2**
TVAN				*i* S		**Sb**	**06 21 26.4**	**+15**
VANB	**Van**	**0.93**	**264**	PG		**Pg**	**06 21 00.4**	**-0.9**
VANT	**Van**	**0.96**	**255**	*ePG*		**Pg**	**06 21 01.8**	**-0.1**
HKR	**Hakkari**	**1.30**	**211**	*ePG*		**Pg**	**06 21 06.7**	**-1.9**
VRT	**Varto**	**2.41**	**281**	*ePN*		**Pn**	**06 21 23.6**	**+1.4**
GRMI	**Germi**	**2.60**	**87**	*ePN*		**Pn**	**06 21 24.9**	**0.0**
GRMI				*eSG*		**Sg**	**06 21 59.5**	**-10**
GRMI				AML		AML	06 22 01.0	
	comp=E,67nm,0.4s							
BEST	**Besiri**	**2.72**	**254**	*i* P		**Pn**	**06 21 25.6**	**-1.1**
BEST				*i* S		**Sn**	**06 22 12.2**	**+13**
EZM	**Erzurum**	**2.77**	**297**	*ePN*		**Pn**	**06 21 31.1**	**+3.8**
DGRG	**David-gareji**	**2.81**	**12**	P		**Pn**	**06 21 35.1**	**+7.1**
SNGE	**Sanandaj**	**4.23**	**147**	*ePN*		**Pn**	**06 21 49.2**	**+1.1**
SNGE				AML		AML	06 23 15.5	
	comp=N,7.7nm,0.7s							

IDC 30 06:35:03.2±3.1, 2.90N×96.31E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=124.6km s-min=27.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.69**	**123**	P		P	06 43 10.2	-1.8
	0.3nm,0.5s,baz=302,slow=9.0,SNR=3.4							
MKAR	**Makanchi Array**	**45.39**	**346**	P		P	06 43 23.9	-1.4
	0.5nm,0.4s,baz=165,slow=8.2,SNR=10.0							
SONM	**Songino Array**	**45.60**	**10**	P		P	06 43 25.2	-1.8
	0.5nm,0.4s,baz=191,slow=9.6,SNR=6.5							
BVAR	**Borovoye Array**	**54.36**	**341**	P		P	06 44 31.2	-2.8
	0.3nm,0.5s,baz=129,slow=9.2,SNR=2.7							

IDC ***30*** *06:40:27.7±1.0, 0.93N×97.15E, mb4.2/12, mb1 4.3/12, mb1mx4.1/20, mbtmp4.2/12, MS3.9/2, Ms1 3.9/2, ms1mx3.1/30, Error ellipse: s-maj=51.6km s-min=14.2km az=51.0*

BJI ***30*** *06:40:30.2, 0.43N×97.29E, h60km, mB5.0, mb4.7, Ms4.5, Msz4.2*

MOS ***30*** *06:40:31.7±0.9, 1.20N×97.48E, h33km, mb4.6/8, Error ellipse: s-maj=28.6km s-min=13.8km az=103.8*

NEIC ***30*** *06:40:32.7±0.4, 1.02N×97.28E, h30km, mb4.5/9, Error ellipse: s-maj=13.0km s-min=6.6km az=54.0*

ISC 30 06:40:29.9±1.6, 1.01N±0.06×97.25E±0.07, h24km±11km, n54, σ0§93/61, mb4.4/34, MS4.0/11, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.17**	**47**	P		**Pn**	**06 41 48.6**	**+0.6**
KULM	**Kulim**	**5.44**	**38**	*eP*		**Pn**	**06 41 51.5**	**-0.2**
KGM	**Kluang**	**6.15**	**81**	P		**Pn**	**06 42 02.8**	**+1.1**
CM31	**Chiang Mai Arr**	**17.42**	**5**	P		**P**	**06 44 33.8**	**+0.6**
KKM	**Kota Kinabalu**	**19.57**	**75**	*eP*		**P**	**06 44 58.7**	**-0.6**
KKM	**Kota Kinabalu**	**19.57**	**75**	P		**P**	**06 45 00.2**	**+0.9**
KMI	**Kunming**	**24.55**	**12**	P		**P**	**06 45 50.3**	**+0.9**
KMI				S		**S**	**06 50 05.5**	**-0.3**
KMI				AMB	AMB			
	comp=Z,31nm,1.3s,mb4.7							
KMI				LR	LR			
	comp=N,465nm,14.7s,MS4.2							
KMI				LR	LR			
	comp=E,208nm,13.2s,MS4.2							
KMI				LR	LR			
	comp=Z,522nm,15.1s,MS4.2							
JIRN	**Jiri**	**28.54**	**339**	*eP*		**P**	**06 46 27.2**	**+1.0**
	comp=Z,39nm,1.1s,mb5.1							
GUN	**Gumba**	**28.88**	**339**	*eP*		**P**	**06 46 30.2**	**+1.0**
	comp=Z,25nm,0.7s,mb5.1							
KKN	**Kakani**	**29.00**	**338**	*eP*		**P**	**06 46 31.0**	**+0.8**
GKN	**Gorkha**	**29.43**	**337**	*eP*		**P**	**06 46 33.8**	**-0.4**
KOLN	**Koldanda**	**29.65**	**335**	*eP*		**P**	**06 46 36.4**	**

WMQ	**Urumqi**	**43.47**	**350**	ǁ	*i* P		**P**	**06 48 34.3**	**+1.2**
WMQ					*e*S		**S**	**06 54 59.5**	**-0.3**
WMQ					AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.5								
WMQ					AMB		AMB		
	comp=Z,106nm,4.8s								
WMQ					LR		LR		
	comp=N,87nm,19.3s,MS3.9								
WMQ					LR		LR		
	comp=E,124nm,22.7s,MS3.9								
WMQ					LR		LR		
	comp=Z,105nm,19.2s,MS3.8								
AAK	**Ala-Archa**	**46.20**	**337**	ǁ	*i* P		**P**	**06 48 59.7**	**+4.8**
AAK					pmax		pmax		
	comp=Z,5.0nm,1.3s,mb4.3								
AAK	**Ala-Archa**	**46.20**	**337**		P		**P**	**06 48 55.0**	**+0.1**
	comp=Z,8.9nm,1.5s,mb4.5								
SONM	**Songino Array**	**47.31**	**8**		P		**P**	**06 49 03.9**	**+0.3**
	comp=Z,5.4nm,0.8s,mb4.5,baz=186,slow=7.8,SNR=26								
SONM					PcP		PcP	06 50 34.7	-0.2
	comp=Z,2.1nm,0.8s,baz=188,slow=3.6,SNR=7.0								
SONM					LR		LR	07 11 40.9	
	comp=Z,229nm,19.2s,MS4.2,baz=182,slow=40								
MKAR	**Makanchi Array**	**47.44**	**346**	*i*	P		**P**	**06 49 04.7**	**0.0**
MKAR					pmax		pmax		
	comp=Z,1.0nm,0.4s								
MKAR	**Makanchi Array**	**47.44**	**346**		P		**P**	**06 49 05.0**	**+0.4**
	comp=Z,6.5nm,0.9s,mb4.6,baz=153,slow=8.1,SNR=16								
MKAR					LR		LR	07 12 58.8	
	comp=Z,57nm,19.2s,MS3.6,baz=171,slow=41								
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*	P		**P**	**06 49 04.4**	**-0.3**
ULN					pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.5								
ULN	**Ulaanbaatar**	**47.44**	**9**	*e*	P		**P**	**06 49 04.4**	**-0.2**
	comp=Z,5.5nm,1.0s,mb4.4								
CN2	**Changchun**	**49.45**	**27**	*e*	P		**P**	**06 49 20.0**	**-0.3**
CN2				*e*	AP		pP	06 49 30.5	+3.0
CN2				*e*	S		**S**	**06 56 21.5**	**-3.5**
CN2					AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0								
CN2					AMB		AMB		
	comp=Z,60nm,3.0s								
CN2					LR		LR		
	comp=N,430nm,16.0s,MS4.6								
CN2					LR		LR		
	comp=E,270nm,16.0s,MS4.6								
CN2					LR		LR		
	comp=Z,190nm,16.0s,MS4.2								
ZAK	**Zakamensk**	**49.46**	**5**	ǁ	*e* P		**P**	**06 49 19.8**	**-0.5**
ZAK					pmax		pmax		
	comp=Z,1.0nm,1.3s,mb3.7								
TLY	**Talaya**	**50.78**	**5**		*e* P		**P**	**06 49 30.4**	**+0.1**
TLY					pmax		pmax		
	comp=Z,3.0nm,0.8s,mb4.3								
TLY					MLR		MLR		
	comp=Z,118nm,17.0s,MS4.0								
KURK	**Kurchatov**	**51.99**	**345**	*e*	P		**P**	**06 49 38.8**	**-0.7**
KURK					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5								
KURK	**Kurchatov**	**51.99**	**345**	*e*	P		**P**	**06 49 38.8**	**-0.7**
	comp=Z,6.8nm,1.0s,mb4.5								
STKA	**Stephens Creek**	**53.19**	**132**	*e*	P		**P**	**06 49 49.3**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.4								
STKA	**Stephens Creek**	**53.19**	**132**		P		**P**	**06 49 48.9**	**+0.2**
	comp=Z,5.2nm,0.8s,mb4.5,baz=302,slow=7.6,SNR=11								
ZAL	**Zalesovo**	**53.75**	**351**		P		**P**	**06 49 52.0**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.5,baz=301,slow=6.2,SNR=14								
KLR	**Kul'dur**	**56.40**	**26**	*e*	P		**P**	**06 50 09.0**	**-2.9**
BVA0	**Borovoye Array**	**56.45**	**341**		P		**P**	**06 50 10.9**	**-1.2**
BVA0					pmax		pmax		
	comp=Z,1.0nm,1.0s,mb3.8								
BVAR	**Borovoye Array**	**56.45**	**341**		P		**P**	**06 50 10.9**	**-1.3**
	comp=Z,2.4nm,0.8s,mb4.3,baz=143,slow=7.4,SNR=15								
BOD	**Bodaibo**	**58.19**	**10**	*e*	P		**P**	**06 50 23.1**	**-1.3**
BOD					pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7								
KIV	**Kislovodsk**	**64.49**	**319**	*e*	P		**P**	**06 51 09.2**	**+2.1**
KIV				*e*				06 53 29.0	
KIV				*e*	S		**S**	**06 59 45.9**	**+2.8**
KIV				*e*	SS		SS	07 03 52.5	-2.6
KIV					pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.6								
BRTR	**Keskin Array B**	**69.28**	**312**		P		**P**	**06 51 37.1**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=347,slow=8.7,SNR=2.5								
MA2	**Magadan**	**71.48**	**26**	ǁ	*i* P		**P**	**06 51 50.3**	**-0.2**
MA2					pmax		pmax		
	comp=Z,11nm,2.5s,mb4.3								
TIXI	**Tiksi**	**73.36**	**10**	*e*	P		**P**	**06 51 59.7**	**-1.7**
TIXI					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.3								
FINES	**FINESS Array B**	**80.19**	**333**		P		**P**	**06 52 39.6**	**-0.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=56,slow=5.0,SNR=3.2								
GERES	**GERESS Array B**	**84.99**	**319**		P		**P**	**06 53 05.5**	**+0.8**
	comp=Z,0.3nm,0.3s,mb3.8,baz=106,slow=9.7,SNR=7.7								
NB2	**NORSAR Subarra**	**87.20**	**331**		P		**P**	**06 53 15.5**	**+0.2**
	comp=Z,1.2nm,0.8s,mb4.2,baz=93,slow=4.8								
NOA	**NORSAR Array B**	**87.20**	**331**		P		**P**	**06 53 15.5**	**+0.2**
	comp=Z,0.7nm,0.7s,mb4.0,baz=94,slow=4.9,SNR=4.0								
NOA	**NORSAR Array B**	**87.20**	**331**		P		**P**	**06 53 15.5**	**+0.2**
TXAR	**Lajitas Array**	**143.80**	**32**		PKP		PKPdf	07 00 03.8	-4.6
	comp=Z,0.3nm,0.7s,baz=54,slow=0.5,SNR=5.4								

*IDC **30** 06:51:04.0±2.8, 0.12S×96.43E, mb3.9/8, mb1 4.1/8, mb1mx3.9/20, mbtmp3.9/8, Error ellipse: s-maj=126.5km s-min=16.7km az=56.0*
*NEIC **30** 06:51:09.8±0.8, 0.17N×96.89E, h30km, Error ellipse: s-maj=24.8km s-min=11.5km az=65.0*
ISC 30 06:51:07.9±1.1, 0.2N±0.1×96.9E±0.2, h30km, n11, σ0s87/10, mb4.0/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**6.29**	**36**	*e*	P		**Pn**	**06 52 40.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**33.61**	**124**		P		**P**	**06 57 47.7**	**-0.4**
	2.5nm,0.7s,mb4.2,baz=354,slow=2.4,SNR=3.8								
WRA	**Warramunga Arr**	**41.78**	**121**		P		**P**	**06 58 57.0**	**+0.4**
	0.8nm,0.7s,mb3.5,baz=301,slow=9.0,SNR=9.3								
ASAR	**Alice Springs**	**43.05**	**126**		P		**P**	**06 59 07.4**	**+0.4**
	0.9nm,0.6s,mb3.7,baz=298,slow=7.9,SNR=12								
MKAR	**Makanchi Array**	**48.13**	**347**		P		**P**	**06 59 48.0**	**+0.9**
	1.8nm,0.6s,mb4.3,baz=157,slow=7.9,SNR=22								
SONM	**Songino Array**	**48.15**	**9**		P		**P**	**06 59 49.0**	**+1.6**
	0.7nm,0.7s,mb3.8,baz=193,slow=8.4,SNR=4.7								
STKA	**Stephens Creek**	**52.92**	**131**		P		**P**	**07 00 23.7**	**-0.2**
	1.1nm,0.7s,mb3.9,baz=326,slow=7.3,SNR=3.8								
STKA	**Stephens Creek**	**52.92**	**131**		P		**P**	**07 00 23.3**	**-0.6**
ZAL	**Zalesovo**	**54.48**	**351**		P		**P**	**07 00 34.6**	**-0.3**
	2.5nm,0.3s,mb4.6,baz=247,slow=2.6,SNR=6.0								
BVAR	**Borovoye Array**	**57.09**	**341**		P		**P**	**07 00 52.2**	**-1.6**
	0.6nm,0.6s,mb3.8,baz=141,slow=9.2,SNR=3.4								
TXAR	**Lajitas Array**	**144.67**	**32**		PKPbc		PKPbc	07 10 44.1	+1.9
	0.2nm,0.5s,baz=233,slow=0.6,SNR=8.0								

DJA 30 06:51:22.3±1.3, 6.32S×104.88E, h84km±11km, MD4.0/1, ML4.3/1, 1C-1D, Error ellipse: s-maj=50.2km s-min=12.3km az=66.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PASI	**Pasiripis**	**0.80**	**118**	ǁ	*e* Pn		P	06 51 39.0	-0.6
PASI					*e* Sn		S	06 51 51.3	-1.1
PENI	**Pendagan**	**0.80**	**22**	ǁ	*e* Pn		P	06 51 39.1	-0.5
	639nm,0.3s								
PENI					*e* Sn		S	06 51 51.3	-1.1
PULI	**Pulasari**	**1.09**	**92**		*e* Pn		P	06 51 42.6	-0.3
	369nm,0.2s								

*IDC **30** 06:57:03.0±1.7, 0.96N×97.18E, mb4.0/7, mb1 4.1/7, mb1mx3.9/19, mbtmp4.0/7, Error ellipse: s-maj=77.7km s-min=20.2km az=55.0*
*NEIC **30** 06:57:08.1±0.7, 1.05N×97.40E, h30km, mb4.5/4, Error ellipse: s-maj=17.0km s-min=10.1km az=49.0*
*BJI **30** 06:57:08.1, 1.10N×97.40E, h30km, mB4.6, mb4.5, Ms4.2, Ms2.8*
ISC 30 06:57:06.3±0.9, 1.1N±0.1×97.4E±0.1, h30km, n16, σ0s81/17, mb4.3/12, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.33**	**38**	*e*	P		**Pn**	**06 59 25.9**	**-0.1**
KMI	**Kunming**	**24.48**	**12**		P		**P**	**07 02 26.5**	**+2.2**
KMI					LR		LR		
	comp=N,273nm,11.6s,MS4.0								
KMI					LR		LR		
	comp=E,156nm,12.0s,MS4.0								
KMI					LR		LR		
	comp=Z,221nm,14.7s,MS3.8								
JIRN	**Jiri**	**28.55**	**339**	*e*	P		**P**	**07 03 01.9**	**+0.1**
	comp=Z,18nm,0.8s,mb4.9								
PKI	**Pulchoki**	**28.76**	**337**	*e*	P		**P**	**07 03 04.2**	**+0.5**
GUN	**Gumba**	**28.89**	**339**	*e*	P		**P**	**07 03 05.1**	**+0.2**
	comp=Z,27nm,0.7s,mb5.1								
KKN	**Kakani**	**29.00**	**337**	*e*	P		**P**	**07 03 06.3**	**+0.4**
KOLN	**Koldanda**	**29.67**	**335**	*e*	P		**P**	**07 03 12.2**	**+0.3**
	comp=Z,12nm,0.7s,mb4.7								
ENH	**Enshi**	**31.25**	**20**	*e*	P		**P**	**07 03 24.1**	**-1.7**
	comp=Z,2.5nm,0.6s,mb4.2								
GTA	**Gaotai**	**38.24**	**3**	*e*	P		**P**	**07 04 26.0**	**+0.4**
GTA					AP		pP	07 04 35.5	+0.9
GTA					XP		sP	07 04 39.0	+0.7
GTA					PP		PP	07 05 52.3	-4.3
GTA					S		**S**	**07 10 09.0**	**-8.0**
GTA					AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.4								
GTA					AMB		AMB		
	comp=Z,67nm,6.5s								
GTA					LR		LR		
	comp=N,138nm,15.6s,MS4.0								
GTA					LR		LR		
	comp=E,125nm,15.6s,MS4.0								
GTA					LR		LR		
	comp=Z,111nm,15.6s,MS3.8								
WRA	**Warramunga Arr**	**41.80**	**122**		P		**P**	**07 04 55.4**	**+0.1**
	comp=Z,1.0nm,1.0s,mb3.4,baz=304,slow=9.0,SNR=4.1								
ASAR	**Alice Springs**	**43.16**	**127**		P		**P**	**07 05 06.7**	**+0.3**
	comp=Z,0.3nm,0.4s,mb3.4,baz=300,slow=6.8,SNR=5.9								
SONM	**Songino Array**	**47.25**	**8**		P		**P**	**07 05 38.8**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.4,baz=190,slow=9.1,SNR=22								
SONM					PcP		PcP	07 07 09.7	-0.3
	comp=Z,1.1nm,0.8s,baz=181,slow=4.2,SNR=4.8								
MKAR	**Makanchi Array**	**47.43**	**346**		P		**P**	**07 05 40.0**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.2,baz=161,slow=7.4,SNR=31								
ZAL	**Zalesovo**	**53.72**	**351**		P		**P**	**07 06 27.0**	**-0.8**
	comp=Z,2.5nm,0.3s,mb4.6,baz=322,slow=4.4,SNR=13								
BVAR	**Borovoye Array**	**56.45**	**341**		P		**P**	**07 06 46.2**	**-1.5**
	comp=Z,1.5nm,0.7s,mb4.1,baz=121,slow=8.6,SNR=7.0								
GERES	**GERESS Array B**	**85.04**	**319**		P		**P**	**07 09 40.5**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.7,baz=101,slow=6.8,SNR=4.3								

IDC 30 07:05:16.5±3.6, 1.09N×97.90E, mb3.7/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=154.4km s-min=22.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.38**	**122**		P		P	07 13 04.5	-1.7
	0.4nm,0.5s,baz=306,slow=8.7,SNR=6.4								
ASAR	**Alice Springs**	**42.77**	**127**		P		P	07 13 15.9	-1.8
	0.5nm,0.7s,baz=298,slow=7.6,SNR=6.5								
SONM	**Songino Array**	**47.15**	**8**		P		P	07 13 51.9	-0.6
	0.4nm,0.4s,baz=190,slow=7.5,SNR=4.5								
MKAR	**Makanchi Array**	**47.52**	**345**		P		P	07 13 53.2	-2.2
	0.9nm,0.5s,baz=160,slow=9.1,SNR=21								
ZAL	**Zalesovo**	**53.78**	**350**		P		P	07 14 39.7	-3.1
	0.8nm,0.4s,baz=272,slow=4.8,SNR=3.3								

IDC 30 07:05:51.7±1.0, 14.77S×177.36W, mb3.8/6, mb1 4.1/6, mb1mx4.0/15, mbtmp3.8/6, MS3.9/17, Ms1 3.9/17, ms1mx3.8/25, Error ellipse: s-maj=52.4km s-min=25.0km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**14.42**	**182**		LR		LR	07 13 47.6	
	comp=Z,1μm,21.4s,baz=23,slow=33								
DZM	**Mont Dzumac**	**16.99**	**242**		LR		LR	07 14 58.9	
	comp=Z,304nm,21.7s,baz=40,slow=32								
RAR	**Rarotonga**	**17.90**	**114**		LR		LR	07 15 01.4	
	comp=Z,435nm,20.6s,baz=165,slow=31								
HNR	**Honiara**	**22.81**	**281**		LR		LR	07 17 20.0	
	comp=Z,82nm,19.3s,baz=15,slow=30								
URZ	**Urewera**	**23.91**	**191**		LR		LR	07 18 42.6	
	comp=Z,542nm,19.8s,baz=48,slow=32								
PPT	**Papeete**	**26.82**	**100**	*e*	LQ			07 16 50.3	
PPT					eLR		LR	07 17 46.8	
	607nm,26.2s,baz=266								
PPT	**Papeete**	**26.82**	**100**		LR		LR	07 18 39.2	
	comp=Z,327nm,19.9s,baz=261,slow=29								
TBI	**Tubuai**	**27.67**	**112**	*e*	LR		LR	07 18 16.7	
	747nm,27.5s,baz=287								
PMG	**Port Moresby**	**35.08**	**275**		LR		LR	07 24 23.9	
	comp=Z,208nm,21.8s,baz=221,slow=32								
RKT	**Rikitea**	**40.82**	**108**	*e*	LQ			07 22 46.6	
RKT					eLR		LR	07 24 18.2	
	406nm,27.5s,baz=278								
STKA	**Stephens Creek**	**41.08**	**238**		LR		LR	07 28 02.5	
	comp=Z,166nm,19.3s,baz=218,slow=32								
WRA	**Warramunga Arr**	**46.27**	**256**		P		P	07 14 18.8	-2.3
	2.0nm,1.0s,baz=90,slow=8.3,SNR=6.3								
ASAR	**Alice Springs**	**46.68**	**251**		P		P	07 14 22.9	-1.3
	1.6nm,0.5s,baz=83,slow=8.4,SNR=13								
ASAR					LR		LR	07 32 47.3	
	comp=Z,103nm,18.3s,baz=74,slow=35								
NWAO	**Narrogin (SRO)**	**61.60**	**240**		LR		LR	07 39 29.0	
	comp=Z,144nm,18.9s,baz=51,slow=33								
VNDA	**Vanda**	**63.64**	**185**		P		P	07 16 24.1	-2.4
	1.3nm,1.1s,baz=355,slow=5.9,SNR=3.9								
VNDA					LR		LR	07 36 52.1	
	comp=Z,68nm,21.4s,baz=351,slow=29								
NVAR	**Mina Array Bea**	**76.47**	**44**		LR		LR	07 43 01.2	
	comp=Z,43nm,21.0s,slow=29								
TXAR	**Lajitas Array**	**83.47**	**58**		P		P	07 18 22.3	-0.6
	0.1nm,0.4s,baz=221,slow=8.3,SNR=3.1								
TXAR					LR		LR	07 47 49.5	
	comp=Z,53nm,19.5s,baz=250,slow=30								
PDAR	**Pinedale Array**	**84.39**	**43**		P		P	07 18 25.8	-1.6
	0.8nm,0.8s,baz=218,slow=2.5,SNR=5.8								
PDAR					LR		LR	07 48 34.5	
	comp=Z,80nm,19.9s,baz=354,slow=30								
CMAR	**Chiang Mai Arr**	**88.80**	**289**		LR		LR	07 52 17.7	
	comp=Z,41nm,21.5s,baz=190,slow=31								
YKA	**Yellowknife Ar**	**91.07**	**24**		P		P	07 18 57.9	-1.1
	0.4nm,0.8s,baz=247,slow=5.0,SNR=5.4								
YKA					LR		LR	07 53 35.8	
	comp=Z,218nm,19.0s,baz=270,slow=31								
ULM	**Lac du Bonnet**	**95.87**	**40**		LR		LR	07 55 50.8	
	comp=Z,95nm,19.3s,baz=351,slow=31								

*IDC **30** 07:15:02.1±1.5, 0.78N×96.98E, mb4.1/9, mb1 4.3/9, mb1mx4.0/19, mbtmp4.1/9, MS3.8/2, Ms1 3.8/2, ms1mx3.0/27, Error ellipse: s-maj=74.5km s-min=16.9km az=55.0*
*NEIC **30** 07:15:06.8±0.6, 0.82N×97.08E, h30km, mb4.1/1, Error ellipse: s-maj=17.8km s-min=10.4km az=62.0*
ISC 30 07:15:05.7±0.8, 0.9N±0.1×97.1E±0.2, h33km, n17, σ0s50/14, mb4.1/10, MS3.9/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.62**	**39**	*e*	P		**P**	**07 16 29.2**	**+0.1**
ENH	**Enshi**	**31.50**	**21**	*e*	P		**P**	**07 21 26.9**	**-0.1**
WRA	**Warramunga Arr**	**41.93**	**122**		P		**P**	**07 22 55.2**	**-0.1**
	1.1nm,0.3s,mb3.9,baz=302,slow=9.1,SNR=19								
ASAR	**Alice Springs**	**43.26**	**127**		P		**P**	**07 23 06.2**	**0.0**
	1.8nm,1.0s,mb3.8,baz=302,slow=7.3,SNR=15								
SONM	**Songino Array**	**47.46**	**8**		P		**P**	**07 23 39.5**	**+0.3**
	1.1nm,0.5s,mb4.1,baz=191,slow=10,SNR=11								
SONM					PcP		PcP	07 25 09.6	-0.1
	0.7nm,0.5s,baz=187,slow=3.9,SNR=4.0								
MKAR	**Makanchi Array**	**47.53**	**346**		P		**P**	**07 23 40.2**	**+0.3**
	2.5nm,0.5s,mb4.5,baz=161,slow=8.8,SNR=25								
MKAR	**Makanchi Array**	**47.53**	**346**		P		**P**	**07 23 40.2**	**+0.3**
KURK	**Kurchatov**	**52.08**	**345**	*e*	P		**P**	**07 24 14.6**	**0.0**
	1.9nm,0.7s,mb4.1								
STKA	**Stephens Creek**	**53.20**	**132**		P		**P**	**07 24 23.0**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=316,slow=7.9,SNR=4.2								
STKA	**Stephens Creek**	**53.20**	**132**	*e*	P		**P**	**07 24 23.1**	**-0.1**
ZAL	**Zalesovo**	**53.85**	**351**		P		**P**	**07 24 27.4**	**-0.4**
	3.9nm,0.4s,mb4.7,baz=302,slow=4.9,SNR=15								
BVAR	**Borovoye Array**	**56.53**	**341**		P		**P**	**07 24 45.7**	**-1.4**
	0.8nm,0.4s,mb4.1,baz=141,slow=9.8,SNR=5.3								
LBTB	**Lobatse**	**73.68**	**244**		LR		LR	07 56 50.7	
	comp=Z,37nm,20.9s,MS3.6,baz=290,slow=34								
ARCES	**ARCESS Array B**	**82.81**	**340**		P		**P**	**07 27 28.3**	**+0.6**
	3.1nm,1.0s,mb4.3,baz=79,slow=6.2,SNR=5.7								
GERES	**GERESS Array B**	**85.00**	**319**		P		**P**	**07 27 39.8**	**+0.6**
	0.2nm,0.3s,mb3.7,slow=4.9,SNR=3.7								
JMIC	**Jan Mayen**	**94.24**	**342**		LR		LR	08 13 28.3	
	comp=Z,62nm,19.4s,MS4.1,baz=277,slow=37								
TXAR	**Lajitas Array**	**143.98**	**32**		PKP		PKPdf	07 34 38.8	+0.3
	0.2nm,0.5s,baz=127,slow=0.3,SNR=6.6								

IDC 30 07:16:58.6±2.1, 0.15N×97.88E, h27km±5km, mb3.7/6, mb1 3.9/6, mb1mx3.6/18, mbtmp3.9/6, MS3.5/1, Ms1 3.5/1, ms1mx2.8/29, Error ellipse: s-maj=96.4km s-min=14.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.91**	**121**		P		P	07 24 38.2	-2.4
	1.2nm,0.6s,baz=302,slow=9.1,SNR=6.0								
WRA					pP		pP	07 24 46.4	-2.4
	0.8nm,0.6s,baz=300,slow=8.9,SNR=3.5								
ASAR	**Alice Springs**	**42.23**	**127**		P		P	07 24 49.1	-2.4
	1.2nm,0.7s,baz=298,slow=7.6,SNR=6.9								
SONM	**Songino Array**	**48.07**	**8**		P		P	07 25 36.2	-1.7
	0.7nm,0.7s,baz=197,slow=7.5,SNR=3.2								
SONM					pP		pP	07 25 44.3	-1.7
	1.3nm,0.8s,baz=186,slow=9.5,SNR=5.7								
MKAR	**Makanchi Array**	**48.42**	**346**		P		P	07 25 38.4	-2.2
	1.4nm,0.5s,baz=158,slow=9.1,SNR=8.6								
MKAR					pP		pP	07 25 46.5	-2.3
	1.8nm,0.7s,baz=153,slow=7.6,SNR=7.7								
CTA	**Charters Tower**	**51.43**	**116**		LR		LR	07 51 42.6	
	comp=Z,48nm,18.4s,baz=48,slow=40								
STKA	**Stephens Creek**	**52.15**	**132**		P		P	07 26 07.5	-1.8
	0.6nm,0.4s,baz=285,slow=12,SNR=2.7								
STKA					pP		pP	07 26 17.3	-0.3
	1.0nm,0.6s,baz=139,slow=3.9,SNR=1.8								
ZAL	**Zalesovo**	**54.69**	**351**		P		P	07 26 25.4	-2.3
	0.9nm,0.4s,baz=337,slow=5.0,SNR=3.1								
ZAL					pP		pP	07 26 33.3	-2.7
	3.0nm,0.5s,baz=314,slow=6.1,SNR=6.1								
BVAR	**Borovoye Array**	**57.46**	**341**		pP		pP	07 26 52.3	-3.7
	1.1nm,0.6s,baz=127,slow=7.4,SNR=4.6								
TXAR	**Lajitas Array**	**144.18**	**33**		PKP		PKPdf	07 36 31.2	-6.4
	0.3nm,0.6s,baz=340,slow=1.6,SNR=5.6								
TXAR					pPKP			07 36 40.1	
	0.2nm,0.5s,baz=145,slow=1.3,SNR=2.9								

IDC 30 07:23:10.8±5.9, 2.25N×99.20E, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=323.9km s-min=26.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.94**	**124**		P		P	07 30 56.1	-0.9
	0.4nm,0.6s,baz=303,slow=8.9,SNR=4.7								
ASAR	**Alice Springs**	**42.48**	**129**		P		P	07 31 07.0	-2.6
	0.4nm,0.7s,baz=306,slow=7.5,SNR=4.8								
MKAR	**Makanchi Array**	**46.74**	**344**		P		P	07 31 41.7	-1.9
	0.5nm,0.5s,baz=163,slow=6.8,SNR=14								

IDC 30 07:31:22.8±4.6, 2.99N×97.03E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/19, Error ellipse: s-maj=171.1km s-min=33.9km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.14**	**123**		P		P	07 39 25.3	-1.8
	0.3nm,0.6s,baz=303,slow=9.0,SNR=2.0								
SONM	**Songino Array**	**45.40**	**9**		P		P	07 39 43.6	-1.4
	0.3nm,0.4s,baz=194,slow=9.0,SNR=4.4								
MKAR	**Makanchi Array**	**45.47**	**346**		P		P	07 39 43.4	-2.2
	0.3nm,0.7s,baz=173,slow=9.8,SNR=4.0								
GUMO	**Guam**	**48.40**	**75**		LR		LR	07 59 51.7	
	comp=Z,37nm,21.9s,baz=79,slow=35								

*IDC **30** 07:40:22.2±1.2, 1.22N×97.83E, mb4.3/11, mb1 4.4/11, mb1mx4.2/20, mbtmp4.3/11, Error ellipse: s-maj=69.9km s-min=14.3km az=55.0*
*BJI **30** 07:40:24.3, 1.20N×97.80E, h30km, mb4.8*
*NEIC **30** 07:40:26.3±0.7, 1.17N×97.80E, h30km, mb4.5/1, Error ellipse: s-maj=21.1km s-min=10.7km az=62.0*
**ISC 30 07:40:25.2±

	SNR=19							
TKM2	**Tokmak 2**	**5.56**	**21**	P		**P**	**07 41 48.5**	**0.0**
	SNR=26							
USP	**Ospenovka**	**5.65**	**12**	P		**P**	**07 41 49.4**	**-0.3**
	SNR=16							
PONG	**Pong**	**6.28**	**156**	*eP*		**P**	**07 42 06.0**	**+7.8**
PONG				*e*			07 43 16.0	
SDNR	**Sundarnagar**	**7.05**	**151**	*eP*		**P**	**07 42 14.8**	**+6.0**
SDNR				*eS*		**S**	**07 43 28.0**	**+0.1**
SMLA	**Simla**	**7.46**	**151**	*i* P		**P**	**07 42 10.5**	**-3.8**
SMLA				*i* S		**S**	**07 43 30.1**	**-7.7**
KLP	**Kalpa**	**7.58**	**143**	*eP*		**P**	**07 42 21.9**	**+6.0**
KLP				*eS*		**S**	**07 43 40.5**	**-0.2**
KLP				*e*			07 43 50.6	
	comp=E,228nm,0.9s							
KLP				*e*			07 43 50.9	
	comp=N,277nm,1.1s							
DDI	**Dehra Dun**	**8.53**	**149**	*eS*		**S**	**07 44 03.0**	**-0.5**
JOSI	**Joshimath**	**9.02**	**141**	*eP*		**P**	**07 42 27.6**	**-7.5**
JOSI				*eS*		**S**	**07 44 01.3**	**-14**
NDI	**New Delhi**	**9.71**	**157**	*eP*		**P**	**07 42 50.0**	**+5.7**
NDI				*eS*		**S**	**07 44 31.5**	**-0.4**
KHET	**Khetri**	**9.93**	**165**	*e*		**P**	**07 42 48.9**	**+1.6**
KHET				*eS*		**S**	**07 44 37.0**	**-0.1**
KHET				*e*			07 44 42.9	
	comp=E,23nm,0.6s							
KHET				*e*			07 44 44.4	
	comp=N,16nm,0.4s							
KUDL	**Kundal**	**10.02**	**162**	*eP*		**P**	**07 42 53.8**	**+5.4**
KUDL				*eS*		**S**	**07 44 38.7**	**-0.4**
KUDL				*e*			07 44 43.2	
	comp=Z,20nm,0.5s							
SONA	**Sohna**	**10.08**	**159**	*eP*		**P**	**07 42 54.2**	**+5.0**
SONA				*e*			07 44 37.5	
SONA				*e*			07 44 44.9	
	comp=N,18nm,0.4s							
SONA				*e*			07 44 45.1	
	comp=E,38nm,1.2s							
AGRA	**Agra**	**11.29**	**157**	*eP*		**P**	**07 43 10.2**	**+4.9**
MKAR	**Makanchi Array**	**11.39**	**34**	P		**P**	**07 43 05.2**	**-1.3**
	comp=E,0.1nm,0.3s,baz=221,slow=13,SNR=18							
KURK	**Kurchatov**	**13.59**	**16**	*eP*		**P**	**07 43 30.8**	**-4.3**
KURK				pmax		pmax		
	comp=Z,7.0nm,0.8s							
KURK	**Kurchatov**	**13.59**	**16**	*eP*		**P**	**07 43 30.8**	**-4.3**
	comp=Z,6.6nm,0.8s							
BVAR	**Borovoye Array**	**15.39**	**354**	P		**P**	**07 43 55.6**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=11,SNR=5.2							
ZAL	**Zalesovo**	**18.14**	**23**	P		**P**	**07 44 29.1**	**-2.3**
	comp=Z,0.7nm,0.3s,baz=251,slow=8.6,SNR=17							
SONM	**Songino Array**	**26.36**	**57**	P		**P**	**07 45 53.5**	**+1.1**
	comp=Z,0.2nm,0.3s,mb3.2,baz=260,slow=8.8,SNR=3.3							
FINES	**FINESS Array B**	**37.35**	**325**	P		**P**	**07 47 28.9**	**+0.9**
	comp=Z,1.2nm,0.9s,mb3.5,baz=326,slow=14,SNR=2.6							
ARCES	**ARCESS Array B**	**40.61**	**337**	P		**P**	**07 47 55.4**	**+0.5**
	comp=Z,4.3nm,0.9s,mb4.1,baz=105,slow=10,SNR=3.7							
NB2	**NORSAR Subarra**	**44.34**	**322**	P		**P**	**07 48 25.7**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.4,baz=92,slow=7.9							
NB2	**NORSAR Subarra**	**44.34**	**322**	P		**P**	**07 48 25.7**	**+0.5**
NB2				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.6							
NOA	**NORSAR Array B**	**44.34**	**322**	P		**P**	**07 48 25.2**	**0.0**
	comp=Z,0.5nm,0.5s,mb3.4,baz=94,slow=7.7,SNR=3.8							
YKA	**Yellowknife Ar**	**79.93**		4	P	**P**	**07 52 22.9**	**+0.7**
	comp=Z,0.2nm,0.4s,mb3.1,baz=350,slow=5.6,SNR=7.4							

IDC 30 07:49:08.5±4.2, 2.34N×97.48E, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=158.9km s-min=30.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.41**	**123**	P		P	07 57 04.9	-1.9
	0.2nm,0.5s,baz=305,slow=8.9,SNR=4.9							
SONM	**Songino Array**	**45.97**	**8**	P		P	07 57 34.1	-1.0
	0.8nm,0.6s,baz=192,slow=9.2,SNR=7.8							
MKAR	**Makanchi Array**	**46.21**	**346**	P		P	07 57 34.6	-2.5
	0.5nm,0.5s,baz=152,slow=7.4,SNR=7.8							

*TAP **30** 07:54:38.0, 23.87N×122.34E, h7km, ML2.8*
JMA 30 07:54:38.6±0.1, 23.91N×122.57E, M2.3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.68**	**36**	P		Pg	07 54 52.4	+0.2
YOJ				S		Sg	07 55 02.0	+0.7
HATJ	**Hateruma jima**	**1.14**	**82**	*eS*		Sb	07 55 15.9	-0.2
IRIF	**Iriomote-Funau**	**1.14**	**68**	P		Pb	07 55 00.8	-0.1
IRIF				*eS*		Sb	07 55 16.3	+0.2
JKRS	**Kuro-shima**	**1.35**	**76**	*eS*		Sb	07 55 22.9	+0.6
JIJ	**Ishigaki jima**	**1.51**	**72**	P		Pn	07 55 07.1	+0.2
JIJ				*eS*		Sb	07 55 26.5	-0.2

*IDC **30** 07:55:20.8±0.9, 45.68S×76.86W, mb4.4/8, mb1 4.6/10, mb1mx4.3/17, mbtmp4.4/10, ML4.5/2, MS4.2/7, Ms1 4.2/7, ms1mx3.7/18, Error ellipse: s-maj=32.7km s-min=17.1km az=94.0*
*BJI **30** 07:55:23.5, 45.60S×76.70W, h25km, mB4.4, Ms5.0, Msz4.7*
*NEIC **30** 07:55:24.5±0.4, 45.63S×76.73W, h25km, mb4.7/10, Error ellipse: s-maj=14.5km s-min=7.1km az=101.0*
ISC 30 07:55:22.5±0.4, 45.50S±0.05×76.80W±0.08, h25km, (h25km±2.2km: pP-P), n57, σ1§64/53, mb4.5/16, MS4.3/5, 4C-1D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
COYC	**Coyhaique**	**3.31**	**93**	*eP*		**Pn**	**07 56 14.6**	**+0.5**
COYC				*i* S		**Sn**	**07 56 54.9**	**+1.7**
PMCH	**Puerto Montt**	**4.91**	**37**	*eP*		**Pn**	**07 56 35.6**	**-1.1**
PMCH				*i* S		**Sn**	**07 57 33.3**	**-0.2**
VLCH	**Valdivia**	**6.26**	**26**	*eP*		**Pn**	**07 56 55.5**	**-0.3**
PLCA	**Paso Flores**	**6.60**	**46**	Pn		**Pn**	**07 57 01.0**	**+0.5**
	2.8nm,0.3s,baz=232,slow=12,SNR=68							
PLCA				LR		LR	07 59 36.2	
	comp=Z,2μm,20.4s,baz=215,slow=38							
PLCA	**Paso Flores**	**6.60**	**46**	*eP*		**Pn**	**07 57 00.3**	**-0.2**
	27nm,0.6s							
CCHI	**Chillan**	**9.57**	**23**	*eP*		**P**	**07 57 38.8**	**-3.0**
LNCH	**Linares**	**10.41**	**24**	*eP*		**P**	**07 57 50.9**	**-2.5**
USHA	**Ushuaia**	**10.77**	**153**	Pn		**P**	**07 57 53.4**	**-4.8**
	2.1nm,0.3s,baz=305,slow=12,SNR=24							
SFDO	**San Fernando**	**11.73**	**24**	*eP*		**P**	**07 58 08.8**	**-2.6**
CICH	**Cipreses**	**12.18**	**26**	*eP*		**P**	**07 58 15.8**	**-1.7**
LMEL	**Las Melosas**	**12.69**	**26**	*eP*		**P**	**07 58 22.5**	**-1.7**
RCDM	**Rinconada Maip**	**12.85**	**23**	*eP*		**P**	**07 58 23.1**	**-3.2**
CLCH	**Cerro Calan**	**13.01**	**24**	*eP*		**P**	**07 58 26.0**	**-2.5**
FCH	**Farellones**	**13.15**	**25**	*eP*		**P**	**07 58 27.6**	**-2.6**
TRQA	**Tornquist**	**13.31**	**61**	*eP*		**P**	**07 58 33.0**	**+0.5**
	32nm,0.8s							
CFAA	**Coronel Fontan**	**15.39**	**29**	Pn		**P**	**07 58 56.8**	**-2.9**
	0.5nm,0.3s,baz=202,slow=14,SNR=63							
CFAA				LR		LR	08 05 09.2	
	comp=Z,149nm,18.6s,baz=200,slow=38							
LVC	**Limon Verde**	**23.72**	**18**	*eP*		**P**	**08 00 35.6**	**+2.2**
	24nm,0.6s,mb4.8							
ARE	**Arequipa**	**29.29**	**10**	*eP*		**P**	**08 01 28.0**	**+2.9**
LPAZ	**La Paz**	**30.02**	**17**	P		**P**	**08 01 34.5**	**+2.9**
	1.9nm,0.7s,mb3.9,baz=190,slow=9.0,SNR=4.8							
LPAZ	**La Paz**	**30.02**	**17**	*eP*		**P**	**08 01 34.5**	**+2.9**
	3.5nm,0.9s,mb4.1							
SAML	**Samuel**	**38.26**	**22**	*eP*		**P**	**08 02 43.2**	**+0.7**
	13nm,0.9s,mb4.7							
BDFB	**Brasilia**	**38.34**	**48**	P		**P**	**08 02 44.1**	**+0.9**
	8.0nm,0.9s,mb4.4,baz=218,slow=1.9,SNR=9.0							
BDFB				LR		LR	08 19 59.0	
	comp=Z,1μm,18.1s,MS4.8,baz=54,slow=38							
VNA3	**Neumayer Olymp**	**40.44**	**153**	*e*		**P**	**08 03 02.3**	**+2.2**
VNA3	**Neumayer Olymp**	**40.44**	**153**	*e*		**P**	**08 03 06.8**	**+6.7**
VNA3	**Neumayer Olymp**	**40.44**	**153**	*e*		**P**	**08 03 09.0**	**+8.9**
VNA3	**Neumayer Olymp**	**40.44**	**153**	⇑ *i*		**P**	**08 02 59.8**	**-0.3**
VNA3				*e*		pP	08 03 06.8	-0.8
VNA3				*e*		pP	08 03 09.0	+1.4
VNA1	**Neumayer--Stat**	**40.89**	**152**	*e*		**P**	**08 03 04.0**	**+0.3**
VNA1	**Neumayer--Stat**	**40.89**	**152**	*e*		**P**	**08 03 09.2**	**+5.5**
VNA1	**Neumayer--Stat**	**40.89**	**152**	*e*		**P**	**08 03 11.8**	**+8.1**
VNA1	**Neumayer--Stat**	**40.89**	**152**	⇑ *i*		**P**	**08 03 01.9**	**-1.8**
VNA1				*e*		pP	08 03 09.2	-2.0
VNA1				*e*			08 03 11.8	
VNA2	**Neumayer--Watz**	**41.18**	**152**	*e*		**P**	**08 03 08.6**	**+2.5**
VNA2	**Neumayer--Watz**	**41.18**	**152**	*e*		**P**	**08 03 13.0**	**+6.9**
VNA2	**Neumayer--Watz**	**41.18**	**152**	*e*		**P**	**08 03 15.8**	**+10**
VNA2	**Neumayer--Watz**	**41.18**	**152**	⇑ *i*		**P**	**08 03 06.0**	**-0.1**
VNA2				*e*		pP	08 03 13.0	-0.6
VNA2				*e*			08 03 15.8	
SNAA	**Sanae**	**42.62**	**153**	P		**P**	**08 03 17.2**	**-0.6**
	5.7nm,1.0s,mb4.3,baz=291,slow=5.2,SNR=12							
QSPA	**South Pole Qui**	**44.75**	**180**	⇑ *i*		**P**	**08 03 34.3**	**-0.7**
	11nm,0.7s,mb4.8							
OTAV	**Otavalo**	**45.56**	**358**	*eP*		**P**	**08 03 44.0**	**+1.7**
	9.8nm,1.0s,mb4.7							
ROSC	**El Rosal**	**50.18**	**3**	LR		LR	08 23 17.3	
	comp=Z,330nm,19.5s,MS4.3,baz=167,slow=33							
SBA	**Scott Base**	**51.07**	**194**	*eP*		**P**	**08 04 23.2**	**-1.0**
	5.4nm,0.9s,mb4.5							
VNDA	**Vanda**	**52.10**	**194**	P		**P**	**08 04 31.4**	**-0.6**
	6.7nm,0.9s,mb4.6,baz=135,slow=6.4,SNR=28							
VNDA				LR		LR	08 21 59.4	
	comp=Z,81nm,20.7s,MS3.7,baz=139,slow=31							
VNDA	**Vanda**	**52.10**	**194**	*eP*		**P**	**08 04 31.5**	**-0.6**
	8.9nm,1.0s,mb4.7							
SDV	**Santo Domingo**	**54.41**	**7**	P		**P**	**08 04 51.7**	**+1.8**
SYO	**Syowa Base**	**56.60**	**157**	⇓ P		**P**	**08 05 02.0**	**-3.0**
MAW	**Mawson**	**63.19**	**164**	P		**P**	**08 05 47.8**	**-2.3**
	9.0nm,0.9s,mb4.9,baz=207,slow=12,SNR=3.8							
MAW				LR		LR	08 31 47.3	
	comp=Z,262nm,19.4s,MS4.4,baz=317,slow=35							
CASY	**Casey**	**68.42**	**183**	*eP*		**P**	**08 06 21.9**	**-1.7**
	23nm,1.0s,mb5.2							
TXAR	**Lajitas Array**	**78.38**	**336**	P		**P**	**08 07 22.8**	**+0.4**
	1.7nm,1.0s,mb3.9,baz=149,slow=8.5,SNR=9.2							
DBIC	**Dimbokro**	**82.27**	**72**	P		**P**	**08 07 46.1**	**+2.8**
	6.0nm,1.0s,mb4.5,baz=142,slow=7.3,SNR=5.0							
WMOK	**Wichita Mounta**	**82.30**	**342**	*eP*		**P**	**08 07 43.2**	**+0.1**
	5.6nm,1.2s,mb4.4							
TUC	**Tucson**	**83.35**	**332**	P		**P**	**08 07 50.0**	**+1.4**
CCM	**Cathedral Cave**	**84.18**	**349**	*eP*		**P**	**08 07 52.8**	**+0.1**
	9.7nm,0.8s,mb5.0							
DUG	**Dugway**	**91.21**	**333**	P		**P**	**08 08 30.4**	**+4.0**
PDAR	**Pinedale Array**	**92.60**	**336**	P		**P**	**08 08 35.4**	**+2.7**
	0.9nm,1.0s,mb4.2,baz=117,slow=2.0,SNR=3.5							
PDAR				LR		LR	08 44 14.1	
	comp=Z,104nm,18.2s,MS4.3,baz=342,slow=32							
HYB	**Hyderabad**	**145.26**	**136**	*i* PKP		PKPdf	08 14 59.0	-3.8
NJ2	**Nanjing**	**161.90**	**228**	*e*PKP		PKPdf	08 15 19.5	-6.0
CN2	**Changchun**	**164.08**	**272**	*e*PKP		PKPdf	08 15 27.0	-0.3
WMQ	**Urumqi**	**168.82**	**93**	*e*PKP		PKPdf	08 15 29.0	-1.9
WMQ				LR		LR		
	comp=Z,125nm,24.0s							
HHC	**Hu-ho-hao-te**	**172.33**	**236**	*e*PKP		PKPdf	08 15 27.3	-5.7
HHC				PKS		PKS	08 19 00.8	+1.1
HHC				SKS		SKS	08 22 28.8	-6.4
HHC				LR		LR		
	comp=N,311nm,14.3s							
HHC				LR		LR		
	comp=E,267nm,19.0s							
HHC				LR		LR		
	comp=Z,212nm,23.8s							

*TAP **30** 07:55:27.3, 23.80N×122.48E, h18km±1km, ML2.8*
JMA 30 07:55:29.1±0.2, 23.93N×122.53E, h14km, M2.0, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.69**	**40**	P		Pb	07 55 42.2	-0.1
YOJ				*eS*		Sb	07 55 51.6	+0.2
IRIF	**Iriomote-Funau**	**1.17**	**70**	P		Pb	07 55 50.6	0.0
IRIF				*eS*		Sb	07 56 06.0	+0.6
HATJ	**Hateruma jima**	**1.17**	**84**	*eS*		Sb	07 56 05.5	0.0
JKRS	**Kuro-shima**	**1.39**	**77**	*eS*		Sb	07 56 12.5	+0.8
JIJ	**Ishigaki jima**	**1.54**	**73**	*eS*		Sb	07 56 15.2	-0.8

IDC 30 07:55:55.4±4.3, 2.85N×97.21E, mb3.6/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.6/3, Error ellipse: s-maj=165.0km s-min=30.1km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.91**	**123**	P		P	08 03 55.9	-1.9
	0.3nm,0.6s,baz=305,slow=8.9,SNR=6.4							
SONM	**Songino Array**	**45.51**	**9**	P		P	08 04 17.6	-0.9
	0.3nm,0.3s,baz=192,slow=8.5,SNR=4.8							
MKAR	**Makanchi Array**	**45.66**	**346**	P		P	08 04 17.0	-2.5
	0.4nm,0.5s,baz=162,slow=7.9,SNR=6.6							

*ATH **30** 08:01:14.5, 35.38N×27.12E, h22km±2km, MD3.4/9*
*CSEM **30** 08:01:15.5±0.3, 35.48N×27.01E, h10km, MD3.3, Error ellipse: s-maj=14.4km s-min=5.6km az=161.0*
*ISK **30** 08:01:20.3, 36.02N×27.09E, h11km, ML2.7*
ISC 30 08:01:16.9±0.8, 35.42N±0.07×26.92E±0.06, h22km, n18, σ1§51/26, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.24**	**57**	*e*PB		**Pb**	**08 01 18.9**	**-3.9**
KARP				*e*SB		**Sb**	**08 01 22.9**	**-3.9**
NPS	**Neapolis**	**1.08**	**262**	⇓ *i*PN		**Pn**	**08 01 37.9**	**+1.1**
NPS				*e*SN		**Sn**	**08 01 55.4**	**+4.2**
XRY	**Khrisi**	**1.14**	**242**	*e*PN		**Pn**	**08 01 38.2**	**+0.5**
NISR	**Nisiros**	**1.21**	**8**	*e*PN		**Pn**	**08 01 38.0**	**-0.7**
ARG	**Arkhangelos**	**1.27**	**51**	*e*PN		**Pn**	**08 01 37.5**	**-2.1**
BODT	**Bodrum**	**1.68**	**11**	PG		**Pn**	**08 01 40.5**	**-4.9**
BDRM	**Kayabasi**	**1.70**	**14**	*i* P		**Pn**	**08 01 48.7**	**+2.9**
BDRM				*i* S		**Sn**	**08 02 11.5**	**+4.4**
DALT	**Dalyan (Mudla)**	**1.94**	**45**	*e*PN		**Pn**	**08 01 47.5**	**-1.7**
APE	**Apeiranthos**	**2.00**	**326**	*e*PN		**Pn**	**08 01 49.7**	**-0.3**
APE				*e*SN		**Sn**	**08 02 12.0**	**-2.5**
APE	**Apeiranthos**	**2.00**	**326**	*e*PB		**Pb**	**08 01 50.1**	**-2.3**
FETY	**Fethiye**	**2.14**	**55**	*e*PN		**Pn**	**08 01 51.0**	**-1.0**
VAM	**Vamos**	**2.22**	**271**	*e*PB		**Pb**	**08 01 55.5**	**-0.7**
AKAS	**Kas**	**2.33**	**69**	*i* P		**Pn**	**08 01 54.8**	**-0.1**
AKAS				*i* S		**Sn**	**08 02 26.6**	**+3.5**
AYDN	**Tasoluk**	**2.37**	**19**	*i* P		**Pn**	**08 01 56.6**	**+1.3**
AYDN				*i* S		**Sn**	**08 02 26.8**	**+2.7**
GVD	**Gavdhos**	**2.39**	**257**	*e*PN		**Pn**	**08 01 56.0**	**+0.4**
DNZL	**Cakiroluk**	**2.85**	**36**	*i* P		**Pn**	**08 02 04.8**	**+2.6**
DNZL				*i* S		**Sn**	**08 02 40.9**	**+4.8**
MANT	**Manisa**	**3.34**	**23**	*i* P		**Pn**	**08 02 09.2**	**+0.1**
MANT				*i* S		**Sn**	**08 02 54.3**	**+5.7**
VLI	**Veliai**	**3.48**	**293**	*e*PN		**Pn**	**08 02 11.2**	**+0.1**

IDC 30 08:04:45.5±2.5, 52.35N×35.67E, mb3.2/1, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML3.3/3, Error ellipse: s-maj=32.2km s-min=13.3km az=122.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AKASG	**Malin Array Be**	**4.35**	**250**	Pn		Pn	08 05 50.3	-4.1
	1.0nm,0.3s,baz=56,slow=13,SNR=3.3							
AKASG				Pg		Pg	08 06 02.0	-10
	2.6nm,0.3s,baz=63,slow=15,SNR=6.8							
AKASG				Sn		Sn	08 06 41.6	-5.0
	2.1nm,0.3s,baz=61,slow=22,SNR=4.7							
AKASG				Lg			08 06 58.5	
	3.6nm,0.3s,baz=67,slow=30,SNR=4.3							
FINES	**FINESS Array B**	**10.51**	**334**	Pn		P	08 07 14.0	-6.3
	0.1nm,0.3s,baz=151,slow=14,SNR=4.5							
FINES				Sn		S	08 09 04.3	-16
	0.2nm,0.3s,baz=152,slow=20,SNR=4.4							
HFS	**Hagfors**	**14.44**	**311**	Pn		P	08 08 06.7	-6.1
	0.0nm,0.3s,baz=108,slow=14,SNR=2.8							
ARCES	**ARCESS Array B**	**17.89**	**348**	P		P	08 08 55.1	-1.9
	0.3nm,0.3s,baz=159,slow=10,SNR=9.8							
YKA	**Yellowknife Ar**	**63.12**	**345**	P		P	08 15 13.8	-2.8
	0.2nm,0.5s,baz=13,slow=6.7,SNR=6.1							

IDC 30 08:08:23.0±4.4, 2.25N×98.06E, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=174.4km s-min=30.4km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.87**	**123**	P		P	08 16 15.2	-1.8
	0.3nm,0.5s,baz=304,slow=9.1,SNR=5.1							
SONM	**Songino Array**	**45.98**	**8**	P		P	08 16 48.4	-1.3
	0.3nm,0.6s,baz=189,slow=11,SNR=2.8							
MKAR	**Makanchi Array**	**46.45**	**345**	P		P	08 16 51.4	-2.1
	0.8nm,0.5s,baz=160,slow=8.8,SNR=14							

*NEIC **30** 08:24:54.6, 33.92S×68.62W, h14km, ML2.7(GUC), After GUC.*
GUC 30 08:24:54.6±1.0, 33.92S×68.62W, h14km±412km, MD3.5, ML2.7, 1C-1D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
LMEL	**Las Melosas**	**1.32**	**272**	*eP*		Pb	08 25 17.8	-0.8
LMEL				*i* S		Sb	08 25 35.3	+0.1
LMEL				AMP			08 25 36.8	
	comp=N,269nm,0.2s							
FCH	**Farellones**	**1.51**	**292**	⇓ *i*P		Pn	08 25 19.4	-2.1
FCH				*i* S		Sb	08 25 38.9	-1.9
FCH				AMP			08 25 39.4	
	comp=N,88nm,0.2s							
PCH	**Pirque**	**1.60**	**280**	*eP*		Pn	08 25 22.4	-0.4
PCH				*i* S		Sn	08 25 43.0	-0.3
CLCH	**Cerro Calan**	**1.68**	**287**	*eP*		Pn	08 25 22.9	-0.9
CLCH				*i* S		Sn	08 25 44.9	-0.3
CLCH				AMP			08 25 46.4	
	comp=N,127nm,0.4s							
CHCH	**Chadas Angostu**	**1.69**	**269**	*eP*		Pn	08 25 23.2	-0.7
DSCH	**Colegio Aleman**	**1.70**	**287**	⇑ *i*P		Pn	08 25 23.9	-0.3
DSCH				*i* S		Sn	08 25 46.1	+0.3
DSCH				AMP			08 25 47.6	
	comp=E,214nm,0.6s							
TACH	**Talagante**	**1.94**	**277**	*eP*		Pn	08 25 27.7	0.0

*MOS **30** 08:27:46.0±1.1, 3.01N×96.82E, h33km, mb5.0/25, Error ellipse: s-maj=16.8km s-min=6.9km az=105.9*
*BJI **30** 08:27:47.1, 2.78N×96.61E, h48km, mB5.1, mb4.8, Ms4.5, Msz4.2*
*NEIC **30** 08:27:49.0±0.3, 3.08N×96.61E, h30km, mb4.7/24, Error ellipse: s-maj=9.5km s-min=5.1km az=220.0*
*IDC **30** 08:27:49.0±4.3, 3.18N×96.76E, h31km±30km, mb4.4/18, mb1 4.5/18, mb1mx4.4/24, mbtmp4.6/18, MS4.0/11, Ms1 4.0/11, ms1mx3.7/30, Error ellipse: s-maj=31.8km s-min=12.4km az=51.0*
ISC 30 08:27:47.6±0.3, 3.05N±0.05×96.58E±0.04, h35km, h35km±2.3km: pP-P, n140, σ1§19/137, mb4.7/66, MS4.2/24, 6C-9D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KULM	**Kulim**	**4.63**	**61**	*eP*		**P**	**08 28 58.6**	**+1.6**
IPM	**Ipoh**	**4.69**	**71**	P		**P**	**08 29 00.1**	**+2.2**
SNG	**Songkhla**	**5.74**	**44**	P		**P**	**08 29 15.0**	**+2.3**
	500nm,0.9s							
KGM	**Kluang**	**6.81**	**98**	P		**P**	**08 29 30.2**	**+2.5**
NNT	**Nongplab**	**9.98**	**18**	P		**P**	**08 30 17.0**	**+5.2**
NST	**Nakhon Sawan**	**13.03**	**15**	P		**P**	**08 30 59.0**	**+6.0**
KSM	**Kuching**	**13.80**	**96**	P		**P**	**08 31 04.2**	**+0.8**
NANT	**Nan**	**16.17**	**14**	⇑ P		**P**	**08 31 30.0**	**-4.0**
	150nm,1.0s							
PALK	**Pallekele**	**16.36**	**285**	*eP*		**P**	**08 31 43.3**	**+6.9**
	20nm,1.0s							
KKM	**Kota Kinabalu**	**19.80**	**81**	*eP*		**P**	**08 32 18.0**	**0.0**
KKM	**Kota Kinabalu**	**19.80**	**81**	P		**P**	**08 32 18.1**	**+0.1**
QIZ	**Qiongzhong**	**20.51**	**38**	*eP*		**P**	**08 32 25.3**	**-0.2**
QIZ				S		**S**	**08 36 16.5**	**+8.4**
QIZ				XS			08 36 31.8	
QIZ				LR		LR		
	comp=N,627nm,17.0s							
QIZ				LR		LR		
	comp=Z,757nm,18.0s,MS4.1							
QIZ	**Qiongzhong**	**20.51**	**38**	*eP*		**P**	**08 32 25.4**	**-0.2**
	comp=Z,27nm,1.0s							
TSM	**Tawau**	**21.28**	**86**	P		**P**	**08 32 38.5**	**+5.0**
HYB	**Hyderabad**	**22.74**	**310**	*eP*		**P**	**08 32 51.0**	**+3.0**
HYB	**Hyderabad**	**22.74**	**310**	*i* P		**P**	**08 32 51.0**	**+3.0**
KMI	**Kunming**	**22.74**	**15**	P		**P**	**08 32 50.5**	**+2.5**
KMI				S		**S**	**08 36 53.5**	**+3.8**
KMI				AMB		AMB		
	comp=Z,17nm,1.0s,mb4.4							
KMI				LR		LR		
	comp=N,585nm,17.8s,MS4.2							
KMI				LR		LR		
	comp=E,443nm,15.5s,MS4.2							
KMI				LR		LR		
	comp=Z,684nm,19.0s,MS4.1							
JIRN	**Jiri**	**26.41**	**339**	*eP*		**P**	**08 33 22.9**	**-0.2**
	comp=Z,33nm,0.8s,mb4.9							
PKI	**Pulchoki**	**26.62**	**337**	*eP*		**P**	**08 33

GTA PCP PcP 08 37 15.3 +0.6
GTA S **S** **08 40 29.5 +1.6**
GTA AMB AMB
comp=Z,21nm,0.7s,mb5.2
GTA AMB AMB
comp=Z,84nm,4.6s
GTA LR LR
comp=N,154nm,15.6s,MS4.1
GTA LR LR
comp=E,195nm,17.1s,MS4.1
GTA LR LR
comp=Z,253nm,16.3s,MS4.1
JOW Kunigami 38.47 49 LR LR 08 50 34.4
comp=Z,265nm,20.3s,MS4.0,baz=228,slow=36
KAKA Kakadu 38.90 114 *eP* **P** **08 35 10.8 -1.1**
comp=Z,9.2nm,0.6s,mb4.7
HHC Hu-ho-hao-te 39.99 18 *eP* **P** **08 35 21.5 +0.8**
HHC AP pP 08 35 30.8 0.0
HHC PP PP 08 36 59.0 +2.5
HHC SCP 08 41 12.0
HHC S **S** **08 41 25.5 +1.8**
HHC SS SS 08 44 17.0 +1.7
HHC AMB AMB
comp=Z,16nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,102nm,5.0s
HHC LR LR
comp=N,311nm,14.9s,MS4.3
HHC LR LR
comp=E,267nm,18.4s,MS4.3
HHC LR LR
comp=Z,212nm,17.2s,MS4.0
BJT Baijiatuau 40.86 23 *eP* **P** **08 35 28.3 +0.4**
BJT pmax pmax
comp=Z,26nm,0.9s
BJT Baijiatuau 40.86 23 *eP* **P** **08 35 28.3 +0.4**
comp=Z,26nm,0.9s,mb4.9
BJI Beijing 40.88 23 P **P** **08 35 28.3 +0.2**
BJI AP pP 08 35 40.0 +1.7
BJI XP sP 08 35 44.8 +2.2
BJI AMB AMB
comp=Z,27nm,0.9s,mb4.9
BJI LR LR
comp=N,127nm,14.3s,MS4.2
BJI LR LR
comp=E,217nm,15.1s,MS4.2
BJI LR LR
comp=Z,120nm,22.2s
WMQ Urumqi 41.36 350 P **P** **08 35 32.5 +0.5**
WMQ AP pP 08 35 42.0 -0.2
WMQ XP sP 08 35 46.0 -0.5
WMQ *eS* **S** **08 41 45.0 +0.9**
WMQ AMB AMB
comp=Z,12nm,1.0s,mb4.5
WMQ AMB AMB
comp=Z,140nm,5.2s
WMQ LR LR
comp=N,472nm,24.6s,MS4.4
WMQ LR LR
comp=E,539nm,28.2s,MS4.4
WMQ LR LR
comp=Z,446nm,25.7s,MS4.2
WRA Warramunga Arr 43.54 123 P **P** **08 35 49.7 -0.5**
comp=Z,18nm,0.7s,mb4.9,baz=301,slow=9.2,SNR=132
WRAB Tennant Creek 43.55 123 P **P** **08 35 50.0 -0.2**
comp=Z,160nm,0.5s,SNR=12
WB2 Warramunga Arr 43.55 123 ⇓*iP* **P** **08 35 50.2 -0.1**
UCH Uchtor 43.72 336 P **P** **08 35 52.9 +1.5**
SNR=28
TKM2 Tokmak 2 43.89 338 P **P** **08 35 53.6 +0.9**
SNR=11
AML Almayashu 43.98 335 P **P** **08 35 54.8 +1.4**
SNR=22
AAK Ala-Archa 44.07 336 P **P** **08 35 55.7 +1.5**
SNR=5.9
AAK Ala-Archa 44.07 336 P **P** **08 35 54.5 +0.3**
comp=Z,49nm,0.8s,mb5.3,SNR=9.1
AAK Ala-Archa 44.07 336 *eP* **P** **08 35 53.8 -0.4**
AAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
AAK Ala-Archa 44.07 336 *eP* **P** **08 35 53.8 -0.4**
comp=Z,7.3nm,0.9s,mb4.4
FRU Bishkek 44.19 337 *eP* **P** **08 35 57.0 +1.9**
FRU pmax pmax
comp=Z,40nm,2.0s,mb4.8
EKS2 Erkin-Say 44.38 336 P **P** **08 35 58.0 +1.4**
SNR=10
USP Ospenovka 44.60 337 P **P** **08 35 59.3 +0.8**
SNR=37
ASPA Alice Springs 45.00 128 ⇓*iP* **P** **08 36 01.8 -0.1**
ASAR Alice Springs 45.00 128 P **P** **08 36 01.4 -0.5**
comp=Z,6.1nm,0.8s,mb4.5,baz=306,slow=7.8,SNR=43
ASAR ScP 08 41 32.4
comp=Z,0.5nm,1.0s,baz=304,slow=4.4,SNR=5.0
FORT Forrest 45.08 141 *eP* **P** **08 36 03.6 +1.2**
comp=Z,239nm,0.6s
MKAR Makanchi Array 45.31 346 *iP* **P** **08 36 03.1 -1.0**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MKAR Makanchi Array 45.31 346 P **P** **08 36 03.2 -0.9**
comp=Z,19nm,0.7s,mb5.0,baz=160,slow=7.9,SNR=177
SONM Songino Array 45.41 9 P **P** **08 36 04.0 -0.8**
comp=Z,6.7nm,0.6s,mb4.6,baz=190,slow=8.4,SNR=73
SONM PcP PcP 08 37 44.3 +0.2
comp=Z,4.4nm,0.7s,baz=191,slow=3.8,SNR=8.8
SONM LR LR 08 57 13.8
comp=Z,282nm,18.6s,MS4.2,baz=191,slow=39
ULN Ulaanbaatar 45.55 10*d iP* **P** **08 36 06.1 +0.1**
KKAR Karatay Array 46.14 333 P **P** **08 36 10.4 -0.3**
KKAR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ZAK Zakamensk 47.51 6⇑*iP* **P** **08 36 20.4 -0.9**
ZAK *e* 08 37 51.3
ZAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
CN2 Changchun 47.96 28 *eP* **P** **08 36 26.5 +1.5**
MOY Mondy 48.59 4 *eP* **P** **08 36 29.5 -0.2**
GUMO Guam 48.82 75 LR LR 08 56 08.2
comp=Z,124nm,19.2s,MS3.9,baz=247,slow=35
TLY Talaya 48.83 6 *eP* **P** **08 36 30.2 -1.3**
TLY pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,200nm,15.0s,MS4.2
MJAR Matsushiro Arr 50.77 44 LR LR 09 00 39.2
comp=Z,138nm,19.4s,MS4.0,baz=220,slow=39
ZAL Zalesovo 51.64 351 P **P** **08 36 52.2 -0.8**
comp=Z,10nm,0.7s,mb4.9,baz=306,slow=6.2,SNR=50
NVS Novosibirsk 52.77 350 *iP* **P** **08 36 59.1 -2.3**
NVS *e* 08 37 13.1
NVS pmax pmax
comp=Z,14nm,0.9s,mb4.9
NVS pmax pmax
comp=N,13nm,1.0s
NVS pmax pmax
comp=E,5.0nm,0.8s
ATD Arta Tunnel 53.88 282 LR LR 08 57 13.4
comp=E,68nm,19.4s,MS3.7,baz=38,slow=33
CTAO Charters Tower 53.88 118 *eP* **P** **08 37 09.6 -0.5**
CTAO pmax pmax
comp=Z,13nm,1.1s,mb4.8
CTAO Charters Tower 53.88 118 *eP* **P** **08 37 09.6 -0.5**
comp=Z,13nm,1.1s,mb4.8
BVA0 Borovoye Array 54.31 341 *iP* **P** **08 37 11.7 -1.1**
BVA0 pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BVAR Borovoye Array 54.31 341 P **P** **08 37 11.5 -1.3**
comp=Z,6.7nm,0.8s,mb4.6,baz=143,slow=7.4,SNR=34
CHKZ Chkalovo 54.79 341 P **P** **08 37 15.2 -1.1**
CHKZ pmax pmax
comp=Z,15nm,0.8s,mb5.1
KLR Kul'dur 54.90 27 *eP* **P** **08 37 13.2 -4.0**
KLR MLR MLR
comp=N,1μm,16.0s
STKA Stephens Creek 55.05 133⇓*iP* **P** **08 37 18.3 -0.2**
comp=N,4.7nm,0.8s,mb4.6
STKA Stephens Creek 55.05 133 P **P** **08 37 18.2 -0.2**
comp=N,5.2nm,0.8s,mb4.6,baz=311,slow=7.9,SNR=10.0
BOD Bodaibo 56.33 11⇓*iP* **P** **08 37 25.9 -1.4**
BOD pmax pmax
comp=Z,19nm,1.1s,mb5.0
CLNS Chul'man 58.18 18 *eP* **P** **08 37 39.4 -1.0**
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=Z,16nm,0.7s,mb5.2
CLNS pmax pmax
comp=E,8.0nm,0.8s
YSS Yuzh-Sakhalins 59.19 35 *iP* **P** **08 37 44.6 -3.1**
KMBO Kilima Mbogo 59.45 267 LR LR 09 00 53.0
comp=E,189nm,18.7s,MS4.2,baz=94,slow=33
ARU Arti 61.25 337⇑*iP* **P** **08 37 59.9 -1.7**
ARU *e* 08 40 13.6
ARU *eS* **S** **08 46 20.0 +2.5**
ARU *e*SS SS 08 50 24.7 +5.4
ARU pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
KIV Kislovodsk 62.52 319*c iP* **P** **08 38 10.0 -0.2**
KIV *e* 08 40 30.7
KIV *eS* S 08 46 55.4 +22
KIV pmax pmax
comp=Z,15nm,1.0s,mb5.1
GOF Gofitskoye 62.76 320 *eP* **P** **08 38 10.8 -1.0**
MALT Malatya 63.44 312 *eP* **P** **08 38 15.2 -1.3**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MALT Malatya 63.44 312 *eP* **P** **08 38 15.2 -1.3**
comp=Z,5.9nm,0.9s,mb4.7
YAK Yakutsk 63.84 17 *eP* **P** **08 38 17.0 -1.6**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.3
YAK Yakutsk 63.84 17 *eP* **P** **08 38 17.0 -1.6**
comp=Z,24nm,0.8s,mb5.3
EIL Elat 63.96 302 LR LR 09 06 09.1
comp=Z,148nm,19.2s,MS4.2,baz=308,slow=36
SOC Sochi 64.35 318 *eP* **P** **08 38 19.1 -3.2**
SOC *e* 08 38 55.6
SOC *eS* **S** **08 46 54.5 -2.0**
SOC *e* 08 48 09.8
SOC *e*SS SS 08 51 12.8 +4.7
SOC pmax pmax
comp=Z,39nm,1.4s,mb5.2
SOC pmax pmax
comp=N,17nm,1.1s
SOC pmax pmax
comp=E,16nm,0.8s
BRTR Keskin Array B 67.42 312 P **P** **08 38 41.8 -0.2**
comp=E,3.1nm,1.0s,mb4.3,baz=129,slow=7.9,SNR=7.9
VRSR Storozhevoye 67.70 325 *eP* **P** **08 38 42.3 -1.2**
VRSR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,1.6s
VRSR pmax pmax
comp=E,10.0nm,1.0s
SIM Simferopol' 68.59 317 P **P** **08 38 49.6 +0.4**
SIM pmax pmax
comp=Z,16nm,0.7s,mb5.1
SIM MLR MLR
comp=Z,200nm,22.0s,MS4.3
MA2 Magadan 69.95 26 *eP* **P** **08 38 55.2 -2.0**
MA2 pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
MOS Moscow 70.44 329 *eP* **P** **08 38 59.7 -0.6**
OBN Obninsk 70.73 328⇓*iP* **P** **08 39 01.5 -0.6**
OBN *i* pP 08 39 13.9 +1.1
OBN pmax pmax
comp=Z,29nm,1.7s,mb4.9
OBN MLR MLR
comp=Z,100nm,21.0s,MS4.0
TIXI Tiksi 71.49 10 *eP* **P** **08 39 02.4 -4.0**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
TIXI MLR MLR
comp=Z,82nm,12.0s,MS4.2
SEY Seymchan 72.32 23 *eP* **P** **08 39 11.3 -0.1**
SEY *e* 08 39 31.7
SEY *e* 08 49 06.3
SEY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
AKASG Malin Array Be 73.43 322 P **P** **08 39 17.1 -1.1**
comp=Z,3.9nm,0.6s,mb4.5,baz=91,slow=4.9,SNR=5.1
VRI Vrincioaia 73.86 317⇓P **P** **08 39 21.8 +1.0**
LBTB Lobatse 74.16 243 P **P** **08 39 25.3 +2.3**
comp=Z,2.5nm,0.9s,mb4.2,baz=133,slow=7.5,SNR=3.6
MLR Muntele Rosu 74.31 316 P **P** **08 39 24.6 +1.2**
comp=Z,3.4nm,0.7s,mb4.4,baz=131,slow=2.9,SNR=7.0
MLR Muntele Rosu 74.31 316⇓P **P** **08 39 24.6 +1.2**
MAW Mawson 74.36 193 LR LR 09 04 57.8
comp=Z,88nm,19.9s,MS4.0,baz=244,slow=30
BOSA Boshof 75.17 240 LR LR 09 07 55.5
comp=Z,142nm,20.0s,MS4.3,baz=349,slow=32
BURAR Bucovina Array 75.24 318⇑P **P** **08 39 30.2 +1.5**
BURAR Bucovina Array 75.24 318⇑P **P** **08 39 30.2 +1.5**
KWP Kalwaria 77.27 320 *eP* **P** **08 39 41.2 +1.1**
KOLS Kolonicke sedl 77.42 319 *eP* **P** **08 39 42.8 +1.7**
KOLS *e*gP pP 08 39 52.5 +0.7
SUW Suwalki 77.82 325 *eP* **P** **08 39 42.8 -0.3**
FINES FINESS Array B 78.09 332 P **P** **08 39 43.8 -0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=124,slow=6.9,SNR=8.6
OJC Ojcow 79.22 320 *eP* **P** **08 39 51.8 +0.9**
PKSM Moragy 79.46 316 *eP* **P** **08 39 52.8 +0.5**
FX1 Attu Island--F 79.49 37 LR LR 09 19 47.0
comp=Z,2.4nm,18.4s,baz=92,slow=39
ARCES ARCESS Array B 80.60 340 P **P** **08 39 58.2 +0.3**
comp=Z,4.0nm,0.9s,mb4.4,baz=90,slow=7.3,SNR=9.9
MORC Moravsky Berou 80.60 320 *eP* **P** **08 39 59.1 +0.8**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 80.60 320 *eP* **P** **08 39 59.1 +0.8**
comp=Z,4.5nm,0.9s,mb4.4
AQU L'Aquila 82.92 312 P **P** **08 40 12.4 +2.0**
comp=Z,7.6nm,0.4s,mb5.1
GERES GERESS Array B 83.03 319 P **P** **08 40 12.1 +1.2**
comp=Z,2.6nm,0.9s,mb4.3,baz=90,slow=5.3,SNR=16
HFS Hagfors 83.83 330 P **P** **08 40 15.3 +0.6**
comp=Z,1.8nm,0.5s,mb4.4,baz=124,slow=5.2,SNR=7.2
NB2 NORSAR Subarra 85.10 331 P **P** **08 40 21.1 0.0**
comp=Z,3.3nm,0.8s,mb4.5,baz=95,slow=4.8
NOA NORSAR Array B 85.10 331 P **P** **08 40 21.6 +0.5**
comp=Z,2.3nm,0.9s,mb4.3,baz=95,slow=4.9,SNR=4.9
DAVOX Davos 85.54 317 P **P** **08 40 25.2 +1.7**
comp=Z,5.6nm,0.8s,mb4.9,baz=78,slow=9.3
LPG La Plagne 87.73 315 *eP* **P** **08 40 48.9 +15**
comp=Z,6.2nm,0.5s,mb4.8
VNDA Vanda 87.74 169 LR LR 09 16 53.7
comp=Z,76nm,18.9s,MS4.1,baz=103,slow=34
IMA Indian Mountai 95.13 23 *eP* **P** **08 41 09.2 +1.1**
comp=Z,8.5nm,1.0s,mb5.1
YKA Yellowknife Ar 110.48 15 PP PP 08 46 49.3 -7.3
comp=Z,0.7nm,0.9s,baz=331,slow=7.5,SNR=5.3
PDAR Pinedale Array 128.64 25 PKP PKPdf 08 46 53.2 +1.5
comp=Z,0.4nm,0.5s,baz=117,slow=3.3,SNR=3.9
TXAR Lajitas Array 142.41 30 PKhKP 08 47 16.4
comp=Z,0.7nm,0.9s,baz=209,slow=0.3,SNR=6.4

*NEIC **30** 08:34:09.3±0.7, 11.81N×94.93E, mb4.3/7, Error ellipse: s-maj=33.9km s-min=9.5km az=54.0*
*IDC **30** 08:34:09.0±0.8, 11.83N×94.80E, h23km±4km, mb3.6/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=44.5km s-min=14.0km az=53.0*
ISC 30 08:34:07.2±0.9, 11.8N±0.2×94.9E±0.3, h24km, h24km±.8km:pP-P, n17, σ0.74/14, mb4.0/8, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIRN	**Jiri**	**17.80**	**334**	*eP*	**P**	**08 38 16.5**	**+1.3**
	27nm,0.7s						
PKI	**Pulchoki**	**18.07**	**332**	*eP*	**P**	**08 38 18.7**	**+0.1**
	68nm,1.2s						
GUN	**Gumba**	**18.15**	**334**	*eP*	**P**	**08 38 19.9**	**+0.3**
	30nm,0.9s						
DMN	**Daman**	**18.24**	**331**	*eP*	**P**	**08 38 21.7**	**+0.9**
	52nm,0.9s						
GKN	**Gorkha**	**18.80**	**331**	*eP*	**P**	**08 38 27.8**	**+0.3**
	22nm,0.6s						
KOLN	**Koldanda**	**19.12**	**328**	*eP*	**P**	**08 38 30.9**	**-0.5**
	26nm,0.6s						
MKAR	**Makanchi Array**	**36.50**	**345**	P	**P**	**08 41 12.1**	**-0.5**
	0.9nm,0.9s,mb3.6,baz=164,slow=10,SNR=3.4						
MKAR				pP		08 41 18.6	-1.1
	1.7nm,0.8s,baz=153,slow=8.1,SNR=5.9						
SONM	**Songino Array**	**37.22**	**13**	P	**P**	**08 41 17.7**	**-1.0**
	1.0nm,0.9s,mb3.6,baz=210,slow=10.0,SNR=5.5						
KURK	**Kurchatov**	**41.06**	**344**	*eP*	**P**	**08 41 56.8**	**+6.2**
	10nm,1.1s,mb4.4						
BVAR	**Borovoye Array**	**45.60**	**339**	P	**P**	**08 42 26.7**	**-0.6**
	0.3nm,0.4s,mb3.5,baz=127,slow=7.2,SNR=2.6						
BVAR				pP		08 42 34.6	+0.3
	2.0nm,0.9s,baz=149,slow=8.6,SNR=5.9						
WRA	**Warramunga Arr**	**50.00**	**129**	P	**P**	**08 43 02.4**	**+0.3**
	5.5nm,0.8s,mb4.6,baz=307,slow=8.3,SNR=6.9						
WRA				pP	pP	08 43 09.9	+0.5
	5.5nm,0.8s,baz=307,slow=8.4,SNR=16						
ASAR	**Alice Springs**	**51.91**	**133**	P	**P**	**08 43 17.3**	**+0.7**
	3.0nm,0.8s,mb4.3,baz=314,slow=6.4,SNR=7.3						
ASAR				pP	pP	08 43 24.4	+0.5
	3.7nm,0.9s,baz=312,slow=6.6,SNR=17						
BRTR	**Keskin Array B**	**60.52**	**309**	P	**P**	**08 44 16.6**	**-1.5**
	0.4nm,0.4s,mb3.9,baz=90,slow=7.2,SNR=2.8						
BRTR				pP	pP	08 44 23.6	-1.8
	1.3nm,0.7s,baz=117,slow=5.5,SNR=4.4						
STKA	**Stephens Creek**	**62.29**	**136**	pP	pP	08 44 38.5	+1.0
	5.4nm,0.8s,baz=321,slow=5.5,SNR=8.2						
GERES	**GERESS Array B**	**75.46**	**318**	P	**P**	**08 45 51.3**	**+0.1**
	0.5nm,0.2s,mb4.0,baz=68,slow=5.3,SNR=3.9						
HFS	**Hagfors**	**75.50**	**329**	pP	pP	08 45 57.9	-0.8
	2.0nm,0.7s,baz=59,slow=8.6,SNR=3.2						
NB2	**NORSAR Subarra**	**76.74**	**330**	P	sP	08 46 08.4	+0.2
	0.9nm,0.7s,baz=92,slow=5.3						

*IDC **30** 08:38:09.5±2.3, 1.16N×97.00E, mb4.3/7, mb1 4.4/7, mb1mx4.0/19, mbtmp4.3/7, MS3.7/1, Ms1 3.7/1, ms1mx3.0/30, Error ellipse: s-maj=107.7km s-min=17.3km az=58.0*
*NEIC **30** 08:38:14.8±0.6, 1.26N×97.20E, h30km, mb4.6/10, Error ellipse: s-maj=15.3km s-min=7.8km az=52.0*
*BJI **30** 08:38:14.8, 1.30N×97.20E, h30km, mB5.0, mb4.7, Ms4.4, Msz4.1*
ISC 30 08:38:13.3±0.8, 1.3N±0.1×97.2E±0.1, h33km, n26, σ0.81/27, mb4.6/20, MS4.0/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.29**	**41**	*eP*	**P**	**08 39 32.3**	**+0.2**
JIRN	**Jiri**	**28.29**	**339**	*eP*	**P**	**08 44 06.7**	**+0.6**
	34nm,0.9s,mb5.0						
PKI	**Pulchoki**	**28.50**	**338**	*eP*	**P**	**08 44 09.3**	**+1.4**
	17nm,0.8s,mb4.7						
GUN	**Gumba**	**28.63**	**339**	*eP*	**P**	**08 44 09.6**	**+0.5**
	32nm,0.8s,mb5.1						
DMN	**Daman**	**28.64**	**337**	*eP*	**P**	**08 44 09.5**	**+0.2**
KKN	**Kakani**	**28.74**	**338**	*eP*	**P**	**08 44 09.9**	**-0.2**
	27nm,0.9s,mb5.0						
LSA	**Lhasa**	**28.86**	**349**	P	**P**	**08 44 11.2**	**0.0**
	5.3nm,0.7s,mb4.4						
GKN	**Gorkha**	**29.18**	**337**	*eP*	**P**	**08 44 13.6**	**-0.4**
	31nm,1.0s,mb5.0						
KOLN	**Koldanda**	**29.40**	**335**	*eP*	**P**	**08 44 16.6**	**+0.6**
	19nm,0.9s,mb4.8						
ENH	**Enshi**	**31.13**	**21**	*eP*	**P**	**08 44 29.9**	**-1.4**
	14nm,0.7s,mb4.9						
GTA	**Gaotai**	**38.05**	**3**	*eP*	**P**	**08 45 30.5**	**0.0**
GTA				AP	pP	08 45 40.5	+0.2
GTA				XP	sP	08 45 45.0	+0.5
GTA				PP	PP	08 47 01.0	-0.1
GTA				S	**S**	**08 51 18.0**	**-2.4**
GTA				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,64nm,5.0s						
GTA				LR	LR		
	comp=N,182nm,14.4s,MS4.2						
GTA				LR	LR		
	comp=E,182nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=Z,170nm,15.2s,MS4.0						
HHC	**Hu-ho-hao-te**	**41.51**	**17**	*eP*	**P**	**08 46 00.8**	**+1.6**
HHC				AP	pP	08 46 09.5	+0.5
HHC				XP	sP	08 46 15.0	+1.8
HHC				PP	PP	08 47 39.5	+1.4
HHC				S	**S**	**08 52 15.5**	**+3.1**
HHC				XS		08 52 31.3	
HHC				SCS	ScS	08 55 59.5	+1.5
HHC				AMB	AMB		
	comp=Z,16nm,0.6s,mb4.8						
HHC				LR	LR		
	comp=N,268nm,14.3s,MS4.4						
HHC				LR	LR		
	comp=E,243nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=Z,198nm,18.4s,MS4.0						
WRA	**Warramunga Arr**	**42.08**	**122**	P	**P**	**08 46 03.7**	**-0.4**
	comp=Z,2.4nm,0.7s,mb4.0,baz=300,slow=9.0,SNR=15						
BJT	**Baijiatuau**	**42.27**	**22**	P	**P**	**08 46 05.9**	**+0.4**
WMQ	**Urumqi**	**43.21**	**350**	*eP*	**P**	**08 46 13.3**	**+0.2**
WMQ				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,83nm,5.2s						
ASAR	**Alice Springs**	**43.44**	**127**	P	**P**	**08 46 15.3**	**+0.1**
	comp=Z,2.0nm,0.9s,mb3.9,baz=306,slow=8.1,SNR=10						
ASAR				LR	LR	09 05 22.8	
	comp=Z,95nm,18.5s,MS3.7,baz=300,slow=38						
SONM	**Songino Array**	**47.08**	**8**	P	**P**	**08 46 44.1**	**+0.3**
	comp=Z,4.7nm,0.8s,mb4.5,baz=189,slow=8.6,SNR=27						
MKAR	**Makanchi Array**	**47.18**	**346**	P	**P**	**08 46 44.6**	**-0.1**
	comp=Z,3.4nm,0.7s,mb4.4,baz=159,slow=8.0,SNR=35						
HIA	**Hailar**	**51.59**	**19**	*eP*	**P**	**08 47 18.2**	**-0.4**
	comp=Z,2.9nm,0.6s,mb4.4						
KURK	**Kurchatov**	**51.73**	**345**	*eP*	**P**	**08 47 18.4**	**-1.2**
	comp=Z,4.9nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**53.41**	**132**	P	**P**	**08 47 32.8**	**+0.4**
	comp=Z,2.5nm,0.9s,mb4.1,baz=304,slow=8.6,SNR=4.3						
STKA	**Stephens Creek**	**53.41**	**132**	*eP*	**P**	**08 47 32.8**	**+0.4**
ZAL	**Zalesovo**	**53.49**	**351**	P	**P**	**08 47 31.9**	**-0.8**
	comp=Z,3.6nm,0.7s,mb4.4,baz=308,slow=6.0,SNR=17						
ZAL	**Zalesovo**	**53.49**	**351**	P	**P**	**08 47 31.9**	**-0.8**
BVAR	**Borovoye Array**	**56.19**	**341**	P	**P**	**08 47 51.1**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=21						
TXAR	**Lajitas Array**	**143.63**	**32**	PKP	PKPdf	08 57 44.8	-0.7
	comp=Z,0.4nm,0.8s,baz=270,slow=1.3,SNR=4.9						

*IDC **30** 08:58:50.8±4.0, 64.55N×32.82E, mb1 3.1/4, mb1mx2.9/20, mbtmp3.1/4, ML2.9/4, Error ellipse: s-maj=53.4km s-min=12.9km az=100.0*
*NAO **30** 08:58:57.1±2.0, 64.75N×30.14E, ML2.1*
*BER **30** 08:58:59.0±4.5, 64.74N×30.34E, ML2.1(NAO), Suspected explosion*
HEL 30 08:58:56.7±0.3, 64.69N×30.76E, ML2.1, ML2.1(NAO), **Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.43**	**330**	*eP*	Pb	08 59 22.8	-1.1
MSF				*eS*	Sb	08 59 40.8	-1.7
KJN	**Kajaani**	**1.45**	**247**	*eP*	Pn	08 59 21.8	-2.5
KJN				*eS*	Sb	08 59 40.9	-2.4
KU4	**Liikasenvaara**	**1.76**	**344**	*eP*	Pn	08 59 26.8	-1.8
KU4				*eS*	Sn	08 59 50.8	-1.2
OUL	**Oulu**	**2.11**	**283**	*eS*	Sn	08 59 59.7	-1.4
SUF	**Sumiainen**	**2.84**	**228**	*eP*	Pn	08 59 42.8	-1.4
SUF				*eS*	Sn	09 00 18.9	-0.8
SUF				*e*SG	Sg	09 00 25.4	-6.0
SUF				MSG		09 00 25.8	
	comp=Z,5.5nm,0.2s						
APA0	**Apatity Array**	**3.07**	**16**	Pn	Pn	08 59 46.6	-0.8
	baz=192,slow=14						
APA0				Lg		09 00 35.5	
	baz=203,slow=37						
APA0	**Apatity Array**	**3.07**	**16**	*eP*	Pn	08 59 46.6	-0.8
APA0				*e*		09 00 35.5	
FIA0	**FINESS Array S**	**3.89**	**215**	Pn	Pn	08 59 57.4	-1.6
	baz=39,slow=14						
FIA0				Lg		09 00 56.0	

baz=41,slow=37
FIA0 FINESS Array S 3.89 215 *e*P Pn 08 59 58.1 -0.9
FIA0 *e*S Sn 09 00 42.4 -3.7
FIA0 *e*SG Sg 09 00 56.8 -9.3
FIA0 MSG 09 01 01.1
comp=Z,3.1nm,0.2s
FINES FINESS Array B 3.89 215 Pn Pn 08 59 57.1 -1.9
comp=Z,0.2nm,0.3s,baz=39,slow=13,SNR=5.5
FINES Lg 09 00 57.0
comp=Z,1.5nm,0.3s,baz=32,slow=29,SNR=6.6
ARA0 ARCESS Array S 5.28 340 Pn Pn 09 00 15.0 -3.8
baz=155,slow=16
ARA0 Sn Sn 09 01 16.2 -5.1
baz=157,slow=28
ARA0 Lg 09 01 34.9
baz=141,slow=37
ARA0 ARCESS Array S 5.28 340 *e*P Pn 09 00 15.0 -3.8
ARA0 *e*S Sn 09 01 16.2 -5.1
ARA0 *e*SB Sb 09 01 34.9 +0.4
ARCES ARCESS Array B 5.28 340 Pn Pn 09 00 15.4 -3.4
comp=Z,0.5nm,0.3s,baz=148,slow=12,SNR=18
ARCES Sn Sn 09 01 17.5 -3.8
comp=Z,0.7nm,0.3s,baz=159,slow=23,SNR=6.0
ARCES Lg 09 01 39.8
comp=Z,1.4nm,0.3s,baz=157,slow=28,SNR=7.1
HFS Hagfors 9.12 248 Lg 09 03 36.7
baz=63,slow=37
HFS Hagfors 9.12 248 *e*SG 09 03 36.7
HFS Hagfors 9.12 248 Pn P 09 01 09.0 -3.6
comp=Z,0.1nm,0.3s,baz=49,slow=13,SNR=5.5
HFS Hagfors 9.12 248 Lg 09 03 36.7
baz=63,slow=37
NOA NORSAR Array B 9.63 257 Pn P 09 01 18.2 -1.2
comp=Z,0.2nm,0.3s,baz=68,slow=17,SNR=2.7

*IDC **30** 09:06:52.7±1.6,53.42N×159.83W,mb3.5/4,mb1 4.1/6, mb1mx3.7/24,mbtmp3.8/6,ML3.6/2,Error ellipse: s-maj=42.5km s-min=24.0km az=7.0*
*NEIC **30** 09:06:58.3,53.49N×159.68W,h23km,mb3.9/1, ML3.8(AEIC),After AEIC.*
ISC 30 09:06:54.7±0.6,53.48N±0.05×159.54W±0.05,h23km,n40, σ0s88/45,mb3.5/4,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDPT	**Sand Point**	**1.96**	**344**	P	**Pn**	**09 07 27.7**	**+0.7**
SDPT				S	**Sn**	**09 07 51.1**	**0.0**
DOL	**Dolgoi Island**	**2.16**	**322**	P	**Pn**	**09 07 30.1**	**+0.1**
DT1	**Dutton Round H**	**2.29**	**317**	P	**Pn**	**09 07 32.1**	**+0.3**
HAG	**Hague Volcano**	**2.31**	**324**	P	**Pn**	**09 07 32.9**	**+0.8**
HAG				S	**Sn**	**09 08 00.3**	**+0.3**
DTNA	**Dutton South F**	**2.31**	**318**	P	**Pn**	**09 07 32.6**	**+0.4**
PVV	**Pavlof Volcano**	**2.31**	**326**	P	**Pn**	**09 07 33.0**	**+0.8**
BALA	**Baldy Mountain**	**2.56**	**313**	P	**Pn**	**09 07 37.4**	**+1.6**
FALS	**False Pass**	**2.67**	**303**	P	**Pn**	**09 07 37.3**	**+0.1**
FALS				S	**Sn**	**09 08 09.0**	**-0.2**
BLHA	**Black Hill**	**2.67**	**328**	P	**Pn**	**09 07 38.5**	**+1.2**
BLHA				S	**Sn**	**09 08 09.6**	**+0.2**
SSLS	**Shishaldin Sou**	**2.90**	**297**	P	**Pn**	**09 07 41.2**	**+0.5**
SSLS				S	**Sn**	**09 08 13.7**	**-1.5**
SSLN	**Shishaldin Nor**	**2.94**	**299**	P	**Pn**	**09 07 42.0**	**+0.8**
WESN	**West Dahl Nort**	**3.17**	**292**	P	**Pn**	**09 07 44.7**	**+0.3**
WESS	**West Dahl Sout**	**3.22**	**290**	P	**Pn**	**09 07 45.1**	**0.0**
WFAR	**Faris Peak**	**3.27**	**291**	P	**Pn**	**09 07 46.2**	**+0.4**
WPOG	**Pogromni**	**3.27**	**292**	P	**Pn**	**09 07 46.0**	**+0.2**
AKA	**Akutan**	**3.75**	**283**	P	**Pn**	**09 07 52.6**	**-0.1**
AKUT	**Akutan**	**3.75**	**283**	P	**Pn**	**09 07 52.5**	**-0.2**
LVA	**Lava Point**	**3.91**	**283**	P	**Pn**	**09 07 55.0**	**+0.1**
UNV	**Unalaska Vale**	**4.16**	**278**	P	**Pn**	**09 07 57.3**	**-1.2**
MTBL	**Makushin Table**	**4.27**	**279**	P	**Pn**	**09 07 59.6**	**-0.4**
MSW	**Makushin Switc**	**4.33**	**279**	P	**Pn**	**09 08 00.3**	**-0.5**
OKFG	**Magazine Ridge**	**5.01**	**273**	P	**Pn**	**09 08 09.5**	**-0.9**
KJL	**Kejulik**	**5.10**	**24**	P	**Pn**	**09 08 12.3**	**+0.5**
CAHL	**Cahill**	**5.17**	**26**	P	**Pn**	**09 08 12.5**	**-0.2**
ANCK	**Angle Creek**	**5.25**	**24**	P	**Pn**	**09 08 13.9**	**0.0**
NIKO	**Nikolski**	**5.62**	**269**	P	**Pn**	**09 08 17.8**	**-1.3**
KAHC	**Katmai Hardscr**	**5.77**	**24**	P	**Pn**	**09 08 20.8**	**-0.4**
CNPM	**China Poot**	**7.60**	**34**	P	**Pn**	**09 08 45.6**	**-1.4**
BRLK	**Bradley Lake**	**7.90**	**34**	P	**Pn**	**09 08 49.2**	**-1.9**
NCT	**North Crescent**	**7.96**	**24**	P	**Pn**	**09 08 51.2**	**-0.7**
ATKA	**Atka Island**	**8.97**	**268**	P	**P**	**09 09 04.3**	**-1.7**
RC01	**Rabbit Creek A**	**9.29**	**31**	P	**P**	**09 09 08.5**	**-1.8**
THY	**Trims Highway**	**12.27**	**30**	P	**P**	**09 09 49.8**	**-1.1**
FX1	**Attu Island--F**	**16.34**	**279**	Pn	**P**	**09 10 45.3**	**+1.3**
	0.5nm,0.3s,baz=346,slow=4.2,SNR=6.2						
INK	**Inuvik**	**19.28**	**30**	P	**P**	**09 11 20.6**	**+0.4**
	0.4nm,0.3s,baz=231,slow=12,SNR=27						
INK	**Inuvik**	**19.28**	**30**	*e*P	**P**	**09 11 19.9**	**-0.2**
	9.7nm,1.3s						
YKA	**Yellowknife Ar**	**24.97**	**51**	P	**P**	**09 12 18.9**	**+1.4**
	0.6nm,0.6s,mb3.3,baz=266,slow=7.2,SNR=14						
NVAR	**Mina Array Bea**	**31.87**	**101**	P	**P**	**09 13 21.5**	**+1.5**
	1.0nm,0.8s,mb3.7,baz=294,slow=11,SNR=3.3						
PDAR	**Pinedale Array**	**34.37**	**87**	P	**P**	**09 13 41.8**	**+0.1**
	0.4nm,0.8s,mb3.4,baz=293,slow=6.9,SNR=3.1						
TXAR	**Lajitas Array**	**46.88**	**98**	P	**P**	**09 15 25.8**	**+1.0**
	0.9nm,0.7s,mb3.8,baz=299,slow=5.1,SNR=16						

*NEIC **30** 09:12:05.9±0.8,13.13N×144.48E,h196km±19km,mb4.1/1, Error ellipse: s-maj=93.4km s-min=13.7km az=85.0*
*IDC **30** 09:12:06.2±0.9,13.13N×144.51E,h200km±22km,mb3.1/6, mb1 3.2/6,mb1mx3.1/20,mbtmp3.6/6,MS3.7/1,Ms1 3.7/1, ms1mx2.7/8,Error ellipse: s-maj=125.7km s-min=16.4km az=85.0*
ISC 30 09:12:05.0±1.3,13.1N±0.1×144.1E±0.9,h192km±36km, n11,σ0s42/11,mb3.3/7,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.93**	**57**	P	**P**	**09 12 33.0**	**-0.7**
	12nm,0.3s,baz=209,slow=19,SNR=9.4						
GUMO				S	**S**	**09 12 56.3**	**+0.4**
	12nm,0.3s,baz=128,slow=23,SNR=6.3						
JOW	**Kunigami**	**20.15**	**315**	LR	LR	09 24 08.4	
	comp=Z,185nm,19.1s,baz=349,slow=35						
WRA	**Warramunga Arr**	**34.19**	**196**	P	**P**	**09 18 34.4**	**+0.1**
	0.3nm,0.7s,mb3.0,baz=19,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**09 19 05.1**	**+0.1**
	0.3nm,1.0s,mb2.8,baz=21,slow=13,SNR=3.5						
ASAR	**Alice Springs**	**37.86**	**195**	P	**P**	**09 19 05.1**	**+0.1**
SONM	**Songino Array**	**46.70**	**326**	P	**P**	**09 20 16.9**	**+0.8**
	0.2nm,0.4s,mb2.8,baz=150,slow=7.6,SNR=2.4						
SONM	**Songino Array**	**46.70**	**326**	P	**P**	**09 20 16.9**	**+0.8**
MKAR	**Makanchi Array**	**61.31**	**316**	P	**P**	**09 22 01.9**	**-0.4**
	0.5nm,0.7s,mb3.2,baz=100,slow=7.4,SNR=4.7						
KURK	**Kurchatov**	**64.46**	**320**	*e*P	**P**	**09 22 22.6**	**-0.4**
	2.0nm,0.6s,mb3.9						
BVAR	**Borovoye Array**	**69.83**	**322**	P	**P**	**09 22 56.6**	**+0.1**
	1.0nm,0.3s,mb3.9,baz=104,slow=7.7,SNR=8.7						
FINES	**FINESS Array B**	**91.28**	**335**	P	**P**	**09 24 49.4**	**-0.1**
	0.8nm,0.9s,mb3.7,baz=72,slow=6.0,SNR=4.9						

*IDC **30** 09:30:50.8±2.6,0.96N×96.98E,mb4.0/7,mb1 4.1/7, mb1mx3.8/19,mbtmp4.0/7,Error ellipse: s-maj=117.4km s-min=18.2km az=58.0*
*NEIC **30** 09:30:55.9±0.7,1.05N×97.15E,h30km,mb4.5/5,Error ellipse: s-maj=19.3km s-min=10.1km az=62.0*
*BJI **30** 09:31:00.3,1.75N×98.05E,h30km,mB4.9,mb4.7,Ms4.3, Msz4.2*
ISC 30 09:30:53.6±0.9,1.0N±0.1×97.1E±0.2,h30km,n18, σ0s77/18,mb4.3/16,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.53**	**40**	*e*P	**Pn**	**09 32 14.8**	**-1.3**
KMI	**Kunming**	**24.57**	**12**	P	**P**	**09 36 14.3**	**+1.8**
KMI				AP		09 36 20.5	
KMI				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.7						
ENH	**Enshi**	**31.38**	**21**	*e*P	**P**	**09 37 19.1**	**+4.8**
	comp=Z,3.2nm,0.5s,mb4.4						
GTA	**Gaotai**	**38.28**	**3**	*e*P	**P**	**09 38 13.8**	**+0.5**
GTA				AP	pP	09 38 23.0	+0.7
GTA				XP	sP	09 38 26.3	+0.3
GTA				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**09 38 44.7**	**+0.1**
	comp=Z,1.4nm,0.8s,mb3.7,baz=300,slow=9.1,SNR=11						
BJT	**Baijiatuau**	**42.52**	**22**	*e*P	**P**	**09 38 48.8**	**+0.6**
	comp=Z,7.6nm,0.6s,mb4.6						
BJI	**Beijing**	**42.54**	**22**	P	**P**	**09 38 49.0**	**+0.6**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.7						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**09 38 56.0**	**+0.5**
	comp=Z,1.0nm,0.9s,mb3.6,baz=299,slow=7.1,SNR=7.0						
SONM	**Songino Array**	**47.32**	**9**	P	**P**	**09 39 26.6**	**0.0**
	comp=Z,2.0nm,0.8s,mb4.1,baz=186,slow=11,SNR=12						
MKAR	**Makanchi Array**	**47.38**	**346**	P	**P**	**09 39 27.6**	**+0.5**
	comp=Z,2.0nm,0.8s,mb4.1,baz=159,slow=7.9,SNR=16						
CN2	**Changchun**	**49.51**	**27**	*e*P	**P**	**09 39 43.0**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
HIA	**Hailar**	**51.84**	**19**	*e*P	**P**	**09 40 01.5**	**+0.3**
	comp=Z,3.7nm,0.6s,mb4.5						
KURK	**Kurchatov**	**51.93**	**345**	*e*P	**P**	**09 40 01.9**	**-0.1**
	comp=Z,4.4nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**09 40 12.0**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.3,baz=310,slow=7.9,SNR=2.9						
STKA	**Stephens Creek**	**53.32**	**132**	P	**P**	**09 40 12.0**	**-0.6**
ZAL	**Zalesovo**	**53.70**	**351**	P	**P**	**09 40 15.0**	**-0.1**
	comp=Z,4.2nm,1.0s,mb4.3,baz=301,slow=5.7,SNR=12						
BVAR	**Borovoye Array**	**56.38**	**341**	P	**P**	**09 40 33.1**	**-1.4**
	comp=Z,1.5nm,0.9s,mb4.0,baz=143,slow=7.4,SNR=6.2						
CHKZ	**Chkalovo**	**56.86**	**342**	*e*P	**P**	**09 40 37.1**	**-0.9**
	comp=Z,5.0nm,1.1s,mb4.5						

*CSEM **30** 09:33:16.0±0.5,38.71N×29.08W,h3km±8km,ML2.1,Error ellipse: s-maj=14.6km s-min=7.3km az=9.0,After PDA*
*PDA **30** 09:33:16.0±0.5,38.71N×29.08W,h3km±8km,MD2.9, ML2.1,Error ellipse: s-maj=14.6km s-min=7.3km az=9.0*
SVSA 30 09:33:16.0±0.5,38.71N×29.08W,h3km±8km,MD2.9, ML2.1,Error ellipse: s-maj=14.6km s-min=7.3km az=9.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.30**	**104**	*e*P	Pg	09 33 21.5	-0.6
PCED				*e*S	Sg	09 33 25.8	-0.4
	43nm,0.2s						
PCED	**Cedros**	**0.30**	**104**	*e*P	Pg	09 33 21.5	-0.6
PCED				*e*S	Sg	09 33 25.8	-0.4
	43nm,0.2s						
CALA	**Caldeira**	**0.32**	**113**	*e*P	Pg	09 33 21.9	-0.5
CALA				*e*S	Sg	09 33 26.3	-0.4
PICO	**Pico**	**0.55**	**112**	*e*P	Pg	09 33 25.8	-1.2
PICO				*e*S	Sg	09 33 32.9	-1.5

IDC 30 09:36:24.0±1.7,57.95S×144.89E,mb3.6/4,mb1 3.9/4, mb1mx3.7/11,mbtmp3.7/4,Error ellipse: s-maj=179.1km s-min=26.4km az=78.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**20.50**	**170**	P	P	09 41 03.1	-2.8
	0.2nm,0.4s,baz=309,slow=14,SNR=4.0						
STKA	**Stephens Creek**	**26.17**	**354**	P	P	09 41 59.2	-2.3
	2.7nm,0.7s,baz=169,slow=8.6,SNR=7.3						
ASAR	**Alice Springs**	**35.15**	**342**	P	P	09 43 19.1	-2.2
	0.8nm,0.6s,baz=165,slow=9.8,SNR=14						
WRA	**Warramunga Arr**	**38.74**	**344**	P	P	09 43 50.3	-1.2
	0.9nm,0.6s,baz=173,slow=7.5,SNR=14						

IDC 30 09:39:26.5±3.5,1.08N×97.34E,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=146.7km s-min=22.8km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.85**	**122**	P	P	09 47 18.3	-1.9
	0.4nm,0.6s,baz=302,slow=9.0,SNR=3.9						
ASAR	**Alice Springs**	**43.21**	**127**	P	P	09 47 29.2	-2.1
	0.3nm,0.5s,baz=295,slow=7.9,SNR=4.2						
SONM	**Songino Array**	**47.23**	**8**	P	P	09 48 01.7	-1.3
	2.5nm,0.9s,baz=189,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**47.39**	**346**	P	P	09 48 01.9	-2.4
	0.4nm,0.5s,baz=152,slow=8.6,SNR=3.6						
STKA	**Stephens Creek**	**53.17**	**132**	P	P	09 48 47.2	-1.6
	1.1nm,0.9s,baz=288,slow=9.6,SNR=3.0						

IDC 30 09:41:07.9±2.6,17.72S×69.69W,h137km±25km,mb3.4/3, mb1 3.5/5,mb1mx3.3/17,mbtmp3.7/5,Error ellipse: s-maj=43.0km s-min=22.6km az=97.0,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**2.06**	**47**	P	P	09 41 44.0	+0.6
	17nm,0.3s,baz=235,slow=6.9,SNR=323						
LPAZ				S	S	09 42 11.3	+0.7
	3.1nm,0.3s,baz=70,slow=17,SNR=4.1						
CFAA	**Coronel Fontan**	**13.89**	**175**	P	P	09 44 19.2	-0.7
	0.0nm,0.3s,baz=358,slow=11,SNR=3.8						
BDFB	**Brasilia**	**20.86**	**88**	P	P	09 45 39.5	-1.1
	2.2nm,0.4s,baz=251,slow=8.2,SNR=3.9						
PLCA	**Paso Flores**	**22.95**	**182**	P	P	09 46 00.1	-0.7
	1.6nm,0.7s,baz=7.8,slow=10,SNR=5.0						
YKA	**Yellowknife Ar**	**87.39**	**341**	P	P	09 53 39.1	-1.1
	0.3nm,0.5s,baz=133,slow=4.8,SNR=12						

*NEIC **30** 09:51:51.0±1.0,1.91N×96.42E,mb4.1/1,Error ellipse: s-maj=22.7km s-min=15.8km az=211.0*
*IDC **30** 09:51:51.2±1.8,1.93N×96.38E,h28km±4km,mb3.6/6, mb1 3.8/6,mb1mx3.6/17,mbtmp3.8/6,Error ellipse: s-maj=75.9km s-min=19.6km az=54.0*
ISC 30 09:51:49.1±1.3,2.0N±0.2×96.4E±0.2,h28km, h28km±1.1km:pP-P,n12,σ0s64/9,mb3.9/7,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.38**	**52**	*e*P	**Pn**	**09 53 09.5**	**-0.1**
NANT	**Nan**	**17.26**	**14**	⇑P	**P**	**09 55 41.0**	**-9.0**
WRA	**Warramunga Arr**	**43.10**	**122**	P	**P**	**09 59 48.8**	**-0.1**
	0.6nm,0.8s,mb3.4,baz=301,slow=9.2,SNR=4.8						
WRA				pP	pP	09 59 58.3	+0.9
	0.7nm,0.5s,baz=319,slow=10,SNR=5.5						
ASAR	**Alice Springs**	**44.47**	**127**	pP	pP	10 00 09.6	+1.0
	0.5nm,0.8s,baz=307,slow=7.7,SNR=3.9						
MKAR	**Makanchi Array**	**46.33**	**347**	P	**P**	**10 00 14.7**	**+0.2**
	0.6nm,0.5s,mb3.8,baz=160,slow=9.2,SNR=11						
MKAR				pP	pP	10 00 23.8	+0.8
	1.6nm,0.6s,baz=159,slow=7.9,SNR=13						
SONM	**Songino Array**	**46.52**	**9**	P	**P**	**10 00 16.8**	**+0.9**
	0.7nm,0.7s,mb3.7,baz=184,slow=8.1,SNR=7.7						
SONM				pP	pP	10 00 25.7	+1.3
	0.6nm,0.5s,baz=193,slow=9.1,SNR=4.2						
ZAL	**Zalesovo**	**52.69**	**351**	P	**P**	**10 01 02.5**	**-0.8**
	1.1nm,0.5s,mb4.1,baz=342,slow=5.6,SNR=4.7						
ZAL				pP	pP	10 01 09.8	-2.1
	2.0nm,0.5s,baz=309,slow=6.7,SNR=5.5						
BVAR	**Borovoye Array**	**55.29**	**341**	P	**P**	**10 01 22.5**	**+0.2**
	0.3nm,0.5s,mb3.6,baz=135,slow=10,SNR=2.3						
BVAR				pP	pP	10 01 30.5	-0.5
	0.9nm,0.7s,baz=127,slow=7.4,SNR=3.7						
CHKZ	**Chkalovo**	**55.77**	**342**	*e*P	**P**	**10 01 24.7**	**-1.1**
	1.6nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**78.97**	**333**	pP	pP	10 04 00.3	-0.3
	0.7nm,0.6s,baz=112,slow=10,SNR=2.8						
ARCES	**ARCESS Array B**	**81.57**	**340**	P	**P**	**10 04 06.2**	**+0.8**
	5.2nm,1.1s,mb4.4,baz=90,slow=9.9,SNR=3.0						
ARCES				pP	pP	10 04 15.2	+0.8
	2.4nm,0.8s,baz=90,slow=7.3,SNR=1.5						
TXAR	**Lajitas Array**	**143.43**	**30**	pPKP		10 11 34.1	
	0.4nm,0.9s,baz=315,slow=3.5,SNR=3.1						

IDC 30 10:02:43.4±4.3,3.63S×105.89E,mb3.6/3,mb1 3.8/3, mb1mx3.5/17,mbtmp3.6/3,MS2.5/1,Ms1 2.5/1, ms1mx2.4/29,Error ellipse: s-maj=242.7km s-min=28.1km az=51.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.12**	**123**	P	P	10 09 13.5	-1.5
	1.1nm,0.5s,baz=302,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**33.59**	**129**	P	P	10 09 24.8	-2.9
	0.2nm,0.7s,baz=302,slow=7.8,SNR=4.9						
JNU	**Nakatsue**	**43.54**	**31**	LR	LR	10 27 58.5	
	comp=Z,6.6nm,21.4s,baz=226,slow=35						
MKAR	**Makanchi Array**	**54.37**	**340**	P	P	10 12 12.0	-2.2
	0.6nm,0.5s,baz=152,slow=8.0,SNR=5.4						

IDC 30 10:09:05.1±6.4,19.02N×146.64E,h87km±46km,mb3.6/5, mb1 3.7/6,mb1mx3.4/22,mbtmp4.0/6,Error ellipse: s-maj=99.0km s-min=24.0km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.66**	**198**	P	P	10 10 26.2	-1.9
	8.3nm,0.3s,baz=275,slow=22,SNR=6.6						
GUMO				S	S	10 11 31.3	-1.1
	8.8nm,0.3s,baz=25,slow=21,SNR=6.3						
WRA	**Warramunga Arr**	**40.55**	**198**	P	P	10 16 36.7	-0.8
	0.6nm,0.9s,baz=20,slow=8.3,SNR=7.4						
FITZ	**Fitzroy Crossi**	**42.26**	**210**	P	P	10 16 49.0	-2.7
	1.6nm,0.6s,baz=158,slow=8.3,SNR=3.3						
MKAR	**Makanchi Array**	**58.89**	**314**	P	P	10 18 55.0	-2.2
	0.9nm,0.6s,baz=93,slow=8.8,SNR=11						
BVAR	**Borovoye Array**	**66.80**	**320**	P	P	10 19 47.5	-1.8
	1.2nm,0.4s,baz=102,slow=7.9,SNR=8.5						
FINES	**FINESS Array B**	**86.97**	**336**	P	P	10 21 40.2	-1.1
	0.6nm,0.4s,baz=80,slow=5.1,SNR=9.6						

IDC 30 10:14:15.4±6.2,3.21N×97.22E,mb3.4/3,mb1 3.6/3, mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=320.5km s-min=29.4km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.10**	**124**	P	P	10 22 18.0	-1.4
	0.8nm,0.5s,baz=302,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**44.60**	**129**	P	P	10 22 29.3	-2.3
	0.2nm,0.6s,baz=303,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**45.31**	**346**	P	P	10 22 35.0	-1.9
	0.3nm,0.5s,baz=164,slow=7.8,SNR=4.7						

*BJI **30** 10:20:20.0,1.84N×97.04E,h28km,mB5.4,mb5.3,Ms5.3, Msz5.1*
*MOS **30** 10:20:21.8±0.8,1.97N×97.05E,h33km,mb5.6/63, MS4.6/19,Error ellipse: s-maj=9.7km s-min=4.6km az=121.8*
*NEIC **30** 10:20:22.5±0.1,1.89N×96.94E,mb5.3/72,MS4.7/14, Error ellipse: s-maj=4.2km s-min=2.9km az=210.0*
*CSEM **30** 10:20:22.4±0.6,1.93N×97.06E,h26km±3km,mb4.7/29, mb1 4.7/29,mb1mx4.7/30,mbtmp4.9/29,MS4.6/20, Ms1 4.6/20,ms1mx4.4/30,Error ellipse: s-maj=16.4km s-min=8.5km az=44.0*
*HRVD **30** 10:20:22.5±0.5,1.45N×96.84E,h27km,MW5.1/50, Centroid moment Tensor Solution. LP body waves: s35,c53;Mantle waves: s50,c76; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.76±.24; Mθθ-2.09±.15; Mφφ0.32±.23; Mrθ3.56±.27; Mrφ2.48±.12; Mθr-2.97±.39; Best double couple: M0 5.391×10^16 NP1:φs279°,δ17°,λ58°. NP2:φs132°,δ75°,λ99°. Principal axes: T 4.502, Plg58°, Azm55°; N 1.774, Plg9°, Azm310°; P -6.28, Plg30°, Azm215°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 10:20:20.9±0.2,1.93N±0.03×97.03E±0.03,h27km, h27km±.5km:pP-P,n374,σ0s90/375,mb5.2/128,MS4.8/57, 27C-19D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LARI	**Lau Rambong**	**1.47**	**50**	*e*P	**Pn**	**10 20 48.9**	**+2.9**
HUTI	**Huta Ginjang**	**1.97**	**79**	*e*P	**Pn**	**10 20 58.5**	**+5.3**
PSI	**Prapat**	**2.04**	**68**	*e*P	**Pn**	**10 20 57.6**	**+3.5**
MRPI	**Mariponipon**	**2.30**	**98**	*e*P	**Pn**	**10 21 01.3**	**+3.4**
IPM	**Ipoh**	**4.78**	**56**	P	**Pn**	**10 21 34.6**	**+1.6**
KGM	**Kluang**	**6.28**	**89**	P	**Pn**	**10 21 56.3**	**+2.0**
SNG	**Songkhla**	**6.32**	**34**	P	**Pn**	**10 21 54.5**	**-0.4**
	800nm,1.0s						
NNT	**Nongplab**	**10.93**	**14**	P	**P**	**10 22 59.0**	**+0.2**
KSM	**Kuching**	**13.28**	**92**	*e*P	**P**	**10 23 32.3**	**+2.0**
NST	**Nakhon Sawan**	**14.00**	**12**	P	**P**	**10 23 43.0**	**+3.0**
BDT	**Bhumibol Dam**	**15.35**	**7**	P	**P**	**10 23 57.0**	**-0.6**
CM31	**Chiang Mai Arr**	**16.54**	**6**	*e*P	**P**	**10 24 11.8**	**-1.1**
	69nm,1.0s						
PALK	**Pallekele**	**17.12**	**289**	*e*P	**P**	**10 24 20.1**	**-0.1**
	59nm,1.0s						
NANT	**Nan**	**17.15**	**12**	⇑P	**P**	**10 24 19.0**	**-1.6**
	325nm,1.0s						
CHRT	**Chiangrai**	**18.04**	**8**	⇑P	**P**	**10 24 31.0**	**-0.6**
	368nm,0.9s						
KKM	**Kota Kinabalu**	**19.56**	**77**	*e*P	**P**	**10 24 49.7**	**-0.2**
KKM	**Kota Kinabalu**	**19.56**	**77**	P	**P**	**10 24 50.0**	**+0.1**
MDRS	**Chennai**	**19.97**	**304**	*e*	**P**	**10 25 00.0**	**+5.7**
MDRS				*e*		10 28 52.0	
VIS	**Vishakhapatnam**	**20.68**	**320**	*e*P	**P**	**10 25 01.7**	**+0.1**
VIS				*e*		10 25 11.9	
	comp=Z,213nm,1.3s						
VIS				*e*S	**S**	**10 28 54.0**	**+7.6**
TSM	**Tawau**	**20.94**	**83**	P	**P**	**10 25 04.3**	**0.0**
TRD	**Trivandrum**	**21.02**	**289**	*e*P	**P**	**10 25 07.2**	**+2.0**
TRD				*e*		10 25 19.2	
	comp=Z,188nm,1.3s						
QIZ	**Qiongzhong**	**21.13**	**36**	⇓P	**P**	**10 25 06.0**	**-0.2**
QIZ				S	**S**	**10 28 52.3**	**-2.6**
QIZ				AMB	AMB		
	comp=Z,61nm,1.1s,mb4.8						
QIZ				LR	LR		
	comp=N,3μm,15.5s,MS4.9						
QIZ				LR	LR		
	comp=E,2μm,15.5s,MS4.9						
QIZ				LR	LR		
	comp=Z,4μm,13.2s,

GYA S **S** **10 30 21.3 -0.5**
GYA AMB AMB
comp=Z,40nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,240nm,5.0s
GYA LR LR
comp=N,5μm,14.0s,MS5.2
GYA LR LR
comp=E,2μm,13.0s,MS5.2
GYA LR LR
comp=Z,6μm,14.0s,MS5.3
KAD Karad 27.17 306 *e*P **P** **10 26 06.1 +1.7**
KAD *e* 10 26 21.1
comp=Z,63nm,1.8s
KAD *e*S **S** **10 30 43.4 +3.9**
JIRN Jiri 27.61 339 *e*P **P** **10 26 08.8 +0.4**
comp=Z,576nm,1.1s,mb6.1
PKI Pulchoki 27.82 337 *e*P **P** **10 26 10.2 -0.1**
comp=Z,171nm,1.0s,mb5.6
PKI Pulchoki 27.82 337 *e*P **P** **10 26 10.2 -0.1**
PKI pmax pmax
comp=Z,86nm,1.0s,mb5.3
GUN Gumba 27.96 339 *e*P **P** **10 26 11.8 +0.3**
comp=Z,563nm,1.2s,mb6.1
DMN Daman 27.98 337 *e*P **P** **10 26 11.8 +0.2**
comp=Z,172nm,0.9s,mb5.7
KKN Kakani 28.07 337 *e*P **P** **10 26 12.5 0.0**
comp=Z,496nm,1.2s,mb6.0
KKN Kakani 28.07 337 *e*P **P** **10 26 12.5 0.0**
KKN pmax pmax
comp=Z,248nm,1.2s,mb5.7
POO Poona 28.09 307⇓*i* **P** **10 26 20.0 +7.3**
POO *e* 10 31 30.0
LSA Lhasa 28.18 349 P **P** **10 26 14.0 +0.5**
LSA Lhasa 28.18 349 *e*P **P** **10 26 13.8 +0.3**
LSA pmax pmax
comp=Z,120nm,1.3s,mb5.4
LSA MLR MLR
comp=Z,1μm,20.0s,MS4.5
LSA Lhasa 28.18 349 *e*P **P** **10 26 13.8 +0.3**
comp=Z,120nm,1.3s,mb5.4
LSA LR LR
comp=Z,1μm,20.0s,MS4.5
BHPL Bhopal 28.47 320 *e*P **P** **10 26 15.3 -0.8**
BHPL *e* 10 26 26.7
comp=Z,66nm,1.5s
BHPL *e*S **S** **10 31 02.4 +1.9**
GKN Gorkha 28.51 337 *e*P **P** **10 26 16.8 +0.3**
KOLN Koldanda 28.73 335 *e*P **P** **10 26 18.7 +0.2**
comp=Z,327nm,1.4s,mb5.9
ENH Enshi 30.57 22 *e*P **P** **10 26 33.2 -1.6**
comp=Z,62nm,0.9s,mb5.4
ENH LR LR
comp=Z,2μm,20.0s,MS4.8
LGTI Lohaghat 31.69 331⇓*i*P **P** **10 26 45.3 +0.6**
PTH Pithoragarh 31.79 331 *e*P **P** **10 26 45.0 -0.6**
PTH *e*S **S** **10 31 53.0 +0.1**
MBWA Marble Bar 31.93 137 *e*P **P** **10 26 46.3 -0.6**
comp=Z,9.9nm,0.5s,mb4.9
AJM Ajmer 32.54 321 *e* **P** **10 26 42.0 -10**
NDI New Delhi 32.64 326⇑*i*P **P** **10 26 51.0 -2.0**
NDI *e*S **S** **10 32 08.0 +1.8**
WHN Wuhan 32.85 28 ⇓P **P** **10 26 54.5 -0.3**
WHN AMB AMB
comp=Z,200nm,1.1s,mb6.0
WHN LR LR
comp=Z,5μm,16.9s,MS5.3
DDI Dehra Dun 33.49 329 *e*P **P** **10 26 59.1 -1.3**
DDI *e*S **S** **10 32 23.2 +3.8**
XAN Xi'an 33.83 18 P **P** **10 27 01.5 -1.7**
XAN AP pP 10 27 09.0 -2.2
XAN S **S** **10 32 25.5 +1.0**
XAN AMB AMB
comp=Z,183nm,7.2s
XAN LR LR
comp=N,2μm,14.2s,MS5.1
XAN LR LR
comp=E,2μm,16.7s,MS5.1
XAN LR LR
comp=Z,4μm,14.6s,MS5.2
FITZ Fitzroy Crossi 34.49 126 *e*P **P** **10 27 08.2 -0.9**
comp=Z,14nm,1.1s,mb4.8
FITZ Fitzroy Crossi 34.49 126 P **P** **10 27 08.6 -0.5**
comp=Z,6.8nm,0.5s,mb4.8,baz=322,slow=6.5,SNR=12
FITZ LR LR 10 41 00.1
comp=Z,897nm,20.4s,MS4.5,baz=290,slow=36
LZH Lanzhou 34.57 10⇑P **P** **10 27 09.0 -0.7**
LZH AP pP 10 27 17.0 -0.6
LZH XP sP 10 27 21.3 +0.3
LZH PP PP 10 28 25.0 -1.3
LZH S **S** **10 32 37.3 +1.2**
LZH XS 10 32 50.0
LZH SS SS 10 34 50.0 +1.6
LZH AMB AMB
comp=Z,94nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,420nm,4.6s
LZH LR LR
comp=E,2μm,13.4s
LZH LR LR
comp=Z,3μm,15.0s,MS5.2
SDNR Sundarnagar 34.99 329 *e*P **P** **10 27 13.0 -0.3**
SDNR *e*S **S** **10 32 44.2 +1.6**
BHK Bhakra 35.21 329 *e* **P** **10 27 24.1 +9.0**
NJ2 Nanjing 36.34 32 *e*P **P** **10 27 25.0 +0.3**
NJ2 AP pP 10 27 32.3 -0.3
NJ2 XP sP 10 27 35.8 -0.2
NJ2 PP PP 10 28 50.0 +1.7
NJ2 S **S** **10 33 09.0 +5.6**
NJ2 XS 10 33 22.0
NJ2 AMB AMB
comp=Z,70nm,0.8s,mb5.6
NJ2 AMB AMB
comp=Z,240nm,4.2s
NJ2 LR LR
comp=N,4μm,14.8s,MS5.5
NJ2 LR LR
comp=E,4μm,16.0s,MS5.5
NJ2 LR LR
comp=Z,3μm,16.1s,MS5.1
SSE Sheshan 36.92 36 P **P** **10 27 30.5 +0.9**
SSE XP sP 10 27 43.0 +2.1
SSE PP PP 10 28 56.3 +0.4
SSE PCP PcP 10 29 48.5 -2.6
SSE S **S** **10 33 17.0 +4.7**
SSE XS 10 33 32.5
SSE AMB AMB
comp=Z,57nm,0.9s,mb5.4
SSE AMB AMB
comp=Z,100nm,3.2s
SSE LR LR
comp=N,2μm,17.1s,MS4.8
SSE LR LR
comp=E,282nm,17.4s,MS4.8
SSE LR LR
comp=Z,2μm,17.1s,MS4.9
GTA Gaotai 37.40 4⇑P **P** **10 27 33.0 -0.5**
GTA AP pP 10 27 40.3 -1.1
GTA XP sP 10 27 43.5 -1.3
GTA PP PP 10 29 01.8 +0.3
GTA PCP PcP 10 29 52.8 +0.3
GTA S **S** **10 33 18.5 -1.0**
GTA XS 10 33 31.0
GTA SCP 10 33 36.8
GTA SS SS 10 35 50.5 -1.8
GTA SCS ScS 10 37 43.8 +0.5
GTA AMB AMB
comp=Z,70nm,1.0s,mb5.5
GTA AMB AMB
comp=Z,198nm,6.5s
GTA LR LR
comp=N,562nm,20.9s,MS4.7
GTA LR LR
comp=E,1μm,17.5s,MS4.7
GTA LR LR
comp=Z,690nm,22.1s,MS4.4
KAKA Kakadu 38.04 113 *e*P **P** **10 27 36.6 -2.5**
comp=Z,26nm,0.5s,mb5.2
TIA Tai'an 38.86 26 P **P** **10 27 45.3 -0.5**
TIA AMB AMB
comp=Z,59nm,1.2s,mb5.2
JOW Kunigami 38.87 48 P **P** **10 27 46.8 +0.8**
comp=Z,25nm,0.4s,mb5.3,baz=256,slow=12,SNR=15
JOW LR LR 10 43 12.3
comp=Z,679nm,21.9s,MS4.4,baz=299,slow=35

NWAO Narrogin (SRO) 39.57 153 *e*P **P** **10 27 50.6 -1.2**
NWAO pmax pmax
comp=Z,73nm,1.5s
NWAO Narrogin (SRO) 39.57 153 LR LR 10 43 35.8
comp=Z,1μm,21.2s,MS4.8,baz=41,slow=35
NWAO Narrogin (SRO) 39.57 153 *e*P **P** **10 27 50.6 -1.1**
comp=Z,73nm,1.5s,mb5.2
BTO Baotou 40.26 15 *e*P **P** **10 27 57.8 +0.4**
BTO AMB AMB
comp=Z,35nm,1.3s,mb4.9
HHC Hu-ho-hao-te 40.92 17 *e*P **P** **10 28 04.0 +1.3**
HHC AP pP 10 28 13.5 +2.8
HHC XP sP 10 28 17.8 +3.8
HHC PP PP 10 29 42.0 +1.9
HHC SCP 10 33 50.8
HHC PCS 10 33 54.5
HHC S **S** **10 34 14.0 +1.5**
HHC XS 10 34 31.3
HHC SS SS 10 37 11.5 +1.5
HHC SCS ScS 10 38 04.0 +0.3
HHC AMB AMB
comp=Z,305nm,2.5s,mb5.5
HHC LR LR
comp=N,1μm,17.2s,MS5.0
HHC LR LR
comp=E,1μm,12.3s,MS5.0
HHC LR LR
comp=Z,1μm,20.6s
BJT Baijiatuau 41.71 22 *e*P **P** **10 28 09.9 +0.6**
BJT pmax pmax
comp=Z,343nm,1.3s
BJT MLR MLR
comp=Z,1μm,19.0s
BJT Baijiatuau 41.71 22 *e*P **P** **10 28 09.9 +0.6**
comp=Z,343nm,1.3s,mb5.8
BJT LR LR
comp=Z,1μm,19.0s,MS4.8
BJI Beijing 41.73 22 P **P** **10 28 10.3 +0.8**
BJI AP pP 10 28 18.8 +1.3
BJI XP sP 10 28 22.5 +1.7
BJI PP PP 10 29 49.5 +0.4
BJI PCP PcP 10 30 00.5 -5.8
BJI AMB AMB
comp=Z,180nm,1.0s,mb5.7
BJI LR LR
comp=N,1μm,17.5s,MS5.1
BJI LR LR
comp=E,2μm,15.9s,MS5.1
BJI LR LR
comp=Z,641nm,21.5s
KSH Kashi 42.05 335 P **P** **10 28 12.5 +0.4**
KSH *e*AP pP 10 28 18.3 -1.8
KSH *e*XP sP 10 28 22.3 -1.1
KSH *e*PP PP 10 29 51.5 -1.0
KSH *e*PCP PcP 10 30 09.3 +1.9
KSH *e*PPP PPP 10 30 22.0 -2.5
KSH *e*SCP 10 33 55.3
KSH *e*PCS 10 33 59.0
KSH S **S** **10 34 27.5 -1.8**
KSH *e*XS 10 34 40.3
KSH *e*SS SS 10 37 28.5 -3.0
KSH *e*SCS ScS 10 38 11.3 +0.8
KSH AMB AMB
comp=Z,530nm,4.2s
KSH LR LR
comp=N,330nm,7.6s
KSH LR LR
comp=E,760nm,10.8s
WMQ Urumqi 42.53 350⇓*i*P **P** **10 28 16.8 +0.8**
WMQ AP pP 10 28 24.5 +0.5
WMQ XP sP 10 28 27.5 +0.2
WMQ PP PP 10 29 58.0 +0.7
WMQ PPP PPP 10 30 31.5 +0.7
WMQ SCP 10 33 58.3
WMQ S **S** **10 34 37.0 +0.6**
WMQ XS 10 34 49.5
WMQ SCS ScS 10 38 14.0 +0.6
WMQ AMB AMB
comp=Z,40nm,1.1s,mb5.1
WMQ AMB AMB
comp=Z,316nm,4.4s
WMQ LR LR
comp=N,2μm,17.3s,MS5.3
WMQ LR LR
comp=E,3μm,21.0s,MS5.3
WMQ LR LR
comp=Z,2μm,24.4s,MS4.9
WRA Warramunga Arr 42.56 123 P **P** **10 28 15.7 -0.8**
comp=Z,7.7nm,0.5s,mb4.7,baz=302,slow=9.1,SNR=149
WRA S **S** **10 34 34.0 -3.1**
comp=Z,1.8nm,1.1s,baz=293,slow=16,SNR=6.1
WRAB Tennant Creek 42.56 123 P **P** **10 28 16.0 -0.6**
comp=Z,159nm,0.5s,mb6.0,SNR=14
WB2 Warramunga Arr 42.57 123⇓*i*P **P** **10 28 16.0 -0.6**
JMDO Jabal Madar 42.92 301⇓P **P** **10 28 17.6 -1.9**
DL2 Dalian 43.12 28 P **P** **10 28 21.8 +0.9**
DL2 AP pP 10 28 29.0 +0.1
DL2 AMB AMB
comp=Z,300nm,2.3s,mb5.6
DL2 LR LR
comp=N,560nm,15.4s,MS4.7
DL2 LR LR
comp=E,650nm,18.0s,MS4.7
DL2 LR LR
comp=Z,830nm,16.7s,MS4.7
SMDO Samad 43.24 302⇑P **P** **10 28 22.9 +0.9**
SNR=6.4
BIDO Bidbid 43.35 303⇓P **P** **10 28 24.7 +1.7**
BSY Bisya 43.84 301⇓P **P** **10 28 28.3 +1.4**
SNR=8.4
FORT Forrest 43.93 140 *e*P **P** **10 28 29.1 +1.5**
comp=Z,732nm,0.6s
ASPA Alice Springs 43.96 128⇓*i*P **P** **10 28 27.9 0.0**
ASAR Alice Springs 43.96 128 P **P** **10 28 27.3 -0.6**
ASAR 10 30 15.2
ASAR S **S** **10 34 56.0 -1.5**
ASAR Alice Springs 43.96 128 P **P** **10 28 27.3 -0.6**
comp=Z,5.1nm,0.6s,mb4.4,baz=299,slow=7.6,SNR=63
ASAR PcP PcP 10 30 15.2 +1.2
comp=Z,1.3nm,0.9s,baz=304,slow=3.3,SNR=1.9
ASAR ScP 10 34 04.5
comp=Z,0.9nm,1.0s,baz=302,slow=3.9,SNR=4.2
ASAR S **S** **10 34 56.0 -1.5**
comp=Z,1.4nm,1.0s,baz=294,slow=15,SNR=4.6
ASAR LR LR 10 50 45.8
comp=Z,533nm,19.0s,MS4.5,baz=298,slow=42
ULHL Ulahol 44.27 338 P **P** **10 28 30.8 +0.7**
SNR=15
KZA Kyzart 44.50 337 P **P** **10 28 33.1 +1.1**
SNR=19
ARQ Araqi 44.64 302⇓P **P** **10 28 34.5 +1.1**
AAA Alma-Ata 44.90 339 *e*P **P** **10 28 34.0 -1.2**
AAA S **S** **10 35 12.0 +1.3**
UCH Uchtor 44.92 336 P **P** **10 28 36.3 +0.9**
SNR=47
TKM2 Tokmak 2 45.09 338 P **P** **10 28 37.3 +0.6**
SNR=57
KBK Karagaybulak 45.11 337 P **P** **10 28 38.2 +1.3**
SNR=16
AML Almayashu 45.18 335 P **P** **10 28 38.4 +1.0**
SNR=36
AAK Ala-Archa 45.27 337 P **P** **10 28 39.2 +1.1**
SNR=18
AAK Ala-Archa 45.27 337 P **P** **10 28 38.6 +0.4**
comp=Z,210nm,1.0s,mb5.9,SNR=30
AAK Ala-Archa 45.27 337 *e*P **P** **10 28 38.0 -0.2**
AAK pmax pmax
comp=Z,66nm,1.2s,mb5.3
AAK Ala-Archa 45.27 337 *e*P **P** **10 28 38.0 -0.2**
comp=Z,66nm,1.2s,mb5.3
WHFO Wadi Hawf 45.32 293 P **P** **10 28 39.5 +0.7**
SNR=9.2
FRU Bishkek 45.39 337⇑*e*P **P** **10 28 40.0 +0.9**
FRU *e* 10 35 20.0
FRU pmax pmax
comp=Z,130nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,600nm,20.0s,MS4.5
CHMS Chumysh 45.48 337 P **P** **10 28 40.1 +0.3**
SNR=13
ASHO Ashiyiah 45.55 303⇓P **P** **10 28 41.0 +0.4**
EKS2 Erkin-Say 45.59 336 P **P** **10 28 41.6 +0.9**
SNR=30
ABTO Aybut 45.61 292⇑P **P** **10 28 43.8 +2.6**
USP Ospenovka 45.80 337 P **P** **10 28 42.8 +0.4**
SNR=48
SNY Shenyang 46.34 27⇑*i*P **P** **10 28 46.0 -0.6**
SNY AP pP 10 28 53.5 -1.1
SNY XP sP 10 28 56.5 -1.4
SNY AMB AMB
comp=Z,70nm,1.1s,mb5.5
SNY AMB AMB
comp=Z,600nm,3.9s
SNY LR LR
comp=N,2μm,19.2s,MS5.1
SNY LR LR
comp=E,1μm,19.0s,MS5.1
SNY LR LR
comp=Z,2μm,16.8s,MS5.1
SONM Songino Array 46.44 9 P **P** **10 28 47.6 +0.2**
comp=Z,35nm,0.9s,mb5.3,baz=196,slow=9.0,SNR=166
SONM PcP PcP 10 30 22.0 -0.2
comp=Z,8.9nm,0.8s,baz=193,slow=4.0,SNR=6.0
SONM LR LR 10 51 08.6
comp=Z,2μm,19.4s,MS5.1,baz=188,slow=40
MKAR Makanchi Array 46.50 346 *i* P **P** **10 28 47.5 -0.3**
MKAR pmax pmax
comp=Z,235nm,1.4s
MKAR Makanchi Array 46.50 346 P **P** **10 28 47.6 -0.2**
comp=Z,29nm,0.8s,mb5.3,baz=160,slow=8.0,SNR=212
MKAR LR LR 10 52 12.0
comp=Z,870nm,20.7s,MS4.7,baz=172,slow=41
ULN Ulaanbaatar 46.58 9 *e*P **P** **10 28 48.5 +0.1**
ULN *e**PP pP 10 28 56.9 +0.5
ULN pmax pmax
comp=Z,42nm,1.1s,mb5.3
ULN MLR MLR
comp=Z,1μm,20.0s,MS4.9
ULN Ulaanbaatar 46.58 9 *e*P **P** **10 28 48.5 +0.2**
comp=Z,42nm,1.1s,mb5.3
ULN *e*pP pP 10 28 56.9 +0.4
ULN LR LR
comp=Z,1μm,20.0s,MS4.9
KKAR Karatay Array 47.34 334 *i* P **P** **10 28 54.0 -0.5**
KKAR pmax pmax
comp=Z,94nm,1.4s,mb5.5
ZAK Zakamensk 48.57 5⇓*i*P **P** **10 29 03.6 -0.4**
ZAK pmax pmax
comp=Z,25nm,1.6s,mb5.0
GUMO Guam 48.69 74 LR LR 10 48 45.8
comp=Z,310nm,20.8s,MS4.3,baz=254,slow=35
CN2 Changchun 48.74 27⇓P **P** **10 29 05.0 -0.3**
CN2 *e*AP pP 10 29 16.0 +2.5
CN2 PCP PcP 10 30 30.0 -0.5
CN2 *e*S **S** **10 36 01.8 -3.5**
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.5
CN2 AMB AMB
comp=Z,320nm,5.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.3
CN2 LR LR
comp=E,920nm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,16.0s,MS5.2
TLY Talaya 49.89 5*c* *i*P **P** **10 29 14.3 +0.2**
TLY *e* 10 31 10.8
TLY *e*PPP PPP 10 31 59.8 -5.6
TLY *e*S **S** **10 36 19.6 -1.6**
TLY pmax pmax
comp=Z,49nm,1.4s,mb5.3
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.1
TLY Talaya 49.89 5 *e*P **P** **10 29 14.2 +0.1**
comp=Z,68nm,1.4s,mb5.5
TLY *e*pP pP 10 29 23.0 +0.7
TLY LR LR
comp=Z,239nm,20.0s,MS4.2
IRK Irkutsk 50.51 6 *e*P **P** **10 29 18.5 -0.3**
IRK *e*S **S** **10 36 24.4 -5.3**
IRK pmax pmax
comp=Z,83nm,1.9s,mb5.3
HIA Hailar 51.01 19 *e*P **P** **10 29 22.2 -0.5**
HIA *e**PP pP 10 29 30.3 -0.5
HIA pmax pmax
comp=Z,99nm,1.3s
HIA MLR MLR
comp=Z,2μm,19.0s
HIA Hailar 51.01 19 *e*P **P** **10 29 22.2 -0.4**
comp=Z,99nm,1.3s,mb5.6
HIA *e*pP pP 10 29 30.3 -0.5
HIA LR LR
comp=Z,2μm,19.0s,MS5.2
KURK Kurchatov 51.05 345 *e*P **P** **10 29 22.6 -0.4**
KURK pmax pmax
comp=Z,81nm,1.1s,mb5.6
KURK MLR MLR
comp=Z,152nm,22.0s,MS4.0
KURK Kurchatov 51.05 345 *e*P **P** **10 29 22.6 -0.3**
comp=Z,81nm,1.1s,mb5.6
KURK LR LR
comp=Z,152nm,22.0s,MS4.0
PMG Port Moresby 51.18 104 P **P** **10 29 25.0 +0.6**
comp=Z,37nm,0.7s,mb5.4,baz=288,slow=4.9,SNR=10
MAJO Matsushiro 51.27 43 *e*P **P** **10 29 24.1 -0.7**
MAJO pmax pmax
comp=Z,29nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,780nm,19.0s,MS4.8
MAJO Matsushiro 51.27 43 *e*P **P** **10 29 24.1 -0.7**
comp=Z,29nm,0.8s,mb5.2
MAJO LR LR
comp=Z,780nm,19.0s,MS4.8
MAT Matsushiro 51.27 43 *e*P **P** **10 29 24.0 -0.8**
MAT pmax pmax
comp=Z,108nm,1.5s,mb5.6
MAT Matsushiro 51.27 43 *e*P **P** **10 29 24.0 -0.8**
comp=Z,108nm,1.5s,mb5.6
MAT Matsushiro 51.27 43 P **P** **10 29 23.7 -1.1**
MJAR Matsushiro Arr 51.27 43 P **P** **10 29 24.7 -0.2**
comp=Z,20nm,0.8s,mb5.1,baz=224,slow=6.7,SNR=29
MDJ Mudanjiang 51.32 29 P **P** **10 29 26.0 +0.9**
MDJ AP pP 10 29 32.3 -0.9
MDJ XP sP 10 29 34.5 -1.9
MDJ PCP PcP 10 30 39.5 -0.4
MDJ PP PP 10 31 23.0 +0.1
MDJ PCS 10 34 37.5
MDJ XS 10 36 56.5
MDJ AMB AMB
comp=Z,42nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,213nm,4.5s
MDJ LR LR
comp=N,1μm,12.6s,MS5.2
MDJ LR LR
comp=E,870nm,15.2s,MS5.2
MDJ LR LR
comp=Z,2μm,13.4s,MS5.2
MDJ Mudanjiang 51.32 29 *e*P **P** **10 29 25.6 +0.6**
comp=Z,76nm,1.2s,mb5.5
MDJ *e*pP pP 10 29 33.5 +0.3
MDJ LR LR
comp=Z,1μm,20.0s,MS4.9
ZAL Zalesovo 52.81 351 P **P** **10 29 35.5 -0.7**
comp=Z,68nm,0.8s,mb5.6,baz=304,slow=6.6,SNR=279
ZAL LR LR 10 57 56.8
comp=Z,485nm,18.6s,MS4.6,baz=298,slow=43
ZAL Zalesovo 52.81 351 P **P** **10 29 35.5 -0.7**
ZAL LR LR 10 57 56.8
CTA Charters Tower 52.97 117⇓*i*P **P** **10 29 38.2 +0.3**
comp=Z,15nm,0.9s,mb4.9
CTA Charters Tower 52.97 117⇓*i*P **P** **10 29 38.2 +0.3**
CTA pmax pmax
comp=Z,15nm,0.9s
CTA Charters Tower 52.97 117 P **P** **10 29 37.5 -0.4**
comp=Z,17nm,0.8s,mb5.0,baz=289,slow=7.8,SNR=16
CTA LR LR 10 56 18.9
comp=Z,855nm,18.9s,MS4.8,baz=21,slow=41
CTAO Charters Tower 52.97 117 *e*P **P** **10 29 38.3 +0.4**
CTAO *e**PP pP 10 29 46.9 +0.9
CTAO pmax pmax
comp=Z,18nm,0.8s,mb5.0
CTAO MLR MLR
comp=Z,854nm,19.0s,MS4.8
CTAO Charters Tower 52.97 117 *e*P **P** **10 29 38.3 +0.4**
comp=Z,18nm,0.8s,mb5.1
CTAO *e*pP pP 10 29 46.9 +0.8
CTAO LR LR
comp=Z,854nm,19.0s,MS4.8
NVS Novosibirsk 53.94 350⇑*i*P **P** **10 29 42.7 -1.7**
NVS *i*S **S** **10 37 15.7 -0.9**

NVS pmax pmax
comp=N,70nm,1.0s
NVS pmax pmax
comp=Z,110nm,1.0s,mb5.7
NVS pmax pmax
comp=E,47nm,1.1s
NVS smax
comp=N,21nm,1.5s
NVS smax
comp=E,56nm,1.5s
STKA Stephens Creek 53.96 132 *e*P **P 10 29 44.5 -0.4**
comp=E,4.2nm,0.4s,mb4.7
STKA Stephens Creek 53.96 132 P **P 10 29 44.5 -0.4**
comp=E,7.7nm,0.7s,mb4.8,baz=310,slow=9.0,SNR=26
STKA LR LR 10 54 43.5
comp=E,682nm,20.8s,MS4.7,baz=122,slow=38
RAYN Ar Rayn 54.27 298 P **P 10 29 47.1 -0.2**
comp=E,140nm,1.1s,SNR=16
BVA0 Borovoye Array 55.52 341 *i* P **P 10 29 54.5 -1.5**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BVAR Borovoye Array 55.52 341 P **P 10 29 54.6 -1.4**
comp=Z,35nm,0.8s,mb5.5,baz=143,slow=7.4,SNR=141
KLR Kul'dur 55.69 27 ⇓ *i*P **P 10 29 53.5 -3.8**
KLR *e* pP 10 30 01.8 -3.7
KLR pmax pmax
comp=N,64nm,1.8s
KLR pmax pmax
comp=E,78nm,1.8s
KLR pmax pmax
comp=Z,110nm,1.8s,mb5.6
KLR MLR MLR
comp=E,1μm,14.5s
KLR MLR MLR
comp=Z,3μm,14.5s,MS5.5
CHKZ Chkalovo 55.99 341 *e*P **P 10 29 58.4 -1.0**
CHKZ pmax pmax
comp=Z,81nm,0.9s,mb5.8
CHKZ Chkalovo 55.99 341 *e*P **P 10 29 58.4 -1.0**
comp=Z,81nm,0.9s,mb5.8
BOD Bodaibo 57.33 11 ⇓ *i*P **P 10 30 07.7 -1.2**
BOD *e* pP 10 30 15.1 -2.1
BOD pmax pmax
comp=Z,41nm,1.1s,mb5.4
BOD pmax pmax
comp=Z,36nm,0.9s,mb5.4
CLNS Chul'man 59.10 17 *e*P **P 10 30 21.1 -0.2**
CLNS *e* 10 31 13.9
CLNS *e*S **S 10 38 20.9 -4.1**
CLNS *e*SS SS 10 42 17.5 -3.4
CLNS *e*SSS SSS 10 44 39.8 -7.0
CLNS pmax pmax
comp=Z,38nm,0.7s,mb5.5
CLNS pmax pmax
comp=N,20nm,0.8s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,10.0nm,0.7s
CLNS pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
CLNS pmax pmax
comp=E,4.0nm,0.6s
CLNS smax
comp=N,70nm,12.0s
CLNS smax
comp=Z,56nm,14.2s
CLNS smax
comp=E,10.0nm,10.8s
CLNS MLR MLR
comp=Z,2μm,17.0s,MS5.4
CLNS MLR MLR
comp=N,2μm,18.0s,MS5.3
CLNS MLR MLR
comp=E,300nm,14.0s,MS5.3
YSS Yuzh-Sakhalins 59.85 35 *e*P **P 10 30 26.4 -0.2**
YSS *e**PP pP 10 30 34.3 -0.6
YSS pmax pmax
comp=Z,128nm,1.0s,mb5.9
YSS Yuzh-Sakhalins 59.85 35 *e*P **P 10 30 26.4 -0.2**
comp=Z,128nm,1.0s,mb5.9
YSS *e*pP pP 10 30 34.3 -0.6
KMBO Kilima Mbogo 59.85 268 *e*P **P 10 30 26.0 -1.1**
KMBO *e**PP pP 10 30 36.1 +0.7
KMBO pmax pmax
comp=Z,36nm,1.4s
KMBO Kilima Mbogo 59.85 268 P **P 10 30 27.6 +0.5**
comp=Z,6.8nm,0.9s,mb4.7,baz=56,slow=10,SNR=21
KMBO LR LR 10 53 05.4
comp=Z,554nm,18.7s,MS4.7,baz=96,slow=33
KMBO Kilima Mbogo 59.85 268 *e*P **P 10 30 25.9 -1.1**
comp=Z,36nm,1.4s,mb5.2
KMBO *e*pP pP 10 30 36.1 +0.7
GNI Garni 60.66 316 P **P 10 30 32.0 -0.2**
comp=Z,5.0nm,0.6s,mb4.8,baz=358,slow=18,SNR=3.3
TI2 Plekhanov 61.33 318 *i* P **P 10 30 35.4 -1.4**
TI2 pmax pmax
comp=Z,30nm,0.2s,mb6.1
SVE Sverdlovsk 61.96 338 ⇑ *i*P **P 10 30 39.9 -0.9**
SVE *e* 10 30 56.0
SVE *i* 10 31 16.5
SVE *e* 10 33 00.0
SVE *e*S **S 10 39 00.0 -1.5**
SVE pmax pmax
comp=Z,80nm,1.1s,mb5.8
SVE MLR MLR
comp=N,500nm,20.0s,MS4.7
SVE MLR MLR
comp=E,100nm,20.0s,MS4.7
SVE MLR MLR
comp=Z,500nm,20.0s,MS4.7
ARU Arti 62.45 337 *e*P **P 10 30 42.4 -1.7**
ARU *e**PP pP 10 30 51.3 -1.1
ARU Arti 62.45 337 *e*P **P 10 30 42.4 -1.7**
ARU *e*pP pP 10 30 51.3 -1.2
KIV Kislovodsk 63.65 319 *c* *i*P **P 10 30 51.1 -1.1**
KIV *e* 10 33 17.0
KIV *i* S **S 10 39 20.1 -2.9**
KIV *i* SS SS 10 43 35.9 +3.5
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,200nm,21.0s,MS4.3
KIV Kislovodsk 63.65 319 *e*P **P 10 30 51.3 -0.9**
comp=Z,19nm,0.8s,mb5.2
KIV *e*pP pP 10 30 59.1 -1.4
GOF Gofitskoye 63.90 320 ⇑ *i*P **P 10 30 52.4 -1.4**
GOF *i* pP 10 31 00.5 -1.7
GOF pmax pmax
comp=Z,110nm,2.5s,mb5.4
ASF Jabal al Asfar 63.91 305 P **P 10 30 53.4 -0.7**
comp=Z,1.8nm,0.5s,mb4.4,baz=344,slow=9.6,SNR=6.9
ASF pP pP 10 31 02.5 0.0
comp=Z,7.2nm,0.9s,baz=344,slow=3.6,SNR=4.1
MALT Malatya 64.52 312 *e*P **P 10 30 57.5 -0.5**
MALT pmax pmax
comp=Z,28nm,1.4s,mb5.1
MALT Malatya 64.52 312 *e*P **P 10 30 57.5 -0.5**
comp=Z,28nm,1.4s,mb5.1
YAK Yakutsk 64.78 16 *e*P **P 10 30 58.3 -0.9**
YAK pmax pmax
comp=Z,241nm,0.9s,mb6.2
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.1
YAK Yakutsk 64.78 16 *e*P **P 10 30 58.3 -0.9**
comp=Z,241nm,0.9s,mb6.2
YAK LR LR
comp=Z,1μm,19.0s,MS5.1
EIL Elat 64.93 302 *e*P **P 10 31 00.2 -0.6**
comp=Z,32nm,1.1s,mb5.3
SOC Sochi 65.47 318 *e*P **P 10 30 59.7 -4.3**
SOC *e* 10 31 30.1
SOC *e* 10 33 23.5
SOC *e*PPP PPP 10 34 59.6 -5.2
SOC *e*S S 10 39 38.3 -7.1
SOC *e* 10 40 52.3
SOC *e*SS SS 10 43 56.8 -3.9
SOC pmax pmax
comp=Z,29nm,0.8s,mb5.4
SOC pmax pmax
comp=N,7.0nm,0.7s
SOC pmax pmax
comp=E,7.0nm,0.5s
MBAR Mbarara 66.33 269 *e*P **P 10 31 09.5 -0.5**
MBAR pmax pmax
comp=Z,61nm,1.5s,mb5.4
MBAR Mbarara 66.33 269 *e*P **P 10 31 09.5 -0.5**
comp=Z,62nm,1.5s,mb5.4
CSS Prodhromos 67.50 307 P **P 10 31 16.6 -0.5**
comp=Z,62nm,1.4s,mb5.5
BRTR Keskin Array B 68.50 312 P **P 10 31 21.5 -1.8**
comp=Z,2.8nm,0.8s,mb4.2,baz=127,slow=6.2,SNR=12
BRTR pP pP 10 31 30.4 -1.3
comp=Z,8.0nm,0.9s,baz=127,slow=6.2,SNR=13
CASY Casey 68.74 174 *e*P **P 10 31 24.1 -0.1**
VRSR Storozhevoye 68.87 325 *e*P **P 10 31 23.3 -2.0**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
MA2 Magadan 70.75 26 *c* *e*P **P 10 31 36.5 -0.2**
MA2 *e* 10 34 20.7
MA2 *e*S S 10 40 49.2 +1.0
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,2μm,20.0s,MS5.3
MA2 Magadan 70.75 26 *e*P **P 10 31 36.4 -0.3**
comp=Z,37nm,0.8s,mb5.4
MOS Moscow 71.63 329 *e*P **P 10 31 40.7 -1.3**
MOS *i* pP 10 31 49.2 -1.2
MOS *e* 10 34 23.4
MOS pmax pmax
comp=Z,66nm,1.1s,mb5.5
MOS pmax pmax
comp=Z,200nm,2.0s,mb5.7
MOS MLR MLR
comp=Z,800nm,22.0s,MS4.9
DZM Mont Dzumac 71.72 114 P **P 10 31 44.1 +0.9**
comp=Z,9.3nm,1.0s,mb4.7,baz=78,slow=11,SNR=4.5
PET Petropavlovsk 71.73 34 *e*P **P 10 31 42.1 -0.5**
PET *e* pP 10 31 51.1 +0.1
PET pmax pmax
comp=Z,83nm,0.8s,mb5.7
PET pmax pmax
comp=Z,100nm,14.2s
PET pmax pmax
comp=Z,71nm,1.2s,mb5.5
PET MLR MLR
comp=Z,400nm,18.0s,MS4.7
OBN Obninsk 71.92 328 *c* *i*P **P 10 31 42.5 -1.2**
OBN *i* pP 10 31 49.3 -2.8
OBN *i* S 10 40 58.6 -3.1
OBN *e*SS SS 10 45 38.4 -1.8
OBN pmax pmax
comp=Z,39nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
OBN Obninsk 71.92 328 *e*P **P 10 31 42.5 -1.3**
TIXI Tiksi 72.51 10 *e*P **P 10 31 43.4 -3.5**
TIXI *e*S S 10 40 59.7 -8.4
TIXI *e*SS SS 10 45 41.5 -7.7
TIXI pmax pmax
comp=Z,43nm,1.2s,mb5.2
TIXI MLR MLR
comp=Z,586nm,15.0s,MS5.0
TIXI Tiksi 72.51 10 ⇑ *i*P **P 10 31 45.4 -1.5**
SEY Seymchan 73.16 23 *e*P **P 10 31 52.9 +2.0**
SEY 10 32 06.7
SEY *e*S S 10 41 19.7 +4.0
SEY pmax pmax
comp=N,30nm,0.9s
SEY pmax pmax
comp=Z,130nm,0.9s,mb5.9
SEY pmax pmax
comp=E,80nm,1.3s
SEY smax
comp=N,700nm,22.6s
SEY smax
comp=E,600nm,20.3s
MAW Mawson 73.38 193 *e*P **P 10 31 52.3 +0.2**
comp=E,3.9nm,0.6s,mb4.5
MAW Mawson 73.38 193 *e*P **P 10 31 52.3 +0.2**
MAW pmax pmax
comp=Z,4.0nm,0.6s
MAW Mawson 73.38 193 P **P 10 31 53.2 +1.2**
comp=Z,4.2nm,0.6s,mb4.5,baz=3.6,slow=7.2,SNR=8.1
MAW LR LR 10 57 19.5
comp=Z,502nm,22.0s,MS4.8,baz=66,slow=30
LBTB Lobatse 74.06 243 *e*P **P 10 31 56.9 0.0**
IDI Anoyia 74.34 306 P **P 10 31 57.6 -0.8**
comp=Z,6.9nm,1.0s,mb4.5,baz=7.1,slow=7.9,SNR=4.0
AKASG Malin Array Be 74.59 322 P **P 10 31 57.9 -1.5**
comp=Z,3.4nm,0.5s,mb4.5,baz=89,slow=5.0,SNR=24
VRI Vrincioaia 74.98 317 ⇑ P **P 10 32 01.8 0.0**
BOSA Boshof 75.00 240 P **P 10 32 01.9 -0.4**
comp=Z,3.4nm,0.8s,mb4.3,baz=67,slow=8.1,SNR=3.6
BOSA LR LR 11 03 41.1
comp=Z,826nm,18.1s,MS5.1,baz=256,slow=35
MLR Muntele Rosu 75.43 317 ⇑ P **P 10 32 04.4 0.0**
BURAR Bucovina Array 76.37 319 ⇑ P **P 10 32 09.8 +0.1**
BURAR Bucovina Array 76.37 319 ⇑ P **P 10 32 09.8 +0.1**
MNK Minsk 76.46 326 *e*P **P 10 32 07.0 -3.0**
LVZ Lovozero 78.10 340 *e*P **P 10 32 26.8 +8.0**
LVZ *e*S S 10 42 07.5 -2.4
LVZ pmax pmax
comp=Z,112nm,1.9s,mb5.5
LVZ pmax pmax
comp=N,38nm,2.1s
LVZ pmax pmax
comp=E,42nm,2.4s
LVZ smax
comp=N,327nm,3.3s
APA Apatity 78.39 339 ⇑ *e*P **P 10 32 25.0 +4.6**
APA *i* 10 32 41.0
APA pmax pmax
comp=Z,54nm,1.2s,mb5.3
KWP Kalwaria 78.41 320 *e*P **P 10 32 17.8 -3.1**
KOLS Kolonicke sedl 78.56 320 *e*P **P 10 32 21.6 -0.1**
KOLS *e* pP 10 32 31.1 +0.9
KOLS *e* pP 10 32 31.4 +1.2
SUW Suwalki 78.99 325 *e*P **P 10 32 23.1 -0.9**
CRVS Cervenica-Dubn 79.08 319 *e*P Px 10 32 44.1
CRVS Cervenica-Dubn 79.08 319 *e* Px 10 32 44.1
FINES FINESS Array B 79.28 332 P **P 10 32 25.2 -0.2**
comp=Z,6.0nm,0.7s,mb4.7,baz=90,slow=7.6,SNR=25
FINES pP pP 10 32 33.5 -0.3
comp=Z,18nm,1.0s,baz=104,slow=7.9,SNR=14
FINES LR LR 11 12 01.6
comp=Z,229nm,20.8s,MS4.5,baz=324,slow=39
FINES FINESS Array B 79.28 332 P **P 10 32 25.2 -0.2**
FINES pP pP 10 32 33.5 -0.3
FINES LR LR 11 12 01.6
DIVS Divcibare 79.36 314 *e*(P) **P 10 32 25.7 -0.5**
KAF Kangasniemi 79.36 333 *ep* **P 10 32 25.3 -0.5**
comp=Z,1.5nm,0.4s,mb4.3,baz=105,slow=5.0
KAF Kangasniemi 79.36 333 *e*P **P 10 32 25.3 -0.5**
KAF pmax pmax
comp=Z,2.0nm,0.4s,mb4.4
SUR Sutherland 79.42 237 *e*P **P 10 32 27.5 +0.7**
comp=Z,18nm,1.0s,mb5.0
RPZ Rata Peaks 79.83 135 P **P 10 32 29.1 +0.4**
comp=Z,11nm,0.7s,mb4.9,baz=303,slow=3.0,SNR=10
RPZ LR LR 11 07 09.0
comp=Z,589nm,18.9s,MS5.0,baz=3.8,slow=35
NIE Niedzica 79.91 320 *e*P **P 10 32 28.5 -0.5**
PSZ Piszkesteto 79.96 318 *e*P **P 10 32 29.1 -0.2**
PSZ pmax pmax
comp=Z,82nm,1.6s,mb5.4
PSZ Piszkesteto 79.96 318 *e*P **P 10 32 29.1 -0.2**
comp=Z,82nm,1.6s,mb5.4
FX1 Attu Island--F 80.11 37 *e*P **P 10 32 29.6 -0.4**
OJC Ojcow 80.36 321 *e*P **P 10 32 31.5 +0.1**
SYO Syowa Base 80.64 198 ⇓ P **P 10 32 32.0 -0.5**
SYO Syowa Base 80.64 198 ⇑ PcP PcP 10 32 39.0 -0.7
VYHS Vyhne 80.74 319 *e*P **P 10 32 33.0 -0.5**
VYHS *e* pP 10 32 40.1 -1.9
VYHS Vyhne 80.74 319 *e*P **P 10 32 33.0 -0.5**
VYHS *e*pP pP 10 32 40.2 -1.8
TIP Timpagrande 81.25 309 *e*P **P 10 32 36.1 -0.2**
OKC Ostrava-Krasne 81.36 320 *e*P **P 10 32 37.3 +0.6**
OKC *e*S S 10 42 44.9 +0.4
OKC AMS AMS 11 18 00.0
comp=Z,400nm,20.4s
KEV Kevo 81.37 341 *ep* **P 10 32 35.7 -0.6**
comp=Z,4.8nm,0.8s,mb4.5
KEV Kevo 81.37 341 *e*P **P 10 32 35.7 -0.6**
KEV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
GRI Girifalco 81.48 309 *e*P **P 10 32 37.4 -0.1**
MORC Moravsky Berou 81.75 320 *e*P **P 10 32 37.9 -0.8**
MORC pmax pmax
comp=Z,40nm,1.5s,mb5.1
MORC Moravsky Berou 81.75 320 *e*P **P 10 32 37.9 -0.8**
comp=Z,40nm,1.5s,mb5.1
ARCES ARCESS Array B 81.80 340 P **P 10 32 39.2 +0.7**
comp=Z,9.3nm,0.8s,mb4.8,baz=91,slow=5.0,SNR=22
ARCES pP pP 10 32 47.8 +0.7
comp=Z,12nm,0.8s,baz=90,slow=6.1,SNR=7.1
ARCES LR LR 11 13 29.0
comp=Z,372nm,19.2s,MS4.8,baz=341,slow=39
ARCES ARCESS Array B 81.80 340 P **P 10 32 39.2 +0.6**
ARCES pP pP 10 32 47.8 +0.7
ARCES LR LR 11 13 29.0
ZST Bratislava 81.85 318 *e*P **P 10 32 39.9 +0.6**
ZST *e* pP 10 32 47.8 0.0
ZST Bratislava 81.85 318 *e*P **P 10 32 39.9 +0.6**
ZST *e* pP 10 32 47.5 -0.3
ZST *e* pP 10 32 47.8 0.0
MGR Morigerati 82.25 310 *e*P **P 10 32 41.0 -0.5**
SGO Sicignano 82.46 310 *e*P **P 10 32 42.6 0.0**
DPC Dobruska-Polom 82.59 320 *e*P **P 10 32 43.6 +0.6**
DPC *e*S S 10 42 59.2 +2.2
DPC AMS AMS 11 15 30.0
comp=Z,200nm,19.9s
KSP Ksiaz 82.66 321 *e*P **P 10 32 43.2 -0.2**
KSP *e*pP pP 10 32 50.5 -1.4
KSP *e*S S 10 42 58.0 +0.3
KSP Ksiaz 82.66 321 *e*P **P 10 32 42.8 -0.6**
CSSN Cassano Irpino 82.70 311 *e*P **P 10 32 43.9 +0.1**
UPC Upice 82.80 321 *e*P **P 10 32 44.8 +0.7**
URZ Urewera 83.39 129 P **P 10 32 48.0 +0.5**
comp=Z,6.6nm,0.6s,mb4.8,baz=6.1,slow=16,SNR=8.3
SDI San Donato 83.66 312 *e*P **P 10 32 48.1 -0.7**
PRU Pruhonice 83.70 320 *e*P **P 10 32 49.6 +0.8**
PRU *e*S S 10 43 09.3 +1.1
PRU AMS AMS 11 15 50.0
comp=Z,200nm,22.4s
PVCC Panska Ves 83.72 320 *e*P pP 10 32 57.5 +0.1
PVCC AMS AMS 11 17 00.0
comp=Z,200nm,15.5s
PTQR Pietraquaria 83.98 312 *e*P **P 10 32 50.6 +0.2**
AQU L'Aquila 84.00 312 *e*P **P 10 32 50.7 +0.2**
AQU pmax pmax
comp=Z,100nm,1.4s,mb5.8
AQU L'Aquila 84.00 312 *e*P **P 10 32 50.7 +0.2**
comp=Z,100nm,1.4s,mb5.8
BRG Berggiesshubel 84.15 321 *e*P **P 10 32 51.0 0.0**
BRG *e* pP 10 32 59.9 +0.3
BRG pmax pmax
comp=Z,15nm,1.4s,mb4.9
BRG Berggiesshubel 84.15 321 *e*P **P 10 32 51.0 0.0**
comp=Z,15nm,1.4s,mb4.9
BRG *e* pP 10 32 59.9 +0.3
GEC2 GERESS Array S 84.16 319 *e*P **P 10 32 51.3 +0.2**
GEC2 pmax pmax
comp=Z,19nm,1.2s,mb5.1
GEC2 GERESS Array S 84.16 319 *e*P **P 10 32 51.3 +0.2**
comp=Z,19nm,1.2s,mb5.1
GERES GERESS Array B 84.16 319 P **P 10 32 51.6 +0.5**
comp=Z,8.8nm,0.9s,mb4.9,baz=104,slow=5.5,SNR=58
PTCC Patocco-Chiusa 84.25 316 *e*P **P 10 32 51.7 +0.1**
KHC Kasperske Hory 84.26 319 *e*P **P 10 32 50.1 -1.5**
KHC *e*pP pP 10 33 01.0 +0.8
KHC *e*S S 10 43 15.8 +2.0
KHC AMS AMS 11 16 20.0
comp=Z,200nm,27.9s
ARV Arcevia 84.39 313 *e*P **P 10 32 52.5 +0.1**
FSSB Fossombrone 84.52 314 *e*P **P 10 32 53.4 +0.4**
MNS Montasola 84.53 312 *e*P **P 10 32 52.6 -0.6**
FVI Forni Avoltri 84.65 316 *e*P **P 10 32 53.7 +0.1**
WET Wettzell 84.72 319 *e*P **P 10 32 54.0 +0.1**
WET pmax pmax
comp=Z,14nm,1.1s,mb5.0
WET Wettzell 84.72 319 *e*P **P 10 32 54.0 +0.1**
comp=Z,14nm,1.1s,mb5.0
RSM Repubblica di 84.77 314 *e*P **P 10 32 55.4 +1.1**
CLL Collm 84.77 321 *i* P **P 10 32 54.4 +0.3**
CLL *i* 10 33 05.6
CLL pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
CLL Collm 84.77 321 *i* P **P 10 32 54.4 +0.3**
comp=Z,8.0nm,1.1s,mb4.8
CLL *i* pP 10 33 02.2 -0.5
CLL *i* 10 33 05.6
CLL Collm 84.77 321 P **P 10 32 54.4 +0.3**
comp=Z,logA/T=0.9,mb4.8
CLL *i* *PP pP 10 33 02.2 -0.5
CLL *i* *SP sP 10 33 05.6 +0.2
NKC Novy Kostel 85.06 320 *e*P **P 10 32 55.5 -0.1**
NKC AMS AMS 11 18 00.0
comp=Z,300nm,18.4s
SFI Santa Sofia 85.20 314 *e*P **P 10 32 57.5 +1.1**
PGD Poggio Sodo 85.29 314 *e*P **P 10 32 58.0 +1.1**
CTI Castel Tesino 85.41 316 *e*P **P 10 32 57.8 +0.3**
VMG Vicchio 85.42 314 *e*P **P 10 32 57.6 +0.1**
MOX Moxa 85.61 320 *e*P **P 10 32 58.9 +0.6**
MOX MLR MLR
comp=Z,100nm,19.0s,MS4.2
MOX Moxa 85.61 320 *i* P **P 10 32 58.9 +0.6**
MOX L 11 21 32.0
FUR Furstenfeldbru 85.74 318 *e*P **P 10 32 58.5 -0.5**
GRA1 Grafenberg Arr 85.83 320 *e*P **P 10 32 59.9 +0.5**
comp=Z,20nm,0.9s,mb5.3
GRA1 *e*pP pP 10 33 08.5 +0.5
GRA1 *e*S S 10 43 34.2 +5.1
GRF Grafenberg Arr 85.83 320 *e*P **P 10 32 59.9 +0.5**
GRF *e**PP pP 10 33 08.5 +0.5
GRF *e*S S 10 43 34.2 +5.1
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.3
GRF Grafenberg Arr 85.83 320 *e*P **P 10 32 59.9 +0.5**
GRF *e**PP pP 10 33 08.5 +0.5
GRF *e*S S 10 43 34.2 +5.1
GRF pmax pmax
comp=Z,20nm,0.9s,mb5.3
GRF Grafenberg Arr 85.83 320 *e*P **P 10 32 59.9 +0.5**
comp=Z,20nm,0.9s,mb5.3
GRF *e*pP pP 10 33 08.5 +0.5
GRF *e*S S 10 43 34.2 +5.1
GSCL Gusciola 86.12 314 *e*P **P 10 33 01.8 +0.8**
NB2 NORSAR Subarra 86.30 331 P **P 10 33 01.2 -0.3**
comp=Z,2.8nm,0.9s,mb4.5,baz=97,slow=4.8
NB2 NORSAR Subarra 86.30 331 P **P 10 33 01.2 -0.3**
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
NOA NORSAR Array B 86.30 331 P **P 10 33 01.6 +0.1**
comp=Z,6.6nm,0.9s,mb4.9,baz=94,slow=4.9,SNR=21
NOA pP pP 10 33 09.5 -0.5
comp=Z,9.6nm,1.0s,baz=94,slow=4.9,SNR=11
NOA PP PP 10 36 25.2 +0.9
comp=Z,2.2nm,0.9s,baz=91,slow=8.1,SNR=4.2
NOA LR LR 11 14 05.8
comp=Z,200nm,21.9s,MS4.5,baz=45,slow=37
BRMO Bormio 86.31 316 *e*P **P 10 33 02.6 +0.8**
CLZ Clausthal 86.43 322 *e*P **P 10 33 02.6 +0.3**
CLZ pmax pmax
comp=Z,11nm,0.9s,mb5.1
CLZ Clausthal 86.43 322 *e*P **P 10 33 02.6 +0.3**
comp=Z,11nm,0.9s,mb5.1
VNDA Vanda 86.56 169 P **P 10 33 03.5 +1.0**
comp=Z,1.5nm,0.6s,mb4.4,baz=291,slow=4.0,SNR=14
VNDA LR LR 11 09 06.7
comp=Z,372nm,18.2s,MS4.8,baz=305,slow=34
DAVOX Davos 86.66 317 P **P 10 33 04.4 +0.8**
comp=Z,15nm,0.8s,mb5.3,baz=107,slow=4.8,SNR=14
KONO Kongsberg 87.05 329 P **P 10 33 05.4 +0.2**
KONO *e**PP pP 10 33 14.0 +0.2
KONO pmax pmax
comp=Z,54nm,1.5s,mb5.6
KONO Kongsberg 87.05 329 P **P 10 33 05.4 +0.2**
comp=Z,54nm,1.5s,mb5.6
KONO *e*pP pP 10 33 14.0 +0.2
PGF Pioggiola 87.26 312 *e*P **P 10 33 06.5 -0.1**
comp=Z,20nm,1.0s,mb5.0
PGF Pioggiola 87.26 312 *e*P **P 10 33 06.5 -0.1**
PGF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
TNS Taunus Mts 87.63 320 *e*P **P 10 33 08.5 +0.3**
BFO Black Forest 87.71 318 *e*P **P 10 33 08.1 -0.5**
BFO pmax pmax
comp=Z,12nm,1.3s,mb5.0
BFO Black Forest 87.71 318 *e*P **P 10 33 08.1 -0.5**

	comp=Z,12nm,1.3s,mb5.0								
FIN	**Finale Ligure**	**87.83**	**314**	*e*P	**P**	**10 33 09.4**	**+0.1**		
SBF	**Sospel**	**88.39**	**314**	*e*P	**P**	**10 33 11.9**	**-0.1**		
	comp=Z,42nm,0.9s,mb5.3								
SBF	**Sospel**	**88.39**	**314**	*e*P	**P**	**10 33 11.9**	**-0.1**		
SBF					pmax	pmax			
	comp=Z,21nm,0.9s,mb5.4								
CDF	**Champ du Feu**	**88.41**	**318**	*e*P	**P**	**10 33 11.6**	**-0.4**		
	comp=Z,25nm,1.2s,mb5.0								
CDF	**Champ du Feu**	**88.41**	**318**	*e*P	**P**	**10 33 11.6**	**-0.4**		
CDF					pmax	pmax			
	comp=Z,13nm,1.2s,mb5.0								
HINF	**Hinteralfeld**	**88.71**	**318**	*e*P	**P**	**10 33 13.5**	**+0.1**		
LPG	**La Plagne**	**88.84**	**315**	*e*P	**P**	**10 33 14.4**	**+0.3**		
	comp=Z,20nm,1.0s,mb5.1								
LPG	**La Plagne**	**88.84**	**315**	*e*P	**P**	**10 33 14.4**	**+0.3**		
LPG					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.1								
MBDF	**Montbardon**	**88.85**	**315**	*e*P	**P**	**10 33 13.7**	**-0.5**		
LPL	**La Plagne**	**88.85**	**315**	*e*P	**P**	**10 33 14.4**	**+0.2**		
	comp=Z,18nm,0.9s,mb5.1								
LPL	**La Plagne**	**88.85**	**315**	*e*P	**P**	**10 33 14.4**	**+0.2**		
LPL					pmax	pmax			
	comp=Z,9.0nm,0.9s,mb5.1								
FRF	**La Foret Royal**	**88.97**	**313**	*e*P	**P**	**10 33 14.7**	**-0.1**		
HAU	**Haudompre**	**89.04**	**318**	*e*P	**P**	**10 33 14.7**	**-0.3**		
HAU					*e*R				
	comp=Z,251nm,23.0s								
LMR	**La Mourre**	**89.08**	**313**	*e*P	**P**	**10 33 15.1**	**-0.2**		
CABF	**La Chapelle**	**89.27**	**316**	*e*P	**P**	**10 33 16.4**	**+0.3**		
	comp=Z,77nm,1.5s,mb5.5								
CABF	**La Chapelle**	**89.27**	**316**	*e*P	**P**	**10 33 16.4**	**+0.3**		
CABF					pmax	pmax			
	comp=Z,38nm,1.5s,mb5.5								
ORIF	**Oris-en-Rattie**	**89.47**	**315**	*e*P	**P**	**10 33 17.5**	**+0.4**		
ORIF					*e*R				
	comp=Z,201nm,22.8s								
GIVF	**Givet**	**89.96**	**320**	*e*P	**P**	**10 33 19.5**	**+0.2**		
VIVF	**Saint-Julien-l**	**90.33**	**315**	*e*P	**P**	**10 33 21.3**	**+0.2**		
	comp=Z,15nm,1.0s,mb5.0								
VIVF	**Saint-Julien-l**	**90.33**	**315**	*e*P	**P**	**10 33 21.3**	**+0.2**		
VIVF					pmax	pmax			
	comp=Z,8.0nm,1.0s,mb5.0								
TNA	**Tin City**	**90.36**	**24**	*e*P	**P**	**10 33 20.5**	**-0.2**		
	comp=Z,3.8nm,0.9s,mb4.7								
TNA					*e*pP	pP	10 33 29.9	+0.6	
BAIF	**Baives**	**90.36**	**320**	*e*P	**P**	**10 33 21.7**	**+0.6**		
	comp=Z,50nm,1.0s,mb5.5								
BAIF	**Baives**	**90.36**	**320**	*e*P	**P**	**10 33 21.7**	**+0.6**		
BAIF					pmax	pmax			
	comp=Z,25nm,1.0s,mb5.5								
SMF	**Signal de Mont**	**90.81**	**317**	*e*P	**P**	**10 33 23.3**	**0.0**		
	comp=Z,26nm,1.0s,mb5.2								
SMF	**Signal de Mont**	**90.81**	**317**	*e*P	**P**	**10 33 23.3**	**0.0**		
SMF					pmax	pmax			
	comp=Z,14nm,1.0s,mb5.2								
LASF	**Ste Croix**	**90.96**	**314**	*e*P	**P**	**10 33 24.6**	**+0.6**		
	comp=Z,40nm,1.2s,mb5.3								
SSF	**Saint Saulge**	**91.01**	**317**	*e*P	**P**	**10 33 24.3**	**+0.1**		
AVF	**Avril sur Loir**	**91.14**	**317**	*e*P	**P**	**10 33 25.0**	**+0.2**		
	comp=Z,66nm,1.4s,mb5.5								
AVF	**Avril sur Loir**	**91.14**	**317**	*e*P	**P**	**10 33 25.0**	**+0.2**		
AVF					pmax	pmax			
	comp=Z,33nm,1.4s,mb5.5								
BGF	**Bois d'Agland**	**91.50**	**316**	*e*P	**P**	**10 33 27.0**	**+0.5**		
	comp=Z,90nm,1.3s,mb5.7								
BGF	**Bois d'Agland**	**91.50**	**316**	*e*P	**P**	**10 33 27.0**	**+0.5**		
BGF					pmax	pmax			
	comp=Z,45nm,1.3s,mb5.6								
HYF	**Humbligny**	**91.59**	**317**	*e*P	**P**	**10 33 27.7**	**+0.9**		
AFI	**Afiamalu**	**91.61**	**104**	LR	LR	11 08 14.7			
	comp=Z,36nm,21.7s,MS3.8,baz=210,slow=31								
TCF	**Toulx Ste Croi**	**91.96**	**316**	*e*P	**P**	**10 33 29.1**	**+0.5**		
CAF	**Calviac**	**92.18**	**315**	*e*P	**P**	**10 33 30.3**	**+0.7**		
MTLF	**Montolieu**	**92.20**	**313**	*e*P	**P**	**10 33 30.2**	**+0.4**		
	comp=Z,36nm,1.2s,mb5.3								
MTLF	**Montolieu**	**92.20**	**313**	*e*P	**P**	**10 33 30.2**	**+0.4**		
MTLF					pmax	pmax			
	comp=Z,18nm,1.2s,mb5.3								
RJF	**Les Rejaudoux**	**92.53**	**315**	*e*P	**P**	**10 33 32.0**	**+0.8**		
	comp=Z,36nm,1.2s,mb5.4								
RJF					*e*R				
	comp=Z,160nm,21.8s								
RJF	**Les Rejaudoux**	**92.53**	**315**	*e*P	**P**	**10 33 32.0**	**+0.8**		
RJF					pmax	pmax			
	comp=Z,18nm,1.2s,mb5.4								
RJF					MLR	MLR			
	comp=Z,160nm,21.8s,MS4.4								
LFF	**La Frestale**	**93.11**	**315**	*e*P	**P**	**10 33 34.8**	**+0.9**		
JMIC	**Jan Mayen**	**93.23**	**342**	LR	LR	11 21 01.8			
	comp=Z,231nm,21.2s,MS4.6,baz=279,slow=39								
LDF	**La Druitiere**	**93.31**	**319**	*e*P	**P**	**10 33 35.0**	**+0.3**		
	comp=Z,87nm,1.4s,mb5.7								
LDF	**La Druitiere**	**93.31**	**319**	*e*P	**P**	**10 33 35.0**	**+0.3**		
LDF					pmax	pmax			
	comp=Z,44nm,1.4s,mb5.7								
FLN	**La Foliniere**	**93.53**	**319**	*e*P	**P**	**10 33 35.9**	**+0.2**		
FLN					*e*R				
	comp=Z,249nm,22.2s								
MFF	**Saint Martin d**	**93.55**	**317**	*e*P	**P**	**10 33 36.1**	**+0.2**		
	comp=Z,63nm,1.3s,mb5.6								
MFF	**Saint Martin d**	**93.55**	**317**	*e*P	**P**	**10 33 36.1**	**+0.2**		
MFF					pmax	pmax			
	comp=Z,32nm,1.3s,mb5.6								
IMA	**Indian Mountai**	**95.98**	**23**	*e*P	**P**	**10 33 47.0**	**+0.4**		
VNA2	**Neumayer--Watz**	**96.51**	**199**	*e*	**P**	**10 33 54.3**	**+5.4**		
VNA2	**Neumayer--Watz**	**96.51**	**199**	*e*	**P**	**10 34 00.2**	**+11**		
VNA2	**Neumayer--Watz**	**96.51**	**199**	⇑*i*P	**P**	**10 33 48.2**	**-0.7**		
VNA2				*e*		10 33 54.3			
VNA2				*e*		10 34 00.2			
VNA1	**Neumayer--Stat**	**96.85**	**199**	*e*	**P**	**10 33 57.3**	**+6.9**		
VNA1	**Neumayer--Stat**	**96.85**	**199**	⇑*i*P	**P**	**10 33 49.6**	**-0.8**		
VNA1				*e*	pP	10 33 57.3	-1.7		
VNA3	**Neumayer Olymp**	**97.15**	**198**	*e*	**P**	**10 33 57.7**	**+5.9**		
VNA3	**Neumayer Olymp**	**97.15**	**198**	⇑*i*P	**P**	**10 33 51.8**	**0.0**		
VNA3				*e*		10 33 57.7			
INK	**Inuvik**	**101.84**	**17**	P	P	10 34 12.8	-0.2		
	comp=Z,2.1nm,0.9s,baz=306,slow=5.6,SNR=6.3								
INK	**Inuvik**	**101.84**	**17**	*e*P	P	10 34 12.2	-0.8		
	comp=Z,3.0nm,1.0s								
YKA	**Yellowknife Ar**	**111.44**	**15**	PP	PP	10 39 35.1	-2.6		
	comp=Z,1.3nm,0.9s,baz=330,slow=7.4,SNR=6.7								
TBI	**Tubuai**	**112.30**	**114**	*e*LR	LR	11 12 26.1			
	comp=Z,258nm,25.2s								
PPT	**Papeete**	**112.86**	**108**	*e*LR	LR	11 12 41.4			
	comp=Z,250nm,23.5s								
EDM	**Edmonton**	**119.46**	**20**	*e*P	PKPdf	10 39 09.5	-3.4		
SCHQ	**Schefferville**	**121.89**	**349**	PKP	PKPdf	10 39 14.3	-3.3		
	comp=Z,1.7nm,0.5s,baz=315,slow=6.4,SNR=6.7								
SCHQ	**Schefferville**	**121.89**	**349**	PKP	PKPdf	10 39 14.3	-3.3		
RKT	**Rikitea**	**125.41**	**117**	*e*SS	SS	10 58 10.6	+1.4		
RKT					*e*LR	LR	11 18 29.9		
	comp=Z,220nm,27.5s								
ULM	**Lac du Bonnet**	**126.86**	**10**	PKP	PKPdf	10 39 24.1	-3.2		
	comp=Z,2.9nm,0.8s,baz=336,slow=8.0,SNR=5.1								
MNV	**Mina**	**128.38**	**35**	*e*P	PKPdf	10 39 27.9	-2.8		
SNOW	**Snow King Moun**	**128.38**	**26**	*e*P	PKPdf	10 39 28.4	-2.1		
PDAR	**Pinedale Array**	**129.46**	**25**	PKP	PKPdf	10 39 29.5	-3.1		
	comp=Z,0.8nm,0.6s,baz=148,slow=1.9,SNR=8.5								
PDAR					PP	PP	10 41 38.6	-3.3	
	comp=Z,0.9nm,0.9s,slow=1.5,SNR=3.9								
DUG	**Dugway**	**129.98**	**30**	*e*P	PKPdf	10 39 31.7	-2.0		
PV10	**Paradox Valley**	**133.23**	**28**	*e*P	PKPdf	10 39 37.5	-2.4		
WVT	**Waverly**	**141.87**	**6**	*e*PKPpre		10 39 47.4			
MIAR	**Mount Ida**	**142.38**	**14**	*e*PKPpre		10 39 48.7			
BDFB	**Brasilia**	**142.96**	**246**	PKP	PKPdf	10 39 55.2	-2.8		
	comp=Z,3.8nm,0.9s,baz=146,slow=5.6,SNR=3.2								
TXAR	**Lajitas Array**	**143.14**	**31**	PKhKP		10 39 51.7			
	comp=Z,2.6nm,1.0s,baz=179,slow=2.2,SNR=17								
TXAR					PP	PP	10 43 04.4	-3.1	
	comp=Z,1.1nm,1.1s,baz=320,slow=7.0,SNR=3.1								
TXAR	**Lajitas Array**	**143.14**	**31**	PKP	PKPdf	10 39 51.7	-6.3		
TXAR					PP	PP	10 43 04.4	-3.1	
NATX	**Nacogdoches**	**144.71**	**17**	*e*PKPdf	PKPdf	10 39 56.4	-4.3		
GOGA	**Godfrey**	**144.85**	**1**	*e*PKPdf	PKPdf	10 39 56.5	-4.4		
LRAL	**Lakeview Retre**	**145.02**	**6**	*e*PKPdf	PKPdf	10 39 56.3	-4.9		
RGRS	**Roger Stewart**	**145.26**	**356**	*e*PKPdf	PKPdf	10 39 58.4	-3.2		
OTAV	**Otavalo**	**175.00**	**295**	*e*PKPdf	PKPdf	10 40 29.9	-4.2		

DJA 30 10:45:26.1±0.8, 9.64S×113.84E, h33km, MD5.3/4, ML3.6/3, 3C-5D, Error ellipse: s-maj=18.2km s-min=11.3km az=43.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.19**	**15**	⇓*i*Pn	Pn	10 45 45.0	-1.7
	54nm,0.2s						
SRDI				⇑*i*Sn	Sn	10 45 58.6	-3.2
KELI	**Kelakatan**	**1.55**	**25**	⇓*i*Pn	Pn	10 45 50.9	-1.0
KELI				⇓*i*Sn	Sn	10 46 09.2	-1.8
RATI	**Rata**	**1.91**	**62**	⇑*i*Pn	Pn	10 45 55.8	-1.1
	202nm,0.2s						
RATI	**Rata**	**1.91**	**62**	⇓*i*P	P	10 45 56.3	-0.4
RATI				⇑*i*Sn	Sn	10 46 16.1	-3.9
KEDI	**Kedomdong**	**2.52**	**63**	*e*Pn	Pn	10 46 04.1	-1.7
	9.1nm,0.2s						
KEDI				⇓*i*Sn	Sn	10 46 31.9	-3.8

*FUNV **30** 11:04:58.8, 9.68N×69.91W, h4km, MW2.5*
*UAV **30** 11:05:01.7, 9.61N×70.08W*
ISC 30 11:04:59.1±0.7, 9.69N±0.03×69.90W±0.03, h12km±4km, n17, σ0=87/33, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.32**	**349**	*e*P	**Pg**	**11 05 05.2**	**-0.7**
CURV				*e*S	**Sg**	**11 05 10.2**	**-0.3**
TORV	**Torococo**	**0.35**	**248**	P	**Pg**	**11 05 07.6**	**+1.1**
TORV				S	**Sg**	**11 05 11.0**	**-0.3**
TEPV	**Terepaima**	**0.75**	**69**	*e*P	**Pb**	**11 05 13.5**	**-0.1**
TEPV				*e*S	**Sb**	**11 05 24.1**	**+0.6**
SIQV	**Siquisique**	**0.95**	**5**	*e*P	**Pb**	**11 05 16.6**	**-0.5**
SIQV				*e*S	**Sb**	**11 05 30.5**	**+0.9**
EAV	**Pico El Aguila**	**1.23**	**228**	P	**Pb**	**11 05 21.4**	**-0.5**
EAV				S	**Sb**	**11 05 36.4**	**-1.3**
DABV	**Dabajuro**	**1.42**	**329**	*e*P	**Pn**	**11 05 25.2**	**+0.2**
DABV				*e*S	**Sb**	**11 05 44.3**	**+1.2**
CUV	**La Culata**	**1.48**	**231**	P	**Pn**	**11 05 26.1**	**+0.3**
CUV				S	**Sb**	**11 05 44.5**	**-0.3**
AGV	**La Aguada**	**1.63**	**226**	P	**Pn**	**11 05 28.7**	**+0.8**
AGV				S	**Sn**	**11 05 48.2**	**-0.7**
UAV	**Universidad de**	**1.64**	**229**	S	**Sn**	**11 05 48.9**	**-0.3**
VIGV	**El Vigia**	**1.68**	**240**	*e*P	**Pn**	**11 05 28.8**	**+0.2**
VIGV				*e*S	**Sn**	**11 05 49.7**	**-0.4**
SOCV	**Socops**	**1.69**	**214**	*e*P	**Pn**	**11 05 29.2**	**+0.4**
SOCV				*e*S	**Sn**	**11 05 50.4**	**-0.1**
OSV	**Paramo de la O**	**1.89**	**236**	P	**Pn**	**11 05 33.4**	**+1.8**
OSV				S	**Sn**	**11 05 56.1**	**+0.7**
BAUV	**El Baul**	**1.98**	**112**	*e*P	**Pn**	**11 05 32.3**	**-0.6**
BAUV				*e*S	**Sn**	**11 05 57.5**	**-0.3**
TURV	**Turiamo**	**2.16**	**69**	*e*P	**Pn**	**11 05 35.1**	**-0.4**
TURV				*e*S	**Sn**	**11 06 02.3**	**-0.3**
MONV	**Montecano**	**2.25**	**358**	*e*P	**Pn**	**11 05 36.7**	**-0.1**
MONV				*e*S	**Sn**	**11 06 04.7**	**-0.1**
PDMV	**Paramo Marino**	**2.34**	**235**	P	**Pn**	**11 05 41.6**	**+3.5**
PDMV				S	**Sn**	**11 06 09.1**	**+2.0**
VIRV	**Villa del Rosa**	**2.60**	**288**	*e*P	**Pn**	**11 05 40.2**	**-1.5**
VIRV				*e*S	**Sn**	**11 06 11.6**	**-2.0**

IDC 30 11:09:41.4±4.4, 2.43N×96.39E, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=164.6km s-min=31.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.37**	**123**	P	P	11 17 45.7	-1.8
	0.5nm,0.8s,baz=302,slow=9.1,SNR=4.6						
MKAR	**Makanchi Array**	**45.87**	**347**	P	P	11 18 05.1	-2.1
	0.5nm,0.5s,baz=159,slow=8.0,SNR=8.0						
SONM	**Songino Array**	**46.05**	**9**	P	P	11 18 07.3	-1.4
	0.4nm,0.5s,baz=195,slow=8.6,SNR=5.2						

IDC 30 11:16:55.5±3.9, 2.55N×96.38E, mb3.8/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, Error ellipse: s-maj=150.9km s-min=27.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.45**	**123**	P	P	11 25 00.4	-1.8
	0.3nm,0.4s,baz=302,slow=9.1,SNR=7.8						
MKAR	**Makanchi Array**	**45.75**	**347**	P	P	11 25 18.5	-1.9
	1.0nm,0.5s,baz=158,slow=8.2,SNR=13						
SONM	**Songino Array**	**45.94**	**9**	P	P	11 25 20.6	-1.3
	0.9nm,0.6s,baz=191,slow=8.4,SNR=7.1						
ZAL	**Zalesovo**	**52.10**	**351**	P	P	11 26 06.7	-2.8
	1.0nm,0.5s,baz=146,slow=6.2,SNR=4.2						

*JMA **30** 11:23:53.7±0.1, 31.36N×130.34E, h172km±1km, M3.3*
*IDC **30** 11:23:53.7±9.0, 30.46N×131.80E, h110km±152km, mb3.4/3, mb1 3.5/4, mb1mx3.1/20, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=437.3km s-min=68.1km az=130.0*
ISC 30 11:23:52.0±0.8, 31.29N±0.07×130.3E±0.1, h178km±5km, n11, σ0=97/17, mb3.6/3, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSU	**Suzuyama**	**0.26**	**36**	P	**P**	**11 24 16.6**	**+0.6**
JTSR	**Tashiro 2**	**0.57**	**103**	P	**P**	**11 24 17.7**	**+0.6**
JTSR				S	**S**	**11 24 35.6**	**-0.9**
JSJ	**Shimokoshiki**	**0.61**	**309**	P	**P**	**11 24 18.1**	**+0.8**
JSJ				S	**S**	**11 24 36.6**	**-0.3**
JTN	**Tanegashima 3**	**0.88**	**136**	P	**P**	**11 24 20.0**	**+1.2**
JTN				S	**S**	**11 24 39.5**	**0.0**
JTZ	**Takazaki**	**0.92**	**49**	P	**P**	**11 24 19.4**	**+0.4**
JTZ				S	**S**	**11 24 39.3**	**-0.7**
JIU2	**Izumi 2**	**1.33**	**20**	P	**P**	**11 24 22.9**	**+0.4**
JIU2				S	**S**	**11 24 44.7**	**-1.4**
JNN	**Nakanoshima**	**1.49**	**194**	P	**P**	**11 24 25.7**	**+1.7**
JOW	**Kunigami**	**4.78**	**202**	P	**P**	**11 25 03.5**	**-0.2**
	2.1nm,0.3s,baz=95,slow=21,SNR=6.5						
JOW				S	**S**	**11 25 57.6**	**-1.6**
	6.9nm,0.3s,baz=109,slow=27,SNR=11						
WRA	**Warramunga Arr**	**51.09**	**175**	P	**P**	**11 32 38.0**	**-0.4**
	0.5nm,0.5s,mb3.5,baz=353,slow=7.8,SNR=11						
ASAR	**Alice Springs**	**54.76**	**176**	P	**P**	**11 33 06.7**	**+1.3**
	0.6nm,0.6s,mb3.5,baz=7.2,slow=14,SNR=11						
STKA	**Stephens Creek**	**63.73**	**169**	P	**P**	**11 34 05.3**	**-1.6**
	1.2nm,0.7s,mb3.8,baz=339,slow=8.6,SNR=3.8						

DJA 30 11:28:01.3±0.9, 9.49S×114.33E, h80km, MD5.0/3, ML4.2/4, 4C-6D, Error ellipse: s-maj=23.2km s-min=8.7km az=28.0, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRDI	**Scrawed**	**1.02**	**350**	⇑*i*Pn	P	11 28 20.2	-0.6
	285nm,0.2s						
SRDI				⇑*i*Sn	S	11 28 33.8	-1.7
KELI	**Kelakatan**	**1.28**	**7**	⇓*i*Pn	P	11 28 23.8	-0.3
	122nm,0.2s						
KELI	**Kelakatan**	**1.28**	**7**	⇓*i*P	P	11 28 24.4	+0.3
KELI				⇓*i*Sn	S	11 28 39.9	-1.3
RATI	**Rata**	**1.41**	**57**	⇓*e*Pn	P	11 28 24.9	-1.1
	617nm,0.2s						
RATI				⇑*i*Sn	S	11 28 40.9	-3.3
KEDI	**Kedomdong**	**2.03**	**61**	⇓*e*Pn	P	11 28 33.5	-0.6
	107nm,0.2s						
KEDI	**Kedomdong**	**2.03**	**61**	⇑*i*P	P	11 28 33.9	-0.2
KEDI				⇓*i*Sn	S	11 28 56.4	-1.9

IDC 30 11:31:29.4±4.8, 1.53N×98.66E, mb3.6/4, mb1 3.7/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=269.4km s-min=22.8km az=53.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.99**	**123**	P	P	11 39 14.5	-1.5
	0.3nm,0.4s,baz=303,slow=9.0,SNR=8.1						
ASAR	**Alice Springs**	**42.45**	**128**	P	P	11 39 26.2	-1.8
	0.3nm,0.4s,baz=297,slow=7.7,SNR=5.6						
MKAR	**Makanchi Array**	**47.29**	**345**	P	P	11 40 05.3	-1.3
	0.8nm,0.4s,baz=160,slow=8.9,SNR=16						
BVAR	**Borovoye Array**	**56.43**	**340**	P	P	11 41 11.8	-3.4
	0.4nm,0.5s,baz=135,slow=6.3,SNR=4.0						

IDC 30 11:33:34.5±3.5, 0.91N×97.37E, mb3.8/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=143.4km s-min=26.6km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	11 41 25.6	-1.7
	0.3nm,0.5s,baz=302,slow=9.1,SNR=4.1						
SONM	**Songino Array**	**47.39**	**8**	P	P	11 42 10.8	-1.5
	0.3nm,0.5s,baz=188,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**47.56**	**346**	P	P	11 42 12.0	-1.7
	1.4nm,0.5s,baz=162,slow=8.6,SNR=25						
ZAL	**Zalesovo**	**53.86**	**351**	P	P	11 42 58.9	-2.6
	1.2nm,0.3s,baz=320,slow=6.8,SNR=4.8						
BVAR	**Borovoye Array**	**56.58**	**341**	P	P	11 43 18.3	-2.9
	0.3nm,0.4s,baz=149,slow=8.6,SNR=3.6						

*IDC **30** 11:35:18.5±2.3, 1.06N×96.86E, mb4.3/9, mb1 4.4/9, mb1mx4.1/21, mbtmp4.3/9, Error ellipse: s-maj=96.1km s-min=16.3km az=57.0*
*NEIC **30** 11:35:22.7±0.8, 1.21N×97.07E, mb4.1/3, Error ellipse: s-maj=25.0km s-min=10.5km az=58.0*
ISC 30 11:35:20.8±0.9, 1.3N±0.1×97.1E±0.2, h25km, (h25km±2km: pP-P), n16, σ0=97/16, mb4.2/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.38**	**42**	*e*P	**Pn**	**11 36 41.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**34.08**	**126**	*e*P	**P**	**11 42 04.1**	**-1.7**
	9.2nm,0.8s,mb4.8						
FITZ				*e*pP	pP	11 42 11.5	-1.6
FITZ	**Fitzroy Crossi**	**34.08**	**126**	P	**P**	**11 42 04.1**	**-1.7**
	11nm,0.7s,mb4.9,baz=185,slow=6.7,SNR=13						
WRA	**Warramunga Arr**	**42.19**	**122**	P	**P**	**11 43 13.0**	**-0.7**
	5.4nm,0.6s,mb4.3,baz=302,slow=9.0,SNR=54						
WB2	**Warramunga Ar**	**42.20**	**122**	*e*P	**P**	**11 43 13.4**	**-0.4**
WB2				*e*pP	pP	11 43 20.7	-0.5
ASPA	**Alice Springs**	**43.55**	**127**	*e*P	**P**	**11 43 25.0**	**+0.3**
ASPA				*e*pP	pP	11 43 32.3	+0.2
ASAR	**Alice Springs**	**43.55**	**127**	P	**P**	**11 43 24.4**	**-0.3**
	5.2nm,0.7s,mb4.4,baz=298,slow=8.0,SNR=39						
SONM	**Songino Array**	**47.10**	**9**	P	**P**	**11 43 53.6**	**+0.9**
	2.1nm,0.9s,mb4.1,baz=190,slow=8.1,SNR=10						
MKAR	**Makanchi Array**	**47.15**	**346**	P	**P**	**11 43 54.0**	**+0.8**
	1.9nm,0.9s,mb4.0,baz=162,slow=8.0,SNR=11						
PMG	**Port Moresby**	**51.01**	**103**	P	**P**	**11 44 25.2**	**+1.9**
	18nm,0.7s,mb5.1,baz=321,slow=6.4,SNR=7.0						
KURK	**Kurchatov**	**51.70**	**345**	P	**P**	**11 44 26.5**	**-1.5**
	0.7nm,0.6s,mb3.8						
ZAL	**Zalesovo**	**53.47**	**351**	P	**P**	**11 44 41.8**	**+0.5**
	0.6nm,0.3s,mb4.0,baz=10,slow=2.2,SNR=4.1						
STKA	**Stephens Creek**	**53.51**	**132**	*e*P	**P**	**11 44 43.5**	**+1.7**
	5.8nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**53.51**	**132**	P	**P**	**11 44 42.9**	**+1.1**
	2.4nm,0.9s,mb4.1,baz=329,slow=10,SNR=4.4						
BVAR	**Borovoye Array**	**56.15**	**341**	P	**P**	**11 45 00.4**	**-0.3**
	0.6nm,0.6s,mb3.8,baz=90,slow=5.9,SNR=4.0						
CHKZ	**Chkalovo**	**56.62**	**342**	*e*P	**P**	**11 45 03.7**	**-0.4**
	1.0nm,0.7s,mb4.0						

*IDC **30** 11:35:31.2±0.7, 0.81N×97.35E, mb4.3/14, mb1 4.5/14, mb1mx4.4/22, mbtmp4.3/14, MS3.9/4, Ms1 3.9/4, ms1mx3.4/41, Error ellipse: s-maj=36.7km s-min=16.2km az=50.0*
*NEIC **30** 11:35:34.6±0.5, 0.83N×97.40E, mb4.6/7, Error ellipse: s-maj=14.4km s-min=11.2km az=49.0*
*BJI **30** 11:35:34.5, 0.80N×97.40E, h21km, mB5.1, mb4.7, Ms4.6, Msz4.4*
ISC 30 11:35:32.7±0.6, 0.77N±0.09×97.40E±0.09, h24km, h24km±1.9km: pP-P, n37, σ0=96/36, mb4.4/26, MS4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.54**	**36**	*e*P	**Pn**	**11 36 54.6**	**-1.3**
KKM	**Kota Kinabalu**	**19.49**	**74**	*e*P	**P**	**11 39 55.4**	**-5.8**
KMI	**Kunming**	**24.76**	**12**	P	**P**	**11 40 56.3**	**+2.2**
KMI				AP		11 41 03.0	
KMI				XP		11 41 05.8	
KMI				S	**S**	**11 45 19.5**	**+7.5**
KMI				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=N,797nm,15.8s,MS4.4						
KMI				LR	LR		
	comp=E,489nm,17.2s,MS4.4						
KMI				LR	LR		
	comp

MKAR **Makanchi Array** 47.71 346 P **P** 11 44 10.2 +0.7
comp=Z,1.7nm,0.5s,mb4.3,baz=162,slow=8.4,SNR=10.0
MKAR LR LR 12 05 40.8
comp=Z,85nm,21.3s,MS3.7,baz=173,slow=38
CN2 Changchun 49.60 27 *eP* **P** **11 44 23.0 -1.2**
KURK Kurchatov 52.26 345 *eP* **P** **11 44 43.3 -1.0**
comp=Z,7.7nm,1.0s,mb4.6
ZAL Zalesovo 54.01 351 P **P** **11 44 56.8 -0.4**
comp=Z,4.1nm,0.3s,mb4.8,baz=316,slow=4.6,SNR=12
ZAL LR LR 12 12 52.5
comp=Z,106nm,20.6s,MS3.9,baz=86,slow=42
BVAR Borovoye Array 56.72 341 P **P** **11 45 16.7 -0.1**
comp=Z,0.7nm,0.5s,mb3.9,baz=157,slow=11,SNR=5.1
CHKZ Chkalovo 57.20 341 *eP* **P** **11 45 19.7 -0.6**
comp=Z,4.3nm,0.9s,mb4.5
CHKZ *ep*P pP 11 45 26.5 -1.2
KMBO Kilima Mbogo 60.17 268 LR LR 12 08 27.8
comp=Z,188nm,18.9s,MS4.2,baz=91,slow=33
ASF Jabal al Asfar 64.88 305 P **P** **11 46 13.5 +0.9**
comp=Z,1.7nm,0.3s,mb4.5,baz=20,slow=4.0,SNR=5.8
MALT Malatya 65.57 312 *eP* **P** **11 46 16.0 -0.9**
comp=Z,5.7nm,1.1s,mb4.5
MALT *ep*P pP 11 46 23.3 -1.2
EIL Elat 65.85 302 *eP* **P** **11 46 18.6 -0.3**
comp=Z,8.4nm,1.4s,mb4.6
EIL *ep*P pP 11 46 24.8 -1.7
BRTR Keskin Array B 69.55 312 P **P** **11 46 41.0 -1.0**
comp=Z,1.1nm,0.7s,mb3.9,baz=127,slow=6.2,SNR=6.2
IDI Anoyia 75.32 306 P **P** **11 47 15.9 -0.3**
comp=Z,3.6nm,0.6s,mb4.5,baz=311,slow=6.8,SNR=3.1
AKASG Malin Array Be 75.72 322 P **P** **11 47 17.3 -0.9**
comp=Z,0.2nm,0.2s,mb3.6,baz=94,slow=4.2,SNR=7.9
AKASG Malin Array Be 75.72 322 P **P** **11 47 17.3 -0.9**
MLR Muntele Rosu 76.52 317 P **P** **11 47 22.8 0.0**
comp=Z,4.0nm,0.9s,mb4.3,baz=151,slow=2.9,SNR=3.8
FINES FINESS Array B 80.47 333 P **P** **11 47 43.3 -0.7**
comp=Z,0.7nm,0.8s,mb3.6,baz=108,slow=6.0,SNR=3.7
GERES GERESS Array B 85.27 319 P **P** **11 48 09.4 +0.6**
comp=Z,0.3nm,0.2s,mb4.0,baz=124,slow=4.8,SNR=7.9
VNDA Vanda 85.36 169 P **P** **11 48 11.8 +3.0**
comp=Z,1.6nm,0.9s,mb4.2,baz=316,slow=6.5,SNR=6.0
VNDA Vanda 85.36 169 P **P** **11 48 11.8 +3.0**
HFS Hagfors 86.19 330 LR LR 12 30 42.0
comp=Z,58nm,19.5s,MS4.0,baz=268,slow=38
PDAR Pinedale Array 130.34 26 PKP PKPdf 11 54 43.4 -2.9
comp=Z,0.3nm,0.7s,baz=63,slow=30,SNR=2.6
TXAR Lajitas Array 143.93 32 PKP PKPdf 11 55 10.8 -0.6
comp=Z,0.8nm,0.6s,baz=258,slow=0.9,SNR=11

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*GUC **30** 11:51:31.1±1.0,30.54S×71.44W,h15km±6km,ML4.5*
*NEIC **30** 11:51:31.1,30.54S×71.44W,h15km,ML4.5(GUC),After GUC.*
NEIC Felt [II] at Ovalle.
*IDC **30** 11:51:36.4±1.6,30.27S×70.92W,mb3.9/3,mb1 3.9/7, mb1mx3.8/17,mbtmp3.8/7,ML3.7/4,Error ellipse: s-maj=34.2km s-min=17.3km az=43.0*

ISC 30 11:51:28.8±1.2,30.52S±0.03×71.60W±0.08,h1km±7km, n26,σ0 97/38,mb3.9/3,6C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TLL	**Tololo Astrono**	**0.77**	**63**	⇓*iP*		**Pg**		**11 51 44.1**	**-0.1**
TLL				*i* S		**Sg**		**11 51 53.5**	**-0.9**
TLL				AMP				11 51 55.5	
	comp=N,23μm,0.3s								
CHNG	**Los Chungos**	**1.36**	**177**	⇓*iP*		**Pb**		**11 51 54.0**	**-0.9**
CHNG				*i* S		**Sb**		**11 52 11.2**	**-1.5**
CHNG				AMP				11 52 15.8	
	comp=E,7μm,0.4s								
LCO	**Las Campanas**	**1.69**	**28**	⇑*iP*		**Pn**		**11 51 59.9**	**+0.1**
LCO				*i* S		**Sb**		**11 52 21.1**	**-1.2**
LCO				AMP				11 52 22.9	
	comp=E,4μm,0.7s								
PACH	**Papudo**	**2.02**	**176**	⇑*iP*		**Pn**		**11 52 04.6**	**+0.2**
PACH				*i* S		**Sn**		**11 52 30.0**	**-0.7**
VACH	**Vallenar**	**2.07**	**21**	*eP*		**Pn**		**11 52 05.9**	**+0.7**
VACH				*i* S		**Sn**		**11 52 31.0**	**-0.9**
JACH	**Jahuel**	**2.32**	**159**	*eP*		**Pn**		**11 52 09.3**	**+0.6**
JACH				*i* S		**Sn**		**11 52 37.4**	**-1.0**
ROCH	**El Roble**	**2.50**	**169**	⇑*iP*		**Pn**		**11 52 12.0**	**+0.7**
ROCH				*i* S		**Sn**		**11 52 43.7**	**+0.8**
ZON	**Zonda**	**2.71**	**113**	*eP*		**Pn**		**11 52 15.0**	**+0.7**
ZON				*eS*		**Sn**		**11 52 52.0**	**+3.8**
LCCH	**Las Cruces**	**2.95**	**180**	⇑*iP*		**Pn**		**11 52 17.4**	**-0.4**
DSCH	**Colegio Aleman**	**3.00**	**163**	*eP*		**Pn**		**11 52 19.6**	**+1.1**
DSCH				*i* S		**Sn**		**11 52 55.4**	**-0.3**
DSCH				AMP				11 53 07.6	
	comp=N,5μm,0.6s								
FCH	**Farellones**	**3.01**	**159**	⇑*iP*		**Pn**		**11 52 19.7**	**+1.0**
FCH				*i* S		**Sn**		**11 52 56.0**	**0.0**
FCH				AMP				11 53 07.8	
	comp=E,1μm,0.7s								
CFAA	**Coronel Fontan**	**3.08**	**111**	Pn		**Pn**		**11 52 20.1**	**+0.5**
	comp=E,4.1nm,0.3s,baz=297,slow=11,SNR=76								
CFAA				Lg				11 53 01.2	
	comp=E,17nm,0.3s,baz=191,slow=20,SNR=16								
ANTU	**Antumapu**	**3.15**	**165**	*i* S		**Sn**		**11 52 57.9**	**-1.6**
ANTU				AMP				11 53 07.3	
	comp=E,2μm,0.5s								
TACH	**Talagante**	**3.18**	**170**	⇑*iP*		**Pn**		**11 52 21.4**	**+0.4**
PCH	**Pirque**	**3.23**	**164**	*iP*		**Pn**		**11 52 21.8**	**+0.1**
MDZ	**Mendoza**	**3.32**	**136**	*eP*		**Pn**		**11 52 22.4**	**-0.7**
MDZ				*i*				11 52 31.1	
MDZ				*i* S		**Sn**		**11 53 06.2**	**+2.4**
LMEL	**Las Melosas**	**3.52**	**161**	*eP*		**Pn**		**11 52 27.1**	**+1.2**
LMEL				*i* S		**Sn**		**11 53 09.0**	**+0.1**
LMEL				AMP				11 53 21.1	
	comp=N,1μm,0.3s								
PLCA	**Paso Flores**	**10.23**	**176**	Pn		**P**		**11 54 08.8**	**+8.9**
	comp=N,0.2nm,0.3s,baz=330,slow=14,SNR=3.6								
PLCA	**Paso Flores**	**10.23**	**176**	*eP*		**P**		**11 53 58.0**	**-1.9**
	comp=N,1.2nm,0.5s								
TRQA	**Tornquist**	**10.94**	**136**	*eP*		**P**		**11 54 08.0**	**-1.7**
	comp=N,6.5nm,0.6s								
LPAZ	**La Paz**	**14.51**	**13**	Pn		**P**		**11 54 57.8**	**+0.3**
	comp=N,0.1nm,0.3s,baz=160,slow=9.6,SNR=4.2								
LPAZ	**La Paz**	**14.51**	**13**	*eP*		**P**		**11 54 57.4**	**-0.1**
	comp=N,1.5nm,0.8s								
SIV	**San Ignacio**	**17.38**	**36**	Pn		**P**		**11 55 33.8**	**-0.5**
	comp=N,0.3nm,0.3s,baz=226,slow=16,SNR=6.9								
BDFB	**Brasilia**	**26.19**	**61**	P		**P**		**11 57 08.9**	**+2.0**
	comp=N,1.5nm,0.5s,mb3.9,baz=244,slow=11,SNR=4.0								
TXAR	**Lajitas Array**	**66.90**	**330**	P		**P**		**12 02 31.3**	**+6.2**
	comp=N,0.3nm,0.8s,mb3.6,baz=159,slow=7.7,SNR=3.4								
DBIC	**Dimbokro**	**73.72**	**72**	P		**P**		**12 03 07.7**	**+0.8**
	comp=N,1.2nm,0.5s,mb4.2,baz=209,slow=9.2,SNR=4.9								

IDC 30 11:55:03.8±3.8,0.47N×98.01E,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=160.9km s-min=22.7km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.97**	**122**	P		P	P	12 02 48.6	-1.6
	0.5nm,0.5s,baz=303,slow=9.0,SNR=6.9								
ASAR	**Alice Springs**	**42.31**	**127**	P		P	P	12 02 59.5	-1.8
	0.4nm,0.6s,baz=299,slow=7.8,SNR=5.3								
SONM	**Songino Array**	**47.74**	**8**	P		P	P	12 03 43.6	-0.9
	0.2nm,0.4s,baz=180,slow=14,SNR=3.9								
MKAR	**Makanchi Array**	**48.14**	**346**	P		P	P	12 03 45.2	-2.4
	0.6nm,0.6s,baz=153,slow=8.4,SNR=7.8								
ZAL	**Zalesovo**	**54.40**	**350**	P		P	P	12 04 31.9	-2.8
	0.6nm,0.4s,baz=169,slow=8.6,SNR=4.1								

IDC 30 11:58:11.9±4.4,2.08S×103.59E,mb3.5/4,mb1 3.7/4, mb1mx3.5/17,mbtmp3.5/4,Error ellipse: s-maj=238.4km s-min=23.9km az=53.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.89**	**123**	P		P	P	12 05 06.3	-1.1
	0.2nm,0.5s,baz=298,slow=11,SNR=6.6								
ASAR	**Alice Springs**	**36.35**	**129**	P		P	P	12 05 16.9	-2.8
	0.2nm,0.5s,baz=299,slow=7.7,SNR=4.5								
MKAR	**Makanchi Array**	**52.16**	**342**	P		P	P	12 07 24.0	-2.5
	0.4nm,0.6s,baz=141,slow=9.2,SNR=6.0								
ZAL	**Zalesovo**	**57.98**	**347**	P		P	P	12 08 06.4	-2.2
	1.0nm,0.4s,baz=216,slow=4.8,SNR=4.4								

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*BJI **30** 12:00:32.7,10.03S×161.40E,h75km,mB5.3,mb5.2, Ms5.2,Msz4.9*
*NEIC **30** 12:00:34.5±0.1,10.25S×161.32E,mb5.6/79,MW5.6, Error ellipse: s-maj=4.4km s-min=3.4km az=137.0, Moment Tensor Solution. s4 Moment tensor: Scale 10^17 Nm; Mrr=0.90; Mθθ=0.46; Mϕϕ=-1.36; Mrθ=-1.10; Mϕθ=2.74; Mϕr=0.74; Best double couple: Mo=3.1×10^17 NP1:ϕs190°, δ66°,λ178°. NP2:ϕs281°,δ88°,λ24°. Principal axes: T 2.59, Plg18°, Azm148°; N 1.1, Plg66°, Azm285°; P -3.68, Plg15°, Azm53°;*
*IDC **30** 12:00:34.5±0.5,10.33S×161.44E,h82km±3km,mb5.1/26, mb1 5.2/27,mb1mx5.2/28,mbtmp5.4/27,MS4.8/19, Ms1 4.8/19,ms1mx4.7/23 Error ellipse: s-maj=8.9km s-min=6.6km az=29.0*
*HRVD **30** 12:00:34.5±0.2,10.23S×161.40E,h84km±1km,MW5.7/75, Centroid moment Tensor Solution. LP body waves: s71,c138;Mantle waves: s75,c130; Half duration: 1s8 Moment tensor: Scale 10^17Nm; Mrr-0.09±.06; Mθθ0.21±.07; Mϕϕ-0.11±.07; Mrθ-1.34±.06; Mϕθ4.72±.07; Mϕr0.39±.06; Best double couple: Mo=4.924×10^17 NP1: ϕs182°,δ74°,λ-176°. NP2:ϕs90°,δ86°,λ-16°. Principal axes: T 4.868, Plg8°, Azm137°; N .112, Plg74°, Azm256°; P -4.981, Plg14°, Azm45°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **30** 12:00:37.0±1.0,10.14S×161.21E,h107km,mb5.7/32, MS4.9/10 Error ellipse: s-maj=8.6km s-min=6.5km az=63.0*

ISC 30 12:00:33.2±0.1,10.27S±0.03×161.26E±0.03,h79km, h79km±1.2km:pP-P,n466,σ0 90/318,mb5.5/127,19C-21D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.53**	**303**	P		**P**	**P**	**12 01 02.9**	**+3.5**
	6μm,0.3s,baz=149,slow=2.2,SNR=949								
HNR				S		**S**	**S**	**12 01 25.5**	**+6.8**
	7μm,0.3s,baz=198,slow=24,SNR=14								
HNR				LR		LR	LR	12 01 50.3	
	comp=Z,27μm,18.2s,baz=58,slow=44								
NOUC	**Port Laguerre**	**12.72**	**158**	⇑*iP*		**P**	**P**	**12 03 32.6**	**+0.1**
NOUC				*eS*		**S**	**S**	**12 05 47.2**	**-5.5**
DZM	**Mont Dzumac**	**12.75**	**158**	⇑*iP*		**P**	**P**	**12 03 32.6**	**-0.2**
DZM				*eS*		**S**	**S**	**12 05 47.8**	**-5.5**
DZM	**Mont Dzumac**	**12.75**	**158**	P		**P**	**P**	**12 03 32.5**	**-0.4**
	71nm,0.3s,baz=11,slow=15,SNR=568								
DZM				S		**S**	**S**	**12 05 51.0**	**-2.3**
	24nm,0.3s,baz=251,slow=19,SNR=6.1								
DZM				LR		LR	LR	12 07 38.6	
	comp=Z,7μm,21.6s,baz=345,slow=34								
PMG	**Port Moresby**	**13.92**	**272**	P		**P**	**P**	**12 03 53.4**	**+5.3**
	2.3nm,0.3s,baz=96,slow=8.5,SNR=24								
PMG				S		**S**	**S**	**12 06 30.3**	**+9.3**
	0.6nm,0.3s,baz=209,slow=4.7,SNR=2.1								
PMG				LR		LR	LR	12 08 48.6	
	comp=Z,7μm,19.2s,baz=101,slow=35								
CTA	**Charters Tower**	**17.45**	**234**	⇓*iP*		**P**	**P**	**12 04 37.1**	**+4.1**
	196nm,1.0s								
CTA	**Charters Tower**	**17.45**	**234**	⇓*iP*		**P**	**P**	**12 04 37.1**	**+4.1**
CTA				pmax		pmax	pmax		
	comp=Z,196nm,1.0s								
CTA	**Charters Tower**	**17.45**	**234**	P		**P**	**P**	**12 04 36.5**	**+3.5**
	comp=Z,6.3nm,0.3s,baz=60,slow=12,SNR=108								
CTA				S		**S**	**S**	**12 07 54.5**	**+12**
	comp=Z,0.8nm,0.3s,baz=109,slow=14,SNR=1.9								
CTAO	**Charters Tower**	**17.45**	**234**	⇓*iP*		**P**	**P**	**12 04 36.9**	**+3.9**
CTAO				pmax		pmax	pmax		
	comp=Z,282nm,0.9s								
CTAO	**Charters Tower**	**17.45**	**234**	⇓*iP*		**P**	**P**	**12 04 36.9**	**+3.9**
	comp=Z,282nm,0.9s								
KWAJ	**Kwajalein Atol**	**19.97**	**19**	P		**P**	**P**	**12 05 01.5**	**-0.2**
	comp=Z,16μm,0.9s,SNR=12								
KWAJ	**Kwajalein Atol**	**19.97**	**19**	*eP*		**P**	**P**	**12 05 00.7**	**-0.9**
	comp=Z,2μm,0.8s								
KWAJ				*e*				12 05 07.8	
AFI	**Afiamalu**	**26.61**	**101**	P		**P**	**P**	**12 06 04.7**	**-1.6**
	comp=Z,71nm,1.0s,mb5.2,baz=274,slow=8.4,SNR=5.2								
AFI				LR		LR	LR	12 13 49.8	
	comp=Z,1μm,18.2s,baz=100,slow=30								
RAO	**Raoul Island**	**27.13**	**137**	P		**P**	**P**	**12 06 03.2**	**-7.8**
RAO	**Raoul Island**	**27.13**	**137**	LR		LR	LR	12 15 29.5	
	comp=Z,2μm,18.7s,baz=352,slow=33								
CNB	**Canberra Magne**	**27.19**	**202**	*eP*		**P**	**P**	**12 06 12.5**	**+1.1**
	comp=Z,595nm,0.7s,mb6.2								
WRAB	**Tennant Creek**	**27.66**	**247**	P		**P**	**P**	**12 06 16.0**	**+0.1**
	comp=Z,479nm,0.8s,mb6.1,SNR=48								
WB2	**Warramunga Arr**	**27.66**	**246**	⇓*iP*		**P**	**P**	**12 06 16.4**	**+0.5**
WB2				*ep*P		pP	pP	12 06 38.2	+4.1
WB2				*eS*		**S**	**S**	**12 10 49.3**	**-1.1**
WRA	**Warramunga Arr**	**27.67**	**246**	P		**P**	**P**	**12 06 16.5**	**+0.6**
	comp=Z,66nm,0.8s,mb5.2,baz=75,slow=9.0,SNR=213								
WRA				S		**S**	**S**	**12 10 48.7**	**-1.8**
	comp=Z,12nm,1.0s,baz=77,slow=15,SNR=2.7								
WRA				ScP				12 13 04.3	
	comp=Z,14nm,1.1s,baz=69,slow=3.2,SNR=6.1								
STKA	**Stephens Creek**	**28.17**	**217**	⇓*iP*		**P**	**P**	**12 06 20.6**	**+0.3**
	comp=Z,63nm,1.9s,mb4.8								
STKA	**Stephens Creek**	**28.17**	**217**	P		**P**	**P**	**12 06 21.0**	**+0.7**
	comp=Z,19nm,0.8s,mb4.7,baz=28,slow=10,SNR=29								
STKA				LR		LR	LR	12 16 19.2	
	comp=Z,7μm,20.9s,baz=40,slow=34								
KAKA	**Kakadu**	**28.34**	**262**	⇑*iP*		**P**	**P**	**12 06 22.3**	**+0.3**
	comp=Z,55nm,0.6s,mb5.3								
KAKA				*ep*P		pP	pP	12 06 45.1	+4.8
KAKA				*eS*		**S**	**S**	**12 11 00.2**	**-1.0**
GUMO	**Guam**	**28.74**	**325**	LR		LR	LR	12 16 57.8	
	comp=Z,3μm,20.6s,baz=139,slow=34								
ASAR	**Alice Springs**	**29.29**	**239**	P		**P**	**P**	**12 06 29.9**	**-0.5**
	comp=Z,26nm,0.9s,mb4.9,baz=71,slow=9.4,SNR=149								
ASAR				S		**S**	**S**	**12 11 21.4**	**+5.1**
	comp=Z,8.0nm,0.9s,baz=65,slow=15,SNR=2.9								
ASAR				ScP				12 13 09.1	
	comp=Z,3.0nm,0.6s,baz=84,slow=2.7,SNR=5.0								
ASAR				LR		LR	LR	12 17 19.0	
	comp=Z,3μm,21.7s,baz=58,slow=34								
ASPA	**Alice Springs**	**29.29**	**239**	⇓*iP*		**P**	**P**	**12 06 29.8**	**-0.6**
ASPA				*ep*P		pP	pP	12 06 52.5	+3.7
ASPA				*eS*		**S**	**S**	**12 11 23.2**	**+6.9**
TOO	**Toolangi**	**30.67**	**205**	⇑*iP*		**P**	**P**	**12 06 43.5**	**+1.0**
	comp=Z,2.0nm,0.7s								
TOO	**Toolangi**	**30.67**	**205**	⇑*iP*		**P**	**P**	**12 06 43.5**	**+1.0**
TOO				pmax		pmax	pmax		
	comp=Z,2.0nm,0.7s								
URZ	**Urewera**	**31.30**	**156**	P		**P**	**P**	**12 06 47.2**	**-0.8**
	comp=Z,17nm,0.6s,mb5.0,baz=291,slow=2.7,SNR=20								
BKZ	**Black Stump Fm**	**31.84**	**157**	PN		**P**	**P**	**12 06 51.1**	**-1.6**
BKZ				*ep*P		pP	pP	12 07 17.6	+6.2
ADE	**Adelaide**	**32.05**	**216**	*eP*		**P**	**P**	**12 06 55.5**	**+0.9**
JCZ	**Jackson Bay**	**34.31**	**170**	*ePN*		**P**	**P**	**12 07 14.7**	**+0.7**
RPZ	**Rata Peaks**	**34.40**	**167**	P		**P**	**P**	**12 07 14.3**	**-0.4**
	comp=Z,63nm,0.9s,mb5.5,baz=306,slow=2.8,SNR=21								
TAU	**Tasmania Unive**	**34.72**	**198**	*eP*		**P**	**P**	**12 07 18.9**	**+1.4**
TAU				pmax		pmax	pmax		
	comp=Z,70nm,0.8s,mb5.5								
TAU	**Tasmania Unive**	**34.72**	**198**	*eP*		**P**	**P**	**12 07 18.9**	**+1.4**
	comp=Z,70nm,0.8s,mb5.5								
MSZ	**Milford Sound**	**34.76**	**172**	*ePN*		**P**	**P**	**12 07 16.4**	**-1.5**
FITZ	**Fitzroy Crossi**	**35.35**	**253**	⇓*iP*		**P**	**P**	**12 07 23.5**	**+0.4**
	comp=Z,102nm,0.8s,mb5.7								
FITZ				*ep*P		pP	pP	12 07 42.5	+0.4
FITZ				*e*PCP		PP	PP	12 09 01.0	+16
FITZ				*eS*		**S**	**S**	**12 12 50.8**	**0.0**
FITZ	**Fitzroy Crossi**	**35.35**	**253**	P		**P**	**P**	**12 07 23.6**	**+0.5**
	comp=Z,151nm,0.8s,mb5.9,baz=77,slow=4.3,SNR=146								
FITZ				LR		LR	LR	12 20 30.3	
	comp=Z,2μm,18.5s,baz=176,slow=34								
FORT	**Forrest**	**36.97**	**232**	*eP*		**P**	**P**	**12 07 37.5**	**+0.8**
	comp=Z,2μm,0.9s								
FORT				*ep*P		pP	pP	12 08 01.0	+5.2
RAR	**Rarotonga**	**38.95**	**111**	P		**P**	**P**	**12 07 54.6**	**+1.4**
MBWA	**Marble Bar**	**41.30**	**250**	⇑*iP*		**P**	**P**	**12 08 13.9**	**+1.4**
	comp=Z,128nm,1.0s,mb5.7								
MBWA				*ep*P		pP	pP	12 08 36.8	+5.0
CBIJ	**Chichi jima**	**41.49**	**334**	P		**P**	**P**	**12 08 14.6**	**+0.4**
	comp=Z,161nm,0.7s,mb5.9,baz=338,slow=9.1,SNR=5.1								
KLBR	**Kellerberrin**	**45.45**	**236**	*eP*		**P**	**P**	**12 08 46.2**	**0.0**
	comp=Z,571nm,0.9s,mb6.3								
KLBR				*ep*P		pP	pP	12 09 13.2	+7.6
NWAO	**Narrogin (SRO)**	**46.29**	**234**	*eP*		**P**	**P**	**12 08 53.3**	**+0.4**
NWAO				pmax		pmax	pmax		
	comp=Z,46nm,1.0s								
NWAO	**Narrogin (SRO)**	**46.29**	**234**	LR		LR	LR	12 26 46.1	
	comp=Z,2μm,18.3s,baz=46,slow=34								
NWAO	**Narrogin (SRO)**	**46.29**	**234**	*eP*		**P**	**P**	**12 08 53.2**	**+0.4**
	comp=Z,46nm,1.0s,mb5.2								
PPR	**Puerto Princes**	**46.76**	**294**	⇑*iP*		**P**	**P**	**12 08 57.0**	**+0.2**
MUN	**Mundaring**	**46.82**	**236**	*eP*		**P**	**P**	**12 08 58.1**	**+1.0**
	comp=Z,42nm,1.3s,mb5.0								
MUN				*ep*P		pP	pP	12 09 23.3	+6.7
MUN	**Mundaring**	**46.82**	**236**	*eP*		**P**	**P**	**12 08 58.1**	**+1.0**
MUN				*e**PP		pP	pP	12 09 23.3	+6.7
MUN				pmax		pmax	pmax		
	comp=Z,43nm,1.3s,mb5.0								
KKM	**Kota Kinabalu**	**47.69**	**288**	*eP*		**P**	**P**	**12 09 03.7**	**-0.4**
KKM				*ep*P		pP	pP	12 09 23.6	0.0
PAE	**Paea**	**48.16**	**104**	*eP*		**P**	**P**	**12 09 07.3**	**-0.4**
	comp=Z,73nm,0.9s,mb5.5								
PPT	**Papeete**	**48.16**	**104**	*e*PP		PP	PP	12 11 00.0	-0.2
PPT				*e*LQ				12 20 56.0	
PPT				*e*LR		LR	LR	12 23 09.6	
	comp=Z,1μm,24.2s,baz=274								
PPT	**Papeete**	**48.16**	**104**	LR		LR	LR	12 24 08.6	
	comp=Z,651nm,19.9s,baz=278,slow=30								
TBI	**Tubuai**	**48.71**	**112**	*eP*		**P**	**P**	**12 09 11.7**	**-0.2**
	comp=Z,132nm,1.1s,mb5.8								
TBI				*e*PP		PP	PP	12 11 10.1	+4.6
TBI				*e*LQ				12 21 22.3	
TBI				*e*LR		LR	LR	12 23 28.1	
	comp=Z,1μm,33.0s,baz=282								
JOW	**Kunigami**	**48.84**	**320**	P		**P**	**P**	**12 09 13.4**	**+0.6**
	comp=Z,85nm,0.9s,mb5.7,baz=144,slow=7.4,SNR=11								
JOW				LR		LR	LR	12 27 54.4	
	comp=Z,811nm,21.6s,baz=124,slow=34								
PMOR	**Pomariorio Ree**	**49.76**	**101**	*eP*		**P**	**P**	**12 09 19.3**	**-0.7**
	comp=Z,56nm,0.9s,mb5.5								
VAH	**Vaihoa**	**50.01**	**101**	*eP*		**P**	**P**	**12 09 21.1**	**-0.9**
	comp=Z,97nm,1.1s,mb5.6								
KIP	**Kipapa**	**50.90**	**52**	*eP*		**P**	**P**	**12 09 26.9**	**-1.8**
KIP				pmax		pmax	pmax		
	comp=Z,261nm,1.1s,mb6.2								
KIP	**Kipapa**	**50.90**	**52**	*eP*		**P**	**P**	**12 09 26.9**	**-1.8**
	comp=Z,261nm,1.1s,mb6.2								
MJAR	**Matsushiro Arr**	**51.36**	**336**	P		**P**	**P**	**12 09 30.5**	**-1.4**
	comp=Z,8.3nm,0.5s,mb5.0,baz=169,slow=8.7,SNR=24								
MAJO	**Matsushiro**	**51.36**	**336**	*eP*		**P**	**P**	**12 09 30.8**	**-1.2**
MAJO				pmax		pmax	pmax		
	comp=Z,43nm,0.9s,mb5.5								
MAJO	**Matsushiro**	**51.36**	**336**	*eP*		**P**	**P**	**12 09 30.8**	**-1.2**
	comp=Z,43nm,0.9s,mb5.5								
MAT	**Matsushiro**	**51.36**	**336**	*eP*		**P**	**P**	**12 09 31.0**	**-1.0**
MAT				*eS*		**S**	**S**	**12 16 37.0**	**-6.7**
MAT				pmax		pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2								
MAT	**Matsushiro**	**51.36**	**336**	*eP*		**P**	**P**	**12 09 31.0**	**-1.0**
	comp=Z,18nm,0.8s,mb5.2								
MAT				*eS*		**S**	**S**	**12 16 37.0**	**-6.7**
MAT	**Matsushiro**	**51.36**	**336**	P		**P**	**P**	**12 09 30.5**	**-1.5**
MAT				S		**S**	**S**	**12 16 37.0**	**-6.7**
KKH	**Kailua Kona**	**51.52**	**55**	P		**P**	**P**	**12 09 37.0**	**+3.6**
KKH	**Kailua Kona**	**51.52**	**55**	P		**P**	**P**	**12 09 31.5**	**-1.8**
NACB	**Ninganchiao**	**51.69**	**312**	*eP*		**P**	**P**	**12 09 30.3**	**-4.2**
NACB				*ep*P		pP	pP	12 09 55.5	+1.1
HKL	**Haleakala**	**51.89**	**53**	P		**P**	**P**	**12 09 35.8**	**-0.3**
HKL	**Haleakala**	**51.89**	**53**	*eP*		**P**	**P**	**12 09 35.4**	**-0.7**
KSM	**Kuching**	**52.02**	**280**	*eP*		**P**	**P**	**12 09 37.0**	**-0.2**
KSM				*ep*P		pP	pP	12 09 55.1	-1.9
YHNB	**Yeheng**	**52.15**	**312**	*eP*		**P**	**P**	**12 09 37.9**	**0.0**
YHNB				*ep*P		pP	pP	12 09 57.3	-0.5
QZH	**Quanzhou**	**54.35**	**311**	P		**P**	**P**	**12 09 54.5**	**+0.2**
QZH				AP		pP	pP	12 10 16.8	+2.5
QZH				S		**S**	**S**	**12 17 21.0**	**-3.5**
QZH				AMB		AMB	AMB		
	comp=Z,60nm,0.7s,mb5.7								

comp=Z,46nm,1.2s,mb5.4
MDJ *e*pP pP 12 11 04.5 -1.2
RKT Rikitea 61.99 111 *e*P **P** **12 10 46.6 -1.0**
comp=Z,32nm,1.1s,mb5.3
RKT Rikitea 61.99 111 *e*PP PP 12 12 57.8 -9.3
RKT *e*SS SS 12 23 08.5 -1.0
RKT *e*LQ 12 27 05.1
RKT *e*LR LR 12 29 31.0
comp=Z,1µm,30.2s,baz=280
TIA Tai'an 62.15 320 P **P** **12 10 46.8 -1.7**
SNY Shenyang 62.32 329 ⇑P **P** **12 10 48.5 -1.0**
SNY S **S** **12 19 07.3 -0.6**
SNY SS SS 12 23 13.5 -0.9
SNY AMB AMB
comp=Z,450nm,5.5s
SNY LR LR
comp=N,700nm,22.4s
SNY LR LR
comp=Z,1µm,24.0s
CN2 Changchun 62.88 332 *e*P **P** **12 10 53.0 -0.3**
CN2 *e*AP pP 12 11 13.0 -0.8
CN2 *e*XP sP 12 11 21.0 -1.7
CN2 *e*S **S** **12 19 17.5 +2.5**
CN2 SS SS 12 23 23.5 +0.1
CN2 AMB AMB
comp=Z,70nm,1.1s,mb5.5
CN2 AMB AMB
comp=Z,410nm,4.0s
CN2 LR LR
comp=N,720nm,20.0s
CN2 LR LR
comp=E,690nm,20.0s
CN2 LR LR
comp=Z,800nm,20.0s
PET Petropavlovsk 63.08 358 *e*P **P** **12 10 53.2 -1.2**
PET *e*S **S** **12 19 14.5 -2.8**
PET *e**SS 12 19 50.9
PET *e* 12 20 35.2
PET pmax pmax
comp=Z,105nm,1.5s,mb5.5
PET pmax pmax
comp=Z,133nm,1.2s,mb5.7
PET smax
comp=E,600nm,14.4s
PET MLR MLR
comp=Z,300nm,15.0s
KKTK Khon Kaen 63.56 294 P **P** **12 11 00.0 +1.8**
SMY Shemya 63.70 9 *e*P **P** **12 10 57.4 -1.1**
SMY MLR MLR
comp=Z,600nm,23.0s
FX1 Attu Island--F 63.72 8 P **P** **12 10 58.0 -0.6**
comp=Z,211nm,0.7s,mb6.1,baz=175,slow=3.0,SNR=79
FX1 LR LR 12 38 04.6
comp=Z,23nm,18.9s,baz=47,slow=35
FX1 Attu Island--F 63.72 8 *e*P **P** **12 10 58.0 -0.7**
FX1 *e*pP pP 12 11 17.9 -1.3
ENH Enshi 64.02 311 *e*P **P** **12 10 60.0 -1.0**
comp=Z,40nm,1.0s,mb5.2
ENH *e*pP pP 12 11 21.9 +0.4
KIWB Kanaga Island 64.61 15 *e*P **P** **12 11 04.1 -0.3**
BJT Baijiatuan 65.15 323 *e*P **P** **12 11 07.4 -0.8**
BJT pmax pmax
comp=Z,16nm,0.6s
BJT Baijiatuan 65.15 323 *e*P **P** **12 11 07.4 -0.7**
comp=Z,16nm,0.6s,mb5.0
BJI Beijing 65.16 323 P **P** **12 11 07.5 -0.7**
BJI AP pP 12 11 28.0 -0.8
BJI XP sP 12 11 37.3 -0.3
BJI S S 12 19 41.3 -1.9
BJI AMB AMB
comp=Z,20nm,2.0s,mb4.6
BJI LR LR
comp=N,601nm,22.0s
BJI LR LR
comp=E,493nm,20.8s
BJI LR LR
comp=Z,1µm,24.5s
NNT Nongplab 65.18 289 P **P** **12 11 10.0 +1.3**
CASY Casey 65.54 200 *e*P **P** **12 11 09.6 -0.6**
NST Nakhon Sawan 65.78 292 P **P** **12 11 09.0 -3.5**
comp=Z,75nm,1.0s,mb5.5
XAN Xi'an 66.37 314 P **P** **12 11 15.0 -1.1**
XAN AMB AMB
comp=Z,34nm,0.6s,mb5.3
KMI Kunming 66.97 303 P **P** **12 11 20.8 +0.8**
KMI AP pP 12 11 40.0 -0.7
KMI XP sP 12 11 47.8 -1.5
KMI PP PP 12 13 51.0 +0.9
KMI PPP PPP 12 15 27.5 +0.3
KMI S S 12 20 06.8 +1.3
KMI XS 12 20 39.5
KMI SKS SKS 12 21 07.3 +1.8
KMI SS SS 12 24 28.3 +1.1
KMI SSS SSS 12 27 26.5 +1.3
KMI AMB AMB
comp=Z,64nm,1.3s,mb5.3
KMI AMB AMB
comp=Z,222nm,4.8s
KMI LR LR
comp=N,508nm,17.0s
KMI LR LR
comp=E,504nm,17.8s
KMI LR LR
comp=Z,739nm,19.5s
VNDA Vanda 67.24 180 P **P** **12 11 20.4 -0.4**
comp=Z,17nm,1.0s,mb4.9,baz=345,slow=6.5,SNR=71
VNDA LR LR 12 34 13.4
comp=Z,507nm,20.8s,baz=101,slow=30
VNDA Vanda 67.24 180 P **P** **12 11 20.4 -0.4**
VNDA LR LR 12 34 13.4
BDT Bhumibol Dam 67.31 294 P **P** **12 11 22.0 -0.2**
CHRT Chiangrai 67.51 296 ⇑P **P** **12 11 24.0 +0.6**
comp=Z,513nm,0.9s,mb6.4
SBA Scott Base 67.63 179 *e*P **P** **12 11 23.6 +0.3**
SBA pmax pmax
comp=Z,38nm,1.0s,mb5.2
SBA Scott Base 67.63 179 *e*P **P** **12 11 23.6 +0.4**
comp=Z,38nm,1.0s,mb5.2
SBA *e*pP pP 12 11 41.5 -2.5
CM31 Chiang Mai Arr 67.77 295 *e*P **P** **12 11 26.0 +1.0**
comp=Z,45nm,0.8s,mb5.3
CM31 *e*pP pP 12 11 44.1 -1.7
NIKO Nikolski 67.97 19 *e*P **P** **12 11 24.7 -1.0**
HHC Hu-ho-hao-te 68.43 322 *e*P **P** **12 11 29.5 +0.7**
HHC AMB AMB
comp=Z,23nm,0.9s,mb5.0
HHC AMB AMB
comp=Z,178nm,4.1s
HHC LR LR
comp=N,705nm,23.5s
HHC LR LR
comp=E,427nm,12.7s
HHC LR LR
comp=Z,752nm,34.5s
CD2 Chengdu 68.65 309 P **P** **12 11 30.0 -0.3**
CD2 AP pP 12 11 50.5 -0.6
CD2 XP sP 12 11 59.5 -0.1
CD2 S S 12 20 23.8 -1.7
CD2 XS 12 21 01.5
CD2 SS SS 12 24 55.3 +2.3
CD2 AMB AMB
comp=Z,50nm,0.7s,mb5.5
CD2 LR LR
comp=N,790nm,21.6s
CD2 LR LR
comp=Z,750nm,21.6s
BTO Baotou 69.24 321 *e*P **P** **12 11 34.0 +0.2**
BTO AMB AMB
comp=Z,28nm,1.0s,mb5.0
UNV Unalaska Valle 69.47 20 *e*P **P** **12 11 33.7 -1.3**
comp=Z,258nm,1.0s,mb6.0
HIA Hailar 69.57 332 *e*P **P** **12 11 35.7 0.0**
HIA pmax pmax
comp=Z,37nm,0.8s
HIA Hailar 69.57 332 *e*P **P** **12 11 35.7 0.0**
comp=Z,37nm,0.8s,mb5.3
MA2 Magadan 70.11 354 *de*P **P** **12 11 37.0 -1.8**
MA2 *e*S S 12 20 38.5 -3.7
MA2 *e*SSS SSS 12 28 11.4 -9.3
MA2 pmax pmax
comp=Z,50nm,1.4s,mb5.2
MA2 pmax pmax
comp=N,20nm,1.3s
MA2 Magadan 70.11 354 *e*P **P** **12 11 37.2 -1.6**
comp=N,57nm,1.0s,mb5.4

LZH Lanzhou 71.00 314 ⇑P **P** **12 11 45.0 +0.5**
LZH PCP PcP 12 12 05.3 +0.7
LZH XP sP 12 12 14.0 +0.2
LZH S S 12 20 55.0 +2.2
LZH SCS ScS 12 21 37.0 -0.7
LZH SS SS 12 25 31.5 +2.1
LZH AMB AMB
comp=Z,62nm,1.8s,mb5.1
LZH AMB AMB
comp=Z,201nm,4.7s
LZH LR LR
comp=E,1µm,15.8s
LZH LR LR
comp=Z,2µm,17.0s
MIR Mirnyy 72.05 203*c* *i*P **P** **12 11 49.5 -0.7**
MIR pmax pmax
comp=Z,210nm,1.6s,mb5.7
SDPT Sand Point 72.78 22 *e*P **P** **12 11 53.4 -1.3**
SDPT LR LR
comp=Z,600nm,23.0s
CLNS Chul'man 73.28 340 *e*P **P** **12 11 58.2 +0.6**
CLNS *e**PP pP 12 12 07.8 -11
CLNS *e* 12 12 25.3
CLNS pmax pmax
comp=Z,78nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,32nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS pmax pmax
comp=Z,63nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,27nm,0.8s
CLNS pmax pmax
comp=E,22nm,1.1s
SEY Seymchan 73.30 356 *i* P **P** **12 11 59.2 +1.6**
SEY pP 12 12 17.2 -1.4
SEY *e* 12 14 41.6
SEY *e*S S 12 21 18.1 -0.3
SEY 12 22 08.2
SEY *e*SS SS 12 25 57.8 -6.4
SEY pmax pmax
comp=Z,50nm,1.1s,mb5.3
SEY pmax pmax
comp=E,8.0nm,0.7s
SEY smax
comp=N,1µm,22.3s
SEY smax
comp=E,2µm,25.2s
SEY MLR MLR
comp=Z,2µm,20.0s
SEY MLR MLR
comp=N,1µm,21.0s
SEY MLR MLR
comp=E,700nm,19.0s
ULN Ulaanbaatar 75.12 326 *e*P **P** **12 12 09.4 +1.0**
ULN pmax pmax
comp=Z,146nm,1.1s,mb5.6
ULN Ulaanbaatar 75.12 326 *e*P **P** **12 12 09.4 +0.9**
comp=Z,146nm,1.1s,mb5.6
GTA Gaotai 75.37 315 *e*P **P** **12 12 11.0 +1.0**
GTA AP pP 12 12 30.5 -0.7
GTA XP sP 12 12 39.0 -0.8
GTA PP PP 12 15 03.5 +1.8
GTA S S 12 21 43.8 +1.8
GTA SKS SKS 12 22 09.0 +1.6
GTA XS 12 22 18.8
GTA PS PS 12 22 32.0 +2.3
GTA SS SS 12 26 37.3 +1.3
GTA AMB AMB
comp=Z,33nm,1.6s,mb4.8
GTA AMB AMB
comp=Z,261nm,5.7s
GTA LR LR
comp=N,498nm,19.0s
GTA LR LR
comp=E,314nm,17.9s
GTA LR LR
comp=Z,543nm,20.5s
SONM Songino Array 75.47 325 P **P** **12 12 11.3 +0.8**
comp=Z,38nm,0.7s,mb5.2,baz=140,slow=4.8,SNR=62
SONM pP pP 12 12 30.5 -1.1
comp=Z,66nm,0.9s,baz=131,slow=5.4,SNR=5.8
SONM LR LR 12 42 20.0
comp=Z,608nm,21.4s,baz=118,slow=33
YAK Yakutsk 76.16 345⇓ *i*P **P** **12 12 13.6 -0.5**
YAK pmax pmax
comp=Z,177nm,0.8s,mb5.8
YAK Yakutsk 76.16 345⇓ *i*P **P** **12 12 13.6 -0.5**
comp=Z,177nm,0.8s,mb5.8
YAK *e*pP pP 12 12 34.6 -0.6
BOD Bodaibo 78.00 336⇓ *i*P **P** **12 12 23.6 -0.7**
BOD *e* 12 22 09.6
BOD pmax pmax
comp=Z,32nm,1.3s,mb4.9
BOD pmax pmax
comp=Z,57nm,1.4s,mb5.1
ZAK Zakamensk 78.57 326 *i* P **P** **12 12 27.6 -0.1**
ZAK *e* 12 22 15.2
SVW2 Sparrevohn 78.81 20 *e*P **P** **12 12 29.3 +0.5**
TNA Tin City 79.01 13⇓ *i*P **P** **12 12 29.1 -0.7**
comp=Z,93nm,1.0s,mb5.6
TNA *e*pP pP 12 12 50.3 -0.8
IRK Irkutsk 79.04 328 *e*P **P** **12 12 29.7 -0.5**
IRK *e*S S 12 22 23.5 +2.2
IRK pmax pmax
comp=Z,118nm,2.1s,mb5.3
TLY Talaya 79.06 328 *e*P **P** **12 12 30.5 +0.2**
TLY pmax pmax
comp=Z,161nm,1.4s,mb5.7
TLY Talaya 79.06 328 *e*P **P** **12 12 30.5 +0.1**
comp=Z,161nm,1.4s,mb5.7
TLY *e*pP pP 12 12 49.6 -2.0
QSPA South Pole Qui 79.73 180 *e*P **P** **12 12 33.4 -0.1**
comp=Z,89nm,0.9s,mb5.6
SLKM Skilak Lake 80.29 22 *e*P **P** **12 12 36.2 -0.5**
MOY Mondy 80.47 327 *e*P **P** **12 12 38.2 +0.3**
MOY pmax pmax
comp=Z,60nm,2.4s,mb5.0
PWA Palmer West 81.17 21 *e*P **P** **12 12 40.5 -0.9**
PMR Palmer 81.40 22 *e*P **P** **12 12 42.0 -0.6**
PMR MLR MLR
comp=Z,1µm,23.0s
JIRN Jiri 81.77 300 *e*P **P** **12 12 45.5 +0.3**
comp=Z,28nm,1.1s,mb5.0
SML Sawmill 81.83 22 *e*P **P** **12 12 44.5 -0.3**
EYAK Cordova Ski Ar 82.02 23 *e*P **P** **12 12 45.6 -0.2**
PALK Pallekele 82.07 279 *e*P **P** **12 12 48.1 +1.1**
comp=Z,37nm,0.9s,mb5.2
GUN Gumba 82.10 300 *e*P **P** **12 12 47.4 +0.5**
comp=Z,48nm,1.1s,mb5.2
DIV Divide 82.36 23 *e*P **P** **12 12 47.4 -0.2**
comp=Z,356nm,0.9s,mb6.2
PKI Pulchoki 82.41 300 *e*P **P** **12 12 48.5 0.0**
comp=Z,107nm,1.6s,mb5.4
PKI Pulchoki 82.41 300 *e*P **P** **12 12 48.5 0.0**
PKI pmax pmax
comp=Z,54nm,1.6s,mb5.1
KKN Kakani 82.58 300 *e*P **P** **12 12 49.5 +0.1**
comp=Z,37nm,1.1s,mb5.1
KKN Kakani 82.58 300 *e*P **P** **12 12 49.5 +0.1**
KKN pmax pmax
comp=Z,19nm,1.1s,mb4.8
DMN Daman 82.68 300 *e*P **P** **12 12 50.4 +0.5**
comp=Z,42nm,0.9s,mb5.3
MCK McKinley 82.87 20 *e*P **P** **12 12 49.3 -0.8**
MCK pmax pmax
comp=Z,229nm,1.0s,mb6.0
MCK McKinley 82.87 20 *e*P **P** **12 12 49.3 -0.8**
comp=Z,229nm,1.0s,mb6.0
IMA Indian Mountai 83.00 17 *e*P **P** **12 12 50.9 +0.2**
GKN Gorkha 83.18 300 *e*P **P** **12 12 52.4 0.0**
comp=Z,60nm,0.9s,mb5.4
MAW Mawson 83.77 202⇓ *i*P **P** **12 12 54.6 +0.1**
comp=Z,21nm,1.4s,mb4.8
MAW *e*pP pP 12 13 14.7 -1.3
MAW Mawson 83.77 202⇓ *i*P **P** **12 12 54.6 +0.1**
MAW pmax pmax
comp=Z,21nm,1.4s
MAW Mawson 83.77 202 P **P** **12 12 54.9 +0.4**
comp=Z,28nm,1.0s,mb5.0,baz=83,slow=4.7,SNR=11
MAW pP pP 12 13 14.8 -1.2
comp=Z,31nm,0.9s,baz=87,slow=6.3,SNR=6.5
MAW LR LR 12 48 15.0
comp=Z,354nm,18.6s,baz=81,slow=34

THY Trims Highway 83.78 21 *e*P **P** **12 12 54.6 0.0**
COLA College 83.97 19⇓ *i*P **P** **12 12 54.6 -1.0**
COLA pmax pmax
comp=Z,210nm,0.9s,mb6.0
COLA College 83.97 19 *e*P **P** **12 12 54.7 -0.9**
COLA LR LR
comp=Z,500nm,21.0s
KOLN Koldanda 84.01 299 *e*P **P** **12 12 56.2 -0.5**
comp=Z,35nm,0.8s,mb5.2
MENT Mentasta 84.23 22 *e*P **P** **12 12 57.4 +0.5**
TIXI Tiksi 84.53 350 *e*P **P** **12 12 55.5 -2.7**
TIXI *e**PP pP 12 13 22.6 +2.8
TIXI *e*S S 12 23 05.3 -12
TIXI pmax pmax
comp=Z,53nm,1.3s,mb5.3
TIXI MLR MLR
comp=Z,222nm,16.0s
TIXI Tiksi 84.53 350⇑ *i*P **P** **12 12 58.1 -0.1**
WMQ Urumqi 85.44 316⇑ *i*P **P** **12 13 03.5 +0.1**
WMQ AP pP 12 13 24.0 -1.0
WMQ XP sP 12 13 33.0 -0.5
WMQ PP PP 12 16 25.0 +1.2
WMQ PPP PPP 12 18 21.5 +0.5
WMQ SKS SKS 12 23 18.8 +0.8
WMQ S S 12 23 27.5 +1.0
WMQ PS PS 12 24 36.0 +0.8
WMQ SS SS 12 29 07.0 +0.7
WMQ AMB AMB
comp=Z,41nm,1.3s,mb5.2
WMQ AMB AMB
comp=Z,283nm,3.9s
WMQ LR LR
comp=N,2µm,18.0s
WMQ LR LR
comp=E,2µm,17.7s
WMQ LR LR
comp=Z,2µm,27.2s
KHMM Horse Mountain 85.55 47 *e*P **P** **12 13 05.3 +1.3**
SAO San Andreas Ge 86.08 52 *e*P **P** **12 13 07.3 +0.6**
SAO pmax pmax
comp=Z,97nm,1.4s,mb5.5
SAO San Andreas Ge 86.08 52 *e*P **P** **12 13 07.3 +0.6**
comp=Z,97nm,1.4s,mb5.5
HYB Hyderabad 86.18 288 *e*P **P** **12 13 08.0 +0.4**
HYB Hyderabad 86.18 288 *i* P **P** **12 13 08.0 +0.4**
HYB *e* pP 12 13 27.0 -2.2
LRV Little Rabbit 86.33 52 *e*P **P** **12 13 07.7 -0.2**
DAWY Dawson 86.47 22 *e*P **P** **12 13 08.8 +0.8**
DAWY *e*pP pP 12 13 30.4 +0.9
YBH Yreka Blue Hor 86.54 47 *e*P **P** **12 13 09.5 +0.7**
YBH pmax pmax
comp=Z,67nm,1.0s
YBH Yreka Blue Hor 86.54 47 P **P** **12 13 09.6 +0.7**
comp=Z,38nm,0.8s,mb5.4,baz=253,slow=1.3,SNR=55
YBH pP pP 12 13 31.1 +0.6
comp=Z,23nm,1.0s,baz=212,slow=5.2,SNR=3.9
YBH Yreka Blue Hor 86.54 47 *e*P **P** **12 13 09.4 +0.6**
comp=Z,67nm,1.0s,mb5.5
YBH *e*pP pP 12 13 31.6 +1.1
HUMO Hull Mountain 86.62 46 *e*P **P** **12 13 10.1 +0.9**
comp=Z,84nm,1.0s,mb5.6
HUMO *e*pP pP 12 13 32.3 +1.5
MPOR Mary's Peak 86.77 44 P **P** **12 13 11.2 +1.3**
LHEM Herd Peak 86.86 47 P **P** **12 13 10.8 +0.4**
BUOR Burton Butte 87.03 46 P **P** **12 13 11.8 +0.6**
CMB Columbia Colle 87.24 51 *e*P **P** **12 13 11.9 -0.4**
CMB pmax pmax
comp=Z,57nm,1.1s,mb5.4
CMB Columbia Colle 87.24 51 *e*P **P** **12 13 11.8 -0.5**
comp=Z,56nm,1.1s,mb5.4
LTIM Timbered Crate 87.26 47 P **P** **12 13 12.8 +0.5**
PTH Pithoragarh 87.32 300 *e*P pP 12 13 31.9 -2.7
OOW Octopus West 87.35 41 P **P** **12 13 13.7 +1.1**
HOG Hogback Mounta 87.40 46 P **P** **12 13 14.0 +1.0**
HBO Huckleberry Mo 87.42 45 P **P** **12 13 13.6 +0.5**
DLBC Dease Lake 87.86 29 P **P** **12 13 14.5 -0.3**
comp=Z,32nm,1.1s,mb5.3,baz=243,slow=7.4,SNR=17
DLBC Dease Lake 87.86 29 *e*P **P** **12 13 14.3 -0.5**
BKCOR Black Crater 87.98 44 P **P** **12 13 16.7 +0.9**
WCN Washoe City 88.04 50 *e*P **P** **12 13 16.2 +0.1**
WCN pmax pmax
comp=Z,47nm,1.1s,mb5.4
WCN Washoe City 88.04 50 *e*P **P** **12 13 16.2 +0.1**
comp=Z,47nm,1.1s,mb5.4
WCN *e*pP pP 12 13 39.4 +1.6
MWC Mount Wilson 88.12 55 *e*P **P** **12 13 16.9 +0.3**
MWC *e*pP pP 12 13 39.6 +1.3
OMM Old Mammoth Mi 88.20 51 *e*P **P** **12 13 17.3 +0.4**
MOD Modoc 88.31 47 *e*P **P** **12 13 17.8 +0.4**
comp=Z,85nm,1.2s,mb5.7
MTUM Tungsten Hills 88.46 52 *e*P **P** **12 13 18.8 +0.6**
MTUM *e*pP pP 12 13 41.5 +1.5
VIPM Ingram Point 88.78 44 P **P** **12 13 20.3 +0.8**
BAR Barrett 88.89 57 *e*P **P** **12 13 20.1 -0.3**
DAC Darwin (Calif) 88.97 53 *e*P **P** **12 13 21.4 +0.8**
DAC pmax pmax
comp=Z,170nm,1.3s,mb5.9
DAC Darwin (Calif) 88.97 53 P **P** **12 13 21.7 +1.1**
DAC pmax pmax
comp=Z,120nm,1.1s,mb5.8
DAC Darwin (Calif) 88.97 53 *e*P **P** **12 13 21.4 +0.9**
comp=Z,170nm,1.3s,mb5.9
DAC *e*pP pP 12 13 43.6 +1.3
MNV Mina 89.04 51 *e*P **P** **12 13 21.0 +0.1**
MNV pmax pmax
comp=Z,111nm,1.2s,mb5.8
MNV Mina 89.04 51 *e*P **P** **12 13 21.0 +0.2**
comp=Z,111nm,1.2s,mb5.8
MNV *e*pP pP 12 13 43.7 +1.1
NAC Naches 89.24 42 P **P** **12 13 22.2 +0.6**
PFO Pinyon Flat Ob 89.27 56 P **P** **12 13 22.0 -0.1**
comp=Z,223nm,1.1s,mb6.1,SNR=14
PFO Pinyon Flat Ob 89.27 56 *e*P **P** **12 13 21.8 -0.3**
PFO pmax pmax
comp=Z,58nm,1.2s,mb5.5
PFO Pinyon Flat Ob 89.27 56 *e*P **P** **12 13 21.8 -0.3**
comp=Z,58nm,1.2s,mb5.5
MXC Moxie City 89.56 43 P **P** **12 13 23.5 +0.4**
WVOR Wild Horse Val 89.65 47 *e*P **P** **12 13 24.2 +0.6**
WVOR pmax pmax
comp=Z,281nm,1.4s,mb6.2
WVOR Wild Horse Val 89.65 47 *e*P **P** **12 13 24.2 +0.5**
comp=Z,281nm,1.4s,mb6.2
TPH Tonopah 89.67 51 *e*P **P** **12 13 24.3 +0.5**
TPH pmax pmax
comp=Z,85nm,1.2s,mb5.8
TPH Tonopah 89.67 51 *e*P **P** **12 13 24.3 +0.5**
comp=Z,85nm,1.2s,mb5.8
NDI New Delhi 89.70 299 *e* P **P** **12 13 21.0 -3.2**
MDW Midway 89.92 43 P **P** **12 13 25.4 +0.6**
NLW Nelson Butte 89.92 41 P **P** **12 13 25.0 +0.2**
MKAR Makanchi Array 89.95 318 *i* P **P** **12 13 24.1 -0.9**
MKAR pmax pmax
comp=Z,20nm,0.8s
MKAR Makanchi Array 89.95 318 P **P** **12 13 25.0 0.0**
comp=Z,14nm,0.7s,mb5.2,baz=102,slow=5.8,SNR=28
MKAR PKKPbc 12 30 57.2
comp=Z,0.9nm,0.9s,baz=315,slow=1.7,SNR=5.3
MKAR LR LR 12 55 09.5
comp=Z,298nm,19.5s,baz=119,slow=36
MKAR Makanchi Array 89.95 318 P **P** **12 13 25.0 0.0**
MKAR PKKPbc 12 30 57.2
MKAR LR LR 12 55 09.5
CBSW Chelan Butte S 90.05 41 P **P** **12 13 25.4 0.0**
WTV Waterville 90.07 42 P **P** **12 13 25.6 +0.1**
GBL Gable Mountain 90.12 43 P **P** **12 13 26.4 +0.7**
EPH Ephrata 90.22 42 P **P** **12 13 26.3 +0.1**
ZAL Zalesovo 90.37 325 P **P** **12 13 25.8 -1.0**
comp=Z,3.1nm,0.8s,mb4.5,baz=349,slow=4.3,SNR=5.0
ZAL pP pP 12 13 48.5 0.0
comp=Z,4.3nm,1.0s,baz=329,slow=3.8,SNR=2.2
ZAL LR LR 12 53 09.0
comp=Z,445nm,21.6s,baz=12,slow=35
ZAL Zalesovo 90.37 325 P **P** **12 13 25.8 -1.0**
ZAL pP pP 12 13 48.5 0.0
ZAL LR LR 12 53 09.0
WRD Warden 90.38 43 P **P** **12 13 27.6 +0.7**
INK Inuvik 90.63 20 *e*P **P** **12 13 27.1 -0.5**
INK pmax pmax
comp=Z,87nm,1.4s
INK Inuvik 90.63 20 P **P** **12 13 27.4 -0.3**
comp=Z,34nm,1.1s,mb5.4,baz=236,slow=5.7,SNR=46
INK pP pP 12 13 49.1 -0.4
comp=Z,11nm,1.0s,baz=218,slow=10,SNR=3.2

INK	**Inuvik**	**90.63**	**20**	*e*P		**P**	**12 13 27.1**	**-0.6**
	comp=Z,87nm,1.4s,mb5.7								
PNT	**Penticton**	**90.71**	**40**	P		**P**	**12 13 28.3**	**-0.1**
OD2	**Odessa Site #2**	**90.81**	**42**	P		**P**	**12 13 29.4**	**+0.4**
TRCR	**Troy Canyon**	**90.99**	**51**	*e*P		**P**	**12 13 30.4**	**+0.4**
BMO	**Blue Mountains**	**91.16**	**45**	*e*P		**P**	**12 13 30.9**	**+0.2**
BMO				pmax	pmax				
	comp=Z,100nm,1.3s,mb5.8								
BMO	**Blue Mountains**	**91.16**	**45**	*e*P		**P**	**12 13 30.5**	**-0.2**
	comp=Z,126nm,1.4s,mb5.9								
SYO	**Syowa Base**	**91.20**	**198**	⇑P		**P**	**12 13 29.0**	**-1.3**
SYO	**Syowa Base**	**91.20**	**198**	⇑PcP		PcP	12 13 31.5	+0.1
NVS	**Novosibirsk**	**91.50**	**326**	⇑*i*P		**P**	**12 13 30.6**	**-1.4**
NVS				*i*			12 23 52.6		
NVS				*e*S		S	12 24 20.9	-1.4	
NVS				pmax	pmax				
	comp=Z,91nm,1.7s,mb5.7								
NVS				pmax	pmax				
	comp=E,25nm,1.5s								
NVS				pmax	pmax				
	comp=E,16nm,2.0s								
NVS				pmax	pmax				
	comp=Z,30nm,2.0s,mb5.2								
NVS				smax					
	comp=N,11nm,1.3s								
NVS				smax					
	comp=E,35nm,2.0s								
NEW	**Newport**	**92.06**	**41**	P		**P**	**12 13 34.6**	**-0.1**
	comp=E,66nm,0.9s,mb5.8,baz=235,slow=4.7								
NEW				pP		pP	12 13 56.8	+0.3	
	comp=E,36nm,1.1s,baz=237,slow=5.4,SNR=2.5								
ARUT	**Antelope Range**	**92.53**	**52**	P		**P**	**12 13 38.3**	**+1.1**
ARUT	**Antelope Range**	**92.53**	**52**	*e*P		**P**	**12 13 38.2**	**+1.0**
HLID	**Hailey**	**92.92**	**46**	*e*P		**P**	**12 13 39.4**	**+0.6**
	comp=E,103nm,1.2s,mb6.0								
KURK	**Kurchatov**	**93.24**	**321**	*e*P		**P**	**12 13 39.3**	**-0.7**
KURK				pmax	pmax				
	comp=Z,36nm,1.3s,mb5.5								
KURK	**Kurchatov**	**93.24**	**321**	*e*P		**P**	**12 13 39.2**	**-0.9**
	comp=Z,39nm,1.3s,mb5.6								
BGU	**Big Grassy Mou**	**93.43**	**49**	*e*P		**P**	**12 13 41.5**	**+0.3**
DUG	**Dugway**	**93.46**	**50**	*e*P		**P**	**12 13 42.0**	**+0.7**
DUG				pmax	pmax				
	comp=Z,18nm,1.2s,mb5.3								
DUG	**Dugway**	**93.46**	**50**	*e*P		**P**	**12 13 42.0**	**+0.7**
	comp=Z,18nm,1.2s,mb5.3								
MVU	**Marysvale**	**93.61**	**52**	*e*P		**P**	**12 13 43.6**	**+1.5**
	comp=Z,74nm,1.7s,mb5.7								
MSU	**Marysvale**	**93.64**	**52**	*e*P		**P**	**12 13 43.3**	**+1.1**
TUC	**Tucson**	**93.70**	**58**	*e*P		**P**	**12 13 42.6**	**0.0**
TUC				pmax	pmax				
	comp=Z,22nm,1.0s,mb5.4								
TUC	**Tucson**	**93.70**	**58**	*e*P		**P**	**12 13 42.6**	**0.0**
	comp=Z,22nm,1.0s,mb5.4								
WUAZ	**Wupatki**	**93.76**	**55**	*e*P		**P**	**12 13 43.8**	**+1.0**
	comp=Z,16nm,1.0s,mb5.3								
HVU	**Hansel Valley**	**93.77**	**48**	*e*P		**P**	**12 13 43.7**	**+1.0**
NLU	**North Lily Min**	**93.97**	**50**	*e*P		**P**	**12 13 44.2**	**+0.6**
NLU				*e*pP		pP	12 14 07.0	+1.5	
MCMT	**McKenzie Canyo**	**94.26**	**45**	*e*P		**P**	**12 13 45.4**	**+0.6**
WALA	**Waterton Lakes**	**94.30**	**41**	*e*P		**P**	**12 13 45.2**	**+0.3**
	comp=Z,64nm,1.0s,mb5.9								
WALA				*e*pP		pP	12 14 08.2	+1.4	
CHMT	**Chamberlain Mo**	**94.35**	**43**	*e*P		**P**	**12 13 45.1**	**-0.1**
FRU	**Bishkek**	**94.44**	**313**	*e*P		**P**	**12 13 45.0**	**-0.7**
FRU				*e*			12 14 14.0		
AAK	**Ala-Archa**	**94.50**	**312**	⇓*i*P		**P**	**12 13 44.3**	**-1.7**
TMUT	**Trail Mountain**	**94.52**	**51**	*e*P		**P**	**12 13 47.0**	**+0.9**
JLU	**Jordanelle**	**94.55**	**50**	*e*P		**P**	**12 13 47.0**	**+0.8**
HWUT	**Hardware Ranch**	**94.63**	**49**	*e*P		**P**	**12 13 47.0**	**+0.4**
	comp=Z,15nm,0.9s,mb5.4								
SRU	**San Rafael**	**95.02**	**51**	*e*P		**P**	**12 13 48.8**	**+0.4**
RRI2	**Red Ridge**	**95.10**	**47**	*e*P		**P**	**12 13 49.3**	**+0.6**
	comp=Z,117nm,1.8s,mb6.0								
RRI2				*e*pP		pP	12 14 12.3	+1.7	
BOZ	**Bozeman (W)**	**95.25**	**45**	*e*P		**P**	**12 13 49.6**	**+0.3**
BOZ				pmax	pmax				
	comp=Z,29nm,0.9s,mb5.7								
BOZ	**Bozeman (W)**	**95.25**	**45**	*e*P		**P**	**12 13 49.5**	**+0.2**
	comp=Z,29nm,0.9s,mb5.7								
BOZ				*e*pP		pP	12 14 12.5	+1.3	
QLMT	**Earthquake Lak**	**95.25**	**46**	*e*P		**P**	**12 13 50.5**	**+1.1**
HRY	**Holter Researc**	**95.28**	**44**	*e*P		**P**	**12 13 49.9**	**+0.5**
TPAW	**Teton Pass**	**95.38**	**47**	*e*P		**P**	**12 13 51.1**	**+1.1**
	comp=Z,25nm,1.1s,mb5.5								
EDM	**Edmonton**	**95.39**	**37**	P		**P**	**12 13 49.3**	**-0.5**
REDW	**Red Top Meadow**	**95.44**	**47**	*e*P		**P**	**12 13 51.0**	**+0.8**
	comp=Z,42nm,1.4s,mb5.7								
IMW	**Indian Meadow**	**95.45**	**47**	*e*P		**P**	**12 13 51.0**	**+0.7**
	comp=Z,46nm,1.2s,mb5.8								
SNOW	**Snow King Moun**	**95.52**	**47**	*e*P		**P**	**12 13 51.5**	**+0.9**
	comp=Z,22nm,1.1s,mb5.5								
YMR	**Madison River**	**95.56**	**46**	*e*P		**P**	**12 13 52.3**	**+1.6**
MOOW	**Moose Ponds**	**95.57**	**47**	*e*P		**P**	**12 13 51.0**	**+0.1**
	comp=Z,16nm,0.9s,mb5.4								
LOHW	**Long Hollow**	**95.65**	**47**	*e*P		**P**	**12 13 51.8**	**+0.6**
	comp=Z,30nm,1.3s,mb5.6								
YNR	**Norris Junctio**	**95.77**	**46**	*e*P		**P**	**12 13 53.8**	**+2.1**
LKWY	**Lake**	**95.94**	**46**	*e*P		**P**	**12 13 54.7**	**+2.2**
LKWY				pmax	pmax				
	comp=Z,19nm,1.0s,mb5.5								
LKWY	**Lake**	**95.94**	**46**	*e*P		**P**	**12 13 54.7**	**+2.2**
	comp=Z,19nm,1.0s,mb5.5								
PV10	**Paradox Valley**	**96.05**	**52**	*e*P		**P**	**12 13 53.3**	**+0.2**
PDAR	**Pinedale Array**	**96.28**	**48**	P		**P**	**12 13 53.9**	**-0.2**
	comp=Z,5.8nm,0.9s,mb5.0,baz=253,slow=2.4,SNR=42								
PDAR				LR		LR	12 49 15.4		
	comp=Z,276nm,21.2s,baz=280,slow=30								
YKA	**Yellowknife Ar**	**96.32**	**28**	P		**P**	**12 13 52.7**	**-1.0**
	comp=Z,24nm,0.7s,mb5.7,baz=258,slow=4.7,SNR=462								
YKA				pP		pP	12 14 14.8	-0.9	
	comp=Z,11nm,0.9s,baz=256,slow=4.6,SNR=5.2								
YKA				PKKPbc			12 30 38.8		
	comp=Z,0.4nm,0.8s,baz=76,slow=2.9,SNR=5.3								
YKA				LR		LR	12 52 10.7		
	comp=Z,323nm,19.2s,baz=260,slow=32								
YKA	**Yellowknife Ar**	**96.32**	**28**	P		**P**	**12 13 52.7**	**-1.0**
YKA				pP		pP	12 14 14.8	-0.8	
YKA				PKKPbc			12 30 38.9		
YKA				LR		LR	12 52 10.7		
YKW3	**Yellowknife Ar**	**96.33**	**28**	*e*P		**P**	**12 13 52.6**	**-1.2**
YKW3				*e*pP		pP	12 14 14.4	-1.3	
PV01	**Paradox Valley**	**96.39**	**53**	*e*P		**P**	**12 13 54.5**	**-0.1**
LPM	**Los Pinos Moun**	**97.43**	**57**	*e*P		**P**	**12 13 58.0**	**-1.5**
SNAA	**Sanae**	**97.56**	**185**	P		**P**	**12 13 59.4**	**+0.2**
	comp=Z,1.4nm,0.8s,mb4.6,baz=216,slow=5.1,SNR=6.0								
ANMO	**Albuquerque**	**97.65**	**56**	*e*P		**P**	**12 14 00.4**	**-0.1**
ANMO				pmax	pmax				
	comp=Z,17nm,1.0s								
ANMO	**Albuquerque**	**97.65**	**56**	*e*P		**P**	**12 14 00.4**	**-0.1**
	comp=Z,17nm,1.0s,mb5.5								
MNTX	**Cornudas Mount**	**98.15**	**59**	*e*P		**P**	**12 14 01.7**	**-1.1**
	comp=Z,6.6nm,1.0s,mb5.1								
VNA3	**Neumayer Olymp**	**98.45**	**183**	⇓*i*P		**P**	**12 14 00.6**	**-2.7**
VNA3				*e*		pP	12 14 19.5	-5.6	
VNA3				*e*			12 14 28.1		
VNA3				*e*			12 18 27.2		
CHKZ	**Chkalovo**	**98.56**	**323**	P		**P**	**12 14 02.4**	**-1.7**
CHKZ				pmax	pmax				
	comp=Z,15nm,1.2s,mb5.4								
VNA2	**Neumayer--Watz**	**98.63**	**184**	⇓*i*P		**P**	**12 14 02.8**	**-1.3**
VNA2				*e*		pP	12 14 22.4	-3.6	
VNA2				*e*			12 14 31.4		
VNA2				*e*			12 18 30.0		
BVA0	**Borovoye Array**	**98.63**	**322**	*i* P		**P**	**12 14 03.1**	**-1.4**
BVA0				pmax	pmax				
	comp=Z,5.0nm,1.4s,mb4.8								
BVAR	**Borovoye Array**	**98.63**	**322**	P		**P**	**12 14 03.0**	**-1.5**
	comp=Z,7.1nm,0.9s,mb5.2,baz=108,slow=4.7,SNR=9.1								
SDCO	**Great Sand Dun**	**98.75**	**53**	*e*P		**P**	**12 14 05.1**	**-0.3**
	comp=Z,3.3nm,0.9s,mb4.9								
GDL2	**Guadalupe Moun**	**99.07**	**59**	*e*Pdif		**P**	**12 14 06.5**	**-0.5**
LAO	**LASA Array**	**99.10**	**44**	*e*Pdif		**P**	**12 14 07.6**	**+0.8**
	comp=Z,98nm,1.1s,mb6.2								
LAO				*e*pP		pP	12 14 29.1	+0.4	
TXAR	**Lajitas Array**	**99.34**	**62**	P		**P**	**12 14 06.3**	**-2.0**
	comp=Z,2.3nm,0.9s,mb4.7,baz=222,slow=6.5,SNR=12								
TXAR				PP		PP	12 18 09.2	-5.2	
	comp=Z,14nm,1.2s,baz=248,slow=4.9,SNR=17								
TXAR				PKKPbc			12 30 31.2		
	comp=Z,0.4nm,0.8s,baz=115,slow=5.5,SNR=4.8								
TXAR				LR		LR	12 49 33.7		
	comp=Z,404nm,21.4s,baz=205,slow=30								
TXAR	**Lajitas Array**	**99.34**	**62**	P		**P**	**12 14 06.3**	**-2.0**
TXAR				PP		PP	12 18 09.2	-5.2	
TXAR				PKKPbc			12 30 31.2		
TXAR				LR		LR	12 49 33.7		
CPRX	**Cap Rock**	**99.58**	**58**	*e*Pdif		**P**	**12 14 08.5**	**-0.8**
RSSD	**Black Hills**	**100.43**	**47**	P		P	12 14 13.2	+0.3	
RSSD				pmax	pmax				
	comp=Z,8.0nm,1.0s								
RSSD	**Black Hills**	**100.43**	**47**	*e*Pdif		P	12 14 12.9	0.0	
	comp=Z,8.4nm,0.9s								
AMTX	**Amarillo**	**101.55**	**56**	*e*Pdif		P	12 14 17.4	-0.8	
	comp=Z,16nm,0.9s								
ULM	**Lac du Bonnet**	**106.05**	**41**	PKiKP			12 18 47.9		
	comp=Z,4.2nm,0.9s,baz=318,slow=4.2,SNR=4.4								
ULM	**Lac du Bonnet**	**106.05**	**41**	*e*Pdif		Pdif	12 14 37.0	-0.6	
	comp=Z,15nm,1.1s								
ULM				PKPdf			12 18 47.9		
FCC	**Fort Churchill**	**106.31**	**32**	P		Pdif	12 14 37.7	-0.8	
FCC				pmax	pmax				
	comp=Z,9.0nm,1.1s								
FCC	**Fort Churchill**	**106.31**	**32**	*e*Pdif		Pdif	12 14 37.4	-1.1	
	comp=Z,8.7nm,1.1s								
ARCES	**ARCESS Array B**	**114.44**	**344**	PKP		PKPdf	12 19 03.4	-0.1	
	comp=Z,3.2nm,0.8s,baz=75,slow=1.7,SNR=25								
ZEI	**Tsey**	**116.92**	**313**	*e*PKiKP		PKPdf	12 19 08.0	-0.9	
KIV	**Kislovodsk**	**117.54**	**314**	*i* PKiKP		PKPdf	12 19 06.8	-3.3	
KIV				*e*			12 20 24.6		
KIV							12 26 17.0		
KIV				*i* PS		PS	12 30 08.4	-0.5	
KIV				*i* SS		SS	12 36 45.2	+16	
KIV				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KIV				MLR		MLR			
	comp=Z,200nm,20.0s								
BLA	**Blacksburg**	**118.65**	**53**	*e*PKiKP		PKPdf	12 19 12.6	+0.2	
BLA	**Blacksburg**	**118.65**	**53**	*e*PKPdf		PKPdf	12 19 11.7	-0.8	
FINES	**FINESS Array B**	**119.39**	**337**	PKP		PKPdf	12 19 13.2	-0.1	
	comp=Z,5.1nm,1.0s,baz=63,slow=4.3,SNR=8.5								
SSPA	**Standing Stone**	**119.93**	**49**	*e*PKPdf		PKPdf	12 19 14.0	-0.9	
MVL	**Millersville**	**121.22**	**49**	*e*PKPdf		PKPdf	12 19 17.5	+0.1	
SCHQ	**Schefferville**	**121.65**	**30**	PKP		PKPdf	12 19 17.5	-0.3	
	comp=Z,6.4nm,0.8s,baz=73,slow=1.1,SNR=9.5								
MALT	**Malatya**	**121.94**	**309**	PKiKP		PKPdf	12 19 19.8	+1.0	
MALT	**Malatya**	**121.94**	**309**	*e*PKPdf		PKPdf	12 19 19.7	+0.9	
MIV	**Mineville/With**	**122.12**	**44**	*e*PKPdf		PKPdf	12 19 18.9	-0.1	
BOSA	**Boshof**	**122.56**	**226**	PKP		PKPdf	12 19 20.7	+0.5	
	comp=Z,8.2nm,1.0s,baz=121,slow=5.5,SNR=7.2								
KMBO	**Kilima Mbogo**	**123.15**	**262**	PKP		PKPdf	12 19 23.1	+1.4	
	comp=Z,1.1nm,0.6s,baz=51,slow=20,SNR=3.9								
AKASG	**Malin Array Be**	**123.76**	**325**	PKP		PKPdf	12 19 21.5	-0.5	
	comp=Z,6.6nm,0.8s,baz=63,slow=2.4,SNR=18								
AKASG				PKKPbc			12 29 09.5		
	comp=Z,0.3nm,0.3s,baz=248,slow=4.2,SNR=6.0								
AKASG	**Malin Array Be**	**123.76**	**325**	PKP		PKPdf	12 19 21.5	-0.5	
AKASG				PKKPbc			12 29 09.5		
LBTB	**Lobatse**	**124.35**	**230**	PKP		PKPdf	12 19 24.0	+0.2	
	comp=Z,3.8nm,0.7s,baz=114,slow=3.5,SNR=6.1								
ASF	**Jabal al Asfar**	**124.39**	**302**	PKP		PKPdf	12 19 24.9	+1.2	
	comp=Z,4.3nm,0.7s,baz=186,slow=4.0,SNR=8.4								
LPAZ	**La Paz**	**124.47**	**118**	PKiKP		PKPdf	12 19 25.7	+1.6	
LPAZ	**La Paz**	**124.47**	**118**	PKP		PKPdf	12 19 25.4	+1.2	
	comp=Z,6.1nm,0.9s,baz=350,slow=1.9,SNR=18								
LPAZ	**La Paz**	**124.47**	**118**	*e*PKPdf		PKPdf	12 19 25.4	+1.3	
HFS	**Hagfors**	**124.68**	**341**	PKiKP		PKPdf	12 19 23.6	+0.1	
HFS	**Hagfors**	**124.68**	**341**	PKP		PKPdf	12 19 23.5	0.0	
	comp=Z,3.9nm,0.9s,baz=56,slow=5.3,SNR=4.5								
ROSC	**El Rosal**	**124.69**	**91**	PKP		PKPdf	12 19 25.7	+0.8	
	comp=Z,7.1nm,0.4s,baz=287,slow=21,SNR=4.7								
NB2	**NORSAR Subarra**	**124.73**	**343**	PKPdf		PKPdf	12 19 23.1	-0.5	
	comp=Z,2.5nm,0.9s,baz=32,slow=1.7								
NOA	**NORSAR Array B**	**124.73**	**343**	PKP		PKPdf	12 19 23.6	0.0	
	comp=Z,4.5nm,0.9s,baz=36,slow=1.9,SNR=10.0								
NOA				pPKP			12 19 46.2		
	comp=Z,5.6nm,1.1s,baz=35,slow=1.9,SNR=5.1								
SUW	**Suwalki**	**125.11**	**331**	*e*PKP		PKPdf	12 19 24.8	+0.3	
BRTR	**Keskin Array B**	**125.17**	**312**	PKP		PKPdf	12 19 25.1	+0.1	
	comp=Z,1.4nm,0.7s,baz=135,slow=3.5,SNR=7.5								
EIL	**Elat**	**126.47**	**299**	PKP		PKPdf	12 19 28.6	+0.8	
	comp=Z,5.4nm,0.8s,baz=344,slow=11,SNR=9.3								
EIL	**Elat**	**126.47**	**299**	*e*PKPdf		PKPdf	12 19 28.4	+0.6	
BURAR	**Bucovina Array**	**127.57**	**324**	⇑P		PKPdf	12 19 30.5	+1.1	
KWP	**Kalwaria**	**127.89**	**327**	*e*PKP		PKPdf	12 19 30.6	+0.6	
MLR	**Muntele Rosu**	**128.17**	**321**	PKP		PKPdf	12 19 29.7	-1.0	
	comp=Z,7.3nm,1.1s,baz=5.8,slow=7.6,SNR=5.3								
MLR	**Muntele Rosu**	**128.17**	**321**	⇑P		PKPdf	12 19 32.0	+1.3	
MLR	**Muntele Rosu**	**128.17**	**321**	⇑P		PKPdf	12 19 32.0	+1.3	
KOLS	**Kolonicke sedl**	**128.52**	**326**	*e*PKP		PKPdf	12 19 31.8	+0.6	
KOLS				*e*			12 19 58.1		
SDV	**Santo Domingo**	**128.86**	**87**	*e*PKPdf		PKPdf	12 19 32.8	0.0	
OJC	**Ojcow**	**129.06**	**329**	*e*PX			12 22 01.7		
NIE	**Niedzica**	**129.28**	**328**	*e*PKP		PKPdf	12 19 33.1	+0.4	
MBAR	**Mbarara**	**129.61**	**261**	*e*PKiKP		PKPdf	12 19 34.5	+0.2	
OKC	**Ostrava-Krasne**	**130.13**	**329**	*e*PKPdf		PKPdf	12 19 36.4	+2.1	
OKC				AMS		AMS	13 14 10.0		
	comp=Z,400nm,23.4s								
KSP	**Ksiaz**	**130.38**	**331**	*e*PKiKP		PKPdf	12 19 36.7	+2.0	
KSP				*e*PS		PS	12 32 02.0	+0.7	
KSP				MLR		MLR			
	comp=Z,2μm,23.1s								
KSP	**Ksiaz**	**130.38**	**331**	*e*PKP		PKPdf	12 19 36.7	+2.0	
KSP				*e*pPKP			12 19 57.3		
KSP				*e*PS		PS	12 32 02.0	+0.7	
KSP				LR		LR			
	comp=Z,2μm,23.1s								
KSP	**Ksiaz**	**130.38**	**331**	*e*PKP		PKPdf	12 19 36.3	+1.6	
MORC	**Moravsky Berou**	**130.47**	**330**	PKiKP		PKPdf	12 19 35.8	+0.9	
MORC	**Moravsky Berou**	**130.47**	**330**	*e*PKPdf		PKPdf	12 19 35.7	+0.8	
SIV	**San Ignacio**	**130.64**	**121**	SKPbc			12 22 52.2		
	comp=Z,3.8nm,1.1s,baz=241,slow=3.5,SNR=3.2								
DPC	**Dobruska-Polom**	**130.69**	**331**	*e*PKiKP		PKPdf	12 19 37.2	+1.9	
DPC				*e*SS		SS	12 39 11.5	-3.6	
DPC				MLR		MLR			
	comp=Z,800nm,25.6s								
DPC	**Dobruska-Polom**	**130.69**	**331**	*e*PKPDF		PKPdf	12 19 37.2	+1.9	
DPC				*ex*		x	12 22 09.2		
DPC				*e*SS		SS	12 39 11.5	-3.6	
DPC				AMS		AMS	13 15 30.0		
	comp=Z,800nm,25.6s								
BZS	**Buzias**	**130.73**	**323**	⇑P		PKPdf	12 19 37.4	+1.9	
PVCC	**Panska Ves**	**131.39**	**332**	AMS		AMS	13 15 20.0		
	comp=Z,600nm,23.4s								
BRG	**Berggiesshubel**	**131.44**	**333**	*e*P		PKPdf	12 19 38.9	+2.2	
BRG				*e*			12 22 57.7		
CLL	**Collm**	**131.54**	**334**	*e*PKHKP			12 19 20.0		
CLL				MLR		MLR			
	comp=Z,500nm,19.9s								
CLL	**Collm**	**131.54**	**334**	*i* PKiKP		PKPdf	12 19 38.5	+1.6	
CLL				*e*PPKP			12 19 59.0		
CLL				*e*PP		PP	12 21 58.0	-3.3	
CLL				*i* *SPP			12 22 25.5		
CLL				*i*			12 22 57.1		
CLL				*i*			12 23 34.0		
PRU	**Pruhonice**	**131.78**	**332**	*e*SS		SS	12 39 07.3	-22	
PRU				AMS		AMS	13 15 40.0		
	comp=Z,600nm,23.7s								
SAML	**Samuel**	**131.83**	**112**	*e*PKPdf		PKPdf	12 19 38.3	-0.2	
NKC	**Novy Kostel**	**132.56**	**333**	*e*PKPDF		PKPdf	12 19 41.0	+2.1	
NKC				AMS		AMS	13 17 50.0		
	comp=Z,500nm,22.2s								
SKO	**Skopje**	**132.74**	**319**	*e*PKP		PKPdf	12 19 41.0	+1.5	
SKO				*e*SKS			12 23 00.5		
KHC	**Kasperske Hory**	**132.83**	**331**	*e*PKiKP		PKPdf	12 19 41.9	+2.5	
KHC				*e*SS		SS	12 39 41.7	0.0	
KHC				MLR		MLR			
	comp=Z,800nm,24.6s								
KHC	**Kasperske Hory**	**132.83**	**331**	*e*PKPDF		PKPdf	12 19 41.9	+2.5	
KHC				*ep*PKP			12 20 02.0		
KHC				*ex*		x	12 22 24.3		
KHC				*e*SS		SS	12 39 41.7	0.0	
KHC				AMS		AMS	13 16 00.0		
	comp=Z,800nm,24.6s								
GERES	**GERESS Array B**	**132.97**	**331**	PKP		PKPdf	12 19 40.7	+1.1	
	comp=Z,1.2nm,0.7s,baz=90,slow=1.3,SNR=6.2								
GERES				SKPbc			12 23 02.3		
	comp=Z,1.8nm,0.8s,slow=1.3,SNR=4.1								
IDI	**Anoyia**	**133.20**	**309**	PKP		PKPdf	12 19 41.8	+1.3	
	comp=Z,6.7nm,0.9s,baz=17,slow=12,SNR=4.8								
EKA	**Eskdalemuir Ar**	**133.39**	**348**	PKP		PKPdf	12 19 41.3	+1.0	
	comp=Z,2.2nm,0.9s,baz=14,slow=6.9,SNR=3.9								
EKA				SKPbc			12 23 01.9		
	comp=Z,3.4nm,0.9s,baz=346,slow=3.4,SNR=4.3								
SJG	**San Juan**	**133.49**	**75**	*e*PKiKP		PKPdf	12 19 41.4	0.0	
GRA1	**Grafenberg Arr**	**133.50**	**333**	*e*PKP		PKPdf	12 19 41.2	+0.6	
GRF	**Grafenberg Arr**	**133.50**	**333**	*e*PKiKP		PKPdf	12 19 41.2	+0.6	
TSUM	**Tsumeb**	**133.75**	**231**	PKP		PKPdf	12 19 42.8	+0.9	
	comp=Z,4.4nm,1.0s,baz=125,slow=9.4,SNR=3.4								
TSUM	**Tsumeb**	**133.75**	**231**	PKP		PKPdf	12 19 42.8	+0.9	
BOJS	**Bojanci**	**134.40**	**327**	*e*PKPdf		PKPdf	12 19 43.6	+1.2	
VISS	**Visnje**	**134.43**	**327**	*e*PKPdf		PKPdf	12 19 43.7	+1.2	
JAVS	**Javornik**	**134.78**	**328**	*e*PKPdf		PKPdf	12 19 43.4	+0.3	
GIVF	**Givet**	**135.76**	**338**	*e*PKIKP		PKPdf	12 19 46.1	+1.3	
CDF	**Champ du Feu**	**136.16**	**335**	*e*PKIKP		PKPdf	12 19 46.5	+1.0	
BRMO	**Bormio**	**136.24**	**331**	*e*PKP		PKPdf	12 19 47.2	+1.5	
DAVOX	**Davos**	**136.25**	**332**	PKP		PKPdf	12 19 46.7	+1.0	
	comp=Z,11nm,1.0s,baz=246,slow=4.8,SNR=5.5								
DAVOX				SKPbc			12 23 12.5		
	comp=Z,4.6nm,0.8s,baz=186,slow=14,SNR=3.6								
HINF	**Hinteralfeld**	**136.81**	**335**	*e*PKIKP		PKPdf	12 19 46.7	0.0	
ARV	**Arcevia**	**136.96**	**326**	*e*PKIKP		PKPdf	12 19 47.2	+0.1	
SFI	**Santa Sofia**	**137.28**	**327**	*e*PKIKP		PKPdf	12 19 49.9	+2.1	
NRCA	**Norcia**	**137.29**	**325**	*e*PKP		PKPdf	12 19 45.6	-2.2	
AQU	**L'Aquila**	**137.44**	**324**	PKHKP			12 19 36.6		
CABF	**La Chapelle**	**138.07**	**334**	*e*PKIKP		PKPdf	12 19 49.9	+0.8	
	comp=Z,44nm,1.2s								
SSF	**Saint Saulge**	**138.76**	**337**	*e*PKIKP		PKPdf	12 19 50.7	+0.3	
	comp=Z,16nm,0.9s								
BNI	**Bardonecchia**	**139.02**	**332**	PKIKP		PKPdf	12 19 52.2	+1.3	
BNI	**Bardonecchia**	**139.02**	**332**	*e*PKPdf		PKPdf	12 19 52.0	+1.1	
PLDF	**La Plantade**	**139.61**	**336**	PKP		PKPdf	12 19 48.0	-3.9	
TCF	**Toulx Ste Croi**	**139.90**	**337**	*e*PKIKP		PKPdf	12 19 53.8	+1.4	
	comp=Z,35nm,1.2s								
LBL	**Lubilhac**	**140.37**	**335**	PKP		PKPdf	12 19 47.5	-5.8	
EPF	**Esparros**	**143.36**	**336**	*e*PKIKP		PKPdf	12 19 58.0	-0.6	
RESF	**Ens**	**143.55**	**336**	PKP		PKPdf	12 19 58.0	-0.9	
EBIE	**Bielsa**	**143.73**	**336**	PKP		PKPdf	12 19 57.9	-1.3	
ETSF	**Etsaut**	**143.82**	**337**	*e*PKIKP		PKPdf	12 19 58.7	-0.6	
	comp=Z,85nm,0.8s								
LARF	**Larrau**	**143.86**	**338**	PKP		PKPdf

JOD2				S	**S**	**12 03 34.7**	**-0.9**
JAG	**Ashikaga**	**3.46**	**315**	P	**P**	**12 03 05.1**	**-0.2**
JRY	**Ryogami san**	**3.56**	**305**	P	**P**	**12 03 06.8**	**+0.1**
JYN	**Shimob**	**3.58**	**296**	P	**P**	**12 03 06.6**	**-0.3**
JYN				S	**S**	**12 03 47.6**	**-0.6**
JMM	**Marumori**	**4.09**	**341**	P	**P**	**12 03 12.9**	**-1.2**
JMM				S	**S**	**12 03 57.8**	**-3.3**
MJAR	**Matsushiro Arr**	**4.32**	**307**	Pn	**P**	**12 03 17.5**	**+0.1**
	1.5nm,0.3s,baz=154,slow=14,SNR=12						
MJAR				Lg		12 04 07.4	
	1.5nm,0.3s,baz=195,slow=21,SNR=4.6						
MAT	**Matsushiro**	**4.32**	**307**	P	**P**	**12 03 18.2**	**+0.8**
MAT				S	**S**	**12 04 06.6**	**-0.4**
MAT	**Matsushiro**	**4.32**	**307**	P	**P**	**12 03 18.4**	**+1.0**
SONM	**Songino Array**	**30.27**	**308**	P	**P**	**12 08 24.5**	**+4.4**
	0.4nm,0.5s,mb3.4,baz=106,slow=9.0,SNR=4.4						
MKAR	**Makanchi Array**	**46.52**	**305**	P	**P**	**12 10 40.4**	**+4.6**
	1.0nm,0.6s,mb3.9,baz=90,slow=12,SNR=2.1						

*IDC **30** 12:03:19.4±1.2, 1.24N×97.01E, mb4.4/10, mb1 4.6/10, mb1mx4.3/19, mbtmp4.4/10, Error ellipse: s-maj=57.5km s-min=16.9km az=53.0*
*NEIC **30** 12:03:24.7±0.6, 1.38N×97.30E, h30km, mb4.8/9, Error ellipse: s-maj=16.9km s-min=9.4km az=225.0*
*BJI **30** 12:03:24.6, 1.40N×97.30E, h30km, mb4.6, Ms4.3, Msz4.2*
ISC 30 12:03:23.0±0.7, 1.4N±0.1×97.33E±0.10, h30km, n28, σ0§90/27, mb4.6/22, MS4.2/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.09**	**41**	*eP*	**Pn**	**12 04 38.0**	**-1.3**
KKM	**Kota Kinabalu**	**19.40**	**76**	*eP*	**P**	**12 07 50.3**	**+0.6**
KMI	**Kunming**	**24.15**	**12**	P	**P**	**12 08 39.8**	**+2.0**
KMI				AP		12 08 46.5	
KMI				XP		12 08 49.3	
KMI				PPP	PPP	12 09 38.0	+15
KMI				AMB	AMB		
	comp=Z,27nm,1.1s,mb4.6						
KMI				LR	LR		
	comp=N,500nm,15.7s,MS4.2						
KMI				LR	LR		
	comp=E,229nm,15.0s,MS4.2						
KMI				LR	LR		
	comp=Z,513nm,14.5s,MS4.1						
JIRN	**Jiri**	**28.20**	**339**	*eP*	**P**	**12 09 16.3**	**+0.9**
	comp=Z,34nm,0.7s,mb5.1						
PKI	**Pulchoki**	**28.41**	**337**	*eP*	**P**	**12 09 17.5**	**+0.2**
	comp=Z,21nm,1.0s,mb4.7						
GUN	**Gumba**	**28.54**	**338**	*eP*	**P**	**12 09 19.1**	**+0.7**
	comp=Z,34nm,0.6s,mb5.3						
DMN	**Daman**	**28.57**	**337**	*eP*	**P**	**12 09 18.7**	**+0.1**
KKN	**Kakani**	**28.66**	**337**	*eP*	**P**	**12 09 19.6**	**+0.1**
LSA	**Lhasa**	**28.75**	**349**	*eP*	**P**	**12 09 22.4**	**+2.1**
	comp=Z,6.7nm,0.7s,mb4.5						
GKN	**Gorkha**	**29.10**	**336**	*eP*	**P**	**12 09 23.7**	**+0.2**
	comp=Z,34nm,0.9s,mb5.1						
KOLN	**Koldanda**	**29.33**	**335**	*eP*	**P**	**12 09 25.9**	**+0.4**
	comp=Z,23nm,0.7s,mb5.0						
ENH	**Enshi**	**30.94**	**21**	*eP*	**P**	**12 09 38.6**	**-1.2**
	comp=Z,21nm,0.6s,mb5.1						
XAN	**Xi'an**	**34.23**	**17**	P	**P**	**12 10 07.3**	**-1.1**
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
GTA	**Gaotai**	**37.89**	**3**	*eP*	**P**	**12 10 40.0**	**+0.7**
GTA				AP	pP	12 10 49.3	+1.0
GTA				XP	sP	12 10 52.8	+0.7
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**42.04**	**122**	P	**P**	**12 11 13.9**	**0.0**
	comp=Z,3.6nm,0.5s,mb4.2,baz=302,slow=9.2,SNR=4.5						
ASAR	**Alice Springs**	**43.42**	**127**	P	**P**	**12 11 25.4**	**+0.3**
	comp=Z,0.9nm,0.4s,mb3.9,baz=301,slow=7.8,SNR=4.0						
SONM	**Songino Array**	**46.91**	**8**	P	**P**	**12 11 53.3**	**+0.6**
	comp=Z,5.6nm,0.7s,mb4.6,baz=191,slow=9.1,SNR=30						
ULN	**Ulaanbaatar**	**47.04**	**9**	*eP*	**P**	**12 11 53.8**	**+0.1**
MKAR	**Makanchi Array**	**47.07**	**346**	P	**P**	**12 11 54.1**	**+0.1**
	comp=Z,4.1nm,0.5s,mb4.6,baz=163,slow=8.7,SNR=21						
KURK	**Kurchatov**	**51.63**	**345**	*eP*	**P**	**12 12 28.4**	**-0.5**
	comp=Z,2.5nm,0.5s,mb4.4						
ZAL	**Zalesovo**	**53.37**	**351**	P	**P**	**12 12 41.3**	**-0.7**
	comp=Z,11nm,0.4s,mb5.2,baz=305,slow=4.8,SNR=18						
STKA	**Stephens Creek**	**53.40**	**132**	P	**P**	**12 12 42.8**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.2,baz=308,slow=7.2,SNR=4.0						
BVAR	**Borovoye Array**	**56.10**	**341**	P	**P**	**12 13 00.4**	**-1.5**
	comp=Z,5.7nm,0.7s,mb4.7,baz=139,slow=9.4,SNR=18						
CHKZ	**Chkalovo**	**56.57**	**341**	*eP*	**P**	**12 13 04.1**	**-1.2**
	comp=Z,8.9nm,0.8s,mb4.8						
BRTR	**Keskin Array B**	**69.07**	**312**	P	**P**	**12 14 26.8**	**-1.6**
	comp=Z,0.7nm,0.7s,mb3.7,baz=127,slow=7.2,SNR=3.3						
FINES	**FINESS Array B**	**79.88**	**332**	P	**P**	**12 15 29.6**	**-0.6**
	comp=Z,1.0nm,0.6s,mb3.9,baz=104,slow=7.9,SNR=4.7						
ARCES	**ARCESS Array B**	**82.39**	**340**	P	**P**	**12 15 43.8**	**+0.5**
	comp=Z,8.5nm,1.1s,mb4.6,baz=90,slow=3.6,SNR=4.3						
TXAR	**Lajitas Array**	**143.43**	**32**	PKP	PKPdf	12 22 54.7	-5.7
	comp=Z,0.4nm,0.5s,baz=36,slow=0.7,SNR=9.9						

IDC 30 12:13:30.3±10.0, 1.93S×140.75E, mb3.7/3, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=150.8km s-min=68.1km az=7.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.97**	**199**	P	P	12 17 53.1	-2.5
	0.3nm,0.3s,baz=21,slow=12,SNR=7.4						
FITZ	**Fitzroy Crossi**	**21.87**	**222**	P	P	12 18 25.3	-1.4
	5.4nm,0.9s,baz=165,slow=16,SNR=2.9						
ASAR	**Alice Springs**	**22.60**	**197**	P	P	12 18 31.9	-2.2
	0.7nm,0.7s,baz=31,slow=10.0,SNR=3.8						
STKA	**Stephens Creek**	**29.80**	**179**	P	P	12 19 39.4	-1.8
	1.2nm,0.7s,baz=352,slow=7.1,SNR=2.0						

*IDC **30** 12:16:20.5±1.6, 2.36N×96.32E, mb3.9/9, mb1 4.0/9, mb1mx3.8/19, mbtmp3.9/9, Error ellipse: s-maj=85.1km s-min=17.7km az=56.0*
*NEIC **30** 12:16:25.5±0.8, 2.44N×96.49E, h30km, mb4.3/3, Error ellipse: s-maj=45.4km s-min=7.9km az=54.0*
ISC 30 12:16:23.6±1.3, 2.5N±0.3×96.5E±0.4, h30km, n16, σ0§42/16, mb4.0/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**26.94**	**339**	*eP*	**P**	**12 22 04.8**	**+0.2**
	12nm,0.7s,mb4.5						
PKI	**Pulchoki**	**27.15**	**338**	*eP*	**P**	**12 22 06.9**	**+0.5**
GUN	**Gumba**	**27.28**	**339**	*eP*	**P**	**12 22 07.6**	**-0.1**
KKN	**Kakani**	**27.39**	**338**	*eP*	**P**	**12 22 08.9**	**+0.2**
GKN	**Gorkha**	**27.83**	**337**	*eP*	**P**	**12 22 13.3**	**+0.7**
	9.9nm,0.6s,mb4.6						
KOLN	**Koldanda**	**28.04**	**335**	*eP*	**P**	**12 22 14.7**	**+0.1**
	11nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.28**	**123**	P	**P**	**12 24 24.7**	**-0.1**
	0.2nm,0.4s,mb3.2,baz=301,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**44.70**	**128**	P	**P**	**12 24 36.2**	**0.0**
	0.4nm,0.7s,mb3.3,baz=299,slow=7.2,SNR=4.0						
MKAR	**Makanchi Array**	**45.88**	**346**	P	**P**	**12 24 45.1**	**-0.1**
	1.6nm,0.4s,mb4.3,baz=158,slow=9.0,SNR=31						
SONM	**Songino Array**	**46.02**	**9**	P	**P**	**12 24 46.4**	**+0.2**
	0.7nm,0.4s,mb4.0,baz=189,slow=8.9,SNR=5.6						
SONM				PcP	PcP	12 26 22.9	-0.1
	0.5nm,0.3s,baz=196,slow=2.4,SNR=4.7						
ZAL	**Zalesovo**	**52.22**	**351**	P	**P**	**12 25 33.5**	**-0.5**
	2.1nm,0.5s,mb4.4,baz=305,slow=3.9,SNR=8.1						
STKA	**Stephens Creek**	**54.70**	**132**	P	**P**	**12 25 52.9**	**+0.2**
	1.2nm,0.8s,mb4.0,baz=155,slow=1.0,SNR=2.8						
BVAR	**Borovoye Array**	**54.85**	**341**	P	**P**	**12 25 52.4**	**-1.2**
	0.7nm,0.5s,mb4.0,baz=135,slow=8.4,SNR=4.5						
FINES	**FINESS Array B**	**78.58**	**332**	P	**P**	**12 28 23.4**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=117,slow=4.3,SNR=6.7						
FINES	**FINESS Array B**	**78.58**	**332**	P	**P**	**12 28 23.4**	**-0.4**
ARCES	**ARCESS Array B**	**81.14**	**340**	P	**P**	**12 28 37.6**	**+0.2**
	3.5nm,0.9s,mb4.3,baz=101,slow=6.2,SNR=11						

IDC 30 12:19:47.1±3.9, 3.67N×96.55E, mb3.8/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.8/5, Error ellipse: s-maj=158.9km s-min=22.7km az=61.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.92**	**128**	P	P	12 26 47.8	-3.6
	3.8nm,1.0s,baz=329,slow=5.9,SNR=3.7						
WRA	**Warramunga Arr**	**43.91**	**124**	P	P	12 27 56.8	-0.9
	0.7nm,0.4s,baz=304,slow=8.8,SNR=7.0						
MKAR	**Makanchi Array**	**44.70**	**346**	P	P	12 28 01.9	-1.9
	0.6nm,0.7s,baz=167,slow=7.6,SNR=4.4						
SONM	**Songino Array**	**44.81**	**9**	P	P	12 28 02.8	-1.8
	0.4nm,0.4s,baz=198,slow=7.8,SNR=3.9						
ASAR	**Alice Springs**	**45.41**	**129**	P	P	12 28 08.7	-1.1
	0.7nm,0.4s,baz=295,slow=7.7,SNR=11						

*IDC **30** 12:23:40.9±1.8, 1.40N×96.89E, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=83.1km s-min=20.5km az=54.0*
*NEIC **30** 12:23:45.8±0.7, 1.50N×97.04E, h30km, mb4.3/2, Error ellipse: s-maj=18.1km s-min=11.5km az=53.0*
ISC 30 12:23:44.0±1.0, 1.5N±0.1×97.0E±0.2, h30km, n13, σ0§58/13, mb4.0/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.19**	**44**	*eP*	**Pn**	**12 25 01.6**	**-0.2**
WRA	**Warramunga Arr**	**42.35**	**122**	P	**P**	**12 31 37.0**	**-0.5**
	0.3nm,0.4s,mb3.3,baz=303,slow=9.1,SNR=5.9						
ASAR	**Alice Springs**	**43.73**	**127**	P	**P**	**12 31 49.0**	**+0.4**
	0.3nm,0.5s,mb3.3,baz=295,slow=7.3,SNR=5.5						
SONM	**Songino Array**	**46.83**	**9**	P	**P**	**12 32 13.5**	**+0.5**
	5.4nm,1.0s,mb4.5,baz=189,slow=9.0,SNR=22						
MKAR	**Makanchi Array**	**46.88**	**346**	P	**P**	**12 32 14.1**	**+0.6**
	4.2nm,0.7s,mb4.5,baz=160,slow=8.3,SNR=34						
MKAR	**Makanchi Array**	**46.88**	**346**	P	**P**	**12 32 14.1**	**+0.6**
ULN	**Ulaanbaatar**	**46.96**	**9**	*eP*	**P**	**12 32 14.4**	**+0.3**
	2.3nm,0.6s,mb4.3						
ZAL	**Zalesovo**	**53.20**	**351**	P	**P**	**12 33 01.5**	**-0.2**
	1.5nm,0.5s,mb4.2,baz=288,slow=3.0,SNR=7.7						
BVAR	**Borovoye Array**	**55.88**	**341**	P	**P**	**12 33 20.5**	**-0.8**
	0.8nm,0.6s,mb3.9,baz=135,slow=8.4,SNR=6.0						
CHKZ	**Chkalovo**	**56.36**	**341**	*eP*	**P**	**12 33 23.7**	**-1.0**
	1.5nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**79.63**	**332**	P	**P**	**12 35 49.9**	**0.0**
	1.1nm,0.6s,mb4.0,baz=144,slow=36,SNR=4.4						
FINES	**FINESS Array B**	**79.63**	**332**	P	**P**	**12 35 49.9**	**0.0**
ARCES	**ARCESS Array B**	**82.17**	**340**	P	**P**	**12 36 04.0**	**+0.9**
	1.4nm,0.8s,mb3.9,baz=108,slow=3.8,SNR=4.9						

*IDC **30** 12:24:15.6±0.7, 2.44N×97.21E, mb4.7/19, mb1 4.9/19, mb1mx4.7/23, mbtmp4.7/19, MS4.6/4, Ms1 4.6/4, ms1mx3.7/32, Error ellipse: s-maj=32.5km s-min=12.4km az=47.0*
*BJI **30** 12:24:18.4, 2.09N×97.25E, h52km, mB5.2, mb4.8, Ms4.8, Msz4.3*
*MOS **30** 12:24:19.0±1.0, 2.47N×97.26E, h33km, mb5.1/29, MS4.4/8, Error ellipse: s-maj=14.0km s-min=6.3km az=115.4*
*NEIC **30** 12:24:20.5±0.2, 2.45N×97.23E, h30km, mb4.8/29, MS4.5/2, Error ellipse: s-maj=8.6km s-min=4.9km az=225.0*
ISC 30 12:24:19.1±0.3, 2.44N±0.05×97.27E±0.05, h33km, (h34km±1.8km: pP-P), n150, σ0§99/139, mb4.9/64, MS4.5/13, 9C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.40**	**50**	*eP*	**P**	**12 25 28.5**	**+3.2**
KSM	**Kuching**	**13.06**	**94**	*eP*	**P**	**12 27 36.4**	**+11**
KKTK	**Khon Kaen**	**14.85**	**21**	P	**P**	**12 27 53.0**	**+4.4**
CM31	**Chiang Mai Arr**	**16.00**	**6**	*eP*	**P**	**12 28 02.8**	**-0.7**
	13nm,0.8s						
NANT	**Nan**	**16.60**	**11**	P	**P**	**12 28 12.0**	**+1.0**
KKM	**Kota Kinabalu**	**19.22**	**79**	*eP*	**P**	**12 28 44.1**	**+0.7**
QIZ	**Qiongzhong**	**20.57**	**36**	P	**P**	**12 28 58.0**	**+0.1**
KMI	**Kunming**	**23.16**	**13**	P	**P**	**12 29 25.5**	**+1.7**
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
HYB	**Hyderabad**	**23.66**	**310**	*eP*	**P**	**12 29 31.0**	**+2.4**
HYB	**Hyderabad**	**23.66**	**310**	*i P*	**P**	**12 29 31.0**	**+2.4**
JIRN	**Jiri**	**27.23**	**338**	*eP*	**P**	**12 30 02.2**	**-0.1**
	comp=Z,80nm,0.8s,mb5.3						
PKI	**Pulchoki**	**27.45**	**337**	*eP*	**P**	**12 30 03.9**	**-0.4**
	comp=Z,17nm,0.7s,mb4.7						
PKI	**Pulchoki**	**27.45**	**337**	*eP*	**P**	**12 30 03.9**	**-0.4**
PKI				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
GUN	**Gumba**	**27.57**	**338**	*eP*	**P**	**12 30 05.2**	**-0.2**
	comp=Z,82nm,0.6s,mb5.5						
DMN	**Daman**	**27.60**	**336**	*eP*	**P**	**12 30 05.9**	**+0.2**
	comp=Z,33nm,0.7s,mb5.0						
KKN	**Kakani**	**27.69**	**337**	*eP*	**P**	**12 30 05.8**	**-0.7**
	comp=Z,63nm,1.0s,mb5.2						
KKN	**Kakani**	**27.69**	**337**	*eP*	**P**	**12 30 05.8**	**-0.7**
KKN				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.9						
LSA	**Lhasa**	**27.73**	**348**	*eP*	**P**	**12 30 06.2**	**-0.6**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**27.73**	**348**	*eP*	**P**	**12 30 06.2**	**-0.6**
	comp=Z,9.9nm,0.5s,mb4.7						
GKN	**Gorkha**	**28.14**	**336**	*eP*	**P**	**12 30 10.0**	**-0.6**
	comp=Z,68nm,0.9s,mb5.3						
KOLN	**Koldanda**	**28.38**	**334**	*eP*	**P**	**12 30 12.4**	**-0.3**
	comp=Z,75nm,0.9s,mb5.3						
ENH	**Enshi**	**30.00**	**21**	*eP*	**P**	**12 30 24.7**	**-2.4**
	comp=Z,9.8nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.60**	**127**	*eP*	**P**	**12 31 06.1**	**-1.3**
	comp=Z,7.6nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**34.60**	**127**	P	**P**	**12 31 06.1**	**-1.3**
	comp=Z,7.1nm,0.6s,mb4.8,baz=338,slow=3.5,SNR=14						
NJ2	**Nanjing**	**35.78**	**32**	*eP*	**P**	**12 31 18.0**	**+0.7**
NJ2				AP	pP	12 31 28.0	+1.0
NJ2				XP	sP	12 31 31.8	+0.5
NJ2				PP	PP	12 32 37.5	-1.2
NJ2				S	**S**	**12 36 50.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,300nm,4.8s						
NJ2				LR	LR		
	comp=N,520nm,12.9s						
NJ2				LR	LR		
	comp=E,830nm,21.4s						
NJ2				LR	LR		
	comp=Z,360nm,19.6s						
SSE	**Sheshan**	**36.37**	**36**	P	**P**	**12 31 20.8**	**-1.4**
SSE				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,368nm,11.8s						
GTA	**Gaotai**	**36.87**	**3**	*eP*	**P**	**12 31 26.0**	**-0.4**
GTA				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
KAKA	**Kakadu**	**38.02**	**114**	*eP*	**P**	**12 31 35.6**	**-0.7**
	comp=Z,7.8nm,0.6s,mb4.6						
HHC	**Hu-ho-hao-te**	**40.36**	**17**	*eP*	**P**	**12 31 56.8**	**+1.4**
HHC				AP	pP	12 32 06.0	+0.8
HHC				XP	sP	12 32 10.0	+0.6
HHC				PP	PP	12 33 34.0	+2.2
HHC				SCP		12 37 45.0	
HHC				S	**S**	**12 38 03.0**	**+2.0**
HHC				XS		12 38 20.8	
HHC				SS	SS	12 40 57.3	+2.3
HHC				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,310nm,19.0s						
HHC				LR	LR		
	comp=N,256nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=E,288nm,21.4s,MS4.2						
HHC				LR	LR		
	comp=Z,359nm,21.4s,MS4.2						
BJT	**Baijiatuau**	**41.15**	**22**	*eP*	**P**	**12 32 03.2**	**+1.2**
BJT				pmax	pmax		
	comp=Z,22nm,0.7s						
BJT	**Baijiatuau**	**41.15**	**22**	*eP*	**P**	**12 32 03.2**	**+1.2**
	comp=Z,22nm,0.7s,mb4.9						
BJI	**Beijing**	**41.17**	**22**	P	**P**	**12 32 03.0**	**+0.8**
BJI				AMB	AMB		
	comp=Z,26nm,0.6s,mb5.0						
WMQ	**Urumqi**	**42.08**	**350**	P	**P**	**12 32 09.8**	**+0.2**
WMQ				AP	pP	12 32 19.0	-0.4
WMQ				PP	PP	12 33 50.5	+0.5
WMQ				S	**S**	**12 38 26.0**	**-0.5**
WMQ				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,98nm,4.9s						
WMQ				LR	LR		
	comp=N,1μm,17.7s,MS4.9						
WMQ				LR	LR		
	comp=E,824nm,15.2s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,26.0s						
WRA	**Warramunga Arr**	**42.63**	**123**	P	**P**	**12 32 14.2**	**-0.3**
	comp=Z,7.3nm,0.6s,mb4.6,baz=301,slow=9.2,SNR=30						
WB2	**Warramunga Arr**	**42.65**	**123**	*i P*	**P**	**12 32 14.1**	**-0.5**
ULHL	**Ulahol**	**43.88**	**337**	P	**P**	**12 32 25.1**	**+0.7**
	SNR=9.1						
ASPA	**Alice Springs**	**44.09**	**128**	*eP*	**P**	**12 32 26.2**	**0.0**
ASAR	**Alice Springs**	**44.09**	**128**	P	**P**	**12 32 26.1**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.1,baz=304,slow=7.9,SNR=26						
ASAR				PcP	PcP	12 34 12.0	+0.4
	comp=Z,0.3nm,0.5s,baz=292,slow=2.4,SNR=4.9						
KZA	**Kyzart**	**44.13**	**336**	P	**P**	**12 32 27.2**	**+0.9**
	SNR=7.5						
FORT	**Forrest**	**44.18**	**141**	*eP*	**P**	**12 32 28.4**	**+1.5**
	comp=Z,560nm,0.6s						
UCH	**Uchtor**	**44.55**	**336**	P	**P**	**12 32 30.6**	**+0.9**
	SNR=15						
TKM2	**Tokmak 2**	**44.71**	**337**	P	**P**	**12 32 31.5**	**+0.6**
	SNR=19						
KBK	**Karagaybulak**	**44.74**	**337**	P	**P**	**12 32 32.3**	**+1.1**
	SNR=12						
AML	**Almayashu**	**44.81**	**335**	P	**P**	**12 32 32.8**	**+1.0**
	SNR=13						
AAK	**Ala-Archa**	**44.90**	**336**	P	**P**	**12 32 33.7**	**+1.2**
	SNR=7.8						
AAK	**Ala-Archa**	**44.90**	**336**	P	**P**	**12 32 31.3**	**-1.2**
	comp=Z,56nm,0.6s,mb5.6,SNR=11						
AAK	**Ala-Archa**	**44.90**	**336**	P	**P**	**12 32 32.9**	**+0.4**
AAK				pmax	pmax		
	comp=Z,25nm,1.3s,mb4.9						
AAK	**Ala-Archa**	**44.90**	**336**	*eP*	**P**	**12 32 31.8**	**-0.7**
	comp=Z,5.3nm,0.7s,mb4.5						
FRU	**Bishkek**	**45.02**	**336**	*eP*	**P**	**12 32 34.0**	**+0.6**
FRU				*e*	pP	12 32 45.0	+1.7
CHMS	**Chumysh**	**45.10**	**337**	P	**P**	**12 32 34.4**	**+0.3**
	SNR=6.9						
EKS2	**Erkin-Say**	**45.22**	**336**	P	**P**	**12 32 36.0**	**+0.9**
	SNR=13						
USP	**Ospenovka**	**45.43**	**337**	P	**P**	**12 32 36.8**	**0.0**
	SNR=22						
SONM	**Songino Array**	**45.90**	**9**	P	**P**	**12 32 40.2**	**-0.3**
	comp=Z,12nm,0.7s,mb4.9,baz=189,slow=8.6,SNR=34						
SONM				PcP	PcP	12 34 17.5	-0.1
	comp=Z,5.0nm,0.8s,baz=189,slow=3.6,SNR=6.6						
ULN	**Ulaanbaatar**	**46.03**	**9**	*eP*	**P**	**12 32 40.5**	**-1.0**
ULN	**Ulaanbaatar**	**46.03**	**9**	*eP*	**P**	**12 32 41.1**	**-0.4**
	comp=Z,8.6nm,0.8s,mb4.7						
MKAR	**Makanchi Array**	**46.06**	**346**	P	**P**	**12 32 41.0**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**46.06**	**346**	P	**P**	**12 32 41.1**	**-0.6**
	comp=Z,25nm,0.7s,mb5.2,baz=160,slow=7.7,SNR=70						
KKAR	**Karatay Array**	**46.99**	**333**	*i P*	**P**	**12 32 48.8**	**-0.2**
ZAK	**Zakamensk**	**48.04**	**5**	*eP*	**P**	**12 32 56.6**	**-0.6**
GUMO	**Guam**	**48.32**	**74**	LR	LR	12 52 29.4	
	comp=Z,101nm,18.3s,MS3.8,baz=231,slow=35						
TLY	**Talaya**	**49.36**	**5**	*d iP*	**P**	**12 33 07.9**	**+0.6**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.8						
HIA	**Hailar**	**50.45**	**19**	P	**P**	**12 33 14.8**	**-0.9**
KURK	**Kurchatov**	**50.62**	**345**	*c iP*	**P**	**12 33 16.3**	**-0.7**
KURK				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
KURK	**Kurchatov**	**50.62**	**345**	*eP*	**P**	**12 33 16.2**	**-0.8**
	comp=Z,27nm,1.0s,mb5.1						
MJAR	**Matsushiro Arr**	**50.73**	**43**	P	**P**	**12 33 18.0**	**0.0**
	comp=Z,1.7nm,0.8s,mb4.0,baz=239,slow=12,SNR=4.4						
MJAR				PcP	PcP	12 34 32.9	-2.2
	comp=Z,2.7nm,0.9s,baz=268,slow=2.6,SNR=4.2						
MDJ	**Mudanjiang**	**50.76**	**30**	P	**P**	**12 33 18.0**	**-0.1**
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,366nm,7.9s						
ZAL	**Zalesovo**	**52.35**	**351**	P	**P**	**12 33 29.1**	**-0.8**
	comp=Z,29nm,0.6s,mb5.4,baz=308,slow=5.9,SNR=77						
CTA	**Charters Tower**	**52.99**	**117**	*eP*	**P**	**12 33 35.4**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.5						
CTA	**Charters Tower**	**52.99**	**117**	*eP*	**P**	**12 33 35.4**	**+0.2**
CTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CTA	**Charters Tower**	**52.99**	**117**	P	**P**	**12 33 35.3**	**+0.1**
	comp=Z,9.7nm,1.1s,mb4.6,baz=238,slow=7.9,SNR=5.1						
CTAO	**Charters Tower**	**52.99**	**117**	*eP*	**P**	**12 33 35.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
CTAO	**Charters Tower**	**52.99**	**117**	*eP*	**P**	**12 33 35.3**	**+0.1**
	comp=Z,9.1nm,1.0s,mb4.7						
**N

comp=N,18nm,0.8s
SOC pmax pmax
comp=E,14nm,0.8s
SOC MLR MLR
comp=N,283nm,19.0s,MS4.5
SOC MLR MLR
comp=E,95nm,19.0s,MS4.5
SOC MLR MLR
comp=Z,249nm,19.0s,MS4.4
MBAR Mbarara 66.59 268 *eP* **P 12 35 07.8 -1.0**
ANN Anapa 67.23 318 *eP* **P 12 35 03.9 -8.4**
ANN pmax pmax
comp=Z,30nm,1.0s,mb5.3
BRTR Keskin Array B 68.34 312 P **P 12 35 18.4 -1.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=135,slow=8.7,SNR=7.5
SIM Simferopol' 69.51 317 P **P 12 35 26.6 +0.1**
SIM pmax pmax
comp=Z,15nm,0.5s,mb5.2
SIM MLR MLR
comp=Z,300nm,19.0s,MS4.6
MA2 Magadan 70.19 26 *eP* **P 12 35 29.6 -0.8**
MA2 pmax pmax
comp=Z,15nm,0.8s,mb5.0
MA2 Magadan 70.19 26 *eP* **P 12 35 29.6 -0.8**
comp=Z,15nm,0.8s,mb5.0
MOS Moscow 71.31 329 *eP* **P 12 35 35.0 -2.3**
MOS *e* 12 35 49.7
MOS pmax pmax
comp=Z,54nm,0.8s,mb5.5
OBN Obninsk 71.61 328⇑ *iP* **P 12 35 38.3 -0.7**
OBN *i* 12 35 53.7
OBN *eS* S 12 45 03.0 +8.2
OBN pmax pmax
comp=Z,29nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,400nm,20.0s,MS4.7
TIXI Tiksi 71.96 10 *eP* **P 12 35 37.0 -3.8**
TIXI pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,124nm,14.0s,MS4.3
SEY Seymchan 72.60 23 *eP* **P 12 35 46.7 +2.0**
SEY *e* 12 36 03.1
SEY pmax pmax
comp=Z,30nm,0.8s,mb5.3
CFR Carcaliu 73.65 316 ⇓P **P 12 35 51.4 +0.1**
AKASG Malin Array Be 74.33 322 P **P 12 35 54.1 -1.0**
comp=Z,14nm,0.9s,mb4.9,baz=89,slow=5.0,SNR=26
LBTB Lobatse 74.50 243 LR LR 13 07 48.0
comp=Z,507nm,18.8s,MS4.8,baz=109,slow=35
VRI Vrincioaia 74.77 317 ⇑P **P 12 35 58.9 +1.1**
MLR Muntele Rosu 75.22 316 P **P 12 36 00.5 +0.1**
comp=Z,8.1nm,0.9s,mb4.7,baz=143,slow=3.1,SNR=12
MLR Muntele Rosu 75.22 316 ⇑P **P 12 36 01.4 +1.0**
BOSA Boshof 75.46 240 LR LR 13 03 39.9
comp=Z,709nm,21.2s,MS4.9,baz=328,slow=31
BURAR Bucovina Array 76.15 318 ⇑P **P 12 36 06.5 +0.9**
KWP Kalwaria 78.17 320 *eP* **P 12 36 16.4 -0.5**
KWP pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KWP Kalwaria 78.17 320 *eP* **P 12 36 16.4 -0.5**
comp=Z,9.0nm,0.6s,mb4.9
KOLS Kolonicke sedl 78.33 319 *eP* **P 12 36 19.2 +1.5**
SUW Suwalki 78.71 325 *eP* **P 12 36 19.2 -0.5**
FINES FINESS Array B 78.94 332 P **P 12 36 20.6 -0.2**
comp=Z,7.7nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=24
KAF Kangasniemi 79.02 333 *eP* **P 12 36 20.3 -1.0**
comp=Z,1.0nm,0.4s,mb4.1,baz=102,slow=5.2
KAF Kangasniemi 79.02 333 *eP* **P 12 36 20.3 -1.0**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
FX1 Attu Island--F 79.56 37 P **P 12 36 25.4 +1.0**
comp=Z,7.7nm,0.5s,mb4.8,baz=29,slow=6.1,SNR=5.1
PKSM Moragy 80.38 316⇑ *eP* **P 12 36 28.9 0.0**
VYHS Vyhne 80.52 319 *eP* **P 12 36 29.0 -0.6**
KEV Kevo 80.96 341 *ep* **P 12 36 31.1 -0.4**
comp=Z,6.0nm,0.8s,mb4.6
KEV Kevo 80.96 341 *eP* **P 12 36 31.1 -0.4**
KEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ARCES ARCESS Array B 81.40 340 P **P 12 36 34.2 +0.4**
comp=Z,3.2nm,0.5s,mb4.5,baz=98,slow=4.6,SNR=25
KSP Ksiaz 82.42 321 *eP* **P 12 36 39.0 -0.4**
AQU L'Aquila 83.83 312 P **P 12 36 48.3 +1.4**
AQU *e* pP 12 36 59.8 +2.5
AQU pmax pmax
comp=Z,6.0nm,0.6s,mb4.9
AQU L'Aquila 83.83 312 P **P 12 36 48.3 +1.4**
comp=Z,6.3nm,0.6s,mb4.9
AQU *e* pP 12 36 59.8 +2.4
GERES GERESS Array B 83.94 319 P **P 12 36 48.1 +0.9**
comp=Z,1.3nm,0.4s,mb4.4,baz=101,slow=6.8,SNR=18
GERES LR LR 13 18 45.9
comp=Z,570nm,21.7s,MS4.9,baz=197,slow=39
PTCC Patocco-Chiusa 84.05 316 *eP* **P 12 36 48.5 +0.7**
ARV Arcevia 84.22 313 *eP* **P 12 36 49.8 +1.0**
CLL Collm 84.52 321 P **P 12 36 50.0 -0.1**
CLL *e**SP sP 12 37 06.0 +1.9
GRA1 Grafenberg Arr 85.59 319 *eP* **P 12 36 56.7 +1.2**
comp=Z,5.0nm,0.9s,mb4.7
GRA1 LR LR
comp=Z,200nm,22.0s,MS4.5
GRF Grafenberg Arr 85.59 319 *eP* **P 12 36 56.7 +1.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GRF MLR MLR
comp=Z,200nm,22.0s,MS4.5
GRF Grafenberg Arr 85.59 319 *eP* **P 12 36 56.7 +1.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
GRF MLR MLR
comp=Z,200nm,22.0s,MS4.5
GRF Grafenberg Arr 85.59 319 *eP* **P 12 36 56.7 +1.2**
comp=Z,5.0nm,0.9s,mb4.7
GRF LR LR
comp=Z,200nm,22.0s,MS4.5
NB2 NORSAR Subarra 85.97 331 P **P 12 36 57.3 +0.3**
comp=Z,10.0nm,0.8s,mb5.1,baz=92,slow=5.0
NB2 NORSAR Subarra 85.97 331 P **P 12 36 57.3 +0.3**
NB2 pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
NOA NORSAR Array B 85.97 331 P **P 12 36 57.6 +0.6**
comp=Z,6.6nm,0.8s,mb4.9,baz=93,slow=5.0,SNR=26
DAVOX Davos 86.45 317 P **P 12 37 01.0 +1.2**
comp=Z,6.5nm,0.6s,mb5.0,baz=120,slow=8.9,SNR=6.1
IMA Indian Mountai 95.42 23 *eP* **P 12 37 42.6 +1.5**
IMA pmax pmax
comp=Z,13nm,1.0s,mb5.3
IMA Indian Mountai 95.42 23 *eP* **P 12 37 42.6 +1.4**
comp=Z,13nm,1.0s,mb5.3
YKA Yellowknife Ar 110.88 15 PP PP 12 43 21.3 -10
comp=Z,0.5nm,0.7s,baz=332,slow=7.5,SNR=6.7
ULM Lac du Bonnet 126.31 10 PKP PKPdf 12 43 20.5 +1.7
comp=Z,2.4nm,0.7s,baz=341,slow=3.7,SNR=4.7
PDAR Pinedale Array 128.90 25 PKP PKPdf 12 43 25.9 +1.9
comp=Z,1.1nm,0.7s,baz=59,slow=0.6,SNR=9.0
NLU North Lily Min 129.97 29 *eP* PKPdf 12 43 29.0 +2.9
TMUT Trail Mountain 130.90 29 P PKPdf 12 43 33.6 +5.7
MSU Marysvale 131.02 31 *eP* PKPdf 12 43 32.2 +4.1
SRU San Rafael 131.38 29 *eP* PKPdf 12 43 31.7 +2.9
PV10 Paradox Valley 132.67 28 *eP* PKPdf 12 43 33.3 +2.0
TXAR Lajitas Array 142.58 31 PKhKP 12 43 48.0
comp=Z,0.4nm,0.5s,baz=50,slow=0.9,SNR=8.1
TXAR PP PP 12 46 58.3 -3.1
comp=Z,0.8nm,1.1s,baz=307,slow=4.5,SNR=3.4
BDFB Brasilia 143.38 247 PKP PKPdf 12 43 54.2 +3.0
comp=Z,1.1nm,0.5s,baz=136,slow=8.7,SNR=3.2

IDC 30 12:30:02.3±2.5, 1.73N×96.43E, mb3.9/8, mb1 4.1/8, mb1mx3.8/20, mbtmp3.9/8, Error ellipse: s-maj=142.6km s-min=17.6km az=52.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**34.86**	**126**	P	P	12 36 56.5	-1.0
	1.7nm,0.5s,baz=20,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**42.96**	**122**	P	P	12 38 02.6	-2.5
	0.4nm,0.3s,baz=303,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**44.32**	**127**	P	P	12 38 14.2	-2.0
	0.6nm,0.6s,baz=297,slow=7.9,SNR=4.8						
MKAR	**Makanchi Array**	**46.55**	**347**	P	P	12 38 32.0	-1.6
	0.4nm,0.4s,baz=156,slow=9.1,SNR=11						
ZAL	**Zalesovo**	**52.92**	**351**	P	P	12 39 19.7	-2.7
	1.3nm,0.4s,baz=231,slow=3.4,SNR=5.4						
BVAR	**Borovoye Array**	**55.51**	**341**	P	P	12 39 39.3	-2.1
	0.4nm,0.4s,baz=135,slow=6.1,SNR=2.8						
FINES	**FINESS Array B**	**79.18**	**333**	P	P	12 42 09.0	-1.5
	0.2nm,0.4s,baz=183,slow=32,SNR=2.8						
ARCES	**ARCESS Array B**	**81.78**	**340**	P	P	12 42 22.4	-1.8
	6.7nm,1.1s,baz=76,slow=10.0,SNR=5.7						

*CSEM **30** 12:37:57.0±0.6, 38.70N×29.24W, h2km±7km, ML2.2, Error ellipse: s-maj=20.1km s-min=5.8km az=8.0, After PDA*
*PDA **30** 12:37:57.0±0.6, 38.70N×29.24W, h2km±7km, MD2.9, ML2.2, Error ellipse: s-maj=20.1km s-min=5.8km az=8.0*
SVSA 30 12:37:57.0±0.6, 38.70N×29.24W, h2km±7km, MD2.9, ML2.2, Error ellipse: s-maj=20.1km s-min=5.8km az=8.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCED	**Cedros**	**0.43**	**99**	*eP*	Pg	12 38 04.7	-0.8
PCED				*eS*	Sg	12 38 10.6	-0.6
	34nm,0.1s						
PCED	**Cedros**	**0.43**	**99**	*eP*	Pg	12 38 04.7	-0.8
PCED				*eS*	Sg	12 38 10.6	-0.6
	34nm,0.1s						
CALA	**Caldeira**	**0.44**	**105**	*eP*	Pg	12 38 05.2	-0.5
CALA				*eS*	Sg	12 38 10.9	-0.7
HOR	**Horta**	**0.51**	**109**	*eS*	Sg	12 38 12.7	-1.2
PICO	**Pico**	**0.67**	**107**	*eP*	Pg	12 38 08.5	-1.8
PICO				*eS*	Sg	12 38 17.4	-1.8

IDC 30 12:39:12.2±7.5, 5.74N×95.31E, mb3.4/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.4/3, Error ellipse: s-maj=390.1km s-min=27.8km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**42.41**	**347**	P	P	12 47 08.5	-1.7
	0.5nm,0.6s,baz=159,slow=8.2,SNR=7.6						
WRA	**Warramunga Arr**	**46.09**	**125**	P	P	12 47 38.7	-1.6
	0.2nm,0.5s,baz=304,slow=8.9,SNR=3.9						
ASAR	**Alice Springs**	**47.67**	**129**	P	P	12 47 50.5	-2.2
	0.4nm,0.6s,baz=303,slow=7.7,SNR=6.0						

*IDC **30** 12:43:40.3±1.1, 0.20N×97.48E, mb4.0/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=54.4km s-min=16.0km az=51.0*
*NEIC **30** 12:43:45.2±0.5, 0.32N×97.68E, h30km, mb4.4/4, Error ellipse: s-maj=17.2km s-min=9.1km az=58.0*
ISC 30 12:43:44.0±0.7, 0.4N±0.1×97.7E±0.1, h33km, n18, σ0§68/17, mb4.2/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.70**	**31**	*eP*	**P**	**12 45 07.9**	**-0.6**
WRA	**Warramunga Arr**	**41.17**	**122**	P	**P**	**12 51 27.1**	**-0.2**
	1.2nm,0.6s,mb3.7,baz=302,slow=9.0,SNR=19						
WB2	**Warramunga Arr**	**41.18**	**121**	*eP*	**P**	**12 51 27.2**	**-0.2**
ASAR	**Alice Springs**	**42.50**	**127**	P	**P**	**12 51 38.4**	**+0.1**
	1.3nm,0.3s,mb3.7,baz=298,slow=8.1,SNR=20						
SONM	**Songino Array**	**47.87**	**8**	P	**P**	**12 52 21.8**	**+1.0**
	2.9nm,0.8s,mb4.4,baz=194,slow=9.3,SNR=18						
ULN	**Ulaanbaatar**	**47.99**	**8**	*eP*	**P**	**12 52 22.8**	**+1.0**
	3.4nm,0.9s,mb4.4						
MKAR	**Makanchi Array**	**48.16**	**346**	P	**P**	**12 52 23.5**	**+0.4**
	2.7nm,0.7s,mb4.4,baz=156,slow=7.7,SNR=28						
HIA	**Hailar**	**52.25**	**18**	*eP*	**P**	**12 52 54.0**	**-0.3**
	1.7nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**52.43**	**132**	P	**P**	**12 52 56.0**	**+0.2**
	1.4nm,0.9s,mb3.9,baz=118,slow=16,SNR=2.2						
STKA	**Stephens Creek**	**52.43**	**132**	P	**P**	**12 52 56.0**	**+0.2**
KURK	**Kurchatov**	**52.71**	**345**	*eP*	**P**	**12 52 57.7**	**+0.1**
	3.5nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**54.44**	**351**	P	**P**	**12 53 10.5**	**+0.1**
	3.6nm,0.6s,mb4.5,baz=310,slow=7.0,SNR=3.5						
BVAR	**Borovoye Array**	**57.19**	**341**	P	**P**	**12 53 29.4**	**-0.8**
	2.5nm,0.7s,mb4.4,baz=141,slow=9.5,SNR=19						
CHKZ	**Chkalovo**	**57.66**	**341**	*eP*	**P**	**12 53 32.8**	**-0.7**
	4.8nm,0.8s,mb4.6						
BRTR	**Keskin Array B**	**70.04**	**312**	P	**P**	**12 54 53.7**	**-1.0**
	1.0nm,0.7s,mb3.8,baz=129,slow=7.9,SNR=4.8						
AKASG	**Malin Array Be**	**76.21**	**322**	P	**P**	**12 55 30.4**	**-0.5**
	0.9nm,0.6s,mb3.9,baz=97,slow=4.9,SNR=5.2						
GERES	**GERESS Array B**	**85.76**	**319**	P	**P**	**12 56 22.8**	**+1.5**
	0.3nm,0.2s,mb4.1,baz=72,slow=4.2,SNR=4.5						
TXAR	**Lajitas Array**	**144.09**	**33**	PKP	PKPdf	13 03 17.6	+0.5
	0.3nm,0.7s,baz=9.8,slow=1.0,SNR=4.0						

*IDC **30** 12:45:21.1±0.7, 0.11N×97.54E, mb4.7/15, mb1 4.8/15, mb1mx4.6/20, mbtmp4.7/15, Error ellipse: s-maj=42.0km s-min=13.2km az=52.0*
*MOS **30** 12:45:24.8±1.2, 0.27N×97.80E, h33km, mb5.2/23, Error ellipse: s-maj=18.0km s-min=7.2km az=111.0*
*BJI **30** 12:45:24.1, 0.22S×97.72E, h52km, mB5.3, mb4.9, Ms4.9, Msz4.5*
*NEIC **30** 12:45:26.1±0.3, 0.18N×97.72E, h30km, mb4.9/23, Error ellipse: s-maj=8.9km s-min=5.8km az=54.0*
*HRVD **30** 12:45:26.0±1.2, 0.09S×97.58E, h27km±3km, MW4.8/35, Centroid moment Tensor Solution. LP body waves: s5,c5; Mantle waves: s35,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.89±.37; $M_{\theta\theta}$-1.84±.24; $M_{\phi\phi}$0.94±.28; $M_{r\theta}$1.31±.34; $M_{\theta\phi}$0.83±.17; $M_{r\phi}$0.63±.58; Best double couple: M_o2.293×10^{16} NP1:ϕ_s324°,δ43°,λ158°. NP2: ϕ_s70°,δ75°,λ49°. Principal axes: T 2.13, Plg44°, Azm300°; N .356, Plg40°, Azm83°; P -2.456, Plg19°, Azm190°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 12:45:24.4±0.3, 0.20N±0.05×97.76E±0.05, h30km, h30km±.7km: pP-P, n112, σ1§02/113, mb4.8/57, MS4.5/9, 4C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.82**	**30**	*eP*	**Pn**	**12 46 50.1**	**-1.0**
CM31	**Chiang Mai Arr**	**18.18**	**4**	*eP*	**P**	**12 49 36.2**	**-0.3**
	31nm,0.8s						
KKM	**Kota Kinabalu**	**19.32**	**72**	*eP*	**P**	**12 49 50.3**	**+0.1**
KMI	**Kunming**	**25.24**	**11**	P	**P**	**12 50 51.8**	**+2.2**
KMI				AP	pP	12 51 00.0	+1.6
KMI				S	**S**	**12 55 14.3**	**+3.9**
KMI				SS	SS	12 56 17.0	+5.1
KMI				SSS	SSS	12 56 34.0	+5.4
KMI				AMB	AMB		
	comp=Z,38nm,1.4s,mb4.7						
KMI				LR	LR		
	comp=N,887nm,17.1s,MS4.5						
KMI				LR	LR		
	comp=E,678nm,13.0s,MS4.5						
KMI				LR	LR		
	comp=Z,840nm,16.1s,MS4.3						
HYB	**Hyderabad**	**25.49**	**313**	*eP*	**P**	**12 50 52.5**	**+0.5**
HYB	**Hyderabad**	**25.49**	**313**	*i* P	**P**	**12 50 52.5**	**+0.5**
GYA	**Guiyang**	**27.48**	**18**⇑	*iP*	**P**	**12 51 10.0**	**-0.2**
GYA				S	**S**	**12 55 44.5**	**-2.7**
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
GYA				AMB	AMB		
	comp=Z,120nm,3.0s						
GYA				LR	LR		
	comp=N,840nm,14.0s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,15.0s,MS4.5						
GYA				LR	LR		
	comp=Z,640nm,14.0s,MS4.3						
JIRN	**Jiri**	**29.47**	**339**	*eP*	**P**	**12 51 28.5**	**+0.3**
	comp=Z,36nm,0.8s,mb5.2						
PKI	**Pulchoki**	**29.68**	**337**	*eP*	**P**	**12 51 32.3**	**+2.2**
	comp=Z,76nm,1.3s,mb5.3						
PKI	**Pulchoki**	**29.68**	**337**	*eP*	**P**	**12 51 32.3**	**+2.2**
PKI				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.0						
GUN	**Gumba**	**29.81**	**339**	*eP*	**P**	**12 51 31.4**	**+0.2**
	comp=Z,80nm,1.0s,mb5.4						
DMN	**Daman**	**29.83**	**337**	*eP*	**P**	**12 51 33.4**	**+2.0**
	comp=Z,28nm,0.8s,mb5.1						
KKN	**Kakani**	**29.93**	**337**	*eP*	**P**	**12 51 32.0**	**-0.3**
	comp=Z,58nm,0.9s,mb5.3						
KKN	**Kakani**	**29.93**	**337**	*eP*	**P**	**12 51 32.0**	**-0.3**
KKN				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.0						
LSA	**Lhasa**	**30.00**	**348**	P	**P**	**12 51 34.0**	**+1.1**
LSA	**Lhasa**	**30.00**	**348**	*eP*	**P**	**12 51 33.2**	**+0.3**
LSA				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
LSA	**Lhasa**	**30.00**	**348**	*eP*	**P**	**12 51 33.2**	**+0.3**
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**30.37**	**337**	*eP*	**P**	**12 51 36.0**	**-0.2**
	comp=Z,89nm,1.1s,mb5.4						
KOLN	**Koldanda**	**30.59**	**335**	*eP*	**P**	**12 51 37.8**	**-0.3**
	comp=Z,29nm,0.8s,mb5.2						
ENH	**Enshi**	**31.92**	**19**	*eP*	**P**	**12 51 48.2**	**-1.6**
	comp=Z,50nm,1.2s,mb5.2						
FITZ	**Fitzroy Crossi**	**32.90**	**125**	*eP*	**P**	**12 51 57.7**	**-0.7**
	comp=Z,8.2nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**32.90**	**125**	P	**P**	**12 51 57.6**	**-0.8**
	comp=Z,14nm,0.9s,mb4.9,baz=305,slow=5.1,SNR=13						
WHN	**Wuhan**	**34.05**	**26**	P	**P**	**12 52 08.5**	**+0.2**
XAN	**Xi'an**	**35.25**	**16**	P	**P**	**12 52 17.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,29nm,1.2s,mb5.1						
LZH	**Lanzhou**	**36.15**	**8**	*eP*	**P**	**12 52 26.5**	**+0.4**
LZH				AMB	AMB		
	comp=Z,32nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,116nm,4.0s						
NJ2	**Nanjing**	**37.43**	**30**	*eP*	**P**	**12 52 38.3**	**+1.4**
NJ2				AP	pP	12 52 48.0	+2.0
NJ2				XP	sP	12 52 52.0	+2.2
NJ2				PP	PP	12 54 08.0	+2.8
NJ2				S	**S**	**12 58 27.0**	**+4.2**
NJ2				XS		12 58 43.0	
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,200nm,5.3s						
NJ2				LR	LR		
	comp=N,400nm,13.1s,MS4.5						
NJ2				LR	LR		
	comp=E,280nm,13.8s,MS4.5						
NJ2				LR	LR		
	comp=Z,170nm,14.0s,MS4.0						
SSE	**Sheshan**	**37.92**	**34**	P	**P**	**12 52 42.0**	**+1.0**
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,128nm,5.0s						
GTA	**Gaotai**	**39.06**	**3**	*eP*	**P**	**12 52 51.0**	**+0.4**
GTA				AP	pP	12 53 00.3	+0.6
GTA				AMB	AMB		
	comp=Z,5.0nm,1.8s,mb3.9						
GTA				AMB	AMB		
	comp=Z,154nm,6.1s						
GTA				LR	LR		
	comp=N,210nm,15.2s,MS4.3						
GTA				LR	LR		
	comp=E,307nm,14.5s,MS4.3						
GTA				LR	LR		
	comp=Z,256nm,17.1s,MS4.1						
WRA	**Warramunga Arr**	**41.04**	**121**	P	**P**	**12 53 06.6**	**-0.4**
	comp=Z,8.0nm,0.8s,mb4.4,baz=300,slow=9.1,SNR=28						
WB2	**Warramunga Arr**	**41.05**	**121**	*i* P	**P**	**12 53 06.9**	**-0.2**
ASPA	**Alice Springs**	**42.35**	**127**⇑	*iP*	**P**	**12 53 18.1**	**+0.2**
HHC	**Hu-ho-hao-te**	**42.35**	**16**	*eP*	**P**	**12 53 19.5**	**+1.8**
HHC				AP	pP	12 53 28.5	+1.7
HHC				XP	sP	12 53 32.3	+1.7
HHC				PP	PP	12 55 00.5	+1.9
HHC				PCS		12 59 04.0	
HHC				S	**S**	**12 59 38.0**	**+1.4**
HHC				SCS	ScS	13 03 16.5	+1.6
HHC				AMB	AMB		
	comp=Z,21nm,1.0s,mb4.7						
HHC				LR	LR		
	comp=N,169nm,19.6s,MS4.2						
HHC				LR	LR		
	comp=E,299nm,19.0s,MS4.2						
HHC				LR	LR		
	comp=Z,223nm,19.6s,MS4.1						
ASAR	**Alice Springs**	**42.36**	**127**	P	**P**	**12 53 18.1**	**+0.3**
	comp=Z,8.9nm,0.6s,mb4.5,baz=298,slow=8.1,SNR=53						
ASAR				PcP	PcP	12 55 11.6	0.0
	comp=Z,1.6nm,0.9s,baz=301,slow=3.1,SNR=3.9						
BJT	**Baijiatuan**	**43.04**	**21**	*eP*	**P**	**12 53 24.0**	**+0.8**
BJT				pmax	pmax		
	comp=Z,30nm,0.9s						
BJT	**Baijiatuan**	**43.04**	**21**	*eP*	**P**	**12 53 24.0**	**+0.8**
	comp=Z,30nm,0.9s,mb5.0						
BJI	**Beijing**	**43.06**	**21**	P	**P**	**12 53 24.5**	**+1.1**
BJI				AP	pP	12 53 33.0	+0.5
BJI				PP	PP	12 55 06.0	+0.4
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
BJI				AMB	AMB		
	comp=Z,131nm,3.1s						
BJI				LR	LR		
	comp=N,591nm,14.1s,MS4.8						
BJI				LR	LR		
	comp=E,711nm,16.2s,MS4.8						
BJI				LR	LR		
	comp=Z,231nm,23.4s						
WMQ	**Urumqi**	**44.35**	**350**	P	**P**	**12 53 34.3**	**+0.5**
WMQ				AP	pP	12 53 44.0	+1.1
WMQ				PP	PP	12 55 19.0	+0.5
WMQ				S	**S**	**13 00 06.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
WMQ				AMB	AMB		
	comp=Z,286nm,4.6s						
WMQ				LR	LR		
	comp=N,1μm,21.0s,MS4.9						
WMQ				LR	LR		
	comp=E,876nm,21.6s,MS4.9						
WMQ				LR	LR		
	comp=Z,608nm,22.1s,MS4.5						
KS15	**Wonju Array Si**	**46.33**	**34**	*eP*	**P**	**12 53 49.3**	**-0.3**
UCH	**Uchtor**	**46.78**	**336**	P	**P**	**12 53 54.1**	**+1.0**
	SNR=15						
TKM2	**Tokmak 2**	**46.94**	**338**	P	**P**	**12 53 55.3**	**+0.9**
	SNR=20						
KBK	**Karagaybulak**	**46.97**	**337**	P	**P**	**12 53 56.1**	**+1.5**
	SNR=8.9						
AML	**Almayashu**	**47.03**	**336**	P	**P**	**12 53 56.2**	**+1.0**
	SNR=8.7						
AAK	**Ala-Archa**	**47.13**	**337**	*c iP*	**P**	**12 53 55.0**	**-0.9**
AAK				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.8						
AAK	**Ala-Archa**	**47.13**	**337**	*eP*	**P**	**12 53 55.5**	**-0.4**
	comp=Z,19nm,1.3s,mb4.9						
FRU	**Bishkek**	**47.25**	**337**	*eP*	**P**	**12 53 59.0**	**+2.1**
EKS2	**Erkin-Say**	**47.44**	**336**	P	**P**	**12 53 59.2**	**+0.8**
	SNR=5.6						
USP	**Ospenovka**	**47.66**	**337**	P	**P**	**12 54 00.6**	**+0.5**
	SNR=27						
SONM	**Songino Array**	**48.03**	**8**	P	**P**	**12 54 03.4**	**+0.5**
	comp=Z,13nm,0.8s,mb5.0,baz=188,slow=8.7,SNR=27						
SONM				PcP	PcP	12 55 31.0	+0.1
	comp=Z,4.0nm,0.8s,baz=194,slow=3.5,SNR=5.4						
ULN	**Ulaanbaatar**	**48.16**	**8**	*eP*	**P**	**12 54 03.8**	**-0.1**
ULN				pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0						
ULN	**Ulaanbaatar**	**48.16**	**8**	*eP*	**P**	**12 54 03.8**	**0.0**
	comp=Z,18nm,1.1s,mb5.0						
MKAR	**Makanchi Array**	**48.34**	**346**	*i* P	**P**	**12 54 04.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,45nm,1.1s						
MKAR	**Makanchi Array**	**48.34**	**346**	P	**P**	**12 54 05.1**	**-0.1**
	comp=Z,16nm,0.7s,mb5.1,baz=153,slow=8.1,SNR=30						
KKAR	**Karatay Array**	**49.19**	**334**	*i* P	**P**	**12 54 11.5**	**-0.4**
KKAR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CN2	**Changchun**	**49.94**	**26**	*eP*	**P**	**12 54 17.0**	**-0.7**
CN2				*e*XP	sP	12 54 40.3	+10
CN2				*eS*	**S**	**13 01 30.8**	**+6.1**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
CN2				AMB	AMB		
	comp=Z,330nm,4.0s						
CN2				LR	LR		
	comp=N,760nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=E,930nm,15.0s,MS5.0						
CN2				LR	LR		
	comp=Z,910nm,15.0s,MS4.9						
**ZA

comp=Z,5.0nm,0.9s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
TLY Talaya 51.53 5 *e*P **P 12 54 30.0 +0.4**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.8
TLY Talaya 51.53 5 *e*P **P 12 54 30.0 +0.4**
comp=Z,11nm,0.8s,mb4.8
IRK Irkutsk 52.14 5 *e*P **P 12 54 34.2 -0.1**
IRK pmax pmax
comp=Z,24nm,1.9s,mb4.8
STKA Stephens Creek 52.28 132 *e*P **P 12 54 36.1 +0.5**
comp=Z,9.1nm,3.5s
STKA Stephens Creek 52.28 132 P **P 12 54 36.0 +0.4**
comp=Z,3.4nm,0.9s,mb4.3,baz=297,slow=8.5,SNR=5.2
HIA Hailar 52.40 18 *e*P **P 12 54 36.0 -0.3**
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 52.40 18 *e*P **P 12 54 36.0 -0.3**
comp=Z,10nm,0.8s,mb4.8
KURK Kurchatov 52.89 345 *i* P **P 12 54 39.4 -0.5**
KURK pmax pmax
comp=Z,17nm,1.1s,mb4.9
KURK Kurchatov 52.89 345 *e*P **P 12 54 39.0 -0.9**
comp=Z,29nm,1.0s,mb5.2
ZAL Zalesovo 54.62 351 P **P 12 54 52.0 -0.5**
comp=Z,18nm,0.5s,mb5.4,baz=303,slow=5.6,SNR=28
NVS Novosibirsk 55.75 350⇑ *i*P **P 12 54 58.9 -1.8**
NVS *e*S **S 13 02 42.4 -1.1**
NVS pmax pmax
comp=Z,23nm,1.1s,mb5.1
NVS pmax pmax
comp=N,26nm,1.5s
NVS pmax pmax
comp=E,11nm,1.3s
NVS smax
comp=N,17nm,1.8s
NVS smax
comp=E,7.0nm,1.8s
KLR Kul'dur 56.90 26 *e*P **P 12 55 06.0 -3.0**
BVA0 Borovoye Array 57.37 341 P **P 12 55 10.4 -1.9**
BVA0 pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BVAR Borovoye Array 57.37 341 P **P 12 55 11.0 -1.3**
comp=Z,9.9nm,0.7s,mb4.9,baz=149,slow=8.6,SNR=25
CHKZ Chkalovo 57.84 341 *e*P **P 12 55 13.8 -1.8**
CHKZ pmax pmax
comp=Z,25nm,0.9s,mb5.2
CHKZ Chkalovo 57.84 341 *e*P **P 12 55 13.8 -1.8**
comp=Z,25nm,0.9s,mb5.2
BOD Bodaibo 58.88 10 *e*P **P 12 55 21.4 -1.4**
BOD pmax pmax
comp=Z,14nm,1.1s,mb4.9
UMJS Umm Lajj 63.37 298 P **P 12 55 54.1 +0.5**
SVE Sverdlovsk 63.81 338 *e*P **P 12 55 55.9 -0.2**
SVE *e* 12 56 29.0
SVE pmax pmax
comp=Z,30nm,1.2s,mb5.2
ARU Arti 64.31 337 *e*P **P 12 55 58.0 -1.3**
ARU *e* 12 56 28.5
ARU *e*S **S 13 04 29.4 -4.2**
TBKS Tabuk 64.74 301 P **P 12 56 02.3 -0.3**
KIV Kislovodsk 65.42 319 *de*P **P 12 56 05.9 -0.8**
KIV *i* *PP pP 12 56 40.1 +24
KIV *e* 12 58 36.5
KIV pmax pmax
comp=Z,24nm,1.2s,mb5.1
JMQS Jabal Moqyreh 65.48 302 P **P 12 56 07.4 +0.1**
JMOS Jabal al Moail 66.20 302 P **P 12 56 11.8 -0.1**
MALT Malatya 66.21 312 *e*P **P 12 56 11.3 -0.5**
MALT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MALT Malatya 66.21 312 *e*P **P 12 56 11.3 -0.6**
comp=Z,10nm,0.9s,mb4.9
YAK Yakutsk 66.22 16 *e*P **P 12 56 09.2 -2.3**
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,1.0s,mb5.0
YAK pmax pmax
comp=E,4.0nm,1.1s
ALWS Ilw as Safayha 66.27 302 P **P 12 56 12.2 -0.2**
EIL Elat 66.45 302 *e*P **P 12 56 12.5 -1.1**
comp=E,11nm,1.0s,mb4.8
BRTR Keskin Array B 70.19 312 P **P 12 56 34.9 -1.8**
comp=E,3.2nm,0.8s,mb4.3,baz=136,slow=7.9,SNR=11
OBN Obninsk 73.75 328⇓ *i*P **P 12 56 56.6 -0.9**
OBN *i* 12 57 12.7
OBN pmax pmax
comp=Z,23nm,1.1s,mb5.0
TIXI Tiksi 74.06 10 *e*P **P 12 56 55.1 -3.9**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
TIXI MLR MLR
comp=Z,332nm,14.0s,MS4.8
AKASG Malin Array Be 76.38 322 P **P 12 57 11.2 -1.5**
comp=Z,6.2nm,0.8s,mb4.6,baz=86,slow=5.0,SNR=16
TSUM Tsumeb 80.78 251 P **P 12 57 37.5 +0.2**
FINES FINESS Array B 81.13 333 P **P 12 57 38.1 -0.1**
comp=Z,3.0nm,0.8s,mb4.3,baz=117,slow=8.5,SNR=9.3
KAF Kangasniemi 81.22 333 *ep* **P 12 57 36.7 -2.0**
comp=Z,4.0nm,0.8s,mb4.4,baz=101,slow=4.9
KAF Kangasniemi 81.22 333 *e*P **P 12 57 36.7 -2.0**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
PSZ Piszkesteto 81.72 318 P **P 12 57 41.7 +0.1**
ARCES ARCESS Array B 83.66 340 P **P 12 57 51.7 +0.6**
comp=Z,3.3nm,0.8s,mb4.5,baz=98,slow=4.5,SNR=12
VNDA Vanda 84.75 169 P **P 12 57 57.8 +1.3**
comp=Z,3.6nm,1.2s,mb4.4,baz=299,slow=6.1,SNR=4.5
VNDA PP P 13 01 14.0 -0.3
comp=Z,1.0nm,1.1s,baz=22,slow=3.9,SNR=3.0
GERES GERESS Array B 85.92 319 P **P 12 58 03.4 +0.5**
comp=Z,5.4nm,1.0s,mb4.7,baz=104,slow=5.5,SNR=13
ARV Arcevia 86.09 313 *e*P **P 12 58 04.4 +0.5**
CLL Collm 86.55 321 P **P 12 58 07.0 +1.0**
SFI Santa Sofia 86.91 314 *e*P **P 12 58 09.2 +1.3**
NB2 NORSAR Subarra 88.14 331 P **P 12 58 13.0 -0.4**
comp=Z,3.9nm,0.8s,mb4.7,baz=96,slow=4.8
NB2 NORSAR Subarra 88.14 331 P **P 12 58 13.0 -0.4**
NB2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
NOA NORSAR Array B 88.14 331 P **P 12 58 13.5 +0.1**
comp=Z,2.8nm,0.9s,mb4.5,baz=94,slow=4.9,SNR=8.1
LPG La Plagne 90.56 315 *e*P **P 12 58 25.9 +0.7**
comp=Z,22nm,0.9s,mb5.2
LPG La Plagne 90.56 315 *e*P **P 12 58 25.9 +0.7**
LPG pmax pmax
comp=Z,11nm,0.9s,mb5.2
IMA Indian Mountai 97.28 23 *e*P **P 12 58 57.4 +2.0**
PDAR Pinedale Array 130.69 26 PKP PKPdf 13 04 35.8 -2.5
comp=Z,1.2nm,1.2s,baz=297,slow=6.6,SNR=4.1
PV10 Paradox Valley 134.38 30 *e*PKP PKPdf 13 04 42.6 -2.7
MIAR Mount Ida 143.84 16 *e*PKP PKPdf 13 04 56.7 -5.7
TXAR Lajitas Array 144.21 33 PKP PKPdf 13 04 59.0 -4.2
comp=Z,2.3nm,0.8s,baz=270,slow=2.5,SNR=18
PLAL Pickwick Lake 144.57 8 *e*PKP PKPdf 13 04 57.6 -6.1
JSC Jenkinsville 145.68 359 *e*PKP PKPdf 13 05 01.8 -3.8
LVC Limon Verde 154.22 209 *e*PKPab PKPab 13 05 37.8 -0.7

*BJI **30** 12:50:24.6,0.17S×97.50E,h34km,mb4.7*
*IDC **30** 12:50:26.0±1.8,0.55N×98.98E,mb4.2/9,mb1 4.3/9, mb1mx4.1/20,mbtmp4.2/9,Error ellipse: s-maj=92.5km s-min=15.4km az=55.0*
*NEIC **30** 12:50:27.9±0.9,0.02S×98.20E,h30km,mb4.5/5,Error ellipse: s-maj=30.1km s-min=10.7km az=63.0*
ISC 30 12:50:26.5±0.9,0.0N±0.1×98.2E±0.2,h33km,n22, σ1s32/21,mb4.3/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.80**	**25**	*e*P	**P**	**12 51 51.0**	**-1.5**
LSA	**Lhasa**	**30.28**	**348**	*e*P	**P**	**12 56 38.5**	**+1.5**
	4.3nm,0.5s,mb4.4						
ENH	**Enshi**	**31.97**	**19**	*e*P	**P**	**12 56 53.1**	**+1.2**
	8.1nm,0.9s,mb4.5						
FITZ	**Fitzroy Crossi**	**32.44**	**125**	*e*P	**P**	**12 57 01.4**	**+5.2**
	4.8nm,1.1s,mb4.2						
FITZ	**Fitzroy Crossi**	**32.44**	**125**	P	**P**	**12 56 54.2**	**-1.9**
	4.4nm,1.0s,mb4.2,baz=321,slow=2.8,SNR=2.5						
WRA	**Warramunga Arr**	**40.58**	**121**	P	**P**	**12 58 04.8**	**-0.1**
	1.6nm,0.6s,mb3.8,baz=304,slow=9.0,SNR=11						
WB2	**Warramunga Arr**	**40.59**	**121**	*e*P	**P**	**12 58 04.4**	**-0.6**
ASPA	**Alice Springs**	**41.90**	**127**	*e*P	**P**	**12 58 16.4**	**+0.6**
ASAR	**Alice Springs**	**41.90**	**127**	P	**P**	**12 58 15.8**	**0.0**
	1.0nm,0.6s,mb3.6,baz=297,slow=7.8,SNR=10						
BJT	**Baijiatuan**	**43.08**	**20**	*e*P	**P**	**12 58 27.2**	**+1.9**
	11nm,0.7s,mb4.7						
BJI	**Beijing**	**43.10**	**20**	P	**P**	**12 58 27.0**	**+1.6**
BJI				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.8						
SONM	**Songino Array**	**48.17**	**7**	P	**P**	**12 59 04.7**	**-1.0**
	comp=Z,1.7nm,0.6s,mb4.3,baz=190,slow=7.5,SNR=6.3						
MKAR	**Makanchi Array**	**48.63**	**345**	P	**P**	**12 59 07.5**	**-1.7**
	comp=Z,3.3nm,0.6s,mb4.5,baz=155,slow=7.8,SNR=16						
STKA	**Stephens Creek**	**51.83**	**132**	P	**P**	**12 59 34.6**	**+0.8**
	comp=Z,4.8nm,0.7s,mb4.6,baz=320,slow=6.2,SNR=15						
STKA	**Stephens Creek**	**51.83**	**132**	*e*P	**P**	**12 59 34.0**	**+0.2**
KURK	**Kurchatov**	**53.20**	**345**	*e*P	**P**	**12 59 44.0**	**+0.3**
	comp=Z,5.1nm,0.9s,mb4.5						
ZAL	**Zalesovo**	**54.88**	**350**	P	**P**	**12 59 54.2**	**-1.9**
	comp=Z,2.4nm,0.2s,mb4.8,baz=12,slow=5.3,SNR=4.5						
ZAL	**Zalesovo**	**54.88**	**350**	P	**P**	**12 59 54.2**	**-1.9**
BVAR	**Borovoye Array**	**57.70**	**341**	P	**P**	**13 00 17.3**	**+1.1**
	comp=Z,1.4nm,0.6s,mb4.2,baz=135,slow=8.4,SNR=7.5						
CHKZ	**Chkalovo**	**58.17**	**341**	*e*P	**P**	**13 00 17.2**	**-2.3**
	comp=Z,2.9nm,0.8s,mb4.4						
FINES	**FINESS Array B**	**81.51**	**332**	P	**P**	**13 02 45.6**	**+3.7**
	comp=Z,0.8nm,0.6s,mb3.8,baz=102,slow=13,SNR=2.9						
TXAR	**Lajitas Array**	**144.14**	**34**	PKP	PKPdf	13 10 02.0	+2.4
	comp=Z,0.4nm,0.7s,baz=228,slow=1.3,SNR=3.6						

*IDC **30** 12:57:39.3±0.5,0.25N×98.16E,mb4.8/18,mb1 4.8/18, mb1mx4.7/23,mbtmp4.8/18,MS4.7/17,Ms1 4.7/17, ms1mx4.4/33,Error ellipse: s-maj=20.2km s-min=13.0km az=46.0*
*BJI **30** 12:57:39.6,0.03S×98.14E,h29km,mB5.4,mb5.1,Ms5.5, Msz5.2*
*NEIC **30** 12:57:42.9±0.2,0.20N×98.14E,mb5.2/58,MS5.1/67, Error ellipse: s-maj=6.8km s-min=4.0km az=223.0*
NEIC Felt [IV] at Gunungsitoli. Felt [III] at Padang, Sumatra.
*HRVD **30** 12:57:42.9±0.2,0.23N×98.09E,h18km±1km,MW5.3/68, Centroid moment Tensor Solution. LP body waves: s44,c67;Mantle waves: s68,c135; Half duration: 1s1 Moment tensor: Scale 10^17^Nm; Mrr0.15±.03; Mθθ-1.11±.03; Mϕϕ0.95±.03; Mrθ0.05±.05; Mθϕ0.11±.02; Mϕr0.17±.06; Best double couple: M◎1.058×10^17^ NP1: ϕs318°,δ81°,λ173°. NP2:ϕs49°,δ83°,λ10°. Principal axes: T .999, Plg11°, Azm273°; N .117, Plg78°, Azm83°; P -1.118, Plg2°, Azm183°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **30** 12:57:43.2±1.0,0.38N×98.33E,h33km,mb5.4/31, MS5.3/6 Error ellipse: s-maj=19.3km s-min=7.0km az=115.8*
ISC 30 12:57:41.2±0.2,0.20N±0.03×98.17E±0.03,h22km, h22km±.8km:pP-P,n340,σ1s06/265,mb5.1/99,MS5.0/98, 28C-11D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPI	**Padang Panjang**	**2.32**	**106**	*e*P	**Pn**	**12 58 20.0**	**+1.1**
IPM	**Ipoh**	**5.21**	**33**	P	**Pn**	**12 59 01.6**	**+1.7**
KGM	**Kluang**	**5.46**	**71**	P	**Pn**	**12 59 05.5**	**+2.1**
SNG	**Songkhla**	**7.35**	**19**	P	**Pn**	**12 59 29.0**	**-1.1**
	910nm,1.0s						
PENI	**Pendagan**	**9.04**	**129**⇑	*e*P	**P**	**12 59 50.0**	**-3.5**
	526nm,0.7s						
PENI				*i* pP		12 59 50.7	
PENI				*i* S	**Sn**	**13 01 42.3**	**+6.7**
PULI	**Pulasari**	**10.14**	**130**⇓	*i*P	**P**	**13 00 11.7**	**+2.8**
	556nm,0.3s						
NNT	**Nongplab**	**12.41**	**7**	P	**P**	**13 00 38.8**	**-0.9**
NST	**Nakhon Sawan**	**15.50**	**7**	P	**P**	**13 01 18.0**	**-2.4**
	75nm,1.0s						
KKTK	**Khon Kaen**	**16.68**	**16**	P	**P**	**13 01 36.0**	**+0.5**
BDT	**Bhumibol Dam**	**16.96**	**3**	P	**P**	**13 01 37.0**	**-2.0**
SRDI	**Scrawed**	**18.10**	**119**⇑	*i*P	**P**	**13 01 51.9**	**-1.4**
	25nm,0.3s						
CM31	**Chiang Mai Arr**	**18.16**	**2**	*e*P	**P**	**13 01 53.0**	**-1.0**
	14nm,0.4s						
KELI	**Kelakatan**	**18.29**	**118**⇑	*i*P	**P**	**13 01 55.5**	**-0.1**
	117nm,1.1s						
PALK	**Pallekele**	**18.78**	**292**	*e*P	**P**	**13 02 01.8**	**+0.2**
	77nm,1.2s						
KKM	**Kota Kinabalu**	**18.93**	**72**	*e*P	**P**	**13 02 04.3**	**+1.0**
KKM	**Kota Kinabalu**	**18.93**	**72**	P	**P**	**13 02 05.1**	**+1.8**
RATI	**Rata**	**19.43**	**118**⇑	*i*P	**P**	**13 02 09.1**	**-0.2**
	144nm,0.3s						
KEDI	**Kedomdong**	**19.85**	**116**⇑	*i*P	**P**	**13 02 14.6**	**+0.7**
TSM	**Tawau**	**20.10**	**78**	P	**P**	**13 02 16.5**	**0.0**
QIZ	**Qiongzhong**	**21.94**	**31**	*e*P	**P**	**13 02 36.3**	**+1.0**
QIZ				S	**S**	**13 06 37.3**	**+5.8**
QIZ				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.7						
QIZ				LR	LR		
	comp=N,3μm,17.0s,MS5.1						
QIZ				LR	LR		
	comp=E,5μm,15.7s,MS5.1						
QIZ				LR	LR		
	comp=Z,2μm,14.9s,MS4.7						
QIZ	**Qiongzhong**	**21.94**	**31**	*e*P	**P**	**13 02 36.9**	**+1.6**
	comp=Z,64nm,1.3s,mb4.9						
VIS	**Vishakhapatnam**	**22.73**	**321**	*e*P	**P**	**13 02 43.8**	**+0.6**
VIS				*e*		13 02 58.3	
	comp=Z,204nm,1.6s						
BWNR	**Bhubaneshwar**	**23.36**	**330**	*e*P	**P**	**13 02 49.9**	**+0.6**
BWNR				*e*		13 03 08.2	
	comp=Z,108nm,1.1s						
BWNR				*e*S	**S**	**13 07 01.3**	**+4.3**
AGT	**Agartala**	**24.48**	**345**	*e*P	**P**	**13 02 57.0**	**-3.3**
KMI	**Kunming**	**25.17**	**10**	P	**P**	**13 03 08.5**	**+1.7**
KMI				AP	pP	13 03 14.0	+0.8
KMI				XP	sP	13 03 16.5	+0.4
KMI				PP	PP	13 03 48.3	+3.2
KMI				PPP	PPP	13 03 59.5	+3.2
KMI				S	**S**	**13 07 32.5**	**+4.6**
KMI				XS		13 07 42.0	
KMI				SS	SS	13 08 35.0	+6.3
KMI				SSS	SSS	13 08 52.0	+6.8
KMI				AMB	AMB		
	comp=Z,27nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,463nm,4.7s						
KMI				LR	LR		
	comp=N,4μm,12.1s						
KMI				LR	LR		
	comp=E,7μm,17.5s						
KMI				LR	LR		
	comp=Z,4μm,12.4s,MS5.1						
HYB	**Hyderabad**	**25.80**	**313**	*e*P	**P**	**13 03 13.0**	**+0.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.0						
HYB	**Hyderabad**	**25.80**	**313**	*e*P	**P**	**13 03 13.0**	**+0.2**
	comp=Z,50nm,1.0s,mb5.0						
HYB	**Hyderabad**	**25.80**	**313**	*i* P	**P**	**13 03 13.0**	**+0.2**
	comp=Z,50nm,1.0s,mb5.0						
MNGI	**Mangalore**	**26.38**	**300**	*e*P	**P**	**13 03 19.4**	**+1.2**
MNGI				*i*		13 07 59.0	
DGAR	**Diego Garcia**	**26.74**	**253**	PFAKE		13 03 30.0	+8.5
DGAR				LR	LR		
	comp=Z,559nm,20.0s,MS4.1						
GYA	**Guiyang**	**27.36**	**17**⇑	*i*P	**P**	**13 03 27.3**	**+0.2**
GYA				AP	pP	13 03 34.5	+1.1
GYA				XP	sP	13 03 37.5	+1.2
GYA				AMB	AMB		
	comp=Z,40nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,240nm,5.0s						
GYA				LR	LR		
	comp=N,1μm,15.0s,MS4.7						
GYA				LR	LR		
	comp=E,980nm,16.0s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,15.0s,MS4.6						
JIRN	**Jiri**	**29.63**	**338**	*e*P	**P**	**13 03 47.6**	**+0.1**
	comp=Z,279nm,1.4s,mb5.8						
PKI	**Pulchoki**	**29.85**	**337**	*e*P	**P**	**13 03 50.6**	**+1.1**
	comp=Z,184nm,1.2s,mb5.7						
MBWA	**Marble Bar**	**29.90**	**137**	*e*P	**P**	**13 03 49.8**	**-0.2**
	comp=Z,59nm,1.4s,mb5.1						
GUN	**Gumba**	**29.97**	**338**	*e*P	**P**	**13 03 50.4**	**-0.2**
	comp=Z,241nm,1.0s,mb5.9						
DMN	**Daman**	**30.00**	**336**	*e*P	**P**	**13 03 51.7**	**+0.9**
	comp=Z,159nm,1.2s,mb5.6						
POO	**Poona**	**30.04**	**309**⇓	*i*P	**P**	**13 03 50.0**	**-1.2**
LSA	**Lhasa**	**30.09**	**348**	P	**P**	**13 03 53.0**	**+1.4**
LSA	**Lhasa**	**30.09**	**348**	*e*P	**P**	**13 03 52.5**	**+0.9**
	comp=Z,15nm,0.5s,mb5.0						
LSA				LR	LR		
	comp=Z,2μm,22.0s,MS4.7						
KKN	**Kakani**	**30.09**	**337**	*e*P	**P**	**13 03 51.0**	**-0.6**
	comp=Z,112nm,0.9s,mb5.6						
BHPL	**Bhopal**	**30.51**	**320**	*e*P	**P**	**13 03 54.7**	**-0.6**
BHPL				*e*		13 04 08.5	
	comp=Z,23nm,1.4s						
GKN	**Gorkha**	**30.54**	**336**	*e*P	**P**	**13 03 55.1**	**-0.5**
	comp=Z,256nm,1.1s,mb6.0						
KOLN	**Koldanda**	**30.77**	**334**	*e*P	**P**	**13 03 57.4**	**-0.2**
	comp=Z,152nm,1.1s,mb5.8						
QZH	**Quanzhou**	**31.55**	**37**	*e*P	**P**	**13 04 04.8**	**+0.3**
QZH				*e*S	**S**	**13 09 05.5**	**-5.1**
QZH				LR	LR		
	comp=N,5μm,13.4s,MS5.8						
QZH				LR	LR		
	comp=E,15μm,17.0s,MS5.8						
QZH				LR	LR		
	comp=Z,5μm,13.3s,MS5.4						
ENH	**Enshi**	**31.79**	**19**	*e*P	**P**	**13 04 05.6**	**-1.0**
	comp=Z,24nm,0.6s,mb5.2						
ENH				LR	LR		
	comp=Z,3μm,21.0s,MS5.0						
FITZ	**Fitzroy Crossi**	**32.56**	**125**	*e*P	**P**	**13 04 11.4**	**-1.9**
	comp=Z,13nm,0.8s,mb4.9						
LGTI	**Lohaghat**	**33.74**	**331**	*e*P	**P**	**13 04 23.7**	**+0.1**
PTH	**Pithoragarh**	**33.84**	**331**	*e*P	**P**	**13 04 23.6**	**-0.8**
PTH				*e*S	**S**	**13 09 47.3**	**+1.1**
WHN	**Wuhan**	**33.87**	**26**⇑	P	**P**	**13 04 25.0**	**+0.3**
WHN				LR	LR		
	comp=Z,5μm,16.0s,MS5.4						
NDI	**New Delhi**	**34.70**	**326**	*e*P	**P**	**13 04 30.0**	**-1.8**
NDI				*e*S	**S**	**13 10 03.0**	**+3.5**
XAN	**Xi'an**	**35.15**	**16**	P	**P**	**13 04 34.5**	**-1.0**
XAN				AP	pP	13 04 41.0	-1.0
XAN				AMB	AMB		
	comp=Z,71nm,1.1s,mb5.5						
LZH	**Lanzhou**	**36.10**	**8**	*e*P	**P**	**13 04 43.5**	**-0.1**
LZH				AP	pP	13 04 50.0	-0.1
LZH				PP	PP	13 06 06.5	+0.5
LZH				*e*S	**S**	**13 10 21.0**	**-0.1**
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,240nm,4.0s						
LZH				LR	LR		
	comp=E,6μm,14.3s						
LZH				LR	LR		
	comp=Z,7μm,15.9s,MS5.5						
SDNR	**Sundarnagar**	**37.05**	**329**	*e*P	**P**	**13 04 51.2**	**-0.4**
NJ2	**Nanjing**	**37.23**	**30**	*e*P	**P**	**13 04 54.0**	**+0.9**
NJ2				AP	pP	13 05 00.0	+0.4
NJ2				XP	sP	13 05 03.0	+0.6
NJ2				PP	PP	13 06 24.5	+4.0
NJ2				S	**S**	**13 10 43.0**	**+4.5**
NJ2				XS		13 10 53.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,240nm,7.8s						
NJ2				LR	LR		
	comp=N,7μm,21.6s,MS5.7						
NJ2				LR	LR		
	comp=E,12μm,20.5s,MS5.7						
NJ2				LR	LR		
	comp=Z,2μm,17.4s,MS5.0						
NWAO	**Narrogin (SRO)**	**37.53**	**153**	LR	LR	13 19 23.8	
	comp=Z,2μm,21.9s,MS4.9,baz=141,slow=35						
NWAO	**Narrogin (SRO)**	**37.53**	**153**	P	**P**	**13 04 56.3**	**+0.7**
NWAO				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
SSE	**Sheshan**	**37.70**	**33**	P	**P**	**13 04 58.5**	**+1.4**
SSE				XP	sP	13 05 07.8	+1.5
SSE				PP	PP	13 06 26.0	-0.1
SSE				PCP	PcP	13 07 13.3	-1.3
SSE				AMB	AMB		
	comp=Z,39nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,80nm,4.2s						
SSE				LR	LR		
	comp=N,5μm,16.8s,MS5.6						
SSE				LR	LR		
	comp=E,6μm,16.9s,MS5.6						
SSE				LR	LR		
	comp=Z,2μm,17.5s,MS5.0						
GTA	**Gaotai**	**39.06**	**2**	*e*P	**P**	**13 05 08.8**	**+0.4**
GTA				AP	pP	13 05 18.3	+3.4
GTA				XP	sP	13 05 22.3	+4.7
GTA				PP	PP	13 06 43.5	+1.5
GTA				S	**S**	**13 11 05.5**	**-0.6**
GTA				XS		13 11 20.3	
GTA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
GTA				AMB	AMB		
	comp=Z,187nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,13.3s,MS5.2						
GTA				LR	LR		
	comp=E,2μm,16.0s,MS5.2						
GTA				LR	LR		
	comp=Z,1μm,22.4s						
JOW	**Kunigami**	**39.24**	**45**	P	**P**	**13 05 08.2**	**-1.8**
	comp=Z,17nm,0.9s,mb4.8,baz=292,slow=28,SNR=2.2						
TIA	**Tai'an**	**39.93**	**24**	P	**P**	**13 05 15.5**	**-0.1**
WRA	**Warramunga Arr**	**40.69**	**122**	P	**P**	**13 05 20.6**	**-1.5**
	comp=Z,6.3nm,0.5s,mb4.5,baz=303,slow=9.0,SNR=63						
WRA				PcP	PcP	13 07 25.9	+1.8
	comp=Z,1.7nm,0.7s,baz=311,slow=2.4,SNR=2.5						
WRAB	**Tennant Creek**	**40.69**	**122**	P	**P**	**13 05 20.0**	**-2.1**
	comp=Z,170nm,0.5s,mb5.9,SNR=16						
WB2	**Warramunga Arr**	**40.70**	**122**	*e*P	**P**	**13 05 20.8**	**-1.3**
WB2				*e*PCP	PcP	13 07 28.5	+4.3
WB2				*e*S	**S**	**13 11 25.6**	**-5.3**
BTO	**Baotou**	**41.64**	**14**	*e*P	**P**	**13 05 30.5**	**+0.8**
BTO				S	**S**	**13 11 43.5**	**-1.2**
BTO				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.8						
FORT	**Forrest**	**41.89**	**140**	*e*P	**P**	**13 05 34.0**	**+2.1**
	comp=Z,1μm,0.9s						
ASPA	**Alice Springs**	**42.02**	**127**	*e*P	**P**	**13 05 32.3**	**-0.7**
ASPA				*e*PCP	PcP	13 07 35.3	+6.7
ASPA				*e*PCS		13 11 24.0	
ASPA				*e*S	**S**	**13 11 47.2**	**-3.3**
ASAR	**Alice Springs**	**42.02**	**127**	P	**P**	**13 05 32.3**	**-0.8**
	comp=Z,5.4nm,0.5s,mb4.4,baz=303,slow=8.0,SNR=56						
ASAR				PcP	PcP	13 07 30.6	+2.0
	comp=Z,2.3nm,0.8s,baz=309,slow=5.8,SNR=2.9						
HHC	**Hu-ho-hao-te**	**42.25**	**15**	*e*P	**P**	**13 05 34.0**	**-0.7**
HHC				AP	pP	13 05 43.5	+2.2
HHC				XP	sP	13 05 47.5	+3.5
HHC				PP	PP	13 07 15.8	+0.2
HHC				PCP	PcP	13 07 28.8	-0.3
HHC				AMB	AMB		
	comp=Z,17nm,0.4s,mb5.0						
HHC				LR	LR		
	comp=N,3μm,14.2s,MS5.3						
HHC				LR	LR		
	comp=E,2μm,15.2s,MS5.3						
HHC				LR	LR		
	comp=Z,3μm,17.6s,MS5.2						
YOMI	**Yo Moklole**	**42.47**	**94**⇓	*i*P	**P**	**13 05 32.3**	**-4.6**
	comp=Z,31nm,1.1s,mb4.8						
BJT	**Baijiatuan**	**42.90**	**20**	*e*P	**P**	**13 05 41.3**	**+1.3**
	comp=Z,76nm,0.8s,mb5.5						
BJI	**Beijing**	**42.92**	**20**	P	**P**	**13 05 41.3**	**+1.1**
BJI				AMB	AMB		
	comp=Z,49nm,1.0s,mb5.2						
KSH	**Kashi**	**44.08**	**335**	*e*P	**P**	**13 05 52.5**	**+2.9**
KSH				*e*AP	pP	13 06 01.3	+5.1
KSH				*e*XP	sP	13 06 04.5	+5.6
KSH				*e*S	**S**	**13 12 23.5**	**+3.1**
KSH				*e*XS		13 12 39.0	
KSH		

WMQ PPP PPP 13 08 17.5 +1.2
WMQ PCS 13 11 30.0
WMQ S **S** **13 12 27.0 +1.6**
WMQ AMB AMB
comp=Z,56nm,1.3s,mb5.1
WMQ AMB AMB
comp=Z,217nm,3.8s
WMQ LR LR
comp=N,2µm,18.3s,MS5.2
WMQ LR LR
comp=E,2µm,20.2s,MS5.2
WMQ LR LR
comp=Z,2µm,28.6s
JMDO Jabal Madar 44.79 302 ⇑P **P** **13 05 55.6 0.0**
BIDO Bidbid 45.25 304 ⇓P **P** **13 05 59.6 +0.4**
SHAO Shalim 45.41 295 ⇓P **P** **13 06 00.7 +0.2**
INCN Inchon 45.46 32 PFAKE 13 06 10.0 +9.3
INCN LR LR
comp=Z,2µm,20.0s,MS4.9
BSY Bisya 45.71 302 ⇑P **P** **13 06 03.3 +0.4**
SNR=8.6
KS15 Wonju Array Si 46.11 33 *e*P **P** **13 06 05.7 -0.1**
ULHL Ulahol 46.28 337 P **P** **13 06 07.7 +0.5**
SNR=7.6
ARQ Araqi 46.51 303 P **P** **13 06 10.3 +1.1**
SNR=7.2
KZA Kyzart 46.53 336 P **P** **13 06 10.0 +0.9**
SNR=14
RBK Rabkut 46.54 294 ⇑P **P** **13 06 09.8 +0.3**
SNR=6.7
WHFO Wadi Hawf 47.05 294 P **P** **13 06 13.1 -0.4**
SNR=13
TKM2 Tokmak 2 47.11 337 P **P** **13 06 14.2 +0.5**
SNR=22
KBK Karagaybulak 47.14 337 P **P** **13 06 15.4 +1.5**
SNR=11
AAK Ala-Archa 47.30 336 P **P** **13 06 15.7 +0.5**
comp=Z,160nm,1.0s,mb5.9,SNR=23
AAK Ala-Archa 47.30 336 *i* P **P** **13 06 14.7 -0.5**
AAK pmax pmax
comp=Z,21nm,1.3s,mb4.9
AAK Ala-Archa 47.30 336 *e*P **P** **13 06 14.3 -0.9**
comp=Z,42nm,1.2s,mb5.2
AAK LR LR
comp=Z,174nm,21.0s,MS4.0
ABTO Aybut 47.33 294 ⇑P **P** **13 06 15.1 -0.7**
SNR=8.5
SNY Shenyang 47.36 26 ⇑P **P** **13 06 15.5 -0.2**
SNY AP pP 13 06 22.5 +0.2
SNY XP sP 13 06 26.0 +1.0
SNY AMB AMB
comp=Z,20nm,1.1s,mb5.0
SNY LR LR
comp=N,4µm,15.9s,MS5.5
SNY LR LR
comp=E,2µm,14.9s,MS5.5
SNY LR LR
comp=Z,2µm,17.6s,MS5.2
FRU Bishkek 47.42 336 *e*P **P** **13 06 19.0 +2.9**
ASHO Ashiyiah 47.45 304 ⇑P **P** **13 06 15.8 -0.8**
SNR=6.2
CHMS Chumysh 47.51 337 P **P** **13 06 16.9 +0.1**
SNR=5.8
EKS2 Erkin-Say 47.62 336 P **P** **13 06 18.2 +0.5**
SNR=19
USP Ospenovka 47.83 337 P **P** **13 06 19.9 +0.5**
SNR=27
SONM Songino Array 47.98 7 P **P** **13 06 20.9 +0.4**
comp=Z,12nm,0.6s,mb5.1,baz=188,slow=8.7,SNR=44
SONM LR LR 13 29 22.8
comp=Z,1µm,19.1s,MS5.0,baz=186,slow=40
ULN Ulaanbaatar 48.10 8 *e*P **P** **13 06 21.6 +0.3**
comp=Z,16nm,0.8s,mb5.1
ULN LR LR
comp=Z,2µm,19.0s,MS5.1
GUMO Guam 48.11 72 LR LR 13 25 59.8
comp=Z,314nm,18.6s,MS4.3,baz=29,slow=35
GUMO Guam 48.11 72 PFAKE 13 06 30.0 +8.1
GUMO LR LR
comp=Z,487nm,20.0s,MS4.5
MKAR Makanchi Array 48.45 345 P **P** **13 06 23.8 -0.3**
MKAR pmax pmax
comp=Z,30nm,0.8s
MKAR Makanchi Array 48.45 345 P **P** **13 06 23.9 -0.1**
comp=Z,15nm,0.5s,mb5.3,baz=158,slow=8.4,SNR=225
KKAR Karatay Array 49.38 333 *i* P **P** **13 06 31.0 -0.3**
KKAR pmax pmax
comp=Z,32nm,1.0s,mb5.3
PMG Port Moresby 49.69 102 P **P** **13 06 33.3 -0.7**
comp=Z,8.4nm,0.6s,mb5.0,baz=160,slow=12,SNR=4.0
CN2 Changchun 49.77 26 *e*P **P** **13 06 29.0 -5.3**
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,670nm,4.0s
CN2 LR LR
comp=N,3µm,16.0s,MS5.6
CN2 LR LR
comp=E,4µm,16.0s,MS5.6
CN2 LR LR
comp=Z,900nm,19.0s,MS4.8
ZAK Zakamensk 50.19 4 ⇓*i*P **P** **13 06 37.3 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.7s,mb4.5
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
CTA Charters Tower 51.19 116 LR LR 13 27 57.3
comp=Z,696nm,22.0s,MS4.6,baz=284,slow=36
CTAO Charters Tower 51.19 116 P **P** **13 06 44.8 -0.6**
comp=Z,16nm,1.0s,mb4.9
CTAO LR LR
comp=Z,1µm,21.0s,MS4.9
MOY Mondy 51.34 2 *e*P **P** **13 06 48.4 +2.3**
TLY Talaya 51.51 4 *e*P **P** **13 06 47.9 +0.5**
TLY *e*S **S** **13 14 05.3 +0.3**
TLY pmax pmax
comp=Z,31nm,1.8s,mb4.9
TLY Talaya 51.51 4 *e*P **P** **13 06 47.8 +0.4**
comp=Z,7.8nm,0.8s,mb4.7
MAJO Matsushiro 51.79 41 PFAKE 13 07 00.0 +10
MAJO LR LR
comp=Z,916nm,20.0s,MS4.8
MJAR Matsushiro Arr 51.79 41 LR LR 13 32 24.5
comp=Z,631nm,19.2s,MS4.7,baz=230,slow=40
STKA Stephens Creek 51.97 132 ⇑*i*P **P** **13 06 51.0 -0.2**
comp=Z,20nm,0.9s,mb5.1
STKA Stephens Creek 51.97 132 P **P** **13 06 51.2 0.0**
comp=Z,16nm,0.6s,mb5.1,baz=304,slow=7.5,SNR=62
IRK Irkutsk 52.12 5 *e*P **P** **13 06 51.7 -0.3**
IRK *e* 13 14 30.2
IRK pmax pmax
comp=Z,65nm,1.8s,mb5.3
MDJ Mudanjiang 52.28 28 P **P** **13 06 54.0 +0.7**
MDJ AP pP 13 07 00.3 +0.3
MDJ XP sP 13 07 02.8 +0.2
MDJ PCP PcP 13 08 04.5 -0.1
MDJ AMB AMB
comp=Z,12nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,243nm,4.9s
MDJ LR LR
comp=N,3µm,18.4s,MS5.5
MDJ LR LR
comp=E,4µm,17.9s,MS5.5
MDJ LR LR
comp=Z,1µm,20.0s,MS4.9
HIA Hailar 52.28 18 *e*P **P** **13 06 53.1 -0.2**
comp=Z,25nm,1.3s,mb5.0
KURK Kurchatov 53.01 345 P **P** **13 06 58.0 -0.7**
KURK pmax pmax
comp=Z,46nm,1.4s,mb5.2
KURK Kurchatov 53.01 345 *e*P **P** **13 06 57.8 -0.9**
comp=Z,33nm,0.9s,mb5.3
KURK LR LR
comp=Z,188nm,19.0s,MS4.2
ZAL Zalesovo 54.69 350 P **P** **13 07 10.0 -1.0**
comp=Z,13nm,0.4s,mb5.3,baz=304,slow=3.8,SNR=38
NVS Novosibirsk 55.83 350 *e*P **P** **13 07 16.5 -2.7**
NVS *e*S **S** **13 15 02.9 -0.5**
NVS *e* 13 16 57.8
NVS pmax pmax
comp=Z,34nm,1.3s,mb5.2
NVS pmax pmax
comp=N,35nm,1.7s
NVS pmax pmax
comp=E,14nm,1.3s
NVS smax
comp=N,156nm,3.2s
NVS smax
comp=E,147nm,2.9s
ATD Arta Tunnel 56.06 284 LR LR 13 28 36.6
comp=E,193nm,19.0s,MS4.2,baz=59,slow=33
RAYN Ar Rayn 56.08 298 P **P** **13 07 20.0 -1.5**
comp=E,76nm,0.9s,SNR=13
KLR Kul'dur 56.72 26 ⇓*i*P **P** **13 07 22.8 -2.9**
KLR MLR MLR
comp=E,600nm,14.0s
KLR MLR MLR
comp=Z,2µm,14.0s,MS5.5
BVA0 Borovoye Array 57.51 341 P **P** **13 07 29.5 -1.8**
BVA0 pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
BVAR Borovoye Array 57.51 341 P **P** **13 07 29.5 -1.8**
comp=Z,4.3nm,0.7s,mb4.6,baz=142,slow=9.0,SNR=18
TOO Toolangi 57.55 136 *e*P **P** **13 07 30.6 -1.2**
comp=Z,0.5nm,0.8s
CHKZ Chkalovo 57.98 341 P **P** **13 07 33.5 -1.0**
CHKZ pmax pmax
comp=Z,62nm,1.4s,mb5.5
CHKZ Chkalovo 57.98 341 *e*P **P** **13 07 32.7 -1.8**
BOD Bodaibo 58.82 10 *e*P **P** **13 07 39.2 -1.1**
BOD pmax pmax
comp=Z,35nm,1.0s,mb5.3
CLNS Chul'man 60.41 17 *e*P **P** **13 07 57.9 +6.6**
CLNS pmax pmax
comp=Z,24nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,16nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
YSS Yuzh-Sakhalins 60.64 33 *e*P **P** **13 07 54.0 +1.0**
YSS MLR MLR
comp=Z,2µm,17.0s,MS5.4
YSS MLR MLR
comp=E,1µm,18.0s
YSS Yuzh-Sakhalins 60.64 33 *e*P **P** **13 07 53.5 +0.5**
comp=E,85nm,0.8s,mb5.9
KMBO Kilima Mbogo 60.93 269 LR LR 13 29 10.0
comp=E,468nm,20.8s,MS4.6,baz=278,slow=31
KMBO Kilima Mbogo 60.93 269 *e*P **P** **13 07 55.3 -0.1**
comp=E,17nm,1.4s,mb5.0
KMBO LR LR
comp=Z,555nm,20.0s,MS4.7
HNR Honiara 62.22 101 PFAKE 13 08 20.0 +16
HNR LR LR
comp=Z,357nm,20.0s,MS4.5
GNI Garni 62.68 316 ⇑*i*P **P** **13 08 02.9 -4.0**
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 62.68 316 *e*P **P** **13 08 04.6 -2.2**
comp=Z,24nm,1.0s,mb5.3
GNI LR LR
comp=Z,307nm,22.0s,MS4.4
TI2 Plekhanov 63.37 318 *i* P **P** **13 08 10.4 -0.9**
TI2 pmax pmax
comp=Z,30nm,0.4s,mb5.8
SVE Sverdlovsk 63.97 338 *e*P **P** **13 08 14.0 -1.1**
SVE *e* pP 13 08 21.9 0.0
SVE *e* 13 08 46.9
SVE *e* 13 10 40.0
SVE *e*S **S** **13 17 02.0 +14**
SVE *e* 13 18 00.0
SVE MLR MLR
comp=N,500nm,20.0s,MS4.8
SVE MLR MLR
comp=E,300nm,20.0s,MS4.8
SVE MLR MLR
comp=Z,600nm,20.0s,MS4.8
ZEI Tsey 64.39 318 *e*P **P** **13 08 11.6 -6.4**
ZEI *i* *PP pP 13 08 19.8 -5.0
ZEI pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
ARU Arti 64.48 337 ⇑*i*P **P** **13 08 16.6 -1.8**
ARU *e* 13 08 45.7
ARU *e* 13 10 35.7
ARU *e*S **S** **13 16 48.0 -6.5**
ARU *e*SS SS 13 20 58.2 -8.4
ARU pmax pmax
comp=Z,19nm,0.9s,mb5.1
ARU Arti 64.48 337 PFAKE 13 08 30.0 +12
ARU LR LR
comp=Z,220nm,19.0s,MS4.4
KIV Kislovodsk 65.70 319 *ce*P **P** **13 08 23.7 -2.8**
KIV *e* 13 10 52.8
KIV *e*S S 13 17 00.6 -9.0
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.1
KIV Kislovodsk 65.70 319 *e*P **P** **13 08 24.6 -1.8**
comp=Z,22nm,1.0s,mb5.2
KIV LR LR
comp=Z,73nm,19.0s
ASF Jabal al Asfar 65.83 305 P **P** **13 08 27.4 -0.1**
comp=Z,3.2nm,0.6s,mb4.6,baz=334,slow=3.9,SNR=11
GOF Gofitskoye 65.95 320 *e*P **P** **13 08 39.8 +12**
GOF pmax pmax
comp=Z,50nm,1.6s,mb5.3
YAK Yakutsk 66.11 16 *e*P **P** **13 08 26.7 -2.1**
YAK pmax pmax
comp=Z,12nm,0.9s,mb4.9
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,12nm,1.0s,mb4.9
YAK pmax pmax
comp=N,9.0nm,1.3s
YAK pmax pmax
comp=E,5.0nm,1.4s
YAK MLR MLR
comp=N,431nm,16.0s,MS5.0
YAK MLR MLR
comp=Z,620nm,16.0s,MS4.9
YAK MLR MLR
comp=E,536nm,14.0s,MS5.0
ELZG Elazig 66.17 313 *i* P **P** **13 08 28.9 -0.7**
MALT Malatya 66.52 312 ⇑P **P** **13 08 31.7 -0.1**
MALT Malatya 66.52 312 *e*P **P** **13 08 31.3 -0.5**
comp=E,41nm,1.3s,mb5.3
EIL Elat 66.81 302 *e*P **P** **13 08 33.1 -0.7**
comp=E,55nm,1.7s,mb5.3
GZT Gaziantep 66.85 311 *i* P **P** **13 08 33.7 -0.3**
CASY Casey 66.92 175 *e*P **P** **13 08 35.3 +1.5**
comp=E,21nm,1.0s,mb5.1
CASY LR LR
comp=Z,764nm,20.0s,MS4.9
MBAR Mbarara 67.44 269 *e*P **P** **13 08 37.0 -1.0**
comp=Z,3.1nm,1.0s,mb4.3
MBAR LR LR
comp=Z,145nm,19.0s,MS4.2
KAHT Ahir Dag 67.46 311 *i* P **P** **13 08 36.6 -1.2**
SOC Sochi 67.51 318 *e*P **P** **13 08 33.2 -4.8**
SOC *e* 13 09 06.8
SOC *e* 13 18 26.2
SOC *e*SSS SSS 13 24 44.3 -8.0
SOC pmax pmax
comp=N,15nm,0.7s
SOC pmax pmax
comp=Z,23nm,0.7s,mb5.3
SOC pmax pmax
comp=E,12nm,0.6s
MEST Erdemli 69.23 309 *i* P **P** **13 08 51.4 +2.5**
DZM Mont Dzumac 70.00 114 LR LR 13 41 56.2
comp=E,796nm,19.8s,MS5.0,baz=280,slow=38
BRTR Keskin Array B 70.50 312 P **P** **13 08 54.9 -1.6**
comp=E,4.0nm,0.8s,mb4.4,baz=134,slow=7.4,SNR=16
LSZ Lusaka 70.76 254 PFAKE 13 09 10.0 +12
LSZ LR LR
comp=Z,971nm,20.0s,MS5.1
SIM Simferopol' 71.75 318 *e*P **P** **13 09 03.8 -0.2**
SIM pmax pmax
comp=Z,24nm,0.9s,mb5.1
MA2 Magadan 71.82 25 *d*⇓*i*P **P** **13 09 12.2 +8.1**
MA2 pmax pmax
comp=Z,39nm,1.3s,mb5.2
MA2 Magadan 71.82 25 *e*P **P** **13 09 03.5 -0.6**
comp=Z,20nm,0.7s,mb5.2
MA2 LR LR
comp=Z,652nm,20.0s,MS4.9
MAW Mawson 71.96 193 LR LR 13 37 01.3
comp=Z,427nm,18.4s,MS4.8,baz=48,slow=33
MAW Mawson 71.96 193 *e*P **P** **13 09 05.3 +0.5**
MAW LR LR
comp=Z,951nm,20.0s,MS5.1
DRV Dumont d'Urvil 72.92 164 S S 13 18 42.0 +7.6
MOS Moscow 73.69 329 *e*P **P** **13 09 22.0 +6.9**
MOS *e* pP 13 09 27.6 +5.6
OBN Obninsk 73.98 328 ⇑*i*P **P** **13 09 15.7 -1.1**
OBN *i* pP 13 09 23.9 +0.2
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
TIXI Tiksi 74.00 10 *e*P **P** **13 09 14.2 -2.5**
TIXI pmax pmax
comp=Z,28nm,1.0s,mb5.2
TIXI MLR MLR
comp=Z,2µm,16.0s,MS5.4
SEY Seymchan 74.30 23 *e*P **P** **13 09 20.6 +2.0**
SEY 13 09 39.3
SEY *e*S S 13 18 44.6 -5.3
SEY 13 19 19.9
SEY *e*SSS SSS 13 26 39.8 -11
SEY pmax pmax
comp=N,40nm,1.1s
SEY pmax pmax
comp=E,20nm,1.1s
SEY pmax pmax
comp=Z,70nm,1.1s,mb5.5
SEY MLR MLR
comp=Z,4µm,20.0s,MS5.7
SEY MLR MLR
comp=N,700nm,15.0s,MS5.5
SEY MLR MLR
comp=E,2µm,18.0s,MS5.5
LBTB Lobatse 74.32 244 P **P** **13 09 19.5 +0.1**
comp=E,14nm,0.9s,mb4.9,baz=110,slow=7.0,SNR=13
LBTB LR LR 13 39 39.9
comp=E,531nm,18.7s,MS4.9,baz=79,slow=34
LBTB Lobatse 74.32 244 *e*P **P** **13 09 19.3 -0.1**
comp=E,39nm,1.2s,mb5.2
LBTB *e*pP pP 13 09 25.8 -0.5
LBTB LR LR
comp=Z,422nm,21.0s,MS4.7
BOSA Boshof 75.12 240 P **P** **13 09 23.8 -0.2**
comp=Z,13nm,0.7s,mb5.0,baz=99,slow=6.0,SNR=25
BOSA LR LR 13 39 34.9
comp=Z,218nm,18.2s,MS4.5,baz=100,slow=34
BOSA Boshof 75.12 240 *e*P **P** **13 09 23.3 -0.7**
comp=Z,15nm,0.8s,mb5.0
AKASG Malin Array Be 76.64 322 P **P** **13 09 30.6 -1.6**
comp=Z,1.3nm,0.4s,mb4.2,baz=87,slow=4.9,SNR=16
VRI Vrincioaia 77.01 317 ⇓P **P** **13 09 34.6 +0.3**
VRI Vrincioaia 77.01 317 P **P** **13 09 34.4 +0.2**
MLR Muntele Rosu 77.46 317 P **P** **13 09 37.4 +0.6**
RPZ Rata Peaks 77.81 135 LR LR 13 43 21.6
comp=Z,2µm,21.5s,MS5.3,baz=273,slow=35
BURAR Bucovina Array 78.41 319 P **P** **13 09 43.1 +1.2**
MNK Minsk 78.52 326 *e*P **P** **13 09 40.0 -2.4**
SYO Syowa Base 79.36 198 ⇑pP pP 13 09 52.3 -1.3
SUR Sutherland 79.43 237 *e*P **P** **13 09 49.3 +1.4**
comp=Z,31nm,1.0s,mb5.2
BOLS Boljevac 79.93 314 ⇑*i*P **P** **13 09 49.3 -1.0**
APA Apatity 80.40 339 ⇑*e*P **P** **13 09 56.0 +3.7**
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
APA MLR MLR
comp=Z,1µm,17.0s,MS5.3
KWP Kalwaria 80.46 320 *e*P **P** **13 09 53.6 +0.6**
BZS Buzias 80.47 316 ⇓P **P** **13 09 52.4 -0.7**
SVIS Svilajnac 80.53 315 ⇑*i*P **P** **13 09 50.3 -3.2**
KOLS Kolonicke sedl 80.61 320 *e*P **P** **13 09 54.5 +0.7**
KOLS *e*PcP PcP 13 10 01.6 +0.6
KOLS *e*pP pP 13 10 06.6 +5.9
KOLS *e*sP sP 13 10 11.6 +8.6
KOLS *e* 13 10 20.0
SUW Suwalki 81.05 325 *e*P **P** **13 09 55.5 -0.5**
TSUM Tsumeb 81.17 251 *e*P **P** **13 09 57.7 +0.3**
comp=Z,20nm,1.1s,mb5.0
TSUM *e*pP pP 13 10 04.6 +0.3
FINES FINESS Array B 81.33 332 *i* P **P** **13 09 56.3 -1.0**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES FINESS Array B 81.33 332 P **P** **13 09 57.2 -0.1**
comp=Z,1.8nm,0.4s,mb4.3,baz=95,slow=6.5,SNR=20
FINES FINESS Array B 81.33 332 P **P** **13 09 57.2 -0.1**
DIVS Divcibare 81.38 314 ⇑*i*P **P** **13 09 57.2 -0.8**
KAF Kangasniemi 81.41 333 *e*p **P** **13 09 56.6 -1.1**
URZ Urewera 81.44 129 LR LR 13 48 04.3
comp=Z,568nm,18.6s,MS5.0,baz=248,slow=37
NIE Niedzica 81.95 320 *e*P **P** **13 10 00.0 -0.8**
PSZ Piszkesteto 82.00 318 P **P** **13 10 07.9 +6.8**
PSZ Piszkesteto 82.00 318 P **P** **13 10 00.4 -0.7**
comp=Z,14nm,1.0s,mb4.8
OJC Ojcow 82.41 321 *e*P **P** **13 10 03.6 +0.5**
PKSM Moragy 82.61 316 ⇑P **P** **13 10 04.1 -0.2**
VYHS Vyhne 82.78 319 *e*P **P** **13 10 05.6 +0.5**
VYHS *e*pP pP 13 10 11.4 -0.7
VYHS *e* 13 10 28.2
TIP Timpagrande 83.21 309 *e*P **P** **13 10 06.6 -1.0**
KEV Kevo 83.36 341 *e*p **P** **13 10 14.1 +6.4**
comp=Z,0.3nm,0.4s
OKC Ostrava-Krasne 83.41 320 *e*P **P** **13 10 09.1 +0.8**
OKC *e*pP pP 13 10 15.9 +0.6
OKC AMS AMS 13 54 10.0
comp=Z,300nm,24.5s
GRI Girifalco 83.44 309 *e*P **P** **13 10 10.0 +1.2**
ORI Oriolo Calabro 83.53 310 *e*P **P** **13 10 10.2 +1.0**
MORC Moravsky Berou 83.79 320 ⇓P **P** **13 10 10.1 -0.2**
MORC Moravsky Berou 83.79 320 *e*P **P** **13 10 10.2 0.0**
comp=Z,26nm,1.3s,mb5.2
MORC *e*pP pP 13 10 16.7 -0.6
ARCES ARCESS Array B 83.80 340 P **P** **13 10 10.1 +0.2**
comp=Z,4.0nm,0.7s,mb4.7,baz=101,slow=5.3,SNR=12
ARCES LR LR 13 55 37.9
comp=Z,484nm,18.5s,MS4.9,baz=110,slow=42
ZST Bratislava 83.89 318 *e*P **P** **13 10 11.2 +0.4**
SGO Sicignano 84.44 311 *e*P **P** **13 10 14.2 +0.4**
DPC Dobruska-Polom 84.64 320 *e*P **P** **13 10 16.0 +1.5**
DPC *e*pP pP 13 10 21.6 +0.1
DPC AMS AMS 13 54 40.0
comp=Z,400nm,19.3s
VNDA Vanda 84.66 169 LR LR 13 43 05.6
comp=Z,450nm,20.1s,MS4.8,baz=313,slow=32
CSSN Cassano Irpino 84.68 311 *e*P **P** **13 10 14.9 -0.1**
KSP Ksiaz 84.71 321 *e*P **P** **13 10 15.0 +0.1**
KSP *e**PP pP 13 10 21.3 -0.6
RAO Raoul Island 84.78 119 LR LR 13 46 20.4
comp=Z,366nm,20.2s,MS4.8,baz=323,slow=34
UPC Upice 84.85 321 *e*P **P** **13 10 16.8 +1.2**
UPC *e*pP pP 13 10 23.0 +0.4
SDI San Donato 85.65 312 *e*P **P** **13 10 19.1 -0.6**
PRU Pruhonice 85.74 320 *e*P **P** **13 10 19.3 -0.7**
PRU *e*pP pP 13 10 26.8 -0.2
PRU AMS AMS 13 55 10.0
comp=Z,400nm,20.9s
SBA Scott Base 85.75 169 P **P** **13 10 19.8 +0.2**
comp=Z,9.4nm,1.0s,mb5.0
SBA *e*pP pP 13 10 26.0 -0.5
SBA LR LR
comp=Z,667nm,19.0s,MS5.0
PVCC Panska Ves 85.77 321 *e*P **P** **13 10 20.3 +0.1**
PVCC *e*pP pP 13 10 27.1 -0.1
PVCC AMS AMS 13 55 10.0
comp=Z,300nm,17.5s
PTQR Pietraquaria 85.97 312 *e*P **P** **13 10 21.4 0.0**
AQU L'Aquila 85.99 312 *e*P **P** **13 10 21.6 +0.1**
comp=Z,58nm,1.1s,mb5.7
BRG Berggiesshubel 86.19 321 *e*P **P** **13 10 23.4 +1.1**
BRG *e* pP 13 10 29.0 -0.3
BRG pmax pmax
comp=Z,14nm,1.4s,mb5.0
BRG Berggiesshubel 86.19 321 *e*P **P** **13 10 23.4 +1.1**
comp=Z,14nm,1.4s,mb5.0
BRG *e* pP 13 10 29.0 -0.3
GEC2 GERESS Array S 86.20 319 *e*P **P** **13 10 23.0 +0.6**
GEC2 pmax pmax
comp=Z,48nm,1.5s,mb5.5
GEC2 GERESS Array S 86.20 319 *e*P **P** **13 10 23.0 +0.6**
comp=Z,48nm,1.5s,mb5.5
GERES GERESS Array B 86.20 319 P **P** **13 10 22.8 +0.4**
comp=Z,5.5nm,1.1s,mb4.7,baz=90,slow=4.0,SNR=22
PTCC Patocco-Chiusa 86.28 316 *e*P **P** **13 10 22.6 -0.1**
KHC Kasperske Hory 86.30 319 ⇑*i*P **P** **13 10 23.5 +0.7**
KHC Kasperske Hory 86.30 319 *e*P **P** **13 10 22.9 +0.1**
KHC *e*pP pP 13 10 30.1 +0.3
KHC AMS AMS 13 55 50.0

comp=Z,300nm,23.6s
SNTG Esanatoglia 86.38 313 *e*P **P 13 10 28.1 +4.7**
ARV Arcevia 86.40 313 *e*P **P 13 10 24.1 +0.7**
FSSB Fossombrone 86.53 314 *e*P **P 13 10 24.6 +0.5**
WET Wettzell 86.76 319 *e*P **P 13 10 25.6 +0.5**
WET pmax pmax
comp=Z,23nm,1.4s,mb5.2
WET Wettzell 86.76 319 *e*P **P 13 10 25.6 +0.5**
comp=Z,23nm,1.4s,mb5.2
CLL Collm 86.82 321 *i* P **P 13 10 25.1 -0.2**
CLL *i* pP 13 10 32.1 -0.2
CLL Collm 86.82 321 P **P 13 10 25.1 -0.2**
CLL *i* *PP pP 13 10 32.1 -0.2
NKC Novy Kostel 87.11 320 *e*P **P 13 10 28.1 +1.4**
NKC *e*pP pP 13 10 34.9 +1.2
NKC AMS AMS 13 56 00.0
comp=Z,300nm,18.8s
SFI Santa Sofia 87.21 314 *e*P **P 13 10 28.6 +1.3**
PGD Poggio Sodo 87.30 314 *e*P **P 13 10 29.0 +1.2**
CTI Castel Tesino 87.44 316 *e*P **P 13 10 29.2 +0.8**
MOX Moxa 87.66 321 *e*P **P 13 10 36.0 +6.6**
MOX pmax pmax
comp=Z,20nm,1.5s,mb5.1
MOX Moxa 87.66 321 *e*P **P 13 10 36.0 +6.6**
comp=Z,20nm,1.5s,mb5.1
MOX Moxa 87.66 321 *i* P **P 13 10 36.0 +6.6**
comp=Z,logA/T=1.1,mb5.1
FUR Furstenfeldbru 87.78 318 *e*P **P 13 10 30.1 +0.1**
GRA1 Grafenberg Arr 87.87 320 *e*P **P 13 10 31.4 +1.0**
comp=Z,17nm,0.8s,mb5.3
GRA1 *e*pP pP 13 10 37.0 -0.4
GRF Grafenberg Arr 87.87 320 *e*P **P 13 10 31.4 +1.0**
GRF *e**PP pP 13 10 37.0 -0.4
GRF pmax pmax
comp=Z,17nm,0.8s,mb5.3
GRF Grafenberg Arr 87.87 320 *e*P **P 13 10 31.4 +1.0**
comp=Z,17nm,0.8s,mb5.3
GRF *e*pP pP 13 10 37.0 -0.4
BRMO Bormio 88.34 316 *e*P **P 13 10 33.3 +0.5**
NB2 NORSAR Subarra 88.35 331 P **P 13 10 31.9 -0.5**
comp=Z,16nm,1.2s,mb5.1,baz=94,slow=4.6
NB2 NORSAR Subarra 88.35 331 P **P 13 10 31.9 -0.5**
baz=94,slow=4.8
NOA NORSAR Array B 88.35 331 P **P 13 10 32.5 +0.1**
comp=Z,2.0nm,0.9s,mb4.3,baz=97,slow=5.2,SNR=3.8
CLZ Clausthal 88.48 322 *e*P **P 13 10 34.1 +0.8**
comp=Z,35nm,1.4s,mb5.4
NVL N'lazarevskaya 88.97 199↑ *i*P **P 13 10 42.3 +7.1**
NVL *i* *PP pP 13 10 53.2 +11
NVL *i* 13 10 56.6
NVL pmax pmax
comp=Z,72nm,1.3s,mb5.8
KONO Kongsberg 89.11 329 PFAKE 13 10 50.0 +14
KONO LR LR
comp=Z,529nm,22.0s,MS4.9
TNS Taunus Mts 89.67 320 *e*P **P 13 10 39.9 +0.9**
BFO Black Forest 89.75 318 *e*P **P 13 10 39.5 +0.1**
BFO pmax pmax
comp=Z,11nm,1.1s,mb5.1
BFO Black Forest 89.75 318 *e*P **P 13 10 39.5 +0.1**
comp=Z,11nm,1.1s,mb5.1
FIN Finale Ligure 89.84 314 *e*P **P 13 10 39.8 -0.1**
QSPA South Pole Qui 90.14 180 *e*P **P 13 10 43.4 +2.8**
comp=Z,20nm,1.2s,mb5.3
QSPA *e*pP pP 13 10 49.0 +1.4
QSPA LR LR
comp=Z,655nm,19.0s,MS5.1
LPG La Plagne 90.86 315 *e*P **P 13 10 44.8 +0.2**
comp=Z,41nm,1.1s,mb5.3
JMIC Jan Mayen 95.22 342 LR LR 13 57 10.0
comp=Z,165nm,19.7s,MS4.5,baz=255,slow=38
ESK Eskdalemuir 96.31 326 PFAKE 13 11 20.0 +11
ESK LR LR
comp=Z,100nm,19.0s,MS4.3
IMA Indian Mountai 97.12 23 *e*P **P 13 11 13.6 +0.8**
comp=Z,64nm,1.2s,mb5.9
IMA *e*pP pP 13 11 21.0 +1.2
ESLA Sonseca Array 99.21 310 PFAKE 13 11 30.0 +7.2
ESLA LR LR
comp=Z,2μm,22.0s,MS5.5
MCK McKinley 99.79 25 *e*Pdif **P 13 11 25.9 +0.9**
comp=Z,6.7nm,1.2s,mb5.0
MCK LR LR
comp=Z,283nm,19.0s,MS4.8
COLA College 99.81 23 PFAKE 13 11 40.0 +15
COLA LR LR
comp=Z,587nm,21.0s,MS5.1
FIB Fire Island 100.13 27 PFAKE 13 11 40.0 +13
FIB LR LR
comp=Z,1μm,20.0s,MS5.4
DIV Divide 102.14 26 PFAKE 13 11 50.0 +14
DIV LR LR
comp=Z,2μm,21.0s,MS5.6
INK Inuvik 103.14 17 *e*Pdif Pdif 13 11 41.5 +1.7
comp=Z,3.9nm,1.1s
TBI Tubuai 110.56 115 *e*LR LR 13 49 01.0
comp=Z,528nm,24.2s
PPT Papeete 111.24 109 *e*LR LR 13 49 20.4
comp=Z,568nm,24.8s
RKT Rikitea 123.61 118 *e*LR LR 13 55 03.9
comp=Z,489nm,27.2s
BMO Blue Mountains 125.23 30 PFAKE 13 16 50.0 +5.0
BMO LR LR
comp=Z,452nm,22.0s,MS5.1
MSO Missoula 125.39 27 *e*PKPdf PKPdf 13 16 43.2 -2.1
MSO *ep*PKPdf 13 16 48.5
MSO LR LR
comp=Z,371nm,19.0s,MS5.1
CHMT Chamberlain Mo 125.63 26 PKPdf PKPdf 13 16 43.4 -2.3
BOZ Bozeman (W) 127.32 26 *e*PKPpre 13 16 35.7
BOZ *e*PKPdf PKPdf 13 16 47.3 -1.6
BOZ LR LR
comp=Z,600nm,20.0s,MS5.3
MCMT McKenzie Canyo 127.41 27 *e*PKPdf PKPdf 13 16 48.9 -0.3
HLID Hailey 127.60 30 PFAKE 13 17 00.0 +10
HLID LR LR
comp=Z,626nm,21.0s,MS5.3
CMB Columbia Colle 127.98 39 PFAKE 13 17 00.0 +9.5
CMB LR LR
comp=Z,652nm,19.0s,MS5.3
QLMT Earthquake Lak 128.05 27 PKPdf PKPdf 13 16 49.5 -1.0
LAO LASA Array 128.65 21 *e*PKPdf PKPdf 13 16 51.5 0.0
LAO LR LR
comp=Z,291nm,19.0s,MS5.0
LKWY Lake 128.71 26 PKPdf PKPdf 13 16 51.4 -0.4
LKWY *ep*PKPdf 13 16 58.1
LKWY LR LR
comp=Z,748nm,20.0s,MS5.4
IMW Indian Meadow 129.00 27 *e*PKPdf PKPdf 13 16 50.6 -1.7
MNV Mina 129.10 37 PKPdf PKPdf 13 16 51.2 -1.4
SNOW Snow King Moun 129.42 27 PKPdf PKPdf 13 16 51.2 -1.9
REDW Red Top Meadow 129.45 27 PKPdf PKPdf 13 16 52.2 -0.9
AHID Auburn Hatcher 129.80 28 PFAKE 13 17 00.0 +6.2
AHID LR LR
comp=Z,441nm,19.0s,MS5.2
HWUT Hardware Ranch 130.46 29 PFAKE 13 17 00.0 +4.9
HWUT LR LR
comp=Z,730nm,21.0s,MS5.3
BW06 Boulder Array 130.51 27 PFAKE 13 17 00.0 +4.8
BW06 LR LR
comp=Z,491nm,19.0s,MS5.2
PDAR Pinedale Array 130.51 27 PKP PKPdf 13 16 53.0 -2.1
comp=Z,0.7nm,0.8s,baz=149,slow=2.2,SNR=5.6
TRCR Troy Canyon 130.66 35 *e*PKP PKPdf 13 16 59.3 +3.7
DAC Darwin (Calif) 130.82 39 PFAKE 13 17 10.0 +14
DAC LR LR
comp=Z,288nm,19.0s,MS5.0
DUG Dugway 130.88 31 PKPdf PKPdf 13 16 55.5 -0.5
DUG LR LR
comp=Z,404nm,21.0s,MS5.1
EYMN Ely 131.32 9 PFAKE 13 17 10.0 +13
EYMN LR LR
comp=Z,552nm,19.0s,MS5.3
NLU North Lily Min 131.44 31 PKPdf PKPdf 13 16 56.8 -0.2
RSSD Black Hills 131.64 21 *e*PKPdf PKPdf 13 16 52.3 -5.0
MVU Marysvale 132.44 33 PFAKE 13 17 10.0 +11
MVU LR LR
comp=Z,345nm,21.0s,MS5.0
MSU Marysvale 132.45 32 *e*PKPdf PKPdf 13 16 58.7 -0.3
EMMW East Machias 133.50 346 PFAKE 13 17 10.0 +9.3
EMMW LR LR
comp=Z,5μm,20.0s
PV10 Paradox Valley 134.18 30 *e*PKP PKPdf 13 17 04.2 +2.1
PV01 Paradox Valley 134.60 30 *e*PKPdf PKPdf 13 17 00.5 -2.5
ISCO Idaho Springs 134.65 26 PFAKE 13 17 10.0 +6.9
ISCO LR LR
comp=Z,460nm,19.0s,MS5.2
JFWS Jewell Farm 136.42 9 PFAKE 13 17 20.0 +14
JFWS LR LR
comp=Z,440nm,19.0s,MS5.2
AAM Ann Arbor 137.66 2 PFAKE 13 17 20.0 +11
AAM LR LR
comp=Z,734nm,21.0s,MS5.4
CBKS Cedar Bluff 137.84 21 PFAKE 13 17 20.0 +11
CBKS LR LR
comp=Z,477nm,21.0s,MS5.2
ERPA Erie 137.85 358 PFAKE 13 17 20.0 +11
ERPA LR LR
comp=Z,717nm,20.0s,MS5.4
ANMO Albuquerque 138.14 31 *e*PKPdf PKPdf 13 17 05.5 -4.1
ANMO LR LR
comp=Z,353nm,19.0s,MS5.1
LPM Los Pinos Moun 138.55 32 *e*PKPdf PKPdf 13 17 15.3 +4.9
ACSO Alum Creek Sta 139.75 1 PKPdf PKPdf 13 17 08.6 -3.8
ACSO LR LR
comp=Z,728nm,21.0s,MS5.4
MCWV Mont Chateau 140.30 358 PFAKE 13 17 20.0 +6.6
MCWV LR LR
comp=Z,915nm,19.0s,MS5.5
AMTX Amarillo 140.47 26 PFAKE 13 17 20.0 +6.2
AMTX LR LR
comp=Z,379nm,19.0s,MS5.2
CCM Cathedral Cave 140.96 12 PFAKE 13 17 20.0 +5.3
CCM LR LR
comp=Z,141nm,19.0s,MS4.7
MNTX Cornudas Mount 141.23 33 *e*PKPdf PKPdf 13 17 13.3 -2.0
MNTX LR LR
comp=Z,443nm,21.0s,MS5.2
GDL2 Guadalupe Moun 141.38 31 *e*PKPdf PKPdf 13 17 14.2 -1.3
CBN Corbin 141.57 354 PFAKE 13 17 20.0 +4.3
CBN LR LR
comp=Z,732nm,20.0s,MS5.4
WMOK Wichita Mounta 141.80 23 *e*PKPpre 13 17 06.6
WMOK LR LR
comp=Z,187nm,20.0s,MS4.8
BLA Blacksburg 142.76 358 PFAKE 13 17 30.0 +12
BLA LR LR
comp=Z,504nm,20.0s,MS5.3
BDFB Brasilia 143.26 244 PKP PKPdf 13 17 17.0 -2.2
comp=Z,3.5nm,0.6s,baz=65,slow=6.2,SNR=4.4
TZTN Tazewell 143.41 2 *e*PKPpre 13 17 12.7
WVT Waverly 143.43 8 *e*PKPdf PKPdf 13 17 18.6 -0.3
WVT LR LR
comp=Z,429nm,19.0s,MS5.2
MIAR Mount Ida 143.73 16 *e*PKPpre 13 17 15.2
MIAR LR LR
comp=Z,514nm,19.0s,MS5.3
TXAR Lajitas Array 143.99 34 PKP PKPdf 13 17 16.2 -3.8
comp=Z,2.4nm,0.6s,baz=228,slow=0.7,SNR=31
PLAL Pickwick Lake 144.52 9 *e*PKPpre 13 17 15.4
PLAL LR LR
comp=Z,579nm,19.0s,MS5.4
OXF Oxford 144.75 11 PKPdf PKPdf 13 17 20.4 -0.9
OXF LR LR
comp=Z,469nm,20.0s,MS5.3
JSC Jenkinsville 145.70 359 *e*PKPdf PKPdf 13 17 19.8 -3.1
NATX Nacogdoches 145.97 20 PKPdf PKPdf 13 17 23.4 -0.1
GOGA Godfrey 146.54 2 PKPbc PKPbc 13 17 23.9 +2.5
GOGA LR LR
comp=Z,476nm,20.0s,MS5.3
LRAL Lakeview Retre 146.59 8 PFAKE 13 17 30.0 +8.4
LRAL LR LR
comp=Z,519nm,20.0s,MS5.3
DWPF Disney 151.85 359 PFAKE 13 17 40.0 +7.1
DWPF LR LR
comp=Z,151nm,20.0s,MS4.8
LVC Limon Verde 154.41 209 *e*PKPbc PKPdf 13 17 43.7 +7.1
LPAZ La Paz 159.06 220 PKP PKPdf 13 17 41.8 -1.0
comp=Z,0.8nm,0.3s,baz=357,slow=3.8,SNR=3.7
LPAZ La Paz 159.06 220 PKP PKPdf 13 17 41.8 -1.0
LPAZ LR LR
comp=Z,273nm,19.0s,MS5.1
SAML Samuel 159.50 244 *e*PKP PKPdf 13 17 46.9 +3.6
OTAV Otavalo 176.59 277 *e*PKP PKPdf 13 17 59.3 +4.2

NIED ***30*** *13:05:00,34.00N×142.50E,h5km,Mw4.7 Best double couple: M₀1.08×10¹⁶ NP1:φs192°,δ56°,λ-92°. NP2:φs16°, δ34°,λ-87°.*
JMA ***30*** *13:05:06.8±0.8,33.99N×142.46E,h8km,M4.5*
IDC ***30*** *13:05:07.8±0.5,34.01N×142.40E,mb4.6/23,mb1 4.7/28, mb1mx4.7/31,mbtmp4.6/28,ML4.4/5,MS3.8/4,Ms1 3.8/4, ms1mx3.5/35,Error ellipse: s-maj=15.5km s-min=12.1km az=90.0*
BJI ***30*** *13:05:10.2,34.08N×142.13E,h11km,mB5.2,mb4.7, Ms4.9,Msz4.7*
MOS ***30*** *13:05:13.7±1.1,34.48N×142.36E,h33km,mb5.1/26,Error ellipse: s-maj=12.9km s-min=5.8km az=120.5*
NEIC ***30*** *13:05:13.5±0.3,34.01N×142.26E,h35km,mb5.0/27, MW4.6(NIED),Error ellipse: s-maj=7.9km s-min=6.3km az=63.0*
HRVD ***30*** *13:05:13.5±0.9,33.90N×142.66E,h18km±2km,MW4.9/42, Centroid moment Tensor Solution. LP body waves: s5,c6; Mantle waves: s42,c62; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.23±.41; Mθθ0.13±.23; Mφφ2.10±.25; Mrθ-0.50±.91; Mrφ-0.14±.17; Mθr-1.63±.55; Best double couple: M₀2.756×10¹⁶ NP1:φs166°,δ28°,λ-110°. NP2: φs8°,δ64°,λ-80°. Principal axes: T 2.645, Plg19°, Azm91°; N .219, Plg9°, Azm184°; P -2.866, Plg69°, Azm299°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 13:05:11.0±0.3,34.00N±0.03×142.36E±0.04,h32km, h32km±1.5km:pP-P,n158,σ1§15/164,mb4.8/68,MS4.6/8, 3C-4D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
BSO1	**Boso 1**	**1.32**	**300**	P	**Pn**	**13 05 32.6**	**-0.9**
BSO3	**Boso 3**	**1.73**	**298**	P	**Pn**	**13 05 38.9**	**-0.4**
BSO3				S	**Sn**	**13 06 03.7**	**+3.2**
BSO4	**Boso 4**	**1.94**	**301**	P	**Pn**	**13 05 42.9**	**+0.5**
CHOJ	**Chosi**	**2.10**	**325**	P	**Pn**	**13 05 44.2**	**-0.5**
CHOJ				S	**Sn**	**13 06 10.2**	**+0.1**
JCN	**Nagara**	**2.27**	**309**	P	**Pn**	**13 05 48.5**	**+1.3**
JHJ2	**Mitsune**	**2.30**	**248**	P	**Pn**	**13 05 47.8**	**+0.3**
JHJ2				S	**Sn**	**13 06 15.9**	**+0.9**
JHJ	**Hachijo jima 2**	**2.32**	**249**	Pn	**Pn**	**13 05 47.5**	**-0.3**
	676nm,0.3s,baz=117,slow=4.1,SNR=118						
JHJ				Sn	**Sn**	**13 06 16.0**	**+0.4**
	571nm,0.3s,baz=220,slow=22,SNR=13						
JHJ				LR	LR	13 06 16.2	
	comp=Z,2μm,19.6s,baz=264,slow=29						
JIM2	**Oshima 3**	**2.52**	**287**	P	**Pn**	**13 05 49.4**	**-1.4**
MJAR	**Matsushiro Arr**	**4.24**	**308**	Pn	**Pn**	**13 06 14.0**	**-1.1**
	9.0nm,0.3s,baz=99,slow=12,SNR=46						
MJAR				Sn	**Sn**	**13 07 03.7**	**-0.5**
	11nm,0.3s,baz=146,slow=18,SNR=6.5						
MAJO	**Matsushiro**	**4.24**	**308**	*e*P	**Pn**	**13 06 14.2**	**-1.0**
MAT	**Matsushiro**	**4.24**	**308**	*e*P	**Pn**	**13 06 14.0**	**-1.2**
MAT				*e*S	**Sn**	**13 07 05.0**	**+0.8**
CBIJ	**Chichi jima**	**6.88**	**181**	Pn	**Pn**	**13 06 49.0**	**-3.3**
	40nm,0.3s,baz=269,slow=19,SNR=14						
CBIJ				Sn	**Sn**	**13 08 03.2**	**-7.1**
	47nm,0.3s,baz=206,slow=23,SNR=6.1						
ERM	**Erimo**	**8.03**	**4**	Pn	**P**	**13 07 02.1**	**-6.4**
	1μm,0.4s,SNR=35						
ASAJ	**Asahikawa**	**10.11**	**1**	P	**P**	**13 07 31.9**	**-5.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,198nm,19.4s						
ASAJ	**Asahikawa**	**10.11**	**1**	Pn	**P**	**13 07 31.9**	**-5.2**
	comp=Z,8.6nm,0.3s,baz=209,slow=7.4,SNR=41						
ASAJ				LR	LR	13 12 14.1	
	comp=Z,198nm,19.4s,baz=176,slow=42						
YUK	**Yuzh-Kuril'sk**	**10.39**	**14**	*e*P	**P**	**13 07 33.3**	**-7.6**
YUK				*e*S	**S**	**13 09 21.5**	**-16**
YUK				smax			
	comp=E,190nm,0.5s						
YUK				smax			
	comp=N,470nm,0.6s						
YSS	**Yuzh-Sakhalins**	**12.95**	**1**	*e*P	**P**	**13 08 10.0**	**-5.5**
YSS				pmax	pmax		
	comp=N,110nm,0.9s						
YSS				pmax	pmax		
	comp=E,30nm,0.9s						
YSS				pmax	pmax		
	comp=Z,100nm,0.9s						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS				MLR	MLR		
	comp=Z,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**12.95**	**1**	*e*P	**P**	**13 08 10.8**	**-4.6**
	comp=Z,125nm,0.9s						
JOW	**Kunigami**	**14.09**	**243**	Pn	**P**	**13 08 27.2**	**-3.3**
	comp=Z,0.6nm,0.3s,baz=13,slow=18,SNR=2.1						
JOW				LR	LR	13 14 08.0	
	comp=Z,436nm,18.2s,baz=227,slow=38						
MDJ	**Mudanjiang**	**14.48**	**321**	P	**P**	**13 08 33.8**	**-1.8**
MDJ				AP		13 08 37.5	
MDJ				S	**S**	**13 11 11.5**	**-4.3**
MDJ				PCP	PcP	13 13 49.5	-0.4
MDJ				SCS	ScS	13 20 57.5	+1.2
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s						
MDJ				AMB	AMB		
	comp=Z,137nm,3.8s						
MDJ				LR	LR		
	comp=N,1μm,12.9s						
MDJ				LR	LR		
	comp=E,683nm,14.7s						
MDJ				LR	LR		
	comp=Z,2μm,14.0s						
CN2	**Changchun**	**16.38**	**312**	*e*P	**P**	**13 09 00.5**	**+0.4**
CN2				*e*S	**S**	**13 11 59.8**	**-0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				LR	LR		
	comp=N,690nm,14.0s						
CN2				LR	LR		
	comp=E,850nm,14.0s						
CN2				LR	LR		
	comp=Z,750nm,14.0s						
SNY	**Shenyang**	**16.73**	**303**↑	P	**P**	**13 09 04.5**	**-0.1**
SNY				AP		13 09 14.5	
SNY				AMB	AMB		
	comp=Z,20nm,1.2s						
SSE	**Sheshan**	**18.08**	**267**	P	**P**	**13 09 21.3**	**-0.3**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s						
SSE				AMB	AMB		
	comp=Z,327nm,7.6s						
TIA	**Tai'an**	**20.75**	**283**	*e*P	**P**	**13 09 48.8**	**-2.8**
BJI	**Beijing**	**21.72**	**294**	P	**P**	**13 09 57.8**	**-3.5**
BJI				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.3						
BJT	**Baijiatuao**	**21.72**	**294**	P	**P**	**13 09 58.6**	**-2.8**
BJT				pmax	pmax		
	comp=Z,21nm,0.9s						
BJT	**Baijiatuao**	**21.72**	**294**	P	**P**	**13 09 58.5**	**-2.8**
	comp=Z,21nm,0.9s,mb4.6						
HIA	**Hailar**	**22.65**	**319**	*e*P	**P**	**13 10 08.7**	**-1.7**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**22.65**	**319**	*e*P	**P**	**13 10 08.7**	**-1.7**
	comp=Z,6.8nm,0.6s,mb4.2						
WHN	**Wuhan**	**23.90**	**269**⇓	P	**P**	**13 10 23.8**	**+1.0**
WHN				AP		13 10 34.0	
HHC	**Hu-ho-hao-te**	**25.31**	**295**	*e*P	**P**	**13 10 37.5**	**+1.2**
HHC				AP	pP	13 10 46.8	+1.3
HHC				XP	sP	13 10 51.0	+1.3
HHC				PP	PP	13 11 16.5	+1.4
HHC				PCP	PcP	13 14 10.0	+0.5
HHC				S	**S**	**13 14 57.8**	**+0.3**
HHC				XS		13 15 13.8	
HHC				SS	SS	13 15 59.5	-0.1
HHC				SCS	ScS	13 21 34.0	+1.7
HHC				AMB	AMB		
	comp=Z,68nm,1.0s,mb5.1						
HHC				LR	LR		
	comp=N,3μm,14.7s,MS5.0						
HHC				LR	LR		
	comp=E,2μm,14.7s,MS5.0						
HHC				LR	LR		
	comp=Z,3μm,14.5s,MS4.9						
CLNS	**Chul'man**	**25.77**	**338**	*e*P	**P**	**13 10 40.1**	**-0.3**
CLNS				pmax	pmax		
	comp=Z,113nm,1.1s,mb5.3						
CLNS				pmax	pmax		
	comp=N,75nm,1.3s						
CLNS				pmax	pmax		
	comp=E,47nm,0.9s						
MA2	**Magadan**	**26.19**	**10**⇓	*i*P	**P**	**13 10 42.9**	**-1.3**
MA2				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.5						
ENH	**Enshi**	**28.01**	**272**	*e*P	**P**	**13 10 59.3**	**-1.9**
	comp=Z,35nm,1.0s,mb4.9						
YAK	**Yakutsk**	**29.20**	**348**	*e*P	**P**	**13 11 10.1**	**-1.4**
YAK				pmax	pmax		
	comp=Z,38nm,1.2s,mb5.0						
YAK	**Yakutsk**	**29.20**	**348**	*e*P	**P**	**13 11 10.1**	**-1.5**
	comp=Z,38nm,1.2s,mb5.0						
ULN	**Ulaanbaatar**	**29.77**	**308**	*e*P	**P**	**13 11 16.9**	**+0.1**
SONM	**Songino Array**	**30.19**	**308**	P	**P**	**13 11 21.6**	**+1.0**
	comp=Z,24nm,1.2s,mb4.8,baz=108,slow=7.8,SNR=29						
BOD	**Bodaibo**	**30.52**	**330**	*e*P	**P**	**13 11 20.8**	**-2.6**
BOD				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.8						
LZH	**Lanzhou**	**31.47**	**285**	*e*P	**P**	**13 11 31.5**	**-0.4**
LZH				AP	pP	13 11 39.3	-1.9
LZH				XP	sP	13 11 42.5	-2.8
LZH				AMB	AMB		
	comp=Z,94nm,1.2s,mb5.5						
LZH				AMB	AMB		
	comp=Z,293nm,4.0s						
GYA	**Guiyang**	**31.62**	**266**↑	*i*P	**P**	**13 11 32.0**	**-1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2	**Chengdu**	**32.59**	**275**	P	**P**	**13 11 41.0**	**-0.7**
ZAK	**Zakamensk**	**32.81**	**312**	*e*P	**P**	**13 11 43.9**	**+0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
TLY	**Talaya**	**32.95**	**314**	*e*P	**P**	**13 11 45.5**	**+0.8**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
GTA	**Gaotai**	**34.30**	**292**	*e*P	**P**	**13 11 57.5**	**+1.0**
GTA				AP	pP	13 12 05.3	-0.6
GTA				XP	sP	13 12 08.8	-1.1
GTA				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
GTA				AMB	AMB		
	comp=Z,195nm,4.9s						
GTA				LR	LR		
	comp=N,1μm,19.4s,MS4.8						
GTA				LR	LR		
	comp=E,1μm,20.2s,MS4.8						
GTA				LR	LR		
	comp=Z,1μm,20.9s,MS4.6						
KMI	**Kunming**	**35.40**	**266**	P	**P**	**13 12 07.0**	**+1.0**
KMI				AP	pP	13 12 14.3	-1.1
KMI				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
TIXI	**Tiksi**	**38.39**	**353**	*e*P	**P**	**13 12 24.1**	**-6.7**
TIXI				*e*S	**S**	**13 18 19.2**	**-3.9**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,332nm,14.0s,MS4.3						
WMQ	**Urumqi**	**42.96**	**300**	P	**P**	**13 13 10.5**	**+1.9**
WMQ				AP	pP	13 13 20.0	+1.9
WMQ				XP	sP	13 13 24.0	+1.9
WMQ				PP	PP	13 14 53.0	+2.3
WMQ				S	**S**	**13 19 32.0**	**+0.6**
WMQ				XS		13 19 48.0	
WMQ				AMB	AMB		
	comp=Z,33nm,1.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,224nm,4.3s						
WMQ				LR	LR		
	comp=N,776nm,18.3s,MS4.8						
WMQ				LR	LR		
	comp=E,809nm,18.3s,MS4.8						
WMQ				LR	LR		
	comp=Z,536nm,19.4s,MS4.5						
LSA	**Lhasa**	**43.35**	**279**	P	**P**	**13 13 14.5**	**+2.5**
LSA	**Lhasa**	**43.35**	**279**	*e*P	**P**	**13 13 13.0**	**+1.0**
LSA				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
LSA	**Lhasa**	**43.35**	**279**	*e*P	**P**	**13 13 13.0**	**+1.0**
	comp=Z,18nm,1.1s,mb4.7						
ZAL	**Zalesovo**	**44.57**	**315**	P	**P**	**13 13 21.1**	**-0.5**

comp=Z,6.0nm,1.0s,mb4.4,baz=14,slow=8.7,SNR=14
NVS Novosibirsk 45.52 316 *i* P **P 13 13 28.3 -0.8**
NVS pmax pmax
comp=E,29nm,1.1s
NVS pmax pmax
comp=Z,32nm,1.1s,mb5.2
MKAR Makanchi Array 46.43 305 P **P 13 13 36.6 +0.2**
comp=Z,5.2nm,0.6s,mb4.7,baz=84,slow=8.8,SNR=31
JIRN Jiri 48.14 278 *e*P **P 13 13 50.4 +0.3**
comp=Z,38nm,0.4s,mb5.8
GUN Gumba 48.30 279 *e*P **P 13 13 51.2 -0.2**
comp=Z,21nm,0.5s,mb5.4
KURK Kurchatov 48.45 310 *e*P **P 13 13 51.3 -0.8**
KURK pmax pmax
comp=Z,25nm,0.8s,mb5.3
KURK Kurchatov 48.45 310 *e*P **P 13 13 51.3 -0.9**
comp=Z,25nm,0.8s,mb5.3
PKI Pulchoki 48.82 279 *e*P **P 13 13 55.0 -0.3**
comp=Z,42nm,1.0s,mb5.4
PKI Pulchoki 48.82 279 *e*P **P 13 13 55.0 -0.3**
PKI pmax pmax
comp=Z,21nm,1.0s,mb5.1
KKN Kakani 48.84 279 *e*P **P 13 13 55.3 -0.2**
comp=Z,141nm,1.6s,mb5.8
KKN Kakani 48.84 279 *e*P **P 13 13 55.3 -0.2**
KKN pmax pmax
comp=Z,70nm,1.6s,mb5.4
DMN Daman 49.05 279 *e*P **P 13 13 57.9 +0.8**
comp=Z,15nm,0.3s,mb5.6
GKN Gorkha 49.29 280 *e*P **P 13 13 58.7 -0.3**
comp=Z,125nm,1.3s,mb5.8
KOLN Koldanda 50.23 280 *e*P **P 13 14 06.0 -0.1**
comp=Z,16nm,0.5s,mb5.3
COLA College 51.26 31 *e*P **P 13 14 10.6 -2.9**
FRU Bishkek 52.52 301 *e*P **P 13 14 25.0 +1.7**
AAK Ala-Archa 52.66 301 *e*P **P 13 14 23.8 -0.5**
AAK pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
AAK Ala-Archa 52.66 301 *e*P **P 13 14 23.1 -1.3**
comp=Z,11nm,1.3s,mb4.6
CHKZ Chkalovo 52.97 315 P **P 13 14 26.1 -0.4**
CHKZ pmax pmax
comp=Z,42nm,1.5s,mb5.2
CHKZ Chkalovo 52.97 315 *e*P **P 13 14 25.2 -1.3**
comp=Z,50nm,1.5s,mb5.2
BVA0 Borovoye Array 53.21 314 *i* P **P 13 14 28.1 -0.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
BVAR Borovoye Array 53.21 314 P **P 13 14 27.9 -0.4**
comp=Z,2.0nm,0.3s,mb4.5,baz=90,slow=7.4,SNR=19
WB2 Warramunga Arr 54.17 189 *e*P **P 13 14 34.6 -1.2**
WRA Warramunga Arr 54.18 189 P **P 13 14 34.8 -1.0**
comp=Z,5.7nm,0.5s,mb4.8,baz=6.6,slow=7.6,SNR=148
FITZ Fitzroy Crossi 54.20 200 *e*P **P 13 14 35.9 -0.1**
comp=Z,5.7nm,0.6s,mb4.7
FITZ Fitzroy Crossi 54.20 200 P **P 13 14 35.8 -0.2**
comp=Z,7.3nm,0.5s,mb4.9,baz=7.0,slow=6.7,SNR=19
SDNR Sundarnagar 54.20 287 *e*P **P 13 14 35.2 -0.6**
NDI New Delhi 55.07 283 *e*P **P 13 14 41.0 -1.3**
KKAR Karatay Array 55.35 302 *i* P **P 13 14 43.6 -0.5**
KKAR pmax pmax
comp=Z,22nm,1.0s,mb5.1
INK Inuvik 56.75 26 *e*P **P 13 14 52.7 -1.1**
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 56.75 26 P **P 13 14 52.2 -1.6**
comp=Z,1.2nm,0.6s,mb4.1,baz=283,slow=8.3,SNR=16
INK Inuvik 56.75 26 *e*P **P 13 14 52.7 -1.1**
comp=Z,2.5nm,0.9s,mb4.2
ASAR Alice Springs 57.90 189 P **P 13 15 01.4 -1.1**
comp=Z,3.8nm,0.7s,mb4.6,baz=9.1,slow=7.5,SNR=39
ASPA Alice Springs 57.90 189 *e*P **P 13 15 02.4 -0.1**
SVE Sverdlovsk 57.95 320 *e*P **P 13 15 00.0 -2.4**
MBWA Marble Bar 58.93 205 *e*P **P 13 15 09.3 -0.4**
comp=Z,6.4nm,0.9s,mb4.7
HYB Hyderabad 58.95 271 *e*P **P 13 15 10.0 +0.1**
HYB Hyderabad 58.95 271 *i* P **P 13 15 10.0 +0.1**
ARU Arti 59.16 320 *i* P **P 13 15 10.1 -0.7**
ARU *e* 13 15 59.9
ARU *e* 13 17 18.3
ARU *e*S **S 13 23 14.1 -0.3**
ARU *e*SS SS 13 27 10.3 -0.1
ARU pmax pmax
comp=Z,21nm,0.8s,mb5.2
POO Poona 62.32 274 *e*P **P 13 15 31.0 -1.8**
AFI Afiamalu 64.61 130 LR LR 13 39 01.7
comp=Z,132nm,19.7s,MS4.1,baz=11,slow=32
RES Resolute Bay 65.35 14 *e*P **P 13 15 50.4 -1.4**
RES pmax pmax
comp=Z,11nm,0.9s,mb4.9
RES Resolute Bay 65.35 14 *e*P **P 13 15 50.4 -1.4**
comp=Z,11nm,0.9s,mb4.9
STKA Stephens Creek 65.52 181 P **P 13 15 52.9 -0.7**
comp=Z,2.1nm,0.8s,mb4.2,baz=356,slow=7.5,SNR=4.9
STKA Stephens Creek 65.52 181 *e*P **P 13 15 53.2 -0.4**
YKA Yellowknife Ar 66.05 30 P **P 13 15 55.5 -0.9**
YKA 13 16 24.8
YKA Yellowknife Ar 66.05 30 P **P 13 15 55.5 -0.9**
comp=Z,0.7nm,0.6s,mb3.8,baz=297,slow=6.3,SNR=14
YKA PcP PcP 13 16 24.7 -1.9
comp=Z,0.9nm,1.0s,baz=320,slow=3.2,SNR=5.9
KEV Kevo 66.55 340 *e*p **P 13 15 58.2 -1.3**
comp=Z,0.6nm,0.4s,mb4.0
KEV Kevo 66.55 340 *e*P **P 13 15 58.2 -1.3**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 67.11 340 P **P 13 16 03.6 +0.5**
comp=Z,4.0nm,0.8s,mb4.5,baz=53,slow=6.1,SNR=7.6
NWAO Narrogin (SRO) 70.64 202 *e*P **P 13 16 26.3 +0.8**
NWAO pmax pmax
comp=Z,5.0nm,0.7s
NWAO Narrogin (SRO) 70.64 202 *e*P **P 13 16 26.3 +0.9**
comp=Z,4.6nm,0.7s,mb4.5
OBN Obninsk 71.00 324 *e*P **P 13 16 27.3 0.0**
OBN pmax pmax
comp=Z,28nm,1.3s,mb5.0
OBN MLR MLR
comp=Z,400nm,18.0s,MS4.7
KAF Kangasniemi 71.36 334 *e*p **P 13 16 28.3 -1.0**
comp=Z,5.2nm,0.4s,mb4.8,baz=48,slow=5.8
KAF Kangasniemi 71.36 334 *e*P **P 13 16 28.3 -1.0**
KAF pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
NEW Newport 71.78 44 P **P 13 16 32.3 +0.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=302,slow=15,SNR=2.4
FINES FINESS Array B 71.86 333 P **P 13 16 31.6 -0.7**
comp=Z,3.4nm,0.5s,mb4.5,baz=38,slow=6.2,SNR=20
FINES PP PP 13 19 09.8 -3.8
comp=Z,4.3nm,1.0s,baz=31,slow=8.1,SNR=4.9
GOF Gofitskoye 72.71 313 *e*P **P 13 16 38.4 +0.8**
KIV Kislovodsk 73.49 312 *e*P **P 13 16 42.6 +0.4**
KIV pmax pmax
comp=Z,29nm,1.2s,mb5.1
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.5
KIV Kislovodsk 73.49 312 *e*P **P 13 16 42.4 +0.2**
comp=Z,22nm,0.9s,mb5.1
SUMG Summit 73.72 0 *e*P **P 13 16 44.6 +1.6**
comp=Z,15nm,0.9s,mb4.9
GNI Garni 74.16 308 *e*P **P 13 16 49.0 +2.9**
comp=Z,41nm,1.2s,mb5.2
MNV Mina 76.30 53 *e*P **P 13 16 58.5 +0.1**
MNV pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MNV Mina 76.30 53 *e*P **P 13 16 58.5 +0.1**
comp=Z,9.5nm,1.3s,mb4.6
HFS Hagfors 77.17 336 P **P 13 17 02.9 +0.1**
comp=Z,2.2nm,0.5s,mb4.3,baz=45,slow=2.1,SNR=12
AKASG Malin Array Be 77.18 323 P **P 13 17 03.1 0.0**
comp=Z,1.8nm,0.4s,mb4.3,baz=45,slow=5.7,SNR=20
NB2 NORSAR Subarra 77.28 338 P **P 13 17 03.2 -0.2**
comp=Z,7.3nm,0.8s,mb4.7,baz=40,slow=5.6
NB2 NORSAR Subarra 77.28 338 P **P 13 17 03.2 -0.2**
NB2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
NOA NORSAR Array B 77.28 338 P **P 13 17 03.0 -0.4**
comp=Z,4.5nm,0.7s,mb4.5,baz=39,slow=5.7,SNR=15
MSL Mosul 77.30 305 *e*P **P 13 17 05.5 +1.5**
BRTR Keskin Array B 81.45 312 P **P 13 17 27.1 +0.8**
comp=Z,6.1nm,1.0s,mb4.5,baz=108,slow=3.9,SNR=15
MLR Muntele Rosu 82.21 321 P **P 13 17 31.4 +1.3**
comp=Z,2.0nm,0.4s,mb4.4,baz=58,slow=1.1,SNR=4.8
RAYN Ar Rayn 82.54 293 P **P 13 17 33.0 +0.7**
comp=Z,74nm,0.6s,SNR=11
OKC Ostrava-Krasne 83.01 327 *e*P **P 13 17 36.8 +2.6**
KSP Ksiaz 83.09 329 *e*P **P 13 17 35.7 +1.1**

DPC Dobruska-Polom 83.44 329 *e*P **P 13 17 38.2 +1.8**
DPC *e*pP pP 13 17 49.8 +3.3
UPC Upice 83.46 329 *e*P **P 13 17 38.1 +1.6**
ASF Jabal al Asfar 83.85 305 P **P 13 17 40.7 +1.8**
comp=Z,4.6nm,0.7s,mb4.7,baz=238,slow=7.5,SNR=9.1
PVCC Panska Ves 84.06 330 *e*P **P 13 17 41.0 +1.5**
PVCC *e*pP pP 13 17 50.1 +0.5
VRAC Vranov 84.09 328 P **P 13 17 40.9 +1.2**
comp=Z,4.3nm,0.5s,mb4.8,baz=70,slow=7.2,SNR=7.6
CLL Collm 84.11 331 *i* P **P 13 17 40.4 +0.7**
CLL *i* 13 17 47.6
CLL pmax pmax
comp=Z,15nm,1.1s,mb5.0
CLL Collm 84.11 331 *i* P **P 13 17 40.4 +0.7**
comp=Z,15nm,1.1s,mb5.0
CLL *i* 13 17 47.6
CLL *e* 13 18 15.0
CLL Collm 84.11 331 P **P 13 17 40.4 +0.7**
comp=Z,logA/T=1.1,mb5.0
CLL *i* 13 17 47.6
CLL *i* *PP pP 13 17 52.0 +2.1
CLL *e* 13 18 15.0
CLL *e*PP PP 13 20 55.0 -0.7
PRU Pruhonice 84.48 329 *e*P **P 13 17 43.0 +1.4**
PRU *e*pP pP 13 17 54.2 +2.5
NKC Novy Kostel 85.17 330 *e*P **P 13 17 46.0 +1.0**
MOX Moxa 85.19 331 *e*P **P 13 17 46.5 +1.4**
MOX pmax pmax
comp=Z,10.0nm,1.3s,mb4.8
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 85.19 331 *e*P **P 13 17 46.5 +1.4**
comp=Z,10.0nm,1.3s,mb4.8
MOX LR LR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 85.19 331 *i* P **P 13 17 46.5 +1.4**
comp=Z,logA/T=0.9,mb4.8
MOX L 14 02 21.0
PKSM Moragy 85.40 325 *e*P **P 13 17 46.9 +0.6**
KHC Kasperske Hory 85.54 329 *e*P **P 13 17 47.9 +1.0**
KHC *e*pP pP 13 17 59.8 +2.8
KHC Kasperske Hory 85.54 329 *e*PP PP 13 21 04.0 -3.1
GERES GERESS Array B 85.70 329 P **P 13 17 48.4 +0.7**
comp=Z,1.5nm,0.7s,mb4.3,baz=34,slow=4.8,SNR=9.1
GERES PP PP 13 21 07.3 -1.2
comp=Z,0.2nm,0.3s,baz=79,slow=5.0,SNR=4.6
ANMO Albuquerque 85.94 50 *i* P **P 13 17 47.2 -2.1**
GRA1 Grafenberg Arr 86.09 331 *e*P **P 13 17 51.2 +1.6**
comp=Z,16nm,1.2s,mb5.1
GRF Grafenberg Arr 86.09 331 *e*P **P 13 17 51.2 +1.6**
GRF pmax pmax
comp=Z,16nm,1.2s,mb5.1
GRF Grafenberg Arr 86.09 331 *e*P **P 13 17 51.2 +1.6**
GRF pmax pmax
comp=Z,16nm,1.2s,mb5.1
GRF Grafenberg Arr 86.09 331 *e*P **P 13 17 51.2 +1.6**
comp=Z,16nm,1.2s,mb5.1
SCHQ Schefferville 88.04 16 P **P 13 18 00.8 +1.9**
comp=Z,4.4nm,1.0s,mb4.6,baz=281,slow=10,SNR=3.1
PGD Poggio Sodo 90.40 327 *e*P **P 13 18 12.6 +2.3**
NRCA Norcia 90.55 325 *e*P **P 13 18 12.6 +1.5**
TXAR Lajitas Array 91.35 53 P **P 13 18 15.9 +0.9**
comp=Z,2.3nm,0.7s,mb4.6,baz=285,slow=2.9,SNR=4.3
QSPA South Pole Qui 123.74 180 *e*P PKPdf 13 24 04.2 -5.9
SAML Samuel 145.75 49 *e*P PKPbc 13 24 48.5 +0.8
LPAZ La Paz 147.43 65 *e*PKIKP PKPdf 13 24 52.8 -2.1
LPAZ La Paz 147.43 65 PKPbc PKPdf 13 24 54.6 -0.2
comp=Z,2.4nm,0.5s,baz=7.9,slow=17,SNR=11
PLCA Paso Flores 153.10 114 PKIKP PKPdf 13 25 09.3 +6.4
PLCA pmax pmax
comp=Z,2.0nm,0.8s
PLCA Paso Flores 153.10 114 PKPbc PKPdf 13 25 09.3 +6.5
comp=Z,1.5nm,0.8s,baz=348,slow=22,SNR=2.9

*BJI **30** 13:24:22.2, 1.72N×97.05E, h33km, mB5.3, mb4.9, Ms4.4, Msz4.0*
*IDC **30** 13:24:24.9±1.0, 1.93N×96.71E, h24km±4km, mb4.1/11, mb1 4.2/11, mb1mx4.0/19, mbtmp4.2/11, Error ellipse: s-maj=40.2km s-min=13.5km az=54.0*
*NEIC **30** 13:24:25.3±0.5, 1.94N×96.79E, mb4.5/11, Error ellipse: s-maj=12.4km s-min=6.8km az=221.0*
ISC 30 13:24:23.5±0.7, 2.0N±0.1×96.85E±0.09, h25km, h25km±1.3km:pP-P, n30, σ0s72/30, mb4.4/24, MS4.3/2, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.01**	**49**	*e*P		**P**	**Pn**	**13 25 40.4**	**+1.2**
KKM	**Kota Kinabalu**	**19.73**	**78**	*e*P		**P**	**P**	**13 28 54.6**	**+0.1**
JIRN	**Jiri** 19nm,0.9s,mb4.6	**27.50**	**339**	*e*P		**P**	**P**	**13 30 10.8**	**+0.6**
GUN	**Gumba** 14nm,0.6s,mb4.7	**27.84**	**339**	*e*P		**P**	**P**	**13 30 13.6**	**+0.3**
DMN	**Daman** 14nm,0.8s,mb4.7	**27.85**	**337**	*e*P		**P**	**P**	**13 30 14.2**	**+0.8**
KKN	**Kakani** 9.6nm,0.6s,mb4.6	**27.95**	**338**	*e*P		**P**	**P**	**13 30 14.4**	**+0.1**
LSA	**Lhasa** 3.2nm,0.4s,mb4.3	**28.09**	**349**	*e*P		**P**	**P**	**13 30 16.1**	**+0.5**
GKN	**Gorkha** 24nm,0.9s,mb4.8	**28.39**	**337**	*e*P		**P**	**P**	**13 30 17.8**	**-0.4**
KOLN	**Koldanda** 17nm,0.8s,mb4.8	**28.61**	**335**	*e*P		**P**	**P**	**13 30 20.6**	**+0.4**
ENH	**Enshi** 3.6nm,0.6s,mb4.4	**30.58**	**22**	*e*P		**P**	**P**	**13 30 36.2**	**-1.6**
GTA	**Gaotai**	**37.35**	**4**	*e*P		**P**	**P**	**13 31 35.8**	**-0.2**
GTA				AP		pP		13 31 42.8	-0.6
GTA				XP		sP		13 31 45.8	-0.7
GTA				PP		PP		13 33 02.5	-1.3
GTA				S		**S**		**13 37 18.0**	**-3.8**
GTA	comp=Z,14nm,0.9s,mb4.8			AMB		AMB			
GTA	comp=Z,235nm,4.6s			AMB		AMB			
GTA	comp=N,247nm,17.9s,MS4.2			LR		LR			
GTA	comp=E,237nm,14.8s,MS4.2			LR		LR			
GTA	comp=Z,214nm,16.7s,MS4.0			LR		LR			
WRA	**Warramunga Arr** comp=Z,2.1nm,0.6s,mb4.0,baz=301,slow=9.2,SNR=21	**42.74**	**122**	P		P	**P**	**13 32 20.9**	**0.0**
ASAR	**Alice Springs** comp=Z,1.6nm,0.8s,mb3.8,baz=299,slow=8.1,SNR=13	**44.14**	**128**	P		P	**P**	**13 32 32.0**	**-0.2**
ASAR	comp=Z,0.7nm,0.5s,baz=301,slow=7.9,SNR=5.8			pP		pP		13 32 39.9	+0.2
AAK	**Ala-Archa** comp=Z,2.8nm,1.0s,mb4.0	**45.15**	**337**	*e*P		**P**	**P**	**13 32 40.8**	**+0.7**
MKAR	**Makanchi Array** comp=Z,7.5nm,0.9s,mb4.6,baz=162,slow=7.7,SNR=54	**46.40**	**346**	P		P	**P**	**13 32 49.9**	**-0.1**
SONM	**Songino Array** comp=Z,1.8nm,0.4s,mb4.3,baz=188,slow=9.1,SNR=18	**46.41**	**9**	P		P	**P**	**13 32 50.7**	**+0.7**
SONM				PcP		PcP		13 34 25.1	+0.1
CN2	**Changchun** comp=Z,1.4nm,0.6s,baz=198,slow=2.9,SNR=6.7	**48.77**	**27**	*e*P		**P**	**P**	**13 33 07.8**	**-0.7**
CN2	comp=Z,10.0nm,0.6s,mb5.0			AMB		AMB			
HIA	**Hailar** comp=Z,6.1nm,0.9s,mb4.5	**51.02**	**19**	*e*P		**P**	**P**	**13 33 25.5**	**-0.1**
MJAR	**Matsushiro Arr** comp=Z,2.1nm,0.7s,mb4.2,baz=220,slow=5.3,SNR=4.6	**51.35**	**43**	P		P	**P**	**13 33 28.3**	**0.0**
MJAR	comp=Z,1.7nm,0.7s,baz=196,slow=6.9,SNR=3.4			pP		pP		13 33 36.5	+0.6
ZAL	**Zalesovo** comp=Z,4.8nm,0.6s,mb4.6,baz=311,slow=5.4,SNR=27	**52.73**	**351**	P		P	**P**	**13 33 37.8**	**-0.6**
STKA	**Stephens Creek** comp=Z,0.8nm,0.8s,mb3.7,baz=326,slow=12,SNR=3.5	**54.13**	**132**	P		P	**P**	**13 33 49.3**	**+0.2**
STKA	comp=Z,1.5nm,0.6s,baz=297,slow=10,SNR=2.9			pP		pP		13 33 57.5	+0.8
BVAR	**Borovoye Array** comp=Z,3.4nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=11	**55.40**	**341**	P		P	**P**	**13 33 56.3**	**-1.7**
BVAR	comp=Z,2.9nm,0.7s,baz=153,slow=6.6,SNR=5.3			pP		pP		13 34 05.0	-0.7
CHKZ	**Chkalovo** comp=Z,5.4nm,0.7s,mb4.7	**55.88**	**341**	*e*P		**P**	**P**	**13 34 00.0**	**-1.4**
FINES	**FINESS Array B** comp=Z,1.3nm,0.7s,mb4.0,baz=72,slow=6.0,SNR=5.5	**79.15**	**332**	P		P	**P**	**13 36 27.3**	**-0.3**
FINES	comp=Z,0.7nm,0.6s,baz=90,slow=7.6,SNR=2.4			pP		pP		13 36 34.4	-1.1
FINES	**FINESS Array B**	**79.15**	**332**	P		P	**P**	**13 36 27.3**	**-0.3**
FINES				pP		pP		13 36 34.4	-1.1
TSUM	**Tsumeb** comp=Z,271nm,22.0s,MS4.5	**80.53**	**250**	PFAKE		LR	LR	13 36 50.0	+14

ARCES ARCESS Array B 81.69 340 P **P 13 36 41.2 +0.3**
comp=Z,1.8nm,0.7s,mb4.1,slow=7.2,SNR=3.9
ARCES pP pP 13 36 47.8 -1.0
comp=Z,3.5nm,0.9s,baz=100,slow=7.4,SNR=1.7
ARCES ARCESS Array B 81.69 340 P **P 13 36 41.2 +0.3**
ARCES pP pP 13 36 47.8 -1.0
GERES GERESS Array B 84.00 319 P **P 13 36 53.8 +0.6**
comp=Z,0.3nm,0.3s,mb3.9,baz=45,slow=1.9,SNR=4.9
MOX Moxa 85.45 320 *e*P **P 13 37 01.0 +0.6**

*IDC **30** 13:39:03.6±1.8, 33.89N×142.31E, mb3.7/4, mb1 3.7/6, mb1mx3.6/20, mbtmp3.6/6, ML3.3/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/25, Error ellipse: s-maj=38.8km s-min=22.9km az=61.0*
*JMA **30** 13:39:06.3±0.3, 34.07N×142.31E, h83km, M2.9*
ISC 30 13:39:04.1±2.2, 34.02N±0.05×142.42E±0.08, h24km±19km, n16, σ0s99/24, mb3.6/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.35**	**298**	P		P	**Pn**	**13 39 28.9**	**+1.2**
BSO1				S		S	**Sn**	**13 39 45.7**	**+0.6**
BSO4	**Boso 4**	**1.98**	**300**	S		S	**Sn**	**13 40 03.0**	**+2.1**
CHOJ	**Chosi**	**2.12**	**323**	P		P	**Pn**	**13 39 39.3**	**+0.6**
JHJ2	**Mitsune**	**2.35**	**248**	P		P	**Pn**	**13 39 42.9**	**+0.8**
JHJ2				S		S	**Sn**	**13 40 09.5**	**-1.0**
JHJ	**Hachijo jima 2** 36nm,0.3s,baz=73,slow=19,SNR=12	**2.38**	**249**	Pn		Pn	**Pn**	**13 39 42.5**	**+0.1**
JHJ	comp=Z,3μm,18.6s,baz=329,slow=28			LR		LR		13 40 06.9	
JHJ	55nm,0.3s,baz=94,slow=21,SNR=8.6			Sn		**Sn**	**Sn**	**13 40 09.8**	**-1.3**
JOD2	**Odawara 2**	**3.02**	**295**	P		P	**Pn**	**13 39 51.7**	**+0.2**
JOD2				S		S	**Sn**	**13 40 27.1**	**-0.2**
JAG	**Ashikaga**	**3.42**	**316**	P		P	**Pn**	**13 39 57.2**	**0.0**
JAG				eS		S	**Sn**	**13 40 36.2**	**-1.2**
JRY	**Ryogami san**	**3.51**	**306**	P		P	**Pn**	**13 39 58.8**	**+0.3**
JFK	**Kawauchi**	**3.57**	**340**	P		P	**Pn**	**13 39 59.5**	**-1.9**
JFK				eS		S	**Sn**	**13 40 36.1**	**-5.3**
JMM	**Marumori**	**4.06**	**342**	P		P	**Pn**	**13 40 04.5**	**-1.9**
JMM				eS		S	**Sn**	**13 40 47.2**	**-6.6**
MJAR	**Matsushiro Arr** 0.8nm,0.3s,baz=90,slow=8.6,SNR=6.2	**4.27**	**307**	Pn		Pn	**Pn**	**13 40 09.2**	**-0.1**
MAT	**Matsushiro**	**4.27**	**307**	P		P	**Pn**	**13 40 09.9**	**+0.6**
MAT				S		S	**Sn**	**13 40 58.2**	**-0.8**
SONM	**Songino Array** 0.4nm,0.6s,mb3.4,baz=98,slow=8.7,SNR=4.7	**30.22**	**308**	P		P	**P**	**13 45 16.4**	**+1.5**
MKAR	**Makanchi Array** 0.8nm,0.7s,mb3.8,baz=87,slow=9.7,SNR=8.8	**46.47**	**305**	P		P	**P**	**13 47 31.7**	**+0.9**
WRA	**Warramunga Arr** 0.9nm,0.5s,mb3.9,baz=6.6,slow=7.6,SNR=13	**54.20**	**189**	P		P	**P**	**13 48 29.7**	**-0.4**
ASAR	**Alice Springs** 0.3nm,0.7s,mb3.4,baz=12,slow=12,SNR=5.1	**57.93**	**189**	P		P	**P**	**13 48 56.8**	**0.0**

*IDC **30** 13:45:31.1±0.9, 0.43N×98.83E, mb4.1/9, mb1 4.3/9, mb1mx4.0/20, mbtmp4.1/9, Error ellipse: s-maj=37.9km s-min=16.9km az=55.0*
*NEIC **30** 13:45:35.1±0.8, 0.27N×98.63E, h30km, mb4.4/4, Error ellipse: s-maj=25.9km s-min=14.1km az=64.0*
ISC 30 13:45:33.6±0.7, 0.5N±0.1×98.9E±0.2, h30km, n16, σ0s85/16, mb4.2/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.09**	**21**	*e*P		P	**Pn**	**13 46 56.8**	**+6.8**
LSA	**Lhasa** 4.1nm,0.5s,mb4.4	**29.96**	**347**	P		P	**P**	**13 51 42.2**	**+0.5**
ENH	**Enshi** 11nm,1.1s,mb4.6	**31.30**	**18**	*e*P		P	**P**	**13 51 53.5**	**0.0**
WRA	**Warramunga Arr** 1.2nm,0.7s,mb3.8,baz=300,slow=9.0,SNR=10.0	**40.27**	**122**	P		P	**P**	**13 53 09.8**	**0.0**
WB2	**Warramunga Arr**	**40.28**	**122**	*e*P		P	**P**	**13 53 09.9**	**0.0**
ASAR	**Alice Springs** 0.8nm,0.6s,mb3.5,baz=305,slow=7.8,SNR=8.8	**41.66**	**128**	P		P	**P**	**13 53 21.6**	**+0.2**
SONM	**Songino Array** 1.8nm,0.7s,mb4.2,baz=196,slow=9.0,SNR=8.7	**47.61**	**7**	P		P	**P**	**13 54 10.4**	**+1.6**
MKAR	**Makanchi Array** 1.0nm,0.5s,mb4.1,baz=156,slow=8.2,SNR=18	**48.34**	**345**	P		P	**P**	**13 54 13.2**	**-1.2**
STKA	**Stephens Creek** 2.3nm,0.6s,mb4.3,baz=320,slow=5.5,SNR=7.0	**51.66**	**133**	P		P	**P**	**13 54 39.5**	**-0.6**
STKA	**Stephens Creek**	**51.66**	**133**	*e*P		P	**P**	**13 54 39.9**	**-0.2**
KURK	**Kurchatov** 4.5nm,1.0s,mb4.3	**52.91**	**344**	*e*P		P	**P**	**13 54 48.7**	**-0.5**
ZAL	**Zalesovo** 2.4nm,0.6s,mb4.4,baz=298,slow=5.2,SNR=9.7	**54.52**	**350**	P		P	**P**	**13 55 00.7**	**-0.2**
BVAR	**Borovoye Array** 1.3nm,0.6s,mb4.1,baz=135,slow=8.4,SNR=6.6	**57.46**	**340**	P		P	**P**	**13 55 21.8**	**-0.4**
CHKZ	**Chkalovo** 2.1nm,0.8s,mb4.2	**57.93**	**341**	*e*P		P	**P**	**13 55 24.3**	**-1.1**
BOSA	**Boshof** 4.6nm,1.0s,mb4.4,baz=104,slow=3.9,SNR=3.8	**75.86**	**240**	P		P	**P**	**13 57 19.4**	**0.0**
MLR	**Muntele Rosu** 2.1nm,0.8s,mb4.1,baz=151,slow=13	**77.71**	**317**	P		P	**P**	**13 57 31.8**	**+2.4**

IDC 30 13:53:15.3±3.5, 1.70N×97.93E, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=152.4km s-min=22.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=301,slow=9.2,SNR=4.8	**41.69**	**123**	P		P	**P**	**14 01 06.0**	**-1.7**
ASAR	**Alice Springs** 0.2nm,0.5s,baz=306,slow=7.8,SNR=4.1	**43.12**	**128**	P		P	**P**	**14 01 17.6**	**-1.8**
SONM	**Songino Array** 0.6nm,0.5s,baz=190,slow=9.0,SNR=5.1	**46.53**	**8**	P		P	**P**	**14 01 44.7**	**-1.7**
MKAR	**Makanchi Array** 1.3nm,0.5s,baz=157,slow=8.2,SNR=21	**46.94**	**345**	P		P	**P**	**14 01 47.6**	**-2.0**
ZAL	**Zalesovo** 0.8nm,0.4s,baz=294,slow=3.4,SNR=3.8	**53.17**	**350**	P		P	**P**	**14 02 34.8**	**-2.5**

*THE **30** 13:57:45.8, 38.75N×25.63E, h10km, ML3.2*
*ISK **30** 13:57:46.4, 38.78N×25.78E, h57km, MD3.5*
*NEIC **30** 13:57:46.4, 38.78N×25.78E, h57km, MD3.4(ISK), MD3.4(ATH), After ISK.*
*ATH **30** 13:57:47.3, 38.87N×25.88E, h34km±6km, MD3.3/10, ML3.3*
*CSEM **30** 13:57:47.5±0.1, 38.80N×25.90E, h34km±1km, MD3.4, Error ellipse: s-maj=2.5km s-min=1.8km az=93.0*
ISC 30 13:57:47.0±0.5, 38.82N±0.02×25.85E±0.03, h22km±5km, n51, σ1s03/70, 1C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.54**	**38**	*e*PB		P	**Pb**	**13 57 57.1**	**-0.6**
PRK				*e*SB		P	**Sn**	**13 58 06.8**	**-0.8**
PRK	**Paraskevi**	**0.54**	**38**	*i* Pb		P	**Pb**	**13 57 56.9**	**-0.8**
PRK				*e*Sn		P	**Sn**	**13 58 06.8**	**-0.8**
BLCB	**Balcova**	**1.03**	**114**	PG		P	**Pb**	**13 58 05.9**	**-0.2**
BLCB				SG		P	**Sb**	**13 58 19.7**	**+0.5**
BLCB	**Balcova**	**1.03**	**114**	Pg		P	**Pb**	**13 58 05.9**	**-0.2**
BLCB				Sg		P	**Sb**	**13 58 19.9**	**+0.7**
EZN	**Ezine**	**1.07**	**20**	PN		Pn	**Pn**	**13 58 06.4**	**-0.4**
EZN				SN		Sn	**Sn**	**13 58 21.9**	**+0.8**
EZN	**Ezine**	**1.07**	**20**	Pn		Pn	**Pn**	**13 58 06.4**	**-0.4**
EZN				Sg		Sg	**Sb**	**13 58 21.4**	**+1.1**
EZN	**Ezine**	**1.07**	**20**	*e*Pn		Pn	**Pn**	**13 58 06.4**	**-0.4**
EZN				Sg		Sg	**Sb**	**13 58 21.4**	**+1.1**
EZN				*e*Sn		Sn	**Sn**	**13 58 21.9**	**+0.8**
IZM	**Izmir**	**1.19**	**110**	PN		Pn	**Pn**	**13 58 07.9**	**-0.6**
IZM				SN		Sn	**Sn**	**13 58 24.4**	**+0.3**
IZM	**Izmir**	**1.19**	**110**	Pn		Pn	**Pn**	**13 58 07.9**	**-0.6**
IZM				Sg	

PTL				*e*Sg	Sn	13 59 06.8	+29		
PTL	**Penteli**	**1.73**	**244**	*e*PN	**Pn**	**13 58 17.0**	**+0.7**		
PTL	**Penteli**	**1.73**	**244**	*e*Pg	**Pn**	**13 58 15.8**	**-0.5**		
APE	**Apeiranthos**	**1.77**	**188**	*e*PN	**Pn**	**13 58 15.2**	**-1.6**		
APE	**Apeiranthos**	**1.77**	**188**	Pn	**Pn**	**13 58 15.2**	**-1.5**		
APE	**Apeiranthos**	**1.77**	**188**	*e*PN	**Pn**	**13 58 18.0**	**+1.2**		
BALB	**Balikesir**	**1.78**	**62**	*e*PN	**Pn**	**13 58 16.3**	**-0.7**		
BALB	**Balikesir**	**1.78**	**62**	Pn	**Pn**	**13 58 16.4**	**-0.6**		
BALB	**Balikesir**	**1.78**	**62**	Pn	**Pn**	**13 58 16.4**	**-0.6**		
MPAR	**Parnis Oros**	**1.78**	**249**	*e*PB	**Pb**	**13 58 19.0**	**+0.1**		
MPAR	**Parnis Oros**	**1.78**	**249**	*e*Pg	**Pn**	**13 58 20.0**	**+3.0**		
ATH	**Athens Observa**	**1.87**	**244**	*e*PB	**Pb**	**13 58 20.0**	**-0.4**		
ALN	**Alexandroupoli**	**2.08**	**4**	*e*Pn	**Pn**	**13 58 22.1**	**+0.9**		
ALN				*e*SN	**Sn**	**13 58 50.7**	**+3.9**		
NSAL	**Nisos Salamina**	**2.08**	**245**	*e*PB	**Pb**	**13 58 23.5**	**-0.4**		
OUR	**Ouranopolis**	**2.09**	**317**	*e*Pn	**Pn**	**13 58 20.4**	**-0.9**		
BODT	**Bodrum**	**2.10**	**146**	*e*PN	**Pn**	**13 58 20.7**	**-0.9**		
BODT	**Bodrum**	**2.10**	**146**	Pn	**Pn**	**13 58 20.8**	**-0.8**		
BODT	**Bodrum**	**2.10**	**146**	Pn	**Pn**	**13 58 20.8**	**-0.8**		
NAIG	**Nisos Aigina**	**2.13**	**241**	*e*PN	**Pn**	**13 58 24.0**	**+1.9**		
NAIG				*e*SN	**Sn**	**13 58 50.0**	**+1.9**		
NAIG	**Nisos Aigina**	**2.13**	**241**	*e*Pb	**Pb**	**13 58 26.5**	**+1.7**		
MGER	**Gerania Oros**	**2.19**	**249**	*e*PB	**Pb**	**13 58 25.0**	**-0.9**		
BNT	**Bandirma**	**2.22**	**46**	*e*PN	**Pn**	**13 58 22.6**	**-0.7**		
MRMT	**Marmara Adasi**	**2.23**	**37**	*e*PN	**Pn**	**13 58 22.9**	**-0.6**		
MRMT	**Marmara Adasi**	**2.23**	**37**	Pn	**Pn**	**13 58 23.0**	**-0.5**		
MRMT	**Marmara Adasi**	**2.23**	**37**	Pn	**Pn**	**13 58 23.0**	**-0.5**		
RDO	**Rodhopi**	**2.34**	**354**	*e*PN	**Pn**	**13 58 24.7**	**-0.2**		
KCT	**Karacabey**	**2.42**	**53**	*e*PN	**Pn**	**13 58 25.7**	**-0.4**		
KCT	**Karacabey**	**2.42**	**53**	Pn	**Pn**	**13 58 25.8**	**-0.3**		
KCT	**Karacabey**	**2.42**	**53**	Pn	**Pn**	**13 58 25.8**	**-0.3**		
THR5	**Thira Island,**	**2.43**	**189**	*e*Pn	**Pn**	**13 58 24.9**	**-1.4**		
THR3	**Thira Island,**	**2.43**	**188**	*e*Pn	**Pn**	**13 58 24.5**	**-1.8**		
ORLT	**Orhaneli**	**2.66**	**62**	*e*PN	**Pn**	**13 58 29.2**	**-0.4**		
ORLT	**Orhaneli**	**2.66**	**62**	Pn	**Pn**	**13 58 29.2**	**-0.3**		
DALT	**Dalyan (Mudla)**	**3.01**	**132**	*e*PN	**Pn**	**13 58 34.0**	**-0.6**		
YLV	**Yalova**	**3.23**	**56**	*e*PN	**Pn**	**13 58 37.6**	**-0.1**		
YLV	**Yalova**	**3.23**	**56**	Pn	**Pn**	**13 58 37.7**	**0.0**		

IDC 30 14:02:31.4±2.8, 1.19N×97.13E, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=122.3km s-min=20.6km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.09**	**122**	P	P	14 10 25.2	-1.9
	0.9nm,0.7s,baz=301,slow=9.1,SNR=8.7						
ASAR	**Alice Springs**	**43.45**	**127**	P	P	14 10 36.6	-1.5
	0.2nm,0.4s,baz=297,slow=7.9,SNR=5.8						
SONM	**Songino Array**	**47.15**	**9**	P	P	14 11 06.0	-1.4
	0.9nm,0.7s,baz=188,slow=9.2,SNR=6.3						
MKAR	**Makanchi Array**	**47.23**	**346**	P	P	14 11 06.7	-1.3
	1.0nm,0.6s,baz=162,slow=9.3,SNR=17						
ZAL	**Zalesovo**	**53.55**	**351**	P	P	14 11 52.6	-3.5
	1.3nm,0.5s,baz=308,slow=7.7,SNR=5.9						
BVAR	**Borovoye Array**	**56.23**	**341**	P	P	14 12 13.2	-2.5
	1.0nm,0.7s,baz=135,slow=6.3,SNR=6.5						

*NIED **30** 14:05:00,30.50N×138.30E,h460km,Mw4.5 Best double couple: M0 5.51×10^15 NP1:φs40°,δ53°,λ-123°. NP2: φs267°,δ48°,λ-55°.*
*MOS **30** 14:05:13.1±0.8,30.48N×137.88E,h469km,mb4.0/7, Error ellipse: s-maj=16.9km s-min=7.7km az=108.9*
*JMA **30** 14:05:13.5±0.3,30.52N×138.29E,h491km,M4.8*
*IDC **30** 14:05:13.9±0.6,30.47N×138.02E,h467km±8km, mb3.4/16, mb1 3.6/22, mb1mx3.5/29, mbtmp4.4/22, Error ellipse: s-maj=16.5km s-min=7.4km az=75.0*
*NEIC **30** 14:05:14.3±0.5,30.47N×138.03E,h472km±6km, mb4.4/11, Error ellipse: s-maj=9.2km s-min=5.9km az=83.0*
*BJI **30** 14:05:14.1,30.42N×138.10E,h501km,mB4.9,mb4.7*
ISC 30 14:05:13.4±0.3, 30.47N±0.04×138.13E±0.06, h482km±4km, n93, σ0 s94/104, mb4.0/37, 1C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.99**	**28**	P	**P**	**14 06 23.5**	**+0.1**
	222nm,0.3s,baz=163,slow=6.0,SNR=88						
JHJ				S	**S**	**14 07 18.7**	**-0.1**
	307nm,0.3s,baz=70,slow=22,SNR=16						
JHJ2	**Mitsune**	**3.00**	**28**	P	**P**	**14 06 23.1**	**-0.4**
JWZ	**Kozaga**	**3.68**	**327**	P	**P**	**14 06 28.2**	**-0.4**
JWZ				S	**S**	**14 07 29.7**	**+1.6**
JIE	**Ise**	**4.09**	**343**	P	**P**	**14 06 33.4**	**+1.4**
JIE				S	**S**	**14 07 34.4**	**+0.2**
JWY	**Kouya**	**4.31**	**331**	P	**P**	**14 06 35.4**	**+1.5**
BSO1	**Boso 1**	**4.81**	**29**	S	**S**	**14 07 44.0**	**-1.7**
JOD2	**Odawara 2**	**4.85**	**9**	P	**P**	**14 06 38.5**	**-0.2**
JOD2				S	**S**	**14 07 44.7**	**-1.5**
CBIJ	**Chichi jima**	**4.90**	**132**	P	**P**	**14 06 40.1**	**+0.9**
	20nm,0.3s,baz=274,slow=19,SNR=4.9						
CBIJ				S	**S**	**14 07 43.5**	**-3.5**
	91nm,0.3s,baz=278,slow=22,SNR=18						
JTO	**Tosashimizu**	**5.13**	**299**	P	**P**	**14 06 42.5**	**+1.1**
JHHJ	**Haha-jima-NKT**	**5.23**	**136**	P	**P**	**14 06 42.2**	**-0.1**
JRY	**Ryogami san**	**5.57**	**6**	P	**P**	**14 06 45.2**	**-0.4**
MJAR	**Matsushiro Arr**	**6.05**	**1**	P	**P**	**14 06 49.4**	**-1.0**
	9.2nm,0.3s,baz=184,slow=10,SNR=58						
MAJO	**Matsushiro**	**6.06**	**1**	*e*P	**P**	**14 06 48.2**	**-2.2**
MAJO				pmax	pmax		
	comp=Z,180nm,0.5s						
MAJO	**Matsushiro**	**6.06**	**1**	*e*P	**P**	**14 06 48.2**	**-2.2**
	comp=Z,180nm,0.5s						
MAT	**Matsushiro**	**6.06**	**1**	*e*P	**P**	**14 06 50.0**	**-0.4**
MAT				pmax	pmax		
	comp=Z,79nm,0.7s						
MAT	**Matsushiro**	**6.06**	**1**	*e*P	**P**	**14 06 50.0**	**-0.4**
	comp=Z,79nm,0.7s						
MAT	**Matsushiro**	**6.06**	**1**	P	**P**	**14 06 49.8**	**-0.6**
MAT	**Matsushiro**	**6.06**	**1**	P	**P**	**14 06 48.5**	**-1.9**
JHS	**Saijyo**	**6.18**	**318**	P	**P**	**14 06 52.5**	**+0.8**
JMK	**Ichinoseki**	**8.83**	**16**	P	**P**	**14 07 19.7**	**+0.2**
JOW	**Kunigami**	**9.39**	**250**	P	**P**	**14 07 25.2**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=65,slow=7.1,SNR=8.9						
KS15	**Wonju Array Si**	**10.98**	**312**	*e*P	**P**	**14 07 41.9**	**-0.6**
JOT	**Ohata**	**11.14**	**11**	P	**P**	**14 07 44.8**	**+0.7**
JKB	**Kayabe**	**11.63**	**11**	P	**P**	**14 07 49.9**	**+0.6**
ASAJ	**Asahikawa**	**14.07**	**13**	P	**P**	**14 08 16.6**	**+1.8**
ASAJ				S	**S**	**14 10 48.2**	**+7.0**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**14.07**	**13**	P	**P**	**14 08 16.6**	**+1.8**
	comp=N,9.2nm,0.3s,baz=234,slow=11,SNR=43						
ASAJ				S	**S**	**14 10 48.1**	**+7.0**
	comp=N,0.8nm,0.3s,baz=54,slow=19,SNR=4.6						
MDJ	**Mudanjiang**	**15.64**	**337**	P	**P**	**14 08 31.8**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,14nm,0.7s						
MDJ				AMB	AMB		
	comp=Z,160nm,5.1s						
MDJ	**Mudanjiang**	**15.64**	**337**	*e*P	**P**	**14 08 31.6**	**+0.8**
	comp=Z,13nm,0.7s						
CN2	**Changchun**	**16.68**	**326**	*e*P	**P**	**14 08 42.3**	**+1.1**
CN2				*e*XP		14 10 36.5	
CN2				*e*S	**S**	**14 11 30.0**	**+0.6**
CN2				AMB	AMB		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.84**	**11**	*e*P	**P**	**14 08 44.8**	**+2.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS	**Yuzh-Sakhalins**	**16.84**	**11**	*e*P	**P**	**14 08 44.9**	**+2.2**
	comp=Z,27nm,0.6s						
GUMO	**Guam**	**17.91**	**158**	*e*P	**P**	**14 08 56.2**	**+2.6**
GUMO				pmax	pmax		
	comp=Z,221nm,1.3s						
GUMO	**Guam**	**17.91**	**158**	P	**P**	**14 08 56.2**	**+2.6**
	comp=Z,11nm,0.3s,baz=193,slow=16,SNR=5.2						
GUMO	**Guam**	**17.91**	**158**	*e*P	**P**	**14 08 56.2**	**+2.6**
	comp=Z,221nm,1.3s						
KLR	**Kul'dur**	**19.35**	**347**	*e*P	**P**	**14 09 06.2**	**-1.0**
WHN	**Wuhan**	**20.49**	**276**	P	**P**	**14 09 18.5**	**+0.4**
HIA	**Hailar**	**23.38**	**329**	*e*P	**P**	**14 09 44.7**	**+0.2**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
HIA	**Hailar**	**23.38**	**329**	*e*P	**P**	**14 09 44.7**	**+0.2**
	comp=Z,4.0nm,0.8s,mb3.9						
ENH	**Enshi**	**24.69**	**277**	*e*P	**P**	**14 09 55.5**	**-1.0**
XAN	**Xi'an**	**24.92**	**286**	P	**P**	**14 09 57.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,26nm,0.8s,mb4.7						
GYA	**Guiyang**	**27.90**	**270⇑**	*i*P	**P**	**14 10 24.5**	**-0.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
LZH	**Lanzhou**	**29.11**	**290**	*e*P	**P**	**14 10 35.3**	**-0.2**
LZH				AP		14 11 42.0	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
ULN	**Ulaanbaatar**	**29.43**	**315⇓**	*i*P	**P**	**14 10 36.7**	**-1.4**
CD2	**Chengdu**	**29.50**	**280⇓**	*i*P	**P**	**14 10 38.3**	**-0.5**
SONM	**Songino Array**	**29.82**	**315**	P	**P**	**14 10 41.5**	**+0.1**
	comp=Z,0.9nm,0.5s,mb3.5,baz=125,slow=6.3,SNR=6.7						
SONM				PP	PP		
	comp=Z,1.8nm,0.8s,baz=113,slow=9.4,SNR=7.1						
SONM				PcP	PcP	14 13 31.0	+0.4
	comp=Z,0.8nm,0.6s,baz=157,slow=1.6,SNR=4.8						
MA2	**Magadan**	**30.33**	**13**	*e*P	**P**	**14 10 42.9**	**-2.8**
MA2				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.4						
GTA	**Gaotai**	**32.45**	**296**	*e*P	**P**	**14 11 03.8**	**-0.2**
GTA				S	**S**	**14 15 41.0**	**-3.7**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,174nm,3.8s						
ZAK	**Zakamensk**	**32.73**	**317**	*e*P	**P**	**14 11 06.7**	**+0.5**
ZAK				*e*		14 12 33.6	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.2						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.3						
TLY	**Talaya**	**33.08**	**320⇓**	*i*P	**P**	**14 11 08.7**	**-0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
TIXI	**Tiksi**	**41.54**	**356**	*e*P	**P**	**14 12 18.0**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
WMQ	**Urumqi**	**41.74**	**303**	*e*P	**P**	**14 12 20.8**	**+0.4**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
ZAL	**Zalesovo**	**44.62**	**318**	P	**P**	**14 12 42.5**	**-0.5**
	comp=Z,1.2nm,0.3s,mb3.8,baz=77,slow=8.9,SNR=3.6						
ZAL				PcP	PcP	14 14 15.3	-0.7
	comp=Z,1.5nm,0.3s,baz=332,slow=0.3,SNR=4.9						
JIRN	**Jiri**	**45.16**	**280**	*e*P	**P**	**14 12 48.5**	**+1.0**
	comp=Z,74nm,0.3s						
GUN	**Gumba**	**45.36**	**280**	*e*P	**P**	**14 12 49.8**	**+0.8**
	comp=Z,46nm,0.4s						
MKAR	**Makanchi Array**	**45.60**	**307**	P	**P**	**14 12 50.5**	**-0.1**
	comp=Z,3.6nm,0.8s,mb3.9,baz=92,slow=9.5,SNR=22						
MKAR				PcP	PcP	14 14 19.0	-0.6
	comp=Z,1.1nm,0.4s,baz=81,slow=5.5,SNR=11						
MKAR				ScP		14 17 26.2	
	comp=Z,1.3nm,0.6s,baz=141,slow=8.6,SNR=14						
MKAR				S	**S**	**14 18 56.6**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=90,slow=13,SNR=4.2						
PKI	**Pulchoki**	**45.85**	**280**	*e*P	**P**	**14 12 52.9**	**0.0**
KKN	**Kakani**	**45.90**	**280**	*e*P	**P**	**14 12 53.5**	**+0.3**
DMN	**Daman**	**46.10**	**280**	*e*P	**P**	**14 12 54.7**	**-0.1**
	comp=Z,26nm,0.5s,mb4.9						
GKN	**Gorkha**	**46.38**	**281**	*e*P	**P**	**14 12 57.0**	**+0.1**
	comp=Z,16nm,0.3s,mb5.0						
KOLN	**Koldanda**	**47.33**	**281**	*e*P	**P**	**14 13 04.4**	**+0.2**
	comp=Z,48nm,0.8s,mb5.0						
KURK	**Kurchatov**	**48.09**	**313**	*i* P	**P**	**14 13 08.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.4						
KURK	**Kurchatov**	**48.09**	**313**	*e*P	**P**	**14 13 07.1**	**-2.5**
	comp=Z,3.0nm,0.6s,mb3.8						
FITZ	**Fitzroy Crossi**	**49.77**	**196**	*e*P	**P**	**14 13 22.5**	**-0.1**
	comp=Z,2.0nm,0.4s,mb3.8						
FITZ	**Fitzroy Crossi**	**49.77**	**196**	P	**P**	**14 13 22.7**	**0.0**
	comp=Z,3.4nm,0.5s,mb4.0,baz=19,slow=7.9,SNR=10						
WB2	**Warramunga Arr**	**50.25**	**185**	*e*P	**P**	**14 13 26.0**	**-0.2**
WRA	**Warramunga Arr**	**50.25**	**185**	P	**P**	**14 13 25.9**	**-0.4**
	comp=Z,1.1nm,0.3s,mb3.6,baz=360,slow=7.7,SNR=44						
WRA				PcP	PcP	14 14 37.2	+0.2
	comp=Z,0.7nm,0.5s,baz=358,slow=4.5,SNR=5.7						
AAK	**Ala-Archa**	**51.43**	**302⇓**	*i*P	**P**	**14 13 32.8**	**-1.8**
AAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb3.8						
CHKZ	**Chkalovo**	**52.99**	**316**	*e*P	**P**	**14 13 44.9**	**-0.8**
CHKZ				*e*		14 14 44.6	
BVA0	**Borovoye Array**	**53.16**	**316**	P	**P**	**14 13 46.4**	**-0.5**
BVAR	**Borovoye Array**	**53.16**	**316**	P	**P**	**14 13 46.2**	**-0.7**
	comp=Z,3.6nm,0.4s,mb4.0,baz=99,slow=7.5,SNR=37						
BVAR				PcP	PcP	14 14 46.9	-0.5
	comp=Z,2.0nm,0.5s,baz=95,slow=5.2,SNR=9.6						
BVAR				S	**S**	**14 20 38.2**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=108,slow=9.1,SNR=2.5						
ASAR	**Alice Springs**	**53.98**	**185**	P	**P**	**14 13 52.8**	**-0.4**
	comp=Z,1.0nm,0.4s,mb3.5,baz=23,slow=11,SNR=26						
ASAR				PcP	PcP	14 14 51.5	+0.5
	comp=Z,0.8nm,0.9s,baz=5.0,slow=5.2,SNR=5.7						
ASPA	**Alice Springs**	**53.98**	**185**	*e*P	**P**	**14 13 53.0**	**-0.2**
KKAR	**Karatay Array**	**54.24**	**303**	*i* P	**P**	**14 13 54.5**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
MBWA	**Marble Bar**	**54.30**	**201**	*e*P	**P**	**14 13 53.8**	**-1.7**
	comp=Z,5.5nm,0.4s,mb4.2						
ARU	**Arti**	**59.58**	**321**	*i* P	**P**	**14 14 31.3**	**+0.2**
INK	**Inuvik**	**61.47**	**25**	*e*P	**P**	**14 14 44.8**	**+1.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
INK	**Inuvik**	**61.47**	**25**	P	**P**	**14 14 44.1**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.1,baz=214,slow=5.7,SNR=7.7						
INK	**Inuvik**	**61.47**	**25**	*e*P	**P**	**14 14 44.8**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.3						
STKA	**Stephens Creek**	**62.09**	**177**	P	**P**	**14 14 48.3**	**+0.2**
	comp=Z,1.1nm,0.7s,mb3.4,baz=353,slow=17,SNR=3.3						
ARCES	**ARCESS Array B**	**69.17**	**340**	P	**P**	**14 15 32.7**	**+1.1**
	comp=Z,3.3nm,0.4s,mb4.2,baz=64,slow=8.5,SNR=30						
YKA	**Yellowknife Ar**	**70.86**	**28**	P	**P**	**14 15 43.2**	**+1.5**
	comp=Z,0.2nm,0.4s,mb3.0,baz=298,slow=6.2,SNR=4.3						
KAF	**Kangasniemi**	**72.88**	**333**	*e*p	**P**	**14 15 53.2**	**-0.2**
	comp=Z,1.2nm,0.3s,mb3.9,baz=54,slow=5.4						
KAF	**Kangasniemi**	**72.88**	**333**	*e*P	**P**	**14 15 53.2**	**-0.2**
KAF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
KIV	**Kislovodsk**	**73.15**	**311⇓**	*e*P	**P**	**14 15 56.0**	**+0.7**
KIV				*e*PP	pP	14 17 40.4	+1.0
KIV				*e*		14 18 49.0	
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.4						
FINES	**FINESS Array B**	**73.34**	**332**	P	**P**	**14 15 56.4**	**+0.4**
	comp=Z,2.7nm,0.4s,mb4.1,baz=66,slow=5.4,SNR=47						
SOC	**Sochi**	**75.24**	**312**	*e*P	**P**	**14 16 05.7**	**-1.4**
SOC				*e*		14 16 18.6	
SOC				*e*PPP	PPP	14 20 55.9	+2.0
SOC				*e*S	ScS	14 25 35.6	+3.4
SOC				*e*		14 26 04.0	
SOC				pmax	pmax		
	comp=N,21nm,1.0s						
SOC				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.6						
SOC				pmax	pmax		
	comp=E,8.0nm,0.6s						
ANN	**Anapa**	**76.10**	**314**	*e*P	**P**	**14 16 17.8**	**+6.0**
ANN				pmax	pmax		
	comp=Z,59nm,1.3s,mb5.0						
AKASG	**Malin Array Be**	**77.79**	**322**	P	**P**	**14 16 20.9**	**0.0**
	comp=Z,1.9nm,0.4s,mb3.9,baz=51,slow=5.5,SNR=14						
NOA	**NORSAR Array B**	**79.14**	**337**	P	**P**	**14 16 28.2**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.1,baz=46,slow=5.2,SNR=25						
RAYN	**Ar Rayn**	**80.57**	**292**	P	**P**	**14 16 37.0**	**+1.0**
	comp=Z,42nm,0.5s,SNR=9.5						
BRTR	**Keskin Array B**	**81.11**	**311**	P	**P**	**14 16 39.2**	**+0.7**
	comp=Z,4.2nm,0.8s,mb4.0,baz=90,slow=3.7,SNR=18						
ASF	**Jabal al Asfar**	**82.83**	**303**	P	**P**	**14 16 48.3**	**+0.9**
	comp=Z,2.6nm,0.5s,mb4.0,baz=270,slow=5.6,SNR=4.9						
KMBO	**Kilima Mbogo**	**99.95**	**275**	*i* P	**P**	**14 18 07.9**	**+0.5**
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.3s						

IDC 30 14:14:03.4±9.8, 13.22N×93.00E, mb3.6/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.6/5, Error ellipse: s-maj=542.5km s-min=21.9km az=62.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**34.66**	**347**	P	P	14 20 54.6	-2.0
	0.8nm,0.8s,baz=161,slow=8.8,SNR=7.4						
ZAL	**Zalesovo**	**41.13**	**353**	P	P	14 21 48.9	-1.9
	0.5nm,0.2s,baz=312,slow=7.9,SNR=3.3						
FITZ	**Fitzroy Crossi**	**44.78**	**133**	P	P	14 22 18.8	-2.3
	1.5nm,0.6s,baz=314,slow=6.0,SNR=5.9						
WRA	**Warramunga Arr**	**52.35**	**128**	P	P	14 23 17.6	-2.1
	0.2nm,0.3s,baz=309,slow=7.6,SNR=4.6						
ASAR	**Alice Springs**	**54.26**	**132**	P	P	14 23 31.7	-2.0
	0.2nm,0.4s,baz=300,slow=7.3,SNR=6.8						

CASC 30 14:22:21.7±1.4, 13.09N×90.07W, h21km±5km, MD3.7, ML3.7, 1C-1D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLS	**San Blas**	**0.86**	**30⇓**	*e*P	Pb	14 22 38.1	+0.3
SBLS				*e*S	Sb	14 22 50.9	+2.0
SNJE	**San Jose**	**0.89**	**30**	*e*P	Pb	14 22 38.5	+0.1
SNJE				*e*S	Sb	14 22 50.9	+1.1
RTR	**El Retiro**	**0.90**	**27**	*e*P	Pb	14 22 38.7	+0.3
RTR				*e*S	Sb	14 22 51.4	+1.4
BOQS	**Boqueron**	**1.00**	**50**	*e*P	Pb	14 22 40.4	+0.3
BOQS				*e*S	Sb	14 22 54.1	+1.3
SNET	**Serv Nac Est T**	**1.01**	**54**	*i*	Pb	14 22 59.8	+19
	comp=Z,1μm,0.3s						
RBDL	**Robledal**	**1.08**	**20⇑**	*e*P	Pb	14 22 41.7	+0.2
RBDL				*e*S	Sb	14 22 56.9	+1.7
LFRS	**El Faro**	**1.11**	**61**	*e*P	Pb	14 22 41.7	-0.4
LFRS				*e*S	Sb	14 22 56.3	+0.1
IXG	**Ixpaco**	**1.14**	**341**	*e*P	Pb	14 22 41.4	-1.2
IXG				*e*S	Sb	14 22 55.9	-1.1
IXG				AML	AML	14 23 00.2	
	comp=N,8μm,0.3s						
LBRS	**Las Brisas**	**1.19**	**57**	*e*P	Pn	14 22 42.8	-0.5
LBRS				*e*S	Sb	14 22 59.2	+0.9
LCBS	**La Ceiba**	**1.20**	**62**	*e*P	Pn	14 22 42.9	-0.6
LCBS				*e*S	Sb	14 22 59.0	+0.4
SNVI	**San Vicente**	**1.30**	**66**	*e*P	Pn	14 22 44.6	-0.3
SNVI				*e*S	Sb	14 23 02.6	+1.0
MTO2	**Montecristo 2**	**1.47**	**28**	*e*P	Pn	14 22 47.3	-0.1
MTO2				*e*S	Sn	14 23 07.8	+1.7
BLLM	**Bellamira**	**1.81**	**79**	*e*P	Pn	14 22 51.5	-0.7
TP2	**Tecpan 2**	**1.92**	**331**	*e*P	Pn	14 22 53.3	-0.5
TP2				*e*S	Sn	14 23 17.1	-0.4
TP2				AML	AML	14 23 22.4	
	comp=N,415nm,0.5s						
CNCH	**Conchagua**	**2.18**	**85**	*e*P	Pn	14 22 57.4	-0.2
CNCH				*e*S	Sn	14 23 24.2	0.0

*IDC **30** 14:27:42.6±2.8, 13.41N×125.19E, mb3.6/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.6/4, Error ellipse: s-maj=165.1km s-min=27.5km az=67.0*
*MAN **30** 14:28:40.8,8.18N×126.58E,h8km,mb4.5,ML3.3,MS3.2*
ISC 30 14:28:32.2±1.1, 7.87N±0.06×127.14E±0.07, h10km, n11, σ0 s99/14, mb3.6/3, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.83**	**292**	*i* P	**Pb**	**14 28 48.0**	**-0.3**
BIPH				*e*S	**Sb**	**14 28 59.0**	**-0.3**
MATI	**Mati**	**1.26**	**224**	*e*P	**Pb**	**14 28 54.0**	**-1.6**
MATI				*e*S	**Sb**	**14 29 12.3**	**+0.5**
BUTP	**Butuan**	**1.86**	**306**	*e*P	**Pn**	**14 29 04.4**	**0.0**
BUKP	**Musuan**	**2.06**	**271**	*e*P	**Pn**	**14 29 08.1**	**+0.8**
KCP	**Kidapawan**	**2.20**	**247⇓**	*e*P	**Pn**	**14 29 13.0**	**+3.6**
SCPH	**Surigao**	**2.51**	**320**	*e*P	**Pn**	**14 29 13.6**	**-0.1**
SCPH				*e*S	**Sn**	**14 29 38.7**	**-6.0**
MSLP	**Maasin**	**3.19**	**315**	*e*P	**Pn**	**14 29 39.4**	**+16**
PAGZ	**Pagadian**	**3.72**	**270**	*e*P	**Pn**	**14 29 31.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.84**	**183

comp=Z,1.9nm,0.6s,mb4.0,baz=298,slow=7.8,SNR=28
ASAR pP pP 14 46 24.5 +0.7
comp=Z,0.8nm,0.5s,baz=295,slow=7.8,SNR=7.0
SONM Songino Array 47.55 8 P P 14 46 53.0 +0.2
comp=Z,1.2nm,0.4s,mb4.3,baz=191,slow=8.7,SNR=13
SONM PcP PcP 14 48 21.9 -1.1
comp=Z,0.3nm,0.4s,baz=162,slow=4.6,SNR=2.7
MKAR Makanchi Array 47.71 346 P P 14 46 54.3 +0.2
comp=Z,4.7nm,0.5s,mb4.8,baz=160,slow=9.1,SNR=90
MKAR pP pP 14 47 00.6 -0.6
comp=Z,3.4nm,0.6s,baz=158,slow=6.9,SNR=12
HIA Hailar 52.01 18 eP P 14 47 26.6 -0.4
comp=Z,3.7nm,0.9s,mb4.3
KURK Kurchatov 52.26 345 eP P 14 47 28.4 -0.5
comp=Z,3.3nm,0.9s,mb4.3
STKA Stephens Creek 52.94 132 P P 14 47 33.8 -0.5
comp=Z,2.8nm,1.0s,mb4.1,baz=329,slow=8.6,SNR=3.8
ZAL Zalesovo 54.02 351 P P 14 47 41.0 -0.7
comp=Z,4.1nm,0.5s,mb4.6,baz=314,slow=6.2,SNR=18
BVAR Borovoye Array 56.72 341 P P 14 48 00.1 -1.3
comp=Z,1.8nm,0.7s,mb4.2,baz=142,slow=10,SNR=12
BVAR pP pP 14 48 06.8 -1.8
comp=Z,2.7nm,0.7s,baz=145,slow=8.7,SNR=12
CHKZ Chkalovo 57.20 341 eP P 14 48 03.9 -1.0
comp=Z,3.4nm,0.7s,mb4.5
CHKZ epP pP 14 48 10.4 -1.6
AKASG Malin Array Be 75.71 322 P P 14 50 01.5 -1.2
comp=Z,0.7nm,0.5s,mb3.9,baz=80,slow=4.9,SNR=5.4
FINES FINESS Array B 80.47 333 P P 14 50 28.8 +0.3
comp=Z,0.8nm,0.5s,mb3.9,baz=122,slow=5.5,SNR=9.2
ARCES ARCESS Array B 83.01 340 P P 14 50 42.4 +0.7
comp=Z,4.8nm,1.0s,mb4.5,baz=108,slow=3.8,SNR=6.7
ARCES pP pP 14 50 49.5 +0.5
comp=Z,4.1nm,1.0s,baz=101,slow=6.2,SNR=1.0
GERES GERESS Array B 85.25 319 P P 14 50 53.9 +0.5
comp=Z,0.4nm,0.2s,mb4.2,baz=135,slow=1.9,SNR=4.1
NB2 NORSAR Subarra 87.47 331 P P 14 51 04.6 +0.6
comp=Z,1.1nm,0.8s,mb4.1,baz=95,slow=4.6
NOA NORSAR Array B 87.47 331 P P 14 51 04.5 +0.5
comp=Z,0.8nm,0.8s,mb4.0,baz=94,slow=4.9,SNR=4.5

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*MOS **30** 14:45:12.6±1.2, 7.88N×126.82E, h33km, mb5.1/27, Error ellipse: s-maj=15.2km s-min=6.9km az=106.9*
*BJI **30** 14:45:13.2, 7.51N×127.02E, h67km, mB5.1, mb4.8, Ms4.4, Msz4.3*
*MAN **30** 14:45:14.4, 8.13N×126.99E, h4km, mb5.2, ML4.2, MS4.4*
*IDC **30** 14:45:14.8±0.5, 7.87N×126.77E, h38km±4km, mb4.4/19, mb1 4.5/20, mb1mx4.4/23, mbtmp4.6/20, ML4.5/1, MS4.0/18, Ms1 4.0/18, ms1mx3.8/36, Error ellipse: s-maj=35.3km s-min=9.9km az=69.0*
*NEIC **30** 14:45:15.1±0.2, 7.84N×126.83E, mb4.8/35, Error ellipse: s-maj=9.4km s-min=4.8km az=73.0*
ISC 30 14:45:13.0±0.2, 7.91N±0.03×127.18E±0.03, h39km, h39km±.6km; pP-P, n164, σ1.9 32/172, mb4.8/69, MS4.1/24, 6C-6D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
BIPH	**Bislig**	**0.85**	**289**	⇓*iP*		**P**	**14 45 28.8**	**+0.1**
BIPH				*i*S		**S**	**14 45 39.9**	**-0.3**
MATI	**Mati**	**1.32**	**224**	*e*P		**P**	**14 45 34.9**	**-0.5**
MATI				*e*S		**S**	**14 45 52.6**	**+0.6**
DAV	**Davao City (W)**	**1.79**	**242**	⇑*e*P		**P**	**14 45 44.0**	**+1.9**
BUTP	**Butuan**	**1.87**	**305**	*e*P		**P**	**14 45 44.4**	**+1.3**
BUTP				*e*S		**S**	**14 46 12.1**	**+6.4**
BUKP	**Musuan**	**2.10**	**269**	*e*P		**P**	**14 45 48.5**	**+2.1**
BUKP				*e*S		**S**	**14 46 21.0**	**+10**
KCP	**Kidapawan**	**2.25**	**247**	⇓*e*P		**P**	**14 45 59.3**	**+11**
KCP				*e*S		**S**	**14 46 29.7**	**+14**
SCPH	**Surigao**	**2.50**	**318**	*e*P		**P**	**14 45 52.4**	**+0.2**
SCPH				*e*S		**S**	**14 46 19.8**	**-2.0**
CGP	**Cagayan de Oro**	**2.52**	**283**	⇓*e*P		**P**	**14 45 54.1**	**+1.7**
CGP				*e*S		**S**	**14 46 30.0**	**+7.8**
MSLP	**Maasin**	**3.19**	**314**	*e*P		**P**	**14 46 02.8**	**+0.9**
TBP	**Tagbilaran**	**3.73**	**299**	*e*P		**P**	**14 46 10.2**	**+0.6**
TBP				*e*S		**S**	**14 46 52.8**	**-0.1**
PAGZ	**Pagadian**	**3.76**	**269**	*e*P		**P**	**14 46 11.0**	**+0.9**
PLP	**Palo**	**3.90**	**326**	*e*P		**P**	**14 46 11.1**	**-0.9**
PLP				*i*S		**S**	**14 47 08.5**	**+11**
LLP	**Lapu-Lapu**	**3.98**	**307**	*e*P		**P**	**14 46 14.0**	**+0.9**
LLP				*e*S		**S**	**14 47 01.3**	**+2.1**
BESP	**Borongan**	**4.05**	**335**	*e*P		**P**	**14 46 15.1**	**+0.9**
IPIL	**Ipil**	**4.57**	**269**	*e*P		**P**	**14 46 23.4**	**+1.8**
CNP	**Catarman**	**5.20**	**332**	*e*P		**P**	**14 46 30.1**	**-0.4**
GUIM	**Jordan**	**5.28**	**301**	*e*P		**P**	**14 46 31.9**	**+0.5**
RCP	**Roxas**	**5.68**	**310**	⇑*e*P		**P**	**14 46 38.1**	**+1.0**
PVCP	**Virac**	**6.39**	**333**	*e*P		**P**	**14 46 47.7**	**+0.6**
CUYO	**Cuyo Island**	**6.75**	**296**	*e*P		**P**	**14 46 52.0**	**-0.2**
SJMP	**San Jose**	**7.49**	**308**	*e*P		**P**	**14 47 03.9**	**+1.5**
TSM	**Tawau**	**9.92**	**249**	P		**P**	**14 47 38.2**	**+1.9**
CAUP	**Cauayan**	**10.39**	**330**	*e*P		**P**	**14 47 46.4**	**+3.7**
KKM	**Kota Kinabalu**	**11.04**	**261**	*e*P		**P**	**14 47 55.5**	**+3.9**
KKM	**Kota Kinabalu**	**11.04**	**261**	P		**P**	**14 47 54.8**	**+3.3**
KSM	**Kuching**	**17.98**	**250**	*e*P		**P**	**14 49 22.6**	**+0.7**
GUMO	**Guam**	**18.27**	**70**	LR		LR	14 56 20.5	
comp=Z,258nm,18.0s,baz=253,slow=36								
JOW	**Kunigami**	**18.85**	**3**	P		**P**	**14 49 33.8**	**+1.3**
2.3nm,0.3s,baz=134,slow=8.1,SNR=6.6								
JOW				LR		LR	14 57 24.6	
comp=Z,722nm,18.2s,baz=47,slow=39								
JOW	**Kunigami**	**18.85**	**3**	P		**P**	**14 49 33.8**	**+1.3**
JOW				LR		LR	14 57 24.6	
QIZ	**Qiongzhong**	**20.14**	**305**	P		**P**	**14 49 44.8**	**-1.9**
QIZ				AMB		AMB		
comp=Z,302nm,10.2s								
QIZ				LR		LR		
comp=E,670nm,16.9s								
QIZ				LR		LR		
comp=Z,1μm,17.1s,MS4.3								
QIZ	**Qiongzhong**	**20.14**	**305**	*e*P		**P**	**14 49 44.5**	**-2.2**
comp=Z,16nm,0.8s								
KAKA	**Kakadu**	**21.14**	**166**	*e*P		**P**	**14 49 56.4**	**-0.6**
comp=Z,51nm,0.6s,mb5.0								
SSE	**Sheshan**	**23.74**	**347**	P		**P**	**14 50 25.5**	**+2.8**
SSE				S		**S**	**14 54 36.0**	**+4.0**
SSE				AMB		AMB		
comp=Z,28nm,0.6s,mb4.9								
SSE				AMB		AMB		
comp=Z,184nm,7.1s								
SSE				LR		LR		
comp=N,120nm,18.3s,MS3.6								
SSE				LR		LR		
comp=E,126nm,18.3s,MS3.6								
SSE				LR		LR		
comp=Z,178nm,20.2s,MS3.5								
CBIJ	**Chichi jima**	**23.81**	**35**	LR		LR	14 59 02.1	
comp=Z,253nm,20.8s,MS3.7,baz=328,slow=34								
KGM	**Kluang**	**24.47**	**257**	P		**P**	**14 50 30.9**	**+0.9**
NJ2	**Nanjing**	**25.24**	**343**	*e*P		**P**	**14 50 41.5**	**+4.3**
NJ2				S		**S**	**14 54 57.0**	**-0.5**
NJ2				AMB		AMB		
comp=Z,10.0nm,0.8s,mb4.4								
NJ2				AMB		AMB		
comp=Z,240nm,6.8s								
NJ2				LR		LR		
comp=N,420nm,16.8s,MS4.2								
NJ2				LR		LR		
comp=E,480nm,19.5s,MS4.2								
NJ2				LR		LR		
comp=Z,220nm,24.9s								
FITZ	**Fitzroy Crossi**	**25.89**	**183**	*e*P		**P**	**14 50 42.6**	**-0.7**
comp=Z,34nm,0.9s,mb4.9								
FITZ				*e*S		**S**	**14 55 17.3**	**+9.0**
FITZ	**Fitzroy Crossi**	**25.89**	**183**	P		**P**	**14 50 44.0**	**+0.7**
comp=Z,31nm,0.6s,mb5.0,baz=6.8,slow=9.2,SNR=44								
ENH	**Enshi**	**27.75**	**326**	*e*P		**P**	**14 50 57.0**	**-3.3**
comp=Z,4.2nm,0.7s,mb4.2								
WRA	**Warramunga Arr**	**28.56**	**166**	P		**P**	**14 51 06.7**	**-0.9**
comp=Z,12nm,0.9s,mb4.6,baz=349,slow=9.9,SNR=11								
WB2	**Warramunga Arr**	**28.56**	**166**	*e*P		**P**	**14 51 06.5**	**-1.2**
KMI	**Kunming**	**28.93**	**309**	P		**P**	**14 51 11.3**	**+0.4**
KMI				S		**S**	**14 55 55.0**	**-2.4**
KMI				AMB		AMB		
comp=Z,6.0nm,0.7s,mb4.4								
KMI				LR		LR		
comp=N,322nm,14.5s								
KMI				LR		LR		
comp=E,425nm,20.0s								
KMI				LR		LR		
comp=Z,523nm,18.0s,MS4.2								
CM31	**Chiang Mai Arr**	**29.38**	**294**	P		**P**	**14 51 13.8**	**-1.2**
MBWA	**Marble Bar**	**29.80**	**194**	*e*P		**P**	**14 51 16.9**	**-1.7**
comp=Z,15nm,0.9s,mb4.7								
MJAR	**Matsushiro Arr**	**30.23**	**18**	LR		LR	15 02 42.2	
comp=Z,333nm,19.1s,MS4.0,baz=205,slow=34								
ASAR	**Alice Springs**	**32.06**	**168**	P		**P**	**14 51 37.7**	**-0.9**
comp=Z,1.7nm,0.7s,mb4.0,baz=353,slow=7.5,SNR=29								
ASAR				PcP		PcP	14 54 27.5	-0.1
comp=Z,1.7nm,0.6s,baz=352,slow=3.1,SNR=6.7								
ASAR				pPcP			14 54 38.9	
comp=Z,2.2nm,0.7s,baz=356,slow=2.8,SNR=4.7								
ASAR				ScP			14 58 08.4	
comp=Z,1.2nm,0.8s,baz=358,slow=4.2,SNR=5.4								
ASAR				LR		LR	15 07 02.9	
comp=Z,165nm,18.3s,MS3.8,baz=345,slow=41								
ASPA	**Alice Springs**	**32.06**	**168**	*e*P		**P**	**14 51 38.4**	**-0.2**
BJI	**Beijing**	**33.48**	**345**	P		**P**	**14 51 49.3**	**-1.5**
BJI				AMB		AMB		
comp=Z,10.0nm,1.0s,mb4.7								
CTA	**Charters Tower**	**33.56**	**146**	*e*P		**P**	**14 51 53.1**	**+1.4**
comp=Z,6.9nm,0.6s,mb4.8								
CTA	**Charters Tower**	**33.56**	**146**	*e*P		**P**	**14 51 53.1**	**+1.4**
CTA				pmax		pmax		
comp=Z,7.0nm,0.6s								
CTA	**Charters Tower**	**33.56**	**146**	P		**P**	**14 51 52.8**	**+1.1**
comp=Z,10nm,0.8s,mb4.8,baz=310,slow=11,SNR=7.4								
CTA				pP		pP	14 52 04.4	+1.8
comp=Z,14nm,0.9s,baz=316,slow=13,SNR=4.9								
CTA				LR		LR	15 07 07.2	
comp=Z,314nm,20.1s,MS4.0,baz=132,slow=39								
CTAO	**Charters Tower**	**33.56**	**146**	*e*P		**P**	**14 51 52.8**	**+1.1**
CTAO				pmax		pmax		
comp=Z,11nm,0.8s,mb4.8								
CTAO	**Charters Tower**	**33.56**	**146**	*e*P		**P**	**14 51 52.8**	**+1.2**
comp=Z,11nm,0.8s,mb4.8								
LZH	**Lanzhou**	**35.22**	**326**	*e*P		**P**	**14 52 08.5**	**+2.7**
LZH				PCP		PcP	14 54 36.5	+0.1
LZH				AMB		AMB		
comp=Z,23nm,1.0s,mb5.1								
LZH				AMB		AMB		
comp=Z,960nm,4.0s								
LZH				LR		LR		
comp=N,885nm,14.3s								
LZH				LR		LR		
comp=Z,1μm,15.7s,MS4.7								
CN2	**Changchun**	**35.79**	**358**	*e*P		**P**	**14 52 10.8**	**+0.3**
CN2				*e*S		**S**	**14 57 38.5**	**-5.8**
CN2				AMB		AMB		
comp=Z,10.0nm,0.7s,mb4.8								
CN2				AMB		AMB		
comp=Z,220nm,5.0s								
MDJ	**Mudanjiang**	**36.63**	**3**	P		**P**	**14 52 18.8**	**+1.2**
MDJ				PP		PP	14 53 44.3	+1.4
MDJ				PCP		PcP	14 54 40.0	-0.5
MDJ				S		**S**	**14 57 53.5**	**-3.8**
MDJ				PCS			14 58 28.0	
MDJ				SCS		ScS	15 02 23.0	-5.0
MDJ				AMB		AMB		
comp=Z,27nm,1.2s,mb5.0								
MDJ				AMB		AMB		
comp=Z,114nm,4.0s								
MDJ				LR		LR		
comp=N,99nm,18.9s,MS3.7								
MDJ				LR		LR		
comp=E,77nm,23.1s,MS3.7								
MDJ				LR		LR		
comp=Z,119nm,20.3s,MS3.7								
MDJ	**Mudanjiang**	**36.63**	**3**	*e*P		**P**	**14 52 19.1**	**+1.5**
comp=Z,22nm,0.9s,mb5.0								
MDJ				*e*pP		pP	14 52 30.7	+2.1
FORT	**Forrest**	**38.47**	**179**	*e*P		**P**	**14 52 32.3**	**-0.9**
comp=Z,573nm,0.5s								
GTA	**Gaotai**	**39.83**	**326**	*e*P		**P**	**14 52 43.8**	**-0.5**
GTA				PP		PP	14 54 20.0	+0.1
GTA				PCP		PcP	14 54 51.5	+1.0
GTA				S		**S**	**14 58 37.5**	**-8.4**
GTA				AMB		AMB		
comp=Z,5.0nm,0.7s,mb4.3								
GTA				AMB		AMB		
comp=Z,125nm,5.3s								
GTA				LR		LR		
comp=N,232nm,16.7s,MS4.3								
GTA				LR		LR		
comp=E,247nm,15.2s,MS4.3								
GTA				LR		LR		
comp=Z,273nm,13.3s,MS4.3								
LSA	**Lhasa**	**40.15**	**307**	P		**P**	**14 52 49.0**	**+1.9**
LSA	**Lhasa**	**40.15**	**307**	*e*P		**P**	**14 52 47.6**	**+0.5**
LSA				pmax		pmax		
comp=Z,10.0nm,0.7s,mb4.7								
LSA	**Lhasa**	**40.15**	**307**	*e*P		**P**	**14 52 47.5**	**+0.5**
comp=Z,9.5nm,0.7s,mb4.6								
KLBR	**Kellerberrin**	**40.30**	**192**	*e*P		**P**	**14 52 48.3**	**0.0**
comp=Z,736nm,1.4s								
MUN	**Mundaring**	**41.02**	**194**	*e*P		**P**	**14 52 54.8**	**+0.5**
comp=Z,18nm,0.7s,mb4.8								
MUN	**Mundaring**	**41.02**	**194**	*e*P		**P**	**14 52 54.8**	**+0.5**
MUN				pmax		pmax		
comp=Z,18nm,0.7s,mb4.8								
YSS	**Yuzh-Sakhalins**	**41.13**	**16**	*i*P		**P**	**14 52 56.3**	**+1.3**
KLR	**Kul'dur**	**41.36**	**5**	*e*P		**P**	**14 52 56.4**	**-0.5**
HIA	**Hailar**	**41.69**	**353**	*e*P		**P**	**14 53 00.2**	**+0.6**
HIA				pmax		pmax		
comp=Z,18nm,1.3s								
HIA	**Hailar**	**41.69**	**353**	*e*P		**P**	**14 53 00.1**	**+0.5**
comp=Z,18nm,1.3s,mb4.5								
NWAO	**Narrogin (SRO)**	**41.70**	**193**	*e*P		**P**	**14 53 00.2**	**+0.3**
NWAO				pmax		pmax		
comp=Z,23nm,1.0s								
NWAO	**Narrogin (SRO)**	**41.70**	**193**	*e*P		**P**	**14 53 00.2**	**+0.3**
comp=Z,23nm,1.0s,mb4.8								
STKA	**Stephens Creek**	**41.89**	**162**	*e*P		**P**	**14 53 02.2**	**+0.7**
comp=Z,7.9nm,0.7s,mb4.5								
STKA	**Stephens Creek**	**41.89**	**162**	P		**P**	**14 53 01.5**	**0.0**
comp=Z,7.5nm,1.0s,mb4.3,baz=340,slow=7.4,SNR=9.1								
ULN	**Ulaanbaatar**	**43.34**	**340**	*e*P		**P**	**14 53 12.8**	**-0.3**
ULN				pmax		pmax		
comp=Z,6.0nm,0.6s,mb4.5								
ULN	**Ulaanbaatar**	**43.34**	**340**	*e*P		**P**	**14 53 12.8**	**-0.3**
comp=Z,6.2nm,0.6s,mb4.5								
JIRN	**Jiri**	**43.42**	**302**	*e*P		**P**	**14 53 13.2**	**-0.9**
comp=Z,23nm,0.6s,mb5.1								
SONM	**Songino Array**	**43.53**	**340**	P		**P**	**14 53 14.0**	**-0.7**
comp=Z,2.2nm,0.8s,mb3.9,baz=160,slow=8.7,SNR=11								
SONM				pP		pP	14 53 24.8	-1.1
comp=Z,1.4nm,0.6s,baz=159,slow=7.9,SNR=4.1								
GUN	**Gumba**	**43.76**	**302**	*e*P		**P**	**14 53 15.8**	**-1.0**
comp=Z,48nm,0.9s,mb5.2								
PKI	**Pulchoki**	**44.05**	**302**	*e*P		**P**	**14 53 17.5**	**-1.6**
KKN	**Kakani**	**44.22**	**302**	*e*P		**P**	**14 53 18.6**	**-1.9**
comp=Z,17nm,0.9s,mb4.8								
KKN	**Kakani**	**44.22**	**302**	*e*P		**P**	**14 53 18.6**	**-1.9**
KKN				pmax		pmax		
comp=Z,9.0nm,0.9s,mb4.5								
DMN	**Daman**	**44.31**	**302**	*e*P		**P**	**14 53 19.9**	**-1.4**
GKN	**Gorkha**	**44.83**	**302**	*e*P		**P**	**14 53 23.6**	**-1.8**
comp=Z,22nm,1.0s,mb4.9								
KOLN	**Koldanda**	**45.63**	**301**	*e*P		**P**	**14 53 29.9**	**-1.9**
comp=Z,32nm,0.7s,mb5.3								
ZAK	**Zakamensk**	**46.78**	**339**	*e*P		**P**	**14 53 35.1**	**-5.4**
ZAK				*e*			14 55 13.7	
ZAK				pmax		pmax		
comp=Z,2.0nm,1.3s,mb3.9								
ZAK				pmax		pmax		
comp=Z,3.0nm,0.8s,mb4.3								
TLY	**Talaya**	**47.75**	**340**	⇓*iP*		**P**	**14 53 47.0**	**-1.1**
TLY				pmax		pmax		
comp=Z,8.0nm,1.7s,mb4.5								
CLNS	**Chul'man**	**48.84**	**358**	*e*P		**P**	**14 53 56.7**	**+0.2**
CLNS				pmax		pmax		
comp=Z,40nm,0.8s,mb5.5								
CLNS				pmax		pmax		
comp=N,25nm,0.9s								
CLNS				pmax		pmax		
comp=E,9.0nm,1.1s								
WMQ	**Urumqi**	**49.63**	**323**	*e*P		**P**	**14 54 03.5**	**+0.7**
WMQ				AMB		AMB		
comp=Z,10.0nm,1.2s,mb4.7								
BOD	**Bodaibo**	**50.83**	**351**	⇓*iP*		**P**	**14 54 11.7**	**0.0**
BOD				pmax		pmax		
comp=Z,21nm,0.9s,mb5.1								
YAK	**Yakutsk**	**54.05**	**1**	*c iP*		**P**	**14 54 36.3**	**+0.6**
YAK				pmax		pmax		
comp=Z,25nm,0.9s,mb5.1								
YAK				pmax		pmax		
comp=N,12nm,1.1s								
YAK				pmax		pmax		
comp=E,4.0nm,1.0s								
MKAR	**Makanchi Array**	**54.44**	**323**	P		**P**	**14 54 37.5**	**-1.3**
comp=E,6.4nm,0.6s,mb4.7,baz=123,slow=8.1,SNR=98								
MKAR				PcP		PcP	14 55 40.8	-1.1
comp=E,3.8nm,0.7s,baz=119,slow=3.5,SNR=4.0								
MKAR				LR		LR	15 21 30.1	
comp=E,136nm,18.5s,MS4.0,baz=270,slow=40								
MA2	**Magadan**	**54.57**	**14**	*e*P		**P**	**14 54 41.6**	**+2.0**
MA2				pmax		pmax		
comp=Z,23nm,1.7s,mb4.9								
ULHL	**Ulahol**	**56.28**	**316**	P		**P**	**14 54 51.7**	**-0.5**
SNR=6.4								
KZA	**Kyzart**	**56.91**	**316**	P		**P**	**14 54 56.5**	**-0.2**
SNR=14								
TKM2	**Tokmak 2**	**56.98**	**317**	P		**P**	**14 54 56.5**	**-0.7**
SNR=11								
ZAL	**Zalesovo**	**57.12**	**332**	P		**P**	**14 54 55.9**	**-2.1**
comp=Z,5.0nm,0.9s,mb4.5,baz=0.9,slow=7.8,SNR=30								
ZAL				pP		pP	14 55 07.4	-2.1
comp=Z,3.5nm,0.9s,baz=345,slow=9.0,SNR=6.1								
KBK	**Karagaybulak**	**57.33**	**316**	P		**P**	**14 54 59.2**	**-0.4**
SNR=7.2								
AAK	**Ala-Archa**	**57.63**	**316**	⇓*iP*		**P**	**14 54 59.8**	**-2.0**
AAK				pmax		pmax		
comp=Z,6.0nm,1.7s,mb4.3								
AAK	**Ala-Archa**	**57.63**	**316**	*e*P		**P**	**14 54 59.5**	**-2.2**
comp=Z,8.5nm,1.3s,mb4.6								
USP	**Ospenovka**	**57.86**	**317**	P		**P**	**14 55 01.8**	**-1.5**
SNR=7.8								
SEY	**Seymchan**	**57.89**	**13**	*e*P		**P**	**14 55 08.6**	**+5.3**
SEY							14 55 55.3	
SEY				*e*			14 57 13.9	
SEY				*e*S		**S**	**15 03 06.7**	**+8.2**
SEY				pmax		pmax		
comp=Z,80nm,1.0s,mb5.7								
SEY				pmax		pmax		
comp=N,40nm,1.1s								
SEY				pmax		pmax		
comp=E,40nm,1.1s								
SEY				smax				
comp=N,200nm,14.1s								
SEY				smax				
comp=E,200nm,16.9s								
EKS2	**Erkin-Say**	**58.13**	**316**	P		**P**	**14 55 04.3**	**-0.9**
SNR=12								
NVS	**Novosibirsk**	**58.40**	**332**	⇑*iP*		**P**	**14 55 04.3**	**-2.6**
NVS				*e*S		**S**	**15 02 58.0**	**-7.2**
NVS				*e*PS		PS	15 03 28.5	+4.1
NVS				pmax		pmax		
comp=Z,14nm,1.0s,mb5.0								
NVS				pmax		pmax		
comp=N,9.0nm,1.2s								
NVS				pmax		pmax		
comp=E,8.0nm,1.3s								
NVS				smax				
comp=N,8.0nm,2.0s								
NVS				smax				
comp=E,12nm,1.9s								
KURK	**Kurchatov**	**58.51**	**326**	*e*P		**P**	**14 55 06.0**	**-1.8**
KURK				pmax		pmax		
comp=Z,30nm,0.9s,mb5.3								
KURK	**Kurchatov**	**58.51**	**326**	*e*P		**P**	**14 55 06.0**	**-1.8**
comp=Z,30nm,0.9s,mb5.3								
TIXI	**Tiksi**	**63.69**	**1**	*e*P		**P**	**14 55 40.2**	**-2.3**
TIXI				pmax		pmax		
comp=Z,19nm,1.6s,mb4.9								
TIXI				MLR		MLR		
comp=Z,107nm,15.0s,MS4.2								
BVAR	**Borovoye Array**	**64.11**	**326**	P		**P**	**14 55 43.7**	**-1.8**
comp=Z,8.0nm,0.7s,mb4.8,baz=121,slow=8.6,SNR=56								
BVAR				pP		pP	14 55 55.5	-1.6
comp=Z,3.4nm,0.6s,baz=109,slow=6.3,SNR=7.3								
BVAR				PcP		PcP	14 56 19.4	-0.9
comp=Z,2.8nm,0.7s,baz=130,slow=3.0,SNR=4.0								
CHKZ	**Chkalovo**	**64.24**	**327**	*e*P		**P**	**14 55 44.2**	**-2.1**
CHKZ				pmax		pmax		
comp=Z,3.0nm,0.7s,mb4.4								
CHKZ	**Chkalovo**	**64.24**	**327**	*e*P		**P**	**14 55 44.1**	**-2.2**
comp=Z,2.7nm,0.7s,mb4.4								
AFI	**Afiamalu**	**64.34**	**109**	LR		LR	15 20 51.8	
comp=Z,238nm,18.0s,MS4.4,baz=123,slow=33								
RPZ	**Rata Peaks**	**64.93**	**146**	LR		LR	15 24 29.9	
comp=Z,183nm,18.5s,MS4.3,baz=346,slow=36								
URZ	**Urewera**	**65.31**	**138**	LR		LR	15 22 45.8	
comp=Z,179nm,21.8s,MS4.2,baz=246,slow=34								
BILL	**Bilibino**	**65.43**	**15**	*i* P		**P**	**14 55 54.7**	**+0.9**
SVE	**Sverdlovsk**	**70.67**	**328**	*e*P		**P**	**14 56 21.0**	**-5.6**
ARU	**Arti**	**71.68**	**327**	⇑*iP*		**P**	**14 56 31.0**	**-1.6**
ARU				*e*			14 56 50.5	
ARU				*e*			14 59 08.8	
ARU				*e*SS		SS	15 10 22.8	-3.3
ARU				pmax		pmax		
comp=Z,9.0nm,0.7s,mb4.8								
TNA	**Tin City**	**72.60**	**23**	*e*P		**P**	**14 56 40.2**	**+2.4**
comp=Z,4.5nm,1.4s,mb4.2								
CASY	**Casey**	**74.99**	**187**	*e*P		**P**	**14 56 51.6**	**-0.2**
comp=Z,10.0nm,0.9s,mb4.8								
IMA	**Indian Mountai**	**78.41**	**24**	*e*P		**P**	**14 57 14.2**	**+3.1**
comp=Z,36nm,0.8s,mb5.3								
GNI	**Garni**	**79.18**	**309**	*e*P		**P**	**14 57 15.2**	**-0.6**
RAYN	**Ar Rayn**	**79.29**	**292**	P		**P**	**14 57 15.9**	**-0.8**
comp=Z,87nm,0.8s,SNR=17								
SLKM	**Skilak Lake**	**79.52**	**30**	P		**P**	**14 57 18.7**	**+1.5**
MCK	**McKinley**	**80.25**	**27**	*e*P		**P**	**14 57 22.8**	**+1.7**
MCK				pmax		pmax		
comp=Z,16nm,0.9s,mb5.0								
MCK	**McKinley**	**80.25**	**27**	*e*P		**P**	**14 57 22.8**	**+1.7**
comp=Z,16nm,0.9s,mb4.9								
SML	**Sawmill**	**80

VNDA				pP	pP	14 58 09.8	+0.4
VNDA				LR	LR	15 35 12.3	
BRTR	**Keskin Array B**	**87.72 310**	P	**P**		**14 57 58.0**	**-1.3**
	comp=Z,1.7nm,0.6s,mb4.4,baz=120,slow=5.8,SNR=6.7						
KAF	**Kangasniemi**	**88.12 332**	*e*p	**P**		**14 57 58.5**	**-2.1**
	comp=Z,2.9nm,0.6s,mb4.7,baz=70,slow=4.2						
KAF	**Kangasniemi**	**88.12 332**	*e*P	**P**		**14 57 58.5**	**-2.1**
KAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
FINES	**FINESS Array B**	**88.39 332**	P	**P**		**14 58 01.2**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.8,baz=70,slow=5.0,SNR=32						
FINES				pP	pP	14 58 12.9	-1.0
	comp=Z,2.5nm,0.5s,baz=90,slow=5.7,SNR=5.5						
FINES				LR	LR	15 45 47.0	
	comp=Z,75nm,20.0s,MS4.1,baz=154,slow=41						
SBA	**Scott Base**	**88.39 172**	*e*P	**P**		**14 58 03.6**	**+2.0**
SBA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.8						
SBA	**Scott Base**	**88.39 172**	*e*P	**P**		**14 58 03.6**	**+2.1**
	comp=Z,7.5nm,1.1s,mb4.8						
AKASG	**Malin Array Be**	**88.95 321**	P	**P**		**14 58 03.6**	**-1.2**
	comp=Z,5.4nm,0.7s,mb5.0,baz=67,slow=4.9,SNR=16						
KMBO	**Kilima Mbogo**	**90.08 269**	P	**P**		**14 58 11.1**	**+0.1**
	comp=Z,0.6nm,0.3s,mb4.5,baz=48,slow=20,SNR=4.2						
KMBO				LR	LR	15 37 38.6	
	comp=Z,44nm,18.1s,MS3.9,baz=78,slow=35						
RES	**Resolute Bay**	**93.65 10**	*e*P	**P**		**14 58 27.4**	**+1.3**
RES				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.9						
RES	**Resolute Bay**	**93.65 10**	*e*P	**P**		**14 58 27.4**	**+1.3**
	comp=Z,4.5nm,1.0s,mb4.8						
NB2	**NORSAR Subarra**	**95.26 334**	P	**P**		**14 58 32.7**	**-1.0**
	comp=Z,1.1nm,0.7s,mb4.4,baz=66,slow=4.5						
NB2	**NORSAR Subarra**	**95.26 334**	P	**P**		**14 58 32.7**	**-1.0**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.3						
NOA	**NORSAR Array B**	**95.26 334**	P	**P**		**14 58 33.0**	**-0.8**
	comp=Z,1.6nm,0.7s,mb4.5,baz=63,slow=4.6,SNR=8.8						
NOA				pP	pP	14 58 44.8	-1.0
	comp=Z,0.9nm,0.7s,baz=66,slow=4.6,SNR=3.5						
NOA				LR	LR	15 47 59.5	
	comp=Z,102nm,18.0s,MS4.3,baz=50,slow=40						
YKA	**Yellowknife Ar**	**95.53 24**	P	**P**		**14 58 37.0**	**+2.1**
	comp=Z,1.7nm,0.8s,mb4.5,baz=300,slow=4.6,SNR=20						
YKA				pP	pP	14 58 49.7	+2.7
	comp=Z,0.9nm,0.7s,baz=299,slow=4.7,SNR=6.8						
JMIC	**Jan Mayen**	**95.92 347**	LR	LR		15 47 56.1	
	comp=Z,67nm,18.7s,MS4.2,baz=267,slow=39						
QSPA	**South Pole Qui**	**97.78 180**	*e*P	**P**		**14 58 43.4**	**-1.4**
KHC	**Kasperske Hory**	**99.06 322**	*e*P	**P**		**14 58 52.1**	**+0.9**
GERES	**GERESS Array B**	**99.10 322**	P	**P**		**14 58 51.2**	**-0.2**
	comp=Z,0.3nm,0.2s,mb4.4,baz=68,slow=7.2,SNR=8.1						
GERES				pP	pP	14 59 02.9	-0.6
	comp=Z,0.6nm,0.7s,baz=63,slow=9.0,SNR=3.5						
GERES				LR	LR	15 52 58.3	
	comp=Z,70nm,18.1s,MS4.2,baz=52,slow=41						
PDAR	**Pinedale Array**	**107.92 40**	PKKP	PKKP		15 15 02.5	+5.8
	comp=Z,0.3nm,0.6s,baz=124,slow=3,SNR=4.6						
PLCA	**Paso Flores**	**143.69 157**	PKP	PKPdf		15 04 48.1	+3.9
	comp=Z,1.7nm,0.8s,baz=275,slow=2.5,SNR=4.2						

IDC 30 15:02:27.9±2.7, 0.18N×98.11E, h23km±5km, mb3.9/5, mb1 4.0/5, mb1mx3.7/18, mbtmp4.0/5, Error ellipse: s-maj=109.8km s-min=16.7km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.73 122**		P	P	15 10 07.1	-1.8
	1.1nm,0.6s,baz=302,slow=9.0,SNR=12						
WRA				pP	pP	15 10 14.2	-1.6
	0.6nm,0.6s,baz=301,slow=9.1,SNR=4.7						
ASAR	**Alice Springs**	**42.06 127**		P	P	15 10 18.1	-1.8
	1.1nm,0.7s,baz=297,slow=7.9,SNR=11						
SONM	**Songino Array**	**48.00 8**		P	P	15 11 06.1	-1.1
	0.5nm,0.4s,baz=194,slow=9.3,SNR=7.1						
SONM				pP	pP	15 11 12.7	-1.5
	0.4nm,0.5s,baz=198,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**48.44 346**		P	P	15 11 08.2	-2.4
	2.6nm,0.7s,baz=158,slow=8.4,SNR=21						
MKAR				pP	pP	15 11 15.5	-2.1
	0.6nm,0.5s,baz=161,slow=8.9,SNR=3.5						
ZAL	**Zalesovo**	**54.69 350**		P	P	15 11 54.5	-3.0
	2.1nm,0.4s,baz=302,slow=3.5,SNR=7.6						
ZAL				pP	pP	15 12 02.1	-2.5
	1.2nm,0.8s,baz=318,slow=4.5,SNR=3.2						

*IDC **30** 15:12:28.7±3.0, 32.59S×178.59W, mb3.6/2, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=70.4km s-min=45.5km az=120.0*

ISC 30 15:12:33.7±3.2, 33.4S±0.2×177.9W±0.5, h100km, n7, σ0s53/7, mb3.4/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUZ	**Puketiti**	**5.62 213**	*e*PN	**P**		**15 13 56.7**	**+0.5**
MWZ	**Matawai**	**6.17 216**	*e*P*	**P**		**15 14 03.3**	**-0.5**
URZ	**Urewera**	**6.33 219**	Pn	**P**		**15 14 06.5**	**+0.5**
	0.8nm,0.3s,baz=15,slow=20,SNR=4.7						
URZ				Sn	**S**	**15 15 17.5**	**+0.1**
	0.6nm,0.3s,baz=29,slow=13,SNR=4.2						
URZ	**Urewera**	**6.33 219**	*e*P*	**P**		**15 14 05.2**	**-0.8**
ASAR	**Alice Springs**	**43.16 270**	P	**P**		**15 20 26.7**	**+0.6**
	0.6nm,0.9s,mb3.3,baz=109,slow=8.8,SNR=4.8						
WRA	**Warramunga Arr**	**44.42 275**	P	**P**		**15 20 35.8**	**-0.5**
	0.3nm,0.3s,mb3.5,baz=113,slow=7.9,SNR=22						
FINES	**FINESS Array B**	**148.01 338**	PKPbc	PKPdf		15 32 11.8	+8.6
	0.8nm,0.5s,baz=27,slow=3.1,SNR=6.8						

IDC 30 15:15:52.0±2.2, 0.28N×97.70E, h16km±4km, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp4.0/6, Error ellipse: s-maj=91.7km s-min=14.3km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.12 121**		P	P	15 23 35.3	-1.9
	1.4nm,0.7s,baz=302,slow=8.9,SNR=15						
WRA				pP	pP	15 23 40.3	-1.8
	0.7nm,0.5s,baz=302,slow=8.9,SNR=4.7						
ASAR	**Alice Springs**	**42.44 127**		P	P	15 23 46.6	-1.4
	1.5nm,0.9s,baz=294,slow=8.2,SNR=13						
ASAR				pP	pP	15 23 51.6	-1.4
	1.8nm,0.8s,baz=298,slow=7.8,SNR=9.7						
SONM	**Songino Array**	**47.97 8**		P	P	15 24 30.6	-1.3
	1.7nm,0.8s,baz=188,slow=9.6,SNR=15						
SONM				pP	pP	15 24 35.2	-1.8
	0.7nm,0.5s,baz=190,slow=8.8,SNR=5.5						
MKAR	**Makanchi Array**	**48.25 346**		P	P	15 24 32.1	-2.0
	1.5nm,0.7s,baz=158,slow=7.9,SNR=19						
MKAR				pP	pP	15 24 37.6	-1.5
	1.6nm,0.8s,baz=155,slow=8.2,SNR=11						
ZAL	**Zalesovo**	**54.54 351**		P	P	15 25 18.8	-2.6
	2.1nm,0.6s,baz=271,slow=3.2,SNR=9.7						
ZAL				pP	pP	15 25 24.0	-2.5
	2.1nm,0.6s,baz=319,slow=6.3,SNR=5.8						
BVAR	**Borovoye Array**	**57.28 341**		P	P	15 25 38.0	-3.2
	1.1nm,0.8s,baz=135,slow=6.3,SNR=5.0						

*CSEM **30** 15:22:43.3,24.28N×49.51E, h82km, ML3.6, After SNSN*

SNSN 30 15:22:43.3,24.28N×49.51E, h82km, Ml3.6, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HASS	**Wahat al Ahsa'**	**0.92 10**		P	P	15 23 01.3	-0.5
HASS				S	S	15 23 15.9	+0.1
RYDS	**Riyadh**	**2.62 269**		P	P	15 23 23.8	-0.8
RYDS				S	S	15 23 54.9	-0.5
MZLS	**Mizel**	**3.94 267**		P	P	15 23 41.6	-1.3

*PRU **30** 15:23:46.9,50.15N×19.02E*

WAR 30 15:23:46.3,50.08N×19.13E, h0km, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.46 71**	*e*PG		Pg	15 23 56.0	+0.6
OJC				*e*SG	Sg	15 24 02.0	+0.5
OKC	**Ostrava-Krasne**	**0.68 250**	*e*PG		Pg	15 23 59.9	+0.1
OKC				*e*SG	Sg	15 24 09.2	+0.4
	28nm,0.3s						
NIE	**Niedzica**	**1.01 130**	*e*PG		Pg	15 24 05.0	-1.5
NIE				*e*SG	Sg	15 24 20.0	0.0
KOLL	**Kolacno**	**1.57 198**	*e*SN		Sn	15 24 37.2	+0.4
VYHS	**Vyhne**	**1.59 187**	*e*PN		Pn	15 24 15.6	-0.3
VYHS			*i* PG		Pg	15 24 16.2	-1.9
VYHS				*e*SN	Sn	15 24 36.8	-0.6
VYHS				*e*SG	Sg	15 24 37.7	-1.7
DPC	**Dobruska-Polom**	**1.82 280**	*e*PG		Pg	15 24 19.5	-3.2
DPC				*e*SG	Sg	15 24 42.4	-4.6
	28nm,0.3s						
CRVS	**Cervenica-Dubn**	**1.92 127**	*e*PN		Pn	15 24 22.8	+2.3
CRVS				*e*SN	Sn	15 24 50.0	+4.3
KSP	**Ksiaz**	**1.97 294**	*e*PG		Pg	15 24 23.0	-2.6
KSP				*e*SG	Sg	15 24 49.0	-2.8
UPC	**Upice**	**2.04 283**	*e*PG		Pg	15 24 23.1	-4.0
ZST	**Bratislava**	**2.30 216**	*e*SN		Sn	15 24 53.0	-2.4
KOLS	**Kolonicke sedl**	**2.35 118**	*e*PN		Pn	15 24 32.8	+6.2
PRU	**Pruhonice**	**2.96 270**	*e*PG		Pg	15 24 40.5	-4.8
PRU				*e*SG	Sg	15 25 19.4	-5.4
	9.9nm,0.6s						
KHC	**Kasperske Hory**	**3.73 257**	*e*PG		Pg	15 24 54.6	-6.2
KHC				*ex*	x	15 25 28.5	
KHC				*e*SG	Sg	15 25 44.5	-6.0
CLL	**Collm**	**4.08 290**	*e*SG		Sg	15 25 57.0	-5.3
NKC	**Novy Kostel**	**4.30 275**	*e*SG		Sg	15 26 01.1	-8.3

IDC 30 15:23:50.0±4.5, 1.55N×97.61E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=171.4km s-min=31.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.88 123**		P	P	15 31 42.2	-1.8
	0.4nm,0.6s,baz=303,slow=9.0,SNR=5.0						
SONM	**Songino Array**	**46.73 8**		P	P	15 32 21.5	-1.1
	0.5nm,0.7s,baz=181,slow=9.3,SNR=4.4						
MKAR	**Makanchi Array**	**47.00 346**		P	P	15 32 22.4	-2.4
	0.3nm,0.5s,baz=159,slow=8.9,SNR=6.2						

*IDC **30** 15:25:37.3±2.6, 23.95S×69.51E, mb3.8/6, mb1 4.0/6, mb1mx3.8/19, mbtmp3.8/6, MS3.9/1, Ms1 3.7/1, ms1mx3.0/27, Error ellipse: s-maj=95.6km s-min=26.4km az=46.0*

*NEIC **30** 15:25:38.5±0.8, 24.03S×69.43E, h10km, mb4.9/1, Error ellipse: s-maj=34.2km s-min=15.5km az=61.0*

ISC 30 15:25:36.7±1.2, 24.1S±0.2×69.5E±0.3, h10km, n9, σ0s58/7, mb4.0/7, MS3.8/1, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**39.71 254**		LR	LR	15 47 37.0	
	comp=Z,141nm,19.3s,MS3.8,baz=165,slow=33						
CASY	**Casey**	**49.49 160**	*e*P	**P**		**15 34 28.8**	**-0.1**
	7.6nm,0.6s,mb4.9						
ASAR	**Alice Springs**	**58.44 104**	P	**P**		**15 35 35.4**	**+0.1**
	1.0nm,0.7s,mb4.0,baz=253,slow=6.2,SNR=13						
ASAR				PcP	PcP	15 36 25.2	-0.6
	0.6nm,0.8s,baz=269,slow=3.3,SNR=4.0						
WRA	**Warramunga Arr**	**59.83 100**	P	**P**		**15 35 45.0**	**0.0**
	1.1nm,0.7s,mb4.0,baz=252,slow=6.9,SNR=8.5						
MKAR	**Makanchi Array**	**71.47 9**	P	**P**		**15 36 58.1**	**-1.2**
	1.1nm,0.8s,mb3.9,baz=190,slow=5.8,SNR=8.3						
BRTR	**Keskin Array B**	**71.72 332**	P	**P**		**15 37 01.4**	**+0.4**
	0.8nm,0.7s,mb3.7,baz=146,slow=5.2,SNR=4.4						
ZAL	**Zalesovo**	**78.80 9**	P	**P**		**15 37 41.0**	**0.0**
	0.6nm,0.5s,mb3.8,baz=321,slow=5.2,SNR=3.6						
SONM	**Songino Array**	**78.89 24**	P	**P**		**15 37 42.5**	**+0.8**
	0.4nm,0.8s,mb3.4,baz=214,slow=5.2,SNR=2.6						
YKA	**Yellowknife Ar**	**141.49 3**	PKP	PKPdf		15 45 09.4	-1.2
	0.2nm,0.8s,baz=339,slow=2.8,SNR=3.7						

IDC 30 15:27:42.5±31.0, 0.50S×93.81E, mb3.9/4, mb1 4.0/4, mb1mx3.6/20, mbtmp3.9/4, Error ellipse: s-maj=621.8km s-min=132.5km az=173.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**48.17 349**		P	P	15 36 24.6	-1.9
	1.0nm,0.4s,baz=158,slow=9.2,SNR=26						
SONM	**Songino Array**	**49.37 11**		P	P	15 36 34.1	-1.6
	0.3nm,0.5s,baz=184,slow=8.1,SNR=4.6						
ZAL	**Zalesovo**	**54.76 353**		P	P	15 37 12.9	-3.2
	1.5nm,0.5s,baz=285,slow=5.7,SNR=6.4						
BVAR	**Borovoye Array**	**56.81 343**		P	P	15 37 28.8	-2.2
	0.8nm,0.7s,baz=149,slow=8.4,SNR=5.7						

IDC 30 15:32:36.3±15.0, 12.63N×90.93W, mb3.7/3, mb1 4.2/3, mb1mx3.7/17, mbtmp3.8/3, Error ellipse: s-maj=343.8km s-min=112.8km az=18.0, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**20.41 326**		P	P	15 37 15.4	-2.3
	3.4nm,0.7s,baz=154,slow=12,SNR=20						
PDAR	**Pinedale Array**	**34.09 335**		P	P	15 39 22.6	-2.1
	0.3nm,0.5s,baz=122,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**52.59 346**		P	P	15 41 51.5	-2.3
	1.0nm,0.5s,baz=149,slow=7.9,SNR=29						

*IDC **30** 15:38:37.6±7.3, 7.15S×128.84E, h69km±66km, mb3.7/3, mb1 3.9/6, mb1mx3.7/15, mbtmp4.0/6, ML4.0/3, MS4.3/1, Ms1 4.3/1, ms1mx3.0/26, Error ellipse: s-maj=101.7km s-min=23.4km az=57.0*

*NEIC **30** 15:38:43.3±2.3, 7.46S×128.32E, h120km±21km, mb4.7/3, Error ellipse: s-maj=30.6km s-min=18.4km az=63.0*

ISC 30 15:38:42.8±1.9, 7.5S±0.1×128.4E±0.2, h134km±19km, n15, σ0s91/17, mb3.7/3, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**6.51 143**	⇓ *i*	P	**P**	**15 40 17.4**	**+0.1**
	20nm,0.1s						
KAKA				*e*S	**S**	**15 41 25.2**	**-5.4**
FITZ	**Fitzroy Crossi**	**10.87 194**	*e*P	**P**	**P**	**15 41 15.4**	**-0.2**
	5.5nm,0.3s						
FITZ				*e*S	**S**	**15 43 09.5**	**-5.8**
FITZ	**Fitzroy Crossi**	**10.87 194**	P	**P**	**P**	**15 41 15.3**	**-0.4**
	1.5nm,0.3s,baz=16,slow=10,SNR=28						
FITZ				S	**S**	**15 43 09.1**	**-6.2**
	3.5nm,0.3s,baz=2.3,slow=18,SNR=5.0						
WRA	**Warramunga Arr**	**13.62 156**	P	**P**	**P**	**15 41 50.0**	**-1.6**
	0.7nm,0.3s,baz=342,slow=13,SNR=47						
WRA				S	**S**	**15 44 12.1**	**-7.9**
	2.2nm,0.3s,baz=328,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	**13.63 156**	*e*P	**P**	**P**	**15 41 50.9**	**-0.8**
WB2				*e*S	rx	15 43 50.7	
ASAR	**Alice Springs**	**16.90 162**	P	**P**	**P**	**15 42 34.5**	**+1.8**
	0.5nm,0.3s,baz=337,slow=9.8,SNR=36						
ASAR				S	**S**	**15 45 34.1**	**-0.6**
	0.4nm,0.3s,baz=328,slow=16,SNR=4.4						
ASPA	**Alice Springs**	**16.90 162**	*e*P	**P**	**P**	**15 42 34.4**	**+1.7**
ASPA				*e*S	**S**	**15 45 34.9**	**+0.1**
STKA	**Stephens Creek**	**27.18 155**	*e*P	**P**	**P**	**15 44 16.0**	**+0.2**
	2.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**27.18 155**	P	**P**	**P**	**15 44 16.1**	**+0.3**
	2.1nm,0.7s,mb3.9,baz=313,slow=8.8,SNR=7.9						
DZM	**Mont Dzumac**	**39.37 116**	LR	LR		15 59 13.7	
	comp=Z,382nm,19.2s,baz=352,slow=32						
MKAR	**Makanchi Array**	**67.81 328**	P	**P**	**P**	**15 49 28.3**	**-0.1**
	0.7nm,0.3s,mb3.8,baz=113,slow=8.7,SNR=12						
BVAR	**Borovoye Array**	**77.67 328**	P	**P**	**P**	**15 50 25.7**	**-0.3**
	0.4nm,0.5s,mb3.4,baz=131,slow=9.2,SNR=4.5						
PRU	**Pruhonice**	**111.00 321**	*e*PKP	PKPdf		15 57 07.0	+7.0
KHC	**Kasperske Hory**	**111.81 320**	*e*PKP	PKPdf		15 57 03.0	+1.4
LPAZ	**La Paz**	**151.23 145**	PKPbc	PKPdf		15 58 23.7	+8.7
	0.5nm,0.4s,baz=70,slow=2.0,SNR=3.8						
LPAZ				PKPab	PKPab	15 58 33.4	+1.4
	0.9nm,0.6s,baz=182,slow=4.0,SNR=6.2						

*NEIC **30** 15:41:00.4, 16.66N×93.47W, h24km, MD4.0(MEX), After MEX.*

MEX 30 15:41:00.4±1.3, 16.66N×93.47W, h20km±51km, MD4.0, 1D, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CCIG	**Comitan**	**1.33 106**	*i* P		Pn	15 41 20.8	-3.3
CCIG			*i* S		Sb	15 41 36.8	-4.4
CMIG	**Matias Romero**	**1.42 288**	⇓ *i* P		Pn	15 41 23.1	-2.3
CMIG			*i* S		Sn	15 41 37.6	-6.1
TUIG	**Tuzandepetl**	**1.64 327**	*i* P		Pn	15 41 25.6	-3.0
TUIG			*i* S		Sn	15 41 44.8	-4.5
HUIG	**Huatulco**	**2.68 251**	*i* P		Pn	15 41 39.5	-3.9
HUIG			*i* S		Sn	15 42 11.0	-4.7
OXX	**Oaxaca**	**3.14 278**	*i* P		Pn	15 41 47.0	-3.0
OXX			*i* S		Sn	15 42 20.0	-7.3
VHO	**Vista Hermosa**	**3.15 278**	*i* P		Pn	15 41 48.1	-2.0
VHO			*i* S		Sn	15 42 23.6	-4.0
LVIG	**Laguna Verde**	**4.14 318**	*i* P		Pn	15 41 58.7	-5.5
LVIG			*i* S		Sn	15 42 42.2	-10
IISM	**Ciudad Serdan**	**4.38 303**	*e*P		Pn	15 42 03.0	-4.6
PPM	**Popocatepetl**	**5.46 297**	*i* P		Pn	15 42 20.0	-2.9
PPM			*i* S		Sn	15 43 23.1	-2.9
PPM	**Popocatepetl**	**5.46 297**	*i* P		Pn	15 42 20.0	-2.9
PPM			*e*P			15 42 20.1	
PPM			*i* S		Sn	15 43 23.1	-2.9

OTT 30 15:43:12.2±3.3, 69.09N×52.72W, h18km, ML4.0/2, West coast of Greenland Foreshock Eastern Arctic Background Seismic Zone. 532km northeast from Qikiqtarjuaq, Nu, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFJD	**Kangerlussuaq**	**2.24 158**	*i* P		Px	15 44 14.2	
SFJD			*i* S		Sx	15 44 42.7	
FRB	**Frobisher Bay**	**8.28 237**	SN		Sn	15 46 39.1	-9.3
FRB			Trac			15 46 41.2	
	comp=Z,7.1nm,0.1s						
TULEG	**Thule**	**8.83 335**	PN	P		15 45 17.6	-4.3
TULEG			SN		Sn	15 46 51.2	-11
PINU	**Pond Inlet**	**8.99 305**	PN	P		15 45 22.8	-1.4
PINU			SN		Sn	15 46 55.0	-11
SCO	**Scoresbysund**	**10.67 68**	*i* P	P		15 45 45.7	-1.4
	12nm,0.6s						
SCO			*e*			15 49 16.4	
SCO			*i*			15 51 09.1	
SCO			*e*S		Sx	15 52 18.5	
QILN	**Qililugaq Expl**	**12.81 275**	PN	P		15 46 06.0	-10
QILN			SN	S		15 48 24.1	-15
QILN			Trac			15 48 27.7	
	comp=Z,4.5nm,0.2s						
RES	**Resolute Bay**	**13.96 312**	PN	P		15 46 26.4	-4.5
RES			SN	S		15 48 58.8	-7.6
LG4Q	**La Grande 4**	**18.40 223**	PN	P		15 47 27.1	-0.7
LG4Q			SN	S		15 50 38.6	-11
FCC	**Fort Churchill**	**20.45 260**	PN	P		15 47 51.7	+0.7
SILO	**Sutton Inlier**	**20.73 241**	PN	P		15 47 52.9	-1.0
COWN	**Contwyto Lake**	**22.22 289**	PN	P		15 48 14.2	+5.3
YKB0	**Yellowknife Ar**	**25.08 286**	PN	P		15 48 55.6	+19
YKB8	**Yellowknife Ar**	**25.11 286**	PN	P		15 48 51.1	+14
YKW3	**Yellowknife Ar**	**25.11 286**	PN	P		15 48 47.8	+11

*IDC **30** 15:44:30.6±0.5, 2.54N×97.20E, mb4.6/26, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, Error ellipse: s-maj=21.4km s-min=10.9km az=45.0*

*BJI **30** 15:44:33.5, 2.18N×97.29E, h61km, mB5.1, mb4.8, Ms4.5, Ms2.4*

*MOS **30** 15:44:34.6±1.0, 2.73N×97.44E, h33km, mb5.1/31, Error ellipse: s-maj=12.5km s-min=5.8km az=119.1*

*NEIC **30** 15:44:37.0±1.2, 2.53N×97.24E, h42km±11km, mb4.9/29, Error ellipse: s-maj=8.2km s-min=4.7km az=221.0*

*HRVD **30** 15:44:37.0±0.9, 2.29N×97.18E, h54km±3km, MW4.8/26, Centroid moment Tensor Solution. LP body waves: s10,c18;Mantle waves: s26,c44; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.60±.20; $M_{\theta\theta}$-1.07±.14; $M_{\phi\phi}$-0.53±.20; $M_{r\theta}$0.74±.08; $M_{\theta\phi}$0.96±.09; $M_{\phi r}$-0.60±.12; Best double couple: $M_0$1.949×10^{16} NP1:ϕ_s306°,δ30°,λ88°. NP2:ϕ_s128°,δ60°,λ91°. Principal axes: T 1.853, Plg75°, Azm41°; N .194, Plg1°, Azm308°; P -2.046, Plg15°, Azm217°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 15:44:34.5±0.3, 2.55N±0.04×97.28E±0.04, h35km, h35km±2.4km:pP-P, n176, σ1s10/179, mb4.8/72, MS4.3/9, 11C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.25 62**		P	**P**	**15 45 42.1**	**+3.6**
KULM	**Kulim**	**4.33 51**	*e*P		**P**	**15 45 43.3**	**+3.6**
SNG	**Songkhla**	**5.67 36**	P		**P**	**15 46 03.0**	**+4.4**
	650nm,1.0s						
KGM	**Kluang**	**6.06 95**	P		**P**	**15 46 06.7**	**+2.7**
NNT	**Nongplab**	**10.27 14**	P		**P**	**15 47 05.0**	**+2.4**
KSM	**Kuching**	**13.07 94**	P		**P**	**15 47 44.8**	**+4.4**
CM31	**Chiang Mai Arr**	**15.89 6**	*e*P		**P**	**15 48 18.9**	**+1.6**
	8.6nm,0.6s						
PALK	**Pallekele**	**17.16 286**	*e*P		**P**	**15 48 31.2**	**-2.2**
KKM	**Kota Kinabalu**	**19.20 79**	*e*P		**P**	**15 48 58.8**	**+0.5**
KKM	**Kota Kinabalu**	**19.20 79**	P		**P**	**15 48 59.6**	**+1.2**
QIZ	**Qiongzhong**	**20.48 36**	P		**P**	**15 49 11.0**	**-1.1**
TSM	**Tawau**	**20.63 85**	P		**P**	**15 49 13.9**	**+0.2**
KMI	**Kunming**	**23.05 13**	P		**P**	**15 49 39.8**	**+1.9**
KMI			S		**S**	**15 53 45.8**	**+3.6**
KMI			AMB	AMB			
	comp=Z,15nm,1.2s,mb4.3						
KMI			LR	LR			
	comp=N,693nm,17.8s,MS4.2						
KMI			LR	LR			

NJ2					S	**S**	**15 57 02.0**	**-3.1**
NJ2					AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0							
NJ2					AMB	AMB		
	comp=Z,210nm,4.6s							
NJ2					LR	LR		
	comp=N,370nm,21.6s,MS4.2							
NJ2					LR	LR		
	comp=E,310nm,20.4s,MS4.2							
NJ2					LR	LR		
	comp=Z,160nm,19.6s,MS3.8							
DLH	**Dalhousie**	**35.93**	**328**	*e*P	**P**	**15 51 34.0**	**+0.3**
SSE	**Sheshan**	**36.28**	**36**	P	**P**	**15 51 34.3**	**-2.4**
SSE				PP	PP	15 52 57.5	-2.7
SSE				PCP	PcP	15 53 57.5	-4.0
SSE				S	**S**	**15 57 14.5**	**+0.2**
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,98nm,4.2s						
SSE				LR	LR		
	comp=N,221nm,18.5s,MS4.1						
SSE				LR	LR		
	comp=E,169nm,18.6s,MS4.1						
SSE				LR	LR		
	comp=Z,343nm,16.9s,MS4.2						
GTA	**Gaotai**	**36.76**	**3**	*e*P	**P**	**15 51 40.3**	**-0.4**
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.4						
GTA				AMB	AMB		
	comp=Z,102nm,3.8s						
GTA				LR	LR		
	comp=N,228nm,20.2s,MS4.1						
GTA				LR	LR		
	comp=E,204nm,18.3s,MS4.1						
GTA				LR	LR		
	comp=Z,268nm,19.0s,MS4.0						
KAKA	**Kakadu**	**38.07**	**114**	*e*P	**P**	**15 51 50.2**	**-1.6**
	comp=Z,7.5nm,0.5s,mb4.7						
HHC	**Hu-ho-hao-te**	**40.25**	**17**	*e*P	**P**	**15 52 11.5**	**+1.8**
HHC				AP	pP	15 52 25.5	+5.5
HHC				XP	sP	15 52 30.8	+6.4
HHC				PP	PP	15 53 48.3	+2.3
HHC				PCS		15 58 02.8	
HHC				S	**S**	**15 58 18.8**	**+4.4**
HHC				XS		15 58 39.5	
HHC				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.8						
HHC				AMB	AMB		
	comp=Z,149nm,5.5s						
HHC				LR	LR		
	comp=N,493nm,17.8s,MS4.5						
HHC				LR	LR		
	comp=E,288nm,19.6s,MS4.5						
HHC				LR	LR		
	comp=Z,423nm,18.4s,MS4.3						
BJT	**Baijiatuau**	**41.05**	**22**	*e*P	**P**	**15 52 17.4**	**+1.1**
BJT				pmax	pmax		
	comp=Z,27nm,0.6s						
BJT	**Baijiatuau**	**41.05**	**22**	*e*P	**P**	**15 52 17.4**	**+1.1**
	comp=Z,27nm,0.6s,mb5.1						
BJI	**Beijing**	**41.07**	**22**	P	**P**	**15 52 17.3**	**+0.8**
BJI				AP	pP	15 52 27.5	+0.7
BJI				AMB	AMB		
	comp=Z,33nm,0.6s,mb5.1						
BJI				LR	LR		
	comp=N,229nm,15.5s,MS4.2						
BJI				LR	LR		
	comp=E,211nm,18.5s,MS4.2						
BJI				LR	LR		
	comp=Z,160nm,29.2s						
KSH	**Kashi**	**41.58**	**335**	*e*P	**P**	**15 52 19.3**	**-1.5**
KSH				*e*AP	pP	15 52 30.5	-0.6
WMQ	**Urumqi**	**41.97**	**350**	*e*P	**P**	**15 52 24.0**	**+0.1**
WMQ				AP	pP	15 52 36.0	+1.8
WMQ				XP	sP	15 52 41.5	+3.0
WMQ				PP	PP	15 54 05.0	+0.9
WMQ				*e*S	**S**	**15 58 39.5**	**-0.4**
WMQ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.3						
WMQ				AMB	AMB		
	comp=Z,180nm,5.0s						
WMQ				LR	LR		
	comp=N,325nm,23.0s,MS4.2						
WMQ				LR	LR		
	comp=E,240nm,24.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,273nm,24.8s,MS4.0						
WRA	**Warramunga Arr**	**42.69**	**123**	P	**P**	**15 52 29.7**	**-0.5**
	comp=Z,6.2nm,0.4s,mb4.7,baz=301,slow=9.3,SNR=106						
WRAB	**Tennant Creek**	**42.70**	**123**	P	**P**	**15 52 30.0**	**-0.2**
	comp=Z,176nm,0.4s,SNR=10						
WB2	**Warramunga Arr**	**42.70**	**123**	⇓*i*P	**P**	**15 52 30.0**	**-0.2**
ULHL	**Ulahol**	**43.78**	**337**	P	**P**	**15 52 39.1**	**+0.4**
	SNR=18						
KZA	**Kyzart**	**44.03**	**336**	P	**P**	**15 52 41.6**	**+0.9**
	SNR=12						
ASPA	**Alice Springs**	**44.15**	**128**	*e*P	**P**	**15 52 41.5**	**-0.4**
ASAR	**Alice Springs**	**44.15**	**128**	P	**P**	**15 52 41.5**	**-0.4**
	comp=Z,1.8nm,0.5s,mb4.1,baz=302,slow=7.9,SNR=34						
FORT	**Forrest**	**44.26**	**141**	⇑*i*P	**P**	**15 52 43.8**	**+1.1**
	comp=Z,475nm,0.5s						
UCH	**Uchtor**	**44.45**	**336**	P	**P**	**15 52 44.9**	**+0.8**
	SNR=31						
TKM2	**Tokmak 2**	**44.61**	**337**	P	**P**	**15 52 45.8**	**+0.5**
	SNR=30						
KBK	**Karagaybulak**	**44.64**	**336**	P	**P**	**15 52 46.7**	**+1.1**
	SNR=41						
KS15	**Wonju Array Si**	**44.67**	**35**	*e*P	**P**	**15 52 45.7**	**-0.2**
AML	**Almayashu**	**44.72**	**335**	P	**P**	**15 52 47.2**	**+1.0**
	SNR=28						
AAK	**Ala-Archa**	**44.80**	**336**	P	**P**	**15 52 48.1**	**+1.3**
	SNR=9.6						
AAK	**Ala-Archa**	**44.80**	**336**	P	**P**	**15 52 47.5**	**+0.6**
	comp=Z,89nm,1.1s,mb5.5,SNR=21						
AAK	**Ala-Archa**	**44.80**	**336**	*e*P	**P**	**15 52 46.9**	**0.0**
AAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
AAK	**Ala-Archa**	**44.80**	**336**	*e*P	**P**	**15 52 46.9**	**+0.1**
	comp=Z,12nm,1.0s,mb4.7						
FRU	**Bishkek**	**44.92**	**336**	*e*P	**P**	**15 52 48.5**	**+0.7**
CHMS	**Chumysh**	**45.00**	**337**	P	**P**	**15 52 48.7**	**+0.2**
	SNR=7.5						
EKS2	**Erkin-Say**	**45.12**	**335**	P	**P**	**15 52 50.2**	**+0.8**
	SNR=14						
USP	**Ospenovka**	**45.33**	**337**	P	**P**	**15 52 51.1**	**0.0**
	SNR=33						
SONM	**Songino Array**	**45.79**	**9**	P	**P**	**15 52 54.5**	**-0.2**
	comp=Z,4.9nm,0.4s,mb4.8,baz=190,slow=9.3,SNR=36						
SONM				PcP	PcP	15 54 31.9	-0.4
	comp=Z,1.8nm,0.6s,baz=187,slow=3.8,SNR=7.7						
ULN	**Ulaanbaatar**	**45.92**	**9**	*e*P	**P**	**15 52 55.1**	**-0.7**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
ULN	**Ulaanbaatar**	**45.92**	**9**	*e*P	**P**	**15 52 55.0**	**-0.7**
	comp=Z,3.3nm,0.6s,mb4.4						
MKAR	**Makanchi Array**	**45.96**	**346**	P	**P**	**15 52 55.4**	**-0.7**
	comp=Z,10nm,0.5s,mb5.0,baz=156,slow=8.8,SNR=168						
ZAK	**Zakamensk**	**47.93**	**5**	*e*P	**P**	**15 53 10.8**	**-0.7**
CN2	**Changchun**	**48.08**	**27**	*e*P	**P**	**15 53 15.0**	**+2.3**
TLY	**Talaya**	**49.25**	**5**	*e*P	**P**	**15 53 21.4**	**-0.3**
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
TLY				MLR	MLR		
	comp=Z,400nm,19.0s,MS4.4						
TLY	**Talaya**	**49.25**	**5**	*e*P	**P**	**15 53 21.2**	**-0.5**
	comp=Z,3.7nm,0.7s,mb4.5						
HIA	**Hailar**	**50.35**	**19**	*e*P	**P**	**15 53 28.7**	**-1.4**
HIA				pmax	pmax		
	comp=Z,4.0nm,0.6s						
HIA	**Hailar**	**50.35**	**19**	*e*P	**P**	**15 53 28.7**	**-1.4**
	comp=Z,4.2nm,0.6s,mb4.7						
KURK	**Kurchatov**	**50.52**	**345**	*e*P	**P**	**15 53 30.8**	**-0.6**
KURK				pmax	pmax		
	comp=Z,15nm,0.4s,mb5.3						
KURK	**Kurchatov**	**50.52**	**345**	*e*P	**P**	**15 53 30.8**	**-0.6**
	comp=Z,15nm,0.4s,mb5.3						
MJAR	**Matsushiro Arr**	**50.65**	**43**	P	**P**	**15 53 32.7**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=359,slow=3.7,SNR=4.6						
PMG	**Port Moresby**	**51.10**	**104**	P	**P**	**15 53 36.0**	**-0.3**
	comp=Z,19nm,0.8s,mb5.0,baz=325,slow=6.1,SNR=6.7						
ZAL	**Zalesovo**	**52.24**	**351**	P	**P**	**15 53 43.4**	**-0.9**
	comp=Z,42nm,0.5s,mb5.6,baz=309,slow=5.5,SNR=250						
CTA	**Charters Tower**	**53.04**	**117**	P	**P**	**15 53 50.2**	**-0.6**
	comp=Z,7.1nm,0.9s,mb4.6,baz=339,slow=8.6,SNR=4.5						
NVS	**Novosibirsk**	**53.37**	**350**	⇑*i*P	**P**	**15 53 50.9**	**-1.8**
NVS				*e*S	**S**	**16 01 25.3**	**+4.7**
NVS				pmax	pmax		
	comp=Z,31nm,1.1s,mb5.2						
NVS				pmax	pmax		
	comp=N,12nm,0.6s						
NVS				pmax	pmax		
	comp=E,10.0nm,0.6s						
NVS				smax			
	comp=N,8.0nm,1.8s						
RAYN	**Ar Rayn**	**54.20**	**297**	P	**P**	**15 53 58.2**	**-1.1**
	comp=N,37nm,1.0s,SNR=9.3						
STKA	**Stephens Creek**	**54.20**	**133**	*e*P	**P**	**15 53 59.0**	**-0.2**
	comp=N,8.2nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**54.20**	**133**	P	**P**	**15 53 58.9**	**-0.3**
	comp=N,7.2nm,0.5s,mb4.9,baz=318,slow=8.1,SNR=24						
BVA0	**Borovoye Array**	**55.01**	**341**	P	**P**	**15 54 03.4**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BVAR	**Borovoye Array**	**55.01**	**341**	P	**P**	**15 54 03.4**	**-1.4**
	comp=Z,12nm,0.5s,mb5.2,baz=144,slow=9.5,SNR=152						
KLR	**Kul'dur**	**55.02**	**27**	*e*P	**P**	**15 54 01.7**	**-3.2**
CHKZ	**Chkalovo**	**55.48**	**341**	*e*P	**P**	**15 54 07.1**	**-1.1**
CHKZ				pmax	pmax		
	comp=Z,23nm,0.5s,mb5.5						
CHKZ	**Chkalovo**	**55.48**	**341**	*e*P	**P**	**15 54 07.0**	**-1.1**
	comp=Z,23nm,0.5s,mb5.5						
BOD	**Bodaibo**	**56.68**	**11**	*e*P	**P**	**15 54 15.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.7						
YSS	**Yuzh-Sakhalins**	**59.20**	**35**	*i* P	**P**	**15 54 32.8**	**-1.8**
KMBO	**Kilima Mbogo**	**60.12**	**267**	P	**P**	**15 54 41.5**	**+0.1**
	comp=Z,0.8nm,0.2s,mb4.4,baz=57,slow=18,SNR=2.6						
GNI	**Garni**	**60.38**	**316**	P	**P**	**15 54 42.4**	**-0.4**
	comp=Z,2.1nm,0.5s,mb4.4,baz=268,slow=22,SNR=3.2						
SVE	**Sverdlovsk**	**61.47**	**338**	⇑*e*P	**P**	**15 54 49.0**	**-0.9**
SVE				*e*		15 55 29.0	
SVE				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.2						
ARU	**Arti**	**61.98**	**337**	⇓*i*P	**P**	**15 54 51.9**	**-1.4**
ARU				*e*		15 55 39.2	
ARU				*e*		15 57 04.6	
ARU				*e*S	**S**	**16 03 14.4**	**+0.9**
ARU				*e*SS	SS	16 07 17.0	-0.8
ARU				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.0						
KIV	**Kislovodsk**	**63.34**	**319**	*c i*P	**P**	**15 55 01.7**	**-0.9**
KIV				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.1						
KIV	**Kislovodsk**	**63.34**	**319**	*e*P	**P**	**15 55 02.0**	**-0.6**
	comp=Z,16nm,0.9s,mb5.2						
GOF	**Gofitskoye**	**63.58**	**320**	*e*P	**P**	**15 55 03.4**	**-0.7**
ASF	**Jabal al Asfar**	**63.76**	**305**	P	**P**	**15 55 04.8**	**-0.7**
	comp=Z,1.1nm,0.4s,mb4.2,baz=158,slow=15,SNR=3.3						
YAK	**Yakutsk**	**64.11**	**16**	*e*P	**P**	**15 55 04.5**	**-2.8**
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
MALT	**Malatya**	**64.29**	**312**	*e*P	**P**	**15 55 08.8**	**-0.1**
MALT				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
MALT	**Malatya**	**64.29**	**312**	*e*P	**P**	**15 55 08.8**	**-0.1**
	comp=Z,9.9nm,1.0s,mb4.8						
SOC	**Sochi**	**65.18**	**317**	*e*P	**P**	**15 55 12.4**	**-2.1**
SOC				*e*		15 55 46.7	
SOC				*e*		15 57 37.9	
SOC				*e*PPP	PPP	15 59 08.4	-5.9
SOC				*e*S	S	16 03 53.5	0.0
SOC				*e*		16 05 03.4	
SOC				*e*SS	SS	16 08 06.6	-1.4
SOC				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
SOC				pmax	pmax		
	comp=N,12nm,0.7s						
SOC				pmax	pmax		
	comp=E,3.0nm,0.6s						
ANN	**Anapa**	**67.15**	**318**	*e*P	**P**	**15 55 30.9**	**+3.9**
ANN				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.5						
BRTR	**Keskin Array B**	**68.27**	**312**	P	**P**	**15 55 33.0**	**-1.2**
	comp=Z,2.2nm,0.7s,mb4.3,baz=131,slow=6.3,SNR=11						
MA2	**Magadan**	**70.09**	**26**	*e*P	**P**	**15 55 44.5**	**-0.4**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
MA2	**Magadan**	**70.09**	**26**	*e*P	**P**	**15 55 44.5**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.8						
MOS	**Moscow**	**71.22**	**329**	*e*P	**P**	**15 55 50.8**	**-1.1**
MOS				pmax	pmax		
	comp=Z,46nm,0.7s,mb5.5						
OBN	**Obninsk**	**71.52**	**328**	⇑*i*P	**P**	**15 55 52.9**	**-0.7**
OBN				*i*		15 56 07.8	
OBN				pmax	pmax		
	comp=Z,37nm,1.2s,mb5.2						
TIXI	**Tiksi**	**71.85**	**10**	⇑*i*P	**P**	**15 55 52.5**	**-2.9**
TIXI				pmax	pmax		
	comp=Z,15nm,1.5s,mb4.7						
SEY	**Seymchan**	**72.50**	**23**	*e*P	**P**	**15 56 00.6**	**+1.3**
SEY				pmax	pmax		
	comp=E,9.0nm,0.6s						
SEY				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
CFR	**Carcaliu**	**73.57**	**316**	⇑P	**P**	**15 56 05.8**	**-0.2**
HARR	**Harsova**	**73.60**	**316**	⇑P	**P**	**15 56 06.1**	**-0.1**
IDI	**Anoyia**	**74.17**	**306**	P	**P**	**15 56 08.2**	**-1.5**
	comp=Z,3.9nm,0.6s,mb4.5,baz=58,slow=9.5,SNR=6.0						
AKASG	**Malin Array Be**	**74.24**	**322**	*i* P	**P**	**15 56 08.7**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.4s						
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**15 56 08.3**	**-1.4**
	comp=Z,5.9nm,0.4s,mb4.9,baz=83,slow=5.7,SNR=48						
AKASG	**Malin Array Be**	**74.24**	**322**	P	**P**	**15 56 08.3**	**-1.4**
LBTB	**Lobatse**	**74.55**	**243**	*e*P	**P**	**15 56 13.2**	**+1.1**
LBTB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
LBTB	**Lobatse**	**74.55**	**243**	*e*P	**P**	**15 56 13.2**	**+1.1**
	comp=Z,5.7nm,0.9s,mb4.5						
VRI	**Vrincioaia**	**74.69**	**317**	⇑P	**P**	**15 56 12.5**	**+0.1**
VRI	**Vrincioaia**	**74.69**	**317**	⇑P	**P**	**15 56 12.4**	**0.0**
MLR	**Muntele Rosu**	**75.15**	**316**	⇓P	**P**	**15 56 15.8**	**+0.7**
BOSA	**Boshof**	**75.52**	**240**	P	**P**	**15 56 16.3**	**-1.3**
	comp=Z,3.3nm,0.9s,mb4.2,baz=123,slow=18,SNR=2.8						
BURAR	**Bucovina Array**	**76.07**	**318**	⇑P	**P**	**15 56 21.4**	**+1.1**
LVZ	**Lovozero**	**77.60**	**340**	*e*P	**P**	**15 56 27.9**	**-0.6**
LVZ				pmax	pmax		
	comp=Z,90nm,1.5s,mb5.5						
BZS	**Buzias**	**78.16**	**316**	⇓P	**P**	**15 56 33.3**	**+1.3**
KOLS	**Kolonicke sedl**	**78.25**	**319**	*e*P	**P**	**15 56 34.0**	**+1.6**
KOLS				*e*	pP	15 56 43.3	0.0
KOLS				*e*pP	pP	15 56 46.5	+3.2
CRVS	**Cervenica-Dubn**	**78.77**	**319**	*e*P	**P**	**15 56 37.5**	**+2.2**
CRVS				*e*pP	pP	15 56 49.3	+3.1
FINES	**FINESS Array B**	**78.84**	**332**	P	**P**	**15 56 34.9**	**-0.6**
	comp=Z,1.8nm,0.4s,mb4.4,baz=99,slow=5.8,SNR=25						
KAF	**Kangasniemi**	**78.92**	**333**	*e*p	**P**	**15 56 34.6**	**-1.3**
	comp=Z,3.6nm,0.6s,mb4.5						
KAF	**Kangasniemi**	**78.92**	**333**	*e*P	**P**	**15 56 34.6**	**-1.3**
KAF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
PSZ	**Piszkesteto**	**79.66**	**318**	*e*P	**P**	**15 56 40.4**	**+0.2**
PKSM	**Moragy**	**80.30**	**316**	⇓*e*P	**P**	**15 56 43.9**	**+0.3**
VYHS	**Vyhne**	**80.44**	**319**	*e*pP	pP	15 56 55.9	+0.7
KEV	**Kevo**	**80.86**	**341**	*e*p	**P**	**15 56 46.2**	**0.0**
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**81.30**	**340**	P	**P**	**15 56 48.4**	**-0.1**
	comp=Z,2.5nm,0.5s,mb4.4,baz=91,slow=5.7,SNR=30						
MORC	**Moravsky Berou**	**81.43**	**320**	*e*P	**P**	**15 56 50.0**	**+0.5**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MORC	**Moravsky Berou**	**81.43**	**320**	*e*P	**P**	**15 56 50.0**	**+0.5**
	comp=Z,3.8nm,0.9s,mb4.3						
BRG	**Berggiesshubel**	**83.82**	**321**	*e*P	**P**	**15 57 02.9**	**+1.2**
BRG				*e*	pP	15 57 15.1	+2.4
BRG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.6						
BRG	**Berggiesshubel**	**83.82**	**321**	*e*P	**P**	**15 57 02.9**	**+1.2**
	comp=Z,5.6nm,1.1s,mb4.6						
BRG				*e*	pP	15 57 15.1	+2.4
GEC2	**GERESS Array S**	**83.86**	**319**	*e*P	**P**	**15 57 02.8**	**+0.8**
GEC2				pmax	pmax		
	comp=Z,16nm,1.1s,mb5.1						
GEC2	**GERESS Array S**	**83.86**	**319**	*e*P	**P**	**15 57 02.8**	**+0.8**
	comp=Z,16nm,1.1s,mb5.1						
GERES	**GERESS Array B**	**83.86**	**319**	P	**P**	**15 57 02.8**	**+0.8**
	comp=Z,2.5nm,0.7s,mb4.5,baz=90,slow=5.3,SNR=21						
PTCC	**Patocco-Chiusa**	**83.97**	**316**	*e*P	**P**	**15 57 02.9**	**+0.3**
SNTG	**Esanatoglia**	**84.13**	**313**	*e*P	**P**	**15 57 04.2**	**+0.7**
ARV	**Arcevia**	**84.14**	**313**	*e*P	**P**	**15 57 04.5**	**+0.9**
WET	**Wettzell**	**84.41**	**319**	*e*P	**P**	**15 57 05.8**	**+1.0**
WET				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.9						
WET	**Wettzell**	**84.41**	**319**	*e*P	**P**	**15 57 05.8**	**+1.0**
	comp=Z,12nm,1.3s,mb4.9						
CLL	**Collm**	**84.44**	**321**	P	**P**	**15 57 06.0**	**+1.2**
CLL				*e**PP	pP	15 57 16.0	+0.2
HFS	**Hagfors**	**84.60**	**330**	P	**P**	**15 57 05.8**	**+0.3**
	comp=Z,3.6nm,0.5s,mb4.7,baz=135,slow=2.1,SNR=18						
SFI	**Santa Sofia**	**84.95**	**314**	*e*P	**P**	**15 57 10.0**	**+2.4**
PGD	**Poggio Sodo**	**85.04**	**314**	*e*P	**P**	**15 57 09.8**	**+1.8**
CTI	**Castel Tesino**	**85.14**	**316**	*e*P	**P**	**15 57 09.7**	**+1.2**
MOX	**Moxa**	**85.28**	**320**	*e*P	**P**	**15 57 09.6**	**+0.5**
MOX	**Moxa**	**85.28**	**320**	*i* P	**P**	**15 57 09.6**	**+0.5**
GRA1	**Grafenberg Arr**	**85.51**	**319**	*e*P	**P**	**15 57 11.2**	**+1.0**
	comp=Z,9.0nm,0.8s,mb5.0						
GRA1				*e*pP	pP	15 57 20.4	-0.8
GRF	**Grafenberg Arr**	**85.51**	**319**	*e*P	**P**	**15 57 11.2**	**+1.0**
GRF				*e**PP	pP	15 57 20.4	-0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
GRF	**Grafenberg Arr**	**85.51**	**319**	*e*P	**P**	**15 57 11.2**	**+1.0**
GRF				*e**PP	pP	15 57 20.4	-0.8
GRF				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb5.0						
GRF	**Grafenberg Arr**	**85.51**	**319**	*e*P	**P**	**15 57 11.2**	**+1.0**
	comp=Z,9.0nm,0.8s,mb5.0						
GRF				*e*pP	pP	15 57 20.4	-0.8
NB2	**NORSAR Subarra**	**85.87**	**331**	P	**P**	**15 57 11.8**	**+0.1**
	comp=Z,6.7nm,0.8s,mb4.9,baz=94,slow=4.8						
NB2	**NORSAR Subarra**	**85.87**	**331**	P	**P**	**15 57 11.8**	**+0.1**
NB2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.9						
NOA	**NORSAR Array B**	**85.87**	**331**	P	**P**	**15 57 11.6**	**-0.1**
	comp=Z,7.7nm,1.0s,mb4.9,baz=93,slow=5.0,SNR=16						
CLZ	**Clausthal**	**86.09**	**322**	*e*P	**P**	**15 57 13.3**	**+0.3**
CLZ				pmax	pmax		
	comp=Z,16nm,1.6s,mb5.0						
CLZ	**Clausthal**	**86.09**	**322**	*e*P	**P**	**15 57 13.3**	**+0.3**
	comp=Z,16nm,1.6s,mb5.0						
BSEG	**Bad Segeberg**	**86.16**	**324**	*e*P	**P**	**15 57 13.9**	**+0.6**
VNDA	**Vanda**	**87.12**	**169**	P	**P**	**15 57 19.1**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=322,slow=9.0,SNR=3.0						
LPG	**La Plagne**	**88.57**	**315**	*e*P	**P**	**15 57 26.2**	**+1.1**
	comp=Z,20nm,1.2s,mb5.0						
LPG	**La Plagne**	**88.57**	**315**	*e*P	**P**	**15 57 26.2**	**+1.1**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb5.0						
AFI	**Afiamalu**	**91.52**	**104**	P	**P**	**15 57 41.3**	**+1.6**
	comp=Z,25nm,0.9s,mb5.6,baz=61,slow=19,SNR=2.2						
EKA	**Eskdalemuir Ar**	**93.85**	**326**	P	**P**	**15 57 49.7**	**+0.3**
	comp=Z,2.7nm,0.7s,mb4.8,baz=93,slow=4.9,SNR=8.3						
PDAR	**Pinedale Array**	**128.80**	**25**	PKP	PKPdf	16 03 40.6	+1.7
	comp=Z,0.7nm,0.5s,baz=140,slow=2.4,SNR=8.5						
PV10	**Paradox Valley**	**132.57**	**28**	*e*P	PKPdf	16 03 49.1	+2.9
TXAR	**Lajitas Array**	**142.48**	**31**	PKP	PKPdf	16 04 06.8	+2.3
	comp=Z,0.9nm,0.6s,SNR=5.5						

*IDC **30** 15:46:45.2±0.6, 69.08N×52.72W, mb4.0/17, mb1 4.1/19, mb1mx4.0/28, mbtmp4.0/19, ML3.3/2, MS3.1/4, Ms1 3.1/4, ms1mx2.7/35, Error ellipse: s-maj=20.3km s-min=10.2km az=172.0*

*NEIC **30** 15:46:46.4±0.3, 69.09N×52.97W, h10km, mb4.3/3, Error ellipse: s-maj=8.8km s-min=5.6km az=165.0*

*OTT **30** 15:46:50.9±0.9, 69.14N×53.82W, h18km, ML4.7/5, Western coast of Greenland Eastern Arctic Background Seismic Zone. 456km northeast from Qikiqtarjuaq, Nu*

ISC 30 15:46:45.0±2.0, 69.10N±0.06×53.2W±0.1, h14km±13km, n49,σ1s16/66, mb4.0/19, MS3.2/3, Western Kalaallit Nunaat

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**8.16**	**236**	Pn	**P**	**15 48 44.7**	**-1.2**
	2.1nm,0.3s,baz=34,slow=15,SNR=5.1						
FRB				Sn	**Sn**	**15 50 10.4**	**-8.4**
	19nm,0.3s,baz=328,slow=13,SNR=11						
FRB	**Frobisher Bay**	**8.16**	**236**	Pn	**P**	**15 48 44.7**	**-1.2**
FRB				Sn	**Sn**	**15 50 10.4**	**-8.4**
FRB	**Frobisher Bay**	**8.16**	**236**	PN	**P**	**15 48 44.4**	**-1.5**
FRB				SN	**Sn**	**15 50 10.8**	**-8.0**
FRB				Trac		15 50 27.9	
	comp=Z,52nm,0.3s						
TULEG	**Thule**	**8.74**	**335**	PN	**P**	**15 48 51.4**	**-2.6**
TULEG				SN	**Sn**	**15 50 24.4**	**-8.9**
TULEG				Trac		15 50 37.8	
	comp=Z,16nm,0.3s						
PINU	**Pond Inlet**	**8.85**	**305**	PN	**P**	**15 48 54.1**	**-1.3**
PINU				SN	**Sn**	**15 50 25.3**	**-11**
PINU				Trac		15 50 35.9	
	comp=Z,48nm,0.3s						
QILN	**Qiliugaq Expl**	**12.65**	**275**	PN	**P**	**15 49 45.1**	**-2.0**
QILN				SN	**S**	**15 51 56.6**	**-12**
QILN

GERES	GERESS Array B	37.45	87	P		P		15 54 00.3	+1.2
	1.5nm,0.8s,mb3.9,baz=323,slow=6.7,SNR=8.1								
TNA	Tin City	38.16	322	*e*P		P		15 54 06.9	+2.0
	6.5nm,1.1s,mb4.3								
PDAR	Pinedale Array	38.95	257	P		P		15 54 13.5	+1.8
	0.9nm,0.6s,mb3.7,baz=41,slow=7.9,SNR=9.8								
AKASG	Malin Array Be	41.36	73	P		P		15 54 31.1	-0.4
	0.8nm,0.4s,mb3.7,baz=328,slow=8.6,SNR=5.7								
TXAR	Lajitas Array	49.14	243	P		P		15 55 35.3	+1.5
	0.3nm,0.5s,mb3.6,baz=55,slow=7.1,SNR=4.2								
TXAR				PcP		PcP		15 56 56.8	-0.8
	0.6nm,0.7s,baz=72,slow=4.0,SNR=5.2								
TXAR				LR		LR		16 15 33.6	
	comp=Z,38nm,20.4s,MS3.4,baz=325,slow=35								
FX1	Attu Island--F	53.68	327	*e*P		P		15 56 07.2	-0.5
MKAR	Makanchi Array	59.83	34	P		P		15 56 49.8	-1.9
	1.4nm,0.8s,mb4.0,baz=349,slow=6.2,SNR=4.3								
ASF	Jabal al Asfar	60.38	77	P		P		15 56 55.6	0.0
	3.6nm,0.4s,mb4.8,baz=265,slow=3.3,SNR=4.6								
SONM	Songino Array	62.40	15	P		P		15 57 08.8	-0.2
	1.5nm,0.7s,mb4.3,baz=340,slow=6.6,SNR=8.1								
ULN	Ulaanbaatar	62.44	15	*e*P		P		15 57 09.1	-0.2
	4.4nm,0.8s,mb4.6								
ULN	Ulaanbaatar	62.44	15	*e*pP		pP		15 57 13.7	+0.1
DBIC	Dimbokro	69.83	128	P		P		15 57 55.6	-1.2
	1.4nm,0.4s,mb4.2,baz=260,slow=6.4,SNR=4.7								
SIV	San Ignacio	85.05	188	P		P		15 59 22.3	+1.3
	0.9nm,0.7s,mb4.0								
ASAR	Alice Springs	134.35	351	PKP		PKPdf		16 06 03.0	-2.6
	0.4nm,0.6s,baz=23,slow=2.1,SNR=9.8								

IDC 30 15:51:32.3±4.3, 3.09N×96.82E, mb3.4/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=159.9km s-min=31.1km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	43.37	123	P	P	15 59 36.6	-1.8
	0.2nm,0.3s,baz=302,slow=9.1,SNR=4.9						
MKAR	Makanchi Array	45.33	346	P	P	15 59 51.8	-2.1
	0.3nm,0.5s,baz=153,slow=8.5,SNR=5.2						
SONM	Songino Array	45.33	9	P	P	15 59 52.4	-1.5
	0.3nm,0.5s,baz=188,slow=9.0,SNR=3.3						

*BJI **30** 15:52:20.9, 0.80N×97.28E, h24km, mB5.2, mb4.9, Ms4.8, Msz4.6*

*IDC **30** 15:52:25.8±0.8, 1.30N×97.11E, h22km±4km, mb4.2/17, mb1 4.3/17, mb1mx4.3/22, mbtmp4.4/17, Error ellipse: s-maj=29.4km s-min=11.8km az=51.0*

*NEIC **30** 15:52:26.4±0.5, 1.26N×97.21E, mb4.7/18, Error ellipse: s-maj=13.7km s-min=8.0km az=46.0*

ISC 30 15:52:24.4±0.5, 1.22N±0.07×97.16E±0.06, h24km, h24km±.9km; pP-P, n63, σ1§14/66, mb4.6/42, MS4.5/6, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	Ipoh	5.10	49	P	Pn	15 53 42.3	+0.9
KULM	Kulim	5.34	41	*e*P	Pn	15 53 43.0	-1.7
KGM	Kluang	6.21	83	P	Pn	15 53 58.5	+1.5
CM31	Chiang Mai Arr	17.22	6	*e*P	P	15 56 23.5	-1.8
	22nm,1.1s						
KKM	Kota Kinabalu	19.60	75	*e*P	P	15 56 53.5	-0.6
KKM	Kota Kinabalu	19.60	75	P	P	15 56 54.8	+0.6
TSM	Tawau	20.91	81	P	P	15 57 08.4	+0.5
KMI	Kunming	24.37	12	P	P	15 57 43.8	+1.7
KMI				AP		15 57 50.8	
KMI				S	S	16 01 59.3	+2.1
KMI				AMB	AMB		
	comp=Z,53nm,1.1s,mb4.9						
KMI				LR	LR		
	comp=N,2μm,15.9s,MS4.7						
KMI				LR	LR		
	comp=E,850nm,13.8s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,15.2s,MS4.7						
GYA	Guiyang	26.71	19	⇑*i*P	P	15 58 05.0	+1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
JIRN	Jiri	28.32	339	*e*P	P	15 58 19.5	+0.9
	comp=Z,91nm,1.0s,mb5.4						
PKI	Pulchoki	28.52	338	*e*P	P	15 58 22.0	+1.5
	comp=Z,37nm,1.0s,mb5.1						
GUN	Gumba	28.66	339	*e*P	P	15 58 22.3	+0.6
	comp=Z,66nm,1.0s,mb5.3						
DMN	Daman	28.67	337	*e*P	P	15 58 22.5	+0.7
	comp=Z,52nm,1.0s,mb5.2						
KKN	Kakani	28.77	338	*e*P	P	15 58 22.9	+0.2
	comp=Z,63nm,1.1s,mb5.2						
LSA	Lhasa	28.90	349	P	P	15 58 25.0	+1.2
LSA	Lhasa	28.90	349	*e*P	P	15 58 25.6	+1.7
	comp=Z,9.4nm,0.9s,mb4.5						
GKN	Gorkha	29.21	337	*e*P	P	15 58 26.8	+0.1
	comp=Z,63nm,1.0s,mb5.3						
KOLN	Koldanda	29.43	335	*e*P	P	15 58 29.1	+0.5
	comp=Z,40nm,0.9s,mb5.1						
ENH	Enshi	31.18	21	*e*P	P	15 58 41.8	-2.3
	comp=Z,15nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	33.97	126	*e*P	P	15 59 07.7	-0.9
	comp=Z,5.1nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	33.97	126	P	P	15 59 08.0	-0.6
	comp=Z,4.6nm,0.8s,mb4.5,baz=236						
XAN	Xi'an	34.46	17	P	P	15 59 11.0	-1.6
XAN				AP	pP	15 59 18.3	-1.3
XAN				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
LZH	Lanzhou	35.24	9	*e*P	P	15 59 19.5	+0.2
LZH				AP	pP	15 59 27.0	+0.7
LZH				XP	sP	15 59 30.5	+1.2
LZH				PP	PP	16 00 40.8	+2.2
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,899nm,4.2s						
LZH				LR	LR		
	comp=E,745nm,14.0s						
LZH				LR	LR		
	comp=Z,963nm,15.6s,MS4.7						
NJ2	Nanjing	36.87	32	*e*P	P	15 59 32.5	-0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	Gaotai	38.09	3	*e*P	P	15 59 43.3	+0.1
GTA				AP	pP	15 59 50.0	-0.3
GTA				XP	sP	15 59 53.5	+0.2
GTA				PP	PP	16 01 12.5	-1.2
GTA				S	S	16 05 31.0	-3.3
GTA				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
GTA				AMB	AMB		
	comp=Z,71nm,4.2s						
GTA				LR	LR		
	comp=N,463nm,13.7s,MS4.5						
GTA				LR	LR		
	comp=E,326nm,15.6s,MS4.5						
GTA				LR	LR		
	comp=Z,489nm,13.3s,MS4.5						
JOW	Kunigami	39.26	47	P	P	15 59 51.7	-1.4
	comp=Z,19nm,0.6s,mb5.0,baz=180						
HHC	Hu-ho-hao-te	41.55	17	*e*P	P	16 00 12.0	+0.1
HHC				PP	PP	16 01 52.5	+1.4
HHC				S	S	16 06 27.3	+1.1
HHC				SS	SS	16 09 34.8	+8.5
HHC				AMB	AMB		
	comp=Z,22nm,0.7s,mb4.9						
HHC				AMB	AMB		
	comp=Z,145nm,4.3s						
HHC				LR	LR		
	comp=N,493nm,16.6s,MS4.5						
HHC				LR	LR		
	comp=E,288nm,21.4s,MS4.5						
HHC				LR	LR		
	comp=Z,423nm,17.8s,MS4.4						
WRA	Warramunga Arr	42.08	122	P	P	16 00 16.9	+0.4
	comp=Z,2.6nm,0.5s,mb4.1,baz=304,slow=8.9,SNR=23						
WRA				pP	pP	16 00 23.8	+0.2
	comp=Z,1.0nm,0.3s,baz=301,slow=9.1,SNR=17						
WB2	Warramunga Arr	42.09	122	*e*P	P	16 00 16.9	+0.3
WB2				*i*	pP	16 00 25.6	+1.9
BJT	Baijiatuau	42.31	22	*e*P	P	16 00 18.1	-0.1
	comp=Z,10.0nm,0.6s,mb4.6						
BJI	Beijing	42.34	22	P	P	16 00 18.8	+0.4
BJI				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.8						
WMQ	Urumqi	43.25	350	*e*P	P	16 00 28.5	+2.7
WMQ				AP	pP	16 00 34.0	+1.2
WMQ				XP	sP	16 00 37.0	+1.2
WMQ				PP	PP	16 02 11.0	+2.5
WMQ				*e*S	S	16 06 52.5	+1.4
WMQ				AMB	AMB		
	comp=Z,12nm,1.2s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,91nm,4.8s						
WMQ				LR	LR		
	comp=N,257nm,23.0s,MS4.4						
WMQ				LR	LR		
	comp=E,409nm,21.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,227nm,24.8s,MS4.0						
ASAR	Alice Springs	43.44	127	P	P	16 00 28.2	+0.6
	comp=Z,2.3nm,0.8s,mb4.0,baz=295,slow=7.7,SNR=16						
ASAR				pP	pP	16 00 34.7	+0.1
	comp=Z,1.1nm,0.5s,baz=300,slow=7.7,SNR=11						
ASAR				PcP	PcP	16 02 16.9	+0.7
	comp=Z,1.1nm,0.9s,baz=304,slow=3.2,SNR=5.8						
ASAR				pPcP		16 02 23.6	
	comp=Z,1.5nm,1.0s,baz=298,slow=2.7,SNR=5.5						
ULHL	Ulahol	44.96	338	P	P	16 00 40.1	+0.5
	SNR=7.6						
UCH	Uchtor	45.62	336	P	P	16 00 46.0	+1.2
	SNR=9.6						
TKM2	Tokmak 2	45.79	338	P	P	16 00 47.1	+1.0
	SNR=7.8						
KBK	Karagaybulak	45.81	337	P	P	16 00 47.8	+1.5
	SNR=8.5						
AML	Almayashu	45.87	336	P	P	16 00 44.2	-2.6
	SNR=6.4						
AAK	Ala-Archa	45.97	337	*e*P	P	16 00 49.4	+1.8
	comp=Z,4.9nm,1.0s,mb4.4						
USP	Ospenovka	46.50	337	P	P	16 00 52.3	+0.5
	SNR=14						
SONM	Songino Array	47.12	8	P	P	16 00 56.8	+0.1
	comp=Z,9.8nm,0.9s,mb4.7,baz=189,slow=7.5,SNR=42						
SONM				pP	pP	16 01 04.0	+0.3
	comp=Z,10nm,1.0s,baz=193,slow=7.0,SNR=14						
SONM				PcP	PcP	16 02 28.3	-0.3
	comp=Z,1.2nm,0.8s,baz=188,slow=4.4,SNR=2.5						
MKAR	Makanchi Array	47.21	346	P	P	16 00 57.3	-0.1
	comp=Z,5.2nm,0.8s,mb4.5,baz=159,slow=8.8,SNR=33						
CN2	Changchun	49.30	27	*e*P	P	16 01 12.8	-0.9
CN2				*e*S	S	16 08 12.3	-5.1
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
CN2				LR	LR		
	comp=N,310nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=E,220nm,15.0s,MS4.5						
CN2				LR	LR		
	comp=Z,270nm,15.0s,MS4.4						
HIA	Hailar	51.63	19	*e*P	P	16 01 30.8	-0.6
	comp=Z,9.3nm,1.0s,mb4.7						
MJAR	Matsushiro Arr	51.70	42	P	P	16 01 29.9	-2.1
	comp=Z,2.2nm,0.9s,mb4.1,baz=225,slow=5.8,SNR=4.6						
MJAR	Matsushiro Arr	51.70	42	P	P	16 01 29.9	-2.1
KURK	Kurchatov	51.77	345	*e*P	P	16 01 31.4	-0.9
	comp=Z,4.7nm,0.7s,mb4.5						
MDJ	Mudanjiang	51.87	29	*e*P	P	16 01 33.7	+0.5
	comp=Z,4.6nm,0.7s,mb4.5						
STKA	Stephens Creek	53.40	132	*e*P	P	16 01 45.7	+0.9
	comp=Z,5.1nm,1.2s,mb4.3						
STKA	Stephens Creek	53.40	132	P	P	16 01 46.0	+1.2
	comp=Z,1.6nm,0.6s,mb4.1,baz=306,slow=6.2,SNR=6.4						
ZAL	Zalesovo	53.53	351	P	P	16 01 44.1	-1.2
	comp=Z,6.0nm,0.8s,mb4.6,baz=290,slow=6.3,SNR=28						
BVAR	Borovoye Array	56.22	341	P	P	16 02 03.0	-2.0
	comp=Z,6.2nm,0.8s,mb4.7,baz=143,slow=7.4,SNR=31						
CHKZ	Chkalovo	56.70	341	*e*P	P	16 02 07.3	-1.1
	comp=Z,16nm,1.1s,mb5.0						
BRTR	Keskin Array B	69.07	312	P	P	16 03 29.2	-1.5
	comp=Z,0.8nm,0.8s,mb3.7,baz=79,slow=6.3,SNR=4.0						
AKASG	Malin Array Be	75.22	322	P	P	16 04 05.7	-1.3
	comp=Z,0.2nm,0.3s,mb3.5,baz=86,slow=5.1,SNR=5.5						
MLR	Muntele Rosu	76.03	317	P	P	16 04 11.6	-0.2
	comp=Z,1.3nm,0.7s,mb4.0,baz=170,slow=11,SNR=3.0						
MLR	Muntele Rosu	76.03	317	P	P	16 04 11.6	-0.2
FINES	FINESS Array B	79.97	333	P	P	16 04 31.2	-1.8
	comp=Z,1.2nm,0.8s,mb3.9,baz=45,slow=8.1,SNR=5.3						
FINES				pP	pP	16 04 38.9	-1.7
	comp=Z,1.8nm,0.9s,baz=45,slow=5.4,SNR=4.2						
ARCES	ARCESS Array B	82.51	340	P	P	16 04 45.6	-0.6
	comp=Z,3.1nm,0.8s,mb4.4,baz=90,slow=4.9,SNR=6.6						
GERES	GERESS Array B	84.78	319	P	P	16 04 58.2	0.0
	comp=Z,0.3nm,0.4s,mb3.7,baz=135,slow=1.9,SNR=7.1						
NOA	NORSAR Array B	86.97	331	P	P	16 05 08.8	+0.1
	comp=Z,1.3nm,0.9s,mb4.2,baz=97,slow=4.6,SNR=3.7						
YKA	Yellowknife Ar	112.08	15	PP	PP	16 11 43.6	-2.7
	comp=Z,0.2nm,0.6s,baz=327,slow=6.5,SNR=5.7						
TXAR	Lajitas Array	143.67	32	PKP	PKPdf	16 11 58.6	-4.0
	comp=Z,0.4nm,0.5s,baz=231,slow=8.0,SNR=3.7						

*NEIC **30** 16:00:52.2±0.3, 53.61S×140.82E, h10km, mb4.9/9, Error ellipse: s-maj=15.3km s-min=7.3km az=94.0*

*IDC **30** 16:00:52.7±0.8, 53.37S×140.00E, mb4.6/8, mb1 4.8/8, mb1mx4.6/12, mbtmp4.6/8, MS4.4/5, Ms1 4.4/5, ms1mx3.8/26, Error ellipse: s-maj=29.9km s-min=21.6km az=105.0*

*HRVD **30** 16:00:52.2±1.1, 53.48S×140.87E, h12km, MW5.3/24, Centroid moment Tensor Solution. LP body waves: s6,c7; Mantle waves: s24,c31; Half duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.45±.11; Mθθ0.62±.10; Mφφ-1.07±.14; Mrθ-0.12±.30; Mθφ-0.32±.07; Mφr0.95±.29; Best double couple: M0 1.304×10^17 NP1:φs232°, δ34°, λ155°. NP2:φs343°, δ76°, λ59°. Principal axes: T 1.057, Plg49°, Azm219°; N .498, Plg30°, Azm351°; P -1.552, Plg25°, Azm97°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*BJI **30** 16:00:52.9, 54.50S×141.52E, h42km, mB5.7, mb5.2, Ms5.5, Msz5.1*

ISC 30 16:00:51.0±0.4, 53.63S±0.05×140.6E±0.2, h10km, n122, σ1§45/41, mb4.8/18, MS4.3/5, 24C-1D, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOO	Toolangi	16.41	14	*e*P	P	16 04 45.8	+3.0
	3.1nm,1.1s						
CNB	Canberra Magne	19.32	22	*e*P	P	16 05 19.0	+0.2
	699nm,1.4s						
CASY	Casey	19.41	218	⇑*i*P	P	16 05 19.0	-0.7
STKA	Stephens Creek	21.75	2	⇑*i*P	P	16 05 44.9	+0.5
	44nm,1.1s,mb4.8						
STKA				*i* S	S	16 09 46.1	+6.1
STKA	Stephens Creek	21.75	2	P	P	16 05 43.1	-1.3
	21nm,0.8s,mb4.6,baz=168,slow=11,SNR=31						
STKA				LR	LR	16 12 51.3	
	comp=Z,585nm,18.5s,MS4.0,baz=180,slow=33						
RPZ	Rata Peaks	22.26	76	P	P	16 05 55.0	+5.6
	40nm,0.9s,mb4.8,baz=227,slow=8.1,SNR=7.7						
RPZ				LR	LR	16 12 42.8	
	comp=Z,2μm,18.5s,MS4.6,baz=232,slow=32						
ARMA	Armidale	24.54	23	*e*P	P	16 06 13.0	+1.3
FORT	Forrest	24.58	333	*e*P	P	16 06 12.0	-0.1
	1μm,0.9s						
VNDA	Vanda	25.20	169	P	P	16 06 16.7	-0.9
	7.7nm,0.8s,mb4.3,baz=327,slow=9.1,SNR=35						
VNDA				PcP	PcP	16 09 51.8	-0.4
	0.7nm,0.3s,baz=238,slow=12,SNR=14						
VNDA				LR	LR	16 15 20.3	
	comp=Z,486nm,18.8s,MS4.0,baz=155,slow=34						
SBA	Scott Base	26.06	168	*e*P	P	16 06 25.9	+0.2
	25nm,0.8s,mb4.8						
NWAO	Narrogin (SRO)	26.57	312	LR	LR	16 14 34.2	
	comp=Z,996nm,20.3s,MS4.4,baz=6.5,slow=31						
URZ	Urewera	29.28	73	P	P	16 06 55.0	-0.3
	27nm,0.9s,mb5.0,baz=256,slow=5.1,SNR=4.4						
URZ				LR	LR	16 18 13.6	
	comp=Z,697nm,18.1s,MS4.3,baz=80,slow=35						
ASAR	Alice Springs	30.35	348	P	P	16 07 02.9	-2.0
	3.6nm,0.7s,mb4.2,baz=166,slow=9.6,SNR=43						
ASAR				PcP	PcP	16 10 03.4	-1.7
	0.7nm,0.8s,baz=164,slow=2.8,SNR=4.2						
ASPA	Alice Springs	30.35	348	*e*P	P	16 07 02.8	-2.1
WB2	Warramunga Arr	33.97	349	*e*P	P	16 07 34.0	-2.6
WRA	Warramunga Arr	33.97	349	P	P	16 07 34.9	-1.7
	8.8nm,0.9s,mb4.7,baz=173,slow=7.9,SNR=46						
WRA				PcP	PcP	16 10 14.2	-0.7
	2.2nm,0.9s,baz=182,slow=2.4,SNR=5.0						
QSPA	South Pole Qui	36.48	180	*e*P	P	16 07 57.1	-0.3
	103nm,1.2s,mb5.6						
FITZ	Fitzroy Crossi	37.31	336	⇑P	P	16 08 04.5	-0.5
	20nm,0.9s,mb4.9						
FITZ	Fitzroy Crossi	37.31	336	P	P	16 08 04.5	-0.5
	13nm,0.9s,mb4.7,baz=180,slow=9.5,SNR=12						
KAKA	Kakadu	41.33	348	*e*P	P	16 08 38.0	-0.4
	17nm,0.6s,mb4.8						
SYO	Syowa Base	44.90	210	⇑pP	pP	16 09 12.1	+2.3
SNAA	Sanae	52.36	194	P	P	16 10 04.1	-0.5
	3.0nm,1.0s,mb4.2,baz=179,slow=12,SNR=4.2						
VNA3	Neumayer Olymp	53.65	191	⇑*i*	P	16 10 11.6	-2.5
VNA3	Neumayer Olymp	53.65	191	⇑*i*	P	16 10 18.5	+4.4
VNA2	Neumayer--Watz	53.66	192	⇑*i*	P	16 10 13.3	-0.9
VNA2	Neumayer--Watz	53.66	192	⇑*i*	P	16 10 19.7	+5.5
VNA2	Neumayer--Watz	53.66	192	⇑*i*	P	16 10 25.0	+11
VNA1	Neumayer--Stat	54.03	192	⇑*i*	P	16 10 18.3	+1.4
VNA1	Neumayer--Stat	54.03	192	⇑*i*	P	16 10 22.8	+5.9
VNA1	Neumayer--Stat	54.03	192	⇑*i*	P	16 10 28.9	+12
TBI	Tubuai	59.71	89	*e*LR	LR	16 28 05.4	
	278nm,25.2s						
PPT	Papeete	64.08	85	*e*LR	LR	16 30 10.4	
	402nm,32.2s						
RKT	Rikitea	68.47	100	*e*S	S	16 20 52.0	-3.6
RKT				*e*LR	LR	16 32 22.7	
	179nm,29.2s						
SUR	Sutherland	79.77	228	P	P	16 13 02.4	+2.0
CM31	Chiang Mai Arr	80.24	320	*e*P	P	16 13 03.4	+0.2
	6.5nm,1.1s,mb4.5						
BOSA	Boshof	80.88	234	P	P	16 13 09.5	+3.1
	7.3nm,0.9s,mb4.6,baz=212,slow=6.9,SNR=3.9						
BOSA	Boshof	80.88	234	*e*P	P	16 13 08.1	+1.7
	11nm,1.0s,mb4.7						
PLCA	Paso Flores	82.25	157	P	P	16 13 12.2	-1.1
	2.2nm,0.8s,mb4.1,baz=217,slow=5.8,SNR=4.3						
LBTB	Lobatse	83.72	236	P	P	16 13 22.1	+0.9
	3.4nm,0.9s,mb4.5,baz=168,slow=15,SNR=4.6						
LBTB	Lobatse	83.72	236	*e*P	P	16 13 23.7	+2.5
	13nm,1.0s,mb5.0						
NJ2	Nanjing	87.39	342	*e*P	P	16 13 41.8	+2.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
MJAR	Matsushiro Arr	89.83	358	P	P	16 13 50.1	-0.6
	comp=Z,5.0nm,0.8s,mb4.9,baz=179,slow=6.0,SNR=4.1						
KS15	Wonju Array Si	91.37	350	P	P	16 14 04.5	+6.7
HHC	Hu-ho-hao-te	97.38	338	*e*P	P	16 14 29.8	+4.6
HHC				PP	PP	16 18 31.5	+6.6
HHC				AMB	AMB		
	comp=Z,12nm,0.5s,mb5.6						
HHC				AMB	AMB		
	comp=Z,108nm,6.0s						
CN2	Changchun	97.92	349	*e*P	P	16 14 30.8	+3.2
BVAR	Borovoye Array	121.23	318	PKP	PKPdf	16 19 44.1	-2.4
	comp=Z,0.7nm,0.8s,baz=180,slow=1.4,SNR=3.5						
TXAR	Lajitas Array	128.11	91	PKP	PKPdf	16 20 04.2	+3.8
	comp=Z,0.5nm,0.7s,baz=180,slow=2.5,SNR=3.6						
MLR	Muntele Rosu	138.23	286	PKP	PKPdf	16 20 19.2	+0.4
	comp=Z,2.1nm,0.9s,baz=227,slow=4.6,SNR=3.2						
YKA	Yellowknife Ar	141.45	46	PKP	PKPdf	16 20 21.0	-2.8
	comp=Z,1.6nm,0.8s,baz=241,slow=3.4,SNR=5.5						
VYHS	Vyhne	143.94	286	*e*PKP	PKPdf	16 20 26.0	-2.6
VYHS				*e*		16 20 30.9	
SNTG	Esanatoglia	144.53	275	*e*PKP	PKPdf	16 20 27.9	-1.9
WCI	Wyandotte Cave	144.64	96	*e*PKPdf	PKPdf	16 20 25.9	-4.3
ARV	Arcevia	144.67	275	*e*PKP	PKPdf	16 20 28.7	-1.3
ZST	Bratislava	144.78	285	*e*PKP	PKPdf	16 20 26.7	-3.4
JSC	Jenkinsville	144.85	106	*e*PKPdf	PKPdf	16 20 27.4	-3.2
OKC	Ostrava-Krasne	145.00	288	*e*P	PKPbc	16 20 29.5	+1.9
OKC				*e*		16 20 34.7	
OKC	Ostrava-Krasne	145.00	288	⇑*e*PKPB		16 20 29.5	
OKC				*e*PKPAB	PKPab	16 20 34.7	+6.0
TZTN	Tazewell	145.12	101	*e*PKPdf	PKPdf	16 20 27.7	-3.4
JFWS	Jewell Farm	145.20	87	*e*PKPdf	PKPdf	16 20 26.8	-4.2
RSM	Repubblica di	145.21	275	*e*PKP	PKPdf	16 20 29.9	-1.1
ARSA	Arzberg	145.21	282	⇑*i*P	PKPbc	16 20 29.0	+0.8
MORC	Moravsky Berou	145.31	287	*e*PKPdf	PKPdf	16 20 30.7	-0.3
FINES	FINESS Array B	145.42	310	PKP	PKPdf	16 20 30.1	-0.7
	comp=Z,4.5nm,0.9s,baz=90,slow=3.8,SNR=11						
TRI	Trieste	145.42	279	*e*PKP	PKPdf	16 20 30.3	-0.9
KAF	Kangasniemi	145.51	311	ep	PKPbc	16 20 29.8	+1.3
	comp=Z,1.2nm,0.5s						
VOY	Vojsko	145.52	279	*e*P	PKPbc	16 20 31.2	+2.2
VOY				*e*		16 20 39.5	
SFI	Santa Sofia	145.55	275	*e*PKP	PKPdf	16 20 30.9	-0.6
GRFL	Gerfalco	145.63	273	*e*PKP	PKPdf	16 20 30.4	-1.3
VMG	Vicchio	145.76	275	*e*PKP	PKPdf	16 20 32.3	+0.4
ULM	Lac du Bonnet	145.79	72	PKPbc	PKPbc	16 20 33.1	+3.5
	comp=Z,4.4nm,0.7s,baz=245,slow=4.6,SNR=11						
ULM	Lac du Bonnet	145.79	72	*e*PKPdf	PKPdf	16 20 31.6	-0.2
GMNA	Gemona	146.04	279	*e*PKP	PKPdf	16 20 32.1	-0.2
PTCC	Patocco-Chiusa	146.04	280	*e*PKP	PKPdf	16 20 30.7	-1.6
MOA	Molln	146.25	282	⇑*i*P	PKPbc	16 20 31.3	+0.6
DPC	Dobruska-Polom	146.28	288	*e*P	PKPbc	16 20 34.1	+3.4
DPC				*e*		16 20 43.6	
DPC	Dobruska-Polom	146.28	288	⇑*e*PKPB	PKPbc	16 20 34.1	+3.4
DPC				*e*PKPAB	PKPab	16 20 43.6	+10
KB

comp=Z,1.1nm,0.5s,baz=106,slow=1.0,SNR=8.4

ESLA	**Sonseca Array**	**152.29**	**254**	PKPdf	PKPdf	16 20 41.9	-0.5
NB2	**NORSAR Subarra**	**152.34**	**306**	P	PKPab	16 20 58.7	+0.7
	comp=Z,3.4nm,0.9s,baz=97,slow=5.0						
NOA	**NORSAR Array B**	**152.34**	**306**	PKPbc	PKPdf	16 20 46.3	+4.6
	comp=Z,0.6nm,0.9s,baz=95,slow=3.3,SNR=2.8						
BAIF	**Baives**	**153.15**	**280**	*e*PKIKP	PKPdf	16 20 46.7	+3.5

BJI ***30*** *16:04:56.6,0.37N×97.27E,h30km,mb4.7*
IDC ***30*** *16:04:59.4±2.4,1.00N×97.02E,mb4.0/7,mb1 4.1/7, mb1mx3.8/19,mbtmp4.0/7,Error ellipse: s-maj=112.0km s-min=17.7km az=57.0*
NEIC ***30*** *16:05:05.0±0.7,1.12N×97.32E,h30km,mb4.3/7,Error ellipse: s-maj=18.5km s-min=9.5km az=55.0*

ISC 30 16:05:02.9±0.8,1.1N±0.1×97.3E±0.1,h30km,n23, σ0s98/23,mb4.2/15,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**39**	*e*P	**Pn**	**16 06 23.1**	**+0.2**
CM31	**Chiang Mai Arr**	**17.32**	**5**	*e*P	**P**	**16 09 04.3**	**-0.1**
	2.7nm,0.7s						
KMI	**Kunming**	**24.45**	**12**	P	**P**	**16 10 22.0**	**+1.4**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
JIRN	**Jiri**	**28.47**	**339**	*e*P	**P**	**16 10 57.9**	**+0.2**
	comp=Z,6.6nm,0.6s,mb4.5						
PKI	**Pulchoki**	**28.68**	**338**	*e*P	**P**	**16 11 01.4**	**+1.8**
GUN	**Gumba**	**28.81**	**339**	*e*P	**P**	**16 11 00.6**	**-0.1**
	comp=Z,12nm,0.6s,mb4.8						
DMN	**Daman**	**28.83**	**337**	*e*P	**P**	**16 11 02.3**	**+1.4**
KKN	**Kakani**	**28.92**	**338**	*e*P	**P**	**16 11 02.1**	**+0.3**
	comp=Z,14nm,1.0s,mb4.7						
LSA	**Lhasa**	**29.03**	**349**	*e*P	**P**	**16 11 03.5**	**+0.7**
GKN	**Gorkha**	**29.36**	**337**	*e*P	**P**	**16 11 05.6**	**-0.2**
KOLN	**Koldanda**	**29.58**	**335**	*e*P	**P**	**16 11 08.8**	**+1.1**
	comp=Z,9.0nm,0.6s,mb4.7						
ENH	**Enshi**	**31.24**	**21**	*e*P	**P**	**16 11 20.7**	**-1.7**
GTA	**Gaotai**	**38.20**	**3**	*e*P	**P**	**16 12 21.8**	**0.0**
GTA				AP	pP	16 12 29.5	-1.3
GTA				XP	sP	16 12 33.0	-1.5
GTA				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**41.91**	**122**	P	**P**	**16 12 53.9**	**+1.1**
	comp=Z,1.4nm,0.7s,mb3.7,baz=301,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**43.27**	**127**	P	**P**	**16 13 03.1**	**-0.7**
	comp=Z,0.5nm,0.4s,mb3.6,baz=298,slow=7.4,SNR=9.1						
SONM	**Songino Array**	**47.22**	**8**	P	**P**	**16 13 35.0**	**0.0**
	comp=Z,0.9nm,0.5s,mb4.0,baz=186,slow=8.8,SNR=12						
SONM				PcP	PcP	16 15 05.7	-0.8
	comp=Z,0.4nm,0.4s,baz=189,slow=3.9,SNR=3.0						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**16 13 35.7**	**-0.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=161,slow=8.9,SNR=34						
MKAR	**Makanchi Array**	**47.36**	**346**	P	**P**	**16 13 35.7**	**-0.5**
KURK	**Kurchatov**	**51.91**	**345**	*e*P	**P**	**16 14 10.0**	**-1.1**
	comp=Z,3.2nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**53.23**	**132**	P	**P**	**16 14 21.4**	**+0.3**
	comp=Z,0.5nm,0.3s,mb3.9,baz=313,slow=8.3,SNR=3.9						
ZAL	**Zalesovo**	**53.66**	**351**	P	**P**	**16 14 23.0**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.1,baz=302,slow=7.5,SNR=8.1						
BVAR	**Borovoye Array**	**56.37**	**341**	P	**P**	**16 14 42.0**	**-1.7**
	comp=Z,0.9nm,0.5s,mb4.1,baz=139,slow=8.3,SNR=12						
CHKZ	**Chkalovo**	**56.85**	**341**	*e*P	**P**	**16 14 45.4**	**-1.7**
	comp=Z,2.4nm,0.7s,mb4.3						

NEIC ***30*** *16:17:37.1,15.09N×61.21W,h171km,mb4.4/8, MD3.9(TRN),After TRN.*
IDC ***30*** *16:17:38.1±0.4,15.08N×61.47W,h159km±3km,mb3.9/12, mb1 4.0/15,mb1mx3.8/25,mbtmp4.4/15,Error ellipse: s-maj=14.8km s-min=6.0km az=85.0*
TRN ***30*** *16:17:38.2,15.19N×60.83W,h174km,MD3.9, Md4.3(FDF)*

ISC 30 16:17:37.7±0.3,15.02N±0.03×61.46W±0.08,h172km±2km, n57,σ0s93/66,mb4.2/16,11C-6D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSHT	**Scott's Head**	**0.21**	**22**	⇓*i*P	**P**	**16 18 01.6**	**+0.6**
DSHT				*e*S	**S**	**16 18 18.1**	**-0.8**
DBCT	**Belle View Cho**	**0.27**	**23**	*e*P	**P**	**16 18 02.0**	**+0.8**
MDN	**Morne-Daniel**	**0.31**	**12**	⇓*i*P	**P**	**16 18 01.9**	**+0.6**
MDN				*e*S	**S**	**16 18 19.6**	**+0.2**
BBL	**Barber's Block**	**0.51**	**359**	⇓*i*P	**P**	**16 18 02.7**	**+0.7**
BBL				*e*S	**S**	**16 18 20.3**	**-0.4**
DWS	**Wesley**	**0.57**	**14**	⇑*i*P	**P**	**16 18 01.7**	**-0.6**
DWS				*e*S	**S**	**16 18 18.9**	**-2.3**
SLB	**Belfond**	**1.25**	**161**	⇑*i*P	**P**	**16 18 06.9**	**-0.1**
SFAN	**Fancy Village**	**1.65**	**170**	*e*P	**P**	**16 18 10.7**	**-0.2**
SSV	**Crater Summit**	**1.70**	**171**	⇓*e*P	**P**	**16 18 11.6**	**+0.2**
SVV	**Soufriere Volc**	**1.71**	**172**	⇑*e*P	**P**	**16 18 11.8**	**+0.3**
BHS	**Barnard House**	**1.74**	**169**	⇓*e*P	**P**	**16 18 11.8**	**0.0**
FCV	**Fort Charlotte**	**1.86**	**174**	⇑*e*P	**P**	**16 18 13.0**	**-0.1**
BPA	**Boggy Peak**	**2.05**	**349**	⇑*i*P	**P**	**16 18 14.4**	**-0.8**
NVBH	**Bath Hotel, Ne**	**2.37**	**332**	⇑*i*P	**P**	**16 18 20.1**	**+1.2**
NVRH	**Round Hill, Ne**	**2.42**	**333**	⇑*i*P	**P**	**16 18 20.6**	**+1.0**
SKTB	**Turtle Beach**	**2.45**	**333**	⇑*i*P	**P**	**16 18 20.5**	**+0.7**
SKI	**Saint Kitts**	**2.61**	**332**	⇓*i*P	**P**	**16 18 22.8**	**+1.0**
CPB	**Codrington**	**2.63**	**352**	*i* P	**P**	**16 18 20.5**	**-1.6**
CPB				*e*S	**S**	**16 18 51.7**	**-4.5**
BBSP	**Saint Philip**	**2.72**	**134**	*e*P	**P**	**16 18 38.9**	**+16**
GRW	**Mount Saint Ca**	**2.85**	**184**	*e*P	**P**	**16 18 25.9**	**+1.1**
SABT	**Saba**	**3.10**	**327**	⇓*e*P	**P**	**16 18 27.9**	**-0.1**
SABS	**Saba**	**3.11**	**327**	⇓*e*P	**P**	**16 18 27.9**	**-0.1**
STMA	**St. Maarten, A**	**3.40**	**332**	⇑*e*P	**P**	**16 18 32.5**	**+0.8**
BOT	**Bacolet**	**3.89**	**169**	*e*P	**P**	**16 18 39.2**	**+1.3**
TRN	**Trinidad (W)**	**4.34**	**179**	*e*P	**P**	**16 18 45.0**	**+1.3**
TRN				*e*S	**S**	**16 19 33.0**	**-1.7**
TBH	**Brigand Hill**	**4.52**	**175**	*e*P	**P**	**16 18 47.2**	**+1.1**
TBH				*e*S	**S**	**16 19 37.6**	**-1.3**
TPP	**Pointe-a-Pierr**	**4.67**	**180**	*e*P	**P**	**16 18 48.9**	**+0.9**
TPP				*e*S	**S**	**16 19 40.1**	**-2.2**
SJG	**San Juan**	**5.45**	**305**	P	**P**	**16 18 58.1**	**-0.1**
	1.8nm,0.3s,baz=105,slow=18,SNR=9.0						
SJG				S	**S**	**16 20 06.4**	**+5.8**
	12nm,0.3s,baz=336,slow=18,SNR=11						
SJG	**San Juan**	**5.45**	**305**	*e*P	**P**	**16 18 57.6**	**-0.6**
	44nm,0.5s						
PCRV	**Puerto La Cruz**	**5.72**	**213**	P	**P**	**16 19 01.5**	**-0.3**
	3.3nm,0.3s,baz=50,slow=5.9,SNR=6.6						
SDV	**Santo Domingo**	**10.85**	**237**	P	**P**	**16 20 19.8**	**+11**
	1.8nm,0.3s,baz=81,slow=7.3,SNR=8.5						
SDV	**Santo Domingo**	**10.85**	**237**	*e*P	**P**	**16 20 19.8**	**+10**
	6.0nm,0.7s						
ROSC	**El Rosal**	**16.20**	**233**	P	**P**	**16 21 18.2**	**+1.1**
	1.5nm,0.3s,baz=282,slow=23,SNR=2.9						
SAML	**Samuel**	**23.87**	**184**	*e*P	**P**	**16 22 36.8**	**0.0**
	3.7nm,0.6s,mb4.1						
SIV	**San Ignacio**	**30.81**	**179**	P	**P**	**16 23 40.0**	**+0.3**
	3.5nm,0.6s,mb4.3,baz=12,slow=9.3,SNR=25						
PLAL	**Pickwick Lake**	**31.10**	**315**	*e*P	**P**	**16 23 41.7**	**-0.4**
	11nm,0.6s,mb4.8						
WMOK	**Wichita Mounta**	**38.84**	**307**	*e*P	**P**	**16 24 46.7**	**-1.0**
	8.0nm,0.5s,mb4.6						
KSU1	**Kansas State U**	**39.06**	**315**	*e*P	**P**	**16 24 48.3**	**-1.2**
SCHQ	**Schefferville**	**39.95**	**355**	P	**P**	**16 24 57.3**	**+0.8**
	1.0nm,0.4s,mb3.8,baz=172,slow=7.3,SNR=9.4						
TXAR	**Lajitas Array**	**41.37**	**297**	P	**P**	**16 25 08.6**	**+0.1**
	0.9nm,0.4s,mb3.7,baz=104,slow=7.1,SNR=13						
TXAR				PcP	PcP	16 27 03.5	-0.5
	0.2nm,0.3s,baz=135,slow=7.1,SNR=3.8						
ULM	**Lac du Bonnet**	**44.83**	**329**	P	**P**	**16 25 35.2**	**-1.0**
	6.5nm,0.4s,mb4.6,baz=133,slow=7.9,SNR=16						
ULM	**Lac du Bonnet**	**44.83**	**329**	*e*P	**P**	**16 25 34.7**	**-1.5**
	5.6nm,0.6s,mb4.4						
LENM	**Lemitar**	**45.14**	**303**	*e*P	**P**	**16 25 39.4**	**+0.5**
PDAR	**Pinedale Array**	**49.50**	**314**	P	**P**	**16 26 12.3**	**-0.2**
	5.1nm,0.5s,mb4.4,baz=117,slow=9.7,SNR=59						
AHID	**Auburn Hatcher**	**50.58**	**313**	*e*P	**P**	**16 26 20.6**	**-0.2**
QLMT	**Earthquake Lak**	**51.46**	**316**	*e*P	**P**	**16 26 28.5**	**+1.2**
EDM	**Edmonton**	**55.65**	**325**	*e*P	**P**	**16 26 56.9**	**-1.0**
YKA	**Yellowknife Ar**	**60.19**	**335**	P	**P**	**16 27 27.9**	**-1.4**
	4.4nm,0.5s,mb4.5,baz=106,slow=7.4,SNR=84						
YKA				PcP	PcP	16 28 11.0	-1.8
	0.4nm,0.4s,baz=107,slow=6.8,SNR=5.7						
YKA	**Yellowknife Ar**	**60.19**	**335**	P	**P**	**16 27 27.9**	**-1.4**
YKA				PcP	PcP	16 28 11.1	-1.8
NB2	**NORSAR Subarra**	**68.59**	**30**	P	**P**	**16 28 24.4**	**+0.7**
	0.8nm,0.6s,mb3.6,baz=261,slow=6.5						
NOA	**NORSAR Array B**	**68.59**	**30**	P	**P**	**16 28 24.4**	**+0.7**
	1.5nm,0.8s,mb3.8,baz=262,slow=6.3,SNR=7.6						
GERES	**GERESS Array B**	**69.10**	**43**	P	**P**	**16 28 25.9**	**-1.0**
	0.3nm,0.3s,mb3.5,baz=262,slow=9.4,SNR=4.6						
INK	**Inuvik**	**69.53**	**338**	*e*P	**P**	**16 28 27.6**	**-1.7**
	4.2nm,0.7s,mb4.3						
DAWY	**Dawson**	**71.33**	**333**	*e*P	**P**	**16 28 40.1**	**-0.1**
ARCES	**ARCESS Array B**	**74.99**	**21**	P	**P**	**16 29 02.5**	**+1.1**
	1.7nm,0.6s,mb3.8,baz=304,slow=4.4,SNR=5.2						
FINES	**FINESS Array B**	**75.77**	**30**	P	**P**	**16 29 06.5**	**+0.6**
	0.9nm,0.4s,mb3.8,baz=275,slow=3.7,SNR=11						
BRTR	**Keskin Array B**	**84.39**	**51**	P	**P**	**16 29 53.5**	**+1.4**
	1.1nm,0.6s,mb3.8,baz=239,slow=6.3,SNR=4.1						
ASF	**Jabal al Asfar**	**89.00**	**57**	P	**P**	**16 30 13.7**	**-0.7**
	34nm,0.9s,mb5.3,baz=357,slow=3.6,SNR=18						

IDC 30 16:17:49.4±2.9,0.80N×97.28E,mb3.9/5,mb1 4.0/5, mb1mx3.7/19,mbtmp3.9/5,Error ellipse: s-maj=128.8km s-min=25.5km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.09**	**127**	P	P	16 25 51.6	-1.7
	0.2nm,0.3s,baz=299,slow=7.8,SNR=9.5						
SONM	**Songino Array**	**47.52**	**8**	P	P	16 26 26.5	-1.8
	0.5nm,0.4s,baz=191,slow=8.7,SNR=7.8						
MKAR	**Makanchi Array**	**47.65**	**346**	P	P	16 26 27.8	-1.6
	2.2nm,0.5s,baz=160,slow=8.7,SNR=37						
ZAL	**Zalesovo**	**53.96**	**351**	P	P	16 27 14.6	-2.5
	1.4nm,0.4s,baz=300,slow=5.4,SNR=8.8						
BVAR	**Borovoye Array**	**56.65**	**341**	P	P	16 27 33.9	-2.9
	0.7nm,0.7s,baz=143,slow=7.4,SNR=4.9						

IDC 30 16:18:58.5±1.4,53.57S×140.27E,mb4.0/5,mb1 4.2/5, mb1mx4.1/12,mbtmp4.0/5,MS4.5/1,Ms1 4.6/1, ms1mx3.1/21,Error ellipse: s-maj=121.8km s-min=22.5km az=80.0,West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**21.70**	**3**	P	P	16 23 52.2	-0.6
	5.2nm,1.0s,baz=150,slow=12,SNR=7.6						
VNDA	**Vanda**	**25.30**	**169**	P	P	16 24 26.3	-1.3
	2.1nm,1.1s,baz=325,slow=6.0,SNR=7.3						
VNDA				LR	LR	16 32 58.0	
	comp=Z,1μm,18.4s,baz=24,slow=33						
ASAR	**Alice Springs**	**30.24**	**348**	P	P	16 25 10.4	-2.7
	1.3nm,0.6s,baz=164,slow=10,SNR=31						
WB2	**Warramunga Arr**	**33.87**	**350**	*e*P	P	16 25 41.0	-3.8
WRA	**Warramunga Arr**	**33.87**	**350**	P	P	16 25 42.1	-2.8
	1.5nm,0.6s,baz=172,slow=7.6,SNR=30						
FITZ	**Fitzroy Crossi**	**37.17**	**337**	P	P	16 26 11.5	-1.5
	3.3nm,0.8s,baz=205,slow=6.7,SNR=3.6						

IDC ***30*** *16:19:37.7±0.3,3.02N×95.48E,mb5.4/41,mb1 5.4/41, mb1mx5.4/41,mbtmp5.4/41,MS6.3/25,Ms1 6.3/25, ms1mx6.1/33,Error ellipse: s-maj=13.4km s-min=8.6km az=44.0*
BJI ***30*** *16:19:40.1,2.93N×95.39E,h26km,mB6.7,mb5.9,Ms6.9, Msz6.8*
MOS ***30*** *16:19:41.2±0.9,3.01N×95.43E,h33km,mb6.1/105, MS6.2/51,Error ellipse: s-maj=7.4km s-min=3.5km az=127.2*
NEIC ***30*** *16:19:41.1±0.1,2.99N×95.41E,h22km,mb5.9/135,ME6.1, MS6.2/62,MW6.3,Error ellipse: s-maj=4.4km s-min=2.6km az=213.0 Broadband fault plane solution: P waves. NP1: φs130°,δ80°,λ90°. NP2:φs310°,δ10°,λ90°. Principal axes: T Plg55°, Azm40°; N Plg0°, Azm0°; P Plg35°, Azm220°; Moment Tension Solution. s35 Moment tensor: Scale 10¹⁸ Nm; Mrr0.93; Mθθ-0.54; Mφφ-0.39; Mrθ2.64; Mθφ0.52; Mφr-2.10; Best double couple: Mo3.5×10¹⁸ NP1: φs313°,δ8°,λ95°. NP2:φs129°,δ82°,λ89°. Principal axes: T 3.48, Plg53°, Azm38°; N .05, Plg1°, Azm129°; P -3.54, Plg37°, Azm219°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Felt [IV] at Meulaboh and [III] at Medan and Padang, Sumatra. Felt at Kuala Lumpur, Malaysia.
HRVD ***30*** *16:19:41.1±0.1,2.67N×95.21E,h24km,MW6.2/84, Centroid moment Tensor Solution. LP body waves: s84,c200;Mantle waves: s75,c240; Half duration: 3s7 Moment tensor: Scale 10¹⁸Nm; Mrr1.25±.02; Mθθ-0.81±.01; Mφφ-0.44±.02; Mrθ1.74±.03; Mθφ0.82±.01; Mφr-1.91±.03; Best double couple: Mo2.92×10¹⁸ NP1: φs298°,δ14°,λ72°. NP2:φs137°,δ76°,λ95°. Principal axes: T 2.828, Plg58°, Azm53°; N .181, Plg4°, Azm316°; P -3.012, Plg31°, Azm223°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***30*** *16:19:43.1,2.99N×95.41E,h30km,mb5.8*

ISC 30 16:19:40.2±0.1,2.98N±0.02×95.49E±0.02,h27km, h27km±1.0km:pP-P,n879,σ1s03/787,mb5.8/208,MS6.4/120, 134C-36D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.44**	**95**	*e*P	**Pn**	**16 20 35.8**	**+2.4**
KULM	**Kulim**	**5.64**	**66**	*e*P	**Pn**	**16 21 05.9**	**+1.4**
IPM	**Ipoh**	**5.75**	**74**	P	**Pn**	**16 21 07.3**	**+1.3**
PPI	**Padang Panjang**	**5.98**	**125**	*e*P	**Pn**	**16 21 11.0**	**+1.8**
SNG	**Songkhla**	**6.59**	**51**	P	**Pn**	**16 21 18.0**	**+0.1**
	2μm,1.0s						
KGM	**Kluang**	**7.88**	**97**	P	**Pn**	**16 21 36.3**	**+0.3**
PBA	**Port Blair**	**9.04**	**343**	*e*P	**P**	**16 21 50.0**	**-2.0**
PBA				*e*		16 22 24.0	
NNT	**Nongplab**	**10.43**	**24**	P	**P**	**16 22 13.6**	**+2.3**
PENI	**Pendagan**	**12.87**	**131**	⇓*i*P	**P**	**16 22 39.1**	**-5.1**
PENI				pmax	pmax		
	comp=Z,415nm,0.8s						
PENI	**Pendagan**	**12.87**	**131**	⇓*i*P	**P**	**16 22 39.1**	**-5.1**
	comp=Z,415nm,0.8s						
PENI				⇑*i*pP		16 22 46.2	
NST	**Nakhon Sawan**	**13.42**	**20**	⇓P	**P**	**16 22 51.0**	**-0.4**
	comp=Z,367nm,2.5s						
PULI	**Pulasari**	**13.98**	**132**	⇓*i*P	**P**	**16 23 01.6**	**+2.6**
	comp=Z,561nm,0.7s						
BDT	**Bhumibol Dam**	**14.59**	**13**	P	**P**	**16 23 06.0**	**-1.0**
	comp=Z,58nm,1.0s						
KSM	**Kuching**	**14.88**	**95**	*e*P	**P**	**16 23 11.4**	**+0.6**
KKTK	**Khon Kaen**	**15.11**	**28**	P	**P**	**16 23 13.5**	**-0.2**
PALK	**Pallekele**	**15.33**	**287**	*e*P	**P**	**16 23 14.9**	**-1.7**
	comp=Z,434nm,0.9s						
UBT	**Ubonrachathani**	**15.39**	**37**	⇑P	**P**	**16 23 19.0**	**+1.6**
CM31	**Chiang Mai Arr**	**15.75**	**12**	*e*P	**P**	**16 23 21.7**	**-0.4**
	comp=Z,818nm,0.8s						
CHRT	**Chiangrai**	**17.30**	**14**	⇑P	**P**	**16 23 41.5**	**-0.2**
	comp=Z,2μm,1.0s						
MDRS	**Chennai**	**18.10**	**304**	*e*P	**P**	**16 23 52.0**	**+0.3**
MDRS				*e*S	**S**	**16 27 14.0**	**+4.2**
MDRS				*e*		16 28 06.0	
VIS	**Vishakhapatnam**	**18.89**	**322**	*e*P	**P**	**16 24 01.3**	**0.0**
VIS				*e*		16 27 25.5	
VIS				*e*		16 31 16.3	
	comp=Z,49μm,21.6s						
TRD	**Trivandrum**	**19.23**	**287**	*e*P	**P**	**16 24 04.5**	**-0.8**
TRD				*i* S	**S**	**16 27 37.7**	**+2.4**
CAL	**Calcutta**	**20.65**	**341**	*e*P	**P**	**16 24 22.2**	**+1.8**
CAL				*e*S	**S**	**16 28 12.1**	**+7.3**
KKM	**Kota Kinabalu**	**20.88**	**81**	*e*P	**P**	**16 24 23.4**	**+0.4**
KKM	**Kota Kinabalu**	**20.88**	**81**	P	**P**	**16 24 23.7**	**+0.7**
AGT	**Agartala**	**21.18**	**349**	*i*	**P**	**16 24 34.0**	**+8.1**
AGT				*i*		16 25 24.0	
QIZ	**Qiongzhong**	**21.25**	**40**	⇑P	**P**	**16 24 26.8**	**+0.1**
QIZ				PP	PP	16 24 53.0	+2.6
QIZ				S	**S**	**16 28 20.0**	**+3.6**
QIZ				XS		16 28 32.8	
QIZ				LR	LR		
	comp=N,236μm,17.0s						
QIZ				LR	LR		
	comp=Z,287μm,17.0s,MS6.7						
QIZ	**Qiongzhong**	**21.25**	**40**	*e*P	**P**	**16 24 26.6**	**-0.1**
	comp=Z,386nm,1.0s,mb5.7						
SRDI	**Scrawed**	**21.81**	**122**	⇑*i*P	**P**	**16 24 31.9**	**-0.4**
SRDI				pmax	pmax		
	comp=Z,348nm,1.0s,mb5.7						
SRDI	**Scrawed**	**21.81**	**122**	⇑*i*P	**P**	**16 24 31.9**	**-0.4**
	comp=Z,348nm,1.0s,mb5.7						
HYB	**Hyderabad**	**21.96**	**312**	⇓*e*P	**P**	**16 24 34.5**	**+0.7**
HYB				*e*S	**S**	**16 28 34.0**	**+4.4**
HYB				pmax	pmax		
	comp=Z,800nm,1.2s,mb6.0						
HYB	**Hyderabad**	**21.96**	**312**	⇑*e*P	**P**	**16 24 34.5**	**+0.7**
	comp=Z,800nm,1.2s,mb6.0						
HYB				*e*S	**S**	**16 28 34.0**	**+4.4**
HYB	**Hyderabad**	**21.96**	**312**	⇑*i*P	**P**	**16 24 34.5**	**+0.7**
	comp=Z,800nm,1.2s,mb6.0						
HYB				*e*S	**S**	**16 28 34.0**	**+4.4**
HYB				LR	LR		
	comp=Z,70nm,20.0s						
KELI	**Kelakatan**	**21.98**	**121**	⇑*i*P	**P**	**16 24 31.3**	**-2.7**
	comp=Z,605nm,1.1s,mb5.9						
TSM	**Tawau**	**22.38**	**86**	P	**P**	**16 24 38.4**	**+0.4**
BOK	**Bokaro**	**22.68**	**337**	*i* P	**P**	**16 24 39.2**	**-1.8**
BOK				*i* S	**S**	**16 28 47.7**	**+4.8**
MNGI	**Mangalore**	**22.71**	**297**	*e*P	**P**	**16 24 42.2**	**+0.8**
MNGI				*i* S	**S**	**16 28 50.0**	**+6.5**
	comp=Z,485nm,0.6s						
SHL	**Shillong**	**22.72**	**352**	*e*	**P**	**16 24 38.5**	**-2.9**
SHL				*e*		16 28 42.0	
BATP	**Bataraza**	**22.93**	**74**	*e*P	**P**	**16 24 43.9**	**+0.4**
BLSP	**Bilaspur**	**23.03**	**327**	*e*P	**P**	**16 24 44.9**	**+0.4**
BLSP				*e*		16 25 04.8	
	comp=Z,2μm,1.2s						
BLSP				*e*S	**S**	**16 28 54.0**	**+4.9**
KMI	**Kunming**	**23.10**	**17**	P	**P**	**16 24 47.0**	**+2.0**
KMI				AP		16 24 53.0	
KMI				XP		16 24 55.3	
KMI				PP	PP	16 25 18.5	+3.0
KMI				PPP	PPP	16 25 28.8	+3.3
KMI				S	**S**	**16 28 55.0**	**+4.8**
KMI				XS		16 29 05.3	
KMI				SSS	SSS	16 29 58.0	+6.5
KMI				AMB	AMB		
	comp=Z,389nm,1.2s,mb5.7						
KMI				AMB	AMB		
	comp=Z,18μm,7.8s						
KMI				LR	LR		
	comp=N,317μm,14.5s,MS6.9						
KMI				LR	LR		
	comp=E,124μm,15.7s,MS6.9						
KMI				LR	LR		
	comp=Z,330μm,14.5s,MS6.9						
RATI	**Rata**	**23.12**	**120**	⇑*i*P	**P**	**16 24 44.3**	**-1.1**
	comp=Z,333nm,1.0s,mb5.7						
SHBG	**Sahibganj**	**23.36**	**342**	*e*P	**P**	**16 24 51.0**	**+3.4**
KEDI	**Kedomdong**	**23.51**	**119**	⇓*i*P	**P**	**16 24 47.0**	**-2.1**
KEDI				pmax	pmax		
	comp=Z,131nm,1.2s,mb5.2						
KEDI	**Kedomdong**	**23.51**	**119**	⇓*i*P	**P**	**16 24 47.0**	**-2.1**
	comp=Z,131nm,1.2s,mb5.2						
PPR	**Puerto Princes**	**24.05**	**73**	⇑*e*P	**P**	**16 24 55.5**	**+1.1**
LATR	**Latur**	**24.06**	**311**	*e*P	**P**	**16 24 55.5**	**+1.0**
LATR				*e*		16 29 19.5	
SLGI	**Shiliguri**	**24.54**	**345**	*e*	**P**	**16 25 02.4**	**+3.3**
GOA	**Goa**	**24.70**	**302**	*i* P	**P**	**16 24 59.5**	**-1.1**
GOA				*e*S	**S**	**16 29 18.5**	**+0.7**
GTK	**Gangtok**	**25.09**	**345**	*e*	**P**	**16 24 53.0**	**-11**
GTK				*e*		16 29 26.0	
ENPP	**El Nido**	**25.10**	**70**	*e*P	**P**	**16 25 04.5**	**0.0**
DGAR	**Diego Garcia**	**25.20**	**246**	P	**P**	**16 25 03.9**	**-1.5**
DGAR				pmax	pmax		
	comp=Z,682nm,1.3s,mb6.0						
DGAR				MLR	MLR		
	comp=Z,24μm,19.0s,MS5.7						
DGAR	**Diego Garcia**	**25.20**	**246**	P	**P**	**16 25 03.9**	**-1.5**
	comp=Z,682nm,1.3s,mb6.0						
DGAR				LR	LR		
	comp=Z,24μm,19.0s,MS5.7						
KAD	**Karad**	**25.30**	**306**	*e*P	**P**	**16 25 08.7**	**+2.3**
GYA	**Guiyang**	**25.69**	**24**	⇓*i*P	**P**	**16 25 10.0**	**+0.1**
GYA				AP	pP	16 25 19.3	+1.4
GYA				PP	PP	16 25 54.5	+4.4
GYA				S	**S**	**16 29 40.0**	**+5.6**
GYA				AMB	AMB		
	comp=Z,15μm,6.0s						
GYA				LR	LR		
	comp=N,143μm,15.0s,MS6.7						
GYA				LR	LR		
	comp=E,84μm,16.0s,MS6.7						
GYA				LR	LR		
	comp=Z,221μm,15.3s,MS6.8						
BUSP	**Coron**	**26.06**	**69**	*e*P	**P**	**16 25 13.4**	**-0.1**
JIRN	**Jiri**	**26.10**	**341**	*e*P	**P**	**16 25 13.5**	**-0.2**
	comp=Z,2μm,1.0s,mb6.7						
POO	**Poona**	**26.23**	**308**	*e*P	**P**	**16 25 15.6**	**+0.6**
POO				*e*		16 25 34.7	
	comp=Z,186nm,1.2s		

CD2 Chengdu 28.86 15 P **P** **16 25 38.0 -0.8**
CD2 S **S** **16 30 22.8 -3.0**
CD2 AMB AMB
comp=Z,910nm,0.6s,mb6.7
CD2 LR LR
comp=N,130μm,15.0s
CD2 LR LR
comp=Z,271μm,14.4s,MS7.0
TBP Tagbilaran 28.96 75 *e*P **P** **16 25 40.1 +0.3**
LLP Lapu-Lapu 29.19 74 *e*P **P** **16 25 41.8 -0.1**
APYP Conner 29.26 58 *e*P **P** **16 25 41.5 -1.1**
CAUP Cauayan 29.35 60 *e*P **P** **16 25 42.4 -0.9**
KCP Kidapawan 29.75 81⇓ *e*P **P** **16 25 49.6 +2.6**
BUKP Musuan 29.83 79 *e*P **P** **16 25 48.3 +0.6**
MSLP Maasin 30.01 75 *e*P **P** **16 25 48.8 -0.4**
LGTI Lohaghat 30.04 333 *e*P **P** **16 25 48.5 -0.9**
PTH Pithoragarh 30.14 333 *e*P **P** **16 25 50.0 -0.3**
PTH *e*S **S** **16 30 47.0 +0.8**
PVCP Virac 30.22 68 *e*P **P** **16 25 49.9 -1.2**
DAV Davao City (W) 30.24 81 *e*P **P** **16 25 54.0 +2.7**
CNP Catarman 30.39 70 *e*P **P** **16 25 52.6 0.0**
BUTP Butuan 30.54 77 *e*P **P** **16 25 54.0 +0.1**
AJM Ajmer 30.75 321 *e*P **P** **16 25 56.0 +0.3**
AJM *e* 16 25 59.5
comp=Z,136nm,2.4s
AJM *e*S **S** **16 30 56.2 +0.4**
BESP Borongan 30.89 72 *e*P **P** **16 25 56.1 -0.9**
MATI Mati 30.90 81 *e*P **P** **16 25 56.0 -1.0**
NDI New Delhi 30.92 328 *e*P **P** **16 25 54.5 -2.6**
NDI *e* 16 30 55.0
BBP Basco 31.10 54 *e*P **P** **16 25 58.8 0.0**
QZH Quanzhou 31.18 43⇑ *i*P **P** **16 25 59.8 +0.3**
QZH PP PP 16 27 05.5 +3.0
QZH PPP PPP 16 27 22.3 +4.8
QZH S **S** **16 31 03.5 +0.9**
QZH XS 16 31 18.5
QZH AMB AMB
comp=Z,60nm,1.3s,mb5.3
QZH AMB AMB
comp=Z,11μm,4.6s
QZH LR LR
comp=N,37μm,15.7s,MS7.0
QZH LR LR
comp=E,231μm,14.8s,MS7.0
QZH LR LR
comp=Z,227μm,14.4s,MS7.0
DDI Dehra Dun 31.81 331 *e*P **P** **16 26 03.6 -1.4**
DDI *e* 16 30 46.2
WHN Wuhan 32.71 31 ⇑ P **P** **16 26 13.0 +0.2**
WHN S **S** **16 31 34.0 +7.6**
WHN AMB AMB
comp=Z,670nm,1.2s,mb6.5
NACB Ninganchiao 32.85 48 *e*P **P** **16 26 15.9 +1.8**
YHNB Yeheng 32.98 47 *e*P **P** **16 26 15.3 +0.1**
TATO Taipei 33.25 47 *e*P **P** **16 26 13.5 -4.0**
TATO LR LR
comp=Z,47μm,19.0s,MS6.2
SDNR Sundarnagar 33.31 330 *e*P **P** **16 26 17.2 -0.8**
SDNR *e*S **S** **16 31 36.8 +1.1**
XAN Xi'an 33.35 21 P **P** **16 26 17.3 -1.0**
XAN AP pP 16 26 27.5 +1.1
XAN PP PP 16 27 30.5 +0.3
XAN S **S** **16 31 35.3 -0.9**
XAN SS SS 16 33 37.5 -1.9
XAN AMB AMB
comp=Z,258nm,2.0s,mb5.8
XAN LR LR
comp=N,56μm,14.5s,MS6.7
XAN LR LR
comp=E,90μm,16.1s,MS6.7
XAN LR LR
comp=Z,129μm,16.1s,MS6.7
BHK Bhakra 33.52 330 *e*P **P** **16 26 22.0 +2.2**
BHK *e* 16 31 31.4
MBWA Marble Bar 33.76 136 *e*P **P** **16 26 21.4 -0.6**
comp=Z,141nm,0.9s,mb5.9
MBWA LR LR
comp=Z,64μm,20.0s,MS6.3
LZH Lanzhou 33.84 12⇑ *i*P **P** **16 26 22.0 -0.5**
LZH AP pP 16 26 28.8 -1.8
LZH XP sP 16 26 32.0 -2.1
LZH PP PP 16 27 36.0 -0.1
LZH PCP PcP 16 28 57.5 -3.7
LZH S **S** **16 31 45.3 +1.5**
LZH XS 16 31 57.0
LZH PCS 16 32 42.5
LZH SS SS 16 33 53.3 +2.6
LZH AMB AMB
comp=Z,1μm,1.8s,mb6.5
LZH AMB AMB
comp=Z,4μm,5.3s
LZH LR LR
comp=E,145μm,13.8s
LZH LR LR
comp=Z,154μm,16.6s,MS6.8
DLH Dalhousie 34.65 330 *e*P **P** **16 26 30.0 +0.4**
DLH *e* 16 26 42.0
NJ2 Nanjing 36.32 35 *e*P **P** **16 26 44.0 +0.3**
NJ2 AP pP 16 26 49.8 -2.0
NJ2 XP sP 16 26 52.8 -2.5
NJ2 PP PP 16 28 09.8 +2.6
NJ2 S **S** **16 32 25.0 +2.8**
NJ2 XS 16 32 35.0
NJ2 AMB AMB
comp=Z,410nm,0.9s,mb6.4
NJ2 AMB AMB
comp=Z,7μm,9.0s
NJ2 LR LR
comp=N,153μm,17.5s,MS7.0
NJ2 LR LR
comp=E,139μm,18.4s,MS7.0
NJ2 LR LR
comp=Z,121μm,14.2s,MS6.8
FITZ Fitzroy Crossi 36.35 126⇑ *i*P **P** **16 26 42.8 -1.3**
comp=Z,162nm,0.8s,mb6.0
FITZ *i*S **S** **16 32 19.0 -3.9**
FITZ Fitzroy Crossi 36.35 126 P **P** **16 26 42.8 -1.3**
comp=Z,136nm,0.9s,mb5.9,baz=332,slow=5.1,SNR=63
FITZ LR LR 16 44 29.2
comp=Z,53μm,19.1s,MS6.3,baz=292,slow=41
GTA Gaotai 36.48 6⇑ *i*P **P** **16 26 44.8 -0.2**
GTA AP pP 16 26 52.3 -0.8
GTA XP sP 16 26 55.5 -1.1
GTA PP PP 16 28 09.3 +0.1
GTA PPP PPP 16 28 28.8 -0.4
GTA PCP PcP 16 29 08.3 -0.6
GTA S **S** **16 32 24.5 0.0**
GTA XS 16 32 38.5
GTA SCP 16 32 54.3
GTA SS SS 16 34 51.3 +0.5
GTA SCS ScS 16 36 58.0 +0.7
GTA AMB AMB
comp=Z,223nm,2.0s,mb5.8
GTA AMB AMB
comp=Z,6μm,5.3s
GTA LR LR
comp=N,50μm,15.2s,MS6.5
GTA LR LR
comp=E,36μm,15.2s,MS6.5
GTA LR LR
comp=Z,60μm,14.1s,MS6.5
SSE Sheshan 37.01 38 P **P** **16 26 50.0 +0.4**
SSE AP pP 16 26 59.0 +1.3
SSE PP PP 16 28 15.8 -0.5
SSE PCP PcP 16 29 07.3 -3.3
SSE S **S** **16 32 37.0 +4.1**
SSE XS 16 32 52.5
SSE AMB AMB
comp=Z,140nm,1.1s,mb5.7
SSE AMB AMB
comp=Z,5μm,7.1s
SSE LR LR
comp=N,99μm,15.2s,MS6.8
SSE LR LR
comp=E,62μm,15.5s,MS6.8
SSE LR LR
comp=Z,162μm,15.8s,MS6.9
TIA Tai'an 38.64 29 ⇑ P **P** **16 27 03.5 +0.3**
TIA PP PP 16 28 35.3 -0.1
TIA S **S** **16 32 55.5 -2.0**
TIA LR LR
comp=E,168μm,15.0s,MS7.0
TIA LR LR
comp=N,50μm,13.2s,MS7.0
TIA LR LR
comp=Z,57μm,13.9s,MS6.5
JOW Kunigami 39.34 50 P **P** **16 27 09.2 +0.1**
comp=Z,100nm,0.5s,mb5.8,baz=247,slow=7.4
JOW LR LR 16 46 15.4
comp=Z,29μm,18.8s,MS6.1,baz=240,slow=41
BTO Baotou 39.69 17 *e*P **P** **16 27 12.5 +0.6**
BTO S **S** **16 33 08.8 -4.6**
BTO AMB AMB
comp=Z,441nm,2.3s,mb5.8
BTO LR LR
comp=N,39μm,13.5s,MS6.7
BTO LR LR
comp=E,80μm,18.2s,MS6.7
KAKA Kakadu 39.87 114⇑ *i*P **P** **16 27 12.1 -1.5**
comp=E,68nm,0.7s,mb5.5
MUN Mundaring 39.95 152 *e*P **P** **16 27 14.9 +0.8**
comp=E,91nm,0.8s,mb5.6
MUN *i*S **S** **16 33 19.7 +2.3**
MUN Mundaring 39.95 152 *e*P **P** **16 27 14.9 +0.8**
MUN *i*S **S** **16 33 19.7 +2.3**
MUN pmax pmax
comp=Z,91nm,0.8s,mb5.6
KLBR Kellerberrin 40.38 150 *e*P **P** **16 27 20.3 +2.7**
comp=Z,2μm,1.1s,mb6.7
HHC Hu-ho-hao-te 40.39 19 *e*P **P** **16 27 19.5 +1.8**
HHC AP pP 16 27 27.0 +1.1
HHC XP sP 16 27 29.3 0.0
HHC PP PP 16 28 59.5 +5.4
HHC S **S** **16 33 23.5 -0.4**
HHC SCS ScS 16 37 24.8 +5.1
HHC AMB AMB
comp=Z,627nm,2.3s,mb5.9
HHC AMB AMB
comp=Z,11μm,6.3s
HHC LR LR
comp=Z,183μm,16.6s,MS7.0
WBK Wadi Bani Khal 40.41 302 ⇓P **P** **16 27 21.0 +3.0**
KSH Kashi 40.46 337⇑ iP **P** **16 27 19.3 +1.1**
KSH *e*AP pP 16 27 26.8 +0.4
KSH *e*XP sP 16 27 30.0 +0.2
KSH *e*PP PP 16 28 56.8 +2.0
KSH *e*PCP PcP 16 29 21.8 +0.5
KSH *e*PPP PPP 16 29 24.5 +2.0
KSH *e*SCP 16 33 08.3
KSH *e*PCS 16 33 11.0
KSH *e*S **S** **16 33 27.5 +2.6**
KSH *e*XS 16 33 39.5
KSH *e*SS SS 16 36 23.3 +3.9
KSH *e*SCS ScS 16 37 21.5 +1.4
KSH AMB AMB
comp=Z,8μm,7.0s
KSH LR LR
comp=N,50μm,15.4s,MS6.7
KSH LR LR
comp=E,59μm,13.8s,MS6.7
MSEY Mahe Island 40.69 259 P **P** **16 27 20.2 -0.2**
comp=E,537nm,1.1s,mb6.1,SNR=12
JMDO Jabal Madar 41.06 301 ⇓P **P** **16 27 24.8 +1.5**
NWAO Narrogin (SRO) 41.22 152 *e*P **P** **16 27 25.1 +0.6**
NWAO pmax pmax
comp=Z,444nm,1.4s
NWAO MLR MLR
comp=Z,23μm,19.0s
NWAO Narrogin (SRO) 41.22 152 P **P** **16 27 31.3 +6.8**
comp=E,166nm,1.0s,mb5.6,baz=332,slow=22,SNR=11
NWAO LR LR 16 45 48.1
comp=Z,29μm,18.9s,MS6.2,baz=239,slow=38
NWAO Narrogin (SRO) 41.22 152 *e*P **P** **16 27 25.1 +0.6**
comp=Z,444nm,1.4s,mb5.9
NWAO LR LR
comp=Z,23μm,19.0s,MS6.1
WMQ Urumqi 41.25 351⇑ *i*P **P** **16 27 25.5 +0.8**
WMQ AP pP 16 27 31.5 -1.4
WMQ XP sP 16 27 35.0 -1.3
WMQ PP PP 16 29 04.0 +1.1
WMQ PPP PPP 16 29 33.5 +0.2
WMQ PCS 16 33 13.8
WMQ S **S** **16 33 38.0 +1.4**
WMQ XS 16 33 49.0
WMQ SS SS 16 36 36.0 +0.3
WMQ AMB AMB
comp=Z,56nm,1.7s,mb4.9
WMQ AMB AMB
comp=Z,1μm,3.7s
WMQ LR LR
comp=N,30μm,17.3s,MS6.5
WMQ LR LR
comp=E,59μm,20.1s,MS6.5
WMQ LR LR
comp=Z,27μm,19.9s,MS6.1
BJI Beijing 41.38 24 P **P** **16 27 27.3 +1.6**
BJI AP pP 16 27 35.0 +1.0
BJI XP sP 16 27 40.3 +3.0
BJI PP PP 16 29 03.5 -0.9
BJI PCP PcP 16 29 25.0 +0.7
BJI S **S** **16 33 37.8 -0.7**
BJI AMB AMB
comp=Z,21nm,0.9s,mb4.8
BJI LR LR
comp=N,37μm,24.3s
BJI LR LR
comp=E,86μm,16.4s
BJI LR LR
comp=Z,59μm,15.8s
BIDO Bidbid 41.49 303 ⇓P **P** **16 27 30.1 +3.3**
SNR=6.4
SHAO Shalim 41.82 294 ⇓P **P** **16 27 31.4 +1.8**
SNR=7.4
BSY Bisya 41.97 301 ⇑P **P** **16 27 33.3 +2.4**
SNR=19
ULHL Ulahol 42.72 339 P **P** **16 27 37.5 +0.7**
SNR=144
KZA Kyzart 42.94 338 P **P** **16 27 39.8 +1.2**
SNR=52
DL2 Dalian 42.96 30⇑ *i*P **P** **16 27 39.5 +0.7**
DL2 S **S** **16 34 06.8 +4.9**
DL2 AMB AMB
comp=Z,270nm,0.9s,mb6.0
DL2 AMB AMB
comp=Z,5μm,4.7s
DL2 LR LR
comp=N,40μm,16.5s,MS6.6
DL2 LR LR
comp=E,40μm,14.3s,MS6.6
DL2 LR LR
comp=Z,57μm,15.5s,MS6.6
RBK Rabkut 42.98 293 ⇓P **P** **16 27 40.1 +0.9**
SNR=6.5
UCH Uchtor 43.35 337 P **P** **16 27 43.0 +1.1**
SNR=186
AAA Alma-Ata 43.38 340 *i*P **P** **16 27 43.0 +0.9**
AAA *i*S **S** **16 34 10.0 +2.1**
AAA pmax pmax
comp=Z,8μm,7.0s
AAA smax
comp=N,16μm,11.0s
AAA MLR MLR
comp=Z,24μm,15.0s,MS6.2
WHFO Wadi Hawf 43.49 293 ⇑P **P** **16 27 44.2 +0.9**
SNR=49
TKM2 Tokmak 2 43.54 339 P **P** **16 27 43.9 +0.5**
SNR=78
KBK Karagaybulak 43.55 338 P **P** **16 27 44.9 +1.3**
SNR=140
AML Almayashu 43.59 336 P **P** **16 27 46.0 +2.2**
SNR=16
ASHO Ashiyiah 43.69 303 ⇑P **P** **16 27 49.1 +4.2**
SNR=14
AAK Ala-Archa 43.70 338 P **P** **16 27 44.9 +0.1**
comp=Z,578nm,0.9s,mb6.3,SNR=89
AAK Ala-Archa 43.70 338 *e*P **P** **16 27 44.6 -0.2**
AAK pmax pmax
comp=Z,269nm,1.3s,mb5.8
AAK MLR MLR
comp=Z,12μm,19.0s,MS5.8
AAK Ala-Archa 43.70 338 *e*P **P** **16 27 44.6 -0.2**
comp=Z,269nm,1.3s,mb5.8
AAK LR LR
comp=Z,12μm,19.0s,MS5.8
ABTO Aybut 43.78 292 P **P** **16 27 46.9 +1.2**
SNR=11
FRU Bishkek 43.83 338⇑ *i*P **P** **16 27 46.0 +0.2**
FRU *i* 16 28 00.0
FRU *i* 16 34 18.0
FRU pmax pmax
comp=Z,2μm,2.9s,mb6.4
FRU MLR MLR
comp=Z,46μm,18.0s,MS6.4
CHMS Chumysh 43.92 338 P **P** **16 27 46.9 +0.4**
SNR=30
BANOM Banah 43.99 305 ⇑P **P** **16 27 49.1 +1.9**
EKS2 Erkin-Say 44.01 337 P **P** **16 27 47.9 +0.7**
SNR=133
USP Ospenovka 44.25 338 P **P** **16 27 49.5 +0.4**
SNR=174
WRA Warramunga Arr 44.42 123 P **P** **16 27 50.4 -0.5**
comp=Z,170nm,1.1s,mb5.7,baz=299,slow=9.3,SNR=202
WRAB Tennant Creek 44.43 123 P **P** **16 27 50.0 -0.9**
comp=Z,974nm,1.2s,mb6.4,SNR=88
WB2 Warramunga Arr 44.44 123⇑ *i*P **P** **16 27 50.4 -0.6**
WB2 *i*S **S** **16 34 20.0 -3.5**
INCN Inchon 44.66 36 *e*P **P** **16 27 51.8 -0.8**
comp=Z,963nm,1.8s,mb6.3
INCN LR LR
comp=Z,78μm,19.0s,MS6.7
MKAR Makanchi Array 45.13 347 P **P** **16 27 56.2 +0.1**
comp=Z,214nm,0.7s,mb6.1,baz=163,slow=7.8,SNR=471
MKAR S **S** **16 34 34.5 +1.4**
comp=Z,3.1nm,0.9s,baz=101,slow=12,SNR=2.8
MKAR LR LR 16 49 51.3
comp=Z,39μm,21.8s,MS6.3,baz=165,slow=40
MKAR Makanchi Array 45.13 347 P **P** **16 27 56.2 +0.1**
MKAR S **S** **16 34 34.5 +1.4**
MKAR LR LR 16 49 51.3
MENI Mendum Tagoi 45.24 96⇑ *i*P **P** **16 27 55.0 -2.5**
MENI pmax pmax
comp=Z,92nm,1.0s,mb5.6
MENI Mendum Tagoi 45.24 96⇑ *i*P **P** **16 27 55.0 -2.5**
comp=Z,92nm,1.0s,mb5.6
KS15 Wonju Array Si 45.38 37⇑ *i*P **P** **16 27 57.7 -0.6**
YOMI Yo Moklole 45.40 97⇑ *i*P **P** **16 27 53.7 -5.1**
comp=Z,138nm,1.3s,mb5.6
SONM Songino Array 45.66 10 P **P** **16 28 00.6 +0.2**
comp=Z,271nm,0.9s,mb6.2,baz=192,slow=6.8,SNR=469
SONM PcP PcP 16 29 39.0 +0.3
comp=Z,35nm,0.8s,baz=190,slow=3.9,SNR=4.5
SONM S **S** **16 34 49.4 +8.6**
comp=Z,4.2nm,1.1s,baz=180,slow=5.8,SNR=2.8
SONM LR LR 16 48 58.9
comp=Z,89μm,21.3s,MS6.7,baz=188,slow=39
FORT Forrest 45.73 140 *e*P **P** **16 28 01.5 +0.4**
comp=Z,2μm,0.6s
FORT *i* pP 16 28 10.1 +0.7
FORT *e*S **S** **16 34 43.3 +1.3**
ULN Ulaanbaatar 45.81 11⇑ *i*P **P** **16 28 01.2 -0.4**
ULN pmax pmax
comp=Z,157nm,0.9s,mb5.9
ULN MLR MLR
comp=Z,68μm,22.0s,MS6.5
ULN Ulaanbaatar 45.81 11⇑ *i*P **P** **16 28 01.2 -0.4**
comp=Z,157nm,0.9s,mb5.9
ULN LR LR
comp=Z,68μm,22.0s,MS6.5
ASPA Alice Springs 45.82 127⇑ *i*P **P** **16 28 01.5 -0.5**
ASAR Alice Springs 45.83 127 P **P** **16 28 01.5 -0.5**
comp=Z,28nm,0.9s,mb5.2,baz=301,slow=7.0,SNR=141
ASAR PcP PcP 16 29 39.4 -0.2
comp=Z,22nm,1.0s,baz=321,slow=2.4,SNR=2.5
ASAR S **S** **16 34 42.2 -1.2**
comp=Z,2.6nm,0.7s,baz=299,slow=8.0,SNR=5.9
ASAR LR LR 16 50 43.3
comp=Z,15μm,18.1s,MS6.0,baz=42,slow=41
SNY Shenyang 46.15 29⇑ *i*P **P** **16 28 04.3 0.0**
SNY AP pP 16 28 12.0 -0.6
SNY XP sP 16 28 14.5 -1.4
SNY PP PP 16 29 52.8 +0.1
SNY S **S** **16 34 44.8 -3.0**
SNY AMB AMB
comp=Z,400nm,2.3s,mb5.9
SNY LR LR
comp=N,65μm,14.5s,MS6.9
SNY LR LR
comp=E,91μm,15.9s,MS6.9
SNY LR LR
comp=Z,99μm,15.2s,MS6.9
ZAK Zakamensk 47.69 7⇓ *i*P **P** **16 28 15.5 -0.9**
ZAK pmax pmax
comp=Z,96nm,1.0s,mb5.8
CN2 Changchun 48.54 29 ⇑P **P** **16 28 22.8 -0.2**
CN2 *e*AP pP 16 28 30.3 -1.1
CN2 *e*XP sP 16 28 31.8 -2.8
CN2 PCP PcP 16 29 45.0 -4.0
CN2 PP PP 16 30 16.5 +0.9
CN2 *e*S **S** **16 35 23.3 +1.6**
CN2 AMB AMB
comp=Z,280nm,1.5s,mb6.1
CN2 AMB AMB
comp=Z,7μm,5.0s
CN2 LR LR
comp=Z,79μm,17.0s,MS6.8
MOY Mondy 48.74 5 *e*P **P** **16 28 24.6 +0.2**
MOY pmax pmax
comp=Z,543nm,3.2s
TLY Talaya 49.01 7⇑ *i*P **P** **16 28 27.0 +0.4**
TLY pmax pmax
comp=Z,203nm,0.8s,mb6.2
TLY MLR MLR
comp=Z,18μm,18.0s,MS6.1
TLY Talaya 49.01 7⇑ *i*P **P** **16 28 27.0 +0.5**
comp=Z,205nm,0.8s,mb6.2
TLY LR LR
comp=Z,20μm,19.0s,MS6.1
IRK Irkutsk 49.64 7⇑ *i*P **P** **16 28 31.5 +0.1**
IRK *e* 16 30 20.1
IRK *e* 16 35 40.1
IRK pmax pmax
comp=Z,720nm,2.7s,mb6.2
KURK Kurchatov 49.65 346⇑ *i*P **P** **16 28 31.4 -0.1**
KURK pmax pmax
comp=Z,451nm,1.3s,mb6.3
KURK MLR MLR
comp=Z,11μm,20.0s,MS5.8
KURK Kurchatov 49.65 346⇑ *i*P **P** **16 28 31.4 -0.1**
comp=Z,451nm,1.3s,mb6.3
KURK LR LR
comp=Z,11μm,20.0s,MS5.8
GUMO Guam 49.89 75 PFAKE 16 28 50.0 +16
GUMO LR LR
comp=Z,31μm,20.0s,MS6.3
HIA Hailar 50.55 20 *e*P **P** **16 28 38.6 +0.3**
HIA pmax pmax
comp=Z,322nm,1.3s
HIA Hailar 50.55 20 *e*P **P** **16 28 38.6 +0.3**
comp=Z,322nm,1.3s,mb6.1
CBIJ Chichi jima 50.65 57 P **P** **16 28 38.2 -1.2**
comp=Z,83nm,0.8s,mb5.7,baz=300,slow=17,SNR=3.0
CBIJ LR LR 16 48 10.6
comp=Z,16μm,21.4s,MS6.0,baz=224,slow=34
MDJ Mudanjiang 51.19 31 P **P** **16 28 43.8 +0.5**
MDJ AP pP 16 28 49.8 -1.9
MDJ XP sP 16 28 52.8 -2.1
MDJ PCP PcP 16 29 58.5 -0.1
MDJ PP PP 16 30 41.3 +0.4
MDJ S **S** **16 36 03.0 +4.6**
MDJ XS 16 36 13.8
MDJ SCS ScS 16 38 33.0 +4.3
MDJ AMB AMB
comp=Z,208nm,2.3s,mb5.7
MDJ AMB AMB
comp=Z,8μm,8.4s
MDJ LR LR
comp=N,71μm,16.6s,MS6.8
MDJ LR LR
comp=E,48μm,16.6s,MS6.8
MDJ LR LR
comp=Z,53μm,15.0s,MS6.7
MDJ Mudanjiang 51.19 31 *e*P **P** **16 28 43.4 +0.1**
comp=Z,623nm,1.7s,mb6.3
VLA Vladivostok 51.41 34 *i*P **P** **16 28 45.0 0.0**
VLA *i* 16 30 42.0
VLA *i* 16 31 49.0
VLA *i*S **S** **16 36 05.0 +3.5**
VLA *i* 16 38 23.0
VLA pmax pmax
comp=E,4μm,7.0s
VLA pmax pmax
comp=Z,10μm,7.0s
VLA pmax pmax
comp=N,2μm,5.0s
VLA pmax pmax
comp=Z,6μm,10.0s

VLA pmax pmax
comp=N,2μm,12.0s
VLA pmax pmax
comp=E,3μm,11.0s
VLA smax
comp=E,8μm,11.0s
VLA smax
comp=N,4μm,18.0s
VLA MLR MLR
comp=N,56μm,16.0s,MS6.8
VLA MLR MLR
comp=E,42μm,16.0s,MS6.8
ZAL Zalesovo 51.55 352 P **P** **16 28 45.5 -0.3**
comp=E,232nm,0.7s,mb6.2,baz=300,slow=6.7,SNR=472
MAJO Matsushiro 51.58 44 P **P** **16 28 45.8 -0.5**
MAJO pmax pmax
comp=Z,430nm,1.9s,mb6.0
MAJO Matsushiro 51.58 44 *e*P **P** **16 28 45.0 -1.4**
MAJO LR LR
comp=E,26nm,1.9s,mb6.0
comp=E,57μm,22.0s,MS6.5
MAT Matsushiro 51.58 44 *e*P **P** **16 28 45.0 -1.3**
MAT *e*S **S** **16 36 16.0 +12**
MAT pmax pmax
comp=Z,940nm,2.4s,mb6.3
MAT Matsushiro 51.58 44 *e*P **P** **16 28 45.0 -1.3**
comp=Z,940nm,2.4s,mb6.3
MAT *e*S **S** **16 36 16.0 +12**
MAT Matsushiro 51.58 44 P **P** **16 28 44.9 -1.4**
MAT S **S** **16 36 16.0 +12**
MJAR Matsushiro Arr 51.58 44 P **P** **16 28 46.4 0.0**
comp=Z,20nm,0.8s,mb5.1,baz=240,slow=8.3,SNR=25
RAYN Ar Rayn 52.42 297 P **P** **16 28 53.9 +1.0**
comp=Z,522nm,1.1s,SNR=52
NVS Novosibirsk 52.65 351⇑ *i*P **P** **16 28 52.8 -1.4**
NVS *i* *PP pP 16 29 01.9 -0.7
NVS *e*S **S** **16 36 09.5 -8.8**
NVS pmax pmax
comp=Z,432nm,1.0s,mb6.3
NVS pmax pmax
comp=N,320nm,1.1s
NVS pmax pmax
comp=E,190nm,1.2s
NVS smax
comp=N,656nm,2.3s
NVS smax
comp=E,1μm,2.4s
ATD Arta Tunnel 52.83 282 P **P** **16 28 56.6 +0.5**
comp=E,42nm,1.1s,mb5.3,baz=94,slow=9.9,SNR=7.7
ATD LR LR 16 47 34.9
comp=E,17μm,21.2s,MS6.1,baz=88,slow=32
PMG Port Moresby 52.93 104 P **P** **16 28 55.9 -0.9**
PMG MLR MLR
comp=Z,24μm,19.0s
PMG Port Moresby 52.93 104 P **P** **16 28 55.9 -0.9**
comp=Z,77nm,0.9s,mb5.6,baz=324,slow=4.1,SNR=14
BVA0 Borovoye Array 54.02 342 *i* P **P** **16 29 03.2 -1.1**
BVA0 pmax pmax
comp=Z,35nm,1.1s,mb5.2
BVAR Borovoye Array 54.02 342 P **P** **16 29 03.3 -1.0**
comp=Z,139nm,0.9s,mb5.9,baz=143,slow=7.4,SNR=281
CHKZ Chkalovo 54.51 342 P **P** **16 29 07.5 -0.4**
CHKZ pmax pmax
comp=Z,647nm,1.4s,mb6.5
CTA Charters Tower 54.83 117⇑ *i*P **P** **16 29 10.1 -0.6**
comp=Z,129nm,0.9s,mb6.0
CTA *i* S **S** **16 36 50.5 +2.4**
CTA Charters Tower 54.83 117⇑ *i*P **P** **16 29 10.1 -0.6**
CTA *i* S **S** **16 36 50.5 +2.4**
CTA pmax pmax
comp=Z,129nm,0.9s
CTA Charters Tower 54.83 117 P **P** **16 29 10.3 -0.4**
comp=Z,108nm,1.2s,mb5.8,baz=296,slow=9.5,SNR=25
CTA LR LR 16 56 37.7
comp=Z,42μm,18.9s,MS6.5,baz=286,slow=40
CTAO Charters Tower 54.83 117 *e*P **P** **16 29 10.2 -0.5**
CTAO pmax pmax
comp=Z,236nm,1.0s,mb6.2
CTAO MLR MLR
comp=Z,41μm,19.0s,MS6.5
CTAO Charters Tower 54.83 117 *e*P **P** **16 29 10.2 -0.5**
comp=Z,236nm,1.0s,mb6.2
CTAO LR LR
comp=Z,41μm,19.0s,MS6.5
ADE Adelaide 55.37 137 P **P** **16 29 14.6 +0.1**
KLR Kul'dur 55.47 28⇓ *i*P **P** **16 29 12.2 -2.7**
KLR *e*S **S** **16 36 58.0 +1.7**
KLR *e* 16 40 47.0
KLR pmax pmax
comp=N,820nm,2.8s
KLR pmax pmax
comp=E,1μm,2.8s
KLR pmax pmax
comp=Z,2μm,2.8s,mb6.6
KLR pmax pmax
comp=N,4μm,7.0s
KLR pmax pmax
comp=E,3μm,7.0s
KLR pmax pmax
comp=Z,9μm,7.0s
STKA Stephens Creek 55.81 132 *e*P **P** **16 29 16.8 -0.8**
comp=Z,43nm,1.0s,mb5.4
STKA *e*S **S** **16 37 01.1 -0.1**
STKA Stephens Creek 55.81 132 P **P** **16 29 17.1 -0.5**
comp=Z,34nm,1.0s,mb5.3,baz=302,slow=6.4,SNR=33
STKA LR LR 16 57 21.6
comp=Z,25μm,19.0s,MS6.3,baz=302,slow=40
BHD Baghdad 56.39 308 *i* P **P** **16 29 12.0 -10**
BHD *i* S **S** **16 37 00.0 -8.9**
BOD Bodaibo 56.60 12⇓ *i*P **P** **16 29 21.6 -1.4**
BOD pmax pmax
comp=Z,214nm,1.7s,mb5.9
MAK Makhachkala 58.28 320*d* *i*P **P** **16 29 35.0 0.0**
MAK *i* 16 30 26.0
MAK *i* PPP PPP 16 33 14.0 +5.0
MAK *i* S **S** **16 37 32.0 -1.6**
MAK *i* PS PS 16 37 56.0 +5.2
MAK *i* 16 39 22.0
MAK *i* SS SS 16 41 23.0 -4.2
MAK pmax pmax
comp=N,1μm,8.0s
MAK pmax pmax
comp=E,2μm,8.0s
MAK pmax pmax
comp=Z,4μm,8.0s
MAK smax
comp=N,8μm,8.0s
MAK smax
comp=E,4μm,8.0s
MAK smax
comp=Z,2μm,8.0s
ASAJ Asahikawa 58.31 38 P **P** **16 29 34.9 -0.2**
comp=Z,56nm,0.9s,mb5.6,baz=273,slow=12,SNR=13
ASAJ LR LR 16 57 00.5
comp=Z,47μm,18.9s,MS6.6,baz=209,slow=38
KMBO Kilima Mbogo 58.36 267 *e*P **P** **16 29 35.4 -0.5**
KMBO pmax pmax
comp=Z,60nm,1.1s
KMBO MLR MLR
comp=Z,59μm,19.0s
KMBO Kilima Mbogo 58.36 267 P **P** **16 29 35.6 -0.3**
comp=Z,23nm,1.0s,mb5.2,baz=55,slow=9.3,SNR=39
KMBO LR LR 16 52 05.6
comp=Z,60μm,19.1s,MS6.7,baz=78,slow=33
KMBO Kilima Mbogo 58.36 267 *e*P **P** **16 29 35.4 -0.5**
comp=Z,60nm,1.1s,mb5.5
KMBO LR LR
comp=Z,59μm,19.0s,MS6.7
MSL Mosul 58.48 311 *e*P **P** **16 29 35.0 -1.5**
MSL *e*pP pP 16 29 51.0 +6.0
MSL *e*sP sP 16 30 04.0 +16
MSL *e*S 16 39 23.5
MSL *e*PS 16 40 53.0
CLNS Chul'man 58.58 18⇑ *i*P **P** **16 29 37.2 +0.3**
CLNS *e* 16 31 44.8
CLNS *e*S **S** **16 37 40.9 +3.6**
CLNS pmax pmax
comp=E,50nm,0.9s
CLNS pmax pmax
comp=Z,136nm,0.9s,mb6.0
CLNS pmax pmax
comp=N,72nm,1.0s
CLNS pmax pmax
comp=Z,18nm,1.2s,mb5.0
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=E,15nm,1.0s
CLNS smax
comp=N,4μm,12.0s
CLNS smax
comp=Z,3μm,13.6s
CLNS smax
comp=E,1μm,14.3s
CLNS MLR MLR
comp=N,152μm,16.0s,MS7.3
CLNS MLR MLR
comp=E,83μm,16.0s,MS7.3
CLNS MLR MLR
comp=Z,229μm,16.0s,MS7.4
GNI Garni 58.83 316 *e*P **P** **16 29 37.8 -1.1**
GNI pmax pmax
comp=Z,119nm,1.0s
GNI MLR MLR
comp=Z,12μm,22.0s
GNI Garni 58.83 316 P **P** **16 29 38.0 -0.9**
comp=Z,11nm,0.7s,mb5.0,baz=238,slow=2.6,SNR=9.4
GNI LR LR 16 56 41.4
comp=Z,10μm,21.6s,MS5.9,baz=212,slow=38
GNI Garni 58.83 316 *e*P **P** **16 29 37.8 -1.1**
comp=Z,119nm,1.0s,mb5.9
GNI LR LR
comp=Z,12μm,22.0s,MS6.0
DGRG David-gareji 58.97 318 P **P** **16 29 39.2 -0.6**
MTA Mtatsminda 59.47 318 P **P** **16 29 43.2 -0.1**
TI2 Plekhanov 59.52 318α *i*P **P** **16 29 42.4 -1.2**
TI2 *i* pP 16 29 49.8 -2.3
TI2 *i* S **S** **16 37 48.6 -1.1**
TI2 pmax pmax
comp=Z,50nm,0.2s,mb6.2
TI2 pmax pmax
comp=Z,2μm,2.0s
TI2 MLR MLR
comp=N,6μm,16.0s,MS5.9
TI2 MLR MLR
comp=E,4μm,16.0s,MS5.9
TI2 MLR MLR
comp=Z,9μm,16.0s,MS6.0
TBLG Delisi 59.52 318 P **P** **16 29 43.5 -0.2**
TBLG Delisi 59.52 318 P **P** **16 29 43.4 -0.2**
YSS Yuzh-Sakhalins 59.88 36α*e*P **P** **16 29 45.3 -0.7**
YSS *e**SP sP 16 29 56.7 -0.9
YSS *e* 16 30 29.0
YSS *e* 16 31 59.0
YSS *e*S **S** **16 37 57.0 +2.8**
YSS *e*PS PS 16 38 14.0 +0.9
YSS pmax pmax
comp=N,70nm,1.1s
YSS pmax pmax
comp=Z,250nm,1.1s,mb6.2
YSS pmax pmax
comp=Z,6μm,7.0s
YSS pmax pmax
comp=N,2μm,9.0s
YSS pmax pmax
comp=E,2μm,8.0s
YSS pmax pmax
comp=E,2μm,12.0s
YSS pmax pmax
comp=Z,3μm,12.0s
YSS pmax pmax
comp=N,2μm,10.0s
YSS Yuzh-Sakhalins 59.88 36 *e*P **P** **16 29 45.6 -0.4**
comp=N,371nm,1.3s,mb6.3
YSS LR LR
comp=Z,46μm,19.0s,MS6.6
YUK Yuzh-Kuril'sk 60.32 40 P **P** **16 29 46.5 -2.6**
YUK *e* 16 32 04.0
YUK *e*PPP PPP 16 33 26.0 -4.7
YUK S **S** **16 38 12.2 +12**
YUK *e* 16 39 38.0
YUK pmax pmax
comp=Z,13μm,5.0s
YUK pmax pmax
comp=N,7μm,3.0s
YUK pmax pmax
comp=E,5μm,3.0s
YUK smax
comp=E,7μm,10.0s
YUK smax
comp=N,8μm,11.0s
YUK MLR MLR
comp=N,18μm,17.0s
YUK MLR MLR
comp=E,6μm,9.0s
YUK MLR MLR
comp=Z,59μm,9.0s
SVE Sverdlovsk 60.42 339⇑ *i*P **P** **16 29 49.0 -0.5**
SVE *e* 16 32 09.0
SVE *e*PPP PPP 16 33 30.0 -1.6
SVE *i* S **S** **16 38 00.0 -1.0**
SVE pmax pmax
comp=Z,1μm,2.5s,mb6.5
SVE pmax pmax
comp=N,2μm,7.0s
SVE pmax pmax
comp=E,2μm,7.0s
SVE pmax pmax
comp=Z,5μm,7.0s
SVE smax
comp=N,10μm,10.0s
SVE smax
comp=E,9μm,10.0s
ZEI Tsey 60.54 318 *e*P **P** **16 29 49.7 -0.9**
ZEI *i* *PP pP 16 30 01.6 +2.5
ZEI pmax pmax
comp=Z,21nm,0.9s,mb5.3
ARU Arti 60.89 338⇑ *i*P **P** **16 29 51.3 -1.5**
ARU *i* S **S** **16 38 07.1 0.0**
ARU *i* 16 39 39.4
ARU *i* SS SS 16 42 09.1 +1.3
ARU pmax pmax
comp=Z,299nm,1.1s,mb6.3
ARU Arti 60.89 338⇑ *i*P **P** **16 29 50.9 -1.8**
comp=Z,294nm,1.1s,mb6.3
ARU LR LR
comp=Z,10μm,20.0s,MS6.0
TOO Toolangi 61.40 136⇑ *i*P **P** **16 29 57.2 +0.7**
comp=Z,0.9nm,0.8s
TOO *e* pP 16 30 05.4 +0.4
TOO *i* S **S** **16 38 17.7 +3.9**
KIV Kislovodsk 61.85 319c *i*P **P** **16 29 58.1 -1.4**
KIV *i* S **S** **16 38 24.0 +4.5**
KIV *i* SS SS 16 42 21.4 -1.9
KIV pmax pmax
comp=Z,151nm,2.5s,mb5.7
KIV Kislovodsk 61.85 319⇑ *i*P **P** **16 29 57.6 -1.8**
comp=Z,116nm,1.0s,mb6.0
KIV LR LR
comp=Z,4μm,20.0s,MS5.5
ASF Jabal al Asfar 62.05 305 P **P** **16 29 59.8 -1.2**
comp=Z,7.0nm,0.7s,mb4.9,baz=338,slow=2.1,SNR=25
ASF LR LR 16 58 38.4
comp=Z,18μm,18.2s,MS6.3,baz=187,slow=38
GOF Gofitskoye 62.11 321⇓ *i*P **P** **16 29 59.3 -1.9**
GOF *i* 16 30 14.8
GOF *i* 16 32 15.7
GOF *e* 16 33 45.1
GOF *i* S **S** **16 38 20.0 -2.7**
GOF pmax pmax
comp=Z,200nm,2.3s,mb5.8
GOF pmax pmax
comp=Z,2μm,10.0s
GOF pmax pmax
comp=Z,200nm,2.0s,mb5.9
GOF smax
comp=N,21μm,18.0s
MALT Malatya 62.67 312⇑ *i*P **P** **16 30 04.2 -0.8**
MALT pmax pmax
comp=Z,121nm,1.3s,mb5.9
MALT Malatya 62.67 312⇑ *i*P **P** **16 30 04.2 -0.8**
comp=Z,121nm,1.3s,mb5.9
KELT Kelkit 62.70 314 *i* P pP 16 30 15.0 +1.3
ARMA Armidale 62.96 126⇑ *i*P **P** **16 30 08.0 +1.0**
ARMA *i* S **S** **16 38 40.9 +7.3**
GZT Gaziantep 63.01 311 *i* P **P** **16 30 07.3 +0.1**
EIL Elat 63.07 302 P **P** **16 30 08.6 +0.9**
comp=Z,14nm,0.7s,mb5.2,baz=102,slow=7.3,SNR=2.0
EIL LR LR 16 55 15.5
comp=Z,12μm,21.6s,MS6.0,baz=299,slow=34
EIL Elat 63.07 302 *e*P **P** **16 30 07.2 -0.5**
comp=Z,301nm,1.8s,mb6.1
CNB Canberra Magne 63.14 132 *e*P **P** **16 30 15.6 +7.5**
comp=Z,807nm,1.3s,mb6.7
BHL Bhannes 63.51 307 *e*P **P** **16 30 10.2 -0.4**
KAHT Ahir Dag 63.62 311 *i* P **P** **16 30 10.8 -0.5**
SOC Sochi 63.66 318 *i* P **P** **16 30 09.1 -2.4**
SOC *e* 16 30 47.6
SOC *e* 16 32 29.9
SOC *i* S **S** **16 38 38.1 -4.2**
SOC *e* 16 39 57.3
SOC *e*SSS SSS 16 45 41.6 +2.5
SOC pmax pmax
comp=Z,85nm,0.8s,mb5.8
SOC pmax pmax
comp=N,29nm,0.7s
SOC pmax pmax
comp=E,14nm,0.9s
COBT Iskenderun 63.76 309 *i* P **P** **16 30 13.4 +1.2**
YAK Yakutsk 64.22 17c *i*P **P** **16 30 13.8 -1.0**
YAK *i* *PP pP 16 30 20.2 -3.1
YAK *e* 16 32 33.1
YAK *i* S **S** **16 38 49.7 +0.9**
YAK *e*SS SS 16 43 00.7 +0.8
YAK pmax pmax
comp=Z,249nm,1.0s,mb6.2
YAK pmax pmax
comp=N,64nm,1.1s
YAK pmax pmax
comp=E,39nm,1.1s
YAK pmax pmax
comp=Z,19nm,1.0s,mb5.1
YAK smax
comp=Z,1μm,15.9s
YAK smax
comp=N,6μm,18.5s
YAK smax
comp=E,2μm,17.7s
YAK MLR MLR
comp=N,38μm,15.0s,MS6.8
YAK MLR MLR
comp=E,40μm,17.0s,MS6.8
YAK MLR MLR
comp=Z,70μm,17.0s,MS6.9
YAK Yakutsk 64.22 17⇑ *i*P **P** **16 30 13.6 -1.2**
comp=Z,450nm,0.9s,mb6.5
YAK LR LR
comp=Z,121μm,19.0s,MS7.1
MBAR Mbarara 64.82 268 P **P** **16 30 18.0 -1.5**
comp=Z,136nm,1.3s,mb5.8,SNR=20
MBAR Mbarara 64.82 268 *e*P **P** **16 30 17.8 -1.7**
MBAR pmax pmax
comp=Z,32nm,0.9s,mb5.3
MBAR MLR MLR
comp=Z,7μm,20.0s,MS5.8
MBAR Mbarara 64.82 268 *e*P **P** **16 30 17.8 -1.8**
comp=Z,32nm,0.9s,mb5.3
MBAR LR LR
comp=Z,7μm,20.0s,MS5.8
TAU Tasmania Unive 65.27 141 *e*P pP 16 30 30.2 -0.2
TAU pmax pmax
comp=Z,84nm,1.0s,mb5.7
TAU MLR MLR
comp=Z,5μm,19.0s,MS5.7
TAU Tasmania Unive 65.27 141 *e*P pP 16 30 30.2 -0.3
comp=Z,84nm,1.0s
TAU LR LR
comp=Z,5μm,19.0s,MS5.7
HNR Honiara 65.39 102 P **P** **16 30 23.6 +0.4**
HNR MLR MLR
comp=Z,8μm,22.0s,MS5.9
HNR Honiara 65.39 102 P **P** **16 30 23.6 +0.4**
comp=Z,272nm,1.1s,mb6.2,baz=215,slow=5.6,SNR=7.5
MEST Erdemli 65.41 309 *i* P **P** **16 30 21.6 -1.3**
AVNT Avonos 65.48 312 *i* P **P** **16 30 22.2 -1.2**
ANN Anapa 65.64 318c *i*P **P** **16 30 21.7 -2.6**
ANN *i* *PP pP 16 30 32.2 -0.6
ANN *i* 16 30 55.1
ANN *i* 16 32 48.2
ANN *e*S S 16 39 02.1 -4.5
ANN pmax pmax
comp=N,27nm,1.0s
ANN pmax pmax
comp=E,25nm,1.0s
ANN pmax pmax
comp=Z,34nm,1.0s,mb5.3
CTKT Corum 66.08 313 *i* P **P** **16 30 26.3 -0.9**
BOYT Boyabat 66.24 314 *i* P **P** **16 30 30.8 +2.7**
BR131 Keskin Array S 66.66 312 PFAKE 16 30 40.0 +9.1
BR131 LR LR
comp=Z,8μm,20.0s,MS6.0
BRTR Keskin Array B 66.66 312 P **P** **16 30 29.1 -1.7**
comp=Z,4.2nm,0.8s,baz=135,slow=5.2,SNR=24
ELDT Eldivan 67.03 313 *i* P **P** **16 30 32.2 -1.1**
PECR Pechory 67.05 332α *i*P **P** **16 30 31.4 -1.6**
PECR *i* S S 16 39 20.0 -3.5
PECR *e* 16 40 02.0
PECR *e* 16 40 26.0
PECR *e*SS SS 16 43 36.0 -8.2
PECR *e*SSS SSS 16 46 37.0 -4.3
PECR pmax pmax
comp=Z,550nm,2.0s,mb6.2
PECR pmax pmax
comp=Z,4μm,11.0s
PECR smax
comp=N,6μm,12.0s
PECR smax
comp=E,7μm,10.0s
VRSR Storozhevoye 67.13 325 *e*P **P** **16 30 31.3 -2.4**
VRSR *e**PP pP 16 30 40.9 -1.3
VRSR *e* 16 30 59.3
VRSR *e*S S 16 39 17.7 -6.8
VRSR *e* 16 40 23.7
VRSR pmax pmax
comp=Z,70nm,1.1s,mb5.6
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,60nm,1.0s
VRSR smax
comp=N,850nm,6.3s
VRSR smax
comp=Z,150nm,3.6s
VRSR smax
comp=E,650nm,5.1s
BALT Daday 67.36 314 *i* P **P** **16 30 35.9 +0.6**
SIM Simferopol' 67.91 318c *i*P **P** **16 30 37.3 -1.4**
SIM *i* S S 16 39 31.0 -3.0
SIM pmax pmax
comp=Z,1μm,11.2s
SIM pmax pmax
comp=Z,84nm,1.2s,mb5.7
SGKT Sivrigoynuk 68.06 313 *i* P **P** **16 30 38.6 -1.1**
ISP Isparta 68.53 310 *e*P **P** **16 30 40.2 -2.5**
ISP pmax pmax
comp=Z,67nm,1.4s,mb5.4
ISP Isparta 68.53 310 *e*P **P** **16 30 40.2 -2.5**
comp=Z,67nm,1.4s,mb5.4
ESKT Eskisehir 68.68 311 *i* P **P** **16 30 43.2 -0.3**
HENT Hendek 68.97 313 *i* P **P** **16 30 37.7 -7.6**
LSZ Lusaka 69.00 253 *e*P **P** **16 30 44.7 -1.2**
LSZ pmax pmax
comp=Z,155nm,1.5s,mb5.7
LSZ MLR MLR
comp=Z,27μm,22.0s,MS6.4
LSZ Lusaka 69.00 253 *e*P **P** **16 30 44.7 -1.2**
comp=Z,155nm,1.5s,mb5.7
LSZ LR LR
comp=Z,27μm,22.0s,MS6.4
SKR Severo-Kuril's 69.42 36 *e*P **P** **16 30 45.0 -2.9**
SKR *e* 16 31 02.1
SKR *e* 16 31 12.0
SKR *e*PPP PPP 16 35 02.0 -0.3
SKR *e*S S 16 39 53.0 +1.1
SKR *e*PS PS 16 40 18.0 -3.5
SKR *e* 16 40 36.0
SKR *e*SS SS 16 44 18.0 -3.0
SKR pmax pmax
comp=N,130nm,0.9s
SKR pmax pmax
comp=E,170nm,0.9s
SKR pmax pmax
comp=Z,300nm,0.9s,mb6.2
SKR pmax pmax
comp=N,4μm,14.0s
SKR pmax pmax
comp=E,6μm,14.0s

SKR pmax pmax
comp=Z,8μm,14.0s
SKR smax
comp=E,13μm,12.0s
SKR smax
comp=N,11μm,16.0s
SKR MLR MLR
comp=N,21μm,20.0s,MS6.5
SKR MLR MLR
comp=E,10μm,18.0s,MS6.5
SKR MLR MLR
comp=Z,30μm,18.0s,MS6.6
MOS Moscow 69.94 329α *i*P **P 16 30 50.2 -0.8**
MOS *e* 16 31 03.4
MOS *e* 16 31 08.6
MOS *e*PPP PPP 16 35 12.4 +5.0
MOS *i* S S 16 39 54.4 -3.5
MOS *e* 16 40 51.0
MOS *e*SS SS 16 44 23.2 -5.4
MOS pmax pmax
comp=Z,2μm,3.4s
MOS pmax pmax
comp=Z,326nm,1.4s,mb6.1
MOS smax
comp=N,4μm,7.0s
MOS smax
comp=E,4μm,4.7s
MOS MLR MLR
comp=Z,18μm,20.6s,MS6.3
MOS MLR MLR
comp=N,18μm,21.7s
CASY Casey 69.94 174 *e*P **P 16 30 50.6 -0.2**
CASY *i* S S 16 39 59.8 +2.1
ARG Arkhangelos 70.05 307 *e*P sP 16 31 02.7 -0.9
ULDT Uludag 70.11 312 *i*P **P 16 30 51.1 -1.2**
OBN Obninsk 70.22 328*c i*P **P 16 30 51.2 -1.5**
OBN *i* S S 16 39 56.7 -4.4
OBN *i* SS SS 16 44 35.2 +2.2
OBN pmax pmax
comp=Z,216nm,1.2s,mb6.0
OBN Obninsk 70.22 328⇑ *i*P **P 16 30 51.0 -1.6**
comp=Z,445nm,1.3s,mb6.2
OBN LR LR
comp=Z,4μm,19.0s,MS5.7
MA2 Magadan 70.49 26*c i*P **P 16 30 53.9 -0.4**
MA2 pmax pmax
comp=Z,255nm,1.7s,mb5.9
MA2 MLR MLR
comp=Z,81μm,20.0s,MS7.0
MA2 Magadan 70.49 26⇑ *i*P **P 16 30 53.5 -0.8**
comp=Z,384nm,1.5s,mb6.1
MA2 LR LR
comp=Z,18μm,20.0s,MS6.3
KARP Karpathos 70.69 307 *e*P **P 16 30 56.0 +0.1**
BTOK Tokmak 70.85 311 *i*P **P 16 30 56.4 -0.4**
KDAG Bornova 71.15 310 *i*P **P 16 30 54.9 -3.7**
SMG Samos 71.35 309 *e*P **P 16 31 02.0 +2.1**
TIRR Tirgusor 71.66 316⇑ P **P 16 31 00.3 -1.3**
PET Petropavlovsk 71.73 35*c i*P **P 16 31 01.8 -0.1**
PET *e* 16 33 44.3
PET *e*PPP PPP 16 35 19.6 -5.0
PET *e*S S 16 40 18.6 -0.1
PET pmax pmax
comp=Z,101nm,1.0s,mb5.7
PET pmax pmax
comp=Z,5μm,7.2s
PET pmax pmax
comp=Z,6μm,19.7s
PET pmax pmax
comp=E,2μm,18.4s
PET pmax pmax
comp=N,1μm,16.1s
PET pmax pmax
comp=Z,3μm,21.1s
PET smax
comp=N,6μm,24.4s
PET smax
comp=N,5μm,25.9s
PET smax
comp=E,9μm,21.0s
PET MLR MLR
comp=N,41μm,17.0s
PET MLR MLR
comp=Z,42μm,17.0s,MS6.8
PET MLR MLR
comp=Z,40μm,18.0s
PET Petropavlovsk 71.73 35 *e*P **P 16 31 00.6 -1.2**
comp=Z,79nm,0.8s,mb5.7
TIXI Tiksi 71.75 11 *e*P **P 16 30 57.7 -4.0**
TIXI *e*S S 16 40 10.3 -8.4
TIXI pmax pmax
comp=Z,2μm,2.3s,mb6.6
TIXI pmax pmax
comp=E,105nm,1.5s
TIXI pmax pmax
comp=Z,321nm,1.5s,mb6.0
TIXI pmax pmax
comp=N,56nm,1.1s
TIXI smax
comp=N,10μm,19.4s
TIXI smax
comp=E,5μm,18.6s
TIXI Tiksi 71.75 11⇑ *i*P **P 16 31 00.7 -1.0**
XRY Khrisi 71.76 306 *e*P **P 16 31 02.5 +0.1**
NPS Neapolis 71.89 306 *e*P **P 16 31 03.8 +0.7**
KWAJ Kwajalein Atol 71.89 82 PFAKE 16 31 20.0 +17
KWAJ LR LR
comp=Z,3μm,21.0s,MS5.5
CFR Carcaliu 72.03 317⇓ *i*P **P 16 31 03.6 -0.2**
KIS Kishinev 72.04 319*c i*P **P 16 31 01.0 -2.8**
KIS *i* 16 31 21.0
KIS *e* 16 33 45.0
KIS *e*PPP PPP 16 35 28.0 +0.4
KIS *i* S S 16 40 18.0 -4.4
KIS *i* PS PS 16 40 54.0 -2.5
KIS smax
comp=N,8μm,17.0s
KIS smax
comp=E,3μm,18.0s
KIS MLR MLR
comp=Z,10μm,20.0s,MS6.1
KIS MLR MLR
comp=N,9μm,19.0s,MS6.1
KIS MLR MLR
comp=E,5μm,21.0s,MS6.1
KIS MLR MLR
comp=Z,11μm,21.0s
HARR Harsova 72.05 316⇑P **P 16 31 03.9 0.0**
PRD Provadia 72.08 315 *e*P **P 16 31 04.0 -0.1**
PRK Paraskevi 72.08 310 *e*P **P 16 31 05.7 +1.5**
SANT Santorini 72.20 307 *e*P **P 16 31 03.3 -1.6**
comp=Z,224nm,1.3s,mb5.9
THR3 Thira Island, 72.25 307 *e*P **P 16 31 00.8 -4.5**
THR5 Thira Island, 72.29 307 *e*P **P 16 31 06.2 +0.7**
IDI Anoyia 72.48 306 P **P 16 31 07.3 +0.7**
comp=Z,26nm,0.6s,mb5.3,baz=102,slow=7.5,SNR=29
JMB Yambol 72.50 314 *e*P **P 16 31 06.0 -0.7**
ALN Alexandroupoli 72.57 312 *e*P **P 16 31 05.8 -1.3**
AKASG Malin Array Be 72.81 322 P **P 16 31 06.5 -1.8**
comp=Z,14nm,0.7s,mb5.0,baz=89,slow=4.9,SNR=55
SEY Seymchan 72.82 24 *i*P **P 16 31 09.8 +1.7**
SEY *i* 16 31 27.9
SEY *e* 16 33 55.5
SEY *e*PPP PPP 16 35 40.2 +5.2
SEY *e*S S 16 40 34.8 +3.9
SEY *e* 16 41 23.3
SEY *e*SS SS 16 45 15.6 +2.2
SEY pmax pmax
comp=Z,500nm,1.7s,mb6.2
SEY pmax pmax
comp=N,70nm,0.9s
SEY pmax pmax
comp=E,100nm,1.2s
SEY smax
comp=N,45μm,19.0s
SEY smax
comp=E,34μm,17.8s
RDO Rodhopi 73.00 312 *e*P **P 16 31 15.0 +5.4**
VAM Vamos 73.05 306 *e*P **P 16 31 10.3 +0.2**
GVD Gavdhos 73.06 305 *e*P **P 16 31 09.0 -1.1**
comp=E,105nm,1.0s,mb5.7
GVD Gavdhos 73.06 305 *e*P PcP 16 31 25.5 -1.5
SZH Strazhica 73.14 314 *e*P **P 16 31 10.0 -0.4**
LBTB Lobatse 73.15 243 *e*P **P 16 31 09.4 -1.5**
LBTB pmax pmax
comp=Z,102nm,0.9s,mb5.8
LBTB MLR MLR
comp=Z,48μm,19.0s,MS6.8
LBTB Lobatse 73.15 243 *e*P **P 16 31 09.4 -1.5**
comp=Z,102nm,0.9s,mb5.8
LBTB LR LR
comp=Z,48μm,19.0s,MS6.8
VRI Vrincioaia 73.16 317⇑P **P 16 31 09.9 -0.5**
DIM Dimitrovgrad 73.18 313 *e*P **P 16 31 11.0 +0.3**
KDZ Kurdzhali 73.19 313 *e*P **P 16 31 12.0 +1.3**
NOUC Port Laguerre 73.44 114 *e*P **P 16 31 12.8 +0.2**
NOUC Port Laguerre 73.44 114 *e*P **P 16 31 12.8 +0.2**
DZM Mont Dzumac 73.56 114 *e*P **P 16 31 12.6 -0.7**
DZM Mont Dzumac 73.56 114 LR LR 17 02 27.4
comp=Z,10μm,20.2s,MS6.1,baz=110,slow=35
MLR Muntele Rosu 73.61 317⇑P **P 16 31 12.3 -0.8**
MLR Muntele Rosu 73.61 317 P **P 16 31 12.7 -0.4**
comp=Z,44nm,1.1s,mb5.3,baz=89,slow=3.5,SNR=31
MLR LR LR 17 04 59.8
comp=Z,5μm,18.5s,MS5.9,baz=296,slow=37
RZN Rozhen 73.71 313 *e*P **P 16 31 13.0 -0.7**
PTL Penteli 73.72 309 *e*P **P 16 31 17.2 +3.3**
PLD Plovdiv 73.80 313 *e*P **P 16 31 16.5 +2.3**
MPAR Parnis Oros 73.84 309 *e*P **P 16 31 15.0 +0.4**
SNX Sinaia 73.87 316⇑P **P 16 31 15.8 +1.2**
OUR Ouranopolis 74.01 311 *e*P **P 16 31 11.8 -3.7**
NSAL Nisos Salamina 74.02 308 *e*P PcP 16 31 28.0 -3.0
MAW Mawson 74.06 192 *e*P **P 16 31 15.7 +0.5**
comp=Z,41nm,0.9s,mb5.3
MAW *i* S S 16 40 47.9 +3.1
MAW Mawson 74.06 192 *e*P **P 16 31 15.7 +0.5**
MAW *i* S S 16 40 47.9 +3.1
MAW pmax pmax
comp=Z,41nm,0.9s
MAW Mawson 74.06 192 P **P 16 31 14.9 -0.3**
comp=Z,16nm,0.8s,mb5.0,baz=33,slow=9.0,SNR=12
MAW LR LR 17 00 51.8
comp=Z,18μm,18.1s,MS6.4,baz=30,slow=33
KYTH Kithira 74.11 307 *e*P **P 16 31 20.0 +3.8**
MTUR Matau 74.16 316⇑P **P 16 31 14.6 -1.7**
PAIG Paliouri 74.17 311 *e*P **P 16 31 13.5 -2.9**
MGER Gerania Oros 74.19 309 *e*P PcP 16 31 28.5 -3.3
BOSA Boshof 74.19 239 *e*P **P 16 31 15.7 -1.1**
BOSA pmax pmax
comp=Z,100nm,1.2s,mb5.6
BOSA MLR MLR
comp=Z,38μm,19.0s,MS6.7
BOSA Boshof 74.19 239 P **P 16 31 16.6 -0.3**
comp=Z,31nm,1.0s,mb5.2,baz=87,slow=5.2,SNR=19
BOSA LR LR 17 01 45.4
comp=Z,38μm,18.6s,MS6.7,baz=69,slow=34
BOSA Boshof 74.19 239 *e*P **P 16 31 15.7 -1.2**
comp=Z,100nm,1.2s,mb5.6
BOSA LR LR
comp=Z,38μm,19.0s,MS6.7
VLI Veliai 74.26 307 *e*P **P 16 31 21.0 +4.0**
PGB Panagyurishte 74.27 313 *e*P **P 16 31 17.0 0.0**
PLG Polygyros 74.42 311 *e*P **P 16 31 18.8 +0.9**
SRS Serrai 74.44 312 *e*P **P 16 31 15.6 -2.3**
SOH Sokhos 74.57 311 *e*P **P 16 31 16.7 -2.0**
BURAR Bucovina Array 74.57 319⇑P **P 16 31 18.5 0.0**
MNK Minsk 74.73 326⇑ *e*P **P 16 31 16.0 -3.4**
KKB Krupnik 74.94 312 *e*P **P 16 31 19.8 -1.1**
KNT Kendrikon 74.96 312 *e*P **P 16 31 19.8 -1.2**
VTS Vitosha 74.97 313 *e*P **P 16 31 20.0 -1.0**
AGG Agios Georgios 75.06 309 *e*P **P 16 31 18.7 -2.9**
LIT Litokhoron 75.10 311 *e*P **P 16 31 19.4 -2.4**
ITM Ithomi 75.12 308 *e*P **P 16 31 22.6 +0.6**
PUL Pulkovo 75.12 332 *e*P **P 16 31 21.6 +0.1**
VAY Valandovo 75.23 312⇑ *i*P **P 16 31 20.8 -1.7**
VAY *i* S S 16 40 53.9 -4.5
GRG Griva 75.30 311 *e*P **P 16 31 20.4 -2.6**
EVR Evrytania 75.45 309 *e*P PcP 16 31 33.5 -3.7
LVV L'vov 75.81 321 *e*P **P 16 31 26.0 +0.3**
LVV *e*S S 16 40 57.0 -7.6
MEV Metsovon 76.02 310 *e*P **P 16 31 22.2 -4.8**
BARS Barje 76.02 313⇑ *i*P **P 16 31 29.6 +2.6**
FNA Florina 76.04 311 *e*P **P 16 31 22.9 -4.3**
BOLS Boljevac 76.08 314⇓ *i*P **P 16 31 25.6 -1.7**
SKO Skopje 76.17 312 *i*P **P 16 31 26.6 -1.2**
JAN Janina 76.29 310 *e*P **P 16 31 28.5 -0.1**
VLS Valsamata 76.30 308 *e*P PcP 16 31 39.5 -1.3
LKD Levkas 76.32 309 *e*P **P 16 31 22.2 -6.5**
DRV Dumont d'Urvil 76.33 163 P **P 16 31 36.0 +7.8**
DRV *S* S 16 41 08.0 -1.9
DRV SS SS 16 46 09.0 +1.7
DRV *L* 16 51 00.0
LVZ Lovozero 76.59 340 *e*P **P 16 31 30.1 +0.4**
LVZ *e* 16 34 19.5
LVZ *e*S S 16 41 11.5 -1.2
LVZ pmax pmax
comp=Z,132nm,1.0s,mb5.8
LVZ pmax pmax
comp=N,49nm,1.3s
LVZ pmax pmax
comp=E,58nm,1.6s
LVZ smax
comp=E,6μm,8.2s
LVZ smax
comp=Z,2μm,4.5s
LVZ smax
comp=N,9μm,9.8s
LVZ Lovozero 76.59 340⇑ *i*P **P 16 31 30.2 +0.5**
BZS Buzias 76.62 316⇑P **P 16 31 29.7 -0.6**
KWP Kalwaria 76.62 320 *e*P **P 16 31 30.0 -0.1**
KWP *e*S S 16 41 12.4 -1.0
KWP *e*sS 16 41 29.3
KWP MLR MLR 17 13 48.9
comp=N,9μm,21.7s,MS6.0
SVIS Svilajnac 76.68 315 *e*P **P 16 31 29.7 -1.0**
KOLS Kolonicke sedl 76.76 320 *e*P **P 16 31 31.3 +0.3**
KOLS *e* pP 16 31 41.4 +1.7
KOLS *e* 16 31 47.1
KOLS *e* 16 31 52.4
APA Apatity 76.87 340⇓ *i*P **P 16 31 30.5 -0.8**
APA *i* pP 16 31 39.4 -0.5
APA *i* 16 31 48.6
APA *i* PPP PPP 16 36 14.0 +0.4
APA *i* S S 16 41 14.0 -1.8
APA *e*PS PS 16 41 47.0 -11
APA pmax pmax
comp=Z,130nm,1.1s,mb5.8
GRUS Gruza 76.98 314⇑ *i*P **P 16 31 30.0 -2.3**
KEK Kerkira 77.10 310 *e*P **P 16 31 41.0 +7.9**
SUW Suwalki 77.24 325 *e*P **P 16 31 32.7 -0.9**
SUW *e*S S 16 41 17.4 -2.7
SUW *e*sS 16 41 33.7
SUW MLR MLR 17 11 44.7
comp=Z,12μm,21.1s,MS6.2
CRVS Cervenica-Dubn 77.28 319 *e*P **P 16 31 34.1 +0.2**
CRVS *e*pP pP 16 31 42.8 +0.2
CRVS *e* 16 31 54.4
CRVS *e* 16 32 04.2
BEO Belgrade 77.30 315⇑ *i*P **P 16 31 34.1 0.0**
PVY Plav 77.33 313⇓ *i*P **P 16 31 34.1 -0.3**
IVA Berane 77.43 313⇓ *i*P **P 16 31 35.1 +0.3**
DIVS Divcibare 77.53 314⇓ *i*P **P 16 31 34.4 -0.9**
FINES FINESS Array B 77.64 333 P **P 16 31 35.1 -0.5**
comp=Z,31nm,0.7s,mb5.3,baz=108,slow=6.0,SNR=102
FINES LR LR 17 11 11.9
comp=Z,19μm,20.9s,MS6.4,baz=292,slow=40
KAF Kangasniemi 77.73 333 *ep* **P 16 31 34.7 -1.4**
comp=Z,35nm,0.7s,mb5.4,baz=103,slow=5.0
KAF Kangasniemi 77.73 333 *e*P **P 16 31 34.7 -1.4**
KAF pmax pmax
comp=Z,35nm,0.7s,mb5.4
ULC Ulcinj 77.79 312⇓ *i*P **P 16 31 36.0 -0.8**
TTG Podgorica 77.83 313⇓ *i*P **P 16 31 35.2 -1.8**
KECS Kecovo 77.85 319 *e*P **P 16 31 37.0 0.0**
KECS *e*sP sP 16 31 47.5 -1.1
KECS *e* 16 31 52.7
KECS *e* 16 31 56.7
PLE Pljevlja 77.85 314⇓ *i*P **P 16 31 37.5 +0.4**
BBLS Bajina Basta - 77.91 314⇑ *i*P **P 16 31 37.3 -0.2**
NKY Niksic 78.08 313⇓ *i*P **P 16 31 37.9 -0.5**
BUM Brajici-Budva 78.09 312⇓ *i*P **P 16 31 37.5 -1.0**
NIE Niedzica 78.11 320 *e*P **P 16 31 36.9 -1.5**
PSZ Piszkesteto 78.15 318 P **P 16 31 38.3 -0.4**
PSZ pmax pmax
comp=Z,360nm,1.5s,mb6.1
PSZ Piszkesteto 78.15 318⇑ *e*P **P 16 31 38.2 -0.5**
WAR Warsaw 78.16 323 *e*P **P 16 31 39.6 +1.0**
WAR *e*S S 16 41 30.5 +0.6
WAR MLR MLR 17 09 52.9
comp=Z,9μm,21.6s,MS6.1
UPM Unac-Piva 78.19 313⇓ *i*P **P 16 31 37.6 -1.3**
HCY Herceg Novi 78.40 313 *e*P **P 16 31 39.8 -0.4**
BRY Bratogost 78.42 313⇓ *i*P **P 16 31 39.2 -1.0**
OJC Ojcow 78.57 321⇑ *e*P **P 16 31 40.7 -0.2**
OJC *i* S S 16 41 32.9 -1.5
OJC MLR MLR 17 14 10.4
comp=Z,9μm,20.2s,MS6.1
SUR Sutherland 78.71 236 *e*P **P 16 31 43.0 +0.9**
comp=Z,386nm,1.6s,mb6.1
SUR LR LR
comp=Z,7μm,19.0s,MS6.0
PKSM Moragy 78.76 316⇑P **P 16 31 41.0 -1.1**
VYHS Vyhne 78.94 319 *e*P **P 16 31 42.8 -0.2**
VYHS *e*sP sP 16 31 52.9 -1.7
VYHS *e* 16 31 58.4
VYHS *e* 16 32 08.5
STON Ston 79.03 313⇑ *i*P **P 16 31 41.7 -1.9**
PKS9 Tamasi 79.06 317⇓ *e*P **P 16 31 43.8 +0.1**
PKSG 79.08 318 *e*P **P 16 31 44.2 +0.4**
RHK1 Bakonya 79.14 316 *e*P **P 16 31 44.0 -0.1**
SRO Srobarova 79.19 318 *e* sP 16 31 56.0 0.0
KOLL Kolacno 79.23 319 *e*P **P 16 31 43.5 -1.1**
KOLL *e* pP 16 31 52.0 -1.3
KOLL *e* 16 32 05.2
KOLL *e* 16 32 15.8
TIP Timpagrande 79.39 309⇑ *i*P **P 16 31 45.3 -0.3**
OKC Ostrava-Krasne 79.57 320 *e*P **P 16 31 46.5 +0.1**
OKC *ex* x 16 32 02.5
OKC *e*S S 16 41 46.3 +1.3
OKC AMS AMS 17 14 40.0
comp=Z,7μm,18.0s
RAC Raciborz 79.57 320 *e*P **P 16 31 47.1 +0.7**
RAC MLR MLR 17 13 54.0
comp=Z,11μm,19.0s,MS6.2
TSUM Tsumeb 79.58 250 PFAKE 16 32 00.0 +13
TSUM LR LR
comp=Z,11μm,20.0s,MS6.2
ORI Oriolo Calabro 79.70 310 *e*P **P 16 31 48.1 +0.8**
SOI Samo 79.85 308 *e*P **P 16 31 47.9 -0.3**
SMOL Smolenice 79.87 319 *e*P **P 16 31 48.6 +0.6**
SMOL *e* 16 32 03.4
KEV Kevo 79.87 341 *ep* **P 16 31 47.5 -0.1**
comp=Z,25nm,0.7s,mb5.3
KEV Kevo 79.87 341 *e*P **P 16 31 47.5 -0.1**
KEV pmax pmax
comp=Z,25nm,0.7s,mb5.2
MORC Moravsky Berou 79.95 320 *e*P **P 16 31 48.3 -0.1**
MORC pmax pmax
comp=Z,179nm,1.4s,mb5.8
MORC Moravsky Berou 79.95 320 *e*P **P 16 31 48.3 -0.1**
comp=Z,180nm,1.4s,mb5.8
ZST Bratislava 80.04 318 *e*P **P 16 31 49.3 +0.3**
ZST *e* 16 31 53.6
ZST *e*sP sP 16 31 59.7 -0.9
ZST *e* 16 32 08.8
MTTG Motta San Giov 80.13 308 *e*P **P 16 31 51.1 +1.5**
SCLL Scilla 80.13 308 *e*P **P 16 31 51.0 +1.4**
FX1 Attu Island--F 80.20 37 *e*P **P 16 31 50.1 +0.4**
SISC Sisak 80.25 315 *i*P **P 16 31 50.0 -0.1**
ARCES ARCESS Array B 80.30 340 P **P 16 31 50.2 +0.3**
comp=Z,54nm,0.8s,mb5.5,baz=119,slow=3.1,SNR=81
ARCES LR LR 17 13 10.7
comp=Z,34μm,20.3s,MS6.7,baz=116,slow=40
ARCES ARCESS Array B 80.30 340 P **P 16 31 50.2 +0.3**
ARCES LR LR 17 13 10.7
ARE0 ARCESS Array S 80.30 340⇑ *i*P **P 16 31 50.0 +0.1**
SLCN Sala Consilina 80.35 310 *e*P **P 16 31 51.7 +1.0**
MGR Morigerati 80.39 310 *e*P **P 16 31 50.0 -1.0**
KOGS Kog 80.43 316 *e*P **P 16 31 50.9 -0.2**
MRLC Muro Lucano 80.48 311 *e*P **P 16 31 52.1 +0.6**
VRAC Vranov 80.51 319 P **P 16 31 51.1 -0.3**
comp=Z,7.0nm,0.8s,baz=96,slow=6.7,SNR=12
VKA Vienna 80.57 318⇑ *i*P **P 16 31 51.9 +0.1**
comp=Z,851nm,3.0s
VKA Vienna 80.57 318⇑ *i*P **P 16 31 51.9 +0.1**
VKA pmax pmax
comp=Z,851nm,3.0s
GKP Gorka Klasztor 80.59 323 *e*P **P 16 31 51.4 -0.4**
GKP *e*S S 16 41 53.9 -1.7
GKP MLR MLR
comp=Z,13μm,21.2s,MS6.3
GKP Gorka Klasztor 80.59 323 *e*P **P 16 31 51.4 -0.4**
GKP *e*S S 16 41 53.9 -1.7
GKP *e*SS 16 42 11.5
GKP LR LR
comp=Z,13μm,21.2s,MS6.3
GKP Gorka Klasztor 80.59 323 *e*P **P 16 31 51.4 -0.4**
GKP *e*S S 16 41 53.9 -1.7
GKP *e*sS 16 42 11.5
GKP MLR MLR 17 13 49.1
comp=Z,13μm,21.2s,MS6.3
DPC Dobruska-Polom 80.80 320 *e*P **P 16 31 53.5 +0.6**
DPC *ex* x 16 32 10.5
DPC *e*S S 16 42 00.2 +2.4
DPC AMS AMS 17 17 00.0
comp=Z,15μm,17.1s
CSSN Cassano Irpino 80.84 311 *e*P **P 16 31 53.5 +0.1**
KSP Ksiaz 80.87 321⇑ *e*P **P 16 31 53.5 +0.2**
KSP *e**PP pP 16 32 03.7 +1.7
KSP *e* 16 34 57.0
KSP *e*S S 16 41 57.5 -1.0
KSP MLR MLR
comp=Z,26μm,18.4s,MS6.6
KSP Ksiaz 80.87 321⇑ *e*P **P 16 31 53.5 +0.2**
KSP *ep*P pP 16 32 03.7 +1.7
KSP *e* 16 32 15.4
KSP *e*PP PP 16 34 57.0 -3.0
KSP *e*S S 16 41 57.5 -1.0
KSP LR LR
comp=Z,26μm,18.4s,MS6.6
KSP Ksiaz 80.87 321 *e*P **P 16 31 53.7 +0.4**
KSP *e*S S 16 41 57.9 -0.6
KSP *e*sS 16 42 14.1
KSP MLR MLR 17 15 46.0
comp=Z,23μm,18.4s,MS6.6
KTK1 Kautokeino 80.92 340 *e*P **P 16 31 54.3 +1.1**
comp=Z,233nm,1.7s,mb5.8
KTK1 Kautokeino 80.92 340 *e*P **P 16 31 54.3 +1.1**
KTK1 AMb AMB 16 31 59.5
comp=Z,233nm,1.7s,mb5.8
ARSA Arzberg 81.00 317⇑ *i*P **P 16 31 54.4 +0.3**
comp=Z,801nm,3.0s
UPC Upice 81.01 321 *e*P **P 16 31 54.8 +0.8**
UPC *ex* x 16 32 14.7
VAE Valguarnera 81.11 307 P **P 16 31 55.7 +0.9**
comp=Z,22nm,0.9s,mb5.1,baz=45,slow=6.7,SNR=5.3
SYO Syowa Base 81.16 198⇑P **P 16 31 55.3 +0.8**
SYO Syowa Base 81.16 198⇓ *e*sP sP 16 32 06.5 +0.4
VISS Visnje 81.35 316 *e*P **P 16 31 55.7 -0.2**
CII Carovilli 81.44 312 *e*P **P 16 31 57.7 +1.2**
LJU Ljubljana 81.59 316 *i*P **P 16 31 57.3 +0.2**
OBKA Obir 81.61 316⇑ *i*P **P 16 31 57.5 +0.3**
comp=Z,807nm,3.0s
RPZ Rata Peaks 81.67 135 P **P 16 31 58.0 +0.4**
comp=Z,17nm,0.6s,mb5.1,baz=147,slow=10,SNR=12
SDI San Donato 81.81 312 *e*P **P 16 31 57.5 -0.9**
PRU Pruhonice 81.90 320 *e*P **P 16 31 59.3 +0.6**
PRU *e* 16 32 18.2
PRU *e*S S 16 42 09.3 +0.1
PRU MLR MLR
comp=Z,11μm,18.1s,MS6.2
PRU Pruhonice 81.90 320 *e*P **P 16 31 59.3 +0.6**
PRU *ex* x 16 32 18.2
PRU *e*S S 16 42 09.3 +0.1
PRU AMS AMS 17 15 10.0
comp=Z,11μm,18.1s
MOA Moln 81.91 318⇑ *i*P **P 16 31 58.7 0.0**
comp=Z,2μm,9.1s
PVCC Panska Ves 81.93 320 *e*P **P 16 31 59.2 +0.4**
PVCC *e*S S 16 42 11.5 +2.0
PVCC MLR MLR
comp=Z,13μm,17.9s,MS6.3
PVCC Panska Ves 81.93 320 *e*P **P 16 31 59.2 +0.4**
PVCC *ex* x 16 32 18.3
PVCC *e*S S 16 42 11.5 +2.0
PVCC AMS AMS 17 16 20.0
comp=Z,13μm,17.9s
PRA Prague 81.98 320 P **P 16 32 00.0 +0.9**
PRA AMS AMS 17 24 00.0
VOY Vojsko 82.03 316 *e*P **P 16 31 59.0 -0.4**
TRI Trieste 82.09 316 *e*P **P 16 31 59.5 -0.3**

PTQR Pietraquaria 82.13 312 *e*P **P** **16 31 59.9 -0.2**
USI Ustica 82.14 308 *e*P **P** **16 32 01.6 +1.4**
AQU L'Aquila 82.15 312 P **P** **16 32 00.6 +0.5**
AQU pmax pmax
comp=Z,260nm,1.1s,mb6.1
AQU L'Aquila 82.15 312 *e*P **P** **16 32 00.3 +0.1**
BSD Bornholm Skovb 82.17 325⇑ *i*P **P** **16 31 59.0 -1.0**
BSD *i* S S 16 42 08.1 -3.7
BSD pmax pmax
comp=Z,57nm,0.8s,mb5.5
BSD Bornholm Skovb 82.17 325⇑ *i*P **P** **16 31 59.0 -1.0**
comp=Z,56nm,0.8s,mb5.5
BSD *i* S S 16 42 08.1 -3.7
BSD Bornholm Skovb 82.17 325⇑ *i*P **P** **16 31 59.0 -1.0**
comp=Z,56nm,0.8s,mb5.5
BSD Bornholm Skovb 82.17 325 *i* S S 16 42 08.1 -3.7
comp=Z,10µm,19.0s
GEC2 GERESS Array S 82.36 319 *e*P **P** **16 32 01.2 +0.1**
GEC2 pmax pmax
comp=Z,433nm,2.0s,mb6.0
GEC2 GERESS Array S 82.36 319 *e*P **P** **16 32 01.2 +0.1**
comp=Z,433nm,2.0s,mb6.0
GERES GERESS Array B 82.36 319 P **P** **16 32 01.4 +0.3**
comp=Z,14nm,0.7s,mb5.0,baz=104,slow=5.5,SNR=104
GERES LR LR 17 16 03.4
comp=Z,6µm,18.9s,MS6.0,baz=90,slow=41
BRG Berggiesshubel 82.36 321 *i* P **P** **16 32 01.5 +0.5**
BRG *e*S S 16 42 15.0 +1.2
BRG *i* SS SS 16 47 32.0 -6.0
BRG pmax pmax
comp=Z,56nm,1.2s,mb5.4
BRG MLR MLR
comp=Z,15µm,19.0s,MS6.4
BRG Berggiesshubel 82.36 321 *i* P **P** **16 32 01.5 +0.5**
comp=Z,56nm,1.2s,mb5.4
BRG *e*S S 16 42 15.0 +1.2
BRG *i* SS SS 16 47 32.0 -6.0
BRG *e* 16 50 23.5
BRG *e* 16 52 09.8
BRG *e*P'P' 16 58 43.3
BRG LR LR
comp=Z,15µm,19.0s,MS6.4
NRCA Norcia 82.39 313 *e*P **P** **16 32 01.1 -0.3**
PTCC Patocco-Chiusa 82.42 316 *e*P **P** **16 32 01.3 -0.2**
KHC Kasperske Hory 82.46 319 *e*P **P** **16 32 01.9 +0.3**
KHC *e* 16 32 19.1
KHC *e*S S 16 42 14.9 0.0
KHC LR LR
comp=Z,7µm,18.6s,MS6.0
KHC Kasperske Hory 82.46 319 *e*P **P** **16 32 01.9 +0.3**
KHC *ex* x 16 32 19.1
KHC *e*S S 16 42 14.9 0.0
KHC AMS AMS 17 14 30.0
comp=Z,7µm,18.6s
KBA Koelnbreinsper 82.47 317⇑ *i*P **P** **16 32 01.4 -0.3**
comp=Z,418nm,4.0s
GMNA Gemona 82.50 316 *e*P **P** **16 32 01.9 0.0**
SNTG Esanatoglia 82.54 313 *e*P **P** **16 32 02.0 -0.1**
ARV Arcevia 82.55 313 *e*P **P** **16 32 02.5 +0.3**
TRO Tromso 82.55 340⇑ *i*P **P** **16 32 00.5 -1.1**
TRO *e*PP PP 16 35 11.1 -2.1
TRO *e*S S 16 42 16.1 +0.7
TRO AMS AMS 17 14 12.7
comp=Z,19µm,22.3s,MS6.4
RUE Ruedersdorf 82.59 322 *e*P **P** **16 32 02.0 -0.2**
comp=Z,184nm,1.1s,mb6.0
MNS Montasola 82.69 312 *e*P **P** **16 32 02.4 -0.5**
FVI Forni Avoltri 82.83 316 *e*P **P** **16 32 03.4 -0.2**
WET Wettzell 82.92 319 *e*P **P** **16 32 04.0 0.0**
WET pmax pmax
comp=Z,127nm,1.4s,mb5.8
WET Wettzell 82.92 319 *e*P **P** **16 32 04.0 0.0**
comp=Z,127nm,1.4s,mb5.8
RSM Repubblica di 82.93 314 *e*P **P** **16 32 04.2 +0.1**
CLL Collm 82.98 321⇑ *i*P **P** **16 32 04.1 -0.2**
CLL *i* 16 32 22.4
CLL *e*S S 16 42 16.0 -4.1
CLL pmax pmax
comp=Z,58nm,1.4s,mb5.4
CLL MLR MLR
comp=Z,9µm,20.5s,MS6.1
CLL Collm 82.98 321⇑ *i*P **P** **16 32 04.1 -0.2**
comp=Z,58nm,1.4s,mb5.4
CLL *i* 16 32 22.4
CLL *e*S S 16 42 16.0 -4.1
CLL *e*sS 16 42 34.0
CLL LR LR
comp=Z,9µm,20.5s,MS6.1
CLL Collm 82.98 321⇑ P **P** **16 32 04.1 -0.2**
comp=Z,logA/T=1.6,mb5.4
CLL *i* 16 32 22.4
CLL *e* 16 37 13.0
CLL *e* 16 38 58.0
CLL *e*S S 16 42 16.0 -4.1
CLL *e**SS 16 42 34.0
CLL *e*PS PS 16 43 08.0 -7.7
CLL *e*PPS PPS 16 43 22.0 -16
CLL *e* 16 44 13.0
CLL *e*SS SS 16 47 48.0 +0.6
CLL *e*SSS SSS 16 51 09.0 -3.3
NKC Novy Kostel 83.27 320 *e*P **P** **16 32 06.5 +0.8**
NKC *e* 16 32 24.8
NKC *e*S S 16 42 26.4 +3.4
NKC Novy Kostel 83.27 320 *e*P **P** **16 32 06.5 +0.8**
NKC *ex* x 16 32 24.8
NKC *e*S S 16 42 26.4 +3.4
NKC AMS AMS 17 16 00.0
comp=Z,12µm,18.8s
HFS Hagfors 83.34 330 P **P** **16 32 05.8 -0.1**
comp=Z,92nm,1.1s,mb5.7,baz=117,slow=3.3,SNR=60
SFI Santa Sofia 83.36 314 *e*P **P** **16 32 07.2 +0.8**
PGD Poggio Sodo 83.45 314 *e*P **P** **16 32 07.5 +0.7**
VMG Vicchio 83.58 314 *e*P **P** **16 32 09.0 +1.5**
CTI Castel Tesino 83.59 316 *e*P **P** **16 32 07.9 +0.4**
COP Copenhagen 83.63 326 *i* P **P** **16 32 08.3 +0.8**
COP *i* 16 32 23.2
COP *i* S S 16 42 27.8 +1.3
COP pmax pmax
comp=Z,43nm,0.8s,mb5.6
COP MLR MLR
comp=Z,5µm,17.0s,MS6.0
COP Copenhagen 83.63 326 *i* P **P** **16 32 08.3 +0.8**
comp=Z,43nm,0.8s,mb5.6
COP *i* 16 32 23.2
COP *i* S S 16 42 27.8 +1.3
COP LR LR
comp=Z,5µm,17.0s,MS6.0
COP Copenhagen 83.63 326 *i* P **P** **16 32 08.3 +0.8**
comp=Z,43nm,0.8s,mb5.6
COP *i* 16 32 23.2
COP Copenhagen 83.63 326 *i* S S 16 42 27.8 +1.3
comp=Z,5µm,17.0s
WTTA Wattenberg 83.65 317⇑ *i*P **P** **16 32 07.1 -0.7**
comp=Z,390nm,2.7s,mb6.1
MOR8 Moi Rana 83.67 336⇑ *i*P **P** **16 32 07.1 -0.4**
WATA Walderalm 83.69 317⇑ *i*P **P** **16 32 08.2 +0.2**
comp=Z,46nm,1.3s,mb5.5
WATA Walderalm 83.69 317⇑ *i*P **P** **16 32 08.2 +0.2**
WATA pmax pmax
comp=Z,46nm,1.3s,mb5.5
MOX Moxa 83.82 320⇑ *e*P **P** **16 32 08.5 -0.1**
MOX *e*S S 16 42 30.0 +1.5
MOX pmax pmax
comp=Z,222nm,2.0s,mb6.0
MOX MLR MLR
comp=Z,8µm,22.0s,MS6.1
MOX Moxa 83.82 320⇑ *e*P **P** **16 32 08.5 -0.1**
comp=Z,222nm,2.0s,mb6.0
MOX *e*pP pP 16 32 27.9 +11
MOX *e*S S 16 42 30.0 +1.5
MOX LR LR
comp=Z,8µm,22.0s,MS6.1
MOX Moxa 83.82 320 *i* P **P** **16 32 08.5 -0.1**
comp=Z,logA/T=2.0,mb5.9
MOX pP pP 16 32 28.0 +11
MOX S S 16 42 30.0 +1.5
MOX QM 17 15 10.0
MOX RM 17 16 36.0
SNZO South Karori 83.87 132 PFAKE 16 32 20.0 +11
SNZO LR LR
comp=Z,18µm,21.0s,MS6.4
FUR Furstenfeldbru 83.93 318 *e*P **P** **16 32 08.8 -0.4**
SQTA Sankt Quirin 83.94 317⇑ *i*P **P** **16 32 08.8 -0.4**
comp=Z,128nm,1.8s,mb5.8
SQTA Sankt Quirin 83.94 317⇑ *i*P **P** **16 32 08.8 -0.4**
SQTA pmax pmax
comp=Z,128nm,1.8s,mb5.8
GRFL Gerfalco 83.97 313 *e*P **P** **16 32 08.8 -0.7**
MOTA Moosalm 84.01 317⇑ *i*P **P** **16 32 09.0 -0.6**
GRA1 Grafenberg Arr 84.03 319 *e*P **P** **16 32 10.0 +0.4**
comp=Z,210nm,1.4s,mb6.1
GRA1 *e*pP pP 16 32 28.6 +10
GRA1 *e*S S 16 42 33.6 +3.0
GRA1 *e*SSS SSS 16 51 36.4 +7.3
GRA1 LR LR
comp=Z,11µm,19.9s,MS6.2
GRF Grafenberg Arr 84.03 319 *e*P **P** **16 32 10.0 +0.4**
GRF *e**PP pP 16 32 28.6 +10
GRF *e*S S 16 42 33.6 +3.0
GRF pmax pmax
comp=Z,210nm,1.4s,mb6.1
GRF MLR MLR
comp=Z,11µm,19.9s,MS6.2
GRF Grafenberg Arr 84.03 319 *e*P **P** **16 32 10.0 +0.4**
comp=Z,210nm,1.4s,mb6.1
GRF *e*pP pP 16 32 28.6 +10
GRF *e*S S 16 42 33.6 +3.0
GRF *e*SSS SSS 16 51 36.4 +7.3
GRF LR LR
comp=Z,11µm,19.9s,MS6.2
LOF Lofoten 84.24 338 *e*P **P** **16 32 13.3 +3.0**
comp=Z,116nm,1.4s,mb5.8
LOF Lofoten 84.24 338 *e*P **P** **16 32 13.3 +3.0**
LOF AMb AMB 16 32 29.3
comp=Z,116nm,1.4s,mb5.8
STOK Stokkvaagen 84.26 336 *e*P **P** **16 32 10.9 +0.5**
comp=Z,181nm,1.6s,mb6.0
STOK Stokkvaagen 84.26 336 *e*P **P** **16 32 10.9 +0.5**
STOK AMb AMB 16 32 34.2
comp=Z,181nm,1.6s,mb5.9
SAL Salo 84.36 315 *e*P **P** **16 32 12.0 +0.6**
ERBM Eremo 84.41 314 *e*P **P** **16 32 12.7 +1.0**
VLC Villacollemand 84.42 314 *e*P **P** **16 32 11.3 -0.4**
comp=Z,102nm,1.3s,mb5.8
BRMO Bormio 84.49 316 *e*P **P** **16 32 12.2 +0.1**
VALM 84.53 314 P **P** **16 32 12.1 -0.2**
NSS Namsos 84.53 334 *e*P **P** **16 32 10.8 -1.0**
NSS *e*S S 16 42 35.2 -0.1
NSS *e*SS SS 16 48 11.0 +1.7
NSS AMS AMS 17 16 02.2
comp=Z,14µm,22.9s,MS6.3
VINC Vinca 84.59 314 P **P** **16 32 12.4 -0.2**
NB2 NORSAR Subarra 84.63 331 P **P** **16 32 12.0 -0.4**
comp=Z,105nm,1.2s,mb5.8,baz=96,slow=5.0
NB2 NORSAR Subarra 84.63 331 P **P** **16 32 12.0 -0.4**
NB2 pmax pmax
comp=Z,105nm,1.2s,mb5.8
NB2 NORSAR Subarra 84.63 331 P **P** **16 32 12.0 -0.4**
baz=96,slow=5.1
NOA NORSAR Array B 84.63 331 P **P** **16 32 11.9 -0.4**
comp=Z,20nm,0.9s,mb5.2,baz=95,slow=5.4,SNR=51
NOA LR LR 17 13 49.0
comp=Z,12µm,20.1s,MS6.3,baz=80,slow=38
BACM 84.65 314 P **P** **16 32 13.0 +0.1**
CLZ Clausthal 84.65 322 *e*P **P** **16 32 12.7 0.0**
comp=Z,81nm,1.2s,mb5.7
GRAM 84.66 314 P **P** **16 32 13.3 +0.4**
NAO01 NORSAR Array S 84.78 331 *e*P **P** **16 32 13.0 -0.1**
comp=Z,43nm,1.0s,mb5.5
NAO01 LR LR
comp=Z,11µm,20.0s,MS6.2
OSL Oslo 84.81 330 *e*P **P** **16 32 14.4 +1.1**
CODM 84.81 314 P **P** **16 32 12.9 -0.8**
DAVOX Davos 84.83 317 P **P** **16 32 14.2 +0.4**
comp=Z,33nm,0.8s,mb5.5,baz=117,slow=7.0,SNR=44
DAVA Damuels 84.84 317⇓ *i*P **P** **16 32 14.0 +0.2**
comp=Z,2µm,7.7s
HSP Hornsund 84.85 347 *e*P **P** **16 32 13.1 -0.1**
VSL Villasalto 85.12 309 *e*P **P** **16 32 15.8 +0.5**
comp=Z,86nm,1.0s,mb5.8
URZ Urewera 85.25 129 P **P** **16 32 15.5 -0.6**
comp=Z,34nm,1.0s,mb5.4,baz=132,slow=22,SNR=8.6
KONO Kongsberg 85.36 329⇑ *i*P **P** **16 32 15.3 -0.7**
KONO *e*SKSac 16 42 37.5
KONO LR LR
comp=Z,1070µm,22.0s
PGF Pioggiola 85.41 312 *e*P **P** **16 32 16.6 -0.1**
comp=Z,110nm,1.1s,mb5.6
PGF Pioggiola 85.41 312 *e*P **P** **16 32 16.6 -0.1**
PGF pmax pmax
comp=Z,55nm,1.1s,mb5.6
MUD Monsted U'grnd 85.49 326⇑ *i*P **P** **16 32 17.6 +0.8**
MUD *i* 16 35 48.0
MUD *i* S S 16 42 47.6 +2.7
MUD pmax pmax
comp=Z,37nm,0.9s,mb5.5
MUD Monsted U'grnd 85.49 326⇑ *i*P **P** **16 32 17.6 +0.8**
comp=Z,37nm,0.9s,mb5.5
MUD *i* 16 32 39.1
MUD *i* 16 35 48.0
MUD *i* S S 16 42 47.6 +2.7
comp=Z,7µm,16.0s
VAI Varese 85.59 316 *e*P **P** **16 32 18.0 +0.4**
DOMB Dombas 85.70 332 *e*P **P** **16 32 18.1 +0.4**
comp=Z,78nm,1.1s,mb5.8
DOMB Dombas 85.70 332 *e*P **P** **16 32 18.1 +0.4**
DOMB AMb AMB 16 32 21.3
comp=Z,78nm,1.1s,mb5.8
PCP Pian Castagno 85.75 314 P **P** **16 32 18.1 -0.3**
TNS Taunus Mts 85.83 320 *e*P **P** **16 32 18.8 +0.2**
BFO Black Forest 85.90 318 *e*P **P** **16 32 18.5 -0.5**
BFO pmax pmax
comp=Z,48nm,1.1s,mb5.6
BFO Black Forest 85.90 318 *e*P **P** **16 32 18.5 -0.5**
comp=Z,48nm,1.1s,mb5.6
FIN Finale Ligure 85.99 314 *e*P **P** **16 32 19.3 -0.3**
KTD Kalmit 86.06 319 *e*P **P** **16 32 21.0 +1.2**
MIDW Midway 86.09 62 PFAKE 16 32 30.0 +10
MIDW LR LR
comp=Z,8µm,20.0s,MS6.1
FELD Feldberg 86.12 318 *e*P **P** **16 32 19.6 -0.5**
MCGN Macugnaga 86.14 316 *e*P **P** **16 32 20.1 -0.1**
ORO Oropa 86.14 315 *e*P **P** **16 32 18.9 -1.4**
ORX Oropa 86.14 315 P **P** **16 32 19.7 -0.6**
IMI Imperia 86.22 314 *e*P **P** **16 32 20.1 -0.6**
ROB Roburent 86.23 314 P **P** **16 32 19.8 -1.0**
LANF Langenberg 86.25 319 *e*P **P** **16 32 20.6 -0.1**
MONE Monesi 86.32 314 P **P** **16 32 20.1 -0.2**
NEGI Negi 86.36 314 P **P** **16 32 20.9 -0.6**
LIBD Limburg 86.39 318 *e*P **P** **16 32 22.2 +0.8**
ABH Alteburg 86.41 320 *e*P **P** **16 32 21.4 -0.1**
MOL Molde 86.42 332⇑ *i*P **P** **16 32 22.2 +0.9**
SAOF Saorge 86.46 314 *e*P **P** **16 32 21.9 0.0**
SBF Sospel 86.55 314 *e*P **P** **16 32 22.2 -0.1**
comp=Z,258nm,1.2s,mb6.0
SBF Sospel 86.55 314 *e*P **P** **16 32 22.2 -0.1**
SBF pmax pmax
comp=Z,129nm,1.2s,mb6.0
WLS Welschbruch 86.55 318 *e*P **P** **16 32 21.7 -0.5**
AUTN L'Aution 86.55 314 *e*P **P** **16 32 22.7 +0.3**
ENR Entracque 86.56 314 P **P** **16 32 21.8 -0.6**
CDF Champ du Feu 86.60 318 *e*P **P** **16 32 22.1 -0.4**
comp=Z,101nm,1.4s,mb5.5
CDF Champ du Feu 86.60 318 *e*P **P** **16 32 22.1 -0.4**
CDF pmax pmax
comp=Z,51nm,1.4s,mb5.6
STV2 Anna di Valdie 86.62 314 P **P** **16 32 21.9 -0.8**
STV Sta Anna Valdi 86.62 314 P **P** **16 32 22.2 -0.5**
ABSA Djebel Ababsia 86.65 306 P sP 16 32 35.0 +0.4
RSP Reno Superiore 86.66 315 P **P** **16 32 22.0 -0.8**
BHB Bricheraisio 86.66 315 P **P** **16 32 22.3 -0.5**
TOUF Mont Tournerai 86.68 314 *e*P **P** **16 32 23.5 +0.5**
ECH Echery 86.68 318 *e*P **P** **16 32 23.1 +0.2**
CMAH Djebel Manchou 86.69 306 P **P** **16 32 24.0 +0.8**
MOF Molkenrain 86.71 318 *e*P **P** **16 32 22.7 -0.3**
LSD Ceresole Reale 86.72 315 P **P** **16 32 23.0 -0.2**
RUP Ruppelstein 86.73 319 *e*P **P** **16 32 24.2 +1.1**
MVIF Mont Vial 86.75 314 *e*P **P** **16 32 23.8 +0.5**
PZZ Prazzo 86.78 314 P **P** **16 32 22.3 -1.1**
FENE Fenestrelle 86.80 315 P **P** **16 32 22.6 -1.0**
WTSB Winterswijk 86.86 322 *e*P **P** **16 32 23.9 +0.2**
comp=Z,76nm,2.1s,mb5.6
WTSB *ex* x 16 32 42.4
ODD1 Odda 86.87 330 *e*P **P** **16 32 24.2 +0.7**
comp=Z,112nm,1.6s,mb5.8
ODD1 AMb AMB 16 32 49.4
comp=Z,112nm,1.6s,mb5.8
HINF Hinteralfeld 86.89 318 *e*P **P** **16 32 23.2 -0.7**
LOMF Lomont 86.92 317 *e*P **P** **16 32 23.1 -1.0**
CALN Calern 86.95 313 *e*P **P** **16 32 24.7 +0.4**
BLS5 Blasjo 86.96 329 *e*P **P** **16 32 25.7 +1.7**
SURF Saint Ours 86.99 314 *e*P **P** **16 32 25.4 +0.9**
RRL Cesana Torines 87.00 315 P **P** **16 32 24.2 -0.3**
LPG La Plagne 87.01 315 *e*P **P** **16 32 24.5 0.0**
comp=Z,85nm,0.8s,mb5.7
LPG La Plagne 87.01 315 *e*P **P** **16 32 24.5 0.0**
LPG pmax pmax
comp=Z,43nm,0.8s,mb5.7
MBDF Montbardon 87.01 314 *e*P **P** **16 32 23.9 -0.7**
comp=Z,141nm,1.4s,mb5.7
MBDF Montbardon 87.01 314 *e*P **P** **16 32 23.9 -0.7**
MBDF pmax pmax
comp=Z,70nm,1.4s,mb5.7
LPL La Plagne 87.02 315 *e*P **P** **16 32 24.8 +0.2**
comp=Z,227nm,1.2s,mb6.0
LPL La Plagne 87.02 315 *e*P **P** **16 32 24.8 +0.2**
LPL pmax pmax
comp=Z,114nm,1.2s,mb6.0
BNI Bardonecchia 87.07 315 P **P** **16 32 24.5 -0.3**
BNI pmax pmax
comp=Z,54nm,1.1s,mb5.7
BNI Bardonecchia 87.07 315 *e*P **P** **16 32 24.2 -0.6**
comp=Z,54nm,1.1s,mb5.7
HYA Hoyanger 87.07 331 *e*P **P** **16 32 27.0 +2.6**
comp=Z,204nm,1.8s,mb6.0
HYA Hoyanger 87.07 331 *e*P **P** **16 32 27.0 +2.6**
HYA AMb AMB 16 32 53.1
comp=Z,204nm,1.9s,mb6.0
RSL Roselend 87.09 315 *e*P **P** **16 32 24.7 -0.2**
FRF La Foret Royal 87.13 313 *e*P **P** **16 32 25.2 0.0**
comp=Z,275nm,1.4s,mb6.0
FRF La Foret Royal 87.13 313 *e*P **P** **16 32 25.2 0.0**
FRF pmax pmax
comp=Z,138nm,1.4s,mb6.0
CAEH 'Ain El Ouahch 87.14 307 P sP 16 32 41.0 +4.0
HAU Haudompre 87.23 318 *e*P **P** **16 32 25.1 -0.4**
comp=Z,172nm,1.2s,mb5.9
HAU *e*R
comp=Z,11µm,21.0s
HAU Haudompre 87.23 318 *e*P **P** **16 32 25.1 -0.4**
HAU pmax pmax
comp=Z,86nm,1.2s,mb5.9
HAU MLR MLR
comp=Z,11µm,21.0s,MS6.2
LMR La Mourre 87.23 313 *e*P **P** **16 32 25.8 +0.1**
comp=Z,132nm,1.3s,mb5.7
LMR La Mourre 87.23 313 *e*P **P** **16 32 25.8 +0.1**
LMR pmax pmax
comp=Z,66nm,1.3s,mb5.7
CKFL Kef-Lekhel 87.26 306 P sP 16 32 39.5 +1.9
WLF Walferdange 87.32 319 *e*P **P** **16 32 26.2 +0.3**
WLF pmax pmax
comp=Z,83nm,1.4s,mb5.8
WLF Walferdange 87.32 319 *e*P **P** **16 32 26.2 +0.3**
comp=Z,83nm,1.4s,mb5.8
STAV Stavanger 87.36 329 *e*P **P** **16 32 27.4 +1.5**
comp=Z,117nm,1.5s,mb5.9
STAV Stavanger 87.36 329 *e*P **P** **16 32 27.4 +1.5**
STAV AMb AMB 16 32 50.0
comp=Z,117nm,1.5s,mb5.9
HGN Heimansgroeve 87.43 321 *e*P **P** **16 32 26.5 +0.1**
comp=Z,49nm,1.3s,mb5.6
HGN *ex* x 16 32 44.9
HGN *e*PP PP 16 35 51.0 -2.6
HGN *i* S S 16 43 05.9 +2.3
HGN *e*SS SS 16 48 25.0 -27
CABF La Chapelle 87.44 316 *e*P **P** **16 32 26.8 +0.2**
comp=Z,152nm,1.2s,mb5.8
CABF La Chapelle 87.44 316 *e*P **P** **16 32 26.8 +0.2**
CABF pmax pmax
comp=Z,76nm,1.2s,mb5.8
CASM Ain Smara 87.45 306 P sP 16 32 39.0 +0.5
GDM Grand'Maison 87.46 315 *e*P **P** **16 32 26.8 +0.1**
THEF They Montfort 87.47 318 *e*P **P** **16 32 24.8 -1.9**
BER Bergen 87.51 330⇑ *i*P **P** **16 32 27.5 +0.9**
BER AMS AMS 17 16 05.0
comp=Z,13µm,21.4s,MS6.3
CTEI Djebel Teioual 87.52 306 P sP 16 32 40.0 +1.1
KMY Karmoy 87.59 329 *e*P **P** **16 32 28.1 +1.1**
comp=Z,134nm,1.4s,mb6.0
KMY Karmoy 87.59 329 *e*P **P** **16 32 28.1 +1.1**
KMY AMb AMB 16 32 51.2
comp=Z,134nm,1.4s,mb6.0
FOO Floro 87.61 331 *e*P **P** **16 32 28.6 +1.6**
comp=Z,141nm,2.6s,mb5.7
FOO Floro 87.61 331 *e*P **P** **16 32 28.6 +1.6**
FOO AMb AMB 16 32 53.5
comp=Z,141nm,2.6s,mb5.7
ORIF Oris-en-Rattie 87.64 315 *e*P **P** **16 32 27.8 +0.2**
comp=Z,139nm,1.4s,mb5.7
ORIF *e*R
comp=Z,12µm,19.0s
GRN Grenoble 87.72 315 *e*P **P** **16 32 29.4 +1.4**
VNDA Vanda 87.90 168 P **P** **16 32 29.6 +1.5**
comp=Z,10nm,1.2s,mb4.9,baz=296,slow=7.3,SNR=10
VNDA LR LR 17 10 20.1
comp=Z,16µm,18.0s,MS6.5,baz=301,slow=35
OG05 Jujurieux 87.90 316 *e*P **P** **16 32 28.7 -0.1**
DFRA Djebel Bou Aff 87.93 306 P pP 16 32 36.5 -1.5
CMER Merouana 87.95 305 P sP 16 32 45.0 +4.1
MEZF Maizieres J'vi 88.08 318 *e*P **P** **16 32 29.6 0.0**
comp=Z,48nm,0.8s,mb5.5
GIVF Givet 88.16 320 *e*P **P** **16 32 30.0 0.0**
comp=Z,131nm,1.4s,mb5.7
GIVF Givet 88.16 320 *e*P **P** **16 32 30.0 0.0**
GIVF pmax pmax
comp=Z,66nm,1.4s,mb5.7
CKHR Kef el Ahmar 88.25 306 P pP 16 32 41.0 +1.5
SET Setif 88.33 306 P pP 16 32 40.0 +0.1
RAO Raoul Island 88.47 119 PFAKE 16 32 40.0 +8.1
RAO LR LR
comp=Z,14µm,22.0s,MS6.3
VIVF Saint-Julien-l 88.50 315 *e*P **P** **16 32 31.8 +0.1**
comp=Z,132nm,1.2s,mb5.7
VIVF Saint-Julien-l 88.50 315 *e*P **P** **16 32 31.8 +0.1**
VIVF pmax pmax
comp=Z,66nm,1.2s,mb5.7
BAIF Baives 88.56 320 *e*P **P** **16 32 32.2 +0.3**
comp=Z,208nm,1.3s,mb6.0
BAIF Baives 88.56 320 *e*P **P** **16 32 32.2 +0.3**
BAIF pmax pmax
comp=Z,104nm,1.3s,mb6.0
SMF Signal de Mont 88.99 316 *e*P **P** **16 32 33.8 -0.2**
comp=Z,111nm,1.1s,mb5.8
SMF Signal de Mont 88.99 316 *e*P **P** **16 32 33.8 -0.2**
SMF pmax pmax
comp=Z,56nm,1.1s,mb5.8
SBA Scott Base 89.00 168 *e*P **P** **16 32 35.2 +1.8**
SBA pmax pmax
comp=Z,255nm,1.6s,mb6.3
SBA MLR MLR
comp=Z,9µm,20.0s,MS6.2
SBA Scott Base 89.00 168 *e*P **P** **16 32 35.2 +1.8**
comp=Z,255nm,1.6s,mb6.3
SBA LR LR
comp=Z,9µm,20.0s,MS6.2
LASF Ste Croix 89.12 314 *e*P **P** **16 32 35.1 +0.4**
comp=Z,156nm,1.4s,mb5.8
PLDF La Plantade 89.18 316 *e*P **P** **16 32 36.7 +1.8**
SSF Saint Saulge 89.19 317 *e*P **P** **16 32 35.1 +0.1**
SSF pmax pmax
comp=Z,110nm,1.5s,mb6.0
SSF Saint Saulge 89.19 317 *e*P **P** **16 32 35.1 +0.1**
comp=Z,110nm,1.5s,mb6.0
AVF Avril sur Loir 89.32 317 *e*P **P** **16 32 35.4 -0.1**
comp=Z,160nm,1.3s,mb5.9
AVF Avril sur Loir 89.32 317 *e*P **P** **16 32 35.4 -0.1**
AVF pmax pmax
comp=Z,80nm,1.3s,mb5.9
LBL Lubilhac 89.49 315 *e*P **P** **16 32 38.1 +1.7**
BGF Bois d'Agland 89.68 316 *e*P **P** **16 32 37.6 +0.3**
comp=Z,317nm,1.4s,mb6.2
BGF Bois d'Agland 89.68 316 *e*P **P** **16 32 37.6 +0.3**
BGF pmax pmax
comp=Z,159nm,1.4s,mb6.2
TNA Tin City 90.04 24 *e*P **P** **16 32 38.5 0.0**
comp=Z,54nm,0.8s,mb5.9
TNA LR LR
comp=Z,16µm,19.0s,MS6.5
TCF Toulx Ste Croi 90.14 316 *e*P **P** **16 32 39.9 +0.5**
comp=Z,241nm,1.7s,mb6.0
TCF Toulx Ste Croi 90.14 316 *e*P **P** **16 32 39.9 +0.5**
TCF pmax pmax

comp=Z,120nm,1.7s,mb6.0
EMHD Djebel Mahouad 90.31 306 P **P** **16 32 43.0 +2.6**
CAF Calviac 90.35 315 *e*P **P** **16 32 41.1 +0.7**
comp=Z,163nm,1.5s,mb5.8
CAF Calviac 90.35 315 *e*P **P** **16 32 41.1 +0.7**
CAF pmax pmax
comp=Z,81nm,1.5s,mb5.8
MTLF Montolieu 90.36 313 *e*P **P** **16 32 40.9 +0.4**
comp=Z,174nm,1.3s,mb5.9
MTLF Montolieu 90.36 313 *e*P **P** **16 32 40.9 +0.4**
MTLF pmax pmax
comp=Z,87nm,1.3s,mb5.9
NVL N'lazarevskaya 90.69 199⇓ *i*P **P** **16 32 45.5 +4.1**
NVL *i* *PP pP 16 33 00.5 +10
NVL *i* S 16 43 08.2
NVL *e* 16 43 41.5
NVL *e*SS SS 16 49 50.8 +12
RJF Les Rejaudoux 90.70 315 *e*P **P** **16 32 42.7 +0.7**
comp=Z,180nm,1.3s,mb5.9
RJF *e*R
comp=Z,10µm,22.5s
RJF Les Rejaudoux 90.70 315 *e*P **P** **16 32 42.7 +0.7**
RJF pmax pmax
comp=Z,90nm,1.3s,mb5.9
RJF MLR MLR
comp=Z,10µm,22.5s,MS6.2
MAIT Maitri 90.73 199 *e*P **P** **16 32 43.7 +2.1**
MAIT *e*S 16 43 16.5
LFF La Frestale 91.28 315 *e*P **P** **16 32 45.5 +0.8**
comp=Z,259nm,1.4s,mb6.1
LFF La Frestale 91.28 315 *e*P **P** **16 32 45.5 +0.8**
LFF pmax pmax
comp=Z,130nm,1.4s,mb6.1
EBNR Beni Rached 91.45 306 P **P** **16 32 48.0 +2.3**
LDF La Druitiere 91.50 319 *e*P **P** **16 32 45.9 +0.3**
comp=Z,354nm,1.5s,mb6.2
LDF La Druitiere 91.50 319 *e*P **P** **16 32 45.9 +0.3**
LDF pmax pmax
comp=Z,177nm,1.5s,mb6.2
ECHA Ech Chlef 91.59 306 P **P** **16 32 50.0 +3.7**
LCP Cassop 91.61 325 *e*P **P** **16 32 46.7 +0.8**
FLN La Foliniere 91.72 319 *e*P **P** **16 32 46.9 +0.3**
comp=Z,179nm,1.1s,mb6.0
FLN *e*R
comp=Z,9µm,21.0s
FLN La Foliniere 91.72 319 *e*P **P** **16 32 46.9 +0.3**
FLN pmax pmax
comp=Z,90nm,1.1s,mb6.0
FLN MLR MLR
comp=Z,9µm,21.0s,MS6.2
MFF Saint Martin d 91.73 317 *e*P **P** **16 32 47.1 +0.4**
comp=Z,218nm,1.2s,mb6.0
MFF Saint Martin d 91.73 317 *e*P **P** **16 32 47.1 +0.4**
MFF pmax pmax
comp=Z,109nm,1.2s,mb6.1
JMIC Jan Mayen 91.74 341 P **P** **16 32 46.7 +0.5**
comp=Z,23nm,0.5s,mb5.8,baz=114,slow=12,SNR=2.4
JMIC Jan Mayen 91.74 341⇑ *i*P **P** **16 32 47.5 +1.2**
JMIC *e*PP PP 16 36 24.0 -3.7
JMIC *e*SKS SKS 16 43 38.2 +15
JMIC AMS AMS 17 19 18.7
comp=Z,15µm,19.7s,MS6.5
EPF Esparros 91.75 313 *e*P **P** **16 32 46.6 -0.3**
comp=Z,47nm,1.2s,mb5.4
HPK Haverah Park 91.80 324 *e*P **P** **16 32 48.2 +1.4**
HPK AMb AMB 16 32 51.1
comp=Z,189nm,2.1s,mb6.1
EANR 'Ain N'Sour 91.82 306 P **P** **16 32 50.0 +2.6**
KBI1 Birley Grange 91.83 323 *e*P **P** **16 32 48.1 +1.1**
EBR Ebro Roquetas 91.86 311 *e*P **P** **16 32 48.6 +1.2**
EBIE Bielsa 91.93 313 P **P** **16 32 49.4 +1.7**
LHO Holmfirth 91.99 324 *e*P **P** **16 32 49.0 +1.3**
LHO AMb AMB 16 32 51.3
comp=Z,148nm,2.3s,mb5.9
GRR Gorron 92.01 318 *e*P **P** **16 32 48.4 +0.4**
comp=Z,152nm,1.1s,mb5.9
GRR Gorron 92.01 318 *e*P **P** **16 32 48.4 +0.4**
GRR pmax pmax
comp=Z,76nm,1.1s,mb5.9
KWE Weaver Farm 92.06 323 *e*P **P** **16 32 49.3 +1.3**
UNV Unalaska Valle 92.34 36 PFAKE 16 33 00.0 +11
UNV LR LR
comp=Z,29µm,22.0s,MS6.7
ETSF Etsaut 92.42 313 *e*P **P** **16 32 50.8 +0.8**
comp=Z,83nm,0.9s,mb5.8
ETSF Etsaut 92.42 313 *e*P **P** **16 32 50.8 +0.8**
ETSF pmax pmax
comp=Z,42nm,0.9s,mb5.8
EKA Eskdalemuir Ar 92.49 326 P **P** **16 32 50.4 +0.4**
comp=Z,6.9nm,0.7s,mb5.1,baz=99,slow=4.5,SNR=14
DAG Danmarks Havn 92.51 348⇑ *e*P **P** **16 32 48.9 -0.8**
DAG pmax pmax
comp=Z,25nm,1.0s,mb5.6
DAG MLR MLR
comp=Z,23µm,21.0s,MS6.6
DAG Danmarks Havn 92.51 348⇑ *e*P **P** **16 32 48.9 -0.8**
comp=Z,25nm,1.0s,mb5.6
DAG LR LR
comp=Z,23µm,21.0s,MS6.6
DAG Danmarks Havn 92.51 348⇑ *i*P **P** **16 32 48.9 -0.8**
comp=Z,25nm,1.0s,mb5.6
comp=Z,23µm,21.0s
ESK Eskdalemuir 92.52 326 PFAKE 16 33 00.0 +10
ESK LR LR
comp=Z,3µm,20.0s,MS5.8
ESK Eskdalemuir 92.52 326 *e*P **P** **16 32 51.3 +1.2**
ESK AMb AMB 16 32 53.6
comp=Z,157nm,2.9s,mb5.9
QSPA South Pole Qui 92.91 180 *e*P **P** **16 32 55.5 +4.1**
comp=Z,31nm,1.0s,mb5.7
DLF Lyons Farm 94.79 324 *e*P sP 16 33 14.0 +1.8
ESDC Sonseca Array 95.38 310 P **P** **16 33 05.3 +1.6**
comp=Z,0.6nm,0.4s,baz=63,slow=4.2,SNR=6.9
ESLA Sonseca Array 95.38 310 *e*P **P** **16 33 03.7 0.0**
comp=Z,5.9nm,1.1s,mb4.9
ESLA LR LR
comp=Z,43µm,21.0s,MS6.9
SNAA Sanae 95.44 198 P **P** **16 33 09.7 +6.5**
comp=Z,2.8nm,1.0s,mb4.7,baz=92,slow=6.6,SNR=4.5
IMA Indian Mountai 95.61 23 *e*P **P** **16 33 05.3 +1.2**
IMA pmax pmax
comp=Z,300nm,1.4s,mb6.5
IMA Indian Mountai 95.61 23 *e*P **P** **16 33 05.3 +1.2**
comp=Z,300nm,1.4s,mb6.5
SCO Scoresbysund 96.09 343 *i*P **P** **16 33 06.4 +0.2**
SCO *i*S PP 16 36 59.4 -2.0
SCO pmax pmax
comp=Z,5.0nm,0.9s,mb4.9
SCO Scoresbysund 96.09 343 *i*P **P** **16 33 06.4 +0.2**
comp=Z,4.5nm,0.9s,mb4.9
SCO *i*S PP 16 36 59.4 -2.0
MTE Manteigas 97.97 311 *e*P **P** **16 33 17.1 +1.7**
MTE *e*S S 16 44 41.2 +4.8
MTE *e*LR LR 17 12 40.5
comp=Z,6µm,20.0s
COLA College 98.32 23 *i*P **P** **16 33 16.4 +0.1**
COLA College 98.32 23 PFAKE 16 33 30.0 +14
COLA LR LR
comp=Z,12µm,20.0s,MS6.4
MCK McKinley 98.37 24 *e*P **P** **16 33 16.6 0.0**
MCK pmax pmax
comp=Z,30nm,1.5s,mb5.6
MCK McKinley 98.37 24 *e*P **P** **16 33 16.6 0.0**
comp=Z,30nm,1.5s,mb5.6
BORG Borgarnes 98.43 337 PP PP 16 37 19.7 -0.1
comp=Z,8.2nm,1.0s,baz=48,slow=10,SNR=3.6
FIB Fire Island 98.88 27 PFAKE 16 33 30.0 +11
FIB LR LR
comp=Z,8µm,19.0s,MS6.2
SUMG Summit 99.18 347 *e*P **P** **16 33 20.7 +0.6**
comp=Z,31nm,1.1s,mb5.8
SML Sawmill 99.43 26 *e*P **P** **16 33 21.7 +0.3**
DBIC Dimbokro 99.91 277 P **P** **16 33 26.0 +1.2**
comp=Z,1.7nm,0.8s,baz=180,slow=8.1,SNR=3.0
DBIC PP PP 16 37 33.4 +1.0
comp=Z,3.7nm,1.1s,baz=69,slow=10,SNR=1.8
DBIC LR LR 17 19 41.9
comp=Z,13µm,18.5s,MS6.5,baz=64,slow=36
INK Inuvik 101.28 17 PKKP PKKP 16 49 49.9 +12
comp=Z,2.9nm,1.0s,baz=150,slow=0.8,SNR=6.3
DAWY Dawson 101.90 22 *e*P P 16 33 32.0 -0.6
RES Resolute Bay 102.20 3 *e*P Pdif 16 33 35.5 +1.9
RES pmax pmax
comp=Z,11nm,1.0s
RES Resolute Bay 102.20 3 *e*P Pdif 16 33 35.5 +1.8
comp=Z,11nm,1.0s

KIP Kipapa 104.21 67 PFAKE 16 34 00.0 +16
KIP LR LR
comp=Z,10µm,22.0s,MS6.3
RAR Rarotonga 104.81 111 PFAKE 16 34 00.0 +14
RAR LR LR
comp=Z,6µm,21.0s,MS6.1
TRIS Tristan da Cun 105.97 232 PFAKE 16 38 20.0
TRIS LR LR
comp=Z,11µm,19.0s,MS6.4
SFJ Sondre 106.16 347 PFAKE 16 38 10.0
SFJ LR LR
comp=Z,16µm,21.0s,MS6.5
SFJD Kangerlussuaq 106.16 347 *e*P Pdif 16 33 46.1 -5.1
SFJD *i* 16 38 18.3
SFJD *e* 16 47 34.4
SFJD MLR MLR
comp=Z,15µm,20.0s,MS6.5
SFJD Kangerlussuaq 106.16 347 *i*P Pdif 16 33 46.1 -5.1
SFJD *i* 16 38 18.3
SFJD *i* 16 44 37.6
SFJD *i* 16 45 47.0
SFJD *e* 16 47 34.4
comp=Z,15µm,20.0s
SIT Sitka 107.55 26 PFAKE 16 38 20.0
SIT LR LR
comp=Z,26µm,19.0s,MS6.8
YKA Yellowknife Ar 110.82 14 P Pdif 16 34 14.3 +2.5
YKA 16 38 11.0
YKA 16 49 24.1
YKA 16 49 31.3
YKA Yellowknife Ar 110.82 14 Pdiff Pdif 16 34 14.3 +2.5
comp=Z,0.1nm,0.4s,baz=333,slow=3.2,SNR=3.0
YKA PKIKP 16 38 11.0
comp=Z,0.9nm,0.9s,baz=340,slow=8.7,SNR=3.8
YKA PP PP 16 38 43.8 -8.8
comp=Z,5.0nm,0.9s,baz=328,slow=8.5,SNR=10
YKA PKKPbc 16 49 12.8
comp=Z,0.5nm,0.8s,baz=152,slow=2.6,SNR=4.4
YKA PKKPab 16 49 24.0
comp=Z,2.1nm,0.9s,baz=144,slow=3.0,SNR=10.0
YKA PKKP PKKP 16 49 31.2 +10
comp=Z,1.3nm,0.8s,baz=144,slow=4.2,SNR=6.8
PDA Ponta Delgada 112.21 313 *e*SS SS 16 54 51.0 +14
PDA Ponta Delgada 112.21 313 *e*LQ 17 05 55.0
ADH Angra Heroismo 112.99 314 *e*LR LR 17 11 14.0
TBI Tubuai 114.14 114 *e*PP PP 16 39 11.9 -5.9
TBI Tubuai 114.14 114 *e*LR LR 17 12 23.8
comp=Z,15µm,26.5s
TBI Tubuai 114.14 114 *e*SP SP 16 48 48.9 +2.0
TBI Tubuai 114.14 114 *e*SS SS 16 54 57.8 -5.3
PPT Papeete 114.65 108 *e*PP PP 16 39 11.9 -10
PPT Papeete 114.65 108 *e*SP SP 16 48 58.5 +6.4
PPT *e*LR LR 17 12 40.7
comp=Z,14µm,26.8s
PPT Papeete 114.65 108 *e*SS SS 16 55 16.6 +6.7
FCC Fort Churchill 117.98 6 *e*PKIKP PKPdf 16 38 24.8 -4.4
EDM Edmonton 119.00 19 *e*PKIKP PKPdf 16 38 27.3 -4.1
SCHQ Schefferville 120.56 348 PKP PKPdf 16 38 32.4 -2.0
comp=Z,2.5nm,0.4s,baz=61,slow=2.7,SNR=18
SCHQ PP PP 16 40 01.1 +0.2
comp=Z,13nm,0.9s,baz=17,slow=7.2,SNR=5.9
SCHQ Schefferville 120.56 348 *e*PKPdf PKPdf 16 38 29.9 -4.4
WALA Waterton Lakes 122.24 22 *e*P PKPdf 16 38 35.1 -2.6
HUMO Hull Mountain 122.86 33 *e*P PKPdf 16 38 30.5 -8.6
MSO Missoula 124.03 24 *e*P PKPdf 16 38 37.6 -3.7
CHMT Chamberlain Mo 124.24 24 *e*P PKPdf 16 38 38.0 -3.7
MOD Modoc 124.78 32 *e*P PKPdf 16 38 40.0 -2.9
WVOR Wild Horse Val 125.26 31 *e*PKIKP PKPdf 16 38 41.0 -2.8
BOZ Bozeman (W) 125.93 23 *e*PKIKP PKPdf 16 38 41.5 -3.5
ULM Lac du Bonnet 126.08 9 PKP PKPdf 16 38 41.4 -3.7
comp=Z,15nm,0.9s,baz=336,slow=2.7,SNR=25
ULM PP PP 16 40 33.5 -5.2
comp=Z,5.6nm,0.8s,baz=352,slow=7.6,SNR=3.1
ULM Lac du Bonnet 126.08 9 *e*P PKPdf 16 38 40.8 -4.3
MCMT McKenzie Canyo 126.10 25 *e*PKPdf PKPdf 16 38 42.2 -3.1
HLID Hailey 126.43 27 *e*PKPdf PKPdf 16 38 42.9 -3.0
QLMT Earthquake Lak 126.68 24 *e*PKPdf PKPdf 16 38 43.8 -2.6
WCN Washoe City 126.89 34 *e*PKIKP PKPdf 16 38 44.5 -2.4
YMR Madison River 127.00 23 *e*PKPdf PKPdf 16 38 44.7 -2.3
YNR Norris Junctio 127.07 23 *e*PKPdf PKPdf 16 38 45.2 -1.9
RKT Rikitea 127.26 117 *e*PP PP 16 40 41.7 -5.0
RKT *e*SP SP 16 50 49.3 +4.6
RKT *e*SS SS 16 58 02.2 +11
RKT *e*LR LR 17 18 29.6
comp=Z,9µm,27.0s
LKWY Lake 127.31 23 *e*PKPdf PKPdf 16 38 46.2 -1.5
LKWY *e*pPKPdf 16 38 55.6
CMB Columbia Colle 127.40 36 *e*PKIKP PKPdf 16 38 44.8 -3.2
IMW Indian Meadow 127.65 24 *e*PKPdf PKPdf 16 38 45.4 -3.0
MOOW Moose Ponds 127.85 24 *e*PKPdf PKPdf 16 38 45.7 -3.0
RRI2 Red Ridge 127.95 25 *e*PKPdf PKPdf 16 38 46.0 -3.0
TPAW Teton Pass 127.98 24 *e*PKPdf PKPdf 16 38 46.3 -2.7
LOHW Long Hollow 128.02 24 *e*PKPdf PKPdf 16 38 46.3 -2.8
SNOW Snow King Moun 128.09 24 *e*PKPdf PKPdf 16 38 46.4 -2.8
REDW Red Top Meadow 128.13 24 *e*PKPdf PKPdf 16 38 46.5 -2.8
MNV Mina 128.39 34 *e*PKPdf PKPdf 16 38 47.2 -2.8
OMM Old Mammoth Mi 128.49 35 *e*PKPdf PKPdf 16 38 49.3 -0.9
HVU Hansel Valley 128.58 27 *e*PKPdf PKPdf 16 38 47.0 -3.2
MTUM Tungsten Hills 128.91 35 *e*PKPdf PKPdf 16 38 49.5 -1.4
EYMN Ely 128.92 6 *e*PKPdf PKPdf 16 38 47.4 -3.3
BGU Big Grassy Mou 129.14 28 *e*PKPdf PKPdf 16 38 48.1 -3.2
PDAR Pinedale Array 129.15 24 PKP PKPdf 16 38 49.1 -2.2
comp=Z,4.2nm,0.9s,baz=62,slow=0.5,SNR=24
HWUT Hardware Ranch 129.26 26 *e*PKPdf PKPdf 16 38 49.4 -2.1
DUG Dugway 129.82 28 *e*PKPdf PKPdf 16 38 49.9 -2.7
TRCR Troy Canyon 129.84 32 *e*PKPdf PKPdf 16 38 50.9 -1.8
RSSD Black Hills 129.95 18 *e*PKPdf PKPdf 16 38 47.0 -5.7
JLU Jordanelle 130.12 27 *e*PKPdf PKPdf 16 38 50.4 -2.8
DAC Darwin (Calif) 130.22 35 *e*P PKPdf 16 38 52.8 -0.7
NLU North Lily Min 130.35 28 *e*PKPdf PKPdf 16 38 52.2 -1.5
RWWY Rawlins 130.98 23 *e*PKPdf PKPdf 16 38 51.9 -2.9
MSU Marysvale 131.44 29 *e*PKPdf PKPdf 16 38 51.9 -3.9
SRU San Rafael 131.75 27 *e*PKPdf PKPdf 16 38 54.1 -2.2
PHWY Pilot Hill 131.97 21 *e*PKPdf PKPdf 16 38 54.4 -2.3
PV10 Paradox Valley 133.01 27 *e*PKPdf PKPdf 16 38 56.8 -2.0
ISCO Idaho Springs 133.22 22 *e*PKPdf PKPdf 16 38 54.5 -4.5
PV01 Paradox Valley 133.42 26 *e*PKPdf PKPdf 16 38 57.7 -1.7
JFWS Jewell Farm 134.03 6 *e*PKPdf PKPdf 16 38 56.8 -3.6
WUAZ Wupatki 134.18 31 *e*PKPdf PKPdf 16 38 58.7 -2.2
CAM4 Nova Friburgo 135.00 241⇑ *i*P PKPdf 16 39 08.9 +6.0
CAM4 *i* 16 39 15.4
CAM4 *i* 16 39 26.9
CAM4 *i* 16 39 42.0
KSU1 Kansas State U 136.67 14 *e*PKPdf PKPdf 16 39 01.2 -4.2
TUC Tucson 136.96 33 *e*PKPdf PKPdf 16 39 03.8 -2.3
ANMO Albuquerque 137.01 27 *e*PKPdf PKPdf 16 39 04.6 -1.5
LAZ Ladron 137.15 28 *e*PKPdf PKPdf 16 39 02.1 -4.3
LPM Los Pinos Moun 137.46 27 *e*PKPdf PKPdf 16 39 04.2 -2.8
AMTX Amarillo 139.03 22 *e*PKPpre 16 38 59.5
CPRX Cap Rock 139.77 26 *e*PKPpre 16 38 48.7
ELN Prospectdale 139.85 355 *e*PKPdf PKPdf 16 39 07.4 -3.9
WMOK Wichita Mounta 140.16 18 *e*PKPpre 16 38 59.4
MNTX Cornudas Mount 140.21 28 *e*PKPdf PKPdf 16 39 02.5 -10
GDL2 Guadalupe Moun 140.26 27 *e*PKPpre 16 39 04.7
PLCA Paso Flores 140.36 197 PKP PKPdf 16 39 08.3 -3.8
comp=Z,4.9nm,1.1s,baz=105,slow=1.8,SNR=3.8
PLCA Paso Flores 140.36 197 *e*PKPpre 16 39 05.3
PLCA PKP PKPdf 16 39 08.3 -3.8
WVT Waverly 140.97 4 *e*PKPdf PKPdf 16 39 03.6 -10
MIAR Mount Ida 141.71 12 *e*PKPpre 16 39 06.0
UALR University of 141.73 10 *e*PKPdf PKPdf 16 39 07.2 -7.6
CPCT Cooper Cave 141.77 0 *e*PKPpre 16 39 07.1
BAO Brasilia Array 141.91 248 P PKPdf 16 39 15.0 -0.5
BDFB Brasilia 141.93 248 PKP PKPdf 16 39 14.7 -0.9
comp=Z,12nm,0.9s,baz=117,slow=2.0,SNR=6.4
PLAL Pickwick Lake 142.09 5 *e*PKPpre 16 39 05.8
JSC Jenkinsville 142.81 356 *e*PKPpre 16 39 09.9
TXAR Lajitas Array 142.99 29 PKP PKPdf 16 39 12.5 -4.5
comp=Z,6.9nm,0.8s,baz=272,slow=1.9,SNR=29
TXAR PP PP 16 42 19.8 -6.0
comp=Z,2.4nm,0.9s,baz=270,slow=2.7,SNR=2.6
LPIG La Paz 143.20 42⇑ *i*P PKPbc 16 39 10.3 -0.5
GOGA Godfrey 143.79 359 *e*PKPdf PKPdf 16 39 13.6 -4.7
LRAL Lakeview Retre 144.10 4 *e*PKPdf PKPdf 16 39 12.2 -6.6
NATX Nacogdoches 144.13 15 *e*PKPdf PKPdf 16 39 13.5 -5.4
CCHI Chillan 144.63 197 *e*P PKPbc 16 39 20.6 +6.0
CPUP Villa Florida 145.09 226 PKPbc PKPbc 16 39 16.9 +0.7
CPUP SKKPdf 16 58 06.5
RPN Rapa Nui 146.23 138 *e*PKPdf PKPdf 16 39 18.4 -4.3
LMEL Las Melosas 146.51 202 *e*P PKPbc 16 39 22.0 +2.6
MDZ Mendoza 146.83 205 *e*P PKPbc 16 39 17.0 -3.2
DWPF Disney 148.95 355 *e*PKPdf PKPdf 16 39 24.5 -2.6

CPB Codrington 149.66 313 *e*P PKPdf 16 39 37.7 +9.2
CJM Chamela 149.90 41 *i*P PKPdf 16 39 28.1 -0.7
TLL Tololo Astrono 150.00 204 *e*P PKPdf 16 39 29.9 +1.1
BPA Boggy Peak 150.06 312 *e*P PKPdf 16 39 39.8 +11
SFJM Santa Fe 150.43 37 *i*P PKPdf 16 39 27.0 -2.6
BBL Barber's Block 150.71 310 *e*P PKPdf 16 39 35.9 +5.7
MOIG Morelia 152.15 35 *e*P PKPdf 16 39 29.5 -2.7
TRN Trinidad (W) 153.31 301 *e*P PKPdf 16 39 33.0 -1.0
PPM Popocatepetl 154.06 32 *i*P PKPdf 16 39 32.0 -2.9
PLIG Platanillo 154.13 34⇑ *i*P PKPdf 16 39 33.7 -1.3
LVC Limon Verde 155.31 216 *e*PKPdf PKPdf 16 39 35.3 -1.2
TEIG Tepich 156.65 9 *e*PKPab PKPab 16 40 02.8 -2.4
CMIG Matias Romero 157.58 27⇑ *i*P PKPdf 16 39 36.5 -3.1
SAML Samuel 157.98 253 *e*PKPdf PKPdf 16 39 36.8 -3.5
LPAZ La Paz 159.16 230 PKPdf PKPdf 16 39 39.2 -2.3
LPAZ La Paz 159.16 230 PKP PKPdf 16 39 39.9 -1.7
comp=Z,3.0nm,0.8s,baz=93,slow=1.9,SNR=13
LPAZ PKPab PKPab 16 40 17.3 +1.3
comp=Z,12nm,1.1s,baz=99,slow=9.5,SNR=5.6
LPAZ La Paz 159.16 230 *e*PKPdf PKPdf 16 39 39.2 -2.4
SDV Santo Domingo 161.82 311 PKPdf PKPdf 16 39 41.4 -3.0
ROSC El Rosal 167.19 307 PKP PKPdf 16 39 48.1 -1.2
comp=Z,4.7nm,0.4s,baz=103,slow=22,SNR=4.7
OTAV Otavalo 173.15 298 *e*PKPdf PKPdf 16 39 48.9 -3.8

IDC 30 16:25:30.2±2.6, 2.55N×96.42E, mb4.1/5, mb1 4.3/5, mb1mx4.0/18, mbtmp4.1/5, Error ellipse: s-maj=110.2km s-min=23.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.41**	**123**	P	P	16 33 34.8	-1.8
	0.8nm,0.6s,baz=306,slow=8.9,SNR=5.8						
ASAR	**Alice Springs**	**44.83**	**128**	P	P	16 33 46.3	-1.9
	1.9nm,0.8s,baz=296,slow=6.9,SNR=3.6						
MKAR	**Makanchi Array**	**45.75**	**346**	P	P	16 33 53.3	-1.8
	3.0nm,0.6s,baz=164,slow=8.9,SNR=5.4						
SONM	**Songino Array**	**45.92**	**9**	P	P	16 33 55.3	-1.2
	1.1nm,0.4s,baz=193,slow=9.3,SNR=8.5						
ARCES	**ARCESS Array B**	**81.01**	**340**	P	P	16 37 45.9	-2.0
	3.6nm,0.9s,baz=90,slow=6.3,SNR=3.9						

*IDC **30** 16:26:35.9±0.5, 0.15N×98.09E, mb4.6/18, mb1 4.7/18, mb1mx4.5/25, mbtmp4.6/18, Error ellipse: s-maj=25.3km s-min=12.9km az=51.0*
*NEIC **30** 16:26:40.4±0.4, 0.19N×98.14E, h30km, mb4.7/5, Error ellipse: s-maj=12.4km s-min=8.7km az=58.0*
ISC 30 16:26:39.2±0.5, 0.22N±0.08×98.18E±0.09, h33km, n27, σ1$00/26, mb4.5/22, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.60**	**26**	*e*P	**P**	**16 28 01.0**	**-1.3**
KKM	**Kota Kinabalu**	**18.90**	**72**	*e*P	**P**	**16 31 01.1**	**+1.3**
MBWA	**Marble Bar**	**29.91**	**137**	*e*P	**P**	**16 32 45.8**	**-0.7**
	3.1nm,0.6s,mb4.2						
ENH	**Enshi**	**31.76**	**19**	*e*P	**P**	**16 33 01.6**	**-1.1**
	6.7nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**32.56**	**125**	P	**P**	**16 33 09.6**	**-0.2**
	23nm,1.1s,mb5.0,baz=321,slow=5.0,SNR=3.6						
WRA	**Warramunga Ar**	**40.69**	**122**	P	**P**	**16 34 17.5**	**-0.9**
	2.9nm,0.4s,mb4.3,baz=303,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**42.03**	**127**	P	**P**	**16 34 29.4**	**-0.2**
	5.9nm,0.4s,mb4.5,baz=297,slow=8.0,SNR=30						
BJT	**Baijiatuan**	**42.87**	**20**	*e*P	**P**	**16 34 37.3**	**+1.1**
	10nm,0.5s,mb4.8						
SONM	**Songino Array**	**47.95**	**7**	P	**P**	**16 35 17.5**	**+0.8**
	2.6nm,0.7s,mb4.4,baz=191,slow=9.5,SNR=13						
SONM				PcP	PcP	16 36 45.0	+0.1
	1.8nm,0.6s,baz=186,slow=4.0,SNR=6.3						
MKAR	**Makanchi Array**	**48.42**	**345**	P	**P**	**16 35 20.7**	**+0.5**
	13nm,0.5s,mb5.2,baz=158,slow=8.7,SNR=50						
STKA	**Stephens Creek**	**51.98**	**132**⇑	*i*P	**P**	**16 35 47.5**	**0.0**
	12nm,0.4s,mb5.2						
STKA	**Stephens Creek**	**51.98**	**132**	P	**P**	**16 35 47.6**	**0.0**
	14nm,0.4s,mb5.2,baz=311,slow=6.5,SNR=31						
ZAL	**Zalesovo**	**54.67**	**350**	P	**P**	**16 36 06.5**	**-0.7**
	9.2nm,0.5s,mb5.1,baz=171,slow=20,SNR=19						
BVAR	**Borovoye Array**	**57.49**	**340**	P	**P**	**16 36 26.1**	**-1.4**
	1.9nm,0.6s,mb4.3,baz=140,slow=9.3,SNR=6.6						
CHKZ	**Chkalovo**	**57.96**	**341**	*e*P	**P**	**16 36 29.4**	**-1.3**
	3.3nm,0.7s,mb4.5						
LBTB	**Lobatse**	**74.34**	**244**	P	**P**	**16 38 14.5**	**-1.3**
	4.3nm,0.9s,mb4.4,baz=112,slow=12,SNR=4.7						
LBTB	**Lobatse**	**74.34**	**244**	P	**P**	**16 38 14.5**	**-1.3**
BOSA	**Boshof**	**75.15**	**240**	P	**P**	**16 38 20.4**	**0.0**
	4.2nm,0.5s,mb4.6,baz=209,slow=11,SNR=14						
IDI	**Anoyia**	**76.27**	**306**	P	**P**	**16 38 26.8**	**+0.1**
	3.0nm,0.6s,mb4.4,baz=67,slow=8.3,SNR=5.9						
AKASG	**Malin Array Be**	**76.63**	**322**	P	**P**	**16 38 28.2**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=94,slow=4.8,SNR=4.4						
MLR	**Muntele Rosu**	**77.45**	**317**	P	**P**	**16 38 33.5**	**+0.4**
	5.6nm,1.0s,mb4.4,baz=117,slow=6.8,SNR=3.6						
RPZ	**Rata Peaks**	**77.83**	**135**	P	**P**	**16 38 36.5**	**+1.3**
	13nm,0.5s,mb5.1,baz=3.2,slow=2.6,SNR=13						
FINES	**FINESS Array B**	**81.31**	**332**	P	**P**	**16 38 52.8**	**-0.7**
	0.8nm,0.4s,mb4.0,baz=90,slow=5.7,SNR=7.0						
ARCES	**ARCESS Array B**	**83.78**	**340**	P	**P**	**16 39 07.5**	**+1.5**
	2.2nm,0.6s,mb4.5,baz=72,slow=3.8,SNR=7.2						
GERES	**GERESS Array B**	**86.19**	**319**	P	**P**	**16 39 20.7**	**+2.2**
	0.9nm,0.7s,mb4.1,baz=90,slow=5.9,SNR=3.1						
HFS	**Hagfors**	**87.05**	**330**	P	**P**	**16 39 23.6**	**+1.2**
	2.3nm,0.5s,mb4.7,baz=135,slow=4.2,SNR=10						
TXAR	**Lajitas Array**	**143.96**	**34**	PKP	PKPdf	16 46 12.5	+0.6
	1.1nm,0.5s,baz=65,slow=0.4,SNR=13						

*IDC **30** 16:36:04.3±6.5, 2.24N×96.31E, mb4.1/7, mb1 4.2/7, mb1mx4.0/19, mbtmp4.1/7, Error ellipse: s-maj=156.1km s-min=67.8km az=138.0*
*NEIC **30** 16:36:09.9±2.9, 2.40N×96.28E, h30km, mb4.5/1, Error ellipse: s-maj=64.9km s-min=15.7km az=172.0*
ISC 30 16:36:09.2±4.0, 2.6N±0.6×96.3E±0.2, h30km, n10, σ0$46/10, mb4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.14**	**59**	*e*P	**Pn**	**16 37 26.1**	**-0.1**
MKAR	**Makanchi Array**	**45.67**	**347**	P	**P**	**16 44 29.7**	**+0.6**
	1.4nm,0.3s,mb4.3,baz=160,slow=8.4,SNR=30						
SONM	**Songino Array**	**45.91**	**10**	P	**P**	**16 44 31.6**	**+0.6**
	2.1nm,0.7s,mb4.2,baz=190,slow=9.3,SNR=16						
ZAL	**Zalesovo**	**52.03**	**351**	P	**P**	**16 45 18.1**	**-0.1**
	2.9nm,0.5s,mb4.5,baz=296,slow=5.0,SNR=13						
BVAR	**Borovoye Array**	**54.63**	**341**	P	**P**	**16 45 37.0**	**-0.4**
	1.9nm,0.7s,mb4.3,baz=141,slow=9.0,SNR=15						
CHKZ	**Chkalovo**	**55.11**	**342**	*e*P	**P**	**16 45 40.0**	**-1.0**
	3.7nm,0.7s,mb4.5						
AKASG	**Malin Array Be**	**73.58**	**322**	P	**P**	**16 47 41.5**	**+0.1**
	0.8nm,0.7s,mb3.8,baz=310,slow=5.1,SNR=4.1						
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**16 48 08.3**	**+0.3**
	1.5nm,0.6s,mb4.1,baz=104,slow=5.7,SNR=8.9						
FINES	**FINESS Array B**	**78.33**	**333**	P	**P**	**16 48 08.3**	**+0.2**
ARCES	**ARCESS Array B**	**80.91**	**340**	P	**P**	**16 48 21.8**	**+0.1**
	2.3nm,0.8s,mb4.1,baz=72,slow=3.8,SNR=5.3						

*IDC **30** 16:38:10.8±0.3, 1.13N×125.74E, mb5.4/35, mb1 5.4/36, mb1mx5.4/37, mbtmp5.4/36, ML5.3/1, Error ellipse: s-maj=15.3km s-min=9.1km az=65.0*
*CSEM **30** 16:38:14.8, 1.09N×125.79E, h33km, mb5.6*
*MOS **30** 16:38:15.7±1.0, 1.13N×125.74E, h47km, mb5.7/30, Error ellipse: s-maj=11.5km s-min=5.2km az=115.3*
*BJI **30** 16:38:19.6, 1.00N×125.85E, h96km, mB6.3, mb5.5*
*NEIC **30** 16:38:21.9±0.8, 1.06N×125.72E, h86km±7km, mb5.4/50, Error ellipse: s-maj=

h82km$_h$3.7km**:pP-P,n376,**σ1§**16**/325**,mb5.4**/105**,27C-19D,**
Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**5.32**	**153**	*eP*	**P**	**16 39 35.0**	**-4.2**
MATI	**Mati**	**5.86**	**5**	*eP*	**P**	**16 39 44.5**	**-2.1**
KCP	**Kidapawan**	**5.94**	**354**⇓	*eP*	**P**	**16 39 48.4**	**+0.9**
DAV	**Davao City (W)**	**5.96**	**358**	*eP*	**P**	**16 39 50.0**	**+2.0**
PCI	**Palu**	**6.22**	**252**	*eP*	**P**	**16 40 05.5**	**+14**
BUKP	**Musuan**	**6.80**	**354**	*eP*	**P**	**16 39 58.0**	**-1.6**
ZMPH	**Zamboanga City**	**6.90**	**328**⇓	*eP*	**P**	**16 40 00.0**	**-1.0**
BIPH	**Bislig**	**7.09**	**5**	*eP*	**P**	**16 40 00.9**	**-2.8**
BIPH				*eS*	**S**	**16 41 22.3**	**-1.0**
PAGZ	**Pagadian**	**7.13**	**341**	*eP*	**P**	**16 40 03.4**	**-0.8**
BUNI	**Buntu Taipa**	**7.17**	**229**	*eP*	**P**	**16 40 03.0**	**-1.7**
IPIL	**Ipil**	**7.39**	**335**	*eP*	**P**	**16 40 07.4**	**-0.2**
TANI	**Tanete Lipujan**	**7.77**	**235**	*eP*	**P**	**16 40 12.4**	**-0.5**
BUTP	**Butuan**	**7.85**	**359**	*eP*	**P**	**16 40 14.6**	**+0.6**
NINI	**Niniconang**	**8.10**	**228**	*eP*	**P**	**16 40 18.5**	**+1.2**
TSM	**Tawau**	**8.49**	**292**	P	**P**	**16 40 23.0**	**+0.4**
SNPH	**Sibulan**	**8.59**	**343**	*eP*	**P**	**16 40 24.5**	**+0.5**
SCPH	**Surigao**	**8.66**	**358**	*eP*	**P**	**16 40 23.9**	**-1.0**
SCPH				*eS*	rx	16 40 32.3	
TBP	**Tagbilaran**	**8.77**	**348**	*eP*	**P**	**16 40 26.9**	**+0.5**
MSLP	**Maasin**	**9.05**	**354**	*eP*	**P**	**16 40 30.9**	**+0.7**
LLP	**Lapu-Lapu**	**9.36**	**349**	*eP*	**P**	**16 40 35.9**	**+1.5**
GUIM	**Jordan**	**10.00**	**342**	*eP*	**P**	**16 40 44.6**	**+1.4**
BESP	**Borongan**	**10.47**	**358**	*eP*	**P**	**16 40 49.5**	**0.0**
KKM	**Kota Kinabalu**	**10.71**	**298**	*eP*	**P**	**16 40 54.9**	**+2.1**
KKM	**Kota Kinabalu**	**10.71**	**298**	P	**P**	**16 40 55.4**	**+2.6**
CUYO	**Cuyo Island**	**10.79**	**334**	*eP*	**P**	**16 40 55.0**	**+1.2**
RCP	**Roxas**	**10.84**	**344**⇓	*eP*	**P**	**16 40 58.1**	**+3.7**
BATP	**Bataraza**	**11.02**	**314**	*eP*	**P**	**16 41 00.6**	**+3.7**
KALP	**Kalibo**	**11.07**	**342**	*eP*	**P**	**16 40 48.0**	**-10**
PPR	**Puerto Princes**	**11.11**	**321**⇓	*eP*	**P**	**16 40 59.4**	**+1.3**
CNP	**Catarman**	**11.42**	**355**	*eP*	**P**	**16 41 01.2**	**-1.0**
ENPP	**El Nido**	**11.87**	**328**	*eP*	**P**	**16 41 09.2**	**+1.1**
BUSP	**Coron**	**12.18**	**333**	*eP*	**P**	**16 41 14.1**	**+1.8**
SJMP	**San Jose**	**12.21**	**338**	*eP*	**P**	**16 41 14.5**	**+1.7**
PVCP	**Virac**	**12.55**	**353**	*eP*	**P**	**16 41 16.2**	**-1.0**
BOAC	**Boac**	**12.90**	**343**	*eP*	**P**	**16 41 26.2**	**+4.4**
KEDI	**Kedomdong** 212nm,0.9s	**13.50**	**225**⇑	*iP*	**P**	**16 41 34.3**	**+4.7**
LUBP	**Lubang**	**13.71**	**337**	*eP*	**P**	**16 41 35.8**	**+3.4**
RATI	**Rata** 705nm,0.9s	**14.08**	**226**⇑	*iP*	**P**	**16 41 41.6**	**+4.4**
POLP	**Polillo Island**	**14.08**	**345**	*eP*	**P**	**16 41 39.2**	**+2.0**
KELI	**Kelakatan** 355nm,1.0s	**14.52**	**230**⇑	*iP*	**P**	**16 41 47.5**	**+4.5**
SRDI	**Scrawed** 330nm,1.0s	**14.96**	**230**⇓	*iP*	**P**	**16 41 54.0**	**+5.5**
MENI	**Mendum Tagoi** 46nm,0.9s	**15.10**	**104**⇑	*iP*	**P**	**16 41 52.4**	**+2.1**
PCPH	**Palayan**	**15.11**	**343**	*eP*	**P**	**16 41 52.2**	**+1.7**
YOMI	**Yo Moklole** 120nm,0.7s	**15.26**	**104**⇑	*iP*	**P**	**16 41 53.9**	**+1.4**
KSM	**Kuching**	**15.44**	**272**	*eP*	**P**	**16 41 55.5**	**+0.8**
SCZP	**Santa Cruz**	**15.71**	**339**	*eP*	**P**	**16 41 58.0**	**0.0**
BOLP	**Bolinao**	**16.26**	**340**	*eP*	**P**	**16 42 06.5**	**+1.5**
ABRA	**Dolores**	**17.23**	**344**	*eP*	**P**	**16 42 19.2**	**-1.1**
APYP	**Conner**	**17.26**	**345**	*eP*	**P**	**16 42 16.9**	**-0.6**
FITZ	**Fitzroy Crossi** 78nm,0.8s	**19.05**	**180**	*eP*	**P**	**16 42 35.6**	**-2.7**
FITZ				*eS*	**S**	**16 46 04.2**	**+0.3**
FITZ	**Fitzroy Crossi** 7.0nm,0.3s,baz=6.9,slow=8.8,SNR=68	**19.05**	**180**	P	**P**	**16 42 36.4**	**-1.9**
FITZ	0.6nm,0.3s,baz=147,slow=6.2,SNR=3.6			S	**S**	**16 46 12.3**	**+8.4**
KGM	**Kluang**	**22.44**	**273**	P	**P**	**16 43 15.4**	**+2.6**
WRAB	**Tennant Creek** 847nm,0.9s,mb6.1,SNR=88	**22.51**	**158**	P	**P**	**16 43 12.6**	**-1.0**
WRA	**Warramunga Arr** 69nm,0.6s,mb5.2,baz=333,slow=11,SNR=221	**22.52**	**158**	P	**P**	**16 43 12.2**	**-1.5**
WRA	74nm,0.9s,baz=335,slow=22,SNR=17			S	**S**	**16 47 12.5**	**+2.9**
WB2	**Warramunga Arr**	**22.52**	**158**	*eP*	**P**	**16 43 12.1**	**-1.6**
WB2				*i* S	**S**	**16 47 12.6**	**+2.9**
MBWA	**Marble Bar** 75nm,0.9s,mb5.0	**22.86**	**195**	*eP*	**P**	**16 43 16.4**	**-0.6**
QIZ	**Qiongzhong**	**23.70**	**320**	⇓P	**P**	**16 43 26.3**	**+1.2**
QIZ	**Qiongzhong** 55nm,0.9s,mb4.9	**23.70**	**320**	*eP*	**P**	**16 43 25.7**	**+0.6**
PMG	**Port Moresby** 59nm,0.8s,mb4.9,baz=297,slow=7.3,SNR=11	**23.73**	**116**	P	**P**	**16 43 24.9**	**-0.5**
YHNB	**Yeheng**	**23.84**	**350**	*eP*	**P**	**16 43 27.0**	**+0.6**
IPM	**Ipoh**	**24.93**	**279**	P	**P**	**16 43 38.5**	**+1.5**
KULM	**Kulim**	**25.40**	**280**	*eP*	**P**	**16 43 41.2**	**-0.3**
JOW	**Kunigami** 299nm,0.9s,mb5.7,baz=214,slow=6.2,SNR=32	**25.73**	**5**	P	**P**	**16 43 45.4**	**+0.9**
ASPA	**Alice Springs**	**25.83**	**163**⇑	*iP*	**P**	**16 43 44.5**	**-0.9**
ASPA				*eS*	**S**	**16 48 06.0**	**+0.1**
ASAR	**Alice Springs** 75nm,0.8s,mb5.2,baz=347,slow=8.0,SNR=423	**25.84**	**163**	P	**P**	**16 43 44.6**	**-0.8**
ASAR	15nm,0.6s,baz=342,slow=2.1,SNR=10.0			PcP	PcP	16 47 13.5	+0.4
ASAR	20nm,0.9s,baz=341,slow=13,SNR=6.5			S	**S**	**16 48 07.8**	**+1.8**
CTA	**Charters Tower** 15nm,0.9s,mb4.6	**29.09**	**137**	*eP*	**P**	**16 44 13.9**	**-1.1**
CTA	**Charters Tower**	**29.09**	**137**	*eP*	**P**	**16 44 13.9**	**-1.1**
CTA	comp=Z,15nm,0.9s			pmax	pmax		
CTA	**Charters Tower** comp=Z,19nm,0.9s,mb4.7,baz=319,slow=9.9,SNR=6.2	**29.09**	**137**	P	**P**	**16 44 13.7**	**-1.3**
CTAO	**Charters Tower**	**29.09**	**137**	*eP*	**P**	**16 44 16.1**	**+1.1**
CTAO	comp=Z,26nm,1.0s,mb4.8			pmax	pmax		
CTAO	**Charters Tower** comp=Z,26nm,1.0s,mb4.8	**29.09**	**137**	*eP*	**P**	**16 44 16.1**	**+1.1**
SSE	**Sheshan**	**30.17**	**352**	P	**P**	**16 44 21.5**	**-3.0**
SSE	comp=Z,79nm,1.0s,mb5.3			AMB	AMB		
CBIJ	**Chichi jima** comp=Z,130nm,0.7s,mb5.7,baz=281,slow=14,SNR=5.1	**30.31**	**30**	P	**P**	**16 44 24.2**	**-1.6**
GYA	**Guiyang**	**31.21**	**326**⇑	*iP*	**P**	**16 44 32.5**	**-1.2**
GYA	comp=Z,30nm,0.7s,mb5.1			AMB	AMB		
WHN	**Wuhan**	**31.25**	**341**	P	**P**	**16 44 33.0**	**-0.9**
CM31	**Chiang Mai Arr** comp=Z,24nm,0.8s,mb5.0	**31.47**	**305**	*eP*	**P**	**16 44 36.1**	**+0.1**
FORT	**Forrest** comp=Z,2μm,0.5s	**31.75**	**176**⇓	*iP*	**P**	**16 44 37.7**	**-0.6**
KMI	**Kunming**	**32.64**	**319**	P	**P**	**16 44 46.5**	**+0.4**
KMI	comp=Z,47nm,1.5s,mb5.1			AMB	AMB		
ENH	**Enshi** comp=Z,40nm,0.7s,mb5.4	**32.89**	**334**	*eP*	**P**	**16 44 46.9**	**-1.4**
KLBR	**Kellerberrin** comp=Z,362nm,0.7s,mb6.3	**33.35**	**192**⇑	*iP*	**P**	**16 44 51.2**	**-1.0**
KLBR				*i*		16 47 32.7	
MUN	**Mundaring** comp=Z,16nm,0.5s,mb5.1	**34.09**	**195**	*eP*	**P**	**16 44 58.0**	**-0.5**
MUN	**Mundaring**	**34.09**	**195**	*eP*	**P**	**16 44 58.0**	**-0.5**
MUN	comp=Z,16nm,0.5s,mb5.1			pmax	pmax		
JHJ	**Hachijo jima 2** comp=Z,124nm,0.8s,mb5.8,baz=250,slow=21,SNR=2.5	**34.51**	**21**	P	**P**	**16 45 01.6**	**-0.5**
NWAO	**Narrogin (SRO)**	**34.75**	**193**	*eP*	**P**	**16 45 04.0**	**-0.2**
NWAO	comp=Z,47nm,1.1s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,15nm,0.3s,mb5.2,baz=332,slow=22,SNR=2.6	**34.75**	**193**	P	**P**	**16 45 04.9**	**+0.7**
NWAO	comp=Z,24nm,0.4s,baz=334,slow=21,SNR=3.5			PcP	PcP	16 47 36.0	-0.1
NWAO	**Narrogin (SRO)** comp=Z,47nm,1.1s,mb5.2	**34.75**	**193**	*eP*	**P**	**16 45 04.0**	**-0.2**
HNR	**Honiara**	**35.62**	**108**	*eP*	**P**	**16 45 09.4**	**-2.4**
HNR	comp=Z,112nm,0.8s,mb5.8			pmax	pmax		
HNR	**Honiara** comp=Z,178nm,0.8s,mb6.0,baz=213,slow=0.7,SNR=10.0	**35.62**	**108**	P	**P**	**16 45 09.9**	**-1.9**
HNR	**Honiara** comp=Z,112nm,0.8s,mb5.8	**35.62**	**108**	*eP*	**P**	**16 45 09.4**	**-2.4**
STKA	**Stephens Creek** comp=Z,62nm,0.8s,mb5.6	**36.05**	**157**⇑	*iP*	**P**	**16 45 14.5**	**-0.7**
STKA				*eS*	**S**	**16 50 46.0**	**-0.7**
STKA	**Stephens Creek** comp=Z,78nm,0.8s,mb5.7,baz=328,slow=8.5,SNR=156	**36.05**	**157**	P	**P**	**16 45 14.5**	**-0.7**
KS15	**Wonju Array Si**	**36.25**	**3**	*eP*	**P**	**16 45 17.0**	**+0.2**
CD2	**Chengdu**	**36.26**	**327**	*eP*	**P**	**16 45 16.0**	**-1.0**
XAN	**Xi'an**	**36.38**	**336**	P	**P**	**16 45 16.8**	**-1.2**
XAN	comp=Z,35nm,1.3s,mb5.1			AMB	AMB		
MAJO	**Matsushiro**	**37.14**	**17**	*eP*	**P**	**16 45 23.1**	**-1.2**
MAJO	comp=Z,80nm,0.8s,mb5.7			pmax	pmax		
MAJO	**Matsushiro** comp=Z,80nm,0.8s,mb5.7	**37.14**	**17**	*eP*	**P**	**16 45 23.1**	**-1.1**
MAT	**Matsushiro**	**37.14**	**17**	*eP*	**P**	**16 45 23.0**	**-1.3**
MAT	comp=Z,173nm,1.2s,mb5.9			pmax	pmax		
MAT	**Matsushiro** comp=Z,173nm,1.2s,mb5.9	**37.14**	**17**	*eP*	**P**	**16 45 23.0**	**-1.3**
MAT	**Matsushiro**	**37.14**	**17**	P	**P**	**16 45 23.0**	**-1.3**
MJAR	**Matsushiro Arr** comp=Z,69nm,1.0s,mb5.5,baz=193,slow=8.0,SNR=77	**37.14**	**17**	P	**P**	**16 45 23.1**	**-1.2**
MJAR	comp=Z,13nm,0.9s,baz=185,slow=3.0,SNR=7.1			PcP	PcP	16 47 44.5	+1.3
DL2	**Dalian**	**37.84**	**355**	P	**P**	**16 45 30.3**	**+0.2**
DL2	comp=Z,40nm,0.7s,mb5.4			AMB	AMB		
BJT	**Baijiatuao**	**39.74**	**348**	*eP*	**P**	**16 45 45.1**	**-0.7**
BJT	comp=Z,71nm,1.1s			pmax	pmax		
BJT	**Baijiatuao** comp=Z,71nm,1.1s,mb5.4	**39.74**	**348**	*eP*	**P**	**16 45 45.1**	**-0.7**
LZH	**Lanzhou**	**40.33**	**332**⇑	P	**P**	**16 45 51.5**	**+0.7**
LZH	comp=Z,72nm,1.4s,mb5.3			AMB	AMB		
LZH	comp=Z,223nm,4.0s			AMB	AMB		
SNY	**Shenyang**	**40.62**	**358**⇑	P	**P**	**16 45 53.3**	**+0.2**
SNY	comp=Z,140nm,0.9s,mb5.8			AMB	AMB		
CNB	**Canberra Magne** comp=Z,135nm,0.8s,mb5.7	**42.39**	**151**	*eP*	**P**	**16 46 08.2**	**+0.4**
CN2	**Changchun**	**42.55**	**360**	*eP*	**P**	**16 46 08.5**	**-0.4**
CN2				*e*AP	pP	16 46 32.3	+1.5
CN2				*e*XP	sP	16 46 44.8	+3.3
CN2				*e*S	**S**	**16 52 24.3**	**+0.2**
CN2	comp=Z,30nm,1.2s,mb4.9			AMB	AMB		
TOO	**Toolangi** comp=Z,1.3nm,1.2s	**42.57**	**157**	*eP*	**P**	**16 46 10.2**	**+1.0**
TOO	**Toolangi**	**42.57**	**157**	*eP*	**P**	**16 46 10.2**	**+1.0**
TOO	comp=Z,1.0nm,1.2s			pmax	pmax		
MDJ	**Mudanjiang**	**43.50**	**4**	P	**P**	**16 46 16.8**	**+0.2**
MDJ				AP	pP	16 46 38.0	-0.6
MDJ				XP	sP	16 46 48.5	-0.7
MDJ				PCP	PcP	16 48 03.0	-0.6
MDJ				SCP		16 51 45.5	
MDJ				PCS		16 51 55.5	
MDJ				S	**S**	**16 52 40.0**	**+2.1**
MDJ				XS		16 53 17.5	
MDJ	comp=Z,71nm,0.8s,mb5.5			AMB	AMB		
MDJ	comp=N,12μm,15.2s			LR	LR		
MDJ	comp=E,6μm,17.0s			LR	LR		
MDJ	comp=Z,17μm,14.6s			LR	LR		
MDJ	**Mudanjiang** comp=Z,56nm,0.8s,mb5.3	**43.50**	**4**	P	**P**	**16 46 16.4**	**-0.2**
LSA	**Lhasa**	**43.51**	**314**	P	**P**	**16 46 18.0**	**+1.0**
LSA	**Lhasa**	**43.51**	**314**	*eP*	**P**	**16 46 17.8**	**+0.8**
LSA	comp=Z,40nm,0.8s,mb5.2			pmax	pmax		
LSA	**Lhasa** comp=Z,40nm,0.8s,mb5.2	**43.51**	**314**	*eP*	**P**	**16 46 17.8**	**+0.8**
GTA	**Gaotai**	**44.90**	**331**	*eP*	**P**	**16 46 27.8**	**-0.2**
GTA	comp=Z,16nm,1.0s,mb4.7			AMB	AMB		
GTA	comp=Z,5μm,4.6s			AMB	AMB		
GTA	comp=N,9μm,14.1s			LR	LR		
GTA	comp=E,6μm,14.1s			LR	LR		
GTA	comp=Z,8μm,19.0s			LR	LR		
ASAJ	**Asahikawa** comp=Z,86nm,0.7s,mb5.6,baz=226,slow=13,SNR=35	**45.41**	**17**	P	**P**	**16 46 33.0**	**+1.1**
DZM	**Mont Dzumac**	**45.88**	**123**	*eP*	**P**	**16 46 35.6**	**-0.3**
DZM	**Mont Dzumac** comp=Z,23nm,0.9s,mb4.9,baz=332,slow=6.0,SNR=3.9	**45.88**	**123**	P	**P**	**16 46 35.5**	**-0.4**
DZM	**Mont Dzumac**	**45.88**	**123**	*eP*	**P**	**16 46 35.6**	**-0.3**
JIRN	**Jiri** comp=Z,188nm,1.0s,mb5.8	**46.18**	**308**	*eP*	**P**	**16 46 37.8**	**-0.5**
GUN	**Gumba** comp=Z,271nm,0.8s,mb6.0	**46.55**	**309**	*eP*	**P**	**16 46 40.8**	**-0.4**
PKI	**Pulchoki** comp=Z,66nm,0.8s,mb5.4	**46.76**	**308**	*eP*	**P**	**16 46 42.0**	**-0.8**
PKI	**Pulchoki**	**46.76**	**308**	*eP*	**P**	**16 46 42.0**	**-0.8**
PKI	comp=Z,33nm,0.8s,mb5.1			pmax	pmax		
KKN	**Kakani** comp=Z,125nm,0.9s,mb5.6	**46.96**	**308**	*eP*	**P**	**16 46 43.7**	**-0.7**
KKN	**Kakani**	**46.96**	**308**	*eP*	**P**	**16 46 43.7**	**-0.7**
KKN	comp=Z,62nm,0.9s,mb5.3			pmax	pmax		
DMN	**Daman** comp=Z,163nm,1.0s,mb5.7	**47.01**	**308**	*eP*	**P**	**16 46 44.3**	**-0.6**
GKN	**Gorkha** comp=Z,155nm,0.9s,mb5.8	**47.56**	**308**	*eP*	**P**	**16 46 48.1**	**-1.0**
TAU	**Tasmania Unive**	**47.89**	**159**	*eP*	**P**	**16 46 51.8**	**+0.3**
TAU	comp=Z,29nm,0.9s,mb5.1			pmax	pmax		
TAU	**Tasmania Unive** comp=Z,29nm,0.9s,mb5.1	**47.89**	**159**	*eP*	**P**	**16 46 51.8**	**+0.3**
YSS	**Yuzh-Sakhalins**	**48.05**	**16**	*eP*	**P**	**16 46 52.0**	**-0.7**
YSS	comp=Z,90nm,1.0s,mb5.5			pmax	pmax		
YSS	**Yuzh-Sakhalins** comp=Z,61nm,0.7s,mb5.5	**48.05**	**16**	*eP*	**P**	**16 46 52.4**	**-0.2**
KLR	**Kul'dur**	**48.25**	**5**	*eP*	**P**	**16 46 50.7**	**-3.5**
KLR				*e*		16 48 17.8	
KOLN	**Koldanda** comp=Z,317nm,0.8s,mb6.2	**48.28**	**307**	*eP*	**P**	**16 46 54.1**	**-0.6**
HIA	**Hailar**	**48.29**	**355**	*eP*	**P**	**16 46 54.6**	**+0.1**
HIA	comp=Z,115nm,1.1s			pmax	pmax		
HIA	**Hailar** comp=Z,115nm,1.1s,mb5.6	**48.29**	**355**	*eP*	**P**	**16 46 54.6**	**+0.1**
ULN	**Ulaanbaatar**	**49.35**	**343**	*eP*	**P**	**16 47 01.9**	**-0.8**
ULN	comp=Z,20nm,0.8s,mb5.1			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,20nm,0.8s,mb5.1	**49.35**	**343**	*eP*	**P**	**16 47 01.9**	**-0.8**
SONM	**Songino Array** comp=Z,20nm,0.8s,mb5.1,baz=155,slow=7.6,SNR=84	**49.51**	**343**	P	**P**	**16 47 03.5**	**-0.4**
SONM	comp=Z,10nm,0.8s,baz=160,slow=4.3,SNR=6.1			PcP	PcP	16 48 25.3	+0.5
LGTI	**Lohaghat**	**51.66**	**308**	*eP*	**P**	**16 47 19.5**	**-1.0**
LGTI				*e*		16 52 40.0	
JOSI	**Joshimath**	**52.66**	**308**	*e*	**P**	**16 47 11.9**	**-16**
JOSI				*e*		16 52 39.3	
AGRA	**Agra**	**52.67**	**304**	*e*	**P**	**16 47 22.4**	**-5.6**
AGRA				*e*		16 52 31.7	
ZAK	**Zakamensk**	**52.72**	**342**⇑	*iP*	**P**	**16 47 27.0**	**-1.1**
ZAK	comp=Z,6.0nm,0.7s,mb4.7			pmax	pmax		
SONA	**Sohna**	**53.75**	**305**	*eP*	**P**	**16 47 33.3**	**-2.7**
SONA				AMb	AMB	16 47 35.5	
SONA				*e*		16 52 46.4	
DDI	**Dehra Dun**	**53.75**	**308**	*eP*	**P**	**16 47 34.7**	**-1.3**
DDI				*e*		16 52 54.2	
TLY	**Talaya**	**53.75**	**343**	*eP*	**P**	**16 47 35.1**	**-0.6**
TLY	comp=Z,19nm,0.8s,mb5.2			pmax	pmax		
TLY	**Talaya** comp=Z,19nm,0.8s,mb5.2	**53.75**	**343**	*eP*	**P**	**16 47 35.1**	**-0.6**
AYAN	**Aya Nagar**	**53.80**	**305**	*eP*	**P**	**16 47 33.7**	**-2.7**
AYAN				AMb	AMB	16 47 36.9	
NDI	**New Delhi** comp=Z,52nm,0.7s,mb5.7	**53.80**	**305**	*eP*	**P**	**16 47 32.5**	**-3.9**
BHGR	**Bahadurgarh**	**54.03**	**305**	*eP*	**P**	**16 47 34.5**	**-3.5**
BHGR				AMb	AMB	16 47 38.8	
BHGR	comp=Z,258nm,0.1s			*e*		16 52 59.3	
IRK	**Irkutsk**	**54.08**	**344**	*eP*	**P**	**16 47 35.7**	**-2.4**
IRK				*e*		16 48 35.2	
IRK	comp=Z,40nm,2.2s,mb5.1			pmax	pmax		
KLP	**Kalpa** comp=Z,127nm,0.6s,mb6.1	**54.09**	**309**	*eP*	**P**	**16 47 38.3**	**-0.2**
KLP				AMb	AMB	16 47 40.0	
WMQ	**Urumqi**	**54.36**	**327**⇓	*iP*	**P**	**16 47 40.0**	**-0.3**
WMQ				AP	pP	16 48 02.0	-1.0
WMQ				PCP	PcP	16 48 43.5	+0.6
WMQ				PP	PP	16 49 44.0	-0.5
WMQ	comp=Z,74nm,0.9s,mb5.7			AMB	AMB		
WMQ	comp=N,3μm,20.3s			LR	LR		
WMQ	comp=E,3μm,19.9s			LR	LR		
WMQ	comp=Z,2μm,24.8s			LR	LR		
MOY	**Mondy**	**54.55**	**341**	*eP*	**P**	**16 47 40.8**	**-0.7**
KKR	**Kurukshetra**	**54.60**	**307**	*eP*	**P**	**16 47 38.9**	**-3.3**
KKR	comp=Z,220nm,0.5s,mb6.4			AMb	AMB	16 47 44.1	
KKR				*e*		16 53 00.2	
KHET	**Khetri**	**54.74**	**304**	*eP*	**P**	**16 47 41.3**	**-2.0**
KHET	comp=Z,113nm,1.3s,mb5.8			AMb	AMB	16 47 43.6	
KHET				*e*		16 52 40.3	
SDNR	**Sundarnagar**	**55.08**	**308**	*eP*	**P**	**16 47 45.8**	**+0.1**
CLNS	**Chul'man**	**55.60**	**359**	*eP*	**P**	**16 47 48.6**	**-0.5**
CLNS	comp=Z,71nm,0.8s,mb5.8			pmax	pmax		
CLNS	comp=N,41nm,0.9s			pmax	pmax		
CLNS	comp=E,15nm,0.7s			pmax	pmax		
PONG	**Pong**	**56.05**	**308**	*eP*	**P**	**16 47 51.0**	**-1.7**
DLH	**Dalhousie**	**56.27**	**309**	*eP*	**P**	**16 47 55.0**	**+0.8**
BOD	**Bodaibo**	**57.35**	**353**⇓	*iP*	**P**	**16 48 00.5**	**-1.0**
BOD	comp=Z,129nm,1.0s,mb5.9			pmax	pmax		
MSZ	**Milford Sound**	**58.96**	**146**	PN	**P**	**16 48 12.8**	**0.0**
JCZ	**Jackson Bay**	**59.06**	**145**	*eP*	**P**	**16 48 13.8**	**+0.2**
JCZ	**Jackson Bay**	**59.06**	**145**	PN	**P**	**16 48 13.8**	**+0.2**
MKAR	**Makanchi Array** comp=Z,35nm,0.6s,mb5.6,baz=122,slow=7.7,SNR=115	**59.19**	**327**	P	**P**	**16 48 13.3**	**-1.2**
MKAR	comp=Z,28nm,0.9s,baz=124,slow=4.4,SNR=6.7			PcP	PcP	16 49 01.9	+0.2
LBZ	**Lake Benmore**	**60.07**	**145**	*eP*	**P**	**16 48 19.7**	**-0.8**
LBZ	**Lake Benmore**	**60.07**	**145**	PN	**P**	**16 48 19.7**	**-0.8**
RPZ	**Rata Peaks** comp=Z,33nm,0.9s,mb5.4,baz=153,slow=1.8,SNR=11	**60.19**	**144**	P	**P**	**16 48 21.0**	**-0.4**
ULHL	**Ulahol** SNR=27	**60.36**	**319**	P	**P**	**16 48 22.5**	**-0.1**
YAK	**Yakutsk**	**60.88**	**2**	*eP*	**P**	**16 48 25.3**	**-0.5**
YAK	comp=Z,160nm,0.7s,mb6.2			pmax	pmax		
YAK	**Yakutsk** comp=Z,160nm,0.7s,mb6.2	**60.88**	**2**	*eP*	**P**	**16 48 25.2**	**-0.6**
KZA	**Kyzart** SNR=48	**60.93**	**319**	P	**P**	**16 48 26.6**	**+0.2**
TKM2	**Tokmak 2** SNR=46	**61.10**	**320**	P	**P**	**16 48 27.0**	**-0.6**
URZ	**Urewera** comp=Z,24nm,0.7s,mb5.4,baz=338,slow=2.9,SNR=16	**61.31**	**135**	P	**P**	**16 48 27.6**	**-1.5**
KBK	**Karagaybulak** SNR=20	**61.40**	**319**	P	**P**	**16 48 29.2**	**-0.3**
UCH	**Uchtor** SNR=60	**61.48**	**319**	P	**P**	**16 48 30.3**	**+0.2**
MA2	**Magadan**	**61.51**	**14**	*eP*	**P**	**16 48 30.5**	**+0.5**
MA2	comp=Z,164nm,0.8s,mb6.1			pmax	pmax		
MA2	**Magadan** comp=Z,164nm,0.8s,mb6.1	**61.51**	**14**	*eP*	**P**	**16 48 30.5**	**+0.5**
AAK	**Ala-Archa** SNR=21	**61.68**	**319**	P	**P**	**16 48 31.0**	**-0.5**
AAK	**Ala-Archa** comp=Z,125nm,0.9s,mb5.9,SNR=35	**61.68**	**319**	P	**P**	**16 48 30.1**	**-1.4**
AAK	**Ala-Archa**	**61.68**	**319**⇓	*iP*	**P**	**16 48 30.3**	**-1.2**
AAK	comp=Z,41nm,1.7s,mb5.2			pmax	pmax		
AAK	**Ala-Archa** comp=Z,22nm,0.9s,mb5.2	**61.68**	**319**	*eP*	**P**	**16 48 29.7**	**-1.8**
CHMS	**Chumysh** SNR=9.4	**61.69**	**320**	P	**P**	**16 48 32.1**	**+0.7**
USP	**Ospenovka** SNR=19	**61.98**	**320**	P	**P**	**16 48 32.6**	**-0.8**
AML	**Almayashu** SNR=80	**61.98**	**318**	P	**P**	**16 48 33.5**	**0.0**
EKS2	**Erkin-Say** SNR=38	**62.17**	**319**	P	**P**	**16 48 34.4**	**-0.3**
ZAL	**Zalesovo** comp=Z,9.3nm,0.9s,mb4.7,baz=356,slow=6.9,SNR=40	**62.52**	**334**	P	**P**	**16 48 35.0**	**-1.9**
ZAL	comp=Z,4.6nm,0.8s,baz=16,slow=7.3,SNR=3.8			PcP	PcP	16 49 17.4	+2.4
KURK	**Kurchatov**	**63.46**	**329**	*eP*	**P**	**16 48 41.4**	**-1.8**
NVS	**Novosibirsk**	**63.80**	**334**⇑	*iP*	**P**	**16 48 42.8**	**-2.5**
NVS				*eS*	**S**	**16 57 07.2**	**-4.1**
NVS				*e*		16 58 25.6	
NVS	comp=Z,23nm,0.8s,mb5.1			pmax	pmax		
NVS	comp=N,14nm,0.9s			pmax	pmax		
NVS	comp=E,13nm,0.9s			pmax	pmax		
NVS	comp=E,45nm,1.9s			smax			
FX1	**Attu Island--F**	**64.87**	**30**	*eP*	**P**	**16 48 52.9**	**+0.6**
CASY	**Casey**	**68.08**	**187**⇑	*iP*	**P**	**16 49 12.8**	**+0.5**
WBK	**Wadi Bani Khal**	**68.20**	**294**⇓	P	**P**	**16 49 12.6**	**-1.2**
JMDO	**Jabal Madar** SNR=10	**68.96**	**293**⇓	P	**P**	**16 49 17.3**	**-1.2**
BVA0	**Borovoye Array**	**69.02**	**328**	*i* P	**P**	**16 49 17.0**	**-1.3**
BVA0	comp=Z,7.0nm,1.1s,mb4.4			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,33nm,0.9s,mb5.2,baz=135,slow=8.4,SNR=107	**69.02**	**328**	P	**P**	**16 49 17.4**	**-0.9**
BIDO	**Bidbid**	**69.09**	**295**⇑	P	**P**	**16 49 17.7**	**-1.6**
CHKZ	**Chkalovo**	**69.21**	**329**	*eP*	**P**	**16 49 18.2**	**-1.3**
CHKZ	comp=Z,40nm,0.6s,mb5.4			pmax	pmax		
CHKZ	**Chkalovo** comp=Z,40nm,0.6s,mb5.4	**69.21**	**

comp=Z,13nm,0.6s,mb4.9
DGRG David-gareji 82.07 312 P **P** **16 50 34.3 +1.8**
GNI Garni 82.43 310 *e*P **P** **16 50 35.8 +1.4**
GNI pmax pmax
comp=Z,49nm,0.9s
GNI Garni 82.43 310 P **P** **16 50 36.2 +1.8**
comp=Z,6.9nm,0.6s,mb4.7,baz=18,slow=3.3,SNR=12
GNI Garni 82.43 310 *e*P **P** **16 50 35.8 +1.4**
comp=Z,49nm,0.9s,mb5.3
TI2 Plekhanov 82.56 312 *i* P **P** **16 50 36.4 +1.3**
TI2 pmax pmax
comp=Z,60nm,0.8s,mb5.5
TBLG Delisi 82.57 312 P **P** **16 50 35.8 +0.6**
DUS Dusheti 82.63 312 P **P** **16 50 37.5 +2.1**
ATD Arta Tunnel 82.83 281 P **P** **16 50 39.1 +2.2**
comp=Z,54nm,0.9s,mb5.4,baz=43,slow=2.2,SNR=21
ZEI Tsey 83.28 313 *e*P **P** **16 50 38.6 -0.1**
ZEI *i* 16 53 49.6
ZEI pmax pmax
comp=Z,88nm,1.1s,mb5.5
TVAN Van 83.34 308 *i* P **P** **16 50 40.6 +1.5**
SVW2 Sparrevohn 83.59 29 *e*P **P** **16 50 41.9 +2.0**
KIV Kislovodsk 84.25 314c *i*P **P** **16 50 44.2 +0.6**
KIV *e*S S 17 00 58.1 -1.7
KIV pmax pmax
comp=Z,72nm,1.2s,mb5.4
KIV Kislovodsk 84.25 314 *e*P **P** **16 50 44.4 +0.8**
comp=Z,75nm,1.1s,mb5.4
PECR Pechory 84.48 326 *e*P **P** **16 50 44.4 0.0**
PECR pmax pmax
comp=Z,3μm,1.6s
BEST Besiri 84.98 308 *i* P **P** **16 50 48.8 +1.5**
ERZM Erzurum 85.00 310 *i* P **P** **16 50 49.2 +1.8**
IMA Indian Mountai 85.20 24 *e*P **P** **16 50 49.8 +2.0**
SLKM Skilak Lake 86.13 30 *e*P **P** **16 50 53.1 +0.7**
SOC Sochi 86.38 313 *i* P **P** **16 50 54.0 -0.1**
SOC pmax pmax
comp=Z,139nm,0.8s,mb5.9
SOC pmax pmax
comp=N,13nm,0.7s
SOC pmax pmax
comp=E,37nm,1.1s
PWA Palmer West 86.39 28 *e*P **P** **16 50 55.3 +1.6**
KELT Kelkit 86.63 310 *i* P **P** **16 50 57.6 +2.2**
ELZG Elazig 86.80 308 *i* P **P** **16 50 58.3 +2.0**
MCK McKinley 86.97 26 *e*P **P** **16 50 56.5 0.0**
MCK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
MCK McKinley 86.97 26 *e*P **P** **16 50 56.5 +0.1**
comp=Z,7.2nm,1.0s,mb4.6
VRSR Storozhevoye 87.01 321*c i*P **P** **16 50 56.9 -0.1**
VRSR *e**PP pP 16 51 06.5 -15
VRSR *e*S S 17 01 29.9 +3.7
VRSR pmax pmax
comp=Z,130nm,0.8s,mb5.9
VRSR pmax pmax
comp=N,10.0nm,0.7s
VRSR pmax pmax
comp=E,40nm,0.6s
VRSR smax
comp=N,140nm,3.9s
VRSR smax
comp=Z,140nm,4.3s
VRSR smax
comp=E,70nm,3.6s
MALT Malatya 87.23 308 *e*P **P** **16 51 00.2 +1.8**
MALT pmax pmax
comp=Z,83nm,1.0s,mb5.6
MALT Malatya 87.23 308 *e*P **P** **16 51 00.2 +1.8**
comp=Z,83nm,1.0s,mb5.6
GZT Gaziantep 87.91 307 *i* P **P** **16 51 03.1 +1.5**
ANN Anapa 88.05 315‖ *i*P **P** **16 51 01.6 -0.5**
ANN *e*S S 17 01 25.9 -10
ANN pmax pmax
comp=Z,167nm,0.8s,mb6.1
MOS Moscow 88.06 326 *e*P **P** **16 51 02.3 +0.4**
MOS *e* pP 16 51 23.3 -3.3
MOS *e* 16 54 27.4
MOS *e*S S 17 01 36.1 +0.1
MOS pmax pmax
comp=Z,108nm,0.9s,mb5.9
THY Trims Highway 88.38 27 *e*P **P** **16 51 04.1 +0.8**
KAHT Ahir Dag 88.46 307 *i* P **P** **16 51 05.6 +1.4**
ASF Jabal al Asfar 88.46 302 P **P** **16 51 06.4 +2.0**
comp=Z,122nm,0.9s,mb5.9,baz=331,slow=3.1,SNR=142
KMBO Kilima Mbogo 88.51 269 P **P** **16 51 07.6 +2.5**
comp=Z,18nm,0.8s,mb5.1,baz=57,slow=8.2,SNR=53
OBN Obninsk 88.66 325*c i*P **P** **16 51 04.7 0.0**
OBN *i* pP 16 51 25.1 -4.4
OBN *i*S S 17 01 42.3 +0.7
OBN pmax pmax
comp=Z,133nm,1.2s,mb5.8
OBN Obninsk 88.66 325 *e*P **P** **16 51 04.6 -0.2**
comp=Z,228nm,1.3s,mb6.0
FKH Fakeheh 88.86 304 *e*P **P** **16 51 08.0 +1.8**
COBT Iskenderun 88.96 306 *i* P **P** **16 51 07.4 +0.8**
MENT Mentasta 89.30 27 *e*P **P** **16 51 09.1 +1.5**
BHL Bhannes 89.49 304 *e*P **P** **16 51 10.5 +1.3**
SYO Syowa Base 89.60 201‖ *e*P **P** **16 51 10.5 +1.6**
APA Apatity 89.92 337⇑ *i*P **P** **16 51 10.0 -0.4**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.4
BOYT Boyabat 89.93 311 *i* P **P** **16 51 11.8 +0.8**
AVNT Avonos 90.03 309 *i* P **P** **16 51 12.3 +0.7**
EIL Elat 90.17 300 P **P** **16 51 13.7 +1.2**
comp=Z,24nm,0.8s,mb5.4,baz=26,slow=2.2,SNR=38
EIL Elat 90.17 300 *e*P **P** **16 51 13.4 +0.9**
comp=Z,47nm,1.0s,mb5.6
SIM Simferopol' 90.41 315 *e*P **P** **16 51 13.0 -0.2**
SIM pmax pmax
comp=Z,66nm,0.9s,mb5.8
MEST Erdemli 90.66 306 *i* P **P** **16 51 14.9 +0.3**
BRTR Keskin Array B 90.95 310 P **P** **16 51 15.8 -0.1**
comp=Z,15nm,0.9s,mb5.1,baz=117,slow=5.5,SNR=52
QSPA South Pole Qui 90.99 180 *e*P **P** **16 51 16.8 +1.6**
comp=Z,31nm,1.2s,mb5.3
BALT Daday 91.07 311 *i* P **P** **16 51 17.0 +0.6**
ELDT Eldivan 91.08 310 *i* P **P** **16 51 15.7 -0.8**
DAWY Dawson 91.18 26 *e*P **P** **16 51 17.6 +1.3**
CSS Prodhromos 91.38 305 *e*P **P** **16 51 18.4 +0.4**
comp=Z,95nm,0.8s,mb6.0
KEV Kevo 92.03 340 *ep* **P** **16 51 25.8 +5.6**
comp=Z,0.6nm,0.3s,mb4.3
KEV Kevo 92.03 340 *ep* **P** **16 51 14.2 -6.0**
comp=Z,0.3nm,0.4s
ARCES ARCESS Array B 92.59 340 P **P** **16 51 22.7 0.0**
comp=Z,12nm,0.8s,mb5.3,baz=89,slow=4.7,SNR=18
HENT Hendek 92.98 311 *i* P **P** **16 51 23.8 -1.4**
INK Inuvik 92.98 21 P **P** **16 51 25.4 +0.8**
comp=Z,24nm,1.1s,mb5.4,baz=272,slow=4.2,SNR=22
ESKT Eskisehir 93.11 309 *i* P **P** **16 51 25.1 -0.7**
AKASG Malin Array Be 93.32 321 P **P** **16 51 26.1 -0.4**
comp=Z,10nm,0.9s,mb5.2,baz=70,slow=4.4,SNR=34
KAF Kangasniemi 93.48 332 *ep* **P** **16 51 25.9 -1.0**
comp=Z,4.6nm,0.6s,mb5.0
KAF Kangasniemi 93.48 332 *ep* **P** **16 51 25.9 -1.0**
comp=Z,4.4nm,0.6s,mb5.0,baz=76,slow=4.2
KAF Kangasniemi 93.48 332 *e*P **P** **16 51 25.9 -1.0**
KAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
FINES FINESS Array B 93.69 332 P **P** **16 51 27.6 -0.4**
comp=Z,5.1nm,0.8s,mb4.9,baz=72,slow=6.0,SNR=18
KIS Kishinev 93.96 317 *e*P **P** **16 51 28.0 -1.4**
ULDT Uludag 94.38 310 *i* P **P** **16 51 31.6 +0.1**
CFR Carcaliu 94.62 315 P **P** **16 51 32.9 +0.4**
MANT Manisa 94.97 309 *i* P **P** **16 51 34.2 -0.2**
BTOK Tokmak 95.26 310 *i* P **P** **16 51 35.4 -0.2**
PRD Provadia 95.36 313 *e*P **P** **16 51 36.0 0.0**
VRI Vrincioaia 95.52 316 P **P** **16 51 37.5 +0.9**
JMB Yambol 96.05 313 *e*P **P** **16 51 39.0 -0.1**
MLR Muntele Rosu 96.11 316 P **P** **16 51 40.0 +0.7**
MLR Muntele Rosu 96.11 316 P **P** **16 51 39.6 +0.3**
comp=Z,16nm,0.9s,mb5.5,baz=28,slow=1.4,SNR=28
BURAR Bucovina Array 96.31 318 P **P** **16 51 41.4 +1.3**
SUW Suwalki 96.51 325 *e*P **P** **16 51 41.5 +0.6**
DLBC Dease Lake 96.52 31 P **P** **16 51 43.0 +2.2**
comp=Z,2.2nm,0.9s,mb4.6,baz=28,slow=13,SNR=2.7
DLBC Dease Lake 96.52 31 P **P** **16 51 43.0 +2.2**
DIM Dimitrovgrad 96.87 312 *e*P **P** **16 51 41.0 -1.9**
PLD Plovdiv 97.48 313 *e*P **P** **16 51 47.0 +1.4**
KWP Kalwaria 97.62 320 *e*P **P** **16 51 47.1 +1.0**
PGB Panagyurishte 97.80 313 *e*P **P** **16 51 47.0 -0.1**
KOLS Kolonicke sedl 98.03 320 *e*P **P** **16 51 48.9 +1.0**
KOLS *e* 16 52 04.8
KOLS Kolonicke sedl 98.03 320 *e*P **P** **16 51 48.9 +1.0**
KOLS *e* 16 51 55.9
KOLS *e* 16 52 04.8
IDI Anoyia 98.24 306 P **P** **16 51 49.2 0.0**
comp=Z,9.8nm,0.8s,mb5.4,baz=44,slow=3.0,SNR=8.6
MMB Musomiste 98.27 312 *e*P **P** **16 51 48.7 -0.5**
VTS Vitosha 98.50 313 P **P** **16 51 50.6 +0.4**
VTS Vitosha 98.50 313 *e*P **P** **16 51 50.5 +0.3**
CRVS Cervenica-Dubn 98.56 320 *e*P **P** **16 51 51.5 +1.2**
CRVS *e* 16 51 57.8
CRVS Cervenica-Dubn 98.56 320 PDIF **P** **16 51 51.5 +1.2**
CRVS *e* 16 51 57.8
KKB Krupnik 98.71 313 *e*P **P** **16 51 50.6 -0.6**
BZS Buzias 99.10 316 P **P** **16 51 52.7 -0.2**
KECS Kecovo 99.28 319 *e*P **P** **16 51 54.7 +1.0**
KECS Kecovo 99.28 319 PDIF **P** **16 51 54.7 +1.0**
LBTB Lobatse 99.65 245 P **P** **16 51 55.5 -0.4**
comp=Z,3.3nm,1.0s,mb4.9,baz=117,slow=4.5,SNR=2.5
BOSA Boshof 99.72 241 P **P** **16 51 56.6 +0.5**
comp=Z,3.3nm,0.9s,mb5.0,baz=98,slow=5.0,SNR=3.8
PSZ Piszkesteto 99.79 319‖ *e*P **P** **16 51 56.3 +0.3**
HFS Hagfors 99.89 332 P **P** **16 51 55.4 -0.7**
comp=Z,4.1nm,0.9s,mb5.0,baz=180,slow=1.5,SNR=5.9
VYHS Vyhne 100.35 320 *e*P P 16 51 59.0 +0.5
VYHS Vyhne 100.35 320 PDIF P 16 51 59.0 +0.5
OKC Ostrava-Krasne 100.46 321 *e*PDIF P 16 51 59.9 +1.0
DIVS Divcibare 100.53 315‖ *i*P P 16 51 59.4 0.0
RES Resolute Bay 100.59 10 *e*P P 16 51 59.8 +0.8
RES pmax pmax
comp=Z,16nm,0.9s
RES Resolute Bay 100.59 10 *e*Pdif P 16 51 59.8 +0.8
comp=Z,16nm,0.9s
NB2 NORSAR Subarra 100.71 333 P P 16 51 58.6 -1.2
comp=Z,4.4nm,0.8s,baz=69,slow=4.5
NB2 NORSAR Subarra 100.71 333 P P 16 51 58.6 -1.2
NB2 pmax pmax
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 100.71 333 P P 16 51 58.6 -1.2
baz=69,slow=4.4
NOA NORSAR Array B 100.71 333 P P 16 51 59.0 -0.7
comp=Z,4.0nm,0.8s,baz=70,slow=4.4,SNR=15
NOA PKKPbc 17 08 14.1
comp=Z,0.6nm,0.7s,baz=67,slow=3.2,SNR=4.2
NOA NORSAR Array B 100.71 333 P P 16 51 59.0 -0.7
NOA PKKPbc 17 08 14.1
KSP Ksiaz 101.35 322 *e*P P 16 52 03.2 +0.3
KSP Ksiaz 101.35 322 *e*P P 16 52 03.3 +0.4
DPC Dobruska-Polom 101.47 322 *e*PDIF P 16 52 03.5 +0.1
UPC Upice 101.61 322 *e*PDIF P 16 52 05.1 +1.1
YKA Yellowknife Ar 102.31 24 P Pdif 16 52 08.1 +1.3
comp=Z,1.2nm,0.6s,baz=299,slow=4.4,SNR=19
YKA PP PP 16 56 26.7 +4.2
comp=Z,2.4nm,1.1s,baz=309,slow=6.9,SNR=6.1
YKA PKKPbc 17 08 09.3
comp=Z,2.7nm,0.8s,baz=111,slow=2.4,SNR=30
PVCC Panska Ves 102.49 322 *e*PDIF Pdif 16 52 09.2 +1.3
PRU Pruhonice 102.67 322 *e*PDIF Pdif 16 52 10.9 +2.2
CLL Collm 103.19 324 *e*PP PP 16 56 28.0 -1.6
KHC Kasperske Hory 103.52 321 *e*PDIF Pdif 16 52 13.4 +0.9
GERES GERESS Array B 103.53 321 Pdiff Pdif 16 52 13.1 +0.6
comp=Z,1.4nm,0.8s,baz=76,slow=5.5,SNR=8.8
GERES PP PP 16 56 31.4 -0.6
comp=Z,1.0nm,0.8s,baz=45,slow=1.9,SNR=3.8
MOX Moxa 104.24 323 *e*P Pdif 16 52 16.7 +1.1
MOX Moxa 104.24 323 *i* P Pdif 16 52 16.7 +1.1
DAVOX Davos 106.64 320 Pdiff Pdif 16 52 28.9 +2.6
comp=Z,4.6nm,1.0s,baz=206,slow=6.8,SNR=3.0
LPG La Plagne 109.13 319 *e*PP PP 16 57 08.7 -5.6
comp=Z,42nm,1.3s
LPL La Plagne 109.13 319 *e*PP PP 16 57 08.7 -5.7
comp=Z,42nm,1.1s
MBDF Montbardon 109.41 319 *e*PP PP 16 57 11.1 -5.2
comp=Z,35nm,1.3s
ORIF Oris-en-Rattie 109.92 319 *e*PP PP 16 57 14.3 -5.6
comp=Z,24nm,1.2s
EKA Eskdalemuir Ar 110.09 332 Pdiff Pdif 16 52 45.8 +4.5
comp=Z,2.8nm,1.1s,baz=48,slow=27,SNR=2.7
HLID Hailey 110.42 42 *e*PKPdf PKPdf 16 56 45.8 +3.5
VIVF Saint-Julien-l 110.73 319 *e*PP PP 16 57 20.1 -5.5
LASF Ste Croix 111.58 319 *e*PP PP 16 57 26.3 -5.2
comp=Z,33nm,1.1s
CAF Calviac 112.39 320 *e*PP PP 16 57 32.0 -5.5
comp=Z,17nm,1.1s
PDAR Pinedale Array 113.99 42 PKiKP 16 56 52.8
comp=Z,0.5nm,0.7s,baz=252,slow=4.7,SNR=4.3
PDAR PKKPbc 17 07 33.7
comp=Z,1.9nm,0.9s,baz=117,slow=3.3,SNR=6.9
PDAR PKKPab 17 07 40.6
comp=Z,4.1nm,0.9s,baz=116,slow=5.2,SNR=13
FRB Frobisher Bay 114.48 7 PKP PKPdf 16 56 51.8 +2.0
comp=Z,5.7nm,0.8s,baz=15,slow=2.3,SNR=9.2
PV10 Paradox Valley 116.22 46 *e*PKPdf PKPdf 16 56 57.2 +3.5
RSSD Black Hills 116.88 38 *e*PKPdf PKPdf 16 56 56.9 +2.1
ULM Lac du Bonnet 117.75 29 PKP PKPdf 16 56 58.2 +1.9
comp=Z,7.1nm,0.8s,baz=315,slow=2.1,SNR=13
ULM PKKPab 17 07 24.6
comp=Z,0.7nm,0.4s,baz=101,slow=2.9,SNR=4.4
ULM Lac du Bonnet 117.75 29 PKP PKPdf 16 56 58.2 +1.9
ULM PKKPab 17 07 24.6
SDCO Great Sand Dun 119.00 45 *e*PKPdf PKPdf 16 57 02.0 +2.9
EVO Evora 122.06 318⇑ *e*PKIKP PKPdf 16 57 08.1 +3.1
comp=Z,29nm,1.1s
SCHQ Schefferville 123.33 9 PKP PKPdf 16 57 09.4 +2.4
comp=Z,15nm,0.8s,baz=38,slow=2.5,SNR=18
SCHQ Schefferville 123.33 9 *e*PKPdf PKPdf 16 57 09.4 +2.4
TXAR Lajitas Array 123.99 53 PKP PKPdf 16 57 12.0 +3.0
comp=Z,3.0nm,0.7s,baz=243,slow=1.2,SNR=19
CCM Cathedral Cave 128.25 37 *e*PKPdf PKPdf 16 57 19.2 +2.2
SADO Sadowa 129.28 23 PKP PKPdf 16 57 20.9 +2.2
comp=Z,12nm,1.0s,baz=352,slow=5.6,SNR=5.7
DBIC Dimbokro 130.10 280 PKP PKPdf 16 57 24.1 +3.0
comp=Z,5.9nm,0.7s,baz=119,slow=1.3,SNR=7.3
MIV Mineville/With 131.87 19 PKPdf PKPdf 16 57 26.5 +2.8
LRAL Lakeview Retre 134.14 39 *e*PKPdf PKPdf 16 57 30.7 +2.5
FWV Forest Hill 134.37 30 *e*PKPdf PKPdf 16 57 30.1 +1.6
PLCA Paso Flores 137.84 161 PKhKP 16 57 27.1
comp=Z,2.1nm,0.8s,baz=314,slow=4.0,SNR=6.7
PLCA PKP PKPdf 16 57 38.8 +3.9
comp=Z,9.9nm,1.1s,baz=194,slow=3.4,SNR=8.1
TRQA Tornquist 142.51 170 *e*PKPpre 16 57 41.5
BBSR BB Station 145.31 16 *e*PKPdf PKPdf 16 57 50.9 +2.6
CFAA Coronel Fontan 146.88 158 PKPbc PKPbc 16 57 53.6 +1.0
comp=Z,4.0nm,0.7s,baz=225,slow=3.0,SNR=55
JTS JuntasAbangare 147.44 69 *e*PKPdf PKPdf 16 57 57.3 +4.9
OTAV Otavalo 155.77 87 *e*PKPab PKPab 16 58 36.0 +1.9
SJG San Juan 157.63 31 PKP PKPdf 16 58 09.4 +2.5
SJG PKPab PKPab 16 58 42.3 +0.3
comp=Z,5.5nm,0.3s,baz=338,slow=19,SNR=2.0
ROSC El Rosal 159.10 73 PKP PKPdf 16 58 13.3 +4.5
comp=Z,6.4nm,0.4s,baz=272,slow=23,SNR=7.6
ROSC PKPab PKPab 16 58 51.4 +2.9
comp=Z,17nm,0.6s,baz=136,slow=1.8,SNR=9.4
SDV Santo Domingo 160.92 58 PKP PKPdf 16 58 12.8 +2.1
comp=Z,17nm,0.8s,baz=258,slow=2.4,SNR=18
SDV PKPab PKPab 16 58 58.3 +2.1
comp=Z,4.0nm,0.5s,baz=294,slow=6.0,SNR=3.6
SDV Santo Domingo 160.92 58 *e*PKPdf PKPdf 16 58 13.6 +2.9
SIV San Ignacio 163.72 156 PKP PKPdf 16 58 17.5 +4.1
comp=Z,9.7nm,0.9s,baz=209,slow=1.4,SNR=38
BDFB Brasilia 164.26 203 PKP PKPdf 16 58 17.7 +3.7
comp=Z,9.6nm,1.0s,baz=194,slow=1.8,SNR=7.2
BDFB PKPab PKPab 16 59 12.0 +1.3
comp=Z,15nm,0.9s,baz=188,slow=1.1,SNR=9.8

*NEIC **30** 16:43:25.2,37.18N×19.89E,h44km,MD3.5(ATH),After ATH.*
*CSEM **30** 16:43:25.2,37.18N×19.89E,h44km,MD3.5/5,After ATH*
ATH 30 16:43:25.5,37.25N×20.01E,h33km±8km,MD3.5/5,
Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**1.03**	**26**	*e*PN	Pn	16 43 45.0	+1.1
VLS				*e*SN	Sn	16 44 00.0	+2.7
ITM	**Ithomi**	**1.53**	**92**	*e*PB	Pb	16 43 52.0	-1.2
ITM				*e*SN	Sn	16 44 12.0	+2.1
EVR	**Evrytania**	**2.19**	**40**	*e*PN	Pn	16 44 02.0	+1.6
EVR	**Evrytania**	**2.19**	**40**	*e*P	P	16 44 04.0	+3.8
VLI	**Velíai**	**2.40**	**102**	*e*PN	Pn	16 44 05.5	+2.0
KEK	**Kerkira**	**2.46**	**356**	*e*PN	Pn	16 44 05.5	+1.2

*IDC **30** 16:46:02.6±0.6,1.16N×96.97E,h23km±2km,mb4.0/17,*
mb1 4.2/17,mb1mx4.2/21,mbtmp4.2/17,Error ellipse: s-maj=24.9km s-min=10.1km az=50.0
*BJI **30** 16:46:02.8,1.26N×96.88E,h23km,mB4.8,mb4.9,Ms5.6,Msz5.5*
*NEIC **30** 16:46:03.2±0.4,1.27N×97.10E,mb4.9/19,Error ellipse: s-maj=12.1km s-min=7.2km az=50.0*
ISC 30 16:46:01.6±0.5,1.30N±0.06×97.13E±0.07,h24km,
h24km±.7km:pP-P,n72,σ1⇕07/72,mb4.7/42,MS5.1/4,1C,
Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.30**	**41**	*e*P	**Pn**	**16 47 22.0**	**+0.6**
KSM	**Kuching**	**13.18**	**89**	*e*P	**P**	**16 49 19.4**	**+9.4**
CM31	**Chiang Mai Arr** 26nm,0.9s	**17.15**	**6**	*e*P	**P**	**16 50 00.3**	**-1.2**
KKM	**Kota Kinabalu**	**19.62**	**76**	*e*P	**P**	**16 50 32.0**	**+0.6**
HYB	**Hyderabad**	**24.29**	**312**	*e*P	**P**	**16 51 22.0**	**+3.5**
HYB	**Hyderabad**	**24.29**	**312**	*i* P	**P**	**16 51 22.0**	**+3.5**
KMI	**Kunming**	**24.30**	**12**	P	**P**	**16 51 20.3**	**+1.8**
KMI				AP		16 51 27.3	
KMI				AMB	AMB		
comp=Z,104nm,1.2s,mb5.1							
GYA	**Guiyang**	**26.64**	**19**⇑	*i*P	**P**	**16 51 39.8**	**-0.7**
GYA				AP	pP	16 51 46.3	-1.3
GYA				XP	sP	16 51 49.8	-1.1
GYA				PP	PP	16 52 23.8	-1.1
GYA				S	**S**	**16 56 10.0**	**-2.2**
GYA				AMB	AMB		
comp=Z,100nm,2.4s,mb4.9							
GYA				LR	LR		
comp=N,4μm,14.4s,MS5.6							
GYA				LR	LR		
comp=E,10μm,13.2s,MS5.6							
GYA				LR	LR		
comp=Z,9μm,13.2s,MS5.5							
JIRN	**Jiri**	**28.23**	**339**	*e*P	**P**	**16 51 55.5**	**+0.6**
comp=Z,114nm,1.1s,mb5.4							
PKI	**Pulchoki**	**28.44**	**338**	*e*P	**P**	**16 51 58.4**	**+1.6**
comp=Z,77nm,1.1s,mb5.2							
GUN	**Gumba**	**28.57**	**339**	*e*P	**P**	**16 51 58.6**	**+0.6**
comp=Z,108nm,0.8s,mb5.6							
DMN	**Daman**	**28.59**	**337**	*e*P	**P**	**16 51 59.9**	**+1.8**
comp=Z,38nm,0.8s,mb5.2							
KKN	**Kakani**	**28.68**	**338**	*e*P	**P**	**16 51 59.5**	**+0.5**
comp=Z,79nm,1.1s,mb5.4							
LSA	**Lhasa**	**28.81**	**349**	P	**P**	**16 52 01.5**	**+1.3**
LSA	**Lhasa**	**28.81**	**349**	*e*P	**P**	**16 52 00.0**	**-0.1**
comp=Z,28nm,1.0s,mb5.0							
GKN	**Gorkha**	**29.12**	**337**	*e*P	**P**	**16 52 03.0**	**0.0**
comp=Z,55nm,0.9s,mb5.3							
KOLN	**Koldanda**	**29.34**	**335**	*e*P	**P**	**16 52 05.2**	**+0.3**
comp=Z,65nm,0.9s,mb5.3							
CD2	**Chengdu**	**30.11**	**11**	*e*P	**P**	**16 52 18.0**	**+6.2**
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**	**16 52 18.7**	**-1.9**
comp=Z,32nm,0.7s,mb5.3							
MBWA	**Marble Bar** comp=Z,15nm,1.1s	**31.42**	**137**	*e*pP	pP	16 52 29.7	-0.8
FITZ	**Fitzroy Crossi**	**34.04**	**126**	P	**P**	**16 52 47.1**	**+0.9**
comp=Z,9.6nm,0.8s,mb4.8,baz=191,slow=6.6,SNR=3.7							
FITZ				pP	pP	16 52 53.7	+0.3
comp=Z,4.5nm,0.5s,baz=221,slow=5.1,SNR=2.2							
XAN	**Xi'an**	**34.39**	**17**	P	**P**	**16 52 47.3**	**-1.8**
XAN				AP	pP	16 52 55.0	-1.3
XAN				AMB	AMB		
comp=Z,17nm,1.0s,mb4.9							
LZH	**Lanzhou**	**35.17**	**9**	*e*P	**P**	**16 53 03.0**	**+7.2**
LZH				AP	pP	16 53 10.5	+7.5
LZH				XP	sP	16 53 13.0	+6.9
LZH				AMB	AMB		
comp=Z,30nm,1.0s,mb5.2							
LZH				AMB	AMB		
comp=Z,149nm,4.0s							
NJ2	**Nanjing**	**36.82**	**32**	*e*P	**P**	**16 53 11.0**	**+1.3**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.8							
GTA	**Gaotai**	**38.01**	**3**	*e*P	**P**	**16 53 20.0**	**+0.3**
GTA				AP	pP	16 53 27.3	+0.4
GTA				XP	sP	16 53 30.0	0.0
GTA				AMB	AMB		
comp=Z,12nm,0.9s,mb4.6							
GTA				LR	LR		
comp=N,4μm,19.4s,MS5.4							
GTA				LR	LR		
comp=E,5μm,19.4s,MS5.4							
GTA				LR	LR		
comp=Z,10μm,16.0s,MS5.7							
JOW	**Kunigami**	**39.23**	**47**	pP	pP	16 53 37.5	+0.2
comp=Z,26nm,0.8s,baz=324,slow=1.6,SNR=4.2							
HHC	**Hu-ho-hao-te**	**41.49**	**17**	*e*P	**P**	**16 53 51.5**	**+3.1**
HHC				AP	pP	16 54 01.0	+5.3
HHC				XP	sP	16 54 05.3	+6.6
HHC				PP	PP	16 55 31.5	+4.1
HHC				S	**S**	**17 00 06.0**	**+3.8**
HHC				XS		17 00 22.0	
HHC				SS	SS	17 03 04.0	+1.9
HHC				AMB	AMB		
comp=Z,15nm,0.6s,mb4.8							
WRA	**Warramunga Arr** comp=Z,2.5nm,0.8s,mb3.9,baz=299,slow=9.0,SNR=8.8	**42.15**	**122**	P	**P**	**16 53 54.1**	**-0.1**
WRA				pP	pP	16 53 59.9	-1.6
comp=Z,7.7nm,0.7s,baz=300,slow=9.1,SNR=19							
WB2	**Warramunga Arr**	**42.16**	**122**	*e*P	**P**	**16 53 54.2**	**-0.1**
WB2				*i*		16 53 59.2	
BJT	**Baijiatuau**	**42.25**	**22**	*e*P	**P**	**16 53 55.4**	**+0.6**
comp=Z,12nm,0.7s,mb4.6							
BJT				*ep*P	pP	16 54 02.9	+0.8
WMQ	**Urumqi**	**43.16**	**350**	P	**P**	**16 54 03.3**	**+1.1**
WMQ				AP	pP	16 54 10.5	+1.0
WMQ				XP	sP	16 54 14.0	+1.5
WMQ				PP	PP	16 55 45.5	+0.8
WMQ				S	**S**	**17 00 25.5**	**-1.3**
WMQ				XS		17 00 38.0	
WMQ				AMB	AMB		
comp=Z,33nm,1.2s,mb4.9							
WMQ				LR	LR		
comp=N,577nm,19.4s,MS4.7							
WMQ				LR	LR		
comp=E,658nm,18.7s,MS4.7							
ASAR	**Alice Springs**	**43.51**	**127**	P	**P**	**16 54 05.8**	**+0.5**
comp=E,2.0nm,0.9s,mb3.9,baz=295,slow=8.1,SNR=5.3							
ASAR				pP	pP	16 54 10.7	-1.9
comp=E,6.9nm,0.9s,baz=297,slow=6.8,SNR=18							
ULHL	**Ulaho!** SNR=6.8	**44.88**	**338**	P	**P**	**16 54 25.0**	**+8.9**
UCH	**Uchtor** SNR=6.0	**45.53**	**336**	P	**P**	**16 54 30.8**	**+10**
TKM2	**Tokmak 2** SNR=6.4	**45.70**	**338**	P	**P**	**16 54 31.7**	**+9.1**
KBK	**Karagaybulak** SNR=6.6	**45.72**	**337**	P	**P**	**16 54 28.8**	**+6.1**
KS15	**Wonju Array Si**	**45.78**	**35**	*e*P	**P**	**16 54 22.6**	**-0.7**
KS15				*ep*P	pP	16 54 30.2	-0.4
AAK	**Ala-Archa**	**45.88**	**337**	P	**P**	**16 54 25.1**	**+1.1**
EKS2	**Erkin-Say** SNR=5.6	**46.19**	**336**	P	**P**	**16 54 35.9**	**+9.4**
USP	**Ospenovka** SNR=6.8	**46.41**	**337**	P	**P**	**16 54 36.9**	**+8.7**
SONM	**Songino Array** comp=E,5.9nm,0.8s,mb4.6,baz=190,slow=9.5,SNR=22	**47.05**	**9**	P	**P**	**16 54 33.2**	**+0.1**
SONM				pP	pP	16 54 40.9	+0.5
comp=E,11nm,0.8s,baz=187,slow=8.7,SNR=17							
SONM				PcP	PcP	16 56 11.7	+6.2
comp=E,3.3nm,0.9s,baz=170,slow=4.2,SNR=3.7							
MKAR	**Makanchi Array** comp=E,4.1nm,0.7s,mb4.5,baz=161,slow=8.7,SNR=22	**47.13**	**346**	P	**P**	**16 54 33.8**	**-0.1**
MKAR				pP	pP	16 54 41.7	+0.5
comp=E,16nm,0.9s,baz=159,slow=7.7,SNR=22							
MKAR	**Makanchi Array**	**47.13**	**346**	P	**P**	**16 54 33.8**	**-0.1**
MKAR				pP	pP	16 54 41.7	+0.5
CN2	**Changchun**	**49.25**	**27**	*e*P	**P**	**16 54 50.3**	**0.0**
CN2				*e*S	**S**	**17 01 52.3**	**-1.4**
CN2				AMB	AMB		
comp=Z,20nm,1.1s,mb5.1							
CN2				LR	LR		
comp=N,330nm,14.0s,MS4.5							
CN2				LR	LR		
comp=E,180nm,14.0s,MS4.5							
TLY	**Talaya** comp=E,3.2nm,0.7s,mb4.4	**50.50**	**5**	*e*P	**P**	**16 54 59.9**	**+0.1**
HIA	**Hailar** comp=E,7.6nm,0.9s,mb4.6	**51

MJAR				pP		pP		16 55 16.8	+0.4		
	comp=E,3.3nm,0.7s,baz=224,slow=6.1,SNR=6.2										
KURK	**Kurchatov**	**51.68**	**345**	*eP*		**P**		**16 55 08.2**	**-0.6**		
	comp=E,4.2nm,0.7s,mb4.5										
KURK				*ep*		pP		16 55 16.2	0.0		
MDJ	**Mudanjiang**	**51.82**	**29**	P		**P**		**16 55 11.0**	**+1.1**		
MDJ				AMB		AMB					
	comp=Z,9.0nm,1.0s,mb4.7										
MDJ	**Mudanjiang**	**51.82**	**29**	*eP*		**P**		**16 55 11.6**	**+1.7**		
	comp=Z,14nm,0.8s,mb4.9										
ZAL	**Zalesovo**	**53.44**	**351**	P		**P**		**16 55 21.0**	**-0.9**		
	comp=Z,5.6nm,0.7s,mb4.6,baz=308,slow=5.9,SNR=18										
ZAL				pP		pP		16 55 29.0	-0.3		
	comp=Z,11nm,0.8s,baz=290,slow=6.5,SNR=20										
ZAL	**Zalesovo**	**53.44**	**351**	P		**P**		**16 55 21.0**	**-0.9**		
ZAL				pP		pP		16 55 29.0	-0.3		
STKA	**Stephens Creek**	**53.48**	**132**	*eP*		**P**		**16 55 28.4**	**+6.0**		
	comp=Z,6.5nm,0.8s,mb4.6										
STKA				*i*		pP		16 55 34.8	+4.9		
STKA	**Stephens Creek**	**53.48**	**132**	P		**P**		**16 55 22.2**	**-0.2**		
	comp=Z,8.0nm,0.8s,mb4.7,baz=317,slow=4.2,SNR=3.0										
STKA				pP		pP		16 55 28.6	-1.2		
	comp=Z,8.0nm,0.8s,baz=303,slow=8.5,SNR=5.5										
STKA	**Stephens Creek**	**53.48**	**132**	*eP*		**P**		**16 55 22.4**	**0.0**		
STKA				pP		pP		16 55 28.6	-1.2		
STKA				*ep*		pP		16 55 34.3	+4.5		
BVAR	**Borovoye Array**	**56.13**	**341**	P		**P**		**16 55 40.0**	**-1.5**		
	comp=Z,3.7nm,0.8s,mb4.5,baz=141,slow=9.5,SNR=10.0										
BVAR				pP		pP		16 55 48.7	-0.3		
	comp=Z,9.6nm,0.8s,baz=127,slow=7.4,SNR=19										
CHKZ	**Chkalovo**	**56.61**	**341**	*eP*		**P**		**16 55 43.6**	**-1.3**		
	comp=Z,8.6nm,0.8s,mb4.8										
CHKZ				*ep*		pP		16 55 51.6	-0.7		
MALT	**Malatya**	**65.01**	**312**	*eP*		**P**		**16 56 41.4**	**-0.7**		
YAK	**Yakutsk**	**65.35**	**16**	*eP*		**P**		**16 56 42.3**	**-1.6**		
	comp=Z,52nm,0.9s,mb5.6										
YAK				*ep*		pP		16 56 49.9	-1.6		
BRTR	**Keskin Array B**	**68.99**	**312**	P		**P**		**16 57 06.5**	**-0.8**		
	comp=Z,0.7nm,0.7s,mb3.7,baz=108,slow=4.6,SNR=3.1										
BRTR				pP		pP		16 57 13.8	-1.1		
	comp=Z,2.5nm,0.8s,baz=124,slow=8.6,SNR=7.5										
AKASG	**Malin Array Be**	**75.14**	**322**	P		**P**		**16 57 42.0**	**-1.6**		
	comp=Z,0.3nm,0.3s,mb3.7,baz=335,slow=23,SNR=4.4										
AKASG				pP		pP		16 57 49.7	-1.6		
	comp=Z,2.7nm,0.7s,baz=85,slow=5.4,SNR=5.0										
AKASG	**Malin Array Be**	**75.14**	**322**	P		**P**		**16 57 42.0**	**-1.6**		
AKASG				pP		pP		16 57 49.7	-1.6		
MLR	**Muntele Rosu**	**75.95**	**317**	P		**P**		**16 57 47.8**	**-0.6**		
	comp=Z,1.9nm,0.9s,mb4.0,baz=107,slow=21,SNR=2.1										
MLR				pP		pP		16 57 55.8	-0.2		
	comp=Z,3.6nm,0.9s,baz=180,slow=5.3,SNR=3.9										
FINES	**FINESS Array B**	**79.88**	**333**	P		**P**		**16 58 10.2**	**+0.6**		
	comp=Z,1.6nm,0.8s,mb4.0,baz=90,slow=3.8,SNR=4.9										
FINES				pP		pP		16 58 16.5	-0.9		
	comp=Z,1.7nm,0.7s,baz=90,slow=5.7,SNR=3.6										
ARCES	**ARCESS Array B**	**82.42**	**340**	P		**P**		**16 58 23.9**	**+1.1**		
	comp=Z,4.8nm,0.9s,mb4.4,baz=50,slow=9.5,SNR=3.8										
ARCES				pP		pP		16 58 30.8	+0.2		
	comp=Z,5.2nm,0.9s,baz=90,slow=8.5,SNR=1.7										
ARCES	**ARCESS Array B**	**82.42**	**340**	P		**P**		**16 58 23.9**	**+1.1**		
ARCES				pP		pP		16 58 30.8	+0.2		
GERES	**GERESS Array B**	**84.69**	**319**	P		**P**		**16 58 35.7**	**+0.8**		
	comp=Z,0.6nm,0.6s,mb3.9,baz=90,slow=5.9,SNR=3.5										
GERES				pP		pP		16 58 43.0	+0.4		
	comp=Z,2.3nm,0.8s,baz=90,slow=8.0,SNR=5.4										
VNDA	**Vanda**	**85.93**	**169**	P		**P**		**16 58 38.8**	**-1.6**		
	comp=Z,2.0nm,1.1s,mb4.2,baz=330,slow=4.7,SNR=3.6										
NB2	**NORSAR Subarra**	**86.89**	**331**	P		**P**		**16 58 44.5**	**-0.9**		
	comp=Z,3.1nm,0.9s,mb4.5,baz=95,slow=4.8										
NOA	**NORSAR Array B**	**86.89**	**331**	P		**P**		**16 58 44.9**	**-0.5**		
	comp=Z,0.7nm,0.8s,mb4.0,baz=95,slow=5.0,SNR=3.5										
NOA				pP		pP		16 58 52.5	-0.7		
	comp=Z,2.4nm,0.9s,baz=95,slow=4.9,SNR=8.0										
YKA	**Yellowknife Ar**	**112.02**	**15**	PP		PP		17 05 12.8	-10		
	comp=Z,0.1nm,0.3s,baz=197,slow=7.3,SNR=3.8										
TXAR	**Lajitas Array**	**143.62**	**32**	PKP		PKPdf		17 05 38.5	-1.2		
	comp=Z,0.5nm,0.4s,baz=243,slow=2.8,SNR=7.3										

*NEIC **30** 16:56:46.1±1.6,20.12S×70.48W,h60km±14km,mb4.5/6, Error ellipse: s-maj=19.8km s-min=9.8km az=85.0*
*BJI **30** 16:56:47.1,20.10S×70.50W,h59km,mB4.4*
*IDC **30** 16:56:51.5±2.7,19.95S×70.23W,h98km±24km,mb4.0/14, mb1 4.1/16,mb1mx4.1/18,mbtmp4.4/16,MS3.5/1, Ms1 3.6/1,ms1mx3.4/27,Error ellipse: s-maj=19.9km s-min=12.6km az=90.0*

ISC 30 16:56:45.8±1.8,19.99S±0.07×70.35W±0.09,h66km±16km, n46,σ1°41/34,mb4.3/16,3C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**2.93**	**153**	⇑*iP*		**P**	**16 57 28.9**	**-2.3**
ARE	**Arequipa**	**3.67**	**343**	*eP*		**P**	**16 57 38.0**	**-3.6**
ARE				*e*			16 57 51.0	
ARE				*eS*		**S**	**16 58 41.0**	**+17**
LPAZ	**La Paz**	**4.25**	**30**	P		**P**	**16 57 56.4**	**+6.8**
	3.5nm,0.3s,baz=214,slow=7.7,SNR=62							
LPAZ				LR		LR	16 58 55.4	
	comp=Z,681nm,21.9s,baz=138,slow=30							
LPAZ	**La Paz**	**4.25**	**30**	*eP*		**P**	**16 57 52.6**	**+2.9**
LPAZ				LR		LR	16 58 55.4	
SIV	**San Ignacio**	**9.69**	**67**	P		**P**	**16 59 05.8**	**+0.9**
	2.3nm,0.3s,baz=260,slow=10,SNR=40							
SIV				S		**S**	**17 00 52.5**	**-0.6**
	baz=267,slow=18,SNR=2.3							
CFAA	**Coronel Fontan**	**11.72**	**171**	P		**P**	**16 59 37.1**	**+4.8**
	0.2nm,0.3s,baz=346,slow=14,SNR=4.8							
CFAA				S		**S**	**17 01 50.8**	**+8.6**
	0.1nm,0.3s,baz=158,slow=14,SNR=2.5							
TRQA	**Tornquist**	**19.41**	**160**	*eP*		**P**	**17 01 05.7**	**-3.7**
	18nm,1.1s							
PLCA	**Paso Flores**	**20.67**	**180**	P		**P**	**17 01 23.1**	**+0.5**
	8.5nm,0.8s,baz=0.3,slow=11,SNR=13							
PLCA	**Paso Flores**	**20.67**	**180**	*eP*		**P**	**17 01 19.1**	**-3.5**
	49nm,1.5s							
OTAV	**Otavalo**	**21.61**	**338**	P		**P**	**17 01 31.8**	**-0.4**
	10nm,1.1s,mb4.1							
BDFB	**Brasilia**	**21.70**	**82**	P		**P**	**17 01 35.1**	**+2.1**
	14nm,0.7s,mb4.4,baz=262,slow=13,SNR=10							
ROSC	**El Rosal**	**25.00**	**351**	P		**P**	**17 02 07.3**	**+2.0**
	6.9nm,0.5s,mb4.3,baz=278,slow=23,SNR=3.1							
SDV	**Santo Domingo**	**28.70**	**359**	P		**P**	**17 02 37.5**	**-1.6**
	4.1nm,0.5s,mb4.3,baz=306,slow=6.2,SNR=5.2							
SDV	**Santo Domingo**	**28.70**	**359**	*eP*		**P**	**17 02 36.7**	**-2.4**
	15nm,1.3s,mb4.5							
USHA	**Ushuaia**	**34.81**	**178**	P		**P**	**17 03 33.9**	**+1.8**
	3.8nm,0.4s,mb4.6,baz=357,slow=8.0,SNR=6.3							
SJG	**San Juan**	**38.09**	**6**	P		**P**	**17 03 57.9**	**-2.3**
	11nm,0.3s,mb5.2,baz=344,slow=23,SNR=7.5							
SJG	**San Juan**	**38.09**	**6**	*eP*		**P**	**17 03 57.7**	**-2.4**
	12nm,0.3s,mb5.2							
TXAR	**Lajitas Array**	**58.63**	**326**	P		**P**	**17 06 37.5**	**-1.2**
	0.6nm,0.7s,mb3.8,baz=162,slow=8.6,SNR=2.4							
DBIC	**Dimbokro**	**69.62**	**75**	P		**P**	**17 07 48.9**	**-1.8**
	7.6nm,1.0s,mb4.5,baz=217,slow=8.2,SNR=8.1							
QSPA	**South Pole Qui**	**70.19**	**180**	⇑*iP*		**P**	**17 07 52.9**	**-0.1**
	7.6nm,1.0s,mb4.5							
PDAR	**Pinedale Array**	**72.14**	**331**	P		**P**	**17 08 07.0**	**+1.7**
	1.4nm,0.9s,mb3.8,baz=149,slow=5.3,SNR=3.2							
SCHQ	**Schefferville**	**74.58**	**2**	P		**P**	**17 08 18.8**	**-0.6**
	3.0nm,0.8s,mb4.0,baz=216,slow=6.2,SNR=3.1							
SCHQ	**Schefferville**	**74.58**	**2**	P		**P**	**17 08 18.8**	**-0.6**
VNDA	**Vanda**	**78.09**	**190**	P		**P**	**17 08 39.7**	**+1.0**
	1.0nm,0.8s,mb3.6,baz=158,slow=4.4,SNR=6.5							
VNDA	**Vanda**	**78.09**	**190**	P		**P**	**17 08 39.7**	**+1.0**
SYO	**Syowa Base**	**78.38**	**160**	⇑X			17 08 40.6	
BOSA	**Boshof**	**85.35**	**119**	P		**P**	**17 09 16.8**	**-0.7**
	6.1nm,1.0s,mb4.5,baz=225,slow=16,SNR=3.3							
BOSA	**Boshof**	**85.35**	**119**	P		**P**	**17 09 16.8**	**-0.7**
ESDC	**Sonseca Array**	**85.72**	**45**	P		**P**	**17 09 19.7**	**+0.7**
	0.2nm,0.3s,mb3.5,baz=248,slow=4.5,SNR=6.4							
MAW	**Mawson**	**86.15**	**164**	P		**P**	**17 09 20.4**	**0.0**
	6.1nm,1.0s,mb4.5,baz=254,slow=7.4,SNR=3.4							
YKA	**Yellowknife Ar**	**89.33**	**341**	P		**P**	**17 09 35.7**	**-0.1**
	5.7nm,0.8s,mb4.7,baz=135,slow=4.7,SNR=53							
YKA	**Yellowknife Ar**	**89.33**	**341**	P		**P**	**17 09 35.7**	**-0.1**
ASAR	**Alice Springs**	**130.58**	**210**	PKP		PKPdf	17 15 50.5	+0.4
	1.8nm,0.9s,baz=138,slow=2.3,SNR=12							
WRA	**Warramunga Arr**	**133.52**	**213**	PKP		PKPdf	17 15 56.7	+1.0
	0.9nm,0.7s,baz=161,slow=1.9,SNR=12							
FITZ	**Fitzroy Crossi**	**139.02**	**204**	PKhKP			17 16 01.3	
	5.1nm,0.9s,baz=30,slow=6.2,SNR=2.9							
FITZ				PKP		PKPdf	17 16 07.6	+1.8
	7.5nm,1.1s,baz=121,slow=4.0,SNR=2.8							
ZAL	**Zalesovo**	**141.14**	**23**	PKP		PKPdf	17 16 08.9	+0.3
	1.3nm,0.7s,baz=157,slow=1.1,SNR=5.8							
MKAR	**Makanchi Array**	**145.17**	**34**	PKPbc		PKPbc	17 16 17.9	+1.6
	13nm,0.8s,baz=326,slow=3.8,SNR=125							
WMQ	**Urumqi**	**149.99**	**33**	*e*PKP		PKPdf	17 16 20.3	-3.5
MJAR	**Matsushiro Arr**	**150.08**	**309**	PKPbc		PKPdf	17 16 31.1	+6.8
	3.6nm,0.7s,baz=98,slow=2.2,SNR=11							
MAT	**Matsushiro**	**150.08**	**309**	*eP*		PKPdf	17 16 31.0	+6.8
MAT	**Matsushiro**	**150.08**	**309**	P		PKPdf	17 16 30.8	+6.6
HYB	**Hyderabad**	**150.46**	**90**	*eP*		PKPdf	17 16 33.0	+7.7
HYB	**Hyderabad**	**150.46**	**90**	*i* PKP		PKPdf	17 16 33.0	+7.7
SONM	**Songino Array**	**152.10**	**5**	PKP		PKPdf	17 16 29.8	+2.9
	1.2nm,1.1s,baz=315,slow=1.7,SNR=5.4							
SONM				PKPbc		PKPdf	17 16 36.0	+9.2
	3.4nm,0.8s,baz=315,slow=1.2,SNR=26							
SONM				PKPab		PKPab	17 16 45.5	-0.2
	1.8nm,0.9s,baz=345,slow=2.1,SNR=7.2							
CN2	**Changchun**	**152.83**	**334**	*e*PKP		PKPdf	17 16 24.3	-3.7
HHC	**Hu-ho-hao-te**	**159.15**	**356**	*e*PKP		PKPdf	17 16 33.8	-2.6
HHC				APKP			17 16 56.0	
HHC				XPKP			17 17 06.8	

IDC 30 17:03:16.7±4.1,1.82S×99.98E,mb3.5/4,mb1 3.6/4, mb1mx3.5/17,mbtmp3.5/4,Error ellipse: s-maj=163.1km s-min=24.5km az=58.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**38.10**	**121**	P		P	17 10 38.1	-1.2
	0.5nm,0.6s,baz=303,slow=9.1,SNR=5.1							
ASAR	**Alice Springs**	**39.37**	**126**	P		P	17 10 47.6	-2.3
	0.2nm,0.5s,baz=301,slow=7.3,SNR=7.4							
SONM	**Songino Array**	**49.77**	**6**	P		P	17 12 12.1	-0.9
	0.7nm,0.7s,baz=191,slow=9.0,SNR=7.9							
MKAR	**Makanchi Array**	**50.85**	**344**	P		P	17 12 18.2	-3.1
	0.5nm,0.6s,baz=152,slow=8.2,SNR=4.6							

IDC 30 17:10:10.6±4.1,1.97N×98.47E,mb3.6/3,mb1 3.7/3, mb1mx3.4/18,mbtmp3.6/3,Error ellipse: s-maj=158.0km s-min=29.6km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.38**	**123**	P		P	17 17 58.6	-1.7
	0.3nm,0.5s,baz=305,slow=8.9,SNR=5.8							
SONM	**Songino Array**	**46.20**	**7**	P		P	17 18 37.9	-1.2
	0.3nm,0.5s,baz=184,slow=8.9,SNR=3.1							
MKAR	**Makanchi Array**	**46.82**	**345**	P		P	17 18 41.6	-2.4
	0.8nm,0.5s,baz=159,slow=9.1,SNR=9.2							

*NEIC **30** 17:21:34.2,16.97N×100.15W,h44km,MD3.9(MEX),After MEX.*

MEX 30 17:21:33.9±0.5,17.02N×100.15W,h47km±5km,MD3.9, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CAIG	**El Cayaco**	**0.11**	**283**	*i* P		P	17 21 39.8	-1.5
CAIG				*i* S		S	17 21 44.7	-1.9
CAIG	**El Cayaco**	**0.11**	**283**	*i* P		P	17 21 39.9	-1.4
CAIG				*i* S		S	17 21 44.7	-1.9
ACX	**Acapulco**	**0.27**	**124**	*i* P		P	17 21 41.0	-1.6
ACX				*i* S		S	17 21 47.0	-1.6
ZIIG	**Zihuatanejo**	**1.38**	**295**	*i* P		P	17 21 57.1	-0.2
ZIIG				*i* S		S	17 22 11.8	-2.7
ZIIG	**Zihuatanejo**	**1.38**	**295**	*i* P		P	17 21 56.1	-1.1
ZIIG				*i* S		S	17 22 12.4	-2.1
PLIG	**Platanillo**	**1.50**	**24**	*i* P		P	17 21 57.0	-1.9
PLIG				*i* S		S	17 22 15.7	-1.7
PLIG	**Platanillo**	**1.50**	**24**	*i* P		P	17 21 57.0	-1.9
PLIG				*i* S		S	17 22 14.3	-3.0
YAIG	**Yautepec**	**2.10**	**29**	*i* P		P	17 22 05.4	-2.0
YAIG				*i* S		S	17 22 32.3	0.0
YAIG	**Yautepec**	**2.10**	**29**	*i* P		P	17 22 05.4	-2.0
YAIG				*i* S		S	17 22 30.8	-1.5
PPM	**Popocatepetl**	**2.50**	**35**	*i* P		P	17 22 10.5	-2.5
PPM				*i* P			17 22 11.7	
PPM				*i* S		S	17 22 40.5	-1.9
PPM				*i* S		S	17 22 44.3	+1.9
PPM	**Popocatepetl**	**2.50**	**35**	*i* P		P	17 22 10.5	-2.5
PPM				*i* P			17 22 11.7	
PPM				*i* S		S	17 22 40.5	-1.9
PPM				*i* S		S	17 22 40.5	-1.9
MOIG	**Morelia**	**2.82**	**340**	*i* P		P	17 22 21.3	+3.7
MOIG				*i* S		S	17 22 52.4	+1.9
MOIG	**Morelia**	**2.82**	**340**	*i* P		P	17 22 15.7	-1.8
MOIG				*i* S		S	17 22 47.4	-3.2
OXX	**Oaxaca**	**3.28**	**88**	*eP*		P	17 22 25.0	+0.9
OXX				*i* S		S	17 23 03.0	+0.7

*IDC **30** 17:23:38.3±1.2,0.05N×98.03E,mb4.0/8,mb1 4.1/8, mb1mx3.9/18,mbtmp4.0/8,Error ellipse: s-maj=62.4km s-min=17.4km az=52.0*
*NEIC **30** 17:23:43.1±0.8,0.09N×98.12E,h30km,mb4.0/1,Error ellipse: s-maj=23.9km s-min=12.4km az=61.0*

ISC 30 17:23:41.1±0.9,0.1N±0.1×98.1E±0.2,h30km,n10, σ0°82/10,mb3.9/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.73**	**26**	*eP*		**Pn**	**17 25 06.5**	**0.0**
WRA	**Warramunga Arr**	**40.70**	**121**	P		**P**	**17 31 20.3**	**-0.6**
	0.4nm,0.3s,mb3.5,baz=307,slow=9.5,SNR=13							
WRA				PcP		PcP	17 33 26.4	+3.7
	0.5nm,1.0s,baz=310,slow=2.5,SNR=4.7							
ASAR	**Alice Springs**	**42.03**	**127**	P		**P**	**17 31 31.8**	**-0.1**
	0.5nm,0.6s,mb3.4,baz=297,slow=7.8,SNR=6.7							
SONM	**Songino Array**	**48.07**	**8**	P		**P**	**17 32 20.4**	**+0.5**
	0.7nm,0.7s,mb3.8,baz=187,slow=9.1,SNR=6.2							
MKAR	**Makanchi Array**	**48.51**	**346**	P		**P**	**17 32 23.4**	**+0.1**
	3.6nm,0.7s,mb4.5,baz=155,slow=7.6,SNR=52							
STKA	**Stephens Creek**	**51.96**	**132**	P		**P**	**17 32 50.5**	**+0.6**
	1.3nm,0.5s,mb4.2,baz=317,slow=7.6,SNR=8.2							
ZAL	**Zalesovo**	**54.76**	**350**	P		**P**	**17 33 09.4**	**-0.8**
	1.5nm,0.5s,mb4.3,baz=324,slow=5.6,SNR=7.2							
CHKZ	**Chkalovo**	**58.03**	**341**	*eP*		**P**	**17 33 32.9**	**-0.7**
	0.7nm,0.5s,mb4.0							
BRTR	**Keskin Array B**	**70.50**	**312**	P		**P**	**17 34 54.5**	**-0.7**
	0.6nm,0.6s,mb3.7,baz=117,slow=6.4,SNR=2.7							
FINES	**FINESS Array B**	**81.37**	**332**	P		**P**	**17 35 58.5**	**+2.3**
	1.6nm,1.0s,mb3.9,baz=104,slow=7.9,SNR=3.4							

*BJI **30** 17:29:19.4,2.85N×95.45E,h27km,mB6.1,mb5.8,Ms6.1, Msz5.9*
*MOS **30** 17:29:21.3±0.9,2.98N×95.50E,h33km,mb5.8/84, MS5.5/12,Error ellipse: s-maj=9.2km s-min=4.1km az=122.5*
*NEIC **30** 17:29:21.7±0.1,2.93N×95.42E,mb5.6/105,MS5.7/46, Error ellipse: s-maj=5.2km s-min=3.4km az=212.0*
*HRVD **30** 17:29:21.7±0.4,2.54N×95.25E,h25km,MW5.6/65, Centroid moment Tensor Solution. LP body waves: s46,c71;Mantle waves: s65,c107; Half duration: 1±5 Moment tensor: Scale 10^{17}Nm; M_{rr}1.22±.09; $M_{\theta\theta}$-0.73±.06; $M_{\phi\phi}$-0.48±.07; $M_{r\theta}$2.23±.15; $M_{\theta\phi}$1.18±.05; $M_{r\phi}$-2.34±.17; Best double couple: M6.3569×10^{17} NP1: ϕ_s303°,δ13°,λ77°. NP2:ϕ_s136°,δ78°,λ93°. Principal axes: T 3.286, Plg57°, Azm50°; N .564, Plg3°, Azm316°; P -3.851, Plg32°, Azm224°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **30** 17:29:25.4±1.7,2.87N×95.50E,h56km±14km,mb4.7/28, mb1 4.7/28,mb1mx4.7/29,mbtmp5.0/28,MS5.5/18, Ms1 5.5/18,ms1mx5.2/44 Error ellipse: s-maj=13.5km s-min=7.9km az=52.0*

ISC 30 17:29:20.1±0.1,2.92N±0.03×95.49E±0.02,h25km, h25km±.3km:pP-P,n610,σ0°98/552,mb5.6/166,MS5.7/90, 58C-21D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.66**	**65**	*eP*		**Pn**	**17 30 46.2**	**+1.3**
IPM	**Ipoh**	**5.77**	**73**	P		**Pn**	**17 30 47.5**	**+1.1**
SNG	**Songkhla**	**6.63**	**50**	P		**Pn**	**17 30 59.0**	**+0.4**
	1μm,1.0s							
KGM	**Kluang**	**7.88**	**96**	P		**Pn**	**17 31 16.5**	**+0.5**

NNT	**Nongplab**	**10.49**	**23**	P		**P**		**17 31 53.0**	**+0.8**		
NST	**Nakhon Sawan**	**13.48**	**20**	P		**P**		**17 32 30.0**	**-2.4**		
KSM	**Kuching**	**14.88**	**95**	*eP*		**P**		**17 32 51.4**	**+0.5**		
KKTK	**Khon Kaen**	**15.16**	**28**	P		**P**		**17 32 55.0**	**+0.4**		
PALK	**Pallekele**	**15.35**	**287**	*eP*		**P**		**17 32 55.6**	**-1.4**		
	215nm,1.0s										
VIS	**Vishakhapatnam**	**18.94**	**322**	*eP*		**P**		**17 33 41.9**	**-0.1**		
VIS				*e*				17 34 20.7			
	comp=Z,387nm,1.3s										
VIS				*eS*		**S**		**17 37 13.9**	**+5.0**		
TRD	**Trivandrum**	**19.25**	**288**	*eP*		**P**		**17 33 42.2**	**-3.5**		
TRD				*i* S		**S**		**17 37 20.2**	**+4.2**		
BWNR	**Bhubaneshwar**	**19.69**	**332**	*eP*		**P**		**17 33 49.3**	**-1.3**		
BWNR				*e*				17 34 03.1			
	comp=Z,642nm,1.5s										
BWNR				*eS*		**S**		**17 37 26.5**	**+1.0**		
BWNR				*i*				17 40 37.0			
CAL	**Calcutta**	**20.70**	**341**	*eP*		**P**		**17 34 02.3**	**+1.1**		
CAL				*e*				17 37 56.0			
KKM	**Kota Kinabalu**	**20.89**	**81**	⇑*iP*		**P**		**17 34 03.7**	**+0.4**		
KKM	**Kota Kinabalu**	**20.89**	**81**	P		**P**		**17 34 04.2**	**+0.9**		
AGT	**Agartala**	**21.24**	**349**	*i* P		**P**		**17 34 03.0**	**-3.7**		
AGT				*i*				17 34 53.0			
QIZ	**Qiongzhong**	**21.30**	**40**	⇑P		**P**		**17 34 07.3**	**0.0**		
QIZ				PP		PP		17 34 31.0	-0.2		
QIZ				S		**S**		**17 38 03.5**	**+5.8**		
QIZ				XS				17 38 16.5			
QIZ				AMB		AMB					
	comp=Z,270nm,1.6s,mb5.3										
QIZ				LR		LR					
	comp=N,26μm,16.1s										
QIZ				LR		LR					
	comp=Z,28μm,16.6s,MS5.7										
QIZ	**Qiongzhong**	**21.30**	**40**	*eP*		**P**		**17 34 06.8**	**-0.5**		
	comp=Z,668nm,1.5s,mb5.8										
HYB	**Hyderabad**	**22.00**	**312**	*eP*		**P**		**17 34 15.0**	**+0.7**		
HYB				pmax		pmax					
	comp=Z,170nm,1.0s,mb5.4										
HYB	**Hyderabad**	**22.00**	**312**	*eP*		**P**		**17 34 15.0**	**+0.7**		
	comp=Z,170nm,1.0s,mb5.4										
HYB	**Hyderabad**	**22.00**	**312**	*i* P		**P**		**17 34 15.0**	**+0.7**		
	comp=Z,170nm,1.0s,mb5.4										
TSM	**Tawau**	**22.38**	**86**	P		**P**		**17 34 18.5**	**+0.3**		
MNGI	**Mangalore**	**22.74**	**297**	*eP*		**P**		**17 34 23.9**	**+2.1**		
MNGI				*i* S		**S**		**17 38 30.4**	**+6.1**		
	comp=Z,336nm,1.4s										
SHL	**Shillong**	**22.78**	**352**	*e*		**P**		**17 34 19.0**	**-3.2**		
SHL				*e*				17 38 24.0			
BATP	**Bataraza**	**22.94**	**74**	*eP*		**P**		**17 34 21.6**	**-2.3**		
BLSP	**Bilaspur**	**23.09**	**327**	*eP*		**P**		**17 34 26.0**	**+0.8**		
BLSP				*eS*		**S**		**17 38 36.5**	**+6.1**		
KMI	**Kunming**	**23.16**	**17**	P		**P**		**17 34 27.0**	**+1.2**		
KMI				AP				17 34 35.0			
KMI				XP				17 34 38.0			
KMI				S		**S**		**17 38 39.3**	**+7.6**		
KMI				AMB		AMB					
	comp=Z,247nm,1.2s,mb5.5										
KMI				AMB		AMB					
	comp=Z,4μm,6.4s										
KMI				LR		LR					
	comp=N,34μm,

CAUP	**Cauayan**	**29.39**	**60**	*e*P	**P**	**17 35 23.0**	**-0.9**
BUKP	**Musuan**	**29.84**	**79**	*e*P	**P**	**17 35 28.6**	**+0.6**
MSLP	**Maasin**	**30.03**	**75**	*e*P	**P**	**17 35 29.6**	**0.0**
LGTI	**Lohaghat**	**30.10**	**333**	*i* P	**P**	**17 35 30.0**	**-0.1**
PTH	**Pithoragarh**	**30.20**	**333**	*e*P	**P**	**17 35 31.0**	**0.0**
PTH				*e*		17 40 23.0	
PVCP	**Virac**	**30.25**	**68**	*e*P	**P**	**17 35 30.4**	**-1.1**
ENH	**Enshi**	**30.27**	**25**	*e*P	**P**	**17 35 30.2**	**-1.4**
	comp=Z,226nm,1.1s,mb5.8						
CNP	**Catarman**	**30.41**	**70**	*e*P	**P**	**17 35 33.0**	**0.0**
BUTP	**Butuan**	**30.55**	**77**	*e*P	sP	17 35 46.9	+2.0
AJM	**Ajmer**	**30.80**	**321**	*e*P	**P**	**17 35 33.0**	**-3.3**
BESP	**Borongan**	**30.91**	**72**	*e*P	**P**	**17 35 37.0**	**-0.3**
NDI	**New Delhi**	**30.97**	**328**	*e*P	**P**	**17 35 35.5**	**-2.3**
NDI				*e*S	**S**	**17 40 40.0**	**+0.3**
QZH	**Quanzhou**	**31.23**	**43**⇑	*i*P	**P**	**17 35 39.5**	**-0.6**
QZH				AP	pP	17 35 47.0	-0.5
QZH				S	**S**	**17 40 44.3**	**+0.6**
QZH				AMB	AMB		
	comp=Z,590nm,1.2s,mb6.3						
QZH				LR	LR		
	comp=N,8μm,16.1s,MS6.0						
QZH				LR	LR		
	comp=E,25μm,14.2s,MS6.0						
QZH				LR	LR		
	comp=Z,24μm,14.2s,MS6.0						
DDI	**Dehra Dun**	**31.86**	**331**	*e*P	**P**	**17 35 45.5**	**-0.1**
DDI				*e*S	**S**	**17 41 07.5**	**+14**
WHN	**Wuhan**	**32.76**	**31**	⇑P	**P**	**17 35 53.5**	**0.0**
WHN				AP	pP	17 36 02.0	+1.2
WHN				AMB	AMB		
	comp=Z,760nm,1.2s,mb6.5						
WHN				LR	LR		
	comp=Z,57μm,14.0s,MS6.4						
NACB	**Ninganchiao**	**32.89**	**48**	*e*P	**P**	**17 35 55.2**	**+0.6**
SMLA	**Simla**	**32.96**	**330**	*i*	**P**	**17 35 45.6**	**-10**
SMLA				*i*		17 41 00.5	
YHNB	**Yeheng**	**33.03**	**47**	*e*P	**P**	**17 35 55.2**	**-0.6**
SDNR	**Sundarnagar**	**33.36**	**330**	*e*P	**P**	**17 35 58.2**	**-0.5**
XAN	**Xi'an**	**33.40**	**21**	P	**P**	**17 35 57.8**	**-1.2**
XAN				AP	pP	17 36 04.0	-2.4
XAN				AMB	AMB		
	comp=Z,240nm,1.3s,mb6.0						
BHK	**Bhakra**	**33.57**	**330**	*e*	**P**	**17 36 05.1**	**+4.6**
MBWA	**Marble Bar**	**33.71**	**136**	*e*P	**P**	**17 36 01.5**	**-0.3**
	comp=Z,88nm,1.0s,mb5.6						
LZH	**Lanzhou**	**33.90**	**12**	⇑P	**P**	**17 36 02.5**	**-0.8**
LZH				AP	pP	17 36 10.3	-0.4
LZH				XP	sP	17 36 13.0	-0.9
LZH				PP	PP	17 37 16.0	-1.0
LZH				S	**S**	**17 41 25.5**	**+0.3**
LZH				XS		17 41 39.0	
LZH				SS	SS	17 43 32.0	-0.4
LZH				SCS	ScS	17 46 26.0	+2.0
LZH				AMB	AMB		
	comp=Z,350nm,1.5s,mb6.1						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=E,16μm,13.3s						
LZH				LR	LR		
	comp=Z,19μm,15.0s,MS6.0						
PONG	**Pong**	**34.23**	**330**	*e*P	**P**	**17 36 06.0**	**-0.2**
DLH	**Dalhousie**	**34.70**	**330**	*e*P	**P**	**17 36 11.0**	**+0.8**
DLH				*e*		17 36 25.0	
FITZ	**Fitzroy Crossi**	**36.32**	**126**	LR	LR	17 51 19.7	
	comp=Z,5μm,20.8s,MS5.3,baz=295,slow=36						
NJ2	**Nanjing**	**36.37**	**35**	*e*P	**P**	**17 36 24.5**	**+0.1**
NJ2				AP	pP	17 36 31.8	0.0
NJ2				XP	sP	17 36 35.3	+0.3
NJ2				PP	PP	17 37 48.3	+0.2
NJ2				S	**S**	**17 42 06.0**	**+2.6**
NJ2				XS		17 42 19.0	
NJ2				AMB	AMB		
	comp=Z,480nm,1.1s,mb6.3						
NJ2				AMB	AMB		
	comp=Z,1μm,7.3s						
NJ2				LR	LR		
	comp=N,19μm,17.4s,MS6.1						
NJ2				LR	LR		
	comp=E,18μm,17.5s,MS6.1						
NJ2				LR	LR		
	comp=Z,13μm,14.5s,MS5.8						
GTA	**Gaotai**	**36.54**	**6**⇑	*i*P	**P**	**17 36 25.5**	**-0.2**
GTA				AP	pP	17 36 33.0	-0.1
GTA				XP	sP	17 36 35.8	-0.5
GTA				PP	PP	17 37 51.0	+0.8
GTA				PPP	PPP	17 38 10.8	+0.6
GTA				PCP	PcP	17 38 50.0	+0.7
GTA				S	**S**	**17 42 03.5**	**-2.4**
GTA				XS		17 42 20.3	
GTA				SCP		17 42 35.0	
GTA				SS	SS	17 44 31.0	-1.5
GTA				SCS	ScS	17 46 38.8	+0.7
GTA				AMB	AMB		
	comp=Z,125nm,1.3s,mb5.6						
GTA				AMB	AMB		
	comp=Z,2μm,4.6s						
GTA				LR	LR		
	comp=N,6μm,13.7s						
GTA				LR	LR		
	comp=E,5μm,20.1s						
GTA				LR	LR		
	comp=Z,8μm,12.9s,MS5.7						
SSE	**Sheshan**	**37.06**	**38**	P	**P**	**17 36 30.8**	**+0.6**
SSE				AP	pP	17 36 38.3	+0.6
SSE				XP	sP	17 36 43.0	+2.2
SSE				PP	PP	17 37 55.0	-2.1
SSE				PCP	PcP	17 38 47.3	-3.7
SSE				S	**S**	**17 42 18.3**	**+4.2**
SSE				XS		17 42 31.5	
SSE				AMB	AMB		
	comp=Z,116nm,1.2s,mb5.6						
SSE				AMB	AMB		
	comp=Z,1μm,7.4s						
SSE				LR	LR		
	comp=N,11μm,14.0s,MS5.8						
SSE				LR	LR		
	comp=E,6μm,13.8s,MS5.8						
SSE				LR	LR		
	comp=Z,17μm,16.8s,MS5.9						
TIA	**Tai'an**	**38.69**	**28**	P	**P**	**17 36 44.0**	**+0.2**
TIA				AMB	AMB		
	comp=Z,349nm,1.5s,mb5.9						
JOW	**Kunigami**	**39.38**	**50**	P	**P**	**17 36 50.1**	**+0.5**
	comp=Z,69nm,0.9s,mb5.4,baz=255,slow=8.6,SNR=12						
BTO	**Baotou**	**39.75**	**17**	*e*P	**P**	**17 36 53.0**	**+0.4**
BTO				S	**S**	**17 42 45.5**	**-9.2**
BTO				AMB	AMB		
	comp=Z,217nm,1.5s,mb5.7						
MUN	**Mundaring**	**39.90**	**152**	*e*P	**P**	**17 36 55.5**	**+1.6**
	comp=Z,42nm,0.9s,mb5.2						
MUN	**Mundaring**	**39.90**	**152**	*e*P	**P**	**17 36 55.5**	**+1.6**
MUN				pmax	pmax		
	comp=Z,43nm,0.9s,mb5.2						
KLBR	**Kellerberrin**	**40.33**	**150**	*e*P	**P**	**17 36 58.1**	**+0.7**
	comp=Z,2μm,1.4s,mb6.6						
WBK	**Wadi Bani Khal**	**40.45**	**302**	⇑P	**P**	**17 37 00.1**	**+1.6**
	SNR=5.5						
HHC	**Hu-ho-hao-te**	**40.45**	**19**	*e*P	**P**	**17 37 00.0**	**+1.6**
HHC				AP	pP	17 37 07.3	+1.4
HHC				XP	sP	17 37 10.0	+1.0
HHC				PP	PP	17 38 38.0	+3.0
HHC				PCP	PcP	17 39 02.3	+0.7
HHC				S	**S**	**17 43 06.8**	**+1.6**
HHC				XS		17 43 16.8	
HHC				SS	SS	17 46 02.3	+2.8
HHC				SCS	ScS	17 47 03.0	+2.4
HHC				AMB	AMB		
	comp=Z,392nm,1.5s,mb5.9						
HHC				AMB	AMB		
	comp=Z,3μm,3.5s						
HHC				LR	LR		
	comp=N,22μm,15.5s,MS6.2						
HHC				LR	LR		
	comp=E,15μm,19.6s,MS6.2						
HHC				LR	LR		
	comp=Z,19μm,16.0s,MS6.0						
JMDO	**Jabal Madar**	**41.09**	**301**	⇓P	**P**	**17 37 11.3**	**+7.5**
NWAO	**Narrogin (SRO)**	**41.16**	**152**	*e*P	**P**	**17 37 05.5**	**+1.2**
NWAO				pmax	pmax		
	comp=Z,163nm,1.4s						
NWAO				MLR	MLR		
	comp=Z,4μm,20.0s						
NWAO	**Narrogin (SRO)**	**41.16**	**152**	*e*P	**P**	**17 37 05.5**	**+1.2**
	comp=Z,163nm,1.4s,mb5.5						
NWAO				LR	LR		
	comp=Z,4μm,20.0s,MS5.3						
WMQ	**Urumqi**	**41.31**	**351**⇑	*i*P	**P**	**17 37 06.3**	**+0.9**
WMQ				AP	pP	17 37 13.5	+0.6
WMQ				XP	sP	17 37 17.0	+1.0
WMQ				PP	PP	17 38 45.0	+1.2
WMQ				PPP	PPP	17 39 15.0	+0.8
WMQ				PCS		17 42 55.0	
WMQ				S	**S**	**17 43 18.5**	**+0.6**
WMQ				XS		17 43 31.0	
WMQ				SS	SS	17 46 18.0	+0.8
WMQ				AMB	AMB		
	comp=Z,260nm,1.4s,mb5.7						
WMQ				AMB	AMB		
	comp=Z,907nm,5.8s						
WMQ				LR	LR		
	comp=N,4μm,16.5s,MS5.6						
WMQ				LR	LR		
	comp=E,7μm,20.4s,MS5.6						
WMQ				LR	LR		
	comp=Z,3μm,19.3s,MS5.2						
BJT	**Baijiatuau**	**41.41**	**24**	*e*P	**P**	**17 37 07.8**	**+1.5**
BJT				*e**PP	pP	17 37 14.9	+1.1
BJT				pmax	pmax		
	comp=Z,775nm,1.2s						
BJT				MLR	MLR		
	comp=Z,7μm,19.0s						
BJT	**Baijiatuau**	**41.41**	**24**	*e*P	**P**	**17 37 07.8**	**+1.5**
	comp=Z,775nm,1.2s,mb6.2						
BJT				*e*pP	pP	17 37 14.9	+1.1
BJT				LR	LR		
	comp=Z,7μm,19.0s,MS5.5						
BJI	**Beijing**	**41.44**	**24**	P	**P**	**17 37 08.0**	**+1.6**
BJI				AP	pP	17 37 15.0	+1.1
BJI				XP	sP	17 37 19.0	+2.0
BJI				PP	PP	17 38 41.5	-3.7
BJI				PCP	PcP	17 39 03.0	-1.8
BJI				S	**S**	**17 43 18.5**	**-1.3**
BJI				AMB	AMB		
	comp=Z,484nm,1.1s,mb6.0						
BJI				AMB	AMB		
	comp=Z,4μm,3.5s						
BJI				LR	LR		
	comp=N,6μm,16.3s,MS5.8						
BJI				LR	LR		
	comp=E,9μm,17.0s,MS5.8						
BJI				LR	LR		
	comp=Z,7μm,16.9s,MS5.6						
BIDO	**Bidbid**	**41.52**	**303**	⇑P	**P**	**17 37 09.8**	**+2.4**
	SNR=12						
BSY	**Bisya**	**42.00**	**301**	P	**P**	**17 37 12.9**	**+1.5**
	SNR=9.0						
ULHL	**Ulahol**	**42.78**	**339**	P	**P**	**17 37 17.9**	**+0.4**
	SNR=44						
ARQ	**Araqi**	**42.80**	**302**	⇓P	**P**	**17 37 19.0**	**+1.1**
	SNR=6.1						
KZA	**Kyzart**	**43.00**	**338**	P	**P**	**17 37 20.4**	**+1.2**
	SNR=32						
RBK	**Rabkut**	**43.01**	**293**	⇓P	**P**	**17 37 19.4**	**-0.2**
DL2	**Dalian**	**43.02**	**30**⇑	*i*P	**P**	**17 37 20.3**	**+0.8**
DL2				AP	pP	17 37 27.5	+0.5
DL2				S	**S**	**17 43 46.5**	**+3.4**
DL2				AMB	AMB		
	comp=Z,220nm,1.1s,mb5.8						
DL2				AMB	AMB		
	comp=Z,1μm,7.1s						
DL2				LR	LR		
	comp=N,4μm,17.6s,MS5.6						
DL2				LR	LR		
	comp=E,5μm,14.2s,MS5.6						
DL2				LR	LR		
	comp=Z,6μm,15.8s,MS5.6						
UCH	**Uchtor**	**43.41**	**337**	P	**P**	**17 37 23.9**	**+1.3**
	SNR=106						
AAA	**Alma-Ata**	**43.44**	**340**	*i* P	**P**	**17 37 23.0**	**+0.2**
AAA				*i* S	**S**	**17 43 52.0**	**+2.9**
AAA				pmax	pmax		
	comp=Z,2μm,4.0s						
AAA				smax			
	comp=N,4μm,6.0s						
AAA				MLR	MLR		
	comp=Z,4μm,15.0s,MS5.4						
WHFO	**Wadi Hawf**	**43.51**	**293**	⇓P	**P**	**17 37 24.2**	**+0.5**
	SNR=22						
TKM2	**Tokmak 2**	**43.60**	**339**	P	**P**	**17 37 24.9**	**+0.8**
	SNR=47						
KBK	**Karagaybulak**	**43.61**	**338**	P	**P**	**17 37 25.7**	**+1.5**
	SNR=57						
AML	**Almayashu**	**43.65**	**336**	P	**P**	**17 37 25.8**	**+1.3**
	SNR=95						
ASHO	**Ashiyiah**	**43.72**	**303**	⇑P	**P**	**17 37 27.6**	**+2.3**
	SNR=8.1						
AAK	**Ala-Archa**	**43.76**	**338**	P	**P**	**17 37 25.5**	**+0.1**
	comp=Z,532nm,1.5s,mb6.0,SNR=53						
AAK	**Ala-Archa**	**43.76**	**338**	*e*P	**P**	**17 37 25.2**	**-0.2**
AAK				pmax	pmax		
	comp=Z,181nm,1.4s,mb5.6						
AAK	**Ala-Archa**	**43.76**	**338**	*e*P	**P**	**17 37 25.2**	**-0.2**
	comp=Z,181nm,1.4s,mb5.6						
ABTO	**Aybut**	**43.80**	**292**	⇑P	**P**	**17 37 25.8**	**-0.3**
	SNR=6.9						
FRU	**Bishkek**	**43.89**	**338**⇑	*i*P	**P**	**17 37 28.0**	**+1.6**
FRU				*e*		17 43 57.0	
FRU				*i*		17 44 11.0	
FRU				pmax	pmax		
	comp=Z,940nm,2.9s,mb6.0						
CHMS	**Chumysh**	**43.98**	**338**	P	**P**	**17 37 27.6**	**+0.4**
	SNR=20						
BANOM	**Banah**	**44.02**	**305**	⇑P	**P**	**17 37 28.2**	**+0.4**
	SNR=5.2						
EKS2	**Erkin-Say**	**44.06**	**337**	P	**P**	**17 37 28.8**	**+0.9**
	SNR=66						
USP	**Ospenovka**	**44.30**	**338**	P	**P**	**17 37 30.4**	**+0.5**
	SNR=112						
WRA	**Warramunga Arr**	**44.39**	**122**	P	**P**	**17 37 30.4**	**-0.5**
WRA				S	**S**	**17 43 58.2**	**-5.1**
WRA	**Warramunga Arr**	**44.39**	**122**	P	**P**	**17 37 30.4**	**-0.4**
	comp=Z,87nm,1.0s,mb5.4,baz=301,slow=9.0,SNR=190						
WRA				ScP		17 43 01.6	
	comp=Z,1.8nm,1.0s,baz=321,slow=2.4,SNR=3.3						
WRA				S	**S**	**17 43 58.2**	**-5.1**
	comp=Z,5.5nm,1.2s,baz=297,slow=16,SNR=5.3						
WRAB	**Tennant Creek**	**44.40**	**122**	P	**P**	**17 37 30.0**	**-0.9**
	comp=Z,675nm,1.1s,mb6.3,SNR=49						
WB2	**Warramunga Arr**	**44.40**	**122**	*e*P	**P**	**17 37 30.4**	**-0.5**
WB2				*i*	pP	17 37 39.0	+0.6
INCN	**Inchon**	**44.72**	**36**	*e*P	**P**	**17 37 32.3**	**-0.9**
	comp=Z,481nm,1.7s,mb6.0						
MKAR	**Makanchi Array**	**45.19**	**347**	P	**P**	**17 37 37.0**	**+0.1**
	comp=Z,70nm,0.8s,mb5.5,baz=164,slow=8.0,SNR=509						
MKAR				S	**S**	**17 44 15.0**	**+0.6**
	comp=Z,2.5nm,1.1s,baz=174,slow=13,SNR=2.6						
MKAR				LR	LR	17 59 31.1	
	comp=Z,4μm,21.8s,MS5.3,baz=171,slow=40						
KS15	**Wonju Array Si**	**45.43**	**37**	*e*P	**P**	**17 37 38.5**	**-0.4**
FORT	**Forrest**	**45.68**	**140**	*e*P	**P**	**17 37 41.9**	**+0.9**
	comp=Z,2μm,1.0s						
FORT				*i*		17 37 52.2	
SONM	**Songino Array**	**45.73**	**10**	P	**P**	**17 37 41.2**	**+0.1**
	comp=Z,128nm,1.0s,mb5.8,baz=193,slow=7.4,SNR=573						
SONM				PcP	PcP	17 39 19.7	+0.5
	comp=Z,10nm,0.8s,baz=209,slow=8.6,SNR=6.2						
SONM				ScP		17 43 09.2	
	comp=Z,5.2nm,1.2s,baz=207,slow=2.8,SNR=3.5						
SONM				S	**S**	**17 44 21.4**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=172,slow=10,SNR=2.3						
SONM				LR	LR	17 58 38.8	
	comp=Z,9μm,21.3s,MS5.7,baz=95,slow=38						
ASPA	**Alice Springs**	**45.79**	**127**	*e*P	**P**	**17 37 41.0**	**-0.9**
ASAR	**Alice Springs**	**45.79**	**127**	P	**P**	**17 37 41.6**	**-0.3**
	comp=Z,26nm,0.9s,mb5.2,baz=302,slow=7.3,SNR=111						
ASAR				PcP	PcP	17 39 19.8	0.0
	comp=Z,6.4nm,0.8s,baz=309,slow=3.7,SNR=2.7						
ASAR				S	**S**	**17 44 21.6**	**-1.7**
	comp=Z,2.4nm,1.1s,baz=309,slow=13,SNR=2.8						
ULN	**Ulaanbaatar**	**45.88**	**11**	*e*P	**P**	**17 37 42.1**	**-0.2**
ULN				pmax	pmax		
	comp=Z,135nm,1.1s,mb5.8						
ULN	**Ulaanbaatar**	**45.88**	**11**	*e*P	**P**	**17 37 42.1**	**-0.2**
	comp=Z,135nm,1.1s,mb5.8						
SNY	**Shenyang**	**46.20**	**29**⇑	*i*P	**P**	**17 37 44.5**	**-0.5**
SNY				AP	pP	17 37 52.0	-0.5
SNY				XP	sP	17 37 56.5	+0.9
SNY				PP	PP	17 39 33.5	0.0
SNY				AMB	AMB		
	comp=Z,220nm,1.5s,mb5.9						
SNY				LR	LR		
	comp=N,7μm,14.1s,MS6.0						
SNY				LR	LR		
	comp=E,9μm,14.9s,MS6.0						
SNY				LR	LR		
	comp=Z,12μm,15.3s,MS6.0						
ZAK	**Zakamensk**	**47.75**	**7**⇓	*i*P	**P**	**17 37 56.6**	**-0.5**
ZAK				*e*		17 39 32.0	
ZAK				pmax	pmax		
	comp=Z,62nm,1.3s,mb5.5						
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
CN2	**Changchun**	**48.60**	**29**	*e*P	**P**	**17 38 03.5**	**-0.2**
CN2				*e*AP	pP	17 38 11.0	-0.3
CN2				*e*XP	sP	17 38 14.3	0.0
CN2				PCP	PcP	17 39 29.0	-0.5
CN2				PP	PP	17 39 58.0	+1.6
CN2				*e*S	**S**	**17 45 03.0**	**+0.1**
CN2				AMB	AMB		
	comp=Z,140nm,1.8s,mb5.7						
CN2				AMB	AMB		
	comp=Z,2μm,4.0s						
CN2				LR	LR		
	comp=N,8μm,15.0s,MS6.1						
CN2				LR	LR		
	comp=E,12μm,15.0s,MS6.1						
CN2				LR	LR		
	comp=Z,8μm,18.0s,MS5.8						
MOY	**Mondy**	**48.80**	**5**	*e*P	**P**	**17 38 05.5**	**+0.4**
MOY				pmax	pmax		
	comp=Z,170nm,3.1s						
TLY	**Talaya**	**49.07**	**7**	*e*P	**P**	**17 38 07.8**	**+0.5**
TLY				pmax	pmax		
	comp=Z,127nm,1.2s,mb5.8						
TLY				MLR	MLR		
	comp=Z,8μm,17.0s,MS5.8						
TLY	**Talaya**	**49.07**	**7**	*e*P	**P**	**17 38 07.4**	**+0.2**
	comp=Z,125nm,1.1s,mb5.9						
IRK	**Irkutsk**	**49.70**	**7**⇑	*i*P	**P**	**17 38 11.9**	**-0.2**
IRK				*e*		17 39 31.7	
IRK				*e*		17 48 02.1	
IRK				pmax	pmax		
	comp=Z,272nm,2.0s,mb5.9						
KURK	**Kurchatov**	**49.71**	**346**⇑	*i*P	**P**	**17 38 12.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,349nm,1.5s,mb6.2						
KURK	**Kurchatov**	**49.71**	**346**⇑	*i*P	**P**	**17 38 12.1**	**-0.1**
	comp=Z,349nm,1.5s,mb6.2						
HIA	**Hailar**	**50.60**	**20**	*e*P	**P**	**17 38 19.1**	**+0.1**
HIA				pmax	pmax		
	comp=Z,158nm,1.2s						
HIA				MLR	MLR		
	comp=Z,6μm,20.0s						
HIA	**Hailar**	**50.60**	**20**	*e*P	**P**	**17 38 19.1**	**+0.1**
	comp=Z,158nm,1.2s,mb5.8						
HIA				LR	LR		
	comp=Z,6μm,20.0s,MS5.6						
MDJ	**Mudanjiang**	**51.25**	**31**	P	**P**	**17 38 24.0**	**+0.1**
MDJ				AP	pP	17 38 30.5	-1.1
MDJ				XP	sP	17 38 32.8	-1.8
MDJ				PCP	PcP	17 39 38.5	-0.6
MDJ				PP	PP	17 40 20.8	-0.8
MDJ				PCS		17 43 34.8	
MDJ				S	**S**	**17 45 42.8**	**+3.2**
MDJ				XS		17 45 51.3	
MDJ				SCS	ScS	17 48 13.5	+3.9
MDJ				AMB	AMB		
	comp=Z,125nm,1.8s,mb5.5						
MDJ				AMB	AMB		
	comp=Z,1μm,7.5s						
MDJ				LR	LR		
	comp=N,8μm,16.1s,MS5.9						
MDJ				LR	LR		
	comp=E,6μm,17.4s,MS5.9						
MDJ				LR	LR		
	comp=Z,6μm,16.1s,MS5.7						
MDJ	**Mudanjiang**	**51.25**	**31**	*e*P	**P**	**17 38 23.6**	**-0.4**
	comp=Z,303nm,1.4s,mb6.0						
MDJ				*e*pP	pP	17 38 32.5	+1.0
MDJ				LR	LR		
	comp=Z,5μm,19.0s,MS5.6						
ZAL	**Zalesovo**	**51.61**	**352**	P	**P**	**17 38 26.2**	**-0.4**
	comp=Z,99nm,0.9s,mb5.7,baz=300,slow=6.3,SNR=360						
MAJO	**Matsushiro**	**51.62**	**44**	*e*P	**P**	**17 38 25.5**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,49nm,1.3s,mb5.3						
MAJO	**Matsushiro**	**51.62**	**44**	*e*P	**P**	**17 38 25.5**	**-1.4**
	comp=Z,49nm,1.3s,mb5.3						
MAT	**Matsushiro**	**51.62**	**44**	*e*P	**P**	**17 38 25.0**	**-1.9**
MAT				pmax	pmax		
	comp=Z,274nm,1.9s,mb5.9						
MAT				MLR	MLR		
	comp=Z,6μm,21.0s,MS5.6						
MAT	**Matsushiro**	**51.62**	**44**	*e*P	**P**	**17 38 25.0**	**-1.9**
	comp=Z,274nm,1.9s,mb5.9						
MAT				LR	LR		
	comp=Z,6μm,21.0s,MS5.6						
MAT	**Matsushiro**	**51.62**	**44**	P	**P**	**17 38 25.4**	**-1.5**
MJAR	**Matsushiro Arr**	**51.62**	**44**	P	**P**	**17 38 26.4**	**-0.5**
	comp=Z,14nm,1.0s,mb4.8,baz=220,slow=5.4,SNR=16						
MJAR				PcP	PcP	17 39 41.1	+0.4
	comp=Z,30nm,1.1s,baz=252,slow=4.7,SNR=9.9						
RAYN	**Ar Rayn**	**52.45**	**298**	P	**P**	**17 38 33.8**	**+0.5**
	comp=Z,226nm,0.9s,SNR=22						
NVS	**Novosibirsk**	**52.72**	**351**⇑	*i*P	**P**	**17 38 33.4**	**-1.5**
NVS				*i* S	**S**	**17 45 59.0**	**-0.6**
NVS				pmax	pmax		
	comp=Z,250nm,1.3s,mb6.0						
NVS				pmax	pmax		
	comp=N,237nm,1.5s						
NVS				pmax	pmax		
	comp=E,130nm,1.2s						
NVS				smax			
	comp=N,66nm,1.4s						
NVS				smax			
	comp=E,366nm,1.8s						
ATD	**Arta Tunnel**	**52.84**	**282**	P	**P**	**17 38 36.5**	**+0.1**
	comp=E,16nm,1.0s,mb4.9,baz=96,slow=6.8,SNR=6.2						
PMG	**Port Moresby**	**52.92**	**104**	P	**P**	**17 38 37.1**	**+0.1**
	comp=E,61nm,1.0s,mb5.5,baz=296,slow=5.5,SNR=8.6						
BVA0	**Borovoye Array**	**54.08**	**342**	P	**P**	**17 38 43.9**	**-1.0**
BVA0				pmax	pmax		
	comp=Z,36nm,1.3s,mb5.1						
BVAR	**Borovoye Array**	**54.08**	**342**	P	**P**	**17 38 44.0**	**-0.9**
	comp=Z,27nm,0.8s,mb5.2,baz=143,slow=7.4,SNR=146						
CHKZ	**Chkalovo**	**54.57**	**342**⇑	*i*P	**P**	**17 38 47.8**	**-0.7**
CTA	**Charters Tower**	**54.80**	**117**⇑	*i*P	**P**	**17 38 50.4**	**-0.3**
	comp=Z,55nm,1.1s,mb5.5						
CTA				*i*	pP	17 38 58.4	+0.1
CTA	**Charters Tower**	**54.80**	**117**⇑	*i*P	**P**	**17 38 50.4**	**-0.3**
CTA				*i*	pP	17 38 58.4	+0.1
CTA				pmax	pmax		
	comp=Z,55nm,1.1s						
CTAO	**Charters Tower**	**54.80**	**117**⇑	*i*P	**P**	**17 38 50.3**	**-0.4**
CTAO				*e**PP	pP	17 38 57.8	-0.5
CTAO				pmax	pmax		
	comp=Z,89nm,1.0s,mb5.8						
CTAO	**Charters Tower**	**54.80**	**117**⇑	*i*P	**P**	**17 38 50.3**	**-0.3**
	comp=Z,89nm,1.0s,mb5.8						
CTAO				*e*pP	pP	17 38 57.8	-0.5
KLR	**Kul'dur**	**55.52**	**28**⇓	*i*P	**P**	**17 38 52.0**	**-3.6**
KLR				*e*S	**S**	**17 46 36.6**	**-0.9**
KLR				pmax	pmax		
	comp=N,200nm,2.0s						
KLR				pmax	pmax		
	comp=E,300nm,2.0s						
KLR				pmax	pmax		
	comp

KMBO LR LR 18 02 02.8
comp=Z,8µm,18.0s,MS5.9,baz=81,slow=34
KMBO Kilima Mbogo 58.35 267 *eP* **P 17 39 15.9 -0.2**
comp=Z,22nm,1.1s,mb5.1
CLNS Chul'man 58.64 18⇑ *iP* **P 17 39 17.5 0.0**
CLNS *e* 17 40 06.2
CLNS *e* 17 41 25.7
CLNS *eS* **S 17 47 23.3 +4.7**
CLNS pmax pmax
comp=Z,103nm,1.0s,mb5.8
CLNS pmax pmax
comp=N,74nm,1.2s
CLNS pmax pmax
comp=E,48nm,1.1s
CLNS pmax pmax
comp=Z,28nm,1.5s,mb5.1
CLNS pmax pmax
comp=N,18nm,0.9s
CLNS pmax pmax
comp=E,34nm,1.5s
CLNS smax
comp=N,9.0nm,1.0s
CLNS smax
comp=Z,4.0nm,0.9s
CLNS smax
comp=E,12nm,1.1s
CLNS MLR MLR
comp=N,18µm,16.0s,MS6.3
CLNS MLR MLR
comp=Z,25µm,16.0s,MS6.4
CLNS MLR MLR
comp=E,3µm,14.0s,MS6.3
GNI Garni 58.88 316 *eP* **P 17 39 17.9 -1.5**
GNI *e**PP pP 17 39 26.3 -0.9
GNI pmax pmax
comp=Z,46nm,0.9s
GNI Garni 58.88 316 P **P 17 39 19.4 0.0**
comp=Z,3.7nm,0.8s,mb4.5,baz=330,slow=21,SNR=5.0
GNI LR LR 18 08 54.7
comp=Z,2µm,18.4s,MS5.2,baz=213,slow=40
GNI Garni 58.88 316 *eP* **P 17 39 17.9 -1.5**
comp=Z,46nm,0.9s,mb5.5
GNI *ep*P pP 17 39 26.3 -0.9
TVAN Van 59.15 314 *i* P Px 17 39 35.9
TI2 Plekhanov 59.56 318 *i* P **P 17 39 23.0 -1.1**
TI2 *i* pP 17 39 30.2 -1.7
TI2 *i* 17 39 39.0
TI2 pmax pmax
comp=Z,30nm,0.4s,mb5.7
TI2 pmax pmax
comp=Z,60nm,0.6s,mb5.8
TBLG Delisi 59.57 318 P **P 17 39 31.3 +7.1**
YSS Yuzh-Sakhalins 59.93 36⇑ *eP* **P 17 39 25.6 -1.0**
YSS *e**SP sP 17 39 39.0 +1.8
YSS *eS* **S 17 47 30.0 -5.4**
YSS pmax pmax
comp=Z,270nm,1.2s,mb6.2
YSS pmax pmax
comp=N,110nm,1.1s
YSS MLR MLR
comp=Z,4µm,15.0s,MS5.7
YSS MLR MLR
comp=N,3µm,16.0s,MS5.7
YSS MLR MLR
comp=E,3µm,14.0s,MS5.7
YSS Yuzh-Sakhalins 59.93 36 *eP* **P 17 39 26.1 -0.5**
comp=E,271nm,1.1s,mb6.2
SVE Sverdlovsk 60.48 339⇑ *iP* **P 17 39 39.0 +8.8**
SVE pmax pmax
comp=Z,400nm,2.1s,mb6.1
SVE MLR MLR
comp=N,2µm,22.0s,MS5.4
SVE MLR MLR
comp=E,2µm,22.0s,MS5.4
SVE MLR MLR
comp=Z,5µm,22.0s,MS5.6
ZEI Tsey 60.59 319 *eP* **P 17 39 29.0 -2.1**
ZEI *i* *PP pP 17 39 46.0 +7.1
ZEI pmax pmax
comp=Z,16nm,1.1s,mb5.1
ARU Arti 60.95 338⇑ *iP* **P 17 39 31.8 -1.6**
ARU *e* 17 40 10.5
ARU *eS* **S 17 47 48.6 +0.3**
ARU *e* 17 49 19.4
ARU *eSS* SS 17 51 50.8 +1.6
ARU pmax pmax
comp=Z,204nm,1.2s,mb6.1
ARU MLR MLR
comp=N,1µm,18.0s,MS5.5
ARU MLR MLR
comp=E,3µm,18.0s,MS5.5
ARU MLR MLR
comp=Z,5µm,18.0s,MS5.7
ARU Arti 60.95 338 *eP* **P 17 39 31.9 -1.5**
comp=Z,310nm,1.4s,mb6.2
ARU *ep*P pP 17 39 39.7 -1.5
ERZM Erzurum 61.15 315 *i* P **P 17 39 42.0 +7.0**
TOO Toolangi 61.36 136 *eP* **P 17 39 36.9 +0.5**
comp=Z,2.8nm,1.0s
TOO Toolangi 61.36 136 *eP* **P 17 39 36.9 +0.5**
TOO pmax pmax
comp=Z,3.0nm,1.0s
KIV Kislovodsk 61.90 319*c iP* **P 17 39 38.6 -1.4**
KIV *e* 17 41 57.8
KIV *eS* **S 17 48 00.9 +0.4**
KIV pmax pmax
comp=Z,34nm,1.7s,mb5.2
KIV Kislovodsk 61.90 319 *eP* **P 17 39 38.5 -1.5**
comp=Z,76nm,1.1s,mb5.7
KIV *ep*P pP 17 39 46.4 -1.4
ASF Jabal al Asfar 62.08 305 P **P 17 39 41.2 -0.2**
comp=Z,3.2nm,0.9s,mb4.5,baz=5.1,slow=10,SNR=11
ASF LR LR 18 07 58.0
comp=Z,3µm,19.0s,MS5.5,baz=190,slow=37
ELZG Elazig 62.37 312 *iP* **P 17 39 43.3 +0.1**
MALT Malatya 62.72 312 *eP* **P 17 39 44.8 -0.7**
MALT *e**PP pP 17 39 52.8 -0.5
MALT pmax pmax
comp=Z,57nm,1.2s,mb5.6
MALT Malatya 62.72 312 *eP* **P 17 39 44.8 -0.7**
comp=Z,58nm,1.2s,mb5.6
MALT *ep*P pP 17 39 52.8 -0.5
KELT Kelkit 62.74 314 *iP* **P 17 39 53.0 +7.4**
GZT Gaziantep 63.05 311 *iP* **P 17 39 47.5 -0.3**
EIL Elat 63.10 302 LR LR 18 08 10.9
comp=Z,6µm,18.4s,MS5.8,baz=4.9,slow=37
EIL Elat 63.10 302 *eP* **P 17 39 47.7 -0.4**
comp=Z,56nm,1.3s,mb5.5
EIL *ep*P pP 17 39 54.4 -1.5
KAHT Ahir Dag 63.66 311 *iP* **P 17 39 54.4 +2.5**
SOC Sochi 63.71 318 *eP* **P 17 39 55.0 +3.0**
SOC pmax pmax
comp=Z,48nm,0.7s,mb5.6
SOC pmax pmax
comp=N,19nm,0.9s
SOC pmax pmax
comp=E,17nm,0.8s
COBT Iskenderun 63.80 310 *iP* **P 17 40 00.4 +7.6**
YAK Yakutsk 64.28 17⇑ *iP* **P 17 39 54.1 -1.3**
YAK *e**PP pP 17 40 01.9 -1.3
YAK pmax pmax
comp=Z,468nm,1.1s,mb6.4
YAK Yakutsk 64.28 17⇑ *iP* **P 17 39 54.0 -1.4**
comp=Z,468nm,1.1s,mb6.4
YAK *ep*P pP 17 40 01.9 -1.3
MBAR Mbarara 64.82 268 P **P 17 39 58.9 -0.9**
comp=Z,109nm,1.1s,mb5.8,SNR=15
MBAR Mbarara 64.82 268 *eP* **P 17 39 58.4 -1.4**
MBAR pmax pmax
comp=Z,27nm,1.1s,mb5.2
MBAR Mbarara 64.82 268 *eP* **P 17 39 58.4 -1.3**
comp=Z,27nm,1.1s,mb5.2
TAU Tasmania Unive 65.22 140 PFAKE 17 40 10.0 +8.2
TAU LR LR
comp=Z,631nm,19.0s,MS4.8
MEST Erdemli 65.45 309 *iP* **P 17 40 02.9 -0.6**
AVNT Avonos 65.52 312 *iP* **P 17 40 03.2 -0.7**
CSS Prodhromos 65.67 307 *eP* **P 17 40 11.7 +6.8**
comp=Z,69nm,1.2s,mb5.6
ANN Anapa 65.69 318 *eP* **P 17 40 06.6 +1.8**
ANN pmax pmax
comp=Z,38nm,1.0s,mb5.4
CTKT Corum 66.12 313 *iP* **P 17 40 16.1 +8.5**
BOYT Boyabat 66.28 314 *iP* **P 17 40 09.8 +1.2**
BR131 Keskin Array S 66.70 312 PFAKE 17 40 20.0 +8.6
BR131 LR LR
comp=Z,2µm,21.0s,MS5.2
BRTR Keskin Array B 66.70 312 P **P 17 40 09.9 -1.5**
comp=Z,3.6nm,0.9s,baz=119,slow=5.8,SNR=10
ELDT Eldivan 67.07 313 *iP* **P 17 40 12.9 -0.8**
PECR Pechory 67.10 332 *iP* **P 17 40 12.0 -1.6**
PECR pmax pmax
comp=Z,2µm,1.4s
VRSR Storozhevoye 67.18 325 *eP* **P 17 40 11.7 -2.5**
VRSR *e* 17 42 38.4
VRSR *eS* S 17 49 00.9 -4.7
VRSR *e* 17 50 05.3
VRSR *eSS* SS 17 53 30.1 +3.4
VRSR pmax pmax
comp=Z,40nm,1.8s,mb5.2
VRSR pmax pmax
comp=N,10.0nm,1.1s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR smax
comp=N,240nm,4.0s
VRSR smax
comp=Z,40nm,2.7s
VRSR smax
comp=E,100nm,3.9s
BALT Daday 67.40 314 *iP* **P 17 40 13.0 -2.8**
SIM Simferopol' 67.95 318⇑ *iP* **P 17 40 25.9 +6.7**
SIM pmax pmax
comp=Z,47nm,0.9s,mb5.5
SGKT Sivrigoynuk 68.10 313 *iP* **P 17 40 26.2 +6.0**
ESKT Eskisehir 68.72 311 *iP* **P 17 40 23.4 -0.7**
LSZ Lusaka 68.98 253 PFAKE 17 40 40.0 +14
LSZ LR LR
comp=Z,3µm,20.0s,MS5.6
SKR Severo-Kuril's 69.48 36 *eP* **P 17 40 26.4 -2.1**
SKR *e* pP 17 40 34.6 -1.7
SKR pmax pmax
comp=N,130nm,1.0s
SKR pmax pmax
comp=E,160nm,1.0s
SKR pmax pmax
comp=Z,250nm,1.0s,mb6.1
CASY Casey 69.88 174 *eP* **P 17 40 38.1 +7.4**
MOS Moscow 69.99 329*α iP* **P 17 40 30.9 -0.6**
MOS *e* pP 17 40 37.7 -1.6
MOS *i* S S 17 49 37.3 -1.6
MOS pmax pmax
comp=Z,500nm,2.1s,mb6.1
MOS pmax pmax
comp=Z,181nm,1.4s,mb5.8
MOS MLR MLR
comp=Z,2µm,20.0s,MS5.3
MOS MLR MLR
comp=N,2µm,19.4s
ARG Arkhangelos 70.08 307 *eP* **P 17 40 40.5 +8.1**
ULDT Uludag 70.15 312 *iP* **P 17 40 39.5 +6.7**
OBN Obninsk 70.27 328*c iP* **P 17 40 31.9 -1.3**
OBN *i* pP 17 40 39.6 -1.4
OBN *i* 17 49 39.4
OBN pmax pmax
comp=Z,131nm,1.6s,mb5.6
OBN Obninsk 70.27 328 *eP* **P 17 40 31.9 -1.3**
comp=Z,262nm,1.3s,mb6.0
OBN *ep*P pP 17 40 39.3 -1.7
MA2 Magadan 70.55 26 *eP* **P 17 40 34.5 -0.4**
MA2 pmax pmax
comp=Z,181nm,1.3s,mb5.8
MA2 MLR MLR
comp=Z,2µm,19.0s,MS5.5
MA2 Magadan 70.55 26 *eP* **P 17 40 34.5 -0.4**
comp=Z,181nm,1.3s,mb5.8
MA2 LR LR
comp=Z,2µm,19.0s,MS5.5
KARP Karpathos 70.73 307 *eP* **P 17 40 37.0 +0.6**
BTOK Tokmak 70.89 311 *iP* **P 17 40 43.6 +6.3**
TIRR Tirgusor 71.71 316 ⇓*P* **P 17 40 43.9 +1.8**
PET Petropavlovsk 71.78 35 *eP* **P 17 40 37.8 -4.6**
PET pmax pmax
comp=Z,57nm,1.3s,mb5.3
PET MLR MLR
comp=Z,5µm,18.0s,MS5.8
PET Petropavlovsk 71.78 35 PFAKE 17 40 50.0 +7.6
PET LR LR
comp=Z,4µm,19.0s,MS5.7
XRY Khrisi 71.80 306 *eP* **P 17 40 50.0 +7.2**
TIXI Tiksi 71.81 11 PFAKE 17 40 50.0 +7.7
TIXI LR LR
comp=Z,3µm,20.0s,MS5.6
NPS Neapolis 71.92 306 *eP* **P 17 40 44.7 +1.1**
CFR Carcaliu 72.08 317 *P* **P 17 40 51.3 +7.0**
CFR Carcaliu 72.08 317⇑*P* **P 17 40 51.5 +7.2**
KIS Kishinev 72.09 319 *eP* **P 17 40 49.0 +4.7**
PRD Provadia 72.12 315 *eP* **P 17 40 42.1 -2.5**
SANT Santorini 72.23 307 *eP* **P 17 40 51.5 +6.1**
comp=Z,110nm,1.1s,mb5.7
JMB Yambol 72.54 314 *eP* **P 17 40 54.0 +6.8**
AKASG Malin Array Be 72.86 322 P **P 17 40 47.1 -1.7**
comp=Z,2.6nm,0.6s,baz=90,slow=4.9,SNR=28
SEY Seymchan 72.87 24 *eP* **P 17 40 50.5 +1.8**
SEY *e* 17 41 10.2
SEY pmax pmax
comp=E,110nm,1.4s
SEY pmax pmax
comp=Z,400nm,1.4s,mb6.2
VAM Vamos 73.09 306 *eP* **P 17 40 50.5 0.0**
GVD Gavdhos 73.09 305 P **P 17 40 49.2 -1.4**
comp=Z,38nm,1.0s,mb5.3
GVD *ep*P pP 17 40 57.1 -1.3
LBTB Lobatse 73.12 243 ⇓*iP* **P 17 40 50.2 -0.7**
LBTB *e**PP pP 17 40 58.2 -0.6
LBTB pmax pmax
comp=Z,71nm,1.0s,mb5.5
LBTB Lobatse 73.12 243 LR LR 18 09 22.7
comp=Z,6µm,19.0s,MS5.9,baz=29,slow=33
LBTB Lobatse 73.12 243 ⇓*iP* **P 17 40 50.2 -0.7**
comp=Z,71nm,1.0s,mb5.5
LBTB *ep*P pP 17 40 58.2 -0.6
SZH Strazhica 73.18 314 *eP* **P 17 40 59.0 +8.1**
VRI Vrincioaia 73.20 317 *P* **P 17 40 51.7 +0.8**
VRI Vrincioaia 73.20 317 ⇓*P* **P 17 40 51.5 +0.5**
VRI Vrincioaia 73.20 317 ⇓*P* **P 17 40 51.5 +0.6**
DIM Dimitrovgrad 73.22 313 *eP* **P 17 40 58.5 +7.4**
BUC1 Bucharest 73.34 315 *P* **P 17 40 54.2 +2.4**
NOUC Port Laguerre 73.42 114 *eP* **P 17 40 53.0 +0.4**
NOUC Port Laguerre 73.42 114 *eP* **P 17 40 53.0 +0.4**
DZM Mont Dzumac 73.54 114 *eP* **P 17 40 54.3 +0.9**
DZM Mont Dzumac 73.54 114 *P* **P 17 40 53.6 +0.2**
comp=Z,24nm,1.0s,mb5.1,baz=281,slow=7.8,SNR=9.0
DZM LR LR 18 16 44.7
comp=Z,2µm,20.0s,MS5.5,baz=121,slow=39
DZM Mont Dzumac 73.54 114 *eP* **P 17 40 54.2 +0.9**
MLR Muntele Rosu 73.65 317 *P* **P 17 40 53.4 -0.2**
comp=Z,7.6nm,0.9s,mb4.6,baz=39,slow=2.2,SNR=13
MLR Muntele Rosu 73.65 317 ⇓*P* **P 17 40 53.8 +0.2**
RZN Rozhen 73.75 313 *eP* **P 17 40 56.0 +1.8**
PLD Plovdiv 73.84 313 *eP* **P 17 40 53.0 -1.7**
MAW Mawson 74.00 192 *eP* **P 17 40 56.1 +1.0**
comp=Z,30nm,0.8s,mb5.3
MAW Mawson 74.00 192 *eP* **P 17 40 56.1 +1.0**
MAW pmax pmax
comp=Z,30nm,0.8s
MAW Mawson 74.00 192 P **P 17 40 56.3 +1.2**
comp=Z,14nm,1.0s,mb4.9,baz=28,slow=9.1,SNR=8.5
MAW LR LR 18 07 07.8
comp=Z,2µm,18.7s,MS5.5,baz=196,slow=31
BOSA Boshof 74.16 239 P **P 17 40 56.1 -0.7**
comp=Z,21nm,1.0s,mb5.0,baz=79,slow=6.1,SNR=16
BOSA LR LR 18 11 22.8
comp=Z,5µm,18.5s,MS5.8,baz=16,slow=34
PGB Panagyurishte 74.31 313 *eP* **P 17 41 04.0 +6.6**
MMB Musomiste 74.46 312 *eP* **P 17 41 03.0 +4.7**
BURAR Bucovina Array 74.61 319 *P* **P 17 40 59.5 +0.4**
BURAR Bucovina Array 74.61 319⇑*P* **P 17 41 00.1 +1.0**
MNK Minsk 74.78 326⇑*eP* **P 17 40 56.0 -3.9**
KKB Krupnik 74.98 313 *eP* **P 17 41 06.0 +4.7**
VTS Vitosha 75.01 313 *P* **P 17 40 59.5 -2.0**
VTS Vitosha 75.01 313 *eP* **P 17 41 01.0 -0.5**
PUL Pulkovo 75.18 332⇑*iP* **P 17 41 01.4 -0.7**
BOLS Boljevac 76.12 314 ⇓*iP* **P 17 41 07.0 -0.8**
SKO Skopje 76.21 312 *eP* **P 17 41 14.0 +5.7**
LVZ Lovozero 76.65 340 ⇓*iP* **P 17 41 10.0 -0.2**
BZS Buzias 76.66 316 *P* **P 17 41 10.1 -0.7**
KWP Kalwaria 76.66 320 *eP* **P 17 41 10.0 -0.7**
KWP *e**PP pP 17 41 18.0 -0.6
KWP pmax pmax
comp=Z,150nm,1.3s,mb5.8
KWP Kalwaria 76.66 320 *eP* **P 17 41 10.8 +0.1**
KWP Kalwaria 76.66 320 *eP* **P 17 41 10.8 +0.1**
SVIS Svilajnac 76.72 315 *eP* **P 17 41 10.9 -0.2**
KOLS Kolonicke sedl 76.81 320 *eP* **P 17 41 12.3 +0.8**
KOLS *ep*P pP 17 41 20.9 +1.5
KOLS *e* 17 41 31.1
KOLS *e* 17 41 50.8
APA Apatity 76.93 340 ⇓*iP* **P 17 41 11.6 -0.2**
APA *i* pP 17 41 19.0 -0.7
APA pmax pmax
comp=Z,42nm,1.0s,mb5.3
APA MLR MLR
comp=Z,4µm,19.0s,MS5.8
SUW Suwalki 77.29 325 *eP* **P 17 41 13.5 -0.5**
CRVS Cervenica-Dubn 77.33 319 *eP* **P 17 41 15.0 +0.6**
CRVS *ep*P pP 17 41 23.7 +1.4
CRVS *e* 17 41 38.6
CRVS *e* 17 41 52.5
DIVS Divcibare 77.57 314 ⇓*iP* **P 17 41 15.1 -0.7**
FINES FINESS Array B 77.70 333 P **P 17 41 15.6 -0.5**
comp=Z,7.5nm,0.7s,mb4.8,baz=99,slow=5.8,SNR=37
FINES LR LR 18 20 51.0
comp=Z,3µm,20.7s,MS5.5,baz=288,slow=40
KAF Kangasniemi 77.79 333 *ep* **P 17 41 15.3 -1.3**
comp=Z,20nm,0.9s,mb5.0,baz=104,slow=5.1
KAF Kangasniemi 77.79 333 *eP* **P 17 41 15.3 -1.3**
KAF pmax pmax
comp=Z,20nm,0.9s,mb5.0
KECS Kecovo 77.89 319 *eP* **P 17 41 18.3 +0.8**
KECS *ep*P pP 17 41 25.9 +0.5
KECS *es*P sP 17 41 30.2 +2.1
BBLS Bajina Basta - 77.95 314 *eP* **P 17 41 24.0 +6.1**
NIE Niedzica 78.16 320 *eP* **P 17 41 18.0 -0.9**
PSZ Piszkesteto 78.20 318 *P* **P 17 41 19.2 0.0**
PSZ Piszkesteto 78.20 318⇑*eP* **P 17 41 18.9 -0.3**
OJC Ojcow 78.62 321 *eP* **P 17 41 21.7 +0.3**
SUR Sutherland 78.67 236 LR LR 18 12 19.7
comp=Z,4µm,18.2s,MS5.8,baz=47,slow=33
SUR Sutherland 78.67 236 PFAKE 17 41 30.0 +7.9
SUR LR LR
comp=Z,1µm,19.0s,MS5.2
PKSM Moragy 78.80 316⇑*eP* **P 17 41 22.0 -0.5**
VYHS Vyhne 78.98 319 *eP* **P 17 41 23.6 +0.1**
VYHS *ep*P pP 17 41 31.2 -0.2
VYHS *e* 17 41 39.1
RHK1 Bakonya 79.18 316 *eP* **P 17 41 24.0 -0.6**
SRO Srobarova 79.23 318 *eP* **P 17 41 33.5 +8.6**
SRO Srobarova 79.23 318 *ep*P pP 17 41 33.5 +0.7
SRO1 Iza 79.28 318 *eP* **P 17 41 34.1 +9.0**
SRO1 Iza 79.28 318 *ep*P pP 17 41 34.1 +1.0
TIP Timpagrande 79.42 309 *eP* **P 17 41 27.5 +1.4**
TIP *ep*P pP 17 41 34.9 +0.9
OKC Ostrava-Krasne 79.61 320 *eP* **P 17 41 27.4 +0.5**
OKC *ep*P pP 17 41 35.3 +0.5
SMOL Smolenice 79.91 319 *eP* **P 17 41 37.1 +8.6**
SMOL Smolenice 79.91 319 *ep*P pP 17 41 37.1 +0.7
MORC Moravsky Berou 80.00 320 *eP* **P 17 41 28.6 -0.3**
MORC *e**PP pP 17 41 36.8 -0.1
MORC pmax pmax
comp=Z,45nm,1.2s,mb5.3
MORC Moravsky Berou 80.00 320 *eP* **P 17 41 28.6 -0.4**
comp=Z,45nm,1.2s,mb5.3
MORC *ep*P pP 17 41 36.8 -0.1
ZST Bratislava 80.09 318 *eP* **P 17 41 30.2 +0.7**
ZST *e* 17 41 41.8
ZST Bratislava 80.09 318 *eP* **P 17 41 30.2 +0.7**
ZST *ep*P pP 17 41 37.8 +0.4
ZST *es*P sP 17 41 41.8 +1.7
ARCES ARCESS Array B 80.35 340 P **P 17 41 30.8 +0.4**
comp=Z,20nm,0.9s,mb5.0,baz=104,slow=5.0,SNR=15
ARCES LR LR 18 23 00.4
comp=Z,4µm,19.8s,MS5.8,baz=118,slow=40
ARE0 ARCESS Array S 80.35 340 *eP* **P 17 41 28.6 -1.8**
SLCN Sala Consilina 80.39 310 *eP* **P 17 41 32.2 +1.0**
MGR Morigerati 80.43 310 *eP* **P 17 41 30.2 -1.2**
KOGS Kog 80.47 316 *eP* **P 17 41 31.2 -0.3**
KOGS *e* pP 17 41 39.3 -0.2
DPC Dobruska-Polom 80.85 320 *eP* **P 17 41 34.2 +0.8**
DPC *ep*P pP 17 41 42.5 +1.1
CSSN Cassano Irpino 80.88 311 *eP* **P 17 41 33.0 -0.8**
KSP Ksiaz 80.92 321 *eP* **P 17 41 33.9 +0.1**
KSP *e**PP pP 17 41 41.9 +0.1
KSP Ksiaz 80.92 321 *eP* **P 17 41 34.3 +0.5**
KTK1 Kautokeino 80.98 340 *eP* **P 17 41 35.1 +1.4**
comp=Z,196nm,1.4s,mb5.8
KTK1 Kautokeino 80.98 340 *eP* **P 17 41 34.6 +0.9**
KTK1 *ep*P pP 17 41 42.0 +0.3
KTK1 AMb AMB 17 41 45.3
comp=Z,196nm,1.4s,mb5.8
ARSA Arzberg 81.05 317⇑*iP* **P 17 41 34.8 +0.2**
comp=Z,41nm,1.1s,mb5.3
UPC Upice 81.06 321 *eP* **P 17 41 36.4 +1.9**
UPC *ep*P pP 17 41 43.5 +1.0
SYO Syowa Base 81.10 198⇑*P* **P 17 41 35.5 +1.1**
SYO Syowa Base 81.10 198 ⇓*PcP* PcP 17 41 41.8 +0.7
SYO Syowa Base 81.10 198 ⇓*pP* pP 17 41 44.9 +2.5
VISS Visnje 81.39 316 *eP* **P 17 41 36.3 -0.1**
VISS *e* pP 17 41 43.7 -0.7
RPZ Rata Peaks 81.62 135 P **P 17 41 37.5 -0.1**
comp=Z,13nm,0.9s,mb4.8,baz=160,slow=5.0,SNR=3.6
LJU Ljubljana 81.63 316 *eP* **P 17 41 37.9 +0.3**
LJU *e* pP 17 41 45.7 +0.2
OBKA Obir 81.65 316⇑*iP* **P 17 41 37.3 -0.4**
comp=Z,35nm,1.3s,mb5.1
SDI San Donato 81.85 312 *eP* **P 17 41 38.0 -0.8**
PRU Pruhonice 81.95 320 *eP* **P 17 41 39.9 +0.7**
PRU *ep*P pP 17 41 47.5 +0.4
MOA Molln 81.95 318⇑*iP* **P 17 41 39.1 -0.1**
comp=Z,14nm,1.1s,mb4.8
PVCC Panska Ves 81.98 320 *eP* **P 17 41 40.3 +1.0**
PVCC *ep*P pP 17 41 47.7 +0.4
VOY Vojsko 82.07 316 *eP* **P 17 41 39.7 -0.2**
VOY *e* pP 17 41 48.3 +0.4
PTQR Pietraquaria 82.17 312 *eP* **P 17 41 40.1 -0.4**
AQU L'Aquila 82.19 312 *eP* **P 17 41 41.3 +0.7**
GEC2 GERESS Array S 82.40 319 *eP* **P 17 41 42.1 +0.6**
GEC2 pmax pmax
comp=Z,72nm,1.2s,mb5.5
GEC2 GERESS Array S 82.40 319 *eP* **P 17 41 42.1 +0.6**
comp=Z,72nm,1.2s,mb5.5
GERES GERESS Array B 82.40 319 P **P 17 41 41.9 +0.3**
comp=Z,5.4nm,0.7s,mb4.6,baz=104,slow=5.5,SNR=30
BRG Berggiesshubel 82.41 321 *eP* **P 17 41 41.9 +0.4**
BRG *i* pP 17 41 50.1 +0.6
BRG pmax pmax
comp=Z,50nm,1.8s,mb5.1
BRG Berggiesshubel 82.41 321 *eP* **P 17 41 41.9 +0.4**
comp=Z,50nm,1.8s,mb5.1
BRG *i* pP 17 41 50.1 +0.6
BRG *i* 17 42 07.0
NRCA Norcia 82.43 313 *eP* **P 17 41 41.7 -0.1**
PTCC Patocco-Chiusa 82.47 316 *eP* **P 17 41 41.9 -0.1**
KHC Kasperske Hory 82.50 319 *eP* **P 17 41 42.7 +0.6**
KHC *ep*P pP 17 41 50.3 +0.2
KBA Koelnbreinsper 82.52 317⇑*iP* **P 17 41 41.4 -0.8**
comp=Z,23nm,1.1s,mb5.1
KBA Koelnbreinsper 82.52 317⇑*iP* **P 17 41 41.4 -0.8**
KBA pmax pmax
comp=Z,23nm,1.1s,mb5.1
GMNA Gemona 82.54 316 *eP* **P 17 41 42.8 +0.5**
SNTG Esanatoglia 82.58 313 *eP* **P 17 41 42.5 -0.1**
ARV Arcevia 82.59 313 *eP* **P 17 41 42.9 +0.3**
TRO Tromso 82.61 340 *eP* **P 17 41 41.5 -0.7**
TRO *e**PP pP 17 41 49.5 -0.7
TRO pmax pmax
comp=Z,179nm,1.6s,mb5.8
TRO Tromso 82.61 340 *eP* **P 17 41 41.5 -0.7**
comp=Z,178nm,1.6s,mb5.8
TRO *ep*P pP 17 41 49.5 -0.7
TRO Tromso 82.61 340 *eP* **P 17 41 40.7 -1.5**
TRO *ep*P pP 17 41 49.5 -0.7
TRO AMb AMB 17 41 51.5
comp=Z,178nm,1.6s,mb5.8
RUE Ruedersdorf 82.64 322 P **P 17 41 43.6 +0.9**
comp=Z,112nm,1.1s,mb5.8
RUE *ep*P pP 17 41 51.8 +1.1
MNS Montasola 82.73 312 *eP* **P 17 41 43.3 -0.1**
FVI Forni Avoltri 82.88 316 *eP* **P 17 41 43.9 -0.1**
WET Wettzell 82.96 319 *eP* **P 17 41 44.9 +0.4**
WET pmax pmax
comp=Z,31nm,1.1s,mb5.2

WET Wettzell 82.96 319 *e*P P 17 41 44.9 +0.4
comp=Z,31nm,1.1s,mb5.2
RSM Repubblica di 82.97 314 *e*P P 17 41 45.5 +0.9
CLL Collm 83.03 321⇑ *i*P P 17 41 44.7 0.0
CLL *i* pP 17 41 52.1 -0.6
CLL pmax pmax
comp=Z,21nm,1.5s,mb5.0
CLL Collm 83.03 321⇑ *i*P P 17 41 44.7 0.0
comp=Z,21nm,1.5s,mb5.0
CLL *i* pP 17 41 52.1 -0.6
CLL *e*S 17 52 15.0
CLL Collm 83.03 321⇑ P P 17 41 44.7 0.0
comp=Z,logA/T=1.1,mb4.9
CLL *i* *PP pP 17 41 52.1 -0.6
CLL *e* 17 42 09.0
CLL *e*PP PP 17 44 58.0 +0.4
CLL *e*S 17 52 15.0
NKC Novy Kostel 83.31 320 *e*P P 17 41 47.4 +1.2
NKC *e*pP pP 17 41 55.0 +0.8
HFS Hagfors 83.39 330 LR LR 18 25 18.5
comp=Z,2µm,19.2s,MS5.5,baz=283,slow=40
SFI Santa Sofia 83.40 314 *e*P P 17 41 48.0 +1.2
PGD Poggio Sodo 83.49 314 *e*P P 17 41 48.3 +1.0
VMG Vicchio 83.62 314 *e*P P 17 41 49.5 +1.6
CTI Castel Tesino 83.63 316 *e*P P 17 41 48.4 +0.4
WTTA Wattenberg 83.69 317⇑ *i*P P 17 41 48.0 -0.2
comp=Z,48nm,1.0s,mb5.6
WTTA Wattenberg 83.69 317⇑ *i*P P 17 41 48.0 -0.2
WTTA pmax pmax
comp=Z,48nm,1.0s,mb5.6
MOR8 Moi Rana 83.72 336⇑ *i*P P 17 41 47.5 -0.5
comp=Z,87nm,1.2s,mb5.8
MOR8 *e*pP pP 17 41 55.4 -0.6
MOR8 Moi Rana 83.72 336⇑ *i*P P 17 41 47.5 -0.5
MOR8 *e*pP pP 17 41 55.4 -0.6
MOR8 AMb AMB 17 41 59.8
comp=Z,87nm,1.2s,mb5.8
SNZO South Karori 83.83 132 PFAKE 17 42 00.0 +11
SNZO LR LR
comp=Z,3µm,19.0s,MS5.7
MOX Moxa 83.86 320 *e*P P 17 41 49.6 +0.6
MOX *e**PP pP 17 41 57.0 0.0
MOX pmax pmax
comp=Z,54nm,1.5s,mb5.5
MOX Moxa 83.86 320 *e*P P 17 41 49.6 +0.6
comp=Z,54nm,1.5s,mb5.5
MOX *e*pP pP 17 41 57.0 0.0
MOX Moxa 83.86 320 *i* P P 17 41 49.6 +0.6
MOX pP pP 17 41 57.0 0.0
FUR Furstenfeldbru 83.97 318 *e*P P 17 41 49.6 0.0
GRFL Gerfalco 84.01 313 *e*P P 17 41 49.0 -0.9
GRA1 Grafenberg Arr 84.07 319 *e*P P 17 41 50.9 +0.8
comp=Z,73nm,1.1s,mb5.7
GRA1 *e*pP pP 17 41 58.4 +0.3
GRF Grafenberg Arr 84.07 319 *e*P P 17 41 50.9 +0.8
GRF *e**PP pP 17 41 58.4 +0.3
GRF pmax pmax
comp=Z,73nm,1.1s,mb5.7
GRF Grafenberg Arr 84.07 319 *e*P P 17 41 50.9 +0.8
GRF *e**PP pP 17 41 58.4 +0.3
GRF pmax pmax
comp=Z,73nm,1.1s,mb5.7
GRF Grafenberg Arr 84.07 319 *e*P P 17 41 50.9 +0.8
comp=Z,73nm,1.1s,mb5.7
GRF *e*pP pP 17 41 58.4 +0.3
LOF Lofoten 84.30 338 *e*P P 17 41 52.8 +2.0
comp=Z,114nm,1.7s,mb5.7
LOF Lofoten 84.30 338 *e*P P 17 41 52.8 +2.0
LOF AMb AMB 17 42 05.0
comp=Z,114nm,1.7s,mb5.7
GSCL Gusciola 84.32 314 *e*P P 17 41 52.4 +0.9
ERBM Eremo 84.45 314 *e*P P 17 41 53.0 +0.9
BRMO Bormio 84.53 316 *e*P P 17 41 53.0 +0.5
VALM 84.57 314 P P 17 41 52.8 0.0
NSS Namsos 84.59 334 *e*P P 17 41 51.8 -0.6
comp=Z,96nm,1.2s,mb5.8
NSS *e*pP pP 17 41 59.7 -0.6
NSS Namsos 84.59 334 *e*P P 17 41 51.8 -0.6
NSS *e*pP pP 17 41 59.7 -0.6
NSS AMb AMB 17 42 01.8
comp=Z,96nm,1.2s,mb5.8
NB2 NORSAR Subarra 84.68 331 P P 17 41 52.5 -0.4
comp=Z,59nm,1.2s,mb5.6,baz=93,slow=5.6
NB2 NORSAR Subarra 84.68 331 P P 17 41 52.5 -0.4
NB2 pmax pmax
comp=Z,59nm,1.2s,mb5.6
NB2 NORSAR Subarra 84.68 331 P P 17 41 52.5 -0.4
baz=93,slow=5.9
NOA NORSAR Array B 84.68 331 P P 17 41 52.8 -0.1
comp=Z,5.6nm,1.0s,mb4.7,baz=98,slow=5.4,SNR=13
BACM 84.69 314 P P 17 41 52.0 -1.4
CLZ Clausthal 84.70 322 *e*P P 17 41 53.6 +0.4
comp=Z,53nm,1.2s,mb5.5
GRAM 84.70 314 P P 17 41 53.7 +0.3
NAO01 NORSAR Array S 84.83 331 *e*P P 17 41 53.4 -0.2
comp=Z,6.6nm,0.9s,mb4.8
CODM 84.85 314 P P 17 41 53.0 -1.1
DAVA Damuels 84.89 317⇑ *i*P P 17 41 54.4 +0.2
comp=Z,47nm,1.1s,mb5.5
URZ Urewera 85.22 129 P P 17 41 54.4 -1.7
comp=Z,33nm,1.2s,mb5.4,baz=313,slow=1.8,SNR=6.2
URZ LR LR 18 18 09.5
comp=Z,3µm,21.2s,MS5.7,baz=197,slow=34
KONO Kongsberg 85.42 329 *e*P P 17 41 56.5 -0.1
KONO *e**PP pP 17 42 05.5 +0.9
KONO pmax pmax
comp=Z,80nm,1.2s,mb5.7
KONO MLR MLR
comp=Z,2µm,20.0s,MS5.4
KONO Kongsberg 85.42 329 *e*P P 17 41 56.6 0.0
PGF Pioggiola 85.45 312 *e*P P 17 41 56.7 -0.5
comp=Z,73nm,1.3s,mb5.3
PGF Pioggiola 85.45 312 *e*P P 17 41 56.7 -0.5
PGF pmax pmax
comp=Z,36nm,1.3s,mb5.3
MUD Monsted U'grnd 85.54 326⇓ *i*P P 17 42 06.8 +10
MUD *i* 17 42 12.7
MUD pmax pmax
comp=Z,50nm,1.2s,mb5.6
MUD Monsted U'grnd 85.54 326⇓ *i*P P 17 42 06.8 +10
comp=Z,50nm,1.2s,mb5.6
MUD *i* 17 42 12.7
DOMB Dombas 85.76 332 *e*P P 17 41 58.2 0.0
comp=Z,68nm,0.9s,mb5.9
DOMB Dombas 85.76 332 *e*P P 17 41 58.2 0.0
DOMB AMb AMB 17 42 08.9
comp=Z,68nm,0.9s,mb5.9
PCP Pian Castagno 85.79 314 P P 17 41 56.6 -2.2
TNS Taunus Mts 85.88 320 *e*P P 17 41 59.6 +0.5
BFO Black Forest 85.95 318 *e*P P 17 41 59.4 -0.1
BFO pmax pmax
comp=Z,17nm,0.9s,mb5.3
BFO Black Forest 85.95 318 *e*P P 17 41 59.4 -0.1
comp=Z,17nm,0.9s,mb5.3
FIN Finale Ligure 86.03 314 *e*P P 17 42 00.2 +0.2
MIDW Midway 86.12 62 PFAKE 17 42 10.0 +9.1
MIDW LR LR
comp=Z,2µm,19.0s,MS5.5
MCGN Macugnaga 86.18 316 *e*P P 17 42 01.4 +0.7
ORX Oropa 86.19 315 P P 17 42 00.2 -0.6
IMI Imperia 86.26 314 P P 17 42 00.3 -0.9
ROB Roburent 86.27 314 P P 17 42 00.7 -0.5
MONE Monesi 86.36 314 P P 17 42 01.6 0.0
NEGI Negi 86.40 314 P P 17 42 01.9 0.0
MOL Molde 86.48 332 *e*P P 17 42 03.3 +1.5
MOL *e*pP pP 17 42 12.3 +2.5
MOL Molde 86.48 332 *e*P P 17 42 03.3 +1.5
MOL *e*P 17 42 03.3
MOL *e*pP pP 17 42 12.3 +2.5
MOL AMb AMB 17 42 13.8
comp=Z,109nm,1.2s,mb6.0
SBF Sospel 86.59 314 *e*P P 17 42 02.2 -0.6
comp=Z,112nm,1.1s,mb5.7
SBF Sospel 86.59 314 *e*P P 17 42 02.2 -0.6
SBF pmax pmax
comp=Z,56nm,1.1s,mb5.7
ENR Entracque 86.60 314 P P 17 42 02.0 -0.8
CDF Champ du Feu 86.65 318 *e*P P 17 42 02.3 -0.7
comp=Z,29nm,1.0s,mb5.2
CDF Champ du Feu 86.65 318 *e*P P 17 42 02.3 -0.7
CDF pmax pmax
comp=Z,14nm,1.0s,mb5.2
STV2 Anna di Valdie 86.66 314 P P 17 42 02.8 -0.3
STV Sta Anna Valdi 86.67 314 P P 17 42 02.3 -0.8

BHB Bricherasio 86.70 315 P P 17 42 00.8 -2.5
RSP Reno Superiore 86.70 315 P P 17 42 00.4 -2.9
CMAH Djebel Manchou 86.72 306 P P 17 42 13.5 +10
LSD Ceresole Reale 86.77 315 P P 17 42 03.6 0.0
PZZ Prazzo 86.82 314 P P 17 42 01.5 -2.4
FENE Fenestrelle 86.84 315 P P 17 42 02.5 -1.4
HINF Hinteralfeld 86.94 318 *e*P P 17 42 05.1 +0.7
comp=Z,46nm,1.4s,mb5.2
HINF Hinteralfeld 86.94 318 *e*P P 17 42 05.1 +0.7
HINF pmax pmax
comp=Z,23nm,1.4s,mb5.2
BLS5 Blasjo 87.02 329 *e*P P 17 42 06.4 +1.9
BLS5 *e*pP pP 17 42 14.2 +1.7
RRL Cesana Torines 87.04 315 P P 17 42 04.5 -0.4
LPG La Plagne 87.05 315 *e*P P 17 42 04.8 -0.2
comp=Z,48nm,0.9s,mb5.4
LPG La Plagne 87.05 315 *e*P P 17 42 04.8 -0.2
LPG pmax pmax
comp=Z,24nm,0.9s,mb5.4
MBDF Montbardon 87.05 314 *e*P P 17 42 04.0 -1.0
comp=Z,42nm,1.1s,mb5.3
MBDF Montbardon 87.05 314 *e*P P 17 42 04.0 -1.0
MBDF pmax pmax
comp=Z,21nm,1.1s,mb5.3
LPL La Plagne 87.06 315 *e*P P 17 42 04.7 -0.3
comp=Z,80nm,0.9s,mb5.6
LPL La Plagne 87.06 315 *e*P P 17 42 04.7 -0.3
LPL pmax pmax
comp=Z,40nm,0.9s,mb5.7
BNI Bardonecchia 87.11 315 *e*P P 17 42 06.1 +0.8
BNI pmax pmax
comp=Z,18nm,0.9s,mb5.3
BNI Bardonecchia 87.11 315 *e*P P 17 42 06.1 +0.8
comp=Z,18nm,0.9s,mb5.3
HYA Hoyanger 87.13 331 *e*P P 17 42 09.3 +4.3
comp=Z,65nm,1.0s,mb5.8
HYA Hoyanger 87.13 331 *e* P 17 42 08.4 +3.4
HYA AMb AMB 17 42 18.4
comp=Z,65nm,1.0s,mb5.8
FRF La Foret Royal 87.17 313 *e*P P 17 42 05.4 -0.2
comp=Z,100nm,1.3s,mb5.6
FRF La Foret Royal 87.17 313 *e*P P 17 42 05.4 -0.2
FRF pmax pmax
comp=Z,50nm,1.3s,mb5.6
LMR La Mourre 87.27 313 *e*P P 17 42 05.7 -0.4
comp=Z,54nm,1.2s,mb5.3
LMR La Mourre 87.27 313 *e*P P 17 42 05.7 -0.4
LMR pmax pmax
comp=Z,27nm,1.2s,mb5.3
HAU Haudompre 87.28 318 *e*P P 17 42 05.2 -0.8
comp=Z,49nm,0.9s,mb5.4
HAU Haudompre 87.28 318 *e*P P 17 42 05.2 -0.8
HAU pmax pmax
comp=Z,24nm,0.9s,mb5.4
CKFL Kef-Lekhel 87.29 306 P pP 17 42 19.0 +4.6
WLF Walferdange 87.37 319 P P 17 42 06.9 +0.5
WLF pmax pmax
comp=Z,38nm,1.3s,mb5.5
WLF Walferdange 87.37 319 P P 17 42 06.8 +0.5
comp=Z,38nm,1.3s,mb5.5
STAV Stavanger 87.41 329 *e* pP 17 42 16.0 +1.6
CASM Ain Smara 87.48 306 P sP 17 42 22.0 +4.1
CABF La Chapelle 87.49 316 *e*P P 17 42 07.0 -0.1
comp=Z,65nm,1.1s,mb5.5
CABF La Chapelle 87.49 316 *e*P P 17 42 07.0 -0.1
CABF pmax pmax
comp=Z,33nm,1.1s,mb5.5
CTEI Djebel Teioual 87.56 306 P pP 17 42 18.0 +2.3
FOO Floro 87.67 331 *e* pP 17 42 16.3 +0.7
ORIF Oris-en-Rattie 87.68 315 *e*P P 17 42 07.9 -0.1
VNDA Vanda 87.84 168 P P 17 42 06.2 -1.8
comp=Z,0.6nm,0.9s,baz=222,slow=12,SNR=2.2
DFRA Djebel Bou Aff 87.97 306 P pP 17 42 20.0 +2.4
GIVF Givet 88.21 320 *e*P P 17 42 10.1 -0.3
SET Setif 88.37 306 P sP 17 42 24.0 +1.9
RAO Raoul Island 88.44 119 LR LR 18 19 46.0
comp=Z,2µm,20.3s,MS5.5,baz=99,slow=34
VIVF Saint-Julien-l 88.54 315 *e*P P 17 42 11.9 -0.3
comp=Z,42nm,1.1s,mb5.4
VIVF Saint-Julien-l 88.54 315 *e*P P 17 42 11.9 -0.3
VIVF pmax pmax
comp=Z,21nm,1.1s,mb5.4
BAIF Baives 88.61 320 *e*P P 17 42 12.5 +0.2
comp=Z,82nm,1.1s,mb5.7
BAIF Baives 88.61 320 *e*P P 17 42 12.5 +0.2
BAIF pmax pmax
comp=Z,41nm,1.1s,mb5.7
SBA Scott Base 88.94 168 *e*P P 17 42 15.0 +1.6
SBA pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
SBA Scott Base 88.94 168 *e*P P 17 42 15.0 +1.7
comp=Z,2.0nm,0.6s,mb4.6
SMF Signal de Mont 89.03 316 *e*P P 17 42 14.0 -0.5
comp=Z,67nm,1.2s,mb5.6
SMF Signal de Mont 89.03 316 *e*P P 17 42 14.0 -0.5
SMF pmax pmax
comp=Z,34nm,1.2s,mb5.5
LASF Ste Croix 89.17 314 *e*P P 17 42 15.2 0.0
comp=Z,72nm,1.4s,mb5.5
SSF Saint Saulge 89.24 317 *e*P P 17 42 15.2 -0.2
SSF pmax pmax
comp=Z,30nm,1.3s,mb5.5
SSF Saint Saulge 89.24 317 *e*P P 17 42 15.2 -0.2
comp=Z,30nm,1.3s,mb5.5
AVF Avril sur Loir 89.36 317 *e*P P 17 42 15.5 -0.5
comp=Z,42nm,1.1s,mb5.4
AVF Avril sur Loir 89.36 317 *e*P P 17 42 15.5 -0.5
AVF pmax pmax
comp=Z,21nm,1.1s,mb5.4
BGF Bois d'Agland 89.72 316 *e*P P 17 42 17.7 0.0
comp=Z,79nm,1.2s,mb5.6
BGF Bois d'Agland 89.72 316 *e*P P 17 42 17.7 0.0
BGF pmax pmax
comp=Z,39nm,1.2s,mb5.6
HYF Humbligny 89.81 317 *e*P P 17 42 18.3 +0.2
TNA Tin City 90.10 24 PFAKE 17 42 30.0 +11
TNA LR LR
comp=Z,2µm,19.0s,MS5.5
TCF Toulx Ste Croi 90.18 316 *e*P P 17 42 19.7 -0.1
comp=Z,100nm,1.5s,mb5.6
TCF Toulx Ste Croi 90.18 316 *e*P P 17 42 19.7 -0.1
TCF pmax pmax
comp=Z,50nm,1.5s,mb5.6
CAF Calviac 90.39 315 *e*P P 17 42 21.0 +0.2
comp=Z,48nm,1.2s,mb5.4
CAF Calviac 90.39 315 *e*P P 17 42 21.0 +0.2
CAF pmax pmax
comp=Z,24nm,1.2s,mb5.4
MTLF Montolieu 90.40 313 *e*P P 17 42 21.1 +0.2
comp=Z,53nm,1.1s,mb5.5
MTLF Montolieu 90.40 313 *e*P P 17 42 21.1 +0.2
MTLF pmax pmax
comp=Z,27nm,1.1s,mb5.5
NVL N'lazarevskaya 90.64 199⇑ *i*P P 17 42 22.6 +1.2
NVL *i* *PP pP 17 42 34.5 +5.1
NVL *e*SSS ScS 17 53 18.7 +2.7
NVL pmax pmax
comp=Z,67nm,0.9s,mb6.0
NVL MLR MLR
comp=Z,8µm,18.3s,MS6.2
MAIT Maitri 90.67 199 *e*P P 17 42 24.6 +3.1
RJF Les Rejaudoux 90.74 315 *e*P P 17 42 22.9 +0.4
comp=Z,54nm,1.1s,mb5.5
RJF Les Rejaudoux 90.74 315 *e*P P 17 42 22.9 +0.4
RJF pmax pmax
comp=Z,27nm,1.1s,mb5.5
LFF La Frestale 91.32 315 *e*P P 17 42 25.6 +0.5
comp=Z,123nm,1.3s,mb5.8
LFF La Frestale 91.32 315 *e*P P 17 42 25.6 +0.5
LFF pmax pmax
comp=Z,61nm,1.3s,mb5.8
LDF La Druitiere 91.55 319 *e*P P 17 42 25.9 -0.2
comp=Z,74nm,1.0s,mb5.7
LDF La Druitiere 91.55 319 *e*P P 17 42 25.9 -0.2
LDF pmax pmax
comp=Z,37nm,1.0s,mb5.7
FLN La Foliniere 91.77 319 *e*P P 17 42 26.9 -0.2
comp=Z,134nm,1.1s,mb5.9
FLN La Foliniere 91.77 319 *e*P P 17 42 26.9 -0.2
FLN pmax pmax
comp=Z,67nm,1.1s,mb5.9
MFF Saint Martin d 91.78 317 *e*P P 17 42 27.1 -0.1
comp=Z,119nm,1.5s,mb5.7
MFF Saint Martin d 91.78 317 *e*P P 17 42 27.1 -0.1
MFF pmax pmax
comp=Z,59nm,1.5s,mb5.7

JMIC Jan Mayen 91.80 341 LR LR 18 28 33.2
comp=Z,3µm,21.5s,MS5.7,baz=232,slow=39
EBR Ebro Roquetas 91.89 311 *e*Ts 17 42 38.0
GRR Gorron 92.06 318 *e*P P 17 42 28.5 +0.1
comp=Z,67nm,1.0s,mb5.6
GRR Gorron 92.06 318 *e*P P 17 42 28.5 +0.1
GRR pmax pmax
comp=Z,33nm,1.0s,mb5.6
ETSF Etsaut 92.47 313 *e*P P 17 42 31.0 +0.6
comp=Z,60nm,1.0s,mb5.6
ETSF Etsaut 92.47 313 *e*P P 17 42 31.0 +0.6
ETSF pmax pmax
comp=Z,30nm,1.0s,mb5.6
DAG Danmarks Havn 92.57 348 *e*P P 17 42 28.0 -2.2
DAG pmax pmax
comp=Z,12nm,1.0s,mb5.3
DAG Danmarks Havn 92.57 348 *e*P P 17 42 28.0 -2.2
comp=Z,12nm,1.0s,mb5.3
DAG Danmarks Havn 92.57 348 *i* P P 17 42 28.0 -2.2
comp=Z,12nm,1.0s,mb5.3
QSPA South Pole Qui 92.85 180 *e*P P 17 42 38.4 +7.0
comp=Z,17nm,1.1s,mb5.4
QSPA LR LR
comp=Z,4µm,19.0s,MS5.9
ROSF Rostrenen 93.66 319 *e*P P 17 42 35.6 -0.2
comp=Z,149nm,1.5s,mb5.9
ROSF Rostrenen 93.66 319 *e*P P 17 42 35.6 -0.2
ROSF pmax pmax
comp=Z,75nm,1.5s,mb5.9
DCN Croghan 95.27 324 *e*P P 17 42 52.0 +8.9
ESDC Sonseca Array 95.42 310 P P 17 42 43.2 -0.9
comp=Z,0.1nm,0.3s,baz=276,slow=35,SNR=2.7
IMA Indian Mountai 95.67 23 *e*P P 17 42 45.5 +0.9
SVW2 Sparrevohn 96.50 28 *e*P P 17 42 49.5 +1.0
SUMG Summit 99.24 347 P P 17 43 02.5 +1.9
comp=Z,15nm,1.0s,mb5.5
MENT Mentasta 100.89 24 *e*P P 17 43 08.0 -0.3
SFJ Sondre 106.22 347 PFAKE 17 48 00.0
SFJ LR LR
comp=Z,2µm,21.0s,MS5.6
POHA Pohakuloa 106.80 68 PFAKE 17 48 00.0
POHA LR LR
comp=Z,28µm,20.0s,MS6.8
SIT Sitka 107.61 26 PFAKE 17 48 00.0
SIT LR LR
comp=Z,5µm,19.0s,MS6.1
YKA Yellowknife Ar 110.88 14 PP PP 17 48 23.1 -10
comp=Z,2.2nm,0.9s,baz=323,slow=9.0,SNR=8.6
EDM Edmonton 119.06 19 *e*pPKPdf 17 48 16.4
SCHQ Schefferville 120.62 348 PKP PKPdf 17 48 11.3 -3.2
comp=Z,1.7nm,0.8s,baz=63,slow=14,SNR=2.7
SCHQ PP PP 17 49 39.8 -1.8
comp=Z,6.2nm,0.9s,baz=12,slow=11,SNR=4.2
COR Corvallis 121.39 32 PFAKE 17 48 20.0 +3.7
COR LR LR
comp=Z,2µm,19.0s,MS5.9
NEW Newport 121.64 25 PFAKE 17 48 30.0 +13
NEW LR LR
comp=Z,3µm,19.0s,MS5.9
HAWA Hanford 121.98 28 PFAKE 17 48 30.0 +13
HAWA LR LR
comp=Z,217nm,19.0s,MS4.8
HUMO Hull Mountain 122.92 33 PFAKE 17 48 30.0 +11
HUMO LR LR
comp=Z,2µm,19.0s,MS5.8
CHMT Chamberlain Mo 124.30 24 *e*PKPdf PKPdf 17 48 17.1 -4.7
WDC Whiskeytown Da 124.50 35 PFAKE 17 48 30.0 +7.6
WDC LR LR
comp=Z,2µm,21.0s,MS5.7
BOZ Bozeman (W) 125.98 23 PFAKE 17 48 30.0 +4.9
BOZ LR LR
comp=Z,3µm,19.0s,MS5.9
ULM Lac du Bonnet 126.15 9 PKP PKPdf 17 48 21.2 -4.0
comp=Z,3.1nm,0.4s,baz=5.1,slow=3.0,SNR=8.5
ULM PP PP 17 50 12.2 -7.0
comp=Z,2.5nm,0.7s,baz=2.4,slow=5.9,SNR=3.6
ULM Lac du Bonnet 126.15 9 PKP PKPdf 17 48 21.2 -4.0
ULM PP PP 17 50 12.2 -7.0
ULM LR LR
comp=Z,4µm,19.0s,MS6.1
QLMT Earthquake Lak 126.74 24 *e*PKPdf PKPdf 17 48 24.7 -1.8
QLMT *ep*PKPdf 17 48 31.3
CMB Columbia Colle 127.45 36 PFAKE 17 48 40.0 +12
CMB LR LR
comp=Z,2µm,19.0s,MS5.8
BMN Battle Mountai 127.50 31 PFAKE 17 48 40.0 +12
BMN LR LR
comp=Z,2µm,20.0s,MS5.8
SAO San Andreas Ge 127.66 38 PFAKE 17 48 40.0 +11
SAO LR LR
comp=Z,3µm,19.0s,MS5.9
MNV Mina 128.44 34 *e*PKPdf PKPdf 17 48 28.1 -2.0
MTUM Tungsten Hills 128.97 35 PKPdf PKPdf 17 48 30.0 -1.2
BW06 Boulder Array 129.21 24 PFAKE 17 48 40.0 +8.6
BW06 LR LR
comp=Z,2µm,21.0s,MS5.8
PDAR Pinedale Array 129.21 24 PKP PKPdf 17 48 28.7 -2.8
comp=Z,1.3nm,0.6s,slow=1.5,SNR=19
PDAR PP PP 17 50 37.6 -2.2
comp=Z,3.6nm,1.1s,baz=5.3,slow=2.1,SNR=3.8
TPH Tonopah 129.21 33 PFAKE 17 48 40.0 +8.4
TPH LR LR
comp=Z,1µm,19.0s,MS5.7
WVL Waterville 130.90 346 PFAKE 17 48 40.0 +5.4
WVL LR LR
comp=Z,10µm,19.0s,MS6.5
MSU Marysvale 131.50 29 *e*PKPdf PKPdf 17 48 35.4 -0.5
MSU *ep*PKPdf 17 48 42.7
NCB Newcomb 132.42 350 PFAKE 17 48 50.0 +13
NCB LR LR
comp=Z,2µm,20.0s,MS5.8
PV10 Paradox Valley 133.07 27 *e*PKPdf PKPdf 17 48 36.9 -2.0
PV01 Paradox Valley 133.48 26 PKPdf PKPdf 17 48 36.9 -2.7
JFWS Jewell Farm 134.09 6 PFAKE 17 48 50.0 +9.4
JFWS LR LR
comp=Z,3µm,19.0s,MS6.0
BINY Binghamton 134.43 351 PFAKE 17 48 50.0 +8.7
BINY LR LR
comp=Z,3µm,19.0s,MS6.0
TUC Tucson 137.01 33 PFAKE 17 49 00.0 +14
TUC LR LR
comp=Z,1µm,20.0s,MS5.5
ANMO Albuquerque 137.06 27 PFAKE 17 49 00.0 +14
ANMO LR LR
comp=Z,1µm,19.0s,MS5.7
MCWV Mont Chateau 137.42 355 PFAKE 17 49 00.0 +13
MCWV LR LR
comp=Z,2µm,19.0s,MS5.8
CCM Cathedral Cave 138.76 8 *e*PKPdf PKPdf 17 48 46.7 -2.7
CCM LR LR
comp=Z,2µm,20.0s,MS5.8
MNTX Cornudas Mount 140.27 28 PFAKE 17 49 00.0 +7.8
MNTX LR LR
comp=Z,1µm,19.0s,MS5.7
PLCA Paso Flores 140.30 197 PKP PKPdf 17 48 50.2 -1.8
comp=Z,4.6nm,0.8s,baz=160,slow=0.8,SNR=11
PLCA Paso Flores 140.30 197 PKP PKPdf 17 48 50.2 -1.8
PLCA LR LR
comp=Z,2µm,19.0s,MS6.0
GDL2 Guadalupe Moun 140.32 27 *e*PKPdf PKPdf 17 48 50.2 -2.1
CPCT Cooper Cave 141.84 0 *e*PKPdf PKPdf 17 48 52.4 -2.6
BDFB Brasilia 141.91 248 PKP PKPdf 17 48 54.0 -1.6
comp=Z,4.0nm,0.8s,baz=284,slow=3.1,SNR=5.6
PLAL Pickwick Lake 142.15 5 *e*PKPdf PKPdf 17 48 48.8 -6.7
PLAL LR LR
comp=Z,2µm,20.0s,MS5.8
JSC Jenkinsville 142.87 356 *e*PKPdf PKPdf 17 48 52.8 -3.9
TXAR Lajitas Array 143.05 28 PKP PKPdf 17 48 52.0 -5.2
comp=Z,4.2nm,1.0s,baz=297,slow=2.8,SNR=17
TXAR PP PP 17 52 06.7 +0.3
comp=Z,5.6nm,1.1s,baz=270,slow=2.5,SNR=4.7
TXAR Lajitas Array 143.05 28 PKP PKPdf 17 48 52.0 -5.2
TXAR PP PP 17 52 06.7 +0.3
GOGA Godfrey 143.85 359 PFAKE 17 49 10.0 +17
GOGA LR LR
comp=Z,2µm,19.0s,MS5.8
NHSC New Hope 143.94 354 PFAKE 17 49 10.0 +17
NHSC LR LR
comp=Z,2µm,20.0s,MS5.8
LRAL Lakeview Retre 144.17 4 *e*PKPdf PKPdf 17 48 53.1 -5.8
NATX Nacogdoches 144.19 15 *e*PKPdf PKPdf 17 48 54.3 -4.7
CPUP Villa Florida 145.04 226 PKPdf PKPdf 17 48 57.3 -3.5
FCH Farellones 146.95 202 *e*P PKPbc 17 49 03.3 +2.5
ZAIG Zacatecas 148.98 34 *e*P PKPdf 17 49 04.3 -3.0
DWPF Disney 149.01 355 *e*PKPbc PKPdf 17 49 09.7 +2.5

DWPF LR LR
comp=Z,2μm,21.0s,MS5.9
CJM Chamela 149.94 41 *i* P PKPdf 17 49 10.6 +1.6
TLL Tololo Astrono 149.95 204 *e*P PKPdf 17 49 10.6 +1.9
SFJM Santa Fe 150.48 37 *i* P PKPdf 17 49 13.5 +3.7
PPM Popocatepetl 154.12 32 *i* P PKPdf 17 49 21.0 +6.0
PPM *i* P 17 49 22.4
PLIG Platanillo 154.19 34 *e*P PKPdf 17 49 28.9 +14
SAML Samuel 157.96 253 *e*PKPdf PKPdf 17 49 16.4 -3.8
SAML *ep*PKPbc 17 49 25.2
LPAZ La Paz 159.11 229 PFAKE 17 49 30.0 +8.5
LPAZ LR LR
comp=Z,2μm,20.0s,MS6.0
SDV Santo Domingo 161.86 310 PFAKE 17 49 30.0 +5.5
SDV LR LR
comp=Z,2μm,20.0s
OTAV Otavalo 173.18 297 PFAKE 17 49 40.0 +7.2
OTAV LR LR
comp=Z,2μm,19.0s

OTT 30 17:33:24.7±0.5,**47.46N**×**92.62W**,**MN3.0**/10,**Blast, Minnesota, U.S. Mining explosion., Minnesota**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.90**	**57**	PG	Pg	17 33 40.8	-1.9
EYMN				SG	Sg	17 33 52.9	-1.8
EYMN				Trac		17 33 54.5	
	comp=Z,392nm,0.1s						
ATKO	**Atikokan Iron**	**1.53**	**26**	PG	Pg	17 33 52.0	-3.1
ATKO				SG	Sg	17 34 12.5	-3.0
ATKO				Trac		17 34 14.3	
	comp=Z,26nm,0.2s						
EPLO	**Experimental L**	**2.34**	**342**	PN	Pn	17 34 04.0	-0.9
EPLO				SN	Sn	17 34 35.5	+0.8
EPLO				Trac		17 34 36.8	
	comp=Z,11nm,0.2s						
TBO	**Thunder Bay**	**2.46**	**60**	PN	Pn	17 34 07.0	+0.3
TBO				SG	Sg	17 34 40.7	-5.8
TBO				Trac		17 34 46.7	
	comp=Z,33nm,0.2s						
SOLO	**Sioux Lookout**	**2.59**	**8**	PN	Pn	17 34 07.3	-1.2
SOLO				SN	Sn	17 34 39.8	-1.3
SOLO				Trac		17 34 56.1	
	comp=Z,11nm,0.1s						
LDIO	**Lac des Isle M**	**2.65**	**48**	PN	Pn	17 34 10.7	+1.3
LDIO				SG	Sg	17 34 45.4	-7.4
LDIO				Trac		17 34 49.3	
	comp=Z,20nm,0.1s						
ULM	**Lac du Bonnet**	**3.52**	**324**	PN	Pn	17 34 20.6	-1.3
ULM				SN	Sn	17 34 59.9	-4.9
ULM				SG	Sg	17 35 13.3	-8.7
ULM				Trac		17 35 16.1	
	comp=Z,13nm,0.3s						
RLKO	**Red Lake**	**3.69**	**349**	PN	Pn	17 34 22.3	-1.8
RLKO				PG	Pg	17 34 31.1	-7.2
RLKO				SN	Sn	17 35 06.1	-2.9
RLKO				SG	Sg	17 35 17.3	-10
RLKO				Trac		17 35 19.4	
	comp=Z,7.5nm,0.2s						
PKLO	**Pickle Lake**	**4.30**	**19**	PN	Pn	17 34 29.9	-3.0
PKLO				SN	Sn	17 35 16.3	-8.3
PKLO				SG	Sg	17 35 38.7	-9.3
PKLO				Trac		17 35 51.1	
	comp=Z,7.3nm,0.2s						
GTO	**Geraldton**	**4.39**	**57**	PN	Pn	17 34 31.3	-2.9
GTO				PG	Pg	17 34 42.8	-10
GTO				SN	Sn	17 35 21.4	-5.5
GTO				SG	Sg	17 35 40.2	-11
GTO				Trac		17 35 49.0	
	comp=Z,13nm,0.2s						
PNPO	**Pukaskwa Natio**	**4.40**	**73**	PN	Pn	17 34 32.6	-1.7
PNPO				SN	Sn	17 35 22.7	-4.2
PNPO				SG	Sg	17 35 39.0	-12
PNPO				Trac		17 35 44.6	
	comp=Z,15nm,0.2s						
KAPO	**Kapuskasing**	**7.01**	**70**	PG	Pg	17 35 09.0	-36
KAPO				SN	Sn	17 36 22.6	-10
KAPO				SG	Sg	17 37 03.5	-15
VIMO	**Victor Mine**	**7.82**	**43**	PN	Pn	17 35 16.9	-5.6
VIMO				SN	Sn	17 36 41.9	-11
VIMO				SG	Sg	17 37 18.2	-27
SILO	**Sutton Inlier**	**8.54**	**32**	PN	P	17 35 27.2	-5.3
SILO				SN	Sn	17 36 59.3	-11
SILO				SG	Sg	17 37 44.9	-24
FCC	**Fort Churchill**	**11.36**	**356**	PN	P	17 36 04.4	-6.7

*CSEM **30** 17:40:55.3,22.63S×179.74E,h33km,mb6.1*
*MOS **30** 17:41:55.7±1.2,22.19S×179.81W,h573km,mb5.8/36, Error ellipse: s-maj=8.8km s-min=7.3km az=57.3*
*BJI **30** 17:41:55.8,21.90S×179.39W,h580km,mB6.1,mb5.8*
*IDC **30** 17:41:56.6±0.4,22.32S×179.73W,h577km±4km,mb5.2/30, mb1 5.3/34,mb1mx5.3/35,mbtmp6.1/34, Error ellipse: s-maj=7.8km s-min=6.5km az=177.0*
*NEIC **30** 17:41:57.2±0.2,22.46S×179.75W,mb5.8/82,Error ellipse: s-maj=4.3km s-min=2.5km az=115.0*
*HRVD **30** 17:41:57.2±0.2,22.31S×179.64W,h585km±1km, MW6.1/73,Centroid moment Tensor Solution. LP body waves: s73,c146;Mantle waves: s58,c75; Half duration: 2s8 Moment tensor: Scale 10^18^Nm; Mrr~0.28±.02; Mθθ-0.29±.04; Mφφ0.57±.04; Mrθ-0.24±.04; Mrφ-0.60±.03; Mθφ~1.82±.03; Best double couple: M◎1.99×10^18^ NP1: φs111°,δ21°,λ-166°. NP2:φs8°,δ85°,λ-70°. Principal axes: T 2.061, Plg37°, Azm80°; N -.143, Plg20°, Azm186°; P -1.918, Plg46°, Azm299°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*BGS **30** 17:42:01.8,22.46S×179.75W,h589km*
ISC 30 17:41:55.8±0.1,**22.43S**±0.02×**179.79W**±0.03,**h586**km, **h586**km±1.1km:**pP-P,n1090**,σ1**s09**/518,**mb5.8**/119, **57C-68D,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.00**	**166**	*e*P	**P**	**17 43 44.5**	**-1.2**
RAO				pmax	pmax		
	comp=Z,4μm,0.5s						
RAO	**Raoul Island**	**7.00**	**166**	P	**P**	**17 43 44.5**	**-1.2**
	comp=Z,1μm,0.3s,baz=111,slow=5.0,SNR=80						
RAO				S	**S**	**17 45 09.8**	**-3.5**
	comp=Z,397nm,0.3s,baz=296,slow=23,SNR=8.6						
RAO	**Raoul Island**	**7.00**	**166**	*e*P	**P**	**17 43 44.5**	**-1.3**
	comp=Z,4μm,0.5s						
AFI	**Afiamalu**	**11.39**	**43**	P	**P**	**17 44 23.9**	**-4.5**
	comp=Z,48nm,0.3s,baz=354,slow=1.1,SNR=51						
AFI				S	**S**	**17 46 21.2**	**-10**
	comp=Z,18nm,0.3s,baz=24,slow=21,SNR=11						
DZM	**Mont Dzumac**	**12.76**	**269**	*e*P	**P**	**17 44 43.5**	**+1.4**
DZM				*e*S	**S**	**17 47 01.5**	**+6.0**
DZM	**Mont Dzumac**	**12.76**	**269**	P	**P**	**17 44 43.5**	**+1.4**
	comp=Z,5.1nm,0.3s,baz=81,slow=17,SNR=35						
DZM				S	**S**	**17 47 01.6**	**+6.1**
	baz=305,slow=17,SNR=3.4						
DZM				ScS	ScS	17 55 49.9	+7.0
	comp=Z,0.1nm,0.3s,baz=307,slow=20,SNR=8.7						
NOUC	**Port Laguerre**	**12.88**	**269**	*e*P	**P**	**17 44 44.9**	**+1.5**
NOUC				*e*S	**S**	**17 47 04.5**	**+6.7**
NOUC	**Port Laguerre**	**12.88**	**269**	*e*P	**P**	**17 44 44.9**	**+1.5**
NOUC				*e*S	**S**	**17 47 04.5**	**+6.7**
WCZ	**Waipu Caves**	**14.40**	**199**	*e*P	**P**	**17 45 00.8**	**+2.6**
WCZ				S	**S**	**17 47 36.2**	**+11**
WCZ	**Waipu Caves**	**14.40**	**199**	PN	**P**	**17 45 00.8**	**+2.6**
WCZ				*e*SN	**S**	**17 47 34.6**	**+10**
WCZ				PcP	rx	17 48 57.2	
KUZ	**Kuaotunu**	**14.79**	**194**	P	**P**	**17 45 03.1**	**+1.1**
KUZ				S	**S**	**17 47 40.1**	**+8.2**
KUZ	**Kuaotunu**	**14.79**	**194**	PN	**P**	**17 45 03.5**	**+1.5**
KUZ				*e*SN	**S**	**17 47 40.4**	**+8.5**
MTAZ	**Motutapu**	**15.03**	**197**	P	**P**	**17 45 06.5**	**+2.2**
MTAZ	**Motutapu**	**15.03**	**197**	PN	**P**	**17 45 06.5**	**+2.2**
MXZ	**Matakaoa Point**	**15.17**	**186**	*e*P	**P**	**17 45 02.7**	**-3.0**
MXZ				S	**S**	**17 47 37.8**	**-0.9**
MXZ	**Matakaoa Point**	**15.17**	**186**	*e*PN	**P**	**17 45 03.9**	**-1.8**
MXZ				*e*SN	**S**	**17 47 36.9**	**-1.7**
OTAZ	**Otara**	**15.18**	**196**	P	**P**	**17 45 08.2**	**+2.4**
OTAZ	**Otara**	**15.18**	**196**	PN	**P**	**17 45 08.2**	**+2.4**
MYRZ	**Mayor Island**	**15.19**	**192**	*e*PN	**P**	**17 45 07.3**	**+1.4**
WTAZ	**Waiatarua**	**15.26**	**197**	P	**P**	**17 45 07.7**	**+1.2**
MKAZ	**Moumakai**	**15.27**	**195**	P	**P**	**17 45 08.5**	**+1.8**
MKAZ	**Moumakai**	**15.27**	**195**	PN	**P**	**17 45 08.5**	**+1.8**
TGRZ	**Tauranga**	**15.62**	**192**	PN	**P**	**17 45 12.2**	**+2.1**
PUZ	**Puketiti**	**15.68**	**186**	*e*P	**P**	**17 45 08.3**	**-2.4**
PUZ				S	**S**	**17 47 42.9**	**-4.7**
PUZ				*e*		17 52 13.9	
PUZ	**Puketiti**	**15.68**	**186**	PN	**P**	**17 45 08.3**	**-2.3**
PUZ				*e*SN	**S**	**17 47 43.1**	**-4.5**
PUZ				ScP		17 52 14.3	
TOZ	**Tahuroa Road**	**15.78**	**194**	*e*P	**P**	**17 45 13.8**	**+2.2**
TOZ	**Tahuroa Road**	**15.78**	**194**	PN	**P**	**17 45 13.8**	**+2.2**
MARZ	**Manawahe**	**15.80**	**190**	*e*P	**P**	**17 45 12.7**	**+0.9**
MARZ	**Manawahe**	**15.80**	**190**	PN	**P**	**17 45 12.7**	**+0.9**
LIRZ	**Lichensteins R**	**15.87**	**191**	P	**P**	**17 45 14.7**	**+2.2**
LIRZ	**Lichensteins R**	**15.87**	**191**	*e*PN	**P**	**17 45 14.7**	**+2.2**
EDRZ	**Edgecumbe**	**15.91**	**190**	P	**P**	**17 45 14.0**	**+1.2**
EDRZ	**Edgecumbe**	**15.91**	**190**	PN	**P**	**17 45 14.1**	**+1.3**
URZ	**Urewera**	**16.00**	**189**	P	**P**	**17 45 13.9**	**+0.2**
	comp=Z,49nm,0.3s,baz=13,slow=4.0,SNR=156						
URZ				S	**S**	**17 47 52.8**	**-0.4**
	comp=Z,29nm,0.3s,baz=41,slow=23,SNR=13						
URZ	**Urewera**	**16.00**	**189**	P	**P**	**17 45 11.1**	**-2.6**
URZ				*e*		17 52 12.6	
URZ	**Urewera**	**16.00**	**189**	*e*PN	**P**	**17 45 11.1**	**-2.7**
URZ				*e*SN	**S**	**17 47 48.9**	**-4.2**
URZ				ScP		17 52 12.7	
URZ				ScS	ScS	17 55 46.7	-4.6
MWZ	**Matawai**	**16.02**	**188**	*e*P	**P**	**17 45 12.3**	**-1.6**
MWZ				*e*		17 52 13.7	
MWZ	**Matawai**	**16.02**	**188**	*e*PN	**P**	**17 45 12.3**	**-1.6**
MWZ				*e*SN	**S**	**17 47 50.2**	**-3.2**
MWZ				PcP	PcP	17 49 32.7	-1.1
MWZ				ScP		17 52 13.7	
MWZ				ScS	ScS	17 55 49.9	-1.5
TAZ	**Tarawera**	**16.07**	**191**	P	**P**	**17 45 15.7**	**+1.3**
TAZ	**Tarawera**	**16.07**	**191**	PN	**P**	**17 45 15.7**	**+1.4**
UTU	**Utuhina**	**16.07**	**192**	P	**P**	**17 45 16.7**	**+2.3**
PATZ	**Paeroa**	**16.26**	**191**	*e*P	**P**	**17 45 17.1**	**+1.0**
PATZ	**Paeroa**	**16.26**	**191**	PN	**P**	**17 45 17.2**	**+1.0**
WHTZ	**Whakaora**	**16.59**	**192**	*e*P	**P**	**17 45 20.6**	**+1.3**
WHTZ	**Whakaora**	**16.59**	**192**	PN	**P**	**17 45 20.8**	**+1.5**
WATZ	**Wairara**	**16.67**	**192**	P	**P**	**17 45 21.6**	**+1.5**
WATZ	**Wairara**	**16.67**	**192**	PN	**P**	**17 45 21.6**	**+1.5**
HIZ	**Hauiti**	**16.68**	**195**	*e*P	**P**	**17 45 22.5**	**+2.4**
HIZ				S	**S**	**17 48 17.4**	**+13**
HIZ	**Hauiti**	**16.68**	**195**	PN	**P**	**17 45 22.5**	**+2.4**
HIZ				*e*SN	**S**	**17 48 16.8**	**+12**
KNZ	**Kokohu**	**16.68**	**187**	*e*P	**P**	**17 45 19.2**	**-1.0**
KNZ	**Kokohu**	**16.68**	**187**	*e*PN	**P**	**17 45 19.5**	**-0.7**
KNZ				*e*SN	**S**	**17 48 01.9**	**-2.9**
HATZ	**Hinemaiaia**	**16.78**	**191**	P	**P**	**17 45 20.9**	**-0.2**
RATZ	**Rangitukua**	**16.82**	**192**	P	**P**	**17 45 21.4**	**-0.1**
RITZ	**Rihia Road**	**16.91**	**192**	*e*P	**P**	**17 45 22.3**	**0.0**
KATZ	**Kakaramea**	**16.94**	**192**	*e*P	**P**	**17 45 23.3**	**+0.7**
BKZ	**Black Stump Fm**	**16.98**	**190**	P	**P**	**17 45 21.3**	**-1.7**
BKZ				S	**S**	**17 48 03.6**	**-6.4**
BKZ				*e*		17 52 14.6	
BKZ	**Black Stump Fm**	**16.98**	**190**	PN	**P**	**17 45 21.4**	**-1.6**
BKZ				ScP		17 52 15.0	
BKZ				PcS		17 53 09.7	
BKZ				ScS	ScS	17 55 52.4	-1.7
MGZ	**Maungaku**	**16.99**	**193**	P	**P**	**17 45 22.9**	**-0.2**
MGZ	**Maungaku**	**16.99**	**193**	*e*PN	**P**	**17 45 23.2**	**+0.1**
MGZ				ScP		17 52 15.0	
TWVZ	**Taurewa**	**17.08**	**193**	P	**P**	**17 45 24.4**	**+0.4**
WTVZ	**West Tongariro**	**17.09**	**192**	*e*P	**P**	**17 45 23.5**	**-0.6**
NGZ	**Ngauruhoe**	**17.15**	**192**	P	**P**	**17 45 24.3**	**-0.3**
NGZ	**Ngauruhoe**	**17.15**	**192**	PN	**P**	**17 45 24.4**	**-0.2**
CNZ	**Chateau**	**17.18**	**192**	P	**P**	**17 45 24.8**	**-0.1**
WPVZ	**Whakapapa**	**17.19**	**192**	*e*P	**P**	**17 45 23.9**	**-1.1**
TUVZ	**Tukino**	**17.23**	**192**	P	**P**	**17 45 24.6**	**-0.8**
FWVZ	**Far West T-bar**	**17.24**	**192**	P	**P**	**17 45 24.6**	**-0.8**
VRZ	**Vera Road**	**17.28**	**194**	*e*P	**P**	**17 45 27.5**	**+1.6**
VRZ	**Vera Road**	**17.28**	**194**	*e*PN	**P**	**17 45 27.5**	**+1.6**
VRZ				*e*SN	**S**	**17 48 20.5**	**+5.4**
WNVZ	**Wahianoa**	**17.30**	**192**	*e*P	**P**	**17 45 24.9**	**-1.1**
WNVZ	**Wahianoa**	**17.30**	**192**	PN	**P**	**17 45 25.1**	**-0.9**
MOVZ	**Moawhango**	**17.35**	**192**	P	**P**	**17 45 24.6**	**-1.9**
RAEZ	**Rainy Point**	**17.52**	**195**	*e*P	**P**	**17 45 31.0**	**+2.8**
RAEZ	**Rainy Point**	**17.52**	**195**	*e*PN	**P**	**17 45 31.7**	**+3.5**
PKE	**Pukeiti**	**17.54**	**196**	*e*P	**P**	**17 45 31.5**	**+3.2**
NEZ	**North Egmont**	**17.58**	**196**	*e*P	**P**	**17 45 31.9**	**+3.2**
NEZ	**North Egmont**	**17.58**	**196**	PN	**P**	**17 45 32.0**	**+3.3**
NWEZ	**Newall Road**	**17.64**	**196**	*e*P	**P**	**17 45 34.0**	**+4.7**
PWZ	**Pawanui**	**17.77**	**188**	*e*P	**P**	**17 45 29.1**	**-1.4**
PWZ	**Pawanui**	**17.77**	**188**	*e*PN	**P**	**17 45 29.1**	**-1.4**
WAZ	**Wanganui**	**17.84**	**193**	*e*P	**P**	**17 45 31.1**	**0.0**
WAZ	**Wanganui**	**17.84**	**193**	*e*PN	**P**	**17 45 31.4**	**+0.3**
WAZ				*e*SN	**S**	**17 48 25.9**	**+1.4**
TSZ	**Takapari Road**	**17.94**	**191**	*e*P	**P**	**17 45 30.5**	**-1.6**
TSZ				*e*S	**S**	**17 48 20.1**	**-6.1**
TSZ	**Takapari Road**	**17.94**	**191**	*e*PN	**P**	**17 45 30.6**	**-1.5**
BFZ	**Birch Farm**	**18.50**	**190**	*e*P	**P**	**17 45 35.8**	**-1.6**
BFZ	**Birch Farm**	**18.50**	**190**	PN	**P**	**17 45 35.8**	**-1.6**
BFZ				*e*SN	**S**	**17 48 31.0**	**-4.7**
BFZ				ScP		17 52 20.3	
MRZ	**Mangatainoka R**	**18.59**	**191**	*e*P	**P**	**17 45 36.0**	**-2.2**
MRZ				S	**S**	**17 48 31.1**	**-6.1**
MRZ	**Mangatainoka R**	**18.59**	**191**	*e*PN	**P**	**17 45 36.0**	**-2.2**
MRZ				*e*SN	**S**	**17 48 30.7**	**-6.5**
RAR	**Rarotonga**	**18.62**	**90**	P	**P**	**17 45 37.2**	**-1.4**
RAR	**Rarotonga**	**18.62**	**90**	P	**P**	**17 45 37.2**	**-1.4**
	comp=Z,11nm,0.3s,baz=240,slow=7.2,SNR=36						
RAR	**Rarotonga**	**18.62**	**90**	⇑*i*P	**P**	**17 45 36.8**	**-1.8**
	comp=Z,775nm,1.2s						
KIW	**Kapiti Island**	**18.91**	**192**	*e*P	**P**	**17 45 41.0**	**-0.2**
KIW	**Kapiti Island**	**18.91**	**192**	*e*PN	**P**	**17 45 41.0**	**-0.3**
MTW	**Mount Morrison**	**19.09**	**191**	*e*P	**P**	**17 45 41.3**	**-1.5**
MTW				S	**S**	**17 48 41.9**	**-3.6**
MTW	**Mount Morrison**	**19.09**	**191**	PN	**P**	**17 45 41.3**	**-1.6**
CAW	**Cannon Point**	**19.12**	**192**	*e*P	**P**	**17 45 42.2**	**-0.9**
MSWZ	**Moikau Station**	**19.39**	**191**	*e*P	**P**	**17 45 44.8**	**-0.8**
SNZO	**South Karori**	**19.39**	**193**	*e*P	**P**	**17 45 45.1**	**-0.5**
	comp=Z,167nm,0.6s						
QRZ	**Quartz Range**	**19.46**	**198**	*e*P	**P**	**17 45 46.7**	**+0.5**
QRZ	**Quartz Range**	**19.46**	**198**	PN	**P**	**17 45 46.9**	**+0.6**
TUWZ	**Tuamarina**	**19.67**	**194**	*e*PN	**P**	**17 45 46.8**	**-1.3**
THZ	**Tophouse**	**20.23**	**196**	*e*P	**P**	**17 45 52.6**	**-0.8**
THZ				S	**S**	**17 48 58.8**	**-5.5**
THZ	**Tophouse**	**20.23**	**196**	PN	**P**	**17 45 52.2**	**-1.1**
THZ				*e*SN	**S**	**17 49 00.7**	**-3.6**
DSZ	**Denniston Nort**	**20.51**	**198**	*e*P	**P**	**17 45 55.9**	**0.0**
DSZ	**Denniston Nort**	**20.51**	**198**	PN	**P**	**17 45 56.0**	**+0.1**
KHZ	**Kahutara**	**20.70**	**194**	*e*P	**P**	**17 45 56.1**	**-1.5**
KHZ	**Kahutara**	**20.70**	**194**	PN	**P**	**17 45 56.1**	**-1.5**
LTZ	**Lake Taylor**	**21.35**	**196**	*e*P	**P**	**17 46 01.4**	**-2.2**
LTZ				S	**S**	**17 49 16.1**	**-6.4**
WVZ	**Waitaha Valley**	**22.05**	**199**	P	**P**	**17 46 08.2**	**-1.7**
MQZ	**McQueen's Vall**	**22.12**	**195**	*e*P	**P**	**17 46 08.9**	**-1.7**
RPZ	**Rata Peaks**	**22.54**	**198**	P	**P**	**17 46 14.7**	**+0.3**
	comp=Z,79nm,0.6s,mb5.5,baz=290,slow=2.3,SNR=32						
RPZ				S	**S**	**17 49 38.1**	**-3.7**
	comp=Z,49nm,0.8s,baz=171,slow=16,SNR=2.9						
RPZ	**Rata Peaks**	**22.54**	**198**	*e*P	**P**	**17 46 12.7**	**-1.6**
RPZ	**Rata Peaks**	**22.54**	**198**	*e*PN	**P**	**17 46 12.7**	**-1.7**
FOZ	**Fox Glacier**	**22.81**	**200**	*e*P	**P**	**17 46 14.4**	**-2.4**
FOZ				S	**S**	**17 49 38.4**	**-7.6**
FOZ	**Fox Glacier**	**22.81**	**200**	*e*PN	**P**	**17 46 14.4**	**-2.3**
FOZ				*e*SN	**S**	**17 49 39.3**	**-6.7**
HNR	**Honiara**	**23.34**	**300**	P	**P**	**17 46 20.8**	**-1.0**
	comp=Z,442nm,0.8s,mb6.2,baz=184,slow=4.1,SNR=24						
LBZ	**Lake Benmore**	**23.41**	**198**	*e*P	**P**	**17 46 19.8**	**-2.3**
JCZ	**Jackson Bay**	**23.57**	**201**	P	**P**	**17 46 22.5**	**-1.0**
JCZ				ScP		17 52 32.3	
ODZ	**Otahua Downs**	**23.88**	**197**	*e*P	**P**	**17 46 25.3**	**-1.0**
WKZ	**Wanaka**	**24.16**	**200**	P	**P**	**17 46 26.9**	**-1.8**
WKZ				S	**S**	**17 50 01.4**	**-5.9**
WKZ				ScP		17 52 34.2	
EAZ	**Earnscleugh**	**24.43**	**199**	*e*P	**P**	**17 46 30.0**	**-1.2**
MLZ	**Mavora Lakes**	**24.89**	**200**	*e*P	**P**	**17 46 35.0**	**-0.2**
TUZ	**Tuapeka**	**25.00**	**198**	*e*P	**P**	**17 46 35.6**	**-0.6**
WHZ	**Wether Hill Ro**	**25.45**	**200**	*e*P	**P**	**17 46 39.5**	**-0.6**
ARMA	**Armidale**	**26.75**	**247**	*e*P	**P**	**17 46 53.2**	**+1.5**
ARMA				*i* S	**S**	**17 50 51.8**	**+3.7**
ARMA				*e*SCP		17 52 43.8	
ARMA				*e*S	ScS	17 56 37.7	+6.7
TBI	**Tubuai**	**27.93**	**98**	*e*P	**P**	**17 47 00.7**	**-1.3**
	comp=Z,3μm,1.1s,mb6.8						
TBI				*ep*P		17 48 29.1	
	comp=Z,2μm,1.5s						
RIV	**Riverview**	**27.93**	**240**	*e*P	**P**	**17 47 03.7**	**+1.8**
PAE	**Paea**	**28.74**	**86**	*e*P	**P**	**17 47 06.9**	**-2.1**
	comp=Z,2μm,1.3s,mb6.5						
PPT	**Papeete**	**28.77**	**86**	*e*P	**P**	**17 47 07.5**	**-1.8**
	comp=Z,1μm,1.3s,mb6.3						
PPT	**Papeete**	**28.77**	**86**	P	**P**	**17 47 08.3**	**-1.0**
	comp=Z,600nm,1.0s,mb6.2,baz=233,slow=1.7,SNR=32						
TIAR	**Tiarei**	**28.98**	**86**	*e*P	**P**	**17 47 09.3**	**-1.8**
	comp=Z,3μm,1.2s,mb6.8						
TIAR				*ep*P		17 48 39.3	
	comp=Z,673nm,1.2s						
TVO	**Taravao**	**29.02**	**86**	*e*P	**P**	**17 47 09.4**	**-2.0**
	comp=Z,3μm,1.3s,mb6.7						
TVO				*ep*P		17 48 39.7	
	comp=Z,938nm,1.4s						
CNB	**Canberra Magne**	**29.78**	**238**	⇓*i*P	**P**	**17 47 19.5**	**+1.8**
	comp=Z,3μm,0.5s						
CNB				*i* pP		17 48 53.9	
CNB				*i* S	**S**	**17 51 38.3**	**+3.3**
CNB				*e*SCP		17 52 53.0	
CNB				*e*SCS	ScS	17 56 50.3	+5.2
MEH	**Mehetia**	**30.09**	**87**	*e*P	**P**	**17 47 18.4**	**-2.1**
	comp=Z,1μm,1.2s,mb6.4						
PMOR	**Pomariorio Ree**	**31.05**	**82**	*e*P	**P**	**17 47 27.0**	**-1.7**
	comp=Z,3μm,1.2s,mb6.8						
VAH	**Vaihoa**	**31.22**	**82**	*e*P	**P**	**17 47 29.5**	**-0.6**
	comp=Z,2μm,1.1s,mb6.7						
CTA	**Charters Tower**	**31.70**	**268**	⇓*i*P	**P**	**17 47 35.0**	**+0.9**
	comp=Z,1μm,0.9s,mb6.5						
CTA				*e*PCP	PcP	17 50 09.0	+0.9
CTA				*e*S	**S**	**17 52 05.6**	**+1.0**
CTA				*e*SCP		17 52 59.5	
CTA				*e*SCS	ScS	17 57 00.5	+5.6
CTA	**Charters Tower**	**31.70**	**268**	⇓*i*P	**P**	**17 47 35.0**	**+0.9**
CTA				*e*		17 50 09.0	
CTA				*e*S	**S**	**17 52 05.6**	**+1.0**
CTA				*e*		17 57 00.5	
CTA				pmax	pmax		
	comp=Z,1μm,0.9s						
CTA	**Charters Tower**	**31.70**	**268**	P	**P**	**17 47 35.0**	**+0.9**
	comp=Z,439nm,0.4s,mb6.5,baz=93,slow=11,SNR=540						
CTA				PcP	PcP	17 50 09.0	+0.9
	comp=Z,43nm,0.6s,baz=95,slow=4.0,SNR=3.9						
CTA				S	**S**	**17 52 01.2**	**-3.5**
	comp=Z,32nm,1.1s,baz=277,slow=17,SNR=12						
CTA				ScP		17 53 00.3	
	comp=Z,84nm,0.9s,baz=116,slow=3.6,SNR=9.0						
CTAO	**Charters Tower**	**31.70**	**268**	⇓*i*P	**P**	**17 47 34.9**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,1μm,0.9s,mb6.5						
CTAO	**Charters Tower**	**31.70**	**268**	⇓*i*P	**P**	**17 47 34.9**	**+0.8**
	comp=Z,1μm,0.9s,mb6.5						
KWAJ	**Kwajalein Atol**	**33.41**	**337**	P	**P**	**17 47 48.1**	**-0.4**
	comp=Z,10μm,0.8s,SNR=12						
KWAJ	**Kwajalein Atol**	**33.41**	**337**	*e*P	**P**	**17 47 48.2**	**-0.3**
	comp=Z,1μm,0.8s,mb6.5						
TOO	**Toolangi**	**33.42**	**235**	⇓*i*P	**P**	**17 47 50.0**	**+1.6**
	comp=Z,19nm,0.5s,mb5.0						
TOO				*e*S	**S**	**17 52 31.2**	**+0.4**
TOO				*e*SCS	ScS	17 57 07.3	+3.5
TOO	**Toolangi**	**33.42**	**235**	⇓*i*P	**P**	**17 47 50.0**	**+1.6**
TOO				*e*S	**S**	**17 52 31.2**	**+0.4**
TOO				*e*		17 57 07.3	
TOO				pmax	pmax		
	comp=Z,19nm,0.5s,mb5.0						
TAU	**Tasmania Unive**	**34.09**	**225**	P	**P**	**17 47 55.2**	**+1.3**
	comp=Z,794nm,0.5s,mb6.6,SNR=74						
TAU	**Tasmania Unive**	**34.09**	**225**	*e*P	**P**	**17 47 55.0**	**+1.1**
TAU				pmax	pmax		
	comp=Z,60nm,0.5s,mb5.5						
TAU	**Tasmania Unive**	**34.09**	**225**	*e*P	**P**	**17 47 55.0**	**+1.1**
	comp=Z,60nm,0.5s,mb5.5						
PMG	**Port Moresby**	**34.23**	**287**	P	**P**	**17 47 56.1**	**+0.7**
	comp=Z,2μm,0.9s,mb6.8,baz=95,slow=5.1,SNR=220						
PMG				S	**S**	**17 52 42.2**	**-0.9**
	comp=Z,21nm,0.9s,baz=9.1,slow=22,SNR=7.7						
PMG				ScP		17 53 09.6	
	comp=Z,120nm,0.9s,baz=76,slow=4.8,SNR=8.1						
STKA	**Stephens Creek**	**35.47**	**246**	*e*P	**P**	**17 48 06.8**	**+1.3**
	comp=Z,229nm,0.4s,mb6.2						
STKA				*i* S	**S

GUMO Guam 49.81 313 *e*P **P** 17 49 57.6 -0.5
GUMO pmax pmax
comp=Z,2µm,1.0s,mb6.5
GUMO Guam 49.81 313 *e*P **P** 17 49 57.6 -0.4
comp=Z,2µm,1.0s,mb6.5
MIDW Midway 50.40 3 *e*P **P** 17 50 00.3 -2.0
comp=Z,103nm,0.6s,mb5.4
FITZ Fitzroy Crossi 51.15 264 P **P** 17 50 07.8 0.0
comp=Z,652nm,0.5s,mb6.3,baz=104,slow=3.1,SNR=1124
FITZ S **S** 17 56 44.3 +1.4
comp=Z,78nm,0.9s,baz=262,slow=17,SNR=14
SARN Sarigan 51.47 316 *e*P **P** 17 50 08.4 -1.7
KLBR Kellerberrin 55.75 246⇓*i*P **P** 17 50 39.5 -0.5
comp=Z,11µm,1.3s,mb6.9
KLBR *i* pP pP 17 52 30.3 -1.8
KLBR *e*S **S** 17 57 42.6 -0.4
MBWA Marble Bar 55.83 259 P **P** 17 50 40.2 -0.4
MBWA pP pP 17 52 30.9 -2.0
MBWA S **S** 17 57 42.9 -1.2
MBWA Marble Bar 55.83 259⇓*i*P **P** 17 50 40.1 -0.5
comp=Z,658nm,0.5s,mb6.1
SBA Scott Base 55.85 183⇓*i*P **P** 17 50 42.3 +2.2
SBA pmax pmax
comp=Z,363nm,1.1s,mb5.5
SBA Scott Base 55.85 183⇓*i*P **P** 17 50 42.3 +2.2
comp=Z,363nm,1.1s,mb5.5
VNDA Vanda 55.85 185 P **P** 17 50 41.8 +1.6
comp=Z,72nm,0.8s,mb5.0,baz=2.9,slow=7.3,SNR=241
VNDA PcP PcP 17 51 31.1 +0.9
comp=Z,48nm,0.9s,baz=17,slow=1.6,SNR=5.5
NWAO Narrogin (SRO) 56.03 245 P **P** 17 50 41.8 -0.1
NWAO S **S** 17 57 48.5 +1.9
NWAO Narrogin (SRO) 56.03 245⇓*e*P **P** 17 50 41.2 -0.7
NWAO *e**PP pP 17 52 32.1 -2.1
NWAO pmax pmax
comp=Z,296nm,1.1s
NWAO Narrogin (SRO) 56.03 245⇓*e*P **P** 17 50 41.2 -0.7
comp=Z,296nm,1.1s,mb5.4
NWAO *e*pP pP 17 52 32.1 -2.1
MUN Mundaring 57.00 246 *e*P **P** 17 50 48.6 0.0
comp=Z,167nm,1.0s,mb5.2
MUN *e*pP pP 17 52 38.9 -2.6
MUN *e*S **S** 17 58 01.2 +2.1
MUN Mundaring 57.00 246 *e*P **P** 17 50 48.6 0.0
MUN *e**PP pP 17 52 38.9 -2.6
MUN *e*S **S** 17 58 01.2 +2.1
MUN pmax pmax
comp=Z,167nm,1.0s,mb5.2
MATI Mati 60.34 293 *e*P **P** 17 51 08.9 -2.2
BIPH Bislig 60.88 294⇓*i*P **P** 17 51 13.4 -1.2
KCP Kidapawan 61.37 292⇑*i*P **P** 17 51 22.9 +5.1
CBIJ Chichi jima 61.45 321 P **P** 17 51 17.6 -0.6
comp=Z,269nm,0.4s,mb5.8,baz=117,slow=4.3,SNR=19
CASY Casey 61.51 206⇓*i*P **P** 17 51 17.8 -0.2
BUKP Musuan 61.83 293 *e*P **P** 17 51 21.3 +0.5
BUTP Butuan 61.91 294 *e*P **P** 17 51 21.5 +0.2
CGP Cagayan de Oro 62.43 293 *e*P **P** 17 51 25.4 +0.7
SCPH Surigao 62.44 295 *e*P **P** 17 51 23.3 -1.5
SCPH *e*S Px 17 51 32.4
KEDI Kedomdong 62.91 272⇓*i*P **P** 17 51 26.8 -0.9
KEDI pmax pmax
comp=Z,1µm,0.5s,mb6.5
KEDI Kedomdong 62.91 272⇓*i*P **P** 17 51 26.8 -0.9
comp=Z,1µm,0.5s,mb6.5
MSLP Maasin 63.15 295 *e*P **P** 17 51 28.5 -0.7
PAGZ Pagadian 63.25 292 *e*P **P** 17 51 30.0 +0.1
RATI Rata 63.36 271⇓*i*P **P** 17 51 30.2 -0.4
comp=Z,5µm,0.6s
RPN Rapa Nui 63.39 110 P **P** 17 51 30.7 +0.1
comp=Z,205nm,0.6s,mb5.6,baz=293,slow=3.7,SNR=14
RPN Rapa Nui 63.39 110 *e*P **P** 17 51 30.9 +0.3
comp=Z,1µm,1.5s,mb6.1
BESP Borongan 63.44 297 *e*P **P** 17 51 30.9 -0.2
TBP Tagbilaran 63.77 294 *e*P **P** 17 51 32.6 -0.6
IPIL Ipil 63.92 291 *e*P **P** 17 51 34.2 0.0
LLP Lapu-Lapu 64.00 294 *e*P **P** 17 51 33.6 -1.1
SNPH Sibulan 64.12 293⇑*e*P Px 17 51 54.5
KELI Kelakatan 64.50 271⇑*e*P **P** 17 51 37.2 -0.7
comp=Z,3µm,0.4s
CNP Catarman 64.56 297 *e*P **P** 17 51 38.0 -0.3
SRDI Scrawed 64.73 271⇑*i*P **P** 17 51 37.8 -1.6
SRDI pmax pmax
comp=Z,904nm,1.1s,mb6.1
SRDI Scrawed 64.73 271⇑*i*P **P** 17 51 37.8 -1.6
comp=Z,904nm,1.1s,mb6.1
GUIM Jordan 65.32 294 *e*P **P** 17 51 47.0 +4.0
MMPH Masbate 65.34 296 *e*P **P** 17 51 45.0 +1.8
PVCP Virac 65.56 298 *e*P **P** 17 51 44.3 -0.2
RCP Roxas 65.67 295⇑*e*P **P** 17 51 44.8 -0.4
TSM Tawau 66.42 285 P **P** 17 51 50.0 +0.2
AUQP San Andres 66.64 297 *e*P **P** 17 51 52.9 +1.8
OTRP Odiongan 66.68 295 *e*P **P** 17 51 50.3 -1.1
CUYO Cuyo Island 66.76 293 *e*P **P** 17 51 51.3 -0.6
GQP Guinayangan 67.13 297⇓*e*P **P** 17 51 53.5 -0.6
JHJ Hachijo jima 2 67.37 324 P **P** 17 51 55.1 -0.2
comp=Z,572nm,0.5s,mb6.2,baz=174,slow=6.3,SNR=46
BOAC Boac 67.40 296 *e*P **P** 17 51 55.6 -0.1
SJMP San Jose 67.49 295 *e*P **P** 17 51 56.1 -0.2
QSPA South Pole Qui 67.65 180 *e*P **P** 17 51 57.8 +1.6
comp=Z,534nm,1.0s,mb5.9
POLP Polilio Island 67.98 297 *e*P **P** 17 51 59.1 -0.1
BUSP Coron 68.03 294 *e*P **P** 17 51 59.2 -0.3
ENPP El Nido 68.30 293 *e*P **P** 17 52 01.1 -0.1
BATP Bataraza 68.54 290 *e*P **P** 17 52 02.9 +0.3
KKM Kota Kinabalu 68.67 286⇓*i*P **P** 17 52 03.5 +0.1
KKM Kota Kinabalu 68.67 286 P **P** 17 52 03.8 +0.4
BALP Baler 68.81 298 *e*P **P** 17 52 04.5 +0.3
PALP Palanan 68.83 300 *e*P **P** 17 52 05.0 +0.7
LUBP Lubang 68.87 296 *e*P **P** 17 52 03.0 -1.5
PCPH Palayan 69.11 298 *e*P **P** 17 52 06.1 +0.1
CAUP Cauayan 69.25 299 *e*P **P** 17 52 07.4 +0.6
SGCP Mt. Cagua 69.77 301 *e*P **P** 17 52 10.5 +0.7
JOW Kunigami 70.16 312 P **P** 17 52 12.5 +0.5
comp=Z,674nm,0.9s,mb6.1,baz=141,slow=5.4,SNR=106
JOW PP PP 17 54 57.0 -0.7
comp=Z,73nm,1.0s,baz=126,slow=8.5,SNR=4.6
SCZP Santa Cruz 70.19 297 *e*P **P** 17 52 11.7 -0.7
APYP Conner 70.21 300 *e*P **P** 17 52 11.6 -0.9
BOLP Bolinao 70.51 298 *e*P **P** 17 52 13.7 -0.5
ABRA Dolores 70.52 299 *e*P **P** 17 52 14.1 -0.2
MJAR Matsushiro Arr 70.80 325 P **P** 17 52 14.8 -0.8
comp=Z,200nm,0.8s,mb5.7,baz=160,slow=5.6,SNR=255
MJAR PP PP 17 54 59.9 -3.3
comp=Z,15nm,0.9s,baz=164,slow=7.3,SNR=4.4
MAJO Matsushiro 70.81 325 P **P** 17 52 14.9 -0.7
MAJO Matsushiro 70.81 325⇓*i*P **P** 17 52 14.9 -0.7
MAJO pmax pmax
comp=Z,304nm,0.9s,mb5.8
MAJO Matsushiro 70.81 325⇓*i*P **P** 17 52 14.9 -0.7
comp=Z,304nm,0.9s,mb5.8
MAT Matsushiro 70.81 325 *e*P **P** 17 52 15.0 -0.6
MAT *e*S S 18 00 46.0 +1.4
MAT pmax pmax
comp=Z,677nm,1.3s,mb6.0
MAT Matsushiro 70.81 325 *e*P **P** 17 52 15.0 -0.6
comp=Z,677nm,1.3s,mb6.0
MAT *e*S S 18 00 46.0 +1.4
MAT Matsushiro 70.81 325 P **P** 17 52 14.5 -1.1
MAT S S 18 00 46.0 +1.4
BBP Basco 71.04 303 *e*P **P** 17 52 16.4 -0.8
KSM Kuching 72.06 279 *e*P **P** 17 52 23.1 -0.1
KSM epP pP 17 54 21.5 -2.9
ERM Erimo 72.71 332 P **P** 17 52 28.9 +2.4
comp=Z,2µm,1.0s,mb6.5,SNR=10
PULI Pulasari 73.05 270⇓*i*P **P** 17 52 26.7 -2.3
YUK Yuzh-Kuril'sk 73.25 335 P **P** 17 52 30.0 +0.5
YUK SS ScS 18 01 49.0 +7.7
YUK pmax pmax
comp=Z,5µm,2.0s,mb6.7
YUK pmax pmax
comp=N,5µm,1.0s
NACB Ninganchiao 73.41 306 *e*P **P** 17 52 30.0 -0.8
NACB *e*PP PP 17 55 24.7 -0.6
YHNB Yeheng 73.85 306 *e*P **P** 17 52 32.8 -0.5
YHNB *e*PP PP 17 55 26.9 -1.8
TATO Taipei 73.94 306 *e*P **P** 17 52 33.3 -0.5
comp=N,1µm,1.0s,mb6.4
PENI Pendagan 74.08 270⇓*i*P **P** 17 52 32.0 -2.8
PENI pmax pmax
comp=Z,634nm,1.2s,mb6.0
PENI Pendagan 74.08 270⇓*i*P **P** 17 52 32.0 -2.8
comp=Z,634nm,1.2s,mb6.0
ASAJ Asahikawa 74.65 333 P **P** 17 52 39.0 +1.6
comp=Z,280nm,0.8s,mb5.8,baz=222,slow=7.9,SNR=70

SMY Shemya 75.03 356 *e*P **P** 17 52 39.3 0.0
FX1 Attu Island--F 75.24 356 P **P** 17 52 40.2 -0.2
comp=Z,123nm,0.7s,mb5.6,baz=202,slow=3.0,SNR=31
FX1 Attu Island--F 75.24 356 *e*P **P** 17 52 38.9 -1.5
SKR Severo-Kuril's 75.84 344 *e*P **P** 17 52 41.0 -2.8
SKR *e* 17 55 34.0
SKR *e*S S 18 01 34.0 -5.3
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=Z,360nm,1.0s,mb5.8
SKR pmax pmax
comp=E,340nm,1.4s
SKR smax
comp=N,5µm,10.0s
SKR smax
comp=E,6µm,10.0s
YSS Yuzh-Sakhalins 76.89 335α*i*P **P** 17 52 50.3 +0.7
YSS *i* 17 52 57.7
YSS *e**SP sP 17 55 54.0 +2.7
YSS *e*PPP PPP 17 57 40.0 -6.3
YSS *e*S S 18 01 51.0 +0.5
YSS pmax pmax
comp=Z,410nm,1.0s,mb5.8
YSS pmax pmax
comp=N,180nm,1.2s
YSS pmax pmax
comp=E,140nm,1.1s
YSS Yuzh-Sakhalins 76.89 335 *e*P **P** 17 52 50.9 +1.3
comp=E,673nm,1.4s,mb5.9
KS15 Wonju Array Si 77.27 320 *e*P **P** 17 52 52.6 +0.8
PET Petropavlovsk 77.44 347 *i*P **P** 17 52 52.3 -0.1
PET pmax pmax
comp=Z,187nm,0.9s,mb5.5
INCN Inchon 78.05 319 *e*P **P** 17 52 56.9 +0.9
comp=Z,371nm,1.0s,mb5.8
KGM Kluang 78.67 277 P **P** 17 53 00.5 +0.7
MAW Mawson 79.19 200⇓*i*P **P** 17 53 02.8 +1.4
comp=Z,64nm,0.8s,mb5.0
MAW Mawson 79.19 200⇓*i*P **P** 17 53 02.8 +1.4
MAW pmax pmax
comp=Z,64nm,0.8s
MAW Mawson 79.19 200 P **P** 17 53 02.9 +1.5
comp=Z,97nm,0.9s,mb5.1,baz=115,slow=5.2,SNR=22
MAW pP pP 17 55 07.7 +2.1
comp=Z,30nm,1.1s,baz=126,slow=3.8,SNR=3.8
QIZ Qiongzhong 80.15 295⇑P PcP 17 53 08.8 -4.2
PMSA Palmer Station 80.18 157 *e*P **P** 17 53 08.2 +1.6
comp=Z,246nm,0.9s,mb5.5
SAC San Andreas 80.45 43 *e*P **P** 17 53 09.5 +1.0
SAO San Andreas Ge 80.57 44 *e*P **P** 17 53 09.2 +0.1
SAO *e**PP pP 17 55 13.8 0.0
SAO pmax pmax
comp=Z,193nm,1.0s,mb5.5
SAO San Andreas Ge 80.57 44 *e*P **P** 17 53 09.2 +0.1
comp=Z,194nm,1.0s,mb5.5
SAO *e*pP pP 17 55 13.8 0.0
LRV Little Rabbit 80.64 44 *e*P **P** 17 53 10.2 +0.7
HOPS Hopland 80.91 41 *e*P **P** 17 53 11.3 +0.5
comp=Z,486nm,1.1s,mb5.8
MWC Mount Wilson 81.33 48 *e*P **P** 17 53 13.2 +0.1
BAR Barrett 81.43 50 *e*P **P** 17 53 13.1 -0.5
BAR *e*pP pP 17 55 15.6 -3.0
KHMM Horse Mountain 81.69 39 *e*P **P** 17 53 16.0 +1.2
IPM Ipoh 81.78 278 P **P** 17 53 16.4 +0.6
LPIG La Paz 81.82 60 *i*P **P** 17 53 16.1 +0.3
KRMB Red Mountain 82.00 39 *e*P **P** 17 53 17.4 +1.1
KRMB *e*pP pP 17 55 24.8 +3.3
CMB Columbia Colle 82.00 43 *e*P **P** 17 53 16.4 0.0
CMB *e**PP pP 17 55 20.0 -1.6
CMB pmax pmax
comp=Z,292nm,0.9s,mb5.8
CMB Columbia Colle 82.00 43 *e*P **P** 17 53 16.4 0.0
comp=Z,292nm,0.9s,mb5.8
CMB *e*pP pP 17 55 20.0 -1.6
PFO Pinyon Flat Ob 82.09 49 P **P** 17 53 17.0 0.0
comp=Z,534nm,1.2s,mb6.0,SNR=26
PFO Pinyon Flat Ob 82.09 49 *e*P **P** 17 53 17.0 0.0
PFO *e**PP pP 17 55 19.2 -3.0
PFO pmax pmax
comp=Z,152nm,1.3s,mb5.4
PFO Pinyon Flat Ob 82.09 49 *e*P **P** 17 53 17.0 0.0
comp=Z,152nm,1.3s,mb5.4
PFO *e*pP pP 17 55 19.2 -3.0
WDC Whiskeytown Da 82.22 40 *e*P **P** 17 53 17.9 +0.5
WDC *e**PP pP 17 55 22.4 -0.3
WDC pmax pmax
comp=Z,295nm,1.1s,mb5.7
WDC Whiskeytown Da 82.22 40 *e*P **P** 17 53 17.9 +0.5
comp=Z,294nm,1.1s,mb5.7
WDC *e*pP pP 17 55 22.4 -0.3
KBO Bosley Butte 82.25 38 *e*P **P** 17 53 19.0 +1.4
KULM Kulim 82.41 279 *e*P **P** 17 53 19.3 +0.4
KULM *e*pP PP 17 56 32.9 -6.7
UBT Ubonrachathani 82.58 290⇑P **P** 17 53 22.0 +2.3
comp=Z,694nm,1.0s
KEBM Edson Butte 82.61 38 *e*P **P** 17 53 20.4 +1.0
OMM Old Mammoth Mi 82.65 44 *e*P **P** 17 53 19.8 +0.1
OMM *e*pP pP 17 55 24.5 -0.6
OMM *e*PP PP 17 56 37.6 -3.4
MTUM Tungsten Hills 82.78 45 *e*P **P** 17 53 20.9 +0.6
MTUM *e*pP pP 17 55 24.6 -1.2
DAC Darwin (Calif) 82.80 46 *e*P **P** 17 53 20.7 +0.2
DAC *e**PP pP 17 55 25.3 -0.7
DAC pmax pmax
comp=Z,107nm,1.0s,mb5.3
DAC Darwin (Calif) 82.80 46 *e*P **P** 17 53 20.7 +0.2
comp=Z,107nm,1.0s,mb5.3
DAC *e*pP pP 17 55 25.3 -0.6
YBH Yreka Blue Hor 82.83 39 *e*P **P** 17 53 21.3 +0.8
YBH *e**PP pP 17 55 27.8 +1.8
YBH pmax pmax
comp=Z,192nm,0.9s
YBH Yreka Blue Hor 82.83 39 P **P** 17 53 21.4 +0.9
comp=Z,158nm,0.9s,mb5.5,baz=188,slow=0.1,SNR=147
YBH Yreka Blue Hor 82.83 39 *e*P **P** 17 53 21.2 +0.8
comp=Z,192nm,0.9s,mb5.6
YBH *e*pP pP 17 55 27.8 +1.8
WCN Washoe City 83.15 43 *e*P **P** 17 53 22.7 +0.6
WCN *e**PP pP 17 55 27.5 -0.2
WCN pmax pmax
comp=Z,348nm,1.1s,mb5.8
WCN Washoe City 83.15 43 *e*P **P** 17 53 22.7 +0.6
comp=Z,348nm,1.1s,mb5.8
WCN *e*pP pP 17 55 27.5 -0.3
SNG Songkhla 83.18 281 P **P** 17 53 24.0 +1.2
comp=Z,660nm,1.0s,mb6.1
HUMO Hull Mountain 83.23 38 *e*P **P** 17 53 23.1 +0.7
comp=Z,453nm,1.3s,mb5.8
HUMO *e*pP pP 17 55 28.1 0.0
HUMO *e*PP PP 17 56 44.9 -0.6
KLR Kul'dur 83.36 330 *e*P **P** 17 53 20.7 -2.2
KLR *e*S 18 02 45.2
KLR *e* 18 03 00.0
KLR pmax pmax
comp=N,340nm,3.0s
KLR pmax pmax
comp=E,400nm,3.0s
KLR pmax pmax
comp=Z,1.0nm,3.0s
USHA Ushuaia 83.42 147 P **P** 17 53 24.4 +1.3
comp=Z,92nm,0.9s,mb5.3,baz=242,slow=4.1,SNR=22
BUOR Burton Butte 83.44 39 P **P** 17 53 24.2 +0.7
MNV Mina 83.66 44 *e*P **P** 17 53 24.4 -0.3
MNV *e**PP pP 17 55 30.9 +0.4
MNV *e* 17 56 44.5
HOG Hogback Mounta 83.73 39 P **P** 17 53 25.7 +0.8
LDFC Landfair 83.83 48 *e*P **P** 17 53 26.2 +0.7
LDFC *e*pP pP 17 55 31.3 -0.1
CJM Chamela 84.04 66 *i*P **P** 17 53 26.9 0.0
TPH Tonopah 84.06 45 *e*P **P** 17 53 26.8 +0.2
TPH *e**PP pP 17 55 32.2 -0.3
TPH pmax pmax
comp=Z,310nm,1.1s,mb5.8
TPH Tonopah 84.06 45 *e*P **P** 17 53 26.8 +0.1
comp=Z,310nm,1.1s,mb5.8
TPH *e*pP pP 17 55 32.2 -0.3
MPOR Mary's Peak 84.09 37 P **P** 17 53 27.7 +1.1
MOD Modoc 84.36 40 *e*P **P** 17 53 28.3 +0.3
comp=Z,353nm,1.3s,mb5.7
MOD *e*pP pP 17 55 35.5 +1.5
MOD *e*PP PP 17 56 52.5 -1.9
SYO Syowa Base 84.48 193⇑P **P** 17 53 28.3 +0.3
SYO Syowa Base 84.48 193⇓PcP PcP 17 53 28.9 -1.8

PINOR Pine Mountain 85.17 38 P **P** 17 53 32.8 +0.8
MA2 Magadan 85.21 345*d*iP **P** 17 53 30.3 -1.4
MA2 *i**PP pP 17 55 35.2 -2.8
MA2 pmax pmax
comp=Z,290nm,1.1s,mb5.8
MA2 Magadan 85.21 345 *e*P **P** 17 53 31.2 -0.5
comp=Z,296nm,1.1s,mb5.8
TRCR Troy Canyon 85.28 45 *e*P **P** 17 53 32.6 -0.1
TRCR *e*pP pP 17 55 40.1 +1.2
TUC Tucson 85.47 52 *e*P **P** 17 53 34.6 +0.9
TUC *e**PP pP 17 55 38.6 -1.4
TUC pmax pmax
comp=Z,246nm,1.0s,mb5.8
TUC Tucson 85.47 52 *e*P **P** 17 53 34.6 +0.9
comp=Z,246nm,1.0s,mb5.8
TUC *e*pP pP 17 55 38.6 -1.5
SVW2 Sparrevohn 85.50 12 *e*P **P** 17 53 32.2 -0.9
WVOR Wild Horse Val 85.67 41 *e*P **P** 17 53 34.0 -0.4
WVOR *e**PP pP 17 55 41.5 +0.7
WVOR pmax pmax
comp=Z,196nm,1.0s,mb5.7
WVOR Wild Horse Val 85.67 41 *e*P **P** 17 53 34.0 -0.4
comp=Z,196nm,1.0s,mb5.7
WVOR *e*pP pP 17 55 41.5 +0.7
VIPM Ingram Point 85.74 38 P **P** 17 53 35.2 +0.5
VFP Flag Point 85.76 37 P **P** 17 53 35.0 +0.3
OOW Octopus West 85.82 34 P **P** 17 53 36.2 +1.2
COYC Coyhaique 85.85 138⇑*e*P **P** 17 53 36.6 +1.5
OBC Olympics--Boni 86.06 34 P **P** 17 53 37.7 +1.6
SLKM Skilak Lake 86.07 14 *e*P **P** 17 53 35.2 -0.6
SLKM *e**PP pP 17 55 42.7 +0.3
SNAA Sanae 86.13 179 P **P** 17 53 35.9 +0.1
comp=Z,13nm,0.6s,mb4.8,baz=198,slow=4.8,SNR=111
SNAA pP pP 17 55 41.4 -1.1
comp=Z,15nm,0.9s,baz=136,slow=4.2,SNR=8.3
NNT Nonglab 86.14 285 P **P** 17 53 39.9 +2.7
SFJM Santa Fe 86.17 66 *i*P **P** 17 53 38.0 +0.8
ZIIG Zihuatanejo 86.30 69 *i*P **P** 17 53 38.4 +0.4
VNA3 Neumayer Olymp 86.33 177⇓*i*P **P** 17 53 37.7 +0.9
ARUT Antelope Range 86.41 47 *e*P **P** 17 53 38.3 +0.3
ARUT *e**PP pP 17 55 46.3 +1.6
ARUT *e* 17 57 07.3
WUAZ Wupatki 86.66 49 *e*P **P** 17 53 39.6 +0.4
comp=Z,185nm,1.1s,mb5.7
WUAZ *e*pP pP 17 55 48.0 +2.0
MAIT Maitri 86.69 184 *e*P **P** 17 53 39.2 +0.6
VNA2 Neumayer--Watz 86.75 178⇓*i*P **P** 17 53 40.0 +1.2
PGC Sidney 86.78 34 *e*P **P** 17 53 39.7 +0.2
comp=Z,415nm,0.9s,mb6.2
PGC *e*pP pP 17 55 49.2 +3.0
VNA1 Neumayer--Stat 86.98 177⇓*i*P **P** 17 53 41.4 +1.5
SNB Saturna Island 87.00 34 P **P** 17 53 41.1 +0.6
NST Nakhon Sawan 87.04 288⇑P **P** 17 53 42.2 +0.8
comp=Z,275nm,1.3s,mb5.8
CAIG El Cayaco 87.11 70 *i*P **P** 17 53 42.5 +0.7
EYAK Cordova Ski Ar 87.19 16 *e*P **P** 17 53 40.4 -0.7
PMR Palmer 87.28 14 *e*P **P** 17 53 40.8 -0.7
TBM Table Mountain 87.36 36 P **P** 17 53 42.6 +0.4
LTY Liberty 87.38 36 P **P** 17 53 42.4 +0.1
SNIWA Snively Ranch 87.45 37 P **P** 17 53 43.3 +0.6
ZAIG Zacatecas 87.54 64 *i*P **P** 17 53 44.3 +0.6
MVU Marysvale 87.61 47 *e*P **P** 17 53 44.7 +1.1
comp=Z,165nm,1.4s,mb5.6
MVU *e*pP pP 17 55 51.8 +1.2
MSU Marysvale 87.64 47 *e*P **P** 17 53 44.4 +0.7
SML Sawmill 87.65 14 *e*P **P** 17 53 42.5 -0.7
DIV Divide 87.68 16 *e*P **P** 17 53 42.5 -0.8
comp=Z,364nm,0.9s,mb6.1
BMO Blue Mountains 87.86 39 *e*P **P** 17 53 43.8 -0.8
BMO *e**PP pP 17 55 52.0 +0.3
BMO pmax pmax
comp=Z,120nm,1.1s,mb5.5
BMO Blue Mountains 87.86 39 *e*P **P** 17 53 43.8 -0.8
comp=Z,120nm,1.1s,mb5.5
BMO *e*pP pP 17 55 52.0 +0.3
SEY Seymchan 87.88 348 *e*P **P** 17 53 46.9 +2.6
SEY *e*PPP PPP 17 59 29.4 +4.1
SEY *e*S S 18 03 44.7 +7.3
SEY pmax pmax
comp=Z,20nm,0.9s,mb4.8
DUG Dugway 88.09 45 *e*P **P** 17 53 45.8 0.0
DUG *e**PP pP 17 55 54.1 +1.1
DUG *e* 17 57 22.4
DUG pmax pmax
comp=Z,138nm,1.4s,mb5.5
DUG Dugway 88.09 45 *e*P **P** 17 53 45.8 -0.1
comp=Z,138nm,1.4s,mb5.5
DUG *e*pP pP 17 55 54.1 +1.1
DUG *e*PP PP 17 57 22.4 -2.5
TNA Tin City 88.18 5 *e*P **P** 17 53 45.0 -0.7
comp=Z,11nm,0.8s
PLBG Platanillo 88.32 69 *i*P **P** 17 53 48.1 +0.7
BGU Big Grassy Mou 88.33 44 *e*P **P** 17 53 47.0 0.0
BGU *e*pP pP 17 55 55.1 +0.9
BGU *e*PP PP 17 57 22.2 -4.7
NLU North Lily Min 88.45 45 *e*P **P** 17 53 47.9 +0.3
NLU *e*pP pP 17 55 53.7 -1.0
NLU *e*PP PP 17 57 25.1 -2.7
BDT Bhumibol Dam 88.66 289 P **P** 17 53 50.5 +1.5
comp=Z,82nm,1.0s
TMUT Trail Mountain 88.69 46 *e*P **P** 17 53 49.4 +0.7
TMUT *e*pP pP 17 55 57.4 +1.4
PNIG Pinotepa 88.72 72 *i*P **P** 17 53 49.5 +0.2
NOQ North Oquirrh 88.78 45 *e*P **P** 17 53 49.8 +0.8
NOQ *e*pP pP 17 55 56.7 +0.3
HLID Hailey 88.87 41 *e*P **P** 17 53 49.8 +0.4
comp=Z,131nm,0.9s,mb5.8
HLID *e*pP pP 17 55 58.6 +1.8
HLID *e*PP PP 17 57 26.9 -4.1
YAIG Yautepec 88.89 69 *i*P **P** 17 53 50.7 +0.6
SPUT South Promonto 88.91 44 *e*P **P** 17 53 49.8 +0.1
SPUT *e*PP PP 17 57 28.2 -3.2
HVU Hansel Valley 88.94 44 *e*P **P** 17 53 49.9 +0.1
HVU *e**PP pP 17 55 58.7 +1.5
HVU *e* 17 57 27.0
CHRT Chiangrai 89.05 292⇓P **P** 17 53 52.5 +1.7
comp=Z,2µm,1.0s,mb6.8
SRU San Rafael 89.05 47 *e*P **P** 17 53 50.5 +0.1
SRU *e*pP pP 17 55 58.5 +0.7
SRU *e*PP PP 17 57 24.7 -7.8
PLCA Paso Flores 89.14 134 *e*P **P** 17 53 51.8 +1.0
PLCA *e**PP pP 17 55 57.8 -0.4
PLCA *e* 17 57 30.4
PLCA pmax pmax
comp=Z,90nm,1.0s
PLCA Paso Flores 89.14 134 P **P** 17 53 52.1 +1.3
comp=Z,69nm,0.9s,mb5.5,baz=227,slow=5.0,SNR=100
PLCA PKKPbc 18 11 24.9
comp=Z,3.2nm,1.0s,baz=80,slow=8.0,SNR=3.6
PLCA Paso Flores 89.14 134 *e*P **P** 17 53 51.8 +1.0
comp=Z,90nm,1.0s,mb5.5
PLCA *e*pP pP 17 55 57.8 -0.4
PLCA *e*PP PP 17 57 30.4 -2.9
LAZ Ladron 89.15 52 *e*P **P** 17 53 51.5 +0.6
LAZ *e*pP pP 17 55 60.0 +1.6
LAZ *e*PP PP 17 57 32.3 -1.2
LENM Lemitar 89.16 52 *e*P **P** 17 53 51.3 +0.3
LENM *e*pP pP 17 55 59.5 +1.0
JLU Jordanelle 89.19 45 *e*P **P** 17 53 51.2 +0.2
JLU *e*pP pP 17 55 59.4 +1.0
JLU *e*PP PP 17 57 28.3 -5.3
CM31 Chiang Mai Arp 89.20 290 *e*P **P** 17 53 53.4 +1.8
comp=Z,479nm,1.0s,mb6.3
CM31 *e*pP pP 17 55 57.1 -1.9
CM31 *e*PP PP 17 57 29.1 -5.1
MCK McKinley 89.22 13 *e*P **P** 17 53 49.0 -1.5
MCK pmax pmax
comp=Z,44nm,1.0s,mb5.2
MCK McKinley 89.22 13 *e*P **P** 17 53 49.0 -1.5
comp=Z,44nm,1.0s,mb5.2
MNTX Cornudas Mount 89.22 55 *e*P **P** 17 53 51.4 0.0
comp=Z,223nm,0.9s,mb6.0
MNTX *e*pP pP 17 55 56.9 -1.8
DAU Daniels Canyon 89.22 45 *e*P **P** 17 53 52.2 +1.1
DAU *e**PP pP 17 56 00.2 +1.6
DAU *e* 17 57 30.6
PAYG Puerto Ayora 89.28 90 *e*P **P** 17 53 53.4 +1.4
comp=Z,67nm,1.1s,mb5.4
PPM Popocatepetl 89.35 69 *i*P **P** 17 53 52.0 -0.2
LPM Los Pinos Moun 89.48 52 *e*P **P** 17 53 52.9 +0.4
LPM *e*pP pP 17 56 01.3 +1.3
TCUT Toone Canyon 89.48 45 *e*P **P** 17 53 52.8 +0.5
TCUT *e*pP pP 17 56 00.8 +0.9

TCUT ePP PP 17 57 32.3 -3.6
TXAR Lajitas Array 89.49 58 P **P** **17 53 53.3 +0.6**
comp=Z,145nm,0.9s,mb5.8,baz=217,slow=5.2,SNR=140
TXAR pP pP 17 55 59.0 -1.2
comp=Z,5.4nm,0.8s,baz=212,slow=3.5,SNR=4.2
TXAR PP PP 17 57 32.5 -3.8
comp=Z,3.2nm,0.8s,baz=225,slow=7.1,SNR=3.5
TXAR PKKPbc 18 11 24.6
comp=Z,1.7nm,0.5s,baz=87,slow=2.9,SNR=17
TXAR PKPPKP 18 19 29.9
comp=Z,0.6nm,1.0s,baz=90,slow=2.5,SNR=3.5
TXAR Lajitas Array 89.49 58 P **P** **17 53 53.3 +0.6**
TXAR pP pP 17 55 59.0 -1.2
TXAR PP PP 17 57 32.5 -3.8
TXAR PKKPbc 18 11 24.6
TXAR P'P' 18 19 29.9
HWUT Hardware Ranch 89.63 44 eP **P** **17 53 52.6 -0.4**
comp=Z,112nm,0.9s,mb5.7
HWUT epP pP 17 56 00.0 -0.5
HWUT ePP PP 17 57 32.7 -4.3
THY Trims Highway 89.65 15 eP **P** **17 53 52.0 -0.6**
PV10 Paradox Valley 89.70 48 eP **P** **17 53 53.2 -0.2**
MENT Mentasta 89.73 16 eP **P** **17 53 52.9 0.0**
ANMO Albuquerque 89.90 52 eP **P** **17 53 54.4 0.0**
ANMO e*PP pP 17 56 02.1 +0.1
ANMO e 17 57 36.5
ANMO pmax pmax
comp=Z,190nm,1.1s
ANMO Albuquerque 89.90 52 P **P** **17 53 54.6 +0.2**
comp=Z,132nm,1.0s,mb5.7,baz=220,slow=5.2,SNR=79
ANMO pP pP 17 56 01.7 -0.3
comp=Z,2.6nm,0.5s,baz=238,slow=4.4,SNR=2.6
ANMO PP PP 17 57 36.8 -2.6
comp=Z,9.8nm,1.1s,baz=228,slow=6.4,SNR=3.3
ANMO Albuquerque 89.90 52 eP **P** **17 53 54.4 0.0**
comp=Z,190nm,1.1s,mb5.8
ANMO epP pP 17 56 02.1 +0.1
ANMO ePP PP 17 57 36.5 -2.9
NEW Newport 89.91 36 P **P** **17 53 53.1 -0.9**
comp=Z,18nm,0.9s,mb4.9,baz=235,slow=4.2,SNR=18
NEW pP pP 17 56 01.1 -0.6
comp=Z,5.7nm,0.9s,baz=166,slow=4.6,SNR=1.5
NEW PP PP 17 57 36.0 -3.1
comp=Z,10nm,1.1s,baz=291,slow=6.6,SNR=3.1
PV01 Paradox Valley 89.91 48 eP **P** **17 53 54.0 -0.3**
PV01 epP pP 17 56 03.4 +1.4
VHO Vista Hermosa 90.21 72 *i* P **P** **17 53 57.9 +1.7**
GDL2 Guadalupe Moun 90.22 55 eP **P** **17 53 56.0 +0.1**
HUIG Huatulco 90.25 73 *i* P **P** **17 53 56.4 0.0**
EFI East Falkland 90.35 148 P **P** **17 53 57.0 +1.0**
comp=Z,1μm,0.7s,mb6.8,SNR=25
IMA Indian Mountai 90.43 10 eP **P** **17 53 55.7 -0.4**
IMA pmax pmax
comp=Z,160nm,1.0s,mb5.8
IMA Indian Mountai 90.43 10 eP **P** **17 53 55.6 -0.5**
COLA College 90.45 13 eP **P** **17 53 54.3 -1.9**
COLA pmax pmax
comp=Z,69nm,1.0s,mb5.4
COLA College 90.45 13 eP **P** **17 53 55.1 -1.1**
DLBC Dease Lake 90.47 24 P **P** **17 53 57.1 +0.6**
comp=Z,24nm,0.8s,mb5.0,baz=221,slow=6.4,SNR=38
DLBC PP PP 17 57 39.7 -3.6
comp=Z,17nm,1.0s,baz=210,slow=6.3,SNR=7.5
DLBC PKKPbc 18 11 21.1
comp=Z,2.4nm,0.7s,baz=291,slow=18,SNR=6.0
DLBC Dease Lake 90.47 24 eP **P** **17 53 56.6 +0.2**
DLBC e pP 17 56 06.5 +2.3
DLBC ePP PP 17 57 40.2 -3.0
MCMT McKenzie Canyo 90.49 41 eP **P** **17 53 56.0 -0.8**
AHID Auburn Hatcher 90.52 43 eP **P** **17 53 57.3 +0.2**
comp=Z,174nm,0.9s,mb6.0
AHID epP pP 17 56 03.5 -1.3
AHID ePP PP 17 57 40.3 -3.7
CLNB Carlsbad 90.61 55 eP **P** **17 53 57.8 0.0**
CLNB epP pP 17 56 03.9 -1.6
RRI2 Red Ridge 90.67 43 eP **P** **17 53 58.0 +0.2**
comp=Z,198nm,0.9s,mb6.0
RRI2 epP pP 17 56 06.8 +1.3
RRI2 ePP PP 17 57 41.8 -3.4
MSO Missoula 90.91 39 eP **P** **17 53 58.2 -0.5**
comp=Z,17nm,1.0s,mb4.9
MSO epP pP 17 56 07.1 +0.6
MSO ePP PP 17 57 43.0 -4.0
CPRX Cap Rock 90.96 55 eP **P** **17 53 59.3 0.0**
CPRX epP pP 17 56 06.9 -0.3
CPRX ePP PP 17 57 45.5 -2.2
REDW Red Top Meadow 90.97 43 eP **P** **17 53 59.4 +0.2**
comp=Z,249nm,1.1s,mb6.1
REDW epP pP 17 56 08.1 +1.1
TPAW Teton Pass 90.98 43 eP **P** **17 53 59.3 +0.2**
comp=Z,158nm,1.1s,mb5.9
TPAW epP pP 17 56 08.5 +1.5
TPAW ePP PP 17 57 44.0 -3.6
SNOW Snow King Moun 91.09 43 eP **P** **17 54 00.1 +0.5**
comp=Z,201nm,1.0s,mb6.0
SNOW epP pP 17 56 07.4 -0.1
SNOW ePP PP 17 57 39.4 -9.0
IMW Indian Meadow 91.19 42 eP **P** **17 54 00.5 +0.4**
comp=Z,162nm,1.1s,mb5.9
IMW epP pP 17 56 08.3 +0.4
IMW ePP PP 17 57 40.0 -9.2
LOHW Long Hollow 91.26 43 eP **P** **17 54 00.6 +0.2**
comp=Z,84nm,1.1s,mb5.6
LOHW epP pP 17 56 08.9 +0.6
LOHW ePP PP 17 57 46.3 -3.4
CHMT Chamberlain Mo 91.35 39 eP **P** **17 54 00.2 -0.5**
QLMT Earthquake Lak 91.36 41 eP **P** **17 54 01.6 +0.8**
QLMT epP pP 17 56 08.9 +0.2
BW06 Boulder Array 91.50 44 eP **P** **17 54 00.9 -0.7**
comp=Z,99nm,1.0s,mb5.8
BW06 epP pP 17 56 10.4 +0.9
PDAR Pinedale Array 91.50 44 P **P** **17 54 01.9 +0.4**
comp=Z,74nm,1.0s,mb5.7,baz=202,slow=2.6,SNR=129
PDAR pP pP 17 56 09.0 -0.4
comp=Z,11nm,1.1s,baz=208,slow=1.7,SNR=5.8
PDAR PP PP 17 57 45.5 -6.2
comp=Z,7.9nm,1.0s,baz=232,slow=6.5,SNR=4.6
PDAR PKKPbc 18 11 20.1
comp=Z,2.5nm,0.7s,baz=73,slow=4.7,SNR=14
PDAR PKPPKP 18 19 26.9
comp=Z,1.0nm,0.9s,baz=90,slow=4.4,SNR=7.8
YMR Madison River 91.56 42 eP **P** **17 54 02.9 +1.1**
YMR epP pP 17 56 11.1 +1.4
YMR ePP PP 17 57 49.8 -2.4
CLNS Chul'man 91.58 333 eP **P** **17 54 02.0 +0.5**
CLNS pmax pmax
comp=Z,124nm,1.3s,mb5.8
CLNS pmax pmax
comp=N,64nm,1.4s
CLNS pmax pmax
comp=E,28nm,1.2s
BOZ Bozeman (W) 91.66 41 eP **P** **17 54 01.7 -0.4**
BOZ e*PP pP 17 56 09.9 -0.2
BOZ pmax pmax
comp=Z,72nm,1.0s,mb5.7
BOZ Bozeman (W) 91.66 41 eP **P** **17 54 01.6 -0.5**
comp=Z,72nm,1.0s,mb5.7
BOZ epP pP 17 56 09.9 -0.2
BOZ ePP PP 17 57 43.6 -9.2
DAWY Dawson 91.77 17 eP **P** **17 54 01.7 -0.5**
DAWY epP pP 17 56 09.5 -0.7
CMIG Matias Romero 91.84 72 ⇑ *i* P **P** **17 54 03.9 +0.2**
SDCO Great Sand Dun 91.87 50 eP **P** **17 54 03.0 -0.3**
comp=Z,112nm,1.0s,mb5.8
SDCO epP pP 17 56 10.4 -0.8
HRY Holter Researc 92.08 40 eP **P** **17 54 04.0 -0.1**
HRY epP pP 17 56 13.4 +1.3
WALA Waterton Lakes 92.12 37 eP **P** **17 54 03.9 -0.2**
comp=Z,44nm,1.0s,mb5.4
WALA epP pP 17 56 13.3 +1.1
WALA ePP PP 17 57 53.1 -3.2
RWWY Rawlins 92.51 46 eP **P** **17 54 05.4 -0.7**
comp=Z,117nm,1.0s,mb5.9
RWWY epP pP 17 56 14.1 -0.1
FCH Farellones 92.93 128 ⇑ eP **P** **17 54 09.8 +1.6**
YAK Yakutsk 93.28 339 eP **P** **17 54 08.8 -0.4**
YAK *i* pP 17 56 18.6 +1.3
YAK eS 18 03 42.6
YAK *i* *SS 18 04 27.0
YAK pmax pmax
comp=Z,83nm,0.9s,mb5.8
YAK pmax pmax
comp=N,12nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK pmax pmax
comp=Z,28nm,1.0s,mb5.2
YAK smax
comp=N,25nm,1.1s
YAK smax
comp=E,15nm,1.2s
YAK Yakutsk 93.28 339 eP **P** **17 54 08.2 -1.0**
comp=E,203nm,0.9s,mb6.2
YAK ePP pP 17 56 14.5 -2.8
PHWY Pilot Hill 93.51 47 eP **P** **17 54 10.5 -0.2**
PHWY epP pP 17 56 19.8 +1.0
EDM Edmonton 94.63 34 eP **P** **17 54 14.9 -0.5**
EDM epP pP 17 56 25.9 +2.3
LAO LASA Array 95.45 42 eP **P** **17 54 19.1 -0.2**
comp=E,62nm,1.0s,mb5.7
LAO epP pP 17 56 27.7 +0.1
LAO ePP PP 17 58 18.8 -2.6
RSSD Black Hills 95.69 45 eP **P** **17 54 20.0 -0.4**
comp=E,58nm,1.0s,mb5.8
RSSD epP pP 17 56 27.8 -1.0
ULN Ulaanbaatar 95.74 320 eP **P** **17 54 20.2 -0.4**
ULN pmax pmax
comp=Z,68nm,1.1s,mb5.8
ULN Ulaanbaatar 95.74 320 eP **P** **17 54 20.1 -0.4**
comp=Z,68nm,1.1s,mb5.8
SONM Songino Array 96.12 319 P **P** **17 54 22.1 -0.2**
comp=Z,7.1nm,0.8s,mb4.9,baz=129,slow=4.6,SNR=66
SONM PP PP 17 58 21.1 -5.5
comp=Z,20nm,1.1s,baz=126,slow=5.8,SNR=11
SONM S 18 04 03.7
comp=Z,2.3nm,0.9s,baz=172,slow=8.7,SNR=9.1
SONM PKPPKP 18 19 14.1
comp=Z,1.0nm,1.0s,baz=346,slow=3.0,SNR=3.9
INK Inuvik 96.57 16 eP **P** **17 54 22.7 -1.1**
INK pmax pmax
comp=Z,15nm,0.9s
INK Inuvik 96.57 16 P **P** **17 54 23.1 -0.8**
comp=Z,11nm,0.8s,mb5.2,baz=223,slow=4.8,SNR=33
INK S 18 04 02.7
comp=Z,3.1nm,1.1s,baz=342,slow=21,SNR=5.3
INK ScS ScS 18 04 53.4 +1.0
comp=Z,1.0nm,0.9s,baz=357,slow=32,SNR=5.8
INK PKKPbc 18 11 05.4
comp=Z,2.0nm,0.7s,baz=47,slow=7.3,SNR=6.1
INK PKPPKP 18 19 13.7
comp=Z,1.5nm,1.0s,baz=188,slow=9.6,SNR=3.7
INK Inuvik 96.57 16 eP **P** **17 54 22.7 -1.1**
comp=Z,15nm,0.9s,mb5.2
BOD Bodaibo 96.93 330 eP **P** **17 54 23.8 -1.9**
BOD pmax pmax
comp=Z,14nm,1.3s,mb5.0
YKA Yellowknife Ar 98.96 25 P **P** **17 54 34.1 -0.6**
comp=Z,5.0nm,0.8s,mb4.9,baz=245,slow=4.4,SNR=55
YKA pP pP 17 56 41.9 -1.2
comp=Z,2.0nm,0.9s,baz=234,slow=3.7,SNR=3.7
YKA PP PP 17 58 38.4 -9.0
comp=Z,7.1nm,1.0s,baz=241,slow=6.8,SNR=6.8
YKA PKKPbc 18 10 58.0
comp=Z,1.7nm,0.5s,baz=40,slow=2.4,SNR=20
YKA PKPPKP 18 19 13.6
comp=Z,0.5nm,0.9s,baz=48,slow=2.2,SNR=6.6
YKA Yellowknife Ar 98.96 25 P **P** **17 54 34.1 -0.6**
YKA pP pP 17 56 41.9 -1.2
YKA PP PP 17 58 38.4 -9.0
YKA PKKPbc 18 10 58.0
YKA P'P' 18 19 13.6
ZAK Zakamensk 99.06 321 ⇓ *i* P **P** **17 54 35.8 +0.3**
ZAK pmax pmax
comp=Z,14nm,1.2s,mb5.2
LVC Limon Verde 99.19 119 ePdif P **17 54 38.8 +2.1**
comp=Z,8.1nm,0.9s,mb5.0
IRK Irkutsk 99.26 323 eP **P** **17 54 35.9 -0.4**
TLY Talaya 99.39 322 eP **P** **17 54 36.5 -0.4**
TLY pmax pmax
comp=Z,23nm,1.3s,mb5.3
TLY Talaya 99.39 322 ePdif **P** **17 54 36.5 -0.4**
comp=Z,23nm,1.3s,mb5.3
MOY Mondy 100.90 321 eP P 17 54 44.7 +1.0
MOY pmax pmax
comp=Z,38nm,3.1s
VIS Vishakhapatnam 102.74 284 *e* 17 59 06.5
LPAZ La Paz 102.84 114 P Pdif 17 54 54.6 +1.5
comp=Z,6.9nm,1.0s,baz=314,slow=1.2,SNR=9.6
LPAZ PP PP 17 59 14.2 -3.5
comp=Z,8.0nm,1.0s,baz=238,slow=7.6,SNR=10
LPAZ S 18 04 37.1
comp=Z,1.5nm,0.7s,baz=359,slow=15,SNR=3.9
LPAZ PKKPbc 18 10 48.5
comp=Z,1.4nm,0.5s,baz=58,slow=3.3,SNR=4.8
LPAZ La Paz 102.84 114 P Pdif 17 54 54.6 +1.5
LPAZ PP PP 17 59 14.2 -3.5
LPAZ S 18 04 37.1
LPAZ PKKPbc 18 10 48.5
ULM Lac du Bonnet 103.17 41 Pdiff Pdif 17 54 55.8 +2.0
comp=Z,2.6nm,0.7s,baz=214,slow=8.9,SNR=3.2
ULM PP PP 17 59 13.7 -5.7
comp=Z,31nm,1.2s,baz=265,slow=7.7,SNR=15
ULM PKKPbc 18 10 47.1
comp=Z,0.8nm,0.4s,baz=77,slow=3.6,SNR=3.4
JIRN Jiri 103.46 295 eP Pdif 17 54 57.2 +1.6
comp=Z,22nm,0.9s
PKI Pulchoki 104.09 294 eP Pdif 17 54 59.7 +1.3
comp=Z,48nm,1.1s
PKI Pulchoki 104.09 294 eP Pdif 17 54 59.7 +1.3
PKI pmax pmax
comp=Z,24nm,1.1s
KKN Kakani 104.27 294 eP Pdif 17 54 59.5 +0.4
comp=Z,32nm,0.8s
KKN Kakani 104.27 294 eP Pdif 17 54 59.5 +0.4
KKN pmax pmax
comp=Z,16nm,0.8s
DMN Daman 104.36 294 eP Pdif 17 55 01.1 +1.5
comp=Z,55nm,1.0s
JFWS Jewell Farm 104.59 49 ePKiKP 17 59 08.8
KOLN Koldanda 105.68 294 eP Pdif 17 55 06.0 +0.6
CPUP Villa Florida 106.16 128 P'P'df 18 21 52.9
FCC Fort Churchill 106.72 33 ePKiKP 17 59 12.7
SIV San Ignacio 108.89 117 Sdiff 18 05 01.5
comp=Z,0.6nm,0.5s,baz=348,slow=21,SNR=11
SIV PKKPbc 18 10 29.7
comp=Z,4.0nm,0.9s,baz=75,slow=5.6,SNR=8.7
SIV PKKPab 18 10 44.9
comp=Z,3.2nm,0.8s,baz=57,slow=7.7,SNR=7.1
JSC Jenkinsville 109.04 60 ePP PP 17 59 54.3 -8.6
RES Resolute Bay 110.11 16 ePKiKP 17 59 20.5
AGRA Agra 110.35 292 eP PKPdf 17 59 23.6 +1.7
KAD Karad 110.87 281 *e* PP 18 00 05.5 -10
ZAL Zalesovo 110.95 321 Pdiff Pdif 17 55 28.9 +1.0
comp=Z,2.1nm,1.0s,baz=0.5,slow=6.8,SNR=12
ZAL PKiKP 17 59 23.1
comp=Z,6.7nm,0.4s,baz=338,slow=2.6,SNR=21
ZAL Sdiff 18 05 08.9
comp=Z,1.1nm,0.4s,baz=210,slow=22,SNR=17
ZAL PKKPbc 18 10 22.0
comp=Z,1.2nm,0.5s,baz=333,slow=1.5,SNR=4.9
ZAL PKKP PKKP 18 10 40.9 +61
comp=Z,2.2nm,0.4s,baz=306,slow=7.0,SNR=5.2
ZAL Zalesovo 110.95 321 Pdif Pdif 17 55 28.9 +1.0
ZAL PKPdf PKPdf 17 59 23.1 +0.7
ZAL PKKPbc 18 10 22.0
ZAL PKKP PKKP 18 10 40.9 +61
SDV Santo Domingo 110.99 89 Sdiff 18 05 10.8
comp=Z,4.1nm,0.8s,baz=322,slow=20,SNR=13
SDV PKKPbc 18 10 24.8
comp=Z,2.0nm,0.4s,baz=47,slow=3.4,SNR=4.2
SDV PKKP PKKP 18 10 37.9 +57
comp=Z,1.9nm,0.4s,baz=95,slow=5.8,SNR=4.9
KLP Kalpa 111.17 296 eP PKPdf 17 59 26.1 +2.7
KLP *i* 18 00 13.4
KLP *e* 18 05 11.3
KLP AMS AMS 18 07 32.6
comp=Z,904nm,12.9s
MKAR Makanchi Array 111.30 313 *i* PKIKP PKPdf 17 59 24.0 +0.7
MKAR pmax pmax
comp=Z,2.0nm,0.3s
MKAR Makanchi Array 111.30 313 Pdiff Pdif 17 55 31.1 +1.5
comp=Z,5.1nm,0.8s,baz=92,slow=5.4,SNR=30
MKAR PKiKP 17 59 24.1
comp=Z,7.4nm,0.5s,baz=205,slow=0.9,SNR=46
MKAR PP PP 18 00 07.8 -10
comp=Z,9.4nm,0.9s,baz=108,slow=7.7,SNR=5.6
MKAR Sdiff 18 05 11.0
comp=Z,2.1nm,0.8s,baz=112,slow=5.0,SNR=4.6
MKAR PKKPbc 18 10 22.4
comp=Z,17nm,0.8s,baz=280,slow=3.7,SNR=29
MKAR PKKPab 18 10 34.2
comp=Z,12nm,0.8s,baz=288,slow=3.8,SNR=12
MKAR PKPPKP 18 18 47.4
comp=Z,0.8nm,0.9s,baz=315,slow=1.7,SNR=4.2
NDI New Delhi 111.34 293 eP PKPdf 17 59 23.5 -0.4
NDI eS SKS 18 05 11.0 -1.1
SONA Sohna 111.35 293 eP PKPdf 17 59 25.6 +1.7
SONA *i* 18 00 21.7
SONA *e* 18 05 10.2
AYAN Aya Nagar 111.37 293 eP PKPdf 17 59 26.1 +2.2
AYAN *i* 18 00 21.1
MCWV Mont Chateau 111.38 55 ePP PP 18 00 14.1 -4.6
ALLY Alegheny Colle 111.55 53 ePP PP 18 00 16.2 -3.7
BHGR Bahadurgarh 111.58 293 eP PKPdf 17 59 24.7 +0.4
BHGR *i* 18 00 22.2
BHGR AMS AMS 18 09 27.9
comp=Z,957nm,16.2s
KUDL Kundal 111.83 292 AMS AMS 18 09 20.0
comp=Z,837nm,14.1s
NVS Novosibirsk 111.99 322 eP Pdif 17 55 31.7 -0.8
NVS Novosibirsk 111.99 322 ePKIKP PKPdf 17 59 24.1 -0.4
NVS *i* 18 05 14.3
KHET Khetri 112.40 292 eP PKPdf 17 59 27.2 +1.2
KHET *i* 18 00 20.6
KHET *e* 18 05 15.9
KHET AMS AMS 18 10 17.7
comp=Z,794nm,22.6s
SADO Sadowa 112.83 49 PKiKP 17 59 26.3
comp=Z,10nm,0.7s,baz=316,slow=3.1,SNR=8.5
SADO PP PP 18 00 22.9 -6.6
comp=Z,9.4nm,1.0s,baz=274,slow=11,SNR=5.5
SADO PKKPbc 18 10 17.9
comp=Z,6.3nm,0.5s,baz=48,slow=0.8,SNR=6.9
SADO PKKPab 18 10 27.3
comp=Z,3.7nm,0.5s,baz=182,slow=4.2,SNR=3.9
SADO Sadowa 112.83 49 PKPdf PKPdf 17 59 26.3 -0.2
SADO PP PP 18 00 22.9 -6.6
SADO PKKPbc 18 10 17.9
SADO PKKPab 18 10 27.3
KURK Kurchatov 114.27 317 PKIKP PKPdf 17 59 29.2 +0.1
KURK pmax pmax
comp=Z,13nm,1.0s
KURK Kurchatov 114.27 317 ePKiKP 17 59 29.1
FRU Bishkek 116.10 308 ePKIKP PKPdf 17 59 35.0 +2.2
FRU pmax pmax
comp=Z,60nm,2.0s
AAK Ala-Archa 116.17 308 P PKPdf 17 59 34.4 +1.4
SNR=11
AAK Ala-Archa 116.17 308 PKIKP PKPdf 17 59 34.2 +1.3
AAK pmax pmax
comp=Z,20nm,1.1s
AAK Ala-Archa 116.17 308 ePKiKP 17 59 33.3
NCB Newcomb 116.21 51 ePKPdf PKPdf 17 59 33.3 +0.3
NCB ePP PP 18 00 48.0 -4.9
JASL Jaisalmer 116.36 290 eP PKPdf 17 59 35.2 +1.5
JASL *i* 18 00 43.7
SJG San Juan 118.04 81 ePKIKP PKPdf 17 59 37.0 -0.1
CAM4 Nova Friburgo 119.03 134 eP PKPdf 17 59 40.6 +1.6
FRB Frobisher Bay 119.27 28 PKP PKPdf 17 59 38.4 0.0
comp=Z,17nm,0.7s,baz=314,slow=3.7,SNR=8.9
FRB PP PP 18 01 06.1 -7.0
comp=Z,12nm,1.2s,baz=268,slow=10,SNR=4.6
FRB SKP 18 02 20.4
comp=Z,2.8nm,0.5s,baz=318,slow=2.4,SNR=4.0
FRB PKKPbc 18 09 54.8
comp=Z,4.3nm,0.6s,baz=68,slow=5.0,SNR=5.0
FRB Frobisher Bay 119.27 28 PKP PKPdf 17 59 38.4 0.0
FRB PP PP 18 01 06.1 -7.0
FRB SKP 18 02 20.4
FRB PKKPbc 18 09 54.8
CHKZ Chkalovo 119.31 320 PKIKP PKPdf 17 59 38.6 -0.2
CHKZ pmax pmax
comp=Z,12nm,0.7s
BVA0 Borovoye Array 119.47 319 *i* PKIKP PKPdf 17 59 39.6 +0.5
BVA0 pmax pmax
comp=Z,5.0nm,0.8s
BVAR Borovoye Array 119.47 319 PKP PKPdf 17 59 39.5 +0.4
comp=Z,19nm,0.3s,baz=106,slow=2.2,SNR=238
BVAR PP PP 18 01 02.2 -12
comp=Z,8.4nm,0.8s,baz=90,slow=7.4,SNR=5.7
BVAR SKP 18 02 21.2
comp=Z,4.8nm,0.5s,baz=113,slow=1.0,SNR=4.5
BVAR PKKPbc 18 09 55.4
comp=Z,3.0nm,0.5s,baz=269,slow=3.6,SNR=26
BDFB Brasilia 119.48 124 PKP PKPdf 17 59 40.9 +0.9
comp=Z,30nm,0.8s,baz=214,slow=1.0,SNR=36
BDFB PKKPbc 18 09 55.6
comp=Z,17nm,0.9s,baz=101,slow=4.5,SNR=7.0
BAO Brasilia Array 119.51 124 P PKPdf 17 59 40.0 0.0
SCHQ Schefferville 121.21 39 PKP PKPdf 17 59 42.8 +0.4
comp=Z,15nm,0.9s,baz=309,slow=6.0,SNR=12
SCHQ PP PP 18 01 17.2 -8.7
comp=Z,13nm,1.0s,baz=293,slow=6.8,SNR=6.3
SCHQ PKKPbc 18 09 48.5
comp=Z,4.2nm,0.7s,baz=99,slow=4.4,SNR=13
SUR Sutherland 122.05 201 PKP PKPdf 17 59 47.2 +2.6
comp=Z,62nm,0.8s,baz=129,slow=1.2,SNR=36
SUR PKKPbc 18 09 45.4
comp=Z,7.9nm,0.8s,baz=351,slow=1.6,SNR=4.3
BOSA Boshof 123.80 207 ePKiKP PKPdf 17 59 50.4 +2.3
BOSA Boshof 123.80 207 PKP PKPdf 17 59 50.3 +2.2
comp=Z,20nm,0.7s,baz=170,slow=1.9,SNR=30
BOSA PKKPbc 18 09 37.6
comp=Z,8.5nm,0.9s,baz=47,slow=1.3,SNR=8.2
SVE Sverdlovsk 124.61 324 ⇑ *i* PKIKP PKPdf 17 59 50.9 +2.0
SVE pmax pmax
comp=Z,144nm,2.0s
SUMG Summit 125.41 13 ePKPdf PKPdf 17 59 51.2 +1.1
ARU Arti 125.81 324 *i* PKIKP PKPdf 17 59 52.1 +0.9
ARU *e* 18 02 00.4
ARU *e* 18 06 02.3
ARU Arti 125.81 324 ePKPdf PKPdf 17 59 52.0 +0.8
WBK Wadi Bani Khal 126.05 282 ⇓ P PKPdf 17 59 54.3 +1.7
JMDO Jabal Madar 126.78 282 ⇓ P PKPdf 17 59 55.0 +0.9
SNR=11
LBTB Lobatse 126.79 209 PKP PKPdf 17 59 55.8 +1.8
comp=Z,13nm,0.6s,baz=166,slow=3.4,SNR=27
BIDO Bidbid 126.99 283 ⇑ P PKPdf 17 59 55.0 +0.6
SNR=5.4
BSY Bisya 127.68 282 ⇓ P PKPdf 17 59 56.1 +0.4
SNR=23
ASHO Ashiyiah 129.06 284 ⇓ P PKPdf 17 59 59.4 +1.1
SNR=18
RBK Rabkut 129.23 275 ⇓ P PKPdf 18 00 00.8 +2.0
SNR=18
WHFO Wadi Hawf 129.74 275 ⇓ P PKPdf 18 00 00.8 +1.0
SNR=26
LVZ Lovozero 129.79 344 *i* PKIKP PKPdf 17 59 56.5 -2.1
LVZ Lovozero 129.79 344 *i* PKP PKPdf 17 59 56.6 -2.0
KEV Kevo 130.03 348 epkp PKPdf 17 59 57.6 -1.4
ABTO Aybut 130.03 274 ⇓ P PKPdf 18 00 01.5 +1.1
SNR=16
SCO Scoresbysund 130.19 10 *i* P PKPdf 18 00 01.1 +1.8
comp=Z,12nm,0.8s
SCO *i* 18 02 31.5
ARCES ARCESS Array B 130.49 349 PKP PKPdf 18 00 00.5 +0.6
comp=Z,19nm,0.7s,baz=35,slow=0.6,SNR=11
ARCES SKPbc 18 02 32.2
comp=Z,653nm,1.4s,baz=18,slow=3.8,SNR=39
ARCES ARCESS Array B 130.49 349 PKP PKPdf 18 00 00.5 +0.6
ARCES SKPbc 18 02 32.2
ARE0 ARCESS Array S 130.49 349 ePKPdf PKPdf 18 00 00.5 +0.6
ARE0 eSKP 18 02 31.9
PECR Pechory 133.37 328 *i* PKIKP PKPdf 18 00 06.6 +1.0
PECR pmax pmax
comp=Z,320nm,2.4s
LSZ Lusaka 133.57 219 ePKPpre 17 59 55.1
LSZ ePKPdf PKPdf 18 00 08.4 +1.4
LSZ eSKP 18 02 45.1
BORG Borgarnes 135.39 13 PKP PKPdf 18 00 11.1 +2.1
comp=Z,17nm,0.9s,baz=151,slow=1.2,SNR=3.2
KAF Kangasniemi 136.51 343 epkp PKPdf 18 00 00.5 -11
MOS Moscow 136.76 330 ePKIKP PKPdf 18 00 11.7 -0.1
MOS pmax pmax
comp=Z,94nm,1.4s
KMBO Kilima Mbogo 136.97 242 PKhKP 18 00 05.0
comp=Z,1.9nm,0.6s,baz=174,slow=4.2,SNR=10.0
KMBO PKP PKPdf 18 00 17.5 +4.2
comp=Z,10nm,0.6s,baz=81,slow=6.5,SNR=22
KMBO SKPbc 18 02 55.9
comp=Z,30nm,1.2s,baz=27,slow=2.4,SNR=18
PUL Pulkovo 137.08 338 ePKIKP PKPdf 18 00 09.3 -3.0
FINES FINESS Array B 137.12 342 PKhKP 18 00 01.4
comp=Z,2.5nm,0.3s,baz=60,slow=3.5,SNR=33
FINES PKP PKPdf 18 00 13.6 +1.3

comp=Z,6.6nm,0.3s,baz=83,slow=2.2,SNR=17
FINES SKPbc 18 02 53.0
comp=Z,18nm,0.5s,baz=45,slow=5.4,SNR=22
FINES FINESS Array B 137.12 342 PKP 18 00 01.4
FINES PKP PKPdf 18 00 13.6 +1.2
FINES SKPbc 18 02 53.0
NSS Namsos 137.20 353 *e*P 18 00 02.0
NSS AMb AMB 18 00 16.8
comp=Z,40nm,1.4s
NSS *e* 18 02 51.9
OBN Obninsk 137.62 330⇓*e*PKHKP 18 00 05.0
OBN *i* 18 00 13.7
OBN *e* 18 03 12.9
OBN pmax pmax
comp=Z,23nm,1.1s
OBN pmax pmax
comp=Z,115nm,1.9s
OBN Obninsk 137.62 330 *e*PKPpre 18 00 04.6
OBN ⇓*i*PKP PKPdf 18 00 13.7 +0.3
OBN *e*SKP 18 02 54.8
ATD Arta Tunnel 137.94 262 PKP PKPdf 18 00 18.1 +3.0
comp=Z,19nm,1.0s,baz=202,slow=4.6,SNR=8.9
ATD SKPbc 18 02 59.4
comp=Z,32nm,0.9s,baz=76,slow=3.4,SNR=10
VRSR Storozhevoye 138.36 323 *e*PKHKP 18 00 06.8
VRSR pmax pmax
comp=Z,8.0nm,0.8s
VRSR pmax pmax
comp=N,9.0nm,1.0s
VRSR pmax pmax
comp=E,8.0nm,0.8s
GOF Gofitskoye 138.47 313⇑*i*PKHKP 18 00 07.8
GOF pmax pmax
comp=Z,80nm,1.7s
GOF pmax pmax
comp=Z,90nm,1.7s
GOF pmax pmax
comp=Z,270nm,1.7s
GOF pmax pmax
comp=Z,2μm,4.0s
GNI Garni 138.52 306 *e*PKHKP 18 00 08.3
GNI *e* 18 00 19.5
GNI Garni 138.52 306 PKhKP 18 00 07.4
comp=Z,2.6nm,0.4s,baz=217,slow=6.0,SNR=8.0
GNI PKP PKPdf 18 00 16.9 +1.4
comp=Z,6.7nm,0.4s,baz=310,slow=3.9,SNR=20
ZEI Tsey 138.54 310 *e*PKHKP 18 00 09.0
KIV Kislovodsk 139.05 312⇓*i*PKHKP 18 00 09.8
KIV *i* 18 00 19.0
KIV *e* 18 03 14.8
KIV *e*SS tx 18 21 30.2
KIV *e*SSS SSS 18 26 16.7 +4.0
KIV pmax pmax
comp=Z,14nm,1.3s
KIV pmax pmax
comp=Z,60nm,1.4s
KIV Kislovodsk 139.05 312 *e*PKPpre 18 00 10.1
KIV ⇓*i*PKP PKPdf 18 00 19.0 +2.7
MOL Molde 139.57 355 *e*P PKPdf 18 00 11.2 -5.5
MOL AMb AMB 18 00 18.9
comp=Z,34nm,1.6s
MOL *e* 18 03 00.3
DOMB Dombas 139.95 354 *e*P PKPdf 18 00 12.1 -5.3
DOMB AMb AMB 18 00 23.6
comp=Z,44nm,1.5s
NB2 NORSAR Subarra140.66 352 PKPabc PKPdf 18 00 13.8 -4.8
comp=Z,15nm,0.8s,baz=16,slow=3.1
NB2 NORSAR Subarra140.66 352 PKPa 18 00 13.8
baz=16,slow=3.2
NOA NORSAR Array B 140.66 352 PKhKP 18 00 14.3
comp=Z,4.5nm,0.4s,baz=50,slow=4.9,SNR=34
NOA SKPbc 18 03 03.0
comp=Z,46nm,1.1s,baz=15,slow=4.2,SNR=16
NOA NORSAR Array B 140.66 352 PKP PKPdf 18 00 14.3 -4.3
NOA SKPbc 18 03 03.0
NAO01 NORSAR Array S 140.90 352 *e*PKPpre 18 00 15.6
NAO01 *e*SKP 18 03 04.2
EZM Erzurum 141.11 306 *e*P PKPdf 18 00 18.8 -1.2
EZM Erzurum 141.11 306 P PKPdf 18 00 17.9 -2.2
HFS Hagfors 141.15 349 PKhKP 18 00 15.0
comp=Z,35nm,0.3s,baz=63,slow=3.3,SNR=338
HFS SKPbc 18 03 04.1
comp=Z,30nm,0.6s,baz=45,slow=2.1,SNR=15
VRT Varto 141.16 305 *e*P PKPdf 18 00 20.0 -0.2
SOC Sochi 141.21 312 *i*PKHKP 18 00 15.8
SOC *e* 18 03 27.0
SOC *e* 18 06 37.3
SOC *e*PPP PPP 18 06 44.5 -2.0
SOC *e*SS SS 18 21 14.8 -0.8
SOC pmax pmax
comp=N,20nm,0.9s
SOC pmax pmax
comp=E,8.0nm,0.9s
SOC pmax pmax
comp=Z,29nm,0.9s
MNK Minsk 141.84 334⇑*e*PKHKP 18 00 17.0
RUND Rundenannen 141.88 356 *e*P PKPdf 18 00 18.8 -1.9
BINT Bingol 142.01 305 *e*P PKPdf 18 00 18.7 -2.9
BINT Bingol 142.01 305 P PKPdf 18 00 18.7 -2.9
KONO Kongsberg 142.22 352 *e*P PKPdf 18 00 19.1 -2.3
KONO *e* 18 03 07.1
ANN Anapa 142.28 315⇓*i*PKHKP 18 00 19.7
ANN pmax pmax
comp=Z,610nm,1.7s
ANN pmax pmax
comp=N,121nm,1.3s
ANN pmax pmax
comp=E,61nm,1.3s
ODD1 Odda 142.28 355 *e*P PKPdf 18 00 19.1 -2.4
ODD1 Odda 142.28 355 *e*P PKPdf 18 00 18.3 -3.1
ODD1 AMb AMB 18 00 21.7
comp=Z,104nm,1.9s
ODD1 *e* 18 03 06.4
ODD1 *e* 18 03 06.6
EZC Erzincan 142.30 307 *e*P PKPdf 18 00 23.6 +1.5
EZC Erzincan 142.30 307 P PKPdf 18 00 23.6 +1.5
GUMT Gumushane 142.35 308 *e*P PKPdf 18 00 22.0 -0.2
DIY Diyarbakir 142.44 303 *e*P PKPdf 18 00 20.3 -2.1
DIY Diyarbakir 142.44 303 P PKPdf 18 00 20.4 -2.0
BLS5 Blasjo 142.78 355 *e*P PKPdf 18 00 21.5 -0.8
BLS5 AMb AMB 18 00 24.9
comp=Z,64nm,1.2s
BLS5 *e* 18 03 08.9
ELZG Elazig 143.25 305 *i*P PKPbc 18 00 23.0 +0.3
URFA Urfa 143.62 303 P PKPbc 18 00 26.0 +2.2
MYA Malataya 143.72 305 *e*P PKPbc 18 00 26.9 +2.8
MYA Malataya 143.72 305 PKIKP PKPdf 18 00 27.0 +2.4
MALT Malatya 143.72 305 *e*P PKPbc 18 00 25.9 +1.8
MALT Malatya 143.72 305 PKIKP PKPdf 18 00 26.0 +1.4
AKASG Malin Array Be 143.84 328 PKP PKPdf 18 00 24.1 -0.3
comp=Z,58nm,0.3s,baz=44,slow=4.2,SNR=359
AKASG SKPbc 18 03 10.9
comp=Z,38nm,0.8s,baz=40,slow=2.4,SNR=18
SUW Suwalki 144.00 337 *e*PKIKP PKPdf 18 00 25.0 +0.4
SUW Suwalki 144.00 337 *e*PKP PKPdf 18 00 25.2 +0.6
SUW Suwalki 144.00 337 *e*PKP PKPdf 18 00 25.2 +0.6
SIM Simferopol' 144.34 317 *i*PKIKP PKPdf 18 00 27.2 +1.7
SIM *i* 18 03 34.0
SVST Sivas 144.41 308 *i*P PKPdf 18 00 25.9 +0.1
TOKT Tokat 144.53 309 P PKPdf 18 00 29.4 +3.5
TOKT Tokat 144.53 309 P PKPdf 18 00 29.5 +3.5
GZT Gaziantep 144.62 303 *i*P PKPdf 18 00 27.5 +1.3
GAZ Gaziantep 144.94 303 P PKPdf 18 00 29.2 +2.5
GAZ Gaziantep 144.94 303 P PKPdf 18 00 30.5 +3.7
KAHT Ahir Dag 145.08 304 *i*P PKPdf 18 00 27.8 +0.8
BOYT Boyabat 145.31 311 *i*P PKPdf 18 00 28.8 +1.5
MUD Monsted U'grnd 145.38 351⇓*i*P PKPdf 18 00 29.9 +3.0
comp=Z,218nm,1.0s
BYBT Boyabat 145.38 311 *e*P PKPdf 18 00 31.7 +4.3
BYBT Boyabat 145.38 311 P PKPdf 18 00 31.8 +4.4
BNN Bunyan 145.51 307 *e*P PKPdf 18 00 31.7 +4.0
BNN Bunyan 145.51 307 P PKPdf 18 00 31.8 +4.1
BSD Bornholm Skovb 145.56 345⇓*i*P PKPdf 18 00 30.3 +3.1
comp=Z,318nm,1.0s
BSD *i* S SKS 18 06 45.9 +6.3
comp=Z,810nm,18.0s
COP Copenhagen 145.57 348⇓*i*P PKPdf 18 00 30.6 +3.4
comp=Z,65nm,0.5s
comp=Z,650nm,16.0s
YOZ Yozgat 145.64 308 *e*P PKPdf 18 00 31.4 +3.5
YOZ Yozgat 145.64 308 P PKPdf 18 00 30.3 +2.5
CTKT Corum 145.68 310 *i*P PKPdf 18 00 27.8 -0.1
BZK Bozkurt 145.71 313 *e*P PKPdf 18 00 32.3 +4.4
BZK Bozkurt 145.71 313 P PKPdf 18 00 32.4 +4.5
COBT Iskenderun 145.84 302 *i*P PKPdf 18 00 27.8 -0.5
CORM Corum 145.96 309 *e*P PKPdf 18 00 32.0 +3.6
HTY Hatay 146.03 302 *e*P PKPdf 18 00 30.2 +1.6
TOS Tosya 146.07 311 *e*P PKPdf 18 00 33.8 +5.3
ASF Jabal al Asfar 146.13 295 PKPbc PKPbc 18 00 32.9 +2.2
comp=Z,68nm,0.7s,baz=343,slow=2.4,SNR=65
ASF PP PP 18 04 01.9 +0.1
comp=Z,16nm,1.0s,baz=303,slow=3.0,SNR=3.4
WAR Warsaw 146.20 337 *e*PKP PKPdf 18 00 32.5 +4.1
FKH Fakeheh 146.21 298 *e*P PKPdf 18 00 31.5 +2.5
BALT Daday 146.31 312 *i*P PKPdf 18 00 28.8 -0.2
PCOU Corrie 146.33 4 *e*P PKPdf 18 00 33.4 +4.8
PMSU Muirshiel 146.43 5 *e*P PKPdf 18 00 32.5 +3.8
POB1 Observatory 146.45 5 *e*P PKPdf 18 00 33.4 +4.7
EDI Edinburgh 146.46 3 *e*P PKPdf 18 00 31.1 +2.4
CANT Cankiri 146.51 311 *e*P PKPdf 18 00 32.8 +3.5
CANT Cankiri 146.51 311 P PKPdf 18 00 32.8 +3.5
HWQ Hawqa 146.58 299 *e*P PKPdf 18 00 34.1 +4.4
GKP Gorka Klasztor 146.59 341 *e*PKP PKPdf 18 00 32.6 +3.6
GKP Gorka Klasztor 146.59 341 *e*PKP PKPdf 18 00 32.6 +3.6
PCA1 Carrot 146.61 5 *e*P PKPdf 18 00 32.2 +3.3
ELDT Eldivan 146.69 310 *i*P PKPdf 18 00 30.7 +1.0
BRTR Keskin Array B 146.83 309 PKPbc PKPbc 18 00 32.3 +0.2
comp=Z,42nm,0.7s,baz=90,slow=1.2,SNR=73
BRTR PP PP 18 04 04.5 -1.2
comp=Z,6.1nm,0.8s,baz=135,slow=3.5,SNR=3.7
GMK Mull of Kintyr 146.84 6 *e*P PKPdf 18 00 33.7 +4.3
BHL Bhannes 146.89 298 *e*P PKPdf 18 00 31.6 +1.4
KAMT Kaman 146.90 308 *e*P PKPdf 18 00 32.1 +2.1
SAFT Safranbolu 146.91 312 *e*P PKPdf 18 00 35.2 +5.2
SAFT Safranbolu 146.91 312 P PKPdf 18 00 35.3 +5.3
KSHT Keshet 146.92 296 P PKPdf 18 00 31.0 +0.8
IAS Iasi 146.92 325 PKP2 PKPab 18 00 35.3 -3.5
EKA Eskdalemuir Ar 147.05 4 PKPbc PKPdf 18 00 31.9 +2.2
comp=Z,57nm,0.7s,baz=331,slow=2.4,SNR=65
GCL Cushendall 147.06 7 *e*P PKPdf 18 00 33.9 +4.2
ESK Eskdalemuir 147.06 4 *e*PKIKP PKPdf 18 00 31.4 +1.7
ESK Eskdalemuir 147.06 4 *e*P PKPdf 18 00 33.2 +3.5
ESK AMb AMB 18 00 36.4
comp=Z,112nm,2.1s
BWH Wardlaw 147.17 4 *e*P PKPdf 18 00 34.0 +4.0
BBH Bruntsheil 147.26 3 *e*P PKPdf 18 00 34.2 +4.1
HMDT Nahal Hemdat 147.27 295 P PKPdf 18 00 32.3 +1.5
BHH Howats Hill 147.28 4 *e*P PKPdf 18 00 34.3 +4.2
MMLI Mount Malkishu 147.33 295 P PKPdf 18 00 32.6 +1.7
BCC1 Chapelcross 147.36 4 *e*P PKPdf 18 00 34.6 +4.4
ANTO Ankara 147.38 310 *e*P PKPdf 18 00 33.6 +2.8
ANTO Ankara 147.38 310 PKPdf PKPdf 18 00 31.7 +0.9
ANTO PKPdf PKPdf 18 00 36.2 +5.4
ANTO PKiKP 18 00 41.4
ANTO Ankara 147.38 310 PKIKP PKPdf 18 00 32.8 +2.0
ANTO Ankara 147.38 310 P PKPdf 18 00 33.6 +2.9
LOD Lodumlu 147.39 310 *e*P PKPdf 18 00 33.6 +2.8
LOD Lodumlu 147.39 310 P PKPdf 18 00 33.6 +2.8
GAL1 Galloway 147.40 5 *e*P PKPdf 18 00 34.6 +4.3
TLCR 147.43 321 ⇓P PKPdf 18 00 35.8 +5.1
HNTI Hanita 147.43 297 P PKPdf 18 00 32.2 +1.1
MEST Erdemli 147.46 303 *i*P PKPdf 18 00 31.6 +0.6
DRGI Dragot 147.47 294 P PKPdf 18 00 32.6 +1.4
BTA Talkin 147.50 3 *e*P PKPdf 18 00 33.9 +3.4
MZDA Masada 147.53 293 P PKPdf 18 00 32.8 +1.5
KWP Kalwaria 147.57 332 *e*PKP PKPdf 18 00 36.0 +5.2
KWP Kalwaria 147.57 332 *e*PKP PKPdf 18 00 36.0 +5.2
BDL Dobcross Hall 147.59 3 *e*P PKPdf 18 00 35.5 +4.9
HAF Haifa 147.60 296 P PKPdf 18 00 32.7 +1.3
SGKT Sivrigoynuk 147.62 311 *i*P PKPdf 18 00 32.6 +1.4
BSEG Bad Segeberg 147.62 349 *e*PKIKP PKPdf 18 00 33.7 +3.0
BSEG *e* 18 00 40.9
BSEG *e* 18 04 04.2
BSEG Bad Segeberg 147.62 349 *e*PKPdf PKPdf 18 00 33.7 +3.0
BSEG *e*PKPbc PKPdf 18 00 37.5 +6.8
BSEG *e*PKPab PKPab 18 00 40.9 -0.4
BSEG *e*PP PP 18 04 04.2 -5.7
BBO1 Bothel 147.64 4 *e*P PKPdf 18 00 35.2 +4.5
OFRI 'Ofer 147.66 296 P PKPdf 18 00 32.9 +1.4
LCP Cassop 147.72 2 *e*P PKPdf 18 00 35.7 +4.9
ZFRI Zfri 147.78 292 P PKPdf 18 00 33.6 +1.9
CFR Carcaliu 147.82 322⇑PKIKP PKPdf 18 00 32.9 +1.6
BURAR Bucovina Array 147.85 327 P PKPdf 18 00 34.1 +2.8
PRNI Paran 147.95 292 PKHKP 18 00 34.1
PHNC Paralimni 147.96 301⇑P PKPdf 18 00 37.7 +5.8
comp=Z,5.7nm,1.2s
PHNC Paralimni 147.96 301⇑*e*P PKPdf 18 00 37.7 +5.8
EIL Elat 148.06 290 PKPbc PKPdf 18 00 36.1 +3.9
comp=Z,166nm,0.8s,baz=14,slow=2.5,SNR=51
EIL Elat 148.06 290 P PKPdf 18 00 34.3 +2.1
MASH Mash'abbe Sade 148.06 293 P PKPdf 18 00 34.0 +1.9
TIRR Tirgusor 148.07 320⇑PKIKP PKPdf 18 00 29.0 -1.9
MBH Mount Berech 148.08 291 P PKPdf 18 00 34.4 +2.2
WIM Isle of Man 148.12 5 *e*P PKPdf 18 00 36.5 +5.1
WIM AMb AMB 18 00 39.5
comp=Z,264nm,1.3s
DMUB Kingscourt 148.12 8 *e*P PKPdf 18 00 36.6 +5.1
RTMM Retamin 148.14 293 P PKPdf 18 00 34.1 +1.9
VRI Vrincioaia 148.20 324 PKP2 PKPab 18 00 38.6 -5.2
VRI Vrincioaia 148.20 324⇓P PKPdf 18 00 33.0 +1.1
VRI P 18 00 38.6
KMTI Karmit 148.21 291 P PKPdf 18 00 34.4 +2.0
HARR Harsova 148.22 321 PKP2 PKPab 18 00 38.4 -5.6
HARR Harsova 148.22 321⇓P PKPdf 18 00 34.3 +2.4
HARR P 18 00 38.4
RUE Ruedersdorf 148.24 344 *e*PKPdf PKPdf 18 00 34.6 +2.9
RUE *e*pPKPdf 18 02 53.3
MDU Mudurnu 148.25 312 *i*P PKPdf 18 00 38.4 +6.3
MDU Mudurnu 148.25 312 P PKPdf 18 00 38.4 +6.3
KOLS Kolonicke sedl 148.29 332 *e*PKP PKPdf 18 00 35.3 +3.4
KOLS *e* 18 00 39.0
KOLS Kolonicke sedl 148.29 332 *e*PKP PKPdf 18 00 39.0 +7.1
KOLS Kolonicke sedl 148.29 332 *e* PKPdf 18 00 35.3 +3.4
OJC Ojcow 148.29 336 *e*PKP PKPdf 18 00 37.9 +6.1
HENT Hendek 148.31 313 *i*P PKPdf 18 00 32.6 +0.4
KONT Konya--Tatoy 148.39 307 *e*P PKPdf 18 00 37.7 +5.3
KONT Konya--Tatoy 148.39 307 P PKPdf 18 00 37.8 +5.4
KZIT Kziot 148.41 293 P PKPdf 18 00 35.0 +2.4
KIZT Kizilcal 148.41 309 *e*P PKPdf 18 00 35.3 +2.9
KIZT Kizilcal 148.41 309 P PKPdf 18 00 35.3 +2.9
HPK Haverah Park 148.49 2 *e*P PKPdf 18 00 37.5 +5.5
CSS Prodhromos 148.53 301⇑P PKPdf 18 00 39.1 +6.4
comp=Z,6.1nm,0.8s
CSS Prodhromos 148.53 301⇑*e*P PKPdf 18 00 39.1 +6.4
MAMC Mammari 148.56 301 P PKPdf 18 00 39.2 +6.4
DCN Croghan 148.61 9 *e*P PKPdf 18 00 33.8 +1.6
DCN Croghan 148.61 9 *e*P PKPdf 18 00 37.8 +5.6
HDMB Hadim 148.62 305 *e*P PKPdf 18 00 38.6 +5.8
HDMB Hadim 148.62 305 P PKPdf 18 00 38.6 +5.8
CRVS Cervenica-Dubn 148.66 333 *e*PKHKP 18 00 34.8
CRVS *e* 18 00 45.5
CRVS Cervenica-Dubn 148.66 333 *e*PKP PKPdf 18 00 34.8 +2.4
CRVS *e* 18 00 39.4
CRVS *e* 18 00 45.5
CRVS *e* 18 03 00.0
NIE Niedzica 148.73 334⇓*e*PKP PKPdf 18 00 37.9 +5.4
DLF Lyons Farm 148.76 8 *e*P PKPdf 18 00 34.0 +1.6
DLF Lyons Farm 148.76 8 *e*P PKPdf 18 00 38.0 +5.6
DSB Dublin 148.83 8 *e*PKPdf PKPdf 18 00 33.9 +1.3
LEF Lefka 148.84 301 *i*P PKPdf 18 00 40.0 +6.8
MLR Muntele Rosu 148.86 324 PKP PKPdf 18 00 33.8 +0.9
comp=Z,24nm,1.2s,baz=5.5,slow=2.2,SNR=18
MLR PKPbc PKPdf 18 00 40.1 +7.3
comp=Z,288nm,1.3s,baz=12,slow=9.3,SNR=91
MLR Muntele Rosu 148.86 324⇓P PKPdf 18 00 35.4 +2.5
WCB1 Church Bay 148.89 6 *e*P PKPdf 18 00 38.1 +5.4
WCB1 AMb AMB 18 00 40.5
comp=Z,167nm,0.9s
WME Myndd Eilian 148.89 5 *e*P PKPdf 18 00 38.6 +5.9
WME AMb AMB 18 00 41.3
comp=Z,119nm,1.4s
ESKT Eskisehir 148.90 310 *e*P PKPdf 18 00 35.9 +2.8
ESKT Eskisehir 148.90 310 P PKPdf 18 00 36.0 +2.9
ESKT Eskisehir 148.90 310 *i*P PKPdf 18 00 37.4 +4.3
LHO Holmfirth 148.90 2 *e*P PKPdf 18 00 38.5 +5.8
SZAC Souni-Zanaja 148.94 301⇑P PKPdf 18 00 40.1 +6.8
SZAC Souni-Zanaja 148.94 301⇑*e*P PKPdf 18 00 40.1 +6.8
KSP Ksiaz 148.99 340 *e*PKIKP PKPdf 18 00 34.4 +1.5
KSP *e* 18 00 45.7
KSP Ksiaz 148.99 340 *e*PKPdf PKPdf 18 00 34.4 +1.5
KSP *e*PKPdf PKPdf 18 00 39.5 +6.6
KSP *e*PKPab PKPab 18 00 45.7 -1.2
KSP *e*pPKP 18 02 56.8
KSP Ksiaz 148.99 340 *e*PKP PKPdf 18 00 39.6 +6.8
RAC Raciborz 148.99 337 *e*PKPdf PKPdf 18 00 35.6 +2.7
YRC Rhoscolyn 149.01 6 *e*P PKPdf 18 00 38.4 +5.5
YRC AMb AMB 18 00 41.3
comp=Z,131nm,1.4s
ALFC Alevga 149.06 301 P PKPdf 18 00 40.0 +6.5
comp=Z,6.5nm,0.9s
WPM1 Penmaenmawr 149.06 5 *e*P PKPdf 18 00 38.9 +6.0
WPM1 AMb AMB 18 00 41.9
comp=Z,308nm,1.2s
HRT Hereke 149.15 313 *e*P PKPdf 18 00 39.4 +5.9
HRT Hereke 149.15 313 P PKPdf 18 00 39.4 +6.0
SNX Sinaia 149.18 324⇓P PKPdf 18 00 38.2 +4.8
KBI1 Birley Grange 149.20 2 *e*P PKPdf 18 00 39.0 +5.9
OKC Ostrava-Krasne 149.22 337 *e*PKHKP 18 00 36.4
OKC *e* 18 00 47.6
OKC Ostrava-Krasne 149.22 337 *e*PKPDF PKPdf 18 00 36.4 +3.1
OKC ⇑*e*PKPB PKPdf 18 00 40.2 +6.9
OKC *e*PKPAB PKPab 18 00 47.6 -0.3
OKC *ep*PKP 18 02 58.4
WIT Witteveen 149.27 352 *ex* x 18 00 41.5
WIT *ex* x 18 02 55.6
YRE Yr Eifl 149.29 5 *e*P PKPdf 18 00 39.8 +6.5
YRE AMb AMB 18 00 42.0
comp=Z,145nm,1.4s
PPCY Paphos 149.33 301 P PKPdf 18 00 40.3 +6.3
UPC Upice 149.37 340 *e*PKHKP 18 00 36.6
UPC *e* 18 00 48.7
UPC Upice 149.37 340 *e*PKPDF PKPdf 18 00 36.6 +3.1
UPC ⇑*e*PKPB PKPdf 18 00 40.8 +7.3
UPC *e*PKPAB PKPab 18 00 48.7 +0.2
UPC *ep*PKP 18 02 59.7
PRD Provadia 149.39 319 *e*P PKPdf 18 00 41.1 +7.3
KECS Kecovo 149.39 333 *e*PKP PKPdf 18 00 41.8 +8.2
KECS *e* 18 00 48.9
DPC Dobruska-Polom 149.40 340 *e*PKPDF PKPdf 18 00 36.7 +3.1
DPC ⇑*e*PKPB PKPdf 18 00 40.9 +7.3
DPC *e*PKPAB PKPab 18 00 49.7 +1.1
DPC *ep*PKP 18 02 59.0
KWE Weaver Farm 149.42 2 *e*P PKPdf 18 00 39.8 +6.3
SBD1 Bryn Du 149.46 4 *e*P PKPdf 18 00 39.9 +6.4
YLV Yalova 149.46 313 *e*P PKPdf 18 00 36.9 +2.9
YLV Yalova 149.46 313 P PKPdf 18 00 37.0 +2.9
MORC Moravsky Berou 149.48 338 *e*PKPdf PKPdf 18 00 35.8 +2.1
MORC *e*PKPbc PKPdf 18 00 40.9 +7.2
LIKS Likavka 149.50 335 *e*PKP PKPdf 18 00 42.7 +8.9
CLL Collm 149.51 344 *e*PKIKP PKPdf 18 00 36.0 +2.3
comp=Z,logA/T=1.6
CLL *i* PKP1 PKPdf 18 00 40.9 +7.2
CLL *i* PKP2 PKPab 18 00 48.4 -0.6
CLL *e**PPKP 18 02 54.0
CLL *i* *PPKP 18 02 59.1
CLL *i* 18 03 29.6
CLL *e*PKS PKS 18 04 12.0 +5.4
MTUR Matau 149.51 324 PKHKP 18 00 41.8
MTUR Matau 149.51 324 ⇑P PKPdf 18 00 42.3 +8.4
BUC1 Bucharest 149.53 322 PKHKP 18 00 41.6
CLZ Clausthal 149.61 348 *e*PKPdf PKPdf 18 00 36.4 +2.5
CLZ *e*PKPbc PKPdf 18 00 42.7 +8.8
CLZ *e*PKPab PKPab 18 00 49.5 +0.1
ALT Altintas 149.61 310 *e*P PKPdf 18 00 40.2 +5.9
ALT Altintas 149.61 310 P PKPdf 18 00 40.3 +6.0
BRG Berggiesshubel 149.65 343 *i*PKHKP 18 00 36.3
BRG *i* 18 00 48.9
BRG Berggiesshubel 149.65 343 *i*PKP PKPdf 18 00 36.3 +2.3
BRG *i* 18 00 41.4
BRG *i* 18 00 48.9
BRG *i*pPKP 18 02 56.9
BRG *e*PP PP 18 04 14.1 -6.9
BRG *e* 18 10 14.7
BRG *e* 18 14 52.0
PVCC Panska Ves 149.79 342 *e*PKPDF PKPdf 18 00 37.0 +2.8
PVCC ⇑*e*PKPB PKPdf 18 00 41.8 +7.6
PVCC *e*PKPAB PKPab 18 00 51.0 +0.8
PVCC *ep*PKP 18 03 00.3
ISP Isparta 149.79 307 *e*P PKPdf 18 00 40.2 +5.6
ISP Isparta 149.79 307 P PKPdf 18 00 40.3 +5.6
CTT Catalca 149.81 315 *e*P PKPdf 18 00 41.1 +6.5
ULDT Uludag 149.82 312 *i*P PKPdf 18 00 39.3 +4.7
BCK Bucak 149.88 307 *e*P PKPdf 18 00 40.2 +5.4
BCK Bucak 149.88 307 P PKPdf 18 00 40.3 +5.5
SSP1 Stoney Pound 149.96 4 *e*P PKPdf 18 00 41.0 +6.7
SSP1 AMb AMB 18 00 44.0
comp=Z,276nm,1.3s
ORLT Orhaneli 150.03 312 *e*P PKPdf 18 00 41.0 +6.1
ANTB Antalya 150.03 306 *e*P PKPdf 18 00 41.9 +6.9
VYHS Vyhne 150.06 335 *e*PKP PKPdf 18 00 36.7 +2.0
VYHS *e* 18 00 42.1
VYHS *i* 18 00 51.8
VYHS *e* 18 03 01.2
WTSB Winterswijk 150.08 352 *e*PKP PKPdf 18 00 35.8 +1.2
WTSB *i* x x 18 00 41.0
WTSB *ex* x 18 02 58.8
PSZ Piszkesteto 150.08 333 *e*PKPdf PKPdf 18 00 37.7 +2.4
PSZ *e*PKPbc PKPdf 18 00 41.5 +6.8
KOLL Kolacno 150.16 335 *e*PKP PKPdf 18 00 38.4 +3.6
KOLL *e* 18 00 43.1
KOLL *e* 18 00 44.4
KOLL *i* 18 00 52.3
KOLL *e* 18 03 02.3
KOLL Kolacno 150.16 335 *e* PKPdf 18 00 38.4 +3.6
KOLL Kolacno 150.16 335 *e*PKP PKPdf 18 00 43.1 +8.3
KOLL *e* 18 00 44.4
KOLL *i* 18 00 52.3
KOLL *e* 18 03 02.3
VRAC Vranov 150.21 338 PKP PKPdf 18 00 37.1 +2.3
comp=Z,2.1nm,0.6s,baz=356,slow=6.2,SNR=10
VRAC PKPbc PKPdf 18 00 42.6 +7.7
comp=Z,46nm,0.9s,baz=36,slow=3.5,SNR=51
VRAC PKPab PKPab 18 00 51.5 -0.4
comp=Z,32nm,0.7s,baz=39,slow=7.0,SNR=8.2
VRAC pPKPab 18 02 59.5
comp=Z,36nm,1.2s,baz=58,slow=4.3,SNR=6.5
VRAC Vranov 150.21 338 P PKPdf 18 00 37.2 +2.3
SZH Strazhica 150.23 320 *e*P PKPdf 18 00 43.0 +7.9
PRA Prague 150.23 341 PKPDF PKPdf 18 00 39.0 +4.1
PRA ⇑PKPB PKPdf 18 00 43.0 +8.1
PRA PKPAB PKPab 18 00 53.0 +1.0
PRA pPKP 18 03 02.0
PRU Pruhonice 150.27 341 *e*PKIKP PKPdf 18 00 37.9 +2.9
PRU *e* 18 02 52.1
PRU Pruhonice 150.27 341 *e*PKPDF PKPdf 18 00 37.9 +2.9
PRU ⇑*e*PKPB PKPdf 18 00 42.4 +7.4
PRU *e*PKPAB PKPab 18 00 52.1 -0.1
PRU *ep*PKP 18 03 01.9
HTR Trewern Hill 150.28 4 *e*P PKPdf 18 00 41.5 +6.6
HTR AMb AMB 18 00 44.5
comp=Z,150nm,1.7s
JMB Yambol 150.29 318 *e*P PKPdf 18 00 43.0 +7.8
KHL Karahalli 150.33 309 *e*P PKPdf 18 00 42.7 +7.3
HAE Alders End 150.37 3 *e*P PKPdf 18 00 42.6 +7.6
HAE AMb AMB 18 00 45.6
comp=Z,243nm,1.7s
MCH1 Michaelchurch 150.38 4 *e*P PKPdf 18 00 41.5 +6.5
MOX Moxa 150.46 345 *e*PKPdf PKPdf 18 00 37.2 +2.0
MOX Moxa 150.46 345 *i*P PKPdf 18 00 37.2 +2.0
MOX PP2 18 00 43.0
MOX PKP2 PKPab 18 00 52.0 -1.0
BNT Bandirma 150.54 314 *e*P PKPdf 18 00 42.7 +7.0
SMOL Smolenice 150.58 336 *e*PKP PKPdf 18 00 39.3 +3.8
SMOL *e* 18 00 44.0
SMOL *i* 18 00 54.2
SMOL Smolenice 150.58 336 *e*PKP PKPdf 18 00 44.0 +8.5
SMOL *i* 18 00 54.2
SMOL Smolenice 150.58 336 *e* PKPdf 18 00 39.3 +3.8
PVL Pavlikeni 150.61 321 *e*P PKPdf 18 00 44.0 +8.3
NKC Novy Kostel 150.63 344 *e*PKIKP PKPdf 18 00 38.7 +3.2
NKC *e* 18 00 53.1
NKC Novy Kostel 150.63 344 *e*PKPDF PKPdf 18 00 38.7 +3.2
NKC ⇑*e*PKPB PKPdf 18 00 44.3 +8.8
NKC *e*PKPAB PKPab 18 00 53.1 -0.6
NKC *ep*PKP 18 03 01.1
ELL Elmali 150.64 306 *i*P PKPdf 18 00 44.5 +8.5
HGH Gray Hill 150.75 4 *e*P PKPdf 18 00 42.6 +7.0
HGH AMb AMB 18 00 45.6
comp=Z,249nm,1.4s
SKP1 Kophill 150.75 1 *e*P PKPdf 18 00 42.6 +7.0
BUD Budapest 150.79 333 *e*PKIKP PKPdf 18 00 38.8 +3.0
BUD Budapest 150.79 333 *e*PKP/F PKPdf 18 00 38.8 +3.0
SRO Srobarova 150.81 335 *e*PKP PKPdf 18 00 45.1 +9.3
SRO *e* 18 00 54.6
SRO1 Iza 150.89 335 *e*PKIKP PKPdf 18 00 40.0 +4.1
SRO1 Iza 150.89 335 *e*PKP PKPdf 18 00 44.2 +8.3

SRO1 *e* 18 00 55.4
SRO1 Iza 150.89 335 *e* PKPdf 18 00 40.0 +4.1
BALB Balikesir 150.91 312 *eP* PKPdf 18 00 43.5 +7.3
DENT Denizli 150.91 308 *i P* PKPdf 18 00 44.4 +8.1
SWN1 Swindon 150.93 3 *eP* PKPdf 18 00 43.7 +7.8
MANT Manisa 150.95 310 *i P* PKPdf 18 00 41.2 +4.9
ZST Bratislava 150.96 336 *ePKP* PKPdf 18 00 39.1 +3.1
ZST *e* 18 00 44.9
ZST *i* 18 00 56.3
ZST *e* 18 03 03.4
BZS Buzias 151.03 328 ⇓PKIKP PKPdf 18 00 38.8 +2.6
AKAS Kas 151.05 305 *i P* PKPdf 18 00 41.2 +4.7
PKS7 Kunszentmiklos 151.07 333 *eP* PKPdf 18 00 38.8 +2.6
SMD Mendips 151.09 4 *eP* PKPdf 18 00 43.2 +7.1
KSL Kastellorizon 151.09 305 *eP* PKPdf 18 00 45.0 +8.4
PKSG 151.12 334 *eP* PKPdf 18 00 36.0 -0.3
DIM Dimitrovgrad 151.17 319 *eP* PKPdf 18 00 45.2 +8.6
VKA Vienna 151.19 337 *ePKP* PKPdf 18 00 38.0 +1.6
VKA *i* 18 00 46.2
VKA *i* 18 00 54.6
VKA Vienna 151.19 337 *ePKIKP* PKPdf 18 00 38.0 +1.6
VKA *i* 18 00 54.6
HEX Exmoor 151.25 5 *eP* PKPdf 18 00 44.0 +7.7
HTL Hartland 151.25 6 *eP* PKPdf 18 00 44.1 +7.7
SWK Warminster 151.27 3 *eP* PKPdf 18 00 44.0 +7.6
FETY Fethiye 151.30 306 *eP* PKPdf 18 00 39.8 +2.9
KHC Kasperske Hory 151.32 342 *ePKIKP* PKPdf 18 00 39.1 +2.6
KHC *e* 18 00 56.8
KHC Kasperske Hory 151.32 342 *ePKPDF* PKPdf 18 00 39.1 +2.6
KHC ⇑*ePKPB* PKPdf 18 00 45.1 +8.6
KHC *ePKPAB* PKPab 18 00 56.8 +0.1
KHC *epPKP* 18 03 03.7
HGN Heimansgroeve 151.37 352 *ePKP* PKPdf 18 00 36.3 -0.3
HGN ⇓*iPS* 18 00 44.5
HGN *i x* x 18 00 44.5
HGN *i x* x 18 00 55.2
HGN *ex* x 18 03 01.2
GRA1 Grafenberg Arr 151.44 345 *ePKPdf* PKPdf 18 00 39.1 +2.4
GRA1 *ePKPbc* PKPdf 18 00 46.7 +10
GRA1 *ePKPab* PKPab 18 00 57.6 +0.5
GRA1 *epPKPbc* 18 03 03.9
GRA1 *ePP* PP 18 04 27.1 -4.0
GRF Grafenberg Arr 151.44 345 *ePKIKP* PKPdf 18 00 39.1 +2.4
GRF *e* 18 04 27.1
KDZ Kurdzhali 151.47 318 *eP* PKPdf 18 00 45.3 +8.3
ALN Alexandroupoli 151.49 316 *eP* PKPdf 18 00 40.2 +3.1
WET Wettzell 151.51 342 *ePKP2* PKPab 18 00 57.9 +0.5
WET Wettzell 151.51 342 *ePKPdf* PKPdf 18 00 39.0 +2.2
WET *ePKPbc* PKPdf 18 00 46.6 +10
WET *ePKPab* PKPab 18 00 57.9 +0.5
TNS Taunus Mts 151.52 349 *ePKPdf* PKPdf 18 00 39.1 +2.3
TNS *ePKPbc* PKPdf 18 00 46.8 +10
TNS *ePKPab* PKPab 18 00 57.1 -0.3
GEC2 GERESS Array S 151.54 341 *ePKIKP* PKPdf 18 00 38.9 +2.1
GEC2 *e* 18 00 57.8
GEC2 GERESS Array S 151.54 341 *ePKPdf* PKPdf 18 00 38.9 +2.1
GEC2 *ePKPbc* PKPdf 18 00 46.5 +10
GEC2 *ePKPab* PKPab 18 00 57.8 +0.2
GERES GERESS Array B 151.54 341 PKIKP PKPdf 18 00 38.6 +1.8
GERES 18 00 57.5
GERES GERESS Array B 151.54 341 PKP PKPdf 18 00 38.6 +1.8
comp=Z,3.6nm,0.8s,slow=1.3,SNR=28
GERES PKPbc PKPdf 18 00 45.5 +8.6
comp=Z,24nm,0.7s,baz=16,slow=1.7,SNR=80
GERES PKPab PKPab 18 00 57.5 -0.1
comp=Z,24nm,0.8s,baz=27,slow=3.0,SNR=18
GERES pPKPbc 18 02 59.4
comp=Z,4.8nm,0.8s,baz=45,slow=1.9,SNR=3.5
GERES pPKPab 18 03 04.6
comp=Z,5.5nm,0.9s,baz=117,slow=3.0,SNR=4.1
DALT Dalyan (Mudla) 151.58 307 *eP* PKPdf 18 00 46.0 +8.7
SOP Sopron 151.59 336 *eP* PKPdf 18 00 39.1 +2.1
SOP *e* 18 00 45.9
SOP *i* 18 00 58.4
SOP Sopron 151.59 336 *ePKP/F* PKPdf 18 00 39.1 +2.1
SOP *e* 18 00 45.9
SOP *i* PKP/p PKPab 18 00 58.4 +0.6
PLD Plovdiv 151.64 319 *eP* PKPdf 18 00 46.5 +9.3
RDO Rodhopi 151.68 317 *eP* PKPdf 18 00 45.5 +8.2
PGB Panagyurishte 151.69 321 *eP* PKPdf 18 00 46.0 +8.7
AYDN Tasoluk 151.78 309 *i P* PKPdf 18 00 41.2 +3.7
PKS9 Tamasi 151.81 333 *eP* PKPdf 18 00 39.4 +2.1
CSA1 St Austell 151.85 7 *eP* PKPdf 18 00 45.1 +7.9
RZN Rozhen 151.88 319 *eP* PKPdf 18 00 37.0 -0.6
IZM Izmir 151.90 311 *eP* PKPdf 18 00 46.0 +8.3
PKSM Moragy 151.95 332 ⇑PKIKP PKPdf 18 00 39.0 +1.5
PKSM Moragy 151.95 332 ⇑*eP* PKPdf 18 00 39.3 +1.8
PKSM *i* 18 00 46.3
PKSM *e* 18 00 58.6
PKSM *i* 18 02 58.6
CPZ Penzance 151.96 8 *eP* PKPdf 18 00 46.2 +8.8
CPZ AMb AMB 18 00 49.1
comp=Z,63nm,1.6s
CCA1 Carnmenellis 151.97 7 *eP* PKPdf 18 00 45.4 +8.0
CRQ2 Rosemanowes 2 152.00 7 *eP* PKPdf 18 00 45.5 +8.1
CRQ2 AMb AMB 18 00 50.3
comp=Z,126nm,1.9s
ABH Alteburg 152.00 350 PKP PKPdf 18 00 39.5 +2.1
ABH Alteburg 152.00 350 *eP* PKPdf 18 00 39.0 +1.6
TOD Tromm 152.04 348 PKP PKPdf 18 00 39.3 +1.8
TOD Tromm 152.04 348 *eP* PKPdf 18 00 39.0 +1.5
CMA1 Manaccan 152.09 7 *eP* PKPdf 18 00 45.8 +8.2
BOLS Boljevac 152.10 325 ⇑*i* PKP PKPdf 18 00 46.8 +9.1
GIVF Givet 152.15 354 *ePKIKP* PKPdf 18 00 40.2 +2.6
SVIS Svilajnac 152.16 327 ⇑*i* PKP PKPdf 18 00 38.3 +0.4
ARG Arkhangelos 152.17 306 *eP* PKPdf 18 00 48.0 +10
PRK Paraskevi 152.19 313 *eP* PKPdf 18 00 48.5 +10
VTS Vitosha 152.22 322 *P* PKPdf 18 00 40.2 +2.2
VTS Vitosha 152.22 322 *eP* PKPdf 18 00 40.0 +2.0
BAIF Baives 152.25 354 *ePKIKP* PKPdf 18 00 40.4 +2.6
MOA Molln 152.25 339 ⇑*iP* PKPdf 18 00 39.6 +1.7
MOA *i* 18 00 48.5
MOA *i* 18 01 01.1
RUP Ruppelstein 152.25 350 PKP PKPdf 18 00 40.0 +2.2
RUP Ruppelstein 152.25 350 ⇓*eP* PKPdf 18 00 39.4 +1.6
RHK1 Bakonya 152.29 333 *eP* PKPdf 18 00 39.9 +1.9
RHK1 *i* 18 00 46.9
RHK1 *e* 18 02 59.9
ARSA Arzberg 152.34 337 ⇑*iP* PKPdf 18 00 39.6 +1.6
ARSA *i* 18 00 47.9
ARSA *i* 18 01 01.4
WLF Walferdange 152.42 352 *ePKPdf* PKPdf 18 00 41.6 +3.6
WLF *ePKPbc* PKPdf 18 00 48.4 +10
BODT Bodrum 152.44 308 *eP* PKPdf 18 00 40.7 +2.2
KTD Kalmit 152.45 349 PKP PKPdf 18 00 40.2 +2.8
SMG Samos 152.51 310 *eP* PKPdf 18 00 48.2 +10
MMB Musomiste 152.54 320 *eP* PKPdf 18 00 47.2 +8.7
GRUS Gruza 152.71 326 ⇓*i* PKP PKPdf 18 00 40.2 +1.6
KKB Krupnik 152.75 321 *eP* PKPdf 18 00 48.0 +9.2
STU Stuttgart 152.76 347 *ePKPdf* PKPdf 18 00 40.7 +2.2
STU *ePKPbc* PKPdf 18 00 47.2 +8.7
STU *ePKPab* PKPab 18 01 01.1 -1.6
LANF Langenberg 152.83 349 PKP PKPdf 18 00 40.9 +2.3
FUR Furstenfeldbru 152.84 344 *ePKP2* PKPab 18 01 03.4 +0.3
FUR Furstenfeldbru 152.84 344 *ePKPdf* PKPdf 18 00 41.1 +2.4
FUR *ePKPbc* PKPdf 18 00 49.4 +11
FUR *ePKPab* PKPab 18 01 03.4 +0.3
BARS Barje 152.85 324 ⇑*iPKP* PKPdf 18 00 45.0 +6.1
KARP Karpathos 153.15 305 *eP* PKPdf 18 00 42.0 +2.5
KBA Koelnbreinsper 153.22 340 ⇑*iP* PKPdf 18 00 40.6 +1.4
KBA *i* 18 00 50.1
KBA *i* 18 01 06.1
OBKA Obir 153.32 338 ⇓*iP* PKPdf 18 00 41.8 +2.4
OBKA *i* 18 00 50.3
OBKA *i* 18 01 05.1
BFO Black Forest 153.36 348 *ePKP2* PKPab 18 01 04.8 -0.4
BFO Black Forest 153.36 348 *ePKPdf* PKPdf 18 00 41.7 +2.3
BFO *ePKPbc* PKPdf 18 00 50.2 +11
BFO *ePKPab* PKPab 18 01 04.8 -0.4
BBLS Bajina Basta - 153.38 328 ⇓*iPKP* PKPdf 18 00 41.5 +1.9
VAY Valandovo 153.39 320 *i* PKHKP 18 00 49.0
VAY ⇑*iPKP2* PKPab 18 01 06.3 +0.7
PLG Polygyros 153.42 318 *eP* PKPab 18 01 05.5 -0.3
WLS Welschbruch 153.45 349 PKP PKPdf 18 00 40.9 +1.4
CDF Champ du Feu 153.47 349 *ePKIKP* PKPdf 18 00 41.6 +2.1
comp=Z,51nm,1.4s
NVSS Nova Varos 2 153.50 327 ⇑*iPKP* PKPdf 18 00 49.9 +10
WATA Walderalm 153.52 343 ⇑*iP* PKPdf 18 00 41.4 +1.8
WATA *i* 18 00 50.0
WATA *i* 18 01 05.9
WTTA Wattenberg 153.57 342 ⇑*iP* PKPdf 18 00 41.8 +2.1
WTTA *i* 18 00 51.6
WTTA *i* 18 01 06.7
SKO Skopje 153.63 323 ⇓*iPKIKP* PKPdf 18 00 41.1 +1.2
SKO ⇑*iPKHKP* 18 00 50.5
SKO ⇑*iPKP2* PKPab 18 01 07.6 +1.0
comp=Z,0.5nm,1.5s
SKO *i* pPKP2 18 03 19.5
MOTA Moosalm 153.64 343 ⇑*iP* PKPdf 18 00 41.8 +2.0
MOTA *i* 18 00 51.8
MOTA *i* 18 01 06.7
MOTA Moosalm 153.64 343 ⇑*iPKIKP* PKPdf 18 01 06.7
MOTA *i* 18 01 07.3
ECH Echery 153.68 349 PKP PKPdf 18 00 42.8 +3.0
MEZF Maizieres J'vi 153.70 353 *ePKIKP* PKPdf 18 00 42.5 +2.7
GRG Griva 153.71 320 *eP* PKPdf 18 00 40.9 +0.8
FLN La Foliniere 153.72 1 *ePKIKP* PKPdf 18 00 41.8 +2.0
comp=Z,74nm,0.8s
LJU Ljubljana 153.72 337 *ePKPdf* 18 00 41.5
LJU *ePKPbc* PKPdf 18 00 50.8 +11
LJU *ePKPab* PKPab 18 01 06.3 -0.5
LJU *ePP* 18 03 00.6
SQTA Sankt Quirin 153.73 343 ⇑*iP* PKPdf 18 00 41.7 +1.8
SQTA *i* 18 00 51.6
SQTA *i* 18 01 07.3
PTCC Patocco-Chiusa 153.81 339 *eP* PKPdf 18 00 39.8 -0.2
FVI Forni Avoltri 153.83 340 *eP* PKPdf 18 00 41.2 +1.2
THEF They Montfort 153.85 351 PKP PKPdf 18 00 41.7 +1.7
FELD Feldberg 153.85 348 PKP PKPdf 18 00 41.9 +1.9
LDF La Druitiere 153.89 1 *ePKIKP* PKPdf 18 00 41.9 +1.9
comp=Z,48nm,0.9s
BOJS Bojanci 153.91 335 *ePKPdf* 18 00 41.6
BOJS *ePKPbc* PKPdf 18 00 51.1 +11
BOJS *ePKPab* PKPab 18 01 07.5 -0.1
BOJS *ePP* 18 02 59.5
VOY Vojsko 153.96 338 *ePKPdf* PKPdf 18 00 42.0 +1.8
VOY *e* 18 00 51.3
VOY *e* 18 01 06.9
GMNA Gemona 153.97 339 *eP* PKPdf 18 00 41.9 +1.7
ROSF Rostrenen 154.00 5 *ePKIKP* PKPdf 18 00 42.5 +2.3
DAVA Damuels 154.01 345 ⇑*iP* PKPdf 18 00 42.3 +2.1
DAVA *i* 18 00 52.4
DAVA *i* 18 01 07.5
HAU Haudompre 154.01 351 *ePKIKP* PKPdf 18 00 42.6 +2.4
comp=Z,26nm,1.0s
MOF Molkenrain 154.03 349 PKP PKPdf 18 00 41.2 +1.0
SANT Santorini 154.08 308 *ePKPdf* PKPdf 18 00 41.0 +0.3
SANT *ePKPbc* PKPdf 18 00 51.4 +11
SANT *ePKPab* PKPab 18 01 06.8 -1.9
THR1 Thera Island 154.08 308 *eP* PKPdf 18 00 46.7 +6.0
GRR Gorron 154.09 2 *ePKIKP* PKPdf 18 00 42.4 +2.1
comp=Z,42nm,0.9s
THR3 Thira Island, 154.11 308 *eP* PKPdf 18 00 47.2 +6.4
HINF Hinteralfeld 154.12 350 *ePKIKP* PKPdf 18 00 42.6 +2.2
comp=Z,31nm,1.0s
SGMF Saint Gilles 154.14 4 *ePKIKP* PKPdf 18 00 42.9 +2.5
LIT Litokhoron 154.18 318 *eP* PKPdf 18 00 43.4 +2.6
BBS Basel-Blauen 154.34 349 PKP PKPdf 18 00 42.8 +2.1
BBS Basel-Blauen 154.34 349 *eP* PKPdf 18 00 41.1 +0.4
PTL Penteli 154.42 313 *eP* PKPdf 18 00 47.5 +6.4
NPS Neapolis 154.42 306 *eP* PKPdf 18 00 44.8 +3.6
FNA Florina 154.43 321 *eP* PKPdf 18 00 41.5 +0.4
MPAR Parnis Oros 154.45 313 *eP* PKPdf 18 00 52.5 +11
DAVOX Davos 154.48 344 PKP PKPdf 18 00 43.4 +2.5
comp=Z,21nm,0.9s,baz=281,slow=2.1,SNR=24
DAVOX PKPbc PKPdf 18 00 52.7 +12
comp=Z,17nm,0.5s,baz=137,slow=4.8,SNR=16
DAVOX PKPab PKPab 18 01 10.5 +0.5
comp=Z,52nm,0.7s,baz=343,slow=3.0,SNR=20
DAVOX pPKPbc 18 03 05.7
comp=Z,13nm,0.9s,baz=349,slow=3.3,SNR=3.1
DAVOX Davos 154.48 344 PKP PKPdf 18 00 43.4 +2.5
DAVOX PKPbc PKPdf 18 00 52.7 +12
DAVOX PKPab PKPab 18 01 10.5 +0.5
DAVOX pPKPbc 18 03 05.7
KZN Kozani 154.49 319 *eP* PKPab 18 01 10.0 -0.3
XRY Khrisi 154.51 305 *eP* PKPdf 18 00 54.0 +13
OHR Ohrid 154.55 322 *i* PKHKP 18 01 51.8
OHR *i* 18 00 52.9
OHR *i* PKP2 PKPab 18 01 10.7 +0.2
LOMF Lomont 154.57 349 PKP PKPdf 18 00 44.5 +3.5
BRMO Bormio 154.64 343 *eP* PKPdf 18 00 42.7 +1.6
CTI Castel Tesino 154.67 341 *eP* PKPdf 18 00 42.9 +1.7
NSAL Nisos Salamina 154.76 313 *eP* PKPab 18 01 06.0 -5.5
AGG Agios Georgios 154.90 316 *eP* PKPdf 18 00 44.2 +2.4
IDI Anoyia 154.96 306 PKP PKPdf 18 00 44.0 +2.0
comp=Z,21nm,1.1s,baz=159,slow=5.0,SNR=15
IDI PKPbc PKPdf 18 00 55.2 +13
comp=Z,38nm,1.0s,baz=357,slow=17,SNR=16
IDI PKPab PKPab 18 01 11.7 -0.6
comp=Z,17nm,0.3s,baz=151,slow=13,SNR=9.1
MEV Metsovon 155.14 319 *eP* PKPdf 18 00 43.8 +1.8
HYF Humbligny 155.14 356 *ePKIKP* PKPdf 18 00 44.5 +2.7
SSF Saint Saulge 155.28 355 *ePKIKP* PKPdf 18 00 44.3 +2.3
comp=Z,66nm,1.2s
CABF La Chaelle 155.41 350 *ePKIKP* PKPdf 18 00 44.9 +2.7
comp=Z,80nm,1.0s
VAM Vamos 155.42 307 *eP* PKPdf 18 00 46.5 +3.9
JAN Janina 155.45 319 *eP* PKPab 18 01 14.5 +0.2
AVF Avril sur Loir 155.56 355 *ePKIKP* PKPdf 18 00 44.3 +1.9
comp=Z,33nm,1.2s
VAI Varese 155.60 345 *eP* PKPdf 18 00 43.2 +0.7
SMF Signal de Mont 155.66 354 *ePKIKP* PKPdf 18 00 44.5 +2.0
comp=Z,50nm,1.2s
MCGN Macugnaga 155.69 347 *eP* PKPdf 18 00 44.5 +1.9
VLI Veliai 155.72 311 *eP* PKPdf 18 01 00.0 +17
GVD Gavdhos 155.74 306 *ePKPdf* PKPdf 18 00 45.5 +2.5
GVD *ePKPab* PKPab 18 01 14.8 -0.9
GVD Gavdhos 155.74 306 *eP* PKPab 18 01 16.0 +0.2
BGF Bois d'Agland 155.84 356 *ePKIKP* PKPdf 18 00 45.1 +2.4
comp=Z,68nm,1.0s
IGT Igoumenitsa 155.84 319 *eP* PKPdf 18 00 51.0 +8.0
KYTH Kithira 155.87 310 *eP* PKPab 18 01 15.6 -0.6
MFF Saint Martin d 155.88 1 *ePKIKP* PKPdf 18 00 45.0 +2.2
comp=Z,56nm,1.0s
ORX Oropa 156.00 347 PKP2 PKPab 18 01 15.9 -0.6
ORO Oropa 156.01 347 *eP* PKPdf 18 00 44.2 +1.2
KEK Kerkira 156.04 320 *eP* PKPab 18 01 17.0 +0.1
TCF Toulx Ste Croi 156.15 357 *ePKIKP* PKPdf 18 00 45.4 +2.2
comp=Z,59nm,0.9s
ITM Ithomi 156.18 313 *eP* PKPab 18 01 17.5 -0.1
RSM Republblica di 156.29 338 *eP* PKPdf 18 00 45.0 +1.6
LSD Ceresole Reale 156.34 348 PKP2 PKPab 18 01 18.0 0.0
PLDF La Plantade 156.35 354 PKP PKPdf 18 00 46.9 +3.5
LPL La Plagne 156.36 349 *ePKIKP* PKPdf 18 00 46.3 +2.8
comp=Z,37nm,1.2s
LPG La Plagne 156.38 348 *ePKIKP* PKPdf 18 00 46.4 +2.9
comp=Z,14nm,0.8s
FSSB Fossombrone 156.38 337 *eP* PKPdf 18 00 45.6 +2.1
ZCCA Zocca 156.41 340 *eP* PKPdf 18 00 46.3 +2.7
ARV Arcevia 156.49 336 *eP* PKPdf 18 00 45.1 +1.4
VLS Valsamata 156.50 317 *eP* PKPab 18 01 18.8 -0.1
ERBM Eremo 156.51 341 *eP* PKPdf 18 00 45.9 +2.2
GRAM 156.55 342 *P* PKPab 18 01 18.6 -0.3
VMG Vicchio 156.57 339 *eP* PKPdf 18 00 46.5 +2.8
PGD Poggio Sodo 156.59 339 *eP* PKPdf 18 00 45.7 +1.9
RSP Reno Superiore 156.61 347 PKP2 PKPab 18 01 17.7 -1.5
VALM 156.63 342 *P* PKPab 18 01 18.6 -0.6
SNTG Esanatoglia 156.70 336 *eP* PKPdf 18 00 45.2 +1.2
CODM 156.70 342 *P* PKPab 18 01 18.9 -0.7
BACM 156.74 342 *P* PKPab 18 01 19.3 -0.5
FENE Fenestrelle 156.77 348 *P* PKPab 18 01 19.0 -0.8
BNI Bardonecchia 156.82 348 *ePKPdf* PKPdf 18 00 46.9 +2.8
VINC Vinca 156.84 342 *P* PKPab 18 01 18.5 -1.7
BHB Bricherasio 156.91 347 *P* PKPab 18 01 18.4 -2.1
RRL Cesana Torines 156.93 348 PKP2 PKPab 18 01 20.4 -0.1
NRCA Norcia 156.99 335 *eP* PKPdf 18 00 44.9 +0.5
ORIF Oris-en-Rattie 157.09 350 *ePKIKP* PKPdf 18 00 46.8 +2.4
comp=Z,61nm,1.3s
MBDF Montbardon 157.12 348 *ePKIKP* PKPdf 18 00 46.9 +2.4
comp=Z,56nm,1.3s
LBL Lubilhac 157.12 354 PKP PKPdf 18 00 48.1 +3.6
RJF Les Rejaudoux 157.16 358 *ePKIKP* PKPdf 18 00 46.8 +2.3
comp=Z,72nm,1.2s
PZZ Prazzo 157.26 347 PKP2 PKPab 18 01 19.8 -2.2
AQU L'Aquila 157.28 334 *P* PKPdf 18 00 47.0 +2.3
ROB Roburent 157.30 346 PKP2 PKPab 18 01 20.4 -1.7
FIN Finale Ligure 157.30 345 *ePKP2* PKPab 18 01 21.1 -1.0
VIVF Saint-Julien-l 157.33 352 *ePKIKP* PKPdf 18 00 47.2 +2.5
comp=Z,104nm,1.5s
CII Carovilli 157.42 332 *eP* PKPdf 18 00 46.9 +1.9
ENR Entracque 157.46 346 PKP2 PKPab 18 01 20.2 -2.6
STV2 Anna di Valdie 157.47 347 *P* PKPab 18 01 20.1 -2.7
STV Sta Anna Valdi 157.47 347 PKP2 PKPab 18 01 20.1 -2.8
GRFL Gerfalco 157.49 339 *eP* PKPdf 18 00 46.1 +1.1
CAF Calviac 157.51 357 *ePKIKP* PKPdf 18 00 47.5 +2.5
comp=Z,74nm,1.3s
MONE Monesi 157.53 346 *P* PKPab 18 01 21.6 -1.6
MNS Montasola 157.54 335 *eP* PKPdf 18 00 46.1 +1.0
LFF La Frestale 157.54 359 *ePKIKP* PKPdf 18 00 47.7 +2.7
comp=Z,32nm,1.0s
PTQR Pietraquaria 157.56 334 *eP* PKPdf 18 00 46.9 +1.7
MRLC Muro Lucano 157.63 328 *eP* PKPdf 18 00 46.1 +0.8
SDI San Donato 157.64 332 *eP* PKPdf 18 00 46.5 +1.3
IMI Imperia 157.66 345 *eP* PKPab 18 01 22.4 -1.2
SAOF Saorge 157.66 346 PKP PKPdf 18 00 48.4 +3.2
AUTN L'Aution 157.68 346 PKP PKPdf 18 00 47.4 +2.2
TOUF Mont Tournerai 157.70 347 PKP PKPdf 18 00 47.1 +1.8
NEGI Negi 157.76 346 *P* PKPab 18 01 22.6 -1.5
SBF Sospel 157.81 346 *ePKIKP* PKPdf 18 00 47.2 +1.8
comp=Z,46nm,1.1s
MVIF Mont Vial 157.84 347 PKP PKPdf 18 00 47.2 +1.8
SLCN Sala Consilina 157.84 327 *eP* PKPdf 18 00 47.0 +1.4
SGO Sicignano 157.87 328 *eP* PKPdf 18 00 47.4 +1.8
STOF St-Etienne Org 157.98 349 PKP PKPdf 18 00 45.9 +0.3
MGR Morigerati 158.07 327 *eP* PKPdf 18 00 46.6 +0.8
TIP Timpagrande 158.14 324 *ePKPdf* PKPdf 18 00 47.1 +1.1
TIP *ePKPab* PKPab 18 01 25.7 -0.3
VILF Villemus 158.16 349 PKP PKPdf 18 00 47.3 +1.5
LASF Ste Croix 158.20 353 *ePKIKP* PKPdf 18 00 48.4 +2.5
comp=Z,49nm,1.2s
FRF La Foret Royal 158.26 347 *ePKIKP* PKPdf 18 00 48.0 +2.0
comp=Z,93nm,1.4s
PRAF Pradon 158.29 350 PKP PKPdf 18 00 45.2 -0.8
TAVF Tavernes 158.32 348 PKP PKPdf 18 00 45.2 -0.8
STS Santiago 158.33 18 PKP PKPdf 18 00 48.4 +2.4
PUYF Puyloubier 158.47 349 PKP PKPdf 18 00 45.2 -1.0
LMR La Mourre 158.51 347 *ePKIKP* PKPdf 18 00 48.2 +2.0
GRI Girifalco 158.57 323 *eP* PKPdf 18 00 48.2 +1.8
PGF Pioggiola 158.64 342 *ePKIKP* PKPdf 18 00 48.2 +1.8
comp=Z,26nm,1.0s
EINC Incio 158.86 16 PKP PKPdf 18 00 51.5 +4.8
MTLF Montolieu 159.08 356 *ePKIKP* PKPdf 18 00 49.3 +2.4
comp=Z,76nm,1.3s
ERUA La Rua 159.17 15 PKP PKPdf 18 00 50.2 +3.3
SOI Samo 159.31 322 *eP* PKPdf 18 00 48.8 +1.5
SJPF Ste Jean 159.34 3 *ePKIKP* PKPdf 18 00 49.9 +2.8
comp=Z,202nm,1.9s
ELOB Lobios 159.41 18 PKP PKPdf 18 00 50.0 +2.7
EPF Esparros 159.46 360 *ePKIKP* PKPdf 18 00 49.9 +2.6
comp=Z,63nm,1.2s
MTTG Motta San Giov 159.56 323 *eP* PKPdf 18 00 48.9 +1.4
ETSF Etsaut 159.58 2 *ePKIKP* PKPdf 18 00 50.3 +2.9
comp=Z,34nm,1.0s
ECAL Calabor 159.69 15 PKP PKPdf 18 00 50.8 +3.2
PBRG Braganca 159.82 15 *ePKPdf* PKPdf 18 00 49.9 +2.2
PBRG *ePKPab* PKPab 18 01 32.5 -0.6
PVRL Vila Real 160.06 18 *ePKPdf* PKPdf 18 00 50.8 +2.8
PVRL *ePKPab* PKPab 18 01 33.8 -0.3
PVIS Viseu 160.52 19 *ePKPdf* PKPdf 18 00 50.6 +2.1
PVIS *ePKPab* PKPab 18 01 36.0 -0.1
VAE Valguarnera 160.64 324 PKP PKPdf 18 00 51.1 +2.4
comp=Z,2.3nm,0.3s,baz=325,slow=18,SNR=3.2
MTE Manteigas 160.92 18 *ePKPdf* PKPdf 18 00 50.9 +2.0
MTE *ePKPab* PKPab 18 01 37.4 -0.4
MTE Manteigas 160.92 18 *ePKPdf* PKPdf 18 00 51.5 +2.6
MTE *ePKPab* PKPab 18 01 37.4 -0.4
PTOM Tomar 161.36 21 *ePKPdf* PKPdf 18 00 52.2 +2.9
PTOM *ePKPab* PKPab 18 01 39.3 -0.5
PCBR Castelo Branco 161.45 19 *ePKPdf* PKPdf 18 00 52.0 +2.6
PCBR *ePKPab* PKPab 18 01 39.3 -0.9
PLOU Loures 161.75 24 *ePKPab* PKPab 18 01 40.9 -0.6
MOE Montemor 162.36 23 *ePKPdf* PKPdf 18 00 53.9 +3.5
MOE *ePKPab* PKPab 18 01 43.9 -0.3
ESDC Sonseca Array 162.45 11 PKP PKPdf 18 00 52.4 +2.0
comp=Z,1.4nm,0.8s,baz=352,slow=2.2,SNR=7.8
ESDC PKPab PKPab 18 01 43.9 -0.6
comp=Z,6.5nm,0.6s,baz=348,slow=4.6,SNR=20
ESDC PP PP 18 05 31.6 +0.8
comp=Z,4.1nm,0.9s,baz=337,slow=4.8,SNR=5.1
ESDC Sonseca Array 162.45 11 PKP PKPdf 18 00 51.9 +1.4
EVO Evora 162.47 22 *ePKIKP* PKPdf 18 00 52.7 +2.2
comp=Z,88nm,1.1s
EBAD Badajoz 162.59 19 PKP PKPdf 18 00 51.4 +0.8
CHIE El Hierro 162.72 69 PKP PKPdf 18 00 56.2 +5.2
PBEJ Beja 162.97 22 *ePKPdf* PKPdf 18 00 54.2 +3.2
PBEJ *ePKPab* PKPab 18 01 46.4 -0.5
PTEO Sao Teotonio 163.08 25 *ePKPdf* PKPdf 18 00 54.2 +3.1
PTEO *ePKPab* PKPab 18 01 46.6 -0.7
EGOM La Gomera 163.25 67 PKP PKPdf 18 00 53.8 +2.2
EGRO El Granado 163.55 22 PKP PKPdf 18 00 53.1 +1.5
DBIC Dimbokro 163.59 162 PKP PKPdf 18 00 53.7 +1.4
comp=Z,33nm,0.6s,baz=142,slow=1.2,SNR=83
DBIC PKPab PKPab 18 01 50.9 +0.6
comp=Z,83nm,0.9s,baz=182,slow=5.7,SNR=21
DBIC PP PP 18 05 39.0 +1.2
comp=Z,11nm,1.0s,baz=133,slow=7.8,SNR=3.7
DBIC Dimbokro 163.59 162 *ePKPdf* PKPdf 18 00 53.5 +1.2
DBIC *ePKPab* PKPab 18 01 50.6 +0.4
EMIN Mina Concepcio 163.60 20 PKP PKPdf 18 00 53.7 +2.0
ECAB El Cabril 163.67 16 PKP PKPdf 18 00 53.3 +1.6
EVIA Vianos 163.68 8 PKP PKPdf 18 00 54.5 +2.8
ETOB Tobarra 163.77 5 PKP PKPdf 18 00 55.2 +3.4
EADA Adamuz 163.78 14 PKP PKPdf 18 00 53.5 +1.7
EBAN Banos Encina 163.95 11 PKP PKPdf 18 00 54.7 +2.7
EQES Quesada 164.42 10 PKP PKPdf 18 00 53.8 +1.4
ELUQ Luque 164.43 13 PKP PKPdf 18 00 55.6 +3.2
CMAH Djebel Manchou 164.54 338 P PKPab 18 01 53.0 -0.7
ESPR Espera 164.68 19 PKP PKPdf 18 00 55.2 +2.5
ABSA Djebel Ababsia 164.83 337 P PKPab 18 01 55.0 0.0
ELOJ Sierra Loja 164.86 13 PKIKP PKPdf 18 01 00.3 +7.5
CKFL Kef-Lekhel 164.98 339 P PKPab 18 01 56.0 +0.4
DFRA Djebel Bou Aff 165.10 342 P PKPab 18 01 59.0 +2.8
CASM Ain Smara 165.18 340 P PKPab 18 01 57.0 +0.5
EMIJ Mijas 165.27 16 PKP PKPdf 18 00 53.9 +0.7
EBER Berja 165.34 10 PKP PKPdf 18 00 54.9 +1.6
SET Setif 165.56 343 P PKPab 18 02 00.0 +1.8
CFTV Fuerteventura 165.78 62 PKP PKPdf 18 00 57.3 +3.4

*IDC **30** 17:45:39.7±2.0, 46.98N×144.78E, h385km±39km, mb3.1/6, mb1 3.2/8, mb1mx3.0/23, mbtmp3.8/8, Error ellipse: s-maj=55.3km s-min=30.3km az=149.0*
*JMA **30** 17:45:41.0±0.5, 46.52N×145.00E, h394km, M3.4*
ISC 30 17:45:38.7±0.6, **46.3N**±0.1×**145.1E**±0.2, **h434**km±12km, **n23**, σ0**89**/31, **mb3.5**/5, **Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JRA	**Rausu**	**2.38**	**179**	P	**P**		**17 46 41.6**	**+1.0**
JWK2	**Keihoku**	**2.44**	**247**	P	**P**		**17 46 39.7**	**-1.3**
JTKR	**Abashiri--Toko**	**2.49**	**200**	P	**P**		**17 46 41.8**	**+0.5**
JMP	**Maruseppu**	**2.61**	**208**	P	**P**		**17 46 42.3**	**+0.1**
ASAJ	**Asahikawa**	**2.82**	**219**	P	**P**		**17 46 43.9**	**+0.2**
	1.1nm,0.3s,baz=298,slow=33,SNR=8.7							
NEM2	**Nemuro 2**	**2.99**	**171**	P	**P**		**17 46 44.6**	**-0.3**
NEM2				eS	**S**		**17 47 35.6**	**-1.6**
JAR	**Ashorobuto**	**3.16**	**198**	P	**P**		**17 46 47.4**	**+1.1**
JAK	**Akkeshi**	**3.33**	**185**	P	**P**		**17 46 48.0**	**+0.3**
JAK				eS	**S**		**17 47 41.0**	**-1.1**
JFR	**Furan**	**3.62**	**210**	P	**P**		**17 46 51.4**	**+1.3**
JCH	**Churui**	**3.90**	**199**	P	**P**		**17 46 52.7**	**+0.1**
JCH				eS	**S**		**17 47 49.9**	**-0.9**
JEW	**Eniwo**	**4.34**	**218**	P	**P**		**17 46 58.1**	**+1.5**
JEW				eS	**S**		**17 47 58.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**4.37**	**203**	P	**P**		**17 46 57.5**	**+0.6**
JNBK				eS	**S**		**17 47 58.4**	**-0.1**

	0.6nm,0.5s,mb3.5,baz=31,slow=6.2								
NOA	**NORSAR Array B**	**66.67**	**338**	P		**P**	**17 55 45.5**	**-0.2**	
	0.5nm,0.4s,mb3.5,baz=32,slow=6.4,SNR=5.0								
AKASG	**Malin Array Be**	**68.65**	**322**	P		**P**	**17 55 58.4**	**+0.4**	
	0.4nm,0.2s,mb3.6,baz=40,slow=7.1,SNR=4.5								

*IDC **30** 18:01:19.3±1.9, 1.01N×97.13E, mb4.0/7, mb1 4.1/7, mb1mx3.8/19, mbtmp4.0/7, Error ellipse: s-maj=92.4km s-min=18.5km az=57.0*
*NEIC **30** 18:01:23.9±0.7, 1.06N×97.19E, h30km, mb4.3/1, Error ellipse: s-maj=20.5km s-min=11.4km az=61.0*
ISC 30 18:01:21.9±0.9, 1.1N±0.1×97.1E±0.1, h30km, n13, σ0§55/13, mb4.0/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**5.22**	**48**	P		**Pn**	**18 02 40.2**	**+0.2**
KULM	**Kulim**	**5.47**	**40**	*eP*		**Pn**	**18 02 43.0**	**-0.6**
KGM	**Kluang**	**6.25**	**81**	P		**Pn**	**18 02 54.6**	**+0.1**
KKM	**Kota Kinabalu**	**19.66**	**75**	P		**P**	**18 05 52.0**	**+0.5**
WRA	**Warramunga Arr**	**42.01**	**122**	P		**P**	**18 09 12.1**	**-0.5**
	1.5nm,0.7s,mb3.8,baz=299,slow=9.1,SNR=17							
ASAR	**Alice Springs**	**43.36**	**127**	P		**P**	**18 09 23.4**	**-0.1**
	1.2nm,0.8s,mb3.7,baz=301,slow=7.6,SNR=12							
SONM	**Songino Array**	**47.28**	**8**	P		**P**	**18 09 54.9**	**+0.4**
	2.7nm,0.8s,mb4.2,baz=185,slow=9.1,SNR=13							
MKAR	**Makanchi Array**	**47.36**	**346**	P		**P**	**18 09 55.9**	**+0.7**
	2.5nm,0.7s,mb4.2,baz=160,slow=8.0,SNR=13							
STKA	**Stephens Creek**	**53.30**	**132**	P		**P**	**18 10 40.8**	**+0.1**
	1.6nm,0.7s,mb4.0,baz=287,slow=3.2,SNR=5.2							
BVAR	**Borovoye Array**	**56.36**	**341**	P		**P**	**18 11 01.9**	**-0.7**
	1.3nm,0.8s,mb4.0,baz=141,slow=9.5,SNR=3.6							
CHKZ	**Chkalovo**	**56.84**	**341**	*eP*		**P**	**18 11 05.1**	**-0.9**
	2.7nm,0.8s,mb4.3							
CHKZ					*ep*P	pP	18 11 11.3	-4.0
NOA	**NORSAR Array B**	**87.10**	**331**	P		**P**	**18 14 06.8**	**+0.9**
	0.3nm,0.8s,mb3.6,baz=91,slow=5.0,SNR=3.4							
NOA	**NORSAR Array B**	**87.10**	**331**	P		**P**	**18 14 06.8**	**+0.9**

*IDC **30** 18:02:13.5±0.5, 1.08N×97.26E, mb4.5/24, mb1 4.6/24, mb1mx4.5/27, mbtmp4.5/24, Error ellipse: s-maj=21.2km s-min=12.3km az=56.0*
*BJI **30** 18:02:16.9, 1.44N×97.18E, h4km, mB5.3, mb4.8, Ms5.0, Msz4.7*
*MOS **30** 18:02:17.1±1.0, 1.04N×97.29E, h33km, mb5.1/11, Error ellipse: s-maj=19.5km s-min=9.3km az=107.7*
*NEIC **30** 18:02:17.2±0.2, 1.06N×97.27E, mb4.9/19, Error ellipse: s-maj=9.3km s-min=5.7km az=65.0*
ISC 30 18:02:15.5±0.3, 1.06N±0.05×97.29E±0.07, h22km, h22km±1.6km:pP-P, n80, σ0§99/74, mb4.7/48, MS4.8/1, 3C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.38**	**39**	*eP*		**Pn**	**18 03 36.8**	**+0.3**
CM31	**Chiang Mai Arr**	**17.36**	**5**	*eP*		**P**	**18 06 16.6**	**-1.7**
	19nm,0.9s							
QIZ	**Qiongzhong**	**21.69**	**34**	*eP*		**P**	**18 07 06.8**	**-0.2**
KMI	**Kunming**	**24.49**	**12**	P		**P**	**18 07 36.8**	**+2.2**
KMI				AP			18 07 42.8	
KMI				AMB		AMB		
	comp=Z,34nm,1.1s,mb4.7							
HYB	**Hyderabad**	**24.57**	**312**	*iP*		**P**	**18 07 37.0**	**+1.6**
GYA	**Guiyang**	**26.81**	**19**	⇑*iP*		**P**	**18 07 59.5**	**+3.2**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.3							
JIRN	**Jiri**	**28.51**	**339**	*eP*		**P**	**18 08 12.5**	**+0.9**
	comp=Z,61nm,0.8s,mb5.4							
PKI	**Pulchoki**	**28.71**	**338**	*eP*		**P**	**18 08 15.0**	**+1.5**
	comp=Z,100nm,1.4s,mb5.3							
PKI	**Pulchoki**	**28.71**	**338**	*eP*		**P**	**18 08 15.0**	**+1.5**
PKI				pmax		pmax		
	comp=Z,50nm,1.4s,mb5.0							
DMN	**Daman**	**28.86**	**337**	*eP*		**P**	**18 08 15.5**	**+0.6**
	comp=Z,30nm,0.8s,mb5.1							
KKN	**Kakani**	**28.96**	**338**	*eP*		**P**	**18 08 16.8**	**+1.1**
	comp=Z,109nm,1.4s,mb5.4							
KKN	**Kakani**	**28.96**	**338**	*eP*		**P**	**18 08 16.8**	**+1.1**
KKN				pmax		pmax		
	comp=Z,55nm,1.4s,mb5.1							
LSA	**Lhasa**	**29.07**	**349**	P		**P**	**18 08 18.0**	**+1.3**
LSA	**Lhasa**	**29.07**	**349**	*eP*		**P**	**18 08 17.6**	**+0.9**
LSA				pmax		pmax		
	comp=Z,12nm,0.8s,mb4.7							
LSA	**Lhasa**	**29.07**	**349**	*eP*		**P**	**18 08 17.6**	**+0.8**
	comp=Z,12nm,0.8s,mb4.7							
GKN	**Gorkha**	**29.40**	**337**	*eP*		**P**	**18 08 19.7**	**0.0**
	comp=Z,110nm,1.3s,mb5.4							
KOLN	**Koldanda**	**29.62**	**335**	*eP*		**P**	**18 08 21.3**	**-0.4**
	comp=Z,41nm,0.7s,mb5.2							
ENH	**Enshi**	**31.28**	**21**	*eP*		**P**	**18 08 34.4**	**-1.9**
	comp=Z,30nm,0.9s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.78**	**126**	*eP*		**P**	**18 08 57.0**	**-1.2**
	comp=Z,5.1nm,0.7s,mb4.6							
FITZ	**Fitzroy Crossi**	**33.78**	**126**	P		**P**	**18 08 56.8**	**-1.4**
	comp=Z,5.9nm,0.6s,mb4.7,baz=325,slow=5.2,SNR=9.4							
LZH	**Lanzhou**	**35.38**	**9**	*eP*		**P**	**18 09 12.3**	**+0.5**
LZH				AP		pP	18 09 18.0	-0.3
LZH				AMB		AMB		
	comp=Z,28nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,103nm,4.0s							
GTA	**Gaotai**	**38.24**	**3**	*eP*		**P**	**18 09 35.5**	**-0.3**
GTA				AP		pP	18 09 42.3	-0.1
GTA				AMB		AMB		
	comp=Z,13nm,0.8s,mb4.7							
GTA				AMB		AMB		
	comp=Z,261nm,4.2s							
GTA				LR		LR		
	comp=N,851nm,14.8s,MS4.8							
GTA				LR		LR		
	comp=E,860nm,14.1s,MS4.8							
GTA				LR		LR		
	comp=Z,1μm,17.9s,MS4.7							
WRA	**Warramunga Arr**	**41.89**	**122**	P		**P**	**18 10 05.6**	**-0.7**
	comp=Z,3.5nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=13							
WB2	**Warramunga Arr**	**41.90**	**122**	*eP*		**P**	**18 10 06.3**	**0.0**
BJT	**Baijiatuao**	**42.41**	**22**	*eP*		**P**	**18 10 10.2**	**-0.1**
BJT				pmax		pmax		
	comp=Z,18nm,0.7s							
BJT	**Baijiatuao**	**42.41**	**22**	*eP*		**P**	**18 10 10.2**	**-0.1**
	comp=Z,18nm,0.7s,mb4.8							
BJI	**Beijing**	**42.43**	**22**	P		**P**	**18 10 11.0**	**+0.5**
BJI				AMB		AMB		
	comp=Z,19nm,0.7s,mb4.8							
FORT	**Forrest**	**43.11**	**140**	⇑*iP*		**P**	**18 10 18.1**	**+1.9**
	comp=Z,787nm,0.6s							
ASPA	**Alice Springs**	**43.24**	**127**	*eP*		**P**	**18 10 17.4**	**+0.1**
ASAR	**Alice Springs**	**43.24**	**127**	P		**P**	**18 10 17.1**	**-0.1**
	comp=Z,4.3nm,0.8s,mb4.2,baz=300,slow=6.9,SNR=16							
WMQ	**Urumqi**	**43.42**	**350**	*eP*		**P**	**18 10 18.5**	**0.0**
SONM	**Songino Array**	**47.25**	**8**	P		**P**	**18 10 48.9**	**-0.1**
	comp=Z,10nm,0.7s,mb4.9,baz=190,slow=9.1,SNR=23							
SONM				PcP		PcP	18 12 19.0	-1.4
	comp=Z,1.1nm,0.5s,baz=188,slow=3.8,SNR=4.3							
ULN	**Ulaanbaatar**	**47.38**	**9**	*eP*		**P**	**18 10 49.3**	**-0.7**
ULN				pmax		pmax		
	comp=Z,7.0nm,0.8s,mb4.6							
ULN	**Ulaanbaatar**	**47.38**	**9**	*eP*		**P**	**18 10 49.3**	**-0.7**
	comp=Z,7.5nm,0.8s,mb4.7							
MKAR	**Makanchi Array**	**47.40**	**346**	P		**P**	**18 10 50.0**	**-0.2**
	comp=Z,6.8nm,0.7s,mb4.7,baz=159,slow=7.5,SNR=8.5							
ZAK	**Zakamensk**	**49.40**	**5**	*eP*		**P**	**18 10 59.5**	**-6.1**
ZAK				*e*			18 12 34.0	
ZAK				pmax		pmax		
	comp=Z,5.0nm,1.0s,mb4.5							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.1s,mb4.1							
TLY	**Talaya**	**50.72**	**5**	*eP*		**P**	**18 11 15.7**	**0.0**
TLY				pmax		pmax		
	comp=Z,5.0nm,0.7s,mb4.5							
TLY	**Talaya**	**50.72**	**5**	*eP*		**P**	**18 11 15.7**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.5							
KURK	**Kurchatov**	**51.95**	**345**	*eP*		**P**	**18 11 20.8**	**-4.2**
KURK				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.8							
KURK	**Kurchatov**	**51.95**	**345**	*eP*		**P**	**18 11 20.8**	**-4.2**
	comp=Z,12nm,1.0s,mb4.8							
QLP	**Quilpie**	**52.91**	**125**	⇑*iP*		**P**	**18 11 33.1**	**+0.5**
STKA	**Stephens Creek**	**53.20**	**132**	⇓*iP*		**P**	**18 11 35.0**	**+0.4**
	comp=Z,11nm,0.6s,mb5.0							
STKA	**Stephens Creek**	**53.20**	**132**	P		**P**	**18 11 35.0**	**+0.4**
	comp=Z,13nm,0.6s,mb5.0,baz=306,slow=6.9,SNR=28							
ZAL	**Zalesovo**	**53.70**	**351**	P		**P**	**18 11 37.0**	**-1.0**
	comp=Z,3.8nm,0.4s,mb4.7,baz=296,slow=6.6,SNR=5.8							
NVS	**Novosibirsk**	**54.83**	**350**	*eP*		**P**	**18 11 48.2**	**+2.0**
BVAR	**Borovoye Array**	**56.41**	**341**	P		**P**	**18 11 56.3**	**-1.4**
	comp=Z,1.7nm,0.6s,mb4.2,baz=134,slow=8.7,SNR=4.8							
CHKZ	**Chkalovo**	**56.88**	**341**	*eP*		**P**	**18 11 59.8**	**-1.3**
CHKZ				*e**PP		pP	18 12 05.8	-2.1
CHKZ				pmax		pmax		
	comp=Z,84nm,1.1s,mb5.7							
CHKZ	**Chkalovo**	**56.88**	**341**	*eP*		**P**	**18 11 59.8**	**-1.4**
	comp=Z,84nm,1.1s,mb5.7							
CHKZ				*ep*P		pP	18 12 05.8	-2.1
BOD	**Bodaibo**	**58.13**	**10**	*eP*		**P**	**18 12 08.1**	**-1.7**
BOD				pmax		pmax		
	comp=Z,16nm,1.0s,mb5.0							
SVE	**Sverdlovsk**	**62.85**	**338**	*eP*		**P**	**18 12 42.0**	**+0.1**
KIV	**Kislovodsk**	**64.47**	**319**	*diP*		**P**	**18 12 58.6**	**+5.8**
KIV				pmax		pmax		
	comp=Z,18nm,1.1s,mb5.0							
YAK	**Yakutsk**	**65.53**	**16**	*eP*		**P**	**18 13 03.7**	**+4.4**
YAK				pmax		pmax		
	comp=Z,16nm,1.0s,mb5.0							
YAK				pmax		pmax		
	comp=N,6.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.1s							
EIL	**Elat**	**65.60**	**302**	P		**P**	**18 12 59.0**	**-1.4**
	comp=E,6.5nm,1.0s,mb4.6,baz=61,slow=10,SNR=4.1							
EIL	**Elat**	**65.60**	**302**	*eP*		**P**	**18 12 58.6**	**-1.8**
	comp=E,14nm,1.0s,mb5.0							
EIL				*ep*P		pP	18 13 07.2	0.0
BRTR	**Keskin Array B**	**69.27**	**312**	P		**P**	**18 13 21.9**	**-1.4**
	comp=E,1.6nm,0.9s,mb3.9,baz=141,slow=7.9,SNR=3.9							
MAW	**Mawson**	**72.60**	**193**	P		**P**	**18 13 43.4**	**+0.6**
	comp=E,3.8nm,0.6s,mb4.5,baz=68,slow=15,SNR=6.2							
LBTB	**Lobatse**	**73.91**	**244**	P		**P**	**18 13 51.6**	**+0.3**
	comp=E,7.3nm,0.9s,mb4.6,baz=74,slow=4.7,SNR=6.7							
BOSA	**Boshof**	**74.79**	**240**	P		**P**	**18 13 56.0**	**-0.3**
	comp=E,6.0nm,0.9s,mb4.5,baz=103,slow=7.8,SNR=4.8							
IDI	**Anoyia**	**75.05**	**306**	P		**P**	**18 13 57.1**	**-0.6**
	comp=E,6.1nm,1.0s,mb4.5,baz=78,slow=14,SNR=3.4							
AKASG	**Malin Array Be**	**75.42**	**322**	P		**P**	**18 13 58.4**	**-1.2**
	comp=E,1.1nm,0.5s,mb4.0,baz=87,slow=5.6,SNR=6.4							
MLR	**Muntele Rosu**	**76.23**	**317**	P		**P**	**18 14 03.2**	**-0.9**
	comp=E,7.0nm,1.2s,mb4.5,baz=2.3,slow=8.0,SNR=3.4							
SUR	**Sutherland**	**79.16**	**237**	P		**P**	**18 14 20.8**	**+0.1**
	comp=E,13nm,0.9s,mb4.9,baz=98,slow=2.7,SNR=4.8							
FINES	**FINESS Array B**	**80.16**	**333**	P		**P**	**18 14 25.4**	**0.0**
	comp=E,0.8nm,0.7s,mb3.8,baz=68,slow=7.5,SNR=3.0							
ARCES	**ARCESS Array B**	**82.69**	**340**	P		**P**	**18 14 37.6**	**-0.9**
	comp=E,1.6nm,0.6s,mb4.2,baz=79,slow=6.2,SNR=3.8							
GERES	**GERESS Array B**	**84.97**	**319**	P		**P**	**18 14 50.6**	**+0.1**
	comp=E,1.8nm,0.8s,mb4.2,baz=90,slow=4.0,SNR=9.5							
VNDA	**Vanda**	**85.67**	**169**	P		**P**	**18 14 52.8**	**-0.6**
	comp=E,2.8nm,1.1s,mb4.4,baz=286,slow=4.2,SNR=6.1							
HFS	**Hagfors**	**85.88**	**330**	P		**P**	**18 14 56.5**	**+1.8**
	comp=E,2.6nm,0.9s,mb4.5,baz=124,slow=5.2,SNR=3.8							
NB2	**NORSAR Subarra**	**87.17**	**331**	P		**P**	**18 15 01.0**	**0.0**
	comp=E,4.8nm,0.9s,mb4.7,baz=94,slow=4.8							
NB2	**NORSAR Subarra**	**87.17**	**331**	P		**P**	**18 15 01.0**	**0.0**
NB2				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.7							
NOA	**NORSAR Array B**	**87.17**	**331**	P		**P**	**18 15 01.7**	**+0.7**
	comp=Z,1.2nm,0.8s,mb4.2,baz=97,slow=5.1,SNR=5.1							
DAVOX	**Davos**	**87.45**	**317**	P		**P**	**18 15 03.4**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.6,baz=45,slow=8.6,SNR=3.0							
NVL	**N'lazarevskaya**	**89.49**	**199**	⇓*iP*		**P**	**18 15 12.0**	**+0.1**
NVL				pmax		pmax		
	comp=Z,20nm,0.7s,mb5.6							
IMA	**Indian Mountai**	**96.67**	**23**	P		**P**	**18 15 46.3**	**+1.3**
IMA				*e**PP		pP	18 15 53.0	+0.9
IMA				pmax		pmax		
	comp=Z,11nm,0.8s,mb5.3							
IMA	**Indian Mountai**	**96.67**	**23**	P		**P**	**18 15 46.3**	**+1.2**
	comp=Z,11nm,0.8s,mb5.3							
IMA				*ep*P		pP	18 15 53.0	+0.9
YKA	**Yellowknife Ar**	**112.20**	**15**	PP		PP	18 21 34.4	-4.1
	comp=Z,0.3nm,0.7s,baz=330,slow=7.1,SNR=5.6							
PDAR	**Pinedale Array**	**130.13**	**26**	PKP		PKPdf	18 21 25.8	-2.9
	comp=Z,0.3nm,0.6s,baz=243,slow=4.0,SNR=2.4							
TXAR	**Lajitas Array**	**143.74**	**32**	PKP		PKPdf	18 21 49.8	-4.2
	comp=Z,0.7nm,0.7s,baz=45,slow=1.8,SNR=4.3							
CFAA	**Coronel Fontan**	**146.68**	**203**	PKPbc		PKPbc	18 21 57.0	+1.0
	comp=Z,1.1nm,0.7s,baz=152,slow=3.8,SNR=9.2							
LPAZ	**La Paz**	**159.13**	**223**	PKP		PKPdf	18 22 15.3	-1.8
	comp=Z,0.5nm,0.4s,baz=32,slow=7.0,SNR=3.6							
LPAZ	**La Paz**	**159.13**	**223**	PKP		PKPdf	18 22 15.3	-1.8

IDC 30 18:13:36.4±2.6, 0.45N×98.80E, mb3.7/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=118.7km s-min=22.8km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**40.29**	**122**	P		P	18 21 15.7	-1.5
	3.3nm,1.2s,baz=303,slow=9.0,SNR=5.5							
SONM	**Songino Array**	**47.65**	**7**	P		P	18 22 15.2	-1.1
	0.2nm,0.3s,baz=193,slow=8.5,SNR=7.5							
MKAR	**Makanchi Array**	**48.36**	**345**	P		P	18 22 18.9	-3.0
	0.5nm,0.5s,baz=157,slow=8.7,SNR=14							
STKA	**Stephens Creek**	**51.68**	**133**	P		P	18 22 44.9	-2.6
	1.3nm,0.6s,baz=317,slow=9.0,SNR=3.9							
BVAR	**Borovoye Array**	**57.48**	**340**	P		P	18 23 27.7	-1.9
	0.4nm,0.5s,baz=153,slow=3.3,SNR=3.9							

*BJI **30** 18:16:42.8, 0.66N×97.33E, h29km, mB5.2, mb4.8, Ms4.8, Msz4.5*
*IDC **30** 18:16:44.0±0.7, 1.15N×97.11E, mb4.4/19, mb1 4.5/19, mb1mx4.4/24, mbtmp4.4/19, Error ellipse: s-maj=28.2km s-min=13.1km az=45.0*
*NEIC **30** 18:16:48.3±4.4, 1.15N×97.13E, h29km±29km, mb4.6/16, Error ellipse: s-maj=14.3km s-min=6.2km az=53.0*
ISC 30 18:16:46.9±2.0, 1.14N±0.06×97.19E±0.06, h30km±14km, h21km±.5km:pP-P, n68, σ0§87/70, mb4.5/41, MS4.6/4, 1C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**5.13**	**48**	P		**Pn**	**18 18 04.1**	**+0.3**
KULM	**Kulim**	**5.38**	**40**	*eP*		**Pn**	**18 18 07.3**	**+0.1**
KGM	**Kluang**	**6.18**	**82**	P		**Pn**	**18 18 19.7**	**+1.0**
CM31	**Chiang Mai Arr**	**17.30**	**6**	*eP*		**P**	**18 20 46.3**	**-1.8**
	6.6nm,0.6s							
KKM	**Kota Kinabalu**	**19.59**	**75**	*eP*		**P**	**18 21 15.4**	**-0.5**
KKM	**Kota Kinabalu**	**19.59**	**75**	P		**P**	**18 21 15.8**	**0.0**
TSM	**Tawau**	**20.89**	**81**	P		**P**	**18 21 29.1**	**-0.3**
QIZ	**Qiongzhong**	**21.68**	**34**	*eP*		**P**	**18 21 37.3**	**0.0**
KMI	**Kunming**	**24.44**	**12**	P		**P**	**18 22 06.5**	**+2.0**
KMI				AP			18 22 12.5	
KMI				AMB		AMB		
	comp=Z,42nm,1.2s,mb4.7							
GYA	**Guiyang**	**26.77**	**19**	⇑*iP*		**P**	**18 22 25.8**	**-0.5**
GYA				AMB		AMB		
	comp=Z,20nm,0.9s,mb4.7							
LSA	**Lhasa**	**28.98**	**349**	P		**P**	**18 22 48.0**	**+1.8**
LSA	**Lhasa**	**28.98**	**349**	*eP*		**P**	**18 22 47.0**	**+0.7**
	comp=Z,6.8nm,0.6s,mb4.5							
ENH	**Enshi**	**31.24**	**21**	*eP*		**P**	**18 23 04.6**	**-1.7**
	comp=Z,18nm,0.6s,mb5.1							
FITZ	**Fitzroy Crossi**	**33.90**	**126**	*eP*		**P**	**18 23 28.7**	**-0.9**
	comp=Z,5.8nm,0.6s,mb4.7							
FITZ	**Fitzroy Crossi**	**33.90**	**126**	P		**P**	**18 23 28.8**	**-0.8**
	comp=Z,7.4nm,0.7s,mb4.7,baz=234,slow=2.2,SNR=11							
XAN	**Xi'an**	**34.52**	**17**	P		**P**	**18 23 33.5**	**-1.3**
XAN				AP		pP	18 23 40.3	-3.4
XAN				AMB		AMB		
	comp=Z,14nm,0.9s,mb4.9							
LZH	**Lanzhou**	**35.31**	**9**	*eP*		**P**	**18 23 41.5**	**-0.1**
LZH				AP		pP	18 23 48.0	-2.5
LZH				XP		sP	18 23 51.3	-3.0
LZH				AMB		AMB		
	comp=Z,26nm,1.2s,mb5.0							
LZH				AMB		AMB		
	comp=Z,100nm,4.0s							
LZH				LR		LR		
	comp=E,775nm,17.3s							
LZH				LR		LR		
	comp=Z,1μm,18.5s,MS4.6							
NJ2	**Nanjing**	**36.92**	**31**	*eP*		**P**	**18 23 55.5**	**+0.4**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
GTA	**Gaotai**	**38.16**	**3**	*eP*		**P**	**18 24 05.5**	**0.0**
GTA				AP		pP	18 24 12.3	-2.2
GTA				XP		sP	18 24 15.0	-3.2
GTA				AMB		AMB		
	comp=Z,19nm,0.7s,mb4.9							
JOW	**Kunigami**	**39.29**	**47**	P		**P**	**18 24 15.7**	**+0.7**
	comp=Z,15nm,0.6s,mb4.9,baz=250,slow=11,SNR=6.7							
HHC	**Hu-ho-hao-te**	**41.62**	**16**	*eP*		**P**	**18 24 34.3**	**+0.2**
HHC				PP		PP	18 26 13.5	+0.2
HHC				S		**S**	**18 30 47.5**	**-0.7**
HHC				SS		SS	18 33 49.3	+0.5
HHC				AMB		AMB		
	comp=Z,8.0nm,0.6s,mb4.5							
HHC				LR		LR		
	comp=N,527nm,19.6s,MS4.7							
HHC				LR		LR		
	comp=E,691nm,14.9s,MS4.7							
HHC				LR		LR		
	comp=Z,650nm,18.4s,MS4.5							
WRA	**Warramunga Arr**	**42.01**	**122**	P		**P**	**18 24 37.7**	**+0.1**
	comp=Z,4.6nm,0.6s,mb4.3,baz=301,slow=9.1,SNR=43							
WB2	**Warramunga Arr**	**42.02**	**122**	⇓*iP*		**P**	**18 24 37.8**	**+0.1**
BJT	**Baijiatuao**	**42.38**	**22**	*eP*		**P**	**18 24 41.0**	**+0.7**
	comp=Z,13nm,0.6s,mb4.8							
BJI	**Beijing**	**42.40**	**22**	P		**P**	**18 24 41.0**	**+0.5**
BJI				AMB		AMB		
	comp=Z,19nm,0.9s,mb4.7							
WMQ	**Urumqi**	**43.33**	**350**	⇓*iP*		**P**	**18 24 49.0**	**+1.0**
WMQ				AP		pP	18 24 55.0	-2.0
WMQ				XP		sP	18 24 58.0	-2.8
WMQ				PP		PP	18 26 32.0	+1.2
WMQ				S		**S**	**18 31 15.0**	**+1.7**
WMQ				AMB		AMB		
	comp=Z,15nm,1.2s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,312nm,10.2s							
WMQ				LR		LR		
	comp=N,415nm,15.2s,MS4.7							
WMQ				LR		LR		
	comp=E,610nm,18.6s,MS4.7							
WMQ				LR		LR		
	comp=Z,581nm,17.9s,MS4.5							
ASPA	**Alice Springs**	**43.36**	**127**	*eP*		**P**	**18 24 48.9**	**+0.3**
ASAR	**Alice Springs**	**43.37**	**127**	P		**P**	**18 24 49.0**	**+0.4**
	comp=Z,2.1nm,0.4s,mb4.2,baz=304,slow=7.5,SNR=16							
ULHL	**Ulahol**	**45.05**	**338**	P		**P**	**18 25 02.6**	**+0.7**
	SNR=7.7							
UCH	**Uchtor**	**45.70**	**336**	P		**P**	**18 25 08.4**	**+1.3**
	SNR=17							
TKM2	**Tokmak 2**	**45.87**	**338**	P		**P**	**18 25 09.1**	**+0.7**
	SNR=9.8							
KS15	**Wonju Array Si**	**45.87**	**34**	*eP*		**P**	**18 25 08.6**	**+0.1**
KS15				*ep*P		pP	18 25 14.8	-2.7
KBK	**Karagaybulak**	**45.89**	**337**	P		**P**	**18 25 10.3**	**+1.7**
	SNR=8.2							
AML	**Almayashu**	**45.95**	**336**	P		**P**	**18 25 10.4**	**+1.3**
	SNR=11							
AAK	**Ala-Archa**	**46.05**	**337**	*eP*		**P**	**18 25 10.1**	**+0.2**
	comp=Z,3.6nm,1.0s,mb4.3							
EKS2	**Erkin-Say**	**46.36**	**336**	P		**P**	**18 25 13.5**	**+1.2**
	SNR=13							
USP	**Ospenovka**	**46.58**	**337**	P		**P**	**18 25 14.6**	**+0.5**
	SNR=15							
SONM	**Songino Array**	**47.19**	**8**	P		**P**	**18 25 19.0**	**+0.2**
	comp=Z,3.3nm,0.5s,mb4.6,baz=190,slow=9.7,SNR=39							
SONM				PcP		PcP	18 26 50.5	+0.1
	comp=Z,1.5nm,0.5s,baz=191,slow=4.2,SNR=9.1							
MKAR	**Makanchi Array**	**47.30**	**346**	P		**P**	**18 25 19.7**	**0.0**
	comp=Z,5.1nm,0.5s,mb4.7,baz=160,slow=9.1,SNR=81							
MKAR	**Makanchi Array**	**47.30**	**346**	P		**P**	**18 25 19.7**	**0.0**
ULN	**Ulaanbaatar**	**47.32**	**9**	*eP*		**P**	**18 25 19.4**	**-0.5**
	comp=Z,4.2nm,0.8s,mb4.4							
CN2	**Changchun**	**49.36**	**27**	*eP*		**P**	**18 25 34.5**	**-1.2**
CN2				*eS*		**S**	**18 32 40.0**	**+0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.9							
CN2	

BJI ***30*** *18:22:33.8,2.10N×96.30E,h30km,mb4.8*
ISC 30 18:22:32.0±0.7,2.14N±0.10×96.4E±0.1,h30km,n28,
σ0983/28,mb4.4/22,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KULM	**Kulim**	**5.31**	**54**	*eP*		**Pn**	**18 23 51.8**	**+0.4**
KKM	**Kota Kinabalu**	**20.19**	**78**	*eP*		**P**	**18 27 07.3**	**+0.1**
JIRN	**Jiri**	**27.17**	**340**	*eP*		**P**	**18 28 15.8**	**+0.8**
	15nm,0.7s,mb4.6							
PKI	**Pulchoki**	**27.37**	**339**	*eP*		**P**	**18 28 16.8**	**0.0**
DMN	**Daman**	**27.52**	**338**	*eP*		**P**	**18 28 18.6**	**+0.5**
	6.5nm,0.7s,mb4.4							
KKN	**Kakani**	**27.61**	**338**	*eP*		**P**	**18 28 19.6**	**+0.6**
	11nm,1.0s,mb4.5							
LSA	**Lhasa**	**27.85**	**350**	*eP*		**P**	**18 28 21.3**	**+0.1**
	6.6nm,1.0s,mb4.2							
GKN	**Gorkha**	**28.05**	**338**	*eP*		**P**	**18 28 23.9**	**+1.0**
	16nm,0.7s,mb4.8							
KOLN	**Koldanda**	**28.25**	**336**	*eP*		**P**	**18 28 26.0**	**+1.2**
	7.3nm,0.6s,mb4.5							
ENH	**Enshi**	**30.63**	**23**	*eP*		**P**	**18 28 44.1**	**-1.9**
	5.9nm,0.7s,mb4.5							
XAN	**Xi'an**	**33.84**	**19**	P		**P**	**18 29 12.8**	**-1.2**
XAN				AMB		AMB		
	comp=Z,23nm,0.8s,mb5.2							
FITZ	**Fitzroy Crossi**	**35.17**	**126**	P		**P**	**18 29 25.0**	**-0.6**
	comp=Z,4.9nm,0.7s,mb4.5,baz=194,slow=7.2,SNR=6.9							
GTA	**Gaotai**	**37.23**	**4**	*eP*		**P**	**18 29 43.3**	**+0.6**
GTA				AP		pP	18 29 49.5	-2.2
GTA				AMB		AMB		
	comp=Z,7.0nm,0.9s,mb4.5							
BJT	**Baijiatuau**	**41.78**	**23**	*eP*		**P**	**18 30 21.6**	**+1.1**
	comp=Z,8.4nm,0.6s,mb4.5							
BJI	**Beijing**	**41.80**	**23**	P		**P**	**18 30 21.5**	**+0.8**
BJI				AMB		AMB		
	comp=Z,19nm,0.9s,mb4.7							
WRA	**Warramunga Arr**	**43.25**	**122**	P		**P**	**18 30 32.9**	**+0.1**
	comp=Z,1.4nm,0.7s,mb3.8,baz=300,slow=9.4,SNR=6.0							
ASAR	**Alice Springs**	**44.64**	**127**	P		**P**	**18 30 45.1**	**+1.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=288,slow=6.0,SNR=5.1							
MKAR	**Makanchi Array**	**46.13**	**347**	P		**P**	**18 30 55.4**	**-0.1**
	comp=Z,6.1nm,0.9s,mb4.5,baz=159,slow=9.0,SNR=37							
MKAR	**Makanchi Array**	**46.13**	**347**	P		**P**	**18 30 55.4**	**-0.1**
SONM	**Songino Array**	**46.34**	**9**	P		**P**	**18 30 57.1**	**0.0**
	comp=Z,1.6nm,0.5s,mb4.2,baz=189,slow=8.9,SNR=17							
SONM				PcP		PcP	18 32 32.6	+0.2
	comp=Z,0.6nm,0.6s,baz=189,slow=3.5,SNR=3.8							
KURK	**Kurchatov**	**50.67**	**346**	*eP*		**P**	**18 31 29.9**	**-0.8**
ZAL	**Zalesovo**	**52.49**	**351**	P		**P**	**18 31 43.7**	**-0.8**
	comp=Z,4.9nm,0.4s,mb4.8,baz=291,slow=4.2,SNR=21							
STKA	**Stephens Creek**	**54.61**	**132**	P		**P**	**18 32 00.1**	**-0.3**
	comp=Z,2.4nm,0.7s,mb4.3,baz=338,slow=16,SNR=5.2							
BVAR	**Borovoye Array**	**55.09**	**341**	P		**P**	**18 32 02.0**	**-1.6**
	comp=Z,1.0nm,0.7s,mb4.0,baz=146,slow=11,SNR=7.5							
CHKZ	**Chkalovo**	**55.57**	**342**	*eP*		**P**	**18 32 05.7**	**-1.3**
	comp=Z,1.9nm,0.7s,mb4.2							
FINES	**FINESS Array B**	**78.78**	**333**	P		**P**	**18 34 32.7**	**-0.6**
	comp=Z,0.8nm,0.7s,mb3.7,baz=79,slow=9.7,SNR=3.9							
FINES	**FINESS Array B**	**78.78**	**333**	P		**P**	**18 34 32.7**	**-0.6**
ARCES	**ARCESS Array B**	**81.37**	**340**	P		**P**	**18 34 47.5**	**+0.6**
	comp=Z,1.9nm,0.8s,mb4.1,baz=63,slow=5.4,SNR=4.2							

MOS ***30*** *18:26:13.3±1.1,1.78N×97.11E,h33km,mb5.0/16,Error ellipse: s-maj=25.4km s-min=8.1km az=111.0*
IDC ***30*** *18:26:13.0±0.8,2.07N×96.60E,mb4.6/18,mb1 4.7/18, mb1mx4.5/23,mbtmp4.6/18,Error ellipse: s-maj=31.4km s-min=12.3km az=48.0*
BJI ***30*** *18:26:15.8, 1.89N×96.77E,h41km,mB5.3,mb5.0,Ms4.8, Msz4.6*
NEIC ***30*** *18:26:17.9±0.3,2.10N×96.68E,h30km,mb4.8/24,Error ellipse: s-maj=7.2km s-min=4.8km az=213.0*
ISC 30 18:26:15.8±0.3,2.09N±0.05×96.70E±0.04,h29km,
h29km±1.2km:pP-P,n121,σ1§03/129,mb4.8/58,MS4.6/7,
9C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**4.98**	**60**	P		**Pn**	**18 27 31.7**	**+1.1**
KULM	**Kulim**	**5.07**	**51**	*eP*		**Pn**	**18 27 32.8**	**+0.9**
SNG	**Songkhla**	**6.39**	**38**	P		**Pn**	**18 27 50.0**	**-0.6**
	380nm,0.9s							
KGM	**Kluang**	**6.61**	**90**	P		**Pn**	**18 27 54.9**	**+1.2**
KSM	**Kuching**	**13.61**	**92**	*eP*		**P**	**18 29 31.1**	**+1.4**
KKTK	**Khon Kaen**	**15.39**	**23**	P		**P**	**18 29 54.0**	**+1.1**
CM31	**Chiang Mai Arr**	**16.42**	**8**	*eP*		**P**	**18 30 04.9**	**-1.2**
	41nm,0.8s							
PALK	**Pallekele**	**16.75**	**288**	P		**P**	**18 30 11.9**	**+1.6**
NANT	**Nan**	**17.07**	**13**	⇑P		**P**	**18 30 12.0**	**-2.2**
	206nm,0.9s							
CHRT	**Chiangrai**	**17.93**	**9**	⇑P		**P**	**18 30 25.0**	**0.0**
	184nm,0.7s							
KKM	**Kota Kinabalu**	**19.85**	**78**	*eP*		**P**	**18 30 46.8**	**-1.0**
KKM	**Kota Kinabalu**	**19.85**	**78**	P		**P**	**18 30 48.1**	**+0.3**
QIZ	**Qiongzhong**	**21.19**	**37**	*eP*		**P**	**18 31 01.5**	**0.0**
TSM	**Tawau**	**21.25**	**84**	P		**P**	**18 31 02.1**	**0.0**
HYB	**Hyderabad**	**23.45**	**312**	*eP*		**P**	**18 31 28.0**	**+4.0**
HYB	**Hyderabad**	**23.45**	**312**	*i* P		**P**	**18 31 28.0**	**+4.0**
KMI	**Kunming**	**23.63**	**14**	P		**P**	**18 31 27.5**	**+1.8**
KMI				AP			18 31 37.3	
KMI				AMB		AMB		
	comp=Z,28nm,1.1s,mb4.6							
GYA	**Guiyang**	**26.06**	**21**	⇑*i*P		**P**	**18 31 48.5**	**-0.3**
GYA				AP		pP	18 31 59.0	+1.8
GYA				XP		sP	18 32 06.3	+5.2
GYA				PP		PP	18 32 29.3	-1.1
GYA				S		**S**	**18 36 13.3**	**-2.4**
GYA				AMB		AMB		
	comp=Z,30nm,0.7s,mb4.9							
GYA				AMB		AMB		
	comp=Z,230nm,4.2s							
GYA				LR		LR		
	comp=N,880nm,11.1s,MS4.7							
GYA				LR		LR		
	comp=E,990nm,15.0s,MS4.7							
GYA				LR		LR		
	comp=Z,740nm,13.5s,MS4.4							
JIRN	**Jiri**	**27.35**	**339**	*eP*		**P**	**18 32 01.3**	**+0.7**
	comp=Z,93nm,0.8s,mb5.4							
PKI	**Pulchoki**	**27.55**	**338**	*eP*		**P**	**18 32 03.4**	**+1.0**
	comp=Z,16nm,0.7s,mb4.8							
PKI	**Pulchoki**	**27.55**	**338**	*eP*		**P**	**18 32 03.4**	**+1.0**
PKI				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.5							
DMN	**Daman**	**27.70**	**337**	*eP*		**P**	**18 32 04.9**	**+1.1**
	comp=Z,23nm,0.7s,mb4.9							
KKN	**Kakani**	**27.80**	**338**	*eP*		**P**	**18 32 04.9**	**+0.2**
	comp=Z,59nm,0.9s,mb5.2							
KKN	**Kakani**	**27.80**	**338**	*eP*		**P**	**18 32 04.9**	**+0.2**
KKN				pmax		pmax		
	comp=Z,30nm,0.9s,mb4.9							
LSA	**Lhasa**	**27.97**	**350**	P		**P**	**18 32 07.0**	**+0.8**
LSA	**Lhasa**	**27.97**	**350**	*eP*		**P**	**18 32 06.3**	**+0.1**
LSA				pmax		pmax		
	comp=Z,27nm,0.8s,mb4.9							
LSA	**Lhasa**	**27.97**	**350**	*eP*		**P**	**18 32 06.3**	**+0.1**
	comp=Z,28nm,0.8s,mb4.9							
GKN	**Gorkha**	**28.23**	**337**	*eP*		**P**	**18 32 08.9**	**+0.3**
	comp=Z,40nm,0.8s,mb5.1							
KOLN	**Koldanda**	**28.45**	**335**	*eP*		**P**	**18 32 11.0**	**+0.5**
	comp=Z,62nm,0.7s,mb5.3							
CD2	**Chengdu**	**29.44**	**12**	*eP*		**P**	**18 32 18.5**	**-0.9**
ENH	**Enshi**	**30.54**	**22**	*eP*		**P**	**18 32 27.1**	**-2.2**
	comp=Z,11nm,0.8s,mb4.7							
XAN	**Xi'an**	**33.78**	**18**	P		**P**	**18 32 55.8**	**-1.7**
XAN				AMB		AMB		
	comp=Z,26nm,0.8s,mb5.2							
LZH	**Lanzhou**	**34.47**	**10**	⇑P		**P**	**18 33 02.5**	**-0.9**
LZH				AP		pP	18 33 10.5	-1.6
LZH				XP		sP	18 33 14.5	-1.3
LZH				PP		PP	18 34 19.0	-0.7
LZH				AMB		AMB		
	comp=Z,41nm,1.1s,mb5.3							
LZH				AMB		AMB		
	comp=Z,203nm,4.0s							
LZH				LR		LR		
	comp=E,975nm,17.3s							
LZH				LR		LR		
	comp=Z,1μm,18.5s,MS4.7							
FITZ	**Fitzroy Crossi**	**34.85**	**126**	⇓*i*P		**P**	**18 33 06.0**	**-0.8**
	comp=Z,12nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**34.85**	**126**	P		**P**	**18 33 06.0**	**-0.8**
	comp=Z,18nm,0.8s,mb5.1,baz=309,slow=2.4,SNR=13							
NJ2	**Nanjing**	**36.38**	**33**	*eP*		**P**	**18 33 21.3**	**+1.6**
NJ2				AP		pP	18 33 30.0	+1.6
NJ2				XP		sP	18 33 34.3	+2.3
NJ2				PP		PP	18 34 41.5	-2.0
NJ2				S		**S**	**18 39 00.0**	**+1.5**
NJ2				XS			18 39 16.0	
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.3							
NJ2				AMB		AMB		
	comp=Z,250nm,5.3s							
NJ2				LR		LR		
	comp=N,1μm,19.0s,MS4.8							
NJ2				LR		LR		
	comp=E,1μm,14.3s,MS4.8							
NJ2				LR		LR		
	comp=Z,900nm,18.0s,MS4.6							
SSE	**Sheshan**	**36.99**	**36**	P		**P**	**18 33 25.5**	**+0.7**
SSE				AMB		AMB		
	comp=Z,23nm,0.8s,mb5.1							
SSE				AMB		AMB		
	comp=Z,422nm,11.2s							
GTA	**Gaotai**	**37.26**	**4**	*eP*		**P**	**18 33 27.3**	**+0.3**
GTA				AP		pP	18 33 35.5	-0.1
GTA				XP		sP	18 33 39.5	+0.2
GTA				PP		PP	18 34 55.0	+0.4
GTA				PPP		PPP	18 35 15.0	-0.1
GTA				S		**S**	**18 39 11.5**	**-0.3**
GTA				SS		SS	18 41 41.5	-2.2
GTA				AMB		AMB		
	comp=Z,46nm,0.8s,mb5.4							
GTA				AMB		AMB		
	comp=Z,259nm,5.3s							
GTA				LR		LR		
	comp=N,404nm,14.4s,MS4.5							
GTA				LR		LR		
	comp=E,397nm,16.4s,MS4.5							
GTA				LR		LR		
	comp=Z,650nm,15.6s,MS4.5							
JOW	**Kunigami**	**39.01**	**48**	P		**P**	**18 33 42.5**	**+0.6**
	comp=Z,17nm,0.6s,mb4.9,baz=193,slow=4.2,SNR=4.5							
HHC	**Hu-ho-hao-te**	**40.86**	**17**	*eP*		**P**	**18 33 57.8**	**+0.9**
HHC				AP		pP	18 34 06.0	+0.4
HHC				XP		sP	18 34 10.5	+1.2
HHC				PP		PP	18 35 36.3	+2.1
HHC				S		**S**	**18 40 10.3**	**+4.2**
HHC				XS			18 40 24.0	
HHC				SS		SS	18 43 08.8	+5.5
HHC				AMB		AMB		
	comp=Z,21nm,0.6s,mb4.9							
HHC				AMB		AMB		
	comp=Z,615nm,5.9s							
HHC				LR		LR		
	comp=N,526nm,20.2s,MS4.6							
HHC				LR		LR		
	comp=E,591nm,20.2s,MS4.6							
HHC				LR		LR		
	comp=Z,713nm,18.4s,MS4.6							
BJT	**Baijiatuau**	**41.69**	**23**	*eP*		**P**	**18 34 04.5**	**+0.7**
BJT				pmax		pmax		
	comp=Z,18nm,0.9s							
BJT	**Baijiatuau**	**41.69**	**23**	*eP*		**P**	**18 34 04.5**	**+0.7**
	comp=Z,18nm,0.9s,mb4.7							
BJI	**Beijing**	**41.71**	**23**	P		**P**	**18 34 04.5**	**+0.5**
BJI				AMB		AMB		
	comp=Z,24nm,0.8s,mb4.9							
WMQ	**Urumqi**	**42.32**	**350**	P		**P**	**18 34 10.3**	**+1.4**
WMQ				AP		pP	18 34 20.0	+2.4
WMQ				XP		sP	18 34 24.0	+2.7
WMQ				PP		PP	18 35 51.5	+1.7
WMQ				*e*S		**S**	**18 40 29.0**	**+1.3**
WMQ				XS			18 40 45.0	
WMQ				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.5							
WMQ				AMB		AMB		
	comp=Z,141nm,5.2s							
WMQ				LR		LR		
	comp=N,822nm,21.6s,MS4.8							
WMQ				LR		LR		
	comp=E,856nm,19.3s,MS4.8							
WMQ				LR		LR		
	comp=Z,725nm,21.0s,MS4.5							
WRA	**Warramunga Arr**	**42.92**	**122**	P		**P**	**18 34 14.0**	**-0.1**
	comp=Z,13nm,0.7s,mb4.8,baz=300,slow=9.3,SNR=63							
WRAB	**Tennant Creek**	**42.93**	**122**	P		**P**	**18 34 14.0**	**-0.2**
	comp=Z,132nm,0.6s,mb5.8,SNR=10							
WB2	**Warramunga Arr**	**42.94**	**122**	⇓*i*P		**P**	**18 34 14.3**	**+0.1**
ULHL	**Ulahol**	**43.99**	**338**	P		**P**	**18 34 23.7**	**+1.2**
	SNR=10							
ASPA	**Alice Springs**	**44.32**	**127**	⇓*i*P		**P**	**18 34 25.8**	**+0.4**
ASAR	**Alice Springs**	**44.32**	**127**	P		**P**	**18 34 25.7**	**+0.2**
	comp=Z,14nm,1.1s,mb4.6,baz=298,slow=7.5,SNR=37							
ASAR				PcP		PcP	18 36 09.8	0.0
	comp=Z,1.2nm,0.7s,baz=307,slow=3.3,SNR=4.5							
UCH	**Uchtor**	**44.65**	**336**	P		**P**	**18 34 29.1**	**+1.3**
	SNR=23							
TKM2	**Tokmak 2**	**44.82**	**338**	P		**P**	**18 34 30.1**	**+0.9**
	SNR=12							
KBK	**Karagaybulak**	**44.84**	**337**	P		**P**	**18 34 30.8**	**+1.5**
	SNR=16							
AML	**Almayashu**	**44.90**	**336**	P		**P**	**18 34 31.2**	**+1.4**
	SNR=17							
AAK	**Ala-Archa**	**44.99**	**337**	P		**P**	**18 34 32.2**	**+1.6**
	SNR=7.1							
AAK	**Ala-Archa**	**44.99**	**337**	⇑*i*P		**P**	**18 34 31.1**	**+0.5**
AAK				pmax		pmax		
	comp=Z,12nm,1.3s,mb4.6							
AAK	**Ala-Archa**	**44.99**	**337**	*eP*		**P**	**18 34 30.1**	**-0.5**
	comp=Z,6.2nm,0.9s,mb4.4							
FRU	**Bishkek**	**45.12**	**337**	*eP*		**P**	**18 34 33.0**	**+1.5**
EKS2	**Erkin-Say**	**45.30**	**336**	P		**P**	**18 34 34.3**	**+1.2**
	SNR=19							
KS15	**Wonju Array Si**	**45.38**	**35**	*eP*		**P**	**18 34 33.5**	**-0.2**
USP	**Ospenovka**	**45.53**	**337**	P		**P**	**18 34 35.6**	**+0.8**
	SNR=28							
MKAR	**Makanchi Array**	**46.27**	**346**	*i* P		**P**	**18 34 39.7**	**-0.9**
MKAR				pmax		pmax		
	comp=Z,10.0nm,0.6s							
MKAR	**Makanchi Array**	**46.27**	**346**	P		**P**	**18 34 40.7**	**+0.1**
	comp=Z,25nm,0.7s,mb5.2,baz=161,slow=8.0,SNR=166							
MKAR	**Makanchi Array**	**46.27**	**346**	P		**P**	**18 34 40.7**	**+0.1**
SONM	**Songino Array**	**46.34**	**9**	P		**P**	**18 34 41.8**	**+0.6**
	comp=Z,13nm,0.8s,mb4.9,baz=190,slow=9.1,SNR=87							
ULN	**Ulaanbaatar**	**46.47**	**10**	*eP*		**P**	**18 34 42.5**	**+0.3**
ULN				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
ULN	**Ulaanbaatar**	**46.47**	**10**	*eP*		**P**	**18 34 42.5**	**+0.3**
	comp=Z,8.9nm,0.9s,mb4.7							
ZAK	**Zakamensk**	**48.45**	**6**	⇑*i*P		**P**	**18 34 57.5**	**-0.1**
ZAK				*e*			18 36 47.4	
ZAK				pmax		pmax		
	comp=Z,3.0nm,2.2s,mb3.9							
ZAK				pmax		pmax		
	comp=Z,1.0nm,1.7s,mb3.6							
CN2	**Changchun**	**48.75**	**28**	*eP*		**P**	**18 34 59.5**	**-0.6**
CN2				*e*AP		pP	18 35 07.0	-1.9
CN2				*e*S		**S**	**18 41 59.5**	**-0.4**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb5.0							
CN2				LR		LR		
	comp=N,500nm,13.0s,MS4.9							
CN2				LR		LR		
	comp=E,600nm,13.0s,MS4.9							
CN2				LR		LR		
	comp=Z,800nm,17.0s,MS4.8							
TLY	**Talaya**	**49.77**	**6**	⇑*i*P		**P**	**18 35 08.1**	**+0.3**
TLY				pmax		pmax		
	comp=Z,9.0nm,1.7s,mb4.5							
IRK	**Irkutsk**	**50.38**	**6**	*eP*		**P**	**18 35 13.6**	**+1.1**
IRK				pmax		pmax		
	comp=Z,24nm,2.9s,mb4.7							
KURK	**Kurchatov**	**50.81**	**345**	*c iP*		**P**	**18 35 15.0**	**-0.8**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
KURK	**Kurchatov**	**50.81**	**345**	*eP*		**P**	**18 35 15.3**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8							
HIA	**Hailar**	**50.97**	**19**	*eP*		**P**	**18 35 16.5**	**-0.5**
HIA				pmax		pmax		
	comp=Z,17nm,0.9s							
HIA	**Hailar**	**50.97**	**19**	*eP*		**P**	**18 35 16.5**	**-0.5**
	comp=Z,17nm,0.9s,mb5.0							
MDJ	**Mudanjiang**	**51.35**	**30**	P		**P**	**18 35 20.0**	**+0.1**
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,166nm,7.8s							
MDJ	**Mudanjiang**	**51.35**	**30**	*eP*		**P**	**18 35 20.2**	**+0.3**
	comp=Z,11nm,0.8s,mb4.8							
MJAR	**Matsushiro Arr**	**51.38**	**43**	P		**P**	**18 35 19.4**	**-0.9**
	comp=Z,4.6nm,0.9s,mb4.4,baz=213,slow=7.3,SNR=8.6							
MJAR				PcP		PcP	18 36 34.5	-0.3
	comp=Z,1.0nm,0.5s,baz=260,slow=6.3,SNR=4.3							
PMG	**Port Moresby**	**51.54**	**104**	P		**P**	**18 35 21.2**	**-0.6**
	comp=Z,20nm,0.7s,mb5.2,baz=306,slow=4.1,SNR=8.4							
ZAL	**Zalesovo**	**52.60**	**351**	P		**P**	**18 35 28.7**	**-0.6**
	comp=Z,7nm,0.6s,mb5.2,baz=310,slow=5.6,SNR=68							
CTA	**Charters Tower**	**53.34**	**117**	*eP*		**P**	**18 35 44.5**	**+9.3**
	comp=Z,10nm,0.9s,mb4.8							
CTA	**Charters Tower**	**53.34**	**117**	P		**P**	**18 35 36.8**	**+1.6**
	comp=Z,5.5nm,0.9s,mb4.5,baz=300,slow=16,SNR=3.8							
NVS	**Novosibirsk**	**53.73**	**350**	⇑*i*P		**P**	**18 35 36.0**	**-1.5**
NVS				*e*S		**S**	**18 43 06.3**	**-1.8**
NVS				pmax		pmax		
	comp=N,12nm,0.9s							
NVS				pmax		pmax		
	comp=Z,19nm,0.9s,mb5.0							
NVS				pmax		pmax		
	comp=E,9.0nm,1.0s							
NVS				smax				
	comp=N,4.0nm,1.4s							
NVS				smax				
	comp=E,16nm,2.0s							
STKA	**Stephens Creek**	**54.31**	**132**	*eP*		**P**	**18 35 42.3**	**+0.1**
	comp=E,3.0nm,0.9s,mb4.2							
STKA				*i*		pP	18 35 51.3	+0.2
STKA	**Stephens Creek**	**54.31**	**132**	P		**P**	**18 35 42.3**	**+0.2**
	comp=E,1.4nm,0.7s,mb4.0,baz=314,slow=7.0,SNR=6.4							
BVA0	**Borovoye Array**	**55.26**	**341**	P		**P**	**18 35 47.4**	**-1.4**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.9s,mb3.9							
BVAR	**Borovoye Array**	**55.26**	**341**	P		**P**	**18 35 47.6**	**-1.1**
	comp=Z,8.4nm,0.8s,mb4.8,baz=135,slow=8.4,SNR=48							
KLR	**Kul'dur**	**55.69**	**27**	*eP*		**P**	**18 35 48.8**	**-3.2**
CHKZ	**Chkalovo**	**55.73**	**342**	*eP*		**P**	**18 35 51.3**	**-0.9**
BOD	**Bodaibo**	**57.24**	**11**	*eP*		**P**	**18 36 01.4**	**-1.5**
BOD				pmax		pmax		
	comp=Z,8.0nm,1.1s,mb4.7							
KMBO	**Kilima Mbogo**	**59.52**	**267**	P		**P**	**18 36 18.0**	**-1.4**
KMBO				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KMBO	**Kilima Mbogo**	**59.52**	**267**	P		**P**	**18 36 17.9**	**-1.5**
	comp=Z,2.5nm,0.9s,mb4.2							
YSS	**Yuzh-Sakhalins**	**59.91**	**35**	*i* P		**P**	**18 36 19.3**	**-2.3**
GNI	**Garni**	**60.31**	**316**	*eP*		**P**	**18 36 26.0**	**+1.5**
GNI				pmax		pmax		
	comp=Z,11nm,1.2s							
GNI	**Garni**	**60.31**	**316**	*eP*		**P**	**18 36 24.2**	**-0.3**
	comp=Z,7.6nm,1.6s,mb4.5							
SVE	**Sverdlovsk**	**61.69**	**338**	*eP*		**P**	**18 36 32.0**	**-1.6**
ARU	**Arti**	**62.18**	**337**	⇓*i*P		**P**	**18 36 35.8**	**-1.1**
ARU				*e*			18 37 15.3	
ARU				*e*S		**S**	**18 45 00.6**	**+1.9**
ARU				*e*SS		SS	18 49 02.3	-1.3
ARU				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.2							
ARU	**Arti**	**62.18**	**337**	P		**P**	**18 36 36.0**	**-0.9**
	comp=Z,17nm,0.8s,mb5.2							
KIV	**Kislovodsk**	**63.32**	**319**	⇓*e*P		**P**	**18 36 44.0**	**-0.6**
KIV				*e*S		**S**	**18 45 24.8**	**+12**
KIV				pmax		pmax		
	comp=Z,17nm,1.1s,mb5.1							
KIV	**Kislovodsk**	**63.32**	**319**	*eP*		**P**	**18 36 44.3**	**-0.3**
	comp=Z,15nm,1.0s,mb5.1							
GOF	**Gofitskoye**	**63.57**	**320**	*eP*		**P**	**18 36 44.4**	**-1.8**
MALT	**Malatya**	**64.17**	**312**	P		**P**	**18 36 50.5**	**+0.2**
YAK	**Yakutsk**	**64.72**	**16**	*eP*		**P**	**18 36 52.1**	**-1.3**
YAK				pmax		pmax		
	comp=Z,56nm,0.9s,mb5.6							
YAK	**Yakutsk**	**64.72**	**16**	*eP*		**P**	**18 36 52.1**	**-1.4**
	comp=Z,56nm,0.9s,mb5.6							
MBAR	**Mbarara**	**66.00**	**268**	P		**P**	**18 37 01.7**	**-0.8**
BRTR	**Keskin Array B**	**68.15**	**312**	P		**P**	**18 37 14.8**	**-0.9**
	comp=Z,1.0nm,0.6s,mb4.0,baz=140,slow=9.6,SNR=5.0							
MA2	**Magadan**	**70.76**	**26**	*eP*		**P**	**18 37 29.8**	**-1.5**
MA2				pmax		pmax		
	comp=Z,8.0nm,0.9s,mb4.7							
OBN	**Obninsk**	**71.61**	**328**	⇓*i*P		**P**	**18 37 36.0**	**-0.5**
OBN				*e*			18 37 42.8	
OBN				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.8							
LBTB	**Lobatse**	**73.83**	**243**	P		**P**	**18 37 51.3**	**+1.1**
AKASG	**Malin Array Be**	**74.26**	**322**	P		**P**	**18 37 50.9**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.0,baz=88,slow=5.3,SNR=9.7							
FINES	**FINESS Array B**	**78.99**	**332**	P		**P**	**18 38 18.4**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.3,baz=90,slow=7.6,SNR=12							
KAF	**Kangasniemi**	**79.07**	**333**	*ep*		**P**	**18 38 17.5**	**-1.4**
	comp=Z,3.0nm,0.7s,mb4.3							
KAF	**Kangasniemi**	**79.07**	**333**	*eP*		**P**	**18 38 17.5**	**-1.4**
KAF				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
MORC	**Morovsky Berou**	**81.41**	**320**	P

SNVI				*e*S		**S**	**18 40 56.7**	**-1.0**
BLLM	**Bellamira**	**0.54**	**52**‖	*e*P		**P**	**18 40 47.0**	**-0.4**
LCBS	**La Ceiba**	**0.62**	**332**‖	*i*P		**P**	**18 40 47.6**	**-0.6**
LFRS	**El Faro**	**0.64**	**324**‖	*i*P		**P**	**18 40 47.7**	**-0.7**
LBRS	**Las Brisas**	**0.72**	**330**‖	*e*P		**P**	**18 40 49.5**	**+0.2**
LBRS				*e*S		**S**	**18 41 00.1**	**-1.2**
LFU	**La Fuente**	**0.77**	**326**⁇	*e*P		**P**	**18 40 49.8**	**0.0**
SNET	**Serv Nac Est T**	**0.79**	**317**‖	*e*P		**P**	**18 40 49.6**	**-0.5**
SNET				*e*S		**S**	**18 41 01.5**	**-1.1**
SNET				*i*			18 41 05.3	
	comp=Z,29µm,0.7s							
CAHU	**Cacuatique**	**0.80**	**34**‖	*e*P		**P**	**18 40 50.7**	**+0.5**
CNCH	**Conchagua**	**0.83**	**78**‖	*e*P		**P**	**18 40 50.3**	**-0.2**
BOQS	**Boqueron**	**0.86**	**317**⁇	*e*P		**P**	**18 40 50.7**	**-0.1**
BOQS				*e*S		**S**	**18 41 03.8**	**-0.2**
SBLS	**San Blas**	**1.18**	**308**⁇	*e*P		**P**	**18 40 54.6**	**0.0**
SBLS				*e*S		**S**	**18 41 10.8**	**+0.1**
SNJE	**San Jose**	**1.18**	**310**‖	*e*P		**P**	**18 40 54.7**	**0.0**
RTR	**El Retiro**	**1.23**	**310**⁇	*e*P		**P**	**18 40 55.5**	**+0.2**
RBDL	**Robledal**	**1.41**	**316**⁇	*e*P		**P**	**18 40 57.7**	**-0.1**
MTO2	**Montecristo 2**	**1.45**	**333**‖	*i*P		**P**	**18 40 59.0**	**+0.6**
MTO2				*e*S		**S**	**18 41 19.1**	**+2.2**
CRIN	**San Cristobal**	**1.63**	**104**‖	*e*P		**P**	**18 41 01.7**	**+1.0**
TEL3	**Telica 3**	**1.86**	**106**‖	*e*P		**P**	**18 41 03.9**	**+0.1**
TELN	**Telica**	**1.86**	**105**⁇	*e*P		**P**	**18 41 03.9**	**+0.1**
LEON	**Leon**	**1.87**	**111**⁇	*e*P		**P**	**18 41 03.2**	**-0.6**
CNGN	**Cerro Negro**	**2.02**	**107**‖	*e*P		**P**	**18 41 05.8**	**-0.1**
MIRN	**Miramar**	**2.02**	**109**⁇	*e*P		**P**	**18 41 05.9**	**-0.1**
MOMJ	**Momotombo**	**2.19**	**108**‖	*e*P		**P**	**18 41 08.1**	**-0.3**
APYN	**Apoyeque**	**2.43**	**111**⁇	*e*P		**P**	**18 41 11.7**	**+0.1**
XAVN	**Gruta Xavier**	**2.48**	**112**⁇	*e*P		**P**	**18 41 12.4**	**0.0**
MGAN	**Managua**	**2.55**	**112**	*e*P		**P**	**18 41 12.3**	**-1.1**
MGAN				*e*P			18 41 13.2	
MGAN				*e*S		**S**	**18 41 41.3**	**-2.1**
MGAN				*e*S		**S**	**18 41 42.1**	**-1.3**
MGAN				*i*			18 41 45.5	
	comp=E,3µm,0.4s							
WILN	**Americas 2**	**2.60**	**111**	*e*P		**P**	**18 41 14.3**	**+0.2**
WILN				*e*S		**S**	**18 41 43.6**	**-1.0**
TICN	**Ticuantepe**	**2.61**	**114**⁇	*e*P		**P**	**18 41 14.9**	**+0.7**
PYTN	**Playitas**	**2.61**	**102**‖	*e*P		**P**	**18 41 13.8**	**-0.4**
APON	**Apoyo**	**2.81**	**115**⁇	*e*P		**P**	**18 41 17.3**	**+0.3**
CONN	**Concepcion**	**3.35**	**117**	*e*P		**P**	**18 41 23.7**	**-0.8**
JTS	**JuntasAbangare**	**4.59**	**127**	Pn		**P**	**18 41 41.9**	**+0.1**
	comp=E,4µm,0.5s,SNR=25							
JTS	**JuntasAbangare**	**4.59**	**127**	*e*P		**P**	**18 41 39.4**	**-2.3**
CGA2	**Cerro Gallo 2**	**5.14**	**126**	*e*P		**P**	**18 41 50.7**	**+1.4**
CGA2	**Cerro Gallo 2**	**5.14**	**126**	*e*P		**P**	**18 41 51.7**	**+2.4**
CGA2				*e*S		**S**	**18 42 47.7**	**-0.2**
VPS2	**Volcan Poas 2**	**5.22**	**123**	*e*P		**P**	**18 41 52.5**	**+2.1**
PRS1	**Puriscal**	**5.28**	**126**	*e*P		**P**	**18 41 51.9**	**+0.7**
TRTC	**Tortuguero**	**5.47**	**117**⁇	*e*P		**P**	**18 41 53.0**	**-0.8**
LAJ	**Bijagual**	**5.50**	**125**	*e*P		**P**	**18 41 53.6**	**-0.6**
SJS	**Escuela Geolog**	**5.51**	**124**	*e*P		**P**	**18 41 56.4**	**+2.0**
SJS				*e*S		**S**	**18 42 55.8**	**-1.3**
SJS	**Escuela Geolog**	**5.51**	**124**	*e*P		**P**	**18 41 56.0**	**+1.7**
SJS				*e*S		**S**	**18 42 59.1**	**+2.0**
LCR2	**La Lucha 2**	**5.67**	**126**	*e*P		**P**	**18 41 57.3**	**+0.8**
LCR2	**La Lucha 2**	**5.67**	**126**	*e*P		**P**	**18 41 57.6**	**+1.2**
ICR	**Volcan Irazu**	**5.67**	**123**	*e*P		**P**	**18 41 58.6**	**+2.1**
ICR	**Volcan Irazu**	**5.67**	**123**	*e*P		**P**	**18 41 58.7**	**+2.2**
QCR	**Quepos**	**5.74**	**129**	*e*P		**P**	**18 41 59.1**	**+1.6**
URSC	**Urasca**	**5.79**	**124**	*e*P		**P**	**18 41 59.1**	**+0.9**
URSC				*e*S		**S**	**18 43 00.5**	**-3.6**
URSC	**Urasca**	**5.79**	**124**	*e*P		**P**	**18 41 59.2**	**+1.0**
URSC				*e*S		**S**	**18 43 05.0**	**+1.0**
BUS	**Buena Vista**	**5.97**	**126**	*e*P		**P**	**18 42 02.2**	**+1.5**
BUS				*e*S		**S**	**18 43 05.9**	**-2.6**
BUS	**Buena Vista**	**5.97**	**126**‖	*e*P		**P**	**18 42 02.4**	**+1.7**
BUS				*e*S		**S**	**18 43 10.6**	**+2.2**
ACR	**Cerro Adams**	**6.99**	**129**	*e*P		**P**	**18 42 15.3**	**+0.5**
ACR	**Cerro Adams**	**6.99**	**129**	*e*P		**P**	**18 42 15.6**	**+0.8**
ACR				*e*S		**S**	**18 43 33.3**	**-0.1**
TEIG	**Tepich**	**7.09**	**3**	*e*P		**P**	**18 42 17.6**	**+1.3**
	comp=E,119nm,0.8s							
SDV	**Santo Domingo**	**18.20**	**101**	P		**P**	**18 44 40.4**	**-1.6**
	comp=E,1.4nm,0.3s,baz=319,slow=12,SNR=19							
SDV				pP			18 44 53.6	
	comp=E,1.5nm,0.3s,baz=298,slow=11,SNR=8.3							
SDV	**Santo Domingo**	**18.20**	**101**	*e*P		**P**	**18 44 40.3**	**-1.8**
	comp=E,22nm,0.8s							
NATX	**Nacogdoches**	**19.36**	**344**	P		**P**	**18 44 57.0**	**+2.0**
NATX				*e*			18 45 06.6	
LRAL	**Lakeview Retre**	**19.90**	**4**	*e*P		**P**	**18 44 59.9**	**-0.9**
	comp=E,6.6nm,0.7s							
GOGA	**Godfrey**	**20.76**	**12**	*e*P		**P**	**18 45 11.2**	**+1.5**
	comp=E,13nm,0.6s							
TXAR	**Lajitas Array**	**21.32**	**322**	P		**P**	**18 45 16.0**	**+0.7**
	comp=E,3.7nm,0.6s,mb3.9,baz=145,slow=10,SNR=28							
TXAR				pP			18 45 31.0	
	comp=E,2.4nm,0.6s,baz=142,slow=10.0,SNR=6.7							
TXAR	**Lajitas Array**	**21.32**	**322**	P		**P**	**18 45 16.0**	**+0.7**
TXAR				pP			18 45 31.0	
MIAR	**Mount Ida**	**21.80**	**349**	*e*P		**P**	**18 45 21.4**	**+1.3**
	comp=E,11nm,0.9s,mb4.2							
JSC	**Jenkinsville**	**22.13**	**16**	*e*P		**P**	**18 45 25.1**	**+1.8**
CPCT	**Cooper Cave**	**22.56**	**9**	*e*P		**P**	**18 45 24.1**	**-3.4**
WVT	**Waverly**	**22.94**	**2**	*e*P		**P**	**18 45 32.8**	**+1.6**
	comp=E,20nm,1.3s,mb4.3							
WVT				*e*			18 45 51.7	
WMOK	**Wichita Mounta**	**23.40**	**339**	*e*P		**P**	**18 45 37.0**	**+1.3**
	comp=E,5.2nm,0.7s,mb4.0							
PCRV	**Puerto La Cruz**	**23.72**	**94**	P		**P**	**18 45 39.1**	**+0.2**
	comp=E,8.0nm,0.5s,mb4.3,baz=181,slow=7.7,SNR=5.2							
PCRV				pP			18 45 55.7	
	comp=E,14nm,0.8s,baz=211,slow=12,SNR=3.0							
AMTX	**Amarillo**	**24.67**	**334**	*e*P		**P**	**18 45 49.7**	**+1.7**
	comp=E,11nm,0.6s,mb4.5							
CCM	**Cathedral Cave**	**24.95**	**355**	*e*P		**P**	**18 45 50.7**	**0.0**
	comp=E,8.9nm,0.7s,mb4.3							
CCM				*e*pP			18 46 05.7	
SADO	**Sadowa**	**32.59**	**13**	P		**P**	**18 46 57.6**	**-1.5**
	comp=E,8.3nm,0.6s,mb4.8,baz=216,slow=9.8,SNR=6.9							
SAML	**Samuel**	**33.48**	**130**	*e*P		**P**	**18 47 04.4**	**-2.7**
	comp=E,5.1nm,0.6s,mb4.5							
SAML				*e*pP		pP	18 47 21.2	-4.9
TCUT	**Toone Canyon**	**34.26**	**329**	*e*P		**P**	**18 47 14.8**	**+1.2**
PDAR	**Pinedale Array**	**34.64**	**332**	P		**P**	**18 47 16.7**	**-0.1**
	comp=E,1.7nm,0.6s,mb4.0,baz=126,slow=10,SNR=19							
PDAR				PcP		PcP	18 49 47.7	-2.0
	comp=E,0.5nm,0.6s,baz=145,slow=5.5,SNR=4.2							
AHID	**Auburn Hatcher**	**35.35**	**331**	*e*P		**P**	**18 47 22.9**	**0.0**
	comp=E,5.6nm,0.6s,mb4.6							
LPAZ	**La Paz**	**35.57**	**145**	P		**P**	**18 47 25.0**	**0.0**
	comp=E,1.3nm,0.5s,mb4.1,baz=312,slow=6.8,SNR=4.2							
LPAZ	**La Paz**	**35.57**	**145**	*e*P		**P**	**18 47 21.7**	**-3.2**
REDW	**Red Top Meadow**	**35.69**	**332**	*e*P		**P**	**18 47 26.3**	**+0.6**
	comp=E,17nm,0.6s,mb5.2							
SNOW	**Snow King Moun**	**35.73**	**332**	*e*P		**P**	**18 47 26.9**	**+0.8**
	comp=E,17nm,0.6s,mb5.2							
SNOW				*e*pP		pP	18 47 43.4	-1.7
LOHW	**Long Hollow**	**35.78**	**332**	*e*P		**P**	**18 47 26.9**	**+0.4**
	comp=E,9.1nm,0.8s,mb4.8							
TPAW	**Teton Pass**	**35.84**	**332**	*e*P		**P**	**18 47 28.4**	**+1.4**
	comp=E,9.2nm,0.6s,mb4.9							
RRI2	**Red Ridge**	**35.90**	**331**	*e*P		**P**	**18 47 28.2**	**+0.7**
	comp=E,9.5nm,0.7s,mb4.8							
MOOW	**Moose Ponds**	**35.95**	**332**	*e*P		**P**	**18 47 28.6**	**+0.7**
	comp=E,6.2nm,0.7s,mb4.7							
ULM	**Lac du Bonnet**	**37.51**	**352**	P		**P**	**18 47 39.5**	**-1.4**
	comp=E,6.6nm,0.7s,mb4.6,baz=166,slow=9.7,SNR=14							
ULM	**Lac du Bonnet**	**37.51**	**352**	*e*P		**P**	**18 47 39.4**	**-1.4**
	comp=E,7.1nm,0.7s,mb4.6							
WCN	**Washoe City**	**37.86**	**319**	P		**P**	**18 47 43.6**	**-0.4**
	comp=E,36nm,0.8s,mb5.2							
WCN				*e*			18 47 50.6	
SIV	**San Ignacio**	**39.76**	**136**	P		**P**	**18 47 59.0**	**-1.0**
	comp=E,3.7nm,0.6s,mb4.4,baz=314,slow=9.4,SNR=18							
SIV				pP		pP	18 48 16.8	-2.5
	comp=E,13nm,0.7s,baz=317,slow=9.1,SNR=17							
SIV				PcP		PcP	18 50 04.6	-0.9
	comp=E,1.5nm,0.5s,baz=288,slow=4.4,SNR=5.1							
EDM	**Edmonton**	**44.57**	**339**	*e*P		**P**	**18 48 38.3**	**-0.6**
SCHQ	**Schefferville**	**45.01**	**18**	P		**P**	**18 48 39.1**	**-3.2**
	comp=E,5.0nm,0.7s,mb4.3,baz=203,slow=5.6,SNR=11							
SCHQ				PcP		PcP	18 50 21.1	-1.5
	comp=E,1.4nm,0.5s,baz=270,slow=3.0,SNR=3.8							
FCC	**Fort Churchill**	**45.75**	**356**	*e*P		**P**	**18 48 46.7**	**-1.5**
	comp=E,8.3nm,0.6s,mb4.6							
BDFB	**Brasilia**	**49.33**	**124**	P		**P**	**18 49 14.4**	**-2.2**
	comp=E,4.5nm,0.7s,mb4.5,baz=294,slow=7.6,SNR=7.0							
YKA	**Yellowknife Ar**	**52.67**	**345**	P		**P**	**18 49 39.8**	**-1.6**
	comp=E,4.7nm,0.5s,mb4.8,baz=138,slow=7.9,SNR=162							
YKA				PcP		PcP	18 50 48.3	-1.9
	comp=E,0.5nm,0.6s,baz=144,slow=3.8,SNR=3.9							
YKA	**Yellowknife Ar**	**52.67**	**345**	P		**P**	**18 49 39.8**	**-1.6**
YKA				PcP		PcP	18 50 48.3	-1.9
YKW3	**Yellowknife Ar**	**52.73**	**345**	*e*P		**P**	**18 49 40.1**	**-1.7**
PLCA	**Paso Flores**	**56.14**	**163**	P		**P**	**18 50 05.7**	**-1.2**
	comp=E,1.7nm,0.8s,mb4.1,baz=359,slow=5.0,SNR=4.0							
PLCA	**Paso Flores**	**56.14**	**163**	*e*P		**P**	**18 50 05.6**	**-1.3**
	comp=E,2.5nm,1.0s,mb4.2							
RES	**Resolute Bay**	**61.67**	**358**	*e*P		**P**	**18 50 42.4**	**-2.3**
	comp=E,3.7nm,0.6s,mb4.6							
INK	**Inuvik**	**62.23**	**343**	*e*P		**P**	**18 50 46.7**	**-1.8**
	comp=E,12nm,0.9s,mb4.9							
TNA	**Tin City**	**73.71**	**335**	*e*P		**P**	**18 51 58.6**	**-1.3**
	comp=E,2.1nm,0.9s,mb3.9							
BOSA	**Boshof**	**117.05**	**116**	PKP	PKPdf		18 59 10.3	+0.8
	comp=E,1.8nm,0.7s,baz=154,slow=17,SNR=6.1							
BOSA	**Boshof**	**117.05**	**116**	PKP	PKPdf		18 59 10.3	+0.8
BJI	**Beijing**	**122.30**	**338**	PKP	PKPdf		18 59 24.0	+4.6
WMQ	**Urumqi**	**123.25**	**3**	ePKP	PKPdf		18 59 18.0	-3.1
NJ2	**Nanjing**	**127.93**	**330**	ePKP	PKPdf		18 59 34.5	+4.0
LZH	**Lanzhou**	**129.67**	**347**	ePKP	PKPdf		18 59 34.3	+0.6
LZH				XPKP			19 00 02.0	
ENH	**Enshi**	**133.46**	**338**	*e*P	PKPdf		18 59 41.8	+0.8
WRA	**Warramunga Arr**	**138.30**	**255**	PKP	PKPdf		18 59 52.1	+1.9
	comp=E,1.8nm,0.5s,baz=87,slow=2.2,SNR=23							
WRA				pPKP			19 00 11.2	
	comp=E,1.9nm,0.7s,baz=87,slow=2.7,SNR=6.6							
ASAR	**Alice Springs**	**138.39**	**249**	PKP	PKPdf		18 59 52.8	+2.5
	comp=E,1.3nm,0.7s,baz=91,slow=1.6,SNR=13							
ASAR				pPKP			19 00 11.1	
	comp=E,1.5nm,0.7s,baz=75,slow=2.2,SNR=5.7							
FITZ	**Fitzroy Crossi**	**146.61**	**257**	PKPbc	PKPbc		19 00 08.5	+2.2
	comp=E,8.0nm,0.6s,baz=187,slow=1.7,SNR=22							
FITZ				pPKPbc			19 00 27.1	
	comp=E,10.0nm,0.7s,baz=156,slow=3.3,SNR=5.2							

IDC 30 18:41:59.0±3.2,1.23N×97.08E,mb3.5/4,mb1 3.6/4, mb1mx3.4/19,mbtmp3.5/4,Error ellipse: s-maj=125.2km s-min=29.1km az=54.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.16**	**122**	P	P	18 49 53.5	-1.7
	0.4nm,0.6s,baz=299,slow=9.4,SNR=4.7						
SONM	**Songino Array**	**47.12**	**9**	P	P	18 50 33.0	-1.7
	0.7nm,0.7s,baz=190,slow=8.8,SNR=8.0						
MKAR	**Makanchi Array**	**47.18**	**346**	P	P	18 50 33.6	-1.6
	0.7nm,0.8s,baz=161,slow=8.2,SNR=8.4						
BVAR	**Borovoye Array**	**56.18**	**341**	P	P	18 51 40.0	-2.9
	0.2nm,0.4s,baz=153,slow=6.4,SNR=2.9						

IDC 30 18:50:33.3±1.9,1.97S×119.88E,mb3.4/3,mb1 3.6/3, mb1mx3.4/16,mbtmp3.4/3,Error ellipse: s-maj=376.7km s-min=27.7km az=58.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.78**	**143**	P	P	18 55 37.2	-1.7
	0.8nm,0.8s,baz=319,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**25.49**	**149**	P	P	18 56 04.0	-1.1
	0.6nm,0.9s,baz=324,slow=7.8,SNR=4.1						
MKAR	**Makanchi Array**	**58.71**	**331**	P	P	19 00 32.8	-2.4
	0.6nm,0.6s,baz=146,slow=8.7,SNR=3.9						

*IDC **30** 18:51:11.3±1.7,2.12N×96.91E,mb4.0/9,mb1 4.2/9, mb1mx3.9/20,mbtmp4.0/9,Error ellipse: s-maj=85.2km s-min=16.5km az=54.0*
ISC 30 18:51:14.8±1.1,2.2N±0.2×97.1E±0.2,h33km,n14, σ0§93/14,mb4.0/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUSP	**Coron**	**24.88**	**66**	*e*P	**P**	**18 56 42.2**	**+6.0**
LUBP	**Lubang**	**25.59**	**62**	*e*P	**P**	**18 56 44.0**	**+1.1**
IPIL	**Ipil**	**25.96**	**77**	*e*P	**P**	**18 56 43.3**	**-3.2**
DAV	**Davao City (W)**	**28.79**	**79**	*e*P	**P**	**18 57 06.0**	**-6.1**
BBP	**Basco**	**30.28**	**51**	*e*P	**P**	**18 57 18.1**	**-7.2**
FITZ	**Fitzroy Crossi**	**34.62**	**127**	P	**P**	**18 58 02.0**	**-1.2**
	5.3nm,1.0s,mb4.4,baz=301,slow=5.9,SNR=3.4						
WRA	**Warramunga Arr**	**42.67**	**123**	P	**P**	**18 59 11.3**	**+0.8**
	0.7nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=12						
ASAR	**Alice Springs**	**44.10**	**128**	P	**P**	**18 59 22.7**	**+0.7**
	0.9nm,0.7s,mb3.6,baz=301,slow=8.0,SNR=11						
SONM	**Songino Array**	**46.14**	**9**	P	**P**	**18 59 38.1**	**+0.1**
	0.7nm,0.3s,mb4.0,baz=184,slow=8.4,SNR=9.6						
MKAR	**Makanchi Array**	**46.23**	**346**	P	**P**	**18 59 39.0**	**+0.3**
	2.7nm,0.8s,mb4.2,baz=163,slow=7.8,SNR=24						
ZAL	**Zalesovo**	**52.53**	**351**	P	**P**	**19 00 27.1**	**+0.2**
	1.8nm,0.4s,mb4.3,baz=311,slow=5.7,SNR=6.9						
BVAR	**Borovoye Array**	**55.26**	**341**	P	**P**	**19 00 46.2**	**-0.9**
	0.9nm,0.7s,mb3.9,baz=170,slow=8.8,SNR=6.2						
FINES	**FINESS Array B**	**79.05**	**332**	P	**P**	**19 03 16.9**	**-0.2**
	0.7nm,0.5s,mb3.8,baz=72,slow=6.0,SNR=6.6						
ARCES	**ARCESS Array B**	**81.54**	**340**	P	**P**	**19 03 30.7**	**+0.5**
	4.9nm,1.0s,mb4.4,baz=108,slow=3.8,SNR=5.1						

KRSC 30 18:53:04.7±1.7,55.53N×166.39E,h24km±4km,ML3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.41**	**216**	*i* P	Pb	18 53 12.9	-0.4
BKI				*i* S	Sb	18 53 19.4	+0.3
BKI				Smax			
	2µm,0.4s						
KBTR	**Krutoberegovo**	**2.12**	**290**	*e*P	Pn	18 53 39.0	-0.4
KBTR				*e*S	Sn	18 54 03.8	-1.5
KBG	**Krutoberegovo**	**2.20**	**291**	*e*P	Pn	18 53 40.6	+0.1
KBG				*e*S	Sn	18 54 06.9	-0.3
KBG				Smax			
	110nm,0.8s						
MKZ	**Mys Kozlova**	**2.85**	**252**	*e*P	Pn	18 53 49.6	-0.2
MKZ				*e*S	Sn	18 54 21.9	-1.9
KMNR	**Kamenistaya**	**3.50**	**276**	*e*P	Pn	18 54 00.3	+1.4
TUMR	**Tumrok**	**3.57**	**269**	*e*P	Pn	18 54 01.3	+1.3
TUMR				*e*S	Sn	18 54 40.6	-1.3
SRDR	**Sredinnyy**	**3.84**	**285**	*e*P	Pn	18 54 04.9	+1.1
SPN	**Mys Shipunski**	**4.45**	**239**	*e*P	Pn	18 54 11.2	-1.4
SPN				*e*S	Sn	18 55 00.7	-3.6
NLC	**Nalytchevo**	**4.75**	**243**	*e*S	Sn	18 55 10.1	-1.7
SMAR	**Somma**	**4.98**	**246**	*e*P	Pn	18 54 20.5	+0.5
UGLR	**Uglovaya**	**5.00**	**245**	*e*P	Pn	18 54 20.3	0.0
AVH	**Avacha**	**5.01**	**246**	*e*P	Pn	18 54 20.5	0.0
AVH				*e*S	Sn	18 55 14.0	-4.4
KOK	**Koryaka**	**5.05**	**247**	*e*P	Pn	18 54 21.2	+0.2
PET	**Petropavlovsk**	**5.18**	**244**	*e*P	Pn	18 54 22.6	-0.3
GNL	**Ganaly**	**5.24**	**253**	*e*P	Pn	18 54 24.2	+0.5
RUS	**Russkaya**	**5.59**	**240**	*e*P	Pn	18 54 27.3	-1.3
GRL	**Gorelyy**	**5.74**	**242**	*e*P	Pn	18 54 30.0	-0.7
KAMR	**Kamenskoye**	**6.95**	**359**	*e*P	Pn	18 54 46.7	-1.1
KAMR				*e*S	Sn	18 56 03.5	-3.3

*IDC **30** 18:52:46.9±3.3,35.11N×70.86E,mb3.7/4,mb1 3.9/6, mb1mx3.6/22,mbtmp3.7/6,ML3.5/2,Error ellipse: s-maj=69.4km s-min=52.8km az=153.0*
ISC 30 18:53:20.5±1.6,36.89N±0.08×71.5E±0.2,h200km,n20, σ0§83/20,mb3.3/3,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.51**	**17**	P	**P**	**18 54 42.8**	**+0.6**
	SNR=110						
UCH	**Uchtor**	**5.83**	**23**	P	**P**	**18 54 46.8**	**+0.5**
	SNR=52						
KZA	**Kyzart**	**5.95**	**28**	P	**P**	**18 54 47.4**	**-0.4**
	SNR=81						
EKS2	**Erkin-Say**	**6.03**	**16**	P	**P**	**18 54 49.5**	**+0.6**
	SNR=27						
KBK	**Karagaybulak**	**6.35**	**24**	P	**P**	**18 54 53.8**	**+0.8**
	SNR=18						
ULHL	**Ulahol**	**6.49**	**33**	P	**P**	**18 54 54.1**	**-0.7**
	SNR=39						
CHMS	**Chumysh**	**6.60**	**21**	P	**P**	**18 54 56.8**	**+0.5**
	SNR=5.6						
USP	**Ospenovka**	**6.78**	**19**	P	**P**	**18 54 59.3**	**+0.7**
	SNR=6.1						
TKM2	**Tokmak 2**	**6.81**	**26**	P	**P**	**18 54 59.0**	**0.0**
	SNR=8.4						
MKAR	**Makanchi Array**	**12.75**	**36**	Pn	**P**	**18 56 13.7**	**-2.0**
	0.1nm,0.3s,baz=223,slow=14,SNR=12						
GKN	**Gorkha**	**14.19**	**125**	*e*P	**P**	**18 56 34.5**	**+0.8**
	22nm,0.6s						
KKN	**Kakani**	**14.76**	**124**	*e*P	**P**	**18 56 41.1**	**+0.3**
DMN	**Daman**	**14.77**	**125**	*e*P	**P**	**18 56 40.8**	**0.0**
	4.9nm,0.4s						
PKI	**Pulchoki**	**14.99**	**124**	*e*P	**P**	**18 56 44.3**	**+0.7**
JIRN	**Jiri**	**15.46**	**122**	*e*P	**P**	**18 56 48.9**	**-0.5**
	11nm,0.4s						
BVAR	**Borovoye Array**	**16.16**	**358**	P	**P**	**18 56 58.0**	**+0.3**
	0.3nm,0.3s,baz=160,slow=11,SNR=10						
ZAL	**Zalesovo**	**19.39**	**24**	P	**P**	**18 57 33.7**	**+0.9**
	1.4nm,0.4s,baz=262,slow=3.6,SNR=6.4						
SONM	**Songino Array**	**27.80**	**56**	P	**P**	**18 58 51.1**	**-1.7**
	0.4nm,0.5s,mb3.4,baz=263,slow=9.6,SNR=5.1						
INK	**Inuvik**	**73.46**	**9**	P	**P**	**19 04 30.4**	**-1.6**
	0.7nm,0.6s,mb3.5,baz=325,slow=3.3,SNR=5.6						
YKA	**Yellowknife Ar**	**80.84**	**3**	P	**P**	**19 05 12.4**	**-0.3**
	0.3nm,0.5s,mb3.2,baz=346,slow=5.3,SNR=8.4						

*IDC **30** 18:55:16.7±0.5,12.15N×125.07E,mb4.3/19,mb1 4.4/20, mb1mx4.3/25,mbtmp4.3/20,ML4.3/1,Error ellipse: s-maj=28.4km s-min=12.3km az=74.0*
*MAN **30** 18:55:18.1,12.51N×125.80E,h21km,mb5.3,ML4.3, MS4.5*
*MOS **30** 18:55:19.8±0.8,12.16N×125.36E,h33km,mb4.8/13,Error ellipse: s-maj=22.2km s-min=8.8km az=116.9*
*BJI **30** 18:55:19.9,12.27N×125.48E,h29km,mB5.0,mb4.5, Ms4.6,Msz4.4*
*NEIC **30** 18:55:21.3±4.4,12.20N×125.34E,h30km±31km,mb4.7/16, Error ellipse: s-maj=14.7km s-min=7.4km az=72.0*
ISC 30 18:55:18.8±0.3,12.46N±0.02×125.80E±0.04,h27km, h27km±1.6km:pP-P,n111,σ1§19/122,mb4.5/47,MS4.6/5, 2C-2D,Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.93**	**203**	*e*P	**Pn**	**18 55 36.1**	**0.0**
BESP				*e*S	**Sb**	**18 55 50.9**	**+2.9**
CNP	**Catarman**	**1.11**	**273**	*e*P	**Pn**	**18 55 37.7**	**-1.0**
PLP	**Palo**	**1.52**	**212**	*e*P	**Pn**	**18 55 43.6**	**-0.9**
PLP				*i* S	**Sn**	**18 56 05.0**	**+1.4**
PVCP	**Virac**	**1.96**	**305**	*e*P	**Pn**	**18 55 50.1**	**-0.7**
PVCP				*e*S	**Sn**	**18 56 25.6**	**+11**
MMPH	**Masbate**	**2.13**	**267**‖	*i*P	**Pn**	**18 55 54.0**	**+0.7**
MMPH				*i* S	**Sn**	**18 56 19.5**	**+0.4**
MSLP	**Maasin**	**2.49**	**202**	*e*P	**Pn**	**18 55 59.4**	**+0.9**
SCPH	**Surigao**	**2.68**	**187**	*e*P	**Pn**	**18 56 00.2**	**-0.9**
SCPH				*e*S	**Sn**	**18 56 26.0**	**-7.1**
LLP	**Lapu-Lapu**	**2.79**	**220**⁇	*e*P	**Pn**	**18 56 01.9**	**-0.8**
LLP				*e*S	**Sn**	**18 56 37.4**	**+1.6**
RCP	**Roxas**	**3.12**	**254**‖	*e*

LSA	**Lhasa**	**36.41 304**	*e*P	**P**	**19 02 23.2**	**+0.2**
LSA			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
LSA	**Lhasa**	**36.41 304**	*e*P	**P**	**19 02 23.2**	**+0.2**
	comp=Z,3.6nm,0.6s,mb4.5					
ASAR	**Alice Springs**	**36.77 168**	P	**P**	**19 02 25.0**	**-1.1**
	comp=Z,1.1nm,0.5s,mb4.0,baz=344,slow=6.4,SNR=18					
ASAR			PcP	PcP	19 04 48.0	-0.5
	comp=Z,1.1nm,0.6s,baz=340,slow=3.0,SNR=6.2					
ASPA	**Alice Springs**	**36.77 168**	*e*P	**P**	**19 02 25.6**	**-0.5**
ULN	**Ulaanbaatar**	**38.62 340**	*e*P	**P**	**19 02 41.4**	**0.0**
ULN			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.4					
ULN	**Ulaanbaatar**	**38.62 340**	*e*P	**P**	**19 02 41.4**	**0.0**
	comp=Z,9.1nm,1.2s,mb4.4					
SONM	**Songino Array**	**38.82 339**	P	**P**	**19 02 43.9**	**+0.9**
	comp=Z,4.6nm,1.1s,mb4.1,baz=157,slow=9.4,SNR=15					
JIRN	**Jiri**	**39.96 298**	*e*P	**P**	**19 02 51.7**	**-1.1**
	comp=Z,9.6nm,0.4s,mb4.8					
PKI	**Pulchoki**	**40.62 298**	*e*P	**P**	**19 02 56.8**	**-1.3**
	comp=Z,40nm,1.1s,mb4.9					
PKI	**Pulchoki**	**40.62 298**	*e*P	**P**	**19 02 56.8**	**-1.3**
PKI			pmax	pmax		
	comp=Z,20nm,1.1s,mb4.7					
KKN	**Kakani**	**40.78 298**	*e*P	**P**	**19 02 58.6**	**-0.9**
	comp=Z,39nm,1.1s,mb5.0					
KKN	**Kakani**	**40.78 298**	*e*P	**P**	**19 02 58.6**	**-0.9**
KKN			pmax	pmax		
	comp=Z,19nm,1.1s,mb4.6					
DMN	**Daman**	**40.88 298**	*e*P	**P**	**19 02 59.7**	**-0.7**
	comp=Z,60nm,1.3s,mb5.1					
GKN	**Gorkha**	**41.38 298**	*e*P	**P**	**19 03 03.4**	**-1.0**
	comp=Z,52nm,1.1s,mb5.1					
ZAK	**Zakamensk**	**42.07 339**	*e*P	**P**	**19 03 10.2**	**+0.4**
ZAK			*e*		19 04 54.4	
ZAK			pmax	pmax		
	comp=Z,1.0nm,2.1s					
ZAK			pmax	pmax		
	comp=Z,2.0nm,2.0s,mb3.4					
KOLN	**Koldanda**	**42.22 298**	*e*P	**P**	**19 03 10.6**	**-0.8**
	comp=Z,54nm,1.0s,mb5.2					
TLY	**Talaya**	**43.03 340**	*e*P	**P**	**19 03 19.4**	**+1.7**
TLY			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3					
FORT	**Forrest**	**43.05 177**	*e*P	**P**	**19 03 18.2**	**+0.1**
	comp=Z,490nm,0.7s					
WMQ	**Urumqi**	**45.23 321**	*e*P	**P**	**19 03 36.5**	**+1.0**
WMQ			PCP	PcP	19 05 17.0	+1.2
WMQ			*e*S	S	**19 10 15.0**	**+1.9**
WMQ			AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7					
WMQ			AMB	AMB		
	comp=Z,128nm,5.2s					
WMQ			LR	LR		
	comp=N,536nm,17.2s,MS4.6					
WMQ			LR	LR		
	comp=E,381nm,18.8s,MS4.6					
WMQ			LR	LR		
	comp=Z,567nm,20.3s,MS4.5					
NWAO	**Narrogin (SRO)**	**45.87 190**	*e*P	**P**	**19 03 37.9**	**-2.8**
NWAO			pmax	pmax		
	comp=Z,3.0nm,0.4s					
NWAO	**Narrogin (SRO)**	**45.87 190**	*e*P	**P**	**19 03 37.9**	**-2.9**
	comp=Z,3.4nm,0.4s,mb4.6					
BOD	**Bodaibo**	**46.15 351**	*e*P	**P**	**19 03 41.7**	**-0.9**
STKA	**Stephens Creek**	**46.61 161**	*e*P	**P**	**19 03 46.9**	**+0.3**
	comp=Z,8.6nm,1.1s,mb4.6					
STKA	**Stephens Creek**	**46.61 161**	P	**P**	**19 03 46.8**	**+0.2**
	comp=Z,2.6nm,0.5s,mb4.4,baz=356,slow=13,SNR=9.4					
MKAR	**Makanchi Array**	**50.02 322**	*e*P	**P**	**19 04 12.9**	**0.0**
MKAR			pmax	pmax		
	comp=Z,7.0nm,0.8s					
MKAR	**Makanchi Array**	**50.02 322**	P	**P**	**19 04 13.2**	**+0.3**
	comp=Z,3.2nm,0.6s,mb4.5,baz=116,slow=8.0,SNR=34					
ZAL	**Zalesovo**	**52.50 331**	P	**P**	**19 04 31.5**	**-0.1**
	comp=Z,1.4nm,0.3s,mb4.3,baz=10,slow=7.8,SNR=7.0					
AAK	**Ala-Archa**	**53.46 314**	*e*P	**P**	**19 04 38.6**	**-0.3**
AAK			pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.3					
NVS	**Novosibirsk**	**53.77 331**	*e*P	**P**	**19 04 36.6**	**-4.3**
NVS			pmax	pmax		
	comp=Z,37nm,2.5s,mb4.9					
NVS			pmax	pmax		
	comp=N,10.0nm,1.8s					
NVS			pmax	pmax		
	comp=E,10.0nm,1.8s					
KURK	**Kurchatov**	**54.02 325**	*e*P	**P**	**19 04 42.6**	**-0.2**
KURK			pmax	pmax		
	comp=Z,23nm,1.1s,mb5.0					
KURK	**Kurchatov**	**54.02 325**	*e*P	**P**	**19 04 42.6**	**-0.2**
	comp=Z,23nm,1.1s,mb5.0					
BVA0	**Borovoye Array**	**59.62 325**	P	**P**	**19 05 22.2**	**-0.4**
BVA0			pmax	pmax		
	comp=Z,6.0nm,2.1s,mb4.3					
BVAR	**Borovoye Array**	**59.62 325**	P	**P**	**19 05 22.6**	**0.0**
	comp=Z,4.9nm,0.8s,mb4.6,baz=127,slow=7.4,SNR=31					
BVAR	**Borovoye Array**	**59.62 325**	P	**P**	**19 05 22.6**	**0.0**
CHKZ	**Chkalovo**	**59.73 326**	*e*P	**P**	**19 05 22.6**	**-0.8**
CHKZ			pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3					
CHKZ	**Chkalovo**	**59.73 326**	*e*P	**P**	**19 05 22.6**	**-0.8**
	comp=Z,3.1nm,1.0s,mb4.3					
SVE	**Sverdlovsk**	**66.13 327**	*e*P	**P**	**19 06 06.0**	**+0.3**
ARU	**Arti**	**67.16 326**	*i* P	**P**	**19 06 12.1**	**-0.1**
IMA	**Indian Mountai**	**74.85 25**	*e*P	**P**	**19 07 01.8**	**+3.5**
IMA			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7					
IMA	**Indian Mountai**	**74.85 25**	*e*P	**P**	**19 07 01.8**	**+3.5**
	comp=Z,8.5nm,1.0s,mb4.6					
GNI	**Garni**	**75.28 308**	*e*P	**P**	**19 06 58.1**	**-3.3**
GNI			pmax	pmax		
	comp=Z,12nm,1.4s					
GNI	**Garni**	**75.28 308**	P	**P**	**19 06 58.6**	**-2.7**
	comp=Z,1.0nm,0.4s,mb4.1,baz=108,slow=19,SNR=2.8					
GOF	**Gofitskoye**	**76.21 314**	*e*P	**P**	**19 07 05.7**	**-0.8**
KIV	**Kislovodsk**	**76.53 312**	‖*e*P	**P**	**19 07 08.4**	**+0.1**
KIV			*e*S	S	19 16 48.1	-3.0
KIV			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7					
KIV			MLR	MLR		
	comp=Z,300nm,19.0s,MS4.6					
KIV	**Kislovodsk**	**76.53 312**	*e*P	**P**	**19 07 10.0**	**+1.6**
	comp=Z,3.3nm,0.8s,mb4.3					
MOS	**Moscow**	**78.79 325**	*e*P	**P**	**19 07 20.5**	**0.0**
OBN	**Obninsk**	**79.45 324**	*e*P	**P**	**19 07 25.2**	**+1.0**
OBN			pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.9					
ARCES	**ARCESS Array B**	**81.99 340**	P	**P**	**19 07 38.4**	**+1.1**
	comp=Z,4.7nm,1.0s,mb4.4,baz=85,slow=4.6,SNR=5.3					
INK	**Inuvik**	**82.43 22**	P	**P**	**19 07 43.2**	**+3.6**
	comp=Z,5.3nm,1.0s,mb4.4,baz=274,slow=6.3,SNR=11					
ASF	**Jabal al Asfar**	**82.56 301**	P	**P**	**19 07 39.2**	**-1.8**
	comp=Z,2.0nm,0.4s,mb4.5,baz=169,slow=17,SNR=3.2					
KAF	**Kangasniemi**	**83.48 332**	*e*p	**P**	**19 07 44.3**	**-0.8**
	comp=Z,0.5nm,0.3s,mb4.0					
KAF	**Kangasniemi**	**83.48 332**	*e*P	**P**	**19 07 44.3**	**-0.8**
KAF			pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3					
FINES	**FINESS Array B**	**83.75 332**	P	**P**	**19 07 46.9**	**+0.5**
	comp=Z,0.6nm,0.3s,mb4.1,baz=63,slow=5.4,SNR=13					
AKASG	**Malin Array Be**	**84.59 321**	P	**P**	**19 07 50.4**	**-0.5**
	comp=Z,1.9nm,0.6s,mb4.4,baz=65,slow=4.7,SNR=15					
AKASG	**Malin Array Be**	**84.59 321**	P	**P**	**19 07 50.4**	**-0.5**
DLBC	**Dease Lake**	**86.76 31**	P	**P**	**19 08 06.1**	**+4.6**
	comp=Z,2.3nm,1.0s,mb4.4,baz=292,slow=19,SNR=2.7					
DLBC	**Dease Lake**	**86.76 31**	P	**P**	**19 08 06.1**	**+4.6**
KMBO	**Kilima Mbogo**	**88.82 269**	P	**P**	**19 08 09.1**	**-3.4**
	comp=Z,0.3nm,0.4s,mb4.0,slow=14,SNR=1.9					
YKA	**Yellowknife Ar**	**91.95 24**	P	**P**	**19 08 30.8**	**+5.0**
	comp=Z,1.2nm,1.0s,mb4.2,baz=297,slow=4.8,SNR=10					
VNDA	**Vanda**	**92.15 173**	P	**P**	**19 08 26.6**	**+0.1**
	comp=Z,0.5nm,0.4s,mb4.2,baz=192,slow=4.5,SNR=3.6					

IDC 30 19:09:02.1±5.9, 3.11N×98.62E, mb3.2/3, mb1 3.4/3, mb1mx3.2/18, mbtmp3.2/3, Error ellipse: s-maj=319.4km s-min=30.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.89 125**		P		P	P	19 16 55.1	-1.1
	0.3nm,0.4s,baz=304,slow=9.0,SNR=6.2								
ASAR	**Alice Springs**	**43.46 130**		P		P	P	19 17 06.5	-2.5
	0.1nm,0.5s,baz=299,slow=7.4,SNR=3.4								
MKAR	**Makanchi Array**	**45.77 344**		P		P	P	19 17 25.4	-1.8
	0.2nm,0.5s,baz=163,slow=7.6,SNR=4.0								

*IDC **30** 19:30:19.2±2.9, 1.21N×97.19E, mb3.9/5, mb1 4.0/5, mb1mx3.7/19, mbtmp3.9/5, Error ellipse: s-maj=118.3km s-min=27.1km az=55.0*
*NEIC **30** 19:30:23.4±1.0, 1.18N×97.16E, h30km, mb4.1/1, Error ellipse: s-maj=22.3km s-min=16.4km az=223.0*
ISC 30 19:30:21.4±1.4, 1.2N±0.2×97.1E±0.2, h30km, n8, σ0§49/8, mb4.0/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**41**	*e*P		**Pn**		**19 31 41.4**	**-0.2**
WRA	**Warramunga Arr**	**42.10**	**122**	P		**P**		**19 38 12.9**	**0.0**
	0.9nm,0.6s,mb3.6,baz=302,slow=9.0,SNR=6.1								
SONM	**Songino Array**	**47.13**	**9**	P		**P**		**19 38 53.4**	**+0.5**
	1.6nm,0.9s,mb3.9,baz=189,slow=9.2,SNR=12								
SONM				PcP		PcP		19 40 24.6	0.0
	0.1nm,0.4s,baz=189,slow=4.8,SNR=4.1								
MKAR	**Makanchi Array**	**47.22**	**346**	P		**P**		**19 38 54.5**	**+0.9**
	0.9nm,0.5s,mb4.0,baz=160,slow=9.3,SNR=23								
KURK	**Kurchatov**	**51.77**	**345**	*e*P		**P**		**19 39 28.5**	**+0.1**
ZAL	**Zalesovo**	**53.53**	**351**	P		**P**		**19 39 41.3**	**-0.2**
	1.3nm,0.5s,mb4.1,baz=284,slow=6.6,SNR=7.2								
BVAR	**Borovoye Array**	**56.22**	**341**	P		**P**		**19 40 00.4**	**-0.7**
	0.8nm,0.6s,mb3.9,baz=136,slow=10,SNR=5.7								
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P		**P**		**19 40 04.0**	**-0.5**
	1.3nm,0.6s,mb4.1								

IDC 30 19:32:39.6±1.6, 1.54S×127.76E, mb3.4/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=147.9km s-min=24.8km az=73.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.39**	**161**	P		P		19 37 07.6	-2.4
	0.2nm,0.3s,baz=340,slow=11,SNR=22								
ASAR	**Alice Springs**	**22.79**	**165**	P		P		19 37 43.9	-1.4
	1.1nm,0.7s,baz=348,slow=12,SNR=15								
SONM	**Songino Array**	**52.59**	**342**	P		P		19 41 55.2	-2.1
	0.3nm,0.7s,baz=162,slow=8.7,SNR=2.9								

*IDC **30** 19:41:32.4±1.6, 12.54N×126.28E, mb3.7/7, mb1 3.8/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=126.7km s-min=17.0km az=70.0*
ISC 30 19:41:34.9±4.6, 12.41N±0.09×125.9E±0.1, h27km±34km, n10, σ0§39/12, mb3.7/7, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.55**	**217**	*e*P		**Pn**		**19 42 01.0**	**-0.3**
PLP				*i* S		**Sn**		**19 42 20.7**	**+0.1**
SCPH	**Surigao**	**2.65**	**190**	*e*P		**Pn**		**19 42 16.8**	**-0.1**
SCPH				*e*S		**Sn**		**19 42 32.4**	**-16**
TBP	**Tagbilaran**	**3.38**	**217**	*e*P		**Pn**		**19 42 27.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.32**	**181**	P		**P**		**19 47 46.1**	**-0.5**
	1.1nm,0.4s,mb4.0,baz=342,slow=6.3,SNR=5.9								
WRA	**Warramunga Arr**	**33.19**	**165**	P		**P**		**19 48 11.3**	**-0.6**
	0.2nm,0.7s,mb3.2,baz=354,slow=9.3,SNR=2.9								
ASAR	**Alice Springs**	**36.69**	**168**	P		**P**		**19 48 42.0**	**+0.3**
	0.3nm,0.6s,mb3.3,baz=349,slow=6.8,SNR=6.1								
SONM	**Songino Array**	**38.92**	**339**	P		**P**		**19 49 00.4**	**+0.3**
	0.5nm,0.7s,mb3.4,baz=152,slow=9.7,SNR=5.4								
STKA	**Stephens Creek**	**46.52**	**162**	P		**P**		**19 50 02.8**	**+0.7**
	1.4nm,0.6s,mb4.0,baz=311,slow=14,SNR=3.3								
MKAR	**Makanchi Array**	**50.15**	**322**	P		**P**		**19 50 30.1**	**0.0**
	0.8nm,0.7s,mb3.8,baz=110,slow=8.8,SNR=8.3								
BVAR	**Borovoye Array**	**59.74**	**325**	P		**P**		**19 51 39.3**	**-0.4**
	1.0nm,0.7s,mb3.9,baz=121,slow=8.4,SNR=6.4								

IDC 30 19:47:45.7±3.2, 2.25N×96.32E, mb3.6/4, mb1 3.7/4, mb1mx3.4/19, mbtmp3.6/4, Error ellipse: s-maj=127.3km s-min=27.3km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.33**	**122**	P		P		19 55 49.8	-1.8
	0.4nm,0.7s,baz=302,slow=9.2,SNR=3.1								
MKAR	**Makanchi Array**	**46.02**	**347**	P		P		19 56 11.1	-1.7
	0.6nm,0.4s,baz=157,slow=9.1,SNR=22								
SONM	**Songino Array**	**46.24**	**9**	P		P		19 56 13.0	-1.5
	0.4nm,0.3s,baz=184,slow=9.0,SNR=7.7								
BVAR	**Borovoye Array**	**54.98**	**341**	P		P		19 57 18.2	-2.8
	0.2nm,0.4s,baz=135,slow=10,SNR=4.8								

*IDC **30** 19:51:26.8±1.6, 1.58N×97.11E, mb4.0/8, mb1 4.1/8, mb1mx3.8/19, mbtmp4.0/8, Error ellipse: s-maj=64.8km s-min=27.2km az=54.0*
*NEIC **30** 19:51:32.1±1.0, 1.79N×97.44E, h30km, mb4.1/2, Error ellipse: s-maj=22.6km s-min=19.9km az=206.0*
ISC 30 19:51:30.3±1.1, 1.8N±0.2×97.4E±0.1, h30km, n12, σ0§89/12, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.70**	**43**	*e*P		**Pn**		**19 52 40.1**	**-1.0**
ENH	**Enshi**	**30.51**	**21**	*e*P		**P**		**19 57 44.3**	**+1.0**
	5.0nm,0.7s,mb4.5								
ASAR	**Alice Springs**	**43.59**	**128**	P		**P**		**19 59 34.0**	**+0.2**
	0.5nm,0.8s,mb3.3,baz=299,slow=7.9,SNR=5.2								
SONM	**Songino Array**	**46.48**	**8**	P		**P**		**19 59 58.5**	**+1.9**
	3.3nm,0.9s,mb4.3,baz=188,slow=8.8,SNR=28								
MKAR	**Makanchi Array**	**46.69**	**346**	P		**P**		**19 59 59.2**	**+1.0**
	2.6nm,0.7s,mb4.3,baz=160,slow=8.0,SNR=33								
KURK	**Kurchatov**	**51.25**	**345**	*e*P		**P**		**20 00 33.0**	**-0.4**
	0.8nm,0.7s,mb3.8								
ZAL	**Zalesovo**	**52.97**	**351**	P		**P**		**20 00 46.0**	**-0.3**
	1.3nm,0.4s,mb4.3,baz=304,slow=2.4,SNR=3.8								
BVAR	**Borovoye Array**	**55.74**	**341**	P		**P**		**20 01 05.6**	**-0.9**
	0.6nm,0.6s,mb3.8,baz=141,slow=7.9,SNR=7.0								
BRTR	**Keskin Array B**	**68.87**	**312**	P		**P**		**20 02 34.7**	**+0.3**
	0.2nm,0.4s,mb3.4,baz=319,slow=15,SNR=2.1								
FINES	**FINESS Array B**	**79.55**	**332**	P		**P**		**20 03 35.0**	**-0.8**
	0.3nm,0.4s,mb3.6,baz=108,slow=8.8,SNR=4.2								
ARCES	**ARCESS Array B**	**82.03**	**340**	P		**P**		**20 03 48.0**	**-0.7**
	3.3nm,0.9s,mb4.3,baz=108,slow=3.8,SNR=4.4								
ARCES	**ARCESS Array B**	**82.03**	**340**	P		**P**		**20 03 48.0**	**-0.7**

IDC 30 19:56:51.6±34.0, 0.06N×97.24E, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=674.3km s-min=135.3km az=169.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**48.24**	**8**	P		P		20 05 34.2	-2.0
	0.3nm,0.4s,baz=192,slow=8.8,SNR=5.0								
MKAR	**Makanchi Array**	**48.35**	**346**	P		P		20 05 35.0	-2.0
	0.5nm,0.5s,baz=160,slow=8.7,SNR=8.7								
ZAL	**Zalesovo**	**54.67**	**351**	P		P		20 06 22.4	-2.2
	0.8nm,0.4s,baz=307,slow=5.6,SNR=3.8								
BVAR	**Borovoye Array**	**57.33**	**341**	P		P		20 06 41.1	-2.7
	0.3nm,0.5s,baz=135,slow=8.4,SNR=3.6								

*IDC **30** 20:05:06.1±0.7, 15.93N×92.81E, mb3.9/11, mb1 4.1/11, mb1mx3.9/20, mbtmp3.9/11, Error ellipse: s-maj=35.4km s-min=15.3km az=54.0*
*NEIC **30** 20:05:07.6±0.5, 16.00N×92.84E, h10km, mb4.1/1, Error ellipse: s-maj=13.4km s-min=7.9km az=45.0*
ISC 30 20:05:09.2±0.6, 16.17N±0.08×93.01E±0.06, h33km, n21, σ1§21/23, mb3.9/12, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CM31	**Chiang Mai Arr**	**6.11**	**67**	*e*P		**P**		**20 06 40.0**	**+0.6**
	3.8nm,0.4s								
CM31				*e*S		**S**		**20 07 47.5**	**-1.6**
JIRN	**Jiri**	**13.06**	**332**	*e*P		**P**		**20 08 13.4**	**-1.7**
	6.3nm,0.3s								
JIRN				*e*S		**S**		**20 10 31.5**	**-8.6**
PKI	**Pulchoki**	**13.35**	**329**	*e*P		**P**		**20 08 17.8**	**-1.1**
	4.5nm,0.3s								
DMN	**Daman**	**13.53**	**329**	*e*P		**P**		**20 08 20.5**	**-0.8**
	6.5nm,0.4s								
LSA	**Lhasa**	**13.57**	**353**	*e*P		**P**		**20 08 20.8**	**-1.0**
	2.5nm,0.4s								
KKN	**Kakani**	**13.60**	**330**	*e*S		**S**		**20 10 45.3**	**-7.7**

KOLN	**Koldanda**	**14.46 325**	*e*P	**P**	**20 08 32.5**	**-1.0**
	3.9nm,0.2s					
ENH	**Enshi**	**20.61 44**	*e*P	**P**	**20 09 50.2**	**+2.0**
MKAR	**Makanchi Array**	**31.81 346**	P	**P**	**20 11 34.7**	**+1.8**
	0.4nm,0.6s,mb3.4,baz=155,slow=10,SNR=6.3					
MKAR	**Makanchi Array**	**31.81 346**	P	**P**	**20 11 34.7**	**+1.8**
SONM	**Songino Array**	**33.45 16**	P	**P**	**20 11 49.9**	**+2.7**
	0.3nm,0.4s,mb3.5,baz=211,slow=7.9,SNR=4.6					
KURK	**Kurchatov**	**36.35 345**	*e*P	**P**	**20 12 14.4**	**+2.5**
	2.7nm,0.9s,mb4.2					
FITZ	**Fitzroy Crossi**	**46.83 135**	P	**P**	**20 13 37.3**	**-0.7**
	3.7nm,0.7s,mb4.5,baz=330,slow=4.5,SNR=7.9					
WRA	**Warramunga Arr**	**54.20 130**	P	**P**	**20 14 33.4**	**-0.7**
	1.7nm,0.9s,mb4.0,baz=311,slow=7.8,SNR=20					
WRA			PcP	PcP	20 15 38.1	-0.2
	0.2nm,0.5s,baz=311,slow=3.5,SNR=6.1					
ASAR	**Alice Springs**	**56.25 134**	P	**P**	**20 14 48.6**	**-0.3**
	1.1nm,0.6s,mb4.1,baz=312,slow=6.7,SNR=21					
BRTR	**Keskin Array B**	**56.37 307**	P	**P**	**20 14 49.1**	**-0.5**
	0.6nm,0.6s,mb3.8,baz=117,slow=8.3,SNR=3.8					
FINES	**FINESS Array B**	**64.93 331**	P	**P**	**20 15 47.8**	**+0.3**
	0.6nm,0.5s,mb3.9,baz=90,slow=7.6,SNR=5.9					
ARCES	**ARCESS Array B**	**67.14 339**	P	**P**	**20 16 01.6**	**+0.3**
	3.5nm,0.9s,mb4.4,baz=90,slow=8.1,SNR=4.3					
GERES	**GERESS Array B**	**71.00 317**	P	**P**	**20 16 26.7**	**+1.2**
	0.8nm,0.7s,mb3.8,baz=79,slow=6.8,SNR=6.2					
NOA	**NORSAR Array B**	**72.03 330**	P	**P**	**20 16 32.1**	**+0.8**
	0.3nm,0.7s,mb3.3,baz=123,slow=19,SNR=3.0					
BOSA	**Boshof**	**79.16 236**	P	**P**	**20 17 12.2**	**-0.5**
	2.5nm,0.8s,mb4.2,baz=112,slow=5.4,SNR=5.5					

*NEIC **30** 20:07:37.0, 49.34N×6.77E, h1km, ML2.5(LDG), ML2.0(STR), After LDG.*
*BGR **30** 20:07:37.1±0.4, 49.34N×6.85E, h1km, ML1.8/2, Error ellipse: s-maj=6.7km s-min=3.3km az=42.0*
*BNS **30** 20:07:37.8±0.7, 49.37N×6.85E, h1km, ML1.8*
*LDG **30** 20:07:37.0±0.1, 49.34N×6.77E, h1km, Md2.3/1, Ml2.5/12, Error ellipse: s-maj=1.2km s-min=0.8km az=95.0, Suspected Mining induced.*
*CSEM **30** 20:07:37.0±0.1, 49.33N×6.78E, h2km, ML2.4/11, Error ellipse: s-maj=1.2km s-min=0.8km az=66.0*
ISC 30 20:07:35.1±0.2, 49.32N±0.01×6.72E±0.03, n32, σ1§06/68, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.45**	**30**	Pg		**Pg**		**20 07 44.7**	**+0.7**
RUP				Sg		**Sg**		**20 07 51.2**	**+1.3**
WLF	**Walferdange**	**0.51**	**313**	*e*Pg		**Pg**		**20 07 48.0**	**+2.7**
	SNR=7.5								
WLF				*e*Sg		**Sg**		**20 07 55.3**	**+3.3**
	SNR=4.7								
WLF	**Walferdange**	**0.51**	**313**	*e*P		**Pg**		**20 07 46.9**	**+1.6**
WLF	**Walferdange**	**0.51**	**313**	*e*P		**Pg**		**20 07 46.8**	**+1.5**
WLF	**Walferdange**	**0.51**	**313**	Pg		**Pg**		**20 07 48.0**	**+2.7**
	SNR=7.5								
WLF				Sg		**Sg**		**20 07 55.3**	**+3.3**
	SNR=4.7								
ABH	**Alteburg**	**0.78**	**43**	Pg		**Pg**		**20 07 50.3**	**-0.4**
LANF	**Langenberg**	**0.79**	**115**	Pg		**Pg**		**20 07 51.4**	**+0.6**
LANF				Sg		**Sg**		**20 08 02.6**	**+1.3**
KTD	**Kalmit**	**0.89**	**89**	Pg		**Pg**		**20 07 53.8**	**+0.9**
BGG	**Burgeitz**	**0.98**	**24**	*e*Pg		**Pg**		**20 07 54.8**	**+0.2**
BGG				*e*Sg		**Sg**		**20 08 07.3**	**-0.3**
	33nm,0.4s								
CDF	**Champ du Feu**	**0.98**	**158**	*e*Pg		**Pg**		**20 07 54.6**	**0.0**
CDF				*e*Pn		**Pn**		**20 07 55.6**	**-0.3**
CDF				*e*Sg		**Sg**		**20 08 07.9**	**+0.3**
	29nm,0.2s								
CDF				*e*Sn		**Sn**		**20 08 09.8**	**-0.8**
WLS	**Welschbruch**	**1.00**	**155**	Pg		**Pg**		**20 07 55.8**	**+0.8**
WLS				Sg		**Sg**		**20 08 09.7**	**+1.5**
ECH	**Echery**	**1.14**	**165**	Pg		**Pg**		**20 07 58.4**	**+0.6**
ECH				Sg		**Sg**		**20 08 14.7**	**+1.7**
THEF	**They Montfort**	**1.19**	**204**	Pg		**Pg**		**20 07 59.6**	**+0.7**
THEF				Sg		**Sg**		**20 08 17.2**	**+2.4**
STB	**Steinbach**	**1.28**	**3**	*e*Pg		**Pg**		**20 08 00.8**	**+0.1**
STB				*e*Sg		**Sg**		**20 08 16.4**	**-1.4**
HAU	**Haudompre**	**1.33**	**191**	*e*Pn		**Pn**		**20 08 01.4**	**+0.4**
HAU				*e*Pg		**Pg**		**20 08 02.4**	**+0.7**
HAU				*e*Sn		**Sn**		**20 08 19.0**	**-0.7**
HAU				*e*Sg		**Sg**		**20 08 20.2**	**+0.7**
	14nm,0.2s								
KLL	**Kalltalsperre**	**1.36**	**349**	*e*Pg		**Pg**		**20 08 01.8**	**-0.4**
KLL				*e*Sg		**Sg**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.98**	**203**	*eP*	P	20 11 44.8	+0.3
BESP				*eS*	S	20 11 59.8	+2.4
CNP	**Catarman**	**1.14**	**270**	*eP*	P	20 11 47.0	+0.1
CNP				*eS*	S	20 12 02.3	+0.7
PLP	**Palo**	**1.57**	**212**	*eP*	P	20 11 52.8	-0.3
PLP				*i* S	S	20 12 12.9	+0.5
PVCP	**Virac**	**1.96**	**304**	*eP*	P	20 11 58.9	+0.3
MSLP	**Maasin**	**2.54**	**202**	*eP*	P	20 12 08.7	+1.8
SCPH	**Surigao**	**2.73**	**187**	*eP*	P	20 12 09.2	-0.3
SCPH				*eS*	S	20 12 27.0	-15

*IDC **30** 20:13:00.3±0.7, 2.60N×97.34E, mb4.2/14, mb1 4.4/14, mb1mx4.2/20, mbtmp4.2/14, Error ellipse: s-maj=32.6km s-min=14.3km az=55.0*
*BJI **30** 20:13:02.8, 2.25N×96.71E, h38km, mB4.3, mb4.2, Ms4.2, Msz4.1*
*MOS **30** 20:13:03.8±0.8, 2.76N×97.57E, h33km, mb4.5/7, Error ellipse: s-maj=29.0km s-min=9.7km az=112.6*
*NEIC **30** 20:13:04.1±0.5, 2.39N×97.10E, h30km, mb4.3/12, Error ellipse: s-maj=16.1km s-min=7.8km az=53.0*

ISC 30 20:13:03.1±0.5, 2.60N±0.09×97.4E±0.1, h30km, n53, σ1s02/54, mb4.3/29, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.17**	**50**	*eP*	**Pn**	**20 14 12.8**	**+6.3**
CM31	**Chiang Mai Arr**	**15.83**	**5**	*eP*	**P**	**20 16 48.4**	**+2.7**
	2.4nm,0.6s						
JIRN	**Jiri**	**27.14**	**338**	*eP*	**P**	**20 18 46.2**	**+0.3**
	24nm,0.8s,mb4.8						
PKI	**Pulchoki**	**27.37**	**336**	*eP*	**P**	**20 18 48.8**	**+0.8**
DMN	**Daman**	**27.52**	**336**	*eP*	**P**	**20 18 49.9**	**+0.5**
	7.7nm,0.7s,mb4.4						
LSA	**Lhasa**	**27.61**	**348**	*eP*	**P**	**20 18 50.8**	**+0.7**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.2						
LSA	**Lhasa**	**27.61**	**348**	*eP*	**P**	**20 18 50.8**	**+0.7**
	comp=Z,3.6nm,0.6s,mb4.2						
KKN	**Kakani**	**27.61**	**336**	*eP*	**P**	**20 18 49.9**	**-0.3**
	comp=Z,10nm,0.6s,mb4.7						
KKN	**Kakani**	**27.61**	**336**	*eP*	**P**	**20 18 49.9**	**-0.3**
KKN				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
GKN	**Gorkha**	**28.07**	**335**	*eP*	**P**	**20 18 54.0**	**-0.3**
KOLN	**Koldanda**	**28.31**	**333**	*eP*	**P**	**20 18 56.2**	**-0.3**
	comp=Z,19nm,0.9s,mb4.7						
ENH	**Enshi**	**29.80**	**21**	*eP*	**P**	**20 19 08.5**	**-1.3**
	comp=Z,1.8nm,0.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**34.57**	**128**	*eP*	**P**	**20 19 50.9**	**-0.7**
	comp=Z,3.0nm,0.7s,mb4.3						
FITZ	**Fitzroy Crossi**	**34.57**	**128**	P	**P**	**20 19 50.3**	**-1.3**
	comp=Z,4.5nm,0.8s,mb4.5,baz=173,slow=5.7,SNR=5.9						
GTA	**Gaotai**	**36.70**	**3**	*eP*	**P**	**20 20 10.3**	**+0.8**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.1						
HHC	**Hu-ho-hao-te**	**40.16**	**17**	*eP*	**P**	**20 20 43.5**	**+5.2**
HHC				AP	pP	20 20 52.3	+5.0
HHC				XP	sP	20 20 56.0	+5.0
HHC				PP	PP	20 22 22.0	+7.7
HHC				SCP		20 26 30.5	
HHC				S	**S**	**20 26 51.5**	**+8.8**
HHC				SS	SS	20 29 48.5	+13
HHC				AMB	AMB		
	comp=Z,15nm,0.5s,mb5.0						
HHC				LR	LR		
	comp=N,125nm,20.8s						
HHC				LR	LR		
	comp=Z,147nm,13.7s						
WMQ	**Urumqi**	**41.95**	**349**	*eP*	**P**	**20 20 53.3**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**42.59**	**123**	P	**P**	**20 20 59.1**	**+0.6**
	comp=Z,2.1nm,0.5s,mb4.1,baz=300,slow=9.4,SNR=28						
WB2	**Warramunga Arr**	**42.59**	**123**	*eP*	**P**	**20 20 59.2**	**+0.6**
ULHL	**Ulahol**	**43.80**	**337**	P	**P**	**20 21 08.9**	**+0.7**
	SNR=6.7						
ASAR	**Alice Springs**	**44.06**	**128**	P	**P**	**20 21 11.0**	**+0.5**
	comp=Z,0.6nm,0.5s,mb3.6,baz=300,slow=8.1,SNR=8.7						
UCH	**Uchtor**	**44.48**	**336**	P	**P**	**20 21 14.9**	**+1.2**
	SNR=7.4						
TKM2	**Tokmak 2**	**44.63**	**337**	P	**P**	**20 21 15.4**	**+0.6**
	SNR=7.9						
KBK	**Karagaybulak**	**44.66**	**336**	P	**P**	**20 21 16.6**	**+1.5**
	SNR=10						
AML	**Almayashu**	**44.74**	**335**	P	**P**	**20 21 16.7**	**+0.9**
	SNR=7.0						
AAK	**Ala-Archa**	**44.82**	**336**	⇑*iP*	**P**	**20 21 17.0**	**+0.6**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	**44.82**	**336**	*eP*	**P**	**20 21 14.1**	**-2.3**
	comp=Z,4.7nm,1.1s,mb4.2						
USP	**Ospenovka**	**45.35**	**336**	P	**P**	**20 21 20.6**	**0.0**
	SNR=12						
SONM	**Songino Array**	**45.72**	**8**	P	**P**	**20 21 24.2**	**+0.8**
	comp=Z,1.4nm,0.4s,mb4.3,baz=188,slow=8.8,SNR=32						
SONM				PcP	PcP	20 23 01.6	+0.2
	comp=Z,0.6nm,0.5s,baz=189,slow=3.7,SNR=6.3						
ULN	**Ulaanbaatar**	**45.85**	**9**	⇑*iP*	**P**	**20 21 24.5**	**+0.1**
MKAR	**Makanchi Array**	**45.95**	**346**	P	**P**	**20 21 25.1**	**-0.1**
	comp=Z,3.9nm,0.5s,mb4.6,baz=159,slow=8.6,SNR=69						
TLY	**Talaya**	**49.19**	**5**	⇓*iP*	**P**	**20 21 48.7**	**-1.8**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**50.51**	**345**	*eP*	**P**	**20 21 59.4**	**-1.3**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
KURK	**Kurchatov**	**50.51**	**345**	*eP*	**P**	**20 21 59.4**	**-1.3**
	comp=Z,7.6nm,1.0s,mb4.6						
ZAL	**Zalesovo**	**52.22**	**351**	P	**P**	**20 22 12.9**	**-0.6**
	comp=Z,13nm,0.5s,mb5.1,baz=310,slow=5.7,SNR=55						
NVS	**Novosibirsk**	**53.35**	**350**	*i* P	**P**	**20 22 19.5**	**-2.4**
STKA	**Stephens Creek**	**54.12**	**133**	*eP*	**P**	**20 22 28.2**	**+0.3**
	comp=Z,2.6nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**54.12**	**133**	P	**P**	**20 22 28.3**	**+0.4**
	comp=Z,1.4nm,0.5s,mb4.1,baz=308,slow=6.8,SNR=9.4						
BVA0	**Borovoye Array**	**55.02**	**340**	*i* P	**P**	**20 22 32.8**	**-1.4**
BVAR	**Borovoye Array**	**55.02**	**340**	P	**P**	**20 22 32.9**	**-1.3**
	comp=Z,3.8nm,0.6s,mb4.6,baz=143,slow=9.2,SNR=50						
CHKZ	**Chkalovo**	**55.49**	**341**	P	**P**	**20 22 36.2**	**-1.4**
CHKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BOD	**Bodaibo**	**56.60**	**11**	*eP*	**P**	**20 22 43.3**	**-2.2**
GNI	**Garni**	**60.46**	**316**	*i* P	**P**	**20 23 13.0**	**+0.3**
ARU	**Arti**	**62.00**	**337**	*i* P	**P**	**20 23 22.6**	**-0.3**
KIV	**Kislovodsk**	**63.41**	**319**	⇓*eP*	**P**	**20 23 32.5**	**+0.1**
KIV				*e*SS	SS	20 36 05.7	-4.5
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**74.30**	**322**	P	**P**	**20 24 38.2**	**-1.3**
	comp=Z,0.8nm,0.3s,mb4.1,baz=85,slow=5.5,SNR=9.0						
BOSA	**Boshof**	**75.68**	**240**	P	**P**	**20 24 48.5**	**+0.5**
	comp=Z,1.3nm,0.7s,mb4.0,baz=230,slow=16,SNR=3.3						
FINES	**FINESS Array B**	**78.88**	**332**	P	**P**	**20 25 04.6**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.9,baz=104,slow=7.9,SNR=8.0						
KAF	**Kangasniemi**	**78.95**	**333**	*ep*	**P**	**20 24 58.3**	**-7.0**
	comp=Z,0.3nm,0.3s,mb3.7						
ARCES	**ARCESS Array B**	**81.31**	**340**	P	**P**	**20 25 18.1**	**+0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=90,slow=6.1,SNR=9.4						
GERES	**GERESS Array B**	**83.93**	**319**	P	**P**	**20 25 32.2**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=112,slow=7.2,SNR=5.3						
NB2	**NORSAR Subarra**	**85.91**	**331**	P	**P**	**20 25 41.0**	**-0.3**
	comp=Z,0.9nm,0.8s,mb4.0,baz=92,slow=5.0						
NOA	**NORSAR Array B**	**85.91**	**331**	P	**P**	**20 25 41.7**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.2,baz=93,slow=4.9,SNR=7.0						

DJA 30 20:30:23.7±0.5, 8.37S×116.57E, h240km, MD4.6/4, ML3.7/2, 4C-5D, Error ellipse: s-maj=39.8km s-min=17.0km az=178.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**0.47**	**255**	⇓*iPn*	P	20 30 55.3	-0.3
KEDI				⇑*iSn*	S	20 31 20.7	+0.3
RATI	**Rata**	**1.09**	**251**	⇓*iPn*	P	20 30 58.5	+0.1
	206nm,0.2s						
RATI	**Rata**	**1.09**	**251**	⇑*iP*	P	20 30 58.8	+0.4
RATI				⇓*iSn*	S	20 31 23.9	-1.5
KELI	**Kelakatan**	**2.06**	**274**	⇓*iPn*	P	20 31 06.8	+0.5
	19nm,0.2s						
KELI				⇓*iSn*	S	20 31 38.0	-1.2
SRDI	**Scrawed**	**2.41**	**267**	⇑*iPn*	P	20 31 09.9	+0.2
SRDI				⇑*iSn*	S	20 31 43.1	-2.2

IDC 30 20:35:04.4±3.0, 1.06N×97.22E, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=134.3km s-min=19.7km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	20 42 57.2	-1.7
	1.0nm,0.7s,baz=300,slow=9.0,SNR=10						
ASAR	**Alice Springs**	**43.29**	**127**	P	P	20 43 08.3	-1.5
	0.7nm,0.9s,baz=304,slow=7.8,SNR=4.2						
SONM	**Songino Array**	**47.27**	**8**	P	P	20 43 39.4	-1.9
	1.2nm,0.8s,baz=191,slow=9.5,SNR=10						
SONM				PcP	PcP	20 45 10.8	-2.2
	0.5nm,0.8s,baz=193,slow=2.6,SNR=3.5						
MKAR	**Makanchi Array**	**47.38**	**346**	P	P	20 43 40.3	-1.9
	1.2nm,0.7s,baz=160,slow=7.8,SNR=21						
STKA	**Stephens Creek**	**53.25**	**132**	P	P	20 44 24.6	-2.6
	0.5nm,0.5s,baz=277,slow=8.1,SNR=2.5						
ZAL	**Zalesovo**	**53.69**	**351**	P	P	20 44 27.5	-2.6
	1.3nm,0.3s,baz=294,slow=7.7,SNR=6.2						

*JMA **30** 20:41:00.3±0.5, 23.97N×121.99E, h16km, M2.6*

TAP 30 20:40:59.3, 24.77N×121.87E, h11km, ML2.9, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.08**	**106**	P	Pb	20 41 19.9	+0.4
YOJ				S	Sb	20 41 33.5	0.0
IRIF	**Iriomote-Funau**	**1.75**	**104**	P	Pn	20 41 28.3	-1.5
IRIF				S	Sn	20 41 49.8	-2.4
JKRS	**Kuro-shima**	**2.02**	**105**	P	Pn	20 41 32.6	-1.1
JKRS				S	Sn	20 41 56.7	-2.4
JIJ	**Ishigaki jima**	**2.11**	**101**	P	Pn	20 41 34.6	-0.4
JIJ				S	Sn	20 41 58.6	-2.8

IDC 30 20:45:24.6±3.9, 0.94N×97.39E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=164.9km s-min=22.4km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.74**	**122**	P	P	20 53 15.6	-1.9
	0.2nm,0.6s,baz=308,slow=8.8,SNR=5.2						
ASAR	**Alice Springs**	**43.09**	**127**	P	P	20 53 27.0	-1.5
	0.6nm,0.8s,baz=297,slow=7.8,SNR=5.4						
SONM	**Songino Array**	**47.36**	**8**	P	P	20 54 00.7	-1.6
	0.3nm,0.4s,baz=192,slow=9.2,SNR=5.0						
MKAR	**Makanchi Array**	**47.54**	**346**	P	P	20 54 01.8	-1.9
	0.8nm,0.5s,baz=163,slow=9.2,SNR=22						
ZAL	**Zalesovo**	**53.83**	**351**	P	P	20 54 48.8	-2.7
	1.7nm,0.4s,baz=335,slow=7.3,SNR=5.9						

*BJI **30** 21:04:06.9, 0.14N×97.40E, h30km, mb4.5, Ms4.1, Msz4.0*
*IDC **30** 21:04:12.0±2.5, 1.06N×97.13E, mb4.0/7, mb1 4.1/7, mb1mx3.8/20, mbtmp4.0/7, Error ellipse: s-maj=112.2km s-min=17.2km az=56.0*
*NEIC **30** 21:04:16.7±0.7, 1.10N×97.19E, h30km, mb4.1/3, Error ellipse: s-maj=21.8km s-min=9.8km az=58.0*

ISC 30 21:04:14.5±0.9, 1.1N±0.1×97.2E±0.2, h30km, n14, σ0s82/14, mb4.1/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.43**	**40**	*eP*	**Pn**	**21 05 35.2**	**-0.5**
KMI	**Kunming**	**24.48**	**12**	P	**P**	**21 09 34.0**	**+1.5**
KMI				AP		21 09 40.0	
KMI				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.2						
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	**P**	**21 10 55.6**	**-1.8**
	comp=Z,3.1nm,0.8s,mb4.3,baz=27,slow=4.5,SNR=3.4						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**21 12 05.9**	**+0.5**
	comp=Z,1.2nm,0.6s,mb3.7,baz=300,slow=9.1,SNR=19						
WRAB	**Tennant Creek**	**42.03**	**122**	*eP*	**P**	**21 12 06.1**	**+0.7**
	comp=Z,4.0nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**43.38**	**127**	P	**P**	**21 12 17.1**	**+0.8**
	comp=Z,0.7nm,0.6s,mb3.6,baz=296,slow=7.6,SNR=6.5						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**21 12 47.2**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.9,baz=190,slow=9.2,SNR=13						
SONM				PcP	PcP	21 14 18.6	+0.4
	comp=Z,0.3nm,0.8s,baz=194,slow=5.1,SNR=4.2						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**21 12 48.2**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=160,slow=8.3,SNR=19						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**21 12 48.2**	**+0.7**
CN2	**Changchun**	**49.41**	**27**	*eP*	**P**	**21 13 03.0**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
KURK	**Kurchatov**	**51.87**	**345**	*eP*	**P**	**21 13 22.4**	**+0.1**
	comp=Z,3.2nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**53.64**	**351**	P	**P**	**21 13 35.3**	**-0.1**
	comp=Z,2.0nm,0.6s,mb4.2,baz=288,slow=5.8,SNR=11						
BVAR	**Borovoye Array**	**56.32**	**341**	P	**P**	**21 13 54.2**	**-0.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=158,slow=8.0,SNR=9.5						
CHKZ	**Chkalovo**	**56.80**	**341**	*eP*	**P**	**21 13 57.8**	**-0.6**
	comp=Z,1.1nm,0.6s,mb4.1						

*TAP **30** 21:12:02.3, 24.51N×122.74E, h33km, ML2.7*

JMA 30 21:12:00.9±0.1, 24.56N×122.87E, h60km±1km, M2.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.16**	**127**	P	P	21 12 10.1	0.0
YOJ				S	S	21 12 16.8	-0.1
IRIF	**Iriomote-Funau**	**0.81**	**106**	P	P	21 12 16.5	-0.2
IRIF				S	S	21 12 28.0	-0.4
HATJ	**Hateruma jima**	**0.99**	**120**	*eS*	S	21 12 32.8	+0.3
JKRS	**Kuro-shima**	**1.09**	**107**	P	P	21 12 20.5	+0.1
JKRS				S	S	21 12 34.4	-0.4
JIJ	**Ishigaki jima**	**1.18**	**99**	P	P	21 12 21.4	-0.1
JIJ				S	S	21 12 35.9	-1.0

*IDC **30** 21:12:49.2±2.0, 0.78N×97.77E, mb3.8/8, mb1 3.9/8, mb1mx3.7/20, mbtmp3.8/8, Error ellipse: s-maj=96.1km s-min=17.7km az=54.0*
*NEIC **30** 21:12:53.5±0.7, 0.74N×97.74E, h30km, mb4.1/3, Error ellipse: s-maj=20.6km s-min=9.6km az=58.0*

ISC 30 21:12:51.5±0.9, 0.8N±0.1×97.7E±0.2, h30km, n12, σ0s75/12, mb3.9/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**33**	*eP*	**Pn**	**21 14 11.8**	**0.0**
LSA	**Lhasa**	**29.45**	**348**	*eP*	**P**	**21 18 56.0**	**+0.9**
	3.9nm,1.0s,mb4.1						
FITZ	**Fitzroy Crossi**	**33.25**	**126**	P	**P**	**21 19 27.3**	**-1.3**
	2.5nm,0.7s,mb4.2,baz=217,slow=2.4,SNR=3.7						
WRA	**Warramunga Arr**	**41.36**	**122**	P	**P**	**21 20 37.0**	**+0.2**
	1.4nm,0.9s,mb3.6,baz=301,slow=9.0,SNR=5.7						
ASAR	**Alice Springs**	**42.71**	**127**	P	**P**	**21 20 49.0**	**+1.1**
	0.8nm,0.7s,mb3.5,baz=316,slow=7.1,SNR=6.1						
SONM	**Songino Array**	**47.49**	**8**	P	**P**	**21 21 25.9**	**+0.1**
	0.9nm,0.9s,mb3.7,baz=189,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**47.79**	**346**	P	**P**	**21 21 28.6**	**+0.4**
	1.1nm,0.5s,mb4.1,baz=158,slow=9.0,SNR=21						
KURK	**Kurchatov**	**52.35**	**345**	*eP*	**P**	**21 22 03.0**	**0.0**
	2.8nm,1.1s,mb4.1						
ZAL	**Zalesovo**	**54.07**	**351**	P	**P**	**21 22 14.9**	**-0.6**
	1.0nm,0.5s,mb4.0,baz=270,slow=4.2,SNR=4.4						
BVAR	**Borovoye Array**	**56.84**	**341**	P	**P**	**21 22 34.9**	**-0.7**
	0.7nm,0.6s,mb3.9,baz=139,slow=8.1,SNR=6.8						
CHKZ	**Chkalovo**	**57.31**	**341**	*eP*	**P**	**21 22 37.9**	**-1.1**
	2.2nm,0.9s,mb4.2						
FINES	**FINESS Array B**	**80.63**	**332**	P	**P**	**21 25 03.7**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=101,slow=7.1,SNR=4.8						

IDC 30 21:15:34.0±18.0, 6.12S×108.92E, h122km±168km, mb3.5/6, mb1 3.6/6, mb1mx3.4/20, mbtmp3.9/6, Error ellipse: s-maj=174.3km s-min=27.9km az=55.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.20**	**128**	P	P	21 19 59.0	-2.1
	10nm,0.7s,baz=323,slow=5.9,SNR=15						
WRA	**Warramunga Arr**	**28.26**	**121**	P	P	21 21 17.5	-0.5
	0.4nm,0.4s,baz=304,slow=9.3,SNR=6.1						
ASAR	**Alice Springs**	**29.69**	**129**	P	P	21 21 28.3	-2.4
	0.3nm,0.7s,baz=306,slow=8.9,SNR=5.5						
STKA	**Stephens Creek**	**39.85**	**134**	P	P	21 22 54.7	-2.4
	3.3nm,0.4s,baz=312,slow=9.6,SNR=14						
MKAR	**Makanchi Array**	**57.74**	**339**	P	P	21 25 11.6	-2.7
	0.4nm,0.5s,baz=159,slow=8.5,SNR=7.5						
BVAR	**Borovoye Array**	**67.33**	**336**	P	P	21 26 16.2	-1.6
	0.1nm,0.5s,baz=129,slow=9.2,SNR=4.2						

IDC 30 21:22:18.1±3.7, 2.68S×97.72E, mb3.6/5, mb1 3.8/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=144.3km s-min=29.2km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.64**	**118**	P	P	21 29 51.7	-2.0
	0.2nm,0.7s,baz=301,slow=8.8,SNR=4.6						
SONM	**Songino Array**	**50.88**	**8**	P	P	21 31 22.0	-0.9
	0.1nm,0.3s,baz=194,slow=8.9,SNR=5.7						
MKAR	**Makanchi Array**	**51.11**	**346**	P	P	21 31 20.8	-3.9
	0.5nm,0.4s,baz=162,slow=8.9,SNR=8.8						
ZAL	**Zalesovo**	**57.44**	**351**	P	P	21 32 09.3	-1.8
	1.1nm,0.4s,baz=283,slow=2.4,SNR=5.5						
BVAR	**Borovoye Array**	**60.07**	**341**	P	P	21 32 27.3	-2.0
	0.3nm,0.5s,baz=138,slow=8.8,SNR=4.6						

*ISK **30** 21:29:59.9, 35.74N×31.09E, h68km, MD3.7*
*NEIC **30** 21:29:59.8, 35.73N×31.11E, h30km, MD3.6(ISK), ML3.8(NIC), After ISK.*
*NIC **30** 21:29:59.4±0.4, 36.19N×31.29E, h35km, mb4.1, ML3.8, MW3.2*
*CSEM **30** 21:29:59.7±0.1, 35.76N×31.07E, h45km±2km, MD3.7, Error ellipse: s-maj=3.0km s-min=1.9km az=35.0*
*IDC **30** 21:30:01.7±1.3, 35.77N×31.02E, h54km±21km, mb3.5/3, mb1 3.5/10, mb1mx3.4/24, mbtmp3.5/10, ML3.4/7, Error ellipse: s-maj=13.0km s-min=11.1km az=32.0*

ISC 30 21:30:00.5±0.3, 35.78N±0.04×31.04E±0.04, h63km±8km, n53, σ1s04/66, mb3.6/3, 3C, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.25**	**292**	*i* P	**P**	**21 30 22.2**	**0.0**
AKAS				*i* S	**S**	**21 30 48.4**	**+10**
AKMC	**Akamas**	**1.30**	**125**	P	**P**	**21 30 23.0**	**0.0**
ELL	**Elmali**	**1.33**	**317**	PN	**P**	**21 30 24.4**	**+0.9**
ELL	**Elmali**	**1.33**	**317**	Pn	**P**	**21 30 24.0**	**+0.5**
ELL	**Elmali**	**1.33**	**317**	Pn	**P**	**21 30 24.0**	**+0.5**
PPCY	**Paphos**	**1.40**	**130**	P	**P**	**21 30 25.2**	**+0.8**
ALFC	**Alevga**	**1.42**	**116**	⇑*iP*	**P**	**21 30 23.2**	**-1.5**
	23nm,0.2s						
ALFC				S	**S**	**21 30 42.0**	**-0.6**
LEF	**Lefka**	**1.65**	**113**	PN	**P**	**21 30 26.1**	**-1.8**
LEF				SN	**S**	**21 30 47.6**	**-0.5**
LEF	**Lefka**	**1.65**	**113**	Pn	**P**	**21 30 26.1**	**-1.7**
HDMB	**Hadim**	**1.66**	**44**	*e*PN	**P**	**21 30 27.5**	**-0.5**
HDMB	**Hadim**	**1.66**	**44**	Pn	**P**	**21 30 27.0**	**-1.0**
BCK	**Bucak**	**1.71**	**348**	*e*PN	**P**	**21 30 29.1**	**+0.4**
BCK	**Bucak**	**1.71**	**348**	Pn	**P**	**21 30 29.2**	**+0.5**
BCK	**Bucak**	**1.71**	**348**	Pn	**P**	**21 30 29.2**	**+0.5**
FETY	**Fethiye**	**1.79**	**299**	*e*PN	**P**	**21 30 30.4**	**+0.6**
SZAC	**Souni-Zanaja**	**1.82**	**124**	P	**P**	**21 30 31.5**	**+1.3**
	6.8nm,0.3s						
SZAC				S	**S**	**21 30 54.2**	**+2.0**
MAMC	**Mammari**	**1.88**	**108**	⇑*eP*	**P**	**21 30 29.6**	**-1.4**
CSS	**Prodhromos**	**2.04**	**113**	⇑*iP*	**P**	**21 30 31.7**	**-1.6**
	2.4nm,0.4s						
CSS				S	**S**	**21 30 57.4**	**-0.2**
ISP	**Isparta**	**2.10**	**349**	*e*PN	**P**	**21 30 34.8**	**+0.7**
ISP	**Isparta**	**2.10**	**349**	Pn	**P**	**21 30 34.8**	**+0.7**
DALT	**Dalyan (Mudla)**	**2.17**	**298**	*e*PN	**P**	**21 30 36.5**	**+1.4**
DALT	**Dalyan (Mudla)**	**2.17**	**298**	Pn	**P**	**21 30 36.5**	**+1.4**
KONT	**Konya--Tatoy**	**2.41**	**26**	*e*PN	**P**	**21 30 38.7**	**+0.3**
KONT	**Konya--Tatoy**	**2.41**	**26**	Pn	**P**	**21 30 38.7**	**+0.3**
DNZL	**Cakiroluk**	**2.49**	**321**	*i* P	**P**	**21 30 42.7**	**+3.2**
DNZL				*i* S	**S**	**21 31 16.7**	**+8.0**
DENT	**Denizli**	**2.54**	**321**	*e*PN	**P**	**21 30 41.7**	**+1.3**
DENT	**Denizli**	**2.54**	**321**	Pn	**P**	**21 30 41.7**	**+1.4**
PHNC	**Paralimni**	**2.57**	**107**	P	**P**	**21 30 43.0**	**+2.3**
KIZT	**Kizilcal**	**3.16**	**12**	*e*PN	**P**	**21 30 49.2**	**+0.1**
KIZT	**Kizilcal**	**3.16**	**12**	Pn	**P**	**21 30 49.2**	**+0.1**
BDRM	**Kayabasi**	**3.17**	**295**	*i* P	**P**	**21 30 49.1**	**-0.1**
BDRM				*i* S	**S**	**21 31 25.1**	**-0.8**
BODT	**Bodrum**	**3.27**	**294**	*e*PN	**P**	**21 30 50.8**	**+0.3**
BODT	**Bodrum**	**3.27**	**294**	Pn	**P**	**21 30 50.8**	**+0.3**
MANT	**Manisa**	**3.35**	**325**	*i* P	**P**	**21 30 50.3**	**-1.4**
MANT				*i* S	**S

comp=Z,8.0nm,0.8s,mb4.6
WRA Warramunga Arr 42.76 123 P **P** 21 43 19.9 +0.4
comp=Z,3.0nm,0.6s,mb4.2,baz=300,slow=9.3,SNR=26
WRAB Tennant Creek 42.76 123 *eP* **P** 21 43 19.8 +0.2
comp=Z,4.8nm,0.7s,mb4.3
ASAR Alice Springs 44.18 128 P **P** 21 43 31.2 +0.3
comp=Z,2.0nm,0.8s,mb3.9,baz=303,slow=7.8,SNR=14
ASAR PcP PcP 21 45 15.3 -0.6
comp=Z,0.2nm,0.6s,baz=296,slow=3.7,SNR=3.8
SONM Songino Array 46.17 9 P **P** 21 43 47.6 +1.1
comp=Z,2.5nm,0.7s,mb4.2,baz=189,slow=8.9,SNR=27
SONM PcP PcP 21 45 22.4 -0.1
comp=Z,0.4nm,0.6s,baz=203,slow=4.8,SNR=4.1
MKAR Makanchi Array 46.21 346 P **P** 21 43 47.0 +0.1
comp=Z,5.9nm,0.7s,mb4.6,baz=161,slow=7.7,SNR=49
CN2 Changchun 48.51 27 *eP* **P** 21 44 05.0 +0.1
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
HIA Hailar 50.76 19 *eP* **P** 21 44 22.5 +0.4
comp=Z,3.1nm,0.5s,mb4.5
KURK Kurchatov 50.77 345 *eP* **P** 21 44 21.7 -0.3
comp=Z,2.2nm,0.9s,mb4.1
ZAL Zalesovo 52.52 351 P **P** 21 44 34.8 -0.5
comp=Z,3.2nm,0.5s,mb4.5,baz=297,slow=5.4,SNR=18
BVAR Borovoye Array 55.23 341 P **P** 21 44 54.1 -1.2
comp=Z,1.5nm,0.7s,mb4.1,baz=140,slow=8.2,SNR=16
CHKZ Chkalovo 55.70 341 *eP* **P** 21 44 57.7 -1.0
comp=Z,1.8nm,0.6s,mb4.3
FINES FINESS Array B 79.01 332 P **P** 21 47 24.6 -0.6
comp=Z,0.5nm,0.5s,mb3.7,baz=124,slow=6.9,SNR=6.1
ARCES ARCESS Array B 81.52 340 P **P** 21 47 38.6 +0.3
comp=Z,3.0nm,1.0s,mb4.2,baz=104,slow=5.0,SNR=10
GERES GERESS Array B 83.91 319 P **P** 21 47 51.1 -0.1
comp=Z,0.1nm,0.3s,mb3.4,baz=18,slow=3.1,SNR=3.6

IDC 30 21:44:25.1±4.1, 1.18N×97.39E, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=157.9km s-min=29.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.86**	**122**	P	P	21 52 17.2	-1.8
	0.3nm,0.8s,baz=302,slow=9.0,SNR=4.6						
SONM	**Songino Array**	**47.12**	**8**	P	P	21 52 59.5	-1.4
	0.3nm,0.4s,baz=187,slow=7.11,SNR=3.5						
MKAR	**Makanchi Array**	**47.30**	**346**	P	P	21 53 00.3	-2.0
	0.6nm,0.6s,baz=158,slow=7.5,SNR=10						
ZAL	**Zalesovo**	**53.60**	**351**	P	P	21 53 47.4	-2.8
	0.9nm,0.4s,baz=310,slow=5.1,SNR=5.1						

IDC 30 21:53:07.1±1.9, 1.28N×126.11E, mb3.7/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=171.9km s-min=24.2km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.58**	**159**	P	P	21 58 09.8	-0.9
	1.8nm,0.4s,baz=336,slow=11,SNR=73						
ASAR	**Alice Springs**	**25.92**	**163**	P	P	21 58 41.8	-1.2
	1.0nm,0.5s,baz=349,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**36.09**	**157**	P	P	22 00 09.3	-3.4
	0.9nm,0.5s,baz=341,slow=9.5,SNR=3.5						
MKAR	**Makanchi Array**	**59.23**	**326**	P	P	22 03 10.4	-2.2
	0.1nm,0.3s,baz=117,slow=8.2,SNR=5.6						

IDC 30 21:59:03.3±2.2, 0.55N×97.75E, mb3.8/7, mb1 3.9/7, mb1mx3.7/19, mbtmp3.8/7, Error ellipse: s-maj=98.2km s-min=20.4km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.23**	**122**	P	P	22 06 50.0	-1.8
	0.3nm,0.3s,baz=305,slow=8.6,SNR=10.0						
ASAR	**Alice Springs**	**42.57**	**127**	P	P	22 07 01.5	-1.4
	0.4nm,0.5s,baz=298,slow=8.1,SNR=4.9						
SONM	**Songino Array**	**47.70**	**8**	P	P	22 07 41.7	-1.9
	0.9nm,0.7s,baz=188,slow=8.3,SNR=10						
MKAR	**Makanchi Array**	**48.00**	**346**	P	P	22 07 44.4	-1.6
	0.9nm,0.6s,baz=159,slow=7.7,SNR=14						
ZAL	**Zalesovo**	**54.28**	**351**	P	P	22 08 30.6	-2.8
	1.0nm,0.4s,baz=307,slow=3.9,SNR=4.3						
BVAR	**Borovoye Array**	**57.04**	**341**	P	P	22 08 50.7	-2.7
	0.5nm,0.8s,baz=162,slow=9.4,SNR=4.7						
FINES	**FINESS Array B**	**80.83**	**332**	P	P	22 11 18.8	-1.4
	0.2nm,0.6s,baz=106,slow=10,SNR=3.9						

IDC 30 22:07:26.2±2.2, 1.66N×99.74E, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, MS3.3/1, Ms1 3.3/1, ms1mx2.7/25, Error ellipse: s-maj=101.1km s-min=20.6km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.82**	**123**	P	P	22 15 18.4	-1.3
	1.2nm,0.7s,baz=306,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**43.24**	**128**	P	P	22 15 29.2	-2.1
	0.4nm,0.5s,baz=298,slow=7.6,SNR=5.3						
SONM	**Songino Array**	**46.60**	**8**	P	P	22 15 55.6	-2.3
	0.2nm,0.4s,baz=198,slow=8.2,SNR=4.9						
MKAR	**Makanchi Array**	**46.94**	**345**	P	P	22 15 59.5	-1.1
	1.0nm,0.6s,baz=160,slow=8.1,SNR=14						
ZAL	**Zalesovo**	**53.19**	**350**	P	P	22 16 45.9	-2.5
	1.9nm,0.4s,baz=286,slow=2.5,SNR=7.3						
ATD	**Arta Tunnel**	**55.31**	**283**	LR	LR	22 34 51.3	
	comp=Z,28nm,19.1s,baz=165,slow=30						
FINES	**FINESS Array B**	**79.85**	**332**	P	P	22 19 36.1	-1.9
	0.5nm,0.6s,baz=108,slow=6.0,SNR=6.4						

IDC 30 22:14:33.7±4.5, 2.59N×96.33E, mb3.3/3, mb1 3.4/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=168.4km s-min=31.3km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.51**	**123**	P	P	22 22 39.2	-1.8
	0.3nm,0.8s,baz=301,slow=9.1,SNR=5.0						
MKAR	**Makanchi Array**	**45.70**	**347**	P	P	22 22 56.1	-2.1
	0.3nm,0.5s,baz=157,slow=8.0,SNR=6.9						
SONM	**Songino Array**	**45.90**	**9**	P	P	22 22 58.3	-1.5
	0.3nm,0.5s,baz=193,slow=8.7,SNR=4.2						

MAN 30 22:22:45.8, 8.17N×123.20E, h5km, mb4.3, ML3.1, MS2.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAGZ	**Pagadian**	**0.37**	**151**	*eP*	Pg	22 22 39.2	-14
PAGZ				*eS*	Sg	22 22 51.5	-6.7
IPIL	**Ipil**	**0.73**	**239**	*eP*	Pg	22 22 47.9	-13
SNPH	**Sibulan**	**1.16**	**2**⇑	*iP*	Pb	22 23 08.0	0.0
SNPH				*i* S	Sb	22 23 27.0	+3.8
CGP	**Cagayan de Oro**	**1.50**	**79**⇑	*eP*	Pn	22 23 09.3	-4.2
CGP				*eS*	Sb	22 23 31.4	-1.8
TBP	**Tagbilaran**	**1.64**	**23**	*eP*	Pn	22 23 14.8	-0.8
ZMPH	**Zamboanga City**	**1.65**	**223**⇑	*eP*	Sb	22 23 37.6	+0.1
BUKP	**Musuan**	**1.87**	**99**	*eP*	Pn	22 23 18.5	-0.2
MSLP	**Maasin**	**2.54**	**40**	*eP*	Pn	22 23 32.5	+4.0
CUYO	**Cuyo Island**	**3.42**	**321**	*eP*	Pn	22 23 41.2	+0.3
ENPP	**El Nido**	**4.79**	**309**	*eP*	Pn	22 23 59.6	-0.7

*IDC **30** 22:28:20.2±1.2, 1.00N×97.16E, mb4.0/11, mb1 4.1/11, mb1mx3.9/19, mbtmp4.0/11, MS3.7/2, Ms1 3.7/2, ms1mx3.2/21, Error ellipse: s-maj=64.1km s-min=16.8km az=54.0*
*BJI **30** 22:28:23.5, 1.01N×97.04E, h31km, mb4.7, Ms4.1, Msz4.0*
*NEIC **30** 22:28:24.90.6, 1.00N×97.34E, h30km, mb4.3/7, Error ellipse: s-maj=22.1km s-min=7.4km az=54.0*

ISC 30 22:28:23.2±0.8, 1.0N±0.1×97.3E±0.2, h30km, n29, σ0§83/28, mb4.2/22, MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**24.54**	**12**	P	**P**	**22 33 43.8**	**+2.1**
KMI				AP		22 33 49.5	
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.5						

JIRN Jiri 28.56 339 *eP* **P** 22 34 19.1 +0.3
PKI Pulchoki 28.77 338 *eP* **P** 22 34 21.5 +0.8
DMN Daman 28.92 337 *eP* **P** 22 34 23.0 +1.0
KKN Kakani 29.01 338 *eP* **P** 22 34 23.1 +0.2
LSA Lhasa 29.12 349 *eP* **P** 22 34 23.9 0.0
comp=Z,2.9nm,0.7s,mb4.1
GKN Gorkha 29.45 337 *eP* **P** 22 34 27.0 +0.1
comp=Z,4.3nm,0.4s,mb4.5
KOLN Koldanda 29.67 335 *eP* **P** 22 34 28.8 0.0
comp=Z,13nm,0.8s,mb4.7
ENH Enshi 31.31 21 *eP* **P** 22 34 41.8 -1.5
comp=Z,8.0nm,0.7s,mb4.7
GTA Gaotai 38.28 3 *eP* **P** 22 35 43.3 +0.4
GTA AP pP 22 35 50.0 -1.8
GTA XP sP 22 35 53.0 -2.6
GTA AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
WRA Warramunga Arr 41.84 122 P **P** 22 36 12.5 -0.1
comp=Z,1.1nm,0.8s,mb3.6,baz=301,slow=9.0,SNR=12
WRAB Tennant Creek 41.85 122 *eP* **P** 22 36 12.9 +0.3
comp=Z,2.6nm,0.8s,mb3.9
BJT Baijiatuau 42.45 22 *eP* **P** 22 36 17.2 -0.1
ASAR Alice Springs 43.19 127 P **P** 22 36 23.8 +0.2
comp=Z,1.1nm,0.7s,mb3.7,baz=304,slow=7.8,SNR=8.9
SONM Songino Array 47.30 8 P **P** 22 36 56.2 +0.2
comp=Z,3.0nm,0.5s,mb4.4,baz=188,slow=9.3,SNR=28
SONM PcP PcP 22 38 27.0 -0.1
comp=Z,0.9nm,0.8s,baz=213,slow=3.5,SNR=5.1
SONM LR LR 22 59 32.8
comp=Z,83nm,20.2s,MS3.7,baz=164,slow=40
ULN Ulaanbaatar 47.43 9 *eP* **P** 22 36 56.9 -0.1
comp=Z,2.4nm,0.7s,mb4.2
MKAR Makanchi Array 47.45 346 P **P** 22 36 57.5 +0.2
comp=Z,2.9nm,0.7s,mb4.3,baz=157,slow=8.1,SNR=34
CN2 Changchun 49.42 27 *eP* **P** 22 37 18.0 +5.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
KURK Kurchatov 52.00 345 *eP* **P** 22 37 31.7 -0.4
comp=Z,3.3nm,0.9s,mb4.3
CTA Charters Tower 52.32 116 LR LR 23 03 19.2
comp=Z,86nm,20.7s,MS3.8,baz=222,slow=40
STKA Stephens Creek 53.15 132 P **P** 22 37 42.2 +1.3
comp=Z,1.1nm,0.7s,mb3.9,baz=339,slow=16,SNR=3.9
STKA Stephens Creek 53.15 132 *eP* **P** 22 37 39.4 -1.5
ZAL Zalesovo 53.75 351 P **P** 22 37 43.7 -1.3
comp=Z,2.3nm,0.7s,mb4.2,baz=315,slow=6.1,SNR=12
BVAR Borovoye Array 56.46 341 P **P** 22 38 02.0 -2.7
comp=Z,1.1nm,0.7s,mb4.0,baz=135,slow=6.3,SNR=6.9
CHKZ Chkalovo 56.94 341 *eP* **P** 22 38 07.0 -1.1
comp=Z,3.5nm,0.9s,mb4.4
FINES FINESS Array B 80.22 333 P **P** 22 40 32.0 -0.2
comp=Z,0.3nm,0.4s,mb3.6,baz=108,slow=8.8,SNR=4.9
ARCES ARCESS Array B 82.75 340 P **P** 22 40 45.4 0.0
comp=Z,1.3nm,0.6s,mb4.1,baz=90,slow=2.4,SNR=6.7
GERES GERESS Array B 85.03 319 P **P** 22 40 58.1 +0.8
comp=Z,0.6nm,0.8s,mb3.8,baz=72,slow=4.2,SNR=4.6
NOA NORSAR Array B 87.22 331 P **P** 22 41 07.9 0.0
comp=Z,0.6nm,0.8s,mb3.9,baz=95,slow=4.9,SNR=4.0

*BJI **30** 22:41:35.2, 35.32S×70.72W, h91km, mB4.6*
*GUC **30** 22:41:37.30.7, 35.23S×71.31W, h91km±2km, ML4.5*
*NEIC **30** 22:41:37.3, 35.23S×71.31W, h91km, mb4.7/6, After GUC. NEIC Felt [III] at Curico, Linares and Talca.*
*IDC **30** 22:41:37.40.7, 35.22S×71.12W, h94km±5km, mb4.0/11, mb1 4.0/15, mb1mx4.0/20, mbtmp4.3/15, MS3.5/4, Ms1 3.4/4, ms1mx2.8/25, Error ellipse: s-maj=18.0km s-min=9.5km az=97.0*

ISC 30 22:41:36.5±0.3, 35.28S±0.03×71.23W±0.07, h100km±2km, h91km±1.4km: pP-P, n69, σ0§94/80, mb4.3/16, 11C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NICH	**Los Niches**	**0.28**	**360**⇓	*iP*	**P**	**22 41 50.6**	**-0.4**
NICH				*i* S	**S**	**22 42 00.5**	**-1.5**
TALC	**Talca**	**0.35**	**251**⇑	*iP*	**P**	**22 41 51.1**	**-0.3**
TALC				*i* S	**S**	**22 42 01.5**	**-1.1**
TALC				AMP		22 42 02.2	
	comp=E,176μm,0.3s						
LNCH	**Linares**	**0.64**	**208**⇑	*iP*	**P**	**22 41 53.7**	**+0.1**
LNCH				*i* S	**S**	**22 42 06.3**	**0.0**
LNCH				AMP		22 42 07.9	
	comp=N,47μm,0.4s						
SFDO	**San Fernando**	**0.69**	**15**⇑	*iP*	**P**	**22 41 53.5**	**-0.5**
CICH	**Cipreses**	**1.17**	**35**⇑	*iP*	**P**	**22 41 59.5**	**+0.3**
CICH				*i* S	**S**	**22 42 16.6**	**+0.4**
CACH	**El Canelo**	**1.27**	**24**⇓	*iP*	**P**	**22 42 00.6**	**+0.2**
CACH				*i* S	**S**	**22 42 18.5**	**+0.1**
LNV	**Longovilo**	**1.33**	**353**⇑	*iP*	**P**	**22 42 01.0**	**-0.1**
CHCH	**Chadas Angostu**	**1.43**	**20**⇓	*iP*	**P**	**22 42 02.0**	**-0.3**
CCHI	**Chillan**	**1.48**	**207**⇑	*iP*	**P**	**22 42 03.5**	**+0.5**
CCHI				*i* S	**S**	**22 42 23.1**	**+0.4**
CCHI				AMP		22 42 26.5	
	comp=N,5μm,0.4s						
TACH	**Talagante**	**1.64**	**9**⇓	*iP*	**P**	**22 42 04.7**	**-0.3**
LMEL	**Las Melosas**	**1.66**	**31**	*eP*	**P**	**22 42 06.0**	**+0.8**
LMEL				*i* P		22 42 06.2	
LMEL				*i* S	**S**	**22 42 27.7**	**+1.2**
LMEL				AMP		22 42 29.5	
	comp=E,6μm,0.5s						
LMEL	**Las Melosas**	**1.66**	**31**	*i* P	**P**	**22 42 06.2**	**+1.0**
LMEL				*i* S	**S**	**22 42 27.7**	**+1.2**
PCH	**Pirque**	**1.76**	**20**⇑	*iP*	**P**	**22 42 06.7**	**+0.3**
PCH				*i* S	**S**	**22 42 29.1**	**+0.5**
ANTU	**Antumapu**	**1.78**	**16**	*eP*	**P**	**22 42 06.9**	**+0.2**
ANTU				*i* S	**S**	**22 42 29.3**	**+0.3**
ANTU				AMP		22 42 30.6	
	comp=N,5μm,0.8s						
SCR	**San Cristobal**	**1.79**	**6**⇑	*iP*	**P**	**22 42 08.4**	**+1.6**
SCR				*i* S	**S**	**22 42 31.8**	**+2.6**
SCR				AMP		22 42 34.9	
	comp=E,3μm,0.5s						
SJCH	**San Jose de Ma**	**1.79**	**24**	*eP*	**P**	**22 42 07.2**	**+0.3**
SJCH				AMP		22 42 33.8	
	comp=N,2μm,0.8s						
LCCH	**Las Cruces**	**1.82**	**351**⇓	*iP*	**P**	**22 42 06.7**	**-0.5**
PUEX	**Pudahuel**	**1.88**	**12**	*eP*	**P**	**22 42 08.4**	**+0.5**
PUEX				*i* S	**S**	**22 42 31.5**	**+0.3**
PUEX				AMP		22 42 36.0	
	comp=E,9μm,0.5s						
SAN	**Santiago**	**1.89**	**15**	*eP*	**P**	**22 42 08.1**	**0.0**
SAN				*i* S	**S**	**22 42 31.5**	**+0.1**
STL	**Santa Lucia**	**1.91**	**15**	*eP*	**P**	**22 42 08.0**	**-0.3**
STL				*i* S	**S**	**22 42 31.9**	**+0.1**
DSCH	**Colegio Aleman**	**1.96**	**16**⇓	*iP*	**P**	**22 42 09.1**	**+0.1**
DSCH				*i* S	**S**	**22 42 33.2**	**+0.2**
DSCH				AMP		22 42 39.5	
	comp=E,5μm,0.7s						
CLCH	**Cerro Calan**	**1.97**	**17**⇑	*iP*	**P**	**22 42 09.2**	**+0.1**
CLCH				*i* S	**S**	**22 42 33.5**	**+0.2**
CLCH				AMP		22 42 34.9	
	comp=E,6μm,0.4s						
FCH	**Farellones**	**2.10**	**22**	*eP*	**P**	**22 42 11.5**	**+0.6**
FCH				*i* S	**S**	**22 42 37.6**	**+1.2**
FCH				AMP		22 42 40.3	
	comp=N,3μm,0.6s						
IHA	**Instituto Hidr**	**2.28**	**351**⇑	*iP*	**P**	**22 42 13.1**	**-0.3**
JACH	**Jahuel**	**2.65**	**12**⇓	*iP*	**P**	**22 42 17.9**	**-0.6**
JACH				*i* S	**S**	**22 42 48.8**	**-1.0**
PACH	**Papudo**	**2.75**	**356**⇑	*iP*	**P**	**22 42 19.1**	**-0.7**
PTCH	**Petorca**	**3.02**	**5**	*eP*	**P**	**22 42 22.9**	**-0.7**
MDZ	**Mendoza**	**3.10**	**40**	*eP*	**P**	**22 42 27.4**	**+2.7**
MDZ				*i* S	**S**	**22 42 52.0**	**-9.0**
CHNG	**Los Chungos**	**3.40**	**356**	*eP*	**P**	**22 42 27.3**	**-1.4**
ILCH	**Illapel**	**3.64**	**1**	*eP*	**P**	**22 42 31.2**	**-0.7**
ZON	**Zonda**	**4.29**	**30**	*eP*	**P**	**22 42 39.0**	**-1.9**
CFAA	**Coronel Fontan**	**4.44**	**35**	P	**P**	**22 42 41.6**	**-1.3**
	comp=N,1.1nm,0.3s,baz=206,slow=12,SNR=68						
CFAA				S	**S**	**22 43 33.5**	**-0.3**
	comp=N,1.0nm,0.3s,baz=213,slow=13,SNR=3.7						
CFAA	**Coronel Fontan**	**4.44**	**35**	P	**P**	**22 42 41.6**	**-1.3**
CFAA				S	**S**	**22 43 33.5**	**-0.3**
TLL	**Tololo Astrono**	**5.11**	**4**	*eP*	**P**	**22 42 50.7**	**-1.4**
PLCA	**Paso Flores**	**5.47**	**175**	P	**P**	**22 42 57.1**	**+0.2**
	comp=N,2.1nm,0.3s,baz=340,slow=11,SNR=26						
PLCA				S	**S**	**22 44 02.2**	**+3.1**
	comp=N,1.5nm,0.3s,baz=259,slow=18,SNR=2.9						
PLCA				LR	LR	22 45 35.0	
	comp=N,86nm,21.2s,baz=271,slow=43						
PLCA	**Paso Flores**	**5.47**	**175**	*eP*	**P**	**22 42 56.4**	**-0.5**
	comp=N,21nm,0.7s						
TRQA	**Tornquist**	**7.93**	**113**	*eP*	**P**	**22 43 28.7**	**-2.0**

comp=N,69nm,1.0s
LVC Limon Verde 12.79 10 *eP* **P** 22 44 38.6 +2.9
LPAZ La Paz 19.12 9 P **P** 22 45 51.2 -2.9
comp=N,0.2nm,0.3s,baz=183,slow=14,SNR=4.3
LPAZ La Paz 19.12 9 *eP* **P** 22 45 56.6 +2.5
comp=N,11nm,0.9s
USHA Ushuaia 19.64 175 P **P** 22 45 60.0 +0.5
comp=N,1.2nm,0.3s,baz=346,slow=14,SNR=8.6
SIV San Ignacio 21.25 28 P **P** 22 46 14.9 -1.3
comp=N,2.8nm,0.8s,mb3.6,baz=206,slow=8.7,SNR=12
BDFB Brasilia 28.54 53 P **P** 22 47 23.2 -1.8
comp=N,1.4nm,0.6s,mb3.8,baz=214,slow=8.7,SNR=3.8
BDFB LR LR 22 59 04.4
comp=N,62nm,19.2s,baz=67,slow=37
SNAA Sanae 50.15 157 P **P** 22 50 23.5 +0.3
comp=N,1.0nm,0.3s,mb4.2,baz=270,slow=6.4,SNR=26
QSPA South Pole Qui 54.96 180⇓ *iP* **P** 22 50 59.6 +0.7
comp=N,11nm,0.6s,mb5.1
VNDA Vanda 62.98 191 P **P** 22 51 54.7 +0.3
comp=N,1.3nm,0.7s,mb4.0,baz=165,slow=3.2,SNR=8.7
TXAR Lajitas Array 71.18 330 P **P** 22 52 47.1 +0.7
comp=N,2.0nm,0.7s,mb4.1,baz=154,slow=7.9,SNR=15
TXAR pP pP 22 53 10.0 -2.0
comp=N,1.0nm,0.7s,baz=149,slow=8.4,SNR=3.8
MAW Mawson 71.76 163 P **P** 22 52 49.0 -0.2
comp=N,6.1nm,0.8s,mb4.5,baz=199,slow=7.0,SNR=4.7
WVT Waverly 72.71 346 *eP* **P** 22 52 55.0 -0.3
comp=N,16nm,0.8s,mb4.9
DBIC Dimbokro 74.97 70 P **P** 22 53 08.2 -0.7
comp=N,3.5nm,0.8s,mb4.2,baz=169,slow=3.2,SNR=6.4
DBIC pP pP 22 53 31.8 -2.9
comp=N,3.3nm,1.0s,baz=242,slow=22,SNR=2.0
DBIC Dimbokro 74.97 70 P **P** 22 53 08.2 -0.7
DBIC pP pP 22 53 31.8 -2.9
CCM Cathedral Cave 75.29 344 *eP* **P** 22 53 10.3 +0.1
comp=N,16nm,1.1s,mb4.7
RAR Rarotonga 76.92 253 LR LR 23 19 22.4
comp=N,82nm,20.1s,baz=170,slow=29
BOSA Boshof 78.89 117 P **P** 22 53 30.0 -0.4
comp=N,3.1nm,0.6s,mb4.3,baz=202,slow=3.3,SNR=10
BOSA pP pP 22 53 54.0 -2.4
comp=N,3.2nm,0.8s,baz=251,slow=14,SNR=1.5
LBTB Lobatse 81.17 114 P **P** 22 53 42.4 -0.3
comp=N,2.2nm,0.6s,mb4.2,baz=278,slow=7.1,SNR=6.3
HWUT Hardware Ranch 84.99 331 *eP* **P** 22 54 02.5 +0.8
comp=N,9.3nm,1.1s,mb4.6
PDAR Pinedale Array 85.20 333 P **P** 22 54 03.6 +0.9
comp=N,1.7nm,0.7s,mb4.1,baz=142,slow=4.2,SNR=14
PDAR pP pP 22 54 28.8 -0.3
comp=N,0.5nm,0.7s,baz=131,slow=8.3,SNR=2.3
RAO Raoul Island 85.74 237 LR LR 23 25 26.9
comp=N,84nm,20.1s,baz=354,slow=31
HLID Hailey 87.78 330 *eP* **P** 22 54 17.3 +2.1
comp=N,3.8nm,1.3s,mb4.3
ULM Lac du Bonnet 87.91 344 P **P** 22 54 14.7 -1.0
comp=N,4.4nm,0.9s,mb4.5,baz=184,slow=4.4,SNR=8.1
ASAR Alice Springs 116.72 206 PKP PKPdf 23 00 10.3 +1.0
comp=N,0.3nm,0.5s,baz=151,slow=2.0,SNR=4.0
WRA Warramunga Arr 119.96 208 PKP PKPdf 23 00 16.4 +0.8
comp=N,1.1nm,0.6s,baz=159,slow=1.6,SNR=14
WRA pPKP 23 00 42.1
comp=N,0.4nm,0.5s,baz=168,slow=1.7,SNR=2.6
HYB Hyderabad 147.78 116 *eP* PKPdf 23 01 12.0 +5.0
MKAR Makanchi Array 157.07 52 PKPab PKPab 23 01 51.5 -1.4
comp=N,1.0nm,0.8s,baz=286,slow=4.0,SNR=6.1
MKAR pPKPab 23 02 16.0
comp=N,1.5nm,0.8s,baz=304,slow=4.4,SNR=7.1
WMQ Urumqi 161.68 56 *e*PKP PKPdf 23 01 28.0 +3.2
CN2 Changchun 164.60 309 *e*PKP PKPdf 23 01 31.3 +3.6
SONM Songino Array 167.34 7 PKPab PKPab 23 02 37.5 +0.1
comp=N,0.9nm,0.7s,baz=327,slow=4.7,SNR=8.7
SONM pPKPab 23 03 00.7
comp=N,0.3nm,0.8s,slow=1.4,SNR=2.6
NJ2 Nanjing 171.00 252 *e*PKP PKPdf 23 01 35.5 +3.0
HHC Hu-ho-hao-te 174.02 339 *e*PKP PKPdf 23 01 37.0 +3.4
HHC XPKP 23 02 14.5
HHC SKKS 23 13 42.0
HHC PP PP
comp=Z,80nm,7.1s

*IDC **30** 22:51:20.00.1, 1.80N×96.34E, mb3.8/9, mb1 3.9/9, mb1mx3.8/17, mbtmp3.8/9, Error ellipse: s-maj=59.9km s-min=17.9km az=51.0*
*NEIC **30** 22:51:25.40.7, 2.12N×96.76E, h30km, mb4.2/3, Error ellipse: s-maj=22.2km s-min=13.6km az=47.0*

ISC 30 22:51:23.5±0.8, 2.1N±0.1×96.8E±0.1, h30km, n14, σ1§00/14, mb3.9/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.99**	**51**	*eP*	**Pn**	**22 52 37.2**	**-1.2**
WRA	**Warramunga Arr**	**42.89**	**123**	P	**P**	**22 59 21.7**	**+0.3**
	0.7nm,0.5s,mb3.6,baz=302,slow=9.0,SNR=9.8						
WRAB	**Tennant Creek**	**42.90**	**123**	*eP*	**P**	**22 59 16.1**	**-5.4**
	6.7nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**44.30**	**128**	P	**P**	**22 59 33.7**	**+0.9**
	0.4nm,0.6s,mb3.4,baz=298,slow=7.7,SNR=5.7						
MKAR	**Makanchi Array**	**46.24**	**346**	P	**P**	**22 59 49.9**	**+2.0**
	1.9nm,0.7s,mb4.2,baz=159,slow=7.7,SNR=24						
SONM	**Songino Array**	**46.28**	**9**	P	**P**	**22 59 49.6**	**+1.4**
	0.6nm,0.5s,mb3.8,baz=191,slow=9.2,SNR=8.3						
KURK	**Kurchatov**	**50.79**	**345**	P	**P**	**23 00 23.0**	**-0.1**
	1.8nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**54.30**	**132**	P	**P**	**23 00 48.9**	**-0.7**
	0.9nm,0.5s,mb3.9,baz=277,slow=14,SNR=4.3						
CHKZ	**Chkalovo**	**55.71**	**341**	*eP*	**P**	**23 00 59.3**	**-0.3**
	1.3nm,0.7s,mb4.1						
CHKZ				*e*pP	pP	23 01 07.7	-1.0
BRTR	**Keskin Array B**	**68.17**	**312**	P	**P**	**23 02 22.1**	**-1.2**
	0.6nm,0.6s,mb3.8,baz=135,slow=7.0,SNR=4.3						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**23 02 58.2**	**-1.4**
	0.3nm,0.3s,mb3.7,baz=87,slow=5.0,SNR=4.0						
AKASG	**Malin Array Be**	**74.26**	**322**	P	**P**	**23 02 58.2**	**-1.4**
FINES	**FINESS Array B**	**78.98**	**332**	P	**P**	**23 03 25.9**	**0.0**
	0.4nm,0.4s,mb3.7,baz=108,slow=6.0,SNR=9.4						
ARCES	**ARCESS Array B**	**81.52**	**340**	P	**P**	**23 03 39.9**	**+0.7**
	2.8nm,0.9s,mb4.2,baz=101,slow=6.2,SNR=5.0						

IDC 30 23:06:21.1±48.0, 15.31S×174.58W, mb3.7/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.7/3, Error ellipse: s-maj=923.4km s-min=186.8km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek

az=116.5
NEIC ***30*** *23:12:01.1±0.2,1.25N×97.17E,mb5.1/31,Error ellipse: s-maj=7.3km s-min=4.5km az=50.0*
HRVD ***30*** *23:12:01.1±0.9,1.03N×97.08E,h31km±1km,MW4.9/41, Centroid moment Tensor Solution. LP body waves: s22,c33;Mantle waves: s41,c66; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.06±.23; $M_{\theta\theta}$-1.15±.13; $M_{\phi\phi}$-0.90±.17; $M_{r\theta}$1.88±.19; $M_{r\phi}$1.80±.10; $M_{\theta\phi}$-0.77±.26; Best double couple: M_o3.213×10^{16} NP1:ϕ_s334°,δ29°, λ123°. NP2:ϕ_s117°,δ66°,λ73°. Principal axes: T 2.928, Plg65°, Azm358°; N .572, Plg16°, Azm124°; P -3.498, Plg19°, Azm220°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 23:11:59.7±0.2,1.27N±0.04×97.22E±0.04,h24km, h24km±.9km:pP-P,n197,σ1s05/196,mb5.0/90,MS4.8/23, 15C-11D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
IPM	**Ipoh**	**5.03**	**49**	P	**Pn**		**23 13 16.9**	**+1.2**
KGM	**Kluang**	**6.15**	**83**	P	**Pn**		**23 13 33.7**	**+2.2**
SNG	**Songkhla**	**6.78**	**30**	P	**Pn**		**23 13 39.0**	**-1.3**
	260nm,0.9s							
NNT	**Nongplab**	**11.52**	**12**	P	**P**		**23 14 45.5**	**-0.5**
KSM	**Kuching**	**13.09**	**89**	*e*P	**P**		**23 15 10.2**	**+3.1**
NST	**Nakhon Sawan**	**14.60**	**11**	P	**P**		**23 15 25.0**	**-1.9**
KKTK	**Khon Kaen**	**15.96**	**20**	P	**P**		**23 15 48.0**	**+3.4**
KKTK				S	rx		23 15 49.0	
CM31	**Chiang Mai Arr**	**17.16**	**6**	*e*P	**P**		**23 15 58.4**	**-1.4**
	25nm,0.7s							
NANT	**Nan**	**17.75**	**11**	⇑P	**P**		**23 16 05.0**	**-2.2**
	581nm,0.8s							
CHRT	**Chiangrai**	**18.65**	**8**	⇓P	**P**		**23 16 18.0**	**-0.3**
	355nm,0.7s							
TSM	**Tawau**	**20.85**	**81**	P	**P**		**23 16 42.4**	**-0.1**
VIS	**Vishakhapatnam**	**21.29**	**321**	*e*P	**P**		**23 16 47.4**	**+0.4**
VIS				*e*			23 16 58.3	
	comp=Z,87nm,1.5s							
QIZ	**Qiongzhong**	**21.55**	**34**	⇓P	**P**		**23 16 49.8**	**+0.1**
QIZ				PP	PP		23 17 15.5	+1.2
QIZ				S	**S**		**23 20 43.0**	**+0.6**
QIZ				XS			23 20 58.5	
QIZ				AMB	AMB			
	comp=Z,35nm,1.1s,mb4.7							
QIZ				LR	LR			
	comp=N,1μm,15.1s,MS4.6							
QIZ				LR	LR			
	comp=E,1μm,15.1s,MS4.6							
QIZ				LR	LR			
	comp=Z,2μm,14.4s,MS4.5							
QIZ	**Qiongzhong**	**21.55**	**34**	*e*P	**P**		**23 16 49.4**	**-0.3**
	comp=Z,29nm,0.8s,mb4.8							
KMI	**Kunming**	**24.30**	**12**	P	**P**		**23 17 18.5**	**+1.7**
KMI				AP			23 17 25.0	
KMI				S	**S**		**23 21 35.8**	**+4.4**
KMI				AMB	AMB			
	comp=Z,144nm,1.1s,mb5.3							
KMI				AMB	AMB			
	comp=Z,563nm,3.5s							
KMI				LR	LR			
	comp=N,4μm,15.4s,MS5.1							
KMI				LR	LR			
	comp=E,2μm,13.9s,MS5.1							
KMI				LR	LR			
	comp=Z,5μm,15.2s,MS5.1							
HYB	**Hyderabad**	**24.37**	**312**	*e*P	**P**		**23 17 19.5**	**+2.0**
HYB				*e*S	**S**		**23 21 36.0**	**+3.4**
HYB				pmax	pmax			
	comp=Z,45nm,1.0s,mb4.8							
HYB	**Hyderabad**	**24.37**	**312**	*e*P	**P**		**23 17 19.5**	**+2.0**
	comp=Z,45nm,1.0s,mb4.8							
HYB				*e*S	**S**		**23 21 36.0**	**+3.4**
HYB	**Hyderabad**	**24.37**	**312**	*i* P	**P**		**23 17 19.5**	**+2.0**
	comp=Z,45nm,1.0s,mb4.8							
HYB				*e*S	**S**		**23 21 36.0**	**+3.4**
BLSP	**Bilaspur**	**25.40**	**326**	*e*P	**P**		**23 17 26.9**	**-0.4**
BLSP				*e*			23 21 48.8	
	comp=Z,60nm,1.2s							
GYA	**Guiyang**	**26.64**	**19**	⇑*i*P	**P**		**23 17 38.8**	**+0.1**
GYA				AP	pP		23 17 45.8	+0.1
GYA				XP	sP		23 17 49.0	+0.1
GYA				PP	PP		23 18 19.0	-4.1
GYA				S	**S**		**23 22 03.0**	**-7.4**
GYA				AMB	AMB			
	comp=Z,50nm,1.0s,mb5.0							
GYA				AMB	AMB			
	comp=Z,130nm,3.6s							
GYA				LR	LR			
	comp=N,3μm,13.8s,MS5.1							
GYA				LR	LR			
	comp=E,1μm,13.8s,MS5.1							
GYA				LR	LR			
	comp=Z,5μm,14.1s,MS5.2							
KAD	**Karad**	**27.69**	**306**	*e*P	**P**		**23 17 48.9**	**+0.5**
KAD				*e*			23 22 43.3	
	comp=Z,21nm,1.1s							
JIRN	**Jiri**	**28.28**	**339**	*e*P	**P**		**23 17 54.4**	**+0.8**
	comp=Z,245nm,0.9s,mb5.8							
PKI	**Pulchoki**	**28.49**	**338**	*e*P	**P**		**23 17 55.9**	**+0.4**
	comp=Z,106nm,1.0s,mb5.4							
PKI	**Pulchoki**	**28.49**	**338**	*e*P	**P**		**23 17 55.9**	**+0.4**
PKI				pmax	pmax			
	comp=Z,53nm,1.0s,mb5.1							
POO	**Poona**	**28.63**	**308**	*e*P	**P**		**23 17 56.4**	**-0.4**
POO				*e*			23 22 41.1	
	comp=Z,25nm,1.7s							
DMN	**Daman**	**28.64**	**337**	*e*P	**P**		**23 17 57.4**	**+0.5**
	comp=Z,82nm,0.8s,mb5.5							
KKN	**Kakani**	**28.74**	**338**	*e*P	**P**		**23 17 58.1**	**+0.4**
	comp=Z,93nm,0.9s,mb5.5							
KKN	**Kakani**	**28.74**	**338**	*e*P	**P**		**23 17 58.1**	**+0.4**
KKN				pmax	pmax			
	comp=Z,47nm,0.9s,mb5.2							
LSA	**Lhasa**	**28.85**	**349**	P	**P**		**23 18 01.5**	**+2.8**
LSA	**Lhasa**	**28.85**	**349**	*e*P	**P**		**23 17 59.4**	**+0.7**
LSA				pmax	pmax			
	comp=Z,37nm,0.8s,mb5.2							
LSA	**Lhasa**	**28.85**	**349**	*e*P	**P**		**23 17 59.4**	**+0.6**
	comp=Z,37nm,0.8s,mb5.2							
GKN	**Gorkha**	**29.18**	**337**	*e*P	**P**		**23 18 01.9**	**+0.2**
	comp=Z,200nm,1.0s,mb5.8							
KOLN	**Koldanda**	**29.40**	**335**	*e*P	**P**		**23 18 04.2**	**+0.5**
	comp=Z,113nm,0.9s,mb5.6							
CD2	**Chengdu**	**30.12**	**11**	P	**P**		**23 18 09.0**	**-1.1**
ENH	**Enshi**	**31.11**	**21**	*e*P	**P**		**23 18 16.8**	**-2.0**
	comp=Z,104nm,0.7s,mb5.8							
QZH	**Quanzhou**	**31.31**	**40**	*e*P	**P**		**23 18 19.5**	**-1.1**
QZH				S	**S**		**23 23 32.0**	**+7.1**
QZH				LR	LR			
	comp=N,4μm,13.5s,MS5.3							
QZH				LR	LR			
	comp=E,4μm,17.5s,MS5.3							
QZH				LR	LR			
	comp=Z,4μm,13.4s,MS5.2							
MBWA	**Marble Bar**	**31.34**	**137**	P	**P**		**23 18 19.1**	**-1.8**
	comp=Z,13nm,1.0s,mb4.7							
WHN	**Wuhan**	**33.34**	**28**	P	**P**		**23 18 38.3**	**0.0**
WHN				LR	LR			
	comp=Z,3μm,14.3s,MS5.2							
FITZ	**Fitzroy Crossi**	**33.96**	**126**	*e*P	**P**		**23 18 43.2**	**-0.6**
	comp=Z,12nm,0.7s,mb4.9							
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P	**P**		**23 18 42.3**	**-1.5**
	comp=Z,18nm,0.8s,mb5.0,baz=299,slow=3.1,SNR=12							
XAN	**Xi'an**	**34.39**	**17**	P	**P**		**23 18 46.0**	**-1.3**
XAN				AP	pP		23 18 52.5	-1.9
XAN				AMB	AMB			
	comp=Z,84nm,1.0s,mb5.6							
LZH	**Lanzhou**	**35.18**	**9**	⇑P	**P**		**23 18 54.0**	**-0.1**
LZH				AP	pP		23 19 01.5	+0.3
LZH				XP	sP		23 19 05.0	+0.8
LZH				PP	PP		23 20 11.0	-2.2
LZH				AMB	AMB			
	comp=Z,97nm,1.5s,mb5.5							
LZH				AMB	AMB			
	comp=Z,400nm,4.0s							
LZH				LR	LR			
	comp=N,3μm,16.7s							
LZH				LR	LR			
	comp=Z,3μm,18.0s,MS5.2							
SSE	**Sheshan**	**37.34**	**35**	P	**P**		**23 19 11.8**	**-0.6**
SSE				XP	sP		23 19 24.5	+2.0
SSE				PP	PP		23 20 37.8	-2.4
SSE				PCP	PcP		23 21 29.3	-2.4
SSE				S	**S**		**23 25 00.0**	**+1.7**
SSE				XS			23 25 14.8	
SSE				AMB	AMB			
	comp=Z,28nm,0.6s,mb5.3							
SSE				AMB	AMB			
	comp=Z,121nm,5.4s							
SSE				LR	LR			
	comp=N,895nm,14.0s,MS4.8							
SSE				LR	LR			
	comp=E,569nm,14.3s,MS4.8							
SSE				LR	LR			
	comp=Z,1μm,14.7s,MS4.8							
GTA	**Gaotai**	**38.03**	**3**	*e*P	**P**		**23 19 18.5**	**+0.5**
GTA				AP	pP		23 19 28.0	+2.8
GTA				XP	sP		23 19 31.5	+3.3
GTA				PP	PP		23 20 45.5	-2.8
GTA				PPP	PPP		23 21 05.5	-4.9
GTA				PCP	PcP		23 21 34.5	+0.8
GTA				AMB	AMB			
	comp=Z,43nm,0.9s,mb5.2							
GTA				AMB	AMB			
	comp=Z,261nm,4.2s							
GTA				LR	LR			
	comp=N,1μm,13.7s,MS4.9							
GTA				LR	LR			
	comp=E,692nm,13.7s,MS4.9							
GTA				LR	LR			
	comp=Z,1μm,14.1s,MS4.8							
JOW	**Kunigami**	**39.18**	**47**	P	**P**		**23 19 28.4**	**+0.6**
	comp=Z,83nm,0.6s,mb5.6,baz=232,slow=7.0,SNR=36							
JOW				LR	LR		23 35 48.4	
	comp=Z,323nm,20.4s,MS4.1,baz=148,slow=36							
BTO	**Baotou**	**40.84**	**15**	*e*P	**P**		**23 19 41.8**	**+0.5**
BTO				AMB	AMB			
	comp=Z,16nm,1.1s,mb4.6							
HHC	**Hu-ho-hao-te**	**41.48**	**16**	*e*P	**P**		**23 19 48.5**	**+1.9**
HHC				AP	pP		23 19 56.8	+3.0
HHC				AMB	AMB			
	comp=Z,31nm,0.5s,mb5.2							
HHC				LR	LR			
	comp=N,2μm,17.2s,MS5.1							
HHC				LR	LR			
	comp=E,1μm,16.7s,MS5.1							
HHC				LR	LR			
	comp=Z,2μm,16.1s,MS5.0							
WRA	**Warramunga Arr**	**42.06**	**122**	P	**P**		**23 19 51.5**	**-0.2**
	comp=Z,10nm,0.7s,mb4.6,baz=300,slow=9.1,SNR=59							
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**		**23 19 51.8**	**+0.1**
WRAB				pmax	pmax			
	comp=Z,25nm,0.8s,mb4.9							
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P	**P**		**23 19 51.8**	**+0.1**
	comp=Z,26nm,0.8s,mb4.9							
WB2	**Warramunga Arr**	**42.07**	**122**	⇓*i*P	**P**		**23 19 52.2**	**+0.4**
BJT	**Baijiatuan**	**42.24**	**22**	*e*P	**P**		**23 19 54.1**	**+1.2**
BJT				pmax	pmax			
	comp=Z,54nm,0.7s							
BJT	**Baijiatuan**	**42.24**	**22**	*e*P	**P**		**23 19 54.1**	**+1.1**
	comp=Z,54nm,0.7s,mb5.3							
BJI	**Beijing**	**42.27**	**22**	P	**P**		**23 19 54.5**	**+1.4**
BJI				AP	pP		23 20 01.0	+0.7
BJI				XP	sP		23 20 03.5	+0.2
BJI				AMB	AMB			
	comp=Z,75nm,0.7s,mb5.4							
BJI				LR	LR			
	comp=N,674nm,18.2s,MS4.7							
BJI				LR	LR			
	comp=E,600nm,17.4s,MS4.7							
BJI				LR	LR			
	comp=Z,528nm,22.2s,MS4.4							
KSH	**Kashi**	**42.71**	**336**	*e*P	**P**		**23 19 56.3**	**-0.4**
KSH				*e*AP	pP		23 20 06.3	+2.4
KSH				*e*XP	sP		23 20 11.0	+4.1
KSH				AMB	AMB			
	comp=Z,260nm,3.9s							
WMQ	**Urumqi**	**43.20**	**350**	P	**P**		**23 20 02.0**	**+1.3**
WMQ				AP	pP		23 20 11.0	+3.1
WMQ				XP	sP		23 20 15.3	+4.4
WMQ				PP	PP		23 21 44.0	+0.7
WMQ				AMB	AMB			
	comp=Z,50nm,1.0s,mb5.2							
WMQ				AMB	AMB			
	comp=Z,128nm,5.2s							
WMQ				LR	LR			
	comp=N,743nm,18.2s							
WMQ				LR	LR			
	comp=E,1μm,23.4s							
WMQ				LR	LR			
	comp=Z,774nm,24.7s							
ASPA	**Alice Springs**	**43.42**	**127**	⇑*i*P	**P**		**23 20 03.4**	**+0.6**
ASAR	**Alice Springs**	**43.43**	**127**	P	**P**		**23 20 02.4**	**-0.4**
	comp=Z,6.4nm,0.8s,mb4.4,baz=300,slow=7.5,SNR=38							
ASAR				PcP	PcP		23 21 51.6	+0.2
	comp=Z,2.4nm,0.8s,baz=305,slow=3.5,SNR=6.0							
ASAR				LR	LR		23 40 59.0	
	comp=Z,291nm,20.0s,MS4.2,baz=293,slow=40							
ULHL	**Ulahol**	**44.93**	**338**	P	**P**		**23 20 15.4**	**+0.7**
	SNR=9.8							
KZA	**Kyzart**	**45.17**	**337**	P	**P**		**23 20 18.1**	**+1.5**
	SNR=8.9							
UCH	**Uchtor**	**45.59**	**336**	P	**P**		**23 20 21.3**	**+1.4**
	SNR=28							
KS15	**Wonju Array Si**	**45.75**	**35**	*e*P	**P**		**23 20 21.7**	**+0.4**
TKM2	**Tokmak 2**	**45.76**	**338**	P	**P**		**23 20 22.3**	**+1.1**
	SNR=22							
KBK	**Karagaybulak**	**45.78**	**337**	P	**P**		**23 20 23.2**	**+1.9**
	SNR=28							
AML	**Almayashu**	**45.84**	**336**	P	**P**		**23 20 23.4**	**+1.5**
	SNR=20							
AAK	**Ala-Archa**	**45.94**	**337**	P	**P**		**23 20 24.0**	**+1.3**
	SNR=8.1							
AAK	**Ala-Archa**	**45.94**	**337**	P	**P**		**23 20 23.7**	**+1.1**
	comp=Z,101nm,0.9s,mb5.8,SNR=24							
AAK	**Ala-Archa**	**45.94**	**337**	⇓*i*P	**P**		**23 20 23.2**	**+0.6**
FRU	**Bishkek**	**46.06**	**337**	*e*P	**P**		**23 20 25.0**	**+1.4**
FRU				pmax	pmax			
	comp=Z,100nm,2.5s,mb5.3							
FRU				MLR	MLR			
	comp=Z,500nm,20.0s,MS4.5							
CHMS	**Chumysh**	**46.15**	**337**	P	**P**		**23 20 25.1**	**+0.8**
	SNR=7.2							
EKS2	**Erkin-Say**	**46.25**	**336**	P	**P**		**23 20 26.6**	**+1.5**
	SNR=24							
USP	**Ospenovka**	**46.47**	**337**	P	**P**		**23 20 27.8**	**+0.9**
	SNR=43							
SNY	**Shenyang**	**46.83**	**27**	⇑P	**P**		**23 20 29.3**	**-0.4**
SNY				AP	pP		23 20 34.3	-2.7
SNY				AMB	AMB			
	comp=Z,40nm,1.0s,mb5.3							
SNY				AMB	AMB			
	comp=Z,190nm,6.2s							
SNY				LR	LR			
	comp=N,730nm,16.3s,MS4.9							
SNY				LR	LR			
	comp=E,920nm,15.7s,MS4.9							
SNY				LR	LR			
	comp=Z,1μm,14.9s,MS5.0							
SONM	**Songino Array**	**47.06**	**8**	P	**P**		**23 20 31.2**	**-0.2**
	comp=Z,29nm,0.8s,mb5.3,baz=192,slow=7.6,SNR=218							
SONM				PcP	PcP		23 22 03.2	-0.5
	comp=Z,3.6nm,0.7s,baz=200,slow=3.9,SNR=5.4							
MKAR	**Makanchi Array**	**47.17**	**346**	*e*P	**P**		**23 20 31.7**	**-0.7**
MKAR				pmax	pmax			
	comp=Z,9.0nm,0.6s							
MKAR	**Makanchi Array**	**47.17**	**346**	P	**P**		**23 20 32.1**	**-0.3**
	comp=Z,18nm,0.7s,mb5.1,baz=158,slow=7.8,SNR=179							
MKAR				LR	LR		23 44 08.3	
	comp=Z,323nm,20.5s,MS4.3,baz=274,slow=41							
ULN	**Ulaanbaatar**	**47.19**	**9**	⇑*i*P	**P**		**23 20 32.9**	**+0.4**
ZAK	**Zakamensk**	**49.20**	**5**	⇑*i*P	**P**		**23 20 48.3**	**+0.3**
ZAK				pmax	pmax			
	comp=Z,8.0nm,0.9s,mb4.8							
CN2	**Changchun**	**49.23**	**27**	*e*P	**P**		**23 20 47.5**	**-0.9**
CN2				PCP	PcP		23 22 11.0	-0.6
CN2				AMB	AMB			
	comp=Z,50nm,0.9s,mb5.5							
CN2				AMB	AMB			
	comp=Z,340nm,4.0s							
CN2				LR	LR			
	comp=N,1μm,15.0s,MS5.1							
CN2				LR	LR			
	comp=E,1μm,15.0s,MS5.1							
CN2				LR	LR			
	comp=Z,1μm,17.0s,MS4.9							
CBIJ	**Chichi jima**	**50.17**	**55**	P	**P**		**23 20 54.6**	**-1.2**
	comp=Z,75nm,0.6s,mb5.9,baz=290,slow=15,SNR=2.8							
MOY	**Mondy**	**50.31**	**3**	*e*P	**P**		**23 20 56.8**	**+0.2**
TLY	**Talaya**	**50.52**	**5**	*i* P	**P**		**23 20 58.8**	**+0.7**
TLY				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.1							
TLY	**Talaya**	**50.52**	**5**	*i* P	**P**		**23 20 58.9**	**+0.8**
PMG	**Port Moresby**	**50.86**	**103**	P	**P**		**23 21 00.1**	**-1.1**
	comp=Z,36nm,1.1s,mb5.2,baz=263,slow=8.1,SNR=3.8							
HIA	**Hailar**	**51.57**	**19**	*e*P	**P**		**23 21 05.7**	**-0.4**
HIA				pmax	pmax			
	comp=Z,47nm,1.0s							
HIA	**Hailar**	**51.57**	**19**	*e*P	**P**		**23 21 05.7**	**-0.4**
	comp=Z,47nm,1.0s,mb5.4							
MAT	**Matsushiro**	**51.63**	**42**	*e*P	**P**		**23 21 07.0**	**+0.2**
MAT	**Matsushiro**	**51.63**	**42**	P	**P**		**23 21 06.7**	**-0.1**
MJAR	**Matsushiro Arr**	**51.63**	**42**	P	**P**		**23 21 06.1**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.6,baz=228,slow=6.7,SNR=16							
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**		**23 21 06.4**	**-0.9**
KURK				pmax	pmax			
	comp=Z,24nm,0.9s,mb5.1							
KURK	**Kurchatov**	**51.73**	**345**	*e*P	**P**		**23 21 06.4**	**-0.9**
	comp=Z,24nm,0.9s,mb5.1							
MDJ	**Mudanjiang**	**51.80**	**29**	P	**P**		**23 21 08.5**	**+0.6**
MDJ				AMB	AMB			
	comp=Z,27nm,0.9s,mb5.2							
MDJ				AMB	AMB			
	comp=Z,176nm,4.4s							
MDJ	**Mudanjiang**	**51.80**	**29**	*e*P	**P**		**23 21 08.5**	**+0.6**
	comp=Z,35nm,1.1s,mb5.2							
CTA	**Charters Tower**	**52.52**	**117**	P	**P**		**23 21 14.2**	**+0.5**
	comp=Z,8.9nm,0.8s,mb4.7,baz=289,slow=12,SNR=4.0							
CTA				LR	LR		23 48 00.8	
	comp=Z,677nm,19.5s,MS4.7,baz=151,slow=41							
CTAO	**Charters Tower**	**52.52**	**117**	P	**P**		**23 21 13.9**	**+0.2**
STKA	**Stephens Creek**	**53.39**	**132**	⇑*i*P	**P**		**23 21 20.9**	**+0.9**
	comp=Z,6.2nm,0.6s,mb4.7							
STKA	**Stephens Creek**	**53.39**	**132**	P	**P**		**23 21 20.4**	**+0.3**
	comp=Z,9.8nm,0.8s,mb4.8,baz=308,slow=8.0,SNR=15							
STKA				LR	LR		23 46 27.3	
	comp=Z,732nm,21.5s,MS4.7,baz=285,slow=39							
ZAL	**Zalesovo**	**53.48**	**351**	P	**P**		**23 21 19.2**	**-1.1**
	comp=Z,24nm,0.6s,mb5.3,baz=308,slow=5.1,SNR=152							
NVS	**Novosibirsk**	**54.61**	**350**	*e*P	**P**		**23 21 25.8**	**-2.8**
NVS				*e*			23 21 41.3	
NVS				pmax	pmax			
	comp=N,14nm,0.8s							
NVS				pmax	pmax			
	comp=Z,20nm,0.8s,mb5.2							
NVS				pmax	pmax			
	comp=E,8.0nm,0.7s							
KLR	**Kul'dur**	**56.18**	**27**	*e*P	**P**		**23 21 38.0**	**-2.1**
KLR				pmax	pmax			
	comp=N,32nm,1.0s							
KLR				pmax	pmax			
	comp=E,40nm,1.0s							
KLR				pmax	pmax			
	comp=Z,44nm,1.0s,mb5.4							
BVA0	**Borovoye Array**	**56.19**	**341**	*i* P	**P**		**23 21 38.3**	**-1.8**
BVA0				pmax	pmax			
	comp=Z,3.0nm,0.8s,mb4.4							
BVAR	**Borovoye Array**	**56.19**	**341**	P	**P**		**23 21 39.0**	**-1.0**
	comp=Z,19nm,0.7s,mb5.2,baz=144,slow=8.2,SNR=159							
CHKZ	**Chkalovo**	**56.66**	**341**	*e*P	**P**		**23 21 41.7**	**-1.8**
CHKZ				pmax	pmax			
	comp=Z,38nm,0.8s,mb5.5							
CHKZ	**Chkalovo**	**56.66**	**341**	*e*P	**P**		**23 21 41.7**	**-1.8**
	comp=Z,38nm,0.8s,mb5.5							
BOD	**Bodaibo**	**57.94**	**11**	*e*P	**P**		**23 21 51.6**	**-0.8**
BOD				pmax	pmax			
	comp=Z,33nm,1.0s,mb5.3							
ASAJ	**Asahikawa**	**58.59**	**37**	P	**P**		**23 21 57.7**	**+0.5**
	comp=Z,48nm,1.3s,mb5.4,baz=195,slow=11							
CLNS	**Chul'man**	**59.67**	**17**	*e*P	**P**		**23 22 04.6**	**+0.2**
CLNS				*e*			23 22 52.4	
CLNS				*e*			23 24 12.1	
CLNS				*e*S	**S**		**23 30 10.7**	**-1.1**
CLNS				pmax	pmax			
	comp=Z,32nm,0.7s,mb5.5							
CLNS				pmax	pmax			
	comp=N,20nm,0.9s							
CLNS				pmax	pmax			
	comp=E,18nm,0.8s							
CLNS				pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.7							
CLNS				pmax	pmax			
	comp=N,8.0nm,0.9s							
CLNS				pmax	pmax			
	comp=E,6.0nm,0.8s							
CLNS				smax				
	comp=N,9.0nm,1.2s							
CLNS				smax				
	comp=Z,6.0nm,0.8s							
CLNS				smax				
	comp=E,9.0nm,0.9s							
CLNS				MLR	MLR			
	comp=Z,1μm,15.0s,MS5.2							
CLNS				MLR	MLR			
	comp=N,700nm,17.0s,MS4.9							
CLNS				MLR	MLR			
	comp=E,200nm,15.0s,MS4.9							
KMBO	**Kilima Mbogo**	**60.01**	**268**	P	**P**		**23 22 07.0**	**-0.3**
	comp=E,0.4nm,0.4s,mb3.8,baz=46,slow=20,SNR=3.9							
YSS	**Yuzh-Sakhalins**	**60.28**	**34**	*e*P	**P**		**23 22 09.0**	**+0.2**
YSS				*e*			23 22 18.7	
YSS				pmax	pmax			
	comp=Z,70nm,1.1s,mb5.6							
YSS				MLR	MLR			
	comp=Z,1μm,16.0s,MS5.0							
YSS				MLR	MLR			
	comp=E,1μm,17.0s							
YSS	**Yuzh-Sakhalins**	**60.28**	**34**	*i* Pr			23 22 09.1	
GNI	**Garni**	**61.25**	**316**	P	**P**		**23 22 15.0**	**-0.5**
	comp=E,3.2nm,0.7s,mb4.6,baz=14,slow=22,SNR=4.1							
DGRG	**David-gareji**	**61.39**	**318**	P	**P**		**23 22 16.6**	**+0.3**
MTA	**Mtatsminda**	**61.88**	**318**	P	**P**		**23 22 19.4**	**-0.4**
TI2	**Plekhanov**	**61.93**	**318**	*i* P	**P**		**23 22 19.8**	**-0.3**
TBLG	**Delisi**	**61.94**	**318**	P	**P**		**23 22 19.7**	**-0.5**
DUS	**Dusheti**	**62.12**	**318**	P	**P**		**23 22 21.7**	**+0.3**
DUS				S	pP		23 22 30.3	+1.5
SVE	**Sverdlovsk**	**62.62**	**338**	⇓*i*P	**P**		**23 22 24.0**	**-0.5**
SVE				*e*			23 22 56.0	
SVE				pmax	pmax			
	comp=Z,40nm,1.1s,mb5.5							
SVE				MLR	MLR			
	comp=N,200nm,16.0s,MS4.6							
SVE				MLR	MLR			
	comp=E,300nm,16.0s,MS4.6							
SVE				MLR	MLR			
	comp=Z,400nm,16.0s,MS4.7							
ZEI	**Tsey**	**62.95**	**318**	*i* P	**P**		**23 22 19.8**	**-7.0**
ZEI				*i* *PP	pP		23 22 32.0	-2.3
ZEI				pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.9							
ARU	**Arti**	**63.12**	**337**	⇑*i*P	**

SOC					pmax	pmax			
	comp=Z,20nm,0.9s,mb5.2								
SOC					pmax	pmax			
	comp=N,9.0nm,0.8s								
SOC					pmax	pmax			
	comp=E,5.0nm,0.7s								
MBAR	**Mbarara**	**66.50**	**269**	⇑*iP*	**P**		**23 22 50.2**	**-0.1**	
ANN	**Anapa**	**68.05**	**318**	*eP*	**P**		**23 22 57.8**	**-1.8**	
BRTR	**Keskin Array B**	**69.07**	**312**	P	**P**		**23 23 04.8**	**-1.2**	
	comp=E,2.7nm,0.8s,mb4.3,baz=132,slow=7.2,SNR=16								
VRSR	**Storozhevoye**	**69.50**	**325**	*eP*	**P**		**23 23 07.1**	**-1.3**	
VRSR					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
VRSR					pmax	pmax			
	comp=N,7.0nm,1.0s								
VRSR					pmax	pmax			
	comp=E,10.0nm,0.9s								
SIM	**Simferopol'**	**70.32**	**318**	⇓*eP*	**P**		**23 23 13.5**	**0.0**	
SIM				*eS*	S		23 32 19.0	-3.9	
SIM				*ePS*			23 33 09.0		
SIM					pmax	pmax			
	comp=Z,10.0nm,0.9s,mb4.8								
MA2	**Magadan**	**71.26**	**26**	*eP*	**P**		**23 23 19.0**	**0.0**	
MA2				*e*			23 32 57.2		
MA2					pmax	pmax			
	comp=Z,20nm,0.8s,mb5.1								
MA2	**Magadan**	**71.26**	**26**	⇓*iP*	**P**		**23 23 18.5**	**-0.5**	
PET	**Petropavlovsk**	**72.16**	**34**	*eP*	**P**		**23 23 24.4**	**-0.1**	
PET				*e*			23 23 44.5		
PET				*e*			23 26 05.1		
PET				*e*PPP	PPP		23 27 41.6	-7.1	
PET				*eS*	S		23 32 45.9	+1.9	
PET					pmax	pmax			
	comp=Z,42nm,0.7s,mb5.5								
PET					pmax	pmax			
	comp=Z,36nm,1.1s,mb5.2								
PET					pmax	pmax			
	comp=Z,100nm,9.1s								
PET					pmax	pmax			
	comp=Z,100nm,6.1s								
PET					MLR	MLR			
	comp=E,100nm,15.0s,MS4.7								
PET					MLR	MLR			
	comp=N,300nm,17.0s,MS4.7								
PET					MLR	MLR			
	comp=Z,200nm,15.0s,MS4.5								
MOS	**Moscow**	**72.28**	**329**	*eP*	**P**		**23 23 22.6**	**-2.5**	
MOS				*e*			23 23 39.3		
MOS				*e*			23 23 45.3		
MOS					pmax	pmax			
	comp=Z,42nm,1.0s,mb5.3								
OBN	**Obninsk**	**72.56**	**328**	⇓*iP*	**P**		**23 23 26.0**	**-0.8**	
OBN				*i*	pP		23 23 32.8	-1.5	
OBN					pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0								
MAW	**Mawson**	**72.79**	**193**	P	**P**		**23 23 27.6**	**-0.3**	
	comp=Z,1.0nm,0.5s,mb4.0,baz=31,slow=18,SNR=1.6								
TIXI	**Tiksi**	**73.11**	**10**	*eP*	**P**		**23 23 27.1**	**-2.6**	
TIXI					pmax	pmax			
	comp=Z,21nm,0.9s,mb5.1								
SEY	**Seymchan**	**73.69**	**23**	*eP*	**P**		**23 23 35.4**	**+2.2**	
SEY				*e*PPP	PPP		23 28 00.5	-3.3	
SEY				*eS*	S		23 33 04.4	+3.3	
SEY							23 33 42.4		
SEY					pmax	pmax			
	comp=Z,40nm,0.7s,mb5.5								
SEY					MLR	MLR			
	comp=Z,700nm,22.0s,MS4.9								
SEY					MLR	MLR			
	comp=E,600nm,18.0s								
BOSA	**Boshof**	**74.83**	**240**	P	**P**		**23 23 38.8**	**-1.7**	
	comp=E,4.5nm,1.1s,mb4.3,baz=79,slow=17,SNR=2.4								
AKASG	**Malin Array Be**	**75.21**	**322**	P	**P**		**23 23 40.3**	**-2.0**	
	comp=E,3.8nm,0.7s,mb4.5,baz=90,slow=5.0,SNR=21								
VRI	**Vrincioaia**	**75.57**	**317**	⇑P	**P**		**23 23 45.1**	**+0.7**	
MLR	**Muntele Rosu**	**76.02**	**317**	⇑P	**P**		**23 23 46.3**	**-0.7**	
BURAR	**Bucovina Array**	**76.98**	**319**	⇑P	**P**		**23 23 53.3**	**+1.0**	
KWP	**Kalwaria**	**79.02**	**320**	*eP*	**P**		**23 24 03.0**	**-0.5**	
KWP					pmax	pmax			
	comp=Z,17nm,1.1s,mb4.9								
KWP	**Kalwaria**	**79.02**	**320**	*eP*	**P**		**23 24 03.0**	**-0.5**	
	comp=Z,17nm,1.1s,mb4.9								
KWP	**Kalwaria**	**79.02**	**320**	*eP*	**P**		**23 23 56.8**	**-6.7**	
KOLS	**Kolonicke sedl**	**79.17**	**320**	*eP*	**P**		**23 24 05.4**	**+1.1**	
KOLS				*e*			23 24 10.7		
KOLS				*e*	pP		23 24 13.0	+1.1	
RPZ	**Rata Peaks**	**79.25**	**135**	P	**P**		**23 24 06.0**	**+1.1**	
	comp=Z,9.3nm,0.9s,mb4.7,baz=225,slow=4.3,SNR=2.6								
SUW	**Suwalki**	**79.62**	**325**	*eP*	**P**		**23 24 06.4**	**-0.3**	
CRVS	**Cervenica-Dubn**	**79.69**	**319**	*eP*	**P**		**23 24 06.7**	**-0.4**	
CRVS				*e*			23 24 18.6		
FINES	**FINESS Array B**	**79.94**	**332**	P	**P**		**23 24 06.9**	**-1.3**	
	comp=Z,3.5nm,0.7s,mb4.4,baz=104,slow=7.9,SNR=16								
KAF	**Kangasniemi**	**80.02**	**333**	*ep*	**P**		**23 24 06.2**	**-2.4**	
	comp=Z,3.5nm,0.7s,mb4.4,baz=103,slow=5.1								
KAF	**Kangasniemi**	**80.02**	**333**	*eP*	**P**		**23 24 06.2**	**-2.4**	
KAF					pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.5								
PSZ	**Piszkesteto**	**80.56**	**318**	*eP*	**P**		**23 24 11.7**	**-0.1**	
PSZ				*e**PP	pP		23 24 19.1	-0.3	
PSZ					pmax	pmax			
	comp=Z,13nm,1.4s,mb4.7								
PSZ	**Piszkesteto**	**80.56**	**318**	*eP*	**P**		**23 24 11.7**	**-0.1**	
	comp=Z,13nm,1.4s,mb4.7								
PSZ				*ep*	pP		23 24 19.1	-0.3	
OJC	**Ojcow**	**80.98**	**321**	*eP*	**P**		**23 24 14.5**	**+0.6**	
BILL	**Bilibino**	**81.09**	**21**	⇓*iP*	**P**		**23 24 14.1**	**-0.1**	
PKSM	**Moragy**	**81.17**	**316**	⇓*eP*	**P**		**23 24 15.2**	**+0.2**	
VYHS	**Vyhne**	**81.35**	**319**	*eP*	**P**		**23 24 16.0**	**+0.1**	
MORC	**Moravsky Berou**	**82.36**	**320**	*eP*	**P**		**23 24 21.3**	**+0.2**	
MORC				*e**PP	pP		23 24 28.6	-0.2	
MORC					pmax	pmax			
	comp=Z,6.0nm,1.1s,mb4.4								
MORC	**Moravsky Berou**	**82.36**	**320**	*eP*	**P**		**23 24 21.3**	**+0.2**	
	comp=Z,6.2nm,1.1s,mb4.5								
MORC				*ep*	pP		23 24 28.6	-0.2	
ZST	**Bratislava**	**82.46**	**318**	*eP*	**P**		**23 24 22.2**	**+0.5**	
ZST				*ep*	pP		23 24 29.4	+0.1	
ARCES	**ARCESS Array B**	**82.47**	**340**	P	**P**		**23 24 21.4**	**+0.1**	
	comp=Z,6.7nm,0.9s,mb4.6,baz=112,slow=6.5,SNR=7.0								
URZ	**Urewera**	**82.85**	**129**	P	**P**		**23 24 24.5**	**+0.5**	
	comp=Z,3.3nm,0.6s,mb4.5,baz=207,slow=11,SNR=2.8								
KSP	**Ksiaz**	**83.28**	**321**	*eP*	**P**		**23 24 26.3**	**+0.5**	
KSP				*e**PP	pP		23 24 33.6	+0.1	
KSP				*eS*	S		23 34 44.0	+0.5	
KSP	**Ksiaz**	**83.28**	**321**	*eP*	**P**		**23 24 26.6**	**+0.7**	
PRU	**Pruhonice**	**84.31**	**320**	*eP*	**P**		**23 24 32.4**	**+1.3**	
PRU				*e*	pP		23 24 39.2	+0.4	
AQU	**L'Aquila**	**84.57**	**312**	*eP*	**P**		**23 24 33.2**	**+0.6**	
AQU					pmax	pmax			
	comp=Z,10.0nm,1.1s,mb4.9								
AQU	**L'Aquila**	**84.57**	**312**	*eP*	**P**		**23 24 33.2**	**+0.7**	
	comp=Z,9.7nm,1.1s,mb4.8								
BRG	**Berggiesshubel**	**84.76**	**321**	*eP*	**P**		**23 24 34.7**	**+1.4**	
BRG				*e*	pP		23 24 42.5	+1.5	
BRG				*e*			23 24 48.4		
BRG					pmax	pmax			
	comp=Z,7.0nm,1.2s,mb4.7								
BRG	**Berggiesshubel**	**84.76**	**321**	*eP*	**P**		**23 24 34.7**	**+1.4**	
	comp=Z,6.5nm,1.2s,mb4.6								
BRG				*e*	pP		23 24 42.5	+1.5	
BRG				*e*			23 24 48.4		
GERES	**GERESS Array B**	**84.77**	**319**	P	**P**		**23 24 33.8**	**+0.4**	
	comp=Z,3.1nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=26								
KHC	**Kasperske Hory**	**84.87**	**319**	*i* P	**P**		**23 24 34.5**	**+0.6**	
KHC	**Kasperske Hory**	**84.87**	**319**	*eP*	**P**		**23 24 34.0**	**+0.1**	
KHC				*e*	pP		23 24 41.0	-0.6	
KHC	**Kasperske Hory**	**84.87**	**319**	*eP*	**P**		**23 24 34.0**	**+0.1**	
KHC				pP	pP		23 24 41.0	-0.6	
CLL	**Collm**	**85.39**	**321**	P	**P**		**23 24 38.0**	**+1.6**	
CLL				*e**PP	pP		23 24 44.0	-0.1	
CLL				*e*			23 24 50.0		
VNDA	**Vanda**	**85.89**	**169**	P	**P**		**23 24 39.4**	**+1.0**	
	comp=Z,0.4nm,0.6s,mb3.8,baz=327,slow=6.1,SNR=4.0								
MOX	**Moxa**	**86.22**	**320**	*eP*	**P**		**23 24 46.0**	**+5.4**	
GRF	**Grafenberg Arr**	**86.44**	**320**	*eP*	**P**		**23 24 42.8**	**+1.1**	
GRF				*e*	pP		23 24 49.3	-0.1	
NB2	**NORSAR Subarra**	**86.95**	**331**	P	**P**		**23 24 43.9**	**0.0**	
	comp=Z,4.3nm,0.8s,mb4.7,baz=95,slow=4.8								
NB2	**NORSAR Subarra**	**86.95**	**331**	P	**P**		**23 24 43.9**	**0.0**	
NB2					pmax	pmax			
	comp=Z,4.0nm,0.8s,mb4.7								
NOA	**NORSAR Array B**	**86.95**	**331**	P	**P**		**23 24 43.4**	**-0.5**	
	comp=Z,3.2nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=18								
NOA					PP	PP	23 28 01.6	-7.9	
	comp=Z,0.5nm,0.7s,baz=94,slow=8.4,SNR=3.5								
NOA	**NORSAR Array B**	**86.95**	**331**	P	**P**		**23 24 43.4**	**-0.5**	
NOA					PP	PP	23 28 01.6	-7.9	
LPG	**La Plagne**	**89.43**	**315**	*eP*	**P**		**23 24 55.5**	**-0.7**	
	comp=Z,16nm,1.1s,mb5.0								
IMA	**Indian Mountai**	**96.51**	**23**	*eP*	**P**		**23 25 29.5**	**+1.2**	
	comp=Z,18nm,0.8s,mb5.5								
YKA	**Yellowknife Ar**	**112.02**	**15**	PP	PP		23 31 12.7	-8.3	
	comp=Z,0.8nm,0.7s,baz=330,slow=7.3,SNR=7.5								
NEW	**Newport**	**122.36**	**26**	PKP	PKPdf		23 30 55.5	-2.2	
	comp=Z,2.0nm,0.7s,baz=254,slow=19,SNR=3.6								
NEW	**Newport**	**122.36**	**26**	PKP	PKPdf		23 30 55.5	-2.2	
ULM	**Lac du Bonnet**	**127.46**	**11**	PKP	PKPdf		23 31 02.4	-5.2	
	comp=Z,2.2nm,0.7s,baz=6.2,slow=3.3,SNR=4.9								
PDAR	**Pinedale Array**	**129.97**	**26**	PKP	PKPdf		23 31 10.1	-2.5	
	comp=Z,1.1nm,0.7s,baz=174,slow=3.3,SNR=7.2								
BDFB	**Brasilia**	**142.86**	**246**	PKP	PKPdf		23 31 33.7	-3.2	
	comp=Z,1.9nm,1.0s,baz=121,slow=5.9,SNR=2.0								
TXAR	**Lajitas Array**	**143.60**	**32**	PKP	PKPdf		23 31 33.2	-4.6	
	comp=Z,2.1nm,0.7s,baz=321,slow=1.6,SNR=14								
TXAR					SKP		23 35 12.0		
	comp=Z,0.1nm,0.4s,baz=90,slow=2.5,SNR=3.6								
TXAR	**Lajitas Array**	**143.60**	**32**	PKP	PKPdf		23 31 33.2	-4.6	
TXAR					SKP		23 35 12.0		
LRAL	**Lakeview Retre**	**145.65**	**6**	*eP*	PKPbc		23 31 38.0	+0.5	

IDC 30 23:15:01.3±2.5, 7.92N×91.17E, mb4.1/6, mb1 4.3/6, mb1mx3.9/20, mbtmp4.1/6, Error ellipse: s-maj=148.1km s-min=21.3km az=56.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKAR	**Makanchi Array**	**39.47**	**350**	P		P	23 22 33.2	-1.9
	2.4nm,0.7s,baz=169,slow=8.3,SNR=2.6							
FITZ	**Fitzroy Crossi**	**42.74**	**128**	P		P	23 23 00.6	-1.7
	4.4nm,0.8s,baz=354,slow=13,SNR=3.6							
WRA	**Warramunga Arr**	**50.71**	**124**	P		P	23 24 03.0	-2.2
	0.6nm,0.5s,baz=301,slow=9.5,SNR=7.5							
ASAR	**Alice Springs**	**52.23**	**128**	P		P	23 24 14.9	-1.7
	1.4nm,0.7s,baz=302,slow=7.2,SNR=5.5							
STKA	**Stephens Creek**	**62.29**	**132**	P		P	23 25 25.2	-2.7
	2.8nm,1.0s,baz=319,slow=8.4,SNR=3.7							
FINES	**FINESS Array B**	**71.31**	**333**	P		P	23 26 22.6	-1.9
	1.4nm,0.6s,baz=124,slow=6.9,SNR=3.4							

*BJI **30** 23:17:05.9, 5.07N×94.33E, h44km, mB5.0, mb5.1, Ms4.9, Msz4.6*
*MOS **30** 23:17:06.0±0.9, 5.38N×94.57E, h33km, mb5.1/19, Error ellipse: s-maj=14.6km s-min=7.1km az=109.6*
*IDC **30** 23:17:09.8±0.6, 5.44N×94.39E, h44km±4km, mb4.6/27, mb1 4.7/27, mb1mx4.6/30, mbtmp4.9/27, MS4.4/1, Ms1 4.4/1, ms1mx3.1/31, Error ellipse: s-maj=16.5km s-min=10.1km az=49.0*
*NEIC **30** 23:17:10.2±0.1, 5.44N×94.37E, mb4.9/50, Error ellipse: s-maj=6.4km s-min=3.6km az=220.0*
*HRVD **30** 23:17:10.2±0.7, 5.46N×94.19E, h39km±1km, MW4.9/24, Centroid moment Tensor Solution. LP body waves: s17,c21;Mantle waves: s24,c31; Half duration: 0 Moment tensor: Scale 10^16 Nm; Mrr3.49±.26; Mθθ-0.82±.15; Mφφ-2.67±.19; Mrθ1.16±.12; Mrφ0.40±.11; Mθφ-0.72±.18; Best double couple: M0 3.208×10^16 NP1:φ348°, δ38°, λ90°. NP2:φ168°, δ52°, λ90°. Principal axes: T 3.577, Plg83°, Azm77°; N -.735, Plg0°, Azm168°; P -2.84, Plg7°, Azm258°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 23:17:08.9±0.2, 5.42N±0.04×94.43E±0.04, h49km, h49km±2.7km: pP-P, n215, σ0=83/215, mb4.9/104, MS4.5/7, 33C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**13.68**	**18**	*eP*		**P**	**23 20 25.7**	**+3.4**
	86nm,0.7s							
KSM	**Kuching**	**16.32**	**103**	*eP*		**P**	**23 20 59.8**	**+3.4**
VIS	**Vishakhapatnam**	**16.35**	**319**	*eP*		**P**	**23 20 55.0**	**-1.7**
VIS				*e*			23 21 23.9	
	comp=Z,56nm,1.4s							
VIS				*e*			23 23 38.0	
VIS				*e*			23 29 04.2	
QIZ	**Qiongzhong**	**20.22**	**47**	*eP*		**P**	**23 21 44.0**	**+1.5**
QIZ	**Qiongzhong**	**20.22**	**47**	*eP*		**P**	**23 21 44.2**	**+1.7**
	comp=Z,35nm,0.8s							
BLSP	**Bilaspur**	**20.43**	**326**	*eP*		**P**	**23 21 44.6**	**-0.2**
BLSP				*e*			23 25 23.1	
KMI	**Kunming**	**21.15**	**21**	P		**P**	**23 21 54.0**	**+1.9**
KMI				XP			23 22 06.5	
KAD	**Karad**	**23.07**	**302**	*iP*		**P**	**23 22 11.7**	**+0.5**
KAD				*eS*		**S**	**23 26 21.2**	**+6.7**
JIRN	**Jiri**	**23.46**	**341**	*eP*		**P**	**23 22 14.5**	**-0.4**
	comp=Z,117nm,0.8s,mb5.4							
PKI	**Pulchoki**	**23.64**	**340**	*eP*		**P**	**23 22 15.9**	**-0.7**
	comp=Z,44nm,0.7s,mb5.0							
PKI	**Pulchoki**	**23.64**	**340**	*eP*		**P**	**23 22 15.9**	**-0.7**
PKI					pmax	pmax		
	comp=Z,22nm,0.7s,mb4.7							
DMN	**Daman**	**23.78**	**339**	*eP*		**P**	**23 22 18.0**	**0.0**
	comp=Z,89nm,0.8s,mb5.2							
KKN	**Kakani**	**23.89**	**340**	*eP*		**P**	**23 22 18.8**	**-0.2**
POO	**Poona**	**23.94**	**305**	*eP*		**P**	**23 22 21.3**	**+1.7**
GYA	**Guiyang**	**23.96**	**28**	⇑*iP*		**P**	**23 22 21.5**	**+1.8**
GYA				AP			23 22 28.5	
GYA				XP			23 22 31.8	
GYA				AMB	AMB			
	comp=Z,200nm,0.7s,mb5.7							
GYA				AMB	AMB			
	comp=Z,210nm,3.6s							
GYA				LR	LR			
	comp=N,1μm,14.3s,MS4.6							
GYA				LR	LR			
	comp=E,660nm,11.7s,MS4.6							
GYA				LR	LR			
	comp=Z,1μm,13.5s,MS4.6							
GKN	**Gorkha**	**24.31**	**339**	*eP*		**P**	**23 22 23.5**	**+0.3**
	comp=Z,118nm,0.7s,mb5.4							
LSA	**Lhasa**	**24.35**	**353**	P		**P**	**23 22 24.0**	**+0.5**
LSA	**Lhasa**	**24.35**	**353**	*eP*		**P**	**23 22 24.1**	**+0.6**
KOLN	**Koldanda**	**24.50**	**336**	*eP*		**P**	**23 22 25.6**	**+0.6**
	comp=Z,146nm,0.8s,mb5.5							
CD2	**Chengdu**	**26.83**	**18**	P		**P**	**23 22 46.3**	**-0.5**
LGTI	**Lohaghat**	**27.40**	**332**	*eP*		**P**	**23 22 51.5**	**-0.6**
LGTI				*e*			23 25 37.0	
PTH	**Pithoragarh**	**27.50**	**332**	*e*		**P**	**23 22 57.9**	**+4.9**
ENH	**Enshi**	**28.50**	**28**	*eP*		**P**	**23 23 00.9**	**-1.0**
SMLA	**Simla**	**30.28**	**330**	*i*		**P**	**23 23 07.7**	**-10**
WHN	**Wuhan**	**31.24**	**35**	⇓P		**P**	**23 23 27.5**	**+1.2**
WHN				AMB	AMB			
	comp=Z,60nm,0.9s,mb5.4							
XAN	**Xi'an**	**31.49**	**23**	P		**P**	**23 23 27.5**	**-0.9**
XAN				AP	pP		23 23 39.0	-2.3
XAN				AMB	AMB			
	comp=Z,89nm,0.8s,mb5.7							
LZH	**Lanzhou**	**31.72**	**15**	*eP*		**P**	**23 23 30.0**	**-0.4**
LZH				AP	pP		23 23 42.5	-0.8
LZH				XP	sP		23 23 47.0	-2.4
LZH				AMB	AMB			
	comp=Z,37nm,1.1s,mb5.1							
LZH				AMB	AMB			
	comp=Z,200nm,4.0s							
GTA	**Gaotai**	**34.18**	**7**	*eP*		**P**	**23 23 51.5**	**-0.2**
GTA				AP	pP		23 24 01.0	-3.7
GTA				XP	sP		23 24 04.3	-6.6
GTA				AMB	AMB			
	comp=Z,36nm,0.9s,mb5.3							
GTA				AMB	AMB			
	comp=Z,46nm,4.6s							
GTA				LR	LR			
	comp=N,432nm,17.9s,MS4.3							
GTA				LR	LR			
	comp=E,221nm,19.0s,MS4.3							
GTA				LR	LR			
	comp=Z,454nm,15.2s,MS4.3							
TIA	**Tai'an**	**37.06**	**31**	P		**P**	**23 24 16.3**	**+0.2**
TIA				AMB	AMB			
	comp=Z,40nm,0.9s,mb5.2							
HHC	**Hu-ho-hao-te**	**38.47**	**21**	*eP*		**P**	**23 24 29.5**	**+1.6**
HHC				AP	pP		23 24 37.5	-3.5
HHC				XP	sP		23 24 41.0	-6.0
HHC				AMB	AMB			
	comp=Z,26nm,0.9s,mb5.0							
HHC				AMB	AMB			
	comp=Z,96nm,4.4s							
HHC				LR	LR			
	comp=N,2μm,17.8s,MS5.0							
HHC				LR	LR			
	comp=E,1μm,15.5s,MS5.0							
HHC				LR	LR			
	comp=Z,2μm,16.0s,MS4.9							
JOW	**Kunigami**	**38.65**	**53**	P		**P**	**23 24 29.6**	**+0.2**
	comp=Z,37nm,0.6s,mb5.3,baz=235,slow=8.9,SNR=14							
FITZ	**Fitzroy Crossi**	**38.66**	**128**	⇑*iP*		**P**	**23 24 28.9**	**-0.7**
	comp=Z,27nm,0.6s,mb5.2							
FITZ	**Fitzroy Crossi**	**38.66**	**128**	P		**P**	**23 24 28.9**	**-0.7**
	comp=Z,34nm,0.7s,mb5.2,baz=326,slow=4.3,SNR=37							
WMQ	**Urumqi**	**38.70**	**352**	⇑*iP*		**P**	**23 24 30.5**	**+0.8**
WMQ					AMB	AMB		
	comp=Z,41nm,0.9s,mb5.2							
WMQ					AMB	AMB		
	comp=Z,74nm,5.8s							
BJI	**Beijing**	**39.64**	**26**	P		**P**	**23 24 39.0**	**+1.4**
BJI					AMB	AMB		
	comp=Z,42nm,0.9s,mb5.2							
BJI					AMB	AMB		
	comp=Z,180nm,4.0s							
BJI					LR	LR		
	comp=N,663nm,14.7s,MS4.7							
BJI					LR	LR		
	comp=E,396nm,13.6s,MS4.7							
BJI					LR	LR		
	comp=Z,516nm,18.3s,MS4.4							
UCH	**Uchtor**	**40.70**	**337**	P		**P**	**23 24 47.3**	**+0.9**
	SNR=14							
TKM2	**Tokmak 2**	**40.90**	**339**	P		**P**	**23 24 47.8**	**-0.2**
	SNR=8.4							
KBK	**Karagaybulak**	**40.91**	**338**	P		**P**	**23 24 49.4**	**+1.3**
	SNR=20							
AML	**Almayashu**	**40.95**	**336**	P		**P**	**23 24 49.4**	**+1.1**
	SNR=20							
AAK	**Ala-Archa**	**41.06**	**337**	P		**P**	**23 24 50.6**	**+1.3**
	SNR=6.4							
AAK	**Ala-Archa**	**41.06**	**337**	*c iP*		**P**	**23 24 49.0**	**-0.3**
AAK					pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5							
AAK	**Ala-Archa**	**41.06**	**337**	*eP*		**P**	**23 24 49.1**	**-0.1**
EKS2	**Erkin-Say**	**41.36**	**337**	P		**P**	**23 24 52.8**	**+1.1**
	SNR=9.4							
DL2	**Dalian**	**41.44**	**33**	P		**P**	**23 24 54.3**	**+1.8**
DL2					AMB	AMB		
	comp=Z,30nm,0.9s,mb4.9							
USP	**Ospenovka**	**41.60**	**338**	P		**P**	**23 24 54.2**	**+0.4**
	SNR=16							
MKAR	**Makanchi Array**	**42.53**	**348**	*i* P		**P**	**23 25 01.2**	**-0.1**
MKAR					pmax	pmax		
	comp=Z,13nm,0.5s							
MKAR	**Makanchi Array**	**42.53**	**348**	P		**P**	**23 25 01.7**	**+0.3**
	comp=Z,50nm,0.7s,mb5.4,baz=167,slow=8.3,SNR=96							
MKAR					pP	pP	23 25 12.5	-2.0
	comp=Z,14nm,0.5s,baz=165,slow=6.7,SNR=9.5							
MKAR	**Makanchi Array**	**42.53**	**348**	P		**P**	**23 25 01.7**	**+0.3**
MKAR					pP	pP	23 25 12.5	-2.0
SONM	**Songino Array**	**43.48**	**12**	P		**P**	**23 25 09.2**	**+0.1**
	comp=Z,27nm,0.9s,mb5.0,baz=192,slow=7.9,SNR=58							
SONM					PcP	PcP	23 26 57.1	+0.1
	comp=Z,3.8nm,0.6s,baz=198,slow=4.0,SNR=8.5							
ULN	**Ulaanbaatar**	**43.65**	**12**	*c iP*		**P**	**23 25 10.2**	**-0.3**
ULN	**Ulaanbaatar**	**43.65**	**12**	*eP*		**P**	**23 25 10.2**	**-0.3**
ZAK	**Zakamensk**	**45.42**	**8**	*eP*		**P**	**23 25 24.3**	**-0.3**
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**46.64**	**124**	P		**P**	**23 25 34.5**	**-0.1**
	comp=Z,23nm,0.4s,mb5.4,baz=300,slow=9.8,SNR=120							
WRAB	**Tennant Creek**	**46.64**	**124**	P		**P**	**23 25 34.0**	**-0.7**
	comp=Z,360nm,0.7s,SNR=39							
WRAB	**Tennant Creek**	**46.64**	**124**	*eP*		**P**	**23 25 34.7**	**0.0**
WB2	**Warramunga Arr**	**46.65**	**124**	⇑*iP*		**P**	**23 25 34.8**	**+0.1**
TLY	**Talaya**	**46.74**	**8**	*eP*		**P**	**23 25 35.0**	**0.0**
TLY					pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8							
CN2	**Changchun**	**46.96**	**31**	*eP*		**P**	**23 25 36.5**	**-0.3**
CN2					AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3							
CN2					LR	LR		
	comp=N,1μm,15.0s,MS5.0							
CN2					LR	LR		
	comp=E,1μm,15.0s,MS5.0							
CN2					LR	LR		
	comp=Z,1μm,17.0s,MS4.8							
KURK	**Kurchatov**	**47.04**	**346**	*c iP*		**P**	**23 25 37.7**	**+0.3**
KURK					pmax	pmax		
	comp=Z,14nm,0.8s,mb4.9							
KURK	**Kurchatov**	**47.04**	**346**	*eP*		**P**	**23 25 37.8**	**+0.4**
ASPA	**Alice Springs**	**48.15**	**129**	⇑*iP*		**P**	**23 25 46.2**	**-0.3**
ASAR	**Alice Springs**	**48.15**	**129**	P		**P**

ARU						pmax	pmax												
	comp=Z,15nm,0.8s,mb5.1																		
ARU	**Arti**	**58.25**	**337**	*eP*		**P**		**23 26 59.1**	**-1.5**										
YSS	**Yuzh-Sakhalins**	**58.54**	**37**	*i* P		**P**		**23 27 01.8**	**-1.0**										
KIV	**Kislovodsk**	**59.33**	**319**	*c iP*		**P**		**23 27 06.7**	**-1.6**										
KIV					*e*			23 29 20.4											
KIV					*eS*		**S**	**23 35 25.2**	**+14**										
KIV						pmax	pmax												
	comp=Z,12nm,1.0s,mb4.9																		
KIV						MLR	MLR												
	comp=Z,100nm,17.0s,MS4.0																		
KIV	**Kislovodsk**	**59.33**	**319**	*eP*		**P**		**23 27 06.6**	**-1.7**										
MALT	**Malatya**	**60.27**	**311**	*eP*		**P**		**23 27 14.3**	**-0.6**										
	comp=Z,3.3nm,1.0s,mb4.3																		
EIL	**Elat**	**60.90**	**301**	*eP*		**P**		**23 27 18.7**	**-0.6**										
	comp=Z,4.9nm,0.9s,mb4.6																		
SOC	**Sochi**	**61.16**	**317**	*eP*		**P**		**23 27 15.6**	**-5.2**										
SOC					*e*			23 28 01.8											
SOC					*e*			23 29 30.1											
SOC					*eS*		**S**	**23 35 34.9**	**0.0**										
SOC					*e*			23 36 58.0											
SOC						pmax	pmax												
	comp=E,4.0nm,0.8s																		
SOC						pmax	pmax												
	comp=Z,17nm,0.8s,mb5.2																		
SOC						pmax	pmax												
	comp=N,9.0nm,0.9s																		
YAK	**Yakutsk**	**62.22**	**18**⇑	*iP*		**P**		**23 27 26.1**	**-1.6**										
YAK						pmax	pmax												
	comp=Z,41nm,0.7s,mb5.7																		
ANN	**Anapa**	**63.13**	**318**	*eP*		**P**		**23 27 32.5**	**-1.5**										
ANN						pmax	pmax												
	comp=Z,38nm,1.4s,mb5.3																		
MBAR	**Mbarara**	**63.88**	**267**	*i* P		**P**		**23 27 34.5**	**-5.0**										
BRTR	**Keskin Array B**	**64.25**	**312**	P		**P**		**23 27 39.1**	**-2.3**										
	comp=Z,4.9nm,0.7s,mb4.7,baz=129,slow=7.4,SNR=22																		
VRSR	**Storozhevoye**	**64.53**	**325**	*eP*		**P**		**23 27 40.9**	**-2.1**										
VRSR						pmax	pmax												
	comp=Z,10.0nm,0.8s,mb4.9																		
VRSR						pmax	pmax												
	comp=N,3.0nm,0.6s																		
VRSR						pmax	pmax												
	comp=E,10.0nm,1.0s																		
SIM	**Simferopol'**	**65.40**	**317**	*eP*		**P**		**23 27 47.3**	**-1.5**										
SIM						pmax	pmax												
	comp=Z,8.0nm,0.8s,mb4.8																		
HNR	**Honiara**	**66.93**	**103**	P		**P**		**23 27 59.1**	**+0.1**										
	comp=Z,84nm,0.6s,mb5.9,baz=128,slow=3.4,SNR=3.2																		
MOS	**Moscow**	**67.31**	**329**	*eP*		**P**		**23 27 58.8**	**-1.9**										
MOS						pmax	pmax												
	comp=Z,59nm,0.7s,mb5.7																		
OBN	**Obninsk**	**67.60**	**328**⇑	*iP*		**P**		**23 28 00.8**	**-1.6**										
OBN						pmax	pmax												
	comp=Z,53nm,1.6s,mb5.3																		
MA2	**Magadan**	**68.80**	**27**	*eP*		**P**		**23 28 09.5**	**-0.3**										
MA2						pmax	pmax												
	comp=Z,10.0nm,0.7s,mb4.8																		
MA2	**Magadan**	**68.80**	**27**⇓	*iP*		**P**		**23 28 09.7**	**-0.1**										
MA2						pmax	pmax												
	comp=Z,29nm,1.0s,mb5.2																		
AKASG	**Malin Array Be**	**70.25**	**322**	P		**P**		**23 28 16.4**	**-2.4**										
	comp=Z,5.3nm,0.6s,mb4.7,baz=89,slow=5.4,SNR=24																		
AKASG	**Malin Array Be**	**70.25**	**322**	P		**P**		**23 28 16.4**	**-2.4**										
LBTB	**Lobatse**	**73.34**	**242**	P		**P**		**23 28 37.6**	**-0.2**										
	comp=Z,2.6nm,0.9s,mb4.2,baz=89,slow=8.0,SNR=2.8																		
KWP	**Kalwaria**	**74.08**	**320**	*eP*		**P**		**23 28 41.4**	**-0.2**										
KOLS	**Kolonicke sedl**	**74.23**	**319**	*eP*		**P**		**23 28 41.6**	**-0.9**										
BOSA	**Boshof**	**74.54**	**238**	P		**P**		**23 28 45.3**	**+0.5**										
	comp=Z,2.9nm,1.0s,mb4.2,baz=292,slow=11,SNR=4.1																		
BOSA						pP	pP	23 28 57.7	-1.2										
	comp=Z,8.6nm,0.9s,baz=97,slow=5.5,SNR=5.9																		
BOSA	**Boshof**	**74.54**	**238**	P		**P**		**23 28 45.3**	**+0.5**										
BOSA						pP	pP	23 28 57.7	-1.2										
SUW	**Suwalki**	**74.65**	**325**	*eP*		**P**		**23 28 44.0**	**-0.8**										
SUW	**Suwalki**	**74.65**	**325**	*eP*		**P**		**23 28 44.0**	**-0.9**										
CRVS	**Cervenica-Dubn**	**74.75**	**319**	*eP*		**P**		**23 28 45.7**	**+0.2**										
FINES	**FINESS Array B**	**75.00**	**332**	P		**P**		**23 28 45.7**	**-1.0**										
	comp=Z,7.0nm,0.6s,mb4.8,baz=92,slow=5.4,SNR=31																		
FINES						pP	pP	23 28 59.0	-1.8										
	comp=Z,5.0nm,0.7s,baz=104,slow=7.9,SNR=8.1																		
FINES	**FINESS Array B**	**75.00**	**332**	P		**P**		**23 28 45.7**	**-1.0**										
FINES						pP	pP	23 28 59.0	-1.8										
KAF	**Kangasniemi**	**75.09**	**333**	*ep*		**P**		**23 28 45.7**	**-1.5**										
	comp=Z,4.2nm,0.6s,mb4.5,baz=104,slow=5.3																		
KAF	**Kangasniemi**	**75.09**	**333**	*eP*		**P**		**23 28 45.7**	**-1.5**										
KAF						pmax	pmax												
	comp=Z,4.0nm,0.6s,mb4.5																		
NIE	**Niedzica**	**75.58**	**320**	*eP*		**P**		**23 28 50.0**	**-0.3**										
PSZ	**Piszkesteto**	**75.64**	**318**	*eP*		**P**		**23 28 50.1**	**-0.5**										
	comp=Z,4.9nm,0.8s,mb4.5																		
OJC	**Ojcow**	**76.03**	**320**⇑	*eP*		**P**		**23 28 52.8**	**0.0**										
OJC	**Ojcow**	**76.03**	**320**⇑	*eP*		**P**		**23 28 52.8**	**0.0**										
VYHS	**Vyhne**	**76.42**	**318**	*eP*		**P**		**23 28 54.9**	**-0.1**										
VYHS					*e*			23 29 01.2											
OKC	**Ostrava-Krasne**	**77.03**	**320**	*eP*		**P**		**23 28 58.6**	**+0.1**										
OKC					*ep*	P	pP	23 29 13.2	+0.6										
OKC					*ex*		x	23 34 34.3											
KEV	**Kevo**	**77.23**	**341**	*ep*		**P**		**23 29 08.9**	**+10**										
	comp=Z,0.6nm,0.3s,mb4.0																		
KEV	**Kevo**	**77.23**	**341**	*eP*		**P**		**23 29 08.9**	**+10**										
KEV						pmax	pmax												
	comp=Z,1.0nm,0.3s,mb4.2																		
MORC	**Moravsky Berou**	**77.41**	**320**	*eP*		**P**		**23 29 00.5**	**-0.1**										
	comp=Z,10nm,0.9s,mb4.8																		
ZST	**Bratislava**	**77.53**	**318**	*eP*		**P**		**23 29 01.7**	**+0.4**										
ZST					*e*		pP	23 29 18.7	+3.2										
ARCES	**ARCESS Array B**	**77.66**	**340**	P		**P**		**23 29 01.2**	**-0.3**										
	comp=Z,2.7nm,0.6s,mb4.3,baz=98,slow=5.8,SNR=11																		
GKP	**Gorka Klasztor**	**78.02**	**323**	*eP*		**P**		**23 29 03.7**	**-0.1**										
DPC	**Dobruska-Polom**	**78.26**	**320**	*eP*		**P**		**23 29 06.0**	**+0.8**										
DPC					*ep*	P	pP	23 29 19.0	-0.4										
DPC					*ex*		x	23 34 44.0											
KSP	**Ksiaz**	**78.33**	**321**	*eP*		**P**		**23 29 05.8**	**+0.2**										
KSP	**Ksiaz**	**78.33**	**321**	*eP*		**P**		**23 29 06.2**	**+0.7**										
UPC	**Upice**	**78.47**	**320**	*eP*		**P**		**23 29 06.8**	**+0.4**										
ARSA	**Arzberg**	**78.51**	**317**⇑	*iP*		**P**		**23 29 07.1**	**+0.4**										
	comp=Z,18nm,1.3s,mb4.8																		
FX1	**Attu Island--F**	**78.90**	**37**	P		**P**		**23 29 08.6**	**0.0**										
	comp=Z,21nm,0.6s,mb5.2,baz=71,slow=17,SNR=5.5																		
OBKA	**Obir**	**79.12**	**316**⇑	*iP*		**P**		**23 29 10.5**	**+0.4**										
	comp=Z,8.8nm,1.4s,mb4.5																		
PRU	**Pruhonice**	**79.37**	**320**	*eP*		**P**		**23 29 11.6**	**+0.3**										
PRU					*e*		pP	23 29 26.1	+0.6										
PRU	**Pruhonice**	**79.37**	**320**	*eP*		**P**		**23 29 11.6**	**+0.3**										
PRU					*e*		pP	23 29 26.1	+0.6										
PVCC	**Panska Ves**	**79.39**	**320**	*eP*		**P**		**23 29 11.9**	**+0.5**										
PVCC					*ep*	P	pP	23 29 28.6	+3.0										
MOA	**Molln**	**79.40**	**318**⇓	*iP*		**P**		**23 29 11.4**	**-0.1**										
	comp=Z,5.8nm,0.9s,mb4.5																		
AQU	**L'Aquila**	**79.74**	**312**	*eP*		**P**		**23 29 12.8**	**-0.7**										
	comp=Z,19nm,1.4s,mb4.8																		
BRG	**Berggiesshubel**	**79.81**	**321**	*i* P		**P**		**23 29 14.0**	**+0.3**										
BRG					*e*		pP	23 29 27.8	-0.1										
BRG						pmax	pmax												
	comp=Z,10.0nm,0.8s,mb4.8																		
BRG	**Berggiesshubel**	**79.81**	**321**	*i* P		**P**		**23 29 14.0**	**+0.3**										
	comp=Z,10nm,0.8s,mb4.8																		
BRG					*e*		pP	23 29 27.8	-0.1										
BRG					*e*			23 31 47.3											
GERES	**GERESS Array B**	**79.84**	**319**	P		**P**		**23 29 14.0**	**+0.2**										
	comp=Z,12nm,0.7s,mb4.9,baz=94,slow=5.0,SNR=82																		
GERES						pP	pP	23 29 27.2	-0.9										
	comp=Z,8.0nm,0.8s,baz=85,slow=4.8,SNR=9.5																		
KHC	**Kasperske Hory**	**79.94**	**319**	*eP*		**P**		**23 29 14.5**	**+0.1**										
KHC					*ep*	P	pP	23 29 31.2	+2.6										
KHC					*ex*		x	23 35 02.1											
PTCC	**Patocco-Chiusa**	**79.94**	**316**	*eP*		**P**		**23 29 14.3**	**-0.2**										
RUE	**Ruedersdorf**	**80.03**	**322**	*eP*		**P**		**23 29 14.7**	**-0.1**										
	comp=Z,31nm,0.6s,mb5.4																		
FSSB	**Fossombrone**	**80.24**	**313**	*eP*		**P**		**23 29 16.5**	**+0.3**										
FVI	**Forni Avoltri**	**80.35**	**316**	*eP*		**P**		**23 29 16.4**	**-0.2**										
CLL	**Collm**	**80.43**	**321**⇑	*iP*		**P**		**23 29 16.7**	**-0.3**										
CLL					*i*		pP	23 29 26.0	-5.2										
CLL					*i*		pP	23 29 34.0	+2.8										
CLL						pmax	pmax												
	comp=Z,11nm,1.2s,mb4.7																		
CLL	**Collm**	**80.43**	**321**⇑	*iP*		**P**		**23 29 16.7**	**-0.3**										
	comp=Z,11nm,1.2s,mb4.7																		
CLL					*i*		pP	23 29 26.0	-5.2										
CLL					*i*		pP	23 29 34.0	+2.8										
CLL	**Collm**	**80.43**	**321**	⇑P		**P**		**23 29 16.7**	**-0.3**										
	comp=Z,logA/T=1.0,mb4.7																		
CLL					*i*	*SP	sP	23 29 34.0	-2.7										
RSM	**Repubblica di**	**80.49**	**313**	*eP*		**P**		**23 29 18.2**	**+0.8**										
NKC	**Novy Kostel**	**80.73**	**320**	*eP*		**P**		**23 29 18.6**	**0.0**										
NKC					*ep*	P	pP	23 29 35.7	+2.9										
SFI	**Santa Sofia**	**80.92**	**313**	*eP*		**P**		**23 29 20.9**	**+1.1**										
PGD	**Poggio Sodo**	**81.01**	**313**	*eP*		**P**		**23 29 21.7**	**+1.5**										
VMG	**Vicchio**	**81.14**	**314**	*eP*		**P**		**23 29 21.9**	**+1.0**										
WTTA	**Wattenberg**	**81.15**	**317**⇓	*iP*		**P**		**23 29 20.7**	**-0.2**										
	comp=Z,14nm,0.7s,mb5.0																		
WATA	**Walderalm**	**81.20**	**317**⇓	*iP*		**P**		**23 29 20.6**	**-0.5**										
	comp=Z,5.0nm,0.9s,mb4.4																		
MOX	**Moxa**	**81.28**	**320**	*eP*		**P**		**23 29 21.6**	**+0.2**										
MOX	**Moxa**	**81.28**	**320**	*i* P		**P**		**23 29 21.6**	**+0.2**										
SQTA	**Sankt Quirin**	**81.44**	**317**⇑	*iP*		**P**		**23 29 22.1**	**-0.3**										
	comp=Z,6.0nm,0.8s,mb4.6																		
GRA1	**Grafenberg Arr**	**81.50**	**319**	*eP*		**P**		**23 29 23.2**	**+0.6**										
	comp=Z,15nm,0.8s,mb5.0																		
GRF	**Grafenberg Arr**	**81.50**	**319**	*eP*		**P**		**23 29 23.2**	**+0.6**										
GRF						pmax	pmax												
	comp=Z,15nm,0.8s,mb5.0																		
GRF	**Grafenberg Arr**	**81.50**	**319**	*eP*		**P**		**23 29 23.2**	**+0.6**										
	comp=Z,15nm,0.8s,mb5.0																		
ZCCA	**Zocca**	**81.56**	**314**	*eP*		**P**		**23 29 24.9**	**+1.9**										
NB2	**NORSAR Subarra**	**82.00**	**331**	P		**P**		**23 29 24.0**	**-0.9**										
	comp=Z,2.5nm,0.7s,mb4.2,baz=97,slow=5.3																		
NOA	**NORSAR Array B**	**82.00**	**331**	P		**P**		**23 29 24.4**	**-0.6**										
	comp=Z,2.1nm,0.7s,mb4.2,baz=95,slow=5.4,SNR=10																		
NOA						pP	pP	23 29 37.2	-2.0										
	comp=Z,1.5nm,0.8s,baz=94,slow=5.4,SNR=4.2																		
NOA	**NORSAR Array B**	**82.00**	**331**	P		**P**		**23 29 24.4**	**-0.6**										
NOA						pP	pP	23 29 37.2	-2.0										
BRMO	**Bormio**	**82.00**	**316**	*eP*		**P**		**23 29 25.9**	**+0.6**										
DAVA	**Damuels**	**82.35**	**317**⇑	*iP*		**P**		**23 29 27.3**	**+0.2**										
	comp=Z,13nm,1.1s,mb4.8																		
PGF	**Pioggiola**	**83.00**	**312**	*eP*		**P**		**23 29 30.6**	**+0.1**										
	comp=Z,38nm,1.1s,mb5.0																		
CDF	**Champ du Feu**	**84.09**	**318**⇑	*iP*		**P**		**23 29 35.7**	**-0.2**										
	comp=Z,8.3nm,0.7s,mb4.7																		
SBF	**Sospel**	**84.11**	**313**⇑	*iP*		**P**		**23 29 36.3**	**+0.2**										
	comp=Z,31nm,0.8s,mb5.2																		
HINF	**Hinteralfeld**	**84.39**	**317**	*eP*		**P**		**23 29 37.3**	**-0.1**										
	comp=Z,4.0nm,0.6s,mb4.4																		
LPG	**La Plagne**	**84.54**	**315**⇑	*iP*		**P**		**23 29 38.8**	**+0.6**										
	comp=Z,18nm,0.8s,mb4.9																		
LPL	**La Plagne**	**84.56**	**315**⇑	*iP*		**P**		**23 29 38.8**	**+0.5**										
	comp=Z,21nm,0.8s,mb5.0																		
MBDF	**Montbardon**	**84.56**	**314**	*eP*		**P**		**23 29 38.0**	**-0.3**										
	comp=Z,5.6nm,0.6s,mb4.6																		
FRF	**La Foret Royal**	**84.69**	**313**	*eP*		**P**		**23 29 39.3**	**+0.3**										
	comp=Z,14nm,0.6s,mb4.9																		
HAU	**Haudompre**	**84.72**	**318**⇑	*iP*		**P**		**23 29 38.9**	**-0.2**										
	comp=Z,30nm,0.8s,mb5.2																		
LMR	**La Mourre**	**84.81**	**313**	*eP*		**P**		**23 29 39.8**	**+0.2**										
	comp=Z,32nm,1.2s,mb5.0																		
CABF	**La Chapelle**	**84.96**	**316**	*eP*		**P**		**23 29 40.7**	**+0.4**										
	comp=Z,16nm,0.8s,mb4.9																		
ORIF	**Oris-en-Rattie**	**85.18**	**315**	*eP*		**P**		**23 29 41.4**	**0.0**										
	comp=Z,7.1nm,0.7s,mb4.6																		
MEZF	**Maizieres J'vi**	**85.57**	**318**	*eP*		**P**		**23 29 43.6**	**+0.4**										
	comp=Z,8.4nm,0.7s,mb4.8																		
GIVF	**Givet**	**85.63**	**320**	*eP*		**P**		**23 29 43.8**	**+0.3**										
BAIF	**Baives**	**86.03**	**320**⇑	*iP*		**P**		**23 29 45.9**	**+0.5**										
	comp=Z,15nm,0.7s,mb5.0																		
VIVF	**Saint-Julien-l**	**86.04**	**315**	*eP*		**P**		**23 29 46.0**	**+0.4**										
	comp=Z,11nm,0.8s,mb4.8																		
SMF	**Signal de Mont**	**86.50**	**316**⇑	*iP*		**P**		**23 29 47.9**	**+0.1**										
	comp=Z,12nm,0.7s,mb4.9																		
LASF	**Ste Croix**	**86.68**	**314**	*eP*		**P**		**23 29 49.4**	**+0.6**										
SSF	**Saint Saulge**	**86.70**	**317**	*eP*		**P**		**23 29 49.5**	**+0.7**										
	comp=Z,7.1nm,0.7s,mb4.7																		
AVF	**Avril sur Loir**	**86.83**	**317**⇑	*iP*		**P**		**23 29 49.5**	**+0.1**										
	comp=Z,19nm,1.1s,mb4.9																		
BGF	**Bois d'Agland**	**87.19**	**316**	*eP*		**P**		**23 29 51.7**	**+0.5**										
HYF	**Humbligny**	**87.27**	**317**	*eP*		**P**		**23 29 52.3**	**+0.7**										
URZ	**Urewera**	**87.59**	**129**	P		**P**		**23 29 52.6**	**-0.7**										
	comp=Z,8.4nm,0.9s,mb5.0,baz=94,slow=1.5,SNR=5.7																		
TCF	**Toulx Ste Croi**	**87.66**	**316**	*eP*		**P**		**23 29 53.8**	**+0.3**										
MTLF	**Montolieu**	**87.93**	**313**	*eP*		**P**		**23 29 55.3**	**+0.5**										
RJF	**Les Rejaudoux**	**88.23**	**315**	*eP*		**P**		**23 29 57.1**	**+0.9**										
TNA	**Tin City**	**88.27**	**24**	*eP*		**P**		**23 29 56.3**	**+0.4**										
	comp=Z,6.0nm,0.8s,mb4.9																		
LFF	**La Frestale**	**88.82**	**315**	*eP*		**P**		**23 29 59.0**	**0.0**										
LDF	**La Druitiere**	**88.98**	**319**	*eP*		**P**		**23 30 00.1**	**+0.4**										
	comp=Z,17nm,0.9s,mb5.1																		
FLN	**La Foliniere**	**89.20**	**319**	*eP*		**P**		**23 30 01.1**	**+0.4**										
	comp=Z,26nm,1.0s,mb5.2																		
MFF	**Saint Martin d**	**89.24**	**317**	*eP*		**P**		**23 30 01.3**	**+0.3**										
GRR	**Gorron**	**89.50**	**318**	*eP*		**P**		**23 30 02.8**	**+0.7**										
VNDA	**Vanda**	**90.49**	**168**	P		**P**		**23 30 07.2**	**+1.0**										
	comp=Z,0.6nm,0.6s,mb4.1,baz=289,slow=7.0,SNR=5.1																		
SGMF	**Saint Gilles**	**90.64**	**318**	*eP*		**P**		**23 30 07.9**	**+0.4**										
QUIF	**Quistinic**	**91.09**	**318**	*eP*		**P**		**23 30 09.8**	**+0.2**										
ROSF	**Rostrenen**	**91.10**	**319**	*eP*		**P**		**23 30 10.1**	**+0.5**										
ESDC	**Sonseca Array**	**93.01**	**310**	P		**P**		**23 30 19.4**	**+0.7**										
	comp=Z,0.8nm,0.6s,mb4.3,baz=66,slow=4.2,SNR=7.5																		
IMA	**Indian Mountai**	**93.77**	**22**	*eP*		**P**		**23 30 23.0**	**+1.5**										
	comp=Z,38nm,0.8s,mb5.9																		
INK	**Inuvik**	**99.25**	**16**	P		**P**		**23 30 46.3**	**0.0**										
	comp=Z,1.4nm,0.5s,mb4.7,baz=349,slow=3.8,SNR=8.0																		
SCHQ	**Schefferville**	**117.97**	**348**	PKP		PKPdf		23 35 51.6	+1.5										
	comp=Z,1.4nm,0.7s,baz=222,slow=18,SNR=7.1																		
ULM	**Lac du Bonnet**	**123.84**	**8**	PKP		PKPdf		23 36 02.5	+0.7										
	comp=Z,2.8nm,0.5s,baz=334,slow=0.7,SNR=6.6																		
REDW	**Red Top Meadow**	**126.32**	**23**	*e*PKPdf		PKPdf		23 36 08.9	+2.1										
TXAR	**Lajitas Array**	**141.31**	**26**	PKPKP				23 36 30.6											
	comp=Z,0.9nm,0.6s,baz=270,slow=1.8,SNR=4.3																		
TXAR						PKP	PKPdf	23 36 35.3	+0.2										
	comp=Z,1.8nm,0.5s,baz=234,slow=0.5,SNR=5.5																		
BDFB	**Brasilia**	**141.77**	**252**	PKP		PKPdf		23 36 37.8	+1.6										
	comp=Z,0.9nm,0.5s,baz=132,slow=8.7,SNR=3.2																		

MOS ***30*** *23:19:04.7±1.2, 0.86N×97.18E, h33km, mb5.1/11, Error ellipse: s-maj=24.6km s-min=10.6km az=99.3*
IDC ***30*** *23:19:04.5±0.6, 1.26N×97.08E, mb4.6/20, mb1 4.7/20, mb1mx4.6/25, mbtmp4.6/20, Error ellipse: s-maj=25.4km s-min=12.4km az=44.0*
BJI ***30*** *23:19:05.0, 0.82N×97.29E, h36km, mB5.4, mb5.2, Ms4.9, Msz4.8*
NEIC ***30*** *23:19:09.2±0.3, 1.23N×97.16E, h30km, mb4.9/13, Error ellipse: s-maj=12.0km s-min=6.3km az=48.0*
HRVD ***30*** *23:19:09.2±1.4, 1.14N×96.91E, h37km±1km, MW4.9/25, Centroid moment Tensor Solution. LP body waves: s16,c18;Mantle waves: s25,c32; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.29±.30; Mθθ-1.16±.17; Mφφ-2.13±.22; Mrθ0.58±.12; Mθφ0.34±.10; Mφr0.04±.18; Best double couple: M◎2.805×10^16 NP1:◎s349°,δ44°, λ101°. NP2:◎s154°,δ47°,λ80°. Principal axes: T 3.367, Plg83°, Azm353°; N -1.123, Plg7°, Azm161°; P -2.244, Plg2°, Azm252°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 30 23:19:07.9±0.4, 1.25N±0.06×97.21E±0.06, h33km, (h21km±2.7km:pP-P), n97, σ1s07/97, mb4.8/55, MS4.5/6, 12C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
QIZ	**Qiongzhong**	**21.58**	**34**	*eP*		**P**	**23 23 57.0**	**+0.2**
QIZ	**Qiongzhong**	**21.58**	**34**	*eP*		**P**	**23 23 56.1**	**-0.7**
	20nm,0.8s,mb4.6							
KMI	**Kunming**	**24.33**	**12**	P		**P**	**23 24 26.0**	**+2.1**
KMI				AP	

comp=Z,18nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,100nm,16.0s,MS4.1
KIV Kislovodsk 64.28 319 *e*P **P 23 29 41.5 -0.8**
ASF Jabal al Asfar 64.45 305 P **P 23 29 42.3 -1.2**
comp=Z,1.5nm,0.7s,mb4.1,baz=329,slow=12,SNR=2.9
GOF Gofitskoye 64.53 320 *e*P **P 23 29 49.7 +5.8**
YAK Yakutsk 65.37 16 *e*P **P 23 29 46.7 -2.3**
YAK pmax pmax
comp=Z,31nm,1.0s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.2s
SOC Sochi 66.09 318 *e*P **P 23 29 50.1 -3.8**
SOC *e* 23 30 19.2
SOC *e* 23 32 15.4
SOC *e*PPP PPP 23 33 54.3 -2.7
SOC *e*S S 23 38 37.2 -1.2
SOC *e*SS SS 23 42 55.9 +0.4
SOC pmax pmax
comp=Z,14nm,1.1s,mb4.9
SOC pmax pmax
comp=N,14nm,0.9s
SOC pmax pmax
comp=E,16nm,1.3s
BRTR Keskin Array B 69.09 312 P **P 23 30 11.7 -1.1**
comp=E,1.2nm,0.7s,mb3.9,baz=144,slow=7.3,SNR=3.7
SIM Simferopol' 70.34 318 *e*P **P 23 30 27.2 +6.9**
SIM pmax pmax
comp=Z,12nm,0.8s,mb4.9
MA2 Magadan 71.28 26 *e*P **P 23 30 26.1 +0.3**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PET Petropavlovsk 72.18 34 *e*P **P 23 30 31.8 +0.6**
PET pmax pmax
comp=Z,25nm,0.5s,mb5.4
PET MLR MLR
comp=Z,200nm,16.0s,MS4.5
OBN Obninsk 72.58 328 ⇓*i*P **P 23 30 32.6 -0.9**
OBN *i* 23 30 39.9
OBN pmax pmax
comp=Z,13nm,1.1s,mb4.8
AKASG **Malin Array Be 75.23 322** P **P 23 30 47.0 -2.1**
comp=Z,1.6nm,0.5s,mb4.2,baz=86,slow=5.5,SNR=6.6
AKASG **Malin Array Be 75.23 322** P **P 23 30 47.0 -2.1**
RPZ Rata Peaks 79.23 135 P **P 23 31 12.8 +1.2**
comp=Z,8.7nm,0.8s,mb4.7,baz=255,slow=6.9,SNR=4.9
FINES FINESS Array B 79.96 332 P **P 23 31 14.7 -0.4**
comp=Z,2.2nm,0.7s,mb4.2,baz=90,slow=6.9,SNR=5.9
KAF Kangasniemi 80.05 333 *ep* **P 23 31 13.9 -1.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=102,slow=5.0
KAF Kangasniemi 80.05 333 *e*P **P 23 31 13.9 -1.7**
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ARCES ARCESS Array B 82.49 340 P **P 23 31 28.4 +0.2**
comp=Z,2.3nm,0.6s,mb4.3,baz=90,slow=4.9,SNR=5.8
GERES GERESS Array B 84.79 319 P **P 23 31 40.7 +0.4**
comp=Z,1.6nm,0.9s,mb4.2,baz=104,slow=4.0,SNR=7.4
KHC Kasperske Hory 84.89 319 *i* P **P 23 31 40.2 -0.5**
CLL Collm 85.40 321 P **P 23 31 44.0 +0.8**
MOX Moxa 86.24 320 *e*P **P 23 31 46.0 -1.3**
NB2 NORSAR Subarra 86.97 331 P **P 23 31 50.8 +0.1**
comp=Z,3.3nm,0.9s,mb4.6,baz=94,slow=4.8
NOA NORSAR Array B 86.97 331 P **P 23 31 50.9 +0.2**
comp=Z,2.2nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=7.6
LPG La Plagne 89.44 315 *e*P **P 23 32 08.3 +5.4**
comp=Z,3.2nm,0.7s,mb4.5
TXAR Lajitas Array 143.62 32 PKhKP 23 38 39.2
comp=Z,0.7nm,0.5s,baz=244,slow=0.1,SNR=4.5
NATX Nacogdoches 145.29 18 *e*P PKPdf 23 38 44.6 +1.7
LRAL Lakeview Retre 145.67 6 *e*P PKPdf 23 38 44.3 +0.8

*ISK **30** 23:19:55.6, 37.96N×26.15E, h32km, MD2.9*
*CSEM **30** 23:19:55.4±0.4, 37.93N×26.21E, h40km, MD2.9, Error ellipse: s-maj=14.5km s-min=7.3km az=127.0*
ISC 30 23:19:56.4±1.2,**37.94N**±0.06×**26.14E**±0.09,**h40km**,**n8**, σ0**99**/14,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BLCB	**Balcova**	**0.84**	**58**	PG	**P**	**23 20 11.8**	**-0.1**
BLCB				SG	**S**	**23 20 22.2**	**-1.0**
APE	**Apeiranthos**	**0.99**	**209**	*e*PG	**P**	**23 20 13.6**	**-0.5**
IZM	**Izmir**	**1.00**	**62**	*e*PG	**P**	**23 20 13.6**	**-0.5**
KDAG	**Bornova**	**1.00**	**62**	*i* P	**P**	**23 20 15.1**	**+0.9**
KDAG				*i* S	**S**	**23 20 26.8**	**-0.5**
BODT	**Bodrum**	**1.28**	**133**	*e*PN	**P**	**23 20 17.0**	**-1.1**
BODT				*e*SN	**S**	**23 20 34.5**	**+0.1**
BDRM	**Kayabasi**	**1.36**	**130**	*i* P	**P**	**23 20 21.1**	**+1.8**
BDRM				*i* S	**S**	**23 20 35.9**	**-0.5**
AYDN	**Tasoluk**	**1.41**	**101**	*i* P	**P**	**23 20 21.0**	**+1.0**
AYDN				*i* S	**S**	**23 20 37.0**	**-0.6**
MANT	**Manisa**	**1.98**	**73**	*i* P	**P**	**23 20 35.0**	**+6.7**
MANT				*i* S	**S**	**23 20 55.1**	**+3.1**

*NIED **30** 23:24:00, 34.00N×142.40E, h8km, Mw4.0 Best double couple: M0 1.13×10^15 NP1:φs 222°, δ61°, λ-71°. NP2:φs 7°, δ34°, λ-120°.*
*BJI **30** 23:24:47.7, 33.42N×143.25E, h10km, mB4.7, mb4.7, Ms4.5, Msz4.3*
*IDC **30** 23:24:55.6±0.7, 33.97N×142.37E, mb4.1/12, mb1 4.3/14, mb1mx4.1/25, mbtmp4.1/14, ML3.8/2, Error ellipse: s-maj=19.4km s-min=17.2km az=101.0*
*NEIC **30** 23:24:57.0±0.4, 33.95N×142.39E, h10km, mb4.6/4, MW4.0(NIED), Error ellipse: s-maj=12.6km s-min=8.9km az=222.0*
*JMA **30** 23:24:57.6±0.4, 33.99N×142.36E, h25km, M3.8*
ISC 30 23:24:56.5±1.9,**34.02N**±0.05×**142.41E**±0.05,**h18**km±14km, **n38**,σ1**00**/47,**mb4.2**/19,**MS4.2**/1,**Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.35**	**299**	P	**Pn**	**23 25 20.9**	**+0.3**
BSO3	**Boso 3**	**1.76**	**297**	P	**Pn**	**23 25 27.1**	**+0.7**
BSO3				*e*S	**Sn**	**23 25 49.2**	**+0.7**
BSO4	**Boso 4**	**1.97**	**300**	P	**Pn**	**23 25 30.8**	**+1.3**
BSO4				*e*S	**Sn**	**23 25 57.1**	**+3.2**
JHJ2	**Mitsune**	**2.35**	**248**	P	**Pn**	**23 25 35.5**	**+0.6**
JHJ2				*e*S	**Sn**	**23 26 03.8**	**+0.3**
JHJ	**Hachijo jima 2**	**2.37**	**249**	Pn	**Pn**	**23 25 35.3**	**+0.1**
	134nm,0.3s,baz=216,slow=20,SNR=30						
JHJ				Sn	**Sn**	**23 26 03.1**	**-0.9**
	61nm,0.3s,baz=48,slow=22,SNR=7.3						
JOD2	**Odawara 2**	**3.01**	**295**	P	**Pn**	**23 25 44.3**	**0.0**
JOD2				*e*S	**Sn**	**23 26 18.8**	**-1.5**
JAG	**Ashikaga**	**3.41**	**316**	P	**Pn**	**23 25 50.8**	**+0.8**
JRY	**Ryogami san**	**3.50**	**306**	P	**Pn**	**23 25 51.3**	**-0.1**
JYN	**Shimob**	**3.51**	**296**	P	**Pn**	**23 25 51.6**	**+0.2**
JYN				S	**Sn**	**23 26 32.5**	**-0.4**
JMM	**Marumori**	**4.06**	**342**	P	**Pn**	**23 25 57.5**	**-1.7**
JMM				*e*S	**Sn**	**23 26 41.4**	**-5.5**
MJAR	**Matsushiro Arr**	**4.26**	**307**	Pn	**Pn**	**23 26 01.2**	**-1.0**
	1.9nm,0.3s,baz=130,slow=11,SNR=10.0						
MJAR				Sn	**Sn**	**23 26 51.5**	**-0.5**
	1.9nm,0.3s,baz=270,slow=12,SNR=8.8						
MJAR	**Matsushiro Arr**	**4.26**	**307**	Pn	**Pn**	**23 26 01.2**	**-1.0**
MJAR				Sn	**Sn**	**23 26 51.5**	**-0.5**
MAT	**Matsushiro**	**4.26**	**307**	*e*P	**Pn**	**23 26 03.0**	**+0.8**
MAT				*e*S	**Sn**	**23 26 48.0**	**-4.0**
JMK	**Ichinoseki**	**5.02**	**349**	P	**Pn**	**23 26 10.6**	**-2.2**
JMK				*e*S	**Sn**	**23 27 05.3**	**-5.7**
HHC	**Hu-ho-hao-te**	**25.34**	**295**	*e*P	**P**	**23 30 26.3**	**+2.5**
HHC				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,89nm,7.1s						
HHC				LR	LR		
	comp=N,424nm,16.0s,MS4.2						
HHC				LR	LR		
	comp=E,485nm,18.4s,MS4.2						
HHC				LR	LR		
	comp=Z,540nm,17.8s,MS4.1						
ENH	**Enshi**	**28.06**	**271**	*e*P	**P**	**23 30 47.4**	**-1.5**
	comp=Z,7.9nm,0.7s,mb4.5						
SONM	**Songino Array**	**30.22**	**308**	P	**P**	**23 31 09.0**	**+1.0**
	comp=Z,2.2nm,1.1s,mb3.8,baz=104,slow=10,SNR=4.0						
LZH	**Lanzhou**	**31.50**	**285**	*e*P	**P**	**23 31 20.0**	**+0.5**
LZH				AP	pP	23 31 28.0	+3.1
LZH				XP	sP	23 31 32.3	+5.0
LZH				AMB	AMB		
	comp=Z,37nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,200nm,4.0s						
GTA	**Gaotai**	**34.33**	**292**	*e*P	**P**	**23 31 44.8**	**+0.7**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.2						
MKAR	**Makanchi Array**	**46.46**	**305**	P	**P**	**23 33 24.4**	**+0.5**
	comp=Z,1.4nm,0.8s,mb4.0,baz=91,slow=10,SNR=9.5						
MKAR	**Makanchi Array**	**46.46**	**305**	P	**P**	**23 33 24.4**	**+0.5**
KURK	**Kurchatov**	**48.47**	**310**	*e*P	**P**	**23 33 38.9**	**-0.7**
	comp=Z,6.1nm,0.7s,mb4.7						
CHKZ	**Chkalovo**	**52.99**	**315**	*e*P	**P**	**23 34 13.6**	**-0.5**
	comp=Z,11nm,1.4s,mb4.6						
BVAR	**Borovoye Array**	**53.23**	**314**	P	**P**	**23 34 15.2**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=113,slow=11,SNR=3.9						
WRA	**Warramunga Arr**	**54.21**	**189**	P	**P**	**23 34 22.6**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.5,baz=8.0,slow=7.8,SNR=7.7						
FITZ	**Fitzroy Crossi**	**54.24**	**200**	P	**P**	**23 34 23.5**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.5,baz=13,slow=9.0,SNR=4.7						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**23 34 40.9**	**0.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=267,slow=7.7,SNR=3.7						
INK	**Inuvik**	**56.71**	**26**	P	**P**	**23 34 40.9**	**0.0**
ASAR	**Alice Springs**	**57.93**	**189**	P	**P**	**23 34 47.9**	**-2.2**
	comp=Z,2.2nm,0.8s,mb4.2,baz=3.1,slow=4.9,SNR=4.6						
ARU	**Arti**	**59.17**	**320**	*e*P	**P**	**23 34 57.9**	**-0.5**
	comp=Z,2.7nm,0.6s,mb4.5						
YKA	**Yellowknife Ar**	**66.01**	**30**	P	**P**	**23 35 43.4**	**-0.2**
	comp=Z,1.6nm,0.7s,mb3.7,baz=294,slow=6.0,SNR=8.2						
FINES	**FINESS Array B**	**71.86**	**333**	P	**P**	**23 36 20.2**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=72,slow=8.8,SNR=4.0						
NB2	**NORSAR Subarra**	**77.28**	**338**	P	**P**	**23 36 51.4**	**+0.5**
	comp=Z,0.1nm,0.7s,mb2.9,baz=46,slow=5.8						
NOA	**NORSAR Array B**	**77.28**	**338**	P	**P**	**23 36 51.4**	**+0.5**
	comp=Z,2.0nm,0.9s,mb4.0,baz=39,slow=5.6,SNR=6.5						
GERES	**GERESS Array B**	**85.70**	**329**	P	**P**	**23 37 36.4**	**+1.2**
	comp=Z,0.5nm,0.6s,mb3.9,baz=39,slow=8.5,SNR=4.1						
TXAR	**Lajitas Array**	**91.30**	**53**	P	**P**	**23 38 04.0**	**+1.7**
	comp=Z,0.8nm,0.6s,mb4.2,baz=315,slow=1.8,SNR=3.7						
LPAZ	**La Paz**	**147.38**	**65**	PKPbc	PKPdf	23 44 43.3	+2.2
	comp=Z,1.8nm,0.7s,baz=8.0,slow=9.2,SNR=6.9						
SIV	**San Ignacio**	**152.27**	**55**	PKPbc	PKPdf	23 44 54.3	+5.6
	comp=Z,0.4nm,0.5s,baz=145,slow=3.9,SNR=3.9						

*IDC **30** 23:25:14.7±0.5,2.14N×96.70E, mb4.7/23, mb1 4.8/23, mb1mx4.7/26, mbtmp4.7/23, Error ellipse: s-maj=17.3km s-min=11.8km az=39.0*
*BJI **30** 23:25:16.2, 1.87N×96.82E, h34km, mB5.1, mb5.1, Ms4.8, Msz4.6*
*MOS **30** 23:25:18.0±0.8,2.14N×96.73E, h33km, mb5.1/28, Error ellipse: s-maj=12.3km s-min=6.9km az=114.2*
*HRVD **30** 23:25:18.5±1.9, 1.68N×96.49E, h39km,2km, MW4.8/26, Centroid moment Tensor Solution. LP body waves: s14,c18;Mantle waves: s26,c35; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.13±.33; Mθθ-1.43±.18; Mφφ-0.70±.21; Mrθ0.71±.13; Mθφ0.75±.08; Mφr-0.31±.19; Best double couple: M0 2.158×10^16 NP1:φs 304°, δ35°, λ94°. NP2:φs 119°, δ55°, λ87°. Principal axes: T 2.277, Plg79°, Azm18°; N -.238, Plg2°, Azm121°; P -2.039, Plg10°, Azm211°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **30** 23:25:18.6±0.2,2.11N×96.72E, mb4.9/30 Error ellipse: s-maj=7.1km s-min=4.4km az=223.0*
ISC 30 23:25:16.9±0.3,**2.10N**±0.05×**96.74E**±0.04,**h25**km, **h25**km±1.0km:**pP-P, n139**,σ0**98**/145,**mb4.9**/65,**MS4.4**/4, **10C-8D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.93**	**60**	P	**Pn**	**23 26 32.5**	**+1.0**
SNG	**Songkhla**	**6.35**	**37**	P	**Pn**	**23 26 51.0**	**-0.5**
	300nm,0.9s						
KGM	**Kluang**	**6.57**	**91**	P	**Pn**	**23 26 56.2**	**+1.6**
KSM	**Kuching**	**13.57**	**92**	*e*P	**P**	**23 28 31.0**	**+0.3**
KKTK	**Khon Kaen**	**15.36**	**23**	P	**P**	**23 28 57.0**	**+3.0**
CM31	**Chiang Mai Arr**	**16.40**	**7**	*e*P	**P**	**23 29 09.1**	**+1.8**
	48nm,0.8s						
NANT	**Nan**	**17.04**	**13**	⇑P	**P**	**23 29 12.0**	**-3.4**
	160nm,0.9s						
CHRT	**Chiangrai**	**17.91**	**9**	⇑P	**P**	**23 29 25.5**	**-0.7**
	263nm,0.4s						
QIZ	**Qiongzhong**	**21.16**	**36**	*e*P	**P**	**23 30 01.8**	**-1.0**
TSM	**Tawau**	**21.21**	**84**	P	**P**	**23 30 03.4**	**0.0**
HYB	**Hyderabad**	**23.47**	**312**	*e*P	**P**	**23 30 29.0**	**+3.2**
HYB	**Hyderabad**	**23.47**	**312**	*i* P	**P**	**23 30 29.0**	**+3.2**
KMI	**Kunming**	**23.61**	**14**	P	**P**	**23 30 28.8**	**+1.7**
KMI				AMB	AMB		
	comp=Z,29nm,1.1s,mb4.6						
GYA	**Guiyang**	**26.03**	**21**	⇑*i*P	**P**	**23 30 50.5**	**+0.4**
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
JIRN	**Jiri**	**27.35**	**339**	*e*P	**P**	**23 31 02.1**	**-0.1**
	comp=Z,104nm,0.8s,mb5.4						
PKI	**Pulchoki**	**27.55**	**338**	*e*P	**P**	**23 31 04.2**	**+0.1**
	comp=Z,22nm,0.6s,mb5.0						
PKI	**Pulchoki**	**27.55**	**338**	*e*P	**P**	**23 31 04.2**	**+0.1**
PKI				pmax	pmax		
	comp=Z,11nm,0.6s,mb4.7						
DMN	**Daman**	**27.70**	**337**	*e*P	**P**	**23 31 05.7**	**+0.2**
	comp=Z,36nm,0.8s,mb5.1						
KKN	**Kakani**	**27.80**	**338**	*e*P	**P**	**23 31 06.3**	**0.0**
	comp=Z,78nm,1.0s,mb5.3						
KKN	**Kakani**	**27.80**	**338**	*e*P	**P**	**23 31 06.3**	**0.0**
KKN				pmax	pmax		
	comp=Z,39nm,1.0s,mb5.0						
LSA	**Lhasa**	**27.96**	**350**	P	**P**	**23 31 08.5**	**+0.7**
LSA	**Lhasa**	**27.96**	**350**	*e*P	**P**	**23 31 08.0**	**+0.2**
GKN	**Gorkha**	**28.24**	**337**	*e*P	**P**	**23 31 10.4**	**+0.1**
	comp=E,66nm,1.0s,mb5.2						
KOLN	**Koldanda**	**28.45**	**335**	*e*P	**P**	**23 31 12.1**	**-0.1**
	comp=Z,58nm,0.6s,mb5.4						
ENH	**Enshi**	**30.51**	**22**	*e*P	**P**	**23 31 28.4**	**-2.3**
	comp=Z,11nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**34.83**	**126**	⇓*i*P	**P**	**23 32 07.9**	**-0.4**
	comp=Z,12nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**	**34.83**	**126**	P	**P**	**23 32 06.9**	**-1.4**
	comp=Z,16nm,0.6s,mb5.1,baz=314,slow=3.6,SNR=20						
NJ2	**Nanjing**	**36.35**	**33**	*e*P	**P**	**23 32 22.0**	**+0.9**
NJ2				AP	pP	23 32 29.5	+1.1
NJ2				XP	sP	23 32 33.0	+1.4
NJ2				PP	PP	23 33 46.0	+1.3
NJ2				S	**S**	**23 38 02.0**	**+2.0**
NJ2				XS		23 38 18.0	
NJ2				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.7						
NJ2				AMB	AMB		
	comp=Z,730nm,6.0s						
SSE	**Sheshan**	**36.95**	**36**	P	**P**	**23 32 24.5**	**-1.6**
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,103nm,4.4s						
GTA	**Gaotai**	**37.24**	**4**	⇑P	**P**	**23 32 28.3**	**-0.2**
GTA				AP	pP	23 32 37.3	+1.4
GTA				XP	sP	23 32 41.5	+2.5
GTA				PP	PP	23 33 57.0	+1.0
GTA				S	**S**	**23 38 13.3**	**-0.3**
GTA				XS		23 38 27.0	
GTA				SS	SS	23 40 43.0	-2.1
GTA				AMB	AMB		
	comp=Z,66nm,0.8s,mb5.5						
GTA				AMB	AMB		
	comp=Z,71nm,4.9s						
GTA				LR	LR		
	comp=N,182nm,15.2s,MS4.2						
GTA				LR	LR		
	comp=E,199nm,13.7s,MS4.2						
GTA				LR	LR		
	comp=Z,233nm,12.5s,MS4.2						
JOW	**Kunigami**	**38.97**	**48**	P	**P**	**23 32 43.4**	**+0.3**
	comp=Z,13nm,0.5s,mb4.9,baz=230,slow=9.6,SNR=9.9						
HHC	**Hu-ho-hao-te**	**40.83**	**17**	*e*P	**P**	**23 32 59.3**	**+0.9**
HHC				AP	pP	23 33 07.0	+1.2
HHC				PP	PP	23 34 37.0	+1.3
HHC				S	**S**	**23 39 07.0**	**-0.8**
HHC				XS		23 39 20.3	
HHC				SS	SS	23 42 04.8	+0.1
HHC				SCS	ScS	23 42 59.5	-0.3
HHC				AMB	AMB		
	comp=Z,21nm,0.9s,mb4.8						
BJT	**Baijiatuau**	**41.66**	**23**	*e*P	**P**	**23 33 05.7**	**+0.5**
BJT				pmax	pmax		
	comp=Z,58nm,1.4s						
BJT	**Baijiatuau**	**41.66**	**23**	*e*P	**P**	**23 33 05.7**	**+0.5**
	comp=Z,58nm,1.4s,mb5.0						
BJI	**Beijing**	**41.68**	**23**	P	**P**	**23 33 06.0**	**+0.6**
BJI				AMB	AMB		
	comp=Z,31nm,0.9s,mb4.9						
WMQ	**Urumqi**	**42.31**	**350**	*e*P	**P**	**23 33 11.0**	**+0.5**
WMQ				AP	pP	23 33 18.0	+0.1
WMQ				XP	sP	23 33 21.0	0.0
WMQ				PP	PP	23 33 54.2	+0.5
WMQ				*e*S	**S**	**23 39 30.0**	**+0.3**
WMQ				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,109nm,4.7s						
WMQ				LR	LR		
	comp=N,496nm,19.6s,MS4.5						
WMQ				LR	LR		
	comp=E,372nm,20.3s,MS4.5						
WMQ				LR	LR		
	comp=Z,418nm,22.8s,MS4.3						
WRA	**Warramunga Arr**	**42.90**	**123**	P	**P**	**23 33 15.5**	**-0.1**
	comp=Z,14nm,0.6s,mb4.8,baz=300,slow=9.3,SNR=68						
WRAB	**Tennant Creek**	**42.90**	**123**	P	**P**	**23 33 16.0**	**+0.3**
	comp=Z,153nm,0.6s,mb5.9,SNR=8.2						
WRAB	**Tennant Creek**	**42.90**	**123**	*e*P	**P**	**23 33 15.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**42.90**	**123**	*e*P	**P**	**23 33 15.7**	**0.0**
	comp=Z,16nm,0.6s,mb4.9						
WB2	**Warramunga Arr**	**42.91**	**123**	⇑*i*P	**P**	**23 33 15.8**	**+0.1**
ULHL	**Ulahol**	**43.99**	**338**	P	**P**	**23 33 25.4**	**+1.2**
	SNR=7.3						
ASPA	**Alice Springs**	**44.30**	**128**	⇓*i*P	**P**	**23 33 27.6**	**+0.7**
ASAR	**Alice Springs**	**44.30**	**128**	P	**P**	**23 33 27.4**	**+0.4**
	comp=Z,8.6nm,0.7s,mb4.6,baz=301,slow=8.0,SNR=42						
UCH	**Uchtor**	**44.65**	**336**	P	**P**	**23 33 30.6**	**+1.2**
	SNR=33						
TKM2	**Tokmak 2**	**44.82**	**338**	P	**P**	**23 33 31.7**	**+0.8**
	SNR=20						
KBK	**Karagaybulak**	**44.84**	**337**	P	**P**	**23 33 32.4**	**+1.4**
	SNR=29						
AML	**Almayashu**	**44.90**	**336**	P	**P**	**23 33 32.9**	**+1.3**
	SNR=18						
AAK	**Ala-Archa**	**45.00**	**337**	P	**P**	**23 33 34.8**	**+2.5**
	SNR=11						
AAK	**Ala-Archa**	**45.00**	**337**	P	**P**	**23 33 32.5**	**+0.2**
	comp=Z,62nm,0.9s,mb5.4,SNR=14						
AAK	**Ala-Archa**	**45.00**	**337**	⇓*i*P	**P**	**23 33 31.3**	**-1.0**
AAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
AAK	**Ala-Archa**	**45.00**	**337**	*e*P	**P**	**23 33 31.8**	**-0.5**
	comp=Z,12nm,1.0s,mb4.7						
FRU	**Bishkek**	**45.12**	**337**	*e*P	**P**	**23 33 34.0**	**+0.8**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.9						
CHMS	**Chumysh**	**45.20**	**337**	P	**P**	**23 33 34.5**	**+0.6**
	SNR=6.0						
EKS2	**Erkin-Say**	**45.31**	**336**	P	**P**	**23 33 35.9**	**+1.2**
	SNR=23						
KS15	**Wonju Array Si**	**45.35**	**35**	*e*P	**P**	**23 33 34.4**	**-0.8**
USP	**Ospenovka**	**45.53**	**337**	P	**P**	**23 33 37.2**	**+0.7**
	SNR=50						
MKAR	**Makanchi Array**	**46.26**	**346**	P	**P**	**23 33 42.2**	**0.0**
	comp=Z,43nm,0.7s,mb5.5,baz=161,slow=8.0,SNR=160						
SONM	**Songino Array**	**46.32**	**9**	P	**P**	**23 33 42.7**	**+0.1**
	comp=Z,18nm,0.7s,mb5.1,baz=190,slow=8.2,SNR=90						
SONM				PcP	PcP	23 35 17.7	-0.5
	comp=Z,1.9nm,0.7s,baz=189,slow=3.7,SNR=3.9						
SNY	**Shenyang**	**46.32**	**28**	⇑P	**P**	**23 33 41.5**	**-1.2**
SNY				XP	sP	23 33 53.5	+0.2
SNY				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
ULN	**Ulaanbaatar**	**46.45**	**10**	*e*P	**P**	**23 33 43.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**46.45**	**10**	*e*P	**P**	**23 33 43.7**	**0.0**
	comp=Z,13nm,0.9s,mb4.9						
ZAK	**Zakamensk**	**48.42**	**6**	*e*P	**P**	**23 33 59.0**	**-0.1**
ZAK				*e*		23 35 51.5	
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
CN2	**Changchun**	**48.72**	**28**	*e*P	**P**	**23 33 59.5**	**-2.0**
CN2				*e*XP	sP	23 34 11.3	-0.7
CN2				*e*S	**S**	**23 41 02.0**	**+0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
CN2				AMB	AMB		
	comp=Z,180nm,3.0s						
CN2				LR	LR		
	comp=N,320nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=E,210nm,13.0s,MS4.6						
CN2				LR	LR		
	comp=Z,280nm,15.0s,MS4.4						
MOY	**Mondy**	**49.52**	**3**	*e*P	**P**	**23 34 06.8**	**-0.8**
TLY	**Talaya**	**49.74**	**6**	⇓*i*P	**P**	**23 34 10.2**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
TLY	**Talaya**	**49.74**	**6**	*e*P	**P**	**23 34 09.4**	**+0.1**
	comp=Z,8.4nm,0.8s,mb4.8						
KURK	**Kurchatov**	**50.81**	**345**	*e*P	**P**	**23 34 17.1**	**-0.3**
KURK				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
KURK	**Kurchatov**	**50.81**	**345**	*e*P	**P**	**23 34 17.1**	**-0.3**
	comp=Z,15nm,0.8s,mb5.0						
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**23 34 18.2**	**-0.2**
HIA				pmax	pmax		
	comp=Z,23nm,0.9s						
HIA	**Hailar**	**50.94**	**19**	*e*P	**P**	**23 34 18.2**	**-0.3**
	comp=Z,23nm,0.9s,mb5.1						
MDJ	**Mudanjiang**	**51.31**	**30**	P	**P**	**23 34 21.3**	**0.0**
MDJ				AP	pP	23 34 27.5	-1.4
MDJ				XP	sP	23 34 30.0	-1.8
MDJ				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,134nm,5.2s						
MDJ	**Mudanjiang**	**51.31**	**30**	*e*P	**P**	**23 34 21.3**	**0.0**
	comp=Z,12nm,0.8s,mb4.9						
MAT	**Matsushiro**	**51.34**	**43**	*e*P	**P**	**23 34 22.0**	**+0.3**
MAT

BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
KMBO Kilima Mbogo 59.57 267 P **P** **23 35 22.0 +0.6**
comp=Z,0.7nm,0.8s,mb3.8,baz=70,slow=8.4,SNR=4.5
GNI Garni 60.33 316 P **P** **23 35 29.9 +3.6**
GNI *e**PP pP 23 35 37.2 +3.2
GNI pmax pmax
comp=Z,12nm,1.1s
GNI Garni 60.33 316 P **P** **23 35 29.6 +3.3**
comp=Z,3.0nm,0.7s,mb4.4,baz=162,slow=23,SNR=4.1
GNI Garni 60.33 316 P **P** **23 35 29.9 +3.6**
comp=Z,12nm,1.1s,mb4.8
GNI *ep*P pP 23 35 37.2 +3.2
TI2 Plekhanov 61.01 318 *e*P **P** **23 35 30.8 -0.1**
SVE Sverdlovsk 61.69 338⇑*i*P **P** **23 35 35.0 -0.3**
SVE pmax pmax
comp=Z,20nm,1.1s,mb5.2
ARU Arti 62.18 337⇓*i*P **P** **23 35 36.9 -1.7**
ARU *e* 23 36 16.9
ARU *e*S **S** **23 44 02.0 +1.2**
ARU *e*SS SS 23 48 07.3 +1.5
ARU pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ARU Arti 62.18 337 *e*P **P** **23 35 37.0 -1.6**
comp=Z,9.9nm,0.8s,mb5.0
KIV Kislovodsk 63.33 319 *e*P **P** **23 35 45.6 -0.7**
KIV *e**PP pP 23 35 52.3 -1.8
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KIV Kislovodsk 63.33 319 *e*P **P** **23 35 45.6 -0.7**
comp=Z,5.8nm,1.0s,mb4.7
KIV *ep*P pP 23 35 52.3 -1.7
GOF Gofitskoye 63.58 320 *e*P **P** **23 35 53.8 +5.8**
YAK Yakutsk 64.69 16 *e*P **P** **23 35 53.8 -1.2**
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.3
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.0s
YAK pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
YAK Yakutsk 64.69 16 *e*P **P** **23 35 53.7 -1.3**
comp=Z,47nm,0.7s,mb5.6
BRTR Keskin Array B 68.17 312 P **P** **23 36 16.1 -1.4**
comp=Z,1.7nm,0.7s,mb4.2,baz=124,slow=7.7,SNR=9.3
SIM Simferopol' 69.39 318 P **P** **23 36 31.5 +6.5**
SIM pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
MA2 Magadan 70.72 26 *e*P **P** **23 36 32.2 -0.6**
MA2 pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
OBN Obninsk 71.62 328⇑*i*P **P** **23 36 37.4 -0.9**
OBN pmax pmax
comp=Z,22nm,1.2s,mb5.0
OBN Obninsk 71.62 328 *e*P **P** **23 36 37.5 -0.8**
comp=Z,11nm,0.7s,mb4.9
PET Petropavlovsk 71.75 34 *e*P **P** **23 36 39.1 0.0**
PET pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
PET MLR MLR
comp=Z,200nm,17.0s,MS4.5
LBTB Lobatse 73.88 243 P **P** **23 36 52.7 +0.5**
LBTB *e**PP pP 23 37 00.3 +0.4
LBTB Lobatse 73.88 243 P **P** **23 36 53.3 +1.2**
comp=Z,2.5nm,1.0s,mb4.1,baz=60,slow=16,SNR=2.6
AKASG Malin Array Be 74.27 322 P **P** **23 36 52.5 -1.4**
comp=Z,2.3nm,0.6s,mb4.3,baz=89,slow=5.4,SNR=14
VRI Vrincioaia 74.65 317⇑P **P** **23 36 56.3 +0.1**
BOSA Boshof 74.83 240 P **P** **23 36 56.4 -1.2**
comp=Z,2.3nm,0.9s,mb4.1,baz=96,slow=9.2,SNR=2.7
MLR Muntele Rosu 75.10 317⇓P **P** **23 36 59.5 +0.7**
BURAR Bucovina Array 76.05 319⇓P **P** **23 37 05.4 +1.2**
KOLS Kolonicke sedl 78.24 320 *e*P **P** **23 37 18.0 +1.7**
SUW Suwalki 78.68 325 *e*P **P** **23 37 18.2 -0.4**
CRVS Cervenica-Dubn 78.76 319 *e*P **P** **23 37 29.0 +10**
CRVS Cervenica-Dubn 78.76 319 *ep*P pP 23 37 29.0 +2.0
FINES FINESS Array B 78.99 332 P **P** **23 37 19.9 -0.3**
comp=Z,4.8nm,0.6s,mb4.6,baz=98,slow=6.0,SNR=26
KAF Kangasniemi 79.08 333 *ep* **P** **23 37 20.3 -0.3**
comp=Z,3.8nm,0.5s,mb4.6,baz=101,slow=5.2
KAF Kangasniemi 79.08 333 *e*P **P** **23 37 20.3 -0.3**
KAF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
FX1 Attu Island--F 80.15 37 P **P** **23 37 26.9 +0.4**
comp=Z,17nm,0.6s,mb5.1,baz=270,slow=4.0,SNR=3.0
VYHS Vyhne 80.42 319 *e*P **P** **23 37 27.0 -1.1**
ZST Bratislava 81.53 318 *e*P **P** **23 37 31.7 -2.2**
ZST *ep*P pP 23 37 42.6 +0.8
ARCES ARCESS Array B 81.54 340 P **P** **23 37 33.2 -0.3**
comp=Z,5.3nm,0.8s,mb4.5,baz=99,slow=4.9,SNR=16
GERES GERESS Array B 83.84 319 P **P** **23 37 45.6 -0.2**
comp=Z,2.9nm,0.8s,mb4.5,baz=104,slow=5.5,SNR=18
GERES GERESS Array B 83.84 319 P **P** **23 37 45.6 -0.2**
KHC Kasperske Hory 83.94 319 *e*P **P** **23 37 46.5 +0.2**
KHC *e* pP 23 37 53.5 -0.8
KHC Kasperske Hory 83.94 319 *e*P **P** **23 37 46.5 +0.2**
KHC x x 23 37 53.5
GRA1 Grafenberg Arr 85.50 320 *e*P **P** **23 37 55.0 +0.9**
comp=Z,10.0nm,0.9s,mb5.0
GRA1 *ep*P pP 23 38 02.9 +0.8
GRF Grafenberg Arr 85.50 320 *e*P **P** **23 37 55.0 +0.9**
GRF *e**PP pP 23 38 02.9 +0.8
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GRF Grafenberg Arr 85.50 320 *e*P **P** **23 37 55.0 +0.9**
GRF *e**PP pP 23 38 02.9 +0.8
GRF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
GRF Grafenberg Arr 85.50 320 *e*P **P** **23 37 55.0 +0.9**
comp=Z,10.0nm,0.9s,mb5.0
GRF *ep*P pP 23 38 02.9 +0.8
NB2 NORSAR Subarra 86.00 331 P **P** **23 37 55.9 -0.4**
comp=Z,3.9nm,0.9s,mb4.6,baz=97,slow=5.0
NB2 NORSAR Subarra 86.00 331 P **P** **23 37 55.9 -0.4**
NB2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
NOA NORSAR Array B 86.00 331 P **P** **23 37 55.7 -0.7**
comp=Z,2.2nm,0.8s,mb4.5,baz=94,slow=5.0,SNR=11

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*MOS **30** 23:31:22.2±1.1,35.23S×71.15W,h96km,mb5.4/8,Error ellipse: s-maj=27.4km s-min=8.8km az=87.8*
*NEIC **30** 23:31:22.9±0.2,35.30S×71.04W,mb5.2/40,Error ellipse: s-maj=6.1km s-min=3.4km az=96.0*
NEIC Felt [IV] at Talca; [III] at Linares, Rancagua, Santiago, Valparaiso and Vina del Mar; [II] at Casablanca and San Antonio.
*IDC **30** 23:31:22.9±0.5,35.25S×71.02W,h91±3km,mb4.6/17, mb1 4.6/21,mb1mx4.6/23,mbtmp4.9/21,MS3.7/3, Ms1 3.6/3,ms1mx2.9/20,Error ellipse: s-maj=16.6km s-min=9.5km az=85.0*
*BJI **30** 23:31:22.9,35.30S×71.00W,h85km,mB4.8,Ms5.2, Msz5.1*
*HRVD **30** 23:31:22.9±0.4,35.26S×71.12W,h104km±5km,MW4.9/45, Centroid moment Tensor Solution. LP body waves: s16,c17;Mantle waves: s45,c60; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.43±.13; Mθθ0.16±.16; Mφφ2.26±.19; Mrθ-0.40±.10; Mθφ1.23±.15; Mφr-0.73±.16; Best double couple: M0 2.757×10^16^ NP1:φ203°,δ36°, λ-92°. NP2:φ26°,δ54°,λ-88°. Principal axes: T 2.955, Plg9°, Azm115°; N -.403, Plg1°, Azm205°; P -2.559, Plg81°, Azm304°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*GUC **30** 23:31:23.1±0.8,35.24S×71.32W,h91±3km,ML5.1*
ISC 30 23:31:21.7±0.2,**35.34S**±0.02×**71.11W**±0.06,**h90**km, **h90**km±.9km:**pP-P,n169,**σ1**12**/148,**mb5.0**/52,**19C-16D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.36**	**343**	⇓*i*P		**P**	**23 31 36.4**	**+0.9**
NICH				*i* S		**S**	**23 31 46.3**	**+0.2**
TALC	**Talca**	**0.44**	**263**	⇑*i*P		**P**	**23 31 36.9**	**+0.7**
TALC				*i* S		**S**	**23 31 47.4**	**+0.4**
TALC				AMP			23 31 48.0	
	comp=E,289μm,0.5s							
LNCH	**Linares**	**0.65**	**219**	⇑*i*P		**P**	**23 31 39.4**	**+1.4**
LNCH				*i* S		**S**	**23 31 51.8**	**+1.8**
LNCH				AMP			23 31 53.4	
	comp=E,138μm,0.8s							

SFDO San Fernando 0.73 6⇑*i*P **P** **23 31 39.3 +0.5**
CICH Cipreses 1.17 29⇑*i*P **P** **23 31 45.4 +1.6**
CACH El Canelo 1.29 19⇓*i*P **P** **23 31 46.2 +0.8**
LNV Longovilo 1.41 350⇑*i*P **P** **23 31 46.9 0.0**
CHCH Chadas Angostu 1.46 15⇓*i*P **P** **23 31 48.0 +0.6**
CCHI Chillan 1.48 212⇑*i*P **P** **23 31 49.1 +1.4**
CCHI *i* S **S** **23 32 08.6 +1.6**
CCHI AMP 23 32 12.5
comp=N,15μm,0.9s
LMEL Las Melosas 1.67 27⇑*i*P **P** **23 31 52.1 +2.0**
LMEL *i* S **S** **23 32 13.8 +2.8**
LMEL AMP 23 32 17.2
comp=N,21μm,0.2s
TACH Talagante 1.69 5⇓*i*P **P** **23 31 50.6 +0.1**
PCH Pirque 1.79 16 *e*P **P** **23 31 52.4 +0.7**
SJCH San Jose de Ma 1.81 20 *e*P **P** **23 31 53.1 +1.2**
SJCH *i* S **S** **23 32 15.8 +1.6**
ANTU Antumapu 1.81 13 *e*P **P** **23 31 52.8 +0.8**
ANTU *i* S **S** **23 32 15.1 +0.8**
ANTU AMP 23 32 19.4
comp=E,31μm,0.5s
SCR San Cristobal 1.84 3⇑*i*P **P** **23 31 54.3 +2.0**
SCR *i* S **S** **23 32 17.9 +3.0**
SCR AMP 23 32 20.7
comp=E,10μm,0.4s
LCCH Las Cruces 1.90 348⇓*i*P **P** **23 31 52.6 -0.6**
PUEX Pudahuel 1.92 9 *e*P **P** **23 31 55.0 +1.6**
PUEX *i* S **S** **23 32 18.2 +1.5**
PUEX AMP 23 32 19.5
comp=E,49μm,0.5s
SAN Santiago 1.92 11 *e*P **P** **23 31 53.7 +0.3**
SAN *i* S **S** **23 32 17.0 +0.2**
STL Santa Lucia 1.94 12 *e*P **P** **23 31 54.0 +0.3**
STL *i* S **S** **23 32 17.8 +0.6**
DSCH Colegio Aleman 1.99 13⇓*i*P **P** **23 31 55.1 +0.7**
DSCH *i* S **S** **23 32 19.1 +0.7**
DSCH AMP 23 32 20.4
comp=E,28μm,0.4s
CLCH Cerro Calan 2.00 14⇑*i*P **P** **23 31 55.2 +0.7**
CLCH *i* S **S** **23 32 19.4 +0.9**
CLCH AMP 23 32 21.1
comp=E,28μm,0.5s
FCH Farellones 2.12 19⇑*i*P **P** **23 31 57.2 +1.1**
FCH *i* S **S** **23 32 23.7 +2.1**
FCH AMP 23 32 25.8
comp=N,16μm,0.3s
IHA Instituto Hidr 2.35 349⇑*i*P **P** **23 31 58.9 -0.5**
IHA *i* S **S** **23 32 20.3 -7.1**
JACH Jahuel 2.69 9 *i* P **P** **23 32 03.9 -0.2**
PACH Papudo 2.81 354⇑*i*P **P** **23 32 05.0 -0.8**
MDZ Mendoza 3.09 38 *e*P **P** **23 32 06.1 -3.4**
MDZ *i* S **S** **23 32 37.3 -8.2**
CHNG Los Chungos 3.47 354⇑*i*P **P** **23 32 13.4 -1.4**
ZON Zonda 4.30 29⇓*i*P **P** **23 32 25.0 -1.2**
CFAA Coronel Fontan 4.43 34 P **P** **23 32 27.8 -0.3**
comp=N,6.9nm,0.3s,baz=207,slow=12,SNR=103
TLL Tololo Astrono 5.17 3 *e*P **P** **23 32 37.0 -1.2**
PLCA Paso Flores 5.40 176 *e*P **P** **23 32 41.9 +0.6**
PLCA Paso Flores 5.40 176 P **P** **23 32 42.7 +1.4**
comp=N,2.3nm,0.3s,baz=339,slow=11,SNR=29
TRQA Tornquist 7.81 113⇑*i*P **P** **23 33 14.9 +0.4**
comp=N,342nm,1.0s
LVC Limon Verde 12.83 9 *e*P **P** **23 34 21.1 -0.8**
comp=N,17nm,0.6s
ARE Arequipa 18.81 359 *e*P **P** **23 35 37.0 +0.3**
LPAZ La Paz 19.16 9 *e*P **P** **23 35 40.4 -0.2**
LPAZ pmax pmax
comp=Z,43nm,0.9s
LPAZ La Paz 19.16 9 P **P** **23 35 40.2 -0.3**
comp=Z,1.6nm,0.3s,baz=188,slow=7.7,SNR=59
LPAZ La Paz 19.16 9 *e*P **P** **23 35 40.4 -0.2**
comp=Z,43nm,0.9s
USHA Ushuaia 19.58 175 P **P** **23 35 44.1 -0.7**
comp=Z,1.0nm,0.3s,baz=322,slow=8.0,SNR=7.2
USHA LR LR 23 43 48.9
comp=Z,281nm,19.0s,baz=129,slow=38
SIV San Ignacio 21.26 28 P **P** **23 36 00.9 -1.4**
comp=Z,25nm,0.7s,mb4.6,baz=209,slow=9.0,SNR=37
SIV sP 23 36 30.2
comp=Z,24nm,0.8s,baz=229,slow=12,SNR=7.1
SAML Samuel 27.25 17⇓*i*P **P** **23 36 57.6 -1.9**
comp=Z,11nm,0.8s,mb4.4
SAML *e*PcP PcP 23 40 15.8 -1.7
CAM4 Nova Friburgo 28.04 70 *e*P **P** **23 37 05.2 -1.4**
CAM4 *i* 23 37 08.4
BDFB Brasilia 28.50 52 P **P** **23 37 09.0 -1.8**
comp=Z,12nm,0.8s,mb4.5,baz=232,slow=7.0,SNR=19
BDFB *pP* pP 23 37 29.4 -1.8
comp=Z,6.5nm,0.6s,baz=288,slow=5.1,SNR=3.4
BDFB LR LR 23 50 11.4
comp=Z,122nm,20.4s,baz=52,slow=40
BAO Brasilia Array 28.52 52 P **P** **23 37 08.0 -2.9**
OTAV Otavalo 36.06 347 *e*P **P** **23 38 17.5 +1.1**
comp=Z,15nm,1.0s,mb4.9
OTAV *ep*P pP 23 38 39.3 +1.5
OTAV *es*P sP 23 38 50.1 +1.5
OTAV *e*PcP PcP 23 40 41.6 +0.4
ROSC El Rosal 40.10 355 P **P** **23 38 50.3 +0.2**
comp=Z,12nm,0.4s,mb5.0,baz=286,slow=23,SNR=6.5
SDV Santo Domingo 43.99 1 P **P** **23 39 20.1 -1.8**
comp=Z,11nm,0.9s,mb4.6,baz=280,slow=6.8,SNR=9.2
SDV *pP* pP 23 39 42.0 -1.6
comp=Z,5.4nm,0.5s,baz=281,slow=4.7,SNR=3.7
SDV LR LR 23 56 42.6
comp=Z,69nm,20.4s,baz=204,slow=35
SDV Santo Domingo 43.99 1 *e*P **P** **23 39 20.5 -1.5**
comp=Z,6.3nm,0.6s,mb4.5
SDV *i* PcP PcP 23 41 05.4 -1.3
PCRV Puerto La Cruz 45.68 9 P **P** **23 39 33.8 -1.6**
comp=Z,15nm,0.6s,mb4.9,baz=354,slow=10,SNR=6.0
VNA3 Neumayer Olymp 47.83 157 P **P** **23 39 54.4 +2.8**
VNA3 Neumayer Olymp 47.83 157⇓*i* pP 23 40 15.4 +2.0
VNA3 Neumayer Olymp 47.83 157⇑*i* pP 23 40 25.3 +12
VNA2 Neumayer--Watz 48.48 157 P **P** **23 39 59.8 +3.2**
VNA2 Neumayer--Watz 48.48 157 pP 23 40 20.5 +2.0
VNA2 Neumayer--Watz 48.48 157 pP 23 40 30.5 +12
SNAA Sanae 50.05 157 P **P** **23 40 08.5 -0.2**
comp=Z,3.8nm,0.6s,mb4.5,baz=289,slow=8.4,SNR=70
SJG San Juan 53.37 6 *e*P **P** **23 40 31.2 -3.1**
SJG pmax pmax
comp=Z,32nm,0.8s
SJG San Juan 53.37 6 *e*P **P** **23 40 31.2 -3.1**
comp=Z,32nm,0.8s,mb5.4
NVL N'lazarevskaya 54.78 156⇑*i*P **P** **23 40 46.0 +2.1**
NVL pmax pmax
comp=Z,24nm,0.4s,mb5.6
QSPA South Pole Qui 54.90 180⇓*i*P **P** **23 40 45.3 +0.6**
comp=Z,40nm,0.9s,mb5.5
RKT Rikitea 56.20 264 *e*LR LR 23 57 09.0
comp=Z,133nm,35.0s
TEIG Tepich 57.62 341 *e*P **P** **23 41 02.5 -2.3**
comp=Z,18nm,0.6s,mb5.3
VNDA Vanda 62.94 191 P **P** **23 41 40.9 +0.5**
comp=Z,5.4nm,0.8s,mb4.5,baz=129,slow=5.6,SNR=24
SYO Syowa Base 64.34 158⇑P **P** **23 41 48.5 -0.9**
SYO Syowa Base 64.34 158⇓*pP* pP 23 42 10.9 -1.6
SYO Syowa Base 64.34 158⇓*sP* sP 23 42 18.0 -4.5
TBI Tubuai 67.75 257 *e*LR LR 00 02 31.0
comp=Z,130nm,28.8s
GOGA Godfrey 69.37 349 *e*P **P** **23 42 19.7 -2.0**
GOGA pmax pmax
comp=Z,27nm,0.9s,mb5.1
GOGA Godfrey 69.37 349 *e*P **P** **23 42 19.7 -2.0**
comp=Z,27nm,0.9s,mb5.1
LRAL Lakeview Retre 69.63 346 *e*P **P** **23 42 21.6 -1.7**
comp=Z,20nm,0.8s,mb5.0
NATX Nacogdoches 70.32 339 *e*P **P** **23 42 26.9 -0.6**
comp=Z,64nm,0.9s,mb5.5
PPT Papeete 70.81 262 *e*LR LR 00 03 56.1
comp=Z,227nm,28.2s
TXAR Lajitas Array 71.28 330 P **P** **23 42 32.9 -0.4**
comp=Z,13nm,0.7s,mb4.9,baz=152,slow=8.6,SNR=106
TXAR *pP* pP 23 42 55.4 -1.5
comp=Z,4.2nm,0.7s,baz=144,slow=8.5,SNR=4.9
TXAR *sP* sP 23 43 05.2 -1.2
comp=Z,3.4nm,0.7s,baz=156,slow=7.6,SNR=2.5
CPCT Cooper Cave 71.53 348 *e*P **P** **23 42 33.3 -1.5**
OXF Oxford 71.57 344 *e*P **P** **23 42 33.2 -1.8**
OXF pmax pmax
comp=Z,128nm,1.1s,mb5.7
OXF Oxford 71.57 344 *e*P **P** **23 42 33.1 -1.8**
comp=Z,128nm,1.1s,mb5.7
MAW Mawson 71.67 163⇓*i*P **P** **23 42 35.1 +0.1**
comp=Z,14nm,0.9s,mb4.8
MAW Mawson 71.67 163⇓*i*P **P** **23 42 35.1 +0.1**

MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 71.67 163 P **P** **23 42 34.8 -0.2**
comp=Z,14nm,0.7s,mb4.9,baz=219,slow=8.8,SNR=11
MAW pP pP 23 42 58.2 -0.4
comp=Z,13nm,0.8s,baz=219,slow=5.3,SNR=5.0
PLAL Pickwick Lake 71.74 345 *e*P **P** **23 42 34.5 -1.5**
comp=Z,41nm,0.6s,mb5.4
PLAL *ep*P pP 23 42 58.8 -0.7
MIAR Mount Ida 72.63 341 *e*P **P** **23 42 39.6 -1.6**
MIAR *e**PP pP 23 43 02.9 -1.9
MIAR pmax pmax
comp=Z,23nm,1.0s,mb5.0
MIAR Mount Ida 72.63 341 *e*P **P** **23 42 39.5 -1.7**
comp=Z,23nm,1.0s,mb5.0
MIAR *ep*P pP 23 43 02.9 -2.0
BLA Blacksburg 72.70 352 *e*P **P** **23 42 39.7 -1.9**
BLA pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
BLA Blacksburg 72.70 352 *e*P **P** **23 42 39.7 -1.9**
comp=Z,7.7nm,0.6s,mb4.7
WVT Waverly 72.80 346 *e*P **P** **23 42 40.7 -1.4**
WVT *e**PP pP 23 43 05.2 -0.6
WVT pmax pmax
comp=Z,116nm,0.8s,mb5.8
WVT Waverly 72.80 346 *e*P **P** **23 42 40.7 -1.5**
comp=Z,116nm,0.8s,mb5.8
WVT *ep*P pP 23 43 05.2 -0.5
GNAR Gosnell 73.10 344 *e*P **P** **23 42 43.7 -0.2**
UTMT University of 73.21 345 *e*P **P** **23 42 43.3 -1.3**
comp=Z,159nm,1.0s,mb5.8
GLAT Glass 73.23 345 *e*P **P** **23 42 44.1 -0.5**
MNTX Cornudas Mount 74.06 330⇓*i*P **P** **23 42 48.0 -1.6**
comp=Z,16nm,0.8s,mb4.8
MNTX *ep*P pP 23 43 10.9 -2.4
MNTX *es*P sP 23 43 22.2 -0.7
GDL2 Guadalupe Moun 74.09 331 *e*P **P** **23 42 49.4 -0.4**
WMOK Wichita Mounta 74.36 337 *e*P **P** **23 42 49.7 -1.6**
WMOK pmax pmax
comp=Z,42nm,1.4s,mb5.0
WMOK Wichita Mounta 74.36 337 *e*P **P** **23 42 49.6 -1.7**
comp=Z,42nm,1.4s,mb5.0
SDMD Soldier's Deli 74.57 355 *e*P **P** **23 42 51.7 -0.7**
CPRX Cap Rock 74.63 332 *e*P **P** **23 42 52.5 -0.4**
CPRX *ep*P pP 23 43 15.1 -1.5
CPRX *es*P sP 23 43 26.6 +0.3
DBIC Dimbokro 74.89 70 P **P** **23 42 53.9 -0.9**
comp=Z,6.2nm,0.6s,mb4.5,baz=226,slow=6.3,SNR=16
DBIC pP pP 23 43 17.7 -0.7
comp=Z,9.6nm,0.8s,baz=220,slow=5.6,SNR=4.7
FVM French Village 75.13 344 *e*P **P** **23 42 54.4 -1.2**
comp=Z,57nm,0.9s,mb5.3
CCM Cathedral Cave 75.38 344 *e*P **P** **23 42 55.9 -1.2**
comp=Z,64nm,0.8s,mb5.4
AMTX Amarillo 75.48 334 *e*P **P** **23 42 56.7 -1.0**
comp=Z,58nm,1.0s,mb5.3
AMTX *ep*P pP 23 43 19.9 -1.5
SLM Saint Louis 75.71 345 *e*P **P** **23 42 57.9 -1.0**
comp=Z,64nm,0.9s,mb5.3
ACSO Alum Creek Sta 76.00 351 *e*P **P** **23 42 58.9 -1.6**
comp=Z,35nm,0.5s,mb5.3
TUC Tucson 76.91 326 *e*P **P** **23 43 06.1 +0.3**
comp=Z,66nm,1.4s,mb4.8
ANMO Albuquerque 77.33 331 *e*P **P** **23 43 08.0 -0.1**
comp=Z,23nm,1.2s,mb4.8
ANMO *ep*P pP 23 43 31.5 -0.4
KSU1 Kansas State U 77.74 340 *e*P **P** **23 43 09.2 -1.1**
CASY Casey 78.69 181⇓*i*P **P** **23 43 15.7 +0.8**
BOSA Boshof 78.77 117 P **P** **23 43 15.6 -0.6**
comp=Z,11nm,0.7s,mb4.8,baz=242,slow=4.7,SNR=27
BOSA pP pP 23 43 40.0 0.0
comp=Z,16nm,1.0s,baz=240,slow=5.0,SNR=5.5
BOSA Boshof 78.77 117 *e*P **P** **23 43 16.0 -0.1**
comp=Z,9.5nm,0.8s,mb4.7
BOSA *ep*P pP 23 43 40.3 +0.3
SDCO Great Sand Dun 79.41 333 *e*P **P** **23 43 19.1 -0.3**
comp=Z,20nm,1.0s,mb4.9
WUAZ Wupatki 79.87 328 *e*P **P** **23 43 22.1 +0.2**
comp=Z,43nm,1.4s,mb5.1
MSNY Massena 80.04 357 *e*P **P** **23 43 22.2 -0.4**
PFO Pinyon Flat Ob 80.67 323 *e*P **P** **23 43 27.6 +1.4**
comp=Z,29nm,1.3s,mb4.9
RW3 Ridgway 80.69 332 *e*P **P** **23 43 26.4 +0.1**
PV01 Paradox Valley 80.93 331 *e*P **P** **23 43 28.2 +0.6**
LBTB Lobatse 81.05 114 P **P** **23 43 28.0 -0.4**
comp=Z,8.4nm,0.6s,mb4.7,baz=248,slow=6.0,SNR=24
LBTB pP pP 23 43 51.7 -0.7
comp=Z,12nm,0.8s,baz=261,slow=4.7,SNR=6.3
LBTB Lobatse 81.05 114 *e*P **P** **23 43 27.9 -0.5**
comp=Z,8.1nm,0.6s,mb4.7
LBTB *ep*P pP 23 43 51.0 -1.3
ISCO Idaho Springs 81.27 334 *e*P **P** **23 43 29.4 +0.2**
comp=Z,12nm,0.8s,mb4.8
PV10 Paradox Valley 81.33 331 *e*P **P** **23 43 29.6 0.0**
SRU San Rafael 82.56 330 *e*P **P** **23 43 36.3 +0.3**
ARUT Antelope Range 82.68 327 *e*P **P** **23 43 37.5 +0.9**
RPZ Rata Peaks 83.12 220 P **P** **23 43 39.6 +0.9**
comp=Z,6.2nm,0.6s,mb4.6,baz=96,slow=1.0,SNR=5.9
RWWY Rawlins 83.50 334 *e*P **P** **23 43 41.3 +0.7**
NLU North Lily Min 83.91 330 *e*P **P** **23 43 43.8 +1.1**
TRCR Troy Canyon 84.10 326 *e*P **P** **23 43 44.8 +1.1**
JLU Jordanelle 84.20 330 *e*P **P** **23 43 44.5 +0.4**
DUG Dugway 84.42 329 *e*P **P** **23 43 45.8 +0.6**
comp=Z,20nm,0.9s,mb5.0
TPH Tonopah 84.63 325 *e*P **P** **23 43 47.6 +1.3**
comp=Z,46nm,1.4s,mb5.2
MTUM Tungsten Hills 84.69 324 *e*P **P** **23 43 47.7 +1.1**
HWUT Hardware Ranch 85.09 331 *e*P **P** **23 43 48.7 +0.1**
comp=Z,34nm,0.9s,mb5.3
OMM Old Mammoth Mi 85.11 324 *e*P **P** **23 43 50.0 +1.3**
BGU Big Grassy Mou 85.12 329 *e*P **P** **23 43 49.0 +0.3**
PDAR Pinedale Array 85.31 333 P **P** **23 43 49.5 -0.1**
comp=Z,11nm,0.7s,mb4.9,baz=140,slow=5.1,SNR=9.8
PDAR pP pP 23 44 12.9 -0.9
comp=Z,1.9nm,0.6s,baz=135,slow=10,SNR=1.5
HVU Hansel Valley 85.73 330 *e*P **P** **23 43 52.0 +0.4**
HVU *ep*P pP 23 44 17.4 +1.5
TPAW Teton Pass 86.45 332 *e*P **P** **23 43 55.7 +0.5**
comp=Z,38nm,1.2s,mb5.2
HLID Hailey 87.88 330 *e*P **P** **23 44 02.9 +0.8**
comp=Z,19nm,1.0s,mb5.1
ULM Lac du Bonnet 87.99 344 P **P** **23 44 01.2 -1.2**
comp=Z,35nm,0.8s,mb5.4,baz=165,slow=3.5,SNR=45
ULM pP pP 23 44 27.0 +0.2
comp=Z,5.7nm,0.8s,baz=223,slow=2.3,SNR=2.5
ULM Lac du Bonnet 87.99 344 *e*P **P** **23 44 01.7 -0.8**
comp=Z,60nm,0.9s,mb5.6
WVOR Wild Horse Val 88.77 327 *e*P **P** **23 44 06.4 +0.1**
comp=Z,266nm,1.7s,mb5.0
MOD Modoc 89.11 326 *e*P **P** **23 44 08.7 +0.8**
comp=Z,24nm,1.2s,mb5.1
SCHQ Schefferville 89.89 2 P **P** **23 44 10.1 -1.1**
comp=Z,5.0nm,0.6s,mb4.8,baz=189,slow=3.7,SNR=13
NEW Newport 92.81 331 P **P** **23 44 24.4 -0.6**
comp=Z,2.1nm,0.5s,mb4.7,baz=126,slow=3.5,SNR=3.5
EDM Edmonton 95.52 336 *e*P **P** **23 44 35.8 -1.3**
YKA Yellowknife Ar 103.58 341 Pdiff Pdif **23 45 11.9 -1.2**
comp=Z,1.1nm,0.7s,baz=144,slow=4.4,SNR=24
YKA PKiKP 23 49 29.8
comp=Z,0.2nm,0.5s,baz=161,slow=1.9,SNR=3.7
GERES GERESS Array B 112.55 45 PKiKP 23 49 47.4
comp=Z,0.5nm,0.6s,baz=180,slow=1.3,SNR=6.4
ASAR Alice Springs 116.71 206 PKKPbc 00 00 21.7
comp=Z,0.9nm,0.6s,baz=337,slow=3.1,SNR=7.9
NOA NORSAR Array B 116.74 33 PKP PKPdf 23 49 55.0 +0.2
comp=Z,0.4nm,0.6s,baz=248,slow=2.3,SNR=3.8
IMA Indian Mountai 118.86 332 ePKPdf PKPdf 23 50 00.4 +1.5
WRA Warramunga Arr 119.95 208 PKP PKPdf 23 50 02.6 +0.5
comp=Z,4.9nm,0.7s,baz=162,slow=1.8,SNR=7.0
WRA PKKPbc 00 00 10.8
comp=Z,0.7nm,1.0s,baz=344,slow=4.1,SNR=4.9
BRTR Keskin Array B 121.81 61 PKP PKPdf 23 50 05.8 +0.5
comp=Z,1.5nm,0.7s,baz=236,slow=2.2,SNR=7.9
BRTR pPKP 23 50 31.2
comp=Z,1.6nm,1.0s,baz=207,slow=2.8,SNR=4.1
AKASG Malin Array Be 122.53 48 PKP PKPdf 23 50 05.5 -0.8
comp=Z,1.3nm,0.5s,baz=262,slow=3.1,SNR=14
FINES FINESS Array B 123.65 35 PKP PKPdf 23 50 07.4 -0.9
comp=Z,1.8nm,0.8s,baz=270,slow=1.9,SNR=9.3
KAF Kangasniemi 123.91 34 *ep* PKP PKPdf 23 50 08.2 -0.6
comp=Z,0.7nm,0.4s
KAF Kangasniemi 123.91 34 *e*PKIKP PKPdf 23 50 08.2 -0.6
KAF pmax pmax
comp=Z,1.0nm,0.4s
TNA Tin City 124.34 330 *e*PKPdf PKPdf 23 50 10.4 +0.9
FITZ Fitzroy Crossi 124.52 199 PKP PKPdf 23 50 11.0 0.0

comp=Z,15nm,0.8s,baz=242,slow=2.4,SNR=3.3
MALT Malatya 124.79 65 *e*PKIKP PKPdf 23 50 12.1 +1.1
MALT *e* 23 50 37.3
MALT *e* 23 50 48.4
ARCES ARCESS Array B 124.90 25 PKP PKPdf 23 50 10.6 +0.2
comp=Z,3.8nm,0.9s,baz=247,slow=3.5,SNR=12
KEV Kevo 125.45 25 *ep* PKPdf 23 50 30.7 +19
comp=Z,4.6nm,0.8s
KIV Kislovodsk 129.53 59*ce*PKIKP PKPdf 23 50 21.2 +1.2
KIV *e* 23 52 27.8
KIV *eS* SKS 23 57 16.4 -1.7
KIV pmax pmax
comp=Z,9.0nm,1.0s
GOF Gofitskoye 130.03 58⇑*i*PKIKP PKPdf 23 50 22.3 +1.4
GOF pmax pmax
comp=Z,20nm,1.0s
ARU Arti 140.24 42 *e*PKIKP PKPdf 23 50 41.0 +1.6
ARU Arti 140.24 42 *e*PKPdf PKPdf 23 50 41.0 +1.6
KSM Kuching 146.28 183 *e*PKPdf PKPdf 23 50 53.7 +2.5
HYB Hyderabad 147.66 116 *eP* PKPdf 23 50 57.0 +3.8
HYB *e* 23 51 22.0
HYB Hyderabad 147.66 116 *i* PKP PKPdf 23 50 57.0 +3.8
comp=Z,50nm,1.0s
HYB *e* 23 51 22.0
YAK Yakutsk 150.25 340 *e*PKIKP PKPdf 23 51 02.3 +6.3
CN2 Changchun 164.71 309 *e*PKP PKPdf 23 51 15.0 +0.7
SONM Songino Array 167.38 8 PKPab PKPab 23 52 23.6 -0.4
comp=Z,4.4nm,0.7s,baz=333,slow=4.2,SNR=5.5
HHC Hu-ho-hao-te 174.12 340 *e*PKP PKPdf 23 51 19.8 -0.3
HHC APKP 23 51 45.3
HHC XPKP 23 51 56.0
HHC PKS PKS 23 54 54.8 +3.4
HHC PP PP 23 56 50.3 +3.4
HHC SKS SKS 23 58 13.3 +0.9
LZH Lanzhou 175.82 78 *e*PKP PKPdf 23 51 21.0 +0.3
LZH APKP 23 51 47.5
LZH XPKP 23 51 57.5
LZH PP PP 23 56 55.0 -0.6
LZH PP PP
comp=Z,170nm,6.2s
LZH LR LR
comp=N,330nm,19.2s
LZH LR LR
comp=Z,392nm,21.0s

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*JMA **30** 23:33:24.6±0.4, 33.95N×142.42E, h22km, M3.6*
*IDC **30** 23:33:24.3±1.8, 33.94N×142.31E, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=38.8km s-min=26.0km az=59.0*
ISC 30 23:33:24.2±1.7, 33.97N±0.05×142.45E±0.07, h18km±13km, n17, σ0s93/25, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BSO1	**Boso 1**	**1.40**	**300**	P		**Pn**	**23 33 49.1**	**+0.1**
BSO1				*eS*		**Sb**	**23 34 07.0**	**+0.1**
BSO2	**Boso 2**	**1.61**	**300**	*eS*		**Sn**	**23 34 13.2**	**+0.8**
BSO3	**Boso 3**	**1.81**	**298**	P		**Pn**	**23 33 55.3**	**+0.4**
BSO3				*eS*		**Sn**	**23 34 19.0**	**+1.5**
BSO4	**Boso 4**	**2.02**	**301**	*eS*		**Sn**	**23 34 24.8**	**+1.8**
CHOJ	**Chosi**	**2.17**	**323**	P		**Pn**	**23 34 01.1**	**+1.0**
JHJ2	**Mitsune**	**2.36**	**250**	P		**Pn**	**23 34 03.8**	**+1.0**
JHJ2				*eS*		**Sn**	**23 34 31.3**	**-0.3**
JHJ	**Hachijo jima 2**	**2.38**	**250**	Pn		**Pn**	**23 34 03.4**	**+0.2**
	50nm,0.3s,baz=236,slow=22,SNR=14							
JHJ				Sn		**Sn**	**23 34 30.9**	**-1.2**
	66nm,0.3s,baz=47,slow=23,SNR=11							
JIM2	**Oshima 3**	**2.61**	**287**	*eS*		**Sn**	**23 34 36.2**	**-1.7**
JOD2	**Odawara 2**	**3.06**	**296**	P		**Pn**	**23 34 11.9**	**-0.9**
JOD2				*eS*		**Sn**	**23 34 49.6**	**+0.3**
JAG	**Ashikaga**	**3.47**	**316**	P		**Pn**	**23 34 18.0**	**-0.6**
JAG				*eS*		**Sn**	**23 34 58.2**	**-1.4**
JRY	**Ryogami san**	**3.56**	**306**	P		**Pn**	**23 34 20.0**	**+0.2**
JYN	**Shimob**	**3.56**	**296**	P		**Pn**	**23 34 19.8**	**-0.1**
JYN				*eS*		**Sn**	**23 35 01.4**	**-0.6**
JMM	**Marumori**	**4.12**	**341**	P		**Pn**	**23 34 25.7**	**-2.1**
JMM				*eS*		**Sn**	**23 35 10.2**	**-5.8**
SONM	**Songino Array**	**30.27**	**308**	P		**P**	**23 39 36.5**	**+0.3**
	0.6nm,0.9s,mb3.3,baz=100,slow=7.5,SNR=3.5							
MKAR	**Makanchi Array**	**46.51**	**305**	P		**P**	**23 41 52.5**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=92,slow=9.8,SNR=6.2							
WRA	**Warramunga Arr**	**54.16**	**189**	P		**P**	**23 42 50.3**	**-0.5**
	0.4nm,0.3s,mb3.8,baz=6.0,slow=7.4,SNR=8.9							
ASAR	**Alice Springs**	**57.89**	**189**	P		**P**	**23 43 18.4**	**+0.8**
	0.2nm,0.4s,mb3.5,baz=11,slow=9.2,SNR=3.0							

JMA 30 23:37:23.4±0.8, 33.97N×142.59E, h37km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
BSO4	**Boso 4**	**2.12**	**299**	*eS*		S	23 38 25.7	+3.2
JHO	**Hitachi**	**3.11**	**328**	P		P	23 38 10.9	-0.4
JHO				*eS*		S	23 38 44.2	-3.4
JOD2	**Odawara 2**	**3.16**	**295**	P		P	23 38 11.7	-0.3
JOD2				*eS*		S	23 38 48.0	-1.0
JAG	**Ashikaga**	**3.55**	**315**	P		P	23 38 17.9	+0.4
JRY	**Ryogami san**	**3.65**	**305**	P		P	23 38 19.4	+0.5
JYN	**Shimob**	**3.66**	**296**	P		P	23 38 20.4	+1.3
JYN				*eS*		S	23 39 01.3	-0.4
JMM	**Marumori**	**4.15**	**340**	P		P	23 38 25.3	-0.7
JMM				*eS*		S	23 39 10.0	-4.0

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*IDC **30** 23:39:27.3±3.1, 1.18N×97.14E, mb3.8/5, mb1 4.0/5, mb1mx3.6/19, mbtmp3.8/5, Error ellipse: s-maj=121.0km s-min=26.9km az=54.0*
*NEIC **30** 23:39:31.7±1.1, 1.18N×97.16E, h30km, mb4.3/1, Error ellipse: s-maj=23.0km s-min=17.2km az=46.0*
ISC 30 23:39:29.6±1.4, 1.2N±0.2×97.1E±0.2, h30km, n7, σ0s42/7, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
KULM	**Kulim**	**5.37**	**41**	*eP*		**Pn**	**23 40 49.8**	**-0.2**
WRA	**Warramunga Arr**	**42.11**	**122**	P		**P**	**23 47 21.2**	**0.0**
	0.3nm,0.5s,mb3.1,baz=300,slow=9.2,SNR=6.4							
SONM	**Songino Array**	**47.14**	**9**	P		**P**	**23 48 01.5**	**+0.4**
	1.0nm,0.7s,mb3.9,baz=187,slow=9.2,SNR=11							
MKAR	**Makanchi Array**	**47.21**	**346**	P		**P**	**23 48 02.5**	**+0.7**
	0.9nm,0.5s,mb4.0,baz=159,slow=8.3,SNR=15							
ZAL	**Zalesovo**	**53.53**	**351**	P		**P**	**23 48 49.9**	**+0.1**
	1.5nm,0.7s,mb4.0,baz=318,slow=5.2,SNR=11							
BVAR	**Borovoye Array**	**56.22**	**341**	P		**P**	**23 49 08.7**	**-0.6**
	0.8nm,0.5s,mb4.0,baz=145,slow=7.1,SNR=5.6							
CHKZ	**Chkalovo**	**56.69**	**341**	*eP*		**P**	**23 49 12.3**	**-0.5**
	1.9nm,0.6s,mb4.3							
CHKZ				*ep*P		pP	23 49 17.6	-4.4

IDC 30 23:40:10.3±3.0, 1.10N×97.16E, mb3.9/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.9/6, MS4.9/1, Ms1 5.1/1, ms1mx4.2/12, Error ellipse: s-maj=129.3km s-min=22.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SMLA	**Simla**	**35.36**	**330**	*i*		P	23 47 21.9	+12
SMLA				*i*			23 53 16.2	
WRA	**Warramunga Arr**	**42.02**	**122**	P		P	23 48 03.6	-1.9
	1.5nm,0.8s,baz=300,slow=9.0,SNR=5.3							
ASAR	**Alice Springs**	**43.37**	**127**	P		P	23 48 14.9	-1.6
	0.6nm,0.9s,baz=307,slow=9.0,SNR=4.2							
SONM	**Songino Array**	**47.23**	**8**	P		P	23 48 45.6	-1.4
	0.8nm,0.7s,baz=187,slow=6.7,SNR=5.7							
MKAR	**Makanchi Array**	**47.33**	**346**	P		P	23 48 45.6	-2.2
	1.2nm,0.7s,baz=162,slow=7.5,SNR=5.0							
ZAL	**Zalesovo**	**53.64**	**351**	P		P	23 49 33.3	-2.5
	2.3nm,1.0s,baz=280,slow=5.8,SNR=7.4							
BVAR	**Borovoye Array**	**56.33**	**341**	P		P	23 49 52.8	-2.5
	0.6nm,0.6s,baz=149,slow=8.6,SNR=4.1							

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*BJI **30** 23:40:46.6, 1.89N×97.07E, h27km, mB5.4, mb5.4, Ms5.4, Msz5.2*
*MOS **30** 23:40:47.7±0.8, 1.89N×97.16E, h33km, mb5.5/65, MS4.7/22, Error ellipse: s-maj=9.5km s-min=4.4km az=124.7*
*NEIC **30** 23:40:48.5±0.1, 1.86N×97.07E, mb5.3/85, MS5.1/104, Error ellipse: s-maj=4.7km s-min=3.0km az=215.0*

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*IDC **30** 23:40:48.3±2.6, 1.87N×97.03E, h27km±17km, mb4.8/25, mb1 4.8/25, mb1mx4.8/27, mbtmp5.0/25, MS4.8/8, Ms1 4.8/8, ms1mx4.7/10, Error ellipse: s-maj=16.4km s-min=10.3km az=44.0*
*HRVD **30** 23:40:48.5±0.4, 1.50N×96.84E, h24km, MW5.2/56, Centroid moment Tensor Solution. LP body waves: s47,c73;Mantle waves: s56,c99; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.83±.30; $M_{\theta\theta}$-3.46±.18; $M_{\phi\phi}$0.63±.28; $M_{r\theta}$4.68±.27; $M_{\theta\phi}$3.47±.15; $M_{\phi r}$-4.20±.39; Best double couple: $M_0$7.605×10^{16} NP1:ϕs271°, δ21°, λ49° NP2:ϕs135°, δ75°, λ104°. Principal axes: T 6.461, Plg58°, Azm63°; N 2.29, Plg13°, Azm311°; P -8.75, Plg28°, Azm213°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 30 23:40:47.2±0.2, 1.85N±0.03×97.08E±0.03, h29km, h29km±1.7km: pP-P, n465, σ0s93/381, mb5.3/136, MS5.0/130, 35C-23D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
PPI	**Padang Panjang**	**4.03**	**125**	*eP*		**Pn**	**23 41 52.0**	**+3.4**
IPM	**Ipoh**	**4.78**	**55**	P		**Pn**	**23 42 01.0**	**+1.7**
KULM	**Kulim**	**4.94**	**46**	*eP*		**Pn**	**23 42 02.4**	**+1.0**
KGM	**Kluang**	**6.24**	**88**	P		**Pn**	**23 42 22.1**	**+2.3**
SNG	**Songkhla**	**6.36**	**34**	P		**Pn**	**23 42 22.0**	**+0.5**
	1μm,1.0s							
PENI	**Pendagan**	**10.93**	**132**	⇓*iP*		**P**	**23 43 22.6**	**-2.4**
PENI					pmax	pmax		
	comp=Z,199nm,0.5s							
PENI	**Pendagan**	**10.93**	**132**	⇓*iP*		**P**	**23 43 22.6**	**-2.4**
	comp=Z,199nm,0.5s							
NNT	**Nongplab**	**10.99**	**14**	P		**P**	**23 43 26.0**	**+0.2**
KSM	**Kuching**	**13.23**	**91**	*eP*		**P**	**23 43 57.6**	**+1.8**
BDT	**Bhumibol Dam**	**15.42**	**7**	P		**P**	**23 44 27.0**	**+2.4**
KKTK	**Khon Kaen**	**15.47**	**21**	P		**P**	**23 44 28.0**	**+2.7**
CM31	**Chiang Mai Arr**	**16.61**	**6**	*eP*		**P**	**23 44 39.3**	**-0.5**
	comp=Z,18nm,0.3s							
CMAR	**Chiang Mai Arr**	**16.61**	**6**	LR		LR	23 51 49.9	
	comp=Z,3μm,18.4s,baz=185,slow=40							
PALK	**Pallekele**	**17.19**	**289**	P		**P**	**23 44 48.6**	**+1.6**
	comp=Z,127nm,1.8s							
CHRT	**Chiangrai**	**18.11**	**8**	⇓P		**P**	**23 44 58.0**	**-0.6**
	comp=Z,263nm,0.6s							
SRDI	**Scrawed**	**19.86**	**121**	⇑*iP*		**P**	**23 45 13.3**	**-5.9**
SRDI					pmax	pmax		
	comp=Z,30nm,1.0s							
SRDI	**Scrawed**	**19.86**	**121**	⇑*iP*		**P**	**23 45 13.3**	**-5.9**
	comp=Z,30nm,1.0s							
MDRS	**Chennai**	**20.05**	**305**	*e*		**P**	**23 45 32.0**	**+11**
MDRS				*e*			23 49 03.0	
MDRS				*e*			23 50 14.0	
VIS	**Vishakhapatnam**	**20.77**	**320**	*eP*		**P**	**23 45 25.9**	**-2.6**
VIS				*e*			23 49 11.1	
VIS				*i*			23 52 07.7	
TSM	**Tawau**	**20.90**	**83**	P		**P**	**23 45 29.9**	**0.0**
TRD	**Trivandrum**	**21.09**	**289**	*eP*		**P**	**23 45 31.2**	**-0.7**
TRD				*i*			23 49 15.2	
QIZ	**Qiongzhong**	**21.16**	**35**	P		**P**	**23 45 32.0**	**-0.5**
QIZ				S		**S**	**23 49 29.8**	**+8.4**
QIZ					AMB	AMB		
	comp=Z,83nm,1.2s,mb4.9							
QIZ					LR	LR		
	comp=N,4μm,16.8s							
QIZ					LR	LR		
	comp=Z,6μm,13.7s,MS5.1							
QIZ	**Qiongzhong**	**21.16**	**35**	*eP*		**P**	**23 45 31.5**	**-1.1**
	comp=Z,104nm,1.1s,mb5.1							
QIZ					LR	LR		
	comp=Z,2μm,19.0s,MS4.6							
RATI	**Rata**	**21.18**	**120**	⇑*iP*		**P**	**23 45 28.6**	**-4.1**
	comp=Z,136nm,0.8s,mb5.3							
BWNR	**Bhubaneshwar**	**21.39**	**330**	*eP*		**P**	**23 45 32.3**	**-2.5**
BWNR				*e*			23 45 36.9	
	comp=Z,95nm,1.1s							
BWNR				*e*			23 49 26.2	
BWNR				*i*			23 52 37.1	
BWNR				*i*			23 52 52.2	
BWNR				*i*			23 53 20.0	
KEDI	**Kedomdong**	**21.57**	**119**	⇓*iP*		**P**	**23 45 32.7**	**-4.0**
KEDI					pmax	pmax		
	comp=Z,33nm,1.0s,mb4.7							
KEDI	**Kedomdong**	**21.57**	**119**	⇓*iP*		**P**	**23 45 32.7**	**-4.0**
	comp=Z,33nm,1.0s,mb4.7							
AGT	**Agartala**	**22.62**	**346**	*eP*		**P**	**23 45 47.0**	**-0.2**
KMI	**Kunming**	**23.78**	**13**	P		**P**	**23 45 59.8**	**+1.4**
KMI				AP			23 46 07.5	
KMI				XP			23 46 10.5	
KMI				PP	PP		23 46 33.0	+1.2
KMI				PPP	PPP		23 46 43.3	+1.5
KMI				S	S		**23 50 10.0**	**+1.3**
KMI				XS			23 50 23.0	
KMI				SS	SS		23 51 00.3	+1.5
KMI				SSS	SSS		23 51 16.0	+0.9
KMI				AMB	AMB			
	comp=Z,107nm,1.0s,mb5.2							
KMI				AMB	AMB			
	comp=Z,672nm,6.5s							
KMI				LR	LR			
	comp=N,6μm,15.1s,MS5.2							
KMI				LR	LR			
	comp=E,2μm,14.6s,MS5.2							
KMI				LR	LR			
	comp=Z,6μm,15.1s,MS5.2							
HYB	**Hyderabad**	**23.89**	**311**	*eP*		**P**	**23 46 01.5**	**+1.9**
HYB					pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9							
HYB	**Hyderabad**	**23.89**	**311**	*eP*		**P**	**23 46 01.5**	**+1.9**
	comp=Z,50nm,1.0s,mb4.9							
HYB	**Hyderabad**	**23.89**	**311**	*i* P		**P**	**23 46 01.5**	**+1.9**
	comp=Z,50nm,1.0s,mb4.9							
SHL	**Shillong**	**24.11**	**348**	*eP*		**P**	**23 46 03.5**	**+1.9**
SHL				*eS*		**S**	**23 50 19.0**	**+4.6**
MNGI	**Mangalore**	**24.64**	**298**	*i*		**P**	**23 46 15.3**	**+8.4**
MNGI				*i* S		**S**	**23 50 29.4**	**+5.9**
	comp=Z,65nm,1.4s							
BLSP	**Bilaspur**	**24.86**	**325**	*eP*		**P**	**23 46 09.0**	**+0.2**
BLSP				*e*			23 46 21.6	
	comp=Z,142nm,1.4s							
BLSP				*i*			23 54 22.1	
NGP	**Nagpur**	**26.02**	**319**	*eP*		**P**	**23 46 21.6**	**+1.9**
NGP				*e*			23 50 54.7	
GYA	**Guiyang**	**26.15**	**20**	⇑*iP*		**P**	**23 46 21.8**	**+0.9**
GYA					AP	pP	23 46 29.5	+0.1
GYA					XP	sP	23 46 31.5	-1.8
GYA					AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1							
GYA					AMB	AMB		
	comp=Z,240nm,4.9s							
GYA					LR	LR		
	comp=N,5μm,12.9s,MS5.3							
GYA					LR	LR		
	comp=E,2μm,11.7s,MS5.3							
GYA					LR	LR		
	comp=Z,7μm,15.6s,MS5.3							
DGAR	**Diego Garcia**	**26.24**	**249**	P		**P**	**23 46 30.0**	**+8.1**
DGAR					MLR	MLR		
	comp=Z,724nm,20.0s,MS4.2							
DGAR	**Diego Garcia**	**26.24**	**249**	PFAKE			23 46 30.0	+8.1
DGAR					LR	LR		
	comp=Z,724nm,20.0s,MS4.2							
KAD	**Karad**	**27.25**	**306**	*i* P		**P**	**23 46 31.8**	**+0.7**
KAD				*e*			23 46 45.7	
	comp=Z,37nm,1.4s							
KAD				*eS*		**S**	**23 51 09.9**	**+3.3**
KAD				*i*			23 54 31.6	
KAD				*i*			23 54 45.8	
JIRN	**Jiri**	**27.70**	**339**	*eP*		**P**	**23 46 35.4**	**+0.2**
	comp=Z,237nm,1.1s,mb5.8							
PKI	**Pulchoki**	**27.91**	**337**	*eP*		**P**	**23 46 36.8**	**-0.3**
	comp=Z,121nm,1.1s,mb5.4							
PKI	**Pulchoki**	**27.91**	**337**	*eP*		**P**	**23 46 36.8**	**-0.3**
PKI					pmax	pmax		
	comp=Z,61nm,1.1s,mb5.1							
DMN	**Daman**	**28.07**	**337**	*eP*		**P**	**23 46 37.0**	**-1.4**
	comp=Z,113nm,0.9s,mb5.5							
KKN	**Kakani**	**28.16**	**337**	*eP*		**P**	**23 46 39.2**	**-0.1**
	comp=Z,320nm,1.4s,mb5.8							
KKN	**Kakani**	**28.16**	**337**	*eP*		**P**	**23 46 39.2**	**-0.1**
KKN					pmax	pmax		
	comp=Z,160nm,1.4s,mb5.5							
POO	**Poona**	**28.17**	**308**	*eP*		**P**	**23 46 40.0**	**+0.6**
LSA	**Lhasa**	**28.27**	**349**	P		**P**	**23 46 41.0**	**+0.8**
LSA	**Lhasa**	**28.27**	**349**	*eP*		**P**	**23 46 40.2**	**0.0**
LSA					pmax	pmax		
	comp=Z,78nm,1.3s,mb5.2							
LSA					MLR	MLR		
	comp=Z,2μm,19.0s,MS4.6							
LSA	**Lhasa**	**28.27**	**349**	*eP*		**P**	**23 46 40.2**	**0.0**
	comp=Z,78nm,1.3s,mb5.2							
LSA					LR	LR		
	comp=Z,2μm,19.0s,MS4.6							
BHPL	**Bhopal**	**28.56**	**320**	*eP*		**P**	**23 46 40.8**	**-2.1**
BHPL				*e*			23 46 55.7	
	comp=Z,52nm,1.8s							
BHPL				*e*			23 51 23.0	
BHPL				*i*			23 56 43.1	
GKN	**Gorkha**	**28.60**	**337**	*eP*		**P**	**23 46 43.2**	**0.0**
	comp=Z,207nm,1.2s,mb5.7							
KOLN	**Koldanda**	**28.82**	**335**	*eP*		**P**	**23 46 45.0**	**-0.2**
	comp=Z,74nm,0.8s,mb5.5							
ENH	**Enshi**	**30.62**	**21**	*eP*		**P**	**23 46 59.3**	**-2.0**
	comp=Z,79nm,0.9s,mb5.5							
ENH					LR	LR		
	comp=Z,4μm,21.0s,MS5.1							
LGTI	**Lohaghat**	**31.78**	**331**	*eP*		**P**	**23 47 11.7**	**+0.2**
MBWA	**Marble Bar**	**31.85**	**137**	*eP*		**P**	**23 47 12.4**	**+0.3**
	comp=Z,49nm,1.2s,mb5.2							
MBWA					LR	LR		
	comp=Z,1μm,20.0s,MS4.6							
PTH	**Pithoragarh**	**31.88**	**331**	*eP*		**P**	**23 47 10.9**	**-1.4**
NDI	**New Delhi**	**32.73**	**326**	*eP*		**P**	**23 47 18.5**	**-1.2**
NDI				*e*			23 52 54.5	
WHN	**Wuhan**	**32.90**	**28**	⇓P		**P**	**23 47 21.5**	**+0.3**
WHN					AMB	AMB		
	comp=Z,250nm,1.1s,mb6.1							
WHN					LR	LR		
	comp=Z,9μm,15.1s,MS5.6							
TATO	**Taipei**	**32.91**	**44**	PFAKE			23 47 30.0	+8.6
TATO					LR	LR		
	comp=Z,2μm,20.0s,MS4.7							
DDI	**Dehra Dun**	**33.58**	**329**	*eP*		**P**	**23 47 27.2**	**+0.1**
DDI				*e*			23 53 12.4	
XAN	**Xi'an**	**33.89**	**18**	P		**P**	**23 47 27.5**	**-2.2**
XAN					AP	pP	23 47 34.8	-3.6
XAN					AMB	AMB		
	comp=Z,113nm,0.8s,mb5.8							
FITZ	**Fitzroy Crossi**	**34.40**	**126**	⇓*iP*		**P**	**23 47 33.2**	**-1.1**
	comp=Z,20nm,0.8s,mb5.1							
FITZ	**Fitzroy Crossi**	**34.40**	**126**	P		**P**	**23 47 33.3**	**-1.1**
	comp=Z,12nm,0.7s,mb4.9,baz=347,slow=4.4,SNR=13							
FITZ					LR	LR	00 01 24.7	
	comp=Z,1μm,21.4s,MS4.6,baz=290,slow=36							
LZH	**Lanzhou**	**34.64**	**10**	⇑P		**P**	**23 47 35.3**	**-0.9**
LZH					AMB	AMB		
	comp=Z,125nm,1.5s,mb5.6							
LZH					AMB	AMB		
	comp=Z,550nm,5.4s							
LZH					LR	LR		
	comp=N,4μm,14.0s							
LZH					LR	LR		
	comp=Z,5μm,16.0s,MS5.3							
SDNR	**Sundarnagar**	**35.08**	**329**	*eP*		**P**	**23 47 39.8**	**-0.2**
NJ2	**Nanjing**	**36.38**	**32**	*eP*		**P**	**23 47 51.3**	**+0.3**
NJ2					AP	pP	23 48 03.5	+3.8
NJ2					XP	sP	23 48 08.0	+4.6
NJ2					PP	PP	23 49 15.8	+1.0
NJ2					AMB	AMB		
	comp=Z,80nm,1.0s,mb5.6							
NJ2					AMB	AMB		
	comp=Z,190nm,10.0s							
NJ2					LR	LR		
	comp=N,960nm,24.3s,MS4.7							
NJ2					LR	LR		
	comp=E,980nm,21.9s,MS4.7							
NJ2					LR	LR		
	comp=Z,310nm,16.6s							
GTA	**Gaotai**	**37.47**	**3**	*eP*		**P**	**23 47 59.5**	**-0.6**
GTA					AP	pP	23 48 06.5	-2.3
GTA					XP	sP	23 48 09.8	-2.6
GTA					PP	PP	23 49 27.0	-1.4
GTA					PCP	PcP	23 50 19.3	+0.7
GTA					S	**S**	**23 53 44.5**	**-1.9**
GTA					XS		23 53 56.5	
GTA					SS	SS	23 56 15.8	-4.0
GTA					SCS	ScS	23 58 10.0	+0.7
GTA					AMB	AMB		
	comp=Z,61nm,1.1s,mb5.3							
GTA					AMB	AMB		
	comp=Z,231nm,5.7s							
GTA					LR	LR		
	comp=N,956nm,16.7s,MS5.0							
GTA					LR	LR		
	comp=E,2μm,14.8s,MS5.0							
GTA					LR	LR		
	comp=Z,1μm,16.7s,MS4.7							
JOW	**Kunigami**	**38.89**	**47**	P		**P**	**23 48 11.9**	**-0.2**
	comp=Z,42nm,0.7s,mb5.3,baz=262,slow=9.7,SNR=10							
JOW					LR	LR	00 03 59.6	
	comp=Z,965nm,21.5s,MS4.6,baz=161,slow=36							
TIA	**Tai'an**	**38.90**	**26**	P		**P**	**23 48 11.3**	**-0.9**
TIA					AMB	AMB		
	comp=Z,124nm,1.3s,mb5.5							
NWAO	**Narrogin (SRO)**	**39.48**	**153**	P		**P**	**23 48 17.8**	**+0.8**
NWAO					pmax	pmax		
	comp=Z,35nm,1.3s							
NWAO					MLR	MLR		
	comp=Z,2μm,20.0s							
NWAO	**Narrogin (SRO)**	**39.48**	**153**	P		**P**	**23 48 17.8**	**+0.7**
	comp=Z,35nm,1.3s,mb4.9							
NWAO					LR	LR		
	comp=Z,2μm,20.0s,MS4.9							
BTO	**Baotou**	**40.32**	**15**	*eP*		**P**	**23 48 24.0**	**+0.2**
BTO					AMB	AMB		
	comp=Z,50nm,1.5s,mb5.0							
HHC	**Hu-ho-hao-te**	**40.98**	**17**	*eP*		**P**	**23 48 30.3**	**+1.1**
HHC					AP	pP	23 48 37.5	-0.4
HHC					XP	sP	23 48 40.0	-1.5
HHC					AMB	AMB		
	comp=Z,87nm,1.4s,mb5.2							
HHC					AMB	AMB		
	comp=Z,376nm,4.5s							
HHC					LR	LR		
	comp=N,4μm,14.3s,MS5.4							
HHC					LR	LR		
	comp=E,2μm,17.2s,MS5.4							
HHC					LR	LR		
	comp=Z,3μm,15.5s,MS5.3							
BJT	**Baijiatuau**	**41.77**	**22**	*eP*		**P**	**23 48 36.9**	**+1.2**
BJT					pmax	pmax		
	comp=Z,342nm,1.1s							
BJT					MLR	MLR		
	comp=Z,1μm,21.0s							
BJT	**Baijiatuau**	**41.77**	**22**	*eP*		**P**	**23 48 36.9**	**+1.2**
	comp=Z,342nm,1.1s,mb5.9							
BJT					LR	LR		
	comp=Z,1μm,21.0s,MS4.8							
BJI	**Beijing**	**41.79**	**22**	P		**P**	**23 48 36.3**	**+0.4**
BJI					AMB	AMB		
	comp=Z,242nm,1.1s,mb5.7							
MSEY	**Mahe Island**	**42.07**	**261**	PFAKE			23 48 50.0	+

WMQ AMB AMB
comp=Z,622nm,4.9s
WMQ LR LR
comp=N,1μm,18.9s,MS5.1
WMQ LR LR
comp=E,2μm,20.2s,MS5.1
WMQ LR LR
comp=Z,1μm,23.4s,MS4.8
DL2 Dalian 43.16 28 *e*P **P 23 48 48.0 +0.8**
DL2 AMB AMB
comp=Z,140nm,0.9s,mb5.7
DL2 LR LR
comp=N,1μm,18.0s,MS4.8
DL2 LR LR
comp=E,520nm,21.0s,MS4.8
DL2 LR LR
comp=Z,1μm,20.0s,MS4.8
SMDO Samad 43.32 302 ⇓P **P 23 48 49.7 +1.1**
BIDO Bidbid 43.44 303 ⇓P **P 23 48 48.3 -1.3**
YOMI Yo Moklole 43.70 96⇓ *i*P **P 23 48 49.1 -2.7**
comp=E,68nm,0.9s,mb5.4
FORT Forrest 43.85 140 *e*P **P 23 48 54.5 +1.7**
comp=Z,2μm,0.7s
ASPA Alice Springs 43.88 128⇓ *i*P **P 23 48 53.5 +0.3**
ASPA *e*S **S 23 55 20.9 -1.1**
ASAR Alice Springs 43.88 128 P **P 23 48 53.2 0.0**
comp=Z,10nm,0.8s,mb4.6,baz=299,slow=7.5,SNR=43
ASAR ScP 23 54 29.3
comp=Z,2.0nm,1.1s,baz=317,slow=4.0,SNR=5.2
ASAR LR LR 00 11 19.9
comp=Z,767nm,18.4s,MS4.7,baz=298,slow=42
BSY Bisya 43.91 301 P **P 23 48 55.0 +1.5**
SNR=7.6
ULHL Ulahol 44.35 338 P **P 23 48 57.8 +1.0**
SNR=13
KZA Kyzart 44.59 337 P **P 23 48 59.9 +1.1**
SNR=20
INCN Inchon 44.68 34 PFAKE 23 49 10.0 +11
INCN LR LR
comp=Z,3μm,19.0s,MS5.2
ARQ Araqi 44.72 302 ⇓P **P 23 49 00.8 +0.8**
RBK Rabkut 44.88 293 ⇓P **P 23 49 01.8 +0.4**
SNR=6.2
AAA Alma-Ata 44.98 339 *i* P **P 23 49 00.0 -1.8**
AAA *e*S **S 23 55 38.0 +0.3**
AAA pmax pmax
comp=Z,400nm,4.0s
UCH Uchtor 45.01 336 P **P 23 49 03.4 +1.3**
SNR=21
TKM2 Tokmak 2 45.18 338 P **P 23 49 04.0 +0.6**
SNR=50
KBK Karagaybulak 45.20 337 P **P 23 49 05.4 +1.8**
SNR=32
AML Almayashu 45.27 335 P **P 23 49 05.1 +1.0**
SNR=26
KS15 Wonju Array Si 45.36 35 *e*P **P 23 49 04.9 0.0**
AAK Ala-Archa 45.36 337 P **P 23 49 06.0 +1.1**
SNR=21
AAK Ala-Archa 45.36 337 P **P 23 49 05.0 +0.2**
comp=Z,144nm,1.8s,mb5.5,SNR=28
AAK Ala-Archa 45.36 337 *e*P **P 23 49 04.8 0.0**
AAK pmax pmax
comp=Z,55nm,1.4s,mb5.2
AAK MLR MLR
comp=Z,303nm,22.0s,MS4.2
AAK Ala-Archa 45.36 337 *e*P **P 23 49 04.8 0.0**
comp=Z,55nm,1.4s,mb5.2
AAK LR LR
comp=Z,303nm,22.0s,MS4.2
WHFO Wadi Hawf 45.39 293⇑P **P 23 49 05.4 0.0**
SNR=11
FRU Bishkek 45.48 337⇑ *e*P **P 23 49 06.0 +0.2**
FRU *e* 23 55 47.0
FRU *e* 23 55 54.0
FRU pmax pmax
comp=Z,130nm,1.9s,mb5.4
CHMS Chumysh 45.57 337 P **P 23 49 06.9 +0.5**
SNR=12
ASHO Ashiyiah 45.63 303⇑P **P 23 49 08.0 +0.8**
EKS2 Erkin-Say 45.67 336 P **P 23 49 08.1 +0.8**
SNR=24
ABTO Aybut 45.68 293⇓P **P 23 49 08.1 +0.5**
USP Ospenovka 45.89 337 P **P 23 49 09.3 +0.3**
SNR=44
SNY Shenyang 46.39 27⇑P **P 23 49 12.0 -0.9**
SNY AP pP 23 49 19.3 -2.4
SNY XP sP 23 49 21.8 -3.5
SNY AMB AMB
comp=Z,80nm,1.3s,mb5.5
SNY AMB AMB
comp=Z,430nm,13.3s
SNY LR LR
comp=N,2μm,17.8s,MS5.3
SNY LR LR
comp=E,1μm,17.5s,MS5.3
SNY LR LR
comp=Z,3μm,18.4s,MS5.2
SONM Songino Array 46.51 9 P **P 23 49 13.7 -0.2**
comp=Z,34nm,0.9s,mb5.3,baz=198,slow=7.8,SNR=113
SONM PcP PcP 23 50 47.8 -0.6
comp=Z,7.9nm,0.8s,baz=191,slow=3.9,SNR=5.2
SONM ScP 23 54 37.9
comp=Z,1.2nm,0.8s,baz=188,slow=3.2,SNR=4.3
SONM LR LR 00 11 34.7
comp=Z,3μm,18.2s,MS5.3,baz=188,slow=40
MKAR Makanchi Array 46.59 346 P **P 23 49 14.2 -0.3**
comp=Z,28nm,0.8s,mb5.2,baz=162,slow=7.7,SNR=72
ULN Ulaanbaatar 46.65 9 *e*P **P 23 49 14.4 -0.5**
ULN pmax pmax
comp=Z,74nm,1.4s,mb5.4
ULN MLR MLR
comp=Z,2μm,19.0s,MS5.2
ULN Ulaanbaatar 46.65 9 *e*P **P 23 49 14.4 -0.5**
comp=Z,74nm,1.4s,mb5.4
ULN *e* 23 52 24.4
ULN LR LR
comp=Z,2μm,19.0s,MS5.2
ZAK Zakamensk 48.64 5⇑ *i*P **P 23 49 29.8 -0.7**
ZAK pmax pmax
comp=Z,21nm,1.7s,mb4.9
CN2 Changchun 48.79 27 *e*P **P 23 49 30.8 -0.9**
CN2 *e*AP pP 23 49 44.0 +3.5
CN2 PCP PcP 23 50 56.0 -0.6
CN2 AMB AMB
comp=Z,80nm,1.4s,mb5.6
CN2 AMB AMB
comp=Z,400nm,3.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.4
CN2 LR LR
comp=E,2μm,15.0s,MS5.4
CN2 LR LR
comp=Z,2μm,16.0s,MS5.3
MOY Mondy 49.75 3 *e*P **P 23 49 39.2 +0.2**
MOY pmax pmax
comp=Z,78nm,2.7s,mb5.3
TLY Talaya 49.96 5*c i*P **P 23 49 40.2 -0.4**
TLY *e* 23 51 33.6
TLY *e*S **S 23 56 49.9 +2.0**
TLY pmax pmax
comp=Z,37nm,1.1s,mb5.3
TLY MLR MLR
comp=Z,2μm,17.0s,MS5.3
TLY Talaya 49.96 5 *e*P **P 23 49 41.1 +0.5**
comp=Z,44nm,1.1s,mb5.4
TLY LR LR
comp=Z,373nm,19.0s,MS4.4
IRK Irkutsk 50.58 6 *e*P **P 23 49 45.4 +0.1**
IRK pmax pmax
comp=Z,101nm,1.8s,mb5.5
HIA Hailar 51.07 19 *e*P **P 23 49 48.7 -0.4**
HIA *e**PP pP 23 49 56.9 -1.1
HIA pmax pmax
comp=Z,46nm,1.0s
HIA MLR MLR
comp=Z,1μm,19.0s
HIA Hailar 51.07 19 *e*P **P 23 49 48.7 -0.4**
comp=Z,46nm,1.0s,mb5.4
HIA *e*pP pP 23 49 56.9 -1.0
HIA LR LR
comp=Z,1μm,19.0s,MS5.0
PMG Port Moresby 51.12 104 P **P 23 49 49.0 -0.9**
PMG MLR MLR
comp=Z,686nm,22.0s
PMG Port Moresby 51.12 104 P **P 23 49 49.0 -0.9**
comp=Z,40nm,0.8s,mb5.4,baz=267,slow=7.4,SNR=8.1

KURK Kurchatov 51.14 345 *e*P **P 23 49 48.6 -1.0**
KURK pmax pmax
comp=Z,69nm,1.0s,mb5.5
KURK MLR MLR
comp=Z,239nm,20.0s,MS4.2
KURK Kurchatov 51.14 345 *e*P **P 23 49 48.6 -0.9**
comp=Z,69nm,1.0s,mb5.5
KURK LR LR
comp=Z,239nm,20.0s,MS4.2
MAJO Matsushiro 51.30 43 *e*P **P 23 49 51.0 0.0**
MAJO pmax pmax
comp=Z,32nm,0.8s,mb5.3
MAJO MLR MLR
comp=Z,1μm,19.0s,MS4.9
MAJO Matsushiro 51.30 43 *e*P **P 23 49 51.0 +0.1**
comp=Z,32nm,0.8s,mb5.3
MAJO LR LR
comp=Z,1μm,19.0s,MS4.9
MAT Matsushiro 51.30 43 *e*P **P 23 49 50.0 -1.0**
MAT pmax pmax
comp=Z,79nm,1.4s,mb5.5
MAT Matsushiro 51.30 43 *e*P **P 23 49 50.0 -1.0**
comp=Z,79nm,1.4s,mb5.5
MAT Matsushiro 51.30 43 P **P 23 49 49.8 -1.2**
MJAR Matsushiro Arr 51.30 43 P **P 23 49 49.9 -1.0**
comp=Z,44nm,1.0s,mb5.3,baz=224,slow=6.8,SNR=47
MDJ Mudanjiang 51.36 29 P **P 23 49 51.5 +0.1**
MDJ AP pP 23 50 02.8 +2.5
MDJ XP sP 23 50 07.8 +4.1
MDJ PP PP 23 51 48.8 -0.4
MDJ PCS 23 55 03.5
MDJ S **S 23 57 08.3 +0.9**
MDJ XS 23 57 28.0
MDJ SCS ScS 23 59 38.3 +1.9
MDJ AMB AMB
comp=Z,43nm,1.4s,mb5.2
MDJ AMB AMB
comp=Z,387nm,7.4s
MDJ LR LR
comp=N,1μm,16.4s,MS5.1
MDJ LR LR
comp=E,1μm,18.2s,MS5.1
MDJ LR LR
comp=Z,2μm,19.2s,MS5.1
MDJ Mudanjiang 51.36 29 *e*P **P 23 49 51.4 0.0**
comp=Z,62nm,1.3s,mb5.4
MDJ LR LR
comp=Z,1μm,20.0s,MS5.0
ZAL Zalesovo 52.90 351 P **P 23 50 01.7 -1.0**
comp=Z,64nm,0.7s,mb5.7,baz=303,slow=6.2,SNR=172
CTA Charters Tower 52.90 117 P **P 23 50 03.1 -0.2**
comp=Z,30nm,0.9s,mb5.2,baz=292,slow=9.1,SNR=14
CTAO Charters Tower 52.90 117 *e*P **P 23 50 03.8 +0.6**
CTAO pmax pmax
comp=Z,31nm,0.9s,mb5.2
CTAO MLR MLR
comp=Z,881nm,19.0s,MS4.8
CTAO Charters Tower 52.90 117 *e*P **P 23 50 03.8 +0.6**
comp=Z,31nm,0.9s,mb5.2
CTAO LR LR
comp=Z,881nm,19.0s,MS4.8
STKA Stephens Creek 53.88 132⇓ *i*P **P 23 50 10.8 +0.5**
comp=Z,14nm,0.8s,mb4.9
STKA Stephens Creek 53.88 132 P **P 23 50 10.5 +0.2**
comp=Z,11nm,0.7s,mb4.9,baz=306,slow=7.4,SNR=18
STKA LR LR 00 16 16.2
comp=Z,979nm,20.3s,MS4.9,baz=121,slow=40
NVS Novosibirsk 54.02 350⇑ *i*P **P 23 50 08.7 -2.3**
NVS *i*S **S 23 57 37.7 -5.8**
NVS pmax pmax
comp=Z,94nm,1.1s,mb5.6
NVS pmax pmax
comp=N,79nm,1.2s
NVS pmax pmax
comp=E,41nm,1.1s
NVS smax
comp=N,13nm,1.3s
NVS smax
comp=E,59nm,1.7s
RAYN Ar Rayn 54.35 298 P **P 23 50 12.6 -1.2**
comp=E,86nm,0.8s,SNR=16
BVA0 Borovoye Array 55.60 341 P **P 23 50 20.6 -2.0**
BVA0 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BVAR Borovoye Array 55.60 341 P **P 23 50 21.0 -1.6**
comp=Z,31nm,0.7s,mb5.4,baz=143,slow=7.4,SNR=104
KLR Kul'dur 55.73 27 *e*P **P 23 50 20.0 -3.6**
KLR pmax pmax
comp=N,70nm,1.8s
KLR pmax pmax
comp=E,110nm,1.8s
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.7
KLR MLR MLR
comp=E,1μm,14.0s
KLR MLR MLR
comp=Z,5μm,14.0s,MS5.7
CHKZ Chkalovo 56.08 341 *e*P **P 23 50 24.4 -1.6**
BOD Bodaibo 57.40 11⇑ *i*P **P 23 50 34.4 -1.0**
BOD pmax pmax
comp=Z,48nm,1.0s,mb5.5
ASAJ Asahikawa 58.22 37 P **P 23 50 40.8 -0.5**
comp=Z,30nm,0.8s,mb5.4,baz=259,slow=14,SNR=9.3
BHD Baghdad 58.34 308 *e*P **P 23 50 33.0 -9.3**
YSS Yuzh-Sakhalins 59.88 35⇓ *i*P **P 23 50 53.0 +0.2**
YSS *e* 23 51 07.0
YSS pmax pmax
comp=N,50nm,1.0s
YSS pmax pmax
comp=Z,160nm,1.0s,mb6.0
YSS MLR MLR
comp=Z,1μm,11.0s,MS5.3
YSS MLR MLR
comp=N,1μm,12.0s
YSS MLR MLR
comp=E,2μm,19.0s
YSS Yuzh-Sakhalins 59.88 35 *e*P **P 23 50 52.6 -0.2**
comp=E,184nm,1.1s,mb6.0
YSS LR LR
comp=Z,949nm,21.0s,MS4.9
KMBO Kilima Mbogo 59.89 268 *e*P **P 23 50 52.8 -0.5**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO MLR MLR
comp=Z,740nm,20.0s
KMBO Kilima Mbogo 59.89 268 P **P 23 50 52.0 -1.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=55,slow=12,SNR=7.3
KMBO Kilima Mbogo 59.89 268 *e*P **P 23 50 52.8 -0.5**
comp=Z,9.7nm,1.0s,mb4.8
KMBO LR LR
comp=Z,740nm,20.0s,MS4.8
MSL Mosul 60.42 311 *e*P **P 23 50 55.5 -1.1**
GNI Garni 60.75 316 *e*P **P 23 50 58.7 -0.1**
GNI pmax pmax
comp=Z,57nm,1.3s
GNI MLR MLR
comp=Z,387nm,21.0s
GNI Garni 60.75 316 P **P 23 50 58.3 -0.5**
comp=Z,9.3nm,0.9s,mb4.9,baz=327,slow=11,SNR=8.3
GNI Garni 60.75 316 *e*P **P 23 50 58.7 0.0**
comp=Z,57nm,1.3s,mb5.5
GNI LR LR
comp=Z,387nm,21.0s,MS4.5
DGRG David-gareji 60.88 318 P **P 23 50 59.6 0.0**
MTA Mtatsminda 61.37 318 P **P 23 51 02.5 -0.5**
TI2 Plekhanov 61.42 318 *i* P **P 23 51 02.6 -0.7**
TI2 pmax pmax
comp=Z,10.0nm,0.4s,mb5.3
TBLG Delisi 61.42 318 P **P 23 51 02.8 -0.6**
DUS Dusheti 61.61 318 P **P 23 51 04.3 -0.3**
DUS S sP 23 51 16.0 -0.9
SVE Sverdlovsk 62.05 338⇑ *e*P **P 23 51 06.8 -0.5**
SVE *e* pP 23 51 15.2 -1.2
SVE *e* 23 51 47.1
SVE pmax pmax
comp=Z,100nm,1.3s,mb5.8
ZEI Tsey 62.44 318 *e*P **P 23 51 00.8 -9.3**
ZEI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
ARU Arti 62.54 337⇑ *i*P **P 23 51 09.2 -1.4**
ARU *e* 23 51 46.6
ARU *e*S **S 23 59 33.6 -1.0**
ARU *e*SS SS 00 03 39.6 -1.2
ARU pmax pmax
comp=Z,35nm,1.1s,mb5.4
ARU Arti 62.54 337 *e*P **P 23 51 09.1 -1.5**
comp=Z,42nm,1.2s,mb5.4
ARU LR LR
comp=Z,160nm,19.0s,MS4.2
ERZM Erzurum 63.03 315 *i* P **P 23 51 17.8 +3.8**
TAU Tasmania Unive 63.39 141 PFAKE 23 51 30.0 +14
TAU LR LR
comp=Z,173nm,20.0s,MS4.2
HNR Honiara 63.61 101 P **P 23 51 17.4 -0.9**
HNR MLR MLR
comp=Z,420nm,22.0s,MS4.6
HNR Honiara 63.61 101 P **P 23 51 17.4 -0.9**
comp=Z,88nm,0.6s,mb6.0,baz=304,slow=4.9,SNR=4.0
KIV Kislovodsk 63.74 319*ce*P **P 23 51 17.6 -1.1**
KIV *e*S **S 23 59 57.6 +7.8**
KIV pmax pmax
comp=Z,25nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,200nm,19.0s,MS4.3
KIV Kislovodsk 63.74 319 *e*P **P 23 51 17.7 -1.0**
comp=Z,36nm,1.0s,mb5.3
KIV LR LR
comp=Z,65nm,21.0s
GOF Gofitskoye 63.99 320⇑ *i*P **P 23 51 19.5 -0.8**
GOF pmax pmax
comp=Z,50nm,1.7s,mb5.3
ASF Jabal al Asfar 63.99 305 P **P 23 51 19.4 -1.2**
comp=Z,3.9nm,0.9s,mb4.5,baz=323,slow=5.5,SNR=6.4
ELZG Elazig 64.26 312 *i* P **P 23 51 21.6 -0.6**
MALT Malatya 64.61 312 *e*P **P 23 51 24.3 -0.2**
MALT pmax pmax
comp=Z,11nm,1.0s,mb4.8
MALT Malatya 64.61 312 *e*P **P 23 51 24.3 -0.2**
comp=Z,11nm,1.0s,mb4.8
KELT Kelkit 64.62 314 *i* P pP 23 51 36.3 +2.7
YAK Yakutsk 64.84 16 *e*P **P 23 51 24.9 -0.6**
YAK pmax pmax
comp=Z,325nm,1.1s,mb6.3
YAK MLR MLR
comp=Z,2μm,19.0s,MS5.3
YAK Yakutsk 64.84 16 *e*P **P 23 51 24.9 -0.7**
comp=Z,325nm,1.1s,mb6.3
YAK LR LR
comp=Z,2μm,19.0s,MS5.3
GZT Gaziantep 64.95 311 *i* P **P 23 51 26.7 0.0**
EIL Elat 65.01 302 *e*P **P 23 51 27.1 -0.1**
comp=Z,19nm,1.1s,mb5.0
EIL *e*pP pP 23 51 35.4 -1.0
KAHT Ahir Dag 65.56 311 *i* P **P 23 51 30.5 -0.1**
SOC Sochi 65.56 318 *e*P **P 23 51 27.8 -2.7**
SOC *e* 23 51 58.9
SOC pmax pmax
comp=Z,32nm,0.8s,mb5.4
SOC pmax pmax
comp=N,35nm,1.2s
SOC pmax pmax
comp=E,9.0nm,0.9s
COBT Iskenderun 65.70 309 *i* P **P 23 51 31.6 0.0**
MBAR Mbarara 66.38 269 *e*P **P 23 51 36.1 -0.1**
MBAR *e**PP pP 23 51 43.7 -1.6
MBAR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
MBAR MLR MLR
comp=Z,129nm,20.0s,MS4.1
MBAR Mbarara 66.38 269 *e*P **P 23 51 36.1 -0.1**
comp=Z,3.4nm,0.9s,mb4.4
MBAR *e*pP pP 23 51 43.7 -1.6
MBAR LR LR
comp=Z,129nm,20.0s,MS4.1
MEST Erdemli 67.35 309 *i* P **P 23 51 41.1 -1.0**
AVNT Avonos 67.42 311 *i* P **P 23 51 41.9 -0.5**
ANN Anapa 67.54 318 *e*P **P 23 51 49.1 +6.0**
ANN pmax pmax
comp=Z,40nm,1.3s,mb5.3
CSS Prodhromos 67.58 307 *e*P **P 23 51 42.3 -1.2**
comp=Z,18nm,1.0s,mb5.0
BOYT Boyabat 68.16 314 *i* P **P 23 51 44.5 -2.5**
BR131 Keskin Array S 68.59 312 PFAKE 23 52 00.0 +10
BR131 LR LR
comp=Z,289nm,22.0s,MS4.5
BRTR Keskin Array B 68.59 312 P **P 23 51 48.0 -1.7**
comp=Z,3.8nm,0.7s,mb4.4,baz=127,slow=6.7,SNR=17
CASY Casey 68.66 174 *e*P **P 23 51 51.2 +1.5**
CASY LR LR
comp=Z,898nm,19.0s,MS5.0
PECR Pechory 68.79 331 *i* P **P 23 51 49.2 -1.5**
PECR pmax pmax
comp=Z,600nm,1.6s,mb6.3
VRSR Storozhevoye 68.96 325 *e*P **P 23 51 49.8 -2.0**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,5.0nm,0.6s
VRSR pmax pmax
comp=E,10.0nm,0.9s
BALT Daday 69.29 314 *i* P **P 23 51 53.5 -0.5**
SIM Simferopol' 69.81 318 P **P 23 51 56.9 -0.2**
SIM *i*S S 00 01 02.4 -0.7
SIM pmax pmax
comp=Z,21nm,0.8s,mb5.1
SIM MLR MLR
comp=Z,400nm,22.0s,MS4.6
LSZ Lusaka 70.18 253 PFAKE 23 52 10.0 +10
LSZ LR LR
comp=Z,1μm,19.0s,MS5.2
ISP Isparta 70.48 310 *e*P **P 23 52 00.5 -0.8**
ESKT Eskisehir 70.61 311 *i* P **P 23 52 00.9 -1.2**
MA2 Magadan 70.80 26 *i* P **P 23 52 03.3 +0.4**
MA2 MLR MLR
comp=Z,1μm,20.0s,MS5.1
MA2 Magadan 70.80 26 *i* Pr 23 52 03.3
MA2 LR LR
comp=Z,1μm,20.0s,MS5.1
MOS Moscow 71.72 329 *e*P **P 23 52 07.5 -1.0**
MOS *e* 23 52 14.2
MOS *e* 23 52 22.2
MOS *e* 23 54 45.2
MOS pmax pmax
comp=Z,500nm,2.8s,mb6.0
MOS pmax pmax
comp=Z,1.0nm,0.9s
PET Petropavlovsk 71.76 34 *e*P **P 23 52 09.0 +0.2**
PET pmax pmax
comp=Z,34nm,0.7s,mb5.4
PET MLR MLR
comp=Z,400nm,19.0s,MS4.7
OBN Obninsk 72.01 328*c i*P **P 23 52 08.8 -1.4**
OBN *i* 23 52 15.4
OBN pmax pmax
comp=Z,75nm,1.6s,mb5.4
OBN Obninsk 72.01 328 *e*P **P 23 52 08.9 -1.3**
comp=Z,18nm,0.8s,mb5.1
OBN LR LR
comp=Z,116nm,22.0s,MS4.1
ULDT Uludag 72.04 312 *i* P **P 23 52 09.1 -1.6**
MANT Manisa 72.12 310 *i* P **P 23 52 10.5 -0.7**
AYDN Tasoluk 72.47 309 *i* P **P 23 52 13.2 -0.1**
TIXI Tiksi 72.57 10 PFAKE 23 52 20.0 +6.7
TIXI LR LR
comp=Z,147nm,19.0s,MS4.3
BTOK Tokmak 72.79 311 *i* P **P 23 52 14.7 -0.5**
KDAG Bornova 73.09 310 *i* P **P 23 52 15.8 -1.1**
SEY Seymchan 73.22 23 *e*P **P 23 52 19.7 +2.5**
SEY pmax pmax
comp=Z,110nm,1.2s,mb5.7
MAW Mawson 73.31 193 P **P 23 52 16.6 -1.0**
comp=Z,3.0nm,0.7s,mb4.4,baz=31,slow=12,SNR=4.2
MAW LR LR 00 18 16.4
comp=Z,657nm,19.4s,MS4.9,baz=74,slow=31
LBTB Lobatse 74.07 243 PFAKE 23 52 30.0 +7.1
LBTB LR LR
comp=Z,1μm,20.0s,MS5.2
AKASG Malin Array Be 74.67 322 P **P 23 52 24.1 -1.8**
comp=Z,2.6nm,0.4s,mb4.5,baz=88,slow=5.1,SNR=33
BOSA Boshof 75.00 240 P **P 23 52 28.8 +0.6**
BOSA MLR MLR
comp=Z,1μm,20.0s,MS5.3
BOSA Boshof 75.00 240 P **P 23 52 28.8 +0.6**
comp=Z,1.9nm,0.5s,mb4.3,baz=90,slow=8.1,SNR=4.3
VRI Vrincioaia 75.06 317⇑P **P 23 52 28.3 +0.1**
MLR Muntele Rosu 75.52 317⇑P **P 23 52 31.1 +0.3**
BURAR Bucovina Array 76.46 319⇑P **P 23 52 36.6 +0.5**
APA Apatity 78.48 339⇓ *i*P **P 23 52 46.8 0.0**
APA *e* 00 02 42.0
APA pmax pmax
comp=Z,26nm,1.0s,mb5.1

KWP Kalwaria 78.50 320 eP P 23 52 47.8 +0.5
BZS Buzias 78.53 316 ⇑P P 23 52 47.5 0.0
SUW Suwalki 79.08 325 eP P 23 52 50.1 -0.3
FINES FINESS Array B 79.37 332 P P 23 52 51.2 -0.6
comp=Z,8.8nm,0.7s,mb4.8,baz=104,slow=7.9,SNR=42
KAF Kangasniemi 79.45 333 eP P 23 52 51.8 -0.4
comp=Z,0.7nm,0.4s,baz=102,slow=5.1
KAF Kangasniemi 79.45 333 eP P 23 52 51.8 -0.4
KAF pmax pmax
comp=Z,1.0nm,0.4s
NIE Niedzica 80.00 320 eP P 23 52 55.5 +0.1
PSZ Piszkesteto 80.05 318⇓eP P 23 52 56.1 +0.4
SYO Syowa Base 80.58 198 ⇓P P 23 53 01.4 +3.3
BILL Bilibino 80.61 21 eP P 23 52 57.5 -0.8
BILL pmax pmax
comp=Z,14nm,0.9s,mb4.9
BILL MLR MLR
comp=Z,2µm,19.0s,MS5.5
BILL Bilibino 80.61 21 eP P 23 52 57.5 -0.8
comp=Z,14nm,0.9s,mb4.9
BILL LR LR
comp=Z,2µm,19.0s,MS5.5
PKSM Moragy 80.67 316⇓iP P 23 52 59.1 0.0
RHK1 Bakonya 81.05 316 eP P 23 53 01.0 -0.1
TIP Timpagrande 81.33 309 eP P 23 53 02.8 +0.1
OKC Ostrava-Krasne 81.45 320 eP P 23 53 03.4 +0.3
OKC epP pP 23 53 13.7 +1.3
OKC AMS AMS 00 37 30.0
comp=Z,300nm,15.7s
KEV Kevo 81.45 341 ep P 23 53 11.0 +8.3
comp=Z,0.3nm,0.4s
GRI Girifalco 81.56 309 eP P 23 53 05.1 +1.2
ORI Oriolo Calabro 81.64 310 eP P 23 53 05.6 +1.3
MORC Moravsky Berou 81.83 320 eP P 23 53 05.4 +0.3
MORC pmax pmax
comp=Z,14nm,1.0s,mb4.8
MORC Moravsky Berou 81.83 320 eP P 23 53 05.4 +0.3
comp=Z,14nm,1.0s,mb4.8
ARCES ARCESS Array B 81.89 340 P P 23 53 05.2 +0.2
comp=Z,9.9nm,0.8s,mb4.8,baz=95,slow=4.9,SNR=14
ARCES LR LR 00 33 47.1
comp=Z,564nm,21.4s,MS4.9,baz=113,slow=39
SNZO South Karori 81.94 132 PFAKE 23 53 20.0 +14
SNZO LR LR
comp=Z,1µm,22.0s,MS5.2
MGR Morigerati 82.33 310 eP P 23 53 07.6 -0.2
MRLC Muro Lucano 82.42 311 eP P 23 53 08.5 +0.2
SGO Sicignano 82.55 310 eP P 23 53 09.5 +0.5
DPC Dobruska-Polom 82.68 320 eP P 23 53 10.5 +1.1
DPC epP pP 23 53 19.3 +0.6
DPC AMS AMS 00 36 00.0
comp=Z,300nm,21.4s
KSP Ksiaz 82.75 321 eP P 23 53 10.0 +0.2
KSP e*PP pP 23 53 23.7 +4.6
KSP Ksiaz 82.75 321 eP P 23 53 10.3 +0.5
CSSN Cassano Irpino 82.78 311 eP P 23 53 10.4 +0.3
UPC Upice 82.89 321 eP P 23 53 11.4 +0.9
ARSA Arzberg 82.91 317⇑iP P 23 53 10.3 -0.4
comp=Z,126nm,3.0s
CII Carovilli 83.38 312 P P 23 53 13.2 0.0
comp=Z,26nm,1.3s,mb5.1
OBKA Obir 83.52 316⇑iP P 23 53 14.0 +0.1
comp=Z,132nm,3.0s
SDI San Donato 83.75 312 eP P 23 53 15.0 -0.2
PRU Pruhonice 83.79 320 eP P 23 53 15.8 +0.7
PRU AMS AMS 00 36 20.0
comp=Z,300nm,22.9s
MOA Molln 83.81 318⇑iP P 23 53 15.0 -0.3
comp=Z,33nm,2.0s,mb5.1
PVCC Panska Ves 83.81 320 eP P 23 53 16.0 +0.7
PVCC AMS AMS 00 37 40.0
comp=Z,300nm,19.8s
PTQR Pietraquaria 84.07 312 eP P 23 53 17.2 +0.5
AQU L'Aquila 84.08 312 eP P 23 53 17.6 +0.8
BRG Berggiesshubel 84.23 321 eP P 23 53 18.1 +0.7
BRG eS S 00 03 39.0 -0.2
BRG pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
BRG Berggiesshubel 84.23 321 eP P 23 53 18.1 +0.7
comp=Z,10nm,1.0s,mb4.9
BRG eS S 00 03 39.0 -0.2
GERES GERESS Array B 84.25 319 P P 23 53 17.6 +0.1
comp=Z,11nm,0.9s,mb5.0,baz=104,slow=5.5,SNR=69
NRCA Norcia 84.32 313 eP P 23 53 18.3 +0.3
PTCC Patocco-Chiusa 84.34 316 eP P 23 53 18.3 +0.3
KHC Kasperske Hory 84.35 319 eP P 23 53 18.4 +0.4
KHC epP pP 23 53 26.0 -1.3
KHC AMS AMS 00 42 00.0
comp=Z,200nm,16.8s
KBA Koelnbreinsper 84.38 317⇑iP P 23 53 17.7 -0.5
comp=Z,41nm,2.6s,mb5.1
KBA Koelnbreinsper 84.38 317⇑iP P 23 53 17.7 -0.5
KBA pmax pmax
comp=Z,41nm,2.6s,mb5.1
GMNA Gemona 84.41 316 eP P 23 53 18.8 +0.4
SNTG Esanatoglia 84.47 313 eP P 23 53 19.1 +0.4
ARV Arcevia 84.48 313 eP P 23 53 19.7 +0.9
FSSB Fossombrone 84.61 314 eP P 23 53 20.0 +0.6
MNS Montasola 84.62 312 eP P 23 53 19.1 -0.4
FVI Forni Avoltri 84.74 316 eP P 23 53 20.3 +0.3
WET Wettzell 84.81 319 eP P 23 53 20.5 +0.2
WET pmax pmax
comp=Z,14nm,0.9s,mb5.1
WET Wettzell 84.81 319 eP P 23 53 20.5 +0.2
comp=Z,14nm,0.9s,mb5.1
RSM Repubblica di 84.85 314 eP P 23 53 22.0 +1.4
CLL Collm 84.86 321 iP P 23 53 20.6 +0.1
CLL e 23 53 34.0
CLL pmax pmax
comp=Z,13nm,1.1s,mb5.0
CLL Collm 84.86 321 iP P 23 53 20.6 +0.1
comp=Z,13nm,1.1s,mb5.0
CLL e 23 53 34.0
CLL Collm 84.86 321 P P 23 53 20.6 +0.1
comp=Z,logA/T=1.1,mb5.0
CLL iPCP PcP 23 53 23.3 -0.9
CLL e*PP pP 23 53 31.0 +1.2
CLL e*SP sP 23 53 34.0 +1.2
CLL eSSS SSS 00 12 48.0 -0.9
NKC Novy Kostel 85.15 320 eP P 23 53 22.6 +0.7
NKC AMS AMS 00 38 20.0
comp=Z,300nm,17.7s
SFI Santa Sofia 85.29 314 eP P 23 53 24.3 +1.5
PGD Poggio Sodo 85.38 314 eP P 23 53 24.7 +1.4
CTI Castel Tesino 85.50 316 eP P 23 53 24.7 +0.9
VMG Vicchio 85.51 314 eP P 23 53 24.9 +1.0
WTTA Wattenberg 85.55 317⇑iP P 23 53 23.7 -0.4
comp=Z,106nm,2.9s,mb5.6
WTTA Wattenberg 85.55 317⇑iP P 23 53 23.7 -0.4
WTTA pmax pmax
comp=Z,106nm,2.9s,mb5.6
MOX Moxa 85.70 320 eP P 23 53 25.1 +0.4
MOX Moxa 85.70 320 iP P 23 53 25.1 +0.4
FUR Furstenfeldbru 85.83 318 eP P 23 53 25.5 +0.1
SQTA Sankt Quirin 85.84 317⇑iP P 23 53 25.5 0.0
comp=Z,8.2nm,1.0s,mb4.9
SQTA Sankt Quirin 85.84 317⇑iP P 23 53 25.5 0.0
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
GRFL Gerfalco 85.90 313 eP P 23 53 25.6 -0.3
GRA1 Grafenberg Arr 85.92 320 eP P 23 53 26.6 +0.8
comp=Z,31nm,1.2s,mb5.4
GRF Grafenberg Arr 85.92 320 eP P 23 53 26.6 +0.8
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.4
GRF Grafenberg Arr 85.92 320 eP P 23 53 26.6 +0.8
GRF pmax pmax
comp=Z,31nm,1.2s,mb5.4
GRF Grafenberg Arr 85.92 320 eP P 23 53 26.6 +0.8
comp=Z,31nm,1.2s,mb5.4
MOTA Moosalm 85.92 317⇑iP P 23 53 25.5 -0.4
NB2 NORSAR Subarra 86.39 331 P P 23 53 27.4 -0.4
comp=Z,14nm,0.9s,mb5.2,baz=95,slow=4.8
NB2 NORSAR Subarra 86.39 331 P P 23 53 27.4 -0.4
NB2 pmax pmax
comp=Z,14nm,0.9s,mb5.2
NB2 NORSAR Subarra 86.39 331 P P 23 53 27.4 -0.4
baz=95,slow=5.1
NOA NORSAR Array B 86.39 331 P P 23 53 27.4 -0.4
comp=Z,7.6nm,0.8s,mb5.0,baz=94,slow=4.9,SNR=36
BRMO Bormio 86.40 316 eP P 23 53 29.1 +0.9
VNDA Vanda 86.48 169 LR LR 00 29 31.8
comp=Z,530nm,18.5s,MS5.0,baz=306,slow=34
CLZ Clausthal 86.52 322 eP P 23 53 29.3 +0.6
CLZ e*PP pP 23 53 37.0 -1.1
CLZ pmax pmax
comp=Z,18nm,1.3s,mb5.1
CLZ Clausthal 86.52 322 eP P 23 53 29.3 +0.6
comp=Z,18nm,1.3s,mb5.1
CLZ epP pP 23 53 37.0 -1.1
NAO01 NORSAR Array S 86.54 331 eP P 23 53 28.9 +0.3
comp=Z,12nm,0.9s,mb5.1
BSEG Bad Segeberg 86.61 324 eP P 23 53 30.0 +0.9
DAVA Damuels 86.75 317⇑iP P 23 53 29.2 -0.8
comp=Z,34nm,1.3s,mb5.4
KONO Kongsberg 87.14 329⇓iP P 23 53 32.2 +0.7
KONO MLR MLR
comp=Z,400nm,21.0s,MS4.8
PGF Pioggiola 87.34 312 eP P 23 53 32.9 -0.1
comp=Z,44nm,1.3s,mb5.2
PGF Pioggiola 87.34 312 eP P 23 53 32.9 -0.1
PGF pmax pmax
comp=Z,22nm,1.3s,mb5.2
SBA Scott Base 87.58 169 PFAKE 23 53 50.0 +17
SBA LR LR
comp=Z,590nm,19.0s,MS5.0
TNS Taunus Mts 87.72 320 eP P 23 53 34.9 +0.4
BFO Black Forest 87.80 318 eP P 23 53 34.9 -0.1
BFO pmax pmax
comp=Z,14nm,1.2s,mb5.1
BFO Black Forest 87.80 318 eP P 23 53 34.9 -0.1
comp=Z,14nm,1.2s,mb5.1
SBF Sospel 88.48 314 eP P 23 53 38.4 +0.1
comp=Z,35nm,1.0s,mb5.3
SBF Sospel 88.48 314 eP P 23 53 38.4 +0.1
SBF pmax pmax
comp=Z,18nm,1.0s,mb5.3
CDF Champ du Feu 88.50 318 eP P 23 53 38.1 -0.2
HINF Hinteralfeld 88.80 318 eP P 23 53 39.2 -0.6
LPG La Plagne 88.93 315 eP P 23 53 40.8 +0.3
comp=Z,21nm,1.0s,mb5.1
LPG La Plagne 88.93 315 eP P 23 53 40.8 +0.3
LPG pmax pmax
comp=Z,11nm,1.0s,mb5.1
MBDF Montbardon 88.93 315 eP P 23 53 39.8 -0.7
comp=Z,22nm,1.2s,mb5.0
MBDF Montbardon 88.93 315 eP P 23 53 39.8 -0.7
MBDF pmax pmax
comp=Z,11nm,1.2s,mb5.1
LPL La Plagne 88.94 315 eP P 23 53 40.8 +0.3
comp=Z,24nm,1.0s,mb5.2
LPL La Plagne 88.94 315 eP P 23 53 40.8 +0.3
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.2
HAU Haudompre 89.13 318 eP P 23 53 41.1 -0.3
comp=Z,21nm,1.0s,mb5.1
HAU eR
comp=Z,271nm,23.0s
HAU Haudompre 89.13 318 eP P 23 53 41.1 -0.3
HAU pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
HAU MLR MLR
comp=Z,270nm,23.0s,MS4.6
LMR La Mourre 89.16 313 eP P 23 53 41.6 0.0
comp=Z,36nm,1.2s,mb5.3
LMR La Mourre 89.16 313 eP P 23 53 41.6 0.0
LMR pmax pmax
comp=Z,18nm,1.2s,mb5.3
CABF La Chapelle 89.35 316 eP P 23 53 42.8 +0.3
ORIF Oris-en-Rattie 89.56 315 eP P 23 53 43.7 +0.2
comp=Z,23nm,1.0s,mb5.2
ORIF eR
comp=Z,311nm,22.5s
MEZF Maizieres J'vi 89.98 318 eP P 23 53 45.5 +0.2
comp=Z,42nm,1.2s,mb5.3
GIVF Givet 90.05 320 eP P 23 53 45.9 +0.3
TNA Tin City 90.41 24 eP P 23 53 47.2 +0.3
comp=Z,8.6nm,1.3s,mb4.9
TNA LR LR
comp=Z,433nm,20.0s,MS4.9
VIVF Saint-Julien-l 90.42 315 eP P 23 53 47.6 +0.1
BAIF Baives 90.45 320 eP P 23 53 48.1 +0.6
comp=Z,41nm,0.9s,mb5.5
BAIF Baives 90.45 320 eP P 23 53 48.1 +0.6
BAIF pmax pmax
comp=Z,20nm,0.9s,mb5.5
SMF Signal de Mont 90.90 317 eP P 23 53 49.8 +0.2
comp=Z,23nm,1.0s,mb5.2
SMF Signal de Mont 90.90 317 eP P 23 53 49.8 +0.2
SMF pmax pmax
comp=Z,12nm,1.0s,mb5.2
LASF Ste Croix 91.05 314 eP P 23 53 51.0 +0.6
comp=Z,15nm,0.9s,mb5.0
SSF Saint Saulge 91.10 317 eP P 23 53 50.8 +0.3
SSF pmax pmax
comp=Z,28nm,1.4s,mb5.4
SSF Saint Saulge 91.10 317 eP P 23 53 50.8 +0.3
comp=Z,28nm,1.4s,mb5.4
AVF Avril sur Loir 91.22 317 eP P 23 53 51.1 0.0
comp=Z,45nm,1.3s,mb5.3
AVF Avril sur Loir 91.22 317 eP P 23 53 51.1 0.0
AVF pmax pmax
comp=Z,23nm,1.3s,mb5.3
BGF Bois d'Agland 91.59 316 eP P 23 53 53.5 +0.7
comp=Z,43nm,1.1s,mb5.4
BGF Bois d'Agland 91.59 316 eP P 23 53 53.5 +0.7
BGF pmax pmax
comp=Z,22nm,1.1s,mb5.4
HYF Humbligny 91.68 317 eP P 23 53 54.1 +0.9
TCF Toulx Ste Croi 92.05 316 eP P 23 53 55.3 +0.4
comp=Z,79nm,1.7s,mb5.5
TCF Toulx Ste Croi 92.05 316 eP P 23 53 55.3 +0.4
TCF pmax pmax
comp=Z,40nm,1.7s,mb5.5
CAF Calviac 92.27 315 eP P 23 53 56.6 +0.7
comp=Z,44nm,1.4s,mb5.3
CAF Calviac 92.27 315 eP P 23 53 56.6 +0.7
CAF pmax pmax
comp=Z,22nm,1.4s,mb5.3
MTLF Montolieu 92.29 313 eP P 23 53 56.6 +0.5
comp=Z,77nm,1.5s,mb5.5
MTLF Montolieu 92.29 313 eP P 23 53 56.6 +0.5
MTLF pmax pmax
comp=Z,39nm,1.5s,mb5.5
RJF Les Rejaudoux 92.62 315 eP P 23 53 58.4 +0.8
comp=Z,68nm,1.5s,mb5.5
RJF eR
comp=Z,271nm,22.8s
RJF Les Rejaudoux 92.62 315 eP P 23 53 58.4 +0.8
RJF pmax pmax
comp=Z,34nm,1.5s,mb5.6
RJF MLR MLR
comp=Z,270nm,22.8s,MS4.6
LDF La Druitiere 93.40 319 eP P 23 54 01.2 +0.2
comp=Z,56nm,1.4s,mb5.5
LDF La Druitiere 93.40 319 eP P 23 54 01.2 +0.2
LDF pmax pmax
comp=Z,28nm,1.4s,mb5.5
FLN La Foliniere 93.61 319 eP P 23 54 02.3 +0.3
FLN eR
comp=Z,322nm,23.0s
MFF Saint Martin d 93.64 317 eP P 23 54 02.6 +0.4
comp=Z,20nm,1.0s,mb5.2
MFF Saint Martin d 93.64 317 eP P 23 54 02.6 +0.4
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
GRR Gorron 93.91 319 eP P 23 54 03.6 +0.2
DAG Danmarks Havn 93.94 348⇑iP P 23 54 03.0 0.0
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
DAG Danmarks Havn 93.94 348⇑iP P 23 54 03.0 0.0
comp=Z,3.3nm,0.6s,mb4.9
ESK Eskdalemuir 94.34 326 PFAKE 23 54 20.0 +15
ESK LR LR
comp=Z,69nm,21.0s,MS4.1
SJPF Ste Jean 94.81 313 eP P 23 54 08.6 +0.9
SGMF Saint Gilles 95.05 319 eP P 23 54 08.6 -0.1
comp=Z,114nm,1.6s,mb5.7
SGMF Saint Gilles 95.05 319 eP P 23 54 08.6 -0.1
SGMF pmax pmax
comp=Z,57nm,1.6s,mb5.8
QUIF Quistinic 95.50 318 eP P 23 54 10.5 -0.3
comp=Z,84nm,1.5s,mb5.6
QUIF Quistinic 95.50 318 eP P 23 54 10.5 -0.3
QUIF pmax pmax
comp=Z,42nm,1.5s,mb5.7
IMA Indian Mountai 96.03 23 eP P 23 54 14.0 +1.2
IMA pmax pmax
comp=Z,47nm,1.0s,mb5.9
IMA Indian Mountai 96.03 23 eP P 23 54 14.0 +1.2
comp=Z,47nm,1.0s,mb5.9
ESLA Sonseca Array 97.32 310 PFAKE 23 54 30.0 +11
ESLA LR LR
comp=Z,1µm,20.0s,MS5.3
COLA College 98.73 23 PFAKE 23 54 40.0 +15
COLA LR LR
comp=Z,488nm,20.0s,MS5.0
MCK McKinley 98.75 24 PFAKE 23 54 40.0 +15
MCK LR LR
comp=Z,254nm,20.0s,MS4.7
FIB Fire Island 99.17 27 PFAKE 23 54 40.0 +13
FIB LR LR
comp=Z,1µm,21.0s,MS5.4
DIV Divide 101.15 26 PFAKE 23 54 50.0 +14
DIV LR LR
comp=Z,2µm,19.0s,MS5.6
DBIC Dimbokro 101.63 277 PFAKE 23 54 50.0 +11
DBIC LR LR
comp=Z,531nm,19.0s,MS5.1
INK Inuvik 101.90 17 P P 23 54 38.5 -0.7
comp=Z,0.9nm,0.9s,baz=280,slow=4.4,SNR=3.1
SFJ Sondre 107.61 347 PFAKE 23 59 20.0
SFJ LR LR
comp=Z,547nm,19.0s,MS5.1
YKA Yellowknife Ar 111.50 15 PKiKP 23 59 19.0
comp=Z,0.3nm,0.8s,baz=329,slow=2.7,SNR=5.3
YKA PKKPbc 00 10 13.3
comp=Z,0.3nm,0.8s,baz=145,slow=2.8,SNR=5.6
TBI Tubuai 112.23 114 eLR LR 00 32 54.0
comp=Z,353nm,23.8s
PPT Papeete 112.79 108 eLR LR 00 33 09.4
comp=Z,376nm,23.5s
PMSA Palmer Station 115.74 189 PFAKE 23 59 40.0 +8.3
PMSA LR LR
comp=Z,5µm,19.0s,MS6.1
FFC Flin Flon 121.46 13 PFAKE 23 59 50.0 +7.0
FFC LR LR
comp=Z,45nm,19.0s,MS4.1
NEW Newport 121.91 26 PFAKE 23 59 50.0 +6.0
NEW LR LR
comp=Z,653nm,19.0s,MS5.3
SCHQ Schefferville 121.97 349 PKP PKPdf 23 59 39.5 -4.4
comp=Z,2.3nm,0.8s,baz=1.6,slow=5.3,SNR=4.3
SCHQ Schefferville 121.97 349 PKP PKPdf 23 59 39.5 -4.4
SCHQ LR LR
comp=Z,931nm,19.0s,MS5.5
BMO Blue Mountains 124.35 29 PFAKE 00 00 00.0 +11
BMO LR LR
comp=Z,261nm,19.0s,MS4.9
MSO Missoula 124.39 25 PFAKE 00 00 00.0 +11
MSO LR LR
comp=Z,523nm,20.0s,MS5.2
RKT Rikitea 125.33 117 eLR LR 00 38 58.3
comp=Z,326nm,28.8s
WVOR Wild Horse Val 125.40 32 PFAKE 00 00 00.0 +9.1
WVOR LR LR
comp=Z,358nm,19.0s,MS5.1
BOZ Bozeman (W) 126.31 25 PFAKE 00 00 00.0 +7.5
BOZ LR LR
comp=Z,734nm,20.0s,MS5.3
HLID Hailey 126.69 28 PFAKE 00 00 00.0 +6.7
HLID LR LR
comp=Z,504nm,20.0s,MS5.2
ULM Lac du Bonnet 126.93 10 PKP PKPdf 23 59 49.0 -4.5
comp=Z,4.4nm,0.6s,baz=10,slow=4.4,SNR=8.3
ULM Lac du Bonnet 126.93 10 PKP PKPdf 23 59 49.0 -4.5
ULM LR LR
comp=Z,732nm,20.0s,MS5.4
CMB Columbia Colle 127.36 37 PFAKE 00 00 00.0 +5.2
CMB LR LR
comp=Z,231nm,20.0s,MS4.9
LAO LASA Array 127.50 20 PFAKE 00 00 00.0 +5.2
LAO LR LR
comp=Z,457nm,20.0s,MS5.2
BMN Battle Mountai 127.56 33 PFAKE 00 00 00.0 +4.8
BMN LR LR
comp=Z,538nm,21.0s,MS5.2
LKWY Lake 127.69 25 PFAKE 00 00 00.0 +4.7
LKWY LR LR
comp=Z,1µm,19.0s,MS5.7
MNV Mina 128.41 35 PFAKE 00 00 10.0 +13
MNV LR LR
comp=Z,417nm,20.0s,MS5.1
AHID Auburn Hatcher 128.84 27 PFAKE 00 00 10.0 +12
AHID LR LR
comp=Z,772nm,20.0s,MS5.4
TPH Tonopah 129.19 35 PFAKE 00 00 10.0 +12
TPH LR LR
comp=Z,243nm,20.0s,MS4.9
BW06 Boulder Array 129.51 25 PFAKE 00 00 10.0 +11
BW06 LR LR
comp=Z,688nm,19.0s,MS5.4
PDAR Pinedale Array 129.51 25 PKP PKPdf 23 59 55.8 -3.0
comp=Z,1.2nm,0.6s,baz=217,slow=1.2,SNR=12
EYMN Ely 129.85 8 PFAKE 00 00 10.0 +11
EYMN LR LR
comp=Z,561nm,20.0s,MS5.3
PQI Presque Isle 129.93 347 PFAKE 00 00 10.0 +10
PQI LR LR
comp=Z,6µm,20.0s
DUG Dugway 130.03 30 PFAKE 00 00 10.0 +10
DUG LR LR
comp=Z,364nm,20.0s,MS5.1
DAC Darwin (Calif) 130.19 37 PFAKE 00 00 10.0 +10
DAC LR LR
comp=Z,302nm,19.0s,MS5.0
MVU Marysvale 131.61 31 PFAKE 00 00 10.0 +7.0
MVU LR LR
comp=Z,390nm,20.0s,MS5.1
EMMW East Machias 131.64 345 PFAKE 00 00 10.0 +7.2
EMMW LR LR
comp=Z,6µm,22.0s
WVL Waterville 132.30 347 PFAKE 00 00 10.0 +5.9
WVL LR LR
comp=Z,5µm,21.0s
PFO Pinyon Flat Ob 132.66 39 PFAKE 00 00 10.0 +4.9
PFO LR LR
comp=Z,71nm,19.0s,MS4.4
ISCO Idaho Springs 133.63 24 PFAKE 00 00 20.0 +13
ISCO LR LR
comp=Z,455nm,21.0s,MS5.2
WUAZ Wupatki 134.29 33 PFAKE 00 00 20.0 +12
WUAZ LR LR
comp=Z,394nm,20.0s,MS5.1
WES Weston 134.74 348 PFAKE 00 00 20.0 +11
WES LR LR
comp=Z,1µm,22.0s,MS5.6
JFWS Jewell Farm 134.96 8 PFAKE 00 00 20.0 +11
JFWS LR LR
comp=Z,799nm,20.0s,MS5.4
SDCO Great Sand Dun 135.40 26 PFAKE 00 00 20.0 +10
SDCO LR LR
comp=Z,528nm,19.0s,MS5.3
BINY Binghamton 135.71 353 PFAKE 00 00 20.0 +10
BINY LR LR
comp=Z,939nm,19.0s,MS5.5
AAM Ann Arbor 136.05 1 PFAKE 00 00 20.0 +8.9
AAM LR LR
comp=Z,842nm,19.0s,MS5.5
ERPA Erie 136.16 357 PFAKE 00 00 20.0 +8.7
ERPA LR LR
comp=Z,558nm,19.0s,MS5.3
CBKS Cedar Bluff 136.67 19 PFAKE 00 00 20.0 +7.7
CBKS LR LR
comp=Z,500nm,20.0s,MS5.2
TUC Tucson 136.99 35 PFAKE 00 00 20.0 +7.0
TUC LR LR
comp=Z,307nm,19.0s,MS5.1
ANMO Albuquerque 137.26 29 PKP PKPdf 00 00 11.2 -2.3
comp=Z,2.3nm,0.8s,baz=90,slow=2.4,SNR=6.0
ANMO Albuquerque 137.26 29 PKP PKPdf 00 00 11.2 -2.3
ANMO LR LR
comp=Z,608nm,19.0s,MS5.3
ACSO Alum Creek Sta 138.12 0 PFAKE 00 00 20.0 +5.0
ACSO LR LR
comp=Z,815nm,20.0s,MS5.5
MCWV Mont Chateau 138.60 356 PFAKE 00 00 20.0 +4.2
MCWV LR LR
comp=Z,1µm,21.0s,MS5.5
TRQA Tornquist 139.16 206 PFAKE 00 00 30.0 +13
TRQA LR LR
comp=Z,424nm,19.0s,MS5.2
AMTX Amarillo 139.45 24 PFAKE 00 00 30.0 +13
AMTX LR LR
comp=Z,522nm,19.0s,MS5.3
CCM Cathedral Cave 139.56 10 PFAKE 00 00 30.0 +12

CCM					LR	LR			
	comp=Z,487nm,20.0s,MS5.2								
PLCA	**Paso Flores**	**139.71**	**195**		PFAKE		00 00 30.0	+12	
PLCA					LR	LR			
	comp=Z,579nm,20.0s,MS5.3								
CBN	**Corbin**	**139.82**	**353**		PFAKE		00 00 30.0	+12	
CBN					LR	LR			
	comp=Z,604nm,22.0s,MS5.3								
WCI	**Wyandotte Cave**	**140.00**	**4**		PFAKE		00 00 30.0	+12	
WCI					LR	LR			
	comp=Z,615nm,19.0s,MS5.4								
MNTX	**Cornudas Mount**	**140.41**	**31**		PFAKE		00 00 30.0	+11	
MNTX					LR	LR			
	comp=Z,645nm,20.0s,MS5.4								
BLA	**Blacksburg**	**141.07**	**357**		PFAKE		00 00 30.0	+10	
BLA					LR	LR			
	comp=Z,746nm,19.0s,MS5.5								
WVT	**Waverly**	**141.94**	**6**		PFAKE		00 00 30.0	+8.1	
WVT					LR	LR			
	comp=Z,501nm,20.0s,MS5.3								
MIAR	**Mount Ida**	**142.44**	**14**		PFAKE		00 00 30.0	+7.2	
MIAR					LR	LR			
	comp=Z,491nm,20.0s,MS5.3								
BDFB	**Brasilia**	**142.97**	**246**		PKP	PKPdf	00 00 22.4	-1.8	
	comp=Z,5.2nm,1.1s,baz=173,slow=15,SNR=4.2								
PLAL	**Pickwick Lake**	**143.05**	**7**		PFAKE		00 00 30.0	+13	
PLAL					LR	LR			
	comp=Z,474nm,19.0s,MS5.3								
TXAR	**Lajitas Array**	**143.18**	**31**		PKhKP		00 00 17.3		
	comp=Z,1.6nm,0.9s,baz=270,slow=3.8,SNR=12								
TXAR	**Lajitas Array**	**143.18**	**31**		PKP	PKPdf	00 00 17.3	-7.0	
OXF	**Oxford**	**143.32**	**9**		PFAKE		00 00 30.0	+12	
OXF					LR	LR			
	comp=Z,444nm,20.0s,MS5.2								
NATX	**Nacogdoches**	**144.77**	**17**		PFAKE		00 00 40.0	+18	
NATX					LR	LR			
	comp=Z,462nm,20.0s,MS5.2								
GOGA	**Godfrey**	**144.93**	**1**		PFAKE		00 00 40.0	+18	
GOGA					LR	LR			
	comp=Z,414nm,21.0s,MS5.2								
LRAL	**Lakeview Retre**	**145.09**	**6**		PFAKE		00 00 40.0	+17	
LRAL					LR	LR			
	comp=Z,428nm,21.0s,MS5.2								
NHSC	**New Hope**	**145.14**	**356**		PFAKE		00 00 40.0	+17	
NHSC					LR	LR			
	comp=Z,466nm,19.0s,MS5.3								
DWPF	**Disney**	**150.18**	**357**		PFAKE		00 00 40.0	+4.1	
DWPF					LR	LR			
	comp=Z,448nm,20.0s,MS5.3								
SJG	**San Juan**	**154.19**	**321**		PFAKE		00 00 50.0	+8.0	
SJG					LR	LR			
	comp=Z,428nm,21.0s,MS5.2								
TEIG	**Tepich**	**157.44**	**13**		PFAKE		00 00 50.0	+3.7	
TEIG					LR	LR			
	comp=Z,166nm,20.0s,MS4.9								
SAML	**Samuel**	**159.13**	**250**		PFAKE		00 01 00.0	+12	
SAML					LR	LR			
	comp=Z,475nm,20.0s,MS5.3								
LPAZ	**La Paz**	**159.55**	**225**		PKP	PKPdf	00 00 45.8	-3.1	
	comp=Z,2.8nm,1.0s,baz=32,slow=7.6,SNR=6.3								
LPAZ	**La Paz**	**159.55**	**225**		PKP	PKPdf	00 00 45.8	-3.1	
LPAZ					LR	LR			
	comp=Z,259nm,20.0s,MS5.1								
SDV	**Santo Domingo**	**163.76**	**311**		PFAKE		00 01 00.0	+6.8	
SDV					LR	LR			
	comp=Z,358nm,20.0s								
JTS	**JuntasAbangare**	**167.77**	**9**		PFAKE		00 01 00.0	+3.5	
JTS					LR	LR			
	comp=Z,89nm,20.0s								
OTAV	**Otavalo**	**175.07**	**295**		PFAKE		00 01 10.0	+10	
OTAV					LR	LR			
	comp=Z,532nm,20.0s								

MAN 30 23:54:13.2, 11.92N×125.35E, h7km, mb4.1, ML2.9, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BESP	**Borongan**	**0.33**	**164**	*e*P		Pg	23 54 20.2	+0.4
BESP				*e*S		Sg	23 54 27.4	+3.1
PLP	**Palo**	**0.83**	**206**	*e*P		Pb	23 54 29.3	-0.2
PLP				*i* S		Sb	23 54 30.5	+0.5
CNP	**Catarman**	**0.89**	**311**	*e*P		Pb	23 54 30.3	-0.2
MSLP	**Maasin**	**1.84**	**195**	*e*P		Pn	23 54 45.6	+0.1

IDC 31 00:05:08.9±5.5, 1.42N×98.78E, mb3.5/3, mb1 3.8/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=287.0km s-min=29.7km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**40.83**	**123**	P		P	00 12 52.8	-1.4
	0.6nm,0.6s,baz=303,slow=9.0,SNR=10							
ASAR	**Alice Springs**	**42.28**	**128**	P		P	00 13 04.2	-2.0
	0.8nm,0.6s,baz=294,slow=7.8,SNR=7.6							
MKAR	**Makanchi Array**	**47.42**	**345**	P		P	00 13 45.1	-2.0
	0.5nm,0.9s,baz=158,slow=7.1,SNR=3.9							

IDC 31 00:11:22.4±42.0, 51.92N×168.05W, mb3.6/4, mb1 3.8/4, mb1mx3.5/23, mbtmp3.7/4, Error ellipse: s-maj=1019.0km s-min=47.2km az=158.0

NEIC 31 00:11:30.6, 52.20N×168.11W, h36km, ML3.2(AEIC), After AEIC.

ISC 31 00:11:28.2±1.4, 52.16N±0.09×168.2W±0.1, h42km±12km, n18, σ0§42/22, mb3.7/4, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NIKO	**Nikolski**	**0.91**	**334**	P		**P**	**00 11 44.4**	**-0.3**
NIKO				S		**S**	**00 11 57.0**	**+0.2**
OKFG	**Magazine Ridge**	**1.27**	**8**	P		**P**	**00 11 50.1**	**+0.3**
OKFG				S		**S**	**00 12 05.9**	**0.0**
MNAT	**Makushin Natee**	**1.96**	**27**	P		**P**	**00 11 59.8**	**+0.2**
UNV	**Unalaska Valle**	**1.98**	**31**	P		**P**	**00 11 59.7**	**-0.1**
UNV				S		**S**	**00 12 23.2**	**-0.4**
MTBL	**Makushin Table**	**2.03**	**26**	P		**P**	**00 12 00.6**	**-0.1**
ATKA	**Atka Island**	**3.69**	**273**	P		**P**	**00 12 24.4**	**+0.2**
ATKA				S		**S**	**00 13 06.7**	**-0.3**
GSTR	**Great Sitkin T**	**4.84**	**272**	P		**P**	**00 12 41.3**	**+0.7**
GSTD	**Great Sitkin T**	**4.90**	**272**	P		**P**	**00 12 41.4**	**+0.1**
ADAG	**Mount Adagdak**	**5.19**	**271**	P		**P**	**00 12 45.3**	**-0.1**
ADK	**Adak**	**5.25**	**270**	P		**P**	**00 12 45.5**	**-0.6**
KIWB	**Kanaga Island**	**5.54**	**270**	*e*P		**P**	**00 12 50.2**	**0.0**
INK	**Inuvik**	**23.14**	**33**	P		**P**	**00 16 30.5**	**-0.3**
	1.1nm,0.4s,mb3.6,baz=238,slow=9.3,SNR=6.5							
INK	**Inuvik**	**23.14**	**33**	P		**P**	**00 16 30.5**	**-0.3**
MKAR	**Makanchi Array**	**64.47**	**314**	P		**P**	**00 22 01.4**	**-0.7**
	0.4nm,0.6s,mb3.6,baz=44,slow=7.5,SNR=5.9							
MKAR	**Makanchi Array**	**64.47**	**314**	P		**P**	**00 22 01.4**	**-0.7**
FINES	**FINESS Array B**	**66.18**	**353**	P		**P**	**00 22 12.8**	**0.0**
	0.6nm,0.5s,mb3.9,slow=9.5,SNR=6.5							
FINES	**FINESS Array B**	**66.18**	**353**	P		**P**	**00 22 12.8**	**0.0**
NOA	**NORSAR Array B**	**67.15**	**0**	P		**P**	**00 22 20.1**	**+1.1**
	0.4nm,0.7s,mb3.5,baz=360,slow=5.7,SNR=3.4							

ATH 31 00:16:32.9, 40.40N×22.37E, h58km±6km, MD2.9/3
THE 31 00:16:34.4, 40.61N×22.51E, h22km, ML2.2

ISC 31 00:16:34.3±0.6, 40.59N±0.04×22.47E±0.04, h22km±15km, n11, σ1§04/17, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GRG	**Griva**	**0.37**	**352**	*e*Pg		**Pb**	**00 16 41.6**	**-0.6**
GRG				*e*Sg		**Sb**	**00 16 48.1**	**+0.6**
THE	**Thessaloniki**	**0.38**	**84**	*e*Pg		**Pb**	**00 16 41.8**	**-0.6**
LIT	**Litokhoron**	**0.49**	**178**	*e*Pg		**Pb**	**00 16 43.6**	**-0.5**
LIT				*e*Sg		**Sb**	**00 16 52.8**	**+1.9**
KZN	**Kozani**	**0.60**	**242**	*e*P		**Pb**	**00 16 45.0**	**-1.0**
KZN				*e*S		**Sb**	**00 16 54.0**	**-0.1**
KNT	**Kendrikon**	**0.66**	**30**	*e*Pg		**Pb**	**00 16 46.7**	**-0.2**
SOH	**Sokhos**	**0.71**	**71**	*e*Pg		**Pb**	**00 16 47.8**	**0.0**
PLG	**Polygyros**	**0.78**	**106**	*e*P		**Pb**	**00 16 49.1**	**+0.1**
PLG				*e*S		**Sb**	**00 17 00.4**	**+1.3**
FNA	**Florina**	**0.85**	**283**	*e*Pg		**Pb**	**00 16 49.9**	**-0.4**
FNA				*e*Sg		**Sb**	**00 17 04.0**	**+2.7**
SRS	**Serrai**	**1.00**	**58**	*e*Pg		**Pb**	**00 16 52.0**	**-0.7**
SRS				*e*Sg		**Sb**	**00 17 05.2**	**-0.3**
NVR	**Nevrokopi**	**1.30**	**54**	*e*P		**Pn**	**00 16 58.3**	**+1.0**
AGG	**Agios Georgios**	**1.57**	**184**	*e*Pb		**Pb**	**00 17 00.2**	**-2.3**

IDC 31 00:17:25.2±66.0, 2.12N×96.66E, mb3.8/3, mb1 3.9/3, mb1mx3.4/18, mbtmp3.8/3, MS4.3/1, Ms1 4.3/1, ms1mx3.5/24, Error ellipse: s-maj=1264.0km s-min=155.3km az=176.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MKAR	**Makanchi Array**	**46.22**	**346**	P		P	00 25 52.0	-1.8
	1.1nm,0.7s,baz=162,slow=8.7,SNR=12							
SONM	**Songino Array**	**46.31**	**9**	P		P	00 25 52.8	-1.7
	0.3nm,0.6s,baz=189,slow=9.3,SNR=4.2							
SONM					LR	LR	00 48 19.6	
	comp=Z,363nm,19.2s,baz=193,slow=40							
ZAL	**Zalesovo**	**52.56**	**351**	P		P	00 26 40.2	-2.4
	1.0nm,0.5s,baz=338,slow=8.5,SNR=4.2							

IDC 31 00:20:30.1±0.5, 10.93N×92.81E, mb4.3/18, mb1 4.4/18, mb1mx4.4/21, mbtmp4.3/18, MS4.1/8, Ms1 4.0/8, ms1mx3.8/27, Error ellipse: s-maj=20.9km s-min=12.3km az=55.0

MOS 31 00:20:32.9±0.8, 10.90N×92.87E, h33km, mb4.9/15, Error ellipse: s-maj=15.2km s-min=7.0km az=119.3

BJI 31 00:20:32.9, 10.66N×92.72E, h46km, mB4.9, mb4.5, Ms4.5, Msz4.2

NEIC 31 00:20:34.4±0.2, 10.90N×92.80E, h30km, mb4.6/23, Error ellipse: s-maj=8.1km s-min=5.1km az=50.0

ISC 31 00:20:32.2±1.4, 10.82N±0.04×92.75E±0.03, h28km±9km, h29km±1.6km: pP-P, n120, σ1§01/123, mb4.5/50, MS4.2/14, 2C-3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NNT	**Nongplab**	**7.06**	**75**	P		**Pn**	**00 22 17.0**	**+0.5**
BDT	**Bhumibol Dam**	**8.81**	**43**	P		**P**	**00 22 41.0**	**+0.2**
CM31	**Chiang Mai Arr**	**9.67**	**38**	*e*Pn		**P**	**00 22 54.5**	**+1.7**
	14nm,0.4s							
CHG	**Chiang Mai**	**9.95**	**36**	P		**P**	**00 22 57.4**	**+0.7**
NANT	**Nan**	**11.04**	**43**	⇑P		**P**	**00 23 11.0**	**-0.6**
	162nm,1.0s							
VIS	**Vishakhapatnam**	**11.42**	**308**	*e*P		**P**	**00 23 14.6**	**-2.1**
VIS				*e*S		**S**	**00 25 09.2**	**-15**
VIS				*e*			00 25 17.8	
	comp=N,184nm,0.4s							
VIS				*e*			00 33 40.6	
BWNR	**Bhubaneshwar**	**11.55**	**325**	*e*P		**P**	**00 23 17.4**	**-1.1**
BWNR				*e*S		**S**	**00 25 12.1**	**-15**
BWNR				*e*			00 25 21.1	
	comp=E,310nm,1.1s							
PALK	**Pallekele**	**12.41**	**255**	*e*P		**P**	**00 23 30.1**	**0.0**
PALK				*e*S		**S**	**00 25 36.8**	**-12**
SHL	**Shillong**	**14.69**	**357**	*e*P		**P**	**00 24 00.0**	**-0.2**
SHL				*e*			00 26 36.0	
HYB	**Hyderabad**	**15.25**	**297**	*e*P		**P**	**00 24 08.5**	**+1.0**
HYB				*e*S		**S**	**00 26 57.0**	**+1.0**
HYB	**Hyderabad**	**15.25**	**297**	*i* P		**P**	**00 24 08.5**	**+1.0**
HYB				*e*			00 26 45.0	
HYB				*e*S		**S**	**00 26 57.0**	**+1.0**
NGP	**Nagpur**	**16.69**	**310**	*e*		**P**	**00 24 30.7**	**+4.7**
NGP				*e*			00 27 18.0	
KMI	**Kunming**	**17.09**	**32**	P		**P**	**00 24 32.5**	**+1.5**
KMI				AP			00 24 39.3	
KMI				XP			00 24 43.0	
KMI				S		**S**	**00 27 40.5**	**+1.8**
KMI				AMB	AMB			
	comp=Z,12nm,1.1s							
KMI				AMB	AMB			
	comp=Z,139nm,5.2s							
KMI				LR	LR			
	comp=N,471nm,18.0s							
KMI				LR	LR			
	comp=E,593nm,15.0s							
KMI				LR	LR			
	comp=Z,526nm,18.0s							
LATR	**Latur**	**17.38**	**298**	*e*P		**P**	**00 24 37.5**	**+2.9**
JIRN	**Jiri**	**17.85**	**341**	*e*P		**P**	**00 24 39.2**	**-1.2**
PKI	**Pulchoki**	**18.04**	**339**	*e*P		**P**	**00 24 42.5**	**-0.3**
	comp=Z,96nm,1.1s							
PKI	**Pulchoki**	**18.04**	**339**	*e*P		**P**	**00 24 42.5**	**-0.3**
PKI				pmax	pmax			
	comp=Z,48nm,1.1s							
DMN	**Daman**	**18.18**	**338**	*e*P		**P**	**00 24 44.2**	**-0.4**
	comp=Z,71nm,0.8s							
KKN	**Kakani**	**18.29**	**338**	*e*P		**P**	**00 24 42.1**	**-3.8**
	comp=Z,51nm,0.9s							
KKN	**Kakani**	**18.29**	**338**	*e*P		**P**	**00 24 42.1**	**-3.8**
KKN				pmax	pmax			
	comp=Z,25nm,0.9s							
QIZ	**Qiongzhong**	**18.41**	**62**	*e*P		**P**	**00 24 48.3**	**+0.9**
QIZ				LR	LR			
	comp=E,499nm,14.5s							
QIZ				LR	LR			
	comp=Z,460nm,13.3s							
GKN	**Gorkha**	**18.72**	**337**	*e*P		**P**	**00 24 43.4**	**-7.7**
LSA	**Lhasa**	**18.85**	**356**	P		**P**	**00 24 53.0**	**+0.4**
LSA	**Lhasa**	**18.85**	**356**	*e*P		**P**	**00 24 52.5**	**-0.1**
LSA				pmax	pmax			
	comp=Z,45nm,1.3s							
LSA	**Lhasa**	**18.85**	**356**	*e*P		**P**	**00 24 52.5**	**-0.1**
	comp=Z,45nm,1.3s							
KOLN	**Koldanda**	**18.93**	**334**	*e*P		**P**	**00 24 51.1**	**-2.5**
	comp=Z,64nm,0.7s							
BHPL	**Bhopal**	**19.14**	**312**	*e*P		**P**	**00 24 56.5**	**+0.4**
BHPL				*e*			00 25 06.4	
	comp=Z,55nm,1.0s							
BHPL				*e*S		**S**	**00 28 28.8**	**+3.7**
POO	**Poona**	**19.81**	**295**	*e*P		**P**	**00 25 03.0**	**-0.8**
POO				*i*			00 28 31.0	
PTH	**Pithoragarh**	**22.00**	**330**	*e*P		**P**	**00 25 29.2**	**+3.1**
CD2	**Chengdu**	**22.45**	**25**	*e*P		**P**	**00 25 30.0**	**-0.5**
NDI	**New Delhi**	**22.97**	**323**	*e*P		**P**	**00 25 37.0**	**+1.3**
NDI				*e*S		**S**	**00 29 43.0**	**+3.3**
DDI	**Dehra Dun**	**23.74**	**327**	*e*P		**P**	**00 25 43.0**	**-0.1**
DDI				*e*			00 30 01.2	
ENH	**Enshi**	**24.84**	**36**	*e*P		**P**	**00 25 53.4**	**-0.4**
	comp=Z,22nm,0.7s,mb4.8							
SDNR	**Sundarnagar**	**25.24**	**327**	*e*P		**P**	**00 25 59.0**	**+1.4**
LZH	**Lanzhou**	**27.09**	**20**	*e*P		**P**	**00 26 15.8**	**+1.1**
LZH				AMB	AMB			
	comp=Z,31nm,1.2s,mb4.7							
LZH				AMB	AMB			
	comp=Z,120nm,4.0s							
LZH				LR	LR			
	comp=N,836nm,15.5s							
LZH				LR	LR			
	comp=Z,1μm,17.0s,MS4.5							
XAN	**Xi'an**	**27.45**	**30**	P		**P**	**00 26 21.0**	**+3.1**
XAN				AMB	AMB			
	comp=Z,4.0nm,0.8s,mb4.0							
GTA	**Gaotai**	**29.16**	**11**	*e*P		**P**	**00 26 33.0**	**-0.3**
GTA				AP	pP		00 26 42.3	+0.6
GTA				XP	sP		00 26 46.3	+0.9
GTA				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.4							
GTA				AMB	AMB			
	comp=Z,64nm,6.6s							
GTA				LR	LR			
	comp=N,257nm,14.4s,MS4.0							
GTA				LR	LR			
	comp=E,152nm,14.4s,MS4.0							
GTA				LR	LR			
	comp=Z,295nm,17.1s,MS4.0							
NJ2	**Nanjing**	**32.04**	**45**	*e*P		**P**	**00 26 59.5**	**+0.6**
NJ2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb4.8							
WMQ	**Urumqi**	**33.17**	**353**	*e*P		**P**	**00 27 08.3**	**-0.3**
WMQ				AP	pP		00 27 18.0	+1.0
WMQ				PP	PP		00 28 20.0	0.0
WMQ				PPP	PPP		00 28 36.0	-0.3
WMQ				*e*S	**S**		**00 32 24.0**	**-1.2**
WMQ				PCS			00 33 35.0	
WMQ				AMB	AMB			
	comp=Z,7.0nm,0.7s,mb4.7							
WMQ				AMB	AMB			
	comp=Z,64nm,3.5s							
WMQ				LR	LR			
	comp=N,630nm,25.4s,MS4.5							
WMQ				LR	LR			
	comp=E,1μm,26.0s,MS4.5							
WMQ				LR	LR			
	comp=Z,775nm,28.0s,MS4.3							
HHC	**Hu-ho-hao-te**	**34.21**	**26**	*e*P		**P**	**00 27 17.0**	**-0.6**
HHC				AP	pP		00 27 25.8	-0.2
HHC				XP	sP		00 27 30.0	+0.3
HHC				PP	PP		00 28 33.5	+0.8
HHC				S	**S**		**00 32 41.0**	**-0.4**
HHC				PCS			00 33 38.5	
HHC				SS	SS		00 34 56.0	+4.9
HHC				SCS	ScS		00 37 36.3	-0.5
HHC				AMB	AMB			
	comp=Z,12nm,0.6s,mb5.0							
HHC				AMB	AMB			
	comp=Z,126nm,4.5s							
HHC				LR	LR			
	comp=N,228nm,19.0s,MS4.2							
HHC				LR	LR			
	comp=E,346nm,17.2s,MS4.2							
HHC				LR	LR			
	comp=Z,266nm,22.0s,MS3.9							
AAK	**Ala-Archa**	**35.47**	**337**	⇑*i*P		**P**	**00 27 33.4**	**+5.0**
AAK	**Ala-Archa**	**35.47**	**337**	*e*P		**P**	**00 27 28.5**	**+0.1**
	comp=Z,20nm,1.4s,mb4.8							
FRU	**Bishkek**	**35.60**	**337**	*e*P		**P**	**00 27 39.0**	**+10**
FRU				pmax	pmax			
	comp=Z,50nm,2.1s,mb5.1							
BJI	**Beijing**	**35.75**	**31**	*e*P		**P**	**00 27 29.0**	**-1.8**
BJI				AMB	AMB			
	comp=Z,5.0nm,0.7s,mb4.5							
MKAR	**Makanchi Array**	**36.94**	**348**	P		**P**	**00 27 40.4**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.3,baz=165,slow=8.3,SNR=37							
MKAR				PcP	PcP		00 30 02.4	+0.3
	comp=Z,0.8nm,0.7s,baz=213,slow=4.4,SNR=4.9							
MKAR				LR	LR		00 45 11.9	
	comp=Z,304nm,21.3s,MS4.1,baz=267,slow=40							
JOW	**Kunigami**	**37.04**	**60**	LR	LR		00 43 54.7	
	comp=Z,170nm,20.1s,MS3.8,baz=250,slow=38							
SONM	**Songino Array**	**38.64**	**15**	P		**P**	**00 27 55.1**	**+0.1**
	comp=Z,4.9nm,1.0s,mb4.2,baz=200,slow=4.7,SNR=28							
SONM				PcP	PcP		00 30 08.4	+1.1
	comp=Z,3.1nm,0.7s,baz=206,slow=3.5,SNR=8.2							
ULN	**Ulaanbaatar**	**38.84**	**15**	*e*P		**P**	**00 27 56.1**	**-0.5**
ULN				pmax	pmax			
	comp=Z,11nm,1.3s,mb4.4							
ULN	**Ulaanbaatar**	**38.84**	**15**	*e*P		**P**	**00 27 56.1**	**-0.5**
	comp=Z,11nm,1.3s,mb4.4							
ZAK	**Zakamensk**	**40.39**	**10**	*e*P		**P**	**00 28 08.1**	**-1.3**
ZAK				*e*			00 30 12.6	
ZAK				pmax	pmax			
	comp=Z,3.0nm,1.0s,mb4.0							
ZAK				pmax	pmax			
	comp=Z,2.0nm,1.4s,mb3.6							
KURK	**Kurchatov**	**41.44**	**346**	*e*P		**P**	**00 28 18.0**	**-0.1**
KURK				pmax	pmax			
	comp=Z,20nm,1.3s,mb4.6							
KURK	**Kurchatov**	**41.44**	**346**	*e*P		**P**	**00 28 18.0**	**-0.1**
	comp=Z,20nm,1.3s,mb4.6							
CN2	**Changchun**	**43.34**	**35**	*e*P		**P**	**00 28 33.5**	**-0.2**
CN2				*e*AP	pP		00 28 42.5	+0.3
CN2				*e*S	**S**		**00 34 58.8**	**-0.4**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.7s,mb4.7							
CN2				AMB	AMB			
	comp=Z,300nm,3.0s							
CN2				LR	LR			
	comp=N,350nm,15.0s,MS4.6							
CN2				LR	LR			
	comp=E,400nm,15.0s,MS4.6							
CN2				LR	LR			
	comp=Z,400nm,17.0s,MS4.4							
FITZ	**Fitzroy Crossi**	**43.36**	**131**	P		**P**	**00 28 34.4**	**+0.3**
	comp=Z,26nm,0.9s,mb4.9,baz=343,slow=6.1,SNR=16							
FITZ				PcP	PcP		00 30 23.7	+0.7
	comp=Z,11nm,0.7s,baz=197,slow=1.4,SNR=6.4							
ZAL	**Zalesovo**	**43.47**	**353**	P		**P**	**00 28 33.9**	**-0.7**
	comp=Z,0.9nm,0.5s,mb3.8,baz=312,slow=4.5,SNR=4.3							
ZAL				LR	LR		00 47 53.2	
	comp=Z,179nm,20.3s,MS4.0,baz=292,slow=38							
NVS	**Novosibirsk**	**44.55**	**352**	*e*P		**P**	**00 28 43.9**	**+0.5**
BVA0	**Borovoye Array**	**45.78**	**341**	*i* P		**P**	**00 28 52.4**	**-0.7**
BVA0				pmax	pmax			
	comp=Z,2.0nm,1.1s,mb4.0							
MDJ	**Mudanjiang**	**46.21**	**36**	P		**P**	**00 28 52.5**	**-4.1**
MDJ				AMB	AMB			
	comp=Z,8.0nm,1.8s,mb4.3							
MDJ				AMB	AMB			
	comp=Z,136nm,9.8s							
CHKZ	**Chkalovo**	**46.27**	**342**	*i* P		**P**	**00 28 56.7**	**-0.3**
CHKZ				pmax	pmax			
	comp=Z,24nm,1.1s,mb5.0							
RAYN	**Ar Rayn**	**46.67**	**292**	P		**P**	**00 29 02.4**	**+1.8**
	comp=Z,42nm,0.7s,SNR=10							
MJAR	**Matsushiro Arr**	**48.28**	**50**	P		**P**	**00 29 13.5**	**+0.5**
	comp=Z,1.7nm,0.6s,mb4.2,baz=232,slow=6.4,SNR=5.2							
MJAR				PcP	PcP		00 30 40.2	+0.1
	comp=Z,2.9nm,0.6s,baz=242,slow=2.6,SNR=6.3							
MJAR				LR	LR		00 50 35.2	
	comp=Z,123nm,18.2s,MS3.9,baz=235,slow=38							
BOD	**Bodaibo**	**49.64**	**15**	*e*P		**P**	**00 29 22.2**	**-1.0**
BOD				*e*	pP		00 29 29.3	-2.6
BOD				pmax	pmax			
	comp=Z,9.0nm,1.0s,mb4.8							
BOD				pmax	pmax			
	comp=Z,11nm,1.1s,mb4.8							
WRA	**Warramunga Arr**	**51.09**	**127**	P		**P**	**00 29 34.0**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.5,baz=306,slow=8.3,SNR=57							
WRA				PcP	PcP		00 30 50.7	+0.2
	comp=Z,1.6nm,0.6s,baz=316,slow=2.9,SNR=7.2							
WRAB	**Tennant Creek**	**51.10**	**127**	*e*P		**P**	**00 29 34.0**	**-0.8**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.5s,mb4.8							
WRAB	**Tennant Creek**	**51.10**	**127**	*e*P		**P**	**00 29 34.0**	**-0.8**
	comp=Z,5.8nm,0.5s,mb4.8							
WB2	**Warramunga Arr**	**51.10**	**127**	*e*P		**P**	**00 29 34.0**	**-0.9**
GNI	**Garni**	**51.42**	**313**	*e*P		**P**	**00 29 35.3**	**-1.7**
GNI				pmax	pmax			
	comp=Z,23nm,1.3s							
GNI	**Garni**	**51.42**	**313**	*e*P		**P**	**00 29 35.3**	**-1.7**
	comp=Z,23nm,1.3s,mb4.9							
SVE	**Sverdlovsk**	**52.18**	**338**	*e*P		**P**	**00 29 42.8**	**+0.3**
SVE				pmax	pmax			
	com

comp=Z,0.6nm,0.5s,mb3.9,baz=90,slow=5.2,SNR=7.5
KWP Kalwaria 68.92 319 *e*P **P 00 31 37.1 +0.4**
SUW Suwalki 69.33 324 *e*P **P 00 31 37.7 -1.5**
FINES FINESS Array B 69.48 332 P **P 00 31 39.5 -0.5**
comp=Z,1.7nm,0.6s,mb4.2,baz=118,slow=6.8,SNR=13
KAF Kangasniemi 69.56 333 *ep* **P 00 31 39.7 -0.8**
comp=Z,1.2nm,0.5s,mb4.1,baz=104,slow=5.8
KAF Kangasniemi 69.56 333 *e*P **P 00 31 39.7 -0.8**
KAF pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
ARCES ARCESS Array B 72.05 340 P **P 00 31 55.0 -0.4**
comp=Z,1.9nm,0.7s,mb4.1,baz=97,slow=5.6,SNR=10.0
BRG Berggiesshubel 74.63 320 *e*P **P 00 32 11.3 +0.6**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 74.63 320 *e*P **P 00 32 11.3 +0.6**
comp=Z,4.4nm,1.1s,mb4.3
GERES GERESS Array B 74.73 318 P **P 00 32 11.7 +0.3**
comp=Z,1.8nm,0.7s,mb4.1,baz=90,slow=5.3,SNR=15
KHC Kasperske Hory 74.82 318 *e*P **P 00 32 12.0 +0.1**
CLL Collm 75.23 320 *e**PP pP 00 32 21.0 -2.2
BOSA Boshof 76.01 237 P **P 00 32 21.1 +2.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=76,slow=6.4,SNR=5.4
BOSA LR LR 01 02 59.1
comp=Z,166nm,18.2s,MS4.4,baz=240,slow=34
MOX Moxa 76.10 320 *e*P **P 00 32 20.0 +0.8**
GRA1 Grafenberg Arr 76.36 319 *e*P **P 00 32 21.5 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 76.36 319 *e*P **P 00 32 21.5 +0.9**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 76.36 319 *e*P **P 00 32 21.5 +0.9**
GRF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
GRF Grafenberg Arr 76.36 319 *e*P **P 00 32 21.5 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
NB2 NORSAR Subarra 76.51 330 P **P 00 32 20.4 -0.8**
comp=Z,1.0nm,0.6s,mb3.9,baz=96,slow=5.3
NB2 NORSAR Subarra 76.51 330 P **P 00 32 20.4 -0.8**
NB2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
NOA NORSAR Array B 76.51 330 P **P 00 32 20.7 -0.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=92,slow=5.7,SNR=9.0
LPG La Plagne 79.58 314 *e*P **P 00 32 38.7 +0.3**
comp=Z,22nm,1.0s,mb4.8
LPG La Plagne 79.58 314 *e*P **P 00 32 38.7 +0.3**
LPG pmax pmax
comp=Z,11nm,1.0s,mb4.7
MAW Mawson 81.13 191 LR LR 01 01 11.7
comp=Z,144nm,19.4s,MS4.3,baz=250,slow=30
IMA Indian Mountai 89.43 22 *e*P **P 00 33 28.6 +1.1**
comp=Z,27nm,1.1s,mb5.5
RES Resolute Bay 94.53 2 *e*P **P 00 33 51.0 +0.2**
comp=Z,6.1nm,0.9s,mb5.0
INK Inuvik 94.55 16 P **P 00 33 51.7 +0.7**
comp=Z,0.8nm,0.5s,mb4.4,baz=321,slow=1.3,SNR=9.0
INK Inuvik 94.55 16 P **P 00 33 51.7 +0.7**
VNDA Vanda 96.07 168 P **P 00 33 58.7 +0.8**
comp=Z,0.6nm,0.6s,mb4.2,baz=327,slow=5.7,SNR=6.4
VNDA LR LR 01 10 01.9
comp=Z,102nm,20.6s,MS4.3,baz=272,slow=31
VNDA Vanda 96.07 168 P **P 00 33 58.7 +0.8**
VNDA LR LR 01 10 01.9
YKA Yellowknife Ar 103.89 13 Pdiff Pdif 00 34 36.6 +3.4
comp=Z,0.2nm,0.6s,baz=325,slow=4.2,SNR=7.7
YKA PP PP 00 38 44.8 -8.1
comp=Z,0.2nm,0.7s,baz=336,slow=7.6,SNR=3.1
PDAR Pinedale Array 122.90 19 PKP PKPdf 00 39 28.4 -2.7
comp=Z,0.7nm,0.6s,baz=90,slow=1.5,SNR=6.7
TXAR Lajitas Array 137.06 21 PKP PKPdf 00 39 57.3 -1.0
comp=Z,0.7nm,0.5s,baz=240,slow=0.2,SNR=12
TXAR PP PP 00 42 39.3 -1.7
comp=Z,0.4nm,0.8s,baz=346,slow=5.2,SNR=4.7
PLCA Paso Flores 146.75 203 PKPbc PKPbc 00 40 15.9 +4.3
comp=Z,2.2nm,0.7s,baz=171,slow=4.0,SNR=4.7
CFAA Coronel Fontan 152.85 218 PKPbc PKPdf 00 40 28.5 +3.7
comp=Z,0.2nm,0.4s,baz=73,slow=4.0,SNR=2.7

IDC 31 00:30:32.1±12.0, 11.41N×92.93E, mb3.4/3, mb1 3.6/3, mb1mx3.2/19, mbtmp3.4/3, Error ellipse: s-maj=662.2km s-min=29.9km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**36.40**	**348**	P	P	00 37 38.1	-1.9
	0.2nm,0.5s,baz=168,slow=7.8,SNR=4.6						
WRA	**Warramunga Arr**	**51.30**	**127**	P	P	00 39 38.6	-1.8
	0.3nm,0.7s,baz=308,slow=7.9,SNR=4.7						
ASAR	**Alice Springs**	**53.11**	**131**	P	P	00 39 51.5	-2.5
	0.3nm,0.6s,baz=308,slow=7.1,SNR=4.6						

*NEIC **31** 00:37:46.5±0.9, 0.02S×96.65E, h30km, mb4.2/2, Error ellipse: s-maj=39.5km s-min=12.6km az=51.0*
*IDC **31** 00:37:46.5±1.2, 0.06S×96.63E, h29km±6km, mb3.7/11, mb1 3.9/11, mb1mx3.7/17, mbtmp3.9/11, Error ellipse: s-maj=49.4km s-min=16.4km az=50.0*
ISC 31 00:37:45.0±0.9, 0.1N±0.2×96.8E±0.2, h29km, h29km±.6km: pP-P, n18, σ0§50/14, mb3.9/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.84**	**121**	P	P	**00 45 34.5**	**+0.1**
	1.7nm,1.1s,mb3.6,baz=304,slow=8.7,SNR=5.0						
WRA				pP	pP	00 45 42.9	-0.3
	2.2nm,0.9s,baz=300,slow=9.1,SNR=6.9						
WRAB	**Tennant Creek**	**41.85**	**121**	P	pP	00 45 42.5	-0.8
	7.4nm,1.0s						
ASAR	**Alice Springs**	**43.10**	**126**	P	P	**00 45 44.4**	**-0.3**
	0.2nm,0.3s,mb3.3,baz=290,slow=7.5,SNR=2.4						
ASAR				pP	pP	00 45 53.1	-0.3
	0.5nm,0.6s,baz=300,slow=7.9,SNR=4.9						
MKAR	**Makanchi Array**	**48.20**	**347**	P	P	**00 46 25.4**	**+0.4**
	2.2nm,0.7s,mb4.3,baz=157,slow=8.0,SNR=31						
MKAR				pP	pP	00 46 34.6	+0.8
	0.9nm,0.7s,baz=153,slow=8.1,SNR=3.7						
SONM	**Songino Array**	**48.28**	**9**	P	P	**00 46 25.9**	**+0.4**
	1.3nm,0.7s,mb4.1,baz=189,slow=8.0,SNR=11						
KURK	**Kurchatov**	**52.74**	**346**	P	P	**00 46 58.5**	**-1.0**
	1.9nm,0.9s,mb4.0						
STKA	**Stephens Creek**	**52.96**	**131**	pP	pP	00 47 10.1	-0.2
	2.3nm,0.9s,baz=0.6,slow=4.2,SNR=3.0						
STKA	**Stephens Creek**	**52.96**	**131**	P	pP	00 47 10.2	-0.1
ZAL	**Zalesovo**	**54.57**	**351**	P	P	**00 47 12.3**	**-0.6**
	3.2nm,0.4s,mb4.8,baz=24,slow=6.5,SNR=7.1						
ZAL	**Zalesovo**	**54.57**	**351**	P	P	**00 47 12.3**	**-0.6**
BRTR	**Keskin Array B**	**69.53**	**313**	P	P	**00 48 52.8**	**-0.5**
	0.6nm,0.8s,mb3.6,baz=90,slow=7.2,SNR=3.4						
AKASG	**Malin Array Be**	**75.86**	**323**	P	P	**00 49 30.1**	**-0.4**
	0.9nm,0.5s,mb3.9,baz=92,slow=5.1,SNR=7.0						
FINES	**FINESS Array B**	**80.77**	**333**	P	P	**00 49 57.3**	**+0.2**
	0.6nm,0.6s,mb3.7,baz=90,slow=5.7,SNR=4.4						
ARCES	**ARCESS Array B**	**83.42**	**340**	P	P	**00 50 11.3**	**+0.7**
	2.3nm,0.8s,mb4.2,baz=90,slow=4.9,SNR=6.5						
GERES	**GERESS Array B**	**85.35**	**319**	P	P	**00 50 21.4**	**+0.6**
	0.3nm,0.7s,mb3.5,baz=79,slow=6.8,SNR=3.9						
NB2	**NORSAR Subarra**	**87.75**	**331**	P	P	**00 50 32.4**	**+0.1**
	0.5nm,0.8s,mb3.8,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**87.75**	**331**	P	P	**00 50 32.9**	**+0.6**
	1.0nm,0.9s,mb4.1,baz=96,slow=4.8,SNR=4.0						
TXAR	**Lajitas Array**	**144.83**	**32**	PKPbc	PKPbc	00 57 21.1	+1.2
	0.4nm,0.6s,baz=268,slow=1.9,SNR=8.0						

*CSEM **31** 00:46:06.3±0.3, 36.75N×24.28W, h10km, ML2.4, Error ellipse: s-maj=7.1km s-min=4.9km az=64.0, After PDA*
*PDA **31** 00:46:06.3±0.8, 36.75N×24.28W, h10km, MD2.9, ML2.4, Error ellipse: s-maj=8.7km s-min=4.6km az=62.0*
SVSA 31 00:46:06.3±0.8, 36.75N×24.28W, h10km, MD2.9, ML2.4, Error ellipse: s-maj=8.7km s-min=4.6km az=62.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSMN	**Pico do Norte,**	**0.68**	**292**	*e*P	Pb	00 46 17.0	-2.8
PSMN				*i* S	Sb	00 46 25.5	-3.5
MIRA	**Miradouro**	**1.30**	**323**	*e*P	Pb	00 46 25.6	-4.9
MIRA				*e*S	Sb	00 46 40.3	-6.8
PCNG	**Congro**	**1.35**	**319**	*e*S	Sb	00 46 42.1	-6.3
	16nm,0.1s						
VIF	**Vila Franca**	**1.36**	**317**	*e*P	Pb	00 46 26.8	-4.6
VIF				*e*S	Sb	00 46 42.4	-6.2
	20nm,0.3s						
PFAD	**Fenais da Ajud**	**1.37**	**323**	*e*P	Pn	00 46 26.5	-5.0
PFAD				*e*S	Sb	00 46 42.3	-6.7
PRCH	**Ribeira Ch**	**1.37**	**316**	*e*S	Sb	00 46 42.2	-6.7
	37nm,0.1s						
MESC	**Monte Escuro**	**1.40**	**318**	*e*P	Pn	00 46 27.3	-4.6
MESC				*e*S	Sb	00 46 43.1	-6.7
LFA	**Lagoa do Fogo**	**1.40**	**317**	*e*P	Pn	00 46 27.8	-4.2
CML	**Cha da Macela**	**1.44**	**316**	*e*P	Pn	00 46 27.6	-4.9
CML				*i* S	Sb	00 46 43.5	-7.4
FAC	**Faja de Cima**	**1.50**	**313**	*e*P	Pn	00 46 28.8	-4.6
FAC				*i* S	Sb	00 46 44.8	-7.9
SET2	**Ginetes**	**1.64**	**312**	*e*P	Pn	00 46 30.6	-4.8

IDC 31 00:51:39.6±8.3, 8.67S×124.98E, h85km±92km, mb3.1/1, mb1 3.4/4, mb1mx3.2/14, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=72.0km s-min=39.5km az=44.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.40**	**176**	P	P	00 53 52.2	-1.8
	0.7nm,0.3s,baz=360,slow=12,SNR=13						
FITZ				S	S	00 55 38.2	-0.6
	1.1nm,0.3s,baz=151,slow=12,SNR=8.0						
WRA	**Warramunga Arr**	**14.41**	**142**	P	P	00 54 57.6	-3.1
	0.2nm,0.3s,baz=319,slow=15,SNR=12						
WRA				S	S	00 57 37.5	-1.2
	0.2nm,0.3s,baz=318,slow=26,SNR=6.3						
ASAR	**Alice Springs**	**17.19**	**151**	P	P	00 55 36.3	+0.5
	0.2nm,0.3s,baz=319,slow=10,SNR=7.0						
ASAR				S	S	00 58 45.3	+2.9
	0.1nm,0.3s,baz=320,slow=20,SNR=4.4						
MKAR	**Makanchi Array**	**67.01**	**330**	P	P	01 02 23.6	-2.2
	0.2nm,0.6s,baz=124,slow=7.7,SNR=3.9						

IDC 31 01:03:04.3±2.4, 18.75S×176.24E, mb4.0/4, mb1 4.3/4, mb1mx3.9/13, mbtmp4.0/4, MS3.4/7, Ms1 3.4/7, ms1mx3.2/32, Error ellipse: s-maj=189.4km s-min=29.4km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.76**	**249**	LR	LR	01 07 45.7	
	comp=Z,106nm,18.1s,baz=33,slow=29						
RAO	**Raoul Island**	**11.73**	**154**	LR	LR	01 09 19.5	
	comp=Z,179nm,19.1s,baz=60,slow=32						
AFI	**Afiamalu**	**12.47**	**69**	LR	LR	01 10 05.8	
	comp=Z,148nm,19.6s,baz=130,slow=34						
HNR	**Honiara**	**18.30**	**298**	LR	LR	01 13 03.0	
	comp=Z,138nm,20.6s,baz=112,slow=33						
RAR	**Rarotonga**	**22.67**	**100**	LR	LR	01 15 02.7	
	comp=Z,99nm,18.1s,baz=276,slow=32						
CTA	**Charters Tower**	**28.30**	**262**	LR	LR	01 17 56.1	
	comp=Z,111nm,21.3s,baz=230,slow=32						
STKA	**Stephens Creek**	**33.78**	**240**	LR	LR	01 21 04.9	
	comp=Z,88nm,19.6s,baz=206,slow=32						
WRA	**Warramunga Arr**	**39.48**	**261**	P	P	01 10 35.6	-2.8
	1.0nm,0.9s,baz=94,slow=8.5,SNR=4.6						
ASAR	**Alice Springs**	**39.66**	**255**	P	P	01 10 39.2	-0.7
	1.8nm,0.8s,baz=83,slow=9.1,SNR=14						
FITZ	**Fitzroy Crossi**	**47.88**	**262**	P	P	01 11 43.8	-2.6
	3.9nm,0.8s,baz=135,slow=10,SNR=3.9						
TXAR	**Lajitas Array**	**90.77**	**59**	P	P	01 16 09.3	-1.8
	0.6nm,1.0s,baz=243,slow=4.0,SNR=2.4						
GERES	**GERESS Array B**	**146.83**	**339**	PKPbc	PKPbc	01 22 48.8	+0.8
	0.1nm,0.4s,slow=1.0,SNR=4.6						

IDC 31 01:03:10.8±3.2, 1.11N×97.03E, mb3.7/4, mb1 3.8/4, mb1mx3.5/19, mbtmp3.7/4, Error ellipse: s-maj=130.7km s-min=27.2km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.13**	**122**	P	P	01 11 05.1	-1.7
	0.4nm,0.5s,baz=302,slow=9.4,SNR=3.8						
SONM	**Songino Array**	**47.24**	**9**	P	P	01 11 45.9	-1.6
	0.6nm,0.6s,baz=188,slow=9.1,SNR=5.3						
MKAR	**Makanchi Array**	**47.29**	**346**	P	P	01 11 46.5	-1.4
	0.9nm,0.5s,baz=161,slow=8.4,SNR=14						
BVAR	**Borovoye Array**	**56.28**	**341**	P	P	01 12 52.2	-3.2
	0.9nm,0.7s,baz=140,slow=8.9,SNR=7.4						

*IDC **31** 01:07:52.7±0.8, 1.01N×97.12E, mb4.2/15, mb1 4.3/15, mb1mx4.2/22, mbtmp4.2/15, Error ellipse: s-maj=44.7km s-min=13.1km az=48.0*
*BJI **31** 01:07:53.4, 0.76N×97.26E, h34km, mB5.4, mb4.9, Ms4.3, Msz4.2*
*NEIC **31** 01:07:56.2±0.5, 1.02N×97.27E, mb4.6/14, Error ellipse: s-maj=18.1km s-min=7.5km az=55.0*
ISC 31 01:07:54.5±0.6, 1.05N±0.09×97.3E±0.1, h22km, h22km±.6km: pP-P, n43, σ1§07/40, mb4.5/33, MS4.1/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**17.38**	**5**	*e*P	P	**01 11 57.0**	**-0.6**
	10nm,0.7s						
PALK	**Pallekele**	**17.65**	**291**	*e*P	P	**01 11 50.8**	**-10**
KMI	**Kunming**	**24.51**	**12**	P	P	**01 13 16.0**	**+2.2**
KMI				AP		01 13 22.0	
KMI				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=N,420nm,15.2s,MS4.2						
KMI				LR	LR		
	comp=E,237nm,12.3s,MS4.2						
KMI				LR	LR		
	comp=Z,428nm,16.7s,MS4.0						
PKI	**Pulchoki**	**28.73**	**338**	*e*P	P	**01 13 56.2**	**+3.5**
DMN	**Daman**	**28.88**	**337**	*e*P	P	**01 13 56.6**	**+2.5**
	comp=Z,13nm,0.8s,mb4.7						
KKN	**Kakani**	**28.98**	**338**	*e*P	P	**01 13 56.8**	**+1.9**
	comp=Z,27nm,1.0s,mb4.9						
LSA	**Lhasa**	**29.09**	**349**	*e*P	P	**01 13 57.3**	**+1.4**
	comp=Z,9.2nm,1.0s,mb4.5						
GKN	**Gorkha**	**29.41**	**337**	*e*P	P	**01 13 59.1**	**+0.2**
	comp=Z,36nm,1.1s,mb5.0						
KOLN	**Koldanda**	**29.63**	**335**	*e*P	P	**01 14 01.3**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0						
ENH	**Enshi**	**31.29**	**21**	*e*P	P	**01 14 13.8**	**-1.7**
	comp=Z,17nm,0.7s,mb5.0						
ENH				*e*pP	pP	01 14 20.3	-1.6
FITZ	**Fitzroy Crossi**	**33.77**	**126**	P	P	**01 14 36.0**	**-1.1**
	comp=Z,4.1nm,0.8s,mb4.4,baz=333,slow=6.4,SNR=4.8						
XAN	**Xi'an**	**34.59**	**17**	P	P	**01 14 42.5**	**-1.6**
XAN				AP	pP	01 14 49.0	-1.5
XAN				AMB	AMB		
	comp=Z,15nm,0.9s,mb4.9						
LZH	**Lanzhou**	**35.39**	**9**	*e*P	P	**01 14 50.5**	**-0.5**
LZH				AP	pP	01 14 56.5	-0.9
LZH				XP	sP	01 15 01.0	+0.8
LZH				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GTA	**Gaotai**	**38.25**	**3**	P	P	**01 15 15.5**	**+0.5**
GTA				AP	pP	01 15 22.0	+0.5
GTA				XP	sP	01 15 25.5	+1.3
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**41.88**	**122**	P	P	**01 15 45.1**	**-0.2**
	comp=Z,1.7nm,0.8s,mb3.8,baz=300,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**41.89**	**122**	*e*P	P	**01 15 45.0**	**-0.4**
	comp=Z,14nm,1.2s,mb4.5						
BJI	**Beijing**	**42.45**	**22**	*e*P	P	**01 15 50.0**	**+0.3**
BJI				AMB	AMB		
	comp=Z,13nm,0.7s,mb4.7						
ASAR	**Alice Springs**	**43.23**	**127**	P	P	**01 15 56.9**	**+0.6**
	comp=Z,2.2nm,0.9s,mb3.9,baz=302,slow=7.6,SNR=14						
AAK	**Ala-Archa**	**46.17**	**337**	P	P	**01 16 19.7**	**+0.1**
	comp=Z,6.7nm,1.2s,mb4.5						
SONM	**Songino Array**	**47.27**	**8**	P	P	**01 16 28.5**	**+0.3**
	comp=Z,5.2nm,0.6s,mb4.7,baz=192,slow=9.4,SNR=31						
SONM				PcP	PcP	01 17 59.6	0.0
	comp=Z,2.0nm,0.7s,baz=198,slow=3.9,SNR=5.7						
ULN	**Ulaanbaatar**	**47.40**	**9**	*e*P	P	**01 16 30.9**	**+1.6**
	comp=Z,4.0nm,0.6s,mb4.5						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	**01 16 29.4**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.6,baz=158,slow=7.8,SNR=69						
MKAR	**Makanchi Array**	**47.41**	**346**	P	P	**01 16 29.4**	**+0.1**
CN2	**Changchun**	**49.40**	**27**	*e*P	P	**01 16 44.5**	**-0.3**
CN2				AMB	AMB		
HIA	**Hailar**	**51.76**	**19**	*e*P	P	**01 17 01.8**	**-0.9**
	comp=Z,9.7nm,0.8s,mb4.8						
KURK	**Kurchatov**	**51.96**	**345**	*e*P	P	**01 17 03.4**	**-0.8**
	comp=Z,6.2nm,0.9s,mb4.5						
KURK				*e*pP	pP	01 17 10.8	0.0
CTA	**Charters Tower**	**52.36**	**116**	P	P	**01 17 09.6**	**+2.0**
	comp=Z,6.3nm,1.1s,mb4.5,baz=300,slow=8.1,SNR=2.3						
CTA	**Charters Tower**	**52.36**	**116**	P	P	**01 17 09.6**	**+2.0**
STKA	**Stephens Creek**	**53.19**	**132**	P	P	**01 17 14.5**	**+0.9**
	comp=Z,3.9nm,0.9s,mb4.4,baz=323,slow=9.7,SNR=6.3						
STKA	**Stephens Creek**	**53.19**	**132**	P	P	**01 17 14.0**	**+0.4**
ZAL	**Zalesovo**	**53.72**	**351**	P	P	**01 17 15.8**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.4,baz=293,slow=6.9,SNR=21						
BVAR	**Borovoye Array**	**56.42**	**341**	P	P	**01 17 35.6**	**-1.3**
	comp=Z,3.0nm,0.8s,mb4.3,baz=135,slow=8.4,SNR=22						
CHKZ	**Chkalovo**	**56.90**	**341**	*e*P	P	**01 17 38.9**	**-1.4**
	comp=Z,9.5nm,0.9s,mb4.8						
CHKZ				*e*pP	pP	01 17 45.1	-1.9
ASF	**Jabal al Asfar**	**64.62**	**305**	P	P	**01 18 32.5**	**-0.6**
	comp=Z,1.4nm,0.8s,mb4.0,baz=139,slow=20,SNR=2.7						
BRTR	**Keskin Array B**	**69.28**	**312**	P	P	**01 19 01.3**	**-1.1**
	comp=Z,0.8nm,0.8s,mb3.7,baz=113,slow=9.4,SNR=5.8						
FINES	**FINESS Array B**	**80.17**	**333**	P	P	**01 20 04.0**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=101,slow=9.7,SNR=5.0						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	P	**01 20 17.9**	**+0.2**
	comp=Z,3.0nm,1.0s,mb4.3,baz=90,slow=2.4,SNR=5.3						
GERES	**GERESS Array B**	**84.98**	**319**	P	P	**01 20 29.7**	**+0.1**
	comp=Z,0.7nm,0.6s,mb4.0,baz=56,slow=4.8,SNR=7.5						
NB2	**NORSAR Subarra**	**87.18**	**331**	P	P	**01 20 39.9**	**-0.2**
	comp=Z,1.2nm,0.7s,mb4.2,baz=97,slow=4.8						
NOA	**NORSAR Array B**	**87.18**	**331**	P	P	**01 20 40.2**	**+0.1**
	comp=Z,1.2nm,0.8s,mb4.2,baz=94,slow=4.8,SNR=8.0						
PDAR	**Pinedale Array**	**130.14**	**26**	PKP	PKPdf	01 27 05.0	-2.8
	comp=Z,0.2nm,0.3s,baz=350,slow=5.5,SNR=3.4						
TXAR	**Lajitas Array**	**143.75**	**32**	PKP	PKPdf	01 27 28.3	-4.7
	comp=Z,0.4nm,0.6s,baz=94,slow=2.2,SNR=4.7						
LRAL	**Lakeview Retre**	**145.86**	**6**	*e*PKPdf	PKPdf	01 27 33.3	-3.3

*IDC **31** 01:11:52.5±2.2, 0.92N×97.01E, h21km±5km, mb3.7/7, mb1 3.8/7, mb1mx3.5/19, mbtmp3.8/7, Error ellipse: s-maj=107.0km s-min=16.2km az=56.0*
*NEIC **31** 01:11:54.6±0.8, 1.09N×97.30E, h30km, mb4.1/2, Error ellipse: s-maj=21.6km s-min=10.7km az=63.0*
ISC 31 01:11:51.3±1.0, 1.1N±0.1×97.2E±0.2, h22km, h22km±1.3km: pP-P, n11, σ0§53/11, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.40**	**39**	*e*Pn	Pn	**01 13 12.4**	**-0.2**
WRA	**Warramunga Arr**	**41.95**	**122**	P	P	**01 19 42.1**	**-0.4**
	0.5nm,0.8s,mb3.2,baz=301,slow=8.9,SNR=4.7						
WRA				pP	pP	01 19 49.8	+0.7
	0.6nm,0.6s,baz=300,slow=9.0,SNR=3.8						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	**01 19 54.3**	**+0.7**
	0.3nm,0.7s,mb3.1,baz=297,slow=8.1,SNR=4.2						
SONM	**Songino Array**	**47.24**	**8**	P	P	**01 20 25.4**	**+0.6**
	0.5nm,0.3s,mb3.9,baz=207,slow=9.7,SNR=5.7						
SONM				PcP	PcP	01 21 55.2	-1.0
	0.5nm,0.5s,baz=162,slow=4.6,SNR=3.5						
MKAR	**Makanchi Array**	**47.36**	**346**	P	P	**01 20 26.5**	**+0.8**
	1.4nm,0.9s,mb3.9,baz=157,slow=8.2,SNR=6.2						
MKAR				pP	pP	01 20 33.3	+1.0
	1.0nm,0.8s,baz=153,slow=7.1,SNR=5.9						
ULN	**Ulaanbaatar**	**47.37**	**9**	*e*P	P	**01 20 25.7**	**0.0**
	2.3nm,1.1s,mb4.0						
KURK	**Kurchatov**	**51.91**	**345**	*e*P	P	**01 21 00.3**	**-0.2**
	2.4nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.25**	**132**	P	P	**01 21 10.6**	**-0.3**
	1.4nm,0.6s,mb4.1,baz=333,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**53.25**	**132**	*e*P	P	**01 21 10.6**	**-0.3**
ZAL	**Zalesovo**	**53.67**	**351**	P	P	**01 21 13.7**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=257,slow=1.9,SNR=3.7						
ZAL				pP	pP	01 21 19.7	-0.6
	0.9nm,0.4s,baz=284,slow=7.1,SNR=2.3						
BVAR	**Borovoye Array**	**56.37**	**341**	P	P	**01 21 32.2**	**-1.0**
	0.6nm,0.8s,mb3.6,baz=143,slow=7.2,SNR=4.2						
BVAR				pP	pP	01 21 38.3	-1.6
	0.4nm,0.6s,baz=141,slow=9.2,SNR=3.8						

*IDC **31** 01:17:48.5±0.4, 4.94N×95.65E, mb4.5/24, mb1 4.6/24, mb1mx4.6/28, mbtmp4.5/24, MS3.5/2, Ms1 3.5/2, ms1mx3.1/33, Error ellipse: s-maj=19.1km s-min=10.4km az=57.0*
*NEIC **31** 01:17:53.3±0.3, 4.83N×95.54E, h30km, mb4.6/20, Error ellipse: s-maj=10.8km s-min=5.4km az=223.0*
*BJI **31** 01:17:53.2, 4.80N×95.50E, h28km, mB4.9, mb4.5, Ms4.7, Msz4.0*
ISC 31 01:17:52.2±0.3, 4.72N±0.05×95.48E±0.05, h33km, (h26km±7.1km: pP-P), n111, σ1§39/111, mb4.6/54, MS4.0/8, 4C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.18**	**84**	*e*Pn	Pn	**01 19 08.0**	**-1.6**
SNG	**Songkhla**	**5.67**	**64**	P	P	**01 19 18.0**	**+1.8**
	580nm,1.0s						
NNT	**Nongplab**	**8.88**	**28**	P	P	**01 20 03.5**	**+2.3**
CM31	**Chiang Mai Arr**	**14.07**	**14**	P	P	**01 21 15.5**	**+4.1**
	36nm,0.9s						
CHG	**Chiang Mai**	**14.41**	**13**	P	P	**01 21 22.4**	**+6.4**
NANT	**Nan**	**14.89**	**20**	⇓P	P	**01 21 25.0**	**+2.7**
	90nm,1.0s						
PALK	**Pallekele**	**14.91**	**281**	*e*P	P	**01

HHC SCS ScS 01 35 19.0 -1.7
HHC AMB AMB
comp=Z,10.0nm,0.5s,mb4.8
HHC AMB AMB
comp=Z,93nm,3.7s
HHC LR LR
comp=N,346nm,18.4s,MS4.6
HHC LR LR
comp=E,811nm,19.0s,MS4.6
HHC LR LR
comp=Z,247nm,21.4s,MS4.0
WMQ Urumqi 39.54 351 *eP* **P 01 25 21.0 -0.8**
WMQ AP pP 01 25 30.5 -1.0
WMQ PP PP 01 26 56.0 -0.5
WMQ PCP PcP 01 27 29.0 -0.5
WMQ *eS* **S 01 31 20.0 -1.9**
WMQ XS 01 31 36.0
WMQ AMB AMB
comp=Z,8.0nm,0.9s,mb4.5
WMQ AMB AMB
comp=Z,92nm,3.7s
WMQ LR LR
comp=N,438nm,22.1s,MS4.5
WMQ LR LR
comp=E,721nm,20.4s,MS4.5
WMQ LR LR
comp=Z,393nm,22.8s,MS4.2
BJI Beijing 39.81 25 *eP* **P 01 25 25.0 +1.0**
BJI S **S 01 31 23.3 -2.7**
BJI AMB AMB
comp=Z,16nm,0.9s,mb4.8
BJI LR LR
comp=N,240nm,15.7s,MS4.2
BJI LR LR
comp=E,175nm,17.4s,MS4.2
BJI LR LR
comp=Z,57nm,30.4s
UCH Uchtor 41.76 336 P **P 01 25 40.1 -0.1**
SNR=11
KBK Karagaybulak 41.95 337 P **P 01 25 42.2 +0.5**
SNR=7.2
AML Almayashu 42.01 336 P **P 01 25 42.4 +0.2**
SNR=16
AAK Ala-Archa 42.11 337 P **P 01 25 44.7 +1.7**
SNR=7.0
AAK Ala-Archa 42.11 337 *eP* **P 01 25 42.0 -1.0**
comp=Z,8.8nm,0.9s,mb4.4
EKS2 Erkin-Say 42.42 336 P **P 01 25 46.5 +1.0**
SNR=12
USP Ospenovka 42.64 337 P **P 01 25 46.9 -0.5**
SNR=12
NWAO Narrogin (SRO) 42.75 153 P **P 01 25 48.8 +0.3**
comp=Z,15nm,0.7s,mb4.8,baz=322,slow=8.3,SNR=7.8
MKAR Makanchi Array 43.44 347 P **P 01 25 52.0 -1.8**
comp=Z,2.5nm,0.6s,mb4.1,baz=166,slow=7.1,SNR=24
MKAR S **S 01 32 19.7 +0.2**
comp=Z,0.2nm,0.4s,baz=183,slow=22,SNR=3.5
MKAR LR LR 01 46 50.4
comp=Z,90nm,21.0s,MS3.6,baz=90,slow=40
MKAR Makanchi Array 43.44 347 P **P 01 25 52.0 -1.8**
MKAR S **S 01 32 19.7 +0.2**
MKAR LR LR 01 46 50.4
SONM Songino Array 43.97 11 P **P 01 25 59.3 +1.3**
comp=Z,0.8nm,0.5s,mb3.7,baz=188,slow=8.7,SNR=6.5
SONM PcP PcP 01 27 46.6 +2.6
comp=Z,3.0nm,0.5s,baz=191,slow=3.8,SNR=16
WRA Warramunga Arr 45.38 124 P **P 01 26 09.0 -0.8**
comp=Z,24nm,0.8s,mb5.1,baz=302,slow=9.2,SNR=40
WRAB Tennant Creek 45.39 124 *eP* **P 01 26 08.9 -0.9**
comp=Z,51nm,0.9s,mb5.3
WB2 Warramunga Arr 45.39 124 *eP* **P 01 26 08.9 -1.0**
ASPA Alice Springs 46.90 129 *eP* **P 01 26 21.2 -0.5**
ASAR Alice Springs 46.90 129 P **P 01 26 21.1 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=299,slow=7.9,SNR=35
FORT Forrest 47.06 141 *eP* **P 01 26 22.8 -0.1**
comp=Z,342nm,0.6s
KURK Kurchatov 47.97 346 *eP* **P 01 26 28.2 -1.5**
comp=Z,4.6nm,0.7s,mb4.6
MDJ Mudanjiang 49.72 32 P **P 01 26 41.0 -2.3**
MDJ AMB AMB
comp=Z,8.0nm,2.1s,mb4.4
MDJ AMB AMB
comp=Z,95nm,6.4s
MDJ LR LR
comp=E,93nm,23.2s,MS3.9
MDJ LR LR
comp=N,121nm,24.4s,MS3.9
MDJ LR LR
comp=Z,53nm,23.2s,MS3.5
ZAL Zalesovo 49.83 352 P **P 01 26 41.9 -2.2**
comp=Z,2.0nm,0.6s,mb4.3,baz=292,slow=7.8,SNR=7.5
BVAR Borovoye Array 52.38 341 P **P 01 27 00.8 -2.5**
comp=Z,4.9nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=22
CHKZ Chkalovo 52.87 342 *eP* **P 01 27 04.8 -2.1**
comp=Z,11nm,0.6s,mb5.0
PMG Port Moresby 53.38 105 P **P 01 27 13.5 +2.2**
comp=Z,6.6nm,0.6s,mb4.8,baz=280,slow=6.1,SNR=3.5
CTA Charters Tower 55.61 118 P **P 01 27 29.4 +1.7**
comp=Z,4.8nm,0.9s,mb4.5,baz=312,slow=9.4,SNR=3.5
CTAO Charters Tower 55.64 118 *eP* **P 01 27 29.2 +1.5**
comp=Z,14nm,1.1s,mb4.9
STKA Stephens Creek 56.99 133 *eP* **P 01 27 39.4 +2.1**
comp=Z,3.0nm,0.6s,mb4.5
STKA Stephens Creek 56.99 133 P **P 01 27 36.4 -0.9**
comp=Z,4.0nm,0.8s,mb4.5,baz=308,slow=7.9,SNR=9.9
STKA Stephens Creek 56.99 133 *eP* **P 01 27 35.6 -1.7**
GNI Garni 57.59 315 P **P 01 27 40.5 -0.9**
comp=Z,0.6nm,0.3s,mb4.1,baz=29,slow=10,SNR=2.2
GNI LR LR 01 55 43.0
comp=Z,31nm,19.2s,MS3.4,baz=326,slow=40
KMBO Kilima Mbogo 58.46 266 P **P 01 27 49.0 +1.2**
comp=Z,1.4nm,0.7s,mb4.1,baz=68,slow=7.3,SNR=8.6
KMBO Kilima Mbogo 58.46 266 *eP* **P 01 27 48.4 +0.6**
comp=Z,2.3nm,0.8s,mb4.3
ARU Arti 59.29 337 P **P 01 27 50.7 -2.4**
comp=Z,3.9nm,0.8s,mb4.5
KIV Kislovodsk 60.54 319 *eP* **P 01 28 02.0 +0.2**
comp=Z,9.8nm,0.9s,mb4.9
ASF Jabal al Asfar 61.06 304 P **P 01 28 04.7 -0.8**
comp=Z,0.6nm,0.4s,mb4.1,baz=152,slow=15,SNR=2.9
MALT Malatya 61.52 311 *eP* **P 01 28 06.2 -2.3**
comp=Z,3.2nm,1.0s,mb4.4
BRTR Keskin Array B 65.49 312 P **P 01 28 33.4 -1.2**
comp=Z,2.7nm,0.8s,mb4.3,baz=130,slow=6.9,SNR=12
HARR Harsova 70.80 316 ⇓P **P 01 29 10.8 +3.3**
HARR Harsova 70.80 316 ⇓P **P 01 29 10.8 +3.3**
AKASG Malin Array Be 71.44 322 P **P 01 29 09.6 -1.7**
comp=Z,1.5nm,0.4s,mb4.2,baz=88,slow=5.5,SNR=5.7
VRI Vrincioaia 71.89 317 ⇑P **P 01 29 17.0 +3.1**
VRI Vrincioaia 71.89 317 ⇑P **P 01 29 17.0 +3.1**
MLR Muntele Rosu 72.35 316 P **P 01 29 16.7 0.0**
comp=Z,7.5nm,0.8s,mb4.7,baz=54,slow=4.6
MLR Muntele Rosu 72.35 316 ⇓P **P 01 29 17.0 +0.4**
MLR Muntele Rosu 72.35 316 ⇓P **P 01 29 17.0 +0.3**
BURAR Bucovina Array 73.27 318 ⇓P **P 01 29 22.6 +0.5**
LBTB Lobatse 73.94 242 P **P 01 29 27.8 +1.3**
comp=Z,9.6nm,0.9s,mb4.7,baz=146,slow=4.6,SNR=9.4
LBTB Lobatse 73.94 242 P **P 01 29 27.8 +1.3**
BOSA Boshof 75.07 239 P **P 01 29 33.9 +0.8**
comp=Z,3.0nm,0.7s,mb4.3,baz=69,slow=7.6,SNR=7.7
KWP Kalwaria 75.28 320 *eP* **P 01 29 32.7 -1.1**
KWP Kalwaria 75.28 320 *eP* **P 01 29 32.7 -1.1**
BZS Buzias 75.36 316 ⇑P **P 01 29 37.5 +3.1**
BZS Buzias 75.36 316 ⇑P **P 01 29 37.5 +3.2**
SUW Suwalki 75.83 325 *eP* **P 01 29 35.9 -0.9**
SUW *e* 01 29 38.5
SUW Suwalki 75.83 325 *eP* **P 01 29 35.9 -0.9**
SUW *e* 01 29 38.5
FINES FINESS Array B 76.10 332 P **P 01 29 37.0 -1.2**
comp=Z,2.4nm,0.7s,mb4.2,baz=89,slow=4.2,SNR=12
FINES FINESS Array B 76.10 332 P **P 01 29 37.0 -1.2**
KAF Kangasniemi 76.19 333 *ep* **P 01 29 36.2 -2.4**
comp=Z,4.8nm,0.8s,mb4.5,baz=127,slow=4.9
OJC Ojcow 77.23 320 *eP* **P 01 29 47.3 +2.5**
ARCES ARCESS Array B 78.66 340 P **P 01 29 51.9 -0.4**
comp=Z,1.3nm,0.4s,mb4.2,baz=73,slow=5.4,SNR=17
SUR Sutherland 79.66 236 P **P 01 29 59.7 +1.2**
comp=Z,4.6nm,0.8s,mb4.5,baz=80,slow=11,SNR=3.6
GERES GERESS Array B 81.05 319 P **P 01 30 06.2 +0.7**
comp=Z,2.8nm,0.6s,mb4.4,baz=101,slow=6.8,SNR=21
KHC Kasperske Hory 81.15 319 *eP* **P 01 30 04.5 -1.5**
PTCC Patocco-Chiusa 81.17 316 *eP* **P 01 30 06.7 +0.5**
ARV Arcevia 81.36 313 *eP* **P 01 30 07.9 +0.7**
MNS Montasola 81.52 312 *eP* **P 01 30 09.4 +1.2**
FVI Forni Avoltri 81.57 316 *eP* **P 01 30 11.2 +2.9**
CLL Collm 81.63 321 P **P 01 30 08.0 -0.5**
HFS Hagfors 81.83 330 P **P 01 30 09.2 -0.1**
comp=Z,3.0nm,0.5s,mb4.5,baz=108,slow=4.7,SNR=20
SFI Santa Sofia 82.16 314 *eP* **P 01 30 13.4 +2.0**
GRA1 Grafenberg Arr 82.71 319 *eP* **P 01 30 18.3 +4.2**
comp=Z,4.0nm,0.8s,mb4.5
GRF Grafenberg Arr 82.71 319 *eP* **P 01 30 18.3 +4.2**
comp=Z,4.0nm,0.8s,mb4.5
RPZ Rata Peaks 82.89 135 P **P 01 30 18.3 +3.2**
comp=Z,12nm,1.0s,mb4.9,baz=354,slow=19,SNR=3.2
NB2 NORSAR Subarra 83.11 331 P **P 01 30 15.3 -0.6**
comp=Z,1.3nm,0.7s,mb4.1,baz=95,slow=5.0
NB2 NORSAR Subarra 83.11 331 P **P 01 30 15.3 -0.6**
comp=Z,1.3nm,0.7s,mb4.1
NOA NORSAR Array B 83.11 331 P **P 01 30 15.1 -0.8**
comp=Z,1.7nm,0.8s,mb4.2,baz=95,slow=4.9,SNR=9.4
DAVOX Davos 83.57 316 P **P 01 30 18.5 0.0**
comp=Z,7.5nm,0.5s,mb5.0,baz=112,slow=5.4,SNR=5.9
LPG La Plagne 85.77 315 *eP* **P 01 30 33.3 +3.7**
comp=Z,14nm,0.8s,mb4.9
URZ Urewera 86.34 129 P **P 01 30 32.5 0.0**
comp=Z,12nm,0.3s,mb5.5,baz=287,slow=7.4,SNR=76
VNDA Vanda 89.59 169 P **P 01 30 53.2 +5.9**
comp=Z,0.7nm,0.8s,mb4.0,baz=314,slow=7.2,SNR=3.1
EKA Eskdalemuir Ar 91.06 326 P **P 01 30 58.6 +4.1**
comp=Z,1.5nm,0.7s,mb4.4,baz=85,slow=6.0,SNR=5.1
SCHQ Schefferville 118.86 348 PKP PKPdf 01 36 41.6 +4.2
comp=Z,1.5nm,0.8s,baz=309,slow=6.5,SNR=3.6
PDAR Pinedale Array 127.57 23 PKP PKPdf 01 36 55.8 +1.2
comp=Z,0.8nm,0.9s,baz=270,slow=1.5,SNR=5.3
ANMO Albuquerque 135.47 26 PKP PKPdf 01 37 16.2 +6.6
comp=Z,1.0nm,0.7s,baz=39,slow=6.5,SNR=3.2
ANMO SKP 01 40 47.5
comp=Z,1.2nm,0.7s,baz=2.2,slow=2.3,SNR=4.4
TXAR Lajitas Array 141.47 27 PKhKP 01 37 18.8
comp=Z,0.4nm,0.5s,baz=339,slow=0.8,SNR=6.0
TXAR PKP PKPdf 01 37 21.9 +1.1
comp=Z,0.4nm,0.5s,baz=315,slow=1.3,SNR=6.3
TXAR SKPbc 01 41 01.1
comp=Z,0.6nm,0.9s,slow=4.5,SNR=3.7
CFAA Coronel Fontan 149.19 208 PKPbc PKPdf 01 37 39.6 +5.9
comp=Z,0.6nm,0.7s,baz=215,slow=1.6,SNR=4.7
SIV San Ignacio 154.39 242 PKPbc PKPdf 01 37 56.8 +15
comp=Z,0.4nm,0.5s,baz=180,slow=1.0,SNR=4.3
SIV PKPab PKPab 01 38 06.6 -0.1
comp=Z,1.1nm,0.6s,baz=132,slow=8.5,SNR=5.6
LPAZ La Paz 160.23 233 PKPab PKPab 01 38 32.8 +1.1
comp=Z,2.0nm,0.7s,baz=78,slow=5.2,SNR=3.9

*NEIC **31** 01:19:53.9±0.4,57.87S×25.29W,h35km,mb4.5/7,Error ellipse: s-maj=18.4km s-min=8.3km az=62.0*
*IDC **31** 01:19:57.5±6.0,57.91S×25.49W,h60km±52km,mb4.1/7, mb1 4.1/8,mb1mx3.8/17,mbtmp4.3/8,ML3.9/1,Error ellipse: s-maj=32.4km s-min=19.5km az=57.0*
ISC 31 01:19:52.5±3.5,57.8S±0.1×25.2W±0.3,h40km±34km,n30,
σ1§12/21,mb4.5/11,1C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**14.94**	**160**	P		**P**		**01 23 21.6**	**-0.5**
VNA2	**Neumayer--Watz**	**15.12**	**157**	P		**P**		**01 23 24.4**	**-0.1**
SNAA	**Sanae**	**16.66**	**155**	P		**P**		**01 23 45.1**	**+1.0**
SNAA				S		**S**		**01 26 34.8**	**-12**
	0.4nm,0.3s,baz=344,slow=18,SNR=2.6								
QSPA	**South Pole Qui**	**32.41**	**180**	⇑*i*P		**P**		**01 26 20.6**	**+0.5**
	7.0nm,0.5s,mb4.8								
PLCA	**Paso Flores**	**33.40**	**281**	P		**P**		**01 26 28.8**	**-0.2**
	0.9nm,0.4s,mb4.1,baz=249,slow=12,SNR=4.1								
PLCA	**Paso Flores**	**33.40**	**281**	*eP*		**P**		**01 26 28.4**	**-0.6**
	4.2nm,0.9s,mb4.4								
CFAA	**Coronel Fontan**	**39.26**	**293**	PcP		PcP		01 29 26.9	-0.8
	0.3nm,0.4s,baz=183,slow=2.9,SNR=5.6								
VNDA	**Vanda**	**44.83**	**182**	P		**P**		**01 28 04.8**	**+1.2**
	2.0nm,0.6s,mb4.2,baz=190,slow=6.5,SNR=19								
BDFB	**Brasilia**	**45.46**	**328**	P		**P**		**01 28 11.2**	**+1.8**
	4.3nm,0.6s,mb4.4,baz=178,slow=4.8,SNR=7.1								
LVC	**Limon Verde**	**47.13**	**299**	P		**P**		**01 28 21.5**	**-1.0**
CASY	**Casey**	**51.85**	**159**	P		**P**		**01 28 55.8**	**-2.3**
	6.7nm,1.1s,mb4.5								
LPAZ	**La Paz**	**52.29**	**304**	P		**P**		**01 29 02.0**	**-0.1**
	1.0nm,0.3s,mb4.2,baz=165,slow=6.3,SNR=9.4								
LPAZ				PcP		PcP		01 30 14.1	+1.1
	0.9nm,0.5s,baz=92,slow=4.8,SNR=3.7								
LPAZ	**La Paz**	**52.29**	**304**	*eP*		**P**		**01 29 01.5**	**-0.6**
	2.1nm,0.7s,mb4.2								
SAML	**Samuel**	**56.83**	**313**	*eP*		**P**		**01 29 33.9**	**-1.4**
	4.8nm,0.5s,mb4.8								
LSZ	**Lusaka**	**58.06**	**66**	*eP*		**P**		**01 29 42.1**	**-1.8**
	4.4nm,1.0s,mb4.4								
DBIC	**Dimbokro**	**66.38**	**22**	P		**P**		**01 30 40.9**	**+1.5**
	2.1nm,0.4s,mb4.5,baz=210,slow=2.7,SNR=6.3								
DBIC				PP		PP		01 33 05.6	-2.2
	8.3nm,1.2s,baz=187,slow=8.1,SNR=3.4								
DBIC	**Dimbokro**	**66.38**	**22**	P		**P**		**01 30 40.9**	**+1.5**
DBIC				PP		PP		01 33 05.6	-2.2
PCRV	**Puerto La Cruz**	**75.03**	**320**	P		**P**		**01 31 32.6**	**+1.0**
	8.0nm,0.4s,mb5.0,baz=172,slow=7.5,SNR=5.9								
SDV	**Santo Domingo**	**76.04**	**314**	P		**P**		**01 31 37.5**	**+0.1**
	1.7nm,0.6s,mb4.2,baz=117,slow=11,SNR=3.7								
SDV	**Santo Domingo**	**76.04**	**314**	*eP*		**P**		**01 31 37.0**	**-0.3**
	2.0nm,0.6s,mb4.2								
STKA	**Stephens Creek**	**89.94**	**169**	P		**P**		**01 32 48.7**	**+0.3**
PDAR	**Pinedale Array**	**122.20**	**300**	PKP	PKPdf			01 38 43.7	+1.2
	0.3nm,0.5s,baz=149,slow=5.3,SNR=3.4								
FINES	**FINESS Array B**	**125.47**	**27**	PKP	PKPdf			01 38 49.8	+1.7
	0.9nm,0.5s,baz=125,slow=1.5,SNR=18								
ARCES	**ARCESS Array B**	**132.21**	**22**	PKP	PKPdf			01 39 02.2	+1.4
	1.7nm,0.7s,baz=135,slow=1.7,SNR=9.0								
ARCES	**ARCESS Array B**	**132.21**	**22**	PKP	PKPdf			01 39 02.2	+1.4
BVAR	**Borovoye Array**	**134.82**	**58**	PKP	PKPdf			01 39 08.2	+2.1
	0.5nm,0.4s,baz=179,slow=4.0,SNR=4.9								
YKA	**Yellowknife Ar**	**138.22**	**316**	PKhKP				01 39 04.4	
	0.2nm,0.5s,baz=121,slow=2.6,SNR=4.2								
YKA				PKP	PKPdf			01 39 13.7	+1.6
	1.6nm,0.5s,baz=130,slow=2.2,SNR=24								
YKA	**Yellowknife Ar**	**138.22**	**316**	PKP	PKPdf			01 39 04.5	-7.7
YKA				PKP	PKPdf			01 39 13.7	+1.6
INK	**Inuvik**	**147.87**	**318**	PKPbc	PKPdf			01 39 33.5	+5.0
	7.3nm,0.7s,baz=84,slow=3.0,SNR=31								
SONM	**Songino Array**	**149.73**	**88**	PKPbc	PKPdf			01 39 39.3	+7.3
	3.2nm,0.4s,baz=220,slow=3.7,SNR=36								

*KRSC **31** 01:22:42.0±0.3,52.97N×154.16E,h524km±9km,ML4.5*
*MOS **31** 01:22:45.2±0.8,53.38N×154.40E,h498km,mb3.5/1,Error ellipse: s-maj=26.3km s-min=19.5km az=62.4*
*NEIC **31** 01:22:46.4±0.7,53.29N×153.77E,h456km±9km,mb4.4/1, Error ellipse: s-maj=14.9km s-min=12.2km az=138.0*
*IDC **31** 01:22:47.2±3.0,53.34N×153.72E,h463km±3km,mb2.9/6, mb1 3.3/8,mb1mx3.0/22,mbtmp3.9/8,Error ellipse: s-maj=27.8km s-min=13.6km az=141.0*
ISC 31 01:22:45.9±0.5,53.26N±0.07×153.9E±0.1,h461km±5km,
n47,σ1§11/65,mb3.2/6,Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
APC	**Apacha**	**1.97**	**99**	*eP*		**P**		**01 23 48.1**	**+0.4**
APC				*eS*		**S**		**01 24 36.4**	**-0.1**
GNL	**Ganaly**	**2.43**	**78**	*i*P		**P**		**01 23 51.3**	**+0.8**
GNL				*i*S		**S**		**01 24 41.8**	**+0.3**
GRL	**Gorelyy**	**2.60**	**104**	*eP*		**P**		**01 23 51.6**	**0.0**
GRL				*eS*		**S**		**01 24 42.6**	**-0.9**
KOK	**Koryaka**	**2.82**	**87**	*eP*		**P**		**01 23 54.2**	**+1.1**
PET	**Petropavlovsk**	**2.85**	**93**	P		**P**		**01 23 53.6**	**+0.3**
PET	**Petropavlovsk**	**2.85**	**93**	*ePN*		**P**		**01 23 54.0**	**+0.7**
PET				*eS*		**S**		**01 24 47.7**	**+1.2**
PET				pmax	pmax				
	comp=Z,64nm,0.6s								
PET				smax					
	comp=N,32nm,0.6s								
PET				smax					
	comp=E,37nm,0.6s								
PET				MLR	MLR				
	comp=Z,100nm,13.0s								
PET	**Petropavlovsk**	**2.85**	**93**	*ePn*		**P**		**01 23 52.9**	**-0.4**
AVH	**Avacha**	**2.88**	**88**	*eP*		**P**		**01 23 54.5**	**+1.0**
AVH				*eS*		**S**		**01 24 47.7**	**+0.8**
RUS	**Russkaya**	**2.89**	**105**	P		**P**		**01 23 53.0**	**-0.6**
RUS				S		**S**		**01 24 43.9**	**-3.1**
RUS	**Russkaya**	**2.89**	**105**	*eP*		**P**		**01 23 53.4**	**-0.2**
RUS				*eS*		**S**		**01 24 45.4**	**-1.6**
SKR	**Severo-Kuril's**	**2.91**	**152**	*eS*		**S**		**01 24 44.5**	**-2.8**
SMAR	**Somma**	**2.92**	**88**	*eP*		**P**		**01 23 53.8**	**0.0**
UGLR	**Uglovaya**	**2.93**	**89**	*eP*		**P**		**01 23 54.8**	**+0.9**
NLC	**Nalytchevo**	**3.25**	**89**	P		**P**		**01 23 56.4**	**+0.1**
NLC				S		**S**		**01 24 50.3**	**-1.5**
NLC	**Nalytchevo**	**3.25**	**89**	*eP*		**P**		**01 23 56.4**	**+0.1**
NLC				*eS*		**S**		**01 24 51.1**	**-0.7**
KII	**Karymskiy**	**3.37**	**74**	P		**P**		**01 23 58.1**	**+0.9**
KII				S		**S**		**01 24 53.1**	**-0.4**
KII	**Karymskiy**	**3.37**	**74**	*eP*		**P**		**01 23 58.0**	**+0.8**
KII				*eS*		**S**		**01 24 53.1**	**-0.4**
SPN	**Mys Shipunski**	**3.66**	**90**	P		**P**		**01 23 58.4**	**-1.1**
SPN				S		**S**		**01 24 53.3**	**-4.4**
SPN	**Mys Shipunski**	**3.66**	**90**	*eP*		**P**		**01 23 58.6**	**-0.9**
SPN				*eS*		**S**		**01 24 54.5**	**-3.2**
ESO	**Esso**	**3.84**	**44**	*eP*		**P**		**01 24 02.0**	**+0.9**
TUMR	**Tumrok**	**4.16**	**58**	*eP*		**P**		**01 24 05.5**	**+1.7**
TUMR				*eS*		**S**		**01 25 06.4**	**+1.0**
KMNR	**Kamenistaya**	**4.44**	**53**	*eP*		**P**		**01 24 05.5**	**-0.8**
SRDR	**Sredinnyy**	**4.53**	**45**	*i*P		**P**		**01 24 08.6**	**+1.4**
MKZ	**Mys Kozlova**	**4.78**	**71**	P		**P**		**01 24 08.0**	**-1.6**
MKZ				S		**S**		**01 25 10.2**	**-5.4**
MKZ	**Mys Kozlova**	**4.78**	**71**	*eP*		**P**		**01 24 09.1**	**-0.5**
MKZ				*eS*		**S**		**01 25 12.9**	**-2.7**
KLY	**Klyuchi**	**4.94**	**49**	P		**P**		**01 24 12.9**	**+1.8**
KBG	**Krutoberegovo**	**5.89**	**56**	*eS*		**S**		**01 25 32.3**	**-2.8**
KBG				Smax					
	comp=Z,110nm,0.4s								
KBTR	**Krutoberegovo**	**5.93**	**57**	P		**P**		**01 24 18.4**	**-2.5**
KBTR				S		**S**		**01 25 29.9**	**-5.9**
KBTR	**Krutoberegovo**	**5.93**	**57**	*eP*		**P**		**01 24 18.6**	**-2.3**
KBTR				*eS*		**S**		**01 25 29.3**	**-6.5**
MA2	**Magadan**	**6.57**	**346**	*ePN*		**P**		**01 24 27.5**	**0.0**
MA2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
MA2	**Magadan**	**6.57**	**346**	*ePn*		**P**		**01 24 27.1**	**-0.4**
	comp=Z,27nm,0.8s								
KAMR	**Kamenskoye**	**11.28**	**30**	*eP*		**P**		**01 25 12.8**	**-5.5**
FX1	**Attu Island--F**	**11.57**	**84**	P		**P**		**01 25 21.6**	**+0.2**
	comp=Z,4.8nm,0.3s,baz=8.1,slow=7.1,SNR=13								
FX1				S		S		01 27 48.8	+23
	comp=Z,1.9nm,0.3s,baz=294,slow=20,SNR=4.2								
FX1	**Attu Island--F**	**11.57**	**84**	*eP*		**P**		**01 25 21.9**	**+0.4**
BILL	**Bilibino**	**15.95**	**17**	P		**P**		**01 26 05.8**	**-1.2**
BILL	**Bilibino**	**15.95**	**17**	P		**P**		**01 26 05.8**	**-1.2**
MAJO	**Matsushiro**	**20.02**	**220**	P		**P**		**01 26 47.2**	**+0.1**
MJAR	**Matsushiro Arr**	**20.02**	**220**	P		**P**		**01 26 48.3**	**+1.2**
MJAR				pmax	pmax				
	comp=Z,1.0nm,0.3s								
MJAR	**Matsushiro Arr**	**20.02**	**220**	P		**P**		**01 26 48.3**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=19,slow=9.8,SNR=3.9								
BOD	**Bodaibo**	**22.81**	**298**	*eP*		**P**		**01 27 11.4**	**-1.4**
INK	**Inuvik**	**35.99**	**37**	P		**P**		**01 29 07.5**	**+0.5**
	comp=Z,1.4nm,0.3s,mb3.9,baz=300,slow=6.7,SNR=15								
MKAR	**Makanchi Array**	**44.70**	**292**	P		**P**		**01 30 15.8**	**-1.7**
MKAR	**Makanchi Array**	**44.70**	**292**	P		**P**		**01 30 15.7**	**-1.7**
	comp=Z,0.1nm,0.5s,mb2.5,baz=48,slow=7.7,SNR=2.9								
YKA	**Yellowknife Ar**	**45.49**	**41**	P		**P**		**01 30 23.4**	**0.0**
	comp=Z,0.7nm,0.6s,mb3.3,baz=301,slow=7.3,SNR=9.8								
PDAR	**Pinedale Array**	**60.61**	**57**	P		**P**		**01 32 12.4**	**+0.3**
	comp=Z,0.3nm,0.6s,mb2.9,baz=333,slow=2.0,SNR=3.2								
TXAR	**Lajitas Array**	**73.91**	**63**	P		**P**		**01 33 34.6**	**+0.7**
	comp=Z,0.2nm,0.5s,mb2.9,baz=288,slow=4.9,SNR=4.0								
ASAR	**Alice Springs**	**78.56**	**199**	P		**P**		**01 33 59.5**	**-0.1**
	comp=Z,1.4nm,0.5s,mb3.7,baz=7.9,slow=4.6,SNR=4.4								

*BJI **31** 01:26:38.5,4.16S×153.11E,h20km,mB5.1,mb4.8,Ms5.1, Msz4.1*
*NEIC **31** 01:26:46.1±0.3,3.85S×152.55E,mb4.9/14,Error ellipse: s-maj=11.7km s-min=6.8km az=94.0*
*IDC **31** 01:26:46.2±0.6,3.93S×152.42E,h34km±3km,mb4.2/12, mb1 4.3/12,mb1mx4.2/15,mbtmp4.4/12,MS3.4/2, Ms1 3.4/2,ms1mx3.1/24,Error ellipse: s-maj=16.9km s-min=12.1km az=102.0*
*HRVD **31** 01:26:46.1±1.4,3.88S×152.78E,h40km±5km,MW5.0/22, Centroid moment Tensor Solution. LP body waves: s20,c26;Mantle waves: s22,c27; Half duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.38±.35; Mθθ-1.33±.24; Mϕϕ1.71±.33; Mrθ0.48±.36; Mθϕ2.99±.27; Mϕr1.16±.50; Best double couple: M₀3.542×10¹⁶ NP1:ϕs78°,δ75°,λ9°. NP2:ϕs346°,δ82°,λ165°. Principal axes: T3.904, Plg16°, Azm301°; N-.722, Plg73°, Azm137°; P-3.179, Plg4°, Azm32°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 31 01:26:44.8±0.4,3.84S±0.04×152.54E±0.06,h34km,
h34km±.4km:pP-P,n51,σ1§00/46,mb4.6/30,MS4.4/2,1C,
New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**7.69**	**224**	Pn		**P**		**01 28 39.0**	**+1.9**
	3.7nm,0.3s,baz=13,slow=9.0,SNR=7.4								
PMG				Sn		**S**		**01 30 05.6**	**+1.6**
	baz=107,slow=14,SNR=1.6								
PMG				LR	LR			01 31 08.9	
	comp=Z,528nm,20.9s,baz=217,slow=35								
PMG	**Port Moresby**	**7.69**	**224**	*ePn*		**P**		**01 28 38.5**	**+1.4**
	42nm,0.8s								
HNR	**Honiara**	**9.22**	**127**	Pn		**P**		**01 29 03.2**	**+4.8**
	18nm,0.3s,baz=239,slow=5.9,SNR=4.1								
HNR				Sn		**S**		**01 30 43.4**	**+1.2**
	12nm,0.3s,baz=163,slow=19,SNR=3.4								
CTA	**Charters Tower**	**17.27**	**200**	P		**P**		**01 30 46.2**	**+1.1**
	0.2nm,0.3s,baz=19,slow=12,SNR=5.0								
CTA				LR	LR			01 35 39.5	
	comp=Z,68nm,20.0s,baz=38,slow=31								
CTA	**Charters Tower**	**17.27**	**200**	P		**P**		**01 30 46.2**	**+1.1**
CTA				LR	LR			01 35 39.5	
CTAO	**Charters Tower**	**17.27**	**200**	*eP*		**P**		**01 30 45.8**	**+0.7**
	22nm,1.2s								
DZM	**Mont Dzumac**	**22.59**	**145**	P		**P**		**01 31 43.2**	**-0.7**
	6.7nm,0.6s,mb4.3,baz=324,slow=14,SNR=8.1								
WRAB	**Tennant Creek**	**23.88**	**226**	*eP*		**P**		**01 31 56.0**	**-0.4**
	31nm,0.7s,mb4

	comp=Z,21nm,1.1s,mb5.1								
CM31				*e*			01 36 33.6		
CM31				*e*			01 36 43.1		
CD2	**Chengdu**	**57.92**	**310**	*e*P	**P**		**01 36 36.3**	**+0.1**	
BTO	**Baotou**	**58.88**	**323**	*e*P	**P**		**01 36 43.3**	**+0.5**	
HIA	**Hailar**	**60.05**	**336**	*e*P	**P**		**01 36 50.7**	**-0.1**	
	comp=Z,8.5nm,1.0s,mb4.7								
MA2	**Magadan**	**63.23**	**359**	P	**P**		**01 37 11.3**	**-0.8**	
	comp=Z,7.5nm,0.5s,mb5.1								
GTA	**Gaotai**	**64.78**	**317**	*e*P	**P**		**01 37 23.0**	**+0.6**	
GTA				AP	pP		01 37 33.3	+0.4	
GTA				XP	sP		01 37 37.8	+1.0	
GTA				AMB	AMB				
	comp=Z,13nm,0.8s,mb5.0								
ULN	**Ulaanbaatar**	**65.04**	**328**	P	**P**		**01 37 24.2**	**+0.2**	
	comp=Z,2.9nm,0.8s,mb4.4								
SONM	**Songino Array**	**65.38**	**328**	P	**P**		**01 37 26.6**	**+0.6**	
	comp=Z,1.8nm,0.7s,mb4.2,baz=143,slow=6.2,SNR=14								
BILL	**Bilibino**	**72.36**	**5**	P	**P**		**01 38 08.6**	**-0.2**	
	comp=Z,15nm,1.0s,mb4.9								
BILL				*e*pP	pP		01 38 19.0	-0.4	
VNDA	**Vanda**	**73.80**	**178**	P	**P**		**01 38 16.2**	**-0.8**	
	comp=Z,1.7nm,0.7s,mb4.1,baz=332,slow=8.3,SNR=6.8								
WMQ	**Urumqi**	**74.86**	**317**	*e*P	**P**		**01 38 24.8**	**+0.9**	
WMQ				PCP	PcP		01 38 38.0	-0.1	
WMQ				PP	PP		01 41 15.0	+1.4	
WMQ				*e*S	S		01 47 52.0	-5.2	
WMQ				AMB	AMB				
	comp=Z,13nm,1.2s,mb4.7								
WMQ				AMB	AMB				
	comp=Z,142nm,5.3s								
WMQ				LR	LR				
	comp=N,651nm,25.8s,MS4.9								
WMQ				LR	LR				
	comp=E,523nm,27.2s,MS4.9								
WMQ				LR	LR				
	comp=Z,474nm,26.5s,MS4.7								
MKAR	**Makanchi Array**	**79.43**	**319**	P	**P**		**01 38 49.4**	**0.0**	
	comp=Z,0.4nm,0.6s,baz=96,slow=8.4,SNR=4.7								
MKAR				pP	pP		01 38 59.8	-0.2	
	comp=Z,4.3nm,1.0s,baz=101,slow=6.2,SNR=13								
ZAL	**Zalesovo**	**80.22**	**326**	P	**P**		**01 38 52.5**	**-1.0**	
	comp=Z,0.8nm,0.3s,mb4.1,baz=77,slow=6.7,SNR=4.0								
ZAL				pP	pP		01 39 03.6	-0.5	
	comp=Z,1.2nm,0.5s,baz=21,slow=3.4,SNR=3.2								
KURK	**Kurchatov**	**82.85**	**322**	P	**P**		**01 39 06.6**	**-0.6**	
	comp=Z,17nm,1.4s,mb4.9								
KURK				*e*pP	pP		01 39 17.4	-0.5	
AAK	**Ala-Archa**	**83.82**	**313**	P	**P**		**01 39 12.3**	**0.0**	
	comp=Z,2.9nm,0.8s,mb4.5								
QSPA	**South Pole Qui**	**86.12**	**180**	*e*P	**P**		**01 39 22.8**	**-0.1**	
	comp=Z,12nm,0.9s,mb5.1								
INK	**Inuvik**	**87.66**	**21**	*e*P	**P**		**01 39 33.4**	**+2.8**	
	comp=Z,9.2nm,0.9s,mb5.0								
CHKZ	**Chkalovo**	**88.28**	**324**	P	**P**		**01 39 32.5**	**-1.4**	
	comp=Z,4.2nm,1.2s,mb4.5								
YKA	**Yellowknife Ar**	**94.70**	**28**	pP	pP		01 40 15.8	+1.4	
	comp=Z,0.3nm,0.7s,baz=271,slow=4.8,SNR=3.2								
PLCA	**Paso Flores**	**120.70**	**143**	PKP	PKPdf		01 45 34.9	+1.2	
	comp=Z,1.1nm,0.7s,baz=225,slow=4.3,SNR=3.6								
GERES	**GERESS Array B**	**123.10**	**329**	PKP	PKPdf		01 45 37.8	-0.4	
	comp=Z,0.2nm,0.4s,baz=297,slow=3.0,SNR=4.5								
CFAA	**Coronel Fontan**	**127.59**	**135**	PKP	PKPdf		01 45 48.0	+0.6	
	comp=Z,0.4nm,0.7s,baz=225,slow=4.3,SNR=7.1								
CFAA				pPKP			01 45 58.5		
	comp=Z,0.5nm,0.9s,baz=193,slow=2.9,SNR=3.9								
CFAA	**Coronel Fontan**	**127.59**	**135**	PKP	PKPdf		01 45 48.0	+0.6	
CFAA				pPKP			01 45 58.5		
LPAZ	**La Paz**	**135.10**	**118**	PKP	PKPdf		01 46 04.1	+2.3	
	comp=Z,1.9nm,0.7s,baz=213,slow=5.5,SNR=7.7								
LPAZ				pPKP			01 46 13.2		
	comp=Z,1.9nm,0.8s,baz=124,slow=9.7,SNR=4.2								
LPAZ				SKP			01 49 34.4		
	comp=Z,2.3nm,1.0s,baz=317,slow=5.3,SNR=4.8								
SDV	**Santo Domingo**	**136.83**	**81**	PKP	PKPdf		01 46 06.3	+1.2	
	comp=Z,1.2nm,0.6s,baz=336,slow=12,SNR=4.2								
SDV				pPKP			01 46 16.6		
	comp=Z,4.8nm,0.8s,baz=179,slow=2.3,SNR=3.6								
SIV	**San Ignacio**	**141.36**	**122**	PKHKP			01 46 07.2		
	comp=Z,0.8nm,0.6s,baz=214,slow=7.9,SNR=5.4								
SIV				SKPbc			01 49 50.9		
	comp=Z,1.2nm,1.0s,baz=297,slow=4.5,SNR=4.5								
BDFB	**Brasilia**	**151.92**	**134**	PKP	PKPdf		01 46 31.2	+0.5	
	comp=Z,1.8nm,0.7s,baz=168,slow=6.1,SNR=3.3								
BDFB				PKPbc	PKPdf		01 46 38.9	+8.2	
	comp=Z,2.5nm,0.4s,baz=309,slow=3.8,SNR=5.1								
BDFB				PKPab	PKPab		01 46 48.4	-0.4	
	comp=Z,10nm,0.8s,baz=223,slow=5.0,SNR=11								

CASC 31 01:29:33.2±1.2, 11.84N×87.19W, h55km±39km, MD3.9, ML3.2, 10C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEON	**Leon**	**0.65**	**27**⇓	*e*P	P	01 29 46.6	+0.1
MIRN	**Miramar**	**0.76**	**38**⇓	*e*P	P	01 29 48.1	0.0
TEL3	**Telica 3**	**0.81**	**25**⇑	*e*P	P	01 29 48.8	+0.2
CNGN	**Cerro Negro**	**0.82**	**36**⇑	*e*P	P	01 29 48.8	0.0
TELN	**Telica**	**0.84**	**25**	*e*P	P	01 29 49.0	-0.1
MOMJ	**Momotombo**	**0.85**	**48**⇑	*e*P	P	01 29 49.0	-0.3
CRIN	**San Cristobal**	**0.87**	**9**⇑	*e*P	P	01 29 50.1	+0.6
XAVN	**Gruta Xavier**	**0.90**	**70**	*e*P	P	01 29 50.4	+0.5
APYN	**Apoyeque**	**0.91**	**64**⇑	*e*P	P	01 29 49.9	-0.1
TICN	**Ticuantepe**	**0.96**	**78**⇑	*e*P	P	01 29 50.8	+0.1
MGAN	**Managua**	**0.97**	**71**⇑	*e*P	P	01 29 50.4	-0.5
MGAN				*e*S	S	01 30 04.1	0.0
	comp=E,559nm,0.2s						
WILN	**Americas 2**	**1.03**	**72**⇑	*e*P	P	01 29 51.2	-0.6
WILN				*e*S	S	01 30 05.9	+0.4
PYTN	**Playitas**	**1.31**	**58**⇑	*e*P	P	01 29 55.3	-0.4
CONN	**Concepcion**	**1.56**	**100**⇑	*e*P	P	01 29 57.6	-1.5
CNCH	**Conchagua**	**1.56**	**336**⇓	*e*P	P	01 29 59.4	+0.2
CNCH				*e*S	S	01 30 18.8	+0.4
BLLM	**Bellamira**	**1.90**	**327**⇓	*e*P	P	01 30 04.1	+0.3
BLLM				*e*S	S	01 30 27.0	+0.5
SNVI	**San Vicente**	**2.39**	**318**	*e*P	P	01 30 11.2	+0.3
SNVI				*e*S	S	01 30 39.0	0.0
LCBS	**La Ceiba**	**2.51**	**316**	*e*P	P	01 30 11.6	-1.0
LCBS				*e*S	S	01 30 42.1	0.0
LFRS	**El Faro**	**2.55**	**314**⇓	*e*P	P	01 30 12.7	-0.4
LFRS				*e*S	S	01 30 42.5	-0.4
BOQS	**Boqueron**	**2.78**	**313**	*e*P	P	01 30 16.4	+0.1
SBLS	**San Blas**	**3.10**	**310**	*e*P	P	01 30 21.0	+0.1
SBLS				*e*S	S	01 30 56.7	-0.2

*ATH **31** 01:31:13.8, 39.62N×20.52E, h28km±4km, MD3.2/4*
*NEIC **31** 01:31:14.3, 39.42N×20.46E, h2km, MD3.1(ATH), After ATH.*
*THE **31** 01:31:14.3, 39.45N×20.23E, h10km, ML3.0*
*CSEM **31** 01:31:14.8±0.2, 39.41N×20.34E, h2km, MD3.3/1, Error ellipse: s-maj=3.8km s-min=2.6km az=61.0*

ISC 31 01:31:13.7±1.0, 39.42N±0.05×20.22E±0.05, h5km±7km, n15, σ1§19/23, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.14**	**37**	*e*Pg	**Pg**	**01 31 16.8**	**+0.2**
KEK	**Kerkira**	**0.44**	**312**	*e*PN	**Pn**	**01 31 25.5**	**-0.7**
KEK				*e*SN	**Sn**	**01 31 34.0**	**-0.6**
SRN	**Sarande**	**0.49**	**340**	*i* Pg	**Pg**	**01 31 25.4**	**+1.9**
SRN				*i* Sg	**Sg**	**01 31 34.8**	**+4.8**
JAN	**Janina**	**0.54**	**64**	*e*PB	**Pb**	**01 31 20.5**	**-4.8**
MEV	**Metsovon**	**0.86**	**65**	*e*Pg	**Pg**	**01 31 29.6**	**-1.3**
MEV				*e*Sg	**Sg**	**01 31 42.0**	**-0.3**
MEV	**Metsovon**	**0.86**	**65**	*e*Pg	**Pg**	**01 31 29.5**	**-1.3**
MEV				*e*Sg	**Sg**	**01 31 42.0**	**-0.3**
VLS	**Valsamata**	**1.27**	**167**	*e*PN	**Pn**	**01 31 40.0**	**+1.8**
VLS	**Valsamata**	**1.27**	**167**	*e*Pb	**Pb**	**01 31 38.2**	**+0.4**
EVR	**Evrytania**	**1.33**	**112**	*e*PN	**Pn**	**01 31 37.2**	**-1.8**
KZN	**Kozani**	**1.48**	**53**	*e*Pn	**Pn**	**01 31 41.4**	**+0.2**
FNA	**Florina**	**1.62**	**33**	*e*Pb	**Pb**	**01 31 42.9**	**-1.0**
FNA				*e*Sb	**Sb**	**01 32 05.8**	**+1.3**
FNA	**Florina**	**1.62**	**33**	*e*Pb	**Pb**	**01 31 42.8**	**-1.0**
FNA				*e*Sb	**Sb**	**01 32 05.8**	**+1.3**
AGG	**Agios Georgios**	**1.69**	**103**	*e*Pb	**Pb**	**01 31 44.0**	**-0.8**
AGG				*e*Sb	**Sb**	**01 32 08.1**	**+1.7**
AGG	**Agios Georgios**	**1.69**	**103**	*e*Pb	**Pb**	**01 31 44.0**	**-0.9**
LIT	**Litokhoron**	**1.88**	**68**	*e*Pb	**Pb**	**01 31 46.7**	**-1.4**
LIT				*e*Sb	**Sb**	**01 32 12.5**	**+0.7**

WEL 31 01:33:02.8±0.8, 35.63S×178.65E, h226km±24km, ML3.6/5, Error ellipse: s-maj=22.0km s-min=17.4km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.95**	**188**	PN	P	01 33 42.4	-0.7
MXZ				SN	S	01 34 12.8	-1.5
PUZ	**Puketiti**	**2.46**	**187**	PN	P	01 33 48.0	-0.3
PUZ				SN	S	01 34 22.2	-1.4
MWZ	**Matawai**	**2.84**	**198**	PN	P	01 33 52.8	+0.3
MWZ				SN	S	01 34 30.9	-0.2
URZ	**Urewera**	**2.90**	**205**	PN	P	01 33 52.8	-0.4
URZ				SN	S	01 34 31.2	-0.9
MRZ	**Mangatainoka R**	**5.57**	**205**	PN	P	01 34 23.3	-2.4
MQZ	**McQueen's Vall**	**9.29**	**208**	SN	S	01 36 49.3	-6.4

*NEIC **31** 01:37:39.7±0.8, 2.64N×96.57E, h30km, mb4.8/1, Error ellipse: s-maj=22.0km s-min=11.3km az=60.0*
*IDC **31** 01:37:39.1±2.4, 2.63N×96.48E, h25km±6km, mb3.7/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.9/6, Error ellipse: s-maj=94.8km s-min=19.3km az=57.0*

ISC 31 01:37:37.6±1.0, 2.6N±0.1×96.5E±0.2, h30km, (h25km±4km: pP-P), n9, σ0§68/9, mb4.0/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.87**	**57**	*e*Pn	**Pn**	**01 38 50.6**	**-0.3**
MBWA	**Marble Bar**	**32.79**	**137**	*e*P	**P**	**01 44 10.4**	**-0.2**
	13nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**43.36**	**123**	P	**P**	**01 45 39.8**	**+0.5**
	0.7nm,0.6s,mb3.5,baz=301,slow=9.3,SNR=7.7						
WRAB	**Tennant Creek**	**43.36**	**123**	P	**P**	**01 45 38.3**	**-1.1**
ASAR	**Alice Springs**	**44.79**	**128**	P	**P**	**01 45 51.6**	**+0.8**
	0.2nm,0.6s,mb3.2,baz=314,slow=7.6,SNR=3.1						
MKAR	**Makanchi Array**	**45.63**	**346**	P	**P**	**01 45 58.2**	**+0.5**
	1.4nm,0.4s,mb4.2,baz=160,slow=8.4,SNR=23						
MKAR				pP	pP	01 46 05.6	-1.1
	1.8nm,0.7s,baz=161,slow=7.9,SNR=9.1						
SONM	**Songino Array**	**45.82**	**9**	P	**P**	**01 45 59.6**	**+0.9**
	0.7nm,0.3s,mb4.0,baz=192,slow=9.5,SNR=9.5						
SONM				pP	pP	01 46 06.7	-1.0
	0.6nm,0.5s,baz=189,slow=8.9,SNR=4.4						
ZAL	**Zalesovo**	**52.03**	**351**	P	**P**	**01 46 46.3**	**-0.3**
	3.2nm,0.4s,mb4.6,baz=311,slow=5.0,SNR=11						
ZAL				pP	pP	01 46 54.0	-1.8
	1.3nm,0.6s,baz=337,slow=3.1,SNR=3.9						
BVAR	**Borovoye Array**	**54.68**	**341**	P	**P**	**01 47 05.2**	**-0.9**
	0.7nm,0.6s,mb3.9,baz=149,slow=8.4,SNR=6.8						

*NEIC **31** 01:39:06.1±0.2, 18.55S×176.01E, h10km, mb5.3/53, MS5.8/6, MW5.7, Error ellipse: s-maj=8.2km s-min=5.0km az=144.0, Moment Tensor Solution. s46 Moment tensor: Scale 10^{17}Nm; M_{rr}=4.38; $M_{\theta\theta}$2.69; $M_{\phi\phi}$1.70; $M_{r\theta}$0.13; $M_{\theta\phi}$2.08; $M_{r\phi}$0.29; Best double couple: $M_0$4.4×10^{17} NP1: ϕ_s54°, δ43°, λ-87°. NP2:ϕ_s230°, δ47°, λ-92°. Principal axes: T 4.35, Plg2°, Azm322°; N .05, Plg2°, Azm232°; P -4.39, Plg87°, Azm97°;*
*HRVD **31** 01:39:06.1±0.1, 18.52S×176.09E, h12km, MW6.0/86, Centroid moment Tensor Solution. LP body waves: s77,c192;Mantle waves: s86,c310; Half duration: 2s3 Moment tensor: Scale 10^{18}Nm; M_{rr}=0.96±.01; $M_{\theta\theta}$0.15±.01; $M_{\phi\phi}$0.80±.01; $M_{r\theta}$-0.19±.03; $M_{\theta\phi}$0.42±.01; $M_{r\phi}$-0.22±.03; Best double couple: $M_0$1.025×10^{18} NP1: ϕ_s201°, δ37°, λ-97°. NP2:ϕ_s31°, δ53°, λ-84°. Principal axes: T 1.046, Plg8°, Azm117°; N -.043, Plg4°, Azm207°; P -1.003, Plg81°, Azm326°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*LDG **31** 01:39:07.9±0.2, 17.76S×175.43E, h10km, Mb5.2/2 Error ellipse: s-maj=21.0km s-min=4.9km az=141.0*
*BJI **31** 01:39:07.9, 17.94S×175.78E, h11km, mB6.1, mb5.2, Ms5.9, Msz5.7*
*MOS **31** 01:39:09.9±1.9, 18.01S×176.35E, h33km, mb5.6/15, MS5.8/19, Error ellipse: s-maj=46.2km s-min=13.5km az=111.9*
*IDC **31** 01:39:15.5±3.4, 18.61S×175.85E, h81km±29km, mb4.6/23, mb1 4.7/26, mb1mx4.7/27, mbtmp5.0/26, MS5.5/4, Ms1 5.5/4, ms1mx5.0/24, Error ellipse: s-maj=14.0km s-min=13.6km az=151.0*

ISC 31 01:39:12.1±1.6, 18.63S±0.05×175.93E±0.04, h67km±14km, h8km±5.5km: pP-P, n417, σ1§03/196, mb5.0/87, 31C-18D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.53**	**247**	*e*P	**P**	**01 41 30.4**	**+1.4**
DZM	**Mont Dzumac**	**9.53**	**247**	P	**P**	**01 41 27.9**	**-1.0**
	0.3nm,0.3s,baz=82,slow=15,SNR=5.5						
DZM				S	**S**	**01 43 23.1**	**+7.7**
	0.2nm,0.3s,baz=8.7,slow=13,SNR=1.6						
NOUC	**Port Laguerre**	**9.67**	**247**	*e*P	**P**	**01 41 31.7**	**+0.9**
RAO	**Raoul Island**	**11.98**	**153**	S	**S**	**01 44 28.7**	**+14**
	21nm,0.3s,baz=253,slow=19,SNR=1.6						
AFI	**Afiamalu**	**12.70**	**70**	P	**P**	**01 42 25.7**	**+14**
	baz=311,slow=17,SNR=3.5						
AFI				S	**S**	**01 44 31.3**	**-0.6**
	baz=174,slow=18,SNR=1.7						
AFI	**Afiamalu**	**12.70**	**70**	P	**P**	**01 42 25.7**	**+14**
HNR	**Honiara**	**17.98**	**298**	P	**P**	**01 43 19.7**	**+0.5**
	11nm,0.3s,baz=116,slow=14,SNR=2.1						
HNR				S	S	01 46 58.8	+25
	2.3nm,0.3s,baz=214,slow=15,SNR=1.5						
HNR	**Honiara**	**17.98**	**298**	P	**P**	**01 43 19.7**	**+0.5**
HNR				S	S	01 46 58.8	+25
URZ	**Urewera**	**19.59**	**177**	P	**P**	**01 43 37.9**	**+0.5**
	1.9nm,0.3s,baz=16,slow=7.6,SNR=27						
URZ				S	**S**	**01 47 19.6**	**+10**
	0.3nm,0.3s,baz=213,slow=17,SNR=2.0						
URZ	**Urewera**	**19.59**	**177**	P*	**P**	**01 43 37.9**	**+0.5**
BFZ	**Birch Farm**	**21.98**	**179**	P*	**P**	**01 44 02.1**	**+0.3**
QRZ	**Quartz Range**	**22.32**	**187**	P*	**P**	**01 44 08.9**	**+3.8**
SNZO	**South Karori**	**22.63**	**182**	*e*P	**P**	**01 44 08.1**	**-0.1**
	215nm,0.9s,mb5.5						
RAR	**Rarotonga**	**22.99**	**100**	P	**P**	**01 44 16.0**	**+4.2**
	20nm,0.8s,mb4.5,baz=286,slow=11,SNR=2.4						
RAR				S	**S**	**01 48 29.8**	**+17**
	8.0nm,0.6s,baz=252,slow=20,SNR=2.2						
RAR	**Rarotonga**	**22.99**	**100**	P	**P**	**01 44 16.0**	**+4.2**
RAR				S	**S**	**01 48 29.8**	**+17**
LTZ	**Lake Taylor**	**24.28**	**187**	P*	**P**	**01 44 24.5**	**+0.4**
RPZ	**Rata Peaks**	**25.35**	**188**	P	**P**	**01 44 34.3**	**-0.1**
	27nm,0.7s,mb4.8,baz=172,slow=2.5,SNR=9.9						
RPZ				S	**S**	**01 49 04.6**	**+11**
	8.4nm,1.0s,baz=1.9,slow=16,SNR=1.8						
JCZ	**Jackson Bay**	**26.08**	**192**	P*	**P**	**01 44 41.5**	**+0.4**
MLZ	**Mavora Lakes**	**27.42**	**192**	P*	**P**	**01 44 51.5**	**-1.9**
CTA	**Charters Tower**	**28.02**	**262**⇓	*i*P	**P**	**01 45 01.7**	**+2.6**
	27nm,1.5s,mb4.6						
CTA	**Charters Tower**	**28.02**	**262**	P	**P**	**01 45 00.0**	**+0.9**
	12nm,1.1s,mb4.4,baz=119,slow=12,SNR=5.4						
CTA				S	**S**	**01 49 43.3**	**+6.2**
	3.0nm,0.8s,baz=65,slow=17,SNR=1.9						
CTAO	**Charters Tower**	**28.02**	**262**	*e*P	**P**	**01 45 00.5**	**+1.3**
	36nm,1.2s,mb4.8						
PMG	**Port Moresby**	**29.34**	**284**	P	**P**	**01 45 11.0**	**+0.1**
	16nm,0.9s,mb4.7,baz=198,slow=14,SNR=3.3						
PMG				S	**S**	**01 50 04.5**	**+6.4**
	9.9nm,0.8s,baz=288,slow=19,SNR=2.0						
PMG	**Port Moresby**	**29.34**	**284**	P	**P**	**01 45 11.6**	**+0.7**
	97nm,1.5s,mb5.2						
TOO	**Toolangi**	**32.61**	**228**	*e*P	**P**	**01 45 40.3**	**+0.8**
	1.8nm,1.5s						
TBI	**Tubuai**	**32.61**	**104**	*e*LQ		01 52 50.4	
TBI				*e*LR	LR	01 54 03.6	
	38μm,30.5s,baz=269						
PPT	**Papeete**	**32.78**	**94**	*e*LQ		01 52 48.2	
PPT				*e*LR	LR	01 54 07.1	
	37μm,26.2s,baz=261						
STKA	**Stephens Creek**	**33.59**	**240**	*e*P	**P**	**01 45 48.2**	**+0.2**
	23nm,0.9s,mb5.0						
STKA				*e*S	**S**	**01 51 12.7**	**+8.2**
STKA	**Stephens Creek**	**33.59**	**240**	P	**P**	**01 45 47.7**	**-0.3**
	19nm,0.8s,mb5.0,baz=70,slow=8.6,SNR=21						
STKA				S	**S**	**01 51 08.8**	**+4.3**
	3.3nm,1.0s,baz=8.1,slow=7.1,SNR=3.1						
TAU	**Tasmania Unive**	**34.21**	**219**	*e*P	**P**	**01 45 52.4**	**-0.8**
	80nm,1.3s,mb5.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADE	**Adelaide**	**36.74**	**236**	P	**P**	**01 46 15.9**	**+1.1**
WB2	**Warramunga Arr**	**39.20**	**261**	*e*P	**P**	**01 46 34.9**	**-0.5**
WB2				*e*		01 48 17.8	
WB2				*e*S	**S**	**01 52 34.9**	**+4.5**
WRAB	**Tennant Creek**	**39.20**	**261**	*e*P	**P**	**01 46 34.4**	**-1.0**
	41nm,0.9s,mb5.3						
WRA	**Warramunga Arr**	**39.21**	**261**	P	**P**	**01 46 34.3**	**-1.2**
	24nm,1.1s,mb4.9,baz=91,slow=8.7,SNR=35						
WRA				PP	PP	01 48 05.9	-4.2
	1.5nm,0.8s,baz=94,slow=9.4,SNR=2.0						
WRA				S	**S**	**01 52 40.5**	**+10**
	1.0nm,1.0s,baz=40,slow=26,SNR=4.9						
ASAR	**Alice Springs**	**39.41**	**255**	P	**P**	**01 46 36.2**	**-0.9**
	19nm,0.6s,mb5.1,baz=86,slow=9.0,SNR=131						
ASAR				PcP	PcP	01 48 43.8	-1.0
	4.6nm,0.7s,baz=102,slow=3.4,SNR=4.6						
ASPA	**Alice Springs**	**39.41**	**255**	*e*P	**P**	**01 46 36.5**	**-0.6**
TAOE	**Nuku Hiva Isla**	**43.66**	**83**	*e*LR	LR	01 59 22.1	
FORT	**Forrest**	**44.84**	**245**	*e*P	**P**	**01 47 21.4**	**-0.1**
	1μm,0.6s						
RKT	**Rikitea**	**45.93**	**104**	*e*P	**P**	**01 47 30.5**	**+0.3**
	34nm,0.9s,mb5.1						
RKT	**Rikitea**	**45.93**	**104**	*e*LR	LR	02 00 13.3	
	29μm,30.0s,baz=268						
FITZ	**Fitzroy Crossi**	**47.60**	**262**	P	**P**	**01 47 43.0**	**-0.5**
	81nm,0.9s,mb5.5,baz=132,slow=5.7,SNR=31						
FITZ				LR	LR	02 06 46.6	
	comp=Z,13μm,18.8s,baz=97,slow=35						
MBWA	**Marble Bar**	**52.67**	**257**	*e*P	**P**	**01 48 21.1**	**-0.9**
	74nm,1.2s,mb5.6						
DRV	**Dumont d'Urvil**	**53.34**	**197**	P	**P**	**01 48 36.0**	**+10**
DRV				S		01 56 24.0	
DRV				SS	SS	01 59 51.0	+20
KLBR	**Kellerberrin**	**53.68**	**244**	*e*P	**P**	**01 48 28.6**	**-0.9**
	3μm,1.6s						
NWAO	**Narrogin (SRO)**	**54.12**	**242**	P	**P**	**01 48 31.8**	**-0.8**
	51nm,1.1s,mb5.5,baz=84,slow=7.5,SNR=8.3						
NWAO				LR	LR	02 10 03.1	
	comp=Z,8μm,21.9s,baz=271,slow=34						
NWAO	**Narrogin (SRO)**	**54.12**	**242**	*e*P	**P**	**01 48 32.0**	**-0.6**
	95nm,1.3s,mb5.7						
CBIJ	**Chichi jima**	**56.00**	**323**	LR	LR	02 10 15.5	
	comp=Z,2μm,21.0s,baz=308,slow=33						
VNDA	**Vanda**	**59.34**	**184**	P	**P**	**01 49 08.6**	**-0.5**
	5.3nm,0.8s,mb4.6,baz=346,slow=7.8,SNR=17						
VNDA	**Vanda**	**59.34**	**184**	*e*P	**P**	**01 49 07.6**	**-1.5**
	34nm,1.4s,mb5.2						
VNDA				*e*PcP	PcP	01 49 56.4	+0.2
SBA	**Scott Base**	**59.43**	**182**	*e*P	**P**	**01 49 09.0**	**-0.7**
	44nm,1.0s,mb5.4						
CASY	**Casey**	**63.25**	**204**	*e*P	**P**	**01 49 34.0**	**-1.6**
JOW	**Kunigami**	**64.64**	**313**	LR	LR	02 13 19.3	
	comp=Z,3μm,21.3s,baz=316,slow=32						
MJAR	**Matsushiro Arr**	**65.42**	**327**	P	**P**	**01 49 49.5**	**-0.7**
	23nm,1.1s,mb4.9,baz=158,slow=6.3,SNR=12						
MAJO	**Matsushiro**	**65.42**	**327**	*e*P	**P**	**01 49 49.5**	**-0.6**
	85nm,1.4s,mb5.4						
MAT	**Matsushiro**	**65.42**	**327**	*e*P	**P**	**01 49 48.0**	**-2.2**
	17nm,1.0s,mb4.8						
MAT				*e*S	S	01 58 34.0	+6.2
MAT				LR	LR		
	comp=Z,2μm,20.0s						
MAT	**Matsushiro**	**65.42**	**327**	P	**P**	**01 49 47.6**	**-2.6**
MAT				S	S	01 58 33.0	+5.2
NACB	**Ninganchiao**	**67.93**	**307**	*e*P	**P**	**01 50 06.3**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**68.16**	**337**	P	**P**	**01 50 04.0**	**-3.2**
YUK				pmax	pmax		
	comp=Z,2μm,4.0s						
YHNB	**Yeheng**	**68.37**	**307**	*e*P	**P**	**01 50 08.7**	**-0.2**
QZH	**Quanzhou**	**70.64**	**306**	P	**P**	**01 50 22.0**	**-0.7**
QZH				AMB	AMB		
	comp=Z,3μm,4.6s						
QZH				LR	LR		
	comp=N,4μm,16.8s						
QZH				LR	LR		
	comp=E,6μm,19.0s						
QZH				LR	LR		
	comp=Z,8μm,20.6s						
FX1	**Attu Island--F**	**71.25**	**

comp=E,710nm,20.6s
DL2 LR LR
comp=Z,1µm,20.0s
WHN Wuhan 76.77 309 P **P** **01 50 59.8 +1.4**
WHN LR LR
comp=N,890nm,17.6s
WHN LR LR
comp=E,5µm,17.4s
WHN LR LR
comp=Z,17µm,25.0s
SNY Shenyang 77.17 323 PR 01 50 58.5
SNY AP pP 01 51 07.3 -11
SNY AMB AMB
comp=Z,750nm,9.1s
SNY LR LR
comp=N,1µm,29.2s
SNY LR LR
comp=E,2µm,22.3s
SNY LR LR
comp=Z,3µm,24.9s
CN2 Changchun 77.41 325 *e*P **P** **01 51 02.3 +0.6**
CN2 *e*XP sP 01 51 11.0 -16
CN2 AMB AMB
comp=Z,70nm,1.2s,mb5.3
CN2 AMB AMB
comp=Z,2µm,4.0s
CN2 LR LR
comp=N,2µm,22.0s
CN2 LR LR
comp=E,2µm,22.0s
CN2 LR LR
comp=Z,3µm,23.0s
TIA Tai'an 77.85 315 *e*P **P** **01 51 03.5 -0.7**
KLR Kul'dur 78.11 332 *e*P **P** **01 51 03.0 -2.4**
KLR *e*S S 02 01 04.0 +11
KLR pmax pmax
comp=Z,650nm,4.0s
KLR pmax pmax
comp=Z,2µm,9.0s
ENH Enshi 80.29 306 *e*P **P** **01 51 18.0 +0.3**
comp=Z,204nm,1.7s,mb5.7
MA2 Magadan 80.59 347 *e*P **P** **01 51 18.4 -0.2**
MA2 *e*PPP PPP 01 56 05.5 -10
MA2 *e*S S 02 01 26.6 +7.9
MA2 *e*PS PS 02 02 09.8 -4.5
MA2 pmax pmax
comp=Z,50nm,2.7s,mb4.9
MA2 MLR MLR
comp=Z,15µm,22.5s
MA2 Magadan 80.59 347 *e*P **P** **01 51 18.4 -0.2**
comp=Z,85nm,1.6s,mb5.3
BJT Baijiatuau 80.59 318 *e*P **P** **01 51 19.5 +0.4**
comp=Z,94nm,1.5s,mb5.4
BJI Beijing 80.60 318 *e*P **P** **01 51 18.8 -0.3**
BJI AMB AMB
comp=Z,36nm,2.2s,mb4.8
BJI AMB AMB
comp=Z,1µm,4.0s
BJI LR LR
comp=N,2µm,25.4s
BJI LR LR
comp=E,1µm,22.8s
BJI LR LR
comp=Z,5µm,30.4s
GYA Guiyang 80.78 302⇑ *i*P **P** **01 51 22.5 +2.2**
GYA AP pP 01 51 26.8 -12
GYA XP sP 01 51 29.5 -17
GYA AMB AMB
comp=Z,30nm,1.2s,mb5.0
GYA AMB AMB
comp=Z,630nm,5.4s
GYA LR LR
comp=N,1µm,19.1s
GYA LR LR
comp=E,2µm,21.8s
GYA LR LR
comp=Z,8µm,25.1s
MAW Mawson 81.32 201 *e*P **P** **01 51 23.7 +1.4**
comp=Z,16nm,1.0s,mb4.8
MAW Mawson 81.32 201 P **P** **01 51 22.8 +0.5**
comp=Z,24nm,1.1s,mb4.9,baz=94,slow=8.1,SNR=10
CMB Columbia Colle 82.12 46 *e*P **P** **01 51 26.5 -0.5**
comp=Z,24nm,1.3s,mb4.9
XAN Xi'an 82.49 310 P **P** **01 51 29.3 +0.3**
XAN AP pP 01 51 38.5 -9.1
XAN AMB AMB
comp=Z,34nm,2.3s,mb4.8
YBH Yreka Blue Hor 82.55 41 P **P** **01 51 29.6 +0.5**
comp=Z,7.1nm,1.1s,mb4.4,baz=247,slow=7.8,SNR=5.2
NANT Nan 82.68 293⇑P **P** **01 51 29.0 -1.3**
comp=Z,175nm,1.0s,mb5.8
HUMO Hull Mountain 82.87 41 *e*P **P** **01 51 31.0 +0.2**
comp=Z,14nm,1.1s,mb4.7
MTUM Tungsten Hills 83.02 47 *e*P **P** **01 51 32.3 +0.6**
WCN Washoe City 83.19 45 *e*P **P** **01 51 31.7 -0.8**
comp=Z,27nm,1.1s,mb5.0
SEY Seymchan 83.37 349 *e*P **P** **01 51 31.0 -1.9**
SEY *e* 01 54 46.8
SEY *e* 02 01 56.1
SEY pmax pmax
comp=Z,60nm,0.8s,mb5.5
KMI Kunming 83.42 299 P **P** **01 51 35.5 +1.6**
KMI AP pP 01 51 38.5 -14
KMI PP PP 01 54 49.5 +1.3
KMI AMB AMB
comp=Z,34nm,2.0s,mb4.8
KMI AMB AMB
comp=Z,821nm,5.7s
KMI LR LR
comp=N,3µm,19.2s
KMI LR LR
comp=E,3µm,21.3s
KMI LR LR
comp=Z,5µm,21.3s
SLKM Skilak Lake 83.47 16 *e*P **P** **01 51 32.7 -0.7**
PAHR Pah Rah Range 83.64 45 *e*P **P** **01 51 35.1 +0.3**
comp=Z,8.3nm,0.8s,mb4.6
MNV Mina 83.84 46 *e*P **P** **01 51 35.5 -0.3**
comp=Z,149nm,2.1s,mb5.5
HIA Hailar 83.92 327 P **P** **01 51 34.7 -1.2**
HHC Hu-ho-hao-te 84.01 317 *e*P **P** **01 51 37.8 +1.2**
HHC AP pP 01 51 41.3 -14
HHC XP sP 01 51 45.5 -17
HHC PP PP 01 54 54.0 +1.4
HHC AMB AMB
comp=Z,30nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,1µm,4.2s
HHC LR LR
comp=N,2µm,22.0s
HHC LR LR
comp=E,2µm,22.0s
HHC LR LR
comp=Z,3µm,24.4s
MOD Modoc 84.17 42 *e*P **P** **01 51 36.7 -0.7**
comp=Z,28nm,1.3s,mb4.9
CHG Chiang Mai 84.23 292⇑P **P** **01 51 40.3 +2.1**
comp=Z,27nm,1.3s,mb4.9
TPH Tonopah 84.30 47 *e*P **P** **01 51 38.2 +0.1**
comp=Z,52nm,1.5s,mb5.1
PMR Palmer 84.67 16 *e*P **P** **01 51 39.2 -0.2**
PMR LR LR
comp=Z,4µm,20.0s
BTO Baotou 84.90 316 *e*P **P** **01 51 42.8 +1.8**
BTO AMB AMB
comp=Z,41nm,3.4s
DIV Divide 85.20 18 *e*P **P** **01 51 41.1 -0.9**
comp=Z,82nm,1.0s,mb5.6
BMN Battle Mountai 85.44 45 *e*P **P** **01 51 43.9 +0.2**
comp=Z,21nm,1.1s,mb5.0
WVOR Wild Horse Val 85.50 42 *e*P **P** **01 51 44.2 +0.2**
comp=Z,24nm,1.1s,mb5.0
CLNS Chul'man 86.41 335 *e*P **P** **01 51 48.5 +0.4**
CLNS *e* 01 55 11.3
CLNS *e*PPP PPP 01 57 04.3 -5.1
CLNS *e*S S 02 02 27.9 +11
CLNS *e*SP SP 02 03 23.0 +5.6
CLNS pmax pmax
comp=Z,1.0nm,0.7s
CLNS pmax pmax
comp=N,4.0nm,0.8s
CLNS pmax pmax
comp=E,2.0nm,0.8s
CLNS pmax pmax
comp=N,3.0nm,0.9s
CLNS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS smax
comp=N,4.0nm,0.8s
CLNS smax
comp=Z,3.0nm,0.8s
CLNS smax
comp=E,5.0nm,1.0s
CLNS MLR MLR
comp=Z,2µm,18.0s
CLNS MLR MLR
comp=N,1µm,19.0s
CLNS MLR MLR
comp=E,400nm,17.0s
TUC Tucson 86.44 54 *e*P **P** **01 51 49.7 +0.9**
comp=E,24nm,1.4s,mb4.9
MCK McKinley 86.52 15 *e*P **P** **01 51 48.8 +0.4**
comp=E,17nm,1.4s,mb4.8
BILL Bilibino 86.70 356⇓ *i*P **P** **01 51 50.6 +1.4**
BILL pmax pmax
comp=Z,39nm,1.8s,mb5.0
BILL Bilibino 86.70 356 *e*P **P** **01 51 48.4 -0.9**
comp=Z,38nm,1.5s,mb5.1
ARUT Antelope Range 86.82 48 P **P** **01 51 51.1 +0.6**
HAWA Hanford 86.96 39⇓ *e*P **P** **01 51 50.9 -0.1**
THY Trims Highway 87.06 16 *e*P **P** **01 51 49.6 -1.5**
LZH Lanzhou 87.13 309⇓ P **P** **01 51 54.0 +1.9**
LZH AP pP 01 51 57.0 -14
LZH PP PP 01 55 20.0 +1.3
LZH AMB AMB
comp=Z,208nm,1.7s,mb5.8
LZH AMB AMB
comp=Z,432nm,4.0s
LZH LR LR
comp=E,8µm,19.5s
LZH LR LR
comp=Z,14µm,21.0s
SYO Syowa Base 87.19 194⇑ P **P** **01 51 52.3 +0.7**
SYO Syowa Base 87.19 194⇑ PcP PcP 01 51 53.1 -0.9
MENT Mentasta 87.24 17 *e*P **P** **01 51 55.2 +3.3**
WUAZ Wupatki 87.34 51 *e*P **P** **01 51 54.1 +1.0**
comp=Z,29nm,1.5s,mb5.0
IMA Indian Mountai 87.49 12 *e*P **P** **01 51 53.7 +0.6**
comp=Z,26nm,1.2s,mb5.0
COLA College 87.73 15 *e*P **P** **01 51 54.1 -0.2**
COLA MLR MLR
comp=Z,4µm,18.0s
MSU Marysvale 88.03 48 *e*P **P** **01 51 57.5 +1.1**
YAK Yakutsk 88.33 340⇑ *i*P **P** **01 51 57.0 -0.2**
YAK pmax pmax
comp=Z,126nm,2.5s,mb5.5
YAK Yakutsk 88.33 340⇑ *i*P **P** **01 51 57.1 -0.1**
DLBC Dease Lake 88.69 25 P **P** **01 51 59.4 +0.4**
comp=Z,6.6nm,1.1s,mb4.6,baz=228,slow=8.1,SNR=4.8
NLU North Lily Min 88.73 47 *e*P **P** **01 51 58.6 -1.1**
HLID Hailey 88.76 43 *e*P **P** **01 52 00.1 +0.4**
comp=Z,45nm,1.8s,mb5.2
HVU Hansel Valley 89.04 45 *e*P **P** **01 52 01.4 +0.3**
TMUT Trail Mountain 89.05 48 *e*P **P** **01 52 02.1 +0.9**
NEW Newport 89.32 38 P **P** **01 52 01.9 -0.3**
comp=Z,7.3nm,1.0s,mb4.7,baz=300,slow=3.7,SNR=6.2
NEW Newport 89.32 38 *e*P **P** **01 52 01.2 -1.0**
comp=Z,64nm,1.9s,mb5.3
DAWY Dawson 89.35 18 *e*P **P** **01 52 01.1 -0.9**
JLU Jordanelle 89.44 47 *e*P **P** **01 52 03.2 +0.2**
SRU San Rafael 89.46 48 *e*P **P** **01 52 03.4 +0.3**
DAU Daniels Canyon 89.49 47 *e*P **P** **01 52 03.7 +0.5**
TCUT Toone Canyon 89.68 46 *e*P **P** **01 52 04.8 +0.7**
HWUT Hardware Ranch 89.78 46 *e*P **P** **01 52 02.8 -1.8**
comp=Z,23nm,1.4s,mb5.1
MAIT Maitri 90.16 185 *e*P **P** **01 51 56.7 -8.9**
NVL N'lazarevskaya 90.16 185⇓ *i*P **P** **01 52 01.7 -3.9**
PV10 Paradox Valley 90.22 49 *e*P **P** **01 52 06.8 +0.2**
-ULN Naanbaatar 90.26 321⇑ *i*P **P** **01 52 04.8 -1.8**
ULN Ulaanbaatar 90.26 321⇓ *e*P **P** **01 52 06.8 +0.2**
comp=Z,11nm,1.0s,mb4.9
VNA3 Neumayer Olymp 90.28 178 *e* **P** **01 52 03.8 -2.4**
VNA3 Neumayer Olymp 90.28 178 *e* **P** **01 52 07.2 +1.0**
VNA3 Neumayer Olymp 90.28 178 *e* **P** **01 52 09.2 +3.0**
VNA3 Neumayer Olymp 90.28 178⇑ *i*P **P** **01 52 02.6 -3.6**
VNA3 *e* 01 52 03.8
VNA3 *e* 01 52 07.2
VNA3 *e* 01 52 09.2
MCMT McKenzie Canyo 90.33 42 *e*P **P** **01 52 07.5 +0.4**
LPM Los Pinos Moun 90.43 54 *e*P **P** **01 52 08.3 +0.5**
MNTX Cornudas Mount 90.43 57 *e*P **P** **01 52 07.8 0.0**
comp=Z,27nm,1.5s,mb5.2
PV01 Paradox Valley 90.46 50 *e*P **P** **01 52 06.4 -1.4**
SONM Songino Array 90.64 321 P **P** **01 52 09.0 +0.6**
comp=Z,3.9nm,1.0s,mb4.5,baz=135,slow=5.2,SNR=19
VNA2 Neumayer--Watz 90.66 179 *e* **P** **01 52 06.5 -1.5**
VNA2 Neumayer--Watz 90.66 179 *e* **P** **01 52 09.2 +1.2**
VNA2 Neumayer--Watz 90.66 179 *e* **P** **01 52 10.5 +2.5**
VNA2 Neumayer--Watz 90.66 179⇑ *i*P **P** **01 52 05.3 -2.7**
VNA2 *e* 01 52 06.5
VNA2 *e* 01 52 09.2
VNA2 *e* 01 52 10.5
RRI2 Red Ridge 90.69 44 *e*P **P** **01 52 09.2 +0.4**
comp=Z,37nm,1.4s,mb5.3
ANMO Albuquerque 90.80 53⇑ *i*P **P** **01 52 08.0 -1.5**
ANMO Albuquerque 90.80 53 P **P** **01 52 10.0 +0.5**
comp=Z,7.3nm,1.1s,mb4.7,baz=218,slow=6.8,SNR=12
ANMO Albuquerque 90.80 53 *e*P **P** **01 52 08.0 -1.5**
comp=Z,16nm,1.3s,mb5.0
TXAR Lajitas Array 90.96 59 P **P** **01 52 11.4 +1.0**
comp=Z,4.9nm,0.9s,mb4.7,baz=222,slow=5.7,SNR=41
TXAR PP PP 01 55 43.3 -6.2
comp=Z,0.3nm,1.0s,baz=260,slow=5.5,SNR=2.5
TXAR PKKPbc 02 09 35.2
comp=Z,0.5nm,0.7s,baz=76,slow=3.7,SNR=5.8
TXAR Lajitas Array 90.96 59 P **P** **01 52 11.4 +1.0**
TXAR PP PP 01 55 43.3 -6.2
TXAR PKKPbc 02 09 35.2
TPAW Teton Pass 90.99 44 *e*P **P** **01 52 10.6 +0.4**
comp=Z,70nm,2.0s,mb5.4
REDW Red Top Meadow 91.00 44 *e*P **P** **01 52 10.2 0.0**
comp=Z,26nm,1.3s,mb5.2
CHMT Chamberlain Mo 91.01 40 *e*P **P** **01 52 09.8 -0.3**
IMW Indian Meadow 91.17 44 *e*P **P** **01 52 11.6 +0.6**
comp=Z,30nm,1.4s,mb5.2
QLMT Earthquake Lak 91.25 43 P **P** **01 52 11.8 +0.5**
LOHW Long Hollow 91.27 44 P **P** **01 52 10.1 -1.4**
comp=Z,71nm,2.1s,mb5.4
GTA Gaotai 91.40 311 *e*P **P** **01 52 14.8 +2.6**
GTA AP pP 01 52 20.0 -11
GTA XP sP 01 52 22.3 -16
GTA AMB AMB
comp=Z,17nm,2.1s,mb4.8
GTA AMB AMB
comp=Z,889nm,6.9s
GTA LR LR
comp=N,1µm,26.1s
GTA LR LR
comp=E,2µm,27.0s
GTA LR LR
comp=Z,4µm,29.4s
GDL2 Guadalupe Moun 91.42 57 *e*P **P** **01 52 12.7 +0.3**
WALA Waterton Lakes 91.57 38 *e*P **P** **01 52 13.4 +0.7**
comp=Z,25nm,1.6s,mb5.2
PDAR Pinedale Array 91.62 45 P **P** **01 52 12.7 -0.4**
comp=Z,3.4nm,1.1s,mb4.5,baz=243,slow=3.3,SNR=9.5
PDAR PP PP 01 55 53.6 -0.9
comp=Z,0.4nm,0.8s,baz=234,slow=7.8,SNR=3.2
PDAR Pinedale Array 91.62 45 P **P** **01 52 12.7 -0.4**
PDAR PP PP 01 55 53.6 -0.9
BOD Bodaibo 91.68 332 *e*P **P** **01 52 10.6 -2.4**
BOD pmax pmax
comp=Z,10.0nm,1.7s,mb4.8
CLNB Carlsbad 91.82 57 *e*P **P** **01 52 14.5 +0.2**
CPRX Cap Rock 92.10 56 *e*P **P** **01 52 15.1 -0.4**
SDCO Great Sand Dun 92.55 51 *e*P **P** **01 52 17.7 +0.2**
comp=Z,16nm,1.3s,mb5.2
ZAK Zakamensk 93.60 322 *e*P **P** **01 52 23.1 +1.2**
ZAK pmax pmax
comp=Z,6.0nm,2.6s,mb4.5
TLY Talaya 93.94 324 *e*P **P** **01 52 27.6 +4.2**
TLY *e* 01 56 08.0
TLY *e*S 02 02 56.3
TLY *e*PS PS 02 04 43.8 -10
TLY *e*SS SS 02 09 57.0 +7.2
TLY pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
TLY MLR MLR
comp=Z,4µm,24.0s
TLY Talaya 93.94 324 *e*P **P** **01 52 24.6 +1.2**
INK Inuvik 94.05 17 P **P** **01 52 22.2 -1.3**
comp=Z,7.4nm,1.2s,mb4.9,baz=234,slow=5.1,SNR=6.0
INK Inuvik 94.05 17 *e*P **P** **01 52 23.4 -0.2**
comp=Z,9.4nm,1.3s,mb5.0
PLCA Paso Flores 94.66 136 P **P** **01 52 27.9 +0.9**
comp=Z,3.4nm,1.0s,mb4.7,baz=278,slow=7.6,SNR=4.7
PLCA Paso Flores 94.66 136 *e*P **P** **01 52 28.0 +1.0**
comp=Z,7.4nm,1.1s,mb5.0
LSA Lhasa 94.67 300 *e*P **P** **01 52 30.6 +3.3**
comp=Z,29nm,1.6s,mb5.5
TIXI Tiksi 95.54 347 *e*P **P** **01 52 28.6 -1.7**
TIXI *e*S 02 03 00.9
TIXI *e*PS PS 02 05 06.4 -4.3
TIXI *e*SS SS 02 10 11.9 +0.2
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
RSSD Black Hills 95.86 45 *e*P **P** **01 52 31.8 -0.5**
comp=Z,10nm,1.1s,mb5.2
WMOK Wichita Mounta 96.66 56 *e*P **P** **01 52 37.1 +0.8**
comp=Z,7.4nm,1.3s,mb5.0
YKA Yellowknife Ar 97.28 26 P **P** **01 52 37.7 -0.7**
comp=Z,0.7nm,0.6s,mb4.2,baz=247,slow=4.4,SNR=13
YKA PP PP 01 56 33.3 -4.9
comp=Z,0.6nm,1.0s,baz=249,slow=7.6,SNR=4.4
YKA Yellowknife Ar 97.28 26 P **P** **01 52 37.7 -0.7**
YKA PP PP 01 56 33.3 -4.9
WMQ Urumqi 101.41 312 *e*P P 01 52 58.5 +1.0
WMQ AP 01 53 03.0
WMQ PP PP 01 57 11.0 +0.7
WMQ PPP PPP 01 59 22.0 +0.3
WMQ AMB AMB
comp=Z,5.0nm,0.7s
WMQ AMB AMB
comp=Z,147nm,4.2s
WMQ LR LR
comp=N,2µm,18.3s
WMQ LR LR
comp=E,3µm,21.0s
WMQ LR LR
comp=Z,3µm,28.0s
MKAR Makanchi Array 105.78 315 Pdiff Pdif 01 53 17.2 +0.5
comp=Z,0.8nm,0.8s,baz=90,slow=6.1,SNR=7.8
MKAR PKiKP 01 57 28.0
comp=Z,0.9nm,0.9s,baz=108,slow=3.8,SNR=4.8
MKAR PKKPbc 02 08 52.8
comp=Z,1.3nm,0.9s,baz=280,slow=3.7,SNR=6.6
MKAR PKKPab 02 09 10.8
comp=Z,1.1nm,0.8s,baz=302,slow=2.5,SNR=5.0
MKAR Makanchi Array 105.78 315 Pdif Pdif 01 53 17.2 +0.5
MKAR PKPdf 01 57 28.0
MKAR PKKPbc 02 08 52.8
MKAR PKKPab 02 09 10.8
BVAR Borovoye Array 113.98 320 PKiKP 01 57 43.8
comp=Z,1.1nm,0.8s,baz=135,slow=4.2,SNR=6.2
ARU Arti 120.41 325 *i* PKIKP PKPdf 01 57 53.7 -2.0
ARU *e* 01 59 23.9
ARU *e* 02 05 02.7
ARU *e*PS PS 02 09 19.4 +5.1
ARU *e*SS SS 02 16 06.5 +19
ARU Arti 120.41 325⇓ *i*PKP PKPdf 01 57 53.9 -1.8
SFJD Kangerlussuaq 123.25 20 *i* P PP 01 59 45.7 -0.9
comp=Z,11nm,1.0s
SFJD *i* 02 06 54.4
SFJD *i* 02 09 26.5
SFJD *i* 02 17 08.4
comp=Z,2µm,20.0s
BDFB Brasilia 124.94 125 PKP PKPdf 01 58 07.7 +2.2
comp=Z,1.8nm,0.8s,baz=95,slow=1.8,SNR=4.3
BOSA Boshof 125.14 212 PKP PKPdf 01 58 07.0 +1.4
comp=Z,5.8nm,1.0s,baz=135,slow=5.7,SNR=3.4
ARCES ARCESS Array B 125.96 348 PKP PKPdf 01 58 07.8 +1.8
comp=Z,3.8nm,0.9s,slow=6.1,SNR=3.7
MAK Makhachkala 130.40 311 *e*PKIKP PKPdf 01 58 22.0 +6.7
MAK *i* 02 00 28.0
MAK pmax pmax
comp=Z,700nm,4.0s
MAK MLR MLR
comp=N,4µm,22.0s
MAK MLR MLR
comp=E,2µm,22.0s
MAK MLR MLR
comp=Z,2µm,22.0s
MOS Moscow 131.47 330 *e*PKIKP PKPdf 01 58 16.3 -0.7
MOS *e* 02 00 35.5
MOS MLR MLR
comp=Z,3µm,22.8s
MOS MLR MLR
comp=N,4µm,23.2s
PUL Pulkovo 132.05 337 *e*PKIKP PKPdf 01 58 17.4 -0.6
FINES FINESS Array B 132.25 341 PKP PKPdf 01 58 18.6 +0.3
comp=N,1.0nm,0.7s,baz=135,slow=2.7,SNR=4.3
OBN Obninsk 132.32 330 *i* PKIKP PKPdf 01 58 21.9 +3.3
OBN *e* 01 58 30.8
OBN *e* 02 00 44.2
OBN pmax pmax
comp=Z,33nm,2.1s
OBN pmax pmax
comp=Z,18nm,1.4s
OBN MLR MLR
comp=Z,3µm,21.0s
TI2 Plekhanov 132.67 310 *e*PKIKP PKPdf 01 58 22.6 +2.9
TI2 *e* 02 00 55.6
GOF Gofitskoye 132.95 315 *e*PKIKP PKPdf 01 58 24.7 +4.6
GOF pmax pmax
comp=Z,80nm,1.7s
ZEI Tsey 133.02 312 *e*PKIKP PKPdf 01 58 24.8 +4.5
ZEI *i* 02 00 45.3
KIV Kislovodsk 133.53 313⇑ *i*PKIKP PKPdf 01 58 22.8 +1.6
KIV *i* SS SS 02 19 11.9 +40
KIV pmax pmax
comp=Z,25nm,2.7s
BHD Baghdad 134.45 299 *e*PKP PKPdf 01 58 18.0 -5.2
KMBO Kilima Mbogo 134.89 249 PKP PKPdf 01 58 27.2 +2.7
comp=Z,2.3nm,1.0s,baz=287,slow=3.0,SNR=8.7
KMBO PP PP 02 00 59.1 -4.3
comp=Z,0.3nm,0.4s,baz=233,slow=22,SNR=3.4
MSL Mosul 135.07 303 *e*PKP PKPdf 01 58 28.0 +3.7
SOC Sochi 135.69 314 *i* PKIKP PKPdf 01 58 24.1 -1.1
SOC *e*PPP PPP 02 04 01.7 -4.4
SOC pmax pmax
comp=Z,14nm,1.0s
SOC pmax pmax
comp=N,11nm,1.2s
SOC pmax pmax
comp=E,12nm,1.1s
NB2 NORSAR Subarra 136.26 349 PKPabc PKPdf 01 58 26.7 +1.0
comp=E,89nm,3.3s,baz=16,slow=3.1
NB2 NORSAR Subarra 136.26 349 PKPa 01 58 26.7
baz=16,slow=3.2
NB2 NORSAR Subarra 136.26 349 PKPab PKPdf 01 58 26.7 +1.0
NOA NORSAR Array B 136.26 349 PKP PKPdf 01 58 26.1 +0.4
comp=E,1.0nm,0.8s,baz=28,slow=1.9,SNR=4.3
HFS Hagfors 136.62 347 PKP PKPdf 01 58 29.7 +3.3
comp=E,1.7nm,0.9s,slow=3.0,SNR=3.8
ANN Anapa 136.76 316 *i* PKIKP PKPdf 01 58 28.6 +1.5
ANN pmax pmax
comp=Z,198nm,11.1s
ANN MLR MLR
comp=N,4µm,25.0s
ANN MLR MLR
comp=E,2µm,25.0s
ANN MLR MLR
comp=Z,3µm,25.0s
AKASG Malin Array Be 138.51 328 PKP PKPdf 01 58 31.2 +1.1
comp=Z,0.3nm,0.2s,baz=50,slow=2.2,SNR=6.2
SIM Simferopol' 138.83 318 *e*PKIKP PKPdf 01 58 28.1 -2.8
SIM *e* 02 01 29.0
SIM *e*PPP PPP 02 04 31.0 +0.9
SIM *i* PPS PPS 02 13 46.0 +4.5
SIM *e*SS SS 02 20 16.0 +42
SIM pmax pmax
comp=Z,100nm,9.0s
BSD Bornholm Skovb 140.81 343⇓ *i*PKHKP 01 58 26.1
BSD *i* 02 01 41.6
BSD pmax pmax
comp=Z,41nm,1.2s
BSD MLR MLR
comp=Z,2µm,22.0s
BSD Bornholm Skovb 140.81 343⇓ *i*P PKPdf 01 58 26.1 -8.0
comp=Z,41nm,1.2s
BSD *i* 02 01 41.6
comp=Z,2µm,22.0s
ASF Jabal al Asfar 140.84 298 PKP PKPdf 01 58 37.9 +3.0
comp=Z,2.3nm,0.7s,baz=325,slow=3.9,SNR=6.2

KIS	**Kishinev**	**140.94**	**324**	*e*PKHKP			01 58 22.0	
KIS				*e*			02 05 46.0	
KIS				MLR	MLR			
	comp=N,2μm,20.0s							
KIS				MLR	MLR			
	comp=E,2μm,20.0s							
KIS				MLR	MLR			
	comp=Z,3μm,20.0s							
KIS				MLR	MLR			
	comp=Z,3μm,20.0s							
MUD	**Monsted U'grnd**	**140.94**	**348**	*i* P		PKPdf	01 58 30.1	-4.2
MUD				*i*			02 01 39.2	
	comp=Z,1μm,21.0s							
COP	**Copenhagen**	**140.95**	**345**	*i* PKIKP		PKPdf	01 58 31.3	-3.0
COP				pmax	pmax			
	comp=Z,21nm,0.8s							
COP				MLR	MLR			
	comp=Z,2μm,22.0s							
COP	**Copenhagen**	**140.95**	**345**	*i* P		PKPdf	01 58 31.3	-3.0
	comp=Z,21nm,0.8s							
COP				*i*			02 02 14.9	
	comp=Z,2μm,22.0s							
BRTR	**Keskin Array B**	**141.32**	**311**	PKhKP			01 58 33.1	
	comp=Z,0.9nm,0.7s,baz=116,slow=3.8,SNR=3.3							
BRTR				PKP		PKPdf	01 58 37.5	+2.0
	comp=Z,1.6nm,0.9s,baz=153,slow=2.8,SNR=5.5							
BRTR				PP		PP	02 01 37.6	-4.4
	comp=Z,0.2nm,0.5s,baz=90,slow=1.4,SNR=2.5							
BHL	**Bhannes**	**141.52**	**301**	*e*P		PKPdf	01 58 31.8	-4.3
BURAR	**Bucovina Array**	**142.50**	**327**	⇑P		PKPdf	01 58 38.1	+0.9
EIL	**Elat**	**142.89**	**295**	*e*PKPdf		PKPdf	01 58 38.9	+0.4
KOLS	**Kolonicke sedl**	**143.04**	**331**	*e*PKP		PKPdf	01 58 44.4	+6.3
BSEG	**Bad Segeberg**	**143.05**	**346**	*e*PKPbc		PKPbc	01 58 35.7	-0.3
OJC	**Ojcow**	**143.16**	**334**	*e*PKP		PKPdf	01 58 36.2	-2.1
EKA	**Eskdalemuir Ar**	**143.35**	**359**	PKhKP			01 58 35.9	
	comp=Z,3.0nm,1.0s,baz=18,slow=2.3,SNR=3.5							
EKA				PKP		PKPdf	01 58 41.0	+2.5
	comp=Z,3.4nm,1.0s,baz=34,slow=5.1,SNR=3.4							
CRVS	**Cervenica-Dubn**	**143.43**	**331**	*e*PKP		PKPdf	01 58 39.2	+0.4
MLR	**Muntele Rosu**	**143.44**	**324**	PKP		PKPdf	01 58 38.5	-0.4
	comp=Z,12nm,1.1s,baz=3.6,slow=4.4,SNR=13							
MLR	**Muntele Rosu**	**143.44**	**324**	⇑P		PKPbc	01 58 38.4	+1.0
MLR	**Muntele Rosu**	**143.44**	**324**	⇑P		PKPbc	01 58 38.4	+0.9
PRD	**Provadia**	**143.90**	**320**	*e*P		PKPbc	01 58 44.0	+5.1
RAC	**Raciborz**	**143.91**	**336**	*e*PKPdf		PKPdf	01 58 39.0	-0.6
KSP	**Ksiaz**	**144.01**	**338**	*e*PKIKP		PKPdf	01 58 38.6	-1.1
KSP				*e*			02 01 53.0	
KSP	**Ksiaz**	**144.01**	**338**	*e*PKP		PKPdf	01 58 38.6	-1.1
KSP				*e*PKPdf		PKPdf	01 58 41.8	+2.1
KSP				*e*PP		PP	02 01 53.0	-4.8
KSP	**Ksiaz**	**144.01**	**338**	*e*PKP		PKPdf	01 58 39.3	-0.4
OKC	**Ostrava-Krasne**	**144.13**	**335**	*e*PKP		PKPdf	01 58 39.6	-0.4
OKC				AMS		AMS	03 04 30.0	
	comp=Z,4μm,23.9s							
ULDT	**Uludag**	**144.30**	**314**	*i* P		PKPbc	01 58 40.8	+0.6
UPC	**Upice**	**144.39**	**338**	*e*PKP		PKPdf	01 58 40.7	+0.3
DPC	**Dobruska-Polom**	**144.41**	**337**	*e*PKP		PKPdf	01 58 40.5	0.0
DPC				AMS		AMS	03 07 20.0	
	comp=Z,3μm,21.1s							
MORC	**Moravsky Berou**	**144.41**	**336**	*e*PKPdf		PKPdf	01 58 40.7	+0.2
CLL	**Collm**	**144.70**	**341**	*i* PKIKP		PKPdf	01 58 41.5	+0.6
CLL				pmax	pmax			
	comp=Z,129nm,1.4s							
CLL	**Collm**	**144.70**	**341**	*i*		PKPbc	01 58 41.5	+0.6
CLL				*i* PKIKP		PKPdf	01 58 43.9	+3.0
CLL				*e*PP		PP	02 02 01.0	-0.9
CLL				*e*SSS		SSS	02 26 18.0	+8.7
SZH	**Strazhica**	**144.75**	**321**	*e*P		PKPdf	01 58 42.5	+1.2
BRG	**Berggiesshubel**	**144.78**	**340**	*i* PKIKP		PKPdf	01 58 42.2	+1.1
BRG				*e*			02 02 02.0	
BRG				pmax	pmax			
	comp=Z,23nm,1.0s							
BRG	**Berggiesshubel**	**144.78**	**340**	*i* PKP		PKPdf	01 58 42.2	+1.1
BRG				*i*			01 58 45.6	
BRG				*e*PP		PP	02 02 02.0	-0.4
JMB	**Yambol**	**144.80**	**319**	*e*P		PKPdf	01 58 43.0	+1.6
PSZ	**Piszkesteto**	**144.86**	**332**	*e*P		PKPdf	01 58 42.0	+0.6
PSZ	**Piszkesteto**	**144.86**	**332**	*e*pPKP/F		PKPdf	01 58 42.0	+0.6
PVCC	**Panska Ves**	**144.87**	**339**	*e*PKP		PKPdf	01 58 42.0	+0.7
PVCC				AMS		AMS	03 07 40.0	
	comp=Z,4μm,22.4s							
VYHS	**Vyhne**	**144.89**	**333**	*e*PKP		PKPdf	01 58 42.8	+1.4
CLZ	**Clausthal**	**144.95**	**344**	*e*PKPbc		PKPbc	01 58 41.9	+0.3
CLZ				*e*PP		PP	02 02 05.8	+2.4
KOLL	**Kolacno**	**145.01**	**334**	*e*PKP		PKPdf	01 58 43.2	+1.6
PVL	**Pavlikeni**	**145.14**	**321**	*e*P		PKPdf	01 58 44.0	+2.0
VRAC	**Vranov**	**145.16**	**336**	PKPbc		PKPbc	01 58 43.7	+1.5
	comp=Z,20nm,1.0s,baz=46,slow=5.1,SNR=26							
DCN	**Croghan**	**145.26**	**3**	*e*P		PKPdf	01 58 42.7	+0.8
PRA	**Prague**	**145.31**	**339**	PKP		PKPdf	01 58 44.0	+2.0
PRU	**Pruhonice**	**145.34**	**339**	*e*PKP		PKPdf	01 58 43.8	+1.7
PRU				AMS		AMS	03 07 50.0	
	comp=Z,3μm,21.9s							
DLF	**Lyons Farm**	**145.35**	**3**	*e*P		PKPdf	01 58 43.3	+1.3
DSB	**Dublin**	**145.40**	**2**	*e*PKPdf		PKPdf	01 58 42.4	+0.3
SMOL	**Smolenice**	**145.46**	**335**	*e*PKP		PKPdf	01 58 44.9	+2.5
BUD	**Budapest**	**145.58**	**332**	*e*P		PKPdf	01 58 47.3	+4.7
BUD	**Budapest**	**145.58**	**332**	*e*pPKP/A		PKPdf	01 58 47.3	+4.7
WTSB	**Winterswijk**	**145.65**	**348**	*e*PKP		PKPab	01 58 44.0	-1.4
	comp=Z,173nm,3.9s							
BZS	**Buzias**	**145.68**	**327**	⇑P		PKPdf	01 58 45.4	+2.6
BZS	**Buzias**	**145.68**	**327**	⇑P		PKPdf	01 58 45.4	+2.6
MOX	**Moxa**	**145.70**	**342**	*e*PKIKP		PKPdf	01 58 44.7	+2.0
MOX				pmax	pmax			
	comp=Z,568nm,2.7s							
MOX	**Moxa**	**145.70**	**342**	*e*PKP		PKPdf	01 58 44.7	+2.0
MOX				*e*			01 59 08.8	
MOX	**Moxa**	**145.70**	**342**	*i* P		PKPdf	01 58 44.7	+2.0
	comp=Z,logA/T=2.3							
MOX				*e*			01 59 09.0	
NKC	**Novy Kostel**	**145.81**	**341**	*e*PKP		PKPdf	01 58 44.7	+1.8
NKC				AMS		AMS	03 07 00.0	
	comp=Z,3μm,22.4s							
PKS7	**Kunszentmiklos**	**145.84**	**331**	⇓*e*P		PKPdf	01 58 47.6	+4.5
ZST	**Bratislava**	**145.85**	**334**	*e*PKIKP		PKPdf	01 58 46.1	+3.1
ZST				*e*			01 58 56.6	
ZST	**Bratislava**	**145.85**	**334**	*e*PKP		PKPdf	01 58 46.1	+3.1
ZST				*e*			01 58 49.7	
ZST				*e*			01 58 56.6	
KDZ	**Kurdzhali**	**145.97**	**319**	*e*P		PKPdf	01 58 46.0	+2.5
PKS6	**Bocsa**	**145.99**	**330**	⇓*e*P		PKPdf	01 58 48.0	+4.7
VKA	**Vienna**	**146.11**	**335**	*e*PKP		PKPdf	01 58 48.0	+4.5
PGB	**Panagyurishte**	**146.22**	**321**	*e*P		PKPdf	01 58 47.0	+3.1
RZN	**Rozhen**	**146.39**	**319**	*e*P		PKPdf	01 58 49.0	+4.8
KHC	**Kasperske Hory**	**146.40**	**339**	*e*PKP2		PKPab	01 58 46.4	-2.0
KHC				MLR	MLR			
	comp=Z,5μm,22.2s							
KHC	**Kasperske Hory**	**146.40**	**339**	*e*PKP		PKPdf	01 58 46.4	+2.4
KHC				*e*pPKP			01 58 53.5	
KHC				AMS		AMS	03 08 30.0	
	comp=Z,5μm,22.2s							
PKS9	**Tamasi**	**146.59**	**332**	*e*P		PKPdf	01 58 48.8	+4.4
GEC2	**GERESS Array S**	**146.60**	**339**	*e*PKP2		PKPab	01 58 47.2	-2.0
GEC2				*e*			02 02 17.3	
GERES	**GERESS Array B**	**146.60**	**339**	PKPbc		PKPbc	01 58 47.5	+1.7
	comp=Z,7.3nm,0.9s,baz=27,slow=3.0,SNR=28							
WET	**Wettzell**	**146.62**	**340**	*e*PKP2		PKPab	01 58 47.7	-1.6
GRA1	**Grafenberg Arr**	**146.66**	**342**	*e*PKPbc		PKPbc	01 58 47.6	+1.8
GRF	**Grafenberg Arr**	**146.66**	**342**	*e*PKP2		PKPab	01 58 47.6	-1.8
BOLS	**Boljevac**	**146.69**	**325**	⇑*i*PKP		PKPdf	01 58 47.5	+2.9
PKSM	**Moragy**	**146.71**	**331**	⇑*e*P		PKPdf	01 58 49.3	+4.7
SVIS	**Svilajnac**	**146.78**	**326**	*e*PKP		PKPdf	01 58 40.4	-4.4
TNS	**Taunus Mts**	**146.92**	**345**	*e*PKP2		PKPab	01 58 48.1	-2.4
HGN	**Heimansgroeve**	**146.96**	**348**	*e*PKP		PKPab	01 58 47.2	-3.4
	comp=Z,177nm,3.2s							
MOA	**Molln**	**147.24**	**337**	⇑*i*P		PKPdf	01 58 49.5	+4.1
	comp=Z,28nm,1.2s							
ARSA	**Arzberg**	**147.25**	**335**	⇑*i*P		PKPdf	01 58 49.4	+4.0
	comp=Z,22nm,1.2s							
KKB	**Krupnik**	**147.28**	**321**	*e*P		PKPdf	01 58 50.0	+4.4
GRUS	**Gruza**	**147.33**	**326**	⇑*i*PKP		PKPdf	01 58 48.5	+2.9
TOD	**Tromm**	**147.41**	**344**	⇓*e*P		PKPdf	01 58 49.2	+3.6
BARS	**Barje**	**147.42**	**323**	⇓*i*PKP		PKPdf	01 58 54.5	+8.6
SIND	**Sindeldorf**	**147.43**	**343**	*e*P		PKPdf	01 58 48.9	+3.3
ABH	**Alteburg**	**147.45**	**346**	⇓*e*P		PKPdf	01 58 49.7	+4.0
SWS	**Schriesheim**	**147.54**	**344**	*e*P		PKPdf	01 58 49.1	+3.3
DIVS	**Divcibare**	**147.56**	**327**	⇑*i*PKP		PKPdf	01 58 49.3	+3.3
KOGS	**Kog**	**147.59**	**333**	*e*PKPbc		PKPdf	01 58 47.0	+1.0
KOGS				*e*PP		PP	02 02 17.2	-2.2
RUP	**Ruppelstein**	**147.73**	**346**	⇓*e*P		PKPdf	01 58 50.4	+4.3
GIVF	**Givet**	**147.80**	**349**	*e*PKP1		PKPdf	01 58 50.6	+4.4
	comp=Z,66nm,1.0s							
KTD	**Kalmit**	**147.85**	**345**	*e*P		PKPdf	01 58 50.0	+3.7
VAY	**Valandovo**	**147.91**	**321**	⇑*i*PKP		PKPdf	01 58 48.2	+1.5
BAIF	**Baives**	**147.95**	**350**	*e*PKP1		PKPdf	01 58 51.1	+4.7
	comp=Z,98nm,1.3s							
HDH	**Heidenheim**	**147.95**	**342**	*e*P		PKPdf	01 58 50.2	+3.7
WLF	**Walferdange**	**147.96**	**347**	*e*PKPdf		PKPdf	01 58 49.3	+2.8
FUR	**Furstenfeldbru**	**148.00**	**340**	*e*PKP2		PKPab	01 58 50.8	-3.9
STU	**Stuttgart**	**148.07**	**343**	*e*PKPbc		PKPdf	01 58 51.1	+4.4
SKO	**Skopje**	**148.18**	**322**	⇑*i*PKP		PKPdf	01 58 49.9	+2.8
KBA	**Koelnbreinsper**	**148.22**	**337**	⇑*i*P		PKPdf	01 58 50.9	+3.9
	comp=Z,16nm,1.2s							
LANF	**Langenberg**	**148.23**	**345**	PKP		PKPab	01 58 49.7	-5.9
OBKA	**Obir**	**148.24**	**335**	⇑*i*P		PKPdf	01 58 55.0	+8.0
	comp=Z,21nm,1.3s							
LBG	**Lerchenberg**	**148.27**	**344**	*e*P		PKPdf	01 58 50.7	+3.7
SISC	**Sisak**	**148.30**	**332**	*i* PKP		PKPdf	01 58 50.0	+2.8
BUCH	**Bad Urach**	**148.32**	**343**	*e*P		PKPdf	01 58 50.8	+3.7
STR	**Strasbourg**	**148.61**	**345**	PKP		PKPab	01 58 54.4	-2.8
LJU	**Ljubljana**	**148.63**	**335**	*e*PKPbc		PKPdf	01 58 51.9	+4.2
LJU				*e*			01 59 18.3	
WATA	**Walderalm**	**148.63**	**339**	⇑*i*P		PKPdf	01 58 50.9	+3.3
	comp=Z,7.7nm,0.9s							
WTTA	**Wattenberg**	**148.67**	**339**	⇓*i*P		PKPdf	01 58 50.8	+3.1
	comp=Z,54nm,1.7s							
BFO	**Black Forest**	**148.70**	**344**	*e*PKP2		PKPab	01 58 52.3	-5.3
BFO				*e*			02 02 29.3	
GUT	**Gutenstein**	**148.73**	**343**	*e*P		PKPdf	01 58 50.8	+3.1
BOJS	**Bojanci**	**148.76**	**333**	*e*PKPbc		PKPdf	01 58 50.7	+2.8
MOTA	**Moosalm**	**148.77**	**340**	⇑*i*P		PKPdf	01 58 53.3	+5.5
	comp=Z,1.0nm,1.2s							
PTCC	**Patocco-Chiusa**	**148.79**	**336**	*e*PKP		PKPdf	01 58 52.2	+4.3
SPAK	**Spaichingen**	**148.79**	**343**	*e*P		PKPdf	01 58 51.0	+3.2
UBR	**Uberruh**	**148.79**	**341**	*e*P		PKPdf	01 58 51.1	+3.2
FVI	**Forni Avoltri**	**148.84**	**337**	*e*PKP		PKPdf	01 58 51.1	+3.2
SQTA	**Sankt Quirin**	**148.85**	**340**	⇓*i*P		PKPdf	01 58 51.5	+3.5
	comp=Z,6.6nm,0.6s							
WLS	**Welschbruch**	**148.87**	**345**	PKP		PKPab	01 58 51.1	-7.2
VOY	**Vojsko**	**148.89**	**335**	*e*PKPbc		PKPdf	01 58 52.2	+4.1
CDF	**Champ du Feu**	**148.89**	**345**	*e*PKP1		PKPdf	01 58 53.5	+5.5
	comp=Z,75nm,1.2s							
LIBD	**Limburg**	**149.05**	**345**	*e*P		PKPdf	01 58 52.3	+4.0
OHR	**Ohrid**	**149.09**	**322**	⇑*i*PKP		PKPdf	01 58 50.9	+2.3
ECH	**Echery**	**149.10**	**345**	PKP		PKPab	01 58 53.7	-5.5
KIZ	**Kirchzarten**	**149.15**	**344**	*e*P		PKPdf	01 58 52.0	+3.6
FELD	**Feldberg**	**149.21**	**344**	*e*P		PKPdf	01 58 52.5	+4.0
DAVA	**Damuels**	**149.21**	**341**	⇑*i*P		PKPdf	01 58 53.7	+5.1
	comp=Z,38nm,1.5s							
MEZF	**Maizieres J'vi**	**149.29**	**348**	*e*PKP1		PKPdf	01 58 54.8	+6.1
	comp=Z,172nm,1.5s							
THEF	**They Montfort**	**149.36**	**347**	PKP		PKPdf	01 58 51.6	+2.8
MOF	**Molkenrain**	**149.45**	**345**	PKP		PKPab	01 58 55.6	-5.1
HAU	**Haudompre**	**149.49**	**346**	*e*PKP1		PKPdf	01 58 54.9	+5.9
HINF	**Hinteralfeld**	**149.55**	**345**	*e*PKP1		PKPdf	01 58 54.8	+5.7
	comp=Z,75nm,1.4s							
STON	**Ston**	**149.61**	**327**	*i* P		PKPdf	01 58 46.7	-2.7
DAVOX	**Davos**	**149.66**	**341**	PKP		PKPdf	01 58 50.6	+1.3
	comp=Z,1.3nm,0.6s,baz=82,slow=7.1,SNR=3.0							
DAVOX				PKPbc		PKPdf	01 58 56.0	+6.7
	comp=Z,8.6nm,0.7s,baz=76,slow=1.5,SNR=19							
BBS	**Basel-Blauen**	**149.71**	**344**	*e*P		PKPdf	01 58 53.1	+3.7
CTI	**Castel Tesino**	**149.72**	**338**	*e*PKP		PKPdf	01 58 54.4	+5.0
BRMO	**Bormio**	**149.78**	**340**	*e*PKP		PKPdf	01 58 53.3	+3.8
FLN	**La Foliniere**	**149.80**	**355**	*e*PKP1		PKPdf	01 58 55.4	+5.9
	comp=Z,96nm,1.2s							
LDF	**La Druitiere**	**149.94**	**355**	*e*PKP1		PKPdf	01 58 55.7	+6.0
	comp=Z,73nm,1.4s							
LOMF	**Lomont**	**149.99**	**345**	PKP		PKPab	01 58 54.9	-8.0
GRR	**Gorron**	**150.20**	**356**	*e*PKP1		PKPdf	01 58 56.4	+6.3
	comp=Z,201nm,1.7s							
ROSF	**Rostrenen**	**150.36**	**359**	*e*PKP1		PKPdf	01 58 56.4	+6.1
	comp=Z,178nm,1.8s							
SGMF	**Saint Gilles**	**150.42**	**358**	*e*PKP1		PKPdf	01 58 56.7	+6.3
	comp=Z,122nm,1.5s							
QUIF	**Quistinic**	**150.78**	**359**	*e*PKP1		PKPdf	01 58 58.3	+7.3
CABF	**La Chapelle**	**150.86**	**346**	*e*PKP1		PKPdf	01 58 58.8	+7.7
	comp=Z,126nm,1.4s							
HYF	**Humbligny**	**150.91**	**351**	*e*PKP1		PKPdf	01 58 58.6	+7.4
SSF	**Saint Saulge**	**150.97**	**349**	*e*PKP1		PKPdf	01 58 58.5	+7.2
	comp=Z,134nm,1.5s							
MCGN	**Macugnaga**	**150.97**	**343**	*e*PKP		PKPdf	01 58 55.1	+3.8
AVF	**Avril sur Loir**	**151.25**	**349**	*e*PKP1		PKPdf	01 58 58.8	+7.1
	comp=Z,26nm,1.2s							
FSSB	**Fesombrone**	**151.26**	**334**	*e*PKP		PKPdf	01 58 54.3	+2.5
ORO	**Oropa**	**151.27**	**342**	*e*PKP		PKPdf	01 58 55.1	+3.3
SMF	**Signal de Mont**	**151.31**	**349**	*e*PKP1		PKPdf	01 58 59.0	+7.2
FGMS	**Monte Sant'Ang**	**151.34**	**328**	*e*PKP		PKPdf	01 58 54.7	+2.7
ARV	**Arcevia**	**151.35**	**334**	*e*PKP		PKPdf	01 58 55.8	+3.8
ZCCA	**Zocca**	**151.42**	**337**	*e*PKP		PKPdf	01 58 57.0	+4.9
SFI	**Santa Sofia**	**151.46**	**335**	*e*PKP		PKPdf	01 58 56.0	+3.9
VMG	**Vicchio**	**151.53**	**336**	*e*PKP		PKPdf	01 58 58.5	+6.3
PGD	**Poggio Sodo**	**151.54**	**336**	*e*PKP		PKPdf	01 58 55.8	+3.6
SNTG	**Esanatoglia**	**151.55**	**333**	*e*PKP		PKPdf	01 58 55.6	+3.3
ERBM	**Eremo**	**151.56**	**338**	*e*PKP		PKPdf	01 58 59.8	+7.5
BGF	**Bois d'Agland**	**151.56**	**350**	*e*PKP1		PKPdf	01 58 59.7	+7.5
BOB	**Bobbio (Coli)**	**151.59**	**340**	*e*PKP		PKPdf	01 59 02.2	+10
LPL	**La Plagne**	**151.72**	**344**	*e*PKP1		PKPdf	01 59 00.9	+8.4
	comp=Z,72nm,1.6s							
LPG	**La Plagne**	**151.73**	**344**	*e*PKP1		PKPdf	01 59 01.1	+8.6
	comp=Z,119nm,1.9s							
NRCA	**Norcia**	**151.82**	**333**	*e*PKP		PKPdf	01 58 55.7	+3.0
MFF	**Saint Martin d**	**151.91**	**354**	*e*PKP1		PKPdf	01 59 00.4	+7.7
	comp=Z,27nm,0.9s							
TCF	**Toulx Ste Croi**	**151.93**	**351**	*e*PKP1		PKPdf	01 59 00.5	+7.7
	comp=Z,49nm,1.2s							
AQU	**L'Aquila**	**152.07**	**332**	*e*PKP		PKPdf	01 58 56.2	+3.1
AQU				*e*PKPbc		PKPdf	01 59 01.0	+7.9
CII	**Carovilli**	**152.15**	**330**	*e*PKP		PKPdf	01 58 57.0	+3.8
MRLC	**Muro Lucano**	**152.28**	**327**	*e*PKP		PKPdf	01 58 53.1	-0.3
PTQR	**Pietraquaria**	**152.34**	**331**	*e*PKP		PKPdf	01 58 56.9	+3.4
MNS	**Montasola**	**152.37**	**333**	*e*PKP		PKPdf	01 58 56.2	+1.6
SDI	**San Donato**	**152.39**	**330**	*e*PKP		PKPdf	01 58 56.8	+3.3
MBDF	**Montbardon**	**152.44**	**343**	*e*PKP1		PKPdf	01 59 02.0	+8.5
	comp=Z,21nm,1.1s							
CSSN	**Cassano Irpino**	**152.44**	**328**	*e*PKP		PKPdf	01 58 57.6	+3.9
SLCN	**Sala Consilina**	**152.47**	**326**	*e*PKP		PKPdf	01 58 54.3	+0.5
ORIF	**Oris-en-Rattie**	**152.50**	**345**	*e*PKP1		PKPdf	01 59 02.1	+8.5
	comp=Z,11nm,0.7s							
SGO	**Sicignano**	**152.52**	**327**	*e*PKP		PKPdf	01 58 57.1	+3.3
TIP	**Timpagrande**	**152.70**	**323**	*e*PKPbc		PKPdf	01 58 58.0	+3.9
VIVF	**Saint-Julien-l**	**152.84**	**346**	*e*PKP1		PKPdf	01 59 03.0	+8.9
RJF	**Les Rejaudoux**	**152.99**	**351**	*e*PKP1		PKPdf	01 59 02.9	+8.6
	comp=Z,54nm,1.4s							
GRI	**Giriflaco**	**153.13**	**323**	*e*PKP		PKPdf	01 59 03.9	+9.2
PBRG	**Braganca**	**156.78**	**5**	*e*PKPab		PKPab	01 59 31.6	-0.2
PVRL	**Vila Real**	**157.21**	**7**	*e*PP		PP	02 03 09.1	-4.2
PVIS	**Viseu**	**157.74**	**8**	*e*PKPdf		PKPdf	01 59 03.6	+2.9
PVIS				*e*PP		PP	02 03 15.4	-1.1
MTE	**Manteigas**	**158.09**	**7**	*e*PKPdf		PKPdf	01 59 04.8	+3.6
MTE				*e*PKPab		PKPab	01 59 36.7	-0.8
MTE				*e*PP		PP	02 03 16.5	-2.0
PCBR	**Castelo Branco**	**158.66**	**7**	*e*PKPdf		PKPdf	01 59 05.9	+4.0
PCBR				*e*PP		PP	02 03 20.0	-1.4
ESDC	**Sonseca Array**	**159.02**	**360**	PKPab		PKPab	01 59 40.3	-1.2
	comp=Z,1.8nm,0.8s,baz=355,slow=4.0,SNR=7.2							
ESLA	**Sonseca Array**	**159.02**	**360**	*e*PKPab		PKPab	01 59 40.0	-1.5
EVO	**Evora**	**159.87**	**9**	*e*PKIKP		PKPdf	01 59 05.8	+2.5
	comp=Z,3.3nm,0.7s							
PBEJ	**Beja**	**160.39**	**9**	*e*PKPdf		PKPdf	01 59 06.7	+2.8
PBEJ				*e*PP		PP	02 03 29.1	-1.4
PTEO	**Sao Teotonio**	**160.72**	**11**	*e*PKPdf		PKPdf	01 59 07.7	+3.5
DBIC	**Dimbokro**	**168.09**	**176**	PKP		PKPdf	01 59 11.9	+0.5
	comp=Z,3.9nm,1.1s,baz=259,slow=5.2,SNR=1.8							
DBIC				PKPab		PKPab	02 00 22.5	+0.8
	comp=Z,3.2nm,0.9s,baz=185,slow=5.4,SNR=3.8							

IDC 31 01:44:26.4±2.4, 18.40S×175.86E, mb3.9/3, mb1 4.3/3, mb1mx3.9/12, mbtmp3.9/3, Error ellipse: s-maj=175.4km s-min=31.9km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.17**	**261**	P		P	P	01 51 55.9	-2.1
	1.5nm,0.9s,baz=93,slow=8.0,SNR=4.8								
ASAR	**Alice Springs**	**39.40**	**255**	P		P	P	01 51 58.6	-1.3
	2.1nm,0.8s,baz=87,slow=8.7,SNR=7.7								
TXAR	**Latitas Array**	**90.90**	**59**	P		P	P	01 57 32.5	-1.2
	0.5nm,0.8s,baz=220,slow=3.6,SNR=5.2								
GERES	**GERESS Array B**	**146.37**	**339**	PKPbc		PKPbc	PKPbc	02 04 08.6	-0.5
	1.2nm,1.0s,baz=90,slow=2.9,SNR=5.8								

*NEIC **31** 01:46:17.8±0.1, 18.45S×175.99E, h10km, mb5.8/68, MS5.7/133, MW5.9, Error ellipse: s-maj=6.9km s-min=4.7km az=144.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^18 Nm; Mrr=1.03; Mθθ 0.33; Mθθ 0.71; Mrθ=-0.06; Mrθ=-0.03; Mθr 0.12; Best double couple: M0.88×10^18 NP1: φs358°, δ41°, λ-87°. NP2: φs174°, δ49°, λ-93°. Principal axes: T 7.2, Plg4°, Azm266°; N 3.2, Plg2°, Azm175°; P -10.4, Plg85°, Azm57°;*

*HRVD **31** 01:46:17.8±0.1, 18.47S×176.13E, h12km, MW6.0/84, Centroid moment Tensor Solution. LP body waves: s71,c164;Mantle waves: s84,c333; Half duration: 2±5 Moment tensor: Scale 10^18 Nm; Mrr=1.34±.01; Mθθ 0.16±.01; Mφφ 1.18±.01; Mrθ -0.28±.04; Mθφ 0.50±.01; Mφr-0.09±.04; Best double couple: M0.1.393×10^18 NP1: φs193°, δ42°, λ-104°. NP2: φs31°, δ50°, λ-78°. Principal axes: T 1.396, Plg4°, Azm113°; N -.008, Plg9°, Azm203°; P -1.391, Plg80°, Azm360°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **31** 01:46:17.6, 18.05S×176.06E, h12km, mB6.3, mb5.4, Ms6.0, Msz5.8*

*LDG **31** 01:46:17.9±0.2, 18.14S×175.80E, h10km, Mb5.4/3, Ms5.7/8, Error ellipse: s-maj=16.0km s-min=4.3km az=146.0*

*BGS **31** 01:46:18.0, 18.45S×175.99E, h10km*

*MOS **31** 01:46:20.9±1.6, 18.37S×175.95E, h33km, mb5.9/40, MS5.7/37, Error ellipse: s-maj=9.5km s-min=8.3km az=60.6*

*IDC **31** 01:46:23.6±2.4, 18.46S×175.98E, h51km±21km, mb4.9/23, mb1 5.0/27, mb1mx5.0/28, mbtmp5.1/27, ML4.1/4, MS5.6/19, Ms1

comp=Z,7.4nm,1.1s,baz=92,slow=9.9,SNR=2.2
WRA S **S** **01 59 50.5 +4.8**
comp=Z,2.4nm,1.2s,baz=90,slow=14,SNR=9.7
ASAR Alice Springs 39.48 255 P **P** **01 53 48.1 -1.0**
comp=Z,89nm,1.0s,mb5.5,baz=83,slow=8.7,SNR=86
ASAR PcP PcP 01 55 55.8 -1.3
comp=Z,8.6nm,0.9s,baz=104,slow=3.4,SNR=6.0
ASAR LR LR 02 09 42.3
comp=Z,13μm,19.4s,MS5.8,baz=88,slow=35
ASPA Alice Springs 39.48 255⇓*iP* **P** **01 53 48.1 -1.0**
TAOE Nuku Hiva Isla 43.60 83 *e*LR LR 02 06 31.8
GUMO Guam 44.21 314 P **P** **01 54 26.8 -1.2**
GUMO pmax pmax
comp=Z,186nm,1.2s,mb5.7
GUMO MLR MLR
comp=Z,11μm,21.0s,MS5.7
GUMO Guam 44.21 314 P **P** **01 54 26.8 -1.1**
comp=Z,186nm,1.2s,mb5.7
GUMO LR LR
comp=Z,11μm,21.0s,MS5.7
FORT Forrest 44.93 245⇑*iP* **P** **01 54 33.3 -0.3**
comp=Z,3μm,0.8s
RKT Rikitea 45.94 105 *e*P **P** **01 54 40.1 -1.6**
comp=Z,86nm,1.0s,mb5.6
RKT Rikitea 45.94 105 *e*LR LR 02 07 22.9
comp=Z,46μm,30.0s
MIDW Midway 46.85 8 PFAKE 01 55 00.0 +11
MIDW LR LR
comp=Z,8μm,20.0s,MS5.7
KIP Kipapa 47.13 34 PFAKE 01 55 00.0 +8.9
KIP LR LR
comp=Z,5μm,19.0s,MS5.5
POHA Pohakuloa 47.17 38 PFAKE 01 55 00.0 +8.5
POHA LR LR
comp=Z,36μm,19.0s,MS6.4
FITZ Fitzroy Crossi 47.65 262 P **P** **01 54 55.7 +0.4**
comp=Z,304nm,1.0s,mb6.3,baz=109,slow=4.0,SNR=60
PTCN Pitcairn Islan 50.26 108 PFAKE 01 55 30.0 +15
PTCN LR LR
comp=Z,11μm,22.0s,MS5.8
MBWA Marble Bar 52.74 257 *e*P **P** **01 55 33.1 -0.9**
comp=Z,71nm,1.0s,mb5.5
MBWA LR LR
comp=Z,18μm,21.0s,MS6.1
KLBR Kellerberrin 53.78 244⇑*iP* **P** **01 55 40.3 -1.3**
comp=Z,2μm,1.0s
NWAO Narrogin (SRO) 54.22 242 *e*P **P** **01 55 43.8 -1.0**
NWAO pmax pmax
comp=Z,114nm,1.1s
NWAO MLR MLR
comp=Z,14μm,22.0s
NWAO Narrogin (SRO) 54.22 242 P **P** **01 55 44.5 -0.2**
comp=Z,85nm,1.0s,mb5.6,baz=97,slow=6.3,SNR=15
NWAO Narrogin (SRO) 54.22 242 *e*P **P** **01 55 43.8 -1.0**
comp=Z,114nm,1.1s,mb5.7
NWAO LR LR
comp=Z,14μm,22.0s,MS6.0
MUN Mundaring 55.09 244 *e*P **P** **01 55 51.4 +0.2**
comp=Z,40nm,1.1s,mb5.4
MUN Mundaring 55.09 244 *e*P **P** **01 55 51.4 +0.2**
MUN pmax pmax
comp=Z,40nm,1.1s,mb5.4
VNDA Vanda 59.50 184 P **P** **01 56 19.9 -1.9**
comp=Z,5.6nm,0.8s,mb4.7,baz=355,slow=6.7,SNR=19
VNDA PcP PcP 01 57 08.4 -0.4
comp=Z,13nm,0.9s,baz=338,slow=5.1,SNR=7.7
VNDA LR LR 02 18 27.4
comp=Z,3μm,18.8s,MS5.5,baz=23,slow=32
SBA Scott Base 59.59 182 *e*P **P** **01 56 21.0 -1.4**
SBA pmax pmax
comp=Z,94nm,1.0s,mb5.8
SBA MLR MLR
comp=Z,3μm,19.0s,MS5.5
SBA Scott Base 59.59 182 *e*P **P** **01 56 21.0 -1.5**
comp=Z,94nm,1.0s,mb5.8
SBA LR LR
comp=Z,3μm,19.0s,MS5.5
CASY Casey 63.41 204 *e*P **P** **01 56 46.4 -1.8**
comp=Z,89nm,1.3s,mb5.7
CASY LR LR
comp=Z,2μm,19.0s,MS5.4
MJAR Matsushiro Arr 65.31 327 P **P** **01 56 60.0 -1.1**
comp=Z,28nm,0.9s,mb5.3,baz=160,slow=5.9,SNR=28
MJAR LR LR 02 21 17.9
comp=Z,4μm,20.3s,MS5.6,baz=135,slow=32
MAJO Matsushiro 65.31 327 *e*P **P** **01 57 00.5 -0.6**
MAJO pmax pmax
comp=Z,45nm,1.0s,mb5.5
MAJO MLR MLR
comp=Z,4μm,20.0s,MS5.7
MAJO Matsushiro 65.31 327 *e*P **P** **01 57 00.5 -0.6**
comp=Z,44nm,1.0s,mb5.5
MAJO LR LR
comp=Z,4μm,20.0s,MS5.7
MAT Matsushiro 65.31 327 *e*P **P** **01 57 00.0 -1.1**
comp=Z,53nm,1.0s,mb5.5
MAT *e*S S 02 05 52.0 +11
MAT LR LR
comp=Z,4μm,20.0s,MS5.6
MAT Matsushiro 65.31 327 P **P** **01 57 00.3 -0.8**
MAT S S 02 05 52.0 +11
ERM Erimo 67.38 334 PFAKE 01 57 30.0 +16
ERM LR LR
comp=Z,6.0nm,19.0s
KSM Kuching 67.47 280 *e*P **P** **01 57 14.8 -0.4**
KSM *e* 01 57 21.2
NACB Ninganchiao 67.86 307 *e*P **P** **01 57 16.2 -1.2**
YHNB Yeheng 68.30 307 *e*P **P** **01 57 19.7 -0.5**
TATO Taipei 68.39 307 PFAKE 01 57 30.0 +9.3
TATO LR LR
comp=Z,16μm,20.0s,MS6.3
RPN Rapa Nui 68.53 113 PFAKE 01 57 30.0 +8.4
RPN LR LR
comp=Z,2μm,20.0s,MS5.3
MIR Mirnyy 70.42 205*c iP* **P** **01 57 29.0 -3.4**
MIR pmax pmax
comp=Z,280nm,3.0s
QZH Quanzhou 70.58 306⇓*iP* **P** **01 57 33.5 -0.6**
QZH S S 02 06 53.0 +8.6
QZH AMB AMB
comp=Z,4μm,4.8s
QZH LR LR
comp=N,10μm,19.9s,MS6.3
QZH LR LR
comp=E,15μm,22.6s,MS6.3
QZH LR LR
comp=Z,12μm,19.6s,MS6.2
SMY Shemya 70.91 359 PFAKE 01 57 50.0 +14
SMY LR LR
comp=Z,7μm,19.0s,MS6.0
SKR Severo-Kuril's 71.03 347 *e*P **P** **01 57 32.0 -4.4**
SKR *e* 02 00 21.0
SKR *e*PPP PPP 02 01 57.0 -0.1
SKR *e*S S 02 06 44.0 -5.2
SKR *e* 02 07 16.0
SKR pmax pmax
comp=Z,3μm,10.0s
SKR pmax pmax
comp=N,3μm,20.0s
SKR pmax pmax
comp=Z,4μm,20.0s
SKR smax
comp=N,3μm,16.0s
SKR smax
comp=E,3μm,16.0s
SKR MLR MLR
comp=N,3μm,18.0s
SKR MLR MLR
comp=Z,3μm,18.0s,MS5.6
FX1 Attu Island--F 71.09 358 LR LR 02 21 49.9
comp=Z,200nm,21.0s,baz=196,slow=30
QSPA South Pole Qui 71.58 180 *e*P **P** **01 57 37.2 -2.1**
comp=Z,112nm,1.0s,mb5.8
YSS Yuzh-Sakhalins 71.66 337*c iP* **P** **01 57 42.0 +1.7**
YSS *i* S S 02 07 06.0 +9.5
YSS *e*PS PS 02 07 32.0 +2.0
YSS *e*PPS PPS 02 07 40.0 -3.0
YSS smax
comp=N,2μm,12.0s
YSS MLR MLR
comp=Z,2μm,18.0s,MS5.5
YSS MLR MLR
comp=N,2μm,17.0s,MS5.5
YSS MLR MLR
comp=E,2μm,18.0s,MS5.5
YSS Yuzh-Sakhalins 71.66 337 *e*P **P** **01 57 41.5 +1.2**
comp=E,150nm,1.3s,mb5.8
YSS LR LR
comp=Z,7μm,22.0s,MS5.9
SSE Sheshan 72.07 313 P **P** **01 57 43.5 +0.5**
SSE XP sP 01 57 56.5 +0.9
SSE S S 02 07 06.0 +4.5
SSE SCS ScS 02 07 47.0 +3.9
SSE AMB AMB
comp=Z,42nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,913nm,8.8s
SSE LR LR
comp=N,4μm,29.0s,MS5.6
SSE LR LR
comp=E,4μm,29.3s,MS5.6
SSE LR LR
comp=Z,7μm,26.7s,MS5.8
INCN Inchon 72.46 321 PFAKE 01 58 00.0 +15
INCN LR LR
comp=Z,4μm,20.0s,MS5.7
PET Petropavlovsk 72.75 349 *e*P **P** **01 57 46.2 -0.4**
PET *e*S S 02 07 07.1 -1.8
PET pmax pmax
comp=Z,14nm,0.5s,mb5.2
PET pmax pmax
comp=Z,1μm,12.8s
PET MLR MLR
comp=E,2μm,17.0s,MS5.7
PET MLR MLR
comp=N,2μm,17.0s,MS5.7
PET MLR MLR
comp=Z,3μm,17.0s,MS5.6
PET Petropavlovsk 72.75 349 PFAKE 01 58 00.0 +13
PET LR LR
comp=Z,5μm,20.0s,MS5.8
UNV Unalaska Valle 73.58 11 *e*P **P** **01 57 48.8 -2.6**
comp=Z,198nm,1.1s,mb6.0
UNV LR LR
comp=Z,11μm,21.0s,MS6.1
GZH Guangzhou 73.78 302 P **P** **01 57 54.5 +1.2**
GZH LR LR
comp=N,1μm,18.0s,MS5.8
GZH LR LR
comp=E,4μm,20.4s,MS5.8
GZH LR LR
comp=Z,7μm,19.6s,MS6.0
NJ2 Nanjing 74.25 312 *e*P **P** **01 57 56.5 +0.7**
NJ2 AP pP 01 58 07.0 +1.9
NJ2 PP PP 02 00 45.3 +1.8
NJ2 S S 02 07 28.0 +1.9
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
NJ2 AMB AMB
comp=Z,2μm,9.1s
NJ2 LR LR
comp=N,10μm,16.1s
NJ2 LR LR
comp=E,13μm,24.6s
NJ2 LR LR
comp=Z,9μm,21.3s
QIZ Qiongzhong 74.84 296 P **P** **01 57 56.5 -2.9**
QIZ LR LR
comp=E,3μm,24.1s
QIZ LR LR
comp=Z,6μm,25.2s,MS5.8
QIZ Qiongzhong 74.84 296 *e*P **P** **01 57 54.1 -5.3**
comp=Z,59nm,1.4s,mb5.3
MDJ Mudanjiang 75.68 328 P **P** **01 58 03.0 -0.7**
MDJ AP pP 01 58 06.5 -6.6
MDJ XP sP 01 58 08.5 -7.8
MDJ PCP PcP 01 58 15.8 -0.9
MDJ S S 02 07 45.3 +3.6
MDJ XS 02 07 56.8
MDJ SS SS 02 12 37.0 +0.9
MDJ AMB AMB
comp=Z,31nm,1.1s,mb5.2
MDJ AMB AMB
comp=Z,1μm,9.7s
MDJ LR LR
comp=N,2μm,19.6s,MS5.5
MDJ LR LR
comp=E,2μm,18.6s,MS5.5
MDJ LR LR
comp=Z,3μm,19.6s,MS5.6
MDJ Mudanjiang 75.68 328 *e*P **P** **01 58 04.1 +0.4**
comp=Z,21nm,0.8s,mb5.1
DL2 Dalian 76.42 319 P **P** **01 58 08.5 +0.5**
DL2 S S 02 07 56.3 +6.4
DL2 SS SS 02 12 45.3 -2.3
DL2 AMB AMB
comp=Z,30nm,1.4s,mb5.0
DL2 AMB AMB
comp=Z,830nm,5.0s
DL2 LR LR
comp=N,1μm,21.3s,MS5.3
DL2 LR LR
comp=E,1μm,21.9s,MS5.3
DL2 LR LR
comp=Z,2μm,21.0s,MS5.4
WHN Wuhan 76.70 309⇑P **P** **01 58 10.5 +0.8**
WHN S S 02 08 01.5 +8.4
WHN LR LR
comp=E,13μm,22.0s
WHN LR LR
comp=Z,24μm,24.0s,MS6.4
SNY Shenyang 77.07 323 PR 01 58 11.8
SNY AP pP 01 58 20.8 -0.2
SNY AMB AMB
comp=Z,1μm,9.8s
SNY LR LR
comp=N,1μm,27.5s
SNY LR LR
comp=E,3μm,20.4s
SNY LR LR
comp=Z,4μm,21.1s
CN2 Changchun 77.30 325⇓P **P** **01 58 13.8 +1.0**
CN2 eAP pP 01 58 21.8 -0.4
CN2 PP PP 02 01 10.8 +2.1
CN2 *e*S S 02 08 01.0 +1.6
CN2 AMB AMB
comp=Z,70nm,1.0s,mb5.5
CN2 AMB AMB
comp=Z,2μm,4.0s
CN2 LR LR
comp=N,3μm,20.0s,MS5.7
CN2 LR LR
comp=E,3μm,20.0s,MS5.7
CN2 LR LR
comp=Z,5μm,23.0s,MS5.8
TIA Tai'an 77.76 315 P **P** **01 58 15.5 0.0**
TIA AMB AMB
comp=Z,257nm,1.9s,mb5.8
TIA LR LR
comp=N,1μm,21.6s
KULM Kulim 77.83 280 *e*P **P** **01 58 14.2 -2.2**
KLR Kul'dur 77.98 332 *e*P **P** **01 58 14.3 -2.1**
KLR *e*S S 02 08 13.5 +6.9
KLR pmax pmax
comp=Z,450nm,3.0s
KLR pmax pmax
comp=N,700nm,9.0s
KLR pmax pmax
comp=Z,2μm,9.0s
ENH Enshi 80.22 306 *e*P **P** **01 58 29.2 +0.2**
comp=Z,321nm,1.8s,mb6.0
MA2 Magadan 80.44 347⇓*iP* **P** **01 58 29.1 -0.4**
MA2 pmax pmax
comp=Z,124nm,2.5s,mb5.4
MA2 Magadan 80.44 347 P **P** **01 58 28.6 -1.0**
comp=Z,24nm,0.9s,mb5.1
MA2 LR LR
comp=Z,5μm,20.0s,MS5.8
BJT Baijiatuau 80.50 318 *e*P **P** **01 58 30.9 +0.6**
BJT pmax pmax
comp=Z,270nm,1.9s
BJT Baijiatuau 80.50 318 *e*P **P** **01 58 30.9 +0.6**
comp=Z,270nm,1.9s,mb5.8
BJI Beijing 80.51 318 *e*P **P** **01 58 30.3 0.0**
BJI PP PP 02 01 36.8 +1.2
BJI S S 02 08 42.5 +9.1
BJI PS PS 02 09 29.5 +6.0
BJI SS SS 02 13 48.5 -0.4
BJI AMB AMB
comp=Z,20nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,2μm,5.1s
BJI LR LR
comp=N,3μm,19.4s,MS5.7
BJI LR LR
comp=E,2μm,21.1s,MS5.7
BJI LR LR
comp=Z,6μm,33.2s
SAO San Andreas Ge 80.61 46 PFAKE 01 58 40.0 +9.1
SAO LR LR
comp=Z,3μm,21.0s,MS5.6
HOPS Hopland 80.70 44 PFAKE 01 58 40.0 +8.7
HOPS LR LR
comp=Z,5μm,22.0s,MS5.8
GYA Guiyang 80.72 302⇑*iP* **P** **01 58 32.5 +0.8**
GYA AP pP 01 58 42.8 +1.6
GYA XP sP 01 58 46.0 +1.7
GYA S S 02 08 45.5 +10
GYA AMB AMB
comp=Z,80nm,1.2s,mb5.5
GYA AMB AMB
comp=Z,990nm,4.2s
GYA LR LR
comp=N,2μm,22.2s,MS5.7
GYA LR LR
comp=E,3μm,20.7s,MS5.7
GYA LR LR
comp=Z,5μm,24.3s,MS5.8
MAW Mawson 81.48 201 *e*P **P** **01 58 34.4 -0.4**
comp=Z,46nm,1.0s,mb5.4
MAW Mawson 81.48 201 *e*P **P** **01 58 33.8 -1.0**
MAW pmax pmax
comp=Z,130nm,1.2s
MAW Mawson 81.48 201 P **P** **01 58 34.2 -0.7**
comp=Z,57nm,1.0s,mb5.5,baz=109,slow=6.1,SNR=23
WDC Whiskeytown Da 81.90 43 *e*P **P** **01 58 37.7 +0.1**
WDC pmax pmax
comp=Z,297nm,2.5s,mb5.8
WDC MLR MLR
comp=Z,3μm,20.0s,MS5.6
WDC Whiskeytown Da 81.90 43 *e*P **P** **01 58 37.7 +0.2**
comp=Z,297nm,2.5s,mb5.8
WDC LR LR
comp=Z,3μm,20.0s,MS5.6
CMB Columbia Colle 81.98 46 *e*P **P** **01 58 37.9 -0.2**
CMB pmax pmax
comp=Z,400nm,2.7s,mb5.9
CMB MLR MLR
comp=Z,3μm,22.0s,MS5.6
CMB Columbia Colle 81.98 46 *e*P **P** **01 58 37.9 -0.2**
comp=Z,400nm,2.7s,mb5.9
CMB LR LR
comp=Z,3μm,22.0s,MS5.6
NST Nakhon Sawan 81.99 289 P **P** **01 58 39.8 +1.3**
YBH Yreka Blue Hor 82.41 41 *e*P **P** **01 58 40.2 0.0**
YBH pmax pmax
comp=Z,398nm,2.6s
YBH MLR MLR
comp=Z,3μm,22.0s
YBH Yreka Blue Hor 82.41 41 P **P** **01 58 40.6 +0.4**
comp=Z,3.5nm,0.8s,baz=180,slow=4.0,SNR=8.6
YBH Yreka Blue Hor 82.41 41 *e*P **P** **01 58 40.2 0.0**
comp=Z,398nm,2.6s,mb5.9
YBH LR LR
comp=Z,3μm,22.0s,MS5.6
XAN Xi'an 82.41 310 P **P** **01 58 41.0 +0.6**
XAN AP pP 01 58 49.5 -0.4
XAN AMB AMB
comp=Z,46nm,2.3s,mb5.0
PFO Pinyon Flat Ob 82.61 51 PFAKE 01 58 50.0 +8.6
PFO LR LR
comp=Z,557nm,21.0s,MS4.9
NANT Nan 82.65 293⇑P sP 01 58 54.0 -0.5
comp=Z,462nm,0.5s
OMM Old Mammoth Mi 82.73 47 *e*P **P** **01 58 42.1 +0.2**
HUMO Hull Mountain 82.73 41 *e*P **P** **01 58 40.1 -1.8**
comp=Z,161nm,2.1s,mb5.7
HUMO LR LR
comp=Z,1μm,20.0s,MS5.3
MTUM Tungsten Hills 82.89 47 *e*P **P** **01 58 43.2 +0.4**
DAC Darwin (Calif) 83.05 48 P **P** **01 58 43.8 +0.2**
DAC MLR MLR
comp=Z,2μm,20.0s,MS5.5
WCN Washoe City 83.05 45 *e*P **P** **01 58 43.6 0.0**
WCN pmax pmax
comp=Z,301nm,2.3s,mb5.9
WCN Washoe City 83.05 45 *e*P **P** **01 58 43.6 0.0**
comp=Z,301nm,2.3s,mb5.9
SEY Seymchan 83.22 349 *e*P **P** **01 58 43.5 -0.5**
SEY *e* 02 09 05.1
SEY *e* 02 17 46.8
SEY pmax pmax
comp=E,60nm,1.0s
SEY pmax pmax
comp=Z,100nm,1.0s,mb5.8
SEY pmax pmax
comp=N,40nm,0.9s
SLKM Skilak Lake 83.31 16 *e*P **P** **01 58 44.0 -0.4**
KMI Kunming 83.37 299 P **P** **01 58 46.5 +1.0**
KMI AMB AMB
comp=Z,37nm,1.6s,mb5.2
BDT Bhumibol Dam 83.57 290 P **P** **01 58 47.5 +0.7**
NVAR Mina Array Bea 83.60 46 LR LR 02 27 25.8
comp=Z,3μm,21.8s,MS5.6,baz=260,slow=30
COR Corvallis 83.61 39 PFAKE 01 59 00.0 +14
COR LR LR
comp=Z,773nm,21.0s,MS5.1
MNV Mina 83.70 46 *e*P **P** **01 58 47.0 0.0**
MNV pmax pmax
comp=Z,258nm,2.1s,mb6.0
MNV MLR MLR
comp=Z,3μm,22.0s,MS5.7
MNV Mina 83.70 46 *e*P **P** **01 58 47.0 0.0**
comp=Z,258nm,2.1s,mb6.0
MNV LR LR
comp=Z,3μm,22.0s,MS5.7
HIA Hailar 83.81 327 *e*P **P** **01 58 47.9 +0.7**
HIA pmax pmax
comp=Z,6.0nm,0.3s
HIA Hailar 83.81 327 *e*P **P** **01 58 47.9 +0.6**
comp=Z,6.0nm,0.3s,mb5.2
FIB Fire Island 83.88 16 PFAKE 01 59 00.0 +13
FIB LR LR
comp=Z,3μm,19.0s,MS5.6
HHC Hu-ho-hao-te 83.92 317 *e*P **P** **01 58 49.0 +1.0**
HHC XP sP 01 58 55.3 -5.3
HHC PP PP 02 02 05.5 +2.1
HHC S S 02 09 13.8 +5.6
HHC XS 02 09 19.8
HHC AMB AMB
comp=Z,38nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,2μm,3.0s
HHC LR LR
comp=N,3μm,20.2s,MS5.8
HHC LR LR
comp=E,4μm,23.2s,MS5.8
HHC LR LR
comp=Z,5μm,22.0s,MS5.8
MOD Modoc 84.03 42 *e*P **P** **01 58 48.6 +0.1**
comp=Z,355nm,2.5s,mb6.0
MOD LR LR
comp=Z,2μm,20.0s,MS5.5
CM31 Chiang Mai Arr 84.07 292 *e*P **P** **01 58 50.6 +1.3**
comp=Z,37nm,0.9s,mb5.5
CM31 LR LR
comp=Z,2μm,19.0s,MS5.5
TPH Tonopah 84.17 47 *e*P **P** **01 58 49.7 +0.4**
TPH pmax pmax
comp=Z,232nm,2.2s,mb5.9
TPH MLR MLR
comp=Z,2μm,21.0s,MS5.5
TPH Tonopah 84.17 47 *e*P **P** **01 58 49.7 +0.3**
comp=Z,232nm,2.2s,mb5.9
TPH LR LR
comp=Z,2μm,21.0s,MS5.5
LDFC Landfair 84.28 50 *e*P **P** **01 58 50.5 +0.5**
PMR Palmer 84.51 16 *e*P **P** **01 58 49.3 -1.1**
TNA Tin City 84.66 7 *e*P **P** **01 58 51.1 0.0**
comp=Z,36nm,1.0s,mb5.5
TNA *e* pP 01 58 59.4 -1.2
TNA LR LR
comp=Z,2μm,22.0s,MS5.5
SML Sawmill 84.90 16 P **P** **01 58 51.7 -0.7**
CD2 Chengdu 84.93 305 P **P** **01 58 55.0 +1.7**
CD2 PP PP 02 02 11.5 -0.2
CD2 S S 02 09 20.5 +2.0
CD2 PS PS 02 10 19.8 +1.5
CD2 SS SS 02 14 57.3 +2.8

CD2 AMB AMB
comp=Z,150nm,0.8s,mb6.2
CD2 AMB AMB
comp=Z,2µm,9.0s
CD2 LR LR
comp=E,5µm,20.4s
CD2 LR LR
comp=Z,6µm,22.8s,MS5.9
DIV Divide 85.05 18 *e*P **P 01 58 52.5 -0.6**
comp=Z,86nm,1.0s,mb5.8
DIV LR LR
comp=Z,9µm,21.0s,MS6.1
BMN Battle Mountai 85.31 45 *e*P **P 01 58 55.2 +0.2**
BMN pmax pmax
comp=Z,306nm,2.3s,mb6.0
BMN MLR MLR
comp=Z,3µm,21.0s,MS5.6
BMN Battle Mountai 85.31 45 *e*P **P 01 58 55.2 +0.3**
comp=Z,306nm,2.3s,mb6.0
BMN LR LR
comp=Z,3µm,21.0s,MS5.6
PMSA Palmer Station 85.34 158 PFAKE 01 59 10.0 +15
PMSA LR LR
comp=Z,4µm,20.0s,MS5.8
WVOR Wild Horse Val 85.36 42 *e*P **P 01 58 55.6 +0.4**
WVOR pmax pmax
comp=Z,834nm,2.9s,mb6.4
WVOR MLR MLR
comp=Z,4µm,21.0s,MS5.8
WVOR Wild Horse Val 85.36 42 *e*P **P 01 58 55.6 +0.4**
comp=Z,834nm,2.9s,mb6.4
WVOR LR LR
comp=Z,4µm,21.0s,MS5.8
TRCR Troy Canyon 85.44 47 *e*P **P 01 58 55.6 -0.1**
SIT Sitka 85.50 24 PFAKE 01 59 10.0 +15
SIT LR LR
comp=Z,2µm,19.0s,MS5.6
PGC Sidney 85.79 35 *e*P **P 01 58 56.9 -0.3**
comp=Z,64nm,1.0s,mb5.8
TUC Tucson 86.33 54 *e*P **P 01 59 00.6 +0.4**
TUC pmax pmax
comp=Z,41nm,1.6s,mb5.4
TUC MLR MLR
comp=Z,2µm,20.0s,MS5.5
TUC Tucson 86.33 54 *e*P **P 01 59 00.6 +0.3**
comp=Z,40nm,1.6s,mb5.4
TUC LR LR
comp=Z,2µm,20.0s,MS5.5
MCK McKinley 86.36 15 *e*P **P 01 58 59.5 -0.1**
MCK pmax pmax
comp=Z,16nm,1.3s,mb5.1
MCK MLR MLR
comp=Z,3µm,20.0s,MS5.6
MCK McKinley 86.36 15 *e*P **P 01 58 59.5 -0.1**
comp=Z,16nm,1.3s,mb5.1
MCK LR LR
comp=Z,3µm,20.0s,MS5.6
BILL Bilibino 86.55 356 ⇑*i*P **P 01 59 00.2 -0.2**
BILL pmax pmax
comp=Z,78nm,1.7s,mb5.7
BILL Bilibino 86.55 356 *e*P **P 01 58 59.7 -0.8**
comp=Z,178nm,1.9s,mb6.0
BILL LR LR
comp=Z,3µm,22.0s,MS5.7
ARUT Antelope Range 86.69 48 *e*P **P 01 59 02.4 +0.5**
HAWA Hanford 86.82 39 *e*P **P 01 59 01.9 -0.3**
comp=Z,20nm,2.3s,mb5.0
HAWA LR LR
comp=Z,156nm,20.0s
THY Trims Highway 86.91 16 *e*P **P 01 59 01.4 -0.9**
LZH Lanzhou 87.05 309 ⇓P **P 01 59 05.3 +1.6**
LZH AP pP 01 59 14.3 +1.1
LZH XP sP 01 59 18.0 +1.8
LZH PP PP 02 02 32.0 +2.4
LZH SKS SKS 02 09 27.0 -7.4
LZH S S 02 09 41.0 +2.2
LZH SS SS 02 15 29.0 +3.8
LZH AMB AMB
comp=Z,328nm,1.5s,mb6.3
LZH AMB AMB
comp=Z,1µm,4.5s
LZH LR LR
comp=E,12µm,19.8s
LZH LR LR
comp=Z,21µm,21.0s,MS6.5
WUAZ Wupatki 87.21 51 *e*P **P 01 59 04.2 -0.3**
comp=Z,334nm,2.6s,mb6.1
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.6
IMA Indian Mountai 87.33 12 *e*P **P 01 59 04.4 +0.1**
SYO Syowa Base 87.35 194 ⇓P **P 01 59 03.0 -1.3**
SYO Syowa Base 87.35 194 ⇓P **P 01 59 04.9 +0.6**
SYO Syowa Base 87.35 194 ⇓pP pP 01 59 07.2 -6.7
BMO Blue Mountains 87.40 41 *e*P **P 01 59 03.6 -1.5**
comp=Z,184nm,2.3s,mb5.9
BMO LR LR
comp=Z,1µm,19.0s,MS5.4
COLA College 87.57 15 *e*P **P 01 59 03.5 -2.0**
COLA pmax pmax
comp=Z,22nm,1.1s,mb5.3
COLA College 87.57 15 *e*P **P 01 59 04.1 -1.4**
MVU Marysvale 87.88 48 *e*P **P 01 59 08.5 +0.9**
comp=Z,246nm,2.6s,mb6.0
MVU LR LR
comp=Z,2µm,19.0s,MS5.5
MSU Marysvale 87.91 48 *e*P **P 01 59 08.9 +1.2**
YAK Yakutsk 88.19 340 *d i*P **P 01 59 07.8 -0.7**
YAK pmax pmax
comp=Z,149nm,1.7s,mb5.9
YAK Yakutsk 88.19 340 *e*P **P 01 59 08.3 -0.1**
comp=Z,54nm,0.7s,mb5.9
YAK LR LR
comp=Z,5µm,21.0s,MS5.9
DUG Dugway 88.19 47 *e*P **P 01 59 09.1 +0.1**
DUG pmax pmax
comp=Z,138nm,2.4s,mb5.8
DUG MLR MLR
comp=Z,2µm,22.0s,MS5.5
DUG Dugway 88.19 47 *e*P **P 01 59 09.1 +0.1**
comp=Z,138nm,2.4s,mb5.8
DUG LR LR
comp=Z,2µm,22.0s,MS5.5
SFJM Santa Fe 88.30 68 *e*P **P 01 59 00.0 -10**
BGU Big Grassy Mou 88.36 46 *e*P **P 01 59 11.9 +2.0**
DLBC Dease Lake 88.53 25 P **P 01 59 10.4 +0.2**
comp=Z,8.4nm,1.0s,mb5.0,baz=235,slow=8.0,SNR=7.6
DLBC Dease Lake 88.53 25 *e*P **P 01 59 10.6 +0.4**
NLU North Lily Min 88.60 47 *e*P **P 01 59 11.5 +0.5**
HLID Hailey 88.62 43 *e*P **P 01 59 11.5 +0.5**
comp=Z,121nm,2.1s,mb5.9
HLID LR LR
comp=Z,2µm,22.0s,MS5.6
NOQ North Oquirrh 88.87 46 *e*P **P 01 59 13.5 +1.3**
USHA Ushuaia 88.88 149 LR LR 02 29 12.6
comp=Z,4µm,20.4s,MS5.8,baz=220,slow=29
HVU Hansel Valley 88.91 45 *e*P **P 01 59 11.9 -0.5**
TMUT Trail Mountain 88.92 48 *e*P **P 01 59 13.6 +1.0**
NEW Newport 89.17 38 *e*P **P 01 59 12.8 -0.7**
NEW pmax pmax
comp=Z,12nm,1.0s
NEW MLR MLR
comp=Z,2µm,20.0s
NEW Newport 89.17 38 P **P 01 59 13.0 -0.5**
comp=Z,7.1nm,0.9s,mb5.0,baz=258,slow=2.4,SNR=11
NEW Newport 89.17 38 *e*P **P 01 59 12.8 -0.7**
comp=Z,12nm,1.0s,mb5.2
NEW LR LR
comp=Z,2µm,20.0s,MS5.5
DAWY Dawson 89.19 18 *e*P **P 01 59 12.9 -0.3**
JLU Jordanelle 89.31 47 *e*P **P 01 59 14.9 +0.5**
SRU San Rafael 89.33 48 P **P 01 59 11.0 -3.5**
SRU San Rafael 89.33 48 P **P 01 59 11.4 -3.1**
DAU Daniels Canyon 89.36 47 *e*P **P 01 59 15.1 +0.5**
ZAIG Zacatecas 89.50 66 *i* P **P 01 59 19.1 +3.4**
TCUT Toone Canyon 89.55 46 *e*P **P 01 59 15.9 +0.4**
CAIG El Cayaco 89.61 72 *e*P **P 01 59 17.1 +0.8**
HWUT Hardware Ranch 89.65 46 *e*P **P 01 59 15.3 -0.7**
comp=Z,164nm,2.2s,mb6.0
HWUT LR LR
comp=Z,3µm,21.0s,MS5.7
LENM Lemitar 89.99 54 *e*P **P 01 59 18.2 +0.5**
SNAA Sanae 90.09 180 P **P 01 59 17.4 +0.1**
comp=Z,8.1nm,1.0s,mb5.0,baz=206,slow=7.3,SNR=8.2
PV10 Paradox Valley 90.09 49 *e*P **P 01 59 17.8 -0.2**
ULN Ulaanbaatar 90.16 321 *e*P **P 01 59 18.4 +0.3**
ULN pmax pmax
comp=Z,140nm,2.0s,mb6.0
ULN MLR MLR
comp=Z,4µm,22.0s,MS5.8
ULN Ulaanbaatar 90.16 321 *e*P **P 01 59 18.4 +0.2**
comp=Z,140nm,2.0s,mb5.9
ULN LR LR
comp=Z,4µm,22.0s,MS5.8
MCMT McKenzie Canyo 90.20 42 *e*P **P 01 59 18.8 +0.4**
LPM Los Pinos Moun 90.31 54 *e*P **P 01 59 19.3 +0.1**
MAIT Maitri 90.31 185 *e*P **P 01 59 17.6 -0.7**
NVL N'lazarevskaya 90.31 185 ⇓*i*P **P 01 59 15.9 -2.4**
NVL *i* *PP pP 01 59 28.1 +0.2
NVL *i* *SP sP 01 59 30.6 -0.3
NVL *e* 02 10 03.9
NVL MLR MLR
comp=Z,3µm,15.4s,MS5.8
MNTX Cornudas Mount 90.32 57 *e*P **P 01 59 19.3 0.0**
comp=Z,24nm,1.3s,mb5.4
MNTX LR LR
comp=Z,3µm,20.0s,MS5.7
PV01 Paradox Valley 90.33 50 *e*P **P 01 59 19.4 +0.3**
MSO Missoula 90.41 40 PFAKE 01 59 30.0 +11
MSO LR LR
comp=Z,1µm,20.0s,MS5.3
VNA3 Neumayer Olymp 90.44 178 *e* **P 01 59 20.3 +1.4**
VNA3 Neumayer Olymp 90.44 178 *e* **P 01 59 21.3 +2.4**
VNA3 Neumayer Olymp 90.44 178 *e* **P 01 59 22.6 +3.7**
VNA3 Neumayer Olymp 90.44 178 *e* **P 01 59 24.2 +5.3**
VNA3 Neumayer Olymp 90.44 178 *e* **P 01 59 29.7 +11**
VNA3 Neumayer Olymp 90.44 178 *e* 02 04 13.5
VNA3 Neumayer Olymp 90.44 178 *e* 02 04 16.6
VNA3 Neumayer Olymp 90.44 178 *e* 02 04 17.8
VNA3 Neumayer Olymp 90.44 178 *e*S S 02 10 15.0 +5.7
VNA3 Neumayer Olymp 90.44 178 ⇑*i*P **P 01 59 19.2 +0.3**
VNA3 *e* 01 59 20.3
VNA3 *e* 01 59 21.3
VNA3 *e* 01 59 22.6
VNA3 *e* 01 59 24.2
VNA3 *e* pP 01 59 29.7 +1.3
VNA3 *e* 02 04 13.5
VNA3 *e* 02 04 16.6
VNA3 *e* 02 04 17.8
VNA3 *e* 02 10 02.2
VNA3 *e*S S 02 10 15.0 +5.7
AHID Auburn Hatcher 90.45 45 *e*P **P 01 59 20.3 +0.7**
comp=Z,80nm,1.8s,mb5.8
AHID LR LR
comp=Z,3µm,22.0s,MS5.6
SONM Songino Array 90.54 321 P **P 01 59 20.5 +0.6**
comp=Z,5.1nm,1.1s,mb4.8,baz=124,slow=4.5,SNR=17
SONM PP PP 02 02 59.6 +2.5
comp=Z,1.5nm,1.0s,baz=124,slow=5.2,SNR=3.6
SONM LR LR 02 33 41.1
comp=Z,4µm,20.9s,MS5.9,baz=132,slow=31
RRI2 Red Ridge 90.55 44 *e*P **P 01 59 20.7 +0.7**
comp=Z,140nm,1.8s,mb6.0
ANMO Albuquerque 90.68 53 *e*P **P 01 59 20.9 0.0**
ANMO pmax pmax
comp=Z,128nm,2.1s
ANMO MLR MLR
comp=Z,2µm,20.0s
ANMO Albuquerque 90.68 53 P **P 01 59 20.8 0.0**
comp=Z,8.6nm,1.0s,mb5.0,baz=229,slow=5.2,SNR=17
ANMO Albuquerque 90.68 53 *e*P **P 01 59 20.9 0.0**
comp=Z,128nm,2.1s,mb5.9
ANMO LR LR
comp=Z,2µm,20.0s,MS5.6
VNA2 Neumayer--Watz 90.81 179 *e* **P 01 59 21.4 +0.8**
VNA2 Neumayer--Watz 90.81 179 *e* **P 01 59 22.6 +2.0**
VNA2 Neumayer--Watz 90.81 179 *e* **P 01 59 24.2 +3.6**
VNA2 Neumayer--Watz 90.81 179 *e* **P 01 59 26.3 +5.7**
VNA2 Neumayer--Watz 90.81 179 *e* **P 01 59 32.4 +12**
VNA2 Neumayer--Watz 90.81 179 *e* 02 04 15.5
VNA2 Neumayer--Watz 90.81 179 *e* 02 04 19.4
VNA2 Neumayer--Watz 90.81 179 *e* 02 04 20.5
VNA2 Neumayer--Watz 90.81 179 *e*S S 02 10 17.4 +4.8
VNA2 Neumayer--Watz 90.81 179 ⇑*i*P **P 01 59 20.3 -0.3**
VNA2 *e* 01 59 21.4
VNA2 *e* 01 59 22.6
VNA2 *e* 01 59 24.2
VNA2 *e* 01 59 26.3
VNA2 *e* 01 59 32.4
VNA2 *e* 02 04 15.5
VNA2 *e* 02 04 19.4
VNA2 *e* 02 04 20.5
VNA2 *e* 02 10 03.6
VNA2 *e*S S 02 10 17.4 +4.8
TXAR Lajitas Array 90.85 59 P **P 01 59 22.2 +0.4**
comp=Z,7.7nm,0.8s,mb5.1,baz=221,slow=3.2,SNR=60
TXAR PKKPbc 02 16 47.7
comp=Z,1.5nm,0.9s,baz=90,slow=2.7,SNR=11
TXAR LR LR 02 32 28.6
comp=Z,3µm,19.1s,MS5.8,baz=195,slow=30
TPAW Teton Pass 90.86 44 *e*P **P 01 59 21.9 +0.4**
comp=Z,153nm,2.1s,mb6.0
CHMT Chamberlain Mo 90.86 40 *e*P **P 01 59 21.1 -0.3**
REDW Red Top Meadow 90.87 44 *e*P **P 01 59 21.1 -0.4**
comp=Z,41nm,1.3s,mb5.6
SNOW Snow King Moun 90.98 44 *e*P **P 01 59 22.6 +0.6**
comp=Z,226nm,2.2s,mb6.1
IMW Indian Meadow 91.04 44 *e*P **P 01 59 22.5 +0.3**
comp=Z,29nm,1.3s,mb5.4
MOOW Moose Ponds 91.10 44 *e*P **P 01 59 22.8 +0.3**
comp=Z,129nm,2.3s,mb5.8
QLMT Earthquake Lak 91.11 43 *e*P **P 01 59 23.5 +0.9**
LOHW Long Hollow 91.14 44 *e*P **P 01 59 22.8 +0.1**
comp=Z,104nm,2.1s,mb5.8
GDL2 Guadalupe Moun 91.30 57 *e*P **P 01 59 24.2 +0.4**
GTA Gaotai 91.32 311 *e*P **P 01 59 24.5 +0.8**
GTA AP pP 01 59 33.5 +0.3
GTA XP sP 01 59 37.8 +1.5
GTA PP PP 02 03 06.5 +2.8
GTA PPP PPP 02 05 06.0 +2.0
GTA SKS SKS 02 09 53.5 -7.0
GTA S S 02 10 20.3 +2.5
GTA XS 02 10 36.0
GTA PS PS 02 11 38.5 +3.7
GTA SS SS 02 16 23.3 -3.6
GTA AMB AMB
comp=Z,24nm,1.3s,mb5.4
GTA AMB AMB
comp=Z,1µm,6.6s
GTA LR LR
comp=N,3µm,22.5s,MS5.7
GTA LR LR
comp=E,2µm,24.0s,MS5.7
GTA LR LR
comp=Z,5µm,27.9s,MS5.8
BOZ Bozeman (W) 91.33 42 *e*P **P 01 59 23.2 -0.4**
BOZ pmax pmax
comp=Z,127nm,2.3s,mb5.8
BOZ MLR MLR
comp=Z,3µm,22.0s,MS5.7
BOZ Bozeman (W) 91.33 42 *e*P **P 01 59 23.1 -0.4**
comp=Z,127nm,2.3s,mb5.8
BOZ LR LR
comp=Z,3µm,22.0s,MS5.7
YMR Madison River 91.34 43 *e*P **P 01 59 24.4 +0.8**
WALA Waterton Lakes 91.43 38 *e*P **P 01 59 23.9 0.0**
comp=Z,395nm,3.0s
BW06 Boulder Array 91.49 45 PFAKE 01 59 40.0 +16
BW06 LR LR
comp=Z,2µm,21.0s,MS5.5
PDAR Pinedale Array 91.49 45 P **P 01 59 24.4 +0.1**
comp=Z,2.4nm,1.0s,mb4.5,baz=225,slow=4.2,SNR=16
PDAR PP PP 02 02 53.5 -11
comp=Z,1.4nm,1.2s,baz=248,slow=4.9,SNR=3.4
PDAR PKKP PKKP 02 16 44.5 +10
comp=Z,0.7nm,1.0s,baz=117,slow=2.0,SNR=4.2
PDAR LR LR 02 32 40.9
comp=Z,2µm,20.9s,MS5.4,baz=271,slow=30
BOD Bodaibo 91.56 332 *e*P **P 01 59 21.4 -2.9**
BOD pmax pmax
comp=Z,16nm,1.9s,mb5.0
LKWY Lake 91.67 43 PFAKE 01 59 40.0 +15
LKWY LR LR
comp=Z,3µm,22.0s,MS5.7
CPRX Cap Rock 91.99 56 *e*P **P 01 59 26.8 -0.1**
SDCO Great Sand Dun 92.43 51 *e*P **P 01 59 29.0 +0.1**
comp=Z,17nm,1.2s,mb5.3
SDCO LR LR
comp=Z,2µm,19.0s,MS5.7
ISCO Idaho Springs 93.10 49 PFAKE 01 59 40.0 +8.2
ISCO LR LR
comp=Z,1µm,20.0s,MS5.4
PAYG Puerto Ayora 93.35 92 PFAKE 01 59 40.0 +6.4
PAYG LR LR
comp=Z,2µm,20.0s,MS5.5
ZAK Zakamensk 93.50 322 *e*P **P 01 59 33.1 -0.3**
ZAK pmax pmax
comp=Z,9.0nm,2.2s,mb4.8
EDM Edmonton 93.60 35 *e*P **P 01 59 32.0 -1.8**
TLY Talaya 93.83 324 ⇑*i*P **P 01 59 35.2 +0.3**
TLY pmax pmax
comp=Z,21nm,2.0s,mb5.2
TLY MLR MLR
comp=Z,4µm,21.0s,MS5.8
TLY Talaya 93.83 324 ⇑*i*P **P 01 59 35.3 +0.4**
TLY LR LR
comp=Z,857nm,20.0s,MS5.2
INK Inuvik 93.89 17 *e*P **P 01 59 33.1 -1.7**
INK pmax pmax
comp=Z,100nm,2.2s
INK Inuvik 93.89 17 P **P 01 59 33.9 -1.0**
comp=Z,7.4nm,1.1s,mb5.0,baz=228,slow=7.6,SNR=8.6
INK Inuvik 93.89 17 *e*P **P 01 59 33.1 -1.7**
comp=Z,100nm,2.2s,mb5.9
AMTX Amarillo 94.33 55 PFAKE 01 59 50.0 +12
AMTX LR LR
comp=Z,2µm,21.0s,MS5.5
LSA Lhasa 94.62 300 *e*P **P 01 59 40.8 +1.7**
PLCA Paso Flores 94.75 136 *e*P **P 01 59 39.4 0.0**
PLCA pmax pmax
comp=Z,46nm,1.6s
PLCA MLR MLR
comp=Z,4µm,21.0s
PLCA Paso Flores 94.75 136 P **P 01 59 39.2 -0.2**
comp=Z,6.9nm,1.1s,mb5.0,baz=235,slow=4.2,SNR=8.0
PLCA LR LR 02 33 17.6
comp=Z,4µm,21.2s,MS5.8,baz=254,slow=30
PLCA Paso Flores 94.75 136 *e*P **P 01 59 39.4 0.0**
comp=Z,46nm,1.6s,mb5.7
PLCA LR LR
comp=Z,4µm,21.0s,MS5.9
LAO LASA Array 95.19 43 PFAKE 01 59 50.0 +8.7
LAO LR LR
comp=Z,4µm,22.0s,MS5.8
TIXI Tiksi 95.39 347 *e*P **P 01 59 39.5 -2.2**
TIXI *e* 02 03 29.3
TIXI *e*S 02 10 12.1
TIXI *e*PS PS 02 12 15.5 -4.0
TIXI pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
TIXI Tiksi 95.39 347 ⇑*i*P **P 01 59 40.2 -1.5**
RSSD Black Hills 95.73 45 *e*P **P 01 59 43.1 -0.7**
RSSD pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
RSSD MLR MLR
comp=Z,670nm,22.0s,MS5.1
RSSD Black Hills 95.73 45 *e*P **P 01 59 43.1 -0.7**
comp=Z,5.6nm,0.9s,mb5.0
RSSD LR LR
comp=Z,670nm,22.0s,MS5.1
WMOK Wichita Mounta 96.55 56 PFAKE 02 00 00.0 +12
WMOK LR LR
comp=Z,2µm,19.0s,MS5.7
CBKS Cedar Bluff 97.06 52 PFAKE 02 00 00.0 +10
CBKS LR LR
comp=Z,2µm,20.0s,MS5.5
YKA Yellowknife Ar 97.13 26 P **P 01 59 49.1 -0.6**
comp=Z,2.4nm,0.9s,mb4.6,baz=248,slow=4.4,SNR=27
YKA PP PP 02 03 43.2 -5.3
comp=Z,0.7nm,1.0s,baz=253,slow=7.9,SNR=5.2
YKA LR LR 02 34 57.8
comp=Z,3µm,21.5s,MS5.7,baz=265,slow=30
YKA Yellowknife Ar 97.13 26 P **P 01 59 49.1 -0.6**
YKA PP PP 02 03 43.2 -5.3
YKA LR LR 02 34 57.8
PALK Pallekele 97.23 275 PFAKE 02 00 00.0 +8.7
PALK LR LR
comp=Z,860nm,22.0s,MS5.2
NATX Nacogdoches 98.98 60 PFAKE 02 00 10.0 +11
NATX LR LR
comp=Z,3µm,20.0s,MS5.8
DGAR Diego Garcia 100.34 259 PFAKE 02 00 20.0 +15
DGAR LR LR
comp=Z,1µm,21.0s,MS5.5
MIAR Mount Ida 100.61 57 PFAKE 02 00 20.0 +14
MIAR LR LR
comp=Z,3µm,19.0s,MS5.8
WMQ Urumqi 101.33 312 *e*P P 02 00 09.0 -0.2
WMQ AP 02 00 14.0
WMQ PP PP 02 04 21.0 -0.3
WMQ PPP PPP 02 06 32.0 +0.1
WMQ SKS SKS 02 10 46.0 -7.3
WMQ S S 02 11 44.0 +1.0
WMQ PS PS 02 13 22.0 -0.3
WMQ AMB AMB
comp=Z,5.0nm,0.6s
WMQ AMB AMB
comp=Z,188nm,7.0s
WMQ LR LR
comp=N,3µm,20.0s
WMQ LR LR
comp=E,4µm,26.6s
WMQ LR LR
comp=Z,5µm,33.8s
TEIG Tepich 101.40 72 PFAKE 02 00 20.0 +10
TEIG LR LR
comp=Z,2µm,22.0s,MS5.5
JTS JuntasAbangare 101.74 83 PFAKE 02 00 20.0 +8.3
JTS LR LR
comp=Z,578nm,20.0s,MS5.1
TRQA Tornquist 101.80 137 PFAKE 02 00 20.0 +8.6
TRQA LR LR
comp=Z,5µm,22.0s,MS6.0
ULM Lac du Bonnet 102.82 41 PKiKP 02 04 34.5
comp=Z,0.8nm,0.6s,baz=325,slow=5.2,SNR=3.2
ULM Lac du Bonnet 102.82 41 PFAKE 02 00 30.0 +14
ULM LR LR
comp=Z,3µm,20.0s,MS5.8
CCM Cathedral Cave 103.29 54 PFAKE 02 00 30.0 +12
CCM LR LR
comp=Z,574nm,19.0s,MS5.1
OXF Oxford 103.94 58 PFAKE 02 00 30.0 +9.1
OXF LR LR
comp=Z,3µm,20.0s,MS5.8
LVC Limon Verde 104.60 120 PFAKE 02 00 40.0 +16
LVC LR LR
comp=Z,3µm,21.0s,MS5.8
OTAV Otavalo 104.85 95 PFAKE 02 00 40.0 +15
OTAV LR LR
comp=Z,3µm,20.0s,MS5.9
JFWS Jewell Farm 105.05 49 PFAKE 02 04 50.0
JFWS LR LR
comp=Z,2µm,19.0s,MS5.8
PLAL Pickwick Lake 105.11 58 PFAKE 02 04 50.0
PLAL LR LR
comp=Z,3µm,19.0s,MS5.8
EYMN Ely 105.15 44 PFAKE 02 04 50.0
EYMN LR LR
comp=Z,2µm,19.0s,MS5.6
ZAL Zalesovo 105.39 322 PKiKP 02 04 40.3
comp=Z,0.9nm,0.9s,baz=76,slow=5.5,SNR=4.0
WVT Waverly 105.54 57 PFAKE 02 04 50.0
WVT LR LR
comp=Z,3µm,20.0s,MS5.8
LRAL Lakeview Retre 105.58 60 PFAKE 02 04 50.0
LRAL LR LR
comp=Z,2µm,20.0s,MS5.7
MKAR Makanchi Array 105.69 315 P Pdif 02 00 29.6 +1.3
MKAR 02 04 53.5
MKAR Makanchi Array 105.69 315 Pdiff Pdif 02 00 29.6 +1.3
comp=Z,1.2nm,0.9s,baz=101,slow=6.2,SNR=6.2
MKAR PKiKP 02 04 40.6
comp=Z,2.3nm,1.1s,baz=122,slow=1.5,SNR=6.9
MKAR PP PP 02 04 53.5 -0.3
comp=Z,1.7nm,1.0s,baz=100,slow=7.4,SNR=5.2
MKAR PKKPbc 02 16 04.8
comp=Z,1.7nm,1.0s,baz=270,slow=5.8,SNR=5.2
MKAR PKKPab 02 16 20.1
comp=Z,1.7nm,0.8s,baz=275,slow=4.3,SNR=7.0
WCI Wyandotte Cave 107.14 55 PFAKE 02 05 00.0
WCI LR LR
comp=Z,307nm,19.0s,MS4.9
LPAZ La Paz 108.09 115 PFAKE 02 05 00.0
LPAZ LR LR
comp=Z,3µm,19.0s,MS5.8
GOGA Godfrey 108.56 60 PFAKE 02 05 00.0
GOGA LR LR

comp=Z,2µm,20.0s,MS5.7
KURK Kurchatov 108.67 318 PFAKE 02 05 00.0
KURK LR LR
comp=Z,497nm,20.0s,MS5.1
DWPF Disney 109.30 66 PFAKE 02 05 00.0
DWPF LR LR
comp=Z,293nm,19.0s,MS4.9
AAM Ann Arbor 109.76 51 PFAKE 02 05 00.0
AAM LR LR
comp=Z,2µm,19.0s,MS5.7
ACSO Alum Creek Sta 109.99 53 PFAKE 02 05 00.0
ACSO LR LR
comp=Z,3µm,21.0s,MS5.8
AAK Ala-Archa 110.59 309⇑ *i*PKIKP PKPdf 02 04 48.4 -5.7
AAK Ala-Archa 110.59 309⇑ *i*PKP PKPdf 02 04 48.5 -5.6
AAK LR LR
comp=Z,643nm,21.0s,MS5.2
NHSC New Hope 111.22 61 PFAKE 02 05 00.0 +4.4
NHSC LR LR
comp=Z,2µm,20.0s,MS5.7
BLA Blacksburg 111.59 57 PFAKE 02 05 00.0 +3.8
BLA LR LR
comp=Z,2µm,19.0s,MS5.8
ERPA Erie 112.45 51 PFAKE 02 05 10.0 +12
ERPA LR LR
comp=Z,2µm,20.0s,MS5.7
CHKZ Chkalovo 113.73 321 *e*PKIKP PKPdf 02 04 54.1 -5.9
BVAR Borovoye Array 113.88 320 PKiKP 02 04 55.9
comp=Z,2.7nm,0.9s,baz=90,slow=3.0,SNR=11
SSPA Standing Stone 113.90 53 PFAKE 02 05 10.0 +9.3
SSPA LR LR
comp=Z,528nm,22.0s,MS5.1
CBN Corbin 114.10 56 PFAKE 02 05 10.0 +8.9
CBN LR LR
comp=Z,4µm,19.0s,MS6.0
SDV Santo Domingo 114.89 89 *e*PKPdf PKPdf 02 04 58.8 -4.3
SDV LR LR
comp=Z,2µm,22.0s,MS5.6
BINY Binghamton 115.42 51 PFAKE 02 05 10.0 +6.4
BINY LR LR
comp=Z,3µm,22.0s,MS5.9
SAML Samuel 115.61 110 PFAKE 02 05 10.0 +5.4
SAML LR LR
comp=Z,2µm,21.0s,MS5.7
NCB Newcomb 116.75 50 PFAKE 02 05 10.0 +3.9
NCB LR LR
comp=Z,2µm,20.0s,MS5.8
MSEY Mahe Island 117.03 255 PFAKE 02 05 20.0 +13
MSEY LR LR
comp=Z,1µm,21.0s,MS5.4
FRB Frobisher Bay 117.62 27 PKP PKPdf 02 05 02.1 -5.2
comp=Z,3.1nm,1.0s,baz=312,slow=1.5,SNR=3.9
FRB PKKPbc 02 15 25.4
comp=Z,2.9nm,0.8s,baz=127,slow=3.1,SNR=5.1
HRV Harvard--Oak R 118.71 51 PFAKE 02 05 20.0 +10
HRV LR LR
comp=Z,2µm,20.0s,MS5.7
WES Weston 118.88 51 PFAKE 02 05 20.0 +10
WES LR LR
comp=Z,3µm,20.0s,MS5.9
WVL Waterville 120.02 49 PFAKE 02 05 20.0 +7.6
WVL LR LR
comp=Z,11µm,21.0s,MS6.5
ARU Arti 120.30 325 *i* PKIKP PKPdf 02 05 07.3 -5.4
ARU *e* 02 06 33.3
ARU *e* 02 12 16.3
ARU *e*PS PS 02 16 22.1 -2.2
ARU *e*SS SS 02 23 03.8 +3.0
ARU Arti 120.30 325 *e*PKPdf PKPdf 02 05 07.7 -4.9
ARU LR LR
comp=Z,726nm,21.0s,MS5.3
SCHQ Schefferville 120.52 37 PKKPbc 02 15 15.3
comp=Z,4.1nm,1.0s,baz=127,slow=5.1,SNR=4.5
SCHQ Schefferville 120.52 37 PFAKE 02 05 20.0 +6.8
SCHQ LR LR
comp=Z,3µm,20.0s,MS5.9
PQI Presque Isle 121.00 46 PFAKE 02 05 20.0 +5.7
PQI LR LR
comp=Z,11µm,21.0s,MS6.5
SJG San Juan 121.30 80 *e*PKIKP PKPdf 02 05 10.9 -4.6
SJG MLR MLR
comp=Z,2µm,22.0s
EMMW East Machias 121.57 48 PFAKE 02 05 20.0 +4.5
EMMW LR LR
comp=Z,10µm,20.0s,MS6.5
SFJ Sondre 123.09 20 PFAKE 02 05 30.0 +12
SFJ LR LR
comp=Z,2µm,21.0s,MS5.8
SUR Sutherland 124.12 205 PFAKE 02 05 30.0 +9.3
SUR LR LR
comp=Z,461nm,19.0s,MS5.2
BBSR BB Station 124.15 63 PFAKE 02 05 30.0 +9.2
BBSR LR LR
comp=Z,4µm,19.0s,MS6.0
BDFB Brasilia 125.01 125 PKP PKPdf 02 05 19.2 -3.6
comp=Z,5.0nm,0.9s,baz=192,slow=5.1,SNR=6.9
BOSA Boshof 125.29 212 PKP PKPdf 02 05 19.9 -3.2
comp=Z,5.2nm,1.1s,baz=126,slow=6.7,SNR=5.1
BOSA PKKP PKKP 02 15 39.3 +6.0
comp=Z,1.9nm,0.8s,baz=12,slow=1.0,SNR=3.7
BOSA Boshof 125.29 212 PKP PKPdf 02 05 19.9 -3.2
BOSA PKKP PKKP 02 15 39.3 +6.0
BOSA LR LR
comp=Z,2µm,21.0s,MS5.7
ARCES ARCESS Array B 125.81 348 PKP PKPdf 02 05 18.8 -4.2
comp=Z,5.4nm,0.9s,SNR=7.2
PECR Pechory 127.92 328 *e*PKIKP PKPdf 02 05 24.0 -3.4
PECR *e* 02 07 26.4
LBTB Lobatse 128.03 215 PFAKE 02 05 40.0 +12
LBTB LR LR
comp=Z,2µm,19.0s,MS5.8
MAK Makhachkala 130.32 311 *e*PKIKP PKPdf 02 05 29.0 -3.4
MAK pmax pmax
comp=Z,1µm,5.0s
MAK pmax pmax
comp=Z,1µm,8.0s
MOS Moscow 131.35 330 *e*PKIKP PKPdf 02 05 29.7 -4.2
MOS MLR MLR
comp=Z,4µm,23.5s,MS6.0
KAF Kangasniemi 131.53 341 *ep* PKPdf 02 05 25.0 -9.1
comp=Z,4.1nm,1.2s
FINES FINESS Array B 132.12 341 PKP PKPdf 02 05 31.4 -3.8
comp=Z,2.2nm,0.8s,baz=45,slow=5.4,SNR=6.7
OBN Obninsk 132.20 330 *i* PKIKP PKPdf 02 05 31.6 -4.0
OBN *e* 02 08 00.7
OBN *e* 02 12 42.4
OBN *e* 02 18 01.4
OBN *e* 02 19 52.9
OBN *e*SSS SSS 02 30 23.8 -1.2
OBN pmax pmax
comp=Z,56nm,2.0s
OBN MLR MLR
comp=Z,4µm,21.0s,MS6.1
OBN Obninsk 132.20 330 *e*PKP PKPdf 02 05 31.6 -4.0
OBN LR LR
comp=Z,4µm,21.0s,MS6.1
TI2 Plekhanov 132.60 310 *e*PKIKP PKPdf 02 05 35.6 -1.1
TI2 *i* 02 10 46.6
TI2 MLR MLR
comp=N,1µm,20.0s,MS5.7
TI2 MLR MLR
comp=E,1µm,20.0s,MS5.7
TI2 MLR MLR
comp=Z,1µm,20.0s,MS5.5
GOF Gofitskoye 132.87 315 *e*PKIKP PKPdf 02 05 33.6 -3.5
GOF pmax pmax
comp=Z,40nm,2.5s
ZEI Tsey 132.94 312 *e*PKIKP PKPdf 02 05 33.6 -3.7
GNI Garni 132.97 308 PFAKE 02 05 50.0 +13
GNI LR LR
comp=Z,2µm,22.0s,MS5.7
KIV Kislovodsk 133.45 314⇑ *i*PKIKP PKPdf 02 05 35.6 -2.6
KIV *e* 02 08 00.6
KIV *i* SS SS 02 26 13.7 +28
KIV pmax pmax
comp=Z,36nm,2.6s
KIV Kislovodsk 133.45 314 *e*PKP PKPdf 02 05 35.7 -2.5
KIV LR LR
comp=Z,566nm,20.0s,MS5.3
LSZ Lusaka 133.82 226 PFAKE 02 05 50.0 +10
LSZ LR LR
comp=Z,3µm,22.0s,MS6.0
KMBO Kilima Mbogo 134.98 249 *e*PKIKP PKPdf 02 05 37.1 -4.8
KMBO MLR MLR
comp=Z,4µm,21.0s
KMBO Kilima Mbogo 134.98 249 PKP PKPdf 02 05 39.0 -2.9
comp=Z,4.5nm,0.9s,baz=34,slow=2.7,SNR=15
MSL Mosul 135.01 303 *e*PKP PKPdf 02 05 39.0 -2.4
MSL *e*PPP PP 02 08 14.5 -0.8
SOC Sochi 135.60 314 *i* PKIKP PKPdf 02 05 38.0 -4.2
SOC *e* 02 08 14.4
SOC *e*SSS SSS 02 31 16.4 +1.7
SOC pmax pmax
comp=Z,24nm,1.2s
SOC pmax pmax
comp=N,9.0nm,0.9s
SOC pmax pmax
comp=E,10.0nm,1.1s
NB2 NORSAR Subarra136.12 349 PKPabc PKPdf 02 05 39.8 -2.8
comp=E,117nm,3.3s,baz=16,slow=3.1
NB2 NORSAR Subarra136.12 349 PKPa 02 05 39.8
baz=16,slow=3.2
NOA NORSAR Array B136.12 349 PKhKP 02 05 32.9
comp=E,0.5nm,0.8s,baz=45,slow=2.4,SNR=4.0
NOA PKP PKPdf 02 05 40.1 -2.5
comp=E,1.5nm,0.9s,baz=18,slow=4.0,SNR=4.6
NAO01 NORSAR Array S136.35 349 PFAKE 02 05 50.0 +7.0
NAO01 LR LR
comp=Z,2µm,20.0s,MS5.9
HFS Hagfors 136.47 347 PKhKP 02 05 29.9
comp=Z,0.9nm,0.6s,baz=112,slow=8.0,SNR=4.3
HFS PKP PKPdf 02 05 37.2 -6.1
comp=Z,1.6nm,0.7s,baz=27,slow=3.2,SNR=4.4
ANN Anapa 136.67 317 *i* PKIKP PKPdf 02 05 39.0 -5.1
ANN *e* 02 08 23.7
ANN pmax pmax
comp=Z,55nm,2.0s
ANN MLR MLR
comp=N,3µm,22.0s,MS6.0
ANN MLR MLR
comp=E,1µm,22.0s,MS6.0
ANN MLR MLR
comp=Z,2µm,22.0s,MS5.8
KONO Kongsberg 137.70 350 PFAKE 02 05 50.0 +4.4
KONO LR LR
comp=Z,2µm,22.0s,MS5.9
MALT Malatya 138.17 307 *e*PKIKP PKPdf 02 05 42.9 -4.2
MALT Malatya 138.17 307 *e*PKPdf PKPdf 02 05 43.2 -3.9
AKASG Malin Array Be 138.39 328 PKhKP 02 05 36.7
comp=Z,0.2nm,0.3s,baz=69,slow=3.2,SNR=4.9
AKASG PKP PKPdf 02 05 42.3 -4.8
comp=Z,1.8nm,0.7s,baz=51,slow=2.6,SNR=13
AKASG Malin Array Be 138.39 328 PKP 02 05 36.7
AKASG PKP PKPdf 02 05 42.3 -4.8
RCBR Riachuelo 140.38 125 PFAKE 02 06 00.0 +8.3
RCBR LR LR
comp=Z,2µm,22.0s,MS5.8
ASF Jabal al Asfar 140.80 298 PKhKP 02 05 42.6
comp=Z,1.1nm,0.6s,baz=223,slow=6.5,SNR=3.1
ASF PKP PKPdf 02 05 47.9 -4.2
comp=Z,3.1nm,0.9s,baz=64,slow=1.0,SNR=7.0
MBAR Mbarara 140.92 245 *e*PKPdf PKPdf 02 05 50.0 -2.8
MBAR LR LR
comp=Z,804nm,20.0s,MS5.5
BRTR Keskin Array B 141.24 311 PKhKP 02 05 44.2
comp=Z,2.4nm,1.0s,baz=128,slow=4.3,SNR=7.1
BRTR PKP PKPdf 02 05 48.0 -4.6
comp=Z,3.2nm,0.9s,baz=142,slow=2.1,SNR=10
BRTR PP PP 02 08 54.0 +0.4
comp=Z,2.7nm,1.1s,baz=90,slow=2.5,SNR=6.3
KWP Kalwaria 142.22 331 *e*PKHKP 02 05 45.6
BURAR Bucovina Array 142.38 327 ⇑P PKPdf 02 05 48.4 -5.9
EIL Elat 142.86 295 *e*PKPdf PKPdf 02 05 49.7 -5.9
BSEG Bad Segeberg 142.90 346 *e*PKIKP PKPdf 02 05 47.6 -7.3
BSEG Bad Segeberg 142.90 346 *e*PKPbc PKPdf 02 05 47.6 -7.3
KOLS Kolonicke sedl 142.92 331 *e*PKP PKPdf 02 05 54.2 -0.9
OJC Ojcow 143.04 334 *e*PKP PKPdf 02 05 47.1 -8.2
EKA Eskdalemuir Ar 143.19 359 PKhKP 02 05 48.0
comp=Z,2.6nm,0.7s,baz=348,slow=2.4,SNR=7.9
ESK Eskdalemuir 143.21 359 PFAKE 02 06 00.0 +11
ESK LR LR
comp=Z,573nm,21.0s,MS5.3
CRVS Cervenica-Dubn 143.31 332 *e*PKP PKPdf 02 05 49.9 -5.9
CRVS *e* 02 06 04.9
MLR Muntele Rosu 143.33 324 PKhKP 02 05 49.0
baz=14,slow=2.7
MLR Muntele Rosu 143.33 324 ⇓P PKPbc 02 05 50.0 +0.9
MLR Muntele Rosu 143.33 324 ⇓P PKPbc 02 05 50.0 +0.8
NIE Niedzica 143.43 333 *e*PKP PKPdf 02 05 47.8 -8.2
RAC Raciborz 143.78 336 *e*PKPdf PKPdf 02 05 50.5 -6.0
PRD Provadia 143.80 320 *e*P PKPbc 02 05 52.0 +1.3
KSP Ksiaz 143.88 338 *e*PKIKP PKPdf 02 05 50.4 -6.3
KSP MLR MLR
comp=Z,8µm,26.6s,MS6.3
KSP Ksiaz 143.88 338 *e*PKP PKPdf 02 05 50.4 -6.3
KSP *e*PKPdf PKPdf 02 05 53.7 -3.0
KSP *e* 02 15 41.0
KSP *e* 02 25 41.0
KSP LR LR
comp=Z,8µm,26.6s,MS6.3
KSP Ksiaz 143.88 338 *e*PKP PKPdf 02 05 49.2 -7.5
OKC Ostrava-Krasne 144.00 335 *e*PKP PKPdf 02 05 50.3 -6.6
ULDT Uludag 144.21 314 *i* P PKPbc 02 05 51.6 -0.4
ISP Isparta 144.22 310 ⇓*i*PKIKP PKPdf 02 05 52.3 -5.4
ISP Isparta 144.22 310 *e*PKP PKPdf 02 05 51.8 -6.0
UPC Upice 144.26 338 *e*PKP PKPdf 02 05 52.4 -5.0
DPC Dobruska-Polom 144.28 338 *e*PKP PKPdf 02 05 51.7 -5.7
MORC Moravsky Berou 144.28 336 *e*PKIKP PKPdf 02 05 51.5 -6.0
HPK Haverah Park 144.53 358 *e*P PKPbc 02 05 53.2 +0.8
HPK AMb AMB 02 05 53.7
comp=Z,156nm,1.3s
CLL Collm 144.56 342 *i* PKIKP PKPdf 02 05 52.6 -5.3
CLL MLR MLR
comp=Z,3µm,22.0s,MS6.0
CLL Collm 144.56 342 ⇓*i*PKIKP PKPdf 02 05 52.6 -5.3
comp=Z,logA/T=1.8
CLL *i* *PPKP 02 05 55.3
CLL *i* 02 06 09.5
CLL *e* 02 07 48.0
CLL *e*PP PP 02 09 15.0 +1.9
CLL *e*PPP PPP 02 12 17.0 -10
CLL *e* 02 22 12.0
CLL *e*SSS SSS 02 33 12.0 -10
BRG Berggiesshubel 144.65 340 *i* PKIKP PKPdf 02 05 53.4 -4.7
SZH Strazhica 144.65 321 *e*P PKPbc 02 05 54.0 +0.9
JMB Yambol 144.70 319 *e*P PKPbc 02 05 53.5 +0.2
WIT Witteveen 144.72 349 *ex* x 01 58 43.7
WIT *e*PKP PKPdf 02 05 55.3 -2.8
PVCC Panska Ves 144.74 339 *e*PKP PKPdf 02 05 53.5 -4.7
PSZ Piszkesteto 144.74 332 *e*PKIKP PKPdf 02 05 52.5 -5.8
PSZ Piszkesteto 144.74 332⇓*e*P PKPbc 02 05 53.5 +0.3
PSZ Piszkesteto 144.74 332⇓*e*PKP/p PKPbc 02 05 53.5 +0.3
VYHS Vyhne 144.77 333 *e*PKP PKPdf 02 05 54.1 -4.3
VYHS *e* 02 06 08.5
CLZ Clausthal 144.81 344 *e*PKPbc PKPbc 02 05 54.1 +0.8
KOLL Kolacno 144.88 334 *e*PKP PKPdf 02 05 54.6 -4.0
KOLL *e* 02 06 03.0
KOLL *e* 02 06 11.4
LHO Holmfirth 144.95 358 *e*P PKPbc 02 05 53.3 -0.3
LHO AMb AMB 02 05 55.5
comp=Z,87nm,1.2s
VRAC Vranov 145.03 336 PKPbc PKPbc 02 05 54.2 +0.3
comp=Z,37nm,1.0s,baz=46,slow=5.0,SNR=28
PVL Pavlikeni 145.04 321 *e*P PKPbc 02 05 56.2 +2.0
DCN Croghan 145.10 3 *e*P PKPbc 02 05 54.6 +0.6
PRA Prague 145.17 339 PKP PKPdf 02 05 57.0 -2.0
DLF Lyons Farm 145.19 3 *e*P PKPbc 02 05 54.9 +0.7
PRU Pruhonice 145.21 339 *e*PKP PKPdf 02 05 55.1 -4.0
KBI1 Birley Grange 145.23 357 *e*P PKPbc 02 05 54.4 +0.1
KBI1 AMb AMB 02 06 00.2
comp=Z,179nm,1.6s
SMOL Smolenice 145.34 335 *e*PKP PKPdf 02 05 56.8 -2.5
SMOL *e* 02 06 04.0
SMOL *e* 02 06 12.1
DNZL Cakiroluk 145.34 310 *i* P PKPbc 02 05 56.0 +0.9
MANT Manisa 145.35 312 *i* P PKPbc 02 05 55.1 0.0
KWE Weaver Farm 145.48 358 *e*P PKPbc 02 05 55.5 +0.6
KWE AMb AMB 02 06 00.2
comp=Z,256nm,2.1s
WTSB Winterswijk 145.50 348 *e*PKP PKPdf 02 05 54.0 -5.5
comp=Z,258nm,3.5s
AKAS Kas 145.50 308 *i* P PKPbc 02 05 56.7 +1.1
SRO Srobarova 145.51 333 *e*PKP PKPdf 02 05 57.5 -2.2
SRO *e* 02 06 21.5
MOX Moxa 145.56 342 *e*PKIKP PKPdf 02 05 56.3 -3.3
MOX MLR MLR
comp=Z,2µm,21.0s,MS5.8
MOX Moxa 145.56 342 *i* P PKPbc 02 05 56.3 +1.1
comp=Z,logA/T=2.4
MOX L 02 18 08.0
BZS Buzias 145.56 327 ⇑P PKPbc 02 05 56.8 +1.4
DIM Dimitrovgrad 145.58 319 *e*P PKPbc 02 05 57.5 +1.9
SRO1 Iza 145.59 333 *e*PKP PKPdf 02 05 57.6 -2.2
NKC Novy Kostel 145.67 341 *e*PKP PKPdf 02 05 56.4 -3.5
ZST Bratislava 145.72 335 *e*PKP PKPdf 02 05 57.5 -2.5
ZST *e* 02 06 22.4
KDZ Kurdzhali 145.88 319 *e*P PKPbc 02 05 58.0 +1.7
VKA Vienna 145.98 335 *e*PKP PKPdf 02 05 55.0 -5.4
VKA *i* 02 05 58.3
PLD Plovdiv 146.06 320 *e*P PKPbc 02 05 57.6 +0.9
PGB Panagyurishte 146.12 321 *e*P PKPbc 02 05 58.6 +1.7
AYDN Tasoluk 146.19 311 *i* P PKPbc 02 05 57.6 +0.4
VAL Valentia 146.24 7⇓*i*P PKPbc 02 05 58.0 +1.2
KHC Kasperske Hory 146.26 339 *e*PKP PKPdf 02 05 56.3 -4.6
KHC *ep*PKP 02 06 03.0
RZN Rozhen 146.29 320 *e*P PKPbc 02 05 59.0 +1.7
KDAG Bornova 146.30 313 *i* P PKPbc 02 05 56.2 -1.2
GEC2 GERESS Array S 146.47 339 *e*PKP2 PKPab 02 05 59.3 -1.3
GERES GERESS Array B 146.47 339 PKPbc PKPbc 02 05 59.2 +1.7
comp=Z,22nm,0.9s,baz=45,slow=1.9,SNR=82
WET Wettzell 146.49 340 *e*PKP2 PKPab 02 05 59.8 -0.9
GRA1 Grafenberg Arr 146.52 342 *e*PKPbc PKPbc 02 05 59.6 +2.0
GRF Grafenberg Arr 146.52 342 *e*PKP2 PKPab 02 05 59.6 -1.2
MCH1 Michaelchurch 146.53 359 *e*P PKPbc 02 05 55.8 -1.7
BOLS Boljevac 146.58 325⇑*i*PKP PKPdf 02 05 58.1 -3.6
PKSM Moragy 146.58 331⇑*e*PKP2 PKPab 02 06 01.2 +0.1
SVIS Svilajnac 146.67 326⇑*i*PKP PKPdf 02 05 59.4 -2.4
TNS Taunus Mts 146.78 345 *e*PKP2 PKPab 02 06 00.2 -1.6
HGN Heimansgroeve 146.81 348 *i* PKP PKPdf 02 06 00.9 -0.8
comp=Z,276nm,3.0s
RHK1 Bakonya 146.93 331⇑*i*P PKPbc 02 06 00.6 +2.0
MMB Musomiste 146.95 320 *e*P PKPbc 02 06 00.2 +1.4
MOA Molln 147.11 337⇓*i*P PKPdf 02 06 00.1 -2.3
ARSA Arzberg 147.12 335⇑*i*P PKPdf 02 05 58.1 -4.3
KKB Krupnik 147.18 321 *e*P PKPdf 02 05 54.0 -8.7
GRUS Gruza 147.21 326⇓*i*PKP PKPdf 02 06 00.6 -2.0
TOD Tromm 147.26 344 PKIKP PKPdf 02 05 59.9 -2.7
TOD Tromm 147.26 344⇓*e*P PKPdf 02 06 00.8 -1.8
SIND Sindeldorf 147.29 343⇓*e*P PKPdf 02 06 00.7 -1.9
ABH Alteburg 147.31 346 PKP PKPdf 02 06 01.8 -0.8
ABH Alteburg 147.31 346⇓*e*P PKPdf 02 06 01.2 -1.4
SRS Serrai 147.31 320 *e*P PKPdf 02 05 58.5 -4.4
BARS Barje 147.31 324⇑*i*PKP PKPdf 02 06 05.7 +2.8
SWS Schriesheim 147.40 345 *e*P PKPdf 02 06 01.0 -1.8
DIVS Divcibare 147.45 327⇑*i*PKP PKPdf 02 06 00.7 -2.3
HEX Exmoor 147.47 360 *e*P PKPdf 02 06 01.4 -1.5
HEX AMb AMB 02 06 05.9
comp=Z,102nm,2.2s
HTL Hartland 147.54 1 *e*P PKPdf 02 05 59.9 -3.0
RUP Ruppelstein 147.59 347 PKP2 PKPab 02 06 01.3 -3.6
RUP Ruppelstein 147.59 347⇓*e*P PKPdf 02 06 01.9 -1.2
SOH Sokhos 147.63 319 *e*P PKPdf 02 05 57.3 -6.1
GIVF Givet 147.65 349 *e*PKP1 PKPdf 02 06 01.8 -1.4
comp=Z,171nm,1.2s
KTD Kalmit 147.71 345 PKP2 PKPab 02 06 01.8 -3.6
KTD Kalmit 147.71 345 *e*P PKPdf 02 06 01.7 -1.6
KNT Kendrikon 147.71 320 *e*P PKPdf 02 06 01.3 -2.2
GROS Grobnik 147.76 334 *e*PKPbc PKPdf 02 06 03.4 -0.1
BAIF Baives 147.80 350 *e*PKP1 PKPdf 02 06 02.3 -1.1
comp=Z,169nm,1.4s
HDH Heidenheim 147.81 342 *e*P PKPdf 02 06 01.8 -1.7
VAY Valandovo 147.81 321⇑*i*PKP PKPdf 02 06 00.6 -3.1
WLF Walferdange 147.82 348 PKP2 PKPab 02 06 02.3 -3.5
WLF Walferdange 147.82 348 *e*PKPbc PKPdf 02 06 02.2 -1.3
FUR Furstenfeldbru 147.86 341 *e*PKP2 PKPab 02 06 03.0 -3.1
BBLS Bajina Basta - 147.91 327 *e*PKP PKPdf 02 05 59.9 -3.9
STU Stuttgart 147.93 343 *e*PKP2 PKPab 02 06 02.4 -3.9
THE Thessaloniki 147.98 319 *e*P PKPdf 02 05 58.9 -5.1
SKO Skopje 148.07 323⇑*i*PKP PKPdf 02 06 01.5 -2.6
LANF Langenberg 148.09 345 PKP PKPdf 02 06 01.2 -2.7
LBG Lerchenberg 148.13 344 *e*P PKPdf 02 06 02.5 -1.5
GRG Griva 148.13 320 *e*P PKPdf 02 05 58.8 -5.4
SISC Sisak 148.18 332 *i* PKP PKPdf 02 06 01.9 -2.3
BUCH Bad Urach 148.18 343 *e*P PKPdf 02 06 02.3 -1.8
STR Strasbourg 148.47 345 PKP PKPdf 02 06 05.1 +0.6
WATA Walderalm 148.49 339⇓*i*P PKPdf 02 06 04.4 -0.2
LJU Ljubljana 148.50 335 *e*PKPbc PKPdf 02 06 04.5 -0.2
SANT Santorini 148.50 310 *e*PKPbc PKPdf 02 06 04.2 -0.8
WTTA Wattenberg 148.53 339⇑*i*P PKPdf 02 06 02.5 -2.2
BFO Black Forest 148.56 344 *e*PKP2 PKPab 02 06 04.6 -4.3
LIT Litokhoron 148.58 319 *e*P PKPdf 02 06 02.0 -3.0
GUT Gutenstein 148.59 343 *e*P PKPdf 02 06 02.9 -1.8
BOJS Bojanci 148.63 333 *e*PKPbc PKPdf 02 06 04.9 +0.1
SPAK Spaichingen 148.65 343 *e*P PKPdf 02 06 03.6 -1.2
UBR Uberruh 148.65 341 *e*P PKPdf 02 06 03.1 -1.7
PTCC Patocco-Chiusa 148.66 337 *e*PKP PKPdf 02 06 02.9 -2.0
FVI Forni Avoltri 148.71 337 *e*PKIKP PKPdf 02 06 02.5 -2.5
SQTA Sankt Quirin 148.71 340⇓*i*P PKPdf 02 06 05.1 +0.1
WLS Welschbruch 148.73 345 PKP PKPdf 02 06 05.2 +0.3
CDF Champ du Feu 148.75 345 *e*PKP1 PKPdf 02 06 04.6 -0.4
comp=Z,255nm,1.5s
VOY Vojsko 148.76 336 *e*PKPbc PKPdf 02 06 04.1 -1.0
FNA Florina 148.85 321 *e*P PKPdf 02 06 01.9 -3.5
LIBD Limburg 148.91 345 PKP PKPdf 02 06 06.0 +0.8
LIBD Limburg 148.91 345 *e*P PKPdf 02 06 04.1 -1.1
ECH Echery 148.96 345 PKP PKPdf 02 06 02.7 -2.6
OHR Ohrid 148.99 322⇑*i*PKP PKPdf 02 06 02.7 -2.9
KIZ Kirchzarten 149.01 344 *e*P PKPdf 02 06 03.5 -1.9
FELD Feldberg 149.06 344 PKP PKPdf 02 06 05.0 -0.5
FELD Feldberg 149.06 344 *e*P PKPdf 02 06 03.7 -1.8
DAVA Damuels 149.07 341⇑*i*P PKPdf 02 06 06.2 +0.7
TRI Trieste 149.08 335 *e*PKP2 PKPab 02 06 05.7 -5.4
MEZF Maizieres J'vi 149.15 348 *e*PKP1 PKPdf 02 06 05.9 +0.3
THEF They Montfort 149.22 347 PKP PKPdf 02 06 03.6 -2.1
AGG Agios Georgios 149.30 317 *e*P PKPdf 02 05 59.7 -6.5
MOF Molkenrain 149.31 345 PKP PKPdf 02 06 03.6 -2.3
HAU Haudompre 149.34 346 *e*PKP1 PKPdf 02 06 06.0 +0.1
comp=Z,46nm,1.0s
HAU *e*R
comp=Z,4µm,22.0s
HINF Hinteralfeld 149.41 346 *e*PKP1 PKPdf 02 06 06.0 -0.1
comp=Z,253nm,1.8s
STON Ston 149.50 328 *i* P PKPdf 02 06 03.0 -3.3
DAVOX Davos 149.53 341 PKP PKPdf 02 06 03.2 -3.1
comp=Z,27nm,0.9s,baz=335,slow=1.5,SNR=3.7
DAVOX PKPbc PKPdf 02 06 07.8 +1.5
comp=Z,23nm,0.6s,baz=80,slow=1.7,SNR=40
MEV Metsovon 149.55 320 *e*P PKPdf 02 06 05.7 -0.9
BBS Basel-Blauen 149.57 344 *e*P PKPdf 02 06 04.8 -1.5
CTI Castel Tesino 149.58 338 *e*PKHKP 02 06 06.5
BRMO Bormio 149.64 340 *e*PKP PKPdf 02 06 04.7 -1.7
FLN La Foliniere 149.64 355 *e*PKP1 PKPdf 02 06 06.5 +0.1
comp=Z,103nm,1.1s
FLN *e*R
comp=Z,4µm,23.0s
LDF La Druitiere 149.78 355 *e*PKP1 PKPdf 02 06 06.7 +0.1
comp=Z,91nm,1.1s
LOMF Lomont 149.85 345 PKP PKPdf 02 06 06.7 -0.1
GRR Gorron 150.04 356 *e*PKP1 PKPdf 02 06 07.5 +0.5
comp=Z,76nm,1.1s
GVD Gavdhos 150.18 309 *e*PKPdf PKPdf 02 06 05.6 -2.1
GVD *e*PKPbc PKPdf 02 06 09.3 +1.6
ROSF Rostrenen 150.20 359 *e*PKP1 PKPdf 02 06 07.5 +0.2
IGT Igoumenitsa 150.25 320 *e*P PKPdf 02 06 05.9 -1.8
SGMF Saint Gilles 150.27 358 *e*PKP1 PKPdf 02 06 07.8 +0.4
comp=Z,87nm,1.2s
SAL Salo 150.35 339 *e*PKIKP PKPdf 02 06 06.1 -1.5
QUIF Quistinic 150.62 359 *e*PKP1 PKPdf 02 06 08.6 +0.7
CABF La Chapelle 150.72 346 *e*PKP1 PKPdf 02 06 09.8 +1.7
comp=Z,96nm,1.2s
HYF Humbligny 150.76 351 *e*PKP1 PKPdf 02 06 09.8 +1.6
SSF Saint Saulge 150.82 349 *e*PKP1 PKPdf 02 06 09.6 +1.3
comp=Z,79nm,1.0s
MCGN Macugnaga 150.83 343 *e*PKP PKPdf 02 06 06.8 -1.5
RSM Repubblica di 151.07 335 *e*PKP PKPdf 02 06 07.5 -1.2
AVF Avril sur Loir 151.10 349 *e*PKP1 PKPdf 02 06 09.8 +1.1
comp=Z,25nm,1.0s
ORO Oropa 151.13 342 *e*PKIKP PKPdf 02 06 06.4 -2.4
FSSB Fossombrone 151.14 334 *e*PKP PKPdf 02 06 07.5 -1.3
SMF Signal de Mont 151.16 349 *e*PKP1 PKPdf 02 06 10.2 +1.4
comp=Z,99nm,1.5s
ARV Arcevia 151.23 334 *e*PKP PKPdf 02 06 05.6 -3.4
ZCCA Zocca 151.29 337 *e*PKP PKPdf 02 06 11.7 +2.6
SFI Santa Sofia 151.34 336 *e*PKIKP PKPdf 02 06 07.8 -1.3
PGD Poggio Sodo 151.41 336 *e*PKIKP PKPdf 02 06 07.9 -1.3
BGF Bois d'Agland 151.42 350 *e*PKP1 PKPdf 02 06 10.9 +1.7
comp=Z,69nm,1.1s
GSCL Gusciola 151.43 338 *e*PKP PKPdf 02 06 08.5 -0.7
SNTG Esanatoglia 151.43 334 *e*PKP PKPdf 02 06 07.6 -1.6
ERBM Eremo 151.43 338 *e*PKP PKPdf 02 06 08.4 -0.8

BOB	**Bobbio (Coli)**	**151.46**	**340**	*e*PKIKP	PKPdf	02 06 12.2	+2.9	
LPL	**La Plagne**	**151.58**	**344**	*e*PKP1	PKPdf	02 06 12.0	+2.6	
	comp=Z,94nm,1.4s							
LPG	**La Plagne**	**151.59**	**344**	*e*PKP1	PKPdf	02 06 12.1	+2.6	
	comp=Z,106nm,1.6s							
NRCA	**Norcia**	**151.69**	**333**	*e*PKP	PKPdf	02 06 06.6	-3.1	
MFF	**Saint Martin d**	**151.76**	**354**	*e*PKP1	PKPdf	02 06 11.5	+1.8	
	comp=Z,31nm,0.8s							
TCF	**Toulx Ste Croi**	**151.78**	**351**	*e*PKP1	PKPdf	02 06 11.7	+2.0	
	comp=Z,57nm,1.3s							
AGO	**Saint Agoulin**	**151.86**	**349**	PKP	PKPdf	02 06 05.1	-4.7	
AQU	**L'Aquila**	**151.95**	**332**	*e*PKIKP	PKPdf	02 06 08.4	-1.7	
AQU				*e*		02 06 13.3		
PII	**Pisa**	**151.99**	**337**	*e*PKIKP	PKPdf	02 06 10.2	+0.1	
BNI	**Bardonecchia**	**152.02**	**344**	PKIKP	PKPdf	02 06 09.1	-1.0	
BNI	**Bardonecchia**	**152.02**	**344**	*e*PKPbc	PKPdf	02 06 13.7	+3.6	
CII	**Carovilli**	**152.03**	**330**	*e*PKPdf	PKPdf	02 06 06.1	-4.1	
ORI	**Oriolo Calabro**	**152.15**	**325**	*e*PKIKP	PKPdf	02 06 08.6	-1.9	
MRLC	**Muro Lucano**	**152.17**	**327**	*e*PKP	PKPdf	02 06 08.1	-2.4	
PTQR	**Pietraquaria**	**152.22**	**331**	*e*PKP	PKPdf	02 06 08.7	-1.8	
MNS	**Montasola**	**152.25**	**333**	*e*PKIKP	PKPdf	02 06 02.5	-8.0	
SDI	**San Donato**	**152.27**	**330**	*e*PKIKP	PKPdf	02 06 06.5	-4.1	
MBDF	**Montbardon**	**152.30**	**343**	*e*PKP1	PKPdf	02 06 13.0	+2.5	
	comp=Z,15nm,0.9s							
CSSN	**Cassano Irpino**	**152.33**	**328**	*e*PKP	PKPdf	02 06 07.8	-2.9	
ORIF	**Oris-en-Rattie**	**152.35**	**345**	*e*PKP1	PKPdf	02 06 13.2	+2.6	
ORIF				*e*R				
	comp=Z,3µm,22.5s							
SLCN	**Sala Consilina**	**152.36**	**326**	*e*PKP	PKPdf	02 06 06.0	-4.7	
SGO	**Sicignano**	**152.40**	**327**	*e*PKP	PKPdf	02 06 07.8	-3.0	
SURF	**Saint Ours**	**152.52**	**343**	PKP	PKPdf	02 06 15.1	+4.3	
MGR	**Morigerati**	**152.58**	**326**	*e*PKP	PKPdf	02 06 08.3	-2.8	
TIP	**Timpagrande**	**152.59**	**323**	*e*PKPbc	PKPdf	02 06 14.3	+3.2	
LBL	**Lubilhac**	**152.63**	**349**	PKP	PKPdf	02 06 09.8	-1.2	
VIVF	**Saint-Julien-l**	**152.70**	**346**	*e*PKP1	PKPdf	02 06 14.0	+2.9	
	comp=Z,60nm,1.4s							
RJF	**Les Rejaudoux**	**152.84**	**351**	*e*PKP1	PKPdf	02 06 14.0	+2.7	
	comp=Z,20nm,1.0s							
RJF				*e*R				
	comp=Z,2µm,22.7s							
SBF	**Sospel**	**152.90**	**342**	*e*PKP1	PKPdf	02 06 14.8	+3.4	
GRI	**Girifalco**	**153.03**	**323**	*e*PKIKP	PKPdf	02 06 06.5	-5.2	
CAF	**Calviac**	**153.13**	**350**	*e*PKP1	PKPdf	02 06 14.9	+3.2	
LFF	**La Frestale**	**153.31**	**352**	*e*PKP1	PKPdf	02 06 15.0	+3.1	
	comp=Z,20nm,0.9s							
FRF	**La Foret Royal**	**153.41**	**342**	*e*PKP1	PKPdf	02 06 15.1	+3.0	
PGF	**Pioggiola**	**153.56**	**338**	*e*PKP1	PKPdf	02 06 15.4	+3.0	
	comp=Z,67nm,1.2s							
LMR	**La Mourre**	**153.66**	**342**	*e*PKP1	PKPdf	02 06 15.7	+3.2	
SOI	**Samo**	**153.75**	**322**	*e*PKP	PKPdf	02 06 09.0	-3.8	
EPF	**Esparros**	**155.24**	**352**	*e*PKP1	PKPdf	02 06 19.7	+5.1	
	comp=Z,12nm,1.0s							
PBRG	**Braganca**	**156.62**	**5**	*e*PKPdf	PKPdf	02 06 13.9	-2.6	
PBRG				*e*PKPab	PKPab	02 06 42.8	-0.2	
PVIS	**Viseu**	**157.58**	**8**	*e*PKPdf	PKPdf	02 06 15.4	-2.4	
MTE	**Manteigas**	**157.94**	**7**	*e*PKPdf	PKPdf	02 06 14.9	-3.4	
MTE				*e*PKPab	PKPab	02 06 49.9	+1.2	
MTE				*e*PP	PP	02 10 27.4	-2.4	
PCBR	**Castelo Branco**	**158.50**	**7**	*e*PKPdf	PKPdf	02 06 17.1	-1.9	
PCBR				*e*PKPab	PKPab	02 06 51.8	+0.7	
ESDC	**Sonseca Array**	**158.87**	**360**	PKP	PKPdf	02 06 16.7	-2.7	
	comp=Z,0.4nm,0.6s,baz=359,slow=5.9,SNR=4.1							
ESDC				PKPab	PKPab	02 06 52.5	-0.2	
	comp=Z,3.8nm,0.8s,baz=356,slow=4.0,SNR=12							
ESLA	**Sonseca Array**	**158.87**	**360**	PFAKE		02 06 30.0	+11	
ESLA				LR	LR			
	comp=Z,12µm,21.0s,MS6.7							
EVO	**Evora**	**159.71**	**9**	*e*PKIKP	PKPdf	02 06 16.5	-3.9	
	comp=Z,21nm,1.2s							
EVO				*e*R				
	comp=Z,2µm,22.0s							
PBEJ	**Beja**	**160.23**	**9**	*e*PKPdf	PKPdf	02 06 17.7	-3.3	
PTEO	**Sao Teotonio**	**160.56**	**11**	*e*PKPdf	PKPdf	02 06 19.2	-2.1	
DBIC	**Dimbokro**	**168.25**	**176**	PKP	PKPdf	02 06 25.6	-3.2	
	comp=Z,4.9nm,1.1s,baz=256,slow=4.2,SNR=2.5							
DBIC				PKPab	PKPab	02 07 34.5	+0.3	
	comp=Z,16nm,1.1s,baz=145,slow=5.5,SNR=6.5							
DBIC	**Dimbokro**	**168.25**	**176**	PKP	PKPdf	02 06 25.6	-3.2	
DBIC				PKPab	PKPab	02 07 34.5	+0.3	
DBIC				LR	LR			
	comp=Z,766nm,20.0s							

PRU ***31*** *02:07:50.5,50.10N×18.37E*

WAR 31 02:07:50.0,50.06N×18.42E,h0km,ML2.4,1D,Mining Induced,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.15**	**278**	*i* Pg	Pg	02 07 53.6	+0.6
RAC				*e*Sg	Sg	02 07 57.6	+2.6
RAC	**Raciborz**	**0.15**	**278**	⇓*i* Pg	Pg	02 07 53.6	+0.6
RAC				*e*Sg	Sg	02 07 56.8	+1.8
OKC	**Ostrava-Krasne**	**0.29**	**218**	*e*PG	Pg	02 07 56.4	+0.6
OKC				*e*SG	Sg	02 08 01.2	+1.6
	90nm,0.5s						
OJC	**Ojcow**	**0.90**	**79**	*e*PG	Pg	02 08 07.0	-0.9
OJC				*e*SG	Sg	02 08 19.0	-0.9
LIKS	**Likavka**	**1.11**	**156**	*e*SN	Sn	02 08 30.2	+1.4
DPC	**Dobruska-Polom**	**1.38**	**283**	*e*PG	Pg	02 08 15.5	-2.0
DPC				*e*SG	Sg	02 08 34.1	-1.8
	46nm,0.5s						
NIE	**Niedzica**	**1.39**	**117**	*e*PG	Pg	02 08 15.0	-2.7
NIE				*e*SG	Sg	02 08 35.0	-1.1
KOLL	**Kolacno**	**1.49**	**181**	*e*SN	Sn	02 08 38.6	+0.2
KOLL	**Kolacno**	**1.49**	**181**	*e*Sn	Sn	02 08 38.6	+0.2
KSP	**Ksiaz**	**1.57**	**301**	*e*PG	Pg	02 08 18.0	-3.3
KSP				*e*SG	Sg	02 08 40.0	-2.2
VYHS	**Vyhne**	**1.59**	**170**	*e*PN	Pn	02 08 22.8	+3.3
VYHS				*e*SN	Sn	02 08 41.6	+0.5
UPC	**Upice**	**1.61**	**287**	*e*PG	Pg	02 08 18.7	-3.4
UPC				*e*SG	Sg	02 08 41.5	-2.1
PRU	**Pruhonice**	**2.50**	**270**	*e*SG	Sg	02 09 07.4	-6.0
PRU	**Pruhonice**	**2.50**	**270**	*e*Sg	Sg	02 09 07.4	-6.0
KHC	**Kasperske Hory**	**3.29**	**255**	*e*PG	Pg	02 08 50.5	-5.1
KHC				*e*SG	Sg	02 09 33.7	-5.7
CLL	**Collm**	**3.67**	**292**	*e*SG	Sg	02 09 47.0	-5.0

IDC 31 02:08:31.8±2.8,19.68S×177.90W,mb4.0/3,mb1 4.4/3, mb1mx3.9/14,mbtmp4.0/3,Error ellipse: s-maj=297.9km s-min=33.0km az=160.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.81**	**256**	P	P	02 16 47.5	-2.0
	3.6nm,0.8s,baz=99,slow=7.7,SNR=29						
WRA	**Warramunga Arr**	**44.81**	**261**	P	P	02 16 47.9	-1.7
	2.8nm,0.7s,baz=95,slow=6.8,SNR=44						
TXAR	**Lajitas Array**	**86.53**	**57**	P	P	02 21 17.3	-1.1
	0.4nm,0.8s,baz=217,slow=6.3,SNR=4.7						

IDC 31 02:12:19.2±4.2,2.09N×96.31E,mb3.7/4,mb1 3.9/4, mb1mx3.5/18,mbtmp3.7/4,Error ellipse: s-maj=160.7km s-min=27.9km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.26**	**122**	P	P	02 20 22.7	-1.8
	0.3nm,0.4s,baz=302,slow=9.1,SNR=7.5						
MKAR	**Makanchi Array**	**46.17**	**347**	P	P	02 20 45.5	-1.9
	0.7nm,0.6s,baz=160,slow=7.9,SNR=12						
SONM	**Songino Array**	**46.39**	**9**	P	P	02 20 47.7	-1.5
	0.4nm,0.5s,baz=190,slow=8.2,SNR=6.8						
ZAL	**Zalesovo**	**52.53**	**351**	P	P	02 21 33.9	-2.6
	1.2nm,0.5s,baz=305,slow=7.6,SNR=3.4						

IDC 31 02:15:25.1±8.3,2.01N×125.66E,mb3.7/3,mb1 3.9/3, mb1mx3.5/16,mbtmp3.7/3,Error ellipse: s-maj=166.2km s-min=129.3km az=69.0,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.42**	**159**	P	P	02 20 35.7	-1.2
	1.3nm,0.3s,baz=337,slow=10,SNR=21						
ASAR	**Alice Springs**	**26.75**	**163**	P	P	02 21 07.2	-1.3
	0.4nm,0.3s,baz=339,slow=7.9,SNR=7.7						
STKA	**Stephens Creek**	**36.94**	**157**	P	P	02 22 35.6	-2.2
	0.7nm,0.5s,baz=344,slow=7.4,SNR=2.8						

IDC 31 02:25:27.2±2.6,18.26S×175.81E,mb3.7/3,mb1 4.1/3, mb1mx3.8/13,mbtmp3.7/3,Error ellipse: s-maj=189.3km s-min=32.5km az=158.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**39.16**	**261**	P	P	02 32 56.2	-2.4
	0.9nm,1.0s,baz=92,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**39.40**	**255**	P	P	02 32 59.5	-1.1
	1.5nm,0.8s,baz=85,slow=9.6,SNR=11						
TXAR	**Lajitas Array**	**90.87**	**59**	P	P	02 38 32.9	-1.6
	0.2nm,0.8s,baz=225,slow=3.5,SNR=3.9						
GERES	**GERESS Array B**	**146.22**	**339**	PKPbc	PKPbc	02 45 09.4	-0.2
	0.2nm,0.4s,baz=27,slow=2.2,SNR=4.9						

BJI ***31*** *02:39:26.2,0.93N×97.36E,h32km,mB5.3,mb5.2,Ms5.1, Msz4.8*
MOS ***31*** *02:39:27.8±1.1,1.18N×97.35E,h33km,mb5.1/38,Error ellipse: s-maj=11.5km s-min=6.2km az=116.2*
IDC ***31*** *02:39:27.6±0.7,1.19N×97.25E,h20km±3km,mb4.5/18, mb1 4.6/18,mb1mx4.5/21,mbtmp4.6/18,Error ellipse: s-maj=18.3km s-min=13.0km az=50.0*
NEIC ***31*** *02:39:28.0±0.2,1.10N×97.30E,mb5.0/41,Error ellipse: s-maj=8.4km s-min=5.7km az=47.0*
NEIC Felt on Nias. Also felt at Meulaboh, Sumatra.
SVSA ***31*** *02:39:31.2,1.90N×97.60E,h33km,Mb5.2*
ISC 31 02:39:26.5±0.3,1.12N±0.04×97.31E±0.04,h23km, h23km±.7km:pP-P,n185,σ1ş08/177,mb4.9/83,MS4.7/9, 10C-6D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSM	**Kuching**	**13.00**	**88**	*e*P	P	**02 42 45.7**	**+13**
NST	**Nakhon Sawan**	**14.72**	**11**	P	P	**02 43 02.4**	**+6.9**
KKTK	**Khon Kaen**	**16.07**	**19**	P	P	**02 43 16.0**	**+3.1**
	741nm,1.0s						
BDT	**Bhumibol Dam**	**16.11**	**6**	P	P	**02 43 14.0**	**+0.6**
CM31	**Chiang Mai Arr**	**17.30**	**5**	*e*P	P	**02 43 28.2**	**-0.2**
	41nm,0.8s						
PALK	**Pallekele**	**17.65**	**291**	*e*P	P	**02 43 32.7**	**-0.1**
	64nm,1.3s						
CHG	**Chiang Mai**	**17.66**	**5**	⇑P	P	**02 43 31.9**	**-1.0**
	11nm,0.8s						
VIS	**Vishakhapatnam**	**21.47**	**321**	*e*P	P	**02 44 16.9**	**+1.1**
VIS				AMb	AMB	02 44 26.3	
	comp=Z,72nm,1.0s,mb5.0						
VIS				*e*		02 48 01.5	
QIZ	**Qiongzhong**	**21.63**	**34**	*e*P	P	**02 44 17.5**	**+0.2**
KMI	**Kunming**	**24.43**	**12**	P	P	**02 44 47.5**	**+2.6**
KMI				AP		02 44 53.0	
KMI				AMB	AMB		
	comp=Z,162nm,1.2s,mb5.3						
HYB	**Hyderabad**	**24.55**	**312**	*e*P	P	**02 44 48.0**	**+1.9**
HYB	**Hyderabad**	**24.55**	**312**	*i* P	P	**02 44 48.0**	**+1.9**
SHL	**Shillong**	**24.86**	**348**	*e*P	P	**02 44 51.0**	**+2.0**
	comp=Z,170nm,1.0s,mb5.5						
SHL				*e*		02 49 17.0	
GYA	**Guiyang**	**26.75**	**19**	⇑*i* P	P	**02 45 06.0**	**-0.6**
GYA				AP	pP	02 45 13.5	+0.1
GYA				XP	sP	02 45 16.3	-0.2
GYA				PP	PP	02 45 50.8	-0.7
GYA				S	S	**02 49 37.5**	**-1.6**
GYA				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,230nm,3.8s						
GYA				LR	LR		
	comp=N,1µm,13.8s,MS4.8						
GYA				LR	LR		
	comp=E,1µm,13.5s,MS4.8						
GYA				LR	LR		
	comp=Z,2µm,12.9s,MS4.7						
KAD	**Karad**	**27.86**	**307**	*e*	P	**02 45 27.2**	**+10**
JIRN	**Jiri**	**28.46**	**339**	*e*P	P	**02 45 23.2**	**+1.1**
	comp=Z,84nm,0.9s,mb5.4						
PKI	**Pulchoki**	**28.67**	**338**	*e*P	P	**02 45 24.3**	**+0.3**
	comp=Z,112nm,1.2s,mb5.5						
PKI	**Pulchoki**	**28.67**	**338**	*e*P	P	**02 45 24.3**	**+0.3**
PKI				pmax	pmax		
	comp=Z,56nm,1.2s,mb5.2						
POO	**Poona**	**28.80**	**308**	*e*	P	**02 45 35.5**	**+10**
GUN	**Gumba**	**28.80**	**339**	*e*P	P	**02 45 25.9**	**+0.7**
	comp=Z,452nm,1.4s,mb6.0						
DMN	**Daman**	**28.82**	**337**	*e*P	P	**02 45 25.3**	**0.0**
	comp=Z,90nm,1.0s,mb5.4						
KKN	**Kakani**	**28.91**	**338**	*e*P	P	**02 45 26.6**	**+0.4**
	comp=Z,111nm,1.1s,mb5.5						
KKN	**Kakani**	**28.91**	**338**	*e*P	P	**02 45 26.6**	**+0.4**
KKN				pmax	pmax		
	comp=Z,55nm,1.1s,mb5.2						
LSA	**Lhasa**	**29.02**	**349**	P	P	**02 45 28.0**	**+0.9**
LSA	**Lhasa**	**29.02**	**349**	*e*P	P	**02 45 28.2**	**+1.1**
LSA				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
LSA	**Lhasa**	**29.02**	**349**	*e*P	P	**02 45 28.1**	**+1.0**
	comp=Z,32nm,1.0s,mb5.0						
GKN	**Gorkha**	**29.36**	**337**	*e*P	P	**02 45 30.6**	**+0.4**
	comp=Z,209nm,1.4s,mb5.7						
KOLN	**Koldanda**	**29.58**	**335**	*e*P	P	**02 45 32.8**	**+0.6**
	comp=Z,77nm,0.9s,mb5.5						
CD2	**Chengdu**	**30.25**	**11**	*e*P	P	**02 45 37.3**	**-0.8**
ENH	**Enshi**	**31.21**	**21**	*e*P	P	**02 45 45.0**	**-1.6**
	comp=Z,61nm,1.0s,mb5.4						
LGTI	**Lohaghat**	**32.53**	**332**	*e*P	P	**02 45 58.5**	**+0.4**
WHN	**Wuhan**	**33.43**	**27**	P	P	**02 46 06.0**	**0.0**
NDI	**New Delhi**	**33.46**	**327**	*e*P	P	**02 46 07.0**	**+0.8**
DDI	**Dehra Dun**	**34.32**	**330**	*e*P	P	**02 46 12.0**	**-1.6**
XAN	**Xi'an**	**34.51**	**17**	P	P	**02 46 14.0**	**-1.2**
XAN				AP	pP	02 46 20.0	-2.1
XAN				AMB	AMB		
	comp=Z,42nm,0.9s,mb5.4						
LZH	**Lanzhou**	**35.31**	**9**	⇑P	P	**02 46 22.0**	**-0.1**
LZH				AP	pP	02 46 28.0	-1.1
LZH				XP	sP	02 46 32.0	0.0
LZH				AMB	AMB		
	comp=Z,69nm,1.5s,mb5.4						
LZH				AMB	AMB		
	comp=Z,223nm,4.6s						
LZH				LR	LR		
	comp=E,2µm,15.8s						
LZH				LR	LR		
	comp=Z,3µm,17.0s,MS5.1						
SDNR	**Sundarnagar**	**35.82**	**330**	*e*P	P	**02 46 25.6**	**-0.8**
NJ2	**Nanjing**	**36.87**	**31**	*e*P	P	**02 46 36.5**	**+1.2**
NJ2				AP	pP	02 46 46.3	+4.0
NJ2				XP	sP	02 46 50.3	+5.1
NJ2				PP	PP	02 48 03.0	+1.7
NJ2				S	S	**02 52 14.0**	**-4.0**
NJ2				XS		02 52 30.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1µm,6.1s						
NJ2				LR	LR		
	comp=N,3µm,17.0s						
NJ2				LR	LR		
	comp=E,700nm,25.8s						
NJ2				LR	LR		
	comp=Z,590nm,14.1s,MS4.5						
SSE	**Sheshan**	**37.41**	**35**	P	P	**02 46 38.3**	**-1.5**
SSE				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,336nm,12.0s						
GTA	**Gaotai**	**38.18**	**3**	*e*P	P	**02 46 46.3**	**+0.1**
GTA				AP	pP	02 46 54.5	+1.3
GTA				XP	sP	02 46 58.5	+2.4
GTA				PCP	PcP	02 49 02.0	+0.9
GTA				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.1						
HHC	**Hu-ho-hao-te**	**41.60**	**16**	*e*P	P	**02 47 16.3**	**+1.8**
HHC				AP	pP	02 47 23.8	+2.3
HHC				XP	sP	02 47 26.0	+1.6
HHC				PP	PP	02 48 53.0	-0.8
HHC				S	S	**02 53 32.5**	**+3.4**
HHC				XS		02 53 43.5	
HHC				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,875nm,10.1s						
HHC				LR	LR		
	comp=N,1µm,17.8s,MS5.0						
HHC				LR	LR		
	comp=E,1µm,16.7s,MS5.0						
HHC				LR	LR		
	comp=Z,705nm,19.0s,MS4.6						
WRA	**Warramunga Arr**	**41.90**	**122**	P	P	**02 47 16.9**	**-0.3**
	comp=Z,7.3nm,0.8s,mb4.4,baz=299,slow=9.1,SNR=32						
WRAB	**Tennant Creek**	**41.90**	**122**	*e*P	P	**02 47 17.2**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.6						
WRAB	**Tennant Creek**	**41.90**	**122**	*e*P	P	**02 47 17.2**	**0.0**
	comp=Z,15nm,0.9s,mb4.6						
WB2	**Warramunga Arr**	**41.91**	**122**	*e*P	P	**02 47 17.2**	**-0.1**
BJT	**Baijiatuao**	**42.35**	**22**	*e*P	P	**02 47 21.3**	**+0.6**
BJT				pmax	pmax		
	comp=Z,14nm,0.6s						
BJT	**Baijiatuao**	**42.35**	**22**	*e*P	P	**02 47 21.3**	**+0.6**
	comp=Z,14nm,0.6s,mb4.8						
BJI	**Beijing**	**42.37**	**22**	*e*P	P	**02 47 22.0**	**+1.2**
BJI				AMB	AMB		
	comp=Z,39nm,0.9s,mb5.0						
FORT	**Forrest**	**43.14**	**140**	*e*P	P	**02 47 29.4**	**+2.1**
	comp=Z,597nm,0.7s						
ASPA	**Alice Springs**	**43.26**	**127**	*e*P	P	**02 47 28.8**	**+0.5**
ASAR	**Alice Springs**	**43.26**	**127**	P	P	**02 47 28.6**	**+0.3**
	comp=Z,7.5nm,0.9s,mb4.4,baz=304,slow=7.6,SNR=52						
ASAR				PcP	PcP	02 49 18.5	+0.7
	comp=Z,1.9nm,0.9s,baz=288,slow=5.7,SNR=4.2						
WMQ	**Urumqi**	**43.37**	**350**	⇑*i* P	P	**02 47 30.0**	**+1.1**
WMQ				XP	sP	02 47 40.3	+1.4
WMQ				PP	PP	02 49 13.0	+1.1
WMQ				PPP	PPP	02 49 49.0	+1.3
WMQ				*e*S	S	**02 53 56.0**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,34nm,1.1s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,305nm,6.8s						
WMQ				LR	LR		
	comp=N,901nm,20.0s,MS4.8						
WMQ				LR	LR		
	comp=E,1µm,25.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,882nm,24.3s,MS4.6						
DL2	**Dalian**	**43.70**	**28**	P	P	**02 47 32.5**	**+0.9**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
KZA	**Kyzart**	**45.35**	**337**	P	P	**02 47 46.1**	**+1.2**
	SNR=5.9						
UCH	**Uchtor**	**45.77**	**336**	P	P	**02 47 49.6**	**+1.4**
	SNR=22						
TKM2	**Tokmak 2**	**45.93**	**338**	P	P	**02 47 50.8**	**+1.3**
	SNR=16						
KBK	**Karagaybulak**	**45.96**	**337**	P	P	**02 47 51.6**	**+1.9**
	SNR=8.6						
AML	**Almayashu**	**46.02**	**336**	P	P	**02 47 51.4**	**+1.3**
	SNR=12						
AAK	**Ala-Archa**	**46.12**	**337**	*e*P	P	**02 47 51.0**	**+0.1**
AAK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
AAK	**Ala-Archa**	**46.12**	**337**	*e*P	P	**02 47 51.0**	**0.0**
	comp=Z,8.9nm,0.8s,mb4.8						
FRU	**Bishkek**	**46.24**	**337**	*e*P	P	**02 47 53.5**	**+1.6**
EKS2	**Erkin-Say**	**46.43**	**336**	P	P	**02 47 54.6**	**+1.2**
	SNR=12						
USP	**Ospenovka**	**46.65**	**337**	P	P	**02 47 55.8**	**+0.7**
	SNR=15						
SNY	**Shenyang**	**46.92**	**27**	⇑P	P	**02 47 57.5**	**+0.2**
SNY				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
SNY				LR	LR		
	comp=N,870nm,16.7s,MS4.9						
SNY				LR	LR		
	comp=E,660nm,15.9s,MS4.9						
SNY				LR	LR		
	comp=Z,670nm,15.5s,MS4.7						
SONM	**Songino Array**	**47.19**	**8**	P	P	**02 47 59.9**	**+0.5**
	comp=Z,16nm,0.8s,mb5.0,baz=191,slow=8.9,SNR=48						
SONM				PcP	PcP	02 49 30.7	-0.4
	comp=Z,5.8nm,0.8s,baz=191,slow=3.4,SNR=5.9						
SONM				pPcP		02 49 38.2	
	comp=Z,5.8nm,0.9s,baz=186,slow=3.9,SNR=4.5						
SONM				ScP		02 53 24.3	
	comp=Z,0.8nm,0.9s,baz=236,slow=4.5,SNR=4.0						
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P	P	**02 48 00.4**	**0.0**
ULN				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.9						
ULN	**Ulaanbaatar**	**47.32**	**9**	*e*P	P	**02 48 00.3**	**-0.1**
	comp=Z,15nm,0.9s,mb4.9						
MKAR	**Makanchi Array**	**47.34**	**346**	*i* P	P	**02 48 00.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,23nm,0.9s						
MKAR	**Makanchi Array**	**47.34**	**346**	P	P	**02 48 00.6**	**0.0**
	comp=Z,15nm,0.8s,mb5.0,baz=159,slow=7.8,SNR=82						
CN2	**Changchun**	**49.32**	**27**	*e*P	P	**02 48 15.8**	**-0.2**
CN2				*e*AP	pP	02 48 23.0	-0.1
CN2				*e*S	S	**02 55 20.5**	**+0.6**
CN2				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.5						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,910nm,17.0s,MS5.0						
CN2				LR	LR		
	comp=E,770nm,17.0s,MS5.0						
CN2				LR	LR		
	comp=Z,1µm,17.0s,MS4.9						
ZAK	**Zakamensk**	**49.34**	**5**	*e*P	P	**02 48 15.9**	**-0.1**
ZAK				*e*		02 50 10.6	
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,3.0nm,2.0s,mb4.0						
TLY	**Talaya**	**50.66**	**5**	*e*P	P	**02 48 25.9**	**-0.2**
TLY				*e*		02 48 43.5	
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5

comp=Z,18nm,0.9s,mb5.0,baz=290,slow=7.1,SNR=68
NVS Novosibirsk 54.77 350⇑ *i*P **P** 02 48 54.9 -1.8
NVS *e* 02 49 54.2
NVS pmax pmax
comp=Z,19nm,1.1s,mb5.0
NVS pmax pmax
comp=N,20nm,1.3s
NVS pmax pmax
comp=E,10.0nm,1.1s
KLR Kul'dur 56.27 26 *e*P **P** **02 49 04.8 -2.8**
KLR pmax pmax
comp=Z,28nm,1.0s,mb5.2
BVA0 Borovoye Array 56.36 341 *i*P **P** **02 49 06.8 -1.4**
BVA0 pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
BVAR Borovoye Array 56.36 341 P **P** **02 49 06.4 -1.8**
comp=Z,8.7nm,0.9s,mb4.8,baz=143,slow=7.4,SNR=42
BVAR pP pP 02 49 12.3 -3.1
comp=Z,8.6nm,0.8s,baz=149,slow=8.6,SNR=14
CHKZ Chkalovo 56.84 341 *e*P **P** **02 49 10.2 -1.4**
CHKZ *e**PP pP 02 49 16.2 -2.6
CHKZ pmax pmax
comp=Z,46nm,0.6s,mb5.7
CHKZ Chkalovo 56.84 341 *e*P **P** **02 49 10.2 -1.5**
CHKZ *e*pP pP 02 49 16.1 -2.7
BOD Bodaibo 58.07 10⇓ *i*P **P** **02 49 19.2 -1.0**
BOD pmax pmax
comp=Z,26nm,1.1s,mb5.2
BOD pmax pmax
comp=Z,24nm,1.1s,mb5.1
CLNS Chul'man 59.78 17 *e*P **P** **02 49 31.4 -0.7**
CLNS pmax pmax
comp=Z,20nm,0.8s,mb5.2
CLNS pmax pmax
comp=N,12nm,0.9s
CLNS pmax pmax
comp=E,10.0nm,0.8s
KMBO Kilima Mbogo 60.10 268 *e*P **P** **02 49 34.8 -0.1**
KMBO *e**PP pP 02 49 41.9 -0.3
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 60.10 268 P **P** **02 49 34.9 0.0**
comp=Z,2.0nm,0.8s,mb4.2,baz=21,slow=13,SNR=6.5
KMBO Kilima Mbogo 60.10 268 *e*P **P** **02 49 34.8 -0.1**
comp=Z,1.6nm,0.6s,mb4.2
KMBO *e*pP pP 02 49 41.9 -0.3
YSS Yuzh-Sakhalins 60.35 34 *e*P **P** **02 49 34.5 -1.7**
YSS pmax pmax
comp=Z,96nm,2.5s,mb5.4
GNI Garni 61.43 316 *e*P **P** **02 49 43.0 -0.6**
GNI pmax pmax
comp=Z,11nm,1.1s
GNI Garni 61.43 316 *e*P **P** **02 49 43.0 -0.5**
comp=Z,11nm,1.1s,mb4.9
SVE Sverdlovsk 62.80 338⇑ *e*P **P** **02 49 51.8 -0.7**
SVE *e* 02 50 07.2
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.2
ARU Arti 63.30 337 *e*P **P** **02 49 54.0 -1.8**
ARU *e**PP pP 02 50 01.9 -1.2
ARU pmax pmax
comp=Z,27nm,1.2s,mb5.2
ARU Arti 63.30 337 *e*P **P** **02 49 54.0 -1.8**
comp=Z,27nm,1.2s,mb5.2
ARU *e*pP pP 02 50 01.9 -1.2
KIV Kislovodsk 64.44 319⇑ *e*P **P** **02 50 02.2 -1.3**
KIV *i* 02 50 12.8
KIV pmax pmax
comp=Z,11nm,1.1s,mb4.8
KIV Kislovodsk 64.44 319 *e*P **P** **02 50 02.5 -0.9**
comp=Z,12nm,0.9s,mb4.9
MALT Malatya 65.26 312 *e*P **P** **02 50 08.6 -0.3**
MALT *e**PP pP 02 50 16.1 -0.1
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MALT Malatya 65.26 312 *e*P **P** **02 50 08.6 -0.3**
comp=Z,5.5nm,1.0s,mb4.5
MALT *e*pP pP 02 50 16.1 -0.1
KELT Kelkit 65.29 314 *i*P **P** **02 50 17.1 +8.1**
YAK Yakutsk 65.47 16 *e*P **P** **02 50 08.6 -1.2**
YAK *e**PP pP 02 50 16.0 -1.1
YAK pmax pmax
comp=Z,66nm,1.0s,mb5.6
YAK Yakutsk 65.47 16 *e*P **P** **02 50 08.6 -1.2**
comp=Z,66nm,1.0s,mb5.6
YAK *e*pP pP 02 50 16.0 -1.0
EIL Elat 65.59 302 *e*P **P** **02 50 10.5 -0.6**
comp=Z,10nm,1.0s,mb4.8
EIL *e*pP pP 02 50 17.5 -0.9
GZT Gaziantep 65.60 311 *i*P **P** **02 50 07.8 -3.3**
KAHT Ahir Dag 66.21 311 *i*P **P** **02 50 14.5 -0.5**
SOC Sochi 66.25 318 *e*P **P** **02 50 12.3 -2.8**
SOC *e* 02 52 41.4
SOC pmax pmax
comp=Z,22nm,1.2s,mb5.1
SOC pmax pmax
comp=N,11nm,1.0s
SOC pmax pmax
comp=E,6.0nm,0.9s
MBAR Mbarara 66.59 269 *e*P **P** **02 50 15.9 -1.9**
MBAR *e**PP pP 02 50 23.9 -1.2
MBAR pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
MBAR Mbarara 66.59 269 *e*P **P** **02 50 15.9 -1.9**
comp=Z,6.9nm,1.3s,mb4.5
MBAR *e*pP pP 02 50 23.9 -1.2
ANN Anapa 68.23 318 *e*P **P** **02 50 36.5 +8.9**
ANN pmax pmax
comp=Z,39nm,1.2s,mb5.3
BRTR Keskin Array B 69.25 312 P **P** **02 50 32.2 -1.7**
comp=Z,1.9nm,0.9s,mb4.0,baz=129,slow=7.9,SNR=7.7
BRTR pP pP 02 50 40.2 -1.1
comp=Z,3.9nm,0.8s,baz=127,slow=6.2,SNR=11
VRSR Storozhevoye 69.68 325 *e*P **P** **02 50 35.1 -1.3**
VRSR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,10.0nm,1.0s
MA2 Magadan 71.36 26 *e*P **P** **02 50 46.4 0.0**
MA2 *e**PP pP 02 50 53.5 -0.3
PET Petropavlovsk 72.23 34 *e*P **P** **02 50 52.3 +0.5**
PET pmax pmax
comp=Z,23nm,0.7s,mb5.2
PET MLR MLR
comp=Z,200nm,16.0s,MS4.5
MOS Moscow 72.46 329 *e*P **P** **02 50 56.4 +3.3**
MOS *e* 02 51 13.3
MOS pmax pmax
comp=Z,32nm,0.7s,mb5.4
OBN Obninsk 72.74 328⇓ *i*P **P** **02 50 53.8 -1.0**
OBN 02 53 36.0
OBN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
TIXI Tiksi 73.25 10 *e*P **P** **02 50 54.3 -3.1**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.9
BOSA Boshof 74.83 240 P **P** **02 51 07.3 -0.1**
comp=Z,1.8nm,0.9s,mb4.0,baz=138,slow=3.9,SNR=6.2
BOSA pP pP 02 51 14.1 -0.7
comp=Z,5.3nm,1.0s,baz=70,slow=6.3,SNR=3.5
AKASG Malin Array Be 75.39 322 P **P** **02 51 08.0 -2.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=88,slow=5.0,SNR=14
AKASG pP pP 02 51 16.2 -1.4
comp=Z,3.7nm,0.9s,baz=89,slow=4.8,SNR=4.1
AKASG Malin Array Be 75.39 322 P **P** **02 51 08.0 -2.1**
AKASG pP pP 02 51 16.2 -1.4
VRI Vrincioaia 75.75 317 ⇓P **P** **02 51 12.6 +0.3**
BURAR Bucovina Array 77.16 319 ⇓P **P** **02 51 21.7 +1.5**
KWP Kalwaria 79.20 320 *e*P **P** **02 51 31.6 +0.2**
BZS Buzias 79.21 316 ⇓P **P** **02 51 32.2 +0.7**
KOLS Kolonicke sedl 79.35 320 *e*P **P** **02 51 33.4 +1.2**
KOLS *e*pP pP 02 51 40.7 +1.1
KOLS *e* 02 51 48.6
SUW Suwalki 79.80 325 *e*P **P** **02 51 34.1 -0.4**
CRVS Cervenica-Dubn 79.87 319 *e*P **P** **02 51 35.0 0.0**
SYO Syowa Base 79.96 198 ⇓P **P** **02 51 36.0 +0.9**
FINES FINESS Array B 80.12 332 P **P** **02 51 35.4 -0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=90,slow=7.6,SNR=8.7
KAF Kangasniemi 80.20 333 *e*p **P** **02 51 35.4 -1.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=104,slow=5.0
KAF Kangasniemi 80.20 333 *e*P **P** **02 51 35.4 -1.1**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BILL Bilibino 81.20 21⇑ *i*P **P** **02 51 40.8 -0.8**
BILL pmax pmax
comp=Z,11nm,1.7s,mb4.5
VYHS Vyhne 81.53 319 *e*P **P** **02 51 44.1 +0.4**
ZST Bratislava 82.63 318 *e*P **P** **02 51 49.8 +0.3**
ARCES ARCESS Array B 82.65 340 P **P** **02 51 47.1 -2.0**
comp=Z,2.9nm,0.8s,mb4.4,baz=104,slow=5.0,SNR=9.7
BRG Berggiesshubel 84.94 321 *e*P **P** **02 52 01.9 +0.8**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BRG Berggiesshubel 84.94 321 *e*P **P** **02 52 01.9 +0.8**
comp=Z,4.0nm,0.9s,mb4.5
GEC2 GERESS Array S 84.95 319 *e*P **P** **02 52 01.9 +0.7**
GEC2 pmax pmax
comp=Z,14nm,1.4s,mb4.9
GEC2 GERESS Array S 84.95 319 *e*P **P** **02 52 01.9 +0.7**
comp=Z,14nm,1.4s,mb4.9
GERES GERESS Array B 84.95 319 P **P** **02 52 01.3 +0.1**
comp=Z,3.6nm,0.9s,mb4.5,baz=108,slow=4.2,SNR=26
KHC Kasperske Hory 85.05 319 *e*P **P** **02 51 55.0 -6.7**
KHC *e* pP 02 52 02.0 -7.2
KHC Kasperske Hory 85.05 319 *e*P **P** **02 51 55.0 -6.7**
KHC PCP PcP 02 52 02.0 -3.4
WET Wettzell 85.51 319 *e*P **P** **02 52 04.4 +0.4**
WET pmax pmax
comp=Z,9.0nm,1.4s,mb4.8
WET Wettzell 85.51 319 *e*P **P** **02 52 04.4 +0.4**
comp=Z,9.0nm,1.4s,mb4.8
CLL Collm 85.56 321 P **P** **02 52 05.0 +0.8**
CLL *e**SP sP 02 52 14.0 -0.1
MOX Moxa 86.40 320 *e*P **P** **02 52 08.0 -0.4**
GRA1 Grafenberg Arr 86.61 320 *e*P **P** **02 52 10.5 +1.0**
comp=Z,15nm,1.3s,mb5.1
GRF Grafenberg Arr 86.61 320 *e*P **P** **02 52 10.5 +1.0**
GRF pmax pmax
comp=Z,15nm,1.3s,mb5.1
GRF Grafenberg Arr 86.61 320 *e*P **P** **02 52 10.5 +1.0**
GRF pmax pmax
comp=Z,15nm,1.3s,mb5.1
GRF Grafenberg Arr 86.61 320 *e*P **P** **02 52 10.5 +1.0**
comp=Z,15nm,1.3s,mb5.1
NB2 NORSAR Subarra 87.13 331 P **P** **02 52 11.4 -0.3**
comp=Z,5.5nm,0.9s,mb4.8,baz=93,slow=4.8
NB2 NORSAR Subarra 87.13 331 P **P** **02 52 11.4 -0.3**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
NOA NORSAR Array B 87.13 331 P **P** **02 52 11.2 -0.4**
comp=Z,3.6nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=16
CLZ Clausthal 87.23 322 *e*P **P** **02 52 12.8 +0.4**
CLZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
CLZ Clausthal 87.23 322 *e*P **P** **02 52 12.8 +0.4**
comp=Z,6.0nm,1.0s,mb4.8
TNS Taunus Mts 88.42 320 *e*P **P** **02 52 17.9 -0.2**
BFO Black Forest 88.49 318 *e*P **P** **02 52 18.4 -0.1**
BFO pmax pmax
comp=Z,12nm,1.6s,mb4.9
BFO Black Forest 88.49 318 *e*P **P** **02 52 18.4 -0.1**
comp=Z,12nm,1.6s,mb4.9
LPG La Plagne 89.60 315 *e*P **P** **02 52 23.9 0.0**
comp=Z,9.2nm,0.9s,mb4.8
LPG La Plagne 89.60 315 *e*P **P** **02 52 23.9 0.0**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
IMA Indian Mountai 96.61 23 *e*P **P** **02 52 56.6 +1.0**
IMA *e**PP pP 02 53 03.6 +0.5
IMA pmax pmax
comp=Z,17nm,0.9s,mb5.5
IMA Indian Mountai 96.61 23 *e*P **P** **02 52 56.6 +1.0**
comp=Z,17nm,0.9s,mb5.5
IMA *e*pP pP 02 53 03.6 +0.4
YKA Yellowknife Ar 112.14 15 PP PP 02 58 42.5 -6.4
comp=Z,1.0nm,1.0s,baz=330,slow=7.2,SNR=6.6
PDA Ponta Delgada 114.80 313 *e*rx 03 02 16.0
ADH Angra Heroismo 115.58 314 *e*rx 02 58 20.0
MOD Modoc 125.33 34 *e*PKPdf PKPdf 02 58 29.2 -1.4
PDAR Pinedale Array 130.06 26 PKP PKPdf 02 58 35.1 -4.5
comp=Z,0.6nm,0.8s,baz=333,slow=3.3,SNR=4.9
PV10 Paradox Valley 133.80 29 *e*PKPpre 02 58 38.0
PV10 *e*PKPdf PKPdf 02 58 45.4 -1.3
BDFB Brasilia 142.88 245 PKP PKPdf 02 58 58.9 -4.8
comp=Z,1.1nm,0.5s,baz=108,slow=15,SNR=3.6
TXAR Lajitas Array 143.68 32 PKhKP 02 58 53.9
comp=Z,1.5nm,1.1s,baz=180,slow=0.7,SNR=4.7
TXAR PKP PKPdf 02 58 59.9 -4.9
comp=Z,2.5nm,1.1s,baz=214,slow=0.5,SNR=12
TXAR Lajitas Array 143.68 32 PKP PKPdf 02 58 59.9 -4.9
NATX Nacogdoches 145.38 18 *e*PKPdf PKPdf 02 59 05.2 -2.5
NATX *ep*PKPdf 02 59 12.0
GOGA Godfrey 145.65 1 *e*PKPdf PKPdf 02 59 05.0 -3.2
GOGA *ep*PKPdf 02 59 12.5
LRAL Lakeview Retre 145.79 6 *e*PKPdf PKPdf 02 59 04.9 -3.5
LRAL *ep*PKPdf 02 59 12.2
NHSC New Hope 145.88 356 *e*PKPdf PKPdf 02 59 06.4 -2.1
NHSC *ep*PKPdf 02 59 13.9
RGRS Roger Stewart 146.07 356 *e*PKPbc PKPbc 02 59 07.2 +1.7
RGRS *ep*PKPbc 02 59 14.6

IDC 31 02:46:37.4±4.3, 18.36S×175.60E, mb4.2/4, mb1 4.3/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=160.6km s-min=50.1km az=141.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**33.45**	**240**	P	P	02 53 18.0	-2.4
	2.0nm,0.8s,baz=105,slow=12,SNR=2.8						
WRA	**Warramunga Ar**	**38.98**	**261**	P	P	02 54 05.2	-1.9
	1.9nm,1.2s,baz=90,slow=8.8,SNR=5.1						
ASAR	**Alice Springs**	**39.18**	**255**	P	P	02 54 07.5	-1.6
	2.3nm,0.8s,baz=86,slow=8.8,SNR=15						
FITZ	**Fitzroy Crossi**	**47.33**	**262**	P	P	02 55 13.6	-1.6
	8.8nm,1.1s,baz=161,slow=12,SNR=5.1						
GERES	**GERESS Array B**	**146.24**	**338**	PKPbc	PKPbc	03 06 19.1	-0.7
	0.6nm,0.8s,baz=27,slow=3.0,SNR=4.2						

IDC 31 02:47:11.4±4.5, 2.19N×97.02E, mb3.6/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.6/3, Error ellipse: s-maj=172.1km s-min=30.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.71**	**123**	P	P	02 55 10.5	-1.8
	0.5nm,0.6s,baz=301,slow=8.9,SNR=5.5						
SONM	**Songino Array**	**46.19**	**9**	P	P	02 55 38.2	-1.6
	0.2nm,0.3s,baz=183,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**46.25**	**346**	P	P	02 55 38.4	-1.9
	0.8nm,0.6s,baz=159,slow=8.6,SNR=10						

*CNRM **31** 02:49:24.5, 34.56N×3.54W, h18km, MD3.0*
*CSEM **31** 02:49:25.4±0.1, 34.57N×4.11W, h2km, MD3.0, Error ellipse: s-maj=7.3km s-min=2.4km az=110.0*
*NEIC **31** 02:49:29.7, 34.77N×3.99W, MG3.0(MDD), After MDD.*
*MDD **31** 02:49:29.0±1.0, 34.73N×4.01W, mb3.2/9, Error ellipse: s-maj=11.7km s-min=5.0km az=156.0, PRX/IMO*

ISC 31 02:49:26.2±0.4, 34.64N±0.02×4.07W±0.04, h10km, n38, σ1°19/59, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOU	**Touzarine**	**0.41**	**38**	P	**Pg**	**02 49 34.0**	**-0.7**
TOU				S	**Sg**	**02 49 40.5**	**+0.1**
TOU	**Touzarine**	**0.41**	**38**	*i*P	**Pg**	**02 49 34.0**	**-0.7**
TZK	**Tazeka**	**0.55**	**190**	P	**Pg**	**02 49 36.0**	**-1.4**
TZK				S	**Sg**	**02 49 45.0**	**+0.1**
TZK	**Tazeka**	**0.55**	**190**	*i*P	**Pg**	**02 49 36.0**	**-1.4**
MPAL	**Palemas**	**0.60**	**10**	P	**Pg**	**02 49 37.0**	**-1.3**
MPAL				S	**Sg**	**02 49 47.5**	**+1.2**
MPAL	**Palemas**	**0.60**	**10**	*e*P	**Pg**	**02 49 37.0**	**-1.3**
TGT	**Taghat**	**0.99**	**236**	P	**Pb**	**02 49 47.0**	**+1.9**
TGT				S	**Sb**	**02 50 05.0**	**+7.0**
TGT	**Taghat**	**0.99**	**236**	*e*P	**Pb**	**02 49 47.0**	**+1.9**
EMEL	**Melilla**	**1.13**	**54**	P	**Pb**	**02 49 48.0**	**+0.6**
	51nm,0.4s,SNR=7.3						
EMEL				S	**Sb**	**02 50 00.9**	**-1.0**
	39nm,0.4s,SNR=7.9						
EMLI	**Melilla**	**1.13**	**54**	P	**Pb**	**02 49 48.0**	**+0.6**
	2.5nm,0.1s,SNR=7.3						
ZAI	**Zaio**	**1.14**	**73**	P	**Pb**	**02 49 38.0**	**-10**
ZAI				S	**Sb**	**02 49 48.0**	**-14**
EALB	**Alboran**	**1.55**	**33**	P	**Pn**	**02 49 54.9**	**+0.8**
	4.4nm,0.3s,SNR=7.9						
EALB	**Alboran**	**1.55**	**33**	P	**Pn**	**02 49 54.9**	**+0.8**
	3.7nm,0.2s,SNR=7.9						
MIF	**Mishlifen**	**1.56**	**219**	*i*P	**Pn**	**02 49 54.0**	**-0.2**
MIF				*i*S	**Sb**	**02 50 13.0**	**-1.4**
CZD	**Col de Zad**	**1.79**	**207**	*e*P	**Pn**	**02 49 56.5**	**-1.0**
CZD				*i*S	**Sn**	**02 50 20.5**	**0.0**
EMIJ	**Mijas**	**2.01**	**344**	P	**Pn**	**02 49 59.5**	**-1.1**
	1.8nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**02 50 22.6**	**-3.4**
	3.1nm,0.2s,SNR=7.9						
EJIF	**Jimena Fronter**	**2.14**	**328**	P	**Pn**	**02 50 04.3**	**+1.8**
	0.4nm,0.2s,SNR=7.9						
ERON	**Agron**	**2.39**	**5**	P	**Pn**	**02 50 07.5**	**+1.4**
	0.6nm,0.2s,SNR=7.9						
EBER	**Berja**	**2.45**	**23**	P	**Pn**	**02 50 06.6**	**-0.4**
EBER				S	**Sn**	**02 50 35.3**	**-2.0**
EBER	**Berja**	**2.45**	**23**	P	**Pn**	**02 50 06.6**	**-0.4**
	1.5nm,0.3s,SNR=5.5						
EBER				S	**Sn**	**02 50 36.1**	**-1.2**
	14nm,1.0s,SNR=7.9						
EBER	**Berja**	**2.45**	**23**	P	**Pn**	**02 50 06.6**	**-0.4**
	0.6nm,0.2s,SNR=5.5						
EBER				S	**Sn**	**02 50 35.3**	**-2.0**
	14nm,1.0s,SNR=7.9						
ESPR	**Espera**	**2.66**	**327**	P	**Pn**	**02 50 10.1**	**+0.1**
	1.4nm,0.3s,SNR=4.0						
ESPR	**Espera**	**2.66**	**327**	P	**Pn**	**02 50 10.1**	**+0.1**
	1.9nm,0.3s,SNR=4.0						
ECOG	**Cogollos-Vega**	**2.67**	**9**	P	**Pn**	**02 50 11.5**	**+1.4**
	1.2nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.26**	**14**	P	**Pn**	**02 50 19.4**	**+0.9**
	1.1nm,0.3s,SNR=5.8						
EQES				S	**Sn**	**02 50 55.8**	**-2.0**
	0.9nm,0.3s,SNR=7.9						
EQES	**Quesada**	**3.26**	**14**	P	**Pn**	**02 50 19.4**	**+0.9**
	0.9nm,0.4s,SNR=5.8						
EQES				S	**Sn**	**02 50 55.8**	**-2.0**
	0.9nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**3.55**	**353**	P	**Pn**	**02 50 23.8**	**+1.2**
	0.8nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**02 51 02.5**	**-2.6**
	8.3nm,1.0s,SNR=7.9						
EADA	**Adamuz**	**3.55**	**353**	P	**Pn**	**02 50 23.8**	**+1.2**
	0.5nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**02 51 02.5**	**-2.6**
	8.3nm,1.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.77**	**327**	P	**Pn**	**02 50 27.3**	**+1.6**
	0.9nm,0.3s,SNR=7.9						
EMIN				S	**Sn**	**02 51 09.9**	**-0.7**
	0.7nm,0.3s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.77**	**327**	P	**Pn**	**02 50 27.3**	**+1.6**
	0.3nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**4.00**	**317**	P	**Pn**	**02 50 29.3**	**+0.3**
	1.4nm,0.3s,SNR=6.5						
EGRO				S	**Sn**	**02 51 14.0**	**-2.6**
	0.3nm,0.6s,SNR=7.9						
EGRO	**El Granado**	**4.00**	**317**	P	**Pn**	**02 50 29.3**	**+0.3**
	0.7nm,0.2s,SNR=6.5						
EGRO				S	**Sn**	**02 51 14.0**	**-2.6**
ETOB	**Tobarra**	**4.49**	**26**	P	**Pn**	**02 50 37.3**	**+1.5**
ETOB	**Tobarra**	**4.49**	**26**	P	**Pn**	**02 50 35.8**	**-0.1**
	2.7nm,0.8s,SNR=4.0						
ETOB	**Tobarra**	**4.49**	**26**	P	**Pn**	**02 50 37.3**	**+1.4**
PBEJ	**Beja**	**4.57**	**319**	*e*Pn	**Pn**	**02 50 37.7**	**+0.7**
PTEO	**Sao Teotonio**	**4.76**	**309**	*e*Pn	**Pn**	**02 50 40.5**	**+0.7**
PTEO				*e*Sn	**Sn**	**02 51 35.9**	**+0.2**
	2.9nm,0.7s						
PTEO	**Sao Teotonio**	**4.76**	**309**	P	**Pn**	**02 50 40.5**	**+0.7**
PTEO				S	**Sn**	**02 51 35.9**	**+0.2**
	1.4nm,0.7s						

*IDC **31** 02:55:14.9±0.8, 34.06N×142.55E, mb3.8/12, mb1 3.9/15, mb1mx3.9/24, mbtmp3.8/15, ML3.6/3, Error ellipse: s-maj=21.1km s-min=18.0km az=77.0*
*NEIC **31** 02:55:16.5±0.5, 34.05N×142.52E, h10km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=9.7km az=45.0*
*JMA **31** 02:55:16.0±0.4, 34.03N×142.56E, h74km, M3.4*
*MOS **31** 02:55:17.7±1.3, 34.15N×142.54E, h33km, mb4.5/4, Error ellipse: s-maj=21.3km s-min=9.8km az=119.5*

ISC 31 02:55:16.1±1.5, 34.09N±0.04×142.49E±0.05, h21km±10km, n46, σ1°10/57, mb3.9/17, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.37**	**295**	P	**Pn**	**02 55 40.6**	**+0.3**
BSO1				*e*S	**Sb**	**02 55 59.6**	**+1.6**
BSO3	**Boso 3**	**1.78**	**294**	P	**Pn**	**02 55 46.8**	**+0.6**
BSO3				*e*S	**Sn**	**02 56 11.0**	**+2.6**
BSO4	**Boso 4**	**1.99**	**297**	P	**Pn**	**02 55 50.4**	**+1.3**
BSO4				*e*S	**Sn**	**02 56 14.5**	**+0.9**
CHOJ	**Chosi**	**2.09**	**321**	*e*S	**Sn**	**02 56 17.3**	**+1.0**
JHJ2	**Mitsune**	**2.44**	**247**	P	**Pn**	**02 55 55.5**	**-0.1**
JHJ2				*e*S	**Sn**	**02 56 23.8**	**-1.2**
JHJ	**Hachijo jima 2**	**2.46**	**247**	Pn	**Pn**	**02 55 55.6**	**-0.2**
	53nm,0.3s,baz=114,slow=8.1,SNR=13						
JHJ				Sn	**Sn**	**02 56 24.3**	**-1.3**
	35nm,0.3s,baz=65,slow=22,SNR=4.6						
JIM2	**Oshima 3**	**2.60**	**285**	P	**Pn**	**02 55 57.3**	**-0.7**
JOD2	**Odawara 2**	**3.04**	**294**	P	**Pn**	**02 56 03.6**	**-0.5**
JOD2				*e*S	**Sn**	**02 56 39.4**	**-0.8**
JAG	**Ashikaga**	**3.40**	**314**	P	**Pn**	**02 56 09.4**	**+0.1**
JRY	**Ryogami san**	**3.51**	**304**	P	**Pn**	**02 56 10.3**	**-0.6**
JRY				*e*S	**Sn**	**02 56 52.1**	**-0.2**
JYN	**Shimob**	**3.54**	**294**	P	**Pn**	**02 56 11.2**	**0.0**
JMM	**Marumori**	**4.01**	**340**	P	**Pn**	**02 56 16.8**	**-1.1**
JMM				*e*S	**Sn**	**02 57 01.6**	**-3.2**
MJAR	**Matsushiro Arr**	**4.27**	**306**	Pn	**Pn**	**02 56 20.2**	**-1.4**
	0.9nm,0.3s,baz=156,slow=13,SNR=6.9						
MJAR				Sn	**Sn**	**02 57 11.2**	**-0.2**
	1.1nm,0.3s,baz=149,slow=22,SNR=7.9						
MAJO	**Matsushiro**	**4.27**	**306**	*e*P	**Pn**	**02 56 22.6**	**+1.0**
MAT	**Matsushiro**	**4.27**	**306**	P	**Pn**	**02 56 23.0**	**+1.4**
MAT				*e*S	**Sn**	**02 57 00.0**	**-1.1**
MAT	**Matsushiro**	**4.27**	**306**	P	**Pn**	**02 56 22.7**	**+1.1**
MAT				S	**Sn**	**02 57 09.1**	**-2.4**
MAT	**Matsushiro**	**4.27**	**306**	*e*S	**Sn**	**02 57 10.1**	**-1.4**
JNS	**Sasagawa**	**4.52**	**326**	*e*S	**Sn**	**02 57 16.9**	**-0.9**
JMK	**Ichinoseki**	**4.96**	**348**	P	**Pn**	**02 56 29.9**	**-1.4**
JMK				*e*S	**Sn**	**02 57 23.2**	**-5.6**
ASAJ	**Asahikawa**	**10.01**	**0**	P	**P**	**02 57 39.0**	**-2.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.01**	**0**	Pn	**P**	**02 57 39.0**	**-2.9**
	comp=Z,0.9nm,0.3s,baz=12,slow=21,SNR=4.0						
ENH	**Enshi**	**28.12**	**271**	*e*P	**P**	**03 01 08.0**	**-0.8**
	comp=Z,6.7nm,0.7s,mb4.4						
SONM	**Songino Array**	**30.22**	**308**	P	**P**	**03 01 28.5**	**+1.2**
	comp=Z,0.7nm,0.8s,mb3.5,baz=101,slow=6.3,SNR=5.9						
BOD	**Bodaibo**	**30.49**	**330**	*e*P	**P**	**03 01 27.9**	**-1.8**
ZAL	**Zalesovo**	**44.58**	**315**	P	**P**	**03 03 30.2**	**+2.0**
	comp=Z,0.4nm,0.4s,mb3.6,baz=21,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**46.47**	**305**	P	**P**	**03 03 44.8**	**+1.5**
	comp=Z,1.3nm,0.9s,mb3.8,baz=90,slow=9.7,SNR=9.3						
KURK	**Kurchatov**	**48.47**	**310**	*e*P	**P**	**03 03 57.5**	**-1.4**
KURK				*e*		03 04 07.8	
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**48.47**	**310**	*e*P	**P**	**03 03 57.5**	**-1.4**
	comp=Z,4.2nm,0.8s,mb4.5						
KURK				*e*		03 04 07.8	
CHKZ	**Chkalovo**	**52.98**	**315**	*e*P	**P**	**03 04 34.0**	**+0.8**
CHKZ				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
CHKZ	**Chkalovo**	**52.98**	**315**	*e*P	**P**	**03 04 34.0**	**+0.7**
	comp=Z,2.7nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**53.22**	**314**	P	**P**	**03 04 35.5**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=117,slow=6.6,SNR=3.8						
WRAB	**Tennant Creek**	**54.28**	**189**	*e*P	**P**	**03 04 43.2**	**0.0**
WRA	**Warramunga Arr**	**54.29**	**189**	P	**P**	**03 04 41.9**	**-1.3**
	comp=Z,2.4nm,0.9s,mb4.1,baz=6.9,slow=7.6,SNR=15						
INK	**Inuvik**	**56.62**	**26**	P	**P**	**03 04 59.4**	**-0.1**
	comp=Z,0.9nm,0.9s,mb3.8,baz=323,slow=4.2,SNR=3.2						
ASAR	**Alice Springs**	**58.02**	**189**	P	**P**	**03 05 10.1**	**+0.1**
	comp=Z,0.8nm

RES pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
RES Resolute Bay 65.23 14 *e*P **P 03 05 58.0 +0.3**
comp=Z,2.6nm,0.9s,mb4.3
YKA Yellowknife Ar 65.91 30 P **P 03 06 02.2 0.0**
comp=Z,0.4nm,0.8s,mb3.5,baz=296,slow=6.4,SNR=6.1
AKASG Malin Array Be 77.16 323 P **P 03 07 10.5 +0.8**
comp=Z,0.2nm,0.3s,mb3.5,baz=47,slow=6.6,SNR=4.9
NB2 NORSAR Subarra 77.23 338 P **P 03 07 10.9 +1.1**
comp=Z,0.4nm,0.6s,mb3.5,baz=40,slow=5.6
NOA NORSAR Array B 77.23 338 P **P 03 07 09.6 -0.2**
comp=Z,0.7nm,0.8s,mb3.7,baz=39,slow=5.7,SNR=5.1
BRTR Keskin Array B 81.47 312 P **P 03 07 34.0 +0.9**
comp=Z,0.9nm,0.8s,mb3.7,baz=90,slow=3.7,SNR=5.1
TXAR Lajitas Array 91.20 53 P **P 03 08 22.9 +1.7**
comp=Z,0.5nm,0.6s,mb4.0,baz=304,slow=2.8,SNR=8.1
LPAZ La Paz 147.29 65 PKPbc PKPdf 03 15 00.3 -0.1
comp=Z,0.8nm,0.6s,baz=350,slow=8.0,SNR=4.1

MAN 31 02:56:08.2, 10.76N×126.21E, h55km, mb3.9, ML2.7, MS2.4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BESP	**Borongan**	**1.13**	**318**	*e*P	P	02 56 29.0	+1.0
PLP	**Palo**	**1.27**	**289**	*e*P	P	02 56 29.4	-0.7
PLP				*e*S	S	02 56 47.5	+1.2
MSLP	**Maasin**	**1.47**	**245**	*e*P	P	02 56 33.7	+0.8
CNP	**Catarman**	**2.31**	**319**	*e*P	P	02 56 44.1	-0.5
PVCP	**Virac**	**3.46**	**325**	*e*P	P	02 57 01.5	+0.6
PAGZ	**Pagadian**	**4.02**	**224**	*e*P	P	02 57 09.3	+0.5

*IDC **31** 02:58:29.3±1.4, 6.62N×94.23E, mb4.0/9, mb1 4.2/9, mb1mx3.9/21, mbtmp4.0/9, Error ellipse: s-maj=66.2km s-min=16.9km az=56.0*
*NEIC **31** 02:58:34.1±0.5, 6.75N×94.36E, h30km, mb4.5/5, Error ellipse: s-maj=17.3km s-min=8.6km az=53.0*
ISC 31 02:58:31.9±0.6, 6.6N±0.1×94.3E±0.1, h30km, n21, σ0@68/21, mb4.2/14, 2C, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**6.49**	**101**	*e*Pn	**Pn**	**03 00 08.8**	**+0.8**
CM31	**Chiang Mai Arr**	**12.62**	**21**	P	**P**	**03 01 27.3**	**-5.0**
KSM	**Kuching**	**16.80**	**107**	P	**P**	**03 02 21.8**	**-5.1**
LSA	**Lhasa**	**23.14**	**353**	*e*P	**P**	**03 03 41.8**	**+4.9**
	12nm,0.8s,mb4.4						
FITZ	**Fitzroy Crossi**	**39.53**	**129**	P	**P**	**03 06 02.2**	**+0.1**
	14nm,0.6s,mb4.9,baz=328,slow=4.6,SNR=21						
MKAR	**Makanchi Array**	**41.33**	**348**	P	**P**	**03 06 16.1**	**-0.5**
	0.4nm,0.4s,mb3.4,baz=154,slow=7.7,SNR=3.5						
SONM	**Songino Array**	**42.35**	**12**	P	**P**	**03 06 25.7**	**+0.6**
	0.3nm,0.7s,mb3.0,baz=166,slow=5.9,SNR=2.6						
KURK	**Kurchatov**	**45.85**	**346**	*e*P	**P**	**03 06 53.4**	**+0.2**
	5.1nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**47.44**	**125**	P	**P**	**03 07 06.1**	**-0.2**
	4.5nm,0.4s,mb4.8,baz=303,slow=9.0,SNR=90						
WRAB	**Tennant Creek**	**47.45**	**125**	*e*P	**P**	**03 07 06.1**	**-0.2**
	6.7nm,0.6s,mb4.8						
WB2	**Warramunga Arr**	**47.45**	**125**	⇑*i*P	**P**	**03 07 06.3**	**0.0**
ZAL	**Zalesovo**	**47.80**	**352**	P	**P**	**03 07 09.1**	**+0.5**
	1.4nm,0.3s,mb4.4,baz=255,slow=5.5,SNR=3.2						
ZAL	**Zalesovo**	**47.80**	**352**	P	**P**	**03 07 09.1**	**+0.5**
ASPA	**Alice Springs**	**49.02**	**129**	⇑*i*P	**P**	**03 07 18.6**	**+0.2**
ASAR	**Alice Springs**	**49.03**	**129**	P	**P**	**03 07 18.6**	**+0.2**
	3.6nm,0.5s,mb4.7,baz=299,slow=7.2,SNR=4.7						
BVAR	**Borovoye Array**	**50.21**	**341**	P	**P**	**03 07 26.2**	**-0.9**
	1.8nm,0.8s,mb4.2,baz=135,slow=8.4,SNR=4.5						
CHKZ	**Chkalovo**	**50.69**	**342**	*e*P	**P**	**03 07 29.9**	**-0.9**
	7.7nm,0.8s,mb4.7						
CHKZ				*e*pP	pP	03 07 37.5	-2.5
KMBO	**Kilima Mbogo**	**57.42**	**264**	P	**P**	**03 08 21.2**	**+0.4**
	3.2nm,1.2s,mb4.2						
CTAO	**Charters Tower**	**57.60**	**119**	*e*P	**P**	**03 08 20.4**	**-1.5**
FINES	**FINESS Array B**	**73.87**	**332**	P	**P**	**03 10 05.4**	**-0.2**
	0.5nm,0.6s,mb3.6,baz=63,slow=4.3,SNR=3.8						
GERES	**GERESS Array B**	**78.84**	**318**	P	**P**	**03 10 35.2**	**+1.4**
	0.3nm,0.6s,mb3.4,baz=124,slow=4.8,SNR=3.8						

IDC 31 02:58:54.5±1.3, 18.32S×175.58E, mb4.0/3, mb1 4.3/4, mb1mx4.0/14, mbtmp4.1/4, ML3.9/1, MS3.9/2, Ms1 3.9/2, ms1mx3.2/26, Error ellipse: s-maj=45.0km s-min=30.5km az=18.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.35**	**245**	LR	LR	03 04 07.7	
	comp=Z,576nm,18.1s,baz=22,slow=34						
AFI	**Afiamalu**	**12.92**	**72**	LR	LR	03 05 54.6	
	comp=Z,450nm,18.6s,baz=27,slow=32						
URZ	**Urewera**	**19.92**	**176**	P	P	03 03 28.0	-2.7
	0.4nm,0.3s,baz=247,slow=3.2,SNR=3.9						
WRA	**Warramunga Arr**	**38.92**	**261**	P	P	03 06 23.0	-1.0
	1.6nm,1.1s,baz=84,slow=7.3,SNR=4.3						
ASAR	**Alice Springs**	**39.17**	**255**	P	P	03 06 23.5	-2.5
	2.2nm,0.9s,baz=85,slow=9.4,SNR=14						
TXAR	**Lajitas Array**	**91.09**	**60**	P	P	03 12 01.2	-1.5
	0.7nm,0.9s,baz=225,slow=5.3,SNR=7.4						
GERES	**GERESS Array B**	**146.19**	**338**	PKPbc	PKPbc	03 18 36.5	-0.2
	0.2nm,0.2s,baz=18,slow=3.1,SNR=6.6						

DJA 31 03:01:52.8±0.4, 8.10S×115.26E, h33km, MD4.7/4, ML4.0/2, 5C-4D, Error ellipse: s-maj=17.1km s-min=4.7km az=10.0, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATI	**Rata**	**0.67**	**156**	⇑*i*Pn	Pn	03 02 04.4	-1.6
	477nm,0.2s						
RATI				⇓*i*Sn	Sn	03 02 14.1	-1.3
KELI	**Kelakatan**	**0.77**	**262**	⇑*i*Pn	Pn	03 02 05.7	-1.7
	204nm,0.2s						
KELI				⇓*i*Sn	Sn	03 02 17.5	-0.4
KEDI	**Kedomdong**	**0.93**	**114**	⇑*i*Pn	Pn	03 02 08.5	-1.1
	372nm,0.2s						
KEDI	**Kedomdong**	**0.93**	**114**	⇓*i*P	P	03 02 08.9	-0.5
KEDI				⇑*i*Sn	Sn	03 02 19.5	-2.3
SRDI	**Scrawed**	**1.17**	**251**	⇑*i*Pn	Pn	03 02 12.2	-0.9
	159nm,0.2s						
SRDI	**Scrawed**	**1.17**	**251**	⇓*i*P	P	03 02 12.7	-0.2

*IDC **31** 03:09:26.0±1.4, 53.91S×8.07E, mb4.0/7, mb1 4.1/8, mb1mx3.9/18, mbtmp4.0/8, ML3.5/1, MS3.9/1, Ms1 3.9/1, ms1mx2.7/27, Error ellipse: s-maj=46.2km s-min=25.4km az=44.0*
*NEIC **31** 03:09:28.0±0.5, 53.94S×7.96E, h10km, mb4.7/9, Error ellipse: s-maj=14.3km s-min=14.0km az=111.0*
ISC 31 03:09:26.4±0.5, 53.92S±0.09×7.9E±0.2, h10km, n22, σ1@03/21, mb4.3/15, 1D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**18.43**	**191**	P	**P**	**03 13 43.5**	**+0.2**
	0.1nm,0.3s,baz=14,slow=15,SNR=11						
SNAA				LR	LR	03 18 35.2	
	comp=Z,370nm,20.5s,baz=23,slow=30						
SNAA	**Sanae**	**18.43**	**191**	P	**P**	**03 13 43.5**	**+0.2**
SNAA				LR	LR	03 18 35.2	
BOSA	**Boshof**	**28.30**	**34**	P	**P**	**03 15 20.5**	**-1.5**
	15nm,1.5s,mb4.4						
MAW	**Mawson**	**28.99**	**140**	*e*P	**P**	**03 15 28.5**	**+0.7**
	17nm,0.5s,mb5.0						
QSPA	**South Pole Qui**	**36.32**	**180**	⇓*i*P	**P**	**03 16 33.2**	**+1.6**
	12nm,1.2s,mb4.7						
LSZ	**Lusaka**	**41.71**	**30**	P	**P**	**03 17 19.0**	**+2.0**
	10.0nm,1.5s,mb4.2						
VNDA	**Vanda**	**47.83**	**173**	P	**P**	**03 18 04.5**	**-0.9**
	2.9nm,0.9s,mb4.3,baz=221,slow=8.5,SNR=8.8						
VNDA	**Vanda**	**47.83**	**173**	P	**P**	**03 18 04.5**	**-0.9**
TRQA	**Tornquist**	**49.02**	**259**	P	**P**	**03 18 14.1**	**-1.0**
	34nm,1.6s,mb5.1						
PLCA	**Paso Flores**	**52.10**	**251**	P	**P**	**03 18 38.3**	**-0.2**
	1.4nm,0.8s,mb3.9,baz=218,slow=13,SNR=3.0						
MBAR	**Mbarara**	**56.40**	**28**	P	**P**	**03 19 10.6**	**+0.3**
	6.2nm,1.2s,mb4.5						
CFAA	**Coronel Fontan**	**57.20**	**260**	P	**P**	**03 19 14.8**	**-1.0**
	0.2nm,0.4s,mb3.5,baz=153,slow=3.2,SNR=4.0						
CFAA	**Coronel Fontan**	**57.20**	**260**	P	**P**	**03 19 14.8**	**-1.0**
BDFB	**Brasilia**	**57.61**	**289**	P	**P**	**03 19 19.2**	**+0.3**
	1.7nm,0.8s,mb4.2,baz=160,slow=11,SNR=3.7						
LVC	**Limon Verde**	**64.33**	**266**	*e*P	**P**	**03 20 05.4**	**+1.1**
	6.7nm,1.1s,mb4.6						
SIV	**San Ignacio**	**64.84**	**277**	P	**P**	**03 20 06.8**	**-0.9**
	0.6nm,0.8s,mb3.7,baz=288,slow=20,SNR=2.7						
LPAZ	**La Paz**	**68.77**	**271**	P	**P**	**03 20 34.0**	**+1.3**
	3.2nm,0.8s,mb4.3,baz=120,slow=4.9,SNR=12						
LPAZ	**La Paz**	**68.77**	**271**	*e*P	**P**	**03 20 33.7**	**+1.1**
	5.0nm,0.9s,mb4.4						
SAML	**Samuel**	**71.68**	**280**	*e*P	**P**	**03 20 50.6**	**+0.3**
	5.6nm,0.8s,mb4.5						
ASAR	**Alice Springs**	**89.84**	**132**	P	**P**	**03 22 26.0**	**-0.6**
	1.6nm,1.0s,mb4.3,baz=212,slow=4.9,SNR=5.0						
WB2	**Warramunga Arr**	**93.30**	**131**	*e*P	**P**	**03 22 40.9**	**-1.6**
YKA	**Yellowknife Ar**	**149.49**	**310**	PKPbc	PKPdf	03 29 15.6	+2.8
	3.5nm,0.8s,baz=97,slow=2.6,SNR=58						

IDC 31 03:12:11.4±3.4, 1.27N×97.26E, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, Error ellipse: s-maj=139.0km s-min=21.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.02**	**122**	P	P	03 20 05.5	-1.1
	1.2nm,0.8s,baz=300,slow=9.0,SNR=7.7						
ASAR	**Alice Springs**	**43.39**	**127**	P	P	03 20 15.2	-2.5
	1.0nm,0.8s,baz=308,slow=7.3,SNR=5.5						
SONM	**Songino Array**	**47.05**	**8**	P	P	03 20 45.1	-1.5
	2.0nm,0.8s,baz=189,slow=8.6,SNR=19						
MKAR	**Makanchi Array**	**47.18**	**346**	P	P	03 20 45.8	-1.9
	0.9nm,0.6s,baz=161,slow=9.0,SNR=13						
ZAL	**Zalesovo**	**53.49**	**351**	P	P	03 21 32.9	-2.8
	2.2nm,0.6s,baz=305,slow=5.4,SNR=10						

*IDC **31** 03:14:46.4±0.6, 1.00N×96.96E, mb4.4/17, mb1 4.5/17, mb1mx4.4/21, mbtmp4.4/17, Error ellipse: s-maj=28.1km s-min=13.3km az=51.0*
*MOS **31** 03:14:48.2±1.2, 0.90N×97.38E, h33km, mb5.1/18, Error ellipse: s-maj=17.4km s-min=7.8km az=104.0*
*BJI **31** 03:14:48.2, 0.72N×97.29E, h40km, mB5.3, mb5.0, Ms4.7, Msz4.6*
*NEIC **31** 03:14:50.5±0.4, 1.10N×97.12E, mb4.8/23, Error ellipse: s-maj=10.7km s-min=6.9km az=55.0*
ISC 31 03:14:48.9±0.4, 1.09N±0.05×97.11E±0.05, h26km, h26km±1.7km:pP-P, n93, σ1@09/97, mb4.7/60, MS4.5/10, 4C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.22**	**48**	P	**Pn**	**03 16 07.7**	**+0.2**
KULM	**Kulim**	**5.46**	**40**	*e*Pn	**Pn**	**03 16 10.4**	**-0.5**
KULM				*e*		03 16 16.4	
KGM	**Kluang**	**6.27**	**82**	P	**Pn**	**03 16 23.5**	**+1.2**
SNG	**Songkhla**	**6.98**	**30**	P	**Pn**	**03 16 31.0**	**-1.3**
	150nm,0.9s						
CM31	**Chiang Mai Arr**	**17.35**	**6**	*e*P	**P**	**03 18 49.4**	**-1.8**
	24nm,0.8s						
CHG	**Chiang Mai**	**17.70**	**6**	P	**P**	**03 18 56.5**	**+0.9**
HYB	**Hyderabad**	**24.42**	**313**	*e*P	**P**	**03 20 11.0**	**+4.1**
KMI	**Kunming**	**24.50**	**12**	P	**P**	**03 20 09.5**	**+1.8**
KMI				AP		03 20 15.8	
KMI				AMB	AMB		
	comp=Z,69nm,1.2s,mb5.0						
KMI				LR	LR		
	comp=N,1μm,16.3s,MS4.6						
KMI				LR	LR		
	comp=E,679nm,13.6s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,15.5s,MS4.5						
GYA	**Guiyang**	**26.84**	**19**	⇓*i*P	**P**	**03 20 29.5**	**0.0**
GYA				AP	pP	03 20 36.0	-1.1
GYA				PP	PP	03 21 14.8	-0.1
GYA				S	**S**	**03 25 02.5**	**0.0**
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,190nm,4.8s						
GYA				LR	LR		
	comp=N,960nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=E,450nm,14.2s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,13.2s,MS4.6						
JIRN	**Jiri**	**28.41**	**339**	*e*P	**P**	**03 20 45.3**	**+1.5**
	comp=Z,76nm,1.0s,mb5.3						
PKI	**Pulchoki**	**28.62**	**338**	*e*P	**P**	**03 20 46.6**	**+1.0**
	comp=Z,77nm,1.3s,mb5.3						
PKI	**Pulchoki**	**28.62**	**338**	*e*P	**P**	**03 20 46.6**	**+1.0**
PKI				pmax	pmax		
	comp=Z,39nm,1.3s,mb5.0						
GUN	**Gumba**	**28.75**	**339**	*e*P	**P**	**03 20 48.1**	**+1.3**
	comp=Z,102nm,0.9s,mb5.5						
DMN	**Daman**	**28.77**	**337**	*e*P	**P**	**03 20 47.5**	**+0.5**
	comp=Z,33nm,1.0s,mb5.0						
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**	**03 20 48.7**	**+0.9**
	comp=Z,76nm,1.0s,mb5.4						
KKN	**Kakani**	**28.86**	**338**	*e*P	**P**	**03 20 48.7**	**+0.9**
KKN				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.1						
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**03 20 50.3**	**+1.2**
LSA				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.01**	**349**	*e*P	**P**	**03 20 50.3**	**+1.2**
	comp=Z,18nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.30**	**337**	*e*P	**P**	**03 20 52.3**	**+0.5**
	comp=Z,51nm,0.9s,mb5.2						
KOLN	**Koldanda**	**29.52**	**335**	*e*P	**P**	**03 20 54.8**	**+1.1**
	comp=Z,29nm,0.7s,mb5.1						
CD2	**Chengdu**	**30.32**	**11**	*e*P	**P**	**03 21 04.0**	**+3.2**
ENH	**Enshi**	**31.31**	**21**	*e*P	**P**	**03 21 07.8**	**-1.7**
	comp=Z,42nm,0.9s,mb5.3						
ENH				*e*pP	pP	03 21 14.3	-2.9
FITZ	**Fitzroy Crossi**	**33.94**	**126**	P	**P**	**03 21 31.7**	**-0.8**
	comp=Z,7.3nm,0.8s,mb4.7,baz=245,slow=2.8,SNR=7.0						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**03 21 36.3**	**-1.7**
XAN				AMB	AMB		
	comp=Z,18nm,0.8s,mb5.0						
LZH	**Lanzhou**	**35.37**	**9**	*e*P	**P**	**03 21 44.5**	**-0.2**
LZH				AP	pP	03 21 52.0	-0.4
LZH				AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1						
LZH				AMB	AMB		
	comp=Z,1μm,4.0s						
LZH				LR	LR		
	comp=N,815nm,16.0s						
LZH				LR	LR		
	comp=Z,1μm,17.0s,MS4.7						
NJ2	**Nanjing**	**37.00**	**32**	*e*P	**P**	**03 21 56.5**	**-1.9**
NJ2				AP	pP	03 22 06.5	+0.4
NJ2				XP	sP	03 22 10.3	+0.9
NJ2				PP	PP	03 23 25.5	+0.4
NJ2				S	**S**	**03 27 43.0**	**+1.2**
NJ2				XS		03 27 59.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,1μm,3.5s						
NJ2				LR	LR		
	comp=N,680nm,13.7s						
NJ2				LR	LR		
	comp=E,530nm,22.2s						
NJ2				LR	LR		
	comp=Z,420nm,14.5s,MS4.4						
SSE	**Sheshan**	**37.55**	**35**	P	**P**	**03 22 01.8**	**-1.3**
SSE				AMB	AMB		
	comp=Z,38nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,42nm,3.3s						
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**	**03 22 09.0**	**+0.4**
GTA				AP	pP	03 22 18.8	+2.5
GTA				XP	sP	03 22 22.8	+3.3
GTA				S	**S**	**03 27 51.8**	**-8.4**
GTA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.0						
GTA				AMB	AMB		
	comp=Z,356nm,6.6s						
GTA				LR	LR		
	comp=N,344nm,16.2s,MS4.5						
GTA				LR	LR		
	comp=E,508nm,14.4s,MS4.5						
GTA				LR	LR		
	comp=Z,465nm,15.9s,MS4.4						
HHC	**Hu-ho-hao-te**	**41.68**	**17**	*e*P	**P**	**03 22 39.5**	**+2.2**
HHC				XP	sP	03 22 49.5	+1.3
HHC				PP	PP	03 24 18.3	+1.5
HHC				PCS		03 28 26.0	
HHC				S	**S**	**03 28 54.8**	**+2.6**
HHC				AMB	AMB		
	comp=Z,13nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,229nm,4.6s						
HHC				LR	LR		
	comp=N,412nm,17.2s,MS4.6						
HHC				LR	LR		
	comp=E,612nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,419nm,17.2s,MS4.4						
WRA	**Warramunga Arr**	**42.05**	**122**	P	**P**	**03 22 40.3**	**-0.2**
	comp=Z,3.5nm,0.7s,mb4.1,baz=301,slow=9.0,SNR=23						
WRA				PcP	PcP	03 24 33.4	-2.5
	comp=Z,0.5nm,0.7s,baz=312,slow=3.4,SNR=3.7						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**03 22 40.6**	**0.0**
WRAB				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.5						
WRAB	**Tennant Creek**	**42.06**	**122**	*e*P	**P**	**03 22 40.6**	**0.0**
	comp=Z,13nm,1.0s,mb4.5						
BJT	**Baijiatuao**	**42.45**	**22**	*e*P	**P**	**03 22 44.3**	**+0.7**
BJT				*e**PP	pP	03 22 50.6	-0.7
BJT				pmax	pmax		
	comp=Z,36nm,1.0s						
BJT	**Baijiatuao**	**42.45**	**22**	*e*P	**P**	**03 22 44.3**	**+0.7**
	comp=Z,36nm,1.0s,mb5.0						
BJT				*e*pP	pP	03 22 50.6	-0.7
BJI	**Beijing**	**42.47**	**22**	*e*P	**P**	**03 22 45.0**	**+1.3**
BJI				AMB	AMB		
	comp=Z,22nm,0.9s,mb4.8						
WMQ	**Urumqi**	**43.36**	**350**	⇑*i*P	**P**	**03 22 52.3**	**+1.4**
WMQ				AP	pP	03 23 02.0	+3.3
WMQ				XP	sP	03 23 06.0	+4.1
WMQ				PP	PP	03 24 35.0	+1.2
WMQ				PPP	PPP	03 25 11.0	+1.3
WMQ				S	**S**	**03 29 17.0**	**+0.3**
WMQ				XS		03 29 33.5	
WMQ				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,238nm,5.9s						
WMQ				LR	LR		
	comp=N,867nm,27.6s,MS4.6						
WMQ				LR	LR		
	comp=E,606nm,28.4s,MS4.6						
WMQ				LR	LR		
	comp=Z,527nm,29.7s,MS4.3						
ASPA	**Alice Springs**	**43.40**	**127**	⇓*i*P	**P**	**03 22 52.5**	**+1.0**
ASAR	**Alice Springs**	**43.40**	**127**	P	**P**	**03 22 52.4**	**+0.9**
	comp=Z,4.1nm,0.9s,mb4.2,baz=300,slow=7.2,SNR=20						
ASAR				PcP	PcP	03 24 38.5	-1.8
	comp=Z,1.9nm,1.1s,baz=275,slow=3.7,SNR=4.3						
AAK	**Ala-Archa**	**46.06**	**337**	*e*P	**P**	**03 23 12.9**	**+0.3**
AAK	**Ala-Archa**	**46.06**	**337**	*e*P	**P**	**03 23 13.1**	**+0.6**
	comp=Z,5.9nm,0.9s,mb4.5						
SONM	**Songino Array**	**47.25**	**9**	P	**P**	**03 23 21.9**	**0.0**
	comp=Z,5.6nm,0.7s,mb4.6,baz=190,slow=9.1,SNR=36						
SONM				PcP	PcP	03 24 53.9	+0.6
	comp=Z,2.6nm,0.7s,baz=192,slow=3.8,SNR=8.1						
MKAR	**Makanchi Array**	**47.32**	**346**	*i*P	**P**	**03 23 22.8**	**+0.3**
MKAR				pmax	pmax		
	comp=Z,12nm,0.9s						
MKAR	**Makanchi Array**	**47.32**	**346**	P	**P**	**03 23 22.9**	**+0.4**
	comp=Z,6.3nm,0.6s,mb4.7,baz=161,slow=8.9,SNR=51						
ULN	**Ulaanbaatar**	**47.38**	**9**	*e*P	**P**	**03 23 21.7**	**-1.2**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**47.38**	**9**	*e*P	**P**	**03 23 21.7**	**-1.3**
	comp=Z,7.8nm,1.0s,mb4.6						
KKAR	**Karatay Array**	**48.11**	**334**	P	**P**	**03 23 29.3**	**+0.6**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
ZAK	**Zakamensk**	**49.39**	**5**	*e*P	**P**	**03 23 37.9**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
CN2	**Changchun**	**49.44**	**27**	*e*P	**P**	**03 23 38.5**	**-0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
TLY	**Talaya**	**50.71**	**5**	⇓*i*P	**P**	**03 23 42.6**	**-5.9**
TLY				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TLY	**Talaya**	**50.71**	**5**	*e*P	**P**	**03 23 42.8**	**-5.7**
	comp=Z,5.8nm,0.8s,mb4.6						
PMG	**Port Moresby**	**50.92**	**103**	P	**P**	**03 23 55.0**	**+4.4**
PMG				pmax	pmax		
	comp=Z,18nm,1.0s						
PMG	**Port Moresby**	**50.92**	**103**	P	**P**	**03 23 55.0**	**+4.4**
	comp=Z,18nm,1.0s,mb5.0						
HIA	**Hailar**	**51.77**	**19**	*e*P	**P**	**03 23 56.4**	**-0.2**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**51.77**	**19**	*e*P	**P**	**03 23 56.4**	**-0.2**
	comp=Z,9.6nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**51.83**	**42**	P	**P**	**03 23 57.3**	**+0.1**
	comp=Z,1.3nm,0.7s,mb4.0,baz=211,slow=6.0,SNR=5.9						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**03 23 57.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
KURK	**Kurchatov**	**51.87**	**345**	*e*P	**P**	**03 23 57.3**	**-0.1**
	comp=Z,15nm,1.0s,mb4.9						
MDJ	**Mudanjiang**	**52.00**	**29**	P	**P**	**03 23 58.0**	**-0.4**
MDJ				AP	pP	03 24 07.0	+0.7
MDJ				XP	sP	03 24 12.5	+3.1
MDJ				PCP	PcP	03 25 08.0	-2.7
MDJ				SCP		03 29 04.3	
MDJ				PCS		03 29 08.5	
MDJ				S	**S**	**03 31 19.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,478nm,13.7s						
MDJ				LR	LR		
	comp=N,222nm,32.8s,MS4.1						
MDJ				LR	LR		
	comp=E,201nm,28.7s,MS4.1						
MDJ				LR	LR		
	comp=Z,199nm,24.6s,MS4.1						
MDJ	**Mudanjiang**	**52.00**	**29**	*e*P	**P**	**03 23 59.1**	**+0.7**
	comp=Z,5.3nm,0.7s,mb4.6

	comp=Z,3.2nm,1.0s,mb4.3							
MALT					*e*pP		pP	03 25 37.4 -0.8
YAK	**Yakutsk**	**65.55**	**16**	*c*	*i*P		**P**	**03 25 31.2 -1.2**
YAK					pmax		pmax	
	comp=Z,54nm,1.3s,mb5.4							
SOC	**Sochi**	**66.14**	**318**		*e*P		**P**	**03 25 35.4 -1.1**
SOC					*e*PPP		PPP	03 29 38.6 -1.0
SOC					*e*SS		SS	03 38 42.5 +3.4
SOC					pmax		pmax	
	comp=Z,15nm,1.0s,mb5.0							
SOC					pmax		pmax	
	comp=N,18nm,1.1s							
SOC					pmax		pmax	
	comp=E,6.0nm,0.9s							
BRTR	**Keskin Array B**	**69.12**	**312**		P		**P**	**03 25 54.6 -0.7**
	comp=E,1.3nm,0.8s,mb3.9,baz=135,slow=7.7,SNR=9.1							
OBN	**Obninsk**	**72.66**	**328**		*e*P		**P**	**03 26 16.0 -0.3**
OBN					*e*			03 26 28.0
OBN					pmax		pmax	
	comp=Z,11nm,0.7s,mb4.9							
OBN					MLR		MLR	
	comp=Z,300nm,17.0s,MS4.6							
TIXI	**Tiksi**	**73.31**	**10**		*e*P		**P**	**03 26 17.4 -2.4**
TIXI					pmax		pmax	
	comp=Z,8.0nm,1.0s,mb4.6							
BOSA	**Boshof**	**74.65**	**240**		P		**P**	**03 26 27.5 -1.0**
	comp=Z,2.3nm,0.9s,mb4.1,baz=84,slow=10,SNR=3.3							
AKASG	**Malin Array Be**	**75.29**	**322**		P		**P**	**03 26 30.9 -0.7**
	comp=Z,1.3nm,0.6s,mb4.1,baz=90,slow=4.8,SNR=8.4							
AKASG	**Malin Array Be**	**75.29**	**322**		P		**P**	**03 26 30.9 -0.7**
FINES	**FINESS Array B**	**80.05**	**333**		P		**P**	**03 26 58.3 +0.5**
	comp=Z,1.5nm,0.7s,mb4.0,baz=104,slow=7.9,SNR=8.2							
FX1	**Attu Island--F**	**80.73**	**37**		P		**P**	**03 27 03.1 +1.6**
	comp=Z,17nm,0.5s,mb5.2,baz=98,slow=22,SNR=7.5							
ARCES	**ARCESS Array B**	**82.61**	**340**		P		**P**	**03 27 11.3 +0.4**
	comp=Z,4.6nm,0.9s,mb4.5,baz=56,slow=4.4,SNR=6.5							
GERES	**GERESS Array B**	**84.83**	**319**		P		**P**	**03 27 23.2 +0.5**
	comp=Z,1.6nm,0.8s,mb4.2,baz=108,slow=4.2,SNR=13							
BRG	**Berggiesshubel**	**84.84**	**321**		*e*P		**P**	**03 27 24.2 +1.6**
BRG					*e*		pP	03 27 31.8 +0.9
BRG					pmax		pmax	
	comp=Z,4.0nm,1.0s,mb4.5							
BRG	**Berggiesshubel**	**84.84**	**321**		*e*P		**P**	**03 27 24.2 +1.6**
	comp=Z,4.1nm,1.0s,mb4.5							
BRG					*e*		pP	03 27 31.8 +0.9
NB2	**NORSAR Subarra**	**87.06**	**331**		P		**P**	**03 27 34.2 +0.8**
	comp=Z,0.2nm,0.8s,mb3.4,baz=92,slow=5.8							
NOA	**NORSAR Array B**	**87.06**	**331**		P		**P**	**03 27 33.6 +0.2**
	comp=Z,2.0nm,0.9s,mb4.4,baz=95,slow=5.0,SNR=8.4							
TXAR	**Lajitas Array**	**143.80**	**32**		PKP		PKPdf	03 34 23.0 -4.3
	comp=Z,0.5nm,0.8s,baz=217,slow=1.2,SNR=6.5							
GOGA	**Godfrey**	**145.68**	**1**	*e*	PKPdf		PKPdf	03 34 27.7 -2.7

*IDC **31** 03:18:16.7±2.7, 1.11N×97.20E, mb3.9/7, mb1 4.1/7, mb1mx3.8/20, mbtmp3.9/7, Error ellipse: s-maj=123.4km s-min=18.1km az=56.0*
*NEIC **31** 03:18:20.9±0.6, 1.09N×97.14E, h30km, mb4.5/4, Error ellipse: s-maj=15.5km s-min=9.3km az=62.0*
ISC 31 03:18:18.7±0.7, 1.11N±0.10×97.1E±0.1, h30km, n14, σ0§64/14, mb4.1/11, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.44**	**40**		*e*P		**Pn**	**03 19 40.2**	**+0.1**
KULM					*e*pP			03 19 45.5	
ENH	**Enshi**	**31.29**	**21**		*e*P		**P**	**03 24 37.3**	**-1.3**
	12nm,0.8s,mb4.8								
ENH					*e*pP		pP	03 24 43.8	-3.6
FITZ	**Fitzroy Crossi**	**33.93**	**126**		P		**P**	**03 25 01.7**	**-0.1**
	2.0nm,0.7s,mb4.2,baz=336,slow=10.0,SNR=2.5								
WRA	**Warramunga Arr**	**42.05**	**122**		P		**P**	**03 26 09.7**	**-0.1**
	1.3nm,0.7s,mb3.7,baz=301,slow=9.0,SNR=9.7								
WRAB	**Tennant Creek**	**42.05**	**122**		P		**P**	**03 26 09.7**	**-0.1**
	6.1nm,1.0s,mb4.2								
ASAR	**Alice Springs**	**43.40**	**127**		P		**P**	**03 26 20.6**	**-0.2**
	0.8nm,0.7s,mb3.6,baz=299,slow=7.9,SNR=5.2								
SONM	**Songino Array**	**47.23**	**8**		P		**P**	**03 26 51.8**	**+0.8**
	0.8nm,0.5s,mb3.9,baz=190,slow=9.2,SNR=5.5								
SONM					PcP		PcP	03 28 23.2	+0.8
	0.6nm,0.8s,baz=196,slow=3.7,SNR=4.4								
MKAR	**Makanchi Array**	**47.31**	**346**		P		**P**	**03 26 52.6**	**+1.0**
	1.1nm,0.6s,mb4.0,baz=165,slow=9.1,SNR=5.7								
CTAO	**Charters Tower**	**52.53**	**116**		P		**P**	**03 27 33.2**	**+1.2**
	22nm,1.3s,mb4.9								
STKA	**Stephens Creek**	**53.35**	**132**		*e*P		**P**	**03 27 37.3**	**-0.6**
ZAL	**Zalesovo**	**53.63**	**351**		P		**P**	**03 27 39.2**	**-0.4**
	2.2nm,0.9s,mb4.1,baz=286,slow=6.7,SNR=6.4								
ZAL	**Zalesovo**	**53.63**	**351**		P		**P**	**03 27 39.2**	**-0.4**
BVAR	**Borovoye Array**	**56.31**	**341**		P		**P**	**03 27 58.8**	**-0.3**
	1.0nm,0.7s,mb3.9,baz=127,slow=7.4,SNR=4.8								
KMBO	**Kilima Mbogo**	**59.91**	**268**		P		**P**	**03 28 24.8**	**-0.1**
	2.6nm,1.3s,mb4.1								

*NEIC **31** 03:23:51.1, 37.23N×20.86E, h14km, MD3.5(ATH), After ATH.*
*CSEM **31** 03:23:51.1, 37.23N×20.86E, h14km, MD3.5/4, After ATH*
ATH 31 03:23:51.9, 37.28N×20.90E, h25km±3km, MD3.5/5, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.83**	**97**	*e*PB			Pb	03 24 07.6	+0.1
ITM				*e*SN			Sn	03 24 20.2	+0.8
ITM	**Ithomi**	**0.83**	**97**	*e*Pb			Pb	03 24 06.3	-1.2
ITM				*e*Sb			Sb	03 24 20.2	+2.0
RLS	**Riolos of Patr**	**0.90**	**30**	*e*PN			Pn	03 24 09.1	+0.1
VLS	**Valsamata**	**0.93**	**345**	*e*PN			Pn	03 24 10.0	+0.6
VLS				*e*SN			Sn	03 24 23.8	+1.8
VLS	**Valsamata**	**0.93**	**345**	*e*Pb			Pb	03 24 08.6	-0.6
VLS				*e*Sb			Sb	03 24 23.8	+2.6
VLI	**Veliai**	**1.72**	**108**	*e*PN			Pn	03 24 23.1	+2.3
EVR	**Evrytania**	**1.78**	**23**	*e*PB			Pb	03 24 22.9	-0.9
EVR	**Evrytania**	**1.78**	**23**	*e*Pg			Pn	03 24 25.9	+4.2
KYTH	**Kithira**	**1.98**	**120**	*e*PB			Pb	03 24 26.0	-1.2

*BJI **31** 03:26:45.2, 9.06N×124.41E, h541km, mB4.9, mb4.7*
*NEIC **31** 03:26:46.8±1.1, 9.18N×124.14E, h520km±15km, mb4.3/17, Error ellipse: s-maj=11.2km s-min=4.5km az=76.0*
*IDC **31** 03:26:47.5±1.5, 9.19N×124.27E, h529km±19km, mb3.6/13, mb1 3.6/14, mb1mx3.5/22, mbtmp4.5/14, Error ellipse: s-maj=28.9km s-min=7.6km az=74.0*
ISC 31 03:26:47.9±1.3, 9.15N±0.05×124.2E±0.1, h558km±19km, n47, σ0§95/49, mb4.3/33, 1C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.78**	**242**	*e*P			**P**	**03 30 04.5**	**-0.1**
QIZ	**Qiongzhong**	**17.02**	**307**	*e*P			**P**	**03 30 15.8**	**-0.6**
	23nm,1.0s								
JOW	**Kunigami**	**18.01**	**12**	P			**P**	**03 30 26.1**	**+0.2**
	1.8nm,0.3s,baz=152,slow=9.0,SNR=5.2								
ENH	**Enshi**	**25.10**	**329**	*e*P			**P**	**03 31 29.7**	**-1.0**
	15nm,0.9s,mb4.6								
FITZ	**Fitzroy Crossi**	**27.12**	**177**	P			**P**	**03 31 48.1**	**-0.5**
	8.5nm,0.5s,mb4.7,baz=9.9,slow=8.3,SNR=28								
XAN	**Xi'an**	**28.47**	**333**	P			**P**	**03 31 59.3**	**-0.9**
XAN					AMB		AMB		
	comp=Z,32nm,0.8s,mb5.0								
MJAR	**Matsushiro Arr**	**30.10**	**23**	P			**P**	**03 32 12.6**	**-1.5**
	comp=Z,1.5nm,0.5s,mb3.7,baz=189,slow=8.3,SNR=3.2								
MBWA	**Marble Bar**	**30.44**	**188**	*e*P			**P**	**03 32 16.3**	**-0.8**
	comp=Z,4.3nm,0.7s,mb4.1								
WRAB	**Tennant Creek**	**30.58**	**161**	*e*P			**P**	**03 32 18.2**	**-0.2**
	comp=Z,13nm,0.6s,mb4.7								
WRA	**Warramunga Arr**	**30.59**	**161**	P			**P**	**03 32 18.1**	**-0.3**
	comp=Z,4.7nm,0.5s,mb4.3,baz=334,slow=11,SNR=90								
WRA					S		**S**	**03 36 40.1**	**-2.6**
	comp=Z,2.3nm,0.7s,baz=340,slow=15,SNR=11								
WRA					ScP			03 37 54.0	
	comp=Z,0.6nm,0.9s,baz=343,slow=3.3,SNR=5.9								
WB2	**Warramunga Arr**	**30.59**	**161**	⇓	*i*P		**P**	**03 32 18.3**	**-0.2**
WB2					*e*S		**S**	**03 36 40.1**	**-2.6**
BJT	**Baijiatuan**	**31.56**	**348**	*e*P			**P**	**03 32 25.7**	**-0.8**
	comp=Z,22nm,0.8s,mb4.7								
BJI	**Beijing**	**31.58**	**348**	*e*P			**P**	**03 32 25.5**	**-1.2**
BJI					AMB		AMB		
	comp=Z,26nm,0.8s,mb4.8								
LZH	**Lanzhou**	**32.58**	**328**	⇑	P		**P**	**03 32 36.5**	**+1.3**
LZH					AMB		AMB		
	comp=Z,33nm,1.5s,mb4.6								
HHC	**Hu-ho-hao-te**	**33.50**	**343**	*e*P			**P**	**03 32 44.0**	**+1.2**
HHC					PP		PP	03 34 23.0	+9.0
HHC					SCS		ScS	03 41 58.0	-3.2
HHC					AMB		AMB		
	comp=Z,12nm,0.8s,mb4.5								
ASAR	**Alice Springs**	**33.97**	**164**	P			**P**	**03 32 47.9**	**+0.9**
	comp=Z,6.2nm,0.3s,mb4.5,baz=340,slow=7.1,SNR=87								
ASPA	**Alice Springs**	**33.97**	**164**	⇓	*i*P		**P**	**03 32 47.8**	**+0.9**
ASPA					*e*S		**S**	**03 37 34.4**	**+0.1**
MDJ	**Mudanjiang**	**35.64**	**7**	P			**P**	**03 33 01.0**	**+0.4**
MDJ					AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.5								
MDJ					AMB		AMB		
	comp=Z,135nm,9.0s								
MDJ	**Mudanjiang**	**35.64**	**7**	*e*P			**P**	**03 33 01.0**	**+0.4**
	comp=Z,10nm,0.8s,mb4.4								
LSA	**Lhasa**	**37.05**	**308**	P			**P**	**03 33 13.8**	**+1.5**
	comp=Z,6.4nm,0.9s,mb4.2								
GTA	**Gaotai**	**37.18**	**328**	*e*P			**P**	**03 33 14.3**	**+1.0**
GTA					AMB		AMB		
	comp=Z,11nm,0.4s,mb4.7								
FORT	**Forrest**	**39.87**	**175**	⇓	*i*P		**P**	**03 33 36.0**	**+0.8**
	comp=Z,344nm,0.6s								
HIA	**Hailar**	**40.16**	**355**	*e*P			**P**	**03 33 37.6**	**+0.4**
	comp=Z,19nm,1.0s,mb4.6								
KLBR	**Kellerberrin**	**40.98**	**188**	*e*P			**P**	**03 33 44.1**	**+0.1**
	comp=Z,246nm,1.2s								
ULN	**Ulaanbaatar**	**41.22**	**342**	*e*P			**P**	**03 33 45.8**	**0.0**
	comp=Z,7.4nm,0.9s,mb4.2								
SONM	**Songino Array**	**41.39**	**342**	P			**P**	**03 33 47.5**	**+0.3**
	comp=Z,2.3nm,0.5s,mb4.0,baz=156,slow=8.3,SNR=31								
SONM					ScP			03 38 34.4	
	comp=Z,0.6nm,0.9s,baz=151,slow=4.0,SNR=3.2								
NWAO	**Narrogin (SRO)**	**42.36**	**189**	P			**P**	**03 33 55.4**	**+0.3**
	comp=Z,4.2nm,0.4s,mb4.3,baz=12,slow=8.6,SNR=6.0								
NWAO	**Narrogin (SRO)**	**42.36**	**189**	*e*P			**P**	**03 33 55.4**	**+0.3**
	comp=Z,2.4nm,0.4s,mb4.1								
STKA	**Stephens Creek**	**44.06**	**159**	⇓	*i*P		**P**	**03 34 09.6**	**+1.2**
	comp=Z,2.1nm,0.4s,mb4.0								
STKA	**Stens Creek**	**44.06**	**159**	P			**P**	**03 34 09.6**	**+1.2**
	comp=Z,2.5nm,0.4s,mb4.1,baz=321,slow=8.0,SNR=14								
MKAR	**Makanchi Array**	**51.70**	**324**	P			**P**	**03 35 05.6**	**+0.1**
	comp=Z,5.4nm,0.6s,mb4.1,baz=123,slow=8.2,SNR=74								
MKAR	**Makanchi Array**	**51.70**	**324**	P			**P**	**03 35 05.6**	**0.0**
ZAL	**Zalesovo**	**54.64**	**333**	P			**P**	**03 35 25.3**	**-1.0**
	comp=Z,2.6nm,0.3s,mb3.9,baz=346,slow=5.3,SNR=6.5								
ZAL	**Zalesovo**	**54.64**	**333**	P			**P**	**03 35 25.3**	**-1.0**
AAK	**Ala-Archa**	**54.69**	**316**	*e*P			**P**	**03 35 24.4**	**-2.3**
	comp=Z,7.7nm,1.0s,mb3.4								
KURK	**Kurchatov**	**55.84**	**327**	*e*P			**P**	**03 35 34.4**	**-0.3**
	comp=Z,16nm,0.7s,mb4.4								
BVAR	**Borovoye Array**	**61.43**	**326**	P			**P**	**03 36 12.1**	**0.0**
	comp=Z,3.1nm,0.4s,mb4.0,baz=135,slow=8.4,SNR=28								
CHKZ	**Chkalovo**	**61.59**	**327**	*e*P			**P**	**03 36 12.0**	**-1.0**
	comp=Z,5.0nm,0.9s,mb3.9								
ARU	**Arti**	**69.04**	**327**	*e*P			**P**	**03 36 59.3**	**-0.1**
	comp=Z,6.2nm,0.4s,mb4.5								
KIV	**Kislovodsk**	**77.60**	**313**	*e*P			**P**	**03 37 49.7**	**+1.6**
	comp=Z,5.5nm,0.5s,mb4.1								
COLA	**College**	**80.92**	**26**	*e*P			**P**	**03 38 12.2**	**+7.2**
	comp=Z,2.9nm,0.8s,mb3.8								
ARCES	**ARCESS Array B**	**84.52**	**340**	P			**P**	**03 38 24.5**	**+1.6**
	comp=Z,3.4nm,0.8s,mb3.9,baz=78,slow=8.3,SNR=3.5								
FINES	**FINESS Array B**	**85.89**	**332**	P			**P**	**03 38 30.3**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.4,baz=76,slow=4.4,SNR=9.9								
NOA	**NORSAR Array B**	**92.84**	**333**	P			**P**	**03 39 02.4**	**+0.5**
	comp=Z,0.9nm,0.9s,mb3.8,baz=66,slow=4.8,SNR=4.3								
NOA	**NORSAR Array B**	**92.84**	**333**	P			**P**	**03 39 02.4**	**+0.5**
MBAR	**Mbarara**	**93.50**	**270**	P			**P**	**03 39 04.7**	**-1.4**
	comp=Z,26nm,0.7s,mb5.4,SNR=11								
PLCA	**Paso Flores**	**145.94**	**160**	PKPbc		PKPbc		03 45 29.6	+4.5
	comp=Z,0.8nm,0.7s,baz=238,slow=3.1,SNR=3.5								

IDC 31 03:27:29.2±9.3, 0.99N×98.05E, mb4.2/4, mb1 4.2/4, mb1mx3.7/18, mbtmp4.2/4, Error ellipse: s-maj=214.6km s-min=98.3km az=141.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.22**	**8**	P			P	03 36 04.0	-1.8
	1.1nm,0.3s,baz=190,slow=9.4,SNR=16								
MKAR	**Makanchi Array**	**47.65**	**345**	P			P	03 36 07.3	-1.9
	2.7nm,0.7s,baz=156,slow=7.7,SNR=11								
ZAL	**Zalesovo**	**53.89**	**350**	P			P	03 36 53.9	-2.6
	1.7nm,0.3s,baz=0.6,slow=5.7,SNR=4.8								
FINES	**FINESS Array B**	**80.58**	**332**	P			P	03 39 43.5	-1.4
	0.5nm,0.4s,baz=117,slow=4.3,SNR=5.0								

*NEIC **31** 03:30:24.3±3.1, 18.88S×175.86E, h172km±27km, mb4.5/11, Error ellipse: s-maj=18.0km s-min=15.8km az=203.0*
*IDC **31** 03:30:24.7±5.1, 18.98S×175.83E, h170km±44km, mb3.8/9, mb1 4.0/11, mb1mx3.9/17, mbtmp4.2/11, MS3.9/4, Ms1 3.9/4, ms1mx3.4/25, Error ellipse: s-maj=28.2km s-min=21.0km az=10.0*
ISC 31 03:30:25.4±2.9, 18.9S±0.1×175.8E±0.1, h198km±26km, n41, σ1§12/24, mb4.1/19, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.29**	**249**	P			**P**	**03 32 37.3**	**+1.0**
	0.2nm,0.3s,baz=79,slow=16,SNR=4.0								
DZM						LR	LR	03 35 28.8	
	comp=Z,483nm,19.1s,baz=198,slow=33								
URZ	**Urewera**	**19.30**	**177**	P			**P**	**03 34 35.3**	**-1.8**
	0.4nm,0.3s,baz=360,slow=6.8,SNR=5.3								
CTA	**Charters Tower**	**27.84**	**263**	P			**P**	**03 36 00.6**	**+2.0**
	3.3nm,0.7s,mb4.1,baz=102,slow=20,SNR=3.3								
CTAO	**Charters Tower**	**27.84**	**263**	P			**P**	**03 35 57.0**	**-1.6**
	24nm,1.4s,mb4.6								
PMG	**Port Moresby**	**29.28**	**285**	LR		LR		03 45 53.7	
	comp=Z,291nm,19.9s,baz=21,slow=32								
PPT	**Papeete**	**32.90**	**93**	LR		LR		03 46 20.3	
	comp=Z,256nm,21.9s,baz=95,slow=29								
STKA	**Stephens Creek**	**33.32**	**240**	P			**P**	**03 36 45.8**	**-0.7**
	4.0nm,0.8s,mb4.0,baz=50,slow=11,SNR=7.0								
STKA	**Stephens Creek**	**33.32**	**240**	*e*P			**P**	**03 36 45.0**	**-1.4**
WRAB	**Tennant Creek**	**39.02**	**261**	P			**P**	**03 37 32.9**	**-1.6**
	11nm,1.1s,mb4.3								
WRA	**Warramunga Arr**	**39.02**	**261**	P			**P**	**03 37 33.3**	**-1.2**
	2.8nm,1.0s,mb3.8,baz=87,slow=8.5,SNR=7.3								
ASAR	**Alice Springs**	**39.20**	**256**	P			**P**	**03 37 36.1**	**+0.2**
	5.2nm,0.8s,mb4.1,baz=84,slow=9.3,SNR=34								
ASAR						PcP	PcP	03 39 43.0	+1.5
	1.0nm,0.9s,baz=90,slow=2.7,SNR=4.2								
FITZ	**Fitzroy Crossi**	**47.42**	**263**	P			**P**	**03 38 42.7**	**+0.7**
	18nm,1.0s,mb4.4,baz=116,slow=3.7,SNR=10								
FITZ						LR	LR	03 57 00.7	
	comp=Z,141nm,20.1s,baz=99,slow=34								
MBWA	**Marble Bar**	**52.47**	**258**	*e*P			**P**	**03 39 20.4**	**+0.3**
	21nm,1.3s,mb4.4								
VNDA	**Vanda**	**59.03**	**184**	P			**P**	**03 40 06.7**	**+0.4**
	0.7nm,0.7s,mb3.4,baz=346,slow=6.7,SNR=3.9								
SBA	**Scott Base**	**59.13**	**182**	*e*P			**P**	**03 40 07.9**	**+1.0**
	7.9nm,1.0s,mb4.3								
MAJO	**Matsushiro**	**65.60**	**327**	P			**P**	**03 40 48.9**	**-1.3**
	20nm,1.2s,mb4.6								
QSPA	**South Pole Qui**	**71.13**	**180**	*e*P			**P**	**03 41 24.6**	**+1.0**
	5.6nm,0.8s,mb4.2								
ENH	**Enshi**	**80.36**	**307**	P			**P**	**03 42 17.3**	**+1.1**
MAW	**Mawson**	**80.99**	**201**	*e*P			**P**	**03 42 11.3**	**-7.5**
	7.1nm,0.9s,mb4.3								
HWUT	**Hardware Ranch**	**90.09**	**46**	P			**P**	**03 43 04.4**	**+0.4**
	2.3nm,0.9s,mb4.0								
SONM	**Songino Array**	**90.78**	**321**	P			**P**	**03 43 08.9**	**+1.9**
	0.5nm,0.8s,mb3.5,baz=56,slow=5.2,SNR=3.7								
ANMO	**Albuquerque**	**91.09**	**53**	P			**P**	**03 43 07.4**	**-1.4**
	2.1nm,1.0s,mb4.0								
TXAR	**Lajitas Array**	**91.23**	**59**	P			**P**	**03 43 10.6**	**+1.1**
	1.0nm,0.8s,mb3.8,baz=226,slow=5.5,SNR=15								
PDAR	**Pinedale Array**	**91.93**	**45**	P			**P**	**03 43 12.1**	**-0.4**
	0.4nm,0.8s,mb3.4,baz=243,slow=3.3,SNR=4.2								
SDCO	**Great Sand Dun**	**92.85**	**51**	P			**P**	**03 43 17.3**	**+0.4**
	2.5nm,1.0s,mb4.2								
INK	**Inuvik**	**94.38**	**17**	*e*P			**P**	**03 43 21.9**	**-1.1**
	5.2nm,1.3s,mb4.4								
UPC	**Upice**	**144.61**	**338**	*e*PKP			PKPdf	03 49 40.4	+2.5
DPC	**Dobruska-Polom**	**144.63**	**337**	*e*PKP			PKPdf	03 49 40.7	+2.7
CLL	**Collm**	**144.94**	**341**	⇑	*i*PKIKP		PKPdf	03 49 41.1	+2.6
	logA/T=1.1								
CLL					*i*			03 49 43.6	
CLL					*i*			03 49 47.6	
BRG	**Berggiesshubel**	**145.02**	**340**	*e*PKP			PKPdf	03 49 41.9	+3.3
VYHS	**Vyhne**	**145.10**	**333**	*e*PKP			PKPdf	03 49 42.0	+3.2
PVCC	**Panska Ves**	**145.10**	**339**	*e*PKP			PKPdf	03 49 42.2	+3.4
VRAC	**Vranov**	**145.37**	**336**	PKPbc			PKPbc	03 49 43.3	+3.2
	3.0nm,0.8s,baz=28,slow=4.5,SNR=5.2								
PRU	**Pruhonice**	**145.57**	**338**	*e*PKP			PKPdf	03 49 43.0	+3.4
NKC	**Novy Kostel**	**146.05**	**341**	*e*PKP			PKPdf	03 49 45.7	+5.3
ZST	**Bratislava**	**146.06**	**334**	*e*			PKPdf	03 49 45.4	+4.9
KHC	**Kasperske Hory**	**146.63**	**339**	*e*PKP			PKPdf	03 49 46.5	+5.1
GERES	**GERESS Array B**	**146.83**	**338**	PKPbc			PKPbc	03 49 46.3	+2.8
	0.8nm,0.6s,slow=1.3,SNR=10								
GRA1	**Grafenberg Arr**	**146.90**	**342**	*e*PKP			PKPdf	03 49 47.2	+5.4
GRF	**Grafenberg Arr**	**146.90**	**342**	*e*PKP			PKPdf	03 49 47.2	+5.4
DAVOX	**Davos**	**149.90**	**341**	PKPbc			PKPdf	03 49 55.4	+8.6
	1.8nm,0.6s,baz=297,slow=5.5,SNR=4.2								

*PRU **31** 03:37:36.3, 50.33N×18.81E*
WAR 31 03:37:36.1, 50.28N×18.89E, h0km, ML2.4, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.58**	**95**	*e*PG			Pg	03 37 48.0	+0.2
OJC				*e*SG			Sg	03 37 56.0	+0.5
OKC	**Ostrava-Krasne**	**0.65**	**228**	*e*PG			Pg	03 37 49.1	0.0
OKC				*e*SG			Sg	03 37 58.7	+0.9
LIKS	**Likavka**	**1.23**	**173**	*e*PG			Pg	03 38 01.2	+0.5
LIKS				*e*SG			Sg	03 38 17.1	-0.1
NIE	**Niedzica**	**1.26**	**132**	*e*PG			Pg	03 37 59.0	-2.2
NIE				*e*SG			Sg	03 38 17.0	-0.9
DPC	**Dobruska-Polom**	**1.65**	**274**	*e*PG			Pg	03 38 05.5	-3.5
DPC				*e*SG			Sg	03 38 27.9	-3.1
	14nm,0.3s								
KSP	**Ksiaz**	**1.75**	**290**	*e*PN			Pn	03 38 07.0	-0.9
KSP				*e*PG			Pg	03 38 09.0	-2.1
KSP				*e*SG			Sg	03 38 32.0	-2.5
VYHS	**Vyhne**	**1.78**	**181**	*e*PN			Pn	03 38 07.7	-0.6
VYHS				*e*SN			Sn	03 38 30.9	-1.1
UPC	**Upice**	**1.86**	**278**	*e*SG			Sg	03 38 33.6	-4.4
CRVS	**Cervenica-Dubn**	**2.16**	**128**	*e*PN			Pn	03 38 18.7	+4.9
CRVS				*e*SN			Sn	03 38 44.5	+2.8
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*PN			Pn	03 38 26.6	+6.9
KOLS				*e*SN			Sn	03 38 56.3	+4.1
PRU	**Pruhonice**	**2.81**	**266**	*e*SG			Sg	03 39 02.6	-7.2
BRG	**Berggiesshubel**	**3.21**	**283**	*e*Sg			Sg	03 39 18.2	-4.8
KHC	**Kasperske Hory**	**3.63**	**254**	*e*PN			Pn	03 38 32.5	-2.3
KHC				*e*SG			Sg	03 39 30.9	-6.2
CLL	**Collm**	**3.88**	**288**	*e*SG			Sg	03 39 42.0	-3.2

IDC 31 03:43:22.2±3.5, 0.41N×98.17E, mb3.8/5, mb1 4.0/5, mb1mx3.7/18, mbtmp3.8/5, Error ellipse: s-maj=146.2km s-min=22.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.79**	**122**	P			P	03 51 05.4	-1

Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.53**	**122**	P	P	04 33 33.5	-2.3
	0.6nm,0.5s,baz=303,slow=9.0,SNR=7.0						
ASAR	**Alice Springs**	**41.88**	**127**	P	P	04 33 45.3	-1.7
	0.6nm,0.5s,baz=297,slow=8.1,SNR=8.6						
SONM	**Songino Array**	**47.90**	**7**	P	P	04 34 33.3	-1.6
	0.2nm,0.4s,baz=190,slow=8.8,SNR=3.1						
MKAR	**Makanchi Array**	**48.45**	**345**	P	P	04 34 37.1	-2.0
	1.1nm,0.5s,baz=162,slow=7.8,SNR=15						
STKA	**Stephens Creek**	**51.84**	**132**	P	P	04 35 04.0	-1.4
	2.9nm,0.5s,baz=308,slow=6.9,SNR=9.8						
TXAR	**Lajitas Array**	**143.82**	**34**	PKP	PKPdf	04 45 28.5	-4.2
	0.3nm,0.7s,baz=25,slow=2.1,SNR=3.8						

*IDC **31** 04:35:49.0±1.2, 1.05N×97.09E, mb4.1/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.1/11, Error ellipse: s-maj=60.1km s-min=15.3km az=53.0*
*BJI **31** 04:35:51.7, 0.57N×97.40E, h57km, mB5.4, mb4.7*
*NEIC **31** 04:35:53.9±0.6, 1.08N×97.28E, h30km, mb4.6/11, Error ellipse: s-maj=16.2km s-min=8.5km az=52.0*
ISC 31 04:35:52.4±0.6, 1.08N±0.08×97.23E±0.08, h33km, n35, σ1ŝ10/35, mb4.5/27, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.14**	**47**	P	P	04 37 09.7	+0.5
KULM	**Kulim**	**5.40**	**39**	*e*Pn	Pn	04 37 12.5	-0.4
KGM	**Kluang**	**6.16**	**81**	P	P	04 37 24.7	+1.4
CM31	**Chiang Mai Arr**	**17.36**	**5**	P	P	04 39 55.3	+1.5
	12nm,0.9s						
KKM	**Kota Kinabalu**	**19.57**	**75**	*e*P	P	04 40 17.8	-2.8
KMI	**Kunming**	**24.49**	**12**	P	P	04 41 12.0	+1.9
KMI				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
JIRN	**Jiri**	**28.47**	**339**	*e*P	P	04 41 47.3	+0.5
	comp=Z,23nm,0.9s,mb4.8						
PKI	**Pulchoki**	**28.68**	**338**	*e*P	P	04 41 50.4	+1.7
	comp=Z,19nm,0.9s,mb4.8						
KKN	**Kakani**	**28.93**	**338**	*e*P	P	04 41 51.9	+1.0
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**29.37**	**337**	*e*P	P	04 41 54.8	0.0
	comp=Z,6.4nm,0.4s,mb4.7						
KOLN	**Koldanda**	**29.58**	**335**	*e*P	P	04 41 57.1	+0.4
	comp=Z,12nm,0.7s,mb4.7						
ENH	**Enshi**	**31.28**	**21**	*e*P	P	04 42 09.9	-1.9
	comp=Z,13nm,0.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**33.83**	**126**	P	P	04 42 33.4	-0.6
	comp=Z,4.3nm,0.7s,mb4.5,baz=249,slow=1.7,SNR=6.7						
XAN	**Xi'an**	**34.57**	**17**	P	P	04 42 38.3	-2.0
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GTA	**Gaotai**	**38.23**	**3**	*e*P	P	04 43 11.3	+0.2
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.6						
WRA	**Warramunga Arr**	**41.94**	**122**	P	P	04 43 41.9	-0.2
	comp=Z,2.2nm,0.5s,mb4.0,baz=301,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**41.95**	**122**	*e*P	P	04 43 42.4	+0.3
	comp=Z,9.8nm,0.7s,mb4.5						
BJI	**Beijing**	**42.44**	**22**	*e*P	P	04 43 46.5	+0.5
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**43.30**	**127**	P	P	04 43 53.6	+0.5
	comp=Z,1.1nm,0.5s,mb3.9,baz=294,slow=8.3,SNR=4.2						
SONM	**Songino Array**	**47.25**	**8**	P	P	04 44 24.6	+0.3
	comp=Z,2.6nm,0.8s,mb4.2,baz=192,slow=9.5,SNR=17						
SONM				PcP	PcP	04 45 55.7	+0.1
	comp=Z,1.1nm,0.8s,baz=198,slow=3.9,SNR=4.4						
MKAR	**Makanchi Array**	**47.37**	**346**	P	P	04 44 25.3	0.0
	comp=Z,2.6nm,0.7s,mb4.3,baz=160,slow=8.2,SNR=34						
ULN	**Ulaanbaatar**	**47.38**	**9**	*e*P	P	04 44 21.7	-3.6
	comp=Z,4.9nm,1.2s,mb4.3						
CN2	**Changchun**	**49.40**	**27**	*e*P	P	04 44 40.5	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
PMG	**Port Moresby**	**50.80**	**103**	P	P	04 44 46.3	-5.8
	comp=Z,28nm,1.1s,mb5.1						
KURK	**Kurchatov**	**51.92**	**345**	P	P	04 44 53.0	-7.1
	comp=Z,4.4nm,0.7s,mb4.5						
STKA	**Stephens Creek**	**53.25**	**132**	⇓*i*P	P	04 45 11.5	+1.2
	comp=Z,5.5nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**53.25**	**132**	P	P	04 45 11.5	+1.2
	comp=Z,2.2nm,0.6s,mb4.3,baz=304,slow=11,SNR=5.8						
STKA	**Stephens Creek**	**53.25**	**132**	*e*P	P	04 45 11.3	+1.0
STKA				*e*		04 45 17.8	
ZAL	**Zalesovo**	**53.68**	**351**	P	P	04 45 11.9	-1.2
	comp=Z,3.2nm,0.8s,mb4.3,baz=286,slow=6.3,SNR=18						
BVAR	**Borovoye Array**	**56.38**	**341**	P	P	04 45 30.9	-1.8
	comp=Z,1.8nm,0.7s,mb4.2,baz=149,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**56.38**	**341**	P	P	04 45 30.9	-1.8
CHKZ	**Chkalovo**	**56.85**	**341**	*e*P	P	04 45 34.9	-1.3
	comp=Z,36nm,0.7s,mb5.5						
CHKZ				*e*		04 45 41.0	
AKASG	**Malin Array Be**	**75.38**	**322**	P	P	04 47 34.3	-0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=68,slow=7.8,SNR=5.3						
GERES	**GERESS Array B**	**84.93**	**319**	P	P	04 48 26.1	+0.5
	comp=Z,0.2nm,0.2s,mb3.8,baz=124,slow=3.5,SNR=3.6						
NOA	**NORSAR Array B**	**87.13**	**331**	P	P	04 48 35.6	-0.4
	comp=Z,1.0nm,1.0s,mb4.0,baz=92,slow=5.8,SNR=3.5						

*IDC **31** 04:35:55.7±1.2, 19.79S×178.21W, h556km±14km, mb3.6/11, mb1 3.8/13, mb1mx3.7/19, mbtmp4.6/13, Error ellipse: s-maj=15.2km s-min=10.2km az=145.0*
*BJI **31** 04:35:56.1, 20.13S×177.22W, h625km, mB4.7, mb4.3*
*NEIC **31** 04:35:59.2±0.3, 19.92S×178.23W, h600km, mb4.4/14, Error ellipse: s-maj=10.5km s-min=8.3km az=122.0*
ISC 31 04:35:54.1±0.9, 19.85S±0.07×178.19W±0.08, h552km±12km, n69, σ0ŝ87/50, mb4.2/25, 6C-4D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.52**	**47**	P	P	04 37 58.5	+0.7
	5.0nm,0.3s,baz=27,slow=3.8,SNR=6.0						
AFI				S	S	04 39 35.1	-1.3
	11nm,0.3s,baz=40,slow=22,SNR=15						
AFI	**Afiamalu**	**8.52**	**47**	P	P	04 37 58.5	+0.7
AFI				S	S	04 39 35.1	-1.3
DZM	**Mont Dzumac**	**14.52**	**259**	P	P	04 39 03.8	+5.3
	0.9nm,0.3s,baz=105,slow=10,SNR=7.5						
URZ	**Urewera**	**18.80**	**192**	P	P	04 39 39.0	-0.7
	5.5nm,0.3s,baz=299,slow=2.8,SNR=22						
RPZ	**Rata Peaks**	**25.45**	**198**	P	P	04 40 40.3	+0.2
	4.7nm,0.7s,mb4.2,baz=246,slow=20,SNR=3.4						
CTAO	**Charters Tower**	**33.38**	**263**	*e*P	P	04 41 49.5	+1.0
	24nm,0.4s,mb5.1						
PMG	**Port Moresby**	**35.03**	**282**	P	P	04 42 03.6	+1.3
	32nm,0.8s,mb4.9,baz=118,slow=5.5,SNR=6.7						
PMG	**Port Moresby**	**35.03**	**282**	*e*P	P	04 42 03.4	+1.1
	39nm,0.9s,mb4.9						
STKA	**Stephens Creek**	**37.91**	**243**	P	P	04 42 27.4	+1.5
	3.8nm,0.5s,mb3.9,baz=109,slow=9.7,SNR=6.0						
STKA	**Stephens Creek**	**37.91**	**243**	*e*P	P	04 42 26.9	+1.1
ASAR	**Alice Springs**	**44.50**	**256**	P	P	04 43 18.6	+0.2
	23nm,0.8s,mb4.7,baz=86,slow=8.6,SNR=117						
ASAR				PcP	PcP	04 44 49.2	-0.8
	0.4nm,0.4s,baz=110,slow=3.5,SNR=3.9						
ASAR				ScP		04 47 49.0	
	1.2nm,0.8s,baz=124,slow=4.3,SNR=6.1						
ASAR				S	S	04 49 11.1	-3.0
	0.8nm,0.7s,baz=90,slow=16,SNR=6.3						
ASPA	**Alice Springs**	**44.50**	**256**	*e*P	P	04 43 18.9	+0.5
ASPA				*e*S	S	04 49 11.1	-3.1
WB2	**Warramunga Arr**	**44.51**	**261**	*e*P	P	04 43 18.1	-0.4
WRAB	**Tennant Creek**	**44.51**	**261**	*e*P	P	04 43 18.0	-0.5
	34nm,1.1s,mb4.8						
WRA	**Warramunga Arr**	**44.52**	**261**	P	P	04 43 18.2	-0.4
	5.1nm,0.3s,mb4.6,baz=97,slow=7.4,SNR=294						
WRA				ScP		04 47 49.2	
	1.2nm,0.9s,baz=97,slow=3.7,SNR=4.8						
WRA				S	S	04 49 14.3	-0.1
	1.2nm,0.9s,baz=97,slow=14,SNR=4.6						
FITZ	**Fitzroy Crossi**	**52.94**	**262**	P	P	04 44 20.9	-0.4
	2.2nm,0.3s,mb3.9,baz=101,slow=3.4,SNR=12						
MBWA	**Marble Bar**	**57.82**	**257**	*e*P	P	04 44 54.3	-0.9
SBA	**Scott Base**	**58.51**	**184**	*e*P	P	04 45 00.2	+1.1
	15nm,1.0s,mb4.2						
VNDA	**Vanda**	**58.54**	**185**	P	P	04 44 59.7	+0.4
	1.9nm,0.7s,mb3.5,baz=351,slow=8.3,SNR=10						
CASY	**Casey**	**64.48**	**205**	*e*P	P	04 45 37.0	-0.9
	7.4nm,0.9s,mb4.1						
MJAR	**Matsushiro Arr**	**69.58**	**324**	P	P	04 46 08.9	-0.7
	5.5nm,0.6s,mb4.3,baz=156,slow=5.5,SNR=14						
MAJO	**Matsushiro**	**69.58**	**324**	*e*P	P	04 46 09.1	-0.5
	8.9nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**70.22**	**180**	*e*P	P	04 46 11.1	-1.6
	23nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**79.88**	**325**	P	P	04 47 06.8	+0.1
MDJ				AMB	AMB		
	comp=Z,12nm,0.8s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,66nm,5.0s						
MDJ	**Mudanjiang**	**79.88**	**325**	*e*P	P	04 47 07.7	+0.9
	comp=Z,11nm,1.0s,mb4.2						
CN2	**Changchun**	**81.67**	**322**	*e*P	P	04 47 16.5	+0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
BJT	**Baijiatuao**	**85.30**	**315**	P	P	04 47 34.4	+0.4
	comp=Z,9.1nm,1.0s,mb4.3						
ENH	**Enshi**	**85.53**	**304**	*e*P	P	04 47 36.2	+0.9
	comp=Z,4.7nm,0.7s,mb4.2						
MCK	**McKinley**	**86.38**	**13**	*e*P	P	04 47 38.4	-0.2
	comp=Z,7.1nm,1.1s,mb4.2						
TXAR	**Lajitas Array**	**86.86**	**57**	P	P	04 47 43.3	+1.7
	comp=Z,2.2nm,0.7s,mb3.9,baz=218,slow=6.8,SNR=23						
ANMO	**Albuquerque**	**87.14**	**51**	P	P	04 47 43.0	+0.2
	comp=Z,1.1nm,0.8s,mb3.5						
SYO	**Syowa Base**	**87.32**	**193**	⇑P	P	04 47 42.1	-0.8
SYO	**Syowa Base**	**87.32**	**193**	⇓PcP	PcP	04 47 46.0	+1.5
COLA	**College**	**87.61**	**12**	*e*P	P	04 47 43.5	-0.8
	comp=Z,11nm,0.8s,mb4.6						
HIA	**Hailar**	**88.06**	**325**	P	P	04 47 46.4	-0.4
BILL	**Bilibino**	**88.37**	**354**	*e*P	P	04 47 48.2	+0.4
	comp=Z,6.7nm,1.0s,mb4.3						
PDAR	**Pinedale Array**	**88.61**	**43**	P	P	04 47 50.0	+0.4
	comp=Z,0.9nm,0.8s,mb3.7,baz=238,slow=2.4,SNR=7.0						
VNA3	**Neumayer Olymp**	**88.80**	**176**	*e*	P	04 47 50.7	+0.9
VNA3	**Neumayer Olymp**	**88.80**	**176**	*e*	P	04 47 52.1	+2.3
VNA3	**Neumayer Olymp**	**88.80**	**176**	*e*	P	04 47 54.1	+4.3
VNA3	**Neumayer Olymp**	**88.80**	**176**	⇓*i*P	P	04 47 49.6	-0.2
VNA3				*e*		04 47 50.7	
VNA3				*e*		04 47 52.1	
VNA3				*e*		04 47 54.1	
VNA2	**Neumayer--Watz**	**89.24**	**177**	*e*	P	04 47 52.2	+0.4
VNA2	**Neumayer--Watz**	**89.24**	**177**	*e*	P	04 47 53.9	+2.1
VNA2	**Neumayer--Watz**	**89.24**	**177**	*e*	P	04 47 56.5	+4.7
VNA2	**Neumayer--Watz**	**89.24**	**177**	⇓*i*P	P	04 47 51.4	-0.4
VNA2				*e*		04 47 52.2	
VNA2				*e*		04 47 53.9	
VNA2				*e*		04 47 56.5	
INK	**Inuvik**	**93.69**	**15**	P	P	04 48 11.5	-0.8
	comp=Z,1.1nm,1.1s,mb3.9,baz=252,slow=8.6,SNR=3.1						
BVAR	**Borovoye Array**	**118.47**	**320**	PKP	PKPdf	04 53 39.0	+0.1
	comp=Z,1.1nm,0.6s,baz=198,slow=4.7,SNR=5.6						
ARCES	**ARCESS Array B**	**128.25**	**350**	PKP	PKPdf	04 53 57.0	-0.3
	comp=Z,1.7nm,0.8s,baz=90,slow=1.2,SNR=5.3						
FINES	**FINESS Array B**	**135.10**	**344**	SKP		04 56 54.5	
	comp=Z,1.4nm,0.7s,baz=63,slow=6.2,SNR=4.6						
HFS	**Hagfors**	**138.87**	**351**	PKhKP		04 54 08.6	
	comp=Z,0.9nm,0.3s,baz=68,slow=8.0,SNR=9.2						
HFS				SKP		04 56 59.9	
	comp=Z,1.9nm,1.0s,baz=270,slow=7.4,SNR=3.9						
AKASG	**Malin Array Be**	**142.36**	**331**	PKhKP		04 54 20.5	
	comp=Z,1.5nm,0.3s,baz=42,slow=4.5,SNR=27						
AKASG				SKP		04 57 08.8	
	comp=Z,1.7nm,0.7s,baz=33,slow=2.9,SNR=6.9						
MALT	**Malatya**	**143.39**	**308**	*e*PKPdf	PKPdf	04 54 26.3	+0.5
EKA	**Eskdalemuir Ar**	**144.37**	**5**	PKP	PKPdf	04 54 27.6	+0.7
	comp=Z,1.9nm,0.7s,baz=330,slow=3.0,SNR=5.3						
BRTR	**Keskin Array B**	**146.27**	**313**	PKPbc	PKPbc	04 54 34.0	+1.4
	comp=Z,3.2nm,0.8s,baz=135,slow=3.5,SNR=10						
ASF	**Jabal al Asfar**	**146.31**	**298**	PKPbc	PKPbc	04 54 34.6	+1.8
	comp=Z,3.2nm,0.4s,baz=172,slow=1.1,SNR=6.8						
KOLS	**Kolonicke sedl**	**146.65**	**335**	*e*PKP	PKPdf	04 54 33.9	+2.9
CRVS	**Cervenica-Dubn**	**146.99**	**336**	*e*PKP	PKPdf	04 54 39.9	+8.3
KSP	**Ksiaz**	**147.02**	**343**	*e*P	PKPdf	04 54 36.3	+4.8
KSP				*e*		04 54 39.2	
CLL	**Collm**	**147.39**	**347**	⇓*i*P	PKPdf	04 54 36.7	+4.6
CLL				*i*		04 54 40.7	
CLL				*e*		04 54 45.0	
UPC	**Upice**	**147.40**	**343**	⇑*e*PKPB		04 54 37.3	
UPC				*e*PKPAB	PKPab	04 54 41.4	-0.5
DPC	**Dobruska-Polom**	**147.45**	**343**	⇑*e*PKPB		04 54 37.7	
DPC				*e*PKPAB	PKPab	04 54 41.8	-0.3
BRG	**Berggiesshubel**	**147.59**	**346**	*e*P	PKPdf	04 54 37.2	+4.8
BRG				*e*		04 54 41.8	
PVCC	**Panska Ves**	**147.75**	**345**	⇑*e*PKPB		04 54 38.4	
PVCC				*e*PKPAB	PKPab	04 54 41.2	-2.1
PRU	**Pruhonice**	**148.26**	**344**	⇑*e*PKPB		04 54 39.4	
PRU				*e*PKPAB	PKPab	04 54 44.7	-0.6
VYHS	**Vyhne**	**148.29**	**338**	*e*PKP	PKPdf	04 54 39.1	+5.5
KHC	**Kasperske Hory**	**149.29**	**345**	⇑*e*PKPB		04 54 41.9	
KHC				*e*PKPAB	PKPab	04 54 49.4	-0.2
GERES	**GERESS Array B**	**149.53**	**344**	PKPbc	PKPdf	04 54 42.0	+6.4
	comp=Z,3.8nm,0.8s,baz=27,slow=3.0,SNR=20						
ESDC	**Sonseca Array**	**159.62**	**13**	PKPab	PKPab	04 55 33.5	-0.1
	comp=Z,0.2nm,0.3s,baz=90,slow=1.6,SNR=4.2						
DBIC	**Dimbokro**	**165.39**	**153**	PKPab	PKPab	04 55 58.8	-0.6
	comp=Z,3.1nm,0.9s,baz=111,slow=16,SNR=3.0						

IDC 31 04:41:35.4±4.4, 2.58N×97.05E, mb3.5/3, mb1 3.7/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=165.3km s-min=29.0km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.89**	**123**	P	P	04 49 36.0	-1.7
	0.4nm,0.5s,baz=300,slow=9.3,SNR=4.6						
SONM	**Songino Array**	**45.80**	**9**	P	P	04 49 59.0	-1.8
	0.2nm,0.4s,baz=192,slow=9.9,SNR=3.2						
MKAR	**Makanchi Array**	**45.88**	**346**	P	P	04 49 59.5	-1.9
	0.6nm,0.4s,baz=159,slow=8.7,SNR=8.8						

DJA 31 04:46:21.2±1.0, 9.61S×116.24E, h33km, MD4.7/4, ML4.2/4, 6C-2D, Error ellipse: s-maj=21.5km s-min=13.4km az=145.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEDI	**Kedomdong**	**1.12**	**353**	⇑*i*Pn	Pn	04 46 39.7	-1.1
	741nm,0.2s						
KEDI				⇑*i*Sn	Sn	04 46 53.0	-2.1
RATI	**Rata**	**1.12**	**321**	⇑*i*Pn	Pn	04 46 40.0	-0.8
	542nm,0.2s						
RATI	**Rata**	**1.12**	**321**	⇓*i*P	P	04 46 40.5	-0.1
RATI				⇑*i*Sn	Sn	04 46 52.7	-2.5
KELI	**Kelakatan**	**2.21**	**308**	⇑*i*Pn	Pn	04 46 54.4	-2.1
	66nm,0.2s						
SRDI	**Scrawed**	**2.36**	**298**	⇑*i*Pn	Pn	04 46 57.0	-1.5
	38nm,0.2s						
SRDI				⇓*i*Sn	Sn	04 47 23.6	-3.0

*IDC **31** 04:48:04.1±0.4, 1.35N×97.14E, mb4.7/29, mb1 4.7/29, mb1mx4.7/30, mbtmp4.7/29, MS4.7/17, Ms1 4.7/17, ms1mx4.5/34, Error ellipse: s-maj=15.5km s-min=10.7km az=49.0*
*BJI **31** 04:48:06.5, 1.20N×97.32E, h34km, mB5.6, mb5.3, Ms5.4, Msz5.3*
*NEIC **31** 04:48:08.7±0.2, 1.31N×97.19E, h30km, mb5.2/45, MS4.7/29, Error ellipse: s-maj=5.3km s-min=4.0km az=222.0*
*HRVD **31** 04:48:08.7±0.7, 1.24N×96.84E, h26km, MW5.2/36, Centroid moment Tensor Solution. LP body waves: s27,c39;Mantle waves: s36,c54; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.12±.39; $M_{\theta\theta}$-1.60±.25; $M_{\phi\phi}$-2.52±.34; $M_{r\theta}$4.23±.60; $M_{\theta\phi}$3.37±.23; $M_{\phi r}$-3.94±.72; Best double couple: $M_0$7.514×10^{16} NP1:ϕ_s327°, δ20°, λ103°. NP2:ϕ_s134°, δ70°, λ85°. Principal axes: T 6.866, Plg64°, Azm36°; N 1.295, Plg4°, Azm135°; P -8.161, Plg25°, Azm227°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **31** 04:48:09.3±0.8, 1.66N×97.09E, h33km, mb5.4/30, MS4.7/11 Error ellipse: s-maj=17.6km s-min=7.1km az=111.4*
ISC 31 04:48:06.7±0.2, 1.33N±0.04×97.21E±0.04, h27km, h27km±.9km: pP-P, n242, σ0ŝ96/229, mb5.1/103, MS4.9/66, 20C-19D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.22**	**41**	*e*Pn	Pn	04 49 25.6	+0.6
SNG	**Songkhla**	**6.72**	**30**	P	Pn	04 49 45.0	-1.3
	588nm,1.0s						
NNT	**Nongplab**	**11.46**	**12**	P	P	04 50 51.0	-0.8
NST	**Nakhon Sawan**	**14.54**	**11**	P	P	04 51 33.1	+0.3
UBT	**Ubonrachathani**	**15.82**	**29**	P	P	04 51 53.0	+3.4
KKTK	**Khon Kaen**	**15.90**	**20**	P	P	04 51 54.0	+3.5
	741nm,1.0s						
BDT	**Bhumibol Dam**	**15.91**	**6**	P	P	04 51 49.0	-1.6
	13nm,1.0s						
CM31	**Chiang Mai Arr**	**17.10**	**6**	*e*P	P	04 52 04.9	-0.8
	132nm,1.1s						
CHG	**Chiang Mai**	**17.45**	**5**	⇑P	P	04 52 08.6	-1.5
	42nm,1.0s						
PALK	**Pallekele**	**17.48**	**290**	*e*P	P	04 52 10.5	0.0
	63nm,1.1s						
NANT	**Nan**	**17.69**	**11**	P	P	04 52 07.0	-6.0
KKM	**Kota Kinabalu**	**19.53**	**76**	*e*P	P	04 52 35.5	+0.3
MDRS	**Chennai**	**20.45**	**306**	*e*	P	04 52 52.0	+7.0
MDRS				*e*		04 56 31.0	
MDRS				*e*		04 58 26.0	
VIS	**Vishakhapatnam**	**21.24**	**321**	*e*P	P	04 52 54.5	+1.4
VIS				AMb	AMB	04 53 03.5	
	comp=Z,170nm,1.7s,mb5.1						
VIS				*e*S	S	04 56 45.2	+2.3
TRD	**Trivandrum**	**21.39**	**290**	*e*P	P	04 52 51.0	-3.6
TRD				AMb	AMB	04 53 07.0	
	comp=Z,129nm,1.6s,mb5.0						
TRD				*e*		04 56 35.6	
QIZ	**Qiongzhong**	**21.51**	**34**	P	P	04 52 55.3	-0.5
QIZ				AP		04 53 04.8	
QIZ				S	S	04 56 49.5	+1.7
QIZ				XS		04 57 03.0	
QIZ				SS	SS	04 57 21.5	-2.1
QIZ				AMB	AMB		
	comp=Z,71nm,1.8s,mb4.8						
QIZ				LR	LR		
	comp=N,3μm,14.9s,MS5.0						
QIZ				LR	LR		
	comp=E,3μm,14.2s,MS5.0						
QIZ				LR	LR		
	comp=Z,2μm,14.8s,MS4.7						
QIZ	**Qiongzhong**	**21.51**	**34**	*e*P	P	04 52 56.1	+0.3
	comp=Z,77nm,1.3s,mb5.0						
QIZ				LR	LR		
	comp=Z,2μm,20.0s,MS4.4						
CAL	**Calcutta**	**22.78**	**338**	*e*P	P	04 53 10.6	+2.1
CAL				*e*		04 57 22.2	
AGT	**Agartala**	**23.15**	**346**	*i*P	P	04 53 12.0	-0.1
AGT				*i*		04 53 50.0	
KMI	**Kunming**	**24.25**	**12**	P	P	04 53 24.0	+1.3
KMI				AP		04 53 30.8	
KMI				XP		04 53 33.3	
KMI				PP	PP	04 54 01.5	+3.6
KMI				S	S	04 57 43.5	+6.8
KMI				AMB	AMB		
	comp=Z,214nm,1.4s,mb5.4						
KMI				AMB	AMB		
	comp=Z,1μm,5.0s						
KMI				LR	LR		
	comp=N,9μm,15.0s,MS5.5						
KMI				LR	LR		
	comp=E,5μm,13.9s,MS5.5						
KMI				LR	LR		
	comp=Z,10μm,14.5s,MS5.4						
HYB	**Hyderabad**	**24.33**	**312**	*e*P	P	04 53 25.0	+1.4
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e*S	S	04 57 52.0	+14
HYB	**Hyderabad**	**24.33**	**312**	*i*P	P	04 53 25.0	+1.4
	comp=Z,70nm,1.0s,mb5.0						
HYB				*e*sP		04 53 36.0	
HYB				*e*S	S	04 57 41.0	+2.8
SHL	**Shillong**	**24.63**	**348**	*e*P	P	04 53 28.0	+1.5
SHL				*e*		04 59 59.0	
MNGI	**Mangalore**	**25.00**	**298**	*e*P	P	04 53 27.8	-2.3
MNGI				*i*		04 57 56.8	
LKP	**Lekhapani**	**25.87**	**358**	*e*P	P	04 53 37.0	-1.2
LKP				*e*		04 53 48.5	
DGAR	**Diego Garcia**	**26.18**	**250**	PFAKE		04 53 50.0	+8.8
DGAR				LR	LR		
	comp=Z,560nm,21.0s,MS4.1						
GYA	**Guiyang**	**26.58**	**19**	⇑*i*P	P	04 53 44.3	-0.4
GYA				AP	pP	04 53 51.3	-1.3
GYA				XP	sP	04 53 53.8	-2.3
GYA				PP	PP	04 54 30.3	+1.5
GYA				S	S	04 58 18.3	+2.6
GYA				AMB	AMB		
	comp=Z,100nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,410nm,4.0s						
GYA				LR	LR		
	comp=N,7μm,13.2s,MS5.5						
GYA				LR	LR		
	comp=E,3μm,11.1s,MS5.5						
GYA				LR	LR		
	comp=Z,10μm,14.5s,MS5.5						
KAD	**Karad**	**27.66**	**306**	*e*P	P	04 53 56.0	+1.4
JIRN	**Jiri**	**28.23**	**339**	*e*P	P	04 54 00.5	+0.9

LZH LR LR
comp=E,6µm,14.5s
LZH LR LR
comp=Z,6µm,15.0s,MS5.5
NJ2 Nanjing 36.74 32 *e*P **P** **04 55 14.0 +0.2**
NJ2 AP pP 04 55 23.8 +1.9
NJ2 XP sP 04 55 27.8 +2.5
NJ2 PP PP 04 56 40.5 +1.2
NJ2 S **S** **05 00 56.0 +0.7**
NJ2 XS 05 01 12.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.3
NJ2 AMB AMB
comp=Z,1µm,6.3s
NJ2 LR LR
comp=N,6µm,15.2s,MS5.5
NJ2 LR LR
comp=E,4µm,14.2s,MS5.5
NJ2 LR LR
comp=Z,3µm,15.2s,MS5.2
THN Thein Dam 36.97 329 *e*P **P** **04 55 14.2 -1.5**
comp=Z,29nm,0.8s,mb5.2
SSE Sheshan 37.30 35 P **P** **04 55 16.5 -2.0**
SSE XP sP 04 55 29.0 -0.9
SSE PP PP 04 56 43.0 -3.2
SSE S **S** **05 01 03.5 -0.3**
SSE XS 05 01 19.3
SSE AMB AMB
comp=Z,11nm,0.7s,mb4.8
SSE AMB AMB
comp=Z,161nm,6.1s
SSE LR LR
comp=N,1µm,20.0s,MS4.7
SSE LR LR
comp=E,692nm,19.8s,MS4.7
SSE LR LR
comp=Z,2µm,16.6s,MS4.9
GTA Gaotai 37.97 3 *e*P **P** **04 55 24.0 -0.1**
GTA AP pP 04 55 31.8 -0.3
GTA XP sP 04 55 35.3 -0.2
GTA PP PP 04 56 52.8 -1.4
GTA S **S** **05 01 09.8 -4.2**
GTA AMB AMB
comp=Z,49nm,1.0s,mb5.2
GTA AMB AMB
comp=Z,408nm,6.6s
GTA LR LR
comp=N,2µm,13.8s,MS5.2
GTA LR LR
comp=E,2µm,15.0s,MS5.2
GTA LR LR
comp=Z,2µm,12.0s,MS5.2
NWAO Narrogin (SRO) 38.97 153 LR LR 05 09 55.0
comp=Z,1µm,21.6s,MS4.7,baz=331,slow=34
NWAO Narrogin (SRO) 38.97 153 PFAKE 04 55 40.0 +7.5
NWAO LR LR
comp=Z,2µm,19.0s,MS4.8
JOW Kunigami 39.14 47 P **P** **04 55 35.0 +1.0**
comp=Z,86nm,0.9s,mb5.5
JOW LR LR 05 09 53.8
comp=Z,580nm,21.8s,MS4.4,baz=246,slow=33
BTO Baotou 40.78 15 *e*P **P** **04 55 48.0 +0.6**
BTO S **S** **05 02 04.0 +7.8**
BTO AMB AMB
comp=Z,32nm,1.5s,mb4.7
HHC Hu-ho-hao-te 41.43 17 *e*P **P** **04 55 54.3 +1.6**
HHC AMB AMB
comp=Z,44nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,503nm,3.2s
WRA Warramunga Arr 42.09 122 P **P** **04 55 58.4 -0.1**
comp=Z,5.9nm,0.5s,mb4.5,baz=302,slow=9.1,SNR=50
WRAB Tennant Creek 42.10 122 *e*P **P** **04 55 58.6 +0.1**
comp=Z,21nm,0.6s,mb4.9
WB2 Warramunga Arr 42.10 122 ⇓*i*P **P** **04 55 59.0 +0.4**
WB2 *i* pP 04 56 06.6 0.0
BJT Baijiatuau 42.19 22 *e*P **P** **04 55 59.4 +0.4**
comp=Z,46nm,0.7s,mb5.2
BJT LR LR
comp=Z,1µm,19.0s,MS4.8
BJI Beijing 42.21 22 *e*P **P** **04 56 00.0 +0.8**
BJI PCP PcP 04 57 52.3 -1.3
BJI AMB AMB
comp=Z,69nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,624nm,3.3s
BJI LR LR
comp=N,1µm,15.0s,MS5.0
BJI LR LR
comp=E,802nm,16.1s,MS5.0
BJI LR LR
comp=Z,943nm,21.5s
KSH Kashi 42.65 336 *e*P **P** **04 56 02.8 0.0**
KSH *e*AP pP 04 56 12.5 +1.6
KSH *e*XP sP 04 56 16.0 +1.8
KSH *e*PP PP 04 57 44.5 +0.2
KSH *e*PCP PcP 04 57 55.5 +0.4
KSH *e*PPP PPP 04 58 18.0 -0.1
KSH *e*SCP 05 01 41.5
KSH *e*PCS 05 01 45.5
KSH *e*S **S** **05 02 22.3 -1.7**
KSH *e*XS 05 02 39.5
KSH *e*SS SS 05 05 27.5 -1.0
KSH *e*SCS ScS 05 05 58.5 -1.4
KSH AMB AMB
comp=Z,630nm,3.9s
KSH LR LR
comp=N,1µm,14.3s,MS5.1
KSH LR LR
comp=E,930nm,11.4s,MS5.1
WMQ Urumqi 43.14 350⇑*i*P **P** **04 56 07.5 +0.8**
WMQ AP pP 04 56 17.5 +2.7
WMQ XP sP 04 56 21.5 +3.3
WMQ PP PP 04 57 50.0 +0.8
WMQ SCP 05 01 44.0
WMQ AMB AMB
comp=Z,75nm,1.2s,mb5.3
WMQ AMB AMB
comp=Z,493nm,4.4s
WMQ LR LR
comp=N,1µm,18.9s,MS5.2
WMQ LR LR
comp=E,2µm,20.2s,MS5.2
WMQ LR LR
comp=Z,1µm,23.4s,MS4.8
ASPA Alice Springs 43.46 127 *e*P **P** **04 56 10.2 +0.6**
ASAR Alice Springs 43.47 127 P **P** **04 56 10.3 +0.8**
comp=Z,6.2nm,0.9s,mb4.3,baz=298,slow=7.1,SNR=28
ASAR ScP 05 01 49.1
comp=Z,1.6nm,1.0s,baz=8.1,slow=6.4,SNR=6.7
ASAR LR LR 05 17 07.2
comp=Z,528nm,19.2s,MS4.5,baz=290,slow=40
DL2 Dalian 43.55 28 P **P** **04 56 11.3 +1.2**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,270nm,3.8s
DL2 LR LR
comp=N,720nm,18.0s,MS4.8
DL2 LR LR
comp=E,720nm,15.3s,MS4.8
DL2 LR LR
comp=Z,810nm,16.9s,MS4.7
ULHL Ulahol 44.88 338 P **P** **04 56 21.9 +1.1**
SNR=6.8
KZA Kyzart 45.11 337 P **P** **04 56 23.8 +1.1**
SNR=10
UCH Uchtor 45.53 336 P **P** **04 56 26.8 +0.8**
SNR=34
TKM2 Tokmak 2 45.70 338 P **P** **04 56 28.1 +0.8**
SNR=20
AML Almayashu 45.79 336 P **P** **04 56 29.1 +1.2**
SNR=21
AAK Ala-Archa 45.88 337 P **P** **04 56 29.6 +0.9**
SNR=6.8
AAK Ala-Archa 45.88 337 P **P** **04 56 28.8 +0.1**
comp=Z,121nm,1.3s,mb5.7,SNR=15
AAK Ala-Archa 45.88 337*c* *i*P **P** **04 56 28.5 -0.2**
AAK pmax pmax
comp=Z,23nm,1.1s,mb5.0
AAK Ala-Archa 45.88 337 *e*P **P** **04 56 27.1 -1.6**
comp=Z,36nm,1.3s,mb5.2
AAK LR LR
comp=Z,136nm,19.0s,MS3.9
FRU Bishkek 46.00 337 *e*P **P** **04 56 30.5 +0.8**
FRU *i* 04 56 41.0
FRU pmax pmax
comp=Z,260nm,2.8s,mb5.7
EKS2 Erkin-Say 46.19 336 P **P** **04 56 32.3 +1.1**
SNR=14
USP Ospenovka 46.41 337 P **P** **04 56 33.2 +0.3**
SNR=26
SNY Shenyang 46.78 27⇑P **P** **04 56 35.3 -0.5**
SNY AMB AMB
comp=Z,40nm,1.6s,mb5.1
SNY LR LR
comp=N,2µm,15.8s,MS5.4
SNY LR LR
comp=E,3µm,15.5s,MS5.4
SNY LR LR
comp=Z,3µm,15.1s,MS5.3
SONM Songino Array 47.00 8 P **P** **04 56 38.0 +0.5**
comp=Z,36nm,0.9s,mb5.3,baz=190,slow=8.4,SNR=213
SONM LR LR 05 19 00.1
comp=Z,4µm,18.0s,MS5.4,baz=188,slow=40
MKAR Makanchi Array 47.12 346 *i* P **P** **04 56 38.3 -0.1**
MKAR pmax pmax
comp=Z,79nm,1.2s
MKAR Makanchi Array 47.12 346 P **P** **04 56 38.5 +0.1**
comp=Z,32nm,1.0s,mb5.2,baz=162,slow=7.7,SNR=158
MKAR LR LR 05 19 39.9
comp=Z,641nm,21.4s,MS4.5,baz=5.4,slow=40
MKAR Makanchi Array 47.12 346 P **P** **04 56 38.5 +0.1**
MKAR LR LR 05 19 39.9
ULN Ulaanbaatar 47.13 9*c* *i*P **P** **04 56 38.7 +0.2**
ULN Ulaanbaatar 47.13 9 *e*P **P** **04 56 38.6 +0.1**
comp=Z,42nm,1.1s,mb5.3
KKAR Karatay Array 47.94 334 *i* P **P** **04 56 44.9 -0.1**
KKAR pmax pmax
comp=Z,54nm,1.6s,mb5.3
ZAK Zakamensk 49.14 5⇓*i*P **P** **04 56 53.5 -0.6**
ZAK *e* 04 58 48.1
ZAK pmax pmax
comp=Z,11nm,1.6s,mb4.6
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
CN2 Changchun 49.18 27⇑P **P** **04 56 54.0 -0.5**
CN2 *e*XP sP 04 57 10.0 +4.1
CN2 AMB AMB
comp=Z,60nm,1.0s,mb5.6
CN2 AMB AMB
comp=Z,320nm,4.0s
CN2 LR LR
comp=N,1µm,16.0s,MS5.3
CN2 LR LR
comp=E,2µm,16.0s,MS5.3
CN2 LR LR
comp=Z,2µm,17.0s,MS5.2
MOY Mondy 50.25 3 *e*P **P** **04 57 03.2 +0.6**
MOY pmax pmax
comp=Z,59nm,3.2s
TLY Talaya 50.46 5 *e*P **P** **04 57 04.4 +0.2**
TLY *e* 04 59 02.8
TLY pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,2µm,16.0s,MS5.2
TLY Talaya 50.46 5 *e*P **P** **04 57 04.4 +0.2**
comp=Z,16nm,0.9s,mb5.0
IRK Irkutsk 51.07 6 *e*P **P** **04 57 08.6 -0.2**
IRK *e* 04 59 08.6
IRK pmax pmax
comp=Z,68nm,2.0s,mb5.2
HIA Hailar 51.51 19 *e*P **P** **04 57 11.6 -0.6**
comp=Z,57nm,1.3s,mb5.3
HIA LR LR
comp=Z,1µm,19.0s,MS5.0
MAJO Matsushiro 51.58 42 PFAKE 04 57 20.0 +7.1
MAJO LR LR
comp=Z,831nm,20.0s,MS4.8
MJAR Matsushiro Arr 51.58 42 P **P** **04 57 12.4 -0.6**
comp=Z,7.8nm,1.0s,mb4.6,baz=230,slow=6.3,SNR=11
MJAR LR LR 05 19 18.4
comp=Z,659nm,21.9s,MS4.6,baz=245,slow=36
KURK Kurchatov 51.67 345 *i* P **P** **04 57 12.7 -0.7**
KURK pmax pmax
comp=Z,22nm,1.1s,mb5.0
KURK Kurchatov 51.67 345 *e*P **P** **04 57 12.7 -0.7**
comp=Z,96nm,1.3s,mb5.6
KURK *e* 04 57 35.8
KURK LR LR
comp=Z,203nm,19.0s,MS4.2
MDJ Mudanjiang 51.74 29 P **P** **04 57 13.5 -0.5**
MDJ AP pP 04 57 22.5 +0.2
MDJ XP sP 04 57 26.0 +0.5
MDJ PCP PcP 04 58 27.0 -0.2
MDJ PP PP 04 59 07.0 -5.4
MDJ SCP 05 02 19.8
MDJ PCS 05 02 25.5
MDJ AMB AMB
comp=Z,39nm,1.4s,mb5.1
MDJ AMB AMB
comp=Z,282nm,4.6s
MDJ LR LR
comp=N,558nm,21.3s,MS4.8
MDJ LR LR
comp=E,669nm,20.2s,MS4.8
MDJ LR LR
comp=Z,1µm,19.0s,MS4.9
MDJ Mudanjiang 51.74 29 *e*P **P** **04 57 14.2 +0.1**
comp=Z,32nm,0.9s,mb5.2
MDJ LR LR
comp=Z,1µm,19.0s,MS5.0
CTA Charters Tower 52.55 117 P **P** **04 57 21.3 +0.8**
comp=Z,3.2nm,0.7s,mb4.3,baz=293,slow=11,SNR=3.4
CTA LR LR 05 24 09.0
comp=Z,1µm,18.3s,MS5.0,baz=279,slow=41
CTA Charters Tower 52.55 117 P **P** **04 57 21.3 +0.8**
CTA LR LR 05 24 09.0
CTAO Charters Tower 52.55 117 P **P** **04 57 17.8 -2.7**
comp=Z,38nm,1.4s,mb5.1
CTAO LR LR
comp=Z,1µm,19.0s,MS4.9
OPO Ambohidratompo 52.99 246 P **P** **04 57 23.5 -0.2**
comp=Z,11nm,1.1s,mb4.7,baz=66,slow=7.9,SNR=7.9
ZAL Zalesovo 53.42 351 P **P** **04 57 25.6 -0.8**
comp=Z,16nm,0.6s,mb5.1,baz=307,slow=6.0,SNR=107
ZAL LR LR 05 25 56.3
comp=Z,812nm,19.1s,MS4.8,baz=299,slow=43
STKA Stephens Creek 53.44 132 *e*P **P** **04 57 27.7 +0.9**
comp=Z,7.4nm,0.8s,mb4.7
STKA *i* pP 04 57 34.9 -0.2
STKA Stephens Creek 53.44 132 P **P** **04 57 27.4 +0.6**
comp=Z,7.2nm,0.8s,mb4.7,baz=325,slow=6.4,SNR=9.5
STKA LR LR 05 22 03.4
comp=Z,1µm,21.7s,MS5.0,baz=317,slow=38
STKA Stephens Creek 53.44 132 *e*P **P** **04 57 24.6 -2.3**
STKA *e* pP 04 57 34.7 -0.4
STKA *i* 04 57 34.9
NVS Novosibirsk 54.55 350⇑*i*P **P** **04 57 32.7 -2.0**
NVS *i* S **S** **05 05 09.8 -0.7**
NVS pmax pmax
comp=Z,38nm,1.0s,mb5.4
NVS pmax pmax
comp=N,33nm,1.3s
NVS pmax pmax
comp=E,15nm,1.2s
NVS smax
comp=N,42nm,1.7s
ATD Arta Tunnel 54.87 283 P **P** **04 57 36.8 -0.8**
comp=N,9.0nm,0.2s,mb5.4,baz=260,slow=23,SNR=11
ATD LR LR 05 18 52.7
comp=N,453nm,18.1s,MS4.6,baz=32,slow=34
BVA0 Borovoye Array 56.13 341 P **P** **04 57 44.9 -1.2**
BVA0 pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
BVAR Borovoye Array 56.13 341 P **P** **04 57 44.9 -1.3**
comp=Z,20nm,0.8s,mb5.2,baz=143,slow=7.4,SNR=96
KLR Kul'dur 56.13 27⇓*e*P **P** **04 57 43.0 -3.2**
KLR *e* 04 57 57.9
KLR *e*S **S** **05 05 46.0 +14**
KLR pmax pmax
comp=N,38nm,1.2s
KLR pmax pmax
comp=E,50nm,1.2s
KLR pmax pmax
comp=Z,68nm,1.2s,mb5.5
KLR MLR MLR
comp=E,700nm,13.0s
KLR MLR MLR
comp=Z,2µm,13.0s,MS5.5
CHKZ Chkalovo 56.60 341 *i* P **P** **04 57 48.5 -1.1**
CHKZ pmax pmax
comp=Z,49nm,1.1s,mb5.5
CHKZ Chkalovo 56.60 341 *e*P **P** **04 57 48.6 -0.9**
comp=Z,69nm,0.5s,mb5.9
BOD Bodaibo 57.88 11⇓*i*P **P** **04 57 57.6 -0.9**
BOD pmax pmax
comp=Z,40nm,1.1s,mb5.4
CLNS Chul'man 59.61 17 *e*P **P** **04 58 10.8 +0.2**
CLNS *e* 04 58 57.2
CLNS *e* 05 00 19.6
CLNS *e*S **S** **05 06 19.1 +1.9**
CLNS *e*SS SS 05 10 16.3 +2.1
CLNS pmax pmax
comp=Z,39nm,0.9s,mb5.4
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,16nm,0.9s
CLNS pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,7.0nm,0.8s
CLNS smax
comp=N,5.0nm,0.8s
CLNS smax
comp=E,4.0nm,0.8s
CLNS smax
comp=Z,5.0nm,0.8s
CLNS MLR MLR
comp=N,2µm,15.0s,MS5.3
CLNS MLR MLR
comp=Z,3µm,15.0s,MS5.5
CLNS MLR MLR
comp=E,500nm,14.0s,MS5.3
KMBO Kilima Mbogo 60.01 268 P **P** **04 58 12.6 -1.2**
comp=E,0.7nm,0.5s,mb4.0,baz=69,slow=10.0,SNR=4.7
KMBO LR LR 05 22 47.0
comp=E,536nm,18.5s,MS4.7,baz=272,slow=35
KMBO Kilima Mbogo 60.01 268 *e*P **P** **04 58 07.4 -6.5**
comp=E,6.5nm,1.4s,mb4.5
KMBO LR LR 05 22 47.0
YSS Yuzh-Sakhalins 60.23 34*ce*P **P** **04 58 14.2 -0.8**
YSS *e* pP 04 58 22.2 -1.2
YSS pmax pmax
comp=Z,80nm,1.0s,mb5.7
YSS MLR MLR
comp=Z,1µm,17.0s,MS5.1
YSS MLR MLR
comp=E,1µm,14.0s
YSS Yuzh-Sakhalins 60.23 34 *e*P **P** **04 58 14.4 -0.5**
comp=E,85nm,1.1s,mb5.7
GNI Garni 61.21 316*c* *i*P **P** **04 58 21.0 -0.7**
GNI pmax pmax
comp=Z,15nm,1.0s
GNI Garni 61.21 316 P **P** **04 58 21.3 -0.3**
comp=Z,2.0nm,0.3s,mb4.7,baz=140,slow=20,SNR=6.0
GNI Garni 61.21 316 *e*P **P** **04 58 21.3 -0.4**
comp=Z,27nm,1.0s,mb5.3
GNI LR LR
comp=Z,310nm,20.0s,MS4.5
TI2 Plekhanov 61.88 318⇓*i*P **P** **04 58 26.2 -0.1**
SVE Sverdlovsk 62.57 338⇑*i*P **P** **04 58 30.0 -0.6**
SVE *e*PPP PPP 05 02 20.0 -0.2
SVE *e* 05 06 52.0
SVE *e* 05 07 08.0
SVE pmax pmax
comp=Z,104nm,1.3s,mb5.8
SVE MLR MLR
comp=N,500nm,18.0s,MS4.8
SVE MLR MLR
comp=E,400nm,18.0s,MS4.8
SVE MLR MLR
comp=Z,500nm,18.0s,MS4.7
TAU Tasmania Unive 62.91 141 PFAKE 04 58 40.0 +7.0
TAU LR LR
comp=Z,191nm,20.0s,MS4.3
ARU Arti 63.06 337*c* *i*P **P** **04 58 32.3 -1.5**
ARU pmax pmax
comp=Z,36nm,1.0s,mb5.5
ARU Arti 63.06 337 *e*P **P** **04 58 31.6 -2.2**
comp=Z,31nm,1.0s,mb5.4
ARU LR LR
comp=Z,175nm,20.0s,MS4.2
KIV Kislovodsk 64.21 319*c* *i*P **P** **04 58 40.5 -1.1**
KIV *i* S **S** **05 07 19.1 +3.4**
KIV pmax pmax
comp=Z,33nm,1.1s,mb5.3
KIV Kislovodsk 64.21 319 *e*P **P** **04 58 40.1 -1.6**
comp=Z,42nm,1.1s,mb5.4
KIV LR LR
comp=Z,69nm,20.0s
ASF Jabal al Asfar 64.40 305 P **P** **04 58 42.7 -0.3**
comp=Z,1.3nm,0.3s,mb4.4,baz=168,slow=7.8,SNR=3.3
GOF Gofitskoye 64.47 320⇓*i*P **P** **04 58 42.4 -0.9**
GOF pmax pmax
comp=Z,20nm,1.0s,mb5.1
MALT Malatya 65.05 312 *e*P **P** **04 58 46.3 -0.8**
comp=Z,113nm,0.6s,mb6.1
YAK Yakutsk 65.29 16*c* *i*P **P** **04 58 47.3 -1.0**
YAK *e* pP 04 58 54.5 -2.2
YAK *e*S S 05 07 27.3 -1.2
YAK pmax pmax
comp=Z,90nm,1.0s,mb5.8
YAK pmax pmax
comp=N,36nm,1.1s
YAK pmax pmax
comp=E,27nm,1.2s
YAK pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax
comp=E,181nm,23.9s
YAK smax
comp=Z,35nm,7.7s
YAK smax
comp=N,201nm,30.9s
YAK MLR MLR
comp=Z,965nm,15.0s,MS5.1
YAK MLR MLR
comp=N,968nm,28.0s
YAK MLR MLR
comp=E,755nm,16.0s
YAK Yakutsk 65.29 16 *e*P **P** **04 58 46.8 -1.4**
comp=E,181nm,1.0s,mb6.1
EIL Elat 65.39 302 P **P** **04 58 49.8 +0.3**
comp=E,20nm,1.1s,mb5.0
SOC Sochi 66.03 318 *e*P **P** **04 58 50.4 -2.9**
SOC *e*S S 05 07 28.3 -10
SOC *e*SS SS 05 11 45.8 -9.0
SOC pmax pmax
comp=Z,31nm,1.3s,mb5.2
SOC pmax pmax
comp=N,12nm,1.0s
SOC pmax pmax
comp=E,13nm,0.8s
SOC MLR MLR
comp=Z,272nm,19.0s,MS4.5
SOC MLR MLR
comp=N,227nm,21.0s,MS4.4
SOC MLR MLR
comp=E,106nm,24.0s,MS4.4
BRTR Keskin Array B 69.03 312 P **P** **04 59 10.8 -1.5**
comp=E,2.2nm,0.8s,mb4.1,baz=135,slow=7.0,SNR=11
LSZ Lusaka 70.16 253 PFAKE 04 59 30.0 +10
LSZ LR LR
comp=Z,1µm,19.0s,MS5.1
SIM Simferopol' 70.28 318 *e*P **P** **04 59 19.7 0.0**
SIM *e*S S 05 08 27.0 -1.6
SIM pmax pmax
comp=Z,15nm,1.2s,mb4.8
MA2 Magadan 71.21 26*c* *i*P **P** **04 59 25.1 0.0**
MA2 pmax pmax
comp=Z,13nm,1.4s,mb4.7
MA2 Magadan 71.21 26 *e*P **P** **04 59 24.2 -1.0**
comp=Z,14nm,0.8s,mb4.9
PET Petropavlovsk 72.11 34 *e*P **P** **04 59 30.8 +0.1**
PET *e*S S 05 08 49.8 +0.1
PET *e*PS PS 05 09 18.6 -5.3
PET *e*PPS PPS 05 09 39.8 +2.8
PET pmax pmax
comp=Z,25nm,0.8s,mb5.2

PET pmax pmax
comp=Z,200nm,14.7s
PET smax
comp=N,200nm,22.0s
PET smax
comp=E,200nm,18.2s
PET MLR MLR
comp=N,400nm,17.0s,MS5.0
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
PET MLR MLR
comp=E,500nm,16.0s,MS5.0
MOS Moscow 72.22 329 *e*P **P** 04 59 29.4 **-1.9**
MOS *e* 04 59 45.8
MOS *e* 05 02 10.7
MOS *e*S S 05 08 46.7 -4.2
MOS pmax pmax
comp=Z,55nm,0.7s,mb5.6
OBN Obninsk 72.51 328K *i*P **P** 04 59 32.4 **-0.6**
OBN *e* pP 04 59 39.9 -1.6
OBN *i* 04 59 53.4
OBN *e*S S 05 08 53.8 -0.4
OBN *e* 05 09 43.9
OBN pmax pmax
comp=Z,31nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,400nm,19.0s,MS4.7
OBN Obninsk 72.51 328 *i* Pr 04 59 32.2
OBN LR LR
comp=Z,142nm,19.0s,MS4.3
MAW Mawson 72.84 193 P **P** 04 59 34.7 **0.0**
comp=Z,36nm,0.9s,mb4.3,baz=275,slow=1.1,SNR=3.8
MAW Mawson 72.84 193 P **P** 04 59 34.7 **0.0**
TIXI Tiksi 73.05 10 *e*P **P** 04 59 32.7 **-3.2**
TIXI *e*S S 05 08 53.0 -7.0
TIXI *e*SS SS 05 13 34.4 -9.2
TIXI pmax pmax
comp=Z,31nm,1.1s,mb5.2
TIXI MLR MLR
comp=Z,1μm,14.0s,MS5.4
TIXI Tiksi 73.05 10⇑ *i*P **P** 04 59 34.4 **-1.5**
SEY Seymchan 73.63 23 *e*P **P** 04 59 41.5 **+2.1**
SEY *e* 04 59 59.3
SEY pmax pmax
comp=Z,60nm,0.9s,mb5.5
LBTB Lobatse 73.96 244 P **P** 04 59 41.9 **-0.2**
comp=Z,7.9nm,1.1s,mb4.5,baz=102,slow=8.0,SNR=3.8
LBTB Lobatse 73.96 244 P **P** 04 59 41.9 **-0.2**
LBTB LR LR
comp=Z,3μm,19.0s,MS5.6
TIRR Tirgusor 74.04 316 ⇓P **P** 04 59 46.5 **+4.3**
TIRR Tirgusor 74.04 316 ⇓P **P** 04 59 46.5 **+4.4**
BOSA Boshof 74.86 240 P **P** 04 59 46.9 **-0.3**
comp=Z,0.9nm,0.4s,mb4.0,baz=308,slow=20,SNR=3.1
BOSA Boshof 74.86 240 P **P** 04 59 46.9 **-0.3**
BOSA LR LR
comp=Z,5μm,22.0s,MS5.8
AKASG Malin Array Be 75.16 322 P **P** 04 59 47.0 **-1.4**
comp=Z,3.0nm,0.5s,mb4.5,baz=91,slow=4.7,SNR=23
VRI Vrincioaia 75.53 317 ⇓P **P** 04 59 59.9 **+9.2**
MLR Muntele Rosu 75.98 317 ⇓P **P** 04 59 53.4 **+0.2**
MLR Muntele Rosu 75.98 317 ⇓P **P** 04 59 53.4 **+0.2**
BURAR Bucovina Array 76.93 319 ⇑P **P** 04 59 59.6 **+1.1**
MNK Minsk 77.05 326 *e*P **P** 04 59 55.0 **-4.0**
APA Apatity 79.01 339⇑ *i*P **P** 05 00 09.5 **0.0**
APA *i* 05 00 24.0
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
KOLS Kolonicke sedl 79.12 320 *e*P **P** 05 00 11.7 **+1.2**
KOLS *e* 05 00 17.9
KOLS *e*sP sP 05 00 25.0 +3.0
SUR Sutherland 79.25 237 PFAKE 05 00 20.0 +8.4
SUR LR LR
comp=Z,1μm,19.0s,MS5.2
RPZ Rata Peaks 79.29 135 P **P** 05 00 12.2 **+0.7**
comp=Z,3.9nm,0.5s,mb4.6,baz=126,slow=16,SNR=4.5
SUW Suwalki 79.57 325 *e*P **P** 05 00 12.3 **-0.6**
CRVS Cervenica-Dubn 79.64 319 *e*P **P** 05 00 13.6 **+0.2**
CRVS *e*pP pP 05 00 24.1 +2.2
CRVS *e* 05 00 34.1
FINES FINESS Array B 79.89 332 P **P** 05 00 13.9 **-0.5**
comp=Z,4.6nm,0.7s,mb4.5,baz=105,slow=5.7,SNR=21
FINES LR LR 05 38 49.9
comp=Z,206nm,20.5s,MS4.5,baz=292,slow=38
KAF Kangasniemi 79.97 333 *e*p **P** 05 00 14.3 **-0.5**
comp=Z,10nm,0.8s,mb4.8,baz=102,slow=5.1
KAF Kangasniemi 79.97 333 *e*P **P** 05 00 14.3 **-0.5**
KAF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
SYO Syowa Base 80.13 198 ⇓sP sP 05 00 30.0 +3.0
SYO Syowa Base 80.13 198 ⇑PKiKP 05 05 43.9
NIE Niedzica 80.47 320 *e*P **P** 05 00 18.2 **+0.4**
PSZ Piszkesteto 80.52 318 *e*P **P** 05 00 18.1 **0.0**
comp=Z,17nm,1.1s,mb4.9
PSZ *e* pP 05 00 26.7 +0.1
OJC Ojcow 80.93 321 *e*P **P** 05 00 20.4 **+0.3**
BILL Bilibino 81.03 21⇓ *i*P **P** 05 00 20.2 **-0.2**
BILL pmax pmax
comp=Z,12nm,1.3s,mb4.7
BILL Bilibino 81.03 21⇓ *i*P **P** 05 00 20.3 **-0.1**
BILL LR LR
comp=Z,1μm,19.0s,MS5.3
PKSM Moragy 81.13 316⇓ *e*P **P** 05 00 21.2 **-0.1**
VYHS Vyhne 81.30 319 *e*P **P** 05 00 21.8 **-0.3**
VYHS *e* pP 05 00 28.9 -1.8
VYHS *e* 05 03 30.7
VYHS Vyhne 81.30 319 *e*P **P** 05 00 21.8 **-0.3**
VYHS *e* pP 05 00 28.9 -1.8
VYHS *e* 05 00 44.4
VYHS *e*PP PP 05 03 30.7 +0.6
OKC Ostrava-Krasne 81.93 320 *e*P **P** 05 00 24.7 **-0.7**
OKC *e*pP pP 05 00 33.3 -0.7
OKC AMS AMS 05 48 10.0
comp=Z,300nm,20.0s
MORC Moravsky Berou 82.31 320 *e*P **P** 05 00 27.1 **-0.3**
comp=Z,21nm,1.1s,mb4.7
ZST Bratislava 82.41 318 *e*P **P** 05 00 28.4 **+0.5**
ZST *e* pP 05 00 35.6 -0.9
ZST *e* 05 00 50.9
ARCES ARCESS Array B 82.41 340 P **P** 05 00 28.0 **+0.5**
comp=Z,11nm,0.8s,mb4.8,baz=98,slow=5.6,SNR=22
ARCES LR LR 05 43 27.0
comp=Z,451nm,19.2s,MS4.8,baz=218,slow=40
URZ Urewera 82.89 129 P **P** 05 00 30.1 **-0.5**
comp=Z,2.1nm,0.6s,mb4.3,baz=297,slow=19,SNR=1.9
DPC Dobruska-Polom 83.16 320 *e*P **P** 05 00 32.6 **+0.9**
DPC *e*pP pP 05 00 40.2 -0.1
DPC AMS AMS 05 43 20.0
comp=Z,300nm,19.0s
KSP Ksiaz 83.23 321 *e*P **P** 05 00 32.5 **+0.4**
KSP *e**PP pP 05 00 38.9 -1.8
KSP *e*S S 05 10 48.0 -1.2
KSP Ksiaz 83.23 321 *e*P **P** 05 00 32.8 **+0.7**
UPC Upice 83.37 321 *e*P **P** 05 00 33.2 **+0.4**
UPC *e*pP pP 05 00 42.8 +1.4
PRU Pruhonice 84.26 320 *e*P **P** 05 00 37.8 **+0.5**
PRU *e*pP pP 05 00 45.2 -0.8
PRU AMS AMS 05 44 10.0
comp=Z,300nm,21.7s
PVCC Panska Ves 84.29 320 *e*P **P** 05 00 38.0 **+0.5**
PVCC AMS AMS 05 47 30.0
comp=Z,300nm,14.9s
BRG Berggiesshubel 84.71 321 *e*P **P** 05 00 40.4 **+0.8**
BRG *e*S S 05 11 04.0 0.0
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRG MLR MLR
comp=N,200nm,20.5s,MS4.7
BRG MLR MLR
comp=E,260nm,20.5s,MS4.7
BRG MLR MLR
comp=Z,300nm,20.5s,MS4.7
BRG Berggiesshubel 84.71 321 *e*P **P** 05 00 40.4 **+0.8**
comp=Z,8.9nm,1.0s,mb4.8
BRG *e*S S 05 11 04.0 0.0
BRG LR LR
comp=Z,300nm,20.5s,MS4.7
GEC2 GERESS Array S 84.72 319 *e*P **P** 05 00 39.9 **+0.2**
GEC2 pmax pmax
comp=Z,20nm,1.2s,mb5.1
GEC2 GERESS Array S 84.72 319 *e*P **P** 05 00 39.9 **+0.2**
comp=Z,20nm,1.2s,mb5.1
GERES GERESS Array B 84.72 319 P **P** 05 00 39.8 **+0.2**
comp=Z,4.5nm,1.0s,mb4.6,baz=90,slow=5.3,SNR=25

KHC Kasperske Hory 84.82 319 *e*P **P** 05 00 40.3 **+0.1**
KHC *e* pP 05 00 50.1 +1.3
KHC MLR MLR
comp=Z,200nm,20.8s,MS4.5
KHC Kasperske Hory 84.82 319⇓ *i*P **P** 05 00 40.6 **+0.4**
KHC Kasperske Hory 84.82 319 *e*P **P** 05 00 40.3 **+0.1**
KHC *e*pP pP 05 00 50.1 +1.3
KHC x x 05 01 03.0
KHC AMS AMS 05 49 10.0
comp=Z,200nm,20.8s
WET Wettzell 85.28 319 *e*P **P** 05 00 43.3 **+0.8**
WET pmax pmax
comp=Z,13nm,1.3s,mb4.9
WET Wettzell 85.28 319 *e*P **P** 05 00 43.3 **+0.8**
comp=Z,13nm,1.3s,mb4.9
CLL Collm 85.34 321 *e*P **P** 05 00 43.0 **+0.3**
CLL *e* pP 05 00 52.0 +0.7
CLL *e*S S 05 11 08.0 -2.1
CLL MLR MLR
comp=Z,300nm,18.5s,MS4.7
CLL Collm 85.34 321 P **P** 05 00 43.0 **+0.3**
CLL *e**PP pP 05 00 52.0 +0.7
CLL *e*S S 05 11 08.0 -2.1
CLL *e* 05 23 18.0
HFS Hagfors 85.61 330 P **P** 05 00 43.6 **-0.3**
comp=Z,5.0nm,0.9s,mb4.8,baz=117,slow=3.3,SNR=8.4
HFS LR LR 05 44 32.0
comp=Z,382nm,19.5s,MS4.8,baz=357,slow=40
SFI Santa Sofia 85.73 314 *e*P **P** 05 00 46.5 **+1.6**
VNDA Vanda 85.95 169 P **P** 05 00 46.2 **+1.0**
comp=Z,0.3nm,0.3s,baz=357,slow=4.8,SNR=3.2
RAO Raoul Island 86.17 119 PFAKE 05 01 00.0 +13
RAO LR LR
comp=Z,821nm,20.0s,MS5.1
MOX Moxa 86.18 320 *e*P **P** 05 00 47.4 **+0.5**
MOX *e*S S 05 11 21.0 +2.8
MOX LR LR
comp=Z,400nm,19.0s,MS4.8
MOX Moxa 86.18 320 *i* P **P** 05 00 47.4 **+0.5**
MOX S S 05 11 21.0 +2.8
MOX L 05 21 08.0
GRA1 Grafenberg Arr 86.39 320 *e*P **P** 05 00 48.6 **+0.7**
comp=Z,19nm,1.4s,mb5.1
GRA1 *e*pP pP 05 00 58.4 +1.8
GRF Grafenberg Arr 86.39 320 *e*P **P** 05 00 48.6 **+0.7**
GRF *e**PP pP 05 00 58.4 +1.8
GRF pmax pmax
comp=Z,19nm,1.4s,mb5.1
GRF Grafenberg Arr 86.39 320 *e*P **P** 05 00 48.6 **+0.7**
comp=Z,19nm,1.4s,mb5.1
GRF *e*pP pP 05 00 58.4 +1.8
NB2 NORSAR Subarra 86.89 331 P **P** 05 00 49.9 **-0.2**
comp=Z,11nm,1.1s,mb5.0,baz=95,slow=4.8
NB2 NORSAR Subarra 86.89 331 P **P** 05 00 49.9 **-0.2**
comp=Z,11nm,1.1s,mb5.0
NOA NORSAR Array B 86.89 331 P **P** 05 00 50.0 **-0.1**
comp=Z,5.4nm,0.9s,mb4.8,baz=94,slow=5.0,SNR=17
NOA LR LR 05 45 25.8
comp=Z,314nm,20.7s,MS4.7,baz=95,slow=40
CLZ Clausthal 87.00 322 *e*P **P** 05 00 51.3 **+0.4**
comp=Z,12nm,1.1s,mb5.0
TNS Taunus Mts 88.19 320 *e*P **P** 05 00 57.8 **+1.2**
LPG La Plagne 89.38 315 *e*P **P** 05 01 02.3 **-0.1**
comp=Z,47nm,1.6s,mb5.3
TNA Tin City 90.81 24 *e*P **P** 05 01 08.6 **0.0**
comp=Z,1.6nm,1.1s,mb4.3
JMIC Jan Mayen 93.84 342 LR LR 05 49 21.2
comp=Z,222nm,19.8s,MS4.6,baz=229,slow=39
ESLA Sonseca Array 97.75 310 PFAKE 05 01 50.0 +9.1
ESLA LR LR
comp=Z,1μm,20.0s,MS5.4
TBI Tubuai 111.90 115 *e*SS SS 05 23 04.3 +4.8
TBI *e*LR LR 05 40 02.2
comp=Z,451nm,24.0s
YKA Yellowknife Ar 111.96 15 PP PP 05 07 15.2 -12
comp=Z,0.4nm,0.8s,baz=326,slow=6.5,SNR=5.9
PPT Papeete 112.51 108 *e*SP SP 05 17 20.5 +22
PPT *e*LR LR 05 40 20.0
comp=Z,463nm,25.0s
SCHQ Schefferville 122.50 349 PKP PKPdf 05 07 00.8 -3.8
comp=Z,1.1nm,0.8s,baz=260,slow=15,SNR=3.2
SCHQ Schefferville 122.50 349 PKP PKPdf 05 07 00.8 -3.8
RKT Rikitea 124.98 117 *e*SS SS 05 26 12.8 +23
RKT *e*LR LR 05 46 09.2
comp=Z,393nm,24.5s
PDAR Pinedale Array 129.91 26 PKP PKPdf 05 07 16.4 -2.8
comp=Z,0.6nm,0.7s,baz=45,slow=2.1,SNR=5.9
PDAR PP PP 05 09 28.2 -2.2
comp=Z,3.1nm,1.2s,baz=333,slow=3.3,SNR=7.3
PV10 Paradox Valley 133.66 29 *e*PKPdf PKPdf 05 07 23.5 -2.9
MNTX Cornudas Mount 140.78 31 *e*PKPdf PKPdf 05 07 36.9 -2.8
BDFB Brasilia 142.88 246 PKP PKPdf 05 07 39.2 -4.4
comp=Z,0.5nm,0.4s,baz=224,slow=23,SNR=1.7
MIAR Mount Ida 142.90 15 *e*PKPdf PKPdf 05 07 36.0 -7.2
LRAL Lakeview Retre 145.59 6 *e*PKPdf PKPdf 05 07 41.7 -6.2
NHSC New Hope 145.66 356 *e*PKPdf PKPdf 05 07 45.4 -2.7
CFAA Coronel Fontan 146.90 203 PKPbc PKPbc 05 07 49.7 +2.8
comp=Z,0.5nm,0.5s,baz=161,slow=2.0,SNR=11
OTAV Otavalo 175.39 290 *e*PKPdf PKPdf 05 08 13.5 -6.5

*NEIC **31** 04:48:13.4±0.7,32.44S×177.78W,h10km,mb4.8/6,Error ellipse: s-maj=20.6km s-min=11.0km az=108.0*
*IDC **31** 04:48:13.1±1.3,32.32S×177.96W,mb4.6/4,mb1 4.6/7, mb1mx4.3/18,mbtmp4.5/7,ML4.4/3,MS3.7/1,Ms1 3.7/1, ms1mx2.5/34,Error ellipse: s-maj=42.0km s-min=24.9km az=130.0*
ISC 31 04:48:14.7±1.3,32.65S±0.08×177.8W±0.2,h33km,n38, σ0.81/36,mb4.6/9,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.38**	**358**	Pn		**Pn**	**Pn**	**04 49 01.6**	**-5.0**
	102nm,0.3s,baz=90,slow=21,SNR=8.6								
RAO				Sn		**Sn**	**Sn**	**04 49 35.3**	**-11**
	78nm,0.3s,baz=121,slow=24,SNR=3.2								
MXZ	**Matakaoa Point**	**5.85**	**212**	*e*PN		**Pn**	**Pn**	**04 49 40.8**	**-0.7**
MXZ				SN		**Sn**	**Sn**	**04 50 48.4**	**+0.2**
MXZ	**Matakaoa Point**	**5.85**	**212**	*e*PN		**Pn**	**Pn**	**04 49 40.8**	**-0.7**
MXZ				SN		**Sn**	**Sn**	**04 50 48.4**	**+0.2**
MWZ	**Matawai**	**6.83**	**213**	PN		**Pn**	**Pn**	**04 49 54.2**	**-1.1**
MWZ	**Matawai**	**6.83**	**213**	PN		**Pn**	**Pn**	**04 49 54.2**	**-1.1**
URZ	**Urewera**	**6.97**	**215**	Pn		**Pn**	**Pn**	**04 49 58.0**	**+0.8**
	3.4nm,0.3s,baz=26,slow=2.9,SNR=9.7								
URZ				Sn		**Sn**	**Sn**	**04 51 16.2**	**0.0**
	21nm,0.3s,baz=125,slow=23,SNR=16								
URZ				LR		LR	LR	04 52 47.3	
	comp=Z,528nm,18.4s,baz=47,slow=38								
URZ	**Urewera**	**6.97**	**215**	Pn		**Pn**	**Pn**	**04 49 58.0**	**+0.8**
URZ				Sn		**Sn**	**Sn**	**04 51 16.2**	**0.0**
URZ				LR		LR	LR	04 52 47.3	
URZ	**Urewera**	**6.97**	**215**	*e*PN		**Pn**	**Pn**	**04 49 56.2**	**-1.1**
URZ				*e*SN		**Sn**	**Sn**	**04 51 16.3**	**+0.1**
URZ	**Urewera**	**6.97**	**215**	*e*PN		**Pn**	**Pn**	**04 49 56.2**	**-1.1**
URZ				*e*SN		**Sn**	**Sn**	**04 51 16.3**	**+0.1**
MRZ	**Mangatainoka R**	**9.60**	**212**	SN		**Sn**	**Sn**	**04 52 15.9**	**-5.7**
MRZ	**Mangatainoka R**	**9.60**	**212**	SN		**Sn**	**Sn**	**04 52 15.9**	**-5.7**
LTZ	**Lake Taylor**	**12.80**	**215**	*e*SN		**S**	**S**	**04 53 28.5**	**-11**
LTZ	**Lake Taylor**	**12.80**	**215**	*e*SN		**S**	**S**	**04 53 28.5**	**-11**
MQZ	**McQueen's Vall**	**13.34**	**211**	*e*SN		**S**	**S**	**04 53 39.6**	**-13**
MQZ	**McQueen's Vall**	**13.34**	**211**	*e*SN		**S**	**S**	**04 53 39.6**	**-13**
RPZ	**Rata Peaks**	**14.09**	**215**	Pn		**P**	**P**	**04 51 35.9**	**+2.0**
	1.5nm,0.3s,baz=64,slow=3.0,SNR=5.7								
RPZ				Sn		**S**	**S**	**04 53 58.1**	**-12**
	1.2nm,0.3s,baz=7.0,slow=20,SNR=11								
TAU	**Tasmania Unive**	**29.22**	**239**	P		**P**	**P**	**04 54 07.9**	**-7.6**
	11nm,0.8s,mb4.6								
STKA	**Stephens Creek**	**34.19**	**260**	P		**P**	**P**	**04 55 00.1**	**+0.9**
	1.8nm,0.6s,mb4.2,baz=98,slow=10,SNR=4.0								
STKA	**Stephens Creek**	**34.19**	**260**	*e*P		**P**	**P**	**04 54 59.5**	**+0.4**
CTA	**Charters Tower**	**34.38**	**282**	P		**P**	**P**	**04 55 01.4**	**+0.6**
	4.1nm,0.7s,mb4.5,baz=75,slow=14,SNR=4.0								
CTAO	**Charters Tower**	**34.38**	**282**	*e*P		**P**	**P**	**04 55 01.3**	**+0.4**
	12nm,1.0s,mb4.8								
WRA	**Warramunga Ar**	**44.39**	**274**	P		**P**	**P**	**04 56 23.7**	**-0.4**
	7.1nm,0.5s,mb4.6,baz=116,slow=7.4,SNR=29								
FITZ	**Fitzroy Crossi**	**52.55**	**272**	P		**P**	**P**	**04 57 26.5**	**-0.8**
	10nm,0.8s,mb4.8,baz=152,slow=4.5,SNR=4.2								
CASY	**Casey**	**53.24**	**209**	*e*P		**P**	**P**	**04 57 31.1**	**-0.7**

8.5nm,0.9s,mb4.7
MBWA Marble Bar 56.17 265 P **P** 04 57 53.8 **0.0**
0.9nm,0.5s,mb4.1
QSPA South Pole Qui 57.47 180 *e*P **P** 04 58 16.6 **+14**
MAW Mawson 70.27 201 *e*P **P** 04 59 35.0 **+8.9**
32nm,1.4s,mb5.1
SNAA Sanae 75.91 178 P **P** 04 59 59.8 **+0.7**
23nm,1.4s,mb4.9
MKAR Makanchi Array 119.33 309 PKP PKPdf 05 07 04.0 +3.4
0.4nm,0.6s,baz=90,slow=1.4,SNR=4.3
KAF Kangasniemi 146.71 340 *e*p PKPdf 05 07 53.0 +2.3
0.4nm,0.3s
FINES FINESS Array B 147.30 339 PKPbc PKPdf 05 07 56.2 +4.5
9.3nm,0.9s,baz=45,slow=5.4,SNR=20
FINES FINESS Array B 147.30 339 PKPbc PKPdf 05 07 56.2 +4.5
ASF Jabal al Asfar 150.77 279 PKPbc PKPdf 05 08 07.7 +10
5.6nm,0.8s,baz=135,slow=1.4,SNR=8.8
NB2 NORSAR Subarra 150.99 351 PKPabc PKPdf 05 08 05.6 +8.1
0.7nm,0.7s,baz=17,slow=2.5
NB2 NORSAR Subarra 150.99 351 PKPab PKPab 05 08 05.6 -7.4
NOA NORSAR Array B 150.99 351 PKPbc PKPdf 05 08 05.8 +8.4
1.5nm,0.8s,baz=15,slow=4.2,SNR=6.4
AKASG Malin Array Be 153.16 320 PKPbc PKPdf 05 08 11.1 +10
2.0nm,0.8s,baz=62,slow=2.5,SNR=6.9
BRTR Keskin Array B 153.75 295 PKPbc PKPdf 05 08 13.4 +11
0.9nm,0.6s,baz=106,slow=1.1,SNR=4.5

*IDC **31** 04:54:08.8±0.8,1.31N×97.08E,mb4.3/13,mb1 4.4/13, mb1mx4.2/21,mbtmp4.3/13,Error ellipse: s-maj=34.3km s-min=14.4km az=53.0*
*BJI **31** 04:54:11.0,1.16N×97.08E,h37km,mB5.3,mb4.7,Ms5.2, Msz4.9*
*NEIC **31** 04:54:13.4±0.4,1.27N×97.15E,h30km,mb4.7/7,Error ellipse: s-maj=12.4km s-min=6.1km az=51.0*
ISC 31 04:54:09.8±2.6,1.23N±0.08×97.10E±0.09,h19km±18km, h29km±1.9km:pP-P,n41,σ0.99/41,mb4.5/27,MS4.7/3,1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**41**	*e*Pn		**Pn**	**Pn**	**04 55 30.9**	**-0.1**
KMI	**Kunming**	**24.37**	**12**	P		**P**	**P**	**04 59 29.5**	**+1.4**
KMI				AP				04 59 36.3	
KMI				LR		LR	LR		
	comp=Z,2μm,13.6s,MS4.8								
JIRN	**Jiri**	**28.28**	**339**	*e*P		**P**	**P**	**05 00 05.2**	**+0.9**
PKI	**Pulchoki**	**28.49**	**338**	*e*P		**P**	**P**	**05 00 06.6**	**+0.4**
GUN	**Gumba**	**28.62**	**339**	*e*P		**P**	**P**	**05 00 08.2**	**+0.8**
	comp=Z,95nm,1.2s,mb5.4								
DMN	**Daman**	**28.64**	**337**	*e*P		**P**	**P**	**05 00 07.8**	**+0.3**
KKN	**Kakani**	**28.73**	**338**	*e*P		**P**	**P**	**05 00 09.9**	**+1.5**
LSA	**Lhasa**	**28.88**	**349**	P		**P**	**P**	**05 00 09.9**	**+0.3**
GKN	**Gorkha**	**29.17**	**337**	*e*P		**P**	**P**	**05 00 12.5**	**+0.2**
	comp=Z,73nm,1.2s,mb5.3								
KOLN	**Koldanda**	**29.39**	**335**	*e*P		**P**	**P**	**05 00 14.8**	**+0.5**
	comp=Z,13nm,0.6s,mb4.8								
ENH	**Enshi**	**31.19**	**21**	*e*P		**P**	**P**	**05 00 28.4**	**-1.8**
FITZ	**Fitzroy Crossi**	**34.03**	**126**	P		**P**	**P**	**05 00 54.8**	**-0.3**
	comp=Z,8.3nm,0.8s,mb4.7,baz=243,slow=2.1,SNR=4.0								
NJ2	**Nanjing**	**36.90**	**32**	*e*P		**P**		**05 01 21.0**	**+1.7**
NJ2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.8								
GTA	**Gaotai**	**38.08**	**3**	*e*P		**P**	**P**	**05 01 27.0**	**-2.2**
GTA				AP		pP		05 01 35.5	+0.6
GTA				XP		sP		05 01 39.3	+2.0
GTA				S		**S**		**05 07 09.5**	**-11**
GTA				AMB		AMB			
	comp=Z,7.0nm,1.1s,mb4.3								
GTA				AMB		AMB			
	comp=Z,127nm,6.1s								
GTA				LR		LR			
	comp=N,645nm,16.7s,MS4.7								
GTA				LR		LR			
	comp=E,621nm,15.6s,MS4.7								
GTA				LR		LR			
	comp=Z,460nm,11.4s,MS4.5								
JOW	**Kunigami**	**39.30**	**47**	P		**P**	**P**	**05 01 39.7**	**+0.2**
	comp=Z,10nm,0.5s,mb4.8,baz=123,slow=19,SNR=6.5								
HHC	**Hu-ho-hao-te**	**41.56**	**17**	*e*P		**P**	**P**	**05 02 00.3**	**+2.3**
HHC				AP		pP		05 02 09.5	+5.7
HHC				XP		sP		05 02 13.0	+6.8
HHC				PP		PP		05 03 39.0	+1.7
HHC				S		**S**		**05 08 14.0**	**+1.3**
HHC				XS				05 08 31.0	
HHC				SS		SS		05 11 16.5	+3.7
HHC				AMB		AMB			
	comp=Z,15nm,0.5s,mb4.9								
HHC				AMB		AMB			
	comp=Z,173nm,3.6s								
WRA	**Warramunga Arr**	**42.14**	**122**	P		**P**	**P**	**05 02 03.0**	**0.0**
	comp=Z,4.1nm,0.8s,mb4.1,baz=301,slow=9.1,SNR=15								
WRAB	**Tennant Creek**	**42.14**	**122**	*e*P		**P**	**P**	**05 02 02.9**	**-0.2**
	comp=Z,13nm,1.0s,mb4.5								
BJI	**Beijing**	**42.35**	**22**	*e*P		**P**	**P**	**05 02 03.0**	**-1.5**
BJI				AMB		AMB			
	comp=Z,10.0nm,1.1s,mb4.4								
WMQ	**Urumqi**	**43.23**	**350**	P		**P**	**P**	**05 02 13.0**	**+1.4**
WMQ				AP		pP		05 02 23.0	+5.6
WMQ				XP		sP		05 02 27.0	+7.3
WMQ				PP		PP		05 03 56.0	+1.7
WMQ				S		**S**		**05 08 37.0**	**-0.2**
WMQ				XS				05 08 53.0	
WMQ				AMB		AMB			
	comp=Z,12nm,0.8s,mb4.7								
WMQ				AMB		AMB			
	comp=Z,264nm,4.6s								
WMQ				LR		LR			
	comp=N,714nm,20.6s,MS4.8								
WMQ				LR		LR			
	comp=E,1μm,24.7s,MS4.8								
WMQ				LR		LR			
	comp=Z,643nm,25.0s,MS4.4								
ASAR	**Alice Springs**	**43.49**	**127**	P		**P**	**P**	**05 02 15.1**	**+1.1**
	comp=Z,2.4nm,0.8s,mb4.0,baz=302,slow=7.5,SNR=12								
SONM	**Songino Array**	**47.12**	**9**	P		**P**	**P**	**05 02 42.4**	**-0.2**
	comp=Z,2.3nm,0.4s,mb4.5,baz=190,slow=9.5,SNR=25								
MKAR	**Makanchi Array**	**47.19**	**346**	P		**P**	**P**	**05 02 43.1**	**-0.1**
	comp=Z,2.3nm,0.4s,mb4.4,baz=160,slow=8.8,SNR=39								
ULN	**Ulaanbaatar**	**47.25**	**9**	*e*P		**P**	**P**	**05 02 43.3**	**-0.4**
	comp=Z,6.8nm,1.0s,mb4.5								
CN2	**Changchun**	**49.33**	**27**	*e*P		**P**	**P**	**05 02 58.8**	**-1.1**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.2s,mb4.7								
KURK	**Kurchatov**	**51.74**	**345**	*e*P		**P**	**P**	**05 03 17.3**	**-0.8**
	comp=Z,6.7nm,1.0s,mb4.5								
MDJ	**Mudanjiang**	**51.89**	**29**	P		**P**	**P**	**05 03 19.0**	**-0.4**
MDJ				AMB		AMB			
	comp=Z,10.0nm,1.3s,mb4.6								
MDJ				AMB		AMB			
	comp=Z,100nm,5.2s								
MDJ	**Mudanjiang**	**51.89**	**29**	P		**P**	**P**	**05 03 18.8**	**-0.6**
STKA	**Stephens Creek**	**53.45**	**132**	P		**P**	**P**	**05 03 31.8**	**+0.6**
	comp=Z,5.9nm,1.0s,mb4.5,baz=300,slow=9.6,SNR=5.5								
STKA	**Stephens Creek**	**53.45**	**132**	*e*P		**P**	**P**	**05 03 31.6**	**+0.4**
STKA				*e*		pP		05 03 38.9	+1.8
ZAL	**Zalesovo**	**53.51**	**351**	P		**P**	**P**	**05 03 30.3**	**-0.9**
	comp=Z,7.4nm,0.4s,mb5.0,baz=308,slow=5.1,SNR=23								
BVAR	**Borovoye Array**	**56.19**	**341**	P		**P**	**P**	**05 03 49.6**	**-1.2**
	comp=Z,1.4nm,0.4s,mb4.3,baz=146,slow=10,SNR=16								
CHKZ	**Chkalovo**	**56.67**	**341**	*e*P		**P**	**P**	**05 03 52.9**	**-1.3**
	comp=Z,7.1nm,0.8s,mb4.8								
BRTR	**Keskin Array B**	**69.02**	**312**	P		**P**	**P**	**05 05 16.8**	**+0.4**
	comp=Z,0.2nm,0.4s,mb3.4,baz=155,slow=26,SNR=3.1								
AKASG	**Malin Array Be**	**75.17**	**322**	P		**P**	**P**	**05 05 51.4**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.7,baz=86,slow=5.2,SNR=4.4								
FINES	**FINESS Array B**	**79.93**	**333**	P		**P**	**P**	**05 06 18.5**	**-0.4**
	comp=Z,0.5nm,0.4s,mb3.8,baz=108,slow=6.0,SNR=6.2								
FINES	**FINESS Array B**	**79.93**	**333**	P		**P**	**P**	**05 06 18.5**	**-0.4**
SYO	**Syowa Base**	**80.00**	**198**	⇑PcP		PcP	PcP	05 06 26.4	-0.6
ARCES	**ARCESS Array B**	**82.47**	**340**	P		**P**	**P**	**05 06 32.5**	**+0.3**
	comp=Z,5.3nm,1.0s,mb4.4,baz=97,slow=4.5,SNR=10								
TXAR	**Lajitas Array**	**143.70**	**32**	PKhKP				05 13 43.1	
	comp=Z,0.2nm,0.5s,baz=313,slow=0.6,SNR=6.8								
CFAA	**Coronel Fontan**	**146.76**	**203**	PKPbc		PKPbc		05 13 53.9	+2.9

ARRY			S	S	05 02 13.2	+0.4
ULBA	**Ulba**	**2.60 333**	P	P	05 01 44.3	+1.4
ULBA			S	S	05 02 14.9	+1.4
CUSU	**Cusua**	**2.64 332**	P	P	05 01 45.3	+1.9
CUSU			S	S	05 02 15.9	+1.3
IGUA	**Igualata**	**2.68 328**	P	P	05 01 46.4	+2.4
IGUA			S	S	05 02 17.5	+2.0
PISA	**Pisayambo**	**2.94 337**	P	P	05 01 49.5	+1.8
TAMB	**Tambo**	**3.27 340**	P	P	05 01 54.7	+2.3
VC1	**Cotopaxi 1**	**3.33 339**	P	P	05 01 56.0	+2.7
ANTI	**Antisana**	**3.44 344**	P	P	05 01 56.0	+1.3

*NEIC **31** 05:17:52.7±3.6,6.88S×128.29E,h333km±47km,mb4.3/5, Error ellipse: s-maj=24.0km s-min=16.8km az=188.0*
*IDC **31** 05:17:54.4±4.8,6.92S×128.31E,h352km±55km,mb3.2/2, mb1 3.8/5,mb1mx3.5/14,mbtmp4.5/5,Error ellipse: s-maj=61.2km s-min=18.5km az=68.0*
ISC 31 05:17:47.1±1.9,6.67S±0.08×128.4E±0.1,h284km±22km, n12,σ1§26/16,mb3.6/4,1C-1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.67**	**193**	P	**P**	**05 20 28.6**	**+1.5**
	5.0nm,0.3s,baz=21,slow=10,SNR=60						
FITZ				S	**S**	**05 22 34.7**	**+1.4**
	1.8nm,0.3s,baz=169,slow=21,SNR=6.4						
WRAB	**Tennant Creek**	**14.40**	**157**	*e*P	**P**	**05 20 59.2**	**-1.2**
	13nm,0.6s						
WRA	**Warramunga Arr**	**14.41**	**157**	P	**P**	**05 20 59.2**	**-1.3**
	1.9nm,0.3s,baz=333,slow=12,SNR=97						
WRA				S	**S**	**05 23 32.6**	**-1.1**
	0.1nm,0.3s,baz=334,slow=21,SNR=5.5						
WB2	**Warramunga Arr**	**14.41**	**157**	⇓*i*P	**P**	**05 20 59.3**	**-1.3**
WB2				*e*S	**S**	**05 23 36.5**	**+2.7**
MBWA	**Marble Bar**	**16.66**	**209**	*e*P	**P**	**05 21 23.4**	**-2.4**
	20nm,1.2s						
ASAR	**Alice Springs**	**17.71**	**163**	P	**P**	**05 21 36.9**	**+0.1**
	4.4nm,0.3s,baz=343,slow=11,SNR=224						
ASAR				S	**S**	**05 24 41.4**	**-0.1**
	0.0nm,0.3s,baz=346,slow=26,SNR=3.1						
ASPA	**Alice Springs**	**17.71**	**163**	⇑*i*P	**P**	**05 21 36.9**	**+0.1**
PMG	**Port Moresby**	**18.79**	**100**	P	**P**	**05 21 50.0**	**+2.3**
	45nm,1.2s						
ULN	**Ulaanbaatar**	**57.47**	**343**	P	**P**	**05 27 08.6**	**0.0**
	3.4nm,1.1s,mb3.7						
SONM	**Songino Array**	**57.63**	**343**	P	**P**	**05 27 10.1**	**+0.3**
	0.5nm,0.4s,mb3.3,baz=135,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**67.08**	**327**	P	**P**	**05 28 11.9**	**0.0**
	0.9nm,0.6s,mb3.7,baz=122,slow=7.7,SNR=9.6						
CHKZ	**Chkalovo**	**77.15**	**329**	P	**P**	**05 29 06.5**	**-4.5**
	2.3nm,1.1s,mb3.8						

*MOS **31** 05:19:51.8±1.1,54.25S×7.66E,h10km,mb5.1/7,Error ellipse: s-maj=45.7km s-min=17.0km az=91.1*
*IDC **31** 05:19:51.2±0.4,54.22S×7.73E,mb4.7/21,mb1 4.8/22, mb1mx4.7/23,mbtmp4.7/22,ML4.3/1,MS4.8/19,Ms1 4.8/19, ms1mx4.6/26,Error ellipse: s-maj=15.1km s-min=14.2km az=147.0*
*NEIC **31** 05:19:52.5±0.2,54.06S×7.78E,h10km,mb5.3/22,Error ellipse: s-maj=8.4km s-min=7.2km az=104.0*
*HRVD **31** 05:19:52.5±0.2,54.21S×8.05E,h12km,MW5.3/77, Centroid moment Tensor Solution. LP body waves: s47,c71;Mantle waves: s77,c150; Half duration: 1§1 Moment tensor: Scale 10¹⁷Nm; Mrr=1.16±.02; Mθθ=0.86±.03; Mθφ=0.30±.02; Mrθ=0.07±.07; Mφφ=-0.47±.02; Mφr=-0.22±.06; Best double couple: M₀1.166×10¹⁷ NP1: φs113°,δ41°,λ-101°. NP2:φs307°,δ50°,λ-80°. Principal axes: T 1.139, Plg4°, Azm30°; N .054, Plg7°, Azm121°; P -1.193, Plg82°, Azm270°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **31** 05:19:52.5,54.10S×7.80E,h11km,mB5.4,Ms5.4,Msz5.1*
ISC 31 05:19:50.5±3.0,54.15S±0.05×7.7E±0.1,h3km±18km,n174, σ1§26/82,mb4.9/36,MS5.0/25,3C-2D,Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAIT	**Maitri**	**16.79**	**175**	*e*P	**P**	**05 23 47.8**	**+0.1**
MAIT				*e*S	**S**	**05 27 11.9**	**+18**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*	**P**	**05 24 07.8**	**+4.7**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*	**P**	**05 24 09.8**	**+6.7**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*	**P**	**05 24 13.2**	**+10**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*	**P**	**05 24 14.6**	**+11**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*	**P**	**05 24 18.9**	**+16**
VNA1	**Neumayer--Stat**	**18.02**	**197**	*e*P	**P**	**05 24 05.5**	**+2.4**
VNA1				*e*		05 24 07.8	
VNA1				*e*		05 24 09.8	
VNA1				*e*		05 24 13.2	
VNA1				*e*		05 24 14.6	
VNA1				*e*		05 24 18.9	
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 04.6**	**+0.3**
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 07.1**	**+2.8**
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 09.8**	**+5.5**
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 12.2**	**+7.9**
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 13.9**	**+10**
VNA2	**Neumayer--Watz**	**18.11**	**196**	*e*	**P**	**05 24 18.3**	**+14**
SNAA	**Sanae**	**18.18**	**191**	P	**P**	**05 24 04.2**	**-0.9**
	1.0nm,0.3s,baz=13,slow=9.0,SNR=97						
SNAA				S	**S**	**05 27 14.1**	**-12**
	0.1nm,0.3s,baz=330,slow=17,SNR=3.7						
SNAA				LR	LR	05 29 23.1	
	comp=Z,3µm,20.6s,baz=22,slow=32						
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 12.2**	**-0.2**
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 14.5**	**+2.1**
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 17.1**	**+4.7**
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 19.0**	**+6.6**
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 20.6**	**+8.2**
VNA3	**Neumayer Olymp**	**18.77**	**197**	*e*	**P**	**05 24 25.1**	**+13**
SYO	**Syowa Base**	**20.89**	**148**	⇑P	**P**	**05 24 34.0**	**-1.9**
SYO	**Syowa Base**	**20.89**	**148**	⇓P	**P**	**05 24 38.5**	**+2.6**
SYO	**Syowa Base**	**20.89**	**148**	⇓PnPn		05 24 50.7	
SUR	**Sutherland**	**23.69**	**29**	P	**P**	**05 25 03.3**	**-0.6**
	14nm,0.9s,mb4.4,baz=218,slow=12,SNR=3.1						
SUR				LR	LR	05 31 58.6	
	comp=Z,4µm,19.7s,MS4.9,baz=183,slow=31						
SUR	**Sutherland**	**23.69**	**29**	P	**P**	**05 25 00.9**	**-3.0**
	364nm,1.8s,mb5.5						
BOSA	**Boshof**	**28.56**	**34**	*e*P	**P**	**05 25 45.9**	**-3.4**
BOSA				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.7						
BOSA	**Boshof**	**28.56**	**34**	P	**P**	**05 25 45.9**	**-3.4**
	comp=Z,2.6nm,0.6s,mb4.2,baz=198,slow=12,SNR=6.5						
BOSA				PcP	PcP	05 29 00.8	-0.2
	comp=Z,2.6nm,0.8s,baz=171,slow=3.5,SNR=3.7						
BOSA				LR	LR	05 34 59.6	
	comp=Z,4µm,20.6s,MS5.0,baz=183,slow=32						
BOSA	**Boshof**	**28.56**	**34**	*e*P	**P**	**05 25 45.9**	**-3.4**
	comp=Z,17nm,1.1s,mb4.7						
MAW	**Mawson**	**28.89**	**139**	*e*P	**P**	**05 25 51.2**	**-0.7**
MAW				pmax	pmax		
	comp=Z,21nm,1.0s						
MAW	**Mawson**	**28.89**	**139**	P	**P**	**05 25 50.5**	**-1.4**
	comp=Z,12nm,1.0s,mb4.6,baz=270,slow=11,SNR=4.4						
MAW				LR	LR	05 34 49.6	
	comp=Z,1µm,21.4s,MS4.4,baz=281,slow=31						
MAW	**Mawson**	**28.89**	**139**	*e*P	**P**	**05 25 51.2**	**-0.7**
	comp=Z,22nm,1.0s,mb4.8						
LBTB	**Lobatse**	**32.01**	**32**	P	**P**	**05 26 17.9**	**-2.1**
	comp=Z,5.1nm,1.0s,mb4.3,baz=220,slow=12,SNR=4.2						
LBTB				PcP	PcP	05 29 10.6	+0.6
	comp=Z,5.5nm,0.9s,baz=165,slow=1.1,SNR=4.4						
LBTB	**Lobatse**	**32.01**	**32**	*e*P	**P**	**05 26 17.5**	**-2.6**
	comp=Z,83nm,1.9s,mb5.2						
QSPA	**South Pole Qui**	**36.09**	**180**	⇑*i*P	**P**	**05 26 55.3**	**+0.6**
	comp=Z,45nm,1.0s,mb5.3						
LSZ	**Lusaka**	**41.97**	**30**	*e*P	**P**	**05 27 42.6**	**-1.5**
	comp=Z,37nm,1.5s,mb4.8						
USHA	**Ushuaia**	**42.16**	**237**	P	**P**	**05 27 45.9**	**+0.7**
	comp=Z,14nm,0.9s,mb4.6,baz=79,slow=10,SNR=3.6						
CASY	**Casey**	**46.65**	**147**	*e*P	**P**	**05 28 21.4**	**+0.3**
	comp=Z,33nm,1.3s,mb5.1						
OPO	**Ambohidratompo**	**46.65**	**56**	P	**P**	**05 28 23.0**	**+1.3**
	comp=Z,3.4nm,0.9s,mb4.3,baz=249,slow=3.5,SNR=4.5						
VNDA	**Vanda**	**47.62**	**173**	P	**P**	**05 28 28.9**	**+0.1**
	comp=Z,29nm,1.0s,mb5.3,baz=223,slow=8.4,SNR=66						
VNDA				LR	LR	05 48 20.9	
	comp=Z,3µm,18.1s,MS5.3,baz=193,slow=36						
SBA	**Scott Base**	**47.63**	**174**	*e*P	**P**	**05 28 29.9**	**+1.0**
SBA				pmax	pmax		
	comp=Z,47nm,1.2s,mb5.4						
SBA	**Scott Base**	**47.63**	**174**	*e*P	**P**	**05 28 29.9**	**+1.0**
	comp=Z,47nm,1.2s,mb5.4						
TRQA	**Tornquist**	**48.86**	**259**	*e*P	**P**	**05 28 38.4**	**-0.5**
	comp=Z,38nm,1.0s,mb5.4						
PLCA	**Paso Flores**	**51.91**	**251**	*e*P	**P**	**05 29 01.0**	**-1.1**
PLCA				pmax	pmax		
	comp=Z,38nm,1.0s						
PLCA	**Paso Flores**	**51.91**	**251**	P	**P**	**05 29 01.4**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.6,baz=140,slow=7.2,SNR=13						
PLCA				LR	LR	05 47 53.3	
	comp=Z,531nm,20.3s,MS4.6,baz=137,slow=32						
PLCA	**Paso Flores**	**51.91**	**251**	*e*P	**P**	**05 29 01.0**	**-1.2**
	comp=Z,8.5nm,1.0s,mb4.6						
DRV	**Dumont d'Urvil**	**54.28**	**159**	S	**S**	**05 36 55.0**	**-1.0**
MBAR	**Mbarara**	**56.65**	**28**	*i* P	**P**	**05 29 42.6**	**+5.4**
MBAR	**Mbarara**	**56.65**	**28**	*e*P	**P**	**05 29 36.5**	**-0.8**
	comp=Z,47nm,1.8s,mb5.2						
MBAR				*e*		05 29 44.0	
CFAA	**Coronel Fontan**	**57.05**	**260**	P	**P**	**05 29 38.4**	**-1.5**
	comp=Z,5.3nm,1.1s,mb4.5,baz=128,slow=5.8,SNR=12						
BAO	**Brasilia Array**	**57.57**	**290**	P	**P**	**05 29 43.0**	**-0.7**
BDFB	**Brasilia**	**57.58**	**289**	P	**P**	**05 29 43.1**	**-0.7**
	comp=Z,32nm,1.3s,mb5.2,baz=132,slow=4.1,SNR=16						
BDFB				LR	LR	05 50 26.8	
	comp=Z,712nm,18.5s,MS4.8,baz=135,slow=32						
KMBO	**Kilima Mbogo**	**58.17**	**36**	P	**P**	**05 29 48.3**	**+0.4**
	comp=Z,1.2nm,0.7s,mb4.1,baz=204,slow=13,SNR=7.7						
KMBO				LR	LR	05 53 28.0	
	comp=Z,3µm,18.7s,MS5.4,baz=5.5,slow=35						
KMBO	**Kilima Mbogo**	**58.17**	**36**	*e*P	**P**	**05 29 50.1**	**+2.2**
	comp=Z,68nm,2.1s,mb5.3						
RCBR	**Riachuelo**	**59.63**	**307**	P	**P**	**05 29 59.1**	**+1.0**
DBIC	**Dimbokro**	**61.50**	**346**	P	**P**	**05 30 10.1**	**-0.7**
	comp=Z,8.1nm,0.8s,mb4.9,baz=137,slow=8.6,SNR=9.2						
DBIC				LR	LR	05 53 54.8	
	comp=Z,363nm,18.2s,MS4.6,baz=116,slow=33						
LVC	**Limon Verde**	**64.20**	**267**	*e*P	**P**	**05 30 25.2**	**-3.4**
	comp=Z,31nm,0.8s,mb5.4						
LPAZ	**La Paz**	**68.66**	**272**	P	**P**	**05 30 57.9**	**+0.9**
	comp=Z,20nm,0.9s,mb5.0,baz=116,slow=6.1,SNR=6.4						
LPAZ				LR	LR	05 57 35.2	
	comp=Z,591nm,21.7s,MS4.8,baz=279,slow=33						
LPAZ	**La Paz**	**68.66**	**272**	*e*P	**P**	**05 30 57.0**	**0.0**
	comp=Z,103nm,1.4s,mb5.6						
SAML	**Samuel**	**71.61**	**280**	*e*P	**P**	**05 31 14.2**	**-0.8**
	comp=Z,88nm,1.3s,mb5.5						
ATD	**Arta Tunnel**	**71.89**	**36**	P	**P**	**05 31 17.7**	**+1.0**
	comp=Z,1.6nm,0.3s,mb4.4,baz=90,slow=22,SNR=4.5						
ATD				LR	LR	06 02 48.3	
	comp=Z,653nm,18.2s,MS4.9,baz=289,slow=36						
NWAO	**Narrogin (SRO)**	**74.23**	**125**	P	**P**	**05 31 28.7**	**-1.4**
	comp=Z,12nm,0.9s,mb4.8,baz=222,slow=6.0,SNR=3.3						
NWAO				LR	LR	05 56 07.1	
	comp=Z,220nm,20.9s,MS4.4,baz=62,slow=29						
NWAO	**Narrogin (SRO)**	**74.23**	**125**	P	**P**	**05 31 25.6**	**-4.4**
	comp=Z,42nm,1.2s,mb5.2						
TAU	**Tasmania Unive**	**77.34**	**151**	*e*P	**P**	**05 31 49.6**	**+2.1**
	comp=Z,26nm,1.1s,mb5.1						
MBWA	**Marble Bar**	**85.18**	**120**	*e*P	**P**	**05 32 27.8**	**-1.3**
	comp=Z,21nm,1.3s,mb5.1						
STKA	**Stephens Creek**	**85.54**	**142**	⇑*i*P	**P**	**05 32 31.0**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**85.54**	**142**	P	**P**	**05 32 30.6**	**-0.1**
	comp=Z,6.6nm,0.7s,mb5.0,baz=184,slow=2.2,SNR=14						
STKA	**Stephens Creek**	**85.54**	**142**	*e*P	**P**	**05 32 30.5**	**-0.2**
EIL	**Elat**	**86.74**	**24**	*e*P	**P**	**05 32 35.3**	**-1.3**
	comp=Z,6.2nm,1.0s,mb4.8						
URZ	**Urewera**	**87.52**	**172**	LR	LR	06 10 33.7	
	comp=Z,964nm,19.1s,MS5.2,baz=196,slow=35						
OTAV	**Otavalo**	**87.91**	**273**	*e*P	**P**	**05 32 44.8**	**+2.1**
	comp=Z,125nm,2.5s,mb5.7						
ROSC	**El Rosal**	**89.22**	**279**	P	**P**	**05 32 49.3**	**+0.3**
	comp=Z,2.4nm,0.4s,mb4.8,baz=92,slow=21,SNR=4.2						
ROSC				LR	LR	06 09 50.4	
	comp=Z,551nm,20.4s,MS5.0,baz=9.0,slow=34						
ASF	**Jabal al Asfar**	**89.60**	**24**	LR	LR	06 12 24.9	
	comp=Z,965nm,19.2s,MS5.2,baz=81,slow=35						
ASPA	**Alice Springs**	**89.77**	**132**	*e*P	**P**	**05 32 50.9**	**-0.4**
ASAR	**Alice Springs**	**89.77**	**132**	P	**P**	**05 32 50.4**	**-0.9**
	comp=Z,6.5nm,0.9s,mb4.9,baz=205,slow=4.8,SNR=28						
ASAR				PKKPbc		05 50 23.3	
	comp=Z,0.7nm,0.9s,baz=0.8,slow=4.7,SNR=4.4						
IDI	**Anoyia**	**90.30**	**14**	LR	LR	06 16 49.0	
	comp=Z,480nm,20.3s,MS4.9,baz=264,slow=38						
FITZ	**Fitzroy Crossi**	**90.73**	**123**	P	**P**	**05 32 55.6**	**-0.3**
	comp=Z,4.0nm,0.6s,mb4.9,baz=227,slow=2.8,SNR=3.2						
FITZ				LR	LR	06 07 41.0	
	comp=Z,198nm,19.0s,MS4.6,baz=282,slow=32						
VAE	**Valguarnera**	**91.44**	**5**	LR	LR	06 10 16.9	
	comp=Z,768nm,21.0s,MS5.1,baz=297,slow=33						
WRA	**Warramunga Arr**	**93.23**	**131**	P	**P**	**05 33 06.4**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.3,baz=208,slow=4.2,SNR=6.2						
HYB	**Hyderabad**	**93.24**	**65**	*e*P	**P**	**05 33 08.0**	**+0.6**
HYB	**Hyderabad**	**93.24**	**65**	*i* P	**P**	**05 33 08.0**	**+0.6**
WRAB	**Tennant Creek**	**93.24**	**131**	*e*P	**P**	**05 33 11.9**	**+4.5**
	comp=Z,13nm,1.2s,mb5.2						
TIP	**Timpagrande**	**93.28**	**7**	*e*P	**P**	**05 33 10.3**	**+3.2**
ESDC	**Sonseca Array**	**93.98**	**351**	P	**P**	**05 33 11.8**	**+1.5**
	comp=Z,0.7nm,0.6s,mb4.3,baz=172,slow=3.9,SNR=5.8						
MALT	**Malatya**	**95.83**	**24**	*e*P	**P**	**05 33 21.5**	**+2.6**
	comp=Z,9.8nm,1.3s,mb5.1						
BRTR	**Keskin Array B**	**96.13**	**20**	P	**P**	**05 33 22.0**	**+1.8**
	comp=Z,1.3nm,0.7s,mb4.4,baz=180,slow=4.9,SNR=6.5						
RKT	**Rikitea**	**96.60**	**214**	*e*LR	LR	06 04 59.1	
	comp=Z,769nm,30.0s						
RAO	**Raoul Island**	**96.81**	**175**	LR	LR	06 15 48.7	
	comp=Z,544nm,19.3s,MS5.0,baz=142,slow=35						
MLR	**Muntele Rosu**	**100.47**	**13**	PP	PP	05 37 45.1	-3.9
	comp=Z,0.9nm,0.3s,baz=168,slow=11,SNR=5.2						
SIM	**Simferopol'**	**101.26**	**19**	P	P	05 33 50.8	+7.6
SIM				MLR	MLR		
	comp=Z,500nm,20.0s,MS5.0						
GERES	**GERESS Array B**	**102.74**	**4**	PP	PP	05 38 05.2	-0.9
	comp=Z,0.3nm,0.2s,baz=194,slow=12,SNR=3.5						
AKASG	**Malin Array Be**	**106.03**	**14**	PP	PP	05 38 23.4	-6.9
	comp=Z,0.1nm,0.2s,baz=201,slow=6.9,SNR=4.3						
AAK	**Ala-Archa**	**112.01**	**47**	*i* PKIKP	PKPdf	05 38 28.3	-0.1
AAK	**Ala-Archa**	**112.01**	**47**	*e*PKPdf	PKPdf	05 38 26.4	-2.1
MOS	**Moscow**	**112.24**	**18**	*e*PKIKP	PKPdf	05 38 17.7	-11
FINES	**FINESS Array B**	**116.16**	**10**	PKP	PKPdf	05 38 34.3	-2.0
	comp=Z,0.5nm,0.5s,baz=45,slow=2.7,SNR=3.8						
MKAR	**Makanchi Array**	**118.70**	**49**	PKP	PKPdf	05 38 39.6	-1.9
	comp=Z,6.1nm,0.8s,baz=236,slow=1.3,SNR=36						
BVAR	**Borovoye Array**	**118.78**	**38**	PKP	PKPdf	05 38 40.0	-1.5
	comp=Z,6.3nm,0.8s,baz=225,slow=1,SNR=29						
BVAR				PKKPbc		05 48 57.2	
	comp=Z,0.7nm,0.5s,baz=27,slow=3.2,SNR=6.2						
WMQ	**Urumqi**	**118.95**	**55**	*e*PKP	PKPdf	05 38 41.3	-0.8
WMQ				*e*PP	PP	05 40 05.0	+1.1
WMQ				PKS	PKS	05 42 17.0	+1.6
WMQ				SKS	SKS	05 45 51.0	+12
WMQ				PP	PP		
	comp=Z,127nm,6.0s						
WMQ				LR	LR		
	comp=N,541nm,22.7s,MS5.2						
WMQ				LR	LR		
	comp=E,538nm,25.8s,MS5.2						
WMQ				LR	LR		
	comp=Z,504nm,24.2s,MS5.1						
CHKZ	**Chkalovo**	**119.39**	**37**	*e*PKIKP	PKPdf	05 38 41.1	-1.5
KURK	**Kurchatov**	**120.14**	**44**	*e*PKIKP	PKPdf	05 38 42.5	-1.6
KURK	**Kurchatov**	**120.14**	**44**	*e*PKPdf	PKPdf	05 38 42.3	-1.8
GTA	**Gaotai**	**121.89**	**66**	*e*PKP	PKPdf	05 38 46.5	-1.4
GTA				XPKP		05 38 56.0	
GTA				PP	PP	05 40 26.8	+3.2
GTA				PKS	PKS	05 42 21.5	+0.3
GTA				SKS	SKS	05 45 56.3	+7.6
GTA				SKKS		05 47 19.0	
GTA				SS	SS	05 57 03.3	+4.7
GTA				PP	PP		
	comp=Z,164nm,9.2s						
GTA				LR	LR		
	comp=N,319nm,20.2s,MS5.1						
GTA				LR	LR		
	comp=E,268nm,21.4s,MS5.1						
GTA				LR	LR		
	comp=Z,338nm,19.1s,MS5.0						
ARCES	**ARCESS Array B**	**124.05**	**7**	PKP	PKPdf	05 38 50.6	-0.8
	comp=Z,14nm,0.9s,baz=180,slow=2.4,SNR=15						
SCHQ	**Schefferville**	**124.65**	**317**	PKP	PKPdf	05 38 50.9	-1.8
	comp=Z,5.2nm,0.8s,baz=211,slow=2.8,SNR=8.1						
ZAL	**Zalesovo**	**125.07**	**45**	PKP	PKPdf	05 38 50.6	-2.9
	comp=Z,2.5nm,0.9s,baz=236,slow=3.2,SNR=15						
NVS	**Novosibirsk**	**125.08**	**43**	*e*PKIKP	PKPdf	05 38 49.7	-3.8
TXAR	**Lajitas Array**	**125.53**	**272**	PKP	PKPdf	05 38 53.5	-1.6
	comp=Z,4.1nm,1.0s,baz=153,slow=2.8,SNR=16						
WMOK	**Wichita Mounta**	**126.58**	**280**	*e*PKPdf	PKPdf	05 38 55.8	-1.0
NJ2	**Nanjing**	**127.41**	**85**	*e*PKP	PKPdf	05 38 57.3	-1.3
NJ2				SKKS		05 47 47.0	
NJ2				LR	LR		
	comp=N,970nm,22.1s,MS5.5						
NJ2				LR	LR		
	comp=E,590nm,21.2s,MS5.5						
NJ2				LR	LR		
	comp=Z,200nm,19.8s,MS4.8						
SSE	**Sheshan**	**128.09**	**88**	PKP	PKPdf	05 38 58.8	-1.2
SSE				PP	PP	05 41 00.5	-4.6
SSE				SS	SS	05 58 15.8	-0.6
SSE				PP	PP		
	comp=Z,22nm,10.1s						
SSE				LR	LR		
	comp=N,292nm,21.0s,MS5.0						
SSE				LR	LR		
	comp=E,229nm,21.0s,MS5.0						
SSE				LR	LR		
	comp=Z,349nm,17.1s,MS5.1						
CPRX	**Cap Rock**	**128.33**	**275**	*e*PKPdf	PKPdf	05 38 59.6	-0.8
HHC	**Hu-ho-hao-te**	**129.34**	**72**	*e*PKP	PKPdf	05 38 58.0	-4.1
HHC				PKS	PKS	05 42 33.0	-2.1
HHC				SKS	SKS	05 46 09.5	-1.0
HHC				PP	PP		
	comp=Z,182nm,14.3s						
HHC				LR	LR		
	comp=N,221nm,26.2s						
HHC				LR	LR		
	comp=E,253nm,20.2s						
HHC				LR	LR		
	comp=Z,190nm,34.5s						
SUMG	**Summit**	**130.41**	**343**	*e*PKPdf	PKPdf	05 39 02.4	-0.9
SONM	**Songino Array**	**131.12**	**62**	PKP	PKPdf	05 39 04.0	-1.3
	comp=Z,2.7nm,0.8s,baz=217,slow=1.7,SNR=20						
SONM				PP	PP	05 41 23.6	-1.2
	comp=Z,0.3nm,1.0s,baz=225,slow=6.1,SNR=3.6						
ZAK	**Zakamensk**	**131.15**	**58**	*e*PKIKP	PKPdf	05 39 03.8	-1.5
ZAK				pmax	pmax		
	comp=Z,4.0nm,2.0s						
ANMO	**Albuquerque**	**131.20**	**275**	*i* PKIKP	PKPdf	05 39 05.0	-0.8
ANMO	**Albuquerque**	**131.20**	**275**	PKP	PKPdf	05 39 04.8	-1.1
	comp=Z,2.8nm,1.0s,baz=163,slow=5.1,SNR=5.5						
ANMO	**Albuquerque**	**131.20**	**275**	*e*PKPdf	PKPdf	05 39 04.5	-1.3
ANMO				PKP	PKPdf	05 39 04.8	-1.1
BJI	**Beijing**	**131.41**	**76**	PKP	PKPdf	05 38 59.5	-6.6
BJI				LR	LR		
	comp=N,189nm,17.5s,MS5.1						
BJI				LR	LR		
	comp=E,224nm,15.6s,MS5.1						
BJI				LR	LR		
	comp=Z,100nm,31.3s						
FRB	**Frobisher Bay**	**131.45**	**325**	PKP	PKPdf	05 39 04.0	-1.5
	comp=Z,7.3nm,1.0s,baz=198,slow=2.9,SNR=6.6						
ULN	**Ulaanbaatar**	**131.48**	**62**	*i* PKIKP	PKPdf	05 39 03.3	-2.7
ULN	**Ulaanbaatar**	**131.48**	**62**	*e*PKPdf	PKPdf	05 39 05.4	-0.6
TLY	**Talaya**	**132.13**	**57**	*e*PKIKP	PKPdf	05 39 05.7	-1.4
TLY				pmax	pmax		
	comp=Z,3.0nm,1.0s						
TLY	**Talaya**	**132.13**	**57**	*e*PKPdf	PKPdf	05 39 06.1	-1.0
SDCO	**Great Sand Dun**	**132.57**	**278**	*e*PKPdf	PKPdf	05 39 07.5	-0.9
PV10	**Paradox Valley**	**135.06**	**276**	*e*PKPdf	PKPdf	05 39 12.0	-0.9
ULM	**Lac du Bonnet**	**135.11**	**298**	PKP	PKPdf	05 39 12.3	-0.4
	comp=Z,3.5nm,0.9s,baz=152,slow=1.3,SNR=4.8						
ULM				PP	PP	05 41 51.4	+1.8
	comp=Z,0.8nm,0.4s,baz=190,slow=6.1,SNR=3.5						
RSSD	**Black Hills**	**135.87**	**286**	*e*PKPdf	PKPdf	05 39 13.7	-0.6
MSU	**Marysvale**

s-maj=21.4km s-min=12.3km az=85.0
*GUC **31** 05:26:33.6±0.8,22.92N×66.95W,h289km±10km,ML4.2*
ISC 31 05:26:31.8±0.7,23.05N±0.04×66.16W±0.10,h242km±9km, n35,σ1§30/39,mb4.0/13,4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPCH	**San Pedro de A**	**1.89**	**274**	⇑*iP*	**P**	**05 27 15.4**	**+2.5**
SPCH				*i* S	**S**	**05 27 47.9**	**+3.2**
SPCH				AMP		05 27 54.2	
	comp=N,528nm,0.2s						
LVC	**Limon Verde**	**2.58**	**279**	⇑*iP*	**P**	**05 27 21.0**	**+1.3**
LVC				*i* S	**S**	**05 27 56.1**	**-0.7**
LVC				AMP		05 27 57.5	
	comp=E,952nm,0.4s						
LVC	**Limon Verde**	**2.58**	**279**	*e*Pn	**P**	**05 27 19.9**	**+0.2**
LVC				*e*S	**S**	**05 27 55.9**	**-1.0**
ANCH	**Antofagasta**	**3.96**	**260**	⇑*iP*	**P**	**05 27 36.8**	**+1.5**
ANCH				*i* S	**S**	**05 28 26.1**	**+1.6**
CPN1	**Cerro Paranal**	**4.19**	**247**	⇑*iP*	**P**	**05 27 38.7**	**+0.6**
CPN1				*i* S	**S**	**05 28 27.9**	**-1.8**
CPCH	**Copiapo**	**5.73**	**221**	*e*P	**P**	**05 27 56.7**	**-0.3**
CPCH				*i* S	**S**	**05 29 02.6**	**-0.8**
LPAZ	**La Paz**	**6.98**	**344**	P	**P**	**05 28 13.4**	**+0.6**
	comp=E,15nm,0.3s,baz=157,slow=9.5,SNR=317						
LPAZ				S	**S**	**05 29 31.3**	**-0.6**
	baz=268,slow=21,SNR=5.2						
LPAZ	**La Paz**	**6.98**	**344**	*e*Pn	**P**	**05 28 13.0**	**+0.2**
LPAZ				*e*S	**S**	**05 29 31.2**	**-0.7**
ARE	**Arequipa**	**8.26**	**322**	*e*P	**P**	**05 28 27.0**	**-2.1**
ARE				*e*S	rx	05 28 56.0	
CFAA	**Coronel Fontan**	**8.72**	**192**	P	**P**	**05 28 35.1**	**+0.1**
	comp=E,1.5nm,0.3s,baz=12,slow=13,SNR=97						
CFAA				S	**S**	**05 30 07.7**	**-3.8**
	comp=E,3.8nm,0.3s,baz=266,slow=23,SNR=20						
ZON	**Zonda**	**8.75**	**194**	*e*P	**P**	**05 28 35.0**	**-0.4**
ZON				*e*S	**S**	**05 30 09.0**	**-3.3**
SAML	**Samuel**	**14.31**	**12**	*e*P	**P**	**05 29 43.1**	**-2.2**
	comp=E,3.9nm,0.6s						
TRQA	**Tornquist**	**15.38**	**167**	*e*P	**P**	**05 29 58.1**	**-0.1**
	comp=E,8.5nm,0.4s						
PLCA	**Paso Flores**	**18.01**	**191**	P	**P**	**05 30 27.8**	**+0.6**
	comp=E,0.7nm,0.3s,baz=9.5,slow=13,SNR=18						
PLCA	**Paso Flores**	**18.01**	**191**	*e*P	**P**	**05 30 27.7**	**+0.5**
	comp=E,12nm,0.9s						
BDFB	**Brasilia**	**18.63**	**70**	P	**P**	**05 30 34.0**	**+0.4**
	comp=E,3.4nm,0.3s,baz=256,slow=11,SNR=32						
OTAV	**Otavalo**	**26.06**	**331**	*e*P	**P**	**05 31 51.1**	**+6.0**
	comp=E,2.2nm,0.8s,mb3.8						
ROSC	**El Rosal**	**28.86**	**343**	P	**P**	**05 32 12.3**	**+1.9**
	comp=E,1.2nm,0.4s,mb3.9,baz=90,slow=19,SNR=2.0						
RCBR	**Riachuelo**	**33.81**	**64**	*e*P	**P**	**05 32 52.6**	**-0.7**
	comp=E,15nm,0.7s,mb4.6						
JTS	**JuntasAbangare**	**37.91**	**329**	*e*P	**P**	**05 33 24.5**	**-3.1**
	comp=E,6.1nm,1.0s,mb4.1						
SNAA	**Sanae**	**59.99**	**161**	P	**P**	**05 36 15.6**	**+1.1**
	comp=E,1.2nm,1.0s,mb3.5,baz=36,slow=15,SNR=3.4						
WVT	**Waverly**	**62.33**	**340**	*e*P	**P**	**05 36 28.2**	**-2.5**
	comp=E,2.1nm,0.7s,mb3.9						
DBIC	**Dimbokro**	**66.77**	**71**	P	**P**	**05 36 58.6**	**-0.9**
	comp=E,8.1nm,0.8s,mb4.4,baz=213,slow=7.8,SNR=15						
SCHQ	**Schefferville**	**77.57**	**360**	*e*P	**P**	**05 38 02.0**	**-0.3**
	comp=E,8.8nm,1.1s,mb4.3						
BOSA	**Boshof**	**80.47**	**117**	P	**P**	**05 38 18.9**	**+0.5**
	comp=E,2.3nm,0.8s,mb3.8,baz=237,slow=2.9,SNR=3.2						
ESDC	**Sonseca Array**	**85.18**	**43**	P	**P**	**05 38 42.8**	**+0.7**
	comp=E,2.8nm,0.8s,mb4.0,baz=243,slow=4.5,SNR=11						
ESLA	**Sonseca Array**	**85.18**	**43**	*e*P	**P**	**05 38 43.0**	**+0.8**
	comp=E,1.3nm,0.9s,mb3.7						
CASY	**Casey**	**90.91**	**179**	*e*P	**P**	**05 39 12.3**	**+3.7**
	comp=E,10nm,1.1s,mb4.7						
YKA	**Yellowknife Ar**	**93.51**	**340**	P	**P**	**05 39 21.5**	**+0.8**
	comp=E,0.5nm,0.7s,mb3.7,baz=129,slow=4.5,SNR=14						
ASAR	**Alice Springs**	**129.63**	**204**	PKP	PKPdf	05 45 15.6	+2.9
	comp=E,0.6nm,0.7s,baz=145,slow=2.3,SNR=5.0						
WRA	**Warramunga Arr**	**132.82**	**207**	PKP	PKPdf	05 45 21.5	+2.7
	comp=E,1.0nm,1.0s,baz=176,slow=1.9,SNR=6.8						
BVAR	**Borovoye Array**	**135.58**	**36**	PKP	PKPdf	05 45 26.1	+3.1
	comp=E,0.6nm,0.5s,baz=315,slow=2.0,SNR=3.4						
ZAL	**Zalesovo**	**142.20**	**28**	PKP	PKPdf	05 45 37.3	+2.5
	comp=E,0.9nm,0.5s,baz=207,slow=5.2,SNR=3.6						
MKAR	**Makanchi Array**	**145.30**	**39**	PKPbc	PKPbc	05 45 43.5	+2.3
	comp=E,8.3nm,0.7s,baz=311,slow=3.2,SNR=71						
SONM	**Songino Array**	**154.56**	**12**	PKP	PKPdf	05 45 58.5	+4.1
	comp=E,0.6nm,0.7s,baz=180,slow=1.2,SNR=3.9						
SONM				PKPbc	PKPdf	05 46 06.4	+12
	comp=E,0.6nm,0.5s,baz=324,slow=1.2,SNR=5.2						
SONM				PKPab	PKPab	05 46 21.8	+0.5
	comp=E,0.8nm,0.6s,baz=325,slow=3.8,SNR=5.9						

*IDC **31** 05:40:43.0±1.9,0.76N×97.33E,mb3.9/6,mb1 4.0/6, mb1mx3.8/19,mbtmp3.9/6,Error ellipse: s-maj=90.5km s-min=20.7km az=54.0*
*NEIC **31** 05:40:47.6±0.9,0.80N×97.55E,h30km,mb4.4/3,Error ellipse: s-maj=22.3km s-min=11.3km az=62.0*
ISC 31 05:40:45.7±0.9,0.8N±0.1×97.6E±0.1,h30km,n14, σ1§15/14,mb4.0/9,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.41**	**35**	*e*Pn	**Pn**	**05 42 07.8**	**+1.3**
CM31	**Chiang Mai Arr**	**17.59**	**4**	P	**P**	**05 44 49.6**	**-0.8**
KKM	**Kota Kinabalu**	**19.33**	**74**	P	**P**	**05 45 09.3**	**-2.3**
LSA	**Lhasa**	**29.37**	**349**	P	**P**	**05 46 48.9**	**+0.4**
	5.7nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**41.53**	**122**	P	**P**	**05 48 33.4**	**+1.0**
	0.8nm,0.6s,mb3.6,baz=301,slow=8.9,SNR=6.6						
WRAB	**Tennant Creek**	**41.53**	**122**	P	**P**	**05 48 31.6**	**-0.8**
ASAR	**Alice Springs**	**42.88**	**127**	P	**P**	**05 48 45.0**	**+1.5**
	0.7nm,0.6s,mb3.6,baz=298,slow=7.7,SNR=10						
SONM	**Songino Array**	**47.46**	**8**	P	**P**	**05 49 20.3**	**+0.5**
	1.2nm,0.8s,mb3.9,baz=191,slow=9.2,SNR=8.5						
SONM				PcP	PcP	05 50 50.6	+0.5
	0.4nm,0.7s,baz=188,slow=3.5,SNR=2.5						
ULN	**Ulaanbaatar**	**47.58**	**9**	P	**P**	**05 49 21.5**	**+0.8**
	1.9nm,0.9s,mb4.1						
MKAR	**Makanchi Array**	**47.70**	**346**	P	**P**	**05 49 22.3**	**+0.7**
	3.3nm,0.7s,mb4.5,baz=163,slow=7.4,SNR=4.8						
STKA	**Stephens Creek**	**52.83**	**132**	P	**P**	**05 50 00.2**	**-0.8**
BVAR	**Borovoye Array**	**56.73**	**341**	P	**P**	**05 50 27.1**	**-1.9**
	1.4nm,0.8s,mb4.0,baz=164,slow=10,SNR=5.3						
CHKZ	**Chkalovo**	**57.20**	**341**	P	**P**	**05 50 28.6**	**-3.8**
	4.1nm,0.9s,mb4.5						
FINES	**FINESS Array B**	**80.50**	**332**	P	**P**	**05 52 56.3**	**+0.1**
	0.6nm,0.5s,mb3.8,baz=121,slow=8.1,SNR=3.6						

CASC 31 05:43:56.0±1.4,12.59N×88.23W,h40km±999km,MD3.5, ML2.6,6C-4D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.78**	**29**	⇑*eP*	P	05 44 10.9	+0.3
CNCH				*e*S	S	05 44 22.6	+1.3
BLLM	**Bellamira**	**0.84**	**359**	⇓*eP*	P	05 44 11.8	+0.3
BLLM				*e*S	S	05 44 23.6	+0.7
CRIN	**San Cristobal**	**1.15**	**85**	⇑*eP*	P	05 44 16.0	+0.1
CRIN				*e*S	S	05 44 31.5	+0.8
SNVI	**San Vicente**	**1.18**	**330**	⇑*eP*	P	05 44 16.9	+0.7
SNVI				*e*S	S	05 44 31.2	-0.1
LCBS	**La Ceiba**	**1.28**	**325**	⇑*eP*	P	05 44 17.7	0.0
LCBS				*e*S	S	05 44 34.4	+0.2
LFRS	**El Faro**	**1.31**	**322**	⇓*eP*	P	05 44 18.1	-0.1
LFRS				*e*S	S	05 44 34.0	-0.7
LEON	**Leon**	**1.31**	**98**	*eP*	P	05 44 17.1	-1.2
TEL3	**Telica 3**	**1.35**	**91**	⇑*eP*	P	05 44 18.2	-0.6
TELN	**Telica**	**1.36**	**89**	⇓*eP*	P	05 44 18.5	-0.5
LFU	**La Fuente**	**1.44**	**323**	*eP*	P	05 44 20.1	+0.1
MIRN	**Miramar**	**1.49**	**96**	⇓*eP*	P	05 44 20.0	-0.8
BOQS	**Boqueron**	**1.53**	**318**	*eP*	P	05 44 21.2	-0.2
BOQS				*e*S	S	05 44 40.2	-0.1
MOMJ	**Momotombo**	**1.66**	**96**	*eP*	P	05 44 22.2	-0.9
SBLS	**San Blas**	**1.84**	**312**	*eP*	P	05 44 26.3	+0.5
SBLS				*e*S	S	05 44 49.0	+1.1
APYN	**Apoyeque**	**1.87**	**101**	⇑*eP*	P	05 44 25.4	-0.7
RTR	**El Retiro**	**1.90**	**313**	*eP*	P	05 44 27.2	+0.7
RTR				*e*S	S	05 44 49.6	+0.3
MGAN	**Managua**	**1.98**	**103**	*eP*	P	05 44 26.7	-1.0
MGAN				*e*S	S	05 44 51.7	+0.2
	comp=N,52nm,0.3s						
RBDL	**Robledal**	**2.07**	**317**	*eP*	P	05 44 29.9	+0.8

*NNC **31** 05:45:48.3±1.6,46.81N×83.27E,mpv3.0,Error ellipse:*
s-maj=18.4km s-min=8.6km az=172.0
BJI 31 05:45:46.2,46.77N×83.19E,h8km,ML3.4,2C-2D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**0.62**	**273**	⇑P	Pg	05 46 01.4	+2.8
	9.2nm,0.2s,baz=94,slow=17,SNR=4867						
MK31				⇑S	Sg	05 46 11.0	+4.0
	27nm,0.2s,baz=84,slow=29,SNR=26						
WMQ	**Urumqi**	**4.33**	**131**	P	Pn	05 46 53.5	-0.5
WMQ				S	Sn	05 47 41.5	-3.9
WMQ				Smax			
	comp=N,74nm,1.0s						
WMQ				Smax			
	comp=E,77nm,0.8s						
KURK	**Kurchatov**	**4.97**	**324**	⇓Pn	Pn	05 47 04.8	+1.8
	comp=E,1.2nm,0.6s						
KURK				⇓Lg		05 48 24.0	
	comp=E,16nm,0.5s						

*BJI **31** 05:50:53.0,1.36N×97.05E,h38km,mB5.1,mb4.9,Ms4.3, Msz4.1*
*IDC **31** 05:50:54.1±0.7,1.92N×96.61E,mb4.2/16,mb1 4.4/16, mb1mx4.2/22,mbtmp4.2/16,MS4.2/4,Ms1 4.2/4, ms1mx3.9/20,Error ellipse: s-maj=27.4km s-min=14.5km az=54.0*
*NEIC **31** 05:50:58.7±0.3,1.93N×96.70E,h30km,mb4.6/17,Error ellipse: s-maj=8.9km s-min=5.3km az=49.0*
*MOS **31** 05:51:00.0±1.3,2.57N×97.63E,h33km,mb4.9/4,Error ellipse: s-maj=42.7km s-min=12.3km az=99.2*
ISC 31 05:50:57.4±0.5,1.96N±0.07×96.74E±0.08,h33km,n64, σ0§59/59,mb4.5/35,MS4.2/6,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.11**	**50**	*e*Pn	**Pn**	**05 52 13.8**	**0.0**
CM31	**Chiang Mai Arr**	**16.53**	**7**	*eP*	**P**	**05 54 49.5**	**+1.0**
	30nm,0.8s						
CHG	**Chiang Mai**	**16.88**	**7**	P	**P**	**05 54 54.4**	**+1.5**
NANT	**Nan**	**17.18**	**13**	P	**P**	**05 54 58.0**	**+1.4**
KKM	**Kota Kinabalu**	**19.84**	**78**	P	**P**	**05 55 27.6**	**-0.9**
HYB	**Hyderabad**	**23.57**	**312**	*eP*	**P**	**05 56 10.0**	**+3.9**
HYB	**Hyderabad**	**23.57**	**312**	*iP*	**P**	**05 56 10.0**	**+3.9**
JIRN	**Jiri**	**27.48**	**339**	*eP*	**P**	**05 56 43.3**	**+0.4**
	31nm,0.8s,mb4.9						
PKI	**Pulchoki**	**27.68**	**338**	*eP*	**P**	**05 56 45.3**	**+0.6**
	10nm,0.6s,mb4.6						
PKI	**Pulchoki**	**27.68**	**338**	*eP*	**P**	**05 56 45.3**	**+0.6**
PKI				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.3						
GUN	**Gumba**	**27.82**	**339**	*eP*	**P**	**05 56 46.5**	**+0.5**
	comp=Z,105nm,1.4s,mb5.3						
DMN	**Daman**	**27.83**	**337**	*eP*	**P**	**05 56 46.8**	**+0.7**
	comp=Z,24nm,0.9s,mb4.8						
KKN	**Kakani**	**27.93**	**338**	*eP*	**P**	**05 56 47.2**	**+0.2**
	comp=Z,21nm,0.8s,mb4.8						
LSA	**Lhasa**	**28.09**	**350**	P	**P**	**05 56 50.0**	**+1.6**
LSA	**Lhasa**	**28.09**	**350**	*eP*	**P**	**05 56 48.6**	**+0.2**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
LSA	**Lhasa**	**28.09**	**350**	*eP*	**P**	**05 56 48.5**	**+0.1**
	comp=Z,10nm,0.8s,mb4.5						
GKN	**Gorkha**	**28.36**	**337**	*eP*	**P**	**05 56 51.1**	**+0.2**
	comp=Z,12nm,0.5s,mb4.8						
KOLN	**Koldanda**	**28.58**	**335**	*eP*	**P**	**05 56 53.2**	**+0.4**
	comp=Z,20nm,0.7s,mb4.9						
XAN	**Xi'an**	**33.88**	**18**	P	**P**	**05 57 37.3**	**-2.0**
XAN				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.4						
FITZ	**Fitzroy Crossi**	**34.74**	**126**	P	**P**	**05 57 47.0**	**+0.1**
	comp=Z,4.8nm,0.8s,mb4.5,baz=175,slow=3.8,SNR=4.1						
GTA	**Gaotai**	**37.38**	**4**	*eP*	**P**	**05 58 09.0**	**0.0**
GTA				PP	PP	05 59 35.8	-1.3
GTA				S	**S**	**06 03 52.0**	**-2.3**
GTA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,134nm,4.4s						
GTA				LR	LR		
	comp=N,196nm,20.2s,MS4.1						
GTA				LR	LR		
	comp=E,221nm,21.3s,MS4.1						
GTA				LR	LR		
	comp=Z,104nm,19.0s,MS3.6						
JOW	**Kunigami**	**39.06**	**48**	P	**P**	**05 58 23.4**	**+0.2**
	comp=Z,5.7nm,0.5s,mb4.5,baz=82,slow=20,SNR=2.7						
HHC	**Hu-ho-hao-te**	**40.96**	**17**	*eP*	**P**	**05 58 40.0**	**+1.2**
HHC				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**42.82**	**122**	P	**P**	**05 58 55.0**	**+0.6**
	comp=Z,2.8nm,0.6s,mb4.1,baz=302,slow=9.0,SNR=18						
WRAB	**Tennant Creek**	**42.83**	**122**	*eP*	**P**	**05 58 54.6**	**+0.2**
	comp=Z,16nm,1.0s,mb4.7						
ASAR	**Alice Springs**	**44.22**	**127**	P	**P**	**05 59 06.5**	**+0.9**
	comp=Z,2.2nm,0.8s,mb3.9,baz=306,slow=8.0,SNR=16						
AAK	**Ala-Archa**	**45.12**	**337**	*iP*	**P**	**05 59 12.8**	**+0.2**
AAK	**Ala-Archa**	**45.12**	**337**	*eP*	**P**	**05 59 12.2**	**-0.5**
	comp=Z,8.3nm,1.1s,mb4.5						
MKAR	**Makanchi Array**	**46.40**	**346**	P	**P**	**05 59 22.7**	**+0.1**
	comp=Z,9.7nm,0.8s,mb4.8,baz=159,slow=8.1,SNR=66						
SONM	**Songino Array**	**46.45**	**9**	P	**P**	**05 59 23.0**	**0.0**
	comp=Z,5.1nm,0.9s,mb4.5,baz=190,slow=8.7,SNR=32						
SONM				PcP	PcP	06 00 58.5	+0.6
	comp=Z,1.1nm,0.8s,baz=190,slow=2.6,SNR=3.5						
ULN	**Ulaanbaatar**	**46.59**	**10**	*iP*	**P**	**05 59 24.4**	**+0.3**
ULN	**Ulaanbaatar**	**46.59**	**10**	*eP*	**P**	**05 59 24.1**	**0.0**
	comp=Z,7.5nm,1.1s,mb4.5						
ZAK	**Zakamensk**	**48.56**	**6**	*eP*	**P**	**05 59 38.2**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
KURK	**Kurchatov**	**50.94**	**345**	⇑*iP*	**P**	**05 59 57.6**	**-0.2**
KURK	**Kurchatov**	**50.94**	**345**	*eP*	**P**	**05 59 57.5**	**-0.2**
	comp=Z,12nm,1.1s,mb4.8						
HIA	**Hailar**	**51.07**	**19**	*eP*	**P**	**05 59 58.6**	**-0.1**
	comp=Z,5.9nm,1.0s,mb4.5						
ZAL	**Zalesovo**	**52.73**	**351**	P	**P**	**06 00 10.7**	**-0.5**
	comp=Z,6.9nm,0.7s,mb4.7,baz=292,slow=5.4,SNR=37						
CTA	**Charters Tower**	**53.25**	**117**	LR	LR	06 23 04.6	
	comp=Z,202nm,20.6s,MS4.2,baz=235,slow=36						
CTAO	**Charters Tower**	**53.25**	**117**	*eP*	**P**	**06 00 16.5**	**+1.0**
NVS	**Novosibirsk**	**53.85**	**350**	*eP*	**P**	**06 00 17.0**	**-2.4**
BVAR	**Borovoye Array**	**55.38**	**341**	P	**P**	**06 00 29.8**	**-0.9**
	comp=Z,2.8nm,0.7s,mb4.4,baz=135,slow=8.4,SNR=17						
KLR	**Kul'dur**	**55.78**	**27**	*eP*	**P**	**06 00 30.0**	**-3.6**
CHKZ	**Chkalovo**	**55.86**	**342**	*eP*	**P**	**06 00 33.2**	**-0.9**
CHKZ				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
CHKZ	**Chkalovo**	**55.86**	**342**	*eP*	**P**	**06 00 33.2**	**-0.8**
	comp=Z,12nm,1.0s,mb4.9						
BOD	**Bodaibo**	**57.35**	**11**	*eP*	**P**	**06 00 42.7**	**-2.0**
KMBO	**Kilima Mbogo**	**59.56**	**268**	LR	LR	06 22 29.8	
	comp=Z,204nm,19.0s,MS4.3,baz=101,slow=32						
SVE	**Sverdlovsk**	**61.81**	**338**	*eP*	**P**	**06 01 16.0**	**+0.6**
SVE				*e*		06 01 32.0	
BRTR	**Keskin Array B**	**68.26**	**312**	P	**P**	**06 01 56.6**	**-0.7**
	comp=Z,0.6nm,0.5s,mb3.9,baz=79,slow=7.3,SNR=3.3						
MA2	**Magadan**	**70.85**	**26**	*eP*	**P**	**06 02 08.0**	**-4.7**
MA2				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
MA2	**Magadan**	**70.85**	**26**	*eP*	**P**	**06 02 08.0**	**-4.7**
	comp=Z,19nm,1.2s,mb4.9						
OBN	**Obninsk**	**71.73**	**328**	P	**P**	**06 02 23.0**	**+4.9**
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
TIXI	**Tiksi**	**72.52**	**10**	*iP*	**P**	**06 02 20.8**	**-1.6**
MAW	**Mawson**	**73.35**	**193**	P	**P**	**06 02 26.3**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.2,baz=78,slow=9.3,SNR=3.6						
AKASG	**Malin Array Be**	**74.38**	**322**	P	**P**	**06 02 32.9**	**-0.8**
	comp=Z,0.4nm,0.3s,mb3.8,baz=90,slow=5.3,SNR=6.3						
BOSA	**Boshof**	**74.77**	**240**	LR	LR	06 32 37.0	
	comp=Z,177nm,18.9s,MS4.4,baz=255,slow=34						
MLR	**Muntele Rosu**	**75.20**	**317**	P	**P**	**06 02 39.4**	**+0.7**
	comp=Z,1.7nm,0.8s,mb4.0,baz=314,slow=21,SNR=2.7						
FINES	**FINESS Array B**	**79.12**	**333**	P	**P**	**06 03 00.3**	**+0.2**
	comp=Z,1.9nm,0.7s,mb4.1,baz=104,slow=7.9,SNR=8.2						
ARCES	**ARCESS Array B**	**81.67**	**340**	P	**P**	**06 03 13.8**	**+0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=84,slow=4.7,SNR=12						
GERES	**GERESS Array B**	**83.94**	**319**	P	**P**	**06 03 26.6**	**+0.9**
	comp=Z,0.2nm,0.3s,mb3.7,baz=100,slow=8.1,SNR=6.5						
NB2	**NORSAR Subarra**	**86.12**	**331**	P	**P**	**06 03 36.7**	**+0.6**
	comp=Z,1.5nm,0.9s,mb4.2,baz=92,slow=5.8						
NOA	**NORSAR Array B**	**86.12**	**331**	P	**P**	**06 03 36.8**	**+0.7**
	comp=Z,1.1nm,0.9s,mb4.1,baz=94,slow=5.0,SNR=3.8						
NOA				LR	LR	06 46 32.1	
	comp=Z,142nm,20.3s,MS4.4,baz=200,slow=39						
TBI	**Tubuai**	**112.58**	**114**	*e*LR	LR	06 06 36.7	
	comp=Z,905nm,35.2s						
PPT	**Papeete**	**113.15**	**108**	*e*LR	LR	06 09 07.7	
	comp=Z,1µm,23.2s						
TXAR	**Lajitas Array**	**143.25**	**31**	PKP	PKPdf	06 10 28.9	-0.1
	comp=Z,0.2nm,0.5s,baz=288,slow=4.0,SNR=4.5						

*MOS **31** 06:06:51.6±1.0,36.43N×3.19W,h10km,mb4.2/2,Error ellipse: s-maj=12.3km s-min=5.1km az=82.1*
*IDC **31** 06:06:53.6±1.4,36.46N×2.71W,mb3.6/6,mb1 3.9/7, mb1mx3.6/25,mbtmp3.6/7,ML4.3/1,Error ellipse: s-maj=30.2km s-min=24.2km az=41.0*
*CSEM **31** 06:06:53.9±0.1,36.31N×3.17W,h12km,mb4.2/1, ML4.2/13,Error ellipse: s-maj=1.5km s-min=1.4km az=112.0*
*INMG **31** 06:06:54.8±1.4,36.40N×3.33W,h9km±3km,ML3.6,Error ellipse: s-maj=2.3km s-min=2.2km az=162.0*
*NEIC **31** 06:06:54.3,36.42N×3.30W,h3km,MN3.6(MDD),After MDD.*
NEIC Felt [III] at Aguadulce, Almeria, El Ejido and Motril; [II] at Adra and Roquetas de Mar, Spain.
*SFS **31** 06:06:54.0,36.41N×3.31W*
*MDD **31** 06:06:54.1±0.2,36.41N×3.32W,mbLg3.6/30,Error ellipse: s-maj=2.3km s-min=1.6km az=67.0,II-III A II ADRA ROQUETAS DE MAR PRXIMO*
MDD EMS: III EL EJIDO MOTRIL.
*CRAAG **31** 06:06:54.1,36.34N×3.29W,Mb3.7*
*LDG **31** 06:06:55.0±0.2,36.35N×3.32W,h10km,Md4.3/1,Ml4.2/4, Error ellipse: s-maj=4.7km s-min=4.0km az=165.0*
*CNRM **31** 06:06:55.4,36.47N×3.21W,h33km,MD3.9*
ISC 31 06:06:51.5±0.2,36.44N±0.01×3.29W±0.02,h10km,n188, σ1§37/278,mb3.6/6,1C-5D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EALB	**Alboran**	**0.54**	**157**	⇓Pg	**Pg**	**06 07 04.1**	**+1.7**
EALB				Lg		06 07 10.9	
EALB	**Alboran**	**0.54**	**157**	⇓Pg	**Pg**	**06 07 04.1**	**+1.7**
	5µm,0.3s,SNR=18						
EALB				Lg		06 07 11.1	
	16µm,0.2s,SNR=18						
EBER	**Berja**	**0.56**	**35**	⇑Pg	**Pg**	**06 07 04.8**	**+1.9**
	1µm,0.3s,SNR=18						
EBER				Lg		06 07 13.5	
	7µm,0.3s						
EBER	**Berja**	**0.56**	**35**	Pg	**Pg**	**06 07 04.8**	**+1.9**
	542nm,0.3s,SNR=18						
ERON	**Agron**	**0.71**	**325**	Pg	**Pg**	**06 07 07.9**	**+2.1**
ERON	**Agron**	**0.71**	**325**	⇓Pg	**Pg**	**06 07 07.8**	**+2.0**
	156nm,0.1s,SNR=18						
ERON	**Agron**	**0.71**	**325**	Pg	**Pg**	**06 07 07.9**	**+2.0**
ECOG	**Cogollos-Vega**	**0.87**	**345**	⇓Pg	**Pg**	**06 07 11.3**	**+2.4**
	342nm,0.2s,SNR=18						
EMAL	**Malaga-Limoner**	**0.97**	**290**	Pg	**Pg**	**06 07 10.7**	**-0.3**
	31nm,0.2s,SNR=7.9						
EMAL				Lg		06 07 23.5	
	168nm,0.2s,SNR=7.9						
ELOJ	**Sierra Loja**	**0.99**	**316**	Pg	**Pg**	**06 07 12.7**	**+1.3**
ELOJ				Lg		06 07 24.7	
ELOJ	**Sierra Loja**	**0.99**	**316**	Pg	**Pg**	**06 07 12.7**	**+1.3**
	76nm,0.2s,SNR=43						
ELOJ				Lg		06 07 25.1	
	198nm,0.3s,SNR=14						
ENIJ	**Nijar**	**1.02**	**58**	P	**Pb**	**06 07 11.8**	**+0.9**
ENIJ	**Nijar**	**1.02**	**58**	Pg	**Pg**	**06 07 12.2**	**+0.2**
	461nm,0.3s,SNR=259						
ENIJ	**Nijar**	**1.02**	**58**	Pg	**Pg**	**06 07 11.9**	**-0.1**
	461nm,0.3s,SNR=259						
EMEL	**Melilla**	**1.17**	**166**	Pg	**Pg**	**06 07 14.2**	**-0.6**
	615nm,0.1s,SNR=18						
EMEL				Lg		06 07 29.2	
	3µm,0.2s,SNR=11				

196nm,0.4s,SNR=7.9
EMUR Sn **Sn** **06 07 53.9 -1.2**
335nm,0.3s
EMUR La Murta 2.16 49 Pn **Pn** **06 07 28.7 +0.6**
19nm,0.3s,SNR=21
EMUR La Murta 2.16 49 Pg **Pg** **06 07 32.8 -1.9**
247nm,0.4s,SNR=7.9
EMUR Sn **Sn** **06 07 53.9 -1.2**
262nm,0.4s
CART Cartagena 2.16 57 *e*Pn **Pn** **06 07 25.4 -2.7**
CART Cartagena 2.16 57 *e*Pn **Pn** **06 07 25.5 -2.7**
GIBL Gibalbin 2.19 281 Pg **Pg** **06 07 34.5 -0.7**
GIBL Gibalbin 2.19 281 *e*P **Pn** **06 07 34.5 +6.0**
CNIL Conil 2.23 269 Pg **Pg** **06 07 35.0 -1.1**
CNIL Lg 06 08 07.1
CNIL Conil 2.23 269 *e*P **Pn** **06 07 35.0 +5.9**
EVIA Vianos 2.29 16 Pn **Pn** **06 07 32.8 +2.9**
18nm,0.3s,SNR=40
EVIA Pg **Pg** **06 07 37.4 +0.2**
358nm,0.4s,SNR=7.9
EVIA Lg 06 08 06.7
277nm,0.2s,SNR=7.9
EVIA Vianos 2.29 16 Pn **Pn** **06 07 32.2 +2.3**
EVIA Vianos 2.29 16 Pg **Pg** **06 07 37.4 +0.2**
769nm,0.6s,SNR=7.9
SCRT Cerro San Cris 2.33 276 Pg **Pg** **06 07 36.3 -1.8**
SCRT Cerro San Cris 2.33 276 *e*P **Pn** **06 07 36.3 +5.8**
USTO Oran 2.33 107 P **Pn** **06 07 38.0 +7.5**
OTSS Djebel Tessala 2.33 119 P **Pn** **06 07 31.0 +0.4**
ECAB El Cabril 2.36 315 Pg **Pg** **06 07 36.0 -2.6**
ECAB Sn **Sn** **06 08 05.2 +5.1**
ECAB El Cabril 2.36 315 Pg **Pg** **06 07 36.3 -2.3**
23nm,0.2s,SNR=7.9
ECAB Lg 06 08 08.1
370nm,0.6s,SNR=7.9
ECAB El Cabril 2.36 315 Pg **Pg** **06 07 36.3 -2.3**
4.1nm,0.1s,SNR=7.9
ECAB Sn **Sn** **06 08 05.2 +5.0**
TSY Tnine Yamani 2.42 245 *i* P **Pn** **06 07 32.5 +0.7**
TSY *i* S **Sn** **06 08 01.0 -0.7**
ETOB Tobarra 2.60 32 Pn **Pn** **06 07 36.4 +2.0**
53nm,0.2s,SNR=136
ETOB Sn **Sn** **06 08 08.0 +1.6**
163nm,0.3s,SNR=4.7
ETOB Lg 06 08 17.0
162nm,0.3s,SNR=5.0
ETOB Tobarra 2.60 32 Pn **Pn** **06 07 36.4 +1.9**
8.9nm,0.2s,SNR=136
ETOB Sn **Sn** **06 08 08.0 +1.5**
98nm,0.3s,SNR=4.7
TGT Taghat 2.77 212 *i* P **Pn** **06 07 38.5 +1.7**
TGT *i* S **Sn** **06 08 08.0 -2.5**
EMIN Mina Concepcio 3.01 297 Pn **Pn** **06 07 41.2 +1.0**
11nm,0.2s,SNR=52
EMIN Sn **Sn** **06 08 16.9 +0.2**
40nm,0.3s,SNR=5.0
EMIN Lg 06 08 31.1
32nm,0.2s,SNR=6.8
EMIN Mina Concepcio 3.01 297 Pn **Pn** **06 07 41.2 +1.0**
2.0nm,0.1s,SNR=52
EMIN Sn **Sn** **06 08 16.9 +0.2**
97nm,0.5s,SNR=5.0
OJBR Djebel Berber 3.07 105 P **Pn** **06 07 40.0 -1.1**
ESDC Sonseca Array 3.28 351 Pn **Pn** **06 07 46.8 +2.8**
16nm,0.3s,baz=171,slow=12,SNR=65
ESDC Pg **Pg** **06 07 57.3 +0.3**
25nm,0.3s,baz=170,slow=17,SNR=51
ESDC Lg 06 08 41.1
85nm,0.3s,baz=166,slow=27,SNR=8.1
ESDC Sonseca Array 3.28 351 Pn **Pn** **06 07 46.6 +2.6**
ESDC Pg **Pg** **06 07 55.6 -1.3**
ESDC Lg 06 08 40.7
ESDC Sonseca Array 3.28 351 Pn **Pn** **06 07 46.6 +2.6**
35nm,0.2s,baz=172,slow=12,SNR=58
ESDC Pg **Pg** **06 07 55.6 -1.3**
31nm,0.2s,baz=176,slow=12,SNR=260
ESDC Sn **Sn** **06 08 22.1 -1.4**
63nm,0.6s,SNR=7.9
ESDC Lg 06 08 39.7
132nm,0.4s,baz=166,slow=28,SNR=9.4
ESDC Sonseca Array 3.28 351 Pn **Pn** **06 07 46.6 +2.6**
11nm,0.2s,SNR=58
ESDC Sonseca Array 3.28 351 Pg **Pg** **06 07 55.6 -1.3**
16nm,0.3s,SNR=260
ESLA Sonseca Array 3.28 351 *e*Pn **Pn** **06 07 46.6 +2.6**
ESLA Sonseca Array 3.28 351 *e*Pn **Pn** **06 07 46.6 +2.6**
ERIP Rio Piedras 3.31 288 Pn **Pn** **06 07 45.9 +1.4**
17nm,0.2s,SNR=7.9
ERIP Sn **Sn** **06 08 23.0 -1.3**
62nm,0.2s,SNR=7.9
EBEN Beniarda 3.33 46 Pn **Pn** **06 07 44.6 -0.1**
EBEN Sn **Sn** **06 08 21.0 -3.8**
EBEN Beniarda 3.33 46 Pn **Pn** **06 07 44.6 -0.1**
9.9nm,0.2s,SNR=17
EBEN Sn **Sn** **06 08 25.9 +1.2**
65nm,0.4s,SNR=5.0
EBEN Lg 06 08 42.0
61nm,0.6s,SNR=4.0
EBEN Beniarda 3.33 46 Pn **Pn** **06 07 44.6 -0.1**
10nm,0.3s,SNR=17
EBEN Sn **Sn** **06 08 21.8 -2.9**
85nm,0.8s,SNR=5.0
MIF Mishlifen 3.41 208 *i* P **Pn** **06 07 47.0 +1.1**
MIF *i* S **Sn** **06 08 24.0 -2.9**
EGRO El Granado 3.53 289 Pn **Pn** **06 07 48.5 +0.9**
33nm,0.4s,SNR=26
EGRO Sn **Sn** **06 08 28.5 -1.4**
0.6nm,0.5s,SNR=5.0
EGRO El Granado 3.53 289 Pn **Pn** **06 07 48.5 +0.9**
24nm,0.3s,SNR=26
EANR 'Ain N'Sour 3.59 96 P **Pn** **06 07 47.5 -0.9**
CZD Col de Zad 3.69 204 *i* P **Pn** **06 07 50.5 +0.7**
CZD *i* S **Sn** **06 08 30.5 -3.4**
EBAD Badajoz 3.75 309 Pn **Pn** **06 07 51.8 +1.1**
EBAD Sn **Sn** **06 08 35.0 -0.5**
EBAD Lg 06 08 51.9
EBAD Badajoz 3.75 309 Pn **Pn** **06 07 51.6 +0.9**
8.4nm,0.1s,SNR=44
EBAD Sn **Sn** **06 08 35.0 -0.5**
92nm,0.2s,SNR=7.3
EBAD Lg 06 08 51.9
89nm,0.2s,SNR=5.0
EBAD Badajoz 3.75 309 Pn **Pn** **06 07 51.8 +1.0**
EBAD Sn **Sn** **06 08 35.0 -0.5**
76nm,0.4s,SNR=7.3
ETRT Tiaret 3.87 104 P **Pn** **06 07 51.5 -1.0**
PBEJ Beja 3.98 295 *e*Pn **Pn** **06 07 55.2 +1.2**
PBEJ *e*Sn **Sn** **06 08 39.3 -2.0**
59nm,0.5s
PBEJ Beja 3.98 295 *e*Pn **Pn** **06 07 55.2 +1.2**
PBEJ *e*Sn **Sn** **06 08 39.3 -2.0**
59nm,0.5s
EVO Evora 4.30 301 *e*Pn **Pn** **06 08 00.4 +1.9**
EVO *e*Sn **Sn** **06 08 49.6 +0.3**
EVO *e*Sg **Sg** **06 09 13.5 -1.1**
195nm,0.5s
PTEO Sao Teotonio 4.49 286 *e*Pn **Pn** **06 08 02.6 +1.4**
PTEO *e*Sn **Sn** **06 08 51.5 -2.6**
64nm,0.4s
PTEO Sao Teotonio 4.49 286 *e*Pn **Pn** **06 08 02.6 +1.4**
PTEO *e*Sn **Sn** **06 08 51.5 -2.6**
64nm,0.4s
EIBI Ibiza 4.49 53 Pn **Pn** **06 08 00.7 -0.6**
9.9nm,0.1s,SNR=40
EIBI Sn **Sn** **06 08 49.1 -5.2**
60nm,0.2s,SNR=5.0
EIBI Ibiza 4.49 53 Pn **Pn** **06 08 00.7 -0.6**
8.3nm,0.1s,SNR=40
EIBI Sn **Sn** **06 08 49.1 -5.2**
80nm,1.2s,SNR=5.0
EMOS Mosqueruela 4.50 29 Pn **Pn** **06 08 03.3 +1.9**
EMOS Sn **Sn** **06 08 52.8 -1.8**
EMOS Lg 06 09 21.5
EMOS Mosqueruela 4.50 29 Pn **Pn** **06 08 02.5 +1.0**
5.0nm,0.3s,SNR=11
EMOS Sn **Sn** **06 08 52.8 -1.8**
29nm,0.6s,SNR=5.0
EMOS Lg 06 09 19.7
80nm,0.8s,SNR=5.6
EMOS Mosqueruela 4.50 29 Pn **Pn** **06 08 02.5 +1.0**
2.3nm,0.2s,SNR=11
EMOS Sn **Sn** **06 08 52.8 -1.7**
64nm,0.7s,SNR=5.0
MOE Montemor 4.53 299 *e*Pn **Pn** **06 08 03.0 +1.2**
MOE *e*Sn **Sn** **06 08 53.1 -2.1**
PCBR Castelo Branco 4.74 317 *e*Pn **Pn** **06 08 06.1 +1.4**
PCBR *e*Sn **Sn** **06 08 58.6 -1.8**
82nm,0.5s
PCBR Castelo Branco 4.74 317 *e*Pn **Pn** **06 08 06.1 +1.4**
PCBR *e*Sn **Sn** **06 08 58.6 -1.8**
82nm,0.5s
EMHD Djebel Mahouad 5.05 91 P **Pn** **06 08 20.0 +11**
PTOM Tomar 5.14 310 *e*Pn **Pn** **06 08 11.3 +0.9**
MTE Manteigas 5.18 321 *e*Pn **Pn** **06 08 12.1 +1.1**
MTE *e*Sn **Sn** **06 09 09.3 -2.2**
MTE *e*Sg **Sg** **06 09 35.4 -8.5**
198nm,1.1s
MTE Manteigas 5.18 321 *e*Pn **Pn** **06 08 12.1 +1.1**
23nm,0.5s
MTE Manteigas 5.18 321 *e*Pn **Pn** **06 08 12.1 +1.1**
MTE *e*Sn **Sn** **06 09 09.3 -2.2**
MTE *e*Sg **Sg** **06 09 35.4 -8.5**
198nm,1.1s
PLOU Loures 5.25 299 *e*Pn **Pn** **06 08 12.8 +0.8**
PLOU *e*Sn **Sn** **06 09 10.3 -3.1**
98nm,0.7s
PLOU Loures 5.25 299 *e*Pn **Pn** **06 08 12.8 +0.8**
PLOU *e*Sn **Sn** **06 09 10.3 -3.1**
98nm,0.7s
EBR Ebro Roquetas 5.29 33 *e*Rs 06 08 17.0
EBR *i* Rs 06 09 55.0
PVIS Viseu 5.59 321 *e*Pn **Pn** **06 08 18.2 +1.4**
PVIS *e*Sn **Sn** **06 09 19.7 -2.2**
69nm,0.8s
PVIS Viseu 5.59 321 Pn **Pn** **06 08 18.2 +1.4**
PVIS Sn **Sn** **06 09 19.7 -2.2**
34nm,0.8s
ESAC San Caprasio 5.72 22 Pn **Pn** **06 08 17.4 -1.2**
ESAC Lg 06 09 58.8
ESAC San Caprasio 5.72 22 Pn **Pn** **06 08 19.0 +0.4**
8.6nm,0.3s,SNR=4.0
ESAC Lg 06 09 58.8
163nm,0.6s,SNR=7.9
ESAC San Caprasio 5.72 22 Pn **Pn** **06 08 17.4 -1.2**
2.4nm,0.1s,SNR=4.0
ETOS Mallorca 5.85 54 Pn **Pn** **06 08 19.9 -0.5**
4.4nm,0.2s,SNR=14
ETOS Sn **Sn** **06 09 21.4 -7.0**
11nm,0.5s,SNR=5.0
ETOS Mallorca 5.85 54 Pn **Pn** **06 08 19.9 -0.6**
2.6nm,0.3s,SNR=14
EPOB Poblet 5.98 33 Pn **Pn** **06 08 22.6 +0.3**
1.7nm,0.3s,SNR=6.9
EPOB Sn **Sn** **06 09 26.9 -4.7**
5.9nm,0.5s,SNR=7.9
EPOB Lg 06 10 06.4
5.5nm,0.3s,SNR=7.9
EPOB Poblet 5.98 33 Pn **Pn** **06 08 22.6 +0.4**
3.7nm,0.3s,SNR=6.9
EPOB Sn **Sn** **06 09 26.9 -4.7**
SNR=7.9
PBRG Braganca 5.99 334 *e*Pn **Pn** **06 08 23.6 +1.1**
PBRG *e*Sn **Sn** **06 09 29.1 -2.9**
PBRG *e*Sg **Sg** **06 10 06.1 -5.0**
54nm,0.4s
PBRG Braganca 5.99 334 Pn **Pn** **06 08 23.6 +1.1**
PBRG Sn **Sn** **06 09 29.1 -2.9**
PBRG Lg 06 10 06.1
27nm,0.4s
ECAL Calabor 6.11 335 Pn **Pn** **06 08 25.5 +1.3**
ECAL Sn **Sn** **06 09 32.4 -2.6**
ECAL Lg 06 10 10.6
ECAL Calabor 6.11 335 Pn **Pn** **06 08 25.3 +1.2**
5.2nm,0.3s,SNR=18
ECAL Sn **Sn** **06 09 32.4 -2.6**
21nm,0.4s,SNR=8.6
ECAL Lg 06 10 10.6
105nm,0.6s,SNR=5.0
ECAL Calabor 6.11 335 Pn **Pn** **06 08 25.5 +1.3**
ECAL Sn **Sn** **06 09 32.4 -2.6**
58nm,0.5s,SNR=8.6
ELOB Lobios 6.57 327 Pn **Pn** **06 08 31.8 +1.2**
ELOB Sn **Sn** **06 09 40.1 -6.2**
ELOB Lg 06 10 19.9
ELOB Lobios 6.57 327 Pn **Pn** **06 08 31.1 +0.6**
2.4nm,0.1s,SNR=12
ELOB Sn **Sn** **06 09 41.5 -4.9**
10nm,0.3s,SNR=5.0
ELOB Lg 06 10 19.9
61nm,0.7s,SNR=6.2
ELOB Lobios 6.57 327 Pn **Pn** **06 08 31.8 +1.2**
ERUA La Rua 6.65 335 Pn **Pn** **06 08 33.0 +1.3**
ERUA Sn **Sn** **06 09 44.5 -4.0**
ERUA Lg 06 10 27.1
ERUA La Rua 6.65 335 Pn **Pn** **06 08 32.7 +0.9**
5.6nm,0.4s,SNR=11
ERUA Sn **Sn** **06 09 44.5 -4.0**
5.6nm,0.4s,SNR=7.9
ERUA Lg 06 10 27.1
49nm,0.8s,SNR=7.2
EBIE Bielsa 6.78 22 Pn **Pn** **06 08 34.5 +0.9**
1.4nm,0.2s,SNR=10
EBIE Bielsa 6.78 22 Pn **Pn** **06 08 34.5 +0.9**
0.5nm,0.3s,SNR=10
ELAN Lanestosa 6.79 359 Pn **Pn** **06 08 35.1 +1.4**
ELAN Lg 06 10 30.6
ELAN Lanestosa 6.79 359 Pn **Pn** **06 08 34.4 +0.7**
2.4nm,0.2s,SNR=14
ELAN Lg 06 10 30.6
27nm,0.5s,SNR=5.0
ELAN Lanestosa 6.79 359 Pn **Pn** **06 08 34.6 +0.9**
2.3nm,0.2s,SNR=14
ETSF Etsaut 6.79 17 *e*Pn **Pn** **06 08 34.7 +1.0**
ETSF *e*Sn **Sn** **06 09 46.7 -5.2**
ETSF *e*Sg **Sg** **06 10 30.7 -6.9**
112nm,1.1s
ETSF Etsaut 6.79 17 *e*Pn **Pn** **06 08 34.7 +1.0**
ETSF *e*Sg **Sg** **06 10 30.7 -6.9**
56nm,1.1s
SJPF Ste Jean 6.86 13 *e*Pn **Pn** **06 08 35.3 +0.7**
SJPF *e*Sn **Sn** **06 09 45.6 -7.9**
SJPF *e*Sg **Sg** **06 10 32.7 -7.1**
53nm,0.7s
SJPF Ste Jean 6.86 13 *e*Pn **Pn** **06 08 35.3 +0.7**
SJPF *e*Sg **Sg** **06 10 32.7 -7.1**
27nm,0.7s
EALK Alkurruntz 6.91 11 Pn **Pn** **06 08 36.9 +1.5**
EALK Sn **Sn** **06 09 52.0 -3.0**
EALK Lg 06 10 37.8
EALK Alkurruntz 6.91 11 Pn **Pn** **06 08 36.3 +0.9**
26nm,0.6s,SNR=22
EALK Sn **Sn** **06 09 49.9 -5.1**
19nm,0.4s,SNR=5.0
EALK Lg 06 10 35.0
62nm,0.8s,SNR=4.6
EALK Alkurruntz 6.91 11 Pn **Pn** **06 08 36.9 +1.5**
EALK Sn **Sn** **06 09 52.0 -3.0**
VIEF Viey 6.93 21 P **Pn** **06 08 36.2 +0.5**
EINC Incío 6.96 334 Pn **Pn** **06 08 37.9 +1.8**
EINC Sn **Sn** **06 09 52.4 -3.7**
EINC Lg 06 10 35.3
EINC Incio 6.96 334 Pn **Pn** **06 08 36.9 +0.8**
4.6nm,0.2s,SNR=21
EINC Sn **Sn** **06 09 52.4 -3.8**
8.7nm,0.5s,SNR=8.1
EINC Lg 06 10 37.4
26nm,0.6s,SNR=5.0
EINC Incio 6.96 334 Pn **Pn** **06 08 37.4 +1.3**
8.3nm,0.3s,SNR=21
ORDF Ordiarp 7.01 14 P **Pn** **06 08 37.6 +0.8**
EARI Arriondas 7.01 348 Pn **Pn** **06 08 37.6 +0.8**
EARI Sn **Sn** **06 09 54.9 -2.6**
EARI Lg 06 10 37.8
EARI Arriondas 7.01 348 Pn **Pn** **06 08 37.3 +0.5**
4.6nm,0.5s,SNR=11
EARI Sn **Sn** **06 09 52.6 -4.9**
5.2nm,0.4s,SNR=6.2
EARI Lg 06 10 37.8
24nm,0.8s,SNR=5.0
EARI Arriondas 7.01 348 Pn **Pn** **06 08 37.7 +0.8**
EARI Sn **Sn** **06 09 54.9 -2.6**
EZAM Zamans 7.08 325 Lg 06 10 40.7
32nm,1.0s,SNR=4.0
EPF Esparros 7.16 22 *e*Pn **Pn** **06 08 39.1 +0.2**
EPF *e*Sg **Sg** **06 10 42.1 -7.7**
50nm,0.7s
MLS Moulis 7.34 26 P **Pn** **06 08 42.1 +0.7**
MLS S **Sn** **06 10 02.3 -3.3**
EPON Pontenova 7.49 338 Pn **Pn** **06 08 45.1 +1.5**
EPON Sn **Sn** **06 10 04.2 -5.3**
EPON Lg 06 10 49.5
3.3nm,0.3s,SNR=9.8
EPON Pontenova 7.49 338 Pn **Pn** **06 08 44.0 +0.5**
3.0nm,0.4s,SNR=8.0
EPON Lg 06 10 49.5
8.8nm,0.4s,SNR=5.0
EPON Pontenova 7.49 338 Pn **Pn** **06 08 45.1 +1.5**
STS Santiago 7.61 329 Pn **Pn** **06 08 46.6 +1.3**
5.2nm,0.3s,SNR=7.9
STS Lg 06 10 56.9
17nm,0.5s,SNR=12
EJON La Jonquera 7.67 37 Pn **Pn** **06 08 45.5 -0.6**
1.2nm,0.2s,SNR=7.9
EMAZ Mazaricos 7.84 328 Pn **Pn** **06 08 49.9 +1.5**
EMAZ Lg 06 11 02.5
EMAZ Mazaricos 7.84 328 Pn **Pn** **06 08 49.7 +1.3**
1.3nm,0.1s,SNR=4.9
EMAZ Sn **Sn** **06 10 10.7 -7.5**
4.9nm,0.4s,SNR=7.9
EMAZ Lg 06 11 02.5
27nm,0.6s,SNR=4.0
EMAZ Mazaricos 7.84 328 Pn **Pn** **06 08 49.9 +1.5**
MTLF Montolieu 8.09 30 *e*Pn **P** **06 08 51.2 -0.7**
LFF La Frestale 9.03 19 *e*Pn **P** **06 09 03.8 -1.1**
CAF Calviac 9.40 24 *e*Pn **P** **06 09 09.0 -1.1**
RJF Les Rejaudoux 9.58 21 *e*Pn **P** **06 09 11.0 -1.5**
MFF Saint Martin d 10.43 12 *e*Pn **P** **06 09 22.8 -1.3**
PGF Pioggiola 11.29 54 *e*Pn **P** **06 09 35.9 0.0**
QUIF Quistinic 11.47 0 *e*Pn **P** **06 09 36.4 -2.0**
SGMF Saint Gilles 11.82 2 *e*Pn **P** **06 09 41.6 -1.6**
ROSF Rostrenen 11.89 0 *e*Pn **P** **06 09 43.4 -0.7**
GRR Gorron 12.08 8 *e*Pn **P** **06 09 45.6 -1.0**
LDF La Druitiere 12.37 10 *e*Pn **P** **06 09 49.5 -1.1**
FLN La Foliniere 12.49 9 *e*Pn **P** **06 09 50.7 -1.5**
baz=196
EKA Eskdalemuir Ar 18.90 0 P **P** **06 11 22.8 +8.5**
0.1nm,0.3s,baz=186,slow=14,SNR=3.2
MLR Muntele Rosu 23.75 59 P **P** **06 12 03.7 -0.9**
MLR pmax pmax
comp=Z,2.0nm,0.8s
MLR Muntele Rosu 23.75 59 P **P** **06 12 03.7 -0.9**
comp=Z,2.2nm,0.8s,mb3.7,baz=270,slow=14,SNR=2.9
ARCES ARCESS Array B 36.67 16 P **P** **06 14 01.0 +1.2**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 36.67 16 P **P** **06 14 01.0 +1.1**
comp=Z,3.5nm,0.9s,mb4.2,baz=207,slow=8.1,SNR=3.0
MKAR Makanchi Array 61.81 51 P **P** **06 17 11.6 -1.2**
comp=Z,0.2nm,0.3s,mb3.7,baz=188,slow=24,SNR=3.8
YKA Yellowknife Ar 67.19 332 P **P** **06 17 48.4 +1.0**
comp=Z,0.3nm,0.6s,mb3.5,baz=59,slow=6.5,SNR=6.4
PDAR Pinedale Array 76.48 313 P **P** **06 18 48.3 +5.2**
comp=Z,0.3nm,0.8s,mb3.3,baz=56,slow=3.3,SNR=3.0
TXAR Lajitas Array 80.71 300 P **P** **06 19 12.0 +5.6**
comp=Z,0.3nm,0.8s,mb3.3,baz=72,slow=5.7,SNR=3.9

*NEIC **31** 06:14:16.4, 37.28N×20.86E, h5km, MD3.6(ATH), After ATH.*
*CSEM **31** 06:14:16.4, 37.28N×20.86E, h5km, MD3.6/7, After ATH*
ATH 31 06:14:16.6, 37.28N×20.91E, h5km, MD3.5/9, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.89**	**29**	*e*PG		Pg	06 14 33.0	-1.5
RLS				*e*SB		Sb	06 14 45.9	-0.3
VLS	**Valsamata**	**0.93**	**344**	*e*PG		Pg	06 14 34.0	-1.2
VLS				*e*SB		Sb	06 14 49.0	+1.7
VLS	**Valsamata**	**0.93**	**344**	*e*Pg		Pg	06 14 33.8	-1.4
VLI	**Veliai**	**1.72**	**108**	*e*PN		Pn	06 14 49.5	+2.1
EVR	**Evrytania**	**1.78**	**23**	*e*PN		Pn	06 14 50.7	+2.4
EVR				*e*SN		Sn	06 15 15.6	+4.0
KYTH	**Kithira**	**1.98**	**120**	*e*PG		Pg	06 14 53.0	-3.1
MGER	**Gerania Oros**	**1.99**	**69**	*e*PN		Pn	06 14 54.0	+2.6
NAIG	**Nisos Aigina**	**2.10**	**76**	*e*PG		Pg	06 14 56.0	-2.6
NSAL	**Nisos Salamina**	**2.12**	**72**	*e*PN		Pn	06 14 55.5	+2.3
NSAL	**Nisos Salamina**	**2.12**	**72**	*e*Pg		Pg	06 14 57.5	-1.5
KEK	**Kerkira**	**2.58**	**341**	*e*PN		Pn	06 15 02.0	+2.2

IDC 31 06:15:23.1±4.2, 4.27N×96.91E, mb3.8/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.8/4, Error ellipse: s-maj=236.5km s-min=25.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.95**	**125**	P		P	06 23 31.3	-2.6
	0.4nm,0.4s,baz=303,slow=9.0,SNR=7.4							
MKAR	**Makanchi Array**	**44.22**	**346**	P		P	06 23 33.9	-1.9
	0.8nm,0.5s,baz=150,slow=7.7,SNR=11							
ASAR	**Alice Springs**	**45.51**	**129**	P		P	06 23 44.3	-2.2
	0.5nm,0.5s,baz=297,slow=8.0,SNR=6.4							
ZAL	**Zalesovo**	**50.50**	**351**	P		P	06 24 18.8	-6.2
	1.0nm,0.4s,baz=0.6,slow=1.7,SNR=4.1							
STKA	**Stephens Creek**	**55.64**	**134**	P		P	06 25 02.2	-1.2
	0.9nm,0.4s,baz=305,slow=8.0,SNR=7.6							

*NEIC **31** 06:16:52.6, 16.57N×98.77W, h20km, MD3.7(MEX), After MEX.*
MEX 31 06:16:52.5±0.9, 16.56N×98.75W, h16km±24km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ACX	**Acapulco**	**1.16**	**285**	*i* P		Pb	06 17 10.5	-3.1
ACX				*i* S		Sb	06 17 23.0	-5.2
CAIG	**El Cayaco**	**1.53**	**289**	*i* P		Pn	06 17 16.9	-2.5
CAIG				*i* S		Sn	06 17 31.3	-7.7
CAIG	**El Cayaco**	**1.53**	**289**	*i* P		Pn	06 17 16.9	-2.5
CAIG				*i* S		Sn	06 17 32.7	-6.3
VHO	**Vista Hermosa**	**2.00**	**75**	*e*P		Pn	06 17 21.8	-4.3
VHO				*i* S		Sn	06 17 45.8	-5.2
OXX	**Oaxaca**	**2.01**	**75**	*i* P		Pn	06 17 22.0	-4.3
OXX				*i* S		Sn	06 17 49.0	-2.3
YAIG	**Yautepec**	**2.31**	**353**	*e*P		Pn	06 17 29.3	-1.2
YAIG	**Yautepec**	**2.31**	**353**	*e*P		Pn	06 17 27.7	-2.9
YAIG				*i* S		Sn	06 17 53.4	-5.4
PPM	**Popocatepetl**	**2.50**	**3**	*e*P		Pn	06 17 29.8	-3.5
PPM				*i* S		Sn	06 17 59.7	-3.9
PPM	**Popocatepetl**	**2.50**	**3**	*e*P		Pn	06 17 29.8	-3.5
PPM				*i* P			06 17 32.0	
PPM				*i* S		Sn	06 17 59.7	-3.9
PPM				*i* S		Sn	06 18 00.0	-3.6

IDC 31 06:24:28.5±60.0, 1.34N×96.72E, mb3.9/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.9/3, MS4.0/2, Ms1 4.0/2, ms1mx3.2/25, Error ellipse: s-maj=1157.0km s-min=156.3km az=176.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.86**	**127**	LR		LR	06 54 11.8	
	comp=Z,115nm,18.5s,baz=115,slow=41							
MKAR	**Makanchi Array**	**46.99**	**346**	P		P	06 33 01.4	-1.9
	0.6nm,0.5s,baz=161,slow=9.1,SNR=11							
SONM	**Songino Array**	**47.06**	**9**	P		P	06 33 02.1	-1.8
	0.3nm,0.3s,baz=188,slow=8.7,SNR=4.6							
ZAL	**Zalesovo**	**53.34**	**351**	P		P	06 33 49.3	-2.5
	1.1nm,0.4s,baz=303,slow=5.8,SNR=3.1							
JMIC	**Jan Mayen**	**93.68**	**342**	LR		LR	07 24 46.0	
	comp=Z,87nm,18.5s,baz=174,slow=39							

*IDC **31** 06:29:26.8±0.5, 9.26N×126.27E, mb4.6/19, mb1 4.7/19, mb1mx4.6/24, mbtmp4.6/19, MS4.0/7, Ms1 4.0/7, ms1mx3.6/26, Error ellipse: s-maj=31.6km s-min=11.5km az=76.0*
*MAN **31** 06:29:30.1, 9.35N×126.75E, h16km, mb5.0, ML3.9, MS4.0*
MAN Butuan City Intensity III.
*MOS **31** 06:29:34.7±1.3, 9.27N×126.46E, h83km, mb4.8/29, Error ellipse: s-maj=18.1km s-min=6.9km az=109.0*
*BJI **31** 06:29:35.0, 9.44N×126.56E, h74km, mB5.2, mb4.9, Ms4.5, Msz4.3*
*NEIC **31** 06:29:36.4±1.6, 9.29N×126.47E, h80km±15km, mb4.8/34, Error ellipse: s-maj=11.1km s-min=5.1km az=71.0*
NEIC Felt [III PIVS] at Butuan.
ISC 31 06:29:32.1±0.6, 9.35N±0.03×126.69E±0.05, h60km±5km, n155, σ1§24/154, mb4.8/64, MS4.1/14, 8C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**1.12**	**250**	*eP*	**P**	**06 29 49.9**	**-2.1**
BIPH	**Bislig**	**1.20**	**196**	⇓*iP*	**P**	**06 29 51.1**	**-2.0**
BIPH				*i* S	**S**	**06 30 05.3**	**-3.4**
MSLP	**Maasin**	**1.96**	**294**	*eP*	**P**	**06 30 04.5**	**+0.8**
MSLP				*eS*	**S**	**06 30 31.2**	**+4.1**
CGP	**Cagayan de Oro**	**2.16**	**246**	*eP*	**P**	**06 30 06.0**	**-0.5**
CGP				*eS*	**S**	**06 30 33.1**	**+1.0**
BUKP	**Musuan**	**2.17**	**228**	*eP*	**P**	**06 30 07.0**	**+0.3**
BUKP				*eS*	**S**	**06 30 33.0**	**+0.7**
MATI	**Mati**	**2.42**	**190**	*eP*	**P**	**06 30 09.1**	**-1.2**
PLP	**Palo**	**2.47**	**317**	*eP*	**P**	**06 30 10.4**	**-0.5**
PLP				*eS*	**S**	**06 30 38.5**	**-1.3**
DAV	**Davao City (W)**	**2.52**	**206**	⇑*eP*	**P**	**06 30 14.0**	**+2.4**
BESP	**Borongan**	**2.55**	**331**	*eP*	**P**	**06 30 10.7**	**-1.4**
TBP	**Tagbilaran**	**2.81**	**277**	*eP*	**P**	**06 30 15.4**	**-0.3**
TBP				*eS*	**S**	**06 30 48.0**	**-0.4**
KCP	**Kidapawan**	**2.81**	**214**	⇓*iP*	**P**	**06 30 16.2**	**+0.5**
KCP				*i* S	**S**	**06 30 50.9**	**+2.3**
LLP	**Lapu-Lapu**	**2.85**	**290**	⇑*eP*	**P**	**06 30 17.1**	**+0.8**
LLP				*eS*	**S**	**06 30 52.1**	**+2.6**
DCPH	**Dipolog City**	**3.38**	**257**	*eP*	**P**	**06 30 10.4**	**-13**
DCPH				*eS*	S	06 30 38.5	-24
SNPH	**Sibulan**	**3.40**	**270**	*eP*	**P**	**06 30 24.5**	**+0.4**
SNPH				*i* S	**S**	**06 31 11.5**	**+8.0**
PAGZ	**Pagadian**	**3.59**	**246**	*eP*	**P**	**06 30 27.2**	**+0.4**
CNP	**Catarman**	**3.72**	**328**	*eP*	**P**	**06 30 27.5**	**-1.0**
GUIM	**Jordan**	**4.23**	**288**	*eP*	**P**	**06 30 36.7**	**+1.0**
MMPH	**Masbate**	**4.24**	**315**	*eP*	**P**	**06 30 38.0**	**+2.2**
IPIL	**Ipil**	**4.36**	**249**	*eP*	**P**	**06 30 35.6**	**-1.8**
RCP	**Roxas**	**4.46**	**300**	*eP*	**P**	**06 30 40.0**	**+1.2**
AAP	**Anini-y**	**4.79**	**283**	*eP*	**P**	**06 30 41.0**	**-2.5**
PVCP	**Virac**	**4.90**	**330**	*eP*	**P**	**06 30 45.0**	**0.0**
SJMP	**San Jose**	**6.28**	**300**	*eP*	**P**	**06 31 06.5**	**+2.2**
BUSP	**Coron**	**6.90**	**293**	*eP*	**P**	**06 31 14.1**	**+1.1**
BALP	**Baler**	**8.08**	**322**	*eP*	**P**	**06 31 28.0**	**-1.1**
CAUP	**Cauayan**	**8.91**	**328**	*eP*	**P**	**06 31 38.6**	**-2.0**
KKM	**Kota Kinabalu**	**10.88**	**253**	*eP*	**P**	**06 32 08.9**	**+1.3**
JOW	**Kunigami** 0.6nm,0.3s,baz=178,slow=18,SNR=2.4	**17.45**	**5**	P	**P**	**06 33 36.0**	**+2.9**
JOW	comp=Z,533nm,18.3s,baz=64,slow=36			LR	LR	06 39 57.1	
KSM	**Kuching**	**18.07**	**245**	*eP*	**P**	**06 33 42.6**	**+1.8**
QIZ	**Qiongzhong** 40nm,1.2s	**18.94**	**302**	*eP*	**P**	**06 33 49.4**	**-1.6**
SSE	**Sheshan**	**22.24**	**347**	P	**P**	**06 34 25.5**	**+0.5**
SSE				XS		06 38 44.0	
SSE	comp=Z,33nm,0.7s,mb4.9			AMB	AMB		
SSE	comp=Z,194nm,9.5s			AMB	AMB		
SSE	comp=N,176nm,22.0s,MS3.5			LR	LR		
SSE	comp=E,112nm,22.4s,MS3.5			LR	LR		
SSE	comp=Z,240nm,18.5s,MS3.6			LR	LR		
CBIJ	**Chichi jima** comp=Z,277nm,21.6s,MS3.7,baz=244,slow=33	**22.94**	**38**	LR	LR	06 42 04.3	
NJ2	**Nanjing**	**23.73**	**343**	*eP*	**P**	**06 34 42.0**	**+2.4**
NJ2				PP	PP	06 35 16.0	+1.7
NJ2				S	**S**	**06 38 52.0**	**+4.7**
NJ2	comp=Z,120nm,1.0s,mb5.3			AMB	AMB		
NJ2	comp=Z,1μm,4.3s			AMB	AMB		
NJ2	comp=N,710nm,20.1s,MS4.2			LR	LR		
NJ2	comp=E,470nm,16.2s,MS4.2			LR	LR		
NJ2	comp=Z,540nm,17.8s,MS4.1			LR	LR		
WHN	**Wuhan**	**24.02**	**333**	*eP*	**P**	**06 34 40.0**	**-2.5**
FITZ	**Fitzroy Crossi** comp=Z,37nm,0.6s,mb5.1	**27.30**	**182**	*eP*	**P**	**06 35 12.6**	**-0.7**
FITZ	**Fitzroy Crossi** comp=Z,33nm,0.5s,mb5.1,baz=5.2,slow=9.3,SNR=35	**27.30**	**182**	P	**P**	**06 35 12.8**	**-0.6**
KMI	**Kunming**	**27.66**	**308**	P	**P**	**06 35 20.5**	**+3.9**
KMI	comp=Z,15nm,0.5s,mb4.9			AMB	AMB		
WRAB	**Tennant Creek**	**30.06**	**165**	*eP*	**P**	**06 35 36.3**	**-1.8**
WRAB	comp=Z,9.0nm,0.6s,mb4.7			pmax	pmax		
WRAB	**Tennant Creek** comp=Z,8.8nm,0.6s,mb4.7	**30.06**	**165**	*eP*	**P**	**06 35 36.3**	**-1.7**
WRA	**Warramunga Arr** comp=Z,4.8nm,0.5s,mb4.5,baz=347,slow=9.4,SNR=41	**30.07**	**166**	P	**P**	**06 35 36.6**	**-1.6**
WB2	**Warramunga Arr**	**30.07**	**165**	⇓*iP*	**P**	**06 35 36.7**	**-1.4**
MBWA	**Marble Bar** comp=Z,13nm,0.8s,mb4.8	**31.08**	**193**	*eP*	**P**	**06 35 46.1**	**-0.9**
BJT	**Baijiatuau**	**31.95**	**345**	*eP*	**P**	**06 35 53.8**	**-0.7**
BJT	comp=Z,19nm,0.9s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,19nm,0.9s,mb4.9	**31.95**	**345**	*eP*	**P**	**06 35 53.8**	**-0.7**
BJI	**Beijing**	**31.97**	**345**	*eP*	**P**	**06 35 55.3**	**+0.7**
BJI	comp=Z,24nm,1.1s,mb4.9			AMB	AMB		
BJI	comp=N,214nm,20.3s,MS4.1			LR	LR		
BJI	comp=E,324nm,15.5s,MS4.1			LR	LR		
BJI	comp=Z,191nm,22.3s			LR	LR		
SNY	**Shenyang**	**32.47**	**356**	⇓*iP*	**P**	**06 36 01.0**	**+2.0**
SNY	comp=Z,30nm,0.5s,mb5.4			AMB	AMB		
SNY	comp=Z,250nm,4.6s			AMB	AMB		
SNY	comp=N,500nm,16.7s,MS4.3			LR	LR		
SNY	comp=E,270nm,16.9s,MS4.3			LR	LR		
SNY	comp=Z,410nm,18.6s,MS4.2			LR	LR		
ASAR	**Alice Springs** comp=Z,3.0nm,0.6s,mb4.4,baz=356,slow=8.0,SNR=42	**33.56**	**168**	P	**P**	**06 36 08.0**	**-0.7**
ASAR	comp=Z,1.5nm,0.5s,baz=341,slow=2.5,SNR=8.0			PcP	PcP	06 38 48.6	+0.4
ASPA	**Alice Springs**	**33.56**	**168**	⇑*iP*	**P**	**06 36 07.4**	**-1.3**
CN2	**Changchun**	**34.34**	**358**	*eP*	**P**	**06 36 16.0**	**+0.9**
CN2				*eS*	**S**	**06 41 36.5**	**-0.8**
CN2	comp=Z,10.0nm,0.8s,mb4.8			AMB	AMB		
CTA	**Charters Tower** comp=Z,5.2nm,0.6s,mb4.6	**35.02**	**147**	*eP*	**P**	**06 36 22.2**	**+1.0**
CTA	**Charters Tower**	**35.02**	**147**	*eP*	**P**	**06 36 22.2**	**+1.0**
CTA	comp=Z,5.0nm,0.6s			pmax	pmax		
CTAO	**Charters Tower**	**35.02**	**147**	*eP*	**P**	**06 36 21.8**	**+0.6**
CTAO	comp=Z,6.0nm,0.6s,mb4.7			pmax	pmax		
CTAO	**Charters Tower** comp=Z,6.5nm,0.6s,mb4.7	**35.02**	**147**	*eP*	**P**	**06 36 21.8**	**+0.6**
MDJ	**Mudanjiang** comp=Z,68nm,1.5s,mb5.4	**35.23**	**4**	P	**P**	**06 36 22.3**	**-0.4**
ASAJ	**Asahikawa** comp=Z,3.8nm,0.5s,mb4.5,baz=88,slow=24,SNR=4.2	**37.29**	**19**	P	**P**	**06 36 43.3**	**+3.2**
FORT	**Forrest** comp=Z,957nm,0.5s	**39.92**	**178**	⇓*iP*	**P**	**06 37 02.7**	**+0.6**
KLR	**Kul'dur**	**39.98**	**5**	*eP*	**P**	**06 37 02.0**	**-0.4**
HIA	**Hailar**	**40.21**	**353**	*eP*	**P**	**06 37 05.1**	**+0.8**
HIA	comp=Z,5.0nm,0.6s			pmax	pmax		
HIA	**Hailar** comp=Z,5.4nm,0.6s,mb4.5	**40.21**	**353**	*eP*	**P**	**06 37 05.1**	**+0.8**
KLBR	**Kellerberrin** comp=Z,129nm,0.4s	**41.59**	**192**	⇑*iP*	**P**	**06 37 16.3**	**+0.4**
ULN	**Ulaanbaatar** comp=Z,7.0nm,0.5s,mb4.5	**41.82**	**340**	*eP*	**P**	**06 37 17.8**	**+0.2**
ULN				pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,6.7nm,0.5s,mb4.5	**41.82**	**340**	*eP*	**P**	**06 37 17.8**	**+0.2**
SONM	**Songino Array** comp=Z,1.9nm,0.5s,mb4.0,baz=152,slow=9.6,SNR=27	**42.02**	**340**	P	**P**	**06 37 19.9**	**+0.7**
SONM				PcP	PcP	06 39 15.8	+1.8
JIRN	**Jiri** comp=Z,0.9nm,0.6s,baz=165,slow=4.8,SNR=3.3	**42.25**	**301**	*eP*	**P**	**06 37 21.2**	**-0.2**
MUN	**Mundaring** comp=Z,49nm,0.6s,mb5.3	**42.30**	**193**	*eP*	**P**	**06 37 22.3**	**+0.6**
MUN	**Mundaring** comp=Z,39nm,0.6s,mb5.2	**42.30**	**193**	*eP*	**P**	**06 37 22.3**	**+0.6**
MUN	comp=Z,39nm,0.6s,mb5.2			pmax	pmax		
GUN	**Gumba** comp=Z,38nm,0.7s,mb5.2	**42.59**	**301**	*eP*	**P**	**06 37 23.8**	**-0.4**
PKI	**Pulchoki** comp=Z,21nm,0.6s,mb5.1	**42.89**	**301**	*eP*	**P**	**06 37 25.6**	**-1.0**
PKI	**Pulchoki**	**42.89**	**301**	*eP*	**P**	**06 37 25.6**	**-1.0**
PKI	comp=Z,10.0nm,0.6s,mb4.7			pmax	pmax		
NWAO	**Narrogin (SRO)**	**42.99**	**192**	*eP*	**P**	**06 37 27.8**	**+0.4**
NWAO	comp=Z,34nm,0.8s			pmax	pmax		
NWAO	**Narrogin (SRO)** comp=Z,37nm,0.6s,mb5.3,baz=16,slow=6.5,SNR=48	**42.99**	**192**	P	**P**	**06 37 27.9**	**+0.4**
NWAO	comp=Z,116nm,20.1s,MS3.8,baz=60,slow=38			LR	LR	06 56 22.4	
NWAO	**Narrogin (SRO)** comp=Z,34nm,0.8s,mb5.1	**42.99**	**192**	*eP*	**P**	**06 37 27.8**	**+0.4**
KKN	**Kakani** comp=Z,23nm,0.8s,mb5.0	**43.06**	**301**	*eP*	**P**	**06 37 26.9**	**-1.1**
KKN	**Kakani**	**43.06**	**301**	*eP*	**P**	**06 37 26.9**	**-1.1**
KKN	comp=Z,11nm,0.8s,mb4.6			pmax	pmax		
DMN	**Daman** comp=Z,12nm,0.4s,mb5.0	**43.16**	**301**	*eP*	**P**	**06 37 27.9**	**-0.9**
STKA	**Stephens Creek** comp=Z,4.7nm,0.6s,mb4.4	**43.40**	**161**	⇑*iP*	**P**	**06 37 30.9**	**+0.1**
STKA	**Stephens Creek** comp=Z,3.1nm,0.4s,mb4.4,baz=331,slow=8.1,SNR=28	**43.40**	**161**	P	**P**	**06 37 31.0**	**+0.3**
STKA	comp=Z,152nm,18.7s,MS3.9,baz=3.5,slow=39			LR	LR	06 57 24.2	
GKN	**Gorkha** comp=Z,22nm,0.6s,mb5.0	**43.67**	**301**	*eP*	**P**	**06 37 31.8**	**-1.1**
KOLN	**Koldanda** comp=Z,32nm,0.7s,mb5.1	**44.48**	**300**	*eP*	**P**	**06 37 38.8**	**-0.7**
ZAK	**Zakamensk**	**45.27**	**339**	*eP*	pP	06 37 56.9	-4.0
ZAK	comp=Z,2.0nm,1.3s,mb3.8			pmax	pmax		
TLY	**Talaya**	**46.23**	**340**	*i* P	**P**	**06 37 53.7**	**+0.6**
TLY	comp=Z,3.0nm,0.6s,mb4.4			pmax	pmax		
TLY	**Talaya** comp=Z,3.5nm,0.6s,mb4.5	**46.23**	**340**	P	**P**	**06 37 53.1**	**0.0**
WMQ	**Urumqi**	**48.20**	**322**	*eP*	**P**	**06 38 10.3**	**+1.7**
WMQ				PCP	PcP	06 39 37.0	+1.6
WMQ				PPP	PPP	06 40 55.5	+2.4
WMQ				S	**S**	**06 45 00.5**	**-1.7**
WMQ	comp=Z,12nm,0.9s,mb4.9			AMB	AMB		
WMQ	comp=Z,170nm,5.2s			AMB	AMB		
WMQ	comp=N,604nm,15.6s,MS4.8			LR	LR		
WMQ	comp=E,467nm,17.4s,MS4.8			LR	LR		
WMQ	comp=Z,392nm,17.0s,MS4.5			LR	LR		
BOD	**Bodaibo** comp=Z,10.0nm,1.4s,mb4.7	**49.34**	**351**	*eP*	**P**	**06 38 17.6**	**+0.4**
YAK	**Yakutsk**	**52.63**	**2**	*i* P	**P**	**06 38 42.9**	**+0.8**
YAK	comp=Z,11nm,0.4s,mb5.1			pmax	pmax		
MKAR	**Makanchi Array**	**53.00**	**323**	P	**P**	**06 38 44.2**	**-0.9**
MKAR	comp=Z,5.0nm,0.6s			pmax	pmax		
MKAR	**Makanchi Array** comp=Z,7.1nm,0.5s,mb4.8,baz=124,slow=7.8,SNR=101	**53.00**	**323**	P	**P**	**06 38 44.7**	**-0.4**
MKAR	comp=Z,166nm,20.4s,MS4.1,baz=96,slow=35			LR	LR	07 00 15.3	
MA2	**Magadan** comp=Z,5.0nm,0.7s,mb4.5	**53.31**	**15**	*eP*	**P**	**06 38 47.6**	**+0.4**
MA2	**Magadan** comp=Z,5.5nm,0.7s,mb4.6	**53.31**	**15**	*eP*	**P**	**06 38 47.6**	**+0.4**
ULHL	**Ulahol** SNR=7.8	**54.92**	**316**	P	**P**	**06 38 59.0**	**-0.2**
KZA	**Kyzart** SNR=17	**55.55**	**315**	P	**P**	**06 39 03.8**	**+0.1**
TKM2	**Tokmak 2** SNR=6.3	**55.61**	**316**	P	**P**	**06 39 04.1**	**0.0**
ZAL	**Zalesovo** comp=Z,2.0nm,0.5s,mb4.4,baz=343,slow=7.0,SNR=7.2	**55.63**	**331**	P	**P**	**06 39 02.5**	**-1.7**
UCH	**Uchtor** SNR=26	**56.11**	**315**	P	**P**	**06 39 08.1**	**+0.3**
AAK	**Ala-Archa**	**56.26**	**315**	*i* P	**P**	**06 39 07.9**	**-1.0**
AAK	comp=Z,6.0nm,1.6s,mb4.4			pmax	pmax		
AAK	comp=Z,300nm,20.0s,MS4.4			MLR	MLR		
AAK	**Ala-Archa** comp=Z,2.1nm,0.6s,mb4.3	**56.26**	**315**	P	**P**	**06 39 06.3**	**-2.5**
USP	**Ospenovka** SNR=11	**56.48**	**316**	P	**P**	**06 39 09.2**	**-1.2**
AML	**Almayashu** SNR=18	**56.65**	**315**	P	**P**	**06 39 11.3**	**-0.3**
EKS2	**Erkin-Say** SNR=10.0	**56.77**	**315**	P	**P**	**06 39 12.2**	**-0.3**
NVS	**Novosibirsk**	**56.90**	**332**	*eP*	**P**	**06 39 11.1**	**-2.1**
NVS				*e*		06 40 07.5	
KURK	**Kurchatov**	**57.05**	**326**	*i* P	**P**	**06 39 13.6**	**-0.8**
KURK	**Kurchatov** comp=Z,21nm,0.9s,mb5.2	**57.05**	**326**	*eP*	**P**	**06 39 12.8**	**-1.6**
KKAR	**Karatay Array**	**59.19**	**315**	P	**P**	**06 39 27.7**	**-1.6**
KKAR	comp=Z,3.0nm,0.5s,mb4.6			pmax	pmax		
TIXI	**Tiksi**	**62.26**	**1**	*eP*	**P**	**06 39 48.3**	**-1.5**
TIXI	comp=Z,12nm,1.0s,mb5.0			pmax	pmax		
TIXI	comp=Z,193nm,17.0s,MS4.3			MLR	MLR		
BVA0	**Borovoye Array** comp=Z,1.0nm,0.7s,mb4.0	**62.65**	**326**	*i* P	**P**	**06 39 51.8**	**-0.9**
BVAR	**Borovoye Array** comp=Z,6.8nm,0.6s,mb5.0,baz=130,slow=7.6,SNR=35	**62.65**	**326**	P	**P**	**06 39 52.5**	**-0.2**
CHKZ	**Chkalovo** comp=Z,6.0nm,1.0s,mb4.7	**62.78**	**326**	P	**P**	**06 39 51.9**	**-1.6**
BILL	**Bilibino** comp=Z,5.0nm,0.8s,mb4.6	**64.18**	**15**	*eP*	**P**	**06 40 03.6**	**+1.2**
BILL	**Bilibino** comp=Z,4.7nm,0.8s,mb4.6	**64.18**	**15**	*eP*	**P**	**06 40 03.6**	**+1.1**
AFI	**Afiamalu** comp=Z,147nm,20.6s,MS4.2,baz=284,slow=31	**65.28**	**110**	LR	LR	07 03 10.0	
SVE	**Sverdlovsk** comp=Z,40nm,1.5s,mb5.1	**69.20**	**327**	⇑*eP*	**P**	**06 40 34.5**	**+0.1**
ARU	**Arti**	**70.22**	**327**	*c i* P	**P**	**06 40 39.7**	**-0.8**
ARU				*e*		06 43 24.7	
ARU				*eS*	S	06 49 50.3	+4.1
ARU				*eSS*	SS	06 54 19.6	+0.8
ARU	comp=Z,14nm,0.6s,mb5.1			pmax	pmax		
ARU	**Arti** comp=Z,18nm,0.4s,mb5.3	**70.22**	**327**	*eP*	**P**	**06 40 39.6**	**-0.9**
RAYN	**Ar Rayn** comp=Z,164nm,0.6s,SNR=26	**78.29**	**292**	P	**P**	**06 41 27.2**	**-0.7**
MCK	**McKinley** comp=Z,3.0nm,0.6s,mb4.4	**79.19**	**27**	*eP*	**P**	**06 41 33.8**	**+1.8**
MCK	**McKinley** comp=Z,2.7nm,0.6s,mb4.3	**79.19**	**27**	*eP*	**P**	**06 41 33.8**	**+1.8**
KIV	**Kislovodsk** comp=Z,5.0nm,0.6s,mb4.6	**79.27**	**313**	*eP*	**P**	**06 41 33.8**	**+1.0**
KIV	**Kislovodsk** comp=Z,5.2nm,0.6s,mb4.6	**79.27**	**313**	*eP*	**P**	**06 41 33.8**	**+0.9**
SOC	**Sochi** comp=Z,12nm,0.9s,mb4.8	**81.44**	**313**	*eP*	**P**	**06 41 41.8**	**-2.6**
SOC	comp=N,6.0nm,0.6s			pmax	pmax		
SOC	comp=E,3.0nm,0.5s			pmax	pmax		
OBN	**Obninsk** comp=Z,23nm,1.5s,mb4.9	**82.48**	**325**	*eP*	**P**	**06 41 49.8**	**+0.3**
OBN	comp=Z,100nm,16.0s,MS4.3			MLR	MLR		
APA	**Apatity** comp=Z,18nm,1.1s,mb5.0	**82.68**	**337**	⇑*eP*	**P**	**06 41 51.7**	**+1.4**
MALT	**Malatya** comp=Z,4.0nm,0.9s,mb4.5	**82.92**	**308**	*eP*	**P**	**06 41 52.3**	**+0.2**
MALT	**Malatya** comp=Z,4.5nm,0.9s,mb4.5	**82.92**	**308**	*eP*	**P**	**06 41 52.3**	**+0.3**
DAWY	**Dawson**	**83.38**	**26**	*eP*	**P**	**06 41 57.0**	**+3.1**
KEV	**Kevo** comp=Z,5.9nm,0.6s,mb4.9	**84.63**	**340**	*epkp*	**P**	**06 41 59.5**	**-0.5**
KEV	**Kevo**	**84.63**	**340**	*eP*	**P**	**06 41 59.5**	**-0.5**
KEV	comp=Z,6.0nm,0.6s,mb4.9			pmax	pmax		
INK	**Inuvik**	**84.99**	**22**	*eP*	**P**	**06 42 04.2**	**+2.4**
INK	comp=Z,8.0nm,1.1s			pmax	pmax		
INK	**Inuvik** comp=Z,2.5nm,0.5s,mb4.6,baz=309,slow=4.7,SNR=57	**84.99**	**22**	P	**P**	**06 42 04.5**	**+2.8**
INK	**Inuvik** comp=Z,8.0nm,1.1s,mb4.8	**84.99**	**22**	*eP*	**P**	**06 42 04.2**	**+2.4**
ARCES	**ARCESS Array B** comp=Z,9.9nm,0.6s,mb5.2,baz=81,slow=6.5,SNR=63	**85.19**	**340**	P	**P**	**06 42 04.7**	**+1.9**
ARE0	**ARCESS Array S**	**85.19**	**340**	*eP*	**P**	**06 42 03.1**	**+0.3**
KAF	**Kangasniemi** comp=Z,4.9nm,0.5s,mb5.0,baz=58,slow=3.4	**86.63**	**332**	*epkp*	**P**	**06 42 10.2**	**+0.2**
KAF	**Kangasniemi** comp=Z,5.0nm,0.5s,mb5.0	**86.63**	**332**	*eP*	**P**	**06 42 10.2**	**+0.2**
PPT	**Papeete**	**86.89**	**108**	*eS*	S	06 53 34.4	+50
PPT	comp=Z,105nm,22.8s			*eLR*	LR	07 10 15.5	
FINES	**FINESS Array B** comp=Z,2.7nm,0.4s,mb4.8,baz=83,slow=6.5,SNR=30	**86.89**	**332**	P	**P**	**06 42 12.1**	**+0.8**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,mb4.3,baz=69,slow=4.2,SNR=5.9	**87.53**	**321**	P	**P**	**06 42 14.2**	**-0.5**
TBI	**Tubuai** comp=Z,150nm,24.5s	**88.08**	**114**	*eLR*	LR	07 10 42.8	
VNDA	**Vanda** comp=Z,1.3nm,0.6s,mb4.4,baz=341,slow=4.9,SNR=12	**88.97**	**173**	P	**P**	**06 42 22.4**	**+1.4**
KMBO	**Kilima Mbogo** comp=Z,1.3nm,0.8s,mb4.3,baz=35,slow=23,SNR=3.9	**89.62**	**269**	P	**P**	**06 42 26.6**	**+1.1**
RES	**Resolute Bay** comp=Z,6.0nm,0.6s,mb5.1	**92.33**	**10**	*eP*	**P**	**06 42 39.0**	**+2.4**
RES	comp=Z,6.3nm,0.6s,mb5.1			pmax	pmax		
RES	**Resolute Bay** comp=Z,6.3nm,0.6s,mb5.1	**92.33**	**10**	*eP*	**P**	**06 42 39.0**	**+2.4**
HFS	**Hagfors**	**93.05**	**333**	P	**P**	**06 42 40.4**	**+0.2**
HFS	**Hagfors** comp=Z,2.0nm,0.6s,mb4.7,baz=90,slow=7.4,SNR=8.3	**93.05**	**333**	P	**P**	**06 42 40.3**	**+0.1**
HFS	comp=Z,128nm,21.3s,MS4.3,baz=242,slow=36			LR	LR	07 25 53.0	
NB2	**NORSAR Subarra** comp=Z,0.8nm,0.6s,mb4.3,baz=67,slow=4.5	**93.76**	**334**	P	**P**	**06 42 43.2**	**-0.2**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.6s,mb4.4	**93.76**	**334**	P	**P**	**06 42 43.2**	**-0.2**
NB2				pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.8nm,0.6s,mb4.3,baz=65,slow=4.6,SNR=6.3	**93.76**	**334**	P	**P**	**06 42 43.7**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,2.0nm,0.6s,mb4.8,baz=299,slow=4.5,SNR=51	**94.43**	**24**	P	**P**	**06 42 49.2**	**+2.8**
RKT	**Rikitea** comp=Z,114nm,31.5s	**101.23**	**112**	*eLR*	LR	07 16 36.4	
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=0.5,slow=0.9,SNR=14	**118.11**	**50**	PKP	PKPdf	06 48 17.4	+4.5
TXAR	**Lajitas Array**	**118.11**	**50**	PKP	PKPdf	06 48 17.4	+4.5
PLCA	**Paso Flores** comp=Z,2.3nm,0.5s,baz=226,slow=1.7,SNR=18	**145.20**	**157**	PKPbc	PKPbc	06 49 06.8	+3.1
CFAA	**Coronel Fontan** comp=Z,0.2nm,0.5s,baz=282,slow=2.3,SNR=4.8	**153.87**	**150**	PKPbc	PKPdf	06 49 28.2	+11
ROSC	**El Rosal** comp=Z,1.4nm,0.6s,baz=275,slow=22,SNR=3.8	**154.74**	**57**	PKPbc	PKPdf	06 49 30.8	+12
LPAZ	**La Paz** comp=Z,0.5nm,0.6s,baz=129,slow=4.2,SNR=2.9	**164.00**	**117**	PKP	PKPdf	06 49 35.1	+6.0
LPAZ				PKPab	PKPab	06 50 29.5	+4.7
BDFB	**Brasilia** comp=Z,0.9nm,0.5s,baz=145,slow=26,SNR=3.1	**171.88**	**219**	PKP	PKPdf	06 49 39.7	+5.0

MAN 31 06:33:32.4,9.10N×127.45E,h129km,mb4.1,ML3.0, MS2.7,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.41**	**230**	*eP*	P	06 34 00.6	+0.8
BIPH				*eS*	S	06 34 15.1	-5.6
BUTP	**Butuan**	**1.81**	**266**	*eP*	P	06 34 17.9	+13
BUKP	**Musuan**	**2.65**	**243**	*eP*	P	06 34 16.9	+1.7
BUKP				*eS*	S	06 34 48.0	+0.3
BESP	**Borongan**	**3.18**	**322**	*eP*	P	06 34 22.3	+0.1
PAGZ	**Pagadian**	**4.21**	**253**	*eP*	P	06 34 35.7	-0.2

IDC 31 06:38:32.5±4.8,0.87N×97.60E,mb3.5/3,mb1 3.7/3, mb1mx3.4/18,mbtmp3.5/3,Error ellipse: s-maj=180.3km s-min=29.9km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=302,slow=8.9,SNR=4.8	**41.52**	**122**	P	P	06 46 21.8	-1.8
SONM	**Songino Array** 0.5nm,0.7s,baz=196,slow=7.7,SNR=5.0	**47.40**	**8**	P	P	06 47 09.1	-1.4
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=157,slow=8.4,SNR=5.5	**47.66**	**346**	P	P	06 47 10.2	-2.4

*CSEM **31** 06:41:06.4±1.0,38.65N×28.99W,h0km±547km,ML2.3, Error ellipse: s-maj=414.8km s-min=13.8km az=100.0, After PDA*
*PDA **31** 06:41:06.4±1.0,38.65N×28.99W,h0km±547km,MD3.0, ML2.3,Error ellipse: s-maj=414.8km s-min=13.8km az=100.0*

SVSA 31 06:41:06.4±1.0,38.65N×28.99W,h0km±547km,MD3.0, ML2.3,Error ellipse: s-maj=414.8km s-min=13.8km az=100.0,Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.23**	**94**	*i* P	Pg	06 41 10.8	-0.2
PCED				*eS*	Sg	06 41 14.3	+0.3
PCED	104nm,0.1s **Cedros** 104nm,0.1s	**0.23**	**94**	*eS*	Sg	06 41 14.3	+0.3
CALA	**Caldeira**	**0.24**	**106**	*eP*	Pg	06 41 10.7	-0.4
CALA				*eS*	Sg	06 41 14.0	-0.3
HOR	**Horta**	**0.31**	**113**	*eP*	Pg	06 41 12.3	-0.2
HOR				*eS*	Sg	06 41 16.6	0.0
PICO	**Pico**	**0.47**	**108**	*eP*	Pg	06 41 15.1	-0.6
PICO				*eS*	Sg	06 41 21.7	-0.2

IDC 31 06:44:46.4±1.2,2.87N×96.56E,mb3.9/7,mb1 4.0/7, mb1mx3.7/19,mbtmp3.9/7,Error ellipse: s-maj=40.0km s-min=26.6km az=56.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.8nm,0.5s,baz=300,slow=9.2,SNR=6.4	**43.47**	**123**	P	P	06 52 51.4	-2.0
MKAR	**Makanchi Array** 2.3nm,0.7s,baz=161,slow=8.1,SNR=31	**45.47**	**346**	P	P	06 53 07.4	-1.8
SONM	**Songino Array** 0.4nm,0.4s,baz=188,slow=9.6,SNR=5.9	**45.59**	**9**	P	P	06 53 09.1	-1.0
SONM				PcP	PcP	06 54 47.9	-1.2
ZAL	**Zalesovo** 0.7nm,0.4s,baz=289,slow=7.3,SNR=5.2	**51.81**	**351**	P	P	06 53 55.2	-2.9
BVAR	**Borovoye Array** 0.8nm,0.7s,baz=143,slow=7.2,SNR=5.2	**54.47**	**341**	P	P	06 54 15.0	-2.9
KMBO	**Kilima Mbogo** 0.8nm,0.4s,baz=37,slow=6.2,SNR=4.0	**59.42**	**267**	P	P	06

SNAA LR LR 07 07 25.9
comp=Z,118nm,19.1s,baz=23,slow=31
SUR Sutherland 23.63 29 LR LR 07 09 38.4
comp=Z,371nm,18.9s,MS3.9,baz=113,slow=30
BOSA Boshof 28.50 34 LR LR 07 13 23.8
comp=Z,225nm,19.5s,MS3.8,baz=159,slow=33
LBTB Lobatse 31.96 32 LR LR 07 14 06.7
comp=Z,138nm,22.0s,MS3.6,baz=339,slow=30
QSPA South Pole Qui 36.16 180 *e*P **P 07 04 59.1 -0.3**
9.2nm,1.1s,mb4.6
VNDA Vanda 47.68 173 P **P 07 06 33.5 +0.1**
3.1nm,1.1s,mb4.3,baz=220,slow=7.1,SNR=8.2
VNDA LR LR 07 26 51.8
comp=Z,153nm,18.3s,MS4.0,baz=199,slow=36
CFAA Coronel Fontan 57.07 260 P **P 07 07 42.5 -1.6**
0.2nm,0.9s,mb3.2,baz=162,slow=3.2,SNR=3.4
LPAZ La Paz 68.66 272 P **P 07 09 01.6 +0.3**
1.2nm,0.8s,mb3.9,baz=133,slow=4.6,SNR=5.0
LPAZ La Paz 68.66 272 *e*P **P 07 09 01.9 +0.7**
5.7nm,1.2s,mb4.4
LPAZ *e* 07 09 10.3
SAML Samuel 71.60 280 *e*P **P 07 09 18.6 -0.5**
2.7nm,0.9s,mb4.2
SAML *e* 07 09 24.8
SAML *e* 07 09 29.9
ASAR Alice Springs 89.81 132 P **P 07 10 55.1 -0.5**
1.1nm,0.8s,mb4.2,baz=209,slow=4.4,SNR=7.8
SDV Santo Domingo 90.35 285 P **P 07 11 00.2 +1.9**
10nm,1.4s,mb5.0
MKAR Makanchi Array 118.66 49 PKP PKPdf 07 16 43.3 -3.1
0.7nm,0.8s,baz=259,slow=2.6,SNR=5.9
BVAR Borovoye Array 118.73 38 PKP PKPdf 07 16 44.3 -2.1
0.9nm,0.7s,baz=207,slow=3.2,SNR=4.8
SONM Songino Array 131.09 62 PKP PKPdf 07 17 07.0 -3.1
0.5nm,0.7s,baz=236,slow=0.9,SNR=4.5
YKA Yellowknife Ar 149.51 309 PKPbc PKPdf 07 17 44.5 +2.4
3.4nm,0.9s,baz=96,slow=2.6,SNR=44
YKA Yellowknife Ar 149.51 309 PKPbc PKPdf 07 17 44.5 +2.4

IDC 31 07:00:26.2±6.9, 18.34N×99.08E, mb3.4/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.4/3, Error ellipse: s-maj=697.3km s-min=28.3km az=59.0, Thailand

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**31.57**	**338**	P	P	07 06 50.4	-2.1
	0.2nm,0.4s,baz=149,slow=9.3,SNR=5.3						
WRA	**Warramunga Arr**	**51.42**	**136**	P	P	07 09 33.5	-1.9
	0.4nm,0.9s,baz=318,slow=7.7,SNR=6.6						
ASAR	**Alice Springs**	**53.84**	**140**	P	P	07 09 50.9	-2.5
	0.4nm,0.6s,baz=320,slow=7.6,SNR=5.6						

*BJI **31** 07:09:30.9, 1.12N×97.28E, h44km, mB5.1, mb4.9, Ms4.6, Msz4.4*
*MOS **31** 07:09:32.6±0.9, 1.63N×97.11E, h33km, mb5.1/15, Error ellipse: s-maj=13.2km s-min=7.6km az=110.8*
*NEIC **31** 07:09:33.6±0.3, 1.55N×97.06E, mb4.8/25, Error ellipse: s-maj=9.0km s-min=5.8km az=223.0*
*IDC **31** 07:09:33.2±0.6, 1.60N×97.01E, h25km±2km, mb4.3/19, mb1 4.4/19, mb1mx4.3/24, mbtmp4.5/19, Error ellipse: s-maj=24.5km s-min=11.6km az=45.0*

ISC 31 07:09:31.7±0.4, 1.53N±0.06×97.08E±0.05, h27km, h27km±.7km: pP-P, n105, σ1s05/103, mb4.8/59, MS4.6/7, 4C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**4.96**	**52**	P	**Pn**	**07 10 47.3**	**+0.7**
KULM	**Kulim**	**5.16**	**44**	*e*Pn	**Pn**	**07 10 49.6**	**+0.3**
KULM				*e*		07 11 02.7	
KGM	**Kluang**	**6.25**	**86**	P	**Pn**	**07 11 07.8**	**+3.1**
CM31	**Chiang Mai Arr**	**16.92**	**6**	*e*P	**P**	**07 13 29.4**	**+1.0**
	18nm,0.9s						
KKM	**Kota Kinabalu**	**19.61**	**76**	P	**P**	**07 14 01.9**	**+0.8**
VIS	**Vishakhapatnam**	**21.01**	**321**	*e*P	**P**	**07 14 02.9**	**-13**
VIS				*e*		07 14 04.2	
	comp=Z,24nm,0.4s						
TRD	**Trivandrum**	**21.20**	**290**	*e*P	**P**	**07 14 21.1**	**+3.4**
KMI	**Kunming**	**24.08**	**13**	P	**P**	**07 14 48.3**	**+2.1**
KMI				PP	PP	07 15 23.5	+2.7
KMI				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.4						
KMI				AMB	AMB		
	comp=Z,176nm,4.6s						
KMI				LR	LR		
	comp=N,574nm,16.2s,MS4.3						
KMI				LR	LR		
	comp=E,449nm,13.2s,MS4.3						
KMI				LR	LR		
	comp=Z,622nm,15.2s,MS4.2						
HYB	**Hyderabad**	**24.10**	**312**	*e*P	**P**	**07 14 48.0**	**+1.5**
HYB	**Hyderabad**	**24.10**	**312**	*i* P	**P**	**07 14 48.0**	**+1.5**
GYA	**Guiyang**	**26.44**	**20**	⇓*i*P	**P**	**07 15 08.3**	**-0.1**
GYA				AP	pP	07 15 15.3	-1.0
GYA				PP	PP	07 15 54.5	+2.6
GYA				S	**S**	**07 19 42.5**	**+4.1**
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,100nm,3.6s						
GYA				LR	LR		
	comp=N,760nm,16.2s,MS4.5						
GYA				LR	LR		
	comp=E,490nm,11.7s,MS4.5						
GYA				LR	LR		
	comp=Z,980nm,14.2s,MS4.5						
JIRN	**Jiri**	**28.00**	**339**	*e*P	**P**	**07 15 23.2**	**+0.6**
	comp=Z,39nm,1.0s,mb5.0						
PKI	**Pulchoki**	**28.20**	**338**	*e*P	**P**	**07 15 24.7**	**+0.2**
	comp=Z,36nm,1.1s,mb4.9						
PKI	**Pulchoki**	**28.20**	**338**	*e*P	**P**	**07 15 24.7**	**+0.2**
PKI				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.6						
GUN	**Gumba**	**28.34**	**339**	*e*P	**P**	**07 15 26.2**	**+0.5**
	comp=Z,42nm,0.7s,mb5.2						
DMN	**Daman**	**28.35**	**337**	*e*P	**P**	**07 15 26.5**	**+0.7**
	comp=Z,14nm,0.6s,mb4.8						
KKN	**Kakani**	**28.45**	**338**	*e*P	**P**	**07 15 26.8**	**+0.1**
	comp=Z,60nm,1.1s,mb5.1						
KKN	**Kakani**	**28.45**	**338**	*e*P	**P**	**07 15 26.8**	**+0.1**
KKN				pmax	pmax		
	comp=Z,30nm,1.1s,mb4.8						
LSA	**Lhasa**	**28.57**	**349**	*e*P	**P**	**07 15 28.5**	**+0.7**
LSA				pmax	pmax		
	comp=Z,21nm,0.9s,mb4.9						
LSA	**Lhasa**	**28.57**	**349**	*e*P	**P**	**07 15 28.5**	**+0.7**
	comp=Z,21nm,0.9s,mb4.9						
GKN	**Gorkha**	**28.89**	**337**	*e*P	**P**	**07 15 31.1**	**+0.5**
	comp=Z,55nm,1.0s,mb5.2						
KOLN	**Koldanda**	**29.11**	**335**	*e*P	**P**	**07 15 33.3**	**+0.7**
	comp=Z,26nm,0.8s,mb5.0						
ENH	**Enshi**	**30.91**	**21**	*e*P	**P**	**07 15 46.7**	**-1.9**
	comp=Z,44nm,1.1s,mb5.2						
ENH				*e*pP	pP	07 15 54.0	-2.6
WHN	**Wuhan**	**33.17**	**28**	⇑P	**P**	**07 16 07.5**	**-0.9**
XAN	**Xi'an**	**34.18**	**18**	P	**P**	**07 16 15.3**	**-1.8**
XAN				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
LZH	**Lanzhou**	**34.95**	**10**	*e*P	**P**	**07 16 22.5**	**-1.1**
LZH				AMB	AMB		
	comp=Z,39nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,127nm,4.0s						
LZH				LR	LR		
	comp=E,6μm,14.5s						
NJ2	**Nanjing**	**36.64**	**32**	*e*P	**P**	**07 16 38.5**	**+0.5**
NJ2				AP	pP	07 16 48.3	+2.2
NJ2				XP	sP	07 16 52.3	+2.8
NJ2				PP	PP	07 18 06.0	+3.0
NJ2				S	**S**	**07 22 22.0**	**+3.2**
NJ2				XS		07 22 37.0	
NJ2				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,1μm,5.6s						
NJ2				LR	LR		
	comp=N,160nm,12.5s,MS4.4						
NJ2				LR	LR		
	comp=E,450nm,14.9s,MS4.4						
NJ2				LR	LR		
	comp=Z,130nm,14.0s,MS3.9						
SSE	**Sheshan**	**37.21**	**35**	P	**P**	**07 16 41.0**	**-1.8**
SSE				AMB	AMB		
	comp=Z,49nm,0.7s,mb5.5						
SSE				AMB	AMB		
	comp=Z,55nm,4.8s						
GTA	**Gaotai**	**37.78**	**3**	*e*P	**P**	**07 16 47.5**	**0.0**
GTA				AP	pP	07 16 56.5	+0.9
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
JOW	**Kunigami**	**39.10**	**47**	P	**P**	**07 16 57.2**	**-1.5**
	comp=Z,16nm,0.9s,mb4.8,baz=258,slow=9.3,SNR=3.5						
HHC	**Hu-ho-hao-te**	**41.27**	**17**	*e*P	**P**	**07 17 18.0**	**+1.6**
HHC				AP	pP	07 17 26.8	+2.3
HHC				XP	sP	07 17 30.3	+2.4
HHC				PP	PP	07 18 57.5	+2.7
HHC				S	**S**	**07 23 30.5**	**+1.9**
HHC				XS		07 23 53.5	
HHC				SS	SS	07 26 28.5	+0.8
HHC				SCS	ScS	07 27 14.3	-2.3
HHC				AMB	AMB		
	comp=Z,195nm,2.6s,mb5.3						
BJT	**Baijiatuau**	**42.05**	**22**	*e*P	**P**	**07 17 23.4**	**+0.5**
BJT				*e**PP	pP	07 17 31.3	+0.3
BJT				pmax	pmax		
	comp=Z,63nm,1.0s						
BJT	**Baijiatuau**	**42.05**	**22**	*e*P	**P**	**07 17 23.4**	**+0.5**
	comp=Z,63nm,1.0s,mb5.2						
BJT				*e*pP	pP	07 17 31.3	+0.3
BJI	**Beijing**	**42.08**	**22**	*e*P	**P**	**07 17 23.5**	**+0.4**
BJI				AMB	AMB		
	comp=Z,49nm,0.7s,mb5.2						
WRA	**Warramunga Arr**	**42.31**	**122**	P	**P**	**07 17 25.3**	**+0.1**
	comp=Z,2.6nm,0.8s,mb3.9,baz=299,slow=9.2,SNR=5.3						
WRA				pP	pP	07 17 33.1	-0.3
	comp=Z,5.1nm,0.8s,baz=302,slow=9.3,SNR=8.3						
WRAB	**Tennant Creek**	**42.31**	**122**	*e*P	**P**	**07 17 25.3**	**0.0**
WRAB				*e**PP	pP	07 17 33.9	+0.5
WRAB				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**42.31**	**122**	*e*P	**P**	**07 17 25.3**	**0.0**
	comp=Z,11nm,0.8s,mb4.5						
WRAB				*e*pP	pP	07 17 33.9	+0.5
WMQ	**Urumqi**	**42.93**	**350**	*e*P	**P**	**07 17 31.0**	**+1.0**
WMQ				AP	pP	07 17 41.0	+2.9
WMQ				XP	sP	07 17 45.0	+3.5
WMQ				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,156nm,3.6s						
WMQ				LR	LR		
	comp=N,433nm,21.0s,MS4.5						
WMQ				LR	LR		
	comp=E,506nm,22.5s,MS4.5						
WMQ				LR	LR		
	comp=Z,328nm,23.2s,MS4.2						
ASAR	**Alice Springs**	**43.69**	**127**	P	**P**	**07 17 37.7**	**+1.3**
	comp=Z,2.9nm,0.9s,mb4.0,baz=297,slow=7.5,SNR=9.3						
KZA	**Kyzart**	**44.88**	**337**	P	**P**	**07 17 47.2**	**+1.4**
	SNR=5.6						
UCH	**Uchtor**	**45.30**	**336**	P	**P**	**07 17 50.6**	**+1.5**
	SNR=26						
TKM2	**Tokmak 2**	**45.47**	**338**	P	**P**	**07 17 51.5**	**+1.1**
	SNR=11						
AML	**Almayashu**	**45.55**	**336**	P	**P**	**07 17 52.6**	**+1.5**
	SNR=16						
AAK	**Ala-Archa**	**45.65**	**337**	*i* P	**P**	**07 17 52.5**	**+0.6**
AAK				pmax	pmax		
	comp=Z,8.0nm,2.2s,mb4.3						
AAK	**Ala-Archa**	**45.65**	**337**	*e*P	**P**	**07 17 51.5**	**-0.4**
	comp=Z,7.8nm,1.0s,mb4.6						
EKS2	**Erkin-Say**	**45.96**	**336**	P	**P**	**07 17 55.8**	**+1.4**
	SNR=12						
USP	**Ospenovka**	**46.18**	**337**	P	**P**	**07 17 57.0**	**+0.9**
	SNR=24						
SONM	**Songino Array**	**46.82**	**9**	P	**P**	**07 18 01.0**	**-0.1**
	comp=Z,16nm,0.7s,mb5.0,baz=188,slow=8.4,SNR=73						
SONM				pP	pP	07 18 08.6	-0.7
	comp=Z,4.7nm,0.7s,baz=188,slow=8.7,SNR=5.8						
MKAR	**Makanchi Array**	**46.89**	**346**	P	**P**	**07 18 01.9**	**+0.2**
	comp=Z,31nm,0.9s,mb5.3,baz=160,slow=7.8,SNR=196						
MKAR				pP	pP	07 18 09.8	0.0
	comp=Z,7.5nm,0.8s,baz=149,slow=7.1,SNR=6.8						
ULN	**Ulaanbaatar**	**46.95**	**9**	*e*P	**P**	**07 18 02.2**	**+0.1**
ULN				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
ULN	**Ulaanbaatar**	**46.95**	**9**	*e*P	**P**	**07 18 02.2**	**+0.1**
	comp=Z,10nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**48.95**	**5**	*e*P	**P**	**07 18 17.0**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**49.06**	**27**	*e*P	**P**	**07 18 17.8**	**-0.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,600nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=E,700nm,15.0s,MS4.9						
CN2				LR	LR		
	comp=Z,900nm,16.0s,MS4.9						
TLY	**Talaya**	**50.27**	**5**	*i* P	**P**	**07 18 28.3**	**+0.5**
TLY				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
TLY	**Talaya**	**50.27**	**5**	*e*P	**P**	**07 18 27.9**	**0.0**
	comp=Z,9.4nm,0.8s,mb4.9						
PMG	**Port Moresby**	**51.04**	**103**	P	**P**	**07 18 33.5**	**-0.7**
HIA	**Hailar**	**51.36**	**19**	*e*P	**P**	**07 18 35.7**	**-0.4**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**51.36**	**19**	*e*P	**P**	**07 18 35.7**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.6						
KURK	**Kurchatov**	**51.44**	**345**	⇑*i*P	**P**	**07 18 36.3**	**-0.4**
KURK	**Kurchatov**	**51.44**	**345**	*e*P	**P**	**07 18 36.1**	**-0.6**
	comp=Z,22nm,1.1s,mb5.0						
KURK				*e*pP	pP	07 18 44.5	-0.5
MJAR	**Matsushiro Arr**	**51.52**	**43**	P	**P**	**07 18 36.7**	**-0.9**
	comp=Z,3.7nm,0.7s,mb4.4,baz=218,slow=5.4,SNR=8.3						
MDJ	**Mudanjiang**	**51.63**	**29**	P	**P**	**07 18 39.3**	**+1.0**
MDJ				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,130nm,4.7s						
MDJ	**Mudanjiang**	**51.63**	**29**	P	**P**	**07 18 39.2**	**+0.9**
	comp=Z,7.9nm,0.7s,mb4.8						
CTA	**Charters Tower**	**52.76**	**117**	P	**P**	**07 18 47.8**	**+0.7**
	comp=Z,6.0nm,0.8s,mb4.6,baz=306,slow=10,SNR=3.7						
CTAO	**Charters Tower**	**52.76**	**117**	*e*P	**P**	**07 18 47.8**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CTAO	**Charters Tower**	**52.76**	**117**	*e*P	**P**	**07 18 47.8**	**+0.8**
	comp=Z,8.6nm,0.9s,mb4.7						
ZAL	**Zalesovo**	**53.20**	**351**	P	**P**	**07 18 48.7**	**-1.1**
	comp=Z,12nm,0.8s,mb4.8,baz=299,slow=6.5,SNR=65						
ZAL				pP	pP	07 18 57.0	-1.1
	comp=Z,10nm,0.9s,baz=314,slow=4.8,SNR=7.8						
STKA	**Stephens Creek**	**53.66**	**132**	*e*P	**P**	**07 18 54.9**	**+1.4**
	comp=Z,4.6nm,1.0s,mb4.4						
STKA				*i*	pP	07 19 02.5	+0.7
STKA	**Stephens Creek**	**53.66**	**132**	P	**P**	**07 18 54.3**	**+0.8**
	comp=Z,5.5nm,0.9s,mb4.5,baz=1.7,slow=7.4,SNR=4.7						
STKA				pP	pP	07 19 02.4	+0.6
	comp=Z,3.1nm,0.7s,baz=299,slow=9.2,SNR=2.9						
NVS	**Novosibirsk**	**54.33**	**350**	⇓*i*P	**P**	**07 18 57.0**	**-1.1**
NVS				pmax	pmax		
	comp=Z,20nm,1.2s,mb4.9						
NVS				pmax	pmax		
	comp=N,15nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.2s						
BVA0	**Borovoye Array**	**55.90**	**341**	P	**P**	**07 19 08.1**	**-1.4**
BVA0				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.0						
BVAR	**Borovoye Array**	**55.90**	**341**	P	**P**	**07 19 08.4**	**-1.1**
	comp=Z,4.8nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=23						
BVAR				pP	pP	07 19 15.9	-1.9
	comp=Z,6.2nm,0.9s,baz=104,slow=6.1,SNR=7.9						
KLR	**Kul'dur**	**56.01**	**27**	*e*P	**P**	**07 19 07.3**	**-3.1**
CHKZ	**Chkalovo**	**56.38**	**341**	P	**P**	**07 19 12.1**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
BOD	**Bodaibo**	**57.71**	**11**	*e*P	**P**	**07 19 20.8**	**-1.5**
KMBO	**Kilima Mbogo**	**59.88**	**268**	P	**P**	**07 19 38.1**	**0.0**
KMBO				*e**PP	pP	07 19 47.8	+1.3
KMBO				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KMBO	**Kilima Mbogo**	**59.88**	**268**	P	**P**	**07 19 38.1**	**0.0**
	comp=Z,2.1nm,0.8s,mb4.2						
KMBO				*e*pP	pP	07 19 47.8	+1.3
YSS	**Yuzh-Sakhalins**	**60.14**	**34**	*e*P	**P**	**07 19 39.2**	**-0.2**
YSS				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**60.14**	**34**	*e*P	**P**	**07 19 39.2**	**-0.2**
	comp=Z,56nm,1.0s,mb5.5						
GNI	**Garni**	**60.97**	**316**	P	**P**	**07 19 44.6**	**-0.5**
	comp=Z,4.5nm,0.7s,mb4.7,baz=328,slow=21,SNR=3.4						
ARU	**Arti**	**62.83**	**337**	*e*P	**P**	**07 19 55.7**	**-1.7**
ASF	**Jabal al Asfar**	**64.18**	**305**	P	**P**	**07 20 06.5**	**-0.1**
	comp=Z,1.9nm,0.4s,mb4.5,baz=90,slow=1.4,SNR=3.7						
MALT	**Malatya**	**64.82**	**312**	*e*P	**P**	**07 20 10.5**	**-0.2**
MALT				*e**PP	pP	07 20 18.8	-0.3
MALT				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
MALT	**Malatya**	**64.82**	**312**	*e*P	**P**	**07 20 10.5**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.3						
MALT				*e*pP	pP	07 20 18.8	-0.3
YAK	**Yakutsk**	**65.14**	**16**	*e*P	**P**	**07 20 10.7**	**-1.6**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
YAK				pmax	pmax		
	comp=N,8.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
BRTR	**Keskin Array B**	**68.80**	**312**	P	**P**	**07 20 34.5**	**-1.4**
	comp=E,2.7nm,0.8s,mb4.2,baz=117,slow=5.5,SNR=9.3						
BRTR				pP	pP	07 20 41.9	-2.5
	comp=E,1.8nm,0.7s,baz=128,slow=7.7,SNR=5.2						
MA2	**Magadan**	**71.08**	**26**	*e*P	**P**	**07 20 49.2**	**-0.2**
MA2				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MA2	**Magadan**	**71.08**	**26**	*e*P	**P**	**07 20 49.2**	**-0.2**
	comp=Z,8.6nm,0.9s,mb4.7						
PET	**Petropavlovsk**	**72.02**	**34**	*e*P	**P**	**07 20 55.4**	**+0.2**
PET				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.1						
PET				MLR	MLR		
	comp=Z,900nm,20.0s,MS5.0						
OBN	**Obninsk**	**72.28**	**328**	*e*P	**P**	**07 20 55.8**	**-0.8**
OBN				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0						
TIXI	**Tiksi**	**72.88**	**10**	*e*P	**P**	**07 20 57.4**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
TIXI				MLR	MLR		
	comp=Z,606nm,17.0s,MS4.9						
AKASG	**Malin Array Be**	**74.92**	**322**	P	**P**	**07 21 10.7**	**-1.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=93,slow=4.6,SNR=6.5						
AKASG				pP	pP	07 21 19.5	-1.1
	comp=Z,1.5nm,0.5s,baz=91,slow=4.8,SNR=2.9						
AKASG	**Malin Array Be**	**74.92**	**322**	P	**P**	**07 21 10.7**	**-1.5**
AKASG				pP	pP	07 21 19.5	-1.1
FINES	**FINESS Array B**	**79.65**	**332**	P	**P**	**07 21 38.0**	**-0.2**
	comp=Z,2.0nm,0.7s,mb4.2,baz=117,slow=8.5,SNR=8.9						
FINES				pP	pP	07 21 46.3	-0.4
	comp=Z,1.0nm,0.7s,baz=90,slow=5.7,SNR=3.1						
SYO	**Syowa Base**	**80.28**	**198**	⇑pP	pP	07 21 54.8	+4.8
SYO	**Syowa Base**	**80.28**	**198**	⇑sP	sP	07 21 56.0	+3.2
ARCES	**ARCESS Array B**	**82.18**	**340**	P	**P**	**07 21 52.0**	**+0.6**
	comp=Z,9.8nm,1.1s,mb4.7,baz=90,slow=2.4,SNR=7.7						
ARCES				pP	pP	07 22 00.8	+0.9
	comp=Z,2.0nm,0.7s,baz=101,slow=6.2,SNR=1.2						
GERES	**GERESS Array B**	**84.49**	**319**	P	**P**	**07 22 03.8**	**+0.3**
	comp=Z,0.4nm,0.3s,mb4.0,baz=90,slow=5.3,SNR=10						
GERES				pP	pP	07 22 10.9	-1.3
	comp=Z,1.7nm,0.7s,baz=104,slow=5.5,SNR=4.9						
NB2	**NORSAR Subarra**	**86.66**	**331**	P	**P**	**07 22 13.7**	**-0.3**
	comp=Z,2.4nm,0.9s,mb4.4,baz=96,slow=4.8						
NB2	**NORSAR Subarra**	**86.66**	**331**	P	**P**	**07 22 13.7**	**-0.3**
NB2				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.3						
NOA	**NORSAR Array B**	**86.66**	**331**	P	**P**	**07 22 13.0**	**-1.0**
	comp=Z,1.4nm,0.8s,mb4.3,baz=93,slow=4.9,SNR=6.5						
NOA				pP	pP	07 22 21.2	-1.5
	comp=Z,1.6nm,0.8s,baz=95,slow=4.9,SNR=6.7						
DAVOX	**Davos**	**86.97**	**317**	P	**P**	**07 22 16.5**	**+0.6**
	comp=Z,2.6nm,0.5s,mb4.8,baz=184,slow=22,SNR=3.8						
YKA	**Yellowknife Ar**	**111.80**	**15**	PP	PP	07 28 40.6	-10
	comp=Z,0.3nm,1.0s,baz=332,slow=4.1,SNR=3.7						
BDFB	**Brasilia**	**142.84**	**246**	PKP	PKPdf	07 29 04.8	-3.8
	comp=Z,1.1nm,0.5s,baz=232,slow=12,SNR=3.2						
TXAR	**Lajitas Array**	**143.45**	**31**	PKhKP		07 29 01.4	
	comp=Z,0.8nm,1.0s,baz=270,slow=1.3,SNR=5.2						

*IDC **31** 07:09:37.3±0.6, 9.30N×126.54E, mb4.4/16, mb1 4.5/16, mb1mx4.4/23, mbtmp4.4/16, Error ellipse: s-maj=41.5km s-min=12.6km az=73.0*
*MOS **31** 07:09:40.8±1.2, 9.23N×126.48E, h33km, mb4.8/16, Error ellipse: s-maj=21.9km s-min=8.8km az=105.6*
*MAN **31** 07:09:41.4, 9.35N×126.74E, h17km, mb4.8, ML3.7, MS3.7*
*NEIC **31** 07:09:41.4±4.7, 9.29N×126.56E, h27km±33km, mb4.7/21, Error ellipse: s-maj=12.5km s-min=4.9km az=67.0*
*BJI **31** 07:09:42.1, 9.83N×126.69E, h9km, mB5.0, mb4.6, Ms4.7, Msz4.2*

ISC 31 07:09:42.7±0.8, 9.31N±0.03×126.73E±0.06, h54km±6km, n88, σ1s10/95, mb4.5/38, MS4.2/1, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**1.15**	**253**	*e*P	**P**	**07 10 01.2**	**-1.6**
BIPH	**Bislig**	**1.17**	**198**	⇓*i*P	**P**	**07 10 02.5**	**-0.6**
MSLP	**Maasin**	**2.02**	**294**	*e*P	**P**	**07 10 15.5**	**+0.5**
MSLP				*e*S	**S**	**07 10 46.6**	**+7.5**
BUKP	**Musuan**	**2.17**	**229**	*e*P	**P**	**07 10 18.2**	**+0.9**
BUKP				*e*S	**S**	**07 10 43.6**	**+0.6**
CGP	**Cagayan de Oro**	**2.18**	**247**	⇓*e*P	**P**	**07 10 17.4**	**0.0**
CGP				*e*S	**S**	**07 10 44.3**	**+1.1**
MATI	**Mati**	**2.39**	**191**	*e*P	**P**	**07 10 20.2**	**-0.2**
PLP	**Palo**	**2.53**	**317**	*e*P	**P**	**07 10 21.7**	**-0.6**
PLP				*e*S	**S**	**07 10 55.8**	**+3.8**
BESP	**Borongan**	**2.61**	**331**	*e*P	**P**	**07 10 22.9**	**-0.6**
KCP	**Kidapawan**	**2.80**	**216**	⇓*i*P	**P**	**07 10 27.1**	**+0.9**
KCP				*i* S	**S**	**07 11 02.2**	**+3.3**
TBP	**Tagbilaran**	**2.

MDJ					AMB	AMB				
	comp=Z,6.0nm,1.1s,mb4.4									
MDJ					AMB	AMB				
	comp=Z,96nm,4.2s									
FORT	**Forrest**	**39.88**	**178**	⇓*iP*	**P**		**07 17 13.7**	**+0.7**		
	comp=Z,428nm,0.5s									
KLR	**Kul'dur**	**40.02**	**5**	*eP*	**P**		**07 17 15.8**	**+1.9**		
HIA	**Hailar**	**40.26**	**353**	P	**P**		**07 17 16.1**	**+0.2**		
HIA				pmax	pmax					
	comp=Z,8.0nm,0.9s									
HIA	**Hailar**	**40.26**	**353**	P	**P**		**07 17 16.1**	**+0.2**		
	comp=Z,7.5nm,0.9s,mb4.4									
KLBR	**Kellerberrin**	**41.56**	**192**	*eP*	**P**		**07 17 27.4**	**+0.5**		
	comp=Z,645nm,1.5s									
ULN	**Ulaanbaatar**	**41.88**	**340**	*eP*	**P**		**07 17 29.2**	**-0.1**		
ULN				pmax	pmax					
	comp=Z,3.0nm,0.5s,mb4.2									
ULN	**Ulaanbaatar**	**41.88**	**340**	*eP*	**P**		**07 17 29.2**	**-0.1**		
	comp=Z,3.3nm,0.5s,mb4.2									
SONM	**Songino Array**	**42.07**	**340**	P	**P**		**07 17 30.5**	**-0.4**		
	comp=Z,0.9nm,0.6s,mb3.6,baz=157,slow=9.3,SNR=9.7									
MUN	**Mundaring**	**42.27**	**193**	*eP*	**P**		**07 17 33.5**	**+0.8**		
	comp=Z,16nm,0.5s,mb4.9									
MUN	**Mundaring**	**42.27**	**193**	*eP*	**P**		**07 17 33.5**	**+0.8**		
MUN				pmax	pmax					
	comp=Z,16nm,0.5s,mb4.9									
JIRN	**Jiri**	**42.31**	**301**	*eP*	**P**		**07 17 32.2**	**-0.9**		
	comp=Z,26nm,0.6s,mb5.0									
GUN	**Gumba**	**42.65**	**301**	*eP*	**P**		**07 17 34.9**	**-1.0**		
	comp=Z,28nm,0.8s,mb5.1									
PKI	**Pulchoki**	**42.95**	**301**	*eP*	**P**		**07 17 36.5**	**-1.9**		
	comp=Z,14nm,0.6s,mb4.9									
PKI	**Pulchoki**	**42.95**	**301**	*eP*	**P**		**07 17 36.5**	**-1.9**		
PKI				pmax	pmax					
	comp=Z,7.0nm,0.6s,mb4.6									
NWAO	**Narrogin (SRO)**	**42.96**	**192**	*eP*	**P**		**07 17 39.1**	**+0.7**		
NWAO				pmax	pmax					
	comp=Z,12nm,0.6s									
NWAO	**Narrogin (SRO)**	**42.96**	**192**	P	**P**		**07 17 38.3**	**-0.1**		
	comp=Z,15nm,0.5s,mb5.0,baz=6.8,slow=7.7,SNR=17									
NWAO	**Narrogin (SRO)**	**42.96**	**192**	*eP*	**P**		**07 17 39.1**	**+0.7**		
	comp=Z,12nm,0.6s,mb4.8									
KKN	**Kakani**	**43.12**	**301**	*eP*	**P**		**07 17 39.0**	**-0.8**		
	comp=Z,12nm,0.7s,mb4.8									
KKN	**Kakani**	**43.12**	**301**	*eP*	**P**		**07 17 39.0**	**-0.8**		
KKN				pmax	pmax					
	comp=Z,6.0nm,0.7s,mb4.4									
STKA	**Stephens Creek**	**43.35**	**161**	*eP*	**P**		**07 17 42.2**	**+0.6**		
	comp=Z,1.5nm,0.4s,mb4.1									
STKA	**Stephens Creek**	**43.35**	**161**	P	**P**		**07 17 41.5**	**-0.1**		
	comp=Z,1.4nm,0.4s,mb4.0,baz=349,slow=7.2,SNR=10									
STKA	**Stephens Creek**	**43.35**	**161**	*eP*	**P**		**07 17 41.7**	**+0.1**		
GKN	**Gorkha**	**43.73**	**301**	*eP*	**P**		**07 17 43.9**	**-0.8**		
KOLN	**Koldanda**	**44.54**	**300**	*eP*	**P**		**07 17 49.8**	**-1.4**		
	comp=Z,25nm,0.8s,mb5.1									
TLY	**Talaya**	**46.29**	**340**	*eP*	**P**		**07 18 05.0**	**+0.2**		
TLY				pmax	pmax					
	comp=Z,4.0nm,0.7s,mb4.5									
TLY	**Talaya**	**46.29**	**340**	*eP*	**P**		**07 18 05.0**	**+0.2**		
	comp=Z,3.6nm,0.7s,mb4.4									
WMQ	**Urumqi**	**48.26**	**322**	*eP*	**P**		**07 18 21.3**	**+1.0**		
WMQ				AP	pP		07 18 31.0	-3.6		
WMQ				XP	sP		07 18 35.0	-5.9		
WMQ				PP	PP		07 20 13.0	+0.4		
WMQ				S	**S**		**07 25 17.0**	**+2.1**		
WMQ				XS			07 25 34.0			
WMQ				AMB	AMB					
	comp=Z,6.0nm,0.6s,mb4.8									
WMQ				AMB	AMB					
	comp=Z,72nm,3.9s									
WMQ				LR	LR					
	comp=N,335nm,22.8s,MS4.3									
WMQ				LR	LR					
	comp=E,238nm,23.9s,MS4.3									
WMQ				LR	LR					
	comp=Z,184nm,25.0s,MS4.0									
BOD	**Bodaibo**	**49.39**	**351**	*eP*	**P**		**07 18 28.8**	**0.0**		
BOD				pmax	pmax					
	comp=Z,6.0nm,1.9s,mb4.3									
BOD				pmax	pmax					
	comp=Z,8.0nm,0.9s,mb4.8									
MKAR	**Makanchi Array**	**53.06**	**323**	P	**P**		**07 18 55.7**	**-1.1**		
	comp=Z,3.9nm,0.6s,mb4.5,baz=119,slow=7.6,SNR=11									
NVS	**Novosibirsk**	**56.96**	**332**	*i P*	**P**		**07 19 19.1**	**-5.8**		
KURK	**Kurchatov**	**57.11**	**326**	*eP*	**P**		**07 19 24.3**	**-1.8**		
KURK				pmax	pmax					
	comp=Z,7.0nm,0.7s,mb4.8									
KURK	**Kurchatov**	**57.11**	**326**	*eP*	**P**		**07 19 24.3**	**-1.8**		
	comp=Z,7.4nm,0.7s,mb4.8									
BVAR	**Borovoye Array**	**62.71**	**326**	P	**P**		**07 20 02.4**	**-1.9**		
	comp=Z,3.1nm,0.6s,mb4.6,baz=121,slow=8.4,SNR=4.8									
BILL	**Bilibino**	**64.20**	**15**	*eP*	**P**		**07 20 14.7**	**+0.8**		
BILL				pmax	pmax					
	comp=Z,5.0nm,1.7s,mb4.3									
BILL	**Bilibino**	**64.20**	**15**	*eP*	**P**		**07 20 13.6**	**-0.3**		
	comp=Z,1.7nm,0.4s,mb4.4									
RAYN	**Ar Rayn**	**78.35**	**292**	P	**P**		**07 21 38.2**	**-1.3**		
	comp=Z,77nm,0.6s,SNR=13									
MCK	**McKinley**	**79.21**	**27**	*eP*	**P**		**07 21 44.9**	**+1.5**		
MCK				pmax	pmax					
	comp=Z,4.0nm,1.0s,mb4.3									
MCK	**McKinley**	**79.21**	**27**	*eP*	**P**		**07 21 44.9**	**+1.5**		
	comp=Z,4.0nm,1.0s,mb4.3									
INK	**Inuvik**	**85.01**	**22**	*eP*	**P**		**07 22 15.0**	**+1.7**		
INK				*e*	pP		07 22 27.2	-1.6		
INK				pmax	pmax					
	comp=Z,8.0nm,1.0s									
INK	**Inuvik**	**85.01**	**22**	*eP*	**P**		**07 22 15.0**	**+1.7**		
	comp=Z,7.6nm,1.0s,mb4.8									
INK				*e*	pP		07 22 27.2	-1.6		
ARCES	**ARCESS Array B**	**85.25**	**340**	P	**P**		**07 22 15.4**	**+1.0**		
	comp=Z,5.1nm,0.6s,mb4.8,baz=80,slow=7.4,SNR=15									
KAF	**Kangasniemi**	**86.69**	**332**	*ep*	**P**		**07 22 21.5**	**-0.1**		
	comp=Z,1.9nm,0.5s,mb4.6,baz=64,slow=4.3									
KAF	**Kangasniemi**	**86.69**	**332**	*eP*	**P**		**07 22 21.5**	**-0.1**		
KAF				pmax	pmax					
	comp=Z,2.0nm,0.5s,mb4.6									
FINES	**FINESS Array B**	**86.95**	**332**	P	**P**		**07 22 23.1**	**+0.2**		
	comp=Z,1.5nm,0.6s,mb4.4,baz=80,slow=5.7,SNR=6.8									
VNDA	**Vanda**	**88.92**	**173**	P	**P**		**07 22 33.1**	**+1.1**		
	comp=Z,0.4nm,0.5s,mb4.0,baz=308,slow=5.4,SNR=5.9									
KMBO	**Kilima Mbogo**	**89.66**	**269**	P	**P**		**07 22 37.9**	**+0.9**		
	comp=Z,0.8nm,0.3s,mb4.5,baz=46,slow=11,SNR=2.4									
RES	**Resolute Bay**	**92.36**	**10**	*eP*	**P**		**07 22 50.3**	**+2.2**		
RES				pmax	pmax					
	comp=Z,4.0nm,0.7s,mb4.9									
RES	**Resolute Bay**	**92.36**	**10**	*eP*	**P**		**07 22 50.3**	**+2.1**		
	comp=Z,4.3nm,0.7s,mb4.9									
HFS	**Hagfors**	**93.11**	**333**	P	**P**		**07 22 51.8**	**0.0**		
	comp=Z,1.3nm,0.7s,mb4.5,baz=27,slow=9.9,SNR=3.6									
NOA	**NORSAR Array B**	**93.82**	**334**	P	**P**		**07 22 55.1**	**+0.1**		
	comp=Z,0.3nm,0.8s,mb3.8,baz=63,slow=2.6,SNR=3.0									
YKA	**Yellowknife Ar**	**94.45**	**24**	P	**P**		**07 23 00.1**	**+2.3**		
	comp=Z,0.8nm,0.6s,mb4.3,baz=300,slow=4.6,SNR=26									
TXAR	**Lajitas Array**	**118.11**	**50**	PKP	PKPdf		07 28 28.0	+3.7		
	comp=Z,0.3nm,0.6s,baz=288,slow=0.6,SNR=5.2									
PLCA	**Paso Flores**	**145.15**	**157**	PKPbc	PKPbc		07 29 17.2	+2.3		
	comp=Z,1.7nm,0.6s,baz=249,slow=3.0,SNR=7.0									

CASC 31 07:10:52.0±3.2, 13.52N×88.42W, h222km±20km, MD3.9, ML3.2, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLLM	**Bellamira**	**0.19**	**113**	*eP*		P	07 11 20.9	-0.3
BLLM				*eS*		S	07 11 45.4	+1.5
LCRS	**La Ceiba**	**0.56**	**284**	⇑*eP*		P	07 11 21.5	-0.7
CNCH	**Conchagua**	**0.62**	**113**	*eP*		P	07 11 21.4	-1.1
LFRS	**El Faro**	**0.63**	**280**	⇑*eP*		P	07 11 21.7	-0.7
LBRS	**Las Brisas**	**0.64**	**290**	*eP*		P	07 11 21.7	-0.8
LFU	**La Fuente**	**0.71**	**289**	*eP*		P	07 11 22.1	-0.7
BOQS	**Boqueron**	**0.86**	**285**	*eP*		P	07 11 23.4	-0.1
BOQS				*eS*		S	07 11 50.0	+2.0
SNJE	**San Jose**	**1.20**	**287**	*eP*		P	07 11 25.6	-0.1
SBLS	**San Blas**	**1.21**	**285**	*eP*		P	07 11 26.2	+0.4
SBLS				*eS*		S	07 11 54.7	+2.8
RTR	**El Retiro**	**1.25**	**288**	*eP*		P	07 11 26.4	+0.3
RBDL	**Robledal**	**1.36**	**296**	*eP*		P	07 11 28.0	+1.0

*BJI **31** 07:14:18.3, 1.90N×96.60E, h25km, mB5.1, mb4.9*
*NEIC **31** 07:14:21.4±0.4, 1.92N×96.62E, mb4.4/7, Error ellipse: s-maj=12.5km s-min=6.5km az=51.0*
*IDC **31** 07:14:21.6±1.2, 1.94N×96.65E, h25km±4km, mb4.1/11, mb1 4.2/11, mb1mx4.0/19, mbtmp4.2/11, Error ellipse: s-maj=59.2km s-min=12.7km az=53.0*

ISC 31 07:14:19.9±0.7, 1.97N±0.09×96.7E±0.1, h25km, h25km±1.3km: pP-P, n28, σ0s65/25, mb4.4/19, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KULM	**Kulim**	**5.15**	**50**	*ePn*		**Pn**	**07 15 37.6**	**+0.1**
KULM				*e*			07 15 44.2	
CM31	**Chiang Mai Arr**	**16.54**	**8**	*eP*		**P**	**07 18 12.8**	**+0.8**
	24nm,0.8s							
KKM	**Kota Kinabalu**	**19.89**	**78**	P		**P**	**07 18 52.9**	**+0.2**
LSA	**Lhasa**	**28.08**	**350**	*eP*		**P**	**07 20 12.0**	**+0.2**
	12nm,1.0s,mb4.5							
FITZ	**Fitzroy Crossi**	**34.79**	**126**	P		**P**	**07 21 09.3**	**-1.6**
	3.4nm,0.8s,mb4.3,baz=329,slow=5.9,SNR=3.1							
GTA	**Gaotai**	**37.38**	**4**	*eP*		**P**	**07 21 32.5**	**0.0**
GTA				AP		pP	07 21 40.5	+0.4
GTA				XP		sP	07 21 44.5	+1.2
GTA				AMB	AMB			
	comp=Z,15nm,0.7s,mb4.9							
WRA	**Warramunga Arr**	**42.87**	**122**	P		**P**	**07 22 18.6**	**+0.3**
	comp=Z,3.6nm,0.6s,mb4.3,baz=300,slow=9.3,SNR=27							
WRA				pP		pP	07 22 25.9	0.0
	comp=Z,1.3nm,0.4s,baz=302,slow=9.1,SNR=6.6							
WRAB	**Tennant Creek**	**42.88**	**122**	*eP*		**P**	**07 22 18.6**	**+0.2**
	comp=Z,4.9nm,0.6s,mb4.4							
WB2	**Warramunga Arr**	**42.88**	**122**	*eP*		**P**	**07 22 18.9**	**+0.5**
ASAR	**Alice Springs**	**44.26**	**127**	P		**P**	**07 22 29.9**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.0,baz=300,slow=7.9,SNR=16							
ASAR				pP		pP	07 22 37.5	+0.4
	comp=Z,1.6nm,0.6s,baz=300,slow=7.9,SNR=7.1							
AAK	**Ala-Archa**	**45.10**	**337**	P		**P**	**07 22 36.2**	**+0.2**
	comp=Z,4.0nm,1.1s,mb4.2							
MKAR	**Makanchi Array**	**46.38**	**346**	P		**P**	**07 22 46.1**	**+0.1**
	comp=Z,6.3nm,0.6s,mb4.7,baz=162,slow=7.7,SNR=41							
MKAR				pP		pP	07 22 54.4	+0.7
	comp=Z,3.4nm,0.7s,baz=160,slow=7.1,SNR=9.1							
SONM	**Songino Array**	**46.46**	**9**	P		**P**	**07 22 46.5**	**-0.2**
	comp=Z,3.0nm,0.7s,mb4.4,baz=188,slow=9.1,SNR=19							
SONM				PcP		PcP	07 24 21.7	+0.2
	comp=Z,0.4nm,0.4s,baz=196,slow=3.0,SNR=2.7							
SONM				pPcP			07 24 30.2	
	comp=Z,0.7nm,0.5s,baz=185,slow=3.8,SNR=4.4							
ULN	**Ulaanbaatar**	**46.59**	**10**	*eP*		**P**	**07 22 47.8**	**+0.1**
	comp=Z,2.0nm,0.7s,mb4.2							
CN2	**Changchun**	**48.86**	**28**	*eP*		**P**	**07 23 04.5**	**-1.0**
CN2				AMB	AMB			
	comp=Z,10.0nm,0.6s,mb5.0							
KURK	**Kurchatov**	**50.93**	**345**	*eP*		**P**	**07 23 20.8**	**-0.4**
	comp=Z,5.6nm,0.9s,mb4.5							
PMG	**Port Moresby**	**51.53**	**104**	*eP*		**P**	**07 23 26.3**	**0.0**
	comp=Z,17nm,0.8s,mb5.0							
ZAL	**Zalesovo**	**52.72**	**351**	P		**P**	**07 23 34.0**	**-0.7**
	comp=Z,4.7nm,0.4s,mb4.8,baz=325,slow=5.8,SNR=14							
ZAL				pP		pP	07 23 42.3	-0.1
	comp=Z,2.4nm,0.5s,baz=281,slow=4.6,SNR=3.2							
ZAL	**Zalesovo**	**52.72**	**351**	P		**P**	**07 23 34.0**	**-0.7**
ZAL				pP		pP	07 23 42.3	-0.1
BVAR	**Borovoye Array**	**55.36**	**341**	P		**P**	**07 23 52.4**	**-1.7**
	comp=Z,1.9nm,0.7s,mb4.2,baz=135,slow=10,SNR=8.1							
FINES	**FINESS Array B**	**79.09**	**333**	P		**P**	**07 26 23.5**	**0.0**
	comp=Z,0.8nm,0.5s,mb3.9,baz=90,slow=5.6,SNR=6.9							
ARCES	**ARCESS Array B**	**81.65**	**340**	P		**P**	**07 26 37.8**	**+0.8**
	comp=Z,2.1nm,0.7s,mb4.2,baz=104,slow=5.0,SNR=10							
ARCES				pP		pP	07 26 44.4	-0.6
	comp=Z,4.7nm,1.0s,baz=101,slow=6.2,SNR=1.4							
ARCES	**ARCESS Array B**	**81.65**	**340**	P		**P**	**07 26 37.8**	**+0.8**
ARCES				pP		pP	07 26 44.4	-0.6
GERES	**GERESS Array B**	**83.90**	**319**	P		**P**	**07 26 49.5**	**+0.5**
	comp=Z,0.3nm,0.2s,mb4.0,baz=90,slow=5.3,SNR=3.9							
NOA	**NORSAR Array B**	**86.09**	**331**	P		**P**	**07 27 00.6**	**+1.0**
	comp=Z,0.3nm,0.6s,mb3.7,baz=96,slow=5.4,SNR=2.7							
YKA	**Yellowknife Ar**	**111.49**	**15**	PP		PP	07 33 29.8	-7.4
	comp=Z,0.1nm,0.3s,baz=248,slow=11,SNR=3.8							
TXAR	**Lajitas Array**	**143.28**	**31**	PKP		PKPdf	07 33 52.9	-4.4
	comp=Z,0.2nm,0.6s,baz=342,slow=3.2,SNR=4.6							
TXAR	**Lajitas Array**	**143.28**	**31**	PKP		PKPdf	07 33 52.9	-4.4

IDC 31 07:19:14.8±2.3, 2.02N×96.86E, h25km±5km, mb3.7/5, mb1 3.8/5, mb1mx3.5/19, mbtmp3.8/5, Error ellipse: s-maj=91.1km s-min=19.5km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**42.75**	**123**	P		P	07 27 10.1	-2.2
	0.2nm,0.3s,baz=304,slow=9.1,SNR=7.5							
WRA				pP		pP	07 27 18.2	-1.6
	0.4nm,0.2s,baz=302,slow=8.8,SNR=3.9							
MKAR	**Makanchi Array**	**46.37**	**346**	P		P	07 27 38.8	-2.2
	0.7nm,0.5s,baz=160,slow=8.9,SNR=11							
MKAR				pP		pP	07 27 47.0	-1.5
	0.6nm,0.4s,baz=157,slow=8.8,SNR=5.9							
SONM	**Songino Array**	**46.38**	**9**	P		P	07 27 39.7	-1.3
	0.6nm,0.4s,baz=190,slow=8.9,SNR=7.2							
SONM				pP		pP	07 27 47.6	-0.9
	0.6nm,0.8s,baz=188,slow=8.7,SNR=3.5							
ZAL	**Zalesovo**	**52.70**	**351**	P		P	07 28 26.9	-2.6
	1.3nm,0.3s,baz=286,slow=9.3,SNR=4.9							
ZAL				pP		pP	07 28 33.9	-3.3
	1.2nm,0.3s,baz=274,slow=2.3,SNR=3.0							
BVAR	**Borovoye Array**	**55.37**	**341**	P		P	07 28 46.5	-2.7
	0.7nm,0.7s,baz=143,slow=7.2,SNR=3.6							
BVAR				pP		pP	07 28 54.0	-2.8
	0.8nm,0.7s,baz=141,slow=9.5,SNR=3.7							

*BJI **31** 07:23:51.5, 1.59N×97.18E, h27km, mB6.1, mb5.9, Ms6.2, Msz6.1*
*NEIC **31** 07:23:53.8±0.1, 1.70N×97.12E, h22km, mb5.7/125, ME5.5, MS5.8/143, MW5.7, Error ellipse: s-maj=4.7km s-min=2.9km az=215.0 Broadband fault plane solution: P waves. NP1:φs120°, δ85°, λ90°. NP2:φs300°, δ5°, λ90°. Principal axes: T Plg50°, Azm30°; N Plg0°, Azm0°; P Plg40°, Azm210°; Moment Tensor Solution. s36 Moment tensor: Scale 10¹⁷ Nm; Mrr2.61; Mθθ-2.09; Mφφ-0.52; Mrθ3.66; Mrφ1.31; Mθφ-2.61; Best double couple: Ms5.3×10¹⁷ NP1:φs293°, δ16°, λ79°. NP2:φs125°, δ74°, λ93°. Principal axes: T 5.16, Plg60°, Azm39°; N .2, Plg3°, Azm304°; P -5.36, Plg29°, Azm212°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*HRVD **31** 07:23:53.8±0.2, 1.45N×96.81E, h25km, MW5.8/68, Centroid moment Tensor Solution. LP body waves: s67,c133;Mantle waves: s68,c147; Half duration: 1ŝ7 Moment tensor: Scale 10¹⁷Nm; Mrr2.24±.06; Mθθ-1.32±.05; Mφφ-0.91±.06; Mrθ4.21±.12; Mrφ2.00±.04; Mθφ-3.49±.14; Best double couple: M₀6.092×10¹⁷ NP1: φs317°, δ13°, λ97°. NP2:φs130°, δ77°, λ88°. Principal axes: T 5.652, Plg58°, Azm38°; N .887, Plg2°, Azm130°; P -6.533, Plg32°, Azm221°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*MOS **31** 07:23:54.2±0.9, 1.80N×97.13E, h33km, mb6.0/96, MS5.6/47 Error ellipse: s-maj=8.5km s-min=3.6km az=126.2*
*IDC **31** 07:23:57.3±1.6, 1.72N×97.18E, h51km±13km, mb5.1/31, mb1 5.1/31, mb1mx5.1/31, mbtmp5.4/31, MS5.6/22, Ms1 5.6/22, ms1mx5.3/35, Error ellipse: s-maj=11.7km s-min=7.4km az=48.0*

ISC 31 07:23:53.1±0.1, 1.77N±0.02×97.13E±0.02, h26km, h26km±.6km: pP-P, n858, σ1s02/746, mb5.8/194, MS5.8/192, 135C-26D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IPM	**Ipoh**	**4.79**	**54**	P		**Pn**	**07 25 06.9**	**+1.5**
KULM	**Kulim**	**4.96**	**45**	⇑*iP*		**Pn**	**07 25 09.1**	**+1.2**
KGM	**Kluang**	**6.19**	**88**	P		**Pn**	**07 25 27.4**	**+2.2**
SNG	**Songkhla**	**6.40**	**33**	P		**Pn**	**07 25 27.5**	**-0.7**
	2µm,1.0s							
PENI	**Pendagan**	**10.84**	**132**	⇓*iP*		**P**	**07 26 26.1**	**-3.8**
PENI				pmax	pmax			
	comp=Z,288nm,0.5s							
PENI	**Pendagan**	**10.84**	**132**	⇓*iP*		**P**	**07 26 26.1**	**-3.8**
	comp=Z,288nm,0.5s							
NNT	**Nongplab**	**11.06**	**13**	P		**P**	**07 26 33.0**	**+0.1**
PASI	**Pasiripis**	**11.91**	**135**	*eP*		**P**	**07 26 39.2**	**-5.2**
PULI	**Pulasari**	**11.95**	**132**	⇑*eP*		**P**	**07 26 43.7**	**-1.3**
KSM	**Kuching**	**13.17**	**91**	⇑*iP*		**P**	**07 27 02.9**	**+1.7**
NST	**Nakhon Sawan**	**14.13**	**12**	P		**P**	**07 27 12.8**	**-1.2**
BDT	**Bhumibol Dam**	**15.49**	**7**	P		**P**	**07 27 31.0**	**-0.7**
	comp=Z,56nm,0.9s							
CM31	**Chiang Mai Arr**	**16.68**	**6**	*eP*		**P**	**07 27 46.1**	**-0.8**
	comp=Z,241nm,1.0s							
CHG	**Chiang Mai**	**17.03**	**6**	⇑P		**P**	**07 27 50.2**	**-1.1**
	comp=Z,138nm,0.9s							
CHG				S		**S**	**07 31 07.0**	**+8.5**
PALK	**Pallekele**	**17.26**	**289**	⇓*eP*		**P**	**07 27 54.6**	**+0.4**
	comp=Z,228nm,1.5s							
NANT	**Nan**	**17.28**	**11**	⇑P		**P**	**07 27 56.0**	**+1.5**
KKM	**Kota Kinabalu**	**19.50**	**77**	⇑*iP*		**P**	**07 28 21.1**	**-0.4**
KKM	**Kota Kinabalu**	**19.50**	**77**	P		**P**	**07 28 21.5**	**+0.1**
SRDI	**Scrawed**	**19.78**	**121**	⇑*eP*		**P**	**07 28 18.8**	**-5.7**
KELI	**Kelakatan**	**19.95**	**120**	⇑*eP*		**P**	**07 28 20.8**	**-5.6**
MDRS	**Chennai**	**20.14**	**305**	*eP*		**P**	**07 28 28.0**	**-0.3**
MDRS				*e*			07 29 26.0	
MDRS				*e*			07 32 11.0	
MDRS				*e*			07 34 10.0	
TSM	**Tawau**	**20.86**	**83**	P		**P**	**07 28 36.1**	**+0.3**
VIS	**Vishakhapatnam**	**20.86**	**320**	*eP*		**P**	**07 28 34.1**	**-1.6**
VIS				*eP*			07 28 36.9	
VIS				*e*			07 28 39.0	
	comp=Z,473nm,1.1s							
VIS				*e*			07 32 15.2	
RATI	**Rata**	**21.09**	**120**	⇑*eP*		**P**	**07 28 31.1**	**-7.0**
TRD	**Trivandrum**	**21.17**	**289**	*eP*		**P**	**07 28 41.2**	**+2.3**
TRD				*i*			07 32 19.2	
QIZ	**Qiongzhong**	**21.20**	**35**	P		**P**	**07 28 38.3**	**-0.9**
QIZ				LR	LR			
	comp=N,19µm,16.7s,MS5.7							
QIZ				LR	LR			
	comp=E,16µm,15.1s,MS5.7							
QIZ				LR	LR			
	comp=Z,23µm,13.8s,MS5.7							
QIZ	**Qiongzhong**	**21.20**	**35**	⇑*iP*		**P**	**07 28 38.1**	**-1.1**
	comp=Z,626nm,1.3s,mb5.8							
CAL	**Calcutta**	**22.35**	**338**	*eP*		**P**	**07 28 51.0**	**+0.3**
CAL				*e*			07 33 02.2	
AGT	**Agartala**	**22.71**	**346**	*i P*		**P**	**07 28 54.0**	**-0.3**
AGT				*i*			07 29 37.0	
NINI	**Niniconang**	**23.43**	**105**	*eP*		**P**	**07 29 02.0**	**+0.6**
BUNI	**Buntu Taipa**	**23.80**	**103**	*eP*		**P**	**07 29 06.1**	**+1.1**
KMI	**Kunming**	**23.84**	**13**	P		**P**	**07 29 06.5**	**+1.2**
KMI				AP			07 29 14.5	
KMI				PP		PP	07 29 43.3	+4.3
KMI				S		**S**	**07 33 24.0**	**+7.6**
KMI				XS			07 33 37.3	
KMI				AMB	AMB			
	comp=Z,241nm,1.0s,mb5.6							
KMI				AMB	AMB			
	comp=Z,4µm,5.7s							
KMI				LR	LR			
	comp=N,43µm,15.7s,MS6.1							
KMI				LR	LR			
	comp=E,24µm,13.8s,MS6.1							
KMI				LR	LR			
	comp=Z,43µm,14.4s,MS6.1							
HYB	**Hyderabad**	**23.98**	**312**	⇑*eP*		**P**	**07 29 08.0**	**+1.2**
HYB				*eS*		**S**	**07 33 23.0**	**+4.1**
HYB				pmax	pmax			
	comp=Z,180nm,1.0s,mb5.5							
HYB	**Hyderabad**	**23.98**	**312**	⇑*eP*		**P**	**07 29 08.0**	**+1.2**
	comp=Z,180nm,1.0s,mb5.5							
HYB				*eS*		**S**	**07 33 23.0**	**+4.1**
HYB	**Hyderabad**	**23.98**	**312**	⇑*iP*		**P**	**07 29 08.0**	**+1.2**
	comp=Z,180nm,1.0s,mb5.5							
HYB				*eS*	P		07 29 18.0	
HYB				*eP*	PP		07 29 43.0	+1.9
HYB				*eS*	**S**		**07 33 23.0**	**+4.1**
HYB				*eS*	SS		07 34 14.0	+3.7
HYB				LR	LR			
	comp=Z,14nm,18.0s							
SHL	**Shillong**	**24.20**	**348**	*eP*		**P**	**07 29 09.0**	**+0.2**
	comp

CD2 LR LR
comp=E,28µm,16.8s
CD2 LR LR
comp=Z,28µm,15.6s,MS6.0
ENH Enshi 30.68 21⇑ *i*P **P 07 30 05.9 -2.1**
comp=Z,533nm,1.0s,mb6.3
ENH *e*pP pP 07 30 14.0 -1.7
QZH Quanzhou 30.98 40⇑ *i*P **P 07 30 10.5 -0.3**
QZH S **S 07 35 16.0 +3.3**
QZH AMB AMB
comp=Z,210nm,1.0s,mb5.9
QZH AMB AMB
comp=Z,2µm,5.3s
QZH LR LR
comp=N,54µm,14.0s,MS6.4
QZH LR LR
comp=E,40µm,18.3s,MS6.4
QZH LR LR
comp=Z,76nm,14.9s,MS6.5
MBWA Marble Bar 31.75 137⇑ *e*P **P 07 30 17.2 -0.4**
comp=Z,57nm,0.9s,mb5.4
MBWA LR LR
comp=Z,12µm,21.0s,MS5.5
LGTI Lohaghat 31.88 331 *e*P **P 07 30 18.8 +0.2**
LGTI *e* 07 31 27.5
PTH Pithoragarh 31.98 331 *e*P **P 07 30 18.9 -0.6**
PTH *e*S **S 07 35 29.1 +1.0**
NACB Ninganchiao 32.49 45⇑ *e*P **P 07 30 21.6 -2.5**
YHNB Yeheng 32.66 44⇑ *e*P **P 07 30 24.7 -0.8**
AJM Ajmer 32.72 321 *i*P **P 07 30 26.0 0.0**
NDI New Delhi 32.83 326 *e*P **P 07 30 25.0 -1.9**
comp=Z,273nm,0.8s,mb6.2
NDI *e*S **S 07 35 43.0 +1.6**
TATO Taipei 32.94 44 *e*P **P 07 30 28.6 +0.7**
comp=Z,183nm,1.1s,mb5.9
TATO LR LR
comp=Z,9µm,19.0s,MS5.5
WHN Wuhan 32.95 28 ⇑P **P 07 30 27.5 -0.4**
WHN AMB AMB
comp=Z,319nm,1.0s,mb6.2
WHN LR LR
comp=Z,62µm,15.5s,MS6.4
DDI Dehra Dun 33.68 329 *e*P **P 07 30 33.8 -0.4**
DDI *e*S **S 07 35 58.4 +3.9**
XAN Xi'an 33.95 18 P **P 07 30 34.8 -1.7**
XAN AP pP 07 30 41.5 -2.8
XAN S **S 07 35 57.3 -1.4**
XAN SS SS 07 38 08.8 +2.5
XAN AMB AMB
comp=Z,1µm,7.4s
XAN LR LR
comp=N,21µm,15.9s,MS6.1
XAN LR LR
comp=E,16µm,13.7s,MS6.1
XAN LR LR
comp=Z,37µm,16.7s,MS6.2
FITZ Fitzroy Crossi 34.31 126 *e*P **P 07 30 38.1 -1.8**
comp=Z,36nm,0.8s,mb5.3
FITZ *e*S **S 07 35 58.2 -6.3**
FITZ Fitzroy Crossi 34.31 126 P **P 07 30 37.6 -2.3**
comp=Z,22nm,0.8s,mb5.1,baz=321,slow=4.5,SNR=19
FITZ LR LR 07 44 28.5
comp=Z,11µm,21.4s,MS5.6,baz=289,slow=36
LZH Lanzhou 34.71 10⇑ *i*P **P 07 30 42.0 -1.1**
LZH AP pP 07 30 49.3 -1.5
LZH XP sP 07 30 51.3 -2.9
LZH PP PP 07 32 00.0 -0.3
LZH S **S 07 36 09.0 -1.5**
LZH XS 07 36 23.0
LZH SS SS 07 38 23.0 -0.8
LZH AMB AMB
comp=Z,417nm,1.6s,mb6.1
LZH AMB AMB
comp=Z,1µm,4.0s
LZH LR LR
comp=E,25µm,15.5s
LZH LR LR
comp=Z,28µm,16.7s,MS6.1
SMLA Simla 34.78 329 *i*P **P 07 30 34.1 -10**
SMLA *i*S **S 07 36 04.0 -7.6**
SDNR Sundarnagar 35.17 329 *e*P **P 07 30 47.0 -0.1**
SDNR *e*S **S 07 36 20.0 +2.2**
BHK Bhakra 35.39 329 *e*P **P 07 30 51.4 +2.4**
BHK *e*S **S 07 36 23.4 +2.2**
PONG Pong 36.06 329 *e*P **P 07 30 54.0 -0.6**
PONG *e* 07 36 52.0
NJ2 Nanjing 36.42 32 *e*P **P 07 30 57.3 -0.3**
NJ2 AP pP 07 31 07.0 +1.6
NJ2 XP sP 07 31 11.0 +2.3
NJ2 PP PP 07 32 22.3 +0.7
NJ2 S **S 07 36 34.0 -3.0**
NJ2 XS 07 36 50.0
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,1µm,6.1s
NJ2 LR LR
comp=N,41µm,12.2s,MS6.5
NJ2 LR LR
comp=E,42µm,14.6s,MS6.5
NJ2 LR LR
comp=Z,39µm,15.4s,MS6.3
DLH Dalhousie 36.52 329 *e*P **P 07 30 57.0 -1.4**
DLH *e* 07 31 22.0
THN Thein Dam 36.56 329 *e*P **P 07 30 57.8 -1.0**
comp=Z,90nm,0.9s,mb5.6
THN *e*S **S 07 36 39.4 +0.3**
SSE Sheshan 36.99 36 P **P 07 31 03.3 +0.9**
SSE AP pP 07 31 12.0 +1.8
SSE PP PP 07 32 28.8 -0.2
SSE PCP PcP 07 33 21.5 -2.1
SSE S **S 07 36 50.0 +4.3**
SSE XS 07 37 05.0
SSE SCS ScS 07 41 14.3 +0.8
SSE AMB AMB
comp=Z,69nm,1.0s,mb5.4
SSE AMB AMB
comp=Z,1µm,6.7s
SSE LR LR
comp=N,18µm,16.3s,MS6.0
SSE LR LR
comp=E,3µm,16.3s,MS6.0
SSE LR LR
comp=Z,22µm,17.8s,MS6.0
GTA Gaotai 37.55 3⇑ *i*P **P 07 31 07.0 0.0**
GTA AP pP 07 31 15.5 +0.7
GTA XP sP 07 31 18.0 -0.1
GTA PP PP 07 32 36.0 +0.4
GTA PCP PcP 07 33 24.8 -0.4
GTA S **S 07 36 54.0 -0.1**
GTA XS 07 37 06.8
GTA SCP 07 37 08.5
GTA SS SS 07 39 32.0 +4.0
GTA SCS ScS 07 41 16.5 0.0
GTA AMB AMB
comp=Z,362nm,1.1s,mb6.0
GTA AMB AMB
comp=Z,2µm,5.7s
GTA LR LR
comp=N,10µm,14.5s,MS5.9
GTA LR LR
comp=E,11µm,16.7s,MS5.9
GTA LR LR
comp=Z,12µm,14.8s,MS5.8
MUN Mundaring 38.12 153 *e*P **P 07 31 18.9 +6.9**
comp=Z,49nm,1.2s,mb5.1
MUN *e*S **S 07 37 05.3 +2.3**
KLBR Kellerberrin 38.52 151 *e*P **P 07 31 23.2 +7.9**
comp=Z,1µm,1.7s,mb6.4
JOW Kunigami 38.91 47 P **P 07 31 18.2 -0.3**
comp=Z,72nm,0.5s,mb5.6,baz=243,slow=6.3,SNR=27
JOW LR LR 07 47 37.8
comp=Z,6µm,19.7s,MS5.4,baz=102,slow=36
TIA Tai'an 38.95 26 P **P 07 31 18.3 -0.6**
TIA S **S 07 37 08.3 -7.1**
TIA AMB AMB
comp=Z,263nm,1.3s,mb5.8
TIA LR LR
comp=N,17µm,14.0s,MS6.2
TIA LR LR
comp=E,22µm,14.0s,MS6.2
NWAO Narrogin (SRO) 39.39 153 P **P 07 31 20.6 -1.9**
comp=E,8.8nm,0.9s,baz=348,slow=9.3,SNR=1.7
NWAO LR LR 07 47 13.8
comp=E,14µm,20.8s,MS5.8,baz=330,slow=36

BTO Baotou 40.39 15 *e*P **P 07 31 31.3 +0.6**
BTO S **S 07 37 38.3 +1.4**
BTO AMB AMB
comp=Z,208nm,1.4s,mb5.7
HHC Hu-ho-hao-te 41.04 17 *e*P **P 07 31 37.3 +1.3**
HHC AP pP 07 31 44.3 +0.5
HHC XP sP 07 31 50.0 +2.9
HHC PP PP 07 33 16.8 +3.1
HHC PCP PcP 07 33 38.8 +2.6
HHC S **S 07 37 55.5 +8.9**
HHC XS 07 38 00.8
HHC SS SS 07 40 48.0 +3.2
HHC SCS ScS 07 41 34.5 -2.2
HHC AMB AMB
comp=Z,320nm,1.2s,mb5.8
HHC LR LR
comp=N,26µm,16.7s,MS6.2
HHC LR LR
comp=E,10µm,15.5s,MS6.2
HHC LR LR
comp=Z,23µm,16.1s,MS6.1
BJT Baijiatuau 41.82 22 *e*P **P 07 31 43.2 +0.7**
BJT pmax pmax
comp=Z,2µm,1.2s
BJT Baijiatuau 41.82 22 *e*P **P 07 31 43.2 +0.7**
comp=Z,2µm,1.2s,mb6.5
BJI Beijing 41.84 22 P **P 07 31 43.5 +0.9**
BJI AP pP 07 31 51.5 +1.0
BJI XP sP 07 31 56.3 +2.6
BJI PP PP 07 33 20.0 -2.6
BJI S **S 07 37 57.5 -1.1**
BJI XS 07 38 15.0
BJI AMB AMB
comp=Z,967nm,1.1s,mb6.3
BJI LR LR
comp=N,11µm,15.6s,MS6.0
BJI LR LR
comp=E,9µm,13.5s,MS6.0
BJI LR LR
comp=Z,9µm,16.3s,MS5.7
MSEY Mahe Island 42.11 261 PFAKE 07 32 00.0 +15
MSEY LR LR
comp=Z,2µm,20.0s,MS4.9
KSH Kashi 42.23 335⇑ *i*P **P 07 31 46.8 +0.9**
KSH *e*AP pP 07 31 55.5 +1.8
KSH *e*XP sP 07 31 59.8 +2.9
KSH *e*SCP 07 37 27.0
KSH *e*PCS 07 37 31.5
KSH *e*S **S 07 38 04.0 -0.3**
KSH *e*XS 07 38 18.0
KSH *e*SS SS 07 41 04.5 -2.7
KSH *e*SCS ScS 07 41 44.0 0.0
KSH AMB AMB
comp=Z,3µm,4.7s
KSH LR LR
comp=N,10µm,18.4s,MS5.9
KSH LR LR
comp=E,8µm,14.6s,MS5.9
WRA Warramunga Arr 42.39 122 P **P 07 31 46.1 -1.3**
WRA S **S 07 38 02.1 -4.9**
WRA Warramunga Arr 42.39 122 P **P 07 31 46.1 -1.4**
comp=E,32nm,0.9s,mb4.9,baz=300,slow=9.2,SNR=72
WRA ScP 07 37 26.8
comp=E,1.8nm,1.0s,baz=312,slow=2.7,SNR=3.1
WRA S **S 07 38 02.1 -4.9**
comp=E,7.5nm,1.2s,baz=294,slow=14,SNR=9.0
WRAB Tennant Creek 42.40 122 *e*P **P 07 31 46.6 -0.9**
WRAB pmax pmax
comp=Z,194nm,1.0s,mb5.7
WRAB MLR MLR
comp=Z,3µm,20.0s,MS5.1
WRAB Tennant Creek 42.40 122 *e*P **P 07 31 46.6 -0.9**
comp=Z,194nm,1.0s,mb5.7
WRAB LR LR
comp=Z,3µm,20.0s,MS5.1
WB2 Warramunga Arr 42.40 122 *e*P **P 07 31 46.4 -1.1**
WB2 *i* pP 07 31 55.3 0.0
WBK Wadi Bani Khal 42.45 302 ⇑P **P 07 31 48.4 +0.6**
SNR=27
WMQ Urumqi 42.71 350⇑ *i*P **P 07 31 50.3 +0.6**
WMQ AP pP 07 32 00.0 +2.5
WMQ XP sP 07 32 04.0 +3.2
WMQ PP PP 07 33 32.0 +0.7
WMQ S **S 07 38 11.0 -0.3**
WMQ XS 07 38 27.0
WMQ SCS ScS 07 41 47.0 +0.2
WMQ AMB AMB
comp=Z,227nm,1.2s,mb5.8
WMQ AMB AMB
comp=Z,1µm,4.1s
WMQ LR LR
comp=N,6µm,16.0s,MS5.8
WMQ LR LR
comp=E,9µm,18.8s,MS5.8
WMQ LR LR
comp=Z,5µm,22.4s,MS5.3
JMDO Jabal Madar 43.09 301 P **P 07 31 54.3 +1.2**
SNR=12
DL2 Dalian 43.21 28 ⇑P **P 07 31 54.3 +0.4**
DL2 S **S 07 38 27.0 +8.3**
DL2 AMB AMB
comp=Z,250nm,1.2s,mb5.8
DL2 AMB AMB
comp=Z,840nm,5.9s
DL2 LR LR
comp=N,7µm,18.9s,MS5.7
DL2 LR LR
comp=E,5µm,18.0s,MS5.7
DL2 LR LR
comp=Z,8µm,19.0s,MS5.6
SMDO Samad 43.40 302 P **P 07 31 56.9 +1.3**
SNR=20
MENI Mendum Tagoi 43.48 95⇑ *e*P **P 07 31 53.5 -2.9**
BIDO Bidbid 43.52 303 P **P 07 31 58.4 +1.8**
SNR=7.3
YOMI Yo Moklole 43.64 96⇓ *i*P **P 07 31 54.3 -3.3**
comp=Z,93nm,0.6s,mb5.7
FORT Forrest 43.75 140 *e*P **P 07 31 59.2 +0.8**
comp=Z,4µm,0.8s
FORT *i*S **S 07 38 28.0 +1.4**
ASPA Alice Springs 43.79 128⇑ *i*P **P 07 31 58.7 0.0**
ASPA *e*S **S 07 38 24.1 -3.1**
ASAR Alice Springs 43.79 128 P **P 07 31 58.0 -0.8**
comp=Z,81nm,1.2s,mb5.3,baz=301,slow=7.1,SNR=75
ASAR PcP PcP 07 33 45.7 0.0
comp=Z,3.5nm,0.8s,baz=295,slow=3.9,SNR=4.2
ASAR ScP 07 37 34.0
comp=Z,3.1nm,1.1s,baz=323,slow=4.5,SNR=3.2
ASAR S **S 07 38 24.6 -2.7**
comp=Z,3.0nm,0.9s,baz=287,slow=13,SNR=5.0
ASAR LR LR 07 52 52.7
comp=Z,3µm,21.1s,MS5.2,baz=168,slow=40
ASAR Alice Springs 43.79 128 P **P 07 31 58.0 -0.8**
ASAR PcP PcP 07 33 45.7 0.0
ASAR ScP 07 37 34.0
ASAR S **S 07 38 24.6 -2.7**
ASAR LR LR 07 52 52.6
SHAO Shalim 43.81 294 ⇑P **P 07 31 58.4 -0.6**
SNR=6.8
BSY Bisya 44.00 301 P **P 07 32 01.8 +1.3**
SNR=39
ULHL Ulahol 44.45 338 P **P 07 32 04.9 +1.1**
SNR=30
KZA Kyzart 44.69 337 P **P 07 32 06.7 +0.9**
SNR=105
INCN Inchon 44.72 34 *e*P **P 07 32 05.3 -0.8**
comp=Z,308nm,1.4s,mb5.9
INCN LR LR
comp=Z,17µm,20.0s,MS6.0
ARQ Araqi 44.80 302 P **P 07 32 09.3 +2.4**
SNR=11
RBK Rabkut 44.96 293 ⇑P **P 07 32 09.1 +0.8**
AAA Alma-Ata 45.08 339 *i*P **P 07 32 08.0 -0.9**
AAA *i*S **S 07 38 45.0 -0.6**
AAA *i*SS SS 07 42 06.0 +6.7
AAA smax
comp=E,4µm,6.0s
AAA MLR MLR
comp=Z,3µm,16.0s,MS5.3
UCH Uchtor 45.11 336 P **P 07 32 10.3 +1.2**
SNR=373
TKM2 Tokmak 2 45.27 338 P **P 07 32 11.2 +0.8**
SNR=236
KBK Karagaybulak 45.30 337 P **P 07 32 12.0 +1.4**
SNR=46

AML Almayashu 45.36 335 P **P 07 32 12.3 +1.2**
SNR=12
AAK Ala-Archa 45.45 337 P **P 07 32 12.9 +1.0**
SNR=58
AAK Ala-Archa 45.45 337 P **P 07 32 11.2 -0.7**
comp=Z,633nm,1.0s,mb6.4
AAK Ala-Archa 45.45 337⇑ *i*P **P 07 32 11.5 -0.4**
AAK *e* 07 33 50.8
AAK *e*S **S 07 38 50.0 -1.0**
AAK pmax pmax
comp=Z,109nm,1.0s,mb5.6
AAK MLR MLR
comp=Z,2µm,20.0s,MS4.9
AAK Ala-Archa 45.45 337⇑ *i*P **P 07 32 11.5 -0.4**
comp=Z,109nm,1.0s,mb5.6
AAK *e*PcP PcP 07 33 50.8 -0.3
AAK *e*S **S 07 38 50.0 -1.0**
AAK LR LR
comp=Z,2µm,20.0s,MS4.9
WHFO Wadi Hawf 45.47 294 P **P 07 32 12.9 +0.6**
SNR=14
FRU Bishkek 45.58 337⇑ *i*P **P 07 32 14.5 +1.7**
FRU *e* 07 38 56.0
FRU pmax pmax
comp=Z,720nm,2.2s,mb6.2
FRU MLR MLR
comp=Z,16µm,23.0s,MS5.9
CHMS Chumysh 45.66 337 P **P 07 32 14.0 +0.5**
SNR=43
ASHO Ashiyiah 45.72 303 P **P 07 32 15.6 +1.4**
SNR=17
ABTO Aybut 45.76 293 ⇑P **P 07 32 16.1 +1.5**
SNR=6.7
EKS2 Erkin-Say 45.77 336 P **P 07 32 15.3 +0.9**
SNR=140
USP Ospenovka 45.99 337 P **P 07 32 16.7 +0.6**
SNR=382
BANOM Banah 46.02 305 ⇑P **P 07 32 18.8 +2.2**
SNR=8.0
SNY Shenyang 46.43 27 ⇑P **P 07 32 19.0 -0.6**
SNY AP pP 07 32 26.8 -0.7
SNY PP PP 07 34 10.0 +1.4
SNY S **S 07 39 05.3 +0.2**
SNY XS 07 39 19.0
SNY AMB AMB
comp=Z,190nm,1.4s,mb5.8
SNY LR LR
comp=N,9µm,14.3s,MS6.2
SNY LR LR
comp=E,17µm,14.7s,MS6.2
SNY LR LR
comp=Z,17µm,18.4s,MS6.0
SONM Songino Array 46.58 9 P **P 07 32 21.0 +0.3**
comp=Z,162nm,1.0s,mb5.9,baz=191,slow=9.5,SNR=341
SONM PcP PcP 07 33 54.5 -0.5
comp=Z,31nm,1.0s,baz=203,slow=4.3,SNR=7.6
SONM PP PP 07 34 10.8 +0.8
comp=Z,17nm,0.8s,baz=205,slow=2.8,SNR=3.1
SONM S **S 07 39 17.8 +11**
comp=Z,0.7nm,1.0s,baz=173,slow=12,SNR=1.9
SONM LR LR 07 54 35.9
comp=Z,18µm,19.0s,MS6.0,baz=188,slow=39
MKAR Makanchi Array 46.68 346 P **P 07 32 21.4 0.0**
comp=Z,554nm,0.9s,mb6.5,baz=162,slow=7.7,SNR=810
MKAR PP PP 07 34 10.3 -0.7
comp=Z,27nm,1.0s,baz=117,slow=9.7,SNR=2.3
MKAR S **S 07 39 07.3 -1.2**
comp=Z,2.4nm,1.0s,baz=175,slow=16,SNR=2.2
MKAR LR LR 07 55 39.7
comp=Z,8µm,20.4s,MS5.7,baz=167,slow=41
ULN Ulaanbaatar 46.72 9⇑ *i*P **P 07 32 21.9 +0.2**
ULN *e* 07 34 10.8
ULN pmax pmax
comp=Z,137nm,1.0s,mb5.8
ULN MLR MLR
comp=Z,15µm,20.0s,MS6.0
ULN Ulaanbaatar 46.72 9⇑ *i*P **P 07 32 21.9 +0.2**
comp=Z,137nm,1.0s,mb5.8
ULN ⇓*e*pP pP 07 32 30.7 +1.0
ULN *e*PP PP 07 34 10.8 -0.6
ULN LR LR
comp=Z,15µm,20.0s,MS6.0
KKAR Karatay Array 47.52 334 *i*P **P 07 32 28.4 +0.2**
KKAR pmax pmax
comp=Z,178nm,1.0s,mb6.0
GUMO Guam 48.64 73 PFAKE 07 32 50.0 +13
GUMO LR LR
comp=Z,1µm,20.0s,MS5.0
ZAK Zakamensk 48.72 5⇑ *i*P **P 07 32 37.4 0.0**
ZAK *e* 07 34 33.8
ZAK pmax pmax
comp=Z,34nm,1.1s,mb5.3
ZAK pmax pmax
comp=Z,20nm,1.4s,mb5.0
CN2 Changchun 48.83 27 *e*P **P 07 32 37.5 -0.8**
CN2 *e*XP sP 07 32 52.8 +3.4
CN2 PCP PcP 07 34 02.5 -0.6
CN2 PP PP 07 34 31.8 +0.2
CN2 *e*S **S 07 39 39.0 +0.1**
CN2 SS SS 07 43 07.5 +2.5
CN2 AMB AMB
comp=Z,160nm,1.1s,mb6.0
CN2 AMB AMB
comp=Z,2µm,7.0s
CN2 LR LR
comp=N,12µm,17.0s,MS6.1
CN2 LR LR
comp=E,10µm,17.0s,MS6.1
CN2 LR LR
comp=Z,13µm,17.0s,MS6.0
MOY Mondy 49.83 3 *e*P **P 07 32 46.0 +0.1**
MOY pmax pmax
comp=Z,308nm,3.1s
CBIJ Chichi jima 49.95 56 P **P 07 32 47.1 -0.1**
comp=Z,76nm,0.4s,mb6.1,baz=277,slow=22,SNR=8.6
CBIJ LR LR 07 53 19.9
comp=Z,2µm,18.7s,MS5.2,baz=246,slow=35
TLY Talaya 50.04 5 *e*P **P 07 32 48.1 +0.6**
TLY *e* 07 34 46.4
TLY *e*S **S 07 39 51.0 -4.6**
TLY pmax pmax
comp=Z,146nm,0.9s,mb6.0
TLY MLR MLR
comp=Z,13µm,18.0s,MS6.0
TLY Talaya 50.04 5 *e*P **P 07 32 47.6 +0.1**
comp=Z,194nm,0.9s,mb6.1
TLY LR LR
comp=Z,4µm,19.0s,MS5.4
IRK Irkutsk 50.65 6 *e*P **P 07 32 52.4 +0.2**
IRK *e* 07 34 44.4
IRK pmax pmax
comp=Z,234nm,2.2s,mb5.7
PMG Port Moresby 51.05 104 *e*P **P 07 32 54.3 -1.4**
PMG pmax pmax
comp=Z,97nm,1.2s
PMG MLR MLR
comp=Z,5µm,20.0s
PMG Port Moresby 51.05 104 P **P 07 32 54.2 -1.5**
comp=Z,54nm,1.0s,mb5.4,baz=301,slow=6.2,SNR=5.9
PMG Port Moresby 51.05 104 *e*P **P 07 32 54.3 -1.4**
comp=Z,97nm,1.2s,mb5.6
PMG LR LR
comp=Z,5µm,20.0s,MS5.5
HIA Hailar 51.13 19 *e*P **P 07 32 55.2 -0.6**
HIA pmax pmax
comp=Z,133nm,0.9s
HIA Hailar 51.13 19 *e*P **P 07 32 55.2 -0.6**
comp=Z,133nm,0.9s,mb5.9
KURK Kurchatov 51.23 345 *e*P **P 07 32 56.1 -0.5**
KURK pmax pmax
comp=Z,873nm,1.2s,mb6.6
KURK MLR MLR
comp=Z,2µm,21.0s,MS5.0
KURK Kurchatov 51.23 345 *e*P **P 07 32 56.1 -0.5**
comp=Z,873nm,1.2s,mb6.6
KURK LR LR
comp=Z,2µm,21.0s,MS5.0
MAJO Matsushiro 51.32 43 *e*P **P 07 32 56.9 -0.6**
MAJO pmax pmax
comp=Z,193nm,1.1s,mb5.9
MAJO MLR MLR
comp=Z,7µm,21.0s,MS5.6
MAJO Matsushiro 51.32 43 *e*P **P 07 32 56.9 -0.5**
comp=Z,193nm,1.1s,mb5.9
MAJO LR LR
comp=Z,7µm,21.0s,MS5.6

MAT **Matsushiro** 51.32 43 *e*P **P** 07 32 57.0 -0.5
MAT *e*S **S** 07 40 22.0 +8.5
MAT pmax pmax
comp=Z,117nm,1.0s,mb5.8
MAT MLR MLR
comp=Z,6μm,20.0s,MS5.6
MAT **Matsushiro** 51.32 43 *e*P **P** 07 32 57.0 -0.5
comp=Z,117nm,1.0s,mb5.8
MAT *e*S **S** 07 40 22.0 +8.5
MAT LR LR
comp=Z,6μm,20.0s,MS5.6
MAT **Matsushiro** 51.32 43 P **P** 07 32 57.0 -0.5
MAT S **S** 07 40 22.0 +8.5
MJAR **Matsushiro Arr** 51.32 43 P **P** 07 32 56.4 -1.1
comp=Z,98nm,0.9s,mb5.7,baz=222,slow=6.5,SNR=101
MJAR LR LR 07 55 20.6
comp=Z,6μm,21.5s,MS5.6,baz=245,slow=37
MDJ **Mudanjiang** 51.41 29 P **P** 07 32 57.8 -0.2
MDJ AP pP 07 33 04.0 -2.0
MDJ XP sP 07 33 07.0 -2.1
MDJ PCP PcP 07 34 09.0 -3.5
MDJ PP PP 07 34 58.5 +2.6
MDJ SCP 07 38 04.0
MDJ PCS 07 38 08.8
MDJ S **S** 07 40 17.0 +2.4
MDJ SCS ScS 07 42 45.8 +2.4
MDJ AMB AMB
comp=Z,2μm,6.7s
MDJ LR LR
comp=N,6μm,15.1s,MS6.0
MDJ LR LR
comp=E,11μm,15.7s,MS6.0
MDJ LR LR
comp=Z,16μm,17.0s,MS6.1
MDJ **Mudanjiang** 51.41 29 *e*P **P** 07 32 58.4 +0.4
comp=Z,198nm,1.3s,mb5.9
CTA **Charters Tower** 52.81 117 *e*P **P** 07 33 08.8 -0.1
comp=Z,42nm,1.1s,mb5.3
CTA *i* S **S** 07 40 35.1 +1.0
CTA **Charters Tower** 52.81 117 *e*P **P** 07 33 08.8 -0.1
CTA *i* S **S** 07 40 35.1 +1.0
CTA pmax pmax
comp=Z,42nm,1.1s
CTA **Charters Tower** 52.81 117 LR LR 07 59 54.6
comp=Z,7μm,18.4s,MS5.8,baz=280,slow=41
CTAO **Charters Tower** 52.81 117⇑ *e*P **P** 07 33 08.2 -0.7
CTAO pmax pmax
comp=Z,95nm,1.2s,mb5.6
CTAO MLR MLR
comp=Z,8μm,22.0s,MS5.7
CTAO **Charters Tower** 52.81 117⇑ *e*P **P** 07 33 08.2 -0.7
comp=Z,95nm,1.2s,mb5.6
CTAO LR LR
comp=Z,8μm,22.0s,MS5.7
ZAL **Zalesovo** 52.98 351 P **P** 07 33 09.1 -0.7
comp=Z,417nm,1.0s,mb6.3,baz=300,slow=6.0,SNR=512
ZAL S **S** 07 40 37.0 +1.1
comp=Z,3.5nm,0.8s,baz=172,slow=20,SNR=6.9
OPO **Ambohidratompo** 53.10 245 P **P** 07 33 09.9 -1.1
comp=Z,12nm,1.1s,mb4.8,baz=65,slow=8.5,SNR=10
ADE **Adelaide** 53.37 137 P **P** 07 33 13.9 +1.0
STKA **Stephens Creek** 53.78 132 *e*P **P** 07 33 15.4 -0.5
comp=Z,39nm,0.9s,mb5.3
STKA *i* S **S** 07 40 47.4 +0.2
STKA **Stephens Creek** 53.78 132 P **P** 07 33 15.2 -0.7
comp=Z,62nm,1.1s,mb5.5,baz=310,slow=8.1,SNR=40
STKA LR LR 07 59 19.5
comp=Z,7μm,20.6s,MS5.7,baz=308,slow=40
NVS **Novosibirsk** 54.11 350⇑ *i*P **P** 07 33 16.4 -1.5
NVS *i* 07 33 32.9
NVS *i* S **S** 07 40 43.2 -8.0
NVS pmax pmax
comp=Z,520nm,1.1s,mb6.4
NVS pmax pmax
comp=N,390nm,1.2s
NVS pmax pmax
comp=E,230nm,1.2s
NVS smax
comp=N,119nm,2.2s
NVS smax
comp=E,612nm,2.7s
RAYN **Ar Rayn** 54.43 298 P **P** 07 33 20.2 -0.6
comp=E,397nm,0.8s,SNR=60
ATD **Arta Tunnel** 54.70 283 P **P** 07 33 23.2 +0.4
comp=E,22nm,0.9s,mb5.2,baz=121,slow=15,SNR=8.2
ATD LR LR 07 54 04.3
comp=E,4μm,18.3s,MS5.5,baz=257,slow=33
BVAR **Borovoye Array** 55.70 341 P **P** 07 33 28.0 -1.6
baz=145,slow=6.4
KLR **Kul'dur** 55.78 27⇓ *i*P **P** 07 33 27.0 -3.2
KLR *e* 07 35 31.5
KLR *e*S **S** 07 41 17.0 +3.3
KLR *e* 07 41 28.0
KLR pmax pmax
comp=N,120nm,1.2s
KLR pmax pmax
comp=E,170nm,1.2s
KLR pmax pmax
comp=Z,250nm,1.2s,mb6.1
KLR pmax pmax
comp=N,1μm,7.0s
KLR pmax pmax
comp=E,1μm,7.0s
KLR pmax pmax
comp=Z,3μm,7.0s
KLR MLR MLR
comp=N,22μm,13.5s
KLR MLR MLR
comp=Z,23μm,13.5s,MS6.4
CHKZ **Chkalovo** 56.17 341 *i* P **P** 07 33 32.1 -0.9
CHKZ pmax pmax
comp=Z,100nm,1.0s,mb5.8
BOD **Bodaibo** 57.47 11⇑ *i*P **P** 07 33 41.5 -0.7
BOD pmax pmax
comp=Z,223nm,1.2s,mb6.1
ERM **Erimo** 57.48 39 PFAKE 07 33 50.0 +7.5
ERM LR LR
comp=Z,5.0nm,20.0s
ASAJ **Asahikawa** 58.25 37 LR LR 07 58 44.1
comp=Z,5μm,20.2s,MS5.6,baz=282,slow=36
BHD **Baghdad** 58.43 308 *i* P **P** 07 33 40.0 -9.2
CLNS **Chul'man** 59.22 17⇑ *i*P **P** 07 33 54.1 -0.3
CLNS *e* 07 34 41.8
CLNS *e* 07 36 04.5
CLNS *e*S **S** 07 42 02.8 +3.9
CLNS pmax pmax
comp=N,131nm,1.0s
CLNS pmax pmax
comp=E,110nm,1.0s
CLNS pmax pmax
comp=Z,252nm,1.0s,mb6.2
CLNS pmax pmax
comp=Z,31nm,1.2s,mb5.2
CLNS pmax pmax
comp=N,35nm,1.0s
CLNS pmax pmax
comp=E,44nm,1.2s
CLNS smax
comp=N,18nm,1.7s
CLNS smax
comp=E,9.0nm,0.9s
CLNS smax
comp=Z,8.0nm,0.9s
CLNS MLR MLR
comp=Z,19μm,17.0s,MS6.3
CLNS MLR MLR
comp=N,9μm,16.0s,MS6.0
CLNS MLR MLR
comp=E,3μm,13.0s,MS6.0
TOO **Toolangi** 59.39 136 *e*P **P** 07 33 57.1 +1.2
comp=E,0.6nm,0.8s
TOO *i* S **S** 07 42 06.2 +4.8
TOO **Toolangi** 59.39 136 *e*P **P** 07 33 57.1 +1.2
TOO *i* S **S** 07 42 06.2 +4.8
TOO pmax pmax
comp=Z,1.0nm,0.8s
YSS **Yuzh-Sakhalins** 59.92 34⇓ *i*P **P** 07 33 59.0 -0.4
YSS *i* S **S** 07 42 26.0 +18
YSS pmax pmax
comp=N,170nm,1.0s
YSS pmax pmax
comp=Z,560nm,1.0s,mb6.5
YSS pmax pmax
comp=E,180nm,0.9s
YSS MLR MLR
comp=Z,8μm,15.0s,MS6.0
YSS MLR MLR
comp=N,5μm,14.0s,MS6.1
YSS MLR MLR
comp=E,9μm,15.0s,MS6.1
YSS **Yuzh-Sakhalins** 59.92 34 *e*P **P** 07 33 59.2 -0.2
comp=E,1μm,1.2s,mb6.8
YSS LR LR
comp=Z,4μm,21.0s,MS5.5
KMBO **Kilima Mbogo** 59.94 268 *e*P **P** 07 33 59.6 -0.4
KMBO pmax pmax
comp=Z,40nm,1.2s
KMBO MLR MLR
comp=Z,5μm,20.0s
KMBO **Kilima Mbogo** 59.94 268 P **P** 07 33 59.5 -0.4
comp=Z,9.3nm,0.9s,mb4.8,baz=54,slow=13,SNR=21
KMBO LR LR 07 56 23.3
comp=Z,5μm,20.6s,MS5.6,baz=89,slow=32
KMBO **Kilima Mbogo** 59.94 268 *e*P **P** 07 33 59.5 -0.4
comp=Z,40nm,1.2s,mb5.3
KMBO LR LR
comp=Z,5μm,20.0s,MS5.6
MAK **Makhachkala** 60.26 320 *e*P **P** 07 34 01.0 -0.7
MAK *i* 07 36 17.0
MAK *e*PPP PPP 07 37 43.0 -0.1
MAK *i* S **S** 07 42 10.0 -2.4
MAK *i* 07 43 50.0
MAK pmax pmax
comp=Z,2μm,7.0s
MAK pmax pmax
comp=Z,700nm,8.0s
MAK smax
comp=N,2μm,8.0s
MAK smax
comp=E,1μm,8.0s
MSL **Mosul** 60.51 311 *e*P **P** 07 34 02.8 -0.8
MSL *e*PcP PcP 07 34 30.0 -18
MSL *e*S **S** 07 42 12.5 -3.2
MSL *e*PS PS 07 42 27.0 -7.6
MSL *e*ScS ScS 07 43 45.0 -3.8
HKR **Hakkari** 60.52 313 *e*P **P** 07 34 02.9 -0.7
GNI **Garni** 60.84 316 P **P** 07 34 04.8 -0.9
GNI **Garni** 60.84 316 *e*P **P** 07 34 05.5 -0.2
GNI pmax pmax
comp=Z,148nm,1.2s
GNI MLR MLR
comp=Z,2μm,21.0s
GNI **Garni** 60.84 316 P **P** 07 34 05.8 0.0
comp=Z,63nm,1.0s,mb5.7,baz=348,slow=3.2,SNR=34
GNI **Garni** 60.84 316 *e*P **P** 07 34 05.5 -0.3
comp=Z,148nm,1.2s,mb6.0
GNI LR LR
comp=Z,2μm,21.0s,MS5.3
ARMA **Armidale** 60.92 126 *e*P **P** 07 34 08.3 +1.9
ARMA *i* S **S** 07 42 26.2 +5.2
DGRG **David-gareji** 60.97 318 P **P** 07 34 06.4 -0.2
DGRG S pP 07 34 13.8 -1.0
CNB **Canberra Magne** 61.12 132 *e*P **P** 07 34 07.9 +0.2
comp=Z,272nm,1.2s,mb6.3
TVAN **Van** 61.13 314 *i* P **P** 07 34 10.0 +2.3
VANB **Van** 61.17 314 *e*P **P** 07 34 06.9 -1.0
TI2 **Plekhanov** 61.51 318α *i*P **P** 07 34 09.4 -0.9
TI2 *i* S **S** 07 42 28.4 0.0
TI2 pmax pmax
comp=Z,2μm,2.0s,mb6.8
TI2 MLR MLR
comp=N,2μm,18.0s,MS5.3
TI2 MLR MLR
comp=E,2μm,18.0s,MS5.3
TI2 MLR MLR
comp=Z,2μm,18.0s,MS5.2
TBLG **Delisi** 61.52 318 P **P** 07 34 10.2 -0.1
SVE **Sverdlovsk** 62.14 338⇑ *i*P **P** 07 34 13.2 -1.1
SVE *e* 07 34 50.0
SVE *e*S **S** 07 42 36.0 -0.1
SVE *e* 07 44 07.0
SVE *e* 07 46 40.0
SVE pmax pmax
comp=Z,400nm,1.5s,mb6.3
SVE MLR MLR
comp=N,2μm,18.0s,MS5.5
SVE MLR MLR
comp=E,2μm,18.0s,MS5.5
SVE MLR MLR
comp=Z,4μm,18.0s,MS5.6
BEST **Besiri** 62.45 312 *i* P **P** 07 34 16.1 -0.5
ZEI **Tsey** 62.53 318 *e*P **P** 07 34 16.7 -0.4
ZEI *i* *PP pP 07 34 29.0 +3.8
ZEI *i* 07 36 33.6
ZEI pmax pmax
comp=N,43nm,1.1s
ARU **Arti** 62.64 337*c* *i*P **P** 07 34 16.6 -1.0
ARU pmax pmax
comp=Z,155nm,1.0s,mb6.1
ARU MLR MLR
comp=Z,4μm,24.0s,MS5.5
ARU **Arti** 62.64 337 *e*P **P** 07 34 15.6 -1.9
comp=Z,188nm,1.2s,mb6.1
ARU LR LR
comp=Z,827nm,19.0s,MS4.9
VRT **Varto** 62.71 314 *e*P **P** 07 34 11.1 -7.3
ERZM **Erzurum** 63.12 315 *i* P **P** 07 34 21.4 +0.4
EZM **Erzurum** 63.12 315 P **P** 07 34 21.3 +0.3
TAU **Tasmania Unive** 63.29 141 PFAKE 07 34 30.0 +7.9
TAU LR LR
comp=Z,1μm,20.0s,MS5.0
BINT **Bingol** 63.38 313 *e*P **P** 07 34 21.6 -1.1
BCA **Borcka** 63.53 316 *e*P **P** 07 34 21.6 -2.1
HNR **Honiara** 63.54 101 P **P** 07 34 23.2 -1.0
HNR MLR MLR
comp=Z,2μm,21.0s,MS5.2
HNR **Honiara** 63.54 101 P **P** 07 34 23.2 -1.0
comp=Z,229nm,0.9s,mb6.2,baz=217,slow=5.1
KIV **Kislovodsk** 63.84 319*c* *i*P **P** 07 34 25.1 -0.6
KIV *i* pP 07 34 32.9 -0.9
KIV *i* 07 34 42.4
KIV *i* S **S** 07 42 56.0 -1.6
KIV *i* PS 07 44 15.5
KIV *i* SS SS 07 47 10.0 +2.5
KIV pmax pmax
comp=Z,236nm,1.2s,mb6.1
KIV **Kislovodsk** 63.84 319 *e*P **P** 07 34 25.0 -0.7
comp=Z,216nm,1.0s,mb6.1
KIV LR LR
comp=Z,579nm,20.0s,MS4.8
ASF **Jabal al Asfar** 64.08 305 P **P** 07 34 27.2 -0.4
comp=Z,45nm,1.0s,mb5.4,baz=346,slow=2.1,SNR=33
GOF **Gofitskoye** 64.08 320⇑ *i*P **P** 07 34 25.6 -1.7
GOF *i* pP 07 34 35.4 0.0
GOF *i* S **S** 07 42 58.7 -2.0
GOF pmax pmax
comp=Z,120nm,1.0s,mb5.9
GOF pmax pmax
comp=Z,2μm,4.0s
GOF smax
comp=N,670nm,3.9s
GOF smax
comp=E,600nm,3.9s
GOF smax
comp=E,6μm,9.0s
URFA **Urfa** 64.12 311 P **P** 07 34 27.2 -0.5
PTK **Pertek** 64.18 313 P **P** 07 34 27.0 -1.1
ELZG **Elazig** 64.35 312 *i* P **P** 07 34 28.8 -0.3
GUMT **Gumushane** 64.67 315 *e*P **P** 07 34 30.6 -0.6
MALT **Malatya** 64.70 312 P **P** 07 34 30.5 -0.9
MALT **Malatya** 64.70 312 *e*P **P** 07 34 30.7 -0.7
MALT pmax pmax
comp=Z,49nm,1.0s,mb5.5
MALT **Malatya** 64.70 312 *e*P **P** 07 34 30.7 -0.7
comp=Z,50nm,1.0s,mb5.5
KELT **Kelkit** 64.72 314 *i* P **P** 07 34 32.0 +0.5
YAK **Yakutsk** 64.90 16*c* *i*P **P** 07 34 31.8 -0.5
YAK *e* pP 07 34 39.5 -0.9
YAK *e* 07 36 53.8
YAK *e*S **S** 07 43 10.4 0.0
YAK *e* 07 43 24.6
YAK pmax pmax
comp=Z,531nm,1.0s,mb6.5
YAK pmax pmax
comp=N,196nm,1.1s
YAK pmax pmax
comp=E,129nm,1.1s
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.2
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax
comp=N,21nm,3.8s
YAK smax
comp=Z,4.0nm,0.8s
YAK smax
comp=E,8.0nm,1.2s
YAK MLR MLR
comp=N,8μm,18.0s,MS6.0
YAK MLR MLR
comp=Z,11μm,18.0s,MS6.1
YAK MLR MLR
comp=E,5μm,16.0s,MS6.0
YAK **Yakutsk** 64.90 16 *e*P **P** 07 34 30.3 -2.0
comp=E,1μm,1.0s,mb6.8
YAK LR LR
comp=Z,15μm,21.0s,MS6.2
GZT **Gaziantep** 65.04 311 *i* P **P** 07 34 33.6 -0.1
EIL **Elat** 65.10 302 *e*P **P** 07 34 33.4 -0.8
comp=Z,129nm,1.1s,mb5.9
GAZ **Gaziantep** 65.25 310 *e*P **P** 07 34 34.7 -0.4
BHL **Bhannes** 65.55 307 *e*P **P** 07 34 37.5 +0.6
KAHT **Ahir Dag** 65.65 311 *i* P **P** 07 34 37.7 +0.1
SOC **Sochi** 65.66 318 *i* P **P** 07 34 36.2 -1.3
SOC *e*PPP PPP 07 38 41.9 +3.0
SOC *i* S S 07 43 17.1 -2.9
SOC *e*S ScS 07 44 33.6 +6.0
SOC *e*SS SS 07 47 30.5 -5.3
SOC pmax pmax
comp=Z,164nm,1.2s,mb5.9
SOC pmax pmax
comp=N,24nm,1.1s
SOC pmax pmax
comp=E,28nm,1.2s
SOC pmax pmax
comp=Z,232nm,1.1s,mb6.1
SOC MLR MLR
comp=N,1μm,21.0s,MS5.3
SOC MLR MLR
comp=Z,1μm,21.0s,MS5.0
SOC MLR MLR
comp=E,2μm,24.0s,MS5.3
COBT **Iskenderun** 65.79 310 *i* P **P** 07 34 38.2 -0.3
MBAR **Mbarara** 66.43 269 *e*P **P** 07 34 41.4 -1.5
MBAR pmax pmax
comp=Z,35nm,1.1s,mb5.3
MBAR MLR MLR
comp=Z,939nm,20.0s,MS5.0
MBAR **Mbarara** 66.43 269 *e*P **P** 07 34 41.4 -1.5
comp=Z,35nm,1.1s,mb5.3
MBAR LR LR
comp=Z,939nm,20.0s,MS5.0
TOKT **Tokat** 66.73 314 *e*P **P** 07 34 42.0 -2.4
BNN **Bunyan** 66.79 312 *e*P **P** 07 34 42.8 -2.0
MEST **Erdemli** 67.44 309 *i* P **P** 07 34 47.4 -1.6
AVNT **Avonos** 67.51 312 *i* P **P** 07 34 48.5 -0.9
ANN **Anapa** 67.63 318 *e*P **P** 07 34 46.1 -3.9
ANN *e*S S 07 43 40.1 -3.8
ANN *e* 07 44 41.8
ANN pmax pmax
comp=Z,73nm,1.2s,mb5.6
CSS **Prodhromos** 67.67 307 *e*P **P** 07 34 49.5 -0.9
comp=Z,92nm,1.1s,mb5.7
LEF **Lefka** 68.06 307 *e*P **P** 07 34 50.1 -2.8
CORM **Corum** 68.08 313 *e*P **P** 07 34 52.6 -0.3
CTKT **Corum** 68.10 313 *i* P **P** 07 34 52.4 -0.6
BOYT **Boyabat** 68.26 314 *i* P **P** 07 34 53.6 -0.4
BYBT **Boyabat** 68.37 314 *e*P **P** 07 34 53.4 -1.3
KAMT **Kaman** 68.53 312 P **P** 07 34 54.5 -1.3
CASY **Casey** 68.57 174 *e*P **P** 07 35 02.9 +7.4
CASY *i* S S 07 43 55.9 +1.2
CASY **Casey** 68.57 174 *e*P **P** 07 34 56.9 +1.4
comp=Z,36nm,1.3s,mb5.1
CASY LR LR
comp=Z,6μm,19.0s,MS5.8
BR131 **Keskin Array S** 68.68 312 PFAKE 07 35 10.0 +13
BR131 LR LR
comp=Z,1μm,19.0s,MS5.2
BRTR **Keskin Array B** 68.68 312 P **P** 07 34 54.4 -2.3
comp=Z,36nm,0.9s,mb5.3,baz=127,slow=6.2,SNR=76
TOS **Tosya** 68.78 314 P **P** 07 34 55.0 -2.2
ELDT **Eldivan** 69.05 313 *i* P **P** 07 34 56.5 -2.4
VRSR **Storozhevoye** 69.05 325 *e*P **P** 07 34 57.2 -1.5
VRSR *e*S S 07 43 54.8 -5.9
VRSR *e* 07 44 51.8
VRSR pmax pmax
comp=N,60nm,1.0s
VRSR pmax pmax
comp=E,170nm,1.0s
VRSR pmax pmax
comp=Z,160nm,1.0s,mb5.9
VRSR smax
comp=N,410nm,4.2s
VRSR smax
comp=Z,120nm,4.1s
VRSR smax
comp=E,320nm,4.6s
BZK **Bozkurt** 69.06 315 *e*P **P** 07 34 56.6 -2.3
KONT **Konya--Tatoy** 69.17 310 *e*P **P** 07 34 55.8 -3.9
VOR **Voronezh** 69.27 326 *e*P **P** 07 35 00.0 0.0
VOR pmax pmax
comp=N,190nm,1.2s
VOR pmax pmax
comp=Z,350nm,1.2s,mb6.2
ANTO **Ankara** 69.35 312 *e*P **P** 07 34 56.6 -4.1
ANTO **Ankara** 69.35 312 ⇑P **P** 07 34 59.6 -1.1
LOD **Lodumlu** 69.38 312 *e*P **P** 07 34 59.9 -1.0
BALT **Daday** 69.38 314 *i* P **P** 07 34 59.7 -1.2
SKR **Severo-Kuril's** 69.43 36 *e*P **P** 07 34 50.0 -11
SKR *e* 07 37 38.0
SKR *e*S S 07 44 06.0 +0.8
SKR *e*PS PS 07 44 23.0 -12
SKR *e* 07 44 48.0
SKR pmax pmax
comp=Z,2μm,10.0s
SKR pmax pmax
comp=N,250nm,1.3s
SKR pmax pmax
comp=Z,510nm,1.3s,mb6.3
SKR pmax pmax
comp=N,4μm,20.0s
SKR pmax pmax
comp=E,6μm,20.0s
SKR MLR MLR
comp=Z,4μm,16.0s,MS5.7
SKR MLR MLR
comp=N,6μm,18.0s,MS5.9
SKR MLR MLR
comp=E,3μm,18.0s,MS5.9
KIZT **Kizilcal** 69.77 311 P **P** 07 35 01.2 -2.2
SAFT **Safranbolu** 69.80 314 P **P** 07 35 01.8 -1.7
SIM **Simferopol'** 69.90 318*c* *i*P **P** 07 35 03.6 -0.4
SIM *e* pP 07 35 13.0 +0.8
SIM *i* S S 07 44 07.0 -3.8
SIM *i* PS PS 07 44 52.0 +11
SIM *e*SS SS 07 48 38.0 -3.5
SIM pmax pmax
comp=Z,117nm,0.9s,mb5.8
LSZ **Lusaka** 70.21 253 *e*P **P** 07 35 05.7 -0.6
LSZ pmax pmax
comp=Z,18nm,1.0s,mb5.0
LSZ MLR MLR
comp=Z,7μm,20.0s,MS5.9
LSZ **Lusaka** 70.21 253 *e*P **P** 07 35 05.7 -0.7
comp=Z,18nm,1.0s,mb5.0
LSZ LR LR
comp=Z,7μm,20.0s,MS5.9
KWAJ **Kwajalein Atol** 70.44 81 PFAKE 07 35 20.0 +12
KWAJ LR LR
comp=Z,335nm,19.0s
ISP **Isparta** 70.57 310 *e*P **P** 07 35 06.4 -1.8
ISP **Isparta** 70.57 310 P **P** 07 35 07.0 -1.2
ISP pmax pmax
comp=Z,74nm,1.3s,mb5.5
ISP **Isparta** 70.57 310 P **P** 07 35 07.0 -1.2
comp=Z,74nm,1.3s,mb5.5
MDU **Mudurnu** 70.67 312 *e*P **P** 07 35 07.6 -1.2
ESKT **Eskisehir** 70.71 311 P **P** 07 35 08.1 -0.9
ESKT **Eskisehir** 70.71 311 *i* P **P** 07 35 07.8 -1.2
ELL **Elmali** 70.79 308 P **P** 07 35 09.4 -0.2
MA2 **Magadan** 70.85 26*c* *i*P **P** 07 35 09.7 +0.2
MA2 *e* 07 37 43.5
MA2 *e*PPP PPP 07 39 29.5 -0.1
MA2 *e*S S 07 44 22.9 +1.2

MA2 *e* 07 44 59.8
MA2 pmax pmax
comp=Z,100nm,1.4s,mb5.5
MA2 pmax pmax
comp=E,40nm,1.5s
MA2 pmax pmax
comp=N,20nm,1.3s
MA2 MLR MLR
comp=Z,13μm,21.0s,MS6.2
MA2 Magadan 70.85 26 *eP* **P 07 35 08.6 -0.9**
comp=Z,96nm,1.0s,mb5.7
MA2 LR LR
comp=Z,6μm,19.0s,MS5.9
ALT Altintas 71.15 311 *eP* **P 07 35 09.7 -2.1**
FETY Fethiye 71.41 308 *eP* **P 07 35 11.2 -2.2**
DZM Mont Dzumac 71.57 114 P **P 07 35 14.3 -0.2**
comp=Z,29nm,1.2s,mb5.1,baz=2.0,slow=8.3,SNR=6.2
DALT Dalyan (Mudla) 71.79 308 *eP* **P 07 35 15.1 -0.5**
PET Petropavlovsk 71.80 34 *i* P **P 07 35 15.1 -0.3**
PET pmax pmax
comp=Z,212nm,1.2s,mb6.0
PET Petropavlovsk 71.80 34 *eP* **P 07 35 14.5 -0.9**
comp=Z,136nm,0.8s,mb5.9
PET LR LR
comp=Z,4μm,20.0s,MS5.7
MOS Moscow 71.81 329α *i* P **P 07 35 15.2 -0.2**
MOS *e* 07 35 34.7
MOS *e* 07 37 54.1
MOS *e* PPP PPP 07 39 39.6 +1.2
MOS *e* S S 07 44 32.5 -0.3
MOS *e* 07 45 15.3
MOS pmax pmax
comp=Z,700nm,1.6s,mb6.3
MOS pmax pmax
comp=Z,382nm,1.2s,mb6.2
MOS MLR MLR
comp=N,6μm,22.0s
MOS MLR MLR
comp=Z,4μm,22.0s,MS5.7
HRT Hereke 71.90 312 *eP* **P 07 35 14.5 -1.6**
YLV Yalova 72.06 312 *eP* **P 07 35 15.3 -1.8**
OBN Obninsk 72.10 328*j* *i* P **P 07 35 16.3 -0.8**
OBN *i* pP 07 35 24.6 -0.7
OBN *i* 07 35 33.0
OBN *e* 07 37 57.5
OBN *e* PPP PPP 07 39 46.7 +5.6
OBN *i* S S 07 44 32.3 -3.8
OBN *e* 07 45 19.6
OBN *i* SS SS 07 49 11.5 -3.9
OBN pmax pmax
comp=Z,1μm,3.1s
OBN pmax pmax
comp=Z,202nm,1.0s,mb6.0
OBN MLR MLR
comp=Z,3μm,20.0s,MS5.5
OBN Obninsk 72.10 328 *eP* **P 07 35 15.7 -1.4**
comp=Z,217nm,1.0s,mb6.0
OBN LR LR
comp=Z,796nm,22.0s,MS4.9
ULDT Uludag 72.14 312 *i* P **P 07 35 16.8 -0.8**
MANT Manisa 72.21 310 *i* P **P 07 35 17.2 -0.9**
ISK Istanbul-Kandi 72.41 313 *eP* **P 07 35 17.0 -2.2**
AYDN Tasoluk 72.56 309 *i* P **P 07 35 19.8 -0.4**
TIXI Tiksi 72.64 10 *eP* **P 07 35 17.4 -2.6**
TIXI *e* 07 37 58.9
TIXI *eS* S 07 44 36.3 -5.7
TIXI pmax pmax
comp=Z,210nm,1.0s,mb6.0
TIXI pmax pmax
comp=N,30nm,1.1s
TIXI pmax pmax
comp=E,18nm,1.1s
TIXI pmax pmax
comp=Z,327nm,1.1s,mb6.2
TIXI MLR MLR
comp=Z,8μm,14.0s,MS6.1
TIXI MLR MLR
comp=N,5μm,15.0s,MS6.0
TIXI MLR MLR
comp=E,4μm,15.0s,MS6.0
TIXI Tiksi 72.64 10⇑ *i* P **P 07 35 18.7 -1.3**
TIXI LR LR
comp=Z,3μm,21.0s,MS5.6
CTT Catalca 72.89 313 *eP* **P 07 35 17.8 -4.2**
BODT Bodrum 72.89 308 *eP* **P 07 35 17.8 -4.4**
KDAG Bornova 73.19 310 *i* P **P 07 35 23.3 -0.6**
IZM Izmir 73.19 310 *eP* **P 07 35 22.7 -1.2**
MAW Mawson 73.25 193 *eP* **P 07 35 24.3 +0.7**
MAW pmax pmax
comp=Z,17nm,0.7s
MAW MLR MLR
comp=Z,7μm,22.0s
MAW Mawson 73.25 193 P **P 07 35 23.4 -0.2**
comp=Z,7.5nm,0.2s,mb5.2,baz=110,slow=11,SNR=48
MAW LR LR 08 01 11.1
comp=Z,4μm,21.6s,MS5.7,baz=26,slow=30
MAW Mawson 73.25 193 *eP* **P 07 35 24.3 +0.7**
comp=Z,16nm,0.7s,mb5.1
MAW LR LR
comp=Z,7μm,22.0s,MS5.9
SEY Seymchan 73.27 23 *eP* **P 07 35 24.9 +1.1**
SEY *e* 07 35 43.2
SEY *eS* S 07 44 52.8 +3.6
SEY pmax pmax
comp=Z,400nm,1.2s,mb6.2
SEY pmax pmax
comp=E,140nm,1.1s
SEY smax
comp=N,6μm,21.3s
SEY smax
comp=E,4μm,23.5s
SEY MLR MLR
comp=Z,17μm,20.0s,MS6.3
SEY MLR MLR
comp=E,17μm,22.0s
TIRR Tirgusor 73.67 316⇑ P **P 07 35 25.2 -1.3**
TIRR Tirgusor 73.67 316 P **P 07 35 25.9 -0.7**
TIRR Tirgusor 73.67 316⇑ P pP 07 35 35.2 +0.5
KIS Kishinev 74.03 319 *eP* **P 07 35 26.0 -2.5**
KIS *e* 07 35 45.0
KIS *e* 07 38 13.0
KIS *e* PPP PPP 07 40 00.0 -0.5
KIS *i* S S 07 44 52.0 -6.0
KIS *eS* SS 07 49 40.0 -5.4
KIS MLR MLR
comp=Z,2μm,19.0s,MS5.4
KIS MLR MLR
comp=N,1μm,21.0s,MS5.4
KIS MLR MLR
comp=E,1μm,17.0s,MS5.4
KIS MLR MLR
comp=Z,2μm,16.0s
HARR Harsova 74.06 316 P **P 07 35 28.5 -0.3**
LBTB Lobatse 74.08 243 *eP* **P 07 35 28.0 -1.3**
LBTB pmax pmax
comp=Z,34nm,1.0s,mb5.2
LBTB MLR MLR
comp=Z,6μm,21.0s,MS5.8
LBTB Lobatse 74.08 243 P **P 07 35 28.6 -0.7**
comp=Z,18nm,1.1s,mb4.9,baz=113,slow=6.0,SNR=9.5
LBTB Lobatse 74.08 243 *eP* **P 07 35 28.0 -1.3**
comp=Z,34nm,1.0s,mb5.2
LBTB LR LR
comp=Z,6μm,21.0s,MS5.8
PRD Provadia 74.09 314 *eP* **P 07 35 29.0 0.0**
SANT Santorini 74.23 307 *eP* **P 07 35 27.6 -2.4**
comp=Z,71nm,1.0s,mb5.5
JMB Yambol 74.52 314 *eP* **P 07 35 31.0 -0.5**
DRV Dumont d'Urvil 74.71 164 P **P 07 35 43.0 +11**
DRV S S 07 45 07.0 +1.7
DRV SS SS 07 49 44.0 -11
DRV L 07 55 00.0
AKASG Malin Array Be 74.77 322 P **P 07 35 30.7 -2.1**
comp=Z,73nm,0.9s,mb5.6,baz=89,slow=4.9,SNR=138
AKASG PP PP 07 38 14.5 -7.6
comp=Z,5.9nm,0.8s,baz=84,slow=7.7,SNR=4.4
AKASG Malin Array Be 74.77 322 P **P 07 35 30.7 -2.1**
AKASG PP PP 07 38 14.5 -7.6
BOSA Boshof 75.00 240 *eP* **P 07 35 33.4 -1.2**
BOSA pmax pmax
comp=Z,29nm,1.1s,mb5.1
BOSA MLR MLR
comp=Z,4μm,21.0s,MS5.7
BOSA Boshof 75.00 240 P **P 07 35 33.6 -0.9**
comp=Z,13nm,1.1s,mb4.8,baz=101,slow=4.4,SNR=6.3
BOSA LR LR 08 04 40.9
comp=Z,3μm,18.3s,MS5.7,baz=59,slow=33
BOSA Boshof 75.00 240 *eP* **P 07 35 33.4 -1.2**
comp=Z,29nm,1.1s,mb5.1
BOSA LR LR
comp=Z,4μm,21.0s,MS5.7
GVD Gavdhos 75.10 305 P **P 07 35 28.9 -6.0**
comp=Z,72nm,0.8s,mb5.7
SZH Strazhica 75.15 314 *eP* **P 07 35 34.0 -1.1**
VRI Vrincioaia 75.16 317⇑ P **P 07 35 34.7 -0.4**
DIM Dimitrovgrad 75.20 313 *eP* **P 07 35 35.0 -0.4**
KDZ Kurdzhali 75.21 313 *eP* **P 07 35 35.0 -0.5**
PVL Pavlikeni 75.57 314 *eP* **P 07 35 37.0 -0.5**
MLR Muntele Rosu 75.61 317 P **P 07 35 37.8 +0.1**
MLR Muntele Rosu 75.61 317 LR LR 08 16 51.2
comp=Z,2μm,18.3s,MS5.4,baz=273,slow=42
MLR Muntele Rosu 75.61 317⇓ P **P 07 35 37.9 +0.2**
MLR Muntele Rosu 75.61 317⇓ P **P 07 35 37.9 +0.2**
RZN Rozhen 75.73 313 *eP* **P 07 35 37.0 -1.5**
SNX Sinaia 75.88 316⇓ P **P 07 35 39.6 +0.4**
SNX Sinaia 75.88 316⇓ P **P 07 35 39.5 +0.3**
MTUR Matau 76.17 316⇑ P **P 07 35 40.7 -0.1**
PGB Panagyurishte 76.29 313 *eP* **P 07 35 41.0 -0.6**
MMB Musomiste 76.44 312 *eP* **P 07 35 41.0 -1.5**
BURAR Bucovina Array 76.56 319 P **P 07 35 43.3 +0.3**
BURAR Bucovina Array 76.56 319⇑ P **P 07 35 43.4 +0.4**
MNK Minsk 76.65 326 *eP* **P 07 35 41.0 -2.3**
PUL Pulkovo 76.97 331 *eP* **P 07 35 45.1 +0.1**
PUL pmax pmax
comp=Z,174nm,0.7s,mb6.1
PUL pmax pmax
comp=N,64nm,0.6s
PUL pmax pmax
comp=E,219nm,0.7s
PUL Pulkovo 76.97 331 *i* P **P 07 35 45.5 +0.5**
KKB Krupnik 76.97 313 *eP* **P 07 35 44.0 -1.4**
VTS Vitosha 77.00 313 P **P 07 35 45.6 +0.1**
VTS Vitosha 77.00 313 *eP* **P 07 35 44.0 -1.5**
LVV L'vov 77.79 321 *i* P **P 07 35 49.5 -0.2**
LVV *eS* S 07 45 31.8 -7.4
BOLS Boljevac 78.10 314⇓ *i* P **P 07 35 50.7 -0.9**
SKO Skopje 78.19 312 *i* P **P 07 35 51.0 -1.1**
LVZ Lovozero 78.28 340 *eP* **P 07 35 51.7 -0.4**
LVZ *eS* S 07 45 40.1 -4.0
LVZ pmax pmax
comp=N,28nm,1.0s
LVZ pmax pmax
comp=Z,92nm,1.0s,mb5.7
LVZ pmax pmax
comp=E,7.0nm,1.3s
LVZ pmax pmax
comp=Z,904nm,3.5s
LVZ pmax pmax
comp=N,221nm,2.7s
LVZ pmax pmax
comp=E,506nm,4.0s
LVZ smax
comp=Z,704nm,4.9s
LVZ smax
comp=N,1μm,5.3s
LVZ smax
comp=E,762nm,4.6s
LVZ MLR MLR
comp=Z,4μm,21.0s,MS5.7
LVZ MLR MLR
comp=N,3μm,22.0s,MS5.7
LVZ MLR MLR
comp=E,2μm,20.0s,MS5.7
LVZ Lovozero 78.28 340 *i* P **P 07 35 51.0 -1.1**
OHR Ohrid 78.55 311 *eP* **P 07 35 52.0 -2.1**
APA Apatity 78.58 339⇓ *i* P **P 07 35 53.0 -0.7**
APA *i* pP 07 35 59.4 -2.6
APA *i* 07 36 08.5
APA *e* 07 38 54.0
APA *i* S S 07 45 47.0 -0.3
APA *e* 07 46 00.0
APA *i* PS PS 07 46 25.0 -8.1
APA *i* SSS SSS 07 54 10.0 -2.7
APA pmax pmax
comp=Z,200nm,1.1s,mb6.0
APA pmax pmax
comp=Z,1μm,16.0s
KWP Kalwaria 78.59 320 *eP* **P 07 35 54.7 +0.6**
BZS Buzias 78.62 316⇓ P **P 07 35 54.2 -0.2**
UZH Uzhgorod 78.68 319 *eP* **P 07 35 53.0 -1.6**
UZH *eS* S 07 45 45.0 -3.8
SVIS Svilajnac 78.69 315 *eP* **P 07 35 48.9 -5.9**
KOLS Kolonicke sedl 78.75 320 *eP* **P 07 35 55.8 +0.8**
KOLS *e* pP 07 36 03.2 -0.1
KOLS *e* 07 36 09.4
KOLS *eS* S 07 45 50.8 +1.3
GRUS Gruza 79.00 314⇓ *i* P **P 07 35 55.6 -0.9**
SUW Suwalki 79.17 325 *eP* **P 07 35 56.9 -0.3**
CRVS Cervenica-Dubn 79.27 319 *eP* **P 07 35 58.6 +0.8**
CRVS *e* pP 07 36 06.2 +0.1
CRVS *eS* S 07 45 54.7 -0.3
CRVS *e* 07 46 44.6
CRVS Cervenica-Dubn 79.27 319 *eP* **P 07 35 58.6 +0.8**
CRVS *e* pP 07 36 06.2 +0.1
CRVS *e* 07 36 22.9
CRVS *eS* S 07 45 54.7 -0.3
CRVS *ePNS* 07 46 44.6
BEO Belgrade 79.31 315⇑ *i* P **P 07 35 57.7 -0.5**
PVY Plav 79.36 313⇑ *i* P **P 07 35 57.5 -1.0**
SUR Sutherland 79.42 237 PFAKE 07 36 10.0 +11
SUR LR LR
comp=Z,2μm,19.0s,MS5.4
IVA Berane 79.45 313⇑ *i* P **P 07 35 58.8 -0.1**
FINES FINESS Array B 79.47 332 P **P 07 35 58.1 -0.6**
comp=Z,51nm,0.9s,mb5.4,baz=104,slow=7.9,SNR=86
FINES PP PP 07 38 59.5 -1.2
comp=Z,5.7nm,0.9s,baz=102,slow=13,SNR=3.0
FINES LR LR 08 18 04.5
comp=Z,2μm,19.7s,MS5.4,baz=292,slow=41
DIVS Divcibare 79.54 314⇓ *i* P **P 07 35 58.6 -0.9**
KAF Kangasniemi 79.55 333 *eP* **P 07 35 58.7 -0.4**
comp=Z,94nm,1.1s,mb5.6,baz=103,slow=5.0
KAF Kangasniemi 79.55 333 *eP* **P 07 35 58.7 -0.4**
KAF pmax pmax
comp=Z,94nm,1.1s,mb5.6
ULC Ulcinj 79.81 312⇑ *i* P **P 07 36 00.6 -0.4**
KECS Kecovo 79.84 319 *eP* **P 07 36 02.0 +1.1**
KECS *e* 07 36 24.0
TTG Podgorica 79.86 313⇑ *i* P **P 07 35 59.7 -1.4**
PLE Pljevlja 79.87 314⇑ *i* P **P 07 36 01.6 +0.3**
BBLS Bajina Basta - 79.93 314⇑ *i* P **P 07 36 01.2 -0.3**
NIE Niedzica 80.09 320 *eP* **P 07 36 02.0 -0.3**
NKY Niksic 80.10 313⇑ *i* P **P 07 36 02.1 -0.3**
BUM Brajici-Budva 80.11 313⇑ *i* P **P 07 36 01.4 -1.1**
PSZ Piszkesteto 80.14 318 P **P 07 36 02.4 -0.2**
PSZ pmax pmax
comp=Z,75nm,1.0s,mb5.6
PSZ Piszkesteto 80.14 318⇑ *eP* **P 07 36 03.1 +0.5**
UPM Unac-Piva 80.21 313⇑ *i* P **P 07 36 02.6 -0.4**
HCY Herceg Novi 80.42 313⇑ *i* P **P 07 36 03.5 -0.7**
BRY Bratogost 80.44 313⇑ *i* P **P 07 36 03.7 -0.6**
SYO Syowa Base 80.52 198⇑ P **P 07 36 05.4 +1.2**
SYO Syowa Base 80.52 198⇓ PcP PcP 07 36 12.4 +1.0
OJC Ojcow 80.55 321⇑ *i* P **P 07 36 05.1 +0.4**
OJC *i* S S 07 46 07.5 -0.8
OJC MLR MLR 08 19 58.8
comp=Z,2μm,20.3s,MS5.5
BILL Bilibino 80.66 21c *i* P **P 07 36 04.8 -0.1**
BILL pmax pmax
comp=Z,45nm,1.4s,mb5.2
BILL MLR MLR
comp=Z,13μm,17.0s,MS6.3
BILL Bilibino 80.66 21 *eP* **P 07 36 04.4 -0.5**
comp=Z,37nm,1.1s,mb5.2
BILL LR LR
comp=Z,4μm,20.0s,MS5.8
PKSM Moragy 80.76 316⇑ P **P 07 36 05.3 -0.6**
PKSM Moragy 80.76 316⇑ *eP* **P 07 36 05.4 -0.5**
LIKS Likavka 80.82 319 *eP* **P 07 36 05.5 -0.6**
VYHS Vyhne 80.92 319 *eP* **P 07 36 06.4 -0.3**
VYHS *e* pP 07 36 13.1 -1.9
VYHS *e* 07 36 22.7
VYHS *ePP* PP 07 39 14.1 +0.5
VYHS *eS* S 07 46 11.7 -0.6
RHK1 Bakonya 81.14 316 *eP* **P 07 36 07.7 -0.2**
SRO Srobarova 81.18 318 *eP* **P 07 36 09.0 +0.9**
SRO *ep* pP 07 36 16.2 -0.2
SRO *e* 07 36 27.3
KOLL Kolacno 81.22 319 *eP* **P 07 36 08.6 +0.4**
KOLL *ep* pP 07 36 16.4 -0.2
SRO1 Iza 81.23 318 *eP* **P 07 36 10.4 +2.1**
TIP Timpagrande 81.42 309 *eP* **P 07 36 09.8 +0.3**
LTRZ Laterza 81.49 311 *eP* **P 07 36 10.6 +0.7**
KEV Kevo 81.55 341 *ep* **P 07 36 08.1 -1.4**
comp=Z,70nm,1.0s,mb5.5
KEV Kevo 81.55 341 *eP* **P 07 36 08.1 -1.4**
KEV pmax pmax
comp=Z,70nm,1.0s,mb5.5
OKC Ostrava-Krasne 81.55 320 *eP* **P 07 36 10.1 +0.2**
OKC *ep* pP 07 36 17.5 -0.7
OKC AMS AMS 08 20 40.0
comp=Z,2μm,18.6s
GRI Girifalco 81.66 309 *eP* **P 07 36 11.3 +0.6**
ORI Oriolo Calabro 81.73 310 *eP* **P 07 36 12.5 +1.4**
SNZO South Karori 81.84 132 PFAKE 07 36 20.0 +8.4
SNZO LR LR
comp=Z,7μm,22.0s,MS6.0
SMOL Smolenice 81.86 319 *eP* **P 07 36 11.9 +0.4**
SOI Samo 81.89 308 *eP* **P 07 36 12.7 +0.8**
MORC Moravsky Berou 81.93 320 *eP* **P 07 36 11.6 -0.3**
MORC pmax pmax
comp=Z,63nm,1.0s,mb5.5
MORC Moravsky Berou 81.93 320 *eP* **P 07 36 11.6 -0.3**
comp=Z,63nm,1.0s,mb5.5
ARCES ARCESS Array B 81.98 340 P **P 07 36 11.9 +0.1**
comp=Z,80nm,1.0s,mb5.6,baz=100,slow=4.4,SNR=77
ARCES PP PP 07 39 15.2 -6.5
comp=Z,13nm,1.0s,baz=90,slow=7.2,SNR=4.0
ARCES LR LR 08 16 58.1
comp=Z,4μm,21.5s,MS5.7,baz=111,slow=39
ARE0 ARCESS Array S 81.98 340 *eP* **P 07 36 11.6 -0.2**
ZST Bratislava 82.04 318 *eP* **P 07 36 12.7 +0.2**
ZST *e* pP 07 36 21.8 +1.0
ZST *eS* S 07 46 24.7 +0.9
ZST Bratislava 82.04 318 *eP* **P 07 36 12.7 +0.2**
ZST *e* 07 36 18.4
ZST *e* pP 07 36 21.8 +1.0
ZST *eS* S 07 46 24.7 +0.9
ZST *e* 07 46 36.9
ZST Bratislava 82.04 318 *eP* **P 07 36 12.7 +0.2**
ZST *ep* pP 07 36 18.4 -2.4
ZST *eS* sP 07 36 21.8 -1.8
ZST Bratislava 82.04 318 *eS* S 07 46 24.7 +0.9
ZST *eS* 07 46 36.9
MTTG Motta San Giov 82.17 308 *eP* **P 07 36 13.2 -0.1**
FGMS Monte Sant'Ang 82.24 312 *eP* **P 07 36 13.8 +0.1**
SLCN Sala Consilina 82.38 310 *eP* **P 07 36 15.5 +1.1**
MGR Morigerati 82.42 310 *eP* **P 07 36 13.7 -1.0**
VRAC Vranov 82.49 319 P **P 07 36 15.8 +1.0**
MRLC Muro Lucano 82.52 311 *eP* **P 07 36 16.1 +1.0**
GKP Gorka Klasztor 82.54 323 *eP* **P 07 36 15.3 +0.3**
GKP Gorka Klasztor 82.54 323 *eP* **P 07 36 15.3 +0.4**
VKA Vienna 82.56 318⇑ *i* P **P 07 36 16.2 +1.0**
comp=Z,672nm,3.0s
VKA Vienna 82.56 318⇑ *i* P **P 07 36 16.2 +1.0**
VKA pmax pmax
comp=Z,672nm,3.0s
KTK1 Kautokeino 82.62 340 *eP* **P 07 36 16.2 +1.1**
comp=Z,187nm,1.1s,mb6.0
KTK1 Kautokeino 82.62 340 *eP* **P 07 36 16.2 +1.1**
KTK1 AMb AMB 07 36 18.8
comp=Z,187nm,1.1s,mb6.0
KTK1 *es* P sP 07 36 25.3 -0.9
FG5 Orsara di Pugl 82.72 311 *eP* **P 07 36 17.3 +1.1**
DPC Dobruska-Polom 82.77 320 *eP* **P 07 36 16.7 +0.4**
DPC *ep* pP 07 36 24.3 -0.3
DPC AMS AMS 08 24 20.0
comp=Z,2μm,16.9s
KSP Ksiaz 82.84 321⇑ *eP* **P 07 36 16.7 +0.1**
KSP *e**PP pP 07 36 22.5 -2.5
KSP *e* 07 39 32.0
KSP *eS* S 07 46 30.0 -1.9
KSP MLR MLR
comp=Z,5μm,20.7s,MS5.9
KSP Ksiaz 82.84 321 *eP* **P 07 36 17.4 +0.8**
CSSN Cassano Irpino 82.87 311 *eP* **P 07 36 17.6 +0.6**
UPC Upice 82.99 321 *eP* **P 07 36 18.3 +0.9**
UPC *ep* pP 07 36 24.7 -1.0
ARSA Arzberg 83.00 317⇑ *i* P **P 07 36 18.4 +0.9**
comp=Z,112nm,1.4s,mb5.7
BOJS Bojanci 83.05 315⇑ *eP* **P 07 36 18.3 +0.5**
comp=Z,173nm,1.3s,mb5.9
URZ Urewera 83.22 129 P **P 07 36 18.4 -0.5**
comp=Z,17nm,0.9s,mb5.1,baz=17,slow=3.4,SNR=7.7
URZ LR LR 08 13 06.8
comp=Z,6μm,20.9s,MS5.9,baz=99,slow=36
LJU Ljubljana 83.59 316⇑ *i* P **P 07 36 21.6 +1.0**
LJU pmax pmax
comp=Z,259nm,1.2s,mb6.2
LJU Ljubljana 83.59 316⇑ *i* P **P 07 36 21.6 +1.0**
comp=Z,259nm,1.2s,mb6.2
OBKA Obir 83.61 316⇑ *i* P **P 07 36 21.5 +0.8**
comp=Z,628nm,3.4s
CEY Cerknica 83.64 316⇑ *eP* **P 07 36 21.1 +0.2**
SDI San Donato 83.84 312 *eP* **P 07 36 21.9 -0.1**
PRU Pruhonice 83.88 320 *eP* **P 07 36 22.4 +0.4**
PRU *ep* pP 07 36 29.5 -0.8
PRU AMS AMS 08 20 50.0
comp=Z,2μm,18.8s
MOA Molln 83.90 318⇑ *i* P **P 07 36 22.3 +0.2**
comp=Z,114nm,2.1s,mb5.6
PVCC Panska Ves 83.91 320 *eP* **P 07 36 22.0 -0.1**
PVCC AMS AMS 08 20 50.0
comp=Z,2μm,19.3s
VOY Vojsko 84.03 316 *eP* **P 07 36 22.5 -0.3**
BSD Bornholm Skovb 84.10 325⇑ *i* P **P 07 36 22.9 0.0**
BSD *i* S S 07 46 42.3 -2.1
BSD pmax pmax
comp=Z,59nm,1.0s,mb5.7
BSD Bornholm Skovb 84.10 325⇑ *i* P **P 07 36 22.9 0.0**
comp=Z,58nm,1.0s,mb5.7
BSD *i* S S 07 46 42.3 -2.1
BSD *i* 07 46 57.8
BSD Bornholm Skovb 84.10 325 *i* S S 07 46 42.3 -2.1
BSD *i* 07 46 57.8
comp=Z,2μm,18.0s
PTQR Pietraquaria 84.16 312 *eP* **P 07 36 24.1 +0.5**
AQU L'Aquila 84.18 312 *eP* **P 07 36 23.3 -0.3**
AQU pmax pmax
comp=Z,137nm,1.0s,mb6.0
AQU L'Aquila 84.18 312 *eP* **P 07 36 23.3 -0.3**
comp=Z,137nm,1.0s,mb6.0
TRO Tromso 84.25 340 *eP* **P 07 36 21.9 -1.4**
TRO LR LR
comp=Z,2694μm,19.3s
TRO Tromso 84.25 340 *eP* **P 07 36 21.9 -1.4**
TRO *eSKSa* 07 46 43.9
TRO AMS AMS 08 19 53.0
comp=Z,3μm,19.3s,MS5.6
BRG Berggiesshubel 84.33 321 *i* P **P 07 36 25.0 +0.8**
BRG *i* pP 07 36 31.8 -0.8
BRG *i* S S 07 46 46.0 -0.8
BRG *i* SS SS 07 52 22.0 +2.2
BRG pmax pmax
comp=Z,52nm,1.1s,mb5.6
BRG MLR MLR
comp=Z,2μm,18.7s,MS5.5
BRG Berggiesshubel 84.33 321 *i* P **P 07 36 25.0 +0.8**
comp=Z,52nm,1.1s,mb5.6
BRG *i* pP 07 36 31.8 -0.8
BRG *i* S S 07 46 46.0 -0.8
BRG *i* SS SS 07 52 22.0 +2.2
BRG LR LR
comp=Z,2μm,18.7s,MS5.5
GEC2 GERESS Array S 84.34 319 *eP* **P 07 36 24.7 +0.4**
GEC2 pmax pmax
comp=Z,108nm,1.1s,mb5.9
GEC2 GERESS Array S 84.34 319 *eP* **P 07 36 24.7 +0.4**
comp=Z,108nm,1.1s,mb5.9
GERES GERESS Array B 84.34 319 P **P 07 36 24.0 -0.3**
comp=Z,64nm,1.0s,mb5.7,baz=90,slow=5.3,SNR=136
GERES PP PP 07 39 50.0 +9.0
comp=Z,2.9nm,0.9s,baz=78,slow=9.0,SNR=3.0
NRCA Norcia 84.41 313 *eP* **P 07 36 25.4 +0.6**
PTCC Patocco-Chiusa 84.43 316 *eP* **P 07 36 24.9 +0.1**
KHC Kasperske Hory 84.44 319 *eP* **P 07 36 24.8 0.0**
KHC *e* pP 07 36 33.1 -0.1
KHC MLR MLR
comp=Z,1μm,17.6s,MS5.4
KHC Kasperske Hory 84.44 319 *eP* **P 07 36 24.8 0.0**
KHC *ep* pP 07 36 33.1 -0.1
KHC *ex* x 07 36 54.0

KHC AMS AMS 08 25 10.0
comp=Z,1µm,17.6s
KBA Koelnbreinsper 84.47 317⇑ *iP* **P 07 36 25.1 +0.1**
comp=Z,66nm,1.4s,mb5.6
KBA Koelnbreinsper 84.47 317⇑ *iP* **P 07 36 25.1 +0.1**
KBA pmax pmax
comp=Z,66nm,1.4s,mb5.6
GMNA Gemona 84.50 316 *eP* **P 07 36 25.6 +0.4**
RUE Ruedersdorf 84.55 322 *eP* **P 07 36 25.7 +0.4**
comp=Z,149nm,1.1s,mb6.0
SNTG Esanatoglia 84.56 313 *eP* **P 07 36 26.6 +1.1**
ARV Arcevia 84.57 313 *eP* **P 07 36 26.6 +1.0**
FSSB Fossombrone 84.70 314 *eP* **P 07 36 27.2 +1.0**
MNS Montasola 84.71 312 *eP* **P 07 36 26.2 -0.1**
FVI Forni Avoltri 84.84 316 *eP* **P 07 36 27.6 +0.8**
WET Wettzell 84.91 319 *eP* **P 07 36 27.3 +0.2**
WET pmax pmax
comp=Z,64nm,1.1s,mb5.7
WET Wettzell 84.91 319 *eP* **P 07 36 27.3 +0.2**
comp=Z,64nm,1.1s,mb5.7
CLL Collm 84.95 321⇑ *iP* **P 07 36 27.6 +0.3**
CLL *i* pP 07 36 36.3 +0.6
CLL *eS* S 07 46 51.0 -1.9
CLL pmax pmax
comp=Z,48nm,1.1s,mb5.5
CLL MLR MLR
comp=Z,2µm,20.6s,MS5.4
CLL Collm 84.95 321⇑ *iP* **P 07 36 27.6 +0.3**
comp=Z,48nm,1.1s,mb5.5
CLL *i* pP 07 36 36.3 +0.6
CLL *eS* S 07 46 51.0 -1.9
CLL LR LR
comp=Z,2µm,20.6s,MS5.4
CLL Collm 84.95 321 ⇑P **P 07 36 27.6 +0.3**
comp=Z,logA/T=1.6,mb5.5
CLL *i* *PP pP 07 36 36.3 +0.6
CLL *i* *SP sP 07 36 40.6 +2.2
CLL *i* 07 36 59.6
CLL *e* 07 39 33.0
CLL *ePP* PP 07 39 45.0 -0.8
CLL *eS* S 07 46 51.0 -1.9
CLL *ePS* PS 07 47 45.0 -7.4
CLL *e* 07 48 34.0
CLL *e* 07 49 16.0
CLL *e* 07 53 26.0
CLL *eSSS* SSS 07 55 46.0 -11
CLL *e* 07 57 08.0
CLL *e* 07 59 01.0
NKC Novy Kostel 85.24 320 *eP* **P 07 36 28.9 +0.1**
NKC *epP* pP 07 36 37.3 +0.2
NKC AMS AMS 08 21 50.0
comp=Z,3µm,18.0s
SFI Santa Sofia 85.38 314 *eP* **P 07 36 30.6 +1.0**
MOR8 Moi Rana 85.43 336 *eP* **P 07 36 29.0 -0.4**
comp=Z,92nm,1.2s,mb5.8
MOR8 Moi Rana 85.43 336 *eP* **P 07 36 29.0 -0.4**
MOR8 AMb AMB 07 36 31.7
comp=Z,92nm,1.2s,mb5.8
MOR8 *epP* pP 07 36 36.0 -1.7
MOR8 *esP* sP 07 36 38.0 -2.4
PGD Poggio Sodo 85.47 314 *eP* **P 07 36 31.5 +1.4**
COP Copenhagen 85.55 326 *eP* **P 07 36 31.1 +0.9**
COP *i* pP 07 36 39.8 +1.2
COP *i* S S 07 46 59.8 +1.1
COP pmax pmax
comp=Z,35nm,0.7s,mb5.7
COP MLR MLR
comp=Z,910nm,20.0s,MS5.2
COP Copenhagen 85.55 326 *eP* **P 07 36 31.1 +0.9**
comp=Z,35nm,0.7s,mb5.7
COP *i* pP 07 36 39.8 +1.2
COP *i* S S 07 46 59.8 +1.1
COP LR LR
comp=Z,910nm,20.0s,MS5.2
COP Copenhagen 85.55 326 *i* P **P 07 36 31.1 +0.9**
comp=Z,35nm,0.7s,mb5.7
COP *i* pP 07 36 39.8 +1.2
COP Copenhagen 85.55 326 *i* S S 07 46 59.8 +1.1
comp=Z,910nm,20.0s
CTI Castel Tesino 85.59 316 *eP* **P 07 36 31.3 +0.7**
VMG Vicchio 85.60 314 *eP* **P 07 36 32.1 +1.4**
WTTA Wattenberg 85.65 317⇑ *iP* **P 07 36 30.3 -0.6**
comp=Z,93nm,1.3s,mb5.8
WTTA Wattenberg 85.65 317⇑ *iP* **P 07 36 30.3 -0.6**
WTTA pmax pmax
comp=Z,93nm,1.3s,mb5.8
WATA Walderalm 85.69 317⇑ *iP* **P 07 36 30.7 -0.4**
comp=Z,39nm,1.2s,mb5.5
WATA Walderalm 85.69 317⇑ *iP* **P 07 36 30.7 -0.4**
WATA pmax pmax
comp=Z,39nm,1.2s,mb5.5
SEI Scarperia 85.74 314 *eP* **P 07 36 33.7 +2.3**
MOX Moxa 85.79 320⇓ *iP* **P 07 36 32.5 +1.0**
MOX *e* pP 07 36 40.5 +0.6
MOX pmax pmax
comp=Z,56nm,1.4s,mb5.6
MOX MLR MLR
comp=Z,1µm,19.0s,MS5.3
MOX Moxa 85.79 320⇓ *iP* **P 07 36 32.5 +1.0**
comp=Z,56nm,1.4s,mb5.6
MOX *e* pP 07 36 40.5 +0.6
MOX LR LR
comp=Z,1µm,19.0s,MS5.3
MOX Moxa 85.79 320⇓ *iP* **P 07 36 32.5 +1.0**
comp=Z,logA/T=1.6,mb5.6
MOX pP pP 07 36 40.0 +0.1
MOX S S 07 47 03.0 +1.9
MOX L 08 26 35.0
FUR Furstenfeldbru 85.92 318 *eP* **P 07 36 31.9 -0.3**
SQTA Sankt Quirin 85.94 317⇑ *iP* **P 07 36 31.8 -0.5**
comp=Z,30nm,1.1s,mb5.4
SQTA Sankt Quirin 85.94 317⇑ *iP* **P 07 36 31.8 -0.5**
SQTA pmax pmax
comp=Z,30nm,1.1s,mb5.4
KIWB Kanaga Island 85.97 38 *eP* **P 07 36 33.0 +0.6**
LOF Lofoten 85.97 338 *eP* **P 07 36 34.3 +2.3**
comp=Z,170nm,1.4s,mb6.1
LOF Lofoten 85.97 338 *eP* **P 07 36 34.3 +2.3**
LOF AMb AMB 07 36 45.9
comp=Z,170nm,1.4s,mb6.1
GRFL Gerfalco 85.99 313 *eP* **P 07 36 32.0 -0.7**
GRA1 Grafenberg Arr 86.01 320 *eP* **P 07 36 33.2 +0.6**
comp=Z,105nm,1.1s,mb6.0
GRA1 *epP* pP 07 36 42.5 +1.5
GRA1 LR LR
comp=Z,3µm,19.9s,MS5.6
GRF Grafenberg Arr 86.01 320 *eP* **P 07 36 33.2 +0.6**
GRF *e**PP pP 07 36 42.5 +1.5
GRF pmax pmax
comp=Z,105nm,1.1s,mb6.0
GRF MLR MLR
comp=Z,3µm,19.9s,MS5.6
GRF Grafenberg Arr 86.01 320 *eP* **P 07 36 33.2 +0.6**
GRF *e**PP pP 07 36 42.5 +1.5
GRF pmax pmax
comp=Z,105nm,1.1s,mb6.0
GRF MLR MLR
comp=Z,3µm,19.9s,MS5.6
GRF Grafenberg Arr 86.01 320 *eP* **P 07 36 33.2 +0.6**
comp=Z,105nm,1.1s,mb6.0
GRF *epP* pP 07 36 42.5 +1.5
GRF LR LR
comp=Z,3µm,19.9s,MS5.6
MOTA Moosalm 86.01 317⇓ *iP* **P 07 36 32.6 -0.1**
ZCCA Zocca 86.02 314 *eP* **P 07 36 34.1 +1.3**
NSS Namsos 86.33 334 *eP* **P 07 36 32.8 -1.0**
NSS AMS AMS 08 22 02.2
comp=Z,2µm,20.5s,MS5.6
SAL Salo 86.37 315 *eP* **P 07 36 36.3 +1.8**
VNDA Vanda 86.39 169 *eP* **P 07 36 35.1 +1.2**
VNDA *e**PP pP 07 36 44.2 +1.9
VNDA pmax pmax
comp=Z,47nm,1.6s
VNDA Vanda 86.39 169 P **P 07 36 34.6 +0.7**
comp=Z,1.7nm,0.8s,baz=318,slow=6.6,SNR=6.2
VNDA LR LR 08 12 45.4
comp=Z,4µm,18.8s,baz=308,slow=34
VNDA Vanda 86.39 169 *eP* **P 07 36 35.1 +1.2**
comp=Z,47nm,1.6s,mb5.5
VNDA *epP* pP 07 36 44.2 +1.9
HSP Hornsund 86.39 347 *eP* **P 07 36 34.0 +0.1**
ERBM Eremo 86.43 314 *eP* **P 07 36 36.3 +1.5**
RAO Raoul Island 86.44 119 PFAKE 07 36 50.0 +15
RAO LR LR
comp=Z,4µm,21.0s,MS5.8
NB2 NORSAR Subarra 86.48 331 P **P 07 36 34.2 -0.5**
comp=Z,53nm,0.9s,mb5.8,baz=93,slow=4.8
NB2 NORSAR Subarra 86.48 331 P **P 07 36 34.2 -0.5**
NB2 pmax pmax
comp=Z,53nm,0.9s,mb5.8
NB2 NORSAR Subarra 86.48 331 P **P 07 36 34.2 -0.5**
baz=93,slow=5.1
NOA NORSAR Array B 86.48 331 P **P 07 36 34.4 -0.3**
comp=Z,38nm,0.9s,mb5.6,baz=94,slow=5.0,SNR=76
NOA PP PP 07 39 40.2 -18
comp=Z,3.4nm,0.9s,baz=91,slow=8.9,SNR=3.4
NOA LR LR 08 22 51.4
comp=Z,1µm,20.8s,MS5.4,baz=40,slow=41
NOA NORSAR Array B 86.48 331 P **P 07 36 34.4 -0.3**
NOA PP PP 07 39 40.2 -18
NOA LR LR 08 22 51.4
BRMO Bormio 86.49 316 *eP* **P 07 36 36.0 +0.9**
CLZ Clausthal 86.61 322 *eP* **P 07 36 35.8 +0.3**
comp=Z,60nm,1.1s,mb5.7
NAO01 NORSAR Array S 86.63 331 *eP* **P 07 36 35.0 -0.4**
comp=Z,33nm,0.9s,mb5.6
NAO01 LR LR
comp=Z,2µm,20.0s,MS5.6
HDH Heidenheim 86.65 318 *eP* **P 07 36 35.7 -0.1**
UBR Uberruh 86.70 317 *eP* **P 07 36 36.2 +0.2**
DAVA Damuels 86.84 317⇑ *iP* **P 07 36 37.6 +0.8**
comp=Z,68nm,1.2s,mb5.8
SIND Sindeldorf 87.06 319⇑ *eP* **P 07 36 38.3 +0.6**
BOB Bobbio (Coli) 87.12 315 *eP* **P 07 36 38.9 +0.7**
VSL Villasalto 87.15 309 P **P 07 36 37.9 -0.6**
comp=Z,26nm,1.1s,mb5.4
BUCH Bad Urach 87.21 318 *eP* **P 07 36 39.2 +0.7**
KONO Kongsberg 87.24 329 *eP* **P 07 36 37.7 -0.7**
KONO pmax pmax
comp=Z,70nm,1.2s,mb5.8
KONO MLR MLR
comp=Z,173µm,20.6s
KONO Kongsberg 87.24 329 *eP* **P 07 36 37.7 -0.7**
comp=Z,70nm,1.2s,mb5.8
KONO LR LR
comp=Z,173µm,20.6s
KONO Kongsberg 87.24 329 *eP* **P 07 36 37.9 -0.5**
KONO *e*SKSa 07 47 02.7
KONO *eSS* SS 07 53 00.9 -1.2
STU Stuttgart 87.32 319 *eP* **P 07 36 38.4 -0.6**
GUT Gutenstein 87.37 318 *eP* **P 07 36 39.6 +0.3**
MUD Monsted U'grnd 87.41 326⇑ *iP* **P 07 36 40.7 +1.4**
MUD *eS* S 07 47 16.7 +0.3
MUD pmax pmax
comp=Z,84nm,1.1s,mb5.9
MUD Monsted U'grnd 87.41 326⇑ *iP* **P 07 36 40.7 +1.4**
comp=Z,84nm,1.1s,mb5.9
MUD *eS* S 07 47 16.7 +0.3
MUD Monsted U'grnd 87.41 326⇑ *iP* **P 07 36 40.7 +1.4**
comp=Z,84nm,1.1s,mb5.9
MUD Monsted U'grnd 87.41 326 *eS* S 07 47 16.7 +0.3
comp=Z,2µm,20.0s
PGF Pioggiola 87.44 312 *eP* **P 07 36 39.7 -0.1**
comp=Z,125nm,1.5s,mb5.6
PGF Pioggiola 87.44 312 *eP* **P 07 36 39.7 -0.1**
PGF pmax pmax
comp=Z,63nm,1.5s,mb5.6
SBA Scott Base 87.49 169 *eP* **P 07 36 40.5 +1.2**
SBA *e**PP pP 07 36 50.3 +2.7
SBA pmax pmax
comp=Z,142nm,1.9s,mb5.9
SBA MLR MLR
comp=Z,3µm,19.0s,MS5.7
SBA Scott Base 87.49 169 *eP* **P 07 36 40.5 +1.2**
comp=Z,142nm,1.9s,mb5.9
SBA *epP* pP 07 36 50.2 +2.6
SBA LR LR
comp=Z,3µm,19.0s,MS5.7
DOMB Dombas 87.54 332 *eP* **P 07 36 40.5 +0.7**
comp=Z,60nm,1.1s,mb5.7
DOMB Dombas 87.54 332 *eP* **P 07 36 40.5 +0.7**
DOMB AMb AMB 07 36 42.8
comp=Z,60nm,1.1s,mb5.7
DOMB *epP* pP 07 36 49.1 +0.9
TOD Tromm 87.58 319 *eP* **P 07 36 40.6 +0.3**
TOD Tromm 87.58 319 *eP* **P 07 36 41.0 +0.7**
SPAK Spaichingen 87.59 318 *eP* **P 07 36 41.0 +0.7**
SPAK Spaichingen 87.59 318 *eP* **P 07 36 40.9 +0.6**
VAI Varese 87.60 316 *eP* **P 07 36 40.6 +0.1**
SWS Schriesheim 87.65 319 *eP* **P 07 36 40.9 +0.3**
TNS Taunus Mts 87.81 320 *eP* **P 07 36 41.8 +0.5**
BFO Black Forest 87.89 318 P **P 07 36 42.4 +0.6**
comp=Z,106nm,1.0s,mb6.0,SNR=7.9
BFO Black Forest 87.89 318 *eP* **P 07 36 41.5 -0.3**
BFO pmax pmax
comp=Z,31nm,1.2s,mb5.4
BFO Black Forest 87.89 318 *eP* **P 07 36 41.5 -0.3**
comp=Z,31nm,1.2s,mb5.4
FIN Finale Ligure 88.01 314 *eP* **P 07 36 42.7 +0.3**
KTD Kalmit 88.05 319 *eP* **P 07 36 43.3 +0.8**
FELD Feldberg 88.12 318 *eP* **P 07 36 43.0 +0.1**
FELD Feldberg 88.12 318 *eP* **P 07 36 43.1 +0.2**
MCGN Macugnaga 88.15 316 *eP* **P 07 36 44.3 +1.2**
KIZ Kirchzarten 88.17 318 *eP* **P 07 36 43.5 +0.4**
LANF Langenberg 88.24 319⇑ *eP* **P 07 36 43.9 +0.5**
IMI Imperia 88.24 314 *eP* **P 07 36 44.4 +0.8**
MOL Molde 88.25 332 *eP* **P 07 36 46.2 +3.1**
comp=Z,91nm,1.4s,mb5.8
MOL Molde 88.25 332 *eP* **P 07 36 46.2 +3.1**
MOL AMb AMB 07 36 48.6
comp=Z,91nm,1.4s,mb5.8
LIBD Limburg 88.38 318⇑ *eP* **P 07 36 44.5 +0.4**
LIBD Limburg 88.38 318 *eP* **P 07 36 45.1 +1.0**
ABH Alteburg 88.39 320⇑ *eP* **P 07 36 44.9 +0.8**
ABH Alteburg 88.39 320⇑ *eP* **P 07 36 45.1 +1.0**
BBS Basel-Blauen 88.45 317⇑ *eP* **P 07 36 44.5 0.0**
BBS Basel-Blauen 88.45 317 *eP* **P 07 36 44.9 +0.4**
WLS Welschbruch 88.54 318⇑ *eP* **P 07 36 45.1 +0.2**
SBF Sospel 88.57 314 *eP* **P 07 36 45.0 -0.1**
comp=Z,78nm,1.0s,mb5.7
SBF Sospel 88.57 314 *eP* **P 07 36 45.0 -0.1**
SBF pmax pmax
comp=Z,39nm,1.0s,mb5.7
CDF Champ du Feu 88.60 318 *eP* **P 07 36 44.9 -0.2**
comp=Z,21nm,0.9s,mb5.2
CDF Champ du Feu 88.60 318 *eP* **P 07 36 44.9 -0.2**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
ECH Echery 88.68 318 *eP* **P 07 36 45.8 +0.3**
ABSA Djebel Ababsia 88.69 306 P **P 07 36 47.5 +1.6**
MOF Molkenrain 88.70 318⇑ *eP* **P 07 36 45.6 -0.1**
RUP Ruppelstein 88.71 319⇑ *eP* **P 07 36 46.4 +0.7**
RUP Ruppelstein 88.71 319⇑ *eP* **P 07 36 46.7 +1.0**
CMAH Djebel Manchou 88.73 306 P **P 07 36 47.0 +0.9**
ODD1 Odda 88.74 330 *eP* **P 07 36 46.2 +0.7**
ODD1 *esP* sP 07 36 55.3 -1.3
WTSB Winterswijk 88.83 322 *eP* **P 07 36 47.2 +1.0**
comp=Z,70nm,1.1s,mb5.9
BLS5 Blasjo 88.84 329 *eP* **P 07 36 48.0 +2.0**
HINF Hinteralfeld 88.89 318 *eP* **P 07 36 45.9 -0.7**
LOMF Lomont 88.92 317⇑ *eP* **P 07 36 46.2 -0.5**
HYA Hoyanger 88.92 331 *eP* **P 07 36 46.9 +0.5**
LPG La Plagne 89.02 315 *eP* **P 07 36 47.5 +0.2**
comp=Z,72nm,1.0s,mb5.7
LPG La Plagne 89.02 315 *eP* **P 07 36 47.5 +0.2**
LPG pmax pmax
comp=Z,36nm,1.0s,mb5.7
MBDF Montbardon 89.03 315 *eP* **P 07 36 46.8 -0.5**
comp=Z,30nm,1.1s,mb5.2
MBDF Montbardon 89.03 315 *eP* **P 07 36 46.8 -0.5**
MBDF pmax pmax
comp=Z,15nm,1.1s,mb5.2
LPL La Plagne 89.03 315 *eP* **P 07 36 47.5 +0.2**
comp=Z,154nm,1.0s,mb6.0
FRF La Foret Royal 89.15 313 *eP* **P 07 36 48.0 +0.1**
comp=Z,87nm,1.2s,mb5.7
FRF La Foret Royal 89.15 313 *eP* **P 07 36 48.0 +0.1**
FRF pmax pmax
comp=Z,44nm,1.2s,mb5.7
CAEH 'Ain El Ouahch 89.18 307 P **P 07 36 58.0 +10**
HAU Haudompre 89.23 318 *eP* **P 07 36 47.9 -0.3**
comp=Z,71nm,1.0s,mb5.6
HAU *eR*
comp=Z,2µm,22.0s
HAU Haudompre 89.23 318 *eP* **P 07 36 47.9 -0.3**
HAU pmax pmax
comp=Z,36nm,1.0s,mb5.7
HAU MLR MLR
comp=Z,2µm,22.0s,MS5.5
LMR La Mourre 89.25 313 *eP* **P 07 36 48.4 0.0**
CKFL Kef-Lekhel 89.30 306 P **P 07 36 51.0 +2.2**
WLF Walferdange 89.30 319 *eP* **P 07 36 49.5 +1.0**
WLF *e* pP 07 36 57.2 +0.3
WLF pmax pmax
comp=Z,51nm,1.1s,mb5.8
WLF Walferdange 89.30 319 *eP* **P 07 36 49.5 +1.0**
comp=Z,51nm,1.1s,mb5.8
WLF *e* pP 07 36 57.2 +0.3
BER Bergen 89.37 330 *eP* **P 07 36 51.3 +2.8**
BER AMS AMS 08 24 34.3
comp=Z,2µm,20.8s,MS5.5
HGN Heimansgroeve 89.41 321⇑ *iP* **P 07 36 49.5 +0.5**
comp=Z,37nm,1.3s,mb5.5
HGN *e*PP x 07 39 36.2
HGN *ex* x 07 42 22.1
HGN *i* S S 07 47 27.8 -7.3
HGN *eSS* SS 07 53 45.1 +11
CABF La Chapelle 89.45 316 *eP* **P 07 36 49.6 +0.3**
comp=Z,81nm,1.1s,mb5.7
CABF La Chapelle 89.45 316 *eP* **P 07 36 49.6 +0.3**
CABF pmax pmax
comp=Z,41nm,1.1s,mb5.7
THEF They Montfort 89.46 318⇑ *eP* **P 07 36 49.0 -0.3**
KMY Karmoy 89.46 329 *eP* **P 07 36 49.8 +0.8**
comp=Z,56nm,1.0s,mb5.8
KMY Karmoy 89.46 329 *eP* **P 07 36 49.8 +0.8**
KMY AMb AMB 07 36 52.2
comp=Z,56nm,1.1s,mb5.8
CASM Ain Smara 89.49 306 P **P 07 36 54.5 +4.8**
CTEI Djebel Teioual 89.56 306 P **P 07 36 53.0 +3.0**
ORIF Oris-en-Rattie 89.66 315 *eP* **P 07 36 50.5 +0.2**
ORIF *eR*
comp=Z,2µm,22.5s
OG05 Jujurieux 89.91 316⇑ *eP* **P 07 36 52.1 +0.7**
DFRA Djebel Bou Aff 89.97 306 P **P 07 36 54.5 +2.6**
MEZF Maizieres J'vi 90.07 318 *eP* **P 07 36 52.3 +0.2**
NVL N'lazarevskaya 90.10 199⇓ *iP* **P 07 36 59.9 +8.2**
NVL *i* pP 07 37 09.9 +10
NVL *i* *SP sP 07 37 15.0 +12
NVL *e* 07 47 33.3
NVL *eSSS* SS 07 53 56.6 +13
NVL pmax pmax
comp=Z,56nm,0.9s,mb5.9
MAIT Maitri 90.13 199 *eP* **P 07 36 54.4 +2.5**
GIVF Givet 90.14 320 *eP* **P 07 36 52.6 +0.2**
comp=Z,86nm,1.1s,mb5.7
GIVF Givet 90.14 320 *eP* **P 07 36 52.6 +0.2**
GIVF pmax pmax
comp=Z,43nm,1.1s,mb5.7
SET Setif 90.37 306 P pP 07 37 04.0 +1.8
TNA Tin City 90.46 24 *eP* **P 07 36 53.4 -0.1**
comp=Z,13nm,1.0s,mb5.2
TNA LR LR
comp=Z,3µm,19.0s,MS5.8
VIVF Saint-Julien-l 90.52 315 *eP* **P 07 36 54.4 +0.2**
comp=Z,59nm,1.2s,mb5.5
VIVF Saint-Julien-l 90.52 315 *eP* **P 07 36 54.4 +0.2**
VIVF pmax pmax
comp=Z,30nm,1.2s,mb5.5
BAIF Baives 90.54 320 *eP* **P 07 36 54.7 +0.5**
comp=Z,158nm,1.1s,mb6.0
BAIF Baives 90.54 320 *eP* **P 07 36 54.7 +0.5**
BAIF pmax pmax
comp=Z,79nm,1.1s,mb6.0
SMF Signal de Mont 90.99 317 *eP* **P 07 36 56.4 0.0**
comp=Z,108nm,1.1s,mb5.8
SMF Signal de Mont 90.99 317 *eP* **P 07 36 56.4 0.0**
SMF pmax pmax
comp=Z,54nm,1.1s,mb5.8
LASF Ste Croix 91.14 314 *eP* **P 07 36 57.6 +0.5**
comp=Z,72nm,1.2s,mb5.6
COLF Collangettes 91.17 315⇑ *eP* **P 07 36 58.0 +0.8**
PLDF La Plantade 91.19 316⇑ *eP* **P 07 36 59.3 +2.0**
SSF Saint Saulge 91.20 317 *eP* **P 07 36 57.7 +0.4**
SSF pmax pmax
comp=Z,47nm,1.2s,mb5.7
SSF Saint Saulge 91.20 317 *eP* **P 07 36 57.7 +0.4**
comp=Z,47nm,1.2s,mb5.7
AVF Avril sur Loir 91.32 317 *eP* **P 07 36 58.0 +0.1**
comp=Z,96nm,1.1s,mb5.7
AVF Avril sur Loir 91.32 317 *eP* **P 07 36 58.0 +0.1**
AVF pmax pmax
comp=Z,48nm,1.1s,mb5.7
AFI Afiamalu 91.48 104 PFAKE 07 37 10.0 +11
AFI LR LR
comp=Z,1µm,19.0s,MS5.3
LBL Lubilhac 91.50 315⇑ *eP* **P 07 37 01.0 +2.2**
BGF Bois d'Agland 91.68 316 *eP* **P 07 37 00.1 +0.5**
comp=Z,192nm,1.2s,mb6.0
BGF Bois d'Agland 91.68 316 *eP* **P 07 37 00.1 +0.5**
BGF pmax pmax
comp=Z,96nm,1.2s,mb6.0
QSPA South Pole Qui 91.71 180 *eP* **P 07 37 00.2 +1.3**
comp=Z,18nm,1.3s,mb5.2
QSPA *epP* pP 07 37 09.2 +1.8
QSPA LR LR
comp=Z,4µm,20.0s,MS5.8
HYF Humbligny 91.77 317 *eP* **P 07 37 00.7 +0.8**
TCF Toulx Ste Croi 92.14 316 *eP* **P 07 37 02.2 +0.5**
comp=Z,56nm,1.2s,mb5.5
TCF Toulx Ste Croi 92.14 316 *eP* **P 07 37 02.2 +0.5**
TCF pmax pmax
comp=Z,33nm,1.2s,mb5.5
UNV Unalaska Valle 92.35 36 PFAKE 07 37 10.0 +7.6
UNV LR LR
comp=Z,7µm,21.0s,MS6.1
CAF Calviac 92.36 315 *eP* **P 07 37 03.4 +0.7**
comp=Z,71nm,1.2s,mb5.6
CAF Calviac 92.36 315 *eP* **P 07 37 03.4 +0.7**
CAF pmax pmax
comp=Z,36nm,1.2s,mb5.6
MTLF Montolieu 92.38 313 *eP* **P 07 37 03.3 +0.4**
comp=Z,80nm,1.3s,mb5.6
MTLF Montolieu 92.38 313 *eP* **P 07 37 03.3 +0.4**
MTLF pmax pmax
comp=Z,40nm,1.3s,mb5.6
RJF Les Rejaudoux 92.71 315 *eP* **P 07 37 05.1 +0.8**
comp=Z,86nm,1.3s,mb5.7
RJF *eR*
comp=Z,1µm,21.8s
RJF Les Rejaudoux 92.71 315 *eP* **P 07 37 05.1 +0.8**
RJF pmax pmax
comp=Z,43nm,1.3s,mb5.7
RJF MLR MLR
comp=Z,1µm,21.8s,MS5.3
LFF La Frestale 93.30 315 *eP* **P 07 37 07.9 +0.9**
comp=Z,116nm,1.3s,mb5.8
LFF La Frestale 93.30 315 *eP* **P 07 37 07.9 +0.9**
LFF pmax pmax
comp=Z,58nm,1.3s,mb5.8
JMIC Jan Mayen 93.41 342 LR LR 08 24 40.1
comp=Z,2µm,19.8s,MS5.6,baz=66,slow=39
JMIC Jan Mayen 93.41 342 *eP* **P 07 37 09.2 +2.3**
JMIC LR LR
comp=Z,1966µm,18.7s
JMIC Jan Mayen 93.41 342 *eP* **P 07 37 09.2 +2.3**
JMIC *eSS* SS 07 54 33.9 +2.8
JMIC AMS AMS 08 25 15.7
comp=Z,2µm,18.7s,MS5.6
LDF La Druitiere 93.49 319 *eP* **P 07 37 08.0 +0.2**
comp=Z,94nm,1.3s,mb5.8
LDF La Druitiere 93.49 319 *eP* **P 07 37 08.0 +0.2**
LDF pmax pmax
comp=Z,47nm,1.3s,mb5.8
FLN La Foliniere 93.71 319 *eP* **P 07 37 09.0 +0.2**
comp=Z,95nm,1.2s,mb5.8
FLN *eR*
comp=Z,2µm,19.2s
FLN La Foliniere 93.71 319 *eP* **P 07 37 09.0 +0.2**
FLN pmax pmax
comp=Z,48nm,1.2s,mb5.8
FLN MLR MLR
comp=Z,2µm,19.3s,MS5.5
MFF Saint Martin d 93.73 317 *eP* **P 07 37 09.2 +0.2**
comp=Z,84nm,1.2s,mb5.7
MFF Saint Martin d 93.73 317 *eP* **P 07 37 09.2 +0.2**
MFF pmax pmax
comp=Z,42nm,1.2s,mb5.7
HPK Haverah Park 93.74 324 *eP* **P 07 37 09.6 +0.7**
HPK AMb AMB 07 37 11.7
comp=Z,196nm,1.5s,mb6.3
KBI1 Birley Grange 93.78 323 *eP* **P 07 37 09.0 0.0**
KBI1 AMb AMB 07 37 11.0
comp=Z,104nm,1.2s,mb6.1

LHO Holmfirth 93.93 324 *e*P P 07 37 10.3 +0.6
LHO AMb AMB 07 37 12.0
comp=Z,56nm,1.2s,mb5.9
GRR Gorron 94.00 319 *e*P P 07 37 10.5 +0.3
comp=Z,76nm,1.2s,mb5.7
GRR Gorron 94.00 319 *e*P P 07 37 10.5 +0.3
GRR pmax pmax
comp=Z,38nm,1.2s,mb5.7
KWE Weaver Farm 94.00 323 *e*P P 07 37 11.4 +1.3
DAG Danmarks Havn 94.03 348⇓ *i*P P 07 37 09.8 +0.1
DAG pmax pmax
comp=Z,22nm,1.0s,mb5.5
DAG Danmarks Havn 94.03 348⇓ *i*P P 07 37 09.8 +0.1
comp=Z,22nm,1.0s,mb5.5
ESK Eskdalemuir 94.44 326 PFAKE 07 37 20.0 +8.0
ESK LR LR
comp=Z,495nm,22.0s,MS4.9
ETSF Etsaut 94.45 313 *e*P P 07 37 13.2 +0.8
comp=Z,25nm,0.9s,mb5.3
ETSF Etsaut 94.45 313 *e*P P 07 37 13.2 +0.8
ETSF pmax pmax
comp=Z,13nm,0.9s,mb5.4
SJPF Ste Jean 94.91 313 *e*P P 07 37 15.5 +1.0
comp=Z,31nm,1.0s,mb5.4
SJPF Ste Jean 94.91 313 *e*P P 07 37 15.5 +1.0
SJPF pmax pmax
comp=Z,15nm,1.0s,mb5.4
SGMF Saint Gilles 95.14 319 *e*P P 07 37 15.5 +0.1
QUIF Quistinic 95.60 318 *e*P P 07 37 17.4 -0.1
IMA Indian Mountai 96.09 23 P P 07 37 19.7 +0.3
IMA pmax pmax
comp=Z,130nm,1.0s,mb6.3
IMA Indian Mountai 96.09 23 *e*P P 07 37 20.3 +0.9
VNA2 Neumayer--Watz 96.39 199 *e* pP 07 37 29.5 +0.4
VNA2 Neumayer--Watz 96.39 199 *e* sP 07 37 35.0 +3.3
VNA2 Neumayer--Watz 96.39 199⇑ *i*P P 07 37 20.2 -0.4
VNA2 *e* pP 07 37 29.5 +0.4
VNA2 *e* 07 37 35.0
VNA2 *e* 07 41 13.6
VNA2 *e* 07 41 46.1
VNA2 *e* 07 41 57.0
VNA2 *e* 07 42 04.3
VNA2 *e* 07 42 10.8
VNA2 *e* 07 45 35.6
VNA1 Neumayer--Stat 96.74 199 P P 07 37 19.1 -3.1
VNA1 *e* pP 07 37 29.4 -1.2
VNA1 *e* 07 37 35.2
VNA3 Neumayer Olymp 97.03 198⇑ *i*P P 07 37 20.9 -2.6
VNA3 *e* pP 07 37 30.5 -1.4
VNA3 *e* 07 37 35.7
VNA3 *e* 07 41 15.7
VNA3 *e* 07 41 45.1
VNA3 *e* 07 41 59.3
VNA3 *e* 07 42 06.2
VNA3 *e* 07 42 13.0
VNA3 *e* 07 45 38.2
ESDC Sonseca Array 97.41 310 P P 07 37 26.0 0.0
comp=Z,0.2nm,0.3s,baz=45,slow=6.3,SNR=6.1
ESLA Sonseca Array 97.41 310 PFAKE 07 37 40.0 +14
ESLA LR LR
comp=Z,5μm,20.0s,MS6.0
COLA College 98.79 23 PFAKE 07 37 40.0 +8.5
COLA LR LR
comp=Z,3μm,19.0s,MS5.9
MCK McKinley 98.80 24 *e*P P 07 37 31.5 -0.1
MCK pmax pmax
comp=Z,14nm,1.2s,mb5.4
MCK MLR MLR
comp=Z,1μm,19.0s,MS5.5
MCK McKinley 98.80 24 *e*P P 07 37 31.5 -0.1
comp=Z,14nm,1.2s,mb5.4
MCK LR LR
comp=Z,1μm,19.0s,MS5.5
FIB Fire Island 99.22 27 PFAKE 07 37 50.0 +16
FIB LR LR
comp=Z,4μm,20.0s,MS6.0
SUMG Summit 100.71 348 *e*Pdif P 07 37 40.7 +0.6
comp=Z,20nm,1.3s
SUMG *e*PP PP 07 41 47.3 -3.1
DIV Divide 101.20 26 PFAKE 07 37 50.0 +7.5
DIV LR LR
comp=Z,10μm,19.0s,MS6.3
MENT Mentasta 101.27 24 *e*P P 07 37 44.1 +1.3
DBIC Dimbokro 101.69 277 PFAKE 07 38 00.0 +14
DBIC LR LR
comp=Z,2μm,19.0s,MS5.7
RAR Rarotonga 102.84 111 PFAKE 07 38 00.0 +9.2
RAR LR LR
comp=Z,2μm,21.0s,MS5.5
RES Resolute Bay 103.31 3 *e*P Pdif 07 37 53.2 +1.6
RES pmax pmax
comp=Z,7.0nm,0.9s
RES Resolute Bay 103.31 3 *e*Pdif Pdif 07 37 53.2 +1.6
comp=Z,7.2nm,0.9s
YKU2 Yakutat 104.64 26 *e*P Pdif 07 37 59.9 +2.1
POHA Pohakuloa 105.68 69 PFAKE 07 42 30.0
POHA LR LR
comp=Z,12μm,19.0s,MS6.4
SFJ Sondre 107.70 347 PFAKE 07 42 30.0
SFJ LR LR
comp=Z,3μm,19.0s,MS5.9
SIT Sitka 107.89 27 PFAKE 07 42 30.0
SIT LR LR
comp=Z,4μm,20.0s,MS6.0
YKA Yellowknife Ar 111.56 15 Pdiff Pdif 07 38 28.9 +0.7
comp=Z,0.6nm,0.8s,baz=326,slow=4.3,SNR=8.3
YKA PKiKP 07 42 24.0
comp=Z,1.7nm,1.1s,baz=325,slow=4.1,SNR=6.9
YKA PP PP 07 42 57.7 -13
comp=Z,7.8nm,1.1s,baz=326,slow=7.7,SNR=9.2
TBI Tubuai 112.15 114 *e*PP PP 07 43 08.0 -8.1
TBI *e*SP SP 07 52 48.4 +7.2
TBI *e*SS SS 07 58 55.0 +5.4
TBI *e*LR LR 08 16 10.1
PPT Papeete 112.72 108 *e*PP PP 07 43 10.0 -11
PPT *e*SP SP 07 52 52.2 +5.2
PPT *e*LR LR 08 16 04.9
PMSA Palmer Station 115.67 189 PFAKE 07 42 50.0 +12
PMSA LR LR
comp=Z,5μm,19.0s,MS6.2
FCC Fort Churchill 119.00 7 *e*PKIKP PKPdf 07 42 39.1 -5.1
FCC *e* 07 43 56.8
EDM Edmonton 119.57 21 PKIKP PKPdf 07 42 42.5 -2.9
EDM Edmonton 119.57 21 *e*PKPdf PKPdf 07 42 41.2 -4.2
EDM *e*PP PP 07 44 00.7 -6.9
COR Corvallis 121.48 33 PFAKE 07 43 00.0 +11
COR LR LR
comp=Z,452nm,20.0s,MS5.1
NEW Newport 121.95 26 *e*PKIKP PKPdf 07 42 46.5 -3.7
NEW MLR MLR
comp=Z,2μm,20.0s
SCHQ Schefferville 122.06 349 PKP PKPdf 07 42 46.0 -4.2
comp=Z,4.8nm,0.9s,baz=37,slow=5.9,SNR=7.1
SCHQ PP PP 07 44 15.7 -8.8
comp=Z,20nm,1.2s,baz=4.6,slow=4.7,SNR=4.3
SCHQ Schefferville 122.06 349 PKP PKPdf 07 42 46.0 -4.2
SCHQ PP PP 07 44 15.7 -8.8
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
HAWA Hanford 122.20 29 *e*PKPdf PKPdf 07 42 47.1 -3.6
HAWA LR LR
comp=Z,112nm,19.0s
HUMO Hull Mountain 122.95 35 *e*PKPdf PKPdf 07 42 48.7 -3.5
HUMO LR LR
comp=Z,1μm,20.0s,MS5.5
YBH Yreka Blue Hor 123.65 35 PFAKE 07 43 00.0 +6.4
YBH LR LR
comp=Z,2μm,22.0s,MS5.7
BMO Blue Mountains 124.39 29 PFAKE 07 43 00.0 +5.0
BMO LR LR
comp=Z,2μm,21.0s,MS5.7
MSO Missoula 124.44 25 *e*PKPdf PKPdf 07 42 50.7 -4.3
MSO LR LR
comp=Z,3μm,19.0s,MS5.9
WDC Whiskeytown Da 124.48 36 PFAKE 07 43 00.0 +4.7
WDC LR LR
comp=Z,2μm,20.0s,MS5.8
CHMT Chamberlain Mo 124.67 25 *e*PKPdf PKPdf 07 42 51.6 -3.9
CHMT *e*PP PP 07 44 39.4 -2.9
MOD Modoc 124.90 34 *e*PKPdf PKPdf 07 42 52.4 -3.7
MOD LR LR
comp=Z,1μm,19.0s,MS5.6
HOPS Hopland 125.15 38 PFAKE 07 43 00.0 +3.4
HOPS LR LR
comp=Z,2μm,20.0s,MS5.7
RKT Rikitea 125.25 117 *e*PP PP 07 44 39.8 -6.9
RKT *e*SP SP 07 54 45.1 +5.0
RKT *e*SS SS 08 01 46.1 +6.5
RKT *e*LR LR 08 22 06.9
HRY Holter Researc 125.42 24 *e*PKPdf PKPdf 07 42 52.3 -4.7
WVOR Wild Horse Val 125.44 32 *e*PKIKP PKPdf 07 42 54.4 -2.7
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.8
BOZ Bozeman (W) 126.36 25 *e*PKIKP PKPdf 07 42 54.6 -4.1
BOZ MLR MLR
comp=Z,2μm,20.0s,MS5.8
MCMT McKenzie Canyo 126.48 26 *e*PKPdf PKPdf 07 42 54.7 -4.2
MCMT *e*PP PP 07 44 44.9 -9.4
HLID Hailey 126.74 28 *e*PKPdf PKPdf 07 42 56.6 -2.9
HLID *e*PP PP 07 44 48.3 -7.6
HLID LR LR
comp=Z,4μm,19.0s,MS6.2
ULM Lac du Bonnet 126.99 10 PKP PKPdf 07 42 55.4 -4.4
comp=Z,14nm,0.9s,baz=345,slow=2.3,SNR=18
ULM PP PP 07 44 50.1 -7.1
comp=Z,7.1nm,0.9s,baz=349,slow=4.9,SNR=3.4
ULM Lac du Bonnet 126.99 10 *e*PKPdf PKPdf 07 42 55.3 -4.5
ULM LR LR
comp=Z,6μm,20.0s,MS6.3
QLMT Earthquake Lak 127.10 25 *e*PKPdf PKPdf 07 42 58.3 -1.9
QLMT *e*PP PP 07 44 50.8 -7.2
CMB Columbia Colle 127.39 37 PFAKE 07 43 10.0 +9.0
CMB LR LR
comp=Z,1μm,20.0s,MS5.6
YMR Madison River 127.42 25 *e*PKPdf PKPdf 07 42 58.5 -2.3
YMR *e*PP PP 07 44 54.7 -5.7
SAO San Andreas Ge 127.53 39 PFAKE 07 43 10.0 +8.7
SAO LR LR
comp=Z,2μm,20.0s,MS5.7
LAO LASA Array 127.55 20 *e*PKPdf PKPdf 07 42 58.3 -2.7
LAO LR LR
comp=Z,2μm,20.0s,MS5.8
BMN Battle Mountai 127.60 33 PFAKE 07 43 10.0 +8.7
BMN LR LR
comp=Z,2μm,19.0s,MS5.7
YFT Old Faithful 127.65 25 *e*PKPdf PKPdf 07 42 58.6 -2.7
YFT *e*PP PP 07 45 01.3 -0.6
LKWY Lake 127.74 25 *e*PKIKP PKPdf 07 43 00.1 -1.4
LKWY MLR MLR
comp=Z,10μm,19.0s,MS6.5
MOOW Moose Ponds 128.26 26 *e*PKPdf PKPdf 07 42 59.2 -3.3
MOOW *e*PP PP 07 44 58.8 -7.4
RRI2 Red Ridge 128.33 26 *e*PKPdf PKPdf 07 42 59.4 -3.2
RRI2 *e*PP PP 07 45 02.8 -4.0
TPAW Teton Pass 128.38 26 *e*PKPdf PKPdf 07 43 00.0 -2.7
TPAW *e*PP PP 07 45 04.0 -3.1
LOHW Long Hollow 128.43 26 *e*PKPdf PKPdf 07 42 59.6 -3.3
LOHW *e*PP PP 07 45 04.2 -3.2
MNV Mina 128.45 35 *e*PKIKP PKPdf 07 43 00.3 -2.7
MNV MLR MLR
comp=Z,2μm,21.0s,MS5.7
SNOW Snow King Moun 128.48 26 *e*PKPdf PKPdf 07 42 60.0 -3.0
SNOW *e*PP PP 07 45 00.9 -7.0
REDW Red Top Meadow 128.52 26 *e*PKPdf PKPdf 07 43 00.3 -2.7
REDW *e*PP PP 07 45 05.6 -2.5
AHID Auburn Hatcher 128.89 27 PFAKE 07 43 10.0 +6.3
AHID LR LR
comp=Z,5μm,19.0s,MS6.2
MTUM Tungsten Hills 128.93 37 *e*PKPdf PKPdf 07 43 00.3 -3.7
PTCN Pitcairn Islan 128.94 121 PFAKE 07 43 10.0 +5.7
PTCN LR LR
comp=Z,2μm,20.0s,MS5.8
TPH Tonopah 129.23 35 PFAKE 07 43 10.0 +5.5
TPH LR LR
comp=Z,961nm,20.0s,MS5.5
BW06 Boulder Array 129.56 25 PFAKE 07 43 10.0 +5.0
BW06 LR LR
comp=Z,2μm,19.0s,MS5.9
PDAR Pinedale Array 129.56 25 PKhKP 07 42 52.0
comp=Z,0.5nm,0.8s,baz=34,slow=3.3,SNR=3.3
PDAR PKP PKPdf 07 43 01.2 -3.8
comp=Z,1.6nm,0.7s,baz=45,slow=2.1,SNR=3.6
PDAR PP PP 07 45 10.6 -4.2
comp=Z,6.0nm,1.0s,baz=270,slow=3.0,SNR=8.0
PDAR Pinedale Array 129.56 25 PKP PKPdf 07 43 01.2 -3.8
PDAR PP PP 07 45 10.6 -4.2
HWUT Hardware Ranch 129.59 28 *e*PKPdf PKPdf 07 43 01.8 -3.3
HWUT *e*PP PP 07 45 11.7 -3.3
HWUT LR LR
comp=Z,3μm,19.0s,MS6.0
EYMN Ely 129.92 8 PFAKE 07 43 10.0 +4.5
EYMN LR LR
comp=Z,3μm,21.0s,MS6.0
TRCR Troy Canyon 129.96 34 *e*PKPdf PKPdf 07 43 03.6 -2.3
PQI Presque Isle 130.02 347 PFAKE 07 43 10.0 +4.2
PQI LR LR
comp=Z,10μm,19.0s,MS6.5
DUG Dugway 130.07 30 *e*PKIKP PKPdf 07 43 03.8 -2.3
DUG MLR MLR
comp=Z,3μm,20.0s,MS6.0
DUG Dugway 130.07 30 *e*PKPdf PKPdf 07 43 03.8 -2.2
DUG *e*PP PP 07 45 07.9 -10
DUG LR LR
comp=Z,3μm,20.0s,MS6.0
DAC Darwin (Calif) 130.22 37 PFAKE 07 43 10.0 +3.5
DAC LR LR
comp=Z,2μm,22.0s,MS5.7
RSSD Black Hills 130.55 20 *e*PKIKP PKPdf 07 43 03.8 -3.0
RSSD *e* 07 45 16.3
RSSD MLR MLR
comp=Z,614nm,20.0s,MS5.3
RSSD Black Hills 130.55 20 *e*PKPdf PKPdf 07 43 03.8 -3.0
RSSD *e*PP PP 07 45 16.3 -5.0
RSSD *e*SKP 07 46 25.0
RSSD LR LR
comp=Z,614nm,20.0s,MS5.3
NLU North Lily Min 130.62 30 *e*PKPdf PKPdf 07 43 05.0 -2.1
NLU *e*PP PP 07 45 12.1 -10
NLU *e*SKP 07 46 24.1
RWWY Rawlins 131.44 24 *e*PKPdf PKPdf 07 43 05.4 -3.2
RWWY *e*PP PP 07 45 23.2 -3.9
ARUT Antelope Range 131.54 33 PKHKP 07 42 54.9
MVU Marysvale 131.65 31 PFAKE 07 43 20.0 +11
MVU LR LR
comp=Z,2μm,20.0s,MS5.9
MSU Marysvale 131.66 31 *e*PKPdf PKPdf 07 43 05.9 -3.3
MSU *e*PP PP 07 45 25.2 -3.4
MSU *e*SKP 07 46 30.6
EMMW East Machias 131.73 345 PFAKE 07 43 20.0 +11
EMMW LR LR
comp=Z,12μm,21.0s,MS6.6
WVL Waterville 132.39 347 PFAKE 07 43 20.0 +10
WVL LR LR
comp=Z,16μm,22.0s,MS6.7
PFO Pinyon Flat Ob 132.69 39 PFAKE 07 43 20.0 +8.8
PFO LR LR
comp=Z,371nm,20.0s,MS5.1
RCBR Riachuelo 132.98 264 PFAKE 07 43 20.0 +7.7
RCBR LR LR
comp=Z,2μm,19.0s,MS5.8
PV10 Paradox Valley 133.32 28 *e*PKPdf PKPdf 07 43 09.6 -2.7
PV10 *e*PP PP 07 45 29.9 -8.9
ISCO Idaho Springs 133.68 24 PFAKE 07 43 20.0 +7.2
ISCO LR LR
comp=Z,3μm,19.0s,MS6.1
PV01 Paradox Valley 133.74 28 *e*PKPdf PKPdf 07 43 11.0 -2.0
PV01 *e*PP PP 07 45 39.8 -2.0
NCB Newcomb 133.81 351 PFAKE 07 43 20.0 +7.1
NCB LR LR
comp=Z,3μm,19.0s,MS6.0
WUAZ Wupatki 134.33 33 PFAKE 07 43 20.0 +5.8
WUAZ LR LR
comp=Z,3μm,20.0s,MS6.0
HRV Harvard--Oak R 134.76 348 PFAKE 07 43 20.0 +5.2
HRV LR LR
comp=Z,2μm,20.0s,MS5.9
WES Weston 134.83 348 PFAKE 07 43 20.0 +5.1
WES LR LR
comp=Z,4μm,22.0s,MS6.1
JFWS Jewell Farm 135.03 8 PFAKE 07 43 20.0 +4.7
JFWS LR LR
comp=Z,4μm,20.0s,MS6.2
GENY Geneseo 135.44 355 *e*PKPdf PKPdf 07 43 11.6 -4.4
SDCO Great Sand Dun 135.45 26 PFAKE 07 43 20.0 +3.8
SDCO LR LR
comp=Z,3μm,21.0s,MS6.0
BINY Binghamton 135.80 353 *e*PKPdf PKPdf 07 43 12.5 -4.2
BINY *e*PP PP 07 45 46.0 -8.3
BINY LR LR
comp=Z,4μm,21.0s,MS6.1
AAM Ann Arbor 136.13 1 PFAKE 07 43 30.0 +13
AAM LR LR
comp=Z,4μm,20.0s,MS6.1
ERPA Erie 136.24 357 *e*PKPdf PKPdf 07 43 14.7 -2.8
ERPA LR LR
comp=Z,3μm,19.0s,MS6.0
CBKS Cedar Bluff 136.73 19 PFAKE 07 43 30.0 +12
CBKS LR LR
comp=Z,3μm,19.0s,MS6.0
TUC Tucson 137.02 36 PFAKE 07 43 30.0 +11
TUC LR LR
comp=Z,1μm,20.0s,MS5.7
ANMO Albuquerque 137.31 29 *e*PKHKP 07 43 05.5
ANMO *e* 07 45 59.8
ANMO MLR MLR
comp=Z,3μm,19.0s
ANMO Albuquerque 137.31 29 *e*PKPpre 07 43 05.5
ANMO *e*PP PP 07 45 59.8 -4.1
ANMO *e*SKP 07 46 48.5
ANMO LR LR
comp=Z,3μm,19.0s,MS6.1
KSU1 Kansas State U 137.41 16 *e*PKPpre 07 43 09.2
KSU1 *e*PP PP 07 45 57.9 -6.5
SSPA Standing Stone 137.56 354 *e*PKPpre 07 43 11.1
SSPA *e*PKPdf PKPdf 07 43 17.0 -3.0
SSPA *e*PP PP 07 45 57.8 -7.6
SSPA LR LR
comp=Z,638nm,20.0s,MS5.3
LPM Los Pinos Moun 137.73 30 *e*PKPdf PKPdf 07 43 17.0 -3.5
LPM *e*PP PP 07 45 59.1 -7.7
ACSO Alum Creek Sta 138.20 0 PFAKE 07 43 30.0 +8.8
ACSO LR LR
comp=Z,3μm,21.0s,MS6.0
MCWV Mont Chateau 138.68 356 PFAKE 07 43 30.0 +7.9
MCWV LR LR
comp=Z,3μm,20.0s,MS6.1
TRQA Tornquist 139.11 205 PFAKE 07 43 30.0 +7.1
TRQA LR LR
comp=Z,3μm,19.0s,MS6.0
AMTX Amarillo 139.50 24 PFAKE 07 43 30.0 +6.3
AMTX LR LR
comp=Z,2μm,20.0s,MS6.0
CCM Cathedral Cave 139.63 10 *e*PKPpre 07 43 10.9
CCM *e*PKPdf PKPdf 07 43 18.2 -5.6
CCM *e*PP PP 07 46 03.7 -15
CCM LR LR
comp=Z,518nm,20.0s,MS5.3
PLCA Paso Flores 139.64 194 PKP PKPdf 07 43 20.6 -3.2
comp=Z,3.5nm,0.9s,baz=158,slow=7.9,SNR=6.9
PLCA Paso Flores 139.64 194 PKP PKPdf 07 43 20.6 -3.2
PLCA LR LR
comp=Z,3μm,20.0s,MS6.0
CBN Corbin 139.91 353 PFAKE 07 43 30.0 +5.7
CBN LR LR
comp=Z,3μm,19.0s,MS6.0
WCI Wyandotte Cave 140.08 4 *e*PKPpre 07 43 14.1
WCI *e*PKPdf PKPdf 07 43 21.2 -3.4
WCI *e*PP PP 07 46 15.6 -5.5
WCI LR LR
comp=Z,924nm,19.0s,MS5.5
CPRX Cap Rock 140.11 28 *e*PKPpre 07 43 17.3
CPRX *e* 07 43 30.9
CPRX *e*PP PP 07 46 14.7 -6.7
MNTX Cornudas Mount 140.45 31 *e*PKPpre 07 43 16.0
MNTX *e*PP PP 07 46 17.6 -5.9
MNTX LR LR
comp=Z,4μm,19.0s,MS6.2
GDL2 Guadalupe Moun 140.55 29 *e*PKPpre 07 43 14.5
GDL2 *e*PKPdf PKPdf 07 43 24.1 -1.7
GDL2 *e*PP PP 07 46 09.9 -14
CLNB Carlsbad 140.74 29 *e*PKP PKPdf 07 43 19.0 -7.0
WMOK Wichita Mounta 140.74 21 *e*PKPdf PKPdf 07 43 14.2 -12
WMOK *e*PP PP 07 46 07.5 -18
WMOK LR LR
comp=Z,2μm,20.0s,MS5.9
FWV Forest Hill 140.80 357 *e*PKPdf PKPdf 07 43 22.7 -3.3
BLA Blacksburg 141.15 357 PFAKE 07 43 40.0 +13
BLA LR LR
comp=Z,3μm,21.0s,MS6.0
UTMT University of 141.68 8 *e*PKPdf PKPdf 07 43 24.4 -3.1
TZTN Tazewell 141.88 1 *e*PKPpre 07 43 18.1
WVT Waverly 142.01 7 *e*PKPpre 07 43 19.2
WVT *e* 07 46 11.6
WVT *e*PP PP 07 46 21.6 -11
WVT LR LR
comp=Z,3μm,21.0s,MS6.0
MIAR Mount Ida 142.51 15 *e*PKPpre 07 43 20.2
MIAR *e*PP PP 07 46 30.7 -5.1
MIAR LR LR
comp=Z,4μm,19.0s,MS6.2
UALR University of 142.58 13 *e*PKPpre 07 43 21.6
UALR PKPdf PKPdf 07 43 26.9 -2.2
CPCT Cooper Cave 142.94 2 *e*PKPdf PKPdf 07 43 23.9 -5.9
BDFB Brasilia 142.98 246 PKP PKPdf 07 43 24.7 -5.6
comp=Z,14nm,1.1s,baz=4.9,slow=2.1,SNR=11
BDFB PP PP 07 46 46.7 +7.6
comp=Z,3.4nm,1.0s,baz=199,slow=15,SNR=1.8
PLAL Pickwick Lake 143.12 7 *e*PKPpre 07 43 22.9
PLAL *e* 07 43 39.1
PLAL *e*PP PP 07 46 32.0 -7.5
PLAL LR LR
comp=Z,3μm,20.0s,MS6.0
TXAR Lajitas Array 143.22 31 PKP PKPdf 07 43 23.9 -6.5
comp=Z,13nm,1.1s,baz=270,slow=3.8,SNR=52
TXAR PP PP 07 46 39.0 -1.2
comp=Z,6.3nm,1.2s,baz=297,slow=5.6,SNR=3.8
OXF Oxford 143.39 9 *e*PKPdf PKPdf 07 43 24.5 -6.0
OXF *e*PP PP 07 46 31.4 -10
OXF LR LR
comp=Z,3μm,20.0s,MS6.0
JSC Jenkinsville 144.11 358 *e*PKPdf PKPdf 07 43 25.5 -6.3
JSC *e*PP PP 07 46 42.9 -2.5
RPN Rapa Nui 144.23 137 PFAKE 07 43 40.0 +13
RPN LR LR
comp=Z,430nm,19.0s,MS5.2
NATX Nacogdoches 144.83 18⇑ *e*PKPdf PKPdf 07 43 29.0 -4.2
NATX LR LR
comp=Z,4μm,19.0s,MS6.2
COW Cow Castle Cre 144.98 357 *e*PKPdf PKPdf 07 43 29.2 -4.2
COW *e*PP PP 07 46 46.6 -4.0
GOGA Godfrey 145.01 1 PFAKE 07 43 40.0 +11
GOGA LR LR
comp=Z,3μm,20.0s,MS6.0
LRAL Lakeview Retre 145.17 6 *e*PKPdf PKPdf 07 43 28.7 -5.0
LRAL *e*PP PP 07 46 46.3 -5.5
LRAL LR LR
comp=Z,3μm,20.0s,MS6.0
TWB Tillmans-White 145.21 356 *e*PKPdf PKPdf 07 43 30.4 -3.3
NHSC New Hope 145.22 356 *e*PKPdf PKPdf 07 43 30.0 -3.8
NHSC LR LR
comp=Z,3μm,19.0s,MS6.1
CSU Charleston Sou 145.33 356 *e*PKPdf PKPdf 07 43 29.7 -4.3
CSU *e* 07 43 39.4
HBF Harts Bluff 145.41 356 *e*PKPdf PKPdf 07 43 30.2 -3.9
RGRS Roger Stewart 145.42 356 *e*PKPdf PKPdf 07 43 30.5 -3.7
FCH Farellones 146.46 199⇑ *i*P PKPbc 07 43 37.0 +4.6
CLCH Cerro Calan 146.48 199⇑ *i*P PKPbc 07 43 37.4 +5.0
CFAA Coronel Fontan 147.26 203 PKPbc PKPdf 07 43 34.1 -3.1
baz=164,slow=4.2
ZAIG Zacatecas 148.96 37 *i* P PKPdf 07 43 42.1 +1.8
DWPF Disney 150.26 357 *e*PKPdf PKPdf 07 43 39.0 -3.2
DWPF *e*PKPbc PKPdf 07 43 43.6 +1.4
DWPF LR LR
comp=Z,738nm,19.0s,MS5.5
SFJM Santa Fe 150.34 41 *e*P PKPdf 07 43 41.0 -1.5
SJG San Juan 154.29 321 PFAKE 07 44 00.0 +12
SJG LR LR
comp=Z,2μm,21.0s,MS6.0
SIV San Ignacio 154.29 235 PKP PKPdf 07 43 44.2 -4.0
comp=Z,4.6nm,1.0s,baz=127,slow=3.5,SNR=15
SIV PKPbc PKPdf 07 43 52.7 +4.5
comp=Z,7.9nm,1.0s,baz=127,slow=2.3,SNR=12
LVC Limon Verde 155.24 212 PFAKE 07 44 00.0 +11
LVC LR LR
comp=Z,2μm,21.0s,MS6.0
TEIG Tepich 157.51 13 *e*PKPdf PKPdf 07 43 47.7 -4.7
TEIG *e*PKPab PKPab 07 44 21.3 -0.7
TEIG LR LR
comp=Z,976nm,21.0s,MS5.6
SAML Samuel 159.16 249 *e*PKPdf PKPdf 07 43 49.0 -5.6
SAML *e*PKPab PKPab 07 44 30.1 +0.9
SAML LR LR

comp=Z,3µm,19.0s,MS6.1
LPAZ La Paz 159.53 224 *e*PKIKP PKPdf 07 43 51.9 -3.0
LPAZ *e* 07 44 02.5
LPAZ MLR MLR
comp=Z,1µm,20.0s
LPAZ La Paz 159.53 224 PKP PKPdf 07 43 52.3 -2.6
comp=Z,7.0nm,1.1s,baz=64,slow=4.6,SNR=13
LPAZ PP PP 07 48 12.3 -0.6
comp=Z,1.4nm,1.0s,baz=86,slow=11,SNR=2.2
SDV Santo Domingo 163.85 311 *e*PKPdf PKPdf 07 43 55.0 -4.4
SDV *e*PKPab PKPab 07 44 48.8 -0.8
SDV *e*PP PP 07 48 29.6 -6.8
SDV LR LR
comp=Z,2µm,20.0s
JTS JuntasAbangare 167.84 10 PFAKE 07 44 10.0 +7.4
JTS LR LR
comp=Z,511nm,21.0s
ROSC El Rosal 169.23 308 PKP PKPdf 07 44 00.5 -3.0
comp=Z,9.0nm,1.1s,baz=96,slow=22,SNR=7.4
ROSC PKPab PKPab 07 45 12.9 -0.1
comp=Z,5.0nm,1.0s,baz=96,slow=18,SNR=2.0
PAYG Puerto Ayora 172.50 82 PFAKE 07 44 10.0 +4.6
PAYG LR LR
comp=Z,2µm,20.0s
OTAV Otavalo 175.16 294 *e*PKPdf PKPdf 07 44 03.3 -3.0
OTAV *e*PKPab PKPab 07 45 39.9 +0.5
OTAV LR LR
comp=Z,3µm,20.0s

JMA 31 07:35:47.0±0.3, 43.99N×148.08E, M4.3, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**1.81**	**251**	P	Pn	07 36 19.7	+0.1
NEM2				*e*S	Sn	07 36 43.8	+0.2
JRA	**Rausu**	**2.14**	**270**	P	Pn	07 36 24.5	+0.1
JNK	**Nakash**	**2.47**	**262**	P	Pn	07 36 29.2	+0.1
JNK				*e*S	Sn	07 37 00.5	+0.1
JAK	**Akkeshi**	**2.66**	**249**	P	Pn	07 36 31.9	+0.1
JAK				*e*S	Sn	07 37 04.6	-0.5
JTKR	**Abashiri--Toko**	**3.01**	**271**	P	Pn	07 36 38.2	+1.3
JAR	**Ashorobuto**	**3.21**	**259**	P	Pn	07 36 40.2	+0.6
JAR				*e*S	Sn	07 37 20.4	+1.3
JCH	**Churui**	**3.71**	**250**	P	Pn	07 36 46.8	0.0
JNBK	**Urakawa-nobuka**	**4.26**	**248**	P	Pn	07 36 54.9	+0.3
JKB	**Kayabe**	**5.58**	**250**	P	Pn	07 37 13.0	-0.3
JKB				*e*S	Sn	07 38 16.8	-2.4
JOT	**Ohata**	**5.80**	**246**	P	Pn	07 37 15.6	-0.8
JOT				*e*S	Sn	07 38 21.9	-2.7

*NEIC **31** 07:41:44.9, 32.10N×16.76W, h8km, MG4.3(MDD), After MDD.*
*CSEM **31** 07:41:44.9±3.4, 32.10N×16.76W, h8km±125km, mb4.3/4, Error ellipse: s-maj=158.0km s-min=22.3km az=163.0, After MDD*
MDD 31 07:41:45.3±3.3, 32.01N×16.70W, mb4.2/5, Error ellipse: s-maj=28.3km s-min=21.4km az=173.0, PRXIMO, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBAJ	**Bajamar**	**3.47**	**175**	P	Pn	07 42 40.3	-1.4
	6.1nm,0.2s,SNR=7.9						
EBAJ				S	Sn	07 43 19.3	-4.7
	5.5nm,0.2s,SNR=7.9						
EBAJ	**Bajamar**	**3.47**	**175**	Pn	Pn	07 42 40.3	-1.4
	0.3nm,0.1s,SNR=7.9						
EBAJ				Sn	Sn	07 43 19.3	-4.8
	5.5nm,0.2s,SNR=7.9						
CCAN	**Las Canadas**	**3.77**	**179**	P	Pn	07 42 43.6	-2.3
	7.5nm,0.6s,SNR=7.9						
CCAN				S	Sn	07 43 26.0	-5.8
	2.8nm,0.4s,SNR=7.9						
EGOM	**La Gomera**	**3.86**	**187**	P	Pn	07 42 44.3	-2.9
	4.7nm,0.1s,SNR=11						
EGOM				S	Sn	07 43 28.6	-5.3
	0.6nm,0.1s,SNR=7.9						
EGOM	**La Gomera**	**3.86**	**187**	Pn	Pn	07 42 44.3	-2.9
	7.5nm,0.1s,SNR=11						
EGOM				Sn	Sn	07 43 28.6	-5.4
	0.6nm,0.1s,SNR=7.9						
EFAM	**Famara**	**3.96**	**136**	Pn	Pn	07 42 45.7	-2.9
EFAM				Sn	Sn	07 43 32.7	-3.8
EFAM	**Famara**	**3.96**	**136**	P	Pn	07 42 45.7	-2.9
	21nm,0.8s,SNR=7.9						
EFAM				S	Sn	07 43 31.5	-5.1
	0.9nm,0.1s,SNR=7.9						
EFAM	**Famara**	**3.96**	**136**	Pn	Pn	07 42 45.7	-3.0
	21nm,0.8s,SNR=7.9						
EFAM				Sn	Sn	07 43 32.7	-3.9
	0.9nm,0.1s,SNR=7.9						
EOSO	**Osorio**	**4.05**	**165**	S	Sn	07 43 33.2	-5.4
	8.4nm,0.3s,SNR=4.0						
EOSO	**Osorio**	**4.05**	**165**	Sn	Sn	07 43 34.4	-4.3
	8.4nm,0.3s,SNR=4.0						
CFUE	**Fuerteventura**	**4.11**	**144**	S	Sn	07 43 34.9	-5.4
	4.8nm,0.1s,SNR=4.0						
CFTV	**Fuerteventura**	**4.24**	**147**	S	Sn	07 43 37.0	-6.5
	1.4nm,0.2s,SNR=7.9						
CFTV	**Fuerteventura**	**4.24**	**147**	Sn	Sn	07 43 37.5	-6.0
	SNR=7.9						
CHIE	**El Hierro**	**4.41**	**195**	P	Pn	07 42 52.3	-2.6
	5.1nm,0.4s,SNR=4.0						
CHIE				S	Sn	07 43 41.8	-5.9
	1.4nm,0.2s,SNR=7.9						

*IDC **31** 07:44:43.9±1.1, 9.37N×126.63E, mb3.9/10, mb1 4.0/10, mb1mx3.9/21, mbtmp3.9/10, Error ellipse: s-maj=84.6km s-min=14.7km az=74.0*
*MAN **31** 07:44:49, 9.33N×126.77E, h28km, mb4.5, ML3.3, MS3.2*
*NEIC **31** 07:44:49.1±0.7, 9.31N×126.58E, h35km, Error ellipse: s-maj=51.3km s-min=9.0km az=74.0*
ISC 31 07:44:48.9±1.0, 9.30N±0.04×126.78E±0.07, h51km±10km, n27, σ0§85/32, mb3.9/10, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.19**	**201**	‖*i*P	**P**	**07 45 09.3**	**-0.1**
BIPH				*i* S	**S**	**07 45 23.6**	**-1.1**
BUTP	**Butuan**	**1.20**	**254**	*e*P	**P**	**07 45 09.2**	**-0.3**
BUTP				*e*S	**S**	**07 45 23.1**	**-1.8**
MSLP	**Maasin**	**2.07**	**294**	*e*P	**P**	**07 45 22.7**	**+0.8**
BUKP	**Musuan**	**2.21**	**230**	*e*P	**P**	**07 45 25.4**	**+1.5**
BUKP				*e*S	**S**	**07 45 49.8**	**-0.4**
CGP	**Cagayan de Oro**	**2.23**	**248**	‖*e*P	**P**	**07 45 23.9**	**-0.3**
CGP				*e*S	**S**	**07 45 51.6**	**+1.0**
PLP	**Palo**	**2.56**	**316**	*e*P	**P**	**07 45 28.2**	**-0.8**
BESP	**Borongan**	**2.64**	**330**	*e*P	**P**	**07 45 30.4**	**+0.4**
TBP	**Tagbilaran**	**2.91**	**278**	*e*P	**P**	**07 45 33.5**	**-0.3**
TBP				*e*S	**S**	**07 46 07.8**	**+0.1**
SNPH	**Sibulan**	**3.50**	**271**	*e*P	**P**	**07 45 43.0**	**+0.8**
PAGZ	**Pagadian**	**3.66**	**247**	*e*P	**P**	**07 45 45.5**	**+1.0**
CNP	**Catarman**	**3.81**	**327**	*e*P	**P**	**07 45 45.8**	**-0.8**
GUIM	**Jordan**	**4.34**	**288**	*e*P	**P**	**07 45 55.0**	**+1.0**
PVCP	**Virac**	**4.98**	**329**	*e*P	**P**	**07 46 03.5**	**+0.4**
FITZ	**Fitzroy Crossi**	**27.25**	**182**	P	**P**	**07 50 30.8**	**+0.2**
	3.5nm,0.4s,mb4.2,baz=4.2,slow=9.8,SNR=12						
WRA	**Warramunga Arr**	**30.00**	**166**	P	**P**	**07 50 54.5**	**-0.7**
	0.2nm,0.3s,mb3.3,baz=341,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**33.50**	**168**	P	**P**	**07 51 26.0**	**+0.2**
	0.3nm,0.3s,mb3.7,baz=348,slow=7.3,SNR=8.6						
SONM	**Songino Array**	**42.10**	**340**	P	**P**	**07 52 37.0**	**-0.6**
	0.2nm,0.5s,mb3.0,baz=150,slow=8.8,SNR=2.8						
NWAO	**Narrogin (SRO)**	**42.97**	**192**	P	**P**	**07 52 45.2**	**+0.3**
	13nm,0.9s,mb4.7,baz=32,slow=9.2,SNR=4.5						
NWAO	**Narrogin (SRO)**	**42.97**	**192**	P	**P**	**07 52 44.4**	**-0.5**
STKA	**Stephens Creek**	**43.33**	**162**	P	**P**	**07 52 49.1**	**+1.2**
	0.5nm,0.3s,mb3.7,baz=351,slow=5.7,SNR=4.2						
STKA	**Stephens Creek**	**43.33**	**162**	P	**P**	**07 52 48.8**	**+0.9**
MKAR	**Makanchi Array**	**53.10**	**323**	P	**P**	**07 54 02.2**	**-1.4**
	0.6nm,0.4s,mb3.8,baz=126,slow=7.6,SNR=6.3						
MKAR	**Makanchi Array**	**53.10**	**323**	P	**P**	**07 54 02.2**	**-1.4**
BVAR	**Borovoye Array**	**62.74**	**326**	P	**P**	**07 55 09.6**	**-1.5**
	0.2nm,0.3s,mb3.7,baz=90,slow=8.6,SNR=3.3						
ARCES	**ARCESS Array B**	**85.27**	**340**	P	**P**	**07 57 22.3**	**+1.2**
	1.8nm,0.7s,mb4.3,baz=82,slow=6.3,SNR=14						
ARCES	**ARCESS Array B**	**85.27**	**340**	P	**P**	**07 57 22.3**	**+1.2**
FINES	**FINESS Array B**	**86.98**	**332**	P	**P**	**07 57 29.9**	**+0.3**
	0.9nm,0.9s,mb4.0,baz=67,slow=5.5,SNR=6.5						

OTT 31 07:47:10.7±0.6, 73.26N×67.97W, h18km, ML3.2/10, Baffin Bay Seismic Zone. 313km northeast from Clyde River, Nu, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PINU	**Pond Inlet**	**3.00**	**264**	PN	Pn	07 47 59.5	+1.1
PINU				SN	Sn	07 48 31.3	-3.0
PINU				Trac		07 48 33.0	
	comp=Z,52nm,0.1s						
TULEG	**Thule**	**3.30**	**357**	PN	Pn	07 48 01.6	-1.2
TULEG				SN	Sn	07 48 36.0	-6.0
RES	**Resolute Bay**	**7.55**	**294**	PN	Pn	07 49 00.2	-2.5
RES				SN	Sn	07 50 17.9	-11
RES				Trac		07 50 22.9	
	comp=Z,1.0nm,0.1s						
QILN	**Qikiluqaq Expl**	**9.11**	**233**	PN	P	07 49 21.4	-3.0
QILN				SN	Sn	07 50 56.0	-12
QILN				Trac		07 50 59.6	
	comp=Z,7.2nm,0.3s						
FRB	**Frobisher Bay**	**9.56**	**182**	PN	P	07 49 27.4	-3.0
FRB				SN	Sn	07 51 06.9	-12
FRB				Trac		07 51 23.4	
	comp=Z,1.5nm,0.2s						
YRTN	**Rankin Inlet**	**13.69**	**233**	PN	P	07 50 20.8	-5.1
YRTN				SN	S	07 52 42.6	-16
YRTN				Trac		07 54 10.9	
	comp=Z,1.4nm,0.3s						
KUQ	**Kuujjuuaa**	**15.22**	**181**	PN	P	07 50 40.3	-5.7
KUQ				SN	S	07 53 17.0	-18
KUQ				Trac		07 54 56.0	
	comp=Z,0.6nm,0.4s						
LUPN	**Lupin Mine**	**16.52**	**265**	PN	P	07 50 57.9	-4.8
LUPN				SN	S	07 53 53.5	-11
LUPN				Trac		07 54 08.3	
	comp=Z,0.2nm,0.2s						
ACKN	**Achilles Lake**	**16.95**	**263**	PN	P	07 51 02.9	-5.2
ACKN				SN	S	07 53 56.8	-18
ACKN				Trac		07 58 20.6	
	comp=Z,0.3nm,0.4s						
FCC	**Fort Churchill**	**17.74**	**229**	PN	P	07 51 14.2	-3.9
FCC				SN	S	07 54 18.4	-14
FCC				Trac		07 56 21.8	
	comp=Z,0.2nm,0.1s						
SCHQ	**Schefferville**	**18.51**	**178**	PN	P	07 51 22.8	-4.8
SCHQ				SN	S	07 54 35.4	-15
SCHQ				Trac		07 55 29.1	
	comp=Z,0.2nm,0.3s						
DSMN	**Discovery Mine**	**19.20**	**262**	PN	P	07 51 30.7	-5.1
YKW3	**Yellowknife Ar**	**19.89**	**262**	SN	S	07 55 07.1	-14
SILO	**Sutton Inlier**	**20.12**	**210**	PN	P	07 51 43.5	-2.6
SILO				SN	S	07 55 13.4	-12
SILO				Trac		07 55 16.9	
	comp=Z,0.1nm,0.3s						
INK	**Inuvik**	**21.08**	**290**	PN	P	07 51 50.6	-5.3
INK				Trac		07 54 01.4	
	comp=Z,0.2nm,0.4s						
VIMO	**Victor Mine**	**21.58**	**207**	PN	P	07 51 58.0	-3.1
VIMO				SN	S	07 55 47.9	-6.5

JMA 31 07:48:00.1±0.1, 30.19N×140.86E, h124km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.29**	**159**	P	P	07 48 51.3	0.0
BSO1	**Boso 1**	**4.45**	**1**	P	P	07 49 07.4	+0.6
BSO3	**Boso 3**	**4.61**	**356**	P	P	07 49 08.9	0.0
JAG	**Ashikaga**	**6.33**	**350**	P	P	07 49 31.0	-1.2
JAG				*e*S	S	07 50 39.0	-4.6

IDC 31 07:56:26.9±1.5, 5.17N×94.69E, mb3.9/7, mb1 4.1/7, mb1mx3.8/21, mbtmp3.9/7, Error ellipse: s-maj=71.4km s-min=18.0km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**38.30**	**128**	P	P	08 03 49.1	-2.1
	2.5nm,0.8s,baz=339,slow=8.5,SNR=2.9						
MKAR	**Makanchi Array**	**42.83**	**347**	P	P	08 04 27.0	-1.3
	1.8nm,0.7s,baz=162,slow=7.7,SNR=12						
SONM	**Songino Array**	**43.68**	**11**	P	P	08 04 33.3	-1.9
	0.7nm,0.8s,baz=198,slow=7.9,SNR=6.9						
SONM				PcP	PcP	08 06 20.0	-3.0
	0.1nm,0.4s,baz=186,slow=1.6,SNR=4.0						
WRA	**Warramunga Arr**	**46.28**	**124**	P	P	08 04 54.9	-1.5
	2.3nm,0.7s,baz=302,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**47.79**	**129**	P	P	08 05 06.5	-1.8
	0.5nm,0.5s,baz=299,slow=8.0,SNR=5.1						
BVAR	**Borovoye Array**	**51.71**	**342**	P	P	08 05 35.8	-2.1
	0.5nm,0.6s,baz=135,slow=8.2,SNR=3.1						
GERES	**GERESS Array B**	**80.20**	**319**	P	P	08 08 39.3	-1.5
	0.4nm,0.4s,baz=104,slow=5.5,SNR=5.0						

*IDC **31** 07:59:42.0±1.0, 2.63N×98.99E, mb3.9/10, mb1 4.1/10, mb1mx3.9/21, mbtmp3.9/10, Error ellipse: s-maj=74.3km s-min=16.4km az=54.0*
ISC 31 07:59:45.7±1.5, 2.8N±0.5×99.2E±0.6, h33km, n11, σ0§94/10, mb3.9/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.28**	**130**	P	**P**	**08 06 21.0**	**-1.5**
	2.1nm,0.7s,mb4.2,baz=327,slow=7.1,SNR=2.7						
WRA	**Warramunga Arr**	**41.20**	**125**	P	**P**	**08 07 30.6**	**+1.4**
	0.9nm,0.6s,mb3.5,baz=302,slow=9.1,SNR=5.1						
WRA				PcP	PcP	08 09 29.0	+0.5
	0.3nm,0.4s,baz=314,slow=2.7,SNR=6.7						
ASAR	**Alice Springs**	**42.78**	**130**	P	**P**	**08 07 42.2**	**0.0**
	0.2nm,0.4s,mb3.2,baz=301,slow=7.5,SNR=3.6						
MKAR	**Makanchi Array**	**46.25**	**344**	P	**P**	**08 08 10.2**	**+0.4**
	0.5nm,0.5s,mb3.7,baz=158,slow=7.8,SNR=3.1						
ZAL	**Zalesovo**	**52.35**	**349**	P	**P**	**08 08 56.7**	**+0.2**
	1.2nm,0.4s,mb4.2,baz=280,slow=0.8,SNR=2.7						
BVAR	**Borovoye Array**	**55.46**	**339**	P	**P**	**08 09 17.6**	**-1.9**
	0.4nm,0.4s,mb3.8,baz=153,slow=9.7,SNR=3.0						
FINES	**FINESS Array B**	**79.55**	**332**	P	**P**	**08 11 50.3**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=72,slow=4.4,SNR=4.2						
ARCES	**ARCESS Array B**	**81.74**	**340**	P	**P**	**08 12 02.6**	**+0.4**
	4.1nm,1.0s,mb4.3,baz=100,slow=7.4,SNR=5.3						
HFS	**Hagfors**	**85.38**	**330**	P	**P**	**08 12 21.4**	**+0.7**
	1.0nm,0.4s,mb4.3,baz=90,slow=2.9,SNR=12						
NOA	**NORSAR Array B**	**86.62**	**331**	P	**P**	**08 12 27.4**	**+0.5**
	0.6nm,0.6s,mb4.0,baz=94,slow=4.9,SNR=3.5						
CFAA	**Coronel Fontan**	**149.00**	**201**	PKPbc	PKPdf	08 19 31.9	+5.0
	0.2nm,0.5s,baz=192,slow=3.7,SNR=3.9						

*NEIC **31** 08:01:18.7±0.4, 51.52N×16.17E, h5km, ML3.2(VIE), ML2.8(SZGRF), Error ellipse: s-maj=5.1km s-min=4.3km az=55.0*
*IDC **31** 08:01:19.8±0.7, 51.44N×16.07E, mb1 3.3/8, mb1mx3.2/24, mbtmp3.2/8, ML3.0/8, Error ellipse: s-maj=12.8km s-min=6.3km az=100.0*
*PRU **31** 08:01:20.8, 51.39N×16.15E*
*WAR **31** 08:01:20.3, 51.45N×16.17E, h1km, ML3.0, Mining Induced*
*CSEM **31** 08:01:20.5±0.1, 51.42N×16.13E, h1km, ML3.1/2, Error ellipse: s-maj=2.2km s-min=1.5km az=3.0*
*IPEC **31** 08:01:20.0±0.3, 51.43N×16.25E, h3km±1km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=0.6km az=26.0*
ISC 31 08:01:16.0±0.4, 51.54N±0.03×16.21E±0.03, n49, σ1§41/87, 1C, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.70**	**176**	*e*Pg	**Pg**	**08 01 31.5**	**+1.4**
KSP				*e*Sg	**Sg**	**08 01 39.6**	**+0.2**
KSP				*e*		08 01 44.0	
KSP	**Ksiaz**	**0.70**	**176**	*e*PG	**Pg**	**08 01 31.0**	**+0.9**
KSP				*e*SG	**Sg**	**08 01 40.0**	**+0.6**
UPC	**Upice**	**1.04**	**187**	*e*PG	**Pg**	**08 01 37.7**	**+0.8**
UPC	**Upice**	**1.04**	**187**	*e*Pg	**Pg**	**08 01 37.9**	**+1.0**
DPC	**Dobruska-Polom**	**1.20**	**177**	*e*PG	**Pg**	**08 01 40.3**	**+0.4**
DPC				*e*SG	**Sg**	**08 01 54.7**	**-1.2**
	48nm,0.3s						
DPC	**Dobruska-Polom**	**1.20**	**177**	Pg	**Pg**	**08 01 40.3**	**+0.4**
DPC				*e*Sg	**Sg**	**08 01 54.8**	**-1.1**
PVCC	**Panska Ves**	**1.45**	**226**	*e*PG	**Pg**	**08 01 45.5**	**+0.5**
PVCC	**Panska Ves**	**1.45**	**226**	*e*Pn	**Pn**	**08 01 45.7**	**+2.1**
PVCC				*e*Sg	**Sg**	**08 02 05.0**	**+0.6**
BRG	**Berggiesshubel**	**1.58**	**246**	*i* Pn	**Pn**	**08 01 47.5**	**+2.1**
BRG				*i* Pg	**Pg**	**08 01 48.2**	**+0.7**
BRG				*i* Sg	**Sg**	**08 02 08.8**	**+0.3**
BRG	**Berggiesshubel**	**1.58**	**246**	*e*Pn	**Pn**	**08 01 47.5**	**+2.1**
BRG	**Berggiesshubel**	**1.58**	**246**	*i* Pg	**Pg**	**08 01 48.2**	**+0.7**
BRG				*e*Sg	**Sg**	**08 02 07.6**	**-0.9**
RUE	**Ruedersdorf**	**1.77**	**303**	*e*Pn	**Pn**	**08 01 49.6**	**+1.5**
RUE				*e*Sn	**Sn**	**08 02 17.1**	**+5.4**
RUE	**Ruedersdorf**	**1.77**	**303**	*e*Pn	**Pn**	**08 01 49.6**	**+1.4**
PRU	**Pruhonice**	**1.88**	**215**	*e*PN	**Pn**	**08 01 51.5**	**+1.7**
PRU				*e*PG	**Pg**	**08 01 52.7**	**-0.9**
PRU				*e*SG	**Sg**	**08 02 16.4**	**-2.4**
PRU	**Pruhonice**	**1.88**	**215**	Pg	**Pg**	**08 01 52.7**	**-0.9**
PRU				Sg	**Sg**	**08 02 16.4**	**-2.4**
MORC	**Moravsky Berou**	**1.96**	**154**	*e*Pn	**Pn**	**08 01 52.1**	**+1.3**
MORC				*e*Sn	**Sn**	**08 02 15.8**	**-0.7**
MORC	**Moravsky Berou**	**1.96**	**154**	*e*Pn	**Pn**	**08 01 52.1**	**+1.2**
MORC				*e*Sn	**Sn**	**08 02 15.8**	**-0.7**
MORC				*e*Sg	**Sg**	**08 02 17.1**	**-4.2**
CLL	**Collm**	**2.02**	**265**	*e*Pn	**Pn**	**08 01 53.0**	**+1.2**
CLL				*i* Pg	**Pg**	**08 01 56.4**	**0.0**
CLL				*i* Sg	**Sg**	**08 02 24.2**	**+0.8**
CLL	**Collm**	**2.02**	**265**	*e*PN	**Pn**	**08 01 53.0**	**+1.2**
CLL				*i* PG	**Pg**	**08 01 56.4**	**0.0**
CLL				*i*		08 01 59.7	
CLL				*i* SG	**Sg**	**08 02 24.2**	**+0.8**
CLL	**Collm**	**2.02**	**265**	*i* Pg	**Pg**	**08 01 56.4**	**0.0**
CLL				*e*Sg	**Sg**	**08 02 23.7**	**+0.3**
OKC	**Ostrava-Krasne**	**2.10**	**143**	*e*PG	**Pg**	**08 01 58.5**	**+0.5**
OKC				*e*SG	**Sg**	**08 02 23.2**	**-2.9**
	39nm,0.6s						
VRAC	**Vranov**	**2.25**	**174**	Pn	**Pn**	**08 01 57.3**	**+2.3**
	2.6nm,0.3s,baz=345,slow=14,SNR=5.1						
VRAC				Pg	**Pg**	**08 01 59.9**	**-1.1**
	2.6nm,0.3s,baz=349,slow=16,SNR=6.9						
VRAC				Lg		08 02 27.3	
	4.0nm,0.3s,baz=86,slow=22,SNR=6.1						
VRAC	**Vranov**	**2.25**	**174**	Pg	**Pg**	**08 01 59.9**	**-1.1**
VRAC				*e*Sg	**Sg**	**08 02 26.0**	**-5.0**
KRUC	**Moravsky**	**2.49**	**177**	*e*Pn	**Pn**	**08 02 00.6**	**+2.2**
KRUC				*e*Sg	**Sg**	**08 02 35.0**	**-3.8**
	6.0nm,0.3s						
OJC	**Ojcow**	**2.63**	**119**	*e*PG	**Pg**	**08 02 10.0**	**+1.5**
OJC				*e*SG	**Sg**	**08 02 44.0**	**+0.5**
NKC	**Novy Kostel**	**2.72**	**243**	*e*PN	**Pn**	**08 02 03.2**	**+1.5**
NKC				*e*PG	**Pg**	**08 02 09.8**	**-0.5**
NKC	**Novy Kostel**	**2.72**	**243**	Pg	**Pg**	**08 02 09.8**	**-0.5**
NKC				*e*Sg	**Sg**	**08 02 45.5**	**-1.1**
KHC	**Kasperske Hory**	**2.95**	**216**	*e*PN	**Pn**	**08 02 06.4**	**+1.4**
KHC				*e*PG	**Pg**	**08 02 12.0**	**-2.8**
KHC				*e*SN	**Sn**	**08 02 40.0**	**-1.6**
KHC				*e*SG	**Sg**	**08 02 49.0**	**-5.1**
MOX	**Moxa**	**3.04**	**255**	Pg	**Pg**	**08 02 16.0**	**-0.6**
MOX				Sg	**Sg**	**08 02 56.0**	**-1.1**
MOX	**Moxa**	**3.04**	**255**	*e*Pg	**Pg**	**08 02 15.8**	**-0.8**
MOX				*e*Sg	**Sg**	**08 02 55.0**	**-2.1**
GEC2	**GERESS Array S**	**3.15**	**212**	*e*Pn	**Pn**	**08 02 09.0**	**+1.2**
GEC2				*e*Sg	**Sg**	**08 02 54.6**	**-6.2**
GERES	**GERESS Array B**	**3.15**	**212**	Pn	**Pn**	**08 02 08.8**	**+1.1**
	0.6nm,0.3s,baz=29,slow=13,SNR=7.1						
GERES				Pg	**Pg**	**08 02 15.4**	**-3.5**
	2.8nm,0.3s,baz=31,slow=16,SNR=19						
GERES				Lg		08 02 53.9	
	3.4nm,0.3s,baz=32,slow=25,SNR=4.4						
GERES	**GERESS Array B**	**3.15**	**212**	Pn	**Pn**	**08 02 08.9**	**+1.1**
GERES	**GERESS Array B**	**3.15**	**212**	Pg	**Pg**	**08 02 15.4**	**-3.4**
NIE	**Niedzica**	**3.37**	**127**	*e*P	**Pg**	**08 02 23.3**	**-0.1**
NIE				*e*S	**Sg**	**08 03 06.5**	**-1.8**
ZST	**Bratislava**	**3.40**	**170**	*e*SG	**Sb**	**08 03 01.5**	**+2.4**
ZST	**Bratislava**	**3.40**	**170**	*e*Sg	**Sb**	**08 03 01.5**	**+2.4**
VYHS	**Vyhne**	**3.49**	**150**	*e*SG	**Sb**	**08 03 05.4**	**+3.7**
VYHS	**Vyhne**	**3.49**	**150**	*e*Sg	**Sb**	**08 03 05.4**	**+3.7**
GRA1	**Grafenberg Arr**	**3.68**	**242**	*e*Sg	**Sg**	**08 03 11.7**	**-6.8**
GRF	**Grafenberg Arr**	**3.68**	**242**	*e*Sg	**Sg**	**08 03 11.7**	**-6.8**
MOA	**Molln**	**3.91**	**200**	‖*i*PN	**Pn**	**08 02 17.5**	**-1.1**
MOA				*i* SG	**Sg**	**08 03 21.0**	**-5.1**
	14nm,0.5s						
DAVOX	**Davos**	**6.32**	**224**	Pn	**Pn**	**08 02 51.6**	**-1.1**
	0.4nm,0.3s,baz=342,slow=19,SNR=1.7						
DAVOX				Lg		08 04 36.6	
	0.2nm,0.3s,baz=164,slow=9.9,SNR=2.9						
AKASG	**Malin Array Be**	**8.23**	**91**	Pn	**P**	**08 03 19.2**	**-0.3**
	0.5nm,0.3s,baz=280,slow=12,SNR=2.3						
HFS	**Hagfors**	**8.73**	**352**	Pn	**P**	**08 03 25.5**	**-0.9**
	0.0nm,0.3s,baz=186,slow=13,SNR=2.6						
HFS				Sn	**Sn**	**08 05 02.3**	**-4.4**
	0.0nm,0.3s,baz=165,slow=22,SNR=1.4						
HFS				Lg		08 05 59.6	
	0.0nm,0.3s,baz=174,slow=29,SNR=2.1						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**P**	**08 03 41.5**	**-1.1**
	0.1nm,0.3s,baz=83,slow=11,SNR=2.0						
NOA	**NORSAR Array B**	**9.91**	**346**	Pn	**P**	**08 03 41.5**	**-1.2**
FINES	**FINESS Array B**	**11.31**	**25**	Pn	**P**	**08 03 59.4**	**-2.4**
	0.1nm,0.3s,baz=203,slow=14,SNR=2.0						
FINES				Sn	**S**	**08 06 01.3**	**-8.7**
	0

SAML	**Samuel**		**24.04**	**126**	*e*P		**P**	**08 22 29.4**	**-0.7**
	3.7nm,0.9s,mb3.8								
LPAZ	**La Paz**		**25.91**	**147**	P		**P**	**08 22 47.8**	**-0.1**
	0.8nm,0.7s,mb3.4,baz=337,slow=14,SNR=5.3								
LPAZ	**La Paz**		**25.91**	**147**	P		**P**	**08 22 46.0**	**-1.9**
	1.0nm,0.7s,mb3.5								
SIV	**San Ignacio**		**30.11**	**135**	P		**P**	**08 23 24.5**	**-1.3**
	0.8nm,0.8s,mb3.5,baz=273,slow=14,SNR=3.9								
WVT	**Waverly**		**30.89**	**352**	P		**P**	**08 23 31.4**	**-1.2**
	4.0nm,0.8s,mb4.3								
ACSO	**Alum Creek Sta**		**34.60**	**359**	P		**P**	**08 24 06.3**	**+1.6**
	8.2nm,0.9s,mb4.7								
SDCO	**Great Sand Dun**		**38.33**	**330**	*e*P		**P**	**08 24 41.4**	**+5.2**
	9.1nm,1.4s,mb4.3								
PV10	**Paradox Valley**		**40.63**	**327**	*e*P		**P**	**08 24 56.5**	**+1.1**
PDAR	**Pinedale Array**		**44.17**	**331**	P		**P**	**08 25 26.4**	**+2.1**
	0.2nm,0.6s,mb3.0,baz=117,slow=3.3,SNR=3.9								
NVAR	**Mina Array Bea**		**46.12**	**320**	P		**P**	**08 25 43.6**	**+3.7**
	0.9nm,1.0s,mb3.7,baz=162,slow=5.7,SNR=4.6								
HLID	**Hailey**		**47.18**	**328**	*e*P		**P**	**08 25 51.8**	**+3.7**
	2.3nm,1.1s,mb4.0								
PLCA	**Paso Flores**		**47.29**	**168**	P		**P**	**08 25 48.2**	**-0.8**
	2.0nm,1.0s,mb4.0,slow=8.1,SNR=3.0								
FCC	**Fort Churchill**		**53.89**	**353**	*e*P		**P**	**08 26 38.6**	**-0.4**
	2.3nm,0.8s,mb4.2								
YKA	**Yellowknife Ar**		**61.59**	**344**	P		**P**	**08 27 34.5**	**+1.4**
	1.5nm,0.7s,mb4.2,baz=139,slow=6.6,SNR=46								
YKA	**Yellowknife Ar**		**61.59**	**344**	P		**P**	**08 27 34.5**	**+1.4**
INK	**Inuvik**		**71.27**	**342**	P		**P**	**08 28 36.8**	**+2.3**
	1.5nm,1.0s,mb3.9,baz=122,slow=6.6,SNR=4.6								
PMSA	**Palmer Station**		**71.41**	**172**	*e*P		**P**	**08 28 34.0**	**-1.3**
QSPA	**South Pole Qui**		**95.50**	**180**	*e*P		**P**	**08 30 41.0**	**+2.1**
	0.4nm,0.6s,mb4.0								
SBA	**Scott Base**		**99.63**	**192**	*e*P		**P**	**08 30 58.5**	**+0.8**
	29nm,1.5s								

BJI ***31*** *08:30:22.6, 1.95N×96.34E, h42km, mB5.3,mb4.9,Ms5.0, Msz4.7*

MOS ***31*** *08:30:26.3±1.0,2.59N×96.25E, h33km, mb5.2/37, MS4.6/8, Error ellipse: s-maj=11.0km s-min=5.8km az=120.3*

NEIC ***31*** *08:30:26.9±0.2,2.52N×96.18E, mb5.0/41, Error ellipse: s-maj=6.1km s-min=3.8km az=223.0*

HRVD ***31*** *08:30:26.9±0.6,2.65N×96.14E, h24km±1km, MW5.0/35, Centroid moment Tensor Solution. LP body waves: s14,c16;Mantle waves: s35,c50; Half duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.25±.27; Mθθ=0.40±.14; Mϕϕ=2.65±.19; Mrθ=1.71±.25; Mrϕ=-0.57±.10; Mθϕ=-1.02±.25; Best double couple: M0=3.222×10^16^ NP1:ϕ=194°,δ37°, λ=-45°. NP2:ϕ=323°,δ65°,λ=-118°. Principal axes: T 3.115, Plg15°, Azm73°; N .212, Plg25°, Azm336°; P -3.329, Plg60°, Azm192°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***31*** *08:30:30.1±2.7,2.60N×96.29E, h54km±23km, mb4.4/23, mb1 4.5/23,mb1mx4.5/24,mbtmp4.7/23,MS4.6/10, Ms1 4.6/10,ms1mx4.3/30 Error ellipse: s-maj=15.9km s-min=9.4km az=49.0*

ISC 31 08:30:25.4±0.2,2.54N±0.04×96.21E±0.04, h26km, h26km±1.1km:pP-P,n193,σ1§09/180,mb4.9/84,MS4.6/35, 15C-4D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.20**	**58**	*e*Pn		**Pn**	**08 31 45.0**	**+1.4**
IPM	**Ipoh**	**5.21**	**67**	P		**Pn**	**08 31 44.9**	**+1.1**
KGM	**Kluang**	**7.12**	**94**	P		**Pn**	**08 32 12.5**	**+1.8**
PENI	**Pendagan**	**12.04**	**132**	⇑*i*P		**P**	**08 33 13.7**	**-4.8**
PENI					pmax	pmax		
	comp=Z,133nm,0.3s							
PENI	**Pendagan**	**12.04**	**132**	⇑*i*P		**P**	**08 33 13.7**	**-4.8**
	comp=Z,133nm,0.3s							
KSM	**Kuching**	**14.13**	**94**	*e*P		**P**	**08 33 47.9**	**+1.6**
CM31	**Chiang Mai Arr**	**16.04**	**9**	*e*P		**P**	**08 34 12.4**	**+1.4**
	comp=Z,40nm,1.2s							
PALK	**Pallekele**	**16.15**	**287**	*e*P		**P**	**08 34 16.4**	**+4.0**
	comp=Z,75nm,1.3s							
PALK				*e*S		rx	08 36 51.9	
VIS	**Vishakhapatnam**	**19.68**	**321**	*i* P		**P**	**08 34 57.1**	**+1.4**
VIS				*i*			08 38 16.5	
KKM	**Kota Kinabalu**	**20.25**	**79**	*e*P		**P**	**08 35 00.2**	**-1.5**
KKM	**Kota Kinabalu**	**20.25**	**79**	P		**P**	**08 35 02.1**	**+0.4**
TSM	**Tawau**	**21.69**	**85**	P		**P**	**08 35 17.6**	**+1.1**
KEDI	**Kedomdong**	**22.67**	**119**	⇑*i*P		**P**	**08 35 17.4**	**-8.9**
HYB	**Hyderabad**	**22.79**	**312**	*e*P		**P**	**08 35 29.0**	**+1.6**
HYB	**Hyderabad**	**22.79**	**312**	*i* P		**P**	**08 35 29.0**	**+1.6**
HYB				*e*pP			08 35 36.0	
KMI	**Kunming**	**23.31**	**15**	P		**P**	**08 35 34.8**	**+2.3**
KMI				AP			08 35 40.8	
KMI					AMB	AMB		
	comp=Z,19nm,1.2s,mb4.4							
KMI					LR	LR		
	comp=N,2μm,13.8s,MS4.8							
KMI					LR	LR		
	comp=E,797nm,14.0s,MS4.8							
KMI					LR	LR		
	comp=Z,2μm,13.8s,MS4.8							
TANI	**Tanete Lipujan**	**23.91**	**104**	*e*P		**P**	**08 35 39.6**	**+1.2**
NINI	**Niniconang**	**24.52**	**106**	*e*P		**P**	**08 35 45.9**	**+1.6**
GYA	**Guiyang**	**25.81**	**22**	⇑*i*P		**P**	**08 35 55.5**	**-0.9**
GYA					AP	pP	08 36 02.8	-1.3
GYA					XP	sP	08 36 07.5	-0.1
GYA					AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9							
GYA					AMB	AMB		
	comp=Z,180nm,4.1s							
GYA					LR	LR		
	comp=N,2μm,12.9s,MS4.9							
GYA					LR	LR		
	comp=E,820nm,11.4s,MS4.9							
GYA					LR	LR		
	comp=Z,2μm,15.3s,MS4.8							
JIRN	**Jiri**	**26.75**	**340**	*e*P		**P**	**08 36 05.8**	**+0.8**
	comp=Z,91nm,0.9s,mb5.3							
PKI	**Pulchoki**	**26.95**	**338**	*e*P		**P**	**08 36 07.1**	**+0.3**
	comp=Z,114nm,1.2s,mb5.3							
PKI	**Pulchoki**	**26.95**	**338**	*e*P		**P**	**08 36 07.1**	**+0.3**
PKI					pmax	pmax		
	comp=Z,57nm,1.2s,mb5.0							
GUN	**Gumba**	**27.09**	**340**	*e*P		**P**	**08 36 08.0**	**-0.1**
	comp=Z,254nm,1.3s,mb5.6							
DMN	**Daman**	**27.09**	**338**	*e*P		**P**	**08 36 08.6**	**+0.4**
	comp=Z,84nm,1.2s,mb5.2							
KKN	**Kakani**	**27.19**	**338**	*e*P		**P**	**08 36 09.2**	**+0.1**
	comp=Z,154nm,1.2s,mb5.4							
KKN	**Kakani**	**27.19**	**338**	*e*P		**P**	**08 36 09.2**	**+0.1**
KKN					pmax	pmax		
	comp=Z,77nm,1.2s,mb5.1							
LSA	**Lhasa**	**27.43**	**350**	P		**P**	**08 36 13.0**	**+1.8**
LSA	**Lhasa**	**27.43**	**350**	*e*P		**P**	**08 36 12.5**	**+1.3**
LSA					pmax	pmax		
	comp=Z,55nm,1.1s,mb5.0							
LSA					MLR	MLR		
	comp=Z,921nm,20.0s,MS4.3							
LSA	**Lhasa**	**27.43**	**350**	*e*P		**P**	**08 36 12.5**	**+1.3**
	comp=Z,55nm,1.1s,mb5.0							
LSA					LR	LR		
	comp=Z,921nm,20.0s,MS4.3							
GKN	**Gorkha**	**27.63**	**338**	*e*P		**P**	**08 36 13.3**	**+0.3**
	comp=Z,244nm,1.4s,mb5.7							
KOLN	**Koldanda**	**27.83**	**336**	*e*P		**P**	**08 36 14.3**	**-0.6**
	comp=Z,95nm,1.0s,mb5.4							
CD2	**Chengdu**	**29.10**	**13**	*e*P		**P**	**08 36 24.0**	**-2.3**
ENH	**Enshi**	**30.31**	**23**	*e*P		**P**	**08 36 35.0**	**-2.0**
	comp=Z,11nm,0.7s,mb4.7							
NDI	**New Delhi**	**31.68**	**327**	*e*P		**P**	**08 36 47.0**	**-2.1**
DDI	**Dehra Dun**	**32.55**	**330**	*e*P		**P**	**08 36 57.8**	**+1.1**
WHN	**Wuhan**	**32.72**	**30**	P		**P**	**08 36 58.5**	**+0.3**
MBWA	**Marble Bar**	**32.94**	**137**	*e*P		**P**	**08 37 00.2**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9							
XAN	**Xi'an**	**33.51**	**19**	P		**P**	**08 37 03.3**	**-1.7**
XAN					AMB	AMB		
	comp=Z,26nm,1.2s,mb5.0							
LZH	**Lanzhou**	**34.12**	**11**	⇓P		**P**	**08 37 09.5**	**-0.8**
LZH					AMB	AMB		
	comp=Z,47nm,1.5s,mb5.2							
LZH					AMB	AMB		
	comp=Z,133nm,4.0s							
LZH					LR	LR		
	comp=E,3μm,16.7s							
LZH					LR	LR		
	comp=Z,3μm,18.3s,MS5.1							
THN	**Thein Dam**	**35.42**	**329**	*e*P		**P**	**08 37 21.0**	**-0.5**
	comp=Z,28nm,1.3s,mb5.0							
FITZ	**Fitzroy Crossi**	**35.51**	**126**	⇑*i*P		**P**	**08 37 21.2**	**-1.2**
	comp=Z,18nm,0.7s,mb5.1							
FITZ	**Fitzroy Crossi**	**35.51**	**126**	P		**P**	**08 37 21.4**	**-1.0**
	comp=Z,23nm,0.8s,mb5.2,baz=303,slow=2.6,SNR=23							
GTA	**Gaotai**	**36.84**	**5**	*e*P		**P**	**08 37 33.0**	**-0.4**
GTA					PP	PP	08 38 58.8	-0.5
GTA					AMB	AMB		
	comp=Z,24nm,1.1s,mb4.9							
GTA					AMB	AMB		
	comp=Z,134nm,6.5s							
GTA					LR	LR		
	comp=N,648nm,17.1s,MS4.6							
GTA					LR	LR		
	comp=E,459nm,15.6s,MS4.6							
GTA					LR	LR		
	comp=Z,849nm,17.1s,MS4.6							
JOW	**Kunigami**	**39.08**	**49**	P		**P**	**08 37 51.7**	**-0.6**
	comp=Z,9.5nm,0.6s,mb4.7,baz=239,slow=14,SNR=4.2							
BTO	**Baotou**	**39.90**	**16**	*e*P		**P**	**08 37 59.0**	**+0.1**
NWAO	**Narrogin (SRO)**	**40.50**	**152**	P		**P**	**08 38 04.0**	**+0.1**
	comp=Z,26nm,0.9s,mb5.0,baz=310,slow=7.9,SNR=3.4							
NWAO					LR	LR	08 55 03.2	
	comp=Z,1μm,18.2s,MS4.8,baz=164,slow=36							
NWAO	**Narrogin (SRO)**	**40.50**	**152**	P		**P**	**08 38 04.0**	**+0.1**
NWAO					LR	LR	08 55 03.2	
HHC	**Hu-ho-hao-te**	**40.58**	**18**	*e*P		**P**	**08 38 05.5**	**+1.0**
HHC					AP	pP	08 38 14.0	+1.6
HHC					XP	sP	08 38 19.5	+3.8
HHC					PP	PP	08 39 44.0	+2.7
HHC					AMB	AMB		
	comp=Z,36nm,1.3s,mb4.8							
HHC					AMB	AMB		
	comp=Z,301nm,3.9s							
HHC					LR	LR		
	comp=N,655nm,16.6s,MS4.9							
HHC					LR	LR		
	comp=E,1μm,16.7s,MS4.9							
HHC					LR	LR		
	comp=Z,777nm,14.3s,MS4.7							
BJT	**Baijiatuau**	**41.46**	**23**	*e*P		**P**	**08 38 12.7**	**+0.9**
BJT					pmax	pmax		
	comp=Z,64nm,1.1s							
BJT	**Baijiatuau**	**41.46**	**23**	*e*P		**P**	**08 38 12.7**	**+0.9**
	comp=Z,64nm,1.1s,mb5.2							
BJI	**Beijing**	**41.48**	**23**	*e*P		**P**	**08 38 12.5**	**+0.6**
BJI					AMB	AMB		
	comp=Z,50nm,1.1s,mb5.1							
WMQ	**Urumqi**	**41.79**	**351**	⇓*i*P		**P**	**08 38 15.8**	**+1.3**
WMQ					AP	pP	08 38 25.5	+3.1
WMQ					XP	sP	08 38 29.5	+3.8
WMQ					PP	PP	08 39 56.0	+1.8
WMQ					AMB	AMB		
	comp=Z,22nm,1.2s,mb4.7							
WMQ					AMB	AMB		
	comp=Z,331nm,6.4s							
WMQ					LR	LR		
	comp=N,2μm,17.6s,MS5.0							
WMQ					LR	LR		
	comp=E,1μm,18.2s,MS5.0							
WMQ					LR	LR		
	comp=Z,954nm,21.0s,MS4.7							
WRA	**Warramunga Ar**	**43.58**	**123**	P		**P**	**08 38 28.4**	**-1.0**
	comp=Z,9.8nm,0.5s,mb4.8,baz=301,slow=9.1,SNR=78							
WRA					PP	PP	08 40 14.1	+1.4
	comp=Z,1.6nm,0.9s,baz=304,slow=9.0,SNR=2.8							
WRA					S	**S**	**08 44 52.5**	**-4.1**
	comp=Z,1.3nm,1.1s,baz=292,slow=16,SNR=2.8							
WRAB	**Tennant Creek**	**43.59**	**123**	*i* P		**P**	**08 38 29.1**	**-0.3**
WRAB	**Tennant Creek**	**43.59**	**123**	*e*P		**P**	**08 38 28.9**	**-0.6**
	comp=Z,46nm,0.9s,mb5.2							
WRAB					LR	LR		
	comp=Z,297nm,21.0s,MS4.2							
WB2	**Warramunga Arr**	**43.59**	**123**	⇑*i*P		**P**	**08 38 29.2**	**-0.3**
KZA	**Kyzart**	**43.62**	**337**	P		**P**	**08 38 31.1**	**+1.7**
	SNR=6.6							
UCH	**Uchtor**	**44.03**	**337**	P		**P**	**08 38 34.6**	**+1.9**
	SNR=12							
TKM2	**Tokmak 2**	**44.21**	**338**	P		**P**	**08 38 35.8**	**+1.6**
	SNR=8.2							
AML	**Almayashu**	**44.28**	**336**	P		**P**	**08 38 36.2**	**+1.5**
	SNR=14							
AAK	**Ala-Archa**	**44.38**	**337**	P		**P**	**08 38 36.9**	**+1.3**
	comp=Z,88nm,1.1s,mb5.4,SNR=13							
AAK	**Ala-Archa**	**44.38**	**337**	*i* P		**P**	**08 38 36.0**	**+0.4**
AAK					pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7							
AAK	**Ala-Archa**	**44.38**	**337**	*e*P		**P**	**08 38 36.1**	**+0.5**
	comp=Z,39nm,1.4s,mb5.0							
AAK					LR	LR		
	comp=Z,153nm,19.0s,MS3.9							
FRU	**Bishkek**	**44.51**	**337**	*e*P		**P**	**08 38 38.0**	**+1.4**
FRU					pmax	pmax		
	comp=Z,50nm,2.0s,mb5.0							
YOMI	**Yo Moklole**	**44.63**	**96**	*e*P		**P**	**08 38 37.5**	**-0.5**
EKS2	**Erkin-Say**	**44.69**	**336**	P		**P**	**08 38 39.8**	**+1.7**
	SNR=7.1							
USP	**Ospenovka**	**44.92**	**337**	P		**P**	**08 38 40.6**	**+0.7**
	SNR=10							
ASPA	**Alice Springs**	**44.99**	**128**	*e*P		**P**	**08 38 40.2**	**-0.5**
ASAR	**Alice Springs**	**44.99**	**128**	P		**P**	**08 38 40.0**	**-0.8**
	comp=Z,5.7nm,0.5s,mb4.7,baz=300,slow=7.9,SNR=96							
ASAR					PcP	PcP	08 40 21.2	-0.8
	comp=Z,1.6nm,0.7s,baz=297,slow=4.0,SNR=3.4							
ASAR					S	**S**	**08 45 17.6**	**+0.7**
	comp=Z,0.6nm,1.0s,baz=292,slow=14,SNR=3.1							
MKAR	**Makanchi Array**	**45.71**	**347**	P		**P**	**08 38 45.9**	**-0.2**
	comp=Z,9.5nm,0.5s,mb5.0,baz=160,slow=8.4,SNR=75							
SONM	**Songino Array**	**45.97**	**10**	P		**P**	**08 38 47.6**	**-0.6**
	comp=Z,5.9nm,0.6s,mb4.7,baz=191,slow=9.2,SNR=37							
SONM					PcP	PcP	08 40 24.7	-0.5
	comp=Z,2.4nm,0.5s,baz=206,slow=4.3,SNR=6.4							
SONM					LR	LR	09 00 32.4	
	comp=Z,1μm,18.9s,MS4.9,baz=88,slow=39							
ULN	**Ulaanbaatar**	**46.11**	**10**	*e*P		**P**	**08 38 49.1**	**-0.1**
ULN					pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7							
ULN					MLR	MLR		
	comp=Z,552nm,20.0s,MS4.5							
ULN	**Ulaanbaatar**	**46.11**	**10**	*e*P		**P**	**08 38 49.1**	**-0.1**
	comp=Z,8.9nm,0.9s,mb4.7							
ULN					LR	LR		
	comp=Z,552nm,20.0s,MS4.5							
SNY	**Shenyang**	**46.18**	**28**	⇑P		**P**	**08 38 49.0**	**-0.9**
SNY					AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0							
KKAR	**Karatay Array**	**46.42**	**334**	*i* P		**P**	**08 38 51.8**	**0.0**
KKAR					pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6							
ZAK	**Zakamensk**	**48.04**	**6**	*e*P		**P**	**08 39 03.8**	**-0.6**
ZAK					pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.4							
CN2	**Changchun**	**48.58**	**28**	*e*P		**P**	**08 39 07.5**	**-1.1**
CN2					eXP	sP	08 39 21.8	+1.9
CN2					AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8							
CN2					AMB	AMB		
	comp=Z,310nm,4.0s							
CN2					LR	LR		
	comp=N,860nm,17.0s,MS4.9							
CN2					LR	LR		
	comp=E,710nm,17.0s,MS4.9							
CN2					LR	LR		
	comp=Z,850nm,17.0s,MS4.8							
MOY	**Mondy**	**49.12**	**4**	*e*P		**P**	**08 39 14.0**	**+1.3**
TLY	**Talaya**	**49.36**	**6**	*e*P		**P**	**08 39 15.3**	**+0.7**
TLY				*e*			08 49 03.2	
TLY					pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
TLY					MLR	MLR		
	comp=Z,639nm,20.0s,MS4.6							
TLY	**Talaya**	**49.36**	**6**	*e*P		**P**	**08 39 15.1**	**+0.5**
	comp=Z,6.2nm,0.8s,mb4.7							
IRK	**Irkutsk**	**49.98**	**6**	*e*P		**P**	**08 39 19.6**	**+0.2**
IRK				*e*			08 40 42.7	
IRK					pmax	pmax		
	comp=Z,36nm,2.0s,mb5.1							
KURK	**Kurchatov**	**50.25**	**346**	*i* P		**P**	**08 39 20.8**	**-0.6**
KURK					pmax	pmax		
	comp=Z,14nm,1.3s,mb4.8							
KURK	**Kurchatov**	**50.25**	**346**	*e*P		**P**	**08 39 21.1**	**-0.3**
	comp=Z,25nm,1.2s,mb5.1							
KURK					LR	LR		
	comp=Z,172nm,20.0s,MS4.1							
HIA	**Hailar**	**50.70**	**20**	*e*P		**P**	**08 39 24.9**	**0.0**
HIA					pmax	pmax		
	comp=Z,18nm,1.0s							
HIA	**Hailar**	**50.70**	**20**	*e*P		**P**	**08 39 24.9**	**0.0**
	comp=Z,18nm,1.0s,mb5.0							
MDJ	**Mudanjiang**	**51.20**	**30**	P		**P**	**08 39 28.3**	**-0.4**
MDJ					AMB	AMB		
	comp=Z,9.0nm,1.6s,mb4.5							
MDJ					AMB	AMB		
	comp=Z,306nm,9.7s							
MDJ					LR	LR		
	comp=N,276nm,17.0s,MS4.5							
MDJ					LR	LR		
	comp=E,271nm,18.2s,MS4.5							
MDJ					LR	LR		
	comp=Z,370nm,18.2s,MS4.5							
MDJ	**Mudanjiang**	**51.20**	**30**	*e*P		**P**	**08 39 28.1**	**-0.6**
MDJ					LR	LR		
	comp=Z,530nm,20.0s,MS4.6							
MJAR	**Matsushiro Arr**	**51.39**	**44**	P		**P**	**08 39 28.6**	**-1.6**
	comp=Z,1.2nm,0.6s,mb4.0,baz=243,slow=8.4,SNR=4.7							
MJAR					LR	LR	09 03 22.2	
	comp=Z,374nm,18.9s,MS4.4,baz=270,slow=38							
ZAL	**Zalesovo**	**52.08**	**351**	P		**P**	**08 39 33.1**	**-2.2**
	comp=Z,8.0nm,0.5s,mb5.0,baz=312,slow=5.4,SNR=26							
PMG	**Port Moresby**	**52.13**	**104**	P		**P**	**08 39 32.9**	**-3.2**
PMG					pmax	pmax		
	comp=Z,25nm,0.8s							
PMG					MLR	MLR		
	comp=Z,452nm,19.0s							
PMG	**Port Moresby**	**52.13**	**104**	P		**P**	**08 39 32.9**	**-3.2**
	comp=Z,25nm,0.8s,mb5.2							
PMG					LR	LR		
	comp=Z,452nm,19.0s,MS4.5							
NVS	**Novosibirsk**	**53.20**	**351**	*e*P		**P**	**08 39 41.7**	**-1.9**
NVS				*i* PPP		PPP	08 42 54.1	+2.4
NVS				*i* S		**S**	**08 47 09.0**	**-2.1**
NVS					pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8							
NVS					pmax	pmax		
	comp=N,15nm,1.5s							
NVS					pmax	pmax		
	comp=E,7.0nm,1.1s							
NVS					smax			
	comp=N,15nm,1.8s							
NVS					smax			
	comp=E,22nm,1.7s							
RAYN	**Ar Rayn**	**53.26**	**298**	P		**P**	**08 39 44.1**	**-0.4**
	comp=E,94nm,0.8s,SNR=16							
CTA	**Charters Tower**	**53.98**	**117**	⇑*i*P		**P**	**08 39 49.8**	**0.0**
	comp=E,9.7nm,0.9s,mb4.7							
CTA	**Charters Tower**	**53.98**	**117**	⇑*i*P		**P**	**08 39 49.8**	**0.0**
CTA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
CTAO	**Charters Tower**	**53.98**	**117**	*e*P		**P**	**08 39 49.5**	**-0.3**
CTAO					pmax	pmax		
	comp=Z,42nm,1.3s,mb5.2							
CTAO					MLR	MLR		
	comp=Z,513nm,20.0s,MS4.6							
CTAO	**Charters Tower**	**53.98**	**117**	*e*P		**P**	**08 39 49.5**	**-0.2**
	comp=Z,42nm,1.3s,mb5.2							
CTAO					LR	LR		
	comp=Z,513nm,20.0s,MS4.6							
BVA0	**Borovoye Array**	**54.67**	**341**	P		**P**	**08 39 52.6**	**-1.8**
BVA0					pmax	pmax		
	comp=Z,5.0nm,1.6s,mb4.3							
BVAR	**Borovoye Array**	**54.67**	**341**	P		**P**	**08 39 53.4**	**-0.9**
	comp=Z,4.1nm,0.6s,mb4.7,baz=143,slow=7.4,SNR=28							
STKA	**Stephens Creek**	**54.98**	**132**	*e*P		**P**	**08 39 56.4**	**-0.6**
	comp=Z,13nm,0.7s,mb5.1							
STKA	**Stephens Creek**	**54.98**	**132**	P		**P**	**08 39 56.4**	**-0.6**
	comp=Z,16nm,0.8s,mb5.1,baz=312,slow=6.3,SNR=33							
STKA					LR	LR	09 05 47.6	
	comp=Z,476nm,18.2s,MS4.6,baz=246,slow=38							
CHKZ	**Chkalovo**	**55.15**	**342**	*e*P		**P**	**08 39 57.0**	**-0.9**
CHKZ					pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3							
CHKZ	**Chkalovo**	**55.15**	**342**	*e*P		**P**	**08 39 57.0**	**-0.9**
	comp=Z,34nm,1.0s,mb5.3							
KLR	**Kul'dur**	**55.51**	**28**	*e*P		**P**	**08 39 57.0**	**-3.6**
BOD	**Bodaibo**	**56.89**	**11**	*e*P		**P**	**08 40 07.6**	**-2.7**
KMBO	**Kilima Mbogo**	**59.06**	**267**	*e*P		**P**	**08 40 26.6**	**+0.5**
KMBO					pmax	pmax		
	comp=Z,20nm,1.1s							
KMBO					MLR	MLR		
	comp=Z,710nm,20.0s							
KMBO	**Kilima Mbogo**	**59.06**	**267**	P		**P**	**08 40 26.0**	**-0.1**
	comp=Z,9.6nm,0.9s,mb4.8,baz=50,slow=8.6,SNR=20							
KMBO					LR	LR	09 03 07.9	
	comp=Z,739nm,18.1s,MS4.8,baz=275,slow=33							
KMBO	**Kilima Mbogo**	**59.06**	**267**	*e*P		**P**	**08 40 26.6**	**+0.5**
	comp=Z,20nm,1.1s,mb5.0							
KMBO					LR	LR		
	comp=Z,710nm,20.0s,MS4.8							
GNI	**Garni**	**59.65**	**316**	P		**P**	**08 40 29.5**	**-0.4**
	comp=Z,2.0nm,0.3s,mb4.6,baz=139,slow=23,SNR=8.4							
TI2	**Plekhanov**	**60.32**	**318**	*e*P		**P**	**08 40 33.8**	**-0.7**
TOO	**Toolangi**	**60.59**	**136**	*e*P		**P**	**08 40 37.2**	**+0.9**
	comp=Z,0.5nm,1.1s							
TOO	**Toolangi**	**60.59**	**136**	*e*P		**P**	**08 40 37.2**	**+0.9**
TOO					pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.9							
SVE	**Sverdlovsk**	**61.08**	**339**	⇑*e*P		**P**	**08 40 38.9**	**-0.5**
SVE				*e*			08 41 22.2	
SVE				*e*PS		**S**	**08 48 56.0**	**+1.0**
SVE					pmax	pmax		
	comp=Z,40nm,1.4s,mb5.4							
ARU	**Arti**	**61.57**	**337**	*c i*P		**P**	**08 40 41.5**	**-1.2**
ARU				*e*			08 41 21.7	
ARU				*e*			08 42 55.6	
ARU				*e*S		**S**	**08 49 03.4**	**+2.3**
ARU				*e*SS		SS	08 53 04.2	+0.1
ARU					pmax	pmax		
	comp=Z,18nm,1.0s,mb5.2							
ARU	**Arti**	**61.57**	**337**	PFAKE			08 40 50.0	+7.3
AR

comp=Z,42nm,1.3s,mb5.3
BRTR Keskin Array B 67.48 312 P **P** **08 41 20.0 -1.5**
comp=Z,2.4nm,0.8s,mb4.3,baz=121,slow=7.2,SNR=11
LSZ Lusaka 69.56 253 *e*P **P** **08 41 34.3 -0.3**
LSZ pmax pmax
comp=Z,14nm,1.1s,mb4.8
LSZ Lusaka 69.56 253 *e*P **P** **08 41 34.3 -0.3**
comp=Z,14nm,1.1s,mb4.8
MOS Moscow 70.68 329 *e*P **P** **08 41 50.6 +10**
MOS *e* 08 42 08.3
MOS pmax pmax
comp=Z,51nm,0.8s,mb5.5
OBN Obninsk 70.96 328 *i* P **P** **08 41 41.4 -1.2**
OBN *e* pP 08 41 50.1 -0.7
OBN *i* 08 41 56.6
OBN pmax pmax
comp=Z,18nm,1.1s,mb4.9
OBN Obninsk 70.96 328 PFAKE 08 41 50.0 +7.4
OBN LR LR
comp=Z,77nm,19.0s,MS4.0
PET Petropavlovsk 71.68 34 *e*P **P** **08 41 46.4 -0.5**
PET pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
PET MLR MLR
comp=Z,400nm,18.0s,MS4.7
TIXI Tiksi 72.05 10 *e*P **P** **08 41 46.0 -2.8**
TIXI pmax pmax
comp=Z,15nm,1.3s,mb4.8
TIXI MLR MLR
comp=Z,1.0nm,16.0s
AKASG Malin Array Be 73.60 322 P **P** **08 41 56.4 -1.9**
comp=Z,3.3nm,0.6s,mb4.4,baz=90,slow=4.7,SNR=17
LBTB Lobatse 73.60 243 PFAKE 08 42 10.0 +11
LBTB LR LR
comp=Z,1μm,21.0s,MS5.1
MAW Mawson 73.79 193 *e*P **P** **08 41 59.9 +0.9**
MAW pmax pmax
comp=Z,22nm,1.2s
MAW Mawson 73.79 193 P **P** **08 41 58.7 -0.3**
comp=Z,2.6nm,0.5s,mb4.4,baz=22,slow=7.4,SNR=7.3
MAW Mawson 73.79 193 *e*P **P** **08 41 59.9 +0.9**
comp=Z,22nm,1.2s,mb5.0
VRI Vrincioaia 73.97 317 ⇑P **P** **08 42 00.5 0.0**
MLR Muntele Rosu 74.42 317 ⇓P **P** **08 42 04.1 +1.0**
BOSA Boshof 74.60 240 P **P** **08 42 03.8 -0.7**
comp=Z,12nm,1.1s,mb4.7,baz=88,slow=4.5,SNR=6.5
BURAR Bucovina Array 75.37 319 ⇑P **P** **08 42 09.1 +0.6**
KWP Kalwaria 77.41 320 *e*P **P** **08 42 20.4 +0.5**
APA Apatity 77.53 340⇑ *e*P **P** **08 42 17.2 -3.0**
APA MLR MLR
comp=Z,500nm,17.0s,MS4.9
KOLS Kolonicke sedl 77.56 320 *e*P **P** **08 42 21.3 +0.5**
KOLS *e* pP 08 42 29.6 +0.5
KOLS *e* 08 42 38.0
KOLS *e* 08 42 48.7
SUW Suwalki 78.01 325 *e*P **P** **08 42 22.2 -1.0**
CRVS Cervenica-Dubn 78.08 319 *e*P **P** **08 42 24.8 +1.2**
CRVS *e* 08 42 41.0
CRVS *e* 08 42 53.2
FINES FINESS Array B 78.36 333 P **P** **08 42 24.2 -0.7**
comp=Z,2.7nm,0.6s,mb4.3,baz=104,slow=7.9,SNR=14
KAF Kangasniemi 78.45 333 *e*p **P** **08 42 25.8 +0.5**
comp=Z,13nm,1.2s,mb4.7
KAF Kangasniemi 78.45 333 *e*P **P** **08 42 25.8 +0.5**
KAF pmax pmax
comp=Z,13nm,1.2s,mb4.7
PSZ Piszkesteto 78.95 318 *e*P **P** **08 42 28.0 -0.4**
PSZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
PSZ Piszkesteto 78.95 318 *e*P **P** **08 42 28.0 -0.4**
comp=Z,7.0nm,1.1s,mb4.5
PKSM Moragy 79.57 316⇓ *e*P **P** **08 42 31.4 -0.4**
VYHS Vyhne 79.74 319 *e*P **P** **08 42 33.1 +0.4**
BILL Bilibino 80.27 21 *i* P **P** **08 42 34.6 -0.5**
BILL pmax pmax
comp=Z,8.0nm,1.5s,mb4.4
BILL Bilibino 80.27 21 PFAKE 08 42 50.0 +15
BILL LR LR
comp=Z,488nm,19.0s,MS4.9
MORC Moravsky Berou 80.75 320 P **P** **08 42 38.4 +0.4**
MORC pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
MORC Moravsky Berou 80.75 320 P **P** **08 42 38.4 +0.4**
comp=Z,1.4nm,0.8s,mb3.9
RPZ Rata Peaks 80.85 135 LR LR 09 19 56.0
comp=Z,602nm,19.3s,MS5.0,baz=224,slow=37
ZST Bratislava 80.85 318 *e*P **P** **08 42 39.4 +0.8**
ARCES ARCESS Array B 80.95 340 P **P** **08 42 38.8 +0.1**
comp=Z,5.0nm,0.8s,mb4.5,baz=94,slow=5.1,SNR=18
ARCES LR LR 09 24 49.3
comp=Z,316nm,19.1s,MS4.7,baz=114,slow=40
KSP Ksiaz 81.67 321 *e*P **P** **08 42 43.5 +0.7**
KSP *e**PP pP 08 42 51.3 +0.1
BRG Berggiesshubel 83.15 321 *e*P **P** **08 42 51.9 +1.4**
BRG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRG Berggiesshubel 83.15 321 *e*P **P** **08 42 51.9 +1.4**
comp=Z,5.4nm,0.6s,mb4.8
GERES GERESS Array B 83.16 319 P **P** **08 42 50.6 +0.1**
comp=Z,5.6nm,1.0s,mb4.5,baz=104,slow=5.5,SNR=24
URZ Urewera 84.42 129 LR LR 09 20 42.3
comp=Z,363nm,19.2s,MS4.8,baz=256,slow=36
GRA1 Grafenberg Arr 84.83 319 *e*P **P** **08 43 00.1 +1.1**
comp=Z,9.0nm,1.2s,mb4.8
GRF Grafenberg Arr 84.83 319 *e*P **P** **08 43 00.1 +1.1**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
GRF Grafenberg Arr 84.83 319 *e*P **P** **08 43 00.1 +1.1**
GRF pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
GRF Grafenberg Arr 84.83 319 *e*P **P** **08 43 00.1 +1.1**
comp=Z,9.0nm,1.2s,mb4.8
NB2 NORSAR Subarra 85.36 331 P **P** **08 43 00.8 -0.6**
comp=Z,9.7nm,1.2s,mb4.8,baz=93,slow=5.6
NB2 NORSAR Subarra 85.36 331 P **P** **08 43 00.8 -0.6**
NB2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
NOA NORSAR Array B 85.36 331 P **P** **08 43 00.8 -0.6**
comp=Z,2.8nm,1.0s,mb4.3,baz=95,slow=5.0,SNR=5.1
NOA LR LR 09 24 43.4
comp=Z,183nm,20.9s,MS4.5,baz=95,slow=38
KONO Kongsberg 86.10 329 *i* P **P** **08 43 05.3 +0.2**
KONO Kongsberg 86.10 329 PFAKE 08 43 20.0 +15
KONO LR LR
comp=Z,255nm,19.0s,MS4.6
VNDA Vanda 87.33 169 P **P** **08 43 10.6 -0.1**
comp=Z,2.8nm,0.9s,mb4.5,baz=307,slow=6.4,SNR=9.7
LPG La Plagne 87.83 315 *e*P **P** **08 43 13.5 -0.3**
comp=Z,15nm,0.9s,mb4.9
MAIT Maitri 90.56 199 *e*P **P** **08 43 28.2 +2.1**
QSPA South Pole Qui 92.48 180 *e*P **P** **08 43 35.3 +0.5**
comp=Z,12nm,0.9s,mb5.2
ESK Eskdalemuir 93.28 326 PFAKE 08 43 50.0 +11
ESK LR LR
comp=Z,100nm,21.0s,MS4.2
IMA Indian Mountai 95.73 23 *e*P **P** **08 43 50.6 +0.6**
comp=Z,19nm,1.1s,mb5.4
YKA Yellowknife Ar 111.06 15 PKiKP 08 48 57.4
comp=Z,0.2nm,0.9s,baz=236,slow=7.6,SNR=3.8
YKA PP PP 08 49 35.5 -4.1
comp=Z,0.5nm,1.0s,baz=333,slow=6.7,SNR=5.4
YKA Yellowknife Ar 111.06 15 PKPdf PKPdf 08 48 57.4 -3.5
YKA PP PP 08 49 35.5 -4.1
ULM Lac du Bonnet 126.40 10 PKP PKPdf 08 49 27.2 -3.8
comp=Z,1.9nm,0.5s,baz=237,slow=2.1,SNR=4.7
ULM Lac du Bonnet 126.40 10 PKP PKPdf 08 49 27.2 -3.8
PDAR Pinedale Array 129.25 24 PKP PKPdf 08 49 33.0 -3.7
comp=Z,0.9nm,0.8s,baz=297,slow=3.3,SNR=7.5
WMOK Wichita Mounta 140.33 19 PFAKE 08 50 10.0 +13
WMOK LR LR
comp=Z,394nm,19.0s,MS5.2
BDFB Brasilia 142.44 248 PKP PKPdf 08 49 57.2 -4.5
comp=Z,2.0nm,0.5s,baz=140,slow=14,SNR=3.4
TXAR Lajitas Array 143.02 30 PKP PKPdf 08 49 56.4 -6.0
comp=Z,0.5nm,0.5s,baz=184,slow=1.3,SNR=11
LRAL Lakeview Retre 144.49 5 *e*PKPdf PKPdf 08 50 00.3 -4.5
LPAZ La Paz 159.41 227 PKP PKPdf 08 50 24.8 -2.3
comp=Z,1.7nm,1.0s,baz=61,slow=8.0,SNR=5.7
LPAZ PKPab PKPab 08 51 04.1 +1.6
comp=Z,3.3nm,0.9s,baz=120,slow=7.1,SNR=8.1
LPAZ La Paz 159.41 227 PKP PKPdf 08 50 24.8 -2.3
LPAZ PKPab PKPab 08 51 04.1 +1.6

*IDC **31** 08:33:22.3±0.7, 0.93N×97.29E, mb4.4/17, mb1 4.5/17,*

mb1mx4.5/21, mbtmp4.4/17, MS4.5/1, Ms1 4.5/1, ms1mx3.7/27, Error ellipse: s-maj=27.3km s-min=14.5km az=46.0
*BJI **31** 08:33:24.7, 0.74N×97.46E, h37km, mB5.2, mb4.9, Ms5.0, Msz4.7*
*NEIC **31** 08:33:27.1±0.4, 0.94N×97.31E, h30km, mb4.8/14, Error ellipse: s-maj=10.9km s-min=7.3km az=48.0*
ISC 31 08:33:24.7±2.8, 0.91N±0.07×97.31E±0.09, h28km±19km, **h26**km±1.6km**:pP-P, n49,** σ**0**≈**83/50, mb4.7**/39**, MS4.7/5, 3C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CM31	**Chiang Mai Arr**	**17.51**	**5**	*e*P		**P**	**08 37 29.3**	**+0.5**
	33nm,0.9s							
KKM	**Kota Kinabalu**	**19.54**	**74**	*e*P		**P**	**08 37 54.0**	**+0.7**
KMI	**Kunming**	**24.64**	**12**	P		**P**	**08 38 46.0**	**+1.5**
KMI				AP			08 38 52.5	
KMI				AMB		AMB		
	comp=Z,43nm,1.0s,mb4.9							
GYA	**Guiyang**	**26.95**	**19**⇑	*i*P		**P**	**08 39 05.3**	**-0.7**
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
LSA	**Lhasa**	**29.23**	**349**	*e*P		**P**	**08 39 27.3**	**+0.7**
	comp=Z,16nm,0.9s,mb4.8							
ENH	**Enshi**	**31.41**	**20**	*e*P		**P**	**08 39 43.8**	**-2.1**
	comp=Z,26nm,0.9s,mb5.1							
ENH				*e*		pP	08 39 50.6	-3.6
FITZ	**Fitzroy Crossi**	**33.67**	**126**	P		**P**	**08 40 04.9**	**-0.8**
	comp=Z,4.2nm,0.6s,mb4.6,baz=338,slow=5.6,SNR=4.8							
FITZ				LR		LR	08 53 28.8	
	comp=Z,704nm,18.6s,MS4.4,baz=283,slow=36							
XAN	**Xi'an**	**34.70**	**17**	P		**P**	**08 40 13.0**	**-1.5**
XAN				AP		pP	08 40 20.0	-2.8
XAN				AMB		AMB		
	comp=Z,26nm,1.1s,mb5.1							
NJ2	**Nanjing**	**37.05**	**31**	*e*P		**P**	**08 40 36.0**	**+1.6**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.6s,mb4.8							
GTA	**Gaotai**	**38.39**	**3**	*e*P		**P**	**08 40 45.8**	**+0.3**
GTA				AP		pP	08 40 52.8	-1.1
GTA				XP		sP	08 40 56.5	-0.9
GTA				PP		PP	08 42 12.8	-4.2
GTA				S		**S**	**08 46 32.0**	**-6.1**
GTA				AMB		AMB		
	comp=Z,16nm,0.9s,mb4.8							
GTA				LR		LR		
	comp=N,270nm,14.4s,MS4.4							
GTA				LR		LR		
	comp=E,345nm,16.7s,MS4.4							
GTA				LR		LR		
	comp=Z,451nm,16.7s,MS4.4							
JOW	**Kunigami**	**39.36**	**46**	P		**P**	**08 40 53.8**	**0.0**
	comp=Z,26nm,0.8s,mb5.0,baz=268,slow=5.5,SNR=4.6							
WRA	**Warramunga Arr**	**41.79**	**122**	P		**P**	**08 41 13.8**	**0.0**
	comp=Z,2.6nm,0.6s,mb4.1,baz=307,slow=9.2,SNR=5.8							
HHC	**Hu-ho-hao-te**	**41.80**	**16**	*e*P		**P**	**08 41 14.8**	**+1.0**
HHC				AP		pP	08 41 24.0	+1.9
HHC				XP		sP	08 41 28.5	+2.9
HHC				PP		PP	08 42 53.8	+0.3
HHC				S		**S**	**08 47 30.3**	**+1.0**
HHC				XS			08 47 48.3	
HHC				SS		SS	08 50 32.0	+1.5
HHC				AMB		AMB		
	comp=Z,14nm,0.7s,mb4.7							
HHC				AMB		AMB		
	comp=Z,305nm,9.5s							
HHC				LR		LR		
	comp=N,681nm,19.6s,MS4.8							
HHC				LR		LR		
	comp=E,1μm,18.4s,MS4.8							
HHC				LR		LR		
	comp=Z,777nm,14.9s,MS4.7							
BJT	**Baijiatuan**	**42.54**	**22**	*e*P		**P**	**08 41 20.3**	**+0.5**
	comp=Z,47nm,1.0s,mb5.2							
BJI	**Beijing**	**42.56**	**22**	*e*P		**P**	**08 41 20.5**	**+0.5**
BJI				AMB		AMB		
	comp=Z,44nm,0.8s,mb5.2							
ASAR	**Alice Springs**	**43.13**	**127**	P		**P**	**08 41 25.0**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.0,baz=298,slow=7.3,SNR=4.9							
WMQ	**Urumqi**	**43.58**	**350**⇑	*i*P		**P**	**08 41 29.0**	**+0.8**
WMQ				AP		pP	08 41 37.8	+1.2
WMQ				XP		sP	08 41 41.8	+1.8
WMQ				PP		PP	08 43 12.0	+0.6
WMQ				S		**S**	**08 47 55.0**	**-0.2**
WMQ				XS			08 48 12.0	
WMQ				AMB		AMB		
	comp=Z,16nm,1.2s,mb4.6							
WMQ				AMB		AMB		
	comp=Z,319nm,4.7s							
WMQ				LR		LR		
	comp=N,2μm,17.6s,MS5.0							
WMQ				LR		LR		
	comp=E,1μm,17.1s,MS5.0							
WMQ				LR		LR		
	comp=Z,963nm,22.2s							
DL2	**Dalian**	**43.88**	**28**	P		**P**	**08 41 31.3**	**+0.6**
DL2				AMB		AMB		
	comp=Z,30nm,0.8s,mb5.1							
AAK	**Ala-Archa**	**46.31**	**337**	P		**P**	**08 41 50.8**	**+0.8**
	comp=Z,3.7nm,0.8s,mb4.4							
SNY	**Shenyang**	**47.11**	**27**	⇑P		**P**	**08 41 55.8**	**-0.6**
SNY				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
SONM	**Songino Array**	**47.40**	**8**	P		**P**	**08 41 58.8**	**+0.2**
	comp=Z,2.7nm,0.4s,mb4.5,baz=191,slow=9.1,SNR=9.0							
SONM				PcP		PcP	08 43 29.5	+0.2
	comp=Z,2.3nm,0.8s,baz=186,slow=3.8,SNR=4.1							
ULN	**Ulaanbaatar**	**47.53**	**9**	*e*P		**P**	**08 41 59.3**	**-0.3**
	comp=Z,14nm,1.2s,mb4.9							
MKAR	**Makanchi Array**	**47.55**	**346**	P		**P**	**08 41 59.9**	**+0.1**
	comp=Z,11nm,0.7s,mb5.0,baz=162,slow=7.4,SNR=12							
MKAR	**Makanchi Array**	**47.55**	**346**	P		**P**	**08 41 59.9**	**+0.1**
CN2	**Changchun**	**49.51**	**27**	*e*P		**P**	**08 42 14.3**	**-0.7**
CN2				AMB		AMB		
	comp=Z,20nm,0.9s,mb5.2							
CN2				LR		LR		
	comp=N,510nm,15.0s,MS4.8							
CN2				LR		LR		
	comp=E,410nm,15.0s,MS4.8							
CN2				LR		LR		
	comp=Z,560nm,15.0s,MS4.7							
TLY	**Talaya**	**50.87**	**5**	*e*P		**P**	**08 42 25.2**	**-0.1**
	comp=Z,5.9nm,0.8s,mb4.6							
MJAR	**Matsushiro Arr**	**51.83**	**42**	P		**P**	**08 42 31.3**	**-1.4**
	comp=Z,3.1nm,0.9s,mb4.2,baz=212,slow=7.0,SNR=5.1							
HIA	**Hailar**	**51.88**	**19**	*e*P		**P**	**08 42 32.3**	**-0.6**
	comp=Z,18nm,1.0s,mb5.0							
MDJ	**Mudanjiang**	**52.06**	**29**	P		**P**	**08 42 34.0**	**-0.4**
MDJ				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.7							
MDJ				AMB		AMB		
	comp=Z,177nm,7.3s							
MDJ	**Mudanjiang**	**52.06**	**29**	*e*P		**P**	**08 42 35.0**	**+0.6**
	comp=Z,10nm,1.0s,mb4.7							
KURK	**Kurchatov**	**52.10**	**345**	*e*P		**P**	**08 42 33.9**	**-0.7**
	comp=Z,15nm,1.0s,mb4.9							
STKA	**Stephens Creek**	**53.08**	**132**	P		**P**	**08 42 43.0**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.3,baz=325,slow=8.2,SNR=3.1							
STKA	**Stephens Creek**	**53.08**	**132**	P		**P**	**08 42 43.5**	**+1.4**
ZAL	**Zalesovo**	**53.85**	**351**	P		**P**	**08 42 46.8**	**-0.7**
	comp=Z,11nm,0.4s,mb5.2,baz=322,slow=3.0,SNR=12							
BVAR	**Borovoye Array**	**56.56**	**341**	P		**P**	**08 43 06.1**	**-1.1**
	comp=Z,6.8nm,0.8s,mb4.8,baz=144,slow=8.1,SNR=11							
CHKZ	**Chkalovo**	**57.04**	**341**	*e*P		**P**	**08 43 09.5**	**-1.1**
	comp=Z,28nm,0.6s,mb5.5							
KMBO	**Kilima Mbogo**	**60.09**	**268**	P		**P**	**08 43 32.0**	**-0.4**
	comp=Z,2.6nm,0.9s,mb4.3,baz=90,slow=7.8,SNR=4.4							
KMBO	**Kilima Mbogo**	**60.09**	**268**	*e*P		**P**	**08 43 33.3**	**+0.9**
	comp=Z,4.6nm,1.2s,mb4.4							
BRTR	**Keskin Array B**	**59.39**	**312**	P		**P**	**08 44 32.4**	**-0.1**
	comp=Z,0.9nm,0.7s,mb3.8,baz=108,slow=4.6,SNR=3.3							
MA2	**Magadan**	**71.54**	**26**	*e*P		**P**	**08 44 44.4**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.6							
AKASG	**Malin Array Be**	**75.56**	**322**	P		**P**	**08 45 07.8**	**-0.9**
	comp=Z,1.0nm,0.4s,mb4.1,baz=90,slow=4.9,SNR=4.2							
FINES	**FINESS Array B**	**80.31**	**333**	P		**P**	**08 45 34.6**	**+0.1**
	comp=Z,2.4nm,0.8s,mb4.2,baz=104,slow=7.9,SNR=4.7							
ARCES	**ARCESS Array B**	**82.84**	**340**	P		**P**	**08 45 48.4**	**+0.7**
	comp=Z,2.6nm,0.8s,mb4.3,baz=90,slow=6.1,SNR=4.3							
GERES	**GERESS Array B**	**85.11**	**319**	P		**P**	**08 46 00.7**	**+1.2**
	comp=Z,2.0nm,0.8s,mb4.3,baz=146,slow=4.8,SNR=5.8							
CLL	**Collm**	**85.73**	**321**	*e**SP		sP	08 46 17.0	+2.6
NB2	**NORSAR Subarra**	**87.31**	**331**	P		**P**	**08 46 10.4**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.5,baz=96,slow=4.8							
NOA	**NORSAR Array B**	**87.31**	**331**	P		**P**	**08 46 10.3**	**+0.2**
	comp=Z,3.0nm,0.9s,mb4.5,baz=94,slow=4.9,SNR=8.0							
NOA	**NORSAR Array B**	**87.31**	**331**	P		**P**	**08 46 10.3**	**+0.2**
TXAR	**Lajitas Array**	**143.85**	**32**	PKP		PKPdf	08 52 58.2	-4.8
	comp=Z,0.6nm,0.8s,baz=315,slow=1.8,SNR=4.6							

*PRU **31** 08:36:59.3, 50.31N×18.81E*
WAR 31 08:36:59.4, 50.26N×18.90E, h0km**, ML2.4, Mining Induced, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.58**	**93**	*e*PG		Pg	08 37 11.0	+0.1
OJC				*e*SG		Sg	08 37 19.0	+0.4
OKC	**Ostrava-Krasne**	**0.64**	**230**	*e*PG		Pg	08 37 12.0	-0.3
OKC				*e*SG		Sg	08 37 19.6	-1.2
NIE	**Niedzica**	**1.24**	**132**	*e*PG		Pg	08 37 22.0	-2.1
NIE				*e*SG		Sg	08 37 40.0	-0.7
DPC	**Dobruska-Polom**	**1.66**	**274**	*e*PG		Pg	08 37 28.5	-4.0
DPC				*e*SG		Sg	08 37 50.8	-3.8
	19nm,0.4s							
VYHS	**Vyhne**	**1.77**	**181**	*e*PN		Pn	08 37 30.2	-1.2
VYHS				*e*SN		Sn	08 37 53.4	-1.4
KSP	**Ksiaz**	**1.77**	**290**	*e*PG		Pg	08 37 32.0	-2.7
KSP				*e*SG		Sg	08 37 55.0	-3.2
UPC	**Upice**	**1.87**	**279**	*e*SG		Sg	08 37 57.2	-4.4
CRVS	**Cervenica-Dubn**	**2.15**	**128**	*e*SN		Sn	08 38 07.0	+2.5
PRU	**Pruhonice**	**2.82**	**266**	*e*SG		Sg	08 38 26.5	-6.8
KHC	**Kasperske Hory**	**3.64**	**254**	*e*SG		Sg	08 38 53.8	-6.7

*IDC **31** 08:41:19.8±2.2, 0.04N×97.39E, h22km±4km, mb4.0/7, mb1 4.1/7, mb1mx3.8/20, mbtmp4.2/7, Error ellipse: s-maj=105.0km s-min=13.6km az=55.0*
*NEIC **31** 08:41:20.4±0.7, 0.18N×97.65E, mb4.4/8, Error ellipse: s-maj=18.3km s-min=8.2km az=62.0*
ISC 31 08:41:18.4±0.8, 0.21N±0.09×97.7E±0.1, h23km**, h23**km±1.3km**:pP-P, n21,** σ**0**≈**85/19, mb4.4**/14**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KULM	**Kulim**	**5.87**	**31**	*e*Pn		**Pn**	**08 42 46.0**	**-0.3**
CM31	**Chiang Mai Arr**	**18.18**	**4**	*e*P		**P**	**08 45 30.7**	**-0.6**
	6.4nm,0.6s							
KKM	**Kota Kinabalu**	**19.41**	**72**	P		**P**	**08 45 46.5**	**+0.5**
ENH	**Enshi**	**31.95**	**20**	*e*P		**P**	**08 47 44.1**	**-0.9**
	14nm,0.9s,mb4.8							
FITZ	**Fitzroy Crossi**	**32.98**	**125**	P		**P**	**08 47 52.7**	**-1.4**
	2.3nm,0.8s,mb4.2,slow=12,SNR=2.0							
WRA	**Warramunga Arr**	**41.13**	**121**	P		**P**	**08 49 03.5**	**+0.8**
	0.8nm,0.6s,mb3.5,baz=300,slow=9.1,SNR=7.2							
WRA				pP		pP	08 49 11.1	+1.6
	1.0nm,0.7s,baz=301,slow=9.0,SNR=5.0							
WRAB	**Tennant Creek**	**41.13**	**121**	*e*P		**P**	**08 49 04.0**	**+1.2**
	12nm,1.2s,mb4.4							
ASAR	**Alice Springs**	**42.44**	**127**	P		**P**	**08 49 14.7**	**+1.1**
	0.5nm,0.6s,mb3.3,baz=293,slow=7.6,SNR=4.9							
ASAR				pP		pP	08 49 21.9	+1.6
	1.4nm,0.8s,baz=301,slow=7.6,SNR=6.5							
SONM	**Songino Array**	**48.04**	**8**	P		**P**	**08 49 59.2**	**+1.2**
	3.7nm,0.7s,mb4.5,baz=190,slow=9.4,SNR=25							
ULN	**Ulaanbaatar**	**48.16**	**8**	*e*P		**P**	**08 49 59.6**	**+0.6**
	2.6nm,0.9s,mb4.3							
MKAR	**Makanchi Array**	**48.31**	**346**	P		**P**	**08 50 00.9**	**+0.9**
	3.6nm,0.6s,mb4.6,baz=156,slow=7.7,SNR=42							
MKAR				pP		pP	08 50 06.7	-0.3
	2.1nm,0.7s,baz=163,slow=7.0,SNR=11							
PMG	**Port Moresby**	**50.19**	**102**	P		**P**	**08 50 10.1**	**-4.9**
	35nm,1.0s,mb5.3							
CTAO	**Charters Tower**	**51.66**	**116**	P		**P**	**08 50 25.1**	**-1.0**
	3.4nm,0.8s,mb4.3							
STKA	**Stephens Creek**	**52.36**	**132**	P		**P**	**08 50 29.9**	**-1.3**
KURK	**Kurchatov**	**52.86**	**345**	*e*P		**P**	**08 50 34.7**	**0.0**
	3.9nm,0.9s,mb4.3							
KURK				*e*pP		pP	08 50 42.8	+1.1
ZAL	**Zalesovo**	**54.60**	**351**	P		**P**	**08 50 47.5**	**+0.1**
	5.1nm,0.4s,mb4.9,baz=316,slow=5.7,SNR=17							
ZAL				pP		pP	08 50 53.1	-1.2
	1.4nm,0.7s,baz=305,slow=7.6,SNR=4.0							
ZAL	**Zalesovo**	**54.60**	**351**	P		**P**	**08 50 47.5**	**+0.1**
ZAL				pP		pP	08 50 53.1	-1.2
BVAR	**Borovoye Array**	**57.33**	**341**	P		**P**	**08 51 06.5**	**-0.6**
	1.9nm,0.6s,mb4.3,baz=149,slow=8.6,SNR=13							
BVAR				pP		pP	08 51 13.4	-0.7
	1.7nm,0.8s,baz=141,slow=9.5,SNR=5.2							
CHKZ	**Chkalovo**	**57.81**	**341**	*e*P		**P**	**08 51 10.0**	**-0.4**
	2.8nm,0.7s,mb4.4							
CHKZ				*e*pP		pP	08 51 17.2	-0.2
TXAR	**Lajitas Array**	**144.26**	**33**	PKhKP			09 00 42.2	
	0.3nm,0.9s,baz=308,slow=10,SNR=2.7							
TXAR				PKP		PKPdf	09 00 54.5	-3.2
	0.3nm,0.8s,baz=266,slow=1.2,SNR=4.0							
TXAR	**Lajitas Array**	**144.26**	**33**	PKP		PKPdf	09 00 54.5	-3.2

IDC 31 08:57:05.4±6.7, 31.33S×178.14W, mb3.7/2, mb1 3.9/2, mb1mx3.7/13, mbtmp3.7/2, Error ellipse: s-maj=278.8km s-min=60.4km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.95**	**268**	P		P	09 05 06.0	-1.8
	0.4nm,0.4s,baz=107,slow=7.3,SNR=12							
WRA	**Warramunga Arr**	**44.02**	**273**	P		P	09 05 14.9	-1.7
	0.5nm,0.4s,baz=112,slow=8.0,SNR=19							
FINES	**FINESS Array B**	**145.97**	**339**	PKPbc		PKPbc	09 16 45.5	-0.9
	1.3nm,0.9s,baz=56,slow=5.0,SNR=3.7							

*IDC **31** 09:00:52.6±2.1, 64.66N×31.58E, mb1 2.9/4, mb1mx2.9/21, mbtmp2.9/4, ML2.5/4, Error ellipse: s-maj=27.9km s-min=8.5km az=104.0*
*NAO **31** 09:00:54.3±1.6, 64.80N×30.54E, ML2.4*
*BER **31** 09:00:57.6±4.2, 64.73N×30.49E, h15km, MD3.7, ML2.4(NAO)*
HEL 31 09:00:54.0±0.3, 64.76N×30.76E, ML2.2, MD3.7(BER)**, ML2.0**(UPP)**, Explosion, Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSF	**Maaselka**	**1.36**	**329**	*e*P		Pb	09 01 19.6	-0.5
KJN	**Kajaani**	**1.49**	**244**	*e*P		Pn	09 01 19.9	-2.2
KU4	**Liikasenvaara**	**1.68**	**344**	*e*P		Pn	09 01 23.9	-0.9
KU4				*e*SN		Sn	09 01 47.8	+0.4
OUL	**Oulu**	**2.10**	**281**	*e*P		Pn	09 01 30.3	-0.4
OUL				*e*S		Sn	09 01 57.2	-0.8
SUF	**Sumiainen**	**2.90**	**227**	*e*P

baz=162,slow=28
ARA0 Lg 09 03 33.7
baz=150,slow=37
ARA0 ARCESS Array S 5.21 339 *e*P Pn 09 02 11.7 -3.4
ARA0 *e*S Sn 09 03 11.4 -5.4
ARA0 *e*SG Sg 09 03 33.7 -14
ARCES ARCESS Array B 5.21 339 Pn Pn 09 02 12.3 -2.8
comp=Z,0.4nm,0.3s,baz=156,slow=14,SNR=106
ARCES Sn Sn 09 03 11.4 -5.4
comp=Z,0.3nm,0.3s,baz=149,slow=30,SNR=5.7
KEV Kevo 5.22 346 *e*P Pn 09 02 12.5 -2.8
KUA Kurravaara 5.28 312 *e*P Pn 09 02 13.9 -2.1
SALU Saltoluokta 5.63 303 *e*P Pn 09 02 19.6 -1.4
NIKU Nikkaluokta 5.66 309 *e*P Pn 09 02 18.7 -2.7
TRO Tromso 6.70 322 *e*P Pn 09 02 31.3 -4.8
TRO *e*S Sn 09 03 45.4 -8.7
MOR8 Moi Rana 6.94 289 *e*P Pn 09 02 32.7 -6.7
STOK Stokkvaagen 7.52 290 *e*P Pn 09 02 43.1 -4.5
STOK *e*S Sn 09 04 06.5 -8.2
NSS Namsos 8.06 277 *e*P P 09 02 50.3 -4.8
HFS Hagfors 9.15 247 Pn P 09 03 05.4 -4.9
baz=35,slow=14
HFS Hagfors 9.15 247 *e*P P 09 03 05.4 -4.9
HFS Hagfors 9.15 247 Pn P 09 03 06.1 -4.2
comp=Z,0.0nm,0.3s,baz=56,slow=12,SNR=13
HFS Sn Sn 09 04 47.0 -8.3
comp=Z,0.0nm,0.3s,baz=47,slow=28,SNR=5.4
NOA NORSAR Array B 9.65 256 Pn P 09 03 13.0 -4.0
comp=Z,0.1nm,0.3s,baz=76,slow=9.8,SNR=2.2
NOA Sn Sn 09 04 55.0 -12
comp=Z,0.1nm,0.3s,baz=280,slow=22,SNR=2.3
SPA0 Spitsbergen Ar 14.15 348 Pn P 09 04 11.3 -6.1
baz=148,slow=16
SPA0 Spitsbergen Ar 14.15 348 *e*P P 09 04 11.3 -6.1

IDC ***31*** *09:06:07.0±5.1, 18.71S×175.83E, h107km±45km, mb4.0/10, mb1 4.1/12, mb1mx4.1/17, mbtmp4.3/12, MS3.8/5, Ms1 3.8/5, ms1mx3.6/23, Error ellipse: s-maj=25.5km s-min=20.7km az=49.0*

NEIC ***31*** *09:06:08.1±2.5, 18.77S×175.78E, h116km±20km, mb4.7/6, Error ellipse: s-maj=16.7km s-min=12.5km az=59.0*

ISC 31 09:06:07.9±3.6, 18.8S±0.1×175.8E±0.1, h135km±30km, n32, σ0s98/21, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.36**	**248**	P	**P**	**P**	**09 08 20.1**	**-0.4**
	0.2nm,0.3s,baz=23,slow=12,SNR=2.6							
AFI	**Afiamalu**	**12.87**	**70**	LR	LR	LR	09 12 53.8	
	comp=Z,264nm,18.2s,baz=266,slow=32							
URZ	**Urewera**	**19.42**	**177**	P	**P**	**P**	**09 10 26.6**	**+0.7**
	0.4nm,0.3s,baz=9.0,slow=8.5,SNR=5.0							
RPZ	**Rata Peaks**	**25.15**	**188**	P	**P**	**P**	**09 11 22.9**	**+0.8**
	8.6nm,0.9s,mb4.3,baz=44,slow=14,SNR=3.3							
CTA	**Charters Tower**	**27.88**	**262**	LR	LR	LR	09 20 56.4	
	comp=Z,200nm,19.6s,baz=227,slow=32							
PMG	**Port Moresby**	**29.27**	**285**	LR	LR	LR	09 21 36.5	
	comp=Z,216nm,20.9s,baz=110,slow=32							
STKA	**Stephens Creek**	**33.40**	**240**	P	**P**	**P**	**09 12 36.4**	**+0.7**
	1.1nm,0.3s,mb4.0,baz=72,slow=9.2,SNR=4.6							
STKA	**Stephens Creek**	**33.40**	**240**	*e*P	**P**	**P**	**09 12 35.2**	**-0.5**
WRAB	**Tennant Creek**	**39.05**	**261**	*e*P	**P**	**P**	**09 13 22.9**	**-0.4**
	11nm,1.2s,mb4.4							
WRA	**Warramunga Arr**	**39.06**	**261**	P	**P**	**P**	**09 13 23.3**	**-0.2**
	4.9nm,1.1s,mb4.1,baz=91,slow=8.4,SNR=14							
ASAR	**Alice Springs**	**39.25**	**255**	P	**P**	**P**	**09 13 25.6**	**+0.6**
	5.1nm,0.8s,mb4.2,baz=86,slow=8.9,SNR=58							
ASAR				PcP		PcP	09 15 32.6	+0.8
	1.1nm,0.9s,baz=111,slow=3.3,SNR=5.0							
ASAR				LR	LR	LR	09 28 36.2	
	comp=Z,104nm,19.9s,baz=247,slow=34							
ASPA	**Alice Springs**	**39.26**	**255**	*e*P	**P**	**P**	**09 13 25.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**47.46**	**262**	*e*P	**P**	**P**	**09 14 32.6**	**+1.4**
	17nm,1.2s,mb4.5							
FITZ	**Fitzroy Crossi**	**47.46**	**262**	P	**P**	**P**	**09 14 32.4**	**+1.2**
	25nm,1.0s,mb4.8,baz=113,slow=4.4							
FITZ				LR	LR	LR	09 33 00.8	
	comp=Z,215nm,19.9s,baz=92,slow=34							
MBWA	**Marble Bar**	**52.52**	**257**	P	**P**	**P**	**09 15 09.2**	**-0.5**
VNDA	**Vanda**	**59.15**	**184**	P	**P**	**P**	**09 15 55.5**	**-0.9**
	0.3nm,0.3s,mb3.6,baz=5.1,slow=11,SNR=4.2							
SBA	**Scott Base**	**59.25**	**182**	*e*P	**P**	**P**	**09 15 56.2**	**-0.9**
	8.1nm,1.0s,mb4.5							
MJAR	**Matsushiro Arr**	**65.51**	**327**	P	**P**	**P**	**09 16 37.5**	**-1.8**
	3.3nm,1.1s,mb4.1,baz=165,slow=6.5,SNR=5.2							
MAJO	**Matsushiro**	**65.51**	**327**	P	**P**	**P**	**09 16 34.4**	**-4.8**
	25nm,1.2s,mb4.9							
QSPA	**South Pole Qui**	**71.25**	**180**	*e*P	**P**	**P**	**09 17 14.2**	**+0.4**
	7.4nm,1.0s,mb4.4							
MAW	**Mawson**	**81.11**	**201**	P	**P**	**P**	**09 18 07.4**	**-1.9**
	16nm,1.3s,mb4.5							
SONM	**Songino Array**	**90.70**	**321**	P	**P**	**P**	**09 18 58.3**	**+1.7**
	0.2nm,0.4s,mb3.5,baz=124,slow=5.2,SNR=3.8							
TXAR	**Lajitas Array**	**91.15**	**59**	P	**P**	**P**	**09 19 00.3**	**+1.2**
	1.4nm,0.8s,mb4.0,baz=228,slow=5.2,SNR=15							
YKA	**Yellowknife Ar**	**97.49**	**26**	P	**P**	**P**	**09 19 26.6**	**-0.6**
	0.2nm,0.7s,mb3.6,baz=247,slow=4.4,SNR=5.3							
DPC	**Dobruska-Polom**	**144.53**	**337**	*e*PKP	PKPdf	PKPdf	09 25 30.2	+2.1
BRG	**Berggiesshubel**	**144.91**	**340**	*e*P	PKPdf	PKPdf	09 25 31.4	+2.6
PVCC	**Panska Ves**	**145.00**	**339**	*e*PKP	PKPdf	PKPdf	09 25 31.3	+2.3
PRU	**Pruhonice**	**145.46**	**339**	*e*PKP	PKPdf	PKPdf	09 25 33.1	+3.3
KHC	**Kasperske Hory**	**146.53**	**339**	*e*PKP	PKPdf	PKPdf	09 25 36.3	+4.7
GERES	**GERESS Array B**	**146.72**	**338**	PKPbc	PKPbc	PKPbc	09 25 36.5	+3.0
	1.9nm,0.9s,slow=1.3,SNR=9.8							
GRA1	**Grafenberg Arr**	**146.79**	**342**	*e*PKP	PKPdf	PKPdf	09 25 37.0	+5.0
GRF	**Grafenberg Arr**	**146.79**	**342**	*e*PKP	PKPdf	PKPdf	09 25 37.0	+5.0

JMA ***31*** *09:08:01.3±0.2, 37.42N×142.16E, h33km, M3.5*

ISC 31 09:08:00.5±1.7, 37.45N±0.06×142.2E±0.1, h14km±16km, n12, σ0s58/21, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.04**	**266**	P	P	**Pb**	**09 08 19.7**	**-0.1**
JFK				S	S	**Sb**	**09 08 32.9**	**-0.1**
ONAJ	**Iwakimizuishiy**	**1.15**	**253**	P	P	**Pb**	**09 08 21.0**	**-0.7**
JMM	**Marumori**	**1.17**	**291**	P	P	**Pb**	**09 08 21.9**	**-0.2**
JMM				*e*S	S	**Sb**	**09 08 36.8**	**-0.2**
JIO	**Ouri**	**1.20**	**327**	P	P	**Pb**	**09 08 22.4**	**-0.1**
JIO				*e*S	S	**Sb**	**09 08 37.4**	**-0.3**
JFT	**Otama**	**1.46**	**273**	P	P	**Pn**	**09 08 26.9**	**+0.2**
JFT				S	S	**Sb**	**09 08 45.1**	**-0.3**
JOU	**Okura**	**1.50**	**308**	P	P	**Pn**	**09 08 27.6**	**+0.3**
JOU				*e*S	S	**Sb**	**09 08 46.8**	**+0.2**
JMK	**Ichinoseki**	**1.68**	**334**	P	P	**Pn**	**09 08 29.8**	**0.0**
JMK				*e*S	S	**Sn**	**09 08 50.2**	**-1.0**
JYS	**Shirataka**	**1.84**	**295**	P	P	**Pn**	**09 08 33.0**	**+0.9**
JYS				*e*S	S	**Sn**	**09 08 56.5**	**+1.2**
JFY	**Yanaizu**	**1.96**	**270**	P	P	**Pn**	**09 08 35.2**	**+1.3**
JFY				*e*S	S	**Sn**	**09 08 58.6**	**+0.1**
JYK	**Kaneyama**	**2.05**	**316**	P	P	**Pn**	**09 08 35.2**	**+0.1**
JOM	**Ohasama**	**2.14**	**341**	P	P	**Pn**	**09 08 36.5**	**+0.1**
MAT	**Matsushiro**	**3.30**	**255**	P	P	**Pn**	**09 08 51.9**	**-1.1**
MAT				*e*S	S	**Sn**	**09 09 32.2**	**-0.2**

IDC 31 09:19:14.3±2.7, 1.45N×98.79E, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=121.1km s-min=21.2km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.83**	**123**	P	P	P	09 26 58.0	-1.6
	1.0nm,0.9s,baz=302,slow=9.2,SNR=4.1							
ASAR	**Alice Springs**	**42.29**	**128**	P	P	P	09 27 10.0	-1.7
	0.8nm,1.0s,baz=294,slow=7.6,SNR=2.7							
SONM	**Songino Array**	**46.67**	**7**	P	P	P	09 27 44.6	-1.9
	0.2nm,0.5s,baz=180,slow=4.3,SNR=3.1							
MKAR	**Makanchi Array**	**47.40**	**345**	P	P	P	09 27 50.5	-1.7
	0.4nm,0.6s,baz=149,slow=7.1,SNR=5.9							
BVAR	**Borovoye Array**	**56.55**	**340**	P	P	P	09 28 58.3	-2.6
	0.3nm,0.4s,baz=143,slow=7.2,SNR=3.0							

IDC 31 09:21:25.6±4.2, 1.72N×97.44E, mb3.8/3, mb1 4.0/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=156.5km s-min=28.7km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.11**	**123**	P	P	P	09 29 19.6	-1.8
	0.6nm,1.1s,baz=304,slow=9.0,SNR=3.2							
SONM	**Songino Array**	**46.59**	**8**	P	P	P	09 29 56.0	-1.2
	1.7nm,0.9s,baz=189,slow=8.7,SNR=11							
MKAR	**Makanchi Array**	**46.80**	**346**	P	P	P	09 29 56.5	-2.4
	1.2nm,0.6s,baz=163,slow=7.6,SNR=12							

NEIC ***31*** *09:26:05.9, 38.96N×22.00E, h6km, MD3.3(ATH), After ATH.*

THE ***31*** *09:26:05.9, 38.91N×21.96E, h13km, ML3.5*

ATH ***31*** *09:26:06.1, 38.94N×22.00E, h9km±3km, MD3.3/11*

CSEM ***31*** *09:26:06.2±0.1, 38.97N×21.95E, h10km, MD3.3, Error ellipse: s-maj=1.8km s-min=1.2km az=119.0*

ISC 31 09:26:05.2±0.6, 38.98N±0.03×21.98E±0.03, h0km±6km, n23, σ1s25/32, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.15**	**243**	*e*PG		**Pg**	**09 26 09.0**	**+0.8**
EVR				*e*SG		**Sg**	**09 26 12.0**	**+1.8**
AGG	**Agios Georgios**	**0.28**	**82**	*e*Pg		**Pg**	**09 26 12.0**	**+1.2**
AGG				*e*Sg		**Sg**	**09 26 17.3**	**+2.8**
LKR	**Lokris**	**0.86**	**112**	*e*PG		**Pg**	**09 26 21.6**	**-0.9**
MEV	**Metsovon**	**0.99**	**324**	*e*Pg		**Pg**	**09 26 24.9**	**-0.1**
RLS	**Riolos of Patr**	**1.01**	**204**	*e*PB		**Pb**	**09 26 24.5**	**-0.7**
RLS				*e*SB		**Sb**	**09 26 39.0**	**+0.2**
RLS	**Riolos of Patr**	**1.01**	**204**	*e*Pg		**Pb**	**09 26 24.5**	**-0.7**
RLS				*e*Sb		**Sb**	**09 26 39.2**	**+0.4**
NEO	**Neokhori**	**1.02**	**71**	*e*PB		**Pb**	**09 26 25.7**	**+0.3**
NEO				*e*SB		**Sb**	**09 26 40.0**	**+0.8**
LKD	**Levkas**	**1.07**	**255**	*e*Pg		**Pg**	**09 26 25.2**	**-1.4**
JAN	**Janina**	**1.10**	**308**	*e*PN		**Pn**	**09 26 27.7**	**0.0**
JAN				*e*SB		**Sb**	**09 26 43.5**	**+1.9**
LIT	**Litokhoron**	**1.18**	**19**	*e*Pb		**Pb**	**09 26 28.5**	**+0.3**
LIT				*e*Sb		**Sb**	**09 26 45.6**	**+1.7**
KZN	**Kozani**	**1.33**	**353**	*e*PN		**Pn**	**09 26 31.2**	**+0.2**
VLS	**Valsamata**	**1.35**	**234**	*e*PG		**Pg**	**09 26 31.0**	**-1.3**
VLS				*e*SB		**Sb**	**09 26 50.0**	**+1.1**
VLS	**Valsamata**	**1.35**	**234**	*e*Pb		**Pb**	**09 26 29.8**	**-1.3**
MGER	**Gerania Oros**	**1.42**	**134**	*e*PB		**Pb**	**09 26 32.0**	**-0.2**
NSAL	**Nisos Salamina**	**1.59**	**132**	*e*PG		**Pg**	**09 26 34.5**	**-2.4**
NAIG	**Nisos Aigina**	**1.71**	**135**	*e*PB		**Pb**	**09 26 38.0**	**+0.9**
KEK	**Kerkira**	**1.84**	**294**	*e*PN		**Pn**	**09 26 40.5**	**+2.2**
FNA	**Florina**	**1.86**	**346**	*e*Pb		**Pb**	**09 26 38.3**	**-1.4**
FNA				*e*Sb		**Sb**	**09 27 02.8**	**-0.6**
GRG	**Griva**	**2.00**	**9**	*e*Pn		**Pn**	**09 26 39.7**	**-0.9**
MMB	**Musomiste**	**2.93**	**27**	*i* P		**Pn**	**09 26 52.5**	**-1.3**
KKB	**Krupnik**	**3.00**	**16**	*i* P		**Pn**	**09 26 53.0**	**-1.9**
VTS	**Vitosha**	**3.72**	**14**	*i* P		**Pn**	**09 27 04.0**	**-1.1**
KDZ	**Kurdzhali**	**3.74**	**44**	*i* P		**Pn**	**09 26 54.0**	**-11**

IDC ***31*** *09:30:36.7±0.8, 0.75N×97.79E, mb4.0/13, mb1 4.1/13, mb1mx4.0/20, mbtmp4.0/13, MS3.8/2, Ms1 3.8/2, ms1mx3.3/24, Error ellipse: s-maj=36.8km s-min=15.6km az=52.0*

NEIC ***31*** *09:30:41.1±0.6, 0.71N×97.63E, h30km, mb4.1/3, Error ellipse: s-maj=17.9km s-min=11.1km az=47.0*

ISC 31 09:30:40.1±0.6, 0.76N±0.10×97.8E±0.1, h33km, n22, σ0s98/19, mb4.0/15, MS3.8/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.34**	**33**	*e*Pn		**Pn**	**09 32 00.1**	**+0.4**
PALK	**Pallekele**	**18.20**	**291**	P		**P**	**09 34 48.1**	**-4.0**
	12nm,1.0s							
FITZ	**Fitzroy Crossi**	**33.22**	**126**	P		**P**	**09 37 14.6**	**-1.9**
	3.3nm,0.7s,mb4.4,baz=158,slow=11,SNR=3.0							
NWAO	**Narrogin (SRO)**	**38.22**	**153**	LR		LR	09 52 49.8	
	comp=Z,68nm,19.1s,MS3.5,baz=207,slow=35							
WRA	**Warramunga Arr**	**41.33**	**122**	P		**P**	**09 38 24.1**	**-0.5**
	0.6nm,0.5s,mb3.5,baz=305,slow=8.6,SNR=7.1							
WRAB	**Tennant Creek**	**41.33**	**122**	P		**P**	**09 38 27.4**	**+2.7**
	4.5nm,0.9s,mb4.1							
ASAR	**Alice Springs**	**42.68**	**127**	P		**P**	**09 38 35.1**	**-0.8**
	0.6nm,0.6s,mb3.5,baz=297,slow=7.7,SNR=5.1							
SONM	**Songino Array**	**47.48**	**8**	P		**P**	**09 39 14.2**	**+0.4**
	0.3nm,0.3s,mb3.7,baz=190,slow=8.8,SNR=5.5							
MKAR	**Makanchi Array**	**47.80**	**346**	P		**P**	**09 39 16.5**	**+0.2**
	1.5nm,0.4s,mb4.3,baz=159,slow=8.6,SNR=28							
MKAR	**Makanchi Array**	**47.80**	**346**	P		**P**	**09 39 16.5**	**+0.2**
KURK	**Kurchatov**	**52.36**	**345**	*e*P		**P**	**09 39 50.6**	**-0.5**
	3.2nm,1.1s,mb4.2							
STKA	**Stephens Creek**	**52.65**	**132**	P		**P**	**09 39 54.0**	**+0.5**
	1.0nm,0.6s,mb3.9,baz=324,slow=8.7,SNR=3.2							
ZAL	**Zalesovo**	**54.07**	**351**	P		**P**	**09 40 03.2**	**-0.5**
	1.0nm,0.4s,mb4.1,baz=264,slow=4.9,SNR=4.2							
ZAL	**Zalesovo**	**54.07**	**351**	P		**P**	**09 40 03.2**	**-0.5**
BVAR	**Borovoye Array**	**56.84**	**341**	P		**P**	**09 40 22.7**	**-1.1**
	1.1nm,0.7s,mb4.0,baz=135,slow=8.2,SNR=4.8							
KMBO	**Kilima Mbogo**	**60.54**	**268**	LR		LR	10 03 52.2	
	comp=Z,132nm,18.4s,MS4.1,baz=91,slow=33							
BRTR	**Keskin Array B**	**69.82**	**312**	P		**P**	**09 41 48.9**	**-0.6**
	0.6nm,0.6s,mb3.7,baz=135,slow=10,SNR=2.9							
BOSA	**Boshof**	**75.05**	**240**	P		**P**	**09 42 21.9**	**+1.1**
	2.1nm,0.8s,mb4.1,baz=90,slow=4.2,SNR=3.8							
FINES	**FINESS Array B**	**80.64**	**332**	P		**P**	**09 42 51.4**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=90,slow=6.9,SNR=5.5							
ARCES	**ARCESS Array B**	**83.13**	**340**	P		**P**	**09 43 04.3**	**+0.6**
	4.1nm,0.9s,mb4.5,baz=72,slow=3.8,SNR=6.9							
NOA	**NORSAR Array B**	**87.66**	**331**	P		**P**	**09 43 27.0**	**+0.7**
	0.1nm,0.3s,mb3.5,baz=43,slow=11,SNR=2.8							
TXAR	**Lajitas Array**	**143.74**	**33**	PKP		PKPdf	09 50 13.1	+0.6
	0.1nm,0.5s,baz=248,slow=1.3,SNR=4.3							

IDC ***31*** *09:49:02.5±1.3, 2.72N×96.68E, mb4.2/8, mb1 4.3/8, mb1mx4.0/19, mbtmp4.2/8, Error ellipse: s-maj=60.5km s-min=19.7km az=52.0*

NEIC ***31*** *09:49:06.8±0.7, 2.66N×96.52E, h30km, mb4.3/4, Error ellipse: s-maj=19.9km s-min=11.2km az=46.0*

ISC 31 09:49:04.9±0.9, 2.7N±0.1×96.5E±0.1, h30km, n13, σ0s78/13, mb4.2/12, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**4.89**	**58**	*e*Pn		**Pn**	**09 50 18.9**	**+0.5**
WRA	**Warramunga Arr**	**43.41**	**123**	P		**P**	**09 57 06.3**	**-0.7**
	0.9nm,0.4s,mb3.8,baz=303,slow=9.2,SNR=18							
WRAB	**Tennant Creek**	**43.41**	**123**	*e*P		**P**	**09 57 08.2**	**+1.2**
	12nm,1.2s,mb4.5							
ASAR	**Alice Springs**	**44.84**	**128**	P		**P**	**09 57 17.8**	**-0.8**
	0.7nm,1.1s,mb3.4,baz=304,slow=7.7,SNR=3.9							
MKAR	**Makanchi Array**	**45.66**	**346**	P		**P**	**09 57 25.3**	**+0.6**
	2.0nm,0.5s,mb4.3,baz=156,slow=8.8,SNR=29							
SONM	**Songino Array**	**45.79**	**9**	P		**P**	**09 57 25.6**	**-0.1**
	2.2nm,0.5s,mb4.4,baz=189,slow=9.4,SNR=26							
SONM				PcP		PcP	09 59 03.8	+0.4
	0.5nm,0.8s,baz=192,slow=5.4,SNR=3.7							
ULN	**Ulaanbaatar**	**45.93**	**10**	*e*P		**P**	**09 57 26.6**	**-0.2**
	2.7nm,0.8s,mb4.2							
KURK	**Kurchatov**	**50.20**	**345**	*e*P		**P**	**09 57 59.0**	**-1.0**
	1.8nm,0.6s,mb4.3							
KURK				*e*			09 58 11.2	
ZAL	**Zalesovo**	**52.00**	**351**	P		**P**	**09 58 13.0**	**-0.6**
	2.5nm,0.5s,mb4.4,baz=306,slow=5.4,SNR=10.0							
CHKZ	**Chkalovo**	**55.12**	**342**	*e*P		**P**	**09 58 35.9**	**-0.7**
	2.6nm,0.6s,mb4.4							
GNI	**Garni**	**59.76**	**316**	P		**P**	**09 59 11.2**	**+1.6**
	4.4nm,0.3s,mb5.0,baz=41,slow=11,SNR=4.6							
FINES	**FINESS Array B**	**78.38**	**332**	P		**P**	**10 01 03.6**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=135,slow=5.4,SNR=4.6							
ARCES	**ARCESS Array B**	**80.92**	**340**	P		**P**	**10 01 18.1**	**+0.6**
	2.0nm,0.8s,mb4.1,baz=76,slow=5.0,SNR=9.6							

BJI ***31*** *09:56:24.2, 0.95N×97.88E, h19km, mb4.7, Ms3.9, Msz4.0*

IDC ***31*** *09:56:26.6±0.9, 0.91N×97.37E, h23km±3km, mb4.0/12, mb1 4.1/12, mb1mx3.9/22, mbtmp4.1/12, MS3.7/2, Ms1 3.7/2, ms1mx3.1/32, Error ellipse: s-maj=41.7km s-min=10.8km az=59.0*

NEIC ***31*** *09:56:27.1±0.3, 0.91N×97.46E, mb4.5/8, Error ellipse: s-maj=10.2km s-min=5.5km az=54.0*

ISC 31 09:56:24.9±0.5, 0.93N±0.07×97.47E±0.08, h23km, h23km±1.8km:pP-P, n37, σ0s72/33, mb4.4/24, MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.37**	**36**	*e*P		**Pn**	**09 57 46.5**	**+0.7**
CM31	**Chiang Mai Arr**	**17.48**	**5**	*e*P		**P**	**10 00 27.8**	**-1.3**
CM31				*e*pP			10 00 36.8	

PALK Pallekele 17.87 291 P P **10 00 32.9 -1.1**
JIRN Jiri 28.70 339 *e*P P **10 02 23.4 +0.8**
20nm,0.9s,mb4.9
PKI Pulchoki 28.91 337 *e*P P **10 02 25.1 +0.6**
GUN Gumba 29.04 339 *e*P P **10 02 26.7 +1.0**
16nm,0.7s,mb4.8
DMN Daman 29.06 337 *e*P P **10 02 26.3 +0.4**
KKN Kakani 29.15 337 *e*P P **10 02 27.4 +0.6**
GKN Gorkha 29.59 337 *e*P P **10 02 31.8 +1.1**
14nm,0.7s,mb4.8
KOLN Koldanda 29.82 335 *e*P P **10 02 33.2 +0.5**
10nm,0.7s,mb4.7
ENH Enshi 31.34 20 P P **10 02 40.8 -5.3**
ENH *e* 10 02 44.6
ENH *e* 10 02 50.4
FITZ Fitzroy Crossi 33.55 126 P P **10 03 04.9 -0.6**
3.1nm,0.8s,mb4.3,baz=354,slow=9.2,SNR=2.6
FITZ pP pP 10 03 12.8 +0.4
5.1nm,0.7s,baz=338,slow=3.8,SNR=3.4
XAN Xi'an 34.64 17 P P **10 03 13.3 -1.5**
XAN AP pP 10 03 20.0 -1.7
XAN AMB AMB
comp=Z,10.0nm,1.1s,mb4.7
GTA Gaotai 38.36 3 *e*P P **10 03 46.5 +0.4**
GTA AP pP 10 03 50.5 -2.6
GTA XP sP 10 03 53.3 -2.7
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.4
NWAO Narrogin (SRO) 38.49 153 P P **10 03 47.0 -0.3**
comp=Z,25nm,1.2s,mb4.8,baz=338,slow=11,SNR=2.6
WRA Warramunga Arr 41.66 122 P P **10 04 14.0 +0.3**
comp=Z,0.7nm,0.4s,mb3.7,baz=305,slow=9.1,SNR=20
WRA pP pP 10 04 20.9 +0.2
comp=Z,2.2nm,0.7s,baz=300,slow=9.0,SNR=7.7
WRAB Tennant Creek 41.67 122 P P **10 04 13.8 +0.1**
comp=Z,35nm,1.6s,mb4.7
WRAB *e*pP pP 10 04 22.4 +1.7
WB2 Warramunga Arr 41.67 122 *e*P P **10 04 14.3 +0.5**
BJI Beijing 42.49 21 *e*P P **10 04 21.0 +0.8**
BJI AMB AMB
comp=Z,12nm,0.8s,mb4.6
ASAR Alice Springs 43.02 127 P P **10 04 25.1 +0.4**
comp=Z,0.3nm,0.4s,mb3.3,baz=300,slow=7.8,SNR=6.7
ASAR pP pP 10 04 31.8 0.0
comp=Z,1.1nm,0.6s,baz=301,slow=7.2,SNR=7.6
ASAR sP sP 10 04 36.3 +1.7
comp=Z,1.3nm,0.8s,baz=303,slow=7.2,SNR=5.1
SONM Songino Array 47.36 8 P P **10 04 59.3 +0.1**
comp=Z,1.3nm,0.4s,mb4.2,baz=191,slow=9.1,SNR=18
SONM pP pP 10 05 06.1 0.0
comp=Z,2.2nm,0.6s,baz=192,slow=8.9,SNR=9.8
SONM PcP PcP 10 06 30.1 0.0
comp=Z,0.3nm,0.5s,baz=192,slow=3.6,SNR=2.3
SONM pPcP 10 06 37.9
comp=Z,0.5nm,0.4s,baz=197,slow=2.8,SNR=4.9
ULN Ulaanbaatar 47.48 9 P P **10 04 59.6 -0.5**
comp=Z,2.0nm,0.6s,mb4.2
MKAR Makanchi Array 47.57 346 P P **10 05 00.7 -0.1**
comp=Z,4.4nm,0.5s,mb4.7,baz=160,slow=8.7,SNR=68
MKAR pP pP 10 05 06.8 -1.1
comp=Z,2.7nm,0.6s,baz=157,slow=8.3,SNR=7.7
MKAR sP sP 10 05 10.4 -0.2
comp=Z,2.8nm,0.6s,baz=164,slow=7.0,SNR=8.3
CN2 Changchun 49.42 27 *e*P P **10 05 14.5 -0.7**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
MJAR Matsushiro Arr 51.71 42 P P **10 05 33.1 +0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=257,slow=16,SNR=3.2
KURK Kurchatov 52.12 345 *e*P P **10 05 34.9 -0.7**
comp=Z,3.0nm,0.8s,mb4.3
STKA Stephens Creek 52.97 132 P P **10 05 41.6 -0.6**
comp=Z,2.3nm,0.8s,mb4.1,baz=360,slow=15,SNR=5.0
STKA pP pP 10 05 50.7 +1.3
comp=Z,1.2nm,0.6s,baz=298,slow=17,SNR=2.7
STKA Stephens Creek 52.97 132 P P **10 05 41.6 -0.6**
STKA pP pP 10 05 50.7 +1.3
ZAL Zalesovo 53.86 351 P P **10 05 47.2 -1.2**
comp=Z,4.5nm,0.4s,mb4.7,baz=308,slow=6.0,SNR=13
ATD Arta Tunnel 55.21 283 LR LR 10 22 52.2
comp=Z,57nm,20.2s,MS3.6,baz=44,slow=29
BVAR Borovoye Array 56.59 341 P P **10 06 07.0 -1.3**
comp=Z,1.2nm,0.6s,mb4.1,baz=141,slow=9.5,SNR=6.3
KMBO Kilima Mbogo 60.25 268 P P **10 06 35.0 +0.7**
comp=Z,2.3nm,0.8s,mb4.3
FINES FINESS Array B 80.36 332 P P **10 08 35.7 -0.1**
comp=Z,1.1nm,0.9s,mb3.8,baz=7.1,slow=11,SNR=2.7
HFS Hagfors 86.09 330 P P **10 09 05.4 +0.4**
comp=Z,0.8nm,0.5s,mb4.2,baz=79,slow=7.6,SNR=4.2
JMIC Jan Mayen 94.31 342 LR LR 10 54 45.6
comp=Z,32nm,18.1s,MS3.8,baz=82,slow=37
TXAR Lajitas Array 143.75 32 PKP PKPdf 10 16 01.5 -1.8
comp=Z,0.2nm,0.8s,slow=1.8,SNR=2.5
TXAR pPKP 10 16 08.7
comp=Z,0.2nm,0.5s,baz=45,slow=1.8,SNR=3.0
TXAR Lajitas Array 143.75 32 PKP PK

GUMO	**Guam**	**2.03 245**	*eP*	**P**		**10 14 02.3**	**-0.1**
FITZ	**Fitzroy Crossi**	**38.47 213**	P	**P**		**10 20 48.6**	**0.0**
	4.3nm,0.8s,mb4.2,baz=7.1,slow=16,SNR=4.0						
ASAR	**Alice Springs**	**39.91 199**	P	**P**		**10 21 00.7**	**+0.2**
	0.4nm,0.7s,mb3.2,baz=19,slow=7.5,SNR=5.2						
MBWA	**Marble Bar**	**44.24 217**	*eP*	**P**		**10 21 36.0**	**-0.1**
	31nm,1.4s,mb4.8						
ULN	**Ulaanbaatar**	**46.76 324**	*eP*	**P**		**10 21 56.2**	**+0.6**
	1.6nm,0.6s,mb4.1						
SONM	**Songino Array**	**47.12 323**	P	**P**		**10 21 59.0**	**+0.4**
	0.9nm,0.6s,mb3.9,baz=135,slow=7.7,SNR=6.5						
TLY	**Talaya**	**50.64 327**	P	**P**		**10 22 25.1**	**-0.6**
	1.3nm,0.7s,mb4.0						
ZAL	**Zalesovo**	**62.02 324**	P	**P**		**10 23 46.4**	**-0.5**
	1.0nm,0.5s,mb4.2,baz=21,slow=3.2,SNR=3.7						
MKAR	**Makanchi Array**	**62.17 315**	P	**P**		**10 23 48.5**	**+0.5**
	1.7nm,0.6s,mb4.4,baz=90,slow=8.6,SNR=24						
MKAR	**Makanchi Array**	**62.17 315**	P	**P**		**10 23 48.5**	**+0.5**
KURK	**Kurchatov**	**65.13 319**	*eP*	**P**		**10 24 06.8**	**-0.5**
	4.7nm,0.8s,mb4.6						
BVAR	**Borovoye Array**	**70.41 321**	P	**P**		**10 24 40.9**	**+0.7**
	3.4nm,0.6s,mb4.4,baz=101,slow=7.6,SNR=14						
INK	**Inuvik**	**72.87 23**	P	**P**		**10 24 54.7**	**+0.1**
	0.8nm,0.9s,mb3.6,baz=237,slow=14,SNR=3.7						
INK	**Inuvik**	**72.87 23**	P	**P**		**10 24 54.7**	**+0.1**
YKA	**Yellowknife Ar**	**81.25 28**	P	**P**		**10 25 41.6**	**+0.1**
	0.4nm,0.7s,mb3.5,baz=286,slow=5.7,SNR=6.8						
FINES	**FINESS Array B**	**91.16 336**	P	**P**		**10 26 29.1**	**-0.9**
	0.9nm,0.7s,mb4.2,baz=135,slow=5.4,SNR=4.2						
DBIC	**Dimbokro**	**144.90 305**	PKPbc	PKPbc		10 33 03.7	+1.6
	4.5nm,0.6s,baz=49,slow=3.9,SNR=11						
DBIC	**Dimbokro**	**144.90 305**	PKPbc	PKPbc		10 33 03.7	+1.5

IDC 31 10:13:55.4±0.9,51.65N×75.42E,mb3.7/1,mb1 3.3/4, mb1mx3.1/23,mbtmp3.1/4,ML2.5/3,Error ellipse: s-maj=18.7km s-min=8.5km az=28.0,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BVAR	**Borovoye Array**	**3.38**	**296**	Pn	Pn	10 14 49.3	-1.2
	0.3nm,0.3s,baz=111,slow=14,SNR=4.6						
BVAR				Sn	Sn	10 15 29.5	-2.4
	0.2nm,0.3s,baz=93,slow=24,SNR=2.7						
BVAR				Lg		10 15 42.2	
	0.8nm,0.3s,baz=108,slow=28,SNR=7.7						
ZAL	**Zalesovo**	**6.13**	**64**	Pn	Pn	10 15 27.4	-2.1
	0.4nm,0.3s,baz=190,slow=6.5,SNR=3.5						
ZAL				Lg		10 17 10.6	
	baz=139,slow=19,SNR=3.5						
MKAR	**Makanchi Array**	**6.62**	**135**	Pn	Pn	10 15 33.8	-2.6
	0.1nm,0.3s,baz=320,slow=14,SNR=5.8						
MKAR				Sn	Sn	10 16 48.3	-5.3
	0.1nm,0.3s,baz=320,slow=22,SNR=3.9						
MKAR				Lg		10 17 23.8	
	0.2nm,0.3s,baz=322,slow=26,SNR=12						
FINES	**FINESS Array B**	**28.23**	**310**	P	P	10 19 49.5	-2.1
	0.7nm,0.7s,baz=95,slow=15,SNR=2.6						

*CSEM **31** 10:15:07.5±0.7,58.61N×30.64E,h20km,ML3.0/2,Error ellipse: s-maj=14.8km s-min=10.5km az=112.0*
*BER **31** 10:15:11.0±4.0,58.89N×30.29E,ML2.6(NAO), Suspected explosion*
*NAO **31** 10:15:18.4±11.0,59.17N×29.81E,h29km±78km,ML2.6*
HEL 31 10:15:10.7±0.5,58.77N×30.10E,ML2.1,ML2.6(NAO)**, Explosion,Baltic States - Belarus - Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**1.79**	**262**	*eP*	Pn	10 15 41.8	-1.2
VSU				*eS*	Sn	10 16 05.7	-1.2
VSU	**Vasula**	**1.79**	**262**	P	Pn	10 15 41.8	-1.3
VSU				S	Sn	10 16 05.6	-1.2
VJF	**Virojoki**	**2.20**	**325**	*eP*	Pn	10 15 48.5	-0.5
VJF				*eS*	Sn	10 16 16.7	-0.6
VJF	**Virojoki**	**2.20**	**325**	P	Pn	10 15 48.4	-0.5
VJF				S	Sn	10 16 16.6	-0.6
PVF	**Pernaja**	**2.79**	**311**	*eSB*	Sb	10 16 34.2	-2.0
FIA0	**FINESS Array S**	**3.36**	**325**	Pn	Pn	10 16 03.8	-1.7
	baz=143,slow=12						
FIA0				Lg		10 16 51.5	
	baz=145,slow=37						
FIA0	**FINESS Array S**	**3.36**	**325**	*eP*	Pn	10 16 05.0	-0.5
FIA0				*eSB*	Sb	10 16 51.2	-1.3
FIA0	**FINESS Array S**	**3.36**	**325**	P	Pn	10 16 05.0	-0.5
KAF	**Kangasniemi**	**3.85**	**332**	*eP*	Pn	10 16 11.1	-1.4
KAF				*eSG*	Sg	10 17 07.7	-11
KAF	**Kangasniemi**	**3.85**	**332**	P	Pn	10 16 11.0	-1.4
KAF				Sg	Sg	10 17 07.7	-11
KEF	**Keuruu**	**4.28**	**325**	*eSG*	Sg	10 17 22.1	-11
KEF				MSG		10 17 24.9	
	comp=Z,2.9nm,0.4s						
KEF	**Keuruu**	**4.28**	**325**	Sg	Sg	10 17 22.0	-11
	comp=Z,2.9nm,0.4s						
SUF	**Sumiainen**	**4.41**	**336**	*eS*	Sn	10 17 09.7	-3.7
SUF				*eSG*	Sg	10 17 25.5	-12
SUF				MSG		10 17 34.3	
	comp=Z,2.1nm,0.3s						
KJN	**Kajaani**	**5.46**	**349**	*eSG*	Sg	10 17 56.1	-16
HFS	**Hagfors**	**8.47**	**286**	*eS*	Sn	10 18 44.7	-10
HFS				*e*		10 19 35.1	
HFS	**Hagfors**	**8.47**	**286**	Sn	Sn	10 18 44.7	-10
	baz=92,slow=22						
HFS				Lg		10 19 35.1	
	baz=74,slow=28						
ARA0	**ARCESS Array S**	**10.99**	**351**	*eP*	P	10 17 44.4	-7.7
ARA0				*eSG*	S	10 20 48.5	+52
ARA0	**ARCESS Array S**	**10.99**	**351**	Pn	P	10 17 44.4	-7.7
	baz=151,slow=16						
ARA0				Lg		10 20 48.5	
	baz=164,slow=37						
ARA0	**ARCESS Array S**	**10.99**	**351**	Pn	P	10 17 44.3	-7.8
	SNR=50						

*IDC **31** 10:18:50.3±1.1,12.42N×92.52E,mb4.0/10,mb1 4.2/10, mb1mx4.0/21,mbtmp4.0/10,Error ellipse: s-maj=58.0km s-min=16.5km az=55.0*
ISC 31 10:18:53.0±0.7,12.3N±0.2×92.4E±0.2,h33km,n13, σ0$56/14,mb3.9/10,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIS	**Vishakhapatnam**	**10.27**	**303**	*i* P	P	**10 21 20.2**	**-1.0**
VIS				*i* S	S	**10 23 06.0**	**-10**
SONM	**Songino Array**	**37.28**	**16**	P	P	**10 26 02.9**	**-0.7**
	0.5nm,0.5s,mb3.6,baz=200,slow=8.4,SNR=5.0						
ZAL	**Zalesovo**	**41.94**	**353**	P	P	**10 26 42.1**	**-0.1**
	1.0nm,0.3s,mb3.9,baz=295,slow=7.1,SNR=4.0						
BVAR	**Borovoye Array**	**44.24**	**341**	P	P	**10 27 01.1**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=162,slow=9.1,SNR=3.7						
FITZ	**Fitzroy Crossi**	**44.61**	**132**	*eP*	P	**10 27 04.7**	**+0.3**
	4.1nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**44.61**	**132**	P	P	**10 27 04.5**	**+0.1**
	5.1nm,0.6s,mb4.5,baz=339,slow=8.6,SNR=9.5						
WRA	**Warramunga Arr**	**52.27**	**127**	P	P	**10 28 03.4**	**-0.3**
	0.8nm,0.6s,mb3.8,baz=299,slow=9.9,SNR=12						
WB2	**Warramunga Arr**	**52.28**	**127**	*eP*	P	**10 28 03.4**	**-0.3**
ASAR	**Alice Springs**	**54.10**	**131**	P	P	**10 28 17.1**	**-0.1**
	0.5nm,0.6s,mb3.6,baz=311,slow=6.8,SNR=7.6						
FINES	**FINESS Array B**	**68.00**	**332**	P	P	**10 29 51.1**	**+0.4**
	0.6nm,0.3s,mb4.2,baz=117,slow=8.5,SNR=5.6						
ARCES	**ARCESS Array B**	**70.52**	**340**	P	P	**10 30 06.8**	**+0.7**
	4.5nm,0.9s,mb4.4,baz=72,slow=5.7,SNR=4.0						
GERES	**GERESS Array B**	**73.39**	**317**	P	P	**10 30 24.6**	**+1.0**
	0.9nm,0.7s,mb3.8,baz=104,slow=4.0,SNR=6.1						
NOA	**NORSAR Array B**	**75.03**	**330**	P	P	**10 30 32.9**	**+0.1**
	0.7nm,0.6s,mb3.8,baz=91,slow=5.9,SNR=3.4						

*CSEM **31** 10:31:39.6±0.8,38.56N×28.58W,h15km,ML1.4,Error ellipse: s-maj=9.0km s-min=3.3km az=36.0,After PDA*
*PDA **31** 10:31:39.6±0.8,38.56N×28.58W,h15km,MD2.9,ML1.4, Error ellipse: s-maj=9.0km s-min=3.3km az=36.0*
SVSA 31 10:31:39.6±0.8,38.56N×28.58W,h15km,MD2.9,ML1.4, Error ellipse: s-maj=9.0km s-min=3.3km az=36.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOR	**Horta**	**0.05**	**228**	*eP*	Pb	10 31 41.9	0.0
HOR				*eS*	Sb	10 31 43.8	+0.5
CALA	**Caldeira**	**0.10**	**282**	*eP*	Pb	10 31 42.9	+0.3
CALA				*eS*	Sb	10 31 45.0	+0.4
PCED	**Cedros**	**0.12**	**306**	*i* P	Pb	10 31 42.4	-0.6
PCED				*eS*	Sb	10 31 44.9	-0.2
	35nm,0.1s						
PCED	**Cedros**	**0.12**	**306**	*eS*	Sb	10 31 44.9	-0.2
	35nm,0.1s						
PICO	**Pico**	**0.14**	**116**	*eS*	Sb	10 31 45.6	-0.2

*NEIC **31** 10:32:16.3±0.3,20.51S×69.07W,mb4.2/12,Error ellipse: s-maj=8.1km s-min=5.6km az=76.0*
*IDC **31** 10:32:16.5±0.7,20.47S×69.14W,h82km±5km,mb4.0/9, mb1 4.1/11,mb1mx3.9/18,mbtmp4.3/11,MS3.3/1, Ms1 3.2/1,ms1mx1.9/23,Error ellipse: s-maj=18.8km s-min=17.6km az=38.0*
ISC 31 10:32:14.0±0.7,20.54S±0.03×69.09W±0.05,h78km±7km, h82km±.8km:pP-P,n49,σ1$05/50,mb4.2/17,1C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.07**	**175**	*i* P	P	**10 32 50.0**	**+2.6**
LVC				*i* S	S	**10 33 14.9**	**+2.8**
LVC				AMP		10 33 18.0	
	comp=E,4μm,0.5s						
LVC	**Limon Verde**	**2.07**	**175**	*ePn*	P	**10 32 49.6**	**+2.2**
LVC				*eSn*	S	**10 33 12.0**	**-0.2**
SPCH	**San Pedro de A**	**2.50**	**161**	*eP*	P	**10 32 57.5**	**+4.0**
ANCH	**Antofagasta**	**3.36**	**201**	*eP*	P	**10 33 03.5**	**-1.9**
ANCH				*i* S	S	**10 33 33.0**	**-11**
CPN1	**Cerro Paranal**	**4.25**	**196**	*eP*	P	**10 33 15.7**	**-2.1**
CPN1				*i* S	S	**10 33 57.1**	**-9.3**
LPAZ	**La Paz**	**4.32**	**12**	P	P	**10 33 25.2**	**+6.4**
	comp=E,18nm,0.3s,baz=191,slow=7.8,SNR=193						
LPAZ				S	S	**10 34 07.8**	**-0.6**
	comp=E,3.5nm,0.3s,baz=185,slow=11,SNR=3.7						
LPAZ	**La Paz**	**4.32**	**12**	*ePn*	P	**10 33 24.9**	**+6.0**
ARE	**Arequipa**	**4.65**	**330**	*eP*	P	**10 33 24.0**	**+0.6**
ARE				*e*		10 33 32.0	
ARE				S	S	**10 34 17.0**	**+0.5**
SIV	**San Ignacio**	**8.86**	**61**	P	P	**10 34 22.4**	**+1.2**
	comp=E,7.2nm,0.3s,baz=251,slow=12,SNR=189						
SIV				S	S	**10 36 00.7**	**+0.4**
	baz=176,slow=19,SNR=3.0						
CFAA	**Coronel Fontan**	**11.05**	**176**	P	P	**10 34 51.8**	**+0.8**
	comp=E,0.1nm,0.3s,baz=353,slow=13,SNR=14						
SAML	**Samuel**	**12.85**	**27**	*eP*	P	**10 35 14.9**	**-0.2**
	comp=E,5.6nm,0.8s						
SAML				*eS*	S	**10 37 36.3**	**-0.5**
TRQA	**Tornquist**	**18.51**	**162**	*eP*	P	**10 36 25.3**	**-1.3**
	comp=E,6.3nm,0.7s						
PLCA	**Paso Flores**	**20.17**	**183**	P	P	**10 36 43.8**	**-0.7**
	comp=E,1.1nm,0.6s,baz=347,slow=7.6,SNR=5.8						
PLCA	**Paso Flores**	**20.17**	**183**	*eP*	P	**10 36 43.8**	**-0.7**
	comp=E,6.0nm,1.1s						
BDFB	**Brasilia**	**20.61**	**80**	P	P	**10 36 49.3**	**+0.2**
	comp=E,8.1nm,0.5s,baz=269,slow=10,SNR=8.5						
BDFB				LR	LR	10 46 04.6	
	comp=E,74nm,18.8s,baz=289,slow=40						
BAO	**Brasilia Array**	**20.63**	**80**	P	P	**10 36 48.9**	**-0.5**
OTAV	**Otavalo**	**22.59**	**335**	*eP*	P	**10 37 15.8**	**+6.9**
	comp=E,16nm,1.5s,mb4.1						
SDV	**Santo Domingo**	**29.28**	**357**	*eP*	P	**10 38 10.3**	**-1.0**
	comp=E,3.7nm,0.9s,mb4.0						
RCBR	**Riachuelo**	**35.36**	**70**	*eP*	P	**10 39 03.2**	**-0.9**
	comp=E,7.2nm,0.7s,mb4.6						
SJG	**San Juan**	**38.52**	**4**	P	P	**10 39 29.5**	**-1.0**
	comp=E,16nm,0.2s,mb5.5,baz=276,slow=20,SNR=5.2						
WVT	**Waverly**	**59.08**	**342**	P	P	**10 42 06.8**	**-1.8**
WVT				*e*	pP	10 42 27.4	-1.2
TXAR	**Lajitas Array**	**59.75**	**325**	P	P	**10 42 12.2**	**-1.1**
	comp=E,0.2nm,0.5s,mb3.5,baz=157,slow=9.6,SNR=6.1						
TXAR				pP	pP	10 42 32.0	-1.3
	comp=E,0.2nm,0.6s,baz=166,slow=5.2,SNR=1.7						
ACSO	**Alum Creek Sta**	**61.83**	**348**	P	P	**10 42 26.1**	**-1.1**
ANMO	**Albuquerque**	**65.61**	**327**	P	P	**10 42 52.7**	**+0.7**
	comp=E,1.6nm,1.0s,mb3.8						
SDCO	**Great Sand Dun**	**67.34**	**329**	*eP*	P	**10 43 03.4**	**+0.5**
	comp=E,2.4nm,0.8s,mb4.1						
SDCO				*e*	pP	10 43 24.9	+1.5
DBIC	**Dimbokro**	**68.62**	**74**	P	P	**10 43 11.1**	**-0.2**
	comp=E,12nm,0.7s,mb4.9,baz=236,slow=6.5,SNR=29						
PV01	**Paradox Valley**	**69.15**	**328**	*eP*	P	**10 43 14.7**	**+0.5**
QSPA	**South Pole Qui**	**69.65**	**180**	*eP*	P	**10 43 17.1**	**+0.5**
MSU	**Marysvale**	**71.30**	**326**	*eP*	P	**10 43 28.3**	**+1.2**
MSU				*e*	pP	10 43 50.2	+2.3
ARUT	**Antelope Range**	**71.45**	**324**	*eP*	P	**10 43 29.7**	**+1.7**
ARUT				*e*	pP	10 43 52.0	+3.2
PDAR	**Pinedale Array**	**73.20**	**330**	P	P	**10 43 38.6**	**+0.3**
	comp=E,0.3nm,0.6s,mb3.3,baz=122,slow=5.9,SNR=4.0						
PDAR				pP	pP	10 44 00.8	+1.7
	comp=E,0.4nm,0.6s,baz=113,slow=5.2,SNR=3.4						
HWUT	**Hardware Ranch**	**73.28**	**328**	*eP*	P	**10 43 38.3**	**-0.5**
	comp=E,3.0nm,0.8s,mb4.2						
HWUT				*e*	pP	10 44 00.9	+1.3
SCHQ	**Schefferville**	**75.08**	**1**	P	P	**10 43 48.9**	**0.0**
	comp=E,1.2nm,0.4s,mb4.0,baz=183,slow=6.6,SNR=5.9						
SCHQ	**Schefferville**	**75.08**	**1**	*eP*	P	**10 43 48.6**	**-0.3**
CMB	**Columbia Colle**	**75.59**	**320**	P	P	**10 43 52.1**	**-0.1**
	comp=E,4.2nm,1.1s,mb4.1						
CMB				*e*		10 43 58.9	
HLID	**Hailey**	**76.14**	**328**	*eP*	P	**10 43 56.2**	**+1.0**
	comp=E,4.6nm,1.0s,mb4.2						
HLID				*e*	pP	10 44 18.4	+2.3
MCMT	**McKenzie Canyo**	**76.31**	**330**	P	P	**10 43 57.5**	**+1.4**
MCMT				*e*	pP	10 44 19.2	+2.2
WALA	**Waterton Lakes**	**79.94**	**332**	P	P	**10 44 16.4**	**+0.4**
	comp=E,4.4nm,1.1s,mb4.2						
FCC	**Fort Churchill**	**81.66**	**347**	*eP*	P	**10 44 23.8**	**-1.1**
	comp=E,5.0nm,1.0s,mb4.3						
BOSA	**Boshof**	**84.05**	**118**	P	P	**10 44 40.7**	**+3.0**
	comp=E,0.8nm,0.5s,mb3.8,baz=248,slow=3.8,SNR=3.2						
BOSA	**Boshof**	**84.05**	**118**	P	P	**10 44 40.7**	**+3.0**
YKA	**Yellowknife Ar**	**90.23**	**341**	P	P	**10 45 07.3**	**+0.6**
	comp=E,1.5nm,1.0s,mb4.1,baz=133,slow=4.7,SNR=15						
YKA				pP	pP	10 45 29.5	+1.3
	comp=E,2.7nm,0.8s,baz=135,slow=4.6,SNR=19						
ASAR	**Alice Springs**	**130.68**	**208**	pPKP		10 51 41.5	
	comp=E,0.4nm,0.8s,baz=162,slow=2.9,SNR=3.6						
WRA	**Warramunga Arr**	**133.69**	**211**	PKP	PKPdf	10 51 24.8	+2.2
	comp=E,0.4nm,1.0s,baz=145,slow=1.5,SNR=5.1						
BVAR	**Borovoye Array**	**135.09**	**34**	PKP	PKPdf	10 51 26.8	+2.4
	comp=E,0.4nm,0.6s,baz=270,slow=2.9,SNR=2.6						
ZAL	**Zalesovo**	**141.15**	**25**	PKP	PKPdf	10 51 37.8	+2.5
	comp=E,0.6nm,0.5s,baz=210,slow=2.3,SNR=3.5						
MKAR	**Makanchi Array**	**144.95**	**35**	PKP	PKPdf	10 51 43.7	+1.6
	comp=E,3.5nm,0.8s,baz=330,slow=3.7,SNR=40						
MKAR				pPKP		10 52 08.2	
	comp=E,1.1nm,0.6s,baz=309,slow=3.7,SNR=4.1						
MKAR	**Makanchi Array**	**144.95**	**35**	PKP	PKPdf	10 51 43.7	+1.6
MKAR				pPKP		10 52 08.2	
SONM	**Songino Array**	**152.52**	**7**	PKPbc	PKPdf	10 52 03.4	+9.3
	comp=E,0.9nm,0.8s,baz=316,slow=2.6,SNR=6.1						
SONM				pPKPbc		10 52 25.4	
	comp=E,0.7nm,0.7s,baz=2.8,slow=1.1,SNR=4.2						

DJA 31 10:36:40.4±0.9,8.59S×115.58E,h129km±6km,MD4.6/4, ML4.0/2,2C-6D,Error ellipse: s-maj=38.7km s-min=10.3km az=4.0,Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATI	**Rata**	**0.14**	**198**	⇓*i* Pn	P	10 36 57.8	-0.3
	315nm,0.2s						
RATI				⇓*i* Sn	S	10 37 10.6	-1.0
KEDI	**Kedomdong**	**0.54**	**79**	⇑*i* Pn	P	10 36 59.2	-0.6
	146nm,0.2s						
KEDI				⇓*i* Sn	S	10 37 13.4	-1.1
KELI	**Kelakatan**	**1.14**	**289**	⇓*i* Pn	P	10 37 04.8	0.0
	109nm,0.2s						
KELI				⇓*i* Sn	S	10 37 21.5	-1.8
SRDI	**Scrawed**	**1.42**	**274**	⇑*i* Pn	P	10 37 07.4	-0.6
	263nm,0.2s						
SRDI				⇓*i* Sn	S	10 37 27.8	-1.2

*BJI **31** 10:58:17.3,0.54N×97.65E,h36km,mB5.1,mb4.8,Ms4.5, Msz4.4*
*MOS **31** 10:58:19.1±1.0,0.86N×97.55E,h33km,mb5.0/14,Error ellipse: s-maj=16.0km s-min=8.6km az=104.3*
*NEIC **31** 10:58:19.4±0.3,0.78N×97.46E,mb4.9/17,Error ellipse: s-maj=9.7km s-min=5.8km az=51.0*
*IDC **31** 10:58:19.4±0.5,0.82N×97.45E,h22km±2km,mb4.3/17, mb1 4.4/17,mb1mx4.3/21,mbtmp4.4/17,MS3.9/6, Ms1 3.9/6,ms1mx3.5/29,Error ellipse: s-maj=22.0km s-min=9.9km az=47.0*
ISC 31 10:58:17.6±0.4,0.77N±0.06×97.47E±0.06,h24km, h24km±.6km:pP-P,n92,σ1$09/93,mb4.7/54,MS4.1/17, 2C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.19**	**43**	P	Pn	**10 59 36.8**	**+0.9**
KULM	**Kulim**	**5.50**	**35**	*ePn*	Pn	**10 59 40.5**	**+0.3**
KGM	**Kluang**	**5.98**	**78**	P	Pn	**10 59 48.8**	**+1.8**
CM31	**Chiang Mai Arr**	**17.64**	**5**	*eP*	P	**11 02 22.3**	**-1.3**
	36nm,0.9s						
KKM	**Kota Kinabalu**	**19.43**	**74**	*eP*	P	**11 02 44.9**	**-0.5**
KKM	**Kota Kinabalu**	**19.43**	**74**	P	P	**11 02 47.1**	**+1.8**
KMI	**Kunming**	**24.74**	**11**	P	P	**11 03 40.8**	**+1.9**
KMI				AMB	AMB		
	comp=Z,27nm,1.0s,mb4.7						
HYB	**Hyderabad**	**24.90**	**313**	*eP*	P	**11 03 53.0**	**+13**
GYA	**Guiyang**	**27.03**	**18**	P	P	**11 03 58.8**	**-1.4**
JIRN	**Jiri**	**28.84**	**339**	*eP*	P	**11 04 17.4**	**+0.8**
	comp=Z,40nm,0.9s,mb5.1						
PKI	**Pulchoki**	**29.05**	**338**	*eP*	P	**11 04 20.5**	**+2.0**
	comp=Z,26nm,0.8s,mb5.0						
GUN	**Gumba**	**29.18**	**339**	*eP*	P	**11 04 19.9**	**+0.3**
	comp=Z,63nm,0.9s,mb5.4						
DMN	**Daman**	**29.20**	**337**	*eP*	P	**11 04 21.2**	**+1.4**
	comp=Z,28nm,0.7s,mb5.1						
KKN	**Kakani**	**29.30**	**338**	*eP*	P	**11 04 21.0**	**+0.3**
	comp=Z,48nm,0.9s,mb5.2						
LSA	**Lhasa**	**29.39**	**349**	*eP*	P	**11 04 22.1**	**+0.6**
LSA				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.8						
LSA	**Lhasa**	**29.39**	**349**	*eP*	P	**11 04 22.1**	**+0.6**
	comp=Z,20nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.74**	**337**	*eP*	P	**11 04 25.1**	**+0.5**
	comp=Z,42nm,1.0s,mb5.1						
KOLN	**Koldanda**	**29.96**	**335**	*eP*	P	**11 04 26.6**	**0.0**
	comp=Z,30nm,0.8s,mb5.1						
ENH	**Enshi**	**31.48**	**20**	*eP*	P	**11 04 38.3**	**-1.7**
	comp=Z,19nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**33.46**	**125**	*eP*	P	**11 04 56.7**	**-0.6**
	comp=Z,8.4nm,0.9s,mb4.7						
FITZ				*e*pP	pP	11 05 04.2	-0.1
FITZ	**Fitzroy Crossi**	**33.46**	**125**	P	P	**11 04 56.7**	**-0.7**
	comp=Z,8.7nm,0.7s,mb4.8,baz=340,slow=4.9,SNR=6.1						
FITZ				pP	pP	11 05 03.0	-1.3
	comp=Z,22nm,0.7s,baz=335,slow=3.7,SNR=9.9						
XAN	**Xi'an**	**34.79**	**17**	P	P	**11 05 07.3**	**-1.4**
XAN				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
LZH	**Lanzhou**	**35.63**	**9**	⇑P	P	**11 05 15.5**	**-0.3**
LZH				AP	pP	11 05 23.0	+0.2
LZH				AMB	AMB		
	comp=Z,32nm,1.4s,mb5.1						
NJ2	**Nanjing**	**37.09**	**31**	*eP*	P	**11 05 27.0**	**-1.1**
NJ2				AP	pP	11 05 36.5	+1.3
NJ2				XP	sP	11 05 40.5	+2.4
NJ2				PP	PP	11 06 55.5	+0.5
NJ2				S	S	**11 11 15.0**	**+2.7**
NJ2				XS		11 11 31.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,2μm,5.4s						
NJ2				LR	LR		
	comp=N,430nm,16.1s,MS4.5						
NJ2				LR	LR		
	comp=E,400nm,13.0s,MS4.5						
NJ2				LR	LR		
	comp=Z,370nm,13.3s,MS4.3						
SSE	**Sheshan**	**37.61**	**34**	P	P	**11 05 29.5**	**-3.0**
SSE				PP	PP	11 06 57.3	-4.0
SSE				PCP	PcP	11 07 42.8	-7.6
SSE				S	S	**11 11 22.0**	**+1.7**
SSE				XS		11 11 37.0	
SSE				AMB	AMB		
	comp=Z,44nm,0.6s,mb5.4						
SSE				AMB	AMB		
	comp=Z,46nm,5.0s						
SSE				LR	LR		
	comp=N,123nm,18.0s,MS3.8						
SSE				LR	LR		
	comp=E,51nm,18.1s,MS3.8						
SSE				LR	LR		
	comp=Z,159nm,14.1s,MS4.0						
GTA	**Gaotai**	**38.52**	**3**	*eP*	P	**11 05 40.0**	**0.0**
GTA				AP	pP	11 05 47.0	-0.1
GTA				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.7						
GTA				AMB	AMB		
	comp=Z,49nm,4.6s						
GTA				LR	LR		
	comp=N,197nm,16.4s,MS4.2						
GTA				LR	LR		
	comp=E,247nm,17.1s,MS4.2						
GTA				LR	LR		
	comp=Z,123nm,15.6s,MS3.8						
JOW	**Kunigami**	**39.34**	**46**	P	P	**11 05 48.0**	**+0.9**
	comp=Z,24nm,0.8s,mb5.0,baz=286,slow=9.1,SNR=4.5						
JOW				pP	pP	11 05 53.8	-0.3

comp=Z,119nm,4.4s
WMQ LR LR
comp=N,272nm,22.4s,MS4.3
WMQ LR LR
comp=E,339nm,26.4s,MS4.3
WMQ LR LR
comp=Z,280nm,23.6s,MS4.1
UCH Uchtor 46.15 336 P **P 11 06 43.6 +1.4**
SNR=13
TKM2 Tokmak 2 46.31 338 P **P 11 06 44.5 +0.9**
SNR=8.6
AML Almayashu 46.40 336 P **P 11 06 45.5 +1.3**
SNR=6.2
AAK Ala-Archa 46.50 337 *e*P **P 11 06 45.1 +0.1**
AAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
AAK Ala-Archa 46.50 337 *e*P **P 11 06 45.0 +0.1**
AAK *e*pP pP 11 06 49.5 -2.6
EKS2 Erkin-Say 46.81 336 P **P 11 06 48.6 +1.2**
SNR=7.1
USP Ospenovka 47.03 337 P **P 11 06 49.8 +0.6**
SNR=18
SNY Shenyang 47.16 27 ⇑P **P 11 06 50.0 -0.3**
SNY AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
SNY LR LR
comp=E,290nm,11.1s
SNY LR LR
comp=Z,250nm,11.4s,MS4.4
SONM Songino Array 47.52 8 P **P 11 06 53.3 +0.3**
comp=Z,6.0nm,0.8s,mb4.7,baz=189,slow=9.1,SNR=34
ULN Ulaanbaatar 47.64 9 *e*P **P 11 06 54.0 +0.1**
ULN pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ULN Ulaanbaatar 47.64 9 *e*P **P 11 06 54.0 0.0**
comp=Z,6.8nm,0.9s,mb4.7
MKAR Makanchi Array 47.72 346 P **P 11 06 54.6 0.0**
comp=Z,11nm,0.7s,mb5.0,baz=159,slow=8.1,SNR=133
MKAR pP pP 11 07 02.0 +0.3
comp=Z,5.8nm,0.6s,baz=158,slow=7.4,SNR=9.7
MKAR LR LR 11 32 46.9
comp=Z,51nm,18.3s,MS3.5,baz=173,slow=43
CN2 Changchun 49.56 27 *e*P **P 11 07 08.5 -0.4**
CN2 *e*AP pP 11 07 16.0 -0.1
CN2 *e*XP sP 11 07 19.3 +0.4
CN2 *e*S **S 11 14 10.3 -3.9**
CN2 AMB AMB
comp=Z,10.0nm,1.3s,mb4.7
CN2 AMB AMB
comp=Z,170nm,5.0s
CN2 LR LR
comp=N,300nm,13.0s,MS4.6
CN2 LR LR
comp=E,200nm,13.0s,MS4.6
CN2 LR LR
comp=Z,500nm,15.0s,MS4.6
ZAK Zakamensk 49.67 5 *e*P **P 11 07 09.5 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
TLY Talaya 50.99 5 *e*P **P 11 07 19.8 +0.2**
TLY *e* 11 14 22.5
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,163nm,16.0s,MS4.1
MJAR Matsushiro Arr 51.83 42 P **P 11 07 25.0 -1.2**
comp=Z,3.6nm,0.8s,mb4.4,baz=222,slow=6.5,SNR=9.2
MJAR pP pP 11 07 32.4 -1.0
comp=Z,3.9nm,1.0s,baz=220,slow=8.3,SNR=3.3
MJAR LR LR 11 31 33.2
comp=Z,83nm,18.3s,MS3.8,baz=225,slow=38
HIA Hailar 51.96 18 *e*P **P 11 07 26.4 -0.6**
HIA pmax pmax
comp=Z,12nm,0.9s
HIA Hailar 51.96 18 *e*P **P 11 07 26.4 -0.6**
comp=Z,12nm,0.9s,mb4.8
CTA Charters Tower 52.07 116 LR LR 11 34 12.1
comp=Z,112nm,18.9s,MS3.9,baz=46,slow=41
MDJ Mudanjiang 52.11 29 P **P 11 07 26.0 -2.2**
MDJ SCP 11 12 28.0
MDJ PCS 11 12 32.8
MDJ SCS ScS 11 17 11.3 -2.2
MDJ AMB AMB
comp=Z,7.0nm,2.4s,mb4.2
MDJ AMB AMB
comp=Z,104nm,4.2s
MDJ LR LR
comp=N,90nm,19.5s,MS3.9
MDJ LR LR
comp=E,59nm,20.6s,MS3.9
MDJ LR LR
comp=Z,124nm,19.0s,MS4.0
KURK Kurchatov 52.27 345 *e*P **P 11 07 27.3 -2.1**
KURK pmax pmax
comp=Z,12nm,1.0s,mb4.8
KURK Kurchatov 52.27 345 *e*P **P 11 07 27.3 -2.1**
comp=Z,12nm,1.0s,mb4.8
STKA Stephens Creek 52.87 132 P **P 11 07 35.2 +1.1**
comp=Z,5.9nm,0.9s,mb4.5,baz=303,slow=7.5,SNR=10
STKA pP pP 11 07 41.9 +0.6
comp=Z,7.1nm,0.6s,baz=308,slow=7.4,SNR=10
STKA Stephens Creek 52.87 132 *e*P **P 11 07 34.8 +0.7**
STKA *e*pP pP 11 07 42.0 +0.7
ZAL Zalesovo 54.02 351 P **P 11 07 41.5 -0.6**
comp=Z,6.1nm,0.6s,mb4.7,baz=306,slow=5.4,SNR=34
NVS Novosibirsk 55.14 350 *e*P **P 11 07 48.0 -2.4**
NVS pmax pmax
comp=Z,13nm,1.0s,mb4.9
NVS pmax pmax
comp=N,3.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.8s
KLR Kul'dur 56.52 26 *e*P **P 11 07 57.5 -2.9**
KLR MLR MLR
comp=Z,600nm,14.0s,MS4.8
BVAR Borovoye Array 56.74 341 P **P 11 08 00.8 -1.1**
comp=Z,3.6nm,0.8s,mb4.5,baz=143,slow=7.4,SNR=24
BVAR pP pP 11 08 07.7 -1.5
comp=Z,4.5nm,0.8s,baz=149,slow=8.6,SNR=14
CHKZ Chkalovo 57.22 341 *e*P **P 11 08 04.3 -1.0**
CHKZ *e**PP pP 11 08 11.4 -1.2
CHKZ pmax pmax
comp=Z,15nm,0.9s,mb5.0
CHKZ Chkalovo 57.22 341 *e*P **P 11 08 04.2 -1.1**
comp=Z,15nm,0.9s,mb5.0
CHKZ *e*pP pP 11 08 11.4 -1.3
BOD Bodaibo 58.38 10 ⇓*i*P **P 11 08 12.7 -0.7**
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
KMBO Kilima Mbogo 60.24 268 P **P 11 08 27.9 +1.0**
comp=Z,1.0nm,0.6s,mb4.0,baz=66,slow=10.0,SNR=3.8
KMBO Kilima Mbogo 60.24 268 *e*P **P 11 08 28.1 +1.1**
YSS Yuzh-Sakhalins 60.55 34 *e*P **P 11 08 28.3 -0.2**
YSS *e* 11 08 42.0
YAK Yakutsk 65.76 16 *e*P **P 11 09 01.0 -1.6**
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,0.8s
BRTR Keskin Array B 69.60 312 P **P 11 09 25.9 -1.2**
comp=E,1.2nm,0.7s,mb3.9,baz=108,slow=7.8,SNR=4.8
BRTR pP pP 11 09 33.2 -1.3
comp=E,2.0nm,0.8s,baz=121,slow=7.2,SNR=5.1
MA2 Magadan 71.60 25 *e*P **P 11 09 38.8 -0.1**
MA2 *e**PP pP 11 09 46.2 -0.1
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 Magadan 71.60 25 *e*P **P 11 09 38.8 -0.2**
comp=Z,9.5nm,0.8s,mb4.8
MA2 *e*pP pP 11 09 46.2 -0.1
MOS Moscow 72.84 329 *e*P **P 11 09 40.0 -6.3**
MOS *e* 11 09 57.5
OBN Obninsk 73.12 328 *i*P **P 11 09 47.5 -0.5**
OBN pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TIXI Tiksi 73.56 10 *e*P **P 11 09 48.5 -1.7**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BOSA Boshof 74.80 240 LR LR 11 36 42.3
comp=Z,149nm,18.5s,MS4.3,baz=350,slow=31
AKASG Malin Array Be 75.76 322 P **P 11 10 02.4 -0.9**
comp=Z,1.5nm,0.5s,mb4.2,baz=90,slow=4.7,SNR=14
AKASG pP pP 11 10 09.9 -0.8
comp=Z,0.3nm,0.3s,baz=89,slow=5.3,SNR=2.1
AKASG Malin Array Be 75.76 322 P **P 11 10 02.4 -0.9**
AKASG pP pP 11 10 09.9 -0.8
FINES FINESS Array B 80.50 333 P **P 11 10 29.1 0.0**
comp=Z,2.1nm,0.7s,mb4.2,baz=90,slow=5.7,SNR=9.7
FINES pP pP 11 10 35.7 -0.9
comp=Z,0.9nm,0.6s,baz=90,slow=3.8,SNR=3.1
ARCES ARCESS Array B 83.03 340 P **P 11 10 42.5 +0.4**
comp=Z,5.2nm,0.8s,mb4.6,baz=90,slow=4.9,SNR=6.5
ARCES pP pP 11 10 49.2 -0.4
comp=Z,1.5nm,0.6s,baz=90,slow=3.6,SNR=1.6
ARCES LR LR 11 51 27.2
comp=Z,58nm,19.8s,MS4.0,baz=162,slow=38
ARCES ARCESS Array B 83.03 340 P **P 11 10 42.5 +0.4**
ARCES pP pP 11 10 49.2 -0.4
ARCES LR LR 11 51 27.2
BRG Berggiesshubel 85.31 321 *e*P **P 11 11 03.4 +9.4**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GERES GERESS Array B 85.31 319 P **P 11 10 54.5 +0.5**
comp=Z,0.3nm,0.3s,mb3.9,baz=90,slow=5.3,SNR=7.2
GERES pP pP 11 11 03.7 +2.0
comp=Z,0.6nm,0.5s,baz=76,slow=5.5,SNR=3.5
VNDA Vanda 85.35 169 LR LR 11 42 51.9
comp=Z,87nm,19.3s,MS4.2,baz=94,slow=31
NB2 NORSAR Subarra 87.51 331 P **P 11 11 04.8 +0.3**
comp=Z,0.9nm,0.7s,mb4.1,baz=96,slow=4.8
NB2 NORSAR Subarra 87.51 331 P **P 11 11 04.8 +0.3**
NB2 pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
NOA NORSAR Array B 87.51 331 P **P 11 11 05.2 +0.7**
comp=Z,2.0nm,0.8s,mb4.4,baz=94,slow=4.9,SNR=8.5
NOA pP pP 11 11 12.4 +0.3
comp=Z,0.7nm,0.8s,baz=96,slow=4.9,SNR=2.3
TXAR Lajitas Array 143.89 32 PKP PKPdf 11 17 51.9 -4.3
comp=Z,0.8nm,0.8s,baz=238,slow=0.5,SNR=9.0

*MAN **31** 10:58:17.1,9.35N×126.94E,h4km,mb4.3,ML3.2,MS2.9*
*IDC **31** 10:58:17.7±1.8,9.17N×127.11E,mb4.2/7,mb1 4.2/7,*
mb1mx3.9/21,mbtmp4.1/7,Error ellipse: s-maj=54.2km
s-min=30.0km az=98.0
*NEIC **31** 10:58:24.3±1.2,9.09N×127.43E,h45km,Error ellipse:*
s-maj=35.4km s-min=21.1km az=102.0
ISC 31 10:58:18.8±2.3,9.35N±0.05×127.04E±0.06,h31km±19km,
n22,σ1§16/28,mb4.0/7,3C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.33**	**210**	⇑*e*P	**Pn**	**10 58 40.7**	**-1.0**
BIPH				*i* S	**Sn**	**10 58 55.3**	**-3.2**
BUTP	**Butuan**	**1.45**	**255**	*e*P	**Pn**	**10 58 40.7**	**-2.6**
BUTP				*e*S	**Sn**	**10 58 57.9**	**-3.5**
MSLP	**Maasin**	**2.29**	**290**	*e*P	**Pn**	**10 58 55.0**	**-0.3**
MSLP				*e*S	**Sn**	**10 59 22.7**	**0.0**
BUKP	**Musuan**	**2.44**	**233**	*e*P	**Pn**	**10 58 57.6**	**+0.1**
BUKP				*e*S	**Sn**	**10 59 27.2**	**+0.7**
MATI	**Mati**	**2.51**	**198**	*e*P	**Pn**	**10 58 59.2**	**+0.8**
KCP	**Kidapawan**	**3.02**	**220**	⇓*e*P	**Pn**	**10 59 08.2**	**+2.5**
KCP				*e*S	**Sn**	**10 59 43.9**	**+2.7**
LLP	**Lapu-Lapu**	**3.18**	**288**	⇑*e*P	**Pn**	**10 59 09.4**	**+1.5**
LLP				*i* S	**Sn**	**10 59 45.0**	**-0.3**
PAGZ	**Pagadian**	**3.91**	**248**	*e*P	**Pn**	**10 59 17.4**	**-0.9**
CNP	**Catarman**	**3.92**	**324**	*e*P	**Pn**	**10 59 18.3**	**-0.1**
IPIL	**Ipil**	**4.68**	**251**	*e*P	**Pn**	**10 59 29.9**	**+0.6**
RCP	**Roxas**	**4.76**	**298**	⇑*e*P	**Pn**	**10 59 29.9**	**-0.5**
PVCP	**Virac**	**5.08**	**326**	*e*P	**Pn**	**10 59 35.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**27.31**	**183**	P	**P**	**11 04 02.5**	**-0.5**
	3.4nm,0.4s,mb4.2,baz=358,slow=12,SNR=11						
PMG	**Port Moresby**	**27.35**	**132**	P	**P**	**11 04 03.4**	**0.0**
	13nm,0.8s,mb4.5,baz=281,slow=13,SNR=2.6						
PMG	**Port Moresby**	**27.35**	**132**	P	**P**	**11 04 00.2**	**-3.3**
PMG				P		11 04 03.5	
WRA	**Warramunga Arr**	**29.98**	**166**	P	**P**	**11 04 26.5**	**-0.5**
	0.4nm,0.5s,mb3.4,baz=348,slow=9.3,SNR=5.9						
ASAR	**Alice Springs**	**33.49**	**169**	P	**P**	**11 04 57.5**	**-0.3**
	0.2nm,0.3s,mb3.5,baz=349,slow=7.9,SNR=7.9						
KLBR	**Kellerberrin**	**41.66**	**192**	*e*P	**P**	**11 06 06.3**	**-0.1**
	1μm,1.9s						
NWAO	**Narrogin (SRO)**	**43.06**	**192**	P	**P**	**11 06 18.2**	**+0.4**
	13nm,1.0s,mb4.6,baz=29,slow=10,SNR=4.7						
STKA	**Stephens Creek**	**43.29**	**162**	P	**P**	**11 06 19.4**	**-0.2**
	1.1nm,0.7s,mb3.7,baz=342,slow=9.6,SNR=4.2						
YKA	**Yellowknife Ar**	**94.29**	**24**	P	**P**	**11 11 39.2**	**+3.1**
	0.4nm,0.6s,mb4.0,baz=300,slow=4.7,SNR=11						
YKA	**Yellowknife Ar**	**94.29**	**24**	P	**P**	**11 11 39.2**	**+3.1**

*NEIC **31** 10:58:37.6±1.1,51.50N×16.15E,h5km,ML3.0(SZGRF),*
ML3.0(VIE),Error ellipse: s-maj=11.7km s-min=5.6km
az=195.0
*PRU **31** 10:58:38.2,51.49N×16.14E*
*BGR **31** 10:58:38.9±0.7,51.43N×16.10E,h1km,ML3.0/9,Error*
ellipse: s-maj=7.8km s-min=5.6km az=161.0
*WAR **31** 10:58:38.6,51.50N×16.10E,h1km,ML2.9,Mining*
Induced
*CSEM **31** 10:58:39.0±0.1,51.45N×16.09E,h1km,ML3.2/4,Error*
ellipse: s-maj=2.8km s-min=1.3km az=13.0
*IPEC **31** 10:58:39.1±0.2,51.46N×16.12E,h8km,1km,ML2.3/3,*
Error ellipse: s-maj=1.3km s-min=0.6km az=16.0
ISC 31 10:58:37.1±0.6,51.42N±0.03×16.06E±0.03,n39,σ1§44/79,
1C,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.60**	**166**	*e*Pg	**Pg**	**10 58 50.8**	**+1.8**
KSP				*e*Sg	**Sg**	**10 58 59.7**	**+2.7**
KSP	**Ksiaz**	**0.60**	**166**	*e*Pg	**Pg**	**10 58 50.8**	**+1.8**
KSP				*e*Sg	**Sg**	**10 58 59.8**	**+2.8**
KSP	**Ksiaz**	**0.60**	**166**	*e*Pg	**Pg**	**10 58 50.8**	**+1.8**
KSP				*e*Sg	**Sg**	**10 58 59.6**	**+2.6**
UPC	**Upice**	**0.92**	**182**	*e*PG	**Pg**	**10 58 56.8**	**+1.4**
DPC	**Dobruska-Polom**	**1.08**	**171**	*e*PG	**Pg**	**10 58 59.7**	**+1.0**
DPC				*e*SG	**Sg**	**10 59 15.1**	**+1.9**
	41nm,0.3s						
DPC	**Dobruska-Polom**	**1.08**	**171**	Pg	**Pg**	**10 58 59.7**	**+1.0**
DPC				*e*Sg	**Sg**	**10 59 14.3**	**+1.1**
PVCC	**Panska Ves**	**1.30**	**227**	*e*PG	**Pg**	**10 59 03.7**	**+0.7**
PVCC	**Panska Ves**	**1.30**	**227**	*e*Pn	**Pn**	**10 59 04.2**	**+1.7**
PVCC				*e*Sg	**Sg**	**10 59 22.6**	**+2.2**
BRG	**Berggiesshubel**	**1.44**	**248**	*e*Pg	**Pg**	**10 59 05.5**	**-0.4**
BRG				*e*Sg	**Sg**	**10 59 26.3**	**+1.2**
BRG	**Berggiesshubel**	**1.44**	**248**	*i* Pn	**Pn**	**10 59 05.9**	**+1.4**
BRG				*i* Pg	**Pg**	**10 59 06.5**	**+0.6**
BRG				*i* Sg	**Sg**	**10 59 26.4**	**+1.3**
BRG	**Berggiesshubel**	**1.44**	**248**	*i* Pg	**Pg**	**10 59 06.5**	**+0.6**
BRG				*e*Sg	**Sg**	**10 59 25.8**	**+0.7**
PRU	**Pruhonice**	**1.73**	**215**	*e*PG	**Pg**	**10 59 11.6**	**0.0**
PRU				*e*SG	**Sg**	**10 59 36.8**	**+2.1**
	30nm,0.3s						
PRU	**Pruhonice**	**1.73**	**215**	*e*Pg	**Pg**	**10 59 11.6**	**0.0**
PRU				*e*Sg	**Sg**	**10 59 35.2**	**+0.5**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**10 59 11.2**	**+0.2**
MORC				*e*Sn	**Sn**	**10 59 37.8**	**+1.8**
MORC	**Moravsky Berou**	**1.90**	**150**	*e*Pn	**Pn**	**10 59 11.2**	**+0.2**
MORC				*e*Sn	**Sn**	**10 59 37.8**	**+1.8**
MORC				*e*Sg	**Sg**	**10 59 38.0**	**-2.3**
	19nm,0.3s						
CLL	**Collm**	**1.92**	**268**	*e*Pn	**Pn**	**10 59 11.0**	**-0.3**
CLL				*e*Pg	**Pg**	**10 59 14.0**	**-1.4**
CLL				*e*Sg	**Sg**	**10 59 40.2**	**-0.8**
CLL	**Collm**	**1.92**	**268**	*e*PN	**Pn**	**10 59 11.0**	**-0.3**
CLL				*e*PG	**Pg**	**10 59 14.0**	**-1.4**
CLL				*i*		10 59 17.1	
CLL				*i* SG	**Sg**	**10 59 40.2**	**-0.8**
CLL	**Collm**	**1.92**	**268**	*e*Pg	**Pg**	**10 59 14.0**	**-1.4**
CLL				Sg	**Sg**	**10 59 39.9**	**-1.1**
OKC	**Ostrava-Krasne**	**2.07**	**139**	*e*PG	**Pg**	**10 59 17.5**	**-0.9**
OKC				*e*SG	**Sg**	**10 59 45.3**	**-0.6**
	16nm,0.3s						
VRAC	**Vranov**	**2.14**	**171**	*e*Pn	**Pn**	**10 59 15.6**	**+1.1**
VRAC				*e*Sg	**Sg**	**10 59 47.5**	**-0.9**
	20nm,0.3s						
KRUC	**Moravsky**	**2.37**	**175**	*e*Pg	**Pg**	**10 59 22.7**	**-1.7**
KRUC				*e*Sg	**Sg**	**10 59 54.5**	**-1.5**
	10.0nm,0.4s						
TANN	**Tannenbergstha**	**2.49**	**248**	*e*Pn	**Pn**	**10 59 20.6**	**+1.0**
TANN				*e*Sg	**Sg**	**10 59 59.5**	**-0.5**
WERD	**Werda**	**2.57**	**249**	*e*Pn	**Pn**	**10 59 21.4**	**+0.7**
WERD				*e*Sg	**Sg**	**11 00 02.1**	**-0.4**
NKC	**Novy Kostel**	**2.58**	**244**	*e*PN	**Pn**	**10 59 22.0**	**+1.2**
NKC				*e*PG	**Pg**	**10 59 26.6**	**-2.0**
NKC				*e*SG	**Sg**	**11 00 03.7**	**+0.7**
	37nm,0.3s						
NKC	**Novy Kostel**	**2.58**	**244**	*e*Pn	**Pn**	**10 59 21.8**	**+1.0**
NKC	**Novy Kostel**	**2.58**	**244**	*e*Pg	**Pg**	**10 59 26.6**	**-2.0**
NKC				*e*Sg	**Sg**	**11 00 01.4**	**-1.6**
GUNZ	**Gunzen**	**2.59**	**247**	*e*Pn	**Pn**	**10 59 22.8**	**+1.9**
GUNZ				*e*Sg	**Sg**	**11 00 02.1**	**-1.1**
OJC	**Ojcow**	**2.66**	**115**	*e*PG	**Pg**	**10 59 28.0**	**-2.1**
OJC				*e*SG	**Sg**	**11 00 03.0**	**-2.6**
KHC	**Kasperske Hory**	**2.79**	**216**	*e*PN	**Pn**	**10 59 24.3**	**+0.5**
KHC				*e*PG	**Pg**	**10 59 30.5**	**-2.3**
KHC				*e*SN	**Sn**	**11 00 01.7**	**+3.0**
KHC				*e*SG	**Sg**	**11 00 11.4**	**+1.4**
	9.0nm,0.3s						
KHC	**Kasperske Hory**	**2.79**	**216**	*e*Pn	**Pn**	**10 59 24.2**	**+0.4**
KHC	**Kasperske Hory**	**2.79**	**216**	Pg	**Pg**	**10 59 30.5**	**-2.3**
KHC				*e*Sg	**Sg**	**11 00 07.6**	**-2.4**
MOX	**Moxa**	**2.91**	**256**	*e*Pn	**Pn**	**10 59 26.6**	**+1.1**
MOX				*e*Sg	**Sg**	**11 00 11.9**	**-2.1**
MOX	**Moxa**	**2.91**	**256**	*e*Pg	**Pg**	**10 59 33.3**	**-1.9**
MOX				Sg	**Sg**	**11 00 11.9**	**-2.1**
NOTT	**Nottersdorf**	**2.98**	**239**	*e*Pn	**Pn**	**10 59 27.1**	**+0.6**
NOTT				*e*Sg	**Sg**	**11 00 13.6**	**-2.7**
GEC2	**GERESS Array S**	**2.99**	**211**	*e*Pn	**Pn**	**10 59 28.1**	**+1.4**
GEC2				*e*Sg	**Sg**	**11 00 14.5**	**-2.2**
VYHS	**Vyhne**	**3.44**	**147**	*e*PG	**Pg**	**10 59 45.0**	**-0.6**
VYHS				*e*SN	**Sn**	**11 00 21.4**	**+6.4**
GRA1	**Grafenberg Arr**	**3.54**	**243**	Sg	**Sg**	**11 00 31.0**	**-3.9**
GRF	**Grafenberg Arr**	**3.54**	**243**	*e*Sg	**Sg**	**11 00 31.0**	**-3.8**
MOA	**Molln**	**3.76**	**199**	⇑*i*PN	**Pn**	**10 59 38.2**	**+0.6**
MOA				*i* SG	**Sg**	**11 00 41.8**	**-0.5**
	9.7nm,0.5s						

IDC 31 11:03:04.8±3.0,2.91N×96.44E,mb3.7/4,mb1 3.8/4,
mb1mx3.5/19,mbtmp3.7/4,Error ellipse:
s-maj=124.7km s-min=25.7km az=55.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.59**	**123**	P	P	11 11 11.0	-1.7
	1.0nm,0.5s,baz=301,slow=9.1,SNR=17						
MKAR	**Makanchi Array**	**45.41**	**346**	P	P	11 11 25.9	-1.1
	0.5nm,0.4s,baz=174,slow=8.3,SNR=8.7						
SONM	**Songino Array**	**45.57**	**9**	P	P	11 11 26.4	-1.9
	0.4nm,0.4s,baz=190,slow=9.7,SNR=5.3						
BVAR	**Borovoye Array**	**54.40**	**341**	P	P	11 12 32.8	-2.9
	0.5nm,0.6s,baz=153,slow=13,SNR=3.6						

IDC 31 11:03:31.6±2.9,1.36N×97.33E,mb3.8/6,mb1 4.0/6,
mb1mx3.7/19,mbtmp3.8/6,Error ellipse:
s-maj=123.6km s-min=21.8km az=57.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.01**	**122**	P	P	11 11 24.6	-2.0
	0.8nm,0.5s,baz=304,slow=9.0,SNR=5.0						
ASAR	**Alice Springs**	**43.39**	**127**	P	P	11 11 36.2	-1.6
	1.0nm,0.9s,baz=309,slow=6.6,SNR=5.0						
SONM	**Songino Array**	**46.95**	**8**	P	P	11 12 05.1	-0.9
	1.1nm,0.7s,baz=187,slow=9.4,SNR=7.6						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	11 12 05.0	-2.3
	0.8nm,0.5s,baz=157,slow=9.1,SNR=6.4						
ZAL	**Zalesovo**	**53.41**	**351**	P	P	11 12 53.1	-2.1
	1.1nm,0.3s,baz=325,slow=7.1,SNR=3.9						
BVAR	**Borovoye Array**	**56.14**	**341**	P	P	11 13 12.2	-3.0
	1.1nm,0.7s,baz=141,slow=9.5,SNR=4.8						

IDC 31 11:05:59.4±3.0,0.59N×97.57E,mb3.8/6,mb1 3.9/6,
mb1mx3.7/19,mbtmp3.8/6,Error ellipse:
s-maj=135.4km s-min=21.1km az=56.0,Northern
Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.40**	**122**	P	P	11 13 47.9	-1.5
	0.8nm,0.7s,baz=301,slow=9.0,SNR=5.7						
ASAR	**Alice Springs**	**42.74**	**127**	P	P	11 13 58.6	-1.7
	0.5nm,0.6s,baz=302,slow=7.5,SNR=6.9						
SONM	**Songino Array**	**47.68**	**8**	P	P	11 14 37.5	-2.0
	0.5nm,0.7s,baz=185,slow=9.9,SNR=4.1						
MKAR	**Makanchi Array**	**47.92**	**346**	P	P	11 14 40.1	-1.4
	1.2nm,0.5s,baz=161,slow=8.6,SNR=15						
ZAL	**Zalesovo**	**54.21**	**351**	P	P	11 15 26.1	-2.8
	1.3nm,0.4s,baz=300,slow=6.4,SNR=3.7						
BVAR	**Borovoye Array**	**56.94**	**341**	P	P	11 15 46.1	-2.7
	0.8nm,0.6s,baz=112,slow=8.0,SNR=5.0						
TXAR	**Lajitas Array**	**143.99**	**33**	PKP	PKPdf	11 25 36.8	-2.6
	0.1nm,0.5s,baz=315,slow=3.5,SNR=3.8						

IGQ 31 11:11:30.3,0.70S×78.33W,h13km±1km,mb4.1,11C-4D,
Error ellipse: s-maj=1.9km s-min=0.6km az=11.9,
Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAMB	**Tambo**	**0.04**	**281**	⇓P	Pb	11 11 33.0	+0.4
VC1	**Cotopaxi 1**	**0.10**	**308**	⇓P	Pg	11 11 33.7	+0.4
NAS1	**Nasa**	**0.17**	**294**	⇓P	Pg	11 11 35.1	+0.7
ANTI	**Antisana**	**0.30**	**33**	⇓P	Pg	11 11 36.8	+0.1
PISA	**Pisayambo**	**0.36**	**190**	⇑P	Pg	11 11 38.7	+0.9
JUA2	**San Juan 2**	**0.56**	**330**	⇑P	Pb	11 11 42.1	+0.7
PINO	**Pino**	**0.61**	**332**	⇑P	Pb	11 11 43.0	+0.7
YANA	**Yana**	**0.63**	**337**	⇑P	Pb	11 11 43.3	+0.6
YANA				S	Sb	11 11 51.0	-0.1
ULBA	**Ulba**	**0.75**	**186**	⇑P	Pb	11 11 44.9	+0.2
ULBA				S	Sb	11 11 54.4	0.0
CUSU	**Cusua**	**0.75**	**192**	⇑P	Pb	11 11 45.6	+0.9
CUSU				S	Sb	11 11 56.2	+1.6
ELAGU	**Cayambe Volc**	**0.75**	**26**	P	Pb	11 11 45.2	+0.4
ELAGU				S	Sb	11 11 56.2	+1.5
RETU	**Refugio**	**0.75**	**189**	⇑P	Pb	11 11 45.6	+0.8
RETU				S	Sb	11 11 55.1	+0.4
JOR1	**San Jorge 1**	**0.77**	**336**	⇑P	Pb	11 11 42.2	-2.8
CAYR	**Refugio Cayamb**	**0.78**	**24**	⇑P	Pb	11 11 46.3	+1.0
ARRY	**Arrayan**	**0.81**	**189**	⇑P	Pb	11 11 45.9	+0.2
ARRY				S	Sb	11 11 56.6	+0.4
CAYA	**Cayambe**	**0.84**	**24**	P	Pb	11 11 47.3	+1.1
IGUA	**Igualata**	**0.84**	**202**	P	Pb	11 11 47.6	+1.3
IGUA				S	Sb	11 11 59.2	+1.9
CONE	**Cono NE Rev Vo**	**0.93**	**47**	P	Pb	11 11 49.0	+1.3
COTA	**Cotacachi**	**1.03**	**359**	P	Pb	11 11 50.4	+0.9
ECEN	**Cerro Negro**	**1.56**	**13**	⇑P	Pn	11 12 00.1	+2.2

*IDC **31** 11:17:33.1±1.2,1.10N×97.82E,mb4.0/10,mb1 4.2/10,*
mb1mx4.0/20,mbtmp4.0/10,Error ellipse: s-maj=66.4km
s-min=15.2km az=53.0
*NEIC **31** 11:17:40.3±0.8,2.36N×99.22E,h30km,mb4.3/3,Error*
ellipse: s-maj=28.6km s-min=12.7km az=58.0
ISC 31 11:17:38.5±0.8,2.3N±0.1×99.2E±0.2,h30km,n14,
σ1§25/14,mb4.1/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**3.28**	**26**	*e*Pn	**Pn**	**11 18 28.2**	**-1.0**
FITZ	**Fitzroy Crossi**	**33.02**	**129**	P	**P**	**11 24 13.6**	**+0.1**
	5.9nm,1.0s,mb4.5,baz=326,slow=7.3,SNR=3.0						
WRA	**Warramunga Arr**	**40.97**	**124**	P	**P**	**11 25 21.6**	**+1.0**
	1.8nm,0.7s,mb3.8,baz=299,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**40.98**	**124**	*e*P	**P**	**11 25 21.8

AKASG	**Malin Array Be**	**75.60**	**322**	P		**P**		**11 29 21.8**	**-0.6**
	0.3nm,0.3s,mb3.7,baz=100,slow=3.1,SNR=5.8								
GERES	**GERESS Array B**	**85.29**	**319**	P		**P**		**11 30 12.4**	**-1.5**
	0.3nm,0.2s,mb4.0,baz=63,slow=3.0,SNR=4.0								

IDC 31 11:21:01.0±16.0, **19.23S**×**174.07W, mb4.2/5, mb1 4.4/5, mb1mx4.0/17, mbtmp4.2/5, Error ellipse: s-maj=313.1km s-min=151.0km az=78.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.31**	**262**	P	P	11 28 15.9	-1.0
	2.6nm,0.4s,baz=93,slow=13,SNR=12						
STKA	**Stephens Creek**	**41.67**	**243**	P	P	11 28 51.2	-1.7
	0.9nm,0.5s,baz=71,slow=10,SNR=3.7						
ASAR	**Alice Springs**	**48.42**	**255**	P	P	11 29 44.8	-2.4
	2.3nm,0.4s,baz=90,slow=8.3,SNR=64						
ASPA	**Alice Springs**	**48.42**	**255**	*eP*	P	11 29 44.9	-2.2
WB2	**Warramunga Arr**	**48.44**	**260**	*eP*	P	11 29 44.7	-2.6
WRA	**Warramunga Arr**	**48.45**	**260**	P	P	11 29 45.0	-2.4
	0.7nm,0.3s,baz=96,slow=8.2,SNR=54						
FITZ	**Fitzroy Crossi**	**56.88**	**261**	P	P	11 30 48.3	-2.0
	7.0nm,1.1s,baz=26,slow=6.4,SNR=5.8						

*IDC **31** 11:24:13.6±2.5, 7.12N×93.87E, mb3.8/7, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, Error ellipse: s-maj=108.1km s-min=17.9km az=60.0*

*NEIC **31** 11:24:17.6±0.9, 7.05N×93.75E, h30km, mb4.7/1, Error ellipse: s-maj=30.8km s-min=8.8km az=53.0*

ISC 31 11:24:15.9±1.3, **7.1N**±0.2×**93.8E**±0.2, **h30**km, **n10, σ0**^{2}**31/10, mb3.9/8, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**7.03**	**104**	*e*Pn	**Pn**	**11 25 59.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**40.17**	**129**	P	**P**	**11 31 50.9**	**-0.5**
	2.5nm,0.8s,mb4.0,baz=355,slow=11,SNR=2.2						
MKAR	**Makanchi Array**	**40.78**	**348**	P	**P**	**11 31 56.4**	**+0.2**
	0.2nm,0.5s,mb3.0,baz=158,slow=8.2,SNR=4.1						
SONM	**Songino Array**	**42.00**	**13**	P	**P**	**11 32 06.4**	**+0.3**
	0.2nm,0.5s,mb3.0,baz=191,slow=7.3,SNR=3.0						
ZAL	**Zalesovo**	**47.28**	**353**	P	**P**	**11 32 47.8**	**-0.7**
	1.7nm,0.3s,mb4.4,baz=267,slow=2.5,SNR=3.4						
WRA	**Warramunga Arr**	**48.08**	**125**	P	**P**	**11 32 55.3**	**+0.2**
	1.4nm,0.5s,mb4.2,baz=306,slow=8.4,SNR=23						
WRAB	**Tennant Creek**	**48.08**	**125**	*eP*	**P**	**11 32 55.2**	**0.0**
	7.2nm,0.8s,mb4.8						
WB2	**Warramunga Arr**	**48.09**	**125**	*eP*	**P**	**11 32 55.3**	**+0.1**
BVAR	**Borovoye Array**	**49.63**	**342**	P	**P**	**11 33 06.6**	**0.0**
	0.3nm,0.6s,mb3.5,baz=90,slow=10,SNR=2.4						
ASAR	**Alice Springs**	**49.67**	**129**	P	**P**	**11 33 07.6**	**+0.3**
	1.1nm,0.8s,mb3.9,baz=301,slow=7.5,SNR=10.0						

*BJI **31** 11:33:40.9, 0.42N×97.48E, h23km, mB4.9, mb4.8, Ms4.5, Msz4.3*

*IDC **31** 11:33:44.2±0.7, 1.11N×97.38E, mb4.3/14, mb1 4.4/14, mb1mx4.2/22, mbtmp4.3/14, MS3.7/3, Ms1 3.7/3, ms1mx3.2/24, Error ellipse: s-maj=26.2km s-min=14.4km az=52.0*

*NEIC **31** 11:33:48.0±0.3, 1.06N×97.34E, mb4.6/16, Error ellipse: s-maj=9.9km s-min=5.7km az=57.0*

ISC 31 11:33:48.9±1.6, **1.08N**±0.07×**97.37E**±0.08, **h45**km±13km, **h18**km±3.2km**:pP-P, n54, σ0**^{2}**88/52, mb4.5/34, MS4.0/7, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.04**	**46**	P	**P**	**11 35 04.2**	**+0.2**
KULM	**Kulim**	**5.31**	**38**	*e*Pn	**P**	**11 35 07.4**	**-0.4**
KULM				*e*		11 35 15.3	
KGM	**Kluang**	**6.02**	**81**	P	**P**	**11 35 18.6**	**+0.9**
CM31	**Chiang Mai Arr**	**17.34**	**5**	*eP*	**P**	**11 37 48.8**	**-0.7**
	23nm,1.0s						
KMI	**Kunming**	**24.46**	**12**	P	**P**	**11 39 07.3**	**+2.2**
KMI				AP		11 39 13.3	
KMI				AMB	AMB		
	comp=Z,33nm,1.3s,mb4.6						
HYB	**Hyderabad**	**24.62**	**312**	*i* P	**P**	**11 39 17.5**	**+11**
JIRN	**Jiri**	**28.52**	**339**	*eP*	**P**	**11 39 43.2**	**+0.6**
PKI	**Pulchoki**	**28.73**	**337**	*eP*	**P**	**11 39 45.0**	**+0.5**
	comp=Z,12nm,0.7s,mb4.7						
GUN	**Gumba**	**28.86**	**339**	*eP*	**P**	**11 39 46.1**	**+0.5**
	comp=Z,32nm,0.8s,mb5.1						
KKN	**Kakani**	**28.98**	**337**	*eP*	**P**	**11 39 46.6**	**0.0**
	comp=Z,19nm,0.8s,mb4.9						
LSA	**Lhasa**	**29.07**	**349**	*eP*	**P**	**11 39 48.4**	**+0.9**
GKN	**Gorkha**	**29.42**	**337**	*eP*	**P**	**11 39 50.7**	**+0.1**
	comp=Z,14nm,0.6s,mb4.9						
KOLN	**Koldanda**	**29.64**	**335**	*eP*	**P**	**11 39 52.9**	**+0.4**
	comp=Z,13nm,0.7s,mb4.8						
ENH	**Enshi**	**31.23**	**20**	*eP*	**P**	**11 40 04.9**	**-1.8**
	comp=Z,5.4nm,0.5s,mb4.6						
ENH				*ep*P	pP	11 40 11.7	-7.0
FITZ	**Fitzroy Crossi**	**33.72**	**126**	*eP*	**P**	**11 40 27.8**	**-0.6**
	comp=Z,3.0nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.72**	**126**	P	**P**	**11 40 26.6**	**-1.8**
	comp=Z,4.1nm,0.8s,mb4.4,baz=354,slow=19,SNR=6.5						
XAN	**Xi'an**	**34.53**	**17**	P	**P**	**11 40 34.0**	**-1.2**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.9						
GTA	**Gaotai**	**38.22**	**3**	*eP*	**P**	**11 41 06.5**	**+0.3**
GTA				AP	pP	11 41 12.5	-6.0
GTA				XP	sP	11 41 15.5	-8.6
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,97nm,5.3s						
GTA				LR	LR		
	comp=N,137nm,17.9s,MS3.9						
GTA				LR	LR		
	comp=E,103nm,15.6s,MS3.9						
GTA				LR	LR		
	comp=Z,138nm,14.1s,MS3.9						
JOW	**Kunigami**	**39.20**	**47**	P	**P**	**11 41 12.8**	**-1.8**
	comp=Z,7.4nm,0.6s,mb4.6,baz=212,slow=9.5,SNR=3.8						
HHC	**Hu-ho-hao-te**	**41.63**	**16**	*eP*	**P**	**11 41 35.0**	**+0.5**
HHC				XP	sP	11 41 44.8	-7.5
HHC				PP	PP	11 43 12.5	-1.6
HHC				PCP	PcP	11 43 29.5	-2.0
HHC				S	**S**	**11 47 47.3**	**-0.2**
HHC				SCS	ScS	11 51 32.8	+1.2
HHC				AMB	AMB		
	comp=Z,13nm,0.5s,mb4.8						
HHC				AMB	AMB		
	comp=Z,96nm,7.7s						
HHC				LR	LR		
	comp=N,226nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=E,207nm,14.9s,MS4.3						
HHC				LR	LR		
	comp=Z,179nm,17.8s,MS4.0						
WRA	**Warramunga Arr**	**41.83**	**122**	P	**P**	**11 41 35.9**	**-0.4**
	comp=Z,1.7nm,0.7s,mb3.8,baz=299,slow=9.0,SNR=16						
WRAB	**Tennant Creek**	**41.83**	**122**	*eP*	**P**	**11 41 37.1**	**+0.7**
WRAB				epP	pP	11 41 44.2	-4.6
WB2	**Warramunga Arr**	**41.84**	**122**	*eP*	**P**	**11 41 36.5**	**0.0**
BJT	**Baijiatuau**	**42.37**	**22**	*eP*	**P**	**11 41 41.7**	**+1.1**
	comp=Z,12nm,0.7s,mb4.6						
BJI	**Beijing**	**42.39**	**22**	*eP*	**P**	**11 41 41.8**	**+1.0**
BJI				AMB	AMB		
	comp=Z,18nm,0.7s,mb4.8						
ASPA	**Alice Springs**	**43.18**	**127**	*eP*	**P**	**11 41 48.0**	**+0.5**
ASAR	**Alice Springs**	**43.18**	**127**	P	**P**	**11 41 47.9**	**+0.4**
	comp=Z,2.0nm,0.8s,mb3.9,baz=297,slow=7.4,SNR=12						
WMQ	**Urumqi**	**43.42**	**350**	*eP*	**P**	**11 41 50.3**	**+1.1**
WMQ				AP	pP	11 41 57.5	-4.0
WMQ				*eS*	**S**	**11 48 16.5**	**+2.8**
WMQ				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
WMQ				AMB	AMB		
	comp=Z,96nm,3.6s						
WMQ				LR	LR		
	comp=N,227nm,25.2s,MS4.2						
WMQ				LR	LR		
	comp=E,354nm,24.8s,MS4.2						
WMQ				LR	LR		
	comp=Z,176nm,21.0s,MS3.9						
AAK	**Ala-Archa**	**46.18**	**337**	*eP*	**P**	**11 42 10.6**	**-0.7**
	comp=Z,5.8nm,1.3s,mb4.3						
SONM	**Songino Array**	**47.23**	**8**	P	**P**	**11 42 19.8**	**+0.4**
	comp=Z,6.6nm,0.6s,mb4.8,baz=190,slow=9.3,SNR=37						
SONM				PcP	PcP	11 43 51.0	+0.4
	comp=Z,2.2nm,0.7s,baz=185,slow=4.0,SNR=8.0						
SONM				LR	LR	12 04 56.1	
	comp=Z,168nm,18.3s,MS4.0,baz=81,slow=40						
ULN	**Ulaanbaatar**	**47.35**	**9**	*eP*	**P**	**11 42 19.6**	**-0.8**
	comp=Z,5.8nm,0.8s,mb4.6						
MKAR	**Makanchi Array**	**47.40**	**346**	P	**P**	**11 42 20.8**	**0.0**
	comp=Z,4.7nm,0.7s,mb4.5,baz=158,slow=8.5,SNR=29						
CN2	**Changchun**	**49.34**	**27**	*eP*	**P**	**11 42 32.5**	**-3.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0						
CN2				AMB	AMB		
	comp=Z,170nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,8.0s						
CN2				LR	LR		
	comp=E,200nm,8.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s,MS4.3						
MJAR	**Matsushiro Arr**	**51.66**	**42**	LR	LR	12 05 09.2	
	comp=Z,41nm,19.1s,MS3.5,baz=215,slow=36						
HIA	**Hailar**	**51.70**	**19**	*eP*	**P**	**11 42 53.1**	**-0.6**
	comp=Z,7.8nm,0.7s,mb4.8						
MDJ	**Mudanjiang**	**51.89**	**29**	P	**P**	**11 42 56.0**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,80nm,5.1s						
MDJ	**Mudanjiang**	**51.89**	**29**	P	**P**	**11 42 55.4**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.6						
KURK	**Kurchatov**	**51.95**	**345**	*eP*	**P**	**11 42 55.0**	**-0.5**
	comp=Z,7.1nm,1.1s,mb4.5						
OPO	**Ambohidratompo**	**53.03**	**246**	P	**P**	**11 43 03.7**	**-0.3**
	comp=Z,2.3nm,0.9s,mb4.1,baz=72,slow=7.6,SNR=2.7						
STKA	**Stephens Creek**	**53.15**	**132**	P	**P**	**11 43 05.0**	**+0.2**
	comp=Z,3.7nm,0.8s,mb4.4,baz=278,slow=7.7,SNR=9.0						
STKA	**Stephens Creek**	**53.15**	**132**	*eP*	**P**	**11 43 05.2**	**+0.5**
ZAL	**Zalesovo**	**53.70**	**351**	P	**P**	**11 43 07.8**	**-0.7**
	comp=Z,4.5nm,0.5s,mb4.7,baz=308,slow=6.3,SNR=22						
BVAR	**Borovoye Array**	**56.42**	**341**	P	**P**	**11 43 26.7**	**-1.5**
	comp=Z,2.6nm,0.7s,mb4.3,baz=149,slow=8.6,SNR=16						
CHKZ	**Chkalovo**	**56.90**	**341**	*eP*	**P**	**11 43 30.4**	**-1.2**
CHKZ				epP	pP	11 43 37.4	-7.1
ASAJ	**Asahikawa**	**58.66**	**37**	LR	LR	12 07 57.6	
	comp=Z,63nm,19.4s,MS3.8,baz=153,slow=35						
MA2	**Magadan**	**71.37**	**26**	P	**P**	**11 45 05.8**	**-0.2**
FINES	**FINESS Array B**	**80.19**	**332**	P	**P**	**11 45 55.1**	**-0.8**
	comp=Z,0.6nm,0.5s,mb3.8,baz=135,slow=8.1,SNR=6.5						
ARCES	**ARCESS Array B**	**82.71**	**340**	P	**P**	**11 46 09.0**	**+0.1**
	comp=Z,3.8nm,0.9s,mb4.4,baz=45,slow=3.4,SNR=6.1						
GERES	**GERESS Array B**	**85.02**	**319**	P	**P**	**11 46 21.7**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.9,baz=112,slow=7.2,SNR=4.3						
NB2	**NORSAR Subarra**	**87.19**	**331**	P	**P**	**11 46 31.3**	**-0.1**
	comp=Z,1.7nm,0.8s,mb4.3,baz=96,slow=4.8						
NOA	**NORSAR Array B**	**87.19**	**331**	P	**P**	**11 46 31.8**	**+0.4**
	comp=Z,1.3nm,0.7s,mb4.2,baz=95,slow=4.9,SNR=5.8						
DAVOX	**Davos**	**87.50**	**317**	P	**P**	**11 46 34.1**	**+0.9**
	baz=144,slow=8.7						
TXAR	**Lajitas Array**	**143.68**	**32**	PKP	PKPdf	11 53 19.9	+0.2
	comp=Z,0.4nm,0.7s,baz=24,slow=2.5,SNR=5.4						
LRAL	**Lakeview Retre**	**145.82**	**7**	*e*PKPdf	PKPdf	11 53 25.1	+1.8

CASC 31 12:18:06.2±1.0, **13.35N**×**90.39W, h24**km±5km, **MD3.7, ML3.5, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.82**	**356**	*eP*	Pb	12 18 21.0	-0.7
IXG				*eS*	Sb	12 18 33.4	+1.0
IXG				AML	AML	12 18 35.7	
	comp=N,3μm,0.3s						
SBLS	**San Blas**	**0.89**	**57**	*eP*	Pb	12 18 23.0	+0.1
SBLS				*eS*	Sb	12 18 35.6	+1.2
RTR	**El Retiro**	**0.91**	**53**	*eP*	Pb	12 18 23.2	+0.1
RTR				*eS*	Sb	12 18 36.2	+1.4
SNJE	**San Jose**	**0.92**	**56**	*eP*	Pb	12 18 23.4	0.0
SNJE				*eS*	Sb	12 18 36.4	+1.2
RBDL	**Robledal**	**1.02**	**42**	*eP*	Pb	12 18 25.1	0.0
RBDL				*eS*	Sb	12 18 39.5	+1.4
BOQS	**Boqueron**	**1.15**	**70**	*eP*	Pn	12 18 27.4	+0.5
BOQS				*eS*	Sb	12 18 42.4	+0.7
LFRS	**El Faro**	**1.32**	**78**	*eP*	Pn	12 18 29.3	-0.1
LFRS				*eS*	Sn	12 18 47.5	+1.1
LCBS	**La Ceiba**	**1.41**	**77**	*eP*	Pn	12 18 30.0	-0.7
LCBS				*eS*	Sn	12 18 49.1	+0.5
JAT	**Jato**	**1.55**	**309**	*eP*	Pn	12 18 30.5	-2.2
JAT				*eS*	Sn	12 18 52.6	+0.4
JAT				AML	AML	12 18 54.1	
	comp=N,619nm,0.2s						

*IDC **31** 12:20:30.0±2.0, 0.39N×96.85E, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, MS3.8/1, Ms1 3.8/1, ms1mx3.1/27, Error ellipse: s-maj=94.8km s-min=17.4km az=56.0*

*NEIC **31** 12:20:35.0±0.7, 0.57N×97.08E, h30km, mb4.4/3, Error ellipse: s-maj=18.9km s-min=10.0km az=61.0*

ISC 31 12:20:33.6±0.9, **0.6N**±0.1×**97.2E**±0.1, **h33**km, **n16, σ0**^{2}**96/16, mb4.1/11, MS3.7/1, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.79**	**37**	*e*Pn	**Pn**	**12 21 59.9**	**+0.3**
KKM	**Kota Kinabalu**	**19.76**	**74**	P	**P**	**12 25 04.7**	**+0.9**
AAP	**Anini-y**	**26.48**	**68**	*eP*	**P**	**12 26 08.0**	**-2.1**
BOAC	**Boac**	**27.56**	**61**	*eP*	**P**	**12 26 24.8**	**+4.8**
ENH	**Enshi**	**31.72**	**21**	*eP*	**P**	**12 26 56.0**	**-0.9**
	12nm,1.2s,mb4.6						
FITZ	**Fitzroy Crossi**	**33.63**	**125**	P	**P**	**12 27 13.5**	**0.0**
	5.7nm,1.0s,mb4.4,baz=308,slow=2.6,SNR=3.8						
WRA	**Warramunga Arr**	**41.77**	**121**	P	**P**	**12 28 22.3**	**+0.3**
	1.1nm,0.8s,mb3.6,baz=300,slow=9.2,SNR=7.0						
WRAB	**Tennant Creek**	**41.78**	**121**	*eP*	**P**	**12 28 21.5**	**-0.5**
	8.3nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**43.09**	**127**	P	**P**	**12 28 33.6**	**+1.0**
	0.8nm,0.9s,mb3.4,baz=304,slow=8.3,SNR=6.4						
ASAR				LR	LR	12 49 56.0	
	comp=Z,98nm,18.5s,MS3.7,baz=226,slow=41						
SONM	**Songino Array**	**47.69**	**8**	P	**P**	**12 29 10.6**	**+1.6**
	1.8nm,1.1s,mb4.0,baz=153,slow=8.3,SNR=5.7						
MKAR	**Makanchi Array**	**47.78**	**346**	P	**P**	**12 29 10.6**	**+0.8**
	2.4nm,0.6s,mb4.4,baz=157,slow=8.0,SNR=31						
STKA	**Stephens Creek**	**53.01**	**132**	P	**P**	**12 29 49.4**	**-0.4**
	0.8nm,0.3s,mb4.1,baz=327,slow=16,SNR=2.8						
ZAL	**Zalesovo**	**54.10**	**351**	P	**P**	**12 29 57.6**	**+0.1**
	2.0nm,0.4s,mb4.4,baz=326,slow=5.5,SNR=7.7						
CHKZ	**Chkalovo**	**57.25**	**342**	*eP*	**P**	**12 30 18.4**	**-1.8**
	1.7nm,0.7s,mb4.2						
FINES	**FINESS Array B**	**80.48**	**333**	P	**P**	**12 32 43.9**	**+0.3**
	0.4nm,0.5s,mb3.6,baz=80,slow=8.5,SNR=2.4						
FINES	**FINESS Array B**	**80.48**	**333**	P	**P**	**12 32 43.9**	**+0.2**

*JMA **31** 12:20:41.9±0.2, 32.34N×138.06E, h407km, M3.4*

*MOS **31** 12:20:43.3±0.6, 32.24N×137.69E, h367km, mb3.9/2, Error ellipse: s-maj=33.2km s-min=11.9km az=91.0*

*NEIC **31** 12:20:44.9±1.2, 32.26N×137.83E, h362km±8km, mb3.8/4, Error ellipse: s-maj=18.1km s-min=14.7km az=164.0*

*IDC **31** 12:20:45.1±0.8, 32.16N×137.84E, h369km±8km, mb3.1/8, mb1 3.3/10, mb1mx3.2/21, mbtmp3.8/10, Error ellipse: s-maj=21.6km s-min=12.5km az=71.0*

ISC 31 12:20:44.6±0.5, **32.35N**±0.07×**137.96E**±0.07, **h372**km±3km, **n42, σ1**^{2}**10/53, mb3.4/11, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK01	**Tokai 1**	**1.45**	**348**	P	**P**	**12 21 35.6**	**+0.5**
TK02	**Tokai 2**	**1.60**	**354**	P	**P**	**12 21 36.7**	**+0.8**
JHJ	**Hachijo jima 2**	**1.72**	**63**	P	**P**	**12 21 37.5**	**+0.9**
	17nm,0.3s,baz=74,slow=20,SNR=24						
JHJ				S	**S**	**12 22 21.1**	**+3.8**
	48nm,0.3s,baz=87,slow=21,SNR=8.2						
JHJ2	**Mitsune**	**1.74**	**64**	P	**P**	**12 21 37.0**	**+0.3**
JHJ2				S	**S**	**12 22 20.5**	**+3.0**
JWZ	**Kozaga**	**2.23**	**303**	P	**P**	**12 21 39.9**	**-0.1**
JIE	**Ise**	**2.29**	**333**	P	**P**	**12 21 41.0**	**+0.6**
JIE				*eS*	**S**	**12 22 24.7**	**+0.5**
JIM2	**Oshima 3**	**2.66**	**27**	P	**P**	**12 21 43.0**	**-0.2**
JIM2				*eS*	**S**	**12 22 30.4**	**+1.1**
JOD2	**Odawara 2**	**3.05**	**18**	P	**P**	**12 21 46.4**	**-0.1**
JOD2				S	**S**	**12 22 35.7**	**+0.6**
JYN	**Shimob**	**3.18**	**9**	P	**P**	**12 21 48.5**	**+0.9**
JAI	**Aioi**	**3.28**	**297**	P	**P**	**12 21 48.6**	**0.0**
BSO1	**Boso 1**	**3.41**	**47**	P	**P**	**12 21 48.0**	**-1.8**
BSO1				*eS*	**S**	**12 22 38.0**	**-2.9**
JWT	**Wachi**	**3.62**	**325**	P	**P**	**12 21 52.0**	**+0.3**
JMN	**Monobe**	**3.69**	**293**	P	**P**	**12 21 52.8**	**+0.4**
JRY	**Ryogami san**	**3.74**	**12**	P	**P**	**12 21 53.0**	**+0.1**
JRY				S	**S**	**12 22 45.9**	**-0.6**
MJAR	**Matsushiro Arr**	**4.19**	**3**	P	**P**	**12 21 57.0**	**-0.4**
	3.7nm,0.3s,baz=168,slow=9.3,SNR=26						
MAJO	**Matsushiro**	**4.19**	**3**	*eP*	**P**	**12 21 56.9**	**-0.4**
MAT	**Matsushiro**	**4.19**	**3**	*eP*	**P**	**12 21 57.0**	**-0.3**
MAT				*eS*	**S**	**12 22 52.2**	**-2.4**
MAT	**Matsushiro**	**4.19**	**3**	P	**P**	**12 21 56.7**	**-0.6**
MAT				S	**S**	**12 22 51.9**	**-2.5**
JTO	**Tosashimizu**	**4.38**	**278**	P	**P**	**12 21 59.3**	**-0.1**
CBIJ	**Chichi jima**	**6.39**	**144**	P	**P**	**12 22 19.4**	**-1.9**
	14nm,0.3s,baz=270,slow=24,SNR=12						
CBIJ				S	**S**	**12 23 31.8**	**-5.6**
	19nm,0.3s,baz=278,slow=23,SNR=7.1						
CBIJ	**Chichi jima**	**6.39**	**144**	P	**P**	**12 22 18.5**	**-2.8**
JMK	**Ichinoseki**	**7.10**	**21**	P	**P**	**12 22 27.4**	**-2.1**
JMK				S	**S**	**12 23 48.5**	**-3.5**
INCN	**Inchon**	**10.62**	**302**	P	**P**	**12 23 11.0**	**+0.1**
YSS	**Yuzh-Sakhalins**	**15.04**	**13**	*eP*	**P**	**12 24 02.4**	**+1.5**
YSS				pmax	pmax		
	comp=Z,14nm,0.4s						
YSS	**Yuzh-Sakhalins**	**15.04**	**13**	*eP*	**P**	**12 24 02.4**	**+1.5**
	comp=Z,14nm,0.4s						
HIA	**Hailar**	**21.72**	**326**	P	**P**	**12 25 06.0**	**-1.5**
PLP	**Palo**	**24.24**	**212**	*i* P	**P**	**12 25 37.8**	**+6.8**
SONM	**Songino Array**	**28.43**	**312**	P	**P**	**12 26 07.7**	**-0.5**
	comp=Z,0.6nm,0.6s,mb3.0,baz=112,slow=7.0,SNR=6.9						
ZAK	**Zakamensk**	**31.27**	**315**	*eP*	**P**	**12 26 32.4**	**-0.4**
BILL	**Bilibino**	**39.31**	**16**	*eP*	**P**	**12 27 40.9**	**+0.9**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.7						
BILL	**Bilibino**	**39.31**	**16**	*eP*	**P**	**12 27 40.9**	**+0.9**
	comp=Z,7.0nm,1.3s,mb3.7						
MKAR	**Makanchi Array**	**44.37**	**306**	P	**P**	**12 28 20.1**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.1,baz=89,slow=9.2,SNR=14						
WRA	**Warramunga Arr**	**52.11**	**184**	P	**P**	**12 29 18.7**	**-1.4**
	comp=Z,0.2nm,0.3s,mb2.9,baz=0.3,slow=7.7,SNR=13						
INK	**Inuvik**	**59.84**	**25**	*eP*	**P**	**12 30 13.4**	**-0.1**
	comp=Z,0.8nm,0.5s,mb3.4						
RES	**Resolute Bay**	**67.82**	**13**	*eP*	**P**	**12 31 04.5**	**0.0**
RES				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
RES	**Resolute Bay**	**67.82**	**13**	*eP*	**P**	**12 31 04.5**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.8						
YKA	**Yellowknife Ar**	**69.28**	**28**	P	**P**	**12 31 13.9**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.4,baz=301,slow=6.2,SNR=9.9						
FINES	**FINESS Array B**	**71.62**	**332**	P	**P**	**12 31 27.2**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.5,baz=63,slow=6.2,SNR=4.9						
NOA	**NORSAR Array B**	**77.37**	**336**	P	**P**	**12 32 00.0**	**-0.1**
	comp=Z,0.3nm,0.6s,mb3.2,baz=48,slow=9.1,SNR=2.9						
PDAR	**Pinedale Array**	**83.00**	**43**	P	**P**	**12 32 31.6**	**+1.7**
	comp=Z,0.4nm,0.6s,mb3.5,slow=1.5,SNR=4.3						
CLL	**Collm**	**83.68**	**329**	P	**P**	**12 32 36.0**	**+2.9**
TXAR	**Lajitas Array**	**95.26**	**50**	P	**P**	**12 33 30.1**	**+2.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=309,slow=2.4,SNR=7.0						

*MAN **31** 12:25:31.8, 9.67N×124.27E, h12km, mb5.4, ML4.4, MS4.7*

MAN Sierra Bollones Bohol Intensity V Jagna Duero Ubay Bohol Mambajao Camiguin Mandaue City Intensity IV Tagbilaran Bilar Tubigon Corella Bohol Cagayan de Oro City - Intensity III Lapu-Lapu City - Intensity II.

*MOS **31** 12:25:32.2±1.1, 9.68N×124.51E, h33km, mb5.1/24, Error ellipse: s-maj=16.9km s-min=7.6km az=111.2*

*BJI **31** 12:25:33.1, 9.45N×124.40E, h48km, mB5.0, mb4.7, Ms4.4, Msz4.2*

*NEIC **31** 12:25:34.3±0.3, 9.61N×124.38E, h35km, mb4.9/30, Error ellipse: s-maj=8.2km s-min=5.8km az=77.0*

NEIC Felt [V PIVS] at Sierra Bullones; [IV PIVS] at Duero, Jagna and Ubay; [III PIVS] at Bilar, Corella, Tagbilaran and Tubigon. Felt [IV PIVS] at Mambajao, Camiguin. Felt [IV PIVS] at Mandaue City and [II PIVS] at Lapu-Lapu City, Cebu. Also felt [III PIVS] at Cagayan de Oro, Mindanao and [I PIVS] at Dumaguete, Negros.

*HRVD **31** 12:25:34.3±0.3, 9.65N×124.29E, h20km±1km, MW4.9/63, Centroid moment Tensor Solution. LP body waves: s21,c26;Mantle waves: s63,c100; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.57±.18; $M_{\theta\theta}$1.02±.11; $M_{\phi\phi}$-1.59±.18; $M_{r\theta}$-0.58±.24; $M_{\theta\phi}$-2.87±.10; $M_{\phi r}$-0.24±.28; Best double couple: $M_0$3.213×10^{16} NP1:φ$_b$348°,δ

LUBP Lubang 5.68 316 *e*P **P 12 26 58.5 +1.0**
BATP Bataraza 6.48 263 *e*P **P 12 27 07.3 -1.6**
BATP Bataraza 6.48 263 *e*P **P 12 27 07.0 -1.8**
BALP Baler 6.61 336 *e*P **P 12 27 14.9 +4.3**
BALP Baler 6.61 336 *e*P **P 12 27 12.0 +1.4**
CAUP Cauayan 7.63 342 *e*P **P 12 27 28.5 +3.6**
CAUP Cauayan 7.63 342 *e*P **P 12 27 27.8 +2.9**
BOLP Bolinao 7.94 328 *e*P **P 12 27 30.6 +1.5**
APYP Conner 8.68 340 *e*P **P 12 27 44.4 +5.0**
KKM Kota Kinabalu 8.79 246 *e*Pn **P 12 27 39.1 -1.8**
KKM *e*Sn **S 12 29 08.7 -11**
QIZ Qiongzhong 16.82 305 P **P 12 29 28.5 +0.7**
QIZ AP 12 29 36.3
QIZ S **S 12 32 34.0 +1.6**
QIZ LR LR
comp=E,909nm,16.2s
QIZ LR LR
comp=Z,1µm,17.3s
QIZ Qiongzhong 16.82 305 *e*P **P 12 29 28.9 +1.1**
comp=Z,71nm,1.4s
GZH Guangzhou 16.98 323 P **P 12 29 33.8 +3.9**
JOW Kunigami 17.49 12 P **P 12 29 37.9 +1.7**
comp=Z,2.7nm,0.3s,baz=199,slow=12,SNR=8.4
JOW LR LR 12 35 30.2
comp=Z,392nm,20.4s,baz=125,slow=34
SSE Sheshan 21.53 353 P **P 12 30 23.5 +2.1**
SSE AP 12 30 31.8
SSE AMB AMB
comp=Z,20nm,0.6s,mb4.7
SSE AMB AMB
comp=Z,43nm,4.0s
SSE LR LR
comp=N,339nm,17.7s,MS4.0
SSE LR LR
comp=E,380nm,18.1s,MS4.0
SSE LR LR
comp=Z,282nm,16.5s,MS3.8
WHN Wuhan 22.76 337 *e*P **P 12 30 35.0 +1.3**
NJ2 Nanjing 22.85 348 *e*P **P 12 30 40.0 +5.4**
NJ2 AP 12 30 49.3
NJ2 XP 12 30 53.3
NJ2 XS 12 35 04.0
NJ2 AMB AMB
comp=Z,70nm,1.0s,mb5.0
NJ2 AMB AMB
comp=Z,1µm,3.8s
NJ2 LR LR
comp=N,1µm,19.4s,MS4.6
NJ2 LR LR
comp=E,2µm,21.1s,MS4.6
NJ2 LR LR
comp=Z,450nm,22.2s,MS3.9
GYA Guiyang 23.62 317 P **P 12 30 43.3 +1.1**
GYA AP 12 30 50.0
GYA PP PP 12 31 17.0 +1.7
GYA S **S 12 34 55.0 +4.2**
GYA AMB AMB
comp=Z,10.0nm,1.2s,mb4.1
GYA AMB AMB
comp=Z,60nm,5.4s
GYA LR LR
comp=N,830nm,18.5s,MS4.3
GYA LR LR
comp=E,470nm,16.4s,MS4.3
GYA LR LR
comp=Z,610nm,17.0s,MS4.1
KULM Kulim 23.85 261 *e*P **P 12 30 44.5 0.0**
CBIJ Chichi jima 24.20 42 P **P 12 30 49.2 +1.4**
comp=Z,85nm,0.9s,mb5.2,baz=330,slow=14,SNR=2.7
CBIJ LR LR 12 38 15.4
comp=Z,200nm,21.5s,MS3.6,baz=210,slow=31
ENH Enshi 24.74 328 *e*P **P 12 30 52.1 -0.9**
comp=Z,24nm,0.9s,mb4.7
KMI Kunming 25.63 310 P **P 12 31 02.3 +0.8**
KMI S **S 12 35 29.5 +4.7**
KMI AMB AMB
comp=Z,14nm,0.9s,mb4.5
KMI LR LR
comp=N,423nm,14.9s,MS4.1
KMI LR LR
comp=E,230nm,16.8s,MS4.1
KMI LR LR
comp=Z,351nm,17.4s,MS3.9
CM31 Chiang Mai Arr 26.09 292 *e*P **P 12 31 05.9 +0.1**
comp=Z,54nm,1.2s,mb5.0
TIA Tai'an 27.23 347 *e*P **P 12 31 13.8 -2.3**
FITZ Fitzroy Crossi 27.62 177 P **P 12 31 19.9 +0.1**
comp=Z,17nm,0.8s,mb4.7,baz=5.0,slow=9.7,SNR=9.8
XAN Xi'an 28.08 332 P **P 12 31 23.0 -0.9**
XAN AMB AMB
comp=Z,15nm,1.1s,mb4.5
CD2 Chengdu 28.51 321 P **P 12 31 27.5 -0.2**
CD2 AMB AMB
comp=Z,14nm,1.0s,mb4.7
CD2 LR LR
comp=E,530nm,19.2s
CD2 LR LR
comp=Z,570nm,20.4s,MS4.2
MAJO Matsushiro 29.58 23 *e*P **P 12 31 31.9 -5.3**
MAJO pmax pmax
comp=Z,19nm,1.2s,mb4.7
MAJO Matsushiro 29.58 23 *e*P **P 12 31 31.9 -5.3**
comp=Z,19nm,1.2s,mb4.7
MJAR Matsushiro Arr 29.58 23 P **P 12 31 35.3 -1.9**
comp=Z,2.7nm,0.8s,mb4.0,baz=204,slow=8.5,SNR=4.9
MJAR LR LR 12 41 12.3
comp=Z,214nm,20.1s,MS3.8,baz=200,slow=32
MBWA Marble Bar 30.95 188 P **P 12 31 45.7 -3.9**
comp=Z,17nm,1.2s,mb4.8
WRAB Tennant Creek 31.02 161 *e*P **P 12 31 47.3 -2.9**
WRAB pmax pmax
comp=Z,13nm,1.1s,mb4.7
WRAB Tennant Creek 31.02 161 *e*P **P 12 31 47.3 -2.9**
comp=Z,13nm,1.1s,mb4.7
WRA Warramunga Arr 31.03 161 P **P 12 31 47.6 -2.6**
comp=Z,1.3nm,0.6s,mb4.0,baz=342,slow=9.3,SNR=11
BJT Baijiatuau 31.09 348 *e*P **P 12 31 50.4 -0.2**
BJT pmax pmax
comp=Z,39nm,1.0s
BJT Baijiatuau 31.09 348 *e*P **P 12 31 50.4 -0.1**
comp=Z,39nm,1.0s,mb5.2
BJI Beijing 31.11 348 *e*P **P 12 31 50.5 -0.3**
BJI S **S 12 36 57.5 +5.0**
BJI AMB AMB
comp=Z,14nm,1.1s,mb4.7
BJI LR LR
comp=N,167nm,21.3s,MS4.2
BJI LR LR
comp=E,538nm,23.8s,MS4.2
BJI LR LR
comp=Z,262nm,21.4s,MS3.9
LZH Lanzhou 32.22 328 ⇑P **P 12 32 01.5 +1.0**
LZH AMB AMB
comp=Z,41nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,156nm,4.6s
LZH LR LR
comp=N,1µm,17.7s
LZH LR LR
comp=Z,2µm,18.9s,MS4.8
HHC Hu-ho-hao-te 33.05 342 *e*P **P 12 32 11.5 +3.8**
HHC AP pP 12 32 22.3 +4.1
HHC XP sP 12 32 25.5 +2.5
HHC PCP PcP 12 34 51.5 +0.7
HHC S **S 12 37 27.8 +4.9**
HHC XS 12 37 45.5
HHC AMB AMB
comp=Z,18nm,0.7s,mb5.1
HHC AMB AMB
comp=Z,106nm,3.0s
HHC LR LR
comp=N,506nm,22.0s,MS4.3
HHC LR LR
comp=E,438nm,19.0s,MS4.3
HHC LR LR
comp=Z,444nm,22.6s,MS4.1
ASAR Alice Springs 34.42 164 P **P 12 32 18.6 -1.1**
comp=Z,2.9nm,0.7s,mb4.3,baz=344,slow=7.1,SNR=28
MDJ Mudanjiang 35.13 7 P **P 12 32 25.5 0.0**
MDJ AP pP 12 32 34.8 -1.2
MDJ XP sP 12 32 39.0 -1.8
MDJ PP PP 12 33 43.5 -1.3
MDJ PCP PcP 12 34 52.5 -4.2
MDJ S **S 12 37 53.0 -2.0**
MDJ SCP 12 38 38.0
MDJ PCS 12 38 44.3
MDJ SCS ScS 12 42 38.5 -2.1
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.4
MDJ AMB AMB
comp=Z,115nm,5.6s
MDJ LR LR
comp=N,101nm,23.0s,MS3.9
MDJ LR LR
comp=E,216nm,26.9s,MS3.9
MDJ LR LR
comp=Z,158nm,35.2s
MDJ Mudanjiang 35.13 7 *e*P **P 12 32 24.4 -1.1**
comp=Z,16nm,1.1s,mb4.9
GTA Gaotai 36.82 328 *e*P **P 12 32 40.5 +0.6**
GTA AP pP 12 32 50.5 +0.1
GTA XP sP 12 32 55.0 -0.1
GTA PP PP 12 34 08.0 +2.1
GTA S **S 12 38 24.5 +3.4**
GTA XS 12 38 42.5
GTA AMB AMB
comp=Z,9.0nm,1.3s,mb4.4
GTA AMB AMB
comp=Z,66nm,4.2s
GTA LR LR
comp=N,500nm,20.5s,MS4.4
GTA LR LR
comp=E,353nm,18.6s,MS4.4
GTA LR LR
comp=Z,592nm,18.3s,MS4.4
LSA Lhasa 36.84 307 P **P 12 32 42.0 +1.9**
LSA Lhasa 36.84 307 *e*P **P 12 32 41.6 +1.5**
LSA pmax pmax
comp=Z,13nm,0.7s,mb4.9
LSA Lhasa 36.84 307 *e*P **P 12 32 41.5 +1.4**
comp=Z,13nm,0.7s,mb4.9
ASAJ Asahikawa 37.82 22 P **P 12 32 48.6 +0.4**
comp=Z,19nm,0.9s,mb4.8,baz=247,slow=14,SNR=5.0
HIA Hailar 39.66 355 *e*P **P 12 33 04.0 +0.5**
HIA pmax pmax
comp=Z,25nm,1.1s
HIA Hailar 39.66 355 *e*P **P 12 33 04.0 +0.5**
comp=Z,25nm,1.1s,mb4.9
KLR Kul'dur 39.93 8 *e*P **P 12 33 00.0 -5.7**
JIRN Jiri 40.09 302 *e*P **P 12 33 08.2 +0.9**
comp=Z,131nm,1.1s,mb5.6
GUN Gumba 40.43 302 *e*P **P 12 33 10.0 -0.1**
comp=Z,172nm,1.1s,mb5.7
PKI Pulchoki 40.72 301 *e*P **P 12 33 12.7 +0.2**
comp=Z,55nm,1.1s,mb5.1
PKI Pulchoki 40.72 301 *e*P **P 12 33 12.7 +0.2**
PKI pmax pmax
comp=Z,27nm,1.1s,mb4.8
ULN Ulaanbaatar 40.77 342 *e*P **P 12 33 12.7 0.0**
ULN pmax pmax
comp=Z,16nm,1.1s,mb4.6
ULN Ulaanbaatar 40.77 342 *e*P **P 12 33 12.7 0.0**
comp=Z,16nm,1.1s,mb4.5
KKN Kakani 40.90 302 *e*P **P 12 33 14.3 +0.4**
comp=Z,70nm,1.1s,mb5.2
KKN Kakani 40.90 302 *e*P **P 12 33 14.3 +0.4**
KKN pmax pmax
comp=Z,35nm,1.1s,mb4.9
SONM Songino Array 40.95 342 P **P 12 33 14.4 +0.3**
comp=Z,2.1nm,0.8s,mb3.8,baz=157,slow=7.1,SNR=13
SONM PcP PcP 12 35 15.7 +1.1
comp=Z,3.7nm,1.1s,baz=161,slow=5.7,SNR=4.3
SONM LR LR 12 51 27.9
comp=Z,384nm,21.6s,MS4.2,baz=155,slow=38
DMN Daman 40.99 301 *e*P **P 12 33 15.0 +0.3**
comp=Z,78nm,1.1s,mb5.3
GKN Gorkha 41.50 302 *e*P **P 12 33 19.0 0.0**
comp=Z,57nm,1.2s,mb5.1
KOLN Koldanda 42.31 301 *e*P **P 12 33 26.0 +0.4**
comp=Z,54nm,0.9s,mb5.2
NWAO Narrogin (SRO) 42.88 189 P **P 12 33 31.9 +1.6**
comp=Z,12nm,0.9s,mb4.6,baz=28,slow=15,SNR=3.3
ZAK Zakamensk 44.17 341 *e*P **P 12 33 39.9 -0.5**
ZAK *e* 12 35 26.8
ZAK pmax pmax
comp=Z,3.0nm,1.7s,mb3.8
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
STKA Stephens Creek 44.49 159 P **P 12 33 44.1 +0.9**
comp=Z,8.5nm,1.0s,mb4.4,baz=331,slow=8.5,SNR=9.2
STKA Stephens Creek 44.49 159 *e*P **P 12 33 40.9 -2.3**
HYB Hyderabad 45.06 285 *e*P **P 12 33 49.0 +1.0**
HYB Hyderabad 45.06 285 *i* P **P 12 33 49.0 +1.0**
TLY Talaya 45.18 342 *e*P **P 12 33 52.8 +4.3**
TLY *e* 12 40 42.3
TLY pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
TLY MLR MLR
comp=Z,261nm,20.0s,MS4.2
MOY Mondy 46.02 340 *e*P **P 12 33 55.8 +0.6**
WMQ Urumqi 46.54 324 *e*P **P 12 34 02.5 +3.2**
WMQ AP pP 12 34 12.0 +2.0
WMQ XP sP 12 34 15.0 +0.4
WMQ PCP PcP 12 35 37.0 +3.3
WMQ S **S 12 40 49.0 +4.5**
WMQ XS 12 41 06.0
WMQ AMB AMB
comp=Z,12nm,1.1s,mb4.7
WMQ AMB AMB
comp=Z,82nm,3.7s
WMQ LR LR
comp=N,660nm,21.4s,MS4.7
WMQ LR LR
comp=E,653nm,22.2s,MS4.7
WMQ LR LR
comp=Z,809nm,24.0s,MS4.6
DDI Dehra Dun 47.68 302 *e* **P 12 34 08.1 -0.5**
BOD Bodaibo 48.70 353 *e*P **P 12 34 14.3 -1.7**
BOD pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
MKAR Makanchi Array 51.36 324 P **P 12 34 36.4 -0.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=124,slow=7.7,SNR=18
MKAR LR LR 12 57 49.0
comp=Z,189nm,19.2s,MS4.1,baz=333,slow=38
YAK Yakutsk 52.42 3 *e*P **P 12 34 42.6 -1.7**
YAK pmax pmax
comp=Z,23nm,0.8s,mb5.2
YAK Yakutsk 52.42 3 *e*P **P 12 34 42.6 -1.7**
comp=Z,23nm,0.8s,mb5.2
ZAL Zalesovo 54.25 332 P **P 12 34 57.4 -0.6**
comp=Z,2.3nm,0.8s,mb4.1,baz=350,slow=6.5,SNR=11
ZAL LR LR 12 59 58.7
comp=Z,270nm,19.5s,MS4.3,baz=340,slow=38
AAK Ala-Archa 54.41 316 *i* P **P 12 34 59.4 +0.1**
AAK pmax pmax
comp=Z,10.0nm,1.5s,mb4.5
AAK MLR MLR
comp=Z,200nm,19.0s,MS4.2
AAK Ala-Archa 54.41 316 *e*P **P 12 34 59.2 -0.1**
comp=Z,17nm,1.4s,mb4.8
KURK Kurchatov 55.49 326 *e*P **P 12 35 06.6 -0.4**
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.1
KURK Kurchatov 55.49 326 *e*P **P 12 35 06.6 -0.4**
comp=Z,17nm,0.9s,mb5.1
NVS Novosibirsk 55.53 333 *e*P **P 12 35 05.5 -1.7**
NVS pmax pmax
comp=N,15nm,1.5s
NVS pmax pmax
comp=E,19nm,1.5s
NVS pmax pmax
comp=Z,24nm,1.5s,mb5.0
BVAR Borovoye Array 61.08 326 P **P 12 35 45.2 -0.8**
comp=Z,1.6nm,0.8s,mb4.2,baz=127,slow=7.4,SNR=8.4
CHKZ Chkalovo 61.23 327 *e*P **P 12 35 45.2 -1.8**
CHKZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
CHKZ Chkalovo 61.23 327 *e*P **P 12 35 45.2 -1.8**
comp=Z,6.3nm,1.0s,mb4.7
TIXI Tiksi 62.00 2 *e*P **P 12 35 49.5 -2.5**
TIXI pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,87nm,17.0s,MS4.0
BILL Bilibino 64.52 16 *i* P **P 12 36 05.5 -3.0**
BILL pmax pmax
comp=Z,7.0nm,1.6s,mb4.4
BILL MLR MLR
comp=Z,100nm,22.0s,MS4.0
SVE Sverdlovsk 67.69 328 *e*P **P 12 36 29.0 +0.1**
ARU Arti 68.68 327 *e*P **P 12 36 33.7 -1.3**
ARU pmax pmax
comp=Z,15nm,0.9s,mb4.9
ARU Arti 68.68 327 *e*P **P 12 36 33.7 -1.3**
comp=Z,15nm,0.9s,mb4.9
RAYN Ar Rayn 76.00 292 P **P 12 37 18.5 -0.6**
comp=Z,67nm,1.2s,SNR=14
KIV Kislovodsk 77.35 313 *e*P **P 12 37 26.6 +0.3**
KIV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
IMA Indian Mountai 77.99 24 *e*P **P 12 37 30.1 +0.7**
IMA pmax pmax
comp=Z,51nm,1.0s,mb5.4
IMA Indian Mountai 77.99 24 *e*P **P 12 37 30.1 +0.7**
comp=Z,51nm,1.0s,mb5.4
MCK McKinley 79.97 27 *e*P **P 12 37 38.9 -1.3**
MCK pmax pmax
comp=Z,13nm,1.0s,mb4.8
MCK McKinley 79.97 27 *e*P **P 12 37 38.9 -1.3**
comp=Z,13nm,1.0s,mb4.8
OBN Obninsk 80.86 324 P **P 12 37 48.0 +2.9**
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.2
ASF Jabal al Asfar 82.76 301 LR LR 13 22 16.6
comp=Z,68nm,18.4s,MS4.0,baz=167,slow=41
ARCES ARCESS Array B 84.09 340 P **P 12 38 01.1 -0.3**
comp=Z,4.5nm,0.9s,mb4.6,baz=56,slow=4.4,SNR=7.4
ARCES LR LR 13 19 50.4
comp=Z,73nm,18.1s,MS4.1,baz=53,slow=39
BRTR Keskin Array B 84.42 309 P **P 12 38 03.9 +0.1**
comp=Z,2.6nm,0.9s,mb4.3,baz=112,slow=6.7,SNR=5.3
KAF Kangasniemi 85.26 332 *e*p **P 12 38 08.4 +1.0**
comp=Z,4.3nm,0.8s,mb4.6,baz=51,slow=4.1
KAF Kangasniemi 85.26 332 *e*P **P 12 38 08.4 +1.0**
KAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
FINES FINESS Array B 85.51 332 P **P 12 38 08.4 -0.2**
comp=Z,2.7nm,0.8s,mb4.5,baz=63,slow=4.3,SNR=8.9
FINES LR LR 13 20 51.1
comp=Z,64nm,18.8s,MS4.0,baz=140,slow=39
INK Inuvik 85.56 21 *e*P **P 12 38 09.0 +0.3**
INK pmax pmax
comp=Z,29nm,1.0s
INK Inuvik 85.56 21 *e*P **P 12 38 09.0 +0.4**
comp=Z,29nm,1.0s,mb5.5
AKASG Malin Array Be 85.81 321 P **P 12 38 09.4 -0.9**
comp=Z,2.2nm,0.7s,mb4.5,baz=61,slow=5.8,SNR=6.0
KMBO Kilima Mbogo 87.29 268 *e*P **P 12 38 19.4 +1.0**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 87.29 268 P **P 12 38 19.8 +1.3**
comp=Z,1.9nm,0.4s,mb4.7,baz=42,slow=9.6,SNR=5.8
KMBO Kilima Mbogo 87.29 268 *e*P **P 12 38 19.4 +0.9**
comp=Z,7.5nm,1.0s,mb4.9
PPT Papeete 89.21 108 LR LR 13 10 22.6
comp=Z,82nm,20.2s,MS4.2,baz=251,slow=30
VNDA Vanda 89.58 172 LR LR 13 16 55.2
comp=Z,90nm,18.2s,MS4.2,baz=333,slow=34
HFS Hagfors 91.69 332 LR LR 13 23 35.9
comp=Z,200nm,21.6s,MS4.5,baz=123,slow=38
RES Resolute Bay 92.43 10 *e*P **P 12 38 40.3 -0.9**
RES pmax pmax
comp=Z,6.0nm,1.0s,mb4.9
RES Resolute Bay 92.43 10 *e*P **P 12 38 40.3 -0.8**
comp=Z,5.6nm,1.0s,mb4.8
NB2 NORSAR Subarra 92.44 333 P **P 12 38 40.9 -0.6**
comp=Z,2.5nm,1.1s,mb4.5,baz=62,slow=5.0
NB2 NORSAR Subarra 92.44 333 P **P 12 38 40.9 -0.6**
NB2 pmax pmax
comp=Z,3.0nm,1.1s,mb4.5
NOA NORSAR Array B 92.44 333 P **P 12 38 41.5 -0.1**
comp=Z,0.2nm,0.4s,mb3.8,baz=66,slow=2.9,SNR=5.3
NOA LR LR 13 23 27.7
comp=Z,164nm,21.1s,MS4.5,baz=145,slow=38
JMIC Jan Mayen 93.56 346 LR LR 13 23 27.4
comp=Z,72nm,21.0s,MS4.1,baz=72,slow=37
YKA Yellowknife Ar 95.09 24 P **P 12 38 54.2 +0.7**
YKA Yellowknife Ar 95.09 24 P **P 12 38 54.1 +0.6**
comp=Z,0.4nm,0.8s,mb3.9,baz=301,slow=4.2,SNR=6.9
GERES GERESS Array B 95.98 322 P **P 12 38 59.0 +1.1**
comp=Z,0.3nm,0.2s,mb4.3,baz=80,slow=8.1,SNR=4.0
TXAR Lajitas Array 119.68 48 PKP PKPdf 12 44 22.1 +1.8
comp=Z,0.8nm,1.0s,baz=45,slow=0.7,SNR=4.0
DBIC Dimbokro 126.82 286 PKP PKPdf 12 44 36.3 +1.7
comp=Z,3.2nm,0.9s,baz=128,slow=20,SNR=2.1
PLCA Paso Flores 146.37 159 PKPbc PKPbc 12 45 12.6 +1.8
comp=Z,2.4nm,0.8s,baz=242,slow=6.8,SNR=4.6

IDC ***31*** *12:33:11.3±1.7, 0.79N×97.34E, mb4.0/8, mb1 4.2/8, mb1mx3.9/21, mbtmp4.0/8, MS3.8/1, Ms1 3.8/1, ms1mx2.9/31, Error ellipse: s-maj=81.8km s-min=16.4km az=59.0*
NEIC ***31*** *12:33:16.4±0.8, 0.94N×97.69E, h30km, mb4.2/4, Error ellipse: s-maj=27.0km s-min=11.1km az=65.0*
ISC 31 12:33:14.2±0.9, 1.0N±0.1×97.7E±0.2, h30km, n16, σ1s05/15, mb4.1/11, MS3.9/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.23**	**35**	*e*Pn	**Pn**		**12 34 31.9**	**-0.7**
PALK	**Pallekele**	**18.03**	**291**	P	**P**		**12 37 17.3**	**-7.3**
	20nm,1.1s							
KKM	**Kota Kinabalu**	**19.19**	**74**	P	**P**		**12 37 34.4**	**-4.2**
FITZ	**Fitzroy Crossi**	**33.41**	**126**	P	**P**		**12 39 53.5**	**+0.8**
	5.6nm,1.1s,mb4.4,baz=252,slow=3.5,SNR=3.2							
NWAO	**Narrogin (SRO)**	**38.44**	**153**	P	**P**		**12 40 33.7**	**-1.5**
	56nm,1.4s,mb5.1,baz=3.1,slow=5.8,SNR=3.2							
NWAO	**Narrogin (SRO)**	**38.44**	**153**	P	**P**		**12 40 33.7**	**-1.5**
WRA	**Warramunga Arr**	**41.52**	**122**	P	**P**		**12 41 02.1**	**+1.2**
	0.8nm,0.8s,mb3.4,baz=304,slow=9.0,SNR=13							
WRAB	**Tennant Creek**	**41.52**	**122**	P	**P**		**12 41 00.2**	**-0.7**
	5.6nm,0.9s,mb4.2							
ASAR	**Alice Springs**	**42.88**	**127**	P	**P**		**12 41 13.8**	**+1.7**
	0.6nm,0.6s,mb3.5,baz=299,slow=7.9,SNR=8.1							
SONM	**Songino Array**	**47.30**	**8**	P	**P**		**12 41 48.5**	**+1.4**
	0.5nm,0.4s,mb3.8,baz=194,slow=8.8,SNR=6.7							
MKAR	**Makanchi Array**	**47.58**	**346**	P	**P**		**12 41 49.8**	**+0.5**
	1.3nm,0.5s,mb4.2,baz=160,slow=8.7,SNR=27							
CTAO	**Charters Tower**	**51.98**	**117**	P	**P**		**12 42 21.9**	**-1.4**
	15nm,1.2s,mb4.8							
KURK	**Kurchatov**	**52.14**	**345**	P	**P**		**12 42 23.8**	**-0.3**
	1.4nm,0.8s,mb3.9							
ZAL	**Zalesovo**	**53.86**	**351**	P	**P**		**12 42 36.1**	**-0.6**
	1.8nm,0.3s,mb4.4,baz=148,slow=3.2,SNR=4.6							
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**		**12 42 56.6**	**-0.2**
	0.5nm,0.7s,mb3.6,baz=124,slow=10,SNR=3.2							
SNAA	**Sanae**	**94.21**	**198**	LR	LR		13 22 56.4	
	comp=Z,44nm,19.9s,MS3.9,baz=202,slow=32							

IDC 31 12:41:47.8±2.9, 0.23N×97.65E, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=126.0km s-min=20.9km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.14**	**121**	P	P		12 49 33.2	-2.4
	0.7nm,0.7s,baz=301,slow=9.0,SNR=6.2							
ASAR	**Alice Springs**	**42.45**	**127**	P	P		12 49 45.5	-1.0
	0.6nm,0.6s,baz=298,slow=8.6,SNR=5.9							
SONM	**Songino Array**	**48.02**	**8**	P	P		12 50 29.3	-1.4
	1.1nm,0.8s,baz=188,slow=9.9,SNR=8.4							
MKAR	**Makanchi Array**	**48.29**	**346**	P	P		12 50 30.8	-1.9
	1.1nm,0.7s,baz=152,slow=7.5,SNR=14							
ZAL	**Zalesovo**	**54.58**	**351**	P	P		12 51 17.5	-2.5
	1.4nm,0.6s,baz=296,slow=5.9,SNR=7.8							
BVAR	**Borovoye Array**	**57.31**	**341**	P	P		12 51 36.9	-2.9
	0.8nm,0.8s,baz=143,slow=7.4,SNR=5.0							

IDC 31 12:47:52.1±2.3, 0.91N×97.04E, mb4.1/6, mb1 4.2/6, mb1mx3.9/19, mbtmp4.1/6, Error ellipse: s-maj=116.2km s-min=29.4km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**47.45**	**9**	P	P		12 56 28.5	-2.0
	0.4nm,0.4s,baz=189,slow=9.8,SNR=5.2							
MKAR	**Makanchi Array**	**47.49**	**346**	P	P		12 56 29.4	-1.4
	1.6nm,0.5s,baz=158,slow=7.9,SNR=20							
STKA	**Stephens Creek**	**53.28**	**132**	P	P		12 57 13.0	-2.2
	0.7nm,0.3s,baz=301,slow=6.4,SNR=3.6							
ZAL	**Zalesovo**	**53.81**	**351**	P	P		12 57 16.4	-2.4
	3.4nm,0.4s,baz=321,slow=5.2,SNR=14							

BVAR	**Borovoye Array**	**56.47**	**341**	P		P		12 57 35.3	-2.9
	0.9nm,0.5s,baz=143,slow=10,SNR=7.4								
ARCES	**ARCESS Array B**	**82.76**	**340**	P		P		13 00 17.7	-1.3
	2.5nm,0.9s,baz=101,slow=6.2,SNR=3.8								
TBI	**Tubuai**	**111.88**	**115**	*e*LR		LR		13 06 16.4	
	155nm,30.2s								
PPT	**Papeete**	**112.54**	**109**	*e*LR		LR		13 05 44.8	
	87nm,24.5s								

IDC 31 12:55:20.9±3.3, 1.35N×97.28E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=142.8km s-min=23.1km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.05**	**122**	P		P	13 03 14.5	-1.8
	0.4nm,0.7s,baz=301,slow=9.2,SNR=3.6							
SONM	**Songino Array**	**46.97**	**8**	P		P	13 03 54.0	-1.5
	0.6nm,0.8s,baz=193,slow=8.4,SNR=6.6							
MKAR	**Makanchi Array**	**47.12**	**346**	P		P	13 03 54.8	-1.9
	0.3nm,0.4s,baz=157,slow=9.1,SNR=8.5							
STKA	**Stephens Creek**	**53.40**	**132**	P		P	13 04 42.7	-2.2
	2.4nm,1.0s,baz=339,slow=14,SNR=3.2							
ZAL	**Zalesovo**	**53.41**	**351**	P		P	13 04 41.9	-2.8
	0.8nm,0.3s,baz=196,slow=1.7,SNR=3.8							

*NEIC **31** 12:58:04.3, 36.62N×26.41E, h46km, MD3.0(ATH), After ATH.*
*THE **31** 12:58:04.3, 36.66N×26.47E, h7km*
*ATH **31** 12:58:05.0, 36.72N×26.43E, h30km±2km, MD3.0/4*
*CSEM **31** 12:58:05.0±0.1, 36.64N×26.46E, h30km, MD3.0, Error ellipse: s-maj=3.4km s-min=2.1km az=170.0*

ISC 31 12:58:05.6±0.5, 36.62N±0.05×26.45E±0.04, h30km, n16, σ0§93/28, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NISR	**Nisiros**	**0.54**	**91**	*e*PN		**Pn**	**12 58 17.0**	**-0.2**
SANT	**Santorini**	**0.84**	**253**	*e*Pg		**Pn**	**12 58 20.6**	**-0.9**
SANT				*e*Sg		**Sb**	**12 58 32.0**	**-0.5**
SANT	**Santorini**	**0.84**	**253**	*e*Pg		**Pn**	**12 58 20.6**	**-0.8**
SANT				*e*Sg		**Sb**	**12 58 32.0**	**-0.5**
THR1	**Thera Island**	**0.84**	**253**	*e*Pg		**Pn**	**12 58 21.1**	**-0.3**
THR1				*e*Sg		**Sb**	**12 58 32.7**	**+0.2**
THR1	**Thera Island**	**0.84**	**253**	*e*Pg		**Pn**	**12 58 21.1**	**-0.3**
THR1				*e*Sg		**Sb**	**12 58 32.7**	**+0.2**
APE	**Apeiranthos**	**0.86**	**301**	*e*PN		**Pn**	**12 58 21.1**	**-0.7**
APE				*e*SN		**Sn**	**12 58 32.7**	**-0.8**
THR3	**Thira Island,**	**0.87**	**256**	*e*Pg		**Pn**	**12 58 21.1**	**-0.9**
THR3				*e*Sg		**Sb**	**12 58 34.3**	**+0.8**
THR3	**Thira Island,**	**0.87**	**256**	*e*Pg		**Pn**	**12 58 21.0**	**-0.9**
THR3				*e*Sg		**Sb**	**12 58 34.3**	**+0.8**
THR6	**Thira Island,**	**0.89**	**253**	*e*Pg		**Pn**	**12 58 21.8**	**-0.4**
THR6				*e*Sg		**Sb**	**12 58 35.6**	**+1.6**
BDRM	**Kayabasi**	**0.91**	**60**	*i* P		**Pn**	**12 58 22.6**	**+0.1**
BDRM				*i* S		**Sb**	**12 58 34.6**	**+0.1**
THR5	**Thira Island,**	**0.91**	**258**	*e*Pg		**Pn**	**12 58 21.5**	**-1.0**
THR5				*e*Sg		**Sb**	**12 58 36.1**	**+1.5**
SMG	**Samos**	**1.13**	**16**	*e*PN		**Pn**	**12 58 24.9**	**-0.7**
KARP	**Karpathos**	**1.22**	**152**	*e*PB		**Pb**	**12 58 28.0**	**+0.1**
KARP				*e*SN		**Sn**	**12 58 47.0**	**+4.7**
KARP	**Karpathos**	**1.22**	**152**	*e*P		**Pn**	**12 58 26.1**	**-0.7**
AYDN	**Tasoluk**	**1.54**	**47**	*i* P		**Pn**	**12 58 33.4**	**+1.9**
AYDN				*i* S		**Sn**	**12 58 54.4**	**+3.8**
KDAG	**Bornova**	**1.89**	**20**	*i* P		**Pn**	**12 58 40.1**	**+3.6**

*IDC **31** 13:01:29.1±0.6, 1.32N×97.30E, mb4.3/17, mb1 4.4/17, mb1mx4.4/21, mbtmp4.3/17, MS3.9/1, Ms1 3.9/1, ms1mx3.0/24, Error ellipse: s-maj=24.3km s-min=13.6km az=49.0*
*BJI **31** 13:01:29.2, 0.80N×97.17E, h41km, mB5.0, mb4.8, Ms4.6, Msz4.5*
*MOS **31** 13:01:32.3±1.0, 1.39N×97.32E, h33km, mb4.9/16, Error ellipse: s-maj=16.9km s-min=9.3km az=100.3*
*NEIC **31** 13:01:32.9±0.5, 1.28N×97.28E, mb4.7/13, Error ellipse: s-maj=14.1km s-min=8.5km az=55.0*

ISC 31 13:01:30.6±0.5, 1.22N±0.06×97.18E±0.06, h23km, h23km±.8km:pP-P, n86, σ1§14/89, mb4.7/53, MS4.3/13, 1C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IPM	**Ipoh**	**5.08**	**49**	P		**Pn**	**13 02 48.2**	**+0.8**
KGM	**Kluang**	**6.18**	**83**	P		**Pn**	**13 03 04.8**	**+1.8**
CM31	**Chiang Mai Arr**	**17.21**	**6**	*e*P		**P**	**13 05 30.4**	**-1.1**
	8.4nm,0.8s							
KKM	**Kota Kinabalu**	**19.58**	**75**	P		**P**	**13 06 03.4**	**+3.1**
QIZ	**Qiongzhong**	**21.61**	**34**	P		**P**	**13 06 22.8**	**+1.5**
QIZ				S		**S**	**13 10 16.3**	**+1.8**
QIZ				LR		LR		
	comp=N,394nm,13.8s							
QIZ				LR		LR		
	comp=Z,370nm,13.3s,MS4.0							
KMI	**Kunming**	**24.36**	**12**	P		**P**	**13 06 50.0**	**+1.7**
KMI				AP			13 06 56.5	
KMI				XP			13 07 00.3	
KMI				PP		PP	13 07 26.5	+2.7
KMI				S		**S**	**13 11 10.0**	**+6.7**
KMI				XS			13 11 21.0	
KMI				SS		SS	13 12 01.5	+3.8
KMI				AMB		AMB		
	comp=Z,50nm,1.3s,mb4.8							
KMI				AMB		AMB		
	comp=Z,120nm,3.1s							
KMI				LR		LR		
	comp=N,911nm,15.2s,MS4.5							
KMI				LR		LR		
	comp=E,467nm,12.9s,MS4.5							
KMI				LR		LR		
	comp=Z,948nm,14.5s,MS4.4							
GYA	**Guiyang**	**26.70**	**19**	*i*P		**P**	**13 07 09.8**	**-0.4**
GYA				AP		pP	13 07 17.0	0.0
GYA				XP		sP	13 07 22.3	+2.2
GYA				PP		PP	13 07 59.8	+5.0
GYA				S		**S**	**13 11 52.8**	**+10**
GYA				AMB		AMB		
	comp=Z,10.0nm,1.2s,mb4.2							
GYA				AMB		AMB		
	comp=Z,120nm,5.1s							
GYA				LR		LR		
	comp=N,760nm,13.5s,MS4.5							
GYA				LR		LR		
	comp=E,320nm,13.2s,MS4.5							
GYA				LR		LR		
	comp=Z,940nm,13.2s,MS4.5							
JIRN	**Jiri**	**28.32**	**339**	*e*P		**P**	**13 07 25.7**	**+0.8**
	comp=Z,73nm,0.9s,mb5.3							
PKI	**Pulchoki**	**28.53**	**338**	*e*P		**P**	**13 07 26.7**	**-0.1**
	comp=Z,46nm,1.1s,mb5.1							
GUN	**Gumba**	**28.66**	**339**	*e*P		**P**	**13 07 28.7**	**+0.7**
	comp=Z,54nm,0.8s,mb5.3							
DMN	**Daman**	**28.68**	**337**	*e*P		**P**	**13 07 28.4**	**+0.3**
	comp=Z,43nm,1.0s,mb5.1							
KKN	**Kakani**	**28.77**	**338**	*e*P		**P**	**13 07 29.2**	**+0.2**
	comp=Z,33nm,0.8s,mb5.1							
LSA	**Lhasa**	**28.90**	**349**	*e*P		**P**	**13 07 32.7**	**+2.6**
LSA				pmax		pmax		
	comp=Z,12nm,0.9s,mb4.6							
LSA	**Lhasa**	**28.90**	**349**	*e*P		**P**	**13 07 32.7**	**+2.6**
	comp=Z,12nm,0.9s,mb4.6							
GKN	**Gorkha**	**29.21**	**337**	*e*P		**P**	**13 07 33.3**	**+0.3**
	comp=Z,57nm,0.9s,mb5.3							
KOLN	**Koldanda**	**29.43**	**335**	*e*P		**P**	**13 07 35.4**	**+0.5**
	comp=Z,31nm,0.8s,mb5.1							
ENH	**Enshi**	**31.16**	**21**	*e*P		**P**	**13 07 48.8**	**-1.4**
	comp=Z,44nm,0.9s,mb5.3							
ENH				*e*pP		pP	13 07 55.4	-1.7
ENH				*e*			13 08 01.9	
FITZ	**Fitzroy Crossi**	**33.96**	**126**	P		**P**	**13 08 13.8**	**-0.9**
	comp=Z,5.4nm,0.9s,mb4.5,baz=182,slow=8.6,SNR=5.8							
XAN	**Xi'an**	**34.45**	**17**	P		**P**	**13 08 16.8**	**-2.0**
XAN				AMB		AMB		
	comp=Z,22nm,1.0s,mb5.0							
LZH	**Lanzhou**	**35.23**	**9**	⇑P		**P**	**13 08 25.0**	**-0.5**
LZH				AMB		AMB		
	comp=Z,33nm,1.5s,mb5.0							
LZH				AMB		AMB		
	comp=Z,110nm,4.0s							
LZH				LR		LR		
	comp=N,1μm,17.2s							
LZH				LR		LR		
	comp=Z,1μm,18.9s,MS4.7							
NJ2	**Nanjing**	**36.85**	**32**	*e*P		**P**	**13 08 41.5**	**+2.3**
NJ2				AP		pP	13 08 49.0	+2.8
NJ2				XP		sP	13 08 52.3	+3.2
NJ2				PP		PP	13 10 07.5	+2.4
NJ2				S		**S**	**13 14 26.0**	**+4.2**
NJ2				XS			13 14 37.0	
NJ2				AMB		AMB		
	comp=Z,42nm,1.0s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,1μm,5.4s							
NJ2				LR		LR		
	comp=N,810nm,17.4s,MS4.8							
NJ2				LR		LR		
	comp=E,1μm,15.4s,MS4.8							
NJ2				LR		LR		
	comp=Z,2μm,18.4s,MS4.9							
GTA	**Gaotai**	**38.08**	**3**	*e*P		**P**	**13 08 49.5**	**+0.1**
GTA				AP		pP	13 08 55.8	-0.6
GTA				PP		PP	13 10 17.0	-2.9
GTA				S		**S**	**13 14 34.5**	**-5.9**
GTA				AMB		AMB		
	comp=Z,19nm,0.9s,mb4.8							
GTA				AMB		AMB		
	comp=Z,99nm,4.2s							
GTA				LR		LR		
	comp=N,317nm,14.1s,MS4.5							
GTA				LR		LR		
	comp=E,370nm,12.5s,MS4.5							
GTA				LR		LR		
	comp=Z,242nm,14.4s,MS4.2							
NWAO	**Narrogin (SRO)**	**38.88**	**153**	LR		LR	13 25 47.2	
	comp=Z,172nm,18.8s,MS3.9,baz=188,slow=38							
JOW	**Kunigami**	**39.24**	**47**	P		**P**	**13 08 57.4**	**-1.9**
	comp=Z,22nm,0.7s,mb5.0,baz=279,slow=7.7,SNR=5.6							
HHC	**Hu-ho-hao-te**	**41.54**	**17**	*e*P		**P**	**13 09 19.0**	**+0.9**
HHC				AP		pP	13 09 26.8	+1.7
HHC				XP		sP	13 09 29.3	+1.3
HHC				PP		PP	13 10 58.0	+0.8
HHC				S		**S**	**13 15 32.5**	**+0.2**
HHC				AMB		AMB		
	comp=Z,17nm,0.5s,mb4.9							
HHC				LR		LR		
	comp=N,325nm,17.3s,MS4.5							
HHC				LR		LR		
	comp=E,382nm,17.3s,MS4.5							
HHC				LR		LR		
	comp=Z,360nm,17.8s,MS4.3							
WRA	**Warramunga Arr**	**42.06**	**122**	P		**P**	**13 09 22.5**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.1,baz=300,slow=9.1,SNR=30							
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P		**P**	**13 09 22.4**	**-0.3**
WRAB				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.5							
WRAB	**Tennant Creek**	**42.07**	**122**	*e*P		**P**	**13 09 22.4**	**-0.3**
	comp=Z,10.0nm,0.9s,mb4.5							
BJT	**Baijiatuao**	**42.30**	**22**	*e*P		**P**	**13 09 25.3**	**+0.9**
BJT				*e**PP		pP	13 09 31.9	+0.5
BJT				pmax		pmax		
	comp=Z,25nm,0.9s							
BJT	**Baijiatuao**	**42.30**	**22**	*e*P		**P**	**13 09 25.3**	**+0.9**
	comp=Z,25nm,0.9s,mb4.8							
BJT				*e*pP		pP	13 09 31.9	+0.5
BJI	**Beijing**	**42.32**	**22**	*e*P		**P**	**13 09 25.0**	**+0.5**
BJI				AMB		AMB		
	comp=Z,21nm,0.8s,mb4.8							
BJI				LR		LR		
	comp=N,182nm,12.9s,MS4.2							
BJI				LR		LR		
	comp=E,136nm,13.5s,MS4.2							
BJI				LR		LR		
	comp=Z,115nm,22.0s							
WMQ	**Urumqi**	**43.25**	**350**	P		**P**	**13 09 33.3**	**+1.3**
WMQ				AP		pP	13 09 40.5	+1.5
WMQ				XP		sP	13 09 44.5	+2.6
WMQ				PP		PP	13 11 16.0	+1.3
WMQ				*e*S		**S**	**13 15 58.0**	**+0.7**
WMQ				SCS		ScS	13 19 29.5	+1.0
WMQ				AMB		AMB		
	comp=Z,14nm,1.0s,mb4.7							
WMQ				AMB		AMB		
	comp=Z,133nm,5.5s							
WMQ				LR		LR		
	comp=N,396nm,23.4s,MS4.4							
WMQ				LR		LR		
	comp=E,474nm,24.2s,MS4.4							
WMQ				LR		LR		
	comp=Z,288nm,21.0s,MS4.2							
ASAR	**Alice Springs**	**43.42**	**127**	P		**P**	**13 09 34.2**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.0,baz=306,slow=7.8,SNR=21							
ASAR				PcP		PcP	13 11 22.8	+0.4
	comp=Z,0.9nm,0.8s,baz=320,slow=3.5,SNR=4.4							
UCH	**Uchtor**	**45.62**	**336**	P		**P**	**13 09 52.4**	**+1.3**
	SNR=12							
TKM2	**Tokmak 2**	**45.79**	**338**	P		**P**	**13 09 53.1**	**+0.6**
	SNR=7.2							
AML	**Almayashu**	**45.87**	**336**	P		**P**	**13 09 54.3**	**+1.2**
	SNR=8.1							
AAK	**Ala-Archa**	**45.97**	**337**	*e*P		**P**	**13 09 54.1**	**+0.2**
AAK				*e**PP		pP	13 10 02.6	+1.7
AAK				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.4							
AAK	**Ala-Archa**	**45.97**	**337**	*e*P		**P**	**13 09 54.1**	**+0.2**
	comp=Z,5.3nm,0.9s,mb4.5							
AAK				*e*			13 09 58.4	
AAK				*e*pP		pP	13 10 02.5	+1.6
EKS2	**Erkin-Say**	**46.28**	**336**	P		**P**	**13 09 57.8**	**+1.5**
	SNR=8.2							
USP	**Ospenovka**	**46.51**	**337**	P		**P**	**13 09 58.5**	**+0.4**
	SNR=11							
SONM	**Songino Array**	**47.11**	**8**	P		**P**	**13 10 03.0**	**+0.2**
	comp=Z,7.8nm,0.8s,mb4.7,baz=187,slow=8.8,SNR=77							
SONM				PcP		PcP	13 11 34.8	-0.1
	comp=Z,1.8nm,0.8s,baz=188,slow=3.3,SNR=4.1							
MKAR	**Makanchi Array**	**47.22**	**346**	P		**P**	**13 10 03.6**	**-0.1**
	comp=Z,4.7nm,0.6s,mb4.6,baz=159,slow=8.2,SNR=73							
ULN	**Ulaanbaatar**	**47.24**	**9**	*e*P		**P**	**13 10 03.6**	**-0.3**
ULN				*e**PP		pP	13 10 11.0	+0.1
ULN				pmax		pmax		
	comp=Z,7.0nm,0.9s,mb4.6							
ULN	**Ulaanbaatar**	**47.24**	**9**	*e*P		**P**	**13 10 03.6**	**-0.2**
	comp=Z,6.7nm,0.9s,mb4.6							
ULN				*e*pP		pP	13 10 11.0	0.0
ZAK	**Zakamensk**	**49.25**	**5**	*e*P		**P**	**13 10 18.2**	**-1.2**
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.0s,mb4.3							
CN2	**Changchun**	**49.29**	**27**	*e*P		**P**	**13 10 19.0**	**-0.8**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,3.0s							
CN2				LR		LR		
	comp=N,300nm,12.0s,MS4.7							
CN2				LR		LR		
	comp=E,300nm,12.0s,MS4.7							
CN2				LR		LR		
	comp=Z,400nm,16.0s,MS4.5							
TLY	**Talaya**	**50.57**	**5**	*e*P		**P**	**13 10 27.6**	**-1.9**
TLY				pmax		pmax		
	comp=Z,3.0nm,0.7s,mb4.3							
TLY				MLR		MLR		
	comp=Z,195nm,17.0s,MS4.2							
HIA	**Hailar**	**51.62**	**19**	*e*P		**P**	**13 10 37.2**	**-0.3**
HIA				*e**PP		pP	13 10 44.1	-0.6
HIA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
HIA	**Hailar**	**51.62**	**19**	*e*P		**P**	**13 10 37.2**	**-0.3**
	comp=Z,9.5nm,0.8s,mb4.8							
HIA				*e*pP		pP	13 10 44.0	-0.6
MJAR	**Matsushiro Arr**	**51.69**	**42**	P		**P**	**13 10 37.7**	**-0.5**
	comp=Z,2.1nm,0.9s,mb4.1,baz=224,slow=7.2,SNR=4.7							
KURK	**Kurchatov**	**51.77**	**345**	*e*P		**P**	**13 10 38.0**	**-0.6**
KURK				*e**PP		pP	13 10 46.5	+0.8
KURK				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
KURK	**Kurchatov**	**51.77**	**345**	*e*P		**P**	**13 10 38.0**	**-0.6**
	comp=Z,8.5nm,1.0s,mb4.6							
KURK				*e*pP		pP	13 10 46.5	+0.8
MDJ	**Mudanjiang**	**51.86**	**29**	P		**P**	**13 10 39.5**	**+0.2**
MDJ				AP		pP	13 10 45.5	-1.0
MDJ				PCP		PcP	13 11 53.0	+0.8
MDJ				PCS			13 15 49.5	
MDJ				S		**S**	**13 18 05.3**	**+6.4**
MDJ				AMB		AMB		
	comp=Z,10.0nm,1.4s,mb4.5							
MDJ				AMB		AMB		
	comp=Z,85nm,4.8s							
MDJ				LR		LR		
	comp=N,56nm,23.5s,MS3.7							
MDJ				LR		LR		
	comp=E,57nm,20.8s,MS3.7							
MDJ				LR		LR		
	comp=Z,118nm,16.1s,MS4.0							
MDJ	**Mudanjiang**	**51.86**	**29**	*e*P		**P**	**13 10 39.7**	**+0.3**
	comp=Z,7.9nm,0.8s,mb4.7							
STKA	**Stephens Creek**	**53.38**	**132**	P		**P**	**13 10 50.8**	**-0.2**
	comp=Z,4.3nm,0.8s,mb4.4,baz=318,slow=7.4,SNR=8.1							
STKA	**Stephens Creek**	**53.38**	**132**	*e*P		**P**	**13 10 51.5**	**+0.6**
STKA				*e*pP		pP	13 10 58.0	-0.1
ZAL	**Zalesovo**	**53.52**	**351**	P		**P**	**13 10 50.8**	**-0.9**
	comp=Z,7.5nm,0.6s,mb4.8,baz=309,slow=5.1,SNR=46							
NVS	**Novosibirsk**	**54.65**	**350**	*e*P		**P**	**13 10 58.1**	**-1.8**
NVS				*e*			13 11 13.0	
NVS				*e*S		**S**	**13 18 35.2**	**-1.5**
NVS				*e*			13 18 58.6	
NVS				pmax		pmax		
	comp=Z,10.0nm,1.0s,mb4.8							
NVS				pmax		pmax		
	comp=N,5.0nm,0.8s							
NVS				pmax		pmax		
	comp=E,3.0nm,0.8s							
NVS				smax				
	comp=N,8.0nm,1.4s							
BVA0	**Borovoye Array**	**56.22**	**341**	P		**P**	**13 11 09.7**	**-1.6**
BVA0				pmax		pmax		
	comp=Z,1.0nm,0.7s,mb4.0							
BVAR	**Borovoye Array**	**56.22**	**341**	P		**P**	**13 11 09.9**	**-1.4**
	comp=Z,6.6nm,0.7s,mb4.8,baz=140,slow=8.7,SNR=37							
KLR	**Kul'dur**	**56.24**	**27**	*e*P		**P**	**13 11 08.5**	**-3.0**
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P		**P**	**13 11 13.5**	**-1.2**
CHKZ				pmax		pmax		
	comp=Z,13nm,0.7s,mb5.1							
CHKZ	**Chkalovo**	**56.70**	**341**	*e*P		**P**	**13 11 13.5**	**-1.2**
	comp=Z,13nm,0.7s,mb5.1							
BOD	**Bodaibo**	**57.99**	**11**	⇓*i*P		**P**	**13 11 22.2**	**-1.5**
BOD				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
KMBO	**Kilima Mbogo**	**59.97**	**268**	P		**P**	**13 11 39.1**	**+1.0**
	comp=Z,0.4nm,0.3s,mb3.9,baz=62,slow=23,SNR=3.3							
YSS	**Yuzh-Sakhalins**	**60.34**	**34**	*e*P		**P**	**13 11 40.0**	**-0.2**
YSS				*e*		pP	13 11 46.6	-0.9
SVE	**Sverdlovsk**	**62.66**	**338**	*e*P		**P**	**13 11 54.8**	**-0.8**
SVE				*e*			13 12 28.5	
KIV	**Kislovodsk**	**64.28**	**319**	*e*P		**P**	**13 12 12.6**	**+6.1**
KIV				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.8							
YAK	**Yakutsk**	**65.40**	**16**	*e*P		**P**	**13 12 11.4**	**-2.1**
YAK				pmax		pmax		
	comp=Z,17nm,0.9s,mb5.1							
YAK				pmax		pmax		
	comp=N,7.0nm,1.1s							
YAK				pmax		pmax		
	comp=E,4.0nm,1.0s							
BRTR	**Keskin Array B**	**69.08**	**312**	P		**P**	**13 12 39.2**	**+2.2**
	comp=E,1.1nm,0.6s,mb4.0,baz=116,slow=5.6,SNR=5.8							
MA2	**Magadan**	**71.32**	**26**	*e*P		**P**	**13 12 50.0**	**-0.3**
MA2				*e**PP		pP	13 12 56.6	-1.0
MA2				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
MA2	**Magadan**	**71.32**	**26**	*e*P		**P**	**13 12 50.0**	**-0.4**
	comp=Z,9.0nm,0.8s,mb4.8							
MA2				*e*pP		pP	13 12 56.6	-1.0
TIXI	**Tiksi**	**73.17**	**10**	*e*P		**P**	**13 12 59.1**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.5							
AKASG	**Malin Array Be**	**75.23**	**322**	P		**P**	**13 13 15.1**	**+1.7**
	comp=Z,0.4nm,0.3s,mb3.9,baz=92,slow=4.2,SNR=4.3							
AKASG	**Malin Array Be**	**75.23**	**322**	P		**P**	**13 13 15.1**	**+1.7**
FINES	**FINESS Array B**	**79.97**	**333**	P		**P**	**13 13 38.7**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=104,slow=7.9,SNR=5.2							
SYO	**Syowa Base**	**80.02**	**198**	⇓PcP		PcP	13 13 46.5	-0.8
ARCES	**ARCESS Array B**	**82.51**	**340**	P		**P**	**13 13 52.8**	**+0.4**
	comp=Z,2.2nm,0.9s,mb4.2,baz=100,slow=7.4,SNR=5.2							
GERES	**GERESS Array B**	**84.78**	**319**	P		**P**	**13 14 04.5**	**0.0**
	comp=Z,0.3nm,0.3s,mb4.0,baz=108,slow=4.2,SNR=4.7							
NB2	**NORSAR Subarra**	**86.98**	**331**	P		**P**	**13 14 14.7**	**-0.3**
	comp=Z,1.9nm,1.0s,mb4.3,baz=94,slow=5.8							
NB2	**NORSAR Subarra**	**86.98**	**331**	P		**P**	**13 14 14.7**	**-0.3**
NB2				pmax		pmax		
	comp=Z,2.0nm,1.0s,mb4.3							
NOA	**NORSAR Array B**	**86.98**	**331**	P		**P**	**13 14 15.3**	**+0.3**
	comp=Z,1.1nm,0.8s,mb4.2,baz=93,slow=4.9,SNR=5.2							
ULM	**Lac du Bonnet**	**127.52**	**11**	PKP		PKPdf	13 20 35.6	-3.0
	comp=Z,0.9nm,0.6s,baz=326,slow=4.0,SNR=3.2							
PDAR	**Pinedale Array**	**130.03**	**26**	PKP		PKPdf	13 20 41.0	-2.6
	comp=Z,0.5nm,0.9s,baz=90,slow=1.5,SNR=4.0							
TXAR	**Lajitas Array**	**143.86**	**32**	PKP		PKPdf	13 21 04.0	-4.8
	comp=Z,0.8nm,0.8s,baz=282,slow=0.1,SNR=6.3							
CFAA	**Coronel Fontan**	**146.79**	**203**	PKPbc		PKPbc	13 21 13.1	+1.9
	comp=Z,0.1nm,0.4s,baz=243,slow=6.8,SNR=2.5							

*IDC **31** 13:02:11.7±2.2, 1.14N×96.97E, mb4.2/8, mb1 4.3/8, mb1mx4.1/20, mbtmp4.2/8, Error ellipse: s-maj=113.2km s-min=17.5km az=55.0*
*NEIC **31** 13:02:16.5±1.0, 1.18N×97.05E, h30km, Error ellipse: s-maj=32.8km s-min=12.9km az=53.0*

ISC 31 13:02:14.8±1.1, 1.2N±0.2×97.1E±0.2, h30km, n9, σ0§71/9, mb4.2/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KKM	**Kota Kinabalu**	**19.64**	**75**	*e*P		**P**	**13 06 44.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P		**P**	**13 08 57.3**	**-1.1**
	4.8nm,0.8s,mb4.5,baz=330,slow=0.6,SNR=3.5							
WRA	**Warramunga Arr**	**42.12**	**122**	P		**P**	**13 10 06.2**	**-0.1**
	2.8nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=10							
ASAR	**Alice Springs**	**43.48**	**127**	P		**P**	**

Error ellipse: s-maj=15.7km s-min=10.5km az=79.0
*IDC **31** 13:15:22.0±6.3,5.99S×150.25E,h71km±49km,mb3.7/6, mb1 3.9/7,mb1mx3.8/13,mbtmp4.1/7,ML3.5/1,MS3.5/2, Ms1 3.5/2,ms1mx3.0/20,Error ellipse: s-maj=49.6km s-min=26.5km az=88.0*

ISC 31 13:15:19.6±3.0,5.97S±0.09×150.3E±0.1,h64km±25km, n25,σ0§77/24,mb4.4/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.59**	**222**	*eP*	**P**	**P**	**13 16 29.0**	**+0.8**
	15nm,0.3s,baz=27,slow=4.9,SNR=42							
PMG				*eS*	**S**	**S**	**13 17 20.8**	**+0.1**
	14nm,0.3s,baz=25,slow=21,SNR=8.8							
PMG	**Port Moresby**	**4.59**	**222**	*ePn*	**P**		**13 16 28.5**	**+0.3**
PMG				*eSn*	**S**		**13 17 19.4**	**-1.3**
PMG				S	**S**		**13 17 20.9**	**+0.1**
CTA	**Charters Tower**	**14.56**	**195**	LR	LR		13 23 25.9	
	comp=Z,156nm,19.9s,baz=228,slow=33							
WRAB	**Tennant Creek**	**20.77**	**227**	*eP*	**P**		**13 19 56.5**	**-1.2**
	61nm,0.9s							
WRA	**Warramunga Arr**	**20.79**	**227**	P	**P**		**13 19 57.6**	**-0.3**
	2.1nm,0.5s,baz=54,slow=11,SNR=28							
DZM	**Mont Dzumac**	**22.39**	**137**	LR	LR		13 27 28.8	
	comp=Z,133nm,18.2s,baz=204,slow=32							
ASAR	**Alice Springs**	**23.60**	**220**	P	**P**		**13 20 26.9**	**+1.2**
	1.5nm,0.4s,mb3.8,baz=57,slow=8.5,SNR=27							
ASAR				PcP	PcP		13 24 10.0	-0.7
	1.0nm,0.8s,baz=64,slow=2.7,SNR=4.6							
FITZ	**Fitzroy Crossi**	**26.88**	**241**	P	**P**		**13 20 56.1**	**-0.6**
	12nm,0.8s,mb4.5,baz=39,slow=2.6,SNR=21							
STKA	**Stephens Creek**	**27.02**	**196**	P	**P**		**13 20 57.9**	**+0.1**
	3.0nm,0.9s,mb3.8,baz=8.0,slow=7.5,SNR=5.6							
MBWA	**Marble Bar**	**33.19**	**240**	*eP*	**P**		**13 21 51.7**	**-0.9**
	17nm,0.9s,mb5.0							
MBWA				*ep*P	pP		13 22 01.4	-7.1
RAO	**Raoul Island**	**37.93**	**131**	*eP*	**P**		**13 22 32.1**	**-0.6**
	274nm,0.4s							
KSM	**Kuching**	**40.56**	**279**	P	**P**		**13 22 55.4**	**+0.7**
MAJO	**Matsushiro**	**43.77**	**346**	P	**P**		**13 23 20.9**	**+0.2**
	21nm,1.4s,mb4.7							
HIA	**Hailar**	**61.10**	**338**	*eP*	**P**		**13 25 28.1**	**-1.3**
	7.2nm,1.0s,mb4.8							
ULN	**Ulaanbaatar**	**65.68**	**330**	*eP*	**P**		**13 25 59.6**	**+0.1**
	1.5nm,0.9s,mb4.0							
SONM	**Songino Array**	**65.99**	**329**	P	**P**		**13 26 01.7**	**+0.1**
	0.8nm,0.6s,mb4.0,baz=138,slow=4.7,SNR=6.1							
CASY	**Casey**	**66.17**	**196**	P	**P**		**13 26 03.7**	**+1.3**
	8.4nm,0.9s,mb4.8							
LSA	**Lhasa**	**66.83**	**306**	P	**P**		**13 26 08.5**	**+1.3**
	3.0nm,0.9s,mb4.3							
SBA	**Scott Base**	**72.36**	**176**	*eP*	**P**		**13 26 34.1**	**-6.0**
	3.3nm,0.7s,mb4.4							
BILL	**Bilibino**	**74.70**	**6**	*eP*	**P**		**13 27 02.8**	**+8.9**
	1.0nm,0.4s,mb4.1							
MKAR	**Makanchi Array**	**79.55**	**320**	P	**P**		**13 27 21.0**	**-0.4**
	0.1nm,0.3s,baz=104,slow=5.9,SNR=2.3							
QSPA	**South Pole Qui**	**84.00**	**180**	*eP*	**P**		**13 27 43.9**	**+0.1**
	14nm,1.1s,mb5.0							
QSPA				*e*			13 27 54.9	
ARU	**Arti**	**95.87**	**326**	*eP*	**P**		**13 28 40.0**	**-0.1**
	4.1nm,0.6s,mb5.0							
SDV	**Santo Domingo**	**139.37**	**83**	PKP	PKPdf		13 34 41.3	+0.6
	5.7nm,0.9s,baz=84,slow=3.1,SNR=5.5							
BDFB	**Brasilia**	**151.92**	**140**	PKPbc	PKPdf		13 35 09.0	+7.3
	1.7nm,0.5s,baz=173,slow=4.7,SNR=3.5							

*IDC **31** 13:21:09.4±1.2,2.31N×96.25E,mb4.1/11,mb1 4.3/11, mb1mx4.0/20,mbtmp4.1/11,MS3.7/3,Ms1 3.7/3, ms1mx3.1/27,Error ellipse: s-maj=60.4km s-min=15.8km az=52.0*
*BJI **31** 13:21:11.3,1.82N×96.67E,h51km,mB5.2,mb4.7,Ms4.2, Msz4.0*
*NEIC **31** 13:21:13.9±0.4,2.28N×96.26E,h30km,mb4.6/12,Error ellipse: s-maj=11.3km s-min=5.7km az=46.0*

ISC 31 13:21:12.2±0.7,2.31N±0.09×96.32E±0.09,h30km,n33, σ0§85/31,mb4.4/24,MS3.8/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.24**	**55**	*ePn*	**P**	**Pn**	**13 22 31.5**	**+0.9**
CM31	**Chiang Mai Arr**	**16.26**	**9**	P	**P**	**P**	**13 24 60.0**	**-0.2**
	5.5nm,0.8s							
KKM	**Kota Kinabalu**	**20.18**	**79**	P	**P**		**13 25 47.8**	**+0.4**
JIRN	**Jiri**	**27.01**	**340**	*eP*	**P**		**13 26 54.4**	**+0.7**
	50nm,0.9s,mb5.0							
PKI	**Pulchoki**	**27.20**	**338**	*eP*	**P**		**13 26 55.9**	**+0.4**
	23nm,1.0s,mb4.7							
GUN	**Gumba**	**27.35**	**340**	*eP*	**P**		**13 26 57.3**	**+0.5**
	41nm,1.0s,mb4.9							
DMN	**Daman**	**27.35**	**338**	*eP*	**P**		**13 26 57.1**	**+0.3**
KKN	**Kakani**	**27.45**	**338**	*eP*	**P**		**13 26 58.0**	**+0.3**
	34nm,0.9s,mb4.9							
LSA	**Lhasa**	**27.68**	**350**	*eP*	**P**		**13 26 59.3**	**-0.5**
	16nm,1.0s,mb4.6							
GKN	**Gorkha**	**27.89**	**337**	*eP*	**P**		**13 27 01.7**	**0.0**
KOLN	**Koldanda**	**28.09**	**336**	*eP*	**P**		**13 27 03.7**	**+0.2**
	22nm,0.9s,mb4.8							
XAN	**Xi'an**	**33.69**	**19**	P	**P**		**13 27 51.5**	**-1.4**
FITZ	**Fitzroy Crossi**	**35.29**	**126**	P	**P**		**13 28 06.5**	**-0.2**
	1.7nm,0.6s,mb4.1,baz=286,slow=4.5,SNR=5.1							
GTA	**Gaotai**	**37.07**	**4**	*eP*	**P**		**13 28 22.0**	**+0.4**
GTA				PP	PP		13 29 48.8	+0.3
GTA				S	**S**		**13 34 07.8**	**+2.8**
GTA				XS			13 34 24.8	
GTA				SS	SS		13 36 42.8	+7.4
GTA				AMB	AMB			
	comp=Z,6.0nm,1.2s,mb4.3							
GTA				AMB	AMB			
	comp=Z,130nm,5.0s							
GTA				LR	LR			
	comp=N,132nm,14.8s,MS4.0							
GTA				LR	LR			
	comp=E,129nm,17.5s,MS4.0							
GTA				LR	LR			
	comp=Z,155nm,14.8s,MS3.9							
NWAO	**Narrogin (SRO)**	**40.24**	**152**	LR	LR		13 42 47.4	
	comp=Z,161nm,20.7s,MS3.9,baz=200,slow=32							
BJI	**Beijing**	**41.66**	**23**	*eP*	**P**		**13 28 58.3**	**-1.4**
BJI				AMB	AMB			
	comp=Z,9.0nm,0.7s,mb4.5							
WRA	**Warramunga Arr**	**43.37**	**122**	P	**P**		**13 29 14.2**	**+0.3**
	comp=Z,0.6nm,0.4s,mb3.7,baz=303,slow=9.0,SNR=15							
WRAB	**Tennant Creek**	**43.37**	**122**	P	**P**		**13 29 13.4**	**-0.6**
	comp=Z,10nm,1.1s,mb4.5							
AAK	**Ala-Archa**	**44.64**	**337**	*eP*	**P**		**13 29 26.9**	**+2.9**
	comp=Z,3.6nm,0.9s,mb4.2							
ASAR	**Alice Springs**	**44.76**	**127**	P	**P**		**13 29 25.7**	**+0.5**
	comp=Z,0.5nm,0.5s,mb3.6,baz=300,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**45.97**	**347**	P	**P**		**13 29 34.3**	**-0.1**
	comp=Z,10nm,0.8s,mb4.8,baz=160,slow=7.3,SNR=53							
SONM	**Songino Array**	**46.18**	**9**	P	**P**		**13 29 36.1**	**0.0**
	comp=Z,1.9nm,0.4s,mb4.4,baz=192,slow=9.0,SNR=17							
SONM				PcP	PcP		13 31 12.4	+0.3
	comp=Z,0.6nm,0.5s,baz=191,slow=4.1,SNR=4.6							
ULN	**Ulaanbaatar**	**46.32**	**10**	P	**P**		**13 29 36.9**	**-0.3**
	comp=Z,2.9nm,1.0s,mb4.2							
KURK	**Kurchatov**	**50.51**	**345**	*eP*	**P**		**13 30 09.1**	**-0.5**
	comp=Z,5.6nm,1.1s,mb4.4							
ZAL	**Zalesovo**	**52.33**	**351**	P	**P**		**13 30 22.6**	**-0.8**
	comp=Z,4.3nm,0.5s,mb4.7,baz=297,slow=5.8,SNR=20							
BVAR	**Borovoye Array**	**54.92**	**341**	P	**P**		**13 30 41.2**	**-1.3**
	comp=Z,3.4nm,0.8s,mb4.4,baz=135,slow=8.4,SNR=11							
CHKZ	**Chkalovo**	**55.41**	**342**	*eP*	**P**		**13 30 44.8**	**-1.3**
	comp=Z,6.0nm,0.7s,mb4.7							
ASF	**Jabal al Asfar**	**63.11**	**305**	LR	LR		13 57 06.4	
	comp=Z,21nm,21.6s,MS3.3,baz=222,slow=34							
EIL	**Elat**	**64.13**	**302**	LR	LR		14 00 13.3	
	comp=Z,78nm,18.9s,MS3.9,baz=131,slow=37							
AKASG	**Malin Array Be**	**73.85**	**322**	P	**P**		**13 32 45.1**	**-0.8**
	comp=Z,0.2nm,0.2s,mb3.6,baz=93,slow=4.9,SNR=4.2							
FINES	**FINESS Array B**	**78.62**	**333**	P	**P**		**13 33 12.4**	**-0.1**
	comp=Z,1.2nm,0.6s,mb4.0,baz=104,slow=7.9,SNR=5.6							
ARCES	**ARCESS Array B**	**81.20**	**340**	P	**P**		**13 33 27.3**	**+1.0**
	comp=Z,3.8nm,0.9s,mb4.3,baz=90,slow=4.9,SNR=7.2							
GERES	**GERESS Array B**	**83.41**	**319**	P	**P**		**13 33 39.5**	**+1.5**
	comp=Z,0.4nm,0.2s,mb4.1,baz=104,slow=5.5,SNR=3.6							

IDC 31 13:26:02.8±4.0,0.76N×96.82E,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,MS3.6/1,Ms1 3.6/1, ms1mx2.8/25,Error ellipse: s-maj=196.0km s-min=29.8km az=53.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**39.82**	**47**	LR	LR		13 51 04.9	
	comp=Z,68nm,18.1s,baz=167,slow=38							
WRA	**Warramunga Arr**	**42.13**	**121**	P	P		13 33 57.2	-1.6
	0.2nm,0.5s,baz=304,slow=8.9,SNR=4.7							
MKAR	**Makanchi Array**	**47.58**	**346**	P	P		13 34 41.0	-1.1
	0.9nm,0.5s,baz=164,slow=8.6,SNR=12							
ZAL	**Zalesovo**	**53.92**	**351**	P	P		13 35 28.4	-1.9
	1.1nm,0.5s,baz=314,slow=7.1,SNR=4.9							
ARCES	**ARCESS Array B**	**82.82**	**340**	P	P		13 38 27.4	-2.6
	2.5nm,1.1s,baz=101,slow=6.2,SNR=7.6							

IDC 31 13:31:18.4±3.3,1.17N×97.44E,mb3.9/6,mb1 4.0/6, mb1mx3.8/19,mbtmp3.9/6,Error ellipse: s-maj=137.9km s-min=18.7km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.72**	**126**	P	P		13 38 01.3	-2.5
	1.2nm,0.6s,baz=205,slow=16,SNR=2.7							
WRA	**Warramunga Arr**	**41.82**	**122**	P	P		13 39 10.3	-1.6
	1.2nm,0.7s,baz=300,slow=9.1,SNR=14							
ASAR	**Alice Springs**	**43.19**	**127**	P	P		13 39 21.6	-1.5
	0.6nm,0.8s,baz=295,slow=7.9,SNR=5.5							
SONM	**Songino Array**	**47.12**	**8**	P	P		13 39 52.8	-1.4
	1.3nm,0.6s,baz=195,slow=8.9,SNR=11							
MKAR	**Makanchi Array**	**47.32**	**346**	P	P		13 39 53.6	-2.2
	1.5nm,0.7s,baz=160,slow=8.3,SNR=18							
ZAL	**Zalesovo**	**53.61**	**351**	P	P		13 40 41.0	-2.6
	1.3nm,0.4s,baz=287,slow=7.0,SNR=8.1							

IDC 31 13:41:13.4±4.2,0.05S×96.42E,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,MS3.7/1,Ms1 3.7/1, ms1mx2.7/26,Error ellipse: s-maj=170.8km s-min=22.6km az=58.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.06**	**120**	P	P		13 49 06.4	-2.6
	0.4nm,0.7s,baz=300,slow=8.8,SNR=3.2							
ASAR	**Alice Springs**	**43.29**	**126**	P	P		13 49 17.9	-1.0
	0.3nm,0.5s,baz=298,slow=8.8,SNR=2.6							
MKAR	**Makanchi Array**	**48.27**	**347**	P	P		13 49 54.2	-4.0
	0.2nm,0.4s,baz=171,slow=9.9,SNR=5.4							
SONM	**Songino Array**	**48.48**	**9**	P	P		13 49 58.3	-1.5
	0.6nm,0.7s,baz=196,slow=9.0,SNR=4.4							
ZAL	**Zalesovo**	**54.66**	**352**	P	P		13 50 45.5	-0.8
	1.2nm,0.3s,baz=281,slow=4.2,SNR=5.0							
KMBO	**Kilima Mbogo**	**59.17**	**269**	LR	LR		14 13 07.0	
	comp=Z,53nm,18.3s,baz=48,slow=32							

IDC 31 13:41:30.9±5.7,6.18S×150.52E,h81km±45km,mb4.0/5, mb1 4.2/6,mb1mx3.8/13,mbtmp4.3/6,ML2.6/1,MS4.3/1, Ms1 4.3/1,ms1mx2.9/18,Error ellipse: s-maj=53.1km s-min=35.4km az=128.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.62**	**226**	P	P		13 42 37.7	-2.1
	2.0nm,0.3s,baz=26,slow=8.6,SNR=10							
PMG				S	S		13 43 31.7	-0.9
	5.9nm,0.3s,baz=55,slow=9.9,SNR=8.1							
WRA	**Warramunga Arr**	**20.84**	**227**	P	P		13 46 05.8	-2.3
	8.3nm,0.8s,baz=53,slow=11,SNR=40							
ASAR	**Alice Springs**	**23.62**	**221**	P	P		13 46 34.7	-0.7
	3.2nm,0.5s,baz=56,slow=9.0,SNR=65							
STKA	**Stephens Creek**	**26.89**	**197**	P	P		13 47 05.0	-1.3
	4.9nm,0.7s,baz=22,slow=11,SNR=7.9							
FITZ	**Fitzroy Crossi**	**27.01**	**242**	P	P		13 47 05.7	-1.8
	4.4nm,0.5s,baz=27,slow=8.3,SNR=12							
CBIJ	**Chichi jima**	**34.05**	**347**	LR	LR		13 58 49.4	
	comp=Z,561nm,21.6s,baz=229,slow=30							
YKA	**Yellowknife Ar**	**97.70**	**28**	P	P		13 54 56.7	-0.8
	0.2nm,0.5s,baz=277,slow=4.8,SNR=6.1							
BDFB	**Brasilia**	**151.59**	**140**	PKPbc	PKPdf		14 01 15.8	+5.5
	1.0nm,0.3s,baz=78,slow=21,SNR=3.2							

IDC 31 13:54:06.1±3.9,1.17N×96.88E,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=163.5km s-min=22.2km az=58.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.30**	**122**	P	P		14 02 00.9	-2.7
	0.5nm,0.8s,baz=301,slow=9.1,SNR=3.3							
ASAR	**Alice Springs**	**43.64**	**127**	P	P		14 02 13.6	-0.9
	0.2nm,0.6s,baz=304,slow=7.9,SNR=3.3							
MKAR	**Makanchi Array**	**47.19**	**346**	P	P		14 02 40.4	-2.0
	0.8nm,0.6s,baz=165,slow=6.9,SNR=11							
SONM	**Songino Array**	**47.20**	**9**	P	P		14 02 41.5	-1.1
	0.3nm,0.8s,baz=182,slow=10.0,SNR=4.2							
ZAL	**Zalesovo**	**53.52**	**351**	P	P		14 03 27.7	-3.0
	0.9nm,0.3s,baz=240,slow=3.0,SNR=3.4							

IDC 31 13:55:36.7±3.1,1.31N×97.23E,mb3.8/5,mb1 3.9/5, mb1mx3.7/19,mbtmp3.8/5,MS3.5/2,Ms1 3.5/2, ms1mx2.9/31,Error ellipse: s-maj=121.9km s-min=27.1km az=55.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**33.97**	**126**	LR	LR		14 18 23.0	
	comp=Z,67nm,18.7s,baz=7.0,slow=40							
WRA	**Warramunga Arr**	**42.07**	**122**	P	P		14 03 30.4	-1.8
	0.6nm,0.6s,baz=302,slow=9.0,SNR=6.6							
SONM	**Songino Array**	**47.02**	**8**	P	P		14 04 10.2	-1.4
	1.1nm,0.7s,baz=188,slow=8.8,SNR=10.0							
SONM				LR	LR		14 26 42.5	
	comp=Z,64nm,18.1s,baz=208,slow=40							
MKAR	**Makanchi Array**	**47.14**	**346**	P	P		14 04 11.0	-1.6
	0.7nm,0.6s,baz=162,slow=8.7,SNR=6.9							
ZAL	**Zalesovo**	**53.44**	**351**	P	P		14 04 58.2	-2.4
	1.4nm,0.5s,baz=310,slow=5.7,SNR=5.5							
BVAR	**Borovoye Array**	**56.15**	**341**	P	P		14 05 17.3	-3.1
	1.1nm,0.8s,baz=129,slow=9.5,SNR=7.1							

*ISK **31** 13:57:25.5,34.95N×26.44E,h35km,ML3.5*
*IDC **31** 13:57:27.6±3.0,34.72N×27.16E,mb3.5/3,mb1 3.6/5, mb1mx3.4/19,mbtmp3.4/5,ML3.2/2,Error ellipse: s-maj=78.2km s-min=19.4km az=179.0*
*ATH **31** 13:57:31.1,35.35N×27.06E,h17km±2km,MD3.5/10*
*NEIC **31** 13:57:31.8,35.43N×26.99E,h14km,MD3.5(ATH),After ATH.*
*CSEM **31** 13:57:32.1±0.2,35.40N×26.95E,h10km,MD3.5,Error ellipse: s-maj=9.1km s-min=3.3km az=158.0*

ISC 31 13:57:31.2±0.7,35.32N±0.06×26.97E±0.04,h10km,n33, σ1§31/39,mb3.4/3,2C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.27**	**34**	*i*P	**P**	**Pb**	**13 57 35.3**	**-2.4**
NPS	**Neapolis**	**1.12**	**267**	*i*PN	**P**	**Pn**	**13 57 54.0**	**+1.2**
NPS	**Neapolis**	**1.12**	**267**	⇑*i*Pn	**P**	**Pn**	**13 57 54.1**	**+1.3**
XRY	**Khrísi**	**1.14**	**247**	*e*PN	**P**	**Pn**	**13 57 54.0**	**+0.9**
ARG	**Arkhangelos**	**1.29**	**46**	*e*PN	**P**	**Pn**	**13 57 54.7**	**-0.7**
ARG				*e*SN	**S**	**Sn**	**13 58 12.0**	**-0.8**
NISR	**Nisiros**	**1.29**	**5**	*e*PN	**P**	**Pn**	**13 57 54.5**	**-0.9**
THR1	**Thera Island**	**1.62**	**311**	*e*P	**P**	**Pn**	**13 57 59.9**	**-0.1**
THR3	**Thira Island,**	**1.68**	**311**	*e*P	**P**	**Pn**	**13 58 00.9**	**+0.1**
IDI	**Anoyia**	**1.71**	**270**	Pn	**P**	**Pn**	**13 58 02.5**	**+1.2**
	13nm,0.3s,baz=80,slow=12,SNR=61							
IDI				Sn	**S**	**Sn**	**13 58 28.3**	**+5.0**
	44nm,0.3s,baz=335,slow=20,SNR=10							
THR4	**Thira Island,**	**1.71**	**312**	*e*P	**P**	**Pn**	**13 57 59.6**	**-1.7**
THR5	**Thira Island,**	**1.72**	**310**	*e*P	**P**	**Pn**	**13 58 00.1**	**-1.3**
BODT	**Bodrum**	**1.76**	**9**	*e*PN	**P**	**Pn**	**13 58 01.2**	**-0.8**
BDRM	**Kayabasi**	**1.78**	**12**	*i*P	**P**	**Pn**	**13 58 01.3**	**-1.0**
BDRM				*i*S	**S**	**Sn**	**13 58 27.4**	**+2.2**
DALT	**Dalyan (Mudla)**	**1.98**	**42**	*e*PN	**P**	**Pn**	**13 58 05.2**	**+0.1**
APE	**Apeiranthos**	**2.10**	**327**	*e*PN	**P**	**Pn**	**13 58 01.2**	**-5.7**
APE	**Apeiranthos**	**2.10**	**327**	*e*Pb	**P**	**Pb**	**13 58 06.3**	**-2.6**
APE	**Apeiranthos**	**2.10**	**327**	*e*PB	**P**	**Pb**	**13 58 07.3**	**-1.6**
FETY	**Fethiye**	**2.16**	**52**	*e*PN	**P**	**Pn**	**13 58 08.5**	**+0.8**
VAM	**Vamos**	**2.27**	**273**	*e*Pn	**P**	**Pn**	**13 58 12.2**	**+2.9**
VAM	**Vamos**	**2.27**	**273**	*e*PN	**P**	**Pn**	**13 58 12.0**	**+2.7**
KSL	**Kastellorizon**	**2.28**	**68**	*e*PN	**P**	**Pn**	**13 58 09.0**	**-0.4**
AKAS	**Kas**	**2.33**	**66**	*i*P	**P**	**Pn**	**13 58 12.1**	**+1.9**
AKAS				*i*S	**P**	**Sn**	**13 58 40.1**	**+1.1**
SMG	**Samos**	**2.39**	**357**	*e*PN	**P**	**Pn**	**13 58 12.0**	**+1.0**
AYDN	**Tasoluk**	**2.45**	**17**	*i*P	**P**	**Pn**	**13 58 12.3**	**+0.4**
AYDN				*i*S	**P**	**Sn**	**13 58 43.6**	**+1.5**
DNZL	**Cakiroluk**	**2.90**	**35**	*i*P	**P**	**Pn**	**13 58 18.8**	**+0.5**
DNZL				*i*S	**P**	**Sn**	**13 58 55.7**	**+2.2**
DENT	**Denizli**	**2.94**	**34**	*e*PN	**P**	**Pn**	**13 58 19.2**	**+0.3**
VLI	**Veliai**	**3.56**	**294**	*e*PN	**P**	**Pn**	**13 58 28.5**	**+0.8**
VLI	**Veliai**	**3.56**	**294**	*e*Pn	**P**	**Pn**	**13 58 27.0**	**-0.7**
BRTR	**Keskin Array B**	**6.88**	**48**	Pn	**P**	**Pn**	**13 59 13.5**	**-1.2**
	0.1nm,0.3s,baz=223,slow=13,SNR=3.3							
GERES	**GERESS Array B**	**16.59**	**329**	P	**P**		**14 01 30.2**	**+3.6**
	0.1nm,0.3s,baz=139,slow=18,SNR=2.3							
ESDC	**Sonseca Array**	**24.86**	**289**	P	**P**		**14 02 54.5**	**-0.6**
	0.5nm,0.4s,mb3.4,baz=97,slow=9.7,SNR=4.2							
MKAR	**Makanchi Array**	**42.45**	**57**	P	**P**		**14 05 25.6**	**-2.1**
	0.4nm,0.7s,mb3.2,baz=293,slow=4.8,SNR=4.3							
SONM	**Songino Array**	**58.23**	**51**	P	**P**		**14 07 25.9**	**-2.0**
	0.3nm,0.6s,mb3.5,baz=292,slow=7.8,SNR=3.1							

*IDC **31** 14:17:35.4±3.6,0.56N×97.98E,mb3.7/5,mb1 3.9/5, mb1mx3.6/18,mbtmp3.7/5,Error ellipse: s-maj=152.3km s-min=21.3km az=58.0*
*NEIC **31** 14:17:39.5±0.8,0.46N×97.88E,h30km,mb4.4/1,Error ellipse: s-maj=23.7km s-min=13.7km az=80.0*

ISC 31 14:17:37.7±0.8,0.55N±0.10×97.9E±0.2,h30km,n11, σ1§19/11,mb3.8/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.46**	**30**	*ePn*	**P**	**Pn**	**14 19 00.1**	**+0.8**
CM31	**Chiang Mai Arr**	**17.83**	**3**	P	**P**	**P**	**14 21 42.8**	**-2.7**
WRA	**Warramunga Arr**	**41.11**	**122**	P	**P**		**14 25 20.6**	**-0.3**
	1.0nm,0.5s,mb3.7,baz=304,slow=8.9,SNR=19							
WRAB	**Tennant Creek**	**41.12**	**122**	*eP*	**P**		**14 25 20.7**	**-0.3**
	9.4nm,1.1s,mb4.3							
ASAR	**Alice Springs**	**42.46**	**127**	P	**P**		**14 25 31.9**	**-0.2**
	1.8nm,0.8s,mb3.7,baz=298,slow=8.1,SNR=12							
SONM	**Songino Array**	**47.68**	**8**	P	**P**		**14 26 14.9**	**+1.5**
	0.1nm,0.4s,mb3.2,baz=180,slow=4.9,SNR=3.6							
MKAR	**Makanchi Array**	**48.04**	**346**	P	**P**		**14 26 17.2**	**+0.9**
	0.3nm,0.5s,mb3.6,baz=162,slow=7.7,SNR=4.7							
MKAR	**Makanchi Array**	**48.04**	**346**	P	**P**		**14 26 17.2**	**+0.9**
ZAL	**Zalesovo**	**54.30**	**351**	P	**P**		**14 27 01.9**	**-1.6**
	0.7nm,0.5s,mb3.9,baz=313,slow=6.6,SNR=3.3							
VNA2	**Neumayer--Watz**	**95.48**	**199**			**P**	**14 31 02.2**	**+1.6**
VNA3	**Neumayer Olymp**	**96.11**	**198**			**P**	**14 31 02.5**	**-0.9**

*IDC **31** 14:27:22.2±0.5,5.11N×94.54E,mb4.8/23,mb1 4.8/23, mb1mx4.8/27,mbtmp4.8/23,MS3.7/7,Ms1 3.7/7, ms1mx3.5/26,Error ellipse: s-maj=19.8km s-min=12.0km az=47.0*
*BJI **31** 14:27:23.4,4.69N×94.53E,h43km,mB5.1,mb5.0,Ms4.4, Msz3.9*
*MOS **31** 14:27:25.5±0.9,5.14N×94.62E,h33km,mb5.2/35,Error ellipse: s-maj=11.7km s-min=5.7km az=117.1*
*NEIC **31** 14:27:26.8±0.2,5.11N×94.58E,h30km,mb5.0/38, MS4.2/1,Error ellipse: s-maj=6.9km s-min=4.6km az=223.0*
*HRVD **31** 14:27:26.8±1.1,5.09N×94.54E,h36km±2km,MW4.7/21, Centroid moment Tensor Solution. LP body waves: s14,c17;Mantle waves: s21,c26; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.44±.17; $M_{\theta\theta}$-0.19±.10; $M_{\phi\phi}$-1.25±.12; $M_{r\theta}$0.06±.12; $M_{r\phi}$0.47±.08; $M_{\theta\phi}$-0.66±.15; Best double couple: $M_0$1.58×10^{16} NP1:ϕ_s333°,δ33°,λ79°. NP2:ϕ_s166°,δ57°,λ97°. Principal axes: T 1.595, Plg77°, Azm97°; N -.034, Plg6°, Azm342°; P -1.565, Plg12°, Azm251°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

**ISC 31 14:27:25.8±0.3,5.06N±0.05×94.51E±0.03,h36km, h36km±2.6km:pP-P,n175,σ1§06/180,mb4.9/78,MS4.0/

LZH AMB AMB
comp=Z,30nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,110nm,4.0s
GTA Gaotai 34.53 7⇑ *i*P P 14 34 12.5 -0.5
GTA AP pP 14 34 21.8 -1.5
GTA XP sP 14 34 25.0 -2.9
GTA PP PP 14 35 31.5 +1.8
GTA S **S** **14 39 39.0 +0.6**
GTA XS 14 39 56.0
GTA SS SS 14 41 54.8 +3.9
GTA AMB AMB
comp=Z,31nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,66nm,3.9s
GTA LR LR
comp=N,178nm,15.3s,MS4.2
GTA LR LR
comp=E,264nm,14.9s,MS4.2
GTA LR LR
comp=Z,72nm,16.1s,MS3.5
NJ2 Nanjing 35.22 37 *e*P P 14 34 19.0 +0.1
NJ2 AP pP 14 34 28.8 -0.5
NJ2 XP sP 14 34 32.8 -1.1
NJ2 PP PP 14 35 36.5 -2.0
NJ2 S **S** **14 39 49.0 -0.1**
NJ2 XS 14 40 05.0
NJ2 AMB AMB
comp=Z,50nm,1.0s,mb5.4
NJ2 AMB AMB
comp=Z,2μm,5.7s
NJ2 LR LR
comp=N,540nm,14.7s,MS4.6
NJ2 LR LR
comp=E,530nm,13.3s,MS4.6
NJ2 LR LR
comp=Z,370nm,15.2s,MS4.2
SSE Sheshan 36.04 41 P P 14 34 22.5 -3.4
SSE PP PP 14 35 45.3 -3.1
SSE PCP PcP 14 36 47.5 -4.5
SSE S **S** **14 40 01.3 -0.5**
SSE PCS 14 40 35.3
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.3
SSE AMB AMB
comp=Z,36nm,5.7s
SSE LR LR
comp=N,75nm,20.7s,MS3.5
SSE LR LR
comp=E,39nm,21.0s,MS3.5
SSE LR LR
comp=Z,100nm,17.2s,MS3.6
TIA Tai'an 37.33 31 *e*P P 14 34 36.3 -0.4
KSH Kashi 38.18 337 *e*P P 14 34 42.0 -1.8
KSH *e*AP pP 14 34 52.3 -1.8
KSH *e*XP sP 14 34 56.3 -2.4
KSH *e*PP PP 14 36 13.5 -1.3
KSH *e*PCP PcP 14 36 58.5 0.0
KSH *e*S **S** **14 40 32.3 -2.1**
KSH *e*SCP 14 40 41.8
KSH *e*PCS 14 40 47.5
KSH *e*SCS ScS 14 44 50.0 -0.3
KSH AMB AMB
comp=Z,50nm,2.3s,mb4.8
KSH LR LR
comp=N,350nm,4.6s
KSH LR LR
comp=E,320nm,4.3s
FITZ Fitzroy Crossi 38.37 128 P P 14 34 44.9 -0.7
comp=E,29nm,0.6s,mb5.2,baz=329,slow=4.3,SNR=58
FITZ PcP PcP 14 36 59.8 +0.5
comp=E,12nm,0.5s,baz=344,slow=3.1,SNR=9.3
HHC Hu-ho-hao-te 38.78 21 *e*P P 14 34 49.0 +0.2
HHC AP pP 14 34 58.3 -0.9
HHC XP sP 14 35 01.5 -2.2
HHC PP PP 14 36 23.5 +1.8
HHC S **S** **14 40 47.0 +3.5**
HHC XS 14 41 03.5
HHC SS SS 14 43 35.5 +8.7
HHC SCS ScS 14 44 52.3 -1.5
HHC AMB AMB
comp=Z,15nm,0.9s,mb4.7
HHC LR LR
comp=N,200nm,20.8s,MS4.1
HHC LR LR
comp=E,163nm,18.4s,MS4.1
HHC LR LR
comp=Z,180nm,23.2s,MS3.8
JOW Kunigami 38.80 52 P P 14 34 50.0 +0.9
comp=Z,8.5nm,0.3s,mb4.9,baz=246,slow=8.3,SNR=6.5
WMQ Urumqi 39.07 352⇑ *i*P P 14 34 51.5 +0.4
WMQ AP pP 14 35 01.0 -0.5
WMQ XP sP 14 35 04.0 -2.1
WMQ PP PP 14 36 26.0 +1.1
WMQ PCP PcP 14 37 03.0 +1.8
WMQ *e*S **S** **14 40 48.0 +0.2**
WMQ AMB AMB
comp=Z,26nm,0.8s,mb5.0
WMQ AMB AMB
comp=Z,142nm,4.6s
WMQ LR LR
comp=N,2μm,28.6s,MS4.9
WMQ LR LR
comp=E,2μm,30.2s,MS4.9
WMQ LR LR
comp=Z,1μm,27.8s,MS4.6
BJT Baijiatuau 39.91 26 *e*P P 14 34 58.4 +0.3
BJT pmax pmax
comp=Z,28nm,0.6s
BJT Baijiatuau 39.91 26 *e*P P 14 34 58.4 +0.3
comp=Z,28nm,0.6s,mb5.2
BJI Beijing 39.93 26 *e*P P 14 34 59.0 +0.7
BJI S **S** **14 41 10.5 +10**
BJI AMB AMB
comp=Z,40nm,0.7s,mb5.3
BJI LR LR
comp=N,240nm,18.5s,MS4.2
BJI LR LR
comp=E,190nm,16.0s,MS4.2
BJI LR LR
comp=Z,128nm,25.7s
ULHL Ulahol 40.44 339 P P 14 35 03.5 +0.9
SNR=7.2
UCH Uchtor 41.07 337 P P 14 35 08.9 +1.2
SNR=26
TKM2 Tokmak 2 41.26 339 P P 14 35 10.1 +0.8
SNR=7.3
KBK Karagaybulak 41.27 338 P P 14 35 10.8 +1.4
SNR=23
AML Almayashu 41.31 336 P P 14 35 11.0 +1.3
SNR=43
AAK Ala-Archa 41.42 338 P P 14 35 14.5 +3.9
SNR=15
AAK Ala-Archa 41.42 338 P P 14 35 10.0 -0.6
comp=Z,90nm,0.7s,mb5.5,SNR=10
AAK Ala-Archa 41.42 338 *e*P P 14 35 10.2 -0.4
AAK pmax pmax
comp=Z,16nm,0.9s,mb4.7
AAK Ala-Archa 41.42 338 *e*P P 14 35 10.2 -0.4
comp=Z,16nm,0.9s,mb4.7
FRU Bishkek 41.55 338 *e*P P 14 35 14.0 +2.3
DL2 Dalian 41.70 32 P P 14 35 14.0 +1.0
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
EKS2 Erkin-Say 41.72 337 P P 14 35 14.3 +1.1
SNR=16
USP Ospenovka 41.97 338 P P 14 35 15.6 +0.5
SNR=18
MKAR Makanchi Array 42.90 348 *i* P P 14 35 22.8 +0.1
MKAR pmax pmax
comp=Z,13nm,0.6s
MKAR Makanchi Array 42.90 348 P P 14 35 22.9 +0.2
comp=Z,30nm,0.8s,mb5.1,baz=165,slow=8.0,SNR=314
KKAR Karatay Array 43.43 334 P P 14 35 27.3 +0.2
KKAR pmax pmax
comp=Z,1.0nm,0.5s,mb3.8
SONM Songino Array 43.82 12 P P 14 35 29.5 -0.6
comp=Z,12nm,0.8s,mb4.7,baz=191,slow=8.2,SNR=112
SONM PcP PcP 14 37 16.4 -0.3
comp=Z,7.2nm,0.6s,baz=195,slow=3.8,SNR=18
SONM LR LR 14 55 48.5
comp=Z,94nm,19.1s,MS3.7,baz=12,slow=39
ULN Ulaanbaatar 43.98 12 *e*P P 14 35 30.4 -1.1
ULN pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
ULN Ulaanbaatar 43.98 12 *e*P P 14 35 30.4 -1.1
comp=Z,8.3nm,0.7s,mb4.6
ZAK Zakamensk 45.77 8⇑ *i*P P 14 35 44.9 -0.8
ZAK *e* 14 37 23.0
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WRA Warramunga Arr 46.37 124 P P 14 35 50.9 0.0
comp=Z,57nm,0.7s,mb5.6,baz=302,slow=9.3,SNR=330
WRAB Tennant Creek 46.37 124⇑ *i*P P 14 35 51.3 +0.4
WRAB Tennant Creek 46.37 124 *e*P P 14 35 50.7 -0.2
comp=Z,88nm,0.7s,mb5.8
TLY Talaya 47.09 8 *e*P P 14 35 56.2 +0.2
TLY *e* 14 42 47.6
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
TLY MLR MLR
comp=Z,95nm,18.0s,MS3.8
TLY Talaya 47.09 8 *e*P P 14 35 56.0 -0.1
comp=Z,5.5nm,0.8s,mb4.5
CN2 Changchun 47.23 30 *e*P P 14 35 56.3 -1.0
CN2 *e*XP sP 14 36 10.8 -1.4
CN2 *e*S **S** **14 42 46.5 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,410nm,5.0s
CN2 LR LR
comp=N,200nm,12.0s,MS4.5
CN2 LR LR
comp=E,200nm,12.0s,MS4.5
CN2 LR LR
comp=Z,200nm,16.0s,MS4.2
KURK Kurchatov 47.41 346 *e*P P 14 35 58.6 -0.1
KURK pmax pmax
comp=Z,49nm,1.3s,mb5.3
KURK Kurchatov 47.41 346 *e*P P 14 35 58.6 -0.1
comp=Z,49nm,1.3s,mb5.3
ASAR Alice Springs 47.86 128 P P 14 36 02.4 -0.2
comp=Z,7.4nm,0.4s,mb5.0,baz=298,slow=7.9,SNR=139
ASAR PcP PcP 14 37 31.1 -0.2
comp=Z,3.9nm,0.5s,baz=309,slow=3.7,SNR=8.4
ASAR LR LR 15 00 03.0
comp=Z,68nm,18.1s,MS3.7,baz=172,slow=41
HIA Hailar 48.97 22 *e*P P 14 36 09.9 -0.9
HIA *e* 14 37 34.1
HIA pmax pmax
comp=Z,10.0nm,0.6s
HIA Hailar 48.97 22 *e*P P 14 36 09.8 -0.9
comp=Z,9.7nm,0.6s,mb5.0
HIA *e*PcP PcP 14 37 34.1 -0.7
ZAL Zalesovo 49.37 352 P P 14 36 13.3 -0.5
comp=Z,13nm,0.5s,mb5.2,baz=304,slow=5.4,SNR=48
MDJ Mudanjiang 49.95 32 P P 14 36 17.8 -0.6
MDJ AP pP 14 36 26.8 -2.1
MDJ XP sP 14 36 30.5 -2.8
MDJ PCP PcP 14 37 36.3 -2.1
MDJ SCP 14 41 28.0
MDJ PCS 14 41 33.5
MDJ S **S** **14 43 25.3 +0.3**
MDJ AMB AMB
comp=Z,9.0nm,1.2s,mb4.7
MDJ AMB AMB
comp=Z,74nm,5.2s
MDJ LR LR
comp=N,20nm,17.1s,MS3.7
MDJ LR LR
comp=E,73nm,20.0s,MS3.7
MDJ LR LR
comp=Z,64nm,23.6s,MS3.5
MDJ Mudanjiang 49.95 32 P P 14 36 18.2 -0.2
comp=Z,5.9nm,0.8s,mb4.7
NVS Novosibirsk 50.47 352⇑ *i*P P 14 36 20.7 -1.5
NVS *e* pP 14 36 32.8 +0.1
NVS pmax pmax
comp=Z,29nm,1.0s,mb5.3
NVS pmax pmax
comp=N,16nm,0.9s
MJAR Matsushiro Arr 50.81 46 P P 14 36 24.7 -0.4
comp=N,2.8nm,0.8s,mb4.3,baz=248,slow=8.0,SNR=4.4
ATD Arta Tunnel 51.47 281 LR LR 14 53 58.7
comp=N,66nm,18.8s,MS3.7,baz=106,slow=31
BVA0 Borovoye Array 51.76 342 *i* P P **14 36 30.9 -1.0**
BVA0 pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BVAR Borovoye Array 51.76 342 P P 14 36 31.2 -0.7
comp=Z,7.5nm,0.7s,mb4.7,baz=149,slow=8.6,SNR=32
CHKZ Chkalovo 52.25 342 *e*P P 14 36 35.0 -0.6
CHKZ *e* pP 14 36 47.5 +1.3
CHKZ *e* 14 37 46.2
CHKZ *e* 14 38 28.0
CHKZ pmax pmax
comp=Z,24nm,0.7s,mb5.2
CHKZ Chkalovo 52.25 342 *e*P P 14 36 35.0 -0.6
comp=Z,24nm,0.7s,mb5.2
CHKZ *e* pP 14 36 47.5 +1.3
CHKZ *e*PcP PcP 14 37 46.2 -0.6
CHKZ *e*PP PP 14 38 28.0 -7.1
KLR Kul'dur 54.12 29 *e*P P 14 36 48.0 -1.6
PMG Port Moresby 54.40 105 *e*P P 14 36 50.8 -1.3
PMG pmax pmax
comp=Z,15nm,0.8s
PMG Port Moresby 54.40 105 *e*P P 14 36 50.8 -1.2
comp=Z,15nm,0.8s,mb5.0
BOD Bodaibo 54.79 13⇑ *i*P P 14 36 52.1 -2.3
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CTAO Charters Tower 56.65 118 P P 14 37 06.9 -1.3
CTAO pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CTAO Charters Tower 56.65 118 P P 14 37 06.9 -1.3
comp=Z,7.3nm,0.9s,mb4.7
GNI Garni 56.67 316 P P 14 37 08.8 +0.6
comp=Z,4.7nm,0.5s,mb4.8,baz=15,slow=5.4,SNR=3.8
KMBO Kilima Mbogo 57.52 265 *e*P P 14 37 15.9 +1.3
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 57.52 265 P P 14 37 15.8 +1.3
comp=Z,2.5nm,0.5s,mb4.5,baz=73,slow=9.5,SNR=9.4
KMBO Kilima Mbogo 57.52 265 *e*P P 14 37 15.9 +1.4
comp=Z,8.2nm,1.0s,mb4.7
STKA Stephens Creek 57.92 133 P P 14 37 15.8 -1.3
comp=Z,3.8nm,0.7s,mb4.5,baz=316,slow=6.3,SNR=8.5
SVE Sverdlovsk 58.14 339 *e*P P 14 37 16.5 -1.8
ARU Arti 58.61 338 *i* P P 14 37 20.1 -1.5
ARU pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
YSS Yuzh-Sakhalins 58.78 37 *e*P P 14 37 22.0 -0.9
KIV Kislovodsk 59.65 319 *e*P P 14 37 27.9 -1.1
KIV pmax pmax
comp=Z,12nm,0.8s,mb5.0
KIV Kislovodsk 59.65 319 *e*P P 14 37 27.9 -1.1
comp=Z,12nm,0.8s,mb5.0
MALT Malatya 60.57 311 *i* P P 14 37 34.2 -1.1
GZT Gaziantep 60.93 310 *i* P P 14 37 37.9 +0.1
YAK Yakutsk 62.54 18 *i* P P 14 37 46.0 -2.2
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.4
BRTR Keskin Array B 64.55 312 P P 14 38 00.8 -1.0
comp=Z,5.3nm,0.8s,mb4.6,baz=137,slow=6.2,SNR=7.1
VRSR Storozhevoye 64.88 325 *e*P P 14 38 01.6 -2.1
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRSR pmax pmax
comp=N,7.0nm,0.9s
VRSR pmax pmax
comp=E,20nm,1.0s
MOS Moscow 67.67 329 *e*P P 14 38 18.8 -2.5
MOS *e* 14 38 42.0
OBN Obninsk 67.95 328 *e* *i*P P 14 38 22.2 -0.8
OBN *e* 14 38 41.9
OBN pmax pmax
comp=Z,41nm,1.4s,mb5.3
MA2 Magadan 69.08 27 *e*P P 14 38 28.8 -1.2
MA2 pmax pmax
comp=Z,17nm,0.8s,mb5.0
MA2 Magadan 69.08 27 *e*P P 14 38 28.8 -1.3
comp=Z,17nm,0.8s,mb5.0
TIXI Tiksi 69.91 11 *e*P P 14 38 30.4 -4.5
TIXI pmax pmax
comp=Z,19nm,0.7s,mb5.1
AKASG Malin Array Be 70.58 322 P P 14 38 37.8 -1.5
comp=Z,3.3nm,0.5s,mb4.6,baz=88,slow=5.3,SNR=27
VRI Vrincioaia 70.98 317⇑ P P 14 38 42.3 +0.5
MLR Muntele Rosu 71.44 316 P P 14 38 45.2 +0.6
comp=Z,13nm,0.9s,mb4.9,baz=149,slow=0.4,SNR=6.3
MLR Muntele Rosu 71.44 316⇑ P P 14 38 45.6 +1.0
BURAR Bucovina Array 72.37 318⇓ P P 14 38 50.8 +0.7
BOSA Boshof 74.42 239 P P 14 39 03.6 +1.1
comp=Z,2.2nm,0.7s,mb4.2,baz=98,slow=10,SNR=4.1
BOSA LR LR 15 04 46.7
comp=Z,117nm,20.1s,MS4.2,baz=164,slow=30
KOLS Kolonicke sedl 74.56 319 *e*P P 14 39 03.5 +0.6
APA Apatity 74.60 340⇑ *i*P P 14 39 10.8 +8.1
APA pmax pmax
comp=Z,13nm,1.0s,mb4.8
CRVS Cervenica-Dubn 75.08 319 *e*P P 14 39 06.2 +0.3
CRVS *e* 14 39 23.2
FINES FINESS Array B 75.36 332 P P 14 39 06.7 -0.5
comp=Z,2.0nm,0.5s,mb4.3,baz=98,slow=6.3,SNR=19
FINES LR LR 15 16 29.5
comp=Z,42nm,20.6s,MS3.7,baz=154,slow=39
KAF Kangasniemi 75.45 333 *e*P P 14 39 07.3 -0.4
comp=Z,2.7nm,0.6s,mb4.3,baz=105,slow=5.3
KAF Kangasniemi 75.45 333 *e*P P 14 39 07.3 -0.4
KAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
OJC Ojcow 76.36 320⇑ *i*P P 14 39 13.3 +0.2
VYHS Vyhne 76.74 319 *e*P P 14 39 14.9 -0.4
VYHS *e* 14 39 31.9
OKC Ostrava-Krasne 77.36 320 *e*P P 14 39 19.4 +0.6
OKC AMS AMS 14 47 20.0
comp=Z,100nm,19.7s
MORC Moravsky Berou 77.74 320 *e*P P 14 39 20.8 -0.1
MORC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MORC Moravsky Berou 77.74 320 *e*P P 14 39 20.8 -0.1
comp=Z,9.4nm,0.8s,mb4.8
ARCES ARCESS Array B 78.02 340 P P 14 39 22.3 +0.3
comp=Z,2.9nm,0.6s,mb4.4,baz=104,slow=5.0,SNR=13
ARCES LR LR 15 15 55.1
comp=Z,52nm,19.3s,MS3.9,baz=174,slow=37
BILL Bilibino 78.56 21 *e*P P 14 39 24.1 -0.9
BILL pmax pmax
comp=Z,13nm,1.1s,mb4.8
BILL Bilibino 78.56 21 *e*P P 14 39 24.1 -0.9
comp=Z,13nm,1.1s,mb4.8
DPC Dobruska-Polom 78.59 320 *e*P P 14 39 26.6 +1.1
DPC AMS AMS 14 46 20.0
comp=Z,200nm,11.0s
KSP Ksiaz 78.66 321 *e*P P 14 39 25.4 -0.5
KSP *e**PP pP 14 39 40.0 +3.1
KSP Ksiaz 78.66 321 *e*P P 14 39 26.7 +0.8
UPC Upice 78.80 320 *e*P P 14 39 27.5 +0.8
PERS Pernice 79.06 316 *i* P P 14 39 28.8 +0.6
PRU Pruhonice 79.69 320 *e*P P 14 39 31.8 +0.3
PRU AMS AMS 14 47 20.0
comp=Z,100nm,23.1s
PVCC Panska Ves 79.72 320 *e*P P 14 39 32.7 +1.0
PVCC AMS AMS 14 46 20.0
comp=Z,300nm,9.4s
GORS Gorjuse 79.81 316 *i* P P 14 39 32.4 +0.2
BRG Berggiesshubel 80.14 321 *e*P P 14 39 34.6 +0.7
BRG pmax pmax
comp=Z,18nm,0.8s,mb5.0
BRG MLR MLR
comp=Z,210nm,12.3s,MS4.7
BRG Berggiesshubel 80.14 321 *e*P P 14 39 34.6 +0.7
comp=Z,18nm,0.8s,mb5.0
BRG LR LR
comp=Z,210nm,12.3s,MS4.7
GEC2 GERESS Array S 80.16 319 *e*P P 14 39 34.8 +0.7
GERES GERESS Array B 80.16 319 P P 14 39 34.8 +0.7
comp=Z,19nm,0.8s,mb5.1,baz=94,slow=4.9,SNR=35
KHC Kasperske Hory 80.26 319 *e*P P 14 39 35.2 +0.6
KHC AMS AMS 14 46 20.0
comp=Z,300nm,13.2s
WET Wettzell 80.72 319 *e*P P 14 39 37.1 +0.1
WET pmax pmax
comp=Z,14nm,1.0s,mb4.8
WET Wettzell 80.72 319 *e*P P 14 39 37.1 +0.1
comp=Z,14nm,1.0s,mb4.8
CLL Collm 80.76 321 *eSP sP 14 39 54.0 +1.7
NKC Novy Kostel 81.06 320 AMS AMS 14 47 10.0
comp=Z,300nm,12.8s
HFS Hagfors 81.06 330 P P 14 39 38.4 -0.2
comp=Z,1.7nm,0.5s,mb4.2,baz=117,slow=6.6,SNR=16
MOX Moxa 81.61 320 *e*P P 14 39 41.8 +0.2
MOX Moxa 81.61 320 *i* P P 14 39 41.8 +0.2
GRA1 Grafenberg Arr 81.82 319 *e*P P 14 39 43.1 +0.3
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 81.82 319 *e*P P 14 39 43.1 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 81.82 319 *e*P P 14 39 43.1 +0.3
GRF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GRF Grafenberg Arr 81.82 319 *e*P P 14 39 43.1 +0.3
comp=Z,18nm,1.0s,mb5.0
NB2 NORSAR Subarra 82.35 331 P P 14 39 44.5 -0.7
comp=Z,3.0nm,0.9s,mb4.2,baz=92,slow=5.3
NB2 NORSAR Subarra 82.35 331 P P 14 39 44.5 -0.7
NB2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
NOA NORSAR Array B 82.35 331 P P 14 39 45.0 -0.2
comp=Z,2.1nm,0.9s,mb4.1,baz=93,slow=5.5,SNR=7.1
NOA LR LR 15 19 30.4
comp=Z,23nm,19.3s,MS3.6,baz=175,slow=38
CLZ Clausthal 82.43 321 *e*P P 14 39 46.2 +0.4
CLZ pmax pmax
comp=Z,15nm,0.8s,mb5.0
CLZ Clausthal 82.43 321 *e*P P 14 39 46.2 +0.4
comp=Z,15nm,0.8s,mb5.0
DAVOX Davos 82.66 316 P P 14 39 48.2 +1.0
comp=Z,24nm,0.6s,mb5.4,baz=140,slow=5.1,SNR=15
DAVOX Davos 82.66 316 P P 14 39 48.2 +1.0
TNS Taunus Mts 83.62 320 *e*P P 14 39 52.9 +0.9
BFO Black Forest 83.71 318 *e*P P 14 39 52.7 +0.2
BFO pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
BFO Black Forest 83.71 318 *e*P P 14 39 52.7 +0.2
comp=Z,8.0nm,0.7s,mb5.0
LPG La Plagne 84.86 315 *e*P P 14 39 58.6 +0.3
comp=Z,20nm,0.8s,mb5.0
LPG La Plagne 84.86 315 *e*P P 14 39 58.6 +0.3
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
EKA Eskdalemuir Ar 90.23 326 P P 14 40 24.8 +0.8
comp=Z,5.3nm,0.7s,mb5.0,baz=97,slow=5.3,SNR=21
YKA Yellowknife Ar 109.06 14 PP PP 14 46 18.2 -6.5
comp=Z,0.3nm,0.7s,baz=335,slow=7.9,SNR=5.9
ULM Lac du Bonnet 124.19 8 PKP PKPdf 14 46 20.8 -0.2
comp=Z,0.8nm,0.3s,baz=11,slow=1.0,SNR=5.8
PDAR Pinedale Array 127.63 22 PKP PKPdf 14 46 29.4 +1.5
comp=Z,1.1nm,0.5s,baz=92,slow=3.2,SNR=13
TXAR Lajitas Array 141.60 26 PKhKP 14 46 50.5
comp=Z,0.8nm,0.6s,baz=93,slow=0.3,SNR=4.8
LPAZ La Paz 159.64 235 PKP PKPdf 14 47 23.9 +2.3
comp=Z,0.6nm,0.3s,baz=54,slow=3.8,SNR=5.5
LPAZ PKPab PKPab 14 48 03.5 +1.0
comp=Z,1.0nm,0.5s,baz=95,slow=9.2,SNR=5.2
LPAZ La Paz 159.64 235 PKP PKPdf 14 47 23.9 +2.3
LPAZ PKPab PKPab 14 48 03.5 +1.0

*NEIC **31** 14:34:41.3, 16.34N×98.41W, h6km, MD4.1(MEX), After MEX.*

MEX 31 14:34:40.8±1.0, 16.32N×98.43W, h5km±8km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PNIG	**Pinotepa**	**0.30**	**76**	*i* P		Pg	14 34 46.0	-0.8
PNIG				*i* S		Sg	14 34 50.3	-0.5
ACX	**Acapulco**	**1.53**	**291**	*i* P		Pn	14 35 04.9	-3.9
ACX				*i* S		Sb	14 35 23.2	-5.5
VHO	**Vista Hermosa**	**1.79**	**65**	*i* P		Pn	14 35 10.4	-2.2
VHO				*i* S		Sn	14 35 30.9	-5.0
OXX	**Oaxaca**	**1.80**	**65**	*i* P		Pn	14 35 10.0	-2.7
OXX				*i* S		Sn	14 35 30.5	-5.7
CAIG	**El Cayaco**	**1.90**	**293**	*i* P		Pn	14 35 12.7	-1.6
CAIG				*i* S		Sn	14 35 34.3	-4.5
HUIG	**Huatulco**	**2.30**	**104**	*i* P		Pn	14 35 16.9	-3.0
HUIG				*i* S		Sn	14 35 40.6	-8.2
HUIG	**Huatulco**	**2.30**	**104**	*i* P		Pn	14 35 16.9	-3.0
HUIG				*i* S		Sn	14 35 41.9	-7.0
PLIG	**Platanillo**	**2.30**	**334**	*e*P		Pn	14 35 17.4	-2.5
PLIG				*i* S		Sn	14 35 43.7	-5.2
YAIG	**Yautepec**	**2.60**	**347**	*e*P		Pn	14 35 21.2	-3.0
YAIG				*i* S		Sn	14 35 49.5	-7.0

PPM	**Popocatepetl**	**2.74**	**356**	*e*P		Pn	14 35 24.0	-2.1
PPM				*i* S		Sn	14 35 56.4	-3.6
PPM	**Popocatepetl**	**2.74**	**356**	*e*P		Pn	14 35 20.8	-5.3
PPM				*e*P			14 35 24.0	
PPM				*i* S		Sn	14 35 56.4	-3.6
PPM				*i* S		Sn	14 35 57.2	-2.7
IISM	**Ciudad Serdan**	**2.83**	**21**	*i* P		Pn	14 35 25.0	-2.5
IISM				*i* S		Sn	14 36 00.3	-2.1
ZIIG	**Zihuatanejo**	**3.17**	**294**	*i* S		Sn	14 36 07.5	-3.6
CMIG	**Matias Romero**	**3.48**	**77**	*e*P		Pn	14 35 32.9	-3.8
CMIG				*i* S		Sn	14 36 12.8	-6.0
LVIG	**Laguna Verde**	**3.89**	**29**	*i* S		Sn	14 36 21.6	-7.4
MOIG	**Morelia**	**4.25**	**322**	*i* S		Sn	14 36 35.6	-2.6

MOS ***31*** *14:35:03.1±1.3,34.90N×25.69E,h10km,mb4.4/21,Error ellipse: s-maj=8.4km s-min=5.1km az=116.2*
ATH ***31*** *14:35:07.8,35.54N×25.94E,h7km±2km,MD4.1/21,ML4.2*
CSEM ***31*** *14:35:07.6±0.1,35.41N×25.97E,h10km,mb4.4/3,Ms3.1, Mw3.7,Error ellipse: s-maj=3.0km s-min=1.8km az=37.0*
NEIC ***31*** *14:35:08.4±0.6,35.51N×25.86E,h10km±5km,mb4.1/23, ML4.2(ATH),Error ellipse: s-maj=5.8km s-min=3.9km az=174.0*
BJI ***31*** *14:35:08.4,35.50N×25.90E,h9km,mB4.4,mb4.3,Ms4.5, Msz4.3*
ZUR_RM ***31*** *14:35:08,35.51N×25.86E,h6km,Mw4.4/24,Moment Tensor Solution. s24 Moment tensor: Scale 10¹⁵Nm; Mrr=0.71; Mθθ=1.71; Mϕϕ=2.42; Mrθ=1.08; Mθϕ=2.37; Mϕr=1.80; Best double couple: Mo=3.83×10¹⁵ NP1:ϕ=343°,δ81°, λ=146°. NP2:ϕ=246°,δ56°,λ=11°. Principal axes: T:3.843, Plg16°, Azm110°; N:-.03, Plg55°, Azm356°; P:-3.814, Plg31°, Azm210°;*
THE ***31*** *14:35:09.3,35.64N×26.13E,h10km,ML4.4*
IDC ***31*** *14:35:10.0±2.2,35.09N×25.83E,h33km±14km,mb3.8/7, mb1 4.0/12,mb1mx3.8/24,mbtmp4.0/12,ML4.0/5,MS3.3/7, Ms1 3.3/7,ms1mx3.0/26,Error ellipse: s-maj=35.0km s-min=15.8km az=1.0*

ISC 31 14:35:08.9±0.3,35.32N±0.03×25.85E±0.03,h37km±3km, n167,σ1§38/172,mb4.2/26,MS3.2/6,1C,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPS	**Neapolis**	**0.20**	**255**	*e*PB		**P**		**14 35 15.3**	**-0.6**
NPS				*e*SB		**S**		**14 35 20.2**	**-0.5**
XRY	**Khrisi**	**0.46**	**196**	*e*PG		**P**		**14 35 20.8**	**+1.9**
IDI	**Anoyia**	**0.78**	**268**	Pg		**P**		**14 35 25.0**	**+1.5**
	198nm,0.3s,baz=72,slow=14,SNR=727								
IDI				Lg				14 35 37.4	
	1μm,0.3s,baz=344,slow=18,SNR=72								
IDI				LR		LR		14 35 44.9	
	comp=Z,1μm,19.1s,baz=78,slow=44								
KARP	**Karpathos**	**1.10**	**77**	*i*PB		**P**		**14 35 26.5**	**-1.5**
THR1	**Thera Island**	**1.10**	**344**	*e*Pg		**P**		**14 35 27.0**	**-1.0**
THR1				*e*Sg		**S**		**14 35 40.8**	**-1.4**
SANT	**Santorini**	**1.10**	**343**	*e*Pg		**P**		**14 35 26.6**	**-1.4**
SANT				*e*Sg		**S**		**14 35 42.4**	**+0.2**
THR6	**Thira Island,**	**1.10**	**341**	*e*Pg		**P**		**14 35 28.1**	**+0.1**
THR3	**Thira Island,**	**1.15**	**342**	*e*Pg		**P**		**14 35 28.2**	**-0.5**
THR5	**Thira Island,**	**1.17**	**340**	*e*Pg		**P**		**14 35 28.1**	**-0.9**
THR4	**Thira Island,**	**1.20**	**342**	*e*Pg		**P**		**14 35 27.8**	**-1.6**
VAM	**Vamos**	**1.35**	**274**	*e*PG		**P**		**14 35 33.9**	**+2.3**
VAM				*e*SB		**S**		**14 35 53.7**	**+5.1**
VAM	**Vamos**	**1.35**	**274**	*e*Pg		**P**		**14 35 33.8**	**+2.2**
VAM				*e*S		**S**		**14 35 53.7**	**+5.1**
GVD	**Gavdhos**	**1.52**	**252**	*e*PB		**P**		**14 35 40.0**	**+5.9**
NISR	**Nisiros**	**1.66**	**38**	*e*PB		**P**		**14 35 35.0**	**-1.1**
APE	**Apeiranthos**	**1.77**	**352**	*e*PG		**P**		**14 35 36.9**	**-0.7**
ARG	**Arkhangelos**	**2.06**	**63**	*e*PN		**P**		**14 35 42.4**	**+0.6**
BODT	**Bodrum**	**2.11**	**34**	P		**P**		**14 35 41.6**	**-0.8**
BODT	**Bodrum**	**2.11**	**34**	P		**P**		**14 35 41.6**	**-0.9**
BDRM	**Kayabasi**	**2.17**	**36**	*i* P		**P**		**14 35 48.3**	**+4.9**
KYTH	**Kithira**	**2.48**	**294**	*e*Pb		**P**		**14 35 49.0**	**+1.2**
KYTH	**Kithira**	**2.48**	**294**	*e*PB		**P**		**14 35 50.0**	**+2.2**
SMG	**Samos**	**2.52**	**18**	*e*PN		**P**		**14 35 48.8**	**+0.5**
DALT	**Dalyan (Mudla)**	**2.69**	**57**	P		**P**		**14 35 51.9**	**+1.1**
VLI	**Veliai**	**2.74**	**302**	*e*Pb		**P**		**14 35 52.4**	**+0.9**
VLI	**Veliai**	**2.74**	**302**	*e*PB		**P**		**14 35 52.9**	**+1.4**
AYDN	**Tasoluk**	**2.86**	**34**	*i* P		**P**		**14 35 58.1**	**+4.9**
NAIG	**Nisos Aigina**	**3.09**	**323**	*e*PB		**P**		**14 35 58.5**	**+2.0**
KSL	**Kastellorizon**	**3.15**	**74**	*e*PN		**P**		**14 35 58.5**	**+1.1**
ATH	**Athens Observa**	**3.16**	**328**	*e*PN		**P**		**14 35 57.5**	**+0.1**
AKAS	**Kas**	**3.19**	**72**	*i* P		**P**		**14 36 09.1**	**+11**
BLCB	**Balcova**	**3.21**	**17**	P		**P**		**14 35 56.2**	**-2.0**
BLCB	**Balcova**	**3.21**	**17**	P		**P**		**14 35 56.2**	**-2.0**
NSAL	**Nisos Salamina**	**3.22**	**324**	*e*PB		**P**		**14 35 59.8**	**+1.5**
IZM	**Izmir**	**3.28**	**20**	P		**P**		**14 35 57.4**	**-1.8**
KDAG	**Bornova**	**3.29**	**20**	*i* P		**P**		**14 36 00.1**	**+0.9**
MPAR	**Parnis Oros**	**3.30**	**330**	*e*PB		**P**		**14 36 01.0**	**+1.6**
MGER	**Gerania Oros**	**3.38**	**323**	*e*PB		**P**		**14 36 02.5**	**+1.9**
DNZL	**Cakiroluk**	**3.50**	**46**	*i* P		**P**		**14 36 03.9**	**+1.6**
ITM	**Ithomi**	**3.67**	**302**	*e*PN		**P**		**14 36 07.7**	**+2.9**
MANT	**Manisa**	**3.84**	**34**	*i* P		**P**		**14 36 11.9**	**+4.7**
NEO	**Neokhori**	**4.50**	**333**	*e*PN		**P**		**14 36 17.0**	**+0.5**
AGG	**Agios Georgios**	**4.64**	**324**	*e*Pn		**P**		**14 36 18.6**	**0.0**
EVR	**Evrytania**	**4.83**	**319**	*e*PN		**P**		**14 36 22.5**	**+1.3**
ULDT	**Uludag**	**5.48**	**27**	*i* P		**P**		**14 36 28.8**	**-1.4**
ESKT	**Eskisehir**	**5.79**	**42**	*i* P		**P**		**14 36 36.5**	**+2.0**
CSS	**Prodhromos**	**6.14**	**91**	*e*Pn		**P**		**14 36 42.1**	**+2.5**
	34nm,0.9s								
CSS				*e*Sn		**S**		**14 37 47.6**	**-1.9**
KEK	**Kerkira**	**6.51**	**314**	*e*Pn		**P**		**14 36 43.5**	**-1.2**
KEK	**Kerkira**	**6.51**	**314**	*e*PN		**P**		**14 36 45.5**	**+0.8**
MEST	**Erdemli**	**6.85**	**77**	*i* P		**P**		**14 36 48.5**	**-1.1**
SKO	**Skopje**	**7.49**	**334**	*e*P		**P**		**14 37 00.6**	**+2.2**
BRTR	**Keskin Array B**	**7.60**	**52**	Pn		**P**		**14 36 59.5**	**-0.4**
	0.7nm,0.3s,baz=221,slow=14,SNR=30								
ELDT	**Eldivan**	**7.91**	**47**	*i* P		**P**		**14 37 05.2**	**+0.9**
TIP	**Timpagrande**	**8.21**	**301**	*e*Pn		**P**		**14 37 07.0**	**-1.4**
TIP				*e*Sn		**S**		**14 38 24.1**	**-17**
SLTI	**Sal'it**	**8.24**	**109**	P		**P**		**14 37 10.0**	**+1.1**
KZIT	**Kziot**	**8.41**	**119**	P		**P**		**14 37 09.8**	**-1.4**
MMLI	**Mount Malkishu**	**8.46**	**107**	P		**P**		**14 37 12.0**	**+0.1**
GLH	**Golan-Tel Qazi**	**8.54**	**105**	P		**P**		**14 37 13.7**	**+0.7**
HMDT	**Nahal Hemdat**	**8.62**	**108**	P		**P**		**14 37 14.7**	**+0.6**
HMDT				S		**S**		**14 38 47.3**	**-3.8**
DRGI	**Dragot**	**8.80**	**112**	P		**P**		**14 37 15.3**	**-1.2**
MZDA	**Masada**	**8.91**	**114**	P		**P**		**14 37 17.2**	**-0.9**
KMTI	**Karmit**	**9.11**	**122**	P		**P**		**14 37 19.3**	**-1.5**
PRNI	**Paran**	**9.16**	**120**	P		**P**		**14 37 20.7**	**-0.8**
MGR	**Morigerati**	**9.47**	**304**	*e*Pn		**P**		**14 37 24.0**	**-1.8**
VAE	**Valguarnera**	**9.47**	**287**	Sn		**S**		**14 39 16.8**	**+4.6**
	1.9nm,0.3s,baz=49,slow=14,SNR=5.3								
VAE				LR		LR		14 41 17.9	
	comp=Z,159nm,20.6s,baz=119,slow=38								
EIL	**Elat**	**9.53**	**124**	Pn		**P**		**14 37 26.3**	**-0.4**
	1.5nm,0.3s,baz=332,slow=20,SNR=10								
EIL				Sn		**S**		**14 39 04.8**	**-8.8**
	0.6nm,0.3s,baz=341,slow=23,SNR=2.9								
EIL	**Elat**	**9.53**	**124**	*e*P		**P**		**14 37 24.4**	**-2.3**
	13nm,0.6s								
EIL				*e*S		**S**		**14 39 05.2**	**-8.4**
SLCN	**Sala Consilina**	**9.53**	**305**	*e*Pn		**P**		**14 37 25.6**	**-1.1**
ASF	**Jabal al Asfar**	**9.72**	**106**	Pn		**P**		**14 37 28.0**	**-1.3**
	0.8nm,0.3s,baz=158,slow=4.2,SNR=11								
MRLC	**Muro Lucano**	**9.81**	**307**	*e*Pn		**P**		**14 37 28.2**	**-2.3**
SGO	**Sicignano**	**9.83**	**305**	*e*P		**P**		**14 37 25.6**	**-5.2**
MLR	**Muntele Rosu**	**10.16**	**0**	Pn		**P**		**14 37 37.0**	**+1.6**
	0.2nm,0.3s,baz=182,slow=6.9,SNR=4.1								
MLR				LR		LR		14 41 40.2	
	comp=Z,234nm,20.3s,baz=182,slow=38								
NRCA	**Norcia**	**12.41**	**311**	*e*Pn		**P**		**14 38 04.4**	**-1.5**
PSZ	**Piszkesteto**	**13.35**	**342**	P		**P**		**14 38 20.1**	**+1.9**
VSL	**Villasalto**	**13.74**	**293**	P		**P**		**14 38 29.2**	**+5.9**
	32nm,1.2s								
KWP	**Kalwaria**	**14.49**	**352**	*e*P		**P**		**14 38 22.1**	**-11**
KIV	**Kislovodsk**	**15.56**	**51**	P		**P**		**14 38 48.2**	**+1.1**
KIV				pmax		pmax			
	comp=Z,15nm,0.9s								
KIV	**Kislovodsk**	**15.56**	**51**	P		**P**		**14 38 48.2**	**+1.2**
	comp=Z,15nm,0.9s								
KIV				*e*				14 38 53.7	
KIV				*e*				14 39 04.9	
OKC	**Ostrava-Krasne**	**15.57**	**341**	*e*P		**P**		**14 38 59.4**	**+12**
AKASG	**Malin Array Be**	**15.57**	**8**	Pn		**P**		**14 38 50.7**	**+3.5**
	comp=Z,27nm,0.3s,baz=198,slow=11,SNR=12								
MORC	**Moravsky Berou**	**15.68**	**340**	P		**P**		**14 38 56.2**	**+7.7**
GNI	**Garni**	**15.71**	**67**	LR		LR		14 46 07.9	
	comp=Z,156nm,19.0s,baz=301,slow=42								
ZEI	**Tsey**	**15.86**	**57**	*e*P		**P**		**14 38 52.7**	**+1.8**
GERES	**GERESS Array B**	**16.22**	**330**	Pn		**P**		**14 38 58.0**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=135,slow=11,SNR=6.7								
GOF	**Gofitskoye**	**16.32**	**48**	*e*P		**P**		**14 39 02.9**	**+6.2**
KHC	**Kasperske Hory**	**16.50**	**331**	*e*P		**P**		**14 39 06.5**	**+7.6**
DPC	**Dobruska-Polom**	**16.55**	**338**	*e*P		**P**		**14 39 02.2**	**+2.6**
DAVOX	**Davos**	**16.59**	**319**	LR		LR		14 46 54.5	
	comp=Z,168nm,18.1s,baz=80,slow=42								
LMR	**La Mourre**	**16.95**	**304**	*e*P		**P**		**14 38 56.1**	**-8.5**
MBDF	**Montbardon**	**17.34**	**309**	*e*P		**P**		**14 39 03.5**	**-6.0**
	comp=Z,16nm,1.0s								
MBDF	**Montbardon**	**17.34**	**309**	*e*P		**P**		**14 39 03.5**	**-6.0**
MBDF				pmax		pmax			
	comp=Z,8.0nm,1.0s								
LPG	**La Plagne**	**17.70**	**311**	*e*P		**P**		**14 39 14.1**	**0.0**
	comp=Z,12nm,0.7s								
LPG	**La Plagne**	**17.70**	**311**	*e*P		**P**		**14 39 14.1**	**0.0**
LPG				pmax		pmax			
	comp=Z,6.0nm,0.7s								
LPL	**La Plagne**	**17.73**	**311**	*e*P		**P**		**14 39 13.4**	**-1.0**
ORIF	**Oris-en-Rattie**	**17.99**	**308**	*e*P		**P**		**14 39 13.4**	**-4.3**
ORIF				*e*R					
	comp=Z,237nm,21.8s								
CLL	**Collm**	**18.47**	**334**	P		**P**		**14 39 23.0**	**-0.6**
CLL				*i*				14 39 35.8	
CLL	**Collm**	**18.47**	**334**	P		**P**		**14 39 23.0**	**-0.6**
CLL				*e*				14 39 30.0	
CLL				*i*				14 39 35.8	
CABF	**La Chapelle**	**18.65**	**313**	*e*P		**P**		**14 39 24.6**	**-1.3**
	comp=Z,21nm,0.8s								
CABF	**La Chapelle**	**18.65**	**313**	*e*P		**P**		**14 39 24.6**	**-1.3**
CABF				pmax		pmax			
	comp=Z,10.0nm,0.8s								
VIVF	**Saint-Julien-l**	**18.75**	**307**	*e*P		**P**		**14 39 25.8**	**-1.3**
	comp=Z,10nm,0.8s								
VIVF	**Saint-Julien-l**	**18.75**	**307**	*e*P		**P**		**14 39 25.8**	**-1.3**
VIVF				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SUW	**Suwalki**	**18.79**	**355**	P		**P**		**14 39 25.0**	**-2.5**
SUW				pmax		pmax			
	comp=Z,38nm,0.7s								
SUW	**Suwalki**	**18.79**	**355**	P		**P**		**14 39 25.0**	**-2.5**
	comp=Z,38nm,0.7s								
HINF	**Hinteralfeld**	**18.86**	**317**	*e*P		**P**		**14 39 28.4**	**+0.1**
	comp=Z,7.9nm,0.6s								
HINF	**Hinteralfeld**	**18.86**	**317**	*e*P		**P**		**14 39 28.4**	**+0.1**
HINF				pmax		pmax			
	comp=Z,4.0nm,0.6s								
CDF	**Champ du Feu**	**18.98**	**319**	*e*P		**P**		**14 39 30.7**	**+1.0**
	comp=Z,5.6nm,0.6s								
CDF	**Champ du Feu**	**18.98**	**319**	*e*P		**P**		**14 39 30.7**	**+1.0**
CDF				pmax		pmax			
	comp=Z,3.0nm,0.6s								
LASF	**Ste Croix**	**19.01**	**304**	*e*P		**P**		**14 39 28.0**	**-2.1**
	comp=Z,50nm,1.4s								
MTLF	**Montolieu**	**19.91**	**301**	*e*P		**P**		**14 39 37.2**	**-2.9**
	comp=Z,28nm,1.2s								
MTLF	**Montolieu**	**19.91**	**301**	*e*P		**P**		**14 39 37.2**	**-2.9**
MTLF				pmax		pmax			
	comp=Z,14nm,1.2s								
SMF	**Signal de Mont**	**20.03**	**311**	*e*P		**P**		**14 39 39.4**	**-1.9**
	comp=Z,10.0nm,0.7s								
SMF	**Signal de Mont**	**20.03**	**311**	*e*P		**P**		**14 39 39.4**	**-1.9**
SMF				pmax		pmax			
	comp=Z,5.0nm,0.7s								
AVF	**Avril sur Loir**	**20.40**	**311**	*e*P		**P**		**14 39 43.3**	**-1.8**
	comp=Z,18nm,1.0s								
AVF	**Avril sur Loir**	**20.40**	**311**	*e*P		**P**		**14 39 43.3**	**-1.8**
AVF				pmax		pmax			
	comp=Z,9.0nm,1.0s								
SSF	**Saint Saulge**	**20.43**	**312**	*e*P		**P**		**14 39 44.2**	**-1.2**
SSF				pmax		pmax			
	comp=Z,14nm,0.9s								
SSF	**Saint Saulge**	**20.43**	**312**	*e*P		**P**		**14 39 44.2**	**-1.2**
	comp=Z,14nm,0.9s								
CAF	**Calviac**	**20.50**	**305**	*e*P		**P**		**14 39 45.5**	**-0.7**
RAYN	**Ar Rayn**	**20.72**	**119**	P		**P**		**14 39 55.1**	**+6.4**
	comp=Z,60nm,0.9s,SNR=9.6								
TCF	**Toulx Ste Croi**	**20.90**	**309**	*e*P		**P**		**14 39 49.5**	**-0.9**
RJF	**Les Rejaudoux**	**20.99**	**306**	*e*P		**P**		**14 39 51.3**	**0.0**
	comp=Z,33nm,1.1s								
RJF				*e*R					
	comp=Z,106nm,19.8s								
OBN	**Obninsk**	**21.14**	**17**	P		**P**		**14 39 57.0**	**+4.3**
OBN				*e*				14 40 04.2	
OBN				*e*				14 40 12.0	
OBN				MLR		MLR			
	comp=Z,100nm,15.0s,MS3.3								
GIVF	**Givet**	**21.27**	**320**	*e*P		**P**		**14 39 56.3**	**+2.2**
BAIF	**Baives**	**21.57**	**320**	*e*P		**P**		**14 39 56.0**	**-1.0**
	comp=Z,30nm,0.9s,mb4.4								
BAIF	**Baives**	**21.57**	**320**	*e*P		**P**		**14 39 56.0**	**-1.0**
BAIF				pmax		pmax			
	comp=Z,15nm,0.9s,mb4.4								
ETSF	**Etsaut**	**21.79**	**298**	*e*P		**P**		**14 39 56.9**	**-2.3**
	comp=Z,5.3nm,0.6s,mb3.8								
ETSF	**Etsaut**	**21.79**	**298**	*e*P		**P**		**14 39 56.9**	**-2.3**
ETSF				pmax		pmax			
	comp=Z,3.0nm,0.6s,mb3.9								
MOS	**Moscow**	**21.97**	**18**	*e*P		**P**		**14 40 14.3**	**+13**
SJPF	**Ste Jean**	**22.31**	**299**	*e*P		**P**		**14 40 01.8**	**-2.6**
	comp=Z,14nm,0.9s,mb4.1								
SJPF	**Ste Jean**	**22.31**	**299**	*e*P		**P**		**14 40 01.8**	**-2.6**
SJPF				pmax		pmax			
	comp=Z,7.0nm,0.9s,mb4.1								
MFF	**Saint Martin d**	**22.53**	**308**	*e*P		**P**		**14 40 08.2**	**+1.6**
	comp=Z,15nm,0.6s,mb4.3								
MFF	**Saint Martin d**	**22.53**	**308**	*e*P		**P**		**14 40 08.2**	**+1.6**
MFF				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.3								
LDF	**La Druitiere**	**23.29**	**313**	*e*P		**P**		**14 40 14.3**	**+0.3**
	comp=Z,32nm,0.9s,mb4.5								
LDF	**La Druitiere**	**23.29**	**313**	*e*P		**P**		**14 40 14.3**	**+0.3**
LDF				pmax		pmax			
	comp=Z,16nm,0.9s,mb4.5								
FLN	**La Foliniere**	**23.58**	**313**	*e*P		**P**		**14 40 16.6**	**-0.2**
	comp=Z,31nm,0.7s,mb4.5								
FLN				*e*R					
	comp=Z,94nm,21.5s								
FLN	**La Foliniere**	**23.58**	**313**	*e*P		**P**		**14 40 16.6**	**-0.2**
FLN				pmax		pmax			
	comp=Z,16nm,0.7s,mb4.6								
FLN				MLR		MLR			
	comp=Z,90nm,21.5s,MS3.2								
GRR	**Gorron**	**23.66**	**312**	*e*P		**P**		**14 40 16.9**	**-0.6**
	comp=Z,17nm,0.8s,mb4.2								
GRR	**Gorron**	**23.66**	**312**	*e*P		**P**		**14 40 16.9**	**-0.6**
GRR				pmax		pmax			
	comp=Z,9.0nm,0.8s,mb4.2								
ESDC	**Sonseca Array**	**23.99**	**289**	P		**P**		**14 40 21.9**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.4,baz=103,slow=8.5,SNR=4.8								
ESLA	**Sonseca Array**	**23.99**	**289**	P		**P**		**14 40 22.5**	**+1.6**
	comp=Z,2.9nm,1.2s,mb3.6								
SGMF	**Saint Gilles**	**24.65**	**310**	*e*P		**P**		**14 40 27.9**	**+0.7**
	comp=Z,9.8nm,0.6s,mb4.2								
SGMF	**Saint Gilles**	**24.65**	**310**	*e*P		**P**		**14 40 27.9**	**+0.7**
SGMF				pmax		pmax			
	comp=Z,5.0nm,0.6s,mb4.2								
QUIF	**Quistinic**	**24.92**	**309**	*e*P		**P**		**14 40 30.1**	**+0.3**
	comp=Z,14nm,0.6s,mb4.4								
QUIF	**Quistinic**	**24.92**	**309**	*e*P		**P**		**14 40 30.1**	**+0.3**
QUIF				pmax		pmax			
	comp=Z,7.0nm,0.6s,mb4.4								
ROSF	**Rostrenen**	**25.13**	**310**	*e*P		**P**		**14 40 29.8**	**-2.0**
	comp=Z,29nm,1.0s,mb4.5								
ROSF	**Rostrenen**	**25.13**	**310**	*e*P		**P**		**14 40 29.8**	**-2.0**
ROSF				pmax		pmax			
	comp=Z,14nm,1.0s,mb4.5								
FINES	**FINESS Array B**	**26.15**	**0**	LR		LR		14 52 24.6	
	comp=Z,29nm,19.0s,MS2.8,baz=340,slow=39								
NOA	**NORSAR Array B**	**27.40**	**345**	LR		LR		14 52 22.2	
	comp=Z,35nm,18.5s,MS3.0,baz=165,slow=37								
EKA	**Eskdalemuir Ar**	**28.24**	**324**	P		**P**		**14 41 01.6**	**+1.3**
	comp=Z,2.6nm,0.7s,mb4.0,baz=116,slow=9.3,SNR=5.0								
ARCES	**ARCESS Array B**	**34.28**	**360**	LR		LR		14 56 17.2	
	comp=Z,50nm,18.5s,MS3.3,baz=213,slow=37								
CHKZ	**Chkalovo**	**36.10**	**45**	*e*P		**P**		**14 42 08.8**	**-0.1**
CHKZ				pmax		pmax			
	comp=Z,3.0nm,0.9s,mb4.2								
CHKZ	**Chkalovo**	**36.10**	**45**	*e*P		**P**		**14 42 08.8**	**-0.2**
	comp=Z,3.0nm,0.9s,mb4.2								
AAK	**Ala-Archa**	**38.09**	**64**	*e*P		**P**		**14 42 25.5**	**-0.2**
FRU	**Bishkek**	**38.16**	**64**	*e*P		**P**		**14 42 29.5**	**+3.2**
DBIC	**Dimbokro**	**40.10**	**232**	*e*P		**P**		**14 42 45.0**	**+2.3**
DBIC				pmax		pmax			
	comp=Z,7.0nm,1.1s								
DBIC	**Dimbokro**	**40.10**	**232**	*e*P		**P**		**14 42 45.0**	**+2.2**
	comp=Z,7.2nm,1.1s,mb4.3								
KURK	**Kurchatov**	**40.65**	**51**	*e*P		**P**		**14 42 47.3**	**+0.4**
KURK				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.2								
KURK	**Kurchatov**	**40.65**	**51**	*e*P		**P**		**14 42 47.3**	**+0.4**
	comp=Z,5.2nm,0.8s,mb4.2								
MKAR	**Makanchi Array**	**43.22**	**57**	P		**P**		**14 43 09.1**	**+1.1**
	comp=Z,2.4nm,0.4s,mb4.3,baz=270,slow=8.0,SNR=54								
NVS	**Novosibirsk**	**43.58**	**45**	*e*P		**P**		**14 43 10.9**	**+0.1**
NVS				pmax		pmax			
	comp=Z,15nm,1.5s,mb4.5								
ZAL	**Zalesovo**	**44.48**	**46**	P		**P**		**14 43 17.9**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.9,baz=192,slow=8.3,SNR=4.7								
WMQ	**Urumqi**	**47.44**	**60**	*e*P		**P**		**14 43 44.0**	**+2.4**
WMQ				AMB		AMB			
	comp=Z,5.0nm,1.0s,mb4.4								
WMQ				LR		LR			
	comp=Z,107nm,18.2s,MS3.9								
ZAK	**Zakamensk**	**56.22**	**49**	*e*P		**P**		**14 44 50.5**	**+3.1**
ZAK				pmax		pmax			
	comp=Z,2.0nm,1.4s,mb4.0								
SONM	**Songino Array**	**58.95**	**51**	P		**P**		**14 45 07.8**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=283,slow=6.5,SNR=5.9								
BOD	**Bodaibo**	**59.99**	**38**	*e*P		**P**		**14 45 10.7**	**-3.0**
SCHQ	**Schefferville**	**63.43**	**320**	P		**P**		**14 45 37.9**	**+1.0**
	comp=Z,1.9nm,0.5s,mb4.5,baz=227,slow=15,SNR=10								
CLNS	**Chul'man**	**65.79**	**37**	*e*P		**P**		**14 45 51.7**	**-0.3**
CLNS				*e*				14 45 55.8	
CLNS				pmax		pmax			
	comp=Z,4.0nm,0.4s,mb4.8								
CLNS				pmax		pmax			
	comp=N,5.0nm,0.5s								
CLNS				pmax		pmax			
	comp=E,9.0nm,0.8s								
MDJ	**Mudanjiang**	**74.69**	**46**	P		**P**		**14 46 45.5**	**-0.7**
MDJ				AMB		AMB			
	comp=Z,3.0nm,0.9s,mb4.2								
MDJ				AMB		AMB			
	comp=Z,91nm,4.9s								
YKA	**Yellowknife Ar**	**77.47**	**342**	P		**P**		**14 47 02.3**	**+0.6**
	comp=Z,0.8nm,0.8s,mb3.7,baz=34,slow=5.5,SNR=9.1								

IDC 31 14:40:20.7±3.7,1.97N×97.23E,mb3.6/5,mb1 3.7/5, mb1mx3.5/18,mbtmp3.6/5,MS2.5/1,Ms1 2.5/1, ms1mx2.5/23,Error ellipse: s-maj=155.3km s-min=21.9km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.42**	**123**	P		P	P	14 48 17.4	-1.7
	0.3nm,0.6s,baz=301,slow=9.3,SNR=3.8								
ASAR	**Alice Springs**	**43.84**	**128**	P		P	P	14 48 28.9	-1.8
	0.2nm,0.7s,baz=306,slow=12,SNR=5.1								
JNU	**Nakatsue**	**44.21**	**42**	LR		LR	LR	15 07 55.8	
	comp=Z,6

s-maj=130.0km s-min=30.5km az=65.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**33.63**	**344**	P	P	14 55 51.0	-1.2
	0.2nm,0.5s,baz=151,slow=9.1,SNR=4.4						
SONM	**Songino Array**	**34.10**	**13**	P	P	14 55 53.1	-3.2
	0.1nm,0.4s,baz=189,slow=9.2,SNR=4.0						
WRA	**Warramunga Arr**	**51.65**	**131**	P	P	14 58 16.9	-1.9
	0.2nm,0.3s,baz=304,slow=9.0,SNR=5.5						

IDC 31 14:50:30.7±16.0, 3.64S×65.87E, mb3.6/3, mb1 3.7/3, mb1mx3.5/19, mbtmp3.6/3, Error ellipse: s-maj=501.7km s-min=41.0km az=69.0, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**52.27**	**14**	P	P	14 59 44.1	-2.0
	0.3nm,0.8s,baz=180,slow=4.3,SNR=3.7						
SONM	**Songino Array**	**62.32**	**30**	P	P	15 00 54.9	-2.4
	1.0nm,0.7s,baz=219,slow=7.9,SNR=8.0						
WRA	**Warramunga Arr**	**68.54**	**110**	P	P	15 01 35.8	-1.9
	0.5nm,0.9s,baz=280,slow=5.1,SNR=3.3						

*IDC **31** 14:51:39.6±1.3, 18.36S×175.65E, mb4.9/5, mb1 5.1/6, mb1mx4.5/14, mbtmp4.8/6, ML3.9/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/23, Error ellipse: s-maj=41.1km s-min=28.2km az=157.0*

*NEIC **31** 14:51:43.9±0.7, 18.777S×175.76E, h35km, mb4.9/3, Error ellipse: s-maj=27.9km s-min=14.3km az=175.0*

ISC 31 14:51:42.7±0.9, 19.0S±0.2×175.7E±0.1, h33km, n22, σ1§01/10, mb4.8/8, MS3.6/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.24**	**249**	LR	LR	14 56 03.0	
	comp=Z,120nm,18.6s,baz=208,slow=28						
RAO	**Raoul Island**	**11.78**	**152**	LR	LR	14 58 12.6	
	comp=Z,238nm,20.9s,baz=298,slow=32						
AFI	**Afiamalu**	**12.99**	**69**	LR	LR	14 58 30.4	
	comp=Z,250nm,20.9s,baz=99,slow=32						
URZ	**Urewera**	**19.28**	**177**	P	**P**	**14 56 13.2**	**+5.8**
	0.4nm,0.3s,baz=28,slow=13,SNR=2.8						
RAR	**Rarotonga**	**23.12**	**100**	*e*P	**P**	**14 56 47.5**	**+0.6**
	97nm,1.2s,mb5.1						
CTA	**Charters Tower**	**27.79**	**263**	LR	LR	15 07 12.2	
	comp=Z,120nm,20.5s,MS3.5,baz=301,slow=34						
PMG	**Port Moresby**	**29.23**	**285**	LR	LR	15 07 39.0	
	comp=Z,124nm,19.4s,MS3.5,baz=176,slow=33						
TBI	**Tubuai**	**32.71**	**104**	*e*LR	LR	15 06 35.6	
PPT	**Papeete**	**32.95**	**93**	*e*LR	LR	15 06 40.6	
	223nm,25.8s						
PPT	**Papeete**	**32.95**	**93**	LR	LR	15 08 28.2	
	comp=Z,92nm,20.2s,MS3.5,baz=238,slow=30						
STKA	**Stephens Creek**	**33.26**	**240**	P	**P**	**14 58 18.9**	**-0.3**
	6.1nm,1.0s,mb4.5,baz=74,slow=10,SNR=6.7						
WRAB	**Tennant Creek**	**38.96**	**262**	P	**P**	**14 59 05.1**	**-2.4**
	33nm,1.7s,mb4.8						
WRA	**Warramunga Arr**	**38.97**	**261**	P	**P**	**14 59 07.8**	**+0.2**
	3.0nm,1.1s,mb3.9,baz=90,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**39.15**	**256**	P	**P**	**14 59 10.2**	**+1.1**
	65nm,0.3s,mb5.9,baz=86,slow=9.0,SNR=10						
ASAR				LR	LR	15 15 17.2	
	comp=Z,98nm,18.3s,MS3.7,baz=278,slow=36						
RKT	**Rikitea**	**46.04**	**104**	*e*LR	LR	15 12 42.1	
	161nm,30.2s						
FITZ	**Fitzroy Crossi**	**47.37**	**263**	P	**P**	**15 00 17.0**	**+1.2**
	20nm,1.0s,mb5.0,baz=100,slow=4.0,SNR=8.8						
FITZ				LR	LR	15 19 07.6	
	comp=Z,110nm,18.5s,MS3.9,baz=81,slow=35						
VNDA	**Vanda**	**59.01**	**183**	*e*P	**P**	**15 01 40.4**	**-0.8**
QSPA	**South Pole Qui**	**71.11**	**180**	*e*P	**P**	**15 02 59.6**	**+0.4**
	10nm,1.0s,mb4.7						
TXAR	**Lajitas Array**	**91.29**	**60**	P	**P**	**15 04 46.0**	**-0.6**
	0.8nm,0.6s,mb4.2,baz=217,slow=6.3,SNR=5.3						
CLL	**Collm**	**144.94**	**341**	*i* PKIKP	PKPdf	15 11 15.6	-0.7
	logA/T=0.9						
BRG	**Berggiesshubel**	**145.02**	**340**	*e*P	PKPdf	15 11 16.3	-0.1
GERES	**GERESS Array B**	**146.83**	**338**	PKPbc	PKPbc	15 11 21.7	+0.7
	1.3nm,0.8s,slow=1.3,SNR=7.2						

*IDC **31** 15:08:05.5±1.0, 0.83N×97.33E, mb4.2/13, mb1 4.3/13, mb1mx4.2/19, mbtmp4.2/13, MS3.4/3, Ms1 3.4/3, ms1mx3.1/29, Error ellipse: s-maj=36.5km s-min=16.5km az=50.0*

*BJI **31** 15:08:07.2, 0.48N×97.53E, h42km, mB5.0, mb4.8, Ms4.2, Msz3.9*

*NEIC **31** 15:08:10.1±0.6, 0.88N×97.39E, h30km, mb4.5/10, Error ellipse: s-maj=17.1km s-min=8.8km az=64.0*

ISC 31 15:08:08.3±0.6, 0.84N±0.08×97.35E±0.08, h30km, n40, σ0§97/41, mb4.5/30, MS3.6/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.22**	**45**	P	**Pn**	**15 09 26.6**	**+0.2**
KULM	**Kulim**	**5.51**	**37**	*e*Pn	**Pn**	**15 09 29.9**	**-0.7**
KULM				*e*		15 09 36.7	
KGM	**Kluang**	**6.08**	**79**	P	**Pn**	**15 09 38.9**	**+0.3**
CM31	**Chiang Mai Arr**	**17.57**	**5**	*e*P	**P**	**15 12 11.3**	**-1.5**
	11nm,0.8s						
KKM	**Kota Kinabalu**	**19.52**	**74**	P	**P**	**15 12 37.4**	**+1.0**
KMI	**Kunming**	**24.69**	**12**	P	**P**	**15 13 30.5**	**+2.2**
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
HYB	**Hyderabad**	**24.76**	**313**	*i* P	**P**	**15 13 42.0**	**+13**
GYA	**Guiyang**	**27.00**	**19**	P	**P**	**15 13 49.8**	**0.0**
LSA	**Lhasa**	**29.30**	**349**	P	**P**	**15 14 11.8**	**+1.3**
LSA	**Lhasa**	**29.30**	**349**	*e*P	**P**	**15 14 11.2**	**+0.6**
	comp=Z,11nm,0.8s,mb4.6						
ENH	**Enshi**	**31.46**	**20**	*e*P	**P**	**15 14 27.2**	**-2.4**
	comp=Z,5.0nm,0.4s,mb4.7						
XAN	**Xi'an**	**34.76**	**17**	P	**P**	**15 14 56.5**	**-1.7**
XAN				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.1						
NJ2	**Nanjing**	**37.09**	**31**	*e*P	**P**	**15 15 18.5**	**+0.6**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
GTA	**Gaotai**	**38.45**	**3**	*e*P	**P**	**15 15 29.8**	**+0.5**
GTA				PP	PP	15 16 59.0	-2.0
GTA				S	**S**	**15 21 15.0**	**-7.2**
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
GTA				AMB	AMB		
	comp=Z,92nm,4.6s						
GTA				LR	LR		
	comp=N,88nm,13.8s,MS4.0						
GTA				LR	LR		
	comp=E,123nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,83nm,13.8s,MS3.7						
JOW	**Kunigami**	**39.37**	**46**	P	**P**	**15 15 37.2**	**+0.1**
	comp=Z,12nm,0.8s,mb4.7,baz=212,slow=5.3,SNR=4.0						
WRA	**Warramunga Arr**	**41.72**	**122**	P	**P**	**15 15 56.0**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.0,baz=302,slow=9.0,SNR=9.4						
WRAB	**Tennant Creek**	**41.72**	**122**	*e*P	**P**	**15 15 56.2**	**-0.4**
	comp=Z,7.8nm,0.9s,mb4.3						
HHC	**Hu-ho-hao-te**	**41.85**	**16**	*e*P	**P**	**15 15 58.8**	**+1.4**
HHC				AP	pP	15 16 07.0	+0.6
HHC				XP	sP	15 16 12.3	+2.1
HHC				PP	PP	15 17 39.3	+2.0
HHC				S	**S**	**15 22 15.0**	**+1.9**
HHC				XS		15 22 31.0	
HHC				SS	SS	15 25 17.8	+3.2
HHC				SCS	ScS	15 25 56.8	+1.0
HHC				AMB	AMB		
	comp=Z,19nm,0.5s,mb5.0						
HHC				AMB	AMB		
	comp=Z,97nm,4.4s						
HHC				LR	LR		
	comp=E,177nm,14.9s						
HHC				LR	LR		
	comp=Z,122nm,14.3s,MS3.9						
BJT	**Baijiatuau**	**42.59**	**21**	*e*P	**P**	**15 16 04.1**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.3						
BJI	**Beijing**	**42.61**	**21**	*e*P	**P**	**15 16 04.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.0						
ASAR	**Alice Springs**	**43.06**	**127**	P	**P**	**15 16 07.3**	**-0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=297,slow=7.7,SNR=21						
WMQ	**Urumqi**	**43.65**	**350**	*e*P	**P**	**15 16 12.5**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ				LR	LR		
	comp=Z,94nm,22.4s,MS3.6						
AAK	**Ala-Archa**	**46.38**	**337**	*e*P	**P**	**15 16 29.9**	**-4.0**
	comp=Z,3.2nm,0.8s,mb4.3						
SONM	**Songino Array**	**47.46**	**8**	P	**P**	**15 16 42.6**	**+0.3**
	comp=Z,3.2nm,0.8s,mb4.3,baz=190,slow=9.5,SNR=28						
SONM				LR	LR	15 39 13.0	
	comp=Z,108nm,18.1s,MS3.9,baz=300,slow=39						
ULN	**Ulaanbaatar**	**47.59**	**9**	*e*P	**P**	**15 16 43.0**	**-0.3**
	comp=Z,4.1nm,1.1s,mb4.4						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**15 16 43.9**	**+0.3**
	comp=Z,5.9nm,0.5s,mb4.9,baz=159,slow=9.1,SNR=120						
MKAR				LR	LR	15 40 43.4	
	comp=Z,25nm,18.9s,MS3.2,baz=90,slow=41						
MJAR	**Matsushiro Arr**	**51.85**	**42**	P	**P**	**15 17 15.2**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.1,baz=223,slow=6.4,SNR=5.4						
MDJ	**Mudanjiang**	**52.10**	**29**	P	**P**	**15 17 16.5**	**-1.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,70nm,3.6s						
KURK	**Kurchatov**	**52.17**	**345**	*e*P	**P**	**15 17 17.5**	**-0.9**
	comp=Z,5.3nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**53.01**	**132**	P	**P**	**15 17 25.5**	**+0.6**
	comp=Z,3.2nm,0.7s,mb4.4,baz=249,slow=4.7,SNR=4.7						
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**15 17 30.7**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.6,baz=316,slow=6.0,SNR=25						
CHKZ	**Chkalovo**	**57.11**	**341**	*e*P	**P**	**15 17 53.2**	**-1.2**
	comp=Z,5.6nm,0.8s,mb4.7						
CHKZ				*e*pP	pP	15 18 00.1	-3.5
MA2	**Magadan**	**71.59**	**26**	*e*P	**P**	**15 19 28.2**	**-0.5**
	comp=Z,7.7nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**75.63**	**322**	P	**P**	**15 19 51.2**	**-1.1**
	comp=Z,0.4nm,0.2s,mb3.9,baz=89,slow=5.0,SNR=7.7						
FINES	**FINESS Array B**	**80.38**	**333**	P	**P**	**15 20 18.5**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=113,slow=5.0,SNR=10						
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**15 20 32.1**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=104,slow=5.0,SNR=7.4						
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**15 20 44.6**	**+1.4**
	comp=Z,0.6nm,0.7s,mb3.9,baz=117,slow=6.0,SNR=5.6						
NB2	**NORSAR Subarra**	**87.39**	**331**	P	**P**	**15 20 54.2**	**+0.5**
	comp=Z,1.5nm,0.8s,mb4.3,baz=93,slow=4.6						
NOA	**NORSAR Array B**	**87.39**	**331**	P	**P**	**15 20 54.4**	**+0.7**
	comp=Z,1.3nm,0.7s,mb4.2,baz=94,slow=4.9,SNR=9.0						
DAVOX	**Davos**	**87.65**	**317**	LR	LR	15 59 52.5	
	comp=Z,11nm,21.0s,MS3.3,slow=35						

*NEIC **31** 15:11:19.3, 33.17S×72.13W, h22km, ML2.7(GUC), After GUC.*

GUC 31 15:11:19.3±0.7, 33.17S×72.13W, h22km±25km, MD3.6, ML2.7, 10C-4D, Off coast of Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCCH	**Las Cruces**	**0.56**	**123**	⇑*i*P	Pb	15 11 29.9	-0.4
LCCH				*i* S	Sb	15 11 38.0	+0.2
PACH	**Papudo**	**0.86**	**43**	*e*P	Pb	15 11 35.0	-0.4
ROCH	**El Roble**	**0.96**	**78**	⇑*i*P	Pb	15 11 36.6	-0.5
ROCH				*i* S	Sb	15 11 49.8	+0.5
LNV	**Longovilo**	**0.98**	**143**	⇓*i*P	Pb	15 11 36.7	-0.8
LNV				*i* S	Sb	15 11 50.1	0.0
SCR	**San Cristobal**	**1.00**	**110**	⇑*i*P	Pb	15 11 41.8	+4.1
SCR				*i* S	Sb	15 11 58.7	+8.2
SCR				AMP		15 12 07.0	
	comp=N,136nm,0.5s						
TACH	**Talagante**	**1.10**	**116**	⇑*i*P	Pb	15 11 38.8	-0.7
TACH				*i* S	Sb	15 11 53.4	-0.2
RCDM	**Rinconada Maip**	**1.15**	**106**	⇑*i*P	Pn	15 11 38.6	-0.7
RCDM				*i* S	Sb	15 11 54.8	0.0
RCDM				AMP		15 11 55.8	
	comp=N,299nm,0.3s						
PEL	**Peldehue**	**1.21**	**89**	*e*P	Pn	15 11 41.6	+0.5
PEL				*e*S	Sb	15 11 57.5	+0.9
CLCH	**Cerro Calan**	**1.35**	**100**	⇑*i*P	Pn	15 11 42.7	-0.4
CLCH				*i* S	Sn	15 12 00.3	-0.3
CLCH				AMP		15 12 10.2	
	comp=N,320nm,0.5s						
JACH	**Jahuel**	**1.38**	**70**	⇓*i*P	Pn	15 11 43.2	-0.4
PCH	**Pirque**	**1.42**	**109**	*e*P	Pn	15 11 44.2	0.0
CHCH	**Chadas Angostu**	**1.45**	**122**	⇑*i*P	Pn	15 11 44.5	-0.1
CHCH				*i* S	Sn	15 12 02.9	-0.1
FCH	**Farellones**	**1.55**	**96**	⇓*i*P	Pn	15 11 46.2	+0.3
FCH				*i* S	Sn	15 12 06.7	+1.2
FCH				AMP		15 12 11.8	
	comp=E,214nm,0.6s						
CACH	**El Canelo**	**1.58**	**127**	⇑*i*P	Pn	15 11 47.3	+0.8
SFDO	**San Fernando**	**1.71**	**148**	⇑*i*P	Pn	15 11 48.0	-0.3
LMEL	**Las Melosas**	**1.74**	**113**	⇓*i*P	Pn	15 11 49.3	+0.6
LMEL				*i* S	Sn	15 12 12.1	+1.6
LMEL				AMP		15 12 19.2	
	comp=N,239nm,0.2s						
CICH	**Cipreses**	**1.83**	**129**	⇑*i*P	Pn	15 11 49.9	0.0
CICH				*i* S	Sn	15 12 13.8	+1.1

JMA 31 15:12:37.5±0.2, 43.47N×147.60E, h36km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.36**	**266**	P	P	15 13 01.0	+0.7
NEM2				*e*S	S	15 13 18.2	+0.8
JRA	**Rausu**	**1.86**	**285**	P	P	15 13 08.0	+0.5
JRA				*e*S	S	15 13 30.5	+0.6
JNK	**Nakash**	**2.10**	**274**	P	P	15 13 11.0	+0.1
JNK				*e*S	S	15 13 36.0	0.0
JAK	**Akkeshi**	**2.17**	**258**	P	P	15 13 12.3	+0.3
JAK				*e*S	S	15 13 38.2	+0.2
JTKR	**Abashiri--Toko**	**2.72**	**282**	P	P	15 13 20.3	+0.5
JAR	**Ashorobuto**	**2.80**	**268**	P	P	15 13 21.4	+0.5
JAR				*e*S	S	15 13 53.8	0.0
JOB	**Onbets**	**2.81**	**260**	P	P	15 13 21.4	+0.3
JOB				*e*S	S	15 13 53.8	-0.3
JMP	**Maruseppu**	**3.12**	**281**	P	P	15 13 26.1	+0.6
JCH	**Churui**	**3.22**	**256**	P	P	15 13 26.8	-0.1
JFR	**Furan**	**3.67**	**267**	P	P	15 13 33.4	+0.2
JFR				*e*S	S	15 14 15.4	-0.5
JNBK	**Urakawa-nobuka**	**3.76**	**253**	P	P	15 13 34.3	-0.2

*NEIC **31** 15:13:08.0, 46.28N×75.64W, h18km, MN3.4(OTT), After OTT.*

OTT 31 15:13:08.7±0.0, 46.28N×75.64W, h18km, MN3.4/49, 1C-3D, Southern Quebec

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRQ	**Grand Remous**	**0.36**	**336**	⇑PG	Pb	15 13 15.7	-0.7
GRQ				SG	Sb	15 13 20.6	-0.9
GRQ				Trac		15 13 20.9	
	comp=Z,234nm,0.1s						
GAC	**Glen Almond**	**0.58**	**169**	⇓PG	Pb	15 13 19.7	-0.4
GAC				PG	Pb	15 13 19.8	-0.4
GAC				SG	Sb	15 13 27.1	-0.8
GAC				SG	Sb	15 13 27.3	-0.6
GAC				Trac		15 13 27.7	
	comp=Z,80nm,0.1s						
GAC				Trac		15 13 35.8	
	comp=Z,102nm,0.2s						
TRQ	**Mont Tremblant**	**0.76**	**94**	PG	Pb	15 13 22.5	-0.6
TRQ				SG	Sb	15 13 32.4	-0.5
TRQ				Trac		15 13 37.5	
	comp=Z,96nm,0.1s						
ALFO	**Alfred**	**0.84**	**140**	PG	Pb	15 13 24.1	-0.3
ALFO				SG	Sb	15 13 34.8	-0.4
ALFO				Trac		15 13 37.7	
	comp=Z,58nm,0.1s						
OTT	**Ottawa**	**0.88**	**183**	PG	Pb	15 13 24.9	-0.4
OTT				SG	Sb	15 13 37.0	+0.5
OTT				Trac		15 13 37.7	
	comp=Z,233nm,0.1s						
MRHQ	**Morin Heights**	**1.07**	**111**	PG	Pb	15 13 27.8	-0.6
MRHQ				SG	Sb	15 13 41.3	-0.6
MRHQ				Trac		15 13 46.7	
	comp=Z,194nm,0.1s						
CBRQ	**Cabonga Reserv**	**1.18**	**331**	PG	Pb	15 13 29.8	-0.5
CBRQ				SG	Sb	15 13 46.0	+0.9
CBRQ				Trac		15 13 47.9	
	comp=Z,50nm,0.1s						
CRLO	**Chalk River**	**1.23**	**259**	⇓PG	Pb	15 13 30.8	-0.3
CRLO				SG	Sb	15 13 46.9	+0.3
CRLO				Trac		15 13 50.0	
	comp=Z,156nm,0.1s						
PEMO	**Pembroke**	**1.27**	**242**	⇓PG	Pn	15 13 31.5	-0.3
PEMO				SG	Sb	15 13 48.2	+0.5
PEMO				Trac		15 13 51.2	
	comp=Z,508nm,0.2s						
WBO	**Williamsburg**	**1.30**	**168**	PG	Pn	15 13 32.1	-0.1
WBO				SG	Sb	15 13 49.0	+0.3
WBO				Trac		15 13 52.4	
	comp=Z,194nm,0.1s						
MSNY	**Massena**	**1.39**	**157**	*e*P	Pn	15 13 33.9	+0.4
MPPO	**Murphy's Point**	**1.57**	**196**	PN	Pn	15 13 36.5	+0.5
MPPO				SN	Sn	15 13 55.7	-0.3
MPPO				Trac		15 14 02.5	
	comp=Z,68nm,0.1s						
PLVO	**Plevna**	**1.59**	**220**	PN	Pn	15 13 36.5	+0.1
PLVO				SN	Sn	15 13 56.0	-0.6
PLVO				Trac		15 14 01.2	
	comp=Z,98nm,0.1s						
MNT	**Montreal**	**1.61**	**118**	PN	Pn	15 13 36.2	-0.4
MNT				SN	Sn	15 13 56.9	-0.2
MNT				Trac		15 13 59.9	
	comp=Z,118nm,0.2s						
ALGO	**Algonquin Park**	**1.71**	**260**	PN	Pn	15 13 38.4	+0.4
ALGO				SN	Sn	15 13 58.6	-0.9
ALGO				Trac		15 14 03.2	
	comp=Z,461nm,0.1s						
DPQ	**Saint Jean**	**2.02**	**77**	PN	Pn	15 13 41.9	-0.6
DPQ				SN	Sn	15 14 06.2	-1.3
DPQ				Trac		15 14 11.5	
	comp=Z,123nm,0.1s						
BANO	**Bancroft**	**2.04**	**233**	PN	Pn	15 13 42.9	+0.2
BANO				SN	Sn	15 14 06.7	-1.2
BANO				Trac		15 14 18.4	
	comp=Z,104nm,0.1s						
KGNO	**Kingston**	**2.14**	**197**	PN	Pn	15 13 43.5	-0.6
KGNO				SN	Sn	15 14 09.1	-1.3
KGNO				Trac		15 14 17.4	
	comp=Z,50nm,0.1s						
VLDQ	**Val d'Or**	**2.21**	**327**	PN	Pn	15 13 46.8	+1.5
VLDQ				SN	Sn	15 14 15.3	+2.9
VLDQ				Trac		15 14 26.7	
	comp=Z,16nm,0.1s						
DELO	**Deloro Mine**	**2.24**	**219**	PN	Pn	15 13 44.9	-0.8
DELO				SN	Sn	15 14 11.7	-1.4
DELO				Trac		15 14 21.9	
	comp=Z,49nm,0.1s						
EEO	**Eldee**	**2.40**	**280**	PN	Pn	15 13 48.0	+0.1
EEO				SN	Sn	15 14 16.0	-1.1
EEO				Trac		15 14 25.5	
	comp=Z,52nm,0.1s						
NCB	**Newcomb**	**2.52**	**156**	*e*P	Pn	15 13 49.5	0.0
PECO	**Prince Edward**	**2.53**	**203**	PN	Pn	15 13 49.9	+0.1
PECO				SN	Sn	15 14 19.0	-1.4
PECO				Trac		15 14 32.5	
	comp=Z,27nm,0.1s						
MOQ	**Mont Orford**	**2.56**	**111**	PN	Pn	15 13 50.6	+0.4
MOQ				SN	Sn	15 14 18.7	-2.5
MOQ				Trac		15 14 28.6	
	comp=Z,30nm,0.2s						
MIV	**Mineville/With**	**2.66**	**145**	*e*P	Pn	15 13 51.0	-0.6
BUKO	**Buck Lake**	**2.75**	**254**	PN	Pn	15 13 51.5	-1.5
BUKO				SN	Sn	15 14 23.5	-2.6
BUKO				Trac		15 14 40.6	
	comp=Z,33nm,0.1s						
RSPO	**Restoule Provi**	**2.87**	**267**	PN	Pn	15 13 54.5	-0.2
RSPO				SN	Sn	15 14 26.4	-2.6
RSPO				Trac		15 14 37.2	
	comp=Z,61nm,0.2s						
SADO	**Sadowa**	**2.88**	**240**	PN	Pn	15 13 53.6	-1.2
SADO				SN	Sn	15 14 26.7	-2.7
SADO				Trac		15 14 30.0	
	comp=Z,50nm,0.1s						
LINO	**Lindsay**	**2.93**	**230**	PN	Pn	15 13 54.8	-0.7
LINO				SN	Sn	15 14 27.6	-3.0
LINO				Trac		15 14 42.5	
	comp=Z,59nm,0.1s						
QCQ	**Quebec**	**3.06**	**79**	PN	Pn	15 13 55.8	-1.5
QCQ				SN	Sn	15 14 32.5	-1.2
QCQ				Trac		15 14 48.2	
	comp=Z,44nm,0.2s						
WLVO	**Wesleyville**	**3.06**	**221**	PN	Pn	15 13 57.1	-0.2
WLVO				SN	Sn	15 14 30.8	-2.9
WLVO				Trac		15 14 48.2	
	comp=Z,30nm,0.1s						
ACCN	**Adirondack Com**	**3.21**	**153**	*e*P	Pn	15 13 57.6	-2.0
KLBO	**Killbear Provi**	**3.33**	**256**	PN	Pn	15 14 00.3	-0.8
KLBO				SN	Sn	15 14 37.1	-3.4
KLBO				Trac		15 14 56.1	
	comp=Z,35nm,0.1s						
PKRO	**Pickering**	**3.35**	**228**	PN	Pn	15 14 00.8	-0.7
PKRO				SN	Sn	15 14 37.6	-3.6
PKRO				Trac		15 15 00.5	
	comp=Z,212nm,0.2s						
DAQ	**Lac Daran**	**3.45**	**59**	PN	Pn	15 14 00.8	-2.0
DAQ				SN	Sn	15 14 41.1	-2.5
DAQ				Trac		15 14 59.2	
	comp=Z,32nm,0.2s						
KILO	**Kirkland Lake**	**3.55**	**310**	PN	Pn	15 14 02.0	-2.3
KILO				SN	Sn	15 14 42.6	-3.7
KILO				Trac		15 14 59.6	
	comp=Z,21nm,0.1s						
CLWO	**Collingwood**	**3.76**	**243**	PN	Pn	15 14 05.3	-1.9
CLWO				SN	Sn	15 14 47.5	-4.0
CLWO				Trac		15 15 09.8	
	comp=Z,27nm,0.1s						
A54	**Misere**	**3.78**	**70**	PN	Pn	15 14 05.7	-1.8
A54				SN	Sn	15 14 48.4	-3.6
A54				Trac		15 15 07.0	
	comp=Z,28nm,0.2s						
GENY	**Geneseo**	**3.84**	**205**	P	Pn	15 14 10.8	+2.4
LMQ	**La Malbaie**	**3.86**	**69**	PN	Pn	15 14 06.7	-2.0
LMQ				SN	Sn	15 14 49.8	-4.2
LMQ				Trac		15 15 08.1	
	comp=Z,29nm,0.2s						
A11	**Saint Roch-des**	**3.87**	**74**	PN	Pn	15 14 08.2	-0.6
SUNO	**Sudbury Onapin**	**3.96**	**277**	PN	Pn	15 14 10.5	+0.4
SUNO				SN	Sn	15 14 52.2	-4.3
SUNO				Trac		15 15 12.7	
	comp=Z,18nm,0.2s						
STCO	**Saint Catharin**	**3.96**	**221**

CNQ	**Baie Comeau**	**5.93**	**57**	PN	Pn	15 14 35.6	-2.3
CNQ				SN	Sn	15 15 38.9	-7.3
CNQ				Trac		15 16 18.4	
	comp=Z,17nm,0.3s						
MNQ	**Manicouagan**	**6.25**	**45**	PN	Pn	15 14 40.1	-2.3
MNQ				SN	Sn	15 15 46.3	-7.8
MNQ				Trac		15 16 27.4	
	comp=Z,18nm,0.3s						
GGN	**Saint George**	**6.27**	**97**	PN	Pn	15 14 35.0	-7.9
GGN				SN	Sn	15 15 47.5	-7.3
GGN				Trac		15 16 23.6	
	comp=Z,3.6nm,0.2s						
GSQ	**Grosses Roches**	**6.34**	**62**	PN	Pn	15 14 40.0	-3.9
GSQ				SN	Sn	15 15 48.6	-7.9
GSQ				Trac		15 16 32.2	
	comp=Z,11nm,0.4s						
ICQ	**Pointe Anglais**	**6.50**	**57**	PN	Pn	15 14 42.5	-3.4
ICQ				SN	Sn	15 15 52.0	-8.4
ICQ				Trac		15 16 33.1	
	comp=Z,4.9nm,0.2s						
PLIO	**Pelee Island,**	**6.77**	**231**	PN	Pn	15 14 48.1	-1.7
PLIO				SN	Sn	15 15 59.8	-7.4
PLIO				Trac		15 16 04.0	
	comp=Z,4.0nm,0.1s						
SMQ	**Clarke City**	**7.16**	**53**	PN	Pn	15 14 51.1	-4.2
SMQ				SN	Sn	15 16 08.6	-8.2
SMQ				Trac		15 16 55.6	
	comp=Z,11nm,0.4s						
LG4Q	**La Grande 4**	**7.43**	**7**	PN	Pn	15 14 55.3	-3.7
LG4Q				SN	Sn	15 16 13.0	-11
LG4Q				Trac		15 16 59.3	
	comp=Z,3.9nm,0.2s						
LMN	**Caledonia Moun**	**7.55**	**89**	PN	Pn	15 14 53.7	-7.1
PNPO	**Pukaskwa Natio**	**7.58**	**292**	PN	Pn	15 14 58.5	-2.7
PNPO				SN	Sn	15 16 18.6	-8.9
PNPO				Trac		15 17 09.9	
	comp=Z,3.9nm,0.3s						
GTO	**Geraldton**	**8.34**	**299**	SN	Sn	15 16 35.9	-11
GTO				Trac		15 16 39.0	
	comp=Z,1.7nm,0.1s						
VIMO	**Victor Mine**	**8.40**	**324**	PN	P	15 15 07.9	-4.7
VIMO				SN	Sn	15 16 36.1	-12
VIMO				Trac		15 17 34.1	
	comp=Z,1.4nm,0.2s						
SILO	**Sutton Inlier**	**10.12**	**328**	PN	P	15 15 30.4	-5.8
SILO				SN	S	15 17 19.1	-11
SILO				Trac		15 17 22.8	
	comp=Z,0.5nm,0.2s						
SCHQ	**Schefferville**	**10.23**	**30**	PN	P	15 15 33.0	-4.6
SCHQ				SN	S	15 17 20.5	-12
SCHQ				Trac		15 18 38.0	
	comp=Z,1.9nm,0.3s						
PKLO	**Pickle Lake**	**11.00**	**304**	PN	P	15 15 45.2	-3.1
PKLO				SN	S	15 17 39.1	-13
PKLO				Trac		15 18 48.2	
	comp=Z,1.2nm,0.3s						

IDC 31 15:14:50.5±3.9, 4.24S×100.81E, mb4.5/5, mb1 4.8/5, mb1mx4.0/18, mbtmp4.5/5, Error ellipse: s-maj=164.1km s-min=20.9km az=54.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.20**	**118**	P	P	15 21 54.4	-2.7
	0.3nm,0.3s,baz=302,slow=9.1,SNR=24						
ASAR	**Alice Springs**	**37.31**	**124**	P	P	15 22 05.2	-1.3
	585nm,0.3s,baz=296,slow=8.1,SNR=2.2						
SONM	**Songino Array**	**52.08**	**5**	P	P	15 24 02.5	-1.8
	2.1nm,0.8s,baz=187,slow=9.5,SNR=15						
MKAR	**Makanchi Array**	**53.38**	**344**	P	P	15 24 11.9	-2.1
	1.6nm,0.7s,baz=148,slow=8.4,SNR=13						
ZAL	**Zalesovo**	**59.49**	**349**	P	P	15 24 53.8	-3.9
	0.9nm,0.6s,baz=314,slow=12,SNR=3.9						
TXAR	**Lajitas Array**	**145.93**	**40**	PKPbc	PKPbc	15 34 33.3	+0.4
	0.7nm,0.7s,baz=270,slow=0.9,SNR=6.5						

IDC 31 15:19:12.0±4.3, 0.16N×96.97E, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=161.9km s-min=29.5km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.70**	**121**	P	P	15 27 02.7	-1.8
	0.4nm,0.7s,baz=300,slow=9.2,SNR=5.1						
SONM	**Songino Array**	**48.19**	**9**	P	P	15 27 54.7	-1.4
	0.3nm,0.5s,baz=190,slow=8.7,SNR=3.5						
MKAR	**Makanchi Array**	**48.19**	**346**	P	P	15 27 54.0	-2.1
	0.6nm,0.6s,baz=156,slow=7.9,SNR=8.3						
ZAL	**Zalesovo**	**54.53**	**351**	P	P	15 28 41.1	-2.8
	1.6nm,0.4s,baz=306,slow=3.9,SNR=5.1						

IDC 31 15:24:49.0±5.6, 23.08S×179.79E, mb4.0/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.0/3, Error ellipse: s-maj=236.3km s-min=68.5km az=152.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.98**	**260**	P	P	15 32 42.0	-1.6
	1.0nm,0.4s,baz=91,slow=7.7,SNR=42						
WRA	**Warramunga Arr**	**42.27**	**265**	P	P	15 32 44.8	-1.3
	0.5nm,0.4s,baz=103,slow=7.7,SNR=14						
FITZ	**Fitzroy Crossi**	**50.70**	**265**	P	P	15 33 50.0	-2.7
	1.7nm,0.5s,baz=142,slow=6.6,SNR=6.0						
NB2	**NORSAR Subarra**	**141.25**	**351**	PKPabc	PKPdf	15 44 13.3	-10
	0.3nm,0.5s,baz=16,slow=3.1						
BRTR	**Keskin Array B**	**146.92**	**308**	PKPbc	PKPbc	15 44 33.3	+0.2
	1.1nm,0.8s,baz=79,slow=6.3,SNR=3.9						

*BJI **31** 15:29:21.7, 18.50S×175.90E, h17km, mB5.1, mb5.0, Ms5.0, Msz4.3*
*NEIC **31** 15:29:22.7±8.2, 18.46S×175.91E, h17km±49km, mb4.7/9, Error ellipse: s-maj=13.9km s-min=10.2km az=173.0*
*IDC **31** 15:29:28.2±7.1, 18.47S×175.93E, h59km±65km, mb4.1/12, mb1 4.3/13, mb1mx4.2/17, mbtmp4.4/13, MS3.8/9, Ms1 3.7/9, ms1mx3.5/29, Error ellipse: s-maj=28.4km s-min=18.0km az=172.0*

ISC 31 15:29:23.7±0.4, 18.48S±0.08×175.88E±0.08, h33km, n76, σ1f01/35, mb4.5/25, MS3.8/10, 2C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.70**	**71**	LR	LR	15 35 25.1	
	comp=Z,97nm,18.8s,baz=237,slow=28						
URZ	**Urewera**	**19.74**	**177**	P	**P**	**15 33 54.5**	**+1.0**
	baz=27,slow=5.2,SNR=6.4						
RAR	**Rarotonga**	**23.06**	**101**	P	**P**	**15 34 27.4**	**0.0**
	36nm,0.8s,mb4.8,baz=34,slow=5.3,SNR=3.1						
RAR				LR	LR	15 41 01.3	
	comp=Z,304nm,19.2s,MS3.8,baz=164,slow=30						
RPZ	**Rata Peaks**	**25.48**	**188**	P	**P**	**15 34 51.0**	**+0.4**
	6.6nm,0.7s,mb4.3,baz=164,slow=1.6,SNR=5.9						
CTA	**Charters Tower**	**27.99**	**262**	LR	LR	15 44 36.4	
	comp=Z,174nm,21.0s,MS3.6,baz=50,slow=32						
PMG	**Port Moresby**	**29.26**	**284**	LR	LR	15 44 26.6	
	comp=Z,197nm,18.5s,MS3.8,baz=120,slow=31						
TBI	**Tubuai**	**32.69**	**105**	*e*LR	LR	15 44 14.7	
	336nm,29.8s,baz=282						
PPT	**Papeete**	**32.83**	**94**	*e*LR	LR	15 44 18.6	
	372nm,26.5s,baz=268						
PPT	**Papeete**	**32.83**	**94**	LR	LR	15 45 30.4	
	comp=Z,236nm,18.5s,MS3.9,baz=356,slow=29						
STKA	**Stephens Creek**	**33.62**	**240**	*e*P	**P**	**15 36 03.9**	**+0.6**
	4.5nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**33.62**	**240**	P	**P**	**15 36 03.6**	**+0.3**
	5.7nm,0.9s,mb4.5,baz=65,slow=7.2,SNR=8.7						
STKA				LR	LR	15 47 09.7	
	comp=Z,128nm,21.1s,MS3.6,baz=27,slow=32						
TAU	**Tasmania Unive**	**34.29**	**219**	P	**P**	**15 36 06.1**	**-2.9**
	45nm,1.1s,mb5.3						
WB2	**Warramunga Arr**	**39.17**	**261**	*e*P	**P**	**15 36 49.7**	**-0.7**
WRAB	**Tennant Creek**	**39.17**	**261**	*e*P	**P**	**15 36 49.2**	**-1.2**
	9.9nm,1.0s,mb4.5						
WRA	**Warramunga Arr**	**39.18**	**261**	P	**P**	**15 36 50.4**	**0.0**
	4.7nm,0.9s,mb4.2,baz=91,slow=8.8,SNR=22						
ASAR	**Alice Springs**	**39.40**	**255**	P	**P**	**15 36 52.5**	**+0.3**
	8.6nm,0.8s,mb4.5,baz=84,slow=8.8,SNR=26						
ASAR				PcP	PcP	15 38 59.2	-1.4
	baz=87,slow=4.6,SNR=4.3						
ASAR				LR	LR	15 53 03.0	
	comp=Z,111nm,18.5s,MS3.7,baz=80,slow=36						
ASPA	**Alice Springs**	**39.41**	**255**	*e*P	**P**	**15 36 52.6**	**+0.3**
FORT	**Forrest**	**44.85**	**245**	*e*P	**P**	**15 37 37.1**	**+0.3**
	488nm,0.8s						
RKT	**Rikitea**	**46.01**	**105**	*e*LR	LR	15 50 22.3	
	292nm,30.5s						
FITZ	**Fitzroy Crossi**	**47.58**	**262**	⇑*i*P	**P**	**15 37 59.4**	**+0.9**
	20nm,1.0s,mb5.1						
FITZ	**Fitzroy Crossi**	**47.58**	**262**	P	**P**	**15 37 59.3**	**+0.8**
	24nm,0.9s,mb5.2,baz=123,slow=4.4,SNR=12						
FITZ				LR	LR	15 56 17.6	
	comp=Z,143nm,20.3s,MS3.9,baz=92,slow=34						
SBA	**Scott Base**	**59.58**	**182**	*e*P	**P**	**15 39 24.9**	**-1.2**
	13nm,1.2s,mb4.8						
MJAR	**Matsushiro Arr**	**65.28**	**327**	P	**P**	**15 40 04.0**	**-0.6**
	2.7nm,0.9s,mb4.3,baz=159,slow=6.0,SNR=4.7						
MJAR				LR	LR	16 06 22.7	
	comp=Z,57nm,18.6s,MS3.8,baz=145,slow=34						
MAJO	**Matsushiro**	**65.28**	**327**	P	**P**	**15 40 04.1**	**-0.6**
	7.5nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**71.57**	**180**	⇓*i*P	**P**	**15 40 41.8**	**-1.2**
	13nm,1.2s,mb4.7						
NJ2	**Nanjing**	**74.20**	**312**	*e*P	**P**	**15 40 58.8**	**-0.5**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
MDJ	**Mudanjiang**	**75.65**	**328**	P	**P**	**15 41 03.8**	**-3.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.5s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,104nm,5.0s						
CN2	**Changchun**	**77.27**	**325**	*e*P	**P**	**15 41 17.5**	**+1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
MAW	**Mawson**	**81.44**	**201**	P	**P**	**15 41 37.9**	**-0.6**
	comp=Z,5.9nm,1.0s,mb4.5,baz=83,slow=8.9,SNR=4.2						
KMI	**Kunming**	**83.31**	**299**	P	**P**	**15 41 50.0**	**+1.0**
KMI				AP	pP	15 41 53.8	-5.7
KMI				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.5						
KMI				LR	LR		
	comp=Z,48nm,21.5s,MS3.8						
HHC	**Hu-ho-hao-te**	**83.87**	**317**	*e*P	**P**	**15 41 53.0**	**+1.4**
HHC				XP	sP	15 42 07.0	+1.4
HHC				PP	PP	15 45 10.3	+3.4
HHC				S	S	15 52 15.5	+4.2
HHC				XS		15 52 33.3	
HHC				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
HHC				AMB	AMB		
	comp=Z,111nm,4.3s						
PMSA	**Palmer Station**	**85.36**	**158**	*e*P	**P**	**15 42 00.8**	**+2.4**
BILL	**Bilibino**	**86.56**	**356**	*e*P	**P**	**15 42 03.4**	**-0.8**
	comp=Z,1.3nm,0.7s,mb4.3						
LZH	**Lanzhou**	**87.00**	**310**	⇑P	**P**	**15 42 10.0**	**+2.8**
LZH				AP	pP	15 42 16.5	-1.2
LZH				XP	sP	15 42 20.0	-1.2
LZH				AMB	AMB		
	comp=Z,28nm,1.6s,mb5.2						
SONM	**Songino Array**	**90.50**	**321**	P	**P**	**15 42 23.5**	**0.0**
	comp=Z,0.9nm,1.0s,mb4.0,baz=117,slow=2.8,SNR=4.6						
ANMO	**Albuquerque**	**90.75**	**53**	P	**P**	**15 42 23.8**	**-1.2**
	comp=Z,3.0nm,1.0s,mb4.6						
TXAR	**Lajitas Array**	**90.92**	**59**	P	**P**	**15 42 26.1**	**+0.1**
	comp=Z,1.5nm,0.9s,mb4.3,baz=225,slow=5.3,SNR=9.8						
GDL2	**Guadalupe Moun**	**91.38**	**57**	*e*P	**P**	**15 42 28.4**	**+0.4**
PDAR	**Pinedale Array**	**91.55**	**45**	P	**P**	**15 42 29.3**	**+0.7**
	comp=Z,0.4nm,0.8s,mb3.8,baz=259,slow=4.6,SNR=3.5						
SDCO	**Great Sand Dun**	**92.50**	**51**	P	**P**	**15 42 33.3**	**+0.3**
YKA	**Yellowknife Ar**	**97.17**	**26**	P	**P**	**15 42 52.5**	**-1.2**
	comp=Z,0.2nm,0.6s,mb3.7,baz=251,slow=4.3,SNR=4.4						
YKA	**Yellowknife Ar**	**97.17**	**26**	P	**P**	**15 42 52.5**	**-1.2**
WMQ	**Urumqi**	**101.28**	**312**	*e*P	P	15 43 13.8	+1.1
WMQ				AMB	AMB		
	comp=Z,11nm,1.2s						
WMQ				LR	LR		
	comp=Z,80nm,19.6s,MS4.2						
UPC	**Upice**	**144.24**	**338**	*e*PKP	PKPdf	15 48 56.4	+0.3
UPC				*ep*PKP		15 49 03.8	
DPC	**Dobruska-Polom**	**144.26**	**337**	*e*PKP	PKPdf	15 48 56.6	+0.4
DPC				*ep*PKP		15 49 03.7	
CLL	**Collm**	**144.55**	**341**	⇓*i*PKIKP	PKPdf	15 48 56.4	-0.2
	comp=Z,logA/T=1.2						
CLL				*i* *PPKP		15 49 03.5	
CLL				*e*		15 49 08.0	
BRG	**Berggiesshubel**	**144.63**	**340**	*e*P	PKPbc	15 48 57.4	+0.8
BRG				*i*		15 49 04.5	
PVCC	**Panska Ves**	**144.72**	**339**	*e*PKP	PKPdf	15 48 58.2	+1.2
PVCC				*ep*PKP		15 49 05.3	
VYHS	**Vyhne**	**144.74**	**333**	*e*PKP	PKPdf	15 48 57.9	+0.8
PRU	**Pruhonice**	**145.19**	**339**	*e*PKP	PKPdf	15 48 59.3	+1.5
PRU				*ep*PKP		15 49 06.4	
SMOL	**Smolenice**	**145.31**	**335**	*e*PKP	PKPdf	15 49 00.3	+2.2
NKC	**Novy Kostel**	**145.66**	**341**	*e*PKP	PKPdf	15 49 00.5	+1.9
NKC				*ep*PKP		15 49 08.2	
ZST	**Bratislava**	**145.70**	**335**	*e*PKP	PKPdf	15 49 00.9	+2.2
KHC	**Kasperske Hory**	**146.25**	**339**	*e*PKP	PKPdf	15 49 02.5	+2.8
KHC				*ep*PKP		15 49 10.0	
GERES	**GERESS Array B**	**146.45**	**339**	PKPbc	PKPbc	15 49 02.7	+1.5
	baz=45,slow=1.9,SNR=18						
GRA1	**Grafenberg Arr**	**146.51**	**342**	*e*PKP	PKPdf	15 49 02.8	+2.7
GRF	**Grafenberg Arr**	**146.51**	**342**	*e*PKP	PKPdf	15 49 02.8	+2.7
GIVF	**Givet**	**147.65**	**349**	*e*PKP1	PKPdf	15 49 05.7	+3.8
	comp=Z,30nm,1.2s						
BAIF	**Baives**	**147.79**	**350**	*e*PKP1	PKPdf	15 49 06.2	+4.0
	comp=Z,19nm,1.1s						
CDF	**Champ du Feu**	**148.74**	**345**	*e*PKP1	PKPdf	15 49 08.7	+5.0
	comp=Z,25nm,1.3s						
MEZF	**Maizieres J'vi**	**149.14**	**348**	*e*PKP1	PKPdf	15 49 10.0	+5.6
HAU	**Haudompre**	**149.34**	**346**	*e*PKP1	PKPdf	15 49 10.0	+5.3
HINF	**Hinterfeld**	**149.40**	**345**	*e*PKP1	PKPdf	15 49 10.1	+5.3
	comp=Z,5.6nm,0.8s						
FLN	**La Foliniere**	**149.65**	**355**	*e*PKP1	PKPdf	15 49 10.6	+5.4
GRR	**Gorron**	**150.05**	**356**	*e*PKP1	PKPdf	15 49 11.4	+5.6
	comp=Z,28nm,1.1s						
ROSF	**Rostrenen**	**150.21**	**359**	*e*PKP1	PKPdf	15 49 11.6	+5.5
	comp=Z,26nm,1.1s						
SGMF	**Saint Gilles**	**150.28**	**358**	*e*PKP1	PKPdf	15 49 11.9	+5.7
CABF	**La Chapelle**	**150.71**	**346**	*e*PKP1	PKPdf	15 49 13.9	+7.0
	comp=Z,25nm,1.2s						
SSF	**Saint Saulge**	**150.81**	**349**	*e*PKP1	PKPdf	15 49 13.6	+6.6
	comp=Z,16nm,1.0s						
AVF	**Avril sur Loir**	**151.10**	**349**	*e*PKP1	PKPdf	15 49 13.8	+6.3
LPL	**La Plagne**	**151.57**	**344**	*e*PKP1	PKPdf	15 49 16.1	+7.9
LPG	**La Plagne**	**151.58**	**344**	*e*PKP1	PKPdf	15 49 16.0	+7.8
	comp=Z,13nm,1.1s						
MFF	**Saint Martin d**	**151.76**	**354**	*e*PKP1	PKPdf	15 49 15.6	+7.1
	comp=Z,17nm,1.1s						
TCF	**Toulx Ste Croi**	**151.78**	**351**	*e*PKP1	PKPdf	15 49 15.6	+7.1
	comp=Z,12nm,1.0s						
MBDF	**Montbardon**	**152.29**	**343**	*e*PKP1	PKPdf	15 49 17.1	+7.8
	comp=Z,9.8nm,1.0s						
CAF	**Calviac**	**153.13**	**350**	*e*PKP1	PKPdf	15 49 19.0	+8.6

MAN 31 15:29:26.8, 9.26N×127.28E, h72km, mb4.5, ML3.3, MS3.2, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.40**	**220**	⇓*e*P	P	15 29 51.4	+0.4
BIPH				*i* S	S	15 30 05.9	-3.0
BUTP	**Butuan**	**1.66**	**260**	*e*P	P	15 29 50.8	-3.7
MSLP	**Maasin**	**2.54**	**290**	*e*P	P	15 30 05.7	-1.0
BUKP	**Musuan**	**2.58**	**238**	*e*P	P	15 30 08.3	+1.0
BUKP				*e*S	S	15 30 38.3	+0.7
BESP	**Borongan**	**2.95**	**322**	*e*P	P	15 30 12.8	+0.3
TBP	**Tagbilaran**	**3.40**	**278**	*e*P	P	15 30 36.4	+18
TBP				*e*S	S	15 30 51.6	-6.4
PAGZ	**Pagadian**	**4.10**	**250**	*e*P	P	15 30 29.1	+0.6
CNP	**Catarman**	**4.13**	**322**	*e*P	P	15 30 28.8	-0.1
GUIM	**Jordan**	**4.81**	**287**	*e*P	P	15 30 37.6	-0.9
PVCP	**Virac**	**5.29**	**325**	*e*P	P	15 30 45.9	+0.9
CAUP	**Cauayan**	**9.30**	**326**	*e*P	P	15 31 39.6	-0.7

IDC 31 15:35:18.2±34.0, 18.52S×173.95E, mb4.4/4, mb1 4.6/4, mb1mx4.0/14, mbtmp4.4/4, Error ellipse: s-maj=599.2km s-min=122.0km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**32.02**	**239**	P	P	15 41 46.4	-2.3
	2.9nm,0.8s,baz=52,slow=10.0,SNR=4.7						
WRA	**Warramunga Arr**	**37.37**	**261**	P	P	15 42 32.8	-1.9
	3.0nm,0.9s,baz=94,slow=8.3,SNR=13						
ASAR	**Alice Springs**	**37.63**	**255**	P	P	15 42 35.3	-1.5
	4.9nm,0.7s,baz=86,slow=9.1,SNR=60						
FITZ	**Fitzroy Crossi**	**45.76**	**263**	P	P	15 43 41.7	-1.9
	15nm,1.1s,baz=149,slow=6.6,SNR=5.4						

IDC 31 15:37:49.0±4.4, 1.54N×97.43E, mb3.5/3, mb1 3.6/3, mb1mx3.4/18, mbtmp3.5/3, Error ellipse: s-maj=169.3km s-min=29.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.02**	**122**	P	P	15 45 42.4	-1.8
	0.3nm,0.7s,baz=303,slow=9.1,SNR=3.0						
SONM	**Songino Array**	**46.76**	**8**	P	P	15 46 20.6	-1.4
	0.4nm,0.5s,baz=193,slow=10.0,SNR=5.4						
MKAR	**Makanchi Array**	**46.97**	**346**	P	P	15 46 21.4	-2.2
	0.5nm,0.5s,baz=158,slow=9.0,SNR=11						

*MEX **31** 15:39:51.1±1.2, 16.23N×98.44W, h5km, MD4.8*
*NEIC **31** 15:39:54.0±0.3, 16.33N×98.11W, h25km, mb4.6/54, MD4.8(MEX), Error ellipse: s-maj=6.9km s-min=4.0km az=223.0*
*BJI **31** 15:39:54.0, 16.30N×98.10W, h25km, mB4.7, Ms4.8, Msz4.5*
*IDC **31** 15:39:56.2±3.6, 16.29N×98.27W, h47km±33km, mb4.2/17, mb1 4.3/19, mb1mx4.2/24, mbtmp4.4/19, MS4.0/17, Ms1 4.0/17, ms1mx3.7/30, Error ellipse: s-maj=26.4km s-min=11.9km az=53.0*

ISC 31 15:39:51.4±0.8, 16.27N±0.03×98.30W±0.03, h21km±5km, n164, σ1f37/171, mb4.6/59, MS4.0/14, 2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.21**	**54**	*i* P	**Pb**	**15 39 56.4**	**-0.4**
PNIG				*i* S	**Sb**	**15 40 01.0**	**+0.6**
PNIG	**Pinotepa**	**0.21**	**54**	*i* P	**Pb**	**15 39 56.4**	**-0.4**
PNIG				*i* S	**Sb**	**15 40 01.7**	**+1.2**
ACX	**Acapulco**	**1.66**	**291**	*e*P	**Pn**	**15 40 14.8**	**-4.9**
ACX				*i* S	**Sn**	**15 40 34.6**	**-5.9**
VHO	**Vista Hermosa**	**1.71**	**62**	⇓*i*P	**Pn**	**15 40 21.1**	**+0.8**
VHO				*i* S	**Sn**	**15 40 39.8**	**-1.9**
VHO	**Vista Hermosa**	**1.71**	**62**	⇓*i*P	**Pn**	**15 40 21.1**	**+0.8**
VHO				*i* S	**Sn**	**15 40 43.2**	**+1.5**
OXX	**Oaxaca**	**1.72**	**62**	*e*P	**Pn**	**15 40 20.7**	**+0.1**
OXX				*i* S	**Sn**	**15 40 44.2**	**+2.2**
OXX	**Oaxaca**	**1.72**	**62**	*e*P	**Pn**	**15 40 21.3**	**+0.8**
OXX				*i* S	**Sn**	**15 40 43.7**	**+1.7**
CAIG	**El Cayaco**	**2.04**	**293**	*e*P	**Pn**	**15 40 21.6**	**-3.5**
CAIG				*i* S	**Sn**	**15 40 45.5**	**-4.6**
HUIG	**Huatulco**	**2.17**	**103**	*e*P	**Pn**	**15 40 26.2**	**-0.8**
HUIG				*i* S	**Sn**	**15 40 53.8**	**+0.3**
PLIG	**Platanillo**	**2.40**	**332**	*e*P	**Pn**	**15 40 28.9**	**-1.5**
PLIG				*i* S	**Sn**	**15 40 56.9**	**-2.6**
YAIG	**Yautepec**	**2.68**	**344**	*e*P	**Pn**	**15 40 32.6**	**-1.7**
YAIG				*i* S	**Sn**	**15 41 05.3**	**-1.2**
IIB	**San Bernardino**	**2.68**	**359**	*e*P	**Pn**	**15 40 37.8**	**+3.4**
PPM	**Popocatepetl**	**2.80**	**354**	*e*P	**Pn**	**15 40 35.3**	**-0.7**
PPM				*e*P		15 40 36.4	
PPM				*e*P		15 40 37.9	
PPM				*i* S	**Sn**	**15 41 08.5**	**-1.1**
PPM				*i* S	**Sn**	**15 41 09.9**	**+0.3**
IISM	**Ciudad Serdan**	**2.85**	**18**	*i* P	**Pn**	**15 40 36.2**	**-0.5**
CHVM	**Chichinautzin**	**2.92**	**344**	*e*P	**Pn**	**15 40 40.3**	**+2.6**
IIZ	**Mezontepec**	**3.04**	**343**	*e*P	**Pn**	**15 40 37.0**	**-2.4**
UNM	**Universidad Na**	**3.16**	**345**	*e*P	**Pn**	**15 40 43.5**	**+2.4**
ZIIG	**Zihuatanejo**	**3.31**	**294**	*e*P	**Pn**	**15 40 40.3**	**-2.9**
ZIIG				*e*S	**Sn**	**15 41 16.7**	**-5.6**
IIO	**Organos**	**3.33**	**353**	*e*P	**Pn**	**15 40 43.1**	**-0.4**
MDVM	**Presa Madin**	**3.37**	**345**	*e*P	**Pn**	**15 40 46.3**	**+2.1**
CMIG	**Matias Romero**	**3.38**	**75**	*e*P	**Pn**	**15 40 43.2**	**-1.0**
CMIG				*i* S	**Sn**	**15 41 24.3**	**+0.2**
PTVM	**Pico Tres Padr**	**3.40**	**347**	*e*P	**Pn**	**15 40 43.9**	**-0.6**
EVV	**El Vigia**	**3.56**	**52**	*e*P	**Pn**	**15 40 50.0**	**+3.1**
IIC	**Rita Coyotepec**	**3.60**	**346**	*e*P	**Pn**	**15 40 48.6**	**+1.3**
IIJ	**Jocotitlan**	**3.71**	**339**	*e*P	**Pn**	**15 40 53.8**	**+4.9**
LVIG	**Laguna Verde**	**3.88**	**27**	*e*P	**Pn**	**15 40 49.0**	**-2.3**
LVIG				*i* S	**Sn**	**15 41 35.6**	**-1.2**
TUIG	**Tuzandepetl**	**4.11**	**64**	*i* P	**Pn**	**15 40 54.4**	**-0.2**
TUIG				*i* S	**Sn**	**15 41 45.3**	**+2.7**
MOIG	**Morelia**	**4.37**	**321**	*e*P	**Pn**	**15 40 58.2**	**0.0**
MOIG				*i* S	**Sn**	**15 41 50.6**	**+1.5**
MOIG	**Morelia**	**4.37**	**321**	*e*P	**Pn**	**15 40 54.4**	**-3.8**
MOIG				*i* S	**Sn**	**15 41 45.8**	**-3.3**
COLM	**Colima**	**5.90**	**300**	*i* P	**Pn**	**15 41 18.2**	**-1.7**
COLM				*i* S	**Sn**	**15 42 24.6**	**-2.9**
SFJM	**Santa Fe**	**6.15**	**314**	*e*P	**Pn**	**15 41 19

47nm,1.0s,mb4.9
SRU San Rafael 25.15 337 *e*P P **15 45 17.4 +0.7**
OTAV Otavalo 25.24 127 *e*P P **15 45 19.2 +1.4**
52nm,1.6s,mb4.8
ARUT Antelope Range 25.26 331 P P **15 45 20.1 +2.4**
MSU Marysvale 25.29 334 *e*P P **15 45 20.6 +2.5**
MVU Marysvale 25.30 334 *e*P P **15 45 20.6 +2.5**
21nm,1.3s,mb4.5
TMUT Trail Mountain 25.57 336 *e*P P **15 45 22.4 +1.8**
PHWY Pilot Hill 25.70 348 *e*P P **15 45 22.9 +1.1**
RWWY Rawlins 26.47 345 *e*P P **15 45 30.7 +1.7**
41nm,1.4s,mb4.8
NLU North Lily Min 26.48 336 *e*P P **15 45 30.6 +1.6**
DAU Daniels Canyon 26.56 337 *e*P P **15 45 32.2 +2.4**
JLU Jordanelle 26.80 337 P P **15 45 35.4 +3.4**
DUG Dugway 26.98 335 *e*P P **15 45 32.6 -1.0**
9.2nm,0.8s,mb4.4
TCUT Toone Canyon 27.23 338 *e*P P **15 45 36.9 +0.9**
ACSO Alum Creek Sta 27.34 26 P P **15 45 34.8 -2.2**
TPH Tonopah 27.37 326 P P **15 45 38.7 +1.4**
BGU Big Grassy Mou 27.68 336 *e*P P **15 45 41.2 +1.2**
HWUT Hardware Ranch 27.72 338 *e*P P **15 45 40.0 -0.3**
5.6nm,0.8s,mb4.2
SDV Santo Domingo 27.96 102 P P **15 45 43.8 +1.0**
12nm,0.7s,mb4.6,baz=308,slow=4.2,SNR=17
SDV LR LR 15 58 40.4
comp=Z,162nm,18.1s,MS3.6,baz=347,slow=40
SDV Santo Domingo 27.96 102 *e*P P **15 45 43.0 +0.1**
12nm,0.8s,mb4.6
PDAR Pinedale Array 28.11 342 P P **15 45 44.0 0.0**
2.2nm,0.8s,mb3.8,baz=135,slow=9.7,SNR=20
PDAR PcP PcP 15 48 57.0 -1.2
0.7nm,0.7s,baz=135,slow=3.8,SNR=3.9
PDAR LR LR 15 57 55.1
comp=Z,786nm,18.5s,MS4.3,baz=225,slow=38
MNV Mina 28.14 326 *e*P P **15 45 45.4 +1.2**
7.8nm,1.0s,mb4.3
RSSD Black Hills 28.19 351 *e*P P **15 45 46.0 +1.4**
16nm,1.5s,mb4.4
NVAR Mina Array Bea 28.22 325 P P **15 45 45.5 +0.6**
7.1nm,1.0s,mb4.3,baz=150,slow=7.3,SNR=29
HVU Hansel Valley 28.32 337 *e*P P **15 45 47.0 +1.2**
REDW Red Top Meadow 29.05 341 *e*P P **15 45 53.2 +0.9**
9.3nm,0.9s,mb4.5
SNOW Snow King Moun 29.11 341 *e*P P **15 45 54.6 +1.7**
19nm,1.1s,mb4.7
CMB Columbia Colle 29.12 322 *e*P P **15 45 55.0 +1.9**
2.8nm,0.6s,mb4.2
RRI2 Red Ridge 29.18 340 *e*P P **15 45 54.6 +1.1**
9.0nm,1.0s,mb4.5
TPAW Teton Pass 29.19 341 *e*P P **15 45 56.1 +2.5**
16nm,1.2s,mb4.6
LOHW Long Hollow 29.20 342 P P **15 45 52.6 -1.1**
6.8nm,0.2s,mb5.0
MOOW Moose Ponds 29.36 341 *e*P P **15 45 55.6 +0.4**
5.1nm,0.8s,mb4.3
IMW Indian Meadow 29.56 341 *e*P P **15 45 57.6 +0.7**
4.5nm,0.8s,mb4.2
SSPA Standing Stone 30.05 32 P P **15 45 50.7 -11**
5.4nm,0.7s,mb4.4
HLID Hailey 30.46 337 *e*P P **15 46 06.8 +1.9**
5.3nm,0.9s,mb4.3
SJG San Juan 30.75 82 P P **15 46 06.3 -1.4**
7.5nm,0.3s,mb5.0,baz=304,slow=18,SNR=4.5
MCMT McKenzie Canyo 31.00 340 *e*P P **15 46 10.8 +1.1**
WVOR Wild Horse Val 31.36 330 *e*P P **15 46 13.9 +1.1**
17nm,1.5s,mb4.7
MOD Modoc 31.79 328 *e*P P **15 46 16.9 +0.3**
11nm,1.1s,mb4.6
HRY Holter Researc 32.37 343 *e*P P **15 46 20.4 -1.2**
YBH Yreka Blue Hor 32.94 325 P P **15 46 26.2 -0.4**
1.9nm,0.9s,mb4.0,baz=172,slow=9.7,SNR=3.8
CHMT Chamberlain Mo 32.98 341 *e*P P **15 46 26.5 -0.5**
ULM Lac du Bonnet 33.95 3 P P **15 46 34.9 -0.4**
3.3nm,0.9s,mb4.3,baz=180,slow=9.8,SNR=4.9
ULM LR LR 16 01 28.1
comp=Z,182nm,19.2s,MS3.8,baz=101,slow=38
ULM Lac du Bonnet 33.95 3 P P **15 46 34.9 -0.4**
ULM LR LR 16 01 28.1
WALA Waterton Lakes 35.10 342 P P **15 46 45.2 0.0**
12nm,1.3s,mb4.7
NEW Newport 35.45 338 LR LR 16 03 09.8
comp=Z,305nm,19.8s,MS4.1,baz=241,slow=39
FFC Flin Flon 38.48 357 P P **15 47 13.4 -0.3**
79nm,0.9s,mb5.4,SNR=11
EDM Edmonton 38.73 346 *e*P P **15 47 15.0 -0.7**
FCC Fort Churchill 42.54 3 *e*P P **15 47 46.0 -1.1**
4.2nm,0.7s,mb4.3
SAML Samuel 42.85 123 *e*P P **15 47 47.7 -2.5**
8.4nm,0.9s,mb4.5
LPAZ La Paz 43.96 136 P P **15 47 59.5 +0.3**
4.5nm,1.0s,mb4.2,baz=325,slow=9.9,SNR=15
LPAZ PcP PcP 15 49 45.0 -0.3
1.4nm,0.6s,baz=28,slow=6.7,SNR=2.6
LPAZ LR LR 16 05 15.7
comp=Z,136nm,20.0s,MS3.9,baz=272,slow=35
LPAZ La Paz 43.96 136 *e*P P **15 47 59.0 -0.1**
5.8nm,1.1s,mb4.2
SCHQ Schefferville 45.49 25 P P **15 48 09.9 -1.0**
8.1nm,1.1s,mb4.5,baz=230,slow=7.2,SNR=6.4
SCHQ LR LR 16 08 11.9
comp=Z,69nm,18.2s,MS3.6,baz=280,slow=37
YKA Yellowknife Ar 47.58 350 P P **15 48 25.9 -1.4**
3.8nm,0.9s,mb4.4,baz=158,slow=7.3,SNR=26
YKA PcP PcP 15 49 56.1 -1.3
baz=150,slow=4.0,SNR=5.9
YKA Yellowknife Ar 47.58 350 P P **15 48 25.9 -1.4**
YKA PcP PcP 15 49 56.1 -1.3
YKW3 Yellowknife Ar 47.64 350 *e*P P **15 48 26.4 -1.5**
LVC Limon Verde 48.17 143 *e*P P **15 48 32.5 -0.1**
79nm,2.1s,mb5.4
DLBC Dease Lake 48.20 338 LR LR 16 10 48.1
comp=Z,398nm,21.8s,MS4.3,baz=154,slow=38
DLBC Dease Lake 48.20 338 *e*P P **15 48 32.6 +0.4**
SIV San Ignacio 48.75 129 P P **15 48 35.6 -1.4**
5.5nm,0.8s,mb4.6,baz=305,slow=9.2,SNR=30
SIV PcP PcP 15 50 01.0 -1.2
baz=305,slow=6.1,SNR=4.1
FRB Frobisher Bay 51.67 16 LR LR 16 14 23.8
comp=Z,110nm,18.0s,MS3.9,baz=175,slow=40
INK Inuvik 56.62 345 LR LR 16 17 50.6
comp=Z,211nm,18.0s,MS4.3,baz=133,slow=40
INK Inuvik 56.62 345 *e*P P **15 49 34.2 -0.8**
14nm,1.0s,mb4.9
RES Resolute Bay 58.45 1 *e*P P **15 49 43.0 -4.8**
9.9nm,1.4s,mb4.7
MCK McKinley 58.64 336 *e*P P **15 49 48.9 -0.3**
12nm,1.1s,mb4.8
COLA College 58.82 338 *e*P P **15 49 50.1 -0.4**
9.3nm,0.9s,mb4.8
BDFB Brasilia 58.89 120 P P **15 49 50.8 -0.8**
12nm,0.6s,mb5.1,baz=290,slow=8.9,SNR=20
BDFB LR LR 16 16 29.3
comp=Z,107nm,20.2s,MS4.0,baz=117,slow=37
PPT Papeete 60.68 239 *e*LR LR 15 50 07.1
112nm,28.5s
PLCA Paso Flores 62.29 156 P P **15 50 13.9 -0.6**
9.5nm,1.1s,mb4.9,baz=335,slow=6.7,SNR=8.0
PLCA LR LR 16 10 12.5
comp=Z,177nm,20.3s,MS4.2,baz=102,slow=29
PLCA Paso Flores 62.29 156 *e*P P **15 50 13.4 -1.1**
TRQA Tornquist 63.90 149 *e*P P **15 50 23.9 -1.2**
RCBR Riachuelo 65.50 104 *e*P P **15 50 35.3 -0.7**
19nm,1.0s,mb5.1
SUMG Summit 65.75 17 *e*P P **15 50 36.1 -0.4**
18nm,1.0s,mb5.1
TNA Tin City 66.90 335 *e*P P **15 50 43.5 -0.5**
8.3nm,1.0s,mb4.7
DAG Danmarks Havn 71.90 14 *e*P P **15 51 12.0 -2.6**
3.0nm,0.8s,mb4.3
DAG Danmarks Havn 71.90 14 *i*P P **15 51 12.0 -2.6**
3.0nm,0.8s,mb4.3
FX1 Attu Island--F 76.33 321 LR LR 16 22 38.8
comp=Z,4.7nm,18.4s,baz=250,slow=34
BILL Bilibino 77.07 337 *e*P P **15 51 44.1 -0.3**
19nm,1.2s,mb4.9
ESDC Sonseca Array 83.06 51 P P **15 52 16.3 -0.6**
0.4nm,0.4s,mb3.8,baz=288,slow=4.7,SNR=4.2
NB2 NORSAR Subarra 85.01 27 P P **15 52 26.8 +0.5**
11nm,1.4s,mb4.8,baz=299,slow=5.0
NOA NORSAR Array B 85.01 27 P P **15 52 27.1 +0.8**
2.4nm,1.0s,mb4.3,baz=299,slow=5.0,SNR=7.5
NOA LR LR 16 33 57.2
comp=Z,39nm,20.7s,MS3.8,baz=255,slow=38
ARCES ARCESS Array B 85.84 17 P P **15 52 31.5 +1.2**
4.3nm,0.8s,mb4.7,baz=292,slow=4.9,SNR=4.5
ARCES LR LR 16 37 18.0
comp=Z,59nm,18.2s,MS4.0,baz=201,slow=40
FINES FINESS Array B 90.94 23 P P **15 52 53.9 -0.8**
0.7nm,0.7s,mb4.1,baz=27,slow=4.3,SNR=4.3
FINES LR LR 16 34 51.9
comp=Z,56nm,21.5s,MS4.0,baz=146,slow=36
DBIC Dimbokro 91.45 83 P P **15 52 57.5 -0.7**
3.4nm,0.9s,mb4.7,baz=264,slow=12,SNR=3.4
DBIC Dimbokro 91.45 83 P P **15 52 57.3 -0.9**
5.1nm,1.0s,mb4.8
YAK Yakutsk 93.30 339 *e*P P **15 53 05.7 +0.1**
12nm,0.8s,mb5.4
MKAR Makanchi Array 117.23 360 PKP PKPdf 15 58 34.9 -4.7
0.5nm,0.8s,baz=45,slow=1.7,SNR=3.7
NJ2 Nanjing 120.20 324 *e*PKP PKPdf 15 58 41.5 -4.1
STKA Stephens Creek 123.79 242 PKP PKPdf 15 58 48.9 -3.8
5.3nm,0.8s,baz=302,slow=1.9,SNR=11
BOSA Boshof 126.83 114 PKP PKPdf 15 58 55.2 -3.4
5.7nm,0.9s,baz=278,slow=5.9,SNR=6.0
WRA Warramunga Arr 129.99 257 PKP PKPdf 15 59 01.6 -3.3
3.7nm,0.8s,baz=83,slow=2.4,SNR=25
ASAR Alice Springs 130.60 253 PKP PKPdf 15 59 02.0 -4.0
2.8nm,0.8s,baz=121,slow=2.0,SNR=22
HYB Hyderabad 146.39 5 *i*PKP PKPdf 15 59 31.5 -3.1
KSM Kuching 146.70 299 *e*PKPdf PKPdf 15 59 33.7 -1.7
OPO Ambohidratompo 147.02 99 PKPbc PKPdf 15 59 35.4 -0.2
KULM Kulim 151.53 317 *e*PKPbc PKPdf 15 59 46.0 +3.0

*BJI **31** 15:58:45.7, 2.03N×95.81E, h30km, mB4.8, mb4.7, Ms3.9, Msz3.6*
*IDC **31** 15:58:48.7±1.4, 2.61N×95.86E, mb4.1/9, mb1 4.3/9, mb1mx4.0/19, mbtmp4.1/9, Error ellipse: s-maj=66.7km s-min=18.8km az=54.0*
*NEIC **31** 15:58:53.6±0.6, 2.67N×95.96E, h30km, mb4.5/12, Error ellipse: s-maj=12.6km s-min=6.3km az=213.0*
ISC 31 15:58:51.9±6.5, 2.7N±0.1×96.0E±0.1, h30km±44km, n33, g0 s78/33, mb4.4/23, MS3.6/1, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.33**	**61**	*e*P	**Pn**	**16 00 12.9**	**+1.4**
KSM	**Kuching**	**14.36**	**95**	P	**P**	**16 02 14.3**	**-1.1**
CM31	**Chiang Mai Arr**	**15.95**	**10**	*e*P	**P**	**16 02 34.8**	**-1.2**
11nm,0.9s							
KKM	**Kota Kinabalu**	**20.44**	**80**	*e*P	**P**	**16 03 30.1**	**+0.3**
JIRN	**Jiri**	**26.55**	**340**	*e*P	**P**	**16 04 29.9**	**+0.7**
42nm,0.7s,mb5.1							
PKI	**Pulchoki**	**26.74**	**339**	*e*P	**P**	**16 04 31.4**	**+0.5**
GUN	**Gumba**	**26.88**	**340**	*e*P	**P**	**16 04 32.8**	**+0.5**
28nm,0.7s,mb4.9							
DMN	**Daman**	**26.88**	**338**	*e*P	**P**	**16 04 32.4**	**+0.1**
KKN	**Kakani**	**26.98**	**339**	*e*P	**P**	**16 04 33.3**	**+0.1**
25nm,0.8s,mb4.8							
LSA	**Lhasa**	**27.26**	**351**	P	**P**	**16 04 36.5**	**+0.8**
LSA	**Lhasa**	**27.26**	**351**	*e*P	**P**	**16 04 36.1**	**+0.4**
9.8nm,0.8s,mb4.4							
GKN	**Gorkha**	**27.41**	**338**	*e*P	**P**	**16 04 37.1**	**0.0**
KOLN	**Koldanda**	**27.61**	**336**	*e*P	**P**	**16 04 39.3**	**+0.4**
16nm,0.6s,mb4.8							
ENH	**Enshi**	**30.28**	**24**	*e*P	**P**	**16 05 01.2**	**-1.6**
6.2nm,0.9s,mb4.3							
LZH	**Lanzhou**	**34.03**	**11**	*e*P	**P**	**16 05 34.0**	**-1.5**
LZH				AP	pP	16 05 40.5	-4.0
LZH				AMB	AMB		
comp=Z,28nm,1.6s,mb4.9							
GTA	**Gaotai**	**36.73**	**5**	*e*P	**P**	**16 05 58.0**	**-0.4**
GTA				AP	pP	16 06 04.3	-3.1
GTA				XP	sP	16 06 07.0	-4.2
GTA				AMB	AMB		
comp=Z,9.0nm,0.9s,mb4.6							
GTA				AMB	AMB		
comp=Z,73nm,4.0s							
GTA				LR	LR		
comp=N,62nm,13.4s,MS3.8							
GTA				LR	LR		
comp=E,78nm,14.9s,MS3.8							
GTA				LR	LR		
comp=Z,64nm,14.1s,MS3.5							
HHC	**Hu-ho-hao-te**	**40.52**	**18**	P	**P**	**16 06 31.0**	**+1.0**
BJT	**Baijiatuau**	**41.43**	**24**	*e*P	**P**	**16 06 38.5**	**+1.1**
comp=Z,19nm,0.8s,mb4.8							
BJI	**Beijing**	**41.45**	**24**	*e*P	**P**	**16 06 38.8**	**+1.2**
BJI				AMB	AMB		
comp=Z,22nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**43.85**	**123**	P	**P**	**16 06 57.6**	**+0.1**
comp=Z,0.5nm,0.4s,mb3.6,baz=302,slow=9.1,SNR=10							
AAK	**Ala-Archa**	**44.17**	**337**	P	**P**	**16 07 00.2**	**+0.4**
comp=Z,4.0nm,1.1s,mb4.1							
ASAR	**Alice Springs**	**45.25**	**127**	P	**P**	**16 07 08.7**	**-0.1**
comp=Z,0.3nm,0.5s,mb3.4,baz=301,slow=7.8,SNR=11							
MKAR	**Makanchi Array**	**45.53**	**347**	P	**P**	**16 07 10.6**	**-0.1**
comp=Z,3.3nm,0.4s,mb4.6,baz=158,slow=8.9,SNR=113							
SONM	**Songino Array**	**45.87**	**10**	P	**P**	**16 07 13.7**	**+0.3**
comp=Z,3.7nm,0.7s,mb4.4,baz=195,slow=9.2,SNR=16							
ULN	**Ulaanbaatar**	**46.02**	**10**	P	**P**	**16 07 14.2**	**-0.3**
comp=Z,2.4nm,0.8s,mb4.2							
KURK	**Kurchatov**	**50.06**	**346**	*e*P	**P**	**16 07 45.6**	**-0.3**
comp=Z,3.6nm,0.8s,mb4.5							
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**16 07 59.0**	**-1.0**
comp=Z,3.2nm,0.5s,mb4.5,baz=298,slow=5.4,SNR=18							
ZAL	**Zalesovo**	**51.91**	**352**	P	**P**	**16 07 59.0**	**-1.0**
BVAR	**Borovoye Array**	**54.47**	**341**	P	**P**	**16 08 18.1**	**-0.7**
comp=Z,1.5nm,0.7s,mb4.1,baz=148,slow=9.7,SNR=6.9							
CHKZ	**Chkalovo**	**54.95**	**342**	*e*P	**P**	**16 08 21.1**	**-1.4**
comp=Z,4.4nm,0.7s,mb4.6							
FINES	**FINESS Array B**	**78.14**	**333**	P	**P**	**16 10 49.3**	**-0.3**
comp=Z,1.3nm,0.7s,mb4.0,baz=90,slow=7.6,SNR=6.4							
ARCES	**ARCESS Array B**	**80.74**	**340**	P	**P**	**16 11 03.8**	**+0.3**
comp=Z,3.2nm,0.8s,mb4.3,baz=90,slow=3.6,SNR=8.7							
GERES	**GERESS Array B**	**82.91**	**319**	P	**P**	**16 11 15.8**	**+0.6**
comp=Z,0.2nm,0.5s,mb3.4,baz=45,slow=3.8,SNR=3.4							

*BJI **31** 16:01:56.4, 19.50N×145.40E, h129km, mB5.1, mb4.5*
*IDC **31** 16:01:57.8±3.1, 19.52N×145.38E, h128km±28km, mb4.2/22, mb1 4.3/24, mb1mx4.2/31, mbtmp4.6/24, Error ellipse: s-maj=16.2km s-min=8.9km az=81.0*
*NEIC **31** 16:01:58.1±0.8, 19.52N×145.42E, h130km±7km, mb4.6/19, Error ellipse: s-maj=7.3km s-min=5.1km az=82.0*
ISC 31 16:01:56.3±1.0, 19.55N±0.04×145.36E±0.07, h123km±9km, n73, σ1 s06/75, mb4.5/42, 1D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SARN	**Sarigan**	**2.86**	**172**	*e*P	**P**	**16 02 42.0**	**+0.3**
GUMO	**Guam**	**5.95**	**185**	*e*P	**P**	**16 03 24.4**	**+1.3**
300nm,1.0s							
GUMO				S	**S**	**16 04 33.7**	**+3.2**
CBIJ	**Chichi jima**	**8.05**	**339**	P	**P**	**16 03 50.6**	**-1.1**
baz=276,slow=19,SNR=3.7							
CBIJ				S	**S**	**16 05 17.9**	**-3.8**
9.3nm,0.3s,baz=292,slow=22,SNR=4.0							
MJAR	**Matsushiro Arr**	**18.05**	**341**	P	**P**	**16 05 59.5**	**-1.0**
baz=161,slow=9.8,SNR=9.9							
MJAR				S	**S**	**16 09 19.9**	**+5.3**
0.1nm,0.3s,baz=166,slow=14,SNR=3.9							
MAJO	**Matsushiro**	**18.05**	**341**	*e*P	**P**	**16 05 59.4**	**-1.1**
7.3nm,0.6s							
MAT	**Matsushiro**	**18.05**	**341**	*e*P	**P**	**16 06 00.0**	**-0.5**
MAT				*e*S	**S**	**16 09 18.0**	**+3.4**
MAT	**Matsushiro**	**18.05**	**341**	P	**P**	**16 05 59.6**	**-0.9**
MAT				S	**S**	**16 09 18.2**	**+3.6**
ASAJ	**Asahikawa**	**24.60**	**355**	P	**P**	**16 07 07.8**	**+1.6**
14nm,1.0s,mb4.3,baz=167,slow=14,SNR=4.3							
NJ2	**Nanjing**	**26.83**	**303**	*e*P	**P**	**16 07 29.0**	**+1.9**
NJ2				AMB	AMB		
comp=Z,30nm,1.2s,mb4.7							
MDJ	**Mudanjiang**	**28.23**	**336**	P	**P**	**16 07 35.3**	**-4.4**
MDJ				AMB	AMB		
comp=Z,4.0nm,0.6s,mb4.1							
MDJ				AMB	AMB		
comp=Z,100nm,4.7s							
PMG	**Port Moresby**	**28.83**	**176**	P	**P**	**16 07 43.1**	**-2.1**
comp=Z,4.5nm,0.5s,mb4.3,baz=265,slow=11,SNR=2.2							
CN2	**Changchun**	**29.37**	**330**	*e*P	**P**	**16 07 51.0**	**+1.2**
HIA	**Hailar**	**36.06**	**331**	P	**P**	**16 08 47.0**	**-0.6**
comp=Z,3.5nm,0.7s,mb4.4							
WRAB	**Tennant Creek**	**40.70**	**196**	*e*P	**P**	**16 09 25.9**	**-0.4**
comp=Z,20nm,0.8s,mb5.0							
WB2	**Warramunga Arr**	**40.70**	**196**	*i*P	**P**	**16 09 26.2**	**-0.2**
WRA	**Warramunga Arr**	**40.71**	**196**	P	**P**	**16 09 26.1**	**-0.3**
comp=Z,11nm,0.9s,mb4.7,baz=21,slow=8.9,SNR=43							
ULN	**Ulaanbaatar**	**41.90**	**321**	*e*P	**P**	**16 09 36.5**	**+0.6**
comp=Z,4.9nm,0.7s,mb4.3							
FITZ	**Fitzroy Crossi**	**42.13**	**209**	P	**P**	**16 09 37.7**	**-0.5**
comp=Z,7.2nm,0.5s,mb4.7,baz=24,slow=8.5,SNR=35							
SONM	**Songino Array**	**42.28**	**321**	P	**P**	**16 09 39.6**	**+0.6**
comp=Z,4.1nm,0.6s,mb4.4,baz=136,slow=8.3,SNR=23							
GTA	**Gaotai**	**43.78**	**307**	*e*P	**P**	**16 09 53.0**	**+1.7**
GTA				AP	pP	16 10 20.5	+1.0
GTA				XP	sP	16 10 35.0	+1.1
GTA				AMB	AMB		
comp=Z,5.0nm,1.6s,mb4.0							
CM31	**Chiang Mai Arr**	**43.79**	**277**	*e*P	**P**	**16 09 54.1**	**+2.4**
comp=Z,3.6nm,0.6s,mb4.3							
YAK	**Yakutsk**	**43.83**	**349**	*e*P	**P**	**16 09 50.9**	**-0.5**
comp=Z,19nm,0.6s,mb5.0							
ASAR	**Alice Springs**	**44.38**	**195**	P	**P**	**16 09 55.4**	**-0.9**
comp=Z,1.8nm,0.6s,mb4.0,baz=18,slow=8.0,SNR=31							
DZM	**Mont Dzumac**	**46.22**	**152**	P	**P**	**16 10 09.4**	**-1.6**
comp=Z,12nm,0.9s,mb4.6,baz=26,slow=17,SNR=4.4							
MBWA	**Marble Bar**	**47.60**	**213**	*e*P	**P**	**16 10 21.3**	**-0.5**
comp=Z,9.8nm,1.0s,mb4.6							
LSA	**Lhasa**	**49.92**	**293**	P	**P**	**16 10 42.0**	**+2.5**
UNV	**Unalaska Valle**	**50.15**	**35**	*e*P	**P**	**16 10 39.2**	**-1.7**
BILL	**Bilibino**	**50.24**	**10**	*e*P	**P**	**16 10 40.8**	**-0.6**
comp=Z,9.0nm,0.8s,mb4.8							
STKA	**Stephens Creek**	**51.26**	**184**	P	**P**	**16 10 47.1**	**-2.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=51,slow=7.2,SNR=3.8							
WMQ	**Urumqi**	**53.51**	**310**	*e*P	**P**	**16 11 07.3**	**+1.1**
WMQ				AMB	AMB		
comp=Z,18nm,0.8s,mb5.2							
WMQ				AMB	AMB		
comp=Z,134nm,5.0s							
ZAL	**Zalesovo**	**57.16**	**322**	P	**P**	**16 11 31.2**	**-1.1**
comp=Z,1.6nm,0.6s,mb4.3,baz=358,slow=7.3,SNR=7.1							
MKAR	**Makanchi Array**	**57.64**	**314**	P	**P**	**16 11 35.7**	**-0.1**
comp=Z,3.3nm,0.6s,mb4.6,baz=92,slow=9.1,SNR=53							
KURK	**Kurchatov**	**60.42**	**318**	*e*P	**P**	**16 11 53.7**	**-1.3**
comp=Z,6.2nm,0.9s,mb4.6							
CHKZ	**Chkalovo**	**65.48**	**321**	*e*P	**P**	**16 12 26.3**	**-1.9**
comp=Z,2.6nm,0.7s,mb4.2							
BVAR	**Borovoye Array**	**65.61**	**320**	P	**P**	**16 12 28.2**	**-0.9**
comp=Z,6.1nm,0.4s,mb4.8,baz=86,slow=7.3,SNR=47							
INK	**Inuvik**	**68.72**	**23**	P	**P**	**16 12 47.3**	**-1.0**
comp=Z,2.6nm,0.7s,mb4.2,baz=249,slow=5.8,SNR=14							
DLBC	**Dease Lake**	**70.77**	**34**	P	**P**	**16 13 01.5**	**+0.7**
comp=Z,5.0nm,1.1s,mb4.3,baz=264,slow=17,SNR=4.5							
YKA	**Yellowknife Ar**	**77.39**	**28**	P	**P**	**16 13 38.1**	**-0.7**
comp=Z,5.1nm,0.6s,mb4.4,baz=290,slow=5.5,SNR=82							
YBH	**Yreka Blue Hor**	**78.65**	**50**	P	**P**	**16 13 46.2**	**0.0**
comp=Z,3.8nm,0.8s,mb4.3,baz=260,slow=1.9,SNR=8.5							
NEW	**Newport**	**80.50**	**42**	P	**P**	**16 13 56.1**	**+0.1**
comp=Z,4.9nm,0.6s,mb4.5,baz=302,slow=3.0,SNR=9.1							
NEW	**Newport**	**80.50**	**42**	*e*P	**P**	**16 13 55.9**	**-0.2**
comp=Z,4.2nm,0.8s,mb4.3							
CMB	**Columbia Colle**	**81.44**	**53**	*e*P	**P**	**16 14 00.8**	**-0.4**
comp=Z,13nm,0.9s,mb4.8							
BMO	**Blue Mountains**	**81.48**	**46**	*e*P	**P**	**16 14 00.7**	**-0.5**
comp=Z,8.7nm,1.0s,mb4.5							
ARCES	**ARCESS Array B**	**81.59**	**342**	P	**P**	**16 14 01.1**	**-0.2**
comp=Z,3.8nm,0.8s,mb4.3,baz=68,slow=6.5,SNR=6.4							
NVAR	**Mina Array Bea**	**82.87**	**52**	P	**P**	**16 14 08.7**	**+0.2**
comp=Z,18nm,0.7s,mb5.0,baz=270,slow=5.4,SNR=152							
MNV	**Mina**	**82.98**	**52**	*e*P	**P**	**16 14 09.6**	**+0.5**
comp=Z,12nm,0.9s,mb4.7							
MTUM	**Tungsten Hills**	**83.03**	**53**	*e*P	**P**	**16 14 09.7**	**+0.3**
TPH	**Tonopah**	**83.79**	**52**	*e*P	**P**	**16 14 13.3**	**+0.1**
comp=Z,10nm,1.1s,mb4.6							
HRY	**Holter Researc**	**84.41**	**42**	*e*P	**P**	**16 14 16.4**	**+0.3**
MCMT	**McKenzie Canyo**	**84.46**	**44**	*e*P	**P**	**16 14 15.7**	**-0.7**
QLMT	**Earthquake Lak**	**85.39**	**44**	*e*P	**P**	**16 14 22.1**	**+1.1**
HVU	**Hansel Valley**	**85.66**	**47**	*e*P	**P**	**16 14 22.7**	**+0.3**
YMR	**Madison River**	**85.76**	**44**	*e*P	**P**	**16 14 24.2**	**+1.4**
YFT	**Old Faithful**	**85.93**	**44**	*e*P	**P**	**16 14 26.1**	**+2.5**
FINES	**FINESS Array B**	**85.98**	**335**	P	**P**	**16 14 22.0**	**-1.4**
comp=Z,0.9nm,0.4s,mb4.0,baz=70,slow=4.3,SNR=12							
FINES	**FINESS Array B**	**85.98**	**335**	P	**P**	**16 14 22.0**	**-1.4**
RRI2	**Red Ridge**	**86.05**	**45**	*e*P	**P**	**16 14 25.0**	**+0.8**
comp=Z,9.9nm,0.8s,mb4.8							
IMW	**Indian Meadow**	**86.08**	**45**	*e*P	**P**	**16 14 25.4**	**+1.0**
comp=Z,11nm,0.8s,mb4.8							
DUG	**Dugway**	**86.23**	**49**	*e*P	**P**	**16 14 25.4**	**+0.2**
HWUT	**Hardware Ranch**	**86.56**	**47**	*e*P	**P**	**16 14 26.8**	**+0.1**
comp=Z,13nm,0.8s,mb4.9							
NLU	**North Lily Min**	**86.85**	**49**	*e*P	**P**	**16 14 28.7**	**+0.5**
TCUT	**Toone Canyon**	**86.86**	**47**	*e*P	**P**	**16 14 28.6**	**+0.4**
JLU	**Jordanelle**	**87.03**	**48**	*e*P	**P**	**16 14 29.7**	**+0.6**
DAU	**Daniels Canyon**	**87.25**	**48**	*e*P	**P**	**16 14 31.0**	**+0.9**
PDAR	**Pinedale Array**	**87.46**	**45**	P	**P**	**16 14 30.9**	**-0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=210,slow=1.3,SNR=13							
PV01	**Paradox Valley**	**90.08**	**49**	*e*P	**P**	**16 14 43.4**	**-0.2**
RW3	**Ridgway**	**90.66**	**49**	*e*P	**P**	**16 14 46.8**	**+0.5**
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**16 14 57.2**	**+0.1**
comp=Z,2.0nm,0.8s,mb4.5,baz=256,slow=7.6,SNR=3.8							
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**16 14 57.2**	**+0.1**
BRTR	**Keskin Array B**	**93.29**	**314**	P	**P**	**16 14 57.9**	**-0.5**
comp=Z,1.1nm,0.8s,mb4.2,baz=135,slow=2.0,SNR=3.7							
LVC	**Limon Verde**	**147.92**	**102**	*e*PKPbc	PKPdf	16 21 29.2	+4.8
LPAZ	**La Paz**	**148.00**	**90**	PKPbc	PKPdf	16 21 29.9	+5.2
baz=297,slow=3.0,SNR=11							
SAML	**Samuel**	**150.45**	**73**	*e*PKPbc	PKPdf	16 21 34.1	+5.5
SAML				*e*PKPab	PKPab	16 21 40.7	-2.7

IDC 31 16:05:05.1±67.0, 1.50N×97.21E, mb3.9/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.9/3, Error ellipse: s-maj=1285.0km s-min=157.8km az=175.0, Northern Sumatera

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

1.1nm,0.9s,baz=201,slow=8.6,SNR=6.0
MKAR Makanchi Array 46.96 346 P P 16 13 37.7 -1.8
2.0nm,1.0s,baz=155,slow=8.4,SNR=4.6
ZAL Zalesovo 53.26 351 P P 16 14 25.2 -2.5
1.0nm,0.7s,baz=303,slow=5.2,SNR=4.8

*IDC **31** 16:03:55.2±34.0, 28.56S×172.13W, mb4.2/3, mb1 4.4/3, mb1mx3.9/14, mbtmp4.2/3, Error ellipse: s-maj=658.2km s-min=172.5km az=94.0*
ISC 31 16:05:22.6±2.3, 29.5S±0.1×178.3E±0.3, h200km, n10, σ1§13/13, mb3.8/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**8.09**	**180**	PN	**P**	**16 07 19.2**	**+1.3**
PUZ	**Puketiti**	**8.60**	**180**	PN	**P**	**16 07 23.9**	**-0.6**
PUZ				SN	**S**	**16 08 59.7**	**-0.1**
MWZ	**Matawai**	**8.89**	**184**	PN	**P**	**16 07 27.5**	**-0.7**
MWZ				SN	**S**	**16 09 08.2**	**+1.7**
HIZ	**Hauiti**	**9.49**	**197**	PN	**P**	**16 07 44.1**	**+8.1**
WNVZ	**Wahianoa**	**10.11**	**192**	PN	**P**	**16 07 43.1**	**-0.9**
TSZ	**Takapari Road**	**10.76**	**190**	PN	**P**	**16 07 47.6**	**-4.8**
MRZ	**Mangatainoka R**	**11.41**	**191**	PN	**P**	**16 07 55.9**	**-4.9**
MRZ				SN	**S**	**16 10 03.8**	**-1.3**
STKA	**Stephens Creek**	**31.59**	**256**	P	**P**	**16 11 30.7**	**+2.1**
	1.9nm,0.6s,mb3.8,baz=106,slow=15,SNR=5.5						
ASAR	**Alice Springs**	**39.96**	**268**	P	**P**	**16 12 38.9**	**-0.3**
	1.9nm,0.5s,mb3.8,baz=102,slow=6.6,SNR=27						
WRA	**Warramunga Arr**	**40.86**	**273**	P	**P**	**16 12 45.7**	**-0.8**
	1.4nm,0.4s,mb3.8,baz=110,slow=7.5,SNR=16						

*IDC **31** 16:12:48.0±1.6, 1.31N×96.98E, mb4.1/9, mb1 4.2/9, mb1mx4.0/19, mbtmp4.1/9, Error ellipse: s-maj=81.0km s-min=17.1km az=56.0*
*BJI **31** 16:12:50.7, 0.93N×97.57E, h48km, mB5.3, mb4.7*
*NEIC **31** 16:12:52.4±0.8, 1.37N×97.08E, h30km, mb4.4/7, Error ellipse: s-maj=20.3km s-min=11.1km az=55.0*
ISC 31 16:12:50.9±0.7, 1.36N±0.09×97.08E±0.08, h30km, n28, σ0§96/28, mb4.3/21, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.08**	**51**	P	**Pn**	**16 14 07.2**	**+0.1**
KULM	**Kulim**	**5.29**	**42**	*e*Pn	**Pn**	**16 14 09.8**	**-0.2**
KGM	**Kluang**	**6.27**	**84**	P	**Pn**	**16 14 24.6**	**+0.7**
KKM	**Kota Kinabalu**	**19.65**	**76**	*e*P	**P**	**16 17 20.2**	**-0.3**
KMI	**Kunming**	**24.25**	**13**	P	**P**	**16 18 08.3**	**+1.6**
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.2						
JIRN	**Jiri**	**28.16**	**339**	*e*P	**P**	**16 18 43.8**	**+0.9**
GUN	**Gumba**	**28.50**	**339**	*e*P	**P**	**16 18 46.9**	**+1.0**
	comp=Z,14nm,0.7s,mb4.7						
GKN	**Gorkha**	**29.05**	**337**	*e*P	**P**	**16 18 51.6**	**+0.7**
	comp=Z,4.8nm,0.3s,mb4.7						
KOLN	**Koldanda**	**29.27**	**335**	*e*P	**P**	**16 18 53.5**	**+0.6**
	comp=Z,12nm,0.8s,mb4.7						
ENH	**Enshi**	**31.08**	**21**	*e*P	**P**	**16 19 06.7**	**-2.2**
	comp=Z,12nm,0.8s,mb4.8						
WRA	**Warramunga Arr**	**42.22**	**122**	P	**P**	**16 20 43.1**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.5,baz=301,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**42.23**	**122**	*e*P	**P**	**16 20 41.9**	**-1.5**
	comp=Z,9.3nm,1.1s,mb4.3						
BJI	**Beijing**	**42.24**	**22**	*e*P	**P**	**16 20 43.8**	**+0.5**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**43.59**	**127**	P	**P**	**16 20 54.6**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.5,baz=299,slow=7.9,SNR=8.1						
SONM	**Songino Array**	**47.00**	**9**	P	**P**	**16 21 21.4**	**+0.1**
	comp=Z,1.7nm,0.6s,mb4.2,baz=192,slow=9.3,SNR=19						
MKAR	**Makanchi Array**	**47.06**	**346**	P	**P**	**16 21 22.2**	**+0.4**
	comp=Z,2.0nm,0.5s,mb4.3,baz=158,slow=9.0,SNR=53						
ULN	**Ulaanbaatar**	**47.13**	**9**	*e*P	**P**	**16 21 21.0**	**-1.3**
	comp=Z,1.9nm,0.8s,mb4.1						
TLY	**Talaya**	**50.45**	**5**	*e*P	**P**	**16 21 48.1**	**+0.2**
	comp=Z,2.2nm,0.8s,mb4.2						
PMG	**Port Moresby**	**51.01**	**103**	P	**P**	**16 21 55.0**	**+2.3**
	comp=Z,25nm,1.1s,mb5.1						
KURK	**Kurchatov**	**51.61**	**345**	*e*P	**P**	**16 21 56.0**	**-0.8**
	comp=Z,2.6nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**53.38**	**351**	P	**P**	**16 22 09.2**	**-0.7**
	comp=Z,2.4nm,0.5s,mb4.4,baz=320,slow=6.4,SNR=9.5						
STKA	**Stephens Creek**	**53.55**	**132**	P	**P**	**16 22 11.8**	**+0.3**
	comp=Z,1.0nm,0.6s,mb3.9,baz=314,slow=22,SNR=4.5						
STKA	**Stephens Creek**	**53.55**	**132**	P	**P**	**16 22 11.8**	**+0.3**
BVAR	**Borovoye Array**	**56.06**	**341**	P	**P**	**16 22 28.6**	**-0.9**
	comp=Z,0.8nm,0.6s,mb4.0,baz=153,slow=9.9,SNR=6.1						
CHKZ	**Chkalovo**	**56.54**	**341**	*e*P	**P**	**16 22 31.9**	**-1.0**
	comp=Z,2.7nm,0.6s,mb4.5						
MA2	**Magadan**	**71.25**	**26**	P	**P**	**16 24 05.9**	**-3.3**
FINES	**FINESS Array B**	**79.81**	**333**	P	**P**	**16 24 57.8**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=120,slow=11,SNR=5.8						
ARCES	**ARCESS Array B**	**82.35**	**340**	P	**P**	**16 25 11.4**	**+0.4**
	comp=Z,6.8nm,1.1s,mb4.5,baz=97,slow=7.3,SNR=5.6						

*MOS **31** 16:15:39.5±1.3, 47.66N×154.18E, h25km, mb4.3/3, Error ellipse: s-maj=22.0km s-min=14.5km az=79.2*
*NEIC **31** 16:15:43.3±2.1, 47.68N×154.16E, h35km±16km, mb4.2/4, Error ellipse: s-maj=21.5km s-min=12.0km az=135.0*
*IDC **31** 16:15:45.3±5.2, 47.66N×153.97E, h55km±47km, mb3.3/6, mb1 3.5/7, mb1mx3.3/22, mbtmp3.6/7, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.2/14, Error ellipse: s-maj=36.4km s-min=20.7km az=118.0*
ISC 31 16:15:39.0±3.7, 47.7N±0.1×154.2E±0.2, h18km±25km, n24, σ0§95/24, mb3.9/9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.23**	**22**	*e*PN	**Pn**	**16 16 30.2**	**+0.2**
SKR				*e*S	**Sn**	**16 17 07.4**	**-1.0**
SKR				pmax	pmax		
	comp=N,70nm,0.3s						
SKR				pmax	pmax		
	comp=E,40nm,0.3s						
SKR				pmax	pmax		
	comp=Z,70nm,0.3s						
SKR				smax			
	comp=N,110nm,0.5s						
SKR				smax			
	comp=E,120nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.80**	**269**	*e*PN	**Pn**	**16 17 36.0**	**+1.6**
YSS	**Yuzh-Sakhalins**	**7.80**	**269**	Pn	**Pn**	**16 17 33.7**	**-0.8**
ASAJ	**Asahikawa**	**8.84**	**250**	P	**P**	**16 17 48.0**	**-0.9**
	comp=E,0.2nm,0.3s,baz=225,slow=5.7,SNR=2.3						
MA2	**Magadan**	**12.05**	**352**	*e*PN	**P**	**16 18 33.0**	**+0.3**
CBIJ	**Chichi jima**	**22.63**	**209**	LR	LR	16 27 53.6	
	comp=E,32nm,20.5s,baz=142,slow=32						
INK	**Inuvik**	**40.45**	**33**	*e*P	**P**	**16 23 18.6**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**40.45**	**33**	P	**P**	**16 23 19.0**	**+1.5**
	comp=Z,0.3nm,0.4s,mb3.4,baz=265,slow=4.7,SNR=5.5						
INK	**Inuvik**	**40.45**	**33**	*e*P	**P**	**16 23 18.6**	**+1.0**
	comp=Z,2.5nm,0.9s,mb3.9						
MKAR	**Makanchi Array**	**47.15**	**297**	P	**P**	**16 24 11.5**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.7,baz=65,slow=7.5,SNR=5.1						
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**16 24 32.2**	**+0.8**
YKA	**Yellowknife Ar**	**49.72**	**37**	P	**P**	**16 24 32.1**	**+0.7**
	comp=Z,0.2nm,0.8s,mb3.2,baz=299,slow=7.6,SNR=3.6						
CHKZ	**Chkalovo**	**50.37**	**310**	*e*P	**P**	**16 24 34.7**	**-1.8**
CHKZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.0						
CHKZ	**Chkalovo**	**50.37**	**310**	*e*P	**P**	**16 24 34.7**	**-1.8**
	comp=Z,0.9nm,0.6s,mb4.0						
JIRN	**Jiri**	**55.59**	**275**	*e*P	**P**	**16 25 16.4**	**+0.7**
	comp=Z,7.2nm,0.6s,mb4.8						
GUN	**Gumba**	**55.64**	**275**	*e*P	**P**	**16 25 16.4**	**+0.3**
KKN	**Kakani**	**56.12**	**275**	*e*P	**P**	**16 25 20.7**	**+1.2**
	comp=Z,5.3nm,0.6s,mb4.7						
KKN	**Kakani**	**56.12**	**275**	*e*P	**P**	**16 25 20.7**	**+1.2**
KKN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
DMN	**Daman**	**56.35**	**275**	*e*P	**P**	**16 25 21.9**	**+0.7**
GKN	**Gorkha**	**56.41**	**276**	*e*P	**P**	**16 25 22.1**	**+0.5**
FINES	**FINESS Array B**	**63.47**	**335**	P	**P**	**16 26 08.3**	**-1.3**
	comp=Z,0.3nm,0.3s,mb3.9,baz=47,slow=7.1,SNR=6.2						
WRA	**Warramunga Arr**	**69.67**	**200**	P	**P**	**16 26 47.5**	**-1.9**
	comp=Z,0.3nm,0.5s,mb3.5,baz=19,slow=6.8,SNR=5.9						
ASAR	**Alice Springs**	**73.36**	**199**	P	**P**	**16 27 11.4**	**0.0**
	comp=Z,0.6nm,0.9s,mb3.5,baz=15,slow=5.7,SNR=4.4						
KHC	**Kasperske Hory**	**77.68**	**335**	*e*P	**P**	**16 27 36.0**	**+0.5**

IDC 31 16:15:58.2±4.4, 1.45N×97.58E, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=174.2km s-min=28.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.85**	**122**	P	P	16 23 50.1	-1.8
	0.2nm,0.5s,baz=304,slow=8.8,SNR=3.4						
SONM	**Songino Array**	**46.83**	**8**	P	P	16 24 30.6	-1.0
	0.5nm,0.8s,baz=188,slow=8.7,SNR=3.6						
MKAR	**Makanchi Array**	**47.09**	**346**	P	P	16 24 31.9	-1.9
	0.3nm,0.5s,baz=162,slow=8.3,SNR=7.4						
ZAL	**Zalesovo**	**53.36**	**351**	P	P	16 25 18.4	-3.2
	0.6nm,0.7s,baz=340,slow=9.1,SNR=3.0						

*IDC **31** 16:29:51.1±0.7, 1.26N×97.04E, mb4.7/15, mb1 4.8/15, mb1mx4.7/20, mbtmp4.7/15, MS4.5/7, Ms1 4.4/7, ms1mx4.2/25, Error ellipse: s-maj=28.9km s-min=13.1km az=49.0*
*MOS **31** 16:29:54.8±1.0, 1.40N×97.26E, h33km, mb5.2/33, MS4.8/7, Error ellipse: s-maj=12.9km s-min=6.0km az=113.5*
*BJI **31** 16:29:54.0, 1.17N×97.29E, h36km, mB5.3, mb5.1, Ms5.0, Msz4.9*
*NEIC **31** 16:29:56.1±0.2, 1.32N×97.21E, h30km, mb5.0/35, Error ellipse: s-maj=6.7km s-min=4.5km az=218.0*
*HRVD **31** 16:29:56.1±0.6, 1.21N×96.94E, h30km±1km, MW4.9/37, Centroid moment Tensor Solution. LP body waves: s27,c40;Mantle waves: s37,c68; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.33±.16; Mθθ-0.89±.10; Mϕϕ-1.44±.13; Mrθ1.20±.15; Mθϕ1.56±.09; Mϕr-1.11±.19; Best double couple: M0 3.022×10^16 NP1:ϕs325°, δ29°, λ99° NP2:ϕs135°, δ61°, λ85°. Principal axes: T 2.82, Plg73°, Azm34°; N .402, Plg4°, Azm138°; P -3.225, Plg16°, Azm229°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 31 16:29:53.9±1.1, 1.30N±0.04×97.18E±0.04, h28km±7km, h27km±.9km:pP-P, n178, σ1§10/186, mb5.0/75, MS4.7/29, 7C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.04**	**50**	P	**Pn**	**16 31 10.6**	**+1.0**
IPM	**Ipoh**	**5.04**	**50**	P	**Pn**	**16 31 10.5**	**+0.9**
KULM	**Kulim**	**5.26**	**41**	*e*Pn	**Pn**	**16 31 12.7**	**-0.2**
KGM	**Kluang**	**6.18**	**83**	P	**Pn**	**16 31 27.6**	**+1.8**
SNG	**Songkhla**	**6.77**	**30**	P	**Pn**	**16 31 32.0**	**-2.1**
	600nm,0.9s						
KSM	**Kuching**	**13.13**	**89**	P	**P**	**16 33 04.5**	**+3.2**
KSM				*e*		16 33 13.0	
NST	**Nakhon Sawan**	**14.57**	**11**	P	**P**	**16 33 21.3**	**+0.8**
KKTK	**Khon Kaen**	**15.94**	**20**	P	**P**	**16 33 41.0**	**+2.8**
	432nm,0.5s						
BDT	**Bhumibol Dam**	**15.95**	**6**	P	**P**	**16 33 40.0**	**+1.8**
CM31	**Chiang Mai Arr**	**17.14**	**6**	*e*P	**P**	**16 33 52.0**	**-1.3**
	26nm,0.9s						
PALK	**Pallekele**	**17.46**	**290**	P	**P**	**16 33 60.0**	**+2.6**
CHG	**Chiang Mai**	**17.49**	**6**	⇑P	**P**	**16 33 55.9**	**-1.8**
	12nm,0.8s						
KKM	**Kota Kinabalu**	**19.57**	**76**	*e*P	**P**	**16 34 22.6**	**-0.3**
KKM	**Kota Kinabalu**	**19.57**	**76**	P	**P**	**16 34 23.2**	**+0.3**
VIS	**Vishakhapatnam**	**21.25**	**321**	*e*P	**P**	**16 34 36.6**	**-3.7**
VIS				*e*		16 34 57.0	
	comp=Z,93nm,1.6s						
VIS				*e*S	**S**	**16 38 23.5**	**-6.5**
TRD	**Trivandrum**	**21.37**	**290**	*e*	**P**	**16 34 30.6**	**-11**
TRD				*e*		16 34 46.7	
	comp=Z,75nm,1.5s						
QIZ	**Qiongzhong**	**21.55**	**34**	P	**P**	**16 34 43.5**	**+0.1**
QIZ				XP		16 34 56.5	
QIZ				S	**S**	**16 38 36.8**	**+1.1**
QIZ				XS		16 38 54.3	
QIZ				LR	LR		
	comp=N,1μm,16.0s,MS4.6						
QIZ				LR	LR		
	comp=E,1μm,14.8s,MS4.6						
QIZ				LR	LR		
	comp=Z,1μm,15.1s,MS4.4						
QIZ	**Qiongzhong**	**21.55**	**34**	*e*P	**P**	**16 34 42.5**	**-0.9**
	comp=Z,87nm,1.3s,mb5.0						
BWNR	**Bhubaneshwar**	**21.91**	**330**	*e*P	**P**	**16 34 43.7**	**-3.2**
BWNR				*e*		16 34 50.1	
	comp=Z,72nm,1.1s						
KMI	**Kunming**	**24.29**	**12**	P	**P**	**16 35 11.5**	**+1.2**
KMI				AP		16 35 18.5	
KMI				XP		16 35 22.5	
KMI				S	**S**	**16 39 28.5**	**+4.1**
KMI				SS	SS	16 40 23.0	+4.7
KMI				AMB	AMB		
	comp=Z,113nm,1.3s,mb5.1						
KMI				AMB	AMB		
	comp=Z,553nm,3.8s						
KMI				LR	LR		
	comp=N,4μm,15.9s,MS5.1						
KMI				LR	LR		
	comp=E,2μm,13.6s,MS5.1						
KMI				LR	LR		
	comp=Z,5μm,14.2s,MS5.1						
HYB	**Hyderabad**	**24.33**	**312**	*e*P	**P**	**16 35 12.0**	**+1.3**
HYB	**Hyderabad**	**24.33**	**312**	*i* P	**P**	**16 35 12.0**	**+1.3**
BLSP	**Bilaspur**	**25.36**	**326**	*e*P	**P**	**16 35 18.7**	**-1.8**
BLSP				*e*		16 35 36.6	
	comp=Z,66nm,1.6s						
GYA	**Guiyang**	**26.62**	**19**	⇑*i*P	**P**	**16 35 32.0**	**-0.2**
GYA				AP	pP	16 35 40.5	+0.1
GYA				XP	sP	16 35 44.5	+0.4
GYA				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.8						
GYA				AMB	AMB		
	comp=Z,350nm,5.6s						
GYA				LR	LR		
	comp=N,3μm,15.0s,MS5.0						
GYA				LR	LR		
	comp=E,1μm,12.6s,MS5.0						
GYA				LR	LR		
	comp=Z,4μm,14.1s,MS5.2						
JIRN	**Jiri**	**28.24**	**339**	*e*P	**P**	**16 35 47.6**	**+0.7**
	comp=Z,191nm,1.0s,mb5.7						
PKI	**Pulchoki**	**28.45**	**338**	*e*P	**P**	**16 35 49.4**	**+0.6**
GUN	**Gumba**	**28.58**	**339**	*e*P	**P**	**16 35 51.0**	**+1.0**
	comp=Z,101nm,0.7s,mb5.7						
DMN	**Daman**	**28.60**	**337**	*e*P	**P**	**16 35 50.5**	**+0.3**
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**16 35 51.3**	**+0.3**
	comp=Z,102nm,1.0s,mb5.5						
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**16 35 51.3**	**+0.3**
KKN				pmax	pmax		
	comp=Z,51nm,1.0s,mb5.2						
LSA	**Lhasa**	**28.82**	**349**	P	**P**	**16 35 53.0**	**+0.9**
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**16 35 53.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
LSA	**Lhasa**	**28.82**	**349**	*e*P	**P**	**16 35 53.1**	**+1.0**
	comp=Z,29nm,0.8s,mb5.1						
BHPL	**Bhopal**	**29.04**	**320**	*e*P	**P**	**16 35 49.4**	**-4.7**
BHPL				*e*		16 36 05.8	
	comp=Z,12nm,2.2s						
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**16 35 55.1**	**+0.1**
	comp=Z,142nm,1.0s,mb5.7						
KOLN	**Koldanda**	**29.36**	**335**	*e*P	**P**	**16 35 57.4**	**+0.4**
	comp=Z,84nm,0.8s,mb5.5						
CD2	**Chengdu**	**30.10**	**11**	⇓*i*P	**P**	**16 36 02.5**	**-1.1**
CD2				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.9						
ENH	**Enshi**	**31.09**	**21**	*e*P	**P**	**16 36 10.8**	**-1.5**
	comp=Z,67nm,0.7s,mb5.6						
ENH				*e*	pP	16 36 17.8	-2.8
NDI	**New Delhi**	**33.23**	**327**	*e*P	**P**	**16 36 29.0**	**-2.0**
WHN	**Wuhan**	**33.34**	**28**	*e*P	**P**	**16 36 31.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**34.01**	**126**	P	**P**	**16 36 37.0**	**-0.8**
	comp=Z,14nm,0.8s,mb5.0,baz=314,slow=2.4,SNR=9.6						
FITZ				LR	LR	16 52 47.4	
	comp=Z,597nm,19.5s,MS4.3,baz=286,slow=40						
DDI	**Dehra Dun**	**34.10**	**330**	*e*P	**P**	**16 36 37.1**	**-1.4**
XAN	**Xi'an**	**34.37**	**17**	P	**P**	**16 36 39.3**	**-1.5**
XAN				AP	pP	16 36 46.3	-2.8
XAN				S	**S**	**16 42 02.8**	**-3.0**
XAN				AMB	AMB		
	comp=Z,46nm,1.0s,mb5.4						
XAN				LR	LR		
	comp=Z,2μm,15.9s,MS5.0						
LZH	**Lanzhou**	**35.16**	**9**	*e*P	**P**	**16 36 47.3**	**-0.2**
LZH				AP	pP	16 36 54.8	-1.0
LZH				XP	sP	16 36 57.8	-1.6
LZH				AMB	AMB		
	comp=Z,74nm,1.6s,mb5.4						
LZH				AMB	AMB		
	comp=Z,25nm,4.0s						
LZH				LR	LR		
	comp=N,3μm,16.3s						
LZH				LR	LR		
	comp=Z,3μm,17.2s,MS5.1						
SMLA	**Simla**	**35.20**	**329**	*i*	**P**	**16 36 38.9**	**-9.1**
SDNR	**Sundarnagar**	**35.59**	**330**	*e*P	**P**	**16 36 52.0**	**+0.7**
NJ2	**Nanjing**	**36.79**	**32**	*e*P	**P**	**16 37 01.5**	**+0.1**
NJ2				AP	pP	16 37 11.3	+1.6
NJ2				XP	sP	16 37 15.3	+2.1
NJ2				PP	PP	16 38 28.8	+1.7
NJ2				S	**S**	**16 42 45.0**	**+1.9**
NJ2				XS		16 43 01.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,1μm,3.9s						
NJ2				LR	LR		
	comp=N,2μm,13.6s,MS5.2						
NJ2				LR	LR		
	comp=E,1μm,15.5s,MS5.2						
NJ2				LR	LR		
	comp=Z,2μm,14.6s,MS4.9						
THN	**Thein Dam**	**36.98**	**329**	*e*P	**P**	**16 37 02.3**	**-0.6**
	comp=Z,28nm,1.0s,mb5.0						
SSE	**Sheshan**	**37.34**	**35**	P	**P**	**16 37 04.5**	**-1.5**
SSE				XP	sP	16 37 17.3	-0.6
SSE				PP	PP	16 38 30.8	-3.1
SSE				PCP	PcP	16 39 22.3	-3.0
SSE				S	**S**	**16 42 52.8**	**+1.2**
SSE				XS		16 43 07.5	
SSE				SCS	ScS	16 47 16.0	+0.2
SSE				AMB	AMB		
	comp=Z,37nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,84nm,4.9s						
SSE				LR	LR		
	comp=N,1μm,14.2s,MS4.8						
SSE				LR	LR		
	comp=E,536nm,14.4s,MS4.8						
SSE				LR	LR		
	comp=Z,1μm,15.1s,MS4.8						
GTA	**Gaotai**	**38.01**	**3**	*e*P	**P**	**16 37 11.5**	**0.0**
GTA				AP	pP	16 37 20.3	+0.5
GTA				XP	sP	16 37 24.0	+0.7
GTA				PP	PP	16 38 41.5	-0.3
GTA				S	**S**	**16 43 01.0**	**-0.6**
GTA				XS		16 43 15.0	
GTA				SS	SS	16 45 36.3	-2.8
GTA				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.9						
GTA				AMB	AMB		
	comp=Z,247nm,5.3s						
GTA				LR	LR		
	comp=N,1μm,13.8s,MS4.9						
GTA				LR	LR		
	comp=E,711nm,14.1s,MS4.9						
GTA				LR	LR		
	comp=Z,1μm,13.8s,MS4.9						
JOW	**Kunigami**	**39.19**	**47**	P	**P**	**16 37 22.5**	**+1.0**
	comp=Z,49nm,0.6s,mb5.4,baz=244,slow=8.4,SNR=24						
BTO	**Baotou**	**40.82**	**15**	*e*P	**P**	**16 37 35.0**	**+0.2**
BTO				S	**S**	**16 43 47.5**	**+3.6**
BTO				AMB	AMB		
	comp=Z,12nm,0.4s,mb4.9						
HHC	**Hu-ho-hao-te**	**41.47**	**17**	*e*P	**P**	**16 37 41.5**	**+1.4**
HHC				AP	pP	16 37 51.5	+3.0
HHC				XP	sP	16 37 54.0	+2.0
HHC				PP	PP	16 39 20.5	+1.5
HHC				PCP	PcP	16 39 39.3	+1.1
HHC				PCS		16 43 28.8	
HHC				S	**S**	**16 43 54.8**	**+1.3**
HHC				XS		16 44 10.5	
HHC				SCS	ScS	16 47 40.0	+0.3
HHC				AMB	AMB		
	comp=Z,21nm,0.6s,mb4.9						
HHC				LR	LR		
	comp=N,2μm,15.5s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,17.2s,MS5.1						
WRA	**Warramunga Arr**	**42.11**	**122**	P	**P**	**16 37 45.8**	**+0.1**
	comp=E,7.2nm,0.7s,mb4.4,baz=300,slow=9.1,SNR=71						
WRA				PcP	PcP	16 39 40.7	0.0
	comp=E,1.3nm,0.8s,baz=329,slow=4.9,SNR=4.3						
WRAB	**Tennant Creek**	**42.11**	**122**	*e*P	**P**	**16 37 45.4**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
WRAB	**Tennant Creek**	**42.11**	**122**	*e*P	**P**	**16 37 45.4**	**-0.3**
	comp=Z,17nm,0.9s,mb4.7						
WB2	**Warramunga Arr**	**42.12**	**122**	⇓*i*P	**P**	**16 37 45.6**	**-0.2**
BJT	**Baijiatuau**	**42.23**	**22**	*e*P	**P**	**16 37 47.5**	**+1.0**
BJT				pmax	pmax		
	comp=Z,28nm,0.6s						
BJT	**Baijiatuau**	**42.23**	**22**	*e*P	**P**	**16 37 47.5**	**+1.0**
	comp=Z,28nm,0.6s,mb5.1						
BJI	**Beijing**	**42.25**	**22**	*e*P	**P**	**16 37 47.0**	**+0.3**
BJI				PP	PP	16 39 31.5	+4.1
BJI				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.2						
BJI				LR	LR		
	comp=N,528nm,15.4s,MS4.7						
BJI				LR	LR		
	comp=E,546nm,17.8s,MS4.7						
BJI				LR	LR		
	comp=Z,430nm,19.5s,MS4.3						
KSH	**Kashi**	**42.67**	**336**	*e*P	**P**	**16 37 49.8**	**-0.3**
KSH				*e*AP	pP	16 37 59.0	+0.6
KSH				*e*XP	sP	16 38 03.0	+1.1
KSH				*e*PP	PP	16 39 31.3	-0.3
KSH				*e*PCP	PcP	16 39 42.5	+0.2
KSH				*e*SCP		16 43 29.5	
KSH				*e*PCS		16 43 34.0	
KSH				*e*S	**S**	**16 44 08.0**	**-3.2**
KSH				*e*SS	SS	16 47 13.0	-2.9
KSH				*e*SCS	ScS	16 47 46.5	-0.5
KSH				AMB	AMB		
	comp=Z,200n

comp=N,300nm,16.5s,MS4.4
DL2 LR LR
comp=E,250nm,16.9s,MS4.4
DL2 LR LR
comp=Z,420nm,18.3s,MS4.4
ULHL Ulahol 44.89 338 P **P** **16 38 08.3 +0.3**
SNR=15
KZA Kyzart 45.13 337 P **P** **16 38 11.5 +1.6**
SNR=5.9
UCH Uchtor 45.55 336 P **P** **16 38 14.2 +1.0**
SNR=26
TKM2 Tokmak 2 45.72 338 P **P** **16 38 15.6 +1.0**
SNR=18
KBK Karagaybulak 45.74 337 P **P** **16 38 16.5 +1.8**
SNR=7.0
AML Almayashu 45.80 336 P **P** **16 38 16.1 +0.9**
SNR=17
AAK Ala-Archa 45.90 337 P **P** **16 38 17.5 +1.5**
SNR=6.5
AAK Ala-Archa 45.90 337 *c iP* **P** **16 38 15.7 -0.3**
AAK pmax pmax
comp=Z,12nm,1.0s,mb4.8
AAK MLR MLR
comp=Z,500nm,20.0s,MS4.5
AAK Ala-Archa 45.90 337 *eP* **P** **16 38 16.0 0.0**
comp=Z,14nm,1.1s,mb4.8
FRU Bishkek 46.02 337 *eP* **P** **16 38 18.5 +1.6**
FRU pmax pmax
comp=Z,83nm,2.5s,mb5.2
CHMS Chumysh 46.10 337 P **P** **16 38 18.4 +0.8**
SNR=5.5
EKS2 Erkin-Say 46.21 336 P **P** **16 38 20.0 +1.6**
SNR=14
USP Ospenovka 46.43 337 P **P** **16 38 21.2 +1.0**
SNR=30
SONM Songino Array 47.03 8 P **P** **16 38 25.5 +0.6**
comp=Z,22nm,0.9s,mb5.1,baz=189,slow=9.0,SNR=163
SONM PcP PcP 16 39 57.2 0.0
comp=Z,3.0nm,0.6s,baz=192,slow=4.2,SNR=3.6
SONM LR LR 17 00 38.9
comp=Z,898nm,18.7s,MS4.8,baz=190,slow=39
MKAR Makanchi Array 47.14 346 *eP* **P** **16 38 25.4 -0.3**
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 47.14 346 P **P** **16 38 26.2 +0.4**
comp=Z,10nm,0.6s,mb4.9,baz=158,slow=8.2,SNR=162
MKAR LR LR 17 01 28.0
comp=Z,291nm,21.3s,MS4.2,baz=172,slow=40
MKAR Makanchi Array 47.14 346 P **P** **16 38 26.2 +0.4**
MKAR LR LR 17 01 28.0
ULN Ulaanbaatar 47.16 9 *eP* **P** **16 38 25.8 -0.1**
ULN *e* pP 16 38 33.7 -0.7
ULN pmax pmax
comp=Z,13nm,0.9s,mb4.9
ULN Ulaanbaatar 47.16 9 *eP* **P** **16 38 25.8 -0.2**
comp=Z,13nm,0.9s,mb4.8
ULN *e* pP 16 38 33.7 -0.7
KKAR Karatay Array 47.95 334 P **P** **16 38 31.9 -0.3**
KKAR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ZAK Zakamensk 49.17 5 *eP* **P** **16 38 41.2 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CN2 Changchun 49.23 27 *eP* **P** **16 38 41.3 -0.7**
CN2 *e*XP sP 16 38 56.3 +2.5
CN2 *e*S **S** **16 45 45.0 +0.2**
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CN2 AMB AMB
comp=Z,220nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS5.1
CN2 LR LR
comp=E,970nm,16.0s,MS5.1
CN2 LR LR
comp=Z,1μm,17.0s,MS4.9
MOY Mondy 50.29 3 *eP* **P** **16 38 50.4 +0.4**
TLY Talaya 50.49 5 *eP* **P** **16 38 52.1 +0.5**
TLY *e* 16 40 49.2
TLY *e*S **S** **16 46 06.1 +3.8**
TLY pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,754nm,16.0s,MS4.8
PMG Port Moresby 50.90 103 P **P** **16 38 54.3 -0.9**
PMG pmax pmax
comp=Z,15nm,0.8s
PMG Port Moresby 50.90 103 P **P** **16 38 54.3 -0.8**
comp=Z,14nm,0.8s,mb5.0
IRK Irkutsk 51.11 6 *eP* **P** **16 38 55.6 -0.6**
IRK *e* 16 40 55.4
IRK pmax pmax
comp=Z,44nm,1.8s,mb5.1
HIA Hailar 51.55 19 *eP* **P** **16 38 59.0 -0.6**
HIA pmax pmax
comp=Z,23nm,0.9s
HIA Hailar 51.55 19 *eP* **P** **16 38 59.0 -0.6**
comp=Z,23nm,0.9s,mb5.1
MJAR Matsushiro Arr 51.63 42 P **P** **16 38 59.3 -1.1**
comp=Z,5.0nm,1.0s,mb4.4,baz=228,slow=6.5,SNR=8.9
MJAR LR LR 17 01 16.6
comp=Z,295nm,21.7s,MS4.3,baz=240,slow=36
KURK Kurchatov 51.69 345 *i P* **P** **16 38 59.7 -1.0**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KURK Kurchatov 51.69 345 *eP* **P** **16 38 59.8 -0.8**
comp=Z,17nm,0.9s,mb5.0
MDJ Mudanjiang 51.79 29 P **P** **16 39 01.0 -0.5**
MDJ AP pP 16 39 09.8 -0.3
MDJ XP sP 16 39 14.5 +1.1
MDJ PCP PcP 16 40 13.8 -0.7
MDJ PP PP 16 41 01.8 +1.9
MDJ SCP 16 44 07.3
MDJ PCS 16 44 12.5
MDJ S **S** **16 46 28.8 +8.5**
MDJ SCS ScS 16 48 48.8 +2.4
MDJ AMB AMB
comp=Z,22nm,0.8s,mb5.1
MDJ AMB AMB
comp=Z,139nm,4.4s
MDJ LR LR
comp=N,243nm,18.9s,MS4.5
MDJ LR LR
comp=E,265nm,16.8s,MS4.5
MDJ LR LR
comp=Z,294nm,21.0s,MS4.3
MDJ Mudanjiang 51.79 29 *eP* **P** **16 39 01.5 0.0**
comp=Z,19nm,0.8s,mb5.1
CTA Charters Tower 52.57 117 LR LR 17 05 54.2
comp=Z,628nm,18.2s,MS4.7,baz=282,slow=41
STKA Stephens Creek 53.44 132 *eP* **P** **16 39 14.4 +0.4**
comp=Z,8.4nm,0.9s,mb4.7
STKA Stephens Creek 53.44 132 P **P** **16 39 14.4 +0.4**
comp=Z,11nm,0.9s,mb4.8,baz=304,slow=7.1,SNR=15
STKA LR LR 17 04 10.5
comp=Z,759nm,21.6s,MS4.7,baz=300,slow=38
ZAL Zalesovo 53.45 351 P **P** **16 39 13.1 -0.7**
comp=Z,19nm,0.6s,mb5.2,baz=310,slow=5.1,SNR=116
NVS Novosibirsk 54.57 350 *eP* **P** **16 39 19.8 -2.2**
NVS *e* 16 39 32.4
NVS *e*S **S** **16 46 57.0 -0.9**
NVS pmax pmax
comp=Z,23nm,0.9s,mb5.2
NVS pmax pmax
comp=N,16nm,0.9s
NVS smax
comp=N,29nm,2.1s
BVA0 Borovoye Array 56.15 341 *i* P **P** **16 39 31.6 -1.8**
BVA0 pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
KLR Kul'dur 56.17 27 *eP* **P** **16 39 30.7 -3.0**
KLR MLR MLR
comp=E,600nm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.2
CHKZ Chkalovo 56.62 341 *eP* **P** **16 39 35.3 -1.5**
CHKZ *e* 16 39 41.5
CHKZ pmax pmax
comp=Z,36nm,0.8s,mb5.5
CHKZ Chkalovo 56.62 341 *eP* **P** **16 39 35.3 -1.5**
comp=Z,36nm,0.8s,mb5.5
CHKZ *e* 16 39 41.5
BOD Bodaibo 57.91 11 *⇓iP* **P** **16 39 44.4 -1.5**
BOD pmax pmax
comp=Z,23nm,1.1s,mb5.1
CLNS Chul'man 59.65 17 *eP* **P** **16 39 57.7 -0.3**
CLNS pmax pmax
comp=Z,28nm,0.8s,mb5.3
CLNS pmax pmax
comp=N,9.0nm,0.9s
CLNS pmax pmax
comp=E,11nm,0.9s
YSS Yuzh-Sakhalins 60.28 34 *eP* **P** **16 40 02.0 -0.4**
YSS *e* 16 40 08.0
YSS pmax pmax
comp=Z,20nm,1.0s,mb5.1
YSS MLR MLR
comp=E,700nm,16.0s
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.8
YSS Yuzh-Sakhalins 60.28 34 *eP* **P** **16 40 01.9 -0.5**
comp=Z,70nm,1.2s,mb5.6
GNI Garni 61.20 316 *i P* **P** **16 40 07.5 -1.3**
GNI pmax pmax
comp=Z,12nm,1.4s
TI2 Plekhanov 61.88 318 *⇓iP* **P** **16 40 13.8 +0.4**
TI2 pmax pmax
comp=Z,40nm,1.0s,mb5.5
SVE Sverdlovsk 62.59 338 *eP* **P** **16 40 17.5 -0.3**
SVE *e* 16 40 30.0
SVE pmax pmax
comp=Z,52nm,1.5s,mb5.4
SVE MLR MLR
comp=N,400nm,16.0s,MS4.7
SVE MLR MLR
comp=E,100nm,16.0s,MS4.7
SVE MLR MLR
comp=Z,400nm,16.0s,MS4.7
ARU Arti 63.08 337 *⇑iP* **P** **16 40 19.2 -1.9**
ARU *e* 16 40 52.0
ARU *e* 16 42 37.3
ARU *e*S **S** **16 48 50.3 +1.9**
ARU *e* 16 50 07.7
ARU *e*SS SS 16 52 57.1 +0.8
ARU pmax pmax
comp=Z,18nm,1.0s,mb5.2
ARU Arti 63.08 337 *eP* **P** **16 40 19.3 -1.8**
comp=Z,17nm,1.0s,mb5.1
KIV Kislovodsk 64.22 319 *c iP* **P** **16 40 27.1 -1.7**
KIV *i* pP 16 40 34.9 -2.6
KIV pmax pmax
comp=Z,16nm,1.1s,mb5.0
KIV Kislovodsk 64.22 319 *eP* **P** **16 40 27.8 -1.0**
comp=Z,15nm,0.9s,mb5.0
GOF Gofitskoye 64.47 320 *eP* **P** **16 40 30.0 -0.4**
MALT Malatya 65.04 312 *eP* **P** **16 40 34.0 -0.2**
MALT *e* pP 16 40 42.2 -0.7
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 65.04 312 *eP* **P** **16 40 34.0 -0.2**
comp=Z,2.5nm,0.8s,mb4.3
MALT *e* pP 16 40 42.2 -0.8
YAK Yakutsk 65.33 16 *eP* **P** **16 40 34.5 -1.1**
YAK *e* pP 16 40 41.7 -2.7
YAK pmax pmax
comp=Z,93nm,0.9s,mb5.8
YAK Yakutsk 65.33 16 *eP* **P** **16 40 34.5 -1.1**
comp=Z,93nm,0.9s,mb5.8
YAK *e* pP 16 40 41.7 -2.7
ANN Anapa 68.01 318 *eP* **P** **16 40 52.5 -0.5**
ANN pmax pmax
comp=Z,95nm,1.7s,mb5.5
BRTR Keskin Array B 69.03 312 P **P** **16 40 58.5 -0.9**
comp=Z,1.8nm,0.8s,mb4.1,baz=140,slow=7.0,SNR=8.7
BRTR PcP PcP 16 41 23.1 -0.4
comp=Z,2.7nm,0.8s,baz=127,slow=6.8,SNR=5.5
MA2 Magadan 71.25 26 *eP* **P** **16 41 12.6 +0.1**
MA2 *e*S S 16 50 28.1 +1.4
MA2 *e*SS SS 16 55 05.8 +3.0
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
MA2 MLR MLR
comp=Z,700nm,20.0s,MS4.9
MA2 Magadan 71.25 26 *eP* **P** **16 41 12.3 -0.2**
comp=Z,13nm,0.7s,mb5.0
MOS Moscow 72.23 329 *eP* **P** **16 41 16.3 -2.2**
OBN Obninsk 72.52 328 *c iP* **P** **16 41 19.0 -1.2**
OBN *e* pP 16 41 27.2 -1.7
OBN *e* 16 41 39.1
OBN *e*S S 16 50 46.3 +5.0
OBN *e* 16 51 32.5
OBN pmax pmax
comp=Z,15nm,0.6s,mb5.1
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
TIXI Tiksi 73.09 10 *eP* **P** **16 41 20.5 -2.7**
TIXI *e*S S 16 50 41.6 -5.9
TIXI *e*SS SS 16 55 26.1 -5.1
TIXI pmax pmax
comp=Z,16nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,661nm,15.0s,MS5.0
AKASG Malin Array Be 75.16 322 P **P** **16 41 34.1 -1.5**
comp=Z,2.4nm,0.6s,mb4.3,baz=91,slow=4.8,SNR=19
KOLS Kolonicke sedl 79.12 320 *eP* **P** **16 41 58.8 +1.1**
KOLS *e* pP 16 42 06.1 -0.4
CRVS Cervenica-Dubn 79.65 319 *eP* **P** **16 42 02.0 +1.5**
CRVS *e*pP pP 16 42 10.6 +1.2
FINES FINESS Array B 79.90 332 P **P** **16 42 01.2 -0.3**
comp=Z,4.2nm,0.8s,mb4.4,baz=90,slow=7.6,SNR=15
KAF Kangasniemi 79.98 333 *ep* **P** **16 42 01.4 -0.6**
comp=Z,6.0nm,0.7s,mb4.6,baz=104,slow=5.0
KAF Kangasniemi 79.98 333 *eP* **P** **16 42 01.4 -0.6**
KAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BILL Bilibino 81.08 21 *eP* **P** **16 42 07.6 -0.1**
BILL pmax pmax
comp=Z,15nm,1.4s,mb4.7
BILL Bilibino 81.08 21 *eP* **P** **16 42 07.6 -0.1**
comp=Z,15nm,1.4s,mb4.7
VYHS Vyhne 81.30 319 *eP* **P** **16 42 09.0 -0.2**
ARCES ARCESS Array B 82.43 340 P **P** **16 42 15.1 +0.4**
comp=Z,2.8nm,0.6s,mb4.4,baz=98,slow=5.1,SNR=14
BRG Berggiesshubel 84.72 321 *eP* **P** **16 42 27.6 +0.9**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
BRG Berggiesshubel 84.72 321 *eP* **P** **16 42 27.6 +0.9**
comp=Z,5.7nm,0.9s,mb4.7
GEC2 GERESS Array S 84.72 319 *eP* **P** **16 42 26.9 +0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
GEC2 GERESS Array S 84.72 319 *eP* **P** **16 42 26.9 +0.1**
comp=Z,7.0nm,1.0s,mb4.8
GERES GERESS Array B 84.72 319 P **P** **16 42 27.5 +0.7**
comp=Z,3.2nm,0.9s,mb4.5,baz=90,slow=5.3,SNR=21
KHC Kasperske Hory 84.82 319 *eP* **P** **16 42 27.0 -0.3**
WET Wettzell 85.28 319 *eP* **P** **16 42 30.1 +0.5**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WET Wettzell 85.28 319 *eP* **P** **16 42 30.1 +0.5**
comp=Z,6.0nm,0.9s,mb4.7
CLL Collm 85.34 321 *eP* **P** **16 42 30.0 +0.2**
CLL Collm 85.34 321 P **P** **16 42 30.0 +0.2**
MOX Moxa 86.18 320 *eP* **P** **16 42 34.6 +0.6**
MOX Moxa 86.18 320 *i P* **P** **16 42 34.6 +0.6**
GRA1 Grafenberg Arr 86.39 320 *eP* **P** **16 42 36.2 +1.1**
comp=Z,8.0nm,0.8s,mb5.0
GRF Grafenberg Arr 86.39 320 *eP* **P** **16 42 36.2 +1.1**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
GRF Grafenberg Arr 86.39 320 *eP* **P** **16 42 36.2 +1.1**
GRF pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
GRF Grafenberg Arr 86.39 320 *eP* **P** **16 42 36.2 +1.1**
comp=Z,8.0nm,0.8s,mb5.0
NB2 NORSAR Subarra 86.91 331 P **P** **16 42 37.2 -0.1**
comp=Z,5.5nm,0.9s,mb4.8,baz=95,slow=4.8
NB2 NORSAR Subarra 86.91 331 P **P** **16 42 37.2 -0.1**
NB2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
NOA NORSAR Array B 86.91 331 P **P** **16 42 37.5 +0.2**
comp=Z,3.3nm,0.8s,mb4.6,baz=94,slow=4.9,SNR=14
CLZ Clausthal 87.00 322 *eP* **P** **16 42 38.6 +0.6**
CLZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CLZ Clausthal 87.00 322 *eP* **P** **16 42 38.6 +0.6**
comp=Z,5.0nm,0.8s,mb4.8
BFO Black Forest 88.27 318 *eP* **P** **16 42 44.4 +0.2**
LPG La Plagne 89.38 315 *eP* **P** **16 42 50.3 +0.8**
comp=Z,4.5nm,0.8s,mb4.5
LPG La Plagne 89.38 315 *eP* **P** **16 42 50.3 +0.8**
LPG pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
MAIT Maitri 89.71 199 *eP* **P** **16 42 58.1 +7.6**
VNA1 Neumayer--Stat 96.31 199 **P** **16 43 24.7 +3.8**
VNA3 Neumayer Olymp 96.61 198 *⇑i* **P** **16 43 23.8 +1.6**
TBI Tubuai 111.92 115 *e*LR LR 17 21 45.9
comp=Z,237nm,24.0s
YKA Yellowknife Ar 112.00 15 PP PP 16 49 12.5 -2.0
comp=Z,1.4nm,1.1s,baz=329,slow=6.5,SNR=4.0
PPT Papeete 112.53 108 *e*LR LR 17 22 03.1
comp=Z,190nm,25.5s
RKT Rikitea 125.00 117 *e*LR LR 17 27 49.7
comp=Z,168nm,24.8s
ULM Lac du Bonnet 127.44 11 PKP PKPdf 16 48 57.6 -3.8
comp=Z,0.6nm,0.3s,baz=5.7,slow=4.6,SNR=3.3
ULM Lac du Bonnet 127.44 11 PKP PKPdf 16 48 57.6 -3.8
PDAR Pinedale Array 129.96 26 PKP PKPdf 16 49 03.8 -2.7
comp=Z,0.8nm,0.7s,baz=243,slow=1.0,SNR=4.6
PDAR PP PP 16 51 15.8 -2.0
comp=Z,0.7nm,0.9s,baz=333,slow=3.3,SNR=3.8
TXAR Lajitas Array 143.59 32 PKP PKPdf 16 49 26.2 -5.5
comp=Z,1.5nm,0.7s,baz=45,slow=1.4,SNR=10
LRAL Lakeview Retre 145.62 6 *e*PKPdf PKPdf 16 49 31.4 -3.8
LRAL *e* 16 49 38.5

*BJI **31** 16:33:34.5,23.67S×65.22W,h1km,mB5.2,Ms5.2,Msz5.2*
*NEIC **31** 16:33:35.5±2.4,23.55S×64.53W,h2km±14km,mb5.2/42, MS4.6/28, Error ellipse: s-maj=8.2km s-min=6.3km az=68.0*
*IDC **31** 16:33:35.2±0.6,23.55S×64.57W,mb4.5/9,mb1 4.6/14, mb1mx4.6/18,mbtmp4.4/14,MS4.7/12,Ms1 4.6/12, ms1mx4.5/19,Error ellipse: s-maj=19.7km s-min=15.1km az=77.0*
*HRVD **31** 16:33:35.5±0.3,23.62S×64.47W,h14km±2km, MW5.2/64, Centroid moment Tensor Solution. LP body waves: s30,c38;Mantle waves: s64,c102; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.46±.17; $M_{\theta\theta}$4.21±.20; $M_{\phi\phi}$-4.66±.25; $M_{r\theta}$0.75±.38; $M_{\theta\phi}$-2.91±.15; $M_{r\phi}$4.18±.91; Best double couple: $M_0$6.434×10^{16} NP1:ϕ_s246°,δ64°, λ-166°. NP2:ϕ_s150°,δ78°,λ-26°. Principal axes: T 5.155, Plg9°, Azm200°; N 2.566, Plg61°, Azm307°; P -7.714, Plg27°, Azm106°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 16:33:35.0±0.3,23.58S±0.04×64.55W±0.06,h10km,n150, σ1§23/108,**mb5.0**/49,**MS4.7**/41,**3C,Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**4.13**	**283**	*eP*	**Pn**	**16 34 41.8**	**+2.2**
LPAZ	**La Paz**	**8.00**	**334**	Pn	**Pn**	**16 35 33.0**	**-1.1**
baz=152,slow=10,SNR=21							
LPAZ				Sn	**Sn**	**16 37 03.5**	**-2.0**
2.6nm,0.3s,baz=208,slow=19,SNR=1.9							
LPAZ				Lg		16 37 50.2	
2.8nm,0.3s,baz=273,slow=18,SNR=1.8							
LPAZ	**La Paz**	**8.00**	**334**	*e*Pn	**Pn**	**16 35 32.4**	**-1.7**
SIV	**San Ignacio**	**8.23**	**24**	Pn	**P**	**16 35 36.1**	**-1.3**
baz=213,slow=12,SNR=207							
SIV				Sn	**Sn**	**16 37 06.2**	**-5.1**
baz=296,slow=13,SNR=5.7							
TLL	**Tololo Astrono**	**8.61**	**219**	*eP*	**P**	**16 35 39.3**	**-3.4**
CFAA	**Coronel Fontan**	**8.64**	**201**	Pn	**P**	**16 35 42.2**	**-0.8**
baz=20,slow=14,SNR=43							
CFAA				Lg		16 38 08.7	
0.6nm,0.3s,baz=128,slow=20,SNR=4.2							
CFAA	**Coronel Fontan**	**8.64**	**201**	Pn	**P**	**16 35 42.2**	**-0.8**
CFAA				Lg		16 38 08.7	
ZON	**Zonda**	**8.74**	**204**	*eP*	**P**	**16 35 42.0**	**-2.4**
ARE	**Arequipa**	**9.63**	**316**	*eP*	**P**	**16 35 52.0**	**-4.8**
FCH	**Farellones**	**10.94**	**206**	*eP*	**P**	**16 36 12.6**	**-2.2**
LMEL	**Las Melosas**	**11.37**	**205**	*eP*	**P**	**16 36 18.5**	**-2.0**
TRQA	**Tornquist**	**14.60**	**172**	*eP*	**P**	**16 37 03.6**	**+0.1**
24nm,0.7s							
SAML	**Samuel**	**14.61**	**5**	*eP*	**P**	**16 36 59.3**	**-4.5**
84nm,1.0s							
SAML				*e*S	**S**	**16 39 33.4**	**-13**
BDFB	**Brasilia**	**17.45**	**66**	P	**P**	**16 37 40.5**	**+0.2**
baz=233,slow=15,SNR=5.9							
BDFB				Lg		16 42 49.2	
1.3nm,0.3s,baz=174,slow=19,SNR=2.4							
BDFB				LR	LR	16 45 03.2	
comp=Z,3μm,18.0s,baz=248,slow=39							
BAO	**Brasilia Array**	**17.48**	**66**	P	**P**	**16 37 40.5**	**-0.1**
PLCA	**Paso Flores**	**17.83**	**195**	P	**P**	**16 37 44.8**	**0.0**
baz=22,slow=17,SNR=3.9							
PLCA				Lg		16 43 08.3	
baz=82,slow=11,SNR=2.9							
PLCA	**Paso Flores**	**17.83**	**195**	P	**P**	**16 37 42.0**	**-2.8**
54nm,1.5s							
CAM4	**Nova Friburgo**	**20.28**	**91**	*eP*	**P**	**16 38 10.5**	**-3.1**
CAM4				*i*		16 38 21.2	
CAM4				*i*		16 38 29.8	
CAM4				*i*		16 38 43.5	
OTAV	**Otavalo**	**27.26**	**328**	*eP*	**P**	**16 39 23.3**	**+1.7**
12nm,1.0s,mb4.4							
OTAV				LR	LR		
comp=Z,μm,20.0s,MS4.7							
ROSC	**El Rosal**	**29.83**	**340**	LR	LR	16 51 25.0	
comp=Z,2μm,20.3s,MS4.7,baz=189,slow=36							
RCBR	**Riachuelo**	**32.73**	**62**	PFAKE		16 40 20.0	+10
RCBR				LR	LR		
comp=Z,1μm,22.0s,MS4.6							
SDV	**Santo Domingo**	**32.81**	**349**	*eP*	**P**	**16 40 12.1**	**+1.2**
comp=Z,8.3nm,0.8s,mb4.7							
SDV				LR	LR		
comp=Z,2μm,19.0s,MS4.8							
PAYG	**Puerto Ayora**	**33.79**	**309**	PFAKE		16 40 30.0	+10
PAYG				LR	LR		
comp=Z,1μm,22.0s,MS4.5							
JTS	**JuntasAbangare**	**39.13**	**327**	*eP*	**P**	**16 41 05.5**	**+0.8**
comp=Z,31nm,1.2s,mb4.9							
JTS				*e*		16 41 12.9	
JTS				LR	LR		
comp=Z,122nm,20.0s,MS3.7							
RPN	**Rapa Nui**	**40.47**	**255**	LR	LR	16 54 10.7	
comp=Z,528nm,21.8s,MS4.3,baz=86,slow=30							
SJG	**San Juan**	**41.47**	**358**	PFAKE		16 41 40.0	+16
SJG				LR	LR		
comp=Z,μm,19.0s,MS4.9							
TEIG	**Tepich**	**49.30**	**330**	P	**P**	**16 42 24.3**	**-2.1**
comp=Z,15nm,1.1s,mb4.9							
TEIG				LR	LR		
comp=Z,331nm,22.0s,MS4.3							
VNA3	**Neumayer Olymp**	**56.83**	**162**	*⇑i*	**P**	**16 43 38.6**	**+17**
VNA2	**Neumayer--Watz**	**57.37**	**161**	*⇑i*	**P**	**16 43 28.9**	**+3.4**
VNA2	**Neumayer--Watz**	**57.37**	**161**		**P**	**16 43 36.9**	**+11**
VNA2	**Neumayer--Watz**	**57.37**	**161**		**P**	**16 43 39.6**	**+14**
LRAL	**Lakeview Retre**	**60.23**	**338**	*eP*	**P**	**16 43 42.5**	**-3.4**
comp=Z,23nm,1.2s,mb5.1							
CPCT	**Cooper Cave**	**61.68**	**342**	*eP*	**P**	**16 43 53.4**	**-2.3**
NATX	**Nacogdoches**	**62.11**	**331**	*eP*	**P**	**16 43 58.0**	**-0.6**
PLAL	**Pickwick Lake**	**62.37**	**338**	*eP*	**P**	**16 43 57.7**	**-2.6**
comp=Z,30nm,1.0s,mb5.4							
OXF	**Oxford**	**62.41**	**337**	*eP*	**P**	**16 43 58.3**	**-2.3**
comp=Z,94nm,1.1s,mb5.8							
OXF				LR	LR		
comp=Z,414nm,20.0s,MS4.6							
WVT	**Waverly**	**63.34**	**339**	*eP*	**P**	**16 44 03.3**	**-3.3**
comp=Z,39nm,0.9s,mb5.5							
WVT				LR	LR		
comp=Z,307nm,20.0s,MS4.5							
MAIT	**Maitri**	**63.42**	**159**	*eP*	**P**	**16 44 07.1**	**+0.3**
GLAT	**Glass**	**63.95**	**338**	*eP*	**P**	**16 44 09.8**	**-0.9**
MIAR	**Mount Ida**	**64.04**	**334**	*eP*	**P**	**16 44 09.5**	**-1.9**
comp=Z,29nm,1.3s,mb5.2							
MIAR				LR	LR		
comp=Z,518nm,22.0s,MS4.7							
TXAR	**Lajitas Array**	**64.68**	**322**	P	**P**	**16 44 15.0**	**-0.6**
comp=Z,0.9nm,0.7s,mb3.9,baz=147,slow=8.7,SNR=8.0							
TXAR				LR	LR	17 11 55.9	
comp=Z,227nm,21.5s,MS4.3,baz=100,slow=36							
DBIC	**Dimbokro**	**65.54**	**70**	P	**P**	**16 44 21.1**	**-0.3**
comp=Z,8.9nm,0.9s,mb4.8,baz=222,slow=6.6,SNR=13							
DBIC				LR	LR	17 12 11.2	
comp=Z,1μm,18.1s,MS5.2,baz=216,slow=35							
DBIC	**Dimbokro**	**65.54**	**70**	*eP*	**P**	**16 44 21.1**	**-0.4**
comp=Z,33nm,1.3s,mb5.2							
ACSO	**Alum Creek Sta**	**65.77**	**345**	*eP*	**P**	**16 44 21.8**	**-0.6**
ACSO				LR	LR		
comp=Z,660nm,20.0s,MS4.8							
FVM	**French Village**	**65.89**	**338**	*eP*	**P**	**16 44 20.9**	**-2.4**
comp=Z,21nm,1.2s,mb5.0							

CCM	Cathedral Cave	66.24	337	*e*P		P	16 44 23.0	-2.5	
	comp=Z,18nm,0.9s,mb5.1								
QSPA	South Pole Qui	66.62	180	*e*P		P	16 44 27.7	+0.5	
	comp=Z,28nm,0.9s,mb5.3								
ERPA	Erie	66.91	348	*e*P		P	16 44 28.0	-1.7	
	comp=Z,48nm,1.0s,mb5.5								
GDL2	Guadalupe Moun	67.26	324	*e*P		P	16 44 31.5	-0.6	
MNTX	Cornudas Mount	67.44	323	*e*P		P	16 44 31.0	-2.2	
	comp=Z,21nm,1.3s,mb5.0								
AMTX	Amarillo	67.98	328	*e*P		P	16 44 36.1	-0.5	
	comp=Z,32nm,1.2s,mb5.2								
KSU1	Kansas State U	69.20	334	*e*P		P	16 44 43.5	-0.5	
LPM	Los Pinos Moun	70.10	324	*e*P		P	16 44 50.7	+1.2	
CBKS	Cedar Bluff	70.28	331	*e*P		P	16 44 50.1	-0.5	
	comp=Z,94nm,1.3s,mb5.6								
LAZ	Ladron	70.44	324	*e*P		P	16 44 52.6	+0.9	
ANMO	Albuquerque	70.49	324	*e*P		P	16 44 52.2	+0.3	
	comp=Z,24nm,1.3s,mb5.0								
ANMO					LR	LR			
	comp=Z,241nm,20.0s,MS4.5								
SDCO	Great Sand Dun	72.13	327	*e*P		P	16 45 02.0	+0.2	
	comp=Z,44nm,1.4s,mb5.2								
SDCO					LR	LR			
	comp=Z,281nm,21.0s,MS4.5								
SYO	Syowa Base	73.12	159	⇑P		P	16 45 03.5	-3.5	
RW3	Ridgway	73.63	326	*e*P		P	16 45 11.4	+0.8	
ISCO	Idaho Springs	73.78	328	*e*P		P	16 45 11.1	-0.4	
	comp=Z,19nm,1.3s,mb4.9								
ISCO					LR	LR			
	comp=Z,308nm,22.0s,MS4.5								
PV01	Paradox Valley	74.00	325	*e*P		P	16 45 13.7	+0.9	
SBA	Scott Base	74.50	190	PFAKE			16 45 30.0	+15	
SBA					LR	LR			
	comp=Z,817nm,19.0s,MS5.0								
PHWY	Pilot Hill	74.88	329	*e*P		P	16 45 18.1	+0.3	
VNDA	Vanda	75.49	189	PFAKE			16 45 30.0	+9.4	
VNDA					LR	LR			
	comp=Z,797nm,21.0s,MS5.0								
SRU	San Rafael	75.75	325	*e*P		P	16 45 23.4	+0.7	
RWWY	Rawlins	76.01	328	*e*P		P	16 45 24.1	-0.1	
	comp=Z,33nm,1.2s,mb5.1								
MSU	Marysvale	76.21	323	*e*P		P	16 45 26.1	+0.8	
MVU	Marysvale	76.22	323	*e*P		P	16 45 26.7	+1.2	
	comp=Z,28nm,1.1s,mb5.1								
TMUT	Trail Mountain	76.25	324	*e*P		P	16 45 27.7	+2.1	
RSSD	Black Hills	76.47	332	*e*P		P	16 45 26.7	0.0	
	comp=Z,16nm,1.3s,mb4.8								
TBI	Tubuai	76.61	250	*e*LR		LR	17 10 08.0		
	comp=Z,206nm,25.5s								
DAU	Daniels Canyon	77.08	325	*e*P		P	16 45 31.0	+0.8	
NLU	North Lily Min	77.19	324	*e*P		P	16 45 31.7	+0.9	
JLU	Jordanelle	77.32	325	*e*P		P	16 45 32.1	+0.5	
PDAR	Pinedale Array	77.96	328	P		P	16 45 35.0	0.0	
	comp=Z,3.6nm,0.8s,mb4.3,baz=126,slow=7.1,SNR=21								
PDAR					LR	LR	17 27 40.0		
	comp=Z,201nm,18.2s,MS4.5,baz=244,slow=42								
BW06	Boulder Array	77.96	328	PFAKE			16 45 50.0	+15	
BW06					LR	LR			
	comp=Z,303nm,21.0s,MS4.6								
TRCR	Troy Canyon	78.00	321	*e*P		P	16 45 37.0	+1.6	
SCHQ	Schefferville	78.11	359	LR		LR	17 21 45.2		
	comp=Z,268nm,18.5s,MS4.6,baz=207,slow=37								
BGU	Big Grassy Mou	78.39	325	*e*P		P	16 45 38.7	+1.3	
ULM	Lac du Bonnet	78.57	340	P		P	16 45 37.0	-1.2	
	comp=Z,7.2nm,0.8s,mb4.6,baz=154,slow=6.7,SNR=7.7								
ULM					LR	LR	17 23 21.9		
	comp=Z,298nm,19.4s,MS4.6,baz=16,slow=38								
AHID	Auburn Hatcher	78.72	327	*e*P		P	16 45 39.0	-0.2	
	comp=Z,44nm,1.2s,mb5.3								
TPH	Tonopah	78.77	320	*e*P		P	16 45 40.9	+1.3	
	comp=Z,25nm,1.3s,mb5.0								
TPH					LR	LR			
	comp=Z,446nm,22.0s,MS4.8								
BOSA	Boshof	78.92	116	P		P	16 45 41.2	+0.6	
	comp=Z,5.3nm,0.8s,mb4.5,baz=261,slow=4.4,SNR=8.1								
BOSA					LR	LR	17 16 32.4		
	comp=Z,695nm,19.4s,MS5.0,baz=178,slow=33								
REDW	Red Top Meadow	79.04	328	*e*P		P	16 45 41.5	+0.5	
	comp=Z,17nm,1.0s,mb4.9								
SNOW	Snow King Moun	79.07	328	*e*P		P	16 45 41.8	+0.8	
	comp=Z,24nm,1.2s,mb5.0								
MTUM	Tungsten Hills	79.09	319	*e*P		P	16 45 42.9	+1.6	
LOHW	Long Hollow	79.10	328	*e*P		P	16 45 39.6	-1.7	
	comp=Z,8.6nm,0.4s,mb5.0								
TPAW	Teton Pass	79.18	328	*e*P		P	16 45 40.3	-1.4	
	comp=Z,21nm,1.1s,mb5.0								
RRI2	Red Ridge	79.26	327	*e*P		P	16 45 42.9	+0.8	
	comp=Z,57nm,1.4s,mb5.3								
MOOW	Moose Ponds	79.27	328	*e*P		P	16 45 42.1	0.0	
	comp=Z,22nm,1.4s,mb4.9								
IMW	Indian Meadow	79.48	328	*e*P		P	16 45 43.1	-0.2	
	comp=Z,29nm,0.9s,mb5.2								
OMM	Old Mammoth Mi	79.52	319	*e*P		P	16 45 44.8	+1.1	
NVAR	Mina Array Bea	79.64	320	P		P	16 45 45.0	+0.7	
	comp=Z,7.1nm,1.1s,mb4.5,baz=149,slow=5.3,SNR=26								
LKWY	Lake	79.71	329	P		P	16 45 46.0	+1.5	
	comp=Z,15nm,1.1s,mb4.8								
YMR	Madison River	80.06	328	*e*P		P	16 45 48.1	+1.7	
QLMT	Earthquake Lak	80.40	328	*e*P		P	16 45 49.4	+1.2	
LBTB	Lobatse	80.49	113	*e*P		P	16 45 49.3	+0.2	
	comp=Z,18nm,1.4s,mb4.8								
CMB	Columbia Colle	80.63	319	*e*P		P	16 45 50.5	+0.9	
CMB					LR	LR			
	comp=Z,287nm,20.0s,MS4.6								
HLID	Hailey	80.98	326	*e*P		P	16 45 52.3	+1.0	
	comp=Z,38nm,1.0s,mb5.3								
MCMT	McKenzie Canyo	81.09	327	*e*P		P	16 45 52.8	+0.9	
BOZ	Bozeman (W)	81.10	329	PFAKE			16 46 00.0	+8.1	
BOZ					LR	LR			
	comp=Z,413nm,20.0s,MS4.8								
PAHR	Pah Rah Range	81.11	320	*e*P		P	16 45 53.7	+1.6	
	comp=Z,15nm,0.9s,mb4.9								
MAW	Mawson	81.15	162	P		P	16 45 52.8	+1.1	
	comp=Z,5.8nm,0.8s,mb4.5,baz=228,slow=9.6,SNR=4.4								
MAW	Mawson	81.15	162	*e*P		P	16 45 50.2	-1.5	
	comp=Z,25nm,1.4s,mb4.9								
HRY	Holter Researc	81.97	329	*e*P		P	16 45 57.1	+0.7	
CHMT	Chamberlain Mo	82.79	329	P		P	16 45 59.7	-0.9	
BMO	Blue Mountains	83.38	325	*e*P		P	16 46 04.2	+0.5	
	comp=Z,30nm,1.4s,mb5.1								
ESDC	Sonseca Array	84.56	42	P		P	16 46 10.4	+0.6	
	comp=Z,1.2nm,0.7s,mb4.2,baz=234,slow=5.2,SNR=12								
ESLA	Sonseca Array	84.56	42	*e*P		P	16 46 10.7	+0.9	
	comp=Z,4.8nm,1.2s,mb4.5								
ESLA					LR	LR			
	comp=Z,2μm,20.0s,MS5.5								
HAWA	Hanford	85.57	325	*e*P		P	16 46 15.4	+0.8	
	comp=Z,1.7nm,1.1s,mb4.2								
NEW	Newport	85.61	328	PFAKE			16 46 30.0	+15	
NEW					LR	LR			
	comp=Z,230nm,21.0s,MS4.5								
FCC	Fort Churchill	85.61	345	*e*P		P	16 46 14.4	-0.2	
	comp=Z,18nm,1.2s,mb5.2								
LSZ	Lusaka	86.45	105	*e*P		P	16 46 21.8	+2.0	
	comp=Z,45nm,1.5s,mb5.5								
LSZ					LR	LR			
	comp=Z,1μm,19.0s,MS5.2								
EDM	Edmonton	87.39	333	*e*P		P	16 46 23.2	-0.2	
CASY	Casey	90.35	178	PFAKE			16 46 50.0	+13	
CASY					LR	LR			
	comp=Z,797nm,20.0s,MS5.2								
ESK	Eskdalemuir	94.29	30	PFAKE			16 47 10.0	+14	
ESK					LR	LR			
	comp=Z,100nm,19.0s,MS4.3								
YKA	Yellowknife Ar	94.52	339	P		P	16 46 56.3	-0.1	
	comp=Z,2.2nm,0.8s,mb4.6,baz=127,slow=4.5,SNR=23								
YKA					LR	LR	17 29 22.1		
	comp=Z,359nm,22.0s,MS4.8,baz=125,slow=35								
YKA	Yellowknife Ar	94.52	339	P		P	16 46 56.3	-0.1	
YKA					LR	LR	17 29 22.1		
MBAR	Mbarara	94.61	93	PFAKE			16 47 10.0	+12	
MBAR					LR	LR			
	comp=Z,253nm,19.0s,MS4.7								
URZ	Urewera	95.60	224	LR		LR	17 21 32.8		
	comp=Z,558nm,20.2s,MS5.0,baz=210,slow=30								
DAVOX	Davos	96.88	42	LR		LR	17 33 22.7		
	comp=Z,502nm,18.1s,MS5.0,baz=264,slow=37								
DLBC	Dease Lake	97.93	331	*e*P		P	16 47 10.9	-1.1	
BILL	Bilibino	125.92	339	PKPdf		PKPdf	16 52 40.0	+0.2	
ASAR	Alice Springs	129.73	202	PKP		PKPdf	16 52 46.5	-1.9	
	comp=Z,2.3nm,0.7s,baz=144,slow=2.1,SNR=14								
WRA	Warramunga Arr	132.98	205	PKP		PKPdf	16 52 53.9	-0.8	
	comp=Z,33nm,1.6s,baz=163,slow=1.3,SNR=16								
KURK	Kurchatov	140.71	37	*e*PKPdf		PKPdf	16 53 07.3	-0.6	
KURK					LR	LR			
	comp=Z,64nm,22.0s,MS4.3								
KAD	Karad	140.93	91	*e*P		PKPdf	16 53 09.3	0.0	
POO	Poona	140.95	89	*e*P		PKPdf	16 53 06.9	-2.4	
AAK	Ala-Archa	141.24	51	*e*PKPdf		PKPdf	16 53 08.4	-0.7	
AAK					LR	LR			
	comp=Z,69nm,20.0s,MS4.4								
ZAL	Zalesovo	141.95	29	PKP		PKPdf	16 53 09.2	-0.8	
	comp=Z,1.9nm,0.8s,baz=176,slow=1.4,SNR=10								
AJM	Ajmer	143.02	77	*i* P		PKPbc	16 53 09.5	+2.0	
MKAR	Makanchi Array	144.76	41	PKP		PKPdf	16 53 13.0	-2.1	
	comp=Z,6.7nm,0.8s,baz=288,slow=3.8,SNR=36								
HYB	Hyderabad	144.97	93	*e*P		PKPbc	16 53 14.0	+0.6	
HYB	Hyderabad	144.97	93	*i* PKP		PKPdf	16 53 14.0	-2.3	
	comp=Z,70nm,1.0s								
SDNR	Sundarnagar	145.12	68	*e*P		PKPbc	16 53 15.0	+1.6	
BHPL	Bhopal	145.17	83	*e*P		PKPbc	16 53 13.5	-0.3	
BHPL				*i* P			16 53 17.1		
SMLA	Simla	145.31	69	*i*		PKPbc	16 53 06.1	-7.8	
NDI	New Delhi	145.40	73	*e*P		PKPbc	16 53 14.5	+0.3	
BLSP	Bilaspur	149.30	86	*e*P		PKPdf	16 53 21.1	-2.2	
VIS	Vishakhapatnam	149.42	95	*e*P		PKPdf	16 53 17.3	-6.3	
WMQ	Urumqi	149.56	42	*e*PKP		PKPdf	16 53 21.8	-1.3	
WMQ				*e*PP		PP	16 57 02.5	+1.6	
WMQ					SKS	SKS	17 00 25.0	-5.4	
WMQ					SKKS		17 03 47.0		
WMQ					PP	PP			
	comp=Z,290nm,7.9s								
WMQ					LR	LR			
	comp=N,403nm,20.6s,MS5.3								
WMQ					LR	LR			
	comp=E,270nm,20.6s,MS5.3								
WMQ					LR	LR			
	comp=Z,377nm,20.6s,MS5.2								
SONM	Songino Array	154.74	14	PKP		PKPdf	16 53 30.7	+0.3	
	comp=Z,2.0nm,0.9s,baz=315,slow=1.7,SNR=14								
SONM					PKPbc	PKPdf	16 53 38.4	+8.0	
	baz=323,slow=1.1,SNR=9.4								
ULN	Ulaanbaatar	154.86	13	*e*PKPdf		PKPdf	16 53 30.9	+0.4	
MDJ	Mudanjiang	156.04	335	PKP		PKPdf	16 53 30.5	-1.7	
MJAR	Matsushiro Arr	156.52	309	PKPab		PKPab	16 54 01.9	+0.5	
	baz=54,slow=3.5,SNR=4.8								
CN2	Changchun	158.22	340	*e*PKP		PKPdf	16 53 33.3	-1.8	
GTA	Gaotai	159.39	36	PKP		PKPdf	16 53 37.0	+0.4	
GTA				PKS		PKS	16 57 09.5	+3.6	
GTA				SKS		SKS	17 00 37.3	-4.1	
GTA				SKKS			17 04 48.3		
GTA				PP		PP			
	comp=Z,147nm,8.8s								
GTA					LR	LR			
	comp=N,202nm,22.6s,MS5.0								
GTA					LR	LR			
	comp=E,174nm,19.9s,MS5.0								
GTA					LR	LR			
	comp=Z,375nm,22.6s,MS5.2								
XAN	Xi'an	168.12	27	PKP		PKPdf	16 53 45.8	+1.1	
NJ2	Nanjing	171.04	341	*e*PKP		PKPdf	16 53 44.5	-2.1	
ENH	Enshi	171.47	37	*e*PKPdf		PKPdf	16 53 47.7	+0.8	

IDC 31 16:38:11.6±4.1, 5.81S×128.88E, h344km±44km, mb3.1/1, mb1 3.3/4, mb1mx3.0/14, mbtmp4.0/4, Error ellipse: s-maj=78.0km s-min=15.1km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	12.62	194	P	P	16 40 58.6	-3.4
	1.0nm,0.3s,baz=24,slow=6.8,SNR=12						
FITZ				S	S	16 42 56.3	-21
	0.6nm,0.3s,baz=22,slow=19,SNR=4.0						
WRA	Warramunga Arr	15.02	160	P	P	16 41 26.6	-2.6
	0.7nm,0.3s,baz=340,slow=12,SNR=22						
ASAR	Alice Springs	18.40	165	P	P	16 42 03.8	-0.5
	0.7nm,0.3s,baz=344,slow=12,SNR=36						
ASAR				S	S	16 45 15.8	+3.8
	0.2nm,0.3s,baz=340,slow=16,SNR=6.7						
MKAR	Makanchi Array	66.63	327	P	P	16 48 25.9	-1.6
	0.4nm,0.4s,baz=120,slow=7.3,SNR=7.6						

IDC 31 16:46:17.6±16.0, 18.96S×174.04W, mb4.4/5, mb1 4.6/5, mb1mx4.1/17, mbtmp4.4/5, Error ellipse: s-maj=305.0km s-min=145.0km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	37.38	262	P	P	16 53 33.1	-0.9
	3.4nm,0.6s,baz=87,slow=13,SNR=7.5						
STKA	Stephens Creek	41.81	243	P	P	16 54 09.3	-1.5
	1.2nm,0.5s,baz=105,slow=11,SNR=4.9						
ASAR	Alice Springs	48.51	255	P	P	16 55 01.9	-2.5
	7.3nm,0.6s,baz=94,slow=7.5,SNR=169						
ASPA	Alice Springs	48.52	255	*e*P	P	16 55 01.8	-2.7
WB2	Warramunga Arr	48.52	260	*e*P	P	16 55 01.9	-2.6
WRA	Warramunga Arr	48.53	260	P	P	16 55 02.1	-2.5
	3.5nm,0.7s,baz=97,slow=7.5,SNR=104						
FITZ	Fitzroy Crossi	56.95	260	P	P	16 56 05.4	-2.0
	3.8nm,0.5s,baz=134,slow=2.3,SNR=22						

IDC 31 16:54:50.0±3.5, 1.16N×97.34E, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=147.2km s-min=21.6km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.90	122	P	P	17 02 42.5	-1.6
	0.6nm,0.8s,baz=301,slow=9.0,SNR=7.2						
ASAR	Alice Springs	43.26	127	P	P	17 02 53.5	-1.8
	0.4nm,0.9s,baz=298,slow=7.4,SNR=3.4						
SONM	Songino Array	47.15	8	P	P	17 03 24.6	-1.4
	0.7nm,0.6s,baz=192,slow=9.0,SNR=8.1						
MKAR	Makanchi Array	47.31	346	P	P	17 03 25.6	-1.8
	0.8nm,0.7s,baz=157,slow=8.0,SNR=10						
ZAL	Zalesovo	53.61	351	P	P	17 04 12.3	-2.9
	1.0nm,0.8s,baz=268,slow=5.8,SNR=6.6						

IDC 31 17:04:21.9±3.7, 1.56N×97.59E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=159.6km s-min=23.2km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	41.90	123	P	P	17 12 14.0	-2.0
	0.3nm,0.5s,baz=304,slow=8.8,SNR=5.0						
ASAR	Alice Springs	43.30	128	P	P	17 12 25.9	-1.6
	0.8nm,1.2s,baz=301,slow=7.7,SNR=4.1						
SONM	Songino Array	46.72	8	P	P	17 12 53.9	-0.6
	0.7nm,0.7s,baz=196,slow=9.0,SNR=3.6						
MKAR	Makanchi Array	46.99	346	P	P	17 12 54.6	-2.1
	0.3nm,0.4s,baz=159,slow=9.5,SNR=11						
ZAL	Zalesovo	53.26	351	P	P	17 13 41.5	-3.1
	0.9nm,0.5s,baz=282,slow=9.9,SNR=3.7						

*BJI **31** 17:16:43.6, 0.42N×97.36E, h42km, mB5.1, mb4.7, Ms4.4, Ms2.4*

*IDC **31** 17:16:44.2±1.1, 0.93N×97.15E, mb4.2/12, mb1 4.3/12, mb1mx4.1/21, mbtmp4.2/12, Error ellipse: s-maj=60.5km s-min=14.6km az=53.0*

*NEIC **31** 17:16:49.1±0.4, 0.99N×97.33E, h30km, mb4.5/18, Error ellipse: s-maj=11.2km s-min=6.0km az=51.0*

ISC 31 17:16:47.9±0.6, 1.01N±0.07×97.35E±0.07, h33km, (h22km±5.4km: pP-P), n55, σ0°88/56, mb4.5/36, MS4.2/6, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	Ipoh	5.10	46	P	P	17 18 05.0	+1.0
KULM	Kulim	5.38	38	*e*Pn	Pn	17 18 08.0	0.0
KGM	Kluang	6.05	80	P	P	17 18 19.2	+1.9
CM31	Chiang Mai Arr	17.41	5	*e*P	P	17 20 49.2	-0.8
	9.9nm,0.9s						
KKM	Kota Kinabalu	19.48	75	*e*P	P	17 21 14.5	-0.5
TRD	Trivandrum	21.63	291	*e*P	P	17 21 32.2	-5.2
KMI	Kunming	24.53	12	P	P	17 22 07.8	+1.9
KMI				AP		17 22 13.8	
KMI				S	S	17 26 15.5	-6.1
KMI				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=N,493nm,15.9s,MS4.2						
KMI				LR	LR		
	comp=E,243nm,13.9s,MS4.2						
KMI				LR	LR		
	comp=Z,531nm,15.0s,MS4.2						
GYA	Guiyang	26.84	19	⇓*i* P	P	17 22 27.3	-0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	Jiri	28.58	339	*e*P	P	17 22 43.8	+0.6
	comp=Z,17nm,0.9s,mb4.8						
GUN	Gumba	28.92	339	*e*P	P	17 22 46.8	+0.5
DMN	Daman	28.94	337	*e*P	P	17 22 48.4	+2.0
KKN	Kakani	29.03	338	*e*P	P	17 22 47.1	-0.2
	comp=Z,22nm,1.1s,mb4.8						
LSA	Lhasa	29.14	349	*e*P	P	17 22 48.3	+0.1
	comp=Z,8.7nm,0.9s,mb4.5						
GKN	Gorkha	29.48	337	*e*P	P	17 22 51.2	0.0
KOLN	Koldanda	29.70	335	*e*P	P	17 22 53.3	+0.1
	comp=Z,11nm,0.7s,mb4.7						
ENH	Enshi	31.30	20	*e*P	P	17 23 02.4	-5.1
	comp=Z,17nm,0.9s,mb4.9						
ENH				*e*pP	pP	17 23 11.9	-5.1
FITZ	Fitzroy Crossi	33.69	126	P	P	17 23 27.6	-0.7
	comp=Z,5.2nm,0.8s,mb4.5,baz=164,slow=3.7,SNR=5.4						
XAN	Xi'an	34.60	17	P	P	17 23 34.5	-1.5
XAN				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
LZH	Lanzhou	35.42	9	*e*P	P	17 23 42.5	-0.5
LZH				AP	pP	17 23 49.5	-3.2
LZH				AMB	AMB		
	comp=Z,23nm,1.6s,mb4.9						
LZH				LR	LR		
	comp=E,756nm,18.0s						
LZH				LR	LR		
	comp=Z,963nm,18.9s,MS4.6						
GTA	Gaotai	38.29	3	*e*P	P	17 24 07.5	+0.5
GTA				AP	pP	17 24 13.5	-3.3
GTA				S	S	17 29 53.8	-4.8
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,111nm,3.8s						
GTA				LR	LR		
	comp=N,153nm,15.7s,MS4.0						
GTA				LR	LR		
	comp=E,114nm,13.4s,MS4.0						
GTA				LR	LR		
	comp=Z,159nm,16.1s,MS3.9						
HHC	Hu-ho-hao-te	41.70	16	*e*P	P	17 24 33.0	-2.3
HHC				PP	PP	17 26 12.0	-2.8
HHC				PCP	PcP	17 26 32.3	+0.1
HHC				PCS		17 30 21.3	
HHC				SCS	ScS	17 34 34.5	+0.8
HHC				AMB	AMB		
	comp=Z,6.0nm,0.4s,mb4.6						
HHC				AMB	AMB		
	comp=Z,93nm,3.9s						
HHC				LR	LR		
	comp=N,255nm,17.3s,MS4.3						
HHC				LR	LR		
	comp=E,195nm,15.5s,MS4.3						
HHC				LR	LR		
	comp=Z,246nm,16.6s,MS4.2						
WRA	Warramunga Arr	41.80	122	P	P	17 24 36.4	-0.1
	comp=Z,1.4nm,0.7s,mb3.7,baz=300,slow=9.0,SNR=13						
WRAB	Tennant Creek	41.81	122	*e*P	P	17 24 36.0	-0.5
	comp=Z,4.5nm,0.7s,mb4.2						
BJT	Baijiatuao	42.44	22	*e*P	P	17 24 41.5	+0.1
	comp=Z,17nm,0.8s,mb4.7						
BJI	Beijing	42.46	22	*e*P	P	17 24 42.0	+0.4
BJI				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.8						
BJI				LR	LR		
	comp=N,155nm,29.7s,MS3.9						
BJI				LR	LR		
	comp=E,136nm,27.7s,MS3.9						
BJI				LR	LR		
	comp=Z,233nm,26.9s,MS3.9						
ASAR	Alice Springs	43.16	127	P	P	17 24 48.0	+0.4
	comp=Z,1.7nm,0.7s,mb3.9,baz=295,slow=7.2,SNR=17						
WMQ	Urumqi	43.49	350	*e*P	P	17 24 50.0	+0.1
UCH	Uchtor	45.89	336	P	P	17 25 09.9	+0.7
	SNR=8.1						
TKM2	Tokmak 2	46.05	338	P	P	17 25 10.7	+0.3
	SNR=5.5						
KBK	Karagaybulak	46.08	337	P	P	17 25 12.1	+1.4
	SNR=5.3						
AML	Almayashu	46.14	336	P	P	17 25 12.3	+1.1
	SNR=5.0						
AAK	Ala-Archa	46.23	337	*e*P	P	17 25 15.6	+3.7
	comp=Z,3.7nm,1.0s,mb4.3						
USP	Ospenovka	46.77	337	P	P	17 25 16.3	+0.2
	SNR=5.8						
SONM	Songino Array	47.30	8	P	P	17 25 20.4	+0.3
	comp=Z,5.4nm,0.8s,mb4.5,baz=186,slow=8.5,SNR=29						
SONM					PcP	PcP	17 26 51.4	+0.1
	baz=189,slow=3.4,SNR=6.9						
ULN	Ulaanbaatar	47.42	9	*e*P	P	17 25 21.2	+0.1
	comp=Z,4.9nm,0.9s,mb4.4						
MKAR	Makanchi Array	47.46	346	P	P	17 25 21.4	-0.1
	comp=Z,5.0nm,0.8s,mb4.5,baz=158,slow=7.8,SNR=53						
MKAR	Makanchi Array	47.46	346	P	P	17 25 21.4	-0.1
CN2	Changchun	49.41	27	*e*P	P	17 25 36.0	-0.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,130nm,4.0s						
CN2				LR	LR		
	comp=N,240nm,16.0s,MS4.4						

s-maj=132.2km s-min=26.8km az=56.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.67**	**122**	P	P	17 32 59.8	-1.7
	0.2nm,0.5s,baz=300,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**45.96**	**347**	P	P	17 33 18.5	-1.0
	1.0nm,0.6s,baz=163,slow=7.9,SNR=15						
SONM	**Songino Array**	**46.34**	**10**	P	P	17 33 20.7	-1.8
	0.7nm,0.8s,baz=188,slow=9.1,SNR=6.2						
ZAL	**Zalesovo**	**52.35**	**352**	P	P	17 34 06.2	-2.6
	0.7nm,0.6s,baz=64,slow=7.1,SNR=3.4						
BVAR	**Borovoye Array**	**54.87**	**341**	P	P	17 34 23.9	-3.4
	0.5nm,0.8s,baz=129,slow=9.5,SNR=3.6						

IDC 31 17:44:26.8±3.1, 1.12N×97.53E, mb3.7/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.7/5, Error ellipse: s-maj=134.5km s-min=22.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.71**	**122**	P	P	17 52 18.0	-1.4
	0.3nm,0.6s,baz=304,slow=8.8,SNR=5.5						
ASAR	**Alice Springs**	**43.08**	**127**	P	P	17 52 28.4	-2.1
	0.2nm,0.3s,baz=298,slow=7.0,SNR=5.4						
SONM	**Songino Array**	**47.16**	**8**	P	P	17 53 01.7	-1.2
	1.1nm,0.6s,baz=190,slow=9.0,SNR=12						
SONM				PcP	PcP	17 54 32.2	-2.7
	0.2nm,0.4s,baz=195,slow=4.2,SNR=4.0						
MKAR	**Makanchi Array**	**47.40**	**346**	P	P	17 53 03.0	-1.8
	1.0nm,0.7s,baz=159,slow=7.6,SNR=13						
ZAL	**Zalesovo**	**53.69**	**351**	P	P	17 53 49.6	-2.9
	1.3nm,0.4s,baz=312,slow=6.5,SNR=7.2						

IDC 31 17:54:47.1±2.0, 7.54N×93.74E, mb3.6/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.6/6, Error ellipse: s-maj=92.4km s-min=21.0km az=59.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**40.33**	**348**	P	P	18 02 26.3	-1.8
	0.2nm,0.4s,baz=166,slow=5.9,SNR=4.1						
SONM	**Songino Array**	**41.58**	**13**	P	P	18 02 36.6	-1.7
	0.1nm,0.3s,baz=197,slow=8.3,SNR=3.7						
ZAL	**Zalesovo**	**46.83**	**353**	P	P	18 03 18.7	-1.8
	1.2nm,0.3s,baz=280,slow=2.8,SNR=4.1						
WRA	**Warramunga Arr**	**48.39**	**125**	P	P	18 03 31.2	-2.0
	0.5nm,0.5s,baz=305,slow=8.4,SNR=12						
ASAR	**Alice Springs**	**50.00**	**129**	P	P	18 03 43.5	-2.0
	0.5nm,0.6s,baz=302,slow=7.7,SNR=11						
FINES	**FINESS Array B**	**72.83**	**332**	P	P	18 06 17.4	-1.9
	0.9nm,0.9s,baz=103,slow=7.7,SNR=5.2						

*BJI **31** 18:02:31.2, 0.08N×97.77E, h36km, mB5.3, mb5.1, Ms4.8, Msz4.7*

*IDC **31** 18:02:32.9±0.6, 0.37N×97.79E, h22km±3km, mb4.8/22, mb1 4.9/22, mb1mx4.8/23, mbtmp4.9/22, MS4.0/13, Ms1 4.0/13, ms1mx3.8/26, Error ellipse: s-maj=16.9km s-min=10.1km az=46.0*

*NEIC **31** 18:02:33.1±0.1, 0.35N×97.74E, mb5.2/74, MS4.1/21, Error ellipse: s-maj=4.7km s-min=3.4km az=50.0*

*HRVD **31** 18:02:33.1±0.8, 0.29N×97.57E, h18km±1km, MW4.8/47, Centroid moment Tensor Solution. LP body waves: s19,c25;Mantle waves: s47,c75; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.55±.15; $M_{\theta\theta}$-1.3±.10; $M_{\phi\phi}$-0.24±.12; $M_{r\theta}$1.31±.24; $M_{\theta\phi}$0.87±.06; $M_{\phi r}$-0.35±.27; Best double couple: M_o2.157×10^{16} NP1:ϕs311°,δ27°, λ109°. NP2:ϕs110°,δ65°,λ81°. Principal axes: T 2.059, Plg69°, Azm1°; N .193, Plg8°, Azm114°; P -2.255, Plg19°, Azm207°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*MOS **31** 18:02:33.7±1.1, 0.45N×97.85E, h33km, mb5.5/64, MS4.2/12 Error ellipse: s-maj=9.8km s-min=4.7km az=120.4*

ISC 31 18:02:31.9±1.2, 0.37N±0.03×97.77E±0.03, h24km±8km, h22km±.9km: pP-P, n326, σ0°88/317, mb5.2/123, MS4.3/48, 50C-7D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.30**	**38**	P	**Pn**	**18 03 52.9**	**+1.2**
KULM	**Kulim**	**5.67**	**30**	*e*Pn	**Pn**	**18 03 57.5**	**+0.5**
KGM	**Kluang**	**5.79**	**74**	P	**Pn**	**18 04 00.3**	**+1.7**
NST	**Nakhon Sawan**	**15.39**	**9**	P	**P**	**18 06 14.9**	**+5.4**
KKTK	**Khon Kaen**	**16.63**	**17**	P	**P**	**18 06 26.0**	**+0.6**
BDT	**Bhumibol Dam**	**16.82**	**4**	P	**P**	**18 06 25.0**	**-2.7**
	22nm,0.9s						
CM31	**Chiang Mai Arr**	**18.02**	**4**	*e*P	**P**	**18 06 41.5**	**-1.2**
	14nm,0.6s						
PALK	**Pallekele**	**18.35**	**292**	*e*P	**P**	**18 06 47.3**	**+0.4**
	65nm,1.1s						
CHG	**Chiang Mai**	**18.37**	**4**	⇑P	**P**	**18 06 45.5**	**-1.6**
	22nm,0.8s						
KKM	**Kota Kinabalu**	**19.26**	**73**	*e*P	**P**	**18 06 58.4**	**+0.6**
KKM	**Kota Kinabalu**	**19.26**	**73**	P	**P**	**18 06 58.6**	**+0.9**
MDRS	**Chennai**	**21.46**	**307**	*e*	**P**	**18 07 14.7**	**-6.3**
MDRS				*e*		18 07 15.0	
MDRS				*e*		18 09 59.9	
QIZ	**Qiongzhong**	**22.01**	**32**	PFAKE		18 07 40.0	+14
QIZ				LR	LR		
	comp=Z,524nm,20.0s,MS4.0						
VIS	**Vishakhapatnam**	**22.34**	**321**	*e*P	**P**	**18 07 31.2**	**+1.5**
VIS				AMb	AMB	18 07 33.9	
	comp=Z,207nm,1.3s,mb5.4						
VIS				*i* S	**S**	**18 11 33.1**	**+4.1**
VIS				*i*		18 15 55.3	
BWNR	**Bhubaneshwar**	**23.00**	**330**	*e*P	**P**	**18 07 38.1**	**+1.7**
BWNR				*e*		18 07 48.2	
	comp=Z,48nm,0.6s						
BWNR				*i* S	**S**	**18 11 45.0**	**+4.0**
BWNR				*i* S	**S**	**18 11 47.7**	**+6.7**
KMI	**Kunming**	**25.08**	**11**	P	**P**	**18 07 58.0**	**+1.6**
KMI				AP	pP	18 08 04.3	+0.9
KMI				XP	sP	18 08 06.3	-0.3
KMI				PP	PP	18 08 37.8	+3.5
KMI				S	**S**	**18 12 23.5**	**+6.9**
KMI				XS		18 12 32.0	
KMI				SS	SS	18 13 22.5	+5.8
KMI				AMB	AMB		
	comp=Z,84nm,1.2s,mb5.2						
KMI				AMB	AMB		
	comp=Z,253nm,3.1s						
KMI				LR	LR		
	comp=N,1μm,13.6s,MS4.7						
KMI				LR	LR		
	comp=E,745nm,15.6s,MS4.7						
KMI				LR	LR		
	comp=Z,2μm,15.6s,MS4.6						
HYB	**Hyderabad**	**25.39**	**313**	*e*P	**P**	**18 08 00.0**	**+0.6**
HYB	**Hyderabad**	**25.39**	**313**	*i* P	**P**	**18 08 00.0**	**+0.6**
SHL	**Shillong**	**25.69**	**348**	*e*P	**P**	**18 08 04.0**	**+1.9**
BLSP	**Bilaspur**	**26.46**	**326**	*e*P	**P**	**18 08 09.9**	**+0.6**
BLSP				AMb	AMB	18 08 12.0	
	comp=Z,73nm,1.1s,mb5.1						
BLSP				*e*		18 08 13.6	
	comp=Z,26nm,1.2s						
BLSP				*i*		18 18 26.2	
GYA	**Guiyang**	**27.32**	**18**	⇑*i*P	**P**	**18 08 17.0**	**-0.1**
GYA				AP	pP	18 08 26.5	+2.3
GYA				XP	sP	18 08 30.0	+2.6
GYA				PP	PP	18 09 09.0	+4.5
GYA				S	**S**	**18 13 03.5**	**+10**
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6						
GYA				AMB	AMB		
	comp=Z,190nm,7.8s						
GYA				LR	LR		
	comp=N,480nm,15.2s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,14.6s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,14.3s,MS4.5						
JIRN	**Jiri**	**29.32**	**339**	*e*P	**P**	**18 08 35.2**	**0.0**
	comp=Z,135nm,0.9s,mb5.7						
PKI	**Pulchoki**	**29.54**	**337**	*e*P	**P**	**18 08 37.0**	**-0.1**
GUN	**Gumba**	**29.66**	**338**	*e*P	**P**	**18 08 38.3**	**+0.1**
DMN	**Daman**	**29.69**	**337**	*e*P	**P**	**18 08 38.0**	**-0.5**
	comp=Z,30nm,0.8s,mb5.1						
KKN	**Kakani**	**29.78**	**337**	*e*P	**P**	**18 08 38.9**	**-0.4**
	comp=Z,49nm,0.9s,mb5.2						
KKN	**Kakani**	**29.78**	**337**	*e*P	**P**	**18 08 38.9**	**-0.4**
KKN				pmax	pmax		
	comp=Z,24nm,0.9s,mb4.9						
LSA	**Lhasa**	**29.84**	**348**	*e*P	**P**	**18 08 40.5**	**+0.7**
LSA				*e*		18 11 42.8	
LSA				pmax	pmax		
	comp=Z,82nm,1.1s,mb5.4						
LSA				MLR	MLR		
	comp=Z,634nm,21.0s,MS4.2						
LSA	**Lhasa**	**29.84**	**348**	*e*P	**P**	**18 08 40.5**	**+0.6**
	comp=Z,82nm,1.1s,mb5.4						
LSA				*e*PcP	PcP	18 11 42.8	0.0
LSA				LR	LR		
	comp=Z,634nm,21.0s,MS4.2						
BHPL	**Bhopal**	**30.13**	**320**	*e*P	**P**	**18 08 42.5**	**+0.2**
BHPL				*e*		18 08 43.1	
	comp=Z,14nm,1.0s						
GKN	**Gorkha**	**30.22**	**336**	*e*P	**P**	**18 08 43.1**	**-0.1**
MBWA	**Marble Bar**	**30.30**	**136**	*e*P	**P**	**18 08 43.8**	**-0.2**
	comp=Z,20nm,1.0s,mb4.8						
KOLN	**Koldanda**	**30.45**	**335**	*e*P	**P**	**18 08 45.1**	**-0.1**
	comp=Z,90nm,0.8s,mb5.6						
CD2	**Chengdu**	**30.90**	**10**	⇓*i*P	**P**	**18 08 48.5**	**-0.6**
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.2						
ENH	**Enshi**	**31.76**	**20**	*e*P	**P**	**18 08 55.3**	**-1.4**
	comp=Z,48nm,0.9s,mb5.3						
ENH				*e*pP	pP	18 09 02.4	-1.5
ENH				LR	LR		
	comp=Z,291nm,20.0s,MS4.0						
FITZ	**Fitzroy Crossi**	**32.99**	**125**	⇓*i*P	**P**	**18 09 06.3**	**-1.2**
	comp=Z,16nm,0.7s,mb5.1						
FITZ	**Fitzroy Crossi**	**32.99**	**125**	P	**P**	**18 09 06.0**	**-1.4**
	comp=Z,23nm,0.8s,mb5.2,baz=297,slow=1.9,SNR=22						
XAN	**Xi'an**	**35.09**	**16**	P	**P**	**18 09 24.8**	**-0.7**
XAN				AMB	AMB		
	comp=Z,95nm,1.0s,mb5.7						
XAN				LR	LR		
	comp=N,312nm,16.4s,MS4.6						
XAN				LR	LR		
	comp=E,775nm,14.8s,MS4.6						
XAN				LR	LR		
	comp=Z,1μm,13.8s,MS4.8						
LZH	**Lanzhou**	**35.98**	**8**	⇑P	**P**	**18 09 32.8**	**-0.3**
LZH				AP	pP	18 09 47.5	+7.2
LZH				AMB	AMB		
	comp=Z,67nm,1.5s,mb5.3						
LZH				AMB	AMB		
	comp=Z,240nm,4.3s						
LZH				LR	LR		
	comp=E,2μm,17.4s						
LZH				LR	LR		
	comp=Z,2μm,18.7s,MS4.9						
SDNR	**Sundarnagar**	**36.69**	**329**	*e*P	**P**	**18 09 39.4**	**+0.3**
NJ2	**Nanjing**	**37.28**	**30**	*e*P	**P**	**18 09 44.8**	**+0.8**
NJ2				AP	pP	18 09 54.5	+3.3
NJ2				XP	sP	18 09 58.5	+4.2
NJ2				PP	PP	18 11 13.5	+1.9
NJ2				S	**S**	**18 15 31.0**	**+1.5**
NJ2				XS		18 15 47.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,1μm,5.0s						
NJ2				LR	LR		
	comp=N,760nm,15.4s,MS4.8						
NJ2				LR	LR		
	comp=E,930nm,13.3s,MS4.8						
NJ2				LR	LR		
	comp=Z,730nm,12.8s,MS4.7						
SSE	**Sheshan**	**37.77**	**34**	P	**P**	**18 09 49.5**	**+1.3**
SSE				XP	sP	18 10 02.0	+3.6
SSE				PP	PP	18 11 14.8	-2.8
SSE				PCP	PcP	18 12 07.5	+2.3
SSE				S	**S**	**18 15 36.5**	**-0.5**
SSE				XS		18 15 51.3	
SSE				SS	SS	18 18 20.5	+7.9
SSE				AMB	AMB		
	comp=Z,52nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,211nm,12.0s						
SSE				LR	LR		
	comp=N,624nm,15.8s,MS4.6						
SSE				LR	LR		
	comp=E,368nm,16.0s,MS4.6						
SSE				LR	LR		
	comp=Z,1μm,15.0s,MS4.8						
NWAO	**Narrogin (SRO)**	**37.86**	**153**	P	**P**	**18 09 48.7**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,82nm,1.4s						
NWAO	**Narrogin (SRO)**	**37.86**	**153**	P	**P**	**18 09 48.7**	**-0.1**
	comp=Z,82nm,1.4s,mb5.3						
THN	**Thein Dam**	**38.08**	**329**	*e*P	**P**	**18 09 49.1**	**-1.6**
	comp=Z,21nm,0.8s,mb4.9						
GTA	**Gaotai**	**38.90**	**3**	⇑P	**P**	**18 09 57.8**	**+0.3**
GTA				AP	pP	18 10 07.5	+2.7
GTA				XP	sP	18 10 11.5	+3.7
GTA				PP	PP	18 11 30.8	+0.1
GTA				PCP	PcP	18 12 09.0	+0.4
GTA				S	**S**	**18 15 53.8**	**-0.1**
GTA				XS		18 16 10.3	
GTA				SS	SS	18 18 39.5	+2.0
GTA				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.6						
GTA				AMB	AMB		
	comp=Z,180nm,4.6s						
GTA				LR	LR		
	comp=N,245nm,14.5s,MS4.4						
GTA				LR	LR		
	comp=E,277nm,13.8s,MS4.4						
GTA				LR	LR		
	comp=Z,298nm,15.3s,MS4.2						
TIA	**Tai'an**	**39.94**	**25**	*e*P	**P**	**18 10 05.5**	**-0.7**
TIA				AMB	AMB		
	comp=Z,83nm,1.7s,mb5.2						
WRA	**Warramunga Arr**	**41.12**	**122**	P	**P**	**18 10 14.7**	**-1.3**
	comp=Z,11nm,0.5s,mb4.7,baz=303,slow=8.9,SNR=195						
WRA				pP	pP	18 10 21.6	-1.6
	comp=Z,11nm,0.6s,baz=300,slow=8.9,SNR=20						
WRAB	**Tennant Creek**	**41.12**	**122**	*i* P	**P**	**18 10 15.9**	**-0.1**
WRAB	**Tennant Creek**	**41.12**	**122**	*e*P	**P**	**18 10 15.3**	**-0.7**
	comp=Z,21nm,0.5s,mb5.0						
WRAB				LR	LR		
	comp=Z,121nm,21.0s,MS3.7						
WB2	**Warramunga Arr**	**41.13**	**122**	*e*P	**P**	**18 10 15.3**	**-0.8**
WB2				*i*	pP	18 10 22.0	-1.3
BTO	**Baotou**	**41.57**	**14**	*e*P	**P**	**18 10 20.5**	**+0.9**
HHC	**Hu-ho-hao-te**	**42.20**	**16**	*e*P	**P**	**18 10 26.5**	**+1.8**
HHC				AP	pP	18 10 33.8	+1.8
HHC				XP	sP	18 10 36.8	+1.8
HHC				PP	PP	18 12 07.8	+2.4
HHC				S	**S**	**18 16 44.8**	**+1.7**
HHC				SS	SS	18 19 49.0	+3.2
HHC				SCS	ScS	18 20 24.3	+1.1
HHC				AMB	AMB		
	comp=Z,47nm,0.9s,mb5.1						
HHC				AMB	AMB		
	comp=Z,297nm,4.6s						
HHC				LR	LR		
	comp=N,791nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=E,521nm,15.5s,MS4.8						
HHC				LR	LR		
	comp=Z,786nm,15.5s,MS4.7						
FORT	**Forrest**	**42.28**	**140**	*e*P	**P**	**18 10 26.7**	**+1.2**
	comp=Z,458nm,0.7s,mb6.2						
ASPA	**Alice Springs**	**42.44**	**127**	⇑*i*P	**P**	**18 10 26.9**	**0.0**
ASPA				*i*	pP	18 10 33.6	-0.6
ASAR	**Alice Springs**	**42.44**	**127**	P	**P**	**18 10 26.9**	**0.0**
	comp=Z,20nm,0.8s,mb4.8,baz=297,slow=8.1,SNR=240						
ASAR				pP	pP	18 10 32.2	-2.0
	comp=Z,18nm,0.6s,baz=299,slow=7.6,SNR=25						
ASAR				PcP	PcP	18 12 20.4	+0.1
	comp=Z,3.2nm,0.8s,baz=308,slow=2.5,SNR=5.2						
ASAR				S	**S**	**18 16 46.5**	**-0.6**
	comp=Z,1.6nm,1.1s,baz=291,slow=13,SNR=4.2						
ASAR				LR	LR	18 29 39.9	
	comp=Z,60nm,18.3s,MS3.5,baz=161,slow=38						
BJT	**Baijiatuau**	**42.88**	**21**	*e*P	**P**	**18 10 31.5**	**+1.2**
BJT				pmax	pmax		
	comp=Z,119nm,1.4s						
BJT	**Baijiatuau**	**42.88**	**21**	*e*P	**P**	**18 10 31.5**	**+1.2**
	comp=Z,119nm,1.4s,mb5.4						
BJI	**Beijing**	**42.90**	**21**	*e*P	**P**	**18 10 31.8**	**+1.3**
BJI				AMB	AMB		
	comp=Z,61nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=N,499nm,14.9s,MS4.7						
BJI				LR	LR		
	comp=E,434nm,15.5s,MS4.7						
BJI				LR	LR		
	comp=Z,217nm,17.7s,MS4.1						
WBK	**Wadi Bani Khal**	**43.73**	**303**	P	**P**	**18 10 38.6**	**+1.2**
	SNR=6.7						
KSH	**Kashi**	**43.76**	**335**	*e*P	**P**	**18 10 37.5**	**+0.1**
KSH				*e*AP	pP	18 10 43.3	-1.4
KSH				*e*PP	PP	18 12 20.5	-0.6
KSH				*e*PCP	PcP	18 12 25.5	+1.0
KSH				*e*SCP		18 16 14.0	
KSH				*e*PCS		18 16 17.0	
KSH				*e*S	**S**	**18 17 05.3**	**-0.6**
KSH				*e*SCS	ScS	18 20 33.0	+0.2
KSH				LR	LR		
	comp=N,370nm,5.3s						
KSH				LR	LR		
	comp=E,410nm,5.7s						
DL2	**Dalian**	**44.15**	**27**	P	**P**	**18 10 41.5**	**+0.9**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
WMQ	**Urumqi**	**44.19**	**350**	⇑*i*P	**P**	**18 10 41.5**	**+0.6**
WMQ				AP	pP	18 10 48.0	-0.1
WMQ				XP	sP	18 10 51.0	-0.1
WMQ				PP	PP	18 12 26.0	+0.7
WMQ				S	**S**	**18 17 13.5**	**+1.4**
WMQ				SCS	ScS	18 20 37.0	+1.6
WMQ				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,310nm,4.8s						
WMQ				LR	LR		
	comp=N,1μm,19.0s,MS5.0						
WMQ				LR	LR		
	comp=E,904nm,15.3s,MS5.0						
WMQ				LR	LR		
	comp=Z,798nm,22.6s						
BIDO	**Bidbid**	**44.82**	**304**	P	**P**	**18 10 47.4**	**+1.2**
	SNR=8.5						
BSY	**Bisya**	**45.27**	**302**	P	**P**	**18 10 50.9**	**+1.0**
	SNR=16						
ULHL	**Ulahol**	**45.97**	**338**	P	**P**	**18 10 55.6**	**+0.5**
	SNR=22						
RBK	**Rabkut**	**46.10**	**294**	P	**P**	**18 10 57.3**	**+0.9**
	SNR=8.8						
KZA	**Kyzart**	**46.22**	**337**	P	**P**	**18 10 57.9**	**+0.9**
	SNR=7.1						
WHFO	**Wadi Hawf**	**46.62**	**295**	P	**P**	**18 11 00.8**	**+0.3**
	SNR=14						
UCH	**Uchtor**	**46.63**	**336**	P	**P**	**18 11 01.3**	**+1.0**
	SNR=32						
TKM2	**Tokmak 2**	**46.80**	**338**	P	**P**	**18 11 02.2**	**+0.6**
	SNR=44						
KBK	**Karagaybulak**	**46.82**	**337**	P	**P**	**18 11 03.0**	**+1.2**
	SNR=38						
ABTO	**Aybut**	**46.89**	**294**	P	**P**	**18 11 03.2**	**+0.6**
	SNR=6.0						
AML	**Almayashu**	**46.89**	**335**	P	**P**	**18 11 03.4**	**+1.0**
	SNR=33						
AAK	**Ala-Archa**	**46.98**	**336**	P	**P**	**18 11 03.1**	**0.0**
	comp=Z,82nm,1.2s,mb5.5,SNR=26						
AAK	**Ala-Archa**	**46.98**	**336**	*e*P	**P**	**18 11 02.5**	**-0.6**
AAK				*e*		18 12 35.0	
AAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
AAK				MLR	MLR		
	comp=Z,61nm,19.0s,MS3.6						
AAK	**Ala-Archa**	**46.98**	**336**	*e*P	**P**	**18 11 02.5**	**-0.6**
	comp=Z,22nm,1.2s,mb5.0						
AAK				*e*PcP	PcP	18 12 35.0	-0.6
AAK				LR	LR		
	comp=Z,61nm,19.0s,MS3.6						
ASHO	**Ashiyiah**	**47.02**	**304**	P	**P**	**18 11 04.7**	**+1.1**
	SNR=6.6						
FRU	**Bishkek**	**47.10**	**337**	*e*P	**P**	**18 11 05.3**	**+1.3**
FRU				pmax	pmax		
	comp=Z,60nm,2.0s,mb5.2						
CHMS	**Chumysh**	**47.19**	**337**	P	**P**	**18 11 05.0**	**+0.3**
	SNR=11						
EKS2	**Erkin-Say**	**47.30**	**336**	P	**P**	**18 11 06.4**	**+0.8**
	SNR=30						
SNY	**Shenyang**	**47.39**	**26**	⇓P	**P**	**18 11 06.3**	**0.0**
SNY				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
SNY				LR	LR		
	comp=N,430nm,15.9s,MS4.7						
SNY				LR	LR		
	comp=E,550nm,14.9s,MS4.7						
SNY				LR	LR		
	comp=Z,620nm,15.7s,MS4.7						
USP	**Ospenovka**	**47.52**	**337**	P	**P**	**18 11 07.5**	**+0.2**
	SNR=48						
SONM	**Songino Array**	**47.87**	**8**	P	**P**	**18 11 10.5**	**+0.5**
	comp=Z,30nm,0.8s,mb5.4,baz=190,slow=8.9,SNR=257						
SONM				PcP	PcP	18 12 38.2	-0.5
	comp=Z,9.7nm,0.8s,baz=191,slow=3.7,SNR=11						
ULN	**Ulaanbaatar**	**47.99**	**8**	*e*P	**P**	**18 11 11.1**	**+0.1**
ULN				*e*		18 12 38.7	
ULN				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.3						
ULN				MLR	MLR		
	comp=Z,293nm,19.0s,MS4.3						
ULN	**Ulaanbaatar**	**47.99**	**8**	*e*P	**P**	**18 11 11.1**	**+0.1**
	comp=Z,26nm,0.9s,mb5.3						
ULN				*e*PcP	PcP	18 12 38.7	-0.6
ULN				LR	LR		
	comp=Z,293nm,19.0s,MS4.3						
MKAR	**Makanchi Array**	**48.18**	**346**	*i* P	**P**	**18 11 12.2**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,24nm,0.7s						
MKAR	**Makanchi Array**	**48.18**	**346**	P	**P**	**18 11 12.3**	**-0.1**
	comp=Z,32nm,0.7s,mb5.5,baz=156,slow=7.8,SNR=316						
MKAR				LR	LR	18 33 24.3	
	comp=Z,164nm,21.4s,MS4.0,baz=270,slow=38						
KKAR	**Karatay Array**	**49.05**	**334**	P	**P**	**18 11 18.6**	**-0.6**
KKAR				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.3						
CN2	**Changchun**	**49.79**	**26**	*e*P	**P**	**18 11 24.3**	**-0.6**
CN2				*e*AP	pP	18 11 31.0	-1.3
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,490nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,340nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,440nm,14.0s,MS4.6						
ZAK	**Zakamensk**	**50.05**	**5**	⇑*i*P	**P**	**18 11 26.9**	**+0.1**
ZAK				*e*		18 12 45.7	
ZAK				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8						
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PMG	**Port Moresby**	**50.12**	**103**	*e*P	**P**	**18 11 27.3**	**-0.5**
PMG				pmax	pmax		
	comp=Z,47nm,0.7s						
PMG				MLR	MLR		
	comp=Z,267nm,19.0s						
PMG	**Port Moresby**	**50.12**	**103**	*e*P	**P**	**18 11 27.3**	**-0.5**
	comp=Z,47nm,0.7s,mb5.6						
PMG				LR	LR		
	comp=Z,267nm,19.0s,MS4.3						
CBIJ	**Chichi jima**	**50.24**	**54**	LR	LR	18 32 09.3	
	comp=Z,70nm,20.4s,MS3.7,baz=281,slow=35						
MOY	**Mondy**	**51.19**	**3**	*e*P	**P**	**18 11 35.3**	**-0.1**
MOY				pmax	pmax		
	comp=Z,21nm,2.3s,mb4.7						
TLY	**Talaya**	**51.37**	**5**	*e*P	**P**	**18 11

MAJO pmax pmax
comp=Z,15nm,1.2s,mb4.8
MAJO MLR MLR
comp=Z,193nm,20.0s,MS4.1
MAJO Matsushiro 51.93 42 *eP* **P 18 11 38.0 -3.3**
comp=Z,16nm,1.2s,mb4.8
MAJO LR LR
comp=Z,193nm,20.0s,MS4.1
MJAR Matsushiro Arr 51.93 42 P **P 18 11 39.5 -1.7**
comp=Z,7.3nm,1.0s,mb4.5,baz=226,slow=7.6,SNR=12
MJAR PcP PcP 18 12 53.8 +0.1
comp=Z,5.2nm,1.0s,baz=223,slow=3.1,SNR=4.8
MJAR LR LR 18 36 39.5
comp=Z,126nm,18.0s,MS4.0,baz=200,slow=39
IRK Irkutsk 51.98 5 *eP* **P 18 11 41.3 -0.1**
IRK *e* 18 12 51.5
IRK pmax pmax
comp=Z,41nm,1.8s,mb5.1
HIA Hailar 52.25 18 *eP* **P 18 11 43.1 -0.3**
HIA pmax pmax
comp=Z,22nm,0.8s
HIA MLR MLR
comp=Z,283nm,20.0s
HIA Hailar 52.25 18 *eP* **P 18 11 43.1 -0.4**
comp=Z,22nm,0.8s,mb5.1
HIA LR LR
comp=Z,283nm,20.0s,MS4.3
MDJ Mudanjiang 52.32 28 P **P 18 11 43.5 -0.6**
MDJ AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,125nm,4.6s
MDJ LR LR
comp=N,185nm,20.4s,MS4.3
MDJ LR LR
comp=E,193nm,17.9s,MS4.3
MDJ LR LR
comp=Z,367nm,16.1s,MS4.5
MDJ Mudanjiang 52.32 28 *eP* **P 18 11 44.3 +0.3**
comp=Z,5.6nm,0.8s,mb4.5
MDJ LR LR
comp=Z,279nm,22.0s,MS4.3
STKA Stephens Creek 52.38 132 *eP* **P 18 11 44.9 +0.2**
comp=Z,9.0nm,1.2s,mb4.6
STKA *i* pP 18 11 51.3 -0.8
STKA Stephens Creek 52.38 132 P **P 18 11 44.7 0.0**
comp=Z,8.3nm,0.9s,mb4.7,baz=299,slow=6.1,SNR=12
STKA pP pP 18 11 51.5 -0.6
comp=Z,14nm,0.8s,baz=305,slow=7.3,SNR=14
KURK Kurchatov 52.74 345 *i* P **P 18 11 46.5 -0.6**
KURK pmax pmax
comp=Z,39nm,1.1s,mb5.2
KURK Kurchatov 52.74 345 *eP* **P 18 11 46.4 -0.7**
comp=Z,70nm,1.0s,mb5.5
KURK LR LR
comp=Z,54nm,19.0s,MS3.6
ZAL Zalesovo 54.46 351 P **P 18 11 58.7 -1.0**
comp=Z,41nm,0.7s,mb5.5,baz=311,slow=5.7,SNR=228
ZAL LR LR 18 37 40.5
comp=Z,155nm,21.8s,MS4.0,baz=191,slow=39
ZAL Zalesovo 54.46 351 P **P 18 11 58.7 -1.0**
ZAL LR LR 18 37 40.5
NVS Novosibirsk 55.59 350⇑ *iP* **P 18 12 06.2 -1.7**
NVS pmax pmax
comp=Z,69nm,1.3s,mb5.5
NVS pmax pmax
comp=N,56nm,1.5s
NVS pmax pmax
comp=E,32nm,1.3s
RAYN Ar Rayn 55.65 298 P **P 18 12 07.8 -1.0**
comp=E,153nm,0.7s,SNR=29
KLR Kul'dur 56.74 26 *eP* **P 18 12 13.2 -3.1**
KLR MLR MLR
comp=E,700nm,13.5s
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.3
BVA0 Borovoye Array 57.22 341 *i* P **P 18 12 17.9 -1.7**
BVA0 pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
CHKZ Chkalovo 57.69 341 *eP* **P 18 12 21.7 -1.2**
CHKZ pmax pmax
comp=Z,66nm,0.8s,mb5.7
CHKZ Chkalovo 57.69 341 *eP* **P 18 12 21.6 -1.3**
comp=Z,66nm,0.8s,mb5.7
BOD Bodaibo 58.72 10⇓ *iP* **P 18 12 29.3 -0.8**
BOD pmax pmax
comp=Z,31nm,0.9s,mb5.3
ASAJ Asahikawa 58.99 36 P **P 18 12 31.2 -0.9**
comp=Z,9.1nm,0.7s,mb4.9,baz=343,slow=25,SNR=4.9
BHD Baghdad 59.79 309 *eP* **P 18 12 28.0 -10**
KMBO Kilima Mbogo 60.53 269 *eP* **P 18 12 42.5 -0.6**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO MLR MLR
comp=Z,119nm,19.0s
KMBO Kilima Mbogo 60.53 269 P **P 18 12 42.5 -0.6**
comp=Z,1.4nm,0.6s,mb4.3,baz=68,slow=9.8,SNR=7.1
KMBO Kilima Mbogo 60.53 269 *eP* **P 18 12 42.5 -0.6**
comp=Z,6.1nm,1.1s,mb4.6
KMBO LR LR
comp=Z,119nm,19.0s,MS4.0
YSS Yuzh-Sakhalins 60.72 34⇓ *iP* **P 18 12 43.2 -0.7**
YSS *e* pP 18 12 50.0 -1.5
YSS *e* 18 13 02.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 60.72 34 *eP* **P 18 12 43.5 -0.5**
comp=Z,40nm,0.8s,mb5.6
MSL Mosul 61.91 312 *eP* **P 18 12 51.0 -1.2**
GNI Garni 62.28 316 *eP* **P 18 12 53.7 -0.9**
GNI pmax pmax
comp=Z,43nm,1.1s
GNI Garni 62.28 316 *eP* **P 18 12 53.7 -0.9**
comp=Z,42nm,1.1s,mb5.5
DGRG David-gareji 62.42 318 P **P 18 12 55.6 +0.1**
MTA Mtatsminda 62.92 318 P **P 18 12 57.8 -1.0**
TI2 Plekhanov 62.97 318 *iP* **P 18 12 58.8 -0.3**
TBLG Delisi 62.98 318 P **P 18 12 58.5 -0.6**
SVE Sverdlovsk 63.67 338 *eP* **P 18 13 03.0 -0.5**
SVE pmax pmax
comp=Z,40nm,1.6s,mb5.2
SVE MLR MLR
comp=E,100nm,15.0s
SVE MLR MLR
comp=Z,300nm,15.0s,MS4.6
ZEI Tsey 63.99 319 *eP* **P 18 13 05.2 -0.7**
ZEI *i* *PP pP 18 13 10.5 -2.9
ZEI pmax pmax
comp=N,22nm,0.9s
ARU Arti 64.17 337⇑ *iP* **P 18 13 05.0 -1.8**
ARU *e* 18 13 37.4
ARU *e* 18 15 23.8
ARU *eS* **S 18 21 41.5 +0.7**
ARU *eSS* SS 18 25 50.8 -0.9
ARU pmax pmax
comp=Z,33nm,1.1s,mb5.3
ARU Arti 64.17 337 *eP* **P 18 13 04.8 -1.9**
comp=Z,36nm,1.2s,mb5.3
ARU LR LR
comp=Z,58nm,20.0s,MS3.8
KIV Kislovodsk 65.30 319⇑ *iP* **P 18 13 13.2 -1.2**
KIV *e* 18 15 36.8
KIV pmax pmax
comp=Z,63nm,1.0s,mb5.6
KIV Kislovodsk 65.30 319 *eP* **P 18 13 13.4 -0.9**
comp=Z,65nm,1.1s,mb5.6
ASF Jabal al Asfar 65.41 305 P **P 18 13 15.0 -0.2**
comp=Z,18nm,0.9s,mb5.1,baz=13,slow=2.8,SNR=15
GOF Gofitskoye 65.56 321⇑ *iP* **P 18 13 14.2 -1.8**
GOF pmax pmax
comp=Z,20nm,1.3s,mb5.0
ELZG Elazig 65.76 313 *i* P **P 18 13 16.8 -0.5**
YAK Yakutsk 66.06 16 *eP* **P 18 13 17.8 -1.1**
comp=Z,66nm,0.8s,mb5.7
YAK LR LR
comp=Z,353nm,21.0s,MS4.5
MALT Malatya 66.10 312 *eP* **P 18 13 19.2 -0.4**
MALT *e* *PP pP 18 13 26.7 -0.4
MALT pmax pmax
comp=Z,37nm,1.0s,mb5.4
MALT Malatya 66.10 312 *eP* **P 18 13 19.2 -0.4**
comp=Z,37nm,1.0s,mb5.4
MALT *ep*P pP 18 13 26.7 -0.4
EIL Elat 66.38 302 *eP* **P 18 13 20.6 -0.8**
comp=Z,43nm,1.3s,mb5.3
GZT Gaziantep 66.43 311 *i* P **P 18 13 21.2 -0.4**

MBAR Mbarara 67.03 269 *eP* **P 18 13 24.8 -1.1**
MBAR *e**PP pP 18 13 31.4 -2.1
MBAR pmax pmax
comp=Z,55nm,2.0s,mb5.2
MBAR Mbarara 67.03 269 *eP* **P 18 13 24.8 -1.1**
comp=Z,55nm,2.0s,mb5.2
MBAR *ep*P pP 18 13 31.4 -2.1
SOC Sochi 67.11 318 *eP* **P 18 13 23.7 -2.2**
SOC *eS* S 18 22 21.9 +4.9
SOC pmax pmax
comp=Z,42nm,0.7s,mb5.6
SOC pmax pmax
comp=N,7.0nm,0.9s
SOC pmax pmax
comp=E,16nm,1.0s
SOC pmax pmax
comp=Z,76nm,1.2s,mb5.6
CASY Casey 67.12 174 P **P 18 13 25.1 -0.5**
COBT Iskenderun 67.17 310 *iP* **P 18 13 25.9 -0.5**
ANN Anapa 69.09 319 *eP* **P 18 13 47.4 +9.2**
ANN pmax pmax
comp=Z,95nm,1.6s,mb5.5
BOYT Boyabat 69.68 314 *iP* **P 18 13 37.0 -4.9**
BRTR Keskin Array B 70.09 312 P **P 18 13 42.8 -1.6**
comp=Z,11nm,0.8s,mb4.8,baz=131,slow=7.1,SNR=40
LSZ Lusaka 70.42 254 *eP* **P 18 13 46.4 -0.4**
LSZ *e**PP pP 18 13 52.2 -2.2
LSZ pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LSZ Lusaka 70.42 254 *eP* **P 18 13 46.4 -0.4**
comp=Z,3.6nm,0.8s,mb4.3
LSZ *ep*P pP 18 13 52.2 -2.1
DZM Mont Dzumac 70.43 114 LR LR 18 47 41.4
comp=Z,146nm,20.3s,MS4.2,baz=327,slow=38
VOR Voronezh 70.77 326 *eP* **P 18 13 46.5 -1.8**
VOR pmax pmax
comp=E,50nm,1.3s
VOR pmax pmax
comp=Z,80nm,1.3s,mb5.5
BALT Daday 70.80 314 *iP* **P 18 13 46.8 -1.9**
SIM Simferopol' 71.36 318⇑ *iP* **P 18 13 50.7 -1.3**
SIM pmax pmax
comp=Z,37nm,0.9s,mb5.3
MA2 Magadan 71.83 25 *eP* **P 18 13 54.5 -0.1**
MA2 *e* 18 14 10.6
MA2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MA2 Magadan 71.83 25 *eP* **P 18 13 54.1 -0.5**
comp=Z,12nm,0.8s,mb4.9
MAW Mawson 72.04 193 *eP* **P 18 13 56.1 +0.4**
MAW *e**PP pP 18 14 02.6 -0.7
MAW pmax pmax
comp=Z,26nm,1.1s
MAW Mawson 72.04 193 P **P 18 13 55.3 -0.4**
comp=Z,8.0nm,0.9s,mb4.6,baz=345,slow=5.1,SNR=7.3
MAW pP pP 18 14 02.3 -1.0
comp=Z,12nm,0.9s,baz=8.3,slow=7.9,SNR=7.6
MAW LR LR 18 39 40.8
comp=Z,128nm,20.9s,MS4.2,baz=247,slow=31
MAW Mawson 72.04 193 *eP* **P 18 13 56.1 +0.4**
comp=Z,26nm,1.1s,mb5.1
MAW *ep*P pP 18 14 02.6 -0.7
PET Petropavlovsk 72.60 34⇑ *iP* **P 18 13 59.0 -0.3**
PET pmax pmax
comp=Z,68nm,0.8s,mb5.6
PET Petropavlovsk 72.60 34 *iP* **P 18 13 58.8 -0.5**
MOS Moscow 73.33 329 *eP* **P 18 14 01.0 -2.5**
MOS *e* 18 14 17.9
MOS pmax pmax
comp=Z,77nm,0.8s,mb5.7
OBN Obninsk 73.62 328α *iP* **P 18 14 03.9 -1.2**
OBN *e* 18 14 20.8
OBN pmax pmax
comp=Z,54nm,1.4s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
OBN Obninsk 73.62 328 *eP* **P 18 14 04.0 -1.2**
comp=Z,35nm,1.0s,mb5.2
OBN LR LR
comp=Z,26nm,20.0s,MS3.5
TIXI Tiksi 73.90 10⇑ *iP* **P 18 14 05.7 -0.8**
LBTB Lobatse 74.03 244 *eP* **P 18 14 07.7 -0.5**
LBTB *e**PP pP 18 14 14.1 -1.7
LBTB pmax pmax
comp=Z,13nm,1.0s,mb4.8
LBTB Lobatse 74.03 244 *eP* **P 18 14 07.7 -0.4**
comp=Z,13nm,1.0s,mb4.8
LBTB *ep*P pP 18 14 14.1 -1.7
BOSA Boshof 74.86 240 *eP* **P 18 14 12.5 -0.4**
BOSA *e**PP pP 18 14 18.7 -1.8
BOSA pmax pmax
comp=Z,11nm,0.9s,mb4.8
BOSA Boshof 74.86 240 P **P 18 14 12.8 0.0**
comp=Z,7.2nm,0.9s,mb4.6,baz=69,slow=5.7,SNR=8.3
BOSA LR LR 18 43 12.7
comp=Z,139nm,21.1s,MS4.2,baz=358,slow=33
BOSA Boshof 74.86 240 *eP* **P 18 14 12.5 -0.4**
comp=Z,11nm,0.9s,mb4.8
BOSA *ep*P pP 18 14 18.7 -1.8
KIS Kishinev 75.49 319 *eP* **P 18 14 14.0 -2.1**
AKASG Malin Array Be 76.26 322 P **P 18 14 18.9 -1.5**
comp=Z,12nm,0.7s,mb4.9,baz=89,slow=5.1,SNR=57
AKASG Malin Array Be 76.26 322 P **P 18 14 18.9 -1.5**
VRI Vrincioaia 76.61 317 P **P 18 14 22.9 +0.4**
VRI Vrincioaia 76.61 317⇑ P **P 18 14 22.2 -0.3**
MLR Muntele Rosu 77.06 317 P **P 18 14 24.9 -0.1**
MLR Muntele Rosu 77.06 317 P **P 18 14 24.4 -0.6**
comp=Z,26nm,1.0s,mb5.1,baz=133,slow=1.2,SNR=25
MLR Muntele Rosu 77.06 317⇑ P **P 18 14 24.7 -0.3**
BURAR Bucovina Array 78.02 319 P **P 18 14 31.2 +1.0**
BURAR Bucovina Array 78.02 319⇑ P **P 18 14 30.9 +0.7**
SUR Sutherland 79.19 237 *eP* **P 18 14 38.0 +1.1**
comp=Z,19nm,0.9s,mb5.0
SYO Syowa Base 79.39 198⇑ P **P 18 14 39.5 +2.2**
SYO Syowa Base 79.39 198⇑ *pP* pP 18 14 44.1 -0.9
BZS Buzias 80.06 316 P **P 18 14 41.1 -0.3**
BZS Buzias 80.06 316⇓ *iP* **P 18 14 41.2 -0.2**
KWP Kalwaria 80.07 320 *eP* **P 18 14 41.8 +0.5**
APA Apatity 80.10 339⇑ *iP* **P 18 14 40.5 -0.6**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
SVIS Svilajnac 80.12 315 *eP* **P 18 14 40.6 -1.1**
KOLS Kolonice sedl 80.21 320 *iP* **P 18 14 43.1 +1.0**
SUW Suwalki 80.68 325 *eP* **P 18 14 43.7 -0.7**
SUW Suwalki 80.68 325 *eP* **P 18 14 43.8 -0.7**
CRVS Cervenica-Dubn 80.73 319 *eP* **P 18 14 45.0 +0.2**
CRVS *e* 18 15 03.5
DIVS Divcibare 80.97 315⇓ *iP* **P 18 14 45.1 -1.0**
FINES FINESS Array B 80.99 332 P **P 18 14 45.6 -0.3**
comp=Z,8.2nm,0.8s,mb4.7,baz=104,slow=7.9,SNR=35
FINES LR LR 18 53 49.5
comp=Z,75nm,19.7s,MS4.0,baz=323,slow=38
KAF Kangasniemi 81.08 333 *ep* **P 18 14 45.9 -0.5**
comp=Z,20nm,0.8s,mb5.1,baz=103,slow=5.0
KAF Kangasniemi 81.08 333 *eP* **P 18 14 45.9 -0.5**
KAF pmax pmax
comp=Z,20nm,0.8s,mb5.1
NIE Niedzica 81.57 320 *eP* **P 18 14 48.9 -0.3**
PSZ Piszkesteto 81.60 318 P **P 18 14 49.9 +0.5**
BILL Bilibino 81.74 21 *eP* **P 18 14 49.2 -0.5**
BILL pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BILL MLR MLR
comp=Z,277nm,19.0s,MS4.6
BILL Bilibino 81.74 21 *eP* **P 18 14 49.1 -0.5**
comp=Z,4.3nm,1.1s,mb4.3
BILL LR LR
comp=Z,277nm,19.0s,MS4.6
URZ Urewera 81.86 129 LR LR 18 53 03.3
comp=Z,167nm,18.2s,MS4.4,baz=173,slow=37
OJC Ojcow 82.02 321 *eP* **P 18 14 51.4 -0.1**
VYHS Vyhne 82.39 319 *eP* **P 18 14 53.1 -0.4**
OKC Ostrava-Krasne 83.02 320 *eP* **P 18 14 57.3 +0.6**
MORC Moravsky Berou 83.40 320 *eP* **P 18 14 58.6 -0.1**
MORC pmax pmax
comp=Z,26nm,1.4s,mb5.1
MORC Moravsky Berou 83.40 320 *eP* **P 18 14 58.6 -0.1**
comp=Z,26nm,1.4s,mb5.1
ZST Bratislava 83.50 318 *eP* **P 18 14 59.6 +0.4**
ARCES ARCESS Array B 83.50 340 P **P 18 14 58.7 0.0**
comp=Z,10nm,0.8s,mb5.0,baz=108,slow=3.8,SNR=13
ARCES LR LR 18 59 09.5
comp=Z,124nm,18.9s,MS4.3,baz=22,slow=41
ARCES ARCESS Array B 83.50 340 P **P 18 14 58.7 -0.1**
ARCES LR LR 18 59 09.6

DPC Dobruska-Polom 84.25 320 *eP* **P 18 15 03.7 +0.7**
GOLS Golise 84.27 316 *iP* **P 18 15 03.4 +0.2**
KSP Ksiaz 84.32 321 *eP* **P 18 15 03.7 +0.4**
KSP Ksiaz 84.32 321 *eP* **P 18 15 03.8 +0.5**
UPC Upice 84.46 321 *eP* **P 18 15 04.8 +0.8**
PERS Pernice 84.68 317 *iP* **P 18 15 05.3 +0.1**
VNDA Vanda 84.90 169 *eP* **P 18 15 06.1 +0.4**
VNDA pmax pmax
comp=Z,8.0nm,1.3s
VNDA Vanda 84.90 169 P **P 18 15 06.4 +0.8**
comp=Z,2.9nm,1.0s,mb4.4,baz=286,slow=5.6,SNR=9.6
VNDA pP pP 18 15 12.7 -0.8
comp=Z,3.5nm,1.0s,baz=292,slow=5.7,SNR=7.9
VNDA LR LR 18 49 38.3
comp=Z,104nm,18.2s,MS4.3,baz=293,slow=33
VNDA Vanda 84.90 169 *eP* **P 18 15 06.1 +0.4**
comp=Z,8.3nm,1.3s,mb4.7
LJU Ljubljana 85.03 316 *iP* **P 18 15 07.3 +0.3**
PRU Pruhonice 85.35 320 *eP* **P 18 15 09.1 +0.6**
PRU pmax pmax
comp=Z,8.0nm,0.5s,mb5.1
PRU Pruhonice 85.35 320 *eP* **P 18 15 09.1 +0.6**
comp=Z,8.4nm,0.5s,mb5.1
PVCC Panska Ves 85.38 321 *eP* **P 18 15 09.5 +0.9**
AQU L'Aquila 85.38 312 *eP* **P 18 15 09.5 -0.3**
AQU pmax pmax
comp=Z,33nm,1.0s,mb5.5
AQU L'Aquila 85.58 312 *eP* **P 18 15 09.5 -0.3**
comp=Z,33nm,1.0s,mb5.5
BRG Berggiesshubel 85.81 321 *eP* **P 18 15 11.3 +0.6**
BRG pmax pmax
comp=Z,26nm,1.6s,mb5.2
BRG Berggiesshubel 85.81 321 *eP* **P 18 15 11.3 +0.6**
comp=Z,26nm,1.6s,mb5.2
GEC2 GERESS Array S 85.81 319 *eP* **P 18 15 11.0 +0.2**
GEC2 pmax pmax
comp=Z,31nm,1.3s,mb5.4
GEC2 GERESS Array S 85.81 319 *eP* **P 18 15 11.0 +0.2**
comp=Z,31nm,1.3s,mb5.4
GERES GERESS Array B 85.81 319 P **P 18 15 10.6 -0.2**
comp=Z,6.7nm,0.9s,mb4.9,baz=108,slow=4.2,SNR=41
PTCC Patocco-Chiusa 85.87 316 *eP* **P 18 15 11.0 -0.2**
KHC Kasperske Hory 85.91 319 *eP* **P 18 15 11.4 +0.1**
SBA Scott Base 86.00 169 *eP* **P 18 15 12.7 +1.5**
SBA *e**PP pP 18 15 19.3 +0.4
SBA pmax pmax
comp=Z,12nm,1.0s,mb5.1
SBA Scott Base 86.00 169 *eP* **P 18 15 12.7 +1.6**
comp=Z,12nm,1.0s,mb5.1
SBA *ep*P pP 18 15 19.3 +0.3
WET Wettzell 86.37 319 *eP* **P 18 15 13.7 +0.1**
WET pmax pmax
comp=Z,15nm,1.1s,mb5.1
WET Wettzell 86.37 319 *eP* **P 18 15 13.7 +0.1**
comp=Z,15nm,1.1s,mb5.1
CLL Collm 86.43 321 *iP* **P 18 15 13.8 0.0**
CLL pmax pmax
comp=Z,11nm,1.2s,mb5.0
CLL Collm 86.43 321 *iP* **P 18 15 13.8 0.0**
comp=Z,11nm,1.2s,mb5.0
CLL Collm 86.43 321 P **P 18 15 13.8 0.0**
comp=Z,logA/T=1.0,mb5.0
NKC Novy Kostel 86.72 320 *eP* **P 18 15 16.0 +0.8**
SFI Santa Sofia 86.80 314 *eP* **P 18 15 16.6 +0.8**
MOX Moxa 87.27 321 *eP* **P 18 15 18.4 +0.5**
MOX Moxa 87.27 321 *iP* **P 18 15 18.4 +0.5**
FUR Furstenfeldbru 87.38 318 *eP* **P 18 15 18.2 -0.3**
GRA1 Grafenberg Arr 87.48 320 *eP* **P 18 15 19.5 +0.6**
comp=Z,15nm,1.0s,mb5.2
GRF Grafenberg Arr 87.48 320 *eP* **P 18 15 19.5 +0.6**
GRF pmax pmax
comp=Z,15nm,1.0s,mb5.2
GRF Grafenberg Arr 87.48 320 *eP* **P 18 15 19.5 +0.6**
GRF pmax pmax
comp=Z,15nm,1.0s,mb5.2
GRF Grafenberg Arr 87.48 320 *eP* **P 18 15 19.5 +0.6**
comp=Z,15nm,1.0s,mb5.2
BRMO Bormio 87.94 316 *eP* **P 18 15 21.7 +0.5**
NB2 NORSAR Subarra 88.00 331 P **P 18 15 20.7 -0.5**
comp=Z,8.7nm,0.9s,mb5.0,baz=95,slow=4.8
NB2 NORSAR Subarra 88.00 331 P **P 18 15 20.7 -0.5**
NB2 pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
NOA NORSAR Array B 88.00 331 P **P 18 15 20.7 -0.5**
comp=Z,5.4nm,0.8s,mb4.8,baz=95,slow=4.8,SNR=18
NOA LR LR 18 57 15.3
comp=Z,47nm,20.8s,MS3.9,baz=160,slow=37
CLZ Clausthal 88.10 322 *eP* **P 18 15 22.4 +0.6**
CLZ pmax pmax
comp=Z,21nm,1.2s,mb5.2
CLZ Clausthal 88.10 322 *eP* **P 18 15 22.4 +0.6**
comp=Z,21nm,1.2s,mb5.2
DAVOX Davos 88.28 317 P **P 18 15 23.3 +0.4**
comp=Z,11nm,0.7s,mb5.2,baz=18,slow=3.2,SNR=8.0
PGF Pioggiola 88.84 312⇑ *iP* **P 18 15 25.7 +0.1**
comp=Z,32nm,1.0s,mb5.3
PGF Pioggiola 88.84 312⇑ *iP* **P 18 15 25.7 +0.1**
PGF pmax pmax
comp=Z,16nm,1.0s,mb5.3
MAIT Maitri 89.03 199 *eP* **P 18 15 28.0 +2.1**
TNS Taunus Mts 89.28 320 *eP* **P 18 15 28.3 +0.8**
BFO Black Forest 89.35 318 *eP* **P 18 15 26.4 -1.5**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BFO Black Forest 89.35 318 *eP* **P 18 15 26.4 -1.5**
comp=Z,8.0nm,0.9s,mb5.0
SBF Sospel 89.99 314⇑ *iP* **P 18 15 31.1 +0.1**
comp=Z,45nm,0.8s,mb5.5
SBF Sospel 89.99 314⇑ *iP* **P 18 15 31.1 +0.1**
SBF pmax pmax
comp=Z,23nm,0.8s,mb5.6
CDF Champ du Feu 90.06 318⇑ *iP* **P 18 15 31.1 -0.1**
comp=Z,8.7nm,0.8s,mb4.8
CDF Champ du Feu 90.06 318⇑ *iP* **P 18 15 31.1 -0.1**
CDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
HINF Hinteralfeld 90.35 318 *eP* **P 18 15 32.1 -0.5**
MBDF Montbardon 90.45 315 *eP* **P 18 15 32.7 -0.4**
comp=Z,18nm,0.9s,mb5.1
MBDF Montbardon 90.45 315 *eP* **P 18 15 32.7 -0.4**
MBDF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
LPG La Plagne 90.45 315⇑ *iP* **P 18 15 33.6 +0.5**
comp=Z,28nm,0.8s,mb5.3
LPG La Plagne 90.45 315⇑ *iP* **P 18 15 33.6 +0.5**
LPG pmax pmax
comp=Z,14nm,0.8s,mb5.3
LPL La Plagne 90.47 315⇑ *iP* **P 18 15 33.6 +0.4**
comp=Z,36nm,0.9s,mb5.4
LPL La Plagne 90.47 315⇑ *iP* **P 18 15 33.6 +0.4**
LPL pmax pmax
comp=Z,18nm,0.9s,mb5.4
BNI Bardonecchia 90.51 315 *eP* **P 18 15 32.9 -0.5**
BNI pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
BNI Bardonecchia 90.51 315 *eP* **P 18 15 32.9 -0.5**
comp=Z,7.5nm,0.9s,mb5.0
FRF La Foret Royal 90.56 313⇑ *iP* **P 18 15 33.9 +0.2**
comp=Z,55nm,1.0s,mb5.5
FRF La Foret Royal 90.56 313⇑ *iP* **P 18 15 33.9 +0.2**
FRF pmax pmax
comp=Z,27nm,1.0s,mb5.5
HAU Haudompre 90.68 318⇑ *iP* **P 18 15 34.0 -0.1**
comp=Z,29nm,0.8s,mb5.4
HAU *eR*
comp=Z,75nm,19.0s
HAU Haudompre 90.68 318⇑ *iP* **P 18 15 34.0 -0.1**
HAU pmax pmax
comp=Z,15nm,0.8s,mb5.4
HAU MLR MLR
comp=Z,80nm,19.0s,MS4.2
CABF La Chapelle 90.89 316⇑ *iP* **P 18 15 35.6 +0.5**
comp=Z,27nm,0.8s,mb5.3
CABF La Chapelle 90.89 316⇑ *iP* **P 18 15 35.6 +0.5**
CABF pmax pmax
comp=Z,14nm,0.8s,mb5.3
ORIF Oris-en-Rattie 91.08 315⇑ *iP* **P 18 15 36.6 +0.6**
comp=Z,13nm,0.8s,mb5.0
ORIF *eR*
comp=Z,77nm,20.8s
MEZF Maizieres J'vi 91.53 318 *eP* **P 18 15 38.3 +0.3**
comp=Z,29nm,0.9s,mb5.3
GIVF Givet 91.62 320 *eP* **P 18 15 38.7 +0.4**
VIVF Saint-Julien-l 91.94 315 *eP* **P 18 15 40.3 +0.3**
comp=Z,6.8nm,0.7s,mb4.8
VIVF Saint-Julien-l 91.94 315 *eP* **P 18 15 40.3 +0.3**

VIVF					pmax	pmax			
	comp=Z,3.0nm,0.7s,mb4.7								
BAIF	**Baives**	**92.01**	**320**	⇑*iP*	**P**	**18 15 40.8**	**+0.6**		
	comp=Z,46nm,1.1s,mb5.4								
BAIF	**Baives**	**92.01**	**320**	⇑*iP*	**P**	**18 15 40.8**	**+0.6**		
BAIF					pmax	pmax			
	comp=Z,23nm,1.1s,mb5.4								
SMF	**Signal de Mont**	**92.44**	**317**	⇑*iP*	**P**	**18 15 42.3**	**+0.1**		
	comp=Z,33nm,0.9s,mb5.4								
SMF	**Signal de Mont**	**92.44**	**317**	⇑*iP*	**P**	**18 15 42.3**	**+0.1**		
SMF					pmax	pmax			
	comp=Z,16nm,0.9s,mb5.3								
LASF	**Ste Croix**	**92.56**	**314**	*e*P	**P**	**18 15 44.3**	**+1.5**		
	comp=Z,19nm,1.0s,mb5.2								
SSF	**Saint Saulge**	**92.64**	**317**	⇑*iP*	**P**	**18 15 43.5**	**+0.4**		
SSF					pmax	pmax			
	comp=Z,10.0nm,1.2s,mb5.1								
SSF	**Saint Saulge**	**92.64**	**317**	⇑*iP*	**P**	**18 15 43.5**	**+0.4**		
	comp=Z,10nm,1.2s,mb5.1								
AVF	**Avril sur Loir**	**92.77**	**317**	⇑*iP*	**P**	**18 15 43.8**	**+0.1**		
	comp=Z,25nm,1.1s,mb5.3								
AVF	**Avril sur Loir**	**92.77**	**317**	⇑*iP*	**P**	**18 15 43.8**	**+0.1**		
AVF					pmax	pmax			
	comp=Z,12nm,1.1s,mb5.2								
BGF	**Bois d'Agland**	**93.13**	**316**	⇑*iP*	**P**	**18 15 45.9**	**+0.5**		
	comp=Z,25nm,0.9s,mb5.3								
BGF	**Bois d'Agland**	**93.13**	**316**	⇑*iP*	**P**	**18 15 45.9**	**+0.5**		
BGF					pmax	pmax			
	comp=Z,13nm,0.9s,mb5.4								
HYF	**Humbligny**	**93.22**	**317**	*e*P	**P**	**18 15 46.5**	**+0.7**		
TCF	**Toulx Ste Croi**	**93.59**	**316**	*e*P	**P**	**18 15 48.0**	**+0.5**		
CAF	**Calviac**	**93.79**	**315**	*e*P	**P**	**18 15 49.2**	**+0.7**		
MTLF	**Montolieu**	**93.80**	**313**	⇑*iP*	**P**	**18 15 48.9**	**+0.4**		
	comp=Z,10nm,0.8s,mb5.0								
RJF	**Les Rejaudoux**	**94.15**	**315**	*e*P	**P**	**18 15 50.7**	**+0.6**		
RJF				*e*R					
	comp=Z,69nm,22.9s								
LFF	**La Frestale**	**94.73**	**315**	*e*P	**P**	**18 15 53.3**	**+0.5**		
LDF	**La Druitiere**	**94.95**	**319**	*e*P	**P**	**18 15 53.8**	**+0.1**		
IMA	**Indian Mountai**	**97.12**	**23**	*e*P	**P**	**18 16 04.3**	**+1.2**		
	comp=Z,43nm,0.9s,mb5.9								
YKA	**Yellowknife Ar**	**112.74**	**16**	PKiKP		18 21 07.3			
YKA	comp=Z,0.1nm,0.4s,baz=326,slow=2.5,SNR=4.8			PP	PP	18 21 46.0	-13		
	comp=Z,0.2nm,0.5s,baz=328,slow=7.0,SNR=5.2								
YKA	**Yellowknife Ar**	**112.74**	**16**	PKPdf	PKPdf	18 21 07.3	-3.6		
YKA				PP	PP	18 21 46.0	-13		
QLMT	**Earthquake Lak**	**128.07**	**26**	*e*PKPdf	PKPdf	18 21 39.6	-1.5		
ULM	**Lac du Bonnet**	**128.24**	**11**	PKP	PKPdf	18 21 36.0	-5.2		
	comp=Z,1.1nm,0.4s,baz=21,slow=4.2,SNR=5.0								
PDAR	**Pinedale Array**	**130.54**	**26**	PKP	PKPdf	18 21 41.9	-4.0		
	comp=Z,1.3nm,0.8s,SNR=9.6								
TMUT	**Trail Mountain**	**132.44**	**31**	*e*PKPdf	PKPdf	18 21 47.9	-1.7		
SDCO	**Great Sand Dun**	**136.42**	**27**	PFAKE		18 22 10.0	+13		
SDCO				LR	LR				
	comp=Z,155nm,19.0s,MS4.8								
WMOK	**Wichita Mounta**	**141.80**	**22**	PFAKE		18 22 20.0	+13		
WMOK				LR	LR				
	comp=Z,309nm,20.0s,MS5.1								
BDFB	**Brasilia**	**142.97**	**244**	PKhKP		18 22 02.3			
	comp=Z,3.2nm,0.5s,baz=176,slow=3.2,SNR=5.9								
TXAR	**Lajitas Array**	**144.06**	**33**	PKP	PKPdf	18 22 06.2	-4.7		
	comp=Z,2.4nm,0.7s,baz=273,slow=1.4,SNR=26								
CPCT	**Cooper Cave**	**144.30**	**3**	*e*PKPdf	PKPdf	18 22 05.3	-5.8		
GOGA	**Godfrey**	**146.38**	**2**	*e*PKPdf	PKPdf	18 22 12.4	-2.4		
LRAL	**Lakeview Retre**	**146.47**	**7**	*e*PKPdf	PKPdf	18 22 12.1	-2.8		
LPAZ	**La Paz**	**158.94**	**221**	PKP	PKPdf	18 22 30.3	-2.9		
	comp=Z,0.5nm,0.2s,baz=22,slow=9.7,SNR=5.0								
SAML	**Samuel**	**159.20**	**245**	*e*PKPdf	PKPdf	18 22 31.1	-2.5		
JTS	**JuntasAbangare**	**169.07**	**14**	PFAKE		18 22 50.0	+7.7		
JTS				LR	LR				
	comp=Z,32nm,19.0s								

IDC 31 18:12:03.0±2.8, 0.76N×96.84E, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=86.4km s-min=23.8km az=61.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.12**	**121**	P	P	18 19 56.6	-2.3
	0.4nm,0.7s,baz=301,slow=9.1,SNR=4.6						
ASAR	**Alice Springs**	**43.43**	**126**	P	P	18 20 08.0	-1.5
	0.4nm,0.8s,baz=299,slow=7.1,SNR=3.7						
MKAR	**Makanchi Array**	**47.58**	**346**	P	P	18 20 40.8	-1.6
	0.5nm,0.5s,baz=154,slow=9.2,SNR=11						
SONM	**Songino Array**	**47.62**	**9**	P	P	18 20 39.6	-3.0
	0.7nm,0.5s,baz=194,slow=9.5,SNR=10						
MJAR	**Matsushiro Arr**	**52.26**	**42**	P	P	18 21 17.3	-1.1
	0.7nm,0.4s,baz=212,slow=9.4,SNR=3.2						

IDC 31 18:16:02.6±3.9, 2.68N×96.43E, mb3.5/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.5/4, Error ellipse: s-maj=153.5km s-min=24.8km az=60.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**43.47**	**123**	P	P	18 24 07.7	-1.9
	0.2nm,0.5s,baz=301,slow=9.1,SNR=5.5						
ASAR	**Alice Springs**	**44.90**	**128**	P	P	18 24 19.4	-1.7
	0.5nm,1.1s,baz=302,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**45.63**	**346**	P	P	18 24 24.6	-2.0
	0.5nm,0.5s,baz=158,slow=6.5,SNR=7.8						
SONM	**Songino Array**	**45.80**	**9**	P	P	18 24 26.3	-1.6
	0.5nm,0.5s,baz=192,slow=9.3,SNR=7.0						

*NEIC **31** 18:18:18.4±1.5, 50.41N×18.71E, h5km, MG2.6(WAR), Error ellipse: s-maj=22.0km s-min=9.4km az=188.0*
*PRU **31** 18:18:19.1, 50.26N×18.81E*
WAR 31 18:18:18.9, 50.26N×18.86E, h0km, ML2.6, Mining Induced, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAC	**Raciborz**	**0.47**	**248**	*e*PG	Pg	18 18 29.0	+0.8
RAC				*e*SG	Sg	18 18 36.0	+1.6
OJC	**Ojcow**	**0.60**	**94**	*e*PG	Pg	18 18 31.0	+0.1
OJC				*i* SG	Sg	18 18 39.2	+0.3
OJC	**Ojcow**	**0.60**	**94**	*e*Pg	Pg	18 18 30.7	-0.2
OJC				*e*Sg	Sg	18 18 39.2	+0.3
OKC	**Ostrava-Krasne**	**0.63**	**228**	*e*PG	Pg	18 18 31.1	-0.3
OKC				*e*SG	Sg	18 18 41.2	+1.4
	22nm,0.4s						
MORC	**Moravsky Berou**	**0.98**	**241**	*e*Pg	Pg	18 18 36.9	-1.6
MORC				*e*Sg	Sg	18 18 47.9	-3.6
NIE	**Niedzica**	**1.26**	**131**	*e*PG	Pg	18 18 42.0	-2.1
NIE				*e*SG	Sg	18 19 00.0	-0.9
DPC	**Dobruska-Polom**	**1.63**	**274**	*e*PG	Pg	18 18 48.0	-3.5
DPC				*e*SG	Sg	18 19 09.5	-3.7
	38nm,0.6s						
KSP	**Ksiaz**	**1.74**	**291**	*e*Pg	Pg	18 18 51.3	-2.4
KSP				*e*Sg	Sg	18 19 14.0	-2.9
KSP	**Ksiaz**	**1.74**	**291**	*e*PG	Pg	18 18 51.0	-2.6
KSP				*e*SG	Sg	18 19 14.0	-2.9
VYHS	**Vyhne**	**1.77**	**181**	*e*PN	Pn	18 18 50.7	-0.2
VYHS				*e*SN	Sn	18 19 14.8	+0.4
UPC	**Upice**	**1.84**	**279**	*e*PG	Pg	18 18 50.1	-5.6
CRVS	**Cervenica-Dubn**	**2.17**	**128**	*e*PN	Pn	18 19 00.1	+3.4
CRVS				*e*SN	Sn	18 19 27.7	+3.1
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*SN	Sn	18 19 39.7	+4.5
KOLS	**Kolonicke sedl**	**2.58**	**120**	*e*Sn	Sn	18 19 39.7	+4.5
PRU	**Pruhonice**	**2.79**	**266**	*e*SG	Sg	18 19 46.8	-5.2
	8.4nm,0.5s						
PRU	**Pruhonice**	**2.79**	**266**	*e*Sg	Sg	18 19 46.8	-5.2
BRG	**Berggiesshubel**	**3.20**	**283**	*e*Sg	Sg	18 19 59.2	-6.1
KHC	**Kasperske Hory**	**3.61**	**254**	*e*PN	Pn	18 19 16.3	-0.9
KHC				*e*PG	Pg	18 19 24.4	-6.6
KHC				*ex*	x	18 20 07.0	
KHC				*e*SG	Sg	18 20 12.7	-6.5
CLL	**Collm**	**3.87**	**288**	*i* SG	Sg	18 20 25.2	-2.4
MOA	**Molln**	**3.87**	**233**	*i* SG	Sg	18 20 24.3	-3.4
	3.1nm,0.4s						
MOA	**Molln**	**3.87**	**233**	*i* P	Pn	18 19 23.2	+2.3
MOA				*i* Sg	Sg	18 20 24.3	-3.4
NKC	**Novy Kostel**	**4.12**	**272**	*e*SG	Sg	18 20 27.9	-8.1
NKC	**Novy Kostel**	**4.12**	**272**	*e*Sg	Sg	18 20 27.9	-8.1

*MOS **31** 18:28:33.7±1.0, 1.09N×97.89E, h33km, mb4.8/10, Error ellipse: s-maj=18.7km s-min=10.0km az=114.9*

*IDC **31** 18:28:35.3±0.7, 0.97N×97.75E, mb4.3/14, mb1 4.5/14, mb1mx4.3/19, mbtmp4.3/14, Error ellipse: s-maj=33.8km s-min=13.9km az=51.0*
*BJI **31** 18:28:35.3, 0.51N×97.79E, h35km, mB5.0, mb4.8, Ms4.5, Msz4.3*
*NEIC **31** 18:28:38.9±0.4, 0.96N×97.82E, mb4.7/15, Error ellipse: s-maj=11.5km s-min=6.1km az=56.0*
ISC 31 18:28:37.2±0.4, 0.98N±0.06×97.88E±0.07, h22km, h22km±2.8km: pP-P, n70, σ0§95/71, mb4.5/39, MS3.8/1, 1C-1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.09**	**33**	*e*Pn	**Pn**	**18 29 56.5**	**+2.2**
CM31	**Chiang Mai Arr**	**17.40**	**3**	*e*P	**P**	**18 32 39.2**	**-1.2**
	11nm,0.8s						
KMI	**Kunming**	**24.45**	**11**	P	**P**	**18 33 57.5**	**+1.5**
KMI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
JIRN	**Jiri**	**28.79**	**338**	*e*P	**P**	**18 34 36.6**	**+0.6**
	comp=Z,35nm,0.8s,mb5.1						
GUN	**Gumba**	**29.14**	**338**	*e*P	**P**	**18 34 39.6**	**+0.5**
	comp=Z,30nm,0.6s,mb5.2						
DMN	**Daman**	**29.17**	**336**	*e*P	**P**	**18 34 39.9**	**+0.5**
KKN	**Kakani**	**29.26**	**337**	*e*P	**P**	**18 34 40.6**	**+0.4**
LSA	**Lhasa**	**29.27**	**348**	P	**P**	**18 34 41.3**	**+1.0**
LSA	**Lhasa**	**29.27**	**348**	*e*P	**P**	**18 34 41.1**	**+0.8**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.27**	**348**	*e*P	**P**	**18 34 41.1**	**+0.9**
	comp=Z,13nm,0.8s,mb4.7						
GKN	**Gorkha**	**29.71**	**336**	*e*P	**P**	**18 34 44.3**	**+0.1**
	comp=Z,38nm,1.0s,mb5.1						
KOLN	**Koldanda**	**29.94**	**334**	*e*P	**P**	**18 34 46.6**	**+0.3**
ENH	**Enshi**	**31.15**	**20**	*e*P	**P**	**18 34 55.5**	**-1.5**
	comp=Z,3.8nm,0.6s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.25**	**126**	*e*P	**P**	**18 35 14.6**	**-0.8**
	comp=Z,6.0nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.25**	**126**	P	**P**	**18 35 14.7**	**-0.8**
	comp=Z,7.4nm,0.6s,mb4.8,baz=341,slow=10,SNR=15						
XAN	**Xi'an**	**34.47**	**16**	P	**P**	**18 35 25.0**	**-0.8**
XAN				AMB	AMB		
	comp=Z,22nm,0.9s,mb5.1						
GTA	**Gaotai**	**38.28**	**2**	*e*P	**P**	**18 35 58.0**	**0.0**
GTA				AP	pP	18 36 07.0	+2.6
GTA				XP	sP	18 36 10.0	+2.9
GTA				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**41.35**	**122**	P	**P**	**18 36 23.7**	**+0.2**
	comp=Z,2.5nm,0.4s,mb4.2,baz=309,slow=8.9,SNR=48						
WRA				PcP	PcP	18 38 22.7	+0.3
	comp=Z,0.5nm,0.6s,baz=317,slow=2.6,SNR=4.5						
WRA				pPcP		18 38 27.6	
	comp=Z,0.6nm,0.6s,baz=314,slow=2.5,SNR=5.1						
WRAB	**Tennant Creek**	**41.35**	**122**	*e*P	**P**	**18 36 23.7**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**41.35**	**122**	*e*P	**P**	**18 36 23.7**	**+0.1**
	comp=Z,8.8nm,0.7s,mb4.5						
WB2	**Warramunga Arr**	**41.36**	**122**	‖*iP*	**P**	**18 36 23.7**	**+0.1**
HHC	**Hu-ho-hao-te**	**41.58**	**16**	*e*P	**P**	**18 36 25.3**	**+0.1**
HHC				AP	pP	18 36 31.5	-0.2
HHC				PP	PP	18 38 05.8	+1.3
HHC				PCS		18 42 12.5	
HHC				S	**S**	**18 42 40.5**	**+0.7**
HHC				SCS	ScS	18 46 25.0	-0.4
HHC				AMB	AMB		
	comp=Z,21nm,0.4s,mb5.1						
HHC				AMB	AMB		
	comp=Z,133nm,12.5s						
BJI	**Beijing**	**42.29**	**21**	*e*P	**P**	**18 36 32.5**	**+1.4**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.5						
ASPA	**Alice Springs**	**42.72**	**127**	*e*P	**P**	**18 36 35.2**	**+0.3**
ASAR	**Alice Springs**	**42.73**	**127**	P	**P**	**18 36 35.1**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.1,baz=298,slow=7.8,SNR=42						
ASAR				PcP	PcP	18 38 27.4	+0.5
	comp=Z,0.3nm,0.6s,baz=282,slow=2.6,SNR=3.6						
ASAR				pPcP		18 38 32.7	
	comp=Z,1.0nm,0.8s,baz=287,slow=3.6,SNR=4.9						
WMQ	**Urumqi**	**43.61**	**349**	⇑*iP*	**P**	**18 36 43.3**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,15nm,0.7s,mb4.8						
WMQ				AMB	AMB		
	comp=Z,93nm,5.0s						
WMQ				LR	LR		
	comp=Z,123nm,19.8s,MS3.8						
UCH	**Uchtor**	**46.12**	**336**	P	**P**	**18 37 02.7**	**+0.8**
	SNR=6.6						
TKM2	**Tokmak 2**	**46.27**	**337**	P	**P**	**18 37 04.1**	**+1.0**
	SNR=7.1						
KBK	**Karagaybulak**	**46.30**	**337**	P	**P**	**18 37 04.5**	**+1.1**
	SNR=8.3						
AML	**Almayashu**	**46.38**	**335**	P	**P**	**18 37 05.0**	**+1.1**
	SNR=5.6						
AAK	**Ala-Archa**	**46.47**	**336**	*e*P	**P**	**18 37 04.5**	**-0.1**
AAK				*e*		18 38 39.1	
AAK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
AAK	**Ala-Archa**	**46.47**	**336**	*e*P	**P**	**18 37 04.5**	**-0.2**
	comp=Z,1.3nm,0.7s,mb4.0						
AAK				*e*PcP	PcP	18 38 39.1	-0.5
EKS2	**Erkin-Say**	**46.78**	**336**	P	**P**	**18 37 08.2**	**+1.1**
	SNR=6.7						
USP	**Ospenovka**	**47.00**	**337**	P	**P**	**18 37 09.3**	**+0.5**
	SNR=6.6						
SONM	**Songino Array**	**47.25**	**8**	P	**P**	**18 37 11.0**	**+0.3**
	comp=Z,2.3nm,0.5s,mb4.3,baz=188,slow=9.4,SNR=29						
ULN	**Ulaanbaatar**	**47.37**	**8**	*e*P	**P**	**18 37 11.9**	**+0.2**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**47.37**	**8**	*e*P	**P**	**18 37 11.9**	**+0.2**
	comp=Z,2.6nm,0.8s,mb4.2						
MKAR	**Makanchi Array**	**47.62**	**346**	*e*P	**P**	**18 37 13.1**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**47.62**	**346**	P	**P**	**18 37 13.7**	**0.0**
	comp=Z,8.2nm,0.6s,mb4.9,baz=158,slow=7.8,SNR=112						
KKAR	**Karatay Array**	**48.55**	**333**	P	**P**	**18 37 20.7**	**-0.3**
KKAR				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
CN2	**Changchun**	**49.19**	**26**	*e*P	**P**	**18 37 25.0**	**-0.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
ZAK	**Zakamensk**	**49.43**	**5**	*e*P	**P**	**18 37 27.3**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.8						
PMG	**Port Moresby**	**50.15**	**103**	*e*P	**P**	**18 37 34.5**	**+0.9**
PMG				pmax	pmax		
	comp=Z,22nm,1.0s						
PMG	**Port Moresby**	**50.15**	**103**	*e*P	**P**	**18 37 34.5**	**+0.8**
	comp=Z,22nm,1.0s,mb5.2						
PMG				*e*pP	pP	18 37 43.4	+3.2
MDJ	**Mudanjiang**	**51.73**	**29**	P	**P**	**18 37 44.8**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.6s,mb4.3						
MDJ	**Mudanjiang**	**51.73**	**29**	P	**P**	**18 37 45.8**	**+0.6**
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**18 37 47.7**	**-0.8**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
KURK	**Kurchatov**	**52.18**	**345**	*e*P	**P**	**18 37 47.7**	**-0.8**
	comp=Z,3.7nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**52.71**	**132**	P	**P**	**18 37 53.0**	**+0.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=285,slow=18,SNR=7.0						
STKA	**Stephens Creek**	**52.71**	**132**	P	**P**	**18 37 53.3**	**+0.5**
ZAL	**Zalesovo**	**53.87**	**350**	P	**P**	**18 38 00.2**	**-0.8**
	comp=Z,5.3nm,0.4s,mb4.8,baz=314,slow=6.2,SNR=22						
NVS	**Novosibirsk**	**55.01**	**350**	*e*P	**P**	**18 38 07.6**	**-1.8**
KLR	**Kul'dur**	**56.15**	**26**	*e*P	**P**	**18 38 15.8**	**-1.8**
CHKZ	**Chkalovo**	**57.15**	**341**	*e*P	**P**	**18 38 23.5**	**-1.2**
CHKZ				*e**PP	pP	18 38 28.1	-3.3
CHKZ				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
CHKZ	**Chkalovo**	**57.15**	**341**	*e*P	**P**	**18 38 23.5**	**-1.2**
	comp=Z,7.4nm,0.7s,mb4.8						
CHKZ				*e*pP	pP	18 38 28.1	-3.3
BOD	**Bodaibo**	**58.10**	**10**	*e*P	**P**	**18 38 29.7**	**-1.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KMBO	**Kilima Mbogo**	**60.66**	**268**	P	**P**	**18 38 50.5**	**+0.9**
KMBO				*e*pP	pP	18 38 56.7	+0.3
ARU	**Arti**	**63.65**	**337**	*e*P	**P**	**18 39 07.7**	**-1.3**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ARU	**Arti**	**63.65**	**337**	*e*P	**P**	**18 39 07.7**	**-1.3**
	comp=Z,4.0nm,1.1s,mb4.4						
ARU				*e*pP	pP	18 39 12.8	-2.9
BRTR	**Keskin Array B**	**69.76**	**312**	P	**P**	**18 39 46.1**	**-1.9**
	comp=Z,1.7nm,0.8s,mb4.1,baz=124,slow=8.9,SNR=5.3						
MA2	**Magadan**	**71.23**	**25**	P	**P**	**18 39 57.0**	**+0.4**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
MA2	**Magadan**	**71.23**	**25**	P	**P**	**18 39 57.0**	**+0.3**
	comp=Z,7.9nm,1.0s,mb4.6						
TIXI	**Tiksi**	**73.28**	**10**	*e*P	**P**	**18 40 06.0**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BOSA	**Boshof**	**75.26**	**240**	P	**P**	**18 40 21.2**	**+0.4**
	comp=Z,1.8nm,0.9s,mb4.0,baz=64,slow=13,SNR=4.7						
AKASG	**Malin Array Be**	**75.84**	**322**	P	**P**	**18 40 22.0**	**-1.7**
	comp=Z,1.6nm,0.6s,mb4.1,baz=88,slow=5.3,SNR=11						
FINES	**FINESS Array B**	**80.50**	**332**	P	**P**	**18 40 48.6**	**-0.4**
	comp=Z,0.8nm,0.5s,mb4.0,baz=104,slow=7.9,SNR=8.4						
ARCES	**ARCESS Array B**	**82.97**	**340**	P	**P**	**18 41 02.0**	**+0.3**
	comp=Z,3.4nm,0.9s,mb4.4,baz=76,slow=5.0,SNR=5.8						
GERES	**GERESS Array B**	**85.42**	**319**	P	**P**	**18 41 14.9**	**+0.4**
	comp=Z,1.1nm,0.8s,mb4.0,baz=108,slow=4.2,SNR=7.8						
NB2	**NORSAR Subarra**	**87.52**	**331**	P	**P**	**18 41 24.6**	**+0.1**
	comp=Z,1.2nm,0.7s,mb4.2,baz=95,slow=4.8						
NOA	**NORSAR Array B**	**87.52**	**331**	P	**P**	**18 41 24.5**	**0.0**
	comp=Z,1.4nm,0.8s,mb4.2,baz=94,slow=4.7,SNR=5.4						

*IDC **31** 18:31:27.3±2.0, 0.15N×98.57E, mb4.1/7, mb1 4.2/7, mb1mx3.9/18, mbtmp4.1/7, MS3.7/2, Ms1 3.7/2, ms1mx3.2/19, Error ellipse: s-maj=96.5km s-min=18.8km az=57.0*
*NEIC **31** 18:31:33.5±0.8, 0.48N×99.13E, h30km, mb4.5/7, Error ellipse: s-maj=21.3km s-min=9.0km az=58.0*
ISC 31 18:31:31.7±0.9, 0.52N±0.10×99.2E±0.1, h30km, n20, σ1§05/19, mb4.3/14, MS3.7/2, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.96**	**17**	*e*Pn	**Pn**	**18 32 45.5**	**-0.7**
KSM	**Kuching**	**11.16**	**85**	P	**P**	**18 34 11.5**	**-1.1**
CM31	**Chiang Mai Arr**	**17.83**	**359**	*e*P	**P**	**18 35 39.4**	**-0.1**
KKM	**Kota Kinabalu**	**17.86**	**72**	*e*P	**P**	**18 35 48.4**	**+8.4**
LSA	**Lhasa**	**30.01**	**346**	*e*P	**P**	**18 37 40.5**	**+0.2**
	4.5nm,0.9s,mb4.2						
ENH	**Enshi**	**31.17**	**17**	*e*P	**P**	**18 37 51.2**	**+0.7**
	3.3nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**40.00**	**123**	P	**P**	**18 39 06.2**	**+0.4**
	0.7nm,0.6s,mb3.6,baz=305,slow=8.8,SNR=6.2						
WRAB	**Tennant Creek**	**40.00**	**123**	P	**P**	**18 39 06.5**	**+0.6**
	22nm,1.4s,mb4.7						
ASAR	**Alice Springs**	**41.41**	**128**	P	**P**	**18 39 17.6**	**+0.2**
	0.9nm,0.6s,mb3.5,baz=299,slow=7.6,SNR=5.9						
SONM	**Songino Array**	**47.54**	**7**	P	**P**	**18 40 08.5**	**+2.0**
	3.0nm,0.7s,mb4.5,baz=189,slow=8.8,SNR=18						
SONM				PcP	PcP	18 41 36.1	-0.4
	0.5nm,0.4s,baz=190,slow=3.9,SNR=5.4						
ULN	**Ulaanbaatar**	**47.65**	**7**	*e*P	**P**	**18 40 09.4**	**+2.1**
	4.2nm,0.8s,mb4.5						
MKAR	**Makanchi Array**	**48.40**	**345**	P	**P**	**18 40 11.6**	**-1.5**
	1.6nm,0.5s,mb4.3,baz=160,slow=8.8,SNR=9.9						
PMG	**Port Moresby**	**48.77**	**103**	P	**P**	**18 40 16.9**	**+0.4**
CTAO	**Charters Tower**	**50.43**	**117**	P	**P**	**18 40 27.4**	**-1.7**
	52nm,1.6s,mb5.3						
STKA	**Stephens Creek**	**51.44**	**133**	P	**P**	**18 40 36.8**	**+0.2**
	2.4nm,1.0s,mb4.1,baz=358,slow=18,SNR=4.6						
STKA				LR	LR	19 02 39.5	
	comp=Z,92nm,18.0s,MS3.9,baz=250,slow=36						
KURK	**Kurchatov**	**52.97**	**344**	*e*P	**P**	**18 40 46.2**	**-1.6**
	3.1nm,0.9s,mb4.2						
ZAL	**Zalesovo**	**54.55**	**350**	P	**P**	**18 40 58.9**	**-0.5**
	2.5nm,0.5s,mb4.5,baz=317,slow=4.3,SNR=7.9						
ATD	**Arta Tunnel**	**56.97**	**283**	LR	LR	19 03 00.7	
	comp=Z,43nm,18.1s,MS3.6,baz=160,slow=34						
MA2	**Magadan**	**71.10**	**25**	*e*P	**P**	**18 42 50.2**	**+1.1**
	4.5

IRIF				S	S	19 03 06.3	-1.4
HATJ	**Hateruma jima**	**1.87**	**107**	P	P	19 02 48.1	-0.2
HATJ				S	S	19 03 10.7	-0.1
JKRS	**Kuro-shima**	**2.00**	**101**	P	P	19 02 49.6	-0.5
JKRS				S	S	19 03 13.5	-0.5
JIJ	**Ishigaki jima**	**2.10**	**96**	P	P	19 02 50.6	-0.9
JIJ				S	S	19 03 14.7	-1.9
JTJ	**Tarama**	**2.60**	**89**	P	P	19 02 58.1	-0.3
JTJ				S	S	19 03 28.4	-0.5

IDC 31 19:02:51.0±2.4, 1.74N×97.83E, h20km±6km, mb3.6/6, mb1 3.8/6, mb1mx3.5/19, mbtmp3.7/6, MS3.0/1, Ms1 3.2/1, ms1mx2.6/21, Error ellipse: s-maj=107.3km s-min=17.0km az=56.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.65**	**4**	LR	LR	19 13 42.5	
	comp=Z,50nm,18.4s,baz=351,slow=39						
WRA	**Warramunga Arr**	**41.79**	**123**	P	P	19 10 39.3	-2.0
	0.7nm,0.9s,baz=300,slow=9.3,SNR=6.7						
WRA				pP	pP	19 10 46.0	-1.2
	0.4nm,0.5s,baz=306,slow=9.0,SNR=2.7						
ASAR	**Alice Springs**	**43.22**	**128**	P	P	19 10 50.8	-2.2
	0.7nm,0.9s,baz=301,slow=7.6,SNR=4.8						
ASAR				pP	pP	19 10 57.4	-1.5
	0.1nm,0.4s,baz=300,slow=7.7,SNR=1.5						
SONM	**Songino Array**	**46.51**	**8**	P	P	19 11 18.4	-0.6
	1.2nm,0.8s,baz=192,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**46.88**	**345**	P	P	19 11 19.1	-2.8
	0.6nm,0.4s,baz=158,slow=8.9,SNR=22						
MKAR				pP	pP	19 11 25.6	-2.2
	0.5nm,0.5s,baz=154,slow=9.0,SNR=5.0						
ZAL	**Zalesovo**	**53.12**	**350**	P	P	19 12 06.2	-3.4
	1.4nm,0.5s,baz=313,slow=5.0,SNR=7.8						
BVAR	**Borovoye Array**	**55.95**	**340**	P	P	19 12 28.9	-1.3
	0.5nm,0.6s,baz=153,slow=13,SNR=4.4						

*NEIC **31** 19:05:18.6, 34.93S×70.35W, h1km, ML2.8(GUC), After GUC.*

GUC 31 19:05:18.6±0.7, 34.93S×70.35W, h1km±3km, MD3.9, ML2.8, 7C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CICH	**Cipreses**	**0.61**	**355**	⇓*i*P	P	19 05 31.3	+0.4
CICH				*i* S	Sg	19 05 40.6	+1.5
SFDO	**San Fernando**	**0.63**	**300**	⇑*i*P	P	19 05 31.7	+0.4
SFDO				*i* S	Sg	19 05 41.5	+1.8
NICH	**Los Niches**	**0.73**	**264**	⇓*i*P	P	19 05 33.0	-0.1
CACH	**El Canelo**	**0.84**	**346**	⇑*i*P	P	19 05 35.1	-0.2
CACH				*i* S	Sg	19 05 48.4	+1.8
CHCH	**Chadas Angostu**	**1.03**	**346**	⇓*i*P	Pb	19 05 38.7	-0.2
CHCH				*i* S	Sb	19 05 53.5	+0.7
LMEL	**Las Melosas**	**1.09**	**6**	⇑*i*P	Pb	19 05 39.5	-0.4
LMEL				*i* S	Sb	19 05 55.6	+1.0
LMEL				AMP		19 05 58.4	
	comp=N,322nm,0.2s						
LNV	**Longovilo**	**1.31**	**318**	⇑*i*P	Pb	19 05 43.6	-0.2
LNV				*i* S	Sb	19 06 01.3	+0.3
SCR	**San Cristobal**	**1.53**	**339**	⇑*i*P	Pn	19 05 47.3	+0.1
SCR				*i* S	Sb	19 06 08.2	+0.9
SCR				AMP		19 06 19.2	
	comp=E,156nm,0.9s						
CLCH	**Cerro Calan**	**1.54**	**354**	⇑*i*P	Pn	19 05 47.7	+0.4
CLCH				*i* S	Sb	19 06 09.2	+1.5
CLCH				AMP		19 06 10.8	
	comp=E,674nm,0.4s						
FCH	**Farellones**	**1.60**	**2**	⇑*i*P	Pn	19 05 48.8	+0.5
FCH				*i* S	Sb	19 06 11.3	+1.9
FCH				AMP		19 06 13.0	
	comp=N,191nm,0.3s						

IDC 31 19:09:10.1±2.7, 2.40N×97.49E, h23km±5km, mb3.5/5, mb1 3.7/5, mb1mx3.4/18, mbtmp3.7/5, Error ellipse: s-maj=122.4km s-min=16.0km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.43**	**123**	P	P	19 17 03.3	-1.9
	0.4nm,0.6s,baz=301,slow=9.4,SNR=4.1						
WRA				pP	pP	19 17 10.7	-1.5
	0.3nm,0.3s,baz=306,slow=9.0,SNR=2.2						
ASAR	**Alice Springs**	**43.89**	**128**	P	P	19 17 14.9	-2.0
	0.6nm,1.1s,baz=306,slow=7.8,SNR=3.1						
ASAR				pP	pP	19 17 22.1	-1.9
	0.2nm,0.6s,baz=301,slow=7.4,SNR=2.3						
SONM	**Songino Array**	**45.91**	**8**	P	P	19 17 31.7	-1.1
	0.3nm,0.3s,baz=191,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**46.16**	**346**	P	P	19 17 32.3	-2.5
	2.5nm,1.1s,baz=162,slow=7.6,SNR=12						
MKAR				pP	pP	19 17 40.1	-1.7
	1.0nm,0.8s,baz=160,slow=8.5,SNR=7.3						
ZAL	**Zalesovo**	**52.42**	**351**	P	P	19 18 20.3	-2.7
	1.0nm,0.5s,baz=330,slow=8.1						
ZAL				pP	pP	19 18 27.7	-2.4
	0.9nm,0.4s,baz=321,slow=7.3,SNR=3.6						

*MOS **31** 19:14:35.9±1.0, 1.37N×97.01E, h33km, mb5.0/18, Error ellipse: s-maj=13.8km s-min=6.9km az=107.1*
*BJI **31** 19:14:35.2, 1.09N×97.18E, h41km, mB5.0, mb5.0, Ms4.7, Msz4.5*
*IDC **31** 19:14:36.9±0.6, 1.39N×97.02E, h24km±3km, mb4.3/16, mb1 4.5/17, mb1mx4.4/19, mbtmp4.5/17, ML4.7/1, MS3.8/7, Ms1 3.9/7, ms1mx3.5/27, Error ellipse: s-maj=24.2km s-min=11.2km az=53.0*
*NEIC **31** 19:14:37.1±0.3, 1.36N×97.09E, mb4.9/28, Error ellipse: s-maj=8.6km s-min=4.8km az=52.0*
*HRVD **31** 19:14:37.1±1.1, 1.39N×96.83E, h31km±1km, MW4.8/21, Centroid moment Tensor Solution. LP body waves: s18,c19;Mantle waves: s21,c26; Half duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.75±.22; $M_{\theta\theta}$-0.46±.13; $M_{\phi\phi}$-1.29±.17; $M_{r\theta}$0.54±.18; $M_{\theta\phi}$0.33±.07; $M_{\phi r}$-0.28±.22; Best double couple: $M_0$1.68×10^{16} NP1:ϕ_s349°,δ38°,λ106°. NP2:ϕ_s149°,δ54°,λ78°. Principal axes: T 1.888, Plg77°, Azm16°; N -.418, Plg10°, Azm156°; P -1.472, Plg8°, Azm247°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 19:14:35.3±0.4, 1.36N±0.05×97.10E±0.05, h26km, h26km±.9km: pP-P, n120, σ1s05/125, mb4.8/60, MS4.2/21, 6C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IPM	**Ipoh**	**5.06**	**51**	P	**Pn**	**19 15 52.2**	**+0.6**
KULM	**Kulim**	**5.27**	**42**	*e*Pn	**Pn**	**19 15 54.8**	**+0.2**
KGM	**Kluang**	**6.25**	**84**	P	**Pn**	**19 16 09.6**	**+1.2**
KSM	**Kuching**	**13.21**	**89**	*e*P	**P**	**19 17 55.3**	**+11**
CM31	**Chiang Mai Arr**	**17.09**	**6**	*e*P	**P**	**19 18 33.2**	**-1.0**
	29nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.09**	**6**	P	**P**	**19 18 33.7**	**-0.5**
	1.1nm,0.3s,baz=197,slow=10,SNR=20						
CMAR				LR	LR	19 26 15.7	
	comp=Z,469nm,18.1s,baz=185,slow=41						
KKM	**Kota Kinabalu**	**19.63**	**76**	*e*P	**P**	**19 19 04.7**	**-0.5**
KKM	**Kota Kinabalu**	**19.63**	**76**	P	**P**	**19 19 05.6**	**+0.5**
TSM	**Tawau**	**20.95**	**82**	P	**P**	**19 19 18.8**	**-0.2**
QIZ	**Qiongzhong**	**21.55**	**35**	*e*P	**P**	**19 19 26.0**	**+1.1**
QIZ				S	**S**	**19 23 21.5**	**+4.1**
QIZ				LR	LR		
	comp=N,502nm,15.4s,MS4.2						
QIZ				LR	LR		
	comp=E,510nm,14.6s,MS4.2						
QIZ				LR	LR		
	comp=Z,294nm,14.9s,MS3.8						
HYB	**Hyderabad**	**24.23**	**312**	*e*P	**P**	**19 19 48.0**	**-3.3**
HYB	**Hyderabad**	**24.23**	**312**	*i* P	**P**	**19 19 48.0**	**-3.3**
KMI	**Kunming**	**24.24**	**13**	P	**P**	**19 19 53.5**	**+2.0**
KMI				S	**S**	**19 24 02.3**	**-3.1**
KMI				AMB	AMB		
	comp=Z,50nm,1.1s,mb4.9						
KMI				LR	LR		
	comp=N,940nm,14.1s,MS4.5						
KMI				LR	LR		
	comp=E,620nm,13.4s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,14.1s,MS4.5						
GYA	**Guiyang**	**26.59**	**19**	⇑*i*P	**P**	**19 20 13.3**	**-0.3**
GYA				AP	pP	19 20 22.0	+0.7
GYA				XP	sP	19 20 26.5	+1.7
GYA				AMB	AMB		
	comp=Z,30nm,1.1s,mb4.7						
GYA				AMB	AMB		
	comp=Z,130nm,6.3s						
GYA				LR	LR		
	comp=N,950nm,13.8s,MS4.5						
GYA				LR	LR		
	comp=E,350nm,14.1s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,13.5s,MS4.6						
JIRN	**Jiri**	**28.16**	**339**	*e*P	**P**	**19 20 28.9**	**+1.1**
	comp=Z,84nm,0.9s,mb5.4						
PKI	**Pulchoki**	**28.36**	**338**	*e*P	**P**	**19 20 31.0**	**+1.4**
GUN	**Gumba**	**28.50**	**339**	*e*P	**P**	**19 20 31.9**	**+1.1**
	comp=Z,55nm,0.7s,mb5.3						
DMN	**Daman**	**28.52**	**337**	*e*P	**P**	**19 20 31.6**	**+0.6**
	comp=Z,36nm,1.1s,mb5.0						
KKN	**Kakani**	**28.61**	**338**	*e*P	**P**	**19 20 32.4**	**+0.6**
	comp=Z,46nm,0.9s,mb5.2						
KKN	**Kakani**	**28.61**	**338**	*e*P	**P**	**19 20 32.4**	**+0.6**
KKN				pmax	pmax		
	comp=Z,23nm,0.9s,mb4.9						
LSA	**Lhasa**	**28.74**	**349**	P	**P**	**19 20 34.3**	**+1.3**
LSA	**Lhasa**	**28.74**	**349**	*e*P	**P**	**19 20 33.7**	**+0.7**
LSA				*e**PP	pP	19 20 40.5	-0.3
LSA				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.6						
LSA	**Lhasa**	**28.74**	**349**	*e*P	**P**	**19 20 33.7**	**+0.7**
	comp=Z,9.4nm,0.7s,mb4.6						
LSA				*e*pP	pP	19 20 40.5	-0.3
GKN	**Gorkha**	**29.05**	**337**	*e*P	**P**	**19 20 36.4**	**+0.6**
	comp=Z,36nm,0.6s,mb5.2						
KOLN	**Koldanda**	**29.27**	**335**	*e*P	**P**	**19 20 38.6**	**+0.8**
	comp=Z,61nm,0.8s,mb5.4						
CD2	**Chengdu**	**30.06**	**11**	⇓*i*P	**P**	**19 20 44.0**	**-0.8**
ENH	**Enshi**	**31.07**	**21**	*e*P	**P**	**19 20 52.2**	**-1.5**
	comp=Z,49nm,0.8s,mb5.4						
ENH				*e*pP	pP	19 20 58.8	-2.6
FITZ	**Fitzroy Crossi**	**34.11**	**126**	⇑*i*P	**P**	**19 21 19.3**	**-1.0**
	comp=Z,4.9nm,0.6s,mb4.6						
LZH	**Lanzhou**	**35.11**	**10**	⇓P	**P**	**19 21 27.5**	**-1.3**
LZH				AP	pP	19 21 35.5	-1.1
LZH				XP	sP	19 21 40.0	0.0
LZH				AMB	AMB		
	comp=Z,47nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,132nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,17.6s						
LZH				LR	LR		
	comp=Z,1μm,18.7s,MS4.8						
NJ2	**Nanjing**	**36.78**	**32**	*e*P	**P**	**19 21 41.8**	**-1.1**
NJ2				AP	pP	19 21 51.5	+0.7
NJ2				XP	sP	19 21 55.5	+1.4
NJ2				PP	PP	19 23 09.0	+0.5
NJ2				S	**S**	**19 27 25.0**	**+0.3**
NJ2				XS		19 27 40.0	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				LR	LR		
	comp=N,2μm,23.5s						
NJ2				LR	LR		
	comp=E,630nm,15.6s						
NJ2				LR	LR		
	comp=Z,730nm,21.2s,MS4.4						
SSE	**Sheshan**	**37.34**	**35**	P	**P**	**19 21 46.8**	**-0.8**
SSE				XP	sP	19 21 59.5	+0.7
SSE				PP	PP	19 23 13.5	-2.0
SSE				S	**S**	**19 27 36.8**	**+3.5**
SSE				XS		19 27 51.5	
SSE				AMB	AMB		
	comp=Z,31nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,84nm,6.0s						
SSE				LR	LR		
	comp=N,234nm,17.9s,MS4.1						
SSE				LR	LR		
	comp=E,190nm,17.6s,MS4.1						
SSE				LR	LR		
	comp=Z,408nm,14.6s,MS4.4						
GTA	**Gaotai**	**37.95**	**3**	*e*P	**P**	**19 21 52.5**	**-0.1**
GTA				AP	pP	19 22 01.8	+1.3
GTA				XP	sP	19 22 05.0	+1.2
GTA				PP	PP	19 23 19.5	-3.2
GTA				S	**S**	**19 27 37.0**	**-5.5**
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,110nm,5.0s						
GTA				LR	LR		
	comp=N,312nm,13.4s,MS4.3						
GTA				LR	LR		
	comp=E,187nm,16.0s,MS4.3						
GTA				LR	LR		
	comp=Z,325nm,12.6s,MS4.3						
JOW	**Kunigami**	**39.21**	**47**	P	**P**	**19 22 03.5**	**+0.2**
	comp=Z,39nm,0.7s,mb5.3,baz=228,slow=5.8,SNR=16						
JOW				LR	LR	19 36 58.0	
	comp=Z,94nm,21.8s,MS3.6,baz=148,slow=34						
HHC	**Hu-ho-hao-te**	**41.43**	**17**	*e*P	**P**	**19 22 23.8**	**+2.3**
HHC				AP	pP	19 22 31.0	+1.6
HHC				XP	sP	19 22 34.0	+1.3
HHC				PP	PP	19 24 06.0	+5.8
HHC				SCP		19 28 07.0	
HHC				S	**S**	**19 28 38.0**	**+3.3**
HHC				SS	SS	19 31 35.5	+1.1
HHC				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
HHC				AMB	AMB		
	comp=Z,82nm,3.0s						
HHC				LR	LR		
	comp=N,505nm,14.3s,MS4.6						
HHC				LR	LR		
	comp=E,332nm,14.9s,MS4.6						
HHC				LR	LR		
	comp=Z,425nm,14.3s,MS4.5						
BJT	**Baijiatuau**	**42.21**	**22**	*e*P	**P**	**19 22 28.8**	**+0.9**
BJT				*e**PP	pP	19 22 39.0	+3.2
BJT				pmax	pmax		
	comp=Z,33nm,0.6s						
BJT	**Baijiatuau**	**42.21**	**22**	*e*P	**P**	**19 22 28.8**	**+0.9**
	comp=Z,32nm,0.6s,mb5.1						
BJT				*e*pP	pP	19 22 39.0	+3.2
WRA	**Warramunga Arr**	**42.21**	**122**	P	**P**	**19 22 28.2**	**0.0**
	comp=Z,4.0nm,0.6s,mb4.2,baz=302,slow=9.0,SNR=56						
WRAB	**Tennant Creek**	**42.21**	**122**	*e*P	**P**	**19 22 28.1**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,12nm,0.7s,mb4.6						
WRAB	**Tennant Creek**	**42.21**	**122**	*e*P	**P**	**19 22 28.1**	**-0.1**
	comp=Z,12nm,0.7s,mb4.6						
WB2	**Warramunga Arr**	**42.22**	**122**	⇓*i*P	**P**	**19 22 28.5**	**+0.3**
BJI	**Beijing**	**42.23**	**22**	*e*P	**P**	**19 22 28.8**	**+0.8**
BJI				AP	pP	19 22 39.5	+3.5
BJI				XP	sP	19 22 47.5	+8.2
BJI				AMB	AMB		
	comp=Z,46nm,0.7s,mb5.2						
BJI				LR	LR		
	comp=N,129nm,14.2s,MS4.2						
BJI				LR	LR		
	comp=E,194nm,14.7s,MS4.2						
BJI				LR	LR		
	comp=Z,107nm,21.0s						
KSH	**Kashi**	**42.58**	**336**	*e*P	**P**	**19 22 30.5**	**-0.4**
KSH				*e*AP	pP	19 22 40.0	+1.1
KSH				*e*XP	sP	19 22 44.0	+1.9
KSH				AMB	AMB		
	comp=Z,290nm,3.6s						
WMQ	**Urumqi**	**43.10**	**350**	⇑*i*P	**P**	**19 22 36.0**	**+0.9**
WMQ				AP	pP	19 22 43.0	0.0
WMQ				XP	sP	19 22 47.0	+0.7
WMQ				PP	PP	19 24 18.5	+1.1
WMQ				*e*S	**S**	**19 29 00.0**	**+0.9**
WMQ				SCS	ScS	19 32 32.5	+1.1
WMQ				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,107nm,4.7s						
WMQ				LR	LR		
	comp=N,404nm,22.2s,MS4.5						
WMQ				LR	LR		
	comp=E,564nm,24.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,328nm,22.6s,MS4.2						
ASPA	**Alice Springs**	**43.57**	**127**	*e*P	**P**	**19 22 39.8**	**+0.6**
ASAR	**Alice Springs**	**43.58**	**127**	P	**P**	**19 22 39.6**	**+0.4**
	comp=Z,4.1nm,0.9s,mb4.2,baz=298,slow=7.9,SNR=25						
ASAR				pP	pP	19 22 46.5	-0.6
	comp=Z,3.2nm,0.8s,baz=298,slow=7.9,SNR=9.2						
ASAR				PcP	PcP	19 24 27.7	+0.5
	comp=Z,0.8nm,0.8s,baz=306,slow=3.1,SNR=3.2						
ASAR				pPcP		19 24 34.9	
	comp=Z,0.6nm,0.8s,baz=316,slow=2.0,SNR=3.8						
ULHL	**Ulahol**	**44.81**	**338**	P	**P**	**19 22 50.2**	**+1.3**
	SNR=6.2						
UCH	**Uchtor**	**45.46**	**336**	P	**P**	**19 22 55.5**	**+1.4**
	SNR=8.1						
TKM2	**Tokmak 2**	**45.63**	**338**	P	**P**	**19 22 56.2**	**+0.8**
	SNR=8.9						
KBK	**Karagaybulak**	**45.65**	**337**	P	**P**	**19 22 57.3**	**+1.7**
	SNR=8.8						
AML	**Almayashu**	**45.71**	**336**	P	**P**	**19 22 57.5**	**+1.4**
	SNR=6.2						
AAK	**Ala-Archa**	**45.81**	**337**	*i* P	**P**	**19 22 56.7**	**-0.2**
AAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.1						
AAK	**Ala-Archa**	**45.81**	**337**	*e*P	**P**	**19 22 56.3**	**-0.6**
	comp=Z,8.8nm,1.1s,mb4.6						
EKS2	**Erkin-Say**	**46.12**	**336**	P	**P**	**19 23 00.8**	**+1.5**
	SNR=6.5						
USP	**Ospenovka**	**46.34**	**337**	P	**P**	**19 23 02.0**	**+0.9**
	SNR=10						
SONM	**Songino Array**	**46.99**	**9**	P	**P**	**19 23 06.5**	**+0.4**
	comp=Z,15nm,0.8s,mb5.0,baz=192,slow=8.5,SNR=119						
SONM				pP	pP	19 23 13.3	-0.7
	comp=Z,16nm,0.9s,baz=190,slow=9.7,SNR=52						
SONM				PcP	PcP	19 24 38.4	-0.2
	comp=Z,1.8nm,0.8s,baz=182,slow=3.7,SNR=4.6						
SONM				pPcP		19 24 47.2	
	comp=Z,1.0nm,0.6s,baz=187,slow=4.8,SNR=4.4						
SONM				LR	LR	19 45 27.8	
	comp=Z,324nm,19.0s,MS4.3,baz=190,slow=39						
MKAR	**Makanchi Array**	**47.06**	**346**	P	**P**	**19 23 07.0**	**+0.3**
	comp=Z,9.5nm,0.5s,mb5.0,baz=159,slow=8.9,SNR=186						
MKAR				pP	pP	19 23 14.7	0.0
	comp=Z,7.5nm,0.6s,baz=158,slow=8.6,SNR=11						
MKAR				LR	LR	19 46 07.1	
	comp=Z,74nm,20.6s,MS3.6,baz=90,slow=40						
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**19 23 06.9**	**-0.3**
ULN				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.8						
ULN	**Ulaanbaatar**	**47.12**	**9**	*e*P	**P**	**19 23 06.9**	**-0.3**
	comp=Z,12nm,0.9s,mb4.8						
ZAK	**Zakamensk**	**49.12**	**5**	*e*P	**P**	**19 23 22.6**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CN2	**Changchun**	**49.21**	**27**	*e*P	**P**	**19 23 23.0**	**-0.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				LR	LR		
	comp=N,230nm,17.0s,MS4.4						
CN2				LR	LR		
	comp=E,240nm,17.0s,MS4.4						
CN2				LR	LR		
	comp=Z,220nm,18.0s,MS4.2						
MOY	**Mondy**	**50.23**	**3**	*e*P	**P**	**19 23 31.7**	**+0.5**
TLY	**Talaya**	**50.44**	**5**	*e*P	**P**	**19 23 33.1**	**+0.3**
TLY				*e*S	**S**	**19 30 53.4**	**+10**
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TLY				MLR	MLR		
	comp=Z,206nm,16.0s,MS4.2						
TLY	**Talaya**	**50.44**	**5**	*e*P	**P**	**19 23 33.3**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.8						
TLY				*e*pP	pP	19 23 41.9	+1.0
PMG	**Port Moresby**	**50.99**	**103**	P	**P**	**19 23 37.0**	**-0.5**
PMG				pmax	pmax		
	comp=Z,17nm,0.8s						
PMG	**Port Moresby**	**50.99**	**103**	P	**P**	**19 23 37.0**	**-0.5**
	comp=Z,16nm,0.8s,mb5.0						
HIA	**Hailar**	**51.52**	**19**	*e*P	**P**	**19 23 40.5**	**-0.5**
HIA				pmax	pmax		
	comp=Z,13nm,1.0s						
HIA	**Hailar**	**51.52**	**19**	*e*P	**P**	**19 23 40.5**	**-0.6**
	comp=Z,13nm,1.0s,mb4.8						
KURK	**Kurchatov**	**51.61**	**345**	*i* P	**P**	**19 23 41.4**	**-0.3**
KURK	**Kurchatov**	**51.61**	**345**	*e*P	**P**	**19 23 41.5**	**-0.1**
	comp=Z,9.7nm,0.8s,mb4.8						
MJAR	**Matsushiro Arr**	**51.64**	**42**	P	**P**	**19 23 41.1**	**-1.0**
	comp=Z,3.5nm,1.0s,mb4.3,baz=219,slow=6.7,SNR=6.8						
MDJ	**Mudanjiang**	**51.78**	**29**	P	**P**	**19 23 43.5**	**+0.5**
MDJ				AP	pP	19 23 49.5	-1.6
MDJ				PCP	PcP	19 24 56.3	+0.2
MDJ				PP	PP	19 25 43.8	+2.3
MDJ				SCP		19 28 49.5	
MDJ				PCS		19 28 54.0	
MDJ				S	**S**	**19 31 08.5**	**+6.6**
MDJ				SCS	ScS	19 33 28.5	+0.3
MDJ				SS	SS	19 34 39.8	+3.3
MDJ				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,95nm,4.7s						
MDJ				LR	LR		
	comp=N,71nm,16.3s,MS4.0						
MDJ				LR	LR		
	comp=E,80nm,17.5s,MS4.0						
MDJ				LR	LR		
	comp=Z,127nm,16.9s,MS4.0						
MDJ	**Mudanjiang**	**51.78**	**29**	*e*P	**P**	**19 23 43.2**	**+0.1**
	comp=Z,15nm,0.8s,mb5.0						
ZAL	**Zalesovo**	**53.38**	**351**	P	**P**	**19 23 54.2**	**-0.6**
	comp=Z,11nm,0.5s,mb5.0,baz=314,slow=5.8,SNR=70						
STKA	**Stephens Creek**	**53.54**	**132**	*e*P	**P**	**19 23 57.1**	**+0.8**
	comp=Z,3.3nm,0.6s,mb4.4						
STKA				*i*	pP	19 24 04.5	+0.1
STKA	**Stephens Creek**	**53.54**	**132**	P	**P**	**19 23 57.0**	**+0.6**
	comp=Z,4.0nm,0.6s,mb4.5,baz=297,slow=7.0,SNR=13						
STKA				pP	pP	19 24 04.7	+0.2
	comp=Z,5.6nm,0.7s,baz=312,slow=6.0,SNR=7.9						
NVS	**Novosibirsk**	**54.50**	**350**	*e*P	**P**	**19 24 01.0**	**-2.0**
NVS				*e*S	**S**	**19 31 36.7**	**-2.0**
NVS				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
NVS				pmax	pmax		
	comp=N,7.0nm,0.9s						
NVS				smax			
	comp=E,17nm,2.1s						
RAYN	**Ar Rayn**	**54.59**	**298**	P	**P**	**19 24 05.7**	**+1.6**
	comp=E,74nm,0.8s,SNR=7.9						
ATD	**Arta Tunnel**	**54.75**	**283**	LR	LR	19 45 39.2	
	comp=E,50nm,18.2s,MS3.6,baz=142,slow=34						
BVA0	**Boroye Array**	**56.06**	**341**	*i* P	**P**	**19 24 12.9**	**-1.5**
BVAR	**Borovoye Array**	**56.06**	**341**	P	**P**	**19 24 13.3**	**-1.1**
	comp=E,4.2nm,0.5s,mb4.7,baz=144,slow=9.3,SNR=33						
KLR	**Kul'dur**	**56.16**	**27**	*e*P	**P**	**19 24 12.2**	**-2.9**
CHKZ	**Chkalovo**	**56.54**	**341**	P	**P**	**19 24 17.0**	**-0.8**
CHKZ				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
BOD	**Bodaibo**	**57.87**	**11**	⇓*i*P

ARU				*e*			19 25 36.2		
ARU				*e*			19 27 19.4		
ARU				*e*S		**S**	**19 33 32.4**	**+3.4**	
ARU				*e*SS		SS	19 37 34.9	-1.9	
ARU				pmax		pmax			
	comp=Z,10.0nm,1.0s,mb4.9								
ARU	**Arti**		**62.99**	**337**	*e*P	**P**	**19 25 00.6**	**-1.5**	
	comp=Z,14nm,1.2s,mb5.0								
KIV	**Kislovodsk**		**64.12**	**319**	*e*P	**P**	**19 25 09.1**	**-0.6**	
KIV					*e**PP	pP	19 25 17.3	-0.7	
KIV					pmax	pmax			
	comp=Z,8.0nm,0.8s,mb4.8								
KIV	**Kislovodsk**		**64.12**	**319**	*e*P	**P**	**19 25 09.1**	**-0.7**	
	comp=Z,8.2nm,0.8s,mb4.8								
KIV					*e*pP	pP	19 25 17.3	-0.7	
GOF	**Gofitskoye**		**64.37**	**320**	*e*P	pP	19 25 22.5	+2.9	
YAK	**Yakutsk**		**65.30**	**16**	*e*P	**P**	**19 25 15.9**	**-1.1**	
YAK					*e**PP	pP	19 25 23.0	-2.3	
YAK					pmax	pmax			
	comp=Z,62nm,0.9s,mb5.6								
YAK	**Yakutsk**		**65.30**	**16**	*e*P	**P**	**19 25 15.9**	**-1.1**	
	comp=Z,62nm,0.9s,mb5.6								
YAK					*e*pP	pP	19 25 23.0	-2.3	
BRTR	**Keskin Array B**		**68.93**	**312**	P	**P**	**19 25 39.4**	**-1.0**	
	comp=Z,1.1nm,0.6s,mb4.0,baz=132,slow=7.7,SNR=5.7								
BRTR					pP	pP	19 25 47.4	-1.2	
	comp=Z,1.7nm,0.7s,baz=128,slow=6.7,SNR=5.5								
MA2	**Magadan**		**71.23**	**26**	*e*P	**P**	**19 25 53.9**	**-0.1**	
MA2					pmax	pmax			
	comp=Z,9.0nm,0.7s,mb4.8								
MA2					pmax	pmax			
	comp=Z,6.0nm,0.9s,mb4.5								
MA2	**Magadan**		**71.23**	**26**	*e*P	**P**	**19 25 53.6**	**-0.5**	
	comp=Z,14nm,0.8s,mb4.9								
PET	**Petropavlovsk**		**72.16**	**34**	*e*P	**P**	**19 25 59.6**	**-0.1**	
PET					pmax	pmax			
	comp=Z,40nm,0.7s,mb5.5								
OBN	**Obninsk**		**72.43**	**328**	*e*P	**P**	**19 25 59.9**	**-1.3**	
OBN					*e*	pP	19 26 08.9	-0.6	
OBN					pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.7								
OBN					MLR	MLR			
	comp=Z,100nm,17.0s,MS4.2								
TIXI	**Tiksi**		**73.05**	**10**	*e*P	**P**	**19 26 02.4**	**-2.2**	
TIXI					pmax	pmax			
	comp=Z,7.0nm,0.8s,mb4.6								
TIXI					MLR	MLR			
	comp=Z,180nm,16.0s,MS4.4								
KIS	**Kishinev**		**74.31**	**319**	*e*P	**P**	**19 26 10.0**	**-2.4**	
BOSA	**Boshof**		**74.77**	**240**	pP	pP	19 26 23.8	+0.1	
	comp=Z,2.5nm,1.0s,baz=130,slow=5.5,SNR=3.5								
AKASG	**Malin Array Be**		**75.07**	**322**	P	**P**	**19 26 14.8**	**-1.8**	
	comp=Z,0.5nm,0.2s,mb4.0,baz=87,slow=5.0,SNR=8.7								
AKASG					pP	pP	19 26 23.9	-1.1	
	comp=Z,2.9nm,0.6s,baz=91,slow=4.7,SNR=3.9								
FINES	**FINESS Array B**		**79.81**	**333**	P	**P**	**19 26 42.5**	**-0.2**	
	comp=Z,4.6nm,0.9s,mb4.4,baz=108,slow=6.0,SNR=15								
FINES					pP	pP	19 26 50.7	-0.4	
	comp=Z,2.5nm,0.6s,baz=100,slow=5.8,SNR=6.2								
KAF	**Kangasniemi**		**79.89**	**333**	*e*p	**P**	**19 26 43.2**	**+0.1**	
	comp=Z,5.0nm,0.8s,mb4.5,baz=104,slow=5.0								
KAF	**Kangasniemi**		**79.89**	**333**	*e*P	**P**	**19 26 43.2**	**+0.1**	
KAF					pmax	pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
SYO	**Syowa Base**		**80.12**	**198**	⇑PcP	PcP	19 26 53.0	+1.1	
BILL	**Bilibino**		**81.05**	**21**	*i* P	**P**	**19 26 48.8**	**-0.4**	
BILL					pmax	pmax			
	comp=Z,2.0nm,0.5s,mb4.3								
ARCES	**ARCESS Array B**		**82.35**	**340**	P	**P**	**19 26 56.6**	**+0.8**	
	comp=Z,6.2nm,0.8s,mb4.6,baz=97,slow=4.9,SNR=22								
ARCES					LR	LR	20 10 04.1		
	comp=Z,63nm,20.5s,MS4.0,baz=199,slow=40								
GERES	**GERESS Array B**		**84.62**	**319**	P	**P**	**19 27 08.8**	**+0.8**	
	comp=Z,1.8nm,0.9s,mb4.2,baz=135,slow=3.8,SNR=8.4								
GERES					pP	pP	19 27 16.6	+0.2	
	comp=Z,1.3nm,0.8s,baz=90,slow=4.0,SNR=5.1								
VNDA	**Vanda**		**86.00**	**169**	P	**P**	**19 27 15.5**	**+1.3**	
	comp=Z,0.9nm,1.0s,mb4.0,baz=287,slow=3.6,SNR=3.6								
VNDA	**Vanda**		**86.00**	**169**	P	**P**	**19 27 15.5**	**+1.3**	
NB2	**NORSAR Subarra**		**86.81**	**331**	P	**P**	**19 27 18.6**	**+0.1**	
	comp=Z,3.7nm,0.9s,mb4.6,baz=96,slow=4.8								
NB2	**NORSAR Subarra**		**86.81**	**331**	P	**P**	**19 27 18.6**	**+0.1**	
NB2					pmax	pmax			
	comp=Z,4.0nm,0.9s,mb4.7								
NOA	**NORSAR Array B**		**86.81**	**331**	P	**P**	**19 27 18.9**	**+0.4**	
	comp=Z,2.4nm,0.8s,mb4.5,baz=94,slow=4.9,SNR=11								
NOA					pP	pP	19 27 25.5	-1.5	
	comp=Z,1.5nm,0.8s,baz=97,slow=5.1,SNR=4.6								
YKA	**Yellowknife Ar**		**111.96**	**15**	PP	PP	19 33 48.7	-7.1	
	comp=Z,0.3nm,0.7s,baz=330,slow=7.2,SNR=4.4								

OTT 31 19:21:01.6±0.1, 64.66N×110.68W, h1km, MN3.0/17, Blast, Ekati Mine, Nt Mining explosion., Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EKTN	**Ekati Mine**	**0.05**	**35**	PG	Pg	19 21 02.2	-0.4
DVKN	**Diavik Mine**	**0.22**	**133**	PG	Pg	19 21 05.5	-0.4
DVKN				SG	Sg	19 21 08.3	-0.5
DVKN				Trac		19 21 09.4	
	comp=Z,100nm,0.1s						
ACKN	**Achilles Lake**	**0.35**	**346**	PG	Pg	19 21 07.9	-0.6
ACKN				SG	Sg	19 21 12.5	-0.6
ACKN				Trac		19 21 13.1	
	comp=Z,80nm,0.1s						
LGSN	**Lac de Gras So**	**0.40**	**144**	PG	Pg	19 21 08.8	-0.8
LGSN				SG	Sg	19 21 14.7	-0.2
LGSN				Trac		19 21 15.6	
	comp=Z,34nm,0.1s						
YMBN	**Yamba Lake**	**0.43**	**301**	PG	Pg	19 21 09.2	-0.8
YMBN				SG	Sg	19 21 14.8	-0.9
YMBN				Trac		19 21 16.2	
	comp=Z,118nm,0.1s						
YNEN	**Yamba Lake Nor**	**0.46**	**340**	PG	Pg	19 21 10.0	-0.8
YNEN				SG	Sg	19 21 16.1	-0.8
YNEN				Trac		19 21 17.4	
	comp=Z,53nm,0.1s						
GLWN	**Glow Worm Lake**	**0.58**	**83**	PG	Pg	19 21 12.1	-1.1
GLWN				SG	Sg	19 21 19.4	-1.6
GLWN				Trac		19 21 20.4	
	comp=Z,32nm,0.1s						
COWN	**Contwyoto Lake**	**0.65**	**341**	PG	Pg	19 21 13.5	-1.1
COWN				SG	Sg	19 21 22.4	-0.9
COWN				Trac		19 21 23.4	
	comp=Z,73nm,0.1s						
NODN	**Nodinka Narrow**	**0.71**	**190**	PG	Pg	19 21 14.5	-1.3
NODN				SG	Sg	19 21 23.5	-1.7
NODN				Trac		19 21 24.2	
	comp=Z,114nm,0.2s						
MLON	**Marlo Lake**	**0.77**	**153**	PG	Pg	19 21 15.4	-1.5
MLON				SG	Sg	19 21 26.0	-1.2
MLON				Trac		19 21 26.9	
	comp=Z,27nm,0.1s						
BOXN	**Box Lake**	**0.91**	**152**	PG	Pg	19 21 18.2	-1.5
BOXN				SG	Sg	19 21 30.6	-1.3
BOXN				Trac		19 21 31.5	
	comp=Z,12nm,0.1s						
CAMN	**Camsell Lake**	**0.93**	**186**	PG	Pg	19 21 18.6	-1.6
CAMN				SG	Sg	19 21 30.7	-1.9
CAMN				Trac		19 21 31.7	
	comp=Z,29nm,0.1s						
MGTN	**Margaret Lake**	**1.08**	**153**	PG	Pg	19 21 21.4	-1.8
MGTN				SG	Sg	19 21 35.5	-2.2
MGTN				Trac		19 21 36.3	
	comp=Z,98nm,0.1s						
GBLN	**Grizzly Bear L**	**1.10**	**246**	PG	Pg	19 21 21.5	-2.1
GBLN				SG	Sg	19 21 35.8	-2.5
GBLN				Trac		19 21 37.1	
	comp=Z,126nm,0.1s						
LUPN	**Lupin Mine**	**1.11**	**348**	PG	Pg	19 21 21.8	-2.0
LUPN				SG	Sg	19 21 36.0	-2.7
LUPN				Trac		19 21 40.9	
	comp=Z,48nm,0.1s						
SNPN	**Snap Lake**	**1.15**	**185**	PG	Pg	19 21 22.6	-1.9
SNPN				SG	Sg	19 21 36.4	-3.4
SNPN				Trac		19 21 41.5	
	comp=Z,696nm,0.1s						
IHLN	**Indian Hill La**	**1.36**	**184**	PG	Pg	19 21 25.9	-2.8
IHLN				SG	Sg	19 21 43.4	-3.5
IHLN				Trac		19 21 45.0	
	comp=Z,42nm,0.1s						
KNDN	**Kennady Lake**	**1.40**	**152**	PG	Pg	19 21 26.7	-2.8
KNDN				SG	Sg	19 21 44.0	-4.2
KNDN				Trac		19 21 47.2	
	comp=Z,24nm,0.1s						
ILKN	**Indian Lake**	**1.98**	**259**	PN	Pn	19 21 35.5	-1.0
ILKN				SN	Sn	19 22 01.2	-1.1
ILKN				Trac		19 22 06.5	
	comp=Z,14nm,0.1s						
DSMN	**Discovery Mine**	**2.06**	**225**	PN	Pn	19 21 35.9	-1.7
DSMN				SN	Sn	19 22 04.2	-0.1
DSMN				Trac		19 22 06.4	
	comp=Z,18nm,0.1s						
CTLN	**Castor Lake**	**2.32**	**267**	PN	Pn	19 21 40.0	-1.4
CTLN				SN	Sn	19 22 09.3	-1.7
CTLN				Trac		19 22 14.5	
	comp=Z,15nm,0.1s						
YKW3	**Yellowknife Ar**	**2.74**	**222**	PN	Pn	19 21 44.6	-2.8
YKW3				PN	Pn	19 21 44.7	-2.8
YKW3				SN	Sn	19 22 15.9	-5.8
YKW3				Trac		19 22 31.4	
	comp=Z,13nm,0.2s						
YRTN	**Rankin Inlet**	**8.44**	**94**	SN	Sn	19 24 31.6	-13
FCC	**Fort Churchill**	**9.82**	**119**	PN	P	19 23 20.5	-6.3
FCC				SN	Sn	19 25 03.5	-16
QILN	**Qililugaq Expl**	**10.21**	**68**	PN	P	19 23 24.6	-7.5
QILN				SN	S	19 25 11.9	-16

IDC 31 19:22:49.0±2.6, 3.06N×95.96E, mb3.8/6, mb1 3.9/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=110.3km s-min=20.3km az=58.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.07**	**123**	P	P	19 30 58.5	-2.4
	0.6nm,0.8s,baz=300,slow=9.1,SNR=6.9						
MKAR	**Makanchi Array**	**45.16**	**347**	P	P	19 31 08.1	-1.2
	1.2nm,0.4s,baz=164,slow=8.1,SNR=31						
ASAR	**Alice Springs**	**45.50**	**128**	P	P	19 31 11.1	-1.2
	0.3nm,0.7s,baz=297,slow=8.1,SNR=2.7						
SONM	**Songino Array**	**45.51**	**10**	P	P	19 31 10.3	-1.7
	2.3nm,0.7s,baz=189,slow=8.9,SNR=22						
ZAL	**Zalesovo**	**51.54**	**352**	P	P	19 31 55.5	-3.2
	0.8nm,0.4s,baz=299,slow=8.5,SNR=5.4						
BVAR	**Borovoye Array**	**54.10**	**341**	P	P	19 32 15.4	-2.4
	0.7nm,0.6s,baz=139,slow=13,SNR=4.5						

IDC 31 19:30:27.6±2.4, 1.38N×97.40E, h24km±6km, mb3.5/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.6/6, ML3.7/1, Error ellipse: s-maj=85.4km s-min=21.0km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**17.04**	**5**	P	P	19 34 24.2	-2.0
	0.1nm,0.3s,baz=196,slow=10,SNR=2.3						
WRA	**Warramunga Arr**	**41.96**	**122**	P	P	19 38 17.0	-1.7
	0.3nm,0.5s,baz=302,slow=9.1,SNR=5.0						
WRA				pP	pP	19 38 24.0	-2.0
	0.3nm,0.6s,baz=303,slow=9.2,SNR=2.2						
SONM	**Songino Array**	**46.93**	**8**	P	P	19 38 56.9	-1.4
	0.7nm,0.7s,baz=191,slow=9.2,SNR=7.8						
SONM				pP	pP	19 39 04.0	-1.7
	0.2nm,0.4s,baz=193,slow=8.5,SNR=6.3						
MKAR	**Makanchi Array**	**47.12**	**346**	P	P	19 38 58.0	-1.8
	0.6nm,0.6s,baz=161,slow=8.8,SNR=9.1						
MKAR				pP	pP	19 39 05.5	-1.7
	0.4nm,0.5s,baz=156,slow=9.7,SNR=4.6						
ZAL	**Zalesovo**	**53.41**	**351**	P	P	19 39 45.2	-2.5
	1.1nm,0.4s,baz=319,slow=6.7,SNR=5.9						
BVAR	**Borovoye Array**	**56.15**	**341**	P	P	19 40 03.9	-3.7
	3.3nm,1.2s,baz=146,slow=10,SNR=4.2						

*IDC **31** 19:31:41.5±1.1, 0.23N×97.53E, h22km±5km, mb4.0/8, mb1 4.2/9, mb1mx3.9/21, mbtmp4.2/9, ML4.5/1, MS3.8/1, Ms1 4.0/1, ms1mx3.1/23, Error ellipse: s-maj=51.8km s-min=14.0km az=50.0*

*NEIC **31** 19:31:43.0±0.6, 0.31N×97.71E, mb4.6/12, Error ellipse: s-maj=17.1km s-min=8.4km az=55.0*

*BJI **31** 19:31:43.0, 0.30N×97.70E, h28km, mB5.2, mb4.7, Ms4.5, Msz4.3*

ISC 31 19:31:41.2±0.7, 0.31N±0.09×97.7E±0.1, h29km, h29km±1.1km: pP-P, n32, σ1§11/34, mb4.5/25, MS4.2/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.76**	**31**	*e*Pn	**Pn**	**19 33 07.1**	**+0.1**
KULM				*e*		19 33 16.7	
CMAR	**Chiang Mai Arr**	**18.07**	**4**	P	**P**	**19 35 50.5**	**-1.7**
	0.6nm,0.3s,baz=191,slow=11,SNR=23						
CMAR				LR	LR	19 43 41.3	
	comp=Z,327nm,19.8s,baz=180,slow=40						
KMI	**Kunming**	**25.14**	**11**	P	**P**	**19 37 06.8**	**+1.1**
KMI				AP	pP	19 37 16.8	+2.8
KMI				S	**S**	**19 41 20.5**	**-5.5**
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.5						
KMI				LR	LR		
	comp=N,438nm,15.0s,MS4.2						
KMI				LR	LR		
	comp=E,369nm,13.7s,MS4.2						
KMI				LR	LR		
	comp=Z,452nm,14.6s,MS4.1						
HYB	**Hyderabad**	**25.38**	**313**	*i* P	sP	19 37 23.5	+3.4
GYA	**Guiyang**	**27.39**	**18**	P	**P**	**19 37 26.3**	**-0.1**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.3						
JIRN	**Jiri**	**29.35**	**339**	*e*P	**P**	**19 37 44.4**	**+0.3**
	comp=Z,13nm,0.6s,mb4.8						
DMN	**Daman**	**29.71**	**337**	*e*P	**P**	**19 37 48.2**	**+0.9**
KKN	**Kakani**	**29.81**	**337**	*e*P	**P**	**19 37 48.1**	**-0.1**
LSA	**Lhasa**	**29.89**	**349**	P	**P**	**19 37 49.0**	**+0.1**
LSA	**Lhasa**	**29.89**	**349**	*e*P	**P**	**19 37 49.6**	**+0.7**
	comp=Z,6.1nm,0.6s,mb4.5						
LSA				*e*pP	pP	19 37 58.2	+0.9
GKN	**Gorkha**	**30.25**	**337**	*e*P	**P**	**19 37 52.3**	**+0.2**
	comp=Z,4.5nm,0.6s,mb4.4						
KOLN	**Koldanda**	**30.47**	**335**	*e*P	**P**	**19 37 54.1**	**+0.1**
	comp=Z,15nm,0.7s,mb4.8						
ENH	**Enshi**	**31.84**	**20**	*e*P	**P**	**19 38 04.5**	**-1.5**
	comp=Z,8.9nm,0.8s,mb4.7						
ENH				*e*pP	pP	19 38 10.8	-3.7
FITZ	**Fitzroy Crossi**	**33.01**	**125**	P	**P**	**19 38 15.5**	**-0.8**
	comp=Z,4.4nm,0.8s,mb4.5,baz=197,slow=3.9,SNR=4.1						
NJ2	**Nanjing**	**37.37**	**30**	*e*P	**P**	**19 38 52.0**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**41.14**	**121**	P	**P**	**19 39 24.9**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.5,baz=301,slow=8.9,SNR=8.2						
WRA				pP	pP	19 39 31.6	-1.8
	comp=Z,2.4nm,0.7s,baz=301,slow=9.0,SNR=12						
WRAB	**Tennant Creek**	**41.15**	**121**	*e*P	**P**	**19 39 25.5**	**+0.7**
HHC	**Hu-ho-hao-te**	**42.27**	**16**	*e*P	**P**	**19 39 38.0**	**+4.1**
HHC				AP	pP	19 39 47.5	+5.0
HHC				XP	sP	19 39 50.8	+4.7
HHC				PP	PP	19 41 20.0	+5.3
HHC				SCP		19 45 16.3	
HHC				S	**S**	**19 45 58.0**	**+5.6**
HHC				XS		19 46 14.0	
HHC				SS	SS	19 49 02.0	+6.5
HHC				AMB	AMB		
	comp=Z,11nm,0.4s,mb4.8						
HHC				LR	LR		
	comp=N,316nm,17.8s,MS4.3						
HHC				LR	LR		
	comp=E,177nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=Z,288nm,16.6s,MS4.2						
ASAR	**Alice Springs**	**42.46**	**127**	P	**P**	**19 39 36.4**	**+0.6**
	comp=Z,1.2nm,0.6s,mb3.7,baz=298,slow=7.9,SNR=19						
ASAR				pP	pP	19 39 43.0	-1.3
	comp=Z,4.5nm,0.8s,baz=303,slow=7.6,SNR=21						
BJT	**Baijiatuau**	**42.96**	**21**	P	**P**	**19 39 41.0**	**+1.4**
	comp=Z,12nm,0.6s,mb4.8						
BJT				*e*pP	pP	19 39 49.2	+1.1
WMQ	**Urumqi**	**44.23**	**350**	*e*P	**P**	**19 39 52.3**	**+2.5**
WMQ				AP	pP	19 40 01.0	+2.6
WMQ				XP	sP	19 40 05.0	+3.0
WMQ				PP	PP	19 41 37.0	+2.7
WMQ				*e*S	**S**	**19 46 23.0**	**+2.0**
WMQ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
WMQ				AMB	AMB		
	comp=Z,96nm,3.8s						
WMQ				LR	LR		
	comp=N,455nm,22.3s,MS4.5						
WMQ				LR	LR		
	comp=E,380nm,23.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,338nm,25.6s,MS4.2						
AAK	**Ala-Archa**	**47.01**	**337**	P	**P**	**19 40 13.9**	**+2.0**
	comp=Z,1.5nm,0.6s,mb4.1						
AAK				*e*pP	pP	19 40 21.9	+1.3
SONM	**Songino Array**	**47.94**	**8**	P	**P**	**19 40 19.6**	**+0.4**
	comp=Z,3.2nm,0.7s,mb4.5,baz=191,slow=9.1,SNR=26						
ULN	**Ulaanbaatar**	**48.06**	**8**	*e*P	**P**	**19 40 20.1**	**+0.1**
	comp=Z,4.6nm,1.0s,mb4.5						
ULN				*e*pP	pP	19 40 30.1	+1.3
MKAR	**Makanchi Array**	**48.22**	**346**	P	**P**	**19 40 21.3**	**0.0**
	comp=Z,2.9nm,0.7s,mb4.4,baz=158,slow=7.7,SNR=18						
HIA	**Hailar**	**52.32**	**18**	*e*P	**P**	**19 40 51.6**	**-1.0**
	comp=Z,6.6nm,0.8s,mb4.6						
HIA				*e*pP	pP	19 41 01.9	+0.6
KURK	**Kurchatov**	**52.78**	**345**	*e*P	**P**	**19 40 55.3**	**-0.7**
	comp=Z,7.3nm,0.9s,mb4.6						
KURK				*e*pP	pP	19 41 05.6	+0.8
ZAL	**Zalesovo**	**54.50**	**351**	P	**P**	**19 41 07.3**	**-1.3**
	comp=Z,4.8nm,0.5s,mb4.8,baz=310,slow=5.7,SNR=21						
BVAR	**Borovoye Array**	**57.25**	**341**	P	**P**	**19 41 27.3**	**-1.2**
	comp=Z,2.8nm,0.8s,mb4.3,baz=141,slow=9.5,SNR=12						
CHKZ	**Chkalovo**	**57.72**	**341**	*e*P	**P**	**19 41 30.6**	**-1.2**
	comp=Z,16nm,1.1s,mb5.0						
CHKZ				*e*pP	pP	19 41 40.2	-0.4
BRTR	**Keskin Array B**	**70.08**	**312**	P	**P**	**19 42 51.2**	**-1.7**
	comp=Z,0.5nm,0.8s,mb3.5,baz=180,slow=4.3,SNR=2.7						
BRTR				pP	pP	19 42 59.0	-2.8
	comp=Z,1.6nm,0.8s,baz=135,slow=8.7,SNR=5.7						
MA2	**Magadan**	**71.91**	**25**	P	**P**	**19 43 06.8**	**+3.1**
	comp=Z,7.2nm,0.6s,mb4.8						
MA2				*e*pP	pP	19 43 15.7	+3.1

*IDC **31** 19:31:52.6±1.0, 0.85N×97.36E, mb4.4/14, mb1 4.5/14, mb1mx4.3/21, mbtmp4.4/14, Error ellipse: s-maj=38.6km s-min=15.5km az=52.0*

ISC 31 19:31:56.1±0.8, 0.9N±0.2×97.4E±0.2, h33km, n15, σ0§64/15, mb4.4/14, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**33.55**	**126**	P	**P**	**19 38 34.3**	**-0.9**
	3.4nm,0.6s,mb4.4,baz=338,slow=6.1,SNR=7.6						
JOW	**Kunigami**	**39.28**	**46**	P	**P**	**19 39 23.9**	**+0.3**
	15nm,0.7s,mb4.9,baz=264,slow=16,SNR=7.2						
WRA	**Warramunga Arr**	**41.66**	**122**	P	**P**	**19 39 43.9**	**+0.4**
	2.3nm,0.5s,mb4.1,baz=303,slow=9.1,SNR=12						
ASAR	**Alice Springs**	**43.01**	**127**	P	**P**	**19 39 53.8**	**-0.7**
	2.8nm,0.6s,mb4.2,baz=298,slow=7.8,SNR=5.4						
SONM	**Songino Array**	**47.41**	**8**	P	**P**	**19 40 28.8**	**-0.5**
	3.5nm,0.7s,mb4.4,baz=190,slow=8.7,SNR=8.3						
MKAR	**Makanchi Array**	**47.61**	**346**	P	**P**	**19 40 31.1**	**+0.2**
	8.3nm,0.5s,mb5.0,baz=156,slow=7.8,SNR=54						
MJAR	**Matsushiro Arr**	**51.76**	**42**	P	**P**	**19 41 03.4**	**+0.6**
	2.0nm,0.8s,mb4.1,baz=227,slow=5.8,SNR=4.9						
STKA	**Stephens Creek**	**52.96**	**132**	P	**P**	**19 41 12.5**	**+0.7**
	2.4nm,0.7s,mb4.2,baz=315,slow=7.1,SNR=4.0						
ZAL	**Zalesovo**	**53.90**	**351**	P	**P**	**19 41 17.9**	**-0.6**
	6.1nm,0.5s,mb4.8,baz=299,slow=6.7,SNR=14						
BVAR	**Borovoye Array**	**56.63**	**341**	P	**P**	**19 41 37.2**	**-1.1**
	3.8nm,0.7s,mb4.5,baz=143,slow=7.4,SNR=13						
FINES	**FINESS Array B**	**80.39**	**332**	P	**P**	**19 44 05.2**	**-0.4**
	1.1nm,0.5s,mb4.0,baz=100,slow=12,SNR=3.7						
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**19 44 18.7**	**+0.2**
	5.2nm,1.1s,mb4.5,baz=90,slow=2.4,SNR=4.9						
GERES	**GERESS Array B**	**85.21**	**319**	P	**P**	**19 44 31.3**	**+0.8**
	1.1nm,0.8s,mb4.0,baz=90,slow=2.7,SNR=5.7						
NB2	**NORSAR Subarra**	**87.40**	**331**	P	**P**	**19 44 41.6**	**+0.7**
	1.5nm,0.8s,mb4.3,baz=94,slow=4.8						
NOA	**NORSAR Array B**	**87.40**	**331**	P	**P**	**19 44 41.9**	**+0.9**
	1.2nm,0.8s,mb4.2,baz=95,slow=4.8,SNR=5.2						

*IDC **31** 19:33:32.6±1.0, 0.92N×97.87E, mb4.2/11, mb1 4.3/12, mb1mx4.1/21, mbtmp4.1/12, ML3.8/1, MS3.9/3, Ms1 3.9/3, ms1mx3.3/26, Error ellipse: s-maj=51.3km s-min=16.1km az=53.0*

*BJI **31** 19:33:33.9, 1.36N×98.34E, h6km, mB5.3, mb4.9*

*NEIC **31** 19:33:37.5±0.8, 0.96N×98.12E, h30km, mb4.4/4, Error ellipse: s-maj=25.1km s-min=13.0km az=61.0*

ISC 31 19:33:37.3±4.8, 1.1N±0.2×98.3E±0.2, h41km±37km, n24, σ1§03/22, mb4.2/15, MS4.0/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**4.81**	**30**	P	**P**	**19 34 49.3**	**0.0**
CMAR	**Chiang Mai Arr**	**17.28**	**2**	P	**P**	**19 37 37.2**	**-0.1**
	0.1nm,0.3s,baz=192,slow=12,SNR=2.0						
KKM	**Kota Kinabalu**	**18.53**	**74**	*e*P	**P**	**19 37 59.9**	**+6.3**
LSA	**Lhasa**	**29.25**	**347**	P	**P**	**19 39 37.5**	**-0.3**
LSA	**Lhasa**	**29.25**	**347**	*e*P	**P**	**19 39 39.2**	**+1.4**
	4.8nm,0.7s,mb4.3						
ENH	**Enshi**	**30.93**	**19**	P	**P**	**19 39 52.4**	**-0.3**
FITZ

1.4nm,0.7s,mb3.8,baz=166,slow=8.5,SNR=16
SONM Songino Array 43.79 12 P **P 19 57 13.9 -0.5**
1.0nm,0.7s,mb3.6,baz=196,slow=7.1,SNR=10
ULN Ulaanbaatar 43.96 12 *eP* **P 19 57 14.9 -0.9**
WRA Warramunga Arr 46.66 124 P **P 19 57 37.6 0.0**
3.8nm,0.6s,mb4.5,baz=302,slow=9.3,SNR=54
WRAB Tennant Creek 46.67 124 *eP* **P 19 57 37.5 -0.2**
21nm,1.0s,mb5.0
WB2 Warramunga Arr 46.67 124⇑*iP* **P 19 57 37.7 0.0**
KURK Kurchatov 47.26 347 *eP* **P 19 57 41.9 0.0**
4.2nm,1.0s,mb4.3
ASAR Alice Springs 48.15 128 P **P 19 57 49.1 -0.2**
1.6nm,0.6s,mb4.2,baz=298,slow=7.6,SNR=22
ZAL Zalesovo 49.24 353 P **P 19 57 57.2 -0.1**
1.3nm,0.4s,mb4.3,baz=320,slow=4.3,SNR=6.3
BVAR Borovoye Array 51.58 342 P **P 19 58 14.3 -0.7**
0.6nm,0.6s,mb3.7,baz=108,slow=9.1,SNR=5.5
CHKZ Chkalovo 52.07 342 *eP* **P 19 58 18.3 -0.5**
3.4nm,0.8s,mb4.3
STKA Stephens Creek 58.20 133 P **P 19 59 03.0 -0.5**
1.7nm,0.7s,mb4.2,baz=300,slow=9.7,SNR=3.6
BRTR Keskin Array B 64.27 312 P **P 19 59 43.4 -1.0**
1.0nm,0.7s,mb3.9,baz=130,slow=6.3,SNR=5.9
FINES FINESS Array B 75.14 333 P **P 20 00 50.6 +0.1**
0.3nm,0.5s,mb3.5,baz=72,slow=8.8,SNR=6.1
GERES GERESS Array B 79.90 319 P **P 20 01 17.5 +0.3**
0.2nm,0.4s,mb3.4,baz=98,slow=9.4,SNR=4.2

*NEIC **31** 19:55:19.2±1.5,2.15N×96.43E,h30km, Error ellipse: s-maj=29.5km s-min=20.5km az=56.0*
*IDC **31** 19:55:19.9±2.6,2.22N×96.65E,h28km±6km,mb3.5/4, mb1 3.7/5,mb1mx3.4/19,mbtmp3.6/5,ML3.4/1, Error ellipse: s-maj=94.7km s-min=21.1km az=59.0*
ISC 31 19:55:17.2±1.6,2.2N±0.2×96.4E±0.2,h30km, (h29km±4km:pP-P),n7,σ0$71/7,mb3.7/4,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.25**	**53**	*e*Pn	**Pn**	**19 56 36.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**16.39**	**9**	Pn	**P**	**19 59 05.6**	**-1.4**
	0.1nm,0.3s,baz=194,slow=11,SNR=2.5						
WRA	**Warramunga Arr**	**43.20**	**122**	P	**P**	**20 03 17.2**	**-0.5**
	0.3nm,0.4s,mb3.4,baz=302,slow=9.0,SNR=5.3						
WRA				pP	pP	20 03 25.8	-0.9
	0.3nm,0.6s,baz=301,slow=9.2,SNR=1.3						
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**20 03 41.2**	**+0.5**
	0.6nm,0.4s,mb3.9,baz=160,slow=9.5,SNR=20						
MKAR				pP	pP	20 03 49.7	-0.2
	0.1nm,0.3s,baz=159,slow=8.3,SNR=5.4						
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**	**20 03 41.2**	**+0.5**
MKAR				pP	pP	20 03 49.7	-0.2
SONM	**Songino Array**	**46.31**	**9**	P	**P**	**20 03 42.9**	**+0.7**
	0.2nm,0.4s,mb3.4,baz=188,slow=9.4,SNR=4.7						
SONM				pP	pP	20 03 51.7	+0.5
	0.2nm,0.3s,baz=187,slow=7.8,SNR=5.2						
ZAL	**Zalesovo**	**52.49**	**351**	P	**P**	**20 04 29.8**	**+0.1**
	1.7nm,0.4s,mb4.3,baz=287,slow=4.3,SNR=7.4						

IDC 31 20:06:56.1±2.2,32.75S×178.40W,mb3.5/2,mb1 3.8/3, mb1mx3.6/15,mbtmp3.6/3,ML3.8/1,Error ellipse: s-maj=66.4km s-min=39.7km az=136.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**6.60**	**212**	Pn	Pn	20 08 33.5	-3.3
	1.8nm,0.3s,baz=15,slow=23,SNR=6.4						
URZ				Sn	Sn	20 09 44.0	-10
	0.8nm,0.3s,baz=180,slow=19,SNR=4.5						
ASAR	**Alice Springs**	**42.70**	**270**	P	P	20 14 54.9	-1.6
	0.2nm,0.6s,baz=107,slow=7.3,SNR=5.2						
WRA	**Warramunga Arr**	**43.90**	**275**	P	P	20 15 04.7	-1.6
	0.6nm,0.5s,baz=114,slow=7.9,SNR=9.8						
FINES	**FINESS Array B**	**147.21**	**338**	PKPbc	PKPdf	20 26 40.4	+0.3
	1.2nm,0.9s,baz=45,slow=5.4,SNR=5.9						
NOA	**NORSAR Array B**	**151.01**	**350**	PKPbc	PKPdf	20 26 49.4	+3.3
	0.5nm,0.8s,baz=75,slow=2.8,SNR=3.3						

*NEIC **31** 20:13:59.8±1.1,0.99N×97.17E,h30km,mb4.1/2, Error ellipse: s-maj=28.7km s-min=15.5km az=63.0*
*IDC **31** 20:14:00.9±2.8,1.07N×97.48E,h26km±6km,mb3.7/5, mb1 3.8/6,mb1mx3.6/19,mbtmp3.8/6,ML4.0/1,MS3.5/1, Ms1 3.5/1,ms1mx2.7/27, Error ellipse: s-maj=102.8km s-min=17.4km az=62.0*
ISC 31 20:13:58.0±1.2,1.0N±0.1×97.2E±0.2,h30km, (h26km±1.2km:pP-P),n9,σ0$83/9,mb3.9/7,MS3.5/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.49**	**39**	*e*Pn	**Pn**	**20 15 20.0**	**0.0**
CMAR	**Chiang Mai Arr**	**17.43**	**6**	P	**P**	**20 17 59.9**	**-0.8**
	0.2nm,0.3s,baz=193,slow=12,SNR=8.7						
LSA	**Lhasa**	**29.10**	**349**	P	**P**	**20 19 59.0**	**+0.5**
	4.9nm,1.5s,mb4.0						
WRA	**Warramunga Arr**	**41.96**	**122**	P	**P**	**20 21 48.1**	**-0.2**
	0.3nm,0.5s,mb3.1,baz=305,slow=8.8,SNR=6.7						
WRA				pP	pP	20 21 55.5	-1.8
	0.5nm,0.5s,baz=302,slow=9.1,SNR=3.6						
ASAR	**Alice Springs**	**43.30**	**127**	P	**P**	**20 21 59.2**	**0.0**
	0.7nm,0.8s,mb3.5,baz=311,slow=7.1,SNR=5.4						
ASAR				pP	pP	20 22 06.7	-1.6
	0.5nm,0.7s,baz=298,slow=7.5,SNR=3.4						
AAK	**Ala-Archa**	**46.16**	**337**	*e*P	**P**	**20 22 20.0**	**-1.8**
	6.1nm,1.7s,mb4.2						
SONM	**Songino Array**	**47.32**	**8**	P	**P**	**20 22 31.6**	**+0.6**
	1.3nm,0.5s,mb4.1,baz=189,slow=9.5,SNR=13						
SONM				pP	pP	20 22 40.3	+0.3
	1.1nm,0.7s,baz=188,slow=9.4,SNR=6.4						
SONM				PcP	PcP	20 24 02.7	+0.8
	0.2nm,0.5s,baz=196,slow=3.2,SNR=4.2						
SONM				LR	LR	20 45 09.6	
	comp=Z,49nm,18.2s,MS3.5,baz=220,slow=40						
MKAR	**Makanchi Array**	**47.42**	**346**	P	**P**	**20 22 33.1**	**+1.4**
	1.1nm,0.6s,mb3.9,baz=159,slow=8.5,SNR=14						
ZAL	**Zalesovo**	**53.73**	**351**	P	**P**	**20 23 19.8**	**+0.2**
	1.3nm,0.4s,mb4.2,baz=325,slow=5.3,SNR=4.5						

IDC 31 20:16:41.9±4.0,0.29N×97.95E,mb3.6/5,mb1 3.8/5, mb1mx3.6/18,mbtmp3.6/5,Error ellipse: s-maj=168.3km s-min=22.8km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**40.92**	**122**	P	P	20 24 25.8	-2.1
	0.2nm,0.5s,baz=309,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**42.25**	**127**	P	P	20 24 37.7	-1.2
	0.4nm,0.6s,baz=297,slow=7.8,SNR=4.9						
SONM	**Songino Array**	**47.92**	**8**	P	P	20 25 22.5	-1.5
	0.4nm,0.6s,baz=189,slow=9.4,SNR=4.7						
MKAR	**Makanchi Array**	**48.30**	**346**	P	P	20 25 24.9	-2.1
	0.8nm,0.5s,baz=160,slow=8.7,SNR=16						
ZAL	**Zalesovo**	**54.56**	**350**	P	P	20 26 11.4	-2.7
	0.9nm,0.4s,baz=333,slow=11,SNR=4.1						

IDC 31 20:22:39.0±4.0,2.61N×97.50E,mb3.6/4,mb1 3.8/4, mb1mx3.5/18,mbtmp3.6/4,Error ellipse: s-maj=159.0km s-min=28.6km az=57.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.53**	**123**	P	P	20 30 36.4	-1.9
	0.6nm,1.1s,baz=307,slow=8.7,SNR=5.6						
SONM	**Songino Array**	**45.71**	**8**	P	P	20 31 03.0	-0.6
	0.1nm,0.4s,baz=189,slow=9.0,SNR=4.7						
MKAR	**Makanchi Array**	**45.96**	**345**	P	P	20 31 03.5	-2.1
	0.6nm,0.5s,baz=158,slow=9.3,SNR=12						
ZAL	**Zalesovo**	**52.22**	**351**	P	P	20 31 50.9	-3.0
	0.8nm,0.4s,baz=0.4,slow=7.0,SNR=3.7						

*CSEM **31** 20:29:38.6±0.1,39.69N×39.51E,h2km,MD3.6, Error ellipse: s-maj=1.7km s-min=1.5km az=50.0*
*NEIC **31** 20:29:39.0,39.68N×39.50E,h6km,ML3.5(ISK),After ISK.*
*ISK **31** 20:29:39.0,39.69N×39.51E,h6km,MD3.6*

ISC 31 20:29:39.7±0.4,39.70N±0.03×39.61E±0.03,h6km,n39, σ1$37/50,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EZC	**Erzincan**	**0.17**	**73**	PG	**Pg**	**20 29 42.6**	**-0.7**
GUMT	**Gumushane**	**0.77**	**353**	PG	**Pg**	**20 29 54.3**	**-0.8**
GUMT	**Gumushane**	**0.77**	**353**	Pg	**Pg**	**20 29 54.4**	**-0.7**
PTK	**Pertek**	**0.82**	**192**	PG	**Pg**	**20 29 54.5**	**-1.7**
PTK				SG	**Sg**	**20 30 07.0**	**-0.2**
BINT	**Bingol**	**1.07**	**140**	PN	**Pn**	**20 30 00.2**	**-0.9**
BINT	**Bingol**	**1.07**	**140**	Pn	**Pn**	**20 29 59.7**	**-1.4**
ELZG	**Elazig**	**1.29**	**202**	*i* P	**Pb**	**20 30 00.3**	**-3.8**
ELZG				*i* S	**Sb**	**20 30 21.0**	**+0.2**
EZM	**Erzurum**	**1.37**	**81**	*e*PN	**Pn**	**20 30 05.9**	**+0.5**
EZM	**Erzurum**	**1.37**	**81**	Pn	**Pn**	**20 30 05.9**	**+0.6**
ERZM	**Erzurum**	**1.37**	**81**	*i* P	**Pb**	**20 30 05.3**	**0.0**
ERZM				*i* S	**Sb**	**20 30 30.3**	**+7.3**
VRT	**Varto**	**1.59**	**110**	*e*PN	**Pn**	**20 30 10.1**	**+1.5**
VRT	**Varto**	**1.59**	**110**	Pn	**Pn**	**20 30 10.2**	**+1.6**
MYA	**Malataya**	**1.65**	**214**	*e*PN	**Pn**	**20 30 09.1**	**-0.4**
MYA	**Malataya**	**1.65**	**214**	Pn	**Pn**	**20 30 07.4**	**-2.0**
MALT	**Malatya**	**1.66**	**214**	PN	**Pn**	**20 30 07.9**	**-1.7**
MALT	**Malatya**	**1.66**	**214**	Pn	**Pn**	**20 30 07.9**	**-1.7**
MALT	**Malatya**	**1.66**	**214**	*i* P	**Pn**	**20 30 05.6**	**-4.0**
MALT				*i* S	**Sn**	**20 30 33.5**	**+2.0**
DIY	**Diyarbakir**	**1.86**	**165**	*e*PN	**Pn**	**20 30 12.4**	**-0.1**
DIY	**Diyarbakir**	**1.86**	**165**	Pn	**Pn**	**20 30 12.4**	**-0.1**
SVST	**Sivas**	**2.05**	**273**	*i* P	**Pn**	**20 30 18.4**	**+3.2**
SVST				*i* S	**Sn**	**20 30 48.5**	**+7.2**
BTMT	**Batman**	**2.10**	**135**	*e*PN	**Pn**	**20 30 15.9**	**0.0**
BEST	**Besiri**	**2.22**	**144**	*i* P	**Pg**	**20 30 22.6**	**-1.6**
BEST				*i* S	**Sg**	**20 30 54.7**	**+0.9**
BCA	**Borcka**	**2.32**	**41**	*e*PN	**Pn**	**20 30 19.9**	**+0.8**
BCA	**Borcka**	**2.32**	**41**	Pn	**Pn**	**20 30 20.0**	**+0.9**
URFA	**Urfa**	**2.34**	**196**	*e*PN	**Pn**	**20 30 17.9**	**-1.4**
TOKT	**Tokat**	**2.43**	**286**	*e*PN	**Pn**	**20 30 19.9**	**-0.8**
TOKT	**Tokat**	**2.43**	**286**	Pn	**Pn**	**20 30 20.0**	**-0.7**
GZT	**Gaziantep**	**2.84**	**215**	*i* P	**Pn**	**20 30 29.1**	**+2.7**
GZT				*i* S	**Sn**	**20 31 06.7**	**+5.4**
KAHT	**Ahir Dag**	**2.98**	**227**	*i* P	**Pg**	**20 30 37.5**	**-1.7**
KAHT				*i* S	**Sg**	**20 31 19.4**	**+0.6**
BNN	**Bunyan**	**3.04**	**255**	*e*PN	**Pn**	**20 30 28.5**	**-0.8**
VANB	**Van**	**3.14**	**109**	*e*PN	**Pn**	**20 30 32.0**	**+1.3**
GAZ	**Gaziantep**	**3.15**	**217**	*e*PN	**Pn**	**20 30 30.0**	**-0.8**
AVNT	**Avonos**	**3.80**	**258**	*i* P	**Pn**	**20 30 42.4**	**+2.2**
AVNT				*i* S	**Sn**	**20 31 37.4**	**+12**
GNI	**Garni**	**3.97**	**82**	*e*PN	**Pn**	**20 30 44.5**	**+2.0**
GNI	**Garni**	**3.97**	**82**	Pn	**Pn**	**20 30 44.5**	**+2.0**
BOYT	**Boyabat**	**3.98**	**297**	*i* P	**Pn**	**20 30 47.8**	**+5.2**
BOYT				*i* S	**Sg**	**20 31 52.7**	**+0.6**
COBT	**Iskenderun**	**4.13**	**221**	*i* P	**Pg**	**20 31 01.2**	**-1.0**
COBT				*i* S	**Sb**	**20 31 46.4**	**+3.2**
KIV	**Kislovodsk**	**4.83**	**27**	P	**Pn**	**20 30 52.4**	**-2.4**
KIV	**Kislovodsk**	**4.83**	**27**	P	**Pn**	**20 30 52.4**	**-2.4**

IDC 31 20:32:53.0±3.8,2.59N×97.43E,mb3.5/4,mb1 3.7/4, mb1mx3.4/18,mbtmp3.5/4,Error ellipse: s-maj=147.0km s-min=28.6km az=58.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.59**	**123**	P	P	20 40 51.1	-1.8
	0.5nm,0.6s,baz=302,slow=9.2,SNR=5.5						
SONM	**Songino Array**	**45.73**	**8**	P	P	20 41 16.3	-1.5
	0.3nm,0.4s,baz=189,slow=9.7,SNR=12						
MKAR	**Makanchi Array**	**45.96**	**346**	P	P	20 41 17.9	-1.7
	0.3nm,0.4s,baz=156,slow=8.7,SNR=9.8						
ZAL	**Zalesovo**	**52.22**	**351**	P	P	20 42 05.0	-2.9
	0.5nm,0.3s,baz=243,slow=3.2,SNR=3.6						

*IDC **31** 20:36:25.9±1.7,0.87N×97.69E,mb4.1/9,mb1 4.2/10, mb1mx3.9/21,mbtmp4.1/10,ML3.9/1,Error ellipse: s-maj=77.5km s-min=15.2km az=57.0*
*NEIC **31** 20:36:32.7±0.8,1.34N×98.41E,h30km,mb4.3/4, Error ellipse: s-maj=28.7km s-min=10.5km az=61.0*
ISC 31 20:36:28.6±0.9,0.9N±0.1×97.7E±0.2,h30km,n18, σ0$77/18,mb4.1/13,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KULM	**Kulim**	**5.25**	**34**	P	**Pn**	**20 37 36.7**	**-10**
CMAR	**Chiang Mai Arr**	**17.49**	**4**	P	**P**	**20 40 30.8**	**-1.3**
	0.2nm,0.3s,baz=192,slow=11,SNR=6.2						
KKM	**Kota Kinabalu**	**19.15**	**74**	P	**P**	**20 40 53.3**	**+0.9**
LSA	**Lhasa**	**29.31**	**348**	*e*P	**P**	**20 42 31.8**	**+0.8**
	6.2nm,1.0s,mb4.3						
FITZ	**Fitzroy Crossi**	**33.34**	**126**	P	**P**	**20 43 05.5**	**-0.8**
	6.7nm,0.7s,mb4.7,baz=338,slow=5.2,SNR=11						
WRA	**Warramunga Arr**	**41.44**	**122**	P	**P**	**20 44 14.5**	**0.0**
	3.4nm,0.8s,mb4.1,baz=301,slow=9.0,SNR=23						
WRAB	**Tennant Creek**	**41.44**	**122**	*e*P	**P**	**20 44 14.6**	**+0.1**
	9.8nm,0.9s,mb4.4						
WB2	**Warramunga Arr**	**41.45**	**122**	*e*P	**P**	**20 44 14.6**	**+0.1**
ASAR	**Alice Springs**	**42.80**	**127**	P	**P**	**20 44 26.2**	**+0.5**
	1.6nm,0.7s,mb3.9,baz=297,slow=8.0,SNR=14						
AAK	**Ala-Archa**	**46.48**	**336**	*e*P	**P**	**20 44 56.0**	**+1.1**
	0.9nm,0.7s,mb3.8						
SONM	**Songino Array**	**47.35**	**8**	P	**P**	**20 45 02.3**	**+0.5**
	0.5nm,0.4s,mb3.8,baz=194,slow=9.1,SNR=9.6						
MKAR	**Makanchi Array**	**47.66**	**346**	P	**P**	**20 45 04.5**	**+0.4**
	2.8nm,0.6s,mb4.5,baz=160,slow=8.7,SNR=44						
KURK	**Kurchatov**	**52.21**	**345**	*e*P	**P**	**20 45 38.4**	**-0.6**
	3.6nm,1.1s,mb4.2						
STKA	**Stephens Creek**	**52.77**	**132**	P	**P**	**20 45 42.9**	**-0.6**
	0.9nm,0.5s,mb4.0,baz=298,slow=23,SNR=3.8						
ZAL	**Zalesovo**	**53.92**	**351**	P	**P**	**20 45 51.1**	**-0.5**
	1.4nm,0.4s,mb4.3,baz=326,slow=5.8,SNR=7.9						
BVAR	**Borovoye Array**	**56.70**	**341**	P	**P**	**20 46 10.8**	**-0.9**
	1.5nm,0.7s,mb4.2,baz=143,slow=9.8,SNR=14						
FINES	**FINESS Array B**	**80.50**	**332**	P	**P**	**20 48 39.7**	**+0.6**
	0.7nm,0.6s,mb3.8,baz=135,slow=2.7,SNR=3.7						
FINES	**FINESS Array B**	**80.50**	**332**	P	**P**	**20 48 39.7**	**+0.6**

IDC 31 20:45:34.5±4.7,0.59N×97.13E,h35km±8km,mb3.3/4, mb1 3.5/4,mb1mx3.2/19,mbtmp3.5/4,Error ellipse: s-maj=219.0km s-min=26.8km az=52.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.78**	**121**	P	P	20 53 20.8	-1.9
	0.3nm,0.5s,baz=303,slow=8.9,SNR=5.7						
MKAR	**Makanchi Array**	**47.81**	**346**	P	P	20 54 08.7	-1.9
	0.3nm,0.5s,baz=165,slow=9.4,SNR=5.5						
MKAR				pP	pP	20 54 20.1	-0.8
	0.7nm,0.5s,baz=170,slow=8.9,SNR=6.4						
ZAL	**Zalesovo**	**54.13**	**351**	P	P	20 54 56.8	-1.6
	0.8nm,0.6s,baz=328,slow=8.2,SNR=5.3						
ZAL				pP	pP	20 55 06.4	-2.5
	1.1nm,0.5s,baz=316,slow=6.3,SNR=3.7						
BVAR	**Borovoye Array**	**56.80**	**341**	P	P	20 55 14.2	-3.5
	0.3nm,0.8s,baz=135,slow=6.1,SNR=2.5						
BVAR				pP	pP	20 55 24.4	-3.8
	0.3nm,0.5s,baz=157,slow=11,SNR=2.8						

MAN 31 20:45:50.7,9.42N×126.50E,h15km,mb4.3,ML3.2,MS3.0, 1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUTP	**Butuan**	**0.98**	**243**	*e*P	Pb	20 46 08.3	-0.5
BUTP				*e*S	Sb	20 46 23.2	+1.8
BIPH	**Bislig**	**1.24**	**187**⇑	*i*P	Pb	20 46 08.1	-5.2
BIPH				*i* S	Sb	20 46 23.4	-5.5
MSLP	**Maasin**	**1.77**	**294**	*e*P	Pn	20 46 22.0	+0.9
BUKP	**Musuan**	**2.10**	**223**	*e*P	Pn	20 46 25.3	-0.4
BUKP				*e*S	Sn	20 46 52.4	+0.7
BESP	**Borongan**	**2.40**	**334**	*e*P	Pn	20 46 29.5	-0.7
TBP	**Tagbilaran**	**2.62**	**276**	*e*P	Pn	20 46 32.9	-0.4
PAGZ	**Pagadian**	**3.46**	**243**	*e*P	Pn	20 46 45.1	-0.1

IDC 31 20:55:27.9±2.6,1.68N×97.12E,h24km±5km,mb3.3/5, mb1 3.5/5,mb1mx3.3/18,mbtmp3.5/5,Error ellipse: s-maj=114.3km s-min=19.7km az=54.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.36**	**122**	P	P	21 03 20.0	-2.3
	0.3nm,0.8s,baz=303,slow=9.1,SNR=3.2						
WRA				pP	pP	21 03 28.5	-1.1
	0.3nm,0.7s,baz=302,slow=9.1,SNR=2.3						
SONM	**Songino Array**	**46.67**	**9**	P	P	21 03 55.1	-1.5
	0.5nm,0.6s,baz=187,slow=8.1,SNR=5.4						
MKAR	**Makanchi Array**	**46.76**	**346**	P	P	21 03 55.0	-2.3
	0.8nm,0.8s,baz=160,slow=7.3,SNR=8.4						
MKAR				pP	pP	21 04 03.4	-1.1
	1.1nm,0.7s,baz=162,slow=9.0,SNR=10						
ZAL	**Zalesovo**	**53.06**	**351**	P	P	21 04 43.1	-2.4
	0.8nm,0.6s,baz=322,slow=7.5,SNR=5.0						
ZAL				pP	pP	21 04 50.4	-2.5
	2.1nm,0.6s,baz=311,slow=7.2,SNR=7.1						
BVAR	**Borovoye Array**	**55.77**	**341**	P	P	21 05 02.7	-2.5
	0.1nm,0.3s,baz=175,slow=16,SNR=2.1						
BVAR				pP	pP	21 05 09.4	-3.3
	1.0nm,0.6s,baz=164,slow=11,SNR=6.5						
ARCES	**ARCESS Array B**	**82.06**	**340**	pP	pP	21 07 53.9	-1.2
	2.1nm,0.8s,baz=79,slow=6.2,SNR=1.4						

*BJI **31** 21:02:21.1,4.67S×154.41E,h161km,mB5.1,mb4.7*
*NEIC **31** 21:02:23.2±0.4,5.07S×154.16E,mb4.5/19, Error ellipse: s-maj=12.1km s-min=7.7km az=106.0*
*IDC **31** 21:02:25.1±0.8,5.21S×154.05E,h186km±7km,mb4.1/16, mb1 4.1/16,mb1mx4.0/20,mbtmp4.5/16,MS3.5/2, Ms1 3.5/2,ms1mx2.9/23, Error ellipse: s-maj=14.9km s-min=9.6km az=115.0*
ISC 31 21:02:22.8±0.5,5.10S±0.06×154.12E±0.08,h179km, h179km±4.8km:pP-P,n55,σ0$89/54,mb4.5/36,1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.20**	**127**	P	**P**	**21 04 11.5**	**+5.1**
	11nm,0.3s,baz=349,slow=16,SNR=3.3						
HNR				S	**S**	21 05 39.6	**+12**
	4.4nm,0.3s,baz=230,slow=5.3,SNR=1.2						
PMG	**Port Moresby**	**8.12**	**238**	P	**P**	**21 04 21.1**	**+2.6**
	0.4nm,0.3s,baz=230,slow=5.2,SNR=3.0						
PMG				S	**S**	**21 05 55.8**	**+6.8**
	1.0nm,0.3s,baz=187,slow=16,SNR=2.4						
CTA	**Charters Tower**	**16.75**	**207**	P	**P**	**21 06 09.6**	**+1.1**
	0.4nm,0.3s,baz=35,slow=15,SNR=3.3						
DZM	**Mont Dzumac**	**20.66**	**146**	P	**P**	**21 06 50.8**	**+0.8**
	3.1nm,0.4s,baz=19,slow=8.5,SNR=6.7						
WRAB	**Tennant Creek**	**24.24**	**231**	*e*P	**P**	**21 07 25.1**	**+0.3**
	9.6nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**24.25**	**231**⇑	*i*P	**P**	**21 07 25.1**	**+0.4**
WRA	**Warramunga Arr**	**24.25**	**231**	P	**P**	**21 07 25.3**	**+0.5**
	8.7nm,0.7s,mb4.4,baz=55,slow=9.5,SNR=77						
WRA				pP		21 07 58.7	
	4.1nm,0.9s,baz=55,slow=11,SNR=3.5						
WRA				S	**S**	**21 11 26.4**	**-1.2**
	0.5nm,0.8s,baz=38,slow=15,SNR=2.3						
WRA				ScP		21 14 20.5	
	1.0nm,0.8s,baz=60,slow=3.1,SNR=6.5						
ASAR	**Alice Springs**	**26.84**	**225**	P	**P**	**21 07 48.2**	**-0.5**
	1.2nm,0.4s,mb3.9,baz=56,slow=8.9,SNR=19						
ASAR				pP	pP	21 08 23.9	-1.0
	2.6nm,0.9s,baz=58,slow=9.3,SNR=6.7						
ASAR				S	**S**	**21 12 09.1**	**-0.9**
	0.5nm,0.6s,baz=54,slow=14,SNR=4.7						
ASAR				ScP		21 14 29.2	
	1.2nm,0.7s,baz=47,slow=3.0,SNR=8.8						
ASPA	**Alice Springs**	**26.84**	**225**	*e*P	**P**	**21 07 48.1**	**-0.6**
STKA	**Stephens Creek**	**29.11**	**202**	P	**P**	**21 08 09.2**	**+0.1**
	1.3nm,0.4s,mb4.0,baz=49,slow=14,SNR=7.2						
STKA				pP	pP	21 08 44.3	-1.6
	3.3nm,0.8s,baz=38,slow=9.4,SNR=3.4						
FITZ	**Fitzroy Crossi**	**30.68**	**243**	*e*P	**P**	**21 08 21.6**	**-1.4**
	8.9nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.68**	**243**	P	**P**	**21 08 22.1**	**-0.9**
	14nm,0.7s,mb4.8,baz=87,slow=4.4,SNR=19						
KKM	**Kota Kinabalu**	**39.43**	**286**	*e*P	**P**	**21 09 33.4**	**-3.8**
JOW	**Kunigami**	**40.41**	**323**	P	**P**	**21 09 46.6**	**+1.5**
	7.3nm,0.4s,mb4.6,baz=162,slow=9.1,SNR=7.6						
JOW				LR	LR	21 23 51.6	
	comp=Z,26nm,19.3s,baz=83,slow=32						
MJAR	**Matsushiro Arr**	**44.02**	**341**	P	**P**	**21 10 15.3**	**+1.0**
	0.4nm,0.3s,mb3.5,baz=175,slow=8.3,SNR=4.1						
KSM	**Kuching**	**44.25**	**277**	*e*P	**P**	**21 10 16.1**	**-0.4**
MDJ	**Mudanjiang**	**54.17**	**339**	P	**P**	**21 11 30.9**	**-0.8**
	11nm,1.1s,mb4.5						
ENH	**Enshi**	**55.33**	**312**	*e*P	**P**	**21 11 39.3**	**-0.9**
	12nm,0.9s,mb4.6						
PPT	**Papeete**	**56.38**	**108**	P	**P**	**21 11 47.6**	**-0.3**
	10nm,0.3s,mb5.1,baz=214,slow=20,SNR=3.6						
KMI	**Kunming**	**58.25**	**304**	P	**P**	**21 12 01.8**	**+0.9**
KMI				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.7						
CMAR	**Chiang Mai Arr**	**59.20**	**295**	P	**P**	**21

mb1mx3.6/18,**mbtmp3.9**/4,**Error ellipse: s-maj=152.6km s-min=27.6km az=57.0,Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.20**	**122**	P	P	21 14 55.6	-1.8
	0.3nm,0.4s,baz=302,slow=9.0,SNR=4.3						
SONM	**Songino Array**	**46.65**	**8**	P	P	21 15 31.3	-1.4
	1.0nm,0.6s,baz=190,slow=8.8,SNR=8.2						
MKAR	**Makanchi Array**	**46.81**	**346**	P	P	21 15 31.8	-2.2
	1.7nm,0.6s,baz=159,slow=7.6,SNR=9.3						
ZAL	**Zalesovo**	**53.10**	**351**	P	P	21 16 19.7	-2.4
	0.8nm,0.4s,baz=329,slow=8.3,SNR=4.0						

IDC 31 21:16:39.7±3.4,1.10N×98.11E,mb3.7/5,mb1 3.9/5,mb1mx3.6/18,mbtmp3.7/5,Error ellipse: s-maj=144.7km s-min=21.9km az=61.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.21**	**122**	P	P	21 24 24.9	-3.2
	1.3nm,1.2s,baz=308,slow=9.3,SNR=5.8						
ASAR	**Alice Springs**	**42.61**	**128**	P	P	21 24 38.7	-1.0
	0.1nm,0.3s,baz=298,slow=7.1,SNR=2.6						
SONM	**Songino Array**	**47.10**	**8**	P	P	21 25 14.4	-1.0
	0.3nm,0.8s,baz=194,slow=8.9,SNR=3.6						
MKAR	**Makanchi Array**	**47.56**	**345**	P	P	21 25 16.3	-2.7
	1.7nm,0.7s,baz=153,slow=8.1,SNR=11						
STKA	**Stephens Creek**	**52.62**	**133**	P	P	21 25 56.6	-1.3
	6.6nm,1.2s,baz=319,slow=9.9,SNR=3.2						

*BJI **31** 21:22:43.6,0.75N×97.60E,h33km,mB5.1,mb4.8,Ms4.5,Msz4.2*
*MOS **31** 21:22:45.4±1.0,1.06N×97.56E,h33km,mb4.9/14,Error ellipse: s-maj=17.2km s-min=7.6km az=108.6*
*IDC **31** 21:22:46.0±0.6,0.92N×97.41E,h26km±2km,mb4.3/18,mb1 4.4/19,mb1mx4.3/24,mbtmp4.4/19,ML4.7/1,MS3.8/5,Ms1 3.8/5,ms1mx3.5/20,Error ellipse: s-maj=28.0km s-min=10.4km az=49.0*
*NEIC **31** 21:22:46.0±0.3,0.93N×97.49E,mb4.7/16,Error ellipse: s-maj=9.9km s-min=5.5km az=48.0*
ISC 31 21:22:44.4±0.4,0.95N±0.05×97.47E±0.05,h26km,h26km±.6km:pP-P,n98,σ1§09/101,mb4.6/50,MS4.0/12,5C-3D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPM	**Ipoh**	**5.06**	**44**	P	**Pn**	**21 24 01.9**	**+1.2**
KULM	**Kulim**	**5.36**	**36**	*e*Pn	**Pn**	**21 24 05.3**	**+0.5**
KGM	**Kluang**	**5.94**	**80**	P	**Pn**	**21 24 14.7**	**+1.6**
SNG	**Songkhla**	**6.94**	**27**	P	**Pn**	**21 24 25.0**	**-2.1**
	296nm,0.9s						
BDT	**Bhumibol Dam**	**16.26**	**5**	P	**P**	**21 26 35.0**	**+2.0**
CMAR	**Chiang Mai Arr**	**17.46**	**5**	P	**P**	**21 26 46.9**	**-1.1**
	0.9nm,0.3s,baz=193,slow=12,SNR=33						
CMAR				LR	LR	21 34 26.1	
	comp=Z,370nm,19.4s,baz=195,slow=40						
CHG	**Chiang Mai**	**17.81**	**5**	⇑P	**P**	**21 26 50.8**	**-1.6**
	12nm,0.9s						
PALK	**Pallekele**	**17.86**	**291**	P	**P**	**21 26 53.8**	**+0.7**
	21nm,1.1s						
NANT	**Nan**	**18.02**	**10**	P	**P**	**21 26 56.0**	**+0.9**
KKM	**Kota Kinabalu**	**19.38**	**74**	P	**P**	**21 27 13.0**	**+1.6**
TSM	**Tawau**	**20.65**	**80**	P	**P**	**21 27 28.7**	**+3.8**
KMI	**Kunming**	**24.57**	**12**	P	**P**	**21 28 04.5**	**+0.8**
KMI				AP		21 28 13.3	
KMI				S	**S**	**21 32 26.3**	**+6.3**
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
KMI				LR	LR		
	comp=N,348nm,13.7s,MS4.1						
KMI				LR	LR		
	comp=E,332nm,14.6s,MS4.1						
KMI				LR	LR		
	comp=Z,380nm,11.9s,MS4.1						
HYB	**Hyderabad**	**24.78**	**312**	*e*P	**P**	**21 28 15.0**	**+9.2**
HYB	**Hyderabad**	**24.78**	**312**	*i* P	**P**	**21 28 15.0**	**+9.2**
GYA	**Guiyang**	**26.86**	**18**	P	**P**	**21 28 24.5**	**-0.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.2						
JIRN	**Jiri**	**28.68**	**339**	*e*P	**P**	**21 28 42.4**	**+0.8**
	comp=Z,53nm,0.7s,mb5.4						
PKI	**Pulchoki**	**28.89**	**337**	*e*P	**P**	**21 28 44.5**	**+1.0**
DMN	**Daman**	**29.04**	**337**	*e*P	**P**	**21 28 45.7**	**+0.9**
	comp=Z,14nm,0.7s,mb4.8						
KKN	**Kakani**	**29.14**	**337**	*e*P	**P**	**21 28 46.1**	**+0.4**
	comp=Z,21nm,0.7s,mb5.0						
KKN	**Kakani**	**29.14**	**337**	*e*P	**P**	**21 28 46.1**	**+0.4**
KKN				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.7						
LSA	**Lhasa**	**29.22**	**349**	P	**P**	**21 28 47.8**	**+1.3**
LSA	**Lhasa**	**29.22**	**349**	*e*P	**P**	**21 28 46.9**	**+0.4**
LSA				*e**PP	pP	21 28 54.4	+0.2
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
LSA	**Lhasa**	**29.22**	**349**	*e*P	**P**	**21 28 46.9**	**+0.4**
	comp=Z,13nm,0.8s,mb4.7						
LSA				*e*pP	pP	21 28 54.4	+0.2
GKN	**Gorkha**	**29.58**	**337**	*e*P	**P**	**21 28 49.9**	**+0.2**
	comp=Z,24nm,0.8s,mb5.0						
KOLN	**Koldanda**	**29.80**	**335**	*e*P	**P**	**21 28 52.2**	**+0.5**
	comp=Z,26nm,0.7s,mb5.1						
ENH	**Enshi**	**31.32**	**20**	*e*P	**P**	**21 29 03.1**	**-2.0**
	comp=Z,17nm,0.8s,mb4.9						
ENH				*e*pP	pP	21 29 10.6	-2.2
FITZ	**Fitzroy Crossi**	**33.56**	**126**	*e*P	**P**	**21 29 23.8**	**-0.9**
	comp=Z,8.9nm,1.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.56**	**126**	P	**P**	**21 29 22.8**	**-1.9**
	comp=Z,6.5nm,0.7s,mb4.7,baz=23,slow=2.2,SNR=7.1						
XAN	**Xi'an**	**34.62**	**17**	P	**P**	**21 29 32.3**	**-1.4**
XAN				AP	pP	21 29 39.3	-2.2
XAN				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
LZH	**Lanzhou**	**35.46**	**9**	*e*P	**P**	**21 29 40.0**	**-0.8**
LZH				AP	pP	21 29 49.5	+0.8
LZH				XP	sP	21 29 54.0	+2.0
LZH				AMB	AMB		
	comp=Z,28nm,1.6s,mb4.9						
NJ2	**Nanjing**	**36.94**	**31**	*e*P	**P**	**21 29 54.0**	**+0.7**
NJ2				AP	pP	21 30 03.8	+2.6
NJ2				XP	sP	21 30 07.5	+3.0
NJ2				PP	PP	21 31 24.3	+4.6
NJ2				S	**S**	**21 35 44.0**	**+7.8**
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,240nm,4.2s						
NJ2				LR	LR		
	comp=N,412nm,18.0s,MS4.6						
NJ2				LR	LR		
	comp=E,740nm,19.4s,MS4.6						
NJ2				LR	LR		
	comp=Z,1μm,19.0s,MS4.6						
THN	**Thein Dam**	**37.43**	**329**	*e*P	**P**	**21 29 55.6**	**-1.9**
	comp=Z,8.0nm,0.9s,mb4.5						
SSE	**Sheshan**	**37.46**	**35**	P	**P**	**21 29 56.3**	**-1.4**
SSE				XP	sP	21 30 09.0	+0.1
SSE				PP	PP	21 31 25.0	-1.1
SSE				S	**S**	**21 35 51.3**	**+7.0**
SSE				AMB	AMB		
	comp=Z,29nm,0.7s,mb5.2						
SSE				AMB	AMB		
	comp=Z,38nm,5.2s						
SSE				LR	LR		
	comp=N,115nm,11.8s,MS4.1						
SSE				LR	LR		
	comp=E,128nm,12.2s,MS4.1						
SSE				LR	LR		
	comp=Z,291nm,14.3s,MS4.2						
GTA	**Gaotai**	**38.34**	**3**	*e*P	**P**	**21 30 05.0**	**0.0**
GTA				AP	pP	21 30 14.8	+1.9
GTA				XP	sP	21 30 18.5	+2.3
GTA				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.7						
GTA				AMB	AMB		
	comp=Z,177nm,5.0s						
GTA				LR	LR		
	comp=N,105nm,14.1s,MS3.9						
GTA				LR	LR		
	comp=E,103nm,15.7s,MS3.9						
GTA				LR	LR		
	comp=Z,123nm,13.0s,MS3.9						
WRA	**Warramunga Arr**	**41.67**	**122**	P	**P**	**21 30 32.8**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.1,baz=302,slow=9.1,SNR=22						
WRA				pP	pP	21 30 40.5	-0.2
	comp=Z,3.4nm,0.5s,baz=302,slow=9.0,SNR=14						
WRAB	**Tennant Creek**	**41.68**	**122**	*e*P	**P**	**21 30 33.1**	**+0.2**
WRAB				*e**PP	pP	21 30 41.2	+0.4
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.5						
WRAB	**Tennant Creek**	**41.68**	**122**	*e*P	**P**	**21 30 33.0**	**+0.2**
	comp=Z,9.5nm,0.7s,mb4.5						
WRAB				*e*pP	pP	21 30 41.2	+0.4
WB2	**Warramunga Arr**	**41.68**	**122**	*e*P	**P**	**21 30 32.9**	**0.0**
HHC	**Hu-ho-hao-te**	**41.72**	**16**	*e*P	**P**	**21 30 36.0**	**+3.0**
HHC				AP	pP	21 30 43.3	+2.4
HHC				XP	sP	21 30 46.8	+2.6
HHC				PP	PP	21 32 16.5	+3.9
HHC				PCS		21 36 19.0	
HHC				S	**S**	**21 36 53.5**	**+5.4**
HHC				XS		21 37 07.5	
HHC				SCS	ScS	21 40 32.3	+0.1
HHC				AMB	AMB		
	comp=Z,10.0nm,0.4s,mb4.8						
HHC				AMB	AMB		
	comp=Z,132nm,6.5s						
HHC				LR	LR		
	comp=N,341nm,15.5s,MS4.4						
HHC				LR	LR		
	comp=E,128nm,13.7s,MS4.4						
HHC				LR	LR		
	comp=Z,250nm,14.3s,MS4.2						
BJI	**Beijing**	**42.47**	**21**	*e*P	**P**	**21 30 40.0**	**+0.8**
BJI				AMB	AMB		
	comp=Z,35nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=Z,60nm,26.8s,MS3.4						
ASPA	**Alice Springs**	**43.02**	**127**	*e*P	**P**	**21 30 44.0**	**+0.1**
ASAR	**Alice Springs**	**43.03**	**127**	P	**P**	**21 30 44.1**	**+0.2**
	comp=Z,2.8nm,0.7s,mb4.1,baz=298,slow=7.7,SNR=26						
ASAR				pP	pP	21 30 52.1	+0.3
	comp=Z,2.3nm,0.7s,baz=300,slow=8.3,SNR=9.2						
WMQ	**Urumqi**	**43.57**	**350**	⇑*i*P	**P**	**21 30 49.0**	**+1.0**
WMQ				AP	pP	21 30 56.5	+0.6
WMQ				XP	sP	21 30 59.5	+0.3
WMQ				PP	PP	21 32 32.5	+1.2
WMQ				*e*S	**S**	**21 37 16.5**	**+1.4**
WMQ				SCS	ScS	21 40 44.5	+1.1
WMQ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.6						
WMQ				AMB	AMB		
	comp=Z,155nm,4.8s						
WMQ				LR	LR		
	comp=N,259nm,24.0s,MS4.2						
WMQ				LR	LR		
	comp=E,214nm,23.2s,MS4.2						
WMQ				LR	LR		
	comp=Z,238nm,23.0s,MS4.0						
ULHL	**Ulahol**	**45.33**	**338**	P	**P**	**21 31 03.2**	**+1.0**
	SNR=7.2						
UCH	**Uchtor**	**45.99**	**336**	P	**P**	**21 31 08.4**	**+0.9**
	SNR=15						
TKM2	**Tokmak 2**	**46.15**	**338**	P	**P**	**21 31 09.6**	**+0.9**
	SNR=10						
KBK	**Karagaybulak**	**46.18**	**337**	P	**P**	**21 31 10.6**	**+1.7**
	SNR=9.9						
AAK	**Ala-Archa**	**46.34**	**337**	*e*P	**P**	**21 31 10.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
AAK	**Ala-Archa**	**46.34**	**337**	*e*P	**P**	**21 31 10.1**	**-0.1**
	comp=Z,4.1nm,0.9s,mb4.4						
EKS2	**Erkin-Say**	**46.65**	**336**	P	**P**	**21 31 13.9**	**+1.2**
	SNR=12						
USP	**Ospenovka**	**46.87**	**337**	P	**P**	**21 31 15.0**	**+0.6**
	SNR=17						
SONM	**Songino Array**	**47.34**	**8**	P	**P**	**21 31 18.3**	**+0.2**
	comp=Z,4.3nm,0.5s,mb4.6,baz=189,slow=9.4,SNR=55						
SONM				pP	pP	21 31 25.9	-0.2
	comp=Z,4.3nm,0.7s,baz=193,slow=8.9,SNR=11						
SONM				PcP	PcP	21 32 49.0	-0.1
	comp=Z,2.3nm,0.8s,baz=186,slow=3.7,SNR=6.5						
SONM				pPcP		21 32 56.7	
	comp=Z,1.1nm,0.7s,baz=195,slow=3.7,SNR=4.4						
SONM				LR	LR	21 53 46.1	
	comp=Z,167nm,18.9s,MS4.0,baz=196,slow=39						
ULN	**Ulaanbaatar**	**47.47**	**9**	*e*P	**P**	**21 31 18.8**	**-0.2**
ULN				*e**PP	pP	21 31 26.7	-0.3
ULN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**47.47**	**9**	*e*P	**P**	**21 31 18.8**	**-0.2**
	comp=Z,5.3nm,0.8s,mb4.5						
ULN				*e*pP	pP	21 31 26.7	-0.4
MKAR	**Makanchi Array**	**47.55**	**346**	P	**P**	**21 31 19.7**	**0.0**
	comp=Z,11nm,0.5s,mb5.1,baz=160,slow=8.5,SNR=165						
MKAR				pP	pP	21 31 27.6	-0.1
	comp=Z,5.7nm,0.6s,baz=159,slow=7.9,SNR=8.1						
CN2	**Changchun**	**49.41**	**27**	*e*P	**P**	**21 31 34.5**	**+0.4**
CN2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CN2				AMB	AMB		
	comp=Z,130nm,6.0s						
CN2				LR	LR		
	comp=N,180nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=E,180nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=Z,260nm,14.0s,MS4.4						
ZAK	**Zakamensk**	**49.50**	**5**	*e*P	**P**	**21 31 34.2**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
MOY	**Mondy**	**50.62**	**3**	*e*P	**P**	**21 31 43.9**	**+0.6**
MJAR	**Matsushiro Arr**	**51.69**	**42**	P	**P**	**21 31 51.4**	**-0.2**
	comp=Z,3.3nm,0.7s,mb4.4,baz=227,slow=6.3,SNR=10						
MJAR				LR	LR	21 57 29.1	
	comp=Z,78nm,18.2s,MS3.8,baz=245,slow=40						
HIA	**Hailar**	**51.79**	**18**	*e*P	**P**	**21 31 50.9**	**-1.3**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HIA	**Hailar**	**51.79**	**18**	*e*P	**P**	**21 31 50.9**	**-1.3**
	comp=Z,8.8nm,0.9s,mb4.7						
KURK	**Kurchatov**	**52.10**	**345**	*e*P	**P**	**21 31 54.0**	**-0.5**
KURK				*e*		21 32 08.7	
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**52.10**	**345**	*e*P	**P**	**21 31 54.0**	**-0.6**
	comp=Z,9.8nm,0.9s,mb4.7						
KURK				*e*		21 32 08.7	
STKA	**Stephens Creek**	**52.99**	**132**	P	**P**	**21 32 01.2**	**-0.2**
	comp=Z,3.7nm,0.7s,mb4.4,baz=308,slow=11,SNR=6.5						
STKA				pP	pP	21 32 09.9	+0.4
	comp=Z,3.2nm,0.6s,baz=325,slow=8.4,SNR=4.0						
STKA				LR	LR	21 56 46.5	
	comp=Z,107nm,18.4s,MS3.9,baz=298,slow=38						
STKA	**Stephens Creek**	**52.99**	**132**	P	**P**	**21 32 01.2**	**-0.2**
STKA				pP	pP	21 32 09.9	+0.4
STKA				LR	LR	21 56 46.5	
ZAL	**Zalesovo**	**53.84**	**351**	P	**P**	**21 32 06.5**	**-0.8**
	comp=Z,9.7nm,0.4s,mb5.0,baz=312,slow=5.4,SNR=47						
NVS	**Novosibirsk**	**54.97**	**350**	*e*P	**P**	**21 32 13.7**	**-2.0**
NVS				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
NVS				pmax	pmax		
	comp=N,6.0nm,0.9s						
ATD	**Arta Tunnel**	**55.21**	**283**	LR	LR	21 53 07.0	
	comp=N,36nm,18.5s,MS3.5,baz=132,slow=33						
KLR	**Kul'dur**	**56.36**	**26**	*e*P	**P**	**21 32 22.2**	**-3.5**
BVAR	**Borovoye Array**	**56.58**	**341**	P	**P**	**21 32 26.1**	**-1.1**
	comp=N,5.2nm,0.7s,mb4.7,baz=135,slow=8.4,SNR=27						
BVAR				pP	pP	21 32 33.7	-1.7
	comp=N,2.9nm,0.5s,baz=139,slow=9.6,SNR=8.3						
CHKZ	**Chkalovo**	**57.05**	**341**	*e*P	**P**	**21 32 29.5**	**-1.1**
CHKZ				*e**PP	pP	21 32 37.0	-1.8
CHKZ				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
CHKZ	**Chkalovo**	**57.05**	**341**	*e*P	**P**	**21 32 29.5**	**-1.1**
	comp=Z,11nm,0.8s,mb5.0						
CHKZ				*e*pP	pP	21 32 37.0	-1.8
BOD	**Bodaibo**	**58.21**	**10**	⇓*i*P	**P**	**21 32 38.1**	**-0.5**
BOD				*e*	pP	21 32 45.1	-1.7
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
ARU	**Arti**	**63.52**	**337**	*e*	Px	21 33 43.4	
ARU				*e*		21 35 29.9	
ARU				*e*S	**S**	**21 41 49.1**	**+4.3**
ARU				*e*SS	SS	21 45 58.2	+4.4
ARU	**Arti**	**63.52**	**337**	*e*P	**P**	**21 33 12.3**	**-2.4**
	comp=Z,5.9nm,1.0s,mb4.6						
ARU				*e*pP	pP	21 33 20.2	-2.8
KIV	**Kislovodsk**	**64.67**	**319**	*e*P	**P**	**21 33 21.2**	**-1.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
YAK	**Yakutsk**	**65.59**	**16**	*i* P	**P**	**21 33 26.3**	**-1.7**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s,mb5.0						
BRTR	**Keskin Array B**	**69.48**	**312**	P	**P**	**21 33 51.7**	**-1.2**
	comp=Z,1.3nm,0.7s,mb4.0,baz=128,slow=6.8,SNR=6.0						
OBN	**Obninsk**	**72.97**	**328**	P	**P**	**21 34 13.0**	**-0.6**
TIXI	**Tiksi**	**73.39**	**10**	*e*P	**P**	**21 34 13.4**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**21 34 27.0**	**-1.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=87,slow=5.1,SNR=8.1						
AKASG				pP	pP	21 34 35.4	-1.9
	comp=Z,0.7nm,0.5s,baz=82,slow=5.7,SNR=2.4						
AKASG	**Malin Array Be**	**75.62**	**322**	P	**P**	**21 34 27.0**	**-1.9**
AKASG				pP	pP	21 34 35.4	-1.9
VRI	**Vrincioaia**	**75.99**	**317**	⇓P	**P**	**21 34 31.2**	**+0.1**
MLR	**Muntele Rosu**	**76.44**	**317**	P	**P**	**21 34 33.7**	**0.0**
	comp=Z,4.2nm,0.9s,mb4.4,baz=102,slow=1.1,SNR=5.4						
MLR				pP	pP	21 34 42.2	+0.2
	comp=Z,2.2nm,0.7s,baz=154,slow=8.2,SNR=3.2						
MLR	**Muntele Rosu**	**76.44**	**317**	⇑P	**P**	**21 34 34.3**	**+0.6**
BURAR	**Bucovina Array**	**77.39**	**319**	⇑P	**P**	**21 34 40.0**	**+1.1**
SYO	**Syowa Base**	**79.85**	**198**	⇑P	**P**	**21 34 52.6**	**+0.7**
SYO	**Syowa Base**	**79.85**	**198**	⇓sP	sP	21 35 05.0	+1.9
SUW	**Suwalki**	**80.04**	**325**	*e*P	**P**	**21 34 52.7**	**-0.5**
FINES	**FINESS Array B**	**80.35**	**332**	P	**P**	**21 34 54.5**	**-0.2**
	comp=Z,1.5nm,0.6s,mb4.1,baz=100,slow=6.1,SNR=16						
FINES				pP	pP	21 35 03.5	+0.3
	comp=Z,1.1nm,0.6s,baz=97,slow=5.5,SNR=3.1						
ARCES	**ARCESS Array B**	**82.86**	**340**	P	**P**	**21 35 08.8**	**+1.0**
	comp=Z,4.8nm,0.9s,mb4.5,baz=90,slow=4.9,SNR=7.7						
ARCES				pP	pP	21 35 16.7	+0.5
	comp=Z,2.9nm,0.9s,baz=90,slow=1.2,SNR=1.5						
GERES	**GERESS Array B**	**85.18**	**319**	P	**P**	**21 35 21.0**	**+1.2**
	comp=Z,2.2nm,0.9s,mb4.3,baz=104,slow=5.5,SNR=11						
GERES				pP	pP	21 35 29.1	+0.8
	comp=Z,1.9nm,0.9s,baz=90,slow=6.7,SNR=5.8						
KHC	**Kasperske Hory**	**85.28**	**319**	*e*P	**P**	**21 35 20.5**	**+0.2**
HFS	**Hagfors**	**86.07**	**330**	P	**P**	**21 35 25.0**	**+1.0**
	comp=Z,1.4nm,0.5s,mb4.5,baz=153,slow=3.3,SNR=13						
NB2	**NORSAR Subarra**	**87.36**	**331**	P	**P**	**21 35 30.3**	**+0.1**
	comp=Z,1.1nm,0.7s,mb4.2,baz=92,slow=5.0						
NB2	**NORSAR Subarra**	**87.36**	**331**	P	**P**	**21 35 30.3**	**+0.1**
NB2				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.2						
NOA	**NORSAR Array B**	**87.36**	**331**	P	**P**	**21 35 30.4**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.3,baz=95,slow=4.8,SNR=9.9						
NOA				pP	pP	21 35 38.4	-0.3
	comp=Z,1.2nm,0.7s,baz=95,slow=4.9,SNR=4.7						
DAVOX	**Davos**	**87.66**	**317**	P	**P**	**21 35 33.1**	**+1.0**
	comp=Z,2.4nm,0.5s,mb4.7,baz=159,slow=7.6,SNR=6.3						

*IDC **31** 21:27:06.6±0.9,36.48N×26.54E,mb3.8/11,mb1 3.9/15,mb1mx3.8/25,mbtmp3.7/15,ML3.5/4,MS3.0/5,Ms1 3.0/5,ms1mx2.8/31,Error ellipse: s-maj=19.6km s-min=14.6km az=140.0*
*ATH **31** 21:27:07.5,36.67N×26.46E,h25km±1km,MD3.9/18,ML4.2*
*NEIC **31** 21:27:07.6,36.69N×26.46E,h28km,mb3.8/7,MD3.8(ATH),MD3.6(ISK),After ATH,*
*MOS **31** 21:27:09.6±1.2,36.63N×26.40E,h33km,mb4.1/5,Error ellipse: s-maj=8.9km s-min=6.7km az=119.3*
*ISK **31** 21:27:09.3,36.67N×26.40E,h32km,MD3.6*
*CSEM **31** 21:27:09.7±0.1,36.67N×26.41E,h40km,mb3.9/4,Ms2.7,Error ellipse: s-maj=1.6km s-min=1.3km az=6.0*
ISC 31 21:27:08.1±0.4,36.65N±0.03×26.39E±0.02,h19km±4km,n125,σ1§19/142,mb3.7/15,MS2.9/2,1C-2D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.60**	**93**	*e*PN	**Pb**	**21 27 19.0**	**-0.7**
SANT	**Santorini**	**0.80**	**250**	*e*Pg	**Pb**	**21 27 23.5**	**+0.4**
SANT				*e*Sg	**Sb**	**21 27 36.1**	**+2.6**
SANT	**Santorini**	**0.80**	**250**	*i* P	**Pb**	**21 27 23.7**	**+0.5**
SANT				*i* S	**Sb**	**21 27 36.2**	**+2.7**
SANT	**Santorini**	**0.80**	**250**	*e*Pg	**Pb**	**21 27 23.5**	**+0.3**
SANT				*e*Sg	**Sb**	**21 27 36.1**	**+2.6**
THR1	**Thera Island**	**0.80**	**250**	*e*P	**Pb**	**21 27 23.6**	**+0.4**
APE	**Apeiranthos**	**0.81**	**302**	PG	**Pb**	**21 27 24.0**	**+0.7**
APE				SG	**Sb**	**21 27 35.9**	**+2.2**
APE	**Apeiranthos**	**0.81**	**302**	*e*PN	**Pn**	**21 27 23.7**	**-0.7**
APE				*e*SN	**Sn**	**21 27 36.0**	**+0.1**
APE	**Apeiranthos**	**0.81**	**302**	*e*Pg	**Pb**	**21 27 24.0**	**+0.7**
APE				*e*Sn	**Sn**	**21 27 36.0**	**+0.1**
THR4	**Thira Island,**	**0.82**	**257**	*e*P	**Pb**	**21 27 21.3**	**-2.3**
THR3	**Thira Island,**	**0.83**	**253**	*e*P	**Pb**	**21 27 24.0**	**+0.2**
BODT	**Bodrum**	**0.85**	**61**	PG	**Pb**	**21 27 24.3**	**+0.3**
BODT				SG	**Sb**	**21 27 35.9**	**+1.0**
BODT	**Bodrum**	**0.85**	**61**	Pg	**Pb**	**21 27 24.4**	**+0.4**
BODT				Sg	**Sb**	**21 27 35.4**	**+0.5**
BODT	**Bodrum**	**0.85**	**61**	Pg	**Pb**	**21 27 24.4**	**+0.4**
BODT				*e*Sg	**Sb**	**21 27 35.9**	**+1.0**
THR6	**Thira Island,**	**0.85**	**250**	*e*P	**Pb**	**21 27 27.3**	**+3.2**
THR5	**Thira Island,**	**0.87**	**255**	*e*P	**Pb**	**21 27 24.8**	**+0.4**
BDRM	**Kayabasi**	**0.94**	**64**	*i* P	**Pb**	**21 27 25.0**	**-0.7**
BDRM				*i* S	**Sb**	**21 27 37.7**	**+0.1**
SMG	**Samos**	**1.11**	**19**	*e*PN	**Pn**	**21 27 27.9**	**-1.0**
SMG				*e*SN	**Sn**	**21 27 42.8**	**-1.0**
KARP	**Karpathos**	**1.27**	**150**	⇑*i*PN	**Pn**	**21 27 30.8**

EVR	Evrytania	4.28	303	*e*Pn	Pn	21 28 16.0	+2.1
EVR	Evrytania	4.28	303	*e*PN	Pn	21 28 14.0	+0.1
MEV	Metsovon	5.13	309	*e*P	Pn	21 28 21.7	-4.3
GRG	Griva	5.31	325	*e*P	Pn	21 28 28.5	0.0
IGT	Igoumenitsa	5.58	303	*e*P	Pn	21 28 32.7	+0.4
FNA	Florina	5.69	318	*e*P	Pn	21 28 33.1	-0.8
CSS	Prodhromos	5.89	105	Pn	Pn	21 28 36.9	+0.2
CSS	Prodhromos	5.89	105	Pn	Pn	21 28 36.9	+0.2
BRTR	Keskin Array B	6.48	60	Pn	Pn	21 28 44.0	-1.1
	0.1nm,0.3s,baz=243,slow=13,SNR=3.5						
BRTR	Keskin Array B	6.48	60	Pn	Pn	21 28 44.0	-1.1
TIP	Timpagrande	8.02	291	*e*Pn	P	21 29 05.7	-0.9
TIP	Timpagrande	8.02	291	*e*Pn	P	21 29 05.7	-0.9
MLR	Muntele Rosu	8.84	358	Pn	P	21 29 18.6	+0.6
	0.1nm,0.3s,baz=173,slow=12,SNR=3.3						
MLR				LR	LR	21 33 17.4	
	comp=Z,114nm,18.6s,baz=55,slow=41						
VAE	Valguarnera	9.61	279	LR	LR	21 33 06.9	
	comp=Z,54nm,21.8s,baz=302,slow=37						
ASF	Jabal al Asfar	9.76	114	Sn	Sn	21 31 16.8	-4.1
	0.6nm,0.3s,baz=90,slow=3.0,SNR=2.6						
EIL	Elat	9.99	132	Pn	P	21 29 30.6	-3.4
	1.4nm,0.3s,baz=358,slow=22,SNR=11						
EIL				Sn	Sn	21 31 16.8	-10
	1.1nm,0.3s,baz=294,slow=18,SNR=4.9						
EIL	Elat	9.99	132	*e*Pn	P	21 29 29.1	-4.8
	6.0nm,0.5s						
EIL				*e*Sn	Sn	21 31 04.8	-22
AKASG	Malin Array Be	14.19	7	Pn	P	21 30 34.2	+4.0
	baz=200,slow=11,SNR=4.1						
KIV	Kislovodsk	14.40	55	*e*P	P	21 30 41.3	+8.3
KIV	Kislovodsk	14.40	55	*e*P	P	21 30 41.3	+8.3
GERES	GERESS Array B	15.31	327	Pn	P	21 30 49.7	+4.8
	0.1nm,0.3s,baz=148,slow=13,SNR=5.5						
KHC	Kasperske Hory	15.58	327	*e*P	P	21 30 50.0	+1.6
KHC				*e*		21 30 53.5	
KHC	Kasperske Hory	15.58	327	*e*P	P	21 30 50.0	+1.6
KHC				x	x	21 30 53.5	
DAVOX	Davos	15.92	315	LR	LR	21 38 19.8	
	comp=Z,66nm,18.9s,baz=92,slow=42						
MBDF	Montbardon	16.90	305	*e*P	P	21 31 01.4	-3.8
	20nm,1.3s						
MBDF	Montbardon	16.90	305	*e*P	P	21 31 01.4	-3.8
MBDF				pmax	pmax		
	comp=Z,10.0nm,1.3s						
LPG	La Plagne	17.21	307	*e*P	P	21 31 11.1	+2.0
	comp=Z,6.9nm,0.9s						
LPG	La Plagne	17.21	307	*e*P	P	21 31 11.1	+2.0
LPG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
LPL	La Plagne	17.23	307	*e*P	P	21 31 11.2	+1.9
CABF	La Chapelle	18.10	310	*e*P	P	21 31 20.6	+0.4
	comp=Z,7.9nm,0.8s						
CABF	La Chapelle	18.10	310	*e*P	P	21 31 20.6	+0.4
CABF				pmax	pmax		
	comp=Z,4.0nm,0.8s						
SMF	Signal de Mont	19.52	308	*e*P	P	21 31 36.5	-0.7
AVF	Avril sur Loir	19.89	308	*e*P	P	21 31 39.3	-2.0
SSF	Saint Saulge	19.90	309	*e*P	P	21 31 40.2	-1.2
SSF				pmax	pmax		
	comp=Z,11nm,1.1s						
SSF	Saint Saulge	19.90	309	*e*P	P	21 31 40.2	-1.2
	comp=Z,11nm,1.1s						
TCF	Toulx Ste Croi	20.45	306	*e*P	P	21 31 46.3	-0.8
	comp=Z,11nm,1.1s						
TCF	Toulx Ste Croi	20.45	306	*e*P	P	21 31 46.3	-0.8
TCF				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BAIF	Baives	20.87	317	*e*P	P	21 31 51.5	+0.1
LDF	La Druitiere	22.75	310	*e*P	P	21 32 08.6	-1.6
FLN	La Foliniere	23.03	310	*e*P	P	21 32 12.1	-0.9
FLN				*e*R			
	comp=Z,44nm,21.5s						
GRR	Gorron	23.13	309	*e*P	P	21 32 13.0	-0.9
	comp=Z,3.5nm,0.4s,mb3.8						
GRR	Gorron	23.13	309	*e*P	P	21 32 13.0	-0.9
GRR				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.9						
ESDC	Sonseca Array	24.00	287	P	P	21 32 23.8	+1.3
	comp=Z,0.5nm,0.4s,mb3.3,baz=83,slow=9.9,SNR=4.8						
SGMF	Saint Gilles	24.16	308	*e*P	P	21 32 23.4	-0.5
QUIF	Quistinic	24.44	307	*e*P	P	21 32 25.7	-1.0
ROSF	Rostrenen	24.64	308	*e*P	P	21 32 27.0	-1.6
	comp=Z,7.4nm,0.9s,mb3.9						
ROSF	Rostrenen	24.64	308	*e*P	P	21 32 27.0	-1.6
ROSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.0						
FINES	FINESS Array B	24.82	360	P	P	21 32 31.4	+1.2
	comp=Z,2.0nm,0.9s,mb3.6,baz=143,slow=9.5,SNR=7.8						
HFS	Hagfors	24.88	345	P	P	21 32 31.2	+0.4
	comp=Z,3.3nm,1.0s,mb3.8,baz=56,slow=5.3,SNR=4.7						
NOA	NORSAR Array B	26.24	343	P	P	21 32 46.7	+3.2
	comp=Z,0.8nm,0.8s,mb3.3,baz=156,slow=9.0,SNR=3.6						
NOA				LR	LR	21 44 00.7	
	comp=Z,21nm,20.0s,MS2.7,baz=85,slow=38						
EKA	Eskdalemuir Ar	27.44	322	P	P	21 32 56.6	+2.1
	comp=Z,1.5nm,0.9s,mb3.5,baz=117,slow=9.3,SNR=4.4						
ARU	Arti	29.27	37	⇓*i*P	P	21 33 11.9	+0.8
ARU				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.2						
ARU	Arti	29.27	37	*i* P	P	21 33 11.9	+0.8
	comp=Z,6.0nm,1.2s,mb4.2						
ARCES	ARCESS Array B	32.95	359	LR	LR	21 46 52.1	
	comp=Z,33nm,18.2s,MS3.1,baz=15,slow=36						
CHKZ	Chkalovo	34.86	47	P	P	21 33 57.8	-2.2
DBIC	Dimbokro	41.27	231	P	P	21 34 53.4	-0.7
	comp=Z,2.2nm,0.5s,mb4.0,baz=12,slow=9.2,SNR=7.4						
DBIC	Dimbokro	41.27	231	P	P	21 34 53.3	-0.8
MKAR	Makanchi Array	42.13	58	P	P	21 35 00.5	-0.2
	comp=Z,0.9nm,0.5s,mb3.7,baz=270,slow=8.5,SNR=15						
NVS	Novosibirsk	42.33	46	*e*P	P	21 35 01.6	-0.7
ZAL	Zalesovo	43.25	47	P	P	21 35 08.7	-1.0
	comp=Z,0.8nm,0.6s,mb3.6,baz=202,slow=10,SNR=3.5						
ZAK	Zakamensk	55.02	50	*e*P	P	21 36 38.8	-1.7
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.8s,mb3.5						
ZAK	Zakamensk	55.02	50	*e*P	P	21 36 38.8	-1.7
	comp=Z,1.0nm,1.8s,mb3.5						
SONM	Songino Array	57.78	52	P	P	21 36 58.6	-1.6
	comp=Z,1.1nm,1.1s,mb3.8,baz=291,slow=8.5,SNR=4.4						
SCHQ	Schefferville	62.70	319	P	P	21 37 33.3	-0.6
	comp=Z,3.9nm,1.0s,mb4.5,baz=37,slow=5.1,SNR=3.7						
YKA	Yellowknife Ar	76.34	342	P	P	21 38 59.9	+2.8
	comp=Z,0.1nm,0.3s,mb3.2,baz=68,slow=4.7,SNR=3.6						

NEIC ***31*** *21:34:19.6,35.93S×177.89E,h174km,MG3.8(WEL), After WEL.*

WEL 31 21:34:19.2±0.4,36.00S×178.09E,h190km±8km,ML3.7/4, Error ellipse: s-maj=9.3km s-min=7.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.57**	**174**	P	P	21 34 52.9	-0.1
MXZ				S	S	21 35 18.4	-0.7
MXZ	**Matakaoa Point**	**1.57**	**174**	PN	P	21 34 52.9	-0.2
MXZ				SN	S	21 35 18.4	-0.7
MXZ				SN	S	21 35 18.7	-0.4
PUZ	**Puketiti**	**2.07**	**176**	P	P	21 34 57.9	-0.2
PUZ				S	S	21 35 27.1	-1.0
PUZ	**Puketiti**	**2.07**	**176**	PN	P	21 34 57.9	-0.3
PUZ				SN	S	21 35 27.1	-1.0
MWZ	**Matawai**	**2.37**	**191**	P	P	21 35 01.2	-0.3
MWZ				S	S	21 35 33.1	-1.0
MWZ	**Matawai**	**2.37**	**191**	PN	P	21 35 01.2	-0.3
MWZ				SN	S	21 35 33.1	-1.0
URZ	**Urewera**	**2.39**	**199**	P	P	21 35 01.2	-0.5
URZ	**Urewera**	**2.39**	**199**	PN	P	21 35 01.2	-0.5
URZ				SN	S	21 35 34.5	+0.1

NEIC ***31*** *21:36:46.9±0.8,0.45N×97.36E,h30km,mb4.1/3,Error ellipse: s-maj=22.3km s-min=9.4km az=66.0*

IDC ***31*** *21:36:48.0±1.7,0.43N×97.44E,h36km±5km,mb3.9/8, mb1 4.1/9,mb1mx3.7/20,mbtmp4.1/9,ML4.0/1,Error ellipse: s-maj=71.4km s-min=12.8km az=58.0*

ISC 31 21:36:45.9±0.9,0.5N±0.1×97.4E±0.2,h37km±2.4km:pP-P,n15,σ0≥87/15,mb4.1/11,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.77**	**34**	*e*Pn	P	21 38 11.4	+0.1
KSM	**Kuching**	**12.94**	**86**	P	P	21 39 40.8	-9.3
CMAR	**Chiang Mai Arr**	**17.93**	**5**	P	P	21 40 55.1	+0.8
	0.2nm,0.3s,baz=193,slow=12,SNR=20						
LSA	**Lhasa**	**29.66**	**349**	*e*P	P	21 42 51.4	+0.9
	2.9nm,1.0s,mb4.0						
ENH	**Enshi**	**31.78**	**20**	*e*P	P	21 43 07.7	-1.5
	4.5nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**33.35**	**125**	P	P	21 43 21.8	-1.2
	2.8nm,0.7s,mb4.3,baz=326,slow=3.6,SNR=4.2						
FITZ				pP		21 43 31.9	-1.5
	3.5nm,0.8s,baz=346,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**33.35**	**125**	P	P	21 43 21.8	-1.2
FITZ				pP	pP	21 43 31.9	-1.5
WRA	**Warramunga Arr**	**41.49**	**121**	P	P	21 44 31.4	+0.1
	1.3nm,0.7s,mb3.6,baz=299,slow=9.0,SNR=11						
WRA				pP	pP	21 44 40.6	-1.4
	1.1nm,0.8s,baz=303,slow=8.9,SNR=4.4						
ASAR	**Alice Springs**	**42.80**	**127**	P	P	21 44 43.0	+0.8
	1.0nm,0.7s,mb3.7,baz=301,slow=8.0,SNR=10						
ASAR				pP	pP	21 44 52.2	-0.7
	1.6nm,0.9s,baz=310,slow=7.7,SNR=6.2						
SONM	**Songino Array**	**47.81**	**8**	P	P	21 45 22.8	+1.0
	0.3nm,0.5s,mb3.6,baz=187,slow=8.4,SNR=4.6						
SONM				pP	pP	21 45 33.8	+1.3
	0.7nm,0.6s,baz=186,slow=9.1,SNR=6.9						
MKAR	**Makanchi Array**	**47.98**	**346**	P	P	21 45 23.0	-0.2
	1.5nm,0.5s,mb4.3,baz=159,slow=8.1,SNR=25						
MKAR				pP		21 45 35.0	+1.1
	1.5nm,0.7s,baz=163,slow=8.8,SNR=8.4						
KURK	**Kurchatov**	**52.53**	**345**	P	P	21 45 56.5	-1.3
	1.6nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**52.73**	**132**	P	P	21 46 00.0	+0.5
	2.8nm,0.8s,mb4.2,baz=346,slow=1.2,SNR=4.7						
ZAL	**Zalesovo**	**54.29**	**351**	P	P	21 46 09.8	-0.9
	1.8nm,0.4s,mb4.3,baz=291,slow=5.4,SNR=7.5						
ARCES	**ARCESS Array B**	**83.28**	**340**	P	P	21 49 10.4	+0.6
	4.3nm,0.8s,mb4.5,baz=63,slow=4.0,SNR=4.7						
ARCES				pP	pP	21 49 23.2	+2.0
	7.4nm,0.9s,baz=126,slow=12,SNR=3.3						

IDC ***31*** *21:50:50.5±0.8,23.50S×64.72W,mb4.1/7,mb1 4.2/12, mb1mx4.1/19,mbtmp4.0/12,ML3.6/5,MS5.0/1,Ms1 5.0/1, ms1mx3.9/13,Error ellipse: s-maj=25.2km s-min=22.3km az=95.0*

NEIC ***31*** *21:50:51.7±0.3,23.57S×64.61W,h10km,mb4.9/15,Error ellipse: s-maj=9.5km s-min=7.0km az=95.0*

BJI ***31*** *21:50:51.7,23.60S×64.60W,h10km,Msz4.4*

ISC 31 21:50:50.3±0.4,23.57S±0.06×64.68W±0.10,h10km,n54, σ1§05/42,mb4.6/21,MS4.7/2,2C,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.01**	**283**	*e*Pn	Pn	21 51 56.2	+3.0
LVC				*e*		21 52 11.9	
LPAZ	**La Paz**	**7.94**	**335**	Pn	Pn	21 52 47.4	-1.2
	0.2nm,0.3s,baz=160,slow=4.7,SNR=3.9						
LPAZ				Lg		21 55 00.5	
	1.3nm,0.3s,baz=212,slow=23,SNR=3.9						
LPAZ	**La Paz**	**7.94**	**335**	*e*Pn	Pn	21 52 49.1	+0.5
SIV	**San Ignacio**	**8.27**	**25**	Pn	P	21 52 49.6	-3.5
	5.3nm,0.3s,baz=208,slow=11,SNR=47						
CFAA	**Coronel Fontan**	**8.60**	**201**	Pn	P	21 52 57.2	-0.6
	0.1nm,0.3s,baz=22,slow=14,SNR=6.6						
CFAA				Lg		21 55 23.8	
	0.4nm,0.3s,baz=16,slow=15,SNR=7.1						
CFAA	**Coronel Fontan**	**8.60**	**201**	Pn	P	21 52 57.2	-0.6
CFAA				Lg		21 55 23.8	
ZON	**Zonda**	**8.70**	**203**	*e*P	P	21 52 56.0	-3.2
SAML	**Samuel**	**14.61**	**6**	*e*P	P	21 54 14.6	-4.5
	31nm,1.2s						
TRQA	**Tornquist**	**14.62**	**172**	P	P	21 54 25.2	+6.0
	26nm,1.1s						
BDFB	**Brasilia**	**17.56**	**66**	P	P	21 54 57.4	+0.5
	0.2nm,0.3s,baz=231,slow=17,SNR=1.7						
PLCA	**Paso Flores**	**17.81**	**195**	P	P	21 54 59.9	0.0
	0.1nm,0.3s,baz=183,slow=7.2,SNR=2.3						
OXF	**Oxford**	**62.36**	**337**	*e*P	P	22 01 12.8	-2.7
	46nm,1.1s,mb5.5						
WVT	**Waverly**	**63.28**	**339**	*e*P	P	22 01 18.1	-3.5
	24nm,1.5s,mb5.1						
MIAR	**Mount Ida**	**63.98**	**334**	*e*P	P	22 01 24.5	-1.7
	13nm,1.4s,mb4.8						
TXAR	**Lajitas Array**	**64.60**	**323**	P	P	22 01 29.3	-1.1
	0.2nm,0.4s,mb3.5,baz=126,slow=7.8,SNR=2.9						
DBIC	**Dimbokro**	**65.65**	**70**	P	P	22 01 36.9	-0.5
	2.1nm,0.7s,mb4.3,baz=224,slow=5.6,SNR=4.9						
CCM	**Cathedral Cave**	**66.19**	**337**	*e*P	P	22 01 37.9	-2.5
	11nm,1.0s,mb4.8						
QSPA	**South Pole Qui**	**66.63**	**180**	*e*P	P	22 01 42.4	-0.2
	11nm,0.9s,mb4.9						
LPM	**Los Pinos Moun**	**70.02**	**324**	*e*P	P	22 02 04.5	+0.1
ANMO	**Albuquerque**	**70.41**	**324**	P	P	22 02 06.1	-0.7
	4.5nm,1.0s,mb4.3,baz=130,slow=6.8,SNR=8.4						
ANMO	**Albuquerque**	**70.41**	**324**	*e*P	P	22 02 06.9	+0.2
	11nm,1.2s,mb4.7						
SDCO	**Great Sand Dun**	**72.06**	**327**	*e*P	P	22 02 16.7	0.0
	48nm,1.8s,mb5.1						
SYO	**Syowa Base**	**73.18**	**159**	⇑P	P	22 02 22.5	-0.1
SYO	**Syowa Base**	**73.18**	**159**	⇑pP	pP	22 02 26.8	+1.1
RW3	**Ridgway**	**73.55**	**326**	*e*P	P	22 02 26.1	+0.7
ISCO	**Idaho Springs**	**73.71**	**328**	*e*P	P	22 02 26.9	+0.6
	8.4nm,1.4s,mb4.5						
PV01	**Paradox Valley**	**73.92**	**325**	*e*P	P	22 02 28.5	+0.9
SRU	**San Rafael**	**75.67**	**325**	*e*P	P	22 02 38.0	+0.3
MSU	**Marysvale**	**76.13**	**323**	*e*P	P	22 02 41.2	+1.0
RSSD	**Black Hills**	**76.40**	**332**	*e*P	P	22 02 40.9	-0.7
	3.8nm,1.0s,mb4.3						
JLU	**Jordanelle**	**77.25**	**325**	*e*P	P	22 02 46.8	+0.3
PDAR	**Pinedale Array**	**77.89**	**328**	P	P	22 02 49.6	-0.3
	1.6nm,0.9s,mb3.9,baz=135,slow=4.2,SNR=9.6						
HWUT	**Hardware Ranch**	**78.04**	**326**	*e*P	P	22 02 50.5	-0.3
	15nm,1.4s,mb4.7						
BGU	**Big Grassy Mou**	**78.31**	**325**	*e*P	P	22 02 52.8	+0.5
LOHW	**Long Hollow**	**79.03**	**328**	*e*P	P	22 02 56.3	+0.2
	24nm,1.8s,mb4.8						
RRI2	**Red Ridge**	**79.19**	**327**	*e*P	P	22 02 57.0	0.0
	28nm,1.6s,mb4.9						
IMW	**Indian Meadow**	**79.41**	**328**	*e*P	P	22 02 58.8	+0.6
	13nm,1.3s,mb4.7						
NVAR	**Mina Array Bea**	**79.56**	**320**	P	P	22 02 59.9	+0.8
	1.8nm,0.9s,mb4.0,baz=150,slow=7.3,SNR=12						
HLID	**Hailey**	**80.91**	**326**	*e*P	P	22 03 07.3	+1.2
	16nm,1.1s,mb4.8						
ESDC	**Sonseca Array**	**84.63**	**43**	P	P	22 03 26.1	+0.7
	1.5nm,0.9s,mb4.1,baz=232,slow=4.9,SNR=7.4						
LSZ	**Lusaka**	**86.57**	**105**	*e*P	P	22 03 37.3	+1.8
	6.7nm,1.4s,mb4.7						
YKA	**Yellowknife Ar**	**94.47**	**339**	P	P	22 04 11.4	0.0
	1.2nm,0.9s,mb4.3,baz=128,slow=4.5,SNR=13						
YKA	**Yellowknife Ar**	**94.47**	**339**	P	P	22 04 11.4	0.0
VAE	**Valguarnera**	**95.90**	**52**	LR	LR	22 52 43.4	
	comp=Z,688nm,18.8s,MS5.2,baz=132,slow=39						
ASAR	**Alice Springs**	**129.70**	**202**	PKP	PKPdf	22 10 01.9	-1.8
	0.8nm,0.8s,baz=135,slow=2.3,SNR=6.8						
WRA	**Warramunga Arr**	**132.94**	**205**	PKP	PKPdf	22 10 08.5	-1.3
	0.5nm,0.7s,baz=169,slow=1.6,SNR=5.5						
ZAL	**Zalesovo**	**142.00**	**29**	PKP	PKPdf	22 10 24.2	-1.1
	1.0nm,0.7s,baz=196,slow=6.6,SNR=6.4						
MKAR	**Makanchi Array**	**144.83**	**41**	PKP	PKPdf	22 10 27.8	-2.6
	3.8nm,1.0s,baz=288,slow=3.8,SNR=25						
HYB	**Hyderabad**	**145.09**	**93**	*e*P	PKPbc	22 10 29.0	0.0
HYB	**Hyderabad**	**145.09**	**93**	*i* PKP	PKPdf	22 10 29.0	-2.7
WMQ	**Urumqi**	**149.63**	**42**	*e*PKP	PKPdf	22 10 37.0	-1.5
WMQ				LR	LR		
	comp=Z,68nm,27.3s,MS4.3						
SONM	**Songino Array**	**154.76**	**14**	PKP	PKPdf	22 10 46.0	+0.3
	comp=Z,1.4nm,1.1s,baz=315,slow=1.7,SNR=7.3						
SONM				PKPbc	PKPdf	22 10 53.8	+8.1
	comp=Z,1.5nm,0.8s,baz=327,slow=1.5,SNR=10						
SONM				PKPab	PKPab	22 11 09.4	+0.6
	comp=Z,0.4nm,0.8s,slow=1.2,SNR=3.9						
ULN	**Ulaanbaatar**	**154.88**	**13**	*e*PKPdf	PKPdf	22 10 43.5	-2.4
ULN				*e*PKPbc	PKPdf	22 10 52.6	+6.7
HHC	**Hu-ho-hao-te**	**162.48**	**10**	*e*PKP	PKPdf	22 10 48.8	-6.2

IDC 31 21:51:56.0±4.1,2.42N×98.57E,mb3.3/3,mb1 3.5/3, mb1mx3.3/18,mbtmp3.3/3,Error ellipse: s-maj=158.1km s-min=29.3km az=59.0,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.55**	**124**	P	P	21 59 45.4	-1.8
	0.3nm,0.4s,baz=306,slow=9.1,SNR=6.6						
SONM	**Songino Array**	**45.74**	**7**	P	P	22 00 19.7	-1.1
	0.3nm,0.7s,baz=194,slow=5.9,SNR=3.3						
MKAR	**Makanchi Array**	**46.41**	**345**	P	P	22 00 23.7	-2.5
	0.3nm,0.4s,baz=164,slow=8.8,SNR=7.0						

BJI ***31*** *21:52:28.7,23.61S×65.24W,h1km,mB5.2,Ms5.3,Msz5.1*

NEIC ***31*** *21:52:30.9±2.4,23.56S×64.51W,h1km±14km,mb5.1/36, MS4.6/23,Error ellipse: s-maj=8.6km s-min=5.8km az=72.0*

IDC ***31*** *21:52:30.8±0.5,23.54S×64.49W,mb4.5/15,mb1 4.6/20, mb1mx4.6/22,mbtmp4.5/20,ML4.0/5,MS4.2/6,Ms1 4.2/6, ms1mx4.0/14,Error ellipse: s-maj=21.8km s-min=14.4km az=77.0*

HRVD ***31*** *21:52:30.9±0.3,23.67S×64.49W,h12km,MW5.1/53, Centroid moment Tensor Solution. LP body waves: s19,c22;Mantle waves: s53,c84; Half duration: 0 Moment tensor: Scale 10^16Nm; Mrr 1.04±.14; Mθθ 1.98±.11; Mφφ -3.02±.13; Mrθ -0.29±.35; Mθφ -1.57±.11; Mφr 3.93±.38; Best double couple: Mo 4.816×10^16 NP1:φs242°,δ31°, λ163°. NP2:φs346°,δ81°,λ60°. Principal axes: T 4.029, Plg45°, Azm226°; N 1.574, Plg30°, Azm351°; P -5.603, Plg30°, Azm100°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 31 21:52:30.6±0.3,23.52S±0.04×64.40W±0.05,h10km,n127, σ1§16/89,mb4.8/51,MS4.6/28,1C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**4.25**	**281**	*e*P	Pn	21 53 34.3	-2.5
LPAZ	**La Paz**	**8.00**	**333**	Pn	P	21 54 30.2	+0.5
	1.5nm,0.3s,baz=239,slow=5.9,SNR=6.2						
SIV	**San Ignacio**	**8.12**	**23**	Pn	P	21 54 31.7	+0.4
	19nm,0.3s,baz=206,slow=17,SNR=14						
SIV				Sn	Sn	21 56 04.6	+0.4
	24nm,0.3s,baz=216,slow=19,SNR=3.1						
CFAA	**Coronel Fontan**	**8.74**	**202**	Pn	P	21 54 38.5	-1.5
	0.4nm,0.3s,baz=352,slow=12,SNR=5.1						
ARE	**Arequipa**	**9.68**	**315**	*e*P	P	21 54 51.0	-2.0
SAML	**Samuel**	**14.54**	**5**	*e*P	P	21 55 52.9	-5.6
SAML				*e*S	S	21 58 28.8	-12
TRQA	**Tornquist**	**14.64**	**172**	*e*P	P	21 56 01.9	+2.2
BDFB	**Brasilia**	**17.31**	**66**	Pn	P	21 56 35.3	+1.3
	0.3nm,0.3s,baz=215,slow=18,SNR=4.4						
BDFB				LR	LR	22 03 31.1	
	comp=Z,2μm,21.5s,baz=248,slow=38						
BAO	**Brasilia Array**	**17.33**	**66**	P	P	21 56 26.0	-8.3
BAO				S	S	21 59 43.0	-2.6
PLCA	**Paso Flores**	**17.93**	**195**	Pn	P	21 56 39.6	-2.0
	0.1nm,0.3s,baz=35,slow=11,SNR=3.9						
PLCA				LR	LR	22 02 57.4	
	comp=Z,145nm,19.4s,baz=10.0,slow=35						
CAM4	**Nova Friburgo**	**20.15**	**91**	*e*P	P	21 57 06.8	-1.0
CAM4				*i*		21 57 28.8	
CAM4				*i*		21 57 43.6	
OTAV	**Otavalo**	**27.27**	**328**	PFAKE		21 58 30.0	+13
OTAV				LR	LR		
	comp=Z,1μm,20.0s,MS4.5						
ROSC	**El Rosal**	**29.82**	**340**	LR	LR	22 10 19.3	
	comp=Z,1μm,20.6s,MS4.5,baz=181,slow=36						
RCBR	**Riachuelo**	**32.59**	**62**	PFAKE		21 59 20.0	+15
RCBR				LR	LR		
	comp=Z,780nm,22.0s,MS4.4						
SDV	**Santo Domingo**	**32.78**	**349**	P	P	21 59 05.4	-0.8
	comp=Z,2.3nm,0.5s,mb4.4,baz=222,slow=4.8,SNR=3.6						
SDV				LR	LR	22 12 29.8	
	comp=Z,1μm,18.7s,MS4.6,baz=25,slow=37						
SDV	**Santo Domingo**	**32.78**	**349**	P	P	21 59 05.4	-0.8
SDV				*e*S	S	22 04 14.8	-7.2
SDV				LR	LR	22 12 29.8	
PAYG	**Puerto Ayora**	**33.86**	**308**	PFAKE		21 59 30.0	+14
PAYG				LR	LR		
	comp=Z,737nm,22.0s,MS4.4						
JTS	**JuntasAbangare**	**39.16**	**327**	*e*P	P	22 00 01.6	+1.2
	comp=Z,24nm,1.1s,mb4.8						
JTS				LR	LR		
	comp=Z,123nm,22.0s,MS3.7						
SJG	**San Juan**	**41.41**	**357**	PFAKE		22 00 30.0	+11
SJG				LR	LR		
	comp=Z,869nm,19.0s,MS4.6						
TEIG	**Tepich**	**49.32**	**330**	PFAKE		22 01 30.0	+7.9
TEIG				LR	LR		
	comp=Z,218nm,20.0s,MS4.2						
SNAA	**Sanae**	**59.02**	**161**	P	P	22 02 31.5	-1.1
	comp=Z,7.5nm,1.2s,mb4.6,baz=29,slow=9.6,SNR=3.4						
NATX	**Nacogdoches**	**62.12**	**331**	*e*P	P	22 02 53.9	-0.4
	comp=Z,54nm,0.8s,mb5.7						
OXF	**Oxford**	**62.41**	**337**	*e*P	P	22 02 53.5	-2.7
OXF				LR	LR		
	comp=Z

PDAR	**Pinedale Array**	**77.98**	**328**	P		**P**		**22 04 30.8**	**+0.1**
	comp=Z,3.3nm,0.7s,mb4.4,baz=130,slow=7.2,SNR=23								
SCHQ	**Schefferville**	**78.06**	**359**	P		**P**		**22 04 31.8**	**+0.9**
	comp=Z,2.4nm,0.9s,mb4.1,baz=84,slow=15,SNR=4.4								
HWUT	**Hardware Ranch**	**78.14**	**326**	*e*P		**P**		**22 04 31.5**	**0.0**
	comp=Z,43nm,1.6s,mb5.1								
HWUT					LR	LR			
	comp=Z,375nm,21.0s,MS4.7								
SPUT	**South Promonto**	**78.38**	**325**	*e*P		**P**		**22 04 33.8**	**+0.9**
BGU	**Big Grassy Mou**	**78.42**	**325**	*e*P		**P**		**22 04 33.6**	**+0.5**
ULM	**Lac du Bonnet**	**78.56**	**340**	P		**P**		**22 04 33.4**	**-0.3**
	comp=Z,5.4nm,0.7s,mb4.6,baz=169,slow=4.7,SNR=10.0								
AHID	**Auburn Hatcher**	**78.75**	**327**	*e*P		**P**		**22 04 35.5**	**+0.6**
	comp=Z,16nm,0.8s,mb5.0								
TPH	**Tonopah**	**78.81**	**320**	*e*P		**P**		**22 04 36.1**	**+0.8**
	comp=Z,41nm,1.8s,mb5.1								
TPH					LR	LR			
	comp=Z,219nm,22.0s,MS4.5								
BOSA	**Boshof**	**78.82**	**116**	P		**P**		**22 04 35.1**	**-0.5**
	comp=Z,8.0nm,1.1s,mb4.5,baz=287,slow=5.0,SNR=6.2								
PPT	**Papeete**	**78.89**	**256**	*e*LR		LR		22 29 26.0	
	comp=Z,509nm,28.5s								
HVU	**Hansel Valley**	**78.89**	**325**	*e*P		**P**		**22 04 35.0**	**-0.7**
REDW	**Red Top Meadow**	**79.06**	**327**	*e*P		**P**		**22 04 37.3**	**+0.7**
	comp=Z,8.7nm,0.8s,mb4.7								
SNOW	**Snow King Moun**	**79.08**	**328**	*e*P		**P**		**22 04 38.0**	**+1.3**
	comp=Z,12nm,0.9s,mb4.8								
LOHW	**Long Hollow**	**79.12**	**328**	*e*P		**P**		**22 04 36.5**	**-0.5**
	comp=Z,11nm,0.8s,mb4.8								
TPAW	**Teton Pass**	**79.20**	**327**	*e*P		**P**		**22 04 38.5**	**+1.2**
	comp=Z,12nm,1.1s,mb4.7								
RRI2	**Red Ridge**	**79.28**	**327**	*e*P		**P**		**22 04 38.9**	**+1.1**
	comp=Z,15nm,0.9s,mb4.9								
MOOW	**Moose Ponds**	**79.29**	**328**	*e*P		**P**		**22 04 38.1**	**+0.3**
	comp=Z,7.7nm,0.9s,mb4.6								
IMW	**Indian Meadow**	**79.50**	**328**	*e*P		**P**		**22 04 40.1**	**+1.2**
	comp=Z,19nm,0.8s,mb5.1								
OMM	**Old Mammoth Mi**	**79.56**	**319**	*e*P		**P**		**22 04 40.4**	**+1.0**
NVAR	**Mina Array Bea**	**79.68**	**320**	P		**P**		**22 04 40.4**	**+0.4**
	comp=Z,5.0nm,0.9s,mb4.4,baz=143,slow=4.5,SNR=23								
NVAR					LR	LR		22 36 52.6	
	comp=Z,123nm,19.8s,MS4.2,baz=105,slow=33								
YMR	**Madison River**	**80.08**	**328**	*e*P		**P**		**22 04 43.8**	**+1.7**
LBTB	**Lobatse**	**80.40**	**113**	*e*P		**P**		**22 04 44.9**	**+0.7**
	comp=Z,20nm,1.3s,mb4.9								
CMB	**Columbia Colle**	**80.67**	**318**	*e*P		**P**		**22 04 45.8**	**+0.5**
	comp=Z,7.0nm,1.0s,mb4.5								
HLID	**Hailey**	**81.01**	**326**	*e*P		**P**		**22 04 46.9**	**-0.1**
	comp=Z,32nm,0.9s,mb5.2								
HLID					LR	LR			
	comp=Z,233nm,19.0s,MS4.6								
MAW	**Mawson**	**81.17**	**162**	P		**P**		**22 04 48.2**	**+0.9**
	comp=Z,10nm,0.9s,mb4.8,baz=226,slow=3.7,SNR=7.0								
HRY	**Holter Researc**	**81.99**	**329**	*e*P		**P**		**22 04 53.1**	**+1.0**
MOD	**Modoc**	**83.10**	**321**	*e*P		**P**		**22 04 58.7**	**+0.8**
	comp=Z,10.0nm,0.9s,mb4.8								
BMO	**Blue Mountains**	**83.40**	**325**	*e*P		**P**		**22 04 59.7**	**+0.3**
	comp=Z,18nm,1.3s,mb4.9								
YBH	**Yreka Blue Hor**	**84.39**	**320**	P		**P**		**22 05 03.9**	**-0.5**
	comp=Z,3.6nm,0.8s,mb4.5,baz=100,slow=5.1,SNR=8.8								
ESDC	**Sonseca Array**	**84.42**	**42**	P		**P**		**22 05 06.4**	**+1.7**
	comp=Z,5.5nm,1.1s,mb4.6,baz=248,slow=5.4,SNR=7.2								
WALA	**Waterton Lakes**	**84.65**	**330**	*e*P		**P**		**22 05 05.7**	**+0.1**
	comp=Z,6.8nm,0.9s,mb4.8								
FCC	**Fort Churchill**	**85.59**	**345**	*e*P		**P**		**22 05 09.8**	**-0.2**
	comp=Z,15nm,1.2s,mb5.1								
HAWA	**Hanford**	**85.59**	**325**	*e*P		**P**		**22 05 10.8**	**+0.5**
	comp=Z,0.7nm,0.8s,mb3.9								
LSZ	**Lusaka**	**86.34**	**105**	*e*P		**P**		**22 05 12.4**	**-2.4**
	comp=Z,32nm,1.4s,mb5.3								
LSZ					LR	LR			
	comp=Z,723nm,21.0s,MS5.0								
MBAR	**Mbarara**	**94.48**	**93**	PFAKE				22 06 10.0	+17
MBAR					LR	LR			
	comp=Z,171nm,19.0s,MS4.5								
YKA	**Yellowknife Ar**	**94.51**	**339**	P		**P**		**22 05 52.5**	**+0.6**
	comp=Z,2.7nm,0.8s,mb4.8,baz=126,slow=4.4,SNR=32								
YKA	**Yellowknife Ar**	**94.51**	**339**	P		**P**		**22 05 52.5**	**+0.6**
ASAR	**Alice Springs**	**129.84**	**202**	PKP		PKPdf		22 11 42.2	-2.0
	comp=Z,3.4nm,0.9s,baz=158,slow=2.7,SNR=18								
WRA	**Warramunga Arr**	**133.09**	**204**	PKP		PKPdf		22 11 48.7	-1.7
	comp=Z,4.9nm,1.1s,baz=173,slow=1.9,SNR=12								
PMG	**Port Moresby**	**135.02**	**227**	PFAKE				22 12 00.0	+5.9
PMG					LR	LR			
	comp=Z,240nm,20.0s,MS4.9								
BHJ	**Bhuj**	**137.97**	**81**	*i* P		PKPdf		22 11 56.7	-2.6
TRD	**Trivandrum**	**140.13**	**106**	*e*P		PKPdf		22 12 03.3	-0.1
TRD				*e*				22 14 09.3	
	comp=Z,52nm,2.4s								
KURK	**Kurchatov**	**140.58**	**37**	*e*PKPpre				22 11 57.0	
KURK				*e*PKPdf		PKPdf		22 12 02.7	-0.6
KURK					LR	LR			
	comp=Z,61nm,19.0s,MS4.4								
KAD	**Karad**	**140.80**	**91**	*e*P		PKPdf		22 11 58.2	-6.4
POO	**Poona**	**140.82**	**89**	*i* P		PKPdf		22 12 01.9	-2.7
AAK	**Ala-Archa**	**141.10**	**51**	*e*PKPpre				22 11 57.8	
AAK					LR	LR			
	comp=Z,67nm,20.0s,MS4.4								
ZAL	**Zalesovo**	**141.83**	**29**	PKP		PKPdf		22 12 05.0	-0.3
	comp=Z,3.9nm,0.9s,baz=206,slow=2.9,SNR=15								
ZAL	**Zalesovo**	**141.83**	**29**	PKP		PKPdf		22 12 05.0	-0.3
MKAR	**Makanchi Array**	**144.63**	**41**	PKP		PKPdf		22 12 09.5	-0.9
	comp=Z,6.7nm,0.9s,baz=297,slow=3.2,SNR=24								
MKAR	**Makanchi Array**	**144.63**	**41**	PKP		PKPdf		22 12 09.5	-0.9
HYB	**Hyderabad**	**144.84**	**93**	*e*P		PKPbc		22 12 08.5	-0.1
HYB	**Hyderabad**	**144.84**	**93**	*i* PKP		PKPdf		22 12 08.5	-3.1
	comp=Z,70nm,1.0s								
BHPL	**Bhopal**	**145.03**	**83**	*e*P		PKPbc		22 12 09.2	+0.1
BHPL				*e*				22 12 11.7	
	comp=Z,48nm,1.6s								
NDI	**New Delhi**	**145.26**	**73**	*e*P		PKPbc		22 12 08.0	-1.4
BLSP	**Bilaspur**	**149.16**	**86**	*e*P		PKPdf		22 12 17.4	-1.3
BLSP				*e*				22 12 23.4	
	comp=Z,48nm,1.1s								
VIS	**Vishakhapatnam**	**149.30**	**95**	*e*P		PKPdf		22 12 14.5	-4.5
WMQ	**Urumqi**	**149.43**	**42**	PKP		PKPdf		22 12 14.8	-3.6
WMQ				SKS		SKS		22 19 20.0	-5.8
WMQ				PP		PP			
	comp=Z,97nm,5.6s								
WMQ					LR	LR			
	comp=N,358nm,18.2s								
WMQ					LR	LR			
	comp=E,383nm,26.0s								
WMQ					LR	LR			
	comp=Z,267nm,26.8s								
TLY	**Talaya**	**150.41**	**15**	*e*PKPdf		PKPdf		22 12 20.6	+0.8
TLY				*e*PKPbc		PKPdf		22 12 25.0	+5.3
HIA	**Hailar**	**154.10**	**354**	PFAKE				22 12 40.0	+15
HIA					LR	LR			
	comp=Z,1µm,19.0s,MS5.7								
SONM	**Songino Array**	**154.65**	**15**	PKP		PKPdf		22 12 25.4	-0.4
	comp=Z,3.1nm,1.0s,baz=343,slow=3.4,SNR=12								
SONM				PKPbc		PKPdf		22 12 34.8	+9.0
	comp=Z,3.4nm,0.8s,baz=309,slow=1.3,SNR=12								
SONM				PKPab		PKPab		22 12 49.4	+0.7
	comp=Z,1.3nm,0.9s,baz=315,slow=3.5,SNR=2.9								
ULN	**Ulaanbaatar**	**154.77**	**14**	*e*PKPdf		PKPdf		22 12 26.4	+0.4
ULN				*e*PKPbc		PKPdf		22 12 34.7	+8.7
MDJ	**Mudanjiang**	**156.04**	**335**	PKP		PKPdf		22 12 24.0	-3.8
MDJ				SKS		SKS		22 19 32.0	-1.4
MDJ				PP		PP			
	comp=Z,138nm,4.5s								
MDJ					LR	LR			
	comp=N,225nm,17.7s,MS5.1								
MDJ					LR	LR			
	comp=E,104nm,19.2s,MS5.1								
MDJ					LR	LR			
	comp=Z,253nm,16.7s,MS5.1								
MDJ	**Mudanjiang**	**156.04**	**335**	PFAKE				22 12 40.0	+12
MDJ					LR	LR			
	comp=Z,376nm,21.0s,MS5.2								
MAJO	**Matsushiro**	**156.58**	**309**	PFAKE				22 12 40.0	+11
MAJO					LR	LR			
	comp=Z,463nm,20.0s,MS5.3								
CN2	**Changchun**	**158.20**	**341**	*e*PKP		PKPdf		22 12 25.0	-5.7
HHC	**Hu-ho-hao-te**	**162.39**	**10**	*e*PKP		PKPdf		22 12 36.3	+1.1
HHC				PP		PP		22 17 09.0	+1.8
HHC				SKKS				22 23 55.0	
HHC				PP		PP			
	comp=Z,79nm,11.3s								
BJT	**Baijiatuan**	**163.54**	**358**	PFAKE				22 12 50.0	+14
BJT					LR	LR			
	comp=Z,619nm,19.0s								
KMI	**Kunming**	**168.17**	**80**	PKP		PKPdf		22 12 38.0	-2.6
KMI					LR	LR			
	comp=Z,174nm,20.8s								
NJ2	**Nanjing**	**171.03**	**342**	*e*PKP		PKPdf		22 12 35.5	-6.6

IDC ***31*** *22:17:53.6±2.2, 4.29S×101.79E, mb4.0/9, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, Error ellipse: s-maj=101.2km s-min=15.2km az=55.0*
NEIC ***31*** *22:17:59.2±0.7, 4.18S×101.99E, h35km, mb4.4/4, Error ellipse: s-maj=17.8km s-min=6.2km az=46.0*
NEIC Felt [III] at Bengkulu.
DJA ***31*** *22:18:05.1±0.6, 3.83S×102.63E, h59km±5km, mb5.0/1, MD4.6/1, ML4.9/1, Error ellipse: s-maj=58.3km s-min=8.2km az=47.0*

ISC 31 22:17:56.3±0.8, 4.3S±0.1×101.9E±0.1, h33km, n26, σ1§21/26, mb4.2/12, 2C-5D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KSI	**Kapahiang**	**0.97**	**50**	*e*Pn		**Pn**		**22 18 14.0**	**+0.3**
PENI	**Pendagan**	**3.55**	**111**	⇑*i*Pn		**Pn**		**22 18 51.8**	**+1.3**
PENI				*i* Sn		**Sn**		**22 19 34.2**	**+2.4**
PENI	**Pendagan**	**3.55**	**111**	⇑*i*Pn		**Pn**		**22 18 51.7**	**+1.2**
	390nm,0.2s								
PPI	**Padang Panjang**	**4.06**	**339**	*e*Pn		**Pn**		**22 19 05.0**	**+7.2**
PASI	**Pasiripis**	**4.43**	**123**	*e*Pn		**Pn**		**22 19 05.6**	**+2.6**
SRDI	**Scrawed**	**12.91**	**109**	⇓*i*Pn		**P**		**22 20 59.2**	**-1.0**
SRDI	**Scrawed**	**12.91**	**109**	⇓*i*P		**P**		**22 21 00.1**	**-0.1**
	69nm,0.2s								
KELI	**Kelakatan**	**13.16**	**108**	⇓*i*Pn		**P**		**22 21 02.2**	**-1.3**
RATI	**Rata**	**14.29**	**109**	⇓*i*Pn		**P**		**22 21 16.0**	**-2.5**
KEDI	**Kedomdong**	**14.78**	**107**	⇓*i*Pn		**P**		**22 21 22.7**	**-2.1**
CMAR	**Chiang Mai Arr**	**22.77**	**353**	P		**P**		**22 22 57.9**	**+0.7**
	1.1nm,0.7s,mb3.4,baz=181,slow=8.9,SNR=6.7								
FITZ	**Fitzroy Crossi**	**27.03**	**122**	*e*P		**P**		**22 23 37.7**	**0.0**
	6.1nm,0.7s,mb4.2								
FITZ	**Fitzroy Crossi**	**27.03**	**122**	P		**P**		**22 23 38.7**	**+1.0**
	2.5nm,0.7s,mb3.9,baz=313,slow=6.8,SNR=4.0								
WRA	**Warramunga Arr**	**35.27**	**119**	P		**P**		**22 24 49.8**	**-0.4**
	0.9nm,0.4s,mb4.0,baz=302,slow=9.2,SNR=19								
WRAB	**Tennant Creek**	**35.27**	**119**	*e*P		**P**		**22 24 49.9**	**-0.4**
	16nm,1.2s,mb4.8								
WB2	**Warramunga Arr**	**35.28**	**119**	*e*P		**P**		**22 24 49.8**	**-0.5**
LSA	**Lhasa**	**35.31**	**344**	P		**P**		**22 24 51.7**	**+1.3**
	6.0nm,1.4s,mb4.3								
ASPA	**Alice Springs**	**36.43**	**125**	*e*P		**P**		**22 25 07.2**	**+7.2**
ASAR	**Alice Springs**	**36.44**	**125**	P		**P**		**22 25 00.4**	**+0.4**
	0.6nm,0.7s,mb3.6,baz=298,slow=8.7,SNR=6.0								
STKA	**Stephens Creek**	**46.27**	**131**	P		**P**		**22 26 22.0**	**+1.3**
	2.6nm,0.5s,mb4.4,baz=307,slow=11,SNR=11								
SONM	**Songino Array**	**52.05**	**4**	P		**P**		**22 27 05.7**	**+0.8**
	1.1nm,0.5s,mb4.0,baz=186,slow=9.7,SNR=15								
MKAR	**Makanchi Array**	**53.71**	**343**	P		**P**		**22 27 17.8**	**+0.4**
	2.2nm,0.5s,mb4.3,baz=155,slow=8.4,SNR=44								
KURK	**Kurchatov**	**58.30**	**343**	P		**P**		**22 27 48.5**	**-1.7**
	3.6nm,1.0s,mb4.4								
ZAL	**Zalesovo**	**59.74**	**348**	P		**P**		**22 27 59.6**	**-0.5**
	1.9nm,0.5s,mb4.4,baz=302,slow=4.3,SNR=12								
BVAR	**Borovoye Array**	**62.95**	**339**	P		**P**		**22 28 21.3**	**-0.5**
	0.7nm,0.5s,mb4.1,baz=145,slow=10,SNR=8.7								
TXAR	**Lajitas Array**	**145.28**	**41**	PKPbc		PKPbc		22 37 34.0	+2.3
	7.5nm,0.5s,baz=281,slow=1.0,SNR=60								

IDC ***31*** *22:22:08.0±1.0, 23.69S×64.57W, mb4.0/4, mb1 4.1/8, mb1mx4.0/17, mbtmp3.9/8, ML3.8/4, MS3.9/4, Ms1 3.9/4, ms1mx3.5/25, Error ellipse: s-maj=32.5km s-min=27.4km az=119.0*
NEIC ***31*** *22:22:09.3±0.4, 23.65S×64.63W, h10km, mb4.7/4, Error ellipse: s-maj=11.9km s-min=7.6km az=94.0*

ISC 31 22:22:08.0±0.5, 23.54S±0.05×64.4W±0.1, h10km, n26, σ1§30/23, mb4.2/8, MS4.1/2, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
LVC	**Limon Verde**	**4.24**	**282**	*e*Pn		**Pn**		**22 23 16.6**	**+2.4**
LPAZ	**La Paz**	**8.02**	**334**	Pn		**P**		**22 24 08.2**	**+0.8**
	0.2nm,0.3s,baz=145,slow=11,SNR=8.5								
LPAZ	**La Paz**	**8.02**	**334**	*e*Pn		**P**		**22 24 07.1**	**-0.3**
SIV	**San Ignacio**	**8.14**	**23**	Pn		**P**		**22 24 08.8**	**-0.4**
	6.9nm,0.3s,baz=214,slow=12,SNR=34								
SIV					Sn	**Sn**		**22 25 40.8**	**-1.4**
	9.3nm,0.3s,baz=284,slow=20,SNR=3.7								
CFAA	**Coronel Fontan**	**8.72**	**202**	Pn		**P**		**22 24 12.7**	**-4.4**
	0.2nm,0.3s,baz=18,slow=13,SNR=13								
CFAA					Sn	**Sn**		**22 25 56.7**	**+0.2**
	0.2nm,0.3s,baz=318,slow=21,SNR=3.2								
CFAA	**Coronel Fontan**	**8.72**	**202**	Pn		**P**		**22 24 12.7**	**-4.4**
CFAA					Sn	**Sn**		**22 25 56.7**	**+0.2**
SAML	**Samuel**	**14.56**	**5**	*e*P		**P**		**22 25 33.0**	**-3.2**
	14nm,0.6s								
TRQA	**Torquist**	**14.62**	**172**	P		**P**		**22 25 35.4**	**-1.5**
BDFB	**Brasilia**	**17.33**	**66**	P		**P**		**22 26 14.9**	**+3.2**
	0.3nm,0.3s,baz=218,slow=12,SNR=3.8								
BDFB					LR	LR		22 33 48.6	
	comp=Z,316nm,20.8s,baz=251,slow=40								
BAO	**Brasilia Array**	**17.35**	**66**	P		**P**		**22 26 08.0**	**-4.0**
BAO					S	**S**		**22 29 46.0**	**+22**
PLCA	**Paso Flores**	**17.90**	**195**	LR		LR		22 32 43.0	
	comp=Z,256nm,20.2s,baz=11,slow=36								
SJG	**San Juan**	**41.43**	**358**	LR		LR		22 49 40.9	
	comp=Z,197nm,18.4s,MS4.0,baz=294,slow=40								
DBIC	**Dimbokro**	**65.42**	**70**	P		**P**		**22 32 54.1**	**+0.5**
	2.9nm,0.8s,mb4.3,baz=227,slow=11,SNR=2.8								
DBIC					LR	LR		22 59 59.0	
	comp=Z,168nm,19.0s,MS4.3,baz=235,slow=35								
QSPA	**South Pole Qui**	**66.66**	**180**	*e*P		**P**		**22 32 59.7**	**-0.9**
	9.4nm,0.8s,mb4.9								
ANMO	**Albuquerque**	**70.53**	**324**	*e*P		**P**		**22 33 24.2**	**-1.0**
	7.2nm,1.4s,mb4.4								
SDCO	**Great Sand Dun**	**72.17**	**327**	*e*P		**P**		**22 33 33.6**	**-1.4**
	14nm,1.6s,mb4.6								
PDAR	**Pinedale Array**	**77.99**	**328**	P		**P**		**22 34 09.0**	**+0.8**
	0.5nm,0.7s,mb3.6,baz=145,slow=3.7,SNR=4.7								
HWUT	**Hardware Ranch**	**78.15**	**326**	P		**P**		**22 34 09.5**	**+0.4**
HLID	**Hailey**	**81.02**	**326**	*e*P		**P**		**22 34 24.7**	**+0.1**
	3.3nm,0.9s,mb4.3								
ESDC	**Sonseca Array**	**84.45**	**42**	P		**P**		**22 34 44.1**	**+1.8**
	1.5nm,0.8s,mb4.2,baz=239,slow=6.4,SNR=5.3								
YKA	**Yellowknife Ar**	**94.53**	**339**	P		**P**		**22 35 29.3**	**-0.2**
	0.1nm,0.3s,mb4.7,baz=122,slow=4.1,SNR=4.4								
ASAR	**Alice Springs**	**129.81**	**202**	PKP		PKPdf		22 41 19.0	-2.6
	0.7nm,0.8s,baz=170,slow=3.4,SNR=4.8								
MKAR	**Makanchi Array**	**144.65**	**41**	PKP		PKPdf		22 41 45.1	-2.8
	3.9nm,1.1s,baz=297,slow=2.7,SNR=17								
HYB	**Hyderabad**	**144.85**	**93**	*e*P		PKPbc		22 41 47.0	+0.9
HYB	**Hyderabad**	**144.85**	**93**	*i* PKP		PKPdf		22 41 47.0	-2.1
SONM	**Songino Array**	**154.67**	**15**	PKP		PKPdf		22 42 03.5	+0.2
	0.4nm,0.7s,baz=223,slow=2.8,SNR=4.1								
SONM					PKPbc	PKPdf		22 42 12.2	+8.8
	0.8nm,0.8s,baz=287,slow=2.2,SNR=5.9								

IDC 31 22:26:01.1±4.2, 2.71N×96.64E, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=156.8km s-min=30.1km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
WRA	**Warramunga Arr**	**43.31**	**123**	P		P		22 34 05.0	-1.8
	0.2nm,0.4s,baz=302,slow=8.9,SNR=5.3								
MKAR	**Makanchi Array**	**45.65**	**346**	P		P		22 34 23.3	-2.0
	0.3nm,0.3s,baz=156,slow=7.8,SNR=15								
SONM	**Songino Array**	**45.74**	**9**	P		P		22 34 24.3	-1.6
	0.2nm,0.5s,baz=190,slow=8.8,SNR=3.3								

IDC ***31*** *22:40:08.5±1.6, 28.14N×139.72E, h393km±70km, mb2.7/5, mb1 2.9/6, mb1mx2.7/21, mbtmp3.5/6, Error ellipse: s-maj=185.3km s-min=15.5km az=71.0*
JMA ***31*** *22:40:10.9±0.2, 28.42N×140.46E, h409km, M3.6*

ISC 31 22:40:08.1±0.6, 28.26N±0.09×140.5E±0.5, h438km±19km, n14, σ0§90/19, mb2.8/5, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CBIJ	**Chichi jima**	**1.90**	**127**	P		**P**		**22 41 06.3**	**-1.1**
	12nm,0.3s,baz=105,slow=23,SNR=19								
CBIJ						S	**S**	**22 41 53.9**	**-0.3**
	19nm,0.3s,baz=310,slow=23,SNR=16								
CBIJ	**Chichi jima**	**1.90**	**127**	P		**P**		**22 41 07.9**	**+0.5**
CBIJ				*e*S		**S**		**22 41 53.6**	**-0.6**
JHHJ	**Haha-jima-NKT**	**2.21**	**137**	*e*S		**S**		**22 41 57.5**	**0.0**
BSO3	**Boso 3**	**6.53**	**0**	*e*S		**S**		**22 43 08.1**	**+0.4**
JOD2	**Odawara 2**	**7.09**	**351**	P		**P**		**22 41 55.4**	**+0.9**
JRY	**Ryogami san**	**7.85**	**351**	P		**P**		**22 42 02.8**	**-0.2**
JRY				*e*S		**S**		**22 43 35.4**	**+1.6**
JAG	**Ashikaga**	**8.19**	**354**	P		**P**		**22 42 05.7**	**-1.0**
JAG				S		**S**		**22 43 37.2**	**-3.3**
JHO	**Hitachi**	**8.33**	**1**	P		**P**		**22 42 09.4**	**+1.1**
JHO				*e*S		**S**		**22 43 42.5**	**-0.9**
JNG	**Nsakai**	**8.37**	**347**	P		**P**		**22 42 09.2**	**+0.4**
SONM	**Songino Array**	**32.83**	**316**	P		**P**		**22 46 04.1**	**-0.7**
	0.3nm,1.0s,mb2.6,baz=112,slow=7.8,SNR=3.1								
ZAL	**Zalesovo**	**47.63**	**319**	P		**P**		**22 48 03.2**	**-1.0**
	0.4nm,0.4s,mb3.1,baz=166,slow=13,SNR=3.9								
WRA	**Warramunga Arr**	**48.28**	**188**	P		**P**		**22 48 10.1**	**+0.4**
	0.3nm,0.5s,mb2.9,baz=5.2,slow=7.6,SNR=8.4								
ASAR	**Alice Springs**	**52.01**	**188**	P		**P**		**22 48 38.2**	**+0.8**
	0.3nm,0.4s,mb2.9,baz=4.6,slow=6.2,SNR=7.7								
BVAR	**Borovoye Array**	**56.17**	**317**	P		**P**		**22 49 06.4**	**-0.2**
	0.2nm,0.4s,mb2.8,baz=90,slow=4.3,SNR=3.7								

IDC 31 22:40:20.3±2.7, 4.54N×93.03E, mb3.4/4, mb1 3.5/5, mb1mx3.4/21, mbtmp3.4/5, ML3.8/1, Error ellipse: s-maj=89.4km s-min=29.9km az=59.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CMAR	**Chiang Mai Arr**	**15.00**	**22**	Pn		P		22 43 54.4	-1.1
	0.1nm,0.3s,baz=208,slow=15,SNR=1.9								
MKAR	**Makanchi Array**	**43.11**	**349**	P		P		22 48 22.7	-1.3
	0.4nm,0.6s,baz=166,slow=9.0,SNR=9.5								
SONM	**Songino Array**	**44.64**	**13**	P		P		22 48 34.3	-2.2
	0.3nm,0.7s,baz=194,slow=7.4,SNR=3.1								
WRA	**Warramunga Arr**	**47.33**	**122**	P		P		22 48 56.3	-1.8
	0.4nm,0.6s,baz=300,slow=9.1,SNR=4.6								
BVAR	**Borovoye Array**	**51.80**	**343**	P		P		22 49 29.3	-2.7
	0.5nm,0.8s,baz=135,slow=6.1,SNR=3.7								

IDC ***31*** *22:44:28.4±1.6, 1.25N×98.68E, mb3.8/8, mb1 3.9/9, mb1mx3.8/21, mbtmp3.7/9, ML3.7/1, Error ellipse: s-maj=75.4km s-min=17.4km az=56.0*
NEIC ***31*** *22:44:32.5±0.9, 1.24N×98.62E, h30km, mb4.1/1, Error ellipse: s-maj=27.6km s-min=12.3km az=63.0*

ISC 31 22:44:30.0±1.0, 1.2N±0.1×98.5E±0.2, h30km, n13, σ0§93/13, mb3.8/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KULM	**Kulim**	**4.59**	**28**	*e*Pn		**Pn**		**22 45 39.6**	**+0.4**
CMAR	**Chiang Mai Arr**	**17.15**	**1**	P		**P**		**22 48 28.4**	**-0.9**
	0.1nm,0.3s,baz=198,slow=14,SNR=3.2								
CMAR	**Chiang Mai Arr**	**17.15**	**1**	P		**P**		**22 48 28.4**	**-0.9**
LSA	**Lhasa**	**29.19**	**347**	P		**P**		**22 50 29.7**	**-1.6**
	3.3nm,0.8s,mb4.1								
FITZ	**Fitzroy Crossi**	**32.88**	**127**	P		**P**		**22 51 03.0**	**-0.8**
	3.0nm,0.7s,mb4.3,baz=270,slow=4.0,SNR=4.0								
WRA	**Warramunga Arr**	**

comp=E,240nm,12.6s,MS4.4
GTA LR LR
comp=Z,406nm,12.2s,MS4.4
FITZ Fitzroy Crossi 37.27 125 *e*P **P** **22 53 29.0 +9.0**
comp=Z,6.7nm,0.9s,mb4.5
FITZ Fitzroy Crossi 37.27 125 P **P** **22 53 19.3 -0.7**
comp=Z,3.8nm,0.8s,mb4.2,baz=353,slow=9.7,SNR=2.7
FITZ pP pP 22 53 28.0 -0.5
comp=Z,10nm,0.9s,baz=335,slow=4.1,SNR=4.6
WMQ Urumqi 41.26 353 *e*P **P** **22 53 54.0 +1.1**
BJI Beijing 42.08 25 *e*P **P** **22 53 59.3 -0.4**
BJI PP PP 22 55 46.8 +6.7
BJI S **S** **23 00 27.5 +11**
BJI AMB AMB
comp=Z,8.0nm,0.9s,mb4.3
BJI LR LR
comp=N,393nm,19.5s,MS4.6
BJI LR LR
comp=E,510nm,15.0s,MS4.6
BJI LR LR
comp=Z,362nm,20.0s,MS4.2
ULHL Ulahol 42.45 340 P **P** **22 54 03.8 +1.1**
SNR=8.8
UCH Uchtor 43.05 338 P **P** **22 54 08.7 +1.1**
SNR=7.4
KBK Karagaybulak 43.27 339 P **P** **22 54 10.7 +1.4**
SNR=6.4
AML Almayashu 43.27 338 P **P** **22 54 10.5 +1.1**
SNR=9.5
TKM2 Tokmak 2 43.27 340 P **P** **22 54 10.0 +0.6**
SNR=7.6
AAK Ala-Archa 43.41 339 *e*P **P** **22 54 09.8 -0.7**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
AAK Ala-Archa 43.41 339 *e*P **P** **22 54 09.8 -0.7**
comp=Z,5.0nm,1.0s,mb4.2
FRU Bishkek 43.54 339 *e*P **P** **22 54 13.0 +1.4**
FRU pmax pmax
comp=Z,39nm,2.0s,mb4.8
EKS2 Erkin-Say 43.70 338 P **P** **22 54 13.8 +0.9**
SNR=8.3
USP Ospenovka 43.96 339 P **P** **22 54 15.5 +0.5**
SNR=11
MKAR Makanchi Array 45.04 348 P **P** **22 54 24.0 +0.4**
comp=Z,12nm,0.7s,mb4.8,baz=165,slow=8.2,SNR=80
MKAR pP pP 22 54 33.0 +0.7
comp=Z,12nm,0.7s,baz=167,slow=8.1,SNR=17
WRA Warramunga Arr 45.39 122 P **P** **22 54 26.9 +0.2**
comp=Z,11nm,1.1s,mb4.6,baz=300,slow=9.0,SNR=19
WRA pP pP 22 54 35.8 +0.4
comp=Z,8.4nm,0.9s,baz=300,slow=8.9,SNR=14
WRA PcP PcP 22 56 05.3 -1.0
comp=Z,0.2nm,0.4s,baz=307,slow=2.8,SNR=5.6
WRA pPcP 22 56 15.7
comp=Z,0.9nm,0.7s,baz=314,slow=2.8,SNR=5.2
WRAB Tennant Creek 45.40 122 *e*P **P** **22 54 26.4 -0.4**
WRAB *e**PP pP 22 54 35.7 +0.3
WRAB pmax pmax
comp=Z,39nm,1.1s,mb5.2
WRAB Tennant Creek 45.40 122 *e*P **P** **22 54 26.4 -0.4**
comp=Z,38nm,1.1s,mb5.1
WRAB *e*pP pP 22 54 35.7 +0.3
WB2 Warramunga Arr 45.40 122 *e*P **P** **22 54 27.4 +0.6**
SONM Songino Array 46.08 11 P **P** **22 54 32.6 +0.7**
comp=Z,5.2nm,0.7s,mb4.5,baz=191,slow=8.2,SNR=48
SONM pP pP 22 54 41.3 +0.8
comp=Z,4.1nm,0.7s,baz=192,slow=8.5,SNR=10
SONM PcP PcP 22 56 09.3 +1.0
comp=Z,1.4nm,0.9s,baz=193,slow=4.9,SNR=3.5
SONM pPcP 22 56 17.9
comp=Z,1.9nm,0.6s,baz=195,slow=3.5,SNR=6.8
ULN Ulaanbaatar 46.24 12 *e*P **P** **22 54 32.0 -1.1**
ULN *e**PP pP 22 54 42.4 +0.6
ULN *e* 22 56 09.2
ULN pmax pmax
comp=Z,12nm,1.4s,mb4.6
ULN Ulaanbaatar 46.24 12 *e*P **P** **22 54 32.0 -1.2**
comp=Z,12nm,1.4s,mb4.6
ULN *e*pP pP 22 54 42.4 +0.7
ULN *e*PcP PcP 22 56 09.2 +0.4
ASAR Alice Springs 46.72 126 P **P** **22 54 37.5 +0.3**
comp=Z,3.4nm,0.8s,mb4.3,baz=300,slow=7.6,SNR=19
ASAR pP pP 22 54 46.4 +0.5
comp=Z,8.2nm,0.9s,baz=300,slow=7.5,SNR=17
ASAR PcP PcP 22 56 10.9 +0.1
comp=Z,0.8nm,0.8s,baz=307,slow=3.6,SNR=3.3
ASAR pPcP 22 56 20.9
comp=Z,1.7nm,0.7s,baz=307,slow=3.3,SNR=6.5
ZAK Zakamensk 48.03 8 *e*P **P** **22 54 45.1 -2.1**
ZAK pmax pmax
comp=Z,3.0nm,1.8s,mb4.0
CN2 Changchun 49.32 30 *e*P **P** **22 54 57.3 +0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
TLY Talaya 49.35 8 *e*P **P** **22 54 57.1 -0.3**
TLY pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
TLY MLR MLR
comp=Z,360nm,20.0s,MS4.4
KURK Kurchatov 49.54 347 *e*P **P** **22 54 58.7 -0.1**
KURK *e**PP pP 22 55 08.1 +0.6
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 49.54 347 *e*P **P** **22 54 58.7 -0.1**
comp=Z,11nm,0.8s,mb4.9
KURK *e*pP pP 22 55 08.1 +0.6
HIA Hailar 51.17 21 *e*P **P** **22 55 11.6 +0.4**
HIA *e**PP pP 22 55 20.8 +0.8
HIA pmax pmax
comp=Z,15nm,1.2s
HIA Hailar 51.17 21 *e*P **P** **22 55 11.6 +0.4**
comp=Z,15nm,1.2s,mb4.8
HIA *e*pP pP 22 55 20.8 +0.9
ZAL Zalesovo 51.56 353 P **P** **22 55 13.9 -0.3**
comp=Z,7.8nm,0.4s,mb5.0,baz=301,slow=5.4,SNR=32
ZAL pP pP 22 55 22.7 -0.2
comp=Z,7.8nm,0.4s,baz=306,slow=4.7,SNR=14
ZAL LR LR 23 17 59.5
comp=Z,172nm,22.0s,MS4.0,baz=28,slow=37
MJAR Matsushiro Arr 52.59 45 LR LR 23 20 11.4
comp=Z,308nm,18.7s,MS4.4,baz=250,slow=39
NVS Novosibirsk 52.65 352 *e*P **P** **22 55 20.7 -1.6**
NVS *e* pP 22 55 30.1 -1.0
NVS *e*S **S** **23 02 48.8 +2.5**
NVS pmax pmax
comp=Z,15nm,1.5s,mb4.7
NVS pmax pmax
comp=N,11nm,1.6s
NVS smax
comp=E,26nm,2.4s
NVS smax
comp=N,13nm,2.1s
BVAR Borovoye Array 53.81 342 P **P** **22 55 30.2 -0.6**
comp=N,4.2nm,0.7s,mb4.5,baz=149,slow=8.6,SNR=32
BVAR pP pP 22 55 39.1 -0.6
comp=N,7.0nm,0.7s,baz=149,slow=7.0,SNR=23
PMG Port Moresby 54.11 104 LR LR 23 20 50.7
comp=N,97nm,20.1s,MS3.9,baz=23,slow=38
CHKZ Chkalovo 54.31 343 *e*P **P** **22 55 33.6 -0.9**
CHKZ *e**PP pP 22 55 42.7 -0.6
CHKZ pmax pmax
comp=Z,17nm,0.7s,mb5.1
CHKZ Chkalovo 54.31 343 *e*P **P** **22 55 33.6 -0.9**
comp=Z,17nm,0.7s,mb5.1
CHKZ *e*pP pP 22 55 42.7 -0.6
STKA Stephens Creek 56.62 131 P **P** **22 55 52.2 +0.6**
comp=Z,2.4nm,0.7s,mb4.3,baz=294,slow=9.1,SNR=4.3
STKA pP pP 22 56 01.2 +0.8
comp=Z,6.8nm,0.8s,baz=327,slow=8.4,SNR=9.1
STKA LR LR 23 22 02.4
comp=Z,86nm,18.1s,MS3.9,baz=206,slow=38
BOD Bodaibo 57.05 12 *e*P **P** **22 55 51.8 -2.5**
BOD pmax pmax
comp=Z,7.0nm,1.8s,mb4.4
KMBO Kilima Mbogo 57.09 267 *e*P **P** **22 55 55.9 +0.7**
KMBO *e**PP pP 22 56 05.3 +1.2
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 57.09 267 P **P** **22 55 55.4 +0.1**
comp=Z,1.7nm,0.9s,mb4.0,baz=60,slow=20,SNR=5.5
KMBO pP pP 22 56 03.5 -0.5
comp=Z,4.2nm,0.8s,baz=61,slow=10.0,SNR=11
KMBO Kilima Mbogo 57.09 267 *e*P **P** **22 55 55.9 +0.6**
comp=Z,5.6nm,0.9s,mb4.6
KMBO *e*pP pP 22 56 05.3 +1.3
GNI Garni 58.10 317 P **P** **22 56 02.5 +0.6**
comp=Z,0.7nm,0.3s,mb4.1,baz=156,slow=5.5,SNR=4.3
GNI pP pP 22 56 10.7 -0.1
comp=Z,5.6nm,0.8s,baz=7.9,slow=11,SNR=4.7
SVE Sverdlovsk 60.14 339 *e*P **P** **22 56 14.9 -0.9**
SVE *e* 22 56 29.0
SVE pmax pmax
comp=Z,40nm,2.0s,mb5.1
SVE MLR MLR
comp=N,100nm,17.0s,MS4.2
SVE MLR MLR
comp=E,100nm,17.0s,MS4.2
SVE MLR MLR
comp=Z,400nm,17.0s,MS4.6
ARU Arti 60.59 338↑ *i*P **P** **22 56 16.9 -2.0**
ARU *e* 22 58 34.0
ARU *e*PPP PPP 23 00 05.8 +4.2
ARU *e*S **S** **23 04 45.7 +14**
ARU pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ARU Arti 60.59 338 *e*P **P** **22 56 17.0 -1.9**
comp=Z,14nm,1.4s,mb4.9
ARU *e*pP pP 22 56 25.0 -2.8
KIV Kislovodsk 61.18 320 *e*P **P** **22 56 17.9 -5.1**
KIV pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
MALT Malatya 61.87 312 P **P** **22 56 27.8 0.0**
MALT *e**PP pP 22 56 36.8 +0.1
MALT pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
MALT Malatya 61.87 312 P **P** **22 56 27.8 0.0**
comp=Z,6.6nm,0.9s,mb4.8
MALT *e*pP pP 22 56 36.8 0.0
YAK Yakutsk 64.77 18 P **P** **22 56 40.7 -5.8**
YAK pmax pmax
comp=Z,28nm,0.5s,mb5.5
YAK Yakutsk 64.77 18 P **P** **22 56 40.7 -5.8**
comp=Z,28nm,0.5s,mb5.5
BRTR Keskin Array B 65.85 313 P **P** **22 56 53.1 -0.8**
comp=Z,1.8nm,0.8s,mb4.2,baz=124,slow=6.7,SNR=8.9
BRTR pP pP 22 57 01.3 -1.5
comp=Z,3.4nm,0.7s,baz=127,slow=6.3,SNR=12
OBN Obninsk 69.72 329 *e*P **P** **22 57 25.4 +7.6**
OBN pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
TIXI Tiksi 72.17 11 *e*P **P** **22 57 30.3 -2.0**
TIXI pmax pmax
comp=Z,11nm,1.1s,mb4.7
AKASG Malin Array Be 72.20 323 P **P** **22 57 32.0 -0.8**
comp=Z,0.2nm,0.3s,mb3.6,baz=95,slow=4.5,SNR=5.1
AKASG pP pP 22 57 39.9 -1.9
comp=Z,1.3nm,0.5s,baz=92,slow=5.2,SNR=5.9
AKASG Malin Array Be 72.20 323 P **P** **22 57 32.0 -0.8**
AKASG pP pP 22 57 39.9 -1.9
VRI Vrincioaia 72.44 317↑ P **P** **22 57 34.9 +0.5**
VRI Vrincioaia 72.44 317↑ P **P** **22 57 34.8 +0.4**
MLR Muntele Rosu 72.88 317 P **P** **22 57 36.8 -0.2**
comp=Z,3.5nm,0.9s,mb4.3,baz=111,slow=9.1,SNR=4.4
MLR pP pP 22 57 46.0 +0.1
comp=Z,4.0nm,0.7s,baz=162,slow=8.6,SNR=6.1
MLR Muntele Rosu 72.88 317↑ P **P** **22 57 38.0 +1.0**
MLR Muntele Rosu 72.88 317↑ P **P** **22 57 38.0 +1.0**
BURAR Bucovina Array 73.88 319↑ P **P** **22 57 43.5 +0.8**
FINES FINESS Array B 77.23 333 P **P** **22 58 01.1 -0.4**
comp=Z,1.2nm,0.7s,mb4.0,baz=90,slow=7.6,SNR=6.4
FINES pP pP 22 58 09.6 -0.9
comp=Z,0.9nm,0.6s,baz=191,slow=31,SNR=2.7
ARCES ARCESS Array B 80.05 341 P **P** **22 58 18.4 +1.6**
comp=Z,12nm,1.2s,mb4.7,baz=27,slow=5.4,SNR=3.8
ARCES pP pP 22 58 25.9 0.0
comp=Z,4.1nm,0.8s,baz=99,slow=4.8,SNR=2.3
GERES GERESS Array B 81.67 319 P **P** **22 58 26.4 +0.8**
comp=Z,1.6nm,0.8s,mb4.0,baz=63,slow=3.0,SNR=13
GERES pP pP 22 58 35.3 +0.5
comp=Z,1.8nm,0.8s,baz=90,slow=4.0,SNR=16
RPZ Rata Peaks 82.43 135 LR LR 23 31 08.2
comp=Z,140nm,21.1s,MS4.3,baz=194,slow=33
DAVOX Davos 84.10 317 P **P** **22 58 39.1 +0.8**
comp=Z,3.6nm,0.8s,mb4.6,baz=162,slow=7.6,SNR=4.9
DAVOX pP pP 22 58 48.0 +0.5
comp=Z,5.4nm,0.6s,baz=169,slow=9.9,SNR=6.2
NB2 NORSAR Subarra 84.18 331 P **P** **22 58 38.4 +0.1**
comp=Z,2.4nm,0.8s,mb4.4,baz=92,slow=5.0
NB2 NORSAR Subarra 84.18 331 P **P** **22 58 38.4 +0.1**
NB2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
NOA NORSAR Array B 84.18 331 P **P** **22 58 38.1 -0.2**
comp=Z,0.9nm,0.8s,mb4.0,baz=93,slow=5.4,SNR=5.4
NOA pP pP 22 58 47.1 -0.3
comp=Z,2.3nm,0.8s,baz=95,slow=5.4,SNR=8.4
LPG La Plagne 86.25 315 *e*P **P** **22 58 56.5 +7.5**
comp=Z,6.2nm,0.8s,mb4.6
VNDA Vanda 87.97 168 LR LR 23 31 19.9
comp=Z,96nm,18.2s,MS4.2,baz=71,slow=31
YKA Yellowknife Ar 111.31 14 PP PP 23 05 21.7 -2.4
comp=Z,0.1nm,0.3s,baz=332,slow=7.4,SNR=3.8
PDAR Pinedale Array 129.81 23 PKP PKPdf 23 05 16.4 -4.3
comp=Z,0.2nm,0.5s,baz=333,slow=3.3,SNR=2.5
PDAR pPKP 23 05 25.4
comp=Z,0.4nm,0.7s,SNR=3.4
TXAR Lajitas Array 143.74 27 PKP PKPdf 23 05 42.2 -4.3
comp=Z,0.5nm,0.6s,baz=180,slow=1.3,SNR=5.2
TXAR pPKP 23 05 51.1
comp=Z,1.2nm,0.7s,baz=135,slow=1.8,SNR=8.3

*NEIC **31** 22:56:03.5, 60.12N×153.00W, h128km, MG3.4(AEIC), After AEIC.*
*IDC **31** 22:56:07.5±4.5, 60.45N×153.18W, h154km±30km, mb3.5/4, mb1 3.5/7, mb1mx3.2/24, mbtmp3.8/7, Error ellipse: s-maj=66.3km s-min=23.1km az=11.0*
ISC 31 22:56:01.4±0.3,**60.12N**±0.03×**152.96W**±0.06,
h135km±3km,**n80**,σ0**75**/95,**mb3.8**/4,**Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.04**	**177**	P	**P**		**22 56 20.1**	**+0.3**
INE	**Iliamna NE**	**0.08**	**218**	P	**P**		**22 56 20.2**	**+0.3**
INE				S	**S**		**22 56 33.9**	**-0.1**
ILW	**Iliamna West**	**0.11**	**234**	P	**P**		**22 56 20.2**	**+0.2**
REF	**Redoubt East F**	**0.39**	**19**	P	**P**		**22 56 21.3**	**+0.2**
RDN	**Redoubt North**	**0.40**	**14**	P	**P**		**22 56 21.4**	**+0.2**
NCT	**North Crescent**	**0.44**	**2**	P	**P**		**22 56 21.4**	**+0.1**
NCT				S	**S**		**22 56 35.7**	**-0.8**
DFR	**Drift River**	**0.49**	**16**	P	**P**		**22 56 21.6**	**0.0**
DFR				S	**S**		**22 56 35.5**	**-1.5**
OPT	**Oil Point**	**0.49**	**196**	P	**P**		**22 56 21.7**	**+0.1**
OPT				S	**S**		**22 56 35.2**	**-1.8**
AUE	**Augustine Isla**	**0.80**	**195**	P	**P**		**22 56 23.5**	**+0.1**
AUW	**Augustine West**	**0.80**	**199**	P	**P**		**22 56 23.8**	**+0.3**
HOM	**Homer**	**0.81**	**124**	P	**P**		**22 56 24.5**	**+0.9**
HOM				S	**S**		**22 56 40.3**	**-0.2**
AUI	**Augustine Isla**	**0.82**	**197**	P	**P**		**22 56 23.8**	**+0.2**
AUI				S	**S**		**22 56 39.8**	**-0.8**
NNL	**Ninilchik**	**0.84**	**95**	P	**P**		**22 56 25.6**	**+1.9**
XLV	**Seldovia**	**0.92**	**136**	P	**P**		**22 56 24.8**	**+0.5**
XLV				S	**S**		**22 56 41.8**	**0.0**
NKA	**Nikishka**	**1.06**	**53**	P	**P**		**22 56 28.0**	**+2.5**
CNPM	**China Poot**	**1.06**	**124**	P	**P**		**22 56 26.5**	**+1.0**
CNPM				S	**S**		**22 56 43.9**	**-0.1**
BRLK	**Bradley Lake**	**1.11**	**108**	P	**P**		**22 56 26.9**	**+0.8**
BRLK				S	**S**		**22 56 44.9**	**0.0**
CKL	**Chakachamna La**	**1.12**	**16**	P	**P**		**22 56 27.1**	**+1.0**
CKN	**Chakachatna No**	**1.17**	**19**	P	**P**		**22 56 27.8**	**+1.1**
MCNL	**McNeil River**	**1.17**	**217**	P	**P**		**22 56 26.8**	**0.0**
MCNL				S	**S**		**22 56 44.9**	**-1.2**
CGLM	**Capps Glacier**	**1.28**	**21**	P	**P**		**22 56 28.8**	**+0.9**
SLKM	**Skilak Lake**	**1.42**	**73**	P	**P**		**22 56 29.9**	**+0.5**
SLKM				S	**S**		**22 56 49.8**	**-0.9**
STLK	**Strandline Lak**	**1.49**	**21**	P	**P**		**22 56 30.9**	**+0.8**
VOGL	**Vogel Lake**	**1.53**	**54**	P	**P**		**22 56 32.3**	**+1.8**
SYI	**Shuyak Island**	**1.55**	**169**	P	**P**		**22 56 30.8**	**+0.1**
SYI				S	**S**		**22 56 52.5**	**-0.7**
SVW2	**Sparrevohn**	**1.62**	**308**	P	**P**		**22 56 31.5**	**-0.1**
KAPH	**Katmai Pasha**	**1.69**	**205**	P	**P**		**22 56 32.8**	**+0.4**
FIB	**Fire Island**	**1.73**	**51**	P	**P**		**22 56 34.2**	**+1.4**
FIB				S	**S**		**22 56 58.5**	**+1.8**
KAHC	**Katmai Hardscr**	**1.81**	**216**	P	**P**		**22 56 34.0**	**+0.2**
MPA	**Moose Pass**	**1.83**	**77**	P	**P**		**22 56 34.9**	**+0.9**
RC01	**Rabbit Creek A**	**1.86**	**57**	P	**P**		**22 56 34.6**	**+0.2**
RC01				S	**S**		**22 56 59.2**	**-0.3**
PWA	**Palmer West**	**2.15**	**43**	P	**P**		**22 56 38.2**	**+0.3**
ANCK	**Angle Creek**	**2.33**	**215**	P	**P**		**22 56 40.6**	**+0.4**
PMR	**Palmer**	**2.38**	**50**	P	**P**		**22 56 40.3**	**-0.7**
PMR				S	**S**		**22 57 09.2**	**-1.9**
PWL	**Port Wells**	**2.41**	**70**	P	**P**		**22 56 40.8**	**-0.5**
KNK	**Knik Glacier**	**2.56**	**58**	P	**P**		**22 56 42.7**	**-0.6**
LTI	**Latouche**	**2.56**	**90**	P	**P**		**22 56 43.3**	**0.0**
GHO	**Glory Hole Cre**	**2.57**	**48**	P	**P**		**22 56 42.9**	**-0.5**
CUT	**Chulitna**	**2.63**	**28**	P	**P**		**22 56 44.6**	**+0.4**
SML	**Sawmill**	**2.82**	**51**	P	**P**		**22 56 46.0**	**-0.6**
GLI	**Glacier Island**	**3.00**	**73**	P	**P**		**22 56 48.6**	**-0.4**
TT01	**Tatalina**	**3.15**	**334**	P	**P**		**22 56 50.8**	**-0.2**
HIN	**Hinchinbrook I**	**3.23**	**82**	P	**P**		**22 56 51.3**	**-0.8**
SCM	**Sheep Creek Mo**	**3.24**	**56**	P	**P**		**22 56 51.5**	**-0.6**
FID	**Port Fidalgo**	**3.27**	**76**	P	**P**		**22 56 52.4**	**-0.3**
JPK	**Jack Peak**	**3.28**	**71**	P	**P**		**22 56 52.0**	**-0.7**
HUR	**Hurricane**	**3.28**	**28**	P	**P**		**22 56 52.5**	**-0.1**
VLZ	**Valdez**	**3.42**	**70**	P	**P**		**22 56 53.7**	**-0.8**
TRF	**Thorofare Moun**	**3.57**	**20**	P	**P**		**22 56 56.5**	**-0.1**
KTH	**Kantishna Hill**	**3.58**	**15**	P	**P**		**22 56 56.4**	**-0.2**
DIV	**Divide**	**3.68**	**71**	P	**P**		**22 56 57.8**	**-0.2**
RND	**Reindeer**	**3.83**	**29**	P	**P**		**22 56 60.0**	**0.0**
MCK	**McKinley**	**4.09**	**26**	P	**P**		**22 57 03.3**	**-0.2**
TZL	**Tazlina**	**4.14**	**59**	P	**P**		**22 57 03.2**	**-0.9**
PAX	**Paxson**	**4.58**	**48**	P	**P**		**22 57 10.0**	**0.0**
GLB	**Gilahina Butte**	**4.68**	**70**	P	**P**		**22 57 11.0**	**-0.3**
NEA	**Nenana**	**4.82**	**20**	P	**P**		**22 57 12.9**	**-0.3**
DDM	**Donnelly Dome**	**4.97**	**39**	P	**P**		**22 57 15.7**	**+0.4**
MLY	**Manley**	**5.03**	**11**	P	**P**		**22 57 15.3**	**-0.7**
HDA	**Harding Lake**	**5.13**	**31**	P	**P**		**22 57 16.9**	**-0.4**
CCB	**Clear Creek Bu**	**5.13**	**26**	P	**P**		**22 57 16.6**	**-0.7**
BALM	**Baldy**	**5.32**	**76**	P	**P**		**22 57 19.9**	**+0.1**
COLA	**College**	**5.32**	**24**	P	**P**		**22 57 19.6**	**-0.3**
IL1	**Eielson Array**	**5.45**	**29**	P	**P**		**22 57 21.1**	**-0.5**
DOT	**Dot Lake**	**5.50**	**46**	P	**P**		**22 57 21.9**	**-0.3**
CTGM	**Chitina Glacie**	**5.80**	**77**	P	**P**		**22 57 26.9**	**+0.6**
IM01	**Indian Mountai**	**5.91**	**357**	P	**P**		**22 57 27.8**	**+0.1**
IMA	**Indian Mountai**	**5.98**	**357**	*e*P	**P**		**22 57 29.9**	**+1.3**
BCA3	**Beaver Creek A**	**6.09**	**56**	P	**P**		**22 57 29.8**	**-0.5**
PNL	**Peninsula**	**6.84**	**88**	P	**P**		**22 57 39.9**	**-0.6**
COLD	**Coldfoot**	**7.24**	**9**	P	**P**		**22 57 44.7**	**-1.1**
BM3	**Burnt Mountain**	**8.20**	**23**	P	**P**		**22 57 58.4**	**-0.2**
INK	**Inuvik**	**11.73**	**38**	P	**P**		**22 58 47.5**	**+2.3**
	0.1nm,0.3s,baz=241,slow=8.7,SNR=2.9							
DLBC	**Dease Lake**	**11.83**	**88**	P	**P**		**22 58 54.4**	**+7.8**
	0.8nm,0.3s,baz=240,slow=14,SNR=6.1							
YKA	**Yellowknife Ar**	**18.38**	**66**	P	**P**		**23 00 08.6**	**+0.6**
	0.2nm,0.3s,baz=277,slow=9.9,SNR=15							
YKA				ScP			23 07 54.5	
	0.1nm,0.3s,baz=294,slow=2.0,SNR=5.2							
YKA	**Yellowknife Ar**	**18.38**	**66**	P	**P**		**23 00 08.7**	**+0.6**
YKA				ScP			23 07 54.5	
SONM	**Songino Array**	**54.73**	**306**	P	**P**		**23 05 18.8**	**+0.3**
	0.7nm,0.6s,mb3.6,baz=40,slow=6.6,SNR=7.9							
ZAL	**Zalesovo**	**57.30**	**324**	P	**P**		**23 05 36.5**	**-0.2**
	0.9nm,0.4s,mb4.0,baz=73,slow=8.2,SNR=5.3							
BVAR	**Borovoye Array**	**61.97**	**332**	P	**P**		**23 06 08.1**	**-0.6**
	1.8nm,0.5s,mb4.1,baz=24,slow=6.0,SNR=17							
MKAR	**Makanchi Array**	**64.35**	**321**	P	**P**		**23 06 23.4**	**-0.9**
	0.5nm,0.6s,mb3.5,baz=38,slow=4.5,SNR=4.1							

*NEIC **31** 22:57:22.6±0.8, 2.11N×96.25E, h30km, mb4.3/4, Error ellipse: s-maj=18.1km s-min=11.3km az=51.0*
*IDC **31** 22:57:22.9±1.8, 2.16N×96.34E, h28km±6km, mb3.7/7, mb1 3.9/8, mb1mx3.6/20, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=67.9km s-min=17.1km az=57.0*
ISC 31 22:57:20.7±1.0,**2.1N**±0.1×**96.3E**±0.1,**h30**km,
(h29km±1.2km**:pP-P),n14**,σ0**80**/14,**mb4.0**/11,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.40**	**54**	*e*Pn	**Pn**		**22 58 40.7**	**-0.7**
CMAR	**Chiang Mai Arr**	**16.45**	**9**	Pn	**P**		**23 01 12.4**	**+1.3**
	0.3nm,0.3s,baz=197,slow=11,SNR=5.5							
LSA	**Lhasa**	**27.85**	**350**	*e*P	**P**		**23 03 10.8**	**+0.9**
	4.8nm,0.8s,mb4.2							
WRA	**Warramunga Arr**	**43.32**	**122**	P	**P**		**23 05 22.1**	**0.0**
	0.7nm,0.7s,mb3.5,baz=300,slow=9.4,SNR=5.3							
WRA				pP	pP		23 05 30.7	-0.4
	0.9nm,0.5s,baz=302,slow=9.2,SNR=4.8							
ASAR	**Alice Springs**	**44.70**	**127**	P	**P**		**23 05 33.7**	**+0.5**
	0.2nm,0.6s,mb3.1,baz=307,slow=8.4,SNR=3.8							
AAK	**Ala-Archa**	**44.79**	**337**	*e*P	**P**		**23 05 33.9**	**+0.2**
	0.9nm,0.7s,mb3.7							
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**		**23 05 44.7**	**+0.5**
	2.1nm,0.4s,mb4.4,baz=159,slow=9.2,SNR=56							
MKAR				pP	pP		23 05 53.9	+0.6
	1.2nm,0.7s,baz=164,slow=9.1,SNR=4.9							
MKAR	**Makanchi Array**	**46.13**	**347**	P	**P**		**23 05 44.7**	**+0.5**
MKAR				pP	pP		23 05 53.9	+0.6
SONM	**Songino Array**	**46.38**	**9**	P	**P**		**23 05 46.0**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=191,slow=9.0,SNR=8.2							
SONM				pP	pP		23 05 54.2	-1.0
	0.6nm,0.5s,baz=191,slow=8.8,SNR=4.4							
KURK	**Kurchatov**	**50.67**	**346**	P	**P**		**23 06 17.4**	**-2.0**
	4.4nm,1.0s,mb4.3							
ZAL	**Zalesovo**	**52.50**	**351**	P	**P**		**23 06 32.9**	**-0.3**
	4.0nm,0.5s,mb4.6,baz=309,slow=6.0,SNR=18							
BVAR	**Borovoye Array**	**55.08**	**341**	P	**P**		**23 06 51.8**	**-0.4**
	1.5nm,0.6s,mb4.2,baz=135,slow=8.4,SNR=12							
CHKZ	**Chkalovo**	**55.56**	**342**	*e*P	**P**		**23 06 54.8**	**-0.9**
	4.2nm,0.8s,mb4.5							
FINES	**FINESS Array B**	**78.75**	**333**	P	**P**		**23 09 22.5**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=76,slow=5.7,SNR=3.2							

*IDC **31** 22:58:52.7±1.7, 1.08N×97.14E, h23km±4km, mb3.8/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.9/8, Error ellipse: s-maj=74.0km s-min=14.1km az=59.0*
*NEIC **31** 22:58:53.4±0.8, 1.13N×97.20E, h30km, mb4.3/5, Error ellipse: s-maj=22.9km s-min=10.5km az=63.0*
*BJI **31** 22:58:53.4, 1.10N×97.20E, h30km, mB5.3, mb4.6, Ms5.1, Msz4.6*
ISC 31 22:58:50.9±0.9,**1.09N**±0.10×**97.2E**±0.2,**h25**km,
h25km±1.3km:**pP-P,n19**,σ0**96**/19,**mb4.2**/16,**MS4.7**/1,
Northern Sumatera

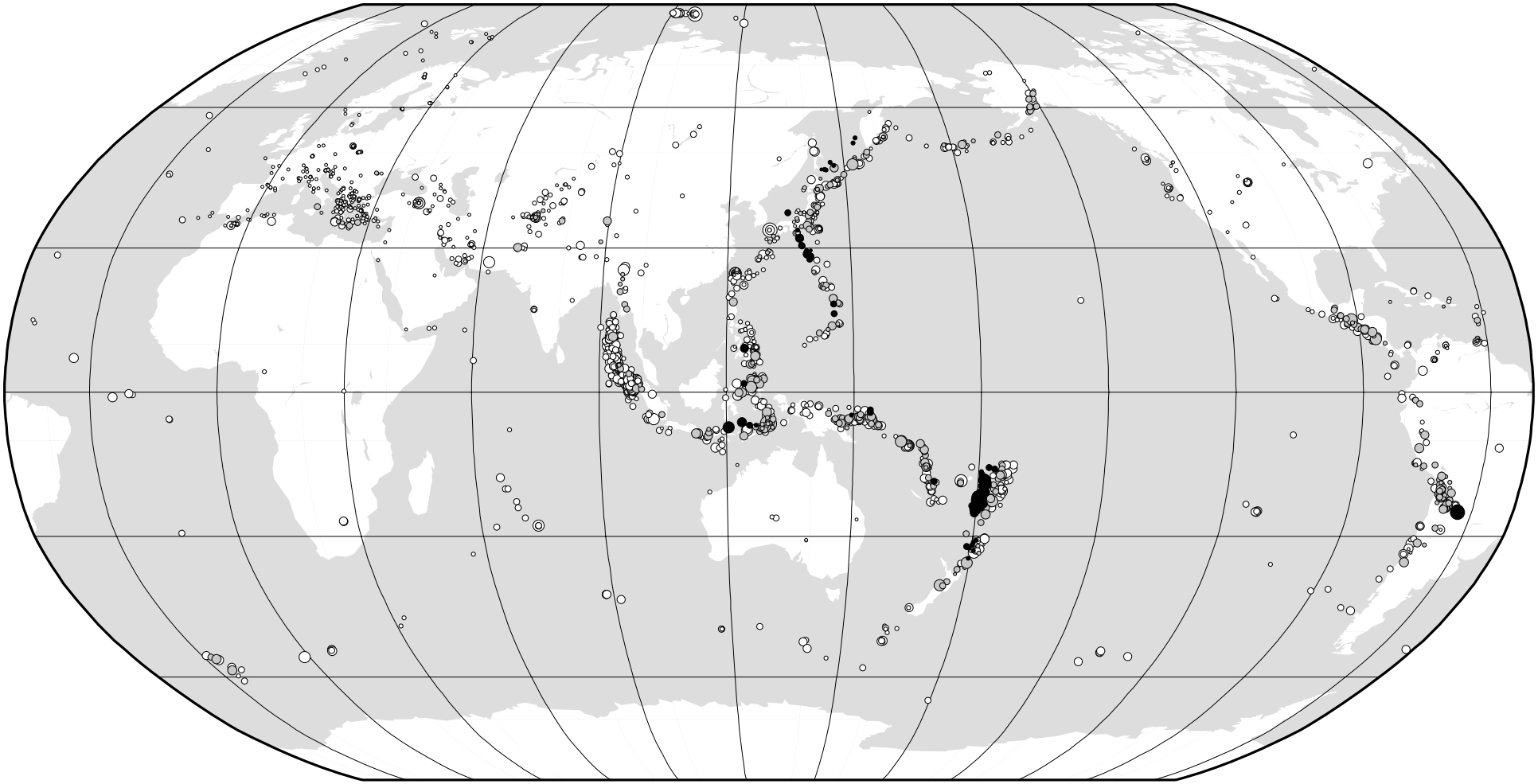
Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.42**	**40**	*e*Pn	**Pn**		**23 00 11.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**17.35**	**6**	P	**P**		**23 02 52.6**	**-0.7**
	baz=203,slow=11,SNR=2.9							
KMI	**Kunming**	**24.49**	**12**	P	**P**		**23 04 11.8**	**+2.1**
KMI				AMB	AMB			
	comp=Z,16nm,1.1s,mb4.4							
GYA	**Guiyang**	**26.82**	**19**	P	**P**		**23 04 33.8**	**+2.3**
GYA				AMB	AMB			
	comp=Z,10.0nm,0.9s,mb4.3							
LSA	**Lhasa**	**29.03**	**349**	*e*P	**P**		**23 04 51.7**	**+0.2**
	comp=Z,2.7nm,0.7s,mb4.1							
ENH	**Enshi**	**31.29**	**21**	*e*P	**P**		**23 05 09.9**	**-1.7**
	comp=Z,5.8nm,0.8s,mb4.5							
GTA	**Gaotai**	**38.22**	**3**	*e*P	**P**		**23 06 11.5**	**+0.7**
GTA				AP	pP		23 06 20.5	+2.4
GTA				XP	sP		23 06 24.3	+3.1
GTA				AMB	AMB			
	comp=Z,8.0nm,1.0s,mb4.4							
WRA	**Warramunga Arr**	**41.99**	**122**	P	**P**		**23 06 42.2**	**0.0**
	comp=Z,1.3nm,0.6s,mb3.7,baz=300,slow=9.1,SNR=6.7							
WRA				pP	pP		23 06 49.7	+0.1
	comp=Z,1.1nm,0.6s,baz=302,slow=9.1,SNR=3.6							
WRAB	**Tennant Creek**	**41.99**	**122**	*e*P	**P**		**23 06 42.0**	**-0.2**
	comp=Z,5.9nm,0.9s,mb4.2						

CN2				LR	LR		
	comp=Z,520nm,16.0s,MS4.6						
KURK	**Kurchatov**	**51.90**	**345**	*e*P	**P**	**23 07 56.1**	**-3.6**
	comp=Z,5.9nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**53.29**	**132**	P	**P**	**23 08 10.9**	**+0.5**
	comp=Z,1.4nm,0.9s,mb3.9,baz=326,slow=5.7,SNR=4.0						
STKA				pP	pP	23 08 18.5	+0.5
	comp=Z,1.7nm,0.5s,baz=4.3,slow=8.2,SNR=4.1						
ZAL	**Zalesovo**	**53.66**	**351**	P	**P**	**23 08 12.2**	**-0.6**
	comp=Z,1.6nm,0.6s,mb4.1,baz=310,slow=7.1,SNR=9.2						
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**23 08 31.5**	**-0.9**
	comp=Z,0.6nm,0.6s,mb3.8,baz=235,slow=42,SNR=7.4						
BVAR				pP	pP	23 08 38.2	-1.8
	comp=Z,0.9nm,0.6s,baz=90,slow=7.4,SNR=4.9						
BVAR	**Borovoye Array**	**56.35**	**341**	P	**P**	**23 08 31.4**	**-0.9**
BVAR				pP	pP	23 08 38.2	-1.8

IDC 31 23:40:10.9±3.5, 0.74N×98.35E, h18km±6km, mb3.6/4, mb1 3.8/4, mb1mx3.5/18, mbtmp3.7/4, Error ellipse: s-maj=148.4km s-min=21.8km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.82**	**122**	P	P	23 47 50.9	-2.5
	0.3nm,0.8s,baz=304,slow=8.9,SNR=4.6						
WRA				pP	pP	23 47 58.0	-0.8
	0.4nm,0.7s,baz=302,slow=8.9,SNR=3.0						
SONM	**Songino Array**	**47.43**	**7**	P	P	23 48 45.9	-0.5
	0.4nm,0.4s,baz=192,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**47.97**	**345**	P	P	23 48 48.3	-2.4
	0.6nm,0.7s,baz=156,slow=8.3,SNR=8.5						
MKAR				pP	pP	23 48 53.8	-2.4
	0.5nm,0.7s,baz=154,slow=8.8,SNR=4.5						
ZAL	**Zalesovo**	**54.19**	**350**	P	P	23 49 34.8	-2.8
	1.3nm,0.4s,baz=333,slow=5.1,SNR=5.2						
ZAL				pP	pP	23 49 40.8	-2.3
	0.9nm,0.4s,baz=183,slow=5.3,SNR=2.5						

ISC Computed Locations for March 2005



Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2424 Events